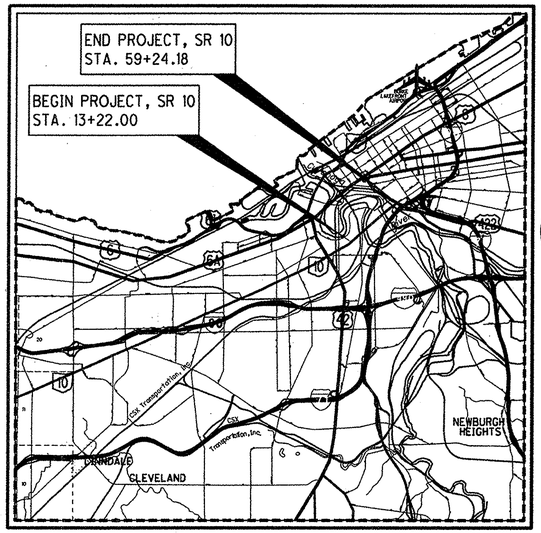

LOCATION MAP

LATITUDE: 41°29'20" N LONGITUDE: 81°41'40" W

SCALE IN MILES
0 0.5 1 1.5 2

N

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

DESIGN DESIGNATION

CURRENT ADT (2012)	11,210
DESIGN YEAR ADT (20)	
DESIGN HOURLY VOLUME (20)	
DIRECTIONAL DISTRIBUTION	
TRUCKS (24 HOUR B&C)	750
DESIGN SPEED	35
LEGAL SPEED	35

DESIGN FUNCTIONAL CLASSIFICATION:
URBAN MINOR ARTERIAL
NHS PROJECT

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 PROTECTIVE
SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
BURGESS AND NIPLE, INC.
100 WEST ERIE STREET
PAINESVILLE, OH 44077

ENGINEERS SEAL:
ROADWAY
STATE OF OHIO · ROBERT A. SHENAL, II · E-65577 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: Robert A Shenal II
DATE: 1/6/12

ENGINEERS SEAL:
STRUCTURES
STATE OF OHIO · DAVID WILLIAM LEAKE · E-39017 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: David W Leake
DATE: 1-10-12

ENGINEERS SEAL:
DRAINAGE CALCS
STATE OF OHIO · MATTHEW GLENN SCHULZ · 68084 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: MGS
DATE: 1-12-2012

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

CUY-CLEVELAND RIVER CROSSING TRAIL

CITY OF CLEVELAND
CUYAHOGA COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

CONSTRUCTION OF MULTI-USE PATH ON THE NORTH SIDE OF STRUCTURES CUY-10-1608, CUY-10-1613, CUY-10-1685, AND ADJOINING ROADWAYS INCLUDING LANE RE-ALIGNMENTS, SIDEWALK REPAIRS, DRAINAGE ADJUSTMENTS, SIGNING AND STRIPING, SIGNAL UPGRADES, AND THE ADDITION OF PEDESTRIAN LIGHTING FROM WEST 20TH STREET TO ONTARIO STREET.

PROJECT EARTH DISTURBED AREA:	0.17 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	0.17 ACRES

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.

ALL PROJECT DESIGNATIONS OF CUY-CLEVELAND RIVER CROSSING TRAIL SHALL GOVERN OVER THE ENTIRE SET OF PLANS IN LIEU OF CUY-10-15.96

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 Myron Pitts DMS
DATE 1-12-12 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray Jr
DATE 1-31-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	CITY OF CLEVELAND STANDARD CONSTRUCTION DRAWINGS			
BP-2.1	7/18/08	HL-20.13	10/15/10	MT-35.10	4/20/01	TC-41.40	7/16/04	EXJ-2-81	7/19/02	SS800	1/20/12		CR-1	4/14/08		
BP-2.2	7/18/08	HL-20.14	10/16/09	MT-95.32	7/17/09	TC-52.10	1/19/07	EXJ-4-87	7/19/02	SS839	4/20/07		MH-1	7/8/08		
BP-2.3	7/16/04	HL-40.10	1/19/07	MT-95.41	4/17/09	TC-52.20	1/19/07	GSD-1-96	7/19/02	SS847	10/21/11		CB-1	7/8/08		
BP-3.1	10/19/07	HL-50.21	1/19/07	MT-95.50	4/17/09	TC-71.10	1/21/11	PCB-91	7/19/02	SS898	10/21/11					
BP-5.1	7/28/00	HL-60.11	1/19/07	MT-99.20	1/16/09	TC-82.10	1/21/11			SS832	5/5/09					
BP-9.1	4/15/05	HL-60.31	1/19/07	MT-99.30	4/15/11	TC-83.20	1/21/11									
				MT-101.60	4/17/09	TC-85.10	10/16/09									
				MT-101.70	4/15/11											
				MT-101.90	1/16/09											
				MT-102.10	7/17/09											
				MT-102.20	4/16/09											
				MT-105.10												

FEDERAL PROJECT NO. E110081
PID NO. 89194
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
CUY-CLEVELAND RIVER CROSSING TRAIL
GT001
1/205

SCHEMATIC PLAN

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MJB
CHECKED RAS

BEGIN PROJECT STA. 13+22.00

POT Sta. 11+03.07

N 58° 36' 01" E

PC Sta. 17+17.65

PT Sta. 18+95.64

EXISTING CURVE 1

W. 20TH

W. 18TH

W. 17TH

BRIDGE NO. CUY-10-1608

BRIDGE NO. CUY-10-1613

℄ CONSTRUCTION S.R. 10 (CARNEGIE AVENUE)

N 48° 42' 47" E

CUYAHOGA RIVER

MATCHLINE STA. 38+00

MATCHLINE STA. 38+00

BRIDGE NO. CUY-10-1613

℄ CONSTRUCTION S.R. 10 (CARNEGIE AVENUE)

N 48° 42' 47" E

STA. 54+25.07 ℄ CONSTRUCTION S.R. 10 = STA. 10+12.03 6' LT ℄ CONSTRUCTION INNERBELT CCGI

W. 3RD

CANAL RD.

CENTRAL VIADUCT

PC Sta. 12+30.71

PT Sta. 14+70.72

GCRTA BRIDGE NO. CUY-10-1685

INNERBELT CCGI CURVE 1

N 58° 18' 49" E

N 57° 40' 42" E

PI Sta. 15+78.87

POT Sta. 59+24.18

ONTARIO ST.

BROADWAY AVE.

POT Sta. 18+85.44

END PROJECT STA. 59+24.18

℄ CONSTRUCTION INNERBELT CCGI

EXISTING CURVE 1	INNERBELT CCGI CURVE 1
P.I. Sta. 18+06.87	P.I. Sta. 13+50.99
Δ = 9° 53' 14" (LT)	Δ = 9° 36' 02" (RT)
Dc = 5° 33' 18"	Dc = 4° 00' 00"
R = 1,031.44'	R = 1,432.40'
T = 89.22'	T = 120.29'
L = 177.99'	L = 240.01'
E = 3.85'	E = 5.04'
C = 177.77'	C = 239.73'
C.B. = N 53° 39' 24" E	C.B. = N 53° 30' 48" E

CUY-10-15.96

GB001

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205

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UTILITIES

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

TIME WARNER CABLE
8179 DOW CIRCLE
STRONGSVILLE, OHIO 44136
SUPERVISOR: GARY NAUMANN
PHONE: (216) 575-8016,EXT. 5033
FIELD ENGINEER: PAUL SILVESTRO
PHONE: (216) 575-8016, EXT. 5034
FAX: (440) 826-2940

AT&T
13630 LORAIN AVE. 2ND FLOOR
CLEVELAND, OHIO 44111
ATTN: JAMES JANIS
DESIGN MANAGER
PHONE: (216) 476-6142
FAX: (216) 476-6013

CAVALIER NETWORKS
6777 ENGLE ROAD
SUITE E
MIDDLEBURG HEIGHTS, OHIO 44130
ATTN: RICH KOSOLSKY
PHONE: (440) 260-0102
FAX: (440) 260-0113

CITY OF CLEVELAND
DIVISION OF CLEVELAND PUBLIC POWER
1300 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: CHRIS HIRZEL
PHONE: (216) 664-3922, EXT. 115
FAX: (216) 664-2972

CITY OF CLEVELAND DIVISION OF WATER
1201 LAKESIDE AVE.
CLEVELAND, OHIO 44114
ATTN: GUY SINGER
PHONE: (216) 664-2444, EXT. 5555
FAX: (216) 664-2378

CITY OF CLEVELAND DIVISION OF TRAFFIC
604 LAKESIDE AVENUE
CLEVELAND, OH 44114
ATTN: ANDY CROSS
PHONE: 216-420-8275

CLEVELAND PUBLIC POWER
1300 LAKESIDE AVENUE
CLEVELAND, OH 44114
ATTN: JAMES FERGUSON,
CHIEF, BUREAU OF STREET LIGHTING
PHONE: 216-420-7704 EXT 183

DOMINION EAST OHIO GAS COMPANY
320 SPRINGSIDE DR.
FAIRLAWN, OHIO 44333
ATTN: PAUL EMERY
PHONE: (330) 664-2421

ILLUMINATING CO.
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
ATTN: MARK ROBINSON
CONTRACT SPECIALIST
PUBLIC WORKS COORDINATOR
PHONE: (440) 717-6845
CELL PHONE: (440) 550-9001
FAX: (440) 546-8780

NORTHEAST OHIO
REGIONAL SEWER DISTRICT (NEORSD)
3900 EUCLID AVE
CLEVELAND, OHIO 44115-2504
ATTN: RICHARD SWITALSKI
PHONE: (216) 881-6600
FAX: (216) 881-2738

OWEST COMMUNICATIONS
4650 LAKEHURST COURT
1ST FLOOR
DUBLIN, OHIO 43016
ATTN: CHRIS STRAYER
PHONE: (614) 215-5606
CELL PHONE: (303) 886-1299

EXISTING PLANS

EXISTING PLANS ENTITLED CUY-10-16.05 (1980) & CUY-10-16.13 (2000) MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN GARFIELD HEIGHTS.

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.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 202 - PIPE REMOVED, 24" AND UNDER, AS PER PLAN

BACKFILL TRENCHES RESULTING FROM THE REMOVAL OF PIPE WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 202 - CATCH BASIN REMOVED, AS PER PLAN

BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 202 - INLET REMOVED, AS PER PLAN

BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 202 - MANHOLE REMOVED, AS PER PLAN

BACKFILL THE CAVITY CREATED BY THE REMOVAL ITEM WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 604 - MANHOLE, CITY OF CLEVELAND, AS PER PLAN

BACKFILL STRUCTURES WITHIN THE PAVEMENT AREA WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

ITEM 604 - CATCH BASINS, CITY OF CLEVELAND, TWIN CB-3, AS PER PLAN

BACKFILL STRUCTURES WITHIN THE PAVEMENT AREA WITH LSM BACKFILL PER ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 604 DRAINAGE STRUCTURES.

ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT, 275 SQ. YDS.

THE ABOVE QUANTITY IS BASED ON A 452 THICKNESS OF 10 INCHES AND A WIDTH OF FOUR FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

CITY OF CLEVELAND PIPE POLICY

USE VITRIFIED CLAY PIP (VCP), ASTM C-700 ES, WITH PREMIUM JOINTS (ODOT ITEM 706.08 AND 706.12, RESPECTIVELY) FOR ALL PROPOSED SEWER CONNECTION 18 INCH AND SMALLER. USE REINFORCED CONCRETE PIPE (RCP) WITH PREMIUM JOINTS, (ODOT ITEM 706.02 AND 706.11, RESPECTIVELY) FOR ALL SEWER CONNECTIONS 21 INCH AND LARGER.

REVIEW OF DRAINAGE FACILITIES

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'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.

ITEM 202 - CURB REMOVED, AS PER PLAN

WHERE CALLED FOR IN THE PLANS THE EXISTING GRANITE CURB SHALL BE REMOVED AND PLACED ON PALLETS FOR PICKUP BY THE CITY OF CLEVELAND. THE CONTRACTOR SHALL USE EXTREME CARE WHEN REMOVING THE CURB SO AS TO KEEP THE EXISTING SECTIONS IN TACT. SHOULD A SECTION OF CURB BECOME DAMAGED BY A NEGLIGENT ACT OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, THE ENGINEER WILL DEDUCT THE LENGTH OF THE DAMAGED SECTION FROM THE OVERALL REMOVAL QUANTITY.

THE PALLETS SHALL BE 40" X 48" AND IN GOOD CONDITION. THE PALLETS SHALL BE LOADED SUCH THAT THEY MAY BE LOADED AND SECURED ON A FLAT BED TRUCK. THE PALLETS SHALL NOT BE LOADED WITH MORE THAN 2,000 POUNDS OR HAVE A LOADED HEIGHT GREATER THAN 3 FEET.

THE CONTRACTOR SHALL GIVE THE CITY OF CLEVELAND 30 DAYS NOTICE OF THE DAY AND LOCATION OF PICKUP. THE CONTRACTOR SHALL LOAD THE PALLETS ON CITY VEHCILES.

PROJECT COORDINATION

IT IS EXPECTED THAT DURING THE COURSE OF CONSTRUCTION, THIS PROJECT AND THE CLEVELAND INNERBELT PROJECT (CCGI) WILL HAVE OVERLAPPING PROJECT LIMITS AND CONSTRUCTION ACTIVITIES BETWEEN THE EAST END OF THE HOPE MEMORIAL BRIDGE AND ONTARIO STREET. A COPY OF THE PROPOSED CCGI SCHEDULE OF ACTIVITIES IS AVAILABLE AT ODOT DISTRICT 12 OFFICES (GARFIELD HEIGHTS). THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES IN THE OVERLAPPING AREA, INCLUDING PROJECT MAINTENANCE OF TRAFFIC ACTIVITIES, WITH CCGI. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID CONFLICTS AND WILL MAINTAIN DOCUMENTATION OF THESE EFFORTS IN THE FORM OF PROPOSED SCHEDULE OF ACTIVITIES, MEETINGS MINUTES, EMAILS, PHONE CALL LOGS, AND SCHEDULE REVISIONS. BOTH PROJECT ENGINEERS SHALL BE COPIED ON ALL COMMUNICATIONS BETWEEN CONTRACTORS.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT 350 FT.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

CALCULATED MJB CHECKED RAS

GENERAL NOTES

CUY-10-15.96

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ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN

CLEVELAND LSM
SPECIFICATION FOR UTILITY TRENCHES

PART I: CERTIFICATE OF COMPLIANCE
MATERIALS MUST COME FROM A PLANT WITH A CURRENT CERTIFICATE OF COMPLIANCE DEMONSTRATING THE ABILITY OF THE MIX DESIGN TO MEET THE SPECIFIED REQUIREMENTS. CERTIFICATES IN EXCESS OF ONE YEAR WILL NOT BE ACCEPTED. CERTIFICATES MUST CONTAIN THE NAME OF SUPPLIER, DATE, CONTRACT NUMBER AND MIX DESIGN DATA ON EACH DELIVERY TICKET.

PART II: MATERIALS
ALL MATERIALS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS STATE HEREIN.
1. CEMENT SHALL BE ASTM C-150 TYPE I.
2. THE USE OF FLY ASH IS STRICTLY PROHIBITED.
3. FINE AGGREGATE SHALL CONFORM TO ODOT SPECIFICATION 703.03 FINE AGGREGATE FOR MORTOR OR GROUT. (ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS MOST CURRENT EDITION). THE USE OF SPENT FOUNDRY SAND OR CORE SAND IS STRICTLY PROHIBITED.

PART III: PERFORMANCE ENHANCING ADMIXTURE
AN AIR-ENHANCING ADMIXTURE SHALL BE INCORPORATED IN THE MIX THAT WILL HAVE THE EFFECT OF LOWERING THE WATER/CEMENT RATIO TO BETWEEN 95 AND 105 LBS/CUBIC FOOT. THE AIR ENTRAINED CONTENT FOR THE MIX SHALL BE 30% TO ELIMINATE/ MINIMIZE THE EXCESSIVE WATER AND SEGREGATION. COMPRESSIVE STRENGTHS SHALL HAVE A RANGE OF 50 PSI TO 80 PSI AT 28 DAS WILL BE REQUIRED IF ADDITIONALEXCAVATION BY MACHINE OR HAND IS REQUIRED.

APPROVED ADMIXTURES

	MANUFACTURER	PRODUCT NAME
A)	MASTER BUILDERS	RHEOFILL
B)	AXIM	FLOW AIR
C)	W.R. GRACE	DARAFILL
D)	OR APPROVED EQUAL	

PART IV: FLOWABLE FILL MIX DESIGN
THE MIX DESIGN SHALL BE PROPORTIONED AS FOLLOWS:

CEMENT (TYPE I)	50 LBS/CUBIC YARD
SAND (SSD)	2475 LBS/CUBIC YARD
WATER	25 GALLONS/CUBIC YARD
ADMIXTURE (AIR)	3 OZ/CUBIC YARD

VARIATIONS OF THE AFOREMENTIONEDD MIX DESIGN ARE STRICTLY PROHIBITED.

PART V: APPLICATION
1. FLOWABLE FILL SHALL BEGIN 12 INCHES ABOVE THE TOP OF PIPE AND CONTINUE IN THE TRENCH TO THE CONCRETE BASE.

2. MATERIAL FOR PIPE BENDING AND PIPE ZONE TO A MAXIMUM DEPTH OF 12 INCHES OVER THE TOP OF PIPE SHALL BE AS SPECIFIED BY THE UTILITY.

3. EXPOSED BOLTS AND VALVES EXPOSED IN THE TRENCH SHOULD BE WRAPPED WITH POLYTHYLENE MATERIAL CONFORMING TO ODOT 748.07 (8 MIL THICK).

4. COVER ALL JOINTS IN CLAY PIPE IN THE TRENCH AREA WITH POLYTHYLENE MATERIAL BEFORE POURING FLOWABLE FILL. REPAIR ALL OBSERVED OPENINGS IN ANY PIPE OR MANHOLE IN THE TRENCH AREA PRIOR TO BACKFILLING WITH FLOWABLE FILL. REPAIR TECHNIQUES SHALL BE IN A CCORDANCE WITH THE UTILITY COMPANY'S STANDARD REPAIR PROCEDURES.

5. CONTACT THE RESPECTIVE UTILITY OWNER FOR REPAIR PROCEDURES.

ITEM 646 - REMOVAL OF PAVEMENT MARKING

THE FOLLOWING QUANTITIES ARE PROVIDED FOR ESTIMATING PURPOSES:

ITEM 646 - REMOVAL OF PAVEMENT MARKING	19,550 FT
ITEM 646 - REMOVAL OF PAVEMENT MARKING	350 SQFT

ITEM 608 - CURB RAMP, AS PER PLAN

WORK UNDER THIS ITEM SHALL INCLUDE ALL PROVISIONS OF ODOT ITEM 608, AND THE CITY OF CLEVELAND AND STANDARD DRAWINGS, WITH THE FOLLOWING EXCEPTIONS.

1. THE WIDTH OF THE RAMP SHALL BE FIVE FEET (5') TRUNCATED DOMES SHALL BE INSTALLED FOR THE ENTIRE WIDTH OF THE RAMP.
2. THE CURB RAMP DETECTABLE WARNINGS (TRUNCATED DOMES) SHALL BE PAVERS MEETING ASTM C902 CLASS SX, TYPE I, OR C936, OR C1272 TYPE R. ACCEPTABLE MANUFACTURERS AND PRODUCTS ARE:
   A. WHITACRE-GREER FIREPROOFING COMPANY ADA PAVER, 4"X8"X2¼", CLEAR RED (RUSTIC) #30.
   B. HANOVER ARCHITECTURAL PRODUCTS DETECTABLE WARNING PAVER, 12"X12"X2" OR 24"X24"X2", RED OR QUARRY RED.
   C. ENDICOTT CLAY PRODUCTS, HANDICAPPED DETECTABLE WARNING PAVER, 4"X8"X2¼", RED BLEND.
3. PAVERS WILL BE LAID ON TOP OF A 4" UNREINFORCED CONCRETE BASE. SETTING BED AND JOINTS TO BE MORTARED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION, OR WITH A MAXIMUM ½" THICK BED OF LATEX MODIFIED CEMENT MORTAR. MORTAR JOINTS TO BE A WIDTH NOT GREATER THAN 5/32" AND NOT LESS THAN 1/16". PAVERS SHALL NOT BE DIRECTLY TOUCHING EACH OTHER UNLESS THEY HAVE SPACING BARS.
4. MORTARED JOINTS ARE TO BE FLUSH WITH TOP SURFACE AND STRUCK SO AS TO GIVE A SMOOTH SURFACE. PAVERS SHALL BE LAID SUCH THAT JOINTS ARE LEVEL WITH ADJOINING JOINTS SO AS TO PROVIDE A SMOOTH TRANSITION WITH BRICK TO BRICK AND BRICK TO CONCRETE SURFACE.
5. THE SURFACE OF ANY TWO ADJACENT UNITS SHOULD NOT DIFFER BY MORE THAN ⅛" IN HEIGHT. BRICKS SHALL BE PLACED IN A RUNNING BOND PATTERN. FACE OF ALL BRICK SHALL BE CLEAN OF CEMENT AND PROTECTED SO AS TO AVOID CHIPPING DURING CONSTRUCTION.

ITEM 608 - TRUNCATED DOMES, AS PER PLAN

THIS ITEM IS FOR THE REMOVAL AND REPLACEMENT OF EXISTING TRUNCATED DOMES, IN EXISTING CURB RAMPS, IN ACCORDANCE WITH ALL PROVISIONS OF ODOT ITEM 608, AND THE CITY OF CLEVELAND AND STANDARD DRAWINGS.

THE TRUNCATED DOMES SHALL BE AS SPECIFIED IN ITEM 608 - CURB RAMP, CITY OF CLEVELAND, AS PER PLAN.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE PER EACH AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THIS ITEM, IN-PLACE AND ACCEPTED.

ITEM 203 - GRANULAR MATERIAL, TYPE C, AS PER PLAN

THE GRANULAR MATERIAL SHALL BE LIMESTONE MEETING #57 GRADATION.

ITEM 609 - CURB, MISC.: GRANITE CURB

SHALL BE SUPPLIED NORTH CAROLINA GRANITE COMPANY (866-544-2872) OR WILLIS DIMENSION STONE (706-213-8031), OR APPROVED EQUAL.

SHALL BE CONSTRUCTED PER CITY OF CLEVELAND STANDARD DRAWING NO. CR 1.

¼" ASPHALTIC EXPANSION CUSHION COST TO BE INCLUDED.

PAYMENT FOR ALL MATERIALS AND OPERATIONS NEEDED TO COMPLETE THE INSTALLATION SHALL BE INLCUDED IN THE CONTRACT PRICE FOR ITEM 609 - CURB, MISC.: GRANITE CURB

ITEM 608 - WALKWAY, MISC.: GRANITE COBBLE PAVER

CONTRACTOR SHALL PLACE ITEM 608 - WALKWAY, MISC.: GRANITE COBBLE PAVER PER THE SECTION DETAIL SHOWN BELOW, AND THE MANFACTURER'S SPECIFICATIONS.

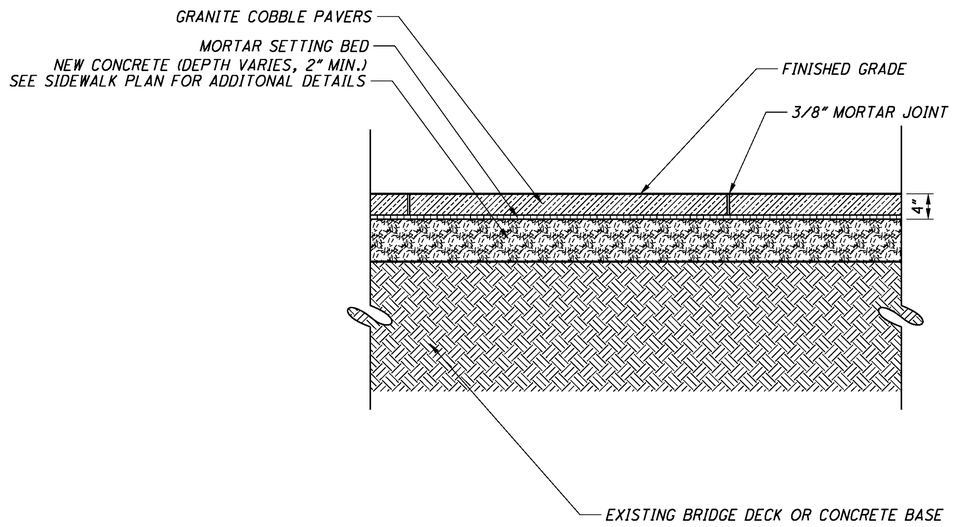
CONTACT INFORMATION FOR THE MANUFACTURER:

UNILOCK OHIO & WESTERN PENNSYLVANIA
12560 SHEETS ROAD
RITTMAN, OH 44270
TELEPHONE: (330) 927-4000

PRODUCT INFORMATION:

COURTSTONE
COLOR: BASALT/BELGIAN BLUE

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT (SF) AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIAL REQUIRED TO COMPLETE THIS ITEM, IN-PLACE AND ACCEPTED.



NOTE:
1. PREFORMED EXPANSION MATERIAL TO BE PLACED BETWEEN THE MULTI-USE PATH AND THE PAVERS.
2. PREFORMED EXPANSION MATERIAL TO BE PLACED BETWEEN THE PAVERS AND THE CURB.
3. 1" PVC DRAIN TUBES SHALL BE PLACED IN CONCRETE CURB EVERY 10'. INCLUDED IN ITEM 511 FOR PAYMENT.
4. PVC DRAIN TUBES NOT REQUIRED WHEN ADJACENT TO GRANITE CURB.
5. TRANSVERSE JOINTS SHALL LINE UP WITH JOINTS IN SIDEWALK.
6. SEE SHEET 70 FOR FURTHER DETAILS.

CALCULATED MJB CHECKED RAS

GENERAL NOTES

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614 MAINTAINING TRAFFIC

THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A MULTI-USE PATH ON THE NORTH SIDE OF THE HOPE MEMORIAL BRIDGE, INCLUDING LANE REALIGNMENTS, SIDEWALK REPAIRS, DRAINAGE ADJUSTMENTS, SIGNING, STRIPING, LIGHTING AND TRAFFIC SIGNAL MODIFICATIONS.
ALL WORK VEHICLES LICENSED TO OPERATE ON THE HIGHWAY, INCLUDING MATERIAL TRUCKS, SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT AND SHALL BE OPERATED WITH LIGHTED HEAD AND TAIL LAMPS. THE AMBER LIGHT SHALL BE IN OPERATION AT ALL TIMES WITHIN THE WORK ZONE AND WHILE TRAVELING TO AND FROM THE WORK ZONE WHENEVER THE VEHICLE SPEED IS BELOW 40 MPH. VEHICLE HAZARD LAMPS DO NOT SATISFY THIS REQUIREMENT. ALL OTHER EQUIPMENT SHALL BE EQUIPPED WITH A FLASHING, ROTATING OR OSCILLATING AMBER LIGHT VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF ONE-QUARTER MILE IN BRIGHT SUNLIGHT. THE AMBER LIGHT SHALL BE IN OPERATION WHILE THE EQUIPMENT IS WITHIN THE WORK ZONE.

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY OR STREETS BELOW. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE AND ON THE FREEWAY BELOW THE OVERHEAD BRIDGES EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATING 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.

ALL SIGNS, BARRICADES, SIGN SUPPORTS, CONES, DRUMS, FLAGGERS AND INCIDENTALS SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE MOST RECENT REVISION, CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD), EXCEPT AS NOTED WITHIN. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES.

MAINTENANCE OF TRAFFIC DETAILS SHALL BE COORDINATED WITH THE MAINTENANCE OF TRAFFIC DETAILS OF ANY ADJACENT CONSTRUCTION PROJECTS. THE CONTRACTORS ARE REQUIRED TO COOPERATE WITH EACH OTHERS WORK ACTIVITIES DURING THE ENTIRE CONSTRUCTION PROCESS.

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.

GENERAL

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE LANE CLOSURE NOTES FOUND ON SHEET 6 .

MAINTENANCE OF TRAFFIC FOR CONSTRUCTION WILL TYPICALLY PROVIDE PHASES TO PROTECT THE WORK AREA. IN ANY GIVEN AREA, EACH PHASE TRAFFIC SHIFTS SHALL IMMEDIATELY FOLLOW THE PREVIOUS PHASE OF CONSTRUCTION.

MAINTENANCE OF TRAFFIC SHIFTS

CONSTRUCTION PHASES USE STANDARD CONSTRUCTION DRAWING MT-102.10 AS A BASE, UNLESS SPECIFICALLY SHOWN OTHERWISE, ALL REQUIREMENTS OF THIS STANDARD CONSTRUCTION DRAWING SHALL BE INCORPORATED IN THE APPLICABLE CONSTRUCTION PHASES AS DETAILED IN THESE PLANS.

EXISTING SIGNS

ALL EXISTING SIGNS SHALL BE COVERED, OVERLAYED OR RELOCATED TO MATCH THE CURRENT PHASE OF CONSTRUCTION.

PEDESTRIAN TRAFFIC

THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS ON ONE SIDE OF THE BRIDGE AT ALL TIMES. SIDEWALK CLOSED SIGNS SHALL BE INSTALLED IN THE SIDEWALK WHEN WALK IS UNDER CONSTRUCTION. SEE SHEET 8 FOR SIGN LOCATIONS.

BICYCLE TRAFFIC

THE CONTRACTOR SHALL MAINTAIN ON-STREET BICYCLE TRAFFIC AT ALL TIMES THROUGH THE USE OF SHARROWS AND SIGNS (R4-11) FOR THE EASTBOUND DIRECTION AND SIGNS (R4-11) FOR THE WESTBOUND DIRECTION.

SEQUENCE OF CONSTRUCTION:

THE PHASES AND THE MAJOR WORK DURING EACH PHASE ARE LISTED BELOW.

PRE-PHASE 1
PAVEMENT MARKINGS SOUTH OF WESTBOUND LANE LINE
WATERLINE WORK
CURB EXTENSION AT SOUTHEAST CORNER OF WEST 20TH AND CARNEGIE (STA 14+00, RT TO 14+50, RT).

PHASE 1
MULTI-USE PATH AND RAILING FROM STATION STA 14+00 TO STA 55+75
LIGHTING

PHASE 2
MULTI-USE PATH AND RAILING FROM STATION STA 55+75 TO STA 59+00
LIGHTING
FINAL WESTBOUND PAVEMENT MARKINGS

PHASE 2 SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER THE WORK ZONE TRAFFIC CONTROL IS IN PLACE FOR PHASE 2. LIQUIDATED DAMAGES WILL BE DEDUCTED PER 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDAR DAY OR OVERRUN IT TIME.

PHASE 3
SOUTH SIDEWALK REPAIRS
LIGHTING

NOTIFICATION

SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT, IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FOREWARNED OF FUTURE LANE CLOSURES AND TRAFFIC CONSTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A WRITTEN SCHEDULE TO THE ENGINEER, RESPONSIBLE SAFETY ENFORCEMENT AGENCIES, AND THE ODOT PUBLIC INFORMATION OFFICE (216-584-2007) INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST 10 DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 173 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 173 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

TRAFFIC WIDTH REQUIREMENTS:

SR 10 (CARNEGIE AVENUE)
THE MINIMUM LANE WIDTHS SHALL CONSIST OF A MINIMUM 11'-0" WIDE LANE(S) PLUS 12" MINIMUM BUFFER ON EACH SIDE TO GUARDRAIL, PARAPETS, DRUMS, BARRIER OR EDGES OF PAVED SURFACES.

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC
GENERAL NOTES

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MAINTAINING TRAFFIC - GENERAL

IMPLEMENTATION OF MAINTENANCE OF TRAFFIC ZONES

NO SET UPS OR TAKE DOWNS OF MAINTENANCE OF TRAFFIC ITEMS SUCH AS PAVEMENT MARKINGS, DRUMS, PCB'S, ETC., SHALL BE DONE DURING THE HOURS OF, 6 AM TO 10 AM OR 3 PM TO 7 PM. WHEN LANE CLOSURES ARE NEEDED TO PERFORM THIS WORK, THEY SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE TABLE AND NOTES SHOWN ON THIS SHEET.

PERMITTED LANE CLOSURES:

ALL LANE CLOSURES ON THIS PROJECT MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "PERMITTED LANE CLOSURE TABLE".

NO TEMPORARY LANE OR TEMPORARY SHOULDER CLOSURES SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

PERMITTED LANE CLOSURE TABLE

LOCATION	DIRECTION	EX. NO. LANES	WEEKDAYS		WEEKENDS		COMMENTS
			1 LANE CLOSED	2 LANES CLOSED	1 LANE CLOSED	2 LANES CLOSED	
SR 10	EB	2	9 AM-3 PM 6 PM-6 AM		8 PM FRI - 6 AM MON		SEE SPECIAL EVENTS FOR ADDITIONAL LANE CLOSURE REQUIREMENTS
SR 10	WB	2	PERMANENT		PERMANENT		SEE SPECIAL EVENTS FOR ADDITIONAL LANE CLOSURE REQUIREMENTS

ITEM 614, MAINTAINING TRAFFIC SR 10 (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO SET UP OR TAKE DOWN OF MAINTENANCE OF TRAFFIC ITEMS SUCH AS PAVEMENT MARKINGS, DRUMS, PCB'S, ETC., SHALL BE DONE ON SR 10 DURING THE FOLLOWING DESIGNATED HOLIDAYS:

FOURTH OF JULY	CHRISTMAS	EASTER
NEW YEARS	LABOR DAY	
MEMORIAL DAY	THANKSGIVING	

THERE SHALL BE NO LANE CLOSURES ON HOLIDAYS OR HOLIDAY WEEKENDS. NO LANE CLOSURES ARE ALLOWED AFTER 12 NOON ON THE DAY PRECEDING A HOLIDAY. FOR HOLIDAY WEEKENDS NO LANE CLOSURES ARE ALLOWED AFTER 12 NOON ON THE DAY PRECEDING THE HOLIDAY WEEKEND UNTIL 12 AM THE DAY AFTER THE HOLIDAY WEEKEND.
EXAMPLE: HOLIDAY FALLS ON A MONDAY THEN NO LANE CLOSURES FROM 12 NOON ON FRIDAY UNTIL 12 AM TUESDAY.

LANE CLOSURE TIMES SHALL BE ADJUSTED FOR SPECIAL EVENTS THAT HAVE A SEATING CAPACITY OF 10,000 IN THE DOWNTOWN CLEVELAND AREA. THE CONTRACTOR SHALL NOT CLOSE A LANE(S) IN THE INBOUND DIRECTION 2 HOURS BEFORE AN EVENT AND IN THE OUTBOUND DIRECTION 2 HOURS AFTER AN EVENT ENDS.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

EVENT ACCOMMODATIONS

CONTRACTOR IS ADVISED THAT THE RITE AID PHARMACY CLEVELAND MARATHON WILL BE HELD EARLY SUNDAY, MAY 20, 2012. LAST YEAR'S EVENT ATTRACTED NEARLY 16,000 RUNNERS AND WALKERS. THE HALF AND FULL MARATHON EVENT WILL INCLUDE CITY STREETS WHICH ARE LOCATED ON STREETS WITHIN OR NEAR THE CONSTRUCTION LIMITS OF THIS PROJECT. THE HALF MARATHON AND FULL MARATHON ROUTES ARE, COINCIDENTALLY, ON PROJECT VICINITY STREETS. SPECIFICALLY, THE ROUTES FOLLOW WEST. 20TH STREET, TURN RIGHT ONTO CARNEGIE, AND TURN LEFT ONTO ONTARIO STREET. THESE STREETS SHALL BE CLEARED OF ANY DEBRIS BETWEEN 3 PM FRIDAY AND 4 PM SATURDAY. EQUIPMENT SHALL BE CLEAR OF THESE STREETS AND SIDEWALKS BEGINNING SATURDAY AT 4 PM AND ENDING SUNDAY AT 9 PM.

FINAL PAVEMENT MARKINGS

FINAL PAVEMENT MARKING MAY BE INSTALLED AS A MOVING OPERATION. HE CONTRACTOR SHALL PROVIDE TWO (2) TRAILING VEHICLES AS PER MT-99.20 FOLLOWING THE PAVEMENT MARKING EQUIPMENT. THE TWO (2) TRAILING VEHICLES SHALL TRAVEL 500 FEET APART. THE FIRST TRAIL VEHICLE IN A TRAFFIC LANE SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR MEETING NCHRP 350 REQUIREMENTS. THE INTERMEDIATE TRAILING VEHICLE SHALL TRAVEL IN THE CLOSED LANE 500 FEET BEHIND THE PAVEMENT MARKING EQUIPMENT.

COORDINATION WITH ADJACENT PROJECTS

THE CONSTRUCTION AT EITHER TERMINI OF THIS PROJECT MAY REQUIRE THE CONTRACTOR TO COORDINATE CONSTRUCTION WITH AN ADJACENT CONSTRUCTION PROJECT IF A CONFLICT IN MAINTENANCE OF TRAFFIC SCHEMES WOULD OCCUR. IF COORDINATION IS NECESSARY, THE CONTRACTORS MUST COORDINATE THEIR WORK SCHEDULES AND SUBMIT TO THE DISTRICT CONSTRUCTION ENGINEER WHO WILL ESTABLISH THE FINAL APPROVED COORDINATED WORK SCHEDULE.

ITEM 614, WORK ZONE SIGNING

ALL WORK ZONE SIGNING SHALL UTILIZE A FLUORESCENT ORANGE BACKGROUND COLOR EXCEPT FOR REGULATORY SIGNS.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

A) FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSUREARRANGEMENTS ARE INITIATED.
B) DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
C) DURING A TRAFFIC SIGNAL MODIFICATION.

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 50 HOURS

THE HOURS PAID SHALL INCLUDE 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 A L.E.O. ARE TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC.

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

WATER LINE

ALL WATER LINE WORK SHALL BE COMPLETED PRIOR TO PHASE 1. THE FOLLOWING RESTRICTIONS APPLY.

ALL WORK SHALL BE BETWEEN 6:00 PM TO 6:00 AM WEEKDAYS
AND WEEKENDS FROM 6:00 PM FRIDAY TO 6:00 AM MONDAY .
ALL TRAFFIC LANES SHALL BE OPEN AT 6:00 AM WEEKDAYS.
ALL UNFINISHED WORK SHALL BE COVERED WITH
A STEEL PLATE PRIOR TO OPENING TO TRAFFIC.

A LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE USED TO DIRECT TRAFFIC AT THE INTERSECTION OF CENTRAL VIADUCT AND CARNEGIE. THE L.E.O. IS PAID FOR UNDER ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR.

LANE CLOSURES SHALL UTILIZE DRUMS TO CHANNELIZE TRAFFIC USING TAPER RATES SHOWN IN MT-102.20.

PAVEMENT REPAIRS SHALL BE MADE PER BP-2.5 AND PAID FOR AS DESCRIBED IN THE PAVEMENT REPAIR FOR WATER LINE TRENCHNOTE IN THESE PLANS.

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

CALCULATED RAS CHECKED RBB

MAINTENANCE OF TRAFFIC
GENERAL NOTES

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MAINTAINING TRAFFIC - GENERAL

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1) THE QUADGUARD CZ, (24" WIDE 6-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE 6-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 Rev. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 Rev. D	8/27/99
35-40-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG	7/30/99 Rev. F	8/27/99
354051Z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24,30,36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 Rev. F	8/27/99
3540260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 Rev. C	8/27/99

2) THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRIES, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 Rev. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 Rev. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

3) THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515 (TELEPHONE 330-799-9291)

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
A040416	UNIVERAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)	1/7/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)	4/21/04	10/16/04

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGES. WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, WORK ZONE IMPACT ATTENUATOR, FOR 24" WIDE HAZARDS, (UNIDIRECTIONAL OR BI-DIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR RELOCATE A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED RAS CHECKED RBB

MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY-10-15.96

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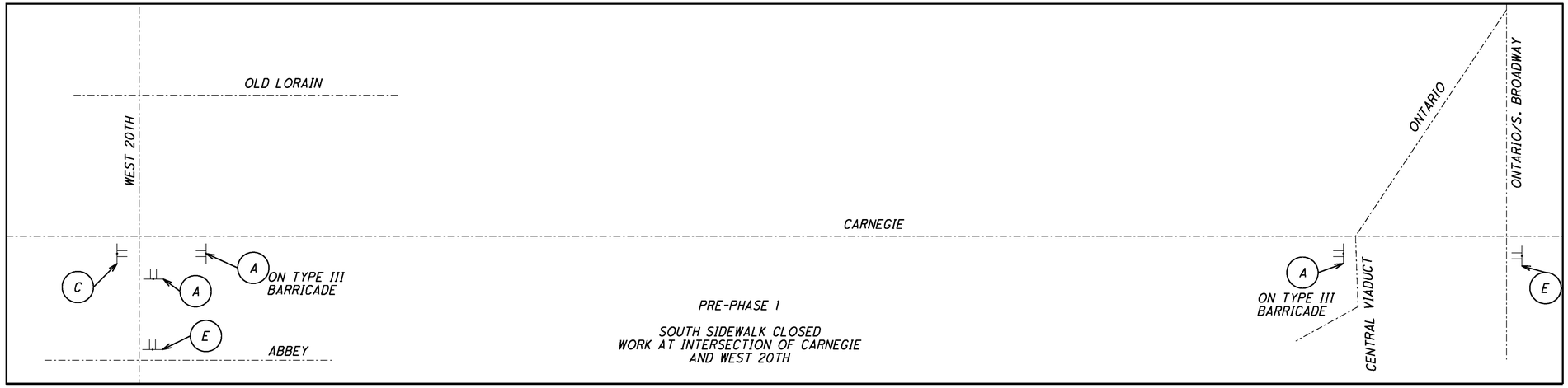
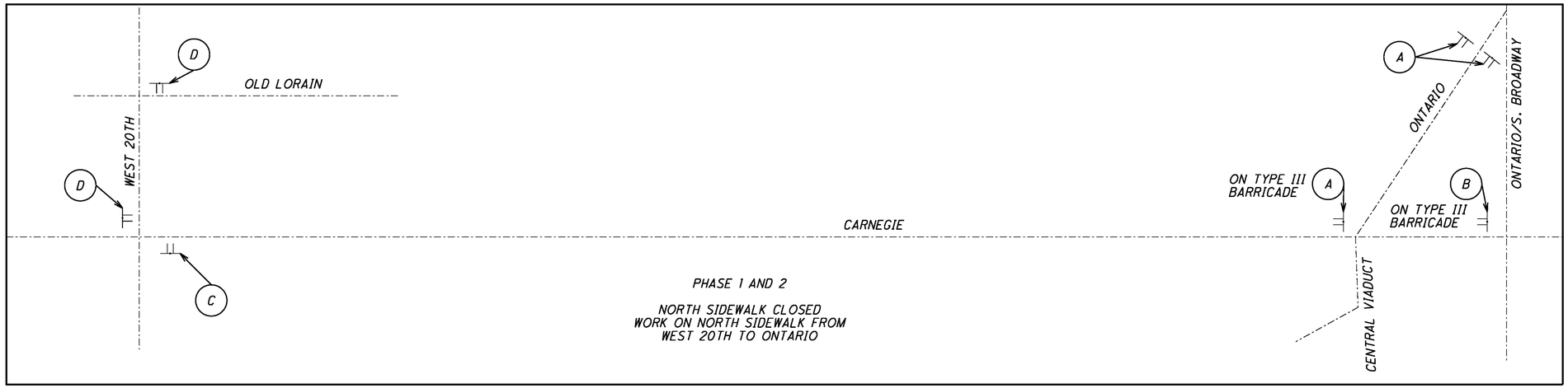
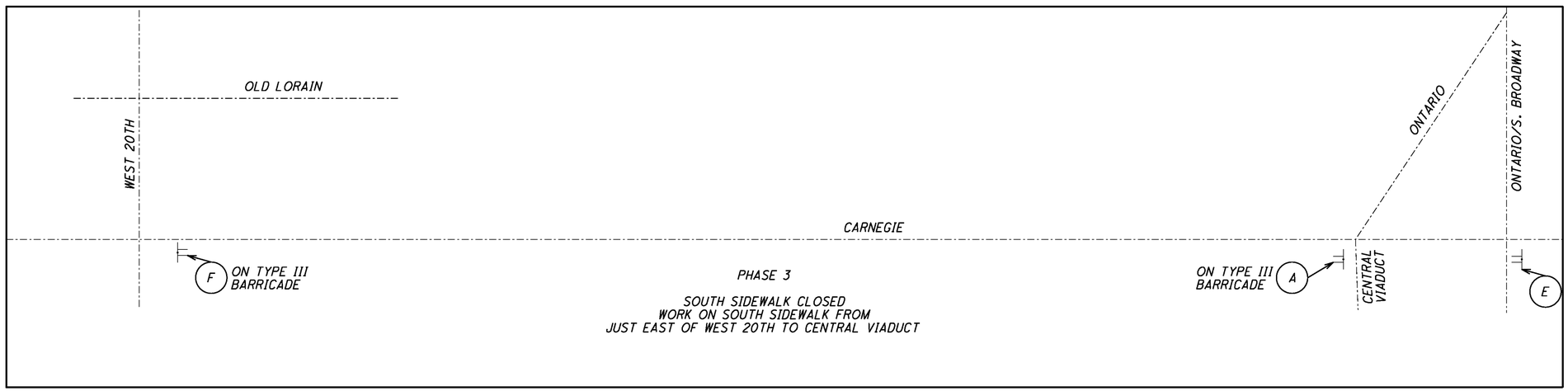
MAINTAINING TRAFFIC - PEDESTRIAN SIGNING







A — SIDEWALK CLOSED — R9-9-24

B — SIDEWALK CLOSED / USE OTHER SIDE — R9-10-24

C — CROSSWALK CLOSED — R9_H12-30

D — SIDEWALK CLOSED / USE OTHER SIDE — R9-10-24

E — SIDEWALK CLOSED AHEAD / CROSS HERE — R9-11-24

F — SIDEWALK CLOSED / CROSS HERE — R9-11A-24

NOTE: FINAL SIGN PLACEMENT TO BE APPROVED BY ENGINEER

CALCULATED RAS
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MAINTENANCE OF TRAFFIC
GENERAL NOTES

CUY-10-15.96

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PHASE	SIDE	STATION TO STATION	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1 FT	614 WORK ZONE DOTTED LINE, CLASS 1, 740.06, TYPE 1 FT	614 WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE 1 FT		614 WORK ZONE ARROW CLASS 1, 740.06, TYPE 1 EACH		614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH		622 PORTABLE CONRETE BARRIER, 32" FT								
1	LT	14+64.00 TO 55+13.04	4049																
	LT	11+00.00 TO 14+21.00	321																
	LT	11+69.00 TO 14+21.00		252															
	LT	13+04.00							1										
	RT	14+11.00 TO 55+13.04									5002								
	RT	11+00.00 TO 12+81.00									181								
	LT	14+44.00 TO 55+13.04									4073								
	LT	11+00.00 TO 13+04.00									206								
	LT	15+66.00 TO 16+96.00	130																
	LT	CARNEGIE ST.					1												
	LT	CARNEGIE ST.					1												
2	LT	11+69.00 TO 14+70.72	302																
	LT	13+14.00 TO 15+70.00		256															
	LT	14+70.72 TO 15+70.00		100															
3	LT	14+04.00			14														
TOTALS CARRIED TO GENERAL SUMMARY			4802 0.91 MI	608	14		2		1		8,562								

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TABLE OF TRAFFIC SUBSUMMARRY

MAINTENANCE OF

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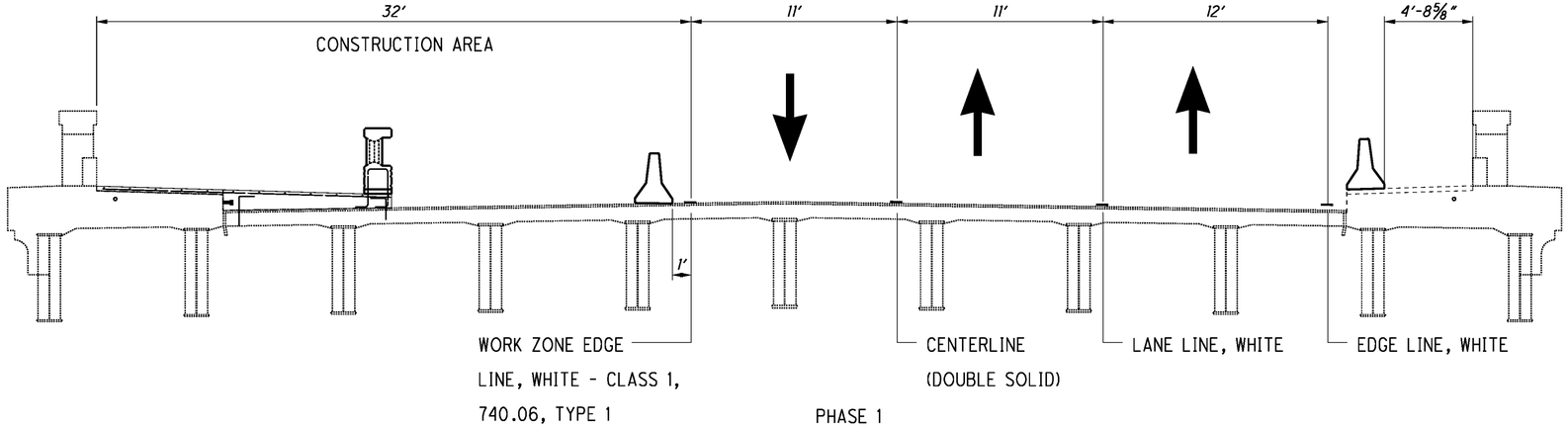
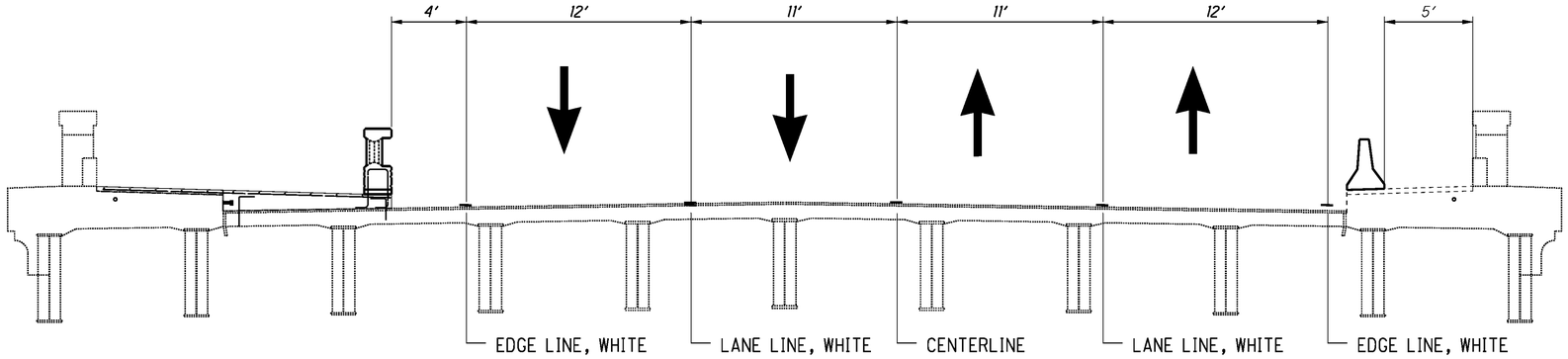


PHASE 1

SR 10 (CARNEGIE AVENUE)

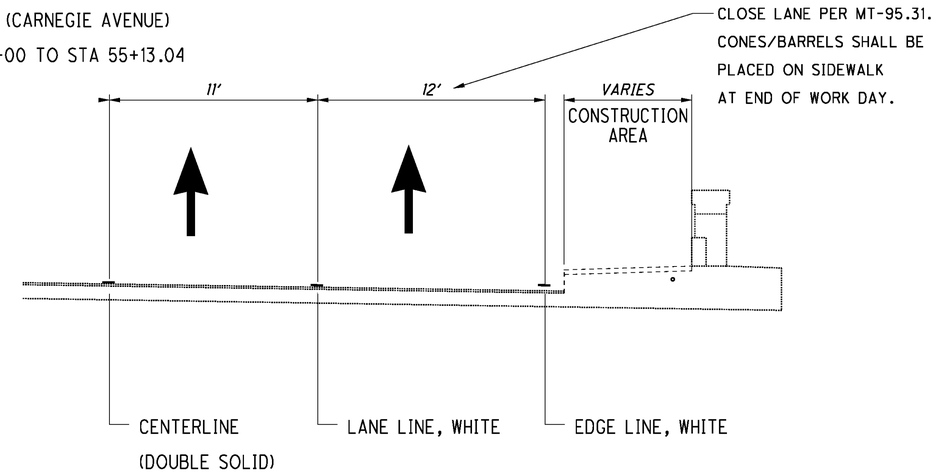
STA 19+00 TO STA 55+13.04



PHASE 2

SR 10 (CARNEGIE AVENUE)

STA 19+00 TO STA 55+13.04



PHASE 3

SR 10 (CARNEGIE AVENUE)

STA 14+50 TO STA 57+25

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC

CUY-10-15.96

MD001

10
205

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LEGEND

- DRUMS SPACED PER MT-95.32
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA

- (DL) WORK ZONE DOTTED LINE - CLASS 1, 740.06, TYPE 1
- (CL) CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
- (ELW) WORK ZONE EDGE LINE (WHITE) - CLASS 1, 740.06, TYPE 1
- (SL) WORK ZONE STOP LINE - CLASS 1, 740.06, TYPE 1
- (LA) WORK ZONE LANE ARROW - CLASS 1, 740.06, TYPE 1
- (IA) IMPACT ATTENUATOR

W. 20TH

6" WATER

OLD LORAIN AVENUE

MAY USE FULL LANE

R4-11-30 MNTD. AT 250' INTERVALS STA 15+00 TO 55+50

PLACE DRUMS @ 10' SPACING C/C

IPCB TAPERED 14' END SECTION

+44

N 58° 36' 01" E

EXISTING RAILING

PROPOSED SIDEWALK

Sta. 17+17.65

ELW

CONSTRUCTION S.R. 10

Pt. Sta. 18+95.64

+33 45.7' RT

+1 47' RT

PCB TAPERED END SECTION

CURB EXTENSION TO BE COMPLETED DURING PRE-PHASE 1 PHASE

PLACE DRUMS @ 10' SPACING C/C

PCB

PROPOSED PAVERS

SEE SHEET8 FOR PEDESTRIAN SIGNING

SEE DETAIL SHEET 10 FOR PCB PLACEMENT EAST OF STATION 19+00

NOTE:

1. ALL PROPOSED PAVEMENT MARKINGS ARE TO BE PLACED PRIOR TO BEGINNING MAINTENANCE OF TRAFFIC WITH THE EXCEPTION OF THE WESTBOUND LANE LINE AND AREA NORTH OF THIS LINE.

2. PLACE WORK ZONE EDGE LINE (WHITE), CLASS 1, 740.06 IN THE SAME LOCATION AS THE PROPOSED WESTBOUND LANE LINE.

3. NORTH SIDE PCB TO BE PLACED WITH A 12" BUFFER FROM WORK ZONE EDGE LINE

4. SOUTH SIDE PCB TO BE PLACED AT FACE OF CURB

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC PHASE 1
STA 13+00 TO 19+00

CUY-10-15.96

MP001

11
205

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LEGEND

- DRUMS SPACED PER MT-95.32
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA
- DL WORK ZONE DOTTED LINE - CLASS 1, 740.06, TYPE 1
- CL CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
- ELW WORK ZONE EDGE LINE (WHITE) - CLASS 1, 740.06, TYPE 1
- SL WORK ZONE STOP LINE - CLASS 1, 740.06, TYPE 1
- LA WORK ZONE LANE ARROW - CLASS 1, 740.06, TYPE 1
- IA IMPACT ATTENUATOR

MAY USE FULL LANE

R4-11-30 MNTD. AT 250' INTERVALS STA 15+00 TO 55+50

FLASHING ARROW PANEL STA 13+00

PCB, ELW, DL, CL — 12' LT, 11' LT, 0'

PCB, IA, ELW, DL, CL — 25.5' LT, 17.42' LT, 11' LT, 0'

ELW, DL, CL — 23' LT, 11' LT, 0'

R10-11A-24 NO TURN ON RED

SIDEWALK CLOSED R9-9-30

ONTARIO STREET

POT Sta. 59+24.18

W4-2R-48 STA. 15+80

EXISTING RAILING

PROPOSED SIDEWALK

10:1 TAPER

21:1 TAPER

℄ CONSTRUCTION S.R. 10

℄ INNERBELT CCG1

PC Sta. 12+35.71

PT Sta. 14+70.72

CENTRAL VIADUCT

PLACE DRUMS @ 10' SPACING C/C

TYPE III BARRICADE WITH

LANE CLOSED R11-2-48 (MODIFIED)

MATCHLINE STA 16+00 (INNERBELT CCG1 SEE SHEET 13

STA 55+13.04 (INNERBELT CCG1 CARNEGIE)

STA 11+00 (INNERBELT CCG1 CARNEGIE)

SEE SHEET 8 FOR PEDESTRIAN SIGNING

SEE DETAIL SHEET 10 FOR PCB PLACEMENT WEST OF STATION 55+13.04

NOTE:

1. ALL PROPOSED PAVEMENT MARKINGS ARE TO BE PLACED PRIOR TO BEGINNING MAINTENANCE OF TRAFFIC WITH THE EXCEPTION OF THE WESTBOUND LANE LINE AND AREA NORTH OF THIS LINE.
2. PLACE WORK ZONE EDGE LINE (WHITE), CLASS 1, 740.06 IN THE SAME LOCATION AS THE PROPOSED WESTBOUND LANE LINE.
3. PCB TO BE PLACED WITH A 12" BUFFER FROM WORK ZONE EDGE LINE
4. ALL STATION CALL OUTS FROM INNERBELT CCG1 CARNEGIE CENTERLINE

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED RAS CHECKED RBB

MAINTENANCE OF TRAFFIC PHASE 1
STA 11+00 TO 16+00 (INNERBLET CCG1)

CUY-10-15.96

MP002

12 / 205

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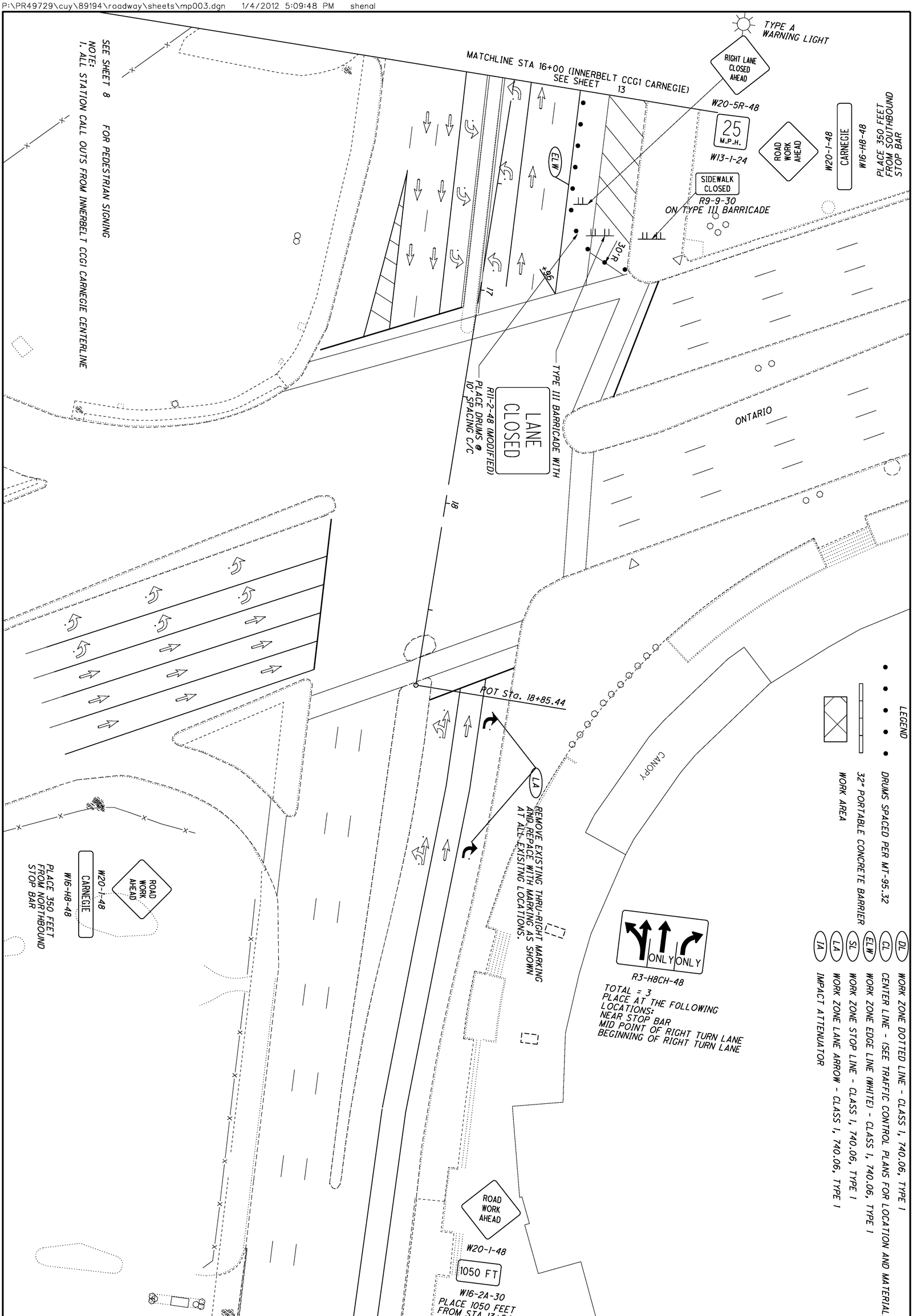
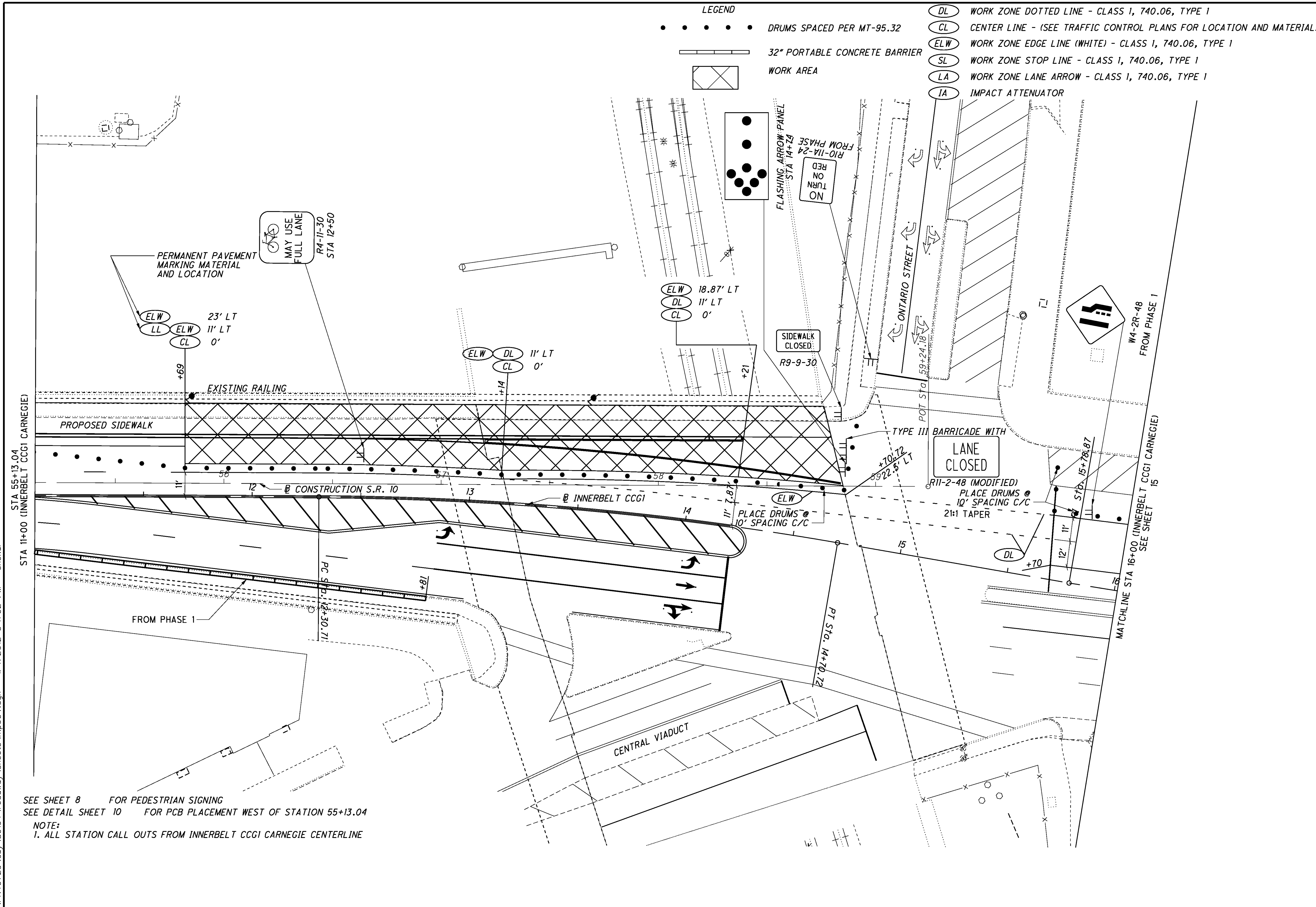


13 / 205	MP003	CUY-10-15.96	MAINTENANCE OF TRAFFIC PHASE 1 STA 16+00 (INNERBLET CCG1) TO 18+85.44	CALCULATED RAS CHECKED RBB	0 20 10 40 HORIZONTAL SCALE IN FEET


LEGEND
DRUMS SPACED PER MT-95.32
32" PORTABLE CONCRETE BARRIER
WORK AREA
DL WORK ZONE DOTTED LINE - CLASS I, 740.06, TYPE I
CL CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
ELW WORK ZONE EDGE LINE (WHITE) - CLASS I, 740.06, TYPE I
SL WORK ZONE STOP LINE - CLASS I, 740.06, TYPE I
LA WORK ZONE LANE ARROW - CLASS I, 740.06, TYPE I
IA IMPACT ATTENUATOR
PERMANENT PAVEMENT MARKING MATERIAL AND LOCATION
ELW 23' LT
LL ELW 11' LT
CL 0'
MAY USE FULL LANE
R4-11-30
STA 12+50
ELW DL 11' LT
CL 0'
ELW 18.87' LT
DL 11' LT
CL 0'
FLASHING ARROW PANEL
STA 14+24
NO TURN ON RED
R10-11A-24
FROM PHASE
SIDEWALK CLOSED
R9-9-30
ONTARIO STREET
POT Sta. 59+24.18
W4-2R-48
FROM PHASE 1
EXISTING RAILING
PROPOSED SIDEWALK
+69
+14
+21
STA 55+13.04
STA 11+00 (INNERBELT CCG1 CARNEGIE)
℄ CONSTRUCTION S.R. 10
℄ INNERBELT CCG1
TYPE III BARRICADE WITH
LANE CLOSED
R11-2-48 (MODIFIED)
+70.72
22.5' LT
PLACE DRUMS @ 10' SPACING C/C
21:1 TAPER
PLACE DRUMS @ 10' SPACING C/C
ELW
DL
+70
Sta. 15+78.87
MATCHLINE STA 16+00 (INNERBELT CCG1 CARNEGIE)
SEE SHEET 15
PC Sta. 12+30.71
PT Sta. 14+70.72
+81
FROM PHASE 1
CENTRAL VIADUCT
SEE SHEET 8 FOR PEDESTRIAN SIGNING
SEE DETAIL SHEET 10 FOR PCB PLACEMENT WEST OF STATION 55+13.04
NOTE:
1. ALL STATION CALL OUTS FROM INNERBELT CCG1 CARNEGIE CENTERLINE

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HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC PHASE 2
STA 11+00 TO 16+00 (INNERBLET CCG1)

CUY-10-15.96

MP004

LEGEND

- DRUMS SPACED PER MT-95.32
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA
- DL WORK ZONE DOTTED LINE - CLASS 1, 740.06, TYPE 1
- CL CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
- ELW WORK ZONE EDGE LINE (WHITE) - CLASS 1, 740.06, TYPE 1
- SL WORK ZONE STOP LINE - CLASS 1, 740.06, TYPE 1
- LA WORK ZONE LANE ARROW - CLASS 1, 740.06, TYPE 1
- IA IMPACT ATTENUATOR

TYPE A WARNING LIGHT

RIGHT LANE CLOSED AHEAD

W20-5R-48

25 M.P.H.

W13-1-24 (FROM PHASE 1)

SIDEWALK CLOSED

R9-9330 (FROM PHASE 1)

ROAD WORK AHEAD

W20-1-48

CARNEGIE

W16-H8-48 PLACE 350 FEET FROM SOUTHBOUND STOP BAR (FROM PHASE 1)

ONTARIO

CANOPY

ONLY

ONLY

R3-H8CH-48
TOTAL = 3
PLACE AT THE FOLLOWING LOCATIONS:
NEAR STOP BAR
MID POINT OF RIGHT TURN LANE
BEGINNING OF RIGHT TURN LANE
(FROM PHASE 1)

MATCHLINE STA 16+00 (INNERBELT CCG1 CARNEGIE)
SEE SHEET 14

ELW (FROM PHASE 1)

PLACE DRUMS @ 10' SPACING C/C (FROM PHASE 1)

TYPE III BARRICADE WITH (FROM PHASE 1)

LANE CLOSED

R11-2-48 (MODIFIED)

17

18

AOT Sta. 18+85.44

LA

REMOVE EXISTING THRU-RIGHT MARKING AND REPACE WITH MARKING AS SHOWN AT ALL EXISITNG LOCATIONS. (FROM PHASE 1)

ROAD WORK AHEAD

W20-1-48

1050 FT

W16-2A-30 PLACE 1050 FEET FROM STA 13+04 (FROM PHASE 1)

8

SEE SHEET 8 FOR PEDESTRIAN SIGNING

NOTE:
1. ALL STATION CALL OUTS FROM INNERBELT CCG1 CARNEGIE CENTERLINE

ROAD WORK AHEAD

W20-1-48

CARNEGIE

W16-H8-48 PLACE 350 FEET FROM NORTHBOUND STOP BAR (FROM PHASE 1)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC PHASE 2
STA 16+00 (INNERBLET CCG1) TO 18+85.44

CUY-10-15.96

MP005

15
205

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LEGEND

- DRUMS SPACED PER MT-95.32
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA

- (DL) WORK ZONE DOTTED LINE - CLASS 1, 740.06, TYPE 1
- (CL) CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
- (ELW) WORK ZONE EDGE LINE (WHITE) - CLASS 1, 740.06, TYPE 1
- (SL) WORK ZONE STOP LINE - CLASS 1, 740.06, TYPE 1
- (LA) WORK ZONE LANE ARROW - CLASS 1, 740.06, TYPE 1
- (IA) IMPACT ATTENUATOR

W3-1-18
STA. 55+85
POLE MNTD.

EXISTING RAILING

PROPOSED SIDEWALK

FOR STOP SIGN LOCATION SEE TRAFFIC CONTROL PLANS SHEET 37

SL

+04

PLACE DRUMS @ 10' SPACING C/C

R10-1A-24 FROM PHASE 1

NO TURN ON RED

ONTARIO STREET

TYPE III BARRICADE (FROM PHASE 2)

POT Sta. 59+24.18

PLACE DRUMS @ 10' SPACING C/C (FROM PHASE 1)

PLACE DRUMS @ 10' SPACING C/C (FROM PHASE 2)

Sta. 15+78.87

11'

12'

STA 55+13.04
STA 11+00 (INNERBELT CCG1 CARNEGIE)

56 57 58 59

12 13 14 15 16

℄ CONSTRUCTION S.R. 10

℄ INNERBELT CCGI

PC Sta. 12+30.71

PT Sta. 14+70.72

CENTRAL VIADUCT

MATCHLINE STA 16+00 (INNERBELT CCGI CARNEGIE)
SEE SHEET 17

SEE SHEET 8 FOR PEDESTRIAN SIGNING

NOTE:
1. ALL STATION CALL OUTS FROM INNERBELT CCGI CARNEGIE CENTERLINE

2. ALL PHASE 3 MOT ITEMS TO REMAIN IN PLACE OVER WINTER. CONTRACTOR SHALL COORDINATE WITH INNERBELT CCGI CONSTRUCTION PROJECT FOR REMOVAL.

3. ALL PAVEMENT MARKINGS FOR THE ROADWAY ARE IN THE FINAL CONDITION.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RAS
CHECKED RBB

MAINTENANCE OF TRAFFIC PHASE 3
STA 11+00 TO 16+00

CUY-10-15.96

MP006

16
205

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LEGEND

- DRUMS SPACED PER MT-95.32
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA

- DL — WORK ZONE DOTTED LINE - CLASS 1, 740.06, TYPE 1
- CL — CENTER LINE - (SEE TRAFFIC CONTROL PLANS FOR LOCATION AND MATERIAL)
- ELW — WORK ZONE EDGE LINE (WHITE) - CLASS 1, 740.06, TYPE 1
- SL — WORK ZONE STOP LINE - CLASS 1, 740.06, TYPE 1
- LA — WORK ZONE LANE ARROW - CLASS 1, 740.06, TYPE 1
- IA — IMPACT ATTENUATOR

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RAS
CHECKED RBB

ONTARIO

CANOPY

MATCHLINE STA 16+00 (INNERBELT CCG1 CARNEGIE)
SEE SHEET 16

ELW (FROM PHASE 1)

TYPE III BARRICADE WITH (FROM PHASE 1)

PLACE DRUMS @ 10' SPACING C/C (FROM PHASE 1)

LANE CLOSED
R11-2-48 (MODIFIED)

17

18

EOT Sta. 18+85.44

LA
REMOVE EXISTING THRU-RIGHT MARKING AND REPACE WITH MARKING AS SHOWN AT ALL EXISITNG LOCATIONS. (FROM PHASE 1)

R3-H8CH-48
TOTAL = 3
PLACE AT THE FOLLOWING LOCATIONS:
NEAR STOP BAR
MID POINT OF RIGHT TURN LANE
BEGINNING OF RIGHT TURN LANE
(FROM PHASE 1)

ONLY
ONLY

ROAD WORK AHEAD
W20-1-48

1050 FT
W16-2A-30
PLACE 1050 FEET FROM STA 13+04
(FROM PHASE 1)

ROAD WORK AHEAD
W20-1-48

CARNEGIE
W16-H8-48
PLACE 350 FEET FROM SOUTHBOUND STOP BAR
(FROM PHASE 1)

ROAD WORK AHEAD
W20-1-48

CARNEGIE
W16-H8-48
PLACE 350 FEET FROM NORTHBOUND STOP BAR
(FROM PHASE 1)

8

SEE SHEET 8 FOR PEDESTRIAN SIGNING

NOTE:
1. ALL STATION CALL OUTS FROM INNERBELT CCGI CARNEGIE CENTERLINE

2. ALL PHASE 3 MOT ITEMS TO REMAIN IN PLACE OVER WINTER. CONTRACTOR SHALL COORDINATE WITH INNERBELT CCGI CONSTRUCTION PROJECT FOR REMOVAL.

MAINTENANCE OF TRAFFIC PHASE 3
STA 16+00 (INNERBLET CCG1) TO 18+85.44

CUY-10-15.96

MP007

17
205

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3		21	42	22	23	58	42	43	44	45									
																		ROADWAY	
		91		338										202	23000	429	SQYD	PAVEMENT REMOVED	
		5,958												202	30000	5,958	SQFT	WALK REMOVED	
		54												202	32000	54	FT	CURB REMOVED	
		836												202	32001	836	FT	CURB REMOVED, AS PER PLAN	3
		106												202	35100	106	FT	PIPE REMOVED, 24" AND UNDER	
		2												202	58001	2	EACH	MANHOLE REMOVED, AS PER PLAN	3
		1												202	58101	1	EACH	CATCH BASIN REMOVED, AS PER PLAN	3
		3												202	58201	3	EACH	INLET REMOVED, AS PER PLAN	3
							12							202	62000	12	EACH	JUNCTION BOX REMOVED	
		299												202	70000	299	FT	SPECIAL - FILL AND PLUG EXISTING CONDUIT	3
																			3
350														202	70100	350	FT	SPECIAL - PIPE CLEANOUT	
		3												202	75610	3	EACH	VALVE BOX REMOVED	
							2,249							202	98200	2,249	FT	REMOVAL MISC.: EXISTING CONDUIT	
				28										203	10000	28	CUYD	EXCAVATION	
				28										203	35121	28	CUYD	GRANULAR MATERIAL, TYPE C, AS PER PLAN	4
		2,260												608	15000	2,260	SQFT	8" CONCRETE WALK	
		6												608	49001	6	EACH	CURB RAMP, AS PER PLAN	4
		3												608	53001	3	EACH	TRUNCATED DOMES, AS PER PLAN	4
		4,140												608	98000	4,140	SQFT	WALKWAY MISC.: MORTAR SETTING BED AND GRANITE COBBLE PAVERS	4
																		EROSION CONTROL	
														832	15000		LUMP	STORM WATER POLLUTION PREVENTION PLAN	
														832	30000	1000	EACH	EROSION CONTROL	
																		DRAINAGE	
					80									603	04200	80	FT	12" CONDUIT, TYPE A	
					1									604	02050	1	EACH	CATCH BASIN, NO. 6 WITH 2FT SUMP	
					2									604	08600	2	EACH	CATCH BASIN, MISC.: CITY OF CLEVELAND, TWIN CB-3, AS PER PLAN	3
					1									604	32500	1	EACH	MANHOLE MISC.: CITY OF CLEVELAND, AS PER PLAN	3
					2									604	34500	2	EACH	MANHOLE ADJUSTED TO GRADE	
					1									604	35500	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	
					370									605	06000	370	FT	4" BASE PIPE UNDERDRAINS	
																		PAVEMENT	
				1,222										254	01000	1,222	SQYD	PAVEMENT PLANNING, ASPHALT CONCRETE	
				1,222										254	01010	1,222	SQYD	PAVEMENT PLANNING, PORTLAND CEMENT CONCRETE	
				7.2										407	10000	7.2	GAL	TACK COAT	
				7.6										448	46020	7.6	CUYD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22	
				6.2										448	47020	6.2	CUYD	ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22	
				84										452	13000	84	SQYD	9" NON-REINFORCED CONCRETE PAVEMENT	
275														452	14000	275	SQYD	10" NON-REINFORCED CONCRETE PAVEMENT	
		73												609	26000	73	FT	CURB, TYPE 6	
		375												609	98000	375	FT	CURB, MISC.: GRANITE CURB	4
		122												609	98000	122	FT	CURB, MISC.: 2" MOUNTABLE TRUCK APRON CURB	
																		WATER WORK	
						1								638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	
				42										638	20906	42	FT	SPECIAL - 12" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52 (CLEVELAND)	26
				4										638	21402	4	FT	SPECIAL - 20" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52 (CLEVELAND)	26
				1										638	23108	1	EACH	SPECIAL - 12" GATE VALVE WITH VALVE BOX, COMPLETE (CLEVELAND)	26
				1										638	24204	1	EACH	SPECIAL - 16" X 12" TAPPING SLEEVE, VALVE AND VALVE BOX, COMPLETE (CLEVELAND)	26
				3										638	30400	3	EACH	SPECIAL - PLUGGING EXISTING WATER MAIN AND BRANCHES (CLEVELAND)	26
				1										638	98000	1	EACH	WATER WORK, MISC.: 30" TO 20" REDUCER	26
				1										638	98000	1	EACH	WATER WORK, MISC.: 20" TO 12" REDUCER	26
				1										638	98000	1	EACH	WATER WORK, MISC.: SPOOL PIECE (CLEVELAND)	26

CALCULATED MJB CHECKED RAS

GENERAL SUMMARY

CUY-10-15.96

GG001

18
205

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4			40	42	43	44	45	31	32	33	38								
																		LIGHTING	
				84	80	20								510	10001	184	EACH	DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN	51
				63	60									625	00450	123	EACH	CONNECTION, FUSED PULL APART	
				6	9									625	00480	15	EACH	CONNECTION, UNFUSED PERMANENT	
				21	20	5								625	10481	46	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN	40
				84	80	20								625	10614	184	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	40
				11,997	11,691	2,958								625	23200	26,646	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
				882	840	210								625	23400	1,932	FT	NO. 10 AWG POLE AND BRACKET CABLE	
				25	25									625	24320	50	FT	DUCT CABLE, 1½" WITH 3 NO. 4 AWG 5000 VOLT CABLES	
				25	120									625	25400	145	FT	CONDUIT, 2", 725.04	
				3,724	3,502	916								625	25402	8,142	FT	CONDUIT, 2", 725.05	
			48											625	26251	48	EACH	LUMINAIRE, CONVENTIONAL, AS PER PLAN	40
					21	20	5							625	27401	46	EACH	LUMINAIRE, POST-TOP, AS PER PLAN	40
					15									625	29000	15	FT	TRENCH	
					22	21	5							625	29901	48	EACH	JUNCTION BOX, AS PER PLAN	40
					1									625	30706	1	EACH	PULL BOX, 725.08, 24"	
					1									625	34001	1	EACH	POWER SERVICE, AS PER PLAN	40
				48										625	75506	48	EACH	LUMINAIRE REMOVED	
			94											625	98000	94	EACH	LIGHTING, MISC.: EXISTING JUNCTION BOXES	40
														625	98200	1	LUMP	LIGHTING, MISC.: GUARDIAN LIGHTING	41
																		TRAFFIC CONTROL	
										11				630	03100	11	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										23				630	79500	23	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
										122.26				630	80100	122.26	SQFT	SIGN, FLAT SHEET	
										13				630	87500	13	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
								0.85	0.78					646	10000	1.63	MILE	EDGE LINE	
								0.90	0.75					646	10100	1.65	MILE	LANE LINE	
								0.51	0.46					646	10200	0.97	MILE	CENTER LINE	
								299	268					646	10300	567	FT	CHANNELIZING LINE	
								125	35					646	10400	160	FT	STOP LINE	
								518						646	10500	518	FT	CROSSWALK LINE	
								171	300					646	10600	471	FT	TRANVERSE/DIAGONAL LINE	
								3	4					646	20300	7	EACH	LANE ARROW	
									273					646	20500	273	FT	DOTTED LINE	
19,550														646	50100	19,550	FT	REMOVAL OF PAVEMENT MARKING	
350														646	50200	350	SQFT	REMOVAL OF PAVEMENT MARKING	
								19	15					646	98000	34	EACH	PAVEMENT MARKING, MISC.: SHARROW	
																		TRAFFIC SIGNALS	
											56			625	25904	56	FT	CONDUIT, JACKED OR DRILLED, 725.05, 3"	
											3			625	31190	3	EACH	PULL BOX, 725.07, 12"X12"	
											1			625	32000	1	EACH	GROUND ROD	
											8			632	20721	8	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, AS PER PLAN	38
											4			632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	38
											2			632	27105	2	EACH	LOOP DETECTOR UNIT, 2 CHANNEL, DELAY AND EXTENSION TYPE, AS PER PLAN	38
											540			632	40200	540	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
											120			632	40300	120	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
											210			632	40500	210	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
											240			632	40700	240	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
											1			632	64020	1	EACH	PEDESTAL FOUNDATION	
											1			632	89600	1	EACH	PEDESTAL, 8'	
											1			632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	38
																		STRUCTURES	
																		SEE SHEET 69 FOR STRUCTURE QUANTITIES	

CALCULATED MJB CHECKED RAS

GENERAL SUMMARY

CUY-10-15.96

GG001

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	5	7	9																
																		MAINTENANCE OF TRAFFIC	
		50												614	11120	50	HR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ENFORCEMENT	7
			1											614	12336	1	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	173													614	13300	173	EACH	BARRIER REFLECTOR, TYPE B	5
	173													614	13350	173	EACH	OBJECT MARKER, ONE-WAY	5
			0.91											614	22200	0.91	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1	
			608											614	24400	608	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE 1	
			14											614	26400	14	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1	
			2											614	30400	2	EACH	WORK ZONE ARROW, CLASS I, 740.06, TYPE 1	
			8,562											622	40020	8,562	FT	PORTABLE CONCRETE BARRIER, 32"	
														614	11000		LUMP	MAINTAINING TRAFFIC	
														619	16020	6	MONTH	FIELD OFFICE, TYPE C	
														623	10000		LUMP	CONSTRUCTION LAYOUT STAKES	
														624	10000		LUMP	MOBILIZATION	

CALCULATED MJB
CHECKED RAS

GENERAL SUMMARY

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GG001

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REF NO.	SHEET NO.	STATION TO STATION	202 WALK REMOVED SQFT	202 CURB REMOVED FT	202 CURB REMOVED, AS PER PLAN FT	202 VALVE BOX REMOVED EACH	202 PIPE REMOVED, 24" AND UNDER, AS PER PLAN FT	202 PAVEMENT REMOVED SQ YD	202 CATCH BASIN REMOVED, AS PER PLAN EACH	202 INLET REMOVED, AS PER PLAN EACH	202 MANHOLE REMOVED, AS PER PLAN EACH	202 SPECIAL - FILL AND PLUG EXISTING CONDUIT FT	608 TRUNCATED DOMES EACH	608 CURB RAMP, CITY OF CLEVELAND, AS PER PLAN EACH	608 8" CONCRETE WALK SQFT	608 WALKWAY MISC.: MORTAR SETTING BED AND GRANITE COBBLE PAVERS SQFT	609 CURB, MISC.: 2" MOUNTABLE TRUCK APRON CURB FT	609 CURB, TYPE 6 FT	609 CURB, MISC.: GRANITE CURB FT
R-1	58	14+75.00 TO 14+93.32	490																
R-2	58	13+74.98 TO 14+33.00		54															
R-3	58	14+24.41 TO 14+33.03			9														
R-4	58	14+71.49 TO 19+53.44			482														
R-5	58	20+34.40 TO 20+50.00			16														
R-6	59	20+50.00 TO 21+85.99			136														
R-7	63	55+04.56 TO 56+97.42			193														
R-8	63	14+66.00 TO 19+53.11	2,925																
R-9	63	20+08.82 TO 20+50.00	247																
R-10	63	20+50.00 TO 22+10.29	962																
R-11	63	54+82.56 TO 57+04.72	1,334																
CR-1	58	14+66.80												1					
CR-2	58	14+42.76												1					
CR-3	58	14+54.71												1					
CR-4	58	13+80.41												1					
CR-5	58	14+17.71												1					
CR-6	58	14+77.41												1					
CR-7	58	14+03.23											1						
CR-8	58	13+85.43											1						
CR-9	58	13+42.01											1						
SW-1	58	14+75.00 TO 18+50.00													1285				
SW-2	58	13+74.98 TO 14+33.00													975				
PV-1	58	14+75.00 TO 18+50.00														2685			
PV-2	63	57+20.14 TO 58+85.70														1455			
CB-1	58	14+75.00 TO 14+93.32															122		
CB-2	58	13+74.98 TO 14+33.00																	375
CB-3	58	14+75.00 TO 18+50.00																73	
D1	58	STA. 14+73.51					4		1										
D2	58	STA. 15+64.49								1		77							
D3	58	STA. 18+26.33					4	39											
D4	58	STA. 18+25.35					14			1									
D5	58	STA. 18+78.06					51												
D6	58	STA. 14+80.00						39											
D7	59	STA. 20+63.71					8			1									
D8	59	STA. 20+66.97					4	13											
W-1	28	11+14.73				1													
W-2	28	11+85.66									1								
W-3	28	12+26.80									1								
W-4	28	12+37.30				1													
W-5	28	12+74.91				1													
W-6	28	54+82.56 TO 57+04.72										222							
W-7	28	12+69.92 TO 12+77.73					21												
TOTALS CARRIED TO GENERAL SUMMARY			5,958	54	836	3	106	91	1	3	2	299	3	6	2,260	4,140	122	73	375

CALCULATED MJB
CHECKED RAS

ROADWAY SUBSUMMARRY

CUY-10-15.96

GS001

PAVEMENT SUBSUMMARY

STATION FROM	STATION TO	LIN. FT.	202 PAVEMENT REMOVED (SQYD)	203 EXCAVATION (CUYD)	203 GRANULAR MATERIAL, TYPE C, AS PER PLAN (CUYD)	254 PAVEMENT PLANNING, ASPHALT CONCRETE (SQYD)	254 PAVEMENT PLANNING, PORTLAND CEMENT CONCRETE (SQYD)	407 TACK COAT (GAL)	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (CUYD)	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (CUYD)	452 9" NON-REINFORCED CONCRETE PAVEMENT (SQYD)
14+34.00	18+50.00	416.00	338	28	28	643	643	3.3	2.9	3.5	84
18+50.00	19+37.67	87.67				124	124	0.8	0.7	0.8	
20+45.74	21+94.19	148.45				182	182	1.3	1.1	1.4	
55+04.56	57+04.72	200.16				273	273	1.8	1.5	1.9	
TOTALS CARRIED TO GENERAL SUMMARY			338	28	28	1,222	1,222	7.2	6.2	7.6	84

WATERWORKS SUBSUMMARY

REF NO.	SHEET NO.	STATION TO STATION	638 SPECIAL - PLUGGING EXISTING WATER MAIN AND BRANCHES (EACH)	638 SPECIAL - 16" x 12" TAPPING SLEEVE, VALVE AND VALVE BOX, COMPLETE (EACH)	638 WATER WORK, MISC.: 30" TO 20" REDUCER (EACH)	638 WATER WORK, MISC.: 20" TO 12" REDUCER (EACH)	638 WATER WORK, MISC.: SPOOL PIECE (CLEVELAND) (EACH)	638 SPECIAL - 12" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52 (FT)	638 SPECIAL - 20" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND RETAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 52 (FT)	638 VALVE BOX ADJUSTED TO GRADE (EACH)	638 SPECIAL - 12" GATE VALVE WITH VALVE BOX, COMPLETE (CLEVELAND SPECIFICATIONS) (EACH)
W-8	28	12+69.92					1				
W-9	28	15+39.66 TO 15+43.13						42			
W-10	28	15+47.12			1						
W-11	28	15+39.66		1							
W-12	58	14+10.57								1	
W-13	28	15+43.13				1					
W-14	28	54+82.56	1								
W-15	28	56+99.01	1								
W-16	28	15+30.00	1								
W-17	28	15+43.13 TO 15+47.12							4		
W-18	28	15+35.07									1
TOTALS CARRIED TO GENERAL SUMMARY			3	1	1	1	1	42	4	1	1

CALCULATED MJB
CHECKED RAS

SUBSUMMARY

CUY-10-15.96

GS002

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DRAINAGE SUBSUMMARY

REF NO.	SHEET NO.	STATION TO STATION	603		604	604	604	604	604		605				
			12" CONDUIT, TYPE A		MANHOLE, CITY OF CLEVELAND, AS PER PLAN	MANHOLE, RECONSTRUCTED TO GRADE	MANHOLE, ADJUSTED TO GRADE	CATCH BASINS, CITY OF CLEVELAND, TWIN CB-3, AS PER PLAN	CATCH BASINS, CB-6		4" BASE PIPE UNDERDRAINS				
			FT		EACH	EACH	EACH	EACH	EACH		FT				
D1	58	14+73.51	4		1										
D3	58	18+26.33	4					1							
D5	58	18+78.06	51				1								
D6	58	14+80.00	17					1							
D8	59	20+66.97	4						1						
D9	28	12+82.20				1									
UD1	58	14+80 TO 18+26									346				
UD2	58	18+26 TO 18+50									24				
E-1	63	57+11.69					1								
TOTALS CARRIED TO GENERAL SUMMARY			80		1	1	2	2	1		370				

CALCULATED MJB CHECKED RAS

SUBSUMMARY

CUY-10-15.96

GS003

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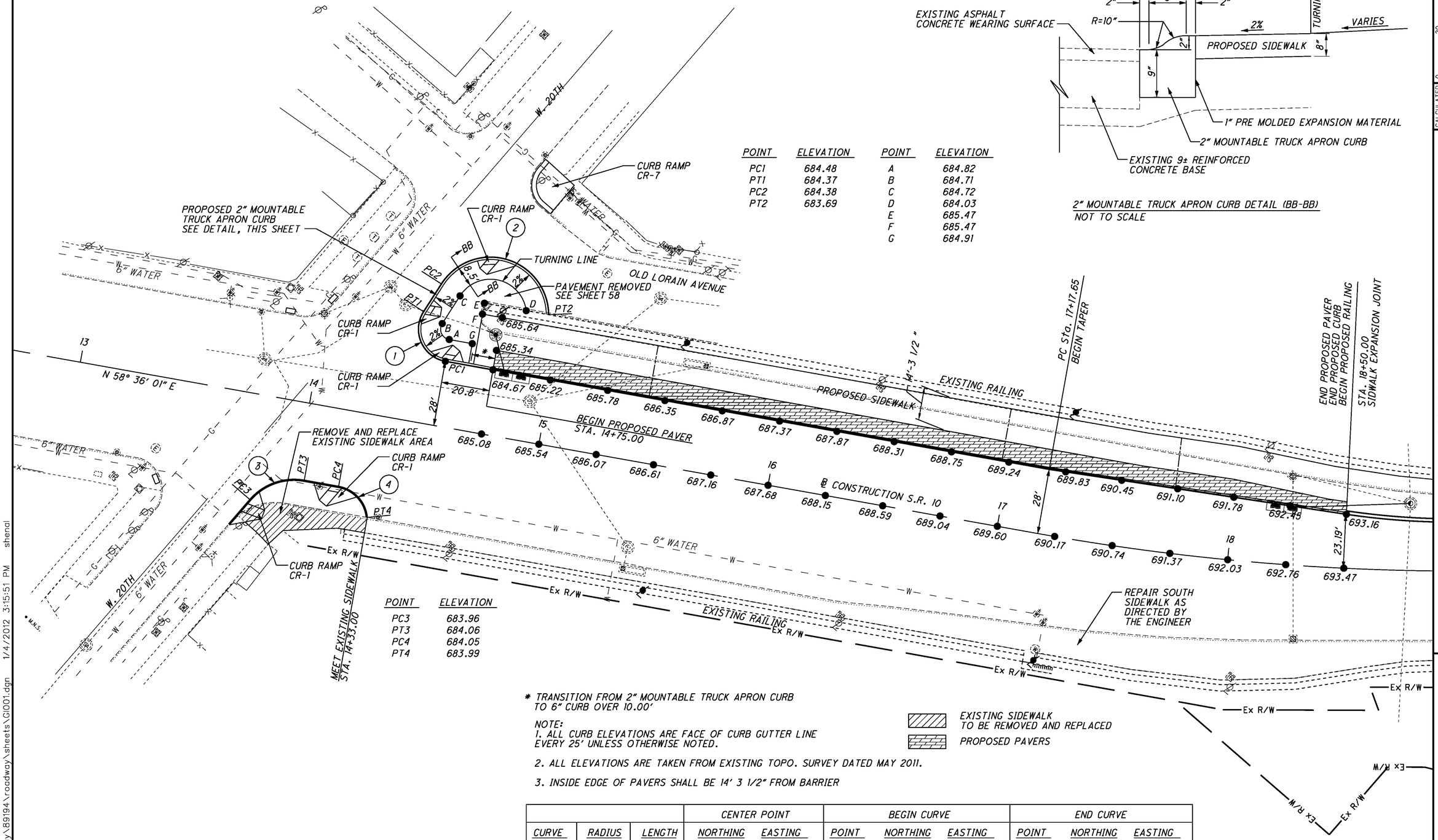
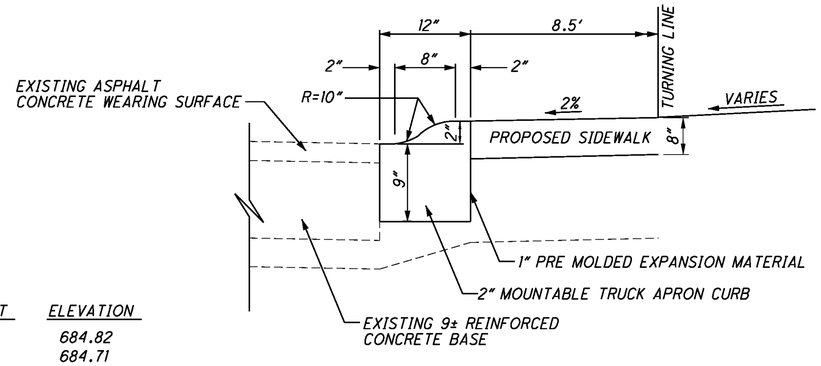
FOR ADDITIONAL PLAN INFORMATION SEE SHEET 58
FOR ADDITIONAL SIDEWALK INFORMATION SEE SHEET 117
FOR DRAINAGE INFORMATION SEE SHEET 58
SEE TRANSVERSE SECTIONS, SHEET 31





2" MOUNTABLE TRUCK APRON CURB DETAIL (BB-BB)
NOT TO SCALE

POINT	ELEVATION	POINT	ELEVATION
PC1	684.48	A	684.82
PT1	684.37	B	684.71
PC2	684.38	C	684.72
PT2	683.69	D	684.03
		E	685.47
		F	685.47
		G	684.91

POINT	ELEVATION
PC3	683.96
PT3	684.06
PC4	684.05
PT4	683.99

* TRANSITION FROM 2" MOUNTABLE TRUCK APRON CURB TO 6" CURB OVER 10.00'

NOTE:
1. ALL CURB ELEVATIONS ARE FACE OF CURB GUTTER LINE EVERY 25' UNLESS OTHERWISE NOTED.

2. ALL ELEVATIONS ARE TAKEN FROM EXISTING TOPO. SURVEY DATED MAY 2011.

3. INSIDE EDGE OF PAVERS SHALL BE 14' 3 1/2" FROM BARRIER

EXISTING SIDEWALK TO BE REMOVED AND REPLACED

PROPOSED PAVERS

			CENTER POINT		BEGIN CURVE			END CURVE		
CURVE	RADIUS	LENGTH	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
1	14.00'	27.49'	663989.70	2188125.86	PC1	663978.60	2188132.63	PT1	663987.53	2188112.03
2	25.00'	63.23'	664005.37	2188134.54	PC2	664001.51	2188109.84	PT2	664022.15	2188153.08
3	25.00'	25.91'	663877.96	2188134.74	PC3	663877.62	2188109.74	PT3	663899.30	2188121.71
4	15.00'	19.44'	663894.31	2188142.33	PC4	663907.11	2188134.52	PT4	663905.30	2188152.54

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MJB
CHECKED RAS

ROADWAY DETAIL
WEST END

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PC NORTH CURB
STA. 56+43.75, 21' LT (SR-10 ℄) =
STA. 12+30.71, 27' LT (INNERBELT ℄)

FACE OF EXISTING RAILING

STA. 57+20.14, 19' LEFT (SR-10 ℄)
STA. 13+05.72, 27' LEFT (INNBERT ℄),
BEGIN NORTH CURB
BEGIN PAVERS

END PROPOSED RAILING
TRANSITION
STA 58+38.27

RAILING TRANSITION -
TRANSITION RAILING
HEIGHT FROM 42" TO
3" OVER 15'

END PROPOSED RAILING
STA 58+23.27

STA. 58+79.57, 22.46' LT (SR-10 ℄)
STA. 14+66.41, 47.36' LT (INNBERT ℄),
END NORTH CURB
END PAVERS

14'-3½"
6'-9"
SAW CUT LONGITUDINAL JOINT
6" CURB W/1" PVC WEEP DRAINS EVERY 10'
PROPOSED RAILING
6" TYP.
POT Sta. 59+24.18
℄ CONSTRUCTION SR-10
N 48° 42' 47" E
57
58
59
NORTH CURB
27' TYP.
STA. 58+83.98, 1.09' LT (SR-10 ℄)
STA. 14+67.57, 27' LT (INNBERT ℄),
END NORTH CURB
END PAVERS
N 48° 42' 47" E
13
℄ CONSTRUCTION INNERBELT (CCG1)
14
CCRTA
BRIDGE NO.
CUY-10-1685
15
N 58° 18' 49" E
BEGIN APPROACH SLAB
STA. 57+04.72± (SR-10 ℄)
END APPROACH SLAB
STA. 57+29.72± (SR-10 ℄)
BEGIN APPROACH SLAB
STA. 58+85.70± (SR-10 ℄)
PT Sta. 14+70.72
END APPROACH SLAB
STA. 59+10.70± (SR-10 ℄)
PC Sta. 12+30.71 (INNERBELT ℄) =
Sta. 56+43.75, 6' RT (SR-10 ℄)

PROPOSED PAVERS
FOR ADDITIONAL DETAILS SEE SHEET 4

INNERBELT ℄ CURVE DATA
P.I. Sta. 13+50.99
Δ = 9° 36' 02" (RT)
Dc = 4° 00' 00"
R = 1,432.40'
T = 120.29'
L = 240.01'
E = 5.04'
C = 239.73'
C.B. = N 53° 30' 48" E

NORTH CURB CURVE DATA
Δ = 9° 28' 29" (RT)
R = 1,459.40'
T = 120.94'
L = 241.33'
E = 5.04'
C = 241.05'
C.B. = N 53° 27' 2" E

HORIZONTAL
SCALE IN FEET
0 5 10 20
CALCULATED RAS
CHECKED RBB

PAVER DETAIL
EAST END

CUY-10-15.96

25
205

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CLEVELAND DIVISION OF WATER NOTES FOR NEW WATER MAIN INSTALLATION

GENERAL:

CONTRACTOR IS TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND, DIVISION OF WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE CLEVELAND DIVISION OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING. THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.

4. THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CWD INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF WATER. THE CLEVELAND DIVISION OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OP RECORD (AS BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY THE DIVISION OF WATER. FLUSHING/SAMPLING TAPS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER. CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.

6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION, SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR. INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTIONS ARE EXPOSED. (SEE DIVISION OF WATER STANDARD DETAIL STD-001).

8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT DIVISION OF WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH DIVISIONOF WATER'S STANDARDS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE DIVISION OF WATER. (REFER TO THE THE ALTERNATE TEST DETAIL STD-002 AS NEEDED).

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE DIVISION OF WATER'S INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF THE DIVISION OF WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.

WATER MAINS:

11A. ALL PIPE, UNLESS OTHERWISE CALLED FOR , SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET AND INSTALLED AS PER THE MOST CURRENT REVISION OF AWWA C600.

11B. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED ALL FITTINGS AND PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN DIRECTED BY CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

11C. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".

11D. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

11E. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT PLUGS AS PER THE "PREVENTIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END.

PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CWD INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUMITTAL. AS-BUILTS SHLL BE CONSIDERED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

HYDRANTS:

12. IN ALL HYDRANT INSTALLATIONS, THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.

13. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

CONNECTIONS:

14. WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR SERVICE CONNECTINOS MUST BE OBTAINED FROM THE DIVISION OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONECTION(S). IT IS THE CONTRACTORS RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF THE CHARGES CAN BE OBTAINED FROM THE DIVISION OF WATER, PERMITS AND SALES SECTION AT 216-664-2444 X5203.

15. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE HOMES BASED ON THE FOLLOWING CRITERIA:

*PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (FIRE, DOMESTIC AND/OR IRRIGATION) AND

*LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 75 FEET AS MEASURED FROM THE MAIN TO THE POINT OF ENTRY INTO THE PROPOSED HOME/UNIT.

ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION. PEAK DEMANDS ARE TO BE ASSESSED ON APPLICATION AND SETBACKS ARE TO SHOWN ON AN ACCOMPANYING SITE PLAN. SITE PLANS SHALL SHOW WATER METER VAULTS IN THE RIGHT OF WAY OR IN AN EASEMENT CONTIGUOUS TO THE RIGHT OF WAY FOR ANY HOMES/UNITS WITH SETBACKS GREATER THAN 150 FEET. EASEMENTS ARE TO BE PROVIDED WITH THE SERVICE CONNECTION APPLICATION SUBMITTAL.

16. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.

EMERGENCIES:

17. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE DIVISION OF WATER AT 216-664-3060.

ITEM 638 - WATER WORK, MISC.: SPOOL PIECE

WORK SHALL BE PERFOMED PER CITY OF CLEVELAND STANDARD DRAWING (STD-008). SEE SPOOL PIECE INSTALLATION DETAIL, SHEET 29

ITEM 638 - WATER WORK, MISC.: SPOOL PIECE

WORK SHALL BE PERFOMED PER CITY OF CLEVELAND STANDARD DRAWING (STD-004). SEE PLUGGING ABANDOND WATER MAIN INSTALLATION DETAIL, SHEET29

PAVEMENT REPAIR FOR WATERLINE TRENCHES

WHERE A UTILITY IS CALLED OUT TO BE PLACED UNDER EXISTING PAVEMENT THE ENTIRE TRENCH, UP TO THE BOTTOM OF THE EXISTING SUBGRADE, SHALL BE BACKFILLED WITH STRUCTURAL BACKFILL, TYPE I (703.11) COMPACTED IN 8" LIFTS. THE PAVEMENT OVER THE TRENCH SHALL BE NEATLY SAW CUT AND THE PAVEMENT REPLACED TO MATCH THE EXISTING PAVEMENT COMPOSITION. IF A CONCRETE BASE EXISTS THE NEW CONCRETE BASE SHALL BE DOWELED INTO THE EXISTING PER BP-2.5. THE ASPHALT SURFACE COURSE SHALL BE SEALED ALONG EACH SEAM PER ODOT ITEM 702. WHERE BRICK PAVEMENT IS ENCOUNTERED, IT SHALL BE REPLACED WITH ODOT ITEM 452 - NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT IN THE SAME THICKNESS AS THE BRICK LAYER. PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE PRICE PER FOOT OF CONDUIT AS PER PLAN OR THE STRUCTURE AS PER PLAN.

WATERWORK MISC., AND SPECIAL ITEMS

THESE ITEMS SHALL CONFORM TO THE LATEST CITY OF CLEVELAND DIVISION OF WATER STANDARDS.

CALCULATED MJB CHECKED RAS

WATERWORKS NOTES

CUY-10-15.96

UN001

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205

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DIVISION OF WATER - LABOR CHARGES

THE CITY, DIVISION OF WATER , WILL CHARGE TO THE CONTRACTOR CERTAIN CHARGES PURSUANT TO SECTION 531.03(a) IF THE CODIFIED ORDINANCES OF THE DIVISION OF WATER, AS AMENDED BY ORDINANCE 1043-75 AND ADOPTED BY THE CITY OF CLEVELAND BOARD OF CONTROL RESOLUTION NO: 003-82, AND PER ORDINANCE NO: 2661-81, FOR DIVISION OF WATER LABOR REQUIRED IN THE WORK PAYABLE TO THE PERMITS AND SALES SECTION OF THE DIVISION OF WATER, BEFORE ANY WORK IS PERFORMED.

THE CONTRACTOR SHALL PROVIDE IN HIS BID, INCLUDED WITH THE APPROPRIATE PAY ITEM FOR WATER WORK TO BE PERFORMED IN THIS CONTRACT, ANY AND ALL CITY OF CLEVELAND, DIVISION OF WATER, LABOR CHARGES IN THE AMOUNTS INDICATED HEREIN. NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR(S) BY THE STATE FOR DIVISION OF WATER LABOR FOR WORK REQUIRED TO BE PERFORMED BY THE DIVISION OF WATER BUT THE REQUIRED CWD LABOR, PERMIT, AND CITY INSPECTION CHARGES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S) AND SHALL BE DEEMED TO BE INCLUDED IN THE PRICE BID FOR THE APPROPRIATE WATER WORK PAY ITEM. (SEE WORK TO BE DONE BY THE CITY)

THE CONTRACTOR SHALL PROVIDE COPIES OF ALL CORRESPONDENCE (I.E., INVOICES, RECEIPTS, CANCELLED CHECKS, ETC.) BETWEEN CWD AND THE CONTRACTOR TO THE PROJECT ENGINEER/SUPERVISOR TO DOCUMENT APPROPRIATE PAYMENTS.

DIVISION OF WATER CHARGES STIPULATED HEREIN ARE ON A FLAT RATE BASIS, UNLESS OTHERWISE SPECIFIED AS A "DEPOSIT - COST PLUS" BASIS.

NEW CONNECTIONS (TAPS, FIRE SUPPLY)

1"	$310
1½"	$1,479
2"	$1,604
3"	$1,614
4"	$2,059
6"	$2,165
8"	$2,436
10"	$2,900
12"	$4,060

CURB VALVES (FLAT RATE LABOR ONLY)

1"	$149
1½"	$149
2"	$297
3"	$297
4"	$297
6"	$297
8"	$297
10"	$446
12"	$446

TAPPING SLEEVE AND VALVE (FOR TYING NEW MAIN TO EXISTING MAIN)

8" OR LESS	$2,436
10"	$2,900
12"	$4,060
16" OR GREATER	$5,243

FOR CONCRETE PIPE ADD 55% SURCHARGE

PLUGGING CONNECTIONS (FEE ONLY INCLUDES ACTUAL PLUGGING OF CONNECTION: EXCAVATION AND RESTORATION WILL BE INVOICED AT COST)

<2"	$1,675
2"-12"	$2,232
>12"	$2,790

METER SETTINGS

1" OR SMALLER	$162
1½"	$486
2"	$486
3"	$486
4"	$639
6"	$840
8"	$1,063
10"	$1,338
12"	$1,636

INSTALL / REPLACE METERS

1" OR SMALLER - VAULT SETTING	$251
1" OR SMALLER - INSIDE SETTING W/REMOTE READING DEVICE	$486
1½" VAULT SETTING	$286
1½" - INSIDE SETTING W/REMOTE READING DEVICE	$339
2"	$366
3"	$883
4"	$1,511
6"	$3,162
8"	$5,253
10"	$6,239
12"	$8,704
2" COMPOUND	$1,948
3" COMPOUND	$2,375
4" COMPOUND	$2,780
6" COMPOUND	$4,695
8" COMPOUND	$7,388
10" COMPOUND	$8,771
12" COMPOUND	$12,226

REGULATORS

8" (COST PLUS)	$2,566
12" (COST PLUS)	$4,275

WATER USE FROM HYDRANTS AND OTHER UN METERED SOURCES

PERMIT	$42
VOLUME CHARGE ($/MCF/SERVICE AREA)	CHARGED AT ADDITIONAL MCF RATE IN APPLICABLE RATE DISTRICT WHERE HYDRANT IS LOCATED.
METER/VALVE/BF ASSEMBLY REFUNDABLE DEPOSIT	$1,150
METER RENTAL FEE	$35/ IST WEEK; $25/ WK AFTER

MISCELLANEOUS ENGINEERING SERVICES

COPY FEE FOR ROLL MAPS, ENGINEERING DWGS. - PER SQ. FT.	$0.32
PLAN REVIEWS-PER PLAN & PROFILES DWG.* CONTAINING WATER WORK	$510
AS-BUILT CREATION-REFUNDABLE DEPOSITOPER PLAN & PROFILE DWG.* CONTAINING WATER WORK	$500
AS-BUILT PROCESSING FEE-PER PLAN & PROFILE DWG.* CONTAINING WATER WORK	
HARD OR PAPER COPIER - PER DWG.	$250
AUTOCAD FORMAT - PER DWG.	$100
GIS FORMAT PER CWD STDS. - PER DWG.	$25
PLUMBER CERTIFICATION	$46
BACKFLOW PREVENTION TESTING FEE - CWD PROCESSING FEE	$6
BACKFLOW PREVENTION TESTING FEE - VENDOR PROCESSING FEE	$9.95

* D - SIZE DRAWING

DISINFECTION OF WATER MAINS

CHARGES FOR SERVICES:	MIN. CHARGES	PER FT. CHARGE*
4" DIAMETER	$684	$0.57
6"	$684	$0.57
8"	$888	$0.74
10"	$888	$0.74
12"	$1,080	$0.90
16"	$1,188	$0.99
20" OR GREATER	$3,300 DEPOSIT, INVOICED	
(DEPOSIT+COST) INVOICED AT ACTUAL COST	AT ACTUAL COST	

* PER FT. CHARGE APPLIES ONLY WHEN THE MINIMUM IS EXCEEDED

COME BACK FEE $360

METER TEST AT CUSTOMER'S REQUEST (RED TAG, FLOW TEST)

1" OR LESS	$54
1½" TO 4"	$110
OVER 4"	$218

READING RE -REGISTERING METERS

($/READ) $1.54

SPECIAL SERVICE CALLS BY CUSTOMER REQUEST

$19

CHARGE FOR APPOINTMENT BROKEN BY CUSTOMER

$30

RETURNED CHECKS

$31

QUARTERLY FLAT RATE FOR UN METERED FIRE LINE SERVICE

CONNECTION SIZE	
1½"	$43.45
2"	$43.45
3"	$43.45
4"	$118.20
6"	$170.34
8"	$304.17
10"	$476.24
12"	$650.06

MONTHLY FLAT RATE FOR UN METERED FIRE LINE SERVICE

CONNECTION SIZE	
1½"	$14.48
2"	$14.48
3"	$14.48
4"	$39.40
6"	$56.78
8"	$101.39
10"	$158.75
12"	$216.69

CALCULATED MJB CHECKED RAS

WATERWORKS NOTES

CUY-10-15.96

UN002

WATERWORKS PLAN

CUY-10-15.96

UP001

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205

CALCULATED MJB
CHECKED RAS

HORIZONTAL SCALE IN FEET
0 15 30 60

CANAL RD.
Ex R/W
Ex-A
W-5 EX. VALVE BOX TO BE REMOVED STA. 12+74.91, 23.77' LT.
W-7 EX. 12" WATER LINE TO BE REMOVED
W-4 EXISTING VALVE BOX STA. 12+37.30, 31.38' LT. TO BE REMOVED
W-3 WATER MANHOLE STA. 12+26.80, 27.29' LT. TO BE REMOVED
W-6 FILL AND PLUG EXISTING 30" WATER LINE STA. 54+82.56 TO 57+04.72
W-2 WATER MANHOLE STA. 11+85.66, 30.75' LT. TO BE REMOVED
W-1 EX. VALVE BOX STA. 11+14.73, 38.39' LT. TO BE REMOVED
CUY-10-1613 EAST ABUTMENT EASTERN SPAN
EX. 30" WATER LINE
EX. WATER VAULTS TO BE REMOVED AND REPLACED
30" CUT & PLUG STA. 54+82.56 W-14
EASTERN ROADWAY & TUNNELS
N 48° 42' 47" E
BRIDGE NO. CUY-10-1613 MAIN SPANS
℄ CONSTRUCTION S.R. 10
℄ CONSTRUCTION INNERBELT CCG1
CUY-10-1613 EAST ABUTMENT WESTERN SPAN
POT STA. 54+25.07 ℄ CONSTRUCTION S.R. 10 =
STA. 10+12.03 6' LT ℄ CONSTRUCTION INNERBELT CCG1
PC Sta. 12+30.71
D-9 MANHOLE STA. 12+82.20, 35.64' LT, RECONSTRUCTED TO GRADE
ELECTRIC MANHOLE ADJUSTED TO GRADE
BEGIN APPROACH SLAB STA. 58+85.70±
END APPROACH SLAB STA. 59+10.70±
ONTARIO ST.
GCRTA TRACKS
GCRTA BRIDGE NO. CUY-10-1685
PROPOSED PAVERS
30" CUT & PLUG W-15
EX. 12" WATER LINE
EX. 16" WATER LINE
EX. 30" WATER LINE
CARNEGIE AVE.
N 58° 18' 49" E
30" WATER LINE ABANDONED IN PLACE
30" CUT & PLUG W-16
PT Sta. 14+70.72
CENTRAL VIADUCT
W-8 REMOVE 16" X 12" TEE REPLACE WITH SPOOL PIECE STA. 12+69.92, 9.10' LT.
BEGIN APPROACH SLAB STA. 57+04.72±
END APPROACH SLAB STA. 57+29.72±
STA. 15+34.50, 20.19' RT.
STA. 15+35.41, 36.75' RT.
12" - 90° BEND
W-9 PROPOSED 12" WATER LINE
PT Sta. 59+24.18
W-11 16" X12" TAPPING SLEEVE, VALVE AND VALVE BOX STA. 15+39.66, 14.42' RT.
PI Sta. 15+78.87
END WORK STA. 15+61.12±
N 57° 40' 42" E
12" GATE VALVE W/VALVE BOX STA. 15+35.07, 31.36' RT W-18
EXISTING GATE VALVE STA. 15+61.12, 43.06' RT.
EXISTING AIR RELEASE STA. 15+50.45, 39.75' RT.
PROPOSED 30" TO 20" REDUCER STA. 15+47.12, 39.82' RT. W-10
PROPOSED 20" WATER LINE
PROPOSED 20" TO 12" REDUCER STA. 15+43.13, 40.04' RT. W-17
STA. 15+39.33, 40.25' RT. 12" - 45° BEND W-13

CURVE DATA
P.I. Sta. 13+50.99
Δ = 9° 36' 02" (RT)
Dc = 4° 00' 00"
R = 1,432.40'
T = 120.29'
L = 240.01'
E = 5.04'
C = 239.73'
C.B. = N 53° 30' 48" E

NOTES:
1. FOR LIGHTING PLAN, SEE SHEET 47
2. FOR PAVER DETAILS, SEE SHEET 25
3. FOR WATER VAULT DETAILS, SEE SHEET 200 & 201 FOR EASTERN ROADWAY AND TUNNELS
4. SEE TRANSVERSE SECTIONS SHEET 83
5. WATER LINE VALVES AND FITTINGS ARE APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE INSTALLATION.

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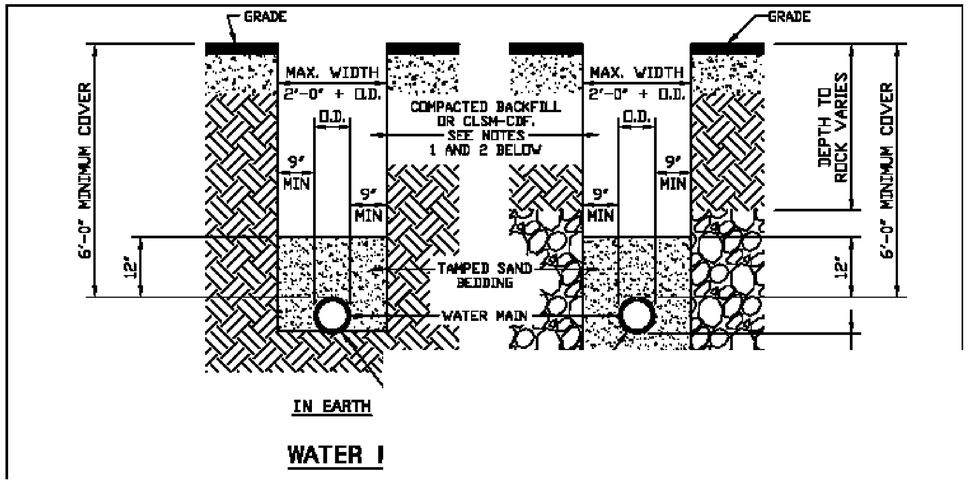

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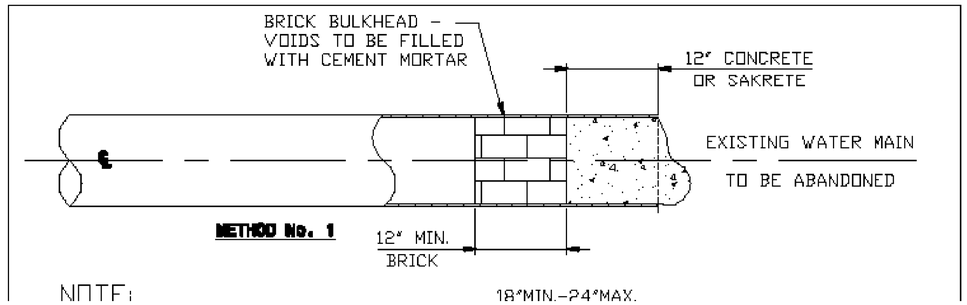

METHOD No. 1

NOTE:

CALCULATED MJB
CHECKED RAS

WATERWORKS DETAILS

CUY-10-15.96

UD001

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205

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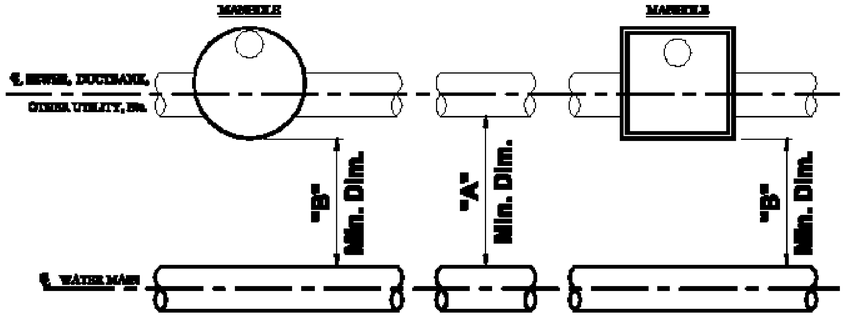


PLAN VIEW

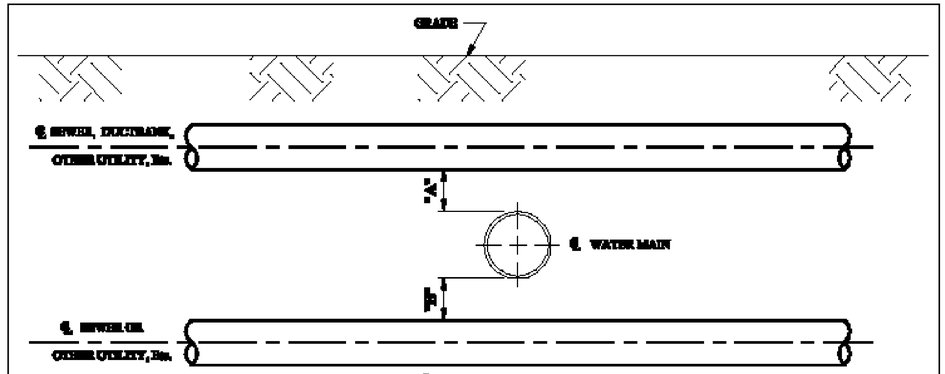
- SEE STD-018 FOR PROFILE VIEW -

		HORIZONTAL CLEARANCE	STORM SEWER	SANITARY SEWER	GAS, DUCTBANK, OTHER UTILITY, Etc.
WHEN BOTTOM OF UTILITY PIPE IS AT OR ABOVE BOTTOM OF WATER MAIN		"A"	4'-0"	10'-0" MIN.	3'-0"
		"B"	4'-0"	7'-0" MIN.	3'-0"
WHEN BOTTOM OF UTILITY PIPE IS BELOW BOTTOM OF WATER MAIN		"A"	5'-0"	10'-0" MIN.	5'-0"
		"B"	5'-0"	7'-0" MIN.	5'-0"

CLEARANCE FOR UTILITIES

NOT TO SCALE

STD-017 | DATE: 12-4-97 | BY: RSK



PROFILE VIEW

- SEE STD-017 FOR PLAN VIEW -

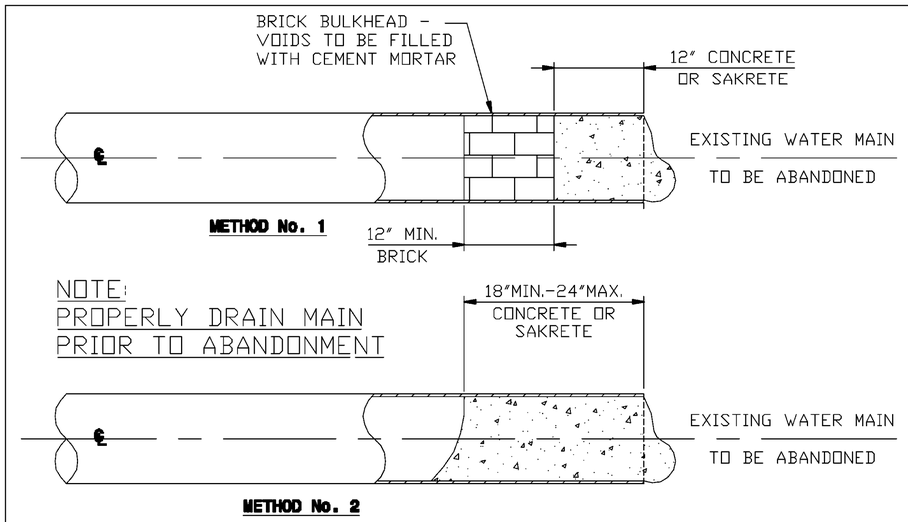
VERTICAL CLEARANCE	SANITARY SEWER LESS THAN 24"	SANITARY SEWER 24" & LARGER	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY LESS THAN 24"	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY 24" & LARGER	REMARKS
"A"	18" Min.	*18" Min.	***12"	*12"	*WATER MAIN IN CASING: CLEARANCE TO TOP OF CASING
"B"	18" Min.	**18" Min.	12"	**12"	**CLEARANCE TO TOP OF UTILITY OR TOP OF CASING; WHEN UTILITY IS IN CASING

***INCREASE TO 18" WHEN WIDTH OR DIAMETER OF UTILITY IS GREATER THAN DIAMETER OF WATER MAIN

CLEARANCE FOR UTILITIES

NOT TO SCALE

STD-018 | DATE: 12-4-97 | BY: RSK



PLUGGING ABANDONED WATER MAIN ENDS

- NOT TO SCALE -

STD-004 | DATE: 10-1-97 | BY: RSK

CALCULATED MJB | CHECKED RAS

WATERWORKS DETAILS

CUY-10-15.96

UD002

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE	646 LANE LINE	646 CHANNELIZING LINE	646 TRANSVERSE/DIAGONAL LINE	646 STOP LINE	646 CENTER LINE	646 CROSSWALK LINE	646 DOTTED LINE	646 PAVEMENT MARKING MISC.: SHARROW	646 LANE ARROW
						MILE	MILE	FT	FT	FT	MILE	FT	FT	EACH	EACH
34	ELW-1	CARNEGIE AVENEUE	16+86	25+00	LT	0.15									
34	ELW-2	CARNEGIE AVENEUE	14+25	25+00	RT	0.20									
34	LL-1	CARNEGIE AVENEUE	14+64	25+00	LT		0.20								
34	LL-2	CARNEGIE AVENEUE	14+32	25+00	RT		0.20								
34	CH-1	CARNEGIE AVENEUE	14+64	16+35.64	LT				171						
34	TL-1	CARNEGIE AVENEUE	14+25	18+96	RT			184							
34	TL-2	CARNEGIE AVENEUE	16+35	18+96	RT			115							
34	SL-1	CARNEGIE AVENEUE	14+22		LT					16					
34	SL-2	CARNEGIE AVENEUE	14+64		LT					36					
34	SL-4	CARNEGIE AVENEUE	14+68		RT					15					
34	SL-5	CARNEGIE AVENEUE	13+46		RT					46					
34	SL-6	CARNEGIE AVENEUE	14+86		LT					12					
34	CL-1	CARNEGIE AVENEUE	14+30	14+46	LT						0.01				
34	CL-2	CARNEGIE AVENEUE	16+35.64	16+85.64	RT						0.01				
34	CL-3	CARNEGIE AVENEUE	16+85.64	18+95.64	LT						0.04				
34	CL-4	CARNEGIE AVENEUE	14+64	25+00	RT						0.20				
34	CW-1	CARNEGIE AVENEUE	14+18		LT							74			
34	CW-2	CARNEGIE AVENEUE	14+64		LT							59			
34	CW-3	CARNEGIE AVENEUE	14+33		LT/RT							143			
34	CW-4	CARNEGIE AVENEUE	13+63		RT							70			
34	CW-5	CARNEGIE AVENEUE	13+62		LT/RT							172			
34	SH	CARNEGIE AVENEUE	14+50		RT									1	
34	SH	CARNEGIE AVENEUE	17+00		LT									1	
34	SH	CARNEGIE AVENEUE	17+00		RT									1	
34	SH	CARNEGIE AVENEUE	19+50		LT									1	
34	SH	CARNEGIE AVENEUE	19+50		RT									1	
34	SH	CARNEGIE AVENEUE	22+00		LT									1	
34	SH	CARNEGIE AVENEUE	22+00		RT									1	
34	SH	CARNEGIE AVENEUE	24+50		LT									1	
34	SH	CARNEGIE AVENEUE	24+50		RT									1	
34	LA	CARNEGIE AVENEUE	14+74		RT										1
34	LA	CARNEGIE AVENEUE	15+40		RT										1
34	LA	CARNEGIE AVENEUE	16+06		RT										1
35	ELW-3	CARNEGIE AVENEUE	25+00	38+00	LT	0.25									
35	ELW-7	CARNEGIE AVENEUE	25+00	38+00	RT	0.25									
35	LL-3	CARNEGIE AVENEUE	25+00	38+00	LT		0.25								
35	LL-4	CARNEGIE AVENEUE	25+00	38+00	RT		0.25								
35	CL-5	CARNEGIE AVENEUE	25+00	38+00	RT						0.25				
35	SH	CARNEGIE AVENEUE	27+00		LT									1	
35	SH	CARNEGIE AVENEUE	27+00		RT									1	
35	SH	CARNEGIE AVENEUE	29+50		LT									1	
35	SH	CARNEGIE AVENEUE	29+50		RT									1	
35	SH	CARNEGIE AVENEUE	32+00		LT									1	
35	SH	CARNEGIE AVENEUE	32+00		RT									1	
35	SH	CARNEGIE AVENEUE	34+50		LT									1	
35	SH	CARNEGIE AVENEUE	34+50		RT									1	
35	SH	CARNEGIE AVENEUE	37+00		LT									1	
35	SH	CARNEGIE AVENEUE	37+00		RT									1	
TOTALS CARRIED TO GENERAL SUMMARY						0.85	0.90	299	171	125	0.51	518		19	3

CALCULATED MJB
CHECKED RAS

PAVEMENT MARKING SUBSUMMARY

CUY-10-15.96

TS001

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE	646 LANE LINE	646 CHANNELIZING LINE	646 TRANSVERSE/DIAGONAL LINE	646 STOP LINE	646 CENTER LINE	646 CROSSWALK LINE	646 DOTTED LINE	646 PAVEMENT MARKING MISC.: SHARROW	646 LANE ARROW							
			FROM	TO		MILE	MILE	FT	FT	FT	MILE	FT	FT	EACH	EACH							
36	ELW-4	CARNEGIE AVENUE	38+00	51+00	LT	0.25																
36	ELW-8	CARNEGIE AVENUE	38+00	51+00	RT	0.25																
36	LL-5	CARNEGIE AVENUE	38+00	51+00	LT		0.25															
36	LL-6	CARNEGIE AVENUE	38+00	51+00	RT		0.25															
36	CL-6	CARNEGIE AVENUE	38+00	51+00	CL						0.25											
36	SH	CARNEGIE AVENUE	39+50		LT									1								
36	SH	CARNEGIE AVENUE	39+50		RT									1								
36	SH	CARNEGIE AVENUE	42+00		LT									1								
36	SH	CARNEGIE AVENUE	42+00		RT									1								
36	SH	CARNEGIE AVENUE	44+50		LT									1								
36	SH	CARNEGIE AVENUE	44+50		RT									1								
36	SH	CARNEGIE AVENUE	47+00		LT									1								
36	SH	CARNEGIE AVENUE	47+00		RT									1								
36	SH	CARNEGIE AVENUE	49+50		LT									1								
36	SH	CARNEGIE AVENUE	49+50		RT									1								
37	ELW-5	CARNEGIE AVENUE	51+00	14+22	LT	0.14																
37	ELW-6	CARNEGIE AVENUE	51+00	12+85	RT	0.14																
37	LL-7	CARNEGIE AVENUE	51+00	14+22	LT		0.14															
37	LL-8	CARNEGIE AVENUE	51+00	12+85	RT		0.11															
37	CH-2	CARNEGIE AVENUE	12+86	14+22	RT			134														
37	CH-3	CARNEGIE AVENUE	12+85	14+22	RT			134														
37	TL-3	CARNEGIE AVENUE	10+61	14+22	RT				300													
37	SL-3	CARNEGIE AVENUE	14+22		RT					35												
37	CL-7	CARNEGIE AVENUE	10+61.51	14+22	RT						0.07											
37	CL-8	CARNEGIE AVENUE	51+00	14+22	RT						0.14											
37	DL-1	CARNEGIE AVENUE	14+22	15+69	LT								148									
37	DL-2	CARNEGIE AVENUE	14+22	15+48	RT								125									
37	SH	CARNEGIE AVENUE	52+00		LT									1								
37	SH	CARNEGIE AVENUE	52+00		RT									1								
37	SH	CARNEGIE AVENUE	54+50		LT									1								
37	SH	CARNEGIE AVENUE	54+50		RT									1								
37	SH	CARNEGIE AVENUE	12+86		LT									1								
37	LA	CARNEGIE AVENUE	12+95		RT										1							
37	LA	CARNEGIE AVENUE	14+12		RT										1							
37	LA	CARNEGIE AVENUE	14+12		RT										1							
37	LA	CARNEGIE AVENUE	14+12		RT										1							
TOTALS CARRIED TO GENERAL SUMMARY						0.78	0.75	268	300	35	0.46		273	15	4							

CALCULATED MJB
CHECKED RAS

PAVEMENT MARKING SUBSUMMARY

CUY-10-15.96

TS002

32
205

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH		630 GROUND MOUNTED SUPPORT, NO. 3 POST, TYPE S FT	630 SIGN SUPPORT ASSEMBLY POLE MOUNTED EACH	630 SIGN, FLAT SHEET, TYPE G SQ FT									
34		CARNEGIE AVENUE	STA. 14+70	RT			1													
					R5-6	18 X 18				1	2.25									
					R10-H11G	9.5 X 18					1.19									
34		CARNEGIE AVENUE	STA. 14+74	LT			1													
					D1-H4	30 X 6				1	1.25									
					D11-1	24 X 18				1	3.00									
					D11-1	24 X 18				1	3.00									
					D1-H4	30 X 6				1	1.25									
34		CARNEGIE AVENUE	STA. 15+55	RT	R2-1	24 X 30				1	5.00									
34		CARNEGIE AVENUE	STA. 21+85	RT			1													
					R4-11	30 X 30				1	6.25									
34		CARNEGIE AVENUE	STA. 21+85	LT			1													
					R4-11	30 X 30				1	6.25									
35		CARNEGIE AVENUE	STA. 28+85	RT			1													
					R4-11	30 X 30				1	6.25									
35		CARNEGIE AVENUE	STA. 28+85	LT			1													
					R4-11	30 X 30				1	6.25									
35		CARNEGIE AVENUE	STA. 32+80	RT	R2-1	24 X 30				1	5.00									
35		CARNEGIE AVENUE	STA. 32+80	LT	R2-1	24 X 30				1	5.00									
35		CARNEGIE AVENUE	STA. 36+75	RT			1													
					R4-11	30 X 30				1	6.25									
35		CARNEGIE AVENUE	STA. 36+75	LT			1													
					R4-11	30 X 30				1	6.25									
36		CARNEGIE AVENUE	STA. 42+36	RT			1													
					R4-11	30 X 30				1	6.25									
36		CARNEGIE AVENUE	STA. 42+36	LT			1													
					R4-11	30 X 30				1	6.25									
36		CARNEGIE AVENUE	STA. 49+52	RT			1													
					R4-11	30 X 30				1	6.25									
36		CARNEGIE AVENUE	STA. 49+52	LT	R4-11	30 X 30				1	6.25									
37		CARNEGIE AVENUE	STA. 51+30	LT			1													
					R4-11	30 X 30				1	6.25									
37		CARNEGIE AVENUE	STA. 53+15	RT			1													
					R4-11	30 X 30				1	6.25									
37		CARNEGIE AVENUE	STA. 54+91	RT	R2-1	24 X 30				1	5.00									
37		CARNEGIE AVENUE	STA. 54+91	LT	R2-1	24 X 30				1	5.00									
37		CARNEGIE AVENUE	STA. 56+78	RT	R5-6	18 X 18				1	2.25									
					R10-H11G	9.5 X 18					1.19									
37		CARNEGIE AVENUE	STA. 14+06	LT	R1-1	18 X 18			11		2.25									
					R10-H11G	9.5 X 18					1.19									
					R1-1	18 X 18					2.25									
					R10-H11G	9.5 X 18					1.19									
TOTALS CARRIED TO GENERAL SUMMARY							13		11	23	122.26									

CALCULATED MJB
CHECKED RAS

SIGNING SUBSUMMARY

CUY-10-15.96

TS003

33
205

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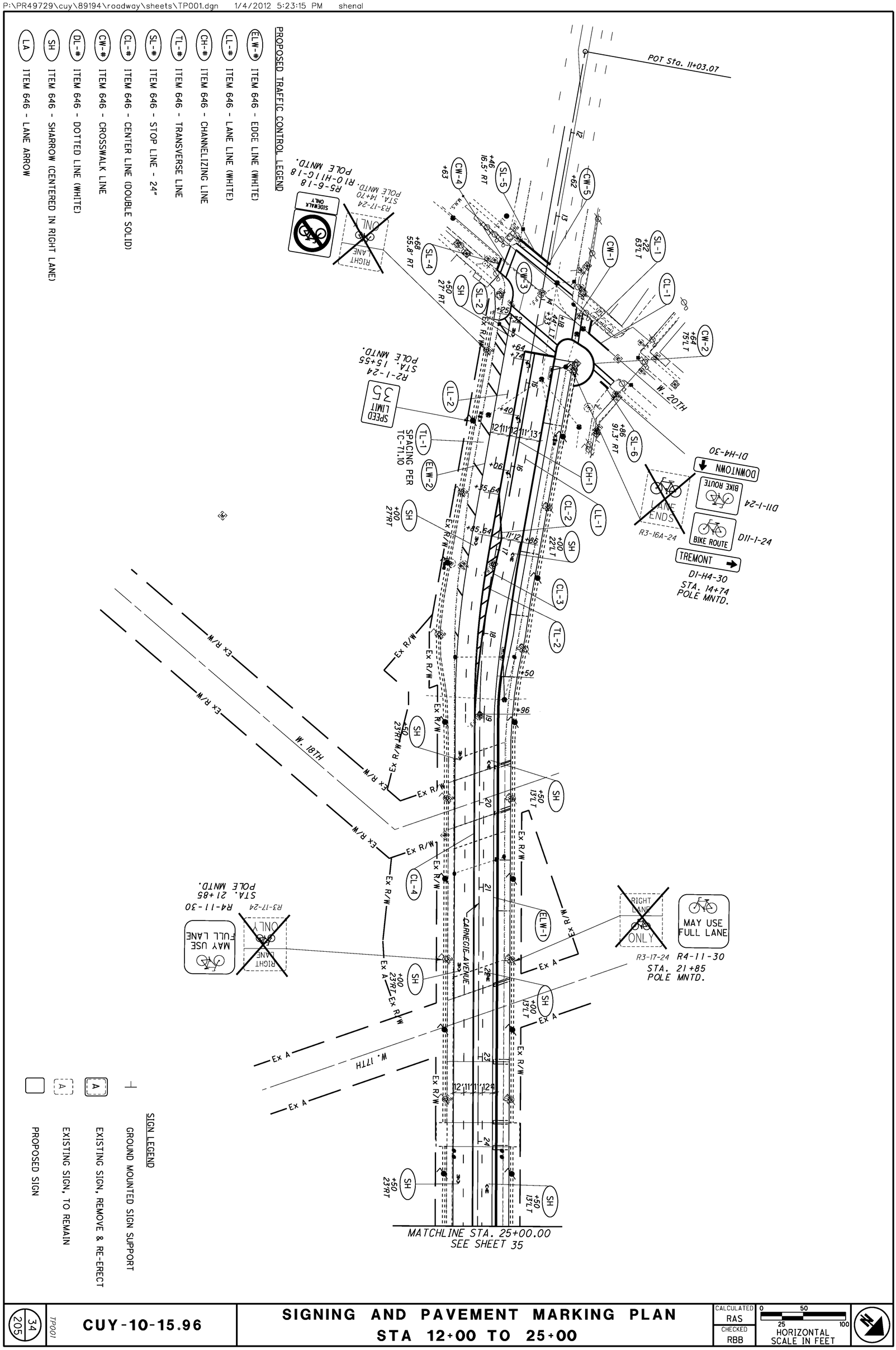


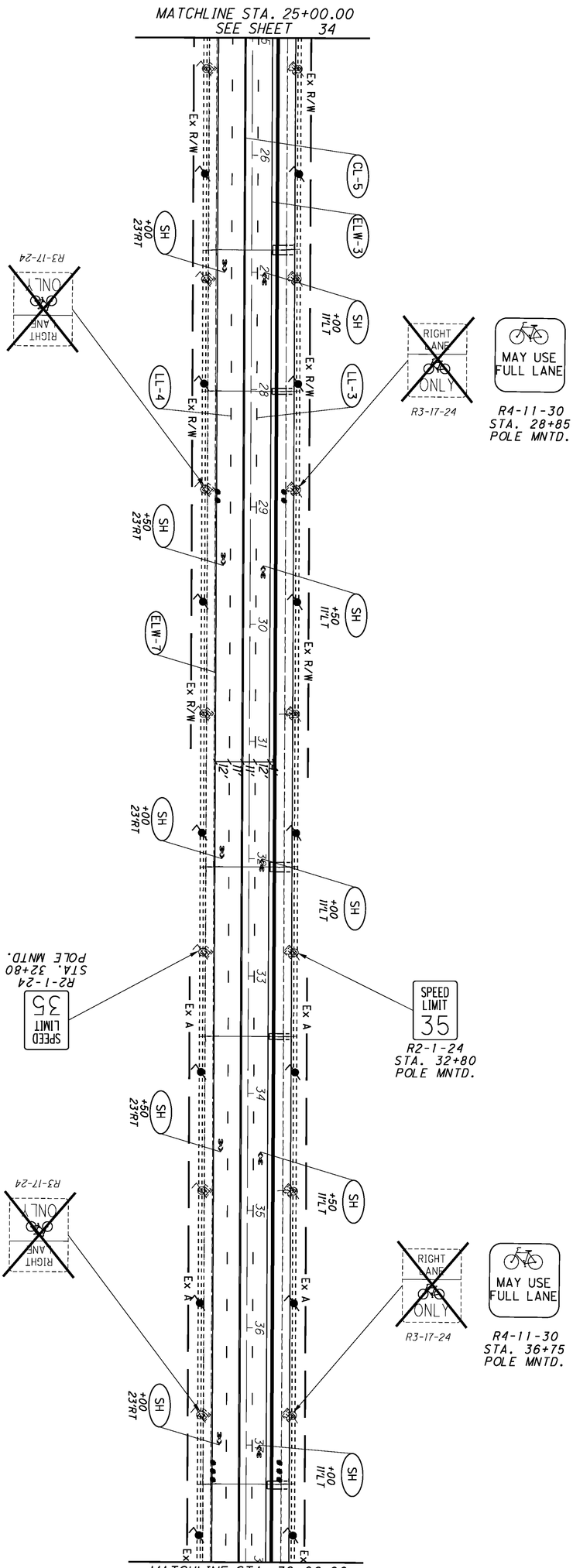
34 / 205	TP001	CUY-10-15.96	SIGNING AND PAVEMENT MARKING PLAN STA 12+00 TO 25+00	CALCULATED RAS / CHECKED RBB	0 50 25 100 HORIZONTAL SCALE IN FEET

PROPOSED TRAFFIC CONTROL LEGEND

- (ELW-#) ITEM 646 - EDGE LINE (WHITE)
- (LL-#) ITEM 646 - LANE LINE (WHITE)
- (CH-#) ITEM 646 - CHANNELIZING LINE
- (TL-#) ITEM 646 - TRANSVERSE LINE
- (SL-#) ITEM 646 - STOP LINE - 24"
- (CL-#) ITEM 646 - CENTER LINE (DOUBLE SOLID)
- (CW-#) ITEM 646 - CROSSWALK LINE
- (LL-#) ITEM 646 - DOTTED LINE (WHITE)
- (SH) ITEM 646 - SHARROW (CENTERED IN RIGHT LANE)
- (LA) ITEM 646 - LANE ARROW

SIGN LEGEND

- GROUND MOUNTED SIGN SUPPORT
- EXISTING SIGN, REMOVE & RE-ERECT
- EXISTING SIGN, TO REMAIN
- PROPOSED SIGN



35 / 205	TP002	CUY-10-15.96	SIGNING AND PAVEMENT MARKING PLAN STA 25+00 TO 38+00	CALCULATED RAS / CHECKED RBB	0 50 25 100 HORIZONTAL SCALE IN FEET

PROPOSED TRAFFIC CONTROL LEGEND

- (ELW-#) ITEM 646 - EDGE LINE (WHITE)
- (LL-#) ITEM 646 - LANE LINE (WHITE)
- (CH-#) ITEM 646 - CHANNELIZING LINE
- (TL-#) ITEM 646 - TRANSVERSE LINE
- (SL-#) ITEM 646 - STOP LINE - 24"
- (CL-#) ITEM 646 - CENTER LINE (DOUBLE SOLID)
- (CW-#) ITEM 646 - CROSSWALK LINE
- (DL-#) ITEM 646 - DOTTED LINE (WHITE)
- (SH) ITEM 646 - SHARROW (CENTERED IN RIGHT LANE)
- (LA) ITEM 646 - LANE ARROW

SIGN LEGEND

- GROUND MOUNTED SIGN SUPPORT
- EXISTING SIGN, REMOVE & RE-ERECT
- EXISTING SIGN, TO REMAIN
- PROPOSED SIGN

MATCHLINE STA. 38+00.00
SEE SHEET 35

MATCHLINE STA. 51+00.00
SEE SHEET 37

R4-11-30
STA. 42+36
POLE MNTD.

R3-17-24

R4-11-30
STA. 49+52
POLE MNTD.

36 / 205	TP003	CUY-10-15.96	SIGNING AND PAVEMNT MARKING PLAN STA 38+00 TO STA 51+00	CALCULATED RAS / CHECKED RBB	0 50 25 100 HORIZONTAL SCALE IN FEET

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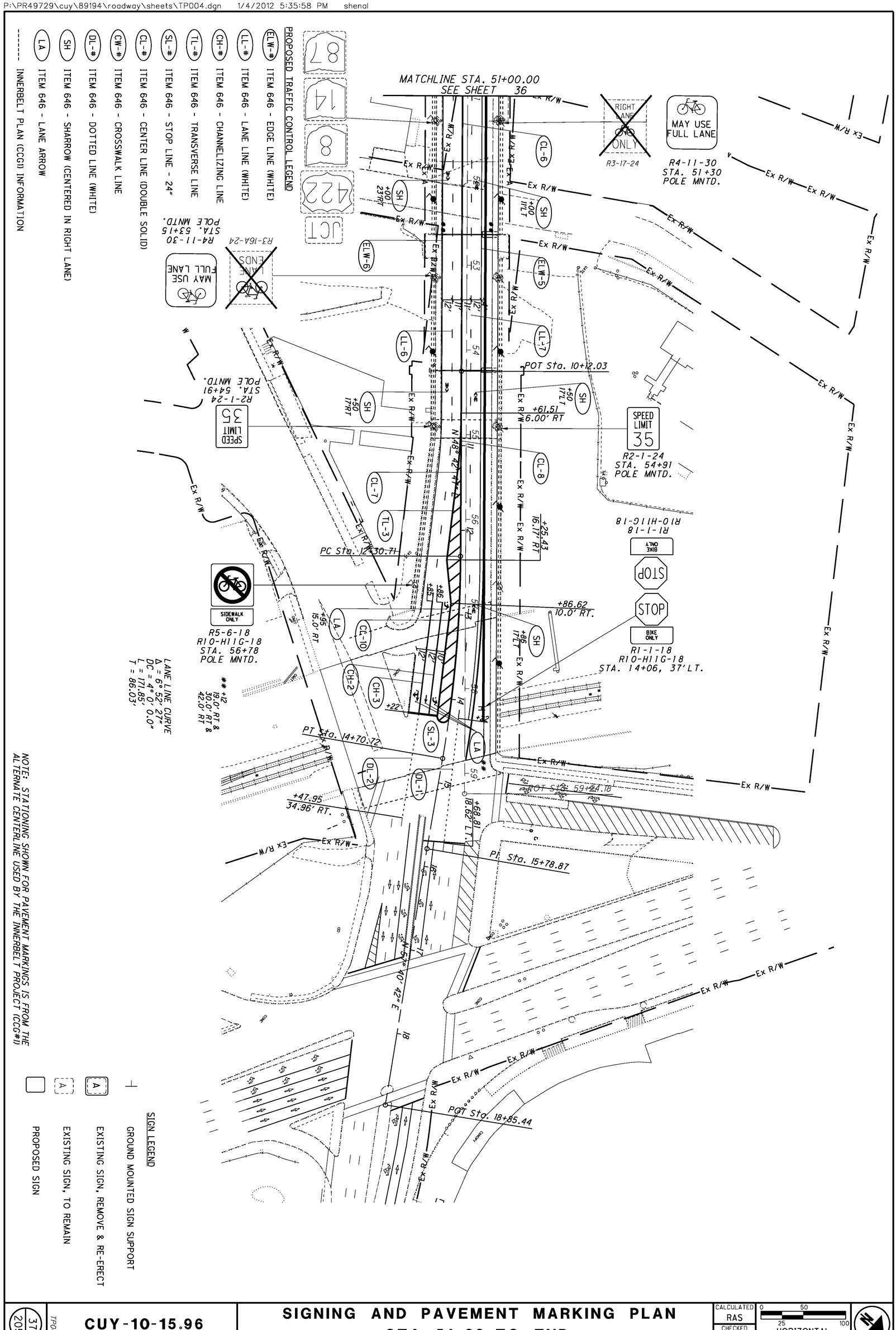


37 / 205	TP004	CUY-10-15.96	SIGNING AND PAVEMENT MARKING PLAN STA 51+00 TO END	CALCULATED RAS / CHECKED RBB	0 50 25 100 HORIZONTAL SCALE IN FEET

SCOPE

THE WORK TO BE PERFORMED BY THE CONTRACTOR IN CONNECTION WITH THE TRAFFIC CONTROL DEVICES OF THIS PROJECT CONSIST OF FURNISHING LABOR, SUPPLIES, EQUIPMENT, MATERIALS AND PERFORMING ALL OPERATIONS NECESSARY FOR THE ACCEPTABLE INSTALLATION OF THE TRAFFIC CONTROL DEVICES, IN STRICT ACCORDANCE WITH THESE PLANS, NOTES AND SPECIFICATIONS. THESE NOTES AND DRAWINGS ARE INTENDED TO PROVIDE FOR ALL MATERIALS AND LABOR REQUIRED TO FURNISH AND INSTALL A COMPLETE TRAFFIC CONTROL SYSTEM.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: DETECTOR UNITS, LED PEDESTRIAN SIGNAL HEADS, THE DETECTOR LOOPS AND LEAD-IN CABLE.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY OF CLEVELAND FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT LUMP SUM PRICE OF THE TRAFFIC SIGNAL.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

PAYMENT FOR TRAFFIC SIGNAL WORK

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR, INCIDENTALS, AND EQUIPMENT FOR FURNISHING, MODIFYING, ERECTING, AND MAINTAINING THE TRAFFIC SIGNAL AT THE LUMP SUM BID FOR TRAFFIC SIGNAL IN THE CONTRACT DOCUMENTS.

THIS SHALL INCLUDE ALL ITEMS LISTED IN THE TRAFFIC SIGNAL PLANS AND NOTES INCLUDING, BUT NOT LIMITED TO PULL BOXES, UNDERDRAINS FOR PULL BOXES, PEDESTRIAN SIGNAL HEADS, PEDESTRIAN PEDESTALS, LOOP DETECTORS, CONTROLLER MODIFICATIONS, FOUNDATIONS, CONDUIT, NEW WIRING, REMOVAL OF EXISTING WIRING WHEN NO LONGER NEEDED, FIELD DRILLING OF HOLES IN SIGNAL POLES AND ALL ELSE REQUIRED TO CONSTRUCT THE TRAFFIC SIGNAL MODIFICATIONS COMPLETELY UNLESS SPECIFICALLY NOTED OTHERWISE IN THE PLAN.

PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, (COUNTDOWN), TYPE D2 (ITEM 632, AS PER PLAN)

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET INSTITUTE OF TRANSPORTATION ENGINEER'S SPECIFICATIONS.
2. IMPACT RESISTANT PLASTIC LENSES SHALL BE USED.
3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
4. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
5. PEDESTRIAN HEADS SHALL BE LIT VIA LIGHT EMITTING DIODES (LED).

PAYMENT FOR THE PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, (COUNTDOWN) TYPE D2, SHALL BE AT THE UNIT PRICE BID FOR EACH PEDESTRIAN SIGNAL HEAD.

PEDESTRIAN PUSHBUTTON (ITEM 625, AS PER PLAN)

IN ADDITION TO THE REQUIREMENTS OF ITEM 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1. INCORPORATE A "PALM" TYPE PUSHBUTTON.
2. THE PUSHBUTTON SHALL BE RAISED OR FLUSH AND SHALL BE A MINIMUM OF 2 INCHES AT ITS SMALLEST DIMENSION.
3. THE MAXIMUM FORCE REQUIRED TO OPERATE THE PUSHBUTTON SHALL BE 5 POUNDS PER FOOT (22.5 N).
4. THE PUSHBUTTONS SHALL ALSO HAVE THEIR HOUSING SEALED WITH A SILICONE SEALANT TO THE SIGNAL POLE OR PEDESTAL.

PAYMENT FOR PEDESTRIAN PUSHBUTTON (ITEM 625, AS PER PLAN), WILL BE AT THE UNIT PRICE BID FOR EACH PEDESTRIAN PUSHBUTTON.

LOOP DETECTOR UNIT, 2 CHANNEL, DELAY AND EXTENSION TYPE (ITEM 632, AS PER PLAN)

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE IN THE WIRING HARNESS.

THE UNIT SHALL BE SELF TUNING.

THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH A SINGLE CHANNEL AMPLIFIER AS DESCRIBED IN 732.07. EACH UNIT SHALL BE LABELED TO CORRESPOND TO ITS PHASE AND DIRECTION. DELAY INHIBIT SHALL BE CONNECTED ON ALL DETECTOR HARNESSES FOR THEIR RESPECTIVE PHASE GREENS.

THE LOOP DETECTOR UNITS FOR NON-SYSTEM LOOPS SHALL HAVE TWO (2) OUTPUTS. ONE OUTPUT SHALL OPERATE IN THE PRESENCE MODE AND THE OTHER IN THE PULSE MODE, IN ORDER TO ENABLE ACCURATE COUNTING OF VEHICLES ENTERING THE LOOP EVEN WHEN PRECEDING VEHICLES REMAIN PRESENT OVER THE LOOP. THE PULSE OUTPUT SHALL BE WIRED TO THE SYSTEM COUNTING INPUT. THE PRESENCE OUTPUT SHALL BE WIRED TO THE CONTROLLER DETECTOR INPUT AND TO THE SYSTEM GRAPHICS DETECTOR INPUT.

EACH AMPLIFIER SHALL BE NUMBERED TO CORRESPOND TO THE LOOP NUMBERS SHOWN ON THE PLAN. THE CONTRACTOR SHALL GUARANTEE THE ACCURACY OF ALL LOOP DETECTOR UNITS USED IN DUAL OUTPUT MODE. IN THE EVENT THAT ANY UNIT DOES NOT OPERATE ACCURATELY, A SEPARATE DETECTOR CHANNEL SHALL BE PROVIDED FOR EACH OUTPUT.

PAYMENT FOR LOOP DETECTOR UNIT, 2 CHANNEL, DELAY AND EXTENSION TYPE WILL BE AT THE UNIT PRICE BID FOR EACH LOOP DETECTOR UNIT.

REMOVAL OF TRAFFIC SIGNAL INSTALLATION (ITEM 632, AS PER PLAN)

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR, INCIDENTALS, AND EQUIPMENT NECCESARY FOR REMOVAL AND STORAGE OF THE TRAFFIC SIGNAL EQUIPMENT AS DETAILED IN THE PLANS, INCLUDING, BUT NOT LIMITED TO PULL BOXES, PEDESTRIAN SIGNAL HEADS, PEDESTALS AND FOUNDATIONS AND MICROWAVE DETECTORS AND WIRING. ANY EQUIPMENT NOT CLAIMED BY THE CITY FOR SALVAGE AT THE COMPLETION OF THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

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

EXISTING SIGNAL INSTALLATIONS THAT THE PLANS REQUIRE THE CONTRACTOR TO ACTUALLY ADJUST, MODIFY OR OTHERWISE DISTURB: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATION FIRST DISTURBS THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES INSTALLED BY THE CONTRACTOR: THE CONTRACTOR SHALL BE RESPONSIBLE 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 MUNICIPALITY 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 OR MALFUNCTION.

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 EIGHT (8) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE DAMAGE. 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 EIGHT-(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 OR MALFUNCTION.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICULAR 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.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION AT LOCATIONS WITHIN HIS RESPONSIBILITY, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 OF THE 2010 ODOT CMS FOR POLICE SERVICES AND MAINTENANCE SERVICE BY CITY FORCES OR OUTSIDE CONTRACTORS HIRED BY THE CITY, SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

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.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING THAT WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25 OF THE 2010 ODOT CMS.

ALL COSTS RESULTING IN THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE OVERALL PRICE BID. NO SPECIFIC PAY ITEM WILL BE INCLUDED FOR THIS WORK.

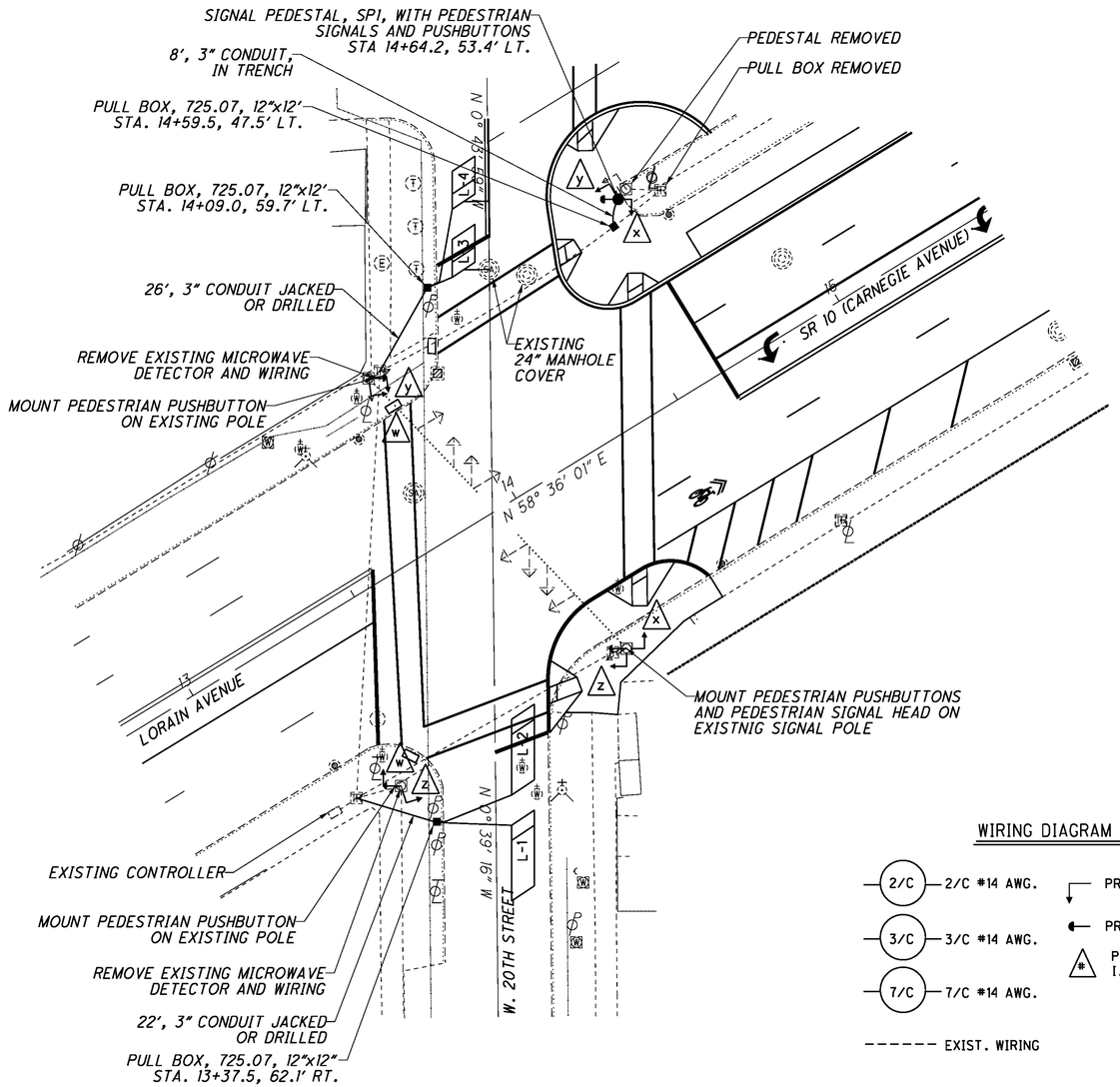
CALCULATED JTP CHECKED RAS

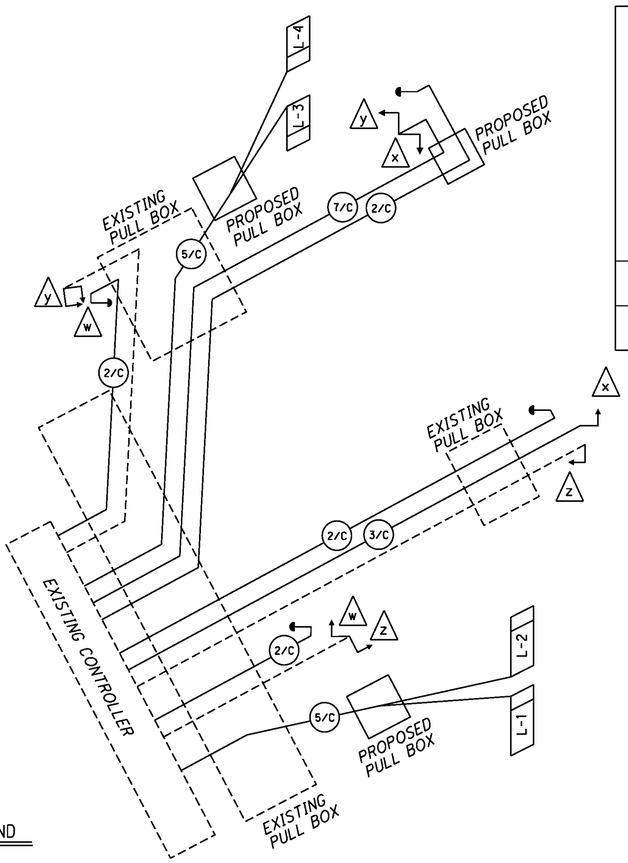
TRAFFIC SIGNAL NOTES

CUY-10-15.96

CP001

38
205





SUPPORT NO.	HANDHOLE (INDEX LINE)	ORIENTATION ANGLES (DEG.) FROM HANDHOLE				
		MAST ARM A ANGLE (DEG.)	PEDESTRIAN SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD	PUSHBUTTON	PUSHBUTTON
SP1	180	-	90	315	270	

SIGNAL TIMING

PHASE / INTERVAL	ϕ2	ϕ4	ϕ6	ϕ8
MINIMUM GREEN	-	-	-	-
EXTENSION	-	-	-	-
MAXIMUM GREEN	-	-	-	-
VEHICLE CLEAR.	-	-	-	-
ALL RED	-	-	-	-
WALK	7	5	7	5
FLASHING "DONT WALK"	10	23	10	23
RECALL	-	-	-	-
MEMORY	-	-	-	-

ALL TIMING PLAN CHANGES WILL BE MADE BY THE CITY

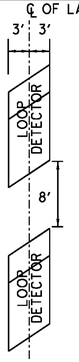
WIRING DIAGRAM LEGEND

- 2/C — 2/C #14 AWG.
- 3/C — 3/C #14 AWG.
- 7/C — 7/C #14 AWG.
- ------ EXIST. WIRING
- PROPOSED PEDESTRIAN HEAD
- PROPOSED PUSHBUTTON
- (*) PEDESTRIAN HEAD I.D. NUMBER

LED COUNTDOWN TYPE D2 (HEIGHT PER TC-85.10)

R10-4bL R10-4bR

TYPICAL LOOP PLACEMENT



LOOP DETECTORS (POWER HEAD TYPE)

LOOP	LOCATION	SIZE	No. OF TURNS	ASSOC. PHASE	DET. AMP.	CHANNEL	DELAY (SEC)	AMP. MODE	MEMORY
L-1	STA 9+19.3	6' x 20'	3+3	4 & 8	1	1	2	PRESENCE	LOCK
L-2	STA 9+47.3	6' x 20'	3+3	4 & 8	1	2	3	PRESENCE	LOCK
L-3	STA 10+64.3	6' x 10'	3+3	4 & 8	2	1	3	PRESENCE	LOCK
L-4	STA 10+82.3	6' x 10'	3+3	4 & 8	2	2	2	PRESENCE	LOCK

TRAFFIC SIGNAL ESTIMATED QUANTITY TABLE

ITEM	QUANTITY	UNIT	DESCRIPTION
625	56	FT	CONDUIT, JACKED OR DRILLED, 725.05, 3"
625	3	EACH	PULL BOX, 725.07, 12"x12"
625	1	EACH	GROUND ROD
632	8	EACH	PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, (COUNTDOWN),TYPE D2, AS PER PLAN
632	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN
632	2	EACH	LOOP DETECTOR UNIT, 2 CHANNEL, DELAY AND EXTENSION TYPE, AS PER PLAN
632	540	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG
632	120	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG
632	210	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
632	240	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	1	EACH	PEDESTAL FOUNDATION
632	1	EACH	PEDESTAL, 8'
632	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

HORIZONTAL SCALE IN FEET 0 20 40 40

CALCULATED JTP CHECKED RAS

TRAFFIC SIGNAL MODIFICATION

CUY-10-15.96

CP001

39 / 205

PROPOSED WORK

THE FOLLOWING MAJOR WORK ITEMS ARE PROPOSED:

1. RE-LAMPING OF EXISTING STREET LIGHTING.

2. ADDITION OF PEDESTAL LIGHTING TO THE NORTH AND SOUTH SIDES OF THE ROADWAY.

3. REMOVING AND REPLACING WITH NEW GUARDIAN LIGHTING.

CLEVELAND PUBLIC POWER CIRCUITS

CLEVELAND PUBLIC POWER
1300 LAKESIDE AVENUE
CLEVELAND, OH 44114
ATTN: JAMES FERGUSON, CHIEF, BUREAU OF STREET LIGHTING
PHONE: 216-420-7704 EXT 183

EXISTING PLANS AND CONSTRUCTION PROJECT YEAR ARE:
CUY-10-16.05 1980

ITEM 625 - LUMINAIRE REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE AND STORING IT ON SITE FOR INSPECTION BY CITY FORCES. ALL SALVAGEABLE LUMINAIRES WILL BE REMOVED BY CITY FORCES.

CONTACT JAMES FERGUSON AT 216-420-7704 EXT 183 FOR INSPECTION AND REMOVAL OF SALVAGEABLE LUMINAIRES.

ALL LUMINAIRES DEEMED NOT SALVAGEABLE SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.

LIGHT POLE ANCHOR BOLTS

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH CMS ITEM 625, "LIGHT POLE ANCHOR BOLTS" AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

EXISTING LIGHTING ITEMS, SIGNS, DUCT CABLE AND CONDUIT

THE LOCATIONS OF EXISTING LIGHTING ITEMS, SIGNS, CONDUIT AND DUCT CABLE SHOWN ON THE PLANS HAVE BEEN OBTAINED BY SEARCHES OF AVAILABLE RECORDS AND FIELD CHECKS. FIELD VERIFY ALL CIRCUITS.

ITEM 625 - JUNCTION BOX, AS PER PLAN

THE JUNCTION BOX SHALL HAVE AN EMBOSSMENT IN THE BACK OF THE BOX THAT SHALL BE DRILLED AND TAPPED FOR A 1-4"-20 CAP SCREW FOR CONNECTION OF GROUNDS.

WHEN ENCASED IN CONCRETE, THE JUNCTION BOX SHALL HAVE INWARD FLANGED COVERS AND MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, SLIP HOLES FIELD DRILLED TO ACCOMODATE THE CONDUITSENTERING THE BOX SO LONG AS EACH METALLIC CONDUIT IS EQUIPPED WITH A GROUNDING BUSHING JUMPED TO THE BOX ITSELF.

WHEN SURFACE MOUNTED, THE JUNCTION MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, FIELD INSTALLED HUBS TO ACCOMODATE THE CONDUITS ENTERING THE BOX. THE COVER PLATE SHALL BE FLUSH WITH THE RIM OF THE BOX SECURED WITH QUICK RELEASE BOX CLAMPS.

ITEM 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:

CLEVELAND PUBLIC POWER
1300 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN: JAMES FERGUSON
PHONE: (216) 420-7704 EXT 183

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 MAY BE A RE-ASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

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.

ITEM 625 - LUMINAIRE, POST-TOP, AS PER PLAN

LUMINAIRES FOR CONVENTIONAL LIGHTING SHALL BE LIGHT EMITTING DIODES (LED), RATED 240 VOLT, 50-66 WATT, HAVE A TYPE III DISTRIBUTION AND INCLUDE PHOTOCONTROL.

LUMINAIRES SHALL BE AS FOLLOWS: "WHATLEY 1010LS" WITH PHILLIPS LED TYPE III DISTRIBUTION W/SIX LIGHT BARS (A06). THIS FIXTURE SHALL ALSO INCLUDE A CLEVELAND STYLE FITTER. OR EQUAL APPROVED BY THE ENGINEER.

LUMINAIRE REFRACTORS SHALL BE CLEAR ACRYLIC.

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

ITEM 625 - LUMINAIRE, CONVENTIONAL, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING SHALL BE METAL HAILIDE, RATED 480 VOLT, 400 WATT, HAVE A TYPE II DISTRIBUTION AND INCLUDE PHOTOCONTROL.

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE GENERAL ELECTRIC "M-400" WITH PHOTOMETRIC DISTRIBUTION 35-450274, COOPER LIGHTING "OVF FLAT GLASS" WITH PHOTOMETRIC DISTRIBUTION OVF40M2D, AMERICAN ELECTRIC LIGHTING "ROADWAY SERIES 125" WITH PHOTOMETRIC DISTRIBUTION R2DP, OR EQUAL AS APPROVED BY THE ENGINEER.

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

ITEM 625 - LIGHTING, MISC.: EXISTING JUNCTION BOXES

THIS WORK CONSISTS OF THE CONTRACTOR FIELD INSPECTING ALL EXISTING JUNCTION BOXES.

ALL UNUSED EXISTING JUCTION BOXES ON SOUTH SIDE OF BRIDGE SHALL BE GROUT FILLED CONFORMING TO ITEM 701 AND THREE PARTS SAND CONFORMING TO 703.03, BY VOLUME, AND WATER.

ALL UNUSED EXISTING JUCTION BOXES ON NORTH SIDE OF BRIDGE SHALL HAVE THE TOP 3" BE REMOVED AND THEN GROUT FILLED CONFORMING TO ITEM 701 AND THREE PARTS SAND CONFORMING TO 703.03, BY VOLUME, AND WATER.

BEFORE INSTALLING CEMENT GROUT, CLEAN AND DRY THE EXISTING JUNCTION BOX. PLACE ENOUGH CEMENT GROUT TO COMPLETELY FILL THE EXISTING JUCTION BOX.

ALL DAMAGED JUCTION BOX LIDS SHALL BE REPLACED IN KIND.

THE FOLLOWING QUANTITY IS PROVIDED.

ITEM 625 - LIGHTING, MISC.: EXISTING JUNCTION BOXES 94 EACH

ITEM 625 - LIGHT POLE, DECORATIVE, AS PER PLAN

THE FIBERGLASS LAMP POSTS SHALL BE ROUND, HOLLOW, 12' IN HEIGHT TO THE BOTTOM OF THE POST TOP TENON AND HAVE A UNIFORMLY TAPERED SHAFT. POSTS SHALL BE NON-CONDUCTIVE AND CHEMICALLY INERT.

THE LAMP POST TOP DIAMETER SHALL BE A MINIMUM OF 4.5" O.D. AND POST SHALL HAVE A .14 INCH PER FOOT TAPER. POST SHALL BE W. J. WHATLEY, INC. NEW BEDFORD SERIES 357, OR EQUAL.

POST SHAFT CONSTRUCTION

THE POST INNER STRUCTURAL MEMBER SHALL BE CONSTRUCTED FROM CONTINUOUS FIBERGLASS FILAMENTS COMBINED WITH THERMOSETTING POLYESTER RESIN. THE STRUCTURAL MEMBER SHALL HAVE A MINIMUM WALL THICKNESS OF 3/32" AND SHALL BE REINFORCED IN AREAS OF HANDHOLES. THE POST SHALL HAVE A TAPERED WALL INCREASING IN THICKNESS FROM TOP TO BASE IN PROPORTION TO THE LOAD AND GROUND LINE MOMENT REQUIREMENTS.

THE FIBERGLASS AND RESIN RATIO OF THE INNER STRUCTURAL MEMBER WILL CONTAIN AT LEAST 65% GLASS, THE BALANCE POLYESTER RESIN.

THE GLASS FILAMENT WILL BE HELICALLY WOUND UNDER TENSION, FIRST AT A RELATIVELY HIGH ANGLE (65-85 DEGREES) TO THE LONGITUDINAL AXIS OF THE STRUCTURAL MEMBER, WITH ALTERNATE LAYERS OF FILAMENTS IN OPPOSITE DIRECTIONS FOR MAXIMUM CIRCUMFERENTIAL (COMPRESSIVE) STRENGTH.

AN OUTER CORE SECTION OF GREATER WEIGHT THAN THE INNER CORE SECTION IS HELICALLY WOUND BY WRAPPING CONTINUOUS GLASS FILAMENTS AT A RELATIVELY LOW ANGLE (3-15 DEGREES) TO THE LONGITUDINAL AXIS OF THE POLE FOR MAXIMUM LONGITUDINAL (BENDING) STRENGTH.

WIND LOADING

THE POLES FURNISHED AS PART OF THIS SPECIFICATION SHALL BE DESIGNED IN ACCORDANCE WITH 90 MPH (30% GUST FACTOR) AASHTO WIND LOADING. CERTIFIED MATHEMATICAL WIND LOAD CALCULATIONS MUST BE SUBMITTED WITH THE BID.

PERFORMANCE CRITERIA

THE POST SHALL BE DESIGNED WITH A MINIMUM SAFETY FACTOR OF 2:1 AND HAVE NO MORE THAN A 10% DEFLECTION AT FULL WIND LOADING. THE POST SHALL DEFLECT NO MORE THAN 5% OF THE ABOVE GROUND LENGTH WITH 100 POUNDS OF LATERAL TOP LOAD. THE POST SHALL WITHSTAND 600 POUNDS OF TOP LOAD BEFORE FAILURE.

POST TOP

A 3" O.D. X 3" LONG GALVANIZED STEEL TENON SHALL BE FIRMLY BONDED TO THE POST FOR MOUNTING A POST TOP LUMINAIRE. THE TENON SHALL BE STRAIGHT WITH NO TAPER AND SHALL BE COATED WITH MATCHING URETHANE FINISH.

WIRE ENTRANCE

THE WIRE ENTRANCE HOLE SHALL BE 4" I.D.

SURFACE FINISH

THE POLE EXTERIOR SURFACE SHALL BE UNIFORM AND CONSISTENT FOR THE ENTIRE LENGTH OF THE POST. THE RESIN SHALL CONTAIN PIGMENT TO IMPROVE ULTRAVIOLET RESISTANCE. RESIN PIGMENT SHALL BE OF THE SAME COLOR AS THE FINISH COATING. THE FINISH COATING SHALL BE PIGMENTED URETHANE FINISH CAPABLE OF WITHSTANDING EXPOSURE TO ULTRAVIOLET, CHEMICALS AND EXTREME WEATHER CONDITIONS. THE SURFACE COATING SHALL BE A MINIMUM DRY FILM THICKNESS OF 1½ MILLS. COLOR SHALL BE SILVER TO MATCH THE LUMINAIRE.

CALCULATED MJB CHECKED RAS

LIGHTING GENERAL NOTES

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HANDHOLE

THE HANDHOLE SHALL BE 2½" X 4". THE HANDHOLE COVER SHALL BE NON-CORROSIVE METAL OR FIBERGLASS AND PAINTED TO MATCH THE POST.

ANCHOR BASES AND ANCHOR BOLTS

THE ANCHOR BASE PLATE SHALL ACCOMMODATE FOUR (4) ONE INCH ANCHOR BOLTS. THE ANCHOR BOLT CIRCLE SHALL BE 9"-11".

ORNAMENTAL BASE COVER

A DECORATIVE COVER OF THE SAME COLOR AS THE POLE SHALL BE PROVIDED THAT COMPLETELY SURROUNDS THE BASE. THE COVER SHALL BE A TWO-PIECE ROUND (NO FLATS) FIBERGLASS OR URETHANE DESIGN AND SHALL ATTACH TO THE POST WITH STAINLESS STEEL HEX SOCKET LOCKING SCREWS.

SAMPLES

A SAMPLE COMPOSITE BASE COVER AND A SAMPLE CUT-AWAY COMPOSITE SHAFT SECTION MUST BE SUBMITTED FOR APPROVAL. SAMPLES WILL BE RETURNED.

SHIPPING

EACH POLE SHALL BE INDIVIDUALLY WRAPPED WITH PLASTIC SHRINK FILM OR POLY-BAGGED FOR PROTECTION DURING SHIPPING AND STORAGE.

INVENTORY IDENTIFICATION

ALL POLES AND BASES SHALL BE PERMANENTLY MARKED WITH INVENTORY CODES SUPPLIED AT TIME OF ORDER. MARKINGS SHALL BE SUCH THAT THEY CON NOT BE REMOVED BY HAND OR FADED OR OTHERWISE OBLITERATED BY RAIN, SNOW, WIND, SUN OR OTHER WEATHER CONDITIONS ENCOUNTERED IN OUTDOOR STORAGE.

ITEM 625 - LIGHTING MISC.: GAURDIAN LIGHTING

THIS ITEM SHALL INCLUDE COSTS OF CIRCUITS, CONDUITS, CONTROL DEVICES, JUNCTION BOXES, LUMINAIRES, BRACKET ARMS, MOUNTING HARDWARE, TIMER CONTROL, AND FIXTURES TO PROVIDE A COMPLETE INSTALLATION FROM THE POWER SOURCE TO THE FIXTURE. TIMER CONTROL SHALL BE A 24 HOUR TIME CLOCK WITH ASTRONOMIC DIAL, RESERVE POWER FEATURE AND DPST CONTACTS, TORK #7200ZL, PARAGON EC365/DST2/120 VOLT, OR APPROVED EQUAL. CONDUIT SHALL BE MOUNTED ON GUARDIANS/PYLONS AND INCLUDE ALL ATTACHMENT HARWARE AND ELBOWS. ALL WORK SHALL BE PERFORMED FROM THE CARNEGIE STREET LEVEL.

THIS ITEM OF WORK SHALL ALSO CONSIST OF REMOVING THE EXISTING GUARDIAN LIGHTING COMPLETELY BY REMOVING EXISTING MOUNTING ARMS AND FIXTURES. PATCH HOLES AND GROUT WITH COLOR TO MATCH EXISTING SANDSTONE.

LUMINAIRES DEEMED NOT SALVAGEABLE SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.

GUARDIAN LIGHT FIXTURE SCHEDULE

THE CONTRACTOR SHALL VERIFY LIGHTING FIXTURE CLEARANCE IN ALL MOUNTING CONDITIONS AND COMPATIBILITY WITH ALL BUILDING AND SITE SYSTEMS. REPORT ANY DISCREPANCIES TO THE ELECTRICAL ENGINEER AND LIGHTING DESIGNER FOR ACTION PRIOR TO ORDERING FIXTURES. VOLTAGE SHALL BE 120 VOLTS AND VERIFIED BY CONTRACTOR PRIOR TO ORDERING OF FIXTURES.
WHEN PRODUCT NUMBERS ON THE FIXTURE SCHEDULE CONFLICT WITH THE PRODUCT DESCRIPTION OR OTHER REQUIREMENTS, THE WRITTEN DESCRIPTION OR REQUIREMENTS SHALL PREVAIL, OR A REQUEST FOR WRITTEN CLARIFICATION WILL BE MADE BY THE CONTRACTOR TO RESOLVE THE CONFLICT.

HIGH INTENSITY DISCHARGE FIXTURES

TAG DESCRIPTION

H1 (TOTAL NO. = 8)

POLE CAP MOUNTED, SMALL SCALE, EXTERIOR FLOOD LIGHT WITH 5 DEGREE SYMMETRICAL BEAM AT 50% MAXIMUM CANDLEPOWER FOR T6 150 WATT G12L BASE 94 CRI CLEAR CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 13 ½" DIAMETER X 12 3/16" LONG AND MADE OF TWO-PIECE DIE CAST ALUMINUM WITH INTERNAL HEAT SINK FINISHED TO STANDARD FACTORY SPECIFICATIONS WITH HINGED DOOR FRAME. FIXTURE OPTICS SHALL BE FULL SPECULAR ANODIZED ALUMINUM REFLECTOR WITH LAMP AXIAL POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. FIXTURE LAMP ENCLOSURE SHALL BE ONE-PIECE DIE CAST ALUMINUM FRAME WITH INTERNAL DRAINAGE SLOTS. ENCLOSURE SHALL HOLD 3/16" THICK TEMPERED CLEAR LENS WITH ONE-PIECE MOLDED U-CHANNEL, HIGH TEMPERATURE SILICONE GASKET AND SECURED WITH SIX CAPTIVE SOCKET HEAD STAINLESS STEEL SCREWS THREADED INTO STAINLESS STEEL INSERTS IN THE REFLECTOR HOUSING. FIXTURE TO BE SUPPLIED WITH 3/16" STAINLESS STEEL FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST. FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	BEGA-US: 7870 MH WHT-VOLTS-656WHT-435WHT
LAMP:	GE: CHMI50TU/942/G12
BALLAST:	INTERGRAL
ACCESSORIES:	BEGA-US: 656 WHT GLARE SHIELD, AND 435 WHT POLE CAP
REMARKS:	CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VOLTAGE TO BE SPECIFIED BY ELECTRICAL ENGINEER.

OR

HI

POLE CAP MOUNTED, SMALL SCALE, EXTERIOR FLOOD LIGHT WITH 6 DEGREE SYMMETRICAL BEAM AT 50% MAXIMUM CANDLEPOWER FOR T6 150 WATT G12L BASE 94 CRI CLEAR CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 12" ROUND AND MADE OF TWO-PIECE 8 GAUGE ALUMINUM WITH DOOR FRAME SECURED BY 4 STAINLESS STEEL FASTENERS FOR POSITIVE LOCKING WEATHERTIGHT SEAL, AND EASE OF RELAMPING. FIXTURE OPTICS SHALL BE MADE OF HIGH GRADE ELECTRO-POLISHED AND ANODIZED ALZAK ALUMINUM WITH LAMP AXIAL POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. ALL EXTERNAL HARDWARE TO BE STAINLESS STEEL, ALUMINUM OR HOT DIPPED GALVANIZED. FIXTURE TO BE SUPPLIED WITH FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST.
FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	ABS: 5700-XSNN-150MC-VOLTS-TS-YSMP-CH-WHITE FINISH
LAMP:	GE: CHM150TU/942/G12
BALLAST:	INTERGRAL
ACCESSORIES:	TS - TOP SHIELD, YSMP - YOHE MOUNT WITH POLE TOP ADAPTER
REMARKS:	CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VALOTAGE TO BE SPECIFIED BY ELECTRICAL ENGINEER.

OR

APPROVED EQUAL
SUPPLY WITH BID THE MANUFACTURER'S CUT SHEET AND WRITTEN PROOF OF EQUALITY FOR APPROVAL BY ENGINEER.

H2 (TOTAL NO. = 8)

POLE CAP MOUNTED, LARGE SCALE, EXTERIOR FLOOD LIGHT WITH 10 DEGREE X 43 DEGREE SYMMETRICAL FLAT BEAM AT 50% MAXIMUM CANDLEPOWER FOR ED 28 400 WATT EX39 BASE 92 CRI COATED CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 18 1/8" DIAMETER X 17 3/4" LONG AND MADE OF TWO-PIECE DIE CAST ALUMINUM WITH INTERNAL HEAT SINK FINISHED TO STANDARD FACTORY SPECIFICATIONS WITH HINGED DOOR FRAME. FIXTURE OPTICS SHALL BE FULL SPECULAR ANODIZED ALUMINUM REFLECTOR WITH LAMP AXIAL POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. FIXTURE LAMP ENCLOSURE SHALL BE ONE-PIECE DIE CAST ALUMINUM FRAME WITH INTERNAL DRAINAGE SLOTS. ENCLOSURE SHALL HOLD 3/16" THICK TEMPERED LINEAR SPREAD LENS WITH 14 LENTICULES PER INCH AND ONE PIECE MOLDED U-CHANNEL, HIGH TEMPERATURE SILICONE GASKET AND SECURED WITH SIX CAPTIVE SOCKET HEAD STAINLESS STEEL SCREWS THREADED INTO STAINLESS STEEL INSERTS IN THE REFLECTOR HOUSING. FIXTURE TO BE SUPPLIED WITH 3/16" STAINLESS STEEL FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST. FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	BEGA-US: 7892 MH WHT-VOLTS-664WHT-435WHT
LAMP:	GE: CHM400C/V/PA/O
BALLAST:	INTERGRAL
ACCESSORIES:	BEGA-US: 664 WHT GLARE SHIELD, AND 435 WHT POLE CAP
REMARKS:	CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VOLTAGE TO BE SPECIFIED BY ELECTRICAL ENGINEER.

OR

H2

POLE CAP MOUNTED, LARGE SCALE, EXTERIOR FLOOD LIGHT WITH 8 DEGREE X 70 DEGREE SYMMETRICAL FLAT BEAM AT 50% MAXIMUM CANDLEPOWER FOR ED 28 400 WATT EX39 BASE 92 CRI COATED CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 24" ROUND AND MADE OF TWO-PIECE 12 GAUGE ALUMINUM WITH DOOR FRAME SECURED BY 4 STAINLESS STEEL FASTENERS FOR POSITIVE LOCKING WEATHER TIGHT SEAL, AND EASE OF RELAMPING. FIXTURE OPTICS SHALL BE MADE OF HIGH GRADE ELECTRO-POLISHED AND ANODIZED ALZAK ALUMINUM WITH LAMP HORIZONTALLY POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. ALL EXTERNAL HARDWARE TO BE STAINLESS STEEL, ALUMINUM OR HOT DIPPED GALVANIZED. FIXTURE TO BE SUPPLIED WITH FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST. FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD. ENCLOSURE SHALL HOLD MINIMUM 3/16" THICK TEMPERED LENS. FIXTURE TO BE SUPPLIED WITH FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	ABS: 3700-HMR-400PS2-VOLTS-TS-YSMP-WHITE FINISH - FACTORY MOD FOR 8° HORIZONTAL AND 70° VERTICAL BEAM
LAMP:	GE: CHM400C/V/PA/O
BALLAST:	INTERGRAL
ACCESSORIES:	TS - TOP SHIELD, YSMP - YOKE MOUNT WITH POLE TOP ADAPTER, CR-CONCENTRIC RING
REMARKS:	MANUFACTURER TO VERIFY AND REPORT ON FIXTURE/REFLECTOR ORIENTATION/LAMP /BALLAST COMPATIBILITY. CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS, AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VOLTAGE TO BESPECIFIED BY ELECTRICAL ENGINEER.

OR

APPROVED EQUAL
SUPPLY WITH BID THE MANUFACTURER'S CUT SHEET AND WRITTEN PROOF OF EQUALITY FOR APPROVAL BY ENGINEER.

H3 (TOTAL NO. = 8)

POLE CAP MOUNTED, LARGE SCALE, EXTERIOR FLOOD LIGHT WITH 8 DEGREE SYMMETRICAL SPOT BEAM AT 50% MAXIMUM CANDLEPOWER FOR ED28 250 WATT EX39 BASE 90 CRI CLEAR CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 18 1/8" DIAMETER X 17 3/4" LONG AND MADE OF TWO-PIECE DIE CAST ALUMINUM WITH INTERNAL HEAT SINK FINISHED TO STANDARD FACTORY SPECIFICATIONS WITH HINGED DOOR FRAME. FIXTURE OPTICS SHALL BE FULL SPECULAR ANODIZED ALUMINUM REFLECTOR WITH LAMP AXIAL POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. FIXTURE LAMP ENCLOSURE SHALL BE ONE-PIECE DIE CAST ALUMINUM FRAME WITH INTERNAL DRAINAGE SLOTS. ENCLOSURE SHALL HOLD 3/16" THICK TEMPERED CLEAR LENS AND ONE PIECE MOLDED U-CHANNEL, HIGH TEMPERATURE SILICONE GASKET AND SECURED WITH SIX CAPTIVE SOCKET HEAD STAINLESS STEEL SCREWS THREADED INTO STAINLESS STEEL INSERTS IN THE REFLECTOR HOUSING. FIXTURE TO BE SUPPLIED WITH 3/16" STAINLESS STEEL FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST. FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD AND CONCENTRIC RING LOUVER. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	BEGA-US: 7881 MH BRZ-VOLTS-664BRZ-144-435BRZ
LAMP:	GE: CHM250/V/PA/O
BALLAST:	INTERGRAL
ACCESSORIES:	BEGA-US: 664 BRZ GLARE SHIELD, 144 LOUVER, AND 435 BRZ POLE CAP
REMARKS:	CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VOLTAGE TO BE SPECIFIED BY ELECTRICAL ENGINEER.

OR

H3

POLE CAP MOUNTED, LARGE SCALE, EXTERIOR FLOOD LIGHT WITH 5 DEGREE SYMMETRICAL SPOT BEAM AT 50% MAXIMUM CANDLEPOWER FOR ED 28 250 WATT EX39 BASE 92 CRI COATED CERAMIC METAL HALIDE LAMP. FIXTURE SHALL BE 24" ROUND AND MADE OF TWO-PIECE 12 GAUGE ALUMINUM WITH DOOR FRAME SECURED BY 4 STAINLESS STEEL FASTENERS FOR POSITIVE LOCKING WEATHER TIGHT SEAL, AND EASE OF RELAMPING. FIXTURE OPTICS SHALL BE MADE OF HIGH GRADE ELECTRO-POLISHED AND ANODIZED ALZAK ALUMINUM WITH LAMP HORIZONTALLY POSITIONED, ARC TUBE CENTERED IN REFLECTOR AND SECURED WITH STAINLESS STEEL FASTENERS. ALL EXTERNAL HARDWARE TO BE STAINLESS STEEL, ALUMINUM OR HOT DIPPED GALVANIZED. FIXTURE TO BE SUPPLIED WITH FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE SUPPLIED WITH INTEGRAL, MAGNETIC HPF BALLAST. FIXTURE TO BE FIELD FITTED WITH 180° STOCK GLARE SHIELD. ENCLOSURE SHALL HOLD MINIMUM 3/16" THICK TEMPERED LENS. FIXTURE TO BE SUPPLIED WITH FULLY ADJUSTABLE YOKE/SWIVEL WITH DEGREE INDICATOR AND LOCKING TAMPERPROOF SET SCREW. FIXTURE WILL BE FACTORY OUTFIT WITH INTERNAL CONCENTRIC RING LOUVER. FIXTURE WILL BE LISTED FOR WET LOCATIONS IN UPWARD AIMING POSITION.

MANUFACTURER:	ABS: 3700-XN-250PS-VOLTS-TS-CR-YSMP-BZE FINISH
LAMP:	GE: CHM250/V/PA/O
BALLAST:	INTERGRAL
ACCESSORIES:	TS - TOP SHIELD, YSMP - YOKE MOUNT WITH POLE TOP ADAPTER, CR-CONCENTRIC RING LOUVER
REMARKS:	MANUFACTURER TO VERIFY AND REPORT ON FIXTURE/LAMP/BALLAST COMPATIBILITY. CONTRACTOR TO VERIFY ALL MOUNTING CONDITIONS AND PROVIDE ALL NECESSARY MOUNTING HARDWARE. VOLTAGE TO BE SPECIFIED BY ELECTRICAL ENGINEER.

OR

APPROVED EQUAL
SUPPLY WITH BID THE MANUFACTURER'S CUT SHEET AND WRITTEN PROOF OF EQUALITY FOR APPROVAL BY ENGINEER.
END SCHEDULE

CALCULATED MJB CHECKED RAS

LIGHTING GENERAL NOTES

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					625	625	·	·
REFERENCE NO.	SHEET No.	SIDE	ROADWAY	STATION TO STATION	LUMINAIRE REMOVED	LUMINAIRE, CONVENTIONAL, AS PER PLAN		
					EACH	EACH	·	·
·	47	RT.	S.R. 10	14+70	1	1	·	·
·	47	LT.	S.R. 10	14+75	1	1	·	·
·	47	LT.	S.R. 10	16+40	1	1	·	·
·	47	RT.	S.R. 10	16+40	1	1	·	·
·	47	RT.	S.R. 10	18+06	1	1	·	·
·	·	·	·	·	·	·	·	·
·	47	LT.	S.R. 10	18+14	1	1	·	·
·	47	LT.	S.R. 10	19+95	1	1	·	·
·	47	RT.	S.R. 10	19+95	1	1	·	·
·	47	LT.	S.R. 10	21+85	1	1	·	·
·	47	RT.	S.R. 10	21+85	1	1	·	·
·	·	·	·	·	·	·	·	·
·	47	LT.	S.R. 10	23+50	1	1	·	·
·	47	RT.	S.R. 10	23+50	1	1	·	·
·	48	LT.	S.R. 10	25+26	1	1	·	·
·	48	RT.	S.R. 10	25+26	1	1	·	·
·	48	LT.	S.R. 10	27+05	1	1	·	·
·	·	·	·	·	·	·	·	·
·	48	RT.	S.R. 10	27+06	1	1	·	·
·	48	LT.	S.R. 10	28+85	1	1	·	·
·	48	RT.	S.R. 10	28+85	1	1	·	·
·	48	LT.	S.R. 10	30+76	1	1	·	·
·	48	RT.	S.R. 10	30+76	1	1	·	·
·	·	·	·	·	·	·	·	·
·	48	LT.	S.R. 10	32+80	1	1	·	·
·	48	RT.	S.R. 10	32+80	1	1	·	·
·	48	LT.	S.R. 10	34+84	1	1	·	·
·	48	RT.	S.R. 10	34+84	1	1	·	·
·	48	LT.	S.R. 10	36+75	1	1	·	·
·	·	·	·	·	·	·	·	·
·	48	RT.	S.R. 10	36+75	1	1	·	·
·	49	LT.	S.R. 10	38+78	1	1	·	·
·	49	RT.	S.R. 10	38+78	1	1	·	·
·	49	LT.	S.R. 10	40+57	1	1	·	·
·	49	RT.	S.R. 10	40+57	1	1	·	·
·	·	·	·	·	·	·	·	·
·	49	LT.	S.R. 10	42+36	1	1	·	·
·	49	RT.	S.R. 10	42+36	1	1	·	·
·	49	LT.	S.R. 10	44+15	1	1	·	·
·	49	RT.	S.R. 10	44+15	1	1	·	·
·	49	LT.	S.R. 10	45+93	1	1	·	·
·	·	·	·	·	·	·	·	·
·	49	RT.	S.R. 10	45+93	1	1	·	·
·	49	LT.	S.R. 10	47+72	1	1	·	·
·	49	RT.	S.R. 10	47+73	1	1	·	·
·	49	RT.	S.R. 10	49+52	1	1	·	·
·	50	LT.	S.R. 10	51+30	1	1	·	·
·	·	·	·	·	·	·	·	·
·	50	RT.	S.R. 10	51+30	1	1	·	·
·	50	LT.	S.R. 10	53+14	1	1	·	·
·	50	RT.	S.R. 10	53+15	1	1	·	·
·	50	LT.	S.R. 10	54+91	1	1	·	·
·	50	RT.	S.R. 10	54+91	1	1	·	·
·	·	·	·	·	·	·	·	·
·	50	RT.	S.R. 10	56+78	1	1	·	·
·	50	LT.	S.R. 10	56+80	1	1	·	·
·	50	LT.	S.R. 10	58+59	1	1	·	·
·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·
TOTALS CARRIED TO GENERAL SUMMARY					48	48	·	·

					202	·	202	·
REFERENCE NO.	SHEET No.	SIDE	ROADWAY	STATION TO STATION	REMOVAL MISC.: EXISTING CONDUIT		JUNCTION BOX REMOVED	
					FT	·	EACH	·
·	48	LT.	S.R. 10	25+26	·	·	1	·
·	48	LT.	S.R. 10	25+26 TO 27+05	179	·	·	·
·	48	LT.	S.R. 10	27+05	·	·	1	·
·	48	LT.	S.R. 10	27+05 TO 28+85	180	·	·	·
·	48	LT.	S.R. 10	28+85	·	·	1	·
·	·	·	·	·	·	·	·	·
·	48	LT.	S.R. 10	28+85 TO 30+76	191	·	·	·
·	48	LT.	S.R. 10	30+76	·	·	1	·
·	48	LT.	S.R. 10	30+76 TO 32+80	204	·	·	·
·	48	LT.	S.R. 10	32+80	·	·	1	·
·	48	LT.	S.R. 10	32+80 TO 34+84	204	·	·	·
·	·	·	·	·	·	·	·	·
·	48	LT.	S.R. 10	34+84	·	·	1	·
·	48	LT.	S.R. 10	34+84 TO 36+75	191	·	·	·
·	48	LT.	S.R. 10	36+75	·	·	1	·
·	49	LT.	S.R. 10	36+75 TO 38+78	203	·	·	·
·	49	LT.	S.R. 10	38+78	·	·	1	·
·	·	·	·	·	·	·	·	·
·	49	LT.	S.R. 10	38+75 TO 40+57	182	·	·	·
·	49	LT.	S.R. 10	40+57	·	·	1	·
·	49	LT.	S.R. 10	40+57 TO 42+36	179	·	·	·
·	49	LT.	S.R. 10	42+36	·	·	1	·
·	49	LT.	S.R. 10	42+36 TO 44+15	179	·	·	·
·	·	·	·	·	·	·	·	·
·	49	LT.	S.R. 10	44+15	·	·	1	·
·	49	LT.	S.R. 10	44+15 TO 45+93	178	·	·	·
·	49	LT.	S.R. 10	45+93	·	·	1	·
·	49	LT.	S.R. 10	45+93 TO 47+72	179	·	·	·
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TOTALS CARRIED TO GENERAL SUMMARY					2,249	·	12	·

CALCULATED MJB
CHECKED RAS

LIGHTING SUBSUMMARY

CUY-10-15.96

LS001

CIRCUIT NO.	SHEET No.	SIDE	ROADWAY	STATION TO STATION	510 DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN	·	625 LUMINAIRE, POST-TOP, AS PER PLAN	625 LIGHT POLE, DECORATIVE, AS PER PLAN	625 LIGHT POLE ANCHOR BOLTS	625 PULL BOX, 725.08, 24"	625 JUNCTION BOX, AS PER PLAN	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 CONDUIT, 2", 725.05	625 CONDUIT, 2", 725.04	625 NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	625 DUCT CABLE, 1½" WITH 3 NO. 4 AWG 5000 VOLT CABLES	625 POLE AND BRACKET CABLE, NO. 10 AWG, 5000 VOLT	625 TRENCH	·	625 POWER SERVICE, AS PER PLAN
·	·	·	·	·	EACH	·	EACH	EACH	EACH	EACH	EACH	EACH	EACH	F.T.	F.T.	F.T.	F.T.	F.T.	F.T.	·	EACH
A	47	L.T.	S.R. 10	20+25±	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	1
A	47	L.T.	S.R. 10	20+25± TO 20+15±	·	·	·	·	·	·	·	·	·	·	·	·	25	·	15	·	·
A	47	L.T.	S.R. 10	20+15±	·	·	·	·	·	1	·	·	3	·	·	·	·	·	·	·	·
A	47	L.T.	S.R. 10	20+15± TO 20+15±	·	·	·	·	·	·	·	·	·	·	25	105	·	·	·	·	·
A	47	L.T.	S.R. 10	20+15±	·	·	·	·	·	·	1	·	3	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	47	L.T.	S.R. 10	20+15± TO 19+05	·	·	·	·	·	·	·	·	·	110	·	360	·	·	·	·	·
A	47	L.T.	S.R. 10	19+05	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	47	L.T.	S.R. 10	19+05 TO 17+25	·	·	·	·	·	·	·	·	·	180	·	570	·	·	·	·	·
A	47	L.T.	S.R. 10	17+25	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	47	L.T.	S.R. 10	17+25 TO 15+55	·	·	·	·	·	·	·	·	·	170	·	540	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	47	L.T.	S.R. 10	15+55	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	47	L.T.	S.R. 10	20+15± TO 20+90	·	·	·	·	·	·	·	·	·	75	·	255	·	·	·	·	·
A	47	L.T.	S.R. 10	20+90	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	47	L.T.	S.R. 10	20+90 TO 22+68	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
A	47	L.T.	S.R. 10	22+68	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	47	L.T.	S.R. 10	22+68 TO 23+72	·	·	·	·	·	·	·	·	·	104	·	342	·	·	·	·	·
A	47	L.T.	S.R. 10	23+72 TO 24+11	·	·	·	·	·	·	·	·	·	59	·	207	·	·	·	·	·
A	47	L.T.	S.R. 10	24+11 TO 24+38	·	·	·	·	·	·	·	·	·	27	·	111	·	·	·	·	·
A	47	L.T.	S.R. 10	24+38	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	24+38 TO 26+16	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	48	L.T.	S.R. 10	26+16	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	26+16 TO 27+95	·	·	·	·	·	·	·	·	·	179	·	567	·	·	·	·	·
A	48	L.T.	S.R. 10	27+95	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	27+95 TO 29+81	·	·	·	·	·	·	·	·	·	186	·	588	·	·	·	·	·
A	48	L.T.	S.R. 10	29+81	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	48	L.T.	S.R. 10	29+81 TO 31+78	·	·	·	·	·	·	·	·	·	197	·	621	·	·	·	·	·
A	48	L.T.	S.R. 10	31+78	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	31+78 TO 33+82	·	·	·	·	·	·	·	·	·	204	·	642	·	·	·	·	·
A	48	L.T.	S.R. 10	33+82	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	33+82 TO 35+79	·	·	·	·	·	·	·	·	·	197	·	621	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	48	L.T.	S.R. 10	35+79	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	48	L.T.	S.R. 10	35+79 TO 37+77	·	·	·	·	·	·	·	·	·	198	·	624	·	·	·	·	·
A	48	L.T.	S.R. 10	37+77	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	49	L.T.	S.R. 10	37+77 TO 39+68	·	·	·	·	·	·	·	·	·	191	·	603	·	·	·	·	·
A	49	L.T.	S.R. 10	39+68	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	49	L.T.	S.R. 10	39+68 TO 41+47	·	·	·	·	·	·	·	·	·	179	·	567	·	·	·	·	·
A	49	L.T.	S.R. 10	41+47	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	49	L.T.	S.R. 10	41+47 TO 43+25	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
A	49	L.T.	S.R. 10	43+25	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	49	L.T.	S.R. 10	43+25 TO 45+06	·	·	·	·	·	·	·	·	·	181	·	573	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	49	L.T.	S.R. 10	45+06	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	49	L.T.	S.R. 10	45+06 TO 46+82	·	·	·	·	·	·	·	·	·	176	·	558	·	·	·	·	·
A	49	L.T.	S.R. 10	46+82	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	49	L.T.	S.R. 10	46+82 TO 48+63	·	·	·	·	·	·	·	·	·	181	·	573	·	·	·	·	·
A	49	L.T.	S.R. 10	48+63	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	49	L.T.	S.R. 10	48+63 TO 50+40	·	·	·	·	·	·	·	·	·	177	·	561	·	·	·	·	·
A	49	L.T.	S.R. 10	50+40	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	50	L.T.	S.R. 10	50+40 TO 52+22	·	·	·	·	·	·	·	·	·	182	·	576	·	·	·	·	·
A	50	L.T.	S.R. 10	52+22	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	50	L.T.	S.R. 10	52+22 TO 52+59	·	·	·	·	·	·	·	·	·	37	·	141	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
TOTALS CARRIED TO GENERAL SUMMARY					84	·	21	21	84	1	22	63	6	3,724	25	11,997	25	882	15	·	1

CALCULATED MJB CHECKED RAS

LIGHTING SUBSUMMARY

CUY-10-15.96

LS002

CIRCUIT NO.	SHEET No.	SIDE	ROADWAY	STATION TO STATION	510 DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN (EACH)	·	625 LUMINAIRE, POST-TOP, AS PER PLAN (EACH)	625 LIGHT POLE, DECORATIVE, AS PER PLAN (EACH)	625 LIGHT POLE ANCHOR BOLTS (EACH)	625 PULL BOX, 725.08, 24" (EACH)	625 JUNCTION BOX, AS PER PLAN (EACH)	625 CONNECTION, FUSED PULL APART (EACH)	625 CONNECTION, UNFUSED PERMANENT (EACH)	625 CONDUIT, 2", 725.05 (F.T)	625 CONDUIT, 2", 725.04 (F.T)	625 NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE (F.T)	625 DUCT CABLE, 1½" WITH 3 NO. 4 AWG 5000 VOLT CABLES (F.T)	625 POLE AND BRACKET CABLE, NO. 10 AWG, 5000 VOLT (F.T)	625 TRENCH (F.T)	·	625 POWER SERVICE, AS PER PLAN (EACH)
A	50	LT.	S.R. 10	52+59 TO 52+97	·	·	·	·	·	·	·	·	·	58	·	204	·	·	·	·	·
A	50	LT.	S.R. 10	52+97 TO 54+02	·	·	·	·	·	·	·	·	·	105	·	345	·	·	·	·	·
A	50	LT.	S.R. 10	54+02	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
A	50	LT.	S.R. 10	54+02 TO 55+85	·	·	·	·	·	·	·	·	·	183	·	579	·	·	·	·	·
A	50	LT.	S.R. 10	55+85	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
A	50	LT.	S.R. 10	55+85 TO 57+70	·	·	·	·	·	·	·	·	·	185	·	585	·	·	·	·	·
A	50	LT.	S.R. 10	57+70	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	47	LT.	S.R. 10	20+25± TO 20+15±	·	·	·	·	·	·	·	·	·	·	·	·	25	·	·	·	·
B	47	LT.	S.R. 10	20+15±	·	·	·	·	·	·	·	·	3	·	·	·	·	·	·	·	·
B	47	LT.	S.R. 10	20+15± TO 20+15±	·	·	·	·	·	·	·	·	·	·	·	105	·	·	·	·	·
B	47	LT.	S.R. 10	20+15±	·	·	·	·	·	·	·	·	3	·	·	·	·	·	·	·	·
B	47	RT.	S.R. 10	20+15± TO 20+15±	·	·	·	·	·	·	·	·	·	·	120	390	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	47	LT.	S.R. 10	20+15±	·	·	·	·	·	·	1	·	3	·	·	·	·	·	·	·	·
B	47	LT.	S.R. 10	20+15± TO 19+05	·	·	·	·	·	·	·	·	·	110	·	360	·	·	·	·	·
B	47	LT.	S.R. 10	19+05	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	47	LT.	S.R. 10	19+05 TO 17+25	·	·	·	·	·	·	·	·	·	180	·	570	·	·	·	·	·
B	47	LT.	S.R. 10	17+25	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	47	LT.	S.R. 10	17+25 TO 15+55	·	·	·	·	·	·	·	·	·	170	·	540	·	·	·	·	·
B	47	RT.	S.R. 10	15+55	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	47	RT.	S.R. 10	20+15± TO 20+90	·	·	·	·	·	·	·	·	·	75	·	255	·	·	·	·	·
B	47	RT.	S.R. 10	20+90	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	47	RT.	S.R. 10	20+90 TO 22+68	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	47	RT.	S.R. 10	22+68	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	47	RT.	S.R. 10	22+68 TO 23+72	·	·	·	·	·	·	·	·	·	104	·	342	·	·	·	·	·
B	47	RT.	S.R. 10	23+72 TO 24+11	·	·	·	·	·	·	·	·	·	59	·	207	·	·	·	·	·
B	47	RT.	S.R. 10	24+11 TO 24+38	·	·	·	·	·	·	·	·	·	27	·	111	·	·	·	·	·
B	47	RT.	S.R. 10	24+38	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	48	RT.	S.R. 10	24+38 TO 26+16	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
B	48	RT.	S.R. 10	26+16	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	48	RT.	S.R. 10	26+16 TO 27+95	·	·	·	·	·	·	·	·	·	179	·	567	·	·	·	·	·
B	48	RT.	S.R. 10	27+95	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	48	RT.	S.R. 10	27+95 TO 29+81	·	·	·	·	·	·	·	·	·	186	·	588	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	48	RT.	S.R. 10	29+81	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	48	RT.	S.R. 10	29+81 TO 31+78	·	·	·	·	·	·	·	·	·	197	·	621	·	·	·	·	·
B	48	RT.	S.R. 10	31+78	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	48	RT.	S.R. 10	31+78 TO 33+82	·	·	·	·	·	·	·	·	·	204	·	642	·	·	·	·	·
B	48	RT.	S.R. 10	33+82	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	48	RT.	S.R. 10	33+82 TO 35+79	·	·	·	·	·	·	·	·	·	197	·	621	·	·	·	·	·
B	48	RT.	S.R. 10	35+79	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	48	RT.	S.R. 10	35+79 TO 37+77	·	·	·	·	·	·	·	·	·	198	·	624	·	·	·	·	·
B	48	RT.	S.R. 10	37+77	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	49	RT.	S.R. 10	37+77 TO 39+68	·	·	·	·	·	·	·	·	·	191	·	603	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	49	RT.	S.R. 10	39+68	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	49	RT.	S.R. 10	39+68 TO 41+47	·	·	·	·	·	·	·	·	·	179	·	567	·	·	·	·	·
B	49	RT.	S.R. 10	41+47	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	49	RT.	S.R. 10	41+47 TO 43+25	·	·	·	·	·	·	·	·	·	178	·	564	·	·	·	·	·
B	49	RT.	S.R. 10	43+25	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
B	49	RT.	S.R. 10	43+25 TO 45+06	·	·	·	·	·	·	·	·	·	181	·	573	·	·	·	·	·
B	49	RT.	S.R. 10	45+06	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
TOTALS CARRIED TO GENERAL SUMMARY					80	·	20	20	80	·	21	60	9	3,502	120	11,691	25	840	·	·	·

CALCULATED MJB
CHECKED RAS

LIGHTING SUBSUMMARY

CUY-10-15.96

LS003

CIRCUIT NO.	SHEET No.	SIDE	ROADWAY	STATION TO STATION	510	·	625	625	625	625	625	625	625	625	625	625	625	625	625	·	625
					DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN		LUMINAIRE, POST-TOP, AS PER PLAN	LIGHT POLE, DECORATIVE, AS PER PLAN	LIGHT POLE ANCHOR BOLTS	PULL BOX, 725.08, 24"	JUNCTION BOX, AS PER PLAN	CONNECTION, FUSED PULL APART	CONNECTION, UNFUSED PERMANENT	CONDUIT, 2", 725.05	CONDUIT, 2", 725.04	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	DUCT CABLE, $1\frac{1}{2}$" WITH 3 NO. 4 AWG 5000 VOLT CABLES	POLE AND BRACKET CABLE, NO. 10 AWG, 5000 VOLT	TRENCH		POWER SERVICE, AS PER PLAN
					EACH	·	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	·	EACH
B	49	RT.	S.R. 10	45+06 TO 46+82	·	·	·	·	·	·	·	·	·	176	·	558	·	·	·	·	·
B	49	RT.	S.R. 10	46+82	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	49	RT.	S.R. 10	46+82 TO 48+63	·	·	·	·	·	·	·	·	·	181	·	573	·	·	·	·	·
B	49	RT.	S.R. 10	48+63	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	49	RT.	S.R. 10	48+63 TO 50+40	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	177	·	561	·	·	·	·	·
B	49	RT.	S.R. 10	50+40	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	50	RT.	S.R. 10	50+40 TO 52+22	·	·	·	·	·	·	·	·	·	182	·	576	·	·	·	·	·
B	50	RT.	S.R. 10	52+22	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
B	50	RT.	S.R. 10	52+22 TO 52+59	·	·	·	·	·	·	·	·	·	37	·	141	·	·	·	·	·
B	50	RT.	S.R. 10	52+59 TO 52+97	·	·	·	·	·	·	·	·	·	58	·	204	·	·	·	·	·
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B	50	RT.	S.R. 10	52+97 TO 54+02	·	·	·	·	·	·	·	·	·	105	·	345	·	·	·	·	·
B	50	RT.	S.R. 10	54+02	4	·	1	1	4	·	1	3	·	·	·	·	·	42	·	·	·
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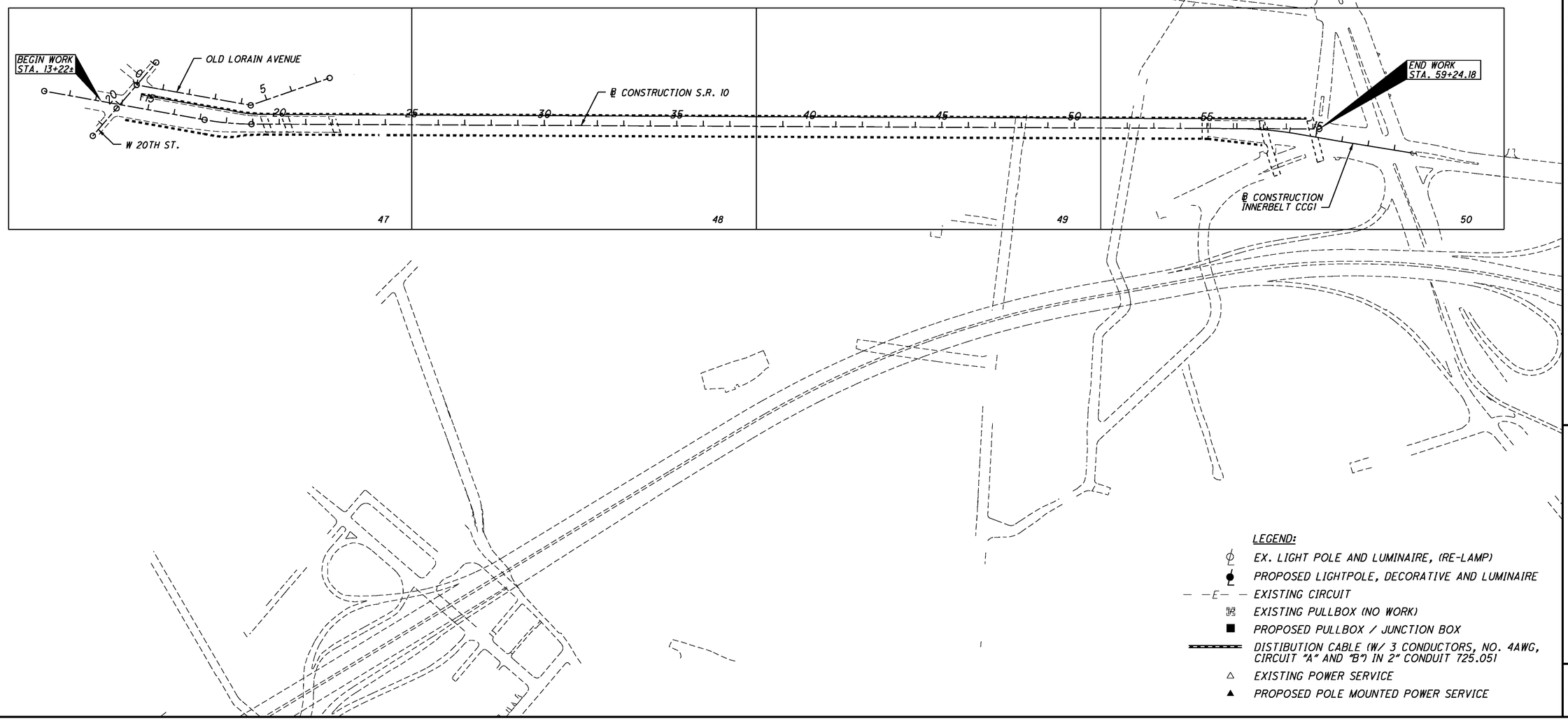
TOTALS CARRIED TO GENERAL SUMMARY					20	·	5	5	20	·	5	·	15	916	·	2,958	·	210	·	·	·

CALCULATED MJB
CHECKED RAS

LIGHTING SUBSUMMARY

CUY-10-15.96

LS004



HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED MJB
CHECKED RAS

LIGHTING SCHEMATIC PLAN

CUY-10-15.96

LB001

SEE LIGHTPOLE, DECORATIVE / JUNCTION BOX LOCATION DETAIL, FOR EACH PROPOSED LOCATION (TYPICAL), SHEET 51

SEE SCHEMATIC PLAN FOR SHEET LEGEND, SHEET 46

SEE POWER SERVICE, AS PER PLAN TYPICAL FOR CONTROL CENTERS DETAIL, SHEET 56

POT STA. 11+03.01

BEGIN WORK STA. 13+22±

N 58° 36' 01" E

W. 20TH

W. 18TH

W. 17TH

OLD LORAIN AVENUE

EXISTING POLE MOUNTED POWER SERVICE FOR SOUTH SIDE STREET LIGHTS

EXISTING AERIAL CIRCUIT

EXISTING LIGHTPOLE STA. 14+70, 53.10' RT. TO BE RE-LAMPED

EXISTING LIGHTPOLE STA. 14+75, 53.91' LT. TO BE RE-LAMPED

LOR-A-1 (PROPOSED) STA. 15+55

LOR-B-1 (PROPOSED) STA. 15+55

EXISTING LIGHTPOLE STA. 16+40, 53.29' LT. TO BE RE-LAMPED

LOR-A-2 (PROPOSED) STA. 17+25

LOR-B-2 (PROPOSED) STA. 17+25

EXISTING LIGHTPOLE STA. 16+40, 53.00' RT. TO BE RE-LAMPED

ROUTE PROPOSED CONDUIT UNDER EXISTING STAIRS

EXISTING LIGHTPOLE STA. 18+14, 50.68' LT. TO BE RE-LAMPED

EXISTING LIGHTPOLE STA. 18+06, 54.33' RT. TO BE RE-LAMPED

2" CONDUIT MOUNTED ON ABUTMENT WALL

LOR-A-3 (PROPOSED) STA. 19+05

LOR-B-3 (PROPOSED) STA. 19+05

EXISTING POLE MOUNTED POWER SERVICE FOR NORTH SIDE STREET LIGHTS

EXISTING LIGHTPOLE STA. 19+95, 39.49' RT. TO BE RE-LAMPED

EXISTING LIGHTPOLE STA. 19+95, 39.39' LT. TO BE RE-LAMPED

LOR-A-4 (PROPOSED) STA. 20+90

LOR-B-4 (PROPOSED) STA. 20+90

PROPOSED JUNCTION BOX MOUNTED ON BRIDGE DECK STA. 20+15±

EXISTING LIGHTPOLE STA. 21+85, 39.27' RT. TO BE RE-LAMPED

LOR-B-5 (PROPOSED) STA. 22+68

EXISTING LIGHTPOLE STA. 21+85, 39.46' LT. TO BE RE-LAMPED

LOR-A-5 (PROPOSED) STA. 22+68

EXISTING LIGHTPOLE STA. 23+50, 39.19' LT. TO BE RE-LAMPED

PROPOSED JUNCTION BOX STA. 23+72

CONNECTION OF PEDESTRIAN CIRCUIT AROUND PYLON SEE DETAIL, SHEET 51

PROPOSED JUNCTION BOX STA. 24+11

LOR-A-6 (PROPOSED) STA. 24+38

EXISTING LIGHTPOLE STA. 23+50, 39.15' RT. TO BE RE-LAMPED

LOR-B-6 (PROPOSED) STA. 24+38

PROPOSED JUNCTION BOX STA. 24+11

PROPOSED CONTROL CENTER (GUA) LOCATION TO BE DETERMINED

CONNECTION OF PEDESTRIAN CIRCUIT AROUND PYLON SEE DETAIL, SHEET 51

PROPOSED JUNCTION BOX STA. 23+72

EXISTING STREET LIGHT AERIAL CIRCUITS (NO WORK)

PROPOSED CIRCUIT "A"

PROPOSED CIRCUIT "B"

#4 AWG

4 X3

Ex R/W

M/R

INTERMEDIATE ROADWAY @ CONSTRUCTION S.R. 10

WEST APPROACH SPANS UNIT 1

WEST APPROACH SPANS UNIT 2

N 48° 42' 47" E

EXPANSION JOINT

BRIDGE NO. CUY-10-1608

WEST PYLON

BRIDGE NO. CUY-10-1613

MATCHLINE STA. 25+00.00 SEE SHEET 48

OLD LORAIN AVENUE

EXISTING UTILITY POLE

EXISTING SIDEWALK

EXISTING AERIAL CIRCUIT

NEW POLE MOUNTED PWR SERVICE (LOR) STA. 20+25±

PROPOSED PULL BOX STA. 20+15±

PROPOSED CIRCUITS "A" AND "B"

PROPOSED CIRCUIT "A"

PROPOSED CIRCUIT "B"

PROPOSED JUNCTION BOX MOUNTED ON BRIDGE DECK STA. 20+15±

BRIDGE NO. CUY-10-1608

BRIDGE NO. CUY-10-1608

BEGIN APPROACH SLAB STA. 19+37.67±
END APPROACH SLAB STA. 19+62.67±

BEGIN APPROACH SLAB STA. 20+20.74±
END APPROACH SLAB STA. 20+45.74±

BRIDGE NO. CUY-10-1613

BEGIN APPROACH SLAB STA. 21+94.19±
END APPROACH SLAB STA. 22+19.19±

NOTE:
POWER SERVICE LOCATION FOR GUARDIAN LIGHTING SHALL BE ON W. 17TH STREET, SOUTH SIDE OF S.R. 10. POLE TO BE DETERMINED IN FIELD.

LIGHTPOLE IDENTIFICATION

LOR-A-1 ← PROPOSED POLE NUMBER

PROPOSED CIRCUIT NUMBER

PROPOSED CONTROL CENTER

HORIZONTAL SCALE IN FEET

0 25 50 100

CALCULATED MJB

CHECKED RAS

LIGHTING PLAN
STA. 13+22.00 TO STA. 25+00.00

CUY-10-15.96

LP001

47
205

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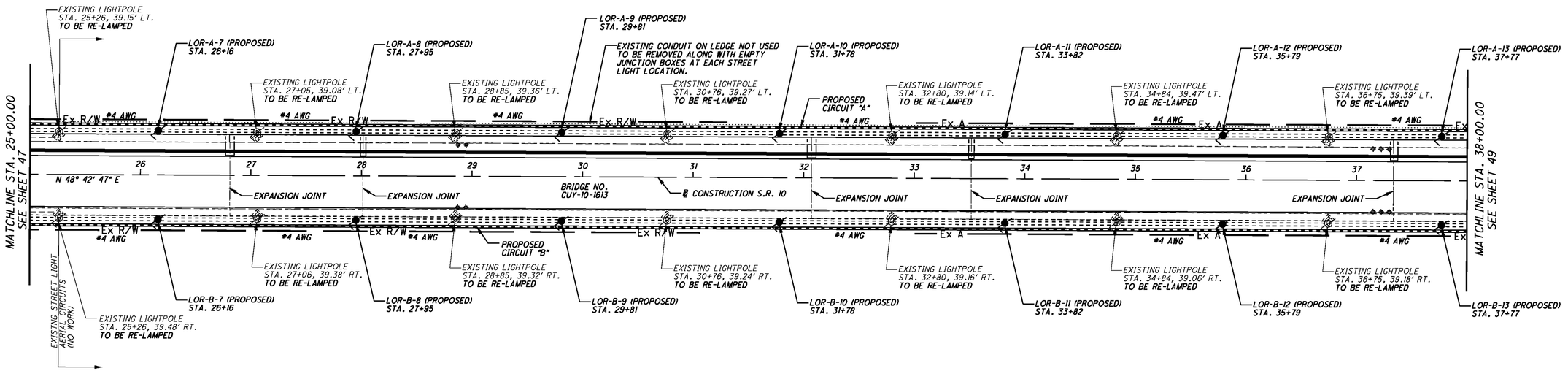
SEE LIGHTPOLE, DECORATIVE / JUNCTION BOX LOCATION DETAIL, FOR EACH PROPOSED LOCATION (TYPICAL), SHEET51

SEE SCHEMATIC PLAN FOR SHEET LEGEND, SHEET46



LIGHTPOLE IDENTIFICATION

LOR-A-1 ← PROPOSED POLE NUMBER

PROPOSED CONTROL CENTER

PROPOSED CIRCUIT NUMBER

HORIZONTAL SCALE IN FEET

0 25 50 100

CALCULATED MJB

CHECKED RAS

LIGHTING PLAN STA. 25+00.00 TO STA. 38+00.00

CUY-10-15.96

LP002

48
205

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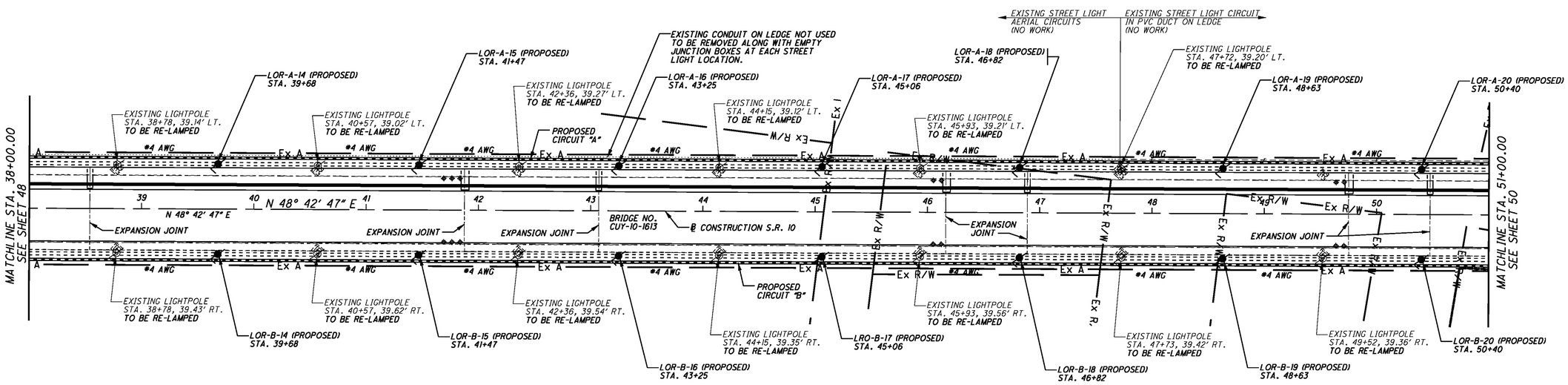
SEE LIGHTPOLE, DECORATIVE / JUNCTION BOX LOCATION DETAIL, FOR EACH PROPOSED LOCATION (TYPICAL), SHEET51

SEE SCHEMATIC PLAN FOR SHEET LEGEND, SHEET46



LIGHTPOLE IDENTIFICATION

LOR-A-1 ← PROPOSED POLE NUMBER

PROPOSED CONTROL CENTER

PROPOSED CIRCUIT NUMBER

HORIZONTAL SCALE IN FEET

0 25 50 100

CALCULATED MJB

CHECKED RAS

LIGHTING PLAN
STA. 38+00.00 TO STA. 51+00.00

CUY-10-15.96

LP003

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SEE LIGHTPOLE, DECORATIVE / JUNCTION BOX LOCATION DETAIL, FOR EACH PROPOSED LOCATION (TYPICAL), SHEET 51

SEE SCHEMATIC PLAN FOR SHEET LEGEND, SHEET 46

SEE POWER SERVICE, AS PER PLAN TYPICAL FOR CONTROL CENTERS DETAIL, SHEET 56

NOTE:
POWER SERVICE LOCATION FOR GUARDIAN LIGHTING SHALL BE ON CANAL STREET, NORTH SIDE OF S.R. 10. POLE TO BE DETERMINED IN FIELD.

CANAL ST.

Ex R/W

PROPOSED JUNTION BOX STA. 52+59

CONNECTION OF PEDESTRIAN CIRCUIT AROUND PYLON SEE DETAIL, SHEET 51

PROPOSED CONTROL CENTER (GUB) LOCATION TO BE DETERMINED

PROPOSED JUNTION BOX STA. 52+97

EXISTING LIGHTPOLE STA. 53+14, 39.27' LT. TO BE RE-LAMPED

LOR-A-22 (PROPOSED) STA. 54+02

END OF EXISTING STREET LIGHT CIRCUIT IN PVC DUCT ON LEDGE (NO WORK)

LOR-A-21 (PROPOSED) STA. 52+22

EXISTING LIGHTPOLE STA. 51+30, 39.24' LT. TO BE RE-LAMPED

POT Sta. 10+12.03

EXISTING LIGHTPOLE STA. 54+91, 39.45' LT. TO BE RE-LAMPED

LOR-A-23 (PROPOSED) STA. 55+85

EXISTING LIGHTPOLE STA. 56+80, 40.24' LT. TO BE RE-LAMPED

LOR-A-24 (PROPOSED) STA. 57+70

EXISTING LIGHTPOLE STA. 58+59, 39.34' LT. TO BE RE-LAMPED

POT Sta. 59+24.18

EXISTING POWER SERVICE FOR NORTH SIDE STREET LIGHTS

PROPOSED CIRCUIT "A"

#4 AWG

EAST ABUTMENT EASTERN SPAN

MATCHLINE STA. 51+00.00 SEE SHEET 49

BRIDGE NO. CUY-10-1613

52 53 55 56 57 58 59

END OF EXISTING STREET LIGHT AERIAL CIRCUIT (NO WORK)

EAST PYLON

℄ CONSTRUCTION S.R. 10

EAST ABUTMENT WESTERN SPAN

N 48° 42' 47" E

EXPANSION JOINT

EXPANSION JOINT

PROPOSED CIRCUIT "B"

#4 AWG

END OF EXISTING STREET LIGHT AERIAL CIRCUIT (NO WORK)

LOR-B-22 (PROPOSED) STA. 54+02

EXISTING LIGHTPOLE STA. 53+15, 39.50' RT. TO BE RE-LAMPED

EXISTING LIGHTPOLE STA. 54+91, 39.46' RT. TO BE RE-LAMPED

EXISTING LIGHTPOLE STA. 51+30, 39.18' RT. TO BE RE-LAMPED

END OF EXISTING STREET LIGHT AERIAL CIRCUIT (NO WORK)

PROPOSED JUNTION BOX STA. 52+97

CONNECTION OF PEDESTRIAN CIRCUIT AROUND PYLON SEE DETAIL, SHEET 51

PROPOSED JUNTION BOX STA. 52+59

LOR-B-21 (PROPOSED) STA. 52+22

PC Sta. 14+95.23

EXISTING LIGHTPOLE STA. 56+78, 59.94' RT. TO BE RE-LAMPED

RT Sta. 14+35.24

℄ CONSTRUCTION INNERBELT CCGI

N 58° 18' 49" E

PI Sta. 15+79.37

END WORK STA. 15+61.12±

N 57° 40' 42" E

POT Sta. 18+85.94

LIGHTPOLE IDENTIFICATION

PROPOSED CONTROL CENTER

PROPOSED CIRCUIT NUMBER

LOR-A-1 ← PROPOSED POLE NUMBER

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED MJB
CHECKED RAS

LIGHTING PLAN
STA. 51+00.00 TO ST. 59+24.18

CUY-10-15.96

LP004

50
205

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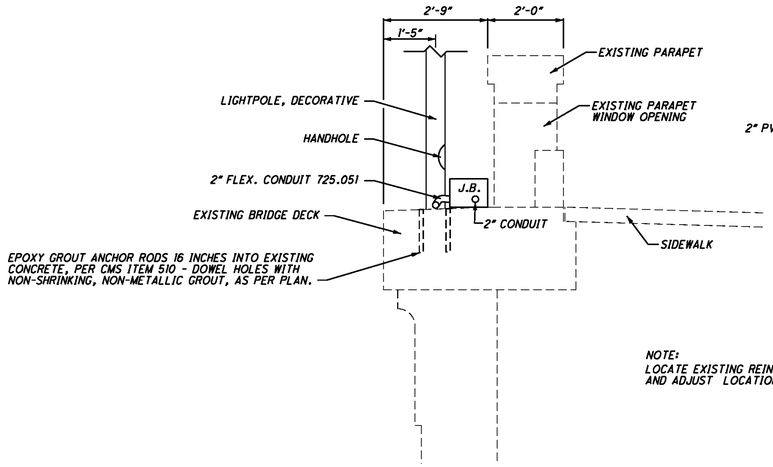
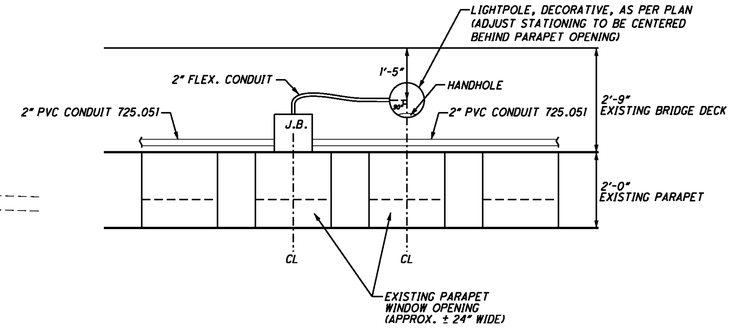
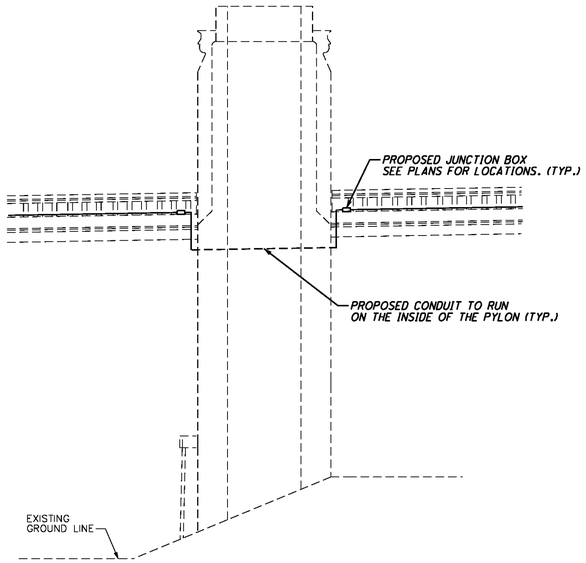




NOTE:
LOCATE EXISTING REINFORCING WITH A MAGNETIC DETECTOR AND ADJUST LOCATION OF DOWEL HOLES AND ANCHOR RODS TO CLEAR.

LIGHTPOLE, DECORATIVE / JUNCTION BOX LOCATION DETAIL

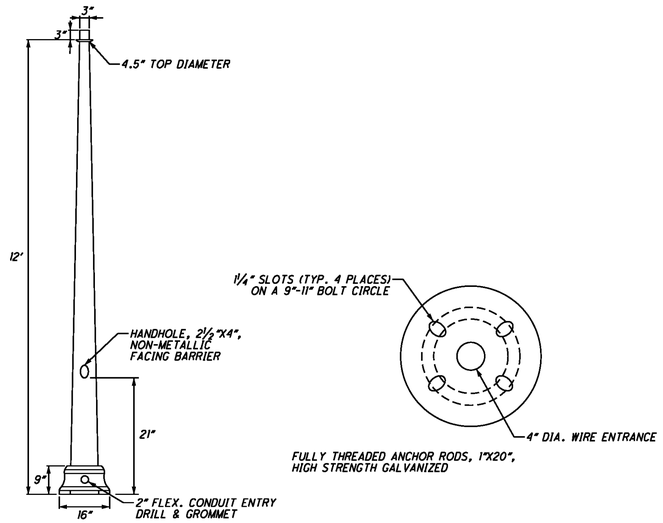
NOT TO SCALE



PEDESTRIAN CIRCUIT AROUND PYLON DETAIL (TYP.)

(GUARDIAN LIGHTING NOT SHOWN)

NOT TO SCALE



LIGHTPOLE, DECORATIVE, AS PER PLAN DETAIL

NOT TO SCALE

CALCULATED MJB CHECKED RAS

LIGHTING DETAILS

CUY-10-15.96

LD001

51
205

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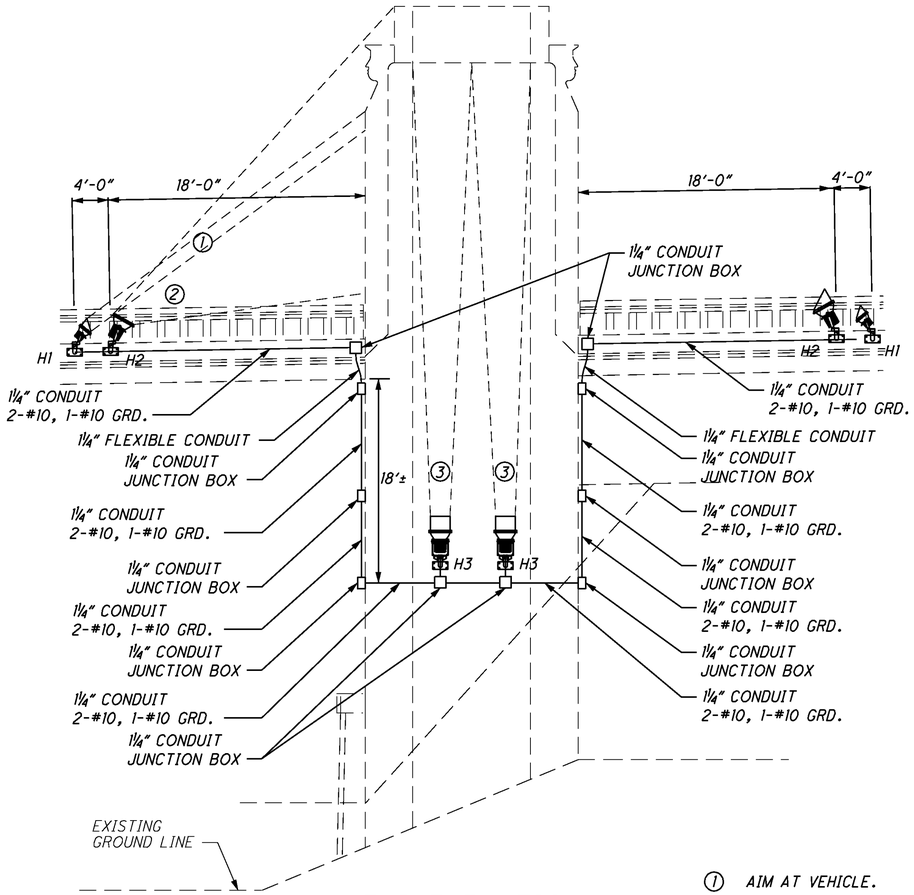
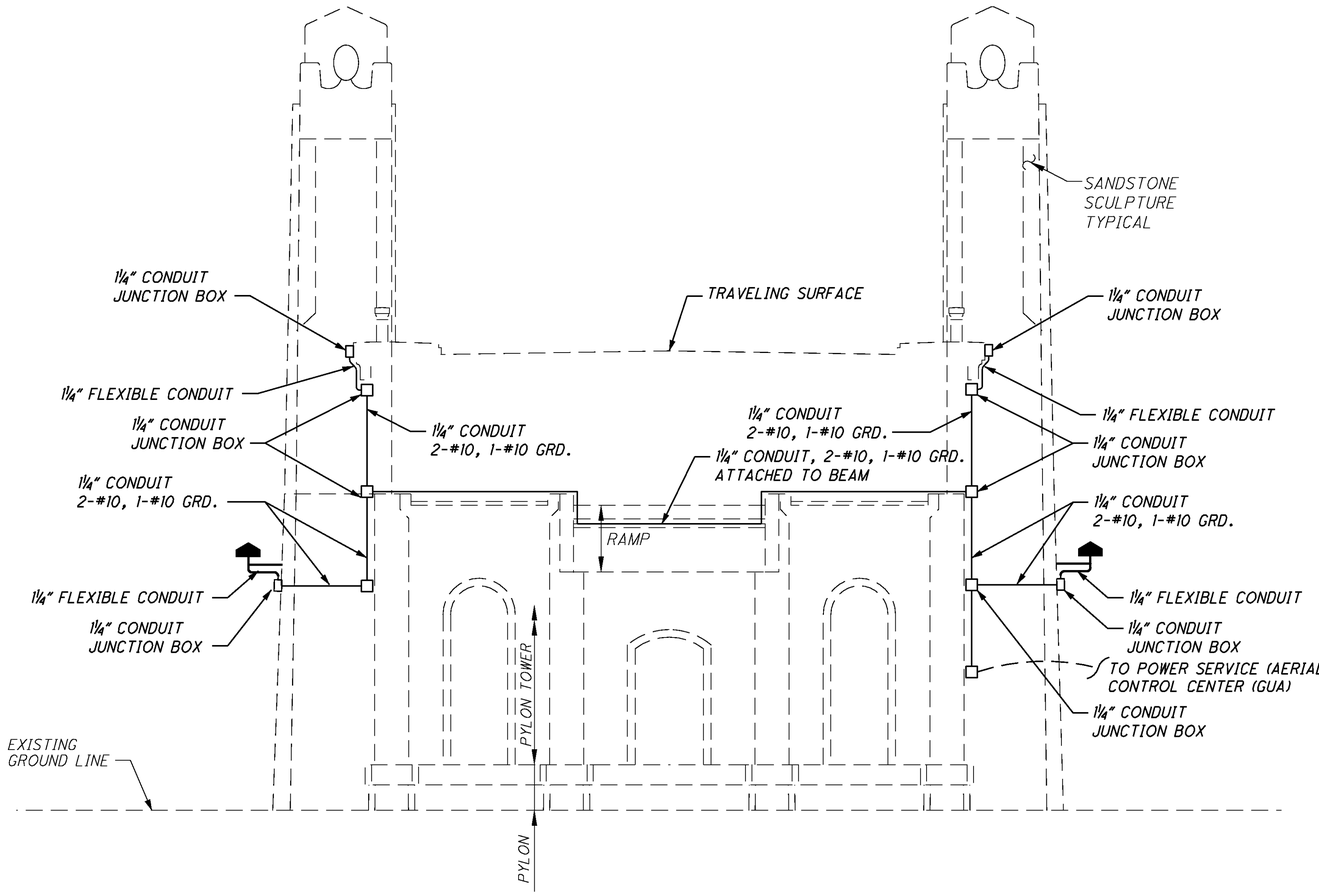


END ELEVATION



WEST PYLON (LOOKING EAST)

① AIM AT VEHICLE.

② AIM TO COVER GUARDIAN.

③ AIM AT TOP OF RAISED PANELS. SMOOTH AS POSSIBLE. (MOUNT BETWEEN VERTICAL RUSTICATION GROOVES)

CALCULATED MJB
CHECKED RAS

WEST GUARDIAN LIGHTING DETAILS

CUY-10-15.96

LD002

52
205

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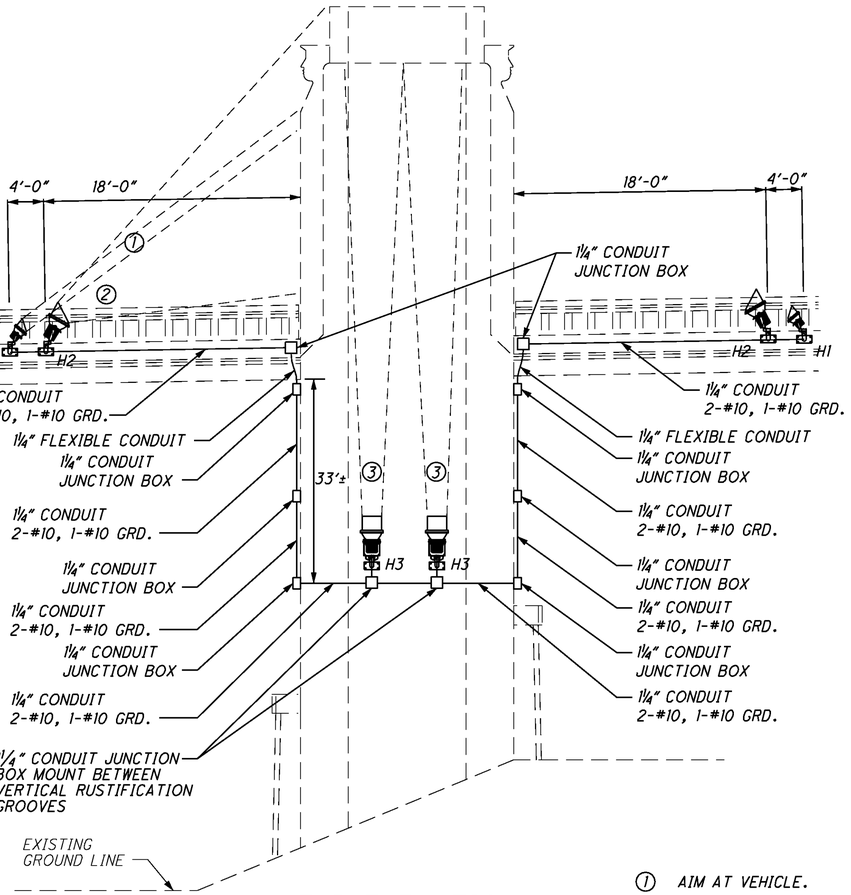
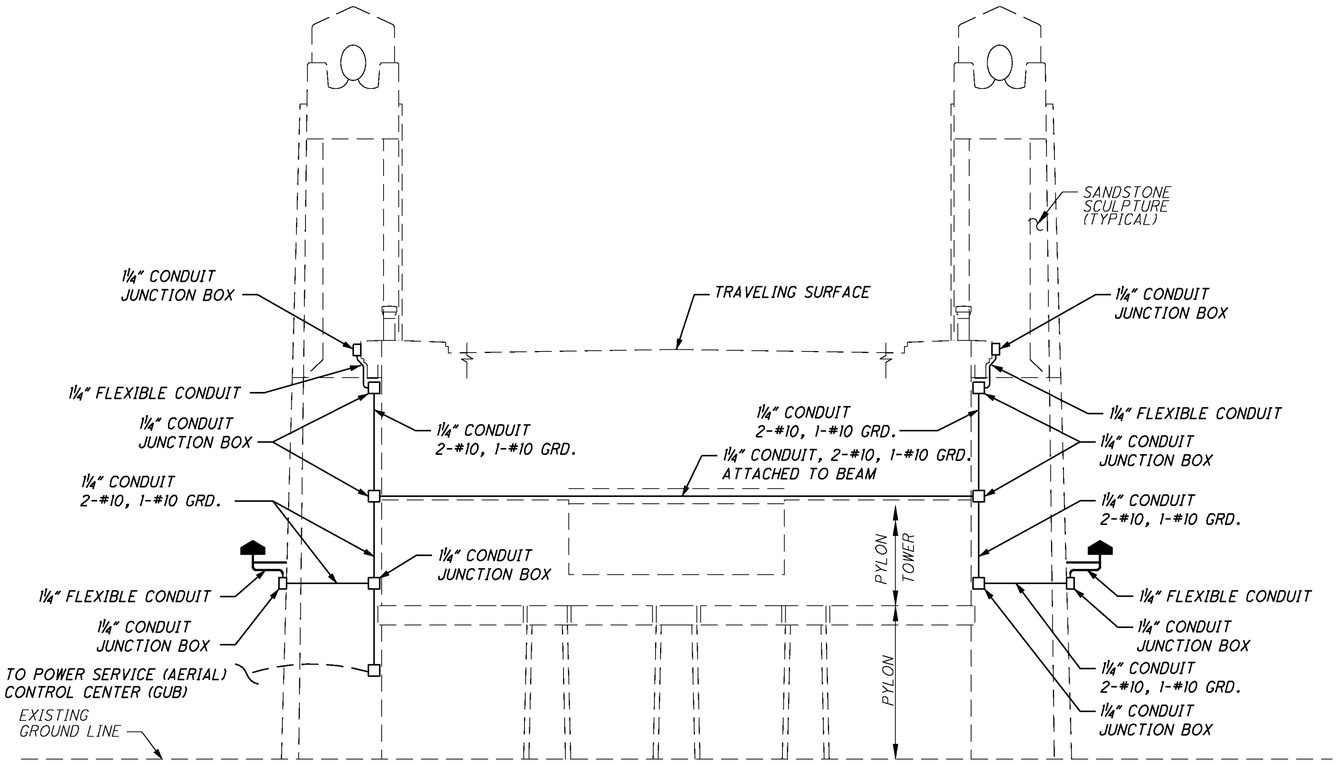


END ELEVATION



EAST PYLON (LOOKING EAST)

① AIM AT VEHICLE.

② AIM TO COVER GUARDIAN.

③ AIM AT TOP OF RAISED PANELS. SMOOTH AS POSSIBLE. (MOUNT BETWEEN VERTICAL RUSTICATION GROOVES)

CALCULATED MJB
CHECKED RAS

EAST GAURDIAN LIGHTING DETAILS

CUY-10-15.96

LD003

53
205

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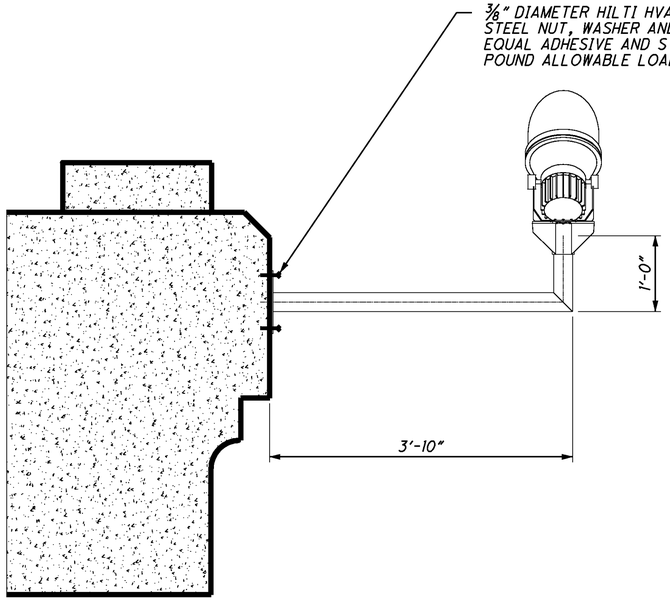
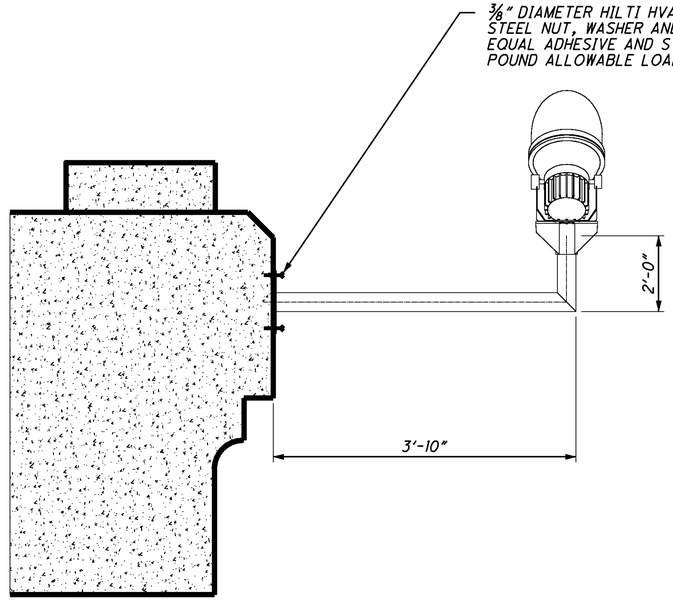
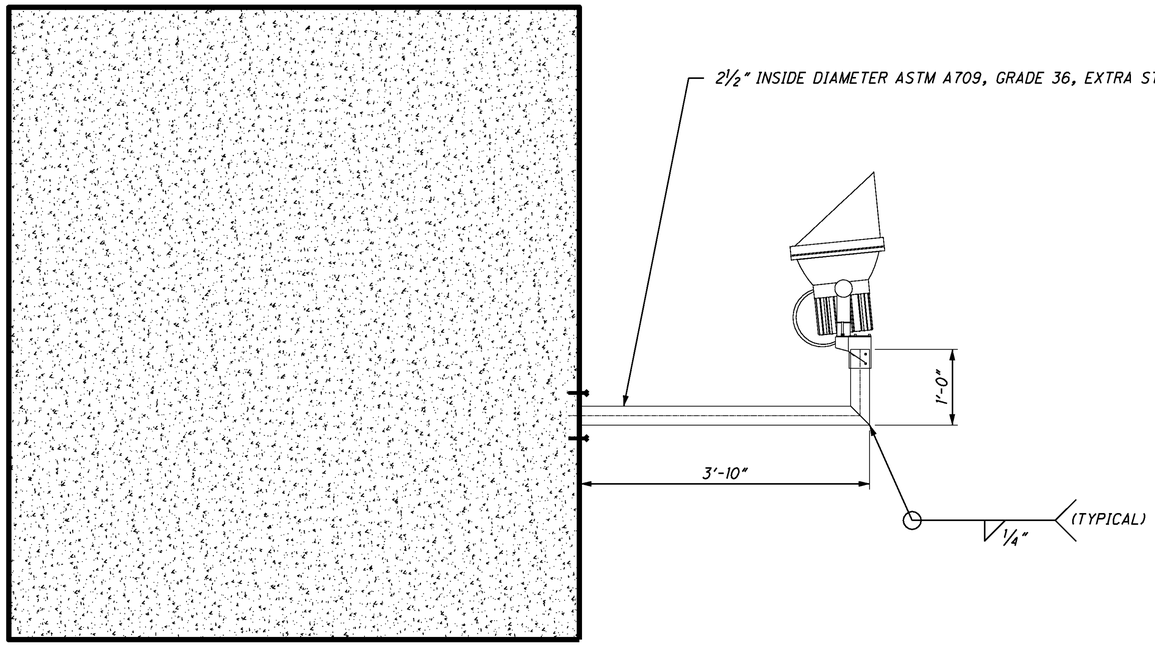


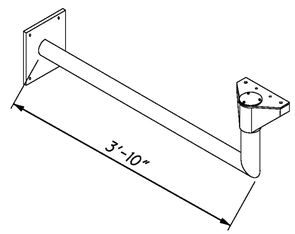
H1 MOUNTING DETAIL
(NOT TO SCALE)

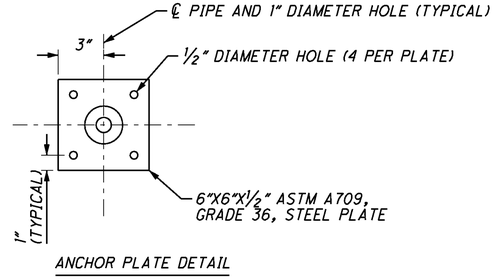


H2 MOUNTING DETAIL
(NOT TO SCALE)

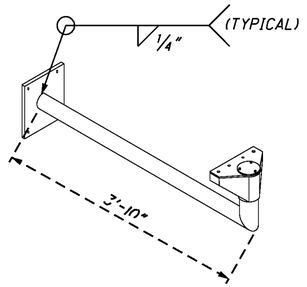


H3 MOUNTING DETAIL
(NOT TO SCALE)





ANCHOR PLATE DETAIL



CALCULATED DWL
CHECKED JAA

GUARDIAN LIGHTING DETAILS

CUY-10-15.96

LD004

54
205

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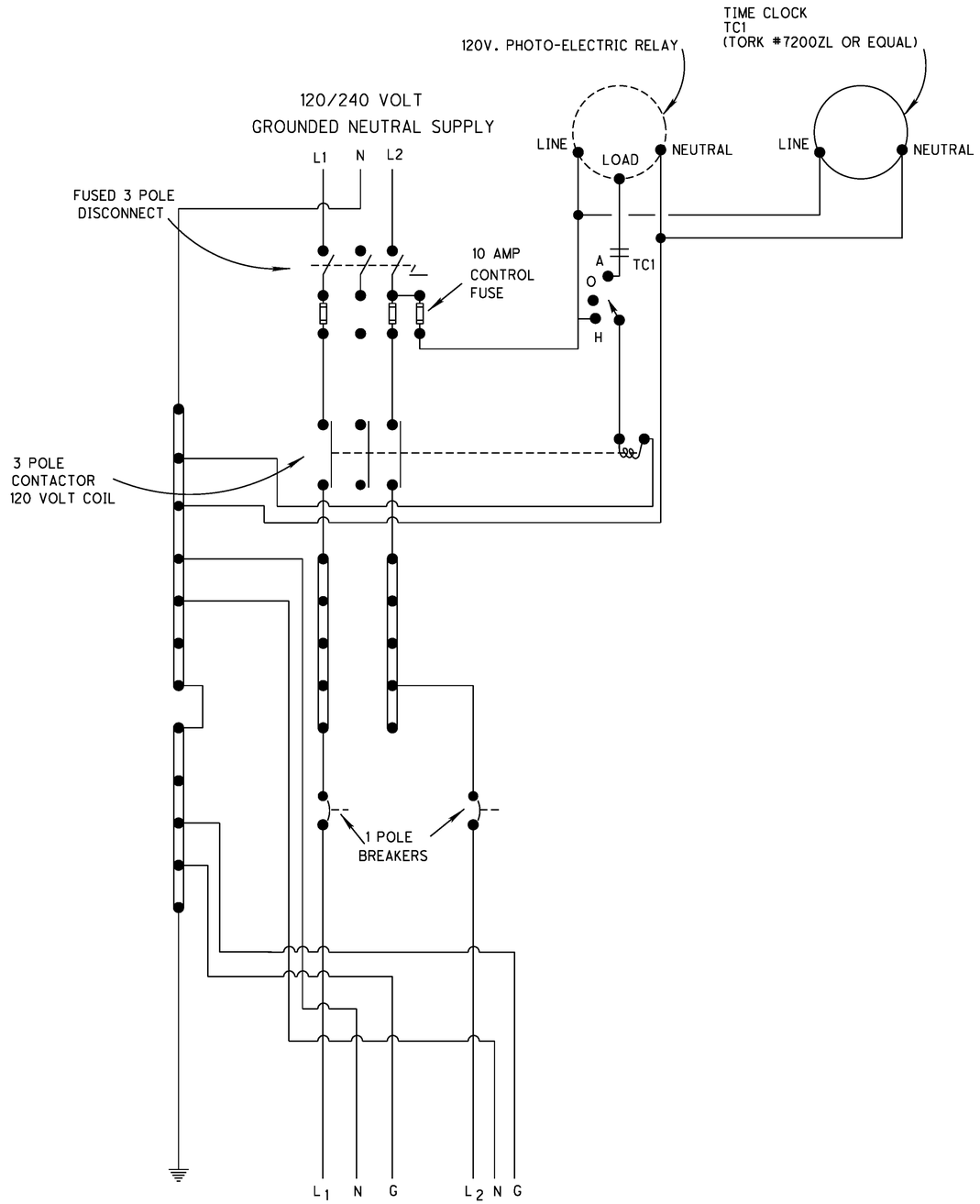

GUARDIAN LIGHT CONTROLLER WIRING DIAGRAM

CALCULATED MBA
CHECKED RAS

LIGHTING DETAILS

CUY-10-15.96

LD005

55
205

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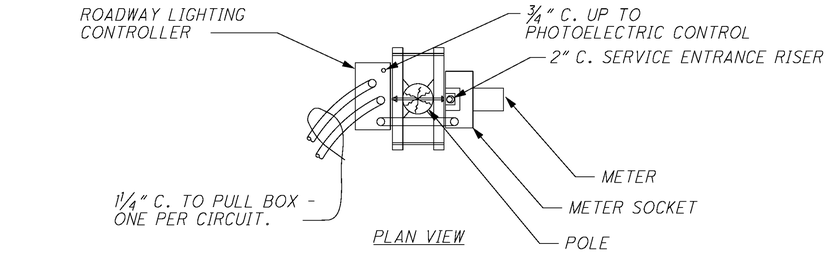
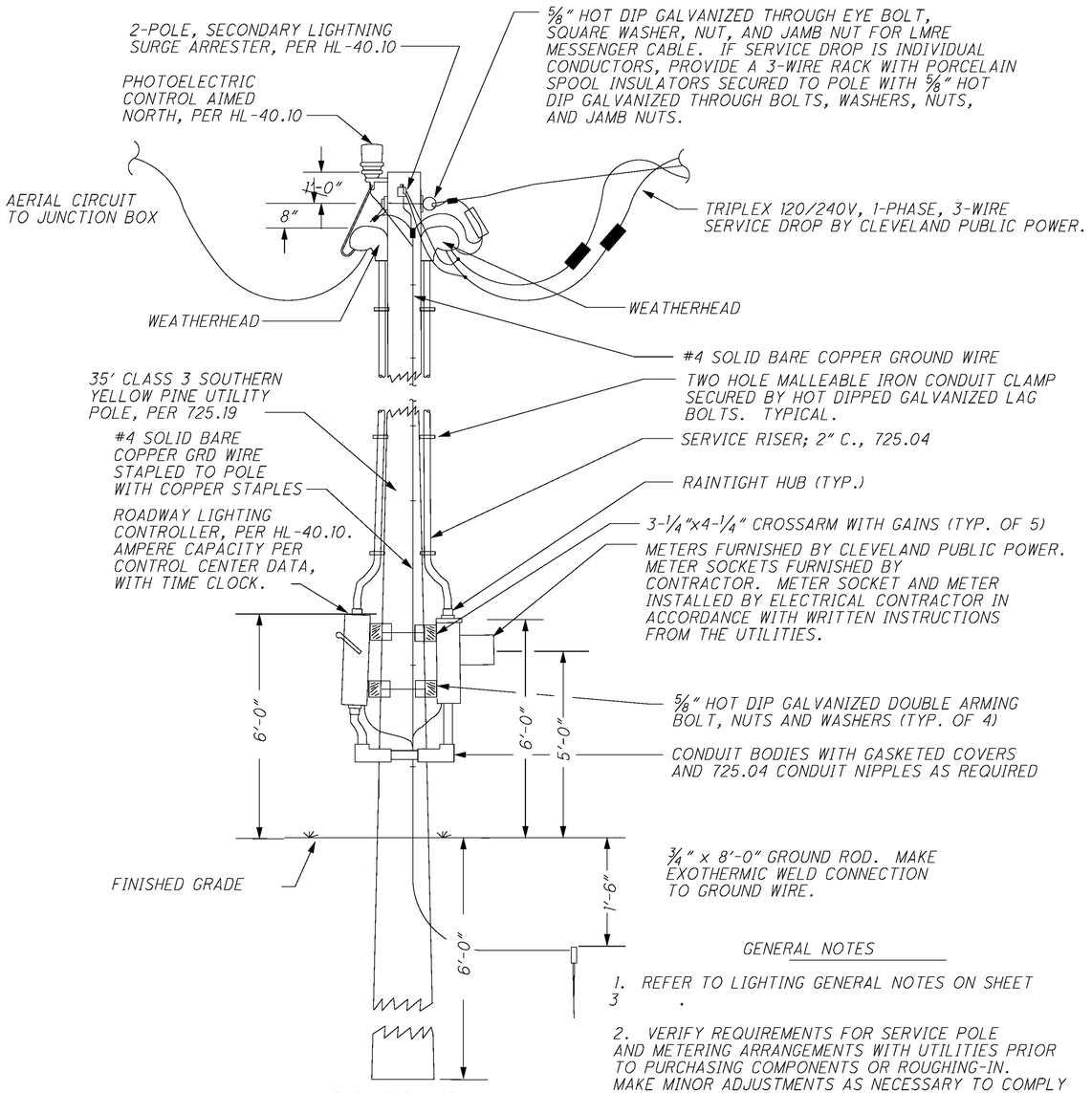


PLAN VIEW



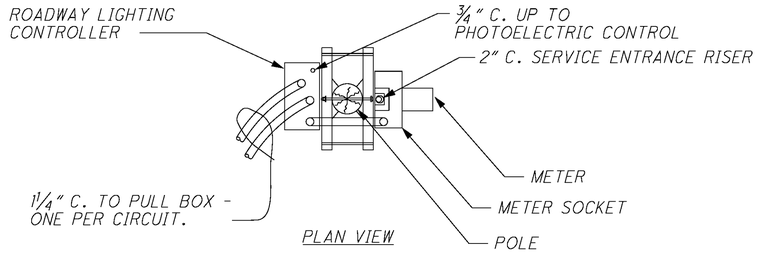
ELEVATION VIEW

POWER SERVICE, AS PER PLAN TYPICAL FOR CONTROL CENTER GUA AND GUB.

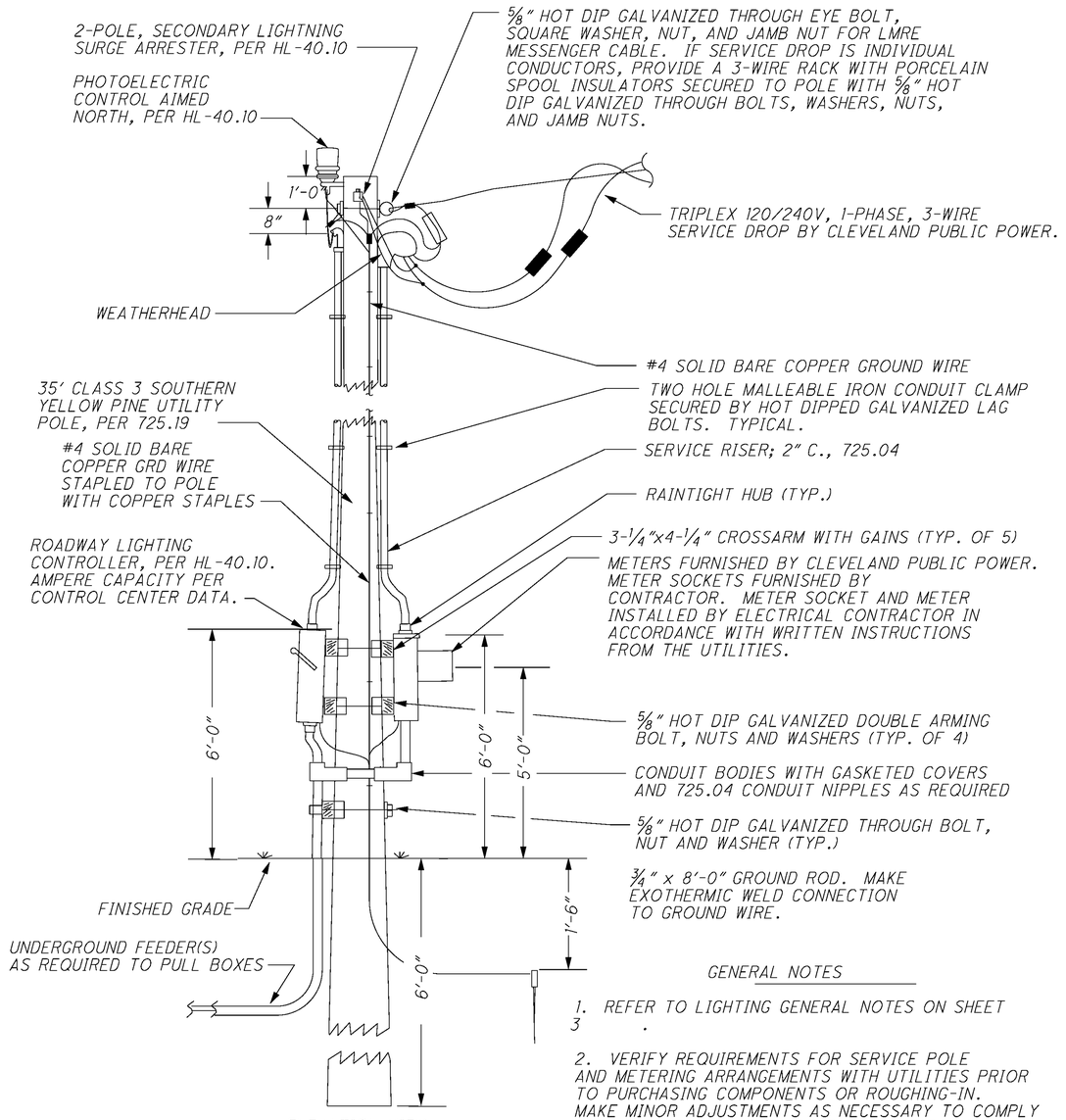
NOT TO SCALE

GENERAL NOTES

1. REFER TO LIGHTING GENERAL NOTES ON SHEET 3 .
2. VERIFY REQUIREMENTS FOR SERVICE POLE AND METERING ARRANGEMENTS WITH UTILITIES PRIOR TO PURCHASING COMPONENTS OR ROUGHING-IN. MAKE MINOR ADJUSTMENTS AS NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THE UTILITIES AT NO CHANGE IN CONTRACT PRICE.
3. WORK SHOWN ON THIS DRAWING WILL BE PAID FOR UNDER "ITEM 625 - POWER SERVICE, AS PER PLAN."



PLAN VIEW



ELEVATION VIEW

POWER SERVICE, AS PER PLAN TYPICAL FOR CONTROL CENTER LOR.

NOT TO SCALE

GENERAL NOTES

1. REFER TO LIGHTING GENERAL NOTES ON SHEET 3 .
2. VERIFY REQUIREMENTS FOR SERVICE POLE AND METERING ARRANGEMENTS WITH UTILITIES PRIOR TO PURCHASING COMPONENTS OR ROUGHING-IN. MAKE MINOR ADJUSTMENTS AS NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THE UTILITIES AT NO CHANGE IN CONTRACT PRICE.
3. WORK SHOWN ON THIS DRAWING WILL BE PAID FOR UNDER "ITEM 625 - POWER SERVICE, AS PER PLAN."

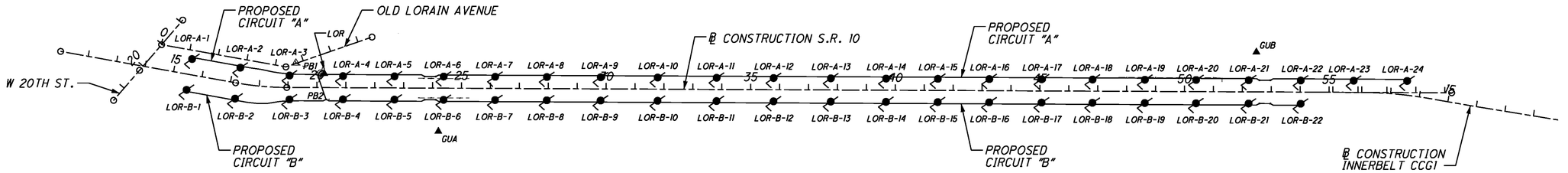
CALCULATED MJB CHECKED RAS

LIGHTING DETAILS

CUY-10-15.96

LD006

56
205



NOTE:
GUA, GUB LOCATION
TO BE DETERMINED IN FIELD

CONTROL CENTER DATA CHART

CONTROL CENTER	LINE VOLTS	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CONDUCTOR SIZE - AWG	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD AMPS	CIRCUIT FUSE SIZE AMPS	CIRCUIT CABLE SIZE AWG	MAINTAINING AGENCY
LOR	240	6.09	#4	60	A	12.96	30	#4	CLEVELAND PUBLIC POWER
					B	12.42	30	#4	
GUA	120/240	2.66	#4	60	A	11.08	30	#10	CLEVELAND PUBLIC POWER
GUB	120/240	2.66	#4	60	B	11.08	30	#10	

HORIZONTAL SCALE IN FEET
0 100 200 400

CALCULATED MJB
CHECKED RAS

LIGHTING CIRCUIT DIAGRAM

CUY-10-15.96

LC001

57
205

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D1
EX. CATCH BASIN
TO BE REMOVED AND REPLACED WITH CITY OF CLEVELAND MANHOLE NO. 1
STA. 14+73.51, 43.00' LT.
RIM = 685.46
EX. 12" VCP W, INV = 680.29
PROP. 12" VCP S,W INV = 680.29

EX. MH RIM = 684.41
STA. 14+25.40, 55.44' LT.
12" VCP SE & SW, INV = 678.91
12" VCP N-S, INV = 672.51

EX. CATCH BASIN W/ CURB INLET
STA. 13+99.48, 39.01' LT.
RIM = 683.75
6" STL ORIFICE, INV = 679.65
TOP WATER = 679.15
BOTTOM = 677.95

EX. CATCH BASIN W/ CURB INLET
STA. 13+72.67, 34.99' LT.
RIM = 683.74
12" BRICK?, INV = N/A
TOP WATER = 678.94
BOTTOM = 677.94

EX. MH RIM = 684.40
STA. 13+77.65, 15.35' LT.
36" BRICK, INV = 665.00

EX. CATCH BASIN
RIM = 684.33
TOP WATER=681.53
TOP SILT=680.53
BOTTOM=678.43

EX. CATCH BASIN
W/ CURB INLET
RIM = 684.42
TOP WATER=681.32
TOP SILT=679.62
BOTTOM=678.42

EX. STMH RIM = 686.07
STA. 14.92+99, 17.45' LT.
12" RCP E, INV = 681.41
36" BRICK, INV = 665.91

EX. MANHOLE
RIM = 683.77
36" BRICK E to SW
INV = 666.02

EX. CATCH BASIN W/ CURB INLET
TO BE REMOVED
STA. 15+64.49, 45.90' LT.
EX. RIM = 687.38
6" VCP E, INV = 683.38
6" STL ORIFICE-? INV=682.08
TOP OF WATER = 682.0
BOTTOM = 680.38

D2

D3
PROPOSED CITY OF CLEVELAND TWIN BASIN - CB 3
WITH 2FT SUMP
STA. 18+26.33, 25.27' LT.
RIM = 692.32
12" VCP S,E INV = 688.63

D4
EX. CATCH BASIN W/ CURB INLET
TO BE REMOVED
STA. 18+25.35, 38.12' LT.
EX. RIM = 691.98
12" RCP S, INV = 688.48

D5
EX. STMH RIM=693.79
STA. 18+78.06, 28.82' LT.
12" RCP W, INV = 687.69
12" RCP S to N, INV = 667.79
INSP. PLAT. = 678.79
ADJUSTED TO GRADE

- PAVER
- EXISTING SIDEWALK TO BE REMOVED AND REPLACED
- PAVEMENT REMOVED

BEGIN WORK
STA. 13+22.00±

BEGIN PROPOSED PAVERS
STA. 14+75

PROPOSED PAVERS

PROPOSED DECORATIVE LIGHT POLE (TYPICAL BOTH SIDES)

END PROPOSED CURB
END PROPOSED PAVER
BEGIN PROPOSED RAILING
STA. 18+50

BRIDGE NO. CUY-10-1608

BEGIN APPROACH SLAB STA. 19+37.67±
END APPROACH SLAB STA. 19+62.67±

BEGIN APPROACH SLAB STA. 20+20.74±
END APPROACH SLAB STA. 20+45.74±

EXPANSION JOINT 1608EA
PROPOSED 2¼"
COMPRESSION SEAL

EXPANSION JOINT 1608WA
PROPOSED 2½"
COMPRESSION SEAL

PROPOSED SEAL (TYPICAL)

PROPOSED 12" VCP

EXISTING 12" RCP TO BE REMOVED

EX. DUCT VAULT
STA. 13+38.37, 30.69' RT.

PROPOSED 12" VCP

EX. 12" RCP FILL AND PLUG

EX. 12" RCP

EX. 36" BRICK

6" WATER

W. 20TH ST.

W. 18TH ST.

WESTERN ROADWAY

CONSTRUCTION S.R. 10

CARNEGIE AVE.

N 58° 36' 01" E

N 48° 42' 47" E

P.I. Sta. 17+17.65

P.I. Sta. 18+95.64

MATCH LINE STA. 20+50

EX. CATCH BASIN W/ CURB INLET
STA. 13+22.28, 35.29' RT.
RIM = 684.33
TOP WATER = 680.73
BOTTOM = 678.33

EX. MANHOLE
RIM = 681.78
21" VCP S to N, INV = 668.08

PROPOSED CITY OF CLEVELAND
TWIN BASIN - CB 3
WITH 2FT SUMP
STA. 14+80.00, 28.00' LT.
RIM = 684.60
12" VCP W, INV = 680.62

EX. CATCH BASIN
W/ CURB INLET
STA. 14+37.51, 43.13' RT.
RIM = 684.11
TOP WATER = 680.31
TOP SILT = 679.51
BOTTOM = 678.11

EX. STMH RIM = 686.07
12" RCP S, INV = 681.27
12" VCP S-NW, INV = 670.17

EX. STMH W/ CURB INLET
RIM = 686.96
6" STL ORIFICE, INV = 681.76

EX. STEPS

REPAIR SOUTH SIDEWALK AS DIRECTED BY THE ENGINEER

EX. CATCH BASIN W/ CURB INLET
STA. 18+30.34, 31.63' RT.
RIM = 692.30
12" RCP N = 689.20

SW-1 SW-2 CR-1 CR-2 CR-3 CR-4 CR-5 CR-6 CR-7 CR-8 CR-9 CB-1 CB-2 CB-3 R-1 R-2 R-3 R-4 R-5 R-8 R-9 W-12 UD-1 UD-2 PV-1 D6

CURVE DATA
P.I. Sta. 18+06.87
Δ = 9° 53' 14" (LT)
Dc = 5° 33' 18"
R = 1,031.44'
T = 89.22'
L = 177.99'
E = 3.85'
C = 177.77'
C.B. = N 53° 39' 24" E

NOTES:
1. FOR ROADWAY DETAIL, SEE SHEET 24.
2. FOR LIGHTING PLAN, SEE SHEET 47.
3. FOR PAVER DETAILS, SEE SHEET 24.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED AKS | DRAWN AKS | REVIEWED JAA | DATE 12/11
CHECKED DWL | REVISED | STRUCTURE FILE NUMBER 1801481

STRUCTURE PLAN 1 OF 6
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET
STA. 13+22± TO STA. 20+50

CUY-10-15.96
PID No. 89194

SP-1

58
205

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D7

EX. CATCH BASIN W/ CURB INLET
TO BE REMOVED
STA. 20+63.71, 29.27' LT.
RIM = 697.34
12" RCP S, INV = 692.94

D8

PROPOSED CB-6
WITH 2FT SUMP
STA. 20+66.97, 21.00' LT.
RIM = 697.51±
12" VCP S INV = 692.85

LORAIN AVE.

EXPANSION JOINT WA
3" STRIP SEAL

INTERMEDIATE
ROADWAY

R-10

R-6

EXISTING 12" RCP
TO BE REMOVED

EX. 12" RCP

MATCH LINE STA. 20+50

21 22 23 24 25 26 27 28

N 48° 42' 47" E

MATCH LINE STA. 28+50

Ex R/W

Ex A

CUY-10-1613
WEST APPROACH SPANS
UNIT 1

EXPANSION
JOINT APP
3" STRIP SEAL

EXPANSION JOINT WWP
3" STRIP SEAL

EXPANSION
JOINT EWP
3" STRIP SEAL

EXPANSION JOINT E6
9" MODULAR STRIP SEAL

PROPOSED JOINT AND SEAL
(TYPICAL)

FIXED JOINT F6
PROPOSED 3½"
COMPRESSION SEAL

PROPOSED
SEAL
(TYPICAL)

BEGIN APPROACH SLAB
STA. 21+94.19±

END APPROACH SLAB
STA. 22+19.19±

CUY-10-1613
WEST APPROACH
SPANS
UNIT 2

WEST PYLON

EXISTING SCUPPER
(TYPICAL)

℄ CONSTRUCTION
S.R. 10

PROPOSED DECORATIVE
LIGHT POLE (TYPICAL
BOTH SIDES)

REPAIR SOUTH SIDEWALK
AS DIRECTED BY THE ENGINEER

BRIDGE NO.
CUY-10-1613
MAIN SPANS

W. 17TH ST.

CATCH BASIN W/ CURB INLET
STA. 20+84.04, 29.23' RT.
RIM = 697.54
12" RCP N, INV = 692.34

NOTES:

1. FOR LIGHTING PLAN, SEE SHEET 47.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	JAA	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

STRUCTURE PLAN 2 OF 6
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER
STA. 20+50 TO STA. 28+50

CUY-10-15.96
PID No. 89194

SP-2

59
205

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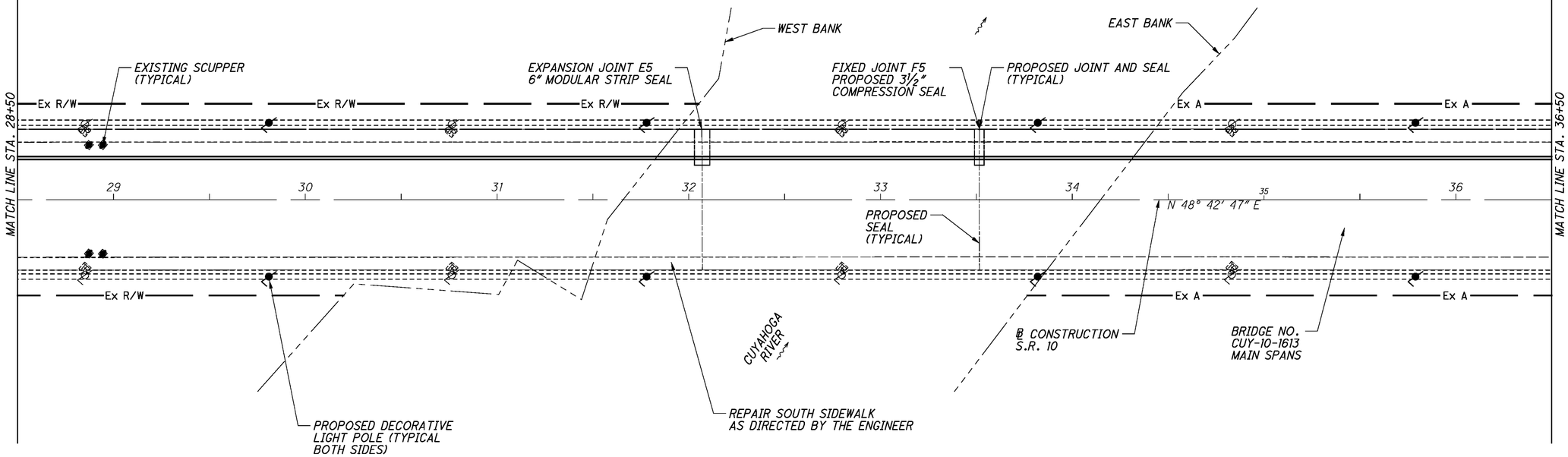

NOTES:

1. FOR LIGHTING PLAN, SEE SHEET 47.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	JAA	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

STRUCTURE PLAN 3 OF 6
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER
STA. 28+50 TO STA. 36+50

CUY-10-15.96
PID No. 89194

SP-3

60
205

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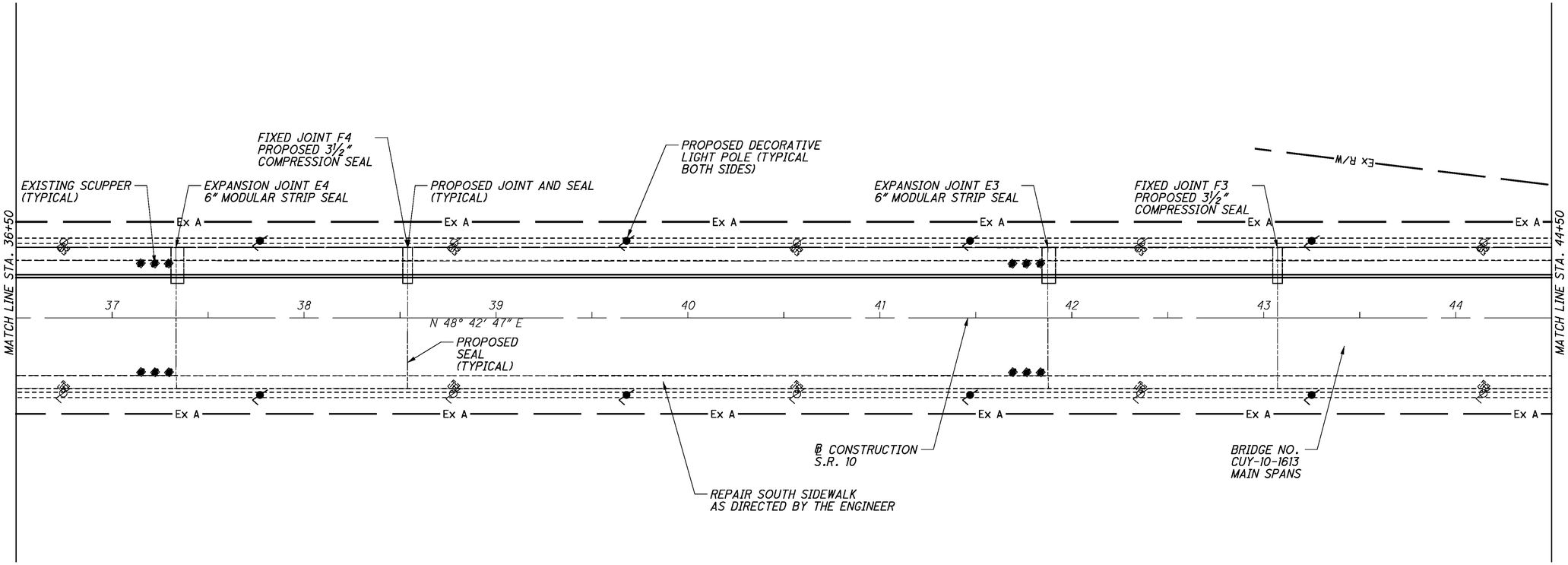


NOTES:

1. FOR LIGHTING PLAN, SEE SHEET 47.

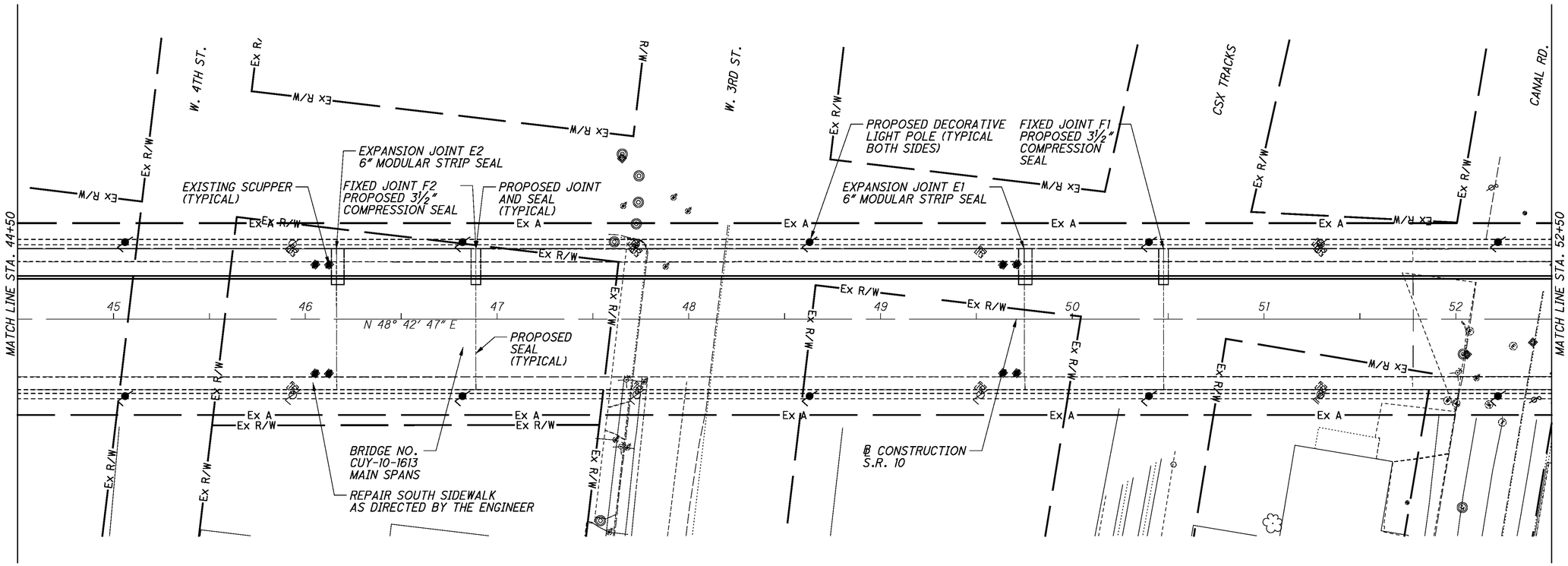
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	JAA	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

STRUCTURE PLAN 4 OF 6
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER
STA. 36+50 TO STA. 44+50

CUY-10-15.96
PID No. 89194

SP-4



NOTES:

1. FOR LIGHTING PLAN, SEE SHEET 47.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	JAA	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

STRUCTURE PLAN 5 OF 6
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER
STA. 44+50 TO STA. 52+50

CUY-10-15.96
PID No. 89194

SP-5

62
205

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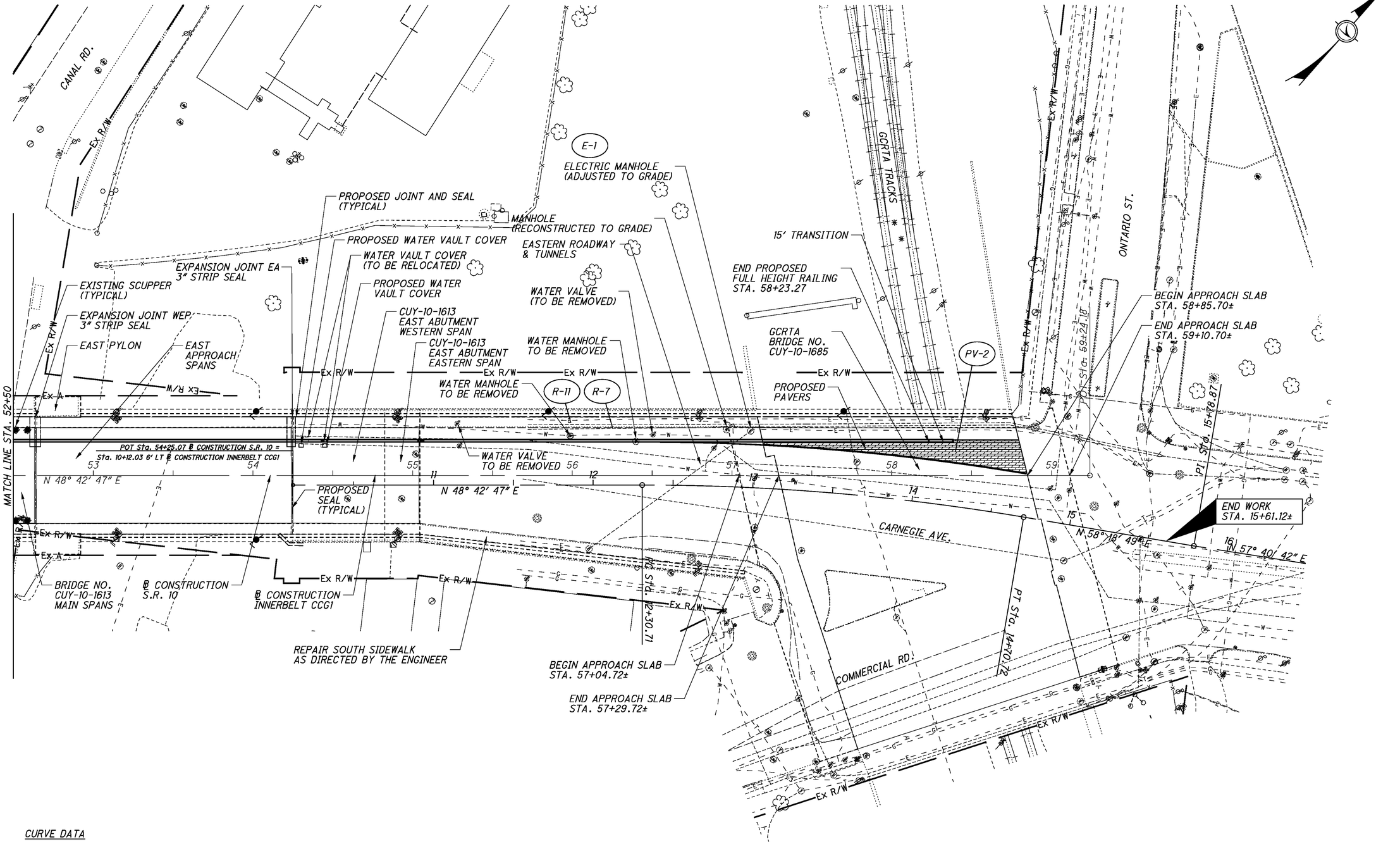

CURVE DATA

P.I. Sta. 13+50.99
Δ = 9° 36' 02" (RT)
Dc = 4° 00' 00"
R = 1,432.40'
T = 120.29'
L = 240.01'
E = 5.04'
C = 239.73'
C.B. = N 53° 30' 48" E

NOTES:

1. *FOR LIGHTING PLAN, SEE SHEET 47.*
2. *FOR PAVER DETAILS, SEE SHEET 25.*

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	JAA	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503 & 1801511	

STRUCTURE PLAN 6 OF 6
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 & CUY-10-1685
STA. 52+50 TO STA. 59+50

CUY-10-15.96
PID No. 89194

SP-6

63
205

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PROPOSED BRIDGE WORK

THE PROPOSED WORK CONSISTS OF REPLACING THE DECK ENDS, ABUTMENT TOPS, AND EXPANSION JOINTS TO WIDEN THE EXISTING NORTH SIDEWALKS AND INSTALLING AN ADDITIONAL COMBINATION RAILING ADJACENT TO THE ROADWAY. INSTALLATION OF DECORATIVE LIGHTING ALONG BOTH SIDES OF THE ROADWAY IS ALSO PART OF THE WORK.

REFERENCE SHALL BE MADE TO STANDARD BRIDGE DRAWINGS:

EXJ-2-81 REVISED 7-19-02
EXJ-4-87 REVISED 7-19-02
GSD-1-96 REVISED 7-19-02
PCB-91 REVISED 7-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:

LISTED ON THE TITLE SHEET

AND TO PROPOSAL NOTES:

STEEL PRICE ADJUSTMENT

PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH MICRO SILICA MODIFIED CONCRETE

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 2002, AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

DESIGN LOADING: HS-20

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

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" MINIMUM TOP CONCRETE COVER
CLASS HP CONCRETE

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES INHERENT IN REPAIR WORK AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

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 C.M.S. SECTIONS 102.05, 105.02, AND 513.04. THE ORIGINAL CONSTRUCTION AND REHABILITATION PLANS OF THE EXISTING BRIDGES AS WELL AS THE PROJECT 215-00 EXPANSION JOINT SHOP DRAWINGS FOR THE HOPE MEMORIAL BRIDGE ARE AVAILABLE UPON REQUEST AT THE DISTRICT 12 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, GARFIELD HEIGHTS, OHIO.

CONSTRUCTION SEQUENCE

ADHERE TO THE FOLLOWING CONSTRUCTION SEQUENCE UNLESS ANOTHER HAS BEEN SUBMITTED TO AND APPROVED BY THE ENGINEER.

1. IMPLEMENT MOT AND INSTALL TEMPORARY BARRIER.
2. REMOVE DECK, JOINTS, CURBS, WEARING SURFACE, SUBGRADE, AND SIDEWALKS AS SHOWN IN THE TRANSVERSE SECTIONS.
3. FORM DECK, INSTALL JOINT ARMOR, PLACE REINFORCING STEEL, AND PLACE CONCRETE DECK.
4. FORM SIDEWALKS, ADJUST CASTINGS, INSTALL GRATE AND GRID FRAMES, AND PLACE REINFORCING AND SIDEWALK CONCRETE.
5. INSTALL SCUPPER INLET GRIDS AND GRATES.
6. INSTALL ELASTOMERIC JOINT SEALS.
7. INSTALL RAILING.
8. SOUND A 2-FOOT WIDE STRIP OF THE MSMC OVERLAY THE LENGTH OF EACH BRIDGE IMMEDIATELY ADJACENT TO THE NEW CURB LINE, REMOVE UNSOUND CONCRETE AND PATCH WITH MSMC PER PROPOSAL NOTE 511 TITLED ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH MICRO SILICA MODIFIED CONCRETE
9. SEAL JOINT BETWEEN CURB FACE AT MSMC OVERLAY WITH HMWM PER CMS 511.22 AFTER PATCHES HAVE CURED.

OTHER WORK:
WORK NOT LISTED IN THIS SEQUENCE MAY BE PERFORMED AT THE CONTRACTOR'S TIMING IN ACCORDANCE WITH THE CONTRACT PROVISIONS.

LIMITATIONS OF OPERATIONS

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING SPECIAL LIMITATIONS:

1. MAINTENANCE OF TRAFFIC LIMITATIONS
2. CONCRETE SHALL BE IN PLACE AT LEAST 30 DAYS PRIOR TO SEALING.
3. LIGHTING CIRCUITS AND CONDUITS AROUND THE PYLONS AND ADJACENT PULL BOXES MUST REMAIN IN SERVICE.

WORK OVER THE CUYAHOGA RIVER

NO DEBRIS SHALL BE PERMITTED TO ENTER THE CUYAHOGA RIVER INCLUDING BY-PRODUCTS RESULTING FROM PROCEDURES PERFORMED ON THE PROJECT. TO SATISFY THIS REQUIREMENT THE CONTRACTOR SHALL PLUG ALL SCUPPERS AND CONSTRUCT OTHER DEVICES AS NECESSARY, SUCH AS TEMPORARY DRAINAGE TROUGHS, TO ENSURE ODNR SPECIFICATIONS ARE MET. TEMPORARY DRAINAGE DEVICES SHALL BE IN PLACE DURING WORK RELATED TO DECK REMOVAL, CONCRETE PLACEMENT, SEALING AND PATCHING WITH MICRO-SILICA MODIFIED CONCRETE ITEMS AND SHALL BE REMOVED WITHIN 24 HOURS OF COMPLETION OF EACH ITEM, UNLESS THESE ITEMS ARE PERFORMED CONSECUTIVELY. QUESTIONS CAN BE DIRECTED TO THE DISTRICT ENVIRONMENTAL ENGINEER AT 216-581-2100.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE PARTIAL REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, DECK JOINTS, AND OTHER APPURTENANCES FROM SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS-FRAMES, ETC.). THIS WORK SHALL ALSO INCLUDE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES FOR REMOVAL THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. SOUNDING AND SCARIFICATION AS NOTED IN THE PLANS WILL BE PAID FOR IN THIS ITEM. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED BY THE ENGINEER. CARE SHALL BE TAKEN DURING REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

REMOVAL METHODS:
THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND-OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

DECK REMOVALS:
CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. FOR REMOVALS OVER BRIDGE MEMBERS (PRESTRESSED BOX BEAM, STEEL BEAM, STEEL GIRDER, ETC.), A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DUE TO THE 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 ENGINEER. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

SUBSTRUCTURE CONCRETE REMOVAL:
SUBSTRUCTURE CONCRETE REMOVAL SHALL BE 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, HAMMERS NOT EXCEEDING 90 POUNDS MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP OR AS SHOWN IN THE PLANS. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL SHALL BE LEFT IN PLACE, IF REQUIRED IN THE PLANS. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES TO REMOVE LOOSE AND DISINTEGRATED CONCRETE. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED 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 CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.

DAMAGED EPOXY COATING:
REPAIR OF PHYSICAL DAMAGE TO EPOXY COATING PER CMS 509.09, AS DIRECTED BY THE ENGINEER, WILL BE INCIDENTAL TO THIS ITEM.

LOADING LIMITATIONS:
NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF CMS 202, CMS 509, & SUPPLEMENTAL SPECIFICATION 847, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 202 - REMOVAL MISC.: ELASTOMERIC SEAL REMOVED

COMPLETELY REMOVE STRIP SEALS AND COMPRESSION SEALS WITHOUT DAMAGING ANY OF THE JOINT HARDWARE TO REMAIN. METHODS MUST BE PRESENTED TO AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. THE CONTRACTOR IS CAUTIONED THAT REMOVAL OF THE STRIP SEALS HAS BEEN KNOWN TO BE LABOR INTENSIVE AND REQUIRE SPECIAL PROCEDURES AND EQUIPMENT. REMOVAL AND STORAGE OF SOUTH SIDEWALK COVER PLATES AND BOLTS IS PART OF THIS ITEM. BLAST CLEANING THE STEEL SURFACES TO BE IN CONTACT WITH THE PROPOSED ELASTOMERIC SEALS TO A NEAR WHITE (SSPC-SP10) IS ALSO INCLUDED IN THIS ITEM. THE DEPARTMENT WILL MEASURE ELASTOMERIC SEAL REMOVAL ALONG THE JOINT CENTERLINE AND PAY FOR ACCEPTED REMOVALS AT THE CONTRACT PRICE BID PER FOOT FOR ITEM 202 - REMOVAL MISC.: ELASTOMERIC SEAL REMOVED.

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DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KEH		1801481, 1503 & 1511	

STRUCTURE NOTES 1 OF 5

BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

SN-1

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACING'S. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

CONTINGENCY QUANTITIES ARE INCLUDED TO PROVIDE ADDITIONAL CONNECTING REINFORCING STEEL IF DOWELING IS REQUIRED OR IF EXISTING REINFORCING STEEL TO BE REUSED IS MISSING OR FOUND TO BE UNUSABLE.

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

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

MECHANICAL CONNECTORS FOR REINFORCING STEEL

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED WHERE REQUIRED. INSTALLATION OF CONNECTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE OF CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE FURNISHED WITH THE CONNECTOR SHALL BE AS SHOWN ON THE PLAN.

CONNECTORS AND DOWEL BARS SHALL BE EPOXY COATED. COATING FOR BOTH THE CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY, MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS.

CONNECTOR AND DOWEL BAR EXTENSIONS SHALL CONFORM TO ITEM 509. THE COST OF FURNISHING THE CONNECTORS AND EXTENSIONS SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN FOR PAYMENT.

ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN

THIS WORK INCLUDES THE DRILLING OF THE HOLES INTO THE CONCRETE AND FURNISHING AND PLACING EPOXY GROUT INTO THE HOLES. A CONTINGENCY QUANTITY HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER.

PRIOR TO DRILLING DOWEL HOLES, THE CONTRACTOR SHALL LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR SUCH AS A PACHOMETER. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

THE CONTRACTOR SHALL DEMONSTRATE HIS ABILITY TO DRILL THE DOWEL HOLES WITHOUT DAMAGING THE SURROUNDING CONCRETE. SHOULD SUCH DAMAGE OCCUR, THE CONTRACTOR IS DIRECTED TO REPAIR THE DAMAGE AT HIS EXPENSE AND TO CORE DRILL THE REMAINING DOWEL HOLES. DEPTH OF HOLES SHALL BE AT LEAST 16 TIMES THE DOWEL DIAMETER UNLESS OTHERWISE SHOWN IN THE PLANS.

PAYMENT FOR DRILLING HOLES AND FURNISHING AND PLACING MATERIALS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
510E10001	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (SIDEWALK), AS PER PLAN
ITEM 511 - CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN

GENERAL REQUIREMENTS:
THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. MONOFILAMENT MICROSYNTHETIC FIBERS SHALL CONFORM TO ASTM C1116 SYNTHETIC FIBER REINFORCED CONCRETE.

MIX OPTIONS:
ALL CONCRETE SHALL BE THIS MIX, HP4, AS PER PLAN.

THE FOLLOWING PROPORTIONS SHALL BE USED AS A STARTING MIX DESIGN:

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

HP4, AS PER PLAN (GGBF SLAG + MICRO-SILICA)

AGGREGATE TYPE	FINE AGGRE. (LB)	* #8 COARSE AGGRE. (LB)	POLY FIBERS (LB)	TOTAL (LB)	CEMENT CONTENT (LB)	MICRO-SILICA (LB)	GGBF SLAG (LB)	WATER TO CEMENTITIOUS RATIO ±0.01	AIR CONTENT ±2%
GRAVEL	1245	360	2	2920	400	30	170	0.43	7
LIMESTONE	1245	360	2	2940	400	30	170	0.43	7
SLAG	1245	315	2	2715	400	30	170	0.43	7

* ALL COARSE AGGREGATE SHALL BE #8 AND HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127. THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN ±0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

RAILING CONSTRUCTION (FORMED AND POURED):
FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES UNLESS SELF COMPACTING CONCRETE (SCC) IS PLACED.

CRACK CONTROL JOINTS:
LONGITUDINAL AND TRANSVERSE CRACK CONTROL JOINTS SHALL BE WET SAW CUT INTO THE FULL LENGTH OF THE SIDEWALK AND EXPANSION JOINTS SHALL BE PROVIDED AS SHOWN IN THE SIDEWALK PLANS AND DETAILS.

METHOD OF MEASUREMENT:
HP CONCRETE SHALL BE THE VOLUME IN CUBIC YARDS AS INDICATED BY THE BATCH QUANTITY TICKETS FOR THE READY MIX TRUCKS LESS ANY WASTED CONCRETE AND LESS THE VOLUME OF CONCRETE REMAINING IN THE LAST READY MIX TRUCK AS WEIGHED OR MEASURED BY THE ENGINEER.

BASIS OF PAYMENT. PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E51501	CU YD	CLASS HP CONCRETE, BRIDGE DECK (SIDEWALK), AS PER PLAN
511E50201	CU YD	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN

INSPECTION OF EXISTING STRUCTURAL STEEL

THE ENGINEER WILL VISUALLY INSPECT ALL TOP FLANGES TO ENSURE THEY ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK FORMS IMMEDIATELY ADJACENT TO THE FLANGES THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THE ENGINEER WILL REPORT SIGNIFICANT DAMAGE TO THE DISTRICT BRIDGE ENGINEER ALONG WITH SPECIFIC INFORMATION ON LOCATION, LENGTH, AND DEPTH OF THE DAMAGE SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

EPOXY-URETHANE SEALER SHALL BE APPLIED TO ALL THE SURFACES OF THE CURB AND THE BASE OF THE EXISTING RAILING NEWLY EXPOSED BY LOWERING OF THE SIDEWALK AS SHOWN IN THESE PLANS. THE COLOR OF THE URETHANE TOP COAT SHALL MATCH FEDERAL COLOR NO. 595B-20400 (SEMI-GLOSS). PAYMENT SHALL BE INCLUDED IN ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

THE NON-EPOXY SEALER SHALL BE APPLIED TO THE SURFACES OF THE SIDEWALKS AS SHOWN IN THESE PLANS. PAYMENT SHALL BE INCLUDED IN ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY).

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KEH		1801481, 1503 & 1511	

STRUCTURE NOTES 2 OF 5
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

SN-2

ITEM 513 - STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN

A. DESCRIPTION

FURNISH ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO DESIGN, FABRICATE, INSPECT, TEST AND INSTALL MODULAR EXPANSION JOINTS IN ACCORDANCE WITH THE PLANS AND THESE NOTES. ALL REQUIREMENTS OF 513, UF LEVEL FABRICATION APPLY, UNLESS MODIFIED BY THESE NOTES. RETAINERS AND STRIP SEALS SHALL BE OBTAINED FROM WATSON BOWMAN ACME AND BE COMPARABLE WITH THE MODULAR JOINT SEGMENT TO BE REUSED.

B. DESIGN

1. PREPARE AND CHECK THE DESIGN UNDER THE AUTHORITY OF AN OHIO REGISTERED PROFESSIONAL ENGINEER. THE REGISTERED ENGINEER SHALL SEAL, SIGN AND DATE THE DESIGN CALCULATIONS AND SHOP DRAWINGS.

2. INCLUDE DESIGN CALCULATIONS WITH THE CONTRACTOR'S SUBMISSION OF SHOP DRAWINGS PER 513.06.

3. PROVIDE A DETAILED INSTALLATION PROCEDURE AND INCLUDE ANY SPECIFIC MANUFACTURER'S NOTES NECESSARY FOR COMPLETION OF THE WORK.

4. DESIGN AND TEST THE MODULAR JOINT COMPONENTS, JOINT ARMOR AND ANCHORAGES ACCORDING TO THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT # 402 APPENDIX A AND B.

5. DESIGN TEMPORARY AND FIELD CONNECTIONS TO THE BRIDGE TO ACCOMMODATE ADJUSTMENTS FOR ROADWAY GEOMETRY AND VARYING TEMPERATURE.

6. DESIGN FOR THE PLAN SPECIFIED MOVEMENT FOR A COLD CLIMATE AS SPECIFIED BY 2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SECTION 3.16.

7. SUPPLY SUPPORT BAR BEARINGS TO TRANSFER THE LOAD FROM THE SUPPORT BARS TO THE JOINT ARMOR.

8. SUPPLY EQUALIZATION SPRINGS TO COUNTER THE COMPRESSION FORCES FROM THE SEALING ELEMENTS AND MAINTAIN EQUAL EXPANSION PROPERTIES FOR EACH SEALING ELEMENT ACROSS THE JOINT.

9. SUPPLY CONTROL SPRINGS WHICH WORK LONGITUDINALLY TO MAINTAIN EQUIDISTANT SPACING BETWEEN TRANSVERSE SEPARATION BEAMS.

10. SUPPLY SEPARATION BEAMS / TRANSVERSE DIVIDERS / CENTER BEAMS TO LIMIT TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.

11. SUPPLY A STRIP SEAL TYPE SEAL CONNECTED TO MATCHING RETAINERS CONNECTED TO THE JOINT ARMOR AND THE SEPARATION BEAMS. DO NOT EXCEED 3.15 INCHES OF TOTAL HORIZONTAL MOVEMENT IN ANY INDIVIDUAL STRIP SEAL.

12. SUPPLY REMOVABLE AND REPLACEABLE NEOPRENE SEALS, SUPPORT BAR BEARINGS AND EQUALIZATION SPRINGS.

13. SET SEALS AND RETAINERS 1/8" LOWER THAN THE ROADWAY SURFACE.

C. MATERIALS

1. SUPPLY STRUCTURAL STEEL MEETING ASTM A709 GRADE 50. SUPPLY SEPARATION BEAMS / TRANSVERSE DIVIDERS / CENTER BEAMS, EDGE BEAMS AND JOINT ARMOR MEETING CHARPY V NOTCH IMPACT REQUIREMENTS PER ASTM A709 TABLE S1.2 ZONE 2 TEMPERATURE RANGE. SUPPLY TUBE SECTIONS MEETING ASTM A501 OR A500 GRADE B.

2. SUPPLY ASTM A240, TYPE 304 STAINLESS STEEL, 13 GAGE MINIMUM THICKNESSES WITH NO. 8 FINISH FOR SLIDING SURFACES IN CONTACT WITH PTFE.

3. SUPPLY TESTING AND REPORTS BY THE MANUFACTURER OR AN INDEPENDENT TESTING LABORATORY FOR ALL ELASTOMERIC, PTFE, URETHANE AND PREFORMED FABRIC MATERIALS USED IN ALL BEARINGS AND SPRINGS. THE SUBMISSION OF MATERIAL CERTIFICATION AND TESTING DATA SHALL BE PER 513.08. THESE MATERIALS SHALL BE TESTED ACCORDING TO THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT # 402 APPENDIX A "GUIDELINE FOR DURABILITY TESTING OF SPRINGS AND BEARINGS FOR MBEJ".

4. SUPPLY STRIP SEALS CONFORMING TO ASTM D5973. SUBMIT CERTIFIED TEST DATA PER 513.08 FROM THE MANUFACTURER OR AN ACCREDITED LABORATORY. D5973 SECTION 8, LOT SIZE IS ONE SAMPLE PER JOINT. A SAMPLE IS A PIECE 4 FEET LONG WITH ALL MANUFACTURES' MARKINGS. THE SEAL AND RETAINER ARE AN INTEGRAL SYSTEM SUPPLIED BY ONE MANUFACTURER.

5. SEAL RETAINERS: EXTRUDE, HOT ROLL OR MACHINE, STEEL RETAINERS INTO A SOLID SHAPE. RETAINERS MANUFACTURED FROM BENT PLATE OR BUILT UP PIECES ARE NOT ACCEPTABLE. THE INTERNAL DIMENSIONS OF THE RETAINER SHALL BE SPECIFIED BY THE MANUFACTURER TO ACHIEVE POSITIVE SEAL ANCHORAGE.

6. SEPARATION BEAMS / TRANSVERSE DIVIDERS / CENTER BEAMS SHALL BE A SOLID, NON WELDED MACHINED OR EXTRUDED STEEL SECTION.

7. LUBRICANT - ADHESIVE. ONE PART MOISTURE CURING POLYURETHANE COMPOUND MEETING THE REQUIREMENTS OF ASTM D4070 AND AS SPECIFIED BY THE SEAL MANUFACTURER.

8. HARDWARE SHALL BE ASTM A325 TYPE ONE, GALVANIZED OR A449 GALVANIZED.

D. FABRICATION

1. THE MODULAR JOINTS SHALL BE FABRICATED ACCORDING TO 513.

2. SHOP ASSEMBLE THE MODULAR JOINT WITH ALL COMPONENTS, EXCEPT NEOPRENE SEALS, PER 513.24.

3. JOINTS IN STRIP SEALS: NO JOINTS ARE ALLOWED.

4. JOINTS IN RETAINERS: WELDS ARE WATER TIGHT, PARTIAL PENETRATION WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. MAKE SLICES ONLY IN COMPRESSION ZONES OF THE JOINT ARMOR. GRIND FLUSH ALL WELDS IN CONTACT WITH THE SEAL AND JOINT ARMOR. DO NOT USE SHORT PIECES OF RETAINERS LESS THAN 6'-0" LONG, UNLESS REQUIRED AT CURBS. DO NOT PROVIDE ADDITIONAL SPLICES IN RETAINERS AT CURB SECTIONS OTHER THAN REQUIRED FOR GEOMETRY.

5. SHOP OR FIELD WELDS OF CENTER BEAMS AND JOINT ARMOR, SHALL BE COMPLETE PENETRATION WELDS, GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRASONICALLY TESTED PER AASHTO / AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.

6. THE SEPARATION BEAMS / TRANSVERSE DIVIDERS / CENTER BEAMS TO SUPPORT BAR CONNECTIONS SHALL BE COMPLETE PENETRATION WELDS, GROUND TO PROVIDE SMOOTH TRANSITIONS AND BE 100% ULTRASONICALLY TESTED PER AASHTO / AWS BRIDGE WELDING CODE, WITH TENSION ACCEPTANCE CRITERIA, WITNESSED BY THE DEPARTMENT.

7. TEMPORARY SUPPORTS: FABRICATOR DESIGNED AND INSTALLED SUPPORTS ARE REQUIRED TO SUPPORT SHIPPING, ERECTION AND CONSTRUCTION FORCES WITHOUT DAMAGE TO THE STEEL ARMOR OR COATINGS. THESE SUPPORTS SHALL BE ADJUSTABLE FOR FIELD TEMPERATURE SETTING.

E. COATING

1. GALVANIZE OR METALIZE ALL STEEL SURFACES AND COMPONENTS, EXCEPT AT STAINLESS STEEL AND PTFE SLIDING SURFACES. THESE COATING MAY BE MIXED ON ONE ASSEMBLY, IF ALL SIMILAR COMPONENTS OF THE ASSEMBLY HAVE THE SAME COATING TYPE.

2. PROVIDE A GALVANIZED COATING PER ASTM A123, WITH A MINIMUM THICKNESS OF 4 MILS. CLEAN EXCESSIVE GALVANIZING AS NECESSARY TO ACHIEVE MECHANICAL MOVEMENT AND SEAL INSTALLATION.

3. PROVIDE A METALIZED COATING PER SOCIETY FOR PROTECTIVE COATINGS (SSPC) SPECIFICATION SSPC-CS23.00 (MARCH 17, 2003) FOR THERMAL SPRAY METALLIC COATINGS. THE COATING SHALL BE A MINIMUM OF 8 MILS THICK. THE METALIZING WIRE SHALL BE 100% ZINC. AREAS OF STRUCTURAL STEEL THAT ARE IN CONTACT WITH CAST-IN-PLACE CONCRETE SHALL HAVE AN ADDITIONAL COATING. THE COATING SHALL BE THE EPOXY INTERMEDIATE COAT SPECIFIED IN CMS ITEM 514. THE COATING THICKNESS WILL COVER ALL PEAKS, VALLEYS AND SURFACE ROUGHNESS ATTRIBUTED TO METALIZING.

4. COATING REPAIRS: DAMAGED COATINGS SHALL BE REPAIRED BY ASTM A780, ANNEX "A1. REPAIR USING ZINC BASED ALLOYS". THE PROCEDURE SHALL BE AS FOLLOWS: REMOVE SURFACE CONTAMINANTS, PREHEAT TO 600 DEGREES F, AND APPLY ZINC COATING BY RUBBING WITH A PURE ZINC STICK OR SPRINKLING ZINC POWDER ON THE PREHEATED SURFACE, TO ACHIEVE A MINIMUM COATING THICKNESS OF 6 MILS.

5. THE GALVANIZED OR METALIZED COATINGS SHOULD NOT BE FIELD PAINTED, EXCEPT FOR AREAS DAMAGED BY CONNECTION TO PAINTED SUPERSTRUCTURE STEEL MEMBERS. THESE AREAS SHALL BE PAINTED USING THE SAME SYSTEM SPECIFIED FOR THE SUPERSTRUCTURE.

6. PRIOR TO SHIPPING, RETAINER GROOVES SHALL BE PROTECTED FROM CONSTRUCTION DEBRIS BY THE INSTALLATION OF BACKER RODS OR OTHER EFFECTIVE MASKING TECHNIQUES.

F. INSTALLATION

1. PROVIDE A JOINT MANUFACTURER'S TECHNICAL REPRESENTATIVE TO PHYSICALLY OVERSEE THE FABRICATION, INSTALLATION, ADJUSTMENT AND TESTING DURING ALL OPERATIONS. WHERE SPECIAL INSTRUCTIONS ARE NOT CONTAINED HEREIN OR ELSEWHERE IN THESE NOTES, DIRECTION FOR THE INSTALLATION SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THE TECHNICAL REPRESENTATIVE.

2. COORDINATE AND SCHEDULE THE TECHNICAL REPRESENTATIVE.

3. INSTALL THE SUPERSTRUCTURE SUPPORTING UNITS BEFORE INSTALLING THE MODULAR JOINT. POSITION THE JOINT TO MATCH ROADWAY GEOMETRY, SUPERSTRUCTURE CONNECTIONS AND TEMPERATURE OPENING. TAKE CARE TO MAINTAIN EXACT ALIGNMENT OF ADJACENT ENDS OF THE ARMOR AND SEPARATION BEAMS / TRANSVERSE DIVIDERS / CENTER BEAMS FOR FIELD WELDED UNITS. PROVIDE TEMPORARY SUPPORTS AS DIRECTED BY THE MANUFACTURER TO MAINTAIN THE PROPER POSITIONING.

4. PERFORM CONCRETE PLACEMENT USING VIBRATION AND HAND WORK AS NECESSARY TO ACHIEVE CONSOLIDATION AND ELIMINATE AIR VOIDS.

5. PLACE THE DECK CONCRETE FIRST. CHECK THE ABUTMENT OR ADJACENT SPAN SIDE OF THE MODULAR JOINT FOR ALIGNMENT AND TEMPERATURE ADJUSTMENT. TEMPERATURE SHALL BE MEASURED AT THE UNDERSIDE OF THE CONCRETE DECK AT EACH END AND MID-SPAN TO ACHIEVE THE AVERAGE SUPERSTRUCTURE TEMPERATURE. PLACE THE BACKWALL CONCRETE SECOND. THE MANUFACTURER'S REPRESENTATIVE SHALL CHECK THAT TEMPERATURE MOVEMENT HAS NOT CAUSED ANY DAMAGE TO THE BOND BETWEEN THE JOINT AND THE CONCRETE.

6. EXAMINE SEAL RETAINERS FOR SOIL OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE.

7. SOLVENT CLEAN THE NEOPRENE SEAL ELEMENTS AND THE RETAINER GROOVES TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES AND ADHESIVE SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACES CLEAN, DRY AND WARMER THAN 45° F.

8. TEST THE INSTALLED MODULAR JOINT FOR LEAKS. FLOOD THE TOTAL EXPANSION JOINT LENGTH WITH WATER FOR A PERIOD OF NOT LESS THAN ONE HOUR. COVER THE ENTIRE JOINT SYSTEM BY EITHER PONDING OR FLOWING WATER. LOCATE ANY POINTS OF LEAKAGE AND TAKE ANY AND ALL MEASURES NECESSARY TO STOP THE LEAKAGE. PERFORM THIS WORK AT THE CONTRACTOR'S EXPENSE. PERFORM A SECOND WATER TEST AFTER ALL REPAIRS HAVE BEEN MADE.

G. METHOD OF MEASUREMENT

INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO DESIGN, SUPPLY, INSTALL AND TEST A MODULAR EXPANSION JOINT ACCORDING TO THE PLANS AND THESE NOTES.

H. BASIS OF PAYMENT

PAYMENT WILL BE MADE AT CONTRACT PRICE PER FOOT FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KEH		1801481, 1503 & 1511	

STRUCTURE NOTES 3 OF 5
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

SN-3

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIRS UNDER 50 POUNDS EACH

A CONTINGENCY QUANTITY AMOUNT OF 500 POUNDS IS INCLUDED IN THIS ITEM FOR REPAIR OF MISCELLANEOUS STEEL ITEMS AS DIRECTED BY THE ENGINEER. REPAIRS ARE ANTICIPATED, BUT NOT LIMITED TO THE DETERIORATED TOP FLANGES BENEATH THE EXISTING JOINT SUPPORT AT INTERMEDIATE JOINTS.

PAYMENT FOR ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES INCLUDING WELDING, DRILLING AND BOLTING REQUIRED FOR REPAIRS TOTALING LESS THAN 50 POUNDS EACH AS HEREIN DESCRIBED SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER POUND FOR ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIRS UNDER 50 POUNDS EACH.

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

THE CONTRACTOR IS TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS. THE WBA SE-300 ELASTOMERIC STRIP SEAL SHALL BE FURNISHED AND INSTALLED IN 1 PIECE FROM FACE OF EXISTING NORTH RAILING TO FACE OF SOUTH RAILING. THE EXISTING WBA SE-300, SIDEWALK COVER PLATES, AND BOLTS WILL BE REMOVED UNDER ITEM 202. THE SOUTH COVER PLATES AND BOLTS SHALL BE STORED AND REINSTALLED AFTER INSTALLATION OF THE ELASTOMERIC STRIP SEAL. COVER PLATES AND BOLTS THAT ARE DETERMINED TO BE UNUSABLE BY THE ENGINEER WILL BE REPLACED UNDER THIS ITEM. BOLTS SHALL BE STAINLESS STEEL PER CMS 730.10.

PRIOR TO INSTALLATION, EXAMINE THE RETAINERS FOR SOILAGE OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE. SOLVENT CLEAN THE NEOPRENE SEAL ELEMENTS AND THE RETAINER GROOVES TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES AND ADHESIVE SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACES CLEAN, DRY, AND WARMER THAN 45° F. INSTALL THE SEAL WITH EQUIPMENT AND PROCEDURES SPECIFIED BY THE MANUFACTURER. REMOVE EXCESS ADHESIVE AFTER INSTALLATION.

PAYMENT FOR ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC STRIP SEAL AND COVER PLATES SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN.

ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN

THE CONTRACTOR IS TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS. THE ELASTOMERIC COMPRESSION SEAL SHALL BE FURNISHED AND INSTALLED IN 1 PIECE FROM FACE OF EXISTING NORTH RAILING TO FACE OF SOUTH RAILING. THE COMPRESSION SEAL SHALL BE WATSON BOWMAN ACME (WBA) WJ SERIES OR APPROVED EQUAL. THE EXISTING SIDEWALK COVER PLATES AND BOLTS WILL BE REMOVED UNDER ITEM 202. THE SOUTH COVER PLATES AND BOLTS SHALL BE STORED AND REINSTALLED AFTER INSTALLATION OF THE ELASTOMERIC STRIP SEAL. COVER PLATES AND BOLTS THAT ARE DETERMINED TO BE UNUSABLE BY THE ENGINEER WILL BE REPLACED UNDER THIS ITEM. BOLTS SHALL BE STAINLESS STEEL PER CMS 730.10.

PRIOR TO INSTALLATION, EXAMINE THE RETAINER BAR AND JOINT ARMOR FOR SOILAGE OR DEFECTS THAT CAN DAMAGE THE SEAL. REPAIR ANY DEFECTS AS DIRECTED BY THE MANUFACTURER'S REPRESENTATIVE. SOLVENT CLEAN THE SEAL JOINT ARMOR TO REMOVE OIL, GREASE OR OTHER SOIL IMMEDIATELY PRIOR TO INSTALLING THE SEALS. INSTALL SEALS USING PROCEDURES SPECIFIED BY THE JOINT MANUFACTURER. KEEP THE BONDING SURFACES CLEAN, DRY, AND WARMER THAN 45° F. REMOVE EXCESS LUBRICANT AFTER INSTALLATION. PLACE POURED POLYURETHANE JOINT SEAL.

PAYMENT FOR ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC COMPRESSION SEAL AND COVER PLATES SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEALS, AS PER PLAN

THE CONTRACTOR IS TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS. THE ELASTOMERIC COMPRESSION SEAL SHALL BE FURNISHED AND INSTALLED IN 1 PIECE FROM FACE OF EXISTING NORTH RAILING TO FACE OF SOUTH RAILING. THE COMPRESSION SEAL SHALL BE WATSON BOWMAN ACME (WBA) WJ SERIES OR APPROVED EQUAL. THIS ITEM ALSO INCLUDES, BUT IS NOT LIMITED TO, ALL PLATES, ANGLES, SHEAR STUDS, BOLTS, AND EXPANDED POLYSTYRENE, AS SHOWN IN THE PLANS.

PAYMENT FOR ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES INCLUDING DRILLING, BOLTING AND WELDING EXISTING AND PROPOSED RETAINER BARS AND JOINT ARMOR NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC COMPRESSION SEAL AND POURED POLYURETHANE JOINT SEAL, IF SPECIFIED, SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEALS, AS PER PLAN.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THE CONTRACTOR IS TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS. THE ELASTOMERIC STRIP SEAL SHALL BE FURNISHED AND INSTALLED IN 1 PIECE FROM FACE OF EXISTING NORTH RAILING TO FACE OF SOUTH RAILING. THE STRIP SEAL SHALL BE WBA SE-300. THE STEEL RETAINERS SHALL BE BY WBA AS SHOWN IN THE PLANS. THIS ITEM ALSO INCLUDES, BUT IS NOT LIMITED TO, ALL PLATES, ANGLES, CHANNELS, SHEAR STUDS, BOLTS, ANCHOR BARS, AND EXPANDED POLYSTYRENE, AS SHOWN IN THE PLANS.

PAYMENT FOR ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES INCLUDING WELDING EXISTING AND PROPOSED RETAINERS, ANGLES, AND PLATES NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC STRIP SEAL SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

POURED POLYURETHANE JOINT SEAL

THE COMPRESSION SEALS DESIGNATED IN THE PLANS SHALL BE SEALED WITH POURED POLYURETHANE JOINT SEAL IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS, AND AS DIRECTED BY THE ENGINEER.

THE MATERIAL SHALL BE A TWO-PART, COLD-APPLIED, CHEMICALLY CURING, SELF-LEVELING, ELASTOMERIC POLYURETHANE JOINT SEALANT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-S-00227E AND ASTM C-920. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS SPECIFIED BY THE MANUFACTURER.

THE SURFACES TO WHICH THE SEALER IS TO ADHERE SHALL FIRST BE THOROUGHLY CLEANED BY ABRASIVE BLASTING. POLYURETHANE JOINT SEAL SHALL BE POURED OVER THE FULL LENGTH OF THE COMPRESSION SEAL BETWEEN THE CURBS AND SHALL BE APPLIED ONLY WHEN THE SURFACES ARE DRY AND ABOVE 50°F. THE POURED JOINT SEALER WILL ACT AS A SECOND SEAL AND REDUCE DEBRIS COLLECTION IN THE JOINT. THE INSTALLED AND CURED MATERIAL SHALL BE THE DEPTH AS SHOWN IN THE PLANS AND SHALL BE BONDED TO THE SIDES OF THE JOINT. ANY UNBONDED SECTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DAMS, AS REQUIRED TO CONTAIN THE POURED SEALER, SHALL BE CONSIDERED INCIDENTAL TO THIS WORK.

THE ACCEPTED QUANTITIES OF POURED POLYURETHANE JOINT SEAL SHALL BE PAID FOR UNDER ITEM 516 - STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEALS, AS PER PLAN AND ITEM 516 - ELASTOMERIC COMPRESSION SEALS, AS PER PLAN.

ITEM 517 - RAILING, CONCRETE, AS PER PLAN

RAILING CONCRETE SHALL CONFORM TO THE ITEM 511 - CLASS HP CONCRETE NOTE, WITHOUT POLYFIBERS OR THE CONCRETE SPECIFIED IN THE NOTE TITLED "SELF CONSOLIDATING CONCRETE (SCC)" IF SUBMITTED TO AND APPROVED BY THE ENGINEER.

RAILINGS SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULKHEADS AND AFTER PLACEMENT OF SPONGE FILLER. THE FILLER SHALL BE ATTACHED TO THE FACE OF THE CONCRETE ON ONE SIDE, FLUSH WITH THE SURFACE OF CONCRETE AND EXPOSED EDGES SHALL BE FREE OF MORTAR.

NORTH AND SOUTH FACES OF THE RAILING SHALL BE VERTICAL. DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS, AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.

PRIOR TO CONSTRUCTING ANY OF THE CONCRETE RAILING, THE CONTRACTOR SHALL CAST A 9'-0"± TEST LENGTH OF RAILING. THE TEST PIECE OF RAILING SHALL BE REVIEWED AND APPROVED BY ODOT. IF EXCESSIVE HONEYCOMBING EXISTS OR IF THE FINISH IS DETERMINED UNACCEPTABLE BY THE OWNER'S REPRESENTATIVE, CONSTRUCTION METHODS SHALL BE REVISED TO PROVIDE AN ACCEPTABLE FINISH.

FIBERGLASS FORMS FOR THE RAILING WOULD PROVIDE A SMOOTH SURFACE FINISH. RUB ALL SURFACES OF THE RAILING PER CMS 511.18B WHERE DIRECTED BY THE ENGINEER.

PAYMENT FOR THE RAILING AND SEALING PER PLAN NOTES ITEM 512-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 517 - RAILING, CONCRETE, AS PER PLAN. PAYMENT LENGTH SHALL BE THE OVERALL LENGTH OF THE RAILING, INCLUDING THE TRANSITION AT THE EAST END, BUT EXCLUDING THE GAPS AT THE EXPANSION JOINTS. RAILING DEFLECTION JOINT MATERIAL AND ALL REINFORCING STEEL THAT DOES NOT EXTEND INTO THE SIDEWALK SHALL BE INCLUDED WITH ITEM 517 FOR PAYMENT. REINFORCING STEEL EXTENDING FROM THE SIDEWALK IS INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN FOR PAYMENT.

ITEM SPECIAL - STRUCTURE MISC.: PROTECTION OF FACILITIES

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO PROTECT EXISTING FACILITIES AS APPROVED AND DIRECTED BY THE ENGINEER DURING CONSTRUCTION.

THE CONTRACTOR IS REMINDED THAT ALL EXISTING COMPONENTS AND SYSTEMS ARE TO REMAIN IN USE DURING AND AFTER THIS PROJECT AND REQUIRE PROTECTION. THIS WORK INCLUDES, BUT IS NOT LIMITED TO:
1. ELECTRICAL CONDUITS, SPECIFIED PULL BOXES, AND LIGHT POLES
2. AMERITECH DUCTS
3. AT&T CONDUIT
4. CPP POWER DUCTS
5. DOMINION EAST OHIO GAS MAIN
6. AVOIDING OVERHEAD LINES
7. LIGHTING CONDUIT IN THE NORTH SIDEWALK AROUND THE WEST PYLON

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THESE SYSTEMS AND COMPONENTS FOR THE DURATION OF THE CONTRACT. THE CONTRACTOR IS DIRECTED TO SECTION 107 AND PARTICULARLY TO SECTION 107.12 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL - STRUCTURE MISC.: PROTECTION OF FACILITIES. THIS SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO SUCCESSFULLY PERFORM THIS ITEM OF WORK.

ITEM SPECIAL - STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED, AS PER PLAN
ITEM SPECIAL - STRUCTURE MISC.: APPROACH SIDEWALK, 4 1/2" THICK, REMOVED AND REPLACED, AS PER PLAN

THESE ITEMS OF WORK SHALL CONSIST OF REMOVING THE EXISTING SOUTH 3" BRIDGE SIDEWALK WEARING COURSE CONCRETE AND THE 4 1/2" APPROACH SIDEWALK CONCRETE AS DIRECTED BY THE ENGINEER AND PLACING NEW SIDEWALK OR SIDEWALK WEARING COURSE CONCRETE AS PER THESE PLANS AND NOTES. THE EXACT LOCATIONS AND LIMITS OF EXISTING WALK REMOVAL AND REPLACEMENT SHALL BE ESTABLISHED AND DESIGNATED BY THE ENGINEER. AEROSOL SPRAY PAINT FOR OUTLINING SHALL BE PROVIDED BY THE CONTRACTOR.

REMOVAL:
THE SIDEWALKS OR SIDEWALK WEARING COURSE SHALL BE COMPLETELY REMOVED, INCLUDING THE EXISTING EXPANSION JOINT MATERIAL, BETWEEN THE RAILING FACE AND THE INSIDE FACE OF THE EXISTING STEEL CURB PLATE OR AS SHOWN IN THE PLANS. SAW CUTTING AS NECESSARY TO PERMIT SLAB REMOVAL WITHOUT DAMAGE TO THE SLABS REMAINING IS PART OF THIS ITEM.

SURFACE PREPARATION:
THE REMAINING SURFACES SHALL BE CLEANED BY ABRASIVE BLASTING FOLLOWED BY A WATER BLAST. HAND CHIPPING MAY BE NECESSARY TO COMPLETELY REMOVE THE CONCRETE ADJACENT TO THE CURB PLATE. THE FINAL SURFACES SHALL BE FREE OF ALL SPALLS, LAITANCE AND TRACES OF FOREIGN MATERIAL. PRIOR TO PLACING THE NEW CONCRETE, THE AREA SHALL BE WETTED DOWN BUT HAVE NO STANDING WATER. SUBGRADE FOR THE APPROACH SIDEWALK SHALL BE SMOOTH AND AT LEAST 4 1/2" BELOW THE FINAL SURFACE.

JOINT BETWEEN SIDEWALK AND RAILING:
PROVIDE ½" PEJF AS SHOWN IN THE SIDEWALK DETAILS AND SEAL WITH POURED POLYURETHANE AFTER CONCRETE HAS CURED.

CONCRETE REPLACEMENT:
THE CONCRETE SHALL BE CLASS HP CONCRETE PER THE ITEM 511 - CLASS HP CONCRETE, AS PER PLAN NOTE AND BE PLACED AS SHOWN IN THE PLANS. THE SURFACE FINISH SHALL BE AS SPECIFIED IN CMS ITEM 608. JOINT SPACING SHALL MATCH EXISTING.

MEASUREMENT:
THE QUANTITY SHALL BE THE SQUARE FOOT AREA OF ITEM 530 - STRUCTURE MISC.: BRIDGE SIDEWALK WEARING COURSE, 3" THICK, REMOVED AND REPLACED, AS PER PLAN OR ITEM 530 - STRUCTURE MISC.: APPROACH SIDEWALK, 4 1/2" THICK, REMOVED AND REPLACED, AS PER PLAN, INSTALLED AND ACCEPTED BY THE ENGINEER.

PAYMENT:
PAYMENT SHALL BE MADE AT THE CONTRACT PRICE BID PER SQUARE FOOT FOR ITEM 530 - STRUCTURE MISC.: BRIDGE SIDEWALK WEARING COURSE, 3" THICK, REMOVED AND REPLACED, AS PER PLAN OR ITEM 530 - STRUCTURE MISC.: APPROACH SIDEWALK, 4 1/2" THICK, REMOVED AND REPLACED, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS PER THE PLANS AND NOTES, AND TO THE SATISFACTION OF THE ENGINEER.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KEH		1801481, 1503 & 1511	

STRUCTURE NOTES 4 OF 5
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

SN-4

67
205

ITEM SPECIAL - STRUCTURE MISC.: CONCRETE FILLED STEEL GRID DECK

DESCRIPTION:
THIS ITEM SHALL CONSIST OF DESIGNING, FURNISHING AND INSTALLING STEEL GRID DECK AND SUPPORT FRAME IN ACCORDANCE WITH THESE PLANS AND WITHIN REASONABLY CLOSE CONFORMITY TO THE LINES, ELEVATIONS, LOCATIONS, DETAILS AND NOTES SHOWN ON THE PLANS. STEEL GRID DECK SHALL BE FILLED WITH CONCRETE AS NOTED ON THE PLANS.

DESIGN:
STEEL GRID DECK SHALL BE DESIGNED TO SUPPORT A HIGHWAY LOADING OF HS20-44 AS DEFINED IN, AND IN ACCORDANCE WITH, THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND THE ODOT BRIDGE DESIGN MANUAL CITED IN THESE PLANS.

MATERIALS:
CONCRETE SHALL BE 4,500 PSI AND SHALL CONFORM TO ITEM 511 - CLASS HP CONCRETE, AS PER PLAN. THE MAXIMUM SIZE OF AGGREGATE SHALL BE LIMITED TO 3/8".

STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36 OR GRADE 50, CONFORMING TO ITEM 513 LEVEL ONE (1) FABRICATION, MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS PER CMS 711.01, AND BE GALVANIZED PER CMS 711.02.

SHEAR STUDS SHALL CONFORM TO ITEM 513.

GRID SHALL BE L.B. FOSTER WT 3X4.5 MAIN RAIL OR APPROVED EQUAL 3 INCH WELDED STEEL GRID.

REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED PER ITEM 511.

DECK FORM PAN THICKNESS SHALL BE AT LEAST 20 GAUGE AND BE GALVANIZED PER CMS 711.02.

LIFTING EYES SHALL BE SAMSEL PART NO. EYE 416 OR APPROVED EQUAL QUENCHED AND TEMPERED FORGED STEEL LIFTING EYE WITH A 3600 LB WORKING LOAD AND GALVANIZED PER CMS 711.02. DELIVER TWELVE (12) TO THE ENGINEER.

FABRICATION:
FOR CONCRETE FILLED STEEL GRID DECK, THERE SHALL BE AT LEAST ONE #3 REINFORCING BAR, PARALLEL TO THE MAIN BARS, AT NO MORE THAN 4" CENTERS.

MAIN MEMBERS, SUPPLEMENTARY BARS AND CROSSBARS SHALL BE SECURELY INTERLOCKED AND CONNECTED AT THE TOP AND BOTTOM AT EACH JOINT. SLOTS PUNCHED IN MAIN BEARING MEMBERS FOR INSERTION OF CROSSBARS SHALL BE SUCH THAT AT LEAST A 5/8" DEPTH OF MATERIAL IS AVAILABLE AS A TOP FLANGE ABOVE THE SLOTS. THE TOP SURFACES OF ALL MAIN BEARING MEMBERS, SUPPLEMENTARY BARS AND CROSSBARS SHALL BE IN THE SAME PLANE.

ALL BUTT JOINTS SHALL BE MADE USING FULL PENETRATION WELDS.

CONSTRUCTION:
THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF ITEM 513. THE SHOP DRAWINGS SHALL INDICATE ALL MATERIAL SPECIFICATIONS AND DIMENSIONS AND ANY ADDITIONAL DETAILS NOT SHOWN ON THE PLANS.

ONCE THE STEEL GRID DECK IS FABRICATED AND THE DECK FORM PANS ARE INSTALLED THE CONCRETE MAY BE PLACED AND CONSOLIDATED PER ITEM 511.

THE STEEL GRID DECK SHALL BE PLACED INTO POSITION AND SECURELY CONNECTED TO THE FRAMING AS SHOWN ON THE PLANS. ANY DAMAGE TO GALVANIZING DUE TO WELDING OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHODS A1 OR A3.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:
FRAMING ANGLES, SHEAR STUDS, STEEL GRIDS, HOLD DOWN BOLTS, LIFTING INSERTS AND EYES, CONCRETE FILL, REINFORCEMENT AND DECK FORM PANS SHALL BE INCLUDED WITH THIS ITEM. PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, SHALL BE MADE AT THE CONTRACT PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - STRUCTURE, MISC.: CONCRETE FILLED STEEL GRID DECK. THIS SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK AS DESCRIBED HEREIN AND TO THE SATISFACTION OF THE ENGINEER.

SELF CONSOLIDATING CONCRETE (SCC)

SCC SHALL CONFORM TO ITEM 898-QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET), AS PER PLAN AS MODIFIED HEREIN. SELF CONSOLIDATING (SCC) MAY BE USED FOR THE CONCRETE RAILING IF THE DESIGN IS SUBMITTED TO AND APPROVED BY THE PROJECT ENGINEER. DESIGN A SCC MIX USING ADMIXTURES APPROVED BY THE ODOT OFFICE OF MATERIALS MANAGEMENT (OMM) UNDER 705.12. THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL BE MET:

1. SUBMIT A CONCRETE MIX DESIGN, CONFORMING TO THE REQUIREMENTS OF ACI 301 SECTION 4, HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS AND A DESIGN PERMEABILITY LESS THAN 1500 COULOMBS. PROVIDE THE MIX DESIGN DATA AND PROPORTIONS TO THE ENGINEER FOR REVIEW INCLUDING QUALITY CONTROL LIMITS FOR THE DESIGNED MIX.

2. PROVIDE WRITTEN QUALITY CONTROL PROCEDURES FOR:

   A. MIXING OF THE SCC INCLUDING:
      I. TIME FROM ADDITION TO COMPLETION OF PLACEMENT
      II. WHERE AND WHEN REPLASTICIZING IS ALLOWED

   B. QC TESTING BY CONTRACTOR OF THE SCC INCLUDING:
      I. TESTS TO BE USED
      II. TEST RESULTS REQUIRED BEFORE PLACING THE SCC MIX
      III. AIR CONTENT RANGE
      IV. SPREAD RANGE
      V. FREQUENCY OF CONTRACTOR PERFORMING QC TEST
      VI. LIST ASTM OR TEST PROCEDURES TO BE USED

   C. REQUIREMENTS FOR PLACING THE CONCRETE
      I. LIFT HEIGHTS
      II. ACCEPTABLE DROP DISTANCE
      III. VIBRATION TIME, FREQUENCY, IF REQUIRED
      IV. SET TIME
      V. REQUIREMENTS OF MOVING THE SCC IN THE FORMS
      VI. OTHER REQUIREMENTS, IF NEEDED

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KEH		1801481, 1503 & 1511	

STRUCTURE NOTES 5 OF 5
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

SN-5

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	WESTERN ROADWAY	WEST 18TH ST. BRIDGE CUY-10-1608 SFN 1801481	INTERMEDIATE ROADWAY	HOPE MEMORIAL BRIDGE CUY-10-1613 SFN 1801503	EASTERN ROADWAY	GCRTA BRIDGE CUY-10-1685 SFN 1801511	AS PER PLAN REFERENCE SHEET	
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	64	
202	98200	1516	FT.	REMOVAL MISC.: ELASTOMERIC SEAL REMOVED		118		1398				
509	10001	81081	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	17292	2788	4585	44692	6113	5611	65	
509	20001	500	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	53	12	17	375	22	21	65	*
510	10001	4062	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN	640	164	236	2502	274	246	65	*
511	50001	70	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN		3		67			65	
511	50201	8	CU. YD.	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN		4		4			65	
511	51501	1968	CU. YD.	CLASS HP CONCRETE, SIDEWALK, AS PER PLAN	316	54	106	1197	138	157	65	
512	10050	7021	SQ. YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)	753	167	241	5269	310	281		
512	10100	429	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	14	11	16	338	23	27		
513	17001	110	FT.	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN				110			66	
513	20000	2219	EACH	WELDED STUD SHEAR CONNECTORS		34		2077		108		
513	90000	200	POUNDS	STRUCTURAL STEEL, MISC.: REPAIRS UNDER 50 POUNDS EACH		6		184		10		*
516	01301	1063	FT.	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN				1063			67	
516	10001	453	FT.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, AS PER PLAN		118		335			67	
516	10501	145	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL, AS PER PLAN		38		107			67	
516	11211	109	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN				109			67	
517	74501	3987	FT.	RAILING, CONCRETE, AS PER PLAN	81	105	152	3314	195	140	67	
SPECIAL	519E10000	40	SQ. YD.	PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH MICRO SILICA MODIFIED CONCRETE		1		37		2		*
604	33500	2	EACH	MANHOLE FRAME AND COVER				2				
625	33001	3	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN		1		1		1	69	**
839	30100	56	FT.	TRENCH DRAIN WITH PEDESTRIAN GRATE				56				
SPECIAL	530E00200	LUMP		STRUCTURE MISC.: PROTECTION OF UTILITIES	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP		
SPECIAL	530E00600	1400	SQ. FT.	STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED, AS PER PLAN		41		1290		69	67	*
SPECIAL	530E00600	400	SQ. FT.	STRUCTURE MISC.: APPROACH SIDEWALK, 4 1/2" THICK, REMOVED AND REPLACED, AS PER PLAN	181		59		160		67	*
SPECIAL	530E00600	385	SQ. FT.	STRUCTURE MISC.: CONCRETE FILLED STEEL GRID DECK				385				

* CONTAINS CONTINGENCY QUANTITY TO BE USED "AS DIRECTED BY THE ENGINEER"

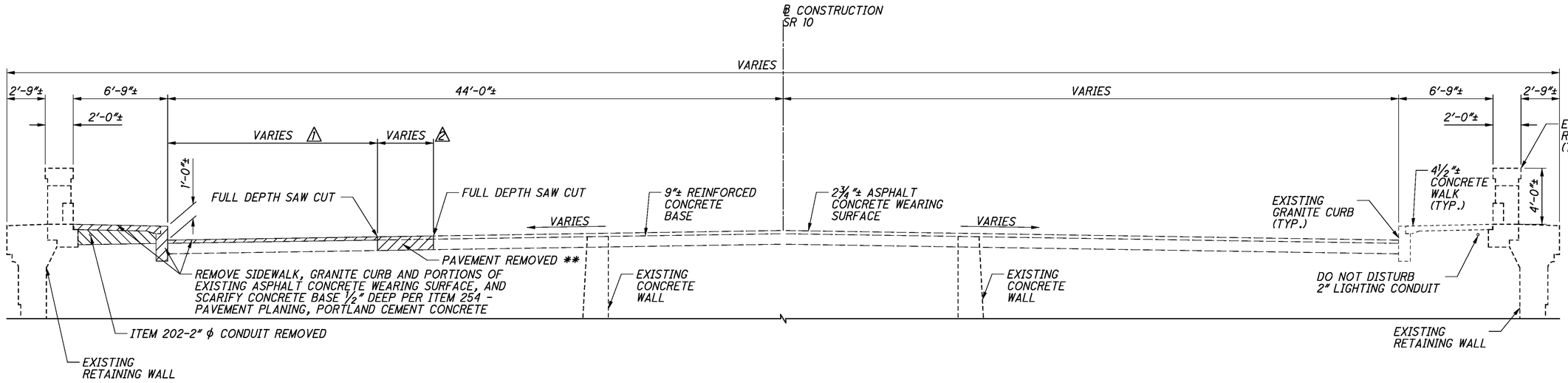
** ITEM 625 - STRUCTURE GROUNDING SYSTEM, AS PER PLAN
PROVIDE A STRUCTURE GROUNDING SYSTEM FOR ALL THE PROPOSED ELECTRICAL ELEMENTS AND CONNECT THE PROPOSED SYSTEM TO THE EXISTING STRUCTURE GROUNDING SYSTEM OR THE GROUND ITSELF AS NECESSARY TO ACHIEVE AN EARTH RESISTANCE THAT IS WITHIN SPECIFICATIONS. ALL MATERIALS, TOOLS AND LABOR REQUIRED TO INSTALL THIS SYSTEM AND REPAIR DAMAGE CAUSED TO THE EXISTING SYSTEM BY THIS CONSTRUCTION PROJECT SHALL BE INCLUDED IN ITEM 625 - STRUCTURE GROUNDING SYSTEM, AS PER PLAN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED JTP | DRAWN JTP | CHECKED KEH | REVIEWED DWL | DATE 1/12 | REVISED | STRUCTURE FILE NUMBER 1801481, 1503 & 1511

ESTIMATED QUANTITES
WESTERN ROADWAY, BRIDGE CUY-10-1608, INTERMEDIATE ROADWAY, HOPE MEMORIAL BRIDGE CUY-10-1613, EASTERN ROADWAY AND BRIDGE CUY-10-1685

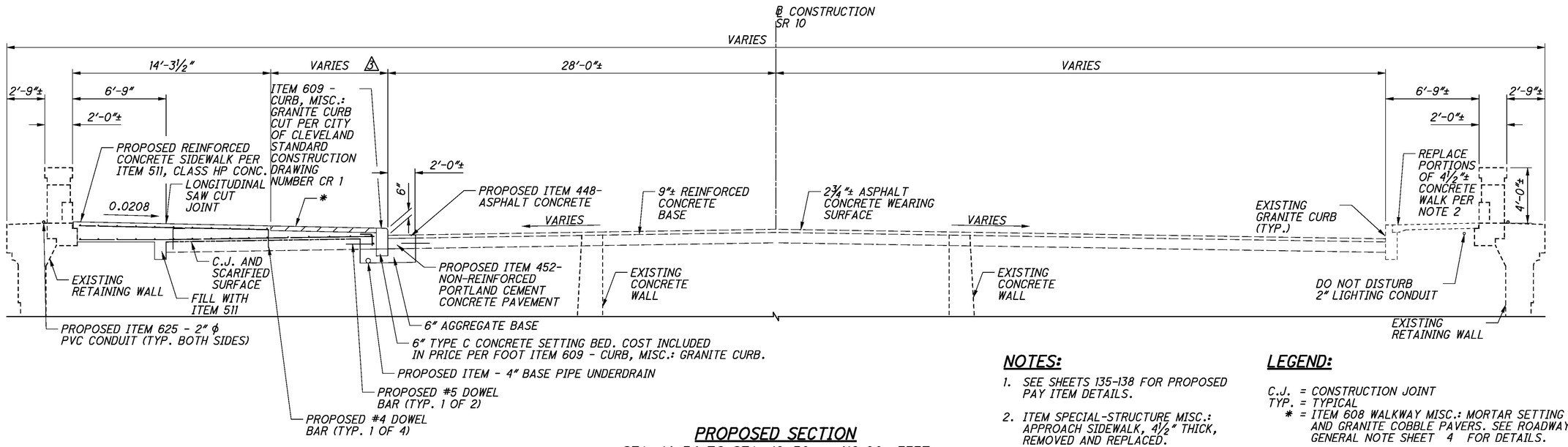
CUY-10-15.96
PID No. 89194



EXISTING SECTION

STA. 14+34±TO STA. 18+50±

** PAVEMENT REMOVED STA. 14+75 TO STA. 17+50
⚠1 18'-0" STA. 14+34 TO STA. 14+75
14'-0" STA. 14+75 TO STA. 17+17.65
VARIES 14'-0" TO 10'-10½" STA. 17+17.65 TO STA. 18+50
⚠2 0.00' STA. 14+34 TO STA. 14+75
4.00' STA. 14+75 TO STA. 18+50
⚠3 8'-5½" STA. 14+34± TO STA. 17+17.65
VARIES 8'-5½" TO 5'-4" STA. 17+17.65 TO STA. 18+50



PROPOSED SECTION

STA. 14+34±TO STA. 18+50± = 416.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: APPROACH SIDEWALK, 4½" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL
* = ITEM 608 WALKWAY MISC.: MORTAR SETTING BED AND GRANITE COBBLE PAVERS. SEE ROADWAY GENERAL NOTE SHEET 4 FOR DETAILS.

= ITEMS 202 - WALK, CURB, PAVEMENT, & WEARING COURSE REMOVED

= ITEMS 503 - UNCLASSIFIED EXCAVATION

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		N/A	

TRANSVERSE SECTION OF WESTERN ROADWAY
STA. 14+34± TO STA. 18+50±

CUY-10-15.96
PID No. 89194

TS-1

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205

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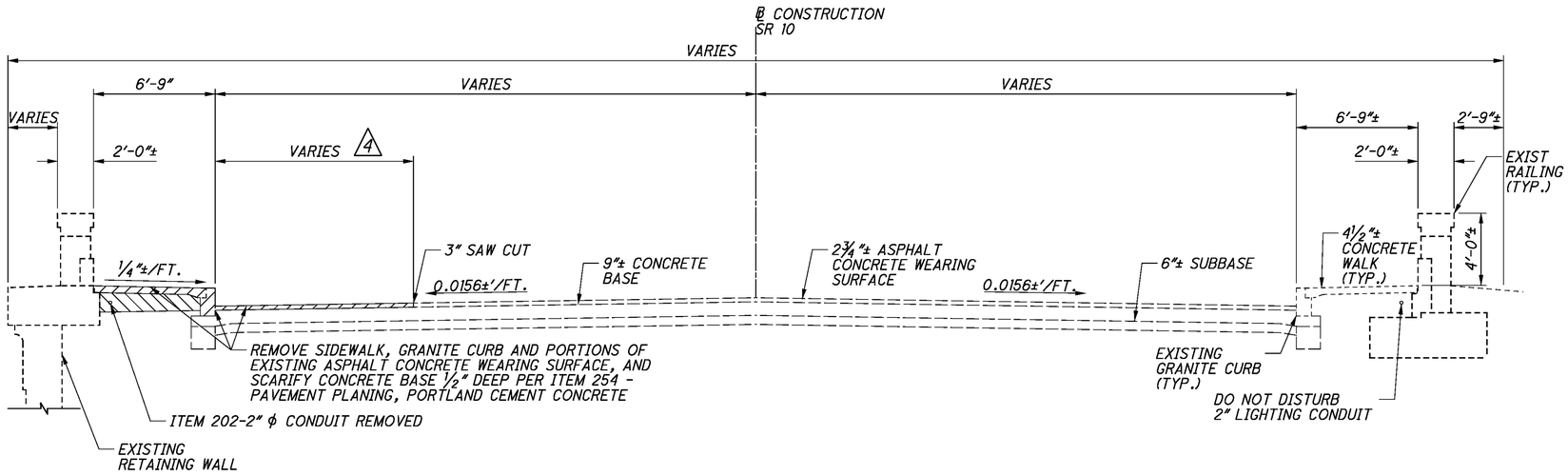
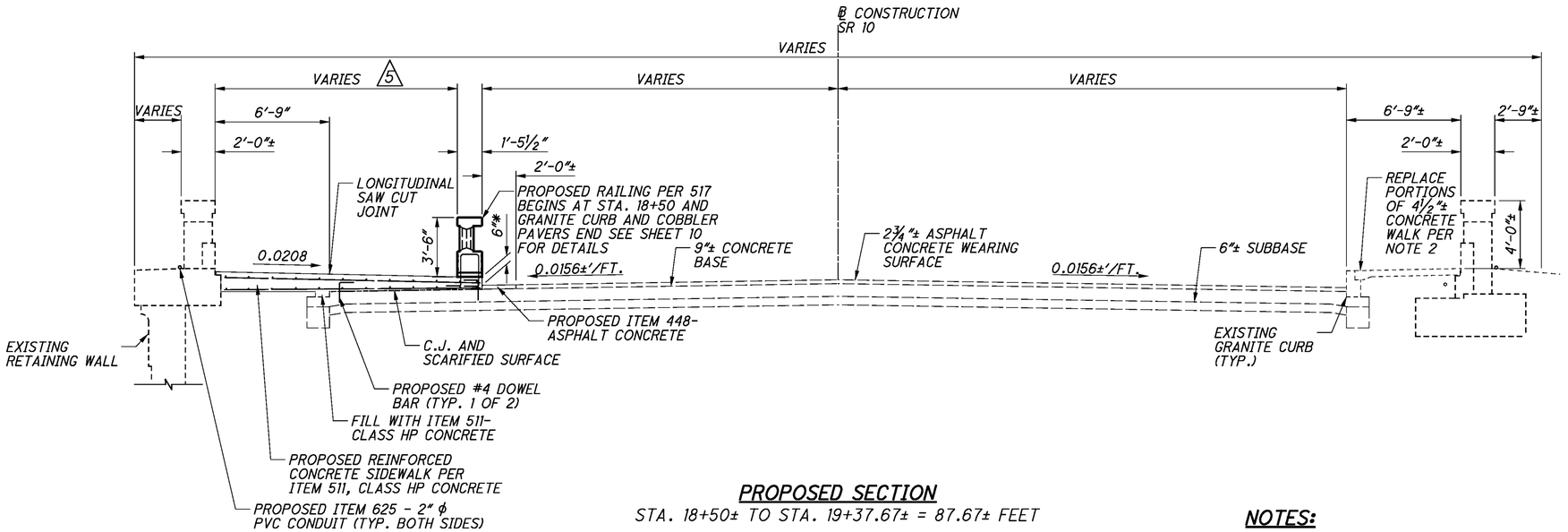


4 VARIES 14'-10½" TO 11'-0" STA. 18+50 TO STA. 19+26.11
11'-0" STA. 19+26.11 TO STA. 19+37.67

5 VARIES 18'-2" TO 14'-3½" STA. 18+50 TO STA. 19+26.11
14'-3½" STA. 19+26.11 TO STA. 19+37.67

EXISTING SECTION

STA. 18+50± TO STA. 19+37.67±



PROPOSED SECTION

STA. 18+50± TO STA. 19+37.67± = 87.67± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: APPROACH SIDEWALK, 4½" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL
* = INCREASE FROM 6" AT STA. 19+28 TO 9" AT STA. 19+38

= ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED

= ITEMS 503 - UNCLASSIFIED EXCAVATION

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		N/A	

TRANSVERSE SECTION OF WESTERN ROADWAY
STA. 18+50± TO STA. 19+37.67±

CUY-10-15.96
PID No. 89194

TS-2

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205

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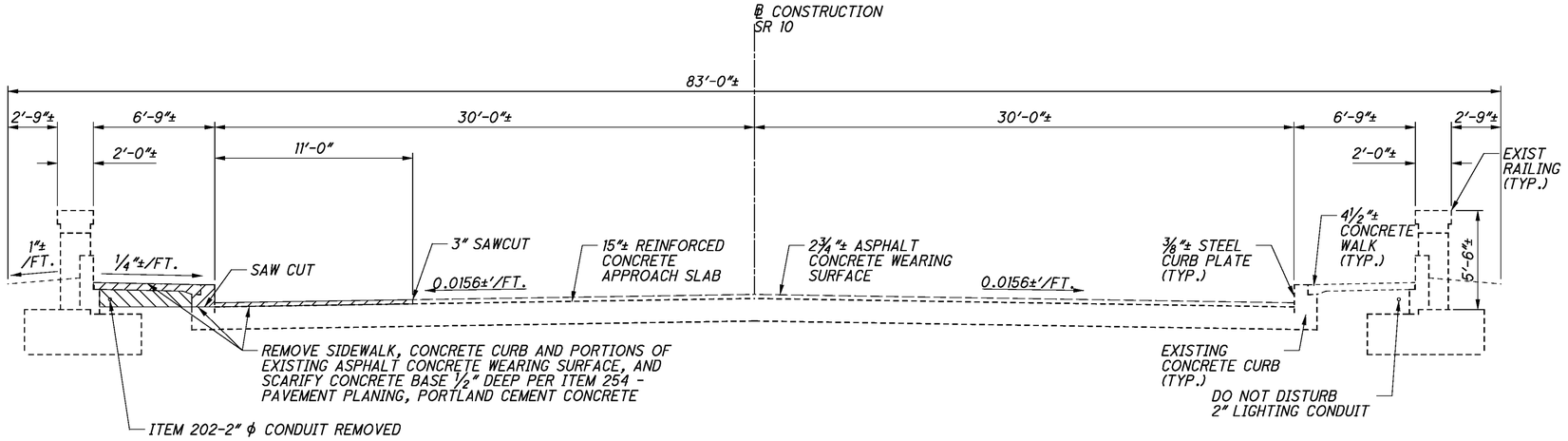
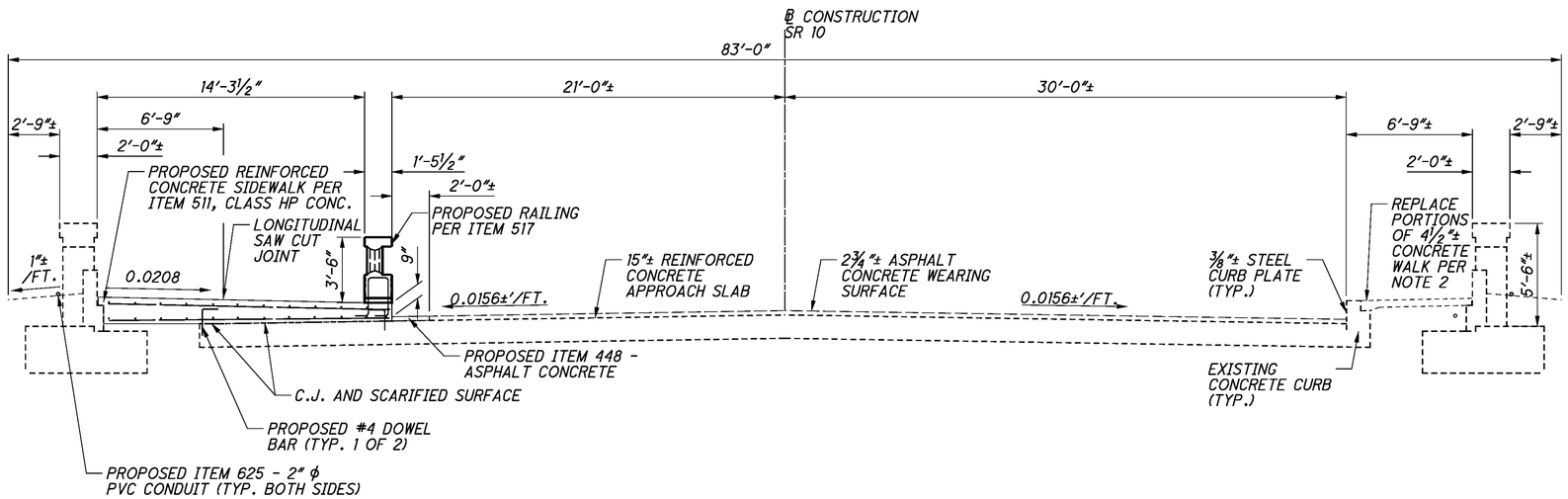


EXISTING SECTION

STA. 19+37.67± TO STA. 19+62.67±
STA. 20+20.74± TO STA. 20+45.74±



PROPOSED SECTION

STA. 19+37.67± TO STA. 19+62.67± = 25.00 FEET
STA. 20+20.74± TO STA. 20+45.74± = 25.00 FEET
TOTAL LENGHT = 50.00 FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: APPROACH SIDEWALK, 4 1/2" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL

= ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED

= ITEMS 503 - UNCLASSIFIED EXCAVATION

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

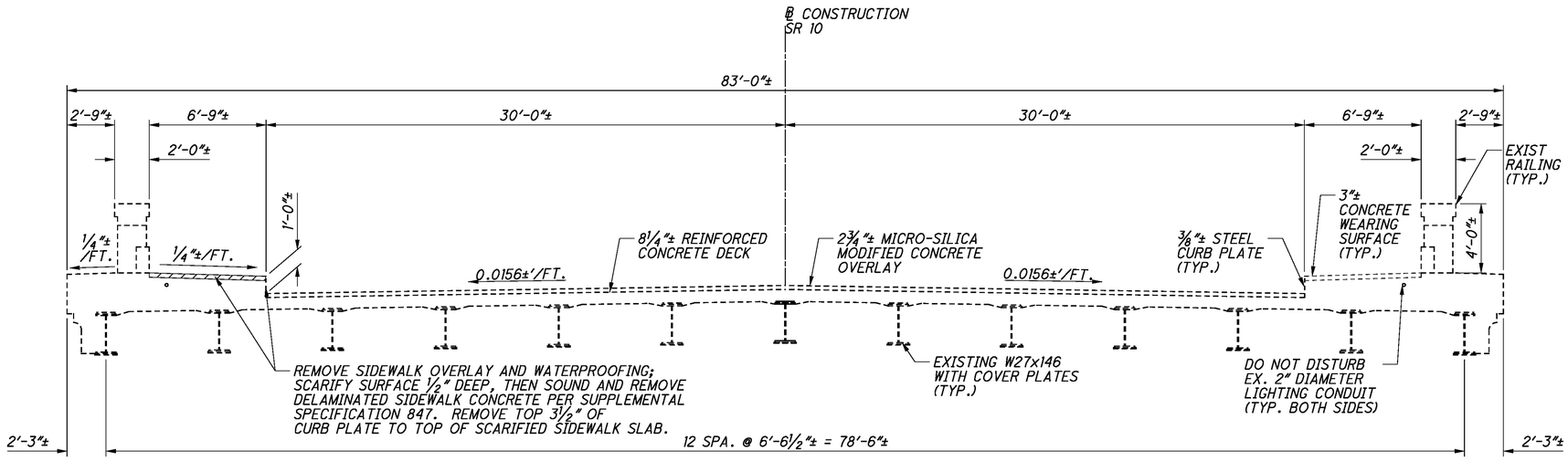
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		N/A	

TRANSVERSE SECTION OF W. 18TH STREET APPROACH SLABS

BRIDGE NO. CUY-10-1608

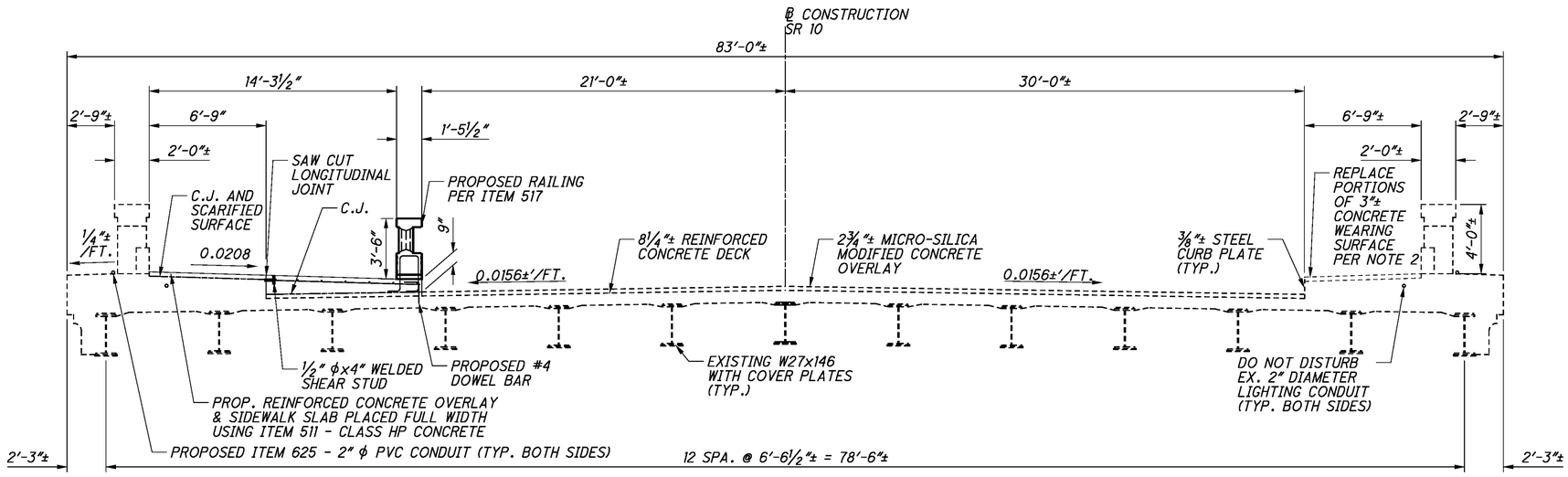
CUY-10-15.96
PID No. 89194

TS-3



EXISTING SECTION

STA. 19+62.67± TO STA. 20+20.74±



PROPOSED SECTION

STA. 19+62.67± TO STA. 20+20.74± = 58.07± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

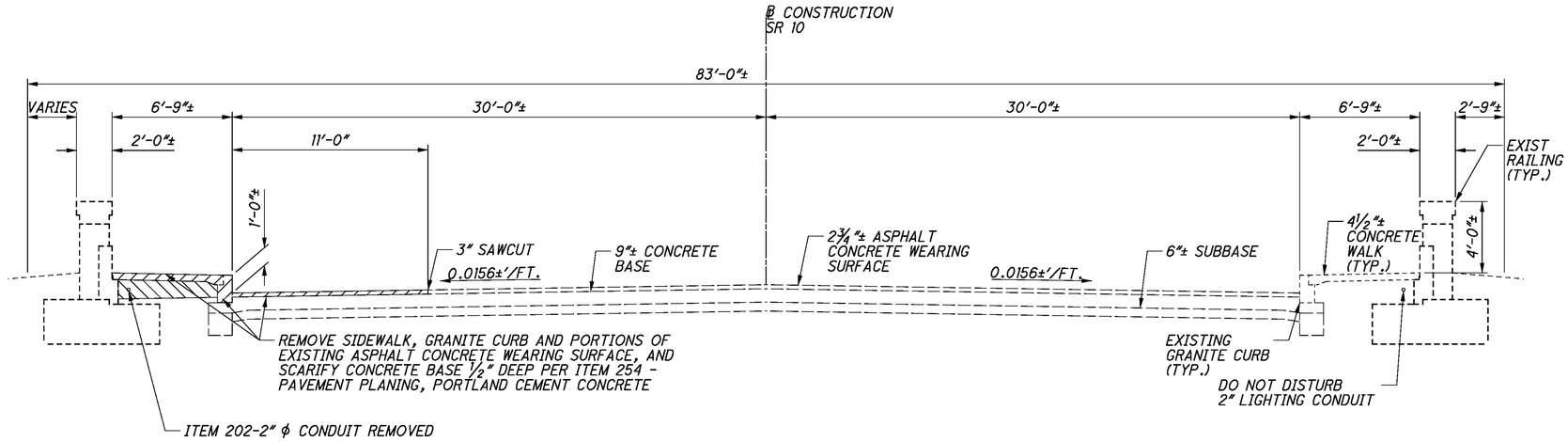
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801481	

TRANSVERSE SECTION OF W 18TH STREET BRIDGE
BRIDGE NO. CUY-10-1608

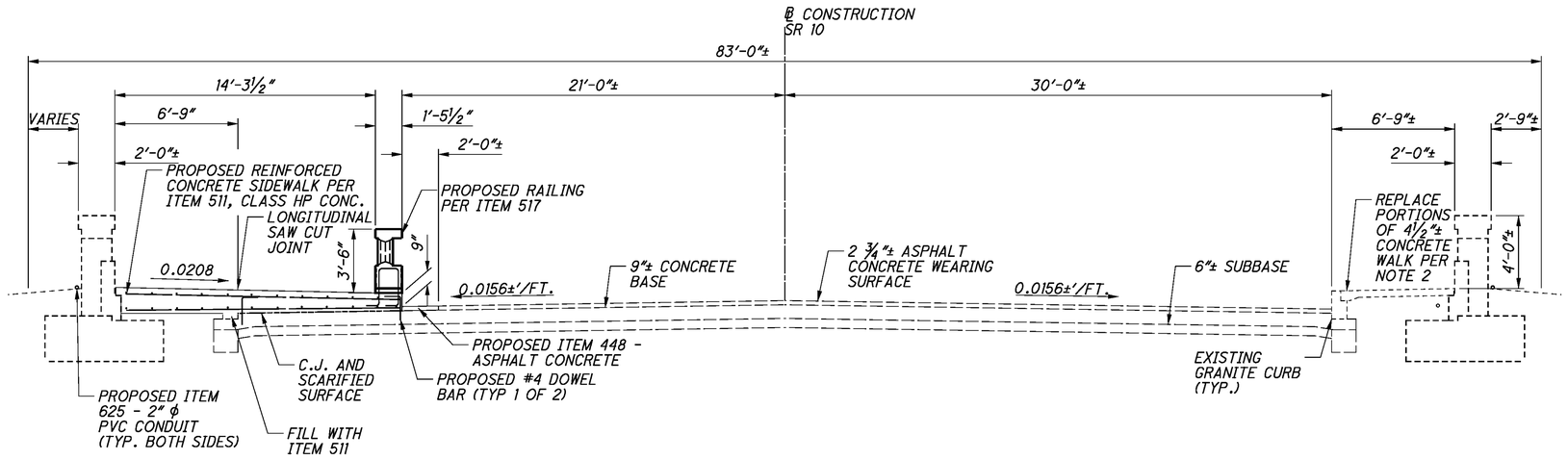
CUY-10-15.96
PID No. 89194

TS-4



EXISTING SECTION

STA. 20+45.74± TO STA. 21+94.19±



PROPOSED SECTION

STA. 20+45.74± TO STA. 21+94.19± = 148.45± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: APPROACH SIDEWALK, 4½" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL

= ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED

= ITEMS 503 - UNCLASSIFIED EXCAVATION

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		N/A	

TRANSVERSE SECTION OF INTERMEDIATE ROADWAY
STA. 20+45.74± TO STA 21+94.19±

CUY-10-15.96
PID No. 89194

TS-5

74
205

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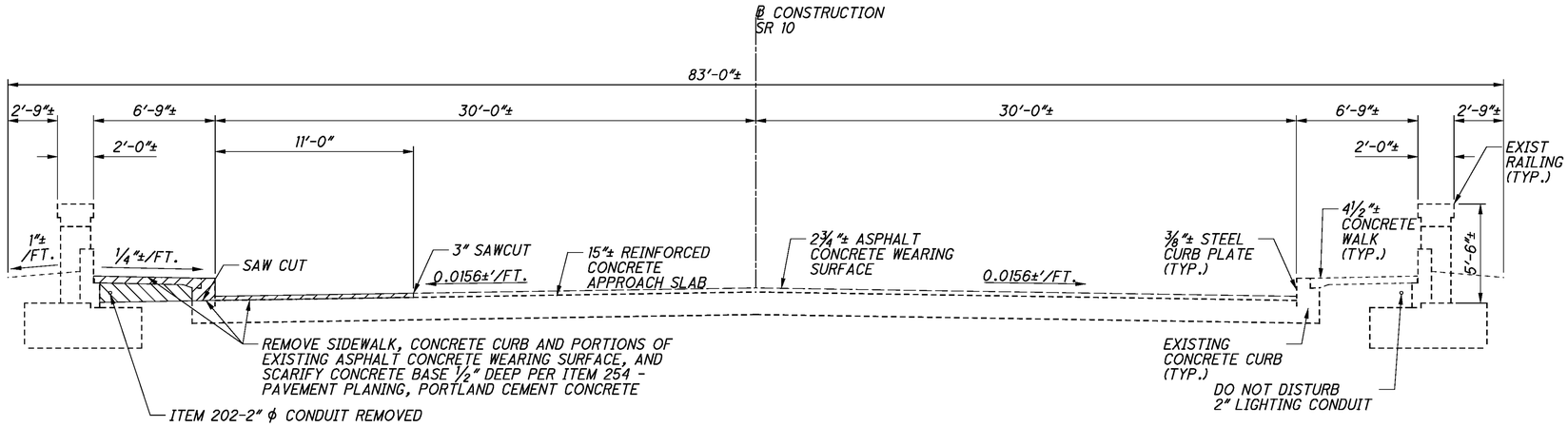
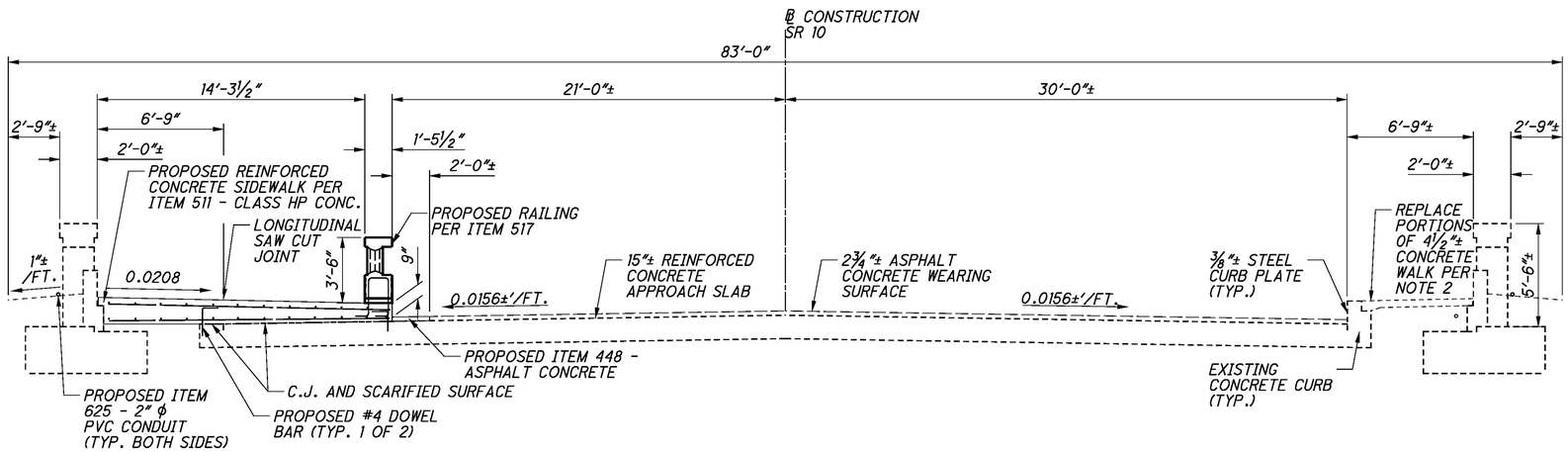


EXISTING SECTION

STA. 21+94.19± TO STA. 22+19.19±



PROPOSED SECTION

STA. 21+94.19± TO STA. 22+19.19± = 25.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: APPROACH SIDEWALK, 4½" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL

▨ = ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED

▨ = ITEMS 503 - UNCLASSIFIED EXCAVATION

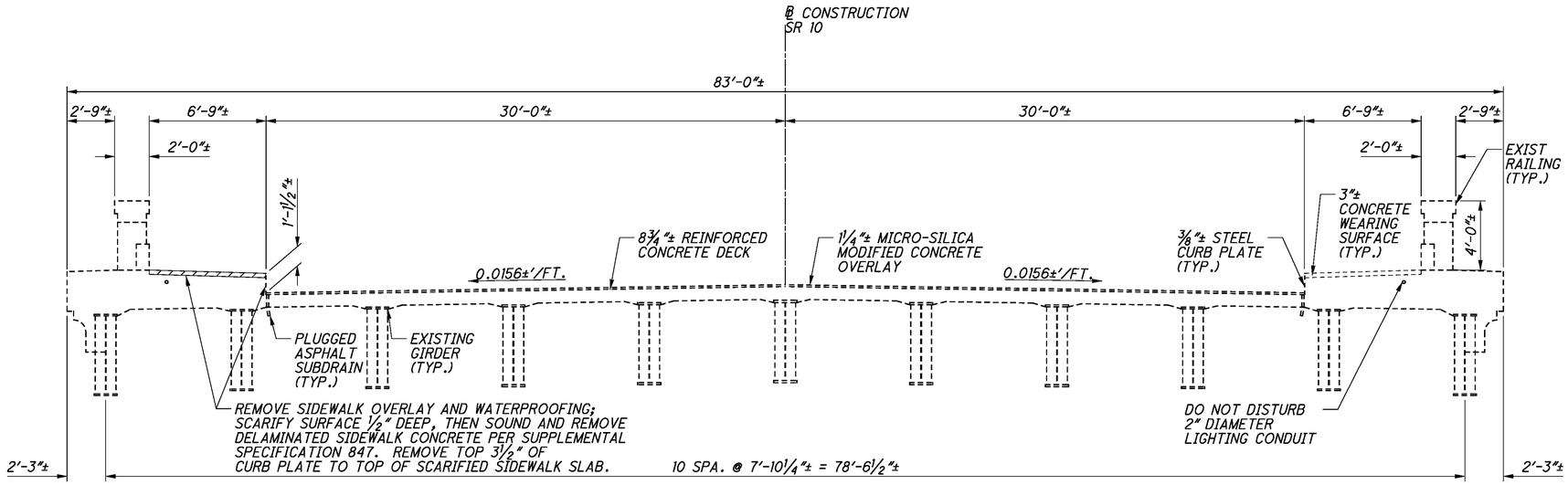
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

TRANSVERSE SECTION OF W. 17TH STREET APPROACH SLAB
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

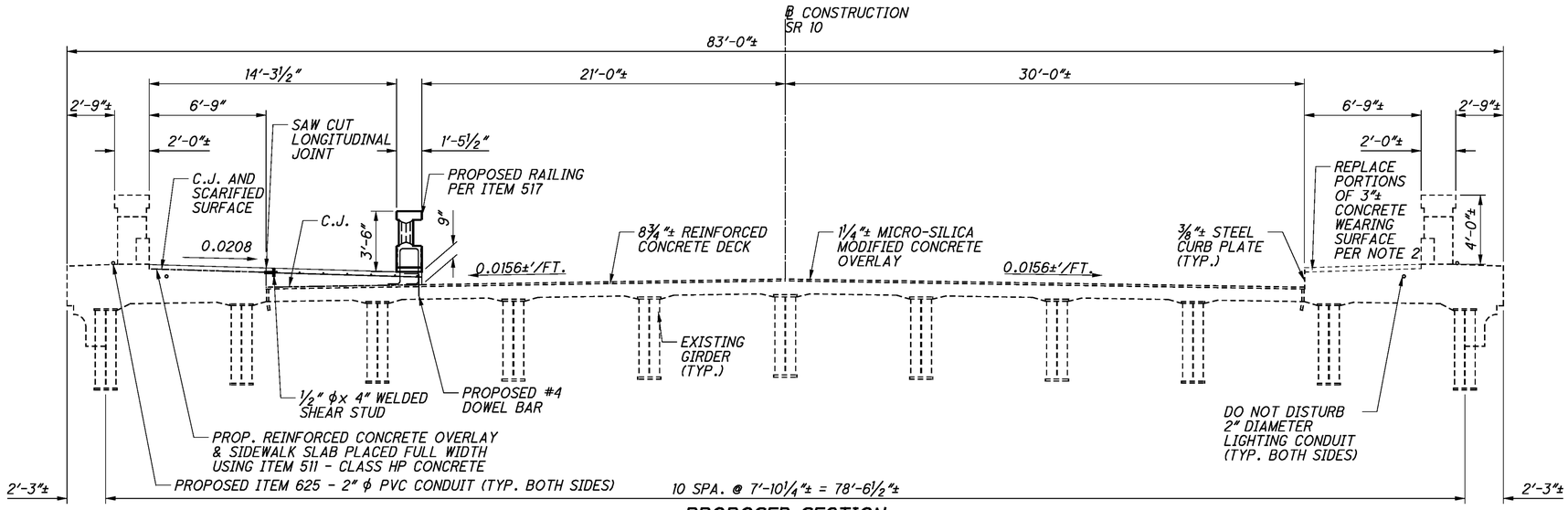
CUY-10-15.96
PID No. 89194

TS-6



EXISTING SECTION

UNIT 1 OVER W 17TH STREET
STA. 22+19.19± TO STA. 23+05.55±



PROPOSED SECTION

UNIT 1 OVER W 17TH STREET
STA. 22+19.19± TO STA. 23+05.55± = 86.36± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL
▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

TRANSVERSE SECTION OF WEST APPROACH SPANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-7

76
205

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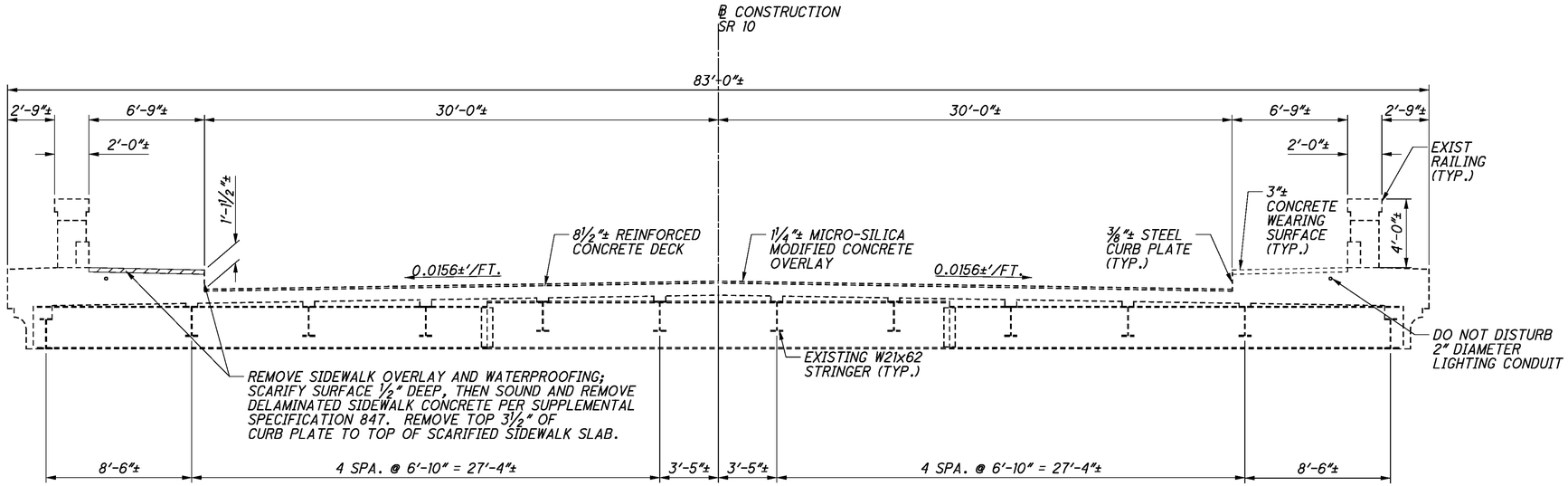
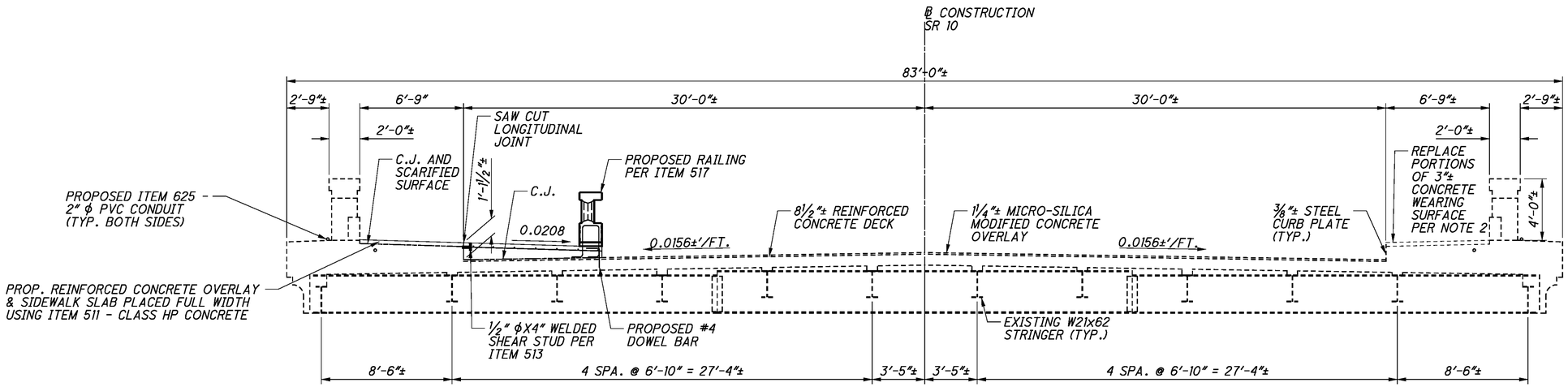


EXISTING SECTION

UNIT 2
STA. 23+05.55± TO STA. 23+77.89±



PROPOSED SECTION

UNIT 2
STA. 23+05.55± TO STA. 23+77.89± = 72.34± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED AKS | DRAWN AKS | REVIEWED KEH | DATE 10-25-11
CHECKED DWL | REVISED | STRUCTURE FILE NUMBER 1801503

TRANSVERSE SECTION OF WEST APPROACH SPANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-8

77
205

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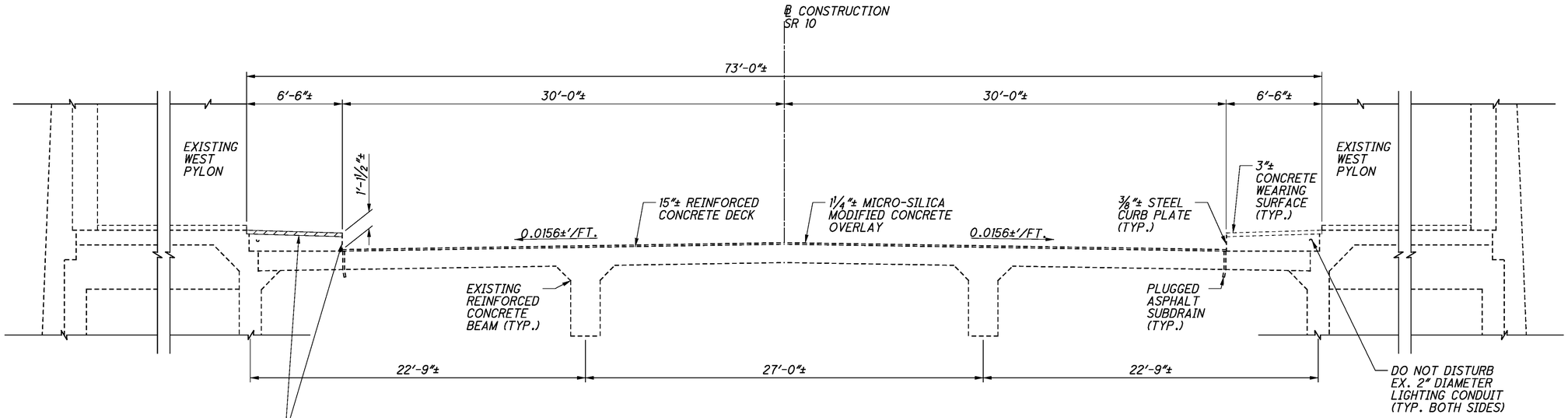
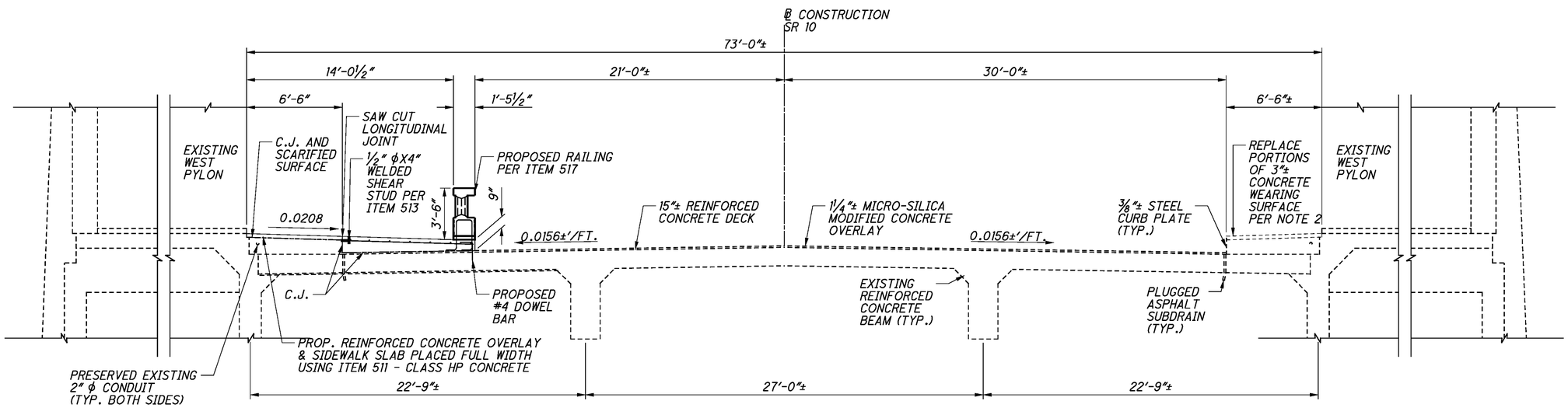


EXISTING SECTION

STA. 23+77.89± TO STA. 24+05.89±



PROPOSED SECTION

STA. 23+77.89± TO STA. 24+05.89± = 28.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL
ϕ = DIAMETER
▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		18015O3	

TRANSVERSE SECTION OF WEST PYLON SPAN

HOPE MEMORIAL BRIDGE NO CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-9

78
205

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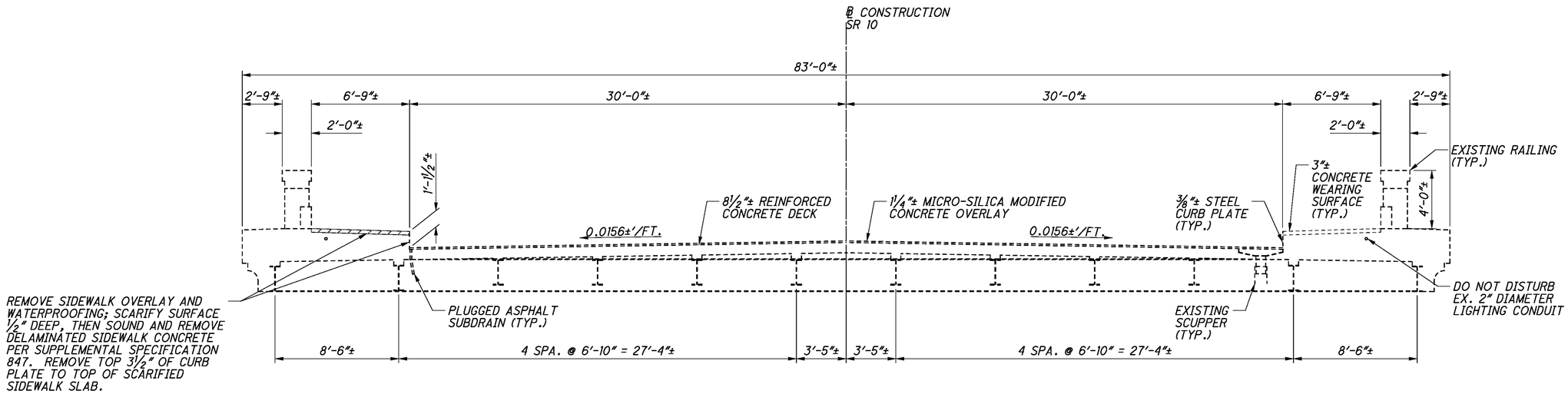
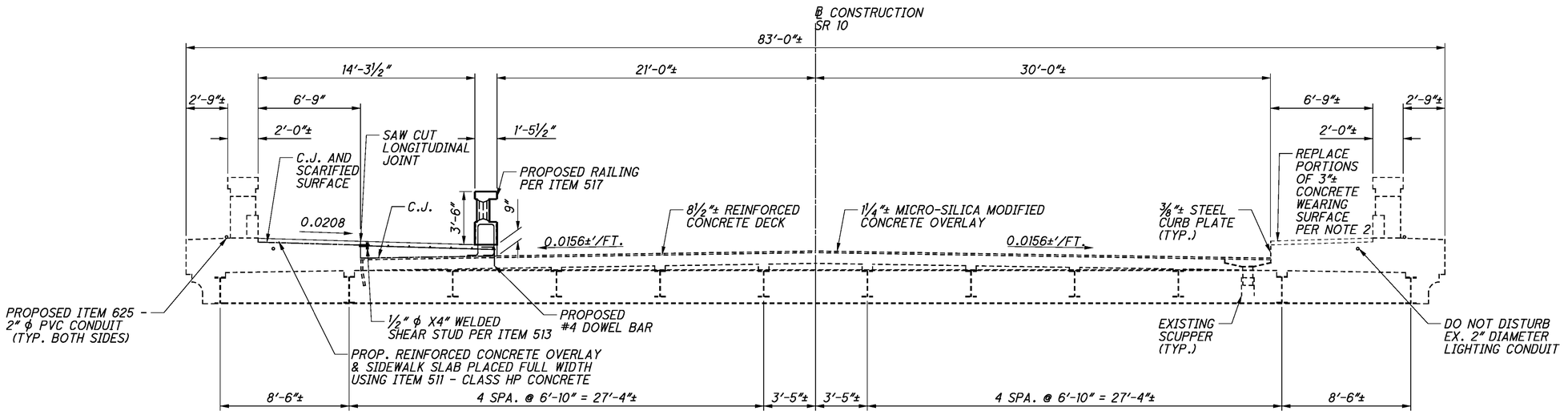


EXISTING SECTION

STA. 24+05.89± TO STA. 52+62.98±



PROPOSED SECTION

STA. 24+05.89± TO STA. 52+62.98± = 2857.09± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

TRANSVERSE SECTION OF MAIN SPANS
HOPE MEMORIAL BRIDGE NO CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-10

79
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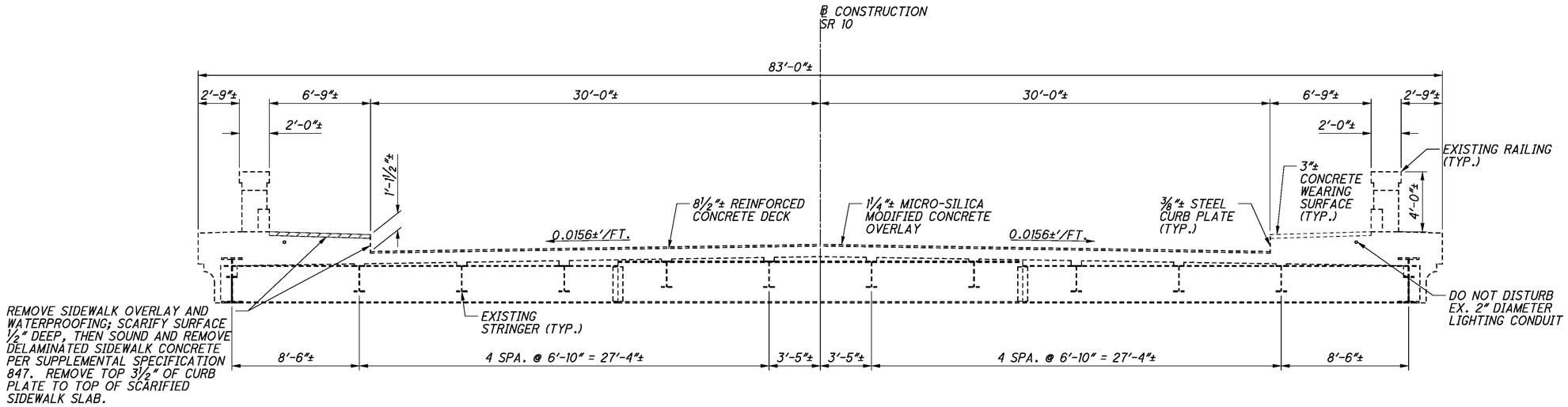
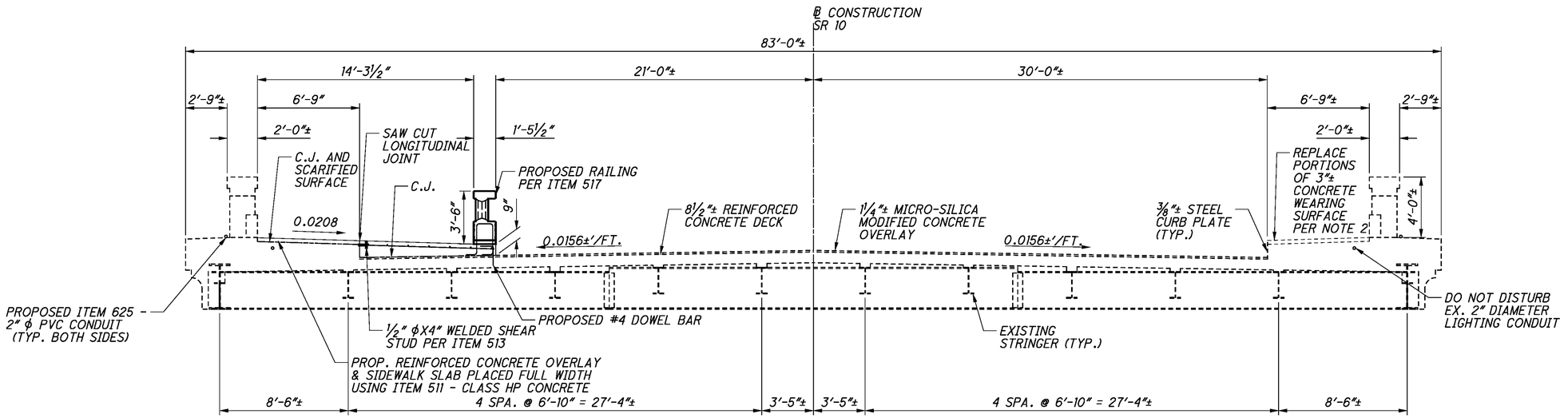


EXISTING SECTION

W&LR RR SPAN
STA. 52+62.98± TO STA. 54+23.98±



PROPOSED SECTION

W&LR RR SPAN
STA. 52+62.98± TO STA. 54+23.98± = 161.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
SPA. = SPACES
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

TRANSVERSE SECTION OF EAST APPROACH SPAN
HOPE MEMORIAL BRIDGE NO CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-11

80
205

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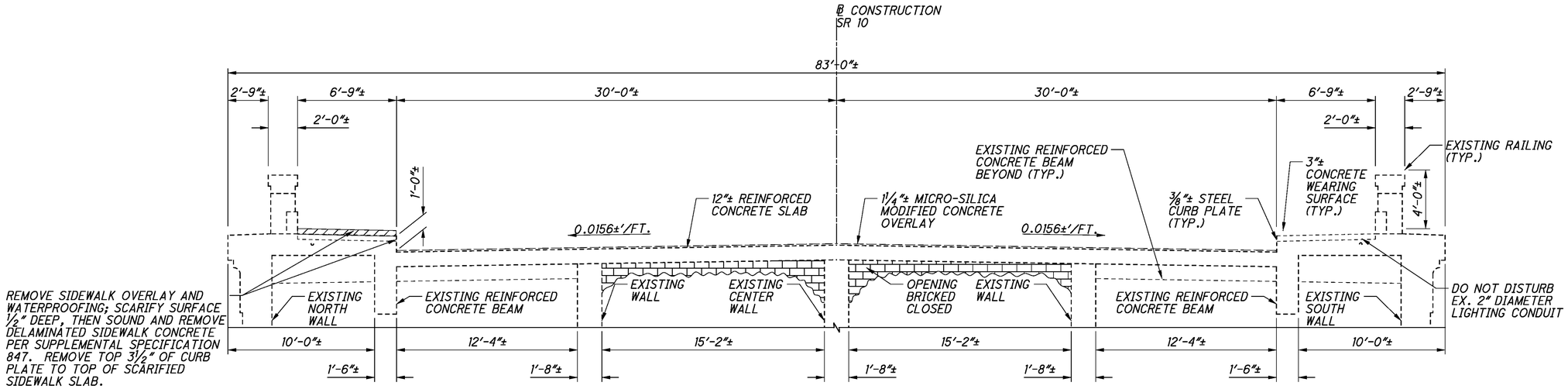
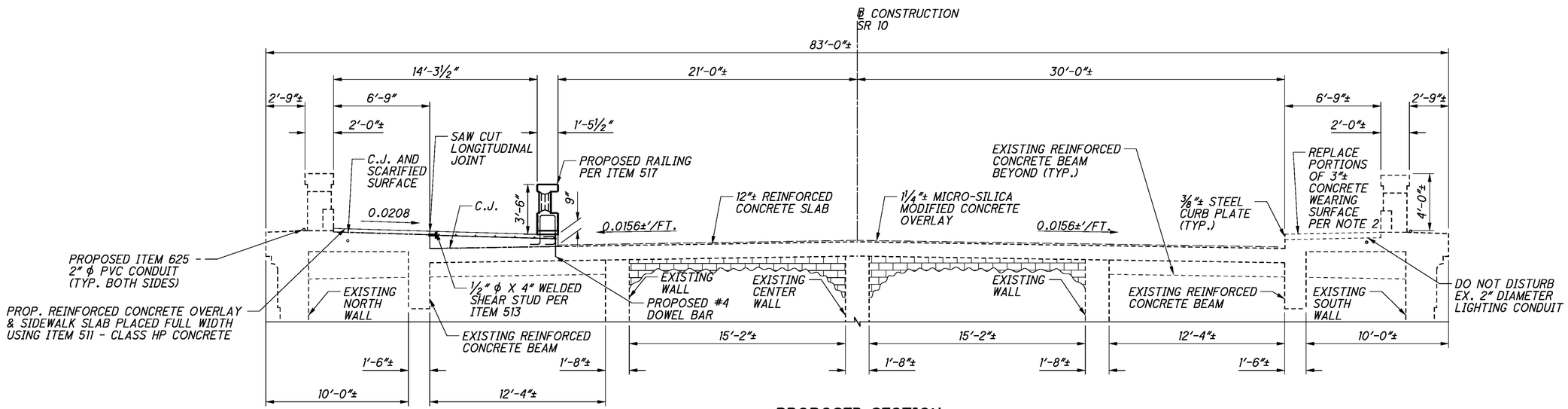


EXISTING SECTION

WESTERN SPAN
STA. 54+23.98± TO STA. 54+82.56±



PROPOSED SECTION

WESTERN SPAN
STA. 54+23.98± TO STA. 54+82.56± = 58.58± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801503	

TRANSVERSE SECTION OF EAST ABUTMENT SPANS
HOPE MEMORIAL BRIDGE NO CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

TS-12

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205

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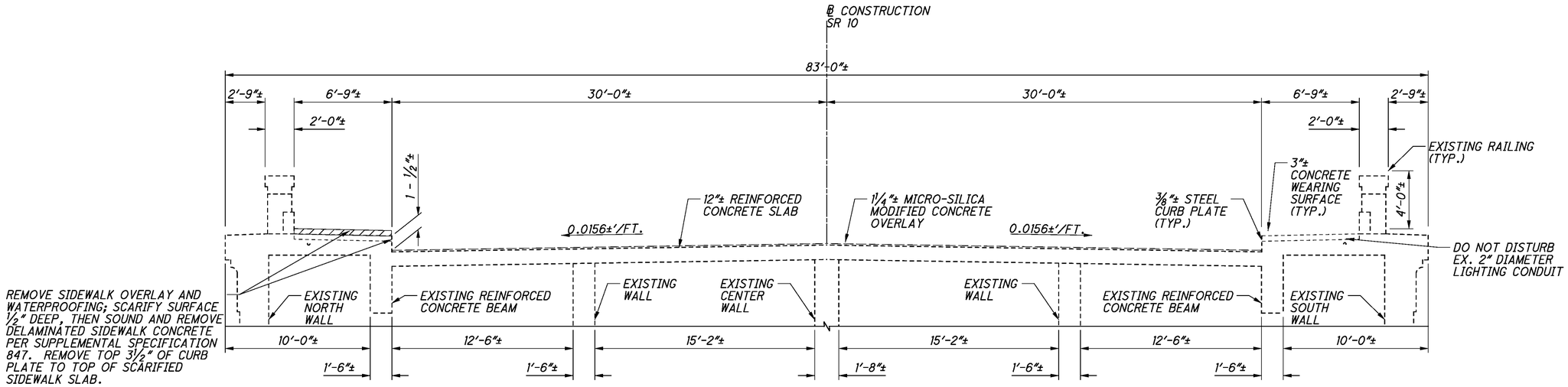
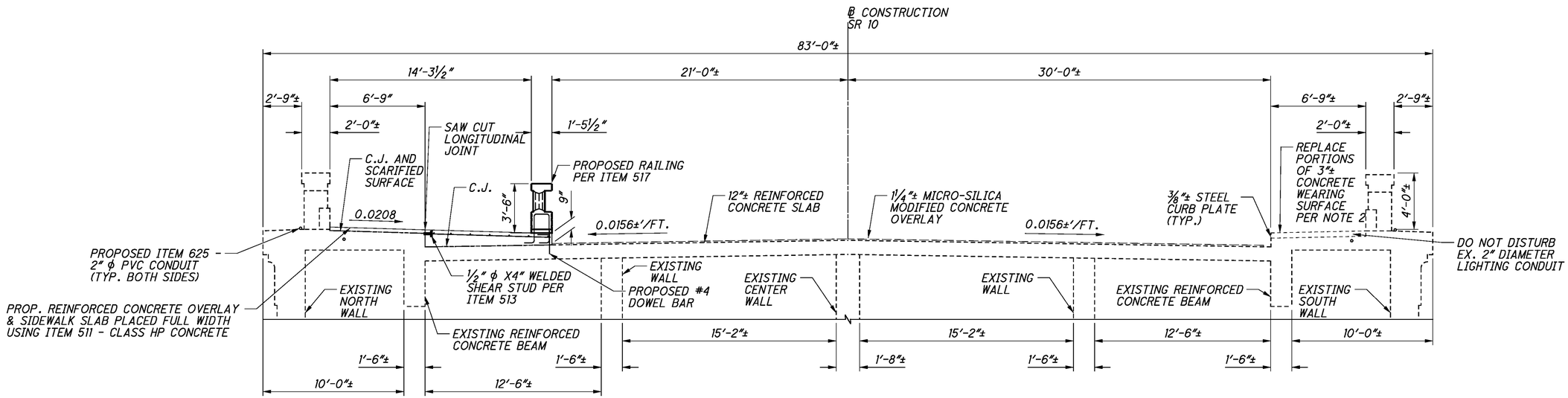


EXISTING SECTION

EASTERN SPAN
STA. 54+82.56± TO STA. 55+04.56±



PROPOSED SECTION

EASTERN SPAN
STA. 54+82.56± TO STA. 55+04.56± = 22.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.
2. ITEM SPECIAL-STRUCTURE MISC.: BRIDGE SIDEWALK WEARING SURFACE, 3" THICK, REMOVED AND REPLACED.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		18015O3	

TRANSVERSE SECTION OF EAST ABUTMENT SPANS
HOPE MEMORIAL BRIDGE NO CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96 PID No. 89194

TS-13

82
205

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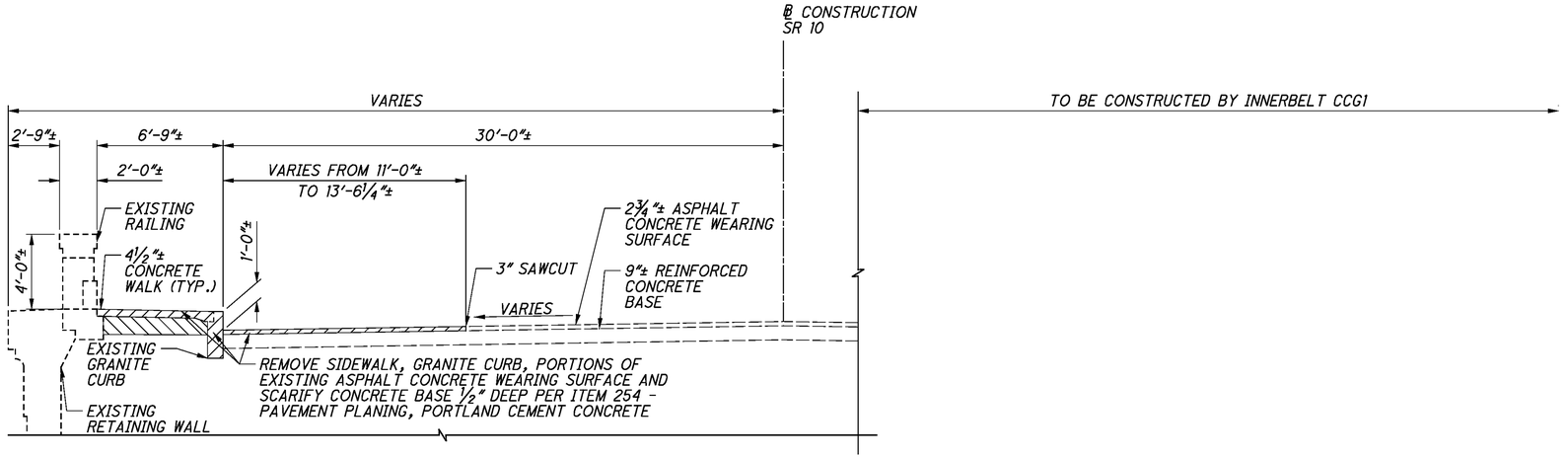
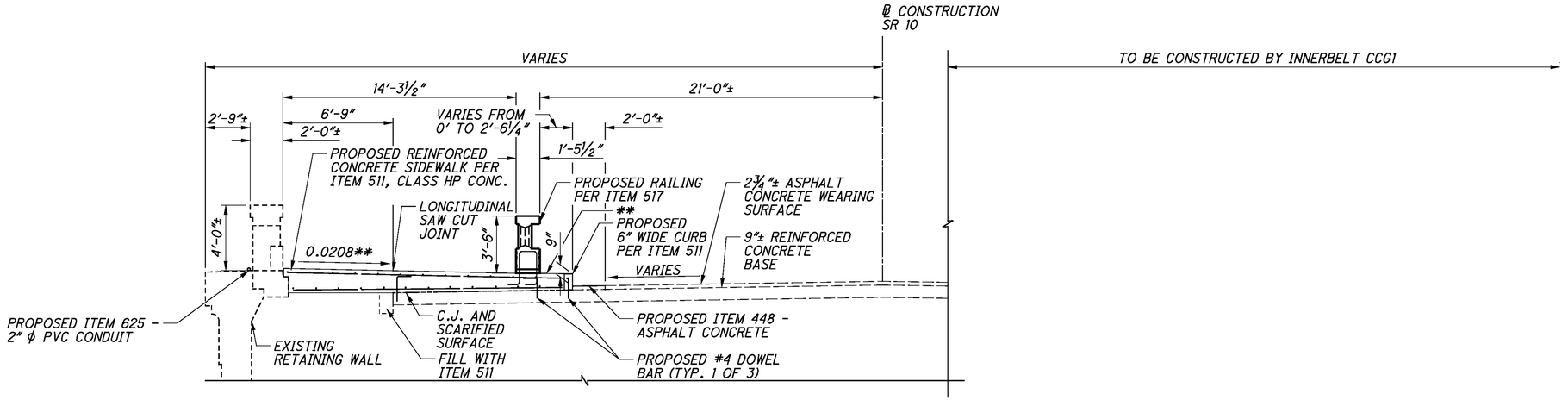


EXISTING SECTION

ROADWAY PAVEMENT ABOVE TUNNELS
STA. 55+04.56± TO STA. 57+04.72±



PROPOSED SECTION

ROADWAY PAVEMENT ABOVE TUNNELS
STA. 55+04.56± TO STA. 57+04.72± = 200.16± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.

LEGEND:

TYP. = TYPICAL
▨ = ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED
▨ = ITEMS 503 - UNCLASSIFIED EXCAVATION

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		N/A	

TRANSVERSE SECTION OF EASTERN ROADWAY & TUNNELS
STA. 55+04.56± TO STA. 57+04.72±

CUY-10-15.96
PID No. 89194

TS-14

83
205

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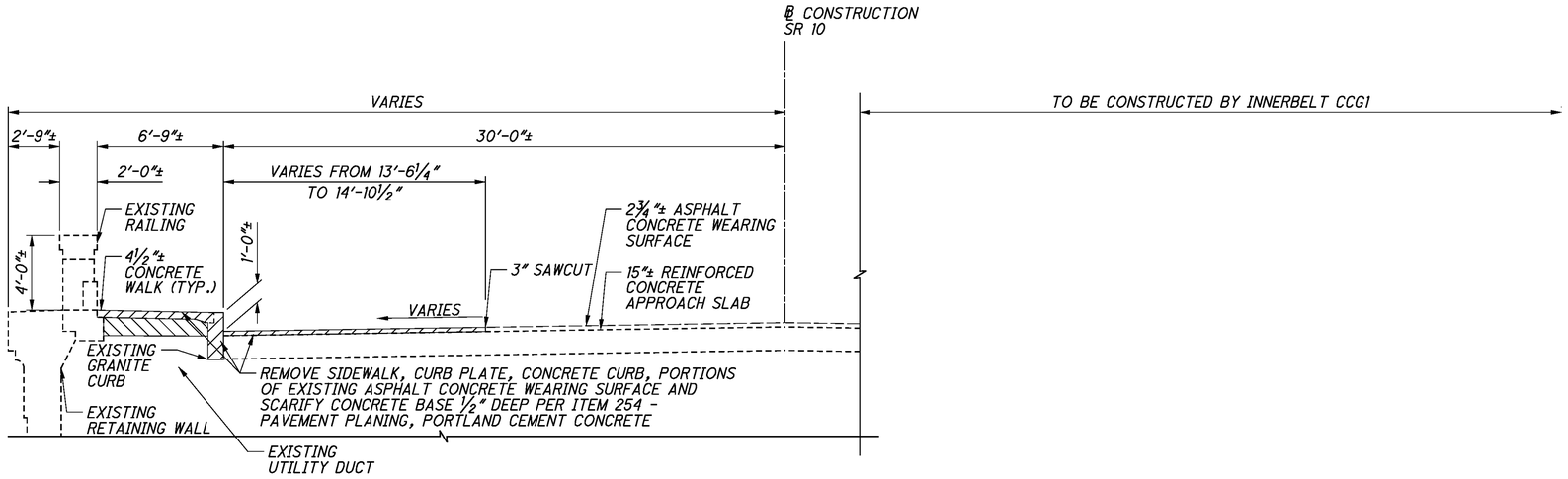
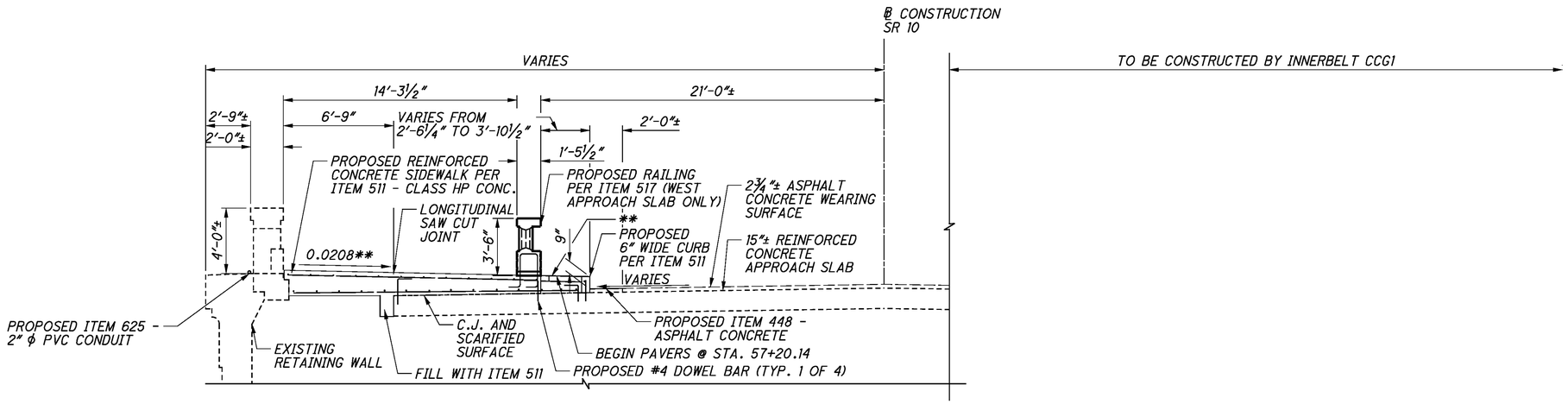


EXISTING SECTION

APPROACH SLABS
STA. 57+04.72± TO STA. 57+29.72±
STA. 58+85.70± TO STA. 59+10.70±



PROPOSED SECTION

APPROACH SLABS
STA. 57+04.72± TO STA. 57+29.72± = 25.00± FEET
STA. 58+85.70± TO STA. 59+10.70± = 25.00± FEET
TOTAL LENGTH = 50.00± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL
▨ = ITEMS 202 - WALK, CURB & WEARING COURSE REMOVED
▨ = ITEMS 503 - UNCLASSIFIED EXCAVATION

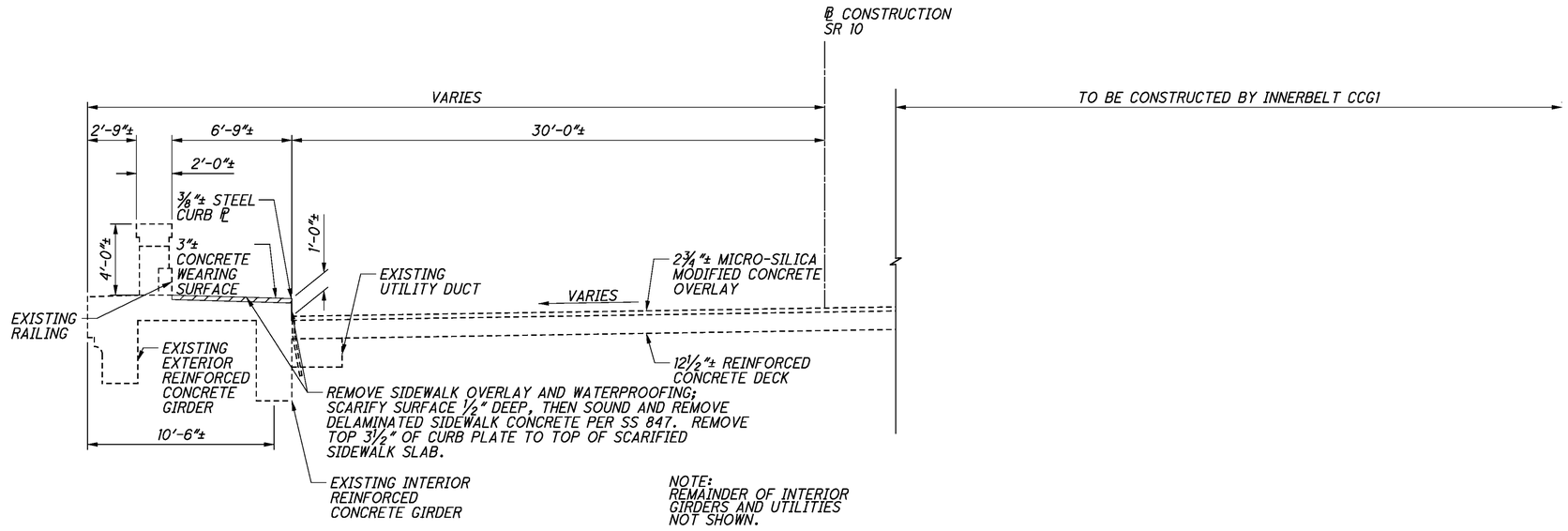
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801511	

TRANSVERSE SECTION OF GCRTA APPROACH SLABS
BRIDGE NO. CUY-10-1685

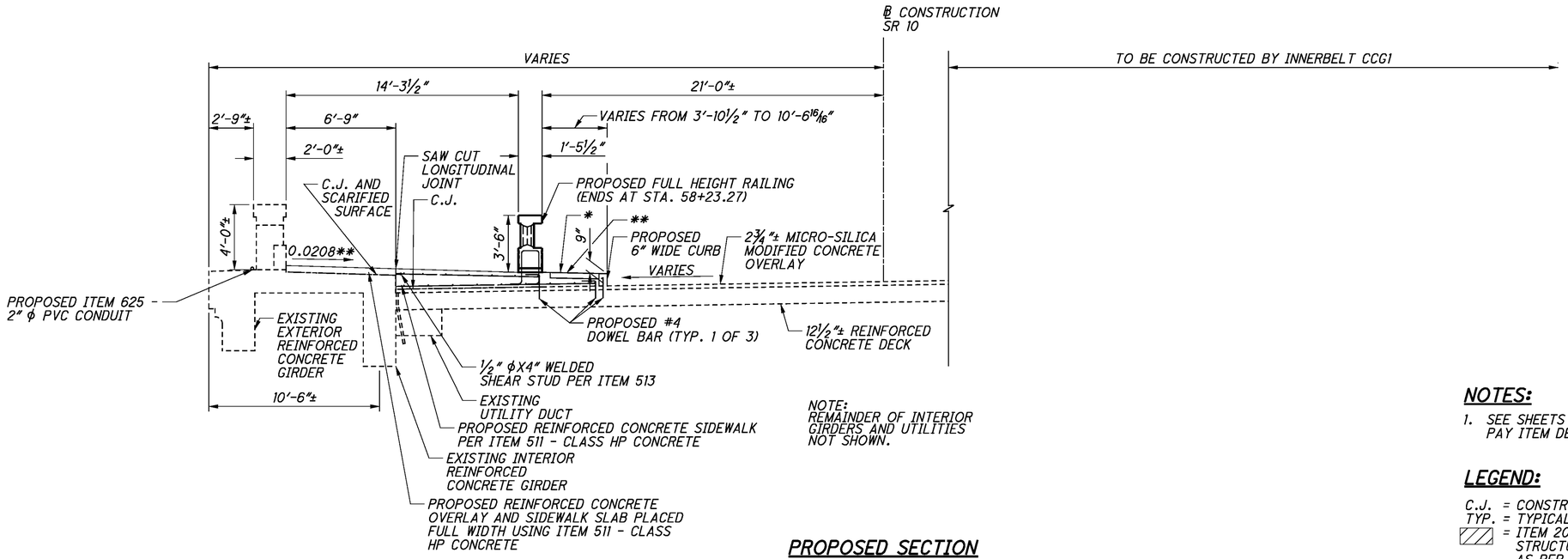
CUY-10-15.96
PID No. 89194

TS-15



EXISTING SECTION

STA. 57+29.72± TO STA. 58+85.70±



PROPOSED SECTION

STA. 57+29.72± TO STA. 58+85.70± = 155.98± FEET

NOTES:

1. SEE SHEETS 135-138 FOR PROPOSED PAY ITEM DETAILS.

LEGEND:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL
▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
* = ITEM 608 - WALKWAY MISC.: MORTAR SETTING BED AND GRANITE COBBLE PAVERS WIDEN 1'-5½" AT END OF PROPOSED RAILING. SEE ADDITIONAL ROADWAY GENERAL NOTE SHEET 4 FOR ADDITIONAL DETAILS

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	KEH	10-25-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DWL		1801511	

TRANSVERSE SECTION OF GCRTA BRIDGE
BRIDGE NO. CUY-10-1685

CUY-10-15.96
PID No. 89194

TS-16

85
205

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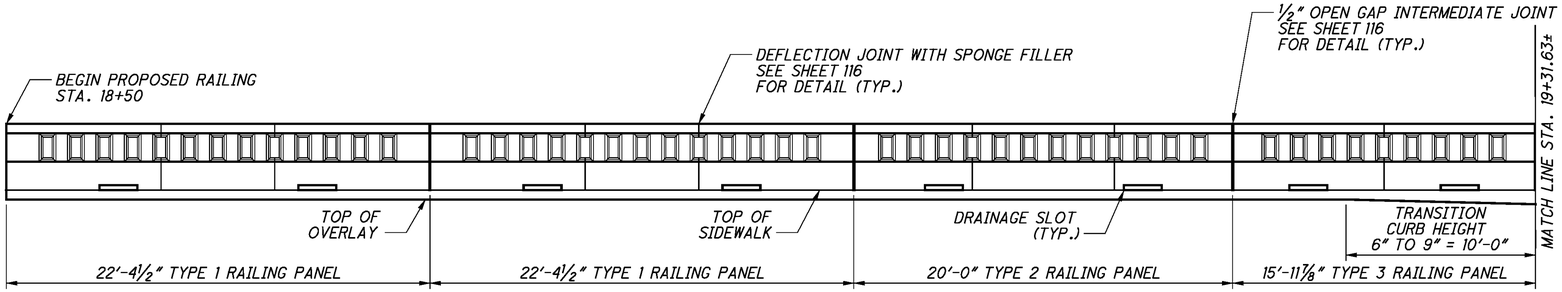
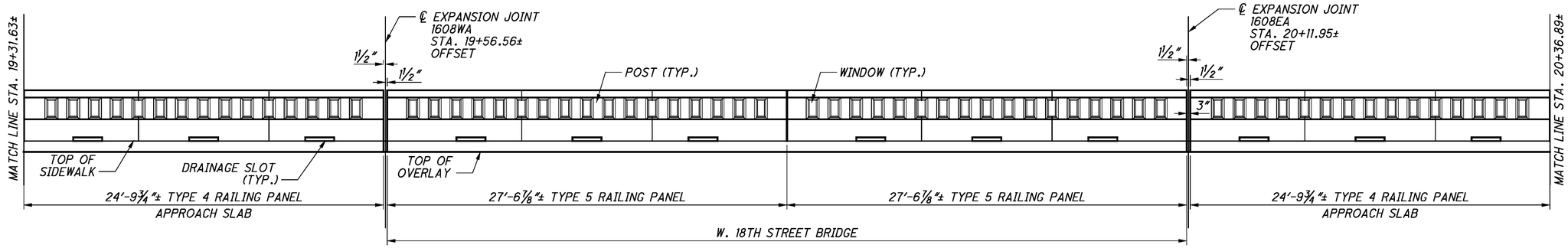


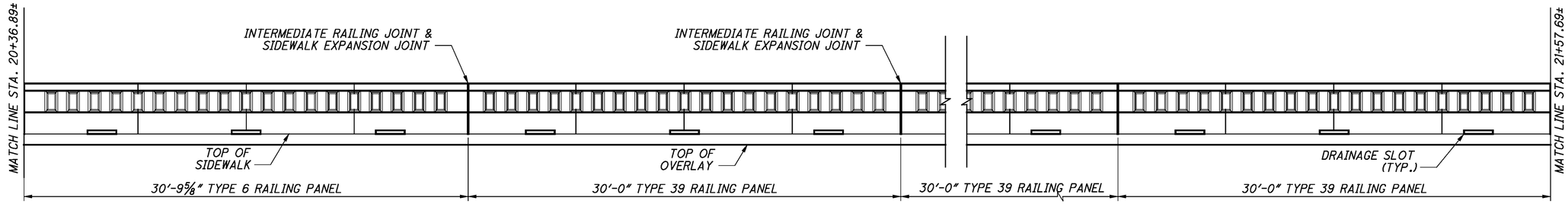
ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.
6. SEE SIDEWALK PLANS FOR LOCATIONS OF EXPANSION JOINTS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801481	

RAILING ELEVATIONS 1 OF 7

WESTERN ROADWAY, W. 18TH ST. BRIDGE, INTERMEDIATE ROADWAY
STA. 18+50.00 TO STA. 21+57.69±

CUY-10-15.96
PID No. 89194

RA-1

86
205

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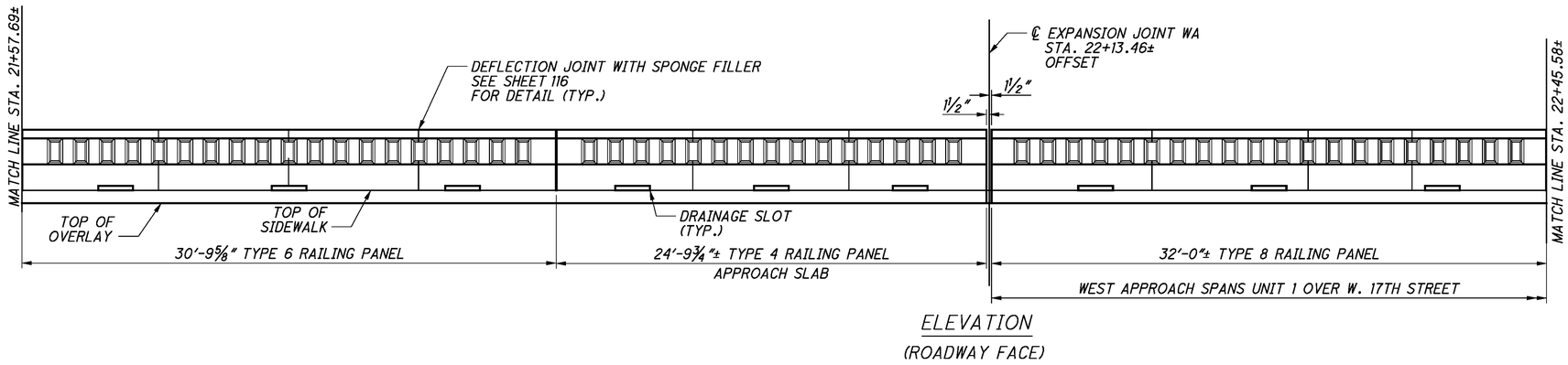
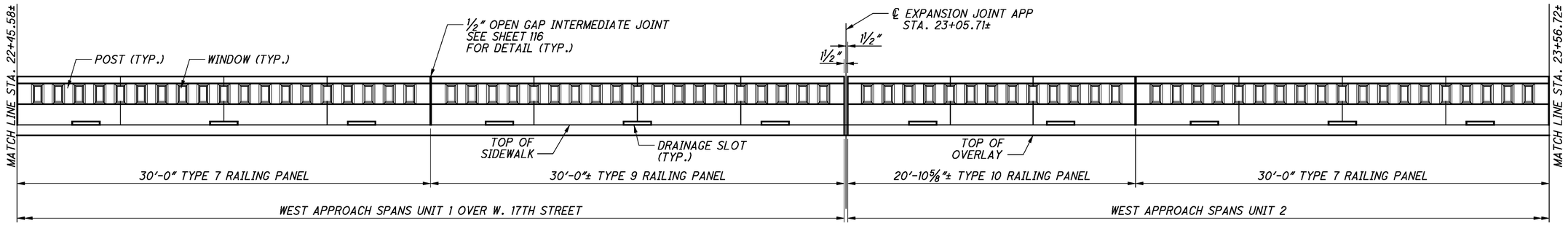


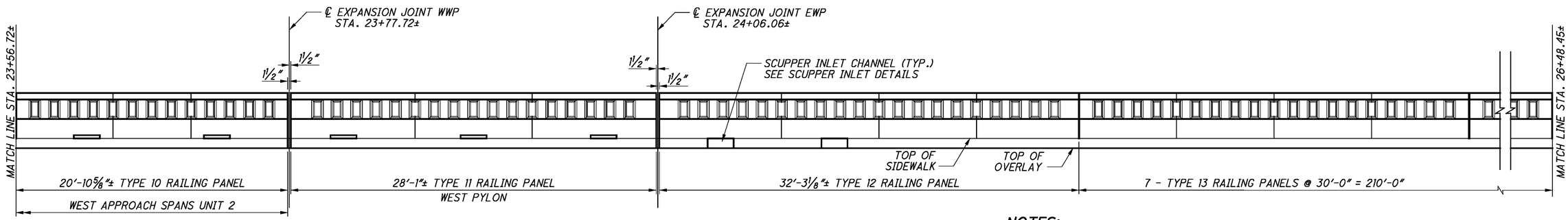
ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

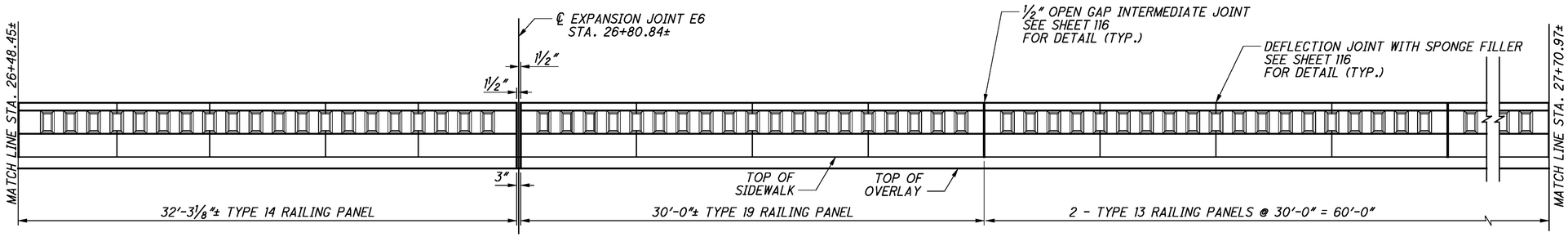
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING ELEVATIONS 2 OF 7

INTERMEDIATE ROADWAY & HOPE MEMORIAL BRIDGE NO. CUY-10-1613
STA. 21+57.69± TO STA. 26+48.43±

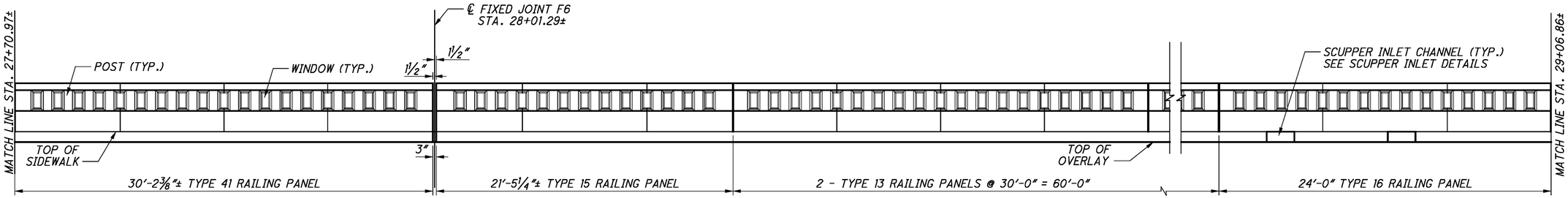
CUY-10-15.96 PID No. 89194

RA-2



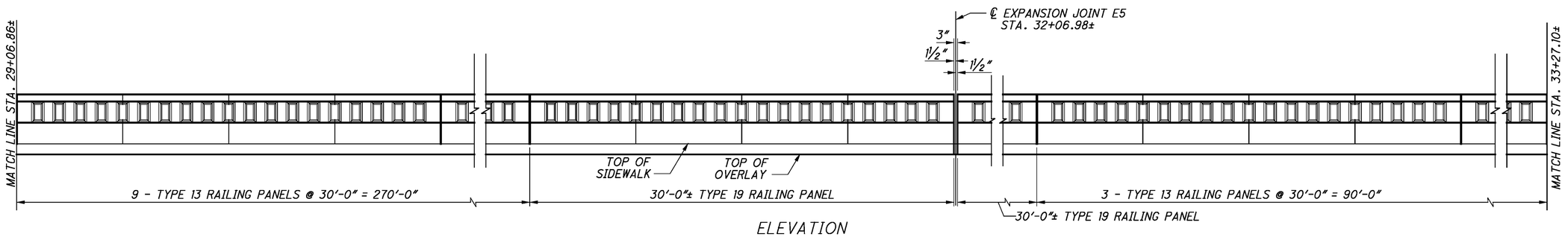
ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CRA003.dgn 1/6/2012 11:48:18 AM hutch

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

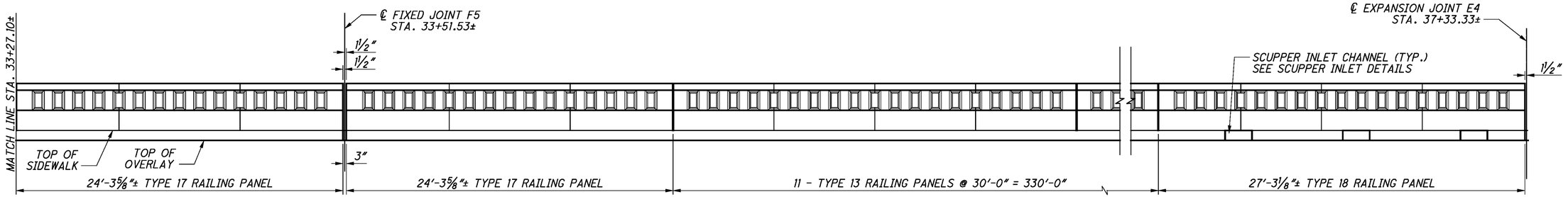
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING ELEVATIONS 3 OF 7

HOPE MEMORIAL BRIDGE NO. CUY-10-1613
STA. 26+48.43± TO STA. 33+27.10±

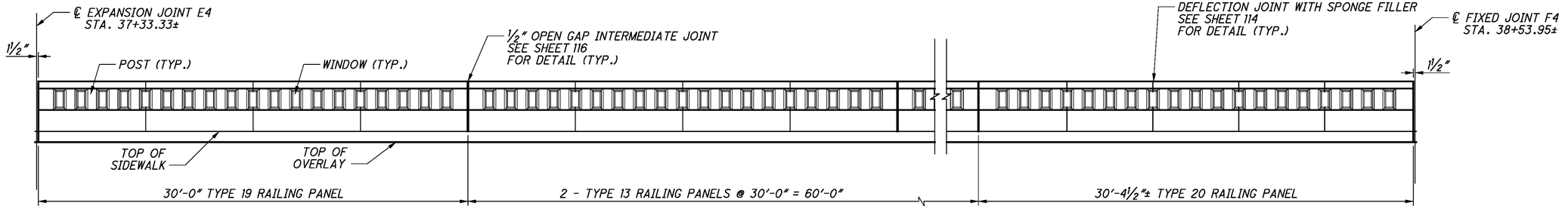
CUY-10-15.96
PID No. 89194

RA-3



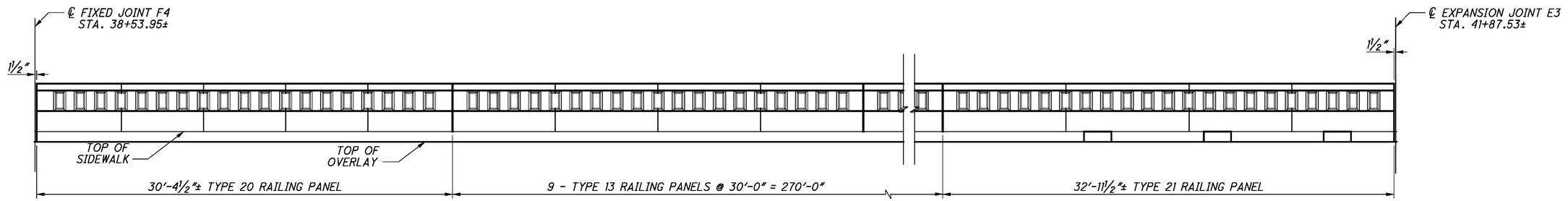
ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

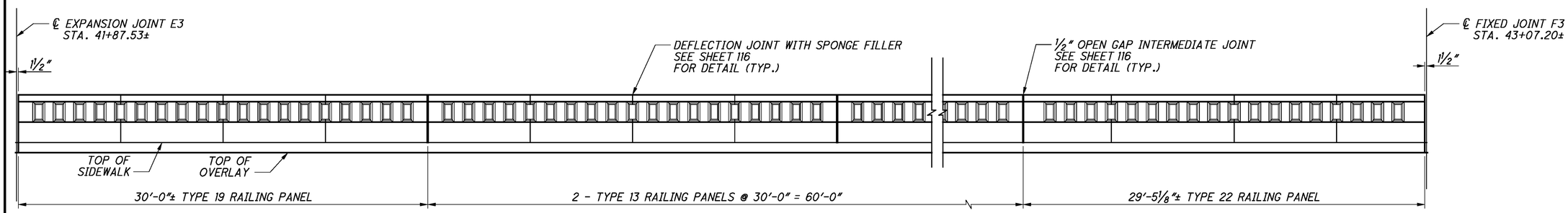
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING ELEVATIONS 4 OF 7

HOPE MEMORIAL BRIDGE NO. CUY-10-1613
STA. 33+27.10± TO STA. 41+87.53±

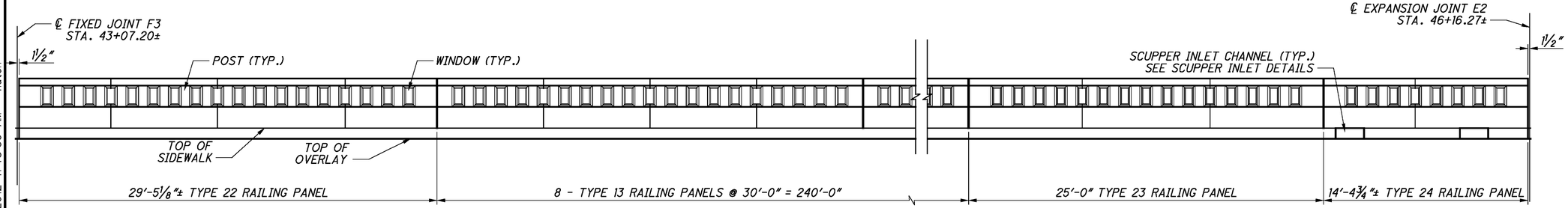
CUY-10-15.96 PID No. 89194

RA-4



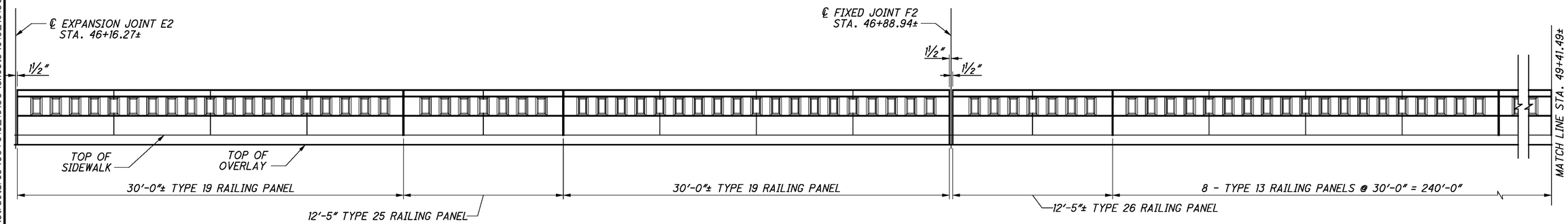
ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)



ELEVATION

(ROADWAY FACE)

NOTES:

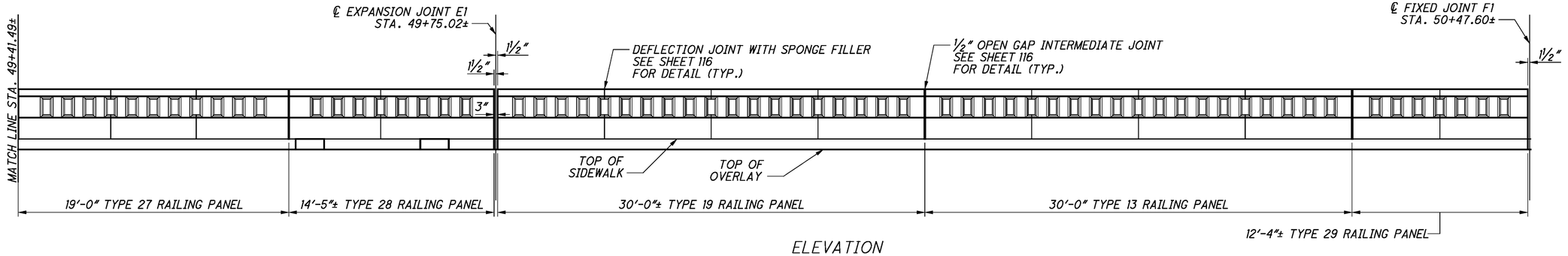
1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

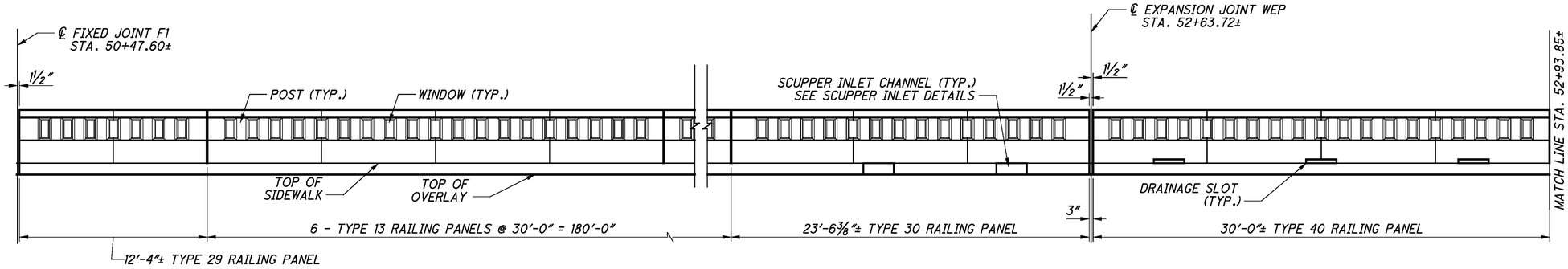
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING ELEVATIONS 5 OF 7
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
STA. 41+87.53± TO STA. 49+41.49±

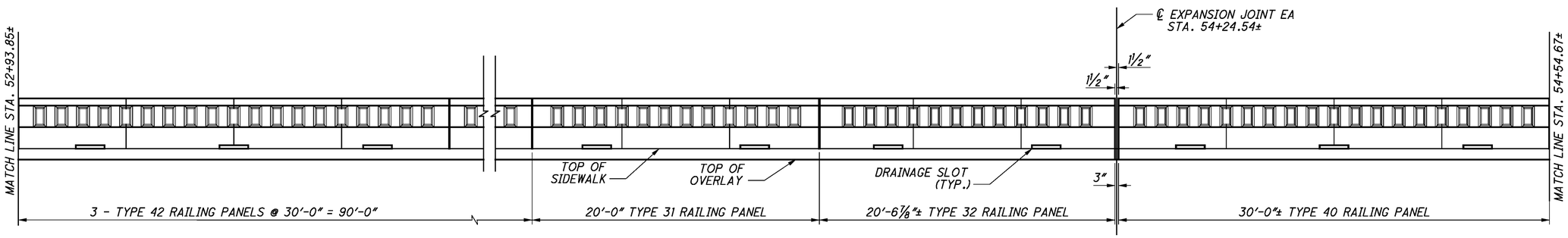
CUY-10-15.96
PID No. 89194
RA-5



ELEVATION
(ROADWAY FACE)



ELEVATION
(ROADWAY FACE)



ELEVATION
(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.

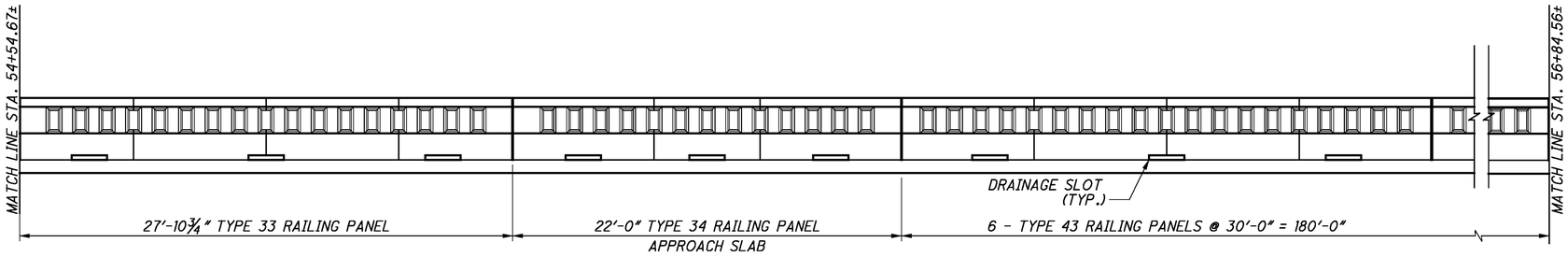
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/31
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

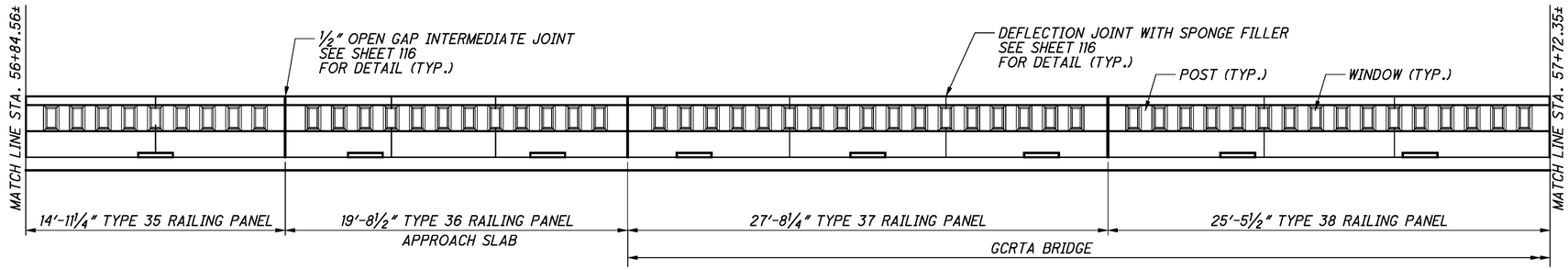
RAILING ELEVATIONS 6 OF 7
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 & EASTERN ROADWAY
STA. 49+41.49± TO STA. 54+54.67±

CUY-10-15.96
PID No. 89194

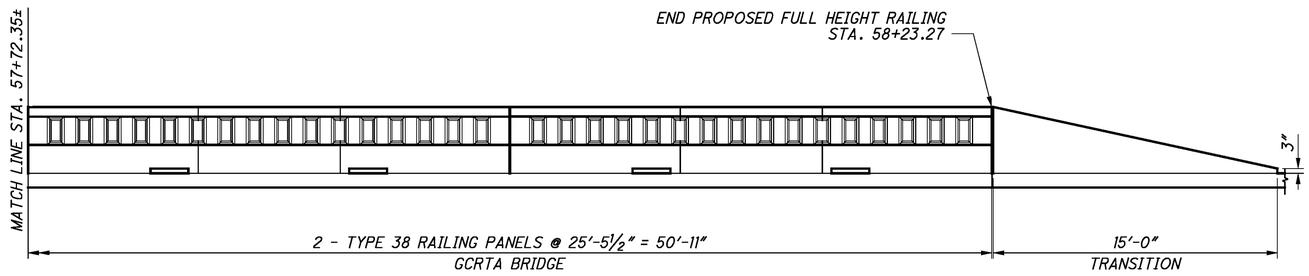
RA-6



ELEVATION
(ROADWAY FACE)



ELEVATION
(ROADWAY FACE)



ELEVATION
(ROADWAY FACE)

NOTES:

1. FOR DETAILS, SEE SHEETS 93 TO 116.
2. STATION OF THE RAILING IS MEASURED ALONG ROADWAY FACE OF THE RAILING.
3. ELEVATION VIEWS SHOWN FLAT. PROFILE GRADES VARY AND ARE NOT SHOWN.
4. NORTH AND SOUTH FACE OF RAILING SHALL BE VERTICAL (PLUMB). DEFLECTION JOINTS, INTERMEDIATE JOINTS, POSTS AND WINDOWS SHALL BE PERPENDICULAR TO GRADE.
5. RAILING LENGTHS ARE MEASURED TO THE ℄ OF INTERMEDIATE JOINTS, TO THE END OF RAILING AT EXPANSION JOINT LOCATIONS AND TO THE END OF RAILING AT THE BEGINING AND END OF PROPOSED RAILING.
6. SEE SIDEWALK PLANS FOR LOCATIONS OF EXPANSION JOINTS.
7. SEE SHEET 114 FOR RAILING TRANSITION DETAILS.

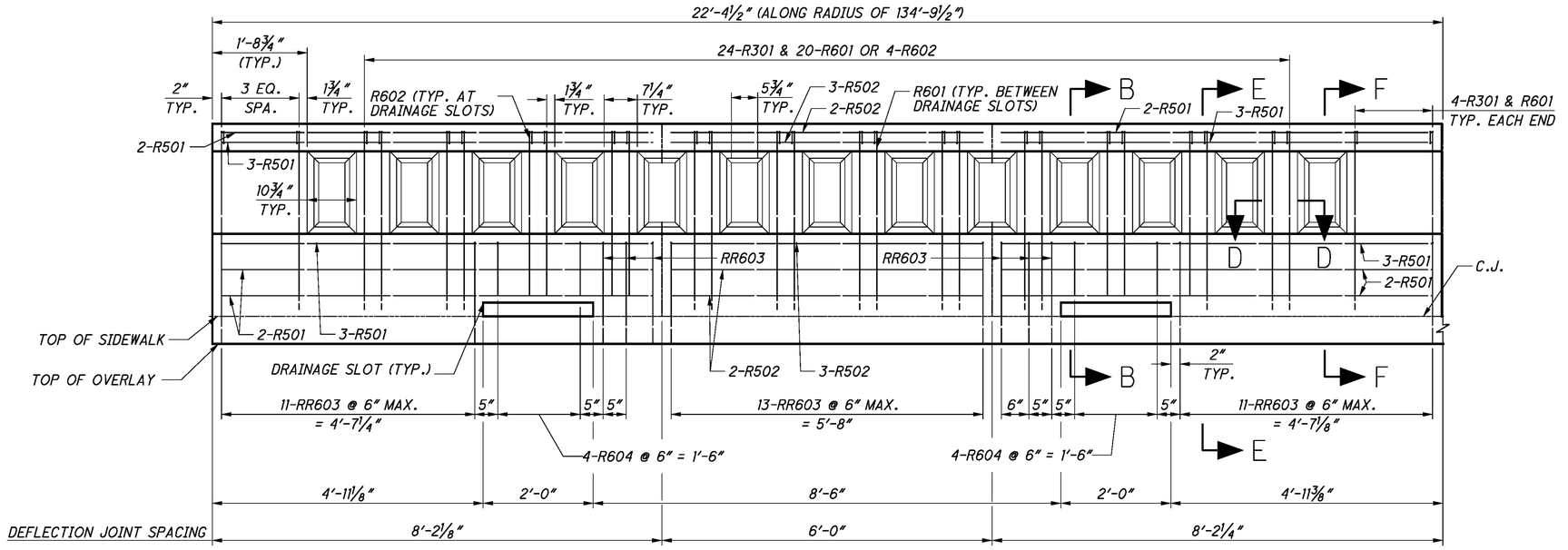
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801511	

RAILING ELEVATIONS 7 OF 7
EASTERN ROADWAY & GCRTA BRIDGE CUY-10-1685
STA. 54+54.67± TO STA. 58+23.27

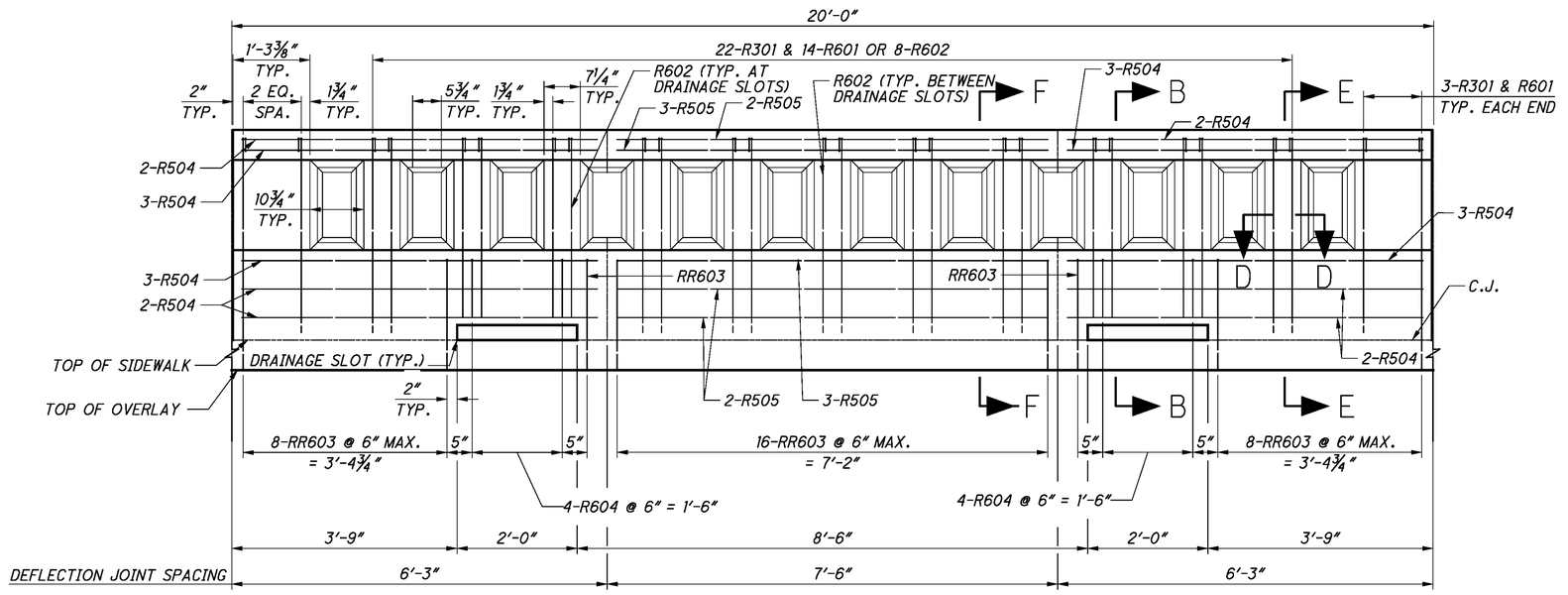
CUY-10-15.96
PID No. 89194

RA-7



TYPE 1 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)



TYPE 2 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. CONSTRUCT CURVED RAILING ON 9'-0" MAXIMUM CHORDS.

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

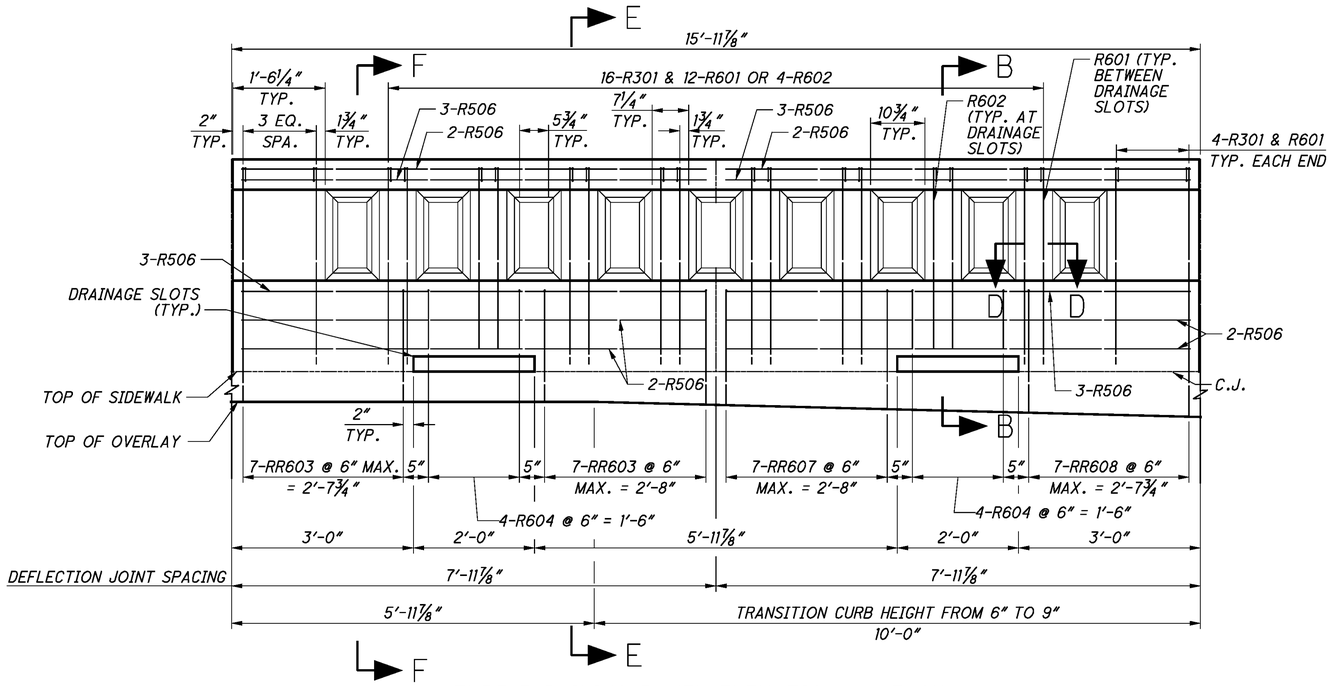
DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		N/A	

RAILING PANEL DETAILS 1 OF 22
TYPES 1 & 2

CUY-10-15.96
PID No. 89194

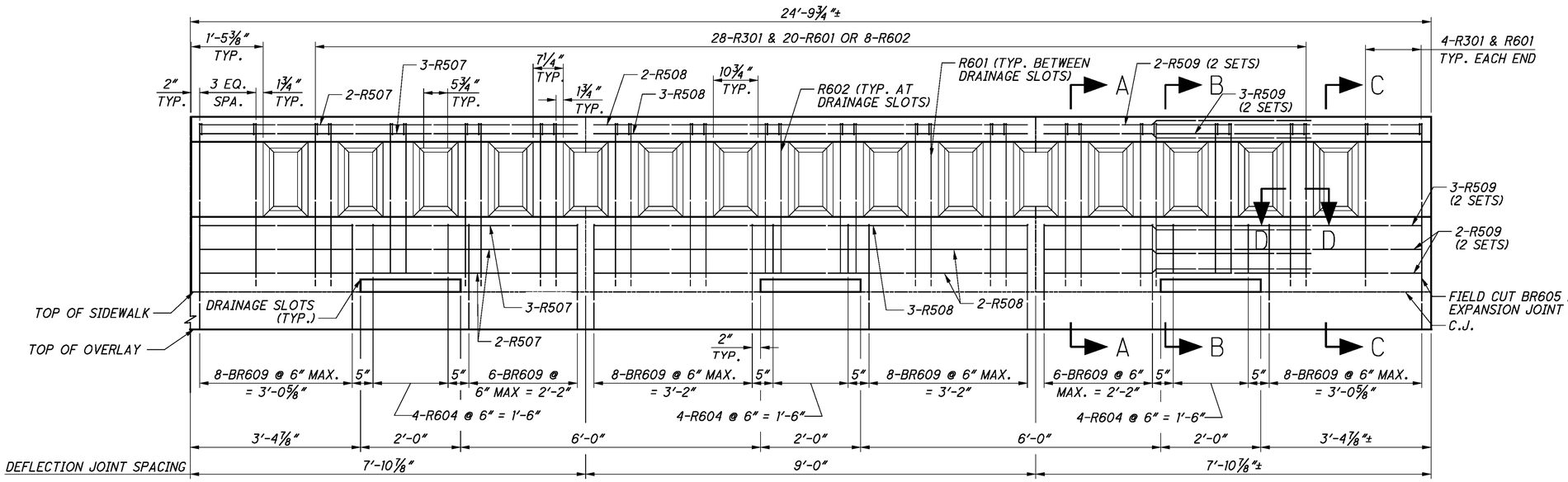
RA-8

93
205



TYPE 3 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 4 RAILING PANEL ELEVATION - 3 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 3 AND TYPE 4 RAILING PANEL.
3. GRADE NOT SHOWN.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

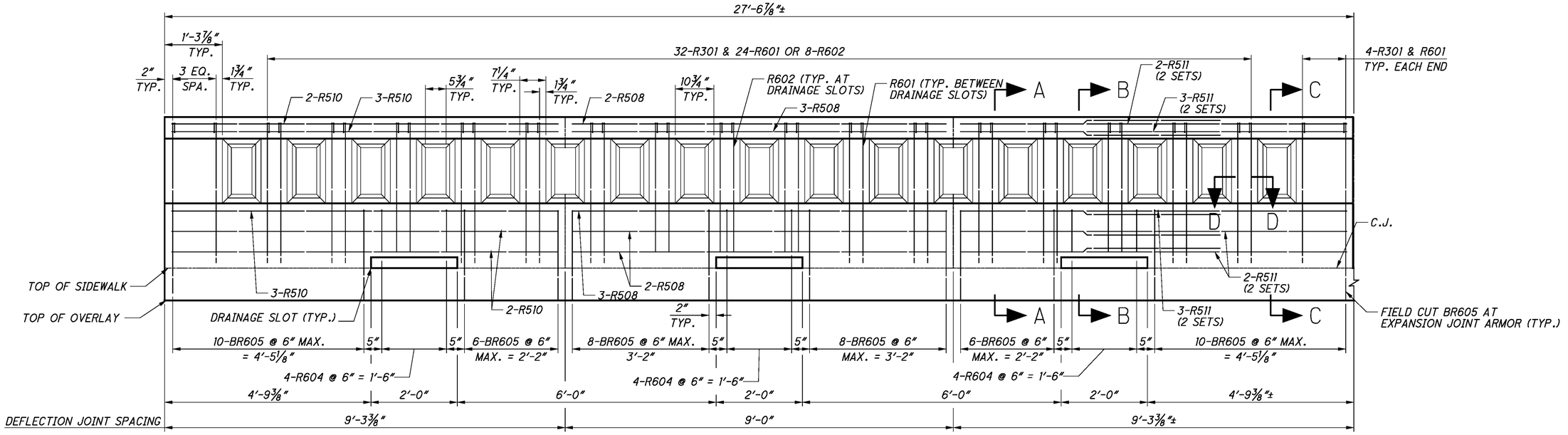
DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		N/A	

RAILING PANEL DETAILS 2 OF 2
TYPES 3 & 4

CUY-10-15.96
PID No. 89194

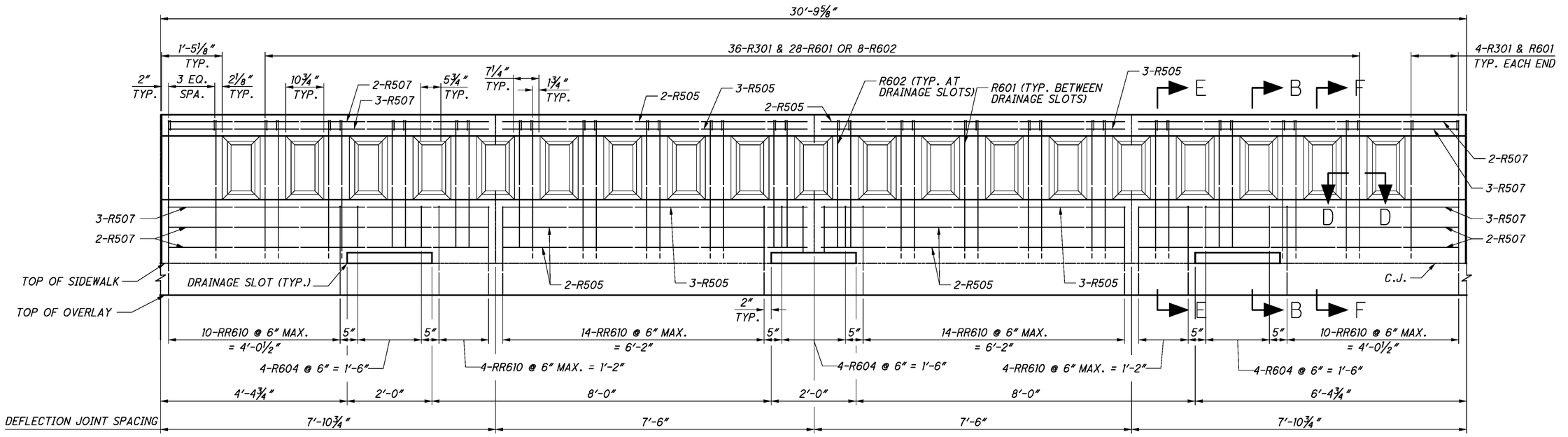
RA-9

94
205



TYPE 5 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)



TYPE 6 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 5 RAILING PANEL.
3. GRADE NOT SHOWN.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

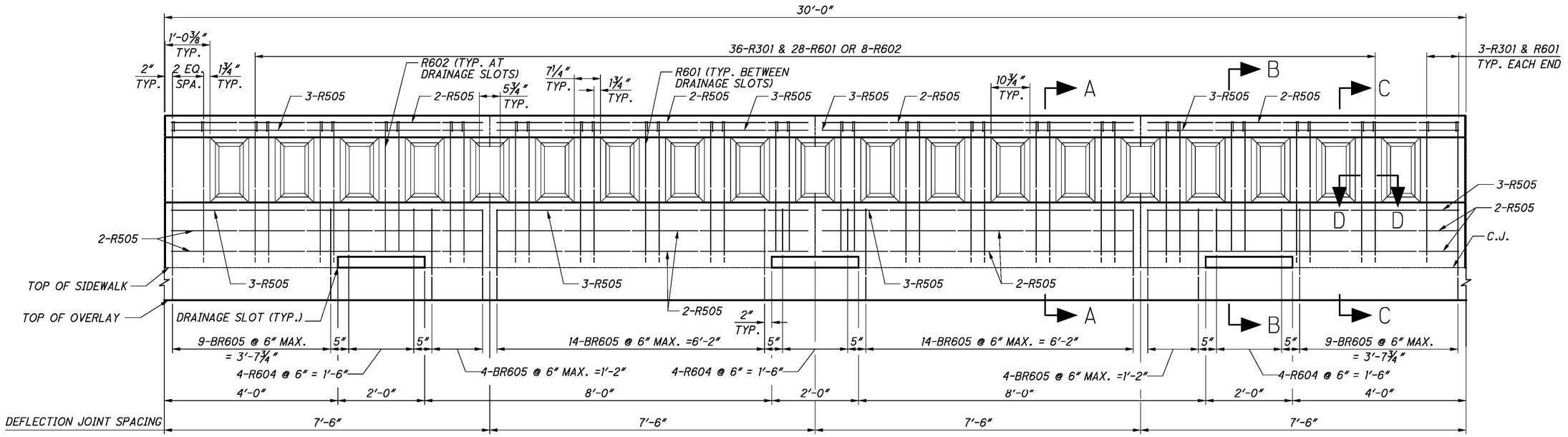
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED XAC | DRAWN XAC | REVIEWED CAS | DATE 10/11
CHECKED ABJ | REVISED | STRUCTURE FILE NUMBER 1801481

RAILING PANEL DETAILS 3 OF 22
TYPES 5 & 6

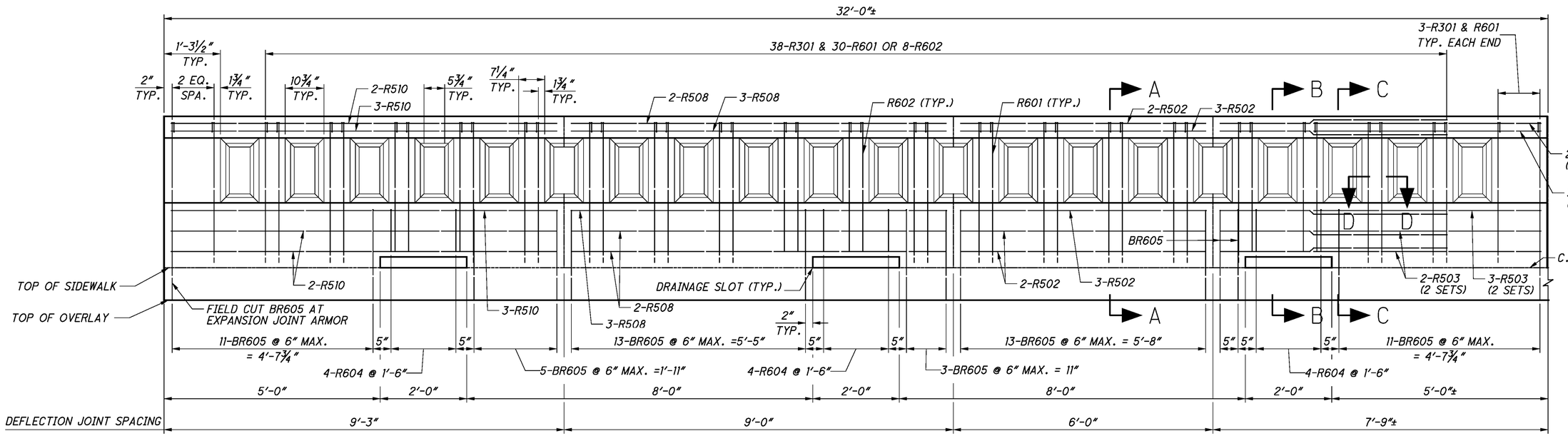
CUY-10-15.96
PID No. 89194

RA-10



TYPE 7 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)



TYPE 8 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 8 RAILING PANEL.
3. GRADE NOT SHOWN.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	CHECKED	DRAWN	REVIEWED	DATE
XAC	ABJ	XAC	CAS	10/11

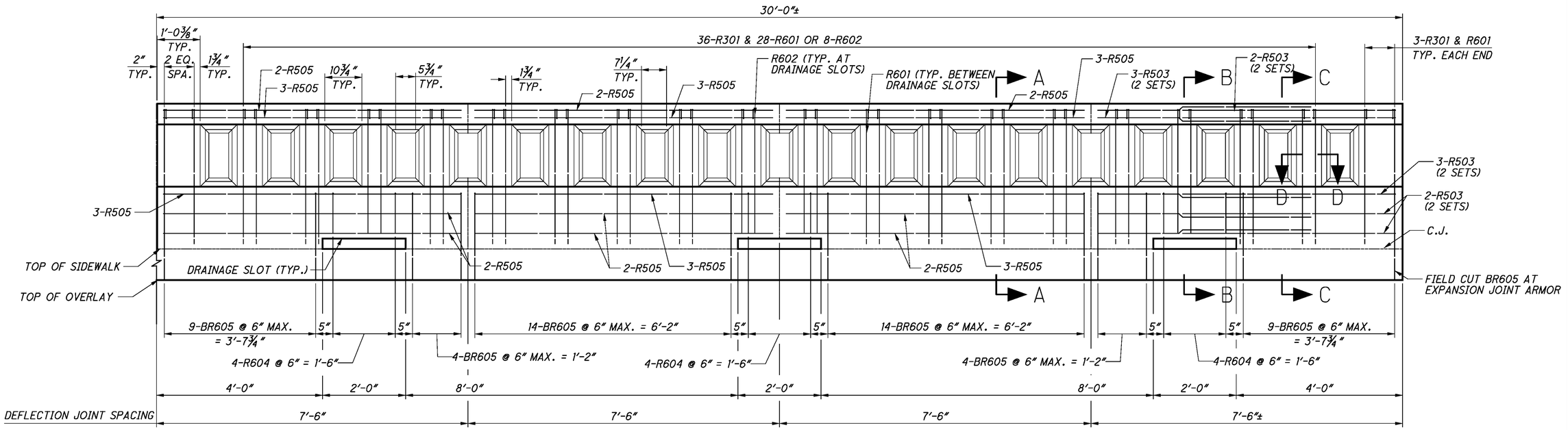
REVISED

STRUCTURE FILE NUMBER 1801503

RAILING PANEL DETAILS 4 OF 22
TYPES 7 & 8

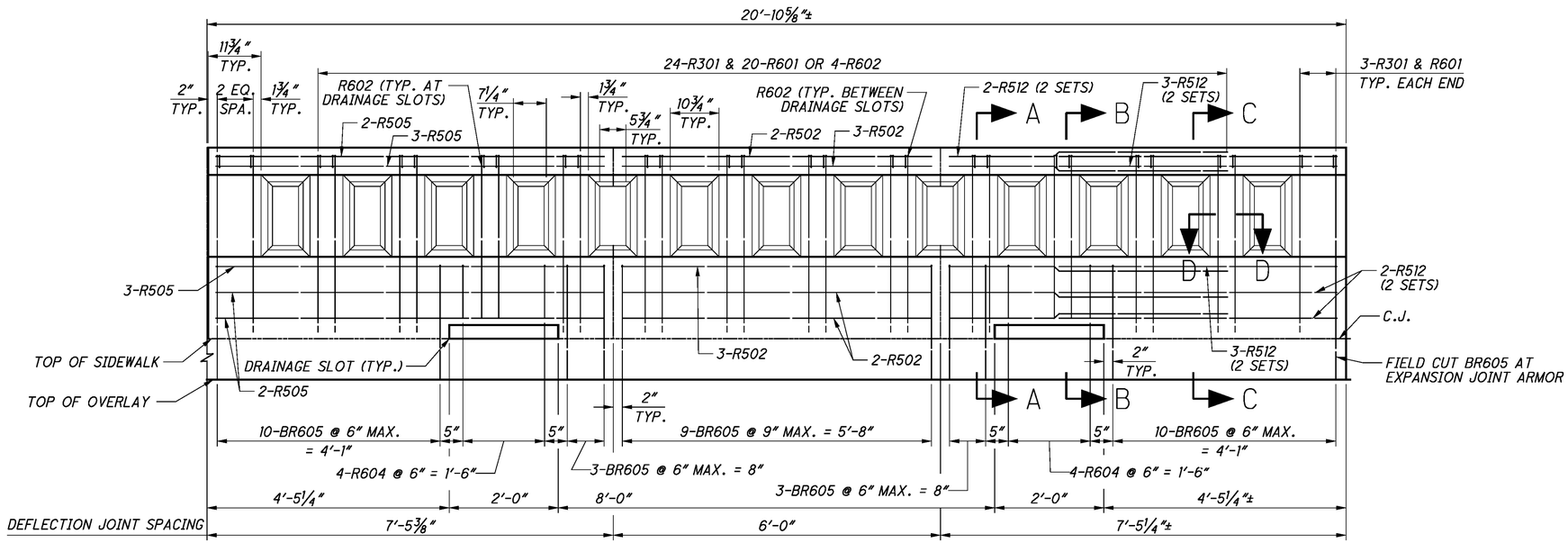
CUY-10-15.96
PID No. 89194

RA-11



TYPE 9 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 10 RAILING PANEL - 2 EACH

(ROADWAY FACE)

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 5 OF 22
TYPES 9 & 10

CUY-10-15.96
PID No. 89194

RA-12

97
205

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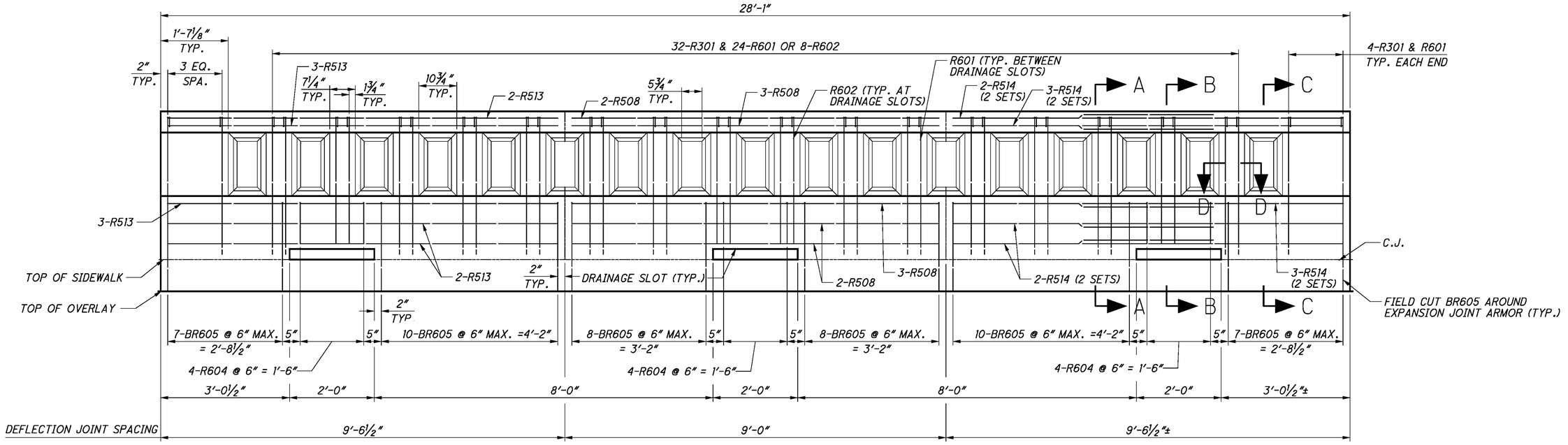
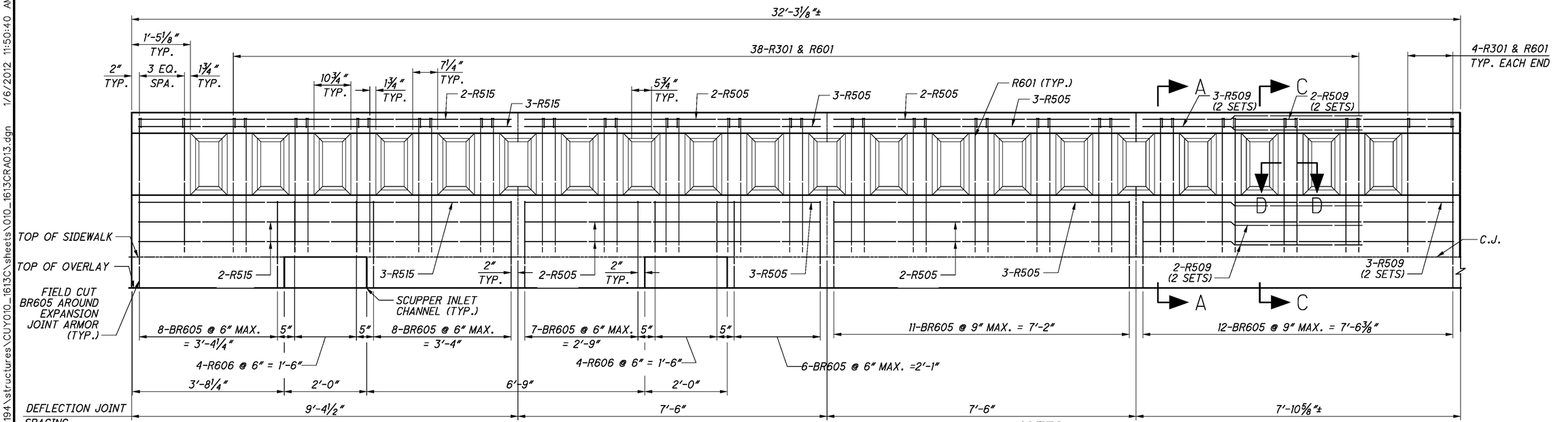


TYPE 11 RAILING PANEL - 1 EACH

(ONE EACH)



TYPE 12 RAILING PANEL - 1 EACH

(ONE EACH)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS: #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

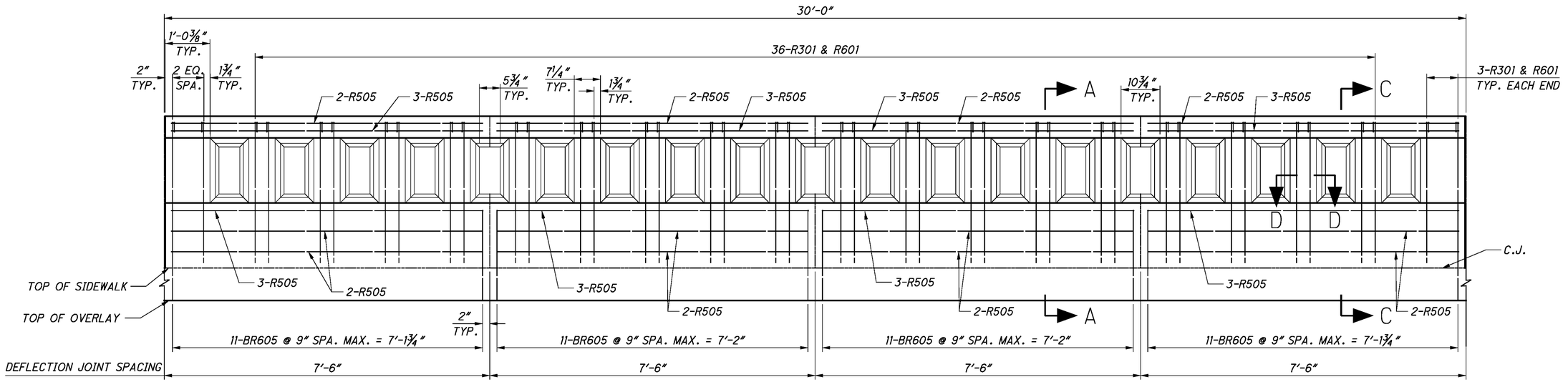
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 6 OF 22
TYPES 11 & 12

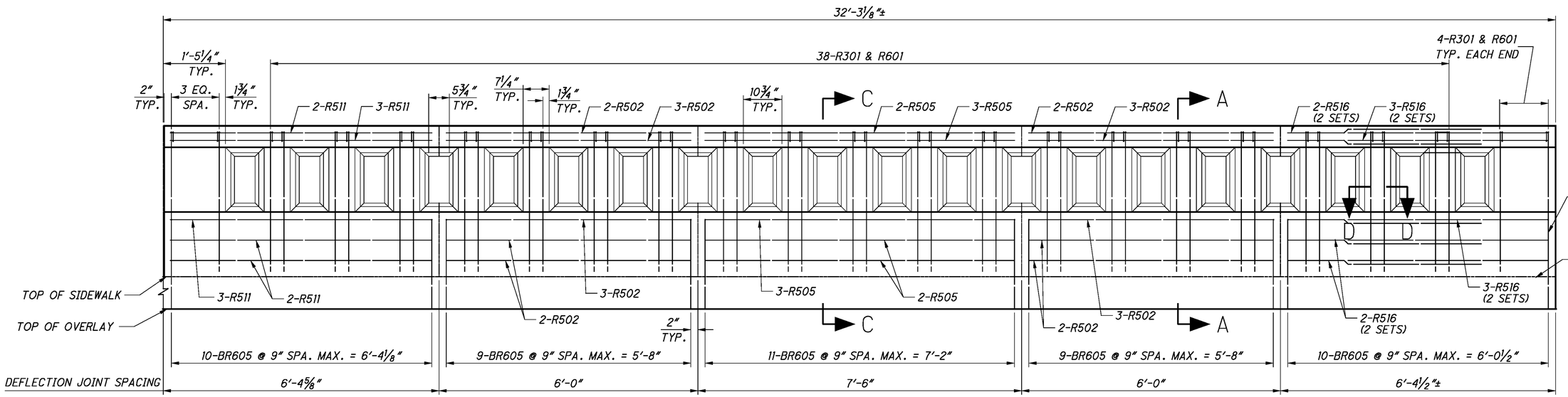
CUY-10-15.96
PID No. 89194

RA-13



TYPE 13 RAILING PANEL ELEVATION - 70 EACH

(ROADWAY FACE)



TYPE 14 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

① FIELD CUT BR605 AROUND EXPANSION JOINT ARMOR

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

RAILING PANEL DETAILS 7 OF 22
TYPES 13 & 14

CUY-10-15.96
PID No. 89194

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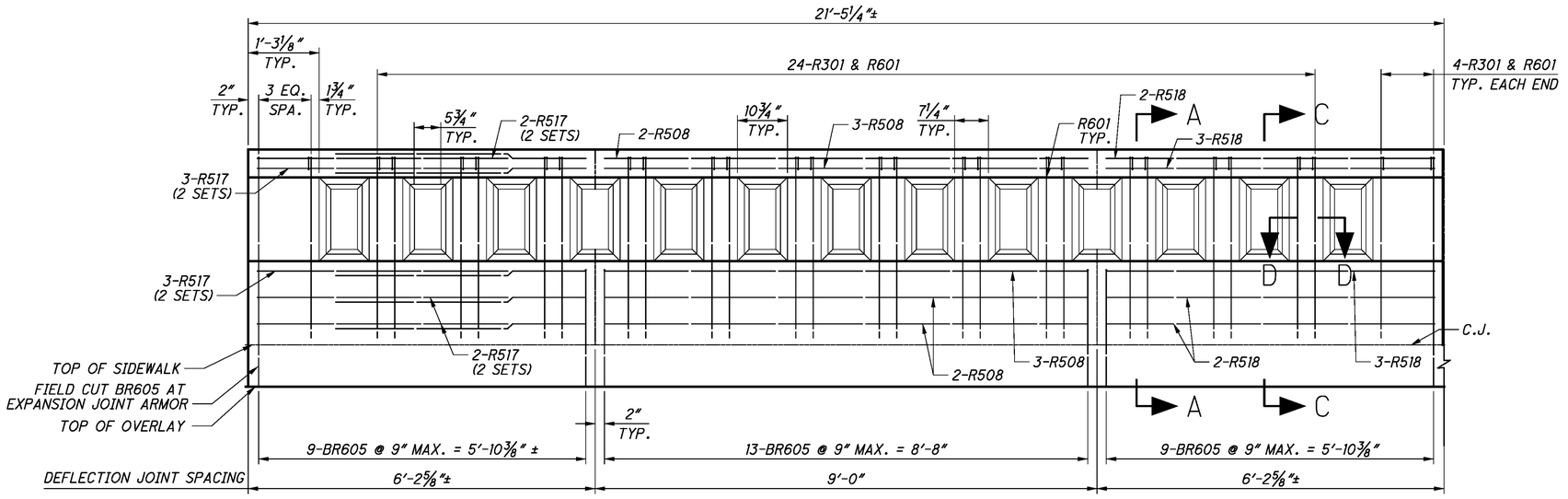
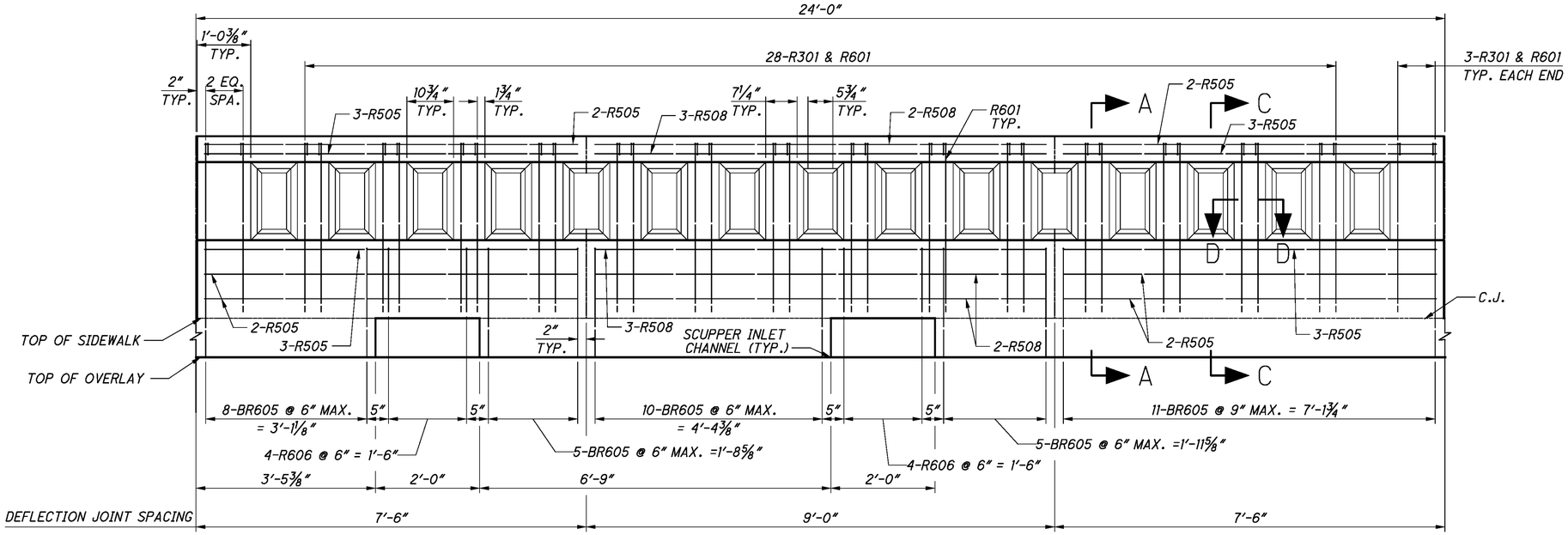
99
205



TYPE 15 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 16 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

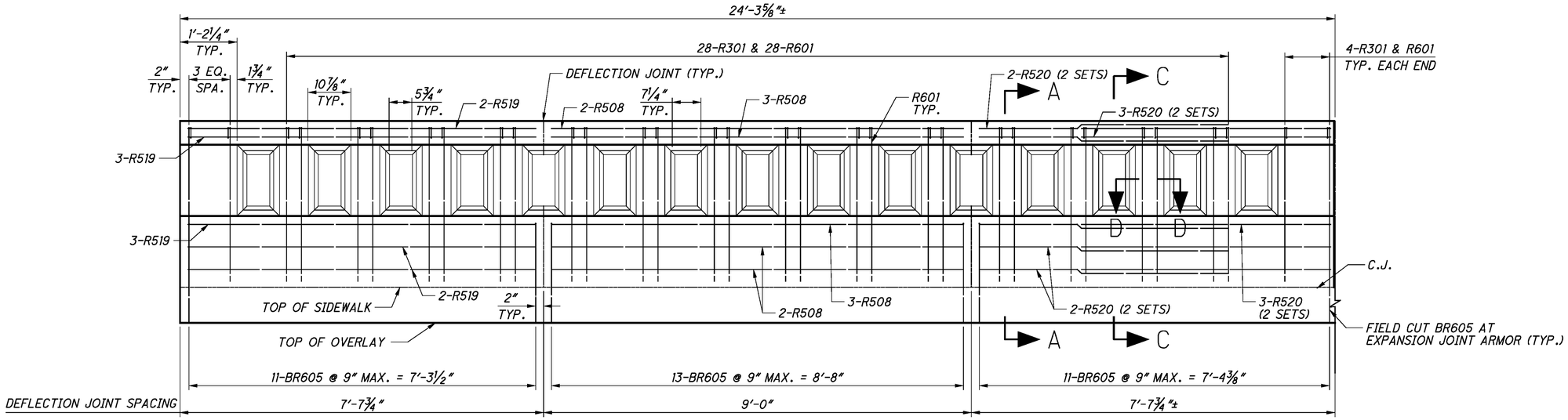
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 8 OF 22
TYPES 15 & 16

CUY-10-15.96
PID No. 89194

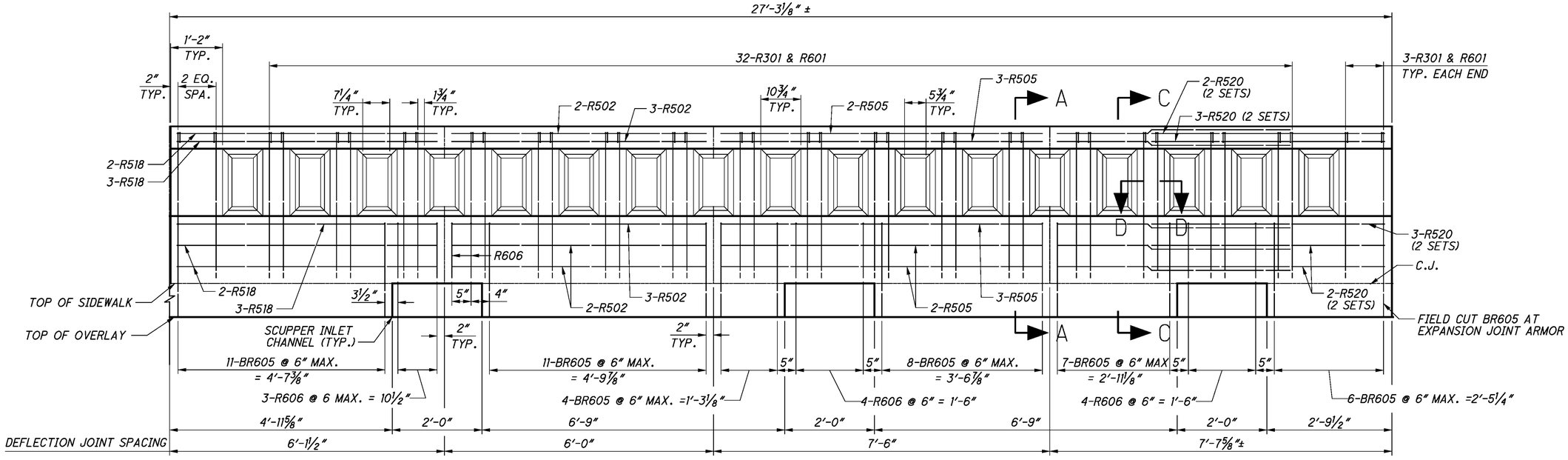
RA-15

100
205



TYPE 17 RAILING PANEL - 2 EACH

(ROADWAY FACE)



TYPE 18 RAILING PANEL - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

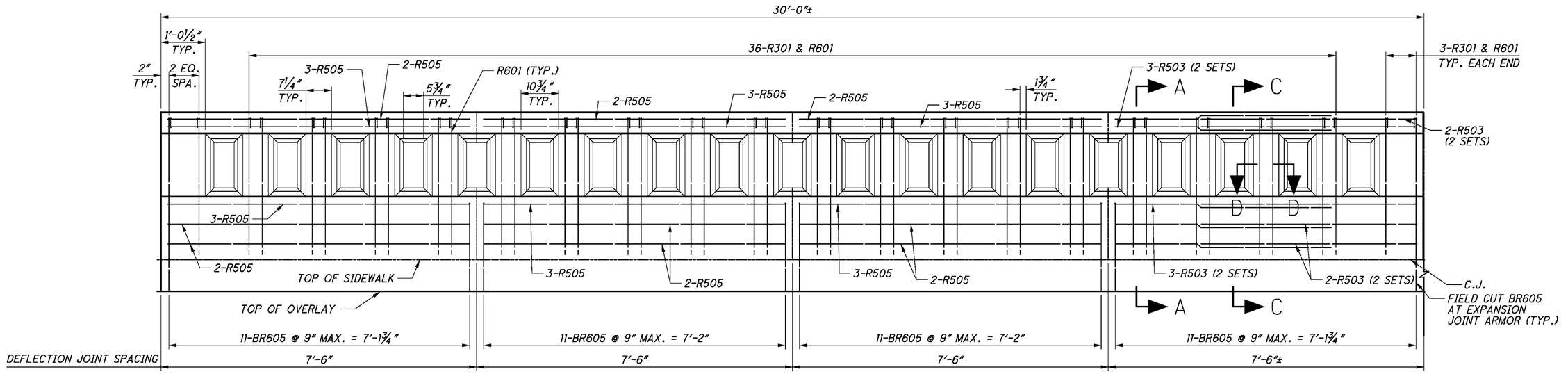
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 9 OF 22
TYPES 17 & 18

CUY-10-15.96
PID No. 89194

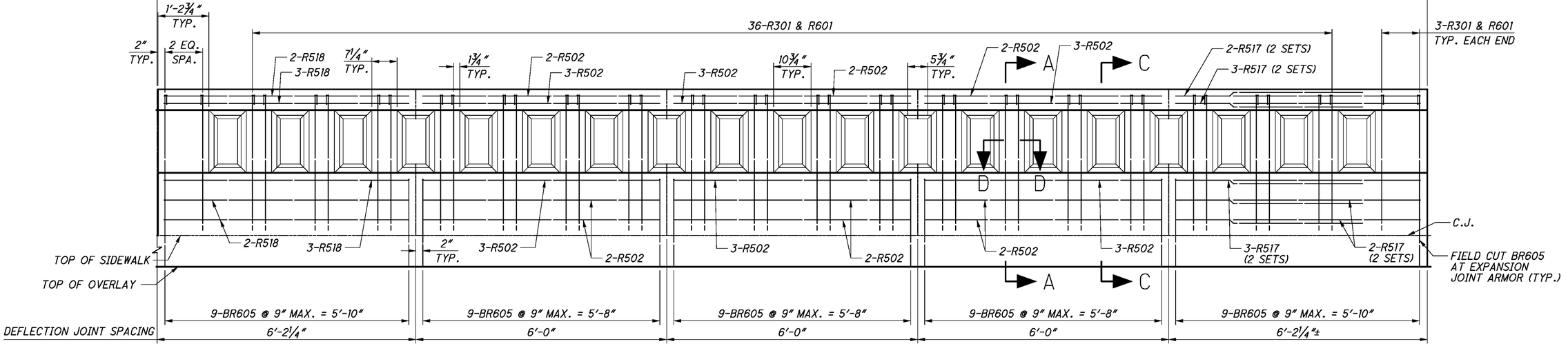
RA-16

101
205



TYPE 19 RAILING PANEL ELEVATION - 8 EACH

(ROADWAY FACE)



TYPE 20 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED ABJ | DRAWN ABJ | REVIEWED CAS | DATE 10/11 | CHECKED XAC | REVISED | STRUCTURE FILE NUMBER 1801503

RAILING PANEL DETAILS 10 OF 22
TYPES 19 & 20

CUY-10-15.96
PID No. 89194

RA-17

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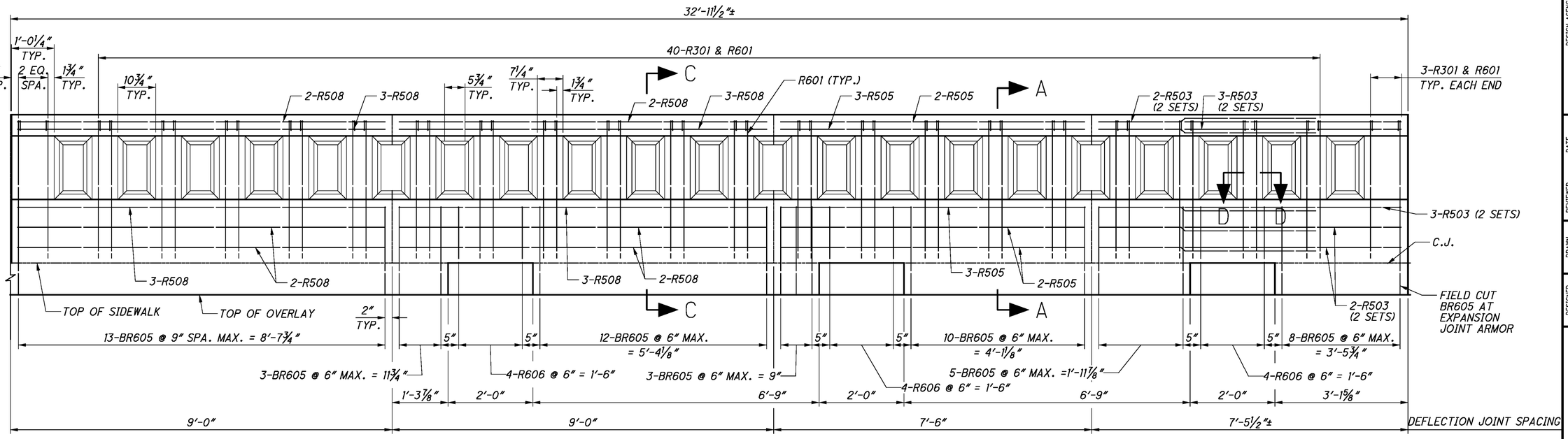
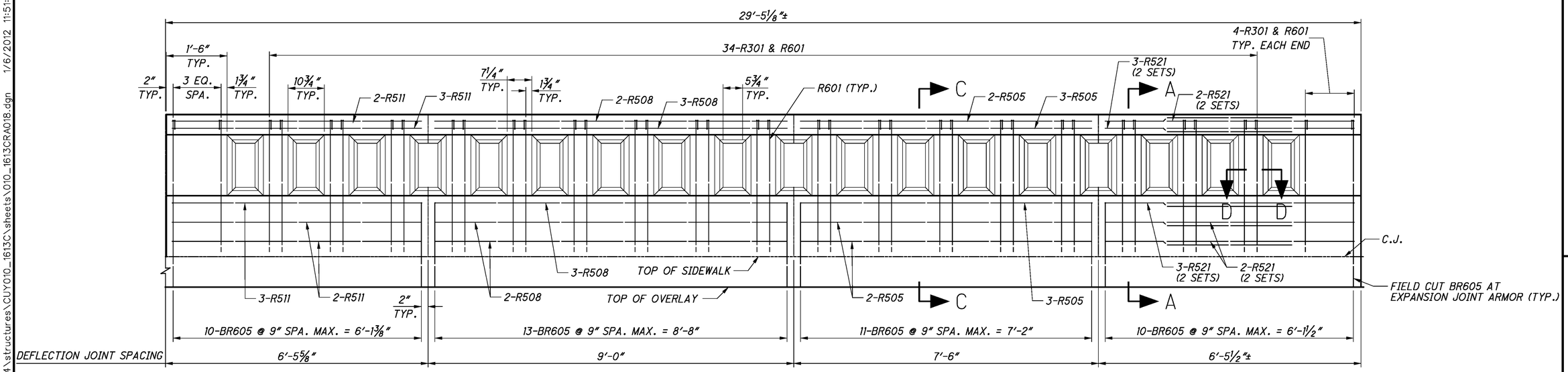
205



TYPE 21 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 22 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS: #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

RAILING PANEL DETAILS 11 OF 22
TYPES 21 & 22

CUY-10-15.96
PID No. 89194

RA-18

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205

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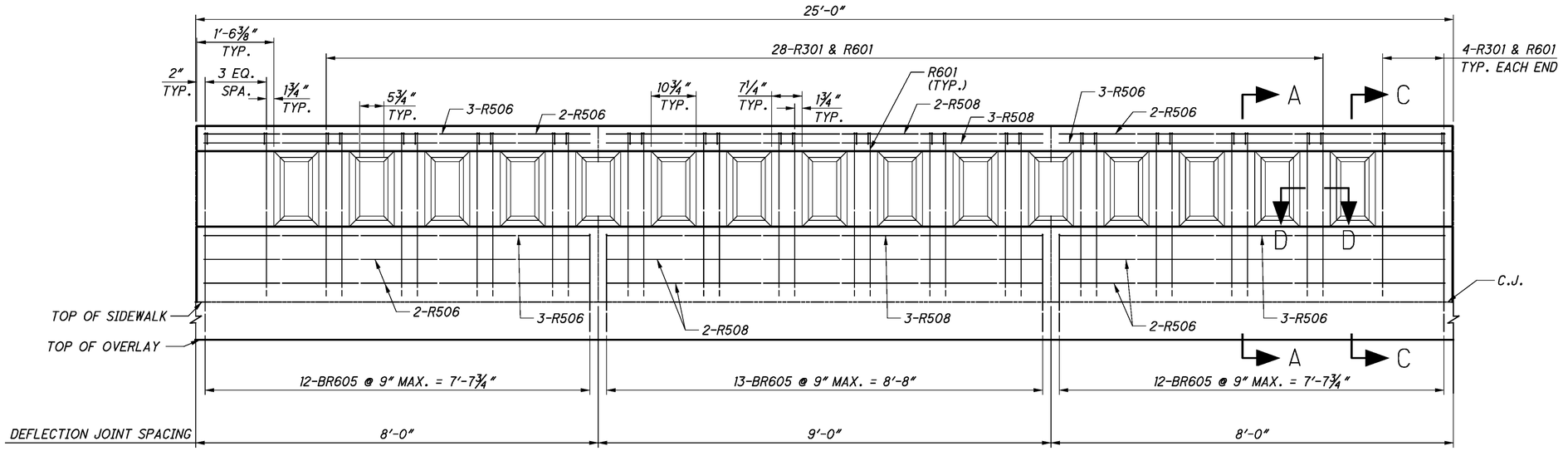
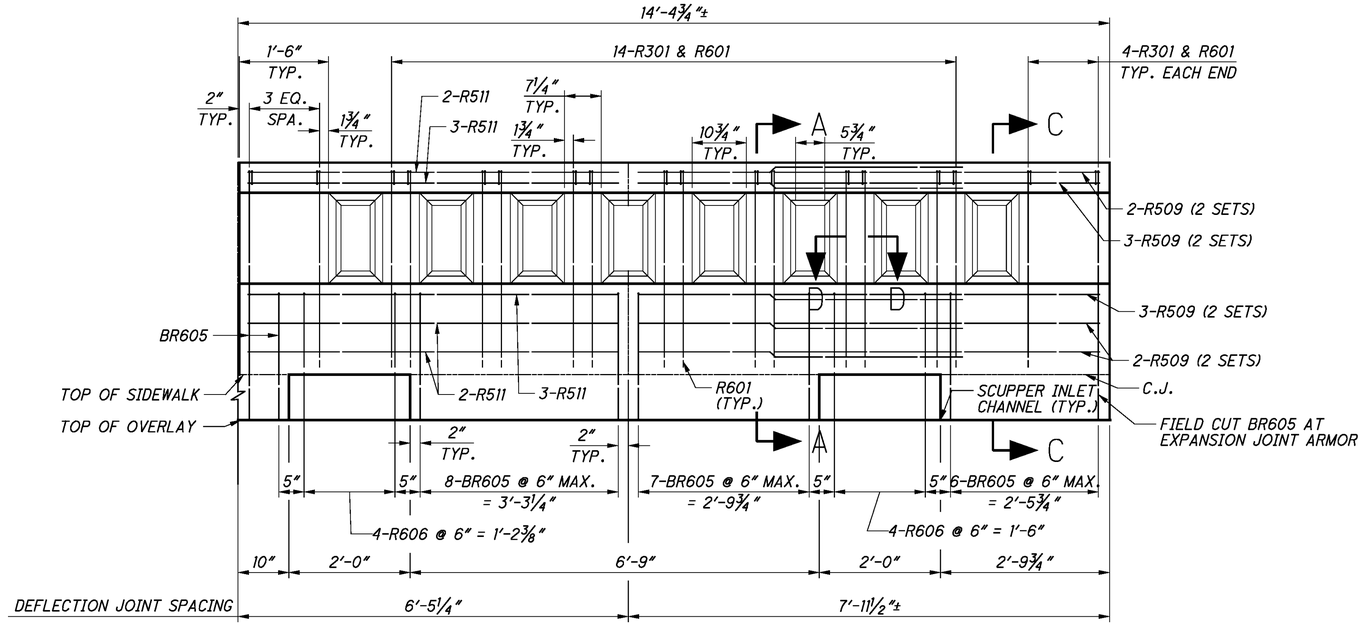


TYPE 23 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 24 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 12 OF 22
TYPES 23 & 24

CUY-10-15.96
PID No. 89194

RA-19

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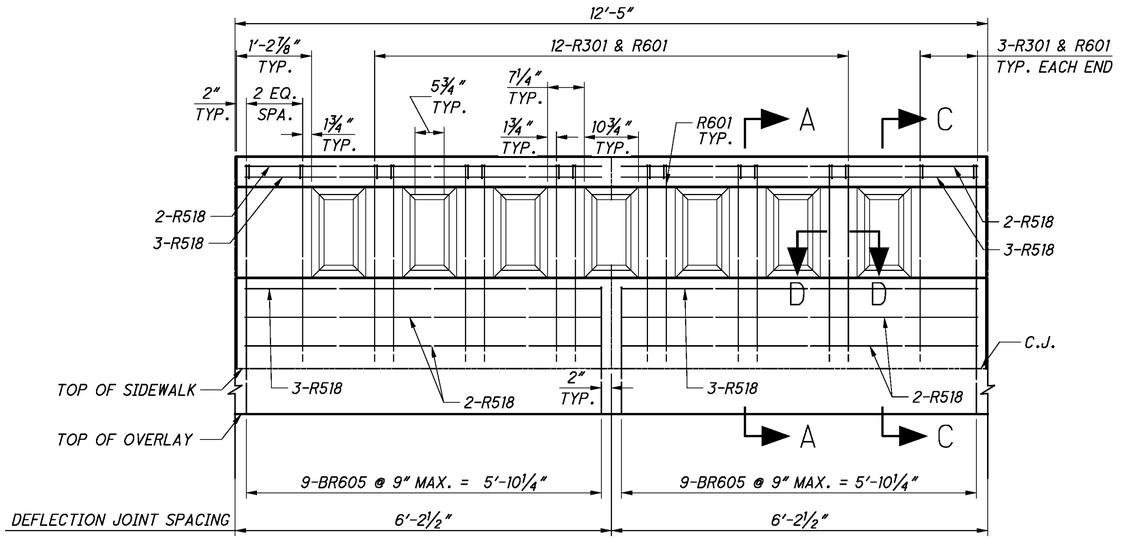
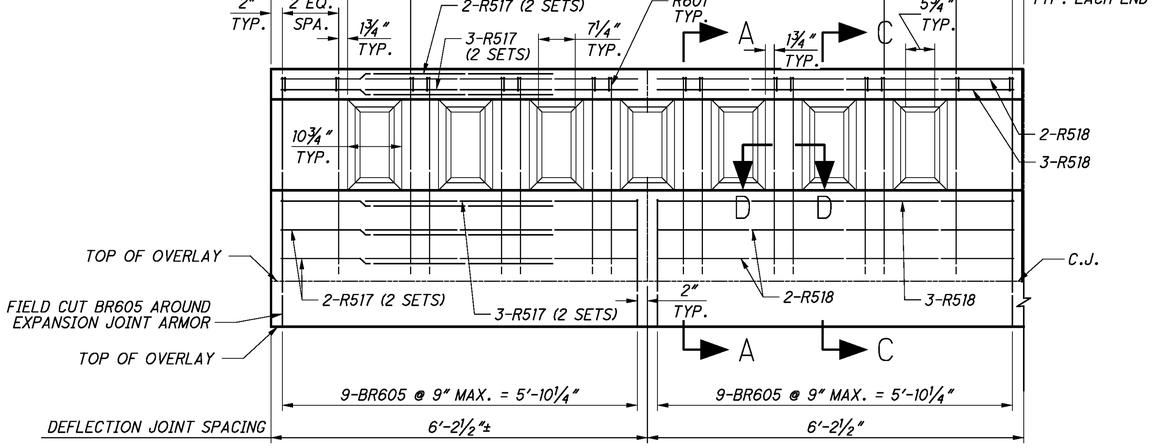


TYPE 25 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 26 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 13 OF 22
TYPES 25 & 26

CUY-10-15.96
PID No. 89194

RA-20

105
205

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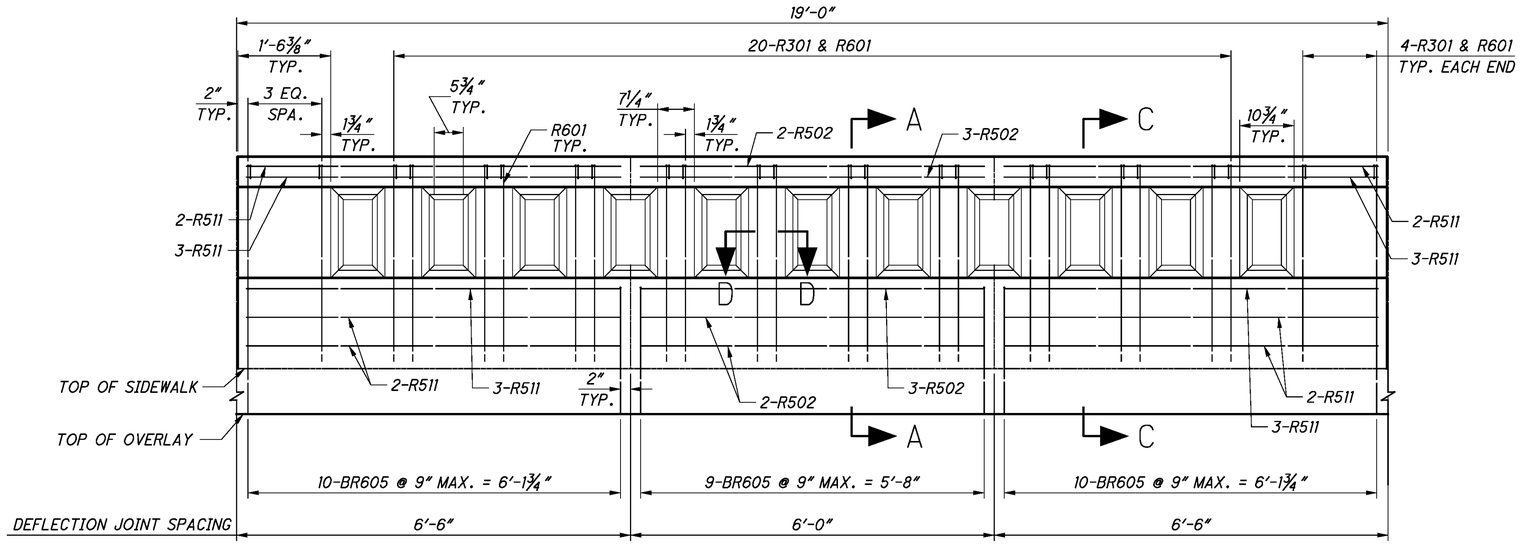
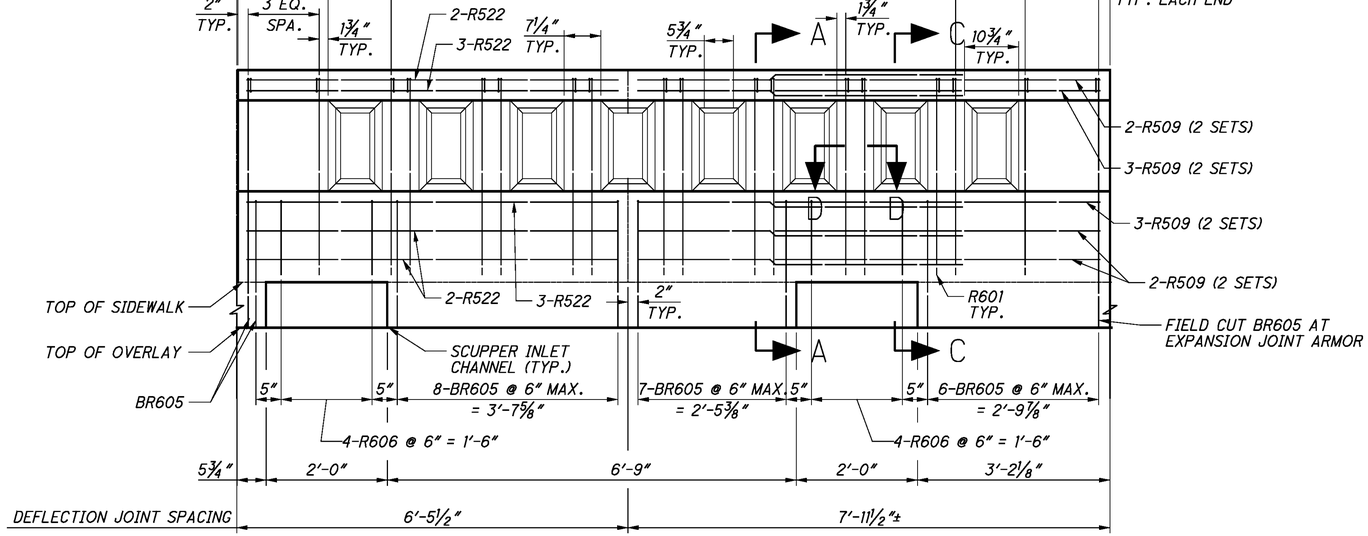


TYPE 27 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 28 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANLE DETAILS 14 OF 22
TYPES 27 & 28

CUY-10-15.96
PID No. 89194

RA-21

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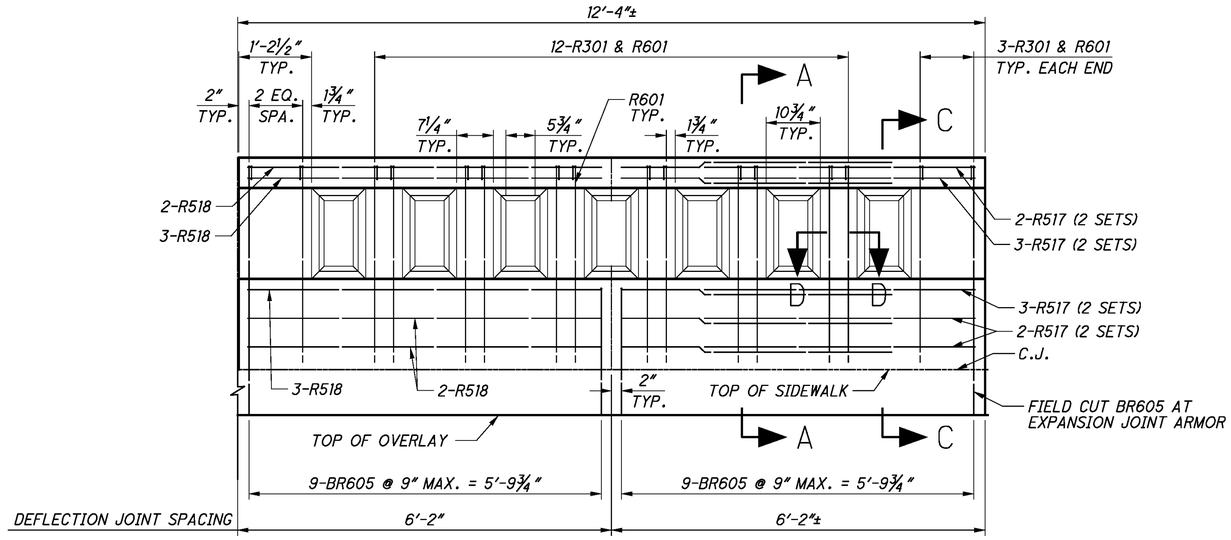
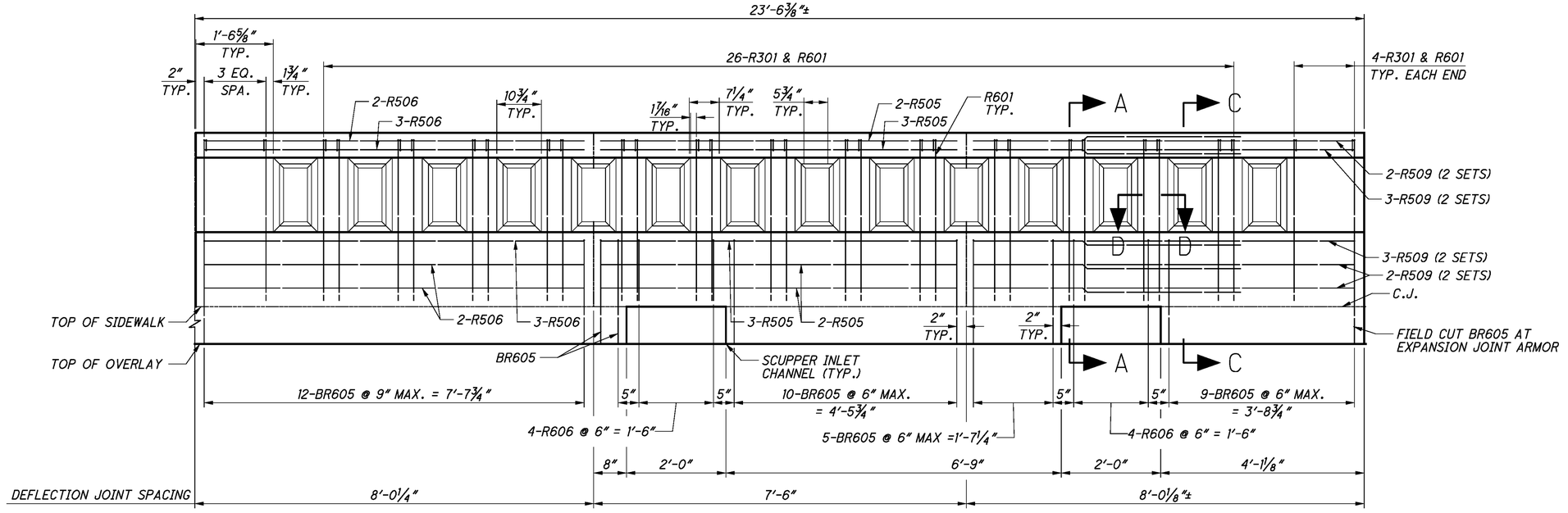


TYPE 29 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)



TYPE 30 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. SEE SCUPPER INLET DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 15 OF 22
TYPES 29 & 30

CUY-10-15.96
PID No. 89194

RA-22

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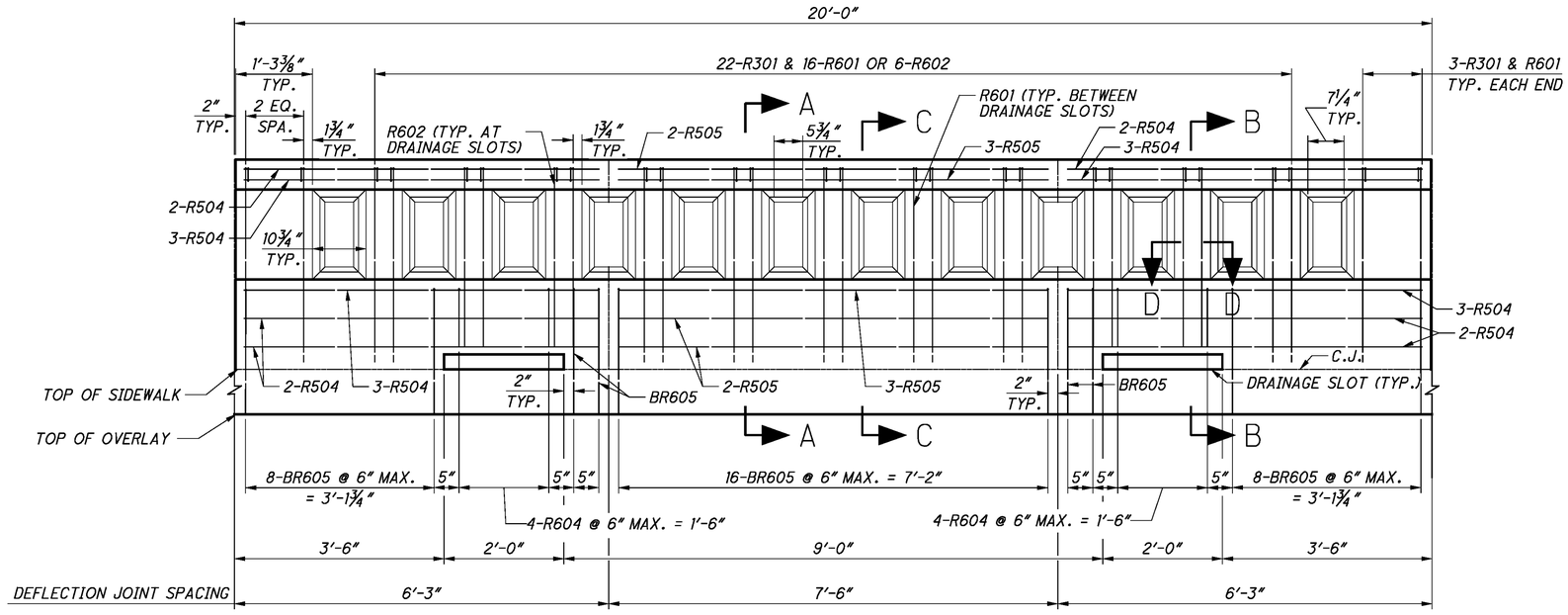
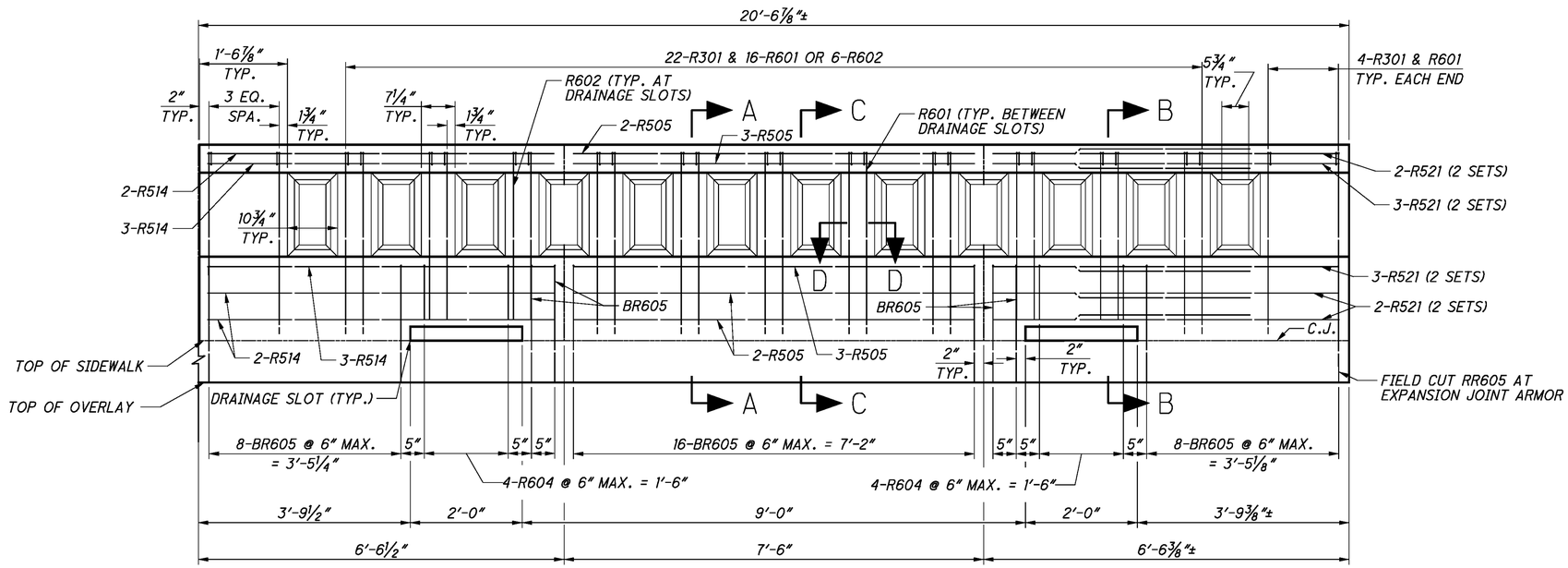
205



TYPE 31 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 32 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

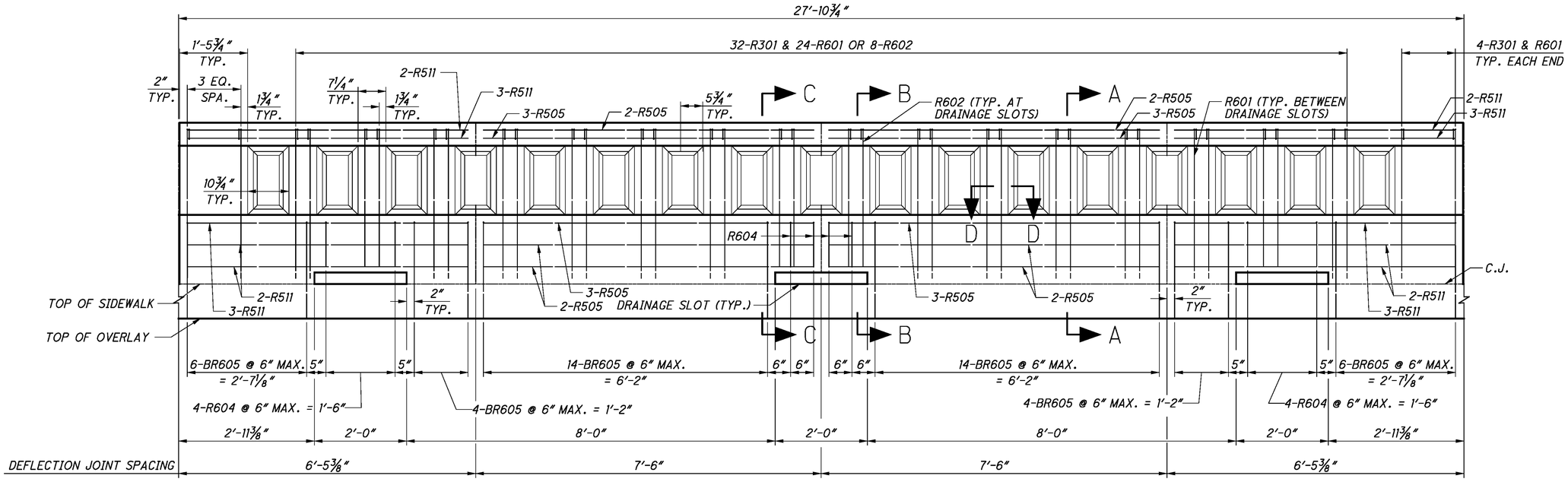
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11

CHECKED XAC | REVISED | STRUCTURE FILE NUMBER

RAILING PANEL DETAILS 16 OF 22
TYPES 31 & 32

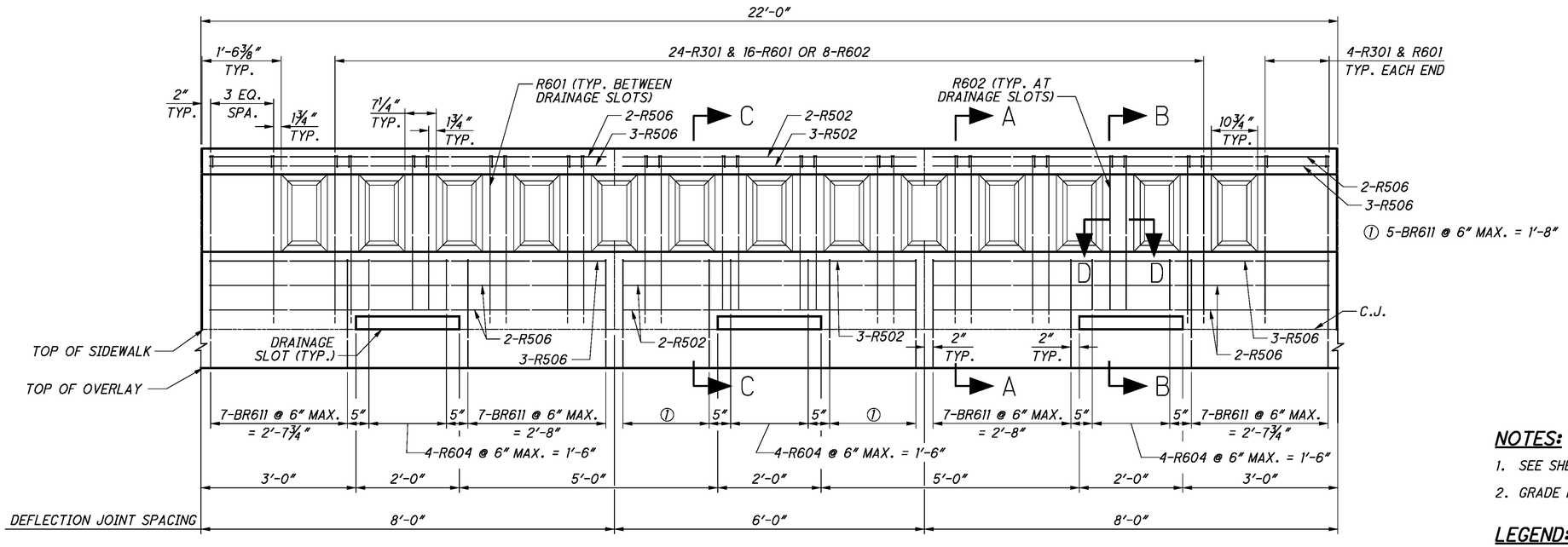
CUY-10-15.96
PID No. 89194

RA-23



TYPE 33 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 34 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC			

RAILING PANEL DETAILS 17 OF 22
TYPES 33 & 34

CUY-10-15.96
PID No. 89194

RA-24

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205

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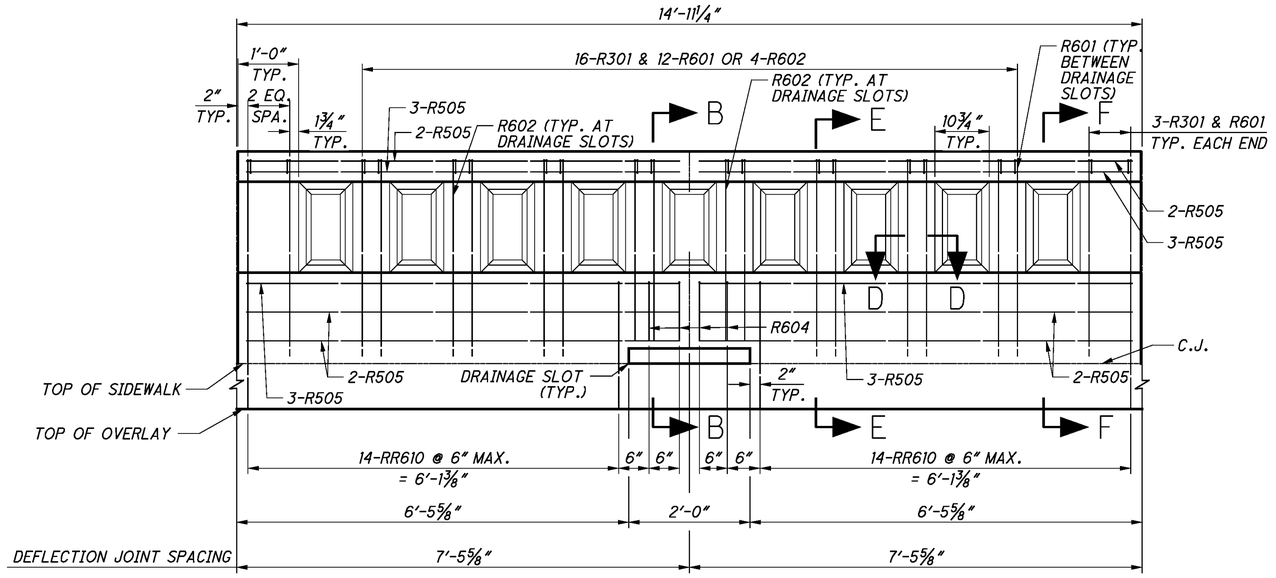
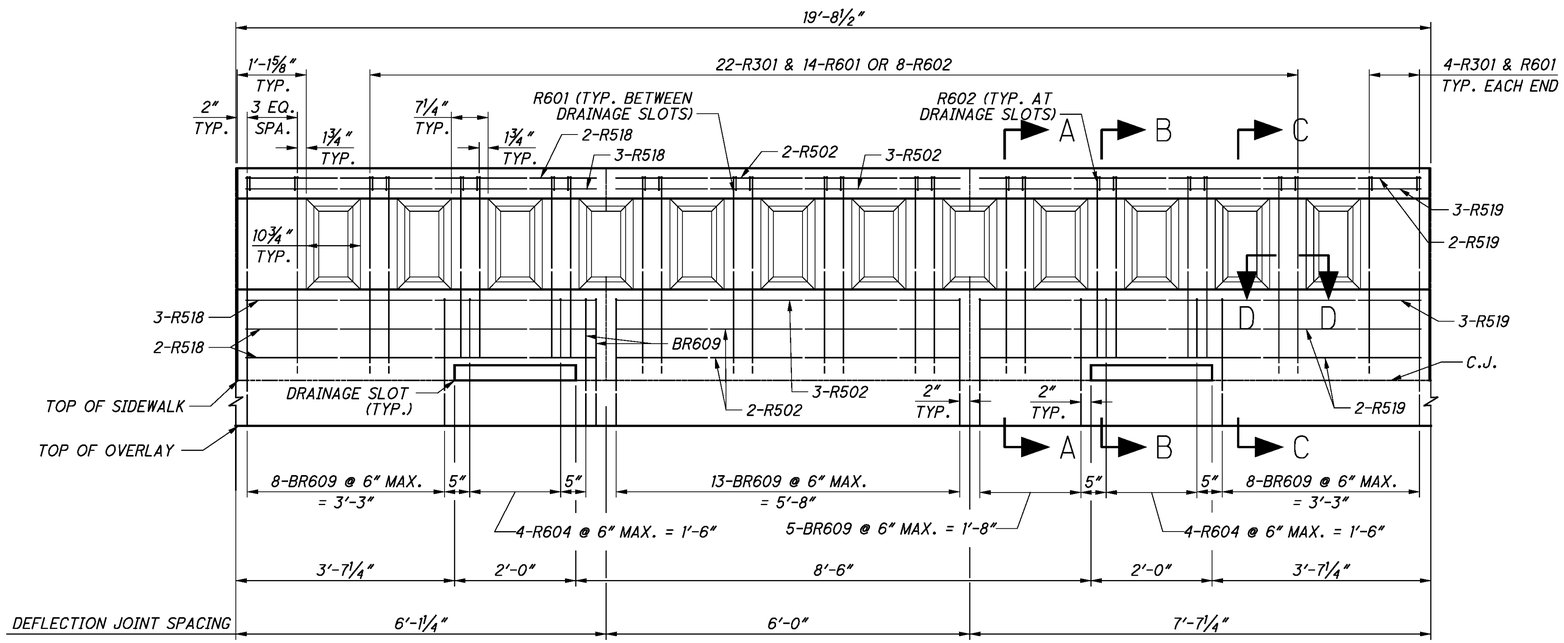


TYPE 35 RAILING PANEL - 1 EACH

(ROADWAY FACE)



TYPE 36 RAILING PANEL - 1 EACH

(ROADWAY FACE)

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 35 AND 36 RAILING PANELS.
3. GRADE NOT SHOWN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC			

RAILING PANEL DETAILS 18 OF 22
TYPES 35 & 36

CUY-10-15.96
PID No. 89194

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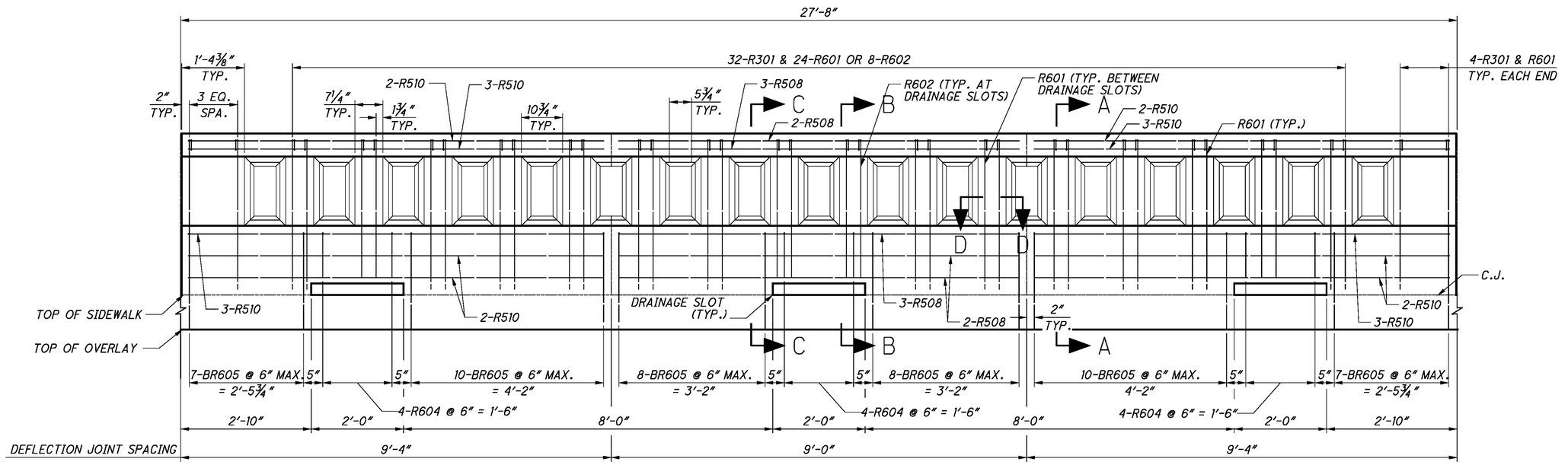
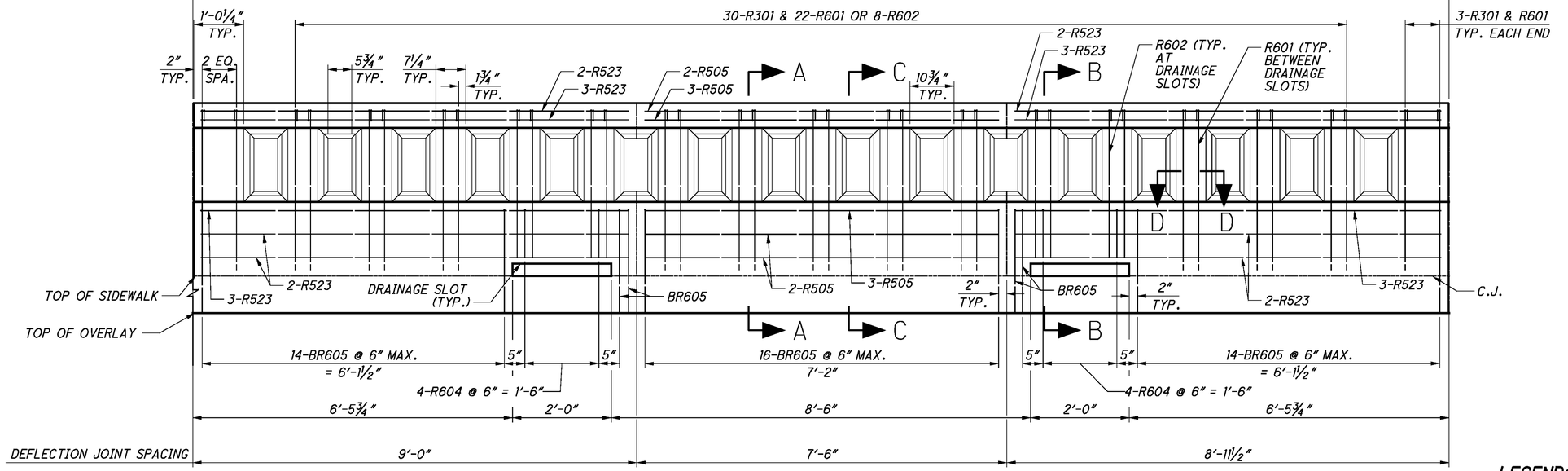


TYPE 37 RAILING PANEL ELEVATON - 1 EACH

(ROADWAY FACE)



TYPE 38 RAILING PANEL - 3 EACH

(ROADWAY FACE)

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 37 RAILING PANEL.
3. GRADE NOT SHOWN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801511	

RAILING PANEL DETAILS 19 OF 22
TYPES 37 & 38

CUY-10-15.96
PID No. 89194

RA-26

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205

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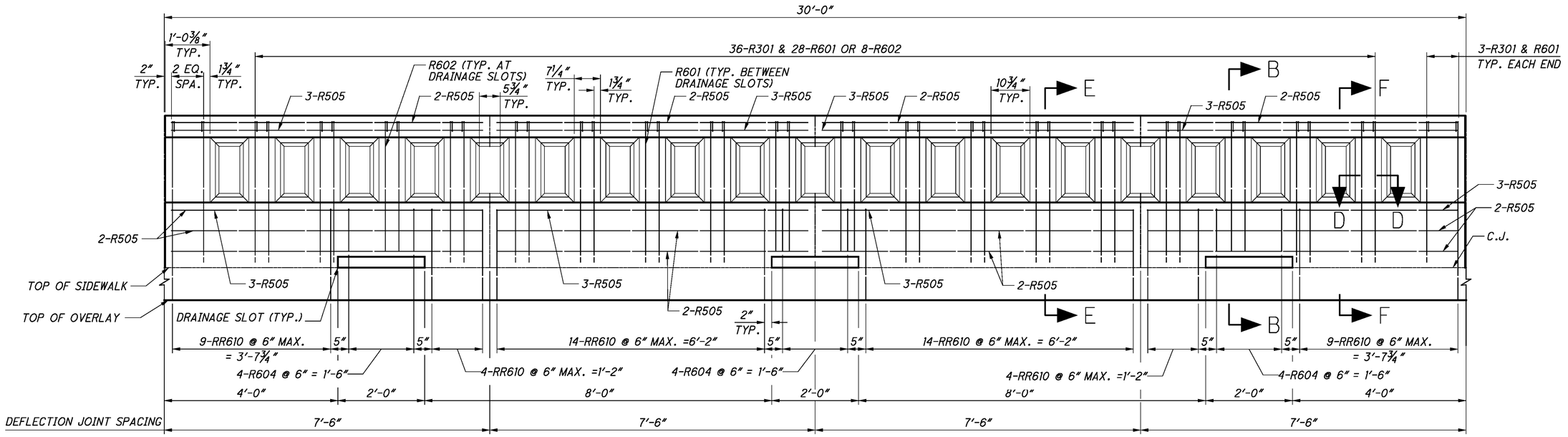
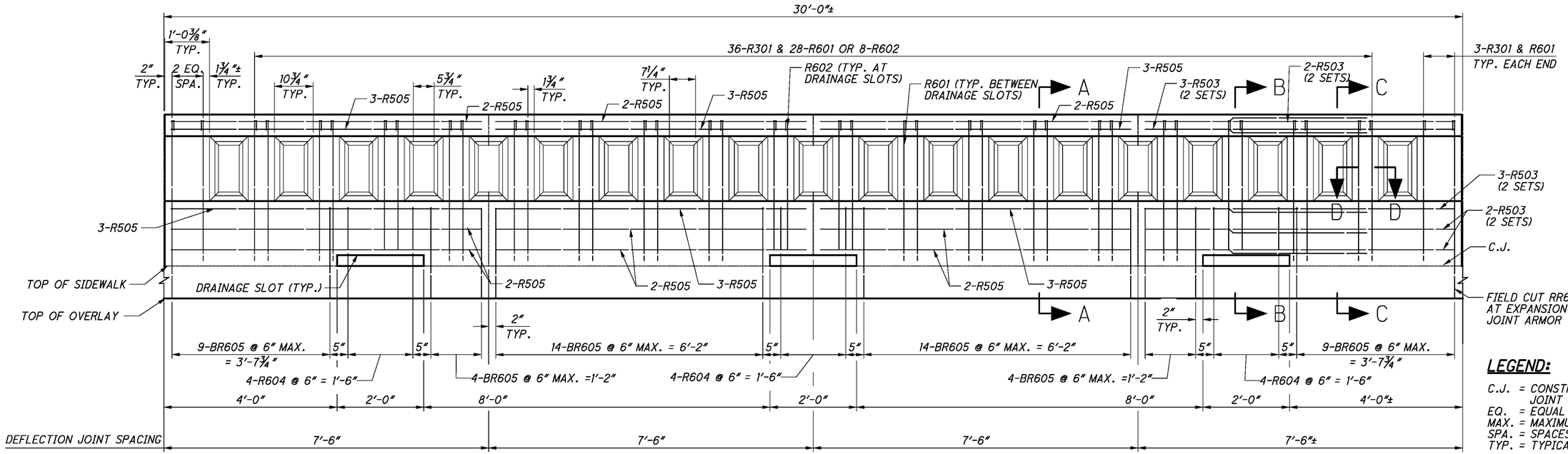


TYPE 39 RAILING PANEL ELEVATION - 3 EACH

(ROADWAY FACE)



TYPE 40 RAILING PANEL ELEVATION - 2 EACH

(ROADWAY FACE)

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. SEE SHEET 115 FOR PLAN VIEW OF TYPE 39 RAILING PANEL.
3. GRADE NOT SHOWN.
4. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ			

RAILING PANEL DETAILS 20 OF 22
TYPES 39 & 40

CUY-10-15.96
PID No. 89194

RA-27

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205

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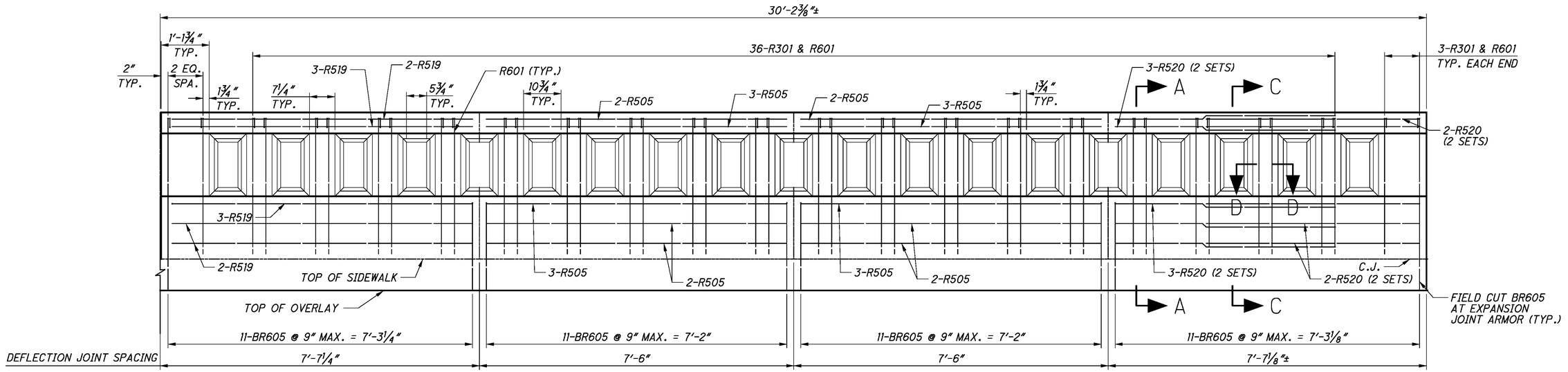
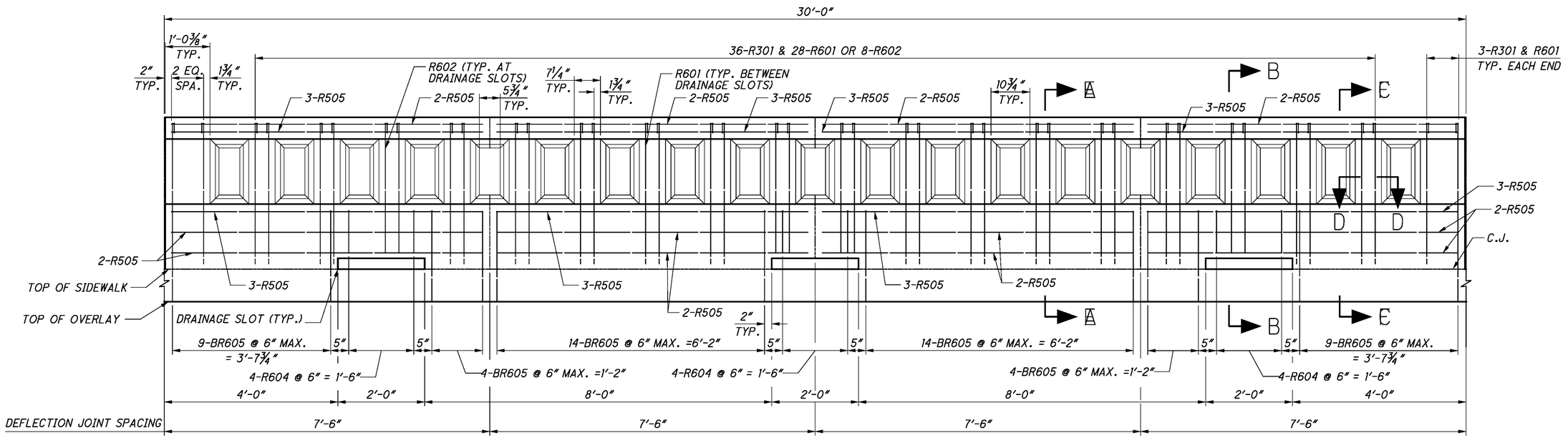


TYPE 41 RAILING PANEL ELEVATION - 1 EACH

(ROADWAY FACE)



TYPE 42 RAILING PANEL ELEVATION - 3 EACH

(ROADWAY FACE)

NOTES:

1. SEE SHEET 116 FOR SECTIONS.
2. GRADE NOT SHOWN.
3. MINIMUM LAP LENGTHS:

   #5 BAR = 2'-7"

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

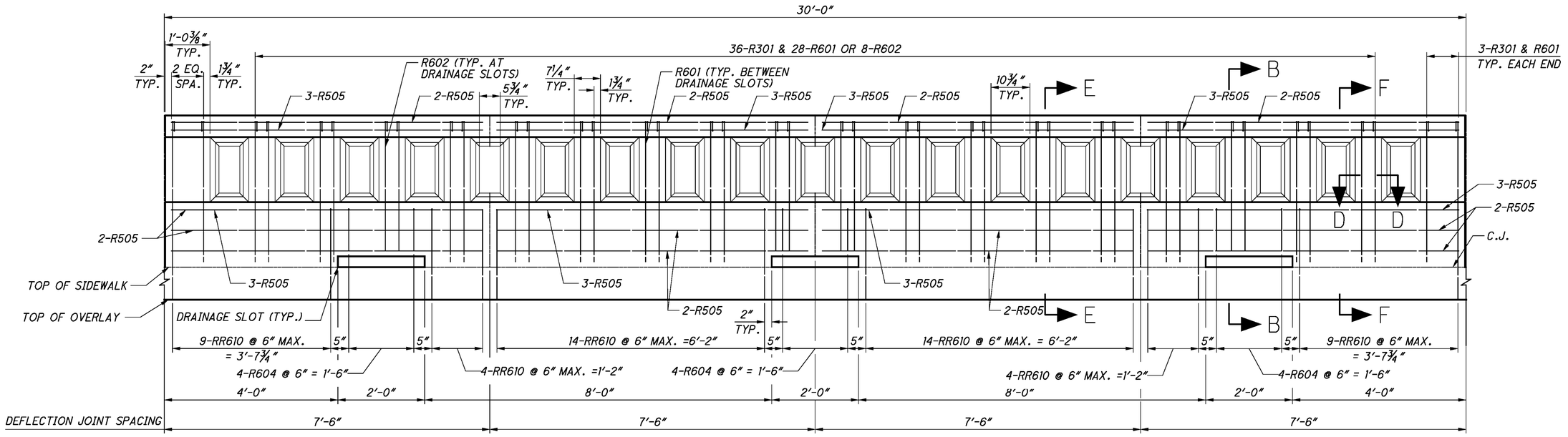
DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

RAILING PANEL DETAILS 21 OF 22
TYPES 41 & 42

CUY-10-15.96
PID No. 89194

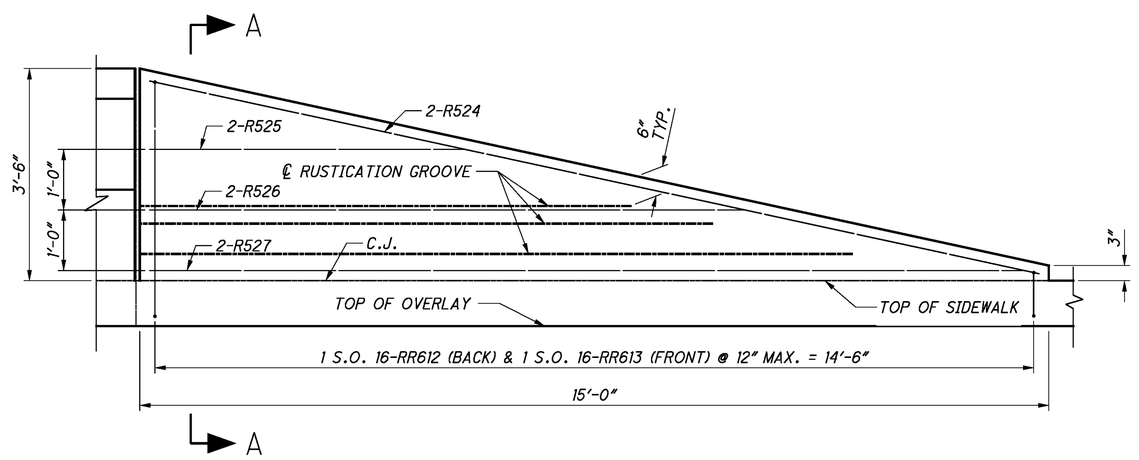
RA-28

113
205



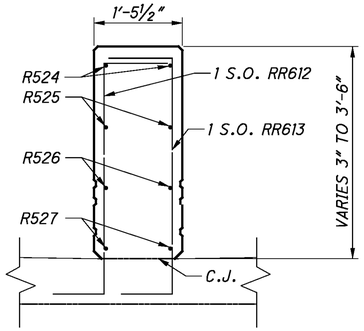
TYPE 43 RAILING PANEL ELEVATION - 6 EACH

(ROADWAY FACE)



EAST END BARRIER TRANSITION ELEVATION - 1 EACH

(ROADWAY FACE)



SECTION A-A

NOTES:

1. SEE SHEET 116 FOR RAILING SECTIONS.
2. GRADE NOT SHOWN.

LEGEND:

C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
S.O. = SERIES OF
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

RAILING PANEL DETAILS 22 OF 22
TYPE 43 & TRANSITION

CUY-10-15.96
PID No. 89194

RA-29

114
205

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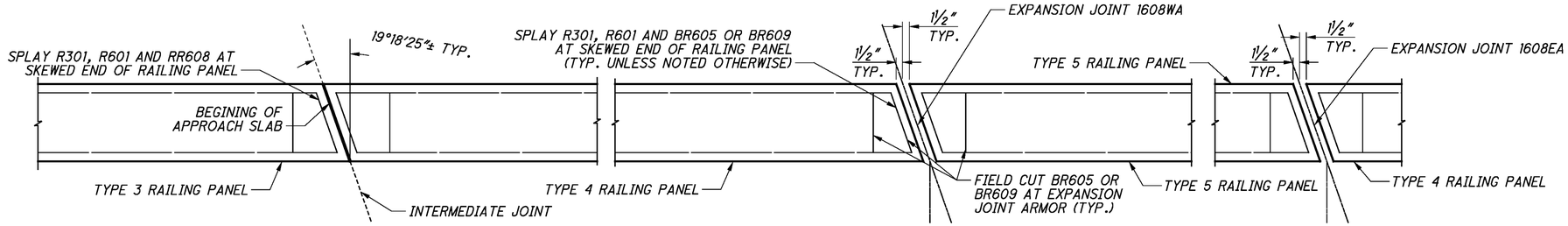
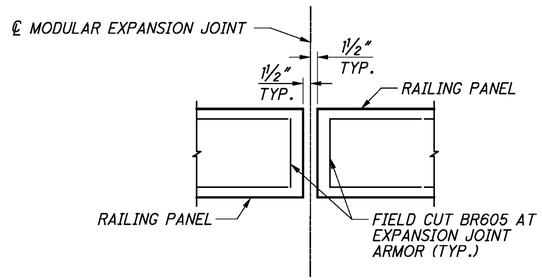


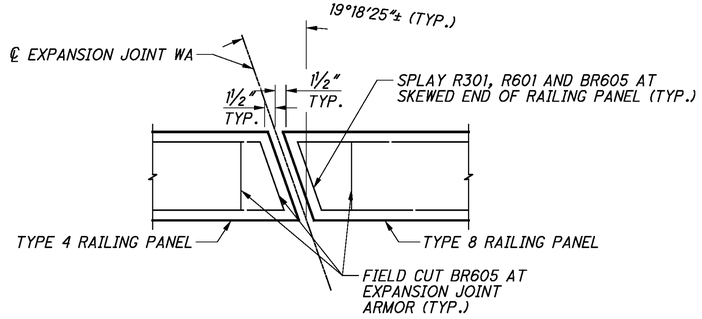
TYPE 3, 4 & 5 RAILING DETAILS AT W. 18TH ST.

PLAN VIEW



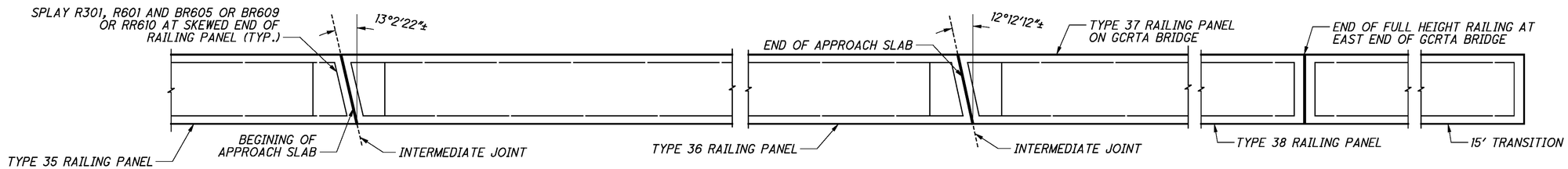
TRUSS EXPANSION JOINT

PLAN VIEW



TYPE 8 RAILING PANEL

PLAN VIEW



TYPE 35, 36, 37 & 38 RAILING PANEL

PLAN VIEW

NOTES:

1. EXCEPT AS INDICATED ON THIS SHEET, ALL RAILING JOINTS ARE PERPENDICULAR TO BASELINE OF CONSTRUCTION.

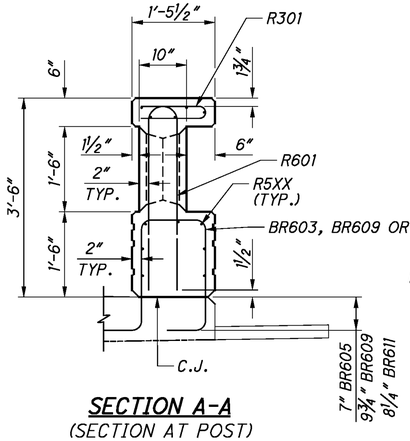
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ			

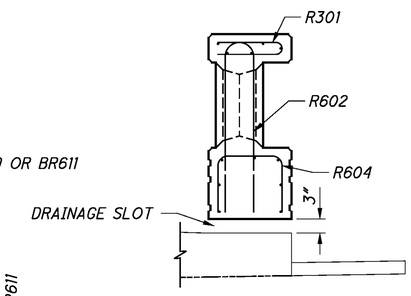
RAILING JOINT DETAILS 1 OF 2

CUY-10-15.96
PID No. 89194

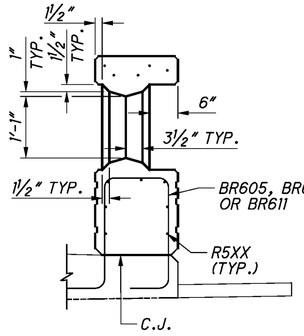
RA-30



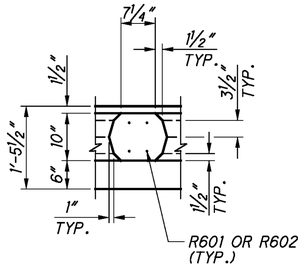
SECTION A-A
(SECTION AT POST)



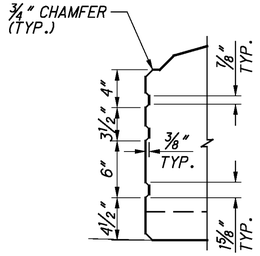
SECTION B-B
(SECTION AT SLOT)



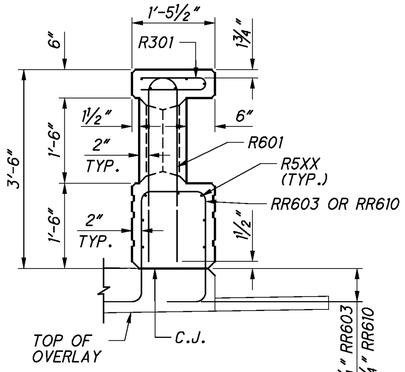
SECTION C-C
(SECTION AT WINDOW)



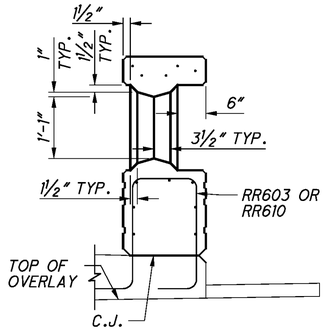
SECTION D-D
(POST)



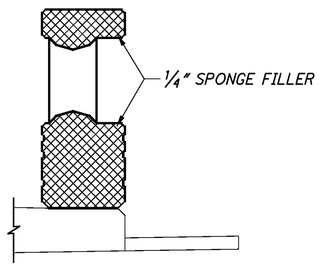
TYPICAL REVEAL DETAIL



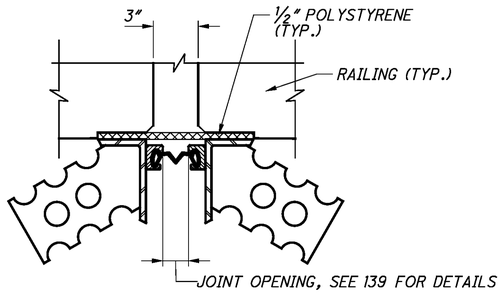
SECTION E-E
(SECTION AT POST)



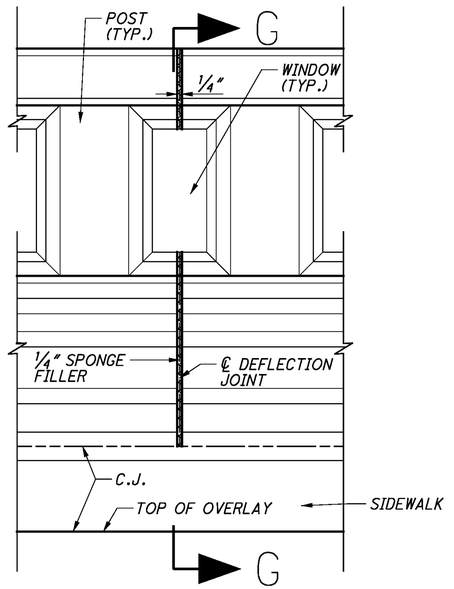
SECTION F-F
(SECTION AT WINDOW)



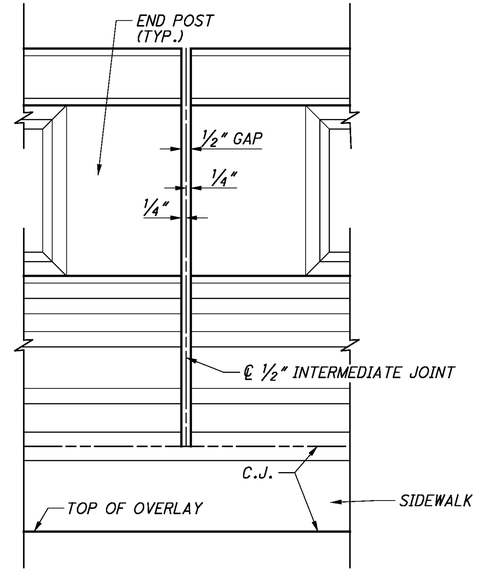
SECTION G-G



EXPANSION JOINT ELEVATION
(STRIP SEAL SHOWN)



DEFLECTION JOINT ELEVATION



INTERMEDIATE JOINT ELEVATION

NOTES:

1. THE NORTH AND SOUTH FACES OF RAILING ARE VERTICAL.
2. THE DEFLECTION JOINTS IN THE RAILING MAY BE EITHER ¼" GRAY SPONGE RUBBER OR ¼" GRAY CELLULAR POLYVINYL CHLORIDE (PVC) SPONGE. EITHER MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO M-153, TYPE 1, EXCEPT THE DENSITY OF THE PVC SPONGE SHALL BE NOT LESS THAN 20 LB PER CU FT.
3. AT DEFLECTION JOINT LOCATIONS ATTACH SPONGE FILLER WITH CONSTRUCTION ADHESIVE AT TOP PIECE OF RAILING ABOVE WINDOW LOCATIONS AND ABOVE DRAINAGE SLOTS.

LEGEND:

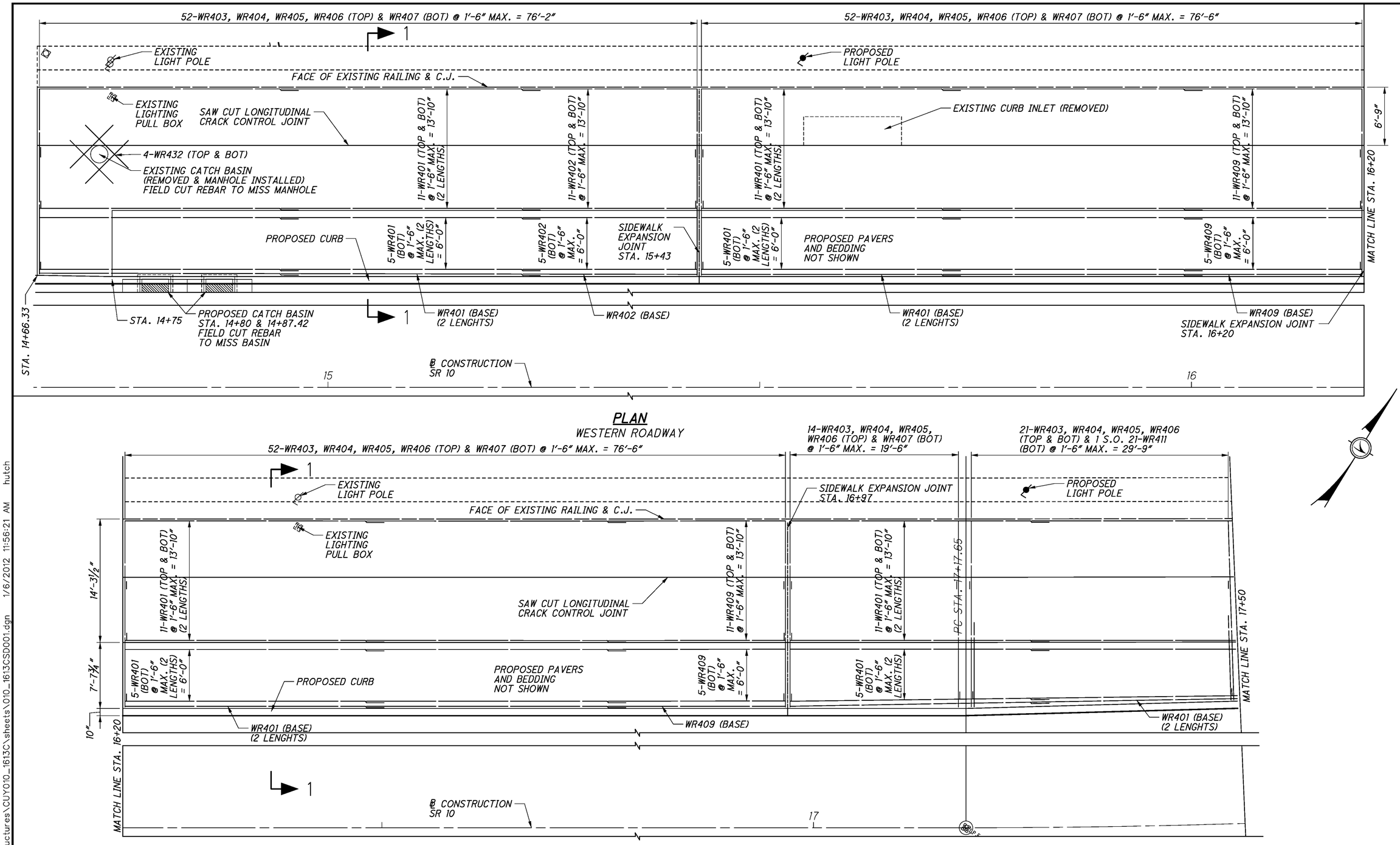
C.J. = CONSTRUCTION JOINT
EQ. = EQUAL
MAX. = MAXIMUM
PEJF = PREFORMED EXPANSION JOINT FILLER
SPA. = SPACES
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	CAS	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC			

RAILING SECTIONS & JOINT DETAILS 2 OF 2

CUY-10-15.96
PID No. 89194
RA-31



PLAN
WESTERN ROADWAY

PLAN
WESTERN ROADWAY

NOTES:
1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 135 FOR SECTION 1-1.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.

LEGEND:
BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS			

SIDEWALK PLAN 1 OF 18
WESTERN ROADWAY
STA. 14+66.33 TO STA. 17+50

CUY-10-15.96
PID No. 89194

SW-1

117
205

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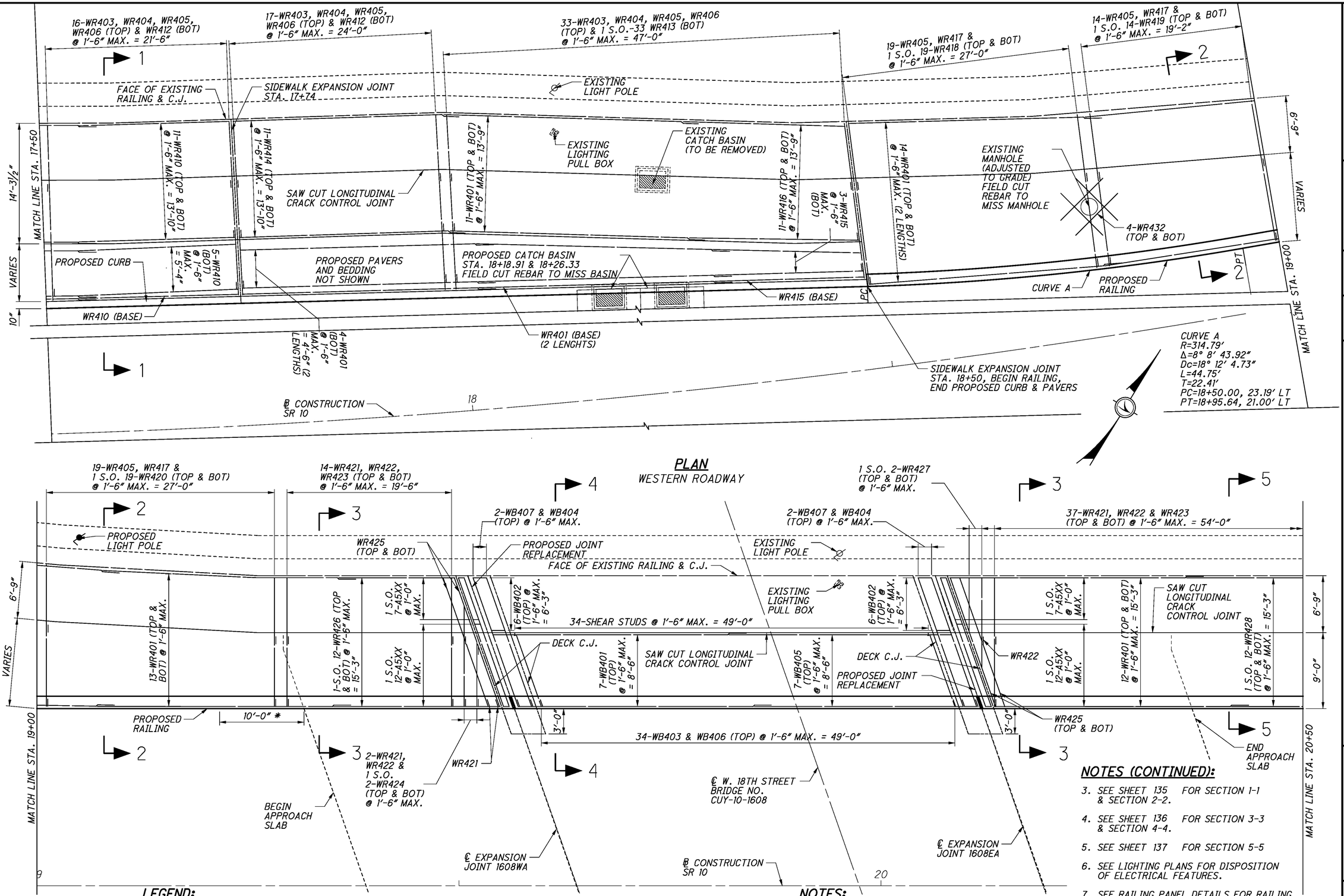

PLAN
WESTERN ROADWAY

PLAN
W. 18TH STREET BRIDGE

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
MAX. = MAXIMUM
S.O. = SERIES OF

* TRANSITION FROM 6" CURB TO 9" CURB OVER 10'-0"

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS: #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.

NOTES (CONTINUED):

3. SEE SHEET 135 FOR SECTION 1-1 & SECTION 2-2.
4. SEE SHEET 136 FOR SECTION 3-3 & SECTION 4-4.
5. SEE SHEET 137 FOR SECTION 5-5
6. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
7. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
8. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801481	

SIDEWALK PLAN 2 OF 18
WESTERN ROADWAY AND W. 18TH STREET BRIDGE NO. CUY-10-1608
STA. 17+50 TO STA. 20+50

CUY-10-15.96 **PID No. 89194**

SW-2

118
205

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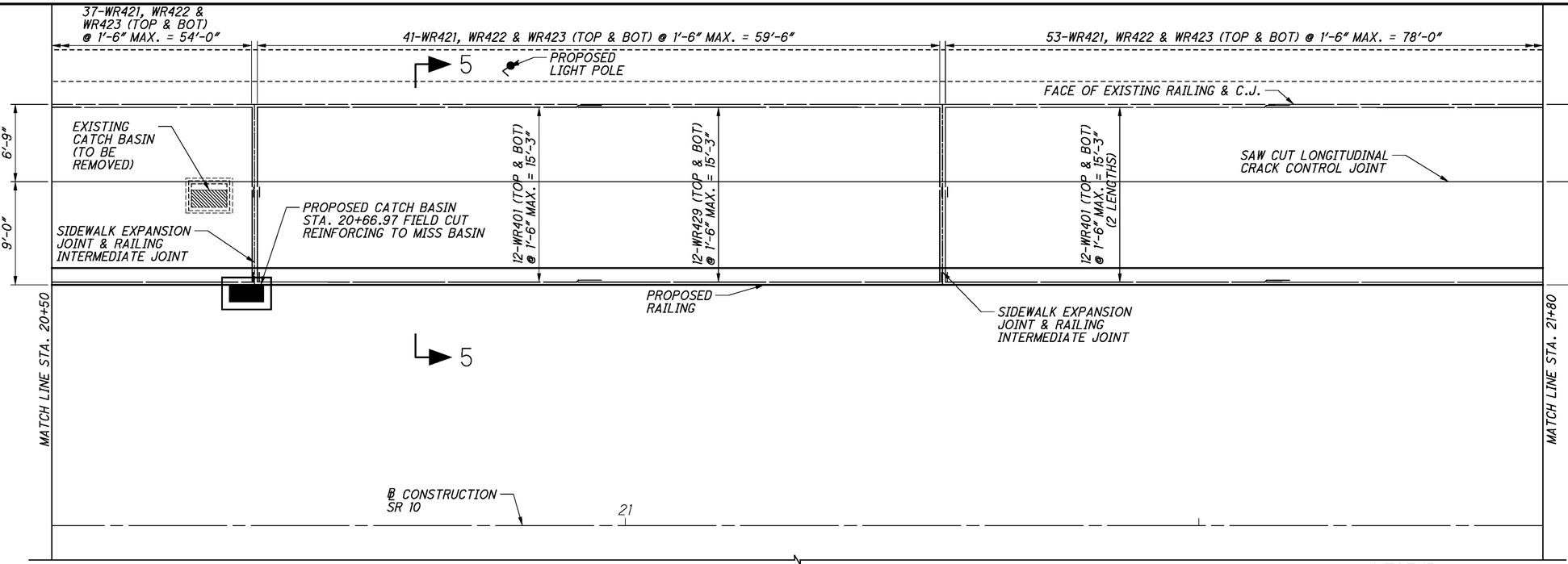


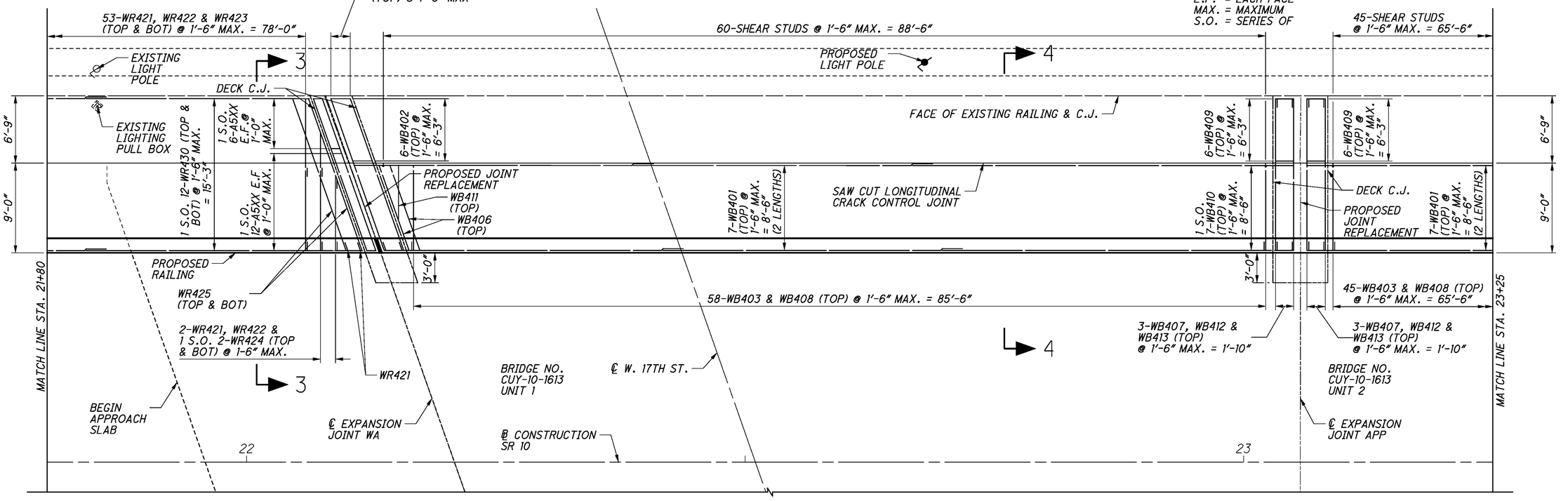
PLAN
INTERMEDIATE ROADWAY

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 3-3 & SECTION 4-4.
4. SEE SHEET 137 FOR SECTION 5-5.
5. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
6. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
7. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
MAX. = MAXIMUM
S.O. = SERIES OF



PLAN
HOPE MEMORIAL BRIDGE WEST APPROACH SPANS

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

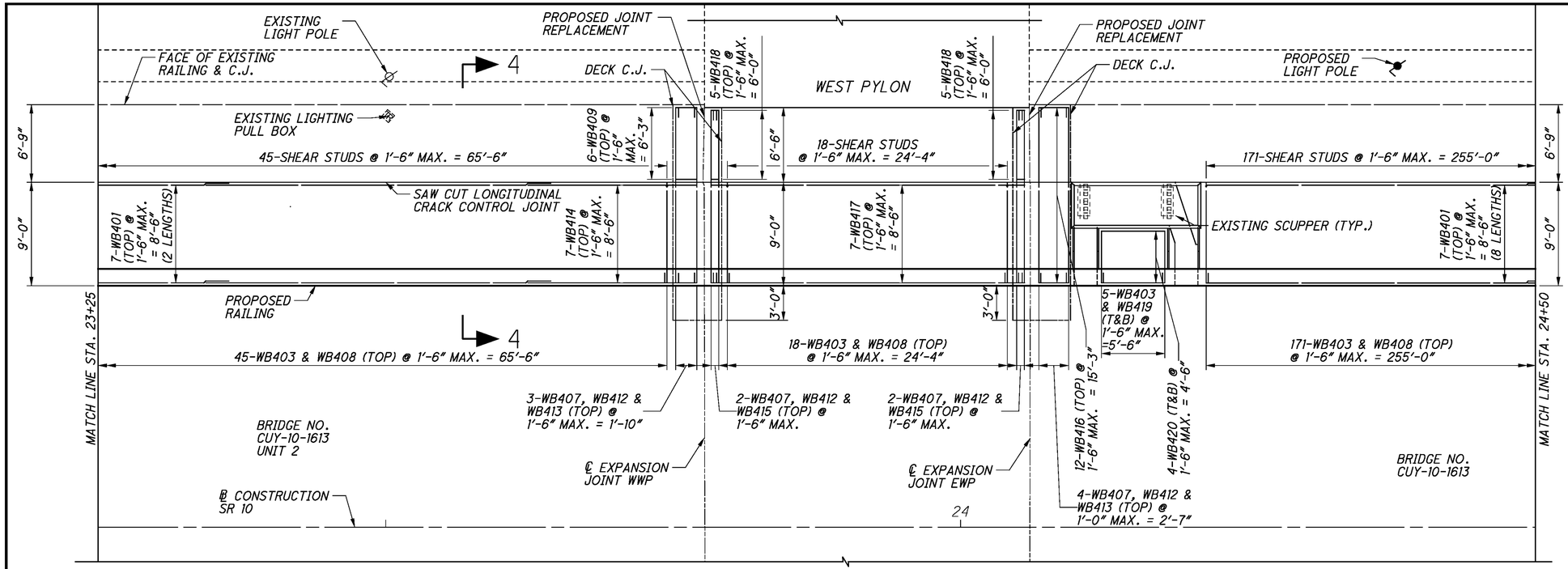
DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

SIDEWALK PLAN 3 OF 18
INTERMEDIATE ROADWAY & HOPE MEMORIAL BRIDGE NO.
STA. 20+50 TO STA. 23+25

CUY-10-15.96
PID No. 89194
SW-3

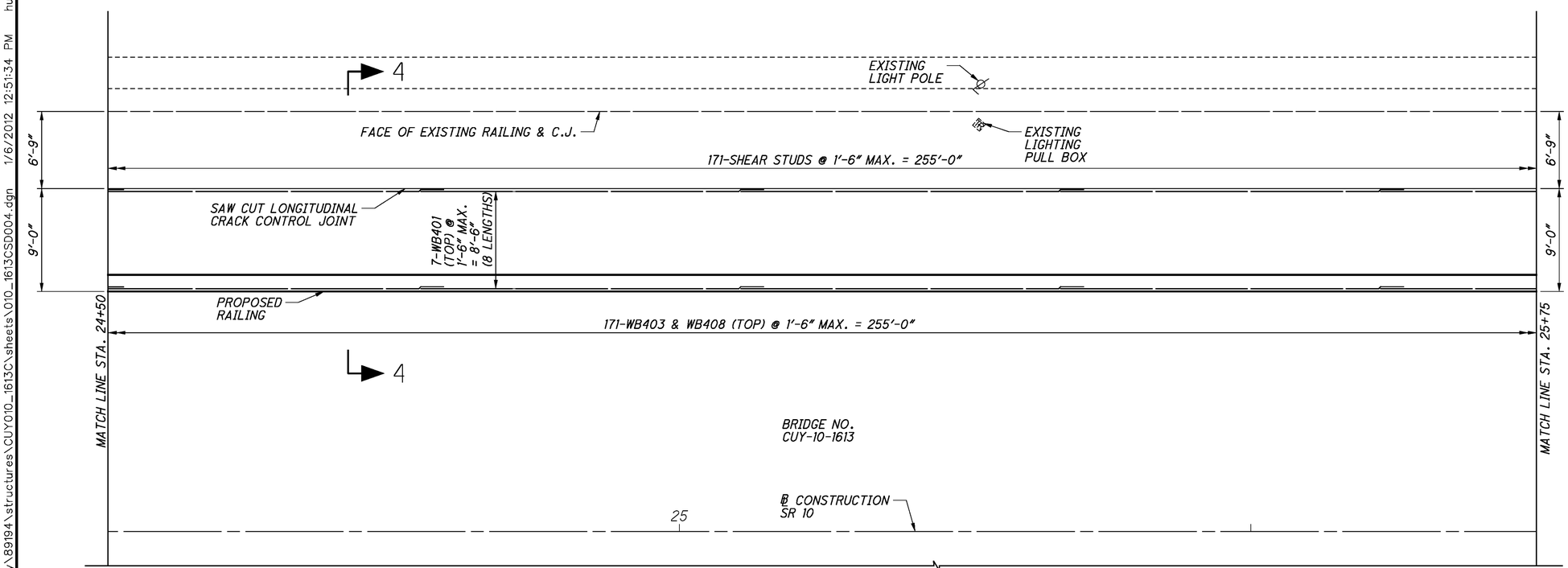
119
205

BRIDGE NO. CUY-10-1613



PLAN

HOPE MEMORIAL BRIDGE WEST APPROACH, PYLON & MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE SCUPPER INLET AND JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
TYP. = TYPICAL
T&B = TOP & BOTTOM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED		STRUCTURE FILE NUMBER
AKS			1801503

SIDEWALK PLAN 4 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 23+25 TO STA. 25+75

CUY-10-15.96 PID No. 89194

SW-4

120
205

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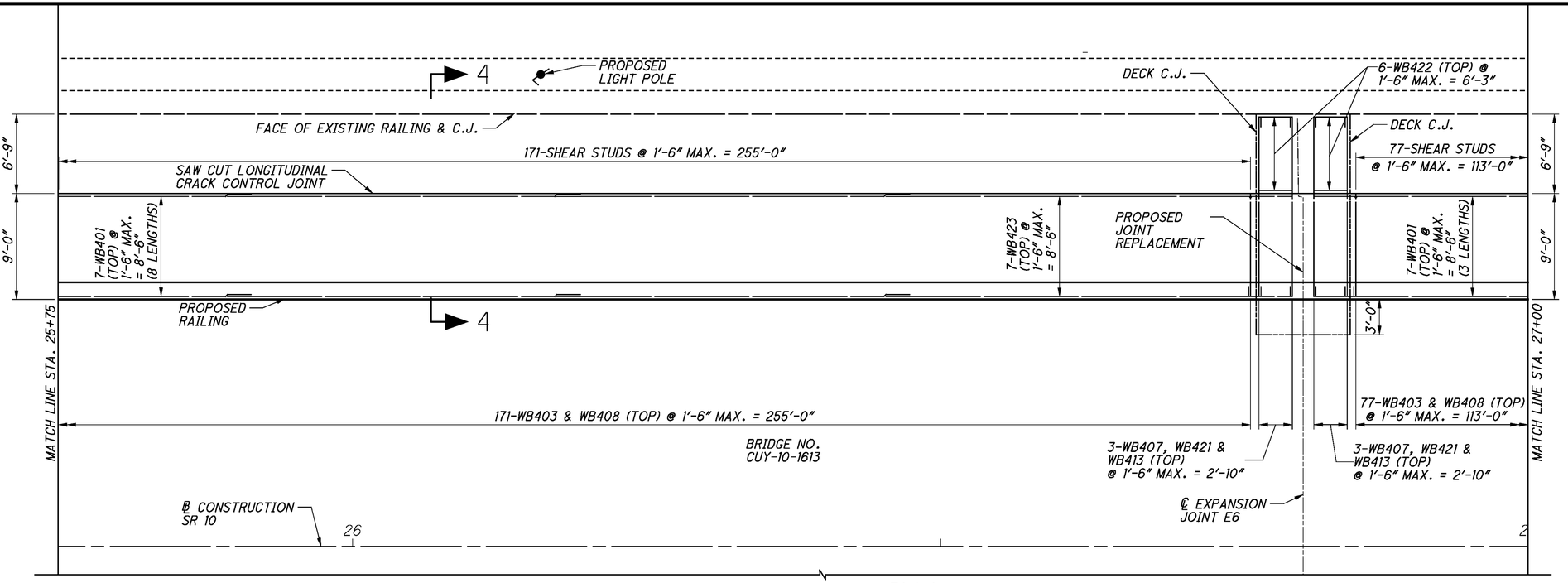
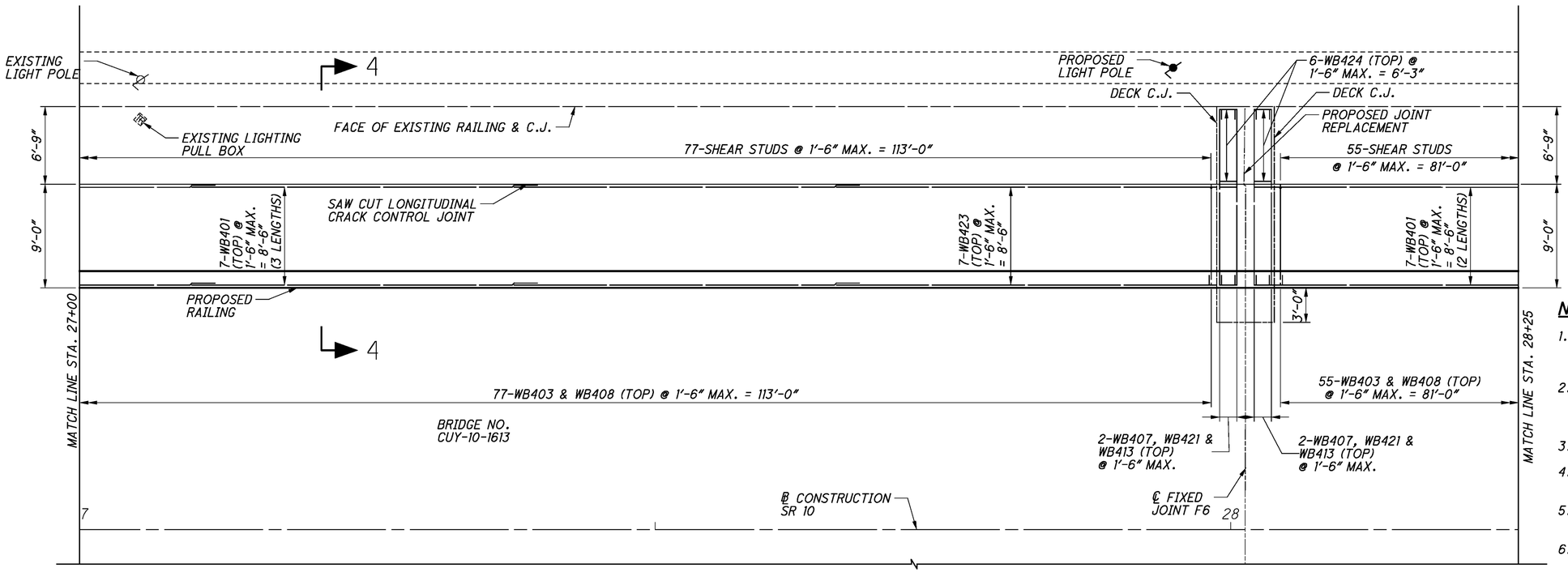


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

SIDEWALK PLAN 5 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 25+75 TO STA. 28+25

CUY-10-15.96
PID No. 89194

SW-5

121
205

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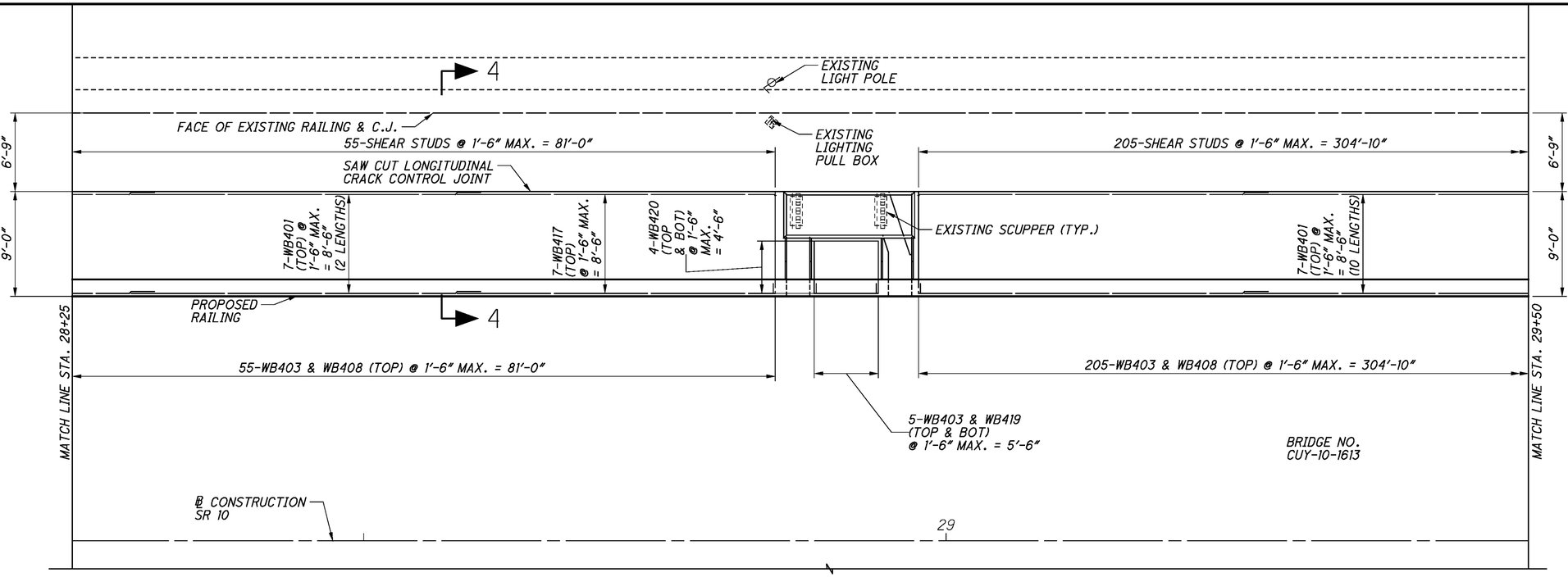
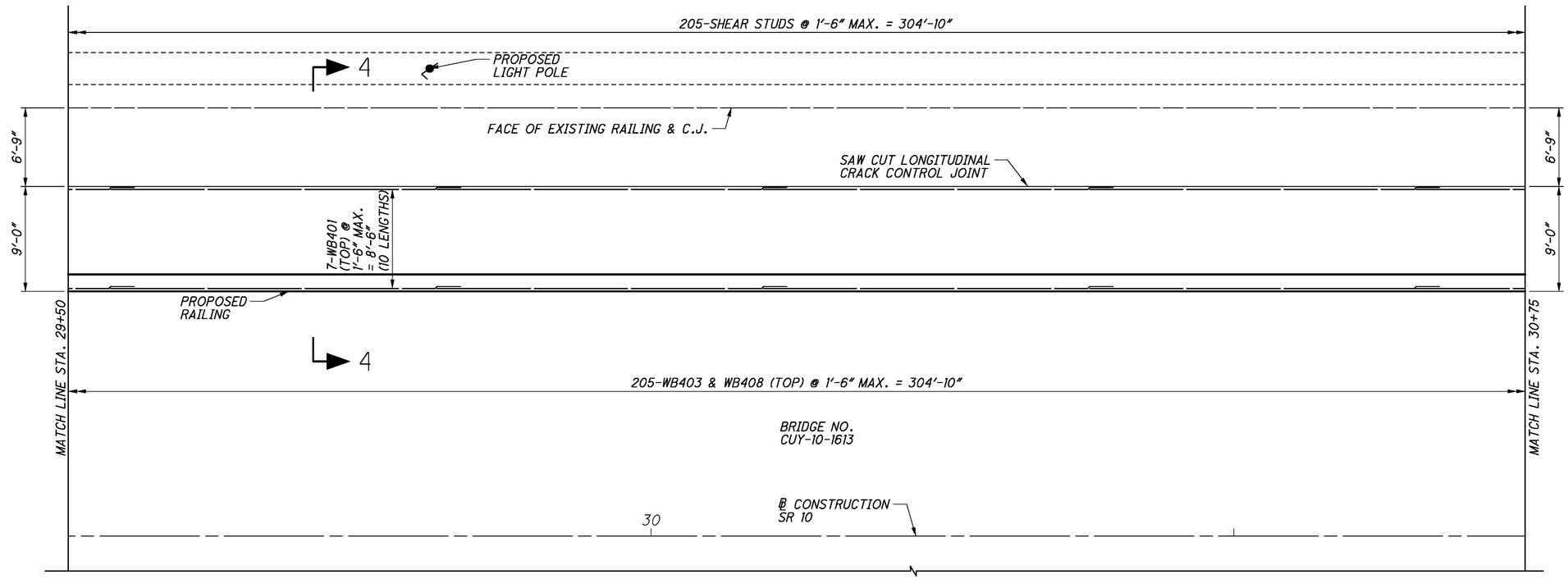


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 6 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 28+25 TO STA. 30+75

CUY-10-15.96
PID No. 89194

SW-6

122
205

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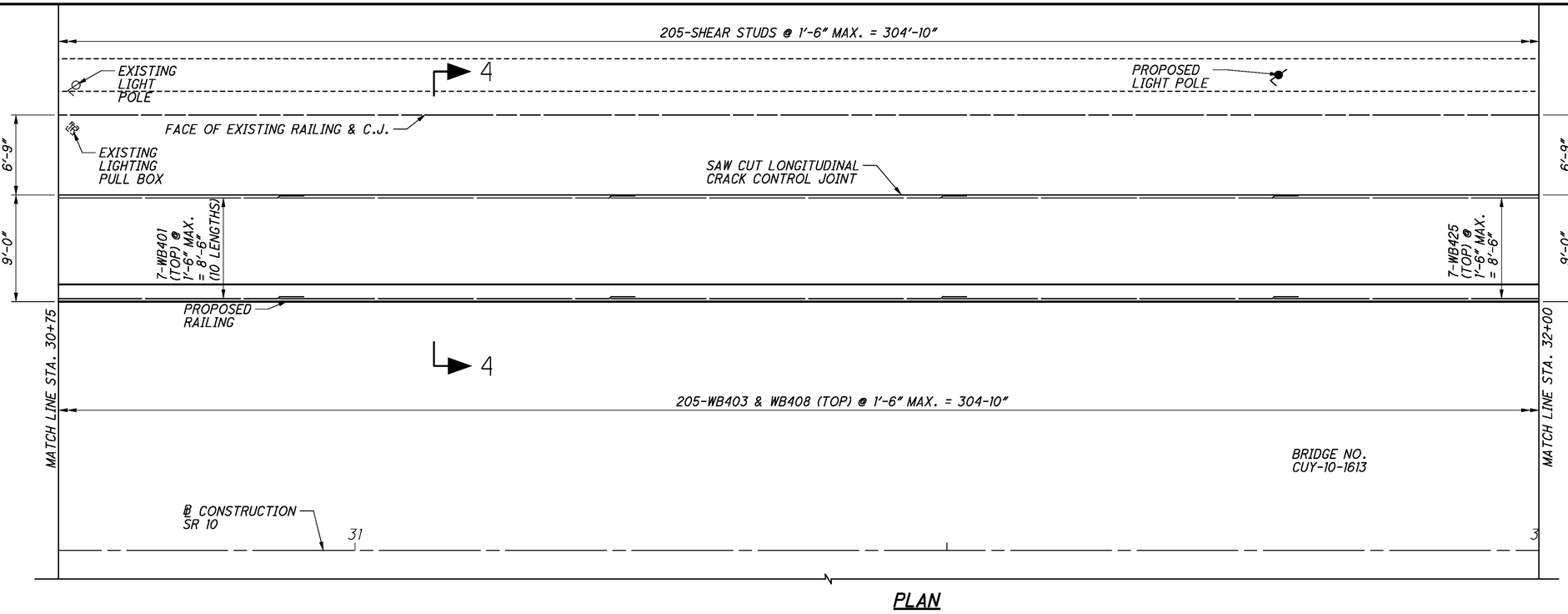
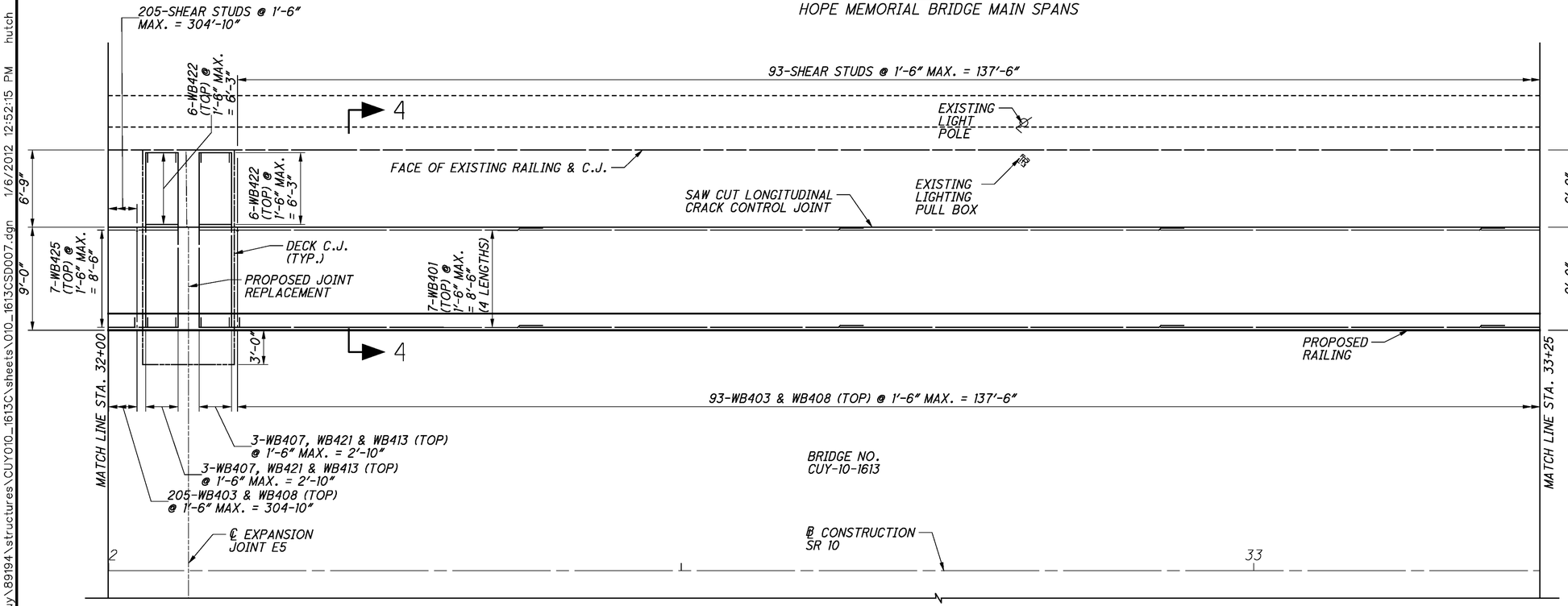


PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 7 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 30+75 TO STA. 33+25

CUY-10-15.96
PID No. 89194

SW-7

123
205

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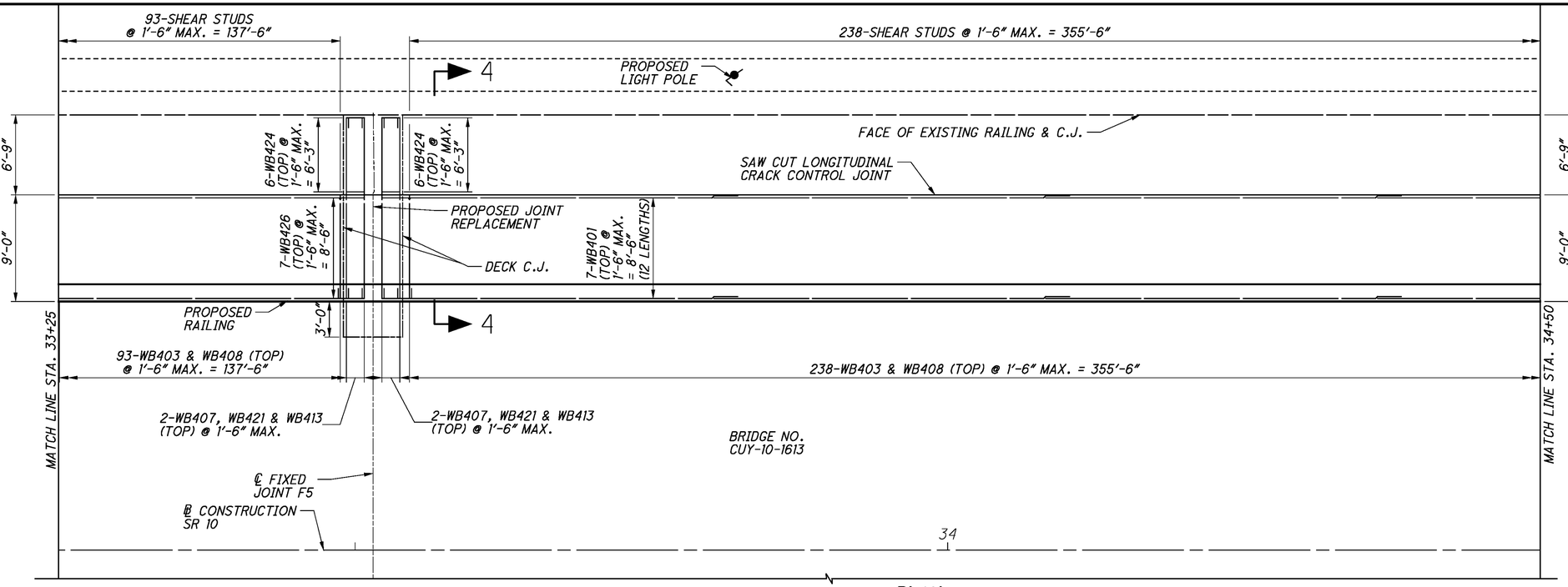
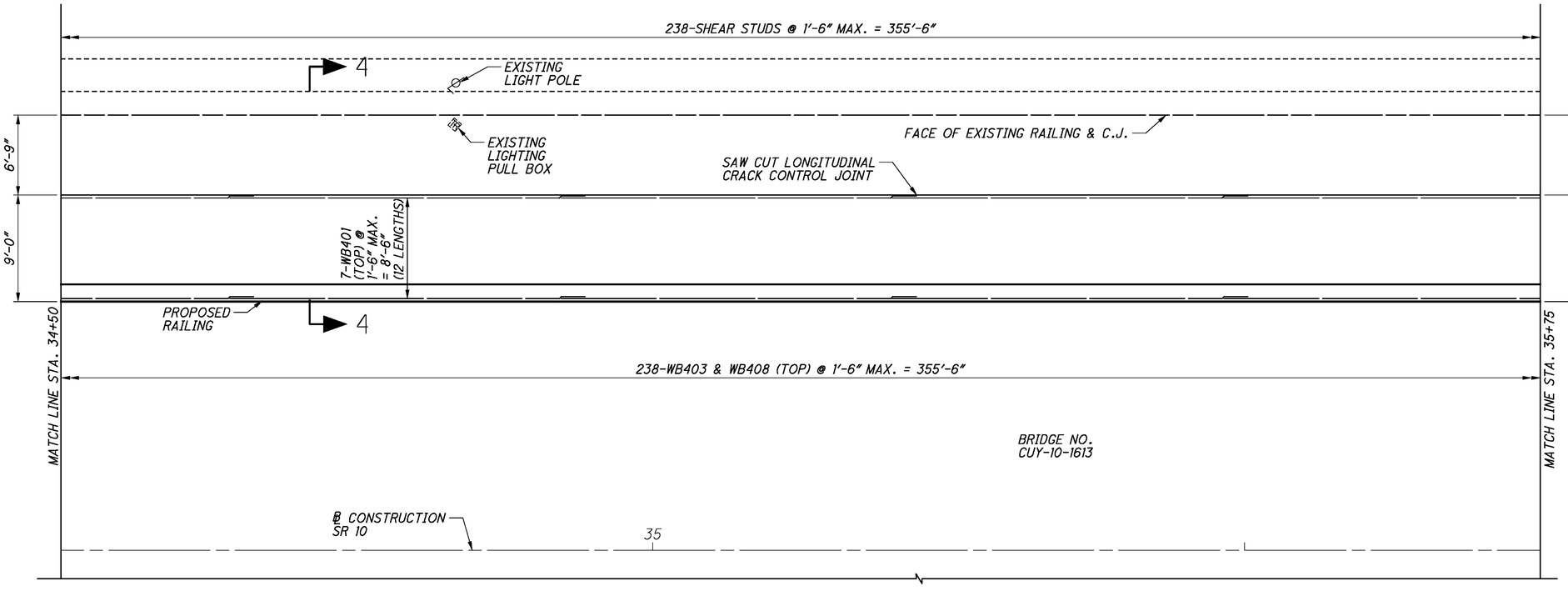


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 8 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 33+25 TO STA. 35+75

CUY-10-15.96
PID No. 89194

SW-8

124
205

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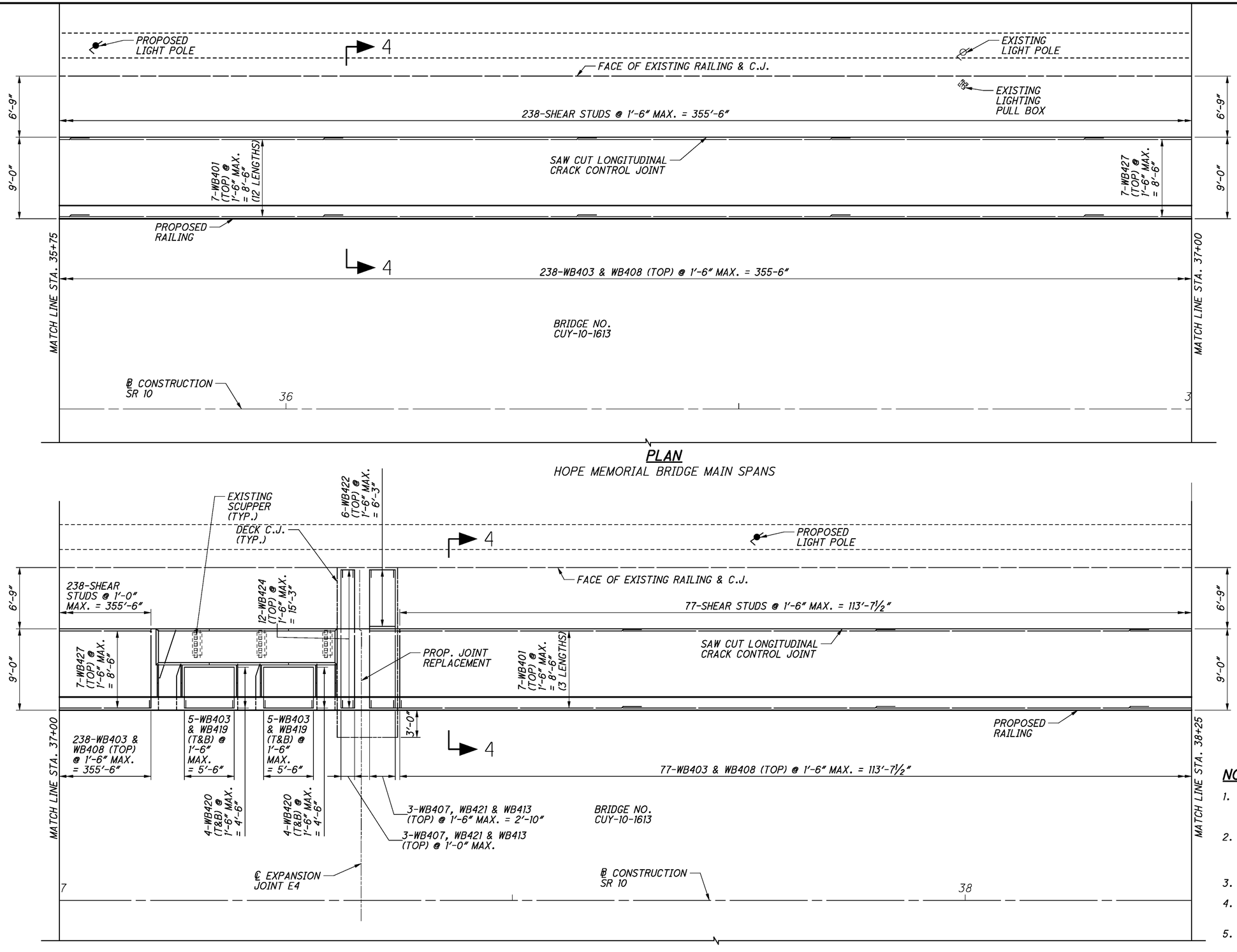

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP = PROPOSED
T&B = TOP & BOTTOM
TYP. = TYPICAL

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.
7. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 9 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 35+75 TO STA. 38+25

CUY-10-15.96
PID No. 89194

SW-9

125
205

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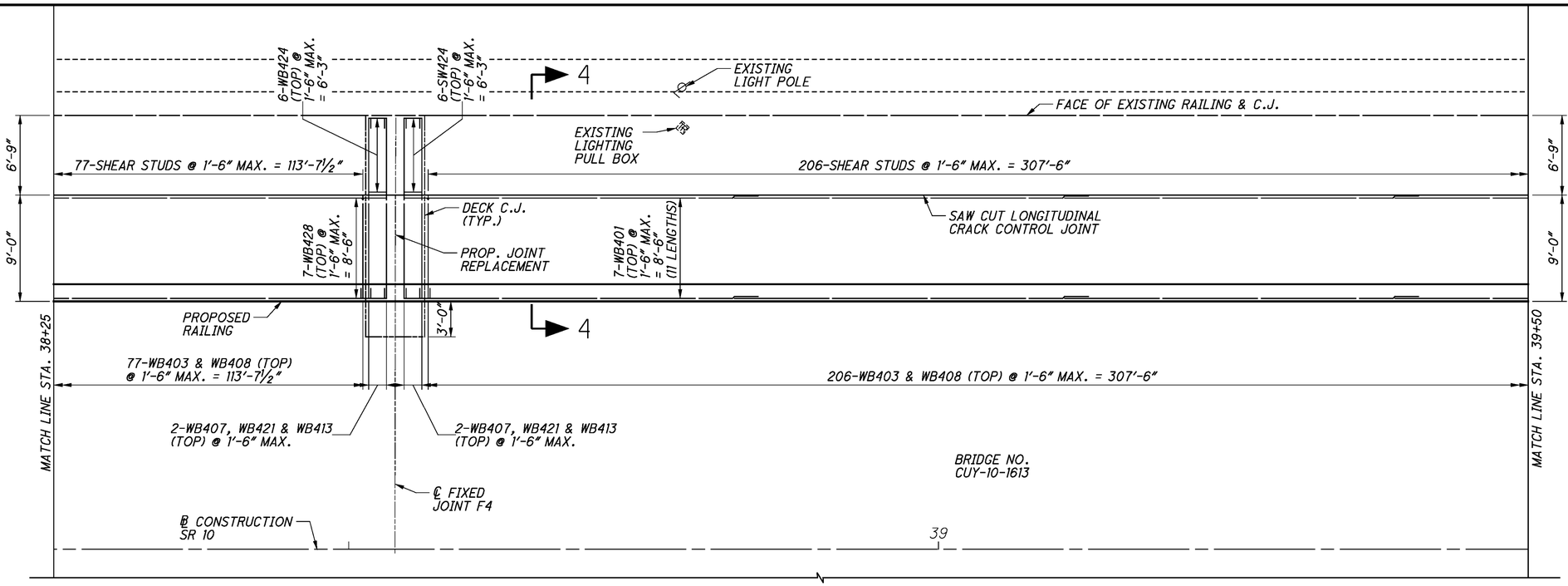
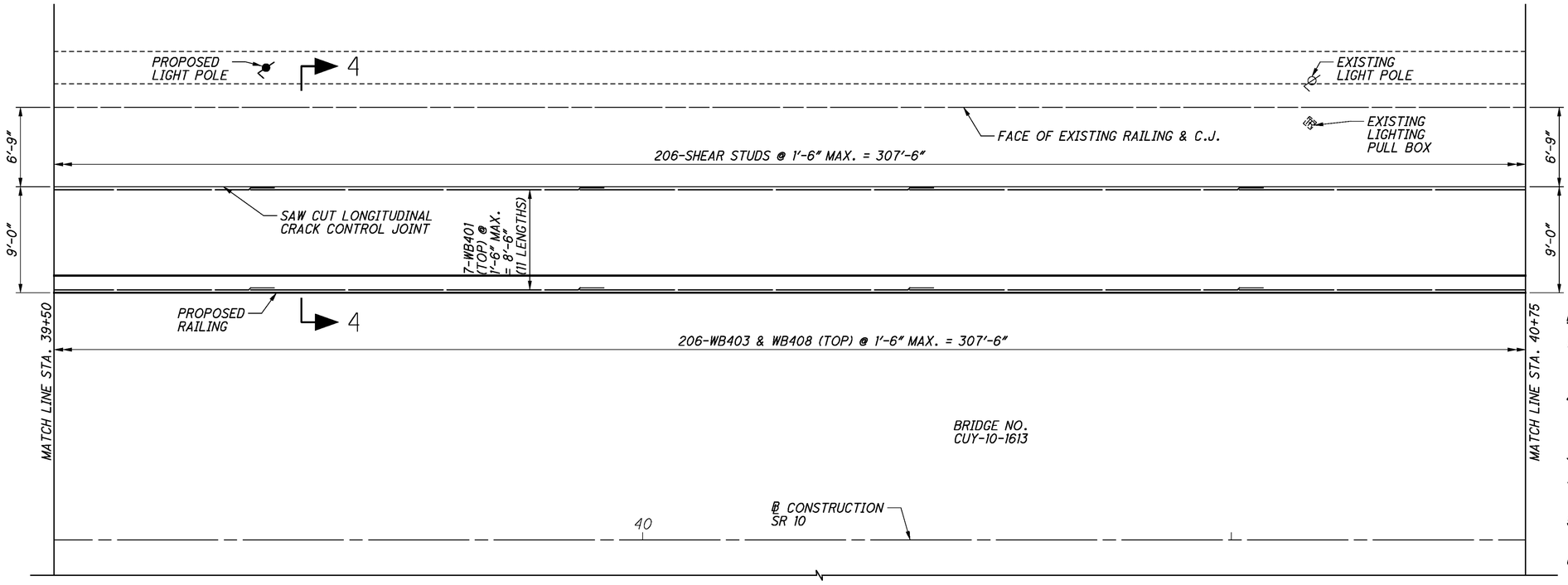


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP. = PROPOSED
TYP. = TYPICAL

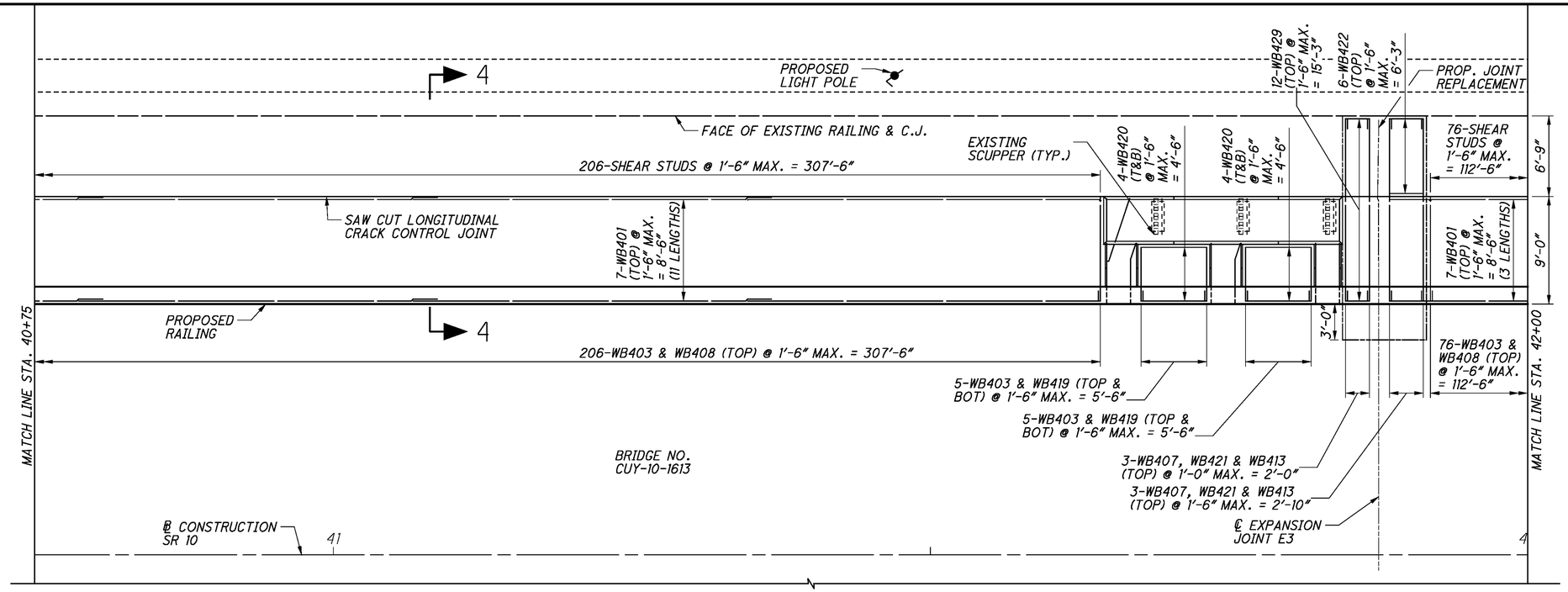
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 10 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 38+25 TO STA. 40+75

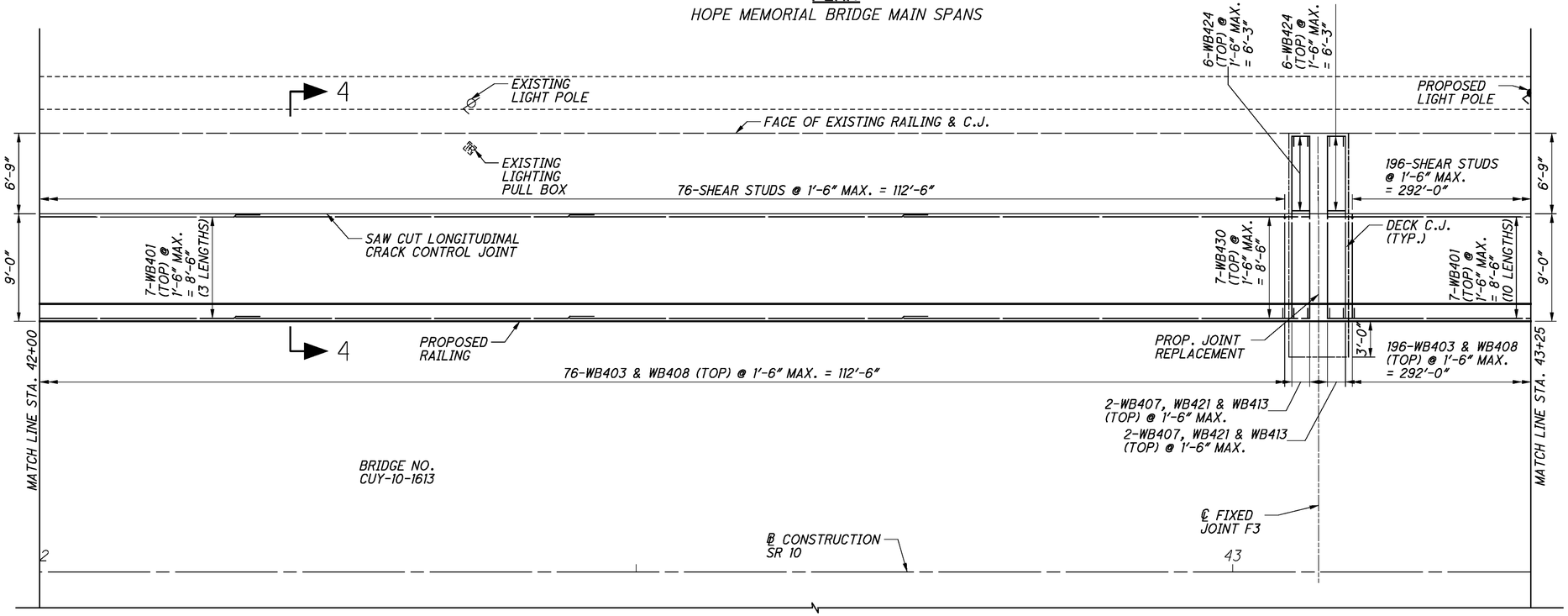
CUY-10-15.96
PID No. 89194
SW-10

126
205



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.
7. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP. = PROPOSED
TYP. = TYPICAL
T&B = TOP & BOTTOM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 11 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 40+75 TO STA. 43+25

CUY-10-15.96
PID No. 89194

SW-11

127
205

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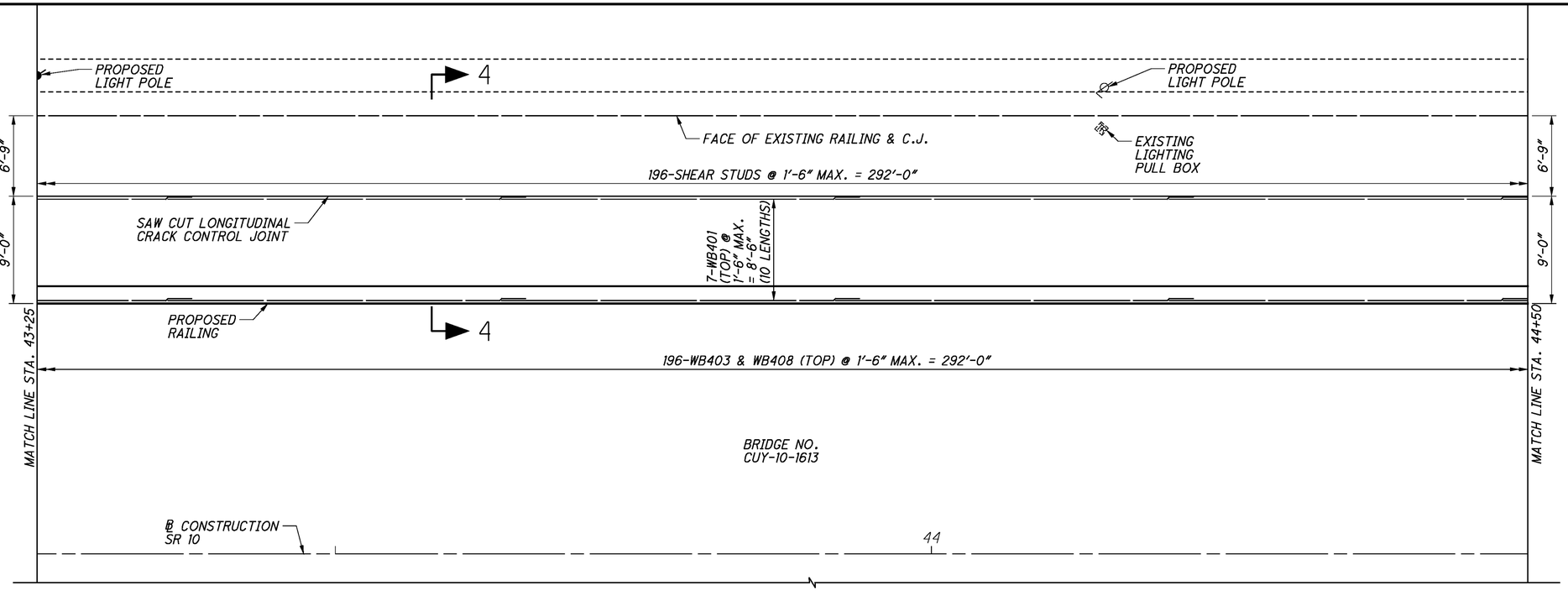
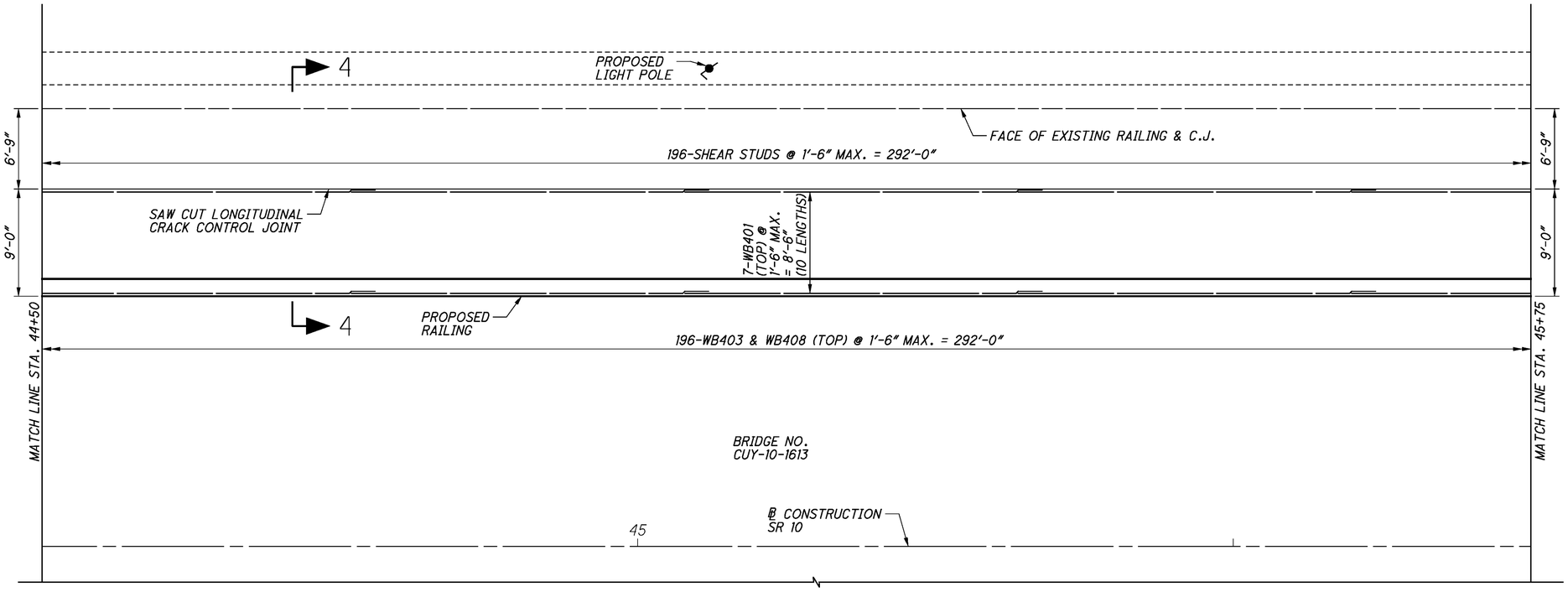


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 12 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 43+25 TO STA. 45+75

CUY-10-15.96
PID No. 89194
SW-12

128
205

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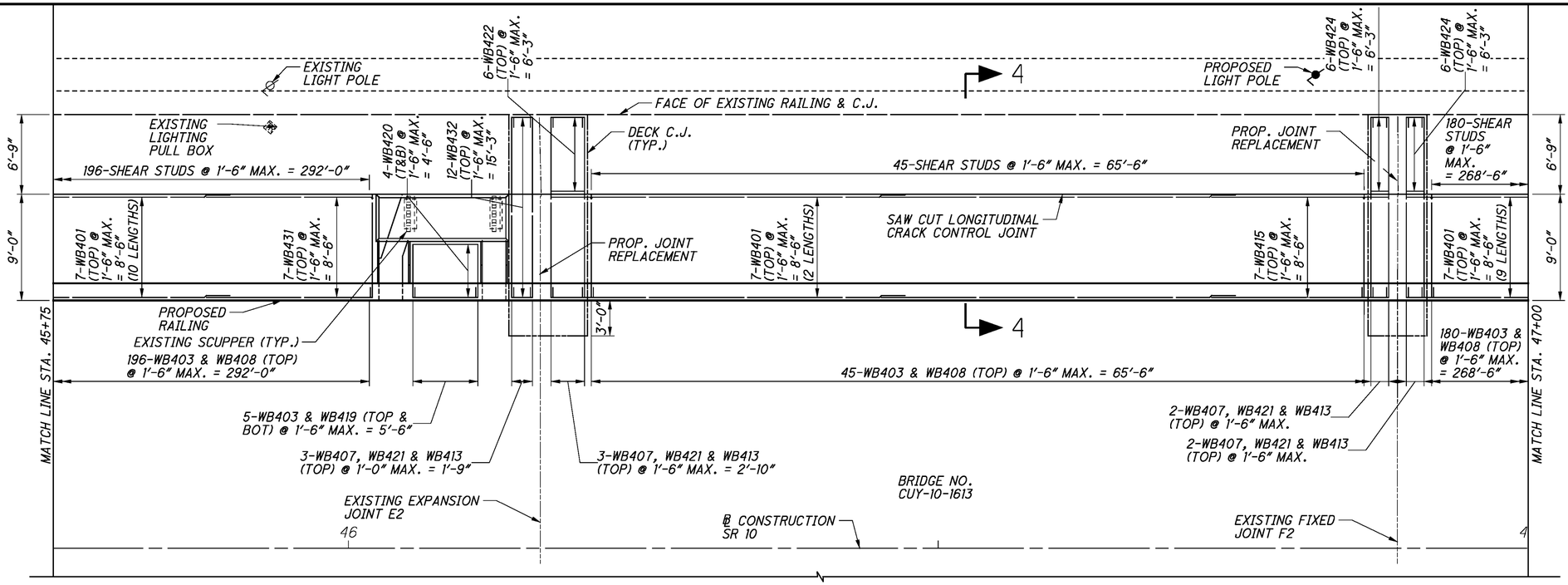
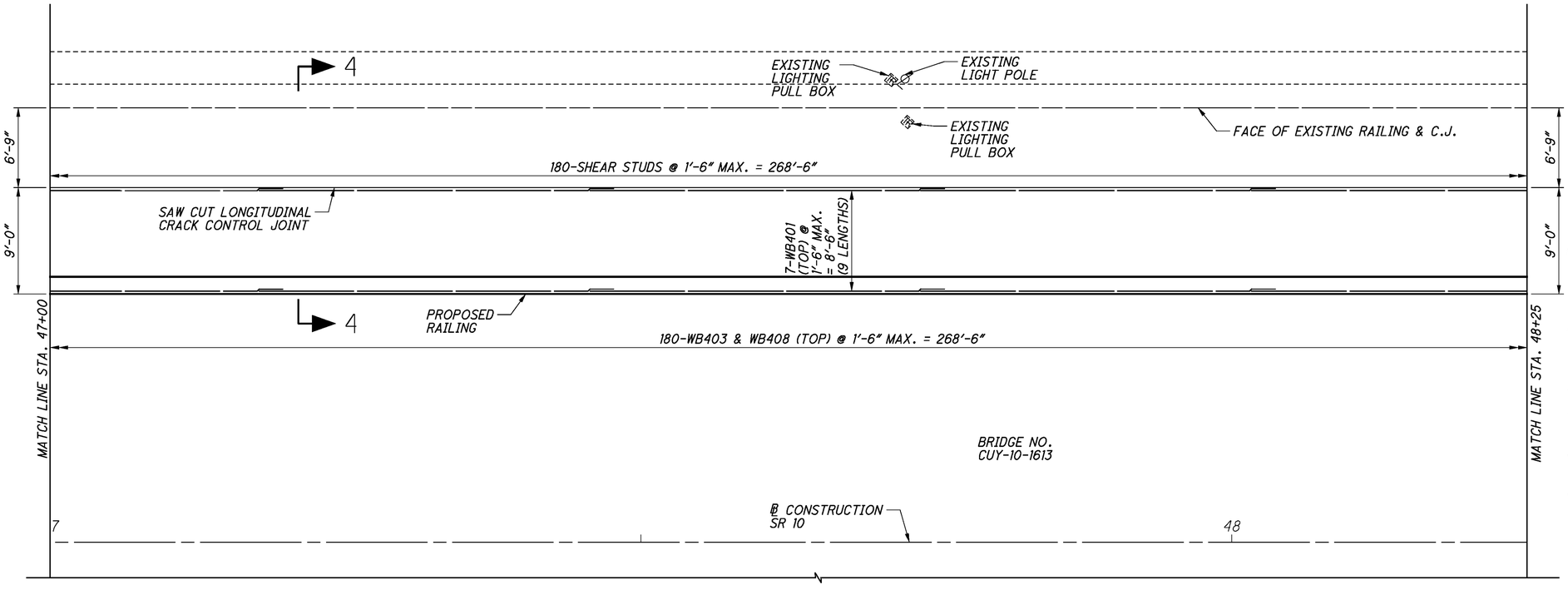


PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN

HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.
7. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP. = PROPOSED
TYP. = TYPICAL
T&B = TOP & BOTTOM

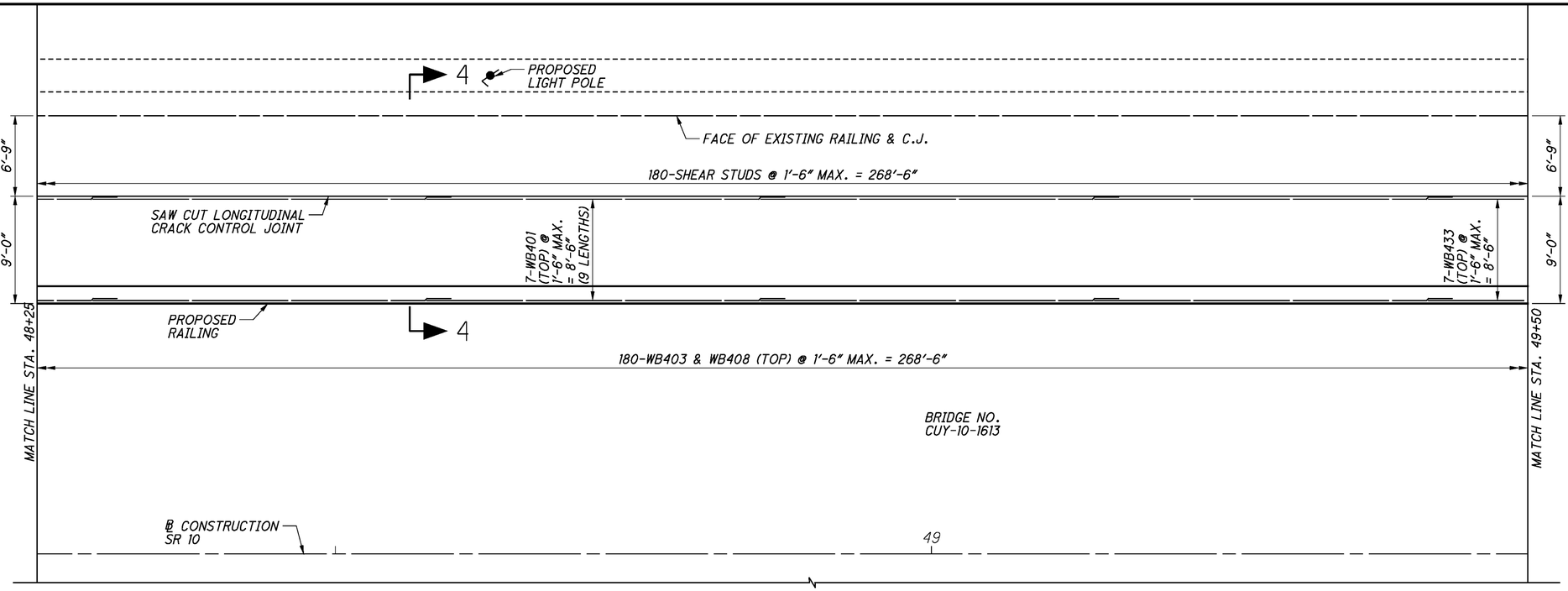
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED		STRUCTURE FILE NUMBER
ABJ			1801503

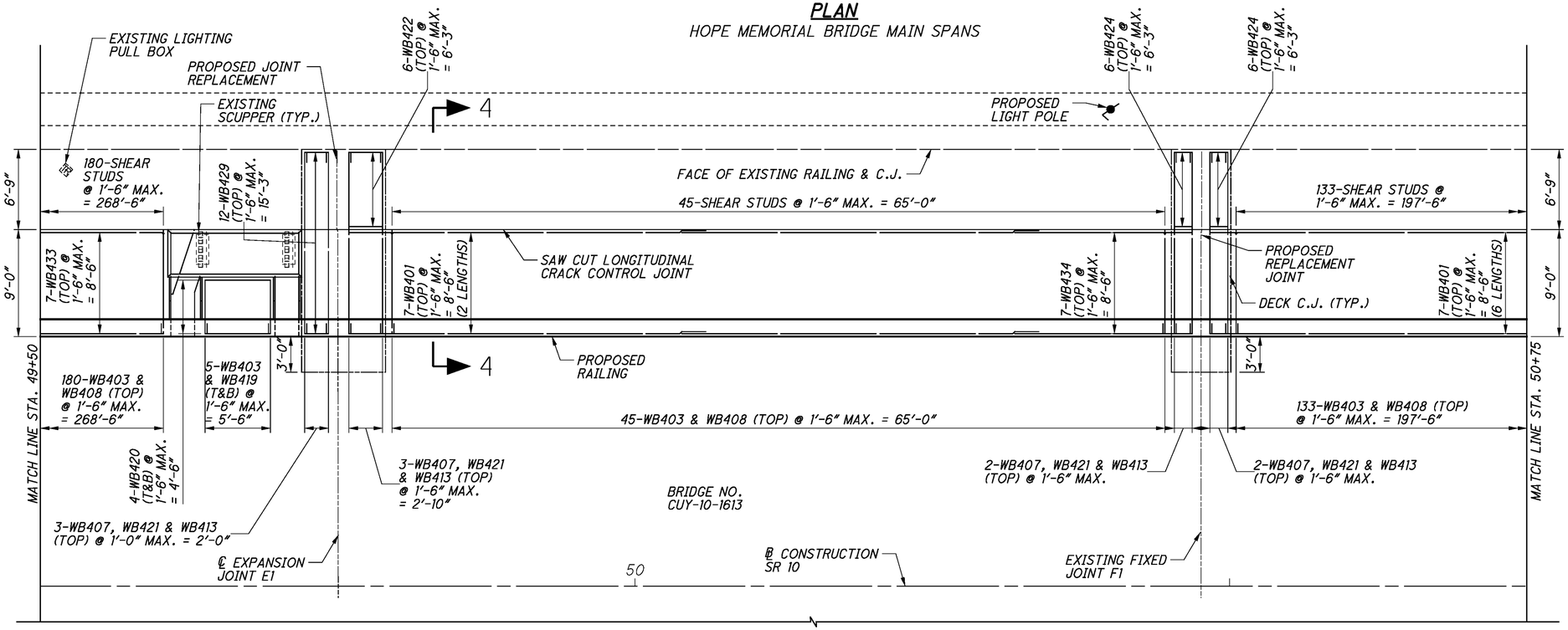
SIDEWALK PLAN 13 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 45+75 TO STA. 48+25

CUY-10-15.96
PID No. 89194

SW-13



PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.
7. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
TYP. = TYPICAL
T&B = TOP & BOTTOM

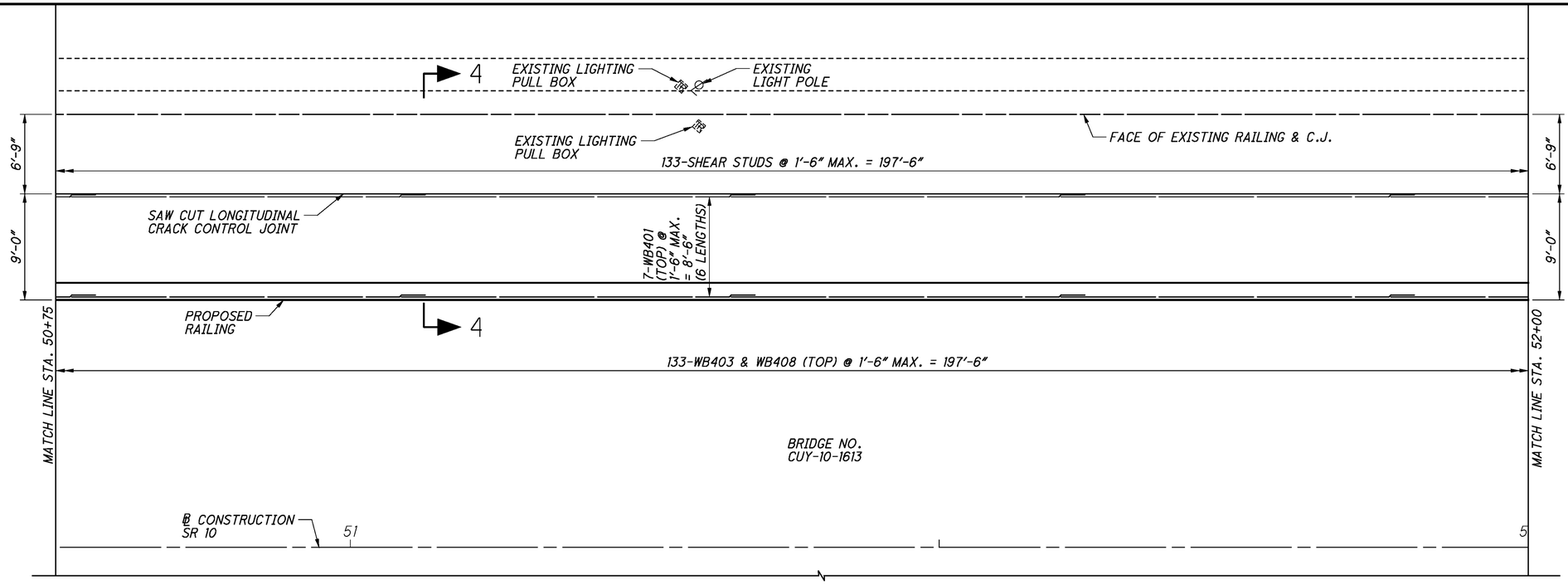
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

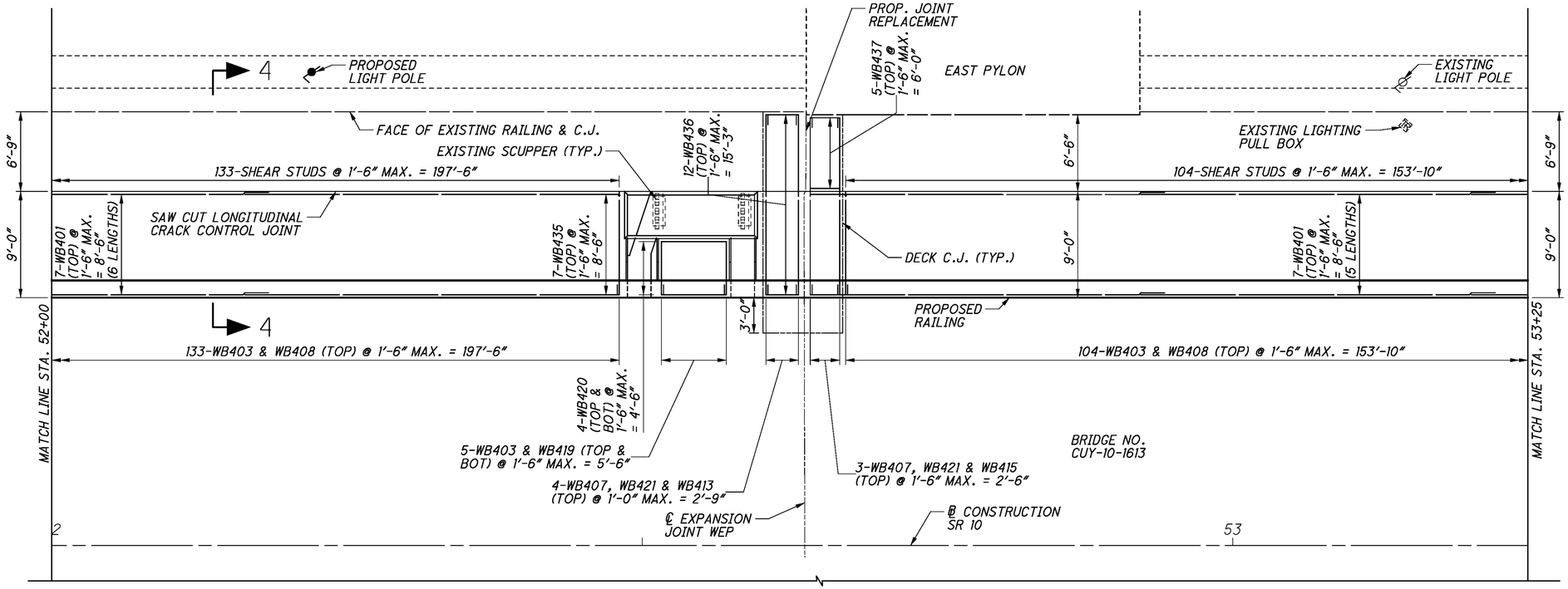
SIDEWALK PLAN 14 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 48+25 TO STA. 50+75

CUY-10-15.96
PID No. 89194
SW-14

130
205



PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS



PLAN
HOPE MEMORIAL BRIDGE MAIN SPANS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
6. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.
7. SEE SCUPPER INLET DETAILS FOR ADDITIONAL INFORMATION.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP. = PROPOSED
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SIDEWALK PLAN 15 OF 18
HOPE MEMORIAL BRIDGE NO. CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
STA. 50+75 TO STA. 53+25

CUY-10-15.96
PID No. 89194

SW-15

131
205

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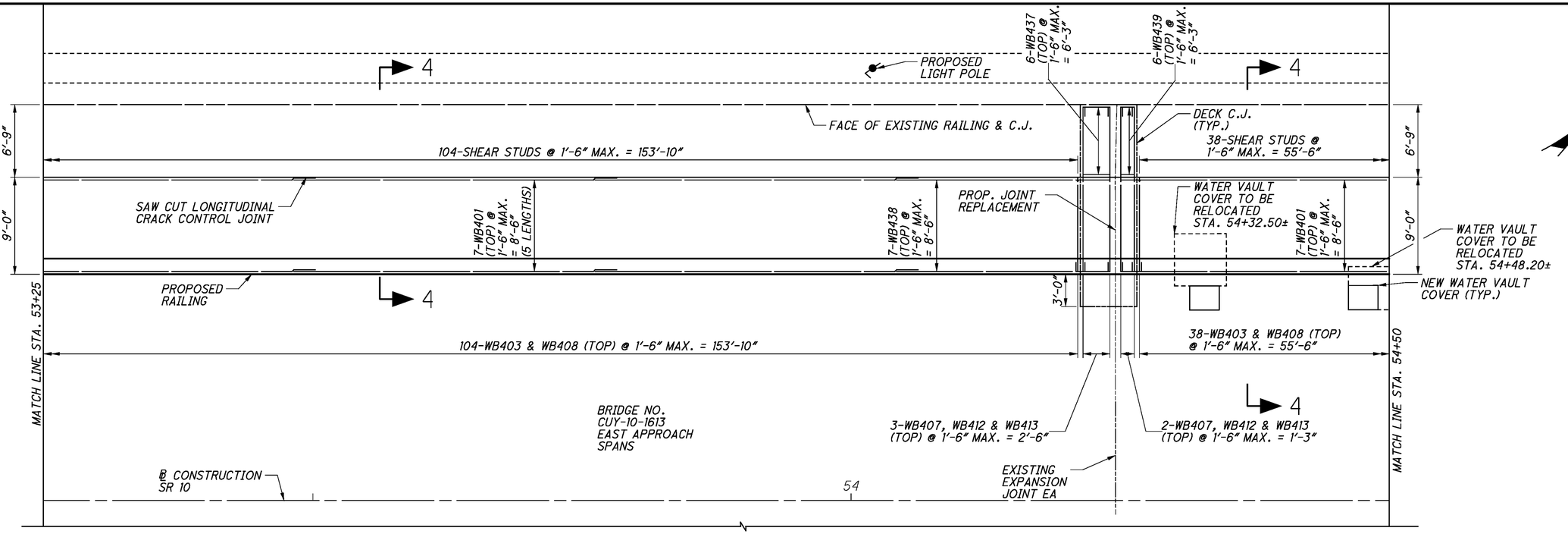
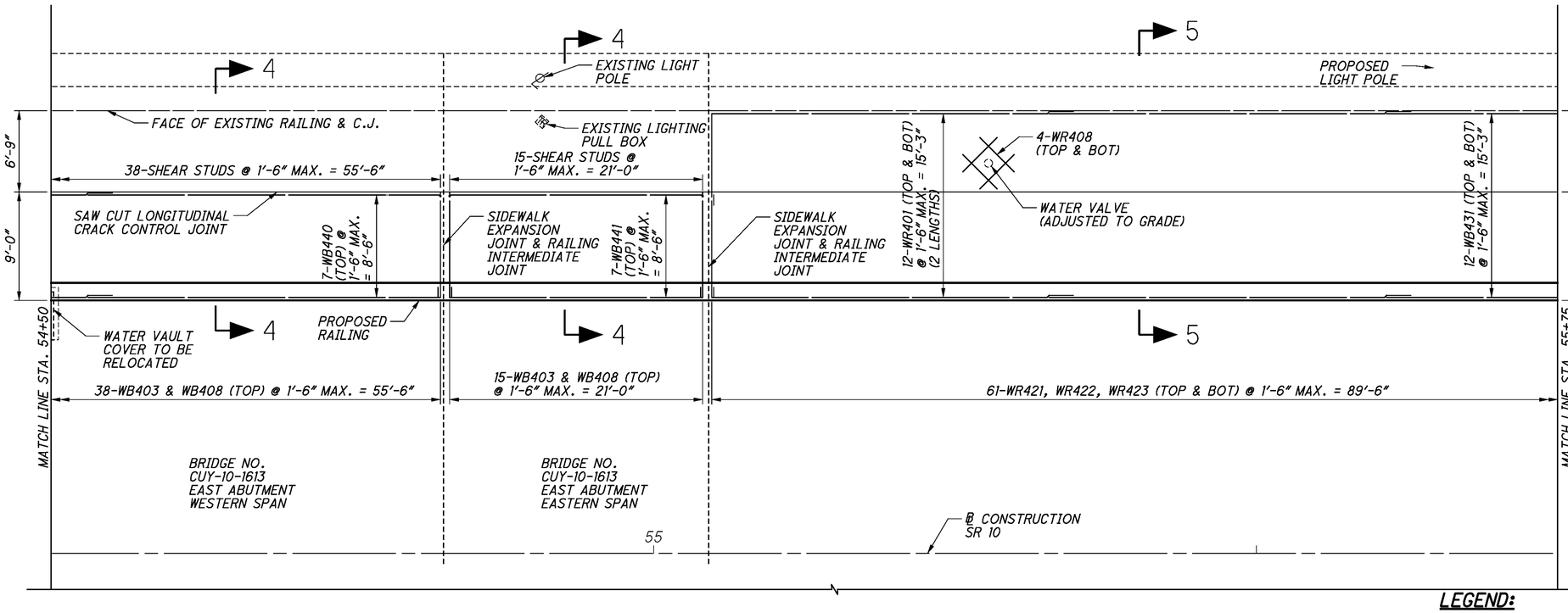


PLAN

HOPE MEMORIAL BRIDGE



PLAN

HOPE MEMORIAL BRIDGE & EASTERN ROADWAY TUNNELS

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS: #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 136 FOR SECTION 4-4.
4. SEE SHEET 137 FOR SECTION 5-5.
5. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
6. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.
7. SEE JOINT DETAILS FOR ADDITIONAL INFORMATION.
8. SEE MISCELLANEOUS DETAILS FOR NEW WATER VAULT COVER DETAILS.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
PROP. = PROPOSED
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

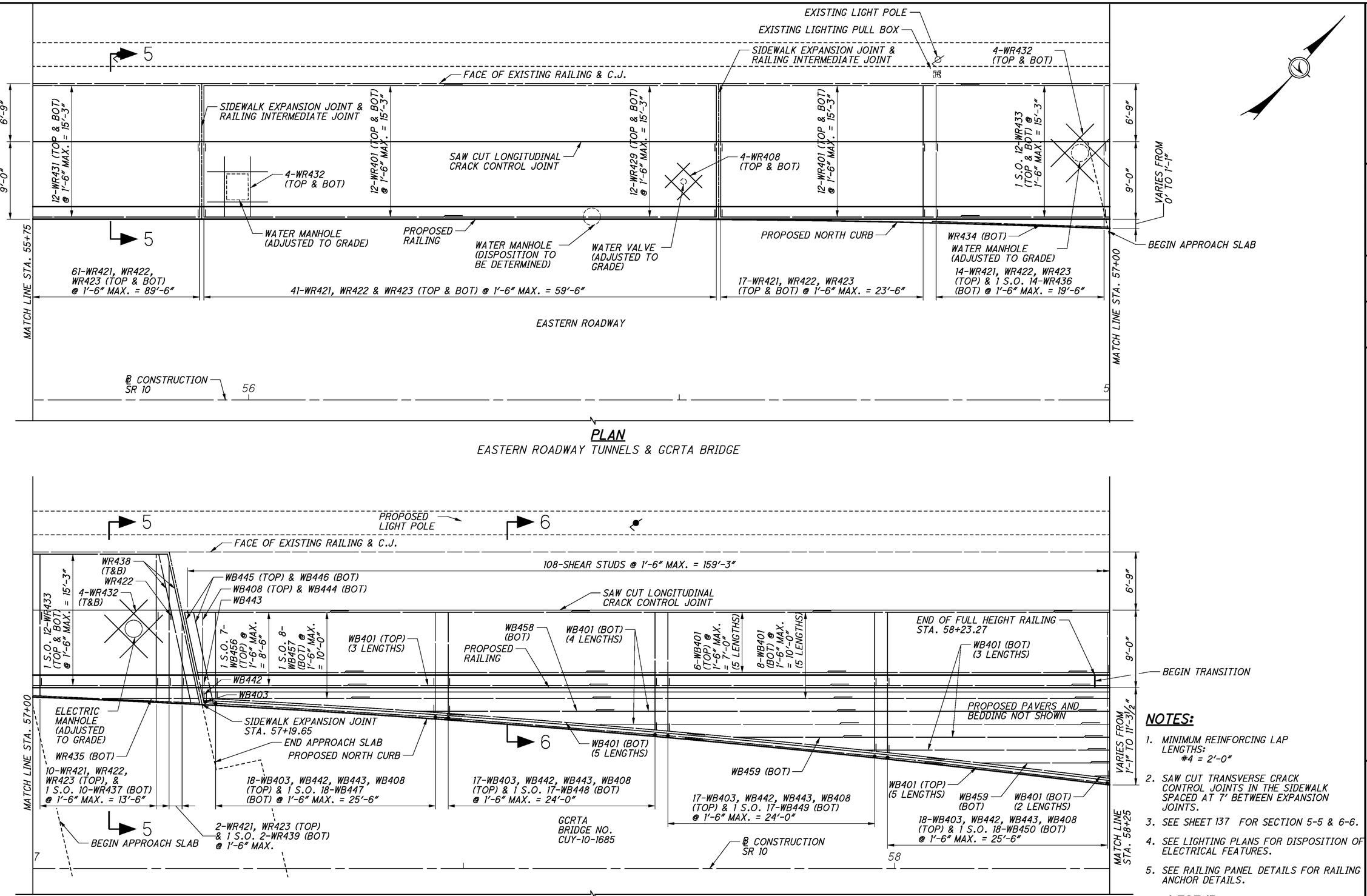
SIDEWALK PLAN 16 OF 18

HOPE MEMORIAL BRIDGE NO. CUY-10-1613 AND EASTERN ROADWAY TUNNELS
STA. 50+75 TO STA. 53+25

CUY-10-15.96
PID No. 89194

SW-16

132
205



PLAN
EASTERN ROADWAY TUNNELS & GCRTA BRIDGE

PLAN
GCRTA BRIDGE

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 137 FOR SECTION 5-5 & 6-6.
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.
5. SEE RAILING PANEL DETAILS FOR RAILING ANCHOR DETAILS.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
S.O. = SERIES OF
T&B = TOP & BOTTOM

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503 & 1801511	

SIDEWALK PLAN 17 OF 18
EASTERN ROADWAY TUNNELS & GCRTA BRIDGE NO. CUY-10-1685
STA. 55+75 TO STA. 58+25

CUY-10-15.96
PID No. 89194
SW-17

133
205

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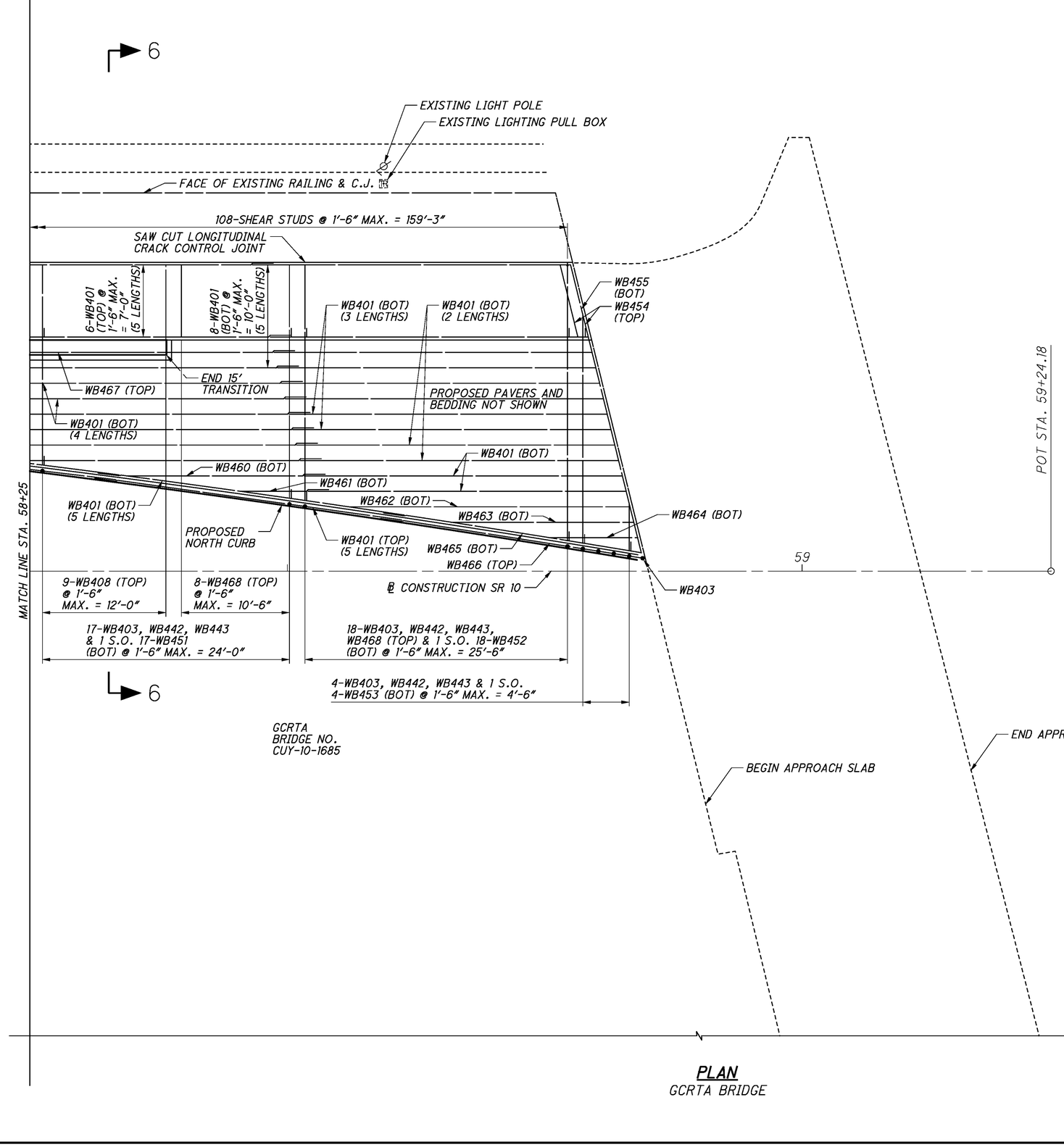


PLAN
GCRTA BRIDGE

NOTES:

1. MINIMUM REINFORCING LAP LENGTHS:
   #4 = 2'-0"
2. SAW CUT TRANSVERSE CRACK CONTROL JOINTS IN THE SIDEWALK SPACED AT 7' BETWEEN EXPANSION JOINTS.
3. SEE SHEET 137 FOR SECTION 6-6
4. SEE LIGHTING PLANS FOR DISPOSITION OF ELECTRICAL FEATURES.

LEGEND:

BOT = BOTTOM
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
S.O. = SERIES OF

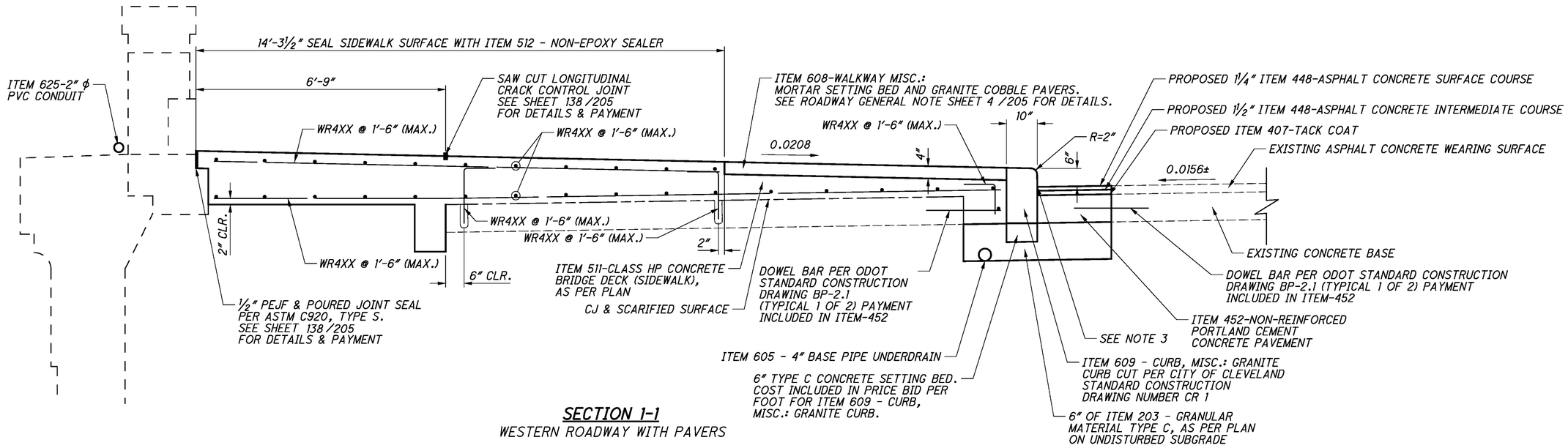
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
KEH	KEH	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801511	

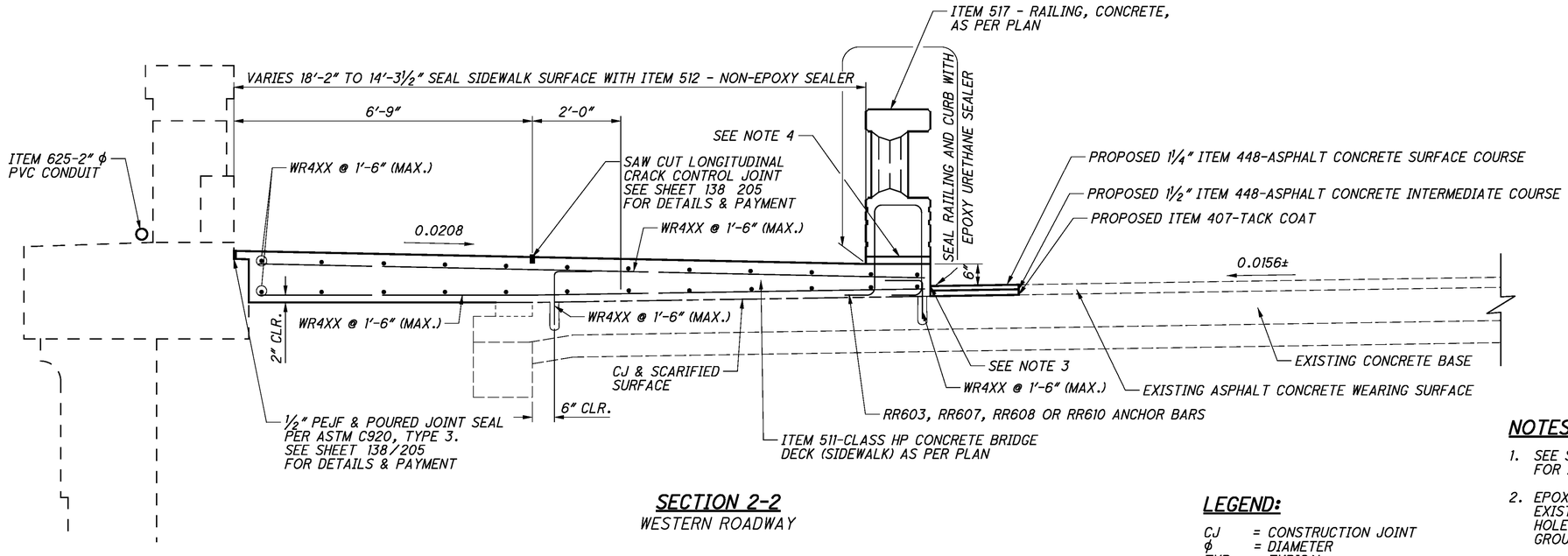
SIDEWALK PLAN 18 OF 18
GCRTA BRIDGE NO. CUY-10-1685
STA. 58+25 TO END OF CONSTRUCTION

CUY-10-15.96
PID No. 89194

SW-18



SECTION 1-1
WESTERN ROADWAY WITH PAVERS



SECTION 2-2
WESTERN ROADWAY

NOTES:

1. SEE SIDEWALK AND ROADWAY PLAN SHEETS FOR ADDITIONAL DETAILS.
2. EPOXY GROUT NO. 4 BARS 6" DEEP INTO EXISTING CONCRETE PER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
3. SEAL GUTTER PER CMS 401.15.
4. PROVIDE SMOOTH SIDEWALK SURFACE AT DRAINAGE SLOTS.

LEGEND:

CJ = CONSTRUCTION JOINT
ϕ = DIAMETER
TYP. = TYPICAL
WR4XX = #4 REBAR IN ROADWAY WALK

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC			

SIDEWALK DETAILS 1 OF 4
WESTERN ROADWAY

CUY-10-15.96
PID No. 89194

SD-19

135
205

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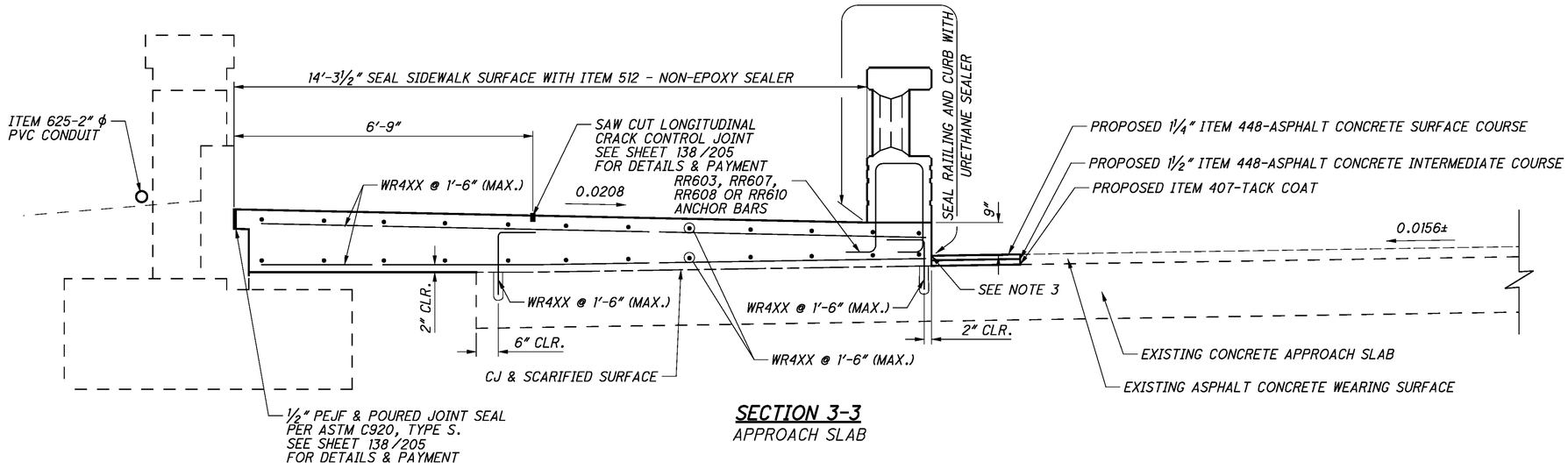
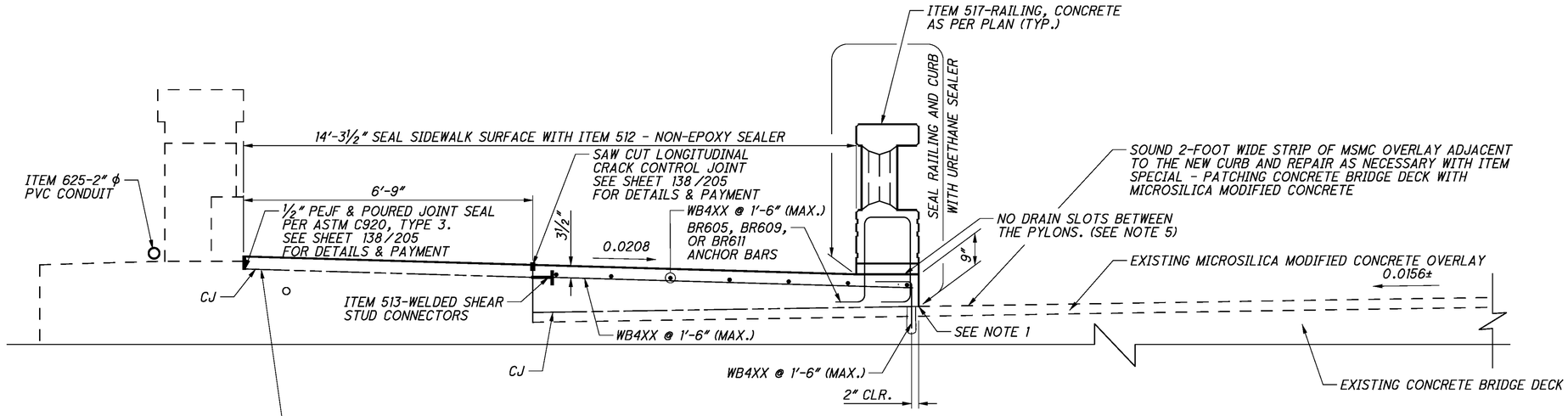


SECTION 3-3
APPROACH SLAB



SECTION 4-4
BRIDGES CUY-10-1608 & 1613
(SUPERSTRUCTURES VARY)

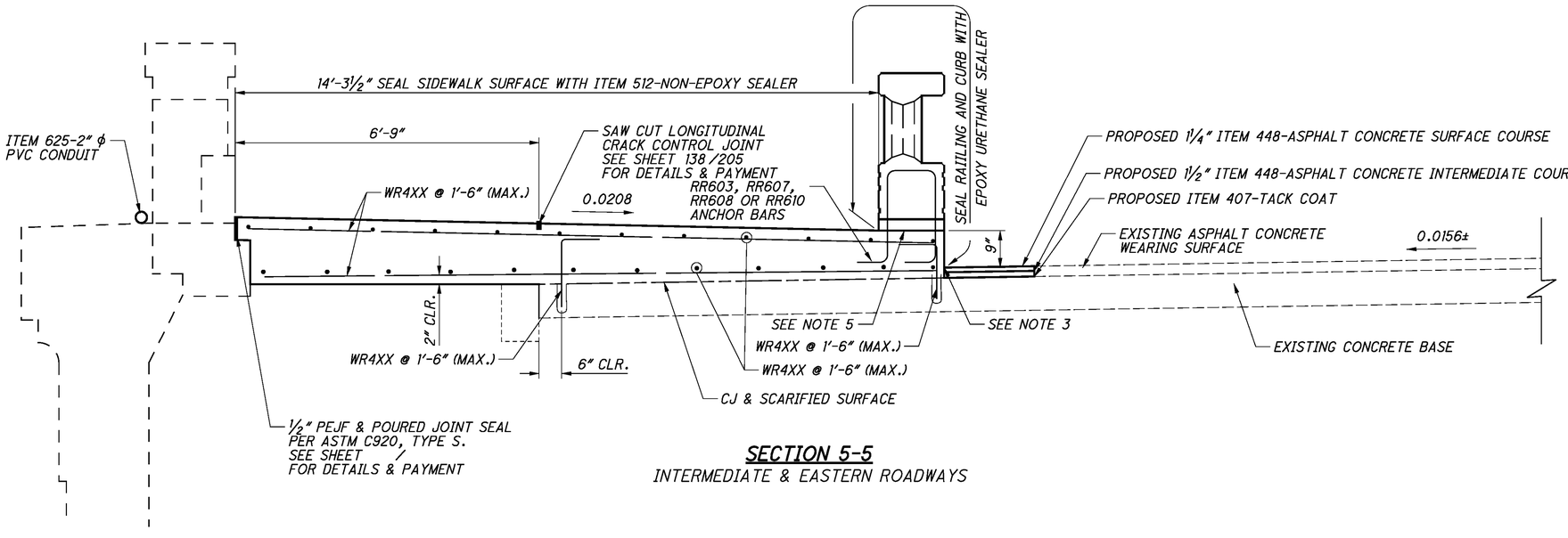
LEGEND:

CJ = CONSTRUCTION JOINT
ϕ = DIAMETER
TYP. = TYPICAL
WB4XX = #4 REBAR IN BRIDGE WALK
WR4XX = #4 REBAR IN ROADWAY WALK

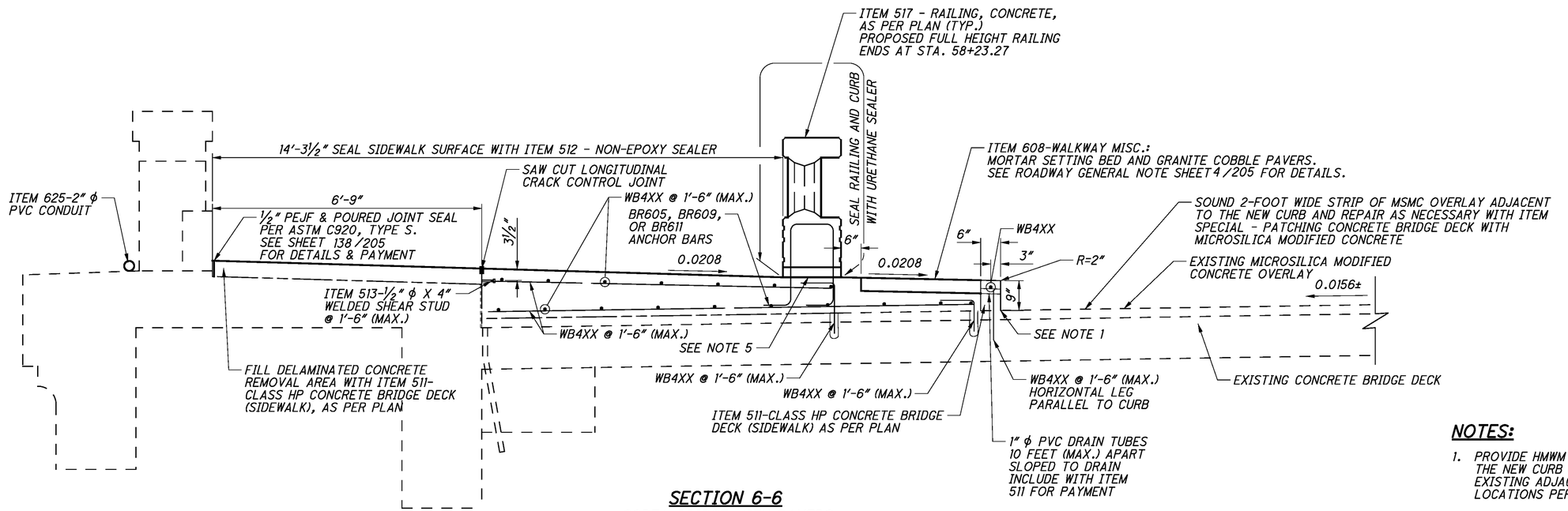
NOTES:

1. PROVIDE HMWM SEALER AT THE INTERFACE OF THE NEW CURB LINE AND THE TOP OF THE EXISTING ADJACENT CONCRETE AND OTHER LOCATIONS PER CMS 511.22.
2. EPOXY GROUT NO. 4 BARS 6" DEEP INTO EXISTING CONCRETE PER ITEM 510 - DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN.
3. SEAL GUTTER PER CMS 401.15.
4. SEE SIDEWALK AND ROADWAY PLAN SHEETS FOR ADDITIONAL DETAILS.
5. PROVIDE SMOOTH SIDEWALK SURFACE AT DRAINAGE SLOTS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077
DESIGNED ABJ
DRAWN ABJ
REVIEWED DWL
DATE 10/11
CHECKED XAC
REVISED
STRUCTURE FILE NUMBER
SHEET 4
SIDEWALK DETAILS 2 OF 4
BRIDGE & APPROACH SLAB
CUY-10-15.96
PID No. 89194
SD-20
136
205
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CSD020.dgn 1/10/2012 1:00:33 PM hutch



SECTION 5-5
INTERMEDIATE & EASTERN ROADWAYS



SECTION 6-6
GCRTA BRIDGE WITH PAVERS

LEGEND:
CJ = CONSTRUCTION JOINT
ϕ = DIAMETER
TYP. = TYPICAL

NOTES:
1. PROVIDE HMWM SEALER AT THE INTERFACE OF THE NEW CURB LINE AND THE TOP OF THE EXISTING ADJACENT CONCRETE AND OTHER LOCATIONS PER CMS 511.22.
2. EPOXY GROUT NO. 4 BARS 6" DEEP INTO EXISTING CONCRETE PER ITEM 510 - DOWEL HOLES WITH NON-SHRINKING, NON-METALLIC GROUT, AS PER PLAN.
3. SEAL GUTTER PER CMS 401.15.
4. SEE SIDEWALK AND ROADWAY PLAN SHEETS FOR ADDITIONAL DETAILS.
5. PROVIDE SMOOTH SIDEWALK SURFACE AT DRAINAGE SLOTS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC			

SIDEWALK DETAILS 3 OF 4
INTERMEDIATE & EASTERN ROADWAYS, TUNNELS & GCRTA BRIDGE

CUY-10-15.96
PID No. 89194

SD-21

137
205

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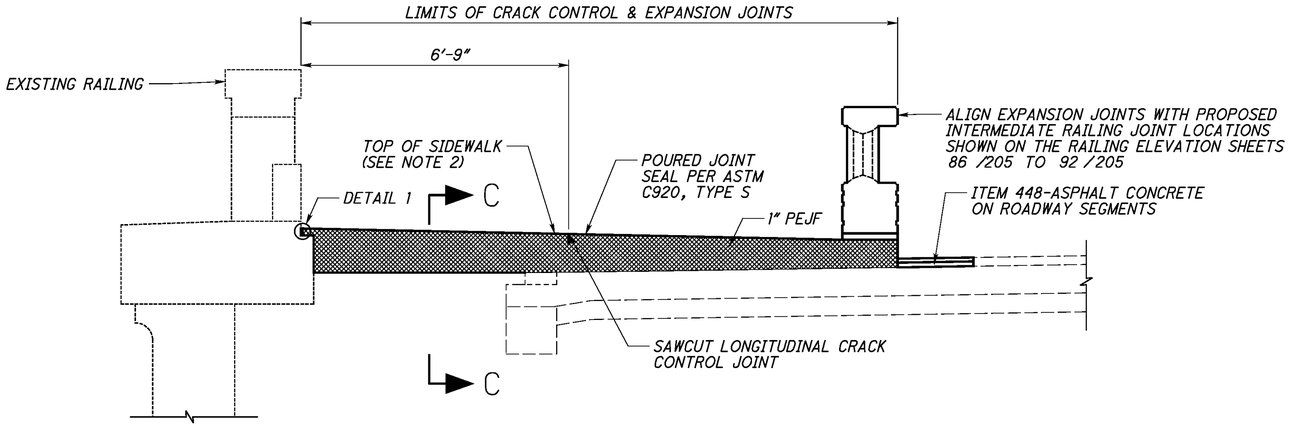
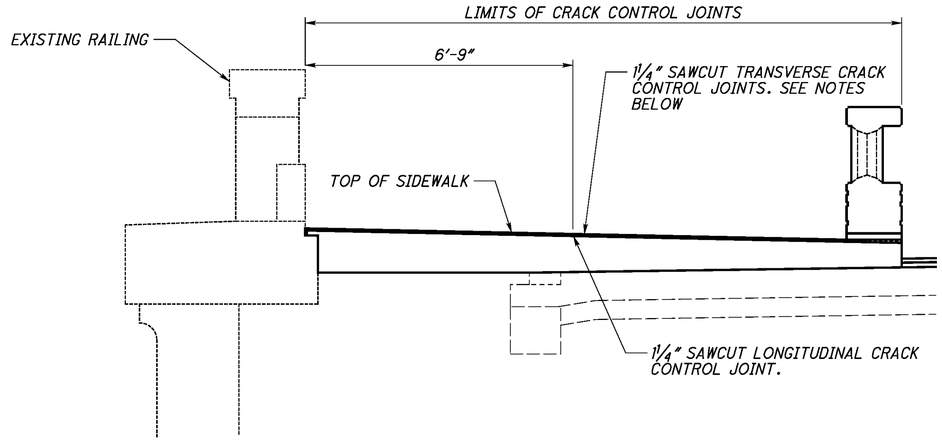
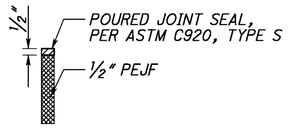


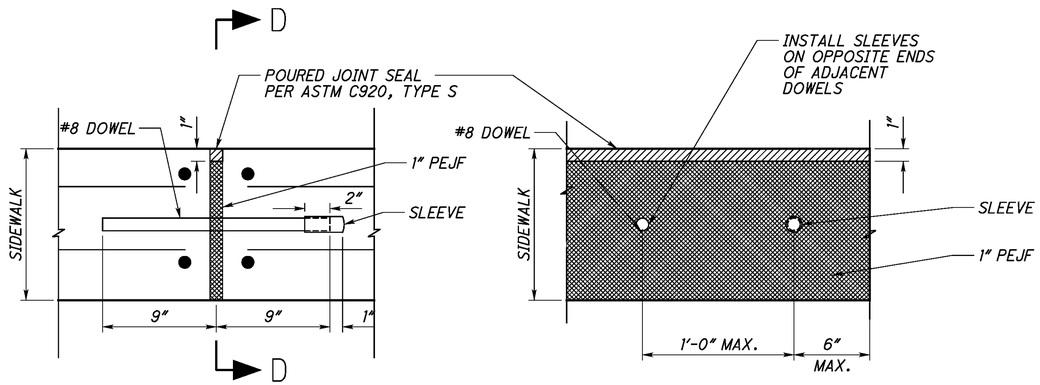
RAILING AND SIDEWALK AT EXPANSION JOINT



SIDEWALK TRANSVERSE CRACK CONTROL JOINT



DETAIL 1



SECTION C-C

SECTION D-D

NOTES

1. ALL ITEMS SHOWN ON THIS SHEET ARE INCIDENTAL TO ITEM 511-CLASS HP CONCRETE (SIDEWALK), AS PER PLAN.
2. EXTEND POURED SEALER & PEJF TO TOP OF PAVERS WHEN PRESENT.
3. CRACK CONTROL JOINT: WET SAW CUT 1¼" DEEP CONTROL JOINTS WITH A DIAMOND BLADE ACROSS THE WIDTH AND LENGTH OF THE SIDEWALK AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

   USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT & TRUE. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼".

   WET SAW CUT TRANSVERSE CONTROL JOINTS WITH A DIAMOND BLADE AT 7'-0" CENTERS BETWEEN EXPANSION JOINTS. WET SAW CUT LONGITUDINAL CRACK CONTROL JOINTS AS SHOWN ON THIS SHEET AND THE OTHER SIDEWALK PLANS AND DETAILS.

   SEAL THE LENGTH OF THE CRACK CONTROL JOINTS TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. DO NOT OVER FILL THE SAW CUTS SUCH THAT THE SEALER PROJECTS ABOVE THE SIDEWALK.
4. SEE STANDARD ROADWAY CONSTRUCTION DRAWING BP 2.2 FOR FURTHER DETAILS.

LEGEND

MAX. = MAXIMUM
PEJF = PREFORMED EXPANSION JOINT FILLER

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ			

SIDEWALK DETAILS 4 OF 4

CUY-10-15.96
PID No. 89194

SD-22

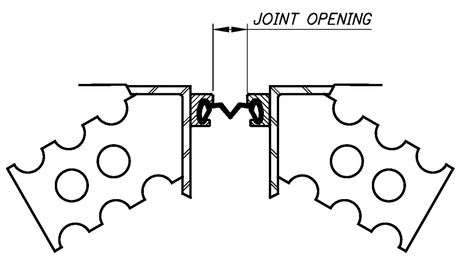
DECK JOINT TABLE

BRIDGE	LOCATION	JOINT TYPE FIXED	JOINT TYPE EXPANSION		DESCRIPTION	EXISTING ROADWAY JOINT OPENING WIDTH (±) 30° F	40° F	50° F	60° F	70° F	80° F	90° F
W. 18TH ST.	WEST ABUTMENT	"1608WA"			2½" COMPRESSION SEAL (SEE NOTE BELOW)	1⅝"	1⅝"	1⅝"	1⅝"	1⅝"	1⅝"	1⅝"
W. 18TH ST.	EAST ABUTMENT		"1608EA"		2¼" COMPRESSION SEAL (SEE NOTE BELOW)	1½"	1⅜"	1⅜"	1⅜"	1¼"	1¼"	1¼"
HOPE MEMORIAL	WEST ABUTMENT		"WA"		3" STRIP SEAL (SEE NOTE BELOW)	1⅝"	1½"	1½"	1½"	---	---	---
HOPE MEMORIAL	UNIT 1 & 2, WEST APPROACH		"APP"		3" STRIP SEAL	1¾"	1⅝"	1⅝"	1⅝"	1½"	---	---
HOPE MEMORIAL	WEST SIDE OF WEST PYLON		"WWP"		3" STRIP SEAL	1⅞"	1¾"	1¾"	1¾"	1⅝"	1⅝"	1⅝"
HOPE MEMORIAL	EAST SIDE OF WEST PYLON		"EWP"		3" STRIP SEAL	2⅜"	2⅛"	2"	1⅞"	1⅝"	1½"	---
HOPE MEMORIAL	SPANS 13 AND 12		"E6"		9" MODULAR STRIP SEAL	10"	9⅝"	9⅛"	8¾"	8⅜"	8"	7½"
HOPE MEMORIAL	SPANS 12 AND 11	"F6"			3½" COMPRESSION SEAL	2"	2"	2"	2"	2"	2"	2"
HOPE MEMORIAL	SPANS 11 AND 10		"E5"		6" MODULAR STRIP SEAL	5⅝"	5⅜"	5⅛"	4⅞"	4⅝"	4⅜"	4⅛"
HOPE MEMORIAL	SPANS 10 AND 9	"F5"			3½" COMPRESSION SEAL	2"	2"	2"	2"	2"	2"	2"
HOPE MEMORIAL	SPANS 9 AND 8		"E4"		6" MODULAR STRIP SEAL	6¾"	6⅜"	6"	5⅝"	5¼"	4⅞"	4½"
HOPE MEMORIAL	SPANS 8 AND 7	"F4"			3½" COMPRESSION SEAL	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"
HOPE MEMORIAL	SPANS 7 AND 6		"E3"		6" MODULAR STRIP SEAL	5⅞"	5½"	5⅛"	4¾"	4⅜"	4"	3⅝"
HOPE MEMORIAL	SPANS 6 AND 5	"F3"			3½" COMPRESSION SEAL	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"
HOPE MEMORIAL	SPANS 5 AND 4		"E2"		6" MODULAR STRIP SEAL	6"	5⅝"	5⅜"	5"	4¾"	4½"	4⅛"
HOPE MEMORIAL	SPANS 4 AND 3	"F2"			3½" COMPRESSION SEAL	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"
HOPE MEMORIAL	SPANS 3 AND 2		"E1"		6" MODULAR STRIP SEAL	5½"	5¼"	5"	4¾"	4⅜"	4⅛"	3⅞"
HOPE MEMORIAL	SPANS 2 AND 1	"F1"			3½" COMPRESSION SEAL	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"	2¼"
HOPE MEMORIAL	WEST SIDE OF EAST PYLON		"WEP"		3" STRIP SEAL	2"	1⅞"	1¾"	1⅝"	1½"	---	---
HOPE MEMORIAL	EAST ABUTMENT		"EA"		3" STRIP SEAL	1¾"	1⅝"	1½"	---	---	---	---

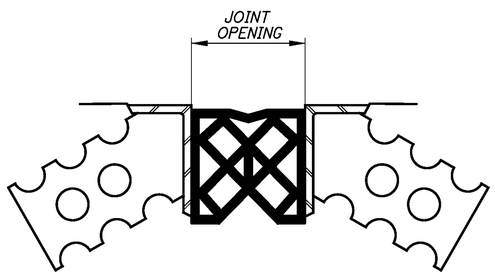
JOINT OPENING IS MEASURED NORMAL TO JOINT.
JOINT "WA" HAS A RIGHT FORWARD SKEW OF 19°22'37"± AND JOINTS 1608WA & 1608EA HAVE A RIGHT FORWARD SKEW OF 19°18'25"±. ALL OTHER JOINTS ARE NORMAL TO THE STRUCTURE
ALL EXISTING HOPE MEMORIAL BRIDGE JOINTS ARE WATSON BOWMAN ACME (WBA) ALL PROPOSED STRIP SEALS SHALL BE WBA.

LEGEND:

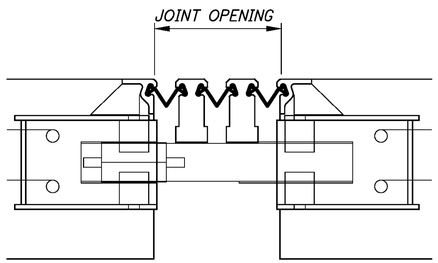
[ ] = JOINT OPENING MEASURED BY B&N ON 6-17-11 AT 73° F & ON 10-20-11 AT 49° F



STRIP SEAL
JOINT OPENING DETAIL



COMPRESSION SEAL
JOINT OPENING DETAIL



MODULAR EXPANSION JOINT
JOINT OPENING DETAIL

NOTES:

1. SEE STRUCTURE PLANS FOR DECK JOINT LOCATIONS.
2. ALL STEEL TOP LEGS, CONCRETE NOSING AND BACKWALL TOPS AT EXPANSION JOINTS SHALL BE SLOPED TO MATCH THE LONGITUDINAL GRADE.
3. ELASTOMETRIC SEALS: THE JOINT SEAL FOR EACH BRIDGE DECK JOINT SHALL BE FURNISHED AND PLACED IN ONE CONTINUOUS PIECE FOR THE FULL BRIDGE WIDTH AFTER THE DECK JOINT ARMOR INSTALLATION IS COMPLETE.
4. REPLACEMENT JOINT OPENINGS SHALL MATCH EXISTING JOINT OPENINGS. GAP IN SIDEWALK PLATES SHALL EQUAL ROADWAY JOINT OPENINGS.

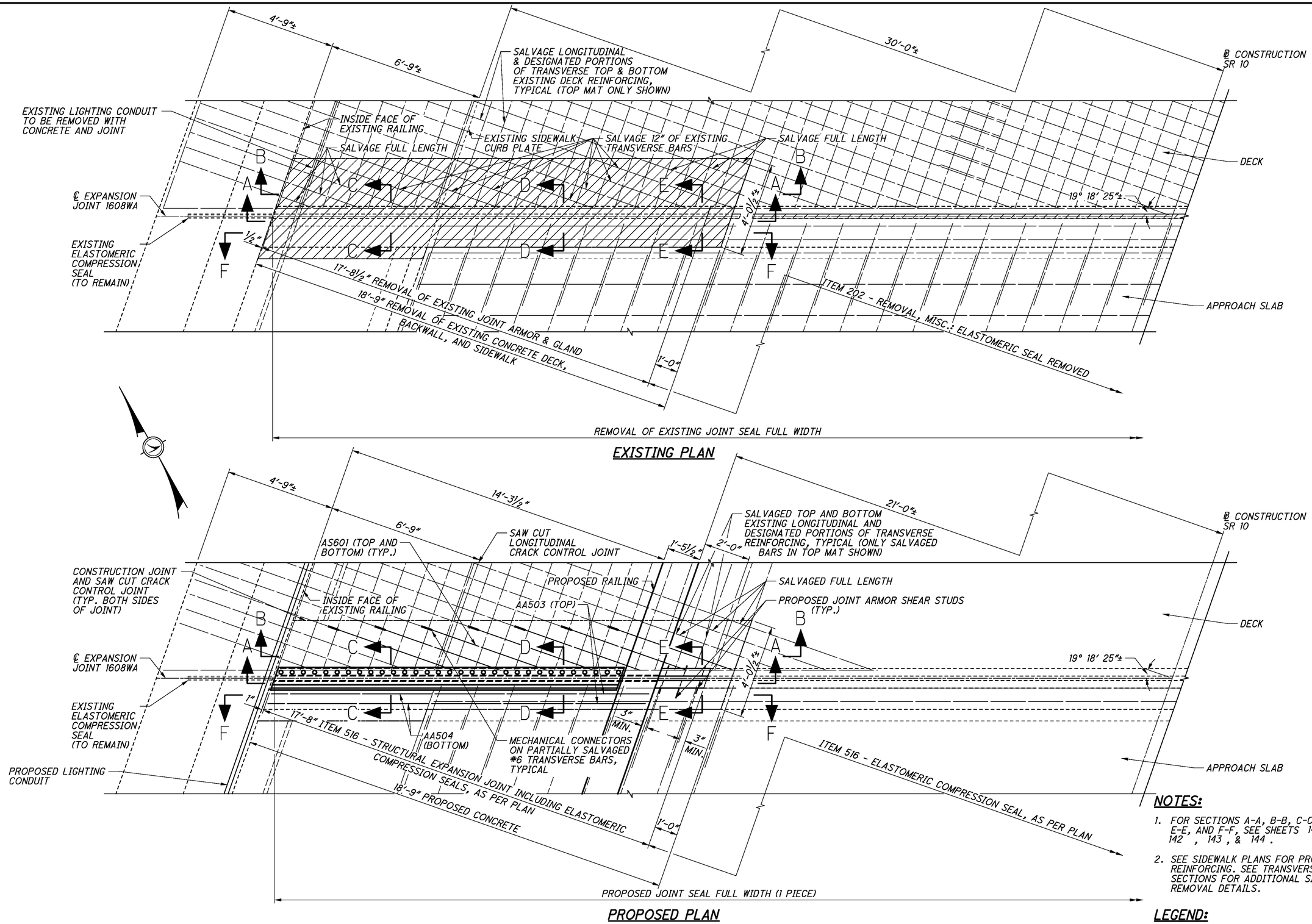
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DATE 11-1-11
REVIEWED JAA
STRUCTURE FILE NUMBER 1801481 & 1801503
DRAWN SDC
REVISED
DESIGNED DWL
CHECKED AKS

DECK JOINT TABLE
BRIDGE NO. CUY-10-1608 & CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-1



NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, E-E, AND F-F, SEE SHEETS 141 , 142 , 143 , & 144 .
2. SEE SIDEWALK PLANS FOR PROPOSED REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

MIN. = MINIMUM

TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

COMPRESSION SEAL JOINT 1608WA PLANS
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-2

140
205

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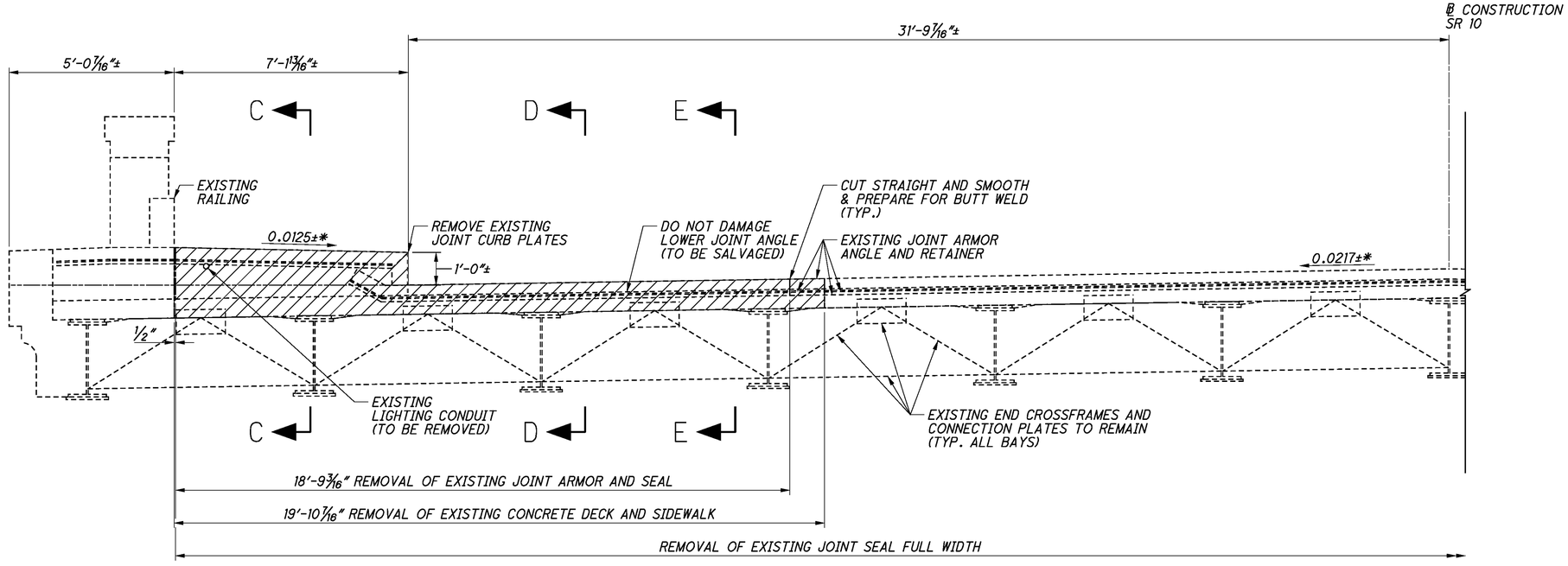
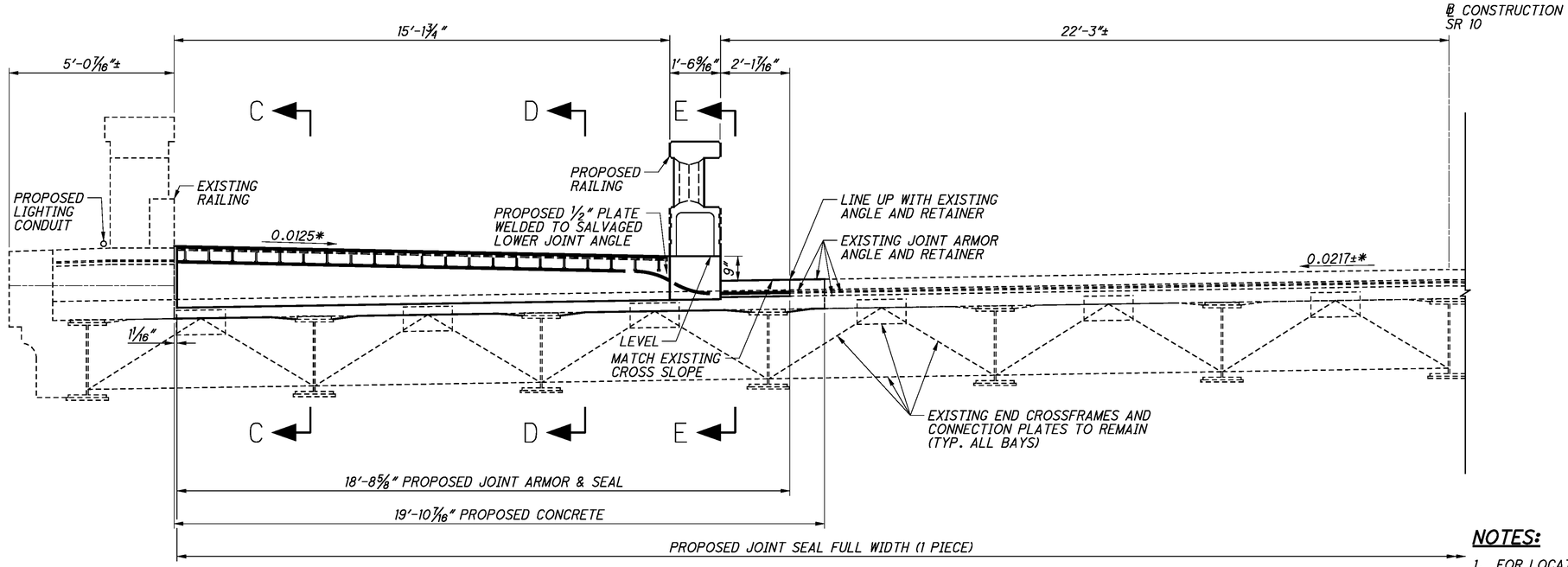


EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 140 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 144 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

COMPRESSION SEAL JOINT 1608WA SECTIONS 1 OF 3
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-3

141
205

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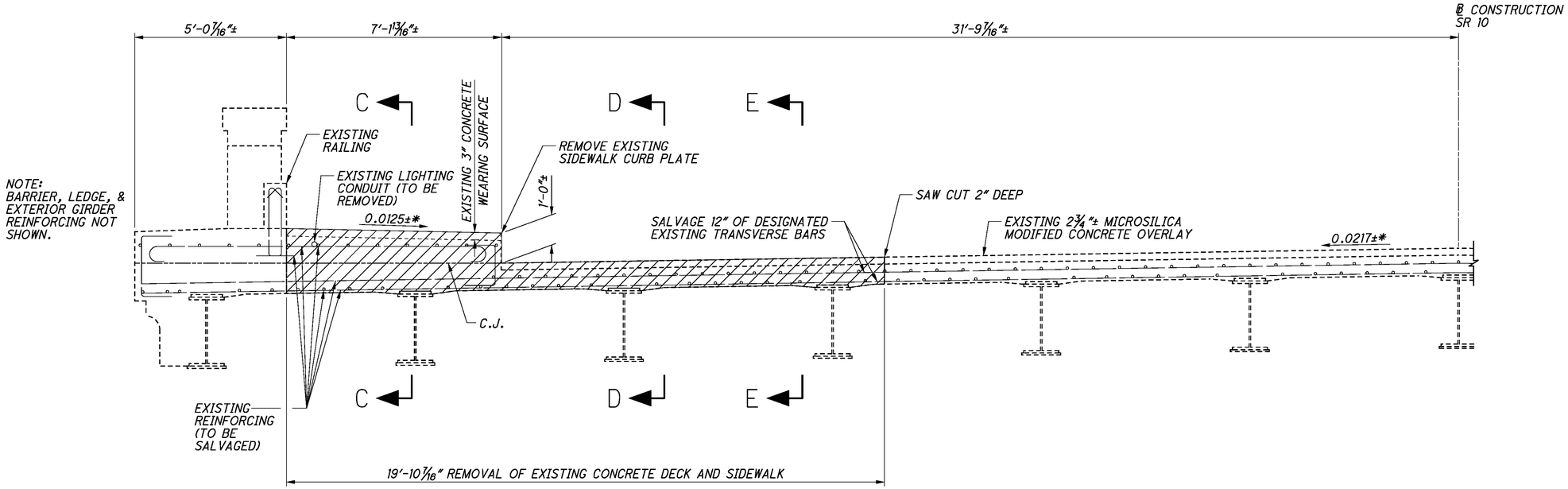
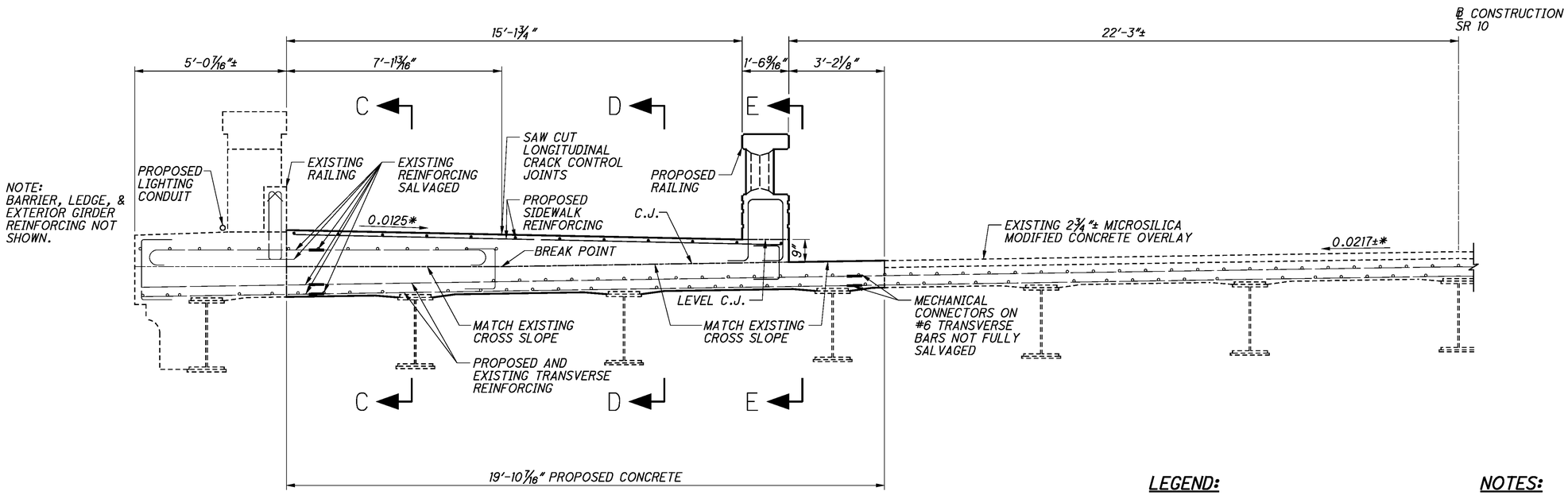


EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 140 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 144 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. END CROSSFRAMES NOT SHOWN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

COMPRESSION SEAL JOINT 1608WA SECTIONS 2 OF 3
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-4

142
205

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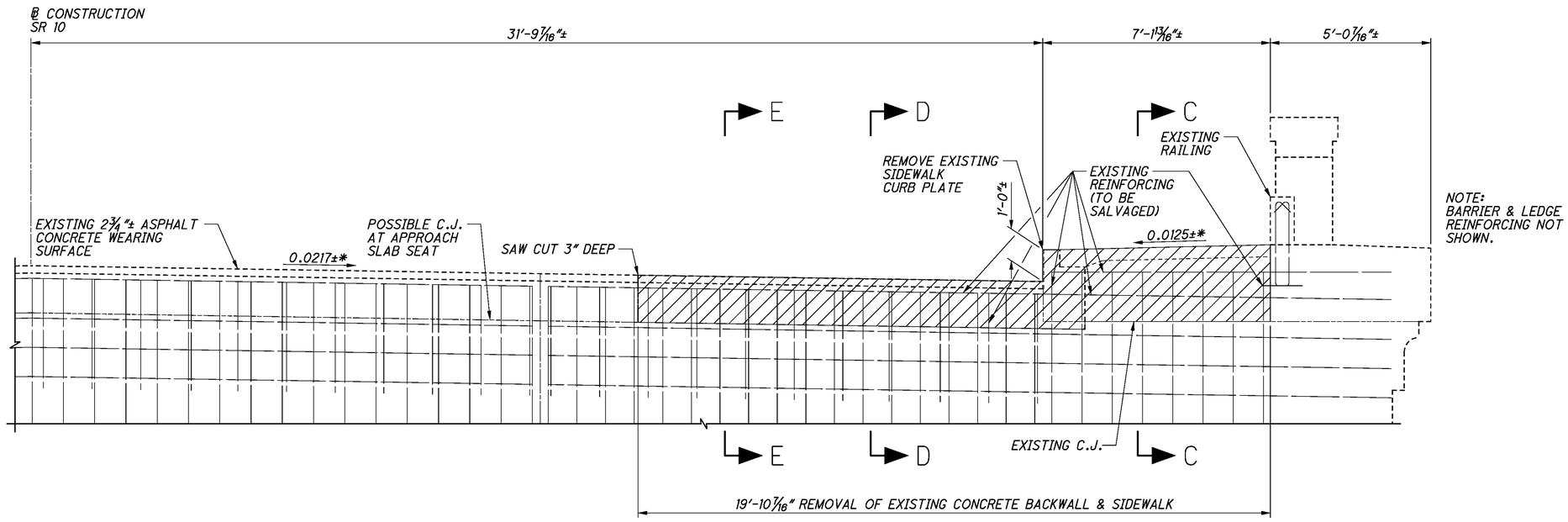
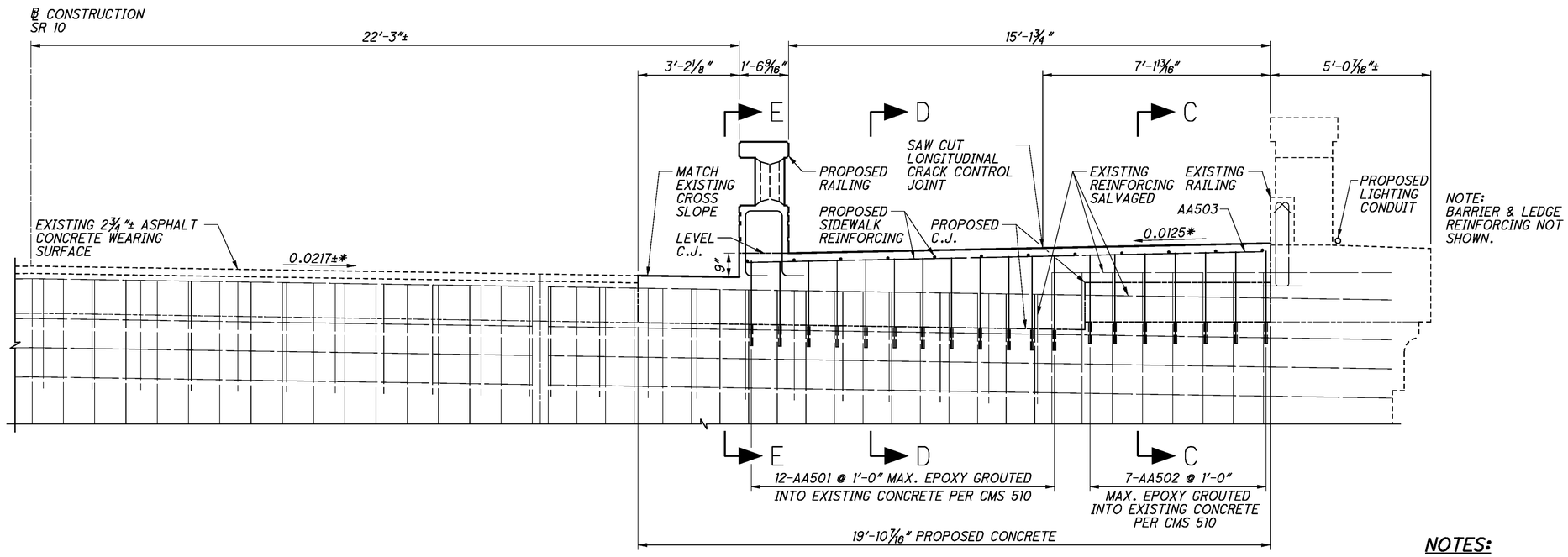


EXISTING SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)



PROPOSED SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF F-F, SEE SHEET 140 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 144 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

COMPRESSION SEAL JOINT 1608WA SECTIONS 3 OF 3
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-5

143
205

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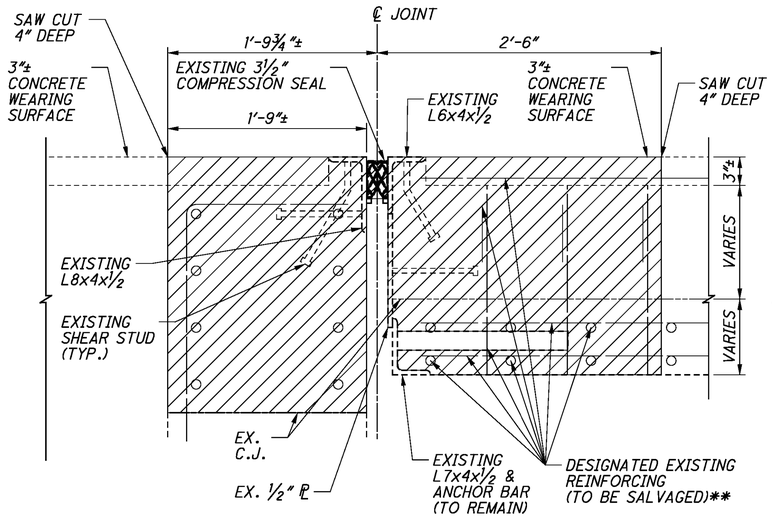
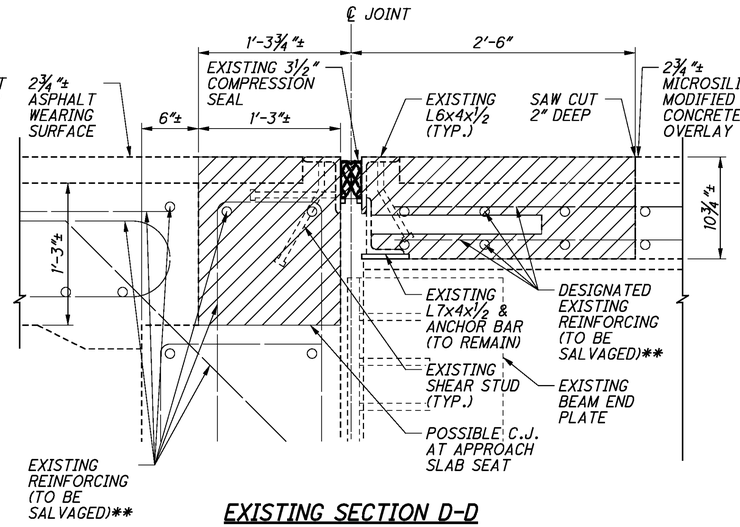
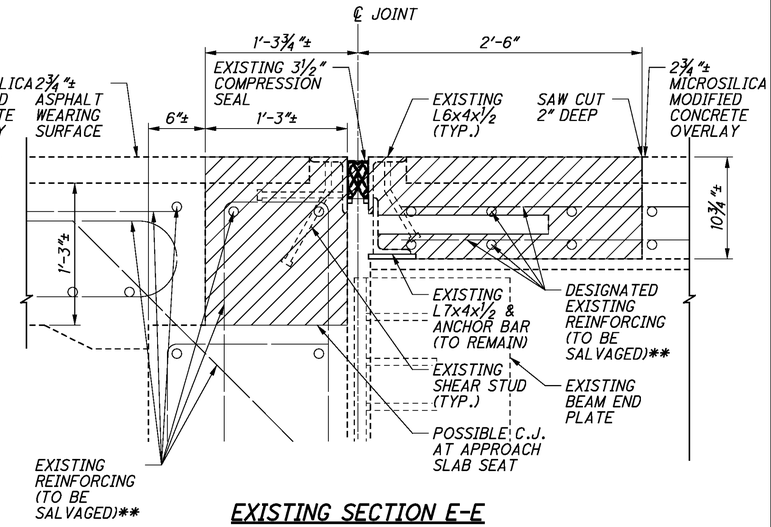


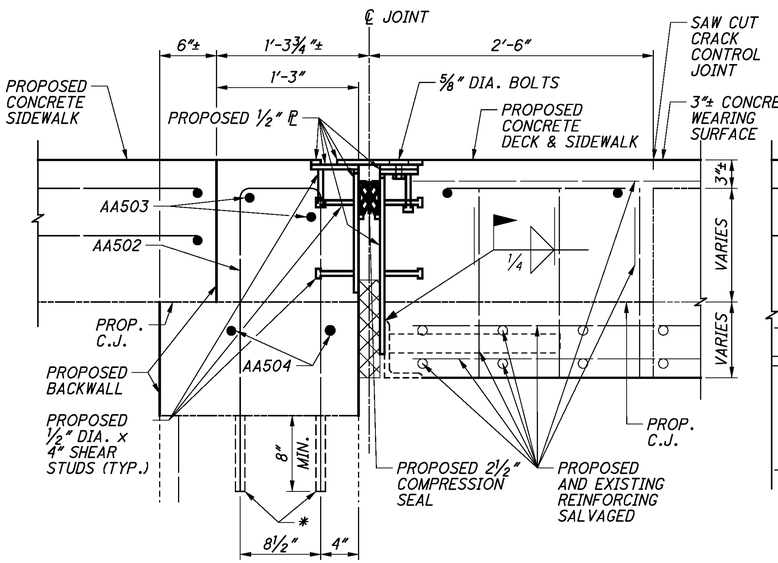
EXISTING SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



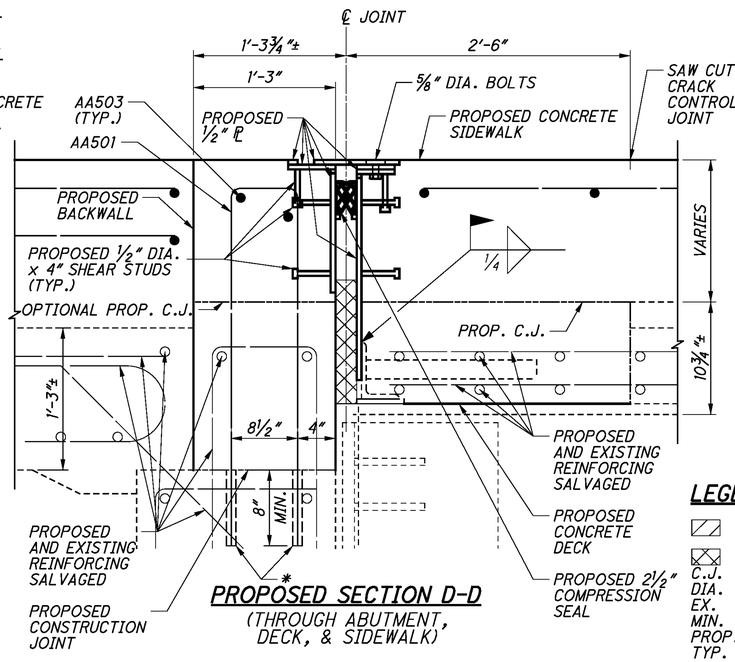
EXISTING SECTION D-D
(THROUGH ABUTMENT & DECK)



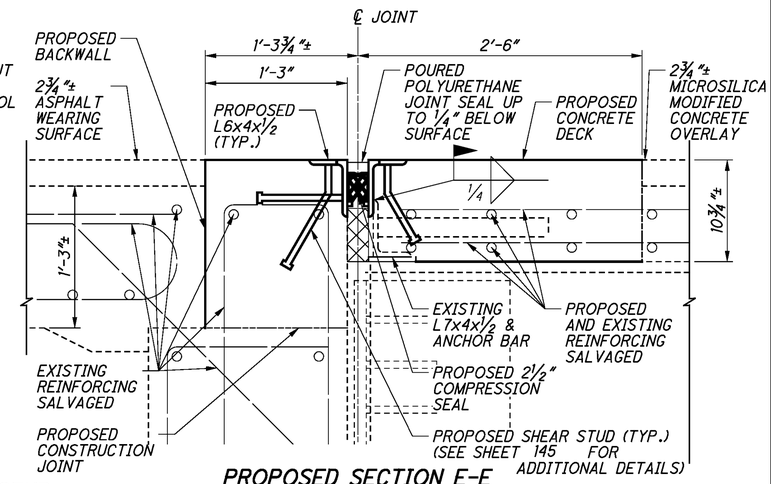
EXISTING SECTION E-E
(THROUGH ABUTMENT & DECK)



PROPOSED SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH ABUTMENT & DECK)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- MIN. = MINIMUM
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = DRILL HOLES PER 510 THE DEPTH NECESSARY TO ACCOMMODATE THE CROSS SLOPE AND PROVIDE 2½" COVER & INSTALL BARS USING EPOXY GROUT
- ** = REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 140 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. SEE SIDEWALK PLANS FOR SIDEWALK REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

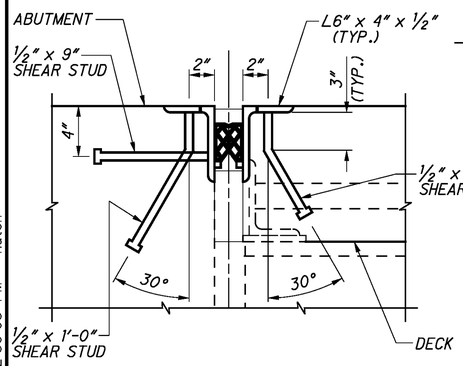
COMPRESSION SEAL JOINT 1608WA DETAILS 1 OF 2
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

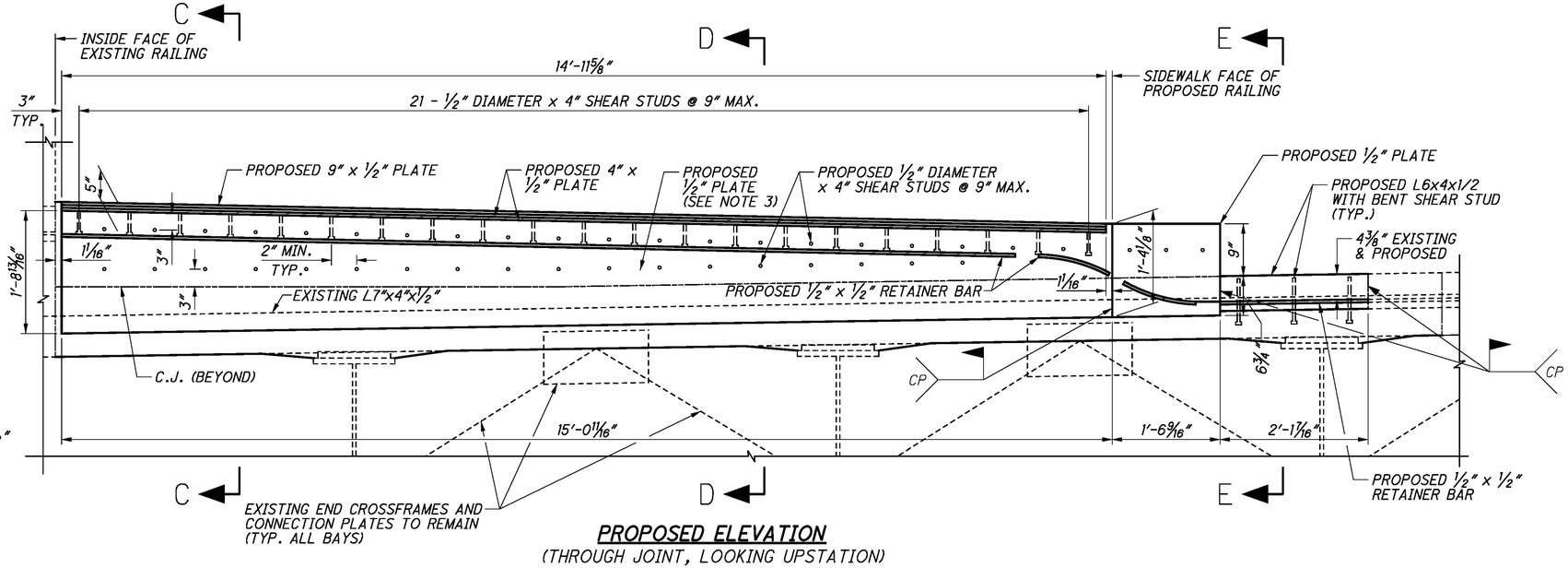
EX-6

144
205

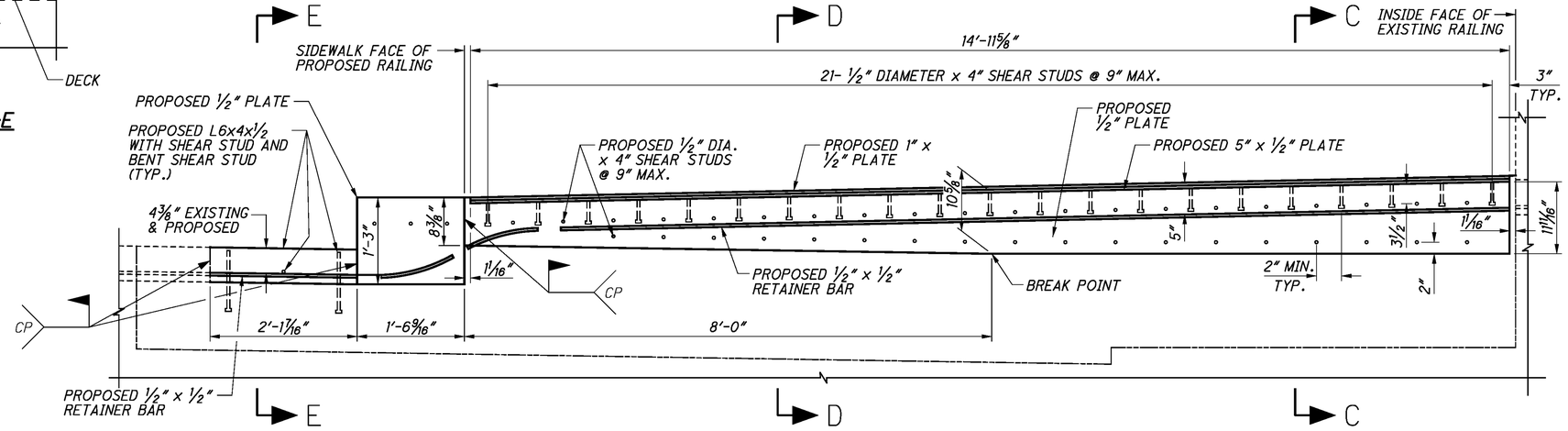
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX006.dgn 1/6/2012 12:58:55 PM hutch



PROPOSED SECTION E-E
(SHEAR STUD DETAILS)



PROPOSED ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

C.J. = CONSTRUCTION JOINT
CP = COMPLETE PENETRATION BUTT WELD
DIA. = DIAMETER
MAX. = MAXIMUM
MIN. = MINIMUM
TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 144 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. NOTCH ½" VERTICAL PLATE AS NECESSARY TO CLEAR EXISTING END CROSSFRAME CONNECTION PLATES AND WELD TO SALVAGED LOWER JOINT ANGLE.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BES		1801481	

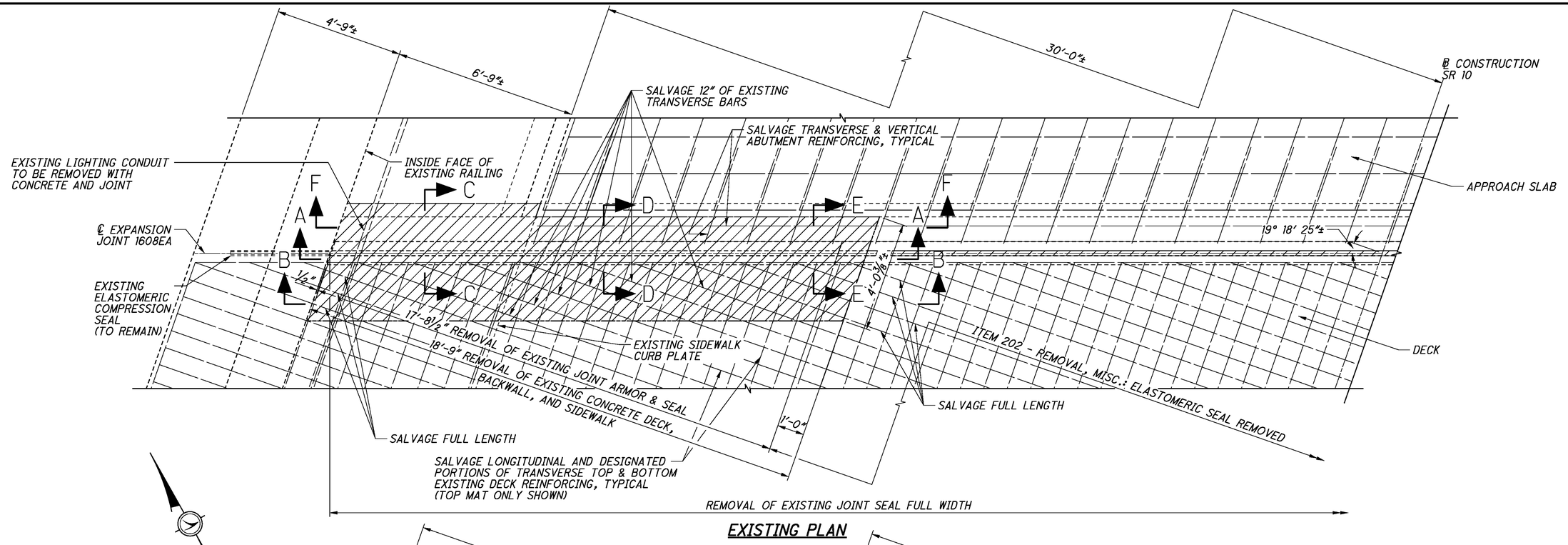
COMPRESSION SEAL JOINT 1608WA DETAILS 2 OF 2
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

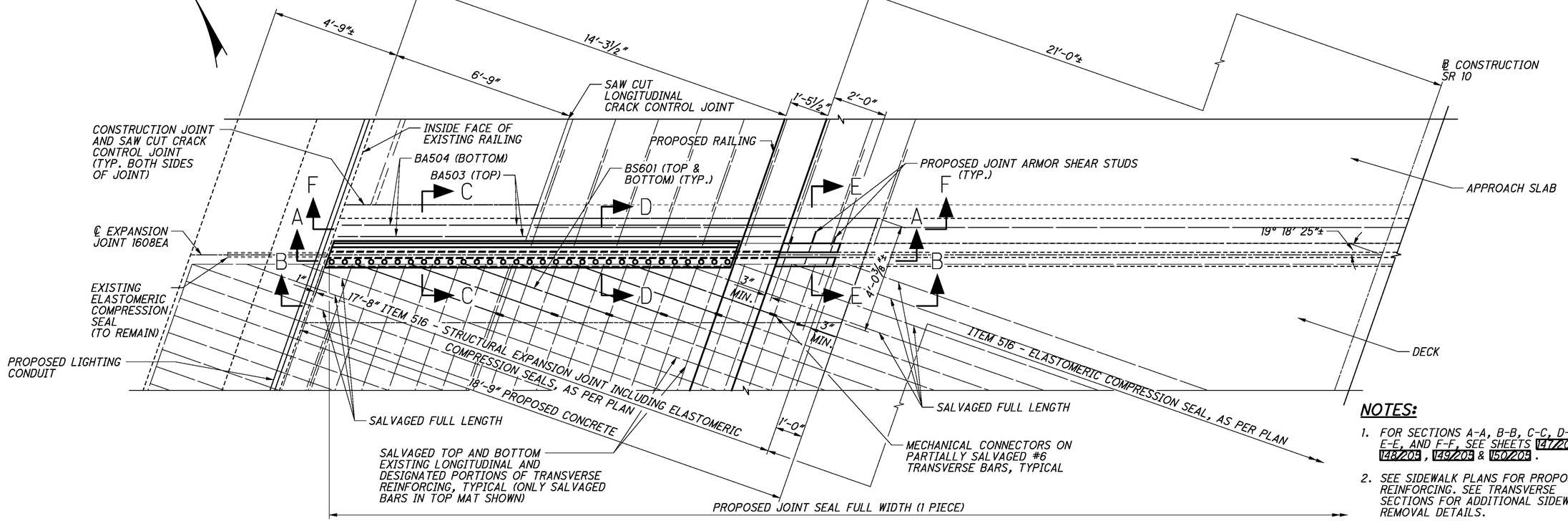
EX-7

145
205

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX007.dgn 1/6/2012 12:59:05 PM hutch



EXISTING PLAN



PROPOSED PLAN

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, E-E, AND F-F, SEE SHEETS 147/205, 148/205, 149/205 & 150/205.
2. SEE SIDEWALK PLANS FOR PROPOSED REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
MIN. = MINIMUM
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	BES	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

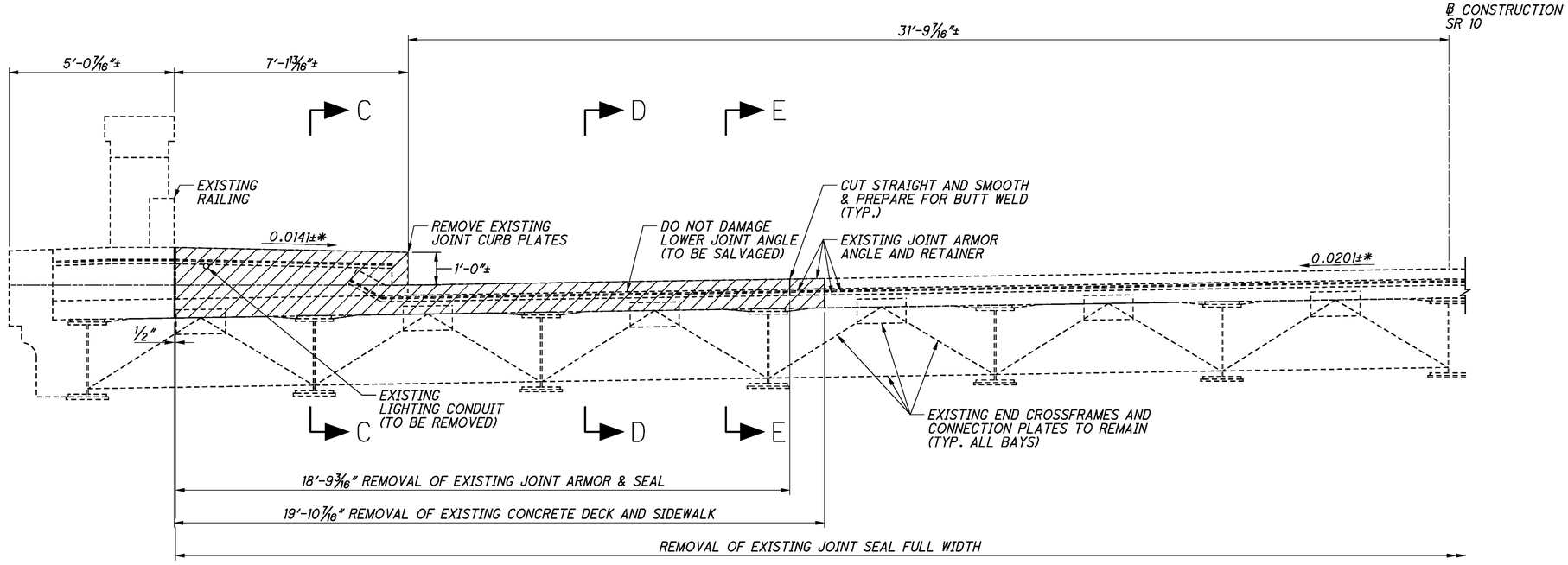
COMPRESSION SEAL JOINT 1608EA PLANS
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

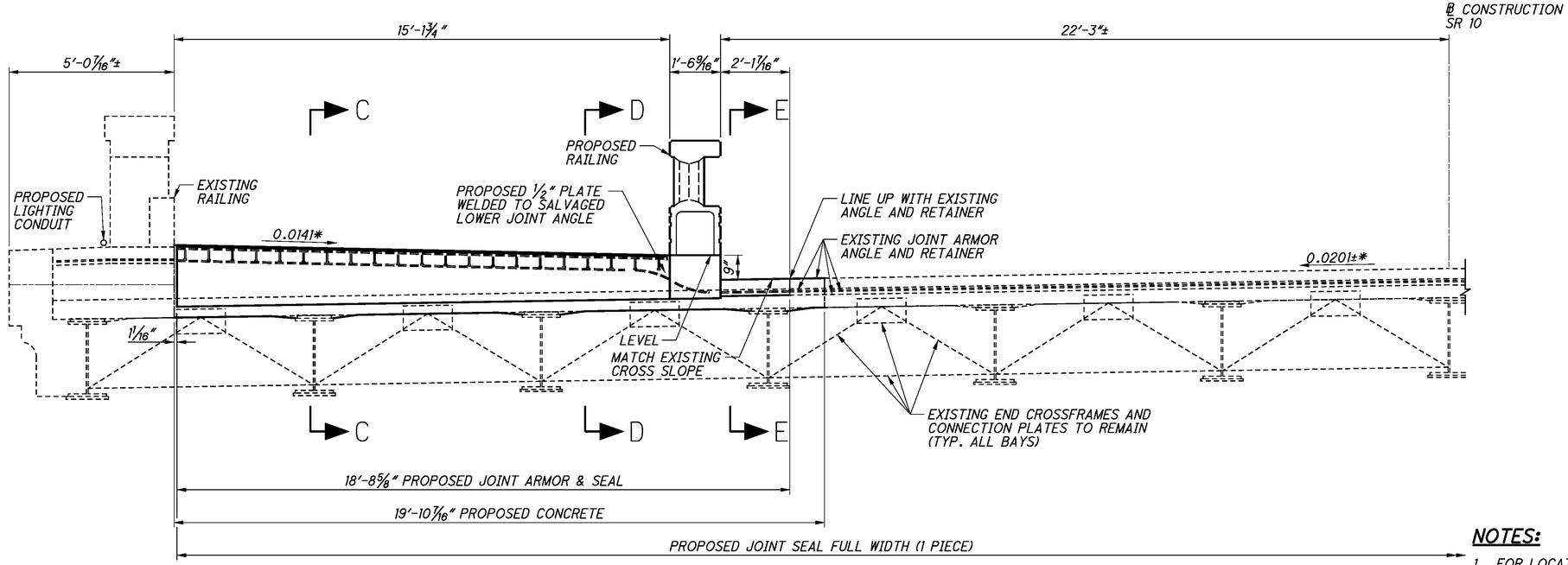
EX-8

146
205

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX030.dgn 1/6/2012 12:59:27 PM hutch



EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 146/205. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 150/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

SECTIONS 1 OF 3
COMPRESSION SEAL JOINT 1608EA SECTION
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-9

147
205

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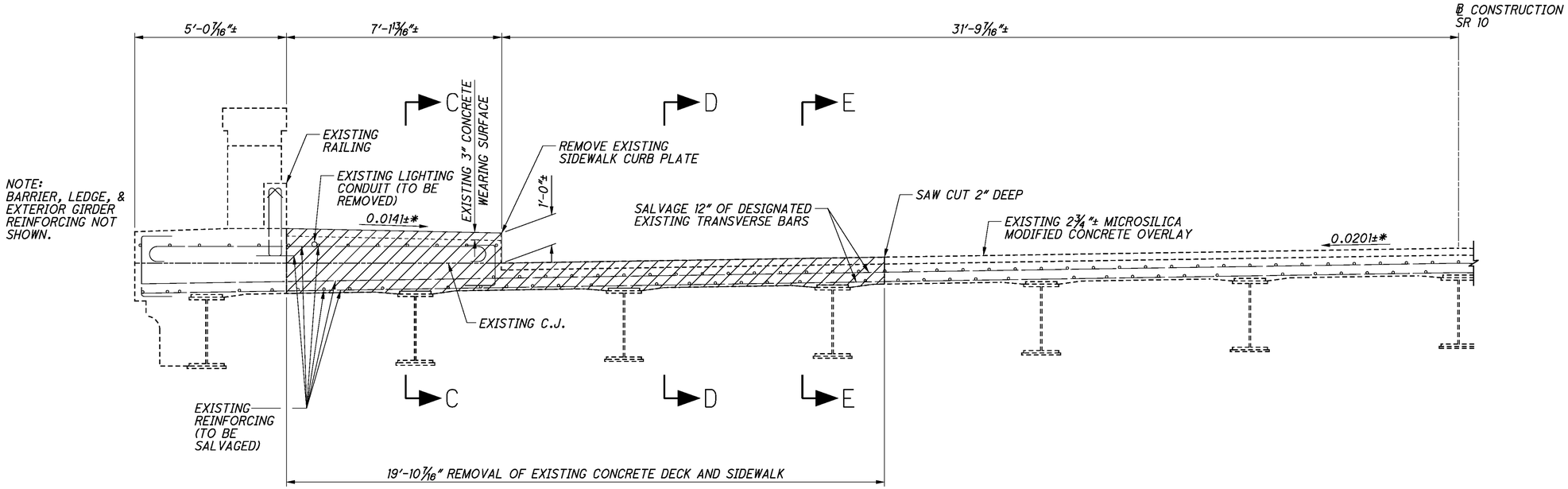
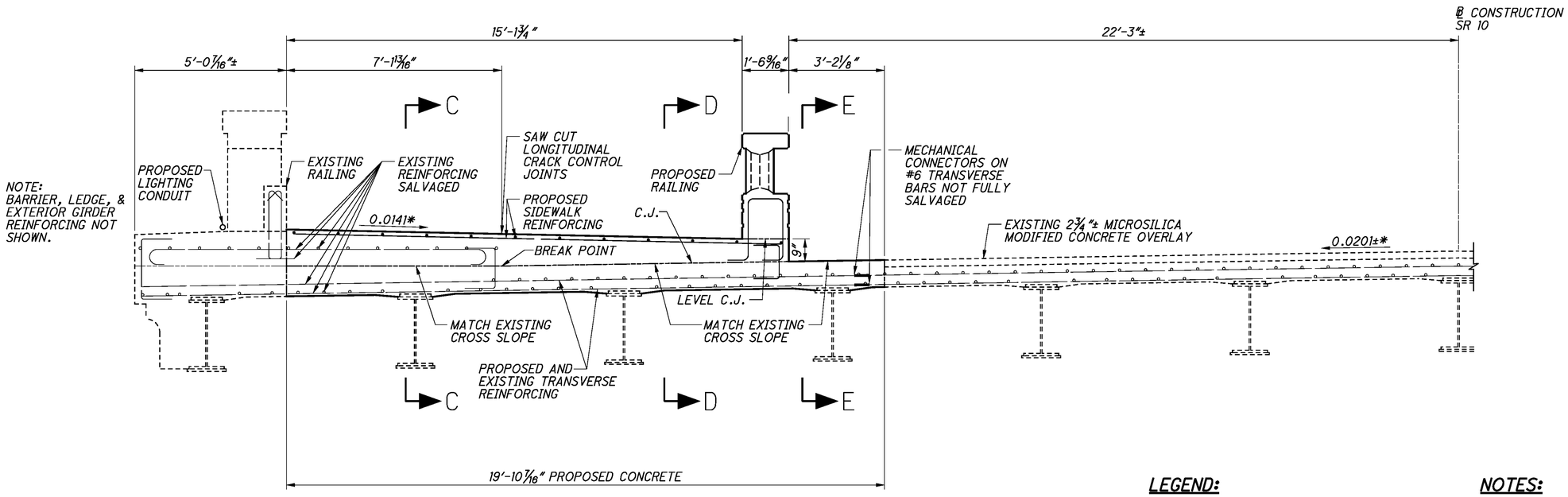


EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 146/205. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 150/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. END CROSSFRAMES NOT SHOWN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

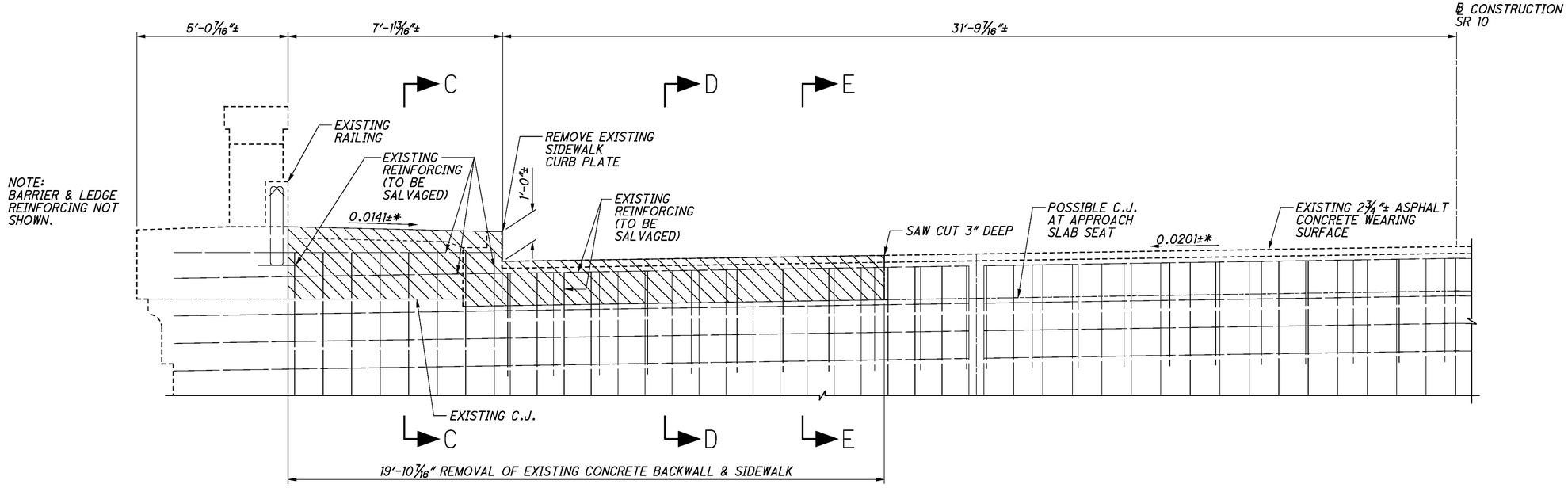
COMPRESSION SEAL JOINT 1608EA SECTIONS 2 OF 3
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

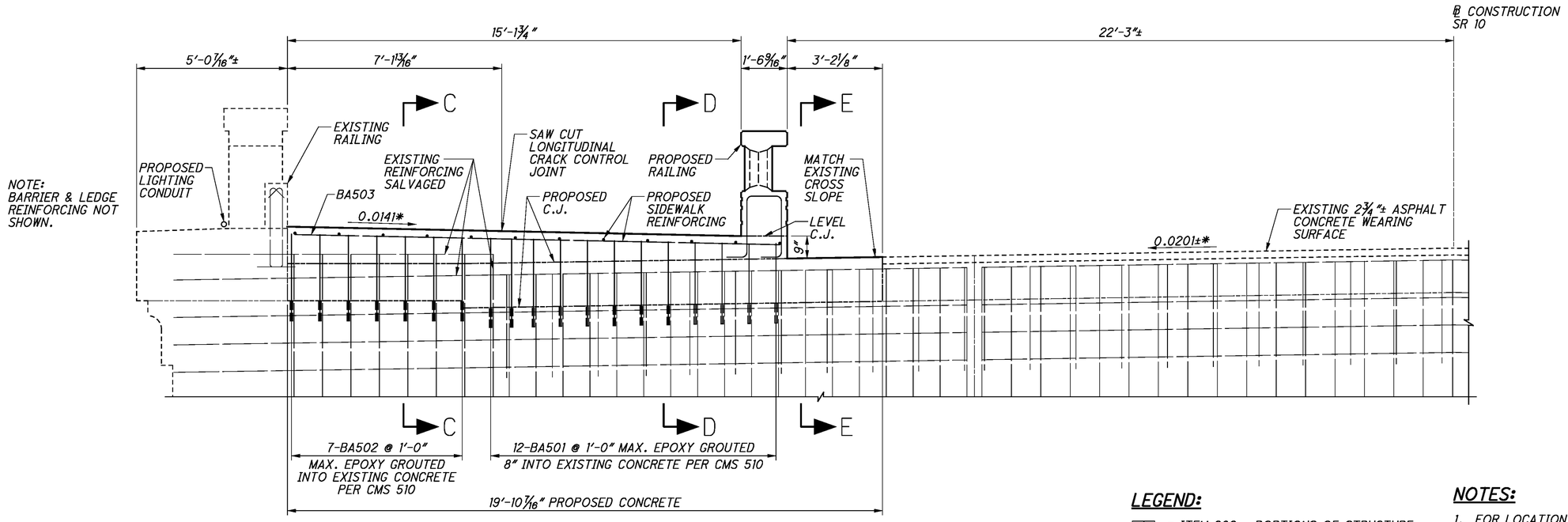
EX-10

148
205

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX032.dgn 1/6/2012 12:59:52 PM hutch



EXISTING SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)



PROPOSED SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
* = CROSS-SLOPES SHOWN ARE PARALLEL TO ℄ JOINT

NOTES:

1. FOR LOCATION OF F-F, SEE SHEET 146/205. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 150/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

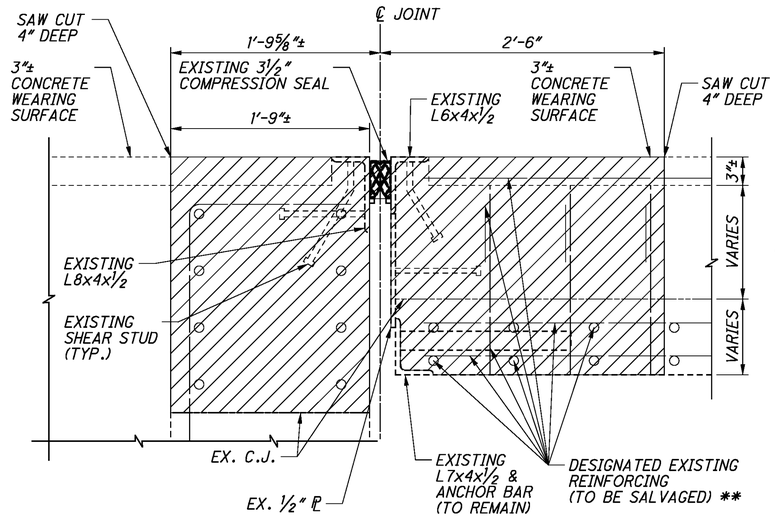
COMPRESSION SEAL JOINT 1608EA SECTIONS 3 OF 3
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

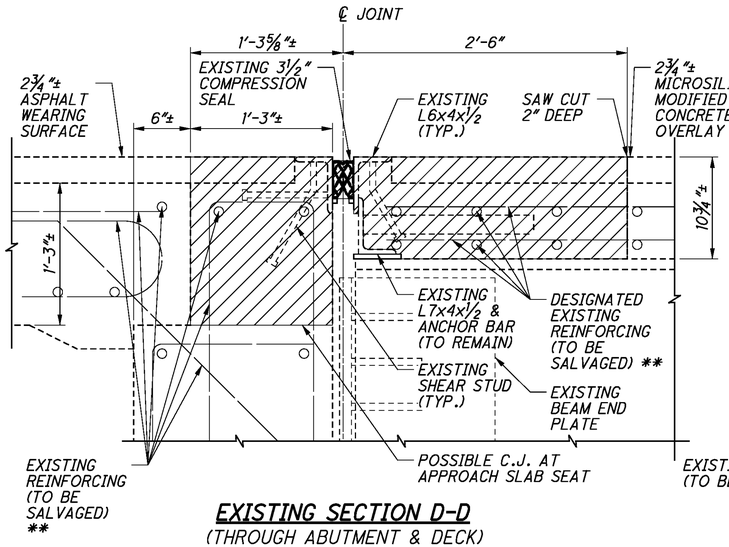
EX-11

149
205

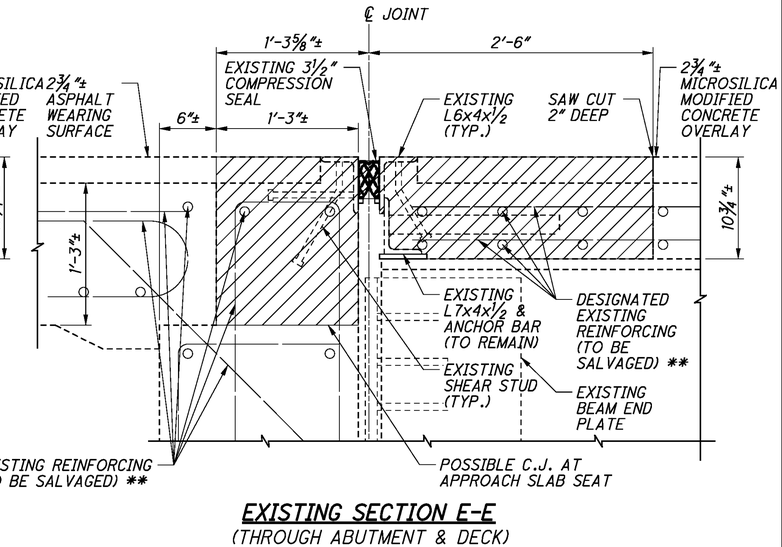
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX033.dgn 1/6/2012 1:00:09 PM hutch



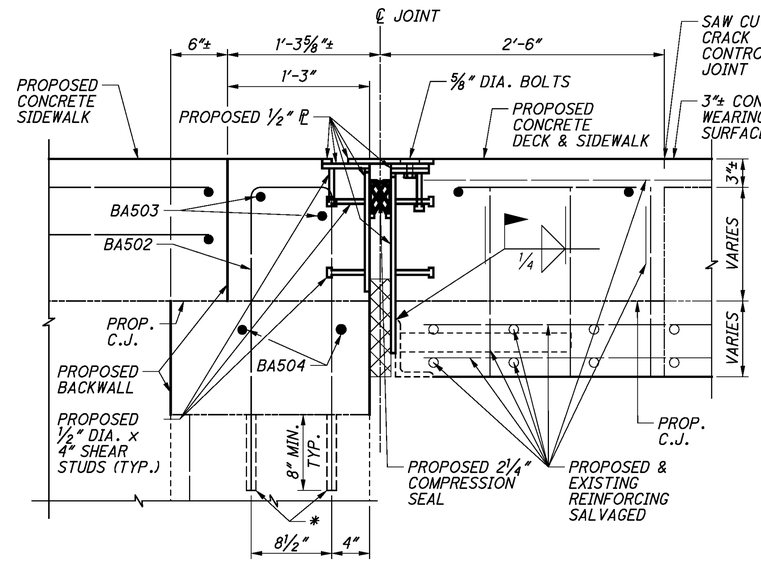
EXISTING SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



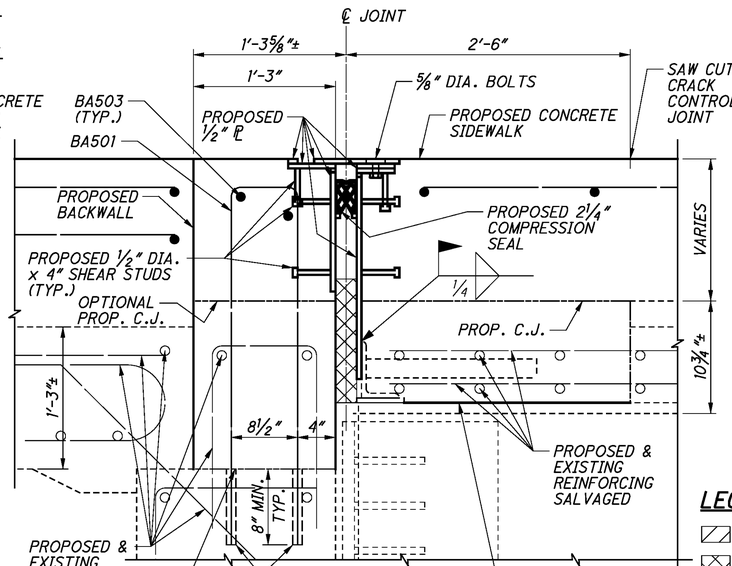
EXISTING SECTION D-D
(THROUGH ABUTMENT & DECK)



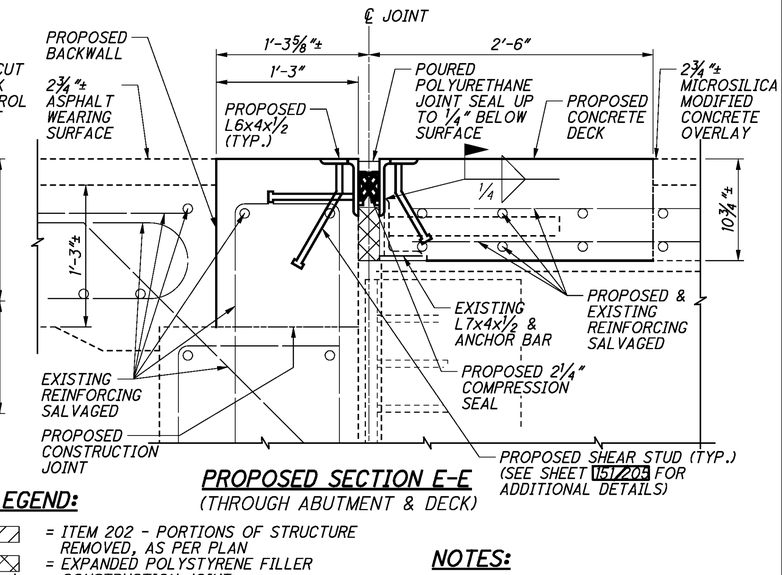
EXISTING SECTION E-E
(THROUGH ABUTMENT & DECK)



PROPOSED SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH ABUTMENT & DECK)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = DRILL HOLES PER 510 THE DEPTH NECESSARY TO ACCOMMODATE THE CROSS SLOPE AND PROVIDE 2½" COVER & INSTALL BARS USING EPOXY GROUT
- ** = REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 146/205 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

COMPRESSION SEAL JOINT 1608EA DETAILS 1 OF 2
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-12

150
205

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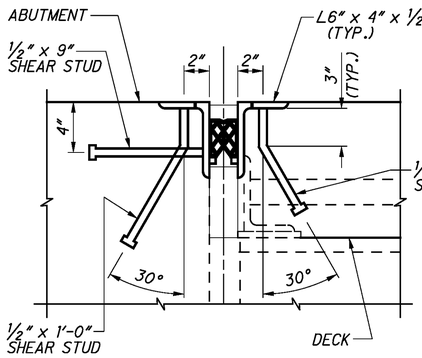
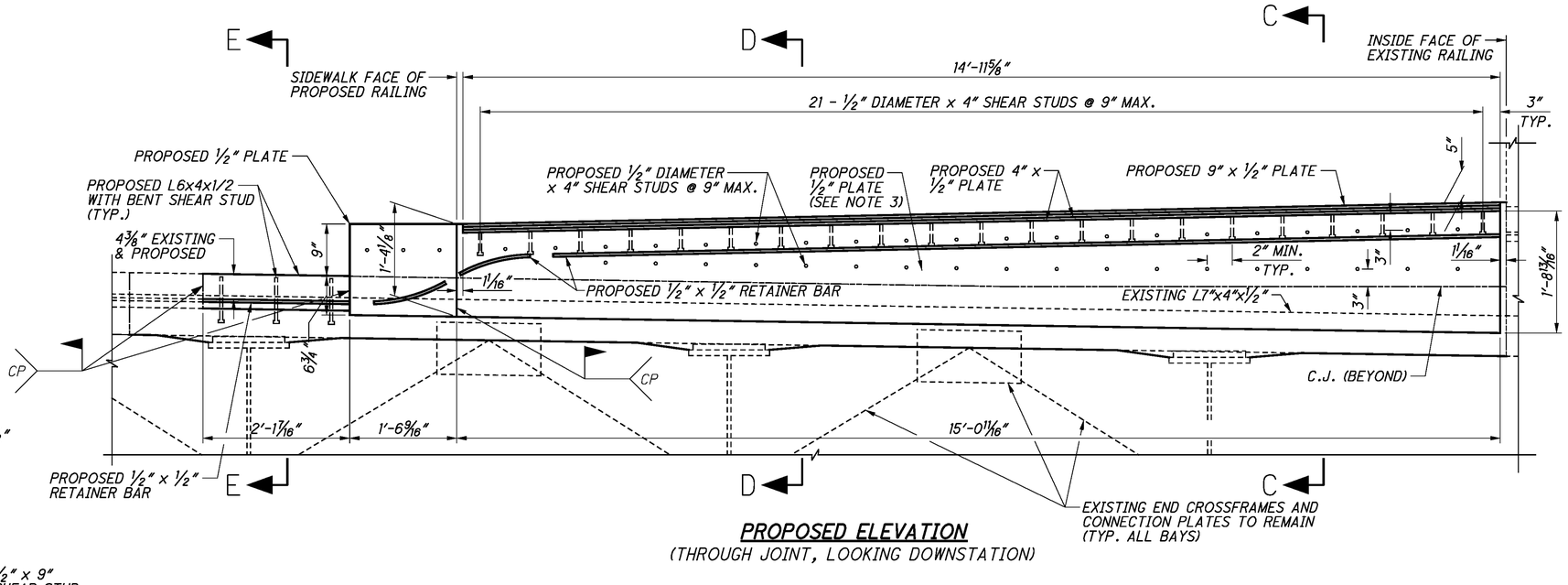
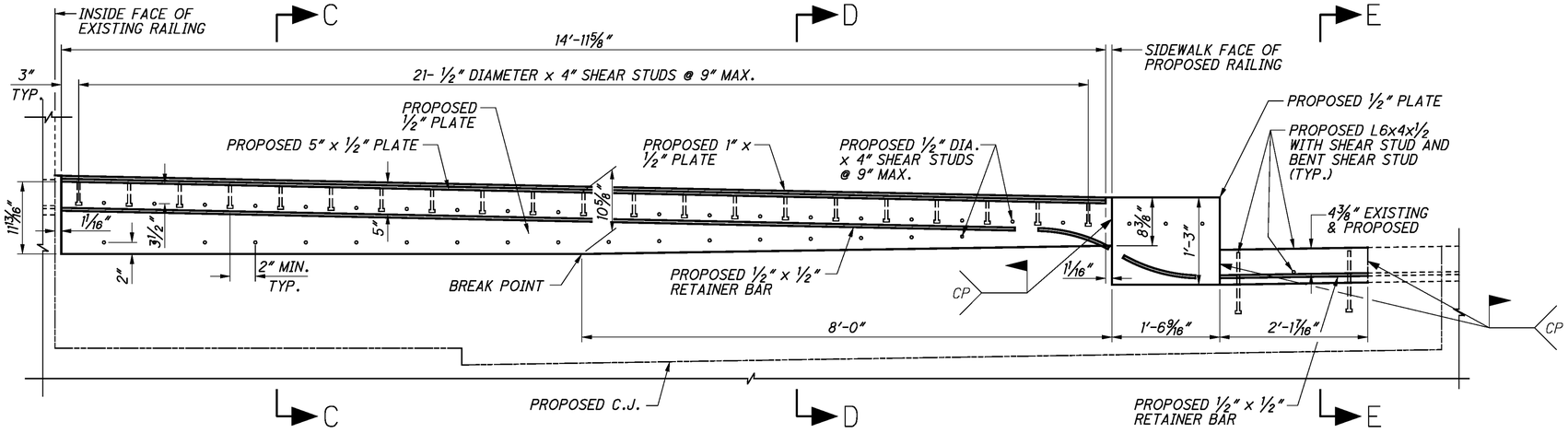


PROPOSED SECTION E-E
(SHEAR STUD DETAILS)



PROPOSED ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)



PROPOSED ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)

LEGEND:

C.J. = CONSTRUCTION JOINT
CP = COMPLETE PENETRATION BUTT WELD
DIA. = DIAMETER
MAX. = MAXIMUM
MIN. = MINIMUM
TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 150/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 AND PROJECT 215-00 SHOP DRAWINGS.
3. NOTCH ½" VERTICAL PLATE AS NECESSARY TO CLEAR EXISTING END CROSSFRAME CONNECTION PLATES & WELD TO SALVAGED LOWER JOINT ANGLE.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
BES	AAA	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801481	

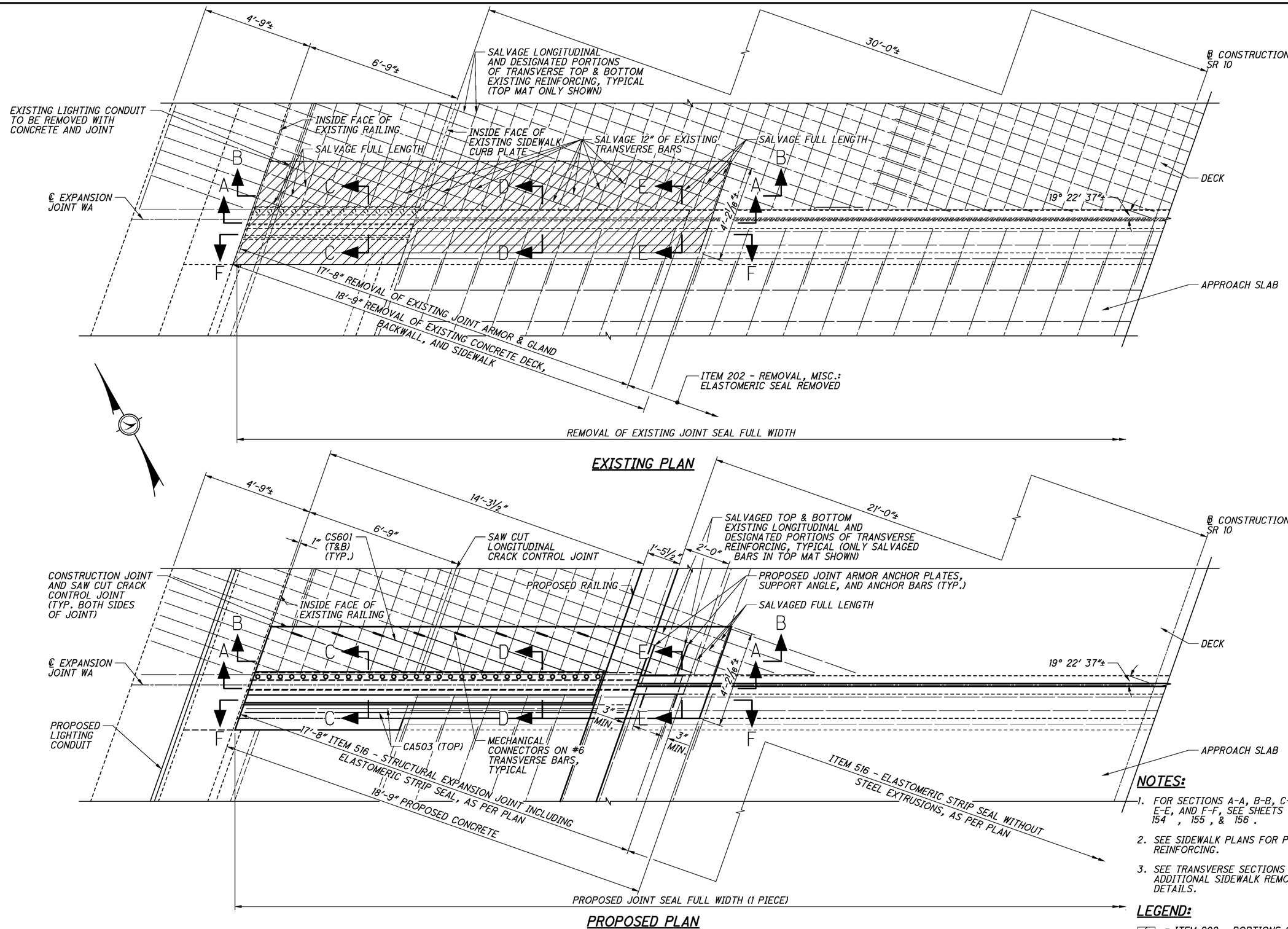
COMPRESSION SEAL JOINT 1608EA DETAILS 2 OF 2
BRIDGE NO. CUY-10-1608
OVER W. 18TH STREET

CUY-10-15.96
PID No. 89194

EX-13

151
205

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX035.dgn 1/6/2012 1:00:44 PM hutch



NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, E-E, AND F-F, SEE SHEETS 153 , 154 , 155 , & 156 .
2. SEE SIDEWALK PLANS FOR PROPOSED REINFORCING.
3. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
MIN. = MINIMUM
T&B = TOP AND BOTTOM
TYP. = TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-14

152
205

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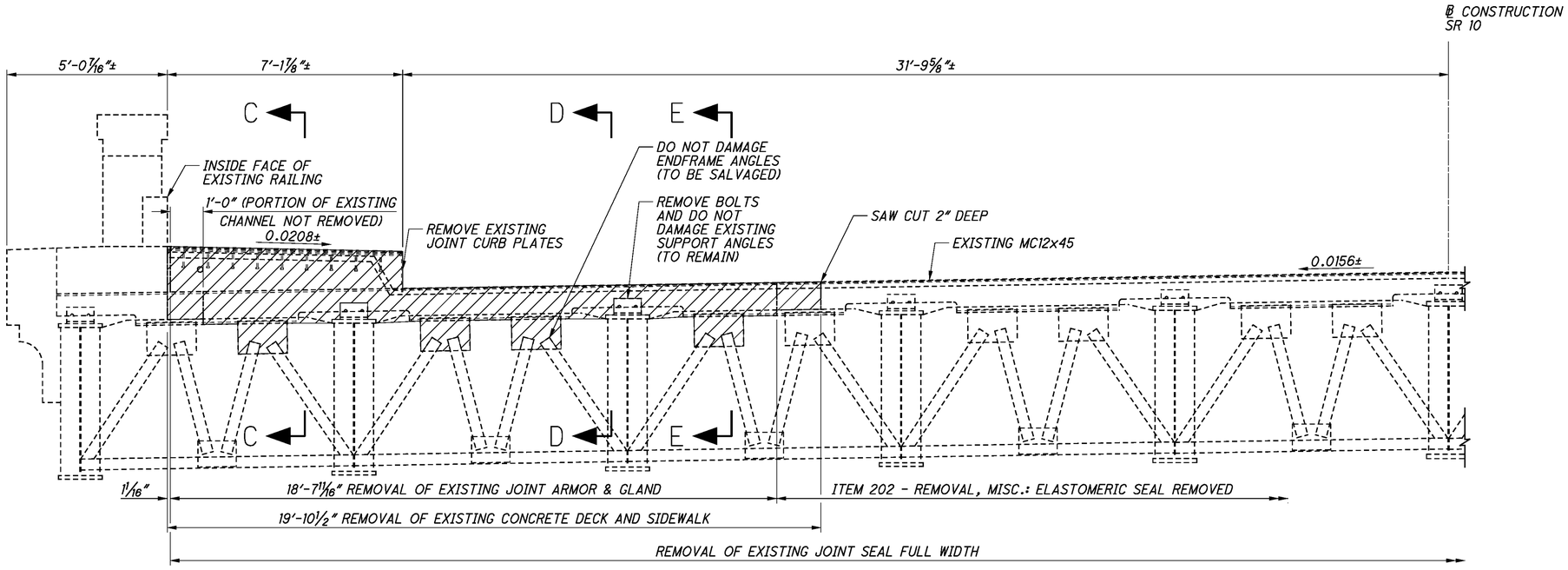
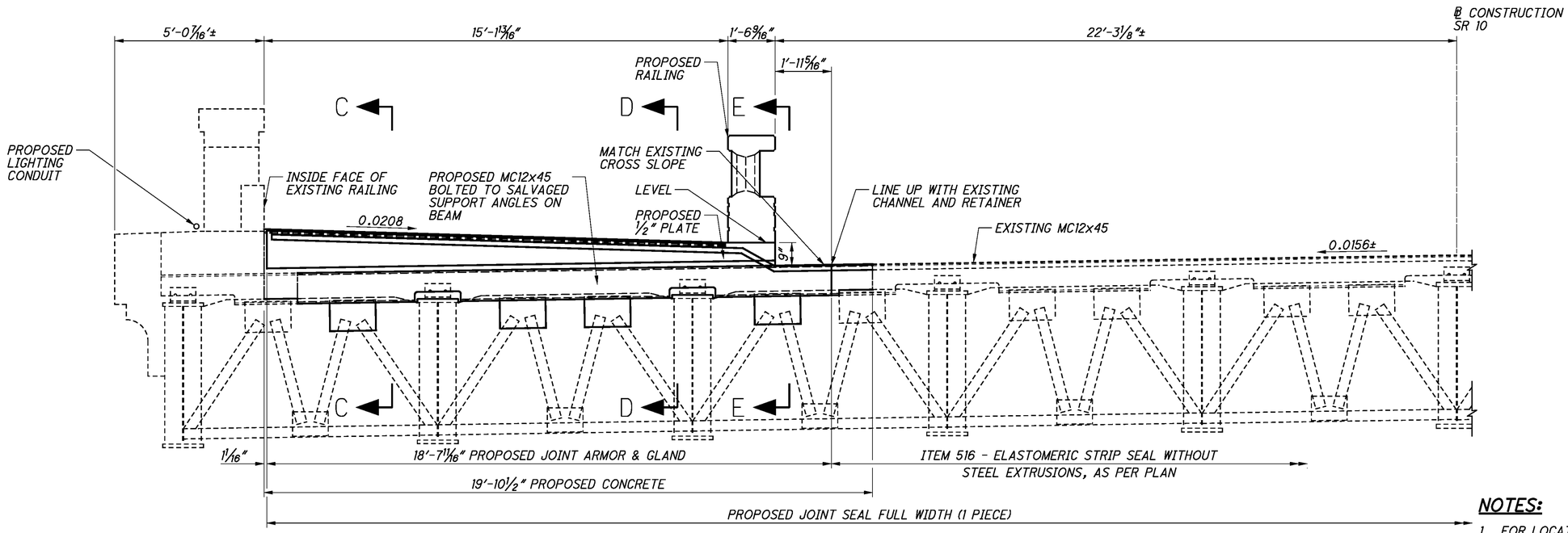


EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 152 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 156 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-4-87 & GSD-1-96.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

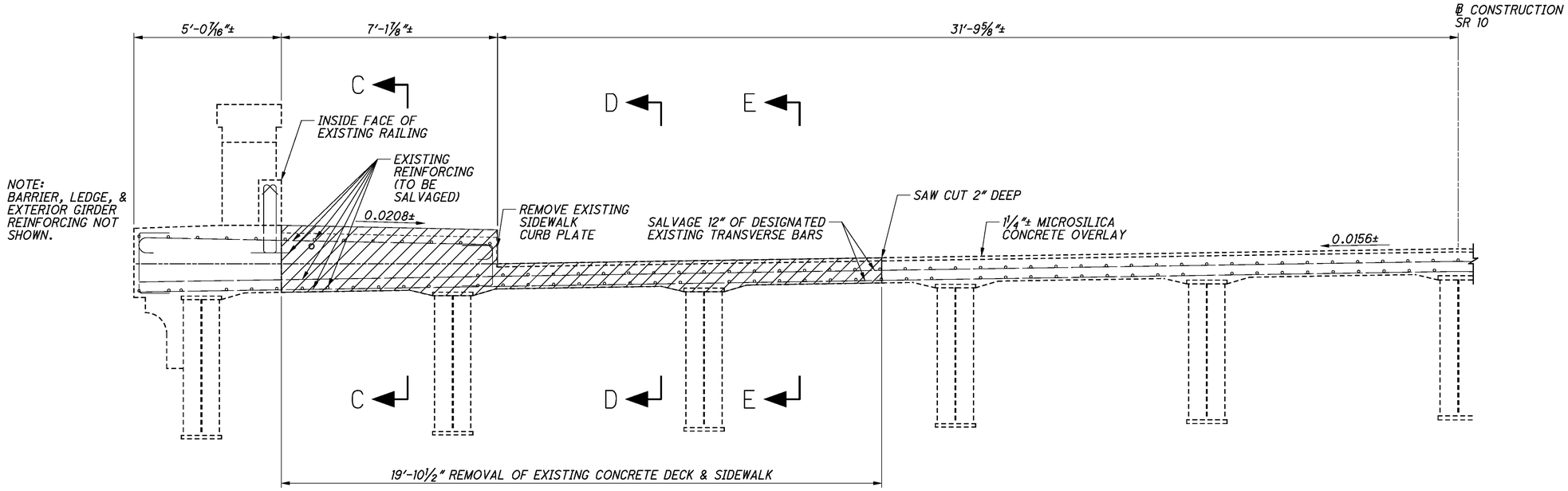
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA SECTIONS 1 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

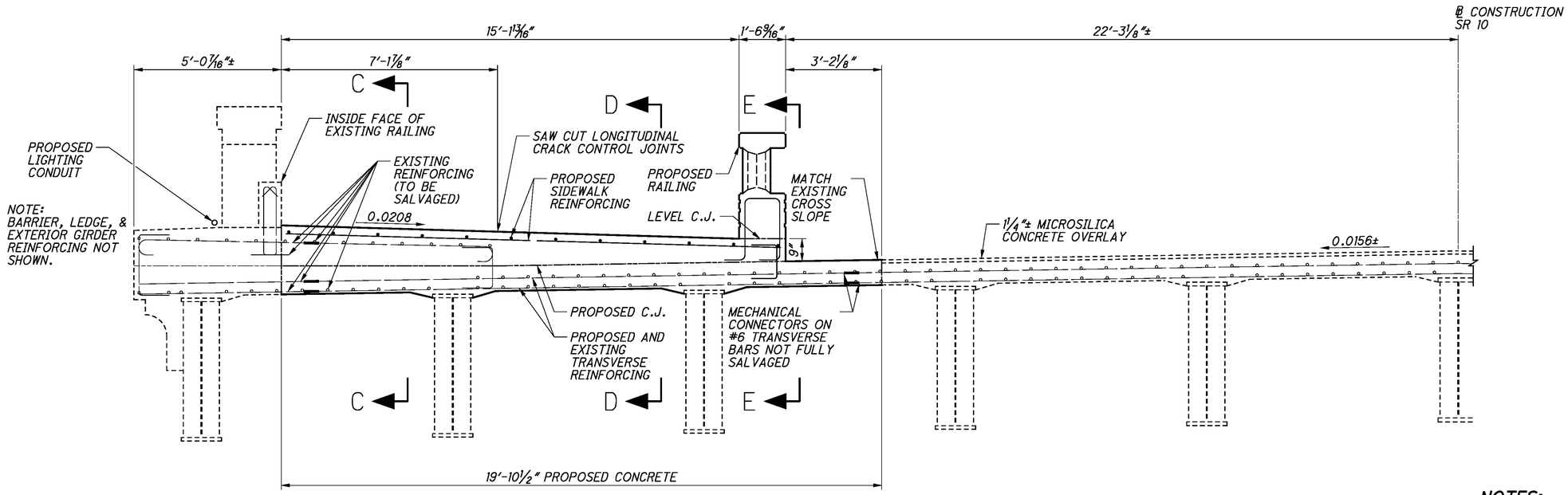
CUY-10-15.96
PID No. 89194

EX-15

153
205



EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 152 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 156 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWINGS EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

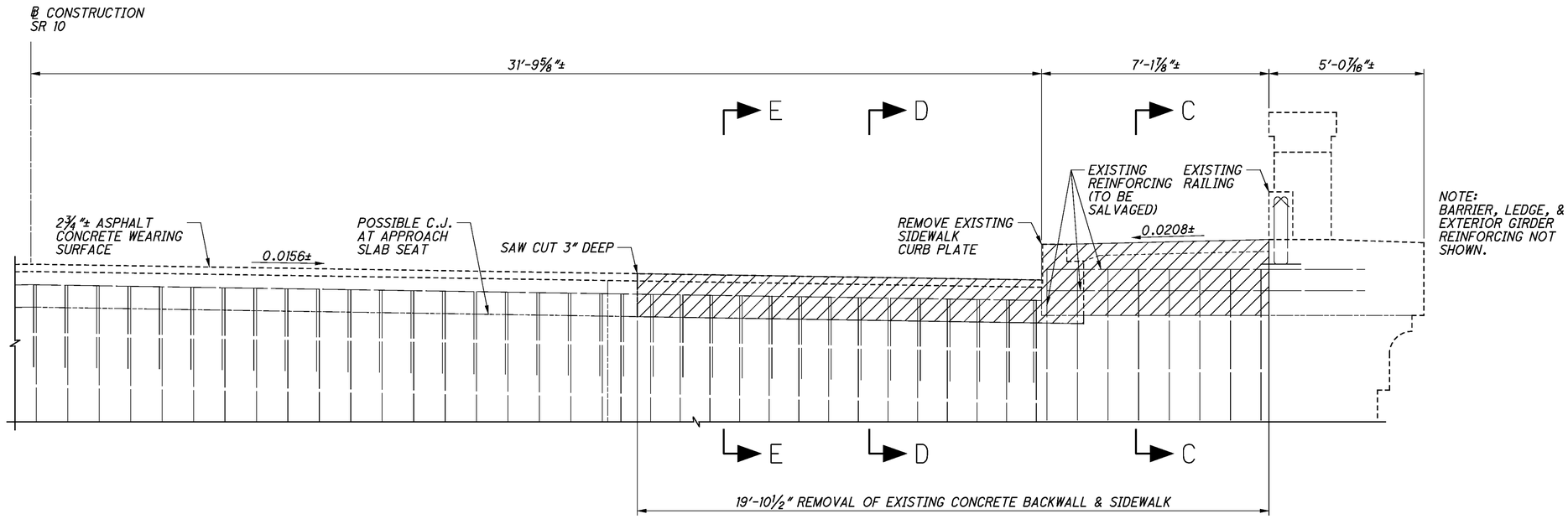
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA SECTIONS 2 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

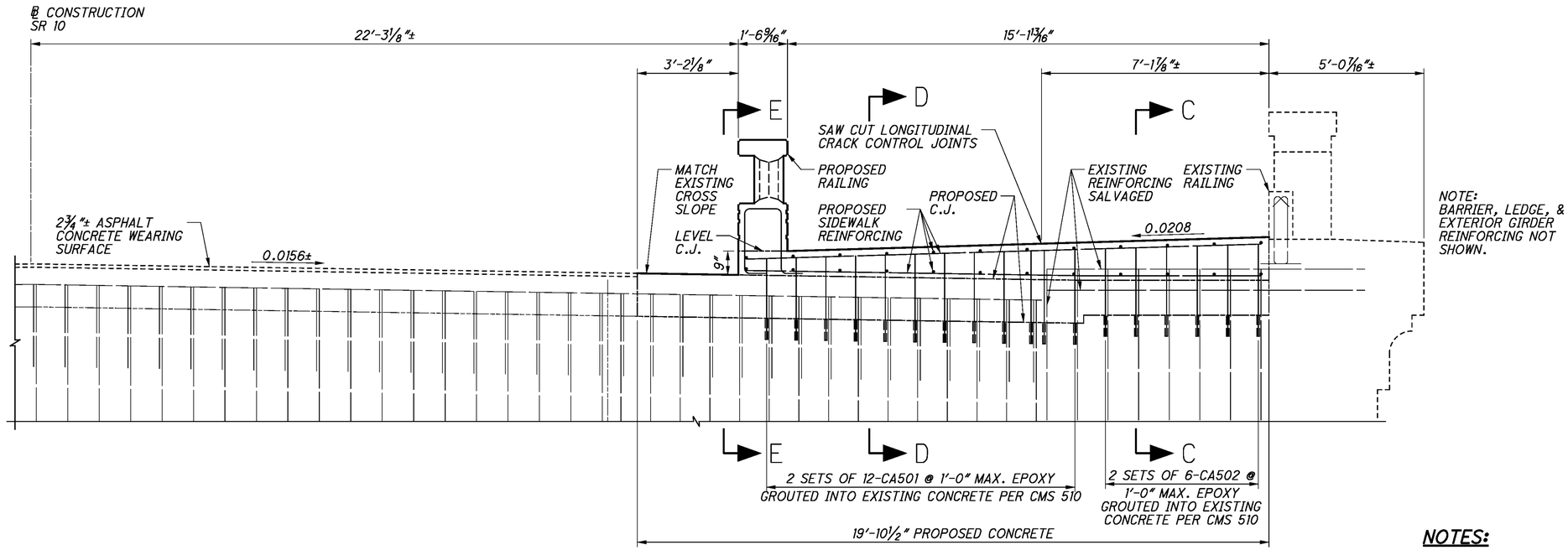
CUY-10-15.96
PID No. 89194

EX-16

154
205



EXISTING SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)



PROPOSED SECTION F-F
(THROUGH ABUTMENT & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF F-F, SEE SHEET 152 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 156 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

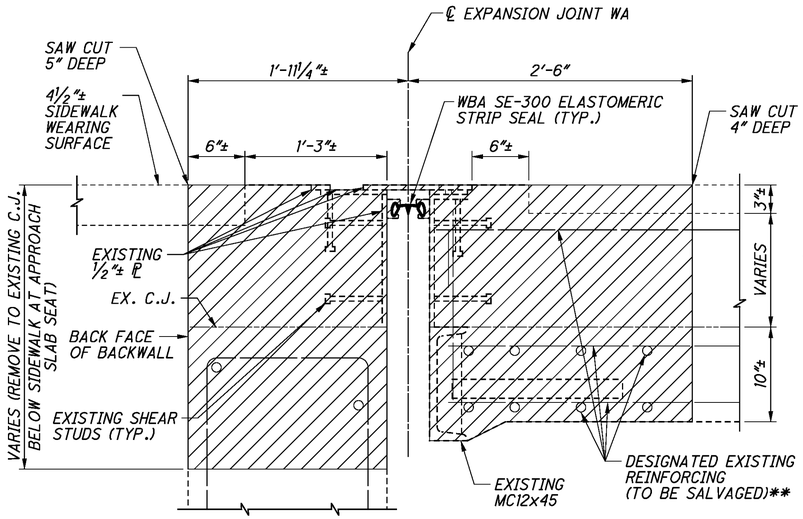
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA SECTIONS 3 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

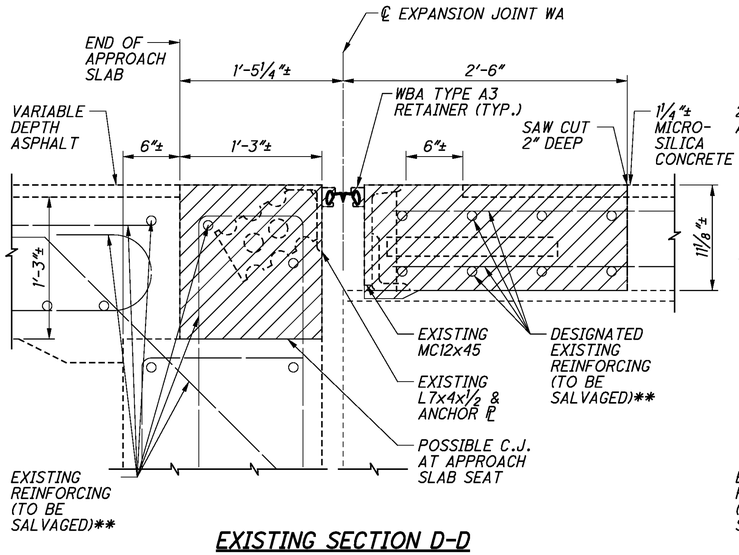
CUY-10-15.96
PID No. 89194

EX-17

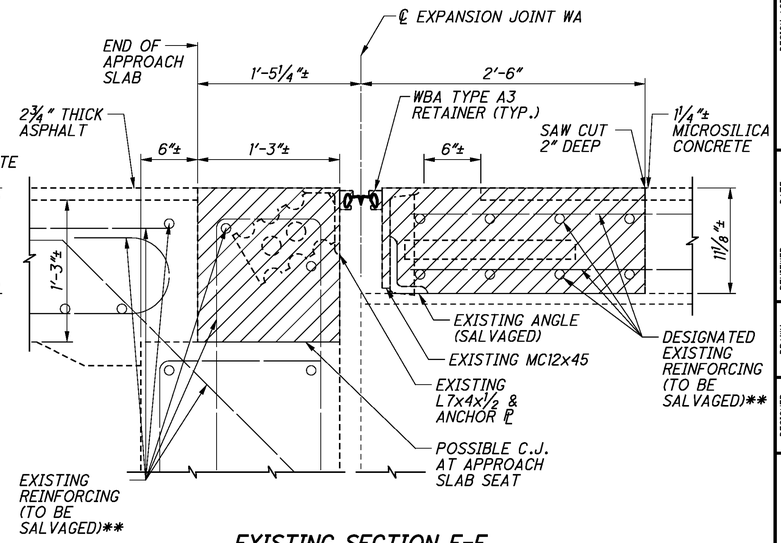
155
205



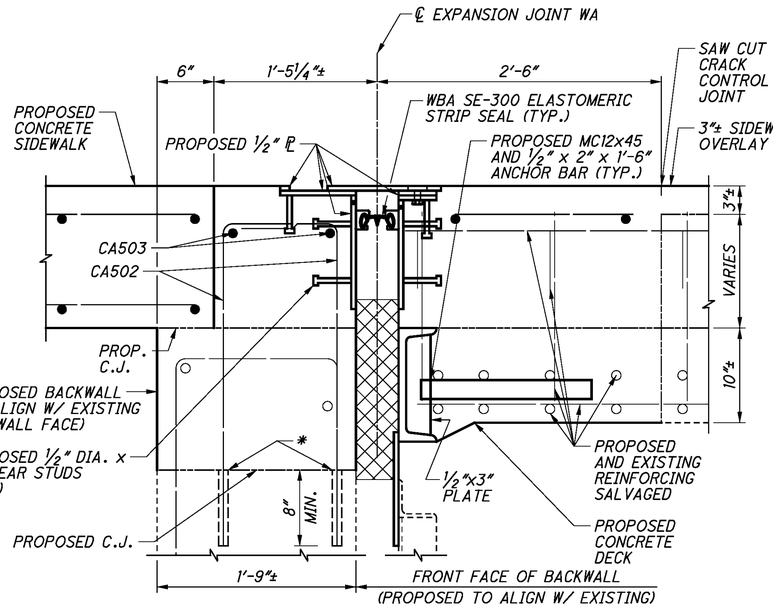
EXISTING SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



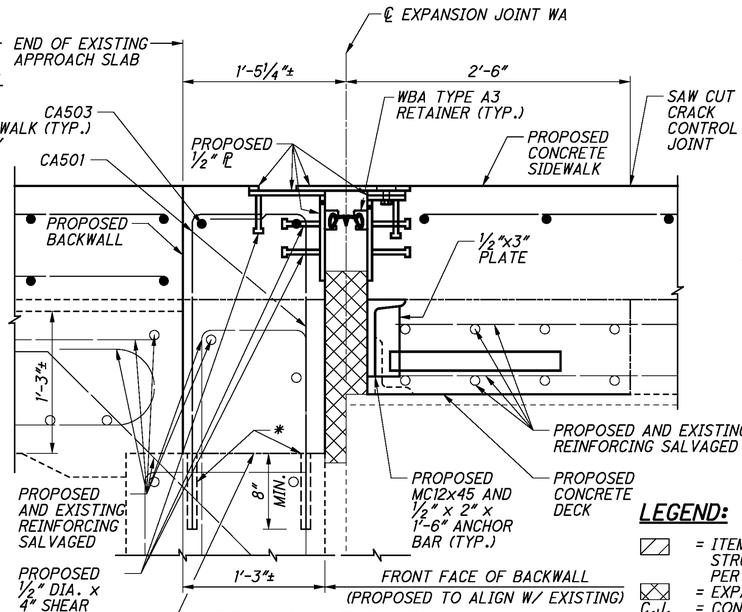
EXISTING SECTION D-D
(THROUGH ABUTMENT & DECK)



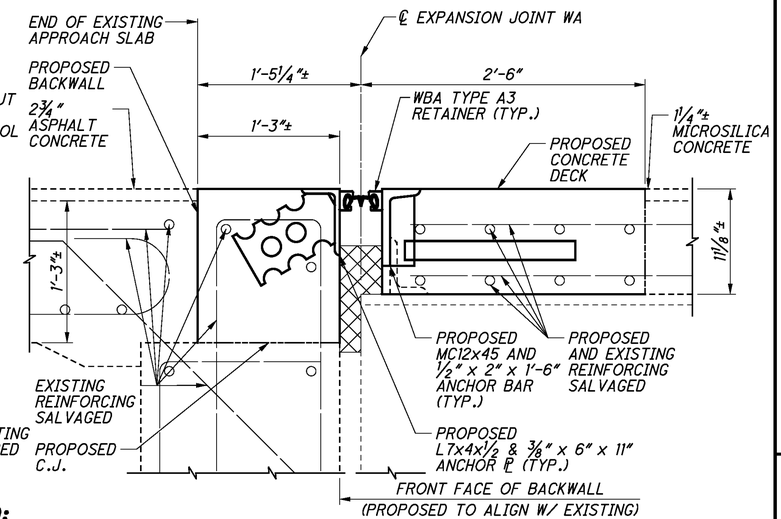
EXISTING SECTION E-E
(THROUGH ABUTMENT & DECK)



PROPOSED SECTION C-C
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH ABUTMENT, DECK, & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH ABUTMENT & DECK)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- MIN. = MINIMUM
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = DRILL HOLES PER 510 THE DEPTH NECESSARY TO ACCOMMODATE THE CROSS SLOPE AND PROVIDE 2½" COVER & INSTALL BARS USING EPOXY GROUT
- ** = REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 152 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87.
3. SEE SIDEWALK PLANS FOR SIDEWALK REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA DETAILS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-18

156
205

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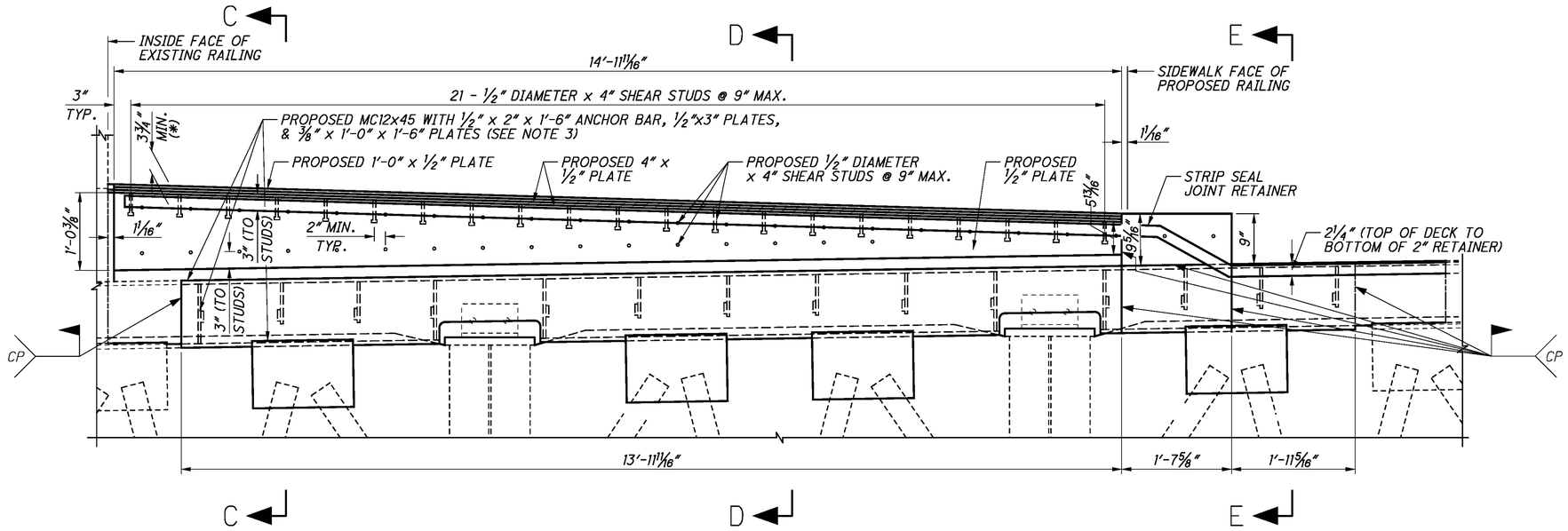
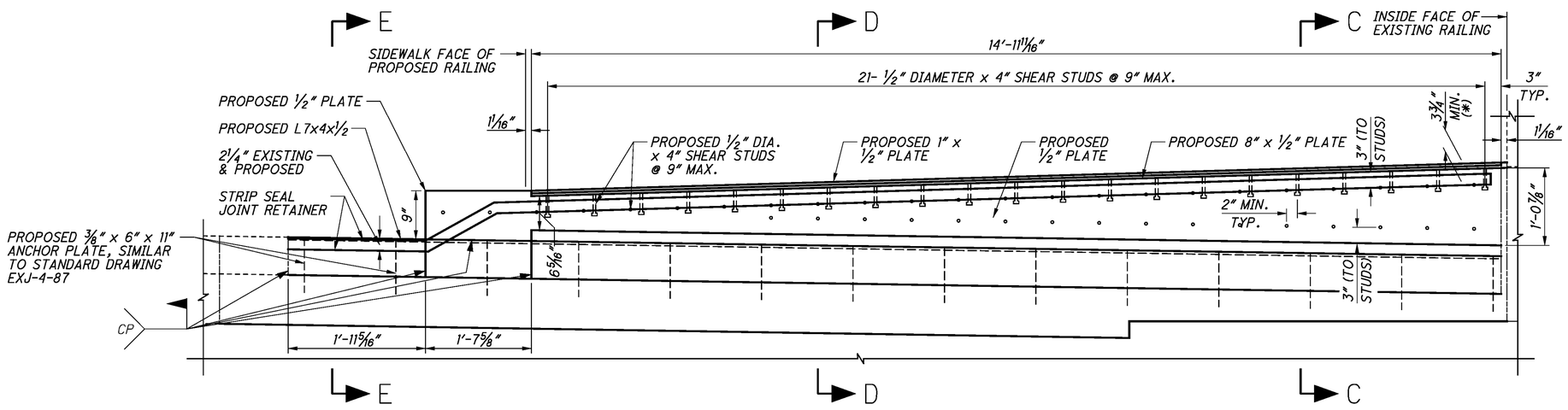


PROPOSED ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- CP = COMPLETE PENETRATION BUTT WELD
- DIA. = DIAMETER
- MAX. = MAXIMUM
- MIN. = MINIMUM
- TYP. = TYPICAL
- * = TOP OF TOP PLATE TO BOTTOM RETAINER

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 156 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND GSD-1-96.
3. CONTRACTOR TO FIELD VERIFY MC SIZE PRIOR TO FABRICATION. BOLT MC TO SALVAGED SUPPORT ANGLES ON BEAM.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT WA DETAILS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-19

157
205

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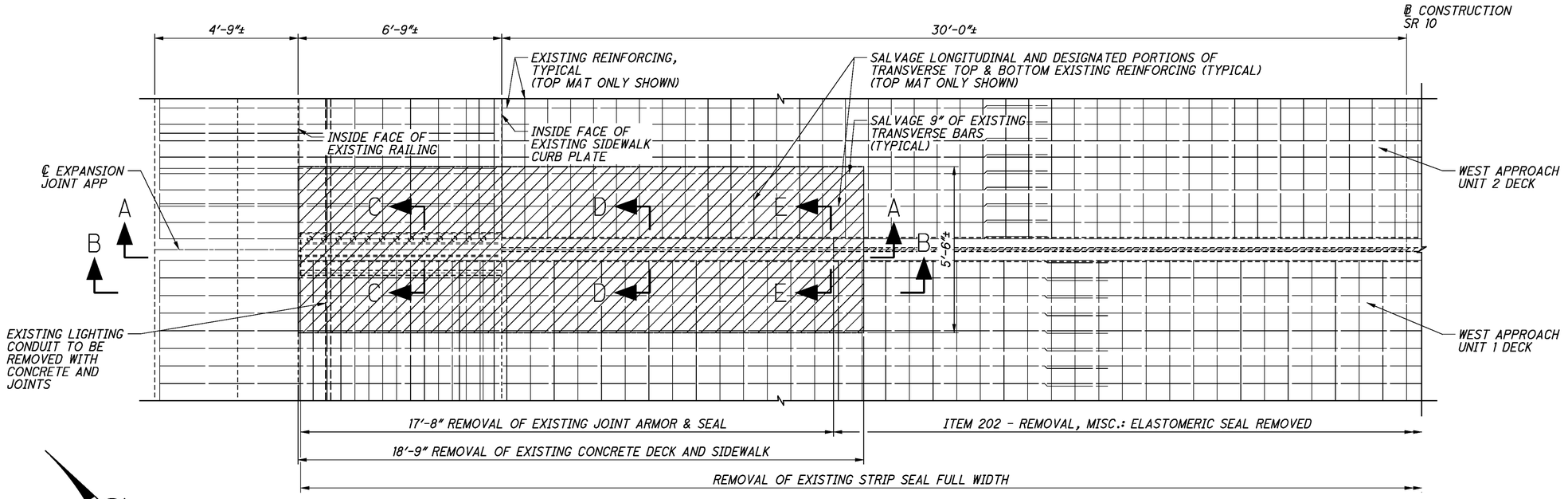
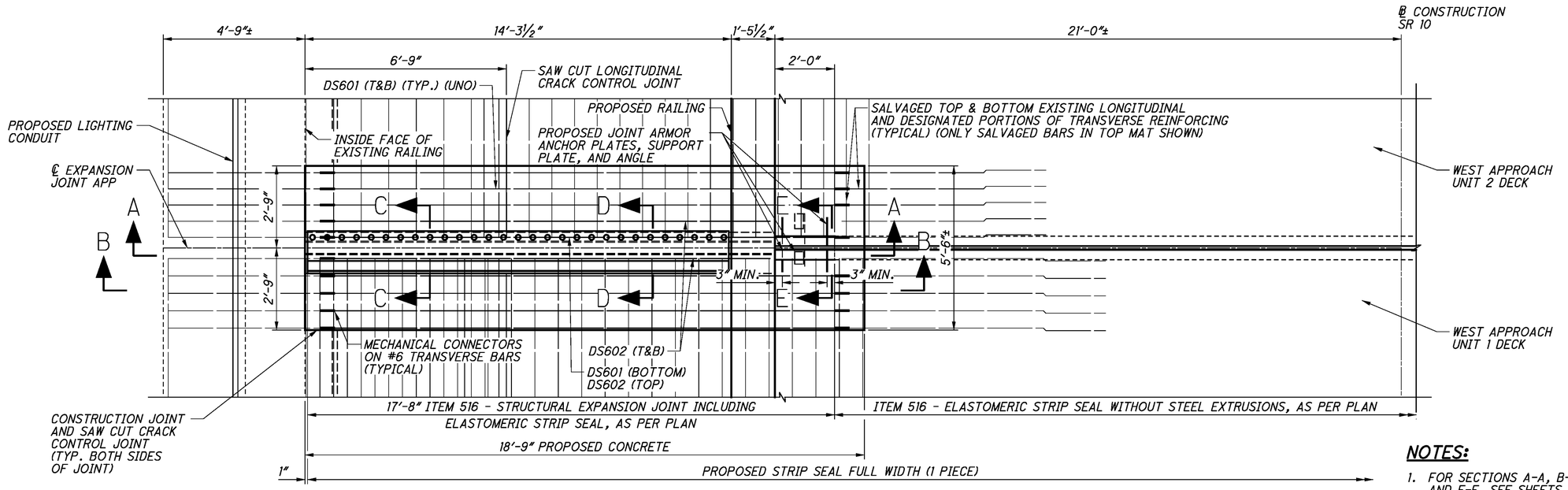


EXISTING PLAN



PROPOSED PLAN

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
MIN. = MINIMUM
T&B = TOP AND BOTTOM
UNO = UNLESS NOTED OTHERWISE

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 159 , 160 , & 161 .
2. SEE SIDEWALK PLANS FOR SIDEWALK REINFORCING.
3. SEE TRANSVERSE SECTION FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT APP PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-20

158
205

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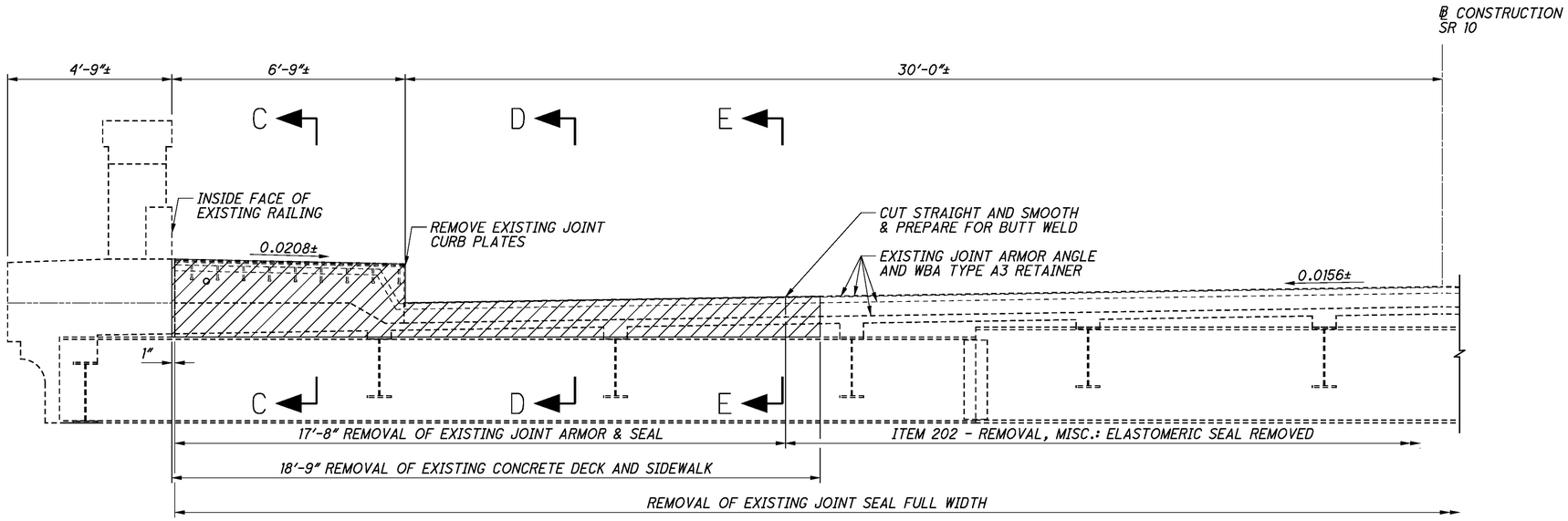
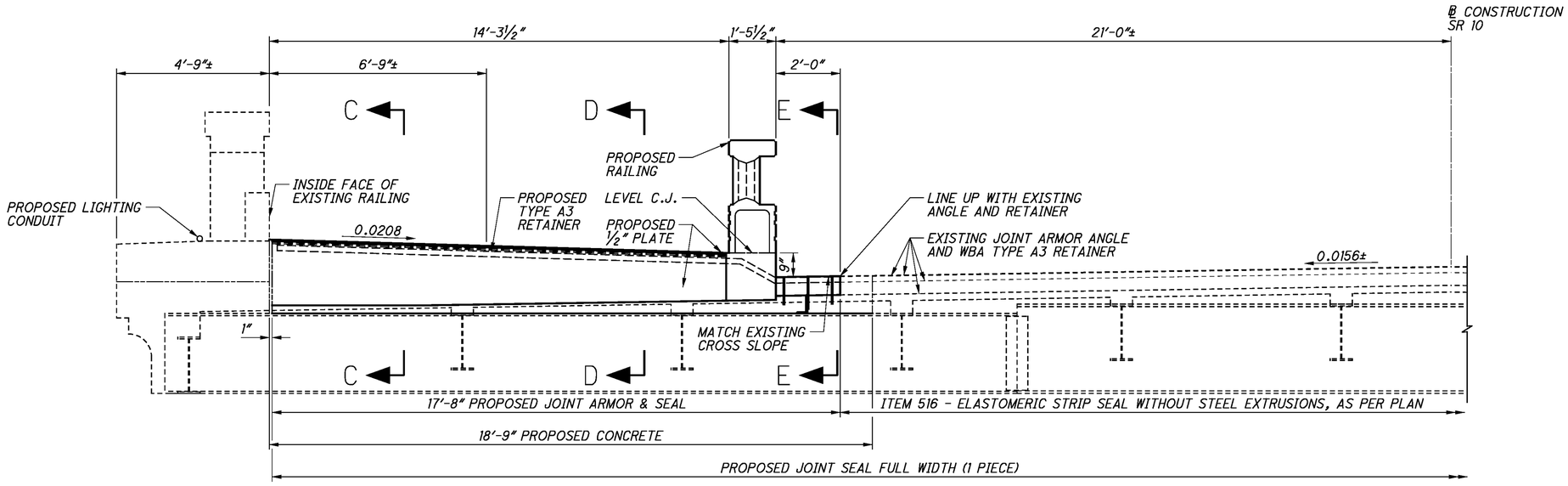


EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 158 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

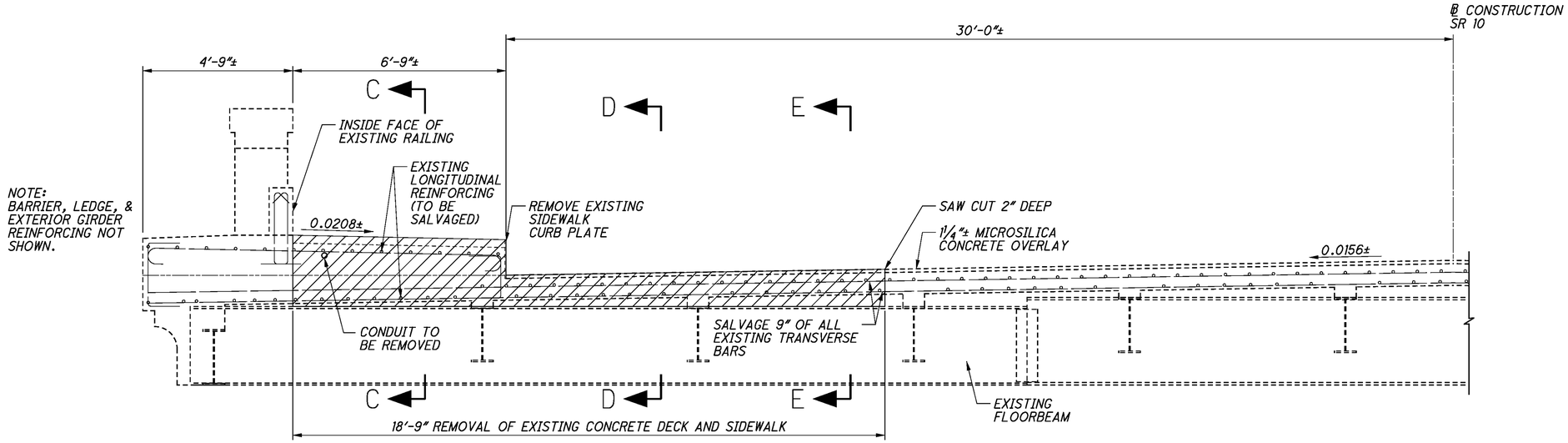
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT APP ELEVATIONS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

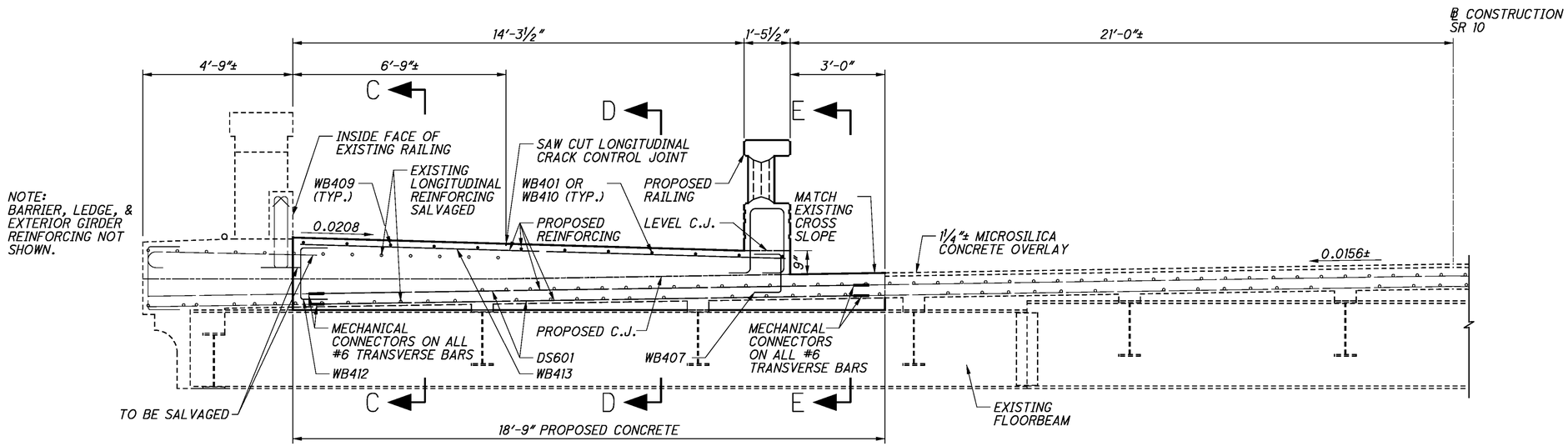
CUY-10-15.96
PID No. 89194

EX-21

159
205



EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 158 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT APP ELEVATIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-22

160
205

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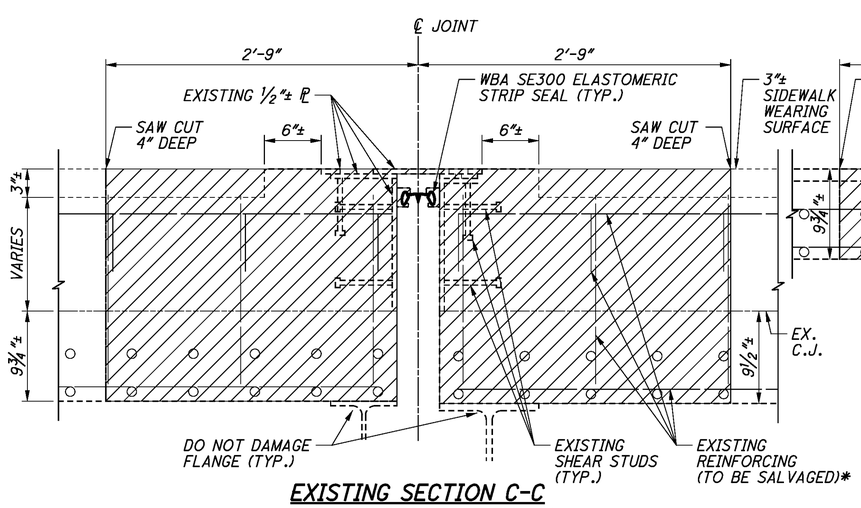
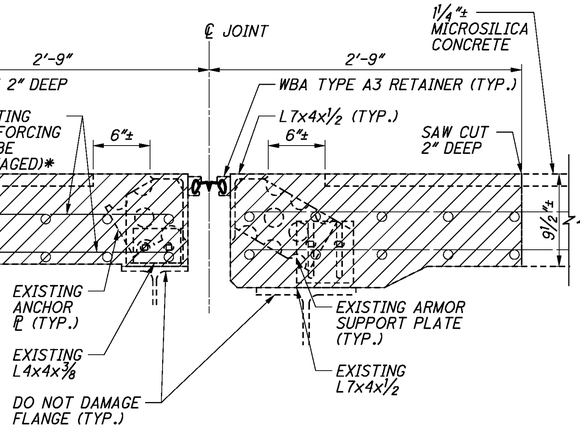
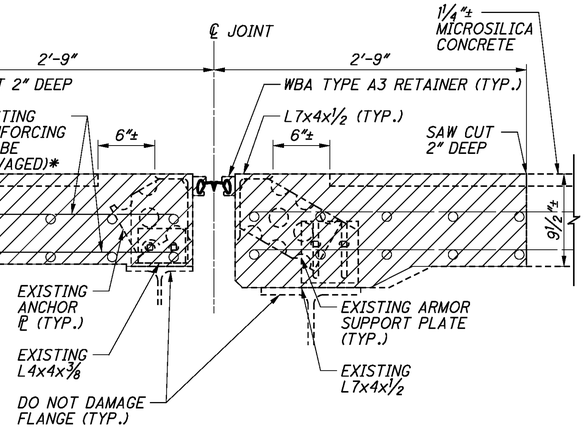


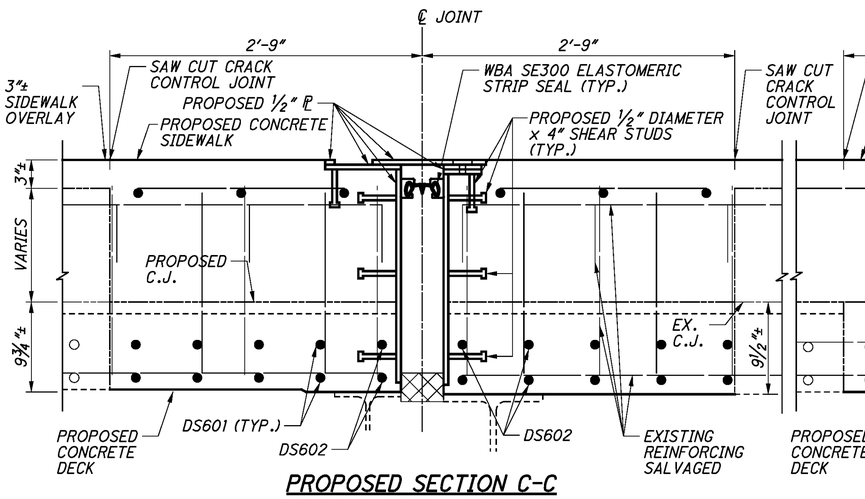
EXISTING SECTION C-C
(THROUGH DECK & SIDEWALK)



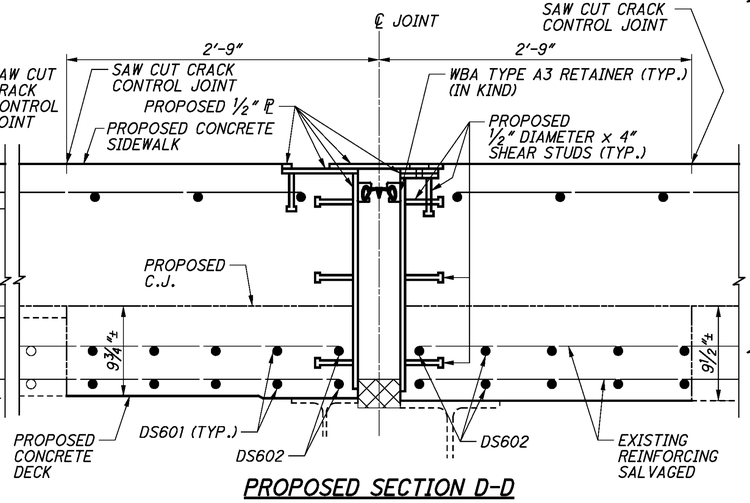
EXISTING SECTION D-D
(THROUGH DECK)



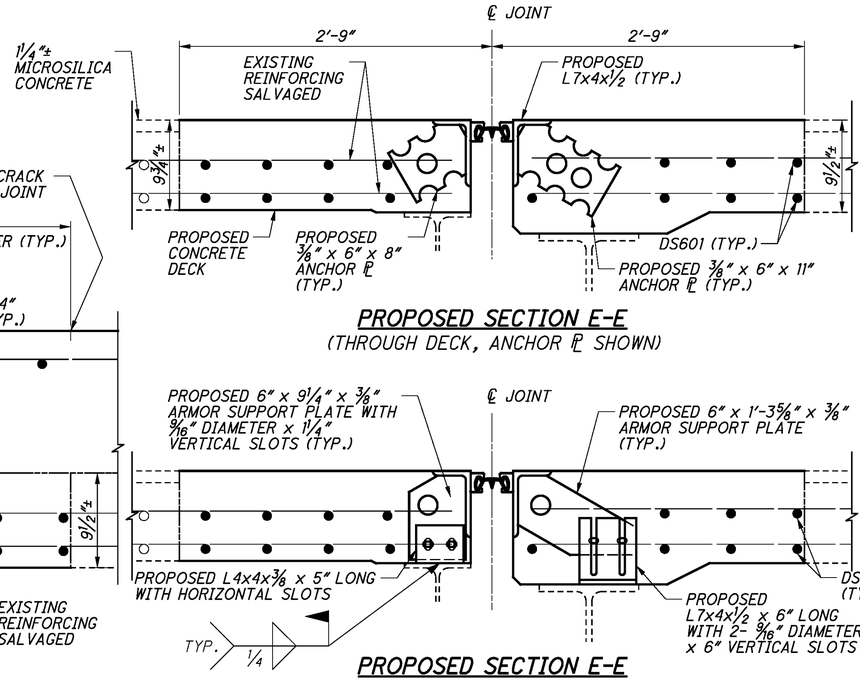
EXISTING SECTION E-E
(THROUGH DECK)



PROPOSED SECTION C-C
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH DECK, ANCHOR ℄ SHOWN)

PROPOSED SECTION E-E
(THROUGH DECK, ARMOR ℄ AND ANGLES SHOWN)
(SEE DETAIL ABOVE FOR DIMENSIONS AND CALLOUTS NOT SHOWN)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 158 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT APP DETAILS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-23

161
205

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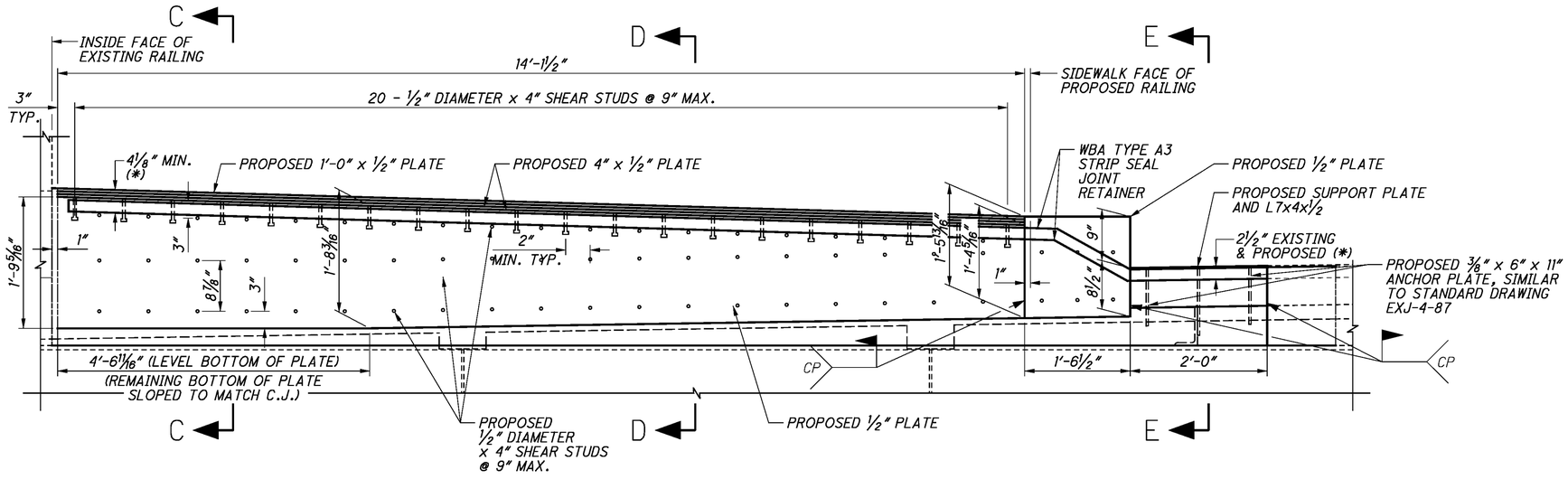
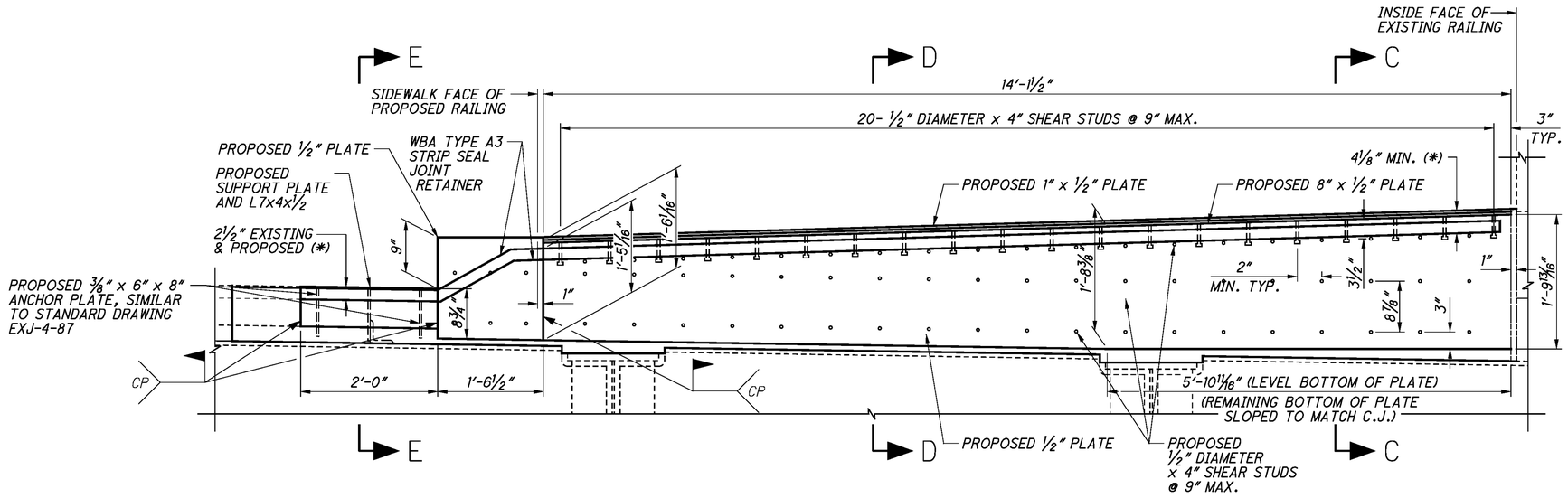


PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- * = TOP OF TOP PLATE OR ANGLE TO BOTTOM OF RETAINER
- C.J. = CONSTRUCTION JOINT
- CP = COMPLETE PENETRATION BUTT WELD
- MAX. = MAXIMUM
- MIN. = MINIMUM
- TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 161 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT APP DETAILS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-24

162
205

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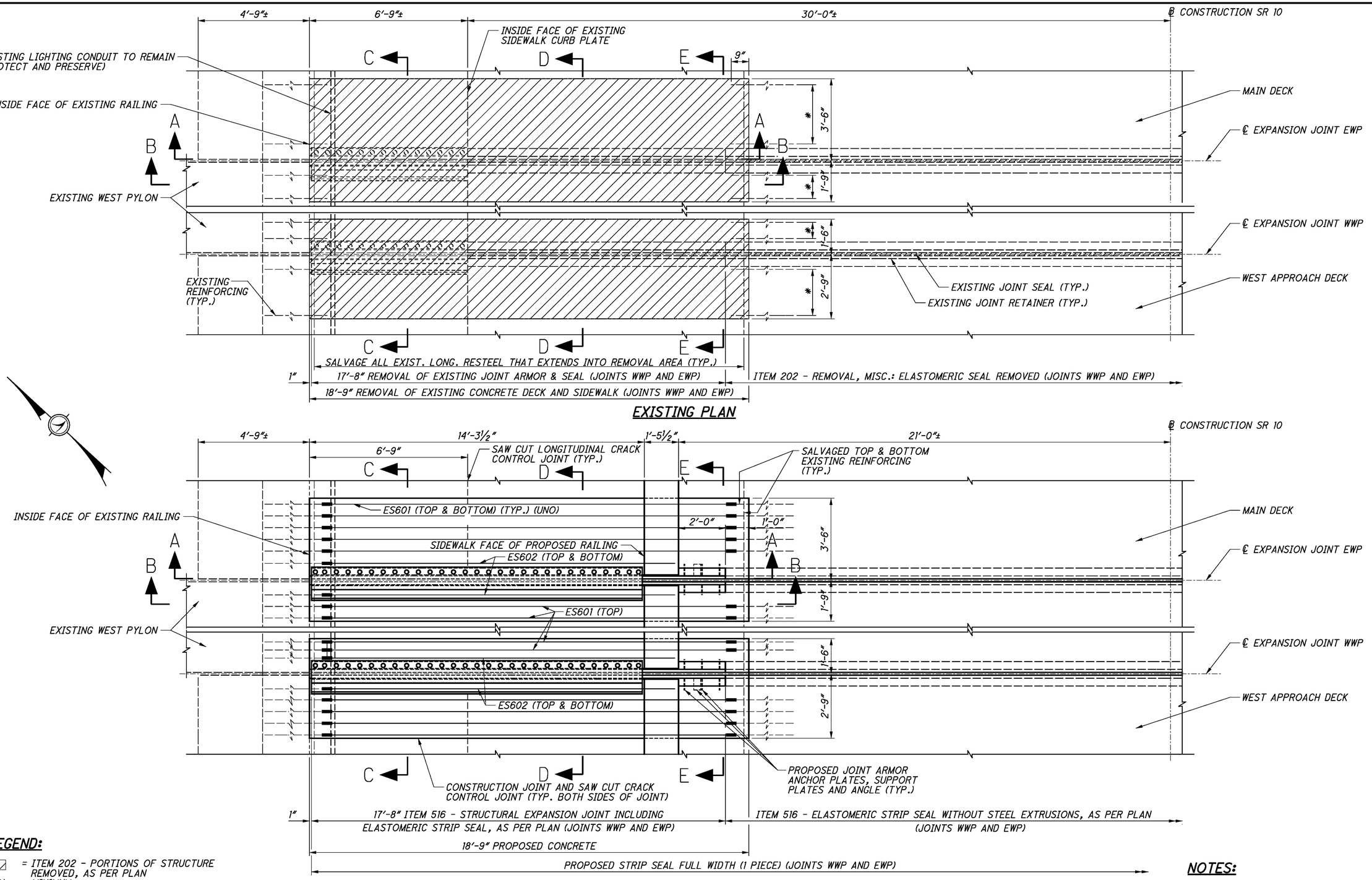


LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- MIN. = MINIMUM
- * = SALVAGE 9" OF ALL EXISTING TRANSVERSE STEEL THAT EXTENDS INTO THE REMOVAL AREA (TYP. BOTH ENDS, TOP AND BOTTOM)
- C.J. = CONSTRUCTION JOINT
- EXIST. = EXISTING
- LONG. = LONGITUDINAL
- TYP. = TYPICAL
- UNO = UNLESS NOTED OTHERWISE

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 164 , 165 , 166 & 167 .
2. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING.
3. SEE TRANSVERSE SECTION FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

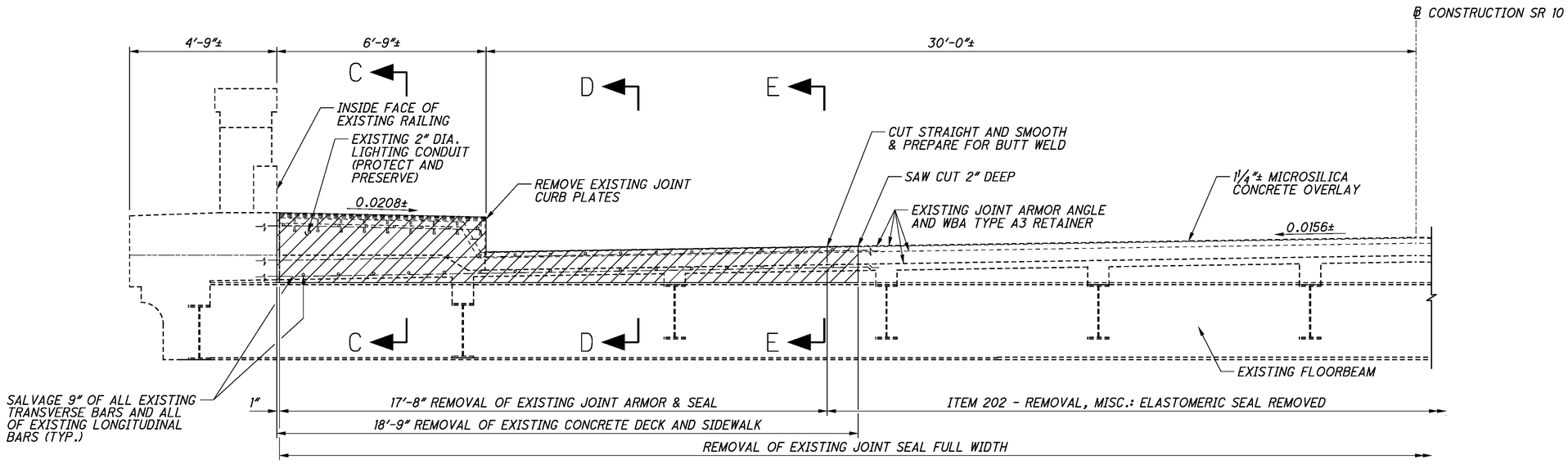
DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

STRIP SEAL JOINT WWP AND EWP PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

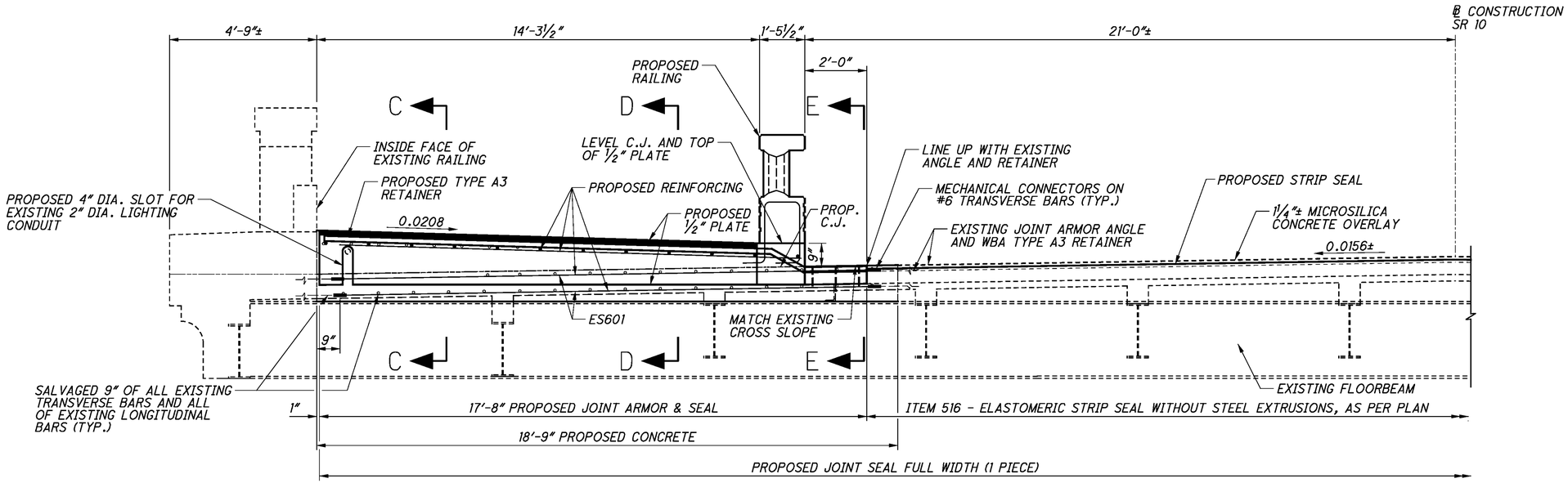
EX-25

163
205



EXISTING SECTION A-A

(THROUGH JOINT ON TRUSS SPAN SIDE)
(JOINT EWP SHOWN, JOINT WWP SIMILAR)



PROPOSED SECTION A-A

(THROUGH JOINT ON TRUSS SPAN SIDE)
(JOINT EWP SHOWN, JOINT WWP SIMILAR)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
TYP. = TYPICAL

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 163 . FOR SECTIONS C-C, D-D AND E-E, SEE SHEETS 166 AND 167 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

STRIP SEAL JOINT WWP AND EWP SECTIONS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-26

164
205

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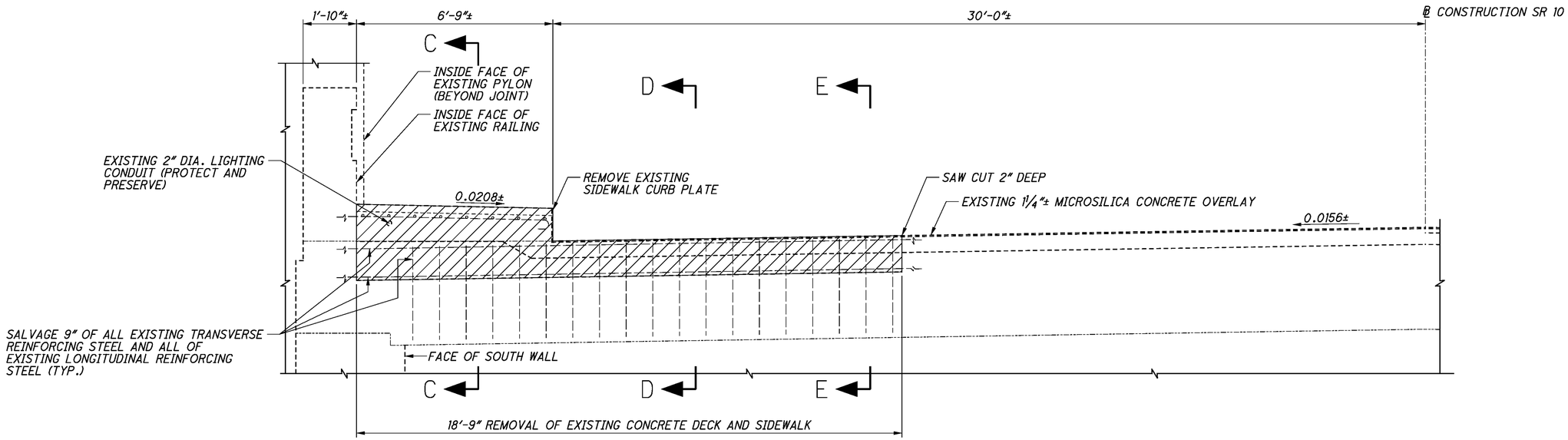
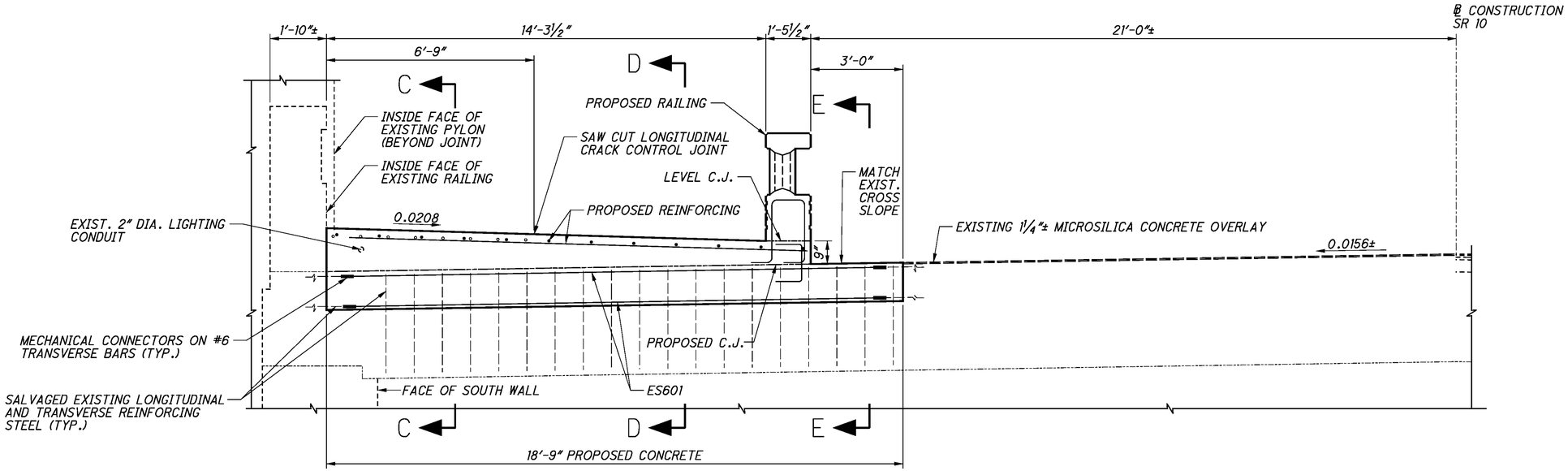


EXISTING SECTION B-B

(THROUGH DECK AND SIDEWALK)
(JOINT EWP SHOWN, JOINT WWP SIMILAR)



PROPOSED SECTION B-B

(THROUGH DECK AND SIDEWALK)
(JOINT EWP SHOWN, JOINT WWP SIMILAR)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
TYP. = TYPICAL

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 163 . FOR SECTIONS C-C, D-D AND E-E, SEE SHEETS 166 AND 167 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

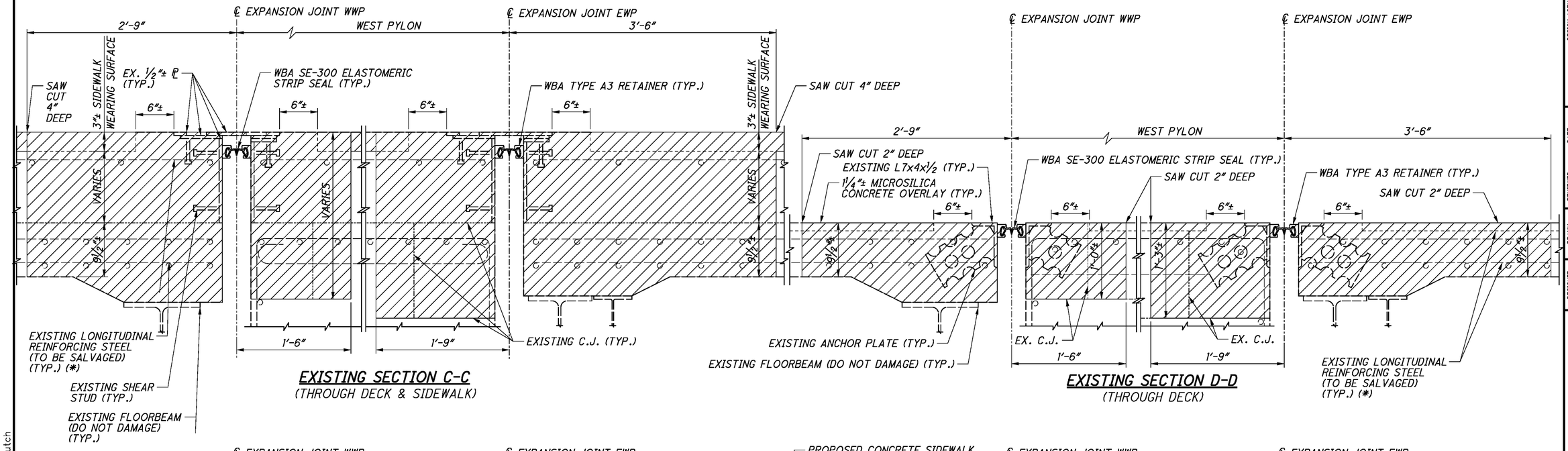
DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

STRIP SEAL JOINT WWP AND EWP SECTIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-27



LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = REPAIR EPOXY COATING PER GENERAL NOTE: ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 163 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.
3. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

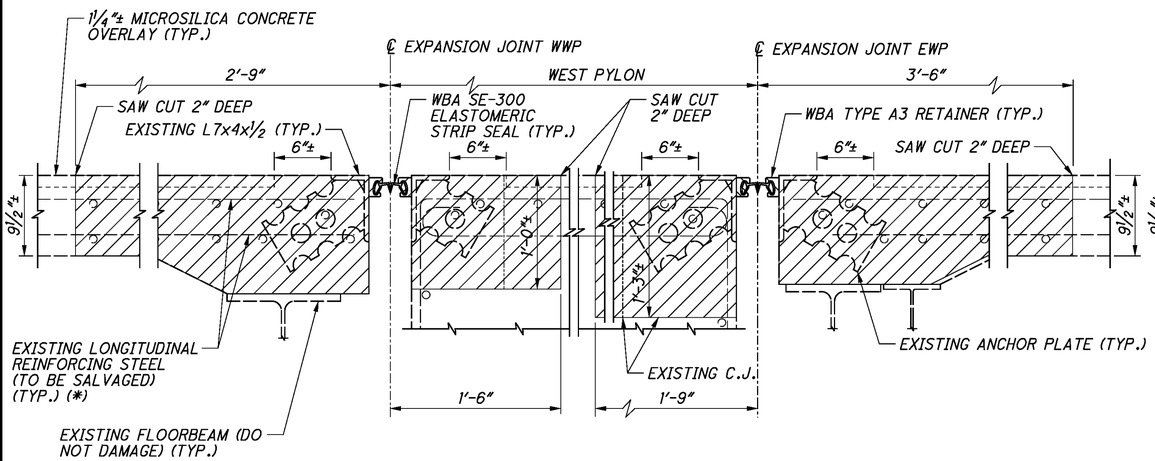
STRIP SEAL JOINT WWP AND EWP DETAILS 1 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

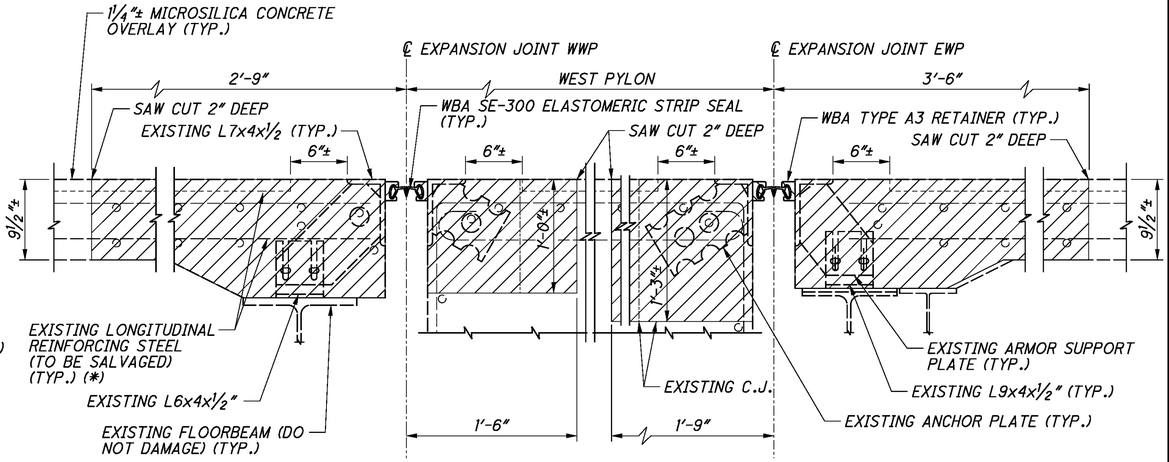
EX-28

166
205

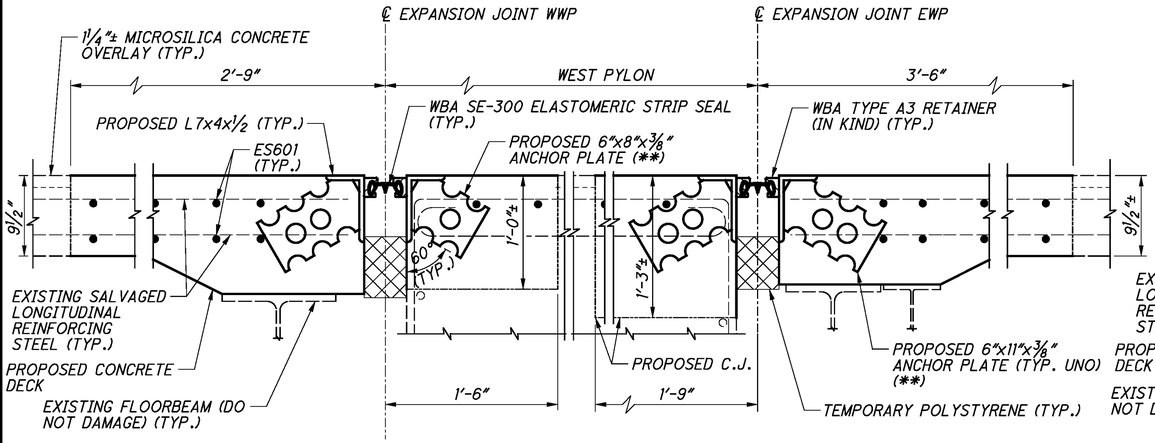
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX039.dgn 1/6/2012 1:05:04 PM hutch



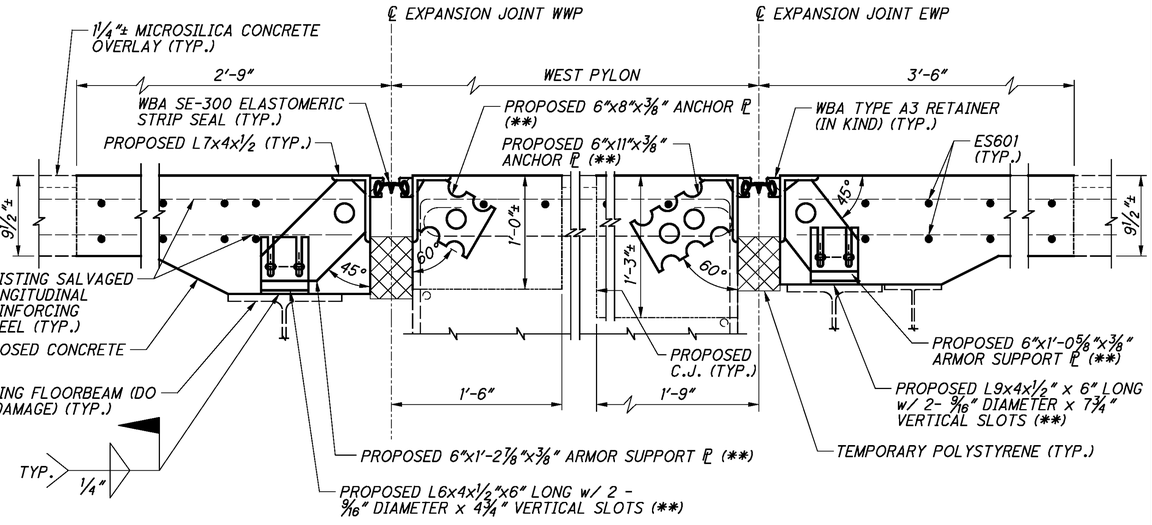
EXISTING SECTION E-E
(THROUGH DECK AT JOINT ANCHOR PLATE)



EXISTING SECTION E-E
(THROUGH DECK AT JOINT ARMOR SUPPORT PLATE)



PROPOSED SECTION E-E
(THROUGH DECK AT JOINT ANCHOR PLATE)



PROPOSED SECTION E-E
(THROUGH DECK AT JOINT ARMOR SUPPORT PLATE)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- TYP. = TYPICAL
- UNO = UNLESS NOTED OTHERWISE
- * = REPAIR EPOXY COATING PER GENERAL NOTE: ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- ** = REFER TO SHOP DRAWINGS FOR ADDITIONAL DIMENSIONS.

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 163 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

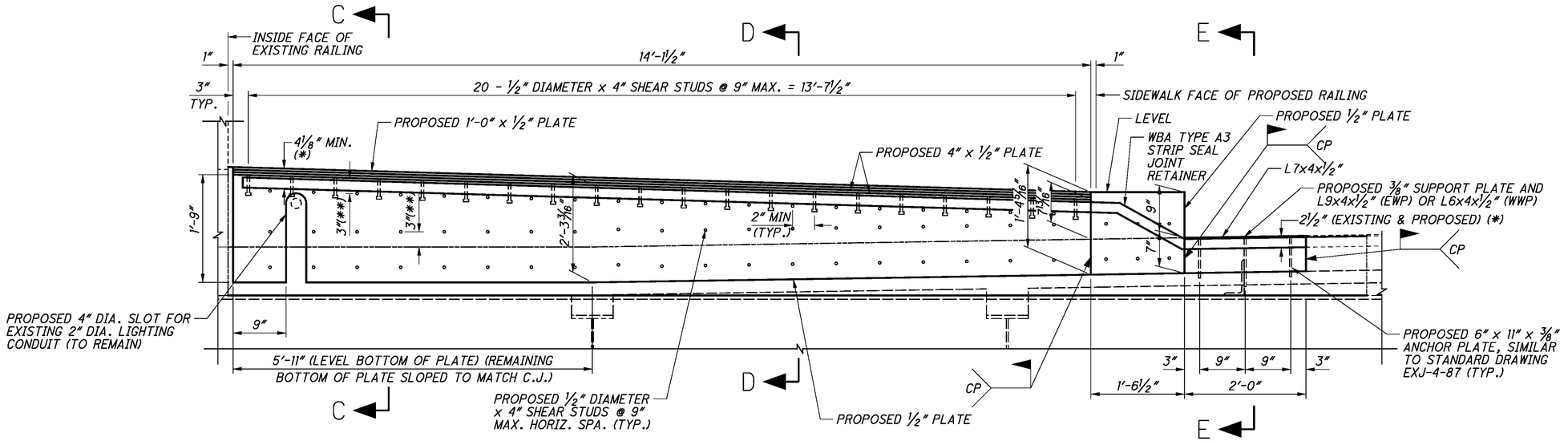
DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

STRIP SEAL JOINT WWP AND EWP DETAILS 2 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

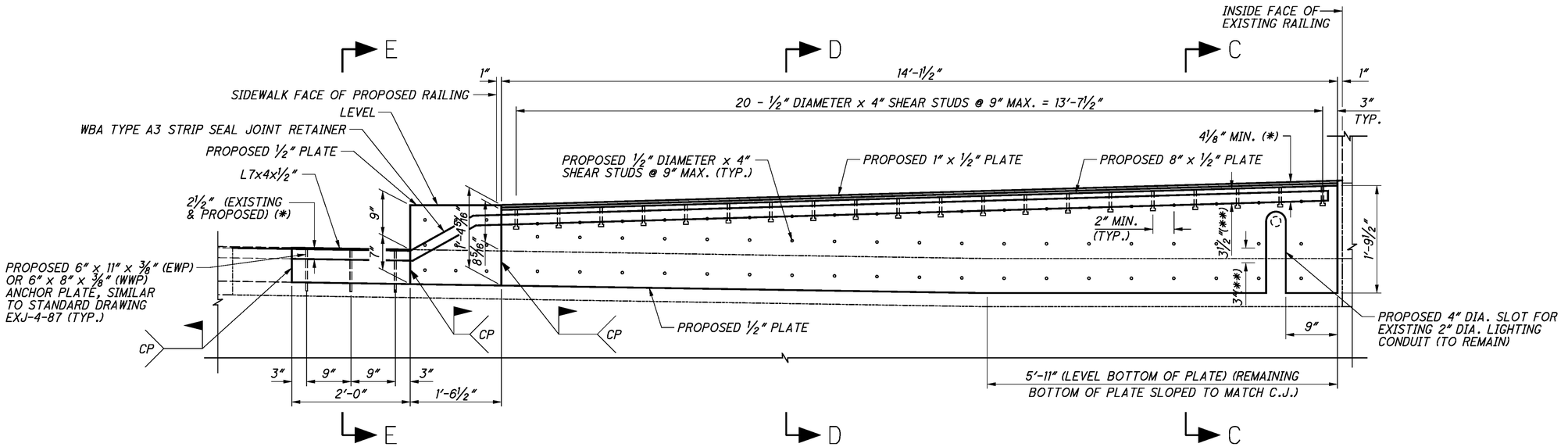
EX-29

167
205



PROPOSED JOINT ARMOR ELEVATION

(THROUGH JOINT EWP, LOOKING UPSTATION)
(JOINT WWP SIMILAR)



PROPOSED JOINT ARMOR ELEVATION

(THROUGH EWP JOINT, LOOKING DOWNSTATION)
(JOINT WWP SIMILAR)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- * = TOP OF TOP PLATE OR ANGLE TO BOTTOM OF RETAINER
- ** = EDGE OF ½" VERTICAL PLATE TO ℄ STUDS
- C.J. = CONSTRUCTION JOINT
- CP = COMPLETE PENETRATION BUTT WELD
- DIA. = DIAMETER
- MAX. = MAXIMUM
- MIN. = MINIMUM
- TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEETS 166 & 167.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AKS		1801503	

STRIP SEAL JOINT WWP AND EWP DETAILS 3 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-30

168
205

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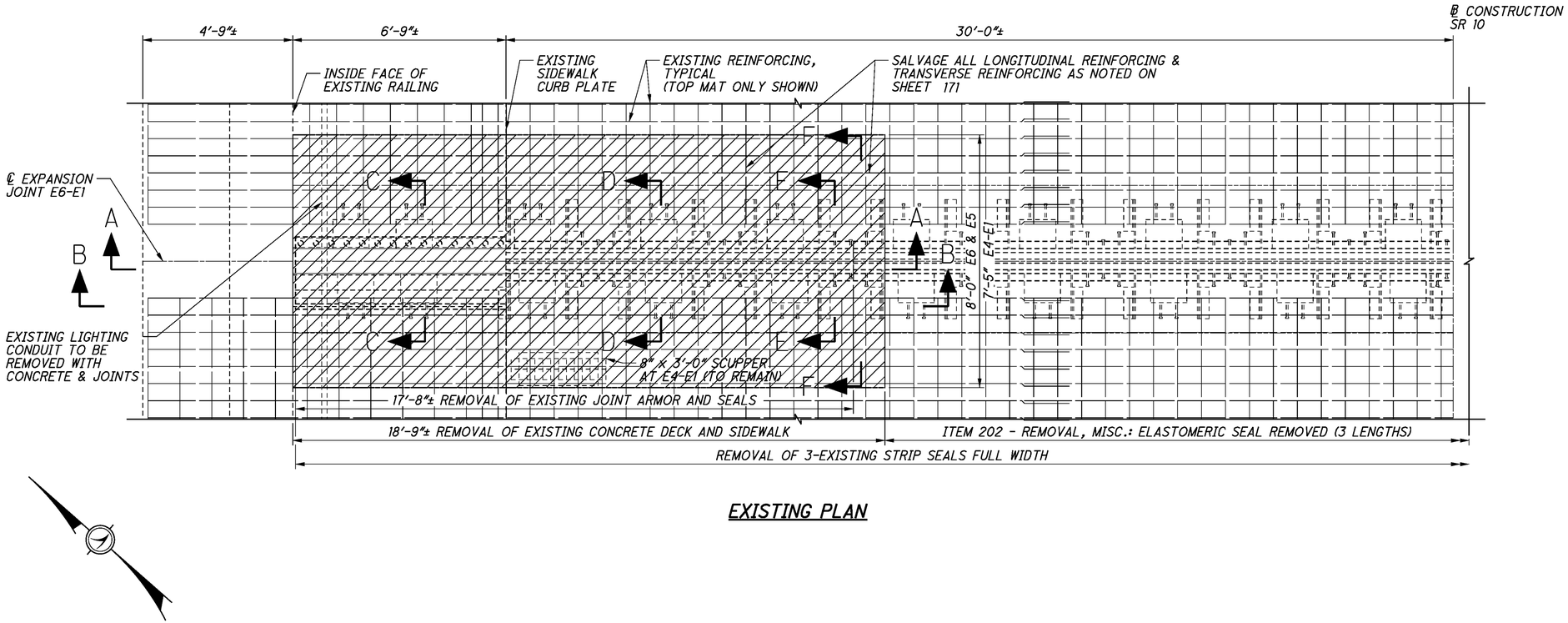
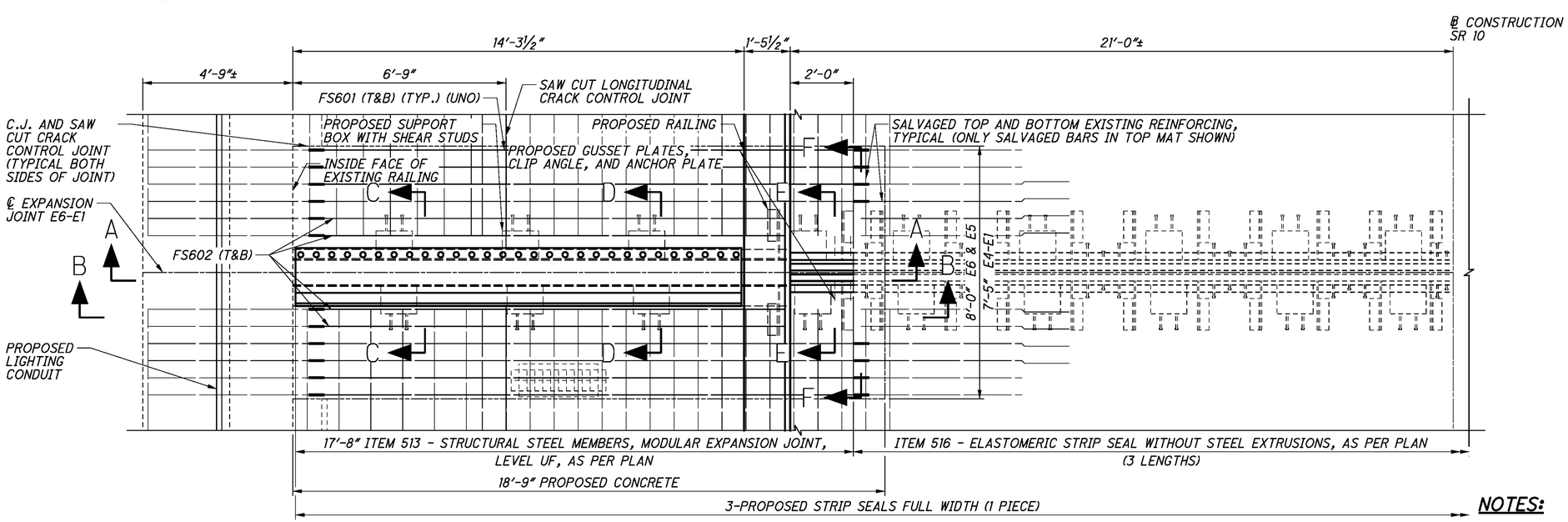


EXISTING PLAN



PROPOSED PLAN

(E1 TO E6 JOINTS)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
MAX. = MAXIMUM
MIN. = MINIMUM
T&B = TOP AND BOTTOM
TYP. = TYPICAL
UNO = UNLESS NOTED OTHERWISE

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 170, 171, 172 & 173.
2. SEE SIDEWALK PLANS FOR PROPOSED REINFORCING.
3. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

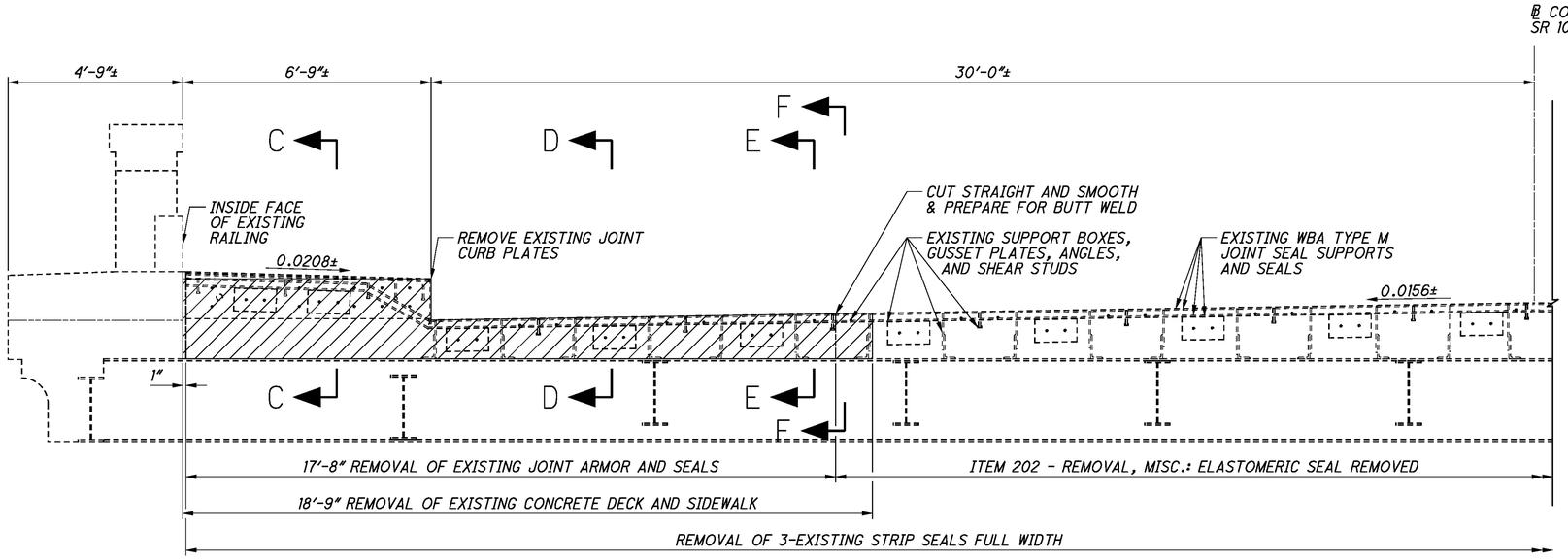
DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

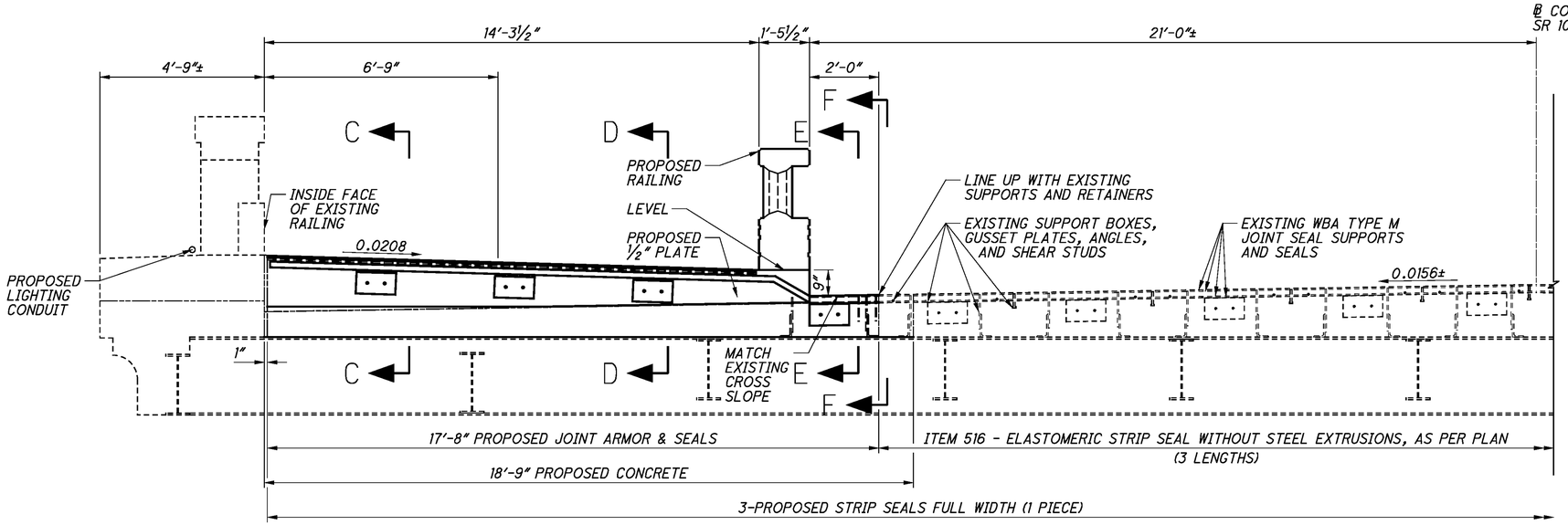
CUY-10-15.96
PID No. 89194

EX-31

169
205



EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 169 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 172 & 173.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT SECTIONS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-32

170
205

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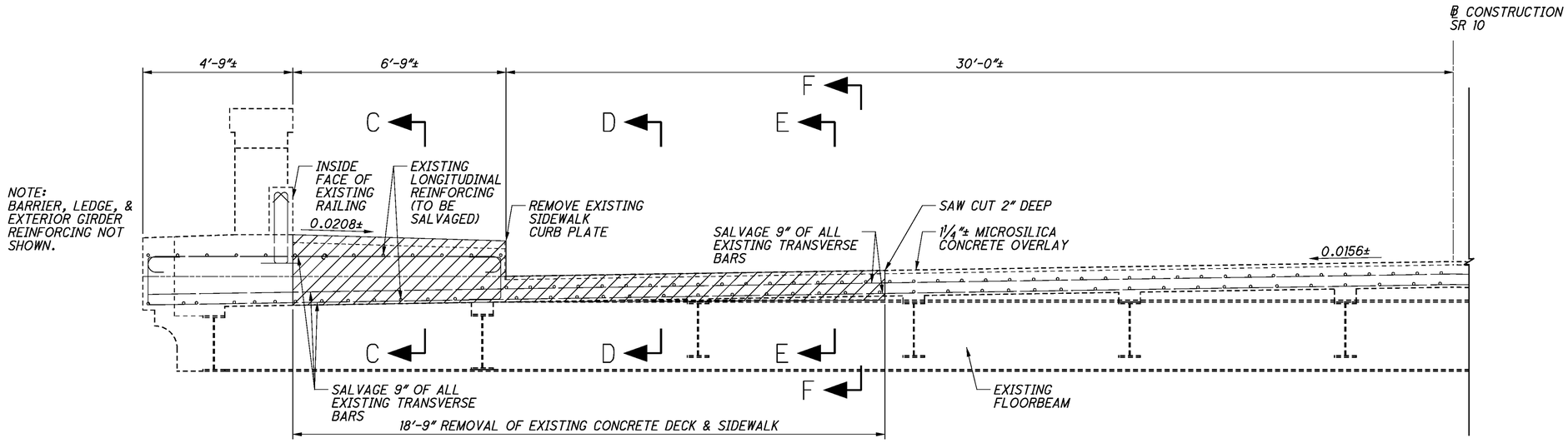
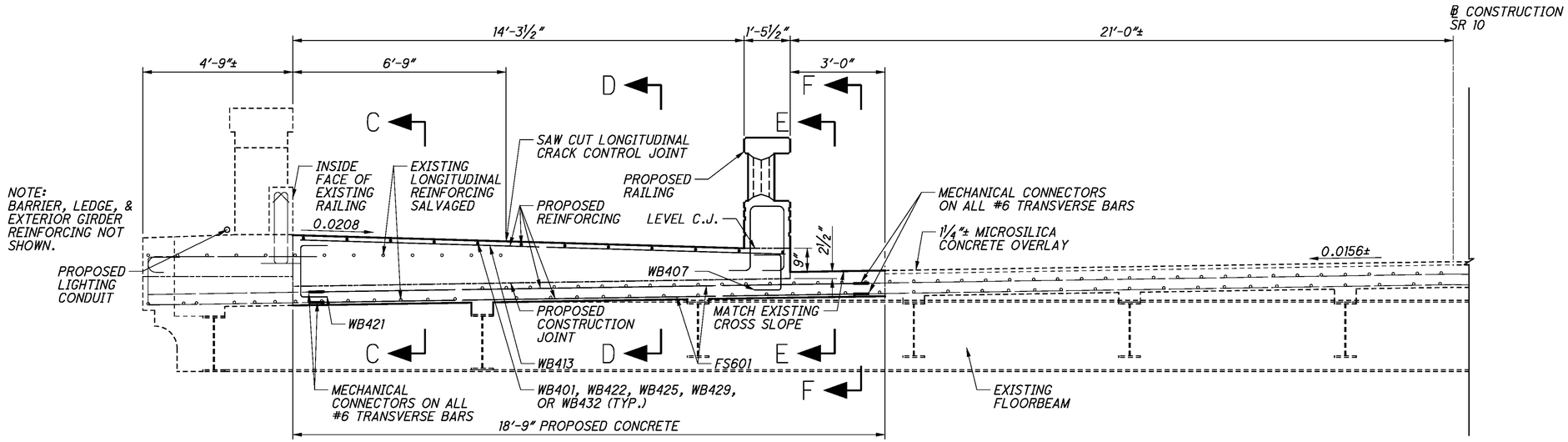


EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 169 . FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 172 & 173 .

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT SECTIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-33

171
205

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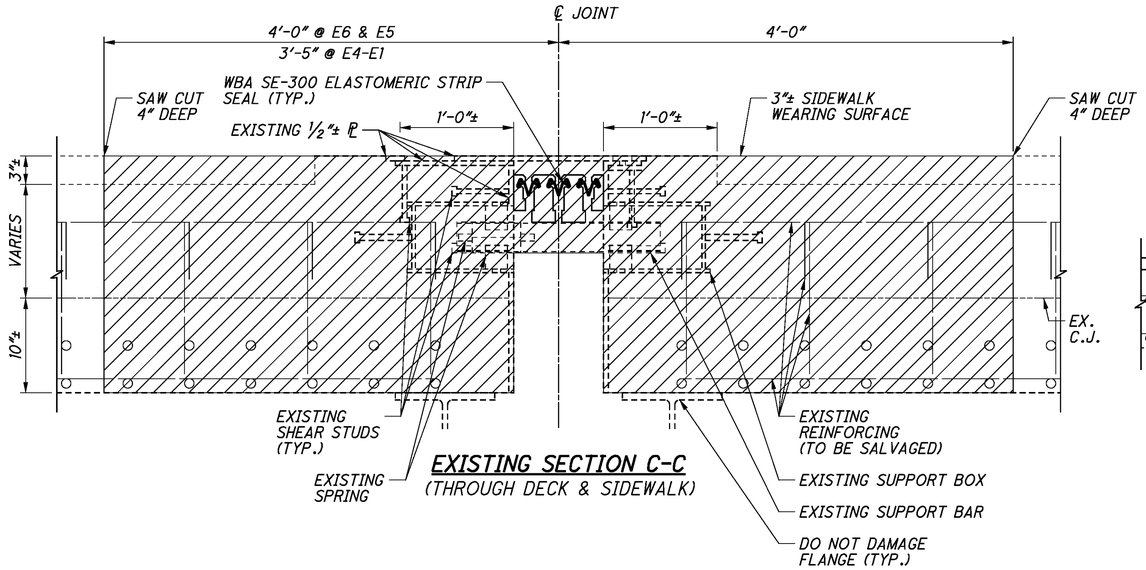
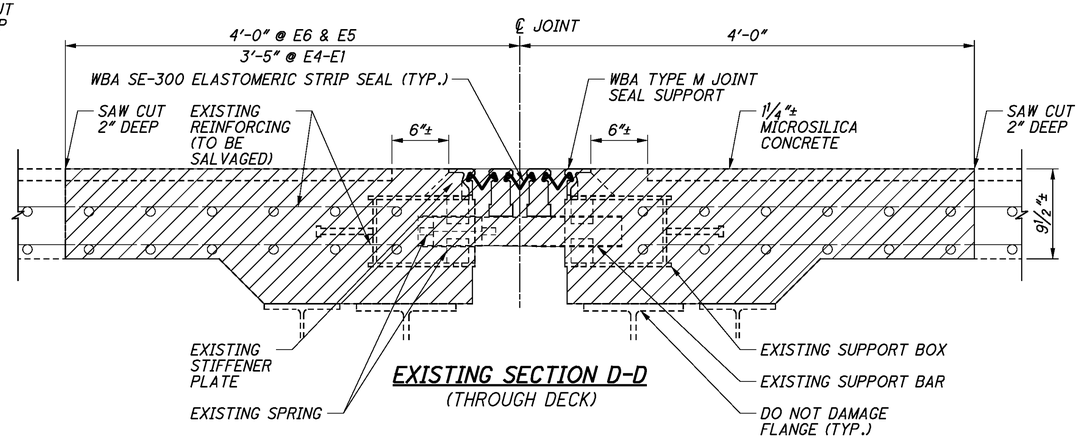
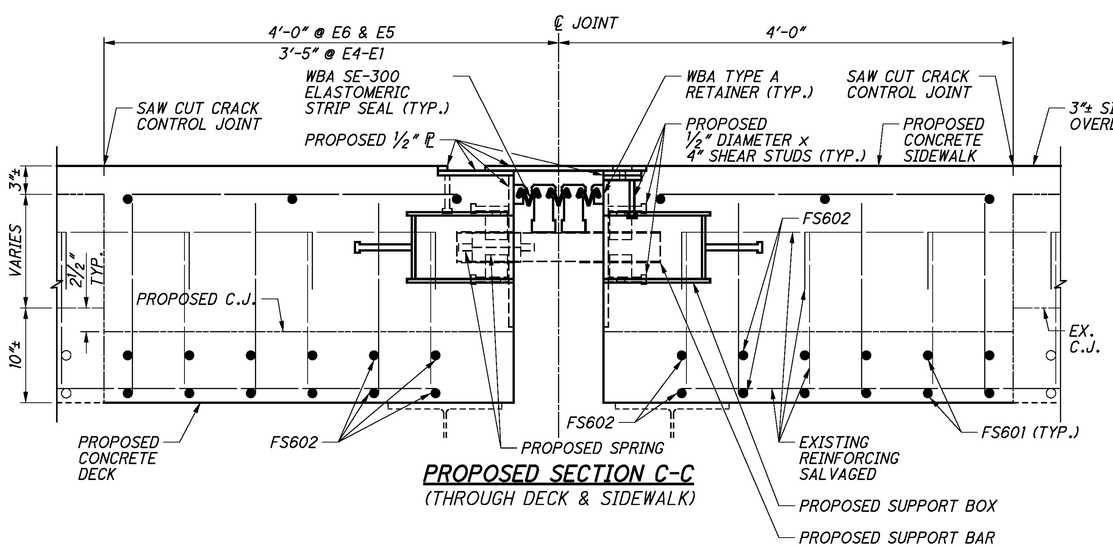


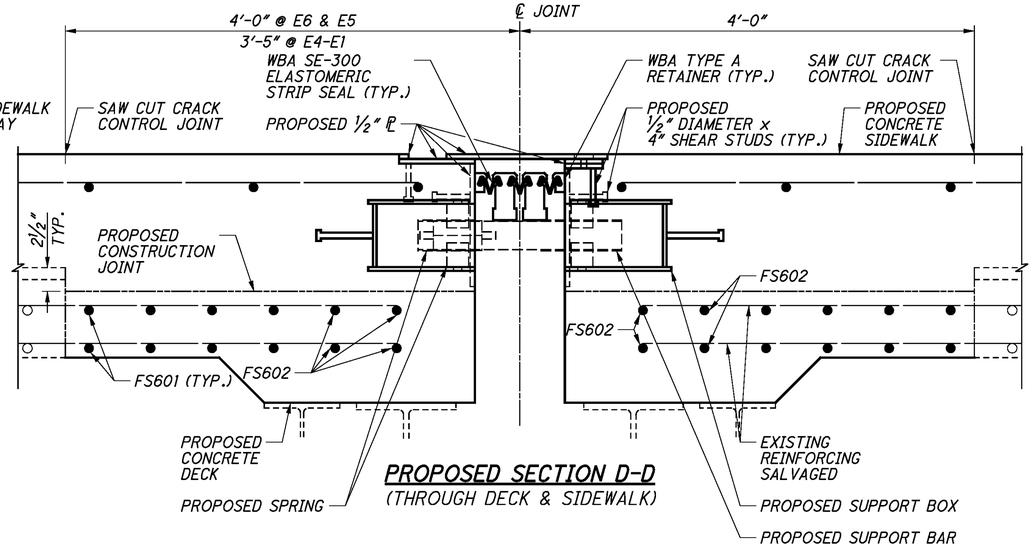
EXISTING SECTION C-C
(THROUGH DECK & SIDEWALK)



EXISTING SECTION D-D
(THROUGH DECK)



PROPOSED SECTION C-C
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
EX. = EXISTING
TYP. = TYPICAL

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 169.
2. 9" TRIPLE STRIP SEAL MODULAR JOINT AT E6 SHOWN. 6" DOUBLE STRIP SEAL JOINTS AT E5-E1 SIMILAR.
3. SEE PROJECT 215-00 SHOP DRAWINGS FOR ADDITIONAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT DETAILS 1 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-34

172
205

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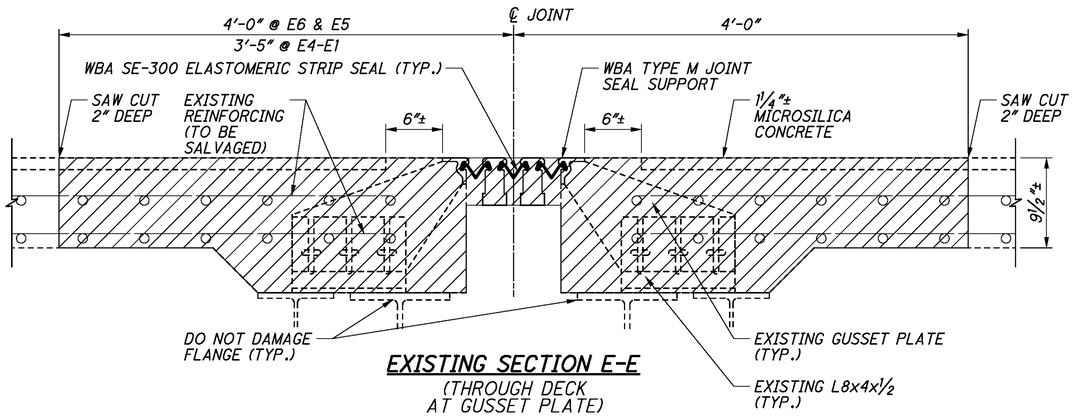
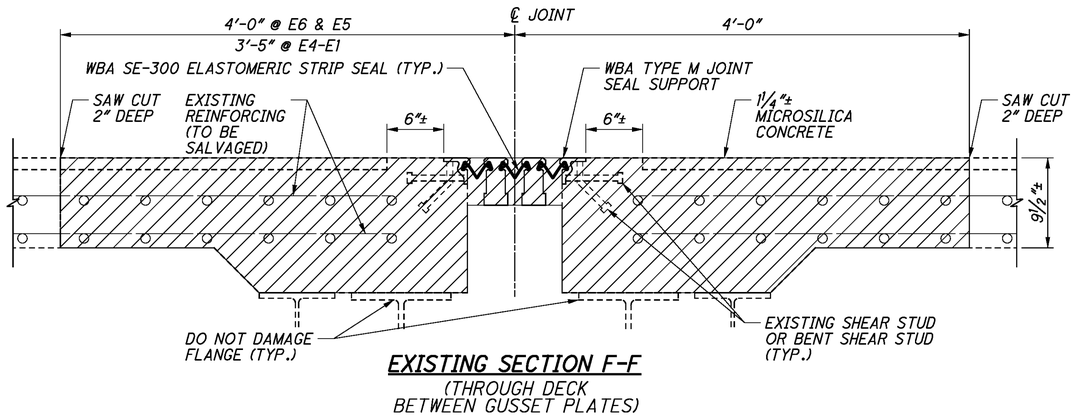


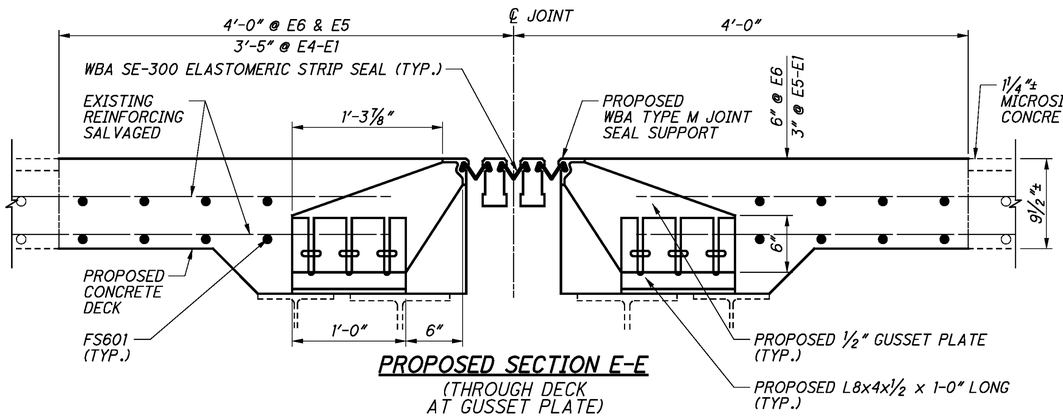
EXISTING SECTION E-E

(THROUGH DECK AT GUSSET PLATE)



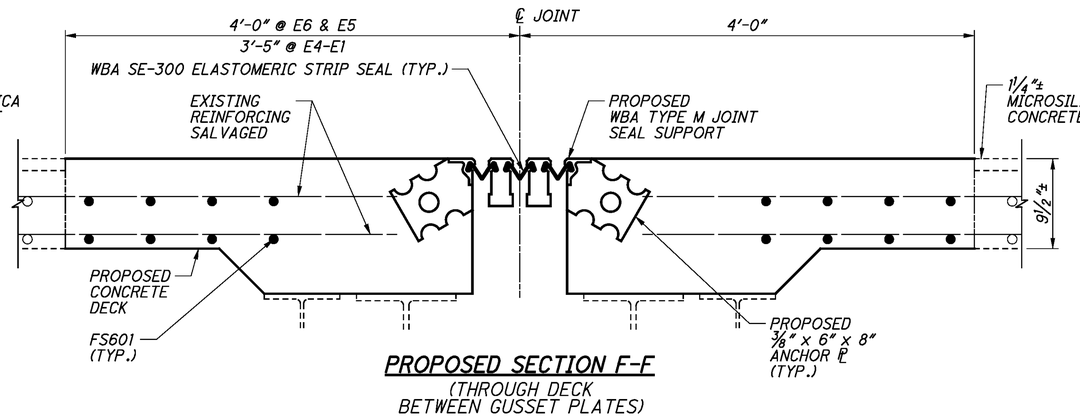
EXISTING SECTION F-F

(THROUGH DECK BETWEEN GUSSET PLATES)



PROPOSED SECTION E-E

(THROUGH DECK AT GUSSET PLATE)



PROPOSED SECTION F-F

(THROUGH DECK BETWEEN GUSSET PLATES)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
EX. = EXISTING
TYP. = TYPICAL

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 169.
2. 9" TRIPLE STRIP SEAL MODULAR JOINT AT E6 SHOWN. 6" DOUBLE STRIP SEAL JOINTS AT E5-E1 SIMILAR.
3. SEE PROJECT 215-00 SHOP DRAWINGS FOR ADDITIONAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT DETAILS 2 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-35

173
205

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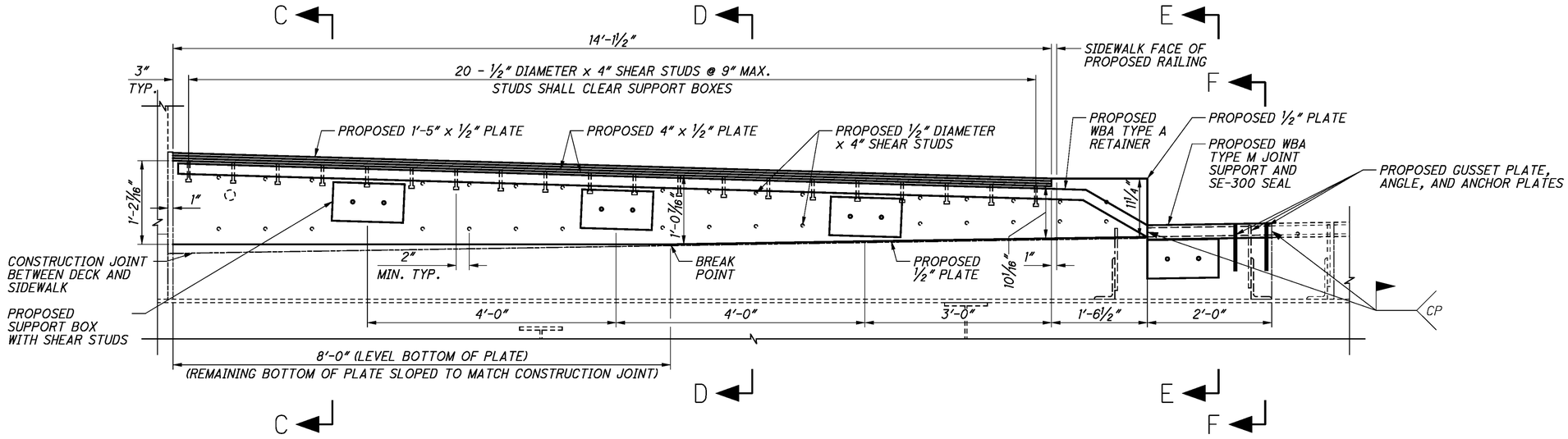
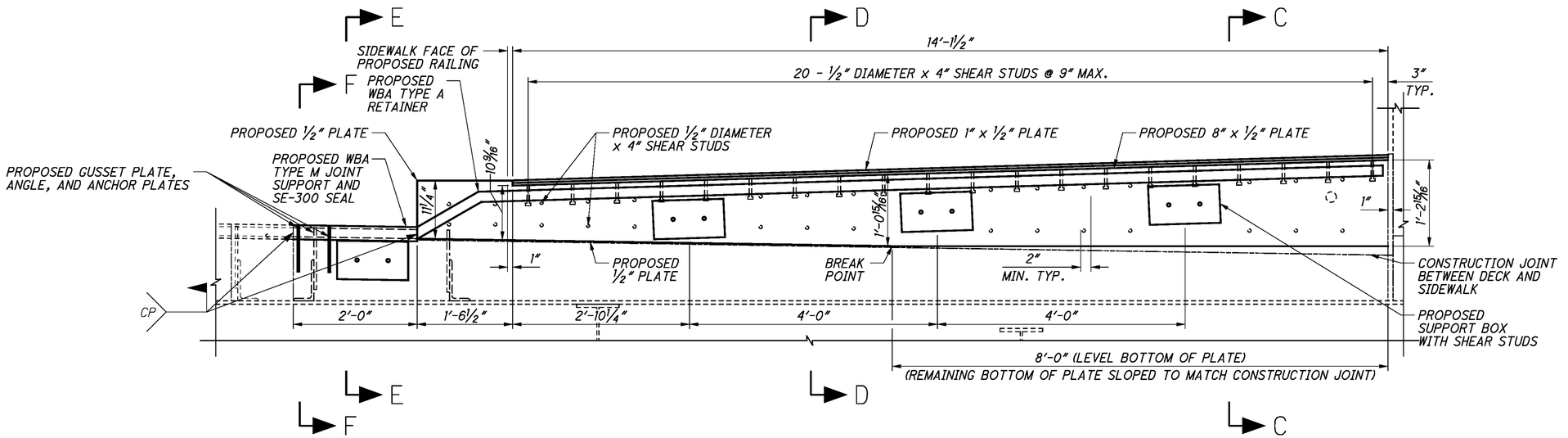


PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
CP = COMPLETE PENETRATION BUTT WELD
MAX. = MAXIMUM
MIN. = MINIMUM
TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, AND F-F, SEE SHEETS 172 & 173 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 & PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
WBA		1801503	

MODULAR EXPANSION JOINT DETAILS 3 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-36

174
205

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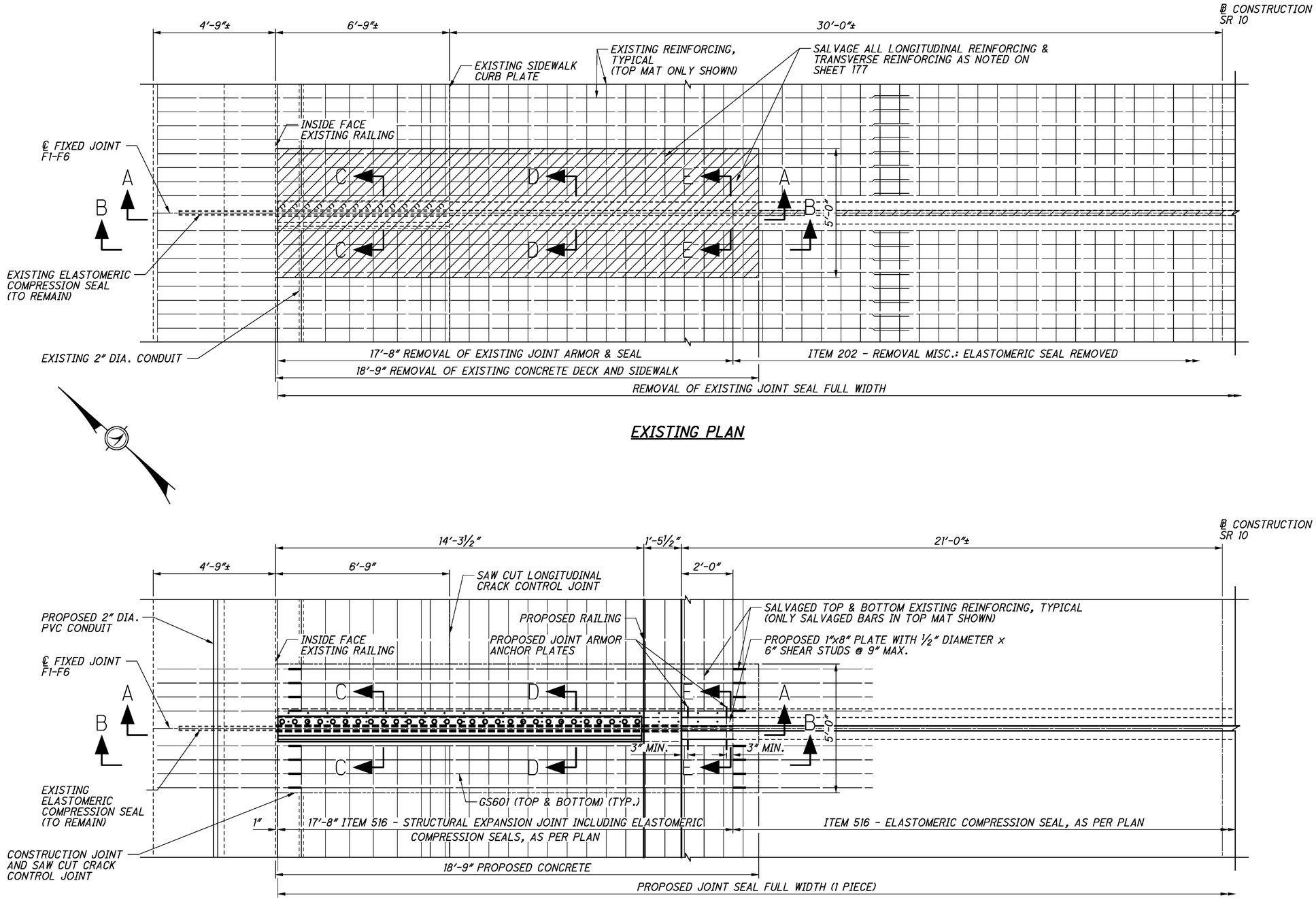

EXISTING PLAN

PROPOSED PLAN
(F1 TO F6 JOINTS)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
DIA. = DIAMETER
MAX. = MAXIMUM
MIN. = MINIMUM
TYP. = TYPICAL

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 176 , 177 , & 178 .
2. SEE SIDEWALK PLANS FOR PROPOSED REINFORCING.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

TRUSS COMPRESSION SEAL JOINT PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-37

175
205

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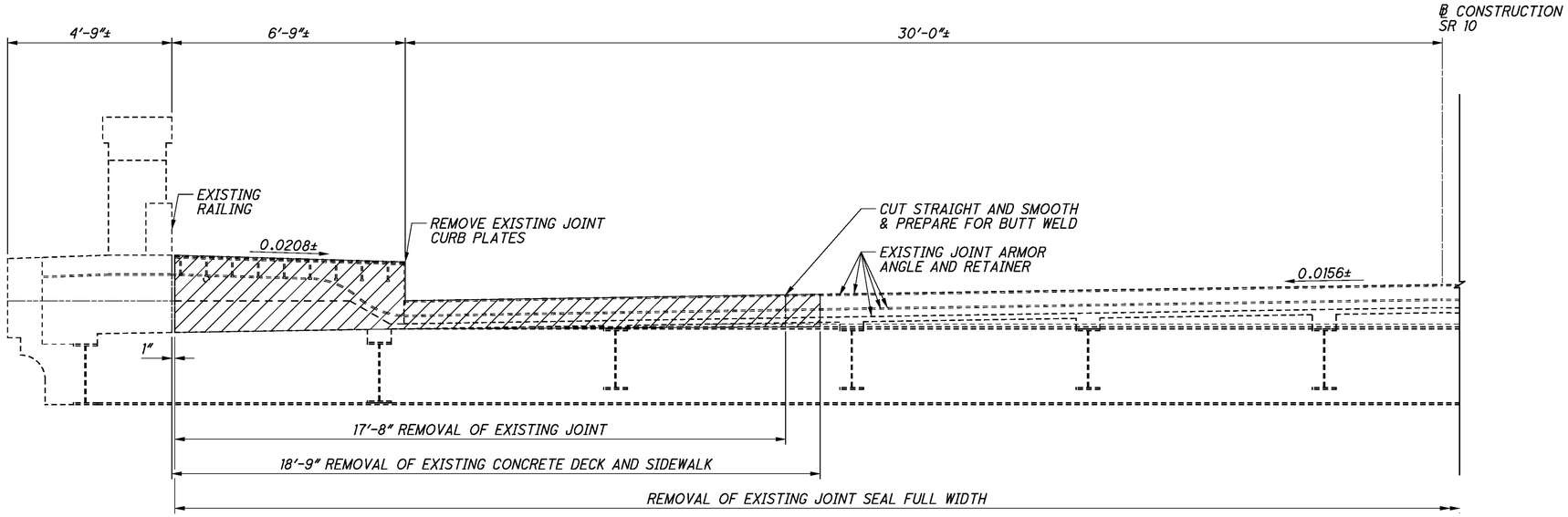
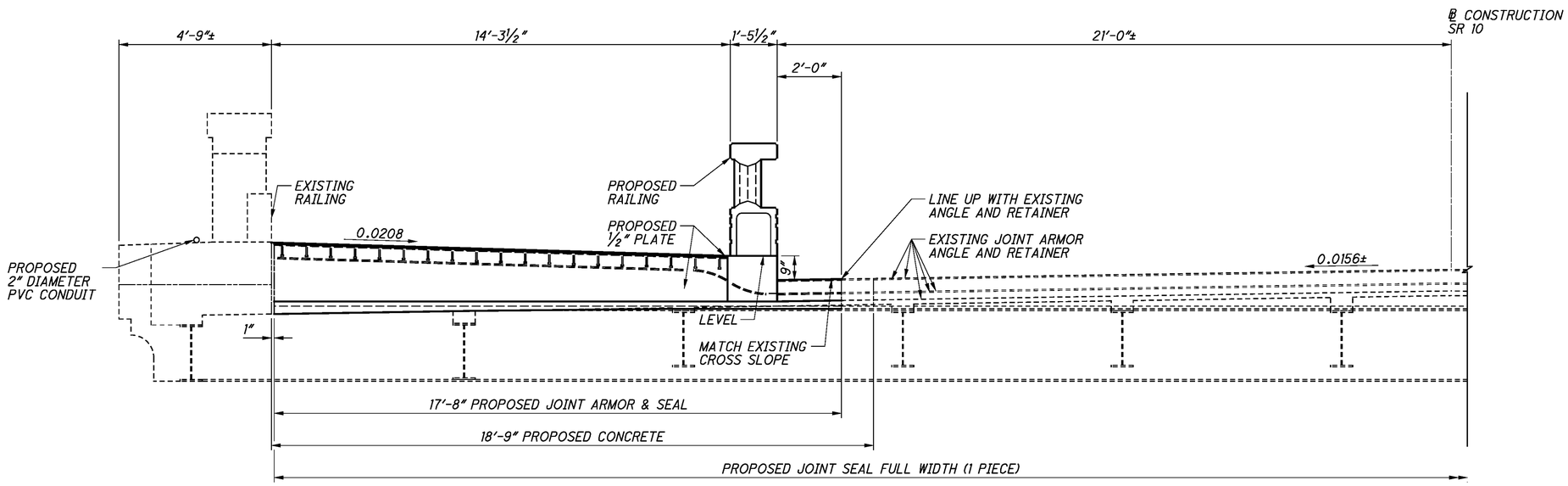


EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 175 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

TRUSS COMPRESSION SEAL JOINT SECTIONS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-38

176
205

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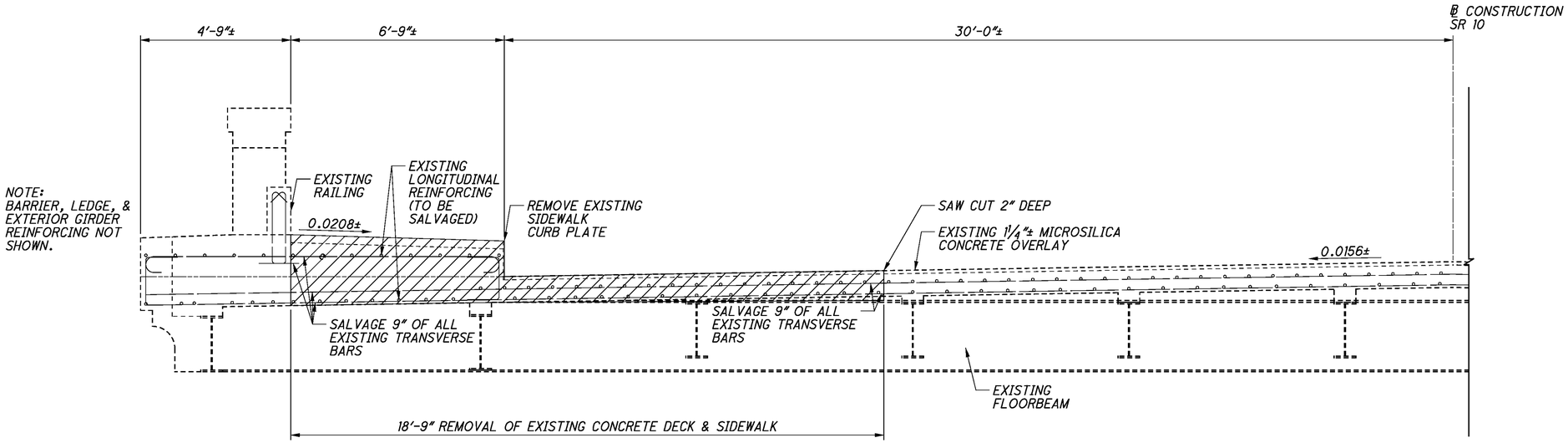
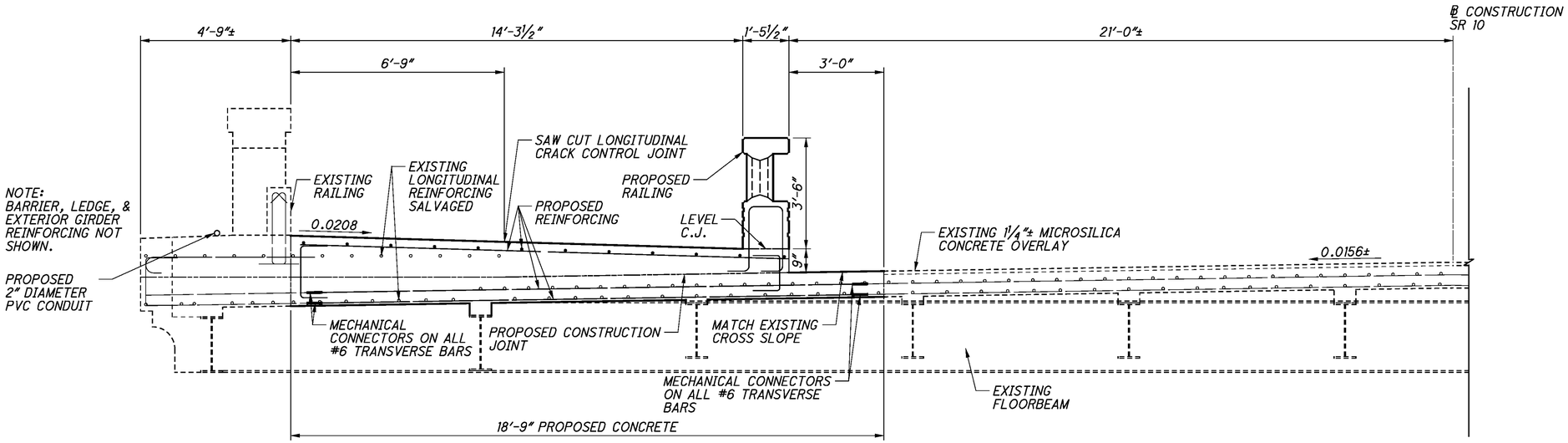


EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 175 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

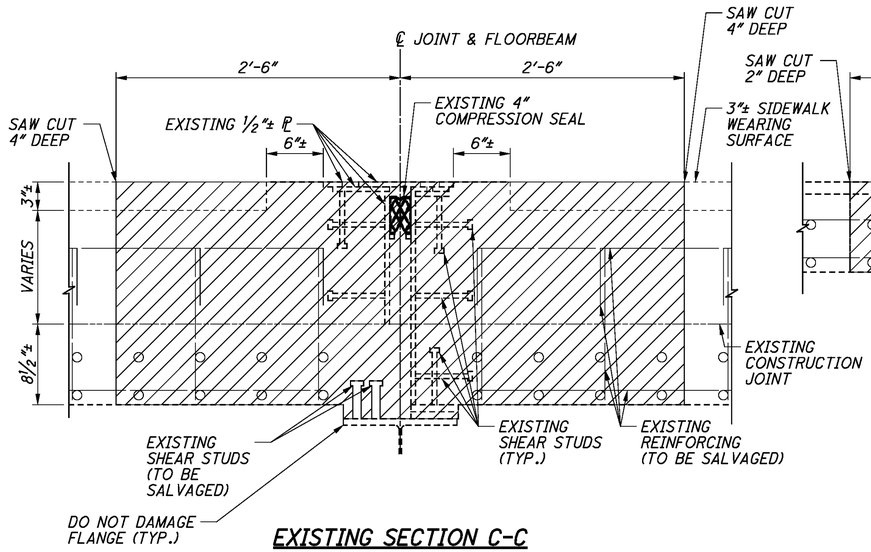
TRUSS COMPRESSION SEAL JOINT SECTIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

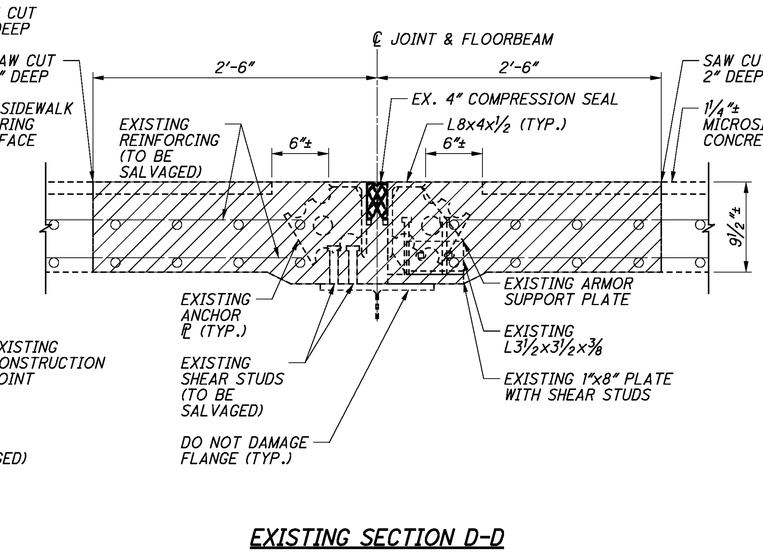
EX-39

177
205

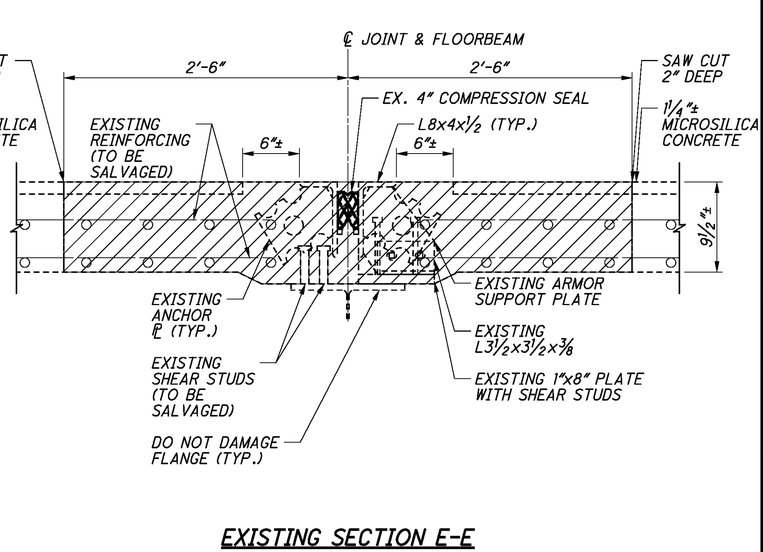
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CEX027.dgn 1/6/2012 1:08:04 PM hutch



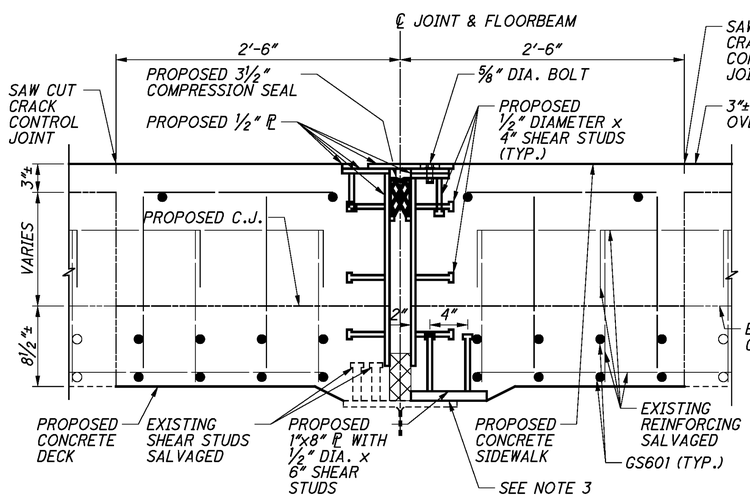
EXISTING SECTION C-C
(THROUGH DECK & SIDEWALK)



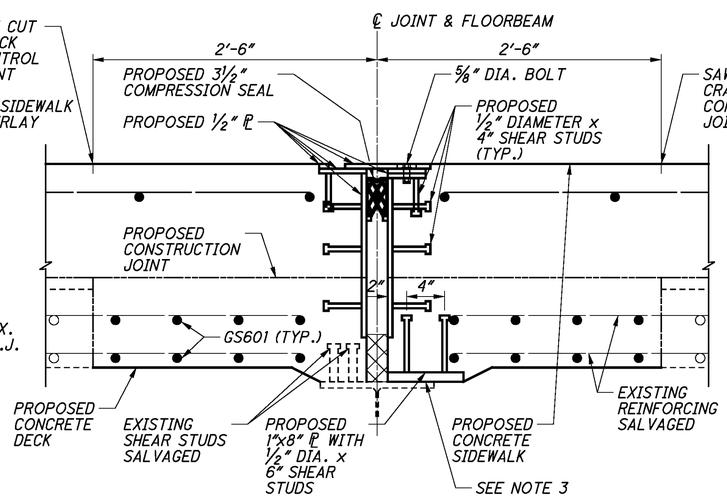
EXISTING SECTION D-D
(THROUGH DECK)



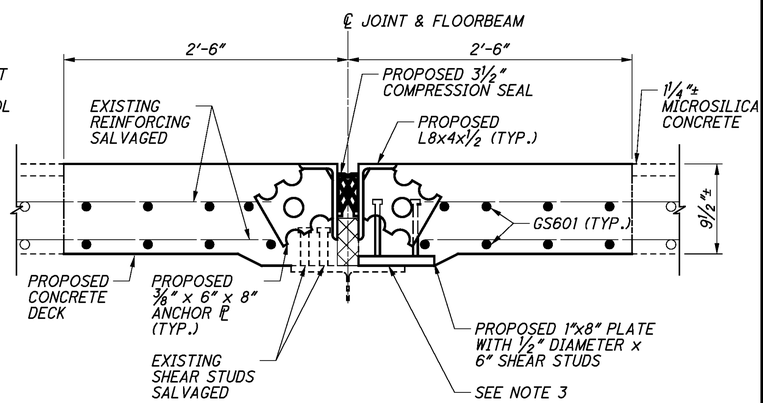
EXISTING SECTION E-E
(THROUGH DECK)



PROPOSED SECTION C-C
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH DECK)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ⊠ = EXPANDED POLYSTYRENE FILLER
- * = MATCH EXISTING GAP
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- TYP. = TYPICAL

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 175 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81 & PROJECT 215-00 SHOP DRAWINGS.
3. SURFACES BETWEEN 1"x8" PLATE AND EXISTING FLOORBEAM SHALL BE CLEANED & LUBRICATED WITH FLAKE GRAPHITE, SUCH AS SLIP PLATE NO. 1 MANUFACTURED BY SUPERIOR GRAPHITE, APPROVED BY THE ENGINEER. PAY FOR WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEALS, AS PER PLAN.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

TRUSS COMPRESSION SEAL JOINT DETAILS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-40

178
205

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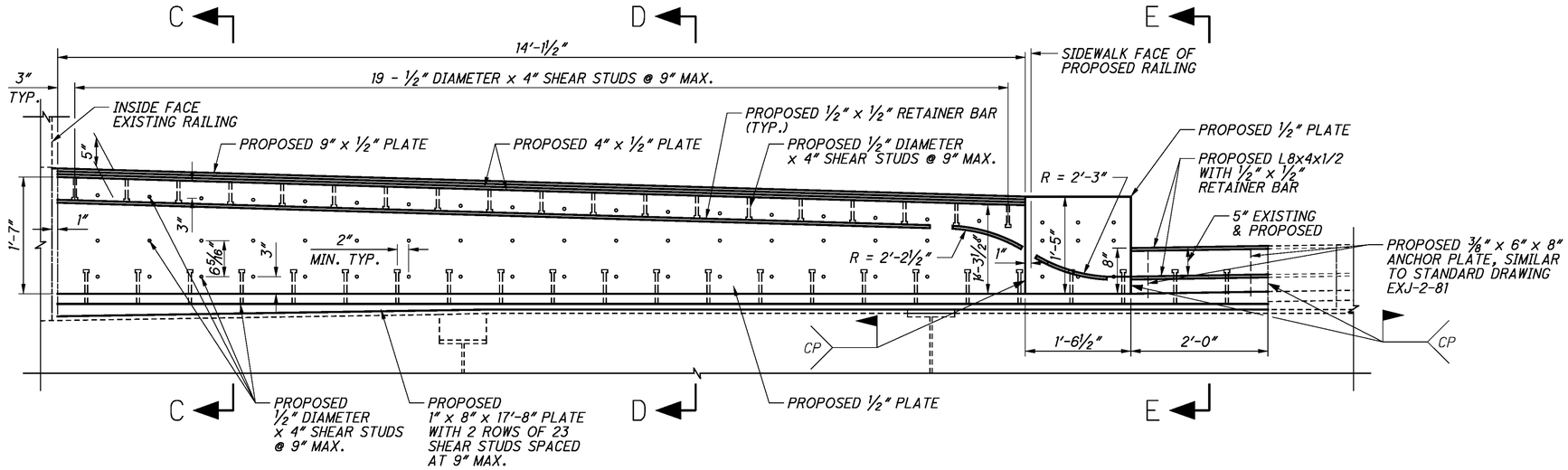
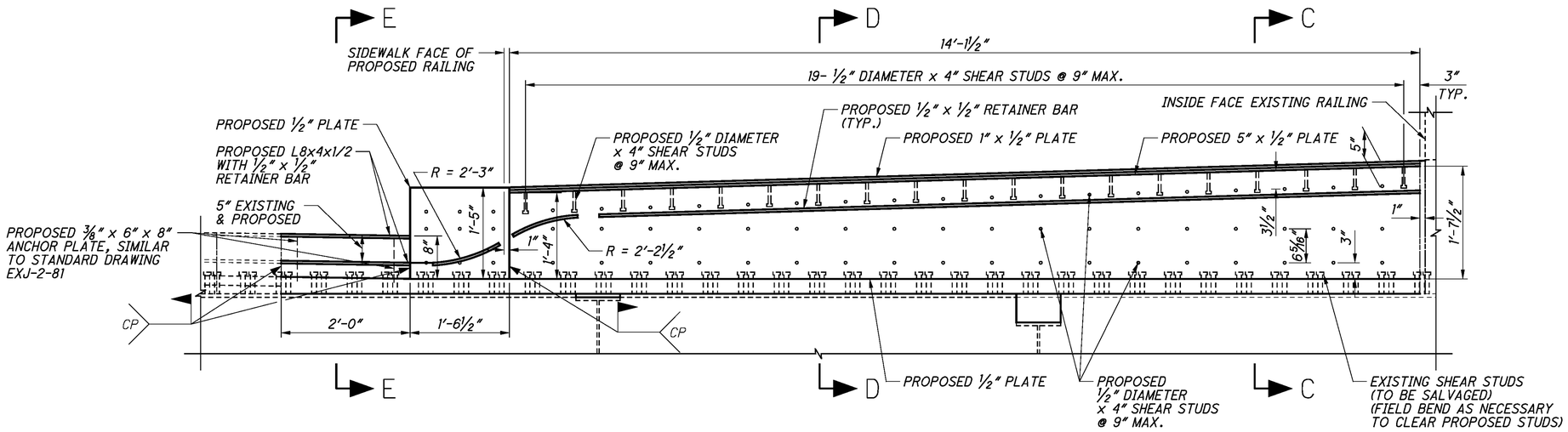


PROPOSED JOINT ARMOR ELEVATION

(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED JOINT ARMOR ELEVATION

(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
CP = COMPLETE PENETRATION BUTT WELD
MAX. = MAXIMUM
MIN. = MINIMUM
TYP. = TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 178 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-2-81.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
AKS	AKS	DWL	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

TRUSS COMPRESSION SEAL JOINT DETAILS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-41

179
205

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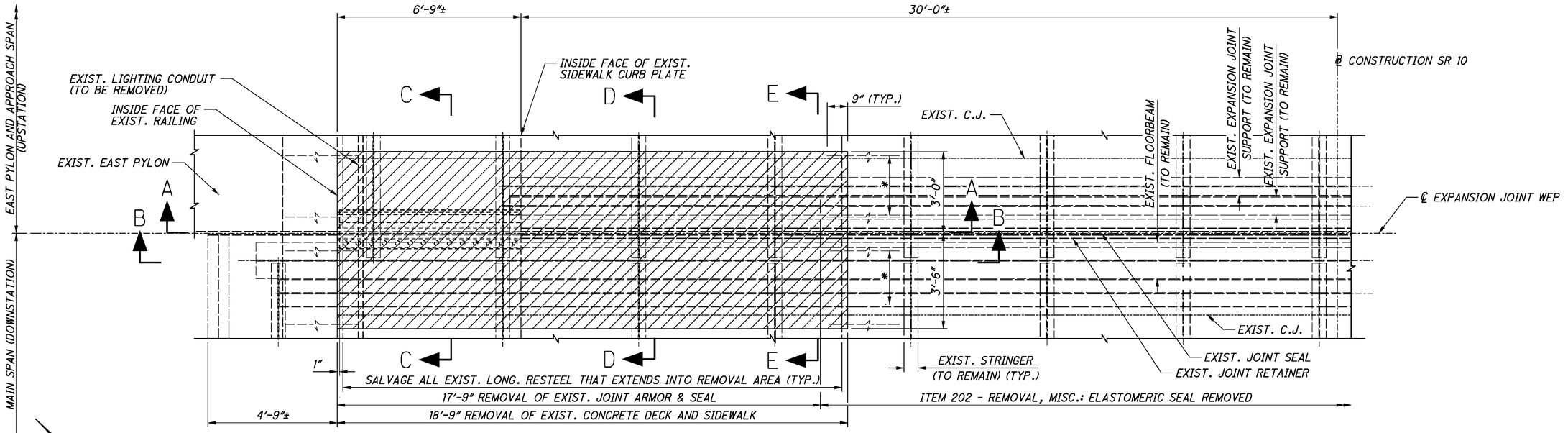
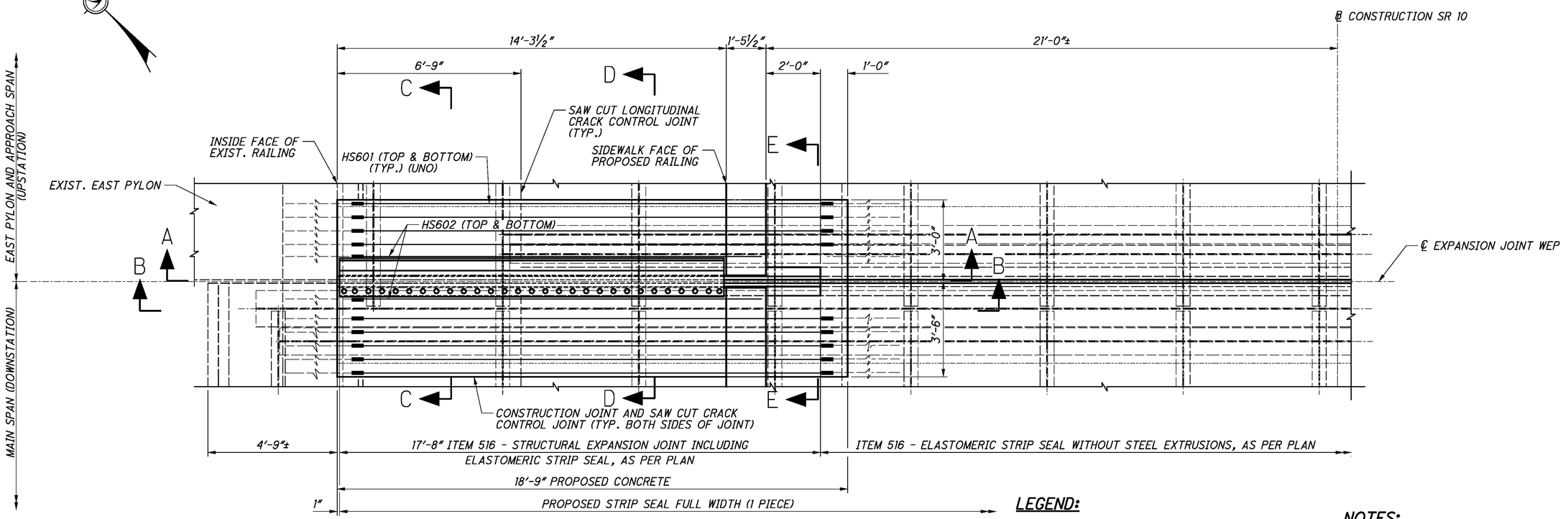


EXISTING PLAN



PROPOSED PLAN

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- MIN. = MINIMUM
- * = SALVAGE 9" OF ALL EXISTING TRANSVERSE STEEL THAT EXTENDS INTO THE REMOVAL AREA (TYP. BOTH ENDS, TOP AND BOTTOM)
- C.J. = CONSTRUCTION JOINT
- EXIST. = EXISTING
- LONG. = LONGITUDINAL
- TYP. = TYPICAL
- UNO = UNLESS NOTED OTHERWISE

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 181/205, 182/205, 183/205 & 184/205.
2. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING.
3. SEE TRANSVERSE SECTION FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP PLANS
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-42

180
205

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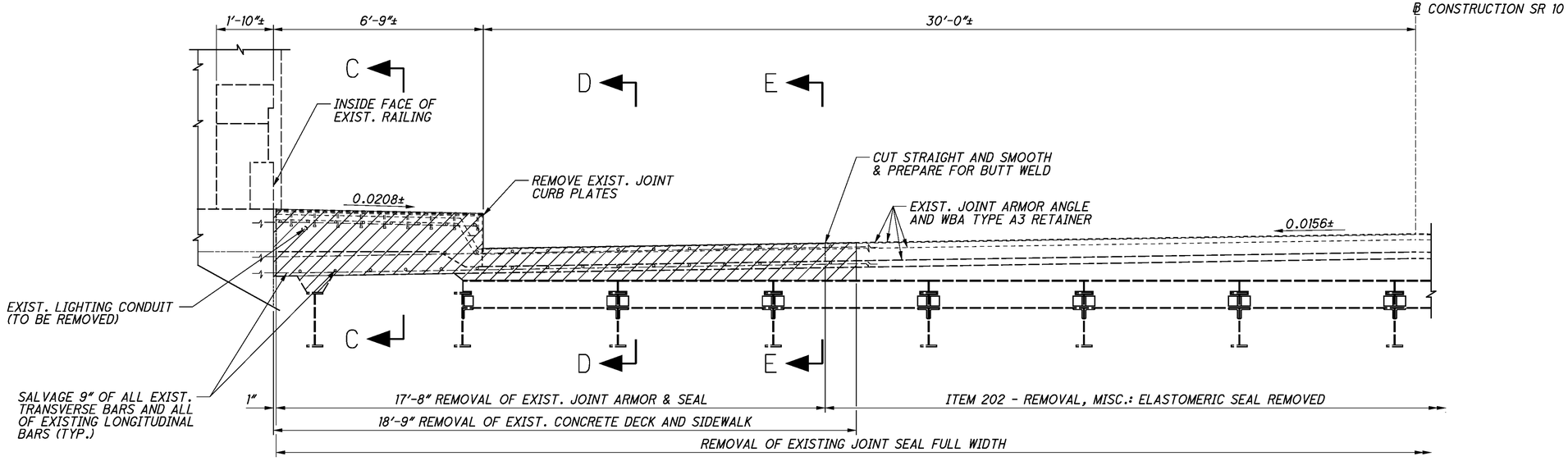
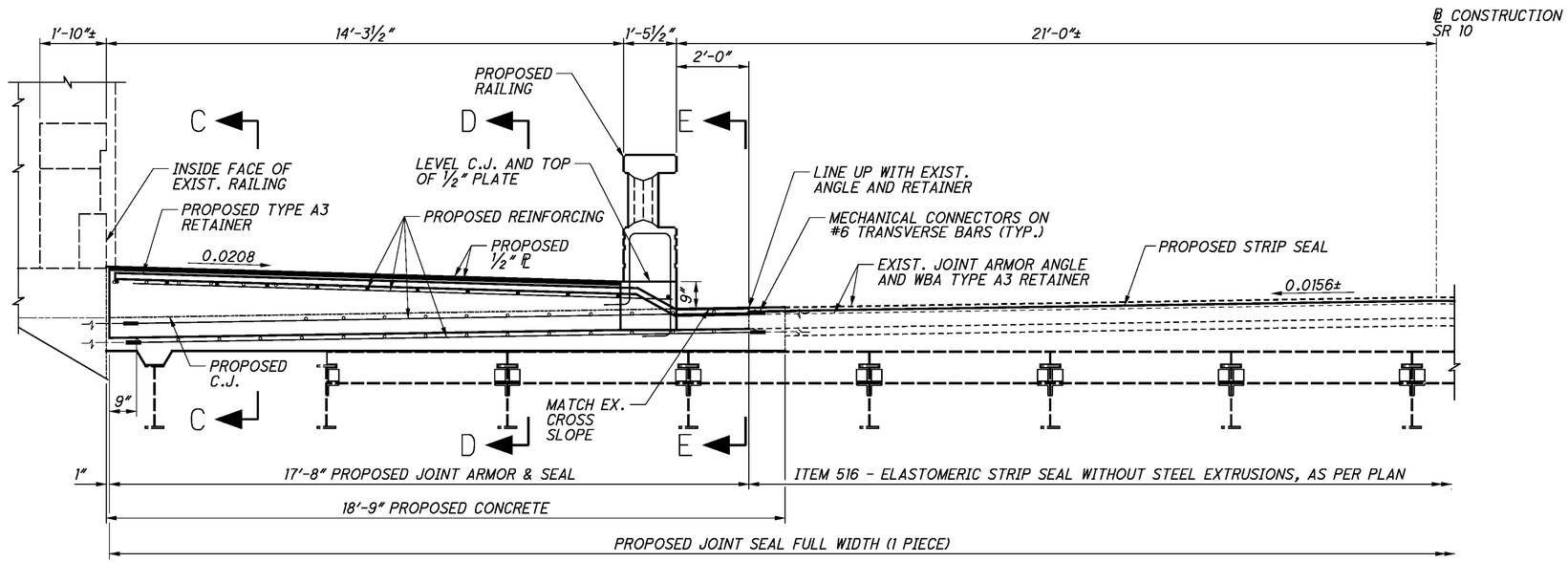


EXISTING SECTION A-A
(THROUGH JOINT ON PYLON SIDE)



PROPOSED SECTION A-A
(THROUGH JOINT ON PYLON SIDE)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
EXIST. = EXISTING

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 180/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

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MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP ELEVATIONS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-43

181
205

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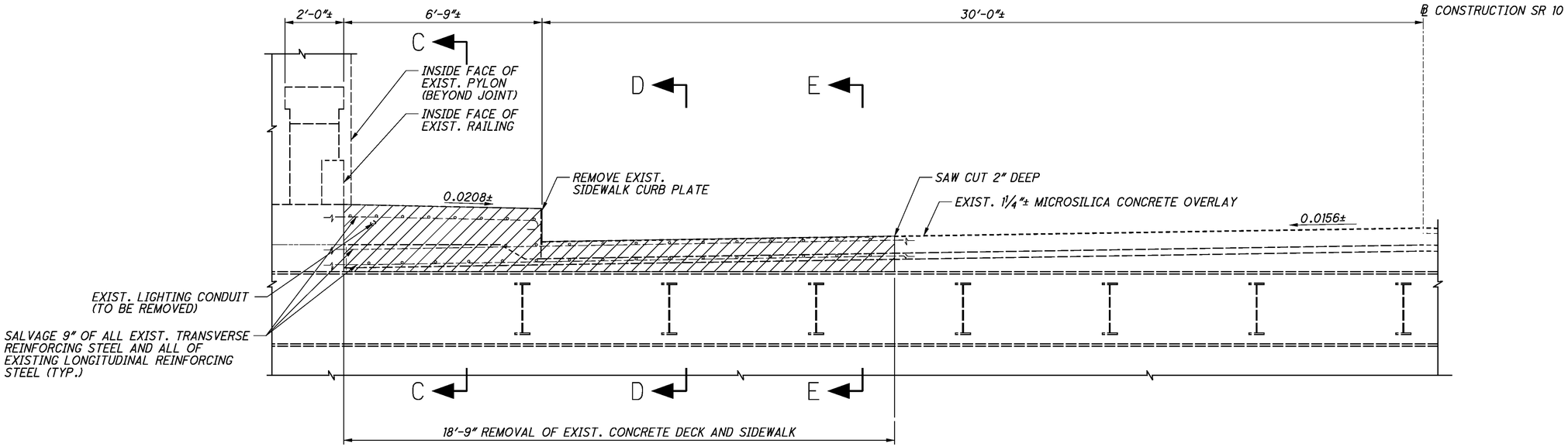
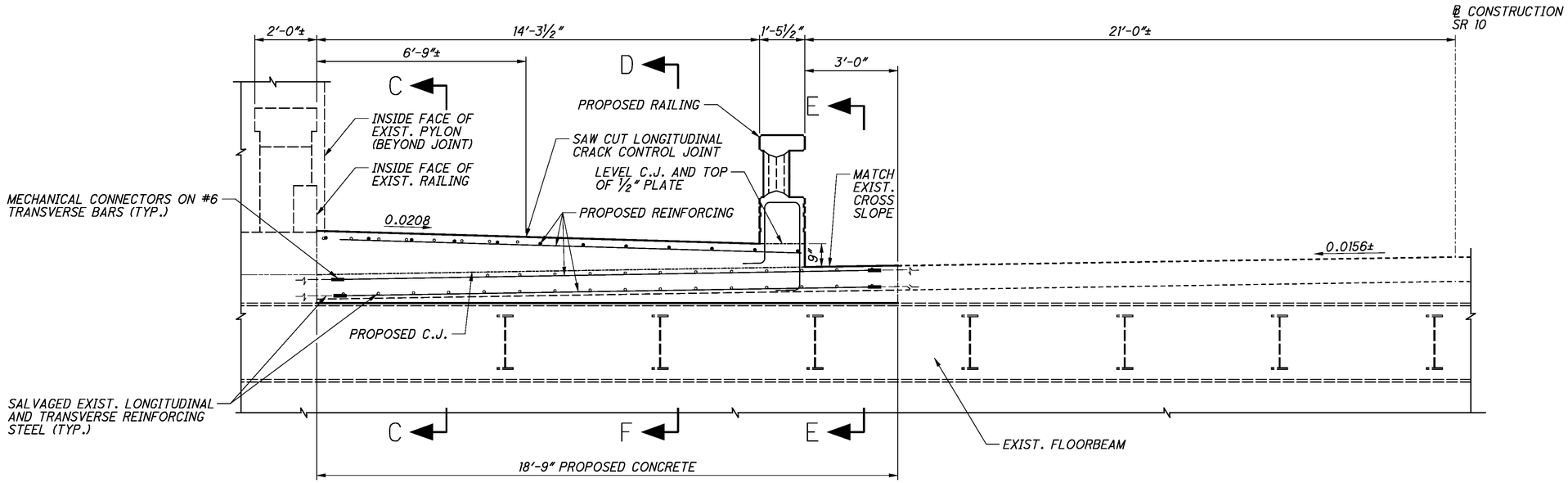


EXISTING SECTION B-B
(THROUGH DECK AND SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK AND SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT
EXIST. = EXISTING

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 180/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP ELEVATIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-44

182
205

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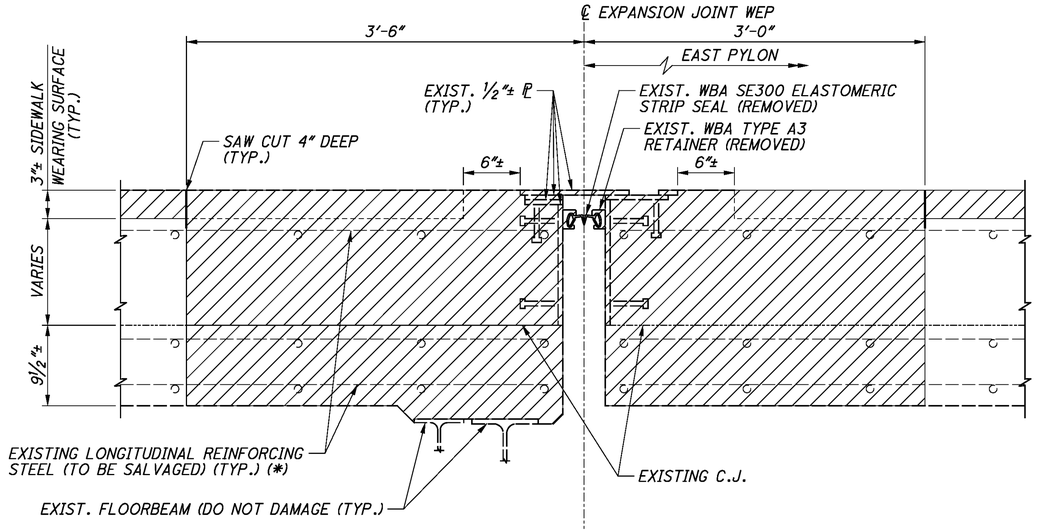
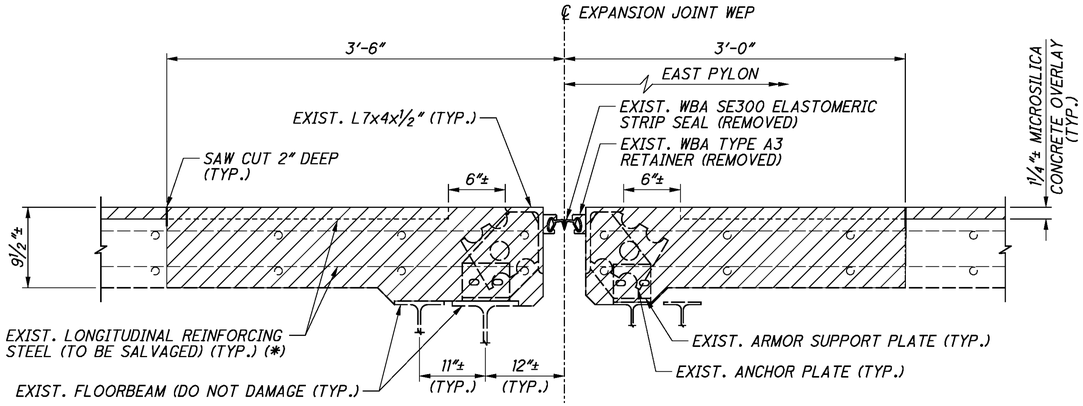
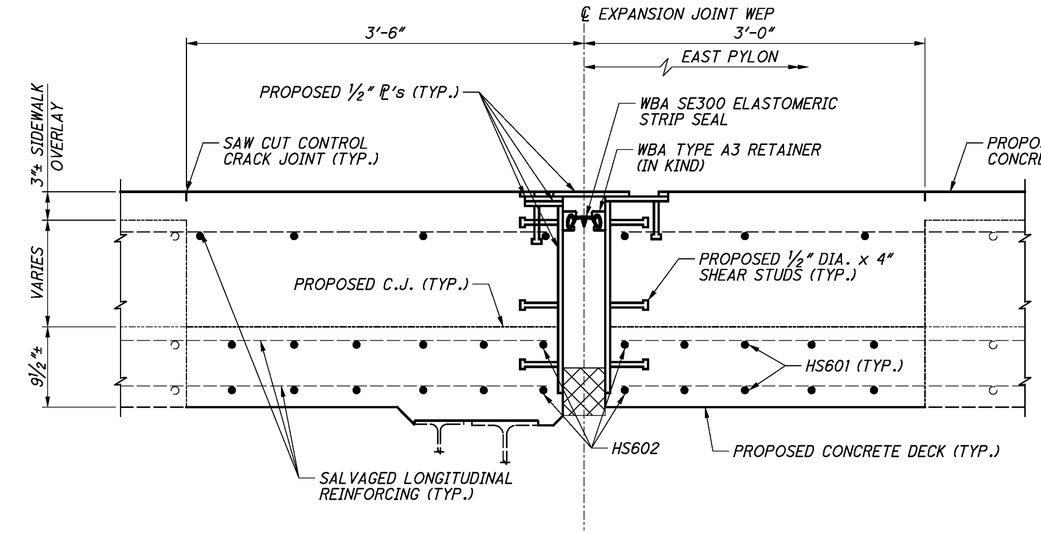


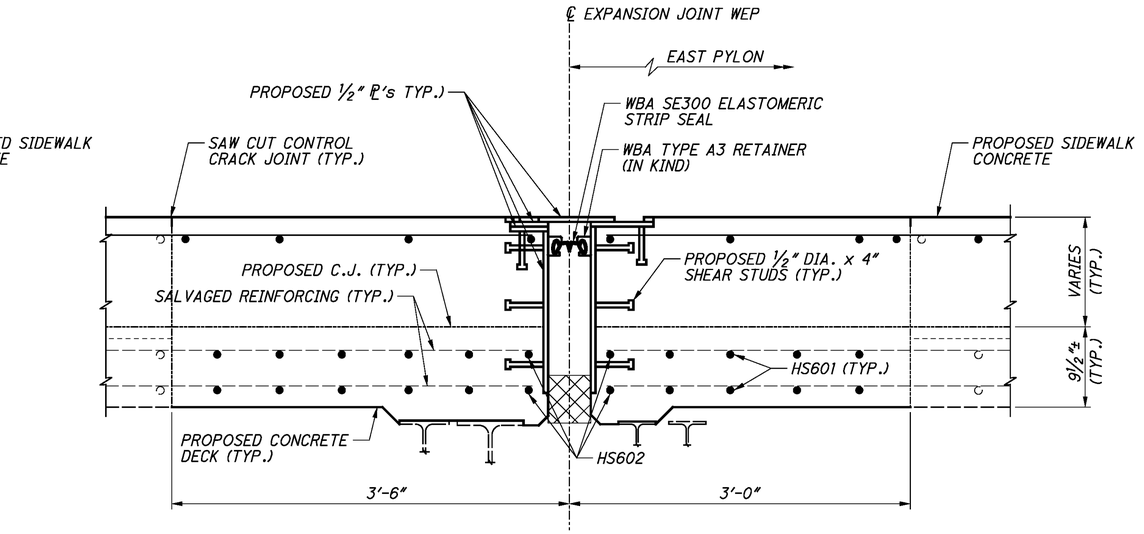
EXISTING SECTION C-C
(THROUGH DECK & SIDEWALK)



EXISTING SECTION D-D
(THROUGH DECK)



PROPOSED SECTION C-C
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH DECK AND SIDEWALK)

LEGEND:

= ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
C.J. = CONSTRUCTION JOINT
DIA. = DIAMETER
EXIST. = EXISTING
TYP. = TYPICAL
= EXPANDED POLYSTYRENE FILLER
* = REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202-PORTIONS OF EXISTING STRUCTURE REMOVED.

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 180205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

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MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP DETAILS 1 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194
EX-45

183
205

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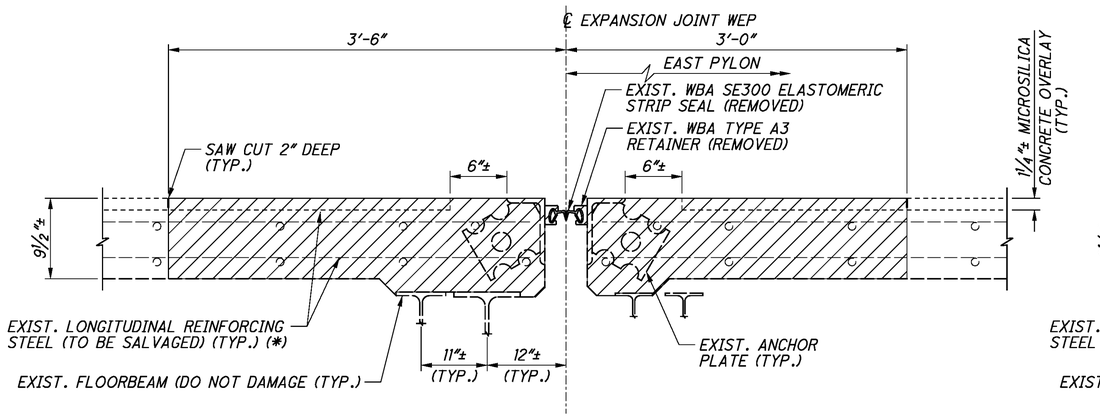
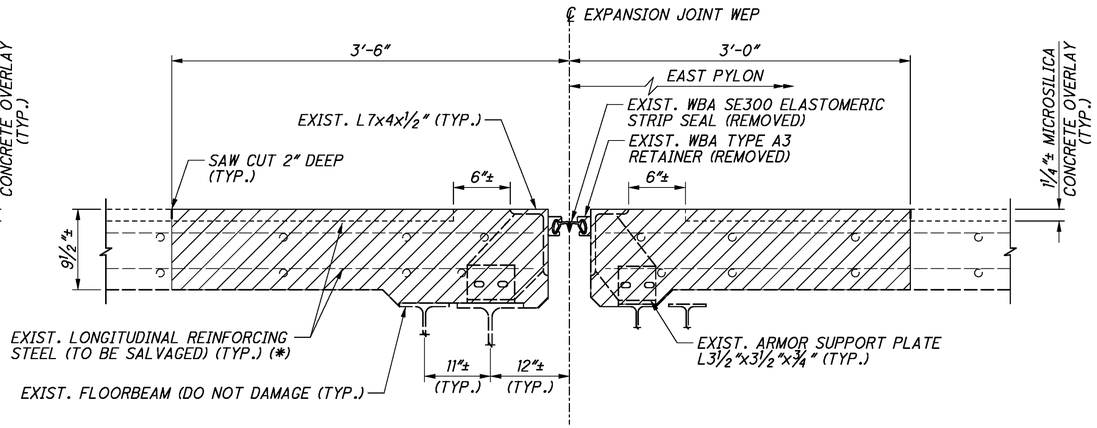
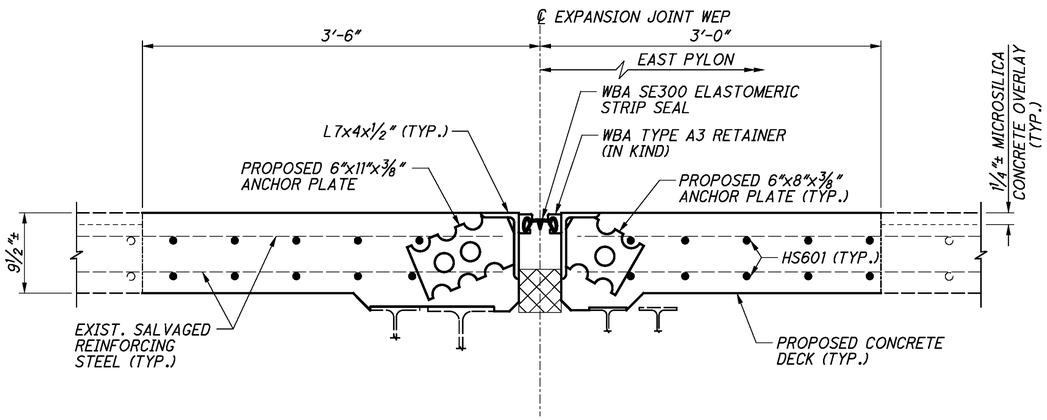


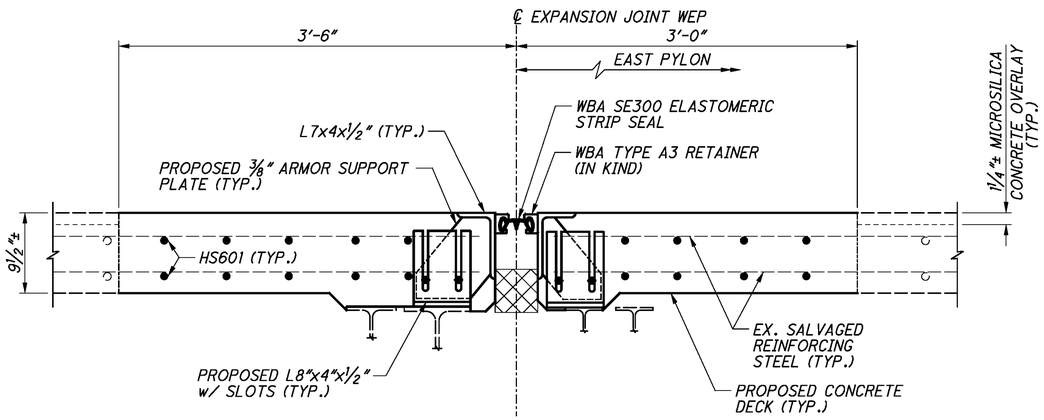
EXISTING SECTION E-E
(THROUGH DECK AT JOINT ANCHOR PLATE)



EXISTING SECTION E-E
(THROUGH DECK AT JOINT ARMOR SUPPORT PLATE)



PROPOSED SECTION E-E
(THROUGH DECK AT JOINT ANCHOR PLATE)



PROPOSED SECTION E-E
(THROUGH DECK AT JOINT ARMOR SUPPORT PLATE)

LEGEND:

▨	= ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
▩	= EXPANDED POLYSTYRENE FILLER
C.J.	= CONSTRUCTION JOINT
DIA.	= DIAMETER
EXIST.	= EXISTING
TYP.	= TYPICAL
*	= REPAIR EPOXY COATING PER GENERAL NOTE, ITEM 202 - PORTIONS OF STRUCTURE REMOVED

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 180/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

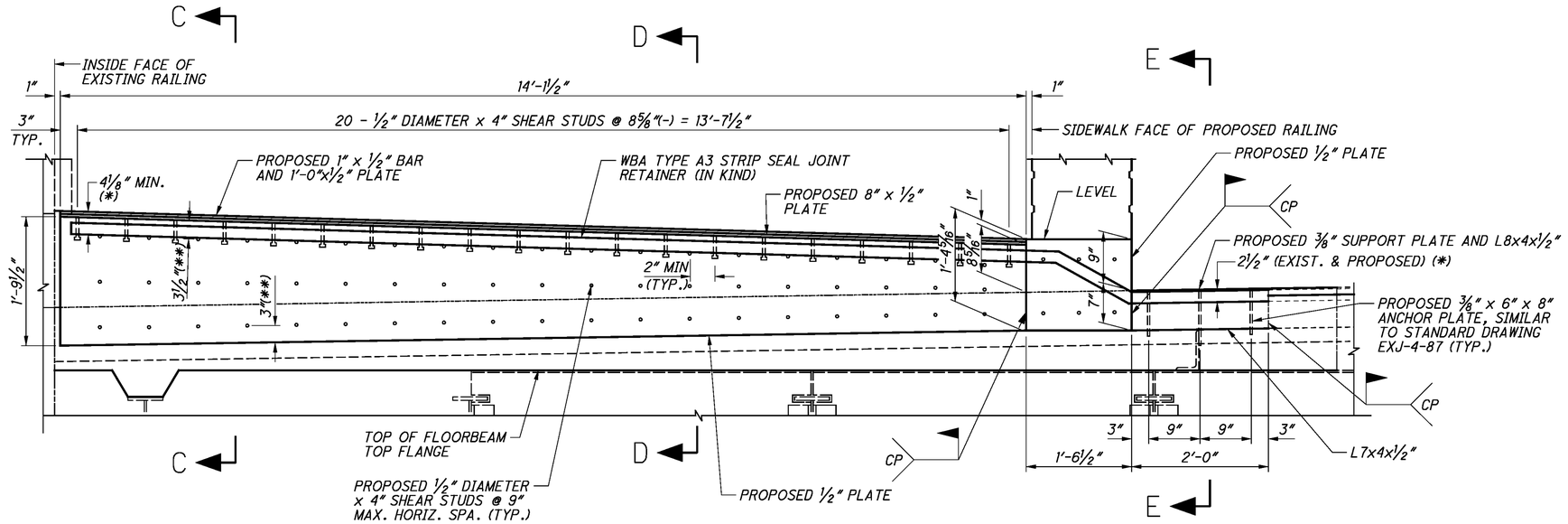
DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP DETAILS 2 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

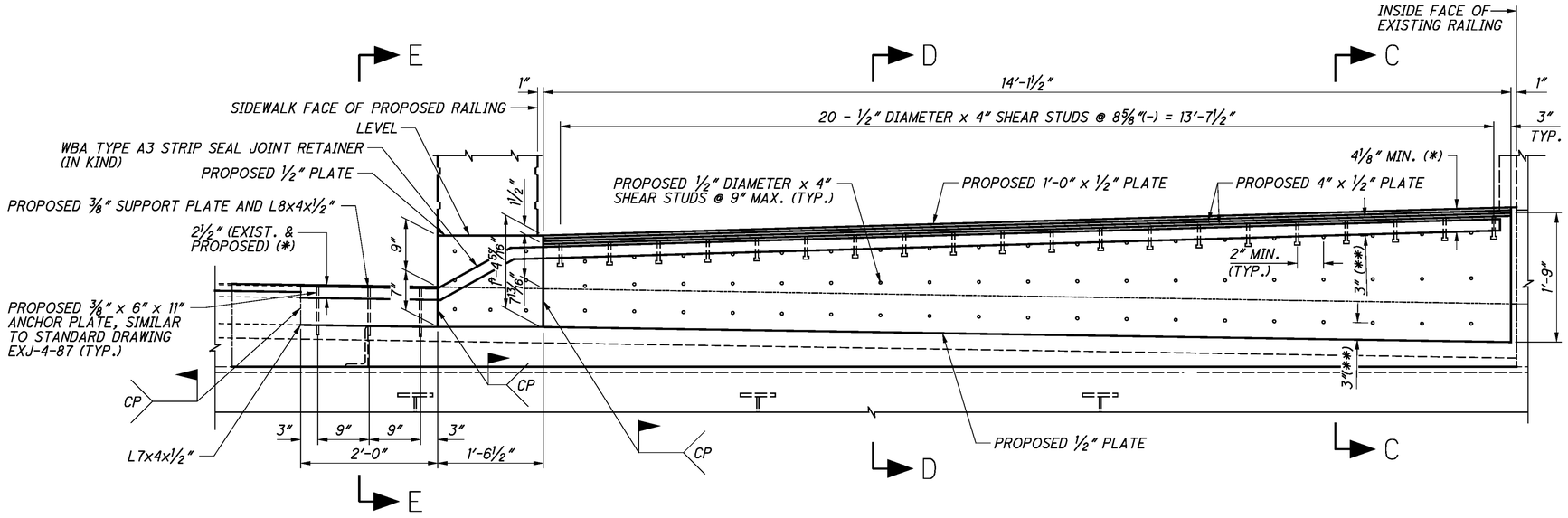
EX-46

184
205



PROPOSED JOINT ARMOR ELEVATION

(THROUGH JOINT WEP, LOOKING UPSTATION)



PROPOSED JOINT ARMOR ELEVATION

(THROUGH WEP JOINT, LOOKING DOWNSTATION)

LEGEND:

*	= TOP OF TOP PLATE OR ANGLE TO BOTTOM OF RETAINER
**	= EDGE OF ½" VERTICAL PLATE TO ℄ STUDS
C.J.	= CONSTRUCTION JOINT
CP	= COMPLETE PENETRATION BUTT WELD
EXIST.	= EXISTING
HORIZ.	= HORIZONTAL
MAX.	= MAXIMUM
MIN.	= MINIMUM
TYP.	= TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEETS 183205 & 184205 .
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MAK	MAK	DWL	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		1801503	

STRIP SEAL JOINT WEP DETAILS 3 OF 3
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-47

185
205

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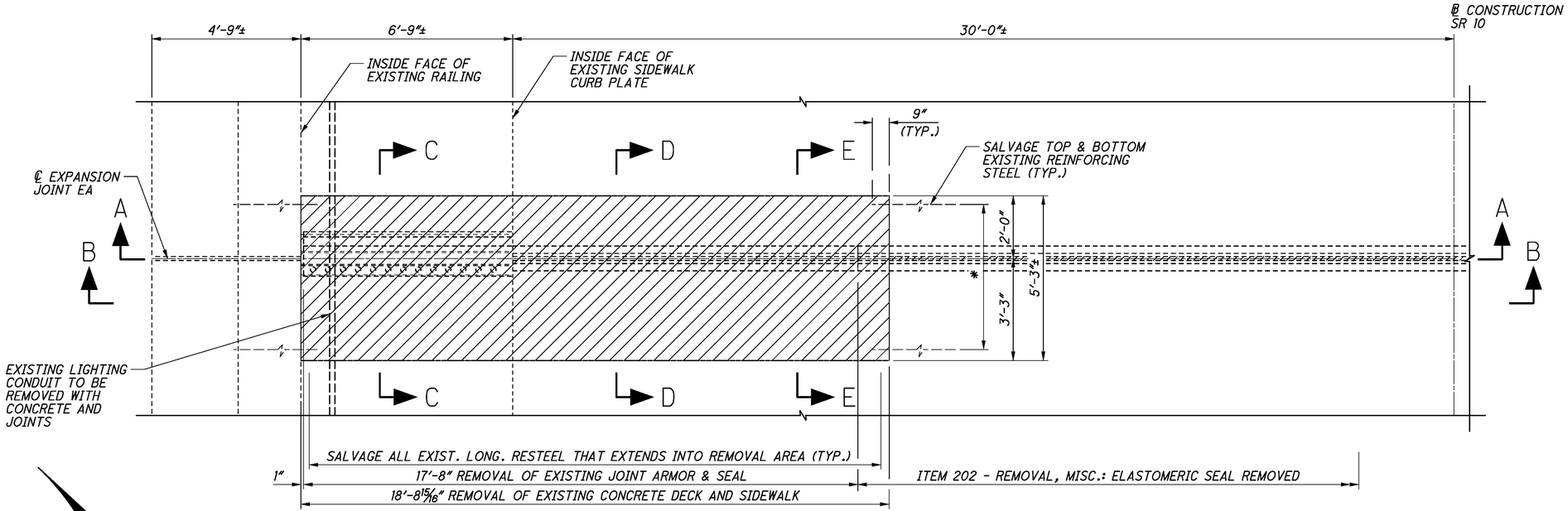
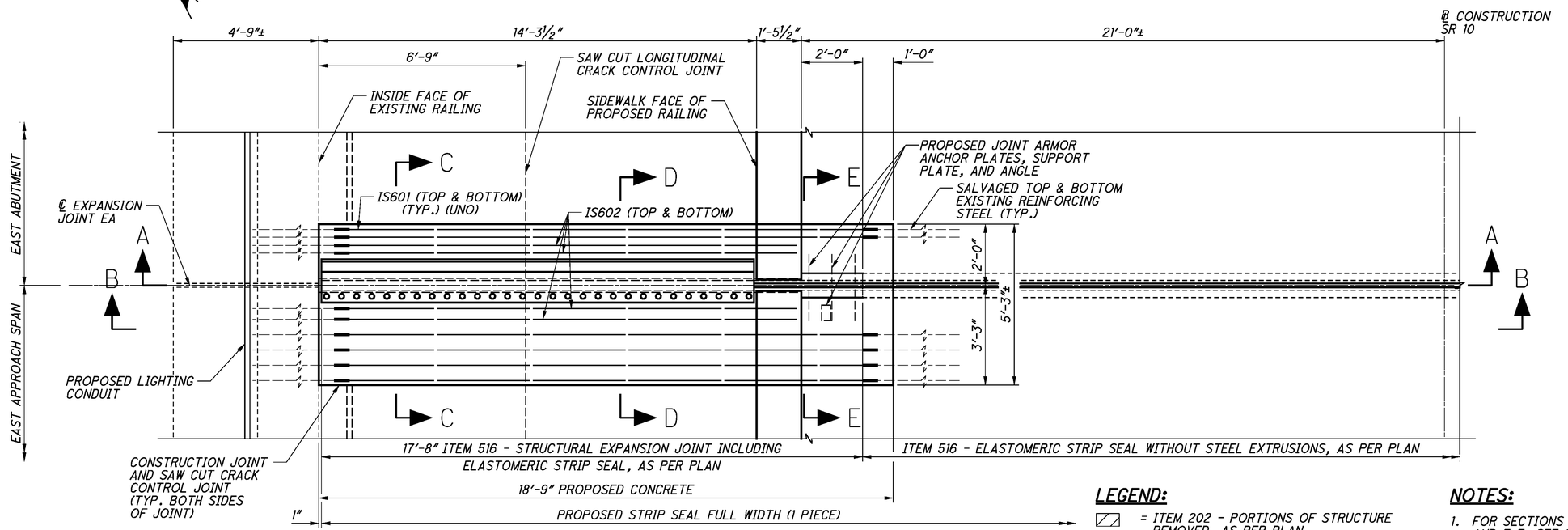


EXISTING PLAN



PROPOSED PLAN

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- MIN. = MINIMUM
- * = SALVAGE 9" OF ALL EXISTING TRANSVERSE STEEL THAT EXTENDS INTO THE REMOVAL AREA (TYP. BOTH ENDS, TOP AND BOTTOM)
- C.J. = CONSTRUCTION JOINT
- EXIST. = EXISTING
- LONG. = LONGITUDINAL
- TYP. = TYPICAL
- UNO = UNLESS NOTED OTHERWISE

NOTES:

1. FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E, SEE SHEETS 187/205, 188/205, 189/205.
2. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING.
3. SEE TRANSVERSE SECTION FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

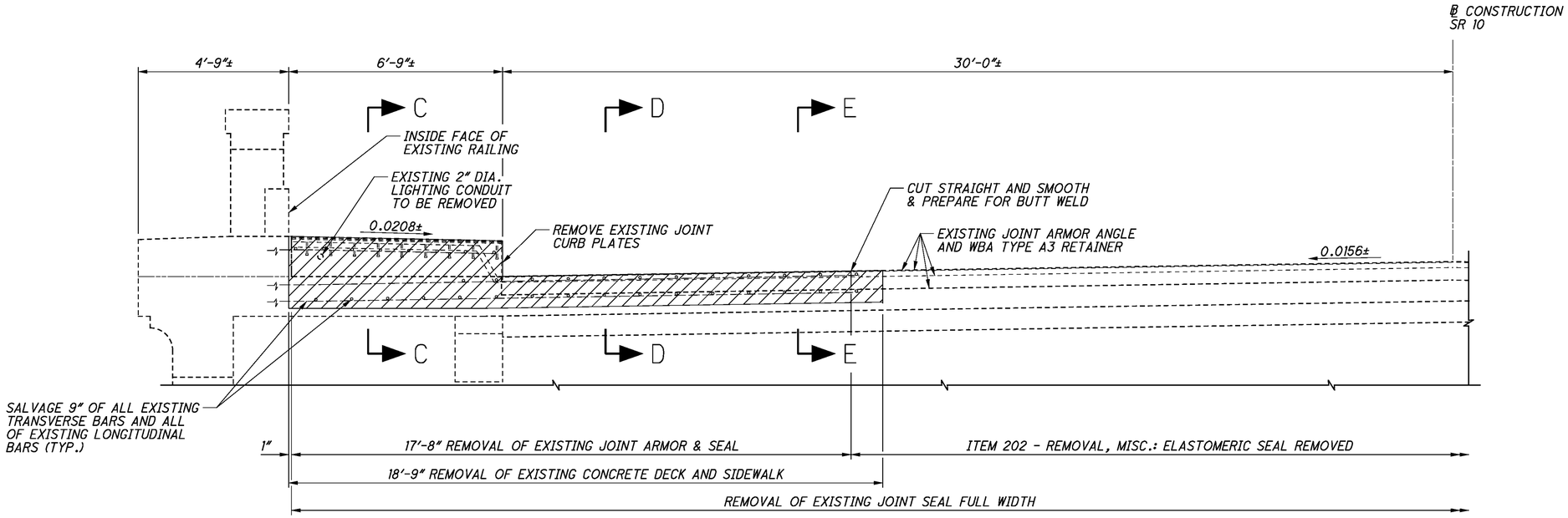
STRIP SEAL JOINT EA PLANS

HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

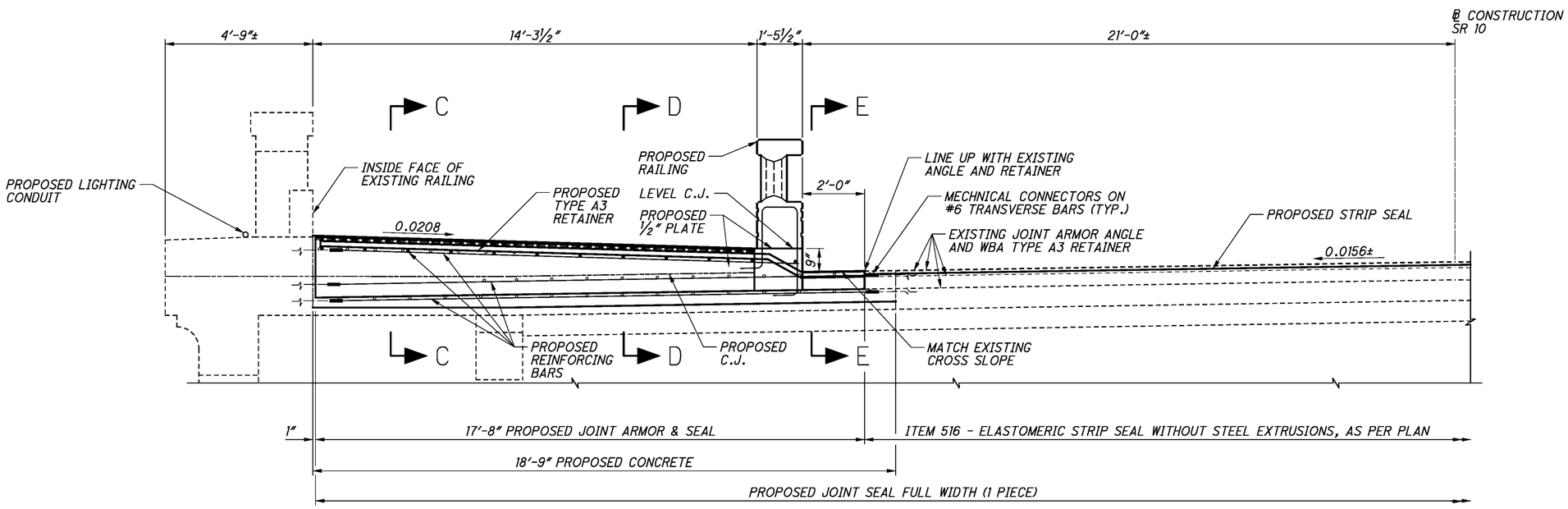
CUY-10-15.96
PID No. 89194

EX-48

186
205



EXISTING SECTION A-A
(THROUGH JOINT)



PROPOSED SECTION A-A
(THROUGH JOINT)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF A-A, SEE SHEET 186/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT EA SECTIONS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-49

187
205

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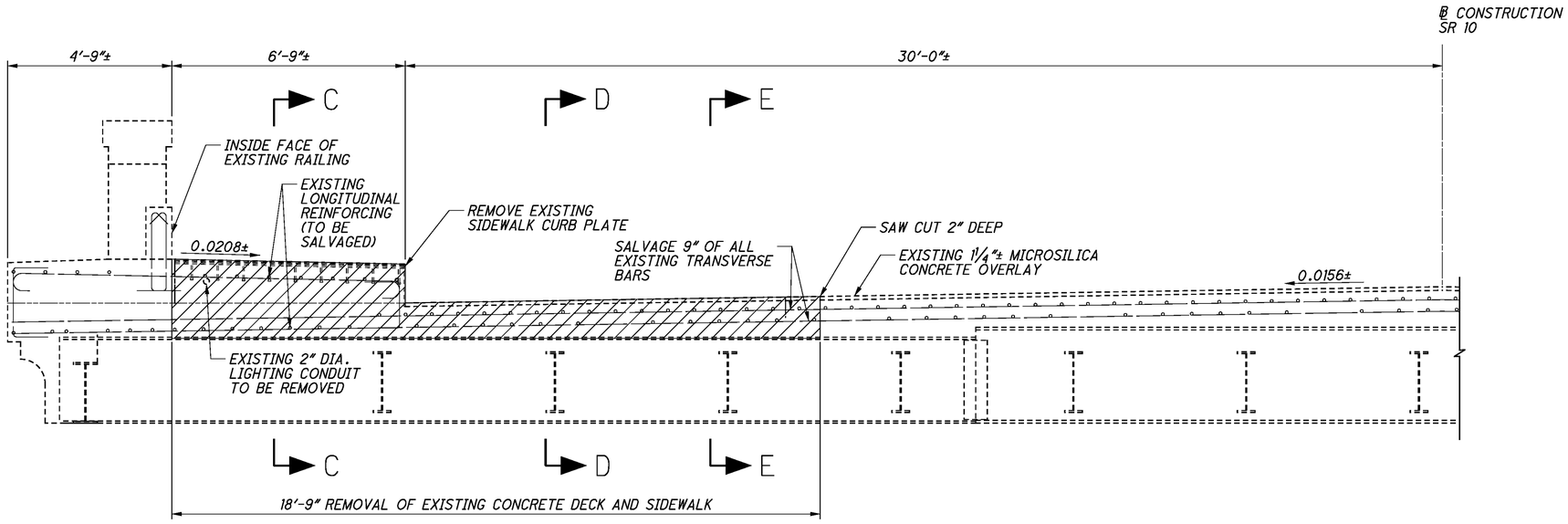
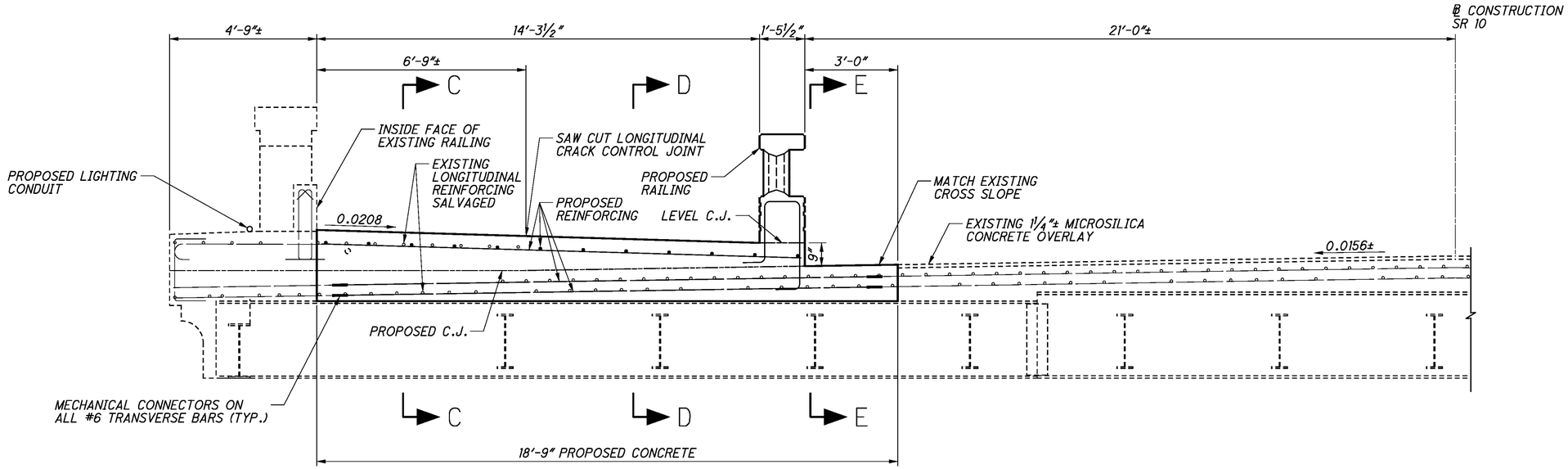


EXISTING SECTION B-B
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION B-B
(THROUGH DECK & SIDEWALK)

LEGEND:

▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

C.J. = CONSTRUCTION JOINT

NOTES:

1. FOR LOCATION OF B-B, SEE SHEET 186/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT EA SECTIONS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-50

188
205

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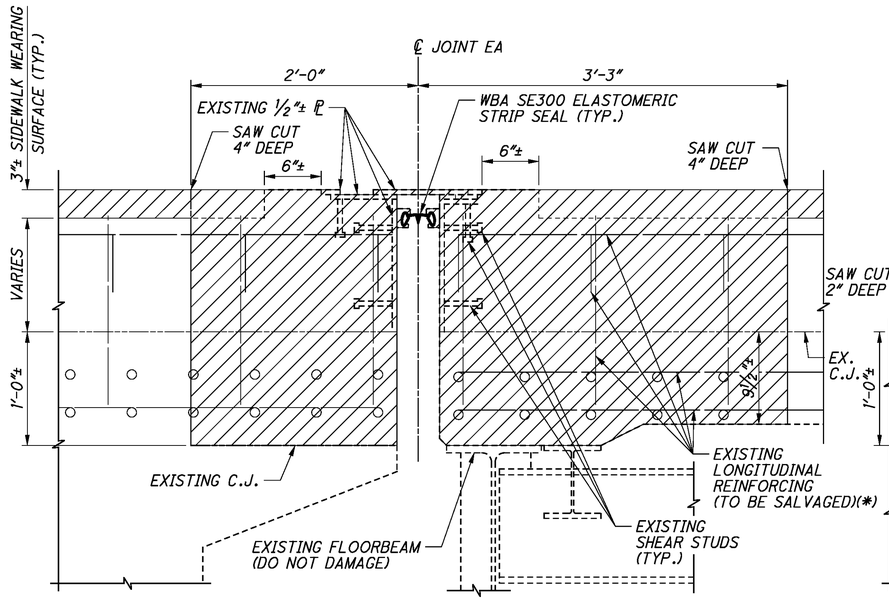
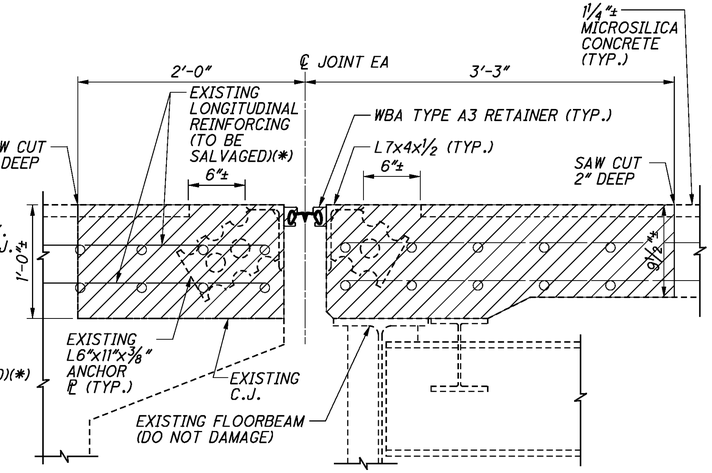
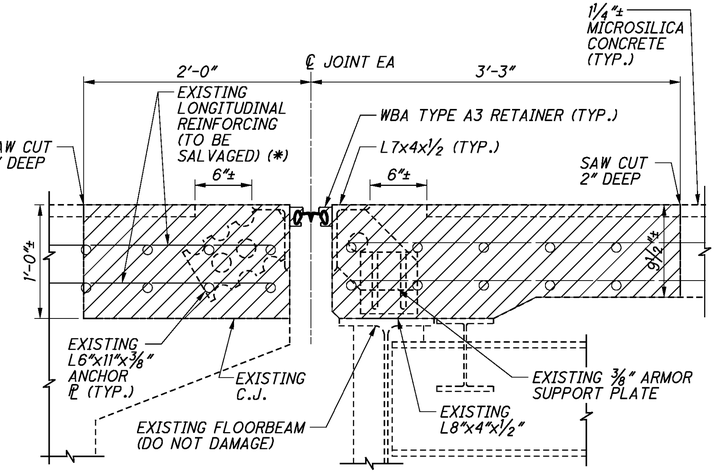


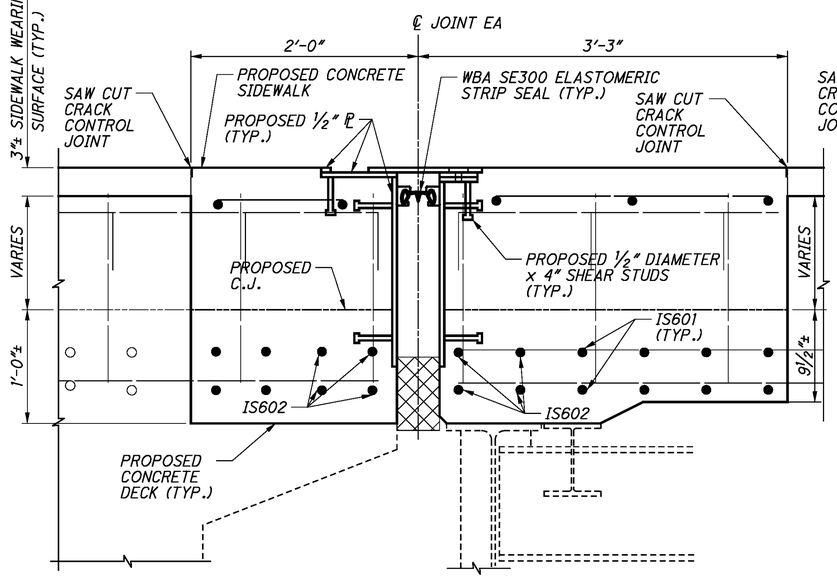
EXISTING SECTION C-C
(THROUGH DECK & SIDEWALK)



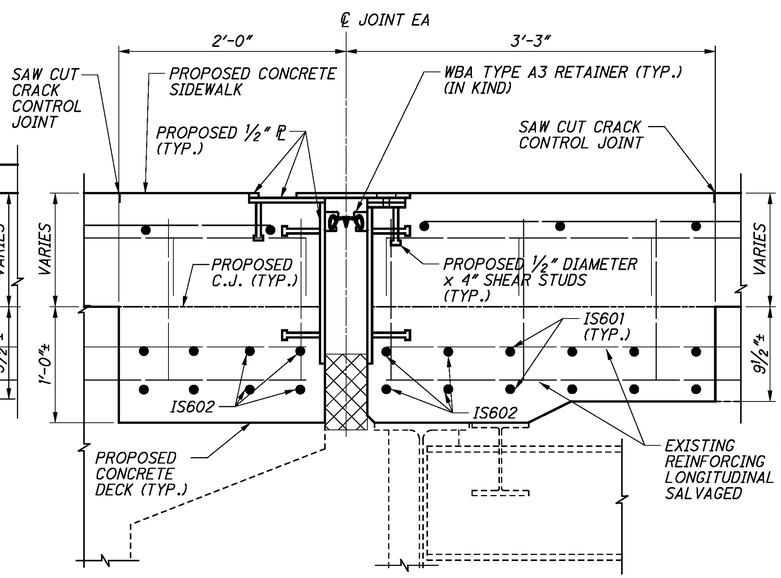
EXISTING SECTION D-D
(THROUGH DECK)



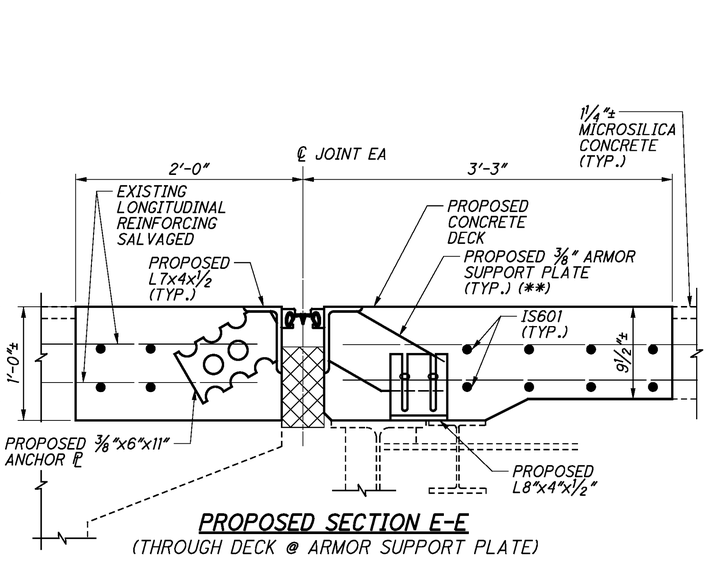
EXISTING SECTION E-E
(THROUGH DECK)



PROPOSED SECTION C-C
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION D-D
(THROUGH DECK & SIDEWALK)



PROPOSED SECTION E-E
(THROUGH DECK @ ARMOR SUPPORT PLATE)

LEGEND:

- ▨ = ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
- ▩ = EXPANDED POLYSTYRENE FILLER
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- EX. = EXISTING
- PROP. = PROPOSED
- TYP. = TYPICAL
- * = REPAIR EPOXY COATING PER GENERAL NOTE: ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- ** = REFER TO EXISTING SHOP DRAWINGS FOR DIMENSIONS.

NOTES:

1. FOR LOCATIONS OF SECTIONS, SEE SHEET 186/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.
3. SEE SIDEWALK PLANS FOR PROPOSED SIDEWALK REINFORCING. SEE TRANSVERSE SECTIONS FOR ADDITIONAL SIDEWALK REMOVAL DETAILS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT EA DETAILS 1 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

EX-51

189
205

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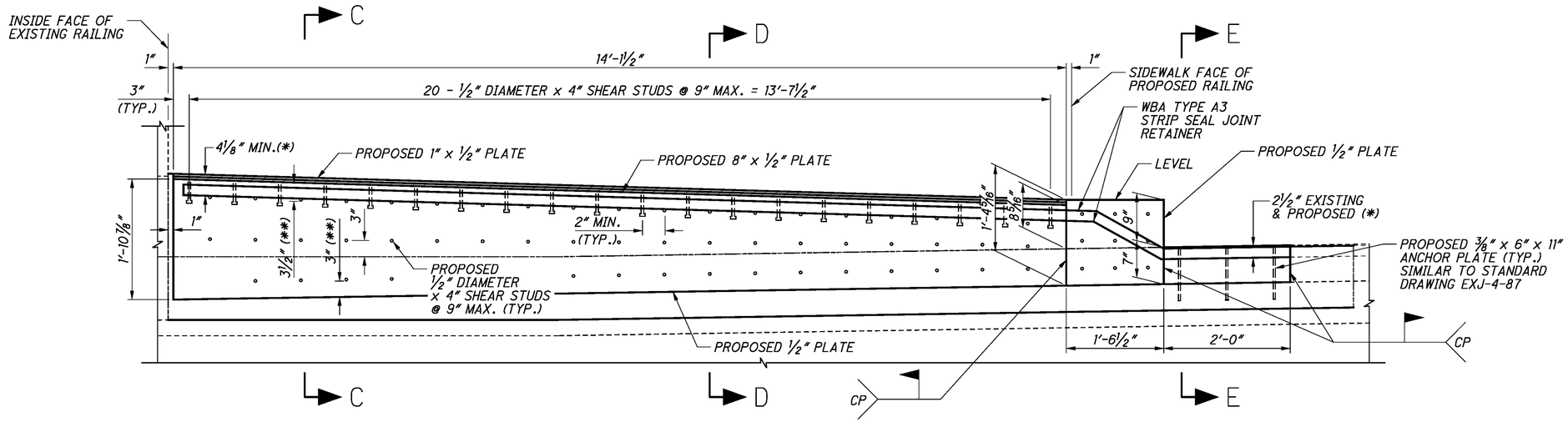
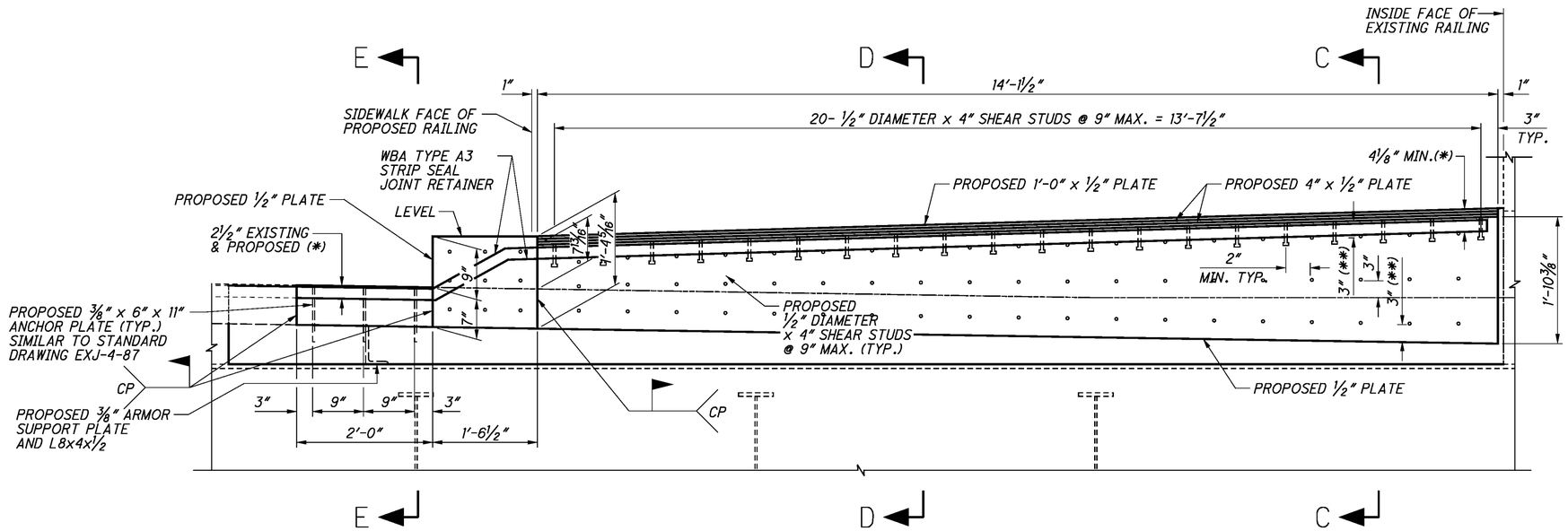


PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING UPSTATION)



PROPOSED JOINT ARMOR ELEVATION
(THROUGH JOINT, LOOKING DOWNSTATION)

LEGEND:

▨	= ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
*	= TOP OF TOP PLATE OR ANGLE TO BOTTOM OF RETAINER
**	= EDGE OF ½" VERTICAL PLATE TO ℄ STUDS
C.J.	= CONSTRUCTION JOINT
CP	= COMPLETE PENETRATION BUTT WELD
EXIST.	= EXISTING
HORIZ.	= HORIZONTAL
MAX.	= MAXIMUM
MIN.	= MINIMUM
TYP.	= TYPICAL

NOTES:

1. FOR SECTIONS C-C, D-D, AND E-E, SEE SHEET 189/205.
2. FOR ADDITIONAL DETAILS, SEE STANDARD BRIDGE DRAWING EXJ-4-87 AND PROJECT 215-00 SHOP DRAWINGS.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
JHL	JHL	DWL	12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MAK		1801503	

STRIP SEAL JOINT EA DETAILS 2 OF 2
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER CUYAHOGA RIVER

CUY-10-15.96
PID No. 89194

EX-52

190
205

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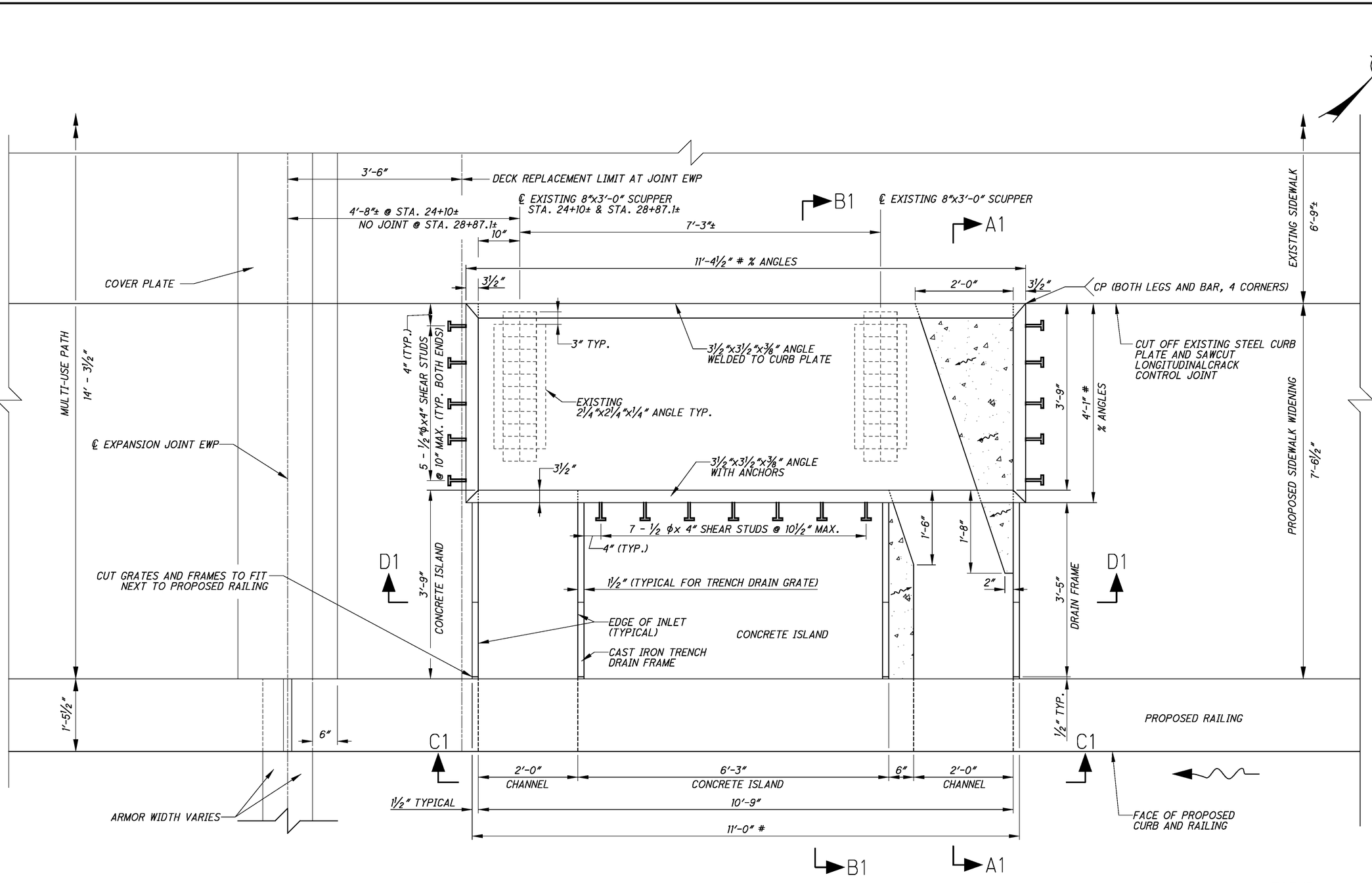

2 SCUPPER FRAMING AND INLET CHANNEL PLAN VIEW
STA. 24+10± AND STA 28+87.1±

NOTES:

1. GRATES AND GRIDS NOT SHOWN SEE SHEET 198 FOR DETAILS.
2. SEE SHEET 194 FOR SECTIONS AND SHEET 195 FOR ELEVATIONS.
3. CONTRACTOR TO VERIFY THAT GRATES AND GRIDS FIT INTO FRAMES PRIOR TO PLACING CONCRETE.

LEGEND

CP = COMPLETE PENETRATION BUTT WELD WITH BEARING SURFACE GROUND SMOOTH
TYP = TYPICAL
ϕ = DIAMETER
= INCLUDES FIT-UP
% = OUT TO OUT
= PLACE CONCRETE 1" MINIMUM BELOW GRATES AND GRIDS AND SLOPE TO DRAIN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ	—	1801503	

SCUPPER INLET DETAILS 1 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-1

191
205

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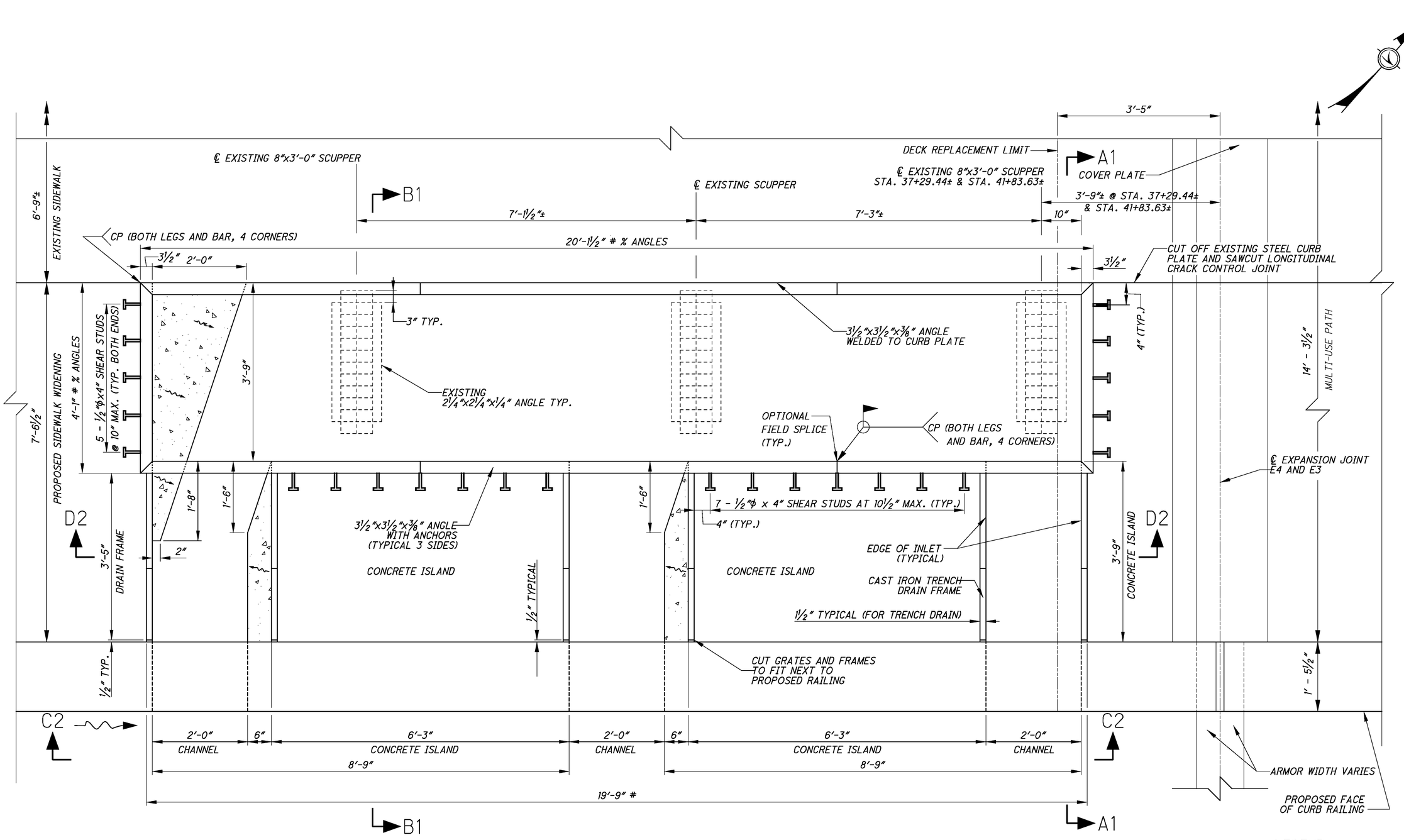

3 SCUPPER FRAMING AND INLET CHANNEL PLAN VIEW
STA. 37+29.44± AND STA. 41+83.63±

NOTES:

1. GRATES AND GRIDS NOT SHOWN SEE SHEET 199 FOR DETAILS.
2. SEE SHEET 194 FOR SECTIONS AND SHEET 196 FOR ELEVATIONS.
3. CONTRACTOR TO VERIFY THAT GRATES AND GRIDS FIT INTO FRAMES PRIOR TO PLACING CONCRETE.

LEGEND

CP = COMPLETE PENETRATION BUTT WELD WITH BEARING SURFACE GROUND SMOOTH
TYP = TYPICAL
ϕ = DIAMETER
= INCLUDES FIT-UP
% = OUT TO OUT
= PLACE CONCRETE 1" MINIMUM BELOW GRATES AND GRIDS AND SLOPE TO DRAIN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ	—	1801503	

SCUPPER INLET DETAILS 2 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-2

192
205

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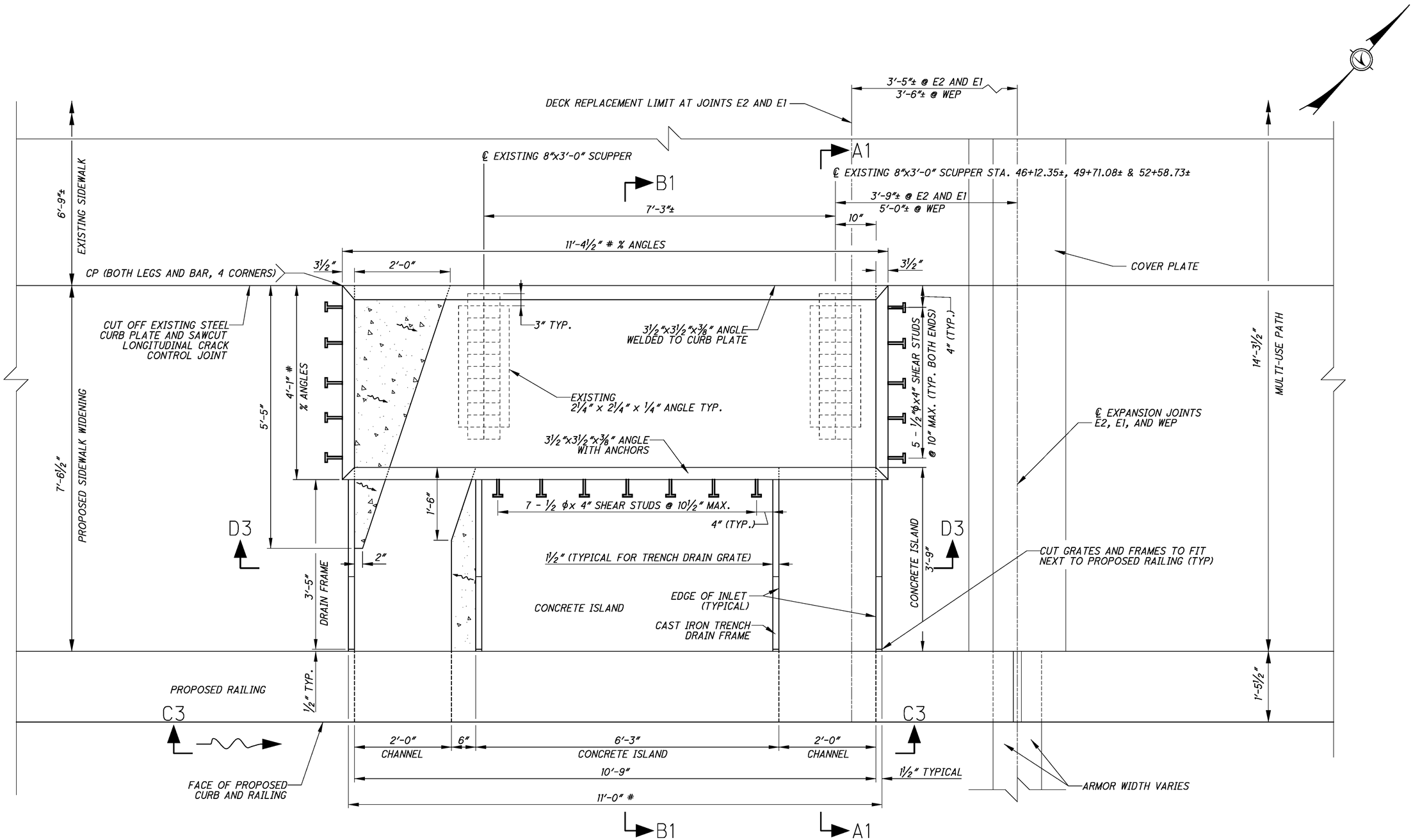


2 SCUPPER FRAMING AND INLET CHANNEL PLAN VIEW
STA. 46+12.35±, STA. 49+71.08± AND STA 52+58.73±

NOTES:

1. GRATES AND GRIDS NOT SHOWN SEE SHEET 198 FOR DETAILS.
2. SEE SHEET 194 FOR SECTIONS AND SHEET 197 FOR ELEVATIONS.
3. CONTRACTOR TO VERIFY THAT GRATES AND GRIDS FIT INTO FRAMES PRIOR TO PLACING CONCRETE.

LEGEND

CP = COMPLETE PENETRATION BUTT WELD WITH BEARING SURFACE GROUND SMOOTH
TYP = TYPICAL
ϕ = DIAMETER
= INCLUDES FIT-UP
% = OUT TO OUT
= PLACE CONCRETE 1" MINIMUM BELOW GRATES AND GRIDS AND SLOPE TO DRAIN

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ	—	1801503	

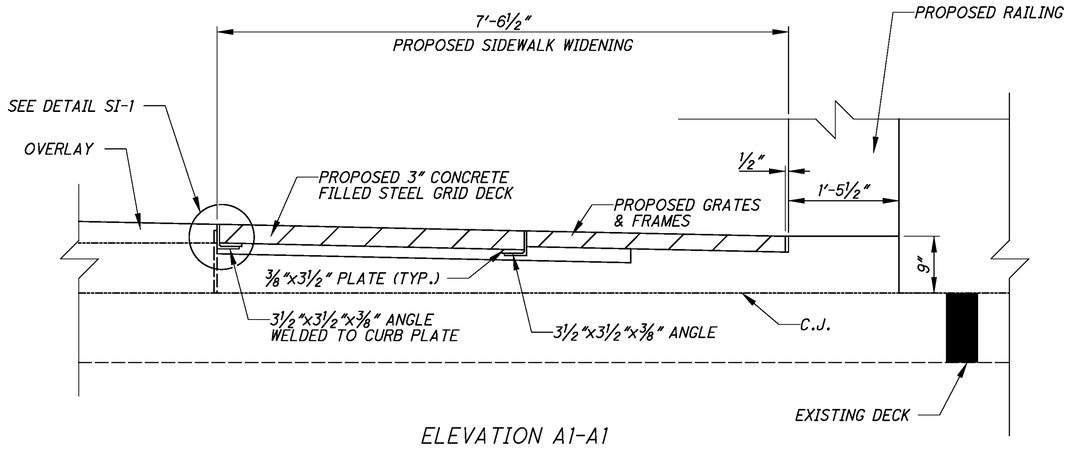
SCUPPER INLET DETAILS 3 OF 9

HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

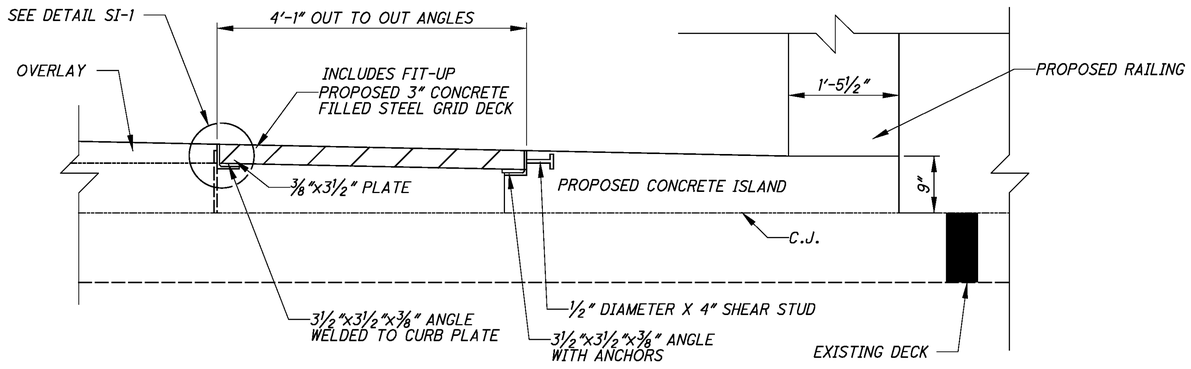
CUY-10-15.96
PID No. 89194

SI-3

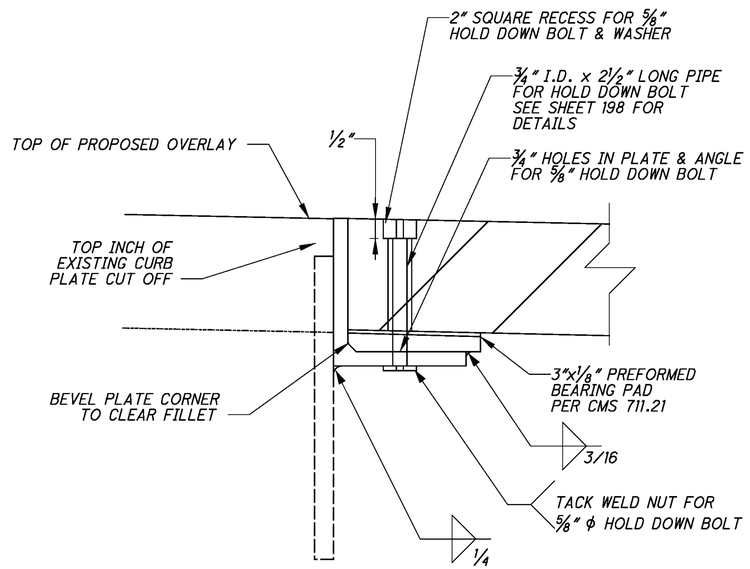
193
205



ELEVATION A1-A1



ELEVATION B1-B1



DETAIL SI-1

LEGEND:

C.J. = CONSTRUCTION JOINT
ϕ = DIAMETER

NOTES:

1. SEE SHEETS 191, 193 & 192 FOR LOCATIONS OF ELEVATIONS A1-A1 & B1-B1

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	CHECKED
DWL	ABJ

DRAWN	REVISED
JTP/SDC	—

REVIEWED	DATE
XAC	10/11

STRUCTURE FILE NUMBER 1801503

SCUPPER INLET DETAILS 4 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-4

194
205

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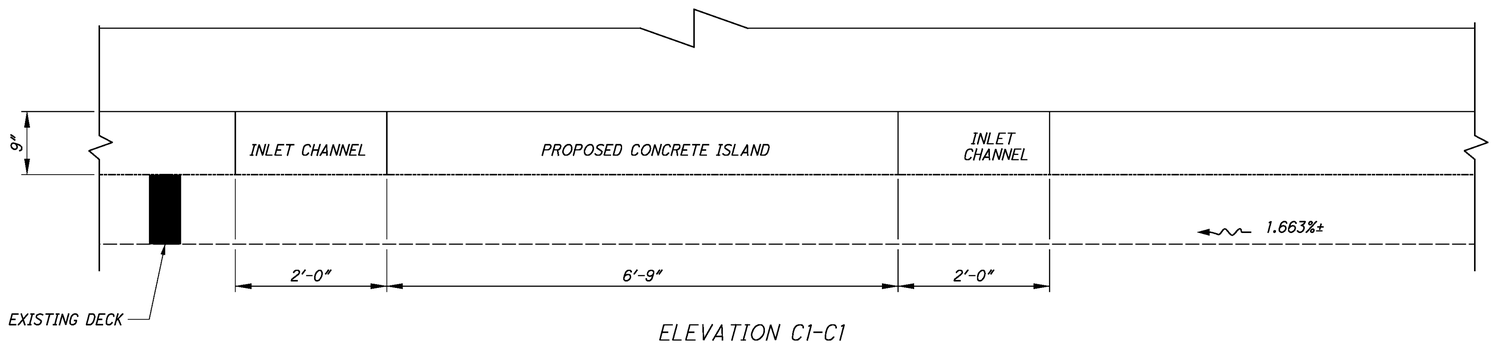
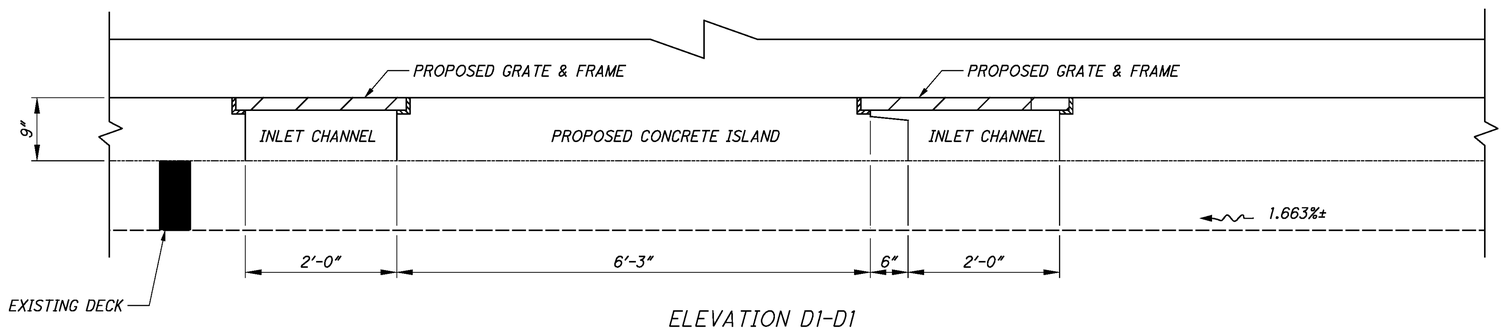


ELEVATION C1-C1



ELEVATION D1-D1

NOTES:

1. SEE SHEET 191 FOR LOCATIONS OF ELEVATIONS

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SCUPPER INLET DETAILS 5 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-5

195
205

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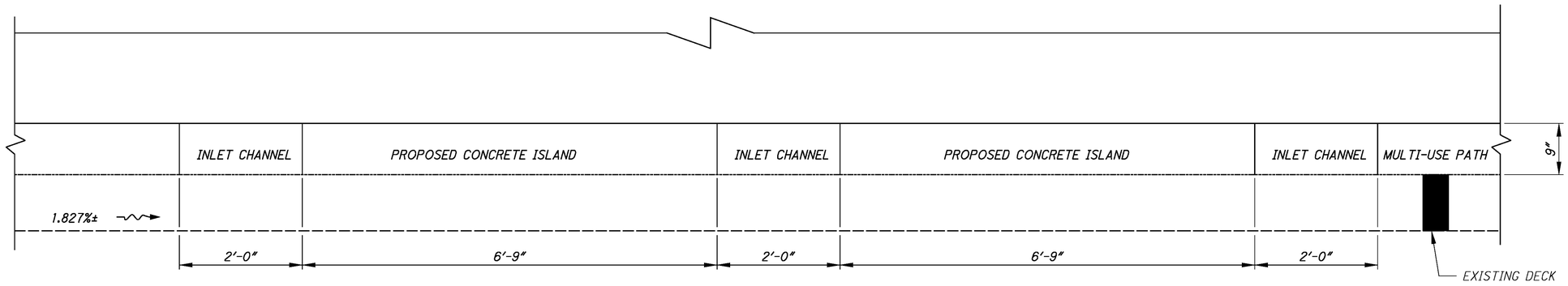
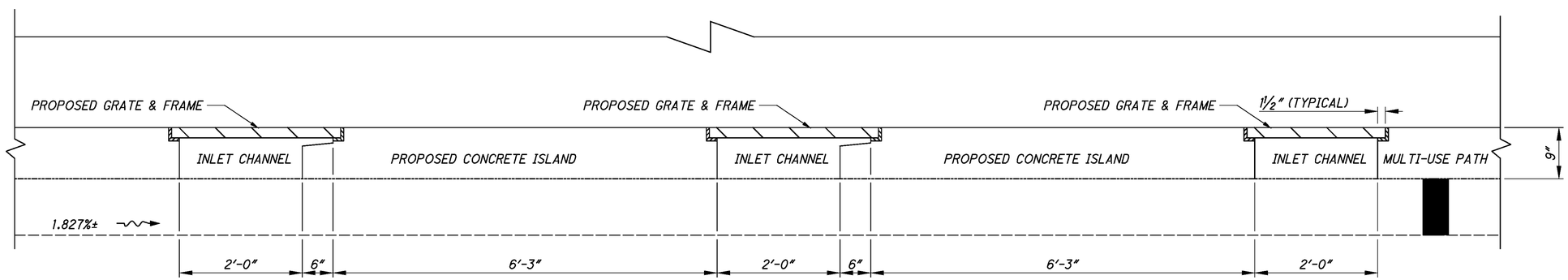


ELEVATION C2-C2



ELEVATION D2-D2

NOTES:

1. SEE SHEET 192 FOR LOCATIONS OF ELEVATIONS

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SCUPPER INLET DETAILS 6 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-6

196
205

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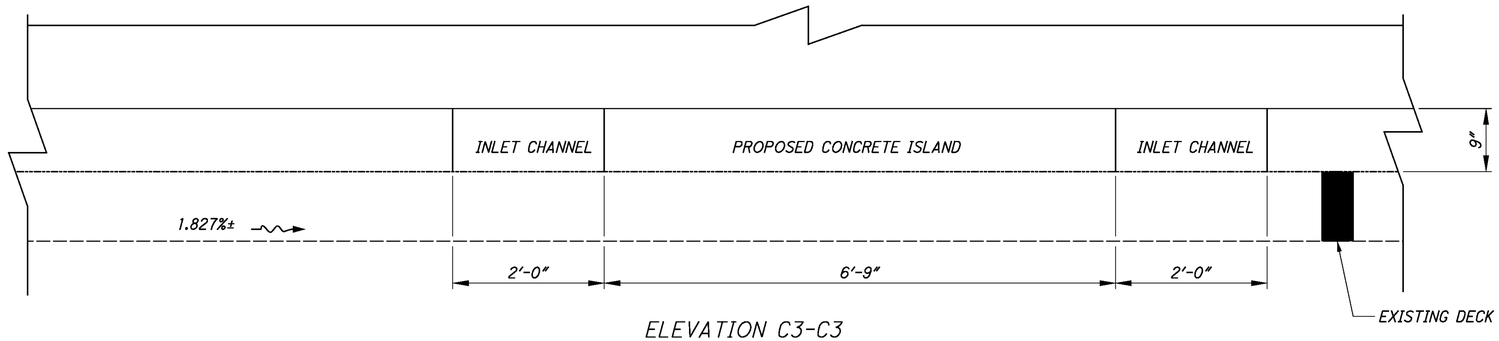
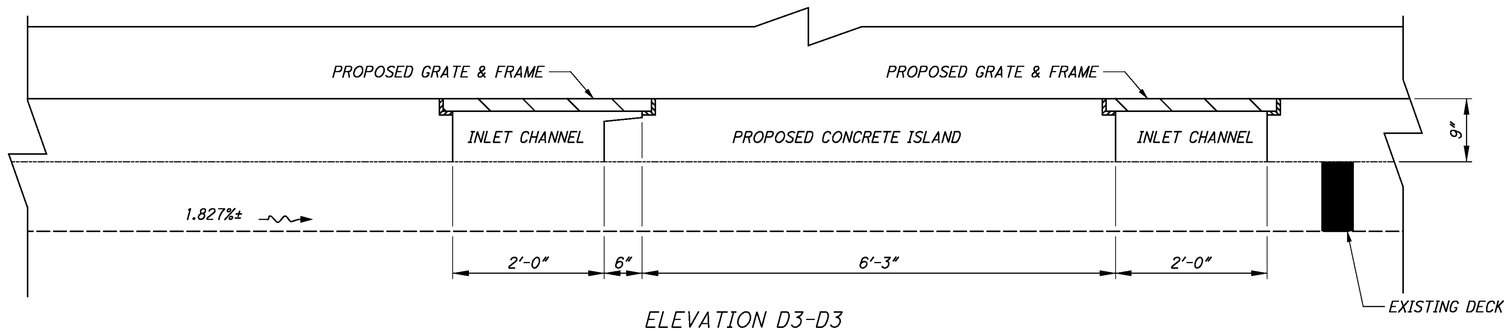


ELEVATION C3-C3



ELEVATION D3-D3

NOTES:

1. SEE SHEET 193 FOR LOCATIONS OF ELEVATIONS

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

SCUPPER INLET DETAILS 7 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-7

197
205

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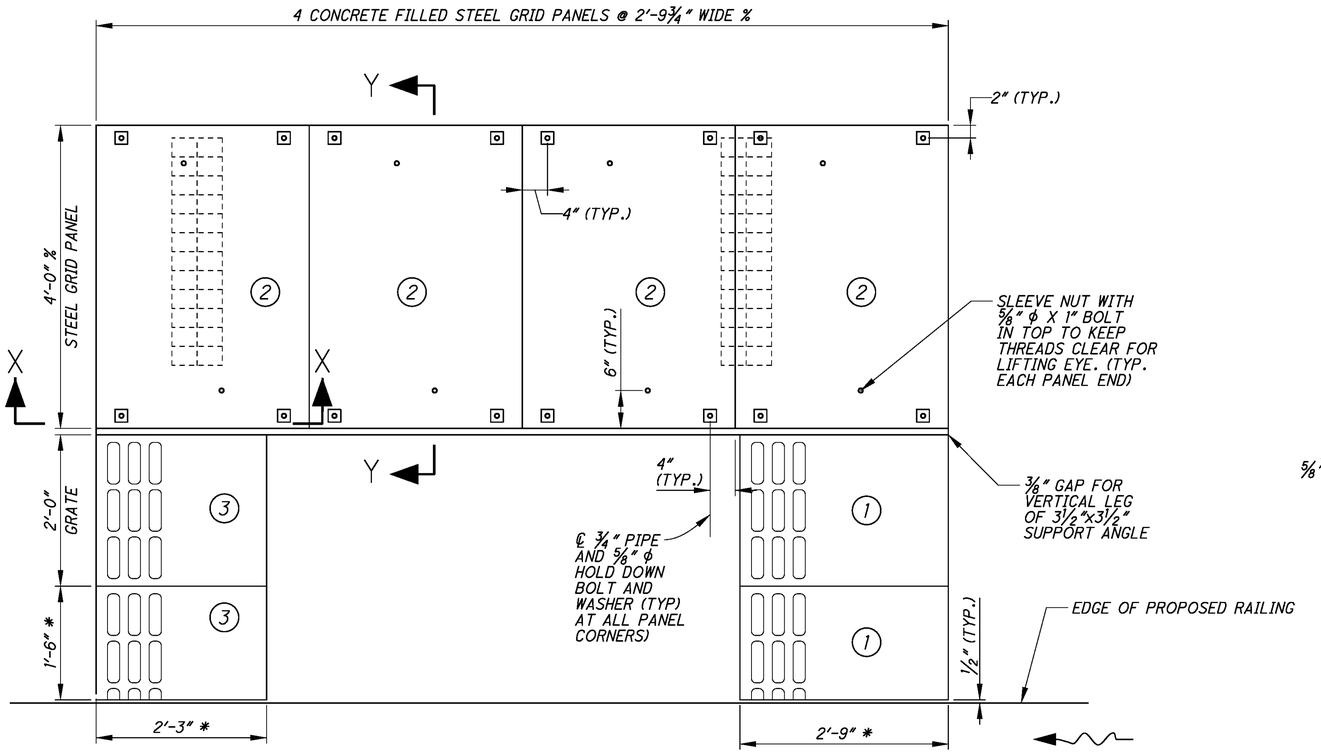
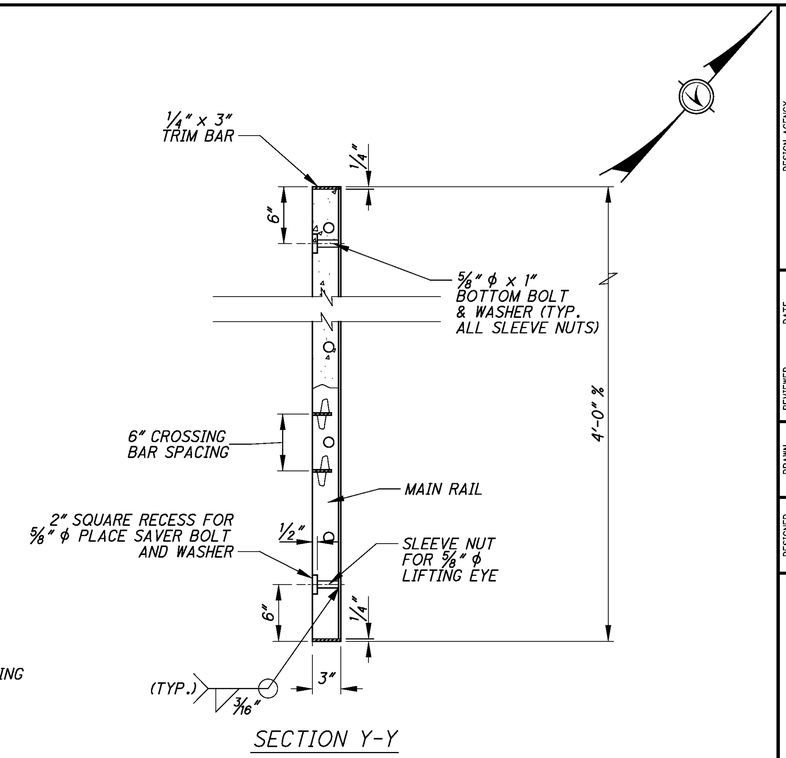
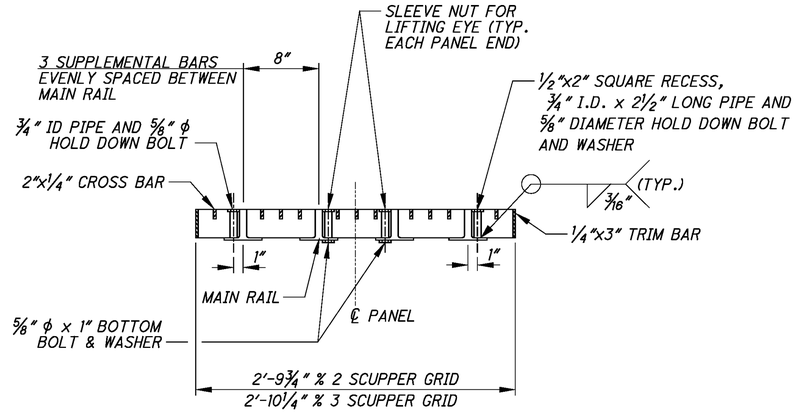


2 SCUPPER GRATE AND GRID PLAN



SECTION Y-Y



SECTION X-X

GRATE & GRID SIZES

(1) 33" x 24" x 2½" (2 Each) EJIW V7370 OR APPROVED EQUAL CAST GREY IRON GRATE PER ASTM A48

(2) 48" x 33¾" x 3" (4 Each) L.B. FOSTER WT 3x4.5 MAIN RAIL CONCRETE FILLED STEEL GRID OR APPROVED EQUAL CONCRETE FILLED STEEL GRID DECK

(3) 27" x 24" x 2" (2 Each) EJIW V7368 OR APPROVED EQUAL CAST GREY IRON GRATE PER ASTM A48

NOTES:

1. GRATES AND FRAMES WILL BE PAID UNDER ITEM 839-TRENCH DRAIN WITH PEDESTRIAN GRATE.
2. THE CONCRETE FILLED STEEL GRID PANELS AND FRAMES WILL BE PAID UNDER ITEM SPECIAL-STRUCTURE MISC. CONCRETE FILLED STEEL GRID DECK.
3. STEEL FOR GRID DECK AND FRAMING SHALL BE ASTM A709 GRADE 36 OR GRADE 50 GALVANIZED PER 711.02.
4. ⅝" DIAMETER BOLTS, NUTS & WASHERS SHALL BE STAINLESS STEEL PER CMS 730.10. LUBRICATE BOLTS & NUTS WITH WD 40 OR EQUIVALENT PRIOR TO INSTALLATION.

LEGEND:

* = CUT FRAMES AND GRATES TO FIT NEXT TO PROPOSED RAILING
C.J.= CONSTRUCTION JOINT
ϕ = DIAMETER
℅ = OUT TO OUT
= INCLUDES FIT-UP

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

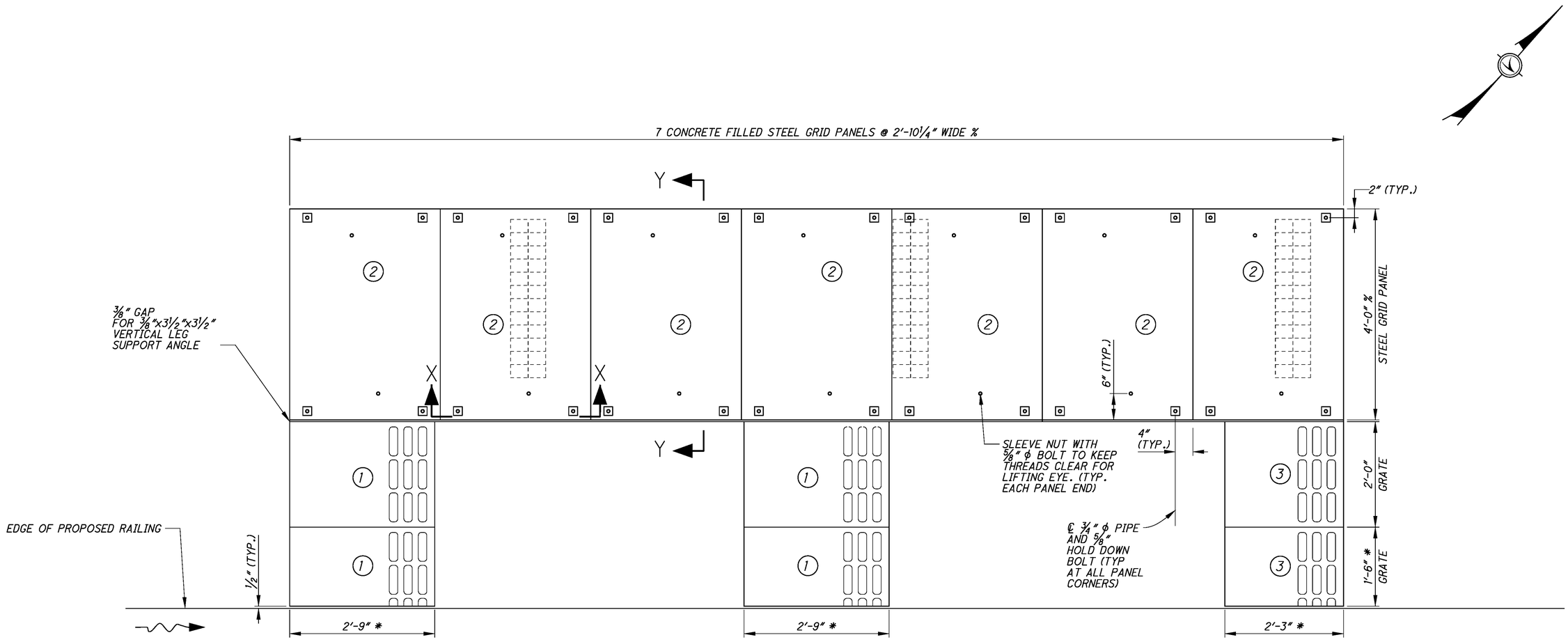
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
DWL	ABJ	JTP/SDC	—	XAC	10/11	1801503

SCUPPER INLET DETAILS 8 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

SI-8

198
205



3 SCUPPER GRATE AND GRID PLAN

GRATE & GRID SIZES

(1) 33" x 24" x 2½" (2 Each) EJIW V7370 OR APPROVED EQUAL CAST GREY IRON GRATE PER ASTM A48

(2) 48" x 34¼" x 3" (7 Each) L.B. FOSTER WT 3x4.5 MAIN RAIL CONCRETE FILLED STEEL GRID OR APPROVED EQUAL CONCRETE FILLED STEEL GRID DECK

(3) 27" x 24" x 2" (2 Each) EJIW V7368 OR APPROVED EQUAL CAST GREY IRON GRATE PER ASTM A48

LEGEND:

* = CUT FRAMES AND GRATES TO FIT NEXT TO PROPOSED RAILING
C.J.= CONSTRUCTION JOINT
ϕ = DIAMETER
% = OUT TO OUT

NOTES:

1. GRATES AND FRAMES WILL BE PAID UNDER ITEM 839-TRENCH DRAIN WITH PEDESTRIAN GRATE.
2. THE CONCRETE FILLED STEEL GRID PANELS AND FRAMES WILL BE PAID UNDER ITEM SPECIAL-STRUCTURE MISC. CONCRETE FILLED STEEL GRID DECK.
3. STEEL FOR GRID DECK AND FRAMING SHALL BE ASTM A709 GRADE 36 OR GRADE 50 GALVANIZED PER 711.02.
4. 5/8" DIAMETER BOLTS, NUTS & WASHERS SHALL BE STAINLESS STEEL PER CMS 730.10.
5. SEE SHEET 198/205FOR SECTIONS X-X AND Y-Y.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
DWL	JTP/SDC	XAC	10/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

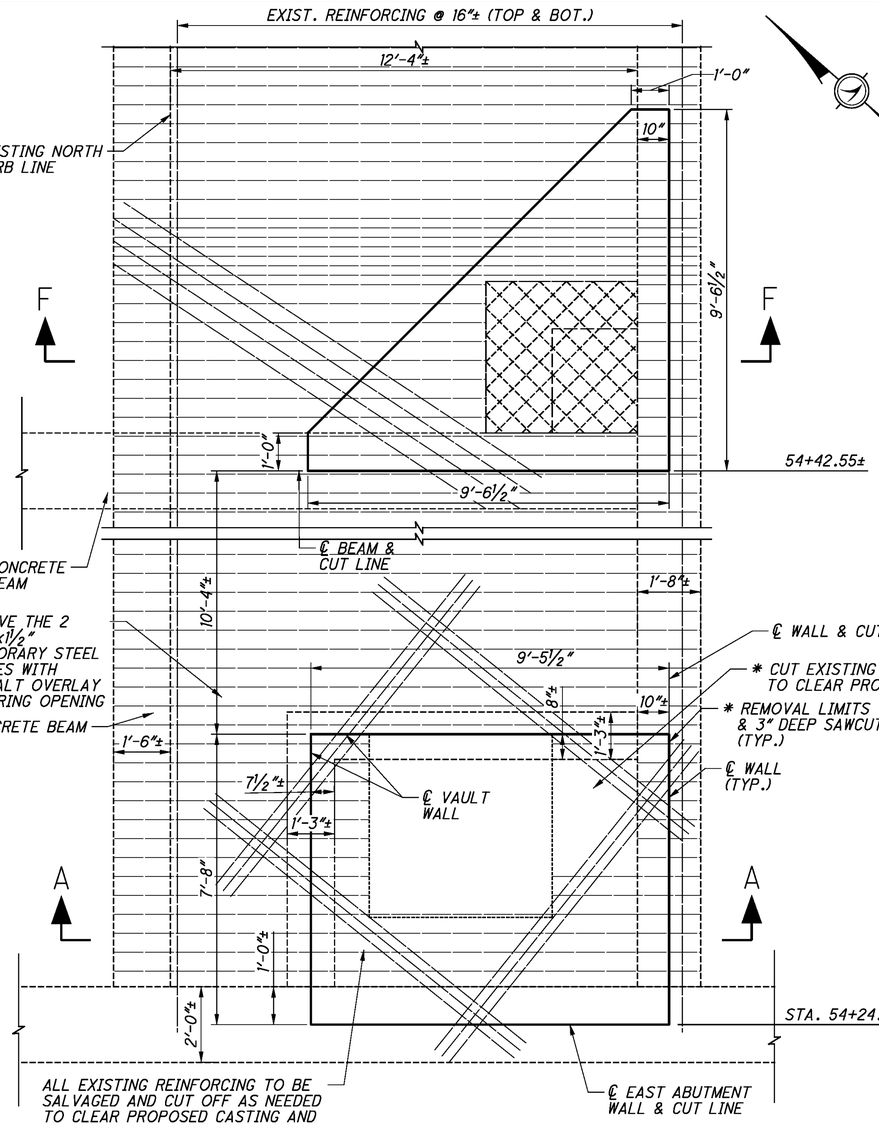
SCUPPER INLET DETAILS 9 OF 9
HOPE MEMORIAL BRIDGE NO. CUY-10-1613
OVER THE CUYAHOGA RIVER VALLEY

CUY-10-15.96
PID No. 89194

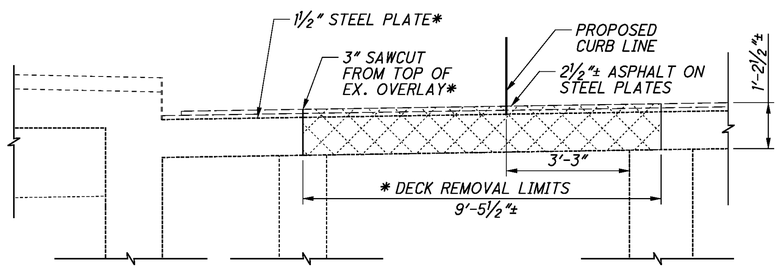
SI-9

199
205

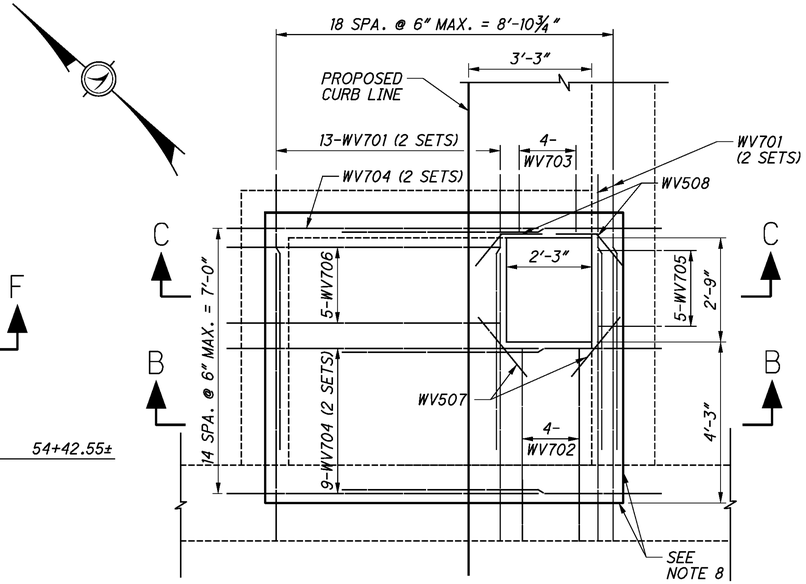
P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CMD005.dgn 1/6/2012 1:19:19 PM hutch



REMOVAL PLAN

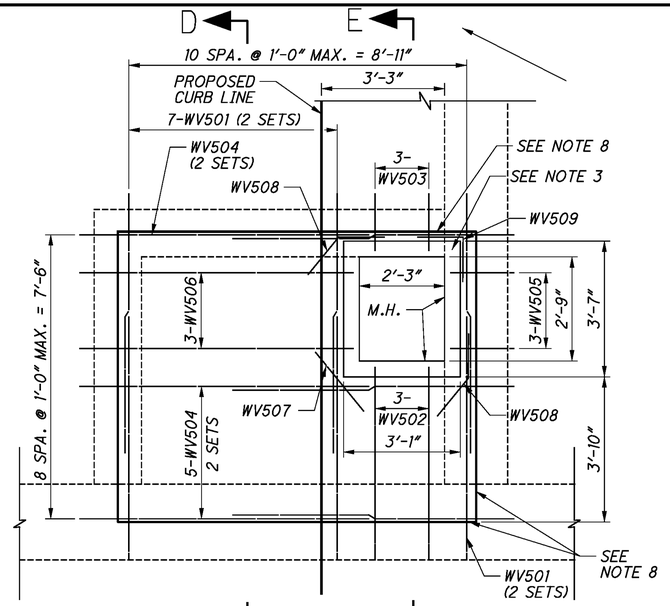


REMOVAL SECTION A-A



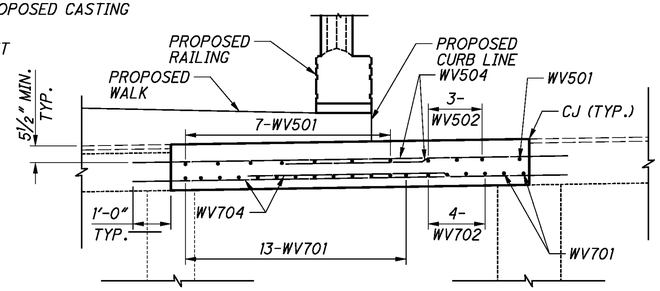
BOTTOM REINFORCING PLAN

(SIDEWALK & RAILING NOT SHOWN)

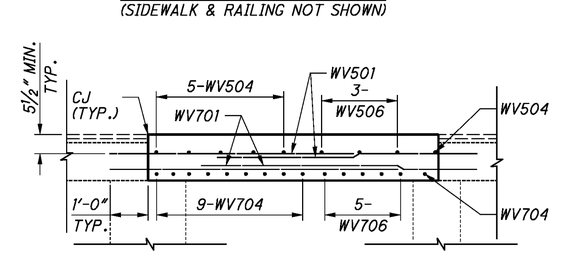


TOP REINFORCING PLAN

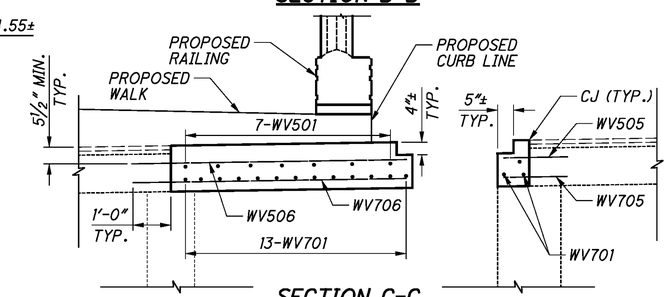
(SIDEWALK & RAILING NOT SHOWN)



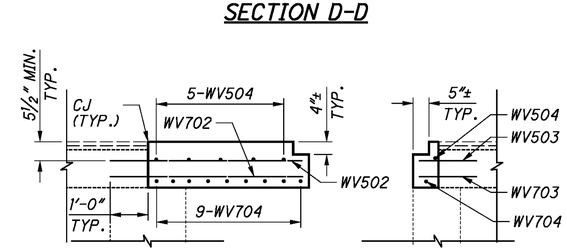
SECTION B-B



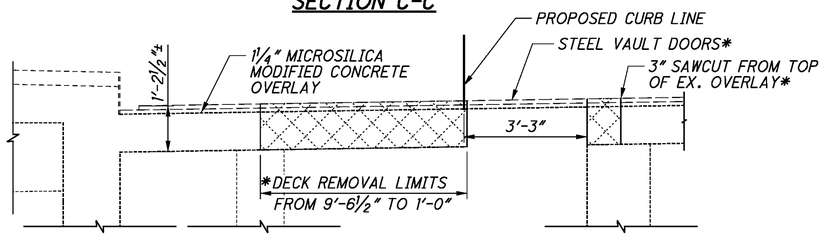
SECTION D-D



SECTION C-C



SECTION E-E



REMOVAL SECTION F-F

LEGEND:

CJ	=	CONSTRUCTION JOINT
M.H.	=	MANHOLE
MAX.	=	MAXIMUM
MIN.	=	MINIMUM
TYP.	=	TYPICAL
*	=	ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

NOTES:

1. SEE NOTES ON SHEET 201.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

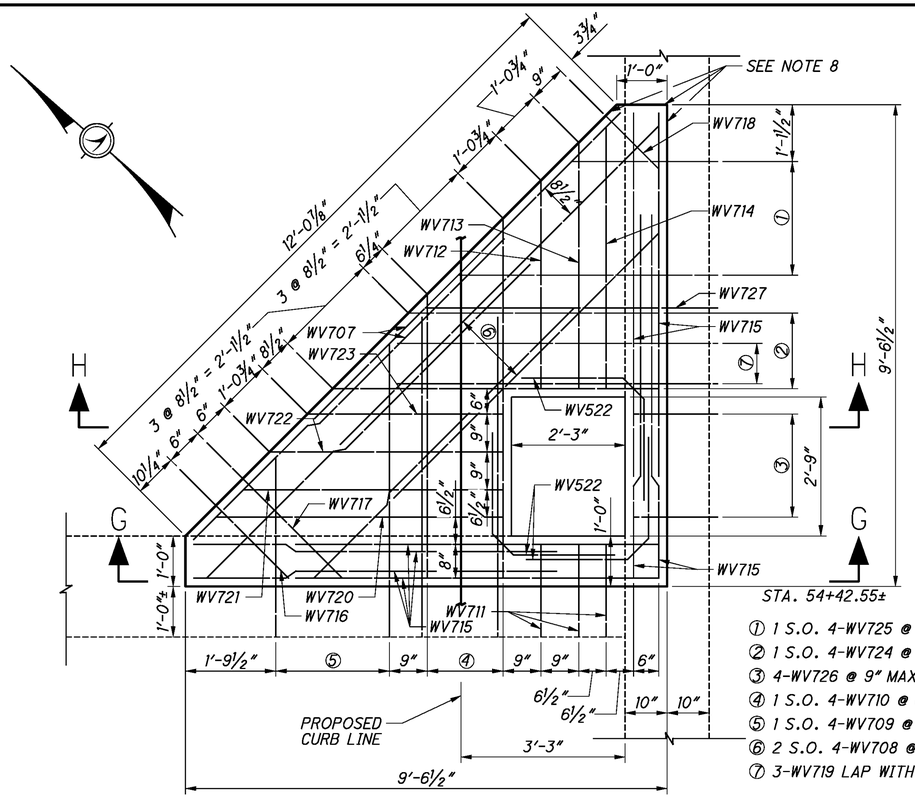
DESIGNED	DRAWN	REVIEWED	DATE
XAC	XAC	DWL	1/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ABJ		1801503	

MISCELLANEOUS DETAILS 1 OF 2
BRIDGE CUY-10-1613 OVER CUYAHOGA RIVER VALLEY
CWD VAULT COVERS IN EAST APPROACH SPAN

CUY-10-15.96
PID No. 89194

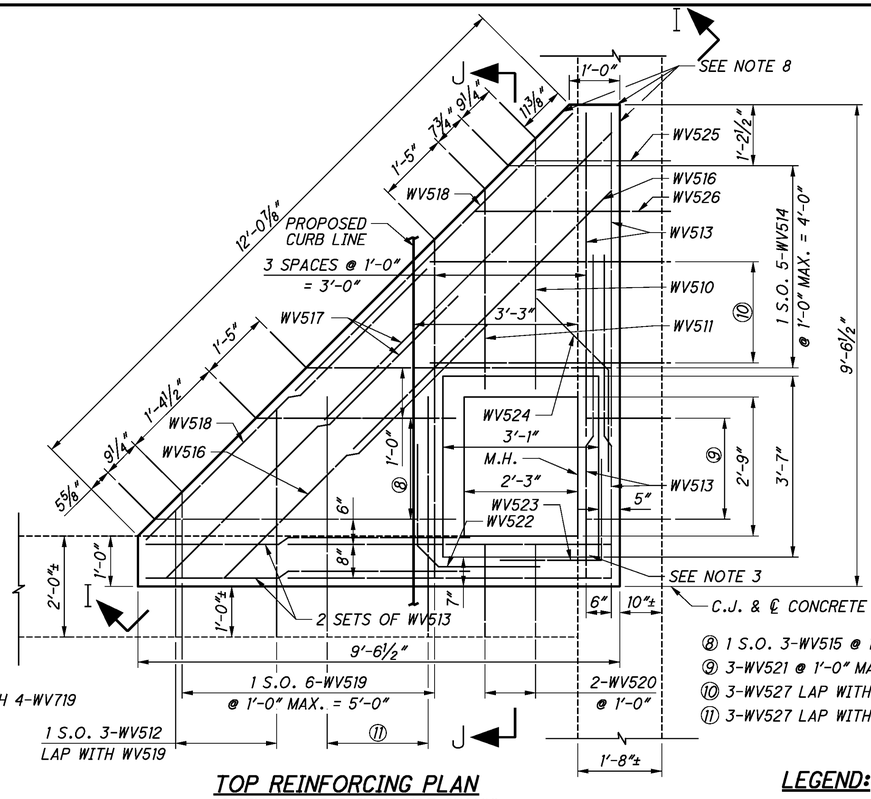
MD-10

200
205



① 1 S.O. 4-WV725 @ 9" = 2'-3"
② 1 S.O. 4-WV724 @ 6" = 1'-6"
③ 4-WV726 @ 9" MAX. = 2'-0 1/2"
④ 1 S.O. 4-WV710 @ 6" = 1'-6" LAP WITH 4-WV719
⑤ 1 S.O. 4-WV709 @ 9" = 2'-3"
⑥ 2 S.O. 4-WV708 @ 6" = 1'-6"
⑦ 3-WV719 LAP WITH WV724

BOTTOM REINFORCING PLAN
(SIDEWALK AND RAILING NOT SHOWN)

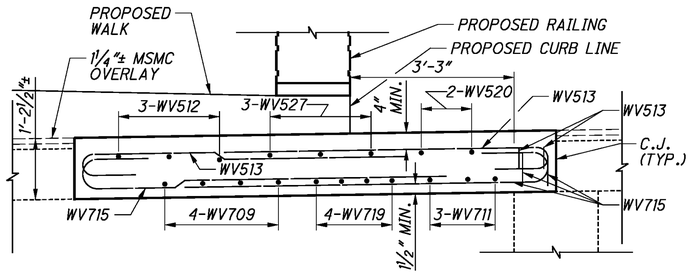


⑧ 1 S.O. 3-WV515 @ 1'-0" MAX. = 2'-0"
⑨ 3-WV521 @ 1'-0" MAX. = 2'-0"
⑩ 3-WV527 LAP WITH WV514
⑪ 3-WV527 LAP WITH WV519

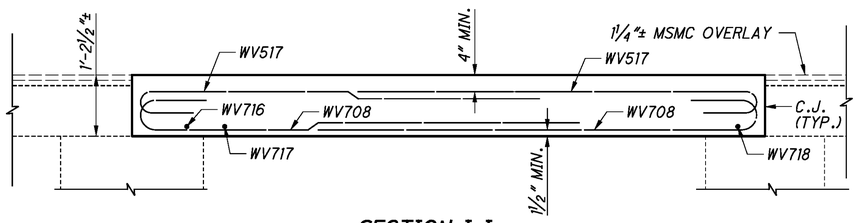
TOP REINFORCING PLAN
(SIDEWALK AND RAILING NOT SHOWN)

LEGEND:

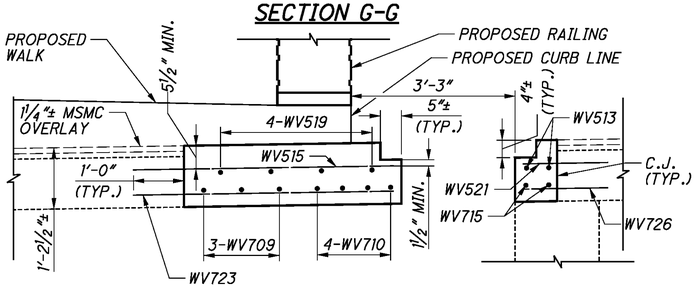
C.J. = CONSTRUCTION JOINT
M.H. = MANHOLE
MAX. = MAXIMUM
MIN. = MINIMUM
S.O. = SERIES OF
TYP. = TYPICAL



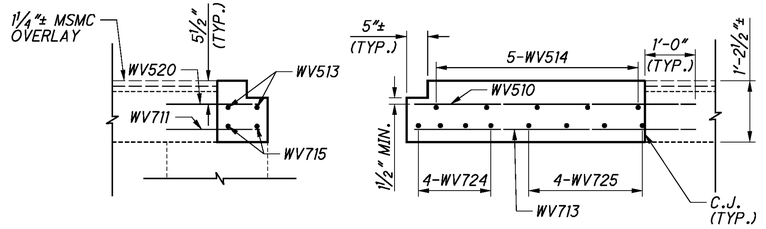
SECTION G-G



SECTION I-I
(SIDEWALK AND RAILING NOT SHOWN)



SECTION H-H



SECTION J-J

NOTES:

1. SALVAGE AND REUSE ALL EXISTING REINFORCING TO THE EXTENT POSSIBLE AS DETERMINED BY THE ENGINEER.
2. MINIMUM REINFORCING LAP LENGTHS:
   #5 = 3'-7"
   #7 = 5'-2"
3. ITEM 604-UNHINGED MANHOLE FRAME AND COVER TO BE HEAVY DUTY WITH BOLTED AND GASKETED RECTANGULAR COVERS PER STD CONSTRUCTION DRAWING MH-1.1 WITH A MINIMUM CLEAR OPENING OF 27" x 33" AND A MAXIMUM OF 30" x 36". ALIGN INSIDE EDGES OF CASTING WITH EDGES OF BEAMS AND WALLS.
4. CONTRACTOR OPTIONS IF EXISTING REINFORCING STEEL IS FOUND BY THE ENGINEER TO BE USABLE:
   1. CUT OFF REINFORCING AS DIRECTED BY THE ENGINEER THAT INTERFERES WITH THE DOWELLING AND PROCEED AS PER PLAN.
   2. LAP SPLICE OR MECHANICALLY CONNECT PROPOSED STEEL WITH EXISTING.
5. PROPOSED DECK SLAB THICKNESS SHALL EQUAL THE EXISTING DECK SLAB PLUS THE MSMC OVERLAY.
6. PATCH AREAS BETWEEN THE NEW DECK SLAB AND THE REMAINING MSMC OVERLAY WITH ITEM SPECIAL- PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH MSMC CONCRETE.
7. IF THE PROXIMITY OF EXISTING CONCRETE PRECLUDES DRILLING A PROPOSED DOWEL HOLE, ROTATE THE BENT REINFORCING BAR SO THE SHORT SEGMENT IS WITHIN THE NEW CONCRETE AS DIRECTED BY THE ENGINEER. INCREASE DEGREE OF BEND IF NECESSARY.
8. SEAL JOINT BETWEEN NEW SLAB & EXISTING SLAB, THE PERIMETER OF THE CASTINGS AND OTHER LOCATIONS PER CMS 511.22 AFTER THE SIDEWALK IS IN PLACE.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	DWL	1/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801503	

MISCELLANEOUS DETAILS 2 OF 2
BRIDGE CUY-10-1613 OVER CUYAHOGA RIVER
CWD VAULT COVER IN EAST APPROACH SPAN

CUY-10-15.96
PID No. 89194

MD-11

201
205

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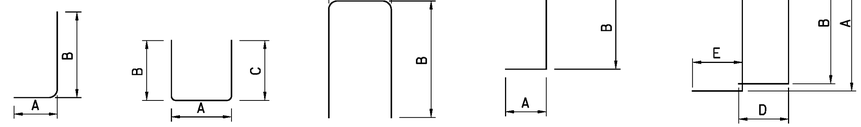
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
RAILING											
R301	5594	2′-4″	4908	21	0′-2¼″	1′-1½″					
R501	48	7′-9″	388	STR							
R502	204	5′-8″	1206	STR							
R503	312	5′-2″	1681	STR							
R504	48	5′-10″	292	STR							
R505	4764	7′-1″	35196	STR							
R506	84	7′-7″	664	STR							
R507	84	7′-6″	657	STR							
R508	204	8′-8″	1844	STR							
R509	168	5′-4″	935	STR							
R510	60	8′-11″	558	STR							
R511	144	6′-0″	901	STR							
R512	48	5′-1″	254	STR							
R513	12	9′-2″	115	STR							
R514	36	6′-1″	228	STR							
R515	12	9′-0″	113	STR							
R516	24	4′-6″	113	STR							
R517	144	4′-5″	663	STR							
R518	120	5′-9″	720	STR							
R519	48	7′-2″	359	STR							
R520	96	5′-2″	517	STR							
R521	72	4′-7″	344	STR							
R522	12	6′-1″	76	STR							
R523	72	8′-7″	645	STR							
R524	2	15′-0″	31	STR							
R525	2	5′-3″	11	STR							
R526	2	9′-10″	21	STR							
R527	2	14′-8″	31	STR							
R601	5286	6′-9″	53592	21	0′-6″	3′-2¾″					
R602	308	6′-2″	2853	21	0′-6″	2′-11¼″					
R604	448	2′-6″	1682	21	1′-1½″	0′-11″					
R606	65	3′-0″	293	21	1′-1½″	1′-2″					
RR603	130	6′-3″	1220	34	1′-10¾″	1′-10¾″	1′-1½″	1′-0″	1′-0″		
RR607	7	6′-5″	67	34	1′-11⅜″	1′-11⅜″	1′-1½″	1′-0″	1′-0″		
RR608	7	6′-8″	70	34	2′-1″	2′-1″	1′-1½″	1′-0″	1′-0″		
RR610	626	6′-9″	6347	34	2′-1¾″	2′-1¾″	1′-1½″	1′-0″	1′-0″		
	1	2′-9″				0′-11″					
RR612	S.O.		103	32	1′-0″		1′-1½″				0′-2½″
	16	5′-10″				4′-0½″					
	1	2′-9″			0′-11″						
RR613	S.O.		103	18		1′-1½″	1′-0″				0′-2½″
	16	5′-10″			4′-0½″						
BR605	5238	6′-4″	49827	34	1′-11″	1′-11″	1′-1½″	1′-0″	1′-0″		
BR609	168	6′-9″	1703	34	2′-1¾″	2′-1¾″	1′-1½″	1′-0″	1′-0″		
BR611	38	6′-6″	371	34	2′-0¼″	2′-0¼″	1′-1½″	1′-0″	1′-0″		
		TOTAL =	171,702*								

* FOR INFORMATION PURPOSES ONLY. COST OF REINFORCING STEEL IS INCLUDED IN ITEM 517-RAILING, CONCRETE, AS PER PLAN



NOTES:

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

EXAMPLE: AS501
AS = APPROACH SLAB BAR
5 = #5 BAR
01 = BAR SEQUENCE NUMBER 1

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

STD WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

STR IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

S.O. INDICATES A SERIES BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
ABJ	ABJ	JSB	12/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XAC		1801481, 1503 & 1511	

REINFORCING STEEL SCHEDULE 1 OF 4

BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

202
205

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
SIDEWALK											
WR401	530	30'-0"	10621	STR							
WR402	28	20'-2"	377	STR							
WR403	257	1'-5"	243	1	0'-8"	0'-10"					
WR404	257	1'-9"	300	1	0'-8"	1'-2 1/2"					
WR405	309	2'-0"	413	1	0'-8"	1'-5 1/2"					
WR406	278	13'-11"	2584	STR							
WR407	170	21'-2"	2404	STR							
WR408	16	4'-0"	43	STR							
WR409	56	20'-6"	767	STR							
WR410	28	18'-11"	354	STR							
WR411	21	9'-9"	137	STR							
WR412	33	20'-4"	448	STR							
	1	18'-3"									
WR413	S.O.	TO	424	STR							0'-0 3/4"
	33	20'-3"									
WR414	22	26'-9"	393	STR							
WR415	4	17'-7"	47	STR							
WR416	22	20'-9"	305	STR							
WR417	52	1'-7"	55	1	0'-8"	1'-0 1/4"					
	2	18'-0"									
WR418	S.O.	TO	469	STR							0'-0 5/8"
	19	18'-11"									
	2	16'-8"									
WR419	S.O.	TO	324	STR							0'-1 1/4"
	14	18'-0"									
	2	15'-0"									
WR420	S.O.	TO	400	STR							0'-1"
	19	16'-6"									
WR421	298	1'-10"	365	1	0'-8"	1'-3 1/4"					
WR422	294	2'-0"	393	1	0'-8"	1'-5"					
WR423	554	15'-1"	5582	STR							
	4	7'-6"									
WR424	S.O.	TO	52	STR							4'-5"
	2	11'-11"									
WR425	12	16'-0"	128	STR							
	2	13'-8"									
WR426	S.O.	TO	267	STR							0'-6 1/2"
	12	19'-8"									
	2	6'-4"									
WR427	S.O.	TO	23	STR							4'-4"
	2	10'-8"									
	2	25'-10"									
WR428	S.O.	TO	458	STR							0'-6"
	12	31'-4"									
WR429	48	31'-6"	1010	STR							
	2	22'-4"									
WR430	S.O.	TO	402	STR							0'-6"
	12	27'-10"									

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
SIDEWALK											
WR431	24	33'-6"	537	STR							
WR432	40	7'-0"	187	STR							
	2	32'-10"									
WR433	S.O.	TO	554	STR							0'-3 3/4"
	12	36'-3"									
WR434	1	40'-0"	27	STR							
WR435	1	11'-2"	7	STR							
	1	15'-6"									
WR436	S.O.	TO	148	STR							0'-0 5/8"
	14	16'-2"									
	1	16'-3"									
WR437	S.O.	TO	111	STR							0'-0 3/4"
	10	16'-10"									
WR438	4	17'-5"	47	STR							
	1	9'-4"									
WR439	S.O.	TO	17	STR							6'-11"
	2	16'-3"									
		TOTAL =	31,423								

TYPE 1

NOTES:

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

EXAMPLE: AS501
AS = APPROACH SLAB BAR
5 = #5 BAR
01 = BAR SEQUENCE NUMBER 1

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

STD WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

STR IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

S.O. INDICATES A SERIES BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED KEH | DRAWN KEH | REVIEWED JSB | DATE 12/11
CHECKED XAC | REVISED | STRUCTURE FILE NUMBER 1801481, 1503 & 1511

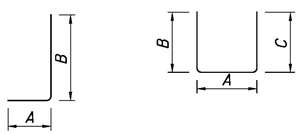
REINFORCING STEEL SCHEDULE 2 OF 4

BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
SIDEWALK											
WB401	775	30'-0"	15531	STR							
WB402	18	1'-7"	19	STR							
WB403	2265	1'-10"	2774	1	0'-8"	1'-3 1/4"					
WB404	6	16'-2"	65	STR							
WB405	7	26'-4"	123	STR							
WB406	36	9'-0"	216	STR							
WB407	95	2'-2"	137	18	1'-0"	0'-8"	0'-8"				
WB408	2155	8'-7"	12356	STR							
WB409	18	1'-10"	22	STR							
	1	35'-3"									
WB410	S.O.	TO	172	STR							0'-6"
	7	38'-3"									
WB411	1	5'-7"	4	STR							
WB412	22	2'-11"	43	18	1'-9 1/2"	0'-8"	0'-8"				
WB413	82	15'-4"	840	STR							
WB414	7	14'-7"	68	STR							
WB415	14	15'-1"	141	STR							
WB416	12	2'-7"	21	STR							
WB417	14	27'-3"	255	STR							
WB418	10	0'-8"	4	STR							
WB419	90	4'-6"	271	STR							
WB420	72	5'-6"	265	STR							
WB421	67	2'-10"	127	18	1'-8"	0'-8"	0'-8"				
WB422	48	2'-10"	91	STR							
WB423	14	34'-10"	326	STR							
WB424	84	1'-6"	84	STR							
WB425	7	28'-5"	133	STR							
WB426	7	30'-11"	145	STR							
WB427	7	21'-10"	102	STR							
WB428	7	35'-0"	164	STR							
WB429	24	2'-0"	32	STR							
WB430	7	34'-0"	159	STR							
WB431	7	14'-1"	66	STR							
WB432	12	1'-9"	14	STR							
WB433	7	18'-8"	87	STR							
WB434	7	14'-11"	70	STR							
WB435	7	31'-9"	148	STR							
WB436	12	2'-9"	22	STR							
WB437	11	2'-6"	18	STR							
WB438	7	19'-10"	93	STR							
WB439	6	1'-3"	5	STR							
WB440	7	29'-3"	137	STR							
WB441	7	21'-0"	98	STR							
WB442	110	1'-6"	110	1	0'-8"	0'-11 1/4"					
WB443	110	1'-11"	141	1	0'-8"	1'-4"					
WB444	1	9'-10"	7	STR							
WB445	2	8'-8"	12	STR							

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC.
SIDEWALK											
WB446	2	10'-9"	14	STR							
	1	10'-0"									
WB447	S.O.	TO	130	STR							0'-1 1/8"
	18	11'-8"									
	1	11'-9"									
WB448	S.O.	TO	145	STR							0'-1 1/2"
	17	13'-9"									
	1	13'-10"									
WB449	S.O.	TO	170	STR							0'-1 3/4"
	17	16'-2"									
	1	16'-4"									
WB450	S.O.	TO	214	STR							0'-2"
	18	19'-3"									
	1	19'-6"									
WB451	S.O.	TO	239	STR							0'-2 3/8"
	17	22'-8"									
	1	22'-11"									
WB452	S.O.	TO	299	STR							0'-2 3/4"
	18	26'-9"									
	1	4'-7"									
WB453	S.O.	TO	36	STR							5'-10 3/8"
	4	22'-2"									
WB454	2	7'-3"	10	STR							
WB455	1	28'-9"	19	STR							
	1	19'-1"									
WB456	S.O.	TO	90	STR							0'-0 1/2"
	7	19'-4"									
	1	19'-1"									
WB457	S.O.	TO	103	STR							0'-0 3/8"
	8	19'-4"									
WB458	1	23'-7"	16	STR							
WB459	2	15'-8"	21	STR							
WB460	1	20'-2"	13	STR							
WB461	1	9'-6"	6	STR							
WB462	1	27'-4"	18	STR							
WB463	1	17'-9"	12	STR							
WB464	1	8'-7"	6	STR							
WB465	1	25'-4"	17	STR							
WB466	1	25'-9"	17	STR							
WB467	1	17'-5"	12	STR							
WB468	26	7'-2"	124	STR							
		TOTAL =	37,449								



TYPE 1 TYPE 18

NOTES:

BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE MARK BEGINS WITH ONE OR TWO LETTERS THAT IDENTIFY THE BAR LOCATION. THE NEXT ONE OR TWO DIGITS INDICATE THE BAR SIZE, AND THE REMAINING TWO DIGITS ARE THE SEQUENCE NUMBER.

EXAMPLE: AS501
AS = APPROACH SLAB BAR
5 = #5 BAR
01 = BAR SEQUENCE NUMBER 1

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

NOTES CONTINUED:

STD WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

STR IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

S.O. INDICATES A SERIES BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED KEH | DRAWN KEH | REVIEWED JSB | DATE 12/11
CHECKED ABJ | REVISED | STRUCTURE FILE NUMBER 1801481, 1503 & 1511

REINFORCING STEEL SCHEDULE 3 OF 4

BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194

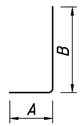
204
205

P:\PR49729\cuy\89194\structures\CUY010_1613C\sheets\010_1613CRL003.dgn 1/23/2012 11:33:41 AM hutch

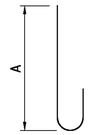
	MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
					BELOW SIDEWALK AT EXPANSION JOINTS							
	AA501	12	6'-3"	78	21	0'-8 1/2"	2'-11"					
	AA502	7	6'-1"	44	21	0'-8 1/2"	2'-10"					
	AA503	2	16'-2"	34	STR							
	AA504	2	6'-8"	14	STR							
*	AS601	14	6'-3"	131	STR							
	BA501	12	6'-3"	78	21	0'-8 1/2"	2'-11"					
	BA502	7	6'-1"	44	21	0'-8 1/2"	2'-10"					
	BA503	2	14'-9"	31	STR							
	BA504	2	6'-9"	14	STR							
*	BS601	14	6'-3"	131	STR							
	CA501	24	3'-9"	94	1	2'-11"	1'-0"					
	CA502	12	3'-8"	46	1	2'-10"	1'-0"					
	CA503	2	15'-6"	32	STR							
*	CS601	14	5'-11"	124	STR							
**	DS601	15	17'-3"	389	STR							
*	DS602	5	14'-10"	111	STR							
**	ES601	44	17'-3"	1140	STR							
*	ES602	16	14'-10"	356	STR							
**	FS601	96	17'-3"	2487	STR							
*	FS602	48	14'-10"	1069	STR							
**	GS601	96	17'-3"	2487	STR							
**	HS601	18	17'-3"	466	STR							
*	HS602	4	14'-10"	89	STR							
**	IS601	12	17'-3"	311	STR							
*	IS602	8	14'-10"	178	STR							
			TOTAL =	9,978								

* = MECHANICAL CONNECTOR ON ONE END
** = MECHANICAL CONNECTORS ON BOTH ENDS

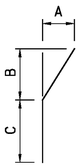
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
				WATER VAULT COVERS							
WV501	16	6'-8"	111	STR							
WV502	3	5'-1"	16	STR							
WV503	3	1'-6"	5	STR							
WV504	12	7'-7"	95	STR							
WV505	3	1'-8"	5	STR							
WV506	3	7'-2"	22	STR							
WV507	3	4'-0"	13	STR							
WV508	4	4'-0"	17	20	1'-5"	1'-5"	2'-0"				
WV509	1	3'-10"	4	1	2'-0"	2'-0"					
WV510	1	5'-11"	6	20	0'-8 1/2"	0'-8 1/2"	4'-11"				
WV511	1	4'-11"	5	20	0'-8 1/2"	0'-8 1/2"	3'-11"				
	1	2'-6"									
WV512	S.O.	TO	11	STR							1'-0"
	3	4'-6"									
WV513	8	6'-11"	58	19	6'-4"						



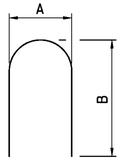
TYPE 1



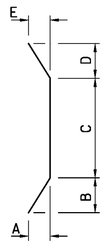
TYPE 19



TYPE 20



TYPE 21



TYPE 26

MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
				WATER VAULT COVERS (CONTINUED)							
	1	3'-0"					2'-0"				
WV514	S.O.	TO	26	20	0'-8 1/2"	0'-8 1/2"	TO				1'-0"
	5	7'-0"					6'-0"				
	1	4'-11"					3'-11"				
WV515	S.O.	TO	19	20	0'-8 1/2"	0'-8 1/2"	TO				1'-0"
	3	6'-11"					5'-11"				
WV516	2	7'-9"	16	19	7'-2"						
WV517	2	8'-7"	18	19	8'-0"						
WV518	2	7'-10"	16	STR							
	1	2'-8"					1'-8"				
WV519	S.O.	TO	32	20	0'-8 1/2"	0'-8 1/2"	TO				1'-0"
	6	7'-8"					6'-8"				
WV520	2	1'-10"	4	STR							
WV521	3	1'-8"	5	STR							
WV522	4	4'-6"	19	26	1'-5"	1'-5"	0'-7"	1'-5"	1'-5"		
WV523	1	3'-10"	4	1	2'-0"	2'-0"					
WV524	1	4'-0"	4	20	1'-5"	1'-5"	2'-0"				
WV525	1	2'-10"	3	STR							
WV526	1	3'-10"	4	STR							
WV527	6	4'-9"	30	STR							
WV701	30	7'-5"	455	STR							
WV702	4	5'-1"	42	STR							
WV703	4	1'-6"	12	STR							
WV704	20	8'-4"	341	STR							
WV705	5	1'-8"	17	STR							
WV706	5	7'-2"	73	STR							
WV707	2	8'-7"	35	STR							
	2	8'-3"			7'-5"						
WV708	S.O.	TO	148	19	TO						0'-6"
	4	9'-9"			8'-11"						
	1	3'-6"									
WV709	S.O.	TO	38	STR							0'-9"
	4	5'-9"									
	1	6'-7"					5'-7"				
WV710	S.O.	TO	60	20	0'-8 1/2"	0'-8 1/2"	TO				0'-6"
	4	8'-1"					7'-1"				
WV711	3	1'-10"	11	STR							
WV712	1	5'-1"	10	20	0'-8 1/2"	0'-8 1/2"	4'-1"				
WV713	1	5'-10"	12	20	0'-8 1/2"	0'-8 1/2"	4'-10"				
WV714	1	5'-2"	11	STR							
WV715	8	8'-1"	132	19	7'-3"						
WV716	1	3'-0"	6	STR							
WV717	1	3'-9"	8	STR							
WV718	1	2'-5"	5	STR							
WV719	7	6'-4"	91	STR							
WV720	1	5'-8"	12	STR							
WV721	1	5'-1"	10	STR							
WV722	1	5'-7"	11	20	0'-8 1/2"	0'-8 1/2"	4'-7"				
WV723	1	4'-10"	10	20	0'-8 1/2"	0'-8 1/2"	3'-10"				
	1	5'-11"					4'-11"				
WV724	S.O.	TO	55	20	0'-8 1/2"	0'-8 1/2"	TO				0'-6"
	4	7'-5"					6'-5"				
	1	2'-10"									
WV725	S.O.	TO	32	STR							0'-9"
	4	5'-1"									
WV726	4	1'-8"	14	STR							
WV727	1	5'-9"	12	STR							
		TOTAL =	2,231								

NOTES:

SEE SHEET 204 FOR NOTES.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DATE 1/12
REVIEWED JSB/DWL
STRUCTURE FILE NUMBER 1801481, 1503 & 1511
DRAWN ABJ
REVISED
DESIGNED ABJ
CHECKED XAC

REINFORCING STEEL SCHEDULE 4 OF 4
BRIDGE NO. CUY-10-1608 OVER W. 18TH STREET, HOPE MEMORIAL BRIDGE
NO. CUY-10-1613 OVER CUYAHOGA RIVER & BRIDGE NO. CUY-10-1685 OVER GCRTA

CUY-10-15.96
PID No. 89194