BHF-69 (42)
& ISSUE I

CUY-10-8.65	OHIO
	F.H.W.A. REGION 5
BHF-69(42) & ISSUE I	FEDERAL PROJECT

1/113

Proj. 75 (84)

PROJECT DESIGNATION CUY-10-08.69 SHOWN THROUGHOUT THESE PLANS SHALL BE CONSIDERED TO READ CUY-10-8.65

DESIGN DESIGNATION

Current A.D.T. (1982)	= 26,750
Design Year A.D.T. (2002)	= 27,070
D.H.V.	= 2707
D	= 55/45 %
T	= 4 %
V	= 40 m.p.h.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY-10-8.65
LORAIN ROAD VIADUCT
CITY OF CLEVELAND
CITY OF FAIRVIEW PARK
CUYAHOGA COUNTY

Revised sheets 66 & 79, 5-15-84 EBL
Sheet 65A supersedes sheet 65, 5-15-84 EBL
Sheet 61 revised 6-14-84 EBL

WE, THE COMMISSIONERS OF CUYAHOGA COUNTY IN FORMAL SESSION HEREBY APPROVE THESE PLANS AND CERTIFY THAT THE NECESSARY RIGHT-OF-WAY IS AVAILABLE. WE AGREE TO MAINTAIN THE PROJECT IN A MANNER SATISFACTORY TO THE DIRECTOR, DEPARTMENT OF TRANSPORTATION, STATE OF OHIO, OR HIS DULY AUTHORIZED REPRESENTATIVES AND WILL MAKE AMPLE PROVISIONS EACH YEAR FOR SUCH MAINTENANCE.

DONE UNDER AUTHORITY OF SECTIONS 5555.02 ET SEQ. & 5535.01 OF THE REVISED CODE OF OHIO.

BOARD OF COMMISSIONERS
CUYAHOGA COUNTY
Virgil E. Brown
DATE 8/17/82 Vincent C. Campanella

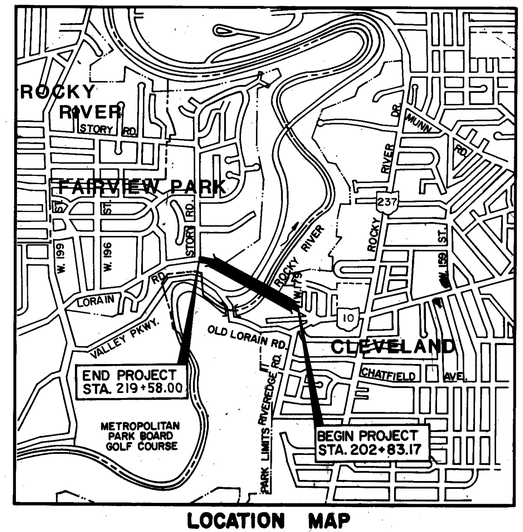
CONVENTIONAL SIGNS

Corporation Line
Fence Line (existing)
Center Line 234 235
Trees
Utility Poles: Telephone, Power, Light
Proposed Right of Way
Existing Right of Way RW
Property Line

△ Original plan revised 2-28-86

INDEX OF SHEETS

NOTE: Added sheets 1/37 thru 37/37 are to be considered a part of this plan.



LOCATION MAP
SCALE IN FEET
0 1500 3000

LINE DATA

BEGIN PROJECT STA. 202+83.17	
END PROJECT STA. 219+58.00	
LENGTH OF PROJECT	= 1674.83 L.F. OR 0.317 MI.
ADD FOR WORK	
LORAIN ROAD	
STA. 202+63.17 TO STA. 202+83.17	= 20.00 L.F.
STA. 219+58.00 TO STA. 220+60.00	= 102.00 L.F.
LENGTH OF WORK	= 1796.83 L.F. OR 0.340 MI.

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
Call ··· 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

Portion to be improved
Other Roads

SCALES
Plan 0 20'
Profile: Horizontal 0 20', Vertical 0 10'
Cross Section: Horizontal 0 5', Vertical 0 5'

REVISIONS	
△ 2-28-86	

SUPPLEMENTAL SPECIFICATIONS		
836	3-12-751	
845	3-2-81	
927	10-19-81	
953	8-21-80	
839	11-25-70	
921	12-4-72	
824	10-8-82	
803	5-27-83	

1983 SPECIFICATIONS

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

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

APPROVED DATE 8/16/82 Thomas J. Duff P.E., P.S. COUNTY ENGINEER

APPROVED DATE 3-15-82 Martin A. Gallitz DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED DATE 4-28-83 Robert B. Chittle ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED DATE 12-19-83 Wayne H. Kaubly CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED DATE 12-19-83 Warren J. Smith DIRECTOR, DEPARTMENT OF TRANSPORTATION

FILE Nº	CUYAHOGA COUNTY Nº
	DATE OF LETTING 19
	CONTRACT Nº

CHECKED BY David J. Dalton DATE 8/18/82
APPROVED BY Mark A. Fisher ENGINEER OF DESIGN
DATE 8-18-82
APPROVED BY Eugene A. Halczynik BRIDGE ENGINEER
DATE 8-11-82
APPROVED BY Warren J. Smith LAND DEPUTY

PLANS PREPARED BY
DALTON • DALTON • NEWPORT
ARCHITECTS ENGINEERS PLANNERS
AKRON OHIO CLEVELAND
F. J. Richardson
F. J. RICHARDSON REG. ENGINEER Nº 19531

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

		HL-15	1-21-76	GR-1	2-5-82				
CB-3	5-1-79	HL-16	4-6-73	GR-2B	2-5-82				
CB-2-2-A&B	5-1-79	TC-35.10	10-5-77	GR-3	2-5-82				
HL-1	9-6-73	TC-41.40	6-18-79	GR-4B	2-5-82				
HL-2	7-27-73	TC-52.20	4-3-79	AS-1-72					
HL-3	7-27-73			(SHT. 1&2)	6-30-72				
HL-4	1-21-76	GR-4A	2-5-82	GR-4	2-5-82				
HL-5	9-6-73	BP-1	6-1-65	MH-3	6-12-75				
HL-6	3-22-77	BP-3	12-6-76	MH-5	6-12-75				
HL-7	1-21-76	BP-4	7-16-81	MC-3	6-1-73				
HL-8	1-21-76	BP-5	7-16-81	MC-4	7-26-76				
HL-9	3-22-77	BP-7	12-6-76	MC-9A	5-1-81				
HL-10	6-1-79	BP-11	1-3-75	MC-11	8-1-78				

Rev. 1-3-84

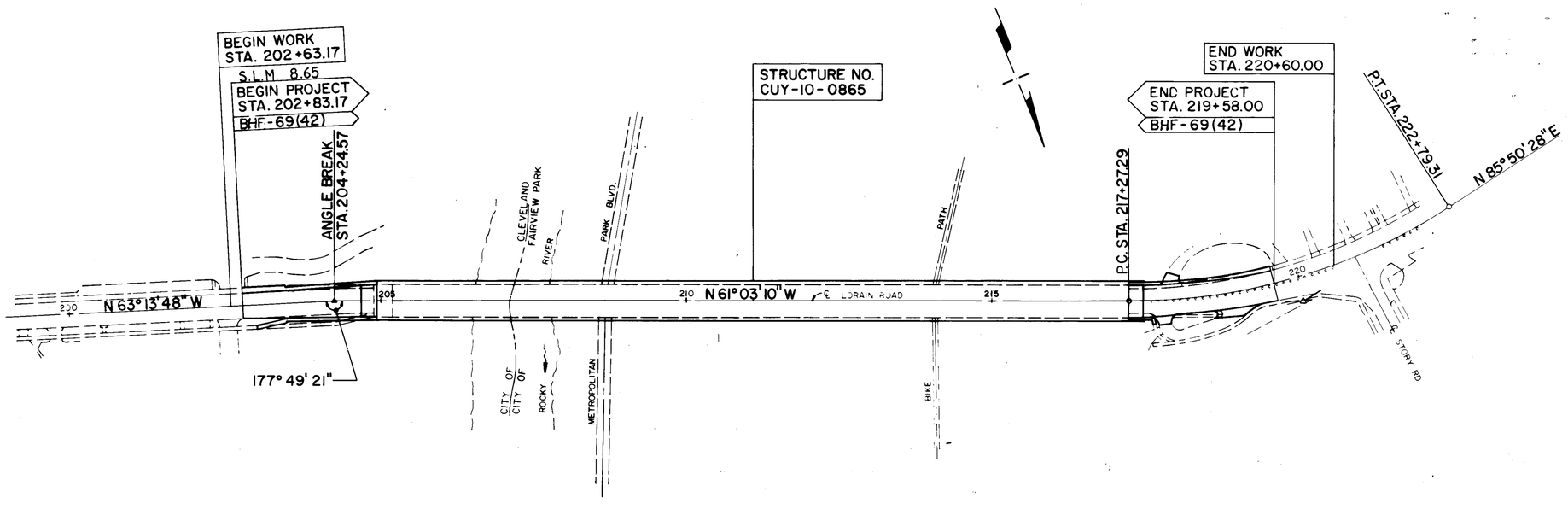
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:
DIVISION ADMINISTRATOR
TITLE

CALC. BY. DATE	CUY-10-08.69	OHIO
CHK'D. BY. DATE		F.H.W.A. REGION 5

2/113

SCHEMATIC PLAN

0 100 200 300 Feet



LORAIN RD.
℄ CURVE DATA
(CHORD DEFINITION)

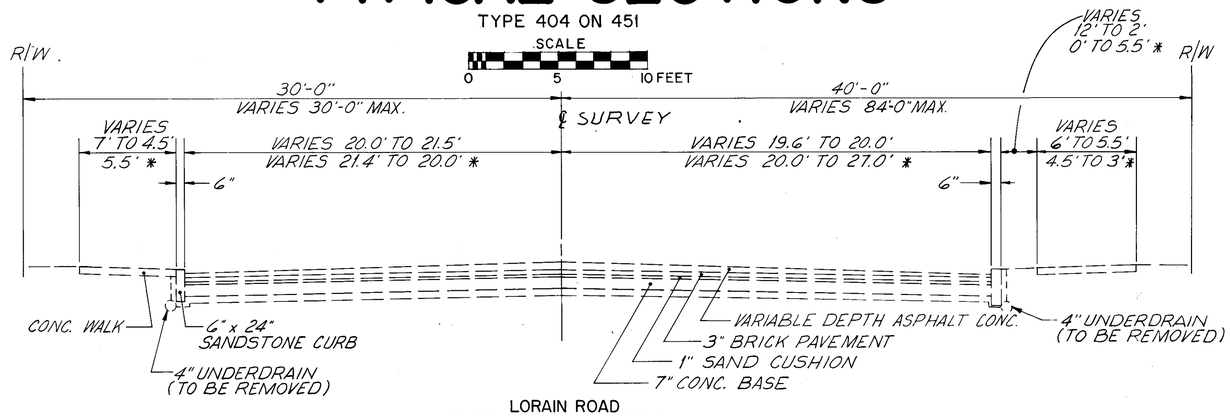
P.I. STA. 220+11.25
Δ = 33°06'22"
D = 6°00'00"
R = 955.37'
T = 283.96'
L = 522.02'
C = 544.38'
E = 41.31'

AA B/P# 71942R

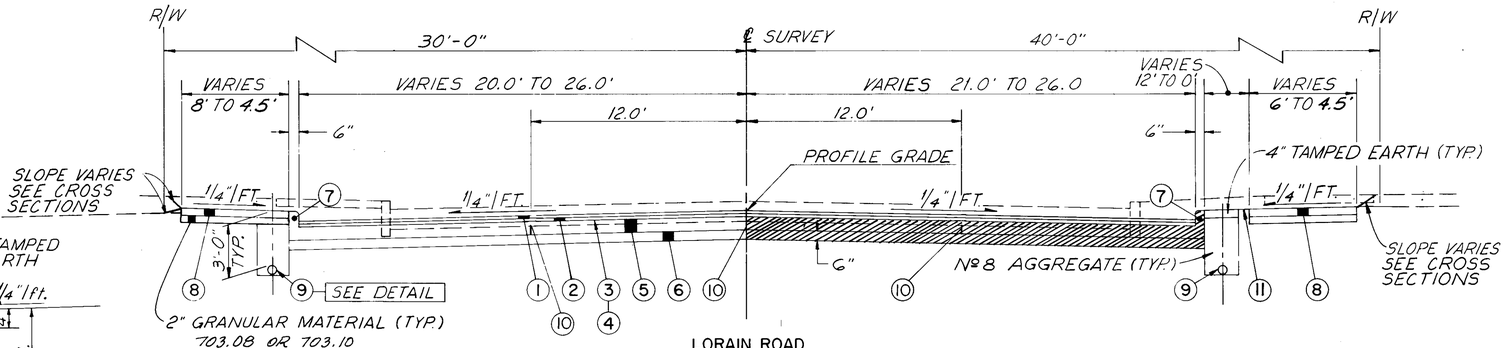
TYPICAL SECTIONS

CALC. BY. ____ DATE ____	CUY-10-08.69	OHIO	3 / 113
CHKD. BY. ____ DATE ____		F.H.W.A. REGION 5	

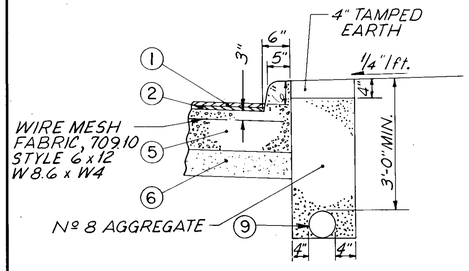
TYPE 404 ON 451



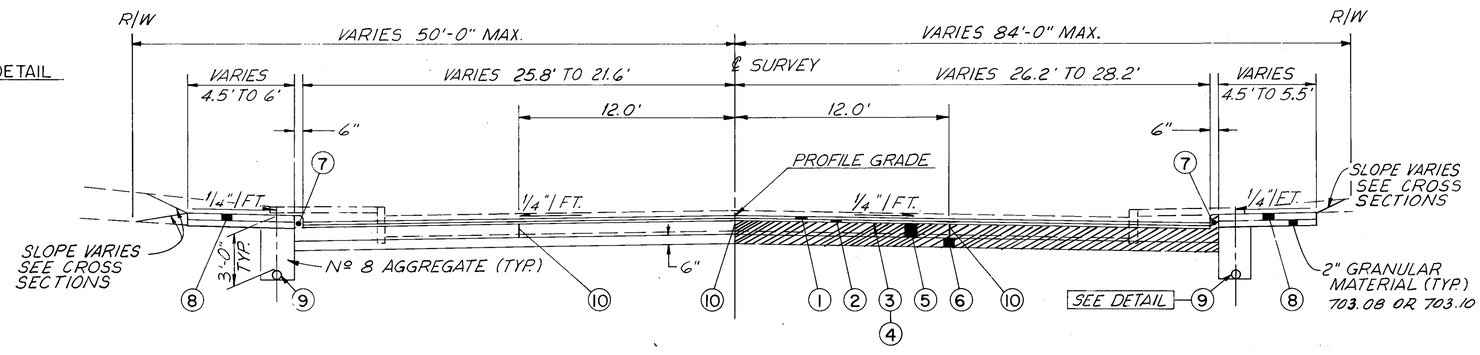
LORAIN ROAD
EXISTING TYPICAL SECTION
STA. 202+83.17 TO STA. 204+93.17 = 210 L.F.
* STA. 217+48.00 TO STA. 219+83.00 = 235 L.F.
TOTAL = 445 L.F.



LORAIN ROAD
STA. 202+83.17 TO STA. 204+68.17 = 185 L.F.



⑨ - ITEM 605 - UNDERDRAIN DETAIL
NO SCALE



LORAIN ROAD
STA. 217+48.00 TO STA. 219+58.00 = 210 L.F.

△ PHASE - I

▨ 9" Pavement and 2-B Curbs in place

Note: Asphalt, Sidewalks and Underdrains have not been done

LEGEND

①	ITEM 404	1 1/4" ASPHALT CONCRETE AC-20, AS PER PLAN
②	ITEM 402	1 3/4" ASPHALT CONCRETE AC-20, AS PER PLAN
③	ITEM 407	TACK COAT
④	ITEM 407	COVER AGGREGATE
⑤	ITEM 451	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT, MODIFIED, AS PER PLAN
⑥	ITEM 310	SUBBASE, TYPE II
⑦	ITEM 609	CURB, STANDARD TYPE 2-B
⑧	ITEM 608	4 1/2" CONCRETE WALK, AS PER PLAN
⑨	ITEM 605	6" UNCLASSIFIED PIPE UNDERDRAINS, 706.08, PERFORATED, AS PER PLAN
⑩	STANDARD LONGITUDINAL JOINT	
⑪	ITEM 660	SODDING, AS PER PLAN

LORAIN ROAD BRIDGE Nº 42

AA B/P# 71943R

GENERAL NOTES

CALC. BY. T.A.K. DATE 6/82	CUY-10-08.69	OHIO	4
CHKD. BY. R.E.R. DATE 6/82		F.H.W.A. REGION 5	113

GENERAL

MOBILIZATION AS PER PLAN.

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 800 SQ. FT. OF FLOOR SPACE WHICH SHALL BE IN ACCORDANCE WITH 619.01 AND 619.02. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624, MOBILIZATION, AS PER PLAN.

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 ORC.

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

SANITARY SEWERS & STORM SEWERS	COUNTY OF CUYAHOGA 75 PUBLIC SQUARE CLEVELAND, OHIO 44113 1-216-623-7600	CITY OF FAIRVIEW PARK 20777 LORAIN RD. FAIRVIEW PARK, OHIO 44126 1-216-333-2200
WATER LINES	CITY OF CLEVELAND DIVISION OF WATER AND HEAT 1201 LAKESIDE AVENUE CLEVELAND, OHIO 44114 1-216-664-3064	
ELECTRIC	THE CLEVELAND ELECTRIC ILLUMINATING CO. 55 PUBLIC SQUARE CLEVELAND, OHIO 44113 1-216-622-9800	REGIONAL TRANSIT AUTHORITY 615 WEST SUPERIOR CLEVELAND, OHIO 44113 1-216-566-5100
GAS	EAST OHIO GAS COMPANY 1201 EAST 55TH STREET CLEVELAND, OHIO 44103 1-216-361-2960	
TELEPHONE	OHIO BELL TELEPHONE CO. 15531 LORAIN ROAD CLEVELAND, OHIO 44111 1-216-822-5600	

AT LEAST 48 HOURS BEFORE DIGGING, THE CONTRACTOR SHOULD CALL THE OHIO UTILITIES PROTECTION SERVICE, TOLL-FREE, 1-800-362-2764. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATING INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS SHOWN ON THESE PLANS ARE IN FEET ABOVE THE CLEVELAND REGIONAL GEODETIC SURVEY DATUM PLANE.

ROADWAY

ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN

ALL EXISTING MONUMENTS, ROADWAY AS WELL AS PRIVATE PROPERTY LINE MONUMENTS WITHIN THE CONSTRUCTION AREA, ARE TO BE REFERENCED TO POINTS AND OR TO PERMANENT STRUCTURES OUTSIDE OF THE CONSTRUCTION AREA, SO AS TO BE ABLE TO REESTABLISH THEIR POSITION AND REPLACE THE POINT. NO LESS THAN THREE SUCH REFERENCES PER MONUMENT ARE TO BE FURNISHED. A REASONABLE SEARCH WILL BE MADE FOR THE PRIVATE PROPERTY MONUMENTS, SUCH AS, PROBING OCCUPATION CORNER AND CALLING ON THE RESIDENT TO POINT OUT THE MONUMENTS. THESE MONUMENTS WILL BE REFERENCED BY STATION AND DISTANCE OUT, FROM CENTERLINE PLUS TWO OF THE AS PREVIOUSLY MENTIONED REFERENCES AND THE ADDRESS OF THE PARTICULAR PROPERTY TO WHICH IT BE BELONGS. IF NO PRIVATE MONUMENTS CAN BE POINTED OUT, HAVE RESIDENT INITIAL FIELD BOOK AT THAT STATION AND ADDRESS. THE REFERENCES WILL BE DOCUMENTED IN A FIELD BOOK PROVIDED BY THE CUYAHOGA COUNTY ENGINEER'S SURVEY DEPARTMENT. THE DOCUMENTATION WILL BE MADE UNDER THE SUPERVISION OF A LICENSED SURVEYOR. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE ABOVE DOCUMENTATION AND CARE OF THE FIELD BOOK. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN.

ITEM 660 SODDING, AS PER PLAN

PAYMENT FOR PREPARING SODDED AREAS SHALL ALSO INCLUDE A 2" TOPSOIL GRADING UNDERNEATH THE SOD, CONSISTING OF LOOSE, FRIABLE LOAM SOIL WITHOUT ADMIXTURE OF SUBSOIL OR REFUSE.

PAVEMENT

BITUMINOUS MATERIALS FOR ITEMS 301, 402, 403 AND 404 AS PER PLAN:

THE AC-20 BITUMINOUS MATERIAL SHALL MEET AASHTO M226, EXCEPT THAT THE PENETRATION AT 25°C (77°F), 100 GRAMS, 5 SECONDS, SHALL NOT BE LESS THAN 60. THE COARSE AGGREGATE FOR AN ASPHALT CONCRETE COURSE, SHALL BE CRUSHED CARBONATF STONE OR CRUSHED AIR-COOLED SLAG.

CONTRACTION JOINTS

ALTHOUGH SPECIFIC LOCATION OF CERTAIN CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED AND THE MAXIMUM DISTANCE BETWEEN CONTRACTION JOINTS SHALL BE IN ALL CASES IN ACCORDANCE WITH STANDARD DRAWING BP-4.

407 TACK COAT

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE DETERMINED AS PER SPEC. 407.05. PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT AND 7 POUNDS PER SQUARE YARD OF COVER AGGREGATE FOR ESTIMATING PURPOSES ONLY.

ITEM 451, 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT, MODIFIED AS PER PLAN.

ITEM 451 SHALL BE MODIFIED AS FOLLOWS:
CURING COMPOUND SHALL MEET THE REQUIREMENTS OF AASHTO M-148, TYPE I RESIN BASE. SURFACE TEXTURE AND SMOOTHNESS SHALL BE IN ACCORDANCE WITH 305.01. REINFORCING FABRIC SHALL BE 6" x 12" (W8.6 x W4) CONFORMING TO 709.10 AND DRAWING BP-2C FOUND ON SHT. Nº 106.

ITEM 202 - PRECAST TRAFFIC DIVIDER REMOVED, AS PER PLAN

TRAFFIC DIVIDERS SHALL BE REMOVED IN ACCORDANCE WITH ITEM 202. THE RESULTING CAVITY SHALL BE FILLED WITH ITEM 404. FINISHED FLUSH WITH THE EXISTING ASPHALT SURFACE. PAYMENT FOR ITEM 404 SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVAL OF THE TRAFFIC DIVIDERS.

ITEM 608 CONCRETE WALK, AS PER PLAN

ALL CONCRETE WALK SHALL BE A MINIMUM OF 4 1/2" THICK AND HAVE A 2" GRANULATED SLAG OR SCREENINGS BED, WHICH MEETS THE REQUIREMENTS OF 703.08 OR 703.10. WHERE THE WALK CROSSES A FLEXIBLE DRIVEWAY THE THICKNESS SHALL BE INCREASED TO A MINIMUM OF 6". THE COST FOR FURNISHING AND PLACING THE 2" GRANULATED SLAG OR SCREENINGS BED AND ANY EXTRA THICKNESS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 608 CONCRETE WALK AS PER PLAN.

ITEM 622 TEMPORARY CONCRETE BARRIER

THE TEMPORARY CONCRETE BARRIERS SHALL BE CONNECTED TO EACH OTHER USING THE 3/4"Ø STEEL ROD CONNECTOR AND 1 1/4"Ø CONNECTING PIN AS SHOWN IN THE STANDARD CONSTRUCTION DRAWING MC-9A.

THE TEMPORARY CONCRETE BARRIERS WITHIN THE BRIDGE LIMITS SHALL BE STABILIZED, AS A PRECAUTION AGAINST ANY LATERAL MOVEMENT, AS SHOWN IN THE STANDARD CONSTRUCTION DRAWING MC-9A AND AS DIRECTED BY THE ENGINEER.
THE BARRIER SECTIONS PROVIDED FOR PHASE I CONSTRUCTION SHALL BE MOVED AND RE-USED FOR PHASE II CONSTRUCTION AND PAID FOR EACH TIME THEY ARE USED.

DRAINAGE

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES 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 UNIT PRICES BID FOR THE PERTINENT 603 CONDUIT ITEMS OF THE CONTRACT.

CONNECTION TO EXISTING PIPE.

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

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

ITEM 604 - MANHOLES ADJUSTED TO GRADE, WITHOUT INSERTS
MANHOLES SHALL BE ADJUSTED TO GRADE BY THE METHOD OF ADJUSTING HEIGHT OF SUPPORTING WALLS AS NECESSARY AND RESET THE EXIST. FRAME IN A BED OF MORTAR OR CONCRETE. NO ADJUSTING OF CASTINGS ARE PERMITTED.

HOUSE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS OR YARD DRAINS, DISTURBED BY THE PROPOSED WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING TO A STORM SEWER, MANHOLE, CATCH BASIN, THROUGH THE CURB.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

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

ITEM 603 6" CONDUIT TYPE C, 706.01, 706.02 OR 706.08 50 LIN.FT.

ITEM 603 6" CONDUIT TYPE B, 706.02 50 LIN. FT.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED.

THE CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY CUYAHOGA COUNTY FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 202 ITEM.

ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAINS, 706.08 PERFORATED AS PER PLAN.

THE CONDUIT SHALL BE PERFORATED BELL AND SPIGOT VITRIFIED CLAY PIPE WITH PERFORATIONS IN ACCORDANCE WITH AASHTO M-65, WITH 3 LUGS PROVIDED IN THE BELL END TO CENTER AND ALIGN THE PIPE AND PROVIDE A 3/8" GAP BETWEEN PIPE LENGTHS, PERFORATIONS ARE PLACED DOWN.

FURNISH COMPLETE CASTINGS FOR EXISTING MANHOLES

ALL EXISTING MANHOLES TO BE ADJUSTED TO GRADE OR RECONSTRUCTED TO GRADE HAVE BEEN FIELD CHECKED TO DETERMINE THAT THE EXISTING CASTINGS ARE SUITABLE FOR SALVAGE AND REUSE AT THE PARTICULAR MANHOLE TO BE ADJUSTED OR RECONSTRUCTED TO GRADE, HOWEVER, EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE, AS DETERMINED BY THE ENGINEER, DURING CONSTRUCTION OF THE PROJECT. TO PROVIDE FOR THIS CONTINGENCY, AN ESTIMATED QUANTITY OF THE FOLLOWING HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL USE THE CUYAHOGA COUNTY NO. 9 FRAME AND NO. 28 COVER AS SHOWN ON CONSTRUCTION DRAWING MH-10C ON SHEET NO. 113.

ITEM 604 1 EACH CUYAHOGA COUNTY MANHOLE FRAME, NO. 9
ITEM 604 1 EACH CUYAHOGA COUNTY MANHOLE COVER, NO. 28

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND PLACEMENT OF ALL EXISTING CASTINGS. ANY CASTINGS DAMAGED BY THE CONTRACTOR'S NEGLIGENT OPERATIONS, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTING BY THE CONTRACTOR, AT NO EXPENSE TO THE STATE. NEW CASTINGS SHALL NOT BE ORDERED UNLESS AUTHORIZED BY THE ENGINEER.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

LORAIN ROAD BRIDGE Nº 42

GENERAL NOTES

DRAINAGE (cont.)

CATCH BASIN STANDARD NO. 2-2-B, MODIFIED, AS PER PLAN

THE STANDARD NO. 2-2-B CATCH BASINS, WHEN CALLED FOR IN THE PLANS, SHALL BE MODIFIED BY USING A NEENAH NO. R 6660 KH SOLID LID, OR AN APPROVED EQUAL, AS DETAILED ON SHEET 15 .

THE COST FOR THE SOLID LID SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 CATCH BASIN, STANDARD NO. 2-2-B MODIFIED, AS PER PLAN.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

ITEM 659, SEEDING AND MULCHING AS PER PLAN

THE FOLLOWING SEED MIXTURE SHALL, IN LIEU OF MIXTURES LISTED IN 659.09 BE USED THROUGHOUT THE LIMITS OF THIS PROJECT:

40% RED FESCUE (FESTUCA RUBRA)
40% KENTUCKY BLUEGRASS (POA PRATENSIS)
20% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)

EROSION CONTROL

ITEM 660 IS PROVIDED IN THE PLANS FOR EROSION CONTROL.

TURF OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE 660. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207 TEMPORARY SEEDING AND MULCHING	400 SQ. YD.
207 STRAW OR HAY BALES	50 EACH
659 COMMERCIAL FERTILIZER	0.2 TON
659 REPAIR SEEDING AND MULCHING	100 SQ. YD.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE B, MODIFIED, AS PER PLAN

PRESSURE RELIEF JOINTS, TYPE B, AS SHOWN IN THE PLANS, SHALL BE CONSTRUCTED AS PER STANDARD DRAWING BP-11 EXCEPT THAT THE AGGREGATE DRAIN OR PIPE UNDERDRAIN WILL NOT BE REQUIRED. ALL OTHER REQUIREMENTS OF BP-11 SHALL BE FOLLOWED.

ITEM 601 "GABION SLOPE PROTECTION (9" THICK)", AS PER PLAN

DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING IN PLACE THE 9" THICK GABION SLOPE PROTECTION IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CONFORMITY WITH LINES, GRADES AND DIMENSIONS SHOWN ON THE PLANS OR AS REQUIRED BY THE ENGINEER.

MATERIALS

THE OPEN MESH WIRE BASKETS SHALL BE MADE OF GALVANIZED STEEL WIRE HAVING A MINIMUM SIZE OF U.S. STEEL WIRE GAUGE NO. 13 1/2. THE TENSILE STRENGTH OF THE WIRE SHALL BE IN THE RANGE OF 60,000 TO 85,000 PSI. THE MINIMUM ZINC COATING OF THE WIRE SHALL BE 0.80 OUNCES PER SQUARE FOOT OF UNCOATED WIRE SURFACE AS DETERMINED BY TESTS CONDUCTED IN ACCORDANCE WITH ASTM DESIGNATION A-90. THE MAXIMUM LINEAR DIMENSION OF THE MESH OPENING SHALL NOT EXCEED 3 - 1/2 INCHES AND THE AREA OF THE MESH OPENING SHALL NOT EXCEED 8 SQUARE INCHES.

THE MESH EDGE WIRE AND THE SELVEDGE ROD WIRE SHALL BE OF MINIMUM, U.S. GAUGE NO. 11 SIZE AND SHALL ALSO BE GALVANIZED.

THE STONE FILL FOR THE GABIONS SHALL BE SOUND, DURABLE, NON-WEATHERING ROCK AND SHALL BE OF MINIMUM SIZE 4" AND MAXIMUM SIZE 8". THE STONE SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

TESTS

ELONGATION.

THE WIRE MESH SHALL HAVE SUFFICIENT ELASTICITY TO PERMIT ELONGATION OF THE MESH EQUIVALENT TO A MINIMUM OF 10% OF THE LENGTH OF THE SECTION OF THE MESH UNDER TEST WITHOUT REDUCING THE GAGE OR TENSILE STRENGTH OF INDIVIDUAL WIRE.

LOAD TEST.

A SECTION OF THE MESH 6 FEET LONG AND NOT LESS THAN 3 FEET WIDE, AFTER FIRST BEING SUBJECTED TO THE ELONGATION TEST DESCRIBED ABOVE, SHALL WITHSTAND A LOAD TEST OF 6,000 POUNDS APPLIED TO AN AREA OF ONE SQUARE FOOT APPROXIMATELY IN THE CENTER OF THE SECTION UNDER TEST. THE DETAILS OF THIS TEST ARE AS FOLLOWS:

AN UNCUT SECTION OF MESH 6 FEET LONG, NOT LESS THAN 3 FEET WIDE AND INCLUDING ALL SELVEDGE BINDINGS SHALL HAVE THE ENDS SECURELY CLAMPED FOR 3 FEET ALONG THE WIDTH OF THE SAMPLE. WHEN THE WIDTH OF THE SAMPLE UNDER TEST EXCEEDS 3 FEET, THE CLAMPS WILL BE PLACED IN THE MIDDLE PORTION OF THE WIDTH AND THE EXCESS WIDTH WILL BE ALLOWED TO FALL FREE ON EACH SIDE OF THE CLAMPED SECTION. THE SAMPLE SHALL THEN BE SUBJECTED TO SUFFICIENT TENSION TO CAUSE 10% ELONGATION OF THE SAMPLE SECTION BETWEEN THE CLAMPS. AFTER ELONGATION AND WHILE CLAMPED AS DESCRIBED ABOVE (AND OTHERWISE UNSUPPORTED), THE SECTION SHALL BE SUBJECTED TO A LOAD APPLIED TO AN AREA OF ONE SQUARE FOOT LOCATED APPROXIATELY IN THE CENTER OF THE SAMPLE SECTION BETWEEN THE CLAMPS, AND IN A DIRECTION PERPENDICULAR TO THE DIRECTION OF THE TENSION FORCE. THE SAMPLE SHALL WITHSTAND, WITHOUT RUPTURE OF ANY WIRE, OR OPENING OF ANY MESH FASTENING, AN ACTUAL LOAD, SO APPLIED EQUALING OR EXCEEDING 6,000 POUNDS. THE RAM HEAD USED IN THE TEST SHALL BE CIRCULAR WITH ITS EDGES BEVELED OR ROUNDED TO PREVENT CUTTING OF THE WIRES.

SINGLE STRAND CUT.

THE WIRE MESH SHALL BE FABRRICATED IN SUCH A MANNER AS TO BE NON-RAVELING. THIS IS DEFINED AS THE ABILITY TO RESIST PULLING APART AT ANY OF THE TWISTS OR CONNECTIONS FORMING THE MESH WHEN A SINGLE WIRE IN A SECTION OF MESH IS CUT AND THE SECTION OF MESH THEN SUBJECTED TO THE LOAD TEST DESCRIBED IN THE ELASTICITY TEST ABOVE.

ZINC COATING.

THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH DETAILS DESCRIBED IN ASTM DESIGNATION A-90.

TENSILE STRENGTH.

THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH DETAILS DESCRIBED IN ASTM A-392 EXCEPT THAT THE TENSILE STRENGTH SHALL BE A MINIMUM 60,000 PSI.

CERTIFICATION.

EACH SHIPMENT OF UNITS TO A JOB SITE SHALL BE ACCOMPANIED BY A CERTIFICATION WHICH STATES THAT THE MATERIAL CONFORMS TO THE REQUIREMENTS OF THIS SPECIFICATION. A SHIPMENT SHALL CONSIST OF ALL MATERIAL ARRIVING AT THE JOB SITE AT SUBSTANTIALLY THE SAME TIME. THE CERTIFICATION SHALL BE ON COMPANY LETTERHEAD AND SHALL BE SIGNED BY AN OFFICER OF THE COMPANY.

FABRICATION

WIRE BASKETS SHALL BE FABRICATED IN SUCH A MANNER THAT THE SIDES, ENDS, LID, DIAPHRAGMS CAN BE ASSEMBLED AT THE CONSTRUCTION SITE INTO A RECTANGULAR BASKETS TO PRODUCE A 9" THICK UNIFORM MATTRESS ALONG THE SLOPE AND A 3' X 3' TOE AT THE BOTTOM OF SLOPE. BASKETS SHALL BE OF SINGLE UNIT CONSTRUCTION - BASE, LID, ENDS, AND SIDES SHALL BE EITHER WOVEN INTO A SINGLE UNIT OR ONE EDGE OF THESE MEMBERS CONNECTED TO THE BASE SECTION OF THE BASKET IN SUCH A MANNER THAN STRENGTH AND FLEXIBILITY AT THE POINT OF CONNECTION IS AT LEAST EQUAL TO THAT OF THE MESH.

WHERE THE LENGTH OF THE BASKET EXCEEDS ITS HORIZONTAL WIDTH, THE UNIT SHALL BE EQUALLY DIVIDED BY DIAPHRAGMS, OF THE SAME MESH AND GAGE AS THE BODY OF THE BASKETS, INTO CELLS WHOSE LENGTH DOES NOT EXCEED THE HORIZONTAL WIDTH. THE BASKET SHALL BE FURNISHED WITH THE NECESSARY DIAPHRAGMS SECURED IN PROPER POSITION ON THE BASE IN SUCH A MANNER THAT NO ADDITIONAL TYING AT THIS JUNCTURE WILL BE NECESSARY.

ALL PERIMETER EDGES OF THE MESH FORMING THE BASKET SHALL BE SECURELY SELVEDGED SO THAT THE JOINTS FORMED BY TYING THE SELVEDGES HAVE AT LEAST THE SAME STRENGTH AS THE BODY OF THE MESH.

CONNECTING WIRE SHALL BE SUPPLIED IN SUFFICIENT QUANTITY FOR SECURELY FASTENING ALL EDGES OF THE BASKET AND DIAPHRAGMS. THE CONNECTING WIRE IS TO MEET OR EXCEED THE SAME SPECIFICATIONS AS THE WIRE USED IN THE MESH.

CONSTRUCTION

EACH BASKET SHALL BE ASSEMBLED BY BINDING TOGETHER ALL VERTICAL EDGES WITH WIRE TIES ON APPROXIMATELY SIX INCH SPACING OR BY A CONTINUOUS PIECE OF CONNECTING WIRE STITCHED AROUND THE VERTICAL EDGES WITH A COIL ABOUT EVERY THREE INCHES. EMPTY BASKET UNITS SHALL BE SET TO LINE AND GRADE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. WIRE TIES OR CONNECTING WIRE SHALL BE USED TO JOIN EACH UNIT WITH ALL ADJACENT UNITS IN THE SAME MANNER AS DESCRIBED ABOVE FOR ASSEMBLING. INTERNAL TIE WIRES SHALL BE UNIFORMILY SPACED AND SECURELY FASTENED IN EACH OUTSIDE CELL OF THE STRUCTURE OR WHERE ORDERED BY THE ENGINEER.

A STANDARD FENCE STRETCHER OR IRON ROD MAY BE USED TO STRETCH THE UNITS AND HOLD ALIGNMENT.

THE UNITS SHALL BE FILLED WITH STONE CAREFULLY PLACED BY HAND OR MACHINE USING SMALL POWER EQUIPMENT TO ASSURE ALIGNMENT AND AVOID BULGES WITH A MINIMUM OF VOIDS. THE POWER EQUIPMENT SHALL NOT HAVE A BUCKET LARGER THAN 3/8 CUBIC YARD CAPACITY. AFTER A UNIT HAS BEEN FILLED, THE LIDS SHALL THEN BE SECURED TO THE SIDES, ENDS AND DIAPHRAGMS WITH THE WIRE TIES OR CONNECTING WIRE IN THE MANNER DESCRIBED ABOVE FOR ASSEMBLING.

THE GABION SLOPE PROTECTION SHALL BE IN LEVEL WITH THE SURROUNDING GROUND.

MEASUREMENT AND PAYMENT

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM SHALL BE THE NUMBER OF CUBIC YARDS OF GABIONS SLOPE PORTECTION MEASURED IN ITS FINAL POSITION WITHIN THE PAYMENT LIMITS SHOWN ON THE PLANS.

THE UNIT PRICE BID, PER CUBIC YARD, SHALL INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, EXCAVATION, BACKFILL, DISPOSAL OF SURPLUS MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

AA B.P# 71942R

CALC. BY. TAK DATE 6/82	CUY-10-08.69	OHIO
CHKD. BY. RER DATE 6/82		F.H.W.A. REGION 5

6/113

GENERAL NOTES

SPECIAL

SPECIAL REQUIREMENTS INVOLVING WORK OVER THE CLEVELAND METROPARKS SYSTEM

THE CONTRACTOR SHALL CAREFULLY ADHERE TO THE FOLLOWING SPECIFIC REQUIREMENTS:

A. ALL CONSTRUCTION WORK SHALL BE LIMITED WITHIN THE CONFINES OF THE EXISTING RIGHT OF WAY OF THE STRUCTURE.

B. NO DEBRIS OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF THE BRIDGE RIGHT OF WAY ON CLEVELAND METROPARKS SYSTEM PROPERTY BEFORE, DURING, OR AFTER CONSTRUCTION WORK ON THE BRIDGE. THE CONTRACTOR SHALL NOT ALLOW RUBBLE OR DEBRIS FROM BRIDGE CONSTRUCTION OR SEWER CLEANING TO WASH OR OTHERWISE BE CARRIED DOWNSTREAM VIA ANY WATERCOURSE ONTO CLEVELAND METROPARKS SYSTEM PROPERTY.

C. ACCESS TO CLEVELAND METROPARKS SYSTEM ROADWAYS, SUCH AS VALLEY PARKWAY, SHALL BE MAINTAINED AT ALL TIMES. TWO WAY TRAFFIC SHALL BE MAINTAINED ALSO ON ALL PARKWAYS AT ALL TIMES. TRAFFIC SHALL BE MAINTAINED ALSO ON THE BICYCLE PATH AT ALL TIMES AND PEDESTRIAN AND EQUESTRIAN ACCESS TO CLEVELAND METROPARKS SYSTEI. FACILITIES SHALL BE MAINTAINED AT ALL TIMES.

D. THE PARK ROADS, IN COMBINATION WITH OTHER LOCAL STREETS, SHALL NOT BE DESIGNATED AS A DETOUR ROUTE WHILE THE BRIDGE IS BEING RECONSTRUCTED.

E. AS MUCH OF THE WORK AS POSSIBLE SHALL BE PERFORMED FROM THE STRUCTURE RATHER THAN FROM THE PROPERTY BELOW.

F. SPECIAL PRECAUTIONS SHALL BE TAKEN, SUCH AS NETTING LINED WITH CANVAS OR OTHER RESTRICTIVE DEVICES, TO PREVENT ANY MATERIALS FROM FALLING ONTO THE PARK ROADWAY, BIKEPATH, OR INTO THE RIVER BENEATH THE BRIDGE. IF IT IS NECESSARY TO LOWER CONCRETE, STEEL, OR OTHER MATERIALS IN OTHER AREAS OF THE RIGHT OF WAY, THE CONTRACTOR SHALL SUBMIT PLANS AND PROCEDURES FOR APPROVAL BEFORE COMMENCING WORK. ALL SPECIAL PRECAUTIONS SHALL BE SUBJECT TO APPROVAL OF CLEVELAND METROPARKS SYSTEM.

G. REHABILITATION WORK ON THE BRIDGE WILL REQUIRE ACCESS TO THE BRIDGE RIGHT OF WAY. WORK WITHIN THE BRIDGE RIGHT OF WAY WILL BE COORDINATED WITH CLEVELAND METROPARKS SYSTEM AND WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS PERTAINS TO ACCESS, MAINTENANCE OF VEHICULAR AND PEDESTRIAN TRAFFIC ON THE PARK ROAD AND BIKE PATH, AND OTHER USES OF PARK FACILITIES. IF IT IS REQUIRED BY THE CONTRACTOR TO USE PARK ROADS FOR ACCESS TO THE EXISTING BRIDGE RIGHT OF WAY FOR WORK PURPOSES, THEN THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS FROM THE PARK BOARD, CLEVELAND METROPARKS SYSTEM. ALL COSTS INVOLVED IN OBTAINING PERMITS FROM THE PARK BOARD SHALL BE PAID BY THE CONTRACTOR AT HIS EXPENSE. NO ACCESS TO THE BRIDGE RIGHT OF WAY OVER METROPARK SYSTEM ROADWAYS OR PROPERTY WILL OCCUR UNTIL AFTER NECESSARY PERMITS HAVE BEEN OBTAINED.

H. THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS ACROSS THE BRIDGE RIGHT OF WAY DURING CONSTRUCTION WORK, SO AS TO PREVENT EROSION TO OR PONDING OF ANY WATERS ON ADJACENT CLEVELAND METROPARKS SYSTEM PROPERTIES. THIS INCLUDES BUT IS NOT LIMITED TO THE MAINSTEM ROCKY RIVER.

I. TREES, SHRUBS, AND OTHER NATURAL FEATURES LOCATED ON CLEVELAND METROPARKS SYSTEM PROPERTIES, ADJACENT TO THE BRIDGE RIGHT OF WAY, SHALL BE PROTECTED FROM ALL DAMAGES WHICH MAY REUSLT FROM THE CONTRACTOR'S WORK DURING THE REHABILITATION OF THE BRIDGE. ANY DAMAGES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE, OR REPAIRED BY CLEVELAND METROPARKS SYSTEM AND PAID FOR BY THE CONTRACTOR AT HIS OWN EXPENSE, SUBJECT TO REVIEW AND COORDINATION WITH THE PARK BOARD, CLEVELAND METROPARKS SYSTEM. THE CONTRACTOR'S WORK WILL BE CLOSELY MONITORED BY THE CLEVELAND METROPARKS SYSTEM RANGERS AND STAFF.

J. ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE. AREAS DISTURBED BY THE CONTRACTOR, IN ANY WAY AND IN ANY FORM, WILL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN CONDITIONS WHICH EXISTED PRIOR TO THE REHABILITATION WORK, AS DESCRIBED IN SPECIFICATIONS 104.06, 107.12, 108.04 AND 659. SEEDING OF THE BRIDGE RIGHT OF WAY AREAS DISTURBED DURING THE REHABILITATION WORK SHALL BE ACCOMPLISHED USING A MIXTURE OF 40% RED FESCUE (FESTUCA RUBRA), 40% KENTUCKY BLUEGRASS (POA PRATENSIS), AND 20% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) OR A PROPRIETARY MIXTURE OF SHADE TOLERANT LAWN GRASSES OF EQUAL OR SUPERIOR QUALITY, AS APPROVED BY THE CLEVELAND METROPARKS SYSTEM.

K. TREE LAWNS AND OTHER MAINTAINED LAWNS ON PUBLIC OR PRIVATE PROPERTIES, NOT DESCRIBED ABOVE, IF DISTURBED BY THE CONTRACTOR DURING THE REHABILITATION WORK, SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATION 660 "SODDING". THIS INCLUDES BUT IS NOT LIMITED TO TREE LAWNS ALONG THE ENTIRE LENGTH OF LORAIN ROAD WITHIN THE PROJECT AREA.

MAINTENANCE OF TRAFFIC

MAINTAINING TRAFFIC

TEN (10) DAYS PRIOR TO ANY INTERRUPTION OF NORMAL TRAFFIC FLOW WITHIN THE LIMITS OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT IN WRITING HIS PROPOSED METHODS AND PROCEDURES PLANNED FOR THE MAINTENANCE OF TRAFFIC THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF HIS PLAN FROM THE ENGINEER BEFORE CAUSING ANY INTERRUPTIONS IN THE EXISTING TRAFFIC FLOW.

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

ACCESS TO BUSINESS AND PRIVATE PROPERTIES SHALL BE MAINTAINED AT ALL TIMES BY USE OF ITEMS 404 OR 410 AS REQUIRED. EXCEPT FOR DRIVES LEFT OF STA. 217+81 AND RIGHT OF STATION 217+83 WHICH MAY BE CLOSED DURING CONSTRUCTION PLACEMENT OF ITEM 404-OR 410 SHALL BE AT THE DIRECTION OF THE ENGINEER.

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

ITEM 404 25 CU. YD. BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

ITEM 410 50 CU. YD. TRAFFIC COMPACTED SURFACE TYPE A OR B

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR DUST CONTROL

ITEM 616 5 TON CALCIUM CHLORIDE

ITEM 616 50 M. GAL. WATER

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR APPROVAL, HIS PROPOSED METHODS AND PROCEDURES PLANNED FOR THE MAINTENANCE OF PEDESTRIAN TRAFFIC. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED.

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN, AND REMOVE LIGHTS, SIGNS, BARRICADES, TEMPORARY WALKWAYS AND ALL OTHER PEDESTRIAN SAFEGUARDS REQUIRED BY THE MANUAL.

PRIOR TO THE BEGINNING OF EACH CONSTRUCTION PHASE, THE CONTRACTOR SHALL GIVE THE TRAFFIC ENGINEERING DIVISION OF THE CITY OF CLEVELAND AND CITY OF FAIRVIEW PARK A MINIMUM OF ONE WEEK'S NOTICE.

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE ERECTED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE STATE OF OHIO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" ACCORDING TO SIZE, SHAPE, COLOR REFLECTORIZATION, AND THESE PLANS, UNLESS NOTED.

PROVISIONS FOR MAINTAINING TRAFFIC SHALL INCLUDE THE PROCEDURE AS NOTED ABOVE AS WELL AS THOSE INCLUDED IN SECTION 614 AND WILL BE PAID FOR IN THE LUMP SUM PRICE BID FOR "ITEM 614 MAINTAINING TRAFFIC."

DURING PHASE I CONSTRUCTION ON THE NORTH SIDE, THE EXISTING ROADWAY LIGHTING ON THE SOUTH SIDE SHALL REMAIN IN SERVICE. IN PHASE II CONSTRUCTION ON THE SOUTH SIDE, THE PROPOSED NORTH SIDE ROADWAY LIGHTING SHALL BE IN SERVICE BEFORE PHASE II IS STARTED.

THE CITY OF CLEVELAND AND CITY OF FAIRVIEW PARK TRAFFIC ENGINEERING DIVISION WILL MAKE ANY ADJUSTMENTS NECESSARY TO THE EXISTING SIGNAL SYSTEM DURING THE PROJECT'S TERM.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

LORAIN ROAD BRIDGE № 42

GENERAL NOTES

CALC. BY. ____ DATE ____
CHKD. BY. ____ DATE ____
CUY-10-08.69
OHIO
F.H.W.A. REGION 5
GA 113

WATERWORK

ITEM 603-DUCTILE IRON PIPE AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTION OF DUCTILE IRON PIPE SERVES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ITEM 603, TYPE B CONDUIT WITH THE EXCEPTION THAT SECTIONS 603.02 AND 603.06 SHALL BE REPLACED BY AMERICAN NATIONAL STANDARDS INSTITUTE (A.N.S.I.) A-21.51. DUCTILE IRON PIPE SHALL BE CLASS 50 WITH PUSH ON JOINTS. SECTION 51-9, HYDROSTATIC TEST, OF A.N.S.I. A-21.51 SHALL BE WAIVED FOR THIS WORK.

WORK TO BE DONE BY THE CITY

THESE SPECIFICATIONS REQUIRE THE CITY OF CLEVELAND, DIVISION OF WATER TO PERFORM CERTAIN DEFINED WORK. UNLESS SPECIFICALLY STATED OTHERWISE, ALL MATERIAL WILL BE FURNISHED BY THE CONTRACTOR ALTHOUGH THE CITY MAY DO THE ACTUAL WORK OR INSTALLATION. THE CONTRACTOR IS TO INCLUDE THE MATERIAL IN THE APPROPRIATE BID ITEM, THE LABOR TOOLS, EQUIPMENT AND INCIDENTALS FURNISHED BY THE CITY WILL BE AT NO EXPENSE TO THE CONTRACTOR. ALL WATER WORK MATERALS REQUIRED FOR CONNECTIONS OR WATERMAIN CHANGES SHALL BE NEW AND UNUSED.

ITEM 202 MANHOLE (METER VAULT) REMOVED AS PER PLAN

THE CONTRACTOR SHALL REMOVE THE EXISTING METER VAULT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 202 OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE EXISTING METER WILL BE REMOVED BY THE FORCES OF THE CITY OF CLEVELAND, DIVISION OF WATER, FOR REUSE AT THE NEW LOCATION

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM 202 - MANHOLE (METER VAULT) REMOVED AS PER PLAN" AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL ITEMS OF WORK INCLUDING EXCAVATION, BACKFILLING SEEDING SODDING, REPAVING AND FOR THE FURNISHING OF ALL NECESSARY MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NEEDED TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL - VALVE BOX OR WATER SERVICE STOP BOX ADJUSTED TO GRADE

THE CONTRACTOR SHALL RAISE OR LOWER THE EXISTING VALVE BOX OR WATER SERVICE STOP BOX TO FIT THE REVISED GRADE BY EXCAVATING AND TAMPING BACKFILL UNDER THE BOX TO INSURE THAT THE BOX HAS A FIRM FOOTING.

IN RAISING VALVE BOX, WATER SERVICE BOX AND METER MANHOLE RING AND COVERS, NO INSERTS ARE TO BE PERMITTED. VALVE BOX, WATER SERVICE STOP BOX AND METER MANHOLE RING AND THEMSELVES MUST BE RAISED TO CORRECT GRADE.

ANY VALVE BOX, WATER SERVICE STOP BOX AND METER MANHOLE RINGS AND COVERS DETERMINED AS BEING UNSUITABLE OR DAMAGED SHALL BE REPLACED BY THE CONTRACTOR. ITEM SPECIAL-800 LBS. MISCELLANEOUS METAL.
PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM SPECIAL - VALVE BOX OR WATER SERVICE STOP BOX ADJUSTED TO GRADE" WHICH SHALL CONSTITUTE FULL COMPENSATION FOR EXCAVATING, ADJUSTING THE BOX, BACKFILLING, TAMPING, SEEDING, SODDING, OR PAVING, AND FURNISHING OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ITEM SPECIAL - METER VAULT

THE CONTRACTOR SHALL INSTALL A 1-1/2" METER VAULT IN ACCORDANCE WITH CITY OF CLEVELAND, DIVISION OF WATER, STANDARDS AND SHALL FURNISH ALL NECESSARY LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM SPECIAL - METER VAULT" AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL ITEMS OF WORK INCLUDING EXCAVATION, BACKFILLING, SEEDING, SODDING AND REPAVING AS DIRECTED BY THE ENGINEER.
THE METER WILL BE REMOVED AND RESET BY THE CITY OF CLEVELAND.

ITEM SPECIAL - SERVICE CONNECTIONS EXTENDED

THE CONTRACTOR SHALL DO ALL THE NECESSARY EXCAVATION, BACKFILLING, SEEDING, SODDING AND REPAVING REQUIRED IN MAKING THESE SERVICE CONNECTIONS AND ALTERNATIONS AND COSTS THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM SPECIAL - SERVICE CONNECTIONS EXTENDED". THE CURB BOXES SHALL BE RELOCATED BY THE CITY AND SET TO FINAL GRADE BY THE CONTRACTOR.

"SERVICE CONNECTIONS EXTENDED" TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF EACH LISTED AND ESTIMATED SEPARATELY COMPLETED AND ACCEPTED.

THE CITY OF CLEVELAND, DIVISION OF WATER, WILL RELOCATE CURB BOXES, RESET METERS AND EXTEND CONNECTIONS AT NO COST TO THE CONTRACTOR, BUT ONLY TO THE POINT OF CURB COCK OR METER VAULT. ALL ADDITIONAL EXTENSION WORK SHALL BE DONE BY THE CONTRACTOR.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

NOTES: CLEANING, TELEVISING AND REHABILITATION OF SEWERS

EXAMINE UNDERGROUND SEWER SYSTEMS

THE LOCATIONS OF THE UNDERGROUND SEWER SYSTEMS ARE SHOWN IN THE PLANS.

THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO EXAMINE THE EXISTING UNDERGROUND SEWER SYSTEM DEFINED BY THE LIMITS SHOWN ON THE PLANS (SHEET NO. 8.) THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER IN MAKING THE EXAMINATION. BASED ON THE RESULTS, THE ENGINEER WILL DESIGNATE WHICH PARTS OF THE SYSTEMS REQUIRE CLEANOUT.

EXAMINATION OF THE UNDERGROUND SEWER SYSTEMS WILL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT PER ITEM SPECIAL, TELEVISING SEWERS, BY SIZE. THIS PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIAL EQUIPMENT AND LABOR NECESSARY TO COMPLETE THIS WORK.

CLEANOUT OF UNDERGROUND SEWER SYSTEMS

CLEANOUT SHALL CONSIST OF REMOVING DIRT AND DEBRIS FROM THE SEWER SYSTEMS AS DEFINED BY THE LIMITS SHOWN ON THE PLANS. (SHEET 8.)

AFTER THE DIRT AND DEBRIS ARE REMOVED, THE SYSTEMS SHALL BE FLUSHED TO THE SATISFACTION OF THE ENGINEER.

THE NUMBER OF LINEAR FEET OF UNDERGROUND SEWER SYSTEMS SHOWN IN THE PLANS (LINEAR FEET FOR EACH PIPE DIAMETER) ARE APPROXIMATELY THE MAXIMUM NUMBER OF LINEAR FEET OF PIPE THAT MIGHT REQUIRE CLEANOUT. ONLY THOSE PORTIONS OF THE SYSTEMS DESIGNATED BY THE ENINEER AFTER A DETAILED EXAMINATION SHALL BE CLEANED OUT.

CLEANOUT OF THE UNDERGROUND SEWER SYSTEMS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR ITEM SPECIAL, CLEANING SEWER, BY SIZE. THIS PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE WORK TO THE SATISFACTION OF THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR TO COVER ANY COST FOR CLEANING DRAINAGE STRUCTURES WITHIN THE UNDERGROUND SEWER SYSTEMS.

SPECIFICATIONS FOR THE CLEANING OF EXISTING SEWERS

EQUIPMENT REQUIRED

(A) THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND SUPPLIES NECESSARY TO PROGRESS THE WORK TO COMPLETION IN A WORKMANLIKE MANNER IN THE ALLOTTED TIME. THE CLEANING METHODS UTILIZED MAY CONSIST OF RODDING, BUCKETING, BRUSHING, JET FLUSHING, BEE LINING, OR LINING, OR ANY COMBINATION THEREOF.

(B) ALL SEWERS WHICH ARE TO BE TELEVISED SHALL BE CLEANED OF DEBRIS, SAND, ROOTS, AND DEPOSITS TO THE EXTENT THAT THE ENTIRE CIRCUMFERENCE IS VISIBLE TO THE TELEVISION CAMERA.

DISPOSAL OF DEBRIS

(A) ALL DEBRIS, SAND, GRAVEL, AND OTHER MATERIALS WHICH WOULD SETTLE OUT IN THE SEWER SYSTEM AND WHICH WOULD RESTRICT FLOW SHALL BE REMOVED FROM THE SEWER SEGMENT BEING CLEANED AND HAULED AND DISPOSED OF BY THE CONTRACTOR TO A DISPOSAL SITE. FLUSHING OF SAID MATERIALS FROM SEWER SEGMENT TO SEWER SEGMENT SHALL NOT BE PERMITTED. THE CONTRACTOR SHALL BE REQUIRED TO CLEAN AND PROPERLY DISPOSE OF ALL MATERIAL REMOVED FROM THE SEWER SEGMENT WHICH IS SPILLED OR OTHERWISE DEPOSITED UPON THE GROUND. SAID CLEAN-UP SHALL BE DONE WITH DISPATCH AND PROMPTNESS SO AS NOT TO CAUSE UNSIGHTLINESS OR A NUISANCE.

SPECIFICATIONS FOR INSPECTION BY CLOSED CIRCUIT TELEVISION

PERSONNEL REQUIRED

(A) THE CONTRACTOR SHALL FURNISH A QUALIFIED TELEVISION TECHNICIAN AND SUFFICIENTLY TRAINED SUPERVISORY PERSONNEL AND LABOR TO PERFORM ALL THE WORK REQUIRED IN THE INSPECTION OPERATION.

EQUIPMENT REQUIRED

(A) THE CONTRACTOR SHALL FURNISH AN ADEQUATE NUMBER OF TELEVISION CAMERAS, TOOLS, AND REPAIR PARTS SO THAT THERE WILL BE NO DELAY IN CASE OF A CAMERA BREAKDWON. AT LEAST ONE OF THESE CAMERAS SHALL BE SMALL ENOUGH TO PASS THROUGH A SIX-INCH OPENING.

(B) OPERATION OF THE EQUIPMENT IS TO BE CONTROLLED FROM ABOVE GROUND WITH A SKILLED TECHNICIAN AT THE CONTROL PANEL IN THE TELEVISION STUDIO CONTROLLING THE MOVEMENT OF THE TELEVISION CAMERA. THE TELEVISION EQUIPMENT SHALL HAVE THE CAPACITY TO TELEVISE A CONTINUOUS 800 FOOT LENGTH OF SEWER.

(C) THE VIEW SEEN BY THE TELEVISION CAMERA SHALL BE TRANSMITTED TO A MONITOR OF NOT LESS THAN 9 INCHES DIAGONAL MEASUREMENT. THE TV CAMERA SHALL HAVE THE CAPACITY OF TRANSMITTING A PICTURE WITH NOT LESS THAN 600 LINES OF RESOLUTION, AND THE MONITOR SHALL HAVE THE CAPABILITY OF RECEIVING THE SAME. THE VIDEO TAPE EQUIPMENT SHALL HAVE THE CAPABILITY OF PROVIDING AN AUDIO RECORD OF THE TELEVISING PROCEDURE.

(D) THE PULLING CABLE OR ROD SHALL HAVE A FOOTAGE METER SO THAT THE LOCATION OF THE TV CAMERA AND POINT OF OBSERVATION WILL BE KNOWN AT ALL TIMES. THE CONTRACTOR SHALL ALSO USE A HAND-HELD COUNTING DEVICE TO COUNT SEWER JOINTS.

(E) THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT REQUIRED FOR TAKING PHOTOGRAPHS OF THE VIEW WHICH APPEARS ON THE MONITOR. DURING THE COURSE OF INSPECTION, THE ENGINEER SHALL INDICATE THE SPECIFIC VIEWS WHICH ARE TO BE PHOTOGRAPHED AND APPROVE OR DISAPPROVE THE QUALITY OF THE VIDEO TAPE. IF THE ENGINEER IS NOT PRESENT, PHOTOGRAPHS SHALL BE TAKEN OF STRUCTURAL FAILURES REQUIRING SEWER REPLACEMENT. PHOTOGRAPHS SHALL BE REFERENCED TO METERED LOCATIONS ON LOG SHEETS.

METHODS TO BE USED

(A) GENERAL

(1) THE TELEVISING EQUIPMENT SHALL BE EQUIPPED WITH A METERING DEVICE SO THAT THE EXACT LOCATION OF THE CAMERA WITHIN THE PIPELINE CAN BE DETERMINED AT ALL TIMES AND WILL BE PART OF THE VIDEO TAPE RECORD.

(2) THE CAMERA WILL BE MOVED THROUGH THE LINE AT A UNIFORM, SLOW RATE AND WILL BE STOPPED AT ANY STRUCTURAL DEFICIENCIES TO OBSERVE THE CONDITION, RECORD INFORMATION, AND TAKE PHOTOGRAPHS OF STRUCTURAL DEFICIENCIES REQUIRING SEWER REPLACEMENT.

(B) RECORD OF INSPECTION

(1) THE CONTRACTOR SHALL PREPARE AND FURNISH TO THE ENGINEER SIX COPIES OF A COMPLETE RECORD AND BOUND REPORT ON ALL THE INSPECTION OF WORK DONE UNDER THIS CONTRACT WITHIN THREE WEEKS OF THE COMPLETION OF TELEVISING WORK. THIS REPORT SHALL INCLUDE ALL PHOTOGRAPHS TAKEN DURING THE COURSE OF THE INSPECTION AND INFORMATION RELATIVE TO THE FOLLOWING ITEMS.

(A) IDENTIFICATION OF PIPE SEGMENTS INSPECTED WITH PIPE SIZES, LENGTHS, AND CONSTRUCTION MATERIAL.

(B) METERED LOCATION OF THE FOLLOWING ITEMS ON A SKETCH OF THE SEGMENT TELEVISED.

- ALL SERVICE CONNECTIONS TO GO ON AUDIO TAPE.
- OPEN OR MISALIGNED JOINTS.
- ROOT PENETRATION INTO THE SEWER.
- BROKEN, CRACKED, OR COLLAPSED SECTIONS.
- ANY OTHER EVIDENCE OF UNDESIRABLE CONDITIONS.

(C) A SUGGESTED METHOD AND ESTIMATE OF COST.

(D) INFORMATION REQUIRED IN (C) ABOVE SHALL BE INCLUDED IN THE REPORT ON A FORM TO BE SUPPLIED BY THE ENGINEER.

(2) THE CONTRACTOR SHALL SUPPLY THE OWNER WITH ONE VIDEO TAPE WITH SOUND TRACK OF ALL TELEVISION WORK WITHIN TWO WEEKS OF THE TELEVISING TAKING PLACE. THE SPEED AND ELECTRONICS OF THE VIDEO TAPE RECORDER SHALL BE EQUAL TO THAT WHICH WAS STANDARDIZED BY THE ELETRONICS INDUSTRY. THE LOCATION OF STRUCTURAL OBSERVATIONS, LOCATION OF LATERALS AND OTHER PERTINENT INFORMATION SHALL BE DESCRIBED VERBALLY ON THE VIDEO TAPE. SEGMENT LOCATION SHALL BE SHOWN ON THE TV MONITOR AND RECORDED ON THE VIDEO TAPE.

(3) THE CONTRACTOR SHALL SUPPLY THE OWNER WITH ONE SET OF NEGATIVES OF ALL PHOTOGRAPHS TAKEN.

RESPONSIBILITIES OF THE CONTRACTOR

(A) ELECTRICITY: THE CONTRACTOR SHALL PROVIDE ALL ELECTRICITY.

(B) WATER: THE CONTRACTOR SHALL MAKE PROVISIONS FOR TRANSPORTING FLUSHING WATER REQUIRED AT THE SITE AND SHALL PAY ALL COST FOR SUCH WATER.

(C) PROTECTION OF CONTRACTOR'S EQUIPMENT: THE CONTRACTOR SHALL ASSUME ENTIRE RESPONSIBILITY FOR THE PROTECTION AND SAFEKEEPING OF HIS OWN EQUIPMENT AND MATERIAL UNTIL THE JOB IS COMPLETED. AT THE TERMINATION OF HIS WORK AND FINAL ACCEPTANCE BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL OF HIS MATERIALS FROM THE PREMISES.

(D) CONTRACTOR TO EXAMINE SITE: THE CONTRACTOR SHALL INFORM HIMSELF OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, THE SITE OF THE WORK, AND ALL OTHER RELEVANT MATTERS CONCERNING THE WORK TO BE PERFORMED PRIOR TO EXECUTION OF THIS CONTRACT. THE CONTRACTOR WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER FOR NOT COMPLYING WITH THE PRECEDING PRIOR TO ENTERING INTO THIS CONTRACT.

(E) PROVISION OF GUARDS AND WARNING SIGNS: THE CONTRACTOR MUST PROVIDE ALL LEGAL AND NECESSARY GUARDS, RAILINGS, LIGHTS, WARNING SIGNS, FLAGMAN, ETC., DURING THE PROGRESS OF THE WORK FOR WHICH HE IS RESPONSIBLE. THE CONTRACTOR SHALL ARRANGE HIS WORK SO THAT HE WILL CAUSE A MINIMUM AMOUNT OF INTERFERENCE WITH MUNICIPAL OPERATION.

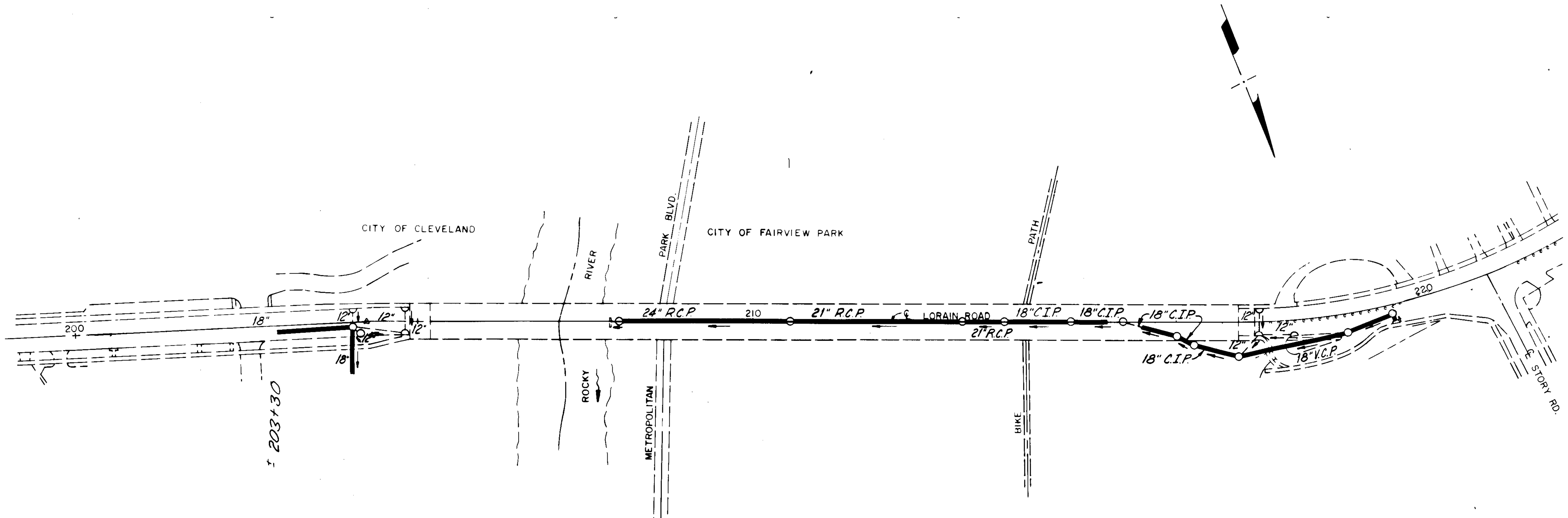
THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED TO REPLACE ANY BROKEN OR UNUSABLE PIECES OF CONDUIT FOUND AFTER CLEANING OPERATION AS DIRECTED BY THE ENGINEER.

ITEM 603	18" CONDUIT TYPE B, 706.02 20 L.F.
ITEM 603	18" CONDUIT TYPE C, 706.01, 706.02 OR 706.08 20 L.F.
ITEM 603	18" DUCTILE IRON PIPE, AS PER PLAN 20 L.F.
ITEM 603	21" CONDUIT TYPE C, 706.02 20 L.F.
ITEM 603	24" CONDUIT TYPE C, 706.02 15 L.F.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

AA B/P• 71942R

CALC. BY. L.L.L. DATE 2/82	CUY-10-08.69	OHIO	8/113
CHKD. BY. R.E.R. DATE 2/82		F.H.W.A. REGION 5	



LEGEND

SEWER TO BE CLEANED AND/OR TELEVISED

Note :- △ Cleaning and televising completed

CLEANING AND TELEVISING			
LOCATION	18"	21"	24"
LORAIN RD.	803'	320'	260'

NOTE :
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

LORAIN ROAD BRIDGE Nº 42

CLEANING, TELEVISING AND REHABILITATION OF SEWERS

FHWA REGION	STATE	PROJECT	
5	OHIO		

TEMPORARY PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITIVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM ASPHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0° ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE		YELLOW	
OBSERVATION ANGLE	0.2	0.5	0.2	0.5
SPECIFIC LUMINANCE	1770	1270	1310	810

(MCD/FT²)/FC

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 5710, 5711, F270, F211)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS 9A AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:

1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION		Original Quantity	⚠ Quantity Remaining
614	MILES	TEMPORARY LANE LINES, CLASS II,		0.37	0.37
614	MILES	TEMPORARY CENTER LINES, CLASS I,	TAPE	0.55	0.05
614	MILES	TEMPORARY CENTER LINES, CLASS II,		0.19	0.19
614	MILES	TEMPORARY EDGE LINES, CLASS I,	TAPE	0.24	0.05
614	MILES	TEMPORARY EDGE LINES CLASS I,	TYPE R TAPE	0.26	0.26
614	MILES	TEMPORARY CENTER LINES CLASS I,	TYPE R TAPE	0.55	0.55

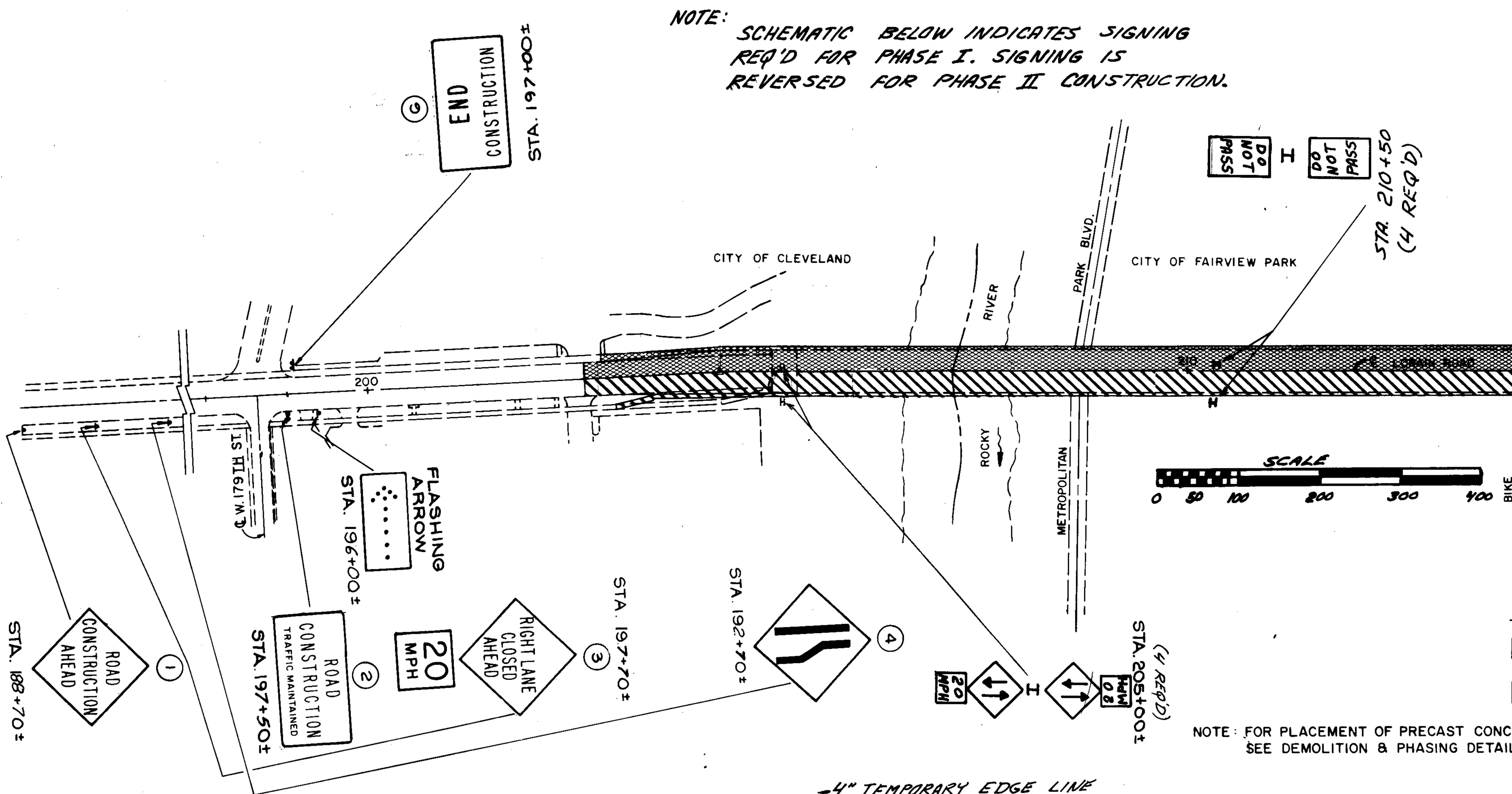
⚠ Quantities carried to Page 99/113

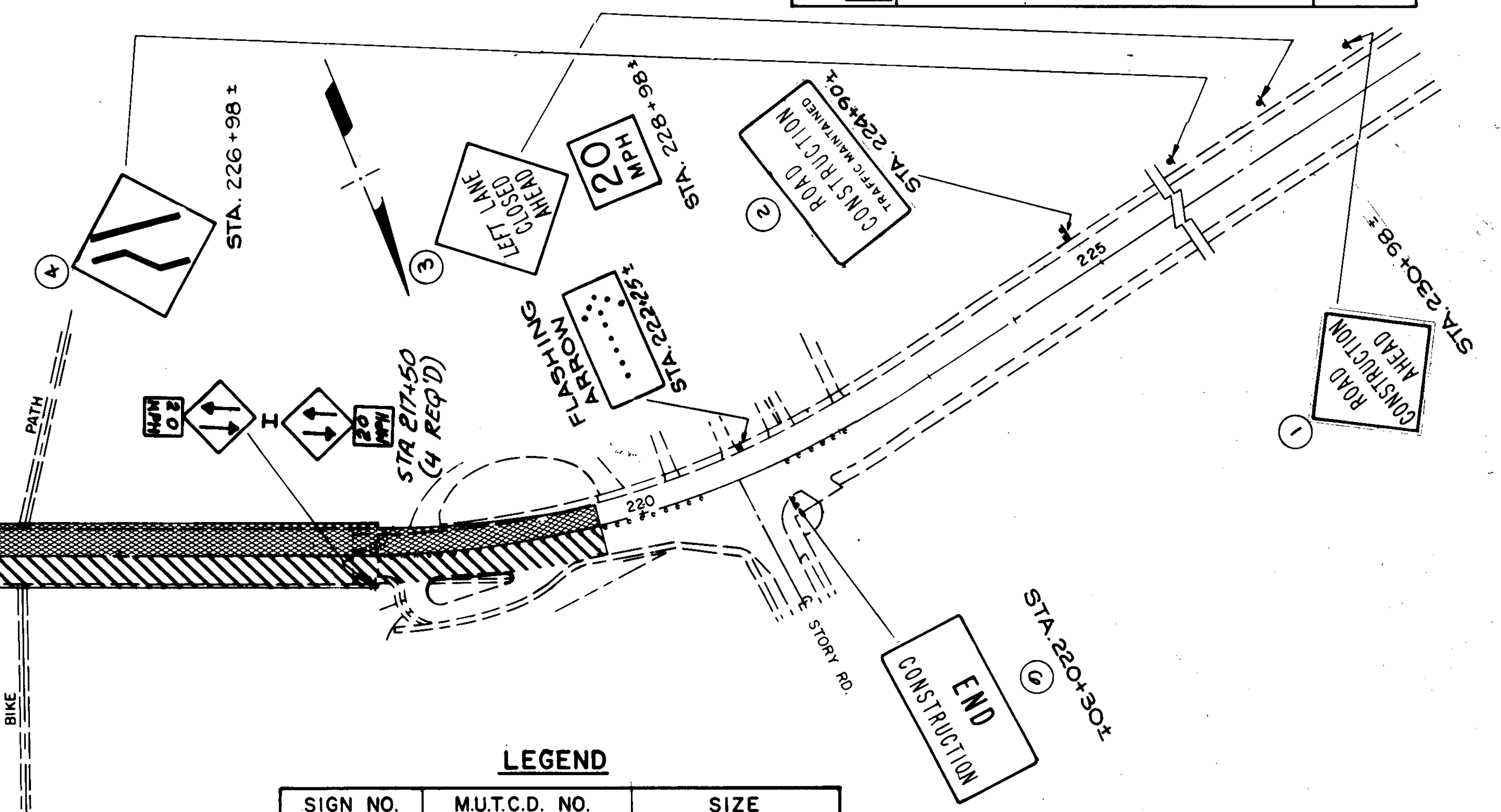
5/13/82

AA B/P# 71942R

CALC. BY. ____ DATE ____ / CHKD. BY. ____ DATE ____	CUY-10-08.69	OHIO / F.H.W.A. REGION 5	9A/113

NOTE: SCHEMATIC BELOW INDICATES SIGNING REQ'D FOR PHASE I. SIGNING IS REVERSED FOR PHASE II CONSTRUCTION.





WORK AREA

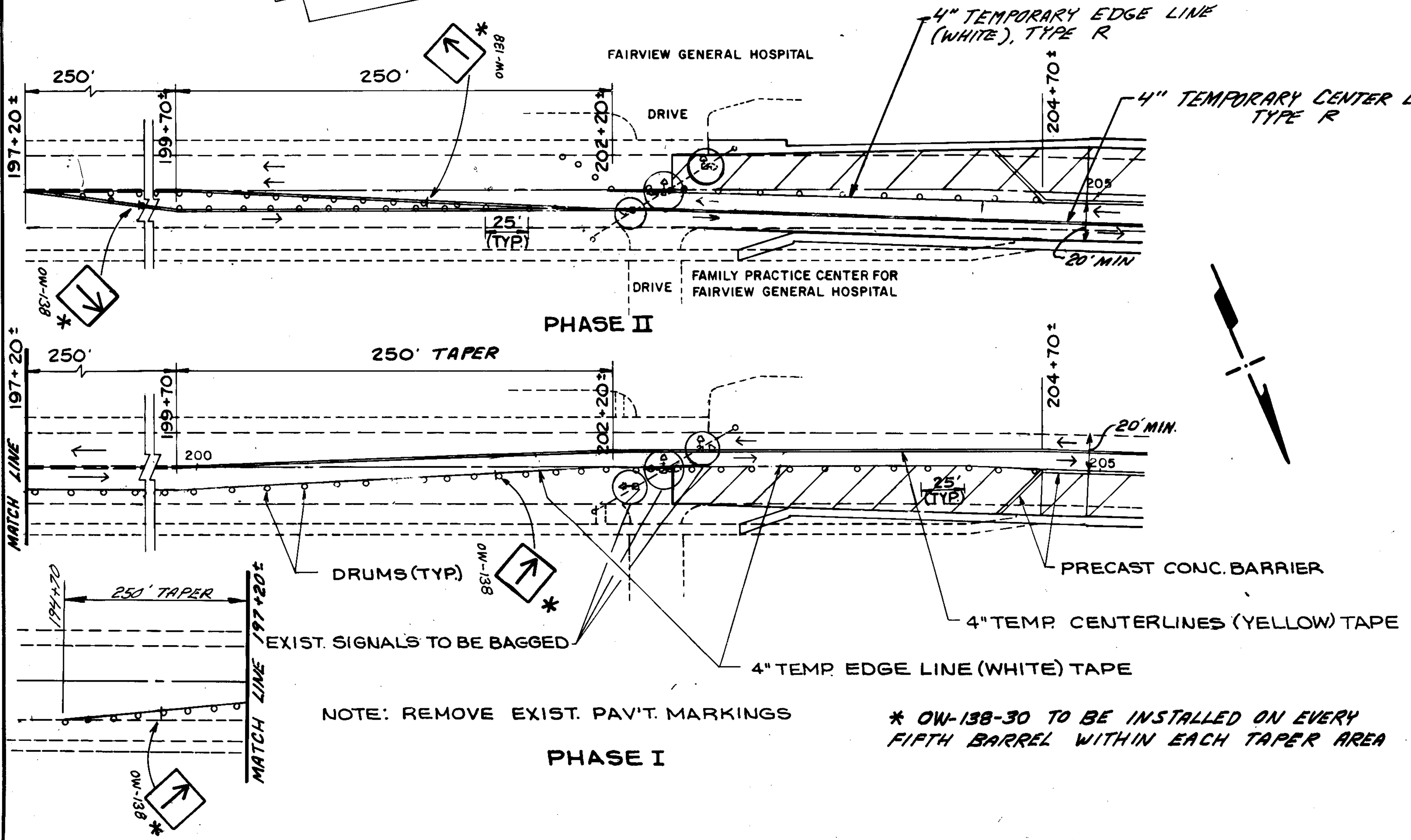
PHASE I

PHASE II

NOTE: FOR PLACEMENT OF PRECAST CONCRETE BARRIER SEE DEMOLITION & PHASING DETAILS SHT. NO. 51

LEGEND

SIGN NO.	M.U.T.C.D. NO.	SIZE
1	OW-128-36	36" X 36"
2	OC-4	48" X 36"
3	OW-122 (123)-36 OW-143-18	36" X 36" 18" X 18"
4	OW-60C(60D)-36	36" X 36"
5	R-33-24	24" X30"
6	OC-8-60	60" X 24"
7	OW-71-36 OW-143-18	36" x 36" 18" x 18"

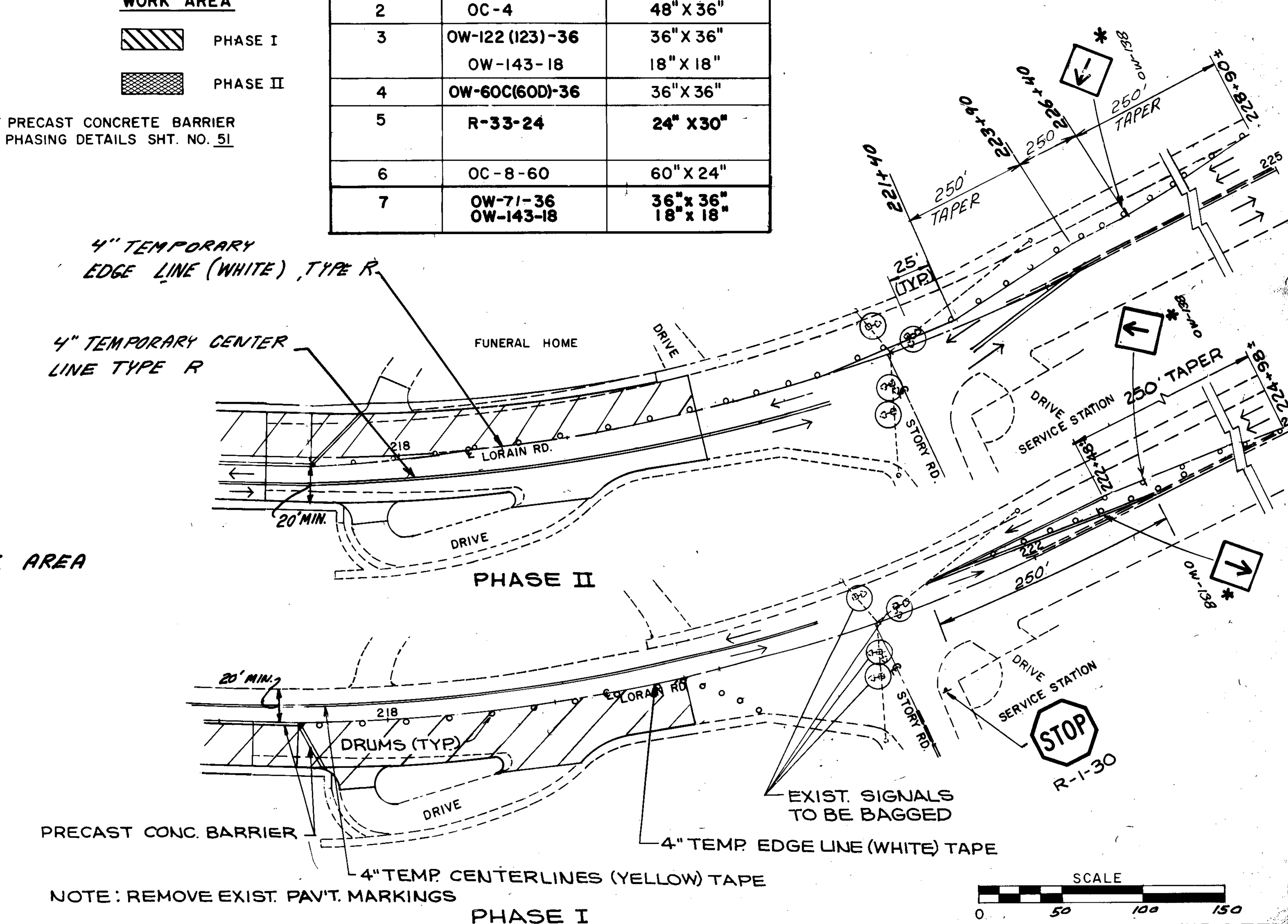


NOTE: REMOVE EXIST. PAV'T. MARKINGS

PHASE I

* OW-138-30 TO BE INSTALLED ON EVERY FIFTH BARREL WITHIN EACH TAPER AREA

WORK AREA



NOTE: REMOVE EXIST. PAV'T. MARKINGS

PHASE I

SCALE
0 50 100 150

MAINTENANCE OF TRAFFIC

LORAIN ROAD BRIDGE Nº 42

AA B/P# 71942R

GENERAL SUMMARY

CALC. BY. T.A.K. DATE 6/82 | CHK'D. BY. R.E.P. DATE 6/82 | CUY-10-08.69 | OHIO | F.H.W.A. REGION 5 | 10/113

SHEET NUMBERS								TOTAL			
5	6	8	11	12	13	22	QUANTITY REMAINING	ITEM	QUANTITY	UNIT	DESCRIPTION
											ROADWAY
							$ 5175	201	LUMP	LUMP	CLEARING AND GRUBBING
			2,268				1191	202	2,268	SQ. YD.	PAVEMENT REMOVED
			4,553				3426	202	4,553	SQ. FT.	WALK REMOVED
			794				435	202	794	LIN. FT.	CURB REMOVED
			200				100	202	200	SQ. YD.	WEARING COURSE REMOVED
					1156		534	202	1,156	LIN. FT.	PIPE REMOVED, 24" AND UNDER
					5		2	202	5	EACH	CATCH BASIN REMOVED
						9	0	202	9	EACH	PRECAST TRAFFIC DIVIDER REMOVED, AS PER PLAN
			824				342	203	824	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
			1,415				144	203	1,415	CU. YD.	EMBANKMENT
			2,467				1254	203	2,467	SQ. YD.	SUBGRADE COMPACTION
	25						16	404	25	CU. YD.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
	50						50	410	50	CU. YD.	TRAFFIC COMPACTED SURFACE TYPE A OR B
	50						50	616	50	M. GAL.	WATER
	5						5	616	5	TON	CALCIUM CHLORIDE
					175		175	606	175	LIN. FT.	GUARDRAIL, TYPE 5,
					1		1	606	1	EACH	ANCHOR ASSEMBLY, STANDARD TYPE B
					1		1	606	1	EACH	ANCHOR ASSEMBLY, STANDARD TYPE T
					3		3	606	3	EACH	BRIDGE TERMINAL ASSEMBLY, STANDARD TYPE A
					2		2	606	2	EACH	ANCHOR ASSEMBLY, STANDARD TYPE A
					1		1	606	1	EACH	BRIDGE TERMINAL ASSEMBLY STANDARD TYPE A MODIFIED AS PER PLAN
			3458				3458	608	3,458	SQ. FT.	4 1/2" CONCRETE WALK, AS PER PLAN
											EROSION CONTROL
400							0	207	400	SQ. YD.	TEMPORARY SEEDING AND MULCHING
50							50	207	50	EACH	STRAW OR HAY BALES
			1,770				1770	659	1,770	SQ. YD.	SEEDING AND MULCHING, AS PER PLAN
100							100	659	100	SQ. YD.	REPAIR SEEDING AND MULCHING
			0.44				0·44	659	0.44	TON	COMMERCIAL FERTILIZER
			1.00				1·00	659	1.00	TON	AGRICULTURAL LIMING
			433				433	660	433	SQ. YD.	SODDING, AS PER PLAN
			366				303	601	366	CU. YD.	GABION SLOPE PROTECTION (9" THICK), AS PER PLAN
	1,383						0	SPECIAL	1,383	LIN. FT.	CLEANING, TELEVISING, AND REHABILITATION OF SEWERS, BY SIZE
											FOR STRUCTURE QUANTITIES, SEE SHEET 47
											FOR LIGHTING QUANTITIES, SEE SHEET 99
											FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET 99

SHEET NUMBERS									TOTAL			
4	6	7	11	12	13	14	6A	QUANTITY REMAINING	ITEM	QUANTITY	UNIT	DESCRIPTION
												DRAINAGE
					330			103	603	330	LIN. FT.	8" DUCTILE IRON PIPE AS PER PLAN
					125			18	603	125	LIN. FT.	12" DUCTILE IRON PIPE AS PER PLAN
		20			50			15	603	70	LIN. FT.	18" DUCTILE IRON PIPE AS PER PLAN
					250			98	603	250	LIN. FT.	12" CONDUIT, TYPE B, 706.02
		20						20	603	20	LIN. FT.	18" CONDUIT, TYPE B, 706.02
					145			0	603	145 (4)	LIN. FT.	12" CONDUIT, TYPE C, 706.01, 706.02, OR 706.08
		20						16	603	20	LIN. FT.	18" CONDUIT, TYPE C, 706.01, 706.02, OR 706.08
		20						20	603	20	LIN. FT.	21" CONDUIT, TYPE C, 706.02;
		15						15	603	15	LIN. FT.	24" CONDUIT, TYPE C, 706.02,
50								50	603	50	LIN. FT.	6" CONDUIT, TYPE C, 706.01, 706.02, OR 706.08
50								50	603	50	LIN. FT.	6" CONDUIT, TYPE B, 706.02
					80			80	603	80	LIN. FT.	6" CONDUIT, TYPE F
					10			2	604	10	EACH	CATCH BASIN, STANDARD NO. 2-2-B, MODIFIED AS PER PLAN
					2			1	604	2	EACH	CATCH BASIN, STANDARD NO. 3
					6			3	604	6	EACH	CUYAHOGA COUNTY 3-C CATCH BASIN
					5			0	604	5 (6)	EACH	CUYAHOGA COUNTY IC MANHOLE
					3			1	604	3	EACH	MANHOLE, ADJUSTED TO GRADE, WITHOUT INSERTS
					4			1	604	4	EACH	MANHOLE, RECONSTRUCTED TO GRADE
1								2	604	X (4)	EACH	CUYAHOGA COUNTY MANHOLE FRAME NO. 9
1								2	604	X (4)	EACH	CUYAHOGA COUNTY MANHOLE COVER NO. 28
					721			721	605	721	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAINS, 706.08, PERF. AS PER PLAN
												PAVEMENT
				30				30	301	30	CU. YD.	BITUMINOUS AGGREGATE BASE: AC-20; OR RT-11 OR RT-12, AS PER PLAN
		436						240	310	436	CU. YD.	SUBBASE, TYPE II
		118						118	402	118	CU. YD.	ASPHALT CONCRETE, AC-20, AS PER PLAN
		90						90	404	90	CU. YD.	ASPHALT CONCRETE, AC-20, AS PER PLAN
				8				8	404	8	CU. YD.	ASPHALT CONCRETE, AC-20, (DRIVEWAYS), AS PER PLAN
		242						242	407	242	GAL.	TACK COAT
		9						9	407	9	TON	COVER AGGREGATE
		2,175						1,092	451	2,175	SQ. YD.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT, MODIFIED AS PER PLAN
		791						418	609	791	LIN. FT.	CURB, STANDARD TYPE 2B
				104				104	609	104	LIN. FT.	CURB, STANDARD TYPE 6
		293						163	611	293	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB (T=15")
		2,700						1,350	622	2,700	LIN. FT.	TEMPORARY CONCRETE BARRIER
		104						53	SPECIAL	104	LIN. FT.	PRESSURE RELIEF JOINT, STANDARD TYPE B, MODIFIED AS PER PLAN
												WATERWORK
					1			1	202	1	EACH	MANHOLE (METER VAULT) REMOVED, AS PER PLAN
					5			2	SPECIAL	5	EACH	VALVE BOX ADJUSTED TO GRADE
					1			1	SPECIAL	1	EACH	WATER SERVICE STOP BOX ADJUSTED TO GRADE
							800	800	SPECIAL	800	LBS.	MISCELLANEOUS METAL
					2			1	SPECIAL	2	EACH	SERVICE CONNECTIONS EXTENDED, BY SIZE
					1			1	SPECIAL	1	EACH	INSTALL NEW 1-1/2" METER SETTING, COMPLET & RESET METER
					1			1	SPECIAL	1	EACH	METER VAULT
												MISCELLANEOUS
	LUMP							0	614	LUMP	LUMP	MAINTAINING TRAFFIC
LUMP								0	623	LUMP	LUMP	CONSTRUCTION LAYOUT STAKES, AS PER PLAN
LUMP								0	624	LUMP	LUMP	MOBILIZATION, AS PER PLAN

○ - Quantity after change order

CALC. BY TGW DATE 8/81	CUY-10-08.69	OHIO	11/113
CHKD. BY PLR DATE 2/82		F.H.W.A. REGION 5	

CALCULATIONS

ROADWAY

ITEM 203 - EARTHWORK

LOCATION	EXCAVATION	EMBANKMENT
LORAIN ROAD	CU. YDS.	CU. YDS.
STA. 202+83.17 TO STA. 219+58.00	824	1415

ITEM 202 - WALK REMOVED

LOCATION	CALCULATION	QUANTITY
STA. 203+00.00 TO STA. 204+93.17 (RT.)	194' X 6'	1,164.00
STA. 202+83.17 TO STA. 204+93.17 (LT.)	88' X 8' + 55' X 7' + 69' X 6'	1,503.00
STA. 217+23.00 TO STA. 219+58.00 (RT.)	55' x 5' + 79' x 3'	512.00
STA. 217+23.00 TO STA. 219+58.00 (LT.)	230' x 6'	1,380.00
	TOTAL	4,559.00 SQ. FT.

ITEM 202 - PAVEMENT REMOVED

LOCATION	CALCULATION	QUANTITY
LORAIN ROAD		
STA. 202+83.17 TO STA. 204+68.17	185' x 40.55' x 1 / 9	833.53
STA. 217+48.00 TO STA. 219+58.00 (RT.)	212.65 x 24.11' x 1 / 9	569.67
STA. 217+48.00 TO STA. 219+58.00 (LT.)	207.71' x 20.81' x 1 / 9	480.27
APPROACH SLABS	40' x 25'x2 x 1 / 9	222.22
DRIVEWAYS		
STA. 217+83.17 (RT.)	PLANIMETERED	55.56
STA. 217+96.00 (LT.)	PLANIMETERED	35.56
STA. 219+00.00 (RT.)	PLANIMETERED	71.44
	TOTAL	2,268.25 SQ. YDS.

ITEM 202 - CURB REMOVED

LOCATION	CALCULATION	QUANTITY
STA. 202+83.17 TO STA. 204+68.17	185' x 2	370.00
STA. 217+48.00 TO STA. 219+58.00 (RT.)	ROLLED	218.00
STA. 217+48.00 TO STA. 219+58.00 (RT.)	ROLLED	206.00
	TOTAL	794.00 LIN. FT.

ITEM 202 - 1" WEARING COURSE REMOVED

LOCATION	CALCULATION	QUANTITY
STA. 202+63.17 TO STA. 202+83.17	20' X 40' X 1 / 9	88.89
STA. 219+58.00 TO STA. 219+78.00	20' X 50' X 1 / 9	111.11
	TOTAL	200.00 SQ. YDS.

ITEM 203 - SUBGRADE COMPACTION

LOCATION	CALCULATION	QUANTITY
UNDER ITEM 451 FROM TOTALS	2,174.46 SQ. YD.	2,174.46
UNDER APPROACH SLABS ITEM 611 FROM TOTALS	292.63 SQ. YD.	292.63
	TOTAL	2,467.09 SQ. YD.

PAVEMENT

ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT MODIFIED AS PER PLAN

MODIFIED AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 202+83.17 TO STA. 204+68.17	PLANIMETERED	942.93
STA. 217+48.00 TO STA. 219+58.00 (NORTH OF ℄) AVE. WIDTH x AVE. LENGTH	212.91' x 27.23' x 1 / 9	644.17
STA. 217+48.00 TO STA. 219+58.00 (SOUTH OF ℄) AVE. WIDTH x AVE. LENGTH	207.33' x 23.59' x 1 / 9	543.43
UNDER FLEXIBLE PAVEMENT	SUBTOTAL	2,130.53 SQ. YDS.
UNDER TYPE 2B CURB FROM TOTALS	790.73' x 0.5' x 1 / 9	43.93
	TOTAL	2,174.46 SQ. YDS.

ITEM 310 - SUBBASE, TYPE II

LOCATION	CALCULATION	QUANTITY
LORAIN ROAD		
UNDER ITEM 451 FROM TOTALS	2,174.46 SQ. YD. x 6" x 1 / 36	362.41
UNDER APPROACH SLABS ITEM 611 FROM TOTALS	292.63 SQ. YD. x 6" x 1 / 36	48.77
DRIVEWAYS		
STA. 217+83.00 (RT.)	38.56 SQ. YD. x 6" x 1 / 36	6.43
STA. 217+96.00 (LT.)	29.67 SQ. YD. x 6" x 1 / 36	4.95
STA. 217.96.00 (LT.) UNDER SIDEWALK	19.22 SQ. YD. x 4" x 1 / 36	2.14
STA. 219+00.00 (RT.)	65.22 SQ. YD. x 6" x 1 / 36	10.87
	TOTAL	435.57 CU. YDS.

ITEM 402 - 1 3/4" ASPHALT CONCRETE AC-20, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
ON ITEM 451 FROM SUBTOTAL	2,130.53 SQ. YD. x 1.75" x 1 / 36	103.57
APPROACH SLABS FROM ITEM 611 TOTALS	292.63 SQ. YD. x 1.75" x 1 / 36	14.23
DEDUCT FOR CURB	(50' + 50.04') x 0.5' x 1.75" x 1 / 324	-0.27
	TOTAL	117.53 CU. YDS.

ITEM 404 - 1 1/4" ASPHALT CONCRETE AC-20, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
ON ITEM 451 FROM SUBTOTAL	2,130.53 SQ. YD. x 1.25" x 1 / 36	73.98
APPROACH SLABS FROM ITEM 611 TOTALS	292.63 SQ. YD. x 1.25" x 1 / 36	10.16
DEDUCT FOR CURB	(50' + 50.04') x 0.5' x 1.25" x 1 / 324	- .19
	TOTAL	83.95 CU.YDS.

ITEM 404 - 1" ASPHALT CONCRETE AC-20, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 202+63.17 TO STA. 202+83.17	88.89 SQ.YD. X 1" X 1/36	2.47
STA. 219+58.00 TO STA. 219+78.00	111.11 SQ.YD. X 1" X 1/36	3.09
	TOTAL	5.56 CU.YDS.

ITEM 407 - TACK COAT @ 0.10 GAL./SQ. YD.

LOCATION	CALCULATION	QUANTITY
UNDER ITEM 402 FROM TOTAL	117.53 CU. YD. x 36 / 1.75" x 0.10 GAL./SQ. YD.	241.78
	TOTAL	241.78 GAL.

ITEM 407 - COVER AGGREGATE

LOCATION	CALCULATION	QUANTITY
ON ITEM 407 TACK COAT FROM TOTALS	241.78 GAL. x SQ. YD./0.10 GAL x 7 LB/SQ. YD. x 1 / 2000	8.46
	TOTAL	8.46 TONS

ITEM 608 - 4 1/2" CONCRETE WALK, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 203+00.00 TO STA. 204+88.67 (RT.)	52' x 6' + 138' x 4.5'	933.00
STA. 202+83.17 TO STA. 204+88.67 (LT.)	72' x 8' + 134' x 4.5'	1,179.00
STA. 217+49.56 TO STA. 219+58.00 (RT.)	20' x 5' + 7' x 5'	135.00
STA. 217+49.56 TO STA. 219+58.00 (LT.)	172' x 6' + 5.25' x 34'	1,210.50
	TOTAL	3,457.50 SQ. FT.

ITEM 609 - CONCRETE CURB TYPE 2B

LOCATION	CALCULATION	QUANTITY
STA. 202+83.17 TO STA. 204+68.17 (RT.)	184.08'	184.08
STA. 202+83.17 TO STA. 204+68.17 (LT.)	185.93'	185.08
STA. 217+48.00 TO STA. 219+58.00 (RT.)	215.93'	215.93
STA. 217+48.00 TO STA. 219+58.00 (LT.)	204.67	204.79
	TOTAL	790.73 LIN. FT.

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T = 15")

LOCATION	CALCULATION	QUANTITY
STA. 204+68.17 TO STA. 204+93.17	PLANIMETERED	145.41
STA. 217+23.00 TO STA. 217+48.00	PLANIMETERED	147.22
	TOTAL	292.63 SQ. YDS.

ITEM 622 - TEMPORARY CONCRETE BARRIER

LOCATION	CALCULATION	QUANTITY
STA. 204+40.00 TO STA. 204+65.00	35.00'	35.00
STA. 204+65.00 TO STA. 217+50.00	1280.00'	1280.00
STA. 217+50.00 TO STA. 217+80.00	35.00'	35.00
		1350.00 LIN. FT.

1350.00 x 2 = 2700.00 LIN. FT.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE B, MODIFIED, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 204+43.00	51'	51.00
STA. 217+73.00	53'	53.00
	TOTAL	104.00 LIN. FT.

NOTE: ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

CALCULATIONS

ASPHALT FOR DRIVEWAYS

DRIVEWAYS

ITEM 301 - BITUMINOUS AGGREGATE BASE, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 217+83.00 (RT.) (8")	38.56 SQ. YD. x 8.00" x 1 / 36	8.57
STA. 217+96.00 (LT.) (8")	29.67 SQ. YD. x 8.00" x 1 / 36	6.59
STA. 219+00.00 (RT.) (8")	65.22 SQ. YD. x 8.00" x 1 / 36	14.49
	TOTAL	29.65 CU. YDS.

ITEM 404 - ASPHALT CONCRETE AC-20 (DRIVEWAYS)

LOCATION	CALCULATION	QUANTITY
STA. 217+83.00 (RT.) (2")	38.56 SQ. YD. x 2.00" x 1 / 36	2.14
STA. 217+96.00 (LT.) (2")	29.67 SQ. YD. x 2.00" x 1 / 36	1.65
STA. 219+00.00 (RT.) (2")	65.22 SQ. YD. x 2.00" x 1 / 36	3.62
	TOTAL	7.41 CU. YDS.

ITEM 609 - CONCRETE CURB TYPE 6

LOCATION		CALCULATION	QUANTITY
STA. 217+48 TO STA. 219+58.00 (RT.)			
R = 15.50	= 83°45'20"	L = 22.66'	22.66
R = 11.40	= 173°48'56"	L = 34.58'	34.58
R = 4.50	= 167°31'02"	L = 13.16'	13.16
R = 58.54	= 33°06'23"	L = 33.83'	33.83
		TOTAL	104.23 LIN. FT.

EROSION CONTROL

ITEM 659 - AGRICULTURAL LIMING

LOCATION	CALCULATION	QUANTITY
FROM ITEM 659 SEEDING AND MULCHING	1,770 S.Y. x 0.00045 TONS	0.80
FROM ITEM 660 SODDING AS PER PLAN	433 S.Y. x 0.00045 TONS	0.20
	TOTAL	1.00 TONS

ITEM 659 COMMERCIAL FERTILIZER

LOCATION	CALCULATION	QUANTITY
FROM GENERAL NOTE SHEET 5		0.20
FROM ITEM 659 SEEDING AND MULCHING	1,770 S.Y. x 0.00009 TONS	0.20
FROM ITEM 660 SODDING AS PER PLAN	433 S.Y. x 0.00009 TONS	0.04
	TOTAL	0.44 TONS

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 207+90.00 TO STA. 208+10.00	TOTAL FROM X - SECTIONS	154.00
STA. 213+50.00 TO STA. 215+52.00	TOTAL FROM X - SECTIONS	1,616.00
	TOTAL	1,770.00 S.Y.

ITEM 660 - SODDING, AS PER PLAN

LOCATION	CALCULATION	QUANTITY
STA. 202+83.17 TO STA. 204+93.17	TOTAL FROM X - SECTIONS	218.00
STA. 217+23.00 TO STA. 219+58.00	TOTAL FROM X - SECTIONS	215.00
	TOTAL	433.00 SQ.YD.

ITEM 601 - GABION SLOPE PROTECTION (9"), AS PER PLAN

LOCATION	CALCULATION	QUANTITY
WEST ABUTMENT		
STA. 215+52 TO STA. 217+20	183' x 72' x 9 x 1 x 324	366.00
	TOTAL	366.00 CU. YDS.

NOTE:
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 10.

QUANTITY SUB-SUMMARY

CALC. BY: L.L.L. 8/81
CHECKED BY: T.G.W. 2/82

FHWA REGION	STATE	PROJECT	
5	OHIO		

CUY-10-08.69

13/113

☐ — Quantity Remaining

DRAINAGE

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER LIN. FT.	202 CATCH BASINS REMOVED EACH	603 8" DUCTILE IRON PIPE CL. 50 LIN. FT.	603 12" DUCTILE IRON PIPE CL. 50 LIN. FT.	603 18" DUCTILE IRON PIPE CL. 50 LIN. FT.	603 6" TYPE "F" CONDUIT LIN. FT.	603 12" TYPE "B" CONDUIT 706.02 LIN. FT.	603 12" TYPE "C" CONDUIT 706.01, 706.02 OR 706.06 LIN. FT.	604 CUTAHOGA COUNTY 3-C CATCH BASIN EACH	604 CATCH BASIN STD. NO. 22-B MODIFIED AS PER PLAN EACH	604 CATCH BASIN STD. NO. 3	604 CUYAHOGA COUNTY MANHOLE MH-1C EACH	604 MANHOLE RECON TO GRADE EACH	MANHOLE ADJ. TO GRADE	605 6" UNCL. PIPE U.D. 706.08 PERF. AS PER PLAN LIN. FT.
	R-1	204+04	204+84	RT.	80 | 0														
	R-2	204+84		LT&R	42 | 21	2 | 11													
	R-3	204+04		LT.	30														
14	R-4	204+08		RT.	8 | 0	1 | 01													
	R-5	202+83	204+84	LT.	201														
	R-6	202+83	204+84	RT.	201 | 0														
15	R-7	208+00	208+12	LT.	LB | 0														
	R-8	208+00	208+12	RT.	LB | 0														
	R-9	210+56	210+65	LT.	LB | 0														
17	R-10	210+56	210+65	RT.	LB | 0														
	R-11	213+08	213+22	LT.	LB | 0														
	R-12	213+08	213+22	RT.	LB | 0														
	R-13	215+51	215+60	LT.	LB | 0														
	R-14	215+51	215+60	RT.	LB | 0														
	R-15	216+60	217+20	LT&R	28 | 0														
19	R-16	216+60	217+20	RT.	60 | 0														
	GR-3	217+23	217+83	LT.															
	GR-4	217+23	217+37	RT.															
	R-19	217+56	218+07	RT.	51 | 0	1 | 01													
	R-20	218+07	218+72	RT.	65 | 0														
	R-21	217+56	219+58	LT.	202														
14	P-1	204+04	204+60	LT.							57 | 0								
	P-2	204+60		LT&R							52 | 27				2 | 11				
	P-3	208+00	208+10	LT.								13 | 0		1 | 01					
	P-4	208+00	208+10	RT.								13 | 0		1 | 01					
15	P-5	208+11.08		LT.			7 | 0												
	P-6	208+11.08		LT.			7 | 0												
	P-7	208+11.08		RT.			7 | 0												
	P-8	208+11.08		RT.			7 | 0												
	P-9	210+56	210+65	LT.															
	P-10	210+36	210+65	RT.								12 | 0		1 | 01					
	P-11	210+67.21		LT.								12 | 0		1 | 01					
	P-12	210+67.21		LT.			7 | 0												
	P-13	210+67.21		RT.			7 | 0												
	P-14	210+67.21		RT.			7 | 0												
17	P-15	213+08	213+22	LT.			7 | 0												
	P-16	213+08	213+22	RT.								16 | 0		1 | 01					
	P-17	213+23.29		LT.								16 | 0		1 | 01					
	P-18	213+23.29		LT.			7 | 0												
	P-19	213+23.29		RT.			7 | 0												
	P-20	213+23.29		RT.			7 | 0												
	P-21	215+20	215+50	℄					30 | 0										
	P-22	215+51	215+60	LT.								12 | 0		1 | 0		1 | 01			
	P-23	215+51	215+60	RT.								12 | 0		1 | 0					
	P-24	215+59.87		LT.			7 | 0												
	P-25	215+59.87		LT.			7 | 0												
	P-26	215+59.87		RT.			7 | 0												
	P-27	215+59.87		RT.			7 | 0												
	P-28	215+51	215+70	RT.					20 | 0							1 | 0			
	P-29	215+70	216+04	RT.				38 | 0							1 | 0			
	P-30	216+04		RT.			48 | 0												
	P-31	216+04		LT.			48 | 0												
19	P-32	216+30	216+43	RT.				44 | 0								1 | 0	1		
	P-33	216+43		LT.			48 | 0												
	P-34	216+43		RT.			24 | 0												
	P-35	216+43	216+82	℄				45 | 0								1 | 0			
	P-36	216+82		LT.			48 | 0												
	P-37	216+82		RT.			48 | 0												
	P-38	216+82	217+19	LT.			46												
	P-39	216+82	217+19	RT.			46												
	P-40	217+26	217+56	RT.								34 | 0							
	P-41	217+56		LT&R							42 | 29		2 | 11						
	P-42	219+48	219+50	RT.							13 | 0		1 | 0						
	P-43	217+19		LT.			6												
	P-44	217+19		RT.			6												
	P-45	219+48	219+53	LT&R															
14	P-46	202+90	203+00	LT.							33 | 24		1						
	P-47	202+90	203+00	RT.							22 | 23		1						
	U-16-2	202+83	204+60	LT&R							11 | 0		1 | 01			1 | 01			
14	U-3-4	204+60	204+95	LT&R					20										334
	GR-1	204+18	204+93	LT.					20										50
	GR-2	203+68	204+93	RT.															
	U-7	217+02	218+70	RT.															110
19	U-8	217+56	219+58	LT.					10										187
	U-9	217+27	217+56	LT.					10										20
	U-10	217+27	217+56	RT.					10										20
14	M-1	204+03		RT.													1 | 01		
15	M-2	208+00		℄													1 | 0		
	M-3	218+74		RT.													1 | 01		
19	M-4	218+80		RT.													1 | 0		
	M-5	219+48		LT.															
	TOTAL				1156	5	330	125	50	80	250	145	6	10	2	5	4	3	721

ROADWAY

SHEET NO.	REF. NO.	606 GUARD-RAIL TYPE 5 LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE A EACH	606 ANCHOR ASSEMBLY TYPE B EACH	606 ANCHOR ASSEMBLY TYPE T EACH	606 ANCHOR ASSEMBLY TYPE A EACH	606 Bridge TERMINAL ASSEMBLY TYPE A MODIFIED AS PER PLAN EACH
	R-1						
	R-2						
	R-3						
14	R-4						
	R-5						
	R-6						
15	R-7						
	R-8						
	R-9						
17	R-10						
	R-11						
	R-12						
	R-13						
	R-14						
	R-15						
19	R-16						
	GR-3						
	GR-4	12.5	1	1		1	
	R-19	12.5			1		1
	R-20						
	R-21						
14	P-1						
	P-2						
	P-3						
	P-4						
15	P-5						
	P-6						
	P-7						
	P-8						
	P-9						
	P-10						
	P-11						
	P-12						
	P-13						
	P-14						
17	P-15						
	P-16						
	P-17						
	P-18						
	P-19						
	P-20						
	P-21						
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	P-23						
	P-24						
	P-25						
	P-26						
	P-27						
	P-28						
	P-29						
	P-30						
	P-31						
19	P-32						
	P-33						
	P-34						
	P-35						
	P-36						
	P-37						
	P-38						
	P-39						
	P-40						
	P-41						
	P-42						
	P-43						
	P-44						
	P-45						
14	P-46						
	P-47						
	U-16-2						
14	U-3-4						
	GR-1						
	GR-2	50	1		1		
	U-7	100	1		1		
19	U-8						
	U-9						
	U-10						
14	M-1						
15	M-2						
	M-3						
19	M-4						
	M-5						
	TOTAL	175.00	3	1	1	2	1

BENCH MARK: CROSS CUT ON S.W. CORNER C.E.I. SQ. M.H., 24' LEFT OF STA. 201+65. ELEV. = 741.629

WATERWORK QUANTITIES									
			202	SPECIAL					
REF. NO.	LOCATION	SIDE	MANHOLE (METER VAULT) REMOVED	ADJUST VALVE BOX TO GRADE	ADJUST WATER SERVICE STOP BOX TO GRADE	EXTEND 1-1/2" WATER SERVICE CONN.	EXTEND 1" WATER SERVICE CONN.	INSTALL NEW 1-1/2" METER SETTING & RESET METER	METER VAULT
			EACH	EACH	EACH	EACH	EACH	EACH	EACH
VA-1	STA. 203+22	RT.		~~1~~ [0]					
VA-2	STA. 203+24	RT.		~~1~~ [0]					
VA-3	STA. 203+71	RT.		~~1~~ [0]					
VA-4	STA. 203+74	LT.			1				
VA-5	STA. 204+55	RT.		1					
VA-6	STA. 204+67	RT.		1					
VA-7	STA. 204+75	RT.					~~1~~ [0]		
WM-1	STA. 203+70	RT.	1						
WM-2	STA. 203+70	RT.				1		1	1
TOTAL			1	5	1	1	1	1	1

☐ - Quantity Remaining


D.H.
P.I. STA. 204+24.57
℄ LORAIN RD.
MON.
D.H.
REF. TIES
CITY OF CLEVELAND
BEGIN WORK STA. 202+63.17
S.L.M. 8.65
BEGIN PROJECT STA. 202+83.17
BHF-69(42)
STA. 204+60, 25' LT. STD. NO. 3 C.B. GRATE ELEV. = 739.14 ℄ ELEV. = 735.52 - 12"
ANGLE BREAK STA. 204+24.57
4" GAS VENT ON 2.5' CONC. PAD
GAS WELL
CONC. BLDG.
SPRINKLERS
EXIST. C.E.I. M.H.
PROP. R/W
EXIST. C.B. TO BE REMOVED
STA. 202+90, 20' LT. CUY. CO. 3-C C.B. GRATE ELEV. = 740.26 ℄ ELEV. = 736.76
6" CURB
ASPHALT DR.
R.R. TIES RET. WALL
EXIST. O.B.T. M.H.
CONST. LIMITS
EXIST. R/W
ABANDONED C.E.I. DUCTS
EXIST. O.B.T. DUCTS
SIGN BASE
SIGN
METAL BOX
CONC. PAD
TRAFFIC POLE
8' SIDEWALK
32 L.F. 12" @ 1.00%
PROP. 6" U.D.
FACE OF CURB
EXIST. C.B. TO BE REMOVED
200
℄ LORAIN RD.
201
202
203
204
205
177°49'21"
ELEC. BOX
EXIST. 6" U.D. TO BE REMOVED
EXIST. 18" STORM SEWER @ 0.15%
GRASS
CONC. DR.
6' SIDEWALK
ASPH.
6" CURB
EXIST. R/W
CONC. WALK
WALK
BLDG.
DRAIN
CONST. LIMITS
8" V.C.P.
11 L.F. 12" @ 1.00%
EXIST. DUCTS
EXIST. C.E.I.
STA. 202+83, LT. & RT. MEET EXIST. 6" U.D.
STA. 204+03, 14' RT. M.H. TO BE ADJUSTED TO GRADE TOP ELEV. = 739.70 ℄ ELEV. = 732.90 - EX. 18" N & E 733.60 - 12"
STA. 204+60, 27' RT. STD. NO. 3 C.B. GRATE ELEV. = 739.14 ℄ ELEV. = 735.00 - 12"
EXIST. C.E.I. M.H.
1½" WATER LINE
END APPROACH SLAB STA. 204+93.17
MATCH LINE STA. 205+25 SEE SHEET 15
STA. 203+00, 14' RT. CUY. CO. NO. 1-C M.H. TO BE CONSTRUCTED OVER EXIST. 18" STORM SEWER TOP ELEV. = 740.43 ℄ ELEV. = 733.06 - 18" 736.65 - 12" N 736.44 - 12" S
STA. 202+90, 20' RT. CUY. CO. 3-C C.B. GRATE ELEV. = 740.26 ℄ ELEV. = 736.76 - 12"

△ (P-46), (P-2), (R-2) are completed under Phase I - up to centerline of Lorain Road.

╳ - Completed △

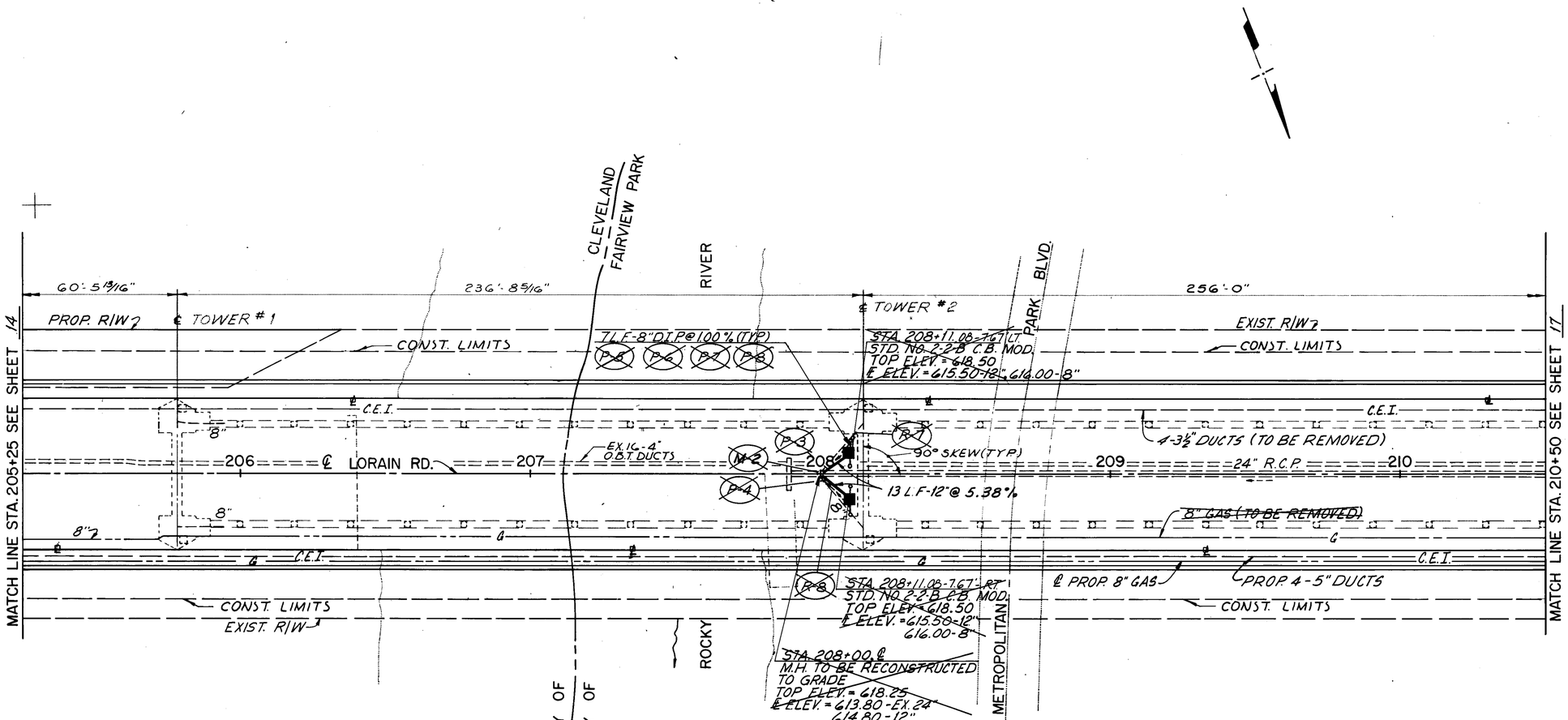
NOTE: FOR QUANTITIES SEE SHEET 13.

LEGEND

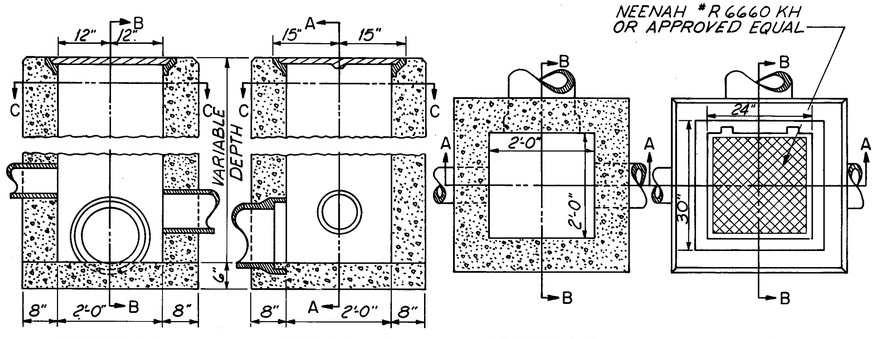
▨ REMOVE 1" OF EXISTING SURFACE COURSE AND REPLACE WITH 1" OF ITEM 404 ASPHALT CONC.

0 20 40 60
SCALE IN FEET

CALC. BY. LLL DATE 2/82	CUY-10-08.69	OHIO	15/113
CHKD. BY. R.E.R. DATE 2/82		F.H.W.A. REGION 5	



STANDARD NO. 2-2-B CATCH BASIN, MODIFIED AS PER PLAN, USING SOLID LID



NOTE: SEE PLAN SHEETS FOR SIZE & LOCATION OF PIPES.

△ X - COMPLETED

NOTE: FOR QUANTITIES SEE SHEET 13.

0 20 40 60
SCALE IN FEET

PLAN TO STA. 210

CUY-10-08.69 | OHIO | F.H.W.A. REGION 5 | 16/113

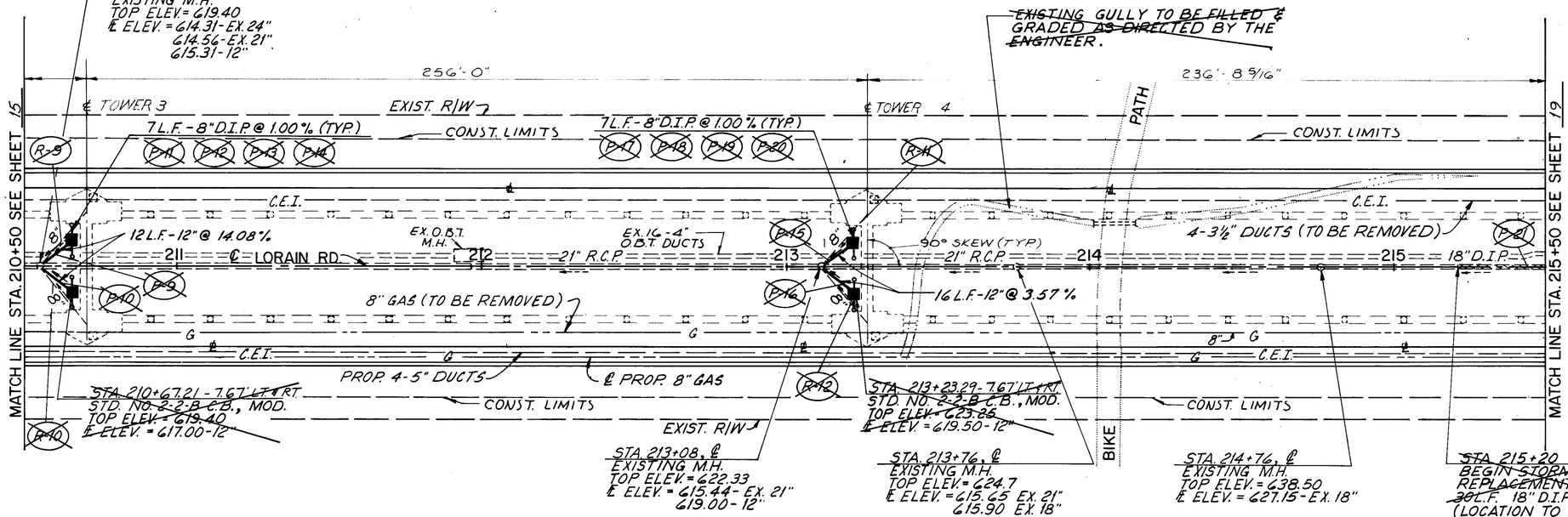
PROFILE-STA. 202+83.17 TO STA. 210+50

LORAIN ROAD BRIDGE Nº 42

CALC. BY. LLL DATE 2/92	CUY-10-08.69	OHIO
CHKD. BY. EER DATE 2/92		F.H.W.A. REGION 5

17/113

CITY OF FAIRVIEW PARK



NOTE:
FROM STA. 215+20 TO STA. 215+70 THE EXISTING 18" STORM SEWER HAS BEEN DESTROYED BY EROSION.

FOR QUANTITIES SEE SHEET 13.

△ X - COMPLETED

0 20 40 60
SCALE IN FEET

PLAN

FINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED / NOTE BOOK / NO. / BY / DATE

ORIGINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED / NOTE BOOK / NO. / BY / DATE

740
730
720
710
700
690
680
670
660
650
640
630
620
610

0% ELEV = 739.72

MATCH LINE STA. 210+50 SEE SHEET 16

MATCH LINE STA. 215+50 SEE SHEET 20

STA. 210+70.8 ℄ TOWER # 3

STA. 213+26.8 ℄ TOWER # 4

℄ GRADE UNDER STRUCTURE

℄ BIKE PATH

PROPOSED ℄ GRADE UNDER STRUCTURE

28.0%

EX. 21" R.C.P.

EX. 21" R.C.P.

EX. 18" C.I.P.

EX. 18" C.I.P.

STA. 210+56 ℄ EXIST M.H.
619.4

620.2

620.9

621.5

621.5

STA. 213+06 ℄ EXIST M.H.
622.0

624.0

STA. 213+76 ℄ EXIST M.H.

625.2

632.0

STA. 214+76 ℄ EXIST M.H.

642.5

646.0

210 211 212 213 214 215 216

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
TELEDYNE
PRINTED IN U.S.A.

PROFILE - STA. 210+50 TO STA. 215+50

LORAIN ROAD BRIDGE Nº 42

CALC. BY L.L.L. DATE 2/82
CHKD. BY R.E.P. DATE 2/82

CUY-10-08.69

OHIO F.H.W.A. REGION 5

19/113


VARIES 12" MIN.
12" MIN. (TYP.)
4" MIN.
4" MIN.
COMPACTED OR UNDISTURBED EARTH
CLASS C CONCRETE (COST TO BE INCLUDED WITH THE PIPE INSTALLATION)
KEY BLOCK DETAIL
*USE AT EACH DUCTILE IRON PIPE JOINT
BENCH MARK: O.M.694, IN ROADWAY N.E. COR. LORAIN RD. & STORY RD., 65' RT. OF STA. 220+87±. ELEV. = 742.068
CITY OF FAIRVIEW PARK
D.H.
P.C. STA. 217+27.30
284.00'
109.84'
MON.
STORY RD.
LORAIN RD.
P.K. NAIL
HUB
89.53'
O.M. 694
REF. TIES
BEGIN APPROACH SLAB STA. 217+23.00
END WORK STA. 220+60.00
END PROJECT STA. 219+58.00
BHF-69(42)
STA. 219+53, 20' CUY. CO. 3-C C.B. GRATE ELEV. = 741.33 ℄ ELEV. = 737.83-12"
EXIST. C.E.I. M.H. & DUCTS (ABANDONED)
ABANDONED C.E.I. DUCTS
STA. 215+70, 6' RT. CUY. CO. NO.1C M.H. TOP ELEV. = 665.05 ℄ ELEV. = 655.32-18" 655.82-12"
STA. 216+82, ℄ CUY. CO. NO.1C M.H. TOP ELEV. = 713.50 ℄ ELEV. = 709.00-12" 710.00-8"
STA. 215+51, ℄ CUY. CO. NO.1C M.H. TOP ELEV. = 656.25 ℄ ELEV. = 648.90-18" 651.00-12"
LIMITS OF GABION SLOPE PROTECTION
STA. 216+43, ℄ CUY. CO. NO.1C M.H. TOP ELEV. = 693.00 ℄ ELEV. = 686.12-12" 687.50-8"
STA. 217+56, 26' LT. CATCH BASIN 3-C GRATE ELEV. = 739.10 ℄ ELEV. = 735.60
41'-1 3/8" 38'-7 3/8" 38'-7 3/8" 38'-8 1/8"
℄ TOWER #5 ℄ PIER #6 ℄ PIER #7 ℄ PIER #8 ℄ BEARING ABUT. A-2
EXIST. R/W
CONST. LIMITS
PROP. DOWNSPOUTS SEE DETAIL SHEET NO. 91
4-3½" DUCTS
12" STONE PLANTER
CONST. LIMITS PROP. R/W
FLOWER BED
ELEC. BOX
SIGN
G.M. SIGN
PROP. 6" U.D.
6" SIDEWALK
5' SIDEWALK
EX. O.B.T. DUCTS
℄ LORAIN RD.
8" CONC. WALL
EXIST. C.E.I. DUCTS
C.E.I. M.H.
6" SER. CONN.
8" SER. CONN.
TRAFFIC DIVIDERS
EXISTING C.B. TO BE REMOVED
EX. 18" ST. SEWER
EX. SAN. SEWER
REMOVE ALL TRAFFIC DIVIDERS FROM 219+58.00 TO STA. 220+60.00 (TOTAL = 9)
O.M. 694 B.M.
MON.
G. BOX
CONC. DR. APPR.
6" CURB
℄ STORY RD.
4' SIDEWALK
6' SIDEWALK
WOOD RAIL
8" GAS
12" RET. WALL
CONST. LIMITS EX. O.B.T. M.H.
MATCH LINE STA. 215+50 SEE SHEET 17
7 L.F.-8" D.I.P. @1.00% (TYP.)
STA. 216+30, 23' RT. M.H. TO BE RECONSTRUCTED TO GRADE
STA. 215+59.87-7.67' LT. & RT. STD. NO. 2-2-B C.B., MOD. TOP ELEV. = 657.00 ℄ ELEV. = 653.00-12" 654.70-8"
STA. 217+19, 22' RT. & LT. STD. NO. 2-2-B C.B., MOD. TOP ELEV. = 729.50 ℄ ELEV. = 725.50-8"
STA. 216+04, ℄ CUY. CO. NO.1C M.H. TOP ELEV. = 677.25 ℄ ELEV. = 672.50-12" 674.00-8"
STA. 217+56, 26' RT. CATCH BASIN 3-C GRATE ELEV. = 739.10 ℄ ELEV. = 735.00-12" S 733.00-12" NE
STA. 215+52 BEGIN GABION SLOPE PROTECTION
STA. 217+20 END GABION SLOPE PROTECTION
PARKING
7' SIDEWALK
EXIST. R/W
EXIST. C.E.I. M.H.
2 ST. BRK. BLDG.
2" SER. CONN.
6" SER. CONN.
PROP. 6" U.D.
12" SAN. SIGN
STA. 218+80, 28.5' RT. M.H. TO BE RECONSTRUCTED TO GRADE
STA. 218+74, 30' RT. SAN. M.H. TO BE ADJUSTED TO GRADE
STA. 219+48, 14' RT. M.H. TO BE ADJUSTED TO GRADE TOP ELEV. = 741.50 ℄ ELEV. = 737.50-12"
STA. 219+50, 28.5' RT. CUY. CO. 3-C C.B. GRATE ELEV. = 740.81 ℄ ELEV. = 736.80-12"
1½ ST. FR. #18951
8' ASPH. DR.
HEDGE
3' CONC.
9' SLAG DR.
10' SLAG DR.
9' CONC. DR.
SIGN
C.E.I.
W. BOX
O.B.T. M.H.
SAN. M.H.
ST. M.H.
222
221
220
219
218
217
216

* Bridge Terminal Assembly Type A modified as per plan:- The terminal assembly is on radius.

LEGEND

REMOVE 1" OF EXISTING SURFACE COURSE AND REPLACE WITH 1" OF ITEM 404 ASPHALT CONC.

SCALE IN FEET 0 20 40 60

NOTE: FOR QUANTITIES SEE SHEET 13.

△ X — COMPLETED

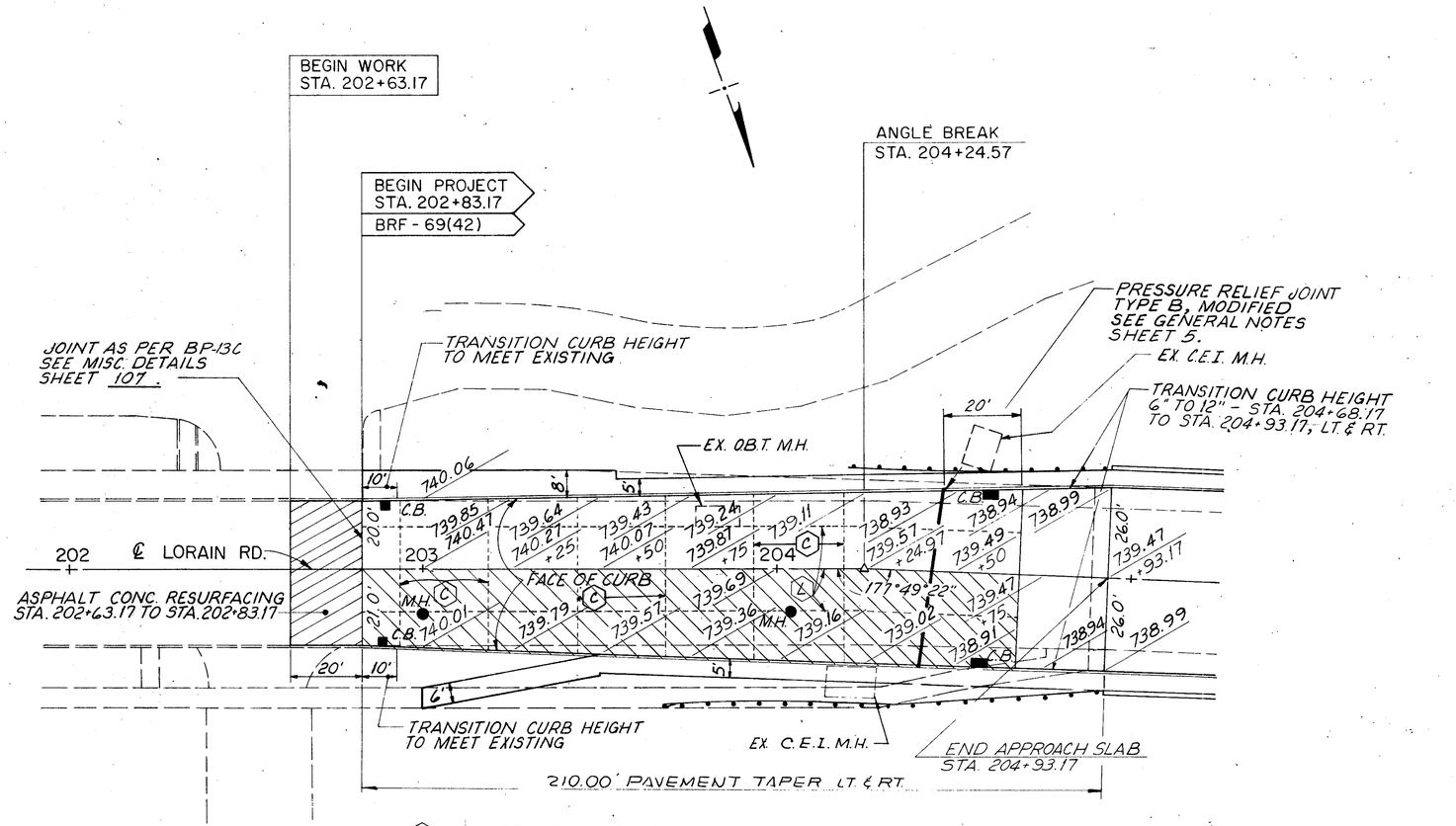
△ (P-41) And (P-45) Completed under centerline of Lorain

PROFILE - STA. 215+50 TO STA. 219+5800

LORAIN ROAD BRIDGE No 42

CALC. BY. T.G.W. DATE 2/82	CUY-10-08.69	OHIO
CHKD. BY. R.E.R. DATE 2/82		F.H.W.A. REGION 5

21/113



(C) CONTRACTION JOINT

(L) STD. LONGITUDINAL JOINT

△9" Reinforced Concrete Pavement and 2-8 Curbs, in place.

NOTE:
ALL ELEV.'S SHOWN ARE THE TOP OF CONC. (3" BELOW FINISHED GRADE).

△ NOTE:
Asphalt, Joint Sealer, Sidewalks and Underdrains have not been done.

0 20 40 60
SCALE IN FEET

LORAIN ROAD BRIDGE № 42

PAVEMENT DETAILS

CALC. BY. TG.W. DATE 2/82	CUY-10-08.69	OHIO
CHKD. BY. R.E.R. DATE 2/82		F.H.W.A. REGION 5

22/113

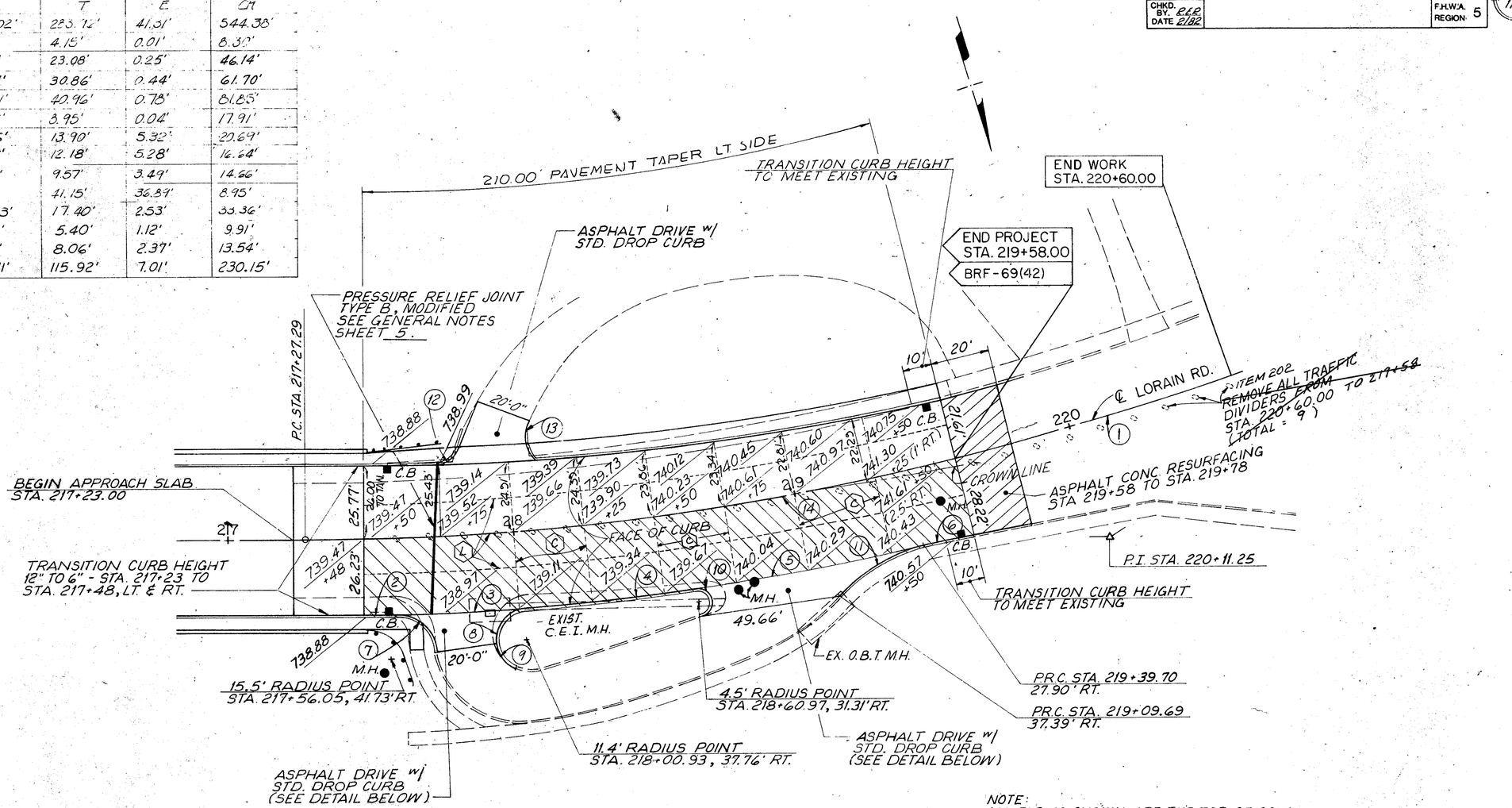
CURVE DATA

CURVE #	Δ	R	D_c	L	T	E	CH
1**	33°06'22"	955.37'	6°00'00"	552.02'	283.76'	41.31'	544.38'
2.	00°26'37"	1071.81'	5°20'45"	8.30'	4.15'	0.01'	8.30'
3†	02°28'00"	1071.81'	5°20'45"	46.14'	23.08'	0.25'	46.14'
4.	03°17'55"	1071.81'	5°20'45"	61.71'	30.86'	0.44'	61.70'
5†	04°22'32"	1071.81'	5°20'45"	81.87'	40.96'	0.78'	81.85'
6.	00°57'26"	1071.81'	5°20'45"	17.91'	8.95'	0.04'	17.91'
7*	83°45'20"	15.50'	———	22.66'	13.90'	5.32'	20.69'
8*	93°46'40"	11.40'	———	18.66'	12.18'	5.28'	16.64'
9*	80°02'16"	11.40'	———	15.92'	9.57'	3.49'	14.66'
10*	167°31'02"	4.5'	———	13.16'	41.15'	36.37'	8.95'
11*	30°06'23"	58.54'	———	33.83'	17.40'	2.53'	33.36'
12.	46°42'00"	12.5'	———	10.19'	5.40'	1.12'	9.91'
13.	63°35'47"	12.5'	———	14.31'	8.06'	2.37'	13.54'
14.	13°50'10"	955.37'	5°59'50"	230.71'	115.92'	7.01'	230.15'

† STD. DROP CURB

* STD. TYPE 6 CONC. CURB

** CHORD DEFINITION OF D_c (ALL OTHER ARC DEFINITION)



NOTE:
ALL ELEV.'S SHOWN ARE THE TOP OF CONC. (3" BELOW FINISHED GRADE)

NOTE:
Asphalt, Joint Sealing, Sidewalks and Underdrains have not been done.

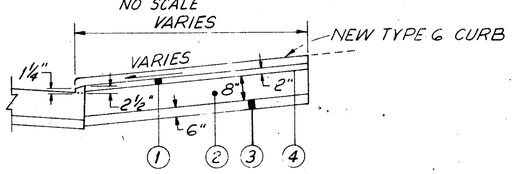
(C) CONTRACTION JOINT

(L) STD. LONGITUDINAL JOINT

9" Reinforced Concrete Pavement and 2-B Curbs, in place.

FLEXIBLE DRIVEWAYS (RT.)

NO SCALE



1 ITEM 404

2 ITEM 301

3 ITEM 310

4 ITEM 408

0 20 40 60

SCALE IN FEET

PAVEMENT DETAILS

LORAIN ROAD BRIDGE No 42

QUANTITY CALCULATIONS
MADE BY TGW DATE 2-1-82
CHECKED BY RIR DATE 2-3-82

CUY-10-08.69

23/113


END AREA CUT FILL
VOLUME CUT FILL
€ LORAIN RD.
STA. 204+03, 14' RT.
M.H. TO BE ADJUSTED TO GRADE
TOP ELEV.= 739.70
€ ELEV.= 732.9-18" E & N
733.6-12" S
EXIST. R/W
6:1
1/4"/Ft.
8:1
8" GAS
8" WATER
EX. 18"
EX. 4-5" C.E.I. DUCTS
ABANDONED C.E.I. DUCTS
EX. 16-4" O.B.T. DUCTS
740.5
204+00
PG=739.94
P-1
49 0
80 0
37 0
47 5
14 5
9 2
14 0
EX. O.B.T. CABLE
740.7
203+50
PG=740.32
STA. 202+90, 20' LT.
CUY. CO. 3-C C.B.
GRATE ELEV.= 740.26
€ ELEV.= 736.76
STA. 203+00, 14' RT.
CUY. CO. NO. 1-C M.H.
TO BE CONSTRUCTED
OVER EXIST. 18" STORM SEWER
TOP ELEV.= 740.13
€ ELEV.= 733.06-18"
736.65-12" N
736.44-12" S
P-46
P-47
32 L.F. 12" @ 1.00%
740.8
203+00
PG=740.72
1' CLEARANCE (MIN.)
11 L.F. 12" @ 1.00%
STA. 202+90, 20' RT.
CUY. CO. 3-C C.B.
GRATE ELEV.= 740.26
€ ELEV.= 736.76-12"
- COMPLETED
ABANDONED C.E.I. DUCTS
EX. 4-5" C.E.I. DUCTS
8" GAS
8" WATER
740.9
202+83.17
MEET EXISTING
PG=740.9
NOTE:
DRAINAGE QUANTITIES SHOWN ON CROSS SECTIONS ARE FOR INFORMATION ONLY. PAY ITEMS ARE TAKEN FROM PLAN SHEETS.
70 60 50 40 30 20 10 € 10 20 30 40 50 60 70
FINAL SURVEY NOTE BOOK NO.
ORIGINAL SURVEY NOTE BOOK NO.

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE

LORAIN ROAD

CROSS SECTIONS STA.202+83.17 TO STA.204+00

CROSS SECTION STA. 204+50 TO STA. 205+18.17

SEEDING
END WIDTH 30 YDS.

QUANTITY CALCULATIONS
MADE BY IGW DATE 2-1-82
CHECKED BY RLR DATE 2-5-82

CUY-10-08.69

25/113

END AREA CUT/FILL | VOLUME CUT/FILL

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
NO.
AREAS CHECKED
BY
DATE

℄ LORAIN RD.

EXIST R/W

EXIST R/W

625
620
615
625
620

EX. 24" R.C.P.

208+67
℄ METRO. PARK BLVD.

0 0
0 0
0 0

EX. 24" R.C.P.

208+50

STA. 208+00, ℄
EX. M.H. TO BE RECONSTRUCTED TO GRADE
TOP ELEV = 618.25
INV ELEV = 613.8 - EX. 24" R.C.P.
613.8 - 12"

208+10
Ah
Bk
0
69
77

EXIST R/W

DOWNSPOUTS @ TOWER 2
SEE STRUCTURAL PLANS
SHEET 48.

620
615
69
77

P-5 P-6 P-7 P-8 P-3 P-4

7 LF-8" D.I.P. @ 1.00% (TYP.)

STA. 208+11.08 - 76' LT.
STD. NO. 2-2-B C.B., MOD.
TOP ELEV. = 618.50
INV ELEV. = 615.50 - 12"
612.00 - 8"

13 LF-12" @ 5.38% (TYP.)

STA. 208+11.08 - 76' RT.
STD. NO. 2-2-B C.B., MOD.
TOP ELEV. = 618.50
INV ELEV. = 615.50 - 12"
612.00 - 8"

208+00

207+90
Ah
Bk
0
69
77

NOTE:
ALL STD. NO. 2-2-B CATCH BASINS SHALL HAVE SOLID LIDS, NEENAH NO. R-6660-KH OR APPROVED EQUAL.
SEE DETAIL SHEET 15.

208+10 0 0
0 5
0 29
0 5
207+90 0 0

EXIST R/W

⊠ - COMPLETED

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

LORAIN ROAD

PLATE 3-FULL CROSS SECTION-FULL LINE
HIGHWAY FEDERAL AID SHEET
"R" TELEDYNE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 208+00 TO STA. 208+67

QUANTITY CALCULATIONS
MADE BY T.G.W. DATE 2-1-82
CHECKED BY R.E.R. DATE 2-5-82

CUY-10-08.69

26/113

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE

CROSS SECTIONS STA. 209+00 TO STA. 210+50

SEEDING
END WIDTH SQ YDS

QUANTITY CALCULATIONS
MADE BY TGW DATE 2-1-82
CHECKED BY R.E.R. DATE 2-5-82

CUY-10-08.69

27/113

END AREA CUT FILL | VOLUME CUT FILL

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

℄ LORAIN RD.

EXIST. R/W

EX. 21" R.C.P.

212+50

EX. 21" R.C.P.

212+00

EX. 21" R.C.P.

211+50

EX. 21" R.C.P.

211+00

625
620
615

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

LORAIN ROAD

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
TELEDYNE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 211+00 TO STA. 212+50

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 213+00 TO STA. 214+50

QUANTITY CALCULATIONS
MADE BY I.G.W. DATE 2-1-82
CHECKED BY B.E.R. DATE 2-5-82

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
TELEDYNE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 215+00 TO STA. 215+63.5

QUANTITY CALCULATIONS
MADE BY T.G.W. DATE 2-1-82
CHECKED BY R.E.R. DATE 2-5-82

CUY-10-08.69

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
TELEDYNE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 216+04.5 TO STA. 216+50

QUANTITY CALCULATIONS
MADE BY TGW DATE 2-1-82
CHECKED BY P.L.P. DATE 2-5-82

CUY-10-08.69

31/113

END AREA CUT FILL | VOLUME CUT FILL

SEEDING
END WIDTH 3.0 FDS.

PROPOSED R/W

DOWNSPOUTS @ WEST ABUTMENT SEE STRUCTURAL PLANS SHEET 50

R/W

EXIST. R/W

℄ LORAIN RD.

730
725
720
715
710
705
740
735

GABION SLOPE PROTECTION (9" THICK)

P-43 P-38 P-39 P-44

46 L.F.-8" D.I.P @ 33.7% (TYP.)

6 L.F.-8" D.I.P @ 100% (TYP.)

EX. 18" C.I.P

STA 217+19, 22' LT.
STD NO. 2-2-B C.B. MODIFIED AS PER PLAN
GRATE ELEV = 729.50
℄ ELEV = 725.50-8"

STA 217+19, 22' RT.
STD NO. 2-2-B C.B. MODIFIED AS PER PLAN
GRATE ELEV = 729.50
℄ ELEV = 725.50-8"

217+17

2 11

16 95

11 44

PROP 8" D.I.P

P-38 P-39

EX. 18" C.I.P

20 45

217+00

DOWNSPOUTS @ PIER 8 SEE STRUCTURAL PLANS SHEET 50

EXIST. R/W

℄ LORAIN RD.

P-39 P-37 P-36 P-38 P-35

PROP 8" D.I.P

PROP 12" D.I.P

GABION SLOPE PROTECTION (9" THICK)

18 L.F.-8" D.I.P @ 1.00% (TYP.)

STA 216+82, ℄
NO. 12 M.H.
TOP ELEV = 713.50
℄ ELEV = 709.00-12"
710.00-8"

11 77

12 175

△ ▨ - COMPLETED

EX. 18" C.I.P

216+81.9

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

LORAIN ROAD

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED BY
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE

FINAL SURVEY
NOTE BOOK NO.
SURVEYED BY
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE
TELEDYNE
PRINTED IN U.S.A.

CROSS SECTIONS STA. 216+81.9 TO STA. 217+17

QUANTITY CALCULATIONS
MADE BY T.G.W. DATE 2-1-82
CHECKED BY R.E.R. DATE 2-5-82

CUY-10-08.69

SODDING END WIDTH SQ. YDS.
END AREA CUT FILL
VOLUME CUT FILL
PROP. R/W
14 (LT.)
8 (RT.)
EARTHWORK LIMITS DRIVE LT.
EARTHWORK LIMITS MAINLINE
℄ LORAIN RD.
MEET EXIST. DRIVE
EXIST. R/W
218+07 Ah (LT.)
218+00 Ah (RT.)
217+83 Bk (LT.)
217+63 Bk (RT.)
0.114 Ft./Ft.
1/4"/Ft.
0.13 Ft./Ft.
48 0
ABANDONED C.E.I. DUCTS
EX. 8" GAS
EX. 2-5" C.E.I. DUCTS
EX. 2-5" C.E.I. DUCTS
EX. 12" ST. TO BE REMOVED
EX. 16-4" O.B.T. DUCTS
740.4
218+00
P.G.=739.91
EX. 10" SAN.
EX. 18" ST.
DR. (LT.)
24 0
6 ADJACENT DR. 217+96 (LT.)
64 ADJACENT DR. 217+83 (RT.)
EARTHWORK LIMITS DRIVE RT.
85 0
217+96 ℄ ASPH. PAVED DR.
0.11 Ft./Ft.
19 (LT.)
10 (RT.)
EX. C.E.I. M.H. #8601-2
EX. 10" SAN.
217+83 ℄ 20' BRICK RD.
DR. (RT.)
13 0
EX. 6" V.T. SEWER @ 1.00%
EX. 18" ST.
STA. 217+26, 50' RT.
EXIST. M.H.
TOP ELEV.=741.50
℄ ELEV.=725.95-EX. 18"
726.45-12"
Ah (LT.)
Ah (RT.)
Bk
40 0
2:1
P-40
P-41
739.72
217+48
P.G.=739.72
52 L.F.-12" @ 1.15%
25 0
39 L.F.-12" @ 16.79%
STA. 217+56, 26' LT.
CATCH BASIN 3-C
GRATE ELEV.=739.10
℄ ELEV.=735.60-12"
STA. 217+56, 26' RT.
CATCH BASIN 3-C
GRATE ELEV.=739.10
℄ ELEV.=733.00-12" NE
735.00-12" S
31
℄ LORAIN RD.
PROP. 4-5" C.E.I. DUCTS
Ah 14 0
Bk 0 0
PROP. R/W
EXIST. R/W
EX. C.E.I. DUCTS TO BE REMOVED
EX. 8" GAS TO BE REMOVED
PROP. 8" GAS
EX. 16-4" O.B.T. DUCTS
217+23
11 Ah
0 Bk
745
740
735
730
725
60 50 40 30 20 10 0 10 20 30 40 50 60 70
▨ - COMPLETED

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE

CROSS SECTIONS STA. 217+23 TO STA. 218+00

QUANTITY CALCULATIONS
MADE BY T.G.W. DATE 2-1-82
CHECKED BY R.E.R. DATE 2-5-82

CUY-10-08.69

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL LINE

CROSS SECTIONS STA. 218+50 TO STA. 219+58

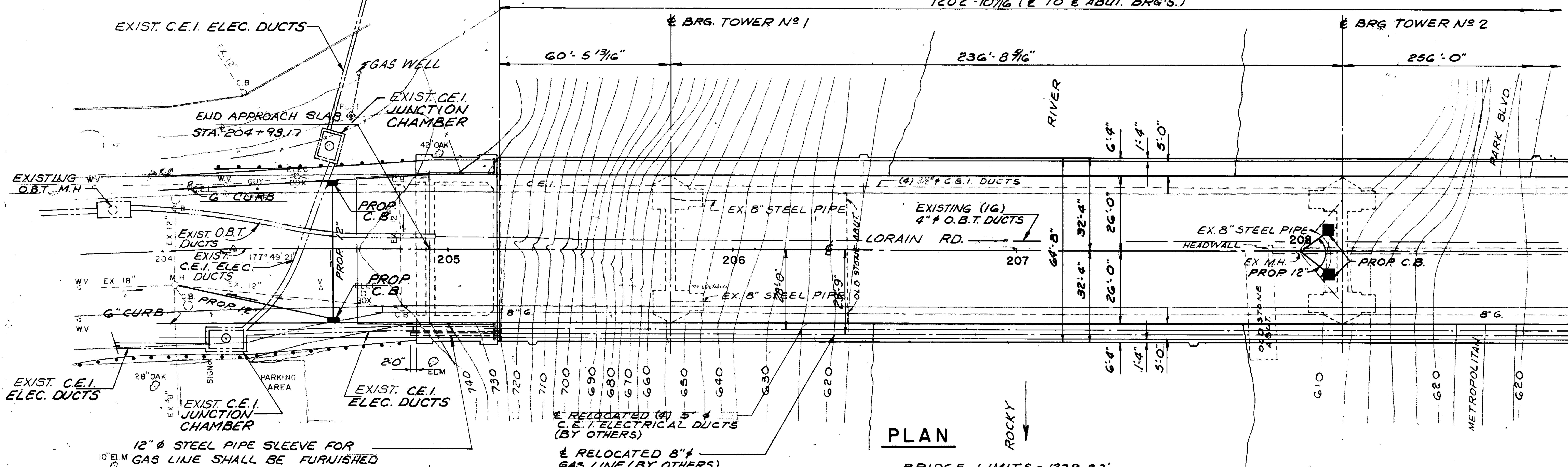
11-A

NOTE: FOR VERTICAL LOCATIONS OF THE EXISTING UTILITIES AND STORM SEWERS SHOWN ON THIS SHEET, SEE SHEETS 16, 18, 23, 24 & 25.

NOTE: THE SPAN LENGTHS AND THE LONGITUDINAL FRAMING DIMENSIONS SHOWN ON THESE PLANS ARE AS DETAILED ON THE EXISTING STRUCTURE PLANS. THE ACTUAL DIMENSIONS MAY VARY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD BEFORE USING THEM.

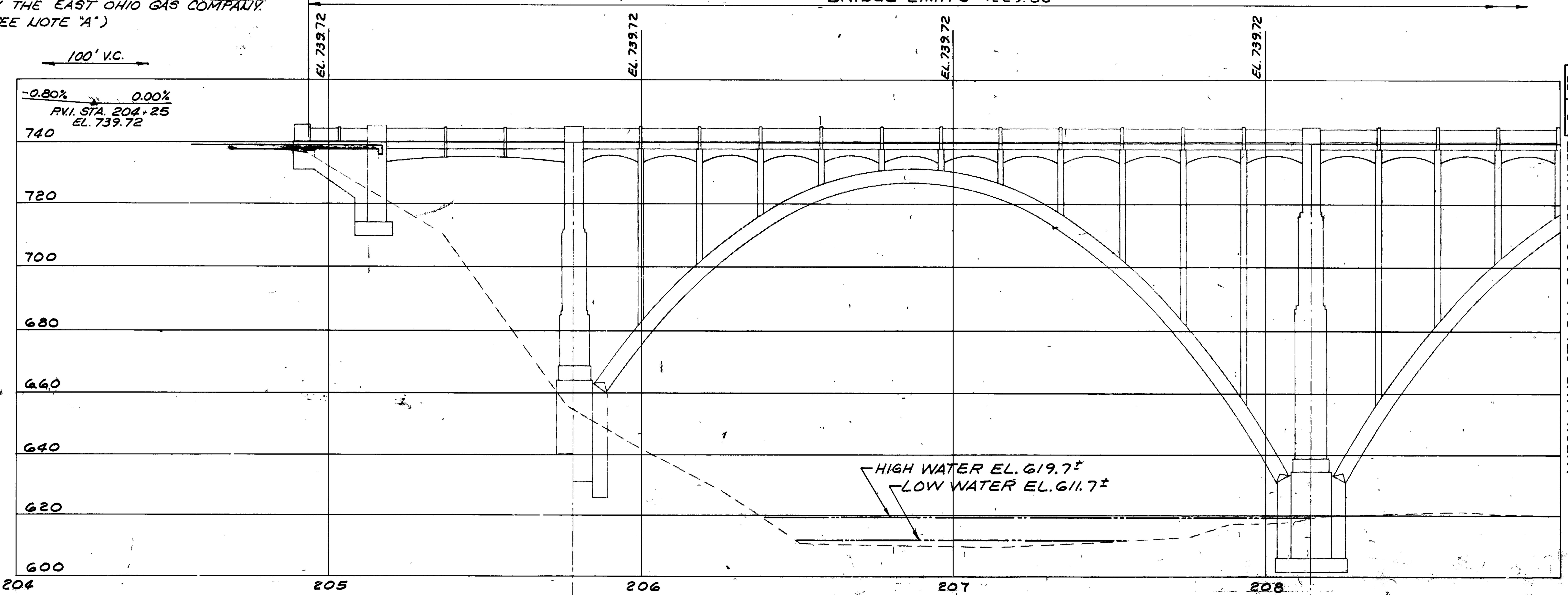
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69 (42)	39/113

CUYAHOGA COUNTY
CUY-10-08.69



PLAN

12" ϕ STEEL PIPE SLEEVE FOR GAS LINE SHALL BE FURNISHED BY THE EAST OHIO GAS COMPANY. (SEE NOTE "A")



ELEVATION

(NOTE "A")
NO EXTRA PAYMENT WILL BE MADE FOR INSTALLING THE PIPE SLEEVE IN PLACE BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 202, "EXIST. GAS LINE AND SUPPORTS REMOVED", FOR PAYMENT.

EXISTING STRUCTURE

TYPE = OPEN SPANDREL STEEL ARCH BRIDGE WITH REINFORCE CONCRETE DECK SLAB.

EAST APPROACH SPAN 60'-5 13/16"
MAIN ARCH SPANS 236'-8 5/16", 256'-0", 256'-0" & 236'-8 5/16"
WEST APPROACH SPANS 41'-1 3/8", 38'-7 3/8", 38'-7 3/8" & 38'-8 1/8"

SKEW = 0° 00' 00"

ROADWAY = 40' F/F CURBS WITH 2-5'-0" SIDEWALKS

LOADING = H20-33

WEARING SURFACE = ASPHALT

ALIGNMENT = TANGENT

GRADE = 0%

SLOPE PROTECTION = NONE

PROPOSED STRUCTURE

TYPE, SPAN, SKEW, ALIGNMENT & GRADE = SAME AS EXISTING STRUCTURE

ROADWAY = 52'-0" F/F CURBS WITH 2~5'-0" SIDEWALKS

LOADING = HS20-44

WEARING SURFACE = 1¼" LATE[illegible] MODIFIE[illegible] CONCRE[illegible]

APPROACH SLABS = 25'-0" BO[illegible] ABUTMENTS AS-1-[illegible]

SLOPE PROTECTION = 9" THICK GABION MATS WEST ABUT. SIDE ONL[illegible]

NOTE:
1. SEE SHEET 2/59 FOR DESCRIPTION OF PROPOSED WORK.
2. SEE SHEET 3/59 FOR INDEX OF STRUCTURAL DETAIL PLANS.

DALTON DALTON

7/59

SITE PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY

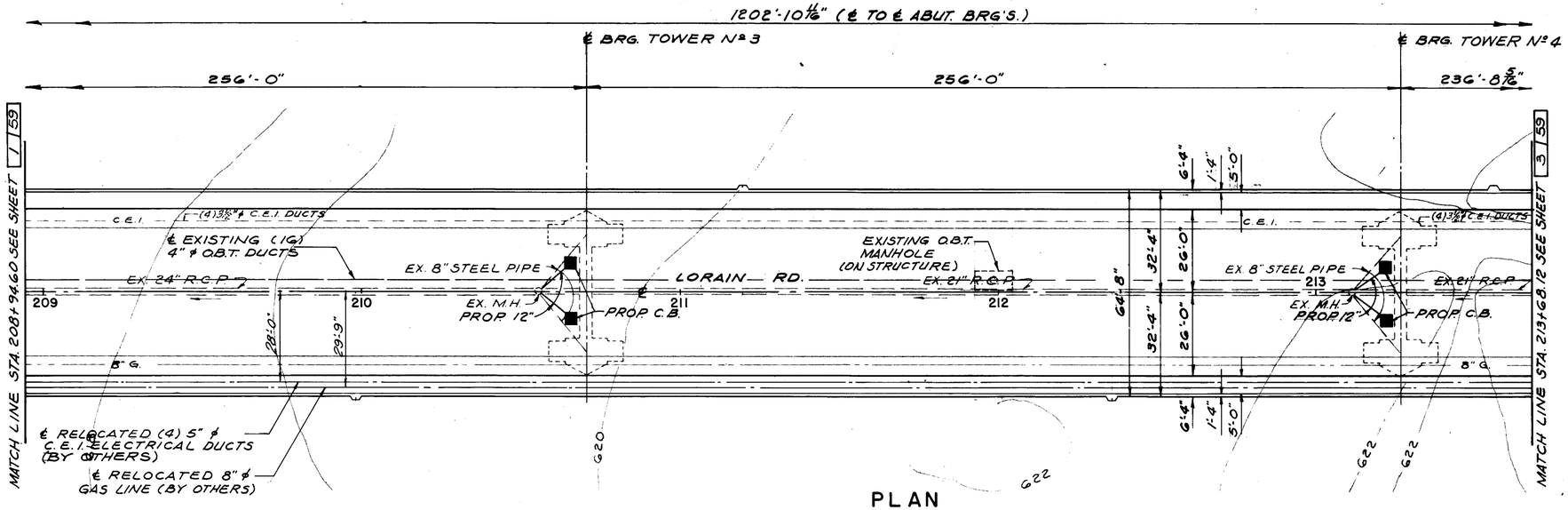
REPORT Nº 7092
Nº 8-579

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
BKL	F.F.		A.L.H.	JFP	7-3[illegible]

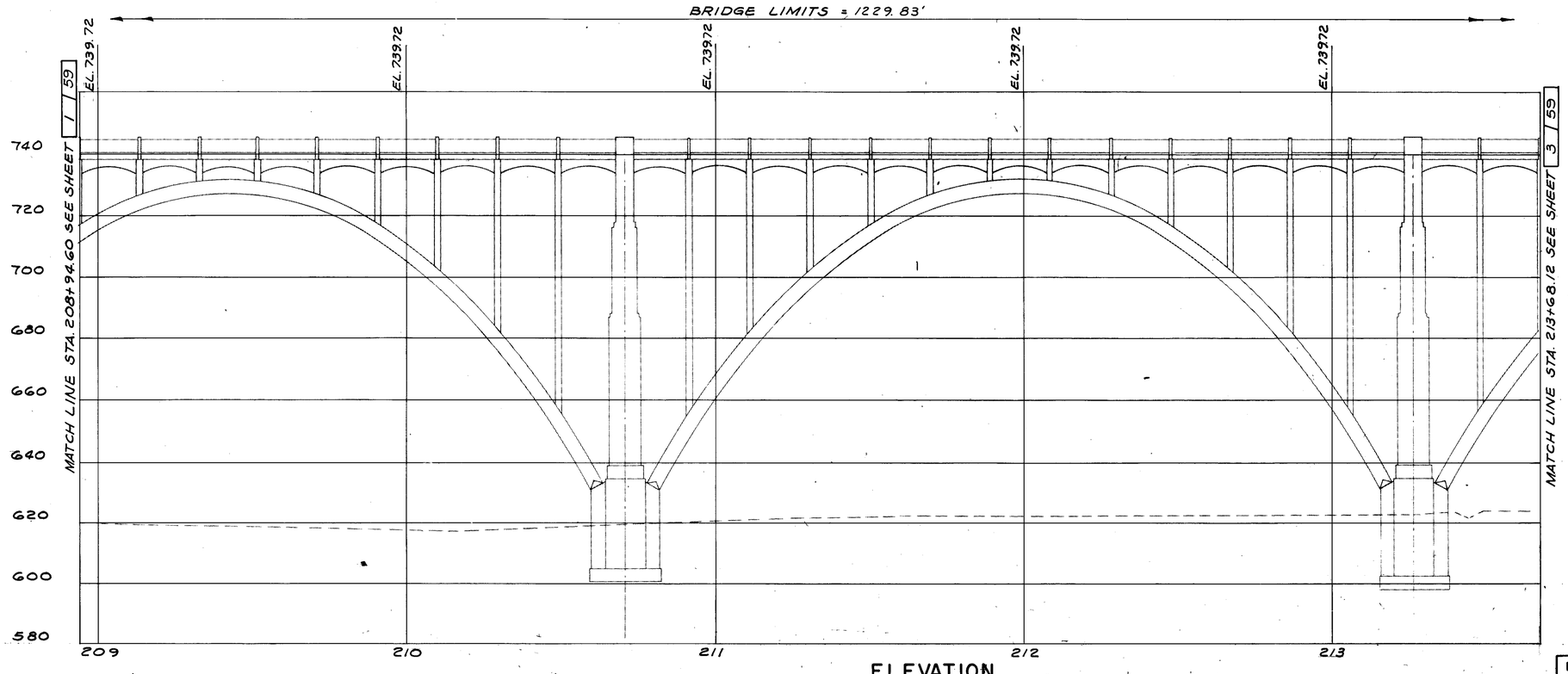
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

40
113

CUYAHOGA COUNTY
CUY-10-08.69



PLAN



ELEVATION

PROPOSED WORK

THE PROPOSED REHABILITATION AND WIDENING OF THE LORAIN ROAD VIADUCT OVER ROCKY RIVER SHALL BE DONE USING PHASE (PART WIDTH) CONSTRUCTION AS SHOWN ON THE PLANS. THE MAJOR ITEMS OF WORK CONTAINED IN THE PLANS INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

1. REMOVE PORTIONS OF EXISTING STRUCTURE INCLUDING THE DECK, SIDEWALKS, RAILING (SALVAGE PORTIONS FOR REUSE), BRIDGE DRAINAGE SYSTEM, STRUCTURAL STEEL CANTILEVERS AND LIGHT SUPPORTS ETC.; AS SHOWN IN THE PLANS.
2. FURNISH AND INSTALL NEW STRUCTURAL STEEL FRAMING INCLUDING NEW CANTILEVERS.
* 3. FURNISH AND INSTALL NEW REINFORCED CONCRETE DECK AND SIDEWALK, NEW EXPANSION JOINTS, AND NEW RAILING (INCLUDING PORTIONS OF EXISTING RAILING).
4. FURNISH AND INSTALL NEW BRIDGE DRAINAGE SYSTEM.
5. REPAIR THE EXISTING STRUCTURAL STEEL.
6. REPAIR AND WIDEN THE EAST AND WEST ABUTMENTS.
7. PAINT ALL STRUCTURAL STEEL.
8. FURNISH AND INSTALL NEW BRIDGE LIGHTING SYSTEM.

NOTE: FOR VERTICAL LOCATIONS OF EXISTING STORM SEWERS SHOWN ON THIS SHEET, SEE SHEETS 16, 18, 26, 27 & 28.

⚠ * NOTE: Concrete deck shall be placed in one continuous pour. Bridge will be closed to traffic during this time. Change order No. 3 provides additional compensation for this work.

DALTON DALTON NEWPORT
CLEVELAND OHIO AKRON OHIO

2/59

SITE PLAN

LORAIN ROAD VIADUCT OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
BKL	E.F.		A.L.H.	JAP 7-79

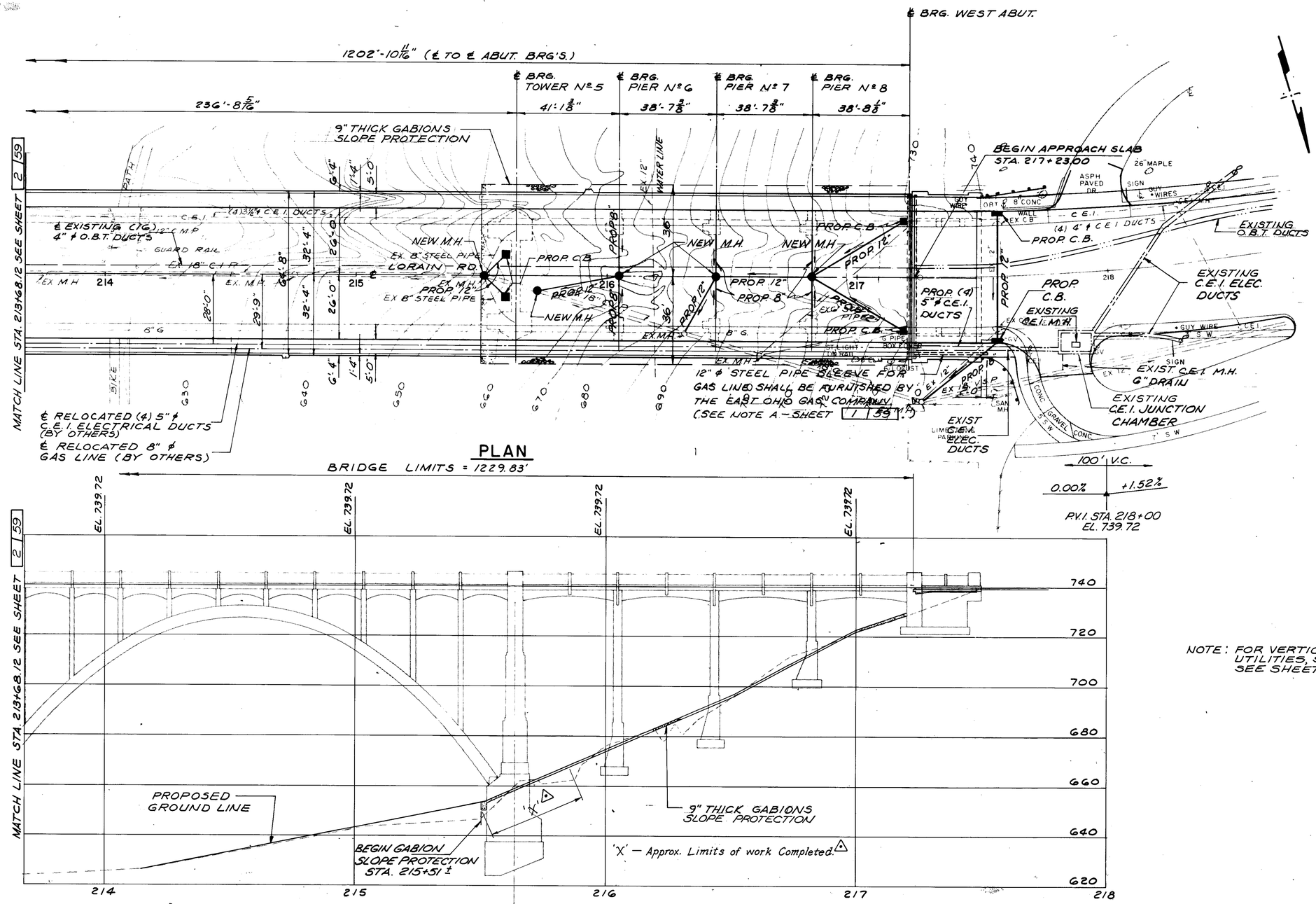
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

41/113

CUYAHOGA COUNTY
CUY-10-08.69

INDEX OF STRUCTURAL DETAIL PLANS

NOTE: FOR VERTICAL LOCATIONS OF EXISTING UTILITIES, SANITARY AND STORM SEWERS SEE SHEETS 18, 28 THRU 33.



DAYTON DAYTON NEWPORT
CLEVELAND OHIO AKRON OHIO

3/59

SITE PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
BKL				JFP

REPORT Nº 7092
Nº B-79

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(-42)	

42/113

CUYAHOGA COUNTY
CUY-10-08.69

DESIGN SPECIFICATIONS

THE PROPOSED REHABILITATION WORK FOR THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977 ALONG WITH 1978 THROUGH 1980 INTERIMS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA (FOR PROPOSED REHABILITATION WORK ONLY)

DESIGN LOADING - HS 20-44 (CASE-II).
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. FOR SUPER-STRUCTURE.
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. FOR SUB-STRUCTURE
STRUCTURAL STEEL - ASTM A-36 UNIT STRESS 20,000 P.S.I.
REINFORCING STEEL - ASTM A615, A616, OR A617 - GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.
DECK PROTECTIVE METHOD - EPOXY COATED REINFORCING STEEL, TOP MAT ONLY; AND LATEX MODIFIED CONCRETE WEARING SURFACE.

UTILITIES LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED PRIVATE UTILITY LINES SHALL BE BORNE BY THEIR OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER BE HELD TO A MINIMUM.

THE FOLLOWING IS A LIST OF THE UTILITIES WITHIN THE LIMITS OF THIS PROJECT:

WATER - CITY OF CLEVELAND
UTILITIES ENGINEERING DIVISION
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
664-3349

GAS - EAST OHIO GAS COMPANY
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
361-2753

TELEPHONE - OHIO BELL TELEPHONE COMPANY
15531 LORAIN ROAD
CLEVELAND, OHIO 44111
476-6183

ELECTRIC - THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
55 PUBLIC SQUARE
CLEVELAND, OHIO 44113
622-9800

TRANSIT - GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY
615 SUPERIOR AVENUE, N.W.
CLEVELAND, OHIO 44113
566-5100

THE ABOVE UTILITIES AND TRANSIT SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO COMMENCING WORK IN THE AREA OF THEIR SERVICE.

DEMOLITION OF PORTIONS OF EXISTING STRUCTURE

REMOVAL OF PORTIONS OF EXISTING STRUCTURE AS SHOWN ON THE CONTRACT DRAWINGS SHALL CONFORM IN ALL RESPECT TO ITEM 202 OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE VEHICULAR TRAFFIC IS TO BE MAINTAINED ON ONE SIDE OF THE BRIDGE AT A TIME AS SHOWN ON SHEET 9/113. THE CONTRACTOR SHALL PREPARE DETAILED PROCEDURES AND PLANS FOR REMOVAL OF THE EXISTING STRUCTURE INCLUDING METHODS OF PROTECTING EXISTING OR RELOCATED UTILITIES AND PROTECTING THE PEDESTRIAN AND THE VEHICULAR TRAFFIC WITHIN THE LIMITS OF THE PROJECT. SUCH PLANS SHALL INCLUDE INFORMATION AS TO EQUIPMENT AND MATERIALS TO BE USED, PERSONNEL, SUPERVISION, THE HOURS OF OPERATION AND DURATION OF THE JOB.

THESE PLANS SHALL BE APPROVED BY THE DIRECTOR BEFORE COMMENCING ANY DEMOLITION OPERATION. THE REVIEW AND APPROVAL BY THE DIRECTOR SHALL NOT RELIEVE THE CONTRACTOR OF HIS FULL RESPONSIBILITY FOR SAFE DEMOLITION OPERATIONS. THE CONTRACTOR SHALL BE AND SHALL REMAIN RESPONSIBLE FOR A SAFE DEMOLITION OPERATION. SEE SHEET 51/113 FOR ADDITIONAL DETAILS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTION 102.05, 105.02, AND 513.02.

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

NO SEPARATE PAYMENT WILL BE MADE FOR ANY FIELD MEASUREMENTS BUT COST THEREOF SHALL BE INCLUDED IN THE COST OF OTHER ITEMS OF WORK OF THIS PROJECT.

EXISTING STRUCTURE PLANS

THE EXISTING STRUCTURE PLANS ARE ON FILE AND MAY BE REVIEWED AT THE OFFICE OF THE CUYAHOGA COUNTY ENGINEER, 1926 NORTHERN OHIO BANK BUILDING, CLEVELAND, OHIO 44113.

REFERENCE

REFERENCE SHALL BE MADE TO THE FOLLOWING:

STANDARD DRAWING AS 1-72, SHEET 1 AND 2	DATED 6-30-72
SUPPLEMENTAL SPECIFICATION 836	DATED 3-12-75
SUPPLEMENTAL SPECIFICATION 845	DATED 3-02-81
SUPPLEMENTAL SPECIFICATION 927	DATED 10-19-81
SUPPLEMENTAL SPECIFICATION 953	DATED 8-21-80
SUPPLEMENTAL SPECIFICATION 1027	DATED 3-04-80

ITEM 516 - ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)

DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EXPANSION JOINT DEVICES, (HEREINAFTER REFERRED TO AS THE EXPANSION JOINT) INCLUDING FURNISHING AND INSTALLING SIDEWALK COVER PLATES FOR BRIDGE JOINTS OF THE SIZES SPECIFIED, IN ACCORDANCE WITH THESE SPECIFICATIONS AND WITHIN REASONABLE CLOSE CONFORMITY TO THE LINES, ELEVATIONS, LOCATIONS, DETAILS AND NOTES SHOWN ON THE PLANS.

THE EXPANSION JOINT SHALL BE:

1. 'ACME STRIP SEAL' AS MANUFACTURED BY THE ACME HIGHWAY PRODUCTS, CORPORATION, 168 CREEKSIDE DRIVE, AMHERST, N.Y. 14150.
2. 'WABO-MAURER STRIP SEAL' AS MANUFACTURED BY THE WATSON BOWMAN ASSOCIATES, INC., 1280 NIAGARA STREET, BUFFALO, N.Y. 14213.
3. "ONFLEX STRIP SEAL" MODEL 40-SF AS MANUFACTURED BY STRUCTURAL ACCESSORIES, INC., 204 MAIN STREET, N.W., LENOIR, N.C. 28645.

THE EXPANSION JOINT SHALL BE OF THE TYPE THAT WILL SEAL THE DECK SURFACE GUTTERS AND CURBS TO PREVENT WATER AND OTHER CONTAMINANTS FROM DESCENDING ONTO THE SUBSTRUCTURE. THE ANCHORAGE SYSTEM FOR THE EXPANSION JOINT SHALL BE AS DETAILED ON THE PLANS. THERE SHALL BE NO APPRECIABLE CHANGE IN THE DECK SURFACE DUE TO THE EXPANSION AND CONTRACTION MOVEMENT OF THE EXPANSION JOINT.

EXPANSION AND CONTRACTION MOVEMENTS OF THE BRIDGE DECK SHALL BE TAKEN ENTIRELY BY DEFORMATION OF THE NEOPRENE SEAL ELEMENT. THE NEOPRENE SEAL ELEMENT SHALL BE DESIGNED TO BE SELF-CLEANING AND POSITIVELY GRIPPED BY THE EXTRUDED STEEL SECTIONS OR STEEL RETAINERS THROUGHOUT THE RANGE OF THE ANTICIPATED MOVEMENT. THE SEAL ELEMENT SHALL BE FURNISHED AND INSTALLED IN ONE PIECE.

THE EXPOSED SURFACES OF THE SIDEWALK COVER PLATES SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514, 'FIELD PAINTING OF STRUCTURAL STEEL'.

MATERIALS

A. GENERAL

ALL PARTS AND ELEMENTS SHALL BE OF THE MATERIAL AND DESIGN INDICATED IN THE MANUFACTURE'S CATALOG EXCEPT AS OTHERWISE SPECIFIED IN THESE SPECIFICATIONS OR ON THE PLANS. THE CONTRACTOR SHALL FURNISH A GENERAL CERTIFICATION STATING THAT THE MATERIALS FURNISHED CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS.

B. METALS

ALL METALS USED IN FABRICATION OF THE EXPANSION JOINT SHALL MEET THE REQUIREMENTS OF SECTION 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION (HEREINAFTER REFERRED TO AS STANDARD SPECIFICATIONS) AND AS SPECIFIED IN THE PLANS AND THE FOLLOWING:

THE EXTRUDED STEEL SECTIONS OR STEEL RETAINERS AND THE SUPPORT BARS SHALL BE FABRICATED FROM SOLID STRUCTURAL STEEL MEETING THE REQUIREMENTS OF ASTM A36, A242 OR A588.

ALL OTHER STEEL PLATES, BARS AND SHAPES SHALL BE FABRICATED FROM CARBON STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A36.

ALL METALLIC COMPONENTS, EXCEPT AREAS IN CONTACT WITH THE NEOPRENE SEAL AND CONCRETE, SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514, FIELD PAINTING OF NEW STRUCTURAL STEEL.

THE METAL SURFACES IN DIRECT CONTACT WITH THE NEOPRENE SEAL ELEMENTS SHALL BE SANDBLASTED AND AN ADHESIVE USED TO PROVIDE A HIGH STRENGTH BOND BETWEEN THE NEOPRENE SEAL AND THE MATTING METAL SURFACES.

ALL WELDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 513.17 OF THE STANDARD SPECIFICATIONS.

STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 513 OF THE STANDARD SPECIFICATIONS.

C. NEOPRENE SEAL

THE NEOPRENE SEAL ELEMENTS SHALL CONFORM TO ASTM DESIGNATION D2628, EXCEPT AS NOTED HEREIN:

PROPERTY	REQUIREMENTS	ASTM METHOD
HARDNESS, TYPE A DUROMETER	60±7	D2240 (MODIFIED)

EXCLUDE RECOVERY TEST REQUIREMENTS

DALTON · DALTON · NEWPORT
CLEVELAND, OHIO AKRON, OHIO

STRUCTURAL GENERAL NOTES

4/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	CDG		JCL	JFP	7-30-82	

LORAIN ROAD, BRIDGE Nº 42

D. ADHESIVE

ADHESIVES SHALL BE SIKASTIX 360, FEL-POXY FP-101 OR AN APPROVED ALTERNATE.

PREPARATIONS FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF PREPARED SURFACES, ALL SURFACES OF ELASTOMERIC STRIP SEALS SHALL BE CLEANED WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR OTHER APPROVED SOLVENT USING CLEAN DISPOSABLE CLOTHS. THEN NOT MORE THAN 7 DAYS PRIOR TO THE SEAL INSTALLATION, A THIN COATING OF CYCLIZING PASTE* SHALL BE APPLIED TO THE BONDING SURFACES (BULBED EDGES). AFTER 25 TO 40 MINUTES, THE PASTE SHALL BE WASHED FROM THE SURFACES WITH CLEAN WATER.

THE BONDING SURFACES OF THE STEEL EXTRUSION (THE INTERIOR OF THE ANCHOR GROOVES) SHALL BE PREPARED TO GRADE SA 3, ASTM D2200. PREPARATION SHALL BE ACCOMPLISHED NOT MORE THAN 24 HOURS PRIOR TO ADHESIVE BONDING.

INSTALLATION: IMMEDIATELY PRIOR TO ADHESIVE APPLICATION, BONDING SURFACES SHALL BE CLEAN, DRY AND WARMER THAN 45°F, AND THEY SHALL BE MAINTAINED AT OR ABOVE THIS TEMPERATURE UNTIL THE ADHESIVE HAS CURED. ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH STEEL AND ELASTOMERIC BONDING SURFACES USING A STIFF BRUSH IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COAT. THEN THE BULBED EDGES OF THE ELASTOMERIC SEAL SHALL BE INSERTED INTO THE ANCHOR GROOVES. AFTER INSTALLATION, EXCESS ADHESIVE SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

* CYCLIZING PASTE IS A MIXTURE OF ONE POUND OF PITTSBURGH PLATE GLASS INDUSTRIES' HISIL 223 OR AN APPROVED ALTERNATE AND SIX POUNDS OF CONCENTRATED SULFURIC ACID (18 MOLAR). TO MIX THE PASTE, ADD HISIL TO ACID SLOWLY WHILE STIRRING MIXTURE TO ACHIEVE A SMOOTH VISCOUS PASTE. NOTE: SINCE CONCENTRATED SULFURIC ACID IS VERY CORROSIVE AND HISIL IS AN EXTREMELY FINE NON-TOXIC POWDER, RUBBER GLOVES AND GLASSES SHOULD BE USED BY THOSE USING THE PASTE WHILE GLOVES, GLASSES AND A RESPIRATOR SHOULD BE USED BY THOSE MIXING THE PASTE.

JOINT CLASSIFICATION

THE MOVEMENT CLASSIFICATION OF THE EXPANSION JOINTS SHALL BE AS FOLLOWS:

1. AT EAST ABUTMENT AND WEST ABUTMENT: 3"
2. AT TOWER NOS. 1 THROUGH 5: 4"

CONSTRUCTION REQUIREMENTS

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF SECTION 501.05 OF THE STANDARD SPECIFICATIONS. THE SHOP DRAWINGS SHALL INDICATE ALL MATERIAL SPECIFICATIONS AND DIMENSIONS AND ANY ADDITIONAL DETAILS NOT SHOWN ON THE PLANS. APPROVAL OF SHOP DRAWINGS BY THE DIRECTOR SHALL BE REQUIRED PRIOR TO INSTALLATION OF THE EXPANSION JOINT.

A REPRESENTATIVE OF THE JOINT MANUFACTURER SHALL BE PRESENT PRIOR TO AND DURING INITIAL JOINT INSTALLATION TO FURNISH TECHNICAL ASSISTANCE AND GUIDANCE TO THE CONTRACTOR AND ENGINEER. HE SHALL REMAIN ON THE PROJECT UNTIL HE IS SATISFIED THAT THE INSTALLATION OF THE JOINT IS BEING ACCOMPLISHED TO HIS SATISFACTION.

WHERE SPECIAL INSTRUCTIONS ARE NOT CONTAINED HEREIN, DIRECTION FOR THE INSTALLATION SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THIS REPRESENTATIVE.

THE EXPANSION JOINT SHALL BE SET AND CAREFULLY SHIMMED TO LINE AND GRADE UNTIL THE JOINT'S UPPERMOST PLANE IS 1/4" BELOW THE FINISHED ROADWAY SURFACE AND MATCHES THE ROADWAY GRADIENT.

THE JOINT SHALL HAVE THE WATERPROOF MEMBRANE (DECK SEAL) SECURELY ATTACHED TO THE STEEL EXTRUSIONS OR RETAINERS TO PROVIDE A CONTINUOUS WATERTIGHT SEAL.

THE JOINT SHALL BE SHOP FABRICATED FOR THE FULL WIDTH OF PHASE-I CONSTRUCTION INCLUDING THE ATTACHMENT OF THE CONTINUOUS (WITHOUT TRANSVERSE JOINTS) NEOPRENE SEAL ELEMENT. THE NEOPRENE SEAL ELEMENT SHALL BE OF SUFFICIENT LENGTH TO COVER THE FULL LENGTH OF PHASE-I AND PHASE-II CONSTRUCTION. THE PART OF THE NEOPRENE SEAL ELEMENT THAT IS TO BE INSTALLED UNDER PHASE-II CONSTRUCTION SHALL BE ROLLED, COVERED AND PROTECTED BY THE CONTRACTOR UNTIL SUCH INSTALLATION TAKES PLACE. THERE WILL BE ONLY ONE TRANSVERSE FIELD WELDED JOINT ALLOWED IN THE STEEL RETAINING ELEMENTS, WHICH SHALL OCCUR AT THE CONNECTION OF PHASE-I AND PHASE II.

THE EXPANSION JOINT SHALL BE INSTALLED BY THE CONTRACTOR AT THE PROPER JOINT SETTING DIMENSION ADJUSTED FOR PROPER AMBIENT TEMPERATURE, AS SHOWN ON PLANS.

ALL THE COMPONENTS OF THE EXPANSION JOINT SHALL BE ADEQUATELY PROTECTED TO ENSURE THAT THEY ARE NOT DAMAGED DURING THE PLACEMENT AND FINISHING OF THE CONCRETE, FIELD WELDING OF STEEL RETAINING ELEMENTS, OR ANY OTHER OPERATION FOR THE DURATION OF THE PROJECT.

METHOD OF MEASUREMENT

THIS WORK WILL BE MEASURED CONTINUOUSLY BY LINEAR FOOT AS THE HORIZONTAL LENGTH OF THE JOINT ACCEPTABLY INSTALLED, ALONG THE CENTERLINE OF THE JOINT, BETWEEN THE INSIDE FACES OF THE CONCRETE PARAPET ON THE BRIDGE DECK SLAB. NO DISTINCTION WILL BE MADE BETWEEN 3" MOVEMENT AND 4" MOVEMENT JOINTS.

BASIS OF PAYMENT

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF ITEM 516 'ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)', WHICH SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIAL, LABOR, TOOLS AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM ACCORDING TO THESE SPECIFICATIONS. NO EXTRA PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING SIDEWALK COVER PLATES AND PAINTING, BUT THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 516 'ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)'.

ITEM 516 - BEARING DEVICES (AS PER PLAN)

THE BEARING DEVICES FOR THIS STRUCTURE SHALL BE AS DETAILED ON THE CONTRACT DRAWINGS AND AS PER ITEM 516 OF THE STANDARD SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS.

GENERAL

THE MANUFACTURER SHALL HAVE AT LEAST FIVE (5) YEARS OF EXPERIENCE IN THE SELF LUBRICATING TYPE BRONZE PLATE BEARING APPLICATIONS. IN ADDITION TO THE PROVISIONS OF SECTION 500 OF THE SPECIFICATIONS, AND PARTICULARLY THOSE OF ARTICLE 501.04, ADDITIONALLY, THE BEARING FABRICATOR SHALL BE THE ONE THAT HAS HAD EXPERIENCE IN CONSTRUCTING, TESTING AND FURNISHING BEARINGS SIMILAR TO THOSE DESCRIBED HEREIN FOR OTHER TRANSPORTATION PROJECTS.

SELF LUBRICATING BRONZE BEARING PLATES

A. MATERIAL

THE BRONZE ALLOY SHALL CONFORM TO ASTM DESIGNATION B22, ALLOY 905 EXCEPT THAT A MAXIMUM LEAD CONTENT OF 2.5 PERCENT IS ALLOWABLE.

B. LUBRICANT

THE LUBRICANT EMPLOYED IN THESE BEARINGS SHALL CONSIST OF A COMBINATION OF SOLIDS HAVING NON-DETERIORATING CHARACTERISTICS AS WELL AS INHERENT LUBRICATING QUALITIES, AND SHALL BE CAPABLE OF WITHSTANDING THE EFFECTS OF ATMOSPHERE EXPOSURE AND LONG TERM SUBMERSION IN WATER. THE EMPLOYMENT IN THE LUBRICANT OF GRAPHITE, MOLYBDENUM DISULPHIDE OR OTHER INGREDIENTS THAT TEND TO PROMOTE ELECTROLYTIC OR CHEMICAL ACTION IS PROHIBITED. THE USE OF SHELLAC, TARS, RESINS, SOLVENTS OR OTHER NON-LUBRICATING BINDER MATERIALS IS NOT PERMITTED. THE LUBRICATING COMPOUND SHALL BE INTEGRALLY MOLDED AND COMPRESSED INTO THE RECESSES PROVIDED FOR CONTAINMENT OF THE LUBRICANT BY MEANS OF HYDRAULIC PRESSURE OF AT LEAST 10,000 POUNDS PER SQUARE INCH. THE INSERT THUS FORMED SHALL BE DENSE, NON-PLASTIC AND LUBRICATIVE.

C. RECESSES FOR LUBRICANT

THE RECESSES FOR THE LUBRICANT SHALL CONSIST OF TREPANS WITH OR WITHOUT CENTER HOLES WITH A DEPTH AT LEAST EQUAL TO THE WIDTH OF THE RING OR DIAMETER OF THE HOLE FOR PROPER CONTAINMENT OF THE LUBRICANT.

D. AREA AND PATTERN OF LUBRICANT

THE RECESSES SHALL BE ARRANGED IN A GEOMETRIC PATTERN SUCH THAT SUCCESSIVE ROWS SHALL OVERLAP IN THE DIRECTION OF MOTION, AND THE DISTANCE BETWEEN EXTREMITIES OF THE RECESSES SHALL BE CLOSER IN THE DIRECTION OF MOTION THAN THAT PERPENDICULAR TO MOTION. THE ENTIRE BEARING AREA OF ALL SURFACES WHICH HAVE PROVISION FOR MOTION SHALL BE LUBRICATED BY MEANS OF THESE LUBRICANT-FILLED RECESSES. THE TOTAL AREA OF THESE RECESSES SHALL COMPRISE NOT LESS THAN 25 PERCENT NOR MORE THAN 35 PER CENT OF THE TOTAL BEARING AREA OF THE PLATE.

CONSTRUCTION:

BEARING SURFACES SHALL BE MACHINE FINISHED AND THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRO INCHES WHEN MEASURED IN ACCORDANCE WITH ASA STANDARD B46.1 -- 1955. THE BEARING SURFACES OF THE OPPOSING STEEL PLATES SHALL ALSO BE FINISHED AS ABOVE. THE LAY OF THE TOOL MARKS SHALL BE IN THE DIRECTION OF MOTION. ALL MACHINED SURFACES SHALL BE FLAT WITHIN 0.0005 INCH PER INCH OF LENGTH AND WIDTH.

THE SELF LUBRICATING BRONZE BEARING PLATE SHALL BE ATTACHED TO THE BOTTOM PLATE USING COUNTERSUNK BOLTED CONNECTIONS IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE BEARING'S FUNCTIONS. INITIAL ASSEMBLY OF BEARINGS SHALL NOT BEGIN UNTIL AFTER THE VARIOUS BEARING COMPONENTS HAVE BEEN INSPECTED AND APPROVED.

EACH BEARING SHALL BE ASSEMBLED IN THE PLANT, SHALL BE MARKED FOR PERMANENT IDENTIFICATION AND TRACEABILITY UTILIZING WEATHER RESISTANT TAGS. EACH BEARING SHALL BE DELIVERED TO THE SITE OF CONSTRUCTION AS A COMPLETE UNIT, IN A MOISTURE-PROOF AND DUST-PROOF COVER. THE BEARINGS SHALL BE HELD TOGETHER WITH REMOVABLE RESTRAINTS SO THAT SLIDING SURFACES ARE NOT DAMAGED. THE BEARINGS SHALL HAVE CENTERLINES MARKED ON BOTH SOLE PLATE AND BOTTOM PLATE FOR ALIGNMENT IN FIELD.

METHOD OF MEASUREMENT

THE QUANTITY SHALL BE THE ACTUAL NUMBER OF BEARINGS FURNISHED. NO DISTINCTION WILL BE MADE AMONG DIFFERENT SIZE BEARINGS.

BASIS OF PAYMENT

PAYMENT WILL BE MADE FOR EACH BEARING AT THE CONTRACT UNIT PRICE BID PER EACH BEARING FOR ITEM 516 - 'BEARING DEVICES (AS PER PLAN)'.

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5/59

STRUCTURAL GENERAL NOTES
LORAIN ROAD VIADUCT
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REPORT Nº 7092
Nº B-79

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BKL	CDG		JCL	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

44
113

CUYAHOGA COUNTY
CUY-10-08.69

ITEM 516 - RAILING (AS PER PLAN)

DESCRIPTION

THIS ITEM SHALL CONSIST OF CONSTRUCTION AND INSTALLATION OF BRIDGE RAILING AS SHOWN ON THE CONTRACT PLANS INCLUDING THE REINSTALLATION OF MALLEABLE IRON GRILLES, LIGHT STANDARDS AND STEEL END POSTS FROM THE EXISTING STRUCTURE RAILING, AND AS DESCRIBED HEREIN, INCLUDING CLEANING AND PAINTING.

MATERIAL

THE COLD FORMED WELDED STRUCTURAL STEEL TUBING FOR POST AND RAIL SHALL CONFORM TO ASTM A500, GRADE B.

THE WIDE FLANGE SECTION POSTS, ANGLES, BARS AND PLATES SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATIONS A36.

THE ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

PAINTING

ALL THE METALLIC SURFACES NOT IN CONTACT WITH CONCRETE SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 'FIELD PAINTING OF NEW STRUCTURAL STEEL (AS PER PLAN)'. THE EXISTING MALLEABLE IRON GRILLES, STEEL LIGHT STANDARDS AND END POSTS SHALL BE CLEANED OF ALL EXISTING PAINT, RUST, ETC., AND SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 'FIELD PAINTING OF EXISTING STRUCTURAL STEEL (AS PER PLAN)'.

SHOP DRAWINGS

THE SHOP DRAWINGS SHALL BE REQUIRED IN ACCORDANCE WITH ITEM 501.05 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

CONSTRUCTION

THE ANCHOR BOLTS SHALL BE PRESET IN CONCRETE. THE RAILING SHALL BE INSTALLED RIGID AND SECURE TO THE LINES AND GRADES INDICATED IN THE CONTRACT PLANS. RAILING SPLICES ARE TO BE LOCATED SO THAT EACH RAIL SEGMENT SHALL BE CONNECTED TO NOT LESS THAN TWO (2) POSTS OR MORE THAN FOUR (4).

THE CONTRACTOR SHALL SALVAGE AND REINSTALL THE MALLEABLE IRON GRILLES, AND DECORATIVE STRUCTURAL STEEL END POST AT ABUTMENTS FROM THE EXISTING RAILING, INCLUDING CLEANING AND PAINTING.

MEASUREMENT

THE QUANTITY TO BE PAID FOR SHALL BE THE NUMBER OF LINEAR FEET OF RAILING INSTALLED AND ACCEPTED, MEASURED ALONG THE SIDEWALK FACE OF THE RAILING.

PAYMENT

THE QUANTITY MEASURED AS ABOVE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR ITEM 517, RAILING. THIS PRICE SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL THE RAILING IN ACCORDANCE WITH THE PLANS AND AS DESCRIBED HEREIN, INCLUDING CLEANING AND PAINTING.

CUTTING OF REINFORCING BARS

ANY CUTTING OF REINFORCING BARS NECESSARY TO ACCOMMODATE THE UTILITY OPENINGS, MANHOLES, OR ANY OTHER ESSENTIAL ELEMENT OF WORK RELATED TO THE PROJECT, SHALL BE INCLUDED IN THE PRICE BID PER POUND FOR ITEM 509, 'REINFORCING STEEL-GRADE 60'.

DOWEL BARS AND DOWEL HOLES

WHERE A NEW CONCRETE SECTION IS BEING ATTACHED TO EXISTING CONCRETE, THE DOWEL BARS ARE TO BE PAID FOR UNDER ITEM 509 'REINFORCING STEEL, GRADE 60' AND THE DOWEL HOLES ARE TO BE PAID FOR UNDER ITEM 510 'DOWEL HOLES'.

ITEM SPECIAL - LADDERS

GENERAL

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING IN PLACE THE LADDERS AS DETAILED ON THE CONTRACT DRAWINGS AND AS SPECIFIED HEREIN, INCLUDING REMOVAL OF THE EXISTING LADDERS FROM THE EXISTING STRUCTURES.

MATERIALS

STEEL PLATES, BARS, SHAPES, ETC.; SHALL CONFORM TO ASTM A36. ALL BOLTS SHALL BE 7/8" HIGH STRENGTH BOLTS CONFORMING TO ASTM A325.

ALL WELDING SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF SECTION 513.17 OF THE SPECIFICATIONS.

FALL PREVENTION SYSTEM

THE FALL PREVENTION SYSTEM SHALL BE OF THE TYPE THAT INCORPORATES SAFETY DEVICES SUCH AS LIFEBELTS, FRICTION BRAKES AND SLIDING ATTACHMENTS FOR SAFE MOVEMENT UP AND DOWN THE LADDER, AND MEETS THE REQUIREMENTS OF OSHA REGULATIONS D1910.27.

CONSTRUCTION

THE LADDERS AND FALL PREVENTION SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 513 OF THE STANDARD SPECIFICATIONS AND SHALL MEET THE OSHA REGULATIONS D1910.27.

LADDERS SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 OF THE STANDARD SPECIFICATIONS. THE REMOVAL OF EXISTING LADDERS FROM THE EXISTING STRUCTURE SHALL BE IN ACCORDANCE WITH ITEM 202.

METHOD OF MEASUREMENT

THE QUANTITY OF LADDERS FURNISHED AND ACCEPTABLY INSTALLED IN PLACE SHALL BE MEASURED AS THE NUMBER OF LINEAR FEET WITHIN THE LENGTH FOR PAYMENT SHOWN ON THE CONTRACT DRAWINGS.

BASIS OF PAYMENT

PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID PER LINEAR FOOT OF ITEM SPECIAL, 'LADDERS', WHICH SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL IN PLACE, THE LADDERS. NO EXTRA PAYMENT WILL BE MADE FOR REMOVAL OF EXISTING LADDERS FROM EXISTING STRUCTURE, PAINTING OF NEW LADDERS, AND FURNISHING AND INSTALLING THE FALL PREVENTION SYSTEM, BUT COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM SPECIAL, 'LADDERS'.

RIVET REPLACEMENT

THE WORK INCLUDES REMOVAL OF EXISTING RIVETS AND THEIR REPLACEMENT WITH HIGH STRENGTH BOLTS AT LOCATIONS SHOWN ON CONTRACT DRAWINGS.

MATERIALS

HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325.

CONSTRUCTION

THE RIVETS SHALL BE REMOVED IN A MANNER THAT WILL NOT RESULT IN ANY DAMAGE TO THE EXISTING STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INFLICTED AS A RESULT OF HIS OPERATIONS AND SHALL RECTIFY SAID DAMAGE TO THE SATISFACTION OF THE ENGINEER PRIOR TO THE INSTALLATION OF THE BOLTS.

THE HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 513 OF THE SPECIFICATIONS. ONLY ONE RIVET AT A TIME SHALL BE REMOVED FOR REPLACEMENT AT ANY ONE CONNECTION EXCEPT WHERE THE ENTIRE ELEMENT OF EXISTING STRUCTURE IS BEING REPLACED.

MEASUREMENT OF PAYMENT

NO PAYMENT WILL BE MADE FOR RIVET REMOVAL BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 202 'PORTIONS OF EXISTING STRUCTURES REMOVED.' THE QUANTITY OF HIGH STRENGTH BOLTS SHALL BE INCLUDED IN THE QUANTITY FOR ITEM 513 'STRUCTURAL STEEL (A-36)', FOR PAYMENT.

ITEM SPECIAL - REPAIR OF CRACKS BY ADHESIVE - INJECTION BONDING

DESCRIPTION: THIS WORK CONSISTS OF REPAIR OF CRACKS BY STRUCTURAL BONDING PROCESS USING EPOXY ADHESIVES. THE LOCATION OF WORK IS SHOWN ON THE CONTRACT DRAWINGS. THE ACTUAL QUANTITY OF REPAIR WORK SHALL BE DETERMINED BY THE ENGINEER IN FIELD.

MATERIALS

THE EPOXY ADHESIVE SHALL BE CONCRESIVE 1380 AS MANUFACTURED BY ADHESIVE ENGINEERING COMPANY, SIKADUR HI-MOD LV AS MANUFACTURED BY SIKA CHEMICAL COMPANY, OR APPROVED EQUAL.

THE CURED ADHESIVE SHALL MEET THE FOLLOWING REQUIREMENTS:

ULTIMATE TENSILE STRENTH,* PSI	ASTM D638	8000 MINIMUM
TENSILE ELONGATION AT BREAK, %	ASTM D638	4 MAXIMUM
FLEXURAL STRENGTH,* PSI	ASTM D790	10,000 MINIMUM
FLEXURAL MODULUS, PSI	ASTM D790	5.5-7.0 x 10^5
COMPRESSIVE YIELD STRENGTH,* PSI	ASTM D695	15,750 MINIMUM
COMPRESSIVE MODULUS, PSI	ASTM D695	2.0-4.0 x 10^5
HEAT DEFLECTION TEMPERATURE*	ASTM D648	140°F MINIMUM

SLANT SHEAR STRENGTH (5000 PSI COMPRESSIVE STRENGTH CONCRETE) AASHTO T-237

4.8.1	3 DAYS @ 40°F - WET CONCRETE	3,500 PSI MINIMUM
4.8.2	7 DAYS @ 40°F - WET CONCRETE	4,000 PSI MINIMUM
4.8.3	1 DAY @ 77°F - DRY CONCRETE	5,000 PSI MINIMUM

*CURE 7 DAY AT 77± 3°F.

THE SURFACE SEAL MATERIAL MUST HAVE ADEQUATE STRENGTH AND ADHESION TO CONFINE THE INJECTION ADHESIVE IN THE CRACK BEING REPAIRED UNTIL THE INJECTION ADHESIVE HAS BEEN CURED. AFTER CURING, THE SURFACE SEAL MUST BE CAPABLE OF BEING REMOVED.

SUBMITTALS

PRIOR TO USE OF ADHESIVE FOR EACH AND EVERY MANUFACTURER'S BATCH OF INJECTION ADHESIVE USED, THE CONTRACTOR SHALL SUBMIT CERTIFICATION TO THE OWNER'S REPRESENTATIVE THAT THE INJECTION ADHESIVE CONFORMS TO ALL REQUIREMENTS OF THE INJECTION ADHESIVE SPECIFICATION. THE CERTIFICATION SHALL INCLUDE THE ACTUAL TEST RESULTS FOR EACH BATCH OF INJECTION ADHESIVE FURNISHED.

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6/59

STRUCTURAL GENERAL NOTES

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REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	CDG		JCL	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

PACKAGING AND LABELING

ALL INJECTION ADHESIVE USED SHALL BE DELIVERED TO THE JOB SITE IN CLEARLY LABELED, UNOPENED CANS AND ALL LABELS SHALL CLEARLY INDICATE:

A. NAME OF MANUFACTURER
B. MANUFACTURER'S PROJECT NAME OR PRODUCT NUMBER
C. MANUFACTURER'S LOT NUMBER
D. MIX RATIO
E. CONFORMANCE WITH THE INJECTION ADHESIVE SPECIFICATION
F. SPI HAZARDOUS MATERIAL RATING AND APPROPRIATE WARNINGS FOR HANDLING.

CONSTRUCTION

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PRINTED INSTRUCTIONS OF THE MANUFACTURER OF THE EPOXY ADHESIVE.

BEFORE REPAIR WORK BEGINS, ALL CRACKS MUST BE FREE FROM LOOSE MATTER SUCH AS DIRT, LAITANCE, OR ANY OTHER CONTAMINANTS. THE CONCRETE IN THE VICINITY OF THE CRACK SHALL BE CLEANED ON BOTH SIDES OF THE CRACK AND A TEMPORARY SEAL APPLIED WITH ENTRY PORTS INSTALLED FOR THE EPOXY RESIN ADHESIVE INJECTION SO SPACED THAT TRAVEL OF THE MATERIAL BETWEEN PORTS IS ACCOMPLISHED. THE DISTANCE BETWEEN ENTRY PORTS SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE MEMBER BEING REPAIRED. THE INJECTION OF THE ADHESIVE INTO EACH CRACK SHALL BEGIN AT THE ENTRY AT THE LOWEST ELEVATION. INJECTION SHALL CONTINUE AT THE FIRST PORT UNTIL THE INJECTION ADHESIVE BEGINS TO FLOW OUT OF THE PORT AT THE NEXT HIGHEST ELEVATIONS. THE FIRST PORT SHALL THEN BE PLUGGED AND INJECTION STARTED AT THE SECOND PORT AND CONTINUED UNTIL THE ADHESIVE FLOWS FROM THE NEXT PORT. THE ENTIRE CRACK SHALL BE INJECTED WITH THE SAME SEQUENCE.

WHEN INJECTING CRACKS THAT PENETRATE THE ENTIRE THICKNESS OF ANY MEMBER, CARE SHOULD BE TAKEN TO INJECT ADHESIVE UNTIL IT FLOWS OUT THE OPPOSITE SIDE. WHEN IT IS OBSERVED THAT THE ADHESIVE HAS ABSORBED MOISTURE OR OTHER FOREIGN MATTER, INJECTION SHALL CONTINUE UNTIL ALL CONTAMINATED ADHESIVE HAS BEEN FORCED THROUGH THE CRACK.

AFTER THE INJECTION ADHESIVE HAS CURED, THE SURFACE SEAL SHALL BE REMOVED.

CERTIFICATES OF COMPLIANCE

THE CONTRACTOR SHALL FURNISH CERTIFICATES REQUIRED FOR DEMONSTRATING PROOF OF COMPLIANCE IN TRIPLICATE.

THE CONTRACTOR SHALL FURNISH A LETTER OF COMPLIANCE FROM EPOXY MATERIAL MANUFACTURER, STATING THAT THE MATERIAL TO BE USED HAS BEEN USED ON SIMILAR PROJECTS FOR THE LAST THREE YEARS.

THE CONTRACTOR SHALL FURNISH A LETTER OF COMPLIANCE STATING THAT HE HAS SUCCESSFULLY BEEN INVOLVED IN THE SPECIFIED TYPE OF WORK FOR THE LAST SIX YEARS. THE CONTRACTOR SHALL FURNISH THE NAMES AND ADDRESSES OF AT LEAST TEN PROJECTS OF SIMILAR NATURE HE HAS COMPLETED OVER THE LAST THREE YEARS.

METHOD OF MEASUREMENT

THE QUANTITY OF APPROVED REPAIRS OF CRACKS MADE SHALL BE MEASURED BY LINEAR FOOT ALONG THE EXPOSED VERTICAL FACE OF CONCRETE.

BASIS OF PAYMENT

THE PAYMENT FOR REPAIRS OF CRACKS AS DESCRIBED ABOVE, SHALL BE MADE AT THE CONTRACT PRICE BID PER LINEAR FOOT OF ITEM SPECIAL - 'REPAIRS OF CRACKS BY ADHESIVE INJECTION BONDING', WHICH SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

PAINTING

THE PAINTING OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH ITEM 514, SYSTEM A, OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, UNLESS MODIFIED HEREIN, AND THE FOLLOWING SHALL BE CONSIDERED AS SUPPLEMENTAL TO THE PROVISIONS SET FORTH THEREIN.

MATERIALS

ALL PAINT SHALL CONFORM TO THE MATERIAL REQUIREMENTS SPECIFIED IN 514.

THE FINISH COAT COLOR SHALL CLOSELY MATCH FEDERAL STANDARD NO. 34128.

Painting notes continued on Sheet 8/59

BASIC LEAD SILICO CHROMATE ALKYD PAINT METAL PRIMER

1. TYPE

THIS SPECIFICATION COVERS A GRADE OF LONG OIL ALKYD PAINT SUITABLE FOR USE AS A SHOP COAT AND FIRST FIELD COAT ON EXISTING STRUCTURAL STEEL.

2. ~~GENERAL REQUIREMENTS~~

THE PAINT SHALL BE WELL GROUND, SHALL NOT SETTLE BADLY IN THE CONTAINER AND SHALL BE READILY BROKEN UP WITH A PADDLE TO A SMOOTH, UNIFORM PAINT OF GOOD BRUSHING CONSISTENCY.

3. PIGMENT

THE PIGMENT SHALL MEET THE FOLLOWING COMPOSITION REQUIREMENTS:

	MINIMUM PERCENT	MAXIMUM PERCENT
BASIC LEAD SILICO CHROMATE	94.0	-----
PURE RED IRON OXIDE	3.0	5.3
PIGMENT SUSPENSION AGENT	0.5	0.7

4. FIRST SHOP PRIMER TINTED OFF FOR CONTRAST WITH LAMPBLACK IN OIL OR ALKYD.

4. LIQUID

THE LIQUID SHALL CONSIST OF NOT LESS THAN 49 PERCENT NON-VOLATILE VEHICLE, THE BALANCE TO BE COMBINED DRIER AND THINNER. THE NON-VOLATILE VEHICLE SHALL BE A LONG OIL ALKYD RESIN CONTAINING A MINIMUM OF 23.0 PERCENT OF PHTHALIC ANHYDRIDE. SMALL QUANTITES OF GRINDING AND WETTING AIDS MAY BE USED IF DESIRED.

5. FINISHED PAINT

THE COMPOSITION AND PROPERTIES OF THE FINISHED PAINT SHALL BE AS INDICATED BELOW:

	MINIMUM PERCENT	MAXIMUM PERCENT
PIGMENT	53.0%	
VEHICLE		47.0%
WATER		0.5%
COARSE PARTICLES AND SKINS (TOTAL RESIDUE RETAINED ON A 325 SIEVE-BASED ON PAINT)		1.0%
WEIGHT PER GALLON	12.7 LBS.	
FINENESS OF GRIND (NORTH STANDARD)	4	
VISCOSITY (STORMER-KREBS UNITS)	75	
SET TOUCH		4 HRS.
DRYING TIME		8 HRS.

6. WORKING PROPERTIES

THE PAINT SHALL BRUSH EASILY, POSSESS GOOD LEVELING, AND SHALL SHOW OR EXHIBIT NO STREAKING, SAGGING OR OTHER OJECTIONABLE FEATURES.

7. SPECIFICATION FOR INGREDIENTS

THE ALKYD RESIN SOLUTION SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATIONS TT-R-266, TYPE 1, CLASS A.

THE BASIC LEAD SILICO CHROMATE SHALL MEET THE REQUIREMENTS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATION D 1648-74.

8. TEST METHODS

THE LABORATORY EXAMINATION OF THE PAINT SHALL BE CONDUCTED ACCORDING TO THE APPLICABLE METHODS OF FEDERAL SPECIFICATIONS TT-P-1411 B.

9. CERTIFIED ANALYSIS AND SAMPLES

THE MANUFACTURER SHALL SUBMIT A SAMPLE ACCOMPANIED BY A CERTIFIED ANALYSIS SETTING FORTH THE COMPOSITION OF THE PAINT, BRAND AND KIND OF PIGMENTS, TINTING COLORS, RESINS, OILS, DRIERS, THINNERS, ETC. USED IN MARKING THE PAINT. IN ADDITION, THE MANUFACTURER SHALL FURTHER CERTIFY THAT IF AWARDED THE CONTRACT, THE MATERIAL FURNISHED WILL BE IDENTICAL WITH THAT OF THE SAMPLE SUBMITTED. SAMPLES WILL BE REQUIRED OF ALL BATCHES, AND NO SHIPMENT OF PAINT SHALL BE MADE UNTIL APPROVED BY THE COUNTY ENGINEER AND THE DIRECTOR.

10. MARKING OF CONTAINERS

EACH CONTAINER SHALL BE SUITABLY LABELED OR MARKED WITH THE FOLLOWING INFORMATION:

BASIC LEAD SILICO CHROMATE METAL PRIMING ALKYD PAINT.
MANUFACTURER'S NAME AND ADDRESS.
INFORMATION AS MAY BE REQUIRED BY STATE LAWS.

BASIC LEAD SILICO CHROMATE ALKYD PAINT LIGHT GREEN INTERMEDIATE COAT
AND
FOLIAGE GREEN FINISH COAT

1. TYPE

THIS SPECIFICATION COVERS A GRADE OF LONG OIL ALKYD PAINT SUITABLE FOR USE AS A FINISH COAT ON STRUCTURAL STEEL.

2. GENERAL REQUIREMENTS

THE PAINT SHALL BE WELL GROUND, SHALL NOT SETTLE BADLY IN THE CONTAINER AND SHALL BE READILY BROKEN UP WITH A PADDLE TO A SMOOTH, UNIFORM PAINT OF GOOD BRUSHING CONSISTENCY.

3. PIGMENT

THE PIGMENT SHALL MEET THE FOLLOWING REQUIREMENTS:

	MINIMUM PERCENT	MAXIMUM PERCENT
BASIC LEAD SILICO CHROMATE	75.0	
TITANIUM DIOXIDE, RUTILE NON-CHALKING	9.0	11.0
ZINC OXIDE, ACICULAR	8.0	9.0
PHTHALOCYANINE GREEN	1.5	
SYNTHETIC YELLOW IRON OXIDE, LAMPBLACK	-	5.6
ORGANO MONTMORILLONITE	0.9	1.1

4. LIQUID

THE LIQUID SHALL CONSIST OF NOT LESS THAN 48.0 PERCENT NON-VOLATILE VEHICLE, THE BALANCE TO BE COMBINED DRIER AND THINNER. THE NON-VOLATILE VEHICLE SHALL BE A LONG OIL ALKYD RESIN CONTAINING A MINIMUM OF 23.0 PERCENT OF PHTHALIC ANHYDRIDE. SMALL QUANTITIES OF GRINDING AND WETTING AIDS MAY BE USED IF DESIRED.

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STRUCTURAL GENERAL NOTES
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7/59

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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	CDG		JCL	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

46
113

CUYAHOGA COUNTY
CUY-10-08.69

5. FINISHED PAINT

THE COMPOSITION AND PROPERTIES OF THE FINISHED PAINT SHALL BE AS INDICATED BELOW:

	MINIMUM PERCENT	MAXIMUM PERCENT
PIGMENT	36.0%	
VEHICLE		64.0%
WATER		0.5%
COARSE PARTICLES AND SKINS (TOTAL RESIDUE RETAINED ON A #325 SIEVE-BASED ON PAINT)		1.0
WEIGHT PER GALLON	10.4 LBS.	
FINENESS OF GRIND (NORTH STANDARD)	4	
VISCOSITY (STORMER-KREBS UNITS)	68	74
DRYING TIMES		8 HRS.

6. COLOR

INTERMEDIATE COAT - THE COLOR SHALL CLOSELY MATCH FEDERAL STD. 595-24227. FINISH COAT - THE COLOR SHALL CLOSELY MATCH FEDERAL STD. 34128.

7. WORKING PROPERTIES

THE PAINT SHALL BRUSH EASILY, POSSESS GOOD LEVELING, AND SHALL SHOW OR EXHIBIT NO STREAKING, SAGGING OR OTHER OJECTIONABLE FEATURES.

8. SPECIFICATION FOR INGREDIENTS

THE ALKYD RESIN SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATIONS TT-R-266, TYPE 1, CLASS A OR B.

THE BASIC LEAD SILICO CHROMATE SHALL MEET THE REQUIREMENTS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS SPECIFICATION D 1648-74.

THE CHALK RESISTANT TITANIUM DIOXIDE SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-P-425A, TYPE III.

THE ZINC OXIDE - ACICULAR - SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATIONS TT-P-00463, TYPE I.

THE PHTHALOCYANINE GREEN SHALL BE DUPONT'S MONASTRAL GREEN GT674D OR EQUAL.

THE LAMPBLACK SHALL BE C.K. WILLIAMS SUPERJET M 1011 OR EQUAL.

THE YELLOW IRON OXIDE SHALL BE COLUMBIAN CARBON LIGHT LEMON 100 OR EQUAL.

9. TEST METHODS

THE LABORATORY EXAMINATION OF THIS PAINT SHALL BE CONDUCTED ACCORDING TO THE APPLICABLE METHODS OF FEDERAL SPECIFICATIONS TT-P-141 B.

10. CERTIFIED ANALYSIS AND SAMPLES

PRIOR TO THE FIRST SHIPMENT OF PAINT THE MANUFACTURER SHALL SUBMIT A SAMPLE ACCOMPANIED BY A CERTIFIED ANALYSIS SETTING FORTH THE COMPOSITION OF THE PAINT, BRAND AND KIND OF PIGMENTS, TINTING COLORS, RESINS, OILS, DRIERS, THINNERS, ETC., USED IN MAKING THE PAINT. IN ADDITION, THE MANUFACTUER SHALL FURTHER CERTIFY THAT THE MATERIAL FURNISHED WILL BE IDENTICAL WITH THAT OF THE SAMPLE SUBMITTED. SAMPLES WILL BE REQUIRED OF ALL BATCHES, AND NO SHIPMENT OF THE PAINT SHALL BE MADE UNTIL APPROVED BY THE COUNTY ENGINEER'S TESTING LABORATORY.

11. MARKING OF CONTAINERS

EACH CONTAINER SHALL BE SUITABLY LABELED WITH THE FOLLOWING INFORMATION:

BASIC LEAD SILICO CHROMATE ALKYD PAINT - LIGHT GREEN INTERMEDIATE COAT
BASIC LEAD SILICO CHROMATE ALKYD PAINT - FOLIAGE GREEN FINISH COAT
MANUFACTURER'S NAME AND ADDRESS
INFORMATION AS MAY BE REQUIRED BY STATE LAWS

SHOP PAINTING STEEL: SHOP PAINTING SHALL BE IN ACCORDANCE WITH 514.04 (SYSTEM 'B') OF THE SPECIFICATIONS EXCEPT THAT TWO COATS OF THE METAL PRIMER SPECIFIED HEREIN SHALL BE APPLIED TO A TOTAL DRY FILM THICKNESS OF 3 MILS AS MEASURED WITH A CALIBRATED MAGNETIC FILM THICKNESS GAGE. THE FIRST COAT SHALL BE TINTED FOR CONTRAST AND BE PERMITTED TO DRY FOR NOT LESS THAN 24 HOURS BEFORE APPLYING THE SECOND COAT.

FIELD PAINTING OF NEW STEEL: FIELD PAINTING SHALL BE ACCORANCE WITH 574.05 (SYSTEM 'B') OF THE SPECIFICATIONS EXCEPT THAT TWO COATS OF METAL PRIMER SPECIFIED HEREIN SHALL BE APPLIED TO FIELD BOLTS, FIELD WELDS AND ADJACENT SURFACES, THE EDGES OF CONTACT SURFACES AND ALL SURFACES FROM WHICH THE SHOP COAT WAS OMITTED OR HAS BEEN REMOVED OR BECAME DEFECTIVE, AND THAT THE FIELD PAINT SHALL CONSIST OF ONE INTERMEDIATE AND ONE FINISH COAT OF THE PAINT SPECIFIED HEREIN. IF FOR ANY REASON THE STEEL IS RECEIVED IN THE FIELD WITH ONLY ONE COAT OF METAL PRIMER APPLIED IN THE SHOP, THE SECOND COAT OF METAL PRIMER SHALL BE APPLIED IN THE FIELD PRIOR TO APPLICATION OF THE INTERMEDIATE COAT.

EACH COAT OF PAINT SHALL BE PERMITTED TO DRY FOR NOT LESS THAN 24 HOURS BEFORE APPLYING A SUBSEQUENT COAT.

THE INTERMEDIATE COAT SHALL BE APPLIED AS SOON AS POSSIBLE AFTER ERECTION OF STEEL.

THE FINISH COAT SHALL BE APPLIED AFTER THE COMPLETION OF ALL CONSTRUCTION OPERATIONS WHICH MIGHT MAR THE FINISH COAT AND AFTER THE INTERMEDIATE COAT HAS BEEN THOROUGHLY CLEANED.

DRY FILM THICKNESS SHALL BE MEASURED BY AN APPROPRIATE METHOD USED BY THE INDUSTRY. THE ACCEPTABLE METHOD FOR MEASURING SHALL BE SELECTED BY THE ENGINEER.

PAINTING (CONT'D FROM SHEET 7/59)

FIELD PAINTING OF EXISTING STEEL

FIELD PAINTING OF EXISTING STEEL SHALL BE IN ACCORDANCE WITH ITEM 514.04 & 514.05 OF THE SPECIFICATIONS EXCEPT AS FOLLOWS:
The steel shall be cleaned, and the surface prepared as specified for prime painting in 514.04.
MATERIAL SHALL BE AS SPECIFIED FOR NEW STEEL.

FOR BARE OR THIN AREAS, TWO COATS SHALL BE USED FOR SPOT PRIMING.

FOR AREAS WHERE EXISTING PAINT IS GOOD, ONE COAT OF INTERMEDIATE AND ONE COAT OF FINISH PAINT SHALL BE APPLIED. TOTAL DRY FILM THICKNESS OF NEW PAINT ON EXISTING STEEL SHALL BE SIX MILS IN BARE OR THIN AREAS AND THREE MILS IN AREAS WHERE EXISTING PAINT IS GOOD.

USAGE OF AIRLESS SPRAY EQUIPMENT WILL BE ALLOWED ONLY FOR AREAS THAT CANNOT BE ADEQUATELY PAINTED BY BRUSHING.

CLEANING OF DEBRIS

THERE IS CONSIDERABLE AMOUNTS OF DEBRIS, SUCH AS PIECES OF BROKEN CONCRETE, PIGEON DROPPINGS, ETC., IN THE TOWERS AND OTHER SUBSTRUCTURE UNITS. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL THE DEBRIS BEFORE COMMENCING ANY FIELD PAINTING WORK. NO SEPARATE PAYMENT WILL BE MADE FOR CLEANING THE DEBRIS BUT COST THEREOF SHALL BE INCLUDED WITH ITEM 514 'FIELD PAINTING OF EXISTING STEEL (AS PER PLAN)'.

METHOD OF MEASUREMENT

THE QUANTITY FOR FIELD PAINTING OF NEW STRUCTURAL STEEL SHALL BE MEASURED AS NUMBER OF POUNDS OF STRUCTURAL STEEL, INCLUDING THE STRUCTURAL STEEL USED FOR REPAIRS.

THE QUANTITY FOR FIELD PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE BASED ON LUMP SUM.

BASIS OF PAYMENT

PAYMENT FOR FINISH PAINTING WILL BE INCL. IN THE UNIT PRICE BID FOR EACH APPLICABLE ITEM UNDER:

1. PER POUND OF STRUCTURAL STEEL FOR ITEM 514, 'FIELD PAINTING OF NEW STRUCTURAL STEEL (AS PER PLAN)'.

2. LUMP SUM FOR ITEM 514, 'FIELD PAINTING OF EXISTING STEEL (AS PER PLAN)'.

Payment for Prime Painting of the new steel is included in the prices bid for "Structural Steel (A36) AISC Cat. I" and "Structural Steel (A36) for Repair, AISC Cat. I."

Payment for Prime Painting and Surface Preparation of the existing steel is included in the price bid for "Field Painting of Existing Steel (as per plan)."

⚠ Defective Paint on new structural steel (As determined by the engineer) shall be removed and re-painted in accordance with item 514.

99

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8/59

STRUCTURAL GENERAL NOTES

LORAIN ROAD VIADUCT
OVER - ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	CDG		JCL	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

47
113

CUYAHOGA COUNTY
CUY-10-08.69

CLEVELAND ELECTRIC ILLUMINATING FACILITIES ON LORAIN ROAD BRIDGE NO. 42

GENERAL:

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY MUST MAINTAIN ELECTRIC SERVICE TO FAIRVIEW GENERAL HOSPITAL AT ALL TIMES. THE EXISTING DUCTS AND CABLES ON THE SOUTH SIDE OF THE BRIDGE MUST REMAIN IN PLACE UNTIL THE DUCT AND CABLE WORK IS COMPLETED ON THE NORTH SIDE. THIS WILL REQUIRE THE CONTRACTOR TO COORDINATE ITS WORK WITH THE CLEVELAND ELECTRIC ILLUMINATING COMPANY. IF THERE ARE ANY DELAYS IN THE REHABILITATION OF THE BRIDGE THAT ARE CAUSED BY THE FAILURE OF THE CONTRACTOR TO COORDINATE ITS WORK WITH THE INSTALLATION OF THE NEW DUCTS AND CABLES AND REMOVAL OF THE EXISTING CABLES BY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, THE CONTRACTOR SHALL WAIVE ANY RIGHTS THAT IT MAY HAVE TO ADDITIONAL COMPENSATION FOR EXPENDITURES INCURRED AS A RESULT OF SUCH DELAYS.

EXISTING CLEVELAND ELECTRIC ILLUMINATING COMPANY DUCTS AND CABLES:

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY HAS EXISTING DUCTS AND CABLES ON THE SOUTH SIDE OF THE BRIDGE. THESE DUCTS AND CABLES SHALL REMAIN IN SERVICE UNTIL THE NEW DUCTS AND CABLES ON THE NORTH SIDE OF THE BRIDGE HAVE BEEN INSTALLED AND ARE IN SERVICE. THE CONTRACTOR SHALL NOT WORK ON THE SOUTH SIDE OF THE BRIDGE UNTIL THE DUCTS AND CABLES ARE IN SERVICE ON THE NORTH SIDE OF THE BRIDGE. THE CLEVELAND ELECTRIC ILLUMINATING COMPANY SHALL REMOVE THE EXISTING CABLES, ETC. AND SHALL COORDINATE THIS REMOVAL WITH THE CONTRACTOR. THE EXISTING DUCTS SHALL BE ABANDONED BY THE CLEVELAND ELECTRIC ILLUMINATING COMPANY AFTER THE CABLES ARE REMOVED. THESE DUCTS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

NEW CLEVELAND ELECTRIC ILLUMINATING COMPANY DUCTS AND CABLES:

THE CONTRACTOR SHALL REHABILITATE THE NORTH SIDE OF THE BRIDGE BEFORE THE SOUTH SIDE. AFTER THE CONTRACTOR HAS INSTALLED THE NEW STEEL SUPPORTS, ETC., FOR THE NEW CLEVELAND ELECTRIC ILLUMINATING COMPANY DUCTS AND CABLES, THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, OR THEIR CONTRACTOR, SHALL INSTALL THE NEW DUCTS PRIOR TO THE INSTALLATION OF THE NORTH SIDEWALK. THIS WORK SHALL BE COORDINATED WITH THE CONTRACTOR. THE CLEVELAND ELECTRIC ILLUMINATING COMPANY SHALL INSTALL THE NEW CABLES.

EAST OHIO GAS COMPANY FACILITIES ON LORAIN ROAD BRIDGE NO. 42

THE STEEL SUPPORTS FOR THE NEW GAS MAIN, ETC. AND REMOVAL OF EXISTING GAS MAIN AND BRACKETS, ETC. WORK SHALL BE PERFORMED AS PART OF THE CONTRACT FOR THE REHABILITATION OF LORAIN ROAD BRIDGE. THE EAST OHIO GAS COMPANY SHALL INSTALL THE NEW GAS MAIN UNDER THE NORTH SIDEWALK OF THE BRIDGE AFTER THE STEEL WORK IS COMPLETED. SINCE THE NEW GAS MAIN WILL BE INSTALLED PRIOR TO INSTALLATION OF THE NORTH SIDEWALK, THIS WORK MUST BE COORDINATED WITH THE CONTRACTOR. IF THERE ARE ANY DELAYS IN THE REHABILITATION OF THE BRIDGE THAT ARE CAUSED BY THE FAILURE OF THE CONTRACTOR TO COORDINATE ITS WORK WITH IN THE INSTALLATION OF THE GAS MAIN BY THE EAST OHIO GAS COMPANY, THE CONTRACTOR AGREES TO WAIVE ALL RIGHTS TO ADDITIONAL COMPENSATION FOR ALL ADDITIONAL EXPENDITURES INCURRED AS A RESULT OF SUCH DELAYS. THE EAST OHIO GAS COMPANY AGREES TO CAP THE EXISTING GAS MAIN ON BOTH SIDES OF THE BRIDGE AND ABANDON THE EXISTING GAS MAIN ON THE BRIDGE. THIS GAS MAIN AND BRACKETS WILL BE REMOVED BY THE CONTRACTOR AND BECOME THE PROPERTY OF THE CONTRACTOR.

ITEM 511 'CLASS S' CONCRETE, SIDEWALK WEARING SURFACE

511.01 DESCRIPTION: THIS WORK SHALL CONSIST OF CONSTRUCTING A PORTLAND CEMENT CONCRETE SIDEWALK WEARING COURSE IN REASONABLY CLOSE CONFORMITY WITH LINES, GRADES, AND DIMENSIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

ALL APPLICABLE PROVISIONS OF ITEM 511 AS SET FORTH IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY, UNLESS MODIFIED HEREIN, AND THE FOLLOWING SHALL BE CONSIDERED AS SUPPLEMENTAL TO THE PROVISIONS SET FORTH THEREIN.

511.02 MATERIALS: THE MATERIALS SHALL CONFORM TO THE FOLLOWING:

CONCRETE (CLASS S)	499
REINFORCING STEEL	709.10
JOINT SEALER	705.01 OR 705.02
CURING COMPOUND MATERIALS	451.02 AND SPECIAL
PRIMER COAT	512.04
TYPE A WATERPROOFING	512.05 AS MODIFIED BELOW

511.08 PLACING AND FINISHING: THE CONCRETE SHALL BE DEPOSITED IN A SINGLE LAYER. IT SHALL BE STRUCK OFF WITH A TEMPLATE AND SMOOTHED WITH A FLOAT TO PRODUCE A SANDY TEXTURE. NO PLASTERING WILL BE PERMITTED. THE SURFACE SHALL BE DIVIDED INTO EQUALLY SPACED BLOCKS WITH TRANSVERED JOINTS APPROXIMATELY 5'-0" ON CENTER OR AS NOTED ON DRAWINGS. ALL TRANSVERSE AND LONGITUDINAL JOINTS SHALL BE CONSTRUCTED AS DETAILED ON THE DRAWINGS AND SHALL BE FILLED WITH JOINT SEALER IN ACCORDANCE WITH 516.04. THE SURFACE SHALL HAVE A TRANSVERSE SLOPE OF 1/4 INCH PER FOOT, WITH THE LOW SIDE ADJACENT TO THE ROADWAY. THE REINFORCING SHALL BE WELDED WIRE FABRIC 6X6-W2.9XW2.9 PLACED IN ACCORDANCE WITH 509.

511.14 CURING: EXPOSED SURFACES OF THE CONCRETE SIDEWALK WEARING COURSE SHALL BE CURED AS REQUIRED IN 451.10, USING THE CURING COMPOUND SPECIFIED IN MATERIALS ABOVE. WHEN THE WEATHER CONDITIONS ARE SUCH THAT IT IS IMPRACTICAL TO USE THE CURING COMPOUND, OTHER MEANS FOR CURING CONCRETE MAY BE USED, HOWEVER AFTER CONDITIONS BECOME FAVORABLE, THE CURING COMPOUND SHALL THEN BE APPLIED. RESIN BASE CURING COMPOUNDS WILL NOT BE PERMITTED.

WATERPROOFING: THE BASE SLAB FOR THE CONCRETE SIDEWALK WEARING COURSE SHALL BE WATERPROOFED AS REQUIRED IN 512 EXCEPT THAT ONLY ONE COAT OF TYPE A WATERPROOFING OF NOT LESS THAN 1/2 GALLON OF ASPHALT OR PITCH PER SQUARE YARD BE APPLIED OVER THE PRIMER COAT.

511.18 METHOD OF MEASUREMENT: THE SIDEWALK WEARING COURSE WILL BE MEASURED BY THE SQUARE FEET OF FINISHED SURFACE, COMPLETE AND ACCEPTED IN PLACE.

511.19 BASIS OF PAYMENT: THE ACCEPTED QUANTITIES OF CONCRETE SIDEWALK WEARING COURSE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE, COMPLETE AND IN PLACE. REINFORCING STEEL, JOINTS AND JOINT MATERIALS, CURING COMPOUND, WATERPROOFING, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE CONCRETE SIDEWALK WEARING COURSE OF WHICH THEY ARE A PART.

PAYMENT WILL BE MADE AT CONTRACT PRICE FOR:

ITEM	UNIT	DESCRIPTION
511	SQUARE FEET	CLASS 'S' CONCRETE, SIDEWALK WEARING SURFACE (AS PER PLAN)

	ESTIMATED QUANTITIES						QUANTITY REMAINING		
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	GEN'L	SUPER.	ABUT.	GEN'L
202	LUMP	L.S.	PORTIONS OF STRUCTURE REMOVED ●			LUMP			50%
202	LUMP	L.S.	EXISTING ELECTRIC DUCTS & SUPPORTS REMOVED ▲			LUMP			100%
202	LUMP	L.S.	EXISTING GAS LINE & SUPPORTS REMOVED ■			LUMP			0
503	LUMP	L.S.	COFFERDAMS, CRIBS AND SHEETING		LUMP			50%	
503	515	C.Y.	UNCLASSIFIED EXCAVATION		515			257.5	
509	303619	LB.	REINFORCING STEEL, GRADE 60	270063	33556		156,918	17,220	
824	305322	LB.	EPOXY COATED REINF. STEEL	302013	3309		185,436	1,899	
510	1047	L.F.	DOWEL HOLES		1047			532.5	
511	2308	C.Y.	CLASS "S" CONCRETE, SUPERSTRUCTURE (SEE PROP. NOTE)	2241	67		1561	38.8	
511	11848	S.F.	CLASS "S" CONCRETE, SIDEWALK WEARING						
			SURFACE (AS PER PLAN)	11848			11,848		
511	216	C.Y.	CLASS "C" CONCRETE, ABUTMENT ABOVE FOOTING		216			98.6	
511	74	C.Y.	CLASS "C" CONCRETE, FOOTINGS		74			38.9	
512	24	S.Y.	TYPE "B" WATERPROOFING		24			13.2	
513	660200	LB.	STRUCTURAL STEEL (A36)* AISC CATEGORY-I	660200			299,451.5		
513	19450	LB.	STRUCTURAL STEEL (A36), FOR REPAIRS AISC CATEGORY-I			19,450			14,684
514	679650	LB.	FIELD PAINTING OF NEW STRUCTURAL STEEL *(AS PER PLAN)	660200		19,450			450,850
514	LUMP	L.S.	FIELD PAINTING OF EXISTING STEEL (AS PER PLAN)			LUMP			52%
516	57	EACH	BEARING DEVICES (AS PER PLAN)	57			29		
516	434	L.F.	ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)	434			434		
517	2521.75	L.F.	RAILING (AS PER PLAN)	2409.50	112.25		2,409.5	112.25	
518	38	C.Y.	POROUS BACKFILL		38			22.5	
518	2239	L.F.	TROUGH HORIZONTAL CONDUCTORS, INCL. SPECIALS	2239			1,119.5		
518	2778	L.F.	6" PIPE DOWNSPOUTS, INC. SPECIALS	2778			2,778		
518	2468	L.F.	8" PIPE DOWNSPOUTS, INCL. SPECIALS	2468			2,468		
518	34	L.F.	6" PERFORATED HELICAL C.S.P., 707.01		34			14	
518	100	L.F.	6" NON-PERF. HELICAL C.S.P. INCL. SPECIALS, 707.01		100			80	
⇨ △ SPEC.	360	Ea.	7/8"Φ×8 3/16" Shear Studs	360			300		
519	30	S.F.	PATCHING CONCRETE STRUCTURES ❁		30			30	
608	483	S.F.	6" REINFORCED CONCRETE WALK (AS PER PLAN)			483			483
625			SEE LIGHTING COMPANY						
630			SEE TRAFFIC CONTROL SUMMARY						
845	6886	S.Y.	LATEX MODIFIED CONCRETE OVERLAY 1 1/4"						
			THICK (SEE PROPOSAL NOTE)	6756	130		6,756	130	
SPEC.	845	L.F.	LADDERS			845			845
SPEC.	68	L.F.	REPAIR OF CRACKS BY ADHESIVE INJECTION BONDING		68			48.5	

● DENOTES THAT THIS ITEM DOES NOT INCLUDE REMOVAL OF EXISTING ELECTRICAL DUCTS, GAS LINE, AND THEIR SUPPORTS.

▲ DENOTES THAT 100% OF COST OF THIS ITEM IS TO BE PAID BY C.E.I.

■ DENOTES THAT 100% OF COST OF THIS ITEM IS TO BE PAID BY E.O.G.

✱ DENOTES THAT THE QUANTITY FOR THIS ITEM INCLUDES 8442 LBS. TO BE PAID BY C.E.I. AND 8442 LBS. TO BE PAID BY E.O.G.

❁ DENOTES THAT THE QUANTITY FOR THIS ITEM HAS BEEN ARRIVED AT BY FIELD OBSERVATION ONLY. THE ACTUAL QUANTITY SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

QUANTITES CHECK BY B. LAPASIA AND A. HODOVAN

⇨ △ Change Order No. 5

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9/59

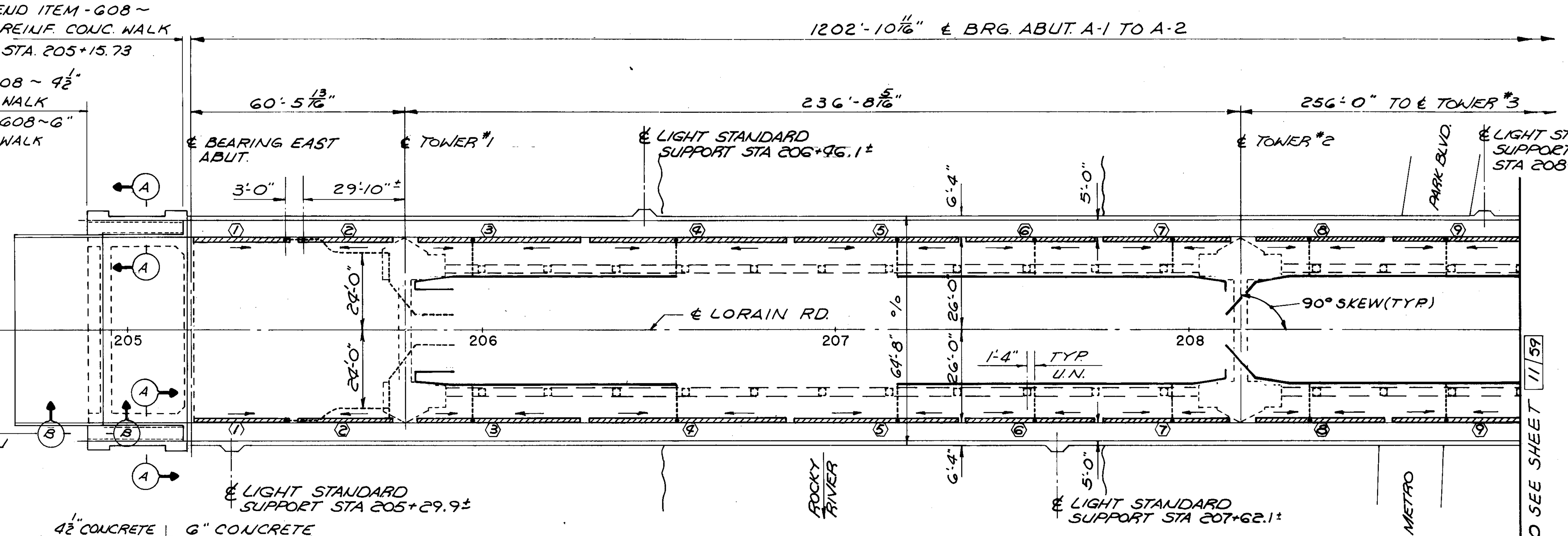
STRUCT. GEN. NOTES & ESTIMATED QUANTITIES
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	CDG		A.L.H.	JFP	7-30-82	

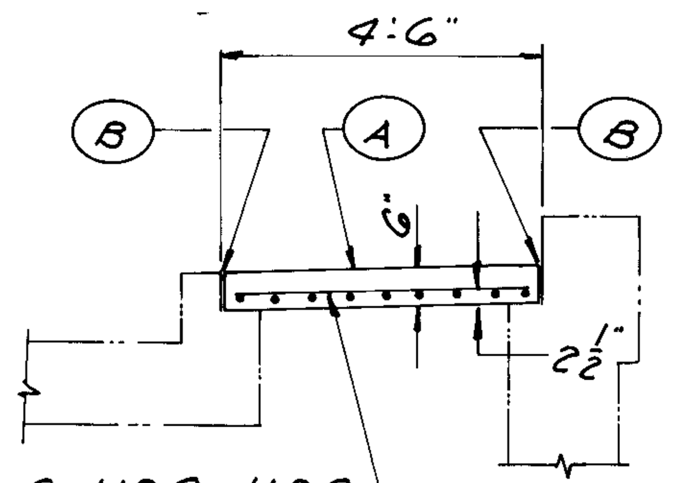
LORAIN ROAD BRIDGE Nº 42

FHWA REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

CUYAHOGA COUNTY
CUY-10-08.69


END ITEM-608 ~ 6" REINF. CONC. WALK STA. 205+15.73
END ITEM 608 ~ 4½" REINF. CONC. WALK
STA. 204+88.67
BEGIN ITEM-608~6" REINF. CONC. WALK
1202'-10 11/16" ℄ BRG. ABUT. A-1 TO A-2
60'-5 13/16"
236'-8 5/16"
256'-0" TO ℄ TOWER #3
℄ BEARING EAST ABUT.
℄ TOWER #1
℄ LIGHT STANDARD SUPPORT STA 206+96.1±
℄ TOWER #2
PARK BLVD.
℄ LIGHT STANDARD SUPPORT STA 208+82.7±
3'-0"
29'-10"±
24'-0"
24'-0"
℄ LORAIN RD.
64'-8" o/o
26'-0"
26'-0"
1'-4" TYP. U.N.
90° SKEW (TYP.)
6'-4"
5'-0"
205
206
207
208
TYPICAL TRANSITION
℄ LIGHT STANDARD SUPPORT STA 205+29.9±
ROCKY RIVER
℄ LIGHT STANDARD SUPPORT STA 207+62.1±
METRO
MATCH LINE STA. 208+94.60 SEE SHEET 11/59

GENERAL PLAN

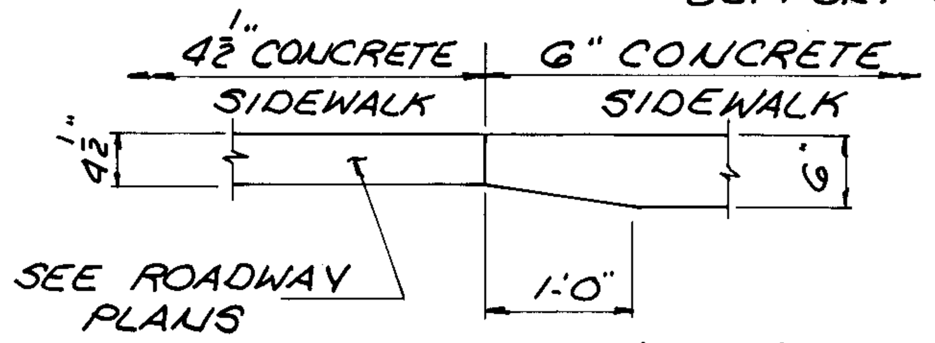


WWF 6x6-W2.9xW2.9 TO BE INCLUDED WITH ITEM 608-6" REINFORCED CONCRETE WALK, AS PER PLAN FOR PAYMENT.

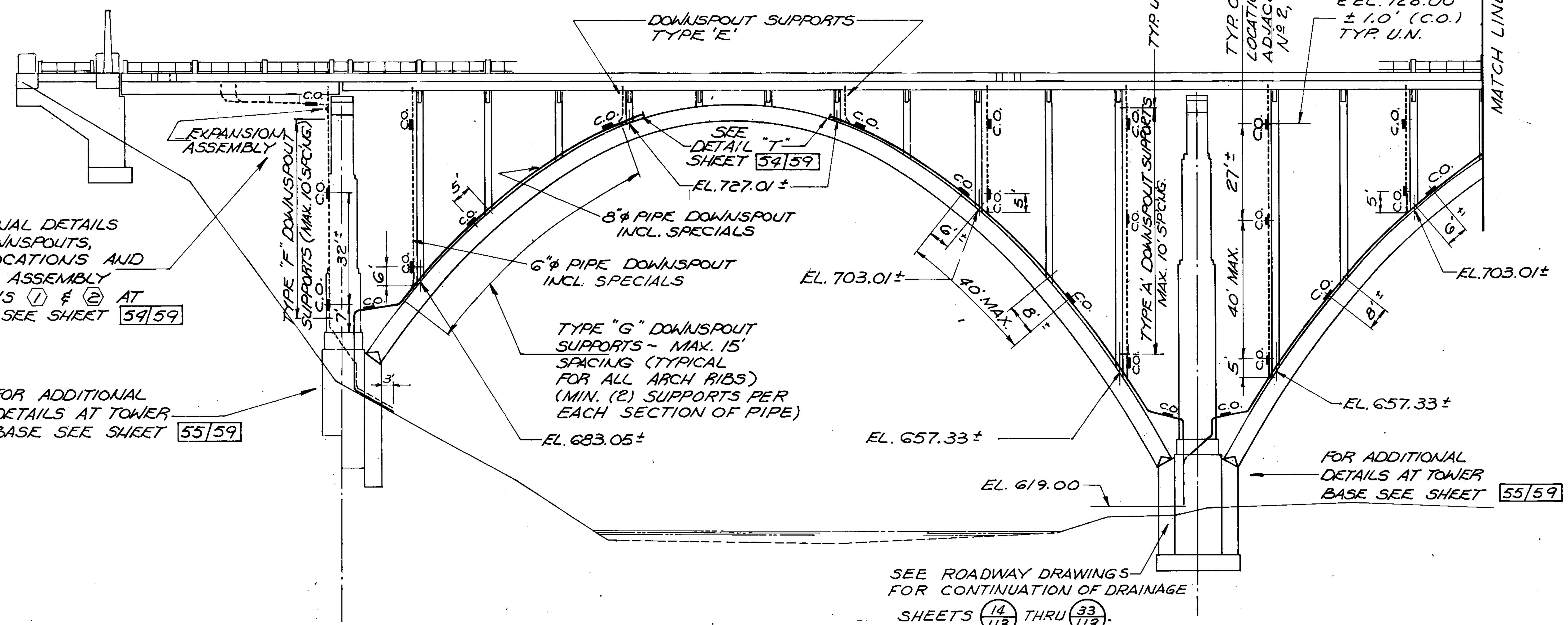
SECTION 'A-A'

(A) ITEM 608-6" REINFORCED CONCRETE WALK (AS PER PLAN)

(B) ½" PREFORMED EXPANSION JOINT FILLER (TO BE INCLUDED WITH ITEM 608-6" CONCRETE WALK, AS PER PLAN FOR PAYMENT)



SECTION 'B-B'


DOWNSPOUT SUPPORTS TYPE 'E'
TYP. U.N.
TYP. CLEAN-OUT LOCATIONS ~ COLUMNS ADJACENT TOWERS No 2, No 3 AND No 4
℄ EL. 728.00 ± 1.0' (C.O.) TYP. U.N.
EXPANSION ASSEMBLY
TYPE "F" DOWNSPOUT SUPPORTS (MAX. 10' SPCNG.)
SEE DETAIL "T" SHEET 54/59
EL. 727.01±
8"φ PIPE DOWNSPOUT INCL. SPECIALS
6"φ PIPE DOWNSPOUT INCL. SPECIALS
EL. 703.01±
40' MAX.
TYPE 'A' DOWNSPOUT SUPPORTS MAX. 10' SPCNG.
27'±
40' MAX.
EL. 703.01±
FOR ADDITIONAL DETAILS OF 6"φ DOWNSPOUTS, SUPPORT LOCATIONS AND EXPANSION ASSEMBLY FOR TROUGHS ① & ② AT TOWER No 1 SEE SHEET 54/59
TYPE "G" DOWNSPOUT SUPPORTS ~ MAX. 15' SPACING (TYPICAL FOR ALL ARCH RIBS) (MIN. (2) SUPPORTS PER EACH SECTION OF PIPE)
FOR ADDITIONAL DETAILS AT TOWER BASE SEE SHEET 55/59
EL. 683.05±
EL. 657.33±
EL. 657.33±
EL. 619.00
FOR ADDITIONAL DETAILS AT TOWER BASE SEE SHEET 55/59
SEE ROADWAY DRAWINGS FOR CONTINUATION OF DRAINAGE SHEETS 14/113 THRU 33/113.

ELEVATION

NOTES

1. FOR STRUCTURAL GENERAL NOTES, SEE SHEETS 4/59 - 9/59
2. FOR DRAINAGE DETAILS, SEE SHEETS 51/59 - 56/59
3. FOR LIGHT STANDARD SUPPORT DETAIL, SEE SHEET 42/59
4. FOR RAILING POST LOCATIONS & DETAILS, SEE SHEETS 48/59 THRU 50/59

LEGEND

- FLOW — ITEM 518, TROUGH-HORIZONTAL CONDUCTORS
- (hexagon) TROUGH IDENTIFICATION NUMBER
- ----- ITEM 518, 6"φ STEEL DOWNSPOUTS INCLUDING SPECIALS.
- ——— ITEM 518, 8"φ STEEL DOWNSPOUTS INCLUDING SPECIALS.
- C.O. DENOTES APPROXIMATE LOCATION OF CLEAN-OUT.

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GENERAL PLAN & ELEVATION 10/59
LORAIN ROAD VIADUCT OVER ROCKY RIVER
BRIDGE No CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT No 7092
No B-79

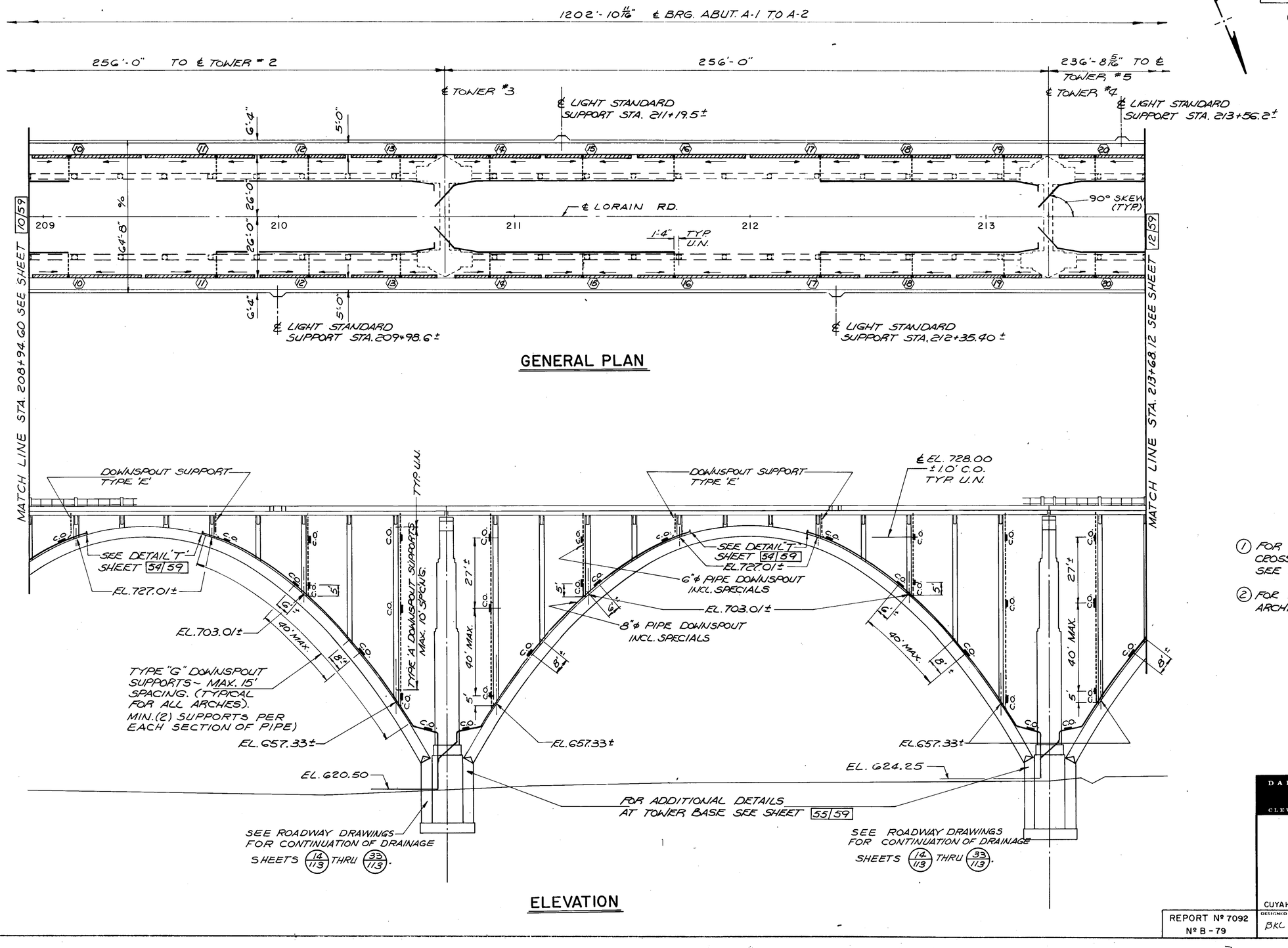
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.	-	A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE No 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

49
113

CUYAHOGA COUNTY
CUY-10-08.69



GENERAL PLAN

ELEVATION

NOTES

1. FOR LEGEND AND ADDITIONAL CROSS-REFERENCE NOTES SEE SHEET 10/59.
2. FOR TYPICAL SECTION THRU ARCHES SEE SHEET 53/59.

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GENERAL PLAN & ELEVATION

11/59

LORAIN ROAD VIADUCT
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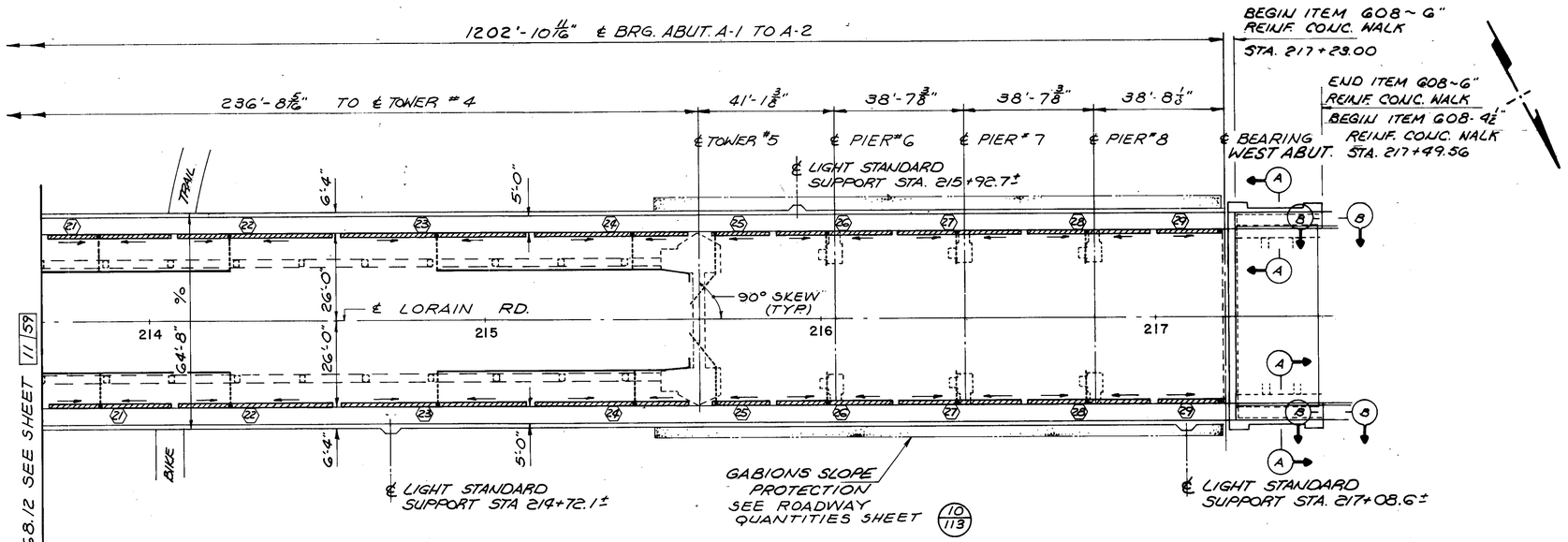
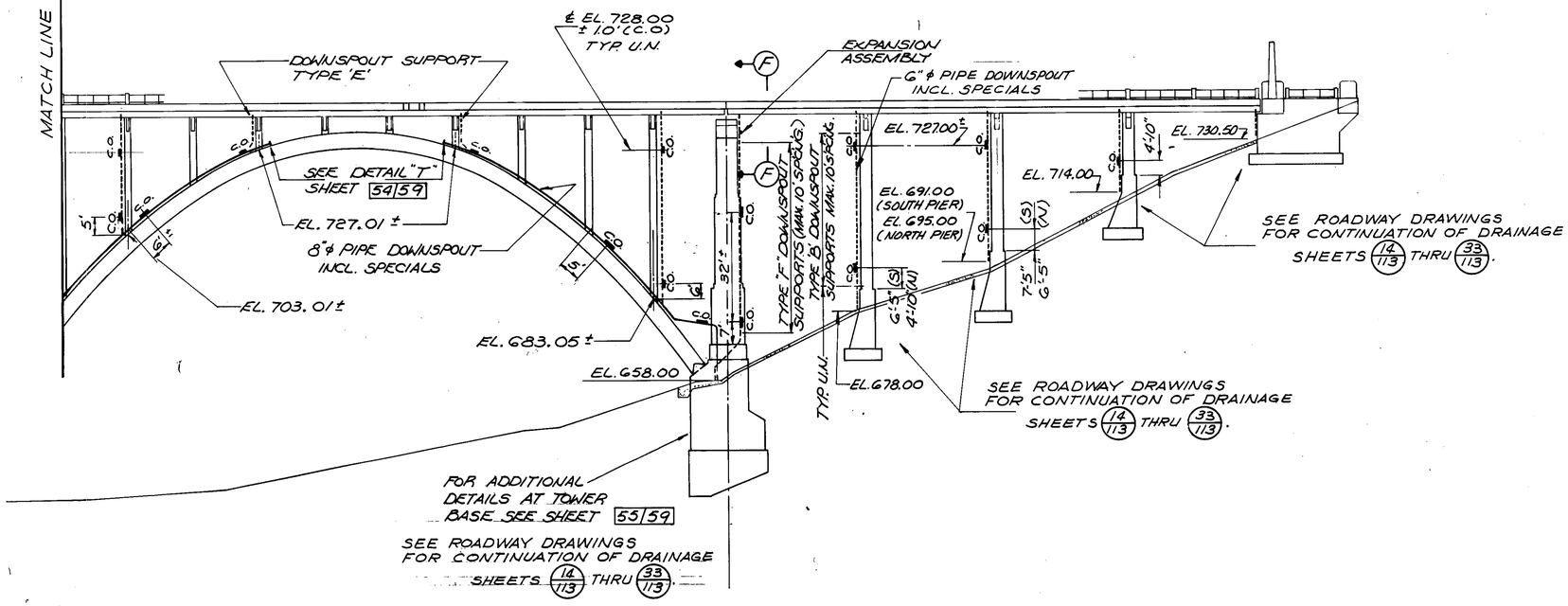


GENERAL PLAN



ELEVATION

NOTES

1. FOR VIEW "F-F" SEE SHEET 54/59
2. FOR TYPICAL SECTION THRU ARCHES TYPICAL SECTION AT PIERS 6, 7 & 8 AND TYPICAL VIEW FRONT FACE WEST ABUTMENT SEE SHEET 53/59
3. FOR LEGEND AND ADDITIONAL CROSS-REFERENCE NOTES SEE SHEET 10/59
4. FOR SECTIONS 'A-A' & 'B-B' SEE SHEET 10/59.

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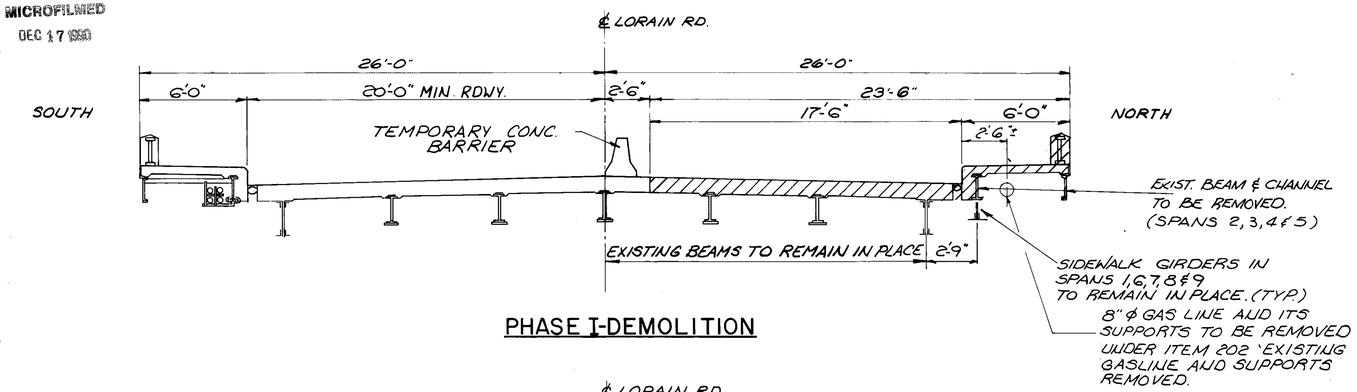
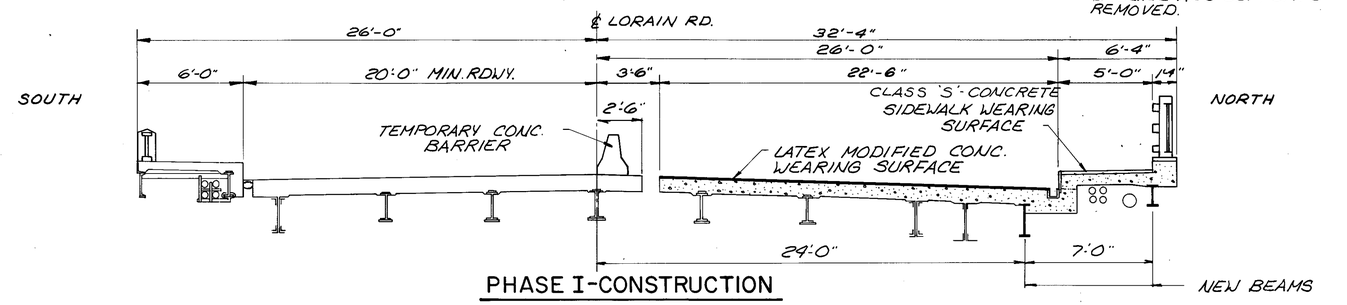
GENERAL PLAN & ELEVATION 12/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

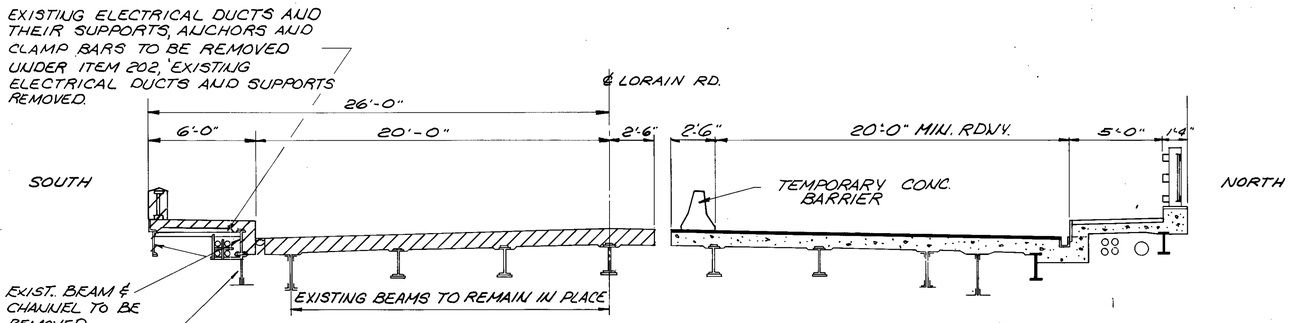
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISIONS
	BKL	F.F.		A.L.H.	JFP	7-30-82	



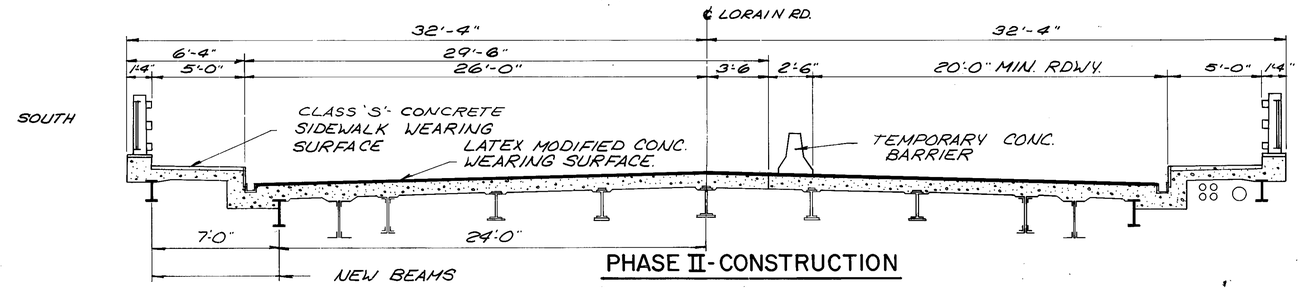
PHASE I-DEMOLITION



PHASE I-CONSTRUCTION



PHASE II-DEMOLITION



PHASE II-CONSTRUCTION

ESTIMATED DEMOLITION QUANTITIES *		
DESCRIPTION	UNIT	QUANTITY
SUPERSTRUCTURE CONCRETE	C.Y.	1940
STRUCTURAL STEEL	LB.	324000
ABUTMENT CONCRETE	C.Y.	116
RAILING	L.F.	2523

*THE ESTIMATED DEMOLITION QUANTITIES HAVE BEEN ARRIVED AT USING EXISTING STRUCTURE PLANS AND ARE GIVEN FOR INFORMATION ONLY. NO GUARANTEE, EXPRESS OR IMPLIED, CAN BE GIVEN FOR ACCURACY OF THE QUANTITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRIVING AT HIS OWN ESTIMATED DEMOLITION QUANTITIES AS PART OF THE BASIS OF HIS BID FOR ITEM 202 'PORTIONS OF STRUCTURE REMOVED.
THE TABLE OF ESTIMATED DEMOLITION QUANTITIES DOES NOT NECESSARILY LIST ALL ITEMS OF DEMOLITION WORK.
THE OTHER DEMOLITION WORK, TO BE INCLUDED WITH ITEM 202 'PORTIONS OF STRUCTURES REMOVED', INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
- COMPLETE BRIDGE DRAINAGE SYSTEM INCLUDING DOWNSPOUTS FROM WITHIN THE TOWERS
- SUPERSTRUCTURE WEARING SURFACE AND EXPANSION JOINTS
- BEARINGS AT WEST ABUTMENT
- TOWER ACCESS MANHOLES IN SIDEWALK
- LADDERS IN TOWERS
- RIVET REMOVAL

NOTES

(1) THE SUGGESTED ITEMS OF WORK TO BE DONE FOR DEMOLITION OF PORTIONS OF EXISTING STRUCTURE AND WIDENING AND REHABILITATION CONSTRUCTION WORK SHALL BE, BUT NOT BE LIMITED TO THE FOLLOWING:

PHASE I (NORTH SIDE) - DEMOLITION

A. INSTALL TEMPORARY CONCRETE BARRIER AND DIVERT THE TRAFFIC.
B. REMOVAL OF EXISTING L.P. GAS LINE FROM UNDER THE NORTH SIDEWALK BY EAST OHIO GAS COMPANY.
C. REMOVE PORTIONS OF SUPERSTRUCTURE AND ABUTMENTS AS SHOWN ON THE PLAN. THE CAST IRON GRILLES FROM THE EXISTING RAILING ARE TO BE SALVAGED AND REUSED AS SHOWN ON THE PLANS.

PHASE I (NORTHSIDE) - CONSTRUCTION

A. CONSTRUCT THE WIDENED CANTILEVERS AND PERFORM STRUCTURAL STEEL REPAIRS AS SHOWN ON THE PLANS.
B. CONSTRUCT PORTIONS OF SUPERSTRUCTURE AND ABUTMENTS AND INSTALL DRAINAGE SYSTEM AND RAILING FOR THE NORTH SIDE OF THE STRUCTURE.
C. INSTALL PORTIONS OF APPROACH SLAB.
D. INSTALLATION UTILITIES BY THEIR OWNERS.

PHASE II (SOUTHSIDE) - DEMOLITION

A. PERFORM THE SAME WORK AS SHOWN IN PARAGRAPH 'A & C' UNDER PHASE I - DEMOLITION.
B. REMOVAL OF EXISTING ELECTRICAL DUCTS FROM UNDER THE SOUTH SIDEWALK BY CEI.

PHASE II (SOUTHSIDE) - CONSTRUCTION

A. PERFORM THE SAME WORK AS SHOWN IN STEPS 'A THRU C' UNDER PHASE I - CONSTRUCTION

(2) THE CONTRACTOR SHALL PERFORM HIS DEMO--LITION AND CONSTRUCTION WORK IN SUCH A MANNER SO AS NOT TO DAMAGE THE REMAINING PORTIONS OF THE EXISTING STRUCTURE AND ALL UTILITIES, REMAINING IN PLACE OR BEING RELOCATED.

(3) FOR TEMPORARY CONCRETE BARRIER QUANTITY, SEE QUANTITY SUMMARY SHEET (10/113)

(4) FOR ADDITIONAL NOTES, SEE STRUCTURE GENERAL NOTES, SHEETS 9/59 THRU 9/59

(5) ▨ DENOTES PORTIONS OF EXISTING STRUCTURE TO BE REMOVED UNDER ITEM 202 'PORTIONS OF EXISTING STRUCTURES REMOVED.'

(6) THE VEHICULAR TRAFFIC MUST BE MAINTAINED ON ONE SIDE OF BRIDGE WHILE DEMOLITION AND REHABILITATION WORK IS BEING PERFORMED ON THE OTHER SIDE. SEE SHEET (9/113) FOR ADDITIONAL DETAILS.

(7) THE TEMPORARY CONCRETE BARRIER SHALL BE STABILIZED, AS A PRECAUTION AGAINST IT'S LATERAL MOVEMENT, AS SHOWN IN THE STANDARD DRAWING MC-9A AND AS DIRECTED BY THE ENGINEER.

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69 (42.)	

51/113

CUYAHOGA COUNTY
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13/59

DEMOLITION & PHASING DETAILS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 / Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	CDG		AL H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

52
113

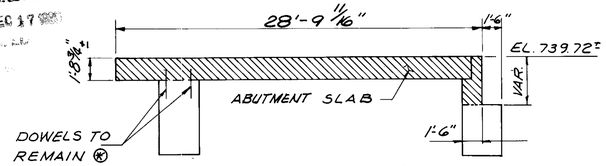
CUYAHOGA COUNTY
CUY-10-08.69

NOTES

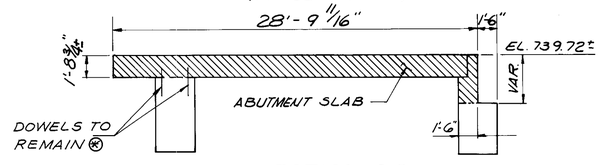
SEE STRUCTURAL GENERAL NOTES, SHEETS 4|59 THRU 7|59 FOR ADDITIONAL DEMOLITION AND REPAIR INFORMATION.

SEE SHEET 17|59, FOR VIEW Y-Y, DETAIL 'LS', DETAIL 'EP' AND NOTES A, B AND C.

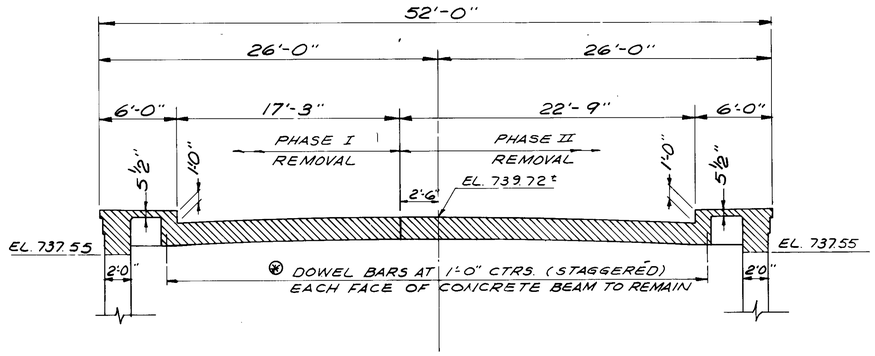
△ PHASE I Demolition Complete



SECTION B-B
(PHASE I DEMO)

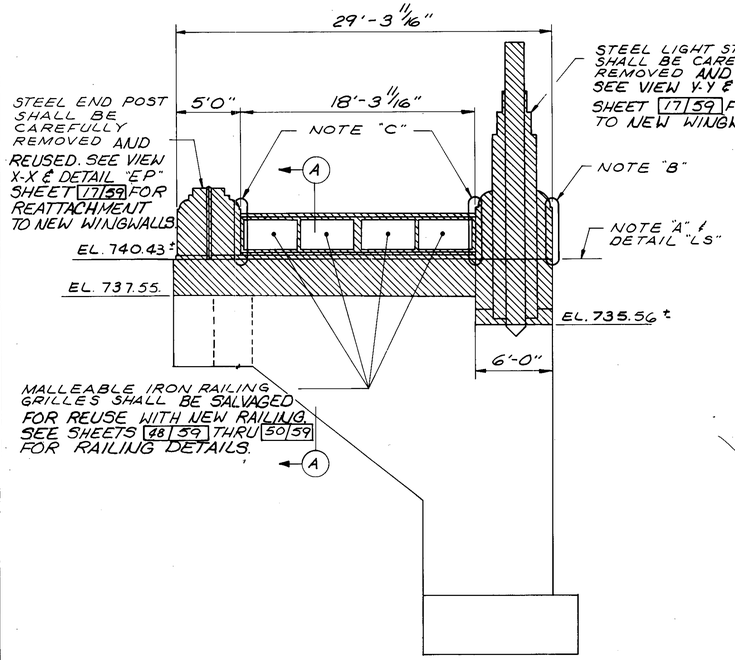


SECTION C-C
(PHASE II DEMO)

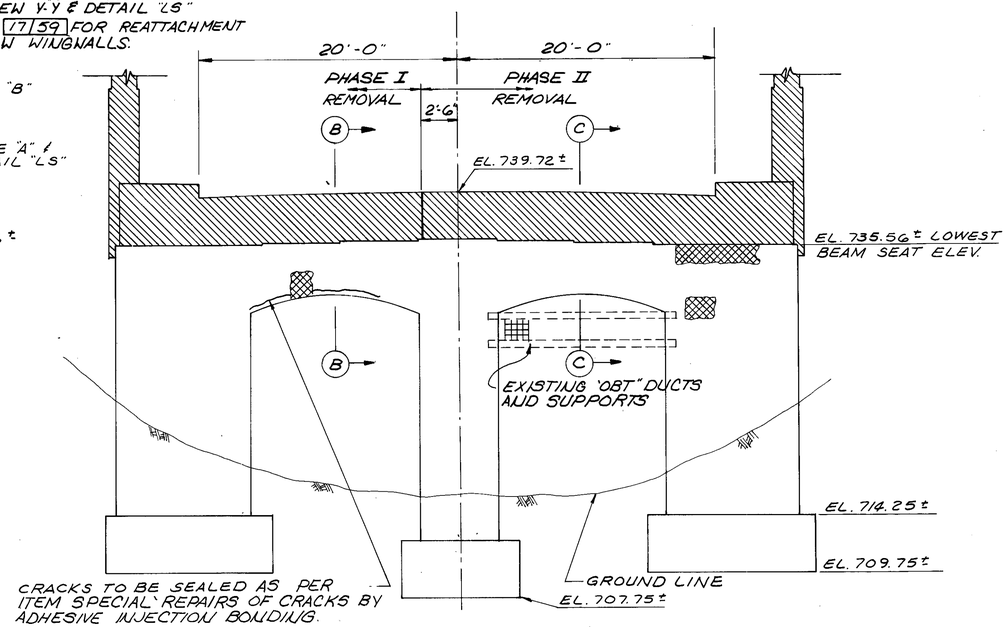


SECTION A-A

Ⓦ WORK WITH EAST ABUTMENT DETAILS SHEET 18|59 FOR ADDITIONAL INFORMATION



ELEVATION NORTH WING



FRONT ELEVATION

LEGEND

AREAS OF REMOVAL. ITEM 202 "PORTIONS OF EXISTING STRUCTURES REMOVED."

AREAS OF CONC. REPAIR. ITEM 519 "PATCHING CONCRETE STRUCTURES.

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EAST ABUTMENT DEMOLITION DETAILS 14|59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

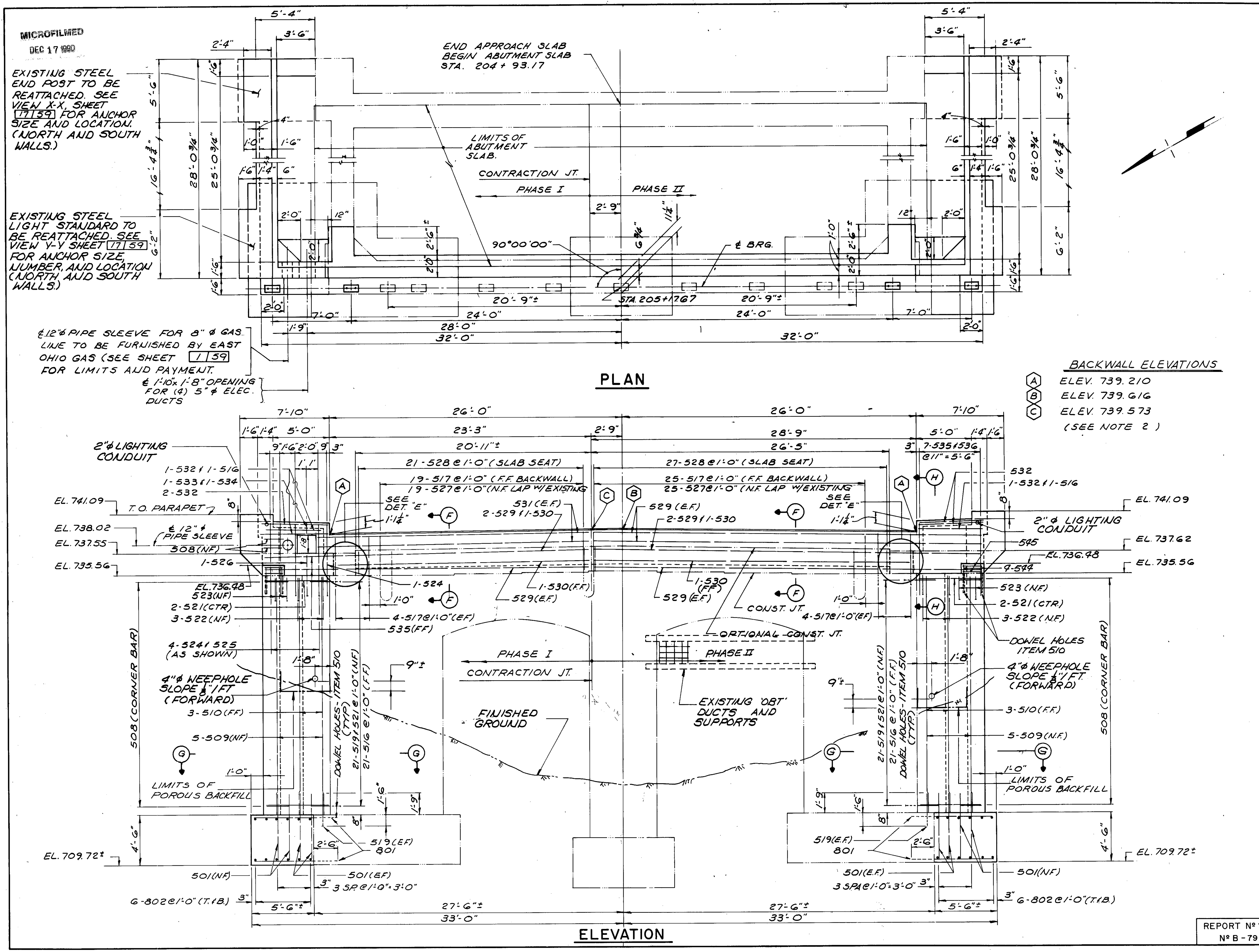
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	F.F.		ALH	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

53/113

CUYAHOGA COUNTY
CUY-10-08.69


PLAN
ELEVATION
EXISTING STEEL END POST TO BE REATTACHED. SEE VIEW X-X, SHEET 17/59 FOR ANCHOR SIZE AND LOCATION. (NORTH AND SOUTH WALLS.)
EXISTING STEEL LIGHT STANDARD TO BE REATTACHED. SEE VIEW Y-Y SHEET 17/59 FOR ANCHOR SIZE, NUMBER, AND LOCATION (NORTH AND SOUTH WALLS.)
END APPROACH SLAB BEGIN ABUTMENT SLAB STA. 204 + 93.17
LIMITS OF ABUTMENT SLAB.
CONTRACTION JT.
PHASE I
PHASE II
90°00'00"
℄ BRG.
STA. 205+17.67
℄ 12"φ PIPE SLEEVE FOR 8" φ GAS LINE TO BE FURNISHED BY EAST OHIO GAS (SEE SHEET 1/59 FOR LIMITS AND PAYMENT.
℄ 1'-10"x 1'-8" OPENING FOR (4) 5" φ ELEC. DUCTS
2"φ LIGHTING CONDUIT
EL. 741.09
T.O. PARAPET
EL. 738.02
EL. 737.55
EL. 735.56
EL. 736.48
EL. 737.62
21-528 @ 1'-0" (SLAB SEAT)
27-528 @ 1'-0" (SLAB SEAT)
19-517 @ 1'-0" (F.F. BACKWALL)
25-517 @ 1'-0" (F.F. BACKWALL)
19-527 @ 1'-0" (N.F. LAP W/EXISTING
25-527 @ 1'-0" (N.F. LAP W/EXISTING
SEE DET. "E"
CONST. JT.
OPTIONAL CONST. JT.
EXISTING 'OBT' DUCTS AND SUPPORTS
FINISHED GROUND
4"φ WEEPHOLE SLOPE 1/8"/FT (FORWARD)
DOWEL HOLES ITEM 510
LIMITS OF POROUS BACKFILL
508 (CORNER BAR)
EL. 709.72±
6-802 @ 1'-0" (T.&B.)
3 SP. @ 1'-0" = 3'-0"
27'-6"±
33'-0"

BACKWALL ELEVATIONS

- (A) ELEV. 739.210
- (B) ELEV. 739.616
- (C) ELEV. 739.573
- (SEE NOTE 2)

⚠ NOTE:
PHASE I Abutment complete except for sidewalk and latex.

NOTES

1. THE PREFIX 11A (EAST ABUTMENT PHASE I) AND 12A (EAST ABUTMENT PHASE II) SHALL BE ADDED TO ALL REINFORCING BAR MARKS RESPECTIVELY. (TYPICAL UNLESS NOTED.)
2. BACKWALL ELEVATIONS SHOWN ARE TOP OF CONCRETE. PROPER ALLOWANCE HAS BEEN MADE FOR THE 1¼" CONCRETE OVERLAY.
3. SEE SHEET 17/59 FOR ELEVATION, SECTIONS AND DETAILS OF WINGWALLS.
4. SEE SHEET 16/59 FOR DETAIL "E" AND SECTIONS "G-G", "H-H" & "F-F".
5. SEE SHEET 18/59 FOR DETAILS AND SECTIONS OF ABUTMENT SLAB.
6. SEE SHEETS 46/59 & 47/59 FOR EXPANSION JOINT DETAILS
7. FOR ADDITIONAL NOTES SEE STRUCTURAL GENERAL NOTE SHEETS 4/59 THRU 9/59.
8. DEPTH OF DOWEL HOLES SHALL BE AS FOLLOWS
   #5 & #6 BARS — 1'-6" MIN.
   #8 BARS — 2'-6" MIN.
9. FOR NEW BEARING, ANCHOR BOLT SPACING SEE SHEET 49/59.

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EAST ABUTMENT DETAILS

15/59

LORAIN ROAD VIADUCT OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		A.L.H.	JFP	7-30-82	

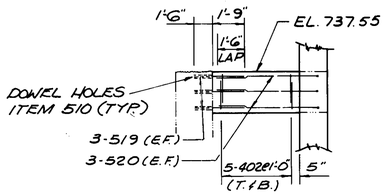
REPORT Nº 7092
Nº B-79

LORAIN ROAD BRIDGE Nº 42

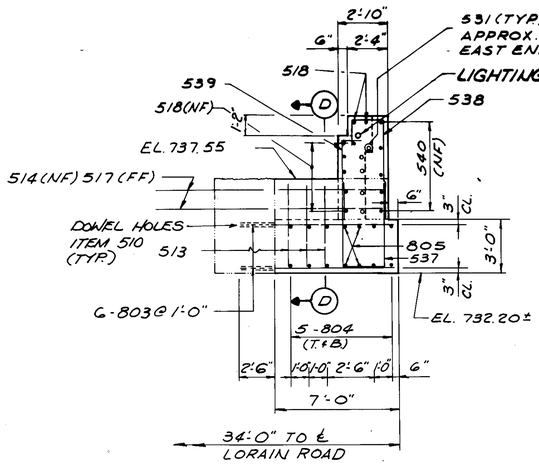
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-66(42)	

54
113

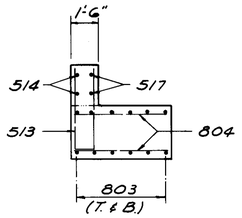
CUYAHOGA COUNTY
CUY-10-08.69



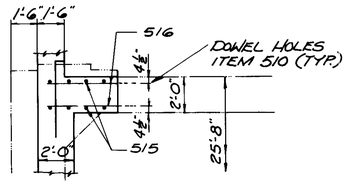
DETAIL B



VIEW C-C

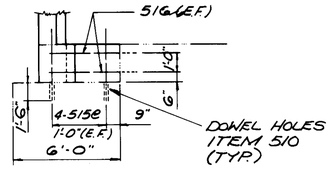


SECTION D-D



PLAN DETAIL E

NORTH SIDE SHOWN
SOUTH SIDE SIMILAR



ELEVATION DETAIL E
(LOOKING NORTH)
DETAIL E

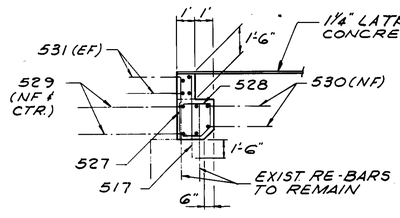
NOTES

1. SEE SHEET 15/59 FOR LOCATION OF VIEW F-F, G-G AND H-H AND DETAIL E.
2. SEE SHEET 17/59 FOR LOCATION OF DETAIL B & VIEW C-C.

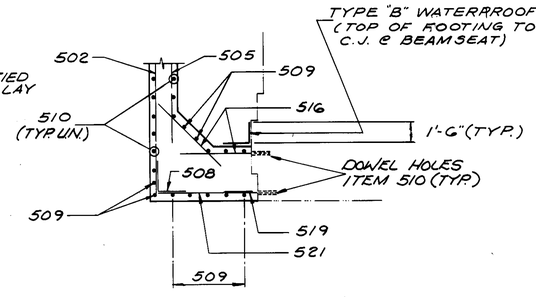
SECTION THRU BACKWALL UNDER S.W. UTILITY SIDE

SECTION THRU ELECTRICAL OPENING

SECTION H-H



SECTION F-F



SECTION G-G

NORTH CORNER SHOWN
SOUTH CORNER SIMILAR

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EAST ABUTMENT DETAILS

16/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

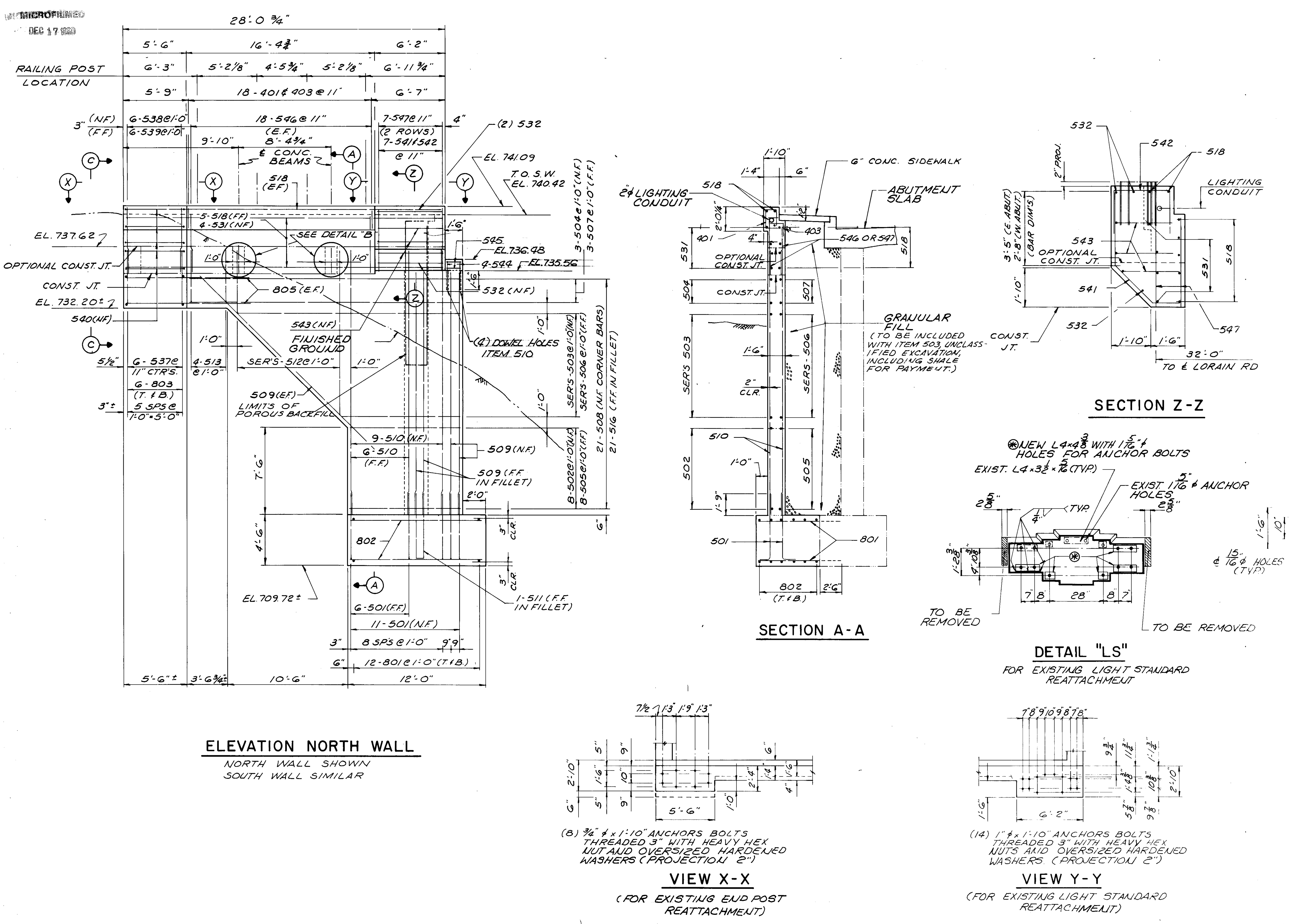
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	F.F.		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

55/113

CUYAHOGA COUNTY
CUY-10-08.69



NOTES:

(A) STEEL LIGHT STANDARD SHALL BE NEATLY CUT AT TOP OF SIDEWALK LINE ON THE EXTERIOR FACE. PORTION ABOVE THIS LINE TO BE ANCHORED TO THE NEW PARAPETS ON PROPOSED ABUTMENT WINGWALLS. (SEE DETAILS "LS" FOR ADDITIONAL ANCHOR DETAILS)

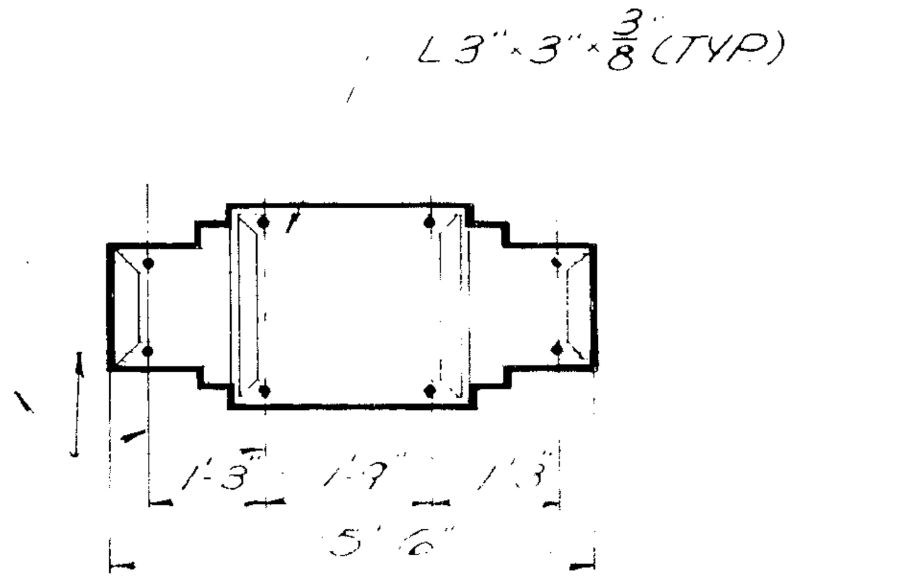
(B) EXISTING HOLE FOR RAILING IN THIS SIDE OF STEEL LIGHT STANDARD SHALL BE COVERED WITH A 3/8" PLATE.

(C) EXISTING BRACKETS FOR RAILING ATTACHMENTS SHALL BE REMOVED, THE RIVET HOLES PLUGGED WITH BUTTON HEAD BOLTS.

(1) SEE SHEET 15/59 FOR ADDITIONAL NOTES.

(2) SEE SHEET 16/59 FOR DETAIL 'B'.

(3) FOR ADDITIONAL RAILING DETAILS SEE SHEETS 48/59, 50/59



DETAIL "EP"
FOR EXISTING STEEL END POST REATTACHMENT

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EAST ABUTMENT DETAILS 17/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE NO. CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		A.L.H.	JFP	7-30-82	

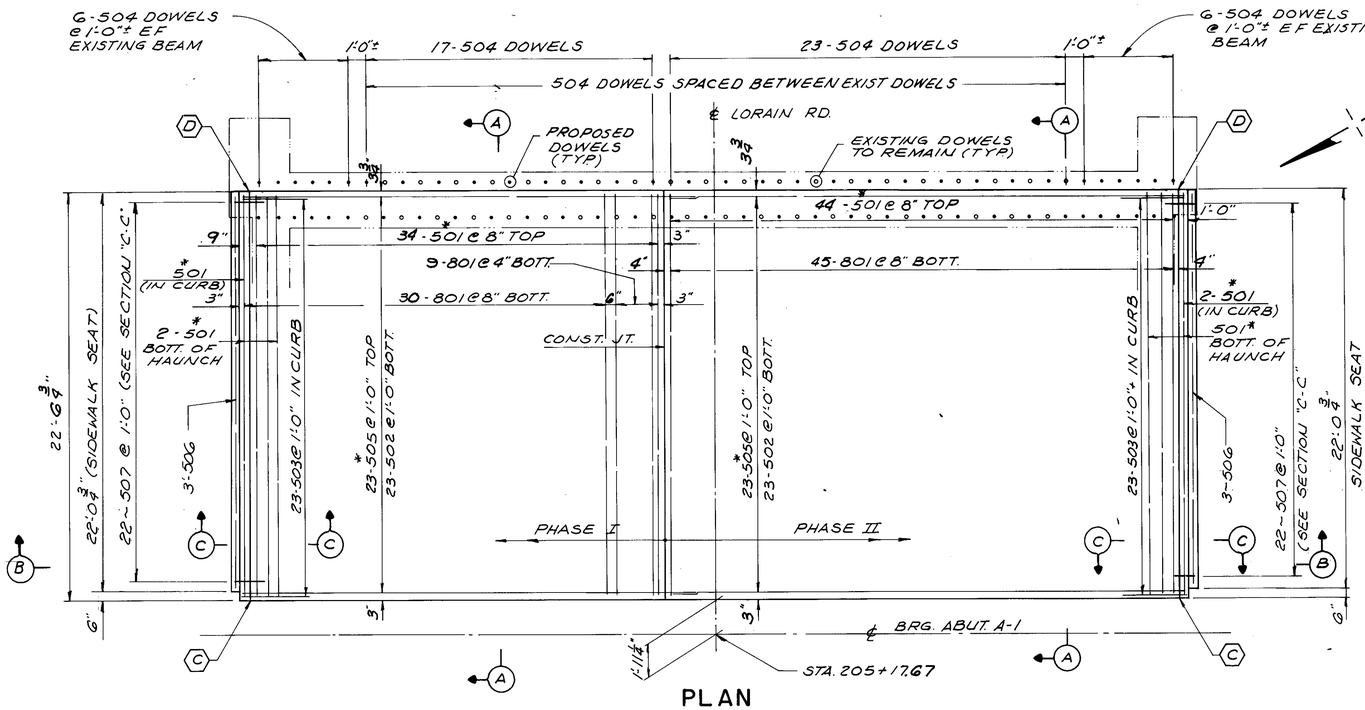
REPORT Nº 7092
Nº B-79

LORAIN ROAD BRIDGE Nº 42

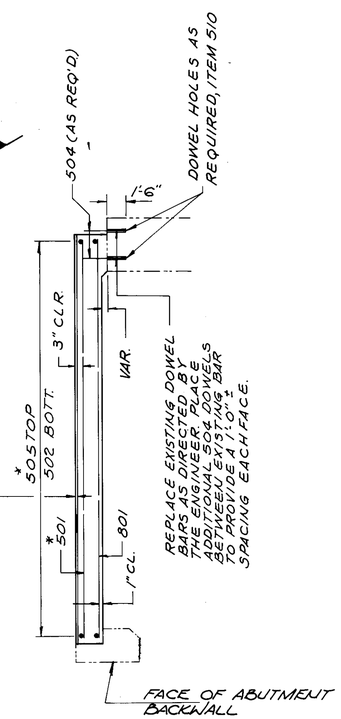
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

56/113

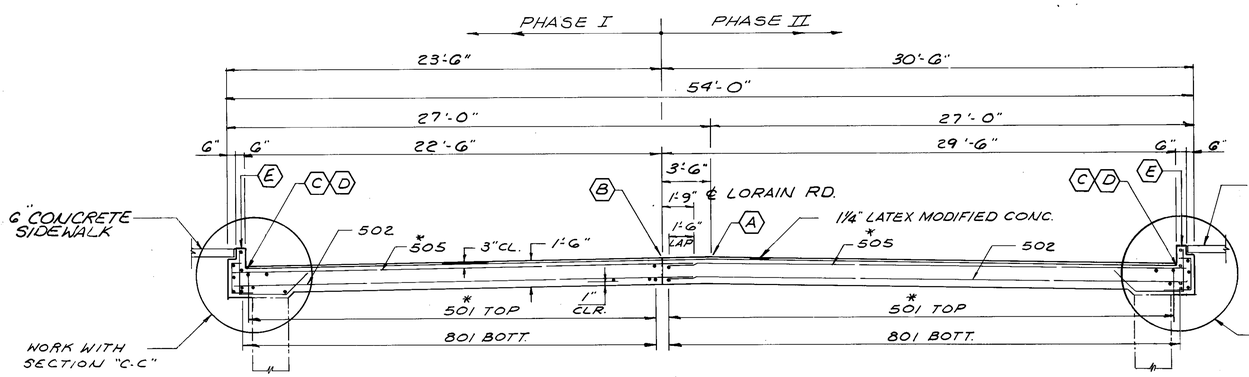
CUYAHOGA COUNTY
CUY-10-08.69



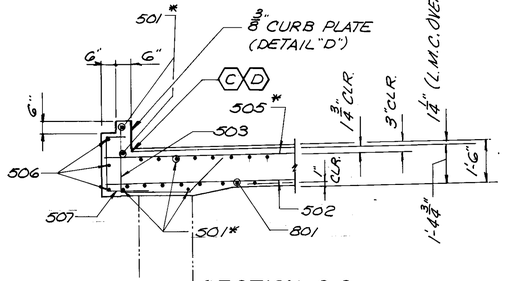
PLAN
'ABUTMENT SLAB'



SECTION A-A



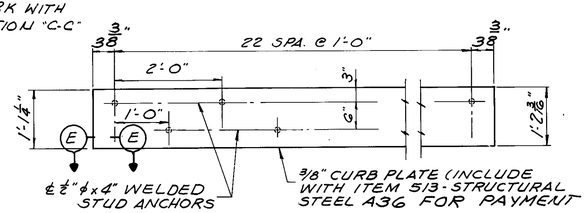
SECTION B-B
(LOOKING DOWN STATION)



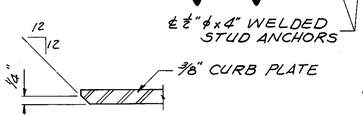
SECTION C-C

ELEVATION TABLE

(A)	ELEV.	739.616
(B)	ELEV.	739.573
(C)	ELEV.	739.210
(D)	ELEV.	739.140
(E)	ELEV.	740.314



DETAIL "D"



SECTION E-E

NOTES

1. THE PREFIX 13A (EAST ABUTMENT SLAB PHASE I) OR 23A (EAST ABUTMENT SLAB PHASE II) SHALL BE ADDED TO ALL REINFORCING BAR MARKS RESPECTIVELY.
2. ELEVATIONS SHOWN THUS ⬡ ARE TOP OF CONCRETE. PROPER ALLOWANCE HAS BEEN MADE FOR GUTTER WARPING AND 1¼" CONCRETE OVERLAY.
3. FOR ADDITIONAL NOTES SEE EAST ABUTMENT DETAIL SHEET 15/59
4. * REINFORCING BARS MARKED THUS * ARE TO BE EPOXY COATED.
5. THE 'ABUTMENT SLAB' CONCRETE SHALL BE ITEM 511, CLASS "S" CONCRETE, SUPERSTRUCTURE.
6. FOR ADDITIONAL DETAILS OF 6" SIDEWALK SEE SHEET 10/59.

△ PHASE I East Abutment slab done except for latex and sidewalks.

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EAST ABUTMENT DETAILS

18/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

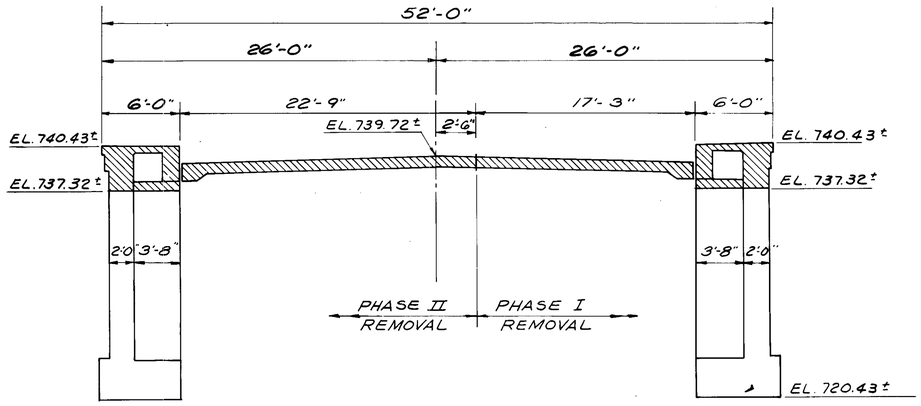
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		AL H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

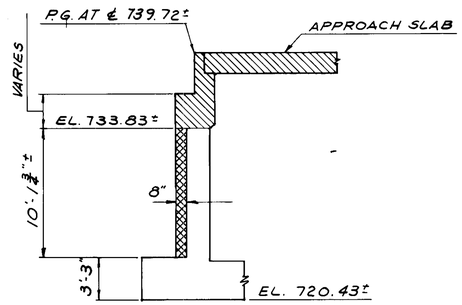
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

57/113

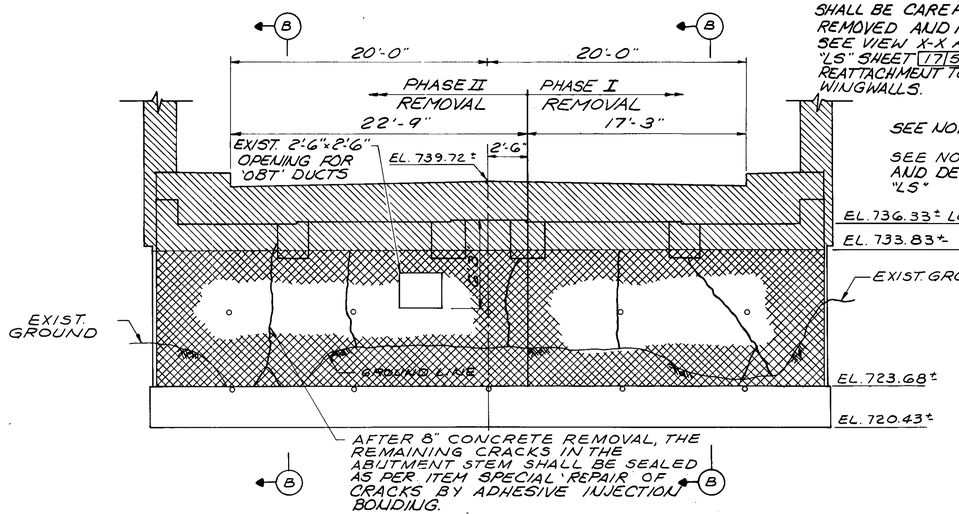
CUYAHOGA COUNTY
CUY-10-08.69



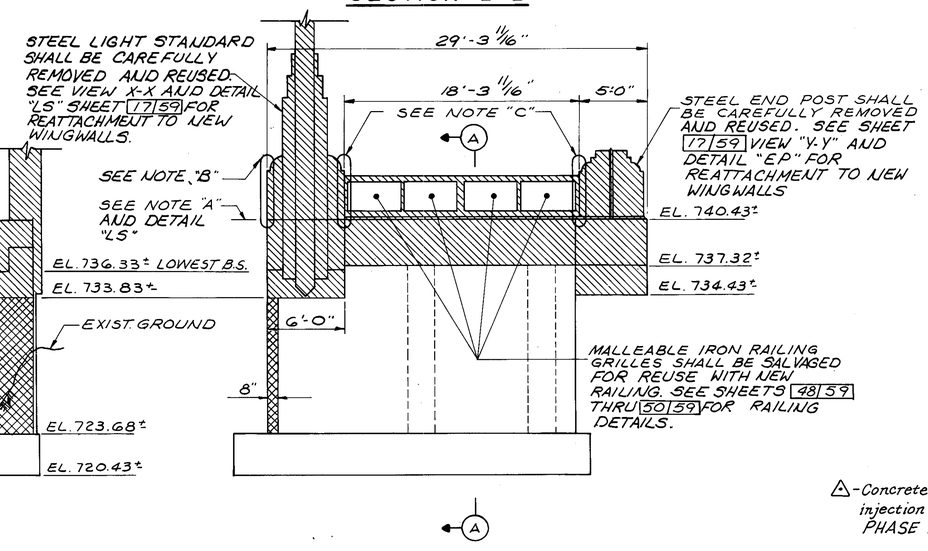
SECTION A-A



SECTION B-B



ELEVATION



SIDE ELEVATION

△-Concrete removal and Adhesive injection bonding complete in PHASE I (West Abutment)

NOTES

(1) FOR NOTES "A", "B", "C" AND DETAIL "LS", DETAIL 'EP' VIEW X-X AND VIEW Y-Y, SEE SHEET 17/59.

(2) THE CONTRACTOR SHALL REMOVE AT LEAST 8" OF UNSOUND CONCRETE FROM THE FRONT FACE OF THE ABUTMENT AREA SHOWN ▨. THE CRACKS IN THE ABUTMENT SHALL BE REPAIRED BEFORE REBUILDING THE FACE OF THE ABUTMENT AS SHOWN IN DETAILS ON SHEET 20/59. THE PAYMENT FOR CONCRETE REMOVAL AND REBUILDING SHALL BE AS FOLLOWS:

a) THE CONCRETE REMOVAL SHALL BE INCLUDED WITH ITEM 202 'PORTIONS OF EXISTING STRUCTURES REMOVED' FOR PAYMENT.

b) CONCRETE QUANTITY TO BE PAID FOR AS CU. YDS. OF ITEM 511, CLASS 'C' CONCRETE, ABUTMENTS.

c) REINFORCING AND DOWEL BARS SHALL BE PAID FOR AS POUNDS OF ITEM 509 'REINFORCING STEEL, GRADE 60.'

d) DOWEL HOLES SHALL BE PAID FOR AS LINEAR FEET OF ITEM 510 'DOWEL HOLES.'

NO EXTRA PAYMENT WILL BE MADE FOR ANY INCIDENTALS FOR COMPLETING THE WORK AS DESCRIBED ABOVE AND AS PER PLANS BUT COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEMS DESCRIBED IN a, b, c AND d ABOVE.

LEGEND

▨ DENOTES REMOVAL TO BE INCLUDED UNDER ITEM 202 PORTIONS OF EXISTING STRUCTURE REMOVED.

▨ DENOTES CONCRETE REMOVAL AND REPAIR. SEE NOTE (2)

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WEST ABUTMENT DEMOLITION DETAILS

19/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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CUYAHOGA COUNTY OHIO

REPORT Nº 7092
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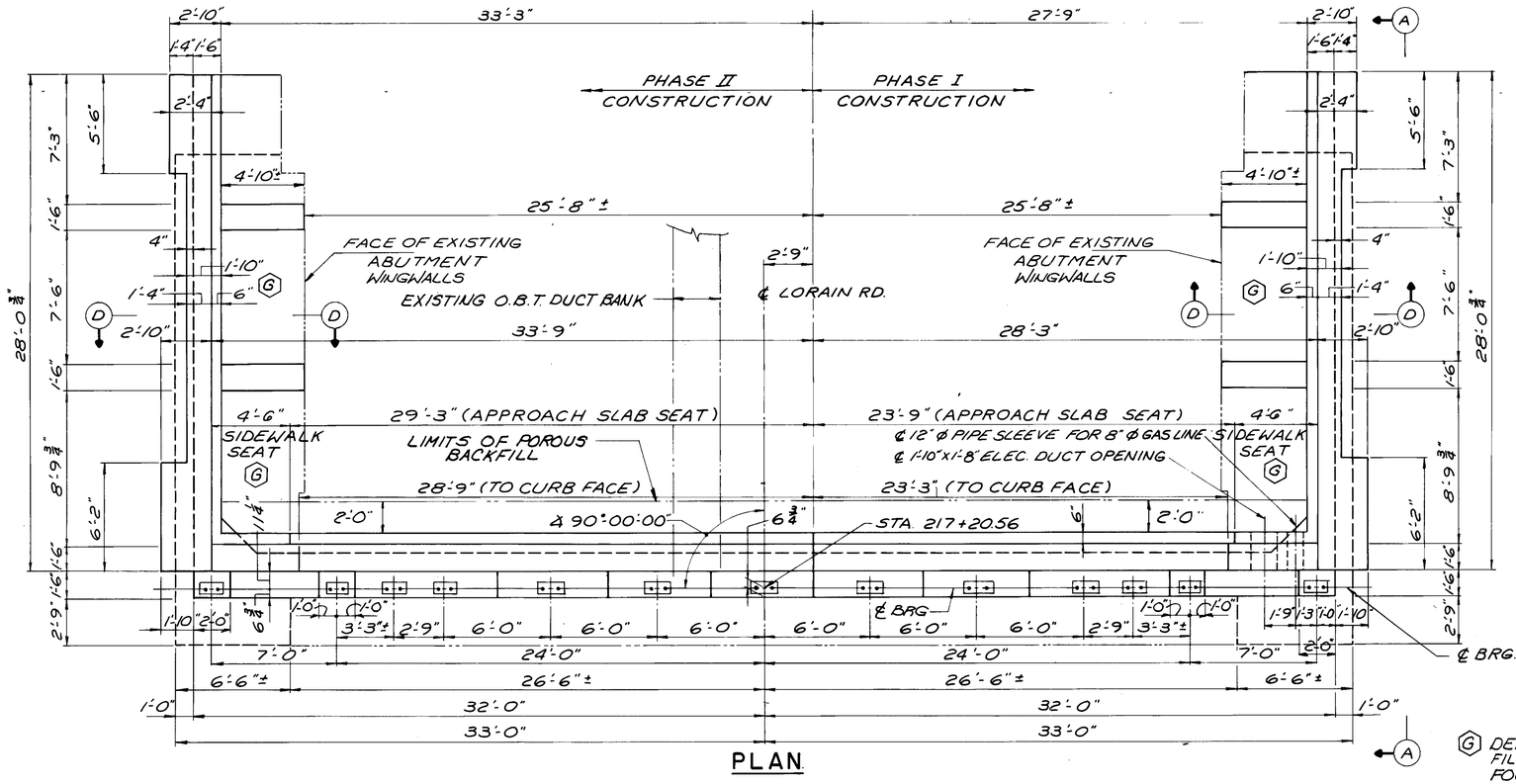
B.K.L.	F.F.		A.L.H.	J.F.P.	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

58
113

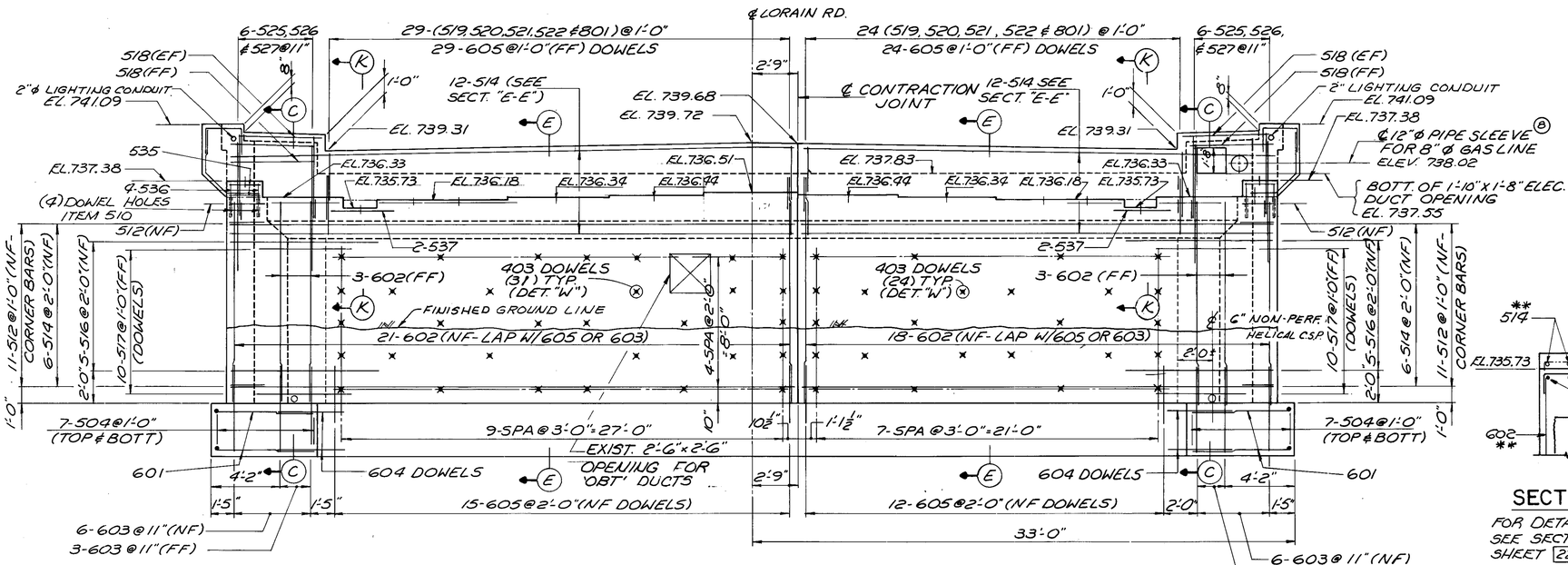
CUYAHOGA COUNTY
CUY-10-08.69

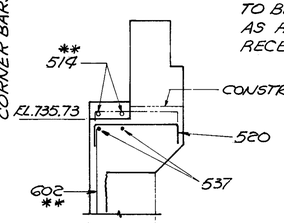


Ⓖ DENOTES - GRANULAR FILL FROM TOP OF FOOTING TO THE TOP OF CONCRETE DIAPHRAGM

NOTES

1. THE PREFIX 12A (WEST ABUTMENT PHASE I) AND 22A (WEST ABUTMENT PHASE II) SHALL BE ADDED TO ALL REINFORCING BAR MARKS RESPECTIVELY. (TYPICAL UNLESS NOTED.)
2. SEE SHEET 21|59 FOR VIEW A-A, DETAIL 'W' AND SECTION D-D
3. SEE SHEET 22|59 FOR SECTIONS C-C & E-E
4. SEE SHEETS 46|59 & 47|59 FOR EXPANSION JOINT DETAILS.
5. FOR ADDITIONAL NOTES SEE STRUCTURAL GENERAL NOTE SHEETS 4|59 TO 9|59
6. DEPTH OF DOWEL HOLES SHALL BE AS FOLLOWS: #5 & #6 BARS – 1'-6" MIN.
7. FOR BEARINGS, ANCHOR BOLT SPACING, SEE SHEETS 25|59 28|59 AND 44|59.
8. 12"ø PIPE SLEEVE TO BE FURNISHED BY EAST OHIO GAS COMPANY. (SEE NOTE 'A' SHEET 1|59) FOR LIMITS SEE SHEET 3|59.





SECTION K-K

FOR DETAILS NOT SHOWN SEE SECTION 'E-E' SHEET 22|59

** INDICATES REINF. BARS TO BE CUT IN FIELD AS REQ'D. AT BEAM SEAT RECESS.

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WEST ABUTMENT DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

20|59

REPORT Nº 7092
Nº B-79

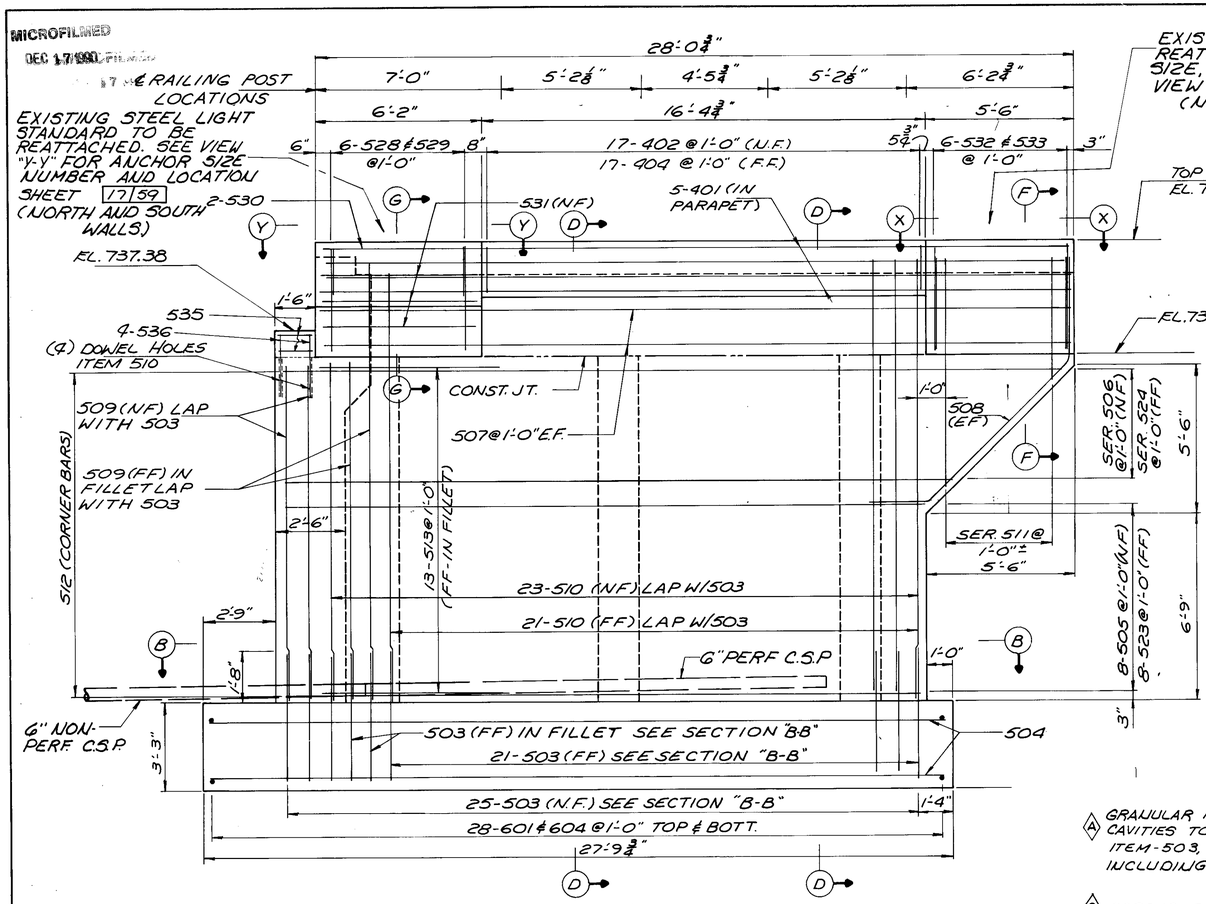
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		AL	JFD	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

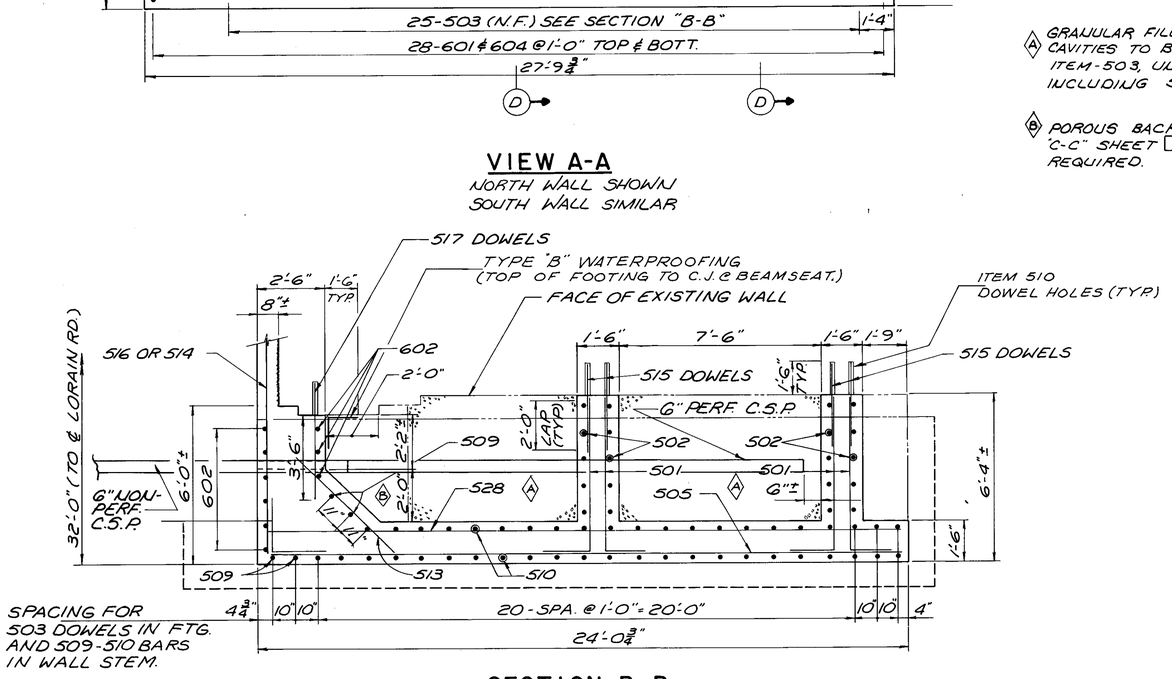
59
113

CUYAHOGA COUNTY
CUY-10-08.69

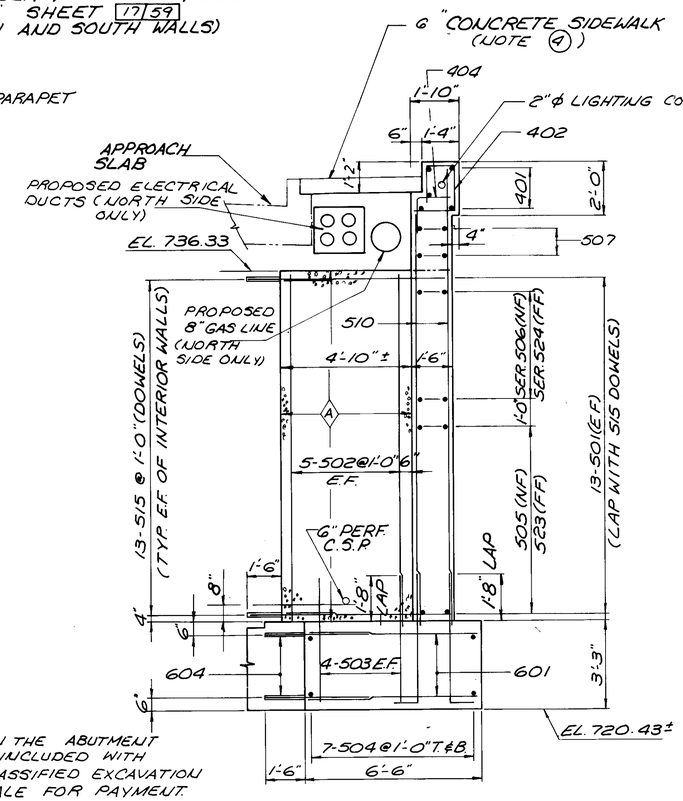


VIEW A-A

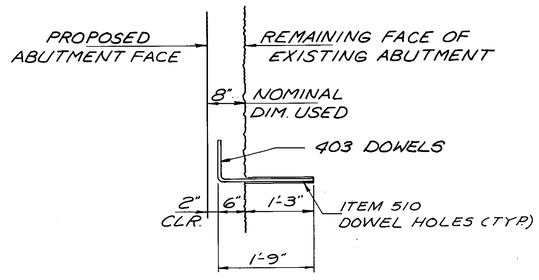
NORTH WALL SHOWN
SOUTH WALL SIMILAR



SECTION B-B



SECTION D-D



DETAIL W

△ GRANULAR FILL IN THE ABUTMENT CAVITIES TO BE INCLUDED WITH ITEM-503, UNCLASSIFIED EXCAVATION INCLUDING SHALE FOR PAYMENT.

◇ POROUS BACKFILL ~ WORK WITH SECTION "C-C" SHEET 22|59 FOR LIMITS REQUIRED.

NOTES

1. FOR VIEWS "X-X" AND "Y-Y" SEE EAST ABUTMENT DETAIL SHEET 17|59
2. SEE SHEET 22|59 FOR SECTIONS 'F-F' & 'G-G'
3. SEE SHEET 20|59 FOR LOCATION OF VIEW A-A & DETAIL W.
4. FOR ADDITIONAL DETAILS OF 6" CONCRETE SIDEWALK SEE SHEETS 10|59 & 12|59
5. FOR ADDITIONAL RAILING DETAILS SEE SHEETS 48|59 ~ 50|59

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WEST ABUTMENT DETAILS 21|59

LORAIN ROAD VIADUCT
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CUYAHOGA COUNTY OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

60
113

CUYAHOGA COUNTY
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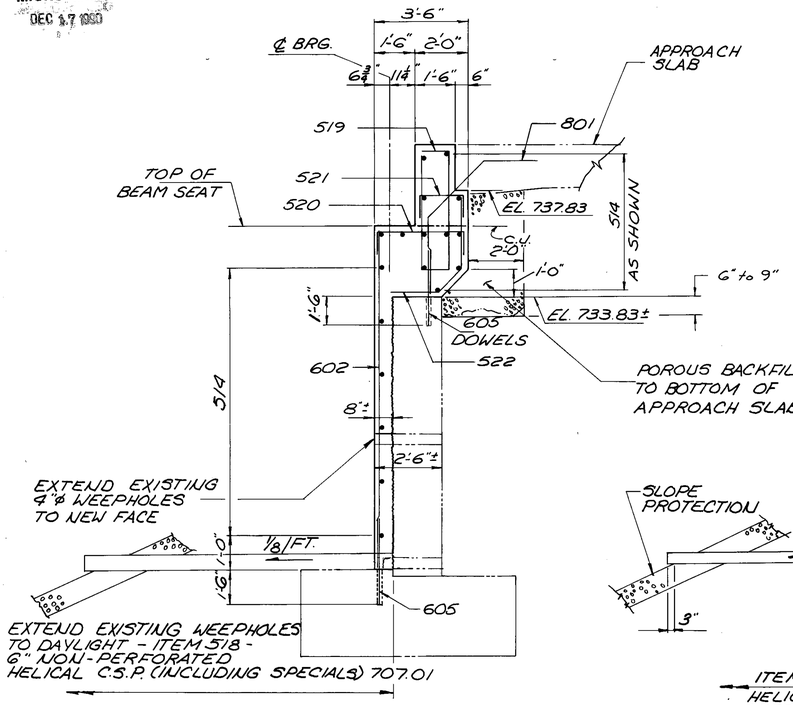
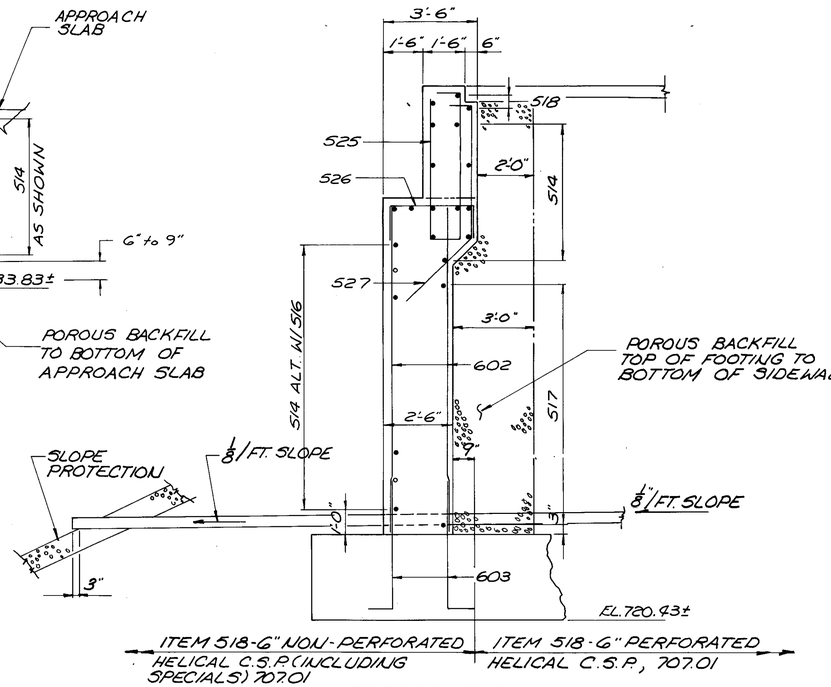


SECTION E-E

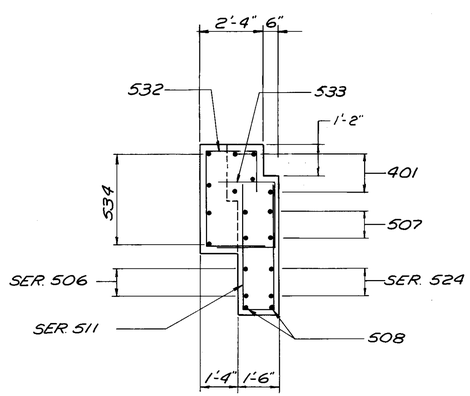


SECTION C-C

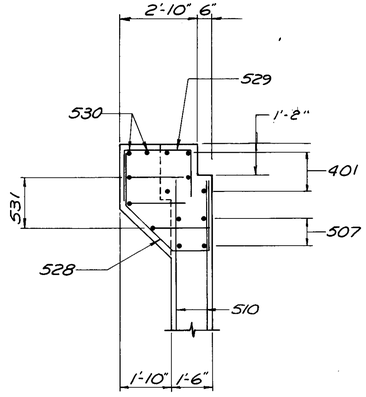
NOTES

SEE SHEET 20/59 FOR LOCATION OF SECTIONS C-C & E-E.

SEE SHEET 21/59 FOR LOCATION OF SECTIONS F-F & G-G.



SECTION F-F



SECTION G-G

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22/59

WEST ABUTMENT DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
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CUYAHOGA COUNTY OHIO

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LORAIN ROAD BRIDGE Nº 42

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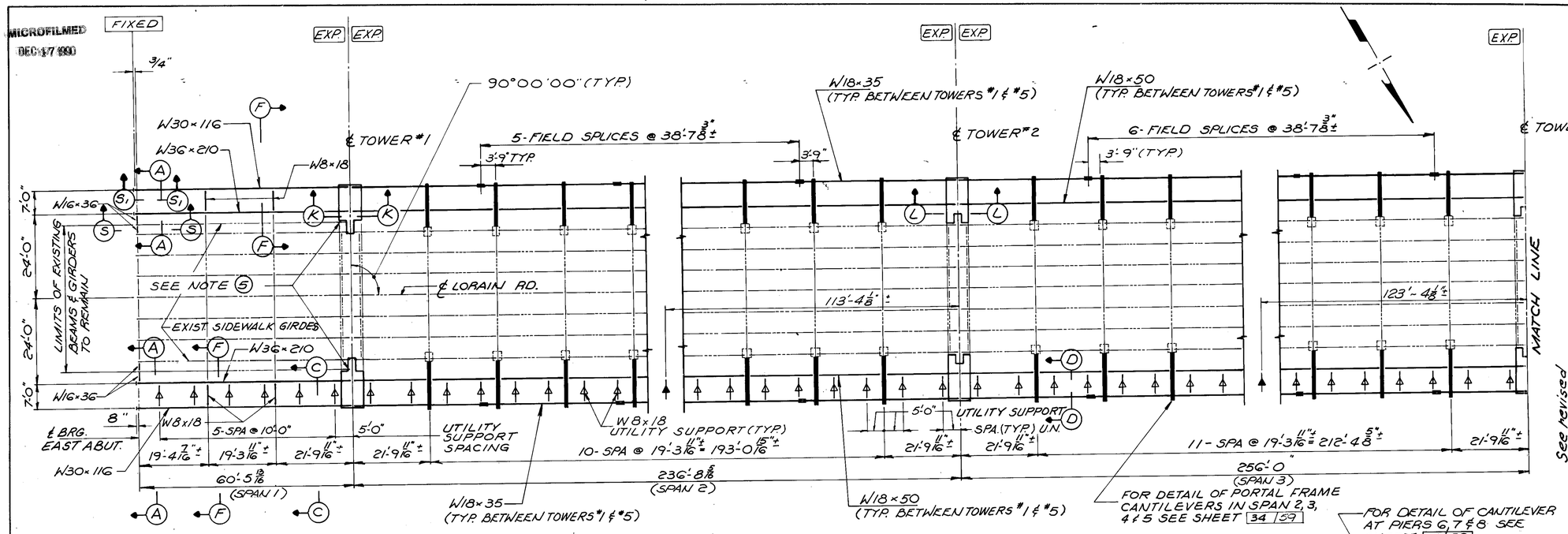
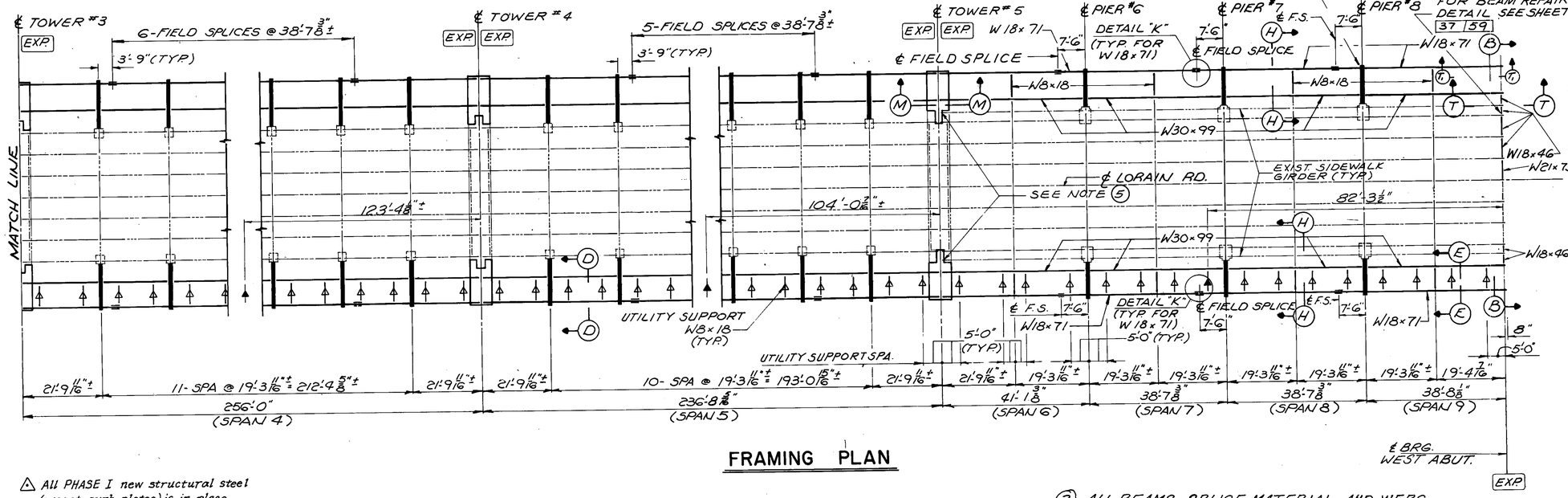
5	OHIO	F-BRF-69(42.)	

61
113

CUYAHOGA COUNTY
CUY-10-08.69





FRAMING PLAN

△ All PHASE I new structural steel (except curb plates) is in place.

NOTES

(1) ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36, UNLESS NOTED OTHERWISE.

(2) ALL FIELD SPLICES SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH STEEL BOLTS, CONFORMING TO ASTM A-325. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR BEAMS AND ON THE BOTTOM OF BOTTOM FLANGES AND TOP OF THE TOP FLANGE PLATES.

(3) ~~ALL BEAMS AND SPLICE MATERIAL SHALL BE "CVN". WHERE A SHAPE OR PLATE IS DESIGNATED "CVN" THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS.~~

(4) THE SPAN LENGTHS AND THE LONGITUDIAL FRAMING DIMENSIONS SHOWN ARE AS DETAILED ON THE EXISTING STRUCTURE PLANS. THE ACTUAL DIMENSIONS MAY VARY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL.

(5) FOR DETAILS OF EXISTING SIDEWALK GIRDERS AT TOWERS 1 & 5, SEE VIEW "P-P", SHEET 24 59.

(6) FOR SECTIONS "A-A" & "B-B", SEE SHEET 25 59, SECTIONS "C-C", "D-D" & "E-E", SEE SHEET 28 59, SECTIONS "F-F" & "H-H", SEE SHEET 26 59, SECTIONS "K-K", "L-L" & "M-M", SEE SHEET 27 59, SECTIONS "S-S", "S1-S1", "T-T" & "T1-T1", SEE SHEET 44 59 AND DETAIL "K", SEE SHEET 24 59

(7) FOR TOWERS 1 THRU 5 CANTILEVER DETAILS SEE SHEETS 29 59 THRU 33 59.

(8) "△" DENOTES UTILITY SUPPORTS TYPE "A" (117 - REQ'D.)
"▲" DENOTES UTILITY SUPPORTS TYPE "B" (5 - REQ'D.)

(3) ALL BEAMS, SPLICE MATERIAL, AND WEBS AND TOP FLANGES OF CANTILEVERS SHALL BE "CVN". WHERE A SHAPE OR PLATE IS DESIGNATED "CVN" THE MATERIAL SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS.

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23 59

FRAMING PLAN

LORAIN ROAD VIADUCT
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BRIDGE Nº CUY-10-0869
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CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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LORAIN ROAD BRIDGE Nº 42

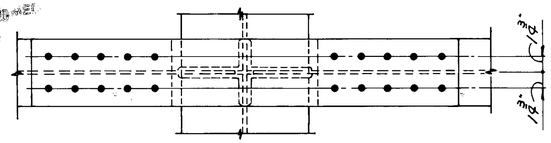
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

62
113

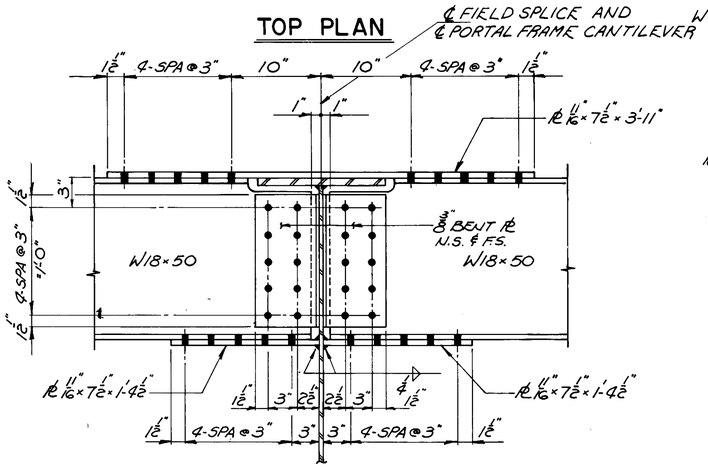
CUYAHOGA COUNTY
CUY-10-08.69

NOTES

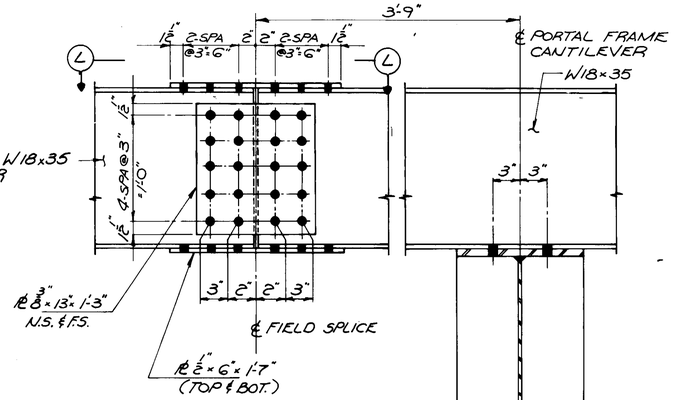
1. ALL SPLICE MATERIAL EXCEPT FILL PLATES SHALL BE "CVN".
2. ALL BOLTS SHALL BE $\frac{7}{8}$" ϕ HIGH STENGTH BOLTS CONFORMING TO ASTM A-325.
3. FOR LOCATION OF SECTIONS D-D AND E-E SEE SHEET 34/59. FOR LOCATION OF SECTIONS F-F AND G-G SEE SHEET 35/59.
4. FOR LOCATION OF FIELD SPLICES SHOWN IN DETAIL "K", SEE SHEET 23/59.
5. FOR LOCATION OF VIEW P-P SEE SHEET 23/59.



TOP PLAN



SECTION D-D



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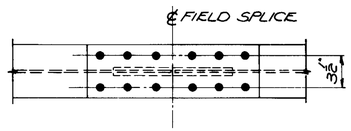
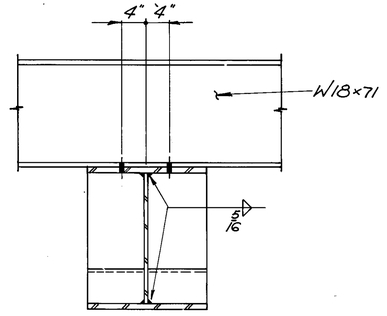
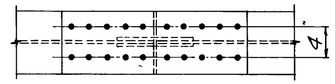


VIEW L-L



SECTION G-G



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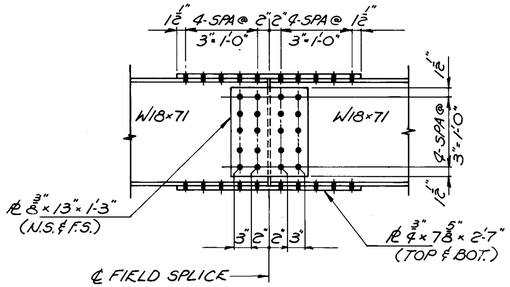
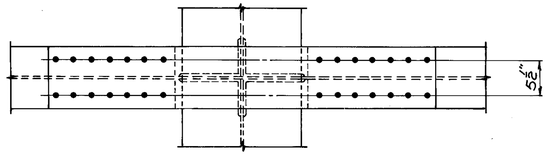


DETAIL K



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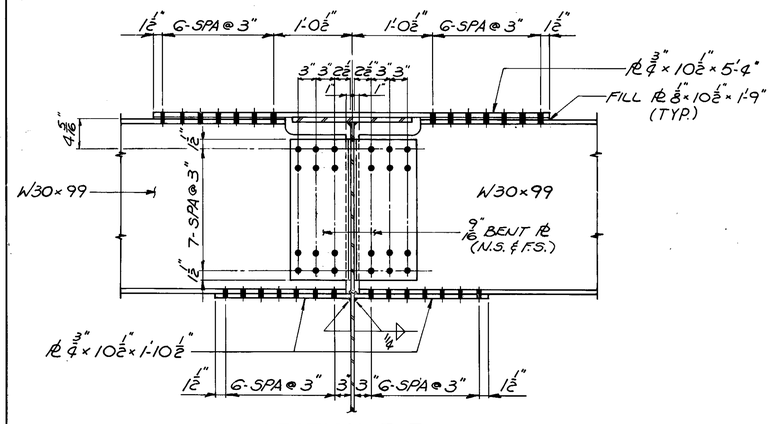

SECTION F-F

VIEW P-P

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24/59

FRAMING DETAILS

LORAIN ROAD VIADUCT
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LORAIN ROAD BRIDGE Nº 42

NOTE: THE FOLLOWING DESIGNATIONS SHOW STRUCTURE REMOVAL UNDER ITEM 202, PORTIONS OF EXISTING STRUCTURES REMOVED.

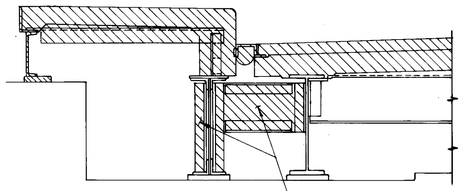
DENOTES REMOVAL ON BOTH SIDES OF ℄ LORAIN RD.

DENOTES REMOVAL ON SOUTH SIDE OF ℄ LORAIN RD. ONLY.

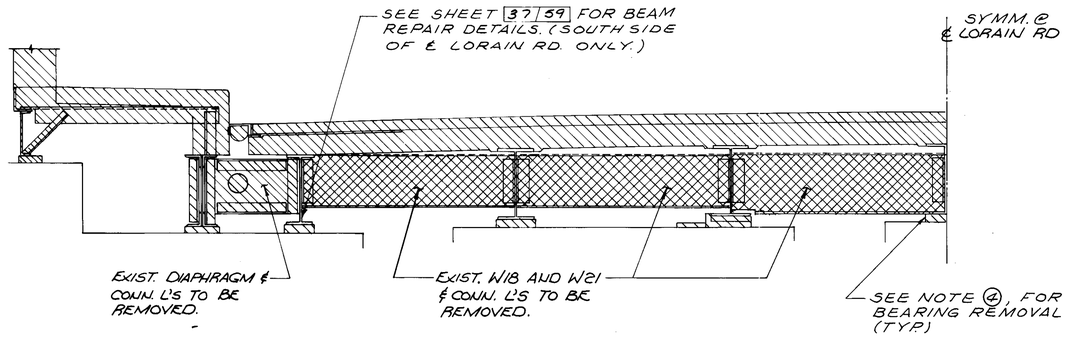
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

63
113

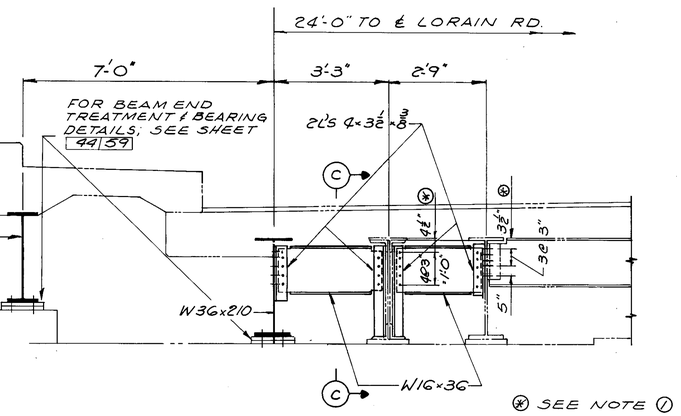
CUYAHOGA COUNTY
CUY-10-08.69

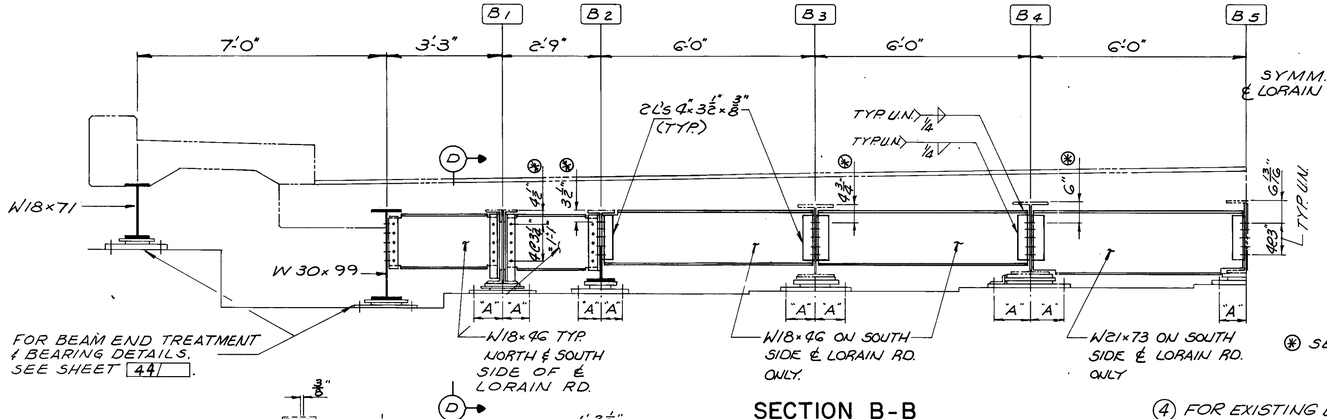


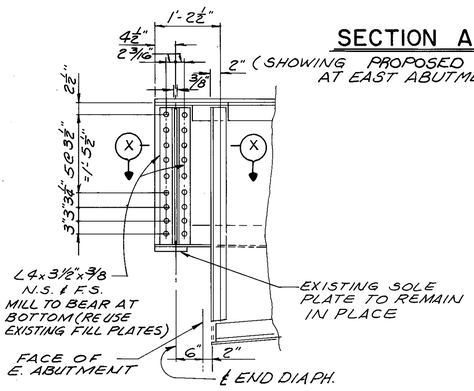
SECTION A-A
(SHOWING EXISTING DETAILS AT EAST ABUTMENT)



SECTION B-B
(SHOWING EXISTING DETAILS AT WEST ABUTMENT)

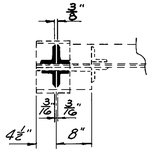




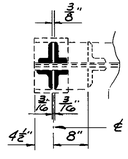


SECTION C-C
(SEE NOTE ① REGARDING DIMENSIONS)

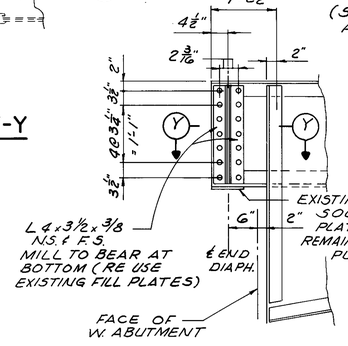
SECTION A-A
(SHOWING PROPOSED DETAILS AT EAST ABUTMENT)



SECTION Y-Y



SECTION X-X



SECTION D-D
(SEE NOTE ① REGARDING DIMENSIONS)

SECTION B-B
(SHOWING PROPOSED DETAILS AT WEST ABUTMENT)

NOTES

① THE DIMENSIONS FOR DIAPHRAGM TO BEAM CONNECTIONS ARE OBTAINED FROM EXISTING STRUCTURAL STEEL SHOP DRAWINGS AND ARE GIVEN FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE DIMENSIONS AND ALL OTHER EXISTING STRUCTURE DETAILS IN FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL.

② FOR LOCATION OF SECTIONS "A-A" & "B-B", SEE SHEET 23/59.

③ ABBREVIATIONS:
N. S. = NEAR SIDE
F. S. = FAR SIDE
TYP. U. N. = TYPICAL UNLESS NOTED

④ FOR EXISTING BEAM BEARINGS AT THE WEST ABUTMENT, THE EXISTING SOLE PLATES SHALL REMAIN IN PLACE, EXCEPT FOR THE BEAM WHICH IS TO BE REPAIRED AS SHOWN ON SHEET 37/59.

⑤ B1 DENOTES NEW BEARING MARK FOR EXISTING BEAMS. FOR DETAILS OF THESE BEARINGS, SEE SHEET 28/59.

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25/59

END DIAPHRAGM DETAILS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

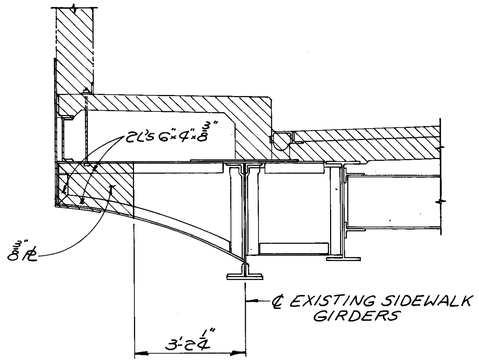
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

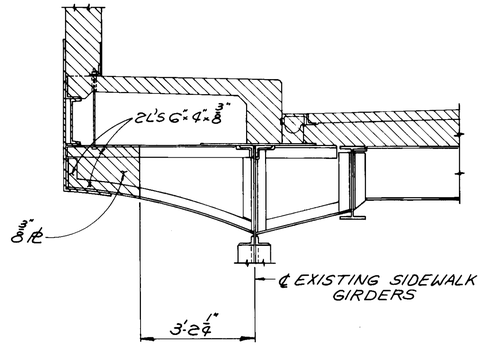
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

64
113

CUYAHOGA COUNTY
CUY-10-08.69



SECTION F-F
SHOWING EXIST. STRUCTURE IN EAST APPROACH SPAN



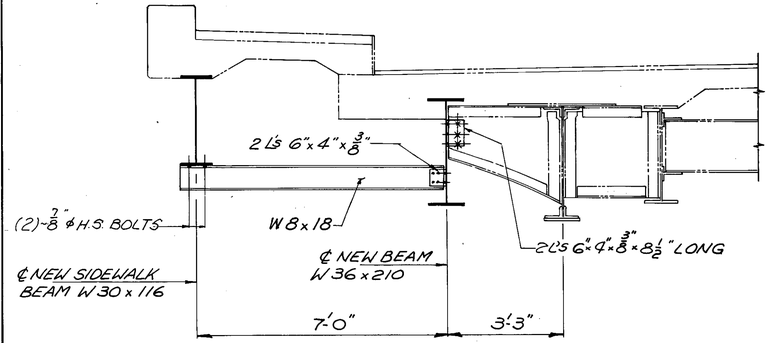
SECTION H-H
SHOWING EXIST. STRUCTURE IN WEST APPROACH SPANS

NOTES

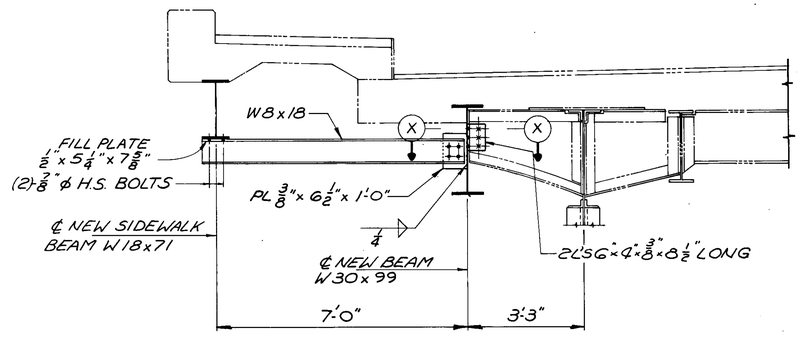
(1) ▨ INDICATES PORTIONS OF EXISTING STRUCTURE TO BE REMOVED UNDER ITEM 202 "PORTIONS OF EXISTING STRUCTURE REMOVED".

(2) FOR LOCATION OF SECTIONS F-F AND H-H SEE SHEET 23/39.

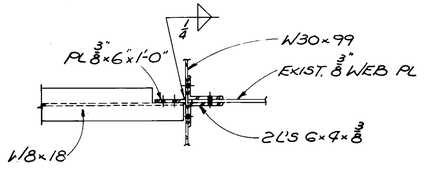
(3) x INDICATES PROPOSED NUMBERS AND LOCATION OF NEW ⅞" ϕ H.S. BOLTS WHICH REQUIRE FIELD DRILLING OF HOLES IN EXISTING STRUCTURAL STEEL. THE COST OF THIS FIELD DRILLING SHALL BE INCLUDED IN THE COST OF ITEM 513, STRUCTURAL STEEL (A-36).



SECTION F-F
PROPOSED DETAIL (4-REQUIRED) IN EAST APPROACH SPAN



SECTION H-H
PROPOSED DETAIL (8-REQUIRED) IN WEST APPROACH SPANS



SECTION X-X

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26/59

FRAMING DETAILS
LORAIN ROAD VIADUCT OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217-23.00
CUYAHOGA COUNTY — OHIO

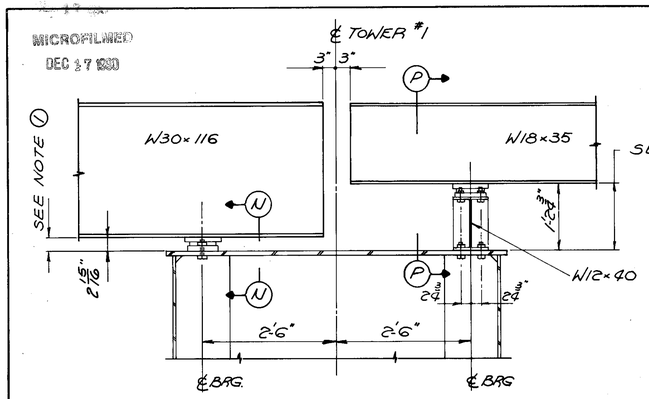
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

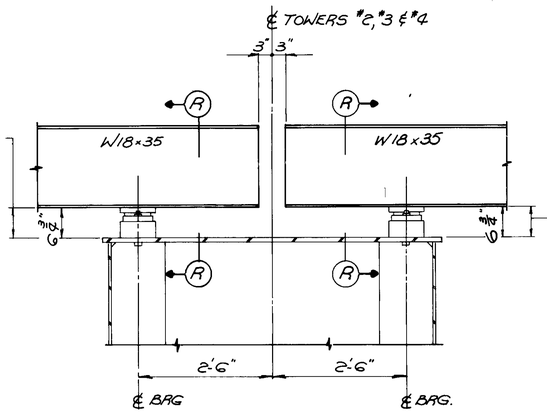
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

G5
113

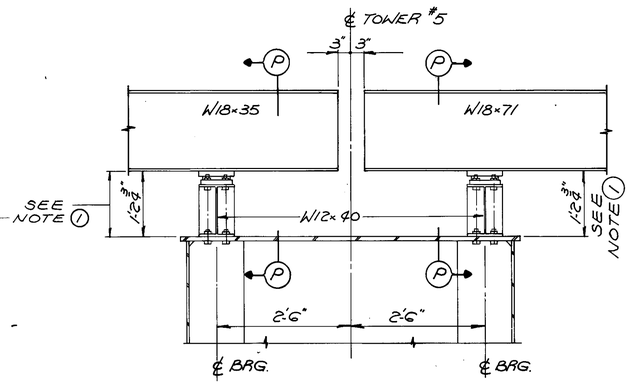
CUYAHOGA COUNTY
CUY-10-08.69



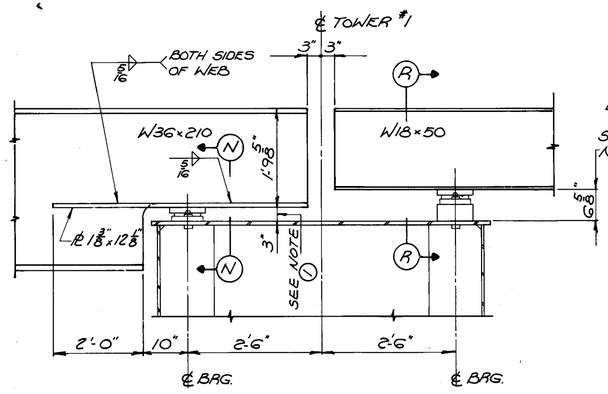
SECTION K-K
SHOWING EXT. BEAMS



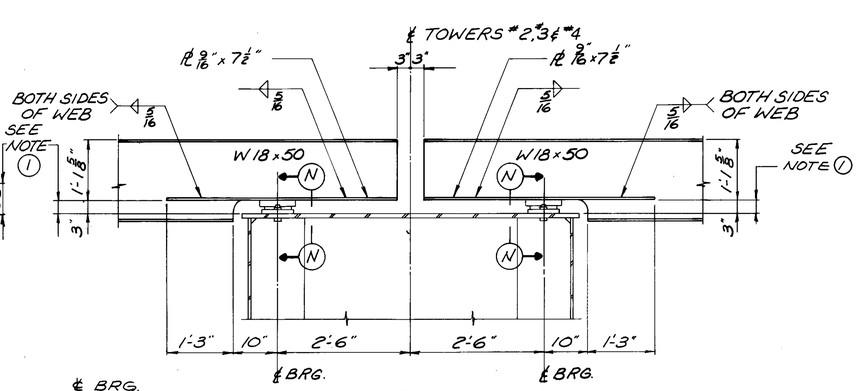
SECTION L-L
SHOWING EXT. BEAMS



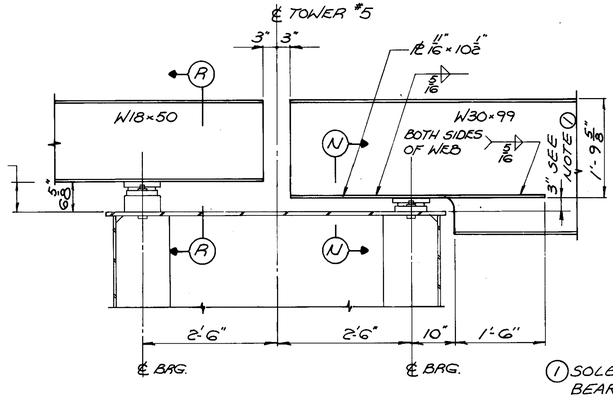
SECTION M-M
SHOWING EXT. BEAMS



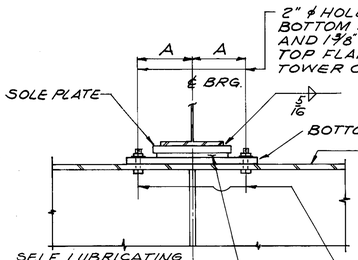
SECTION K-K
SHOWING INT. BEAMS



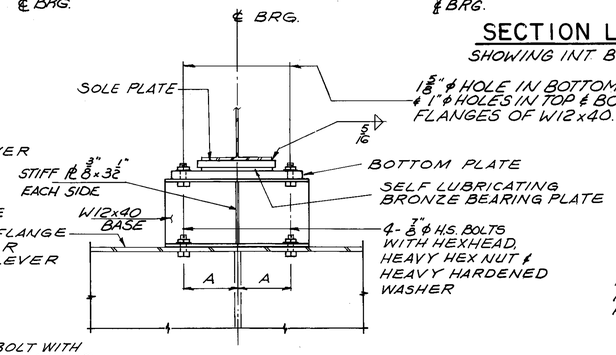
SECTION L-L
SHOWING INT. BEAMS



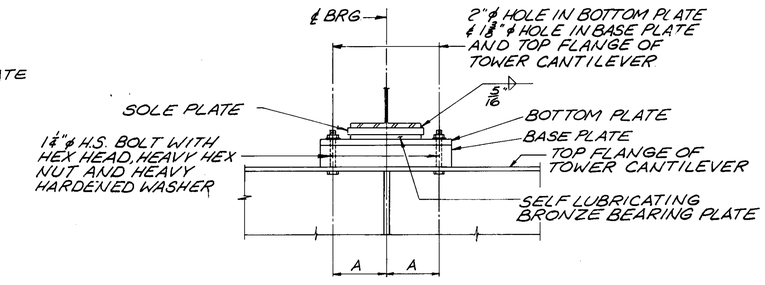
SECTION M-M
SHOWING INT. BEAMS



SECTION N-N



SECTION P-P



SECTION R-R

NOTES

1. SOLE PLATE, SELF LUBRICATING BRONZE BEARING PLATE, BOTTOM PLATE, BASE PLATE, WIDE FLANGE BASE, 5/8" LEAD PAD AND ALL BOLTS AND ANCHOR BOLTS REQUIRED TO HOLD THE BEARINGS IN PLACE SHALL BE INCLUDED IN THE PAYMENT FOR ITEM 516 "BEARING DEVICES (AS PER PLAN.)
2. FOR LOCATION OF SECTIONS K-K, L-L, AND M-M, SEE SHEET 23/59.
3. FOR BEARING TABLE SEE SHEET 28/59.

Superseded by sheet 65A, 5-15-84

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27/59

FRAMING DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

FHWA REG.	STATE	PROJECT
5	OHIO	F-BRF-69(42)

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CUYAHOGA COUNTY
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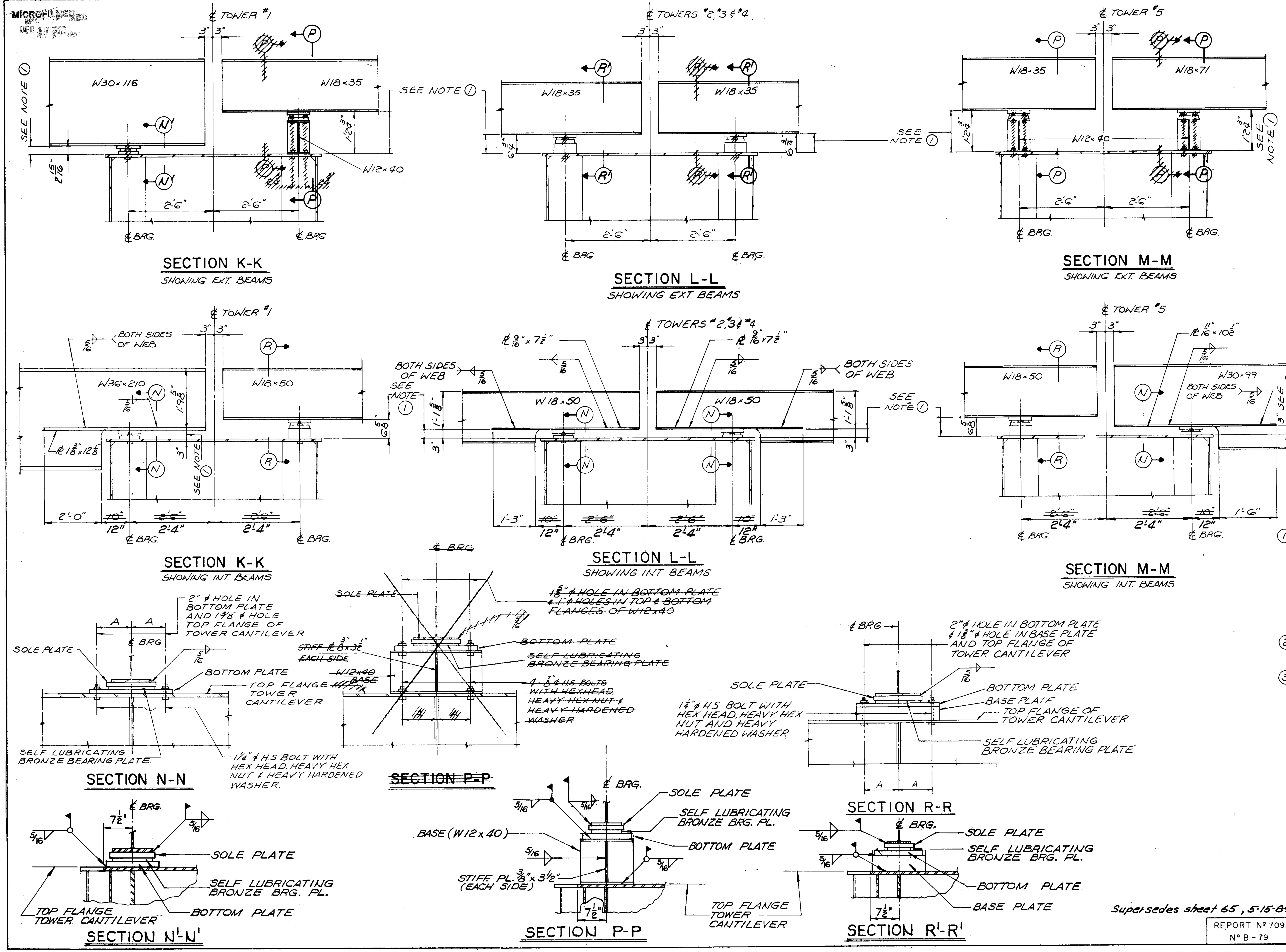

NOTES

① SOLE PLATE, SELF LUBRICATING BRONZE BEARING PLATE, BOTTOM PLATE, BASE PLATE, WIDE FLANGE BASE, & LEAD PAD AND ALL BOLTS AND ANCHOR BOLTS OR WELD REQUIRED TO HOLD THE BEARINGS IN PLACE SHALL BE INCLUDED IN THE PAYMENT FOR ITEM 516 "BEARING DEVICES (AS PER PLAN.)"

② FOR LOCATION OF SECTIONS K-K, L-L, AND M-M, SEE SHEET 23/59.

③ FOR BEARING TABLE SEE SHEET 28/59.

Supersedes sheet 65, 5-15-84

REPORT Nº 7092
Nº B-79

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27A/59

FRAMING DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

BKL | JWW | RER | JJP | 5-11-84

LORAIN ROAD BRIDGE Nº 42

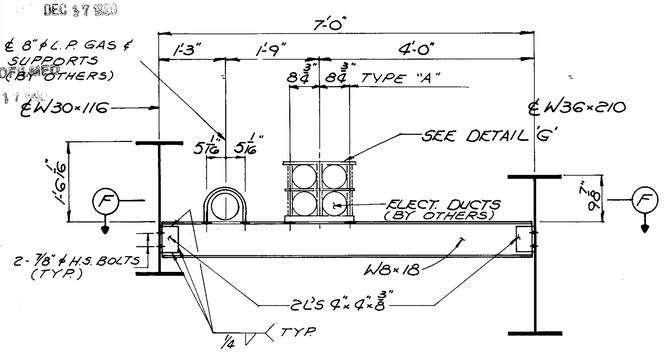
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

GG 113

CUYAHOGA COUNTY
CUY-10-08.69

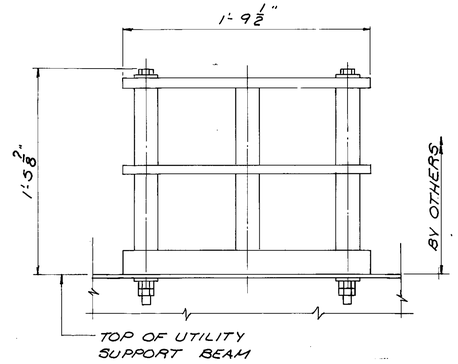
NOTES

1. FOR LOCATION OF SECTION C-C, D-D / E-E, SEE SHEET 23/59.
2. FOR ADDITIONAL BEARING DETAILS, SEE SHEETS 27/59 AND 44/59.
3. ALL CONNECTIONS SHALL BE MADE USING 7/8" H.S. BOLTS UNLESS NOTED OTHERWISE.
4. SEE SHEET 25/59 SECTION B-B, FOR LOCATIONS OF BEARINGS B-1 THRU B-5 AT WEST ABUTMENT.



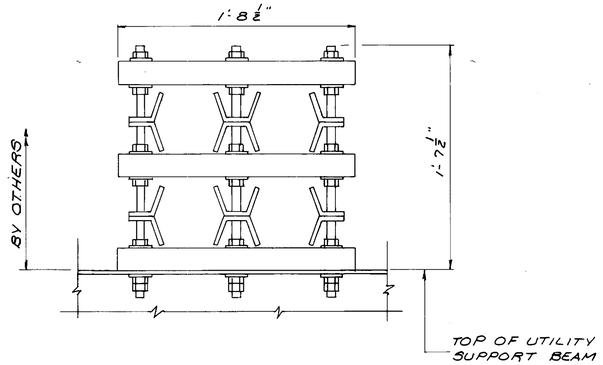
SECTION C-C

EAST ABUT. TO TOWER #1



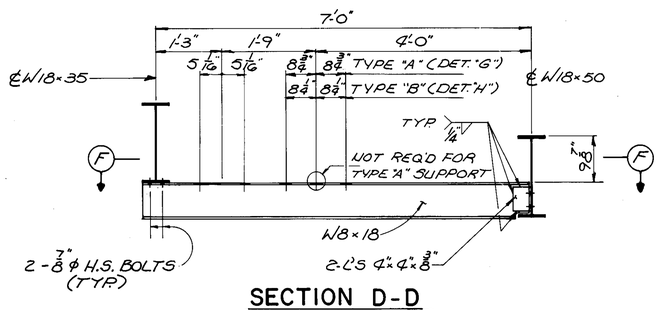
DETAIL "G"

INTERMEDIATE CONDUIT RACK FOR TYPE "A" SUPPORT



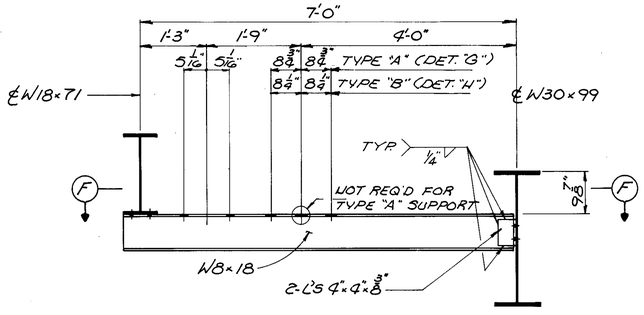
DETAIL "H"

ANCHOR CONDUIT RACK FOR TYPE "B" SUPPORT



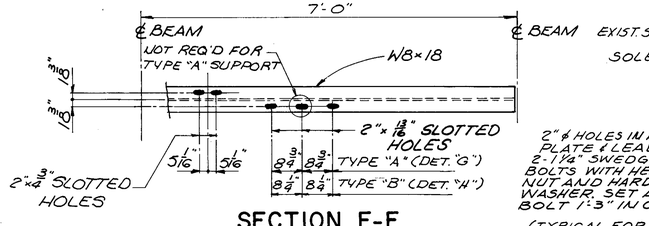
SECTION D-D

TOWER #1 TO TOWER #5



SECTION E-E

TOWER #5 TO WEST ABUT



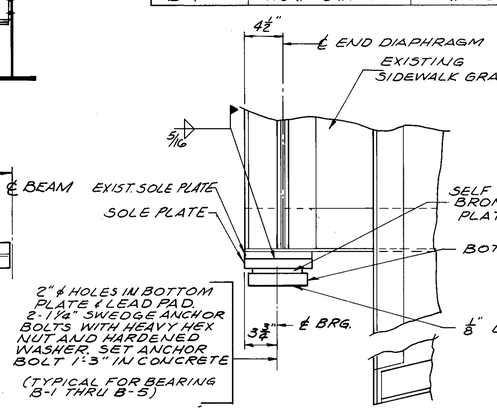
SECTION F-F

BEARING TABLE

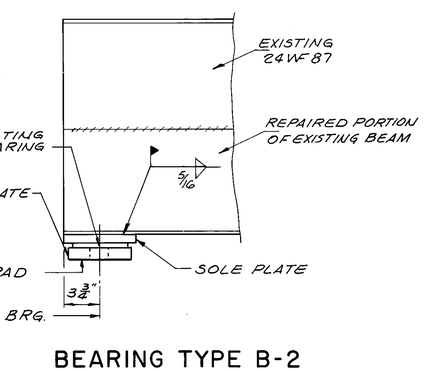
		FOR NEW INTERIOR (ROADWAY) BEAMS					FOR NEW EXTERIOR (SIDEWALK) BEAMS				
LOCATION	SPAN	SOLE PLATE	SELF LUBRICATING BRONZE BEARING PLATE	BOTTOM PLATE	BASE	DIM "A"	SOLE PLATE	SELF LUBRICATING BRONZE BEARING PLATE	BOTTOM PLATE	BASE	DIM "A"
EAST ABUT.	1	1"×6"×13"		⅞"×6"×13"	⅛"×6"×13" LEAD PAD	4	1"×6"×11½"		⅞"×6"×11½"	⅛"×6"×11½" LEAD PAD	3¼"
TOWER #1	1	1¼"×8"×1'-1"	½"×6"×12"	1¼"×7"×1'-10"	——	8½"	1 3/16"×8"×11½"	½"×6"×10½"	1¼"×7"×1'-8½" (2½")	——	~~7¾"~~
TOWER #1	2	1¼"×9"×8½"	½"×6"×7½"	1¼"×7"×1'-5½"	3⅝"×7"×1'-7"	6¼"	1"×9"×7"	½"×6"×6"	1¼"×7"×1'-4½" (1")	W 12×40 1'-6" LONG	~~5¾"~~
TOWER #2	2 & 3										
TOWER #3	3 & 4	1¼"×9"×8½"	½"×6"×7½"	1¼"×7"×1'-5½"	——	6¼"	1"×9"×7"	½"×6"×6"	1¼"×7"×1'-4½" (1")	3¾"×7"×1'-6" 4"×8"×1'-2"	~~5¾"~~
TOWER #4	4 & 5										
TOWER #5	5	1¼"×9"×8½"	½"×6"×7½"	1¼"×7"×1'-5½"	3⅝"×7"×1'-7"	6¼"	1"×9"×7"	½"×6"×6"	1¼"×7"×1'-4½" (1")	W 12×40 1'-6" LONG 2"	~~7¾"~~
TOWER #5	6	1¼"×8"×11½"	½"×6"×10½"	1¼"×7"×1'-8½"	——	7¾"	1"×8"×8¾"	½"×6"×7⅝"	1¼"×7"×1'-5¾" (1")	W 12×40 1'-6" LONG 2"	~~5¾"~~
WEST ABUT.	9	1⅛"×8"×11½"	½"×6"×10½"	1¼"×7"×1'-8½"	⅛"×7"×1'-8½" LEAD PAD	7¾"	1⅛"×8"×8¾"	½"×6"×7⅝"	1¼"×7"×1'-5¾"	⅛"×7"×1'-5¾" LEAD PAD	6 3/16"

BEARINGS FOR EXISTING BEAMS AT WEST ABUTMENT

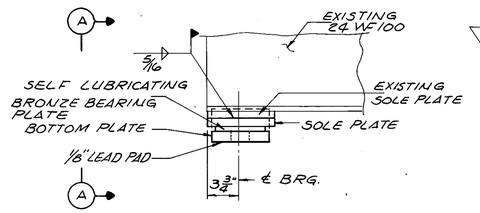
TYPE	SOLE PLATE	SELF LUBRICATING BRONZE BEARING PLATE	BOTTOM PLATE	LEAD PAD	DIM. "A"
B-1	1⅛"×7½"×1'-1"	½"×5½"×12"	1¼"×6½"×1'-10"	⅛"×6½"×1'-10"	8½"
B-2	1⅛"×7½"×10"	½"×5½"×9"	1¼"×6½"×1'-7"	⅛"×6½"×1'-7"	7"
B-3 & B-5	1⅛"×7½"×1'-2"	½"×5½"×12"	1¼"×6½"×1'-11"	⅛"×6½"×1'-11"	9"
B-4	1⅛"×7½"×1'-2"	½"×5½"×12"	1¼"×6½"×2'-0"	⅛"×6½"×2'-0"	10"



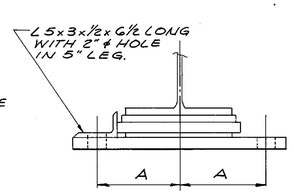
BEARING TYPE B-1



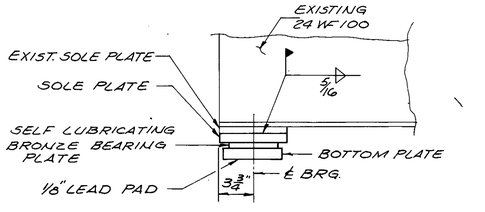
BEARING TYPE B-2



BEARING TYPE B-4



VIEW A-A



BEARING TYPE B-3 & B-5

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28/59

FRAMING DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

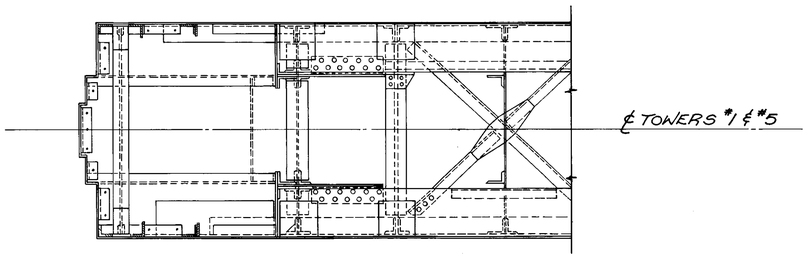
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		RER	JFP	7-30-82	5-15-84

LORAIN ROAD BRIDGE Nº 42

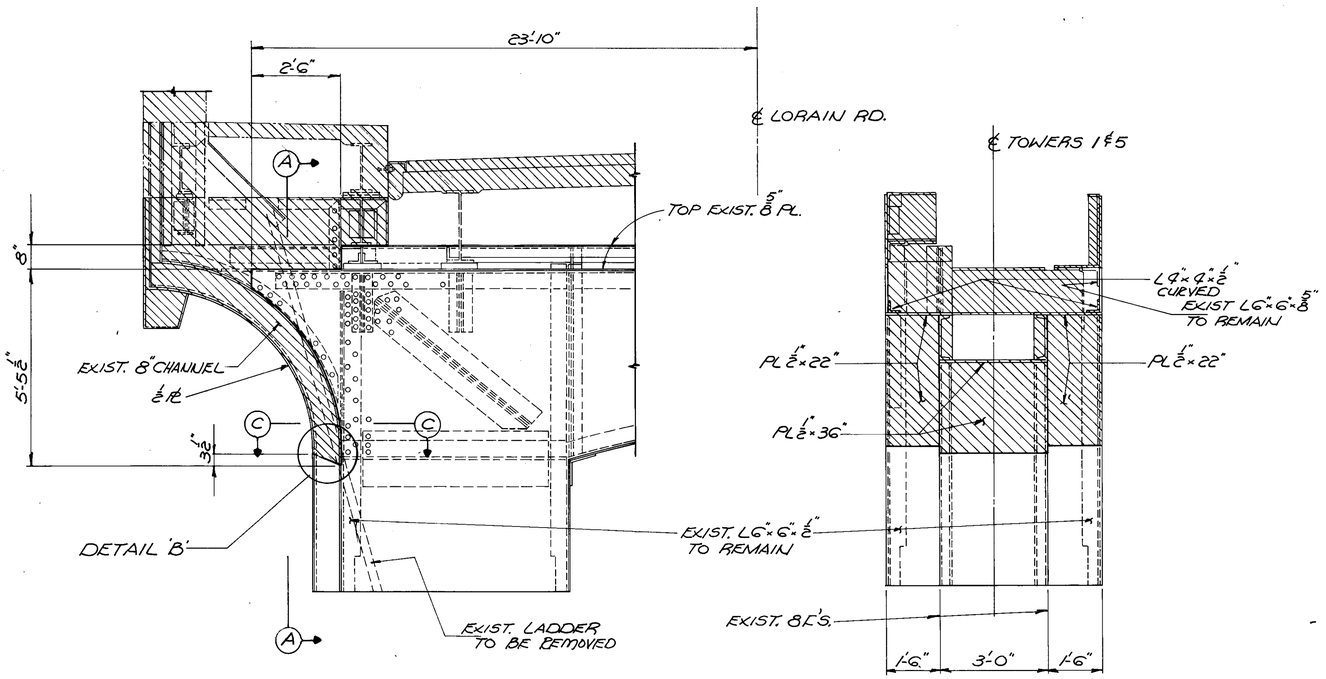
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

67
113

CUYAHOGA COUNTY
CUY-10-08.69



PLAN



ELEVATION

SECTION A-A

NOTES

(1) ▨ DENOTES PORTIONS OF THE EXISTING STRUCTURE TO BE REMOVED UNDER ITEM 202 "PORTIONS OF STRUCTURE REMOVED." THE CONTRACTOR SHALL EXERCISE DUE CARE IN REMOVING THE PORTIONS OF THE EXISTING STRUCTURE, SO DESIGNATED TO BE REMOVED, SO AS NOT TO DAMAGE THE PORTIONS WHICH STAY IN PLACE.

(2) FOR SECTION C-C AND DETAIL "B" SEE SHEET 31|59.

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TOWERS 1 & 5 DEMOLITION DETAILS

29|59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

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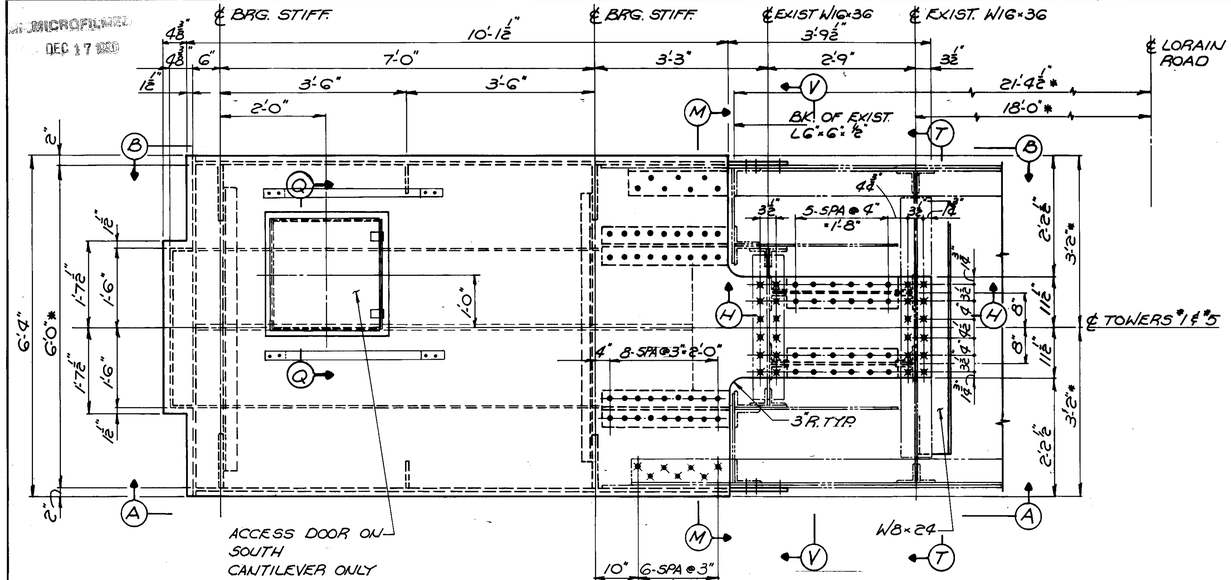
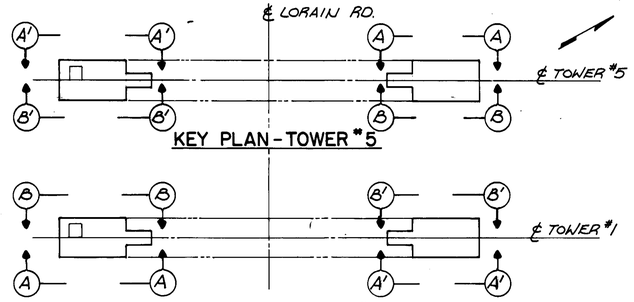
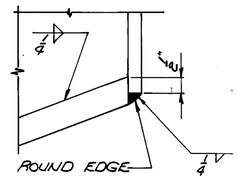
LORAIN ROAD BRIDGE Nº 42

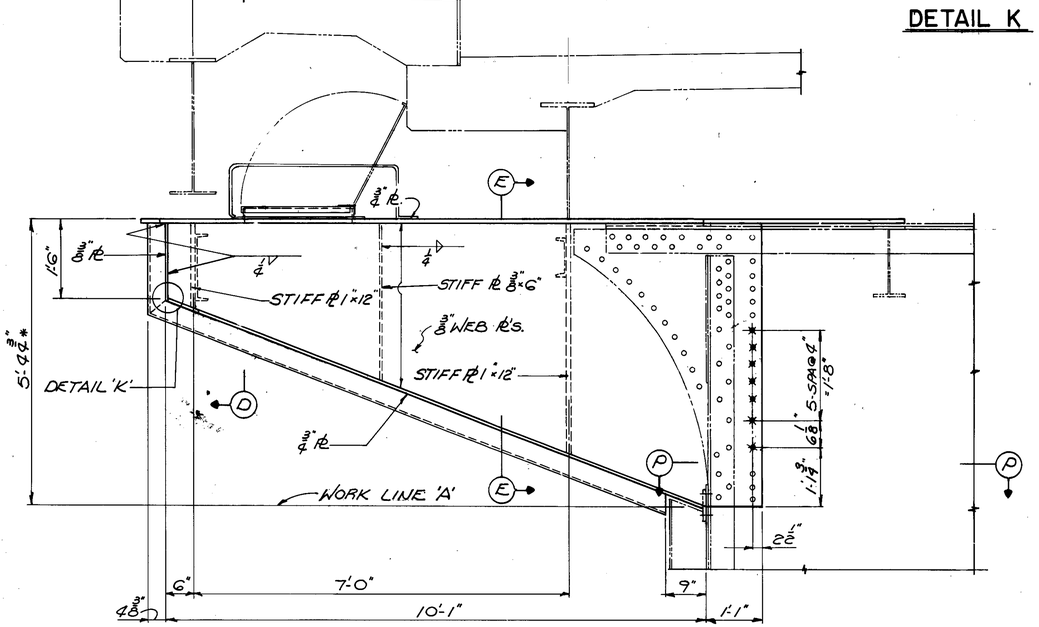


PLAN - TOWERS #1 & #5

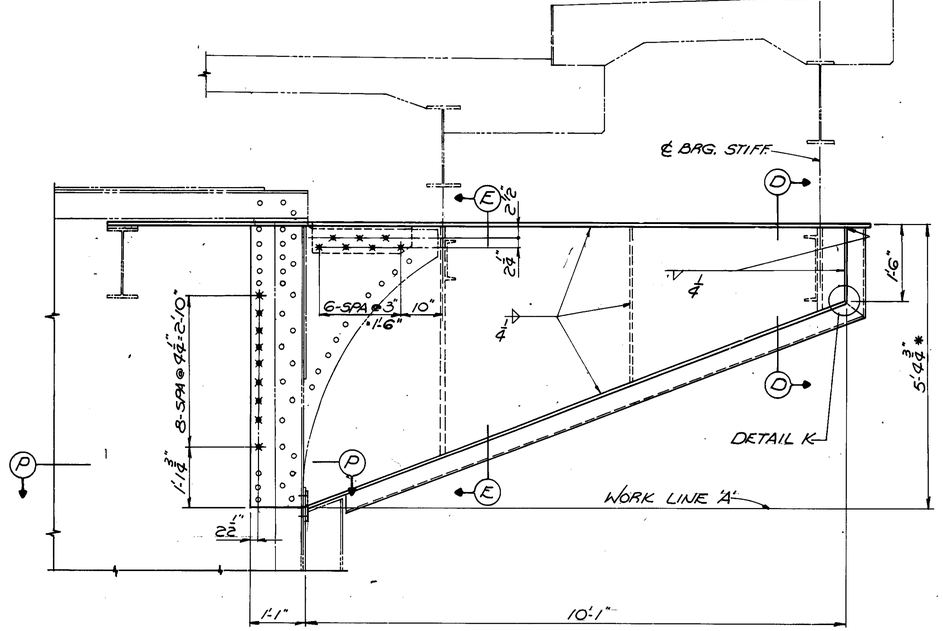




DETAIL K



VIEW A-A (AS SHOWN)
VIEW A'-A' (OPP. HAND)



NOTE
FOR DETAILS NOT SHOWN ON VIEW 'B-B' SEE VIEW A-A

VIEW B-B (AS SHOWN)
VIEW B'-B' (OPP. HAND)

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

68 / 113

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

(1) DIMENSIONS MARKED THUS (*) ARE BASED ON ORIGINAL CONTRACT DRAWINGS. ACTUAL FIELD DIMENSIONS MAY VARY FROM FROM THESE DIMENSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THESE DIMENSIONS PRIOR TO THE FABRICATION OF ANY STRUCTURAL STEEL.

(2) (○) INDICATES LOCATION OF EXISTING ⅞" ϕ RIVETS WHICH ARE TO BE REMOVED UNDER ITEM 202, 'PORTIONS OF EXISTING STRUCTURES REMOVED,' AND REPLACED WITH ⅞" ϕ H.S. BOLTS DURING THE ERECTION OF PROPOSED CANTILEVER WIDENING. GENERAL LOCATION AND NUMBER SHOWN WERE BASED ON ORIGINAL SHOP DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THESE LOCATIONS PRIOR TO THE FABRICATION OF ANY STRUCTURAL STEEL.

(3) (●) INDICATES PROPOSED NUMBER AND LOCATION OF NEW ⅞" ϕ H.S. BOLTS REQUIRED.

(4) (✖) INDICATES PROPOSED NUMBER AND LOCATION OF NEW ⅞" ϕ H.S. BOLTS THAT REQUIRE FIELD LOCATION AND DRILLING OF EXISTING STEEL OTHER THAN THE USE OF HOLES AFTER EXISTING RIVETS HAVE BEEN REMOVED.

(5) FOR SECTIONS "D-D" AND "E-E" SEE SHEET 32/59, FOR SECTIONS "M-M," "P-P," "T-T" & "V-V" SEE SHEET 33/59

(6) FOR SECTION Q-Q, SEE SHEET 32/59

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30/59

TOWERS 1 & 5 CANTILEVER DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

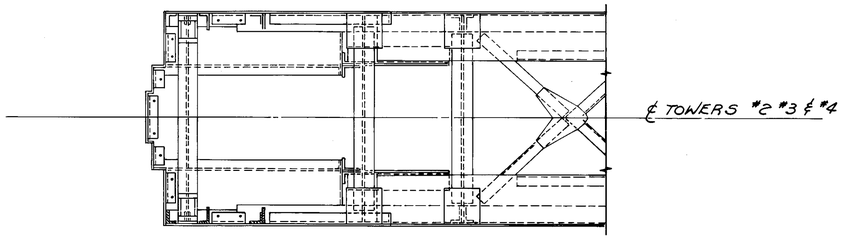
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWN		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

69
113

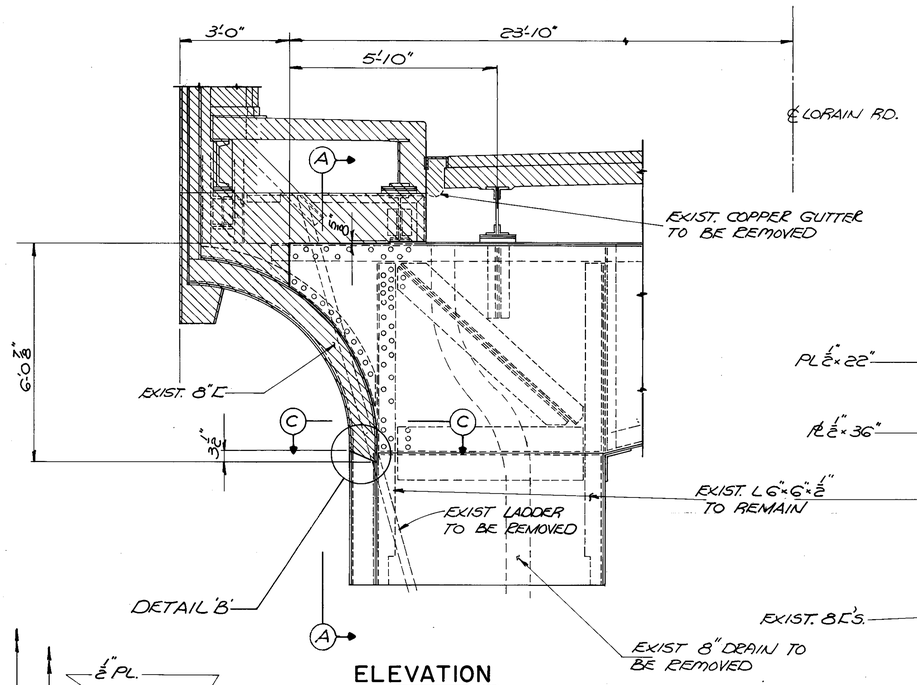
CUYAHOGA COUNTY
CUY-10-08.69



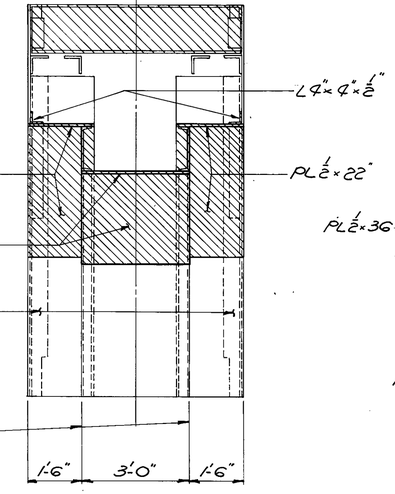
PLAN

NOTES

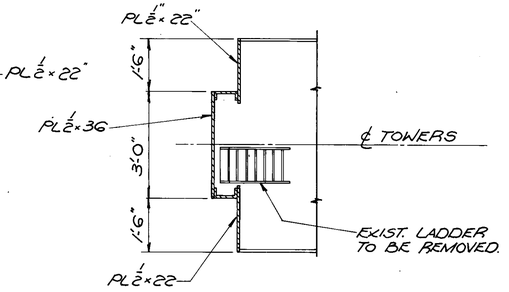
FOR NOTES SEE SHEET 29/59



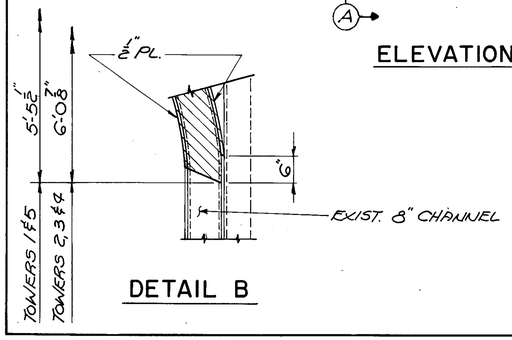
ELEVATION



SECTION A-A



SECTION C-C



DETAIL B

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CLEVELAND, OHIO AKRON, OHIO

31/59

TOWERS 2,3 & 4 DEMOLITION DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092
Nº B-79

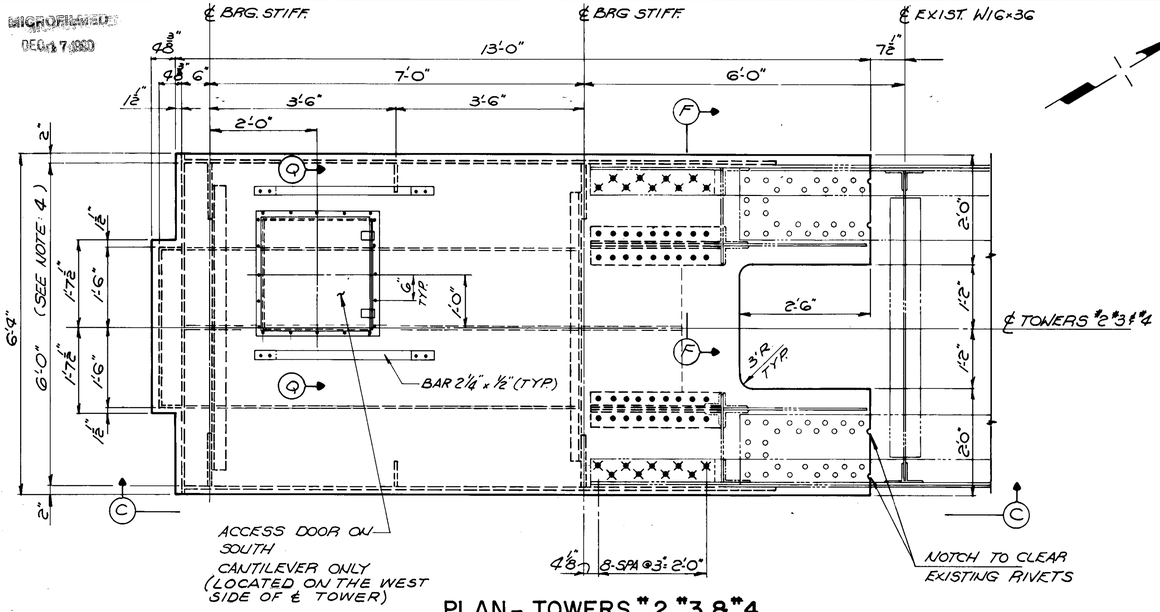
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWN		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

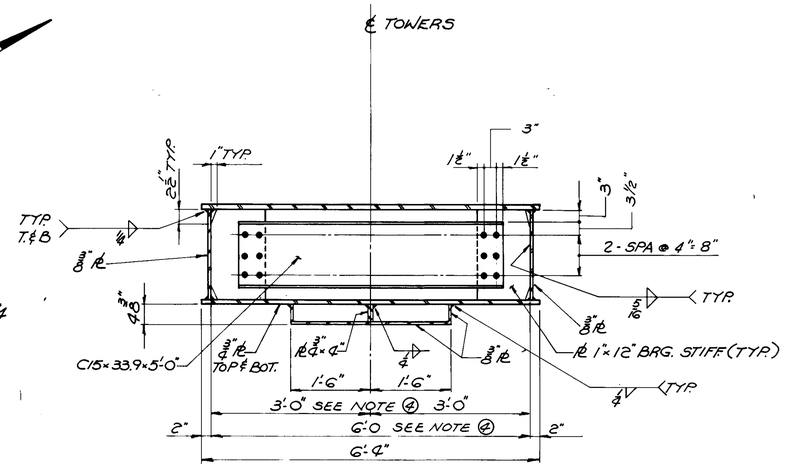
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

70/113

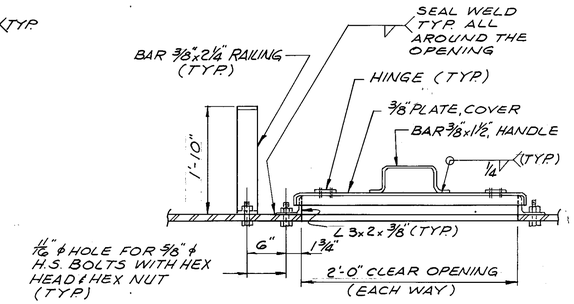
CUYAHOGA COUNTY
CUY-10-08.69



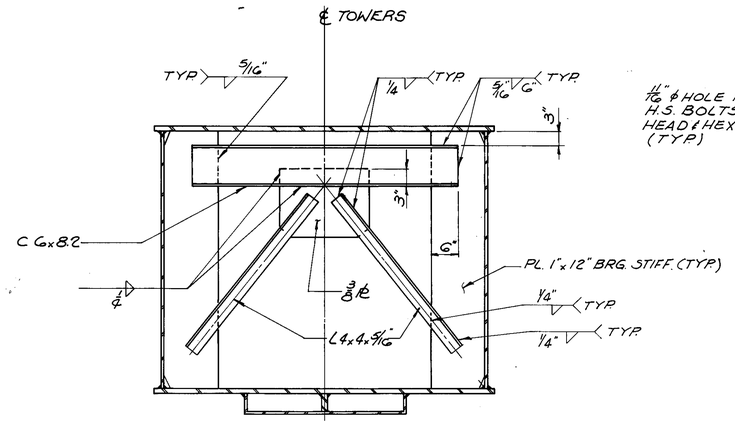
PLAN - TOWERS #2, #3 & #4



SECTION D-D



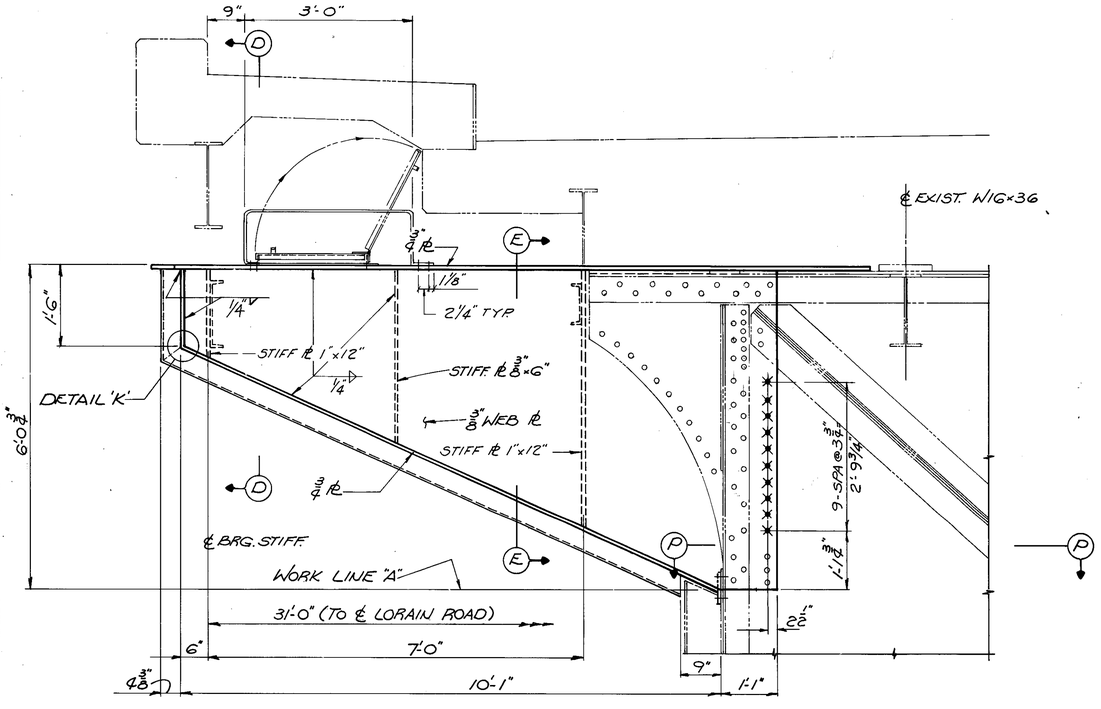
SECTION Q-Q



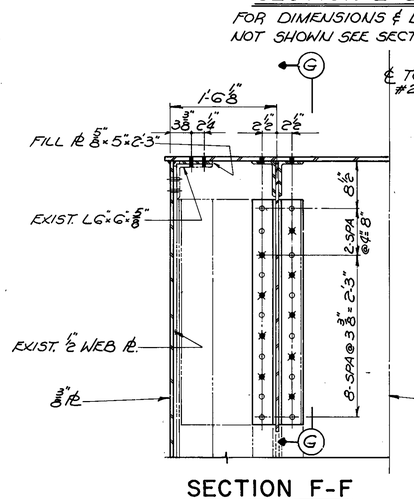
SECTION E-E

NOTES

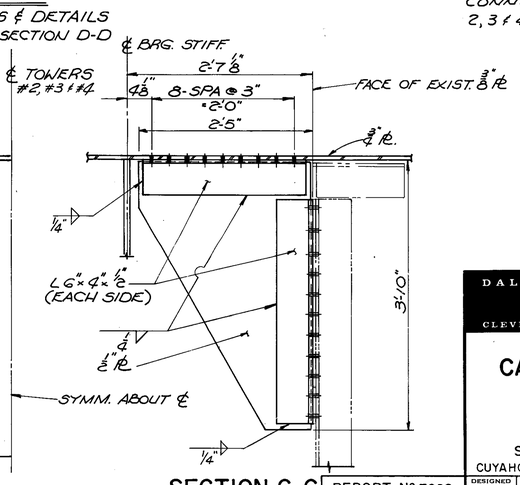
1. FOR DETAILS "K" SEE SHEET 30/59
2. FOR SECTION "P-P" SEE SHEET 33/59
3. FOR LOCATION OF SECTIONS "Q-Q", "D-D" & E-E FOR TOWERS 1 & 5 CANTILEVERS, SEE SHEET 30/59.
4. SEE NOTE 2 SHEET 34/59.
5. FOR EXPLANTION OF BOLTS CONNECTION SYMBOLS SEE NOTES 2, 3 & 4 SHEET 30/59.



VIEW C-C



SECTION F-F



SECTION G-G

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TOWERS 2, 3 & 4 CANTILEVER DETAILS

32/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

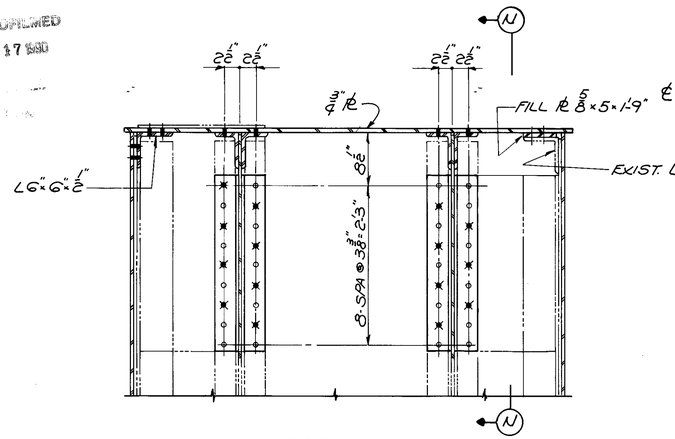
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

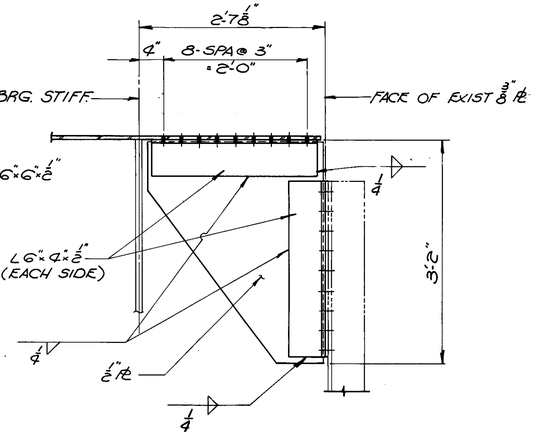
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

71/113

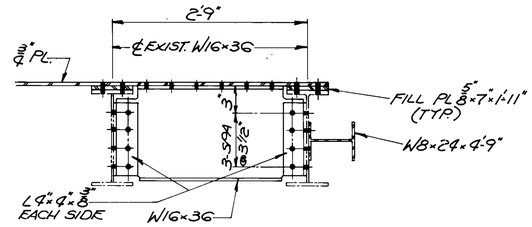
CUYAHOGA COUNTY
CUY-10-08.69



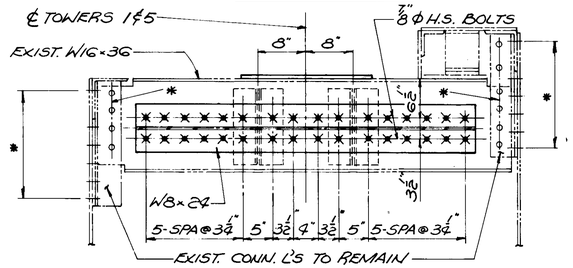
SECTION M-M



SECTION N-N

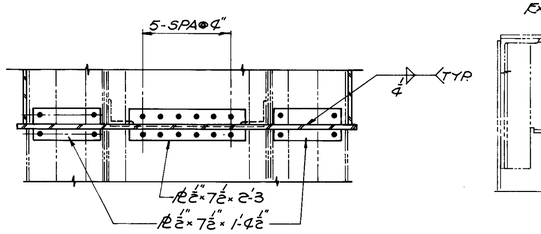


SECTION H-H

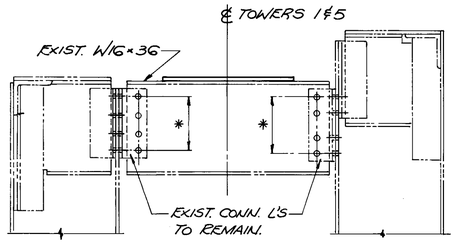


SECTION T-T

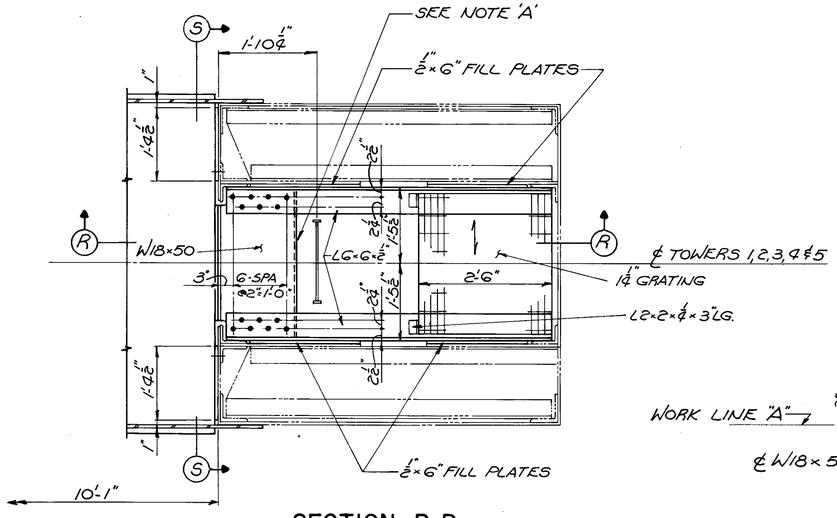
*EXIST. RIVETS TO BE REMOVED AND REPLACED WITH ⅞" Φ H.S. BOLTS



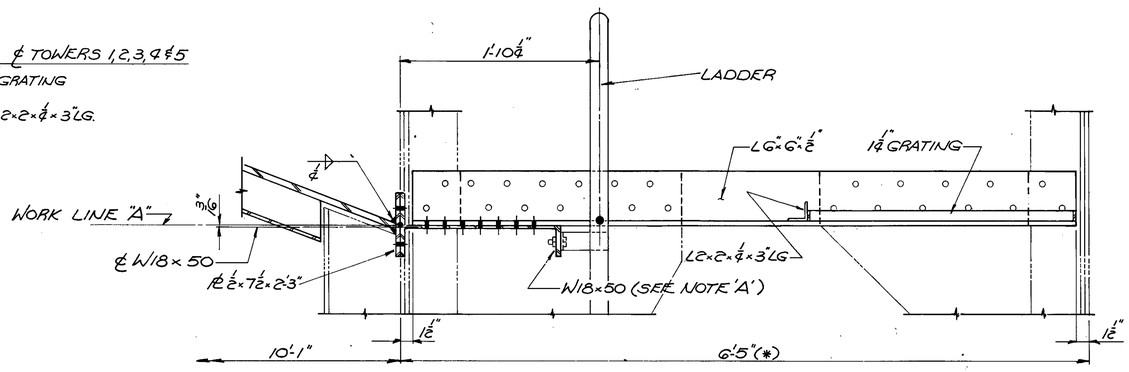
SECTION S-S



SECTION V-V



SECTION P-P
(TYPICAL ALL TOWERS)



SECTION R-R
NOTE 'A': TOP FLANGE TO BE CUT OFF FULL LENGTH OF BEAM AS SHOWN.

NOTES

1. FOR LOCATION OF SECTION "H-H" "M-M", V-V & T-T SEE SHEET 30/59
2. FOR LOCATION OF SECTION P-P SEE SHEETS 30/59 AND 32/59
3. FOR ADDITIONAL NOTES NOT SHOWN HERE SEE SHEET 30/59

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TOWERS 1 THRU 5 CANTILEVER DETAILS 33/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

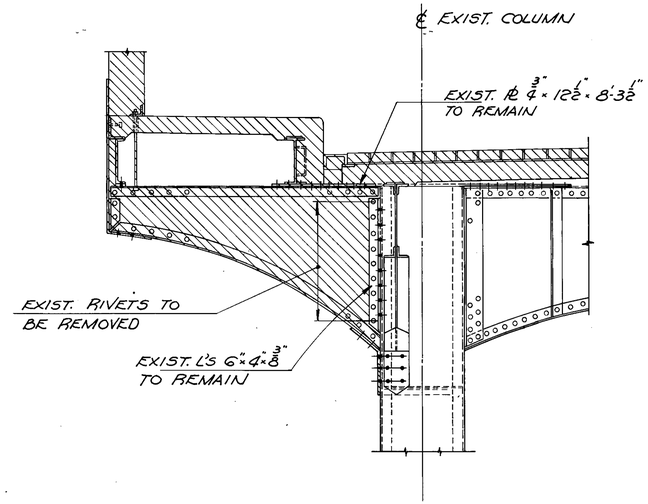
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

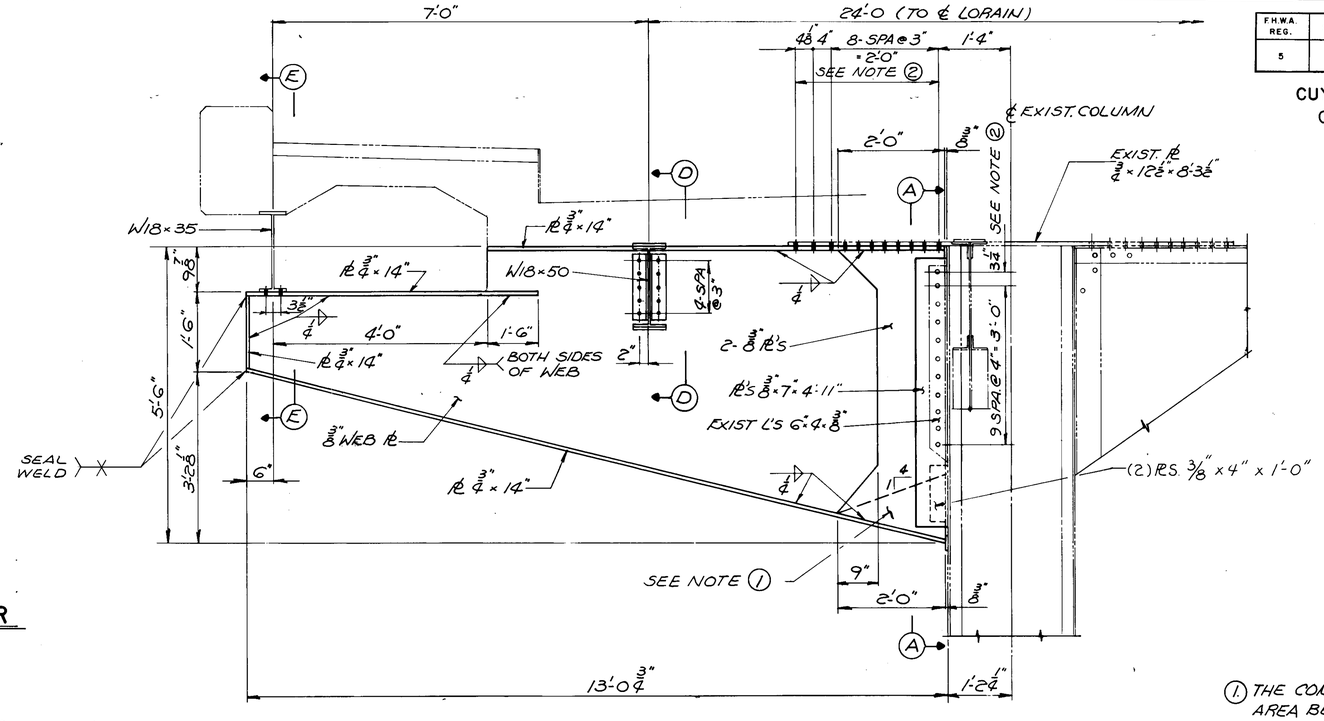
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

72
113

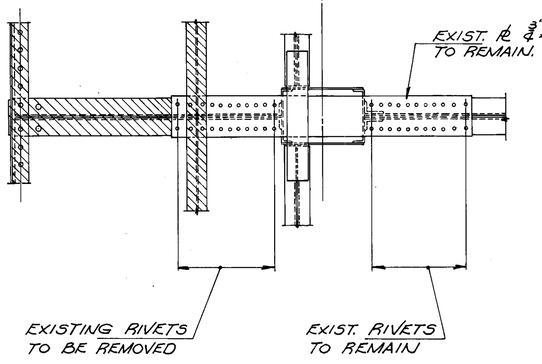
CUYAHOGA COUNTY
CUY-10-08.69



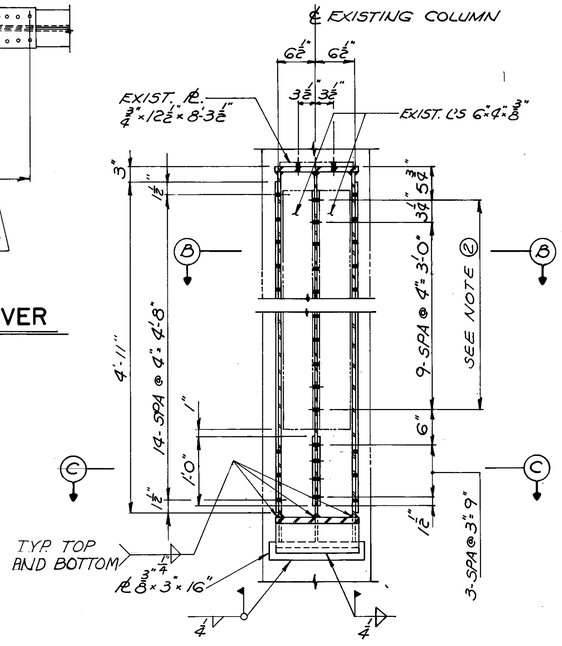
ELEVATION - EXISTING CANTILEVER



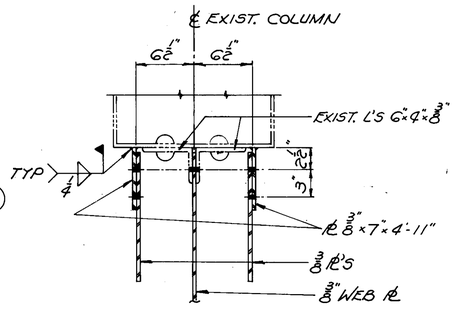
ELEVATION - PROPOSED CANTILEVER
(92 - REQUIRED)



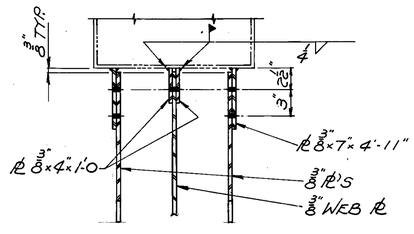
PLAN - EXISTING CANTILEVER



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

(1) THE CONTRACTOR SHALL FILL THE AREA BETWEEN THE FLANGES AND WEBS BELOW DASHED LINE AS SHOWN WITH CLASS "S" CONCRETE AFTER ALL THE STRUCTURAL STEEL WORK FOR THE CANTILEVER HAS BEEN FINISHED AND INSPECTED BY THE ENGINEER. THE QUANTITY OF CONCRETE FOR THE FILL SHALL BE INCLUDED WITH QUANTITY FOR ITEM 511 CLASS "S" CONCRETE, SUPERSTRUCTURE.

(2) THESE DIMENSIONS HAVE BEEN OBTAINED FROM THE EXISTING STRUCTURAL STEEL SHOP DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE DIMENSIONS IN THE FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL.

(3) FOR SECTIONS 'D-D' & 'E-E' SEE SHEET 24/59.

(4) FOR EXPLANATION OF BOLT CONNECTION SYMBOLS SEE NOTES 2,3 & 4 SHEET 30/59.

(5) SEE NOTE (1), SHEET 26/59.

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34/59

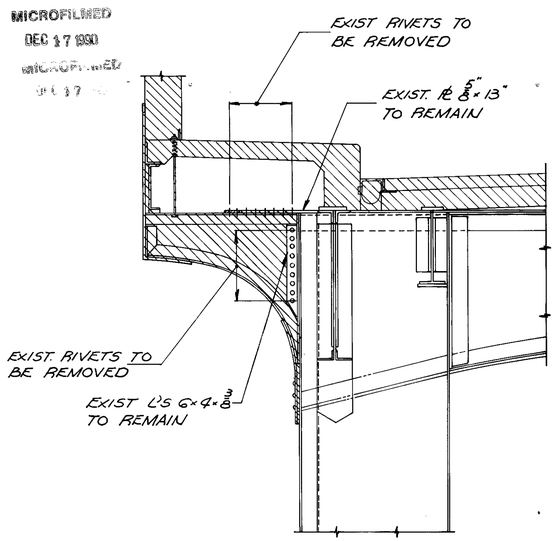
SPANS 2, 3, 4 & 5
PORTAL FRAME CANTILEVER
LORAIN ROAD VIADUCT
OVER ROCKY RIVER

BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

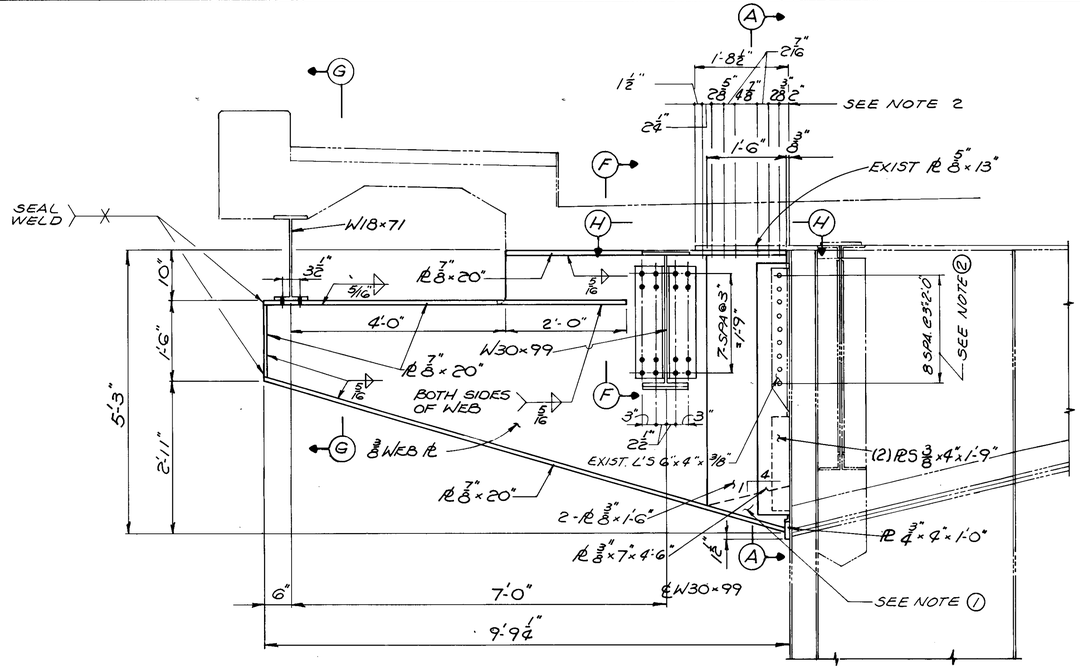
REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

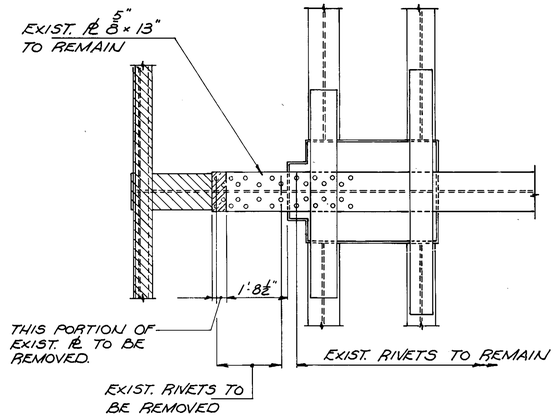


ELEVATION - EXISTING CANTILEVER

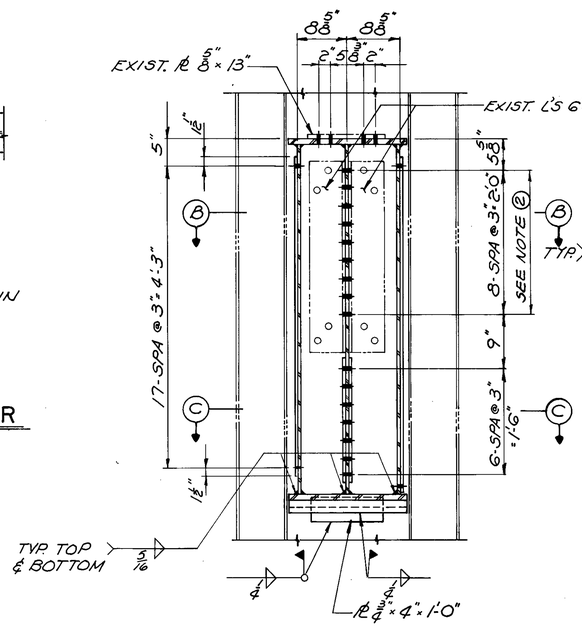


ELEVATION - PROPOSED CANTILEVER

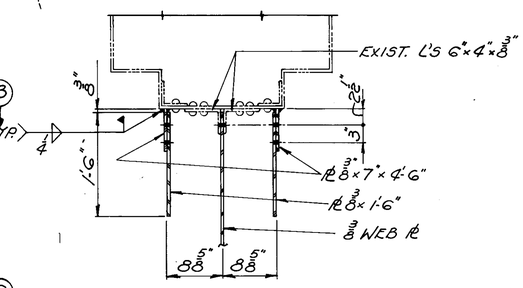
(G - REQUIRED)



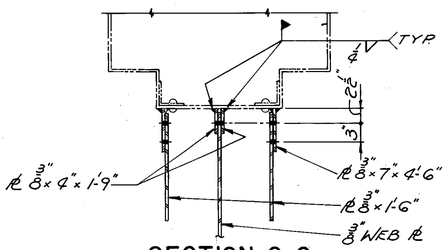
PLAN - EXISTING CANTILEVER



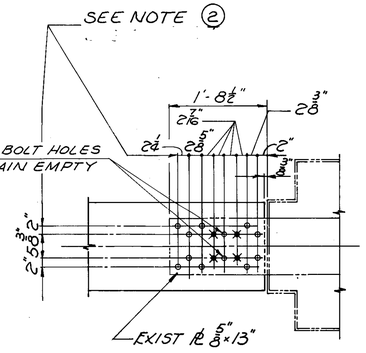
SECTION A-A



SECTION B-B



SECTION C-C



SECTION H-H

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

73
113

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

1. SEE NOTE ① SHEET 34/59.
2. THESE DIMENSIONS HAVE BEEN OBTAINED FROM THE EXISTING STRUCTURAL STEEL SHOP DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE DIMENSIONS IN THE FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL.
3. FOR SECTIONS F-F & G-G SEE SHEET 24/59.
4. FOR EXPLANATION OF BOLT CONNECTION SYMBOLS SEE NOTES 2, 3 & 4 SHEET 30/59.
5. SEE NOTE ① SHEET 26/59.

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CLEVELAND, OHIO — AKRON, OHIO

35/59

PIERS 6, 7 & 8 CANTILEVER DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		RER	JFP	7-30-82	

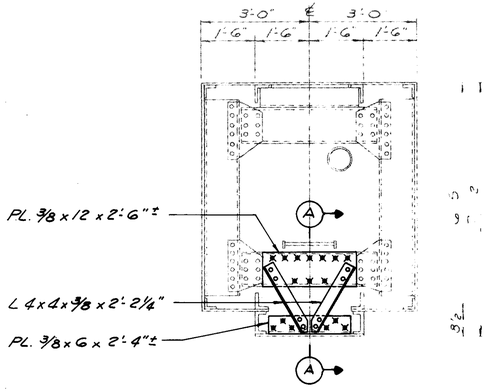
LORAIN ROAD BRIDGE Nº 42

TOWERS 1 THRU 5 REPAIRS DETAILS

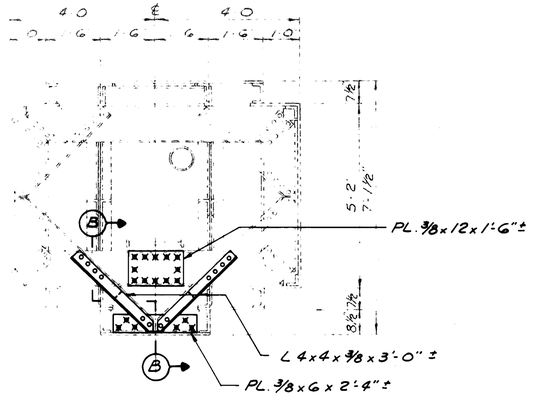
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

74
113

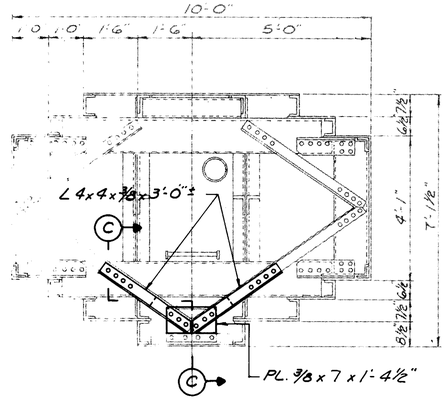
CUYAHOGA COUNTY
CUY-10-08.69



DIAPHRAGM 'A'



DIAPHRAGM 'B'



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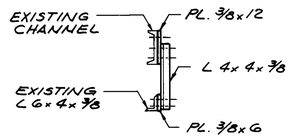
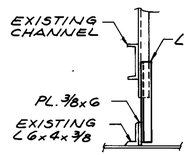
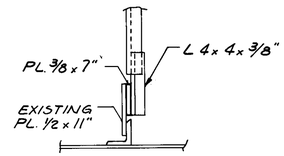


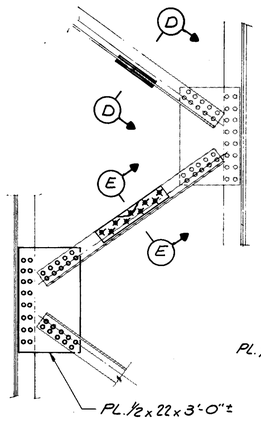
SECTION A-A



SECTION B-B

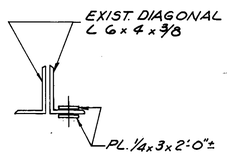


SECTION C-C



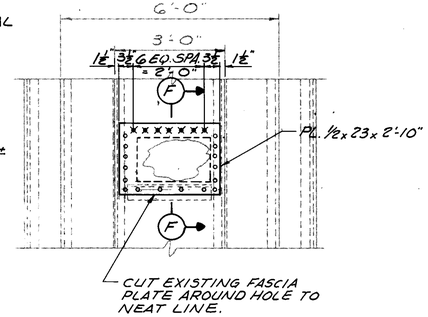
REPAIRS TO DIAGONALS AND GUSSET PLATE

NOTE: THE DIAGONALS AND GUSSET PLATE REPAIR MAY NOT BE NECESSARY SIMULTANEOUSLY AS SHOWN IN THIS DETAIL.

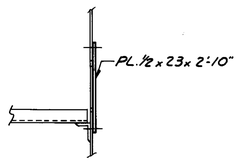


SECTION D-D
SHOWING REPAIR DETAILS TO CORRODED SHORT LEG

SECTION E-E
SHOWING REPAIR DETAILS TO CORRODED LONG LEG



REPAIR TO FASCIA PLATE



SECTION F-F

TOTAL ESTIMATED WEIGHT OF STRUCTURAL STEEL (A-36) FOR REPAIRS = 19945 LBS. THIS WEIGHT HAS BEEN ARRIVED AT BY USING THE ESTIMATED NUMBER OF REPAIRS AND THE ESTIMATED QUANTITY OF STRUCTURAL STEEL PER ONE REPAIR IN EACH CASE BASED UPON AN ASSUMED CONDITION AS DETAILED. THE ACTUAL TOTAL QUANTITY OF STRUCTURAL STEEL MAY VARY DEPENDING ON THE ACTUAL AMOUNT OF REPAIRS REQUIRED FOR EACH INDIVIDUAL CASE. THE ACTUAL QUANTITY OF STRUCTURAL STEEL USED TO MAKE APPROVED REPAIRS WILL BE PAID FOR AT THE CONTRACT PRICE BID PER POUND FOR ITEM 513 - STRUCTURAL STEEL (A-36), FOR REPAIRS.

TABLE OF STRUCTURAL STEEL REPAIRS

LOCATION		ESTIMATED NUMBER OF REPAIRS	ESTIMATED QTY. OF STR. STEEL PER ONE REPAIR
TOWERS 1 THRU 5	DIAPRAGM 'A'	35	120 LBS.
	DIAPRAGM 'B'	35	125 LBS.
	DIAPRAGM 'C'	30	85 LBS.
	SHORT LEG OF DIAGONAL	10	20 LBS.
	LONG LEG OF DIAGONAL	10	35 LBS.
	GUSSET PLATE	10	140 LBS.
	FASCIA PLATE	4	130 LBS.
PIERS 6, 7 & 8	DIAPHRAGM 'A'	40	125 LBS.
	FASCIA PLATE	4	65 LBS.
DIAPHRAGM 'A' IN ARCH RIBS		8	60 LBS
STRINGER AT WEST ABUTMENT		1	110 LBS.

NOTES

1. THE STRUCTURAL STEEL REPAIR LOCATION DESIGNATIONS SUCH AS 'DIAPHRAM-A', 'DIAPHRAM-B' ETC, ARE AS SHOWN IN THE EXISTING STRUCTURE PLANS.
2. THE ESTIMATED NUMBER OF REPAIRS INDICATED IN THE TABLE OF STRUCTURAL STEEL REPAIRS IS APPROXIMATE AND IS USED TO ARRIVE AT A TOTAL QUANTITY OF STRUCTURAL STEEL FOR REPAIRS ONLY.
3. THE ESTIMATED QUANTITY OF STRUCTURAL STEEL REQUIRED FOR EACH REPAIR IS ARRIVED AT BY USING AN ASSUMED SITUATION IN EACH OF THE REPAIR DETAILS SHOWN ON SHEETS 36|59 AND 37|59. THE ACTUAL AMOUNT OF REPAIRS REQUIRED IN EACH INDIVIDUAL CASE MAY VARY.
4. THE CONTRACTOR SHALL INSPECT THE EXISTING STRUCTURE TO DETERMINE THE EXACT NUMBER OF REPAIRS REQUIRED FOR EACH TYPE OF DETAIL SHOWN HEREIN AND THE EXTENT OF REPAIR REQUIRED IN EACH INDIVIDUAL CASE. THE CONTRACTOR SHALL OBTAIN THE WRITTEN APPROVAL OF THE ENGINEER AS TO THE NUMBER OF REPAIRS AND EXTENT OF REPAIRS IN EACH INDIVIDUAL CASE BEFORE THE FABRICATION OF ANY STRUCTURAL STEEL OR COMMENCING ANY STEEL REPAIR WORK.
5. THE STRUCTURAL STEEL REQUIRED FOR THE REPAIR PURPOSES SHALL BE ASTM A-36, UNLESS NOTED OTHERWISE.
6. FOR ADDITIONAL NOTES SEE SHEET 37|59.

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STRUCTURAL STEEL REPAIR DETAILS 36|59
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

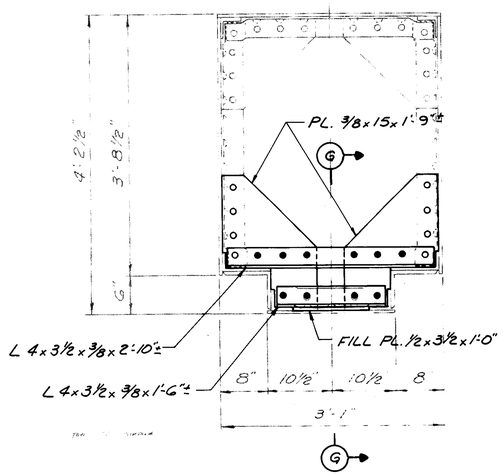
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		RER	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

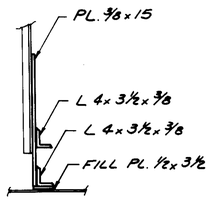
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

75/113

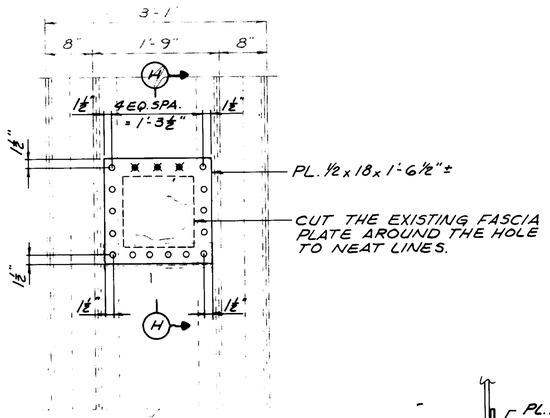
CUYAHOGA COUNTY
CUY-10-08.69



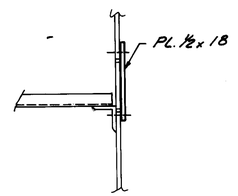
DIAPHRAGM 'A'
PIERS 6,7 & 8



SECTION G-G



FASCIA PLATE
PIERS 6,7 & 8



SECTION H-H

NOTES

7. FOR NOTES 1 THRU 6, SEE SHEET 36

8. ALL CONNECTIONS SHALL BE MADE USING 7/8" ø H.S. HOLES CONFORMING TO ASTM A 325. HOLES FOR 7/8" ø BOLTED CONNECTIONS SHALL BE 15/16" ø.

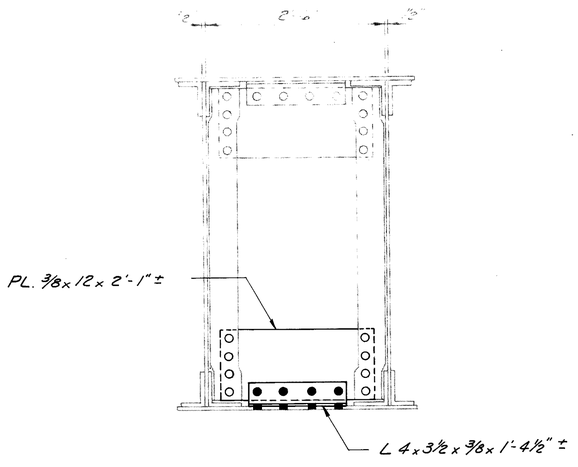
9. PAYMENT FOR ITEM 513 'STRUCTURAL STEEL (A-36) FOR REPAIRS' SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO INSPECT THE EXISTING STRUCTURE TO DETERMINE THE NUMBER OF REPAIRS AND THE EXTENT OF REPAIRS REQUIRED, AND TO PERFORM THE REPAIRS IN ACCORDANCE WITH THESE PLANS AND SPECIFICATION AND AS DIRECTED BY ENGINEER. NO EXTRA PAYMENT WILL BE MADE FOR REMOVAL OF ANY DETERIORATED PORTIONS OF EXISTING STRUCTURE OR RIVET REMOVAL TO COMPLETE THE REPAIR WORK.

10. THE LENGTHS OF THE ANGLES AND PLATES USED IN MAKING THE REPAIRS HAVE BEEN DETERMINED FROM THE EXISTING STRUCTURE PLANS. THE ACTUAL LENGTHS REQUIRED MAY VARY IN EACH INDIVIDUAL REPAIR CASE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LENGTHS REQUIRED TO MAKE THE REPAIRS.

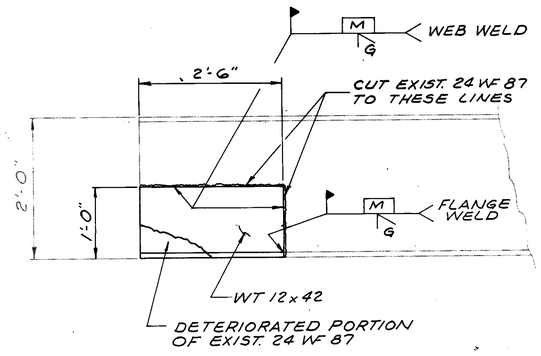
11. THE BOLT CONNECTION LOCATIONS MARKED 'O' INDICATE THAT THERE IS AN EXISTING RIVETED CONNECTION IN PLACE. THE CONTRACTOR SHALL REMOVE THE EXISTING RIVETED CONNECTION AS NOTED IN THE GENERAL NOTES AND MAKE THE NEW CONNECTION USING 7/8" ø H.S. BOLTS. THE ACTUAL LOCATION AND SPACING OF EXISTING RIVETS MAY BE OBTAINED FROM THE EXISTING STRUCTURAL STEEL SHOP DRAWINGS, WHICH ARE AVAILABLE AT THE CUYAHOGA COUNTY ENGINEER'S OFFICE FOR REFERENCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DETAILS OF EXISTING RIVETED CONNECTIONS IN THE FIELD BEFORE FABRICATION OF ANY STRUCTURAL STEEL FOR REPAIRS.

12. THE BOLT CONNECTION LOCATIONS MARKED '✱' INDICATE THAT THERE IS PRESENTLY NO HOLE IN THE EXISTING STRUCTURAL STEEL AT THAT LOCATION. THE CONTRACTOR SHALL FIELD DRILL HOLES IN THE EXISTING STRUCTURE AT THESE LOCATIONS IN ACCORDANCE WITH ITEM 513.14 OF THE SPECIFICATIONS. FIELD DRILLING OF HOLES SHALL BE INCIDENTAL TO ITEM 513, 'STRUCTURAL STEEL (A-36) FOR REPAIRS.'

△ *Arches and Piers have been inspected- No Repairs are necessary. Access Doors to piers must be painted and put back in place.*



DIAPHRAGM 'A'
IN ARCH RIB



INTERIOR STRINGER
AT WEST ABUTMENT

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37/59

STRUCTURAL STEEL REPAIR DETAILS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER

BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

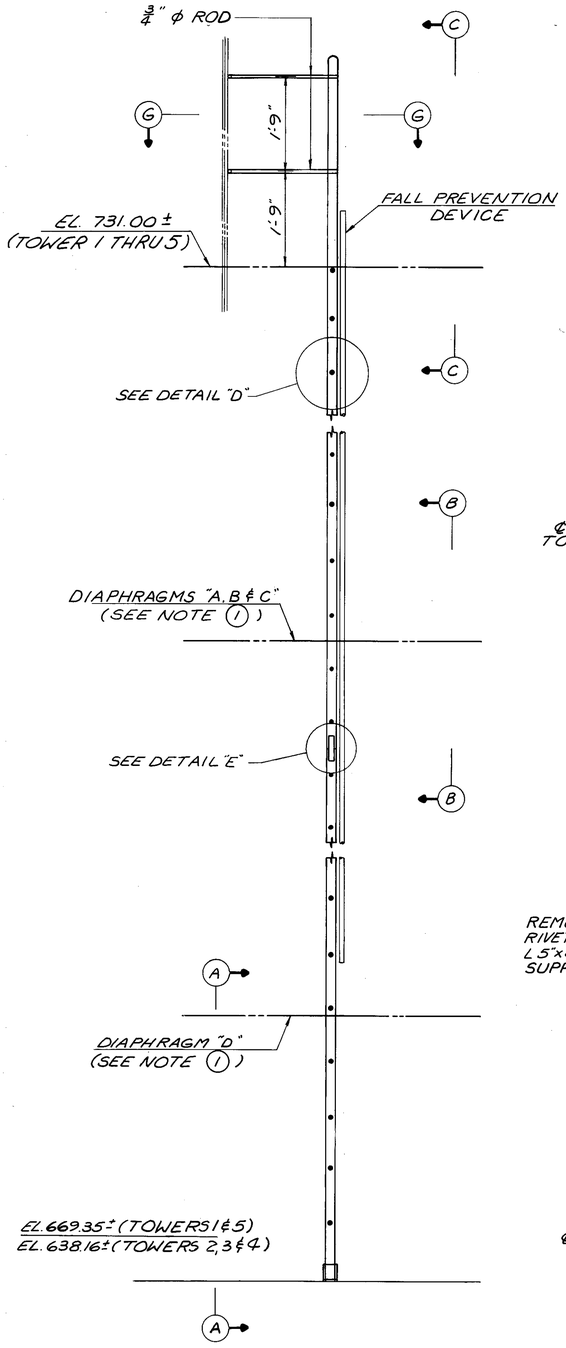
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	B.K.L.	F.F.		RER	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

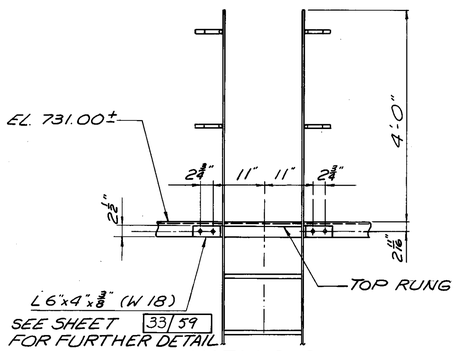
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

76
113

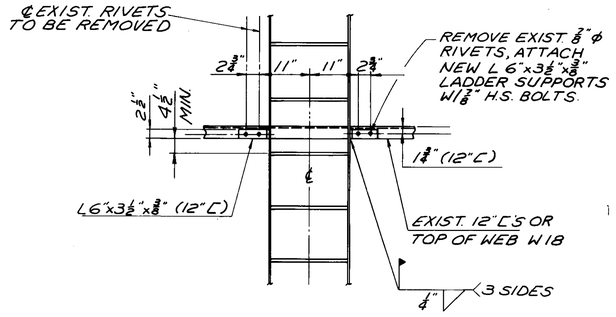
CUYAHOGA COUNTY
CUY-10-08.69



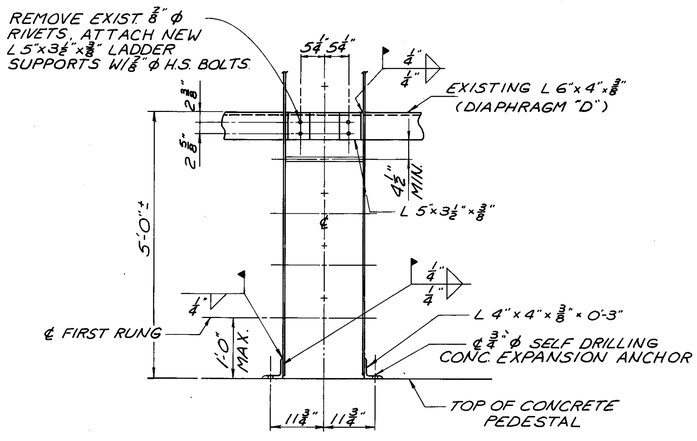
SIDE ELEVATION



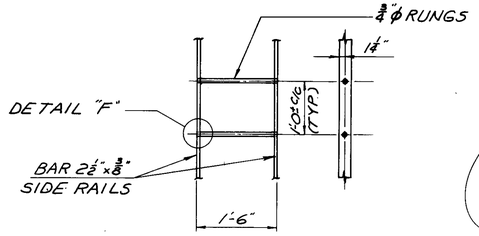
VIEW C-C
FOR OTHER DETAILS SEE VIEW B-B



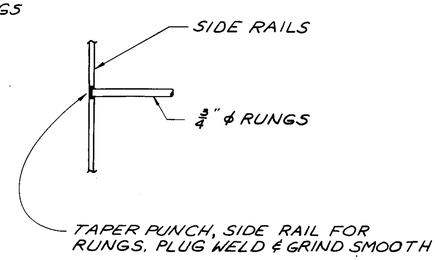
VIEW B-B
FOR DIAPHRAGMS "A, B & C"



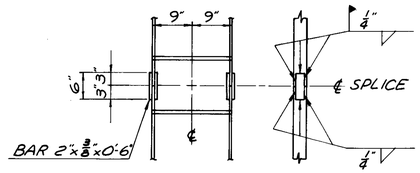
VIEW A-A
FOR DIAPHRAGM "D"



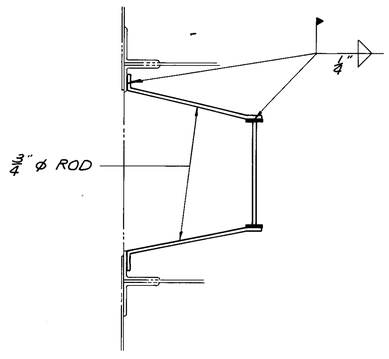
DETAIL D



DETAIL F
TYPICAL



DETAIL E



SECTION G-G

NOTES

(1) THE LOCATION OF THE DIAPHRAGMS DESIGNATED "A, B, C & D" ARE AS SHOWN ON THE EXISTING STRUCTURE PLANS.

(2) FOR ADDITIONAL INFORMATION, SEE STRUCTURAL GENERAL NOTES, SHEET 6/59.

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LADDER DETAIL
LORAIN ROAD VIADUCT OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

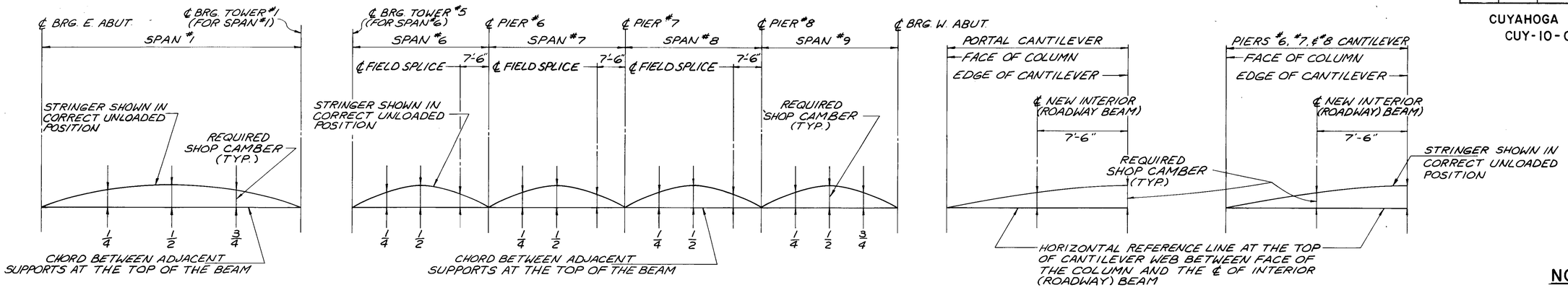
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
B.K.L.	D.T.		A.L.H.	J.F.P.	7-30-82	

LORAIN ROAD BRIDGE Nº 42

FHWA REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

77
113

CUYAHOGA COUNTY
CUY-10-08.69



LAYOUT DIAGRAM

NOTES

FOR FRAMING PLAN AND STRUCTURAL STEEL DETAILS, SEE SHEETS 23|59 THRU 28|59.

DEFLECTION AND CAMBER TABLE

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL.	REQUIRED SHOP CAMBER
NEW EXTERIOR(SIDEWALK) BEAM			
℄ BRG. E. ABUT.	—	—	—
1/4	0.190"	0.885"	1.075"
1/2	0.271"	1.258"	1.529"
3/4	0.190"	0.885"	1.075"
℄ TWR. #1 (SPAN #1)	—	—	—
NEW INTERIOR (ROADWAY) BEAM			
℄ BRG. E. ABUT.	—	—	—
1/4	0.113"	0.388"	0.502"
1/2	0.161"	0.552"	0.713"
3/4	0.113"	0.388"	0.502"
℄ TWR. #1 (SPAN #1)	—	—	—

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL.	REQUIRED SHOP CAMBER
NEW EXTERIOR(SIDEWALK) BEAM			
℄ TWR. #5 (SPAN #6)	—	—	—
1/4	0.054"	0.364"	0.418"
1/2	0.068"	0.460"	0.528"
℄ FIELD SPLICE	0.027"	0.186"	0.213"
℄ PIER #6	—	—	—
1/4	0.006"	0.042"	0.048"
1/2	0.019"	0.131"	0.150"
℄ FIELD SPLICE	0.009"	0.061"	0.070"
℄ PIER #7	—	—	—
1/4	0.012"	0.082"	0.094"
1/2	0.019"	0.131"	0.150"
℄ FIELD SPLICE	0.003"	0.018"	0.021"
℄ PIER #8	—	—	—
1/4	0.036"	0.246"	0.282"
1/2	0.068"	0.460"	0.528"
3/4	0.054"	0.364"	0.418"
℄ BRG. W. ABUT.	—	—	—

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL.	REQUIRED SHOP CAMBER
NEW INTERIOR (ROADWAY) BEAM			
℄ TWR. #5 (SPAN #6)	—	—	—
1/4	0.019"	0.126"	0.145"
1/2	0.024"	0.158"	0.182"
3/4	0.013"	0.085"	0.098"
℄ PIER #6	—	—	—
1/4	0.002"	0.014"	0.016"
1/2	0.007"	0.045"	0.052"
3/4	0.004"	0.028"	0.032"
℄ PIER #7	—	—	—
1/4	0.004"	0.028"	0.032"
1/2	0.007"	0.045"	0.052"
3/4	0.002"	0.014"	0.016"
℄ PIER #8	—	—	—
1/4	0.013"	0.085"	0.098"
1/2	0.024"	0.158"	0.182"
3/4	0.019"	0.126"	0.145"
℄ BRG. W. ABUT.	—	—	—

LOCATION	DEFLECTION DUE TO WT. OF STEEL	DEFLECTION DUE TO REMAINING DL.	REQUIRED SHOP CAMBER
PORTAL CANTILEVER			
FACE OF COL.	—	—	—
℄ NEW INT. BEAM	0.012"	0.118"	0.130"
EDGE OF CANT.	0.030"	0.270"	0.300"
PIERS #6, #7, & #8 CANTILEVER			
FACE OF COL.	—	—	—
℄ NEW INT. BEAM	0.004"	0.046"	0.050"
EDGE OF CANT.	0.009"	0.121"	0.130"

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DEFLECTION AND CAMBER
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

LORAIN ROAD BRIDGE Nº 42

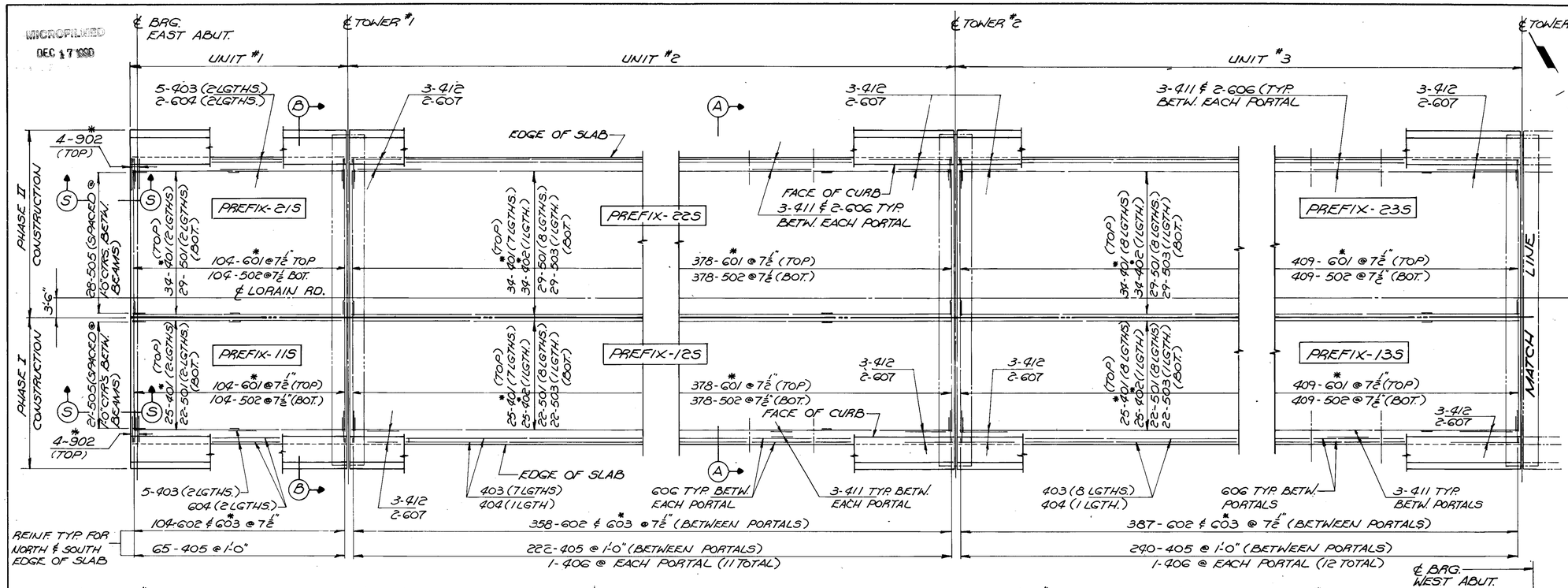
REPORT Nº 7092
Nº B-79

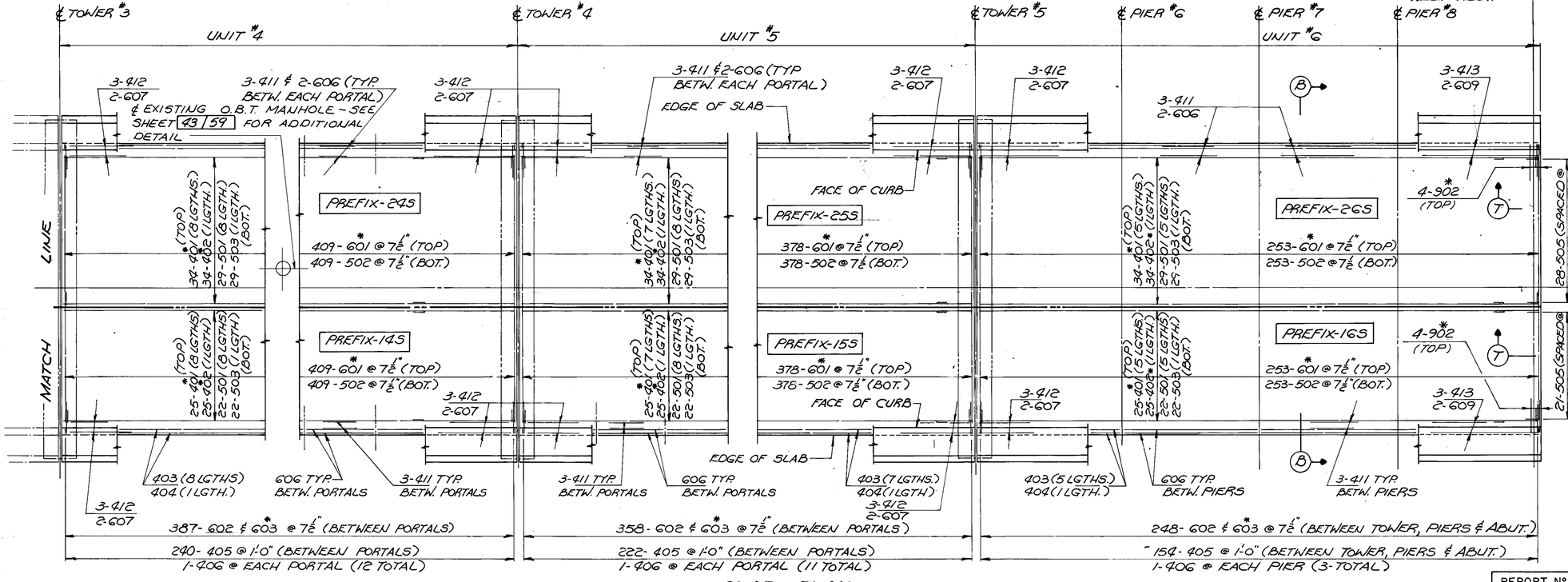
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RER	D.T.		BKL	JFP	7-30-82	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

78/113

CUYAHOGA COUNTY
CUY-10-08.69





SLAB PLAN

NOTES

1. THE PREFIX INDICATING THE PHASE, UNIT, & LOCATION, AS SHOWN ON THE SLAB PLAN SHALL BE ADDED TO ALL THE REINFORCING BAR MARKS IN THE SUPERSTRUCTURE & SIDEWALKS UNLESS SHOWN OTHERWISE.
2. FOR PLAN OF SIDEWALK REINFORCING SEE SHEET 42/59
3. FOR SECTIONS 'A-A' & 'B-B' SEE SHEET 41/59
4. FOR ADDITIONAL DETAILS AND REINFORCING FOR END BEAMS AT TOWERS SEE SHEET 43/59
5. FOR SECTIONS "S-S", "T-T" AND ADDITIONAL DETAILS AT PORTAL FRAMES AND PIERS #6, #7 & #8 SEE SHEET 44/59
6. BAR LAPS ARE AS FOLLOWS:
   #4 BARS 1'-4"
   #5 BARS 1'-8"
   #6 BARS 2'-0"
7. *REINFORCING BARS MARKED THUS* ARE TO BE EPOXY COATED.
8. FOR EXPANSION JOINT DETAILS SEE SHEET 46/59 & 47/59.

△ PHASE I - Deck reinforcing all in place

PHASE I - Sidewalk reinforcing in place from East Abutment to Tower #2N.

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SLAB PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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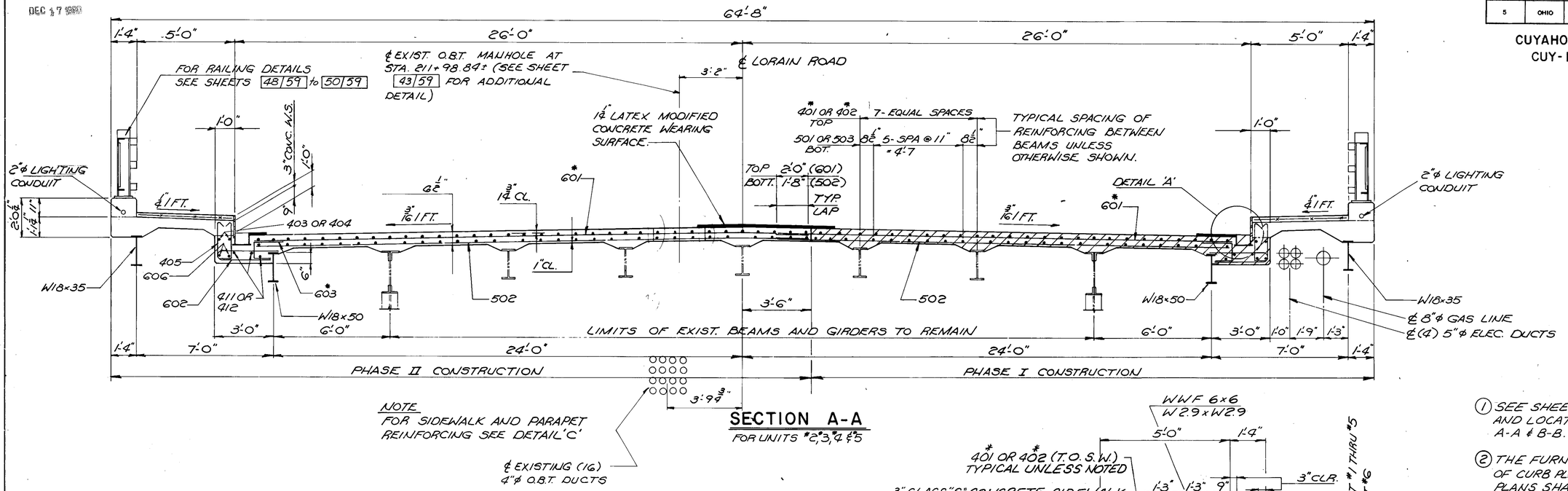
LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

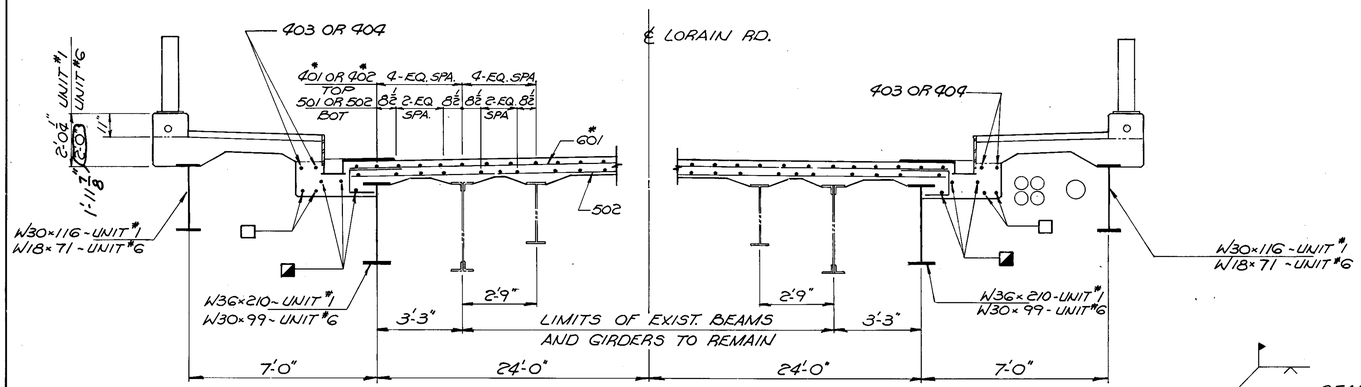
79
113

CUYAHOGA COUNTY
CUY-10-08.69



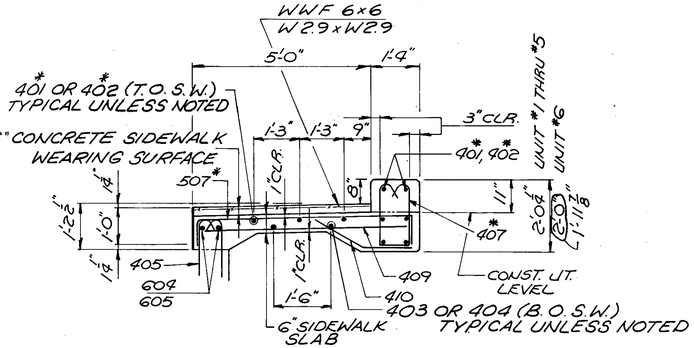
NOTE
FOR SIDEWALK AND PARAPET REINFORCING SEE DETAIL 'C'

SECTION A-A
FOR UNITS #2, #3, #4 & #5

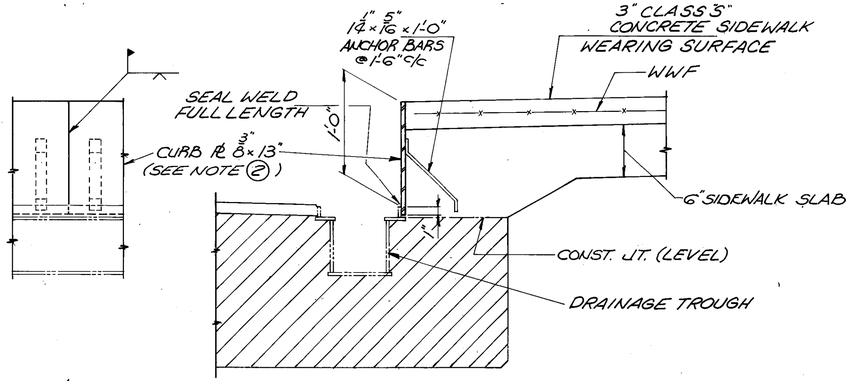


SECTION B-B
FOR UNITS #1 & #6
FOR DIMENSIONS, DETAILS & REINFORCING NOT SHOWN SEE SECTION A-A

LEGEND
- 604 - UNIT #1
  606, 607 OR 609 - UNIT #6
- 403 - UNIT #1
  411, 412 OR 413 - UNIT #6



DETAIL C
TYPICAL SIDEWALK REINFORCING



DETAIL A

NOTES

1. SEE SHEET 40|59 FOR NOTES AND LOCATION OF SECTIONS A-A & B-B.
2. THE FURNISHING AND INSTALLATION OF CURB PLATES AS SHOWN ON THE PLANS SHALL BE INCLUDED WITH ITEM 513 STRUCTURAL STEEL (A36) FOR PAYMENT EXCEPT IN THE VICINITY OF EXPANSION JOINTS AS SHOWN ON SHEET 46|59.
3. LONGITUDAL & TRANSVERSE REINFORCING SHALL BE CUT IN FIELD 2" CLEAR OF EXISTING O.B.T. MANHOLE (PHASE II-UNIT #4) COST TO BE INCLUDED WITH ITEM 509 - REINFORCING STEEL - GRADE 60 FOR PAYMENT.

△ Concrete in place.

NOTE: No Latex placed to date

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41|59

TRANSVERSE SECTIONS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

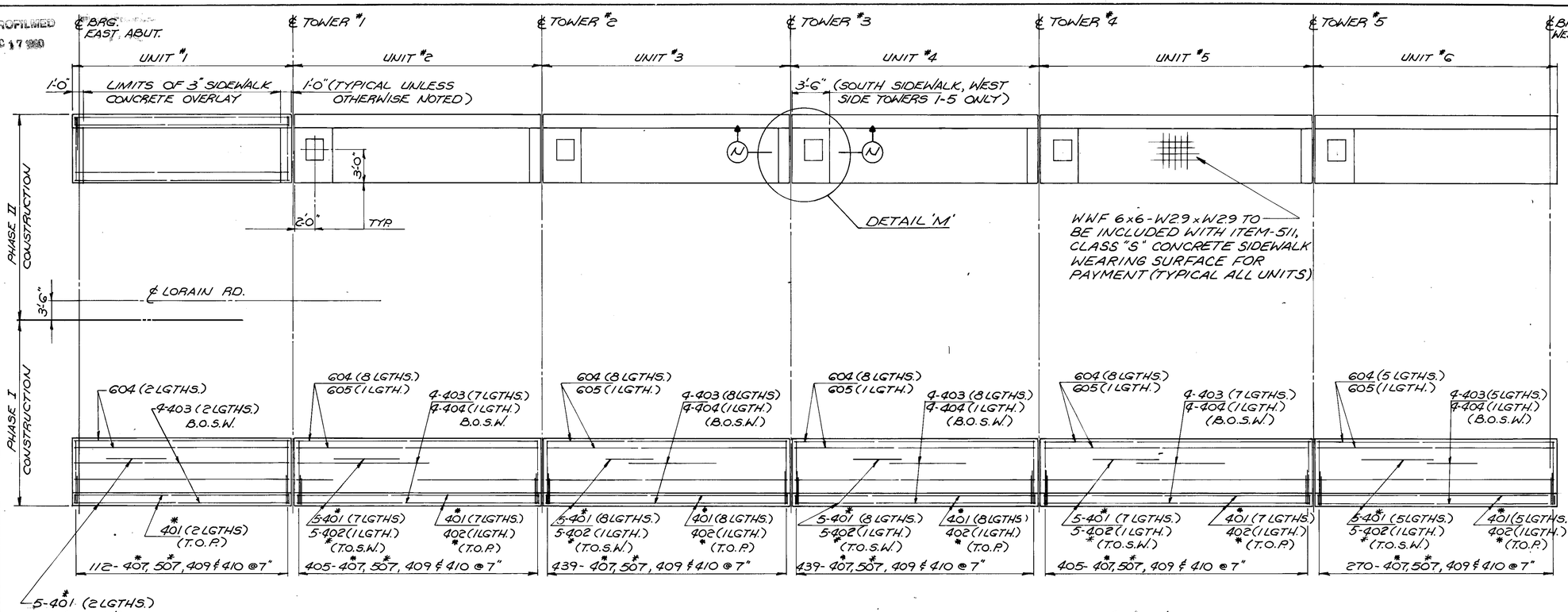
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		ALH	JFP	7-30-82	5-13-84

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

80
113

CUYAHOGA COUNTY
CUY-10-08.69



ABBREVIATIONS USED:
LGTH. - LENGTH
LGTHS. - LENGTHS
B.O.S.W. - BOTTOM OF SIDEWALK
T.O.S.W. - TOP OF SIDEWALK
T.O.P. - TOP OF PARAPET
PROJ. - PROJECTION
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CTRD. - CENTERED
WWF - WELDED WIRE FABRIC

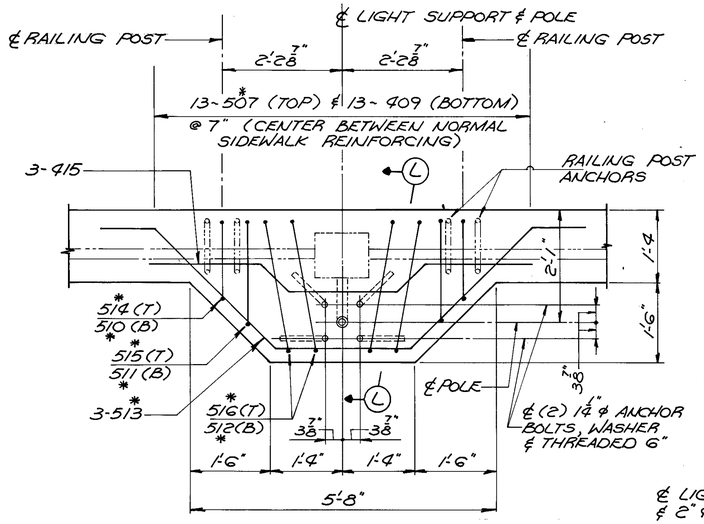
NOTES

(1) FOR RAILING POST ANCHOR BOLT LOCATIONS SEE SHEETS 48/59 AND 49/59

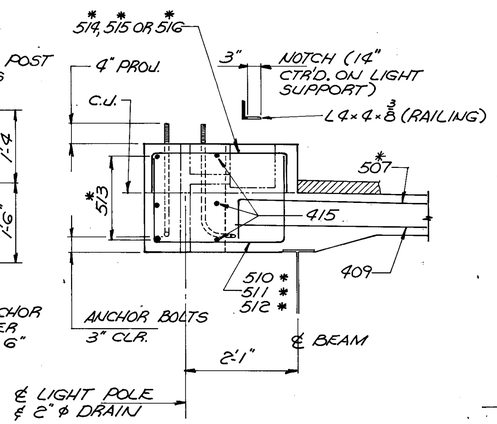
(2) FOR LOCATION OF LIGHT SUPPORTS SEE SHEETS 10/59 THRU 12/59.

(3) FOR ADDITIONAL NOTES SEE SLAB PLAN SHEET 40/59

PLAN - SIDEWALK REINFORCING



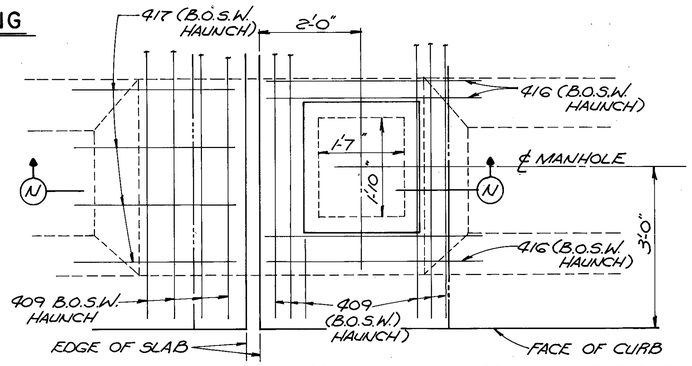
LIGHT SUPPORT



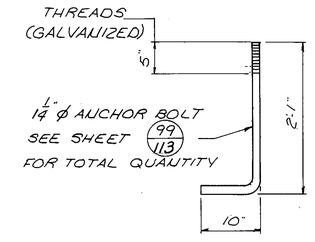
SECTION L-L

THE PREFIX ADDED TO ALL REINFORCING BAR MARKS SHALL BE THE SAME AS SHOWN ON THE SLAB PLAN, SEE NOTE (1) SHEET 40/59.

BOTTOM L 4x4x3/8 AS SHOWN ON RAILING DRAWINGS SHALL BE NOTCHED (3"x1 1/4") CENTERED ON LIGHT SUPPORT.

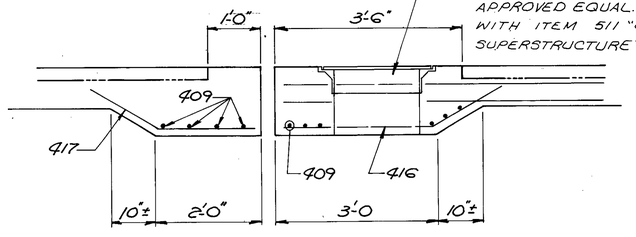


DETAIL M



LIGHT POLE ANCHOR BOLT

(4- REQUIRED PER POLE)



SECTION N-N

NEENAH TYPE R-6665-1EP RECTANGULAR SLAB TYPE MANHOLE W/GASKET-SEALED LIDS OR APPROVED EQUAL. (TO BE INCLUDED WITH ITEM 511 "CLASS 'S' CONCRETE, SUPERSTRUCTURE" FOR PAYMENT)

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SUPERSTRUCTURE DETAILS 42/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

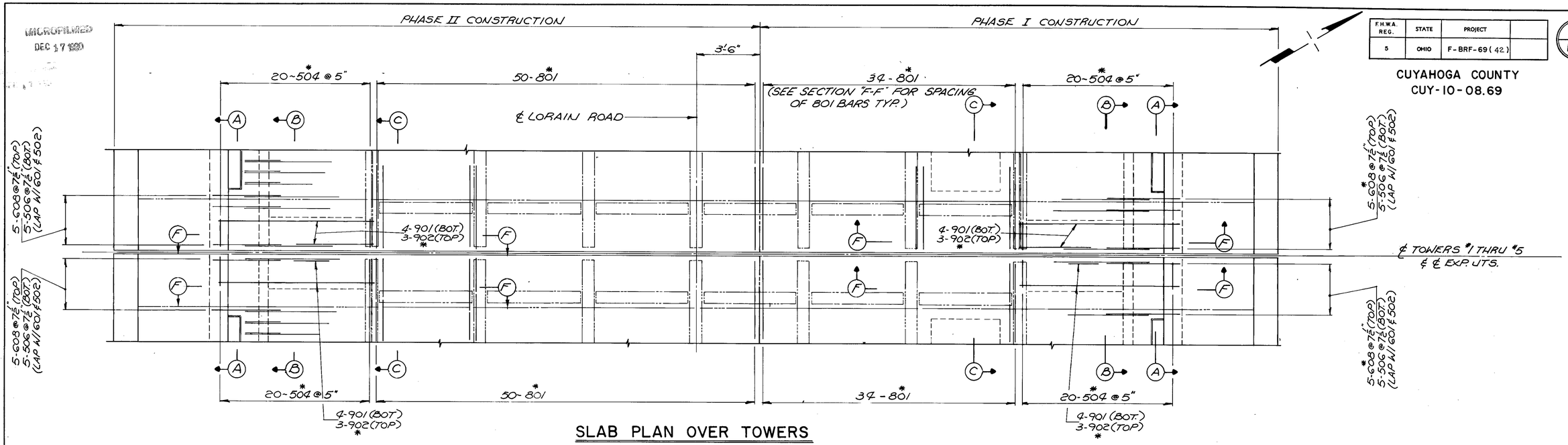
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

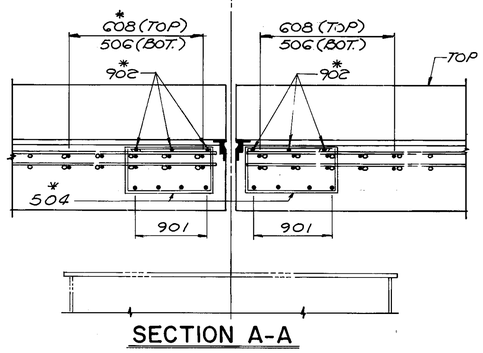
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

81
113

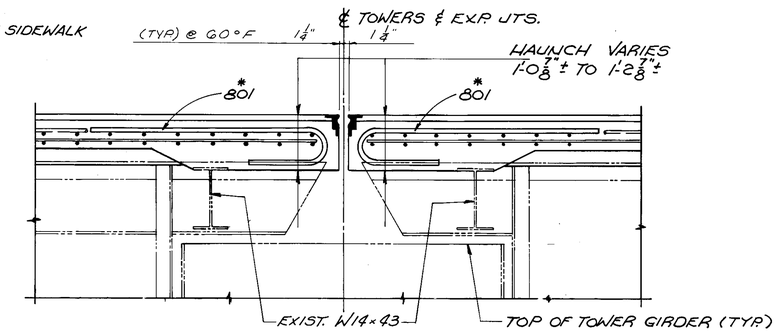
CUYAHOGA COUNTY
CUY-10-08.69



SLAB PLAN OVER TOWERS

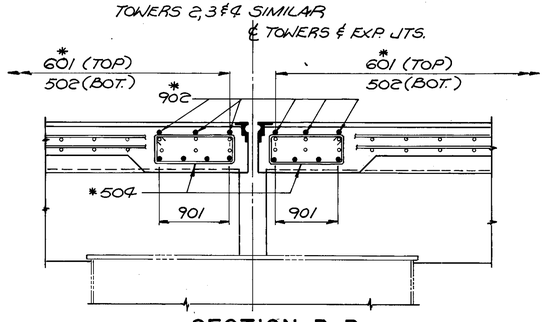


SECTION A-A

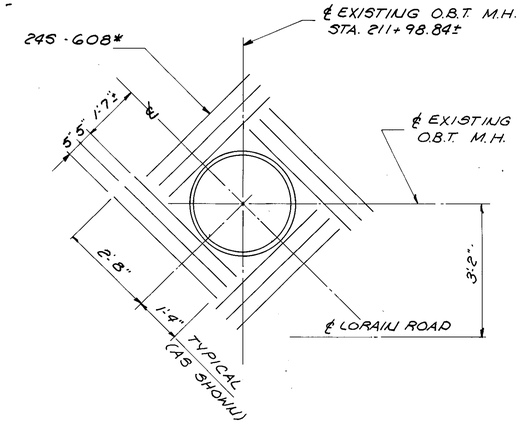


SECTION C-C

TOWERS 1 & 5 AS SHOWN
TOWERS 2, 3 & 4 SIMILAR



SECTION B-B



DETAIL O.B.T. MANHOLE

608* BARS SHALL BE PLACED, AS SHOWN, BETWEEN THE TOP & BOTTOM LAYERS OF SUPERSTRUCTURE REINFORCING. (SEE NOTE 3 SHEET 41/59.)

NOTES

1. FOR SECTION "F-F" SEE SHEET 44/59
2. FOR ADDITIONAL NOTES SEE SHEETS 40/59 & 42/59.

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SUPERSTRUCTURE DETAILS 43/59

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

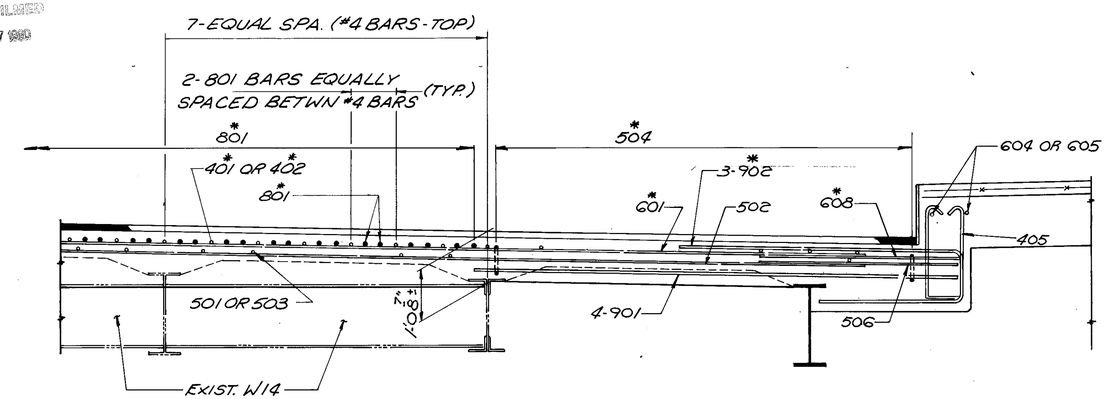
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

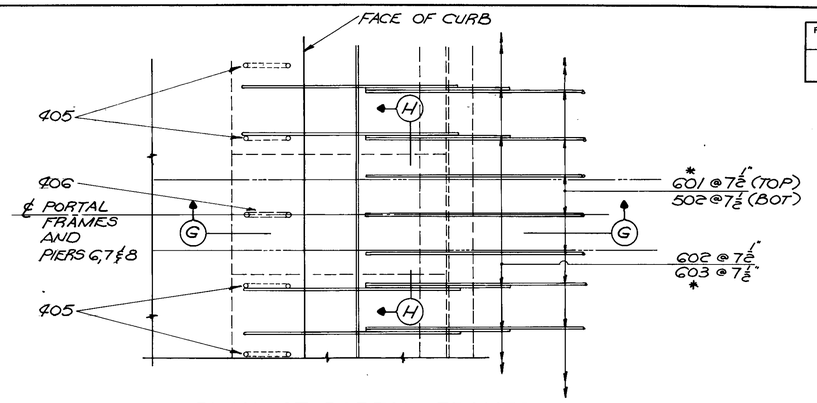
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

82/113

CUYAHOGA COUNTY
CUY-10-08.69

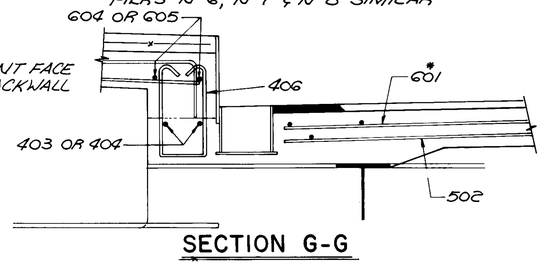


SECTION F-F

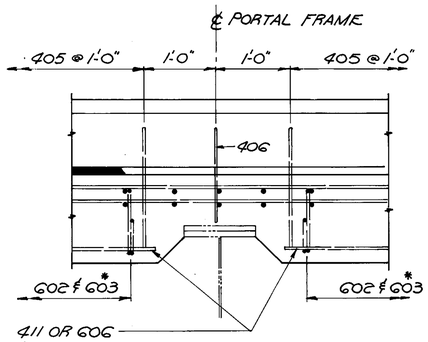


PLAN AT PORTAL FRAMES

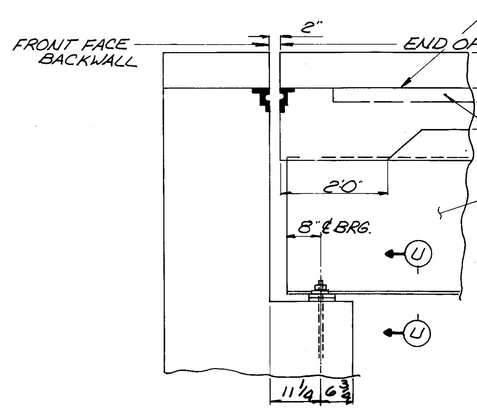
PIERS Nº6, Nº7 & Nº8 SIMILAR



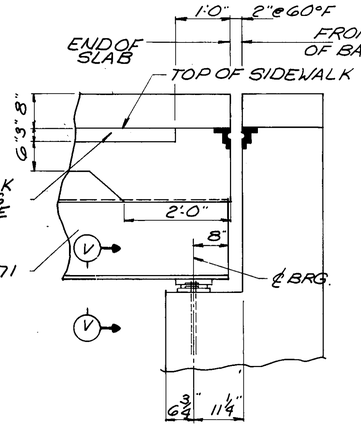
SECTION G-G



SECTION H-H



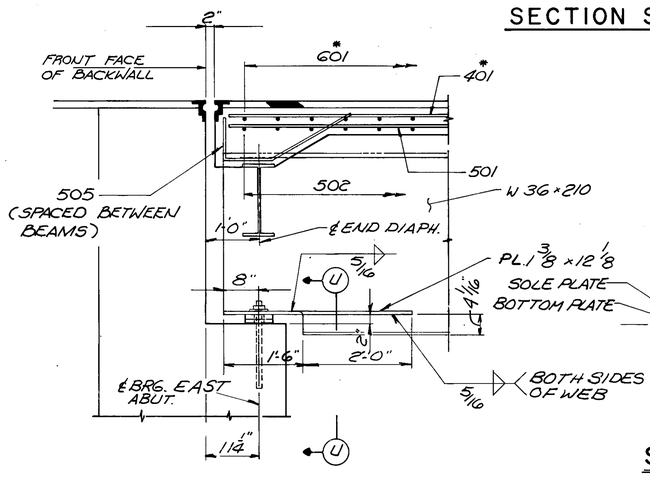
SECTION S1-S1



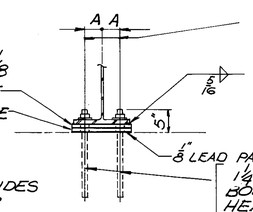
SECTION T1-T1

NOTES

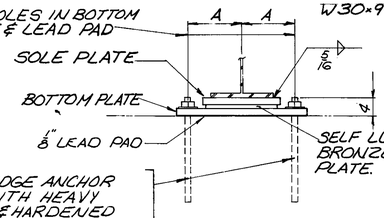
1. FOR LOCATION OF SECTION F-F, SEE SHEET 43/59.
2. FOR BEARING PLATE SIZES SEE BEARING TABLE SHEET 28/59.
3. FOR LOCATION OF SECTIONS S-S, S1-S1, T-T & T1-T1, SEE SHEET 23/59.
4. FOR REINFORCING IN SIDEWALK, SEE DETAIL "M" & SECTION N-N ON SHEET 42/59.



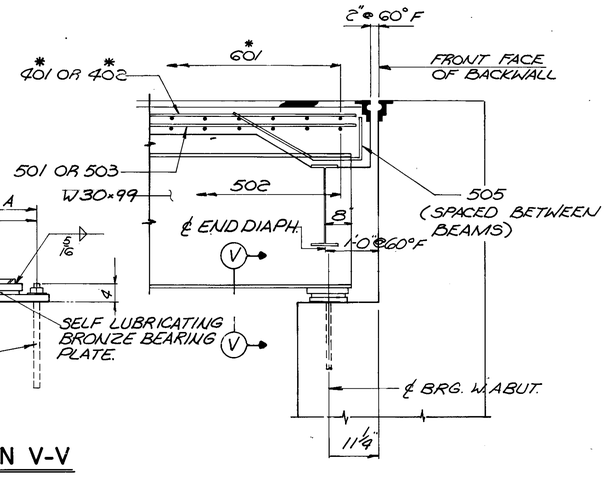
SECTION S-S



SECTION U-U



SECTION V-V



SECTION T-T

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SUPERSTRUCTURE DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

44/59

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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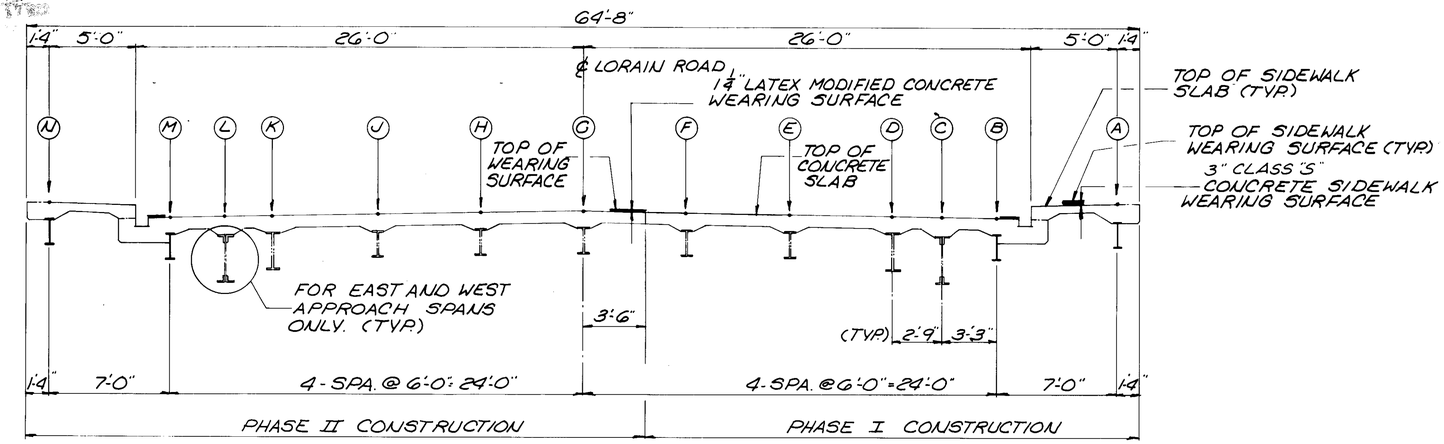
LORAIN ROAD BRIDGE Nº 42



KEY TRANSVERSE SECTION

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

83/113

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

1. THE FORMING ELEVATIONS SHOWN ARE TOP OF CONCRETE SLAB ELEVATIONS. PROPER ALLOWANCE HAS BEEN MADE FOR THE 1¼" LATEX MODIFIED CONCRETE WEARING SURFACE FOR THE ROADWAY PORTION AND 3" CONCRETE SIDEWALK WEARING SURFACE FOR THE SIDEWALK PORTION.

2. FOR SUPERSTRUCTURE CONCRETE SLAB AND SIDEWALK DETAILS, SEE SHEETS 40|59 THRU 44|59.

TABLE OF FORMING ELEVATIONS

SPAN Nº	CROSS SECTION LOCATION	ELEVATION LOCATION						
		A or N	B or M	C or L	D or K	E or J	F or H	G
1	℄ BRG. E. ABUTMENT	740.17	739.24	739.29	739.34	739.43	739.52	739.62
	¼ POINT	740.24	739.27	739.30	739.37	739.46	739.55	739.65
	½ POINT	740.27	739.29	739.31	739.38	739.47	739.57	739.66
	¾ POINT	740.24	739.27	739.30	739.37	739.46	739.55	739.65
	℄ BRG. TOWER Nº 1	740.17	739.24	739.29	739.34	739.43	739.52	739.62
2,3,4 & 5	℄ BRG. @ TOWERS Nº 1 THRU 5 (TYP.)	740.17	739.24	-	739.34	739.43	739.52	739.62
	MIDWAY BETWEEN PORTAL FRAMES (TYP.)	740.20	739.26	-	739.35	739.45	739.54	739.63
	AT PORTAL FRAMES (TYP.)	740.20	739.26	-	739.35	739.44	739.54	739.63
6	℄ BRG. TOWER Nº 5	740.17	739.24	739.29	739.34	739.43	739.52	739.62
	¼ POINT	740.20	739.25	739.30	739.35	739.44	739.54	739.63
	½ POINT	740.21	739.26	739.30	739.35	739.46	739.54	739.63
	¾ POINT	740.20	739.25	739.30	739.35	739.44	739.54	739.63
7	℄ PIER Nº 6	740.18	739.25	739.30	739.34	739.44	739.53	739.63
	¼ POINT	740.19	739.25	739.30	739.34	739.44	739.53	739.62
	½ POINT	740.19	739.25	739.30	739.35	739.44	739.53	739.63
	¾ POINT	740.19	739.25	739.30	739.34	739.44	739.53	739.63
8	℄ PIER Nº 7	740.18	739.25	739.30	739.34	739.44	739.53	739.63
	¼ POINT	740.19	739.25	739.30	739.34	739.44	739.53	739.63
	½ POINT	740.19	739.25	739.30	739.35	739.44	739.53	739.63
	¾ POINT	740.19	739.25	739.30	739.34	739.44	739.53	739.62
9	℄ PIER Nº 8	740.18	739.25	739.30	739.34	739.44	739.53	739.63
	¼ POINT	740.20	739.25	739.30	739.35	739.44	739.54	739.63
	½ POINT	740.21	739.26	739.30	739.35	739.46	739.54	739.63
	¾ POINT	740.20	739.25	739.30	739.35	739.44	739.54	739.63
	℄ BRG. W. ABUTMENT	740.17	739.24	739.29	739.34	739.43	739.52	739.62

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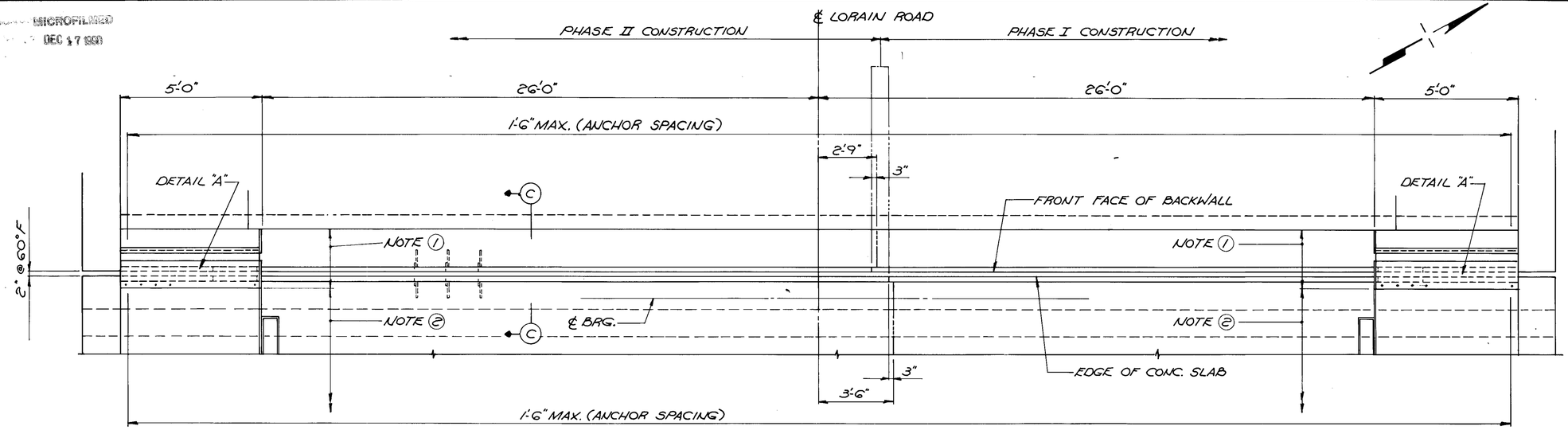
45|59

FORMING ELEVATIONS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

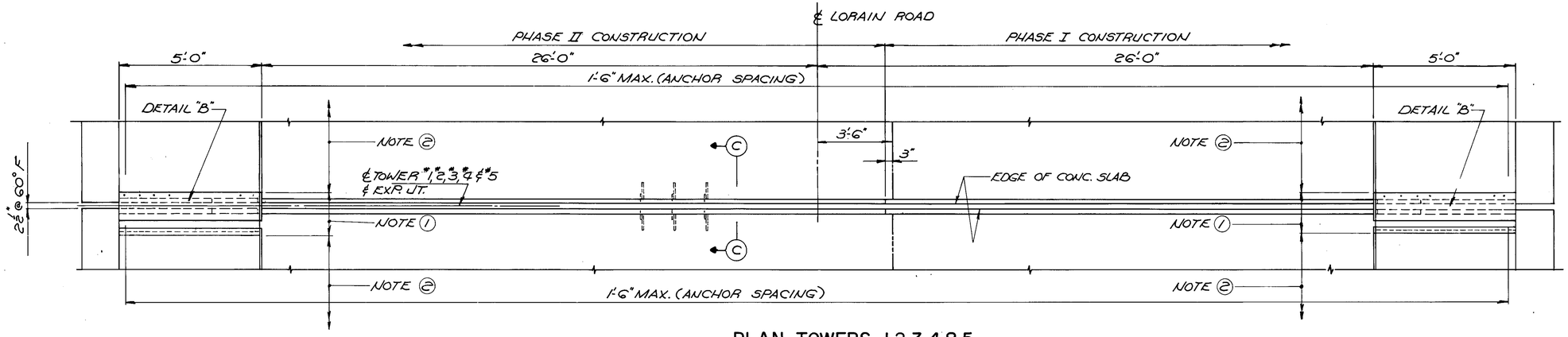
REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	CDG		RER	JAP	7-30-82	

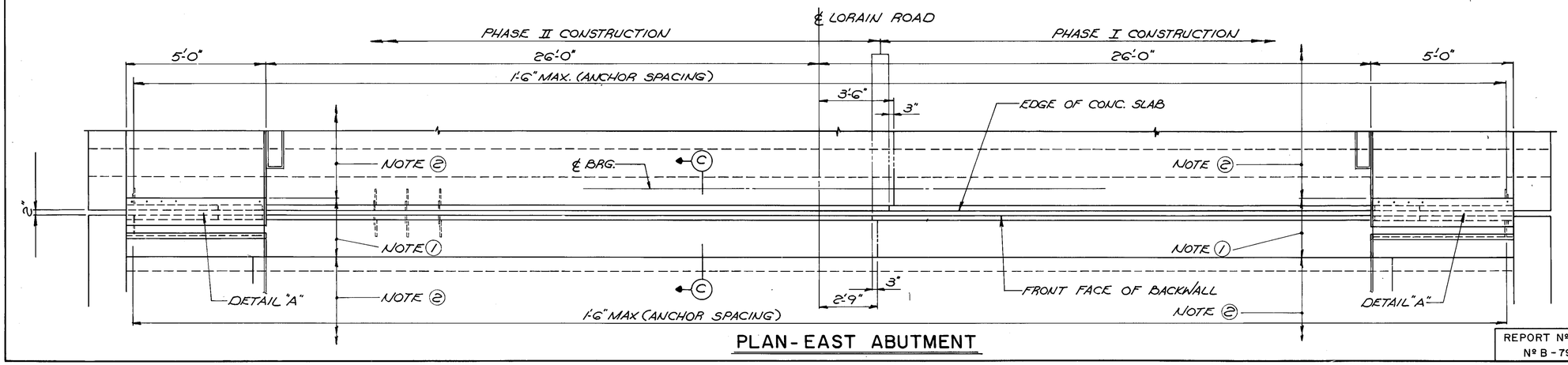
LORAIN ROAD BRIDGE Nº 42



PLAN - WEST ABUTMENT



PLAN-TOWERS 1,2,3,4 & 5



PLAN - EAST ABUTMENT

NOTES:

(1) DENOTES LIMITS OF CURB PLATES TO BE INCLUDED WITH ITEM 516, 'ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)' FOR PAYMENT.

(2) DENOTES LIMITS OF CURB PLATES TO BE INCLUDED WITH ITEM 513, 'STRUCTURAL STEEL (A-36) *' FOR PAYMENT.

(3) FOR MATERIAL SPECIFICATIONS AND OTHER INCIDENTALS OF ITEM 516, 'ELASTOMERIC EXPANSION JOINT DEVICE (AS PER PLAN)' SEE STRUCTURAL GENERAL NOTES.

(4) FOR DETAIL "A", DETAIL "B" AND ADDITIONAL SECTIONS AND DETAILS SEE SHEET 47/59

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

84/113

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46/59

EXPANSION JOINT DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	UWW		ALH	JFP	7-30-92	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

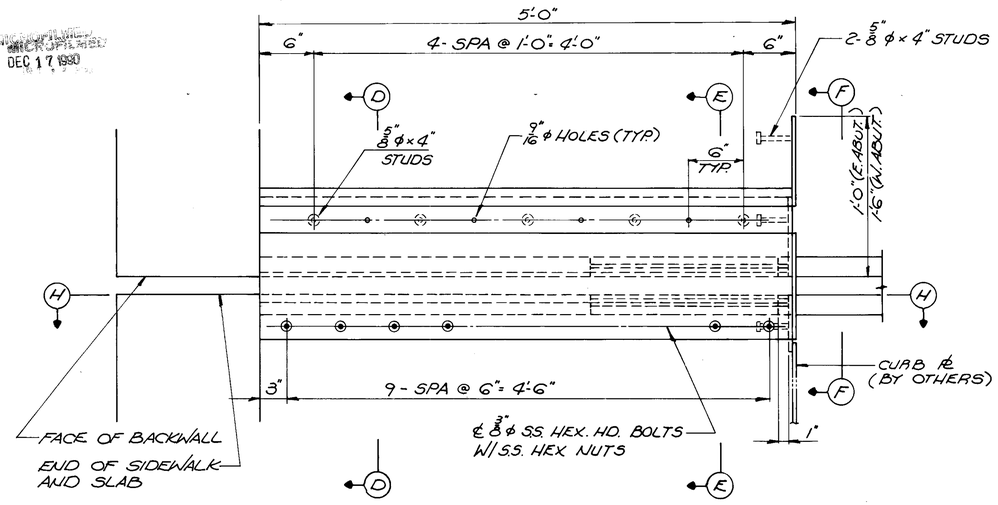
85
113

CUYAHOGA COUNTY
CUY-10-08.69

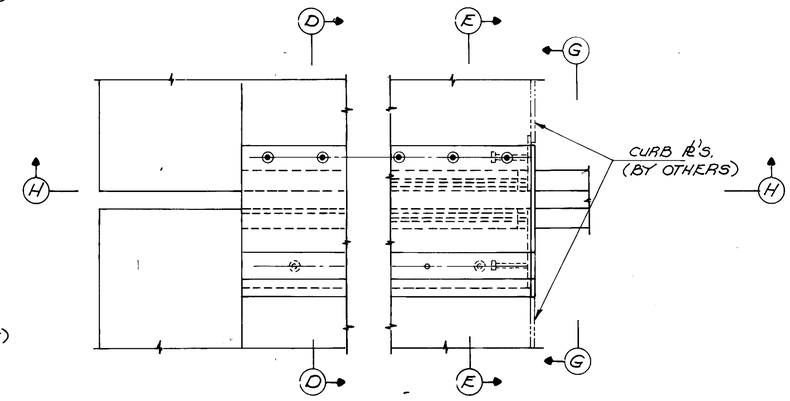
NOTES

1. FOR LOCATION OF DETAILS "A" & "B", SECTION "C-C" AND ADDITIONAL NOTES SEE SHEET 46/59.

△ PHASE I Expansion Joint steel is in place. Elastomeric Seals are not in place.

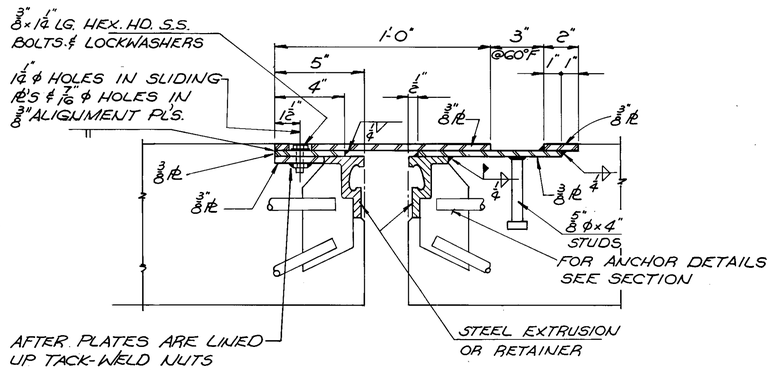


DETAIL A

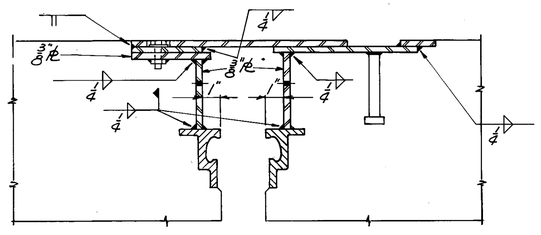


DETAIL B

FOR DETAILS NOT SHOWN SEE DETAIL "A"

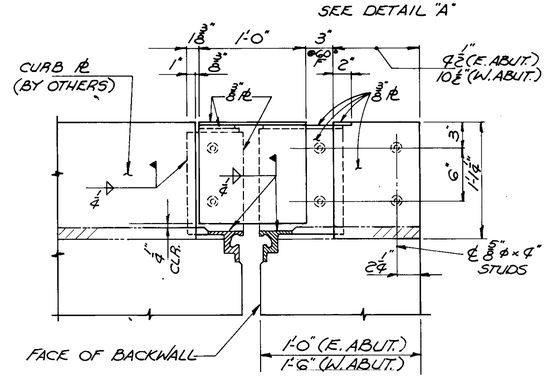


SECTION D-D

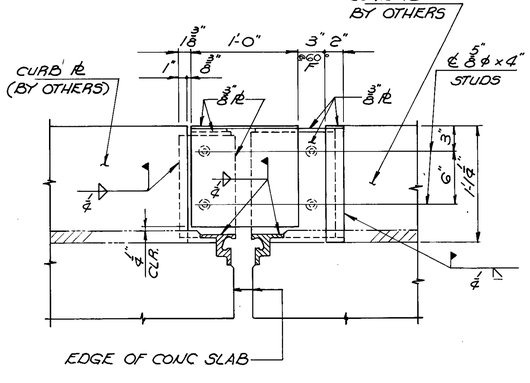


SECTION E-E

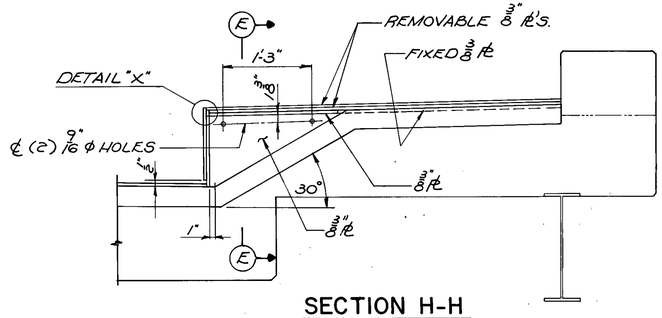
FOR DETAILS NOT SHOWN SEE SECTION D-D.



SECTION F-F

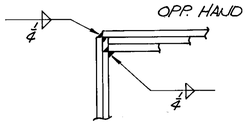


SECTION G-G

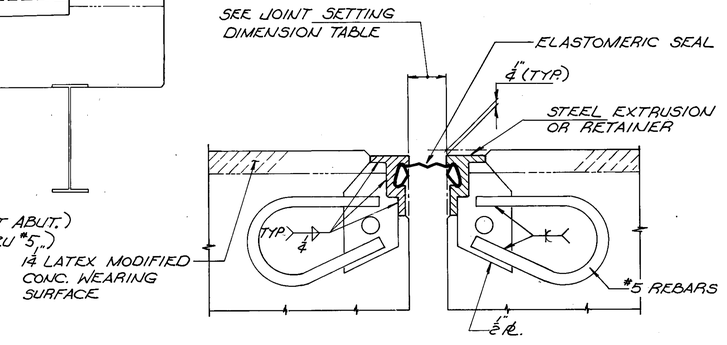


SECTION H-H

AS SHOWN (EAST & WEST ABUT.)
OPP. HAND (TOWERS #1 THRU #5)



DETAIL X



SECTION C-C

JOINT SETTING DIMENSION TABLE							
LOCATION	30°	40°	50°	60°	70°	80°	90°
EAST ABUTMENT	2"	2"	2"	2"	2"	2"	2"
TOWER #1	2 15/16"	2 3/4"	2 5/8"	2 1/2"	2 3/8"	2 1/4"	2 1/16"
TOWER #2	3 1/16"	2 7/8"	2 11/16"	2 1/2"	2 5/16"	2 1/8"	1 15/16"
TOWER #3	3 1/8"	2 7/8"	2 11/16"	2 1/2"	2 5/16"	2 1/8"	1 7/8"
TOWER #4	3 1/16"	2 7/8"	2 11/16"	2 1/2"	2 5/16"	2 1/8"	1 15/16"
TOWER #5	2 15/16"	2 13/16"	2 11/16"	2 1/2"	2 3/8"	2 3/16"	2 1/16"
WEST ABUTMENT	2 3/16"	2 1/8"	2 1/16"	2"	1 15/16"	1 7/8"	1 13/16"

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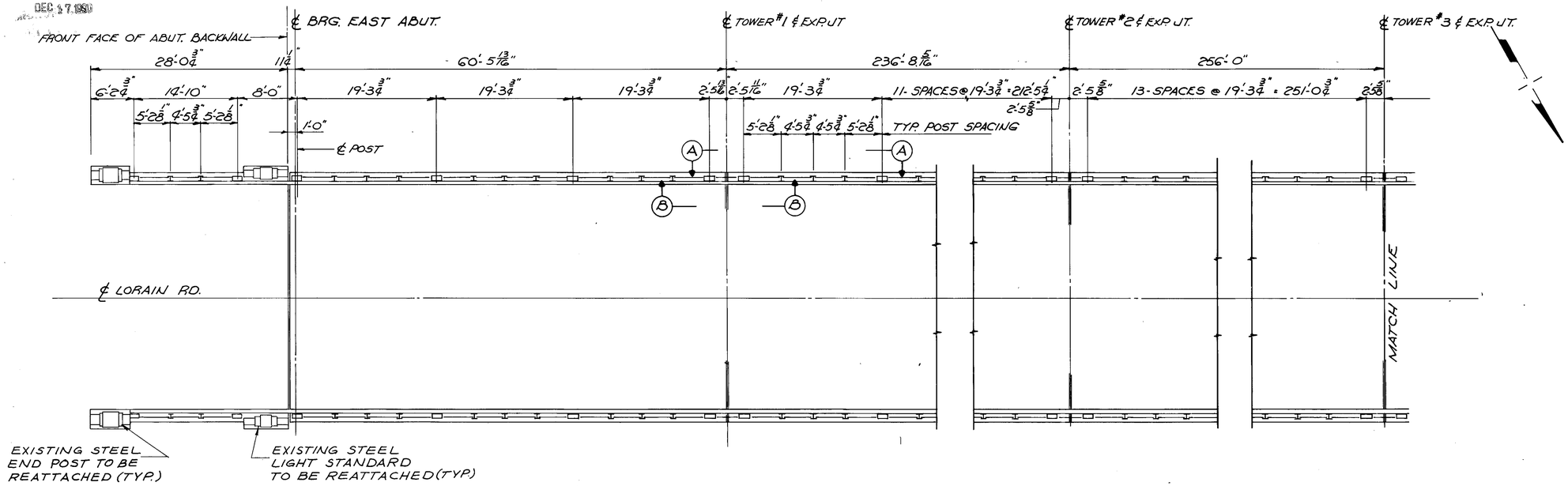
47/59

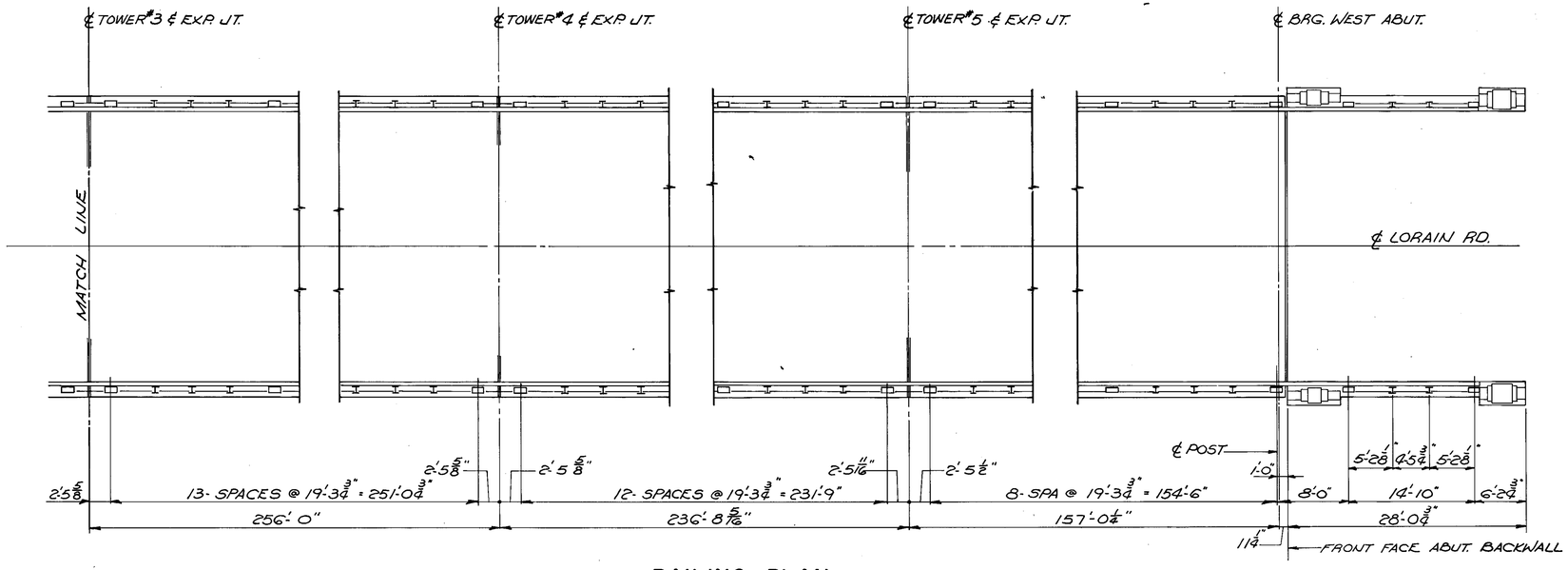
EXPANSION JOINT DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	UWW		ALH	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42





RAILING PLAN

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

86/113

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

1. RAILING POST SPACING SHOWN IS TYPICAL FOR NORTH AND SOUTH PARAPETS.
2. FOR VIEWS A-A AND B-B AND FURTHER RAILING DETAILS SEE SHEET 49/59 & 50/59
3. FOR RAILING SPECIFICATIONS, SEE STRUCTURAL GENERAL NOTES, SHEETS 5/59 & 6/59

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48/59

RAILING PLAN

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

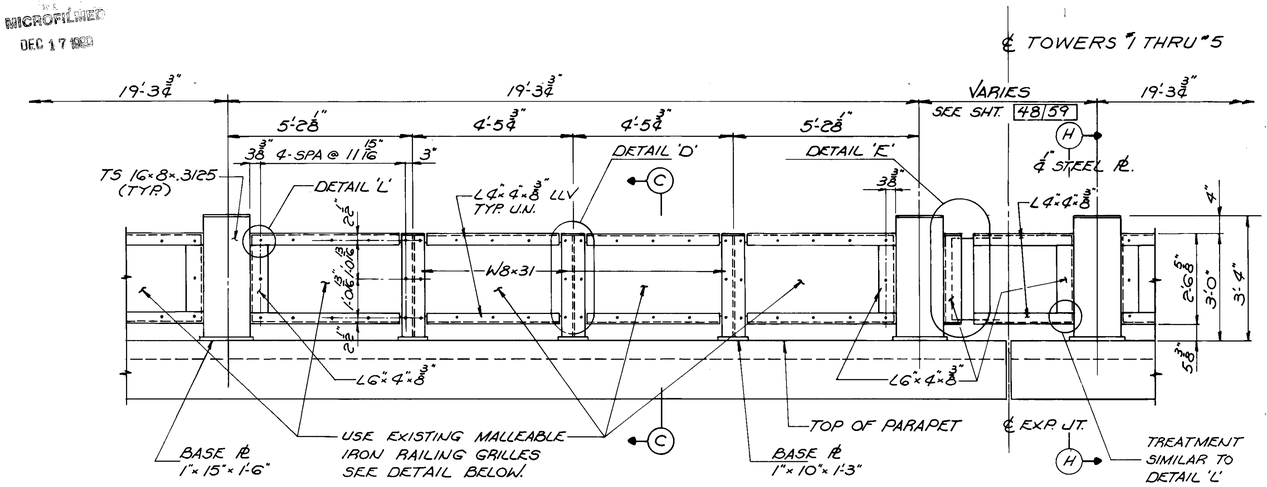
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

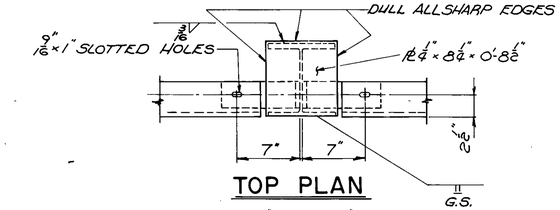
87
113

CUYAHOGA COUNTY
CUY-10-08.69

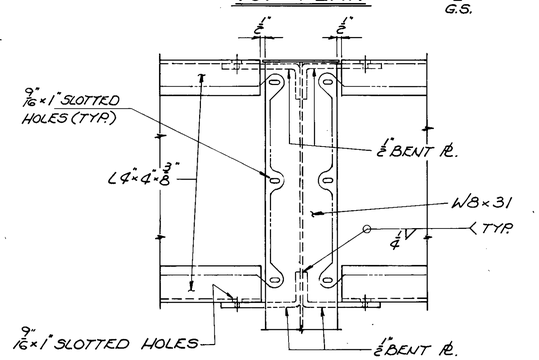
NOTES

1. SEE SHEET 48|59 FOR LOCATION OF VIEWS "A-A" & "B-B".
2. SEE SHEET 50|59 FOR SECTIONS "F-F", "G-G" & "H-H" AND DETAILS "P", "K" & "L".

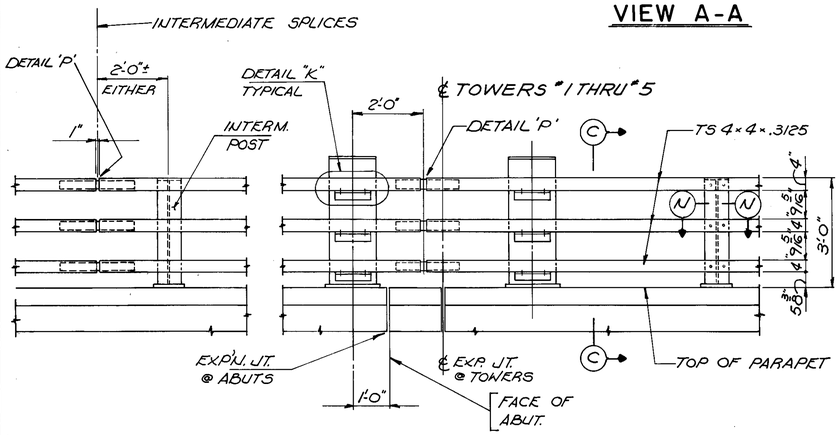




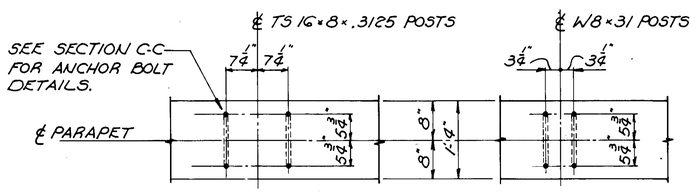
TOP PLAN



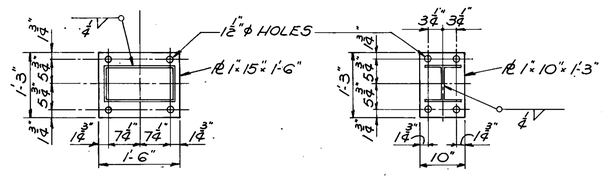
VIEW A-A



VIEW B-B

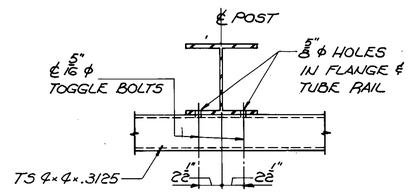


ANCHOR BOLT LOCATION PLAN



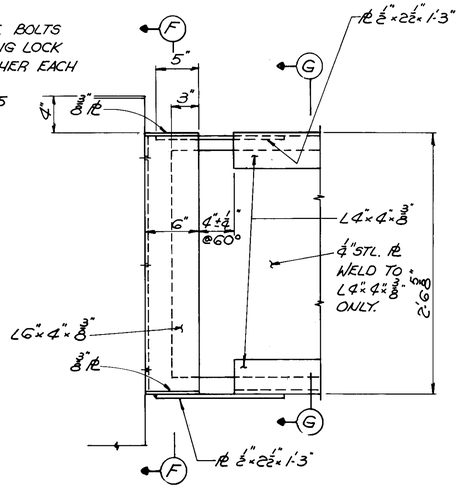
BASE PLATE DETAILS

SECTION C-C

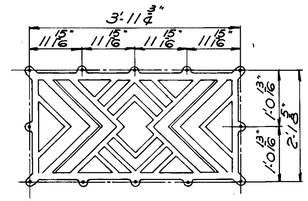


SECTION N-N

DETAIL D



DETAIL E



EXISTING MALLEABLE IRON RAILING GRILLES

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49|59

RAILING DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

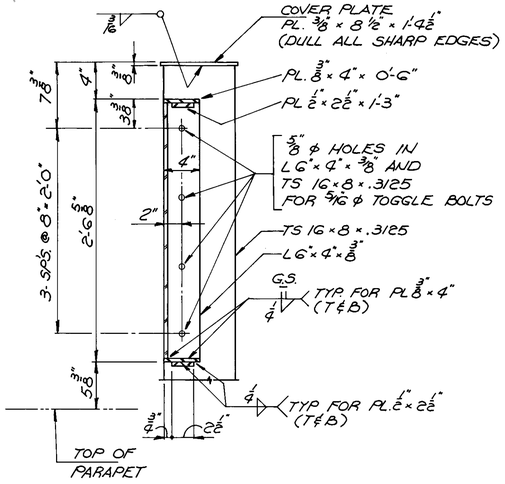
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		AL H.	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42.

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

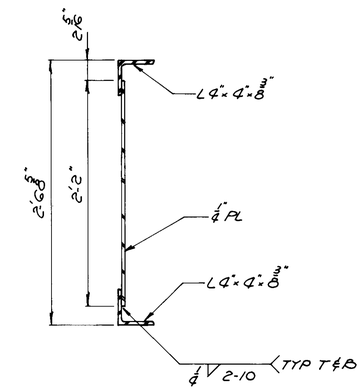
88
113

CUYAHOGA COUNTY
CUY-10-08.69

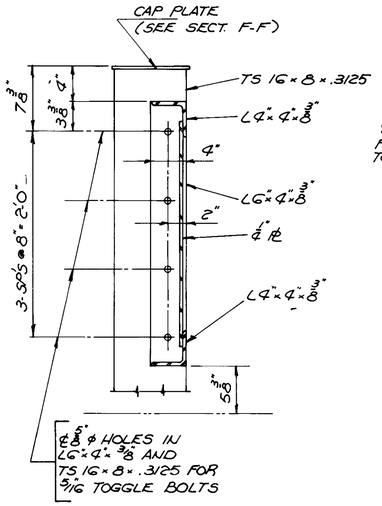


SECTION F-F

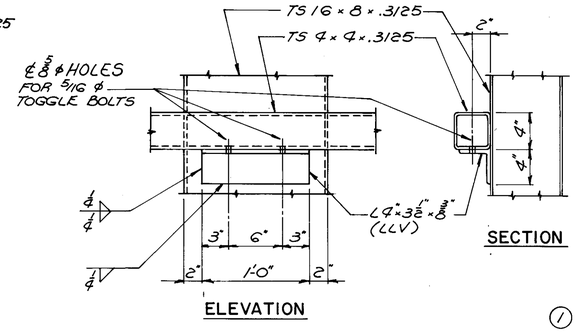
G.S. DENOTES GRIND SMOOTH



SECTION G-G



SECTION H-H



ELEVATION

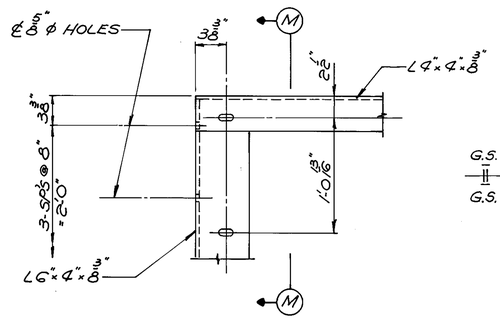
SECTION

DETAIL K

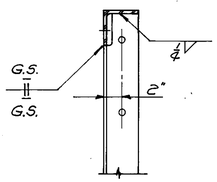
HANDRAIL TO TS
POST CONNECTION

NOTES

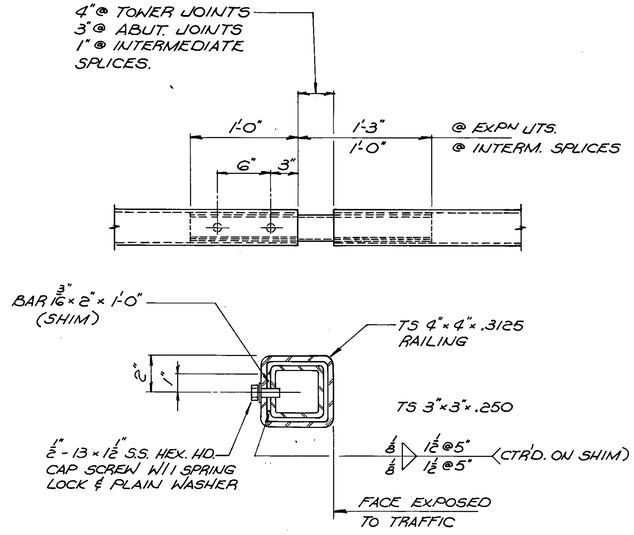
1. SEE SHEET 49/59 FOR LOCATIONS OF SECTIONS "F-F", "G-G" & "H-H" AND DETAILS "P", "K" & "L".



DETAIL L



SECTION M-M



DETAIL P

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50/59

RAILING DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
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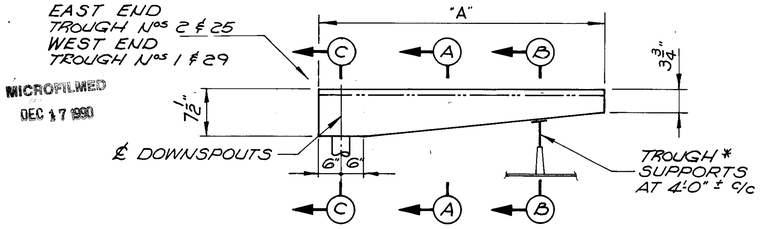
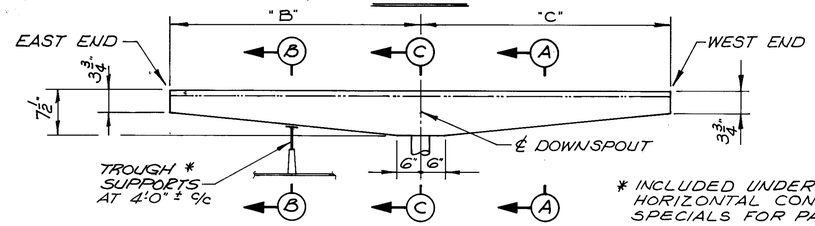
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JPP	7-30-82	

LORAIN ROAD BRIDGE Nº 42



TYPE A



TYPE B

* INCLUDED UNDER ITEM 518 TROUGH HORIZONTAL CONDUCTOR INCLUDING SPECIALS FOR PAYMENT.

TROUGH NUMBER	TYPE	DOWNSPOUT STATION ▲	DIM. "A"	DIM. "B"	DIM "C"
1	A	205 + 45.50	27'-0"	~	~
2	A	205 +48.50	27'-0"	~	~
3	B	205 + 98.77	~	17'-0"	29'-0"
4	↓	206 + 56.66	~	26'-6"	29'-0"
5		207 + 17.21	~	29'-6"	17'-0"
6		207 + 55.80	~	19'-6	17'-0"
7		207 + 94.39	~	19'-6"	17'-0"
8		208 + 35.32	~	17'-0"	19'-6"
9		208 + 73.96	~	17'-0"	19'-6"
10		209 + 12.59	~	17'-0"	29'-6"
11		209 + 73.30	~	29'-6"	17'-0"
12		210 + 11.84	~	19'-6"	17'-0"
13		210 + 50.47	~	19'-6"	17'-0"
14		210 + 91.45	~	17'-0"	19'-6"
15		211 + 30.08	~	17'-0"	19'-6"
16		211 + 68.70	~	17'-0"	29'-6"
17		212 + 29.29	~	29'-6"	17'-0"
18		212 + 67.92	~	19'-6"	17'-0"
19		213 + 06.55	~	19'-6"	17'-0"
20		213 + 47.49	~	17'-0"	19'-6"
21		213 + 86.09	~	17'-0"	19'-6"
22		214 + 24.70	~	17'-0"	29'-6"
23	↓	214 + 85.27	~	29'-0"	26'-6"
24	B	215 + 43.17	~	29'-0"	17'-0"
25	A	215 + 67.74	17'-0"	~	~
26	B	216 + 02.61	~	16'-6"	18'-6"
27	B	216 + 41.21	~	18'-6"	18'-6"
28	B	216 + 79.81	~	18'-6"	18'-6"
29	A	217 + 19.25	19'-6"	~	~

TROUGHS 1-29 (2 REQUIRED EACH NUMBER)

▲ DENOTES : SEE NOTE (1) THIS SHEET.

DRAINAGE GENERAL NOTES

DESCRIPTION

THE DRAINAGE SYSTEM FOR THIS STRUCTURE SHALL BE ACCORDING TO ITEM 518 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS:

MATERIALS

STEEL PIPE SHALL MEET THE REQUIREMENTS OF 707.08 AND SHALL BE GALVANIZED. PLASTIC PIPE (711.29) AS LISTED IN 518.02 WILL NOT BE ALLOWED ON THIS PROJECT.

PIPE SPECIALS SHALL BE ASTM A234 AND SHALL BE GALVANIZED.

THE STRUCTURAL STEEL USED TO FABRICATE DRAINAGE TROUGHS AND DRAINAGE SYSTEM SUPPORTS SHALL CONFORM TO ASTM A36 AND SHALL BE GALVANIZED. REFER TO 711.02 FOR TREATMENT OF GALVANIZED STEEL TO BE PLACED IN CONCRETE.

CORRUGATED FLEXIBLE METAL HOSE SHALL MEET THE REQUIREMENTS OF ASTM, A312, TYPE 316 L.

STAINLESS STEEL BRAID SHALL BE TYPE 321 STAINLESS STEEL.

THE STRIP WOUND LINER SHALL BE TYPE 302 STAINLESS STEEL.

FITTINGS USED FOR THE PIPE EXPANSION ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASTM A105. THE COVER FOR THE CLEANOUT OPENINGS, SHALL BE A PIPE REPAIR CLAMP AS MANUFACTURED BY THE FOLLOWING: CLOW CORPORATION (F-1203), JCM INDUSTRIES, INC. (101); DRESSER INDUSTRIES, INC. (360) OR AN APPROVED EQUAL.

THE CLAMP SHALL BE A MINIMUM OF 18 INCHES LONG AS INDICATED IN THE CONTRACT DRAWINGS.

CONSTRUCTION

THE CONTRACTOR SHALL REMOVE THE EXISTING DRAINAGE SYSTEM FROM THE STRUCTURE IN ACCORDANCE WITH ITEM 202 OF THE SPECIFICATIONS.

WHERE MECHANICAL COUPLINGS ARE USED, THEY SHALL BE SET SUCH THAT THE END SEPARATION OF THE PIPE ENDS SHALL ALLOW EQUAL AMOUNTS OF EXPANSION AND CONTRACTION OF THE PIPE. WHERE MECHANICAL COUPLINGS ARE USED TO PRODUCE A CURVE IN THE PIPE, THE DEFLECTION SHALL BE TAKEN EQUALLY BY ALL COUPLINGS WITHIN THE CURVED SECTION.

THE MAXIMUM PIPE LENGTH WITHIN THE LIMITS FOR USE OF MECHANICAL COUPLINGS SHALL BE 20'. THE MAXIMUM SPACING OF PIPE SUPPORTS SHALL BE 10' EXCEPT THAT EACH INDIVIDUAL PIPE SHALL HAVE AT LEAST ONE PIPE SUPPORT.

THE DRAINAGE TROUGHS SHALL BE MANUFACTURED IN ACCORDANCE WITH ITEM 513 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND SET IN THE DECK SLAB AS SHOWN ON THE CONTRACT DRAWINGS. THE DRAINAGE TROUGHS MAY BE MANUFACTURED IN SECTIONS OF APPROXIMATELY 20 FT. IN LENGTH AND WELDED TO PROPER LENGTHS IN FIELD BEFORE SETTING THEM IN CONCRETE.

THE BOLT SIDE OF THE REPAIR CLAMP FOR THE CLEANOUT COVER SHALL BE PLACED TOWARD THE INSIDE OF THE BRIDGE FOR PURPOSES OF AESTHETICS.

MEASUREMENT AND PAYMENT

MEASUREMENT FOR WORK DESCRIBED HEREIN AND ON THE CONTRACT DRAWINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEM TO WHICH IT IS APPLICABLE.

ITEM 518 - TROUGH HORIZONTAL CONDUCTORS, INCLUDING SPECIALS.

ITEM 518 - 6" PIPE DOWNSPOUTS, INCLUDING SPECIALS.

ITEM 518 - 8" PIPE DOWNSPOUTS, INCLUDING SPECIALS.

NO EXTRA PAYMENT WILL BE MADE FOR REMOVAL OF THE EXISTING DRAINAGE SYSTEM FROM THE STRUCTURE BUT COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 202, 'PORTIONS OF STRUCTURES REMOVED'.

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

89
113

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

(1) ℄ DOWNSPOUT STATIONS SHOWN ARE BASED ON ORIGINAL PLAN DIMENSIONS. SLIGHT DEVIATION FROM THESE STATIONS MAY BE REQUIRED TO ASSURE CORRECT ALIGNMENT OF DOWNSPOUTS WITH THE COLLECTOR PIPES DUE TO THE AS BUILT LOCATIONS OF THE COLUMNS, PIERS, AND THE ABUTMENT FACES. THE CONTRACTOR SHALL ADJUST THESE LOCATIONS IN FIELD BEFORE PLACING THE SUPERSTRUCTURE CONCRETE.

(2) FOR SECTION A-A, B-B AND C-C SEE SHEET 58 / 59 .

(3) FOR ADDITIONAL NOTES AND DETAILS SEE SHEETS 10 / 59 THRU 12 / 59 .

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51/59

DRAINAGE DETAILS
LORAIN ROAD VIADUCT
OVER ~~ROCKY~~ RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

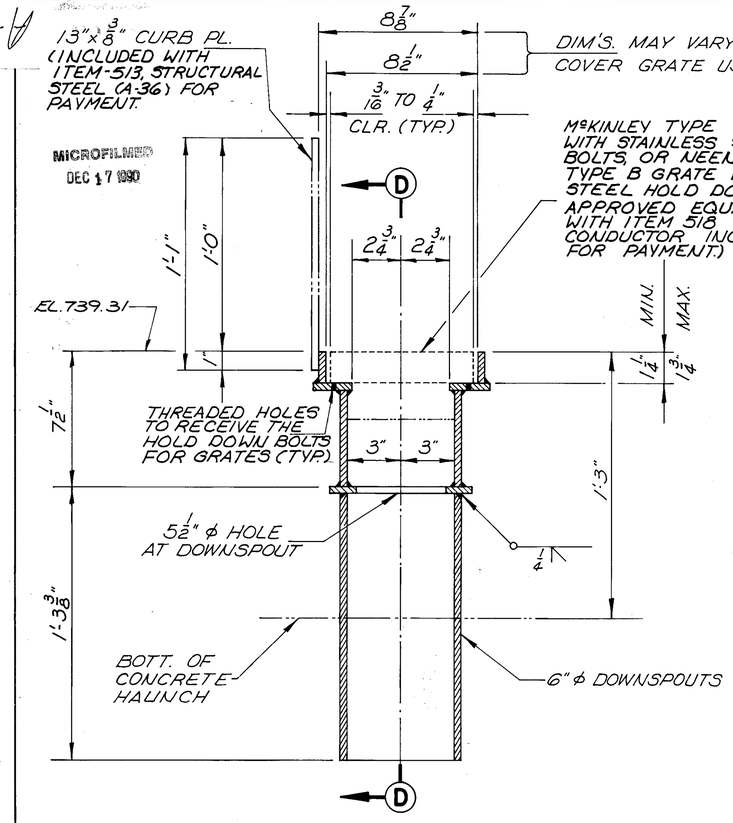
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	B.K.L	F.F.		A.L.H.	J.F.P	7-30-82	

LORAIN ROAD BRIDGE Nº 42

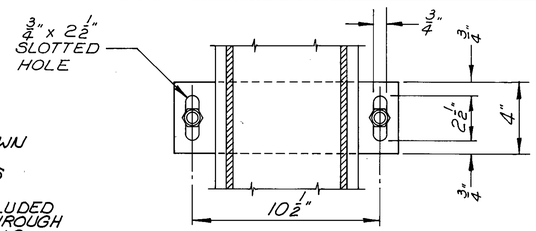
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

90
113

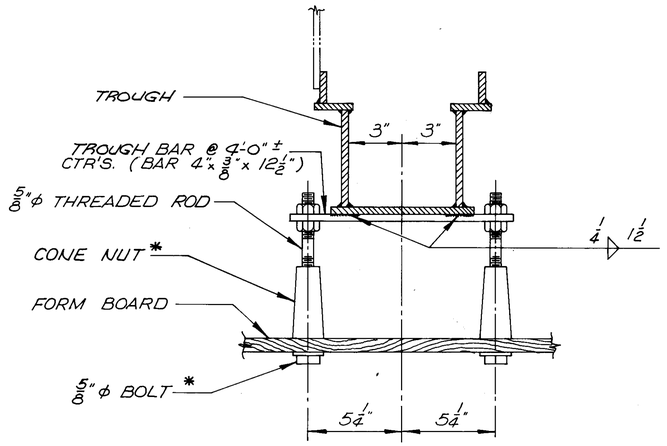
CUYAHOGA COUNTY
CUY-10-08.69



SECTION C-C

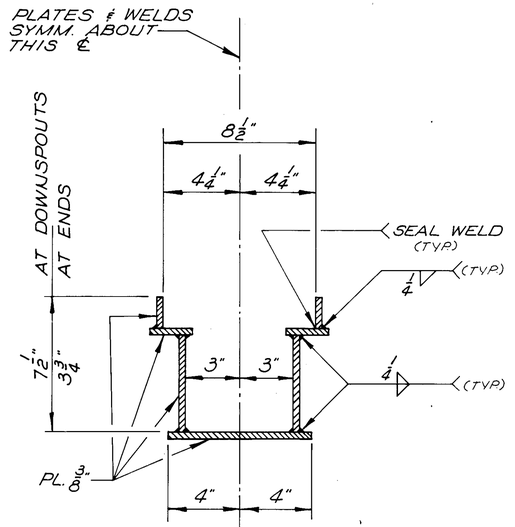


PARTIAL PLAN - SECT. B-B

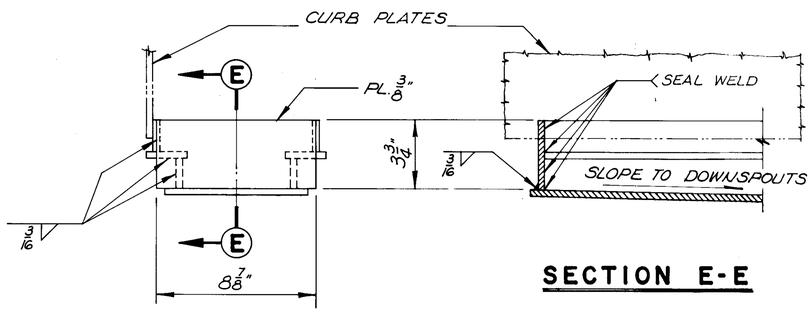


SECTION B-B

* DENOTES TO BE REMOVED WITH FORM BOARDS.

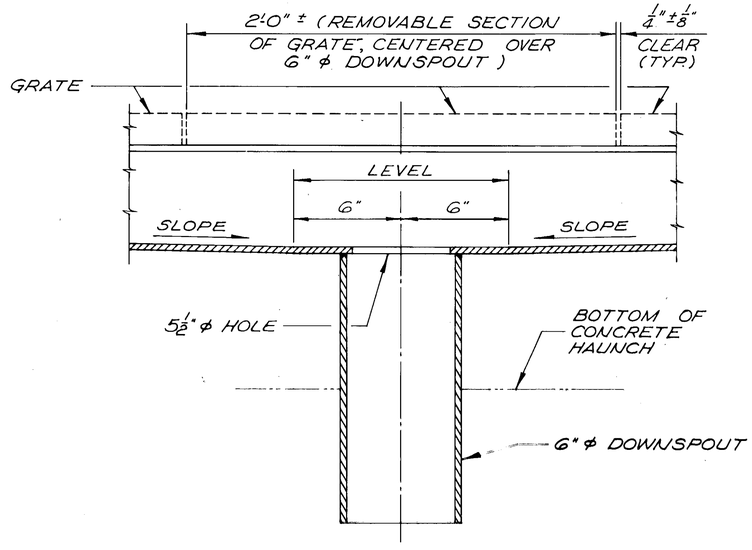


SECTION A-A



SECTION E-E

END PLATE DETAIL



SECTION D-D

NOTES

FOR LOCATION OF SECTIONS A-A, B-B & C-C, SEE SHEET 51/59.

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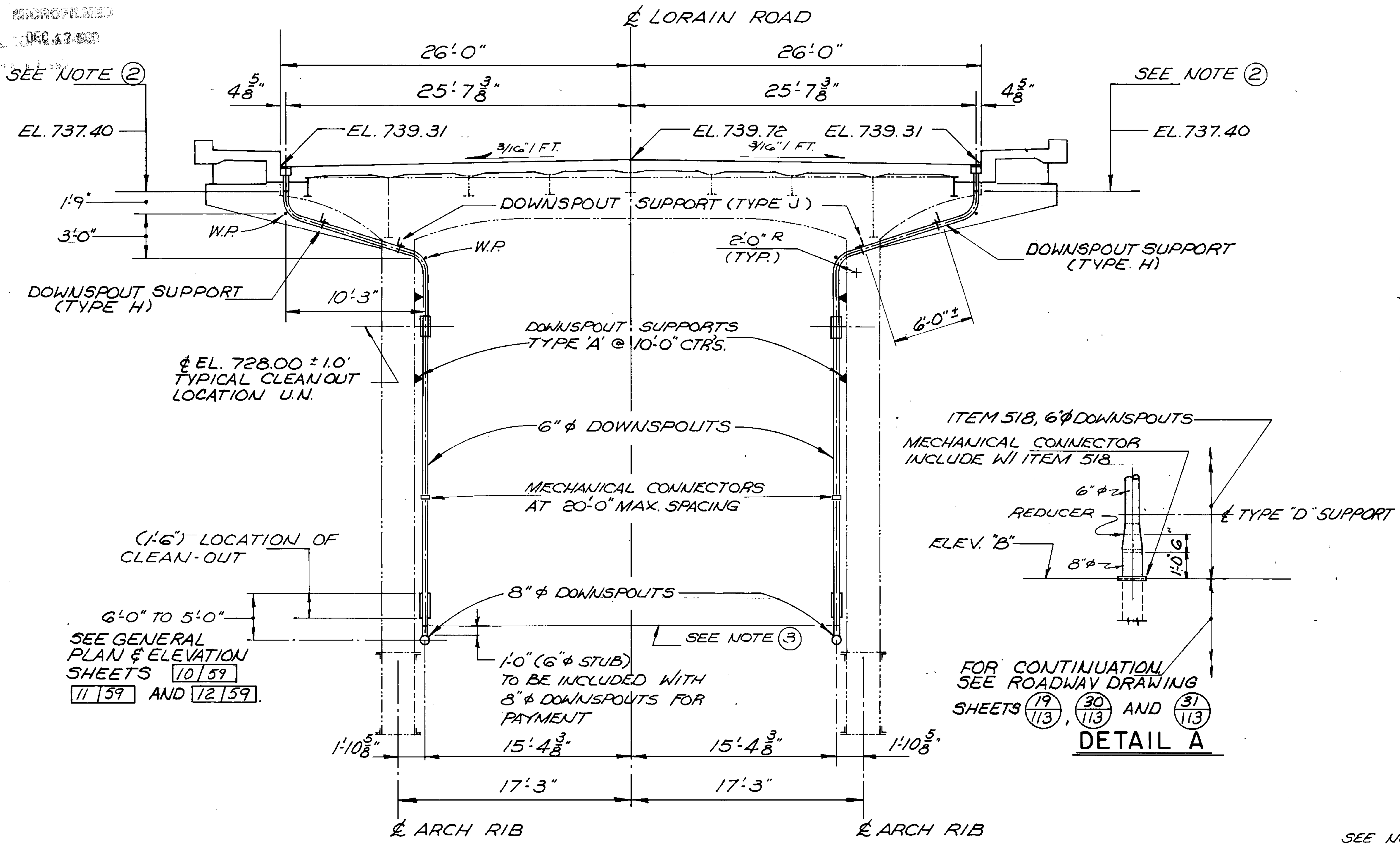
CLEVELAND, OHIO — AKRON, OHIO
52/59

DRAINAGE DETAILS
LORAIN ROAD · VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

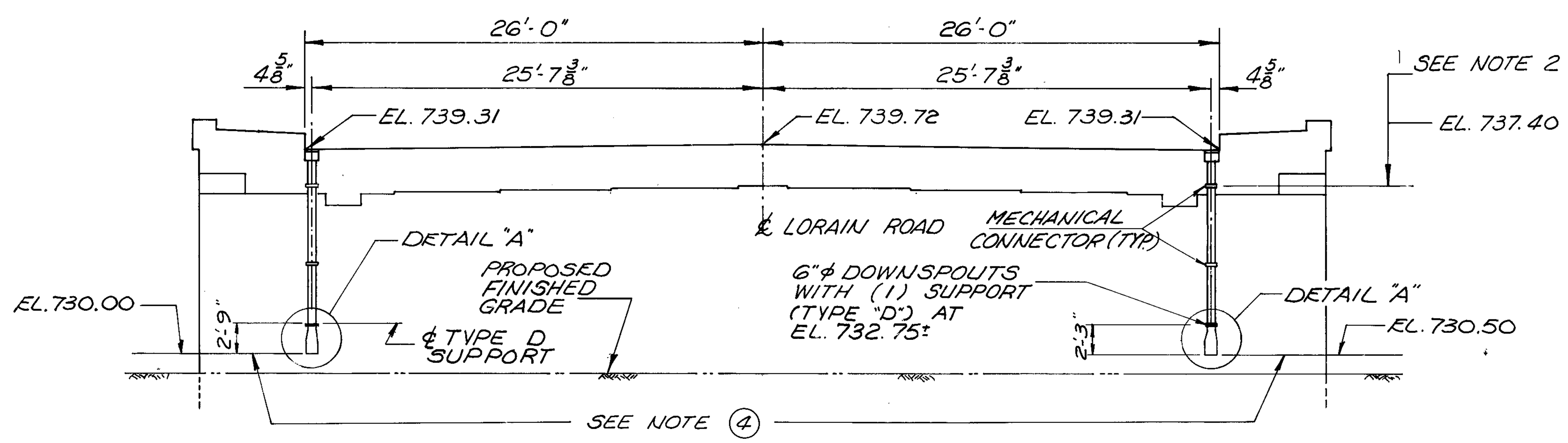
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	F.F.		A.L.H.	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

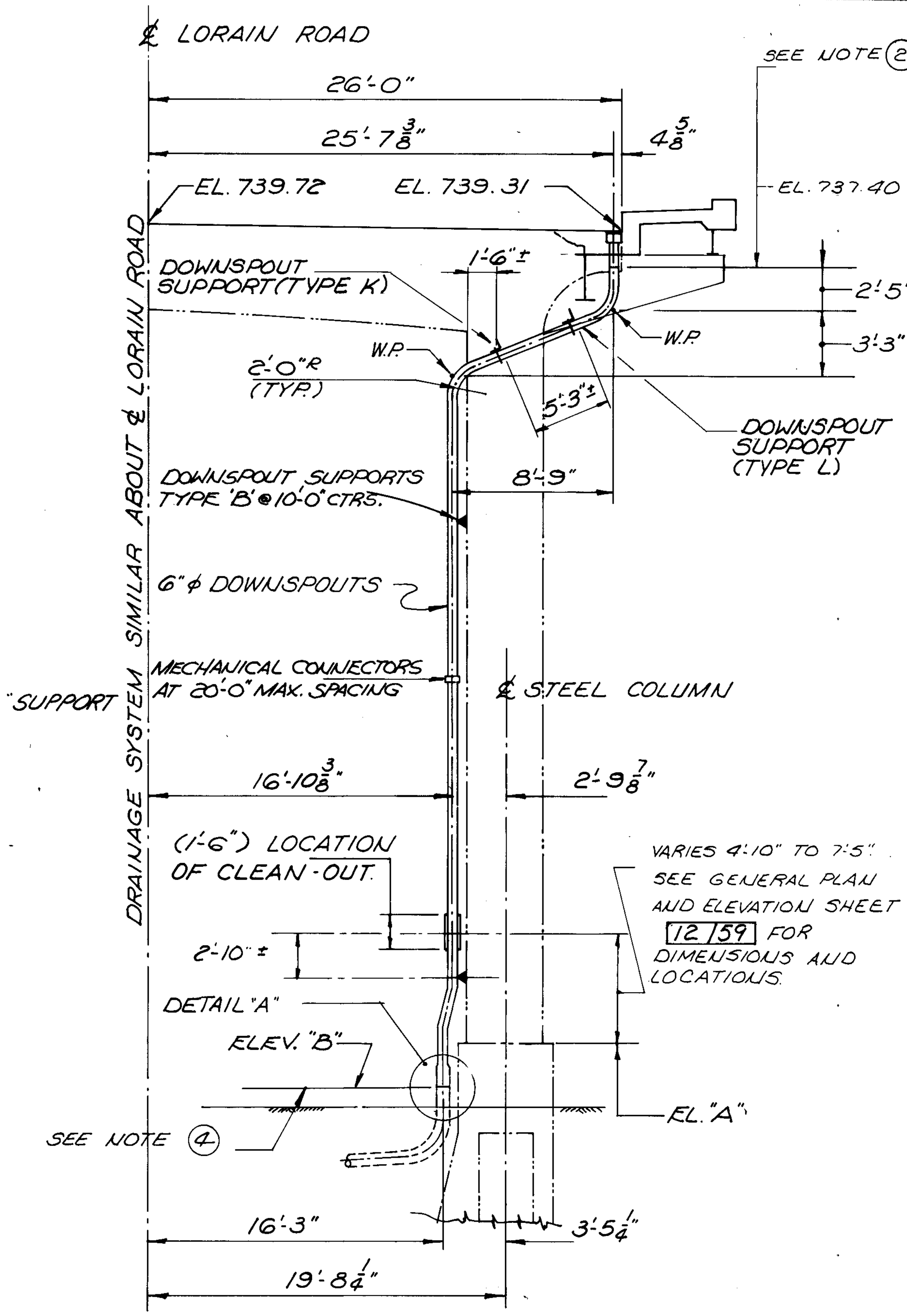


TYPICAL SECTION THRU ARCHES

BETWEEN TOWERS 1 ~ 5



VIEW— FRONT FACE WEST ABUTMENT



TYPICAL SECTION @ PIERS 6,7, & 8

PIER	SOUTH PIER	NORTH PIER
	ELEV. "A"	ELEV. "A"
Nº 6	678.60	684.62
Nº 7	690.60	695.61
Nº 8	717.70	717.70
	ELEV. "B"	ELEV. "B"
Nº 6	678.00	678.00
Nº 7	691.00	695.00
Nº 8	714.00	714.00

FHWA REG.	STATE	PROJECT
5	OHIO	F-BRF-69 (42)

CUYAHOGA COUNTY
CUY-10-08.69

NOTES

1. FOR SUPPORT DETAILS, SEE SHEET 56/59
2. DRAINAGE TROUGH, GRATING, AND DOWNSPOUT INCLUDING THEIR SUPPORTS, SPECIALS AND HOLD DOWN DEVICES ABOVE THIS POINT SHALL BE INCLUDED WITH ITEM 518 'TROUGH HORIZONTAL CONDUCTORS, INCLUDING SPECIALS' FOR PAYMENT. DOWNSPOUT INCLUDING SPECIALS AND SUPPORTS BELOW THIS POINT TO BE INCLUDED WITH ITEM 518, '6" ϕ DOWNSPOUTS, INCLUDING SPECIALS' FOR PAYMENT.
3. DOWNSPOUT INCLUDING SPECIALS AND SUPPORTS ABOVE THIS POINT SHALL BE INCLUDED WITH ITEM 518, '6" ϕ DOWNSPOUTS, INCLUDING SPECIALS' FOR PAYMENT. DOWNSPOUT INCLUDING SPECIALS AND SUPPORTS BELOW THIS POINT SHALL BE INCLUDED WITH ITEM 518, '8" ϕ DOWNSPOUTS INCLUDING SPECIAL' FOR PAYMENT.
4. DOWNSPOUT INCLUDING SPECIALS AND SUPPORTS ABOVE THIS POINT SHALL BE INCLUDED WITH APPROPRIATE 518; '6" ϕ DOWNSPOUTS, INCLUDING SPECIALS' OR ITEM 518, '8" ϕ DOWNSPOUTS, INCLUDING SPECIALS' FOR PAYMENT. FOR CONTINUATION OF DRAINAGE DETAIL BELOW THIS POINT, SEE ROADWAY DRAWINGS 14/113 THRU 33/113.
5. NO FIELD WELDING OF GALVANIZED PIPE AND FITTINGS WILL BE ALLOWED. COMPONETS WHICH REQUIRE WELDING SHALL BE SHOP FABRICATED. GALVANIZED MECHANICAL COUPLINGS SHALL BE USED TO MAKE FIELD CONNECTIONS. ALL WELDS SHALL BE COMPLETE PENETRATION WELDS.

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53/59

DRAINAGE DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		ALH	JFP	7-30-82	

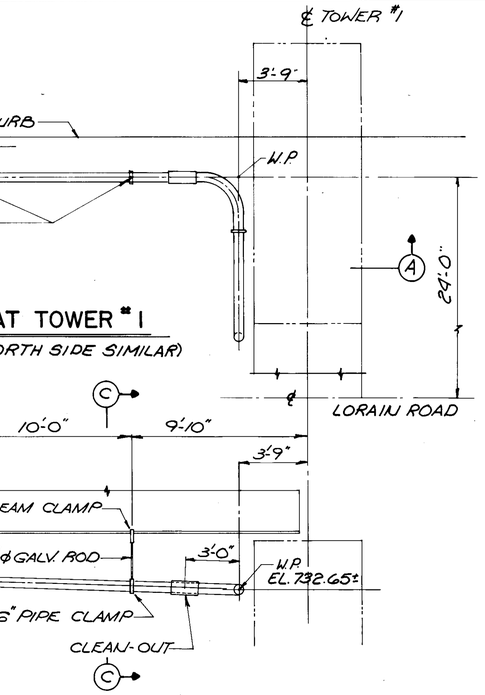
REPORT Nº 7092
Nº B-79

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

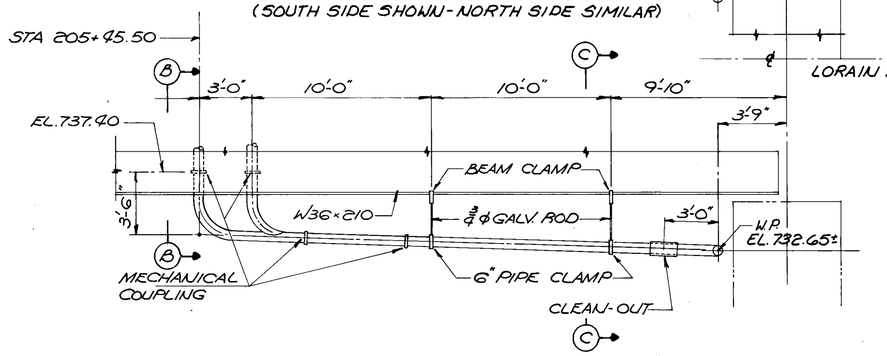
92
113

CUYAHOGA COUNTY
CUY-10-08.69

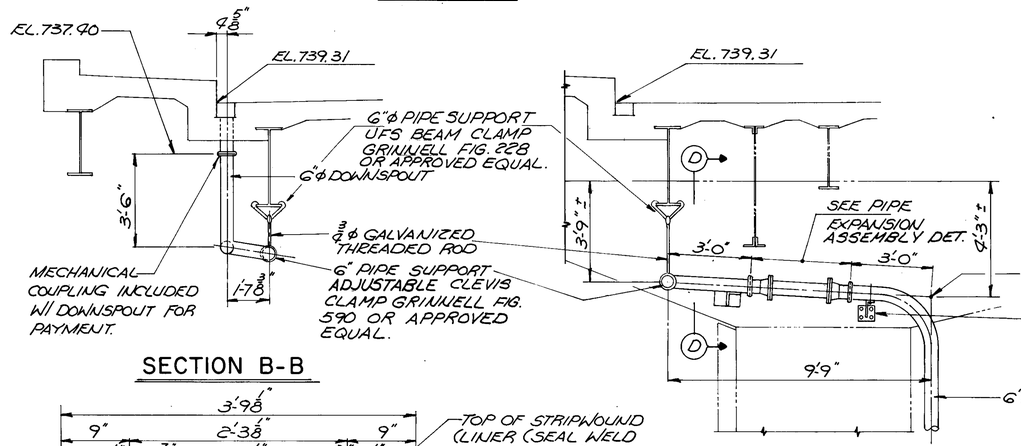


DRAINAGE PLAN AT TOWER #1

(SOUTH SIDE SHOWN - NORTH SIDE SIMILAR)

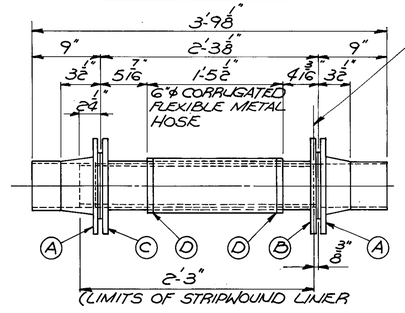


VIEW A-A



SECTION B-B

SECTION C-C



Ⓐ 6" RAISED FACE FLANGE WELDING NECK.

Ⓑ 6" RAISED FACE SLIP-ON FLANGE WITH SPACER NIPPLE.

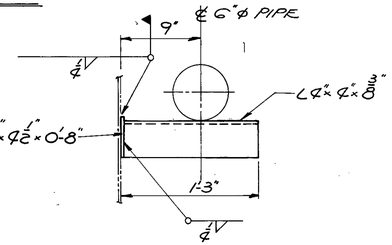
Ⓒ 6" LAP JOINT FLANGE WITH STUB END.

Ⓓ TYPE 302 STAINLESS STEEL RETAINER RING.

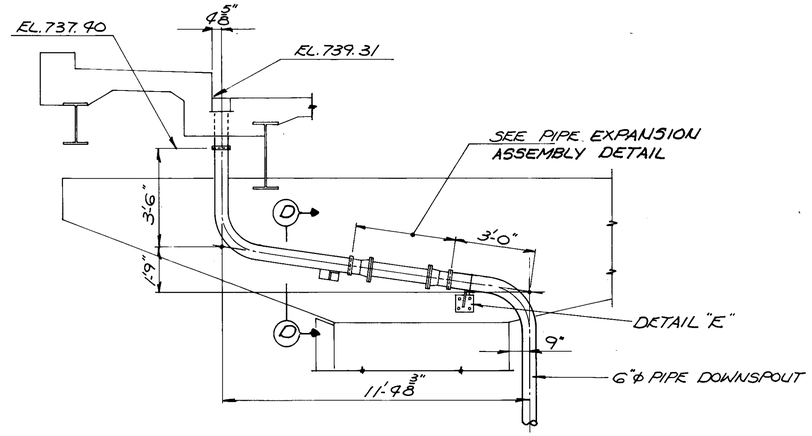
Ⓐ Ⓑ & Ⓒ FLANGES - 8-⅞"℄ HOLES ON 9½"℄ BOLT CIRCLE FOR 8-¾"℄ STAINLESS STEEL BOLTS, NUTS AND WASHERS.

PIPE EXPANSION ASSEMBLY DETAIL

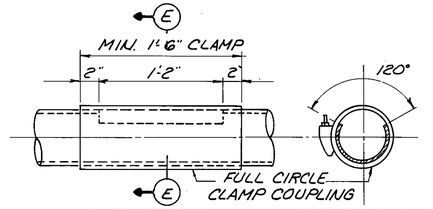
TO BE INCLUDED WITH ITEM 518 - 6"℄ DOWNSPOUTS INCLUDING SPECIALS FOR PAYMENT



SECTION D-D



VIEW F-F

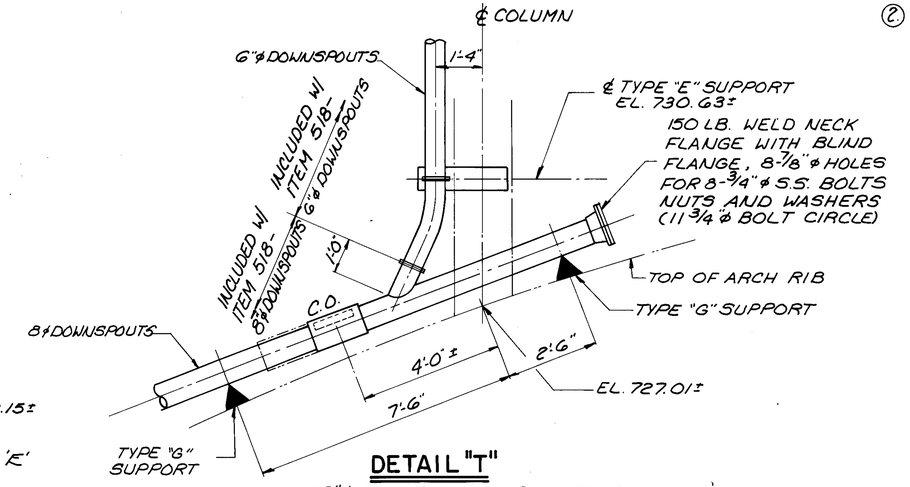


ELEVATION — SECTION E-E

CLEAN-OUT DETAILS

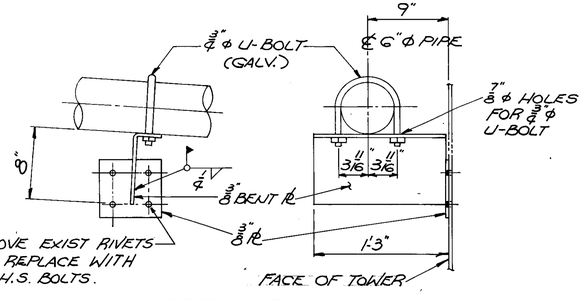
NOTES

1. SEE SHEET 12|59 FOR LOCATION OF VIEW "F-F."
2. FOR ADDITIONAL NOTES, SEE SHEET 51|59.



DETAIL "T"

8"℄ DOWNSPOUT TERMINATION DETAIL AT TOP OF ARCH RIB



DETAIL E

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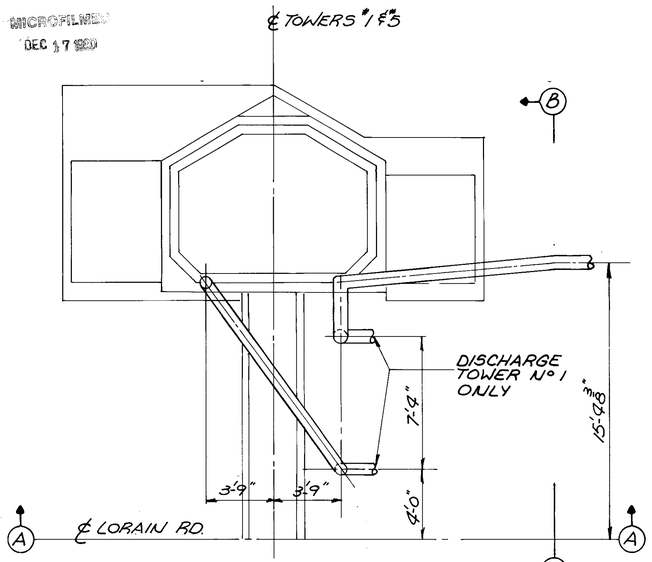
51|59

DRAINAGE DETAILS
LORAIN ROAD VIADUCT OVER ROCKY RIVER

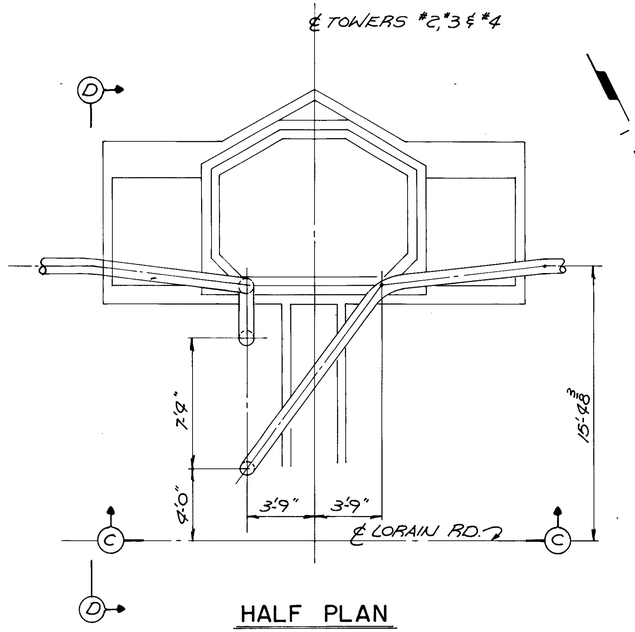
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42



HALF PLAN



HALF PLAN

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

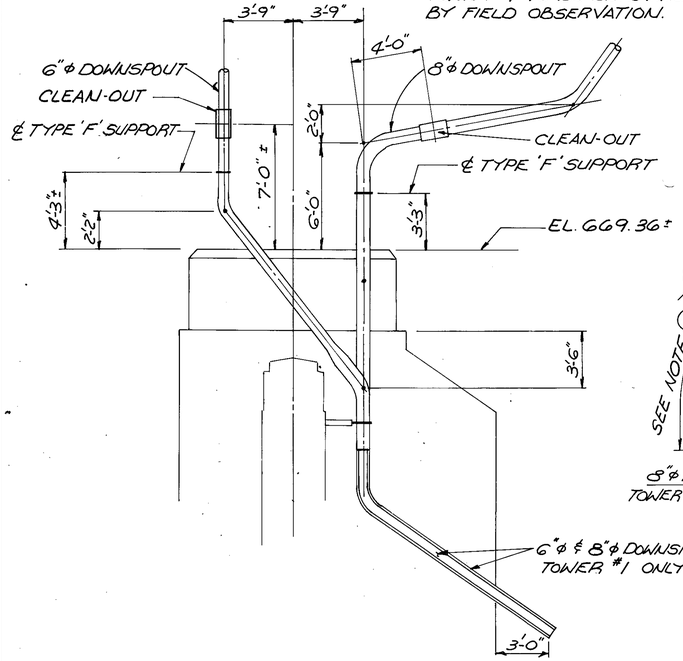
93
113

CUYAHOGA COUNTY
CUY-10-08.69

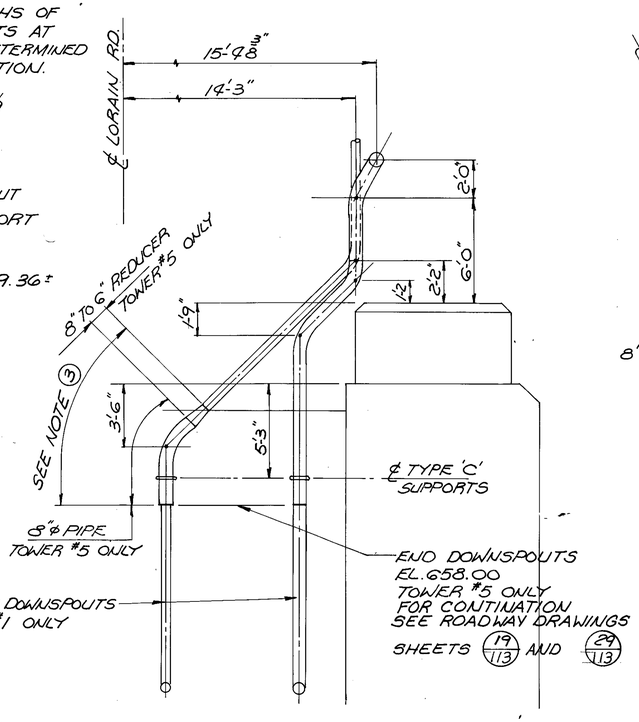
NOTES

1. FOR DOWNSPOUT SUPPORT DETAILS, SEE SHEET 56/59.
2. ALL BENDS TO BE 2'-0" RADIUS BENDS.
3. TO BE INCLUDED WITH ITEM 518, '6" ϕ DOWNSPOUTS INCLUDING SPECIALS' FOR PAYMENT.

NOTE
SLOPES AND LENGTHS OF 8" & 6" ϕ DOWNSPOUTS AT TOWER #1 TO BE DETERMINED BY FIELD OBSERVATION.



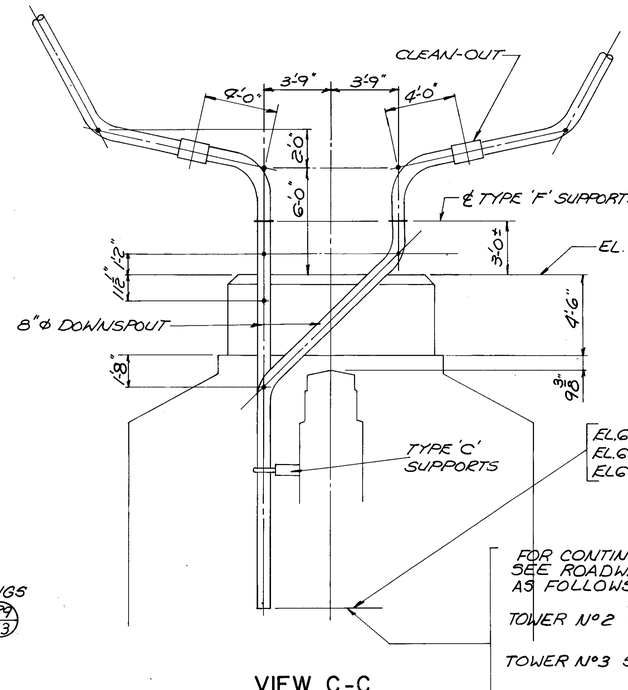
VIEW A-A



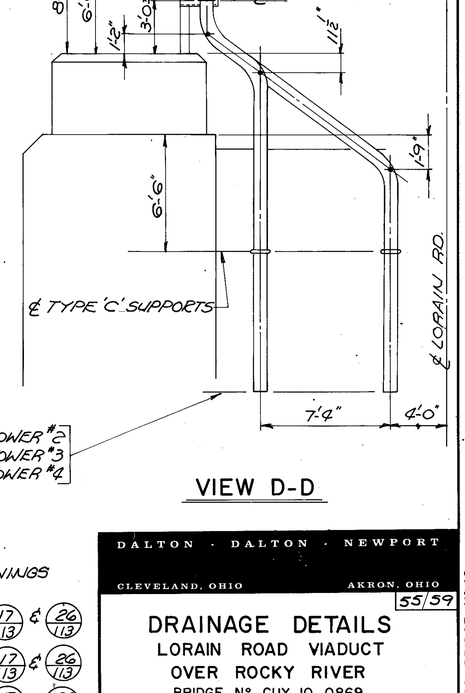
FOR CONTINUATION SEE ROADWAY DRAWINGS SHEETS (19/113) AND (29/113)

VIEW B-B

TOWERS 1 & 5



VIEW C-C



EL. 619.00 ~ TOWER #2
EL. 620.50 ~ TOWER #3
EL. 629.25 ~ TOWER #4

VIEW D-D

FOR CONTINUATION SEE ROADWAY DRAWINGS AS FOLLOWS:

TOWER N° 2 SHEETS (17/113) & (26/113)
TOWER N° 3 SHEETS (17/113) & (26/113)
TOWER N° 4 SHEETS (17/113) & (28/113)

TOWERS 2, 3 & 4

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55/59

DRAINAGE DETAILS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

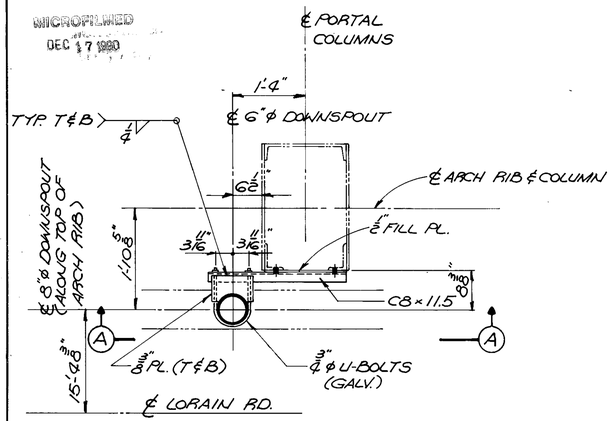
REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

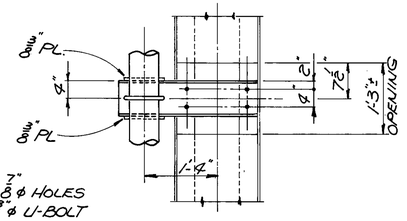
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

94
113

CUYAHOGA COUNTY
CUY-10-08.69

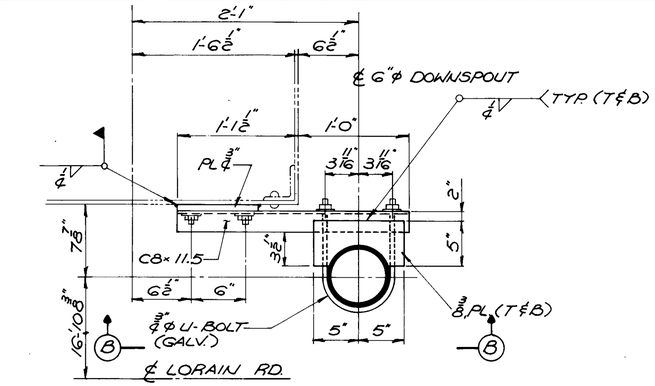


PLAN

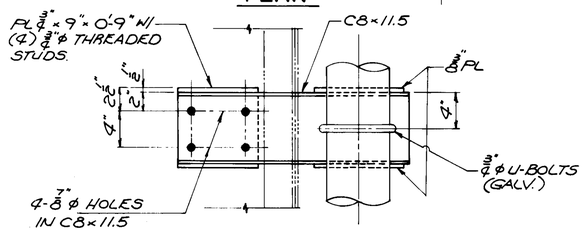


VIEW A-A

DOWNSPOUT SUPPORT - TYPE A



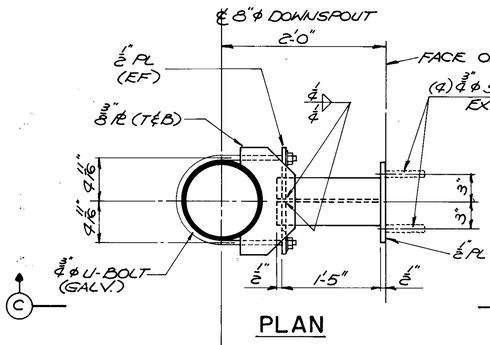
PLAN



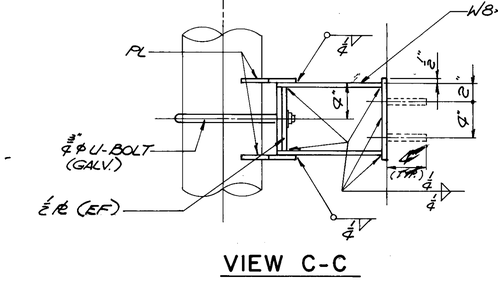
VIEW B-B

DOWNSPOUT SUPPORT - TYPE B

AT STEEL PIER COLS. 6, 7 & 8



PLAN

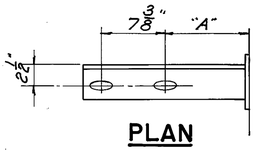


VIEW C-C

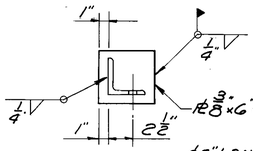
DOWNSPOUT SUPPORT - TYPE C

TO FACE OF PEDESTALS AT TOWERS 1 THRU 5

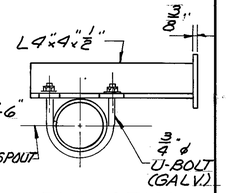
DIMENSION A	
H	12⅛"
J	2 11/16"
K	2 13/16"
L	21⅛"



PLAN

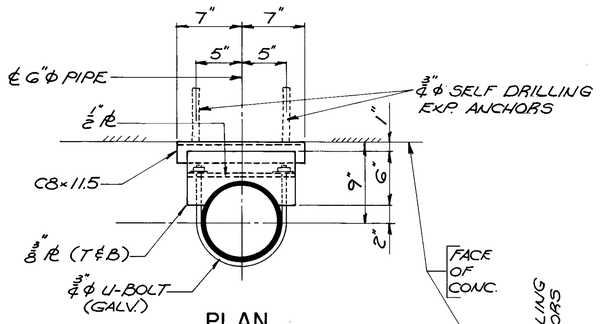


END VIEW

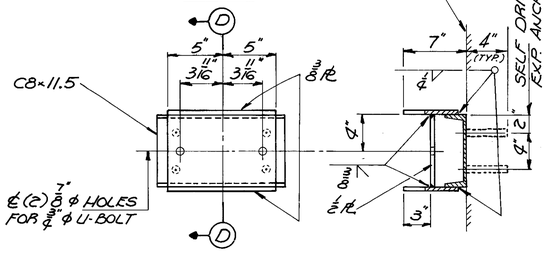


ELEVATION

DOWNSPOUTS SUPPORTS - TYPE H-L



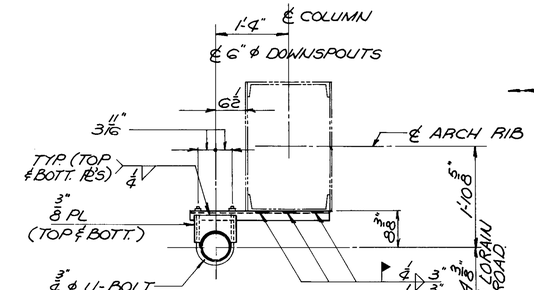
PLAN



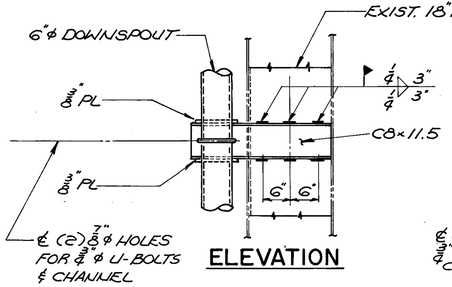
ELEVATION SECTION D-D

DOWNSPOUT SUPPORT - TYPE D

WEST ABUT.

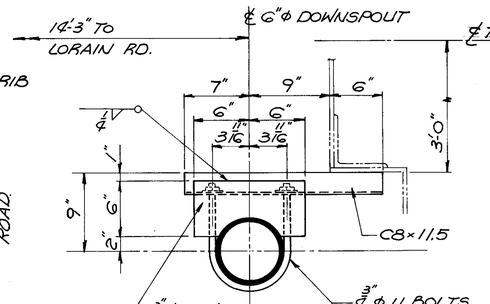


PLAN

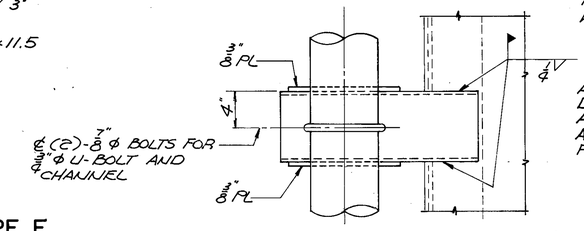


ELEVATION

DOWNSPOUT SUPPORT - TYPE E

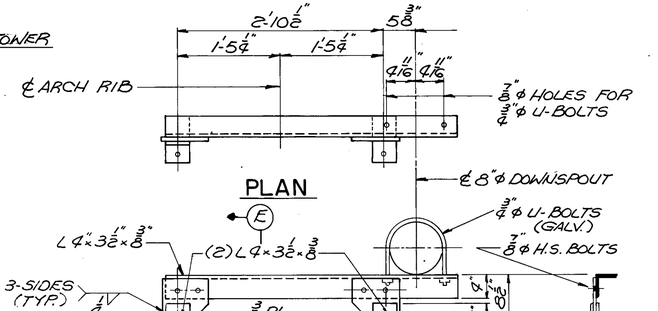


PLAN



ELEVATION

DOWNSPOUT SUPPORT - TYPE F



ELEVATION SECTION E E

DOWNSPOUT SUPPORT - TYPE G

NOTES

ALL THE SUPPORTS AND SPECIAL DETAILS SHOWN ON THIS SHEET ARE TO BE INCLUDED WITH APPROPIATE ITEM 518, DOWNSPOUTS FOR PAYMENT.

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56/59

DRAINAGE DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	JWW		A.L.H.	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

95/113

CUYAHOGA COUNTY
CUY-10-08.69

ABUTMENT A-12

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
12A 401	18	5- 4	8	1- 6	1- 8	1- 0	1- 6		64
12A 402	20	4- 1	2	1-10	0- 8				55
12A 403	18	2- 3	1	1- 2	1- 2				27
12A 501	23	6- 8	1	1- 0	5- 9				160
12A 502	8	9- 7	ST						80
SERIES	1-SET	10- 7							
OF	OF 10=	TO	ST					1- 0	157
12A 503	10 BAR	19- 7							
12A 504	3	23- 9	ST						74
12A 505	8	6- 7	ST						55
SERIES	1-SET	7- 7							
OF	OF 10=	TO	ST					1- 0	126
12A 506	10 BAR	16- 7							
12A 507	3	20- 9	ST						65
12A 508	21	3- 5	1	1- 9	1- 9				75
12A 509	11	21- 0	ST						241
12A 510	18	23- 2	ST						435
12A 511	1	12- 3	2	5- 9	1- 0				13
SERIES	1-SET	11- 9		5- 5					
OF	OF 10=	TO	2	TO	1- 2			2- 0	216
12A 512	10 BAR	29- 9		14- 5					
12A 513	7	10-11	2	5- 0	1- 2				80
12A 514	2	7-11	1	2- 0	6- 0				17
12A 515	10	4- 6	ST						47
12A 516	25	5- 6	ST						143
12A 517	33	5- 2	ST						178
12A 518	7	27- 8	ST						202
12A 519	35	3- 3	ST						119
12A 520	12	6- 5	1	1- 0	5- 6				80
12A 521	23	5- 6	ST						132
12A 522	3	6- 5	2	2- 0	2- 8				20
12A 523	2	4- 7	1	2- 0	2- 8				10
12A 527	25	3- 6	ST						91
12A 528	27	4-10	52	1- 8	1- 6	0- 6	1- 2		136
12A 529	8	34- 3	ST						286
12A 530	2	26- 0	ST						54
12A 531	4	24- 0	ST						100
12A 532	9	5-10	ST						55
12A 535	7	14- 8	8	6- 8	1- 2	6- 0	1- 2		107
12A 536	7	4- 4	8	1- 0	0- 8	2- 4	0- 8		32
12A 537	6	12- 3	2	5- 0	2- 6				77
12A 538	6	8-11	3	5- 8	2- 0	1- 6			56
12A 539	6	5- 5	1	1- 0	4- 6				34
12A 540	4	9- 6	2	2- 4	5- 1				40
12A 541	7	6-11	19	3- 5	1- 9	1- 9	1- 2		50
12A 542	7	6- 9	2	2- 6	2- 0				49
12A 543	3	11- 7	3	3- 6	5-10	2- 6			36
12A 544	4	2- 9	ST						11
12A 545	2	10- 0	40	2- 9	1- 8				21
12A 546	36	5- 0	ST						188
12A 547	14	5- 0	ST						73
12A 801	24	7- 9	ST						497
12A 802	12	11- 6	ST						368
12A 803	12	9- 6	ST						304
12A 804	10	5- 0	ST						133
12A 805	4	10- 6	ST						112

NON EPOXY COATED = 5781
EPOXY COATED = 0
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-12 = 5781

Complete

ABUTMENT A-11

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
11A 401	18	5- 4	8	1- 6	1- 8	1- 0	1- 6		64
11A 402	20	4- 1	2	1-10	0- 8				55
11A 403	18	2- 3	1	1- 2	1- 2				27
11A 501	23	6- 8	1	1- 0	5- 9				160
11A 502	8	9- 7	ST						80
SERIES	1-SET	10- 7							
OF	OF 10=	TO	ST					1- 0	157
11A 503	10 BAR	19- 7							
11A 504	3	23- 9	ST						74
11A 505	8	6- 7	ST						55
SERIES	1-SET	7- 7							
OF	OF 10=	TO	ST					1- 0	126
11A 506	10 BAR	16- 7							
11A 507	3	20- 9	ST						65
11A 508	23	3- 5	1	1- 9	1- 9				82
11A 509	11	21- 0	ST						241
11A 510	18	23- 2	ST						435
11A 511	1	12- 3	2	5- 9	1- 0				13
SERIES	1-SET	11- 9		5- 5					
OF	OF 10=	TO	2	TO	1- 2			2- 0	216
11A 512	10 BAR	29- 9		14- 5					
11A 513	7	10-11	2	5- 0	1- 2				80
11A 514	2	7-11	1	2- 0	6- 0				17
11A 515	8	4- 6	ST						38
11A 516	48	5- 6	ST						275
11A 517	27	5- 2	ST						145
11A 518	7	27- 8	ST						202
11A 519	35	3- 3	ST						119
11A 520	12	6- 5	1	1- 0	5- 6				80
11A 521	23	5- 6	ST						132
11A 522	3	6- 5	2	2- 0	2- 8				20
11A 523	2	4- 7	1	2- 0	2- 8				10
11A 524	4	13- 9	2	6- 8	0- 8				57
11A 525	4	8- 1	2	1- 2	6- 0				34
11A 526	1	8- 9	2	3-11	1- 2				9
11A 527	19	3- 6	ST						69
11A 528	21	4-10	52	1- 8	1- 6	0- 6	1- 2		106
11A 529	4	28-10	ST						120
11A 530	2	22- 6	ST						47
11A 531	8	24- 0	ST						200
11A 532	7	5-10	ST						43
11A 533	1	2- 7	9	1- 2	0- 6				3
11A 534	1	2- 5	2	1- 0	0- 8				3
11A 537	6	12- 3	2	5- 0	2- 6				77
11A 538	6	8-11	3	5- 8	2- 0	1- 6			56
11A 539	6	5- 5	1	1- 0	4- 6				34
11A 540	4	9- 6	2	2- 4	5- 1				40
11A 541	7	6-11	19	3- 5	1- 9	1- 9	1- 2		50
11A 542	7	6- 9	2	2- 6	2- 0				49
11A 543	3	11- 7	3	3- 6	5-10	2- 6			36
11A 544	4	2- 9	ST						11
11A 545	2	6-10	40	1- 2	1- 8				14
11A 546	36	5- 0	ST						188
11A 547	14	4- 8	ST						68
11A 801	24	7- 9	ST						497
11A 802	12	11- 6	ST						368
11A 803	12	9- 6	ST						304
11A 804	10	5- 0	ST						133
11A 805	4	10- 6	ST						112

NON EPOXY COATED = 5696
EPOXY COATED = 0
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-11 = 5696

Complete

ABUTMENT A-13

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
35 in place									
* 13A 501	38	22- 2	ST						879
13A 502	23	25- 0	ST						600
13A 503	23	6- 5	16	2- 5	2- 5	1- 3	1- 9		154
13A 504	29	2- 9	ST						83
* 13A 505	23	25- 0	ST						600
13A 506	3	21- 6	ST						67
13A 507	22	3- 8	ST						84
13A 801	39	22- 2	ST						2308

NON EPOXY COATED = 3296
EPOXY COATED = 1479
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-13 = 4775

Complete

1

2

3

5

8

9

12

14

16

19

25

40

52

DALTON · DALTON · NEWPORT
CLEVELAND OHIO — AKRON OHIO

57/59

REINFORCING SCHEDULE
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	BKL	FFF		ALH	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

SUPERSTRUCTURE S-11

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 11S 401	64	33- 0	ST						1411
11S 403	18	33- 0	ST						397
11S 405	65	5- 1	5	0- 8	1-10				221
* 11S 407	112	4-11	5	0-10	1- 8				368
11S 409	133	6- 0	ST						533
11S 410	112	2- 9	12	1- 5	1- 4	0- 7			206
11S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
11S 417	8	3- 2	12	1- 9	1- 5	0- 8			17
11S 501	44	33- 2	ST						1522
11S 502	104	23- 6	ST						2549
* 11S 504	20	4- 8	14	1- 6	0- 7				97
11S 505	21	2-10	16	0- 7	0- 9	1- 6	1- 8		62
11S 506	5	3- 9	ST						20
* 11S 507	125	7- 2	2	0- 9	5-11				934
* 11S 510	2	4- 7	2	1- 8	1- 6				10
* 11S 511	2	5- 1	2	1- 8	2- 0				11
* 11S 512	4	5- 7	2	1- 8	2- 6				23
* 11S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 11S 514	2	2- 9	2	0- 9	1- 6				6
* 11S 515	2	3- 3	2	0- 9	2- 0				7
* 11S 516	4	3- 9	2	0- 9	2- 6				16
* 11S 601	104	23- 6	ST						3671
11S 602	104	5-11	3	3- 0	0- 6	2- 9			924
* 11S 603	104	3- 8	3	2- 0	1- 0	1- 0			573
* 11S 604	8	33- 0	3	30-40	0- 0	0- 0			397
* 11S 608	5	4- 0	ST						30
* 11S 801	34	8- 4	3	5- 6	0- 8	2- 6			756
11S 901	4	9- 0	ST						122
* 11S 902	7	8- 4	3	5- 3	1- 1	2- 6			198

Complete

NON EPOXY COATED = 6984
EPOXY COATED = 8148
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-11 = 15132

SUPERSTRUCTURE S-12

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 12S 401	224	30- 0	ST						4489
* 12S 402	32	35- 3	ST						754
12S 403	42	30- 0	ST						842
12S 404	6	35- 3	ST						141
12S 405	222	5- 1	5	0- 8	1-10				754
12S 406	11	4- 1	5	0- 8	1- 4				30
* 12S 407	405	4-11	5	0-10	1- 8				1330
12S 409	426	6- 0	ST						1707
12S 410	405	2- 9	12	1- 5	1- 4	0- 7			744
12S 411	30	17- 4	ST						347
12S 412	6	20- 3	ST						81
12S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
12S 417	8	3- 2	12	1- 9	1- 5	0- 8			17
12S 501	176	30- 0	ST						5507
12S 502	378	23- 6	ST						9265
12S 503	22	9- 3	ST						212
* 12S 504	40	4- 8	14	1- 6	0- 7				195
12S 506	10	3- 9	ST						39
* 12S 507	418	7- 2	2	0- 9	5-11				3124
* 12S 510	2	4- 7	2	1- 8	1- 6				10
* 12S 511	2	5- 1	2	1- 8	2- 0				11
* 12S 512	4	5- 7	2	1- 8	2- 6				23
* 12S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 12S 514	2	2- 9	2	0- 9	1- 6				6
* 12S 515	2	3- 3	2	0- 9	2- 0				7
* 12S 516	4	3- 9	2	0- 9	2- 6				16
* 12S 601	378	23- 6	ST						13342
12S 602	358	5-11	3	3- 0	0- 6	2- 9			3181
* 12S 603	358	3- 8	3	2- 0	1- 0	1- 0			1972
12S 604	16	30- 0	ST						721
12S 605	2	12- 0	ST						36
12S 606	20	17- 4	ST						521
12S 607	4	20- 3	ST						122

Complete

SUPERSTRUCTURE S-12 CONT'D.

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 12S 608	10	4- 0	ST						60
* 12S 801	68	8- 4	3	5- 6	0- 8	2- 6			1513
12S 901	8	9- 0	ST						245
* 12S 902	6	8- 4	3	5- 3	1- 1	2- 6			170

Complete

NON EPOXY COATED = 24526
EPOXY COATED = 27059
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-12 = 51585

SUPERSTRUCTURE S-13

MARK	NO. REQD.	In Place	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 13S 401	200	256	30- 0	ST						5130
* 13S 402	25	32	26- 3	ST						561
13S 403	16	48	30- 0	ST						962
13S 404	2	6	26- 3	ST						105
13S 405	240		5- 1	5	0- 8	1-10				815
13S 406	12		4- 1	5	0- 8	1- 4				33
* 13S 407	439		4-11	5	0-10	1- 8				1442
13S 409	460		6- 0	ST						1844
13S 410	439		2- 9	12	1- 5	1- 4	0- 7			805
13S 411	33		17- 4	ST						382
13S 412	6		20- 3	ST						81
13S 415	3		7- 2	25	2- 0	0- 6	2- 0	0- 6		14
13S 417	8		3- 2	12	1- 9	1- 5	0- 8			17
13S 501	176		30- 0	ST						5507
13S 502	409		23- 6	ST						10025
13S 503	22		28-11	ST						664
* 13S 504	40		4- 8	14	1- 6	0- 7				195
13S 506	10		3- 9	ST						39
* 13S 507	452		7- 2	2	0- 9	5-11				3379
* 13S 510	2		4- 7	2	1- 8	1- 6				10
* 13S 511	2		5- 1	2	1- 8	2- 0				11
* 13S 512	4		5- 7	2	1- 8	2- 6				23
* 13S 513	3		11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 13S 514	2		2- 9	2	0- 9	1- 6				6
* 13S 515	2		3- 3	2	0- 9	2- 0				7
* 13S 516	4		3- 9	2	0- 9	2- 6				16
* 13S 601	409		23- 6	ST						14436
13S 602	387		5-11	3	3- 0	0- 6	2- 9			3439
* 13S 603	387		3- 8	3	2- 0	1- 0	1- 0			2131
13S 604	16		30- 0	ST						721
13S 605	2		31- 8	ST						95
13S 606	22		17- 4	ST						573
13S 607	4		20- 3	ST						122
* 13S 608	10		4- 0	ST						60
* 13S 801	68		8- 4	3	5- 6	0- 8	2- 6			1513
13S 901	8		9- 0	ST						245
* 13S 902	6		8- 4	3	5- 3	1- 1	2- 6			170

Complete

NON EPOXY COATED = 26489
EPOXY COATED = 29127
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-13 = 55615

SUPERSTRUCTURE S-14

MARK	NO. REQD.	In Place	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 14S 401	200	256	30- 0	ST						5130
* 14S 402	25	32	26- 6	ST						566
14S 403	16	48	30- 0	ST						962
14S 404	2	6	26- 6	ST						106
14S 405	240		5- 1	5	0- 8	1-10				815
14S 406	12		4- 1	5	0- 8	1- 4				33
* 14S 407	439		4-11	5	0-10	1- 8				1442
14S 409	460		6- 0	ST						1844
14S 410	439		2- 9	12	1- 5	1- 4	0- 7			805
14S 411	33		17- 4	ST						382
14S 412	6		20- 3	ST						81
14S 415	3		7- 2	25	2- 0	0- 6	2- 0	0- 6		14
14S 417	8		3- 2	12	1- 9	1- 5	0- 8			17

Complete

SUPERSTRUCTURE S-14 CONT'D.

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
14S 501	176	30- 0	ST						5507
14S 502	409	23- 6	ST						10025
14S 503	22	28-11	ST						664
* 14S 504	40	4- 8	14	1- 6	0- 7				195
14S 506	10	3- 9	ST						39
* 14S 507	452	7- 2	2	0- 9	5-11				3379
* 14S 510	2	4- 7	2	1- 8	1- 6				10
* 14S 511	2	5- 1	2	1- 8	2- 0				11
* 14S 512	4	5- 7	2	1- 8	2- 6				23
* 14S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 14S 514	2	2- 9	2	0- 9	1- 6				6
* 14S 515	2	3- 3	2	0- 9	2- 0				7
* 14S 516	4	3- 9	2	0- 9	2- 6				16
* 14S 601	409	23- 6	ST						14436
14S 602	387	5-11	3	3- 0	0- 6	2- 9			3439
* 14S 603	387	3- 8	3	2- 0	1- 0	1- 0			2131
14S 604	16	30- 0	ST						721
14S 605	2	31- 8	ST						95
14S 606	22	17- 4	ST						573
14S 607	4	20- 3	ST						122
* 14S 608	10	4- 0	ST						60
* 14S 801	68	8- 4	3	5- 6	0- 8	2- 6			1513
14S 901	8	9- 0	ST						245
* 14S 902	6	8- 4	3	5- 3	1- 1	2- 6			170

Complete

NON EPOXY COATED = 26490
EPOXY COATED = 29132
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-14 = 55622

SUPERSTRUCTURE S-15

MARK	NO. REQD.	In Place	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 15S 401	175	224	30- 0	ST						4489
* 15S 402	25	32	35- 3	ST						754
15S 403	14	42	30- 0	ST						842
15S 404	2	6	35- 3	ST						141
15S 405	222		5- 1	5	0- 8	1-10				754
15S 406	11		4- 1	5	0- 8	1- 4				30
* 15S 407	405		4-11	5	0-10	1- 8				1330
15S 409	426		6- 0	ST						1707
15S 410	405		2- 9	12	1- 5	1- 4	0- 7			744
15S 411	30		17- 4	ST						347
15S 412	6		20- 3	ST						81
15S 415	3		7- 2	25	2- 0	0- 6	2- 0	0- 6		14
15S 417	8		3- 2	12	1- 9	1- 5	0- 8			17
15S 501	176		30- 0	ST						5507
15S 502	378		23- 6	ST						9265
15S 503	22		9- 3	ST						212
* 15S 504	40		4- 8	14	1- 6	0- 7				195
15S 506	10		3- 9	ST						39
* 15S 507	418		7- 2	2	0- 9	5-11				3124
* 15S 510	2		4- 7	2	1- 8	1- 6				10
* 15S 511	2		5- 1	2	1- 8	2- 0				11
* 15S 512	4		5- 7	2	1- 8	2- 6				23
* 15S 513	3		11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 15S 514	2		2- 9	2	0- 9	1- 6				6
* 15S 515	2		3- 3	2	0- 9	2- 0				7
* 15S 516	4		3- 9	2	0- 9	2- 6				16
* 15S 601	378		23- 6	ST						13342
15S 602	358		5-11	3	3- 0	0- 6	2- 9			3181
* 15S 603	358		3- 8	3	2- 0	1- 0	1- 0			1972
15S 604	16		30- 0	ST						721
15S 605	2		12- 0	ST						36
15S 606	20		17- 4	ST						521
15S 607	4		20- 3	ST						122
* 15S 608	10		4- 0	ST						60

Complete

SUPERSTRUCTURE S-15 CONT'D.

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 15S 801	68	8- 4	3	5- 6	0- 8	2- 6			1513
15S 901	8	9- 0	ST						245
* 15S 902	6	8- 4	3	5- 3	1- 1	2- 6			170

Complete

NON EPOXY COATED = 24526
EPOXY COATED = 27059
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-15 = 51585

SUPERSTRUCTURE S-16

MARK	NO. REQD.	In Place	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 16S 401	125	160	30- 0	ST						3206
* 16S 402	25	32	13-11	ST						297
16S 403	10	30	30- 0	ST						601
16S 404	6		13-11	ST						56
16S 405	154		5- 1	5	0- 8	1-10				523
16S 406	3		4- 1	5	0- 8	1- 4				8
* 16S 407	270		4-11	5	0-10	1- 8				887
16S 409	291		6- 0	ST						1166
16S 410	270		2- 9	12	1- 5	1- 4	0- 7			496
16S 411	6		36- 8	ST						147
16S 412	3		39-10	ST						80
16S 413	3		38- 4	ST						77
16S 415	3		7- 2	25	2- 0	0- 6	2- 0	0- 6		14
16S 417	8		3- 2	12	1- 9	1- 5	0- 8			17
16S 501	110		30- 0	ST						3442
16S 502	253		23- 6	ST						6201
16S 503	22		15- 7	ST						358
* 16S 504	20		4- 8	14	1- 6	0- 7				97
16S 505	21		2-10	16	0- 7	0- 9	1- 6	1- 8		62
16S 506	5		3- 9	ST						20
* 16S 507	283		7- 2	2	0- 9	5-11				2115
* 16S 510	2		4- 7	2	1- 8	1- 6				10
* 16S 511	2		5- 1	2	1- 8	2- 0				11
* 16S 512	4		5- 7	2	1- 8	2- 6				23
* 16S 513	3		11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 16S 514	2		2- 9	2	0- 9	1- 6				6
* 16S 515	2		3- 3	2	0- 9	2- 0				7
* 16S 516	4		3- 9	2	0- 9	2- 6				16
* 16S 601	253		23- 6	ST						8930
16S 602	248		5-11	3	3- 0	0- 6	2- 9			2204
* 16S 603	248		3- 8	3	2- 0	1- 0	1- 0			1366
16S 604	10		30- 0	ST						451
16S 605	2		17- 3	ST						52
16S 606	2		36- 8	ST						110
16S 607	2		39-10	ST						120
* 16S 608	5		4- 0	ST						30
16S 609	2		38- 4	ST						115
* 16S 801	34		8- 4	3	5- 6	0- 8	2- 6			756
16S 901	4		9- 0	ST						122
* 16S 902	7		8- 4	3	5- 3	1- 1	2- 6			198

In Place
Complete
Complete
Complete
Complete

NON EPOXY COATED = 16442
EPOXY COATED = 17992
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL SUPERSTRUCTURE S-16 = 34434

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

95A/113

CUYAHOGA COUNTY
CUY-10-08.69

DALTON · DALTON · NEWPORT
CLEVELAND, OHIO AKRON, OHIO

57A/59

REINFORCING SCHEDULE
LORAIN ROAD VIADUCT
OVER ROCKY RIVER

BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	LWW		ALH	JAP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42)	

96/113

CUYAHOGA COUNTY
CUY-10-08.69

ABUTMENT A-21

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
21A 401	5	27- 6	ST						92
21A 402	17	5- 4	8	1- 6	1- 8	1- 0	1- 6		61
21A 403	24	2- 2	1	0- 6	1- 9				35
21A 404	17	2- 3	1	1- 2	1- 2				26
21A 501	52	7- 3	1	5-10	1- 6				393
21A 502	20	12- 5	ST						259
21A 503	64	5- 3	1	0- 9	4- 7				350
21A 504	14	27- 3	ST						398
21A 505	8	23- 6	ST						196
SERIES	1-SET	24- 9							
OF	OF 5=	TO	ST					1- 0	140
21A 506	5 BAR	28- 9							
21A 507	4	27- 6	ST						115
21A 508	2	13-10	19	4- 3	5- 3	5- 3	2- 3		29
21A 509	4	12- 3	ST						51
21A 510	44	16- 1	ST						738
SERIES	1-SET	9- 5		4- 3					
OF	OF 5=	TO	2	TO	1- 2			2- 0	70
21A 511	5 BAR	17- 5		8- 3					
21A 512	12	3-11	1	2- 0	2- 0				49
21A 513	13	4- 6	ST						61
21A 514	18	28- 9	ST						540
21A 515	52	3- 9	ST						203
21A 516	5	9- 0	ST						47
21A 517	10	5- 0	ST						52
21A 518	3	5- 2	ST						16
21A 519	24	9-11	8	4- 0	1- 2	4- 3	0-10		248
21A 520	24	5- 5	2	1- 3	3- 2				136
21A 521	24	2-11	2	0- 9	1- 8				73
21A 522	24	6- 0	19	2- 0	1- 0	1- 0	2- 9		150
21A 523	8	21- 0	ST						175
SERIES	1-SET	22- 0							
OF	OF 5=	TO	ST					1- 0	125
21A 524	5 BAR	26- 0							
21A 525	6	11-11	8	5- 0	1- 2	5- 3	0-10		75
21A 526	6	5- 5	2	1- 3	3- 2				34
21A 527	6	8-10	16	0- 9	4- 9	2- 6	3- 6		55
21A 528	6	9- 5	52						59
21A 529	6	6- 3	2	2- 0	2- 6				39
21A 530	2	5-10	ST						12
21A 531	3	9- 6	2	2- 0	5- 9				30
21A 532	6	9-10	8	2- 3	4- 5	2- 0	1- 6		62
21A 533	6	7- 0	2	2- 0	3- 3				44
21A 534	4	5- 2	ST						22
21A 535	2	6-10	40	1- 2	1- 8				14
21A 536	4	2- 4	ST						10
21A 537	2	4- 0	ST						8
21A 601	56	6- 0	ST						505
21A 602	21	12- 4	ST						389
21A 603	9	5-10	1	1- 0	5- 0				79
21A 604	56	4- 0	ST						336
21A 605	36	3- 3	ST						176
21A 801	24	7-10	19	2-11	2- 2	2- 2	2- 0		502

NON EPOXY COATED = 7279
EPOXY COATED = 0
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-21 = 7279

ABUTMENT A-22

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
22A 401	5	27- 6	ST						92
22A 402	17	5- 4	8	1- 6	1- 8	1- 0	1- 6		61
22A 403	30	2- 2	1	0- 6	1- 9				43
22A 404	17	2- 3	1	1- 2	1- 2				26
22A 501	52	7- 3	1	5-10	1- 6				393
22A 502	20	12- 5	ST						259
22A 503	64	5- 3	1	0- 9	4- 7				350
22A 504	14	27- 3	ST						398
22A 505	8	23- 6	ST						196
SERIES	1-SET	24- 9							
OF	OF 5=	TO	ST					1- 0	140
22A 506	5 BAR	28- 9							
22A 507	4	27- 6	ST						115
22A 508	2	13-10	19	4- 3	5- 3	5- 3	2- 3		29
22A 509	4	12- 3	ST						51
22A 510	44	16- 1	ST						738
SERIES	1-SET	9- 5		4- 3					
OF	OF 5=	TO	2	TO	1- 2			2- 0	70
22A 511	5 BAR	17- 5		8- 3					
22A 512	12	3-11	1	2- 0	2- 0				49
22A 513	13	4- 6	ST						61
22A 514	18	34- 3	ST						643
22A 515	52	3- 9	ST						203
22A 516	5	9- 0	ST						47
22A 517	10	5- 0	ST						52
22A 518	3	5- 2	ST						16
22A 519	29	9-11	8	4- 0	1- 2	4- 3	0-10		300
22A 520	29	5- 5	2	1- 3	3- 2				164
22A 521	29	2-11	2	0- 9	1- 8				88
22A 522	29	6- 0	19	2- 0	1- 0	1- 0	2- 9		181
22A 523	8	21- 0	ST						175
SERIES	1-SET	22- 0							
OF	OF 5=	TO	ST					1- 0	125
22A 524	5 BAR	26- 0							
22A 525	6	11-11	8	5- 0	1- 2	5- 3	0-10		75
22A 526	6	5- 5	2	1- 3	3- 2				34
22A 527	6	8-10	16	0- 9	4- 9	2- 6	3- 6		55
22A 528	6	9- 5	52						59
22A 529	6	6- 3	2	2- 0	2- 6				39
22A 530	2	5-10	ST						12
22A 531	3	9- 6	2	2- 0	5- 9				30
22A 532	6	9-10	8	2- 3	4- 5	2- 0	1- 6		62
22A 533	6	7- 0	2	2- 0	3- 3				44
22A 534	4	5- 2	ST						22
22A 535	2	6-10	40	1- 2	1- 8				14
22A 536	4	2- 4	ST						10
22A 537	2	4- 0	ST						8
22A 601	56	12- 4	ST						505
22A 602	24	6- 0	ST						445
22A 603	9	5-10	1	1- 0	5- 0				79
22A 604	56	4- 0	ST						336
22A 605	44	3- 3	ST						215
22A 801	29	7-10	19	2-11	2- 2	2- 2	2- 0		607

NON EPOXY COATED = 7716
EPOXY COATED = 0
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-22 = 7716

ABUTMENT A-23

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
* 23A 501	48	22- 2	ST						1110
23A 502	23	30- 0	ST						720
23A 503	23	6- 5	16	2- 5	2- 5	1- 3	1- 9		154
23A 504	35	2- 9	ST						100
* 23A 505	23	30- 0	ST						720
23A 506	3	21- 6	ST						67
23A 507	22	3- 8	3	1- 6	1- 9	0- 8			84
23A 801	45	22- 2	ST						2663

NON EPOXY COATED = 3788
EPOXY COATED = 1830
(*) DENOTES BARS TO BE EPOXY COATED

TOTAL ABUTMENT A-23 = 5618

Complete

DALTON · DALTON · NEWPORT
CLEVELAND OHIO AKRON OHIO

58/59

REINFORCING SCHEDULE

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

LORAIN ROAD BRIDGE Nº 42

REPORT Nº 7092
Nº B-79

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	FFF		ALH	JFP	7-30-82	

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
SUPERSTRUCTURE S-21									
* 21S 401	82	33- 0	ST						1808
21S 403	18	33- 0	ST						397
21S 405	65	5- 1	5	0- 8	1-10				221
* 21S 407	112	4-11	5	0-10	1- 8				368
21S 409	120	6- 0	ST						481
21S 410	112	2- 9	12	1- 5	1- 4	0- 7			206
21S 417	8	3- 2	12	1- 9	1- 5	0- 8			17
21S 501	58	33- 2	ST						2006
21S 502	104	28- 4	ST						3073
* 21S 504	20	4- 8	14	1- 6	0- 7				97
21S 505	28	2-10	16	0- 7	0- 9	1- 6	1- 8		83
21S 506	5	3- 9	ST						20
* 21S 507	112	7- 2	2	0- 9	5-11				837
* 21S 601	104	28- 4	ST						4426
21S 602	104	5-11	3	3- 0	0- 6	2- 9			924
* 21S 603	104	3- 8	3	2- 0	1- 0	1- 0			573
21S 604	8	33- 4	ST						401
* 21S 608	5	4- 0	ST						30
* 21S 801	50	8- 4	3	5- 6	0- 8	2- 6			1112
21S 901	4	9- 0	ST						122
* 21S 902	7	8- 4	3	5- 3	1- 1	2- 6			198
NON EPOXY COATED = 7951									
EPOXY COATED = 9449									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-21 = 17400									
SUPERSTRUCTURE S-22									
* 22S 401	287	30- 0	ST						5751
* 22S 402	41	35- 3	ST						965
22S 403	42	30- 0	ST						842
22S 404	6	35- 3	ST						141
22S 405	222	5- 1	5	0- 8	1-10				754
22S 406	11	4- 1	5	0- 8	1- 4				30
* 22S 407	405	4-11	5	0-10	1- 8				1330
22S 409	428	6- 0	ST						1715
22S 410	405	2- 9	12	1- 5	1- 4	0- 7			744
22S 411	30	17- 4	ST						347
22S 412	6	20- 3	ST						81
22S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
22S 416	4	4- 2	12	2- 9	1- 5	0- 8			11
22S 417	4	3- 2	12	1- 9	1- 5	0- 8			8
22S 501	232	30- 0	ST						7259
22S 502	378	28- 4	ST						11171
22S 503	29	9- 3	ST						280
* 22S 504	40	4- 8	14	1- 6	0- 7				195
22S 506	10	3- 9	ST						39
* 22S 507	418	7- 2	2	0- 9	5-11				3124
* 22S 510	2	5- 1	2	1- 8	2- 0				11
* 22S 511	2	5- 1	2	1- 8	2- 0				11
* 22S 512	4	5- 7	2	1- 8	2- 6				23
* 22S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 22S 514	2	2- 9	2	0- 9	1- 6				6
* 22S 515	2	3- 3	2	0- 9	2- 0				7
* 22S 516	4	3- 9	2	0- 9	2- 6				16
* 22S 601	378	28- 4	ST						16086
22S 602	358	5-11	3	3- 0	0- 6	2- 9			3181
* 22S 603	358	3- 8	3	2- 0	1- 0	1- 0			1972
22S 604	16	30- 0	ST						721
22S 605	2	12- 0	ST						36
22S 606	20	17- 4	ST						521
22S 607	4	20- 3	ST						122
* 22S 608	10	4- 0	ST						60
* 22S 801	100	8- 4	3	5- 6	0- 8	2- 6			2225

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
SUPERSTRUCTURE S-22 CONT'D.									
22S 901	8	9- 0	ST						245
* 22S 902	6	8- 4	3	5- 3	1- 1	2- 6			170
NON EPOXY COATED = 28252									
EPOXY COATED = 31989									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-22 = 60251									
SUPERSTRUCTURE S-23									
* 23S 401	328	30- 0	ST						6573
* 23S 402	41	26- 3	ST						719
23S 403	48	30- 0	ST						962
23S 404	6	30- 0	ST						120
23S 405	240	5- 1	5	0- 8	1-10				815
23S 406	12	4- 1	5	0- 8	1- 4				33
* 23S 407	439	4-11	5	0-10	1- 8				1442
23S 409	462	6- 0	ST						1852
23S 410	439	2- 9	12	1- 5	1- 4	0- 7			806
23S 411	33	17- 4	ST						382
23S 412	6	20- 3	ST						81
23S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
23S 416	4	4- 2	12	2- 9	1- 5	0- 8			11
23S 417	4	3- 2	12	1- 9	1- 5	0- 8			8
23S 501	232	30- 0	ST						7259
23S 502	409	28- 4	ST						12087
23S 503	29	28-11	ST						875
* 23S 504	40	4- 8	14	1- 6	0- 7				195
23S 506	10	3- 9	ST						39
* 23S 507	452	7- 2	2	0- 9	5-11				3379
* 23S 510	2	4- 7	2	1- 8	1- 6				10
* 23S 511	2	5- 1	2	1- 8	2- 0				11
* 23S 512	4	5- 7	2	1- 8	2- 6				23
* 23S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 23S 514	2	2- 9	2	0- 9	1- 6				6
* 23S 515	2	3- 3	2	0- 9	2- 0				7
* 23S 516	4	3- 9	2	0- 9	2- 6				16
* 23S 601	409	28- 4	ST						17406
23S 602	387	5-11	3	3- 0	0- 6	2- 9			3439
* 23S 603	387	3- 8	3	2- 0	1- 0	1- 0			2131
23S 604	16	30- 0	ST						721
23S 605	2	31- 8	ST						721
23S 606	22	17- 4	ST						573
23S 607	4	20- 3	ST						122
* 23S 608	10	4- 0	ST						60
* 23S 801	100	8- 4	3	5- 6	0- 8	2- 6			2225
23S 901	8	9- 0	ST						245
* 23S 902	6	8- 4	3	5- 3	1- 1	2- 6			170
NON EPOXY COATED = 30539									
EPOXY COATED = 34410									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-23 = 64949									
SUPERSTRUCTURE S-24									
* 24S 401	328	30- 0	ST						6573
* 24S 402	41	26- 6	ST						726
24S 403	48	30- 0	ST						962
24S 404	6	26- 6	ST						105
24S 405	240	5- 1	5	0- 8	1-10				815
24S 406	12	4- 1	5	0- 8	1- 4				33
* 24S 407	439	4-11	5	0-10	1- 8				1442
24S 409	462	6- 0	ST						1852
24S 410	439	2- 9	12	1- 5	1- 4	0- 7			806
24S 411	33	17- 4	ST						382
24S 412	6	20- 3	ST						81
24S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
24S 416	4	4- 2	12	2- 9	1- 5	0- 8			11
24S 417	4	3- 2	12	1- 9	1- 5	0- 8			8

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
SUPERSTRUCTURE S-24 CONT'D.									
24S 501	232	30- 0	ST						7259
24S 502	409	28- 4	ST						12087
24S 503	29	28-11	ST						875
* 24S 504	40	4- 8	14	1- 6	0- 7				195
24S 506	10	3- 9	ST						39
* 24S 507	452	7- 2	2	0- 9	5-11				3379
* 24S 510	2	4- 7	2	1- 8	1- 6				10
* 24S 511	2	5- 1	2	1- 8	2- 0				11
* 24S 512	4	5- 7	2	1- 8	2- 6				23
* 24S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 24S 514	2	2- 9	2	0- 9	1- 6				6
* 24S 515	2	3- 3	2	0- 9	2- 0				7
* 24S 516	4	3- 9	2	0- 9	2- 6				16
* 24S 601	409	28- 4	ST						17406
24S 602	387	5-11	3	3- 0	0- 6	2- 9			3439
* 24S 603	387	3- 8	3	2- 0	1- 0	1- 0			2131
24S 604	16	30- 0	ST						721
24S 605	2	31- 8	ST						95
24S 606	22	17- 4	ST						573
24S 607	4	20- 3	ST						122
* 24S 608	22	4- 0	ST						132
* 24S 801	100	8- 4	3	5- 6	0- 8	2- 6			2225
24S 901	8	9- 0	ST						245
* 24S 902	6	8- 4	3	5- 3	1- 1	2- 6			170
NON EPOXY COATED = 30525									
EPOXY COATED = 34489									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-24 = 65014									
SUPERSTRUCTURE S-25									
* 25S 401	287	30- 0	ST						5751
* 25S 402	41	35- 3	ST						965
25S 403	42	30- 0	ST						842
25S 404	6	35- 3	ST						141
25S 405	222	5- 1	5	0- 8	1-10				754
25S 406	11	4- 1	5	0- 8	1- 4				30
* 25S 407	405	4-11	5	0-10	1- 8				1330
25S 409	428	6- 0	ST						1715
25S 410	405	2- 9	12	1- 5	1- 4	0- 7			744
25S 411	30	17- 4	ST						347
25S 412	6	20- 3	ST						81
25S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
25S 416	4	4- 2	12	2- 9	1- 5	0- 8			11
25S 417	4	3- 2	12	1- 9	1- 5	0- 8			8
25S 501	232	30- 0	ST						7259
25S 502	378	28- 4	ST						11171
25S 503	29	9- 3	ST						280
* 25S 504	40	4- 8	14	1- 6	0- 7				195
25S 506	10	3- 9	ST						39
* 25S 507	418	7- 2	2	0- 9	5-11				3124
* 25S 510	2	4- 7	2	1- 8	1- 6				10
* 25S 511	2	5- 1	2	1- 8	2- 0				11
* 25S 512	4	5- 7	2	1- 8	2- 6				23
* 25S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 25S 514	2	2- 9	2	0- 9	1- 6				6
* 25S 515	2	3- 3	2	0- 9	2- 0				7
* 25S 516	4	3- 9	2	0- 9	2- 6				16
* 25S 601	378	28- 4	ST						16086
25S 602	358	5-11	3	3- 0	0- 6	2- 9			3181
* 25S 603	358	3- 8	3	2- 0	1- 0	1- 0			1972
25S 604	16	30- 0	ST						721
25S 605	2	12- 0	ST						36
25S 606	20	17- 4	ST						521
25S 607	4	20- 3	ST						122
* 25S 608	10	4- 0	ST						60

MARK	NO. REQD.	LGTH.	TYPE	DIMENSIONS A	B	C	D	INCRM.	WEIGHT LBS.
SUPERSTRUCTURE S-25 CONT'D.									
* 25S 801	100	8- 4	3	5- 6	0- 8	2- 6			2225
25S 901	8	9- 0	ST						245
* 25S 902	6	8- 4	3	5- 3	1- 1	2- 6			170
NON EPOXY COATED = 28252									
EPOXY COATED = 31988									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-25 = 60250									
SUPERSTRUCTURE S-26									
* 26S 401	205	30- 0	ST						4108
* 26S 402	41	13-11	ST						381
26S 403	30	30- 0	ST						601
26S 404	6	13-11	ST						56
26S 405	154	5- 1	5	0- 8	1-10				523
26S 406	3	4- 1	5	0- 8	1- 4				8
* 26S 407	270	4-11	5	0-10	1- 8				887
26S 409	293	6- 0	ST						1174
26S 410	270	2- 9	12	1- 5	1- 4	0- 7			496
26S 411	6	36- 8	ST						147
26S 412	3	39-10	ST						80
26S 413	3	38- 4	ST						77
26S 415	3	7- 2	25	2- 0	0- 6	2- 0	0- 6		14
26S 416	4	4- 2	12	2- 9	1- 5	0- 8			11
26S 417	4	3- 2	12	1- 9	1- 5	0- 8			8
26S 501	145	30- 0	ST						4537
26S 502	253	28- 4	ST						7477
26S 503	29	15- 7	ST						471
* 26S 504	20	4- 8	14	1- 6	0- 7				97
26S 505	28	2-10	16	0- 7	0- 9	1- 6	1- 8		83
26S 506	5	3- 9	ST						20
* 26S 507	283	7- 2	2	0- 9	5-11				2115
* 26S 510	2	4- 7	2	1- 8	1- 6				10
* 26S 511	2	5- 1	2	1- 8	2- 0				11
* 26S 512	4	5- 7	2	1- 8	2- 6				23
* 26S 513	3	11-10	25	1- 6	2- 4	2- 6	2- 4		37
* 26S 514	2	2- 9	2	0- 9	1- 6				6
* 26S 515	2	3- 3	2	0- 9	2- 0				7
* 26S 516	4	3- 9	2	0- 9	2- 6				16
* 26S 601	253	28- 4	ST						10767
26S 602	248	5-11	3	3- 0	0- 6	2- 9			2204
* 26S 603	248	3- 8	3	2- 0	1- 0	1- 0			1366
26S 604	10	30- 0	ST						451
26S 605	2	17- 3	ST						52
26S 606	4	36- 8	ST						220
26S 607	2	39-10	ST						120
* 26S 608	5	4- 0	ST						30
26S 609	2	38- 4	ST						115
* 26S 801	50	8- 4	3	5- 6	0- 8	2- 6			1112
26S 901	4	9- 0	ST						122
* 26S 902	7	8- 4	3	5- 3	1- 1	2- 6			198
NON EPOXY COATED = 19067									
EPOXY COATED = 21171									
(*) DENOTES BARS TO BE EPOXY COATED									
TOTAL SUPERSTRUCTURE S-26 = 40238									

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

96A/113

CUYAHOGA COUNTY
CUY-10-08.69

REINFORCING STEEL SAMPLES

REFER TO CMS SECTIONS 106.03.700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL. SPLICED IN ACCORDANCE WITH 509.08.

ABUTMENT NON-EPOXY COATED = 33556
SUPERSTRUCTURE, NON-EPOXY COATED = 270063
TOTAL NON-EPOXY COATED = 303619

ABUTMENT EPOXY COATED = 3309
SUPERSTRUCTURE EPOXY COATED = 302013
TOTAL EPOXY COATED = 305322

GRAND TOTAL = 608941

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CLEVELAND, OHIO AKRON, OHIO

58A/59

REINFORCING SCHEDULE
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY OHIO

REPORT Nº 7092
Nº B-79

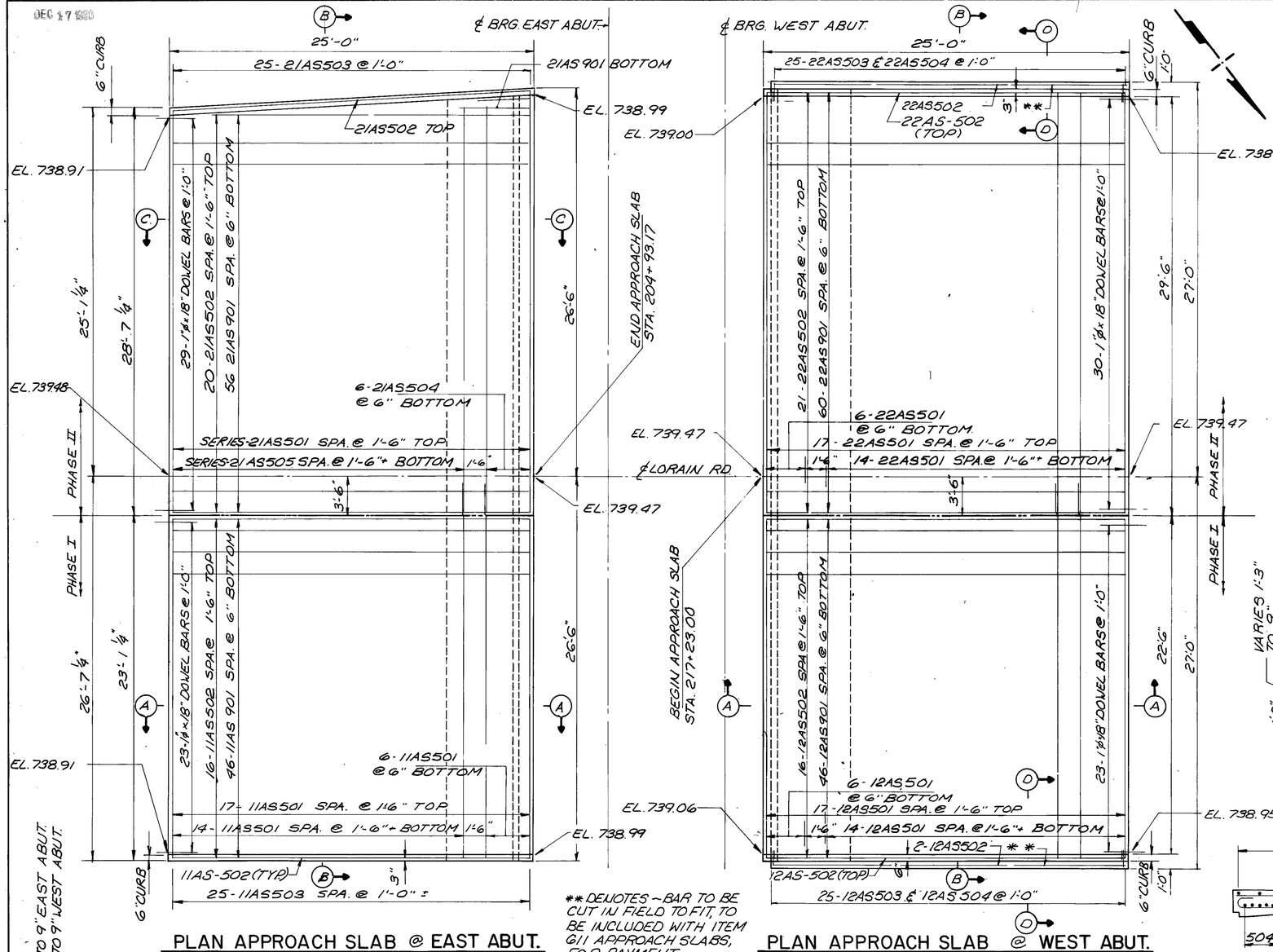
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	JWW		ALH	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO	F-BRF-69(42.)	

97
113

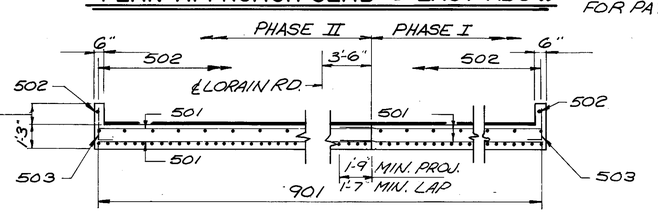
CUYAHOGA COUNTY
CUY-10-08.69



PLAN APPROACH SLAB @ EAST ABUT.

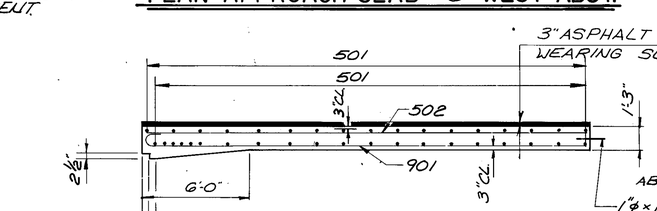
PLAN APPROACH SLAB @ WEST ABUT.

** DENOTES - BAR TO BE CUT IN FIELD TO FIT, TO BE INCLUDED WITH ITEM 611 APPROACH SLABS, FOR PAYMENT.

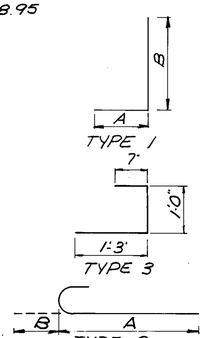


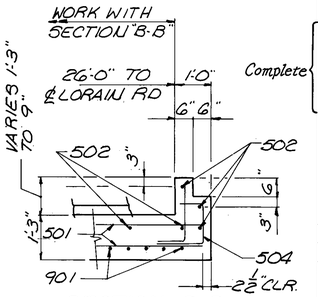
SECTION B-B

(EAST APPROACH SLABS SHOWN - WEST APPROACH SLABS SIMILAR EXCEPT FOR TREATMENT OF CURBS - SEE SECTION "D-D" WEST APPROACH SLABS ONLY)



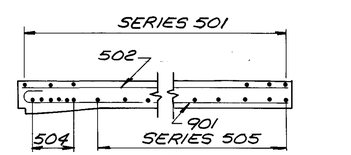
SECTION A-A





SECTION D-D

(CURB TREATMENT FOR WEST APPROACH SLABS ONLY)



SECTION C-C

FOR DETAILS NOT SHOWN SEE SECTION A-A.

PREFIX LEGEND
CONSTRUCTION PHASE
11AS-501
BAR SIZE
BAR MARK Nº
APPROACH SLAB
ABUTMENT
1"ø x 18" DOWEL BARS @ 1'-0" c/c

⚠ PHASE I Approach Slabs complete except for Wearing Surface.

REINFORCING SCHEDULE

MARK	Nº	LENGTH	TYPE	A	B	WEIGHT
APPROACH SLAB - EAST ABUT. (PHASE I)						
11AS501	37	24'-7"	STR.			949
11AS502	17	24'-6"	STR.			434
11AS503	25	2'-2"	1	9"	1'-6"	56
11AS901	46	25'-9"	2	24'-6"	1'-3"	4027
23-1"ø 18" DOWEL BARS						92
TOTAL APPROACH SLAB						5558
APPROACH SLAB - EAST ABUT. (PHASE II)						
SERIES OF 21AS501	1-SET OF 17 =17 BARS	28'-2" TO 29'-7"	STR.			512
21AS502	21	24'-6"	STR.			537
21AS503	25	2'-2"	1	9"	1'-6"	56
21AS504	6	29'-5"	STR.			184
SERIES OF 21AS505	1-SET OF 14 =14 BARS	28'-2" TO 29'-7"	STR.			422
21AS901	59	25'-9"	2	24'-6"	1'-3"	5165
29-1"ø x 18" DOWEL BARS						116
TOTAL APPROACH SLAB						6988
APPROACH SLAB - WEST ABUT. (PHASE I)						
12AS501	37	25'-0"	STR.			965
12AS502	17	24'-6"	STR.			434
12AS503	25	2'-2"	1	9"	1'-6"	56
12AS901	46	25'-9"	2	24'-6"	1'-3"	4027
12AS504	25	2'-7"	3			67
23-1"ø x 18" DOWEL BARS						92
TOTAL APPROACH SLAB						5641
APPROACH SLAB - WEST ABUT. (PHASE II)						
22AS501	37	30'-0"	STR.			1158
22AS502	21	24'-6"	STR.			537
22AS503	25	2'-2"	1	9"	1'-6"	56
22AS901	60	25'-9"	2	24'-6"	1'-3"	5253
22AS504	25	2'-7"	3			67
30-1"ø x 18" DOWEL BARS						120
TOTAL APPROACH SLAB						7191
GRAND TOTAL						25,378

Complete
Complete
Complete

292 SQ. YDS. CLASS "C" CONCRETE (TOTAL FOR ALL APPROACH SLABS)

NOTES:

1. FOR DETAILS AND NOTES NOT SHOWN, SEE STD. DWG. AS-1-72.
2. ELEVATIONS SHOWN ARE TOP OF CONCRETE ELEVATIONS. PROPER ALLOWANCE HAS BEEN MADE FOR THE 3" WEARING SURFACE.
3. JACKING HOLES AS SHOWN ON AS-1-72 SHALL NOT BE PROVIDED.
4. TACK COAT SHALL BE APPLIED AT THE RATE OF .10 GAL PER SQ. YD. AND COVER AGGREGATE AT THE RATE OF 7 LBS. PER SQ. YD. TO TOP OF CONCRETE AND SHALL BE INCLUDED WITH ITEM 407 FOR PAYMENT.

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59/59

APPROACH SLAB DETAILS
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA 204+93.17 TO STA 217+23.00
CUYAHOGA COUNTY — OHIO

REPORT Nº 7092 Nº B-79	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	A.L.H.	CDG		JWW	JFP	7-30-82	

LORAIN ROAD BRIDGE Nº 42

CALC. BY. ____ DATE ____	CUY-10-08.69	OHIO
CHKD. BY. ____ DATE ____		F.H.W.A. REGION 5

98
113

GENERAL LIGHTING NOTES

SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET

625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
ILLUMINATING BUILDING 55 PUBLIC SQUARE
CLEVELAND, OHIO 44101
TELEPHONE 216/622-9800

THE SERVICE VOLTAGE WILL BE 120/240 VOLTS, 3 WIRE, GROUNDED NEUTRAL. FINAL CONNECTIONS BY CLEVELAND ELECTRIC ILLUMINATING COMPANY FORCES. THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP WITH A MINIMUM OF 1.5 FOOTCANDLES AVERAGE MAINTAINED, WITH A UNIFORMITY RATIO OF 3 TO 1 AVERAGE TO MINIMUM.

839 - HIGH VOLTAGE DIRECT CURRENT TEST

A HIGH VOLTAGE DIRECT CURRENT TEST, AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 839, SHALL BE PERFORMED ON ALL DISTRIBUTION CABLE, AND DUCT CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCE, ETC., IN THE IMMEDIATE VICINITY OF THE LOCATION OF THE CABLE RUN BEING TESTED, HAS BEEN COMPLETED.

625.13 - 713.04 CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSEHINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 713.01 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID, PER SET, U OR L BOLT OF THE SIZE SPECIFIED AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS. FOR LIGHT POLE ANCHOR BOLT DETAIL SEE SHEET 80.

625.21 - 713.10 JUNCTION BOXES

EACH JUNCTION BOX COVER SHALL HAVE THE WORD "ELECTRIC" CAST IN THE TOP SURFACE OF THE COVER FORMING LETTERS 1 TO 2 INCHES IN HEIGHT.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-10 FOR DETAILS OF DRAINING PULL BOXES, UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF "60 LINEAR FEET OF ITEM 605, 4" SHALLOW PIPE UNDERDRAINS" IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - CABLE SPLICING KIT

THIS ITEM SHALL CONSIST OF PROVIDING AND INSTALLING AN APPROVED CABLE SPLICING KIT AS DESCRIBED IN PARAGRAPH 5 OF SECTION 713.15 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH "ITEM 625 - CABLE SPLICING KIT."

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH SPECIFICATION 631.08 PARAGRAPH 3. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

STANDARD CONSTRUCTION DRAWING HL-3

POLE BASE DETAILS SHOWN ON THIS DRAWING ARE ESSENTIALLY FOR GALVANIZED STEEL POLES. FOR ALUMINUM DESIGNS, OR OTHER PERMITTED STEEL MATERIAL DESIGNS, VARIATIONS FROM THESE DETAILS WILL BE ACCEPTABLE, AS APPROVED BY THE ENGINEER.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

References to Supplemental Specifications 857, 858, 859, 957, 958 and 959 on the Traffic Control Standard Construction Drawings in these plans shall be considered to read as respective references to Items 630, 631, 632, 730, 731 and 732.

CALCULATED BY E.B.R. DATE 7-81
CHECKED BY R.E.S. DATE 9-81

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

CUY-10-08.69

09
113

GENERAL SUMMARY LIGHTING QUANTITIES

LIGHTING

SHEET No. 100	101	102	103	TOTAL	ITEM	UNIT	DESCRIPTION	REF.	
	5	4	2	11	625	EACH	LIGHT POLE, DESIGN A10B30	A	1
									2
									3
									4
2			2	4	625	EACH	PULL BOX, 18" CONCRETE, 713.08		5
									6
210			97	307	625	LIN.FT.	TRENCH, 24" DEEP		7
									8
~~130~~ 70	1050	1000	467	2647	625	LIN.FT.	CONDUIT, 2 INCH 713.04		9
									10
210			97	307	625	LIN.FT.	CONDUIT, 3 INCH 713.04		11
									12
1023	3234	3117	1368	8742	625	LIN.FT.	NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE		13
									14
	400	320	160	880	625	LIN.FT.	NO. 10 AWG., POLE AND BRACKET CABLE		15
									16
	5	4	2	11	625	EACH	CONNECTOR KIT, TYPE II		17
									18
	5	4	2	11	625	EACH	CONNECTOR KIT, TYPE III		19
									20
4			4	8	625	EACH	CABLE SPLICING KIT		21
									22
	5	4	2	11	625	EACH	JUNCTION BOX, 18 INCH X 8 INCH X 6 INCH, AS PER PLAN		23
									24
				1	625	EACH	STRUCTURAL GROUNDING SYSTEM FOR STRUCTURE NO. CUY-10-0869		25
									26
2			2	4	625	EACH	POWER SERVICE		27
									28
30			30	60	605	LIN.FT.	4 INCH SHALLOW PIPE UNDERDRAIN		29
									30
2			2	4	625	EACH	2 INCH WEATHERHEAD FOR 713.04 CONDUIT RISER		31
									32
	5	4	2	11	SPEC	SET	LIGHT POLE ANCHOR BOLTS FOR STRUCTURE		33
									34
									35
									36
									37
									38
									39
									40
									41
									42
									43
									44
									45
									46
									47
									48
									49
									50
									51
									52

TRAFFIC CONTROL

SHEET No. 9	100	101	102	103	TOTAL	ITEM	UNIT	DESCRIPTION	
								PAVEMENT MARKING	53
									54
	.08	.20	.19	.19	0.66	621	MILES	LANE LINES, 4 INCH	55
									56
	.04	.10	.09	.10	0.33	621	MILES	CENTERLINES	57
									58
	21			25	46	621	LIN.FT.	STOP LINES	59
									60
								TRAFFIC SIGNS AND SIGN SUPPORTS	61
									62
									63
									64
		2			2	630	EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, MODIFIED AS PER PLAN	65
									66
		12			12	630	SQ.FT.	SIGNS, FLAT SHEET	67
									68
		1			1	630	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	69
									70
									71
			QUANTITY REMAINING△		TOTAL	ITEM	UNIT	TEMPORARY PAVEMENT MARKING	72 / 73
0.37			0.37		0.37	614	MILES	TEMPORARY LANE LINES, CLASS II	74
0.55			0.05		0.55	614	MILES	TEMPORARY CENTER LINES, CLASS I, TAPE	75
0.19			0.19		0.19	614	MILES	TEMPORARY CENTER LINES, CLASS II	76
0.24			0.24		0.24	614	MILES	TEMPORARY EDGE LINES, CLASS I, TAPE	77
0.55			0.55		0.55	614	MILES	TEMPORARY CENTER LINES, CLASS I TYPE R TAPE	78
0.26			0.26		0.26	614	MILES	TEMPORARY EDGE LINES, CLASS I, TYPE R TAPE	79
									80
									81
									82
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									84
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									86
									87
									88
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									102
									103
									104

GENERAL SUMMARY LIGHTING QUANTITIES

NOTE:

SERVICE CONDUIT LOCATIONS AND TERMINATIONS HEIGHTS ON THE SERVICE POLE SHALL BE AS DIRECTED BY THE UTILITY COMPANY, THE CONTRACTOR SHALL ARRANGE WITH THE UTILITY COMPANY FOR A FIELD INSPECTION OF EACH SERVICE POLE LOCATION PRIOR TO HIS INSTALLATION OF THE SERVICE EQUIPMENT.

LEGEND

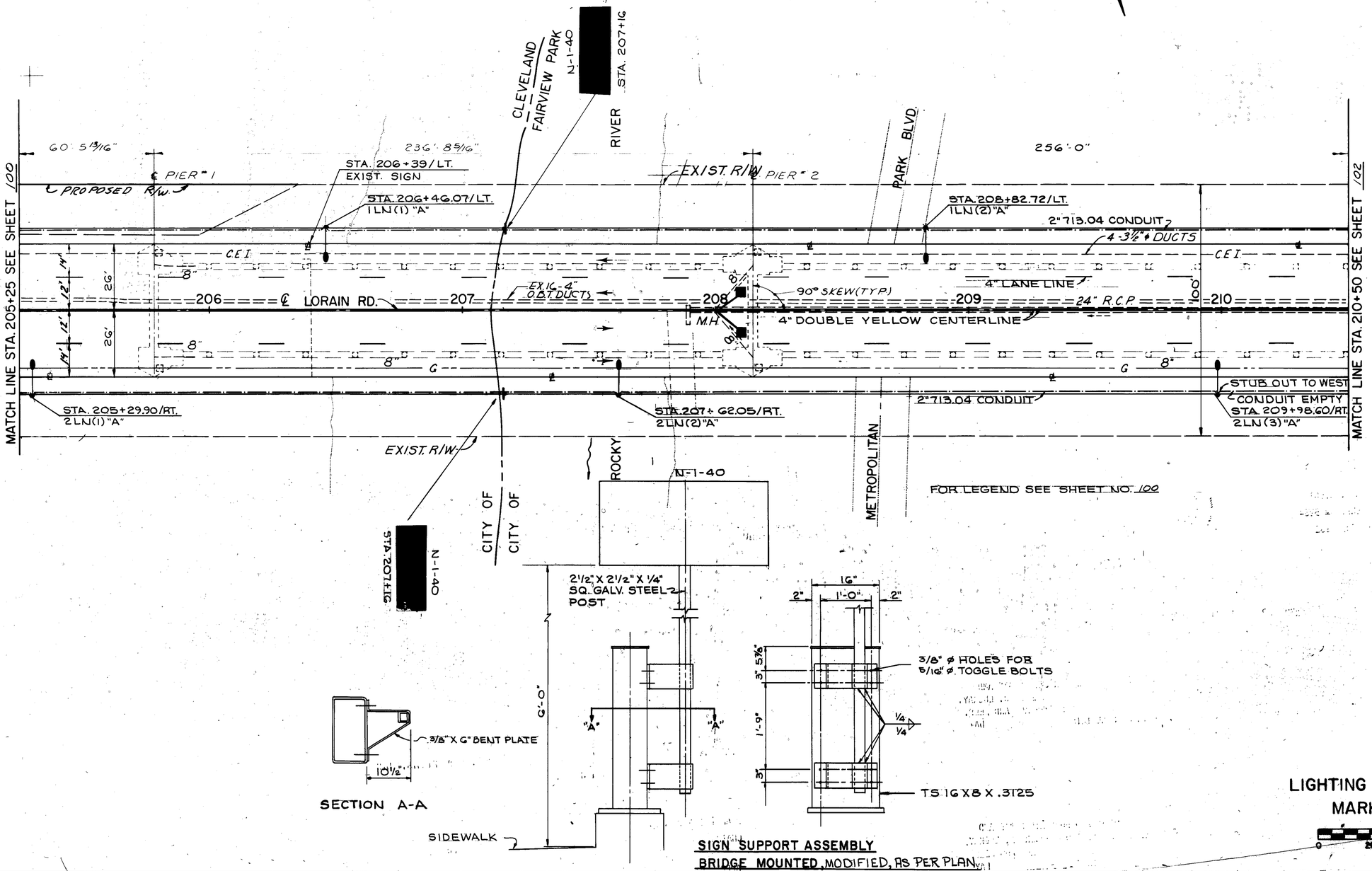
- 250 W. H.P.S. TYPE III 30' M.H. W/P.E.
- 18" CONCRETE PULL BOX
- 2" 713.04 CONDUIT
- 3" 713.04 CONDUIT
- SERVICE POLE
- EXISTING C.E.I. LIGHT POLE
- STRUCTURE MOUNTED SIGN

LIGHTING AND PAVEMENT MARKING PLAN

SCALE
0 20 40 60

CALC. BY. DATE	CUY-10-08.69	OHIO
CHKD. BY. DATE		F.H.W.A. REGION 5

101 / 113



LIGHTING AND PAVEMENT MARKING PLAN

SCALE
0 20 40 60

PLAN – STA. 205+25 TO STA. 210+50

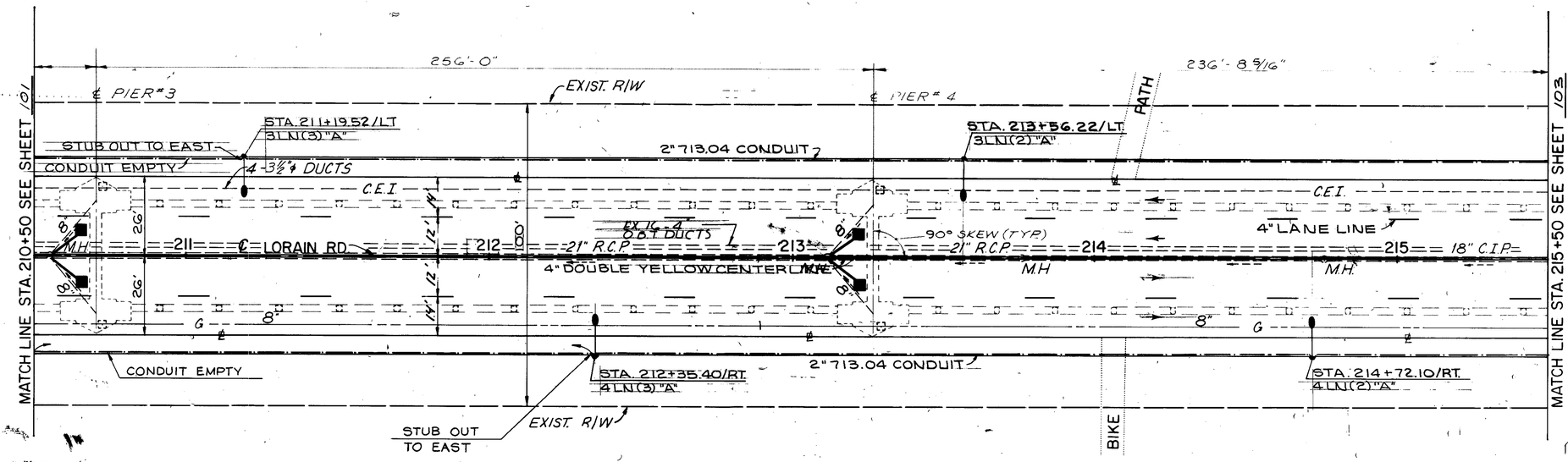
LORAIN ROAD BRIDGE, N° 42

AA B/Pa 71942R

CALC. BY. DATE	CUY-10-08.69	OHIO
CHKD. BY. DATE		F.H.W.A. REGION 5

102 / 113

CITY OF FAIRVIEW PARK



FOR LEGEND SEE SHEET NO. 100

LIGHTING AND PAVEMENT MARKING PLAN

SCALE

0 20 40 60

PLAN - STA. 210+50 TO STA. 215

CALC. BY. ____ DATE ____	CUY-10-08.69	OHIO
CHKD. BY. ____ DATE ____		F.H.W.A. REGION 5

103
113

CITY OF FAIRVIEW PARK

END PROJECT
STA. 219+58.00

END WORK
STA 220+60.00

MATCH LINE STA. 215+50 SEE SHEET 102

41' 1 3/8" | 38' 7 3/8" | 38' 7 3/8" | 38' 8 1/8"

℄ PIER #5 | ℄ PIER #6 | ℄ PIER #7 | ℄ PIER #8 | ℄ BEAR NO. ABUT 42

STA. 215+92.73/LT.
3 LN (1) "A"

2" 713.04 CONDUIT
4-3" DUCTS

4" LANE LINE
℄ LORAIN RD.
4" DOUBLE YELLOW CENTERLINE

EX. O.B.T. DUCTS

6" STEEL PIPE

G BOX

CB 12"

18" RCP

12" SAN. SIGN

STA. 217+08.61/RT.
4 LN (1) "A"

STA. 217+67/39' RT.
SERVICE POLE
#204507

PARKING

EXIST. C.E.I. M.H.

2 ST BRK BLDG

7' SIDEWALK

EXIST. R/W

FOR LEGEND SEE SHEET NO. 100

STA. 218+56/32' LT.
SERVICE POLE
#SYM5 E-60557

GM SIGN

EXIST. R/W

EX. O.B.T. DUCTS

EXIST. C.E.I. DUCTS

TRAFFIC DIVIDERS

STA. 218+25/32' RT.
PER C.E.I. PLANS
#SYM3 E-60557

EXIST. O.B.T. M.H.

4" GAS

12" RR TIES

SAN M.H.

ST M.H.

WOOD RAIL

HYD

G CURB

℄ STORY RD.

4' SIDEWALK

CONC. DR. APPR.

1½ ST. FR. #18951

8' ASPH. DR.

HEDGE

3' CONC.

9' SLAG DR

9' SLAG DR

9' CONC DR.

10' SLAG DR

FLOWER BED

OBT MH

W BOX

SIGN

C.E.I.

⚠ 30 LF – 2" Conduit completed (in west abutment)

LIGHTING AND PAVEMENT MARKING PLAN

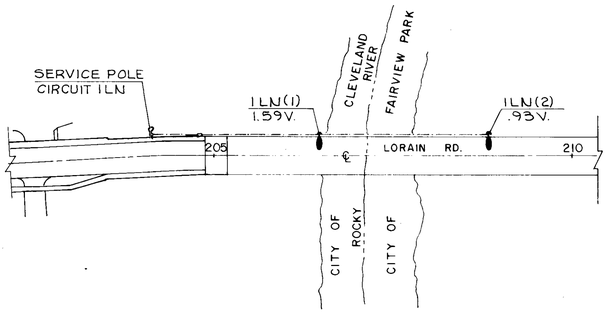
SCALE
0 20 40 60

PLAN – STA. 215+50 TO STA. 219+58.00

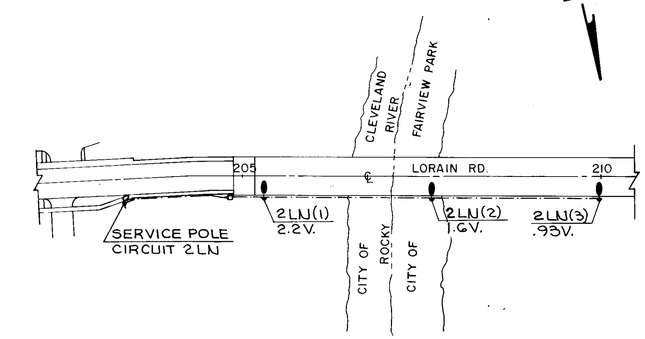
LORAIN ROAD BRIDGE N° 42

AA 18/P+ 71942R

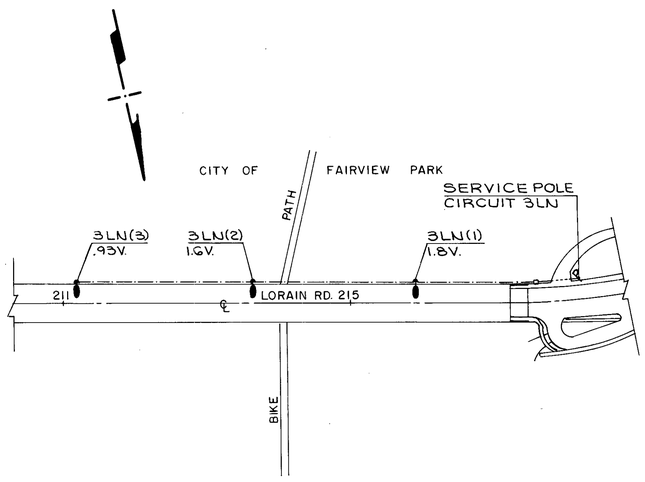
CALC. BY. DATE	CUY-10-08.69	OHIO	104 / 113
CHKD. BY. DATE		F.H.W.A. REGION 5	



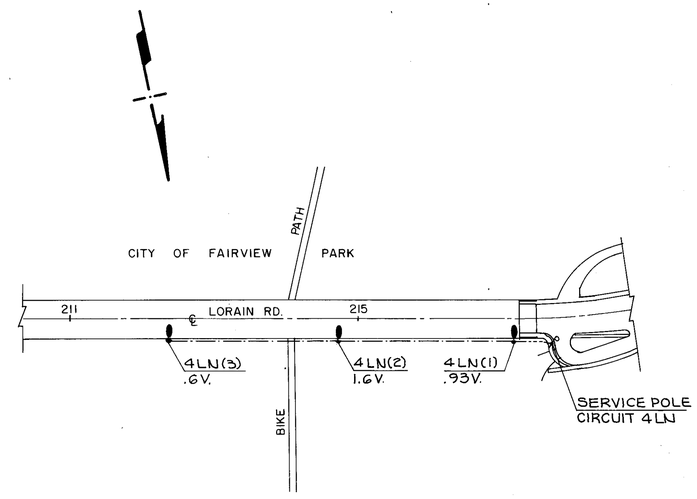
CIRCUIT NO. 1LN
PLAN SHEET NO. 100 & 101



CIRCUIT NO. 2LN
PLAN SHEET NO. 100 & 101



CIRCUIT NO. 3LN
PLAN SHEET NO. 102 & 103



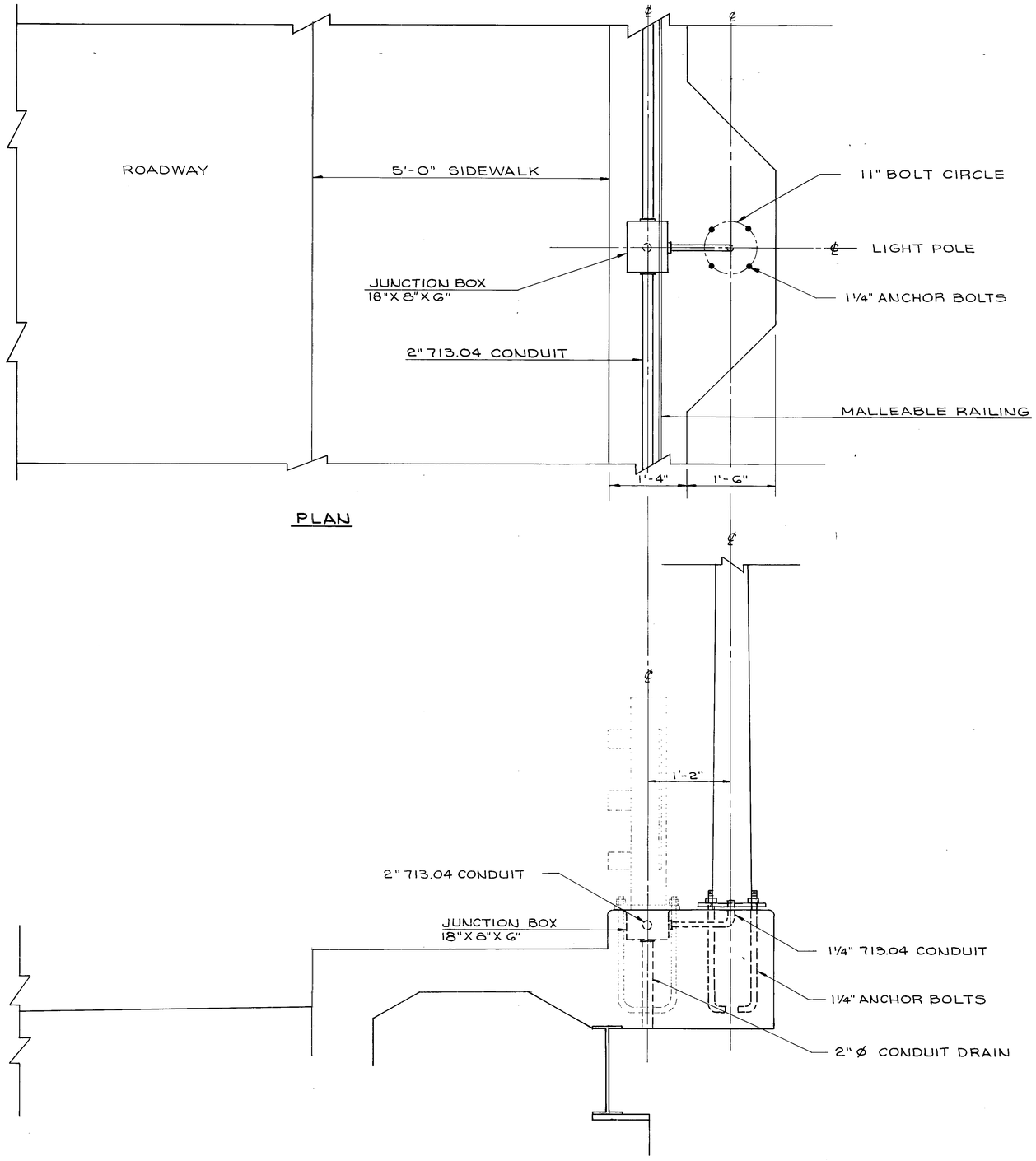
CIRCUIT NO. 4LN
PLAN SHEET NO. 102 & 103

CIRCUIT DIAGRAM

AA B/P# 71942R

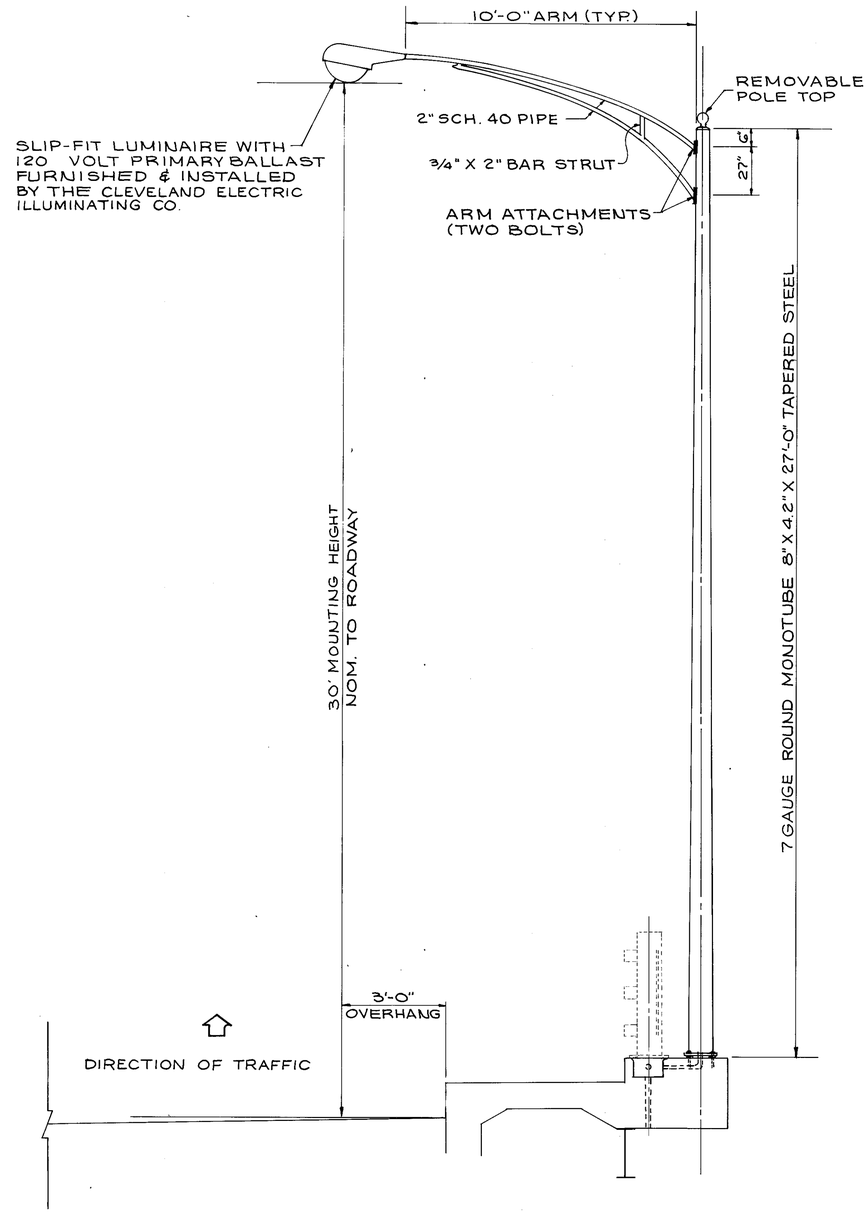
CALC. BY. DATE	CUY-10-08.69	OHIO
CHKD. BY. DATE		F.H.W.A. REGION 5

105 / 113



PLAN

ELEVATION VIEW



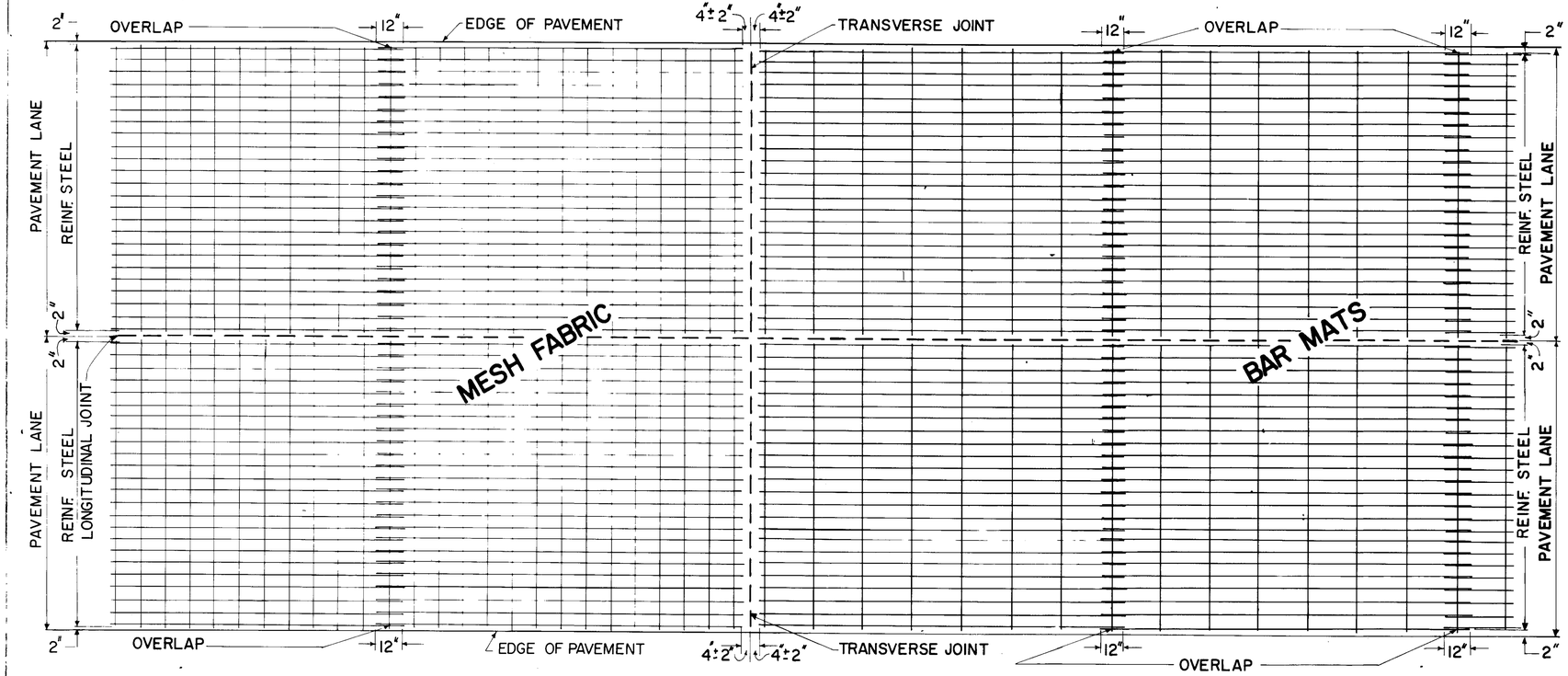
TYPICAL LIGHT POLE STRUCTURE MOUNTED

LIGHTING DETAILS

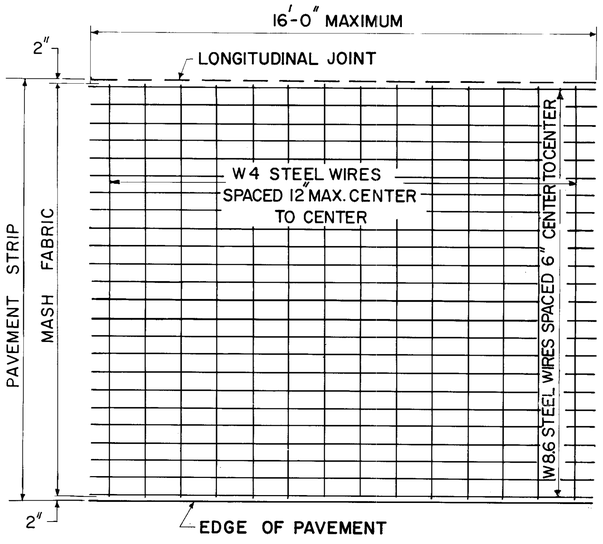
STEEL REINFORCING
FOR REINFORCED CONCRETE BASE & PAVEMENT

CUYAHOGA COUNTY
CUY-10-8.69

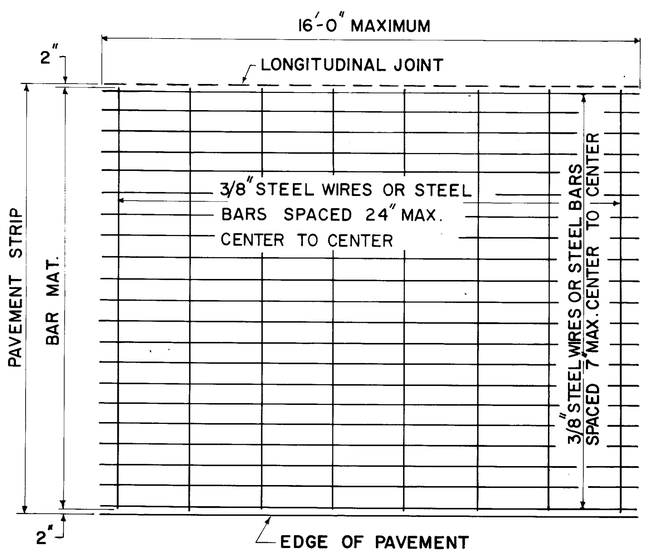
106
113



MESH FABRIC



BAR MATS



NOTE:

THE REINFORCING FOR A LANE IN EXCESS OF 12 FEET IN WIDTH PLACED AS A SINGLE OPERATION MAY CONSIST OF TWO UNITS. AN APPROVED HINGE WILL BE PERMITTED IN EACH SHEET TO PROVIDE FOR FOLDING THE SHEET LONGITUDINALLY THE HINGE SHALL NOT BE LESS THAN NO.4 GAGE STEEL WIRE AND SHALL BE DESIGNED TO PROVIDE A 7" LAP WHEN THE SHEETS ARE LAID FLAT.

THE DISTANCE FROM THE TOP OF THE CONCRETE PAVEMENT OR BASE COURSE TO THE REINFORCING STEEL MAY VARY FROM 3 INCHES TO T/3+1 INCH, WHERE T= THE THICKNESS OF THE CONCRETE PAVEMENT OR BASE COURSE.

ADJACENT SHEETS OF THE MESH FABRIC SHALL BE LAPPED NOTLESS THAN 12 INCHES WHEN THE LAP IS MADE PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND NOT LESS THAN 7 INCHES WHEN MADE PARALLEL TO THE CENTERLINE OF THE PAVEMENT.

REINFORCING WIRE FABRIC MESH SHALL MEET THE REQUIREMENTS OF 709.10 AND SHALL BE STYLE 6"X12" W8.6 X W4.

CUYAHOGA COUNTY ENGINEER

PAVEMENT REINFORCING

CONSTRUCTION DRAWING

DWG. NO. BP-2C

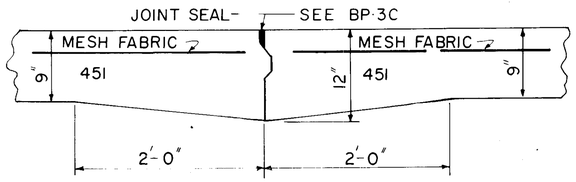
DATE: 6-1-81

REV. | DATE

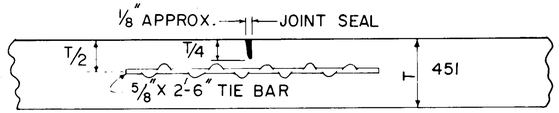
CUYAHOGA COUNTY
CUY-10-8.69

107/113

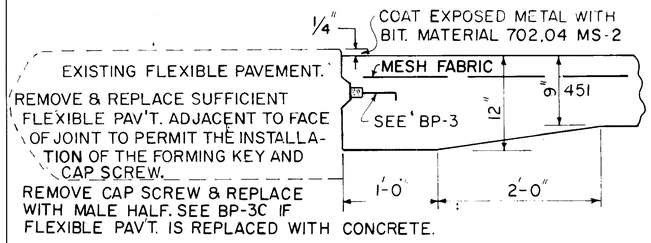
PAVEMENT JOINTS



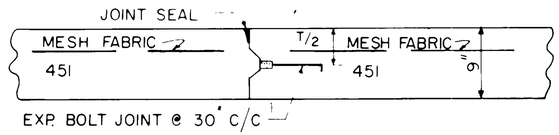
TK — THICKENED EDGE KEY JOINT



L — LONGITUDINAL JOINT
SAWED & TIED BP-3C

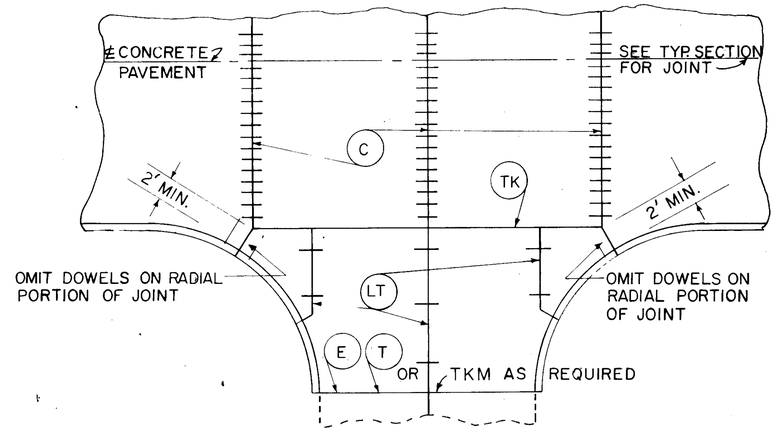


TKM - THICKENED EDGE KEY JOINT
MODIFIED

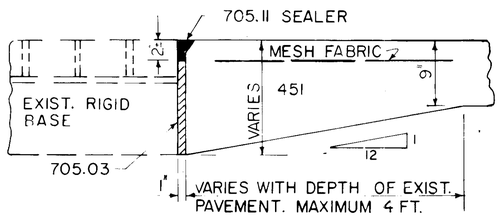


LT — LONGITUDINAL JOINT
KEYED & TIED BP-3C

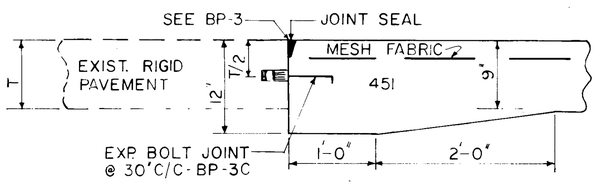
NOTE:
PAVEMENT JOINT TYPE AND SPACING SHALL BE AS PER INTERSECTION DETAILS OR AS DIRECTED BY THE ENGINEER.



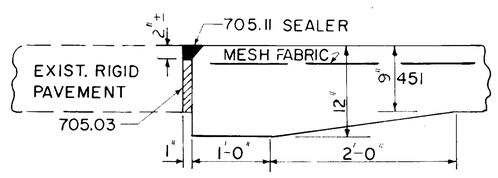
TYPICAL JOINT LAYOUT FOR CONCRETE
PAVED INTERSECTION



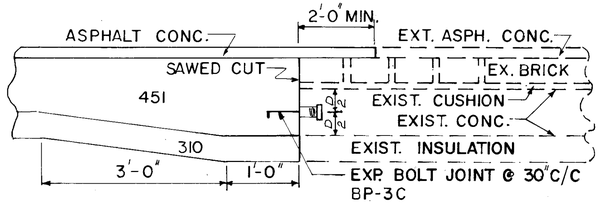
T - THICKENED EDGE JOINT



TEX-THICKENED EDGE JOINT



TE-THICKENED EDGE EXPANSION
JOINT

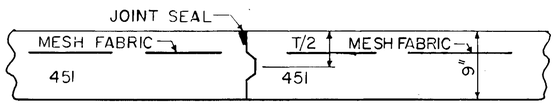


TEB-THICKENED EDGE JOINT

LEGEND:

L - LONGITUDINAL JOINT SAWED & TIED BP-3C
LT - LONGITUDINAL JOINT KEYED & TIED BP-3C
C - CONTRACTION JOINT. SEE CUY. CO. CONSTRUCTION DRAWING BP-4C
E - EXPANSION JOINT. SEE CUY. CO. CONSTRUCTION DRAWING BP-4C
TK - THICKENED EDGE KEY JOINT
TKM - THICKENED EDGE KEY JOINT MODIFIED
T - THICKENED EDGE JOINT
TE - THICKENED EDGE EXPANSION JOINT
TEX - THICKENED EDGE JOINT WITH EXPANSION BOLT
TEB - THICKENED EDGE JOINT WITH EXPANSION BOLT - SEE BP-3C

K - LONGITUDINAL JOINT KEYED



K — LONGITUDINAL JOINT
KEYED

GENERAL NOTES:

THE ADDITIONAL QUANTITY OF CONCRETE REQUIRED FOR ALL THICKENED JOINTS SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT UNIT PRICE BID FOR ITEM 451 — REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.
THE MATERIAL FOR JOINT SEAL SHALL MEET THE REQUIREMENTS OF 705.01, 705.02 & 705.11.

THIS DWG. PREVIOUSLY PJ-1.

CUYAHOGA COUNTY ENGINEER

PAVEMENT JOINTS

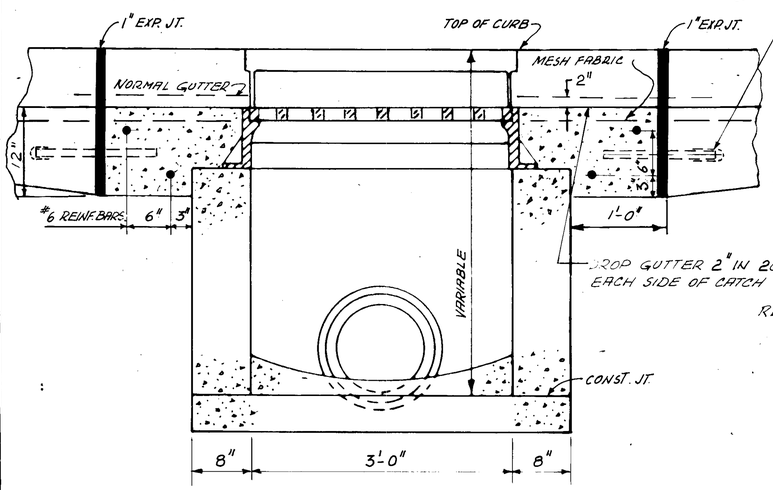
CONSTRUCTION DRAWING

DWG. NO. BP-13C

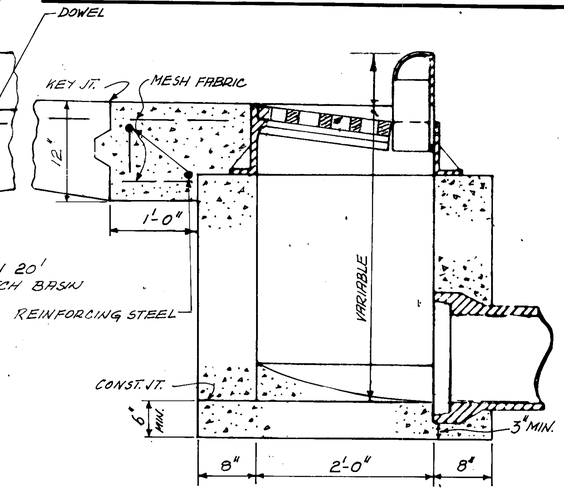
DATE: 1-17-78

REV.	DATE

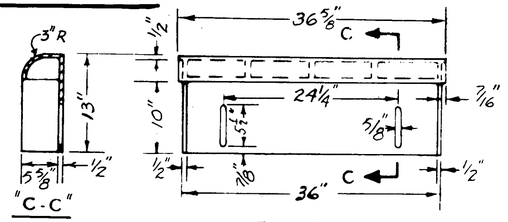
3-C CATCH BASIN



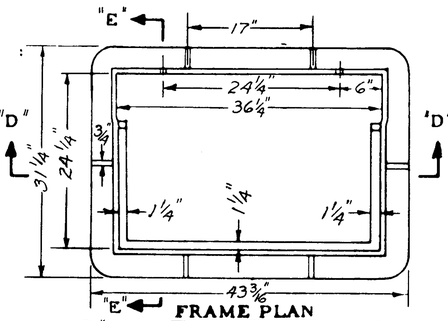
SECTION "B-B"



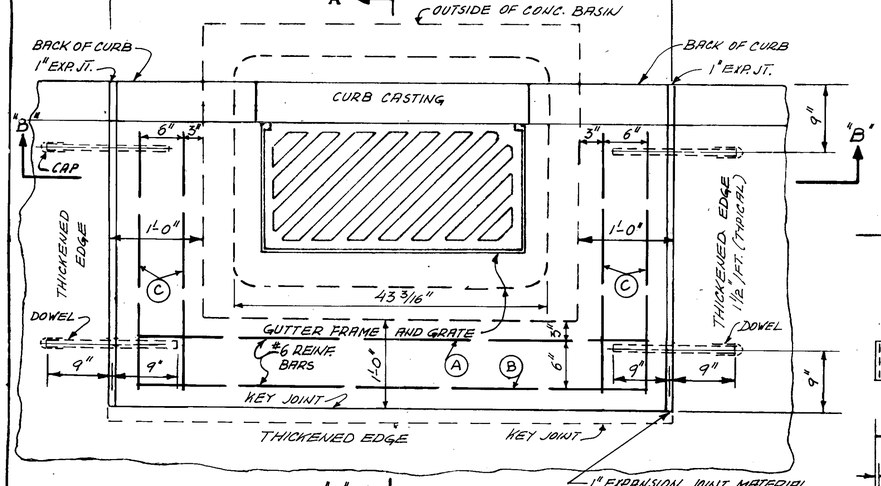
SECTION "A-A"



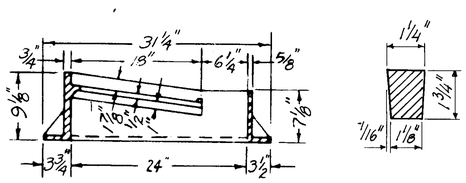
ELEVATION
RADIUS CURB BOX



FRAME PLAN

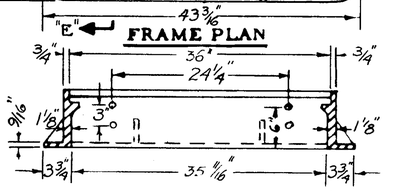


PLAN OF CATCH BASIN



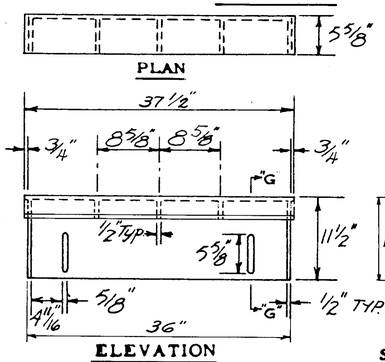
SECTION "E-E"

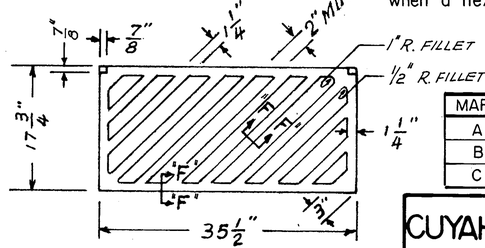
SECTION "F-F"



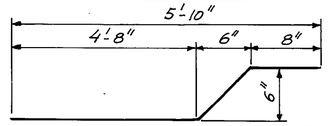
SECTION "D-D"

CURB CASTING FOR CURB CUT IN DRIVEWAYS TYPE "A-2"





GRATE PLAN



DETAIL - REINFORCING BAR "A"
BAR "B" OPPOSITE HAND

NOTES:

CASTINGS shall meet the requirements of 604, except that the grate material shall be restricted to 711.13 ASTM A536 Grade 65-45-12. Exposed part of curb casting to be thoroughly cleaned and given one coat of asphalt varnish or coal tar pitch paint.

WEIGHTS minimum -

Curb casting	100 pounds
Gutter grate	130 pounds
Gutter frame	300 pounds

BEARING AREAS or frame and grate shall be so fitted and finished as to provide a firm and even seat for the portions of the grate in the frame. No projections shall exist on bearing areas of either casting and the grate shall seat in its frame without rocking. The frame and grate shall be fitted, matched and marked before delivery to the project.

DOWELS shall be 1 1/4 inch round, smooth bars 18 inches long spaced as shown hereon and greased.

PAVEMENT: The portion blocked out of the pavement shall be placed after the casting has been set but shall be paid for as part of the pavement.

CONCRETE for brick and cast in place or precast chambers shall be CLASS "C."

EXPANSION JOINT - The elastomeric Expansion Joint seal shall be omitted when an asphalt concrete surface is part of pavement. The 1" expansion joint material shall be omitted when a flexible base is used.

BAR LIST

MARK	NO. REQ'D.	SHAPE	LENGTH	WT.
A	1	BENT	5'-10"	9 #
B	1	BENT	5'-10"	9 #
C	4	STR.	2'-10"	4.25 #

PRECAST CATCH BASIN

A PRECAST CONCRETE CHAMBER MAY BE USED. THE WALL THICKNESS SHALL BE A MINIMUM OF 6". REINFORCING STEEL SHALL BE USED IN ALL CASES. NO. 3 BARS SHALL BE USED WHERE THE WALL HEIGHT FROM THE TOP OF THE WALL TO BOTTOM OF SLAB IS 3 FEET OR LESS AND NO. 4 BARS SHALL BE USED WHEN THE WALL HEIGHT EXCEEDS 3 FEET. SHOP DRAWINGS SHALL BE REQUIRED IF PRECAST CONCRETE STRUCTURE IS USED.

CUYAHOGA COUNTY ENGINEER

CATCH BASIN

CONSTRUCTION DRAWING

DWG. NO. C.B.-3C

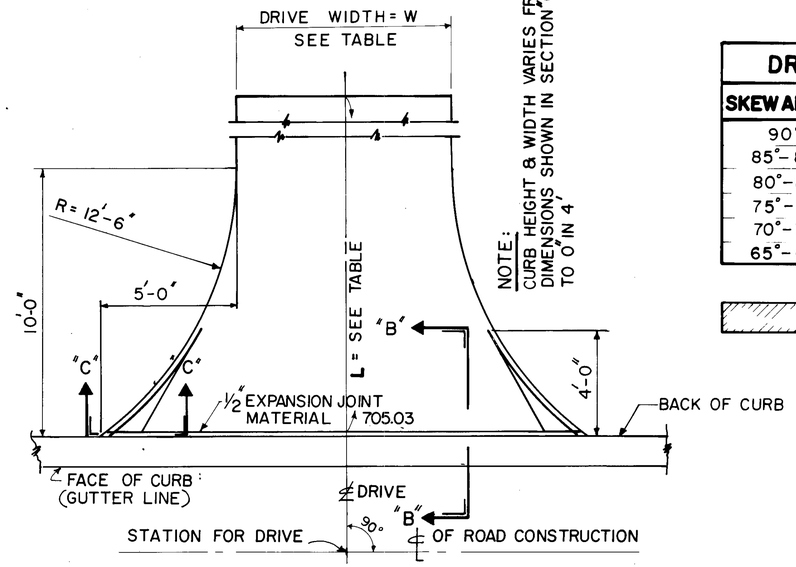
DATE: 7-15-80

REV. | DATE

CUYAHOGA COUNTY
CUY-10-8.69

109
113

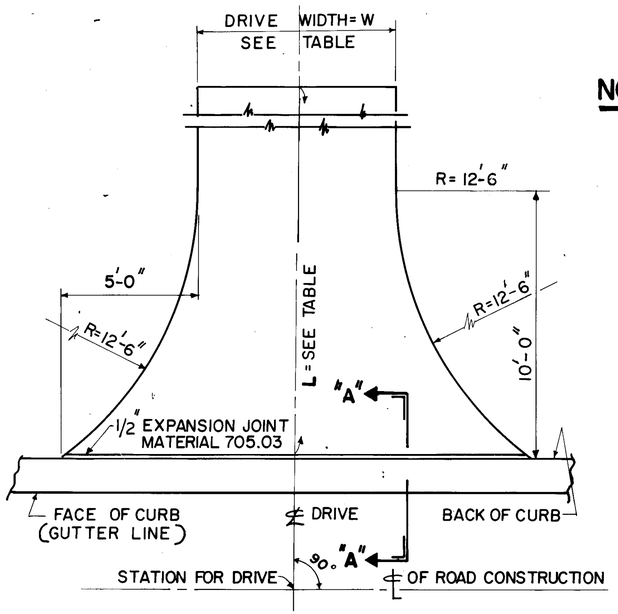
CONCRETE DRIVES



PLAN

DRIVEWAY DIMENSIONS								
SKEW ANGLE	A	B	C	D	M	M'	W	L
90°	9.5	4.5	9.5	4.5	1.15	1.15	SEE DRIVE TABLE	SEE DRIVE TABLE
85°-89°	10.0	5.0	9.0	4.0	1.30	1.05		
80°-84°	11.5	6.0	8.6	4.0	1.60	1.05		
75°-79°	12.5	7.0	8.2	4.0	1.80	1.00		
70°-74°	14.0	8.0	7.8	4.0	2.10	1.00		
65°-69°	15.5	9.0	7.35	4.0	2.40	1.00		

▨ = AREA FOR DRIVE QUANTITIES



PLAN

NOTES:

DRIVE APRON CURB SECTION FOR CONCRETE DRIVES WITH BARRIER CURB IS TO BE PLACED AS DIRECTED BY THE ENGINEER.

FORM DRIVE APRON CURB SECTION "C-C" BEHIND CURB LINE AND TAPER OUT UNIFORMLY TO NO CURB AS SHOWN.

THE COST OF ALL LABOR AND MATERIAL NECESSARY TO CONSTRUCT CURB SECTION AND THICKENED EDGE AS SHOWN, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQ. YD. FOR ITEM 452 - 6" PLAIN PORTLAND CEMENT CONCRETE FOR DRIVES OR ITEM 451 - 8" REINFORCED PORTLAND CEMENT CONCRETE FOR DRIVES.

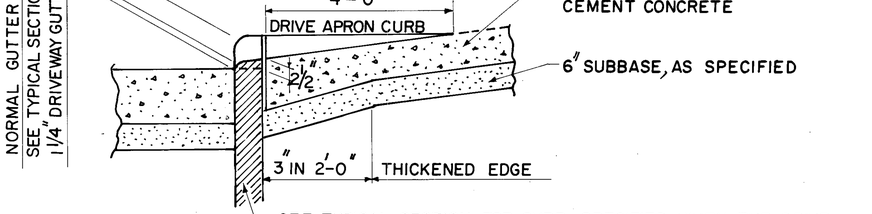
CURB SHALL BE DROPPED TO PROVIDE A 1¼" GUTTER AT ALL DRIVEWAYS AND WHEREVER DIRECTED BY THE ENGINEER.

A SATISFACTORY TRANSITION FROM THE NORMAL CURB HEIGHT TO A 1¼" HEIGHT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT CURB SPECIFIED.

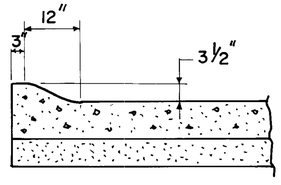
WHERE DRIVE ABUTS NEW OR EXISTING CONCRETE SIDEWALK, 1/2" EXPANSION JOINT MATERIAL 705.03 SHALL BE PROVIDED.

CONCRETE DRIVES AND APRONS TO HAVE IM PRESSED JOINT ALONG ℄ OF DRIVE, ADDITIONAL IMPRESSED JOINTS SHALL BE SPACED AT 8 FT. CENTERS OR AS DIRECTED BY THE ENGINEER.

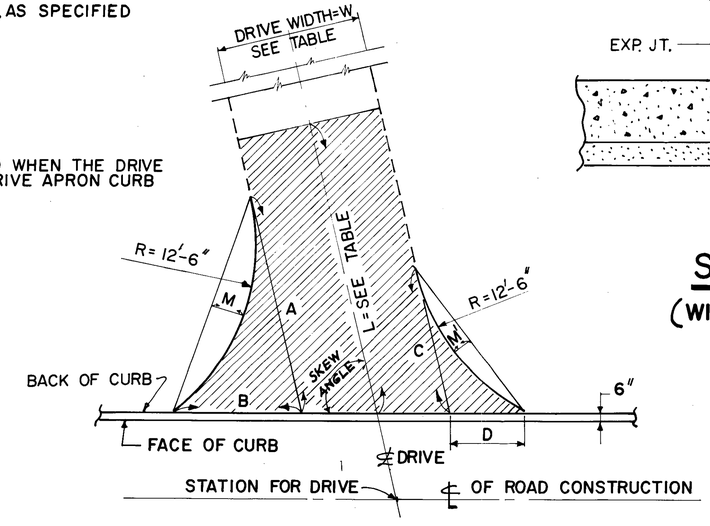
THE EXPANSION JOINT BETWEEN THE BACK OF CURB AND THE DRIVEWAY SHALL BE SEALED WITH 705.01, 705.02 OR 705.11 JOINT SEALER.



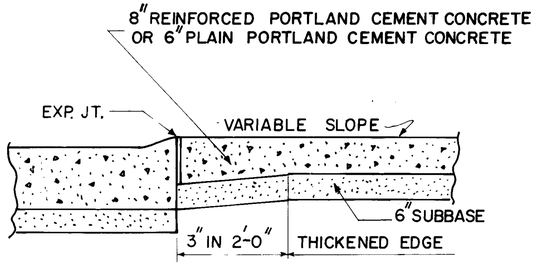
SECTION "B - B"
(WITH BARRIER CURB)



DETAIL APRON CURB SECTION "C-C"



SKEWED CONCRETE DRIVE DETAIL



SECTION "A - A"
(WITH MOUNTABLE CURB)

CUYAHOGA COUNTY ENGINEER

CONCRETE DRIVES

CONSTRUCTION DRAWING

DWG. NO. CD-1

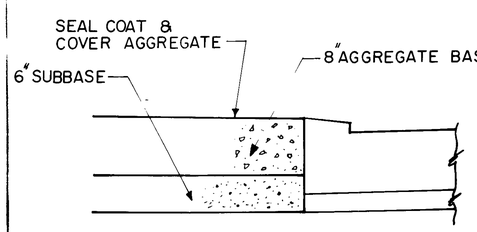
DATE: 6-1-81

REV. | DATE

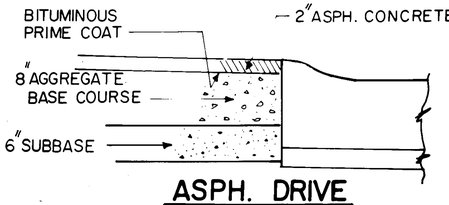
CUYAHOGA COUNTY
CUY-10-8.69

110
113

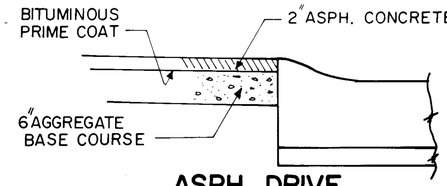
FLEXIBLE DRIVE



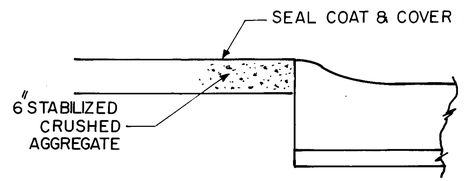
SLAG DRIVE (COMMERCIAL) SECTION "A-A"



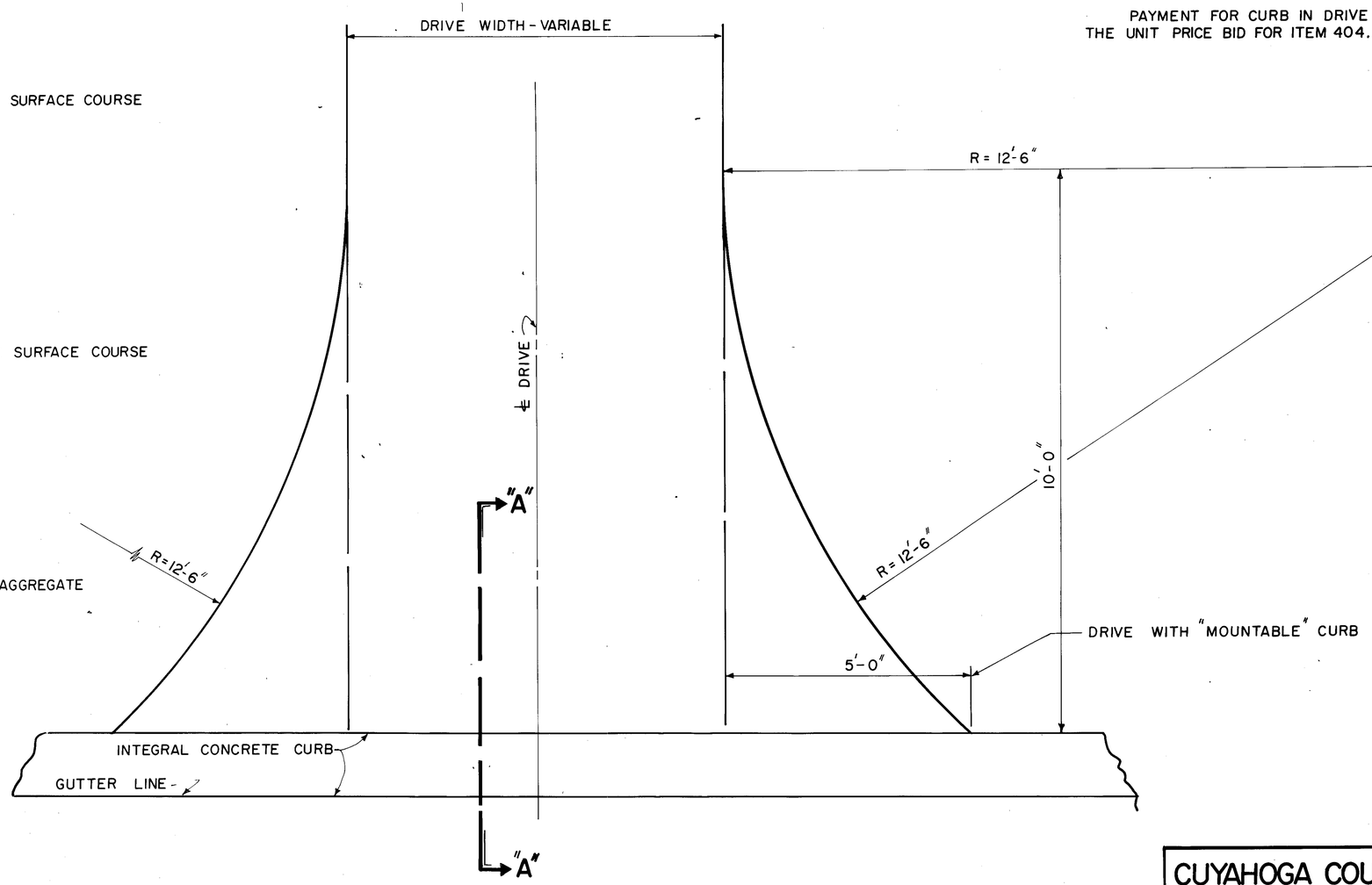
ASPH. DRIVE (COMMERCIAL) SECTION "A-A"



ASPH. DRIVE (RESIDENTAL) SECTION "A-A"



SLAG DRIVE (RESIDENTAL) SECTION "A-A"



PLAN

NOTES:

WHEN BARRIER CURB IS USED, SEE CD-1 FOR CURB CUT AND FOR CURB TAPER IN DRIVE APRON.

PAYMENT FOR CURB IN DRIVE APRON IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 404.

CUYAHOGA COUNTY ENGINNEER

FLEXIBLE DRIVE

CONSTRUCTION DRAWING

DWG. NO. FD-3

DATE: 6-1-81

REV. | DATE

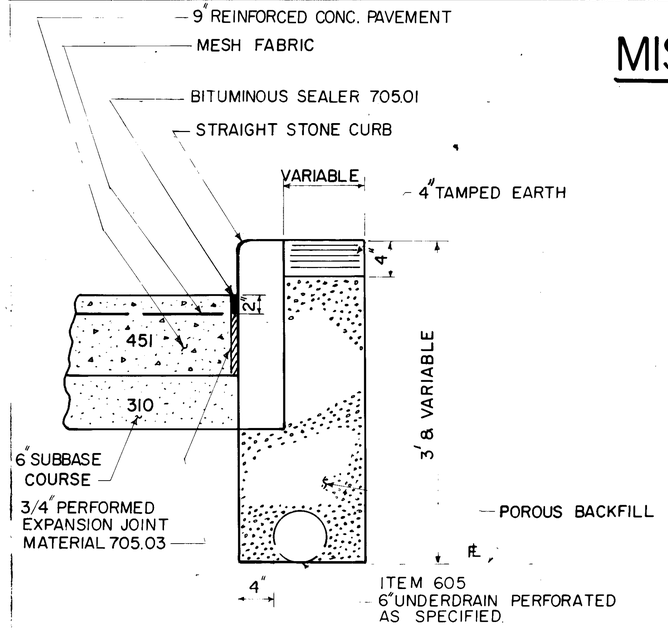
MISCELLANEOUS DETAILS

CUYAHOGA COUNTY
CUY-10-8.69

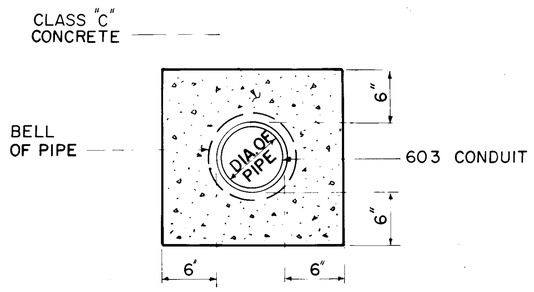
111
113

NOTES:

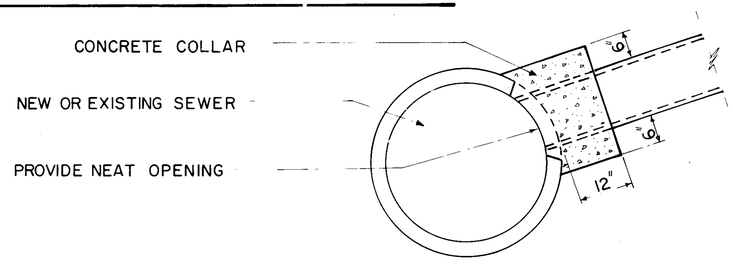
WHEN ITEM 605 CALLS FOR 706.08 CONDUIT THE CONDUIT SHALL BE PERFORATED BELL AND SPIGOT VITRIFIED CLAY PIPE WITH PERFORATIONS IN ACCORDANCE WITH A.A.S.H.T.O. M-65, WITH 3 LUGS PROVIDED IN THE BELL END TO CENTER AND ALIGN THE PIPE AND PROVIDE A 3/8" GAP BETWEEN PIPE LENGTHS. PERFORATIONS ARE PLACED DOWN.



SETTING OR RESETTING OF STRAIGHT STONE CURB (PRIOR TO PLACING OF PAVEMENT)



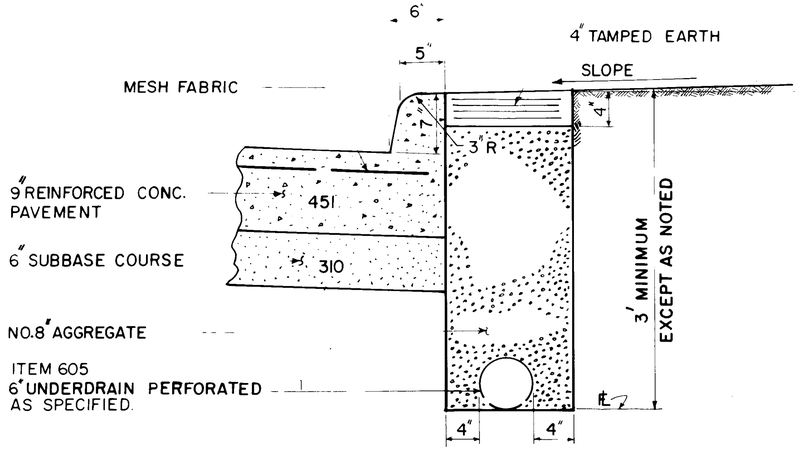
DETAIL OF CONCRETE ENCASEMENT



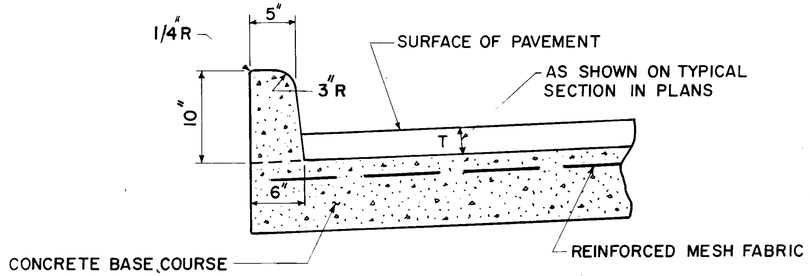
TYPICAL DETAIL FOR CONCRETE COLLAR

NOTE:

BACKFILL AROUND COLLAR AFTER CONCRETE HAS ATTAINED SUFFICIENT STRENGTH. COST OF CONCRETE COLLAR IS INCLUDED IN THE CONTRACT UNIT PRICE BID PER LIN. FT. FOR THE PERTINENT ITEM INVOLVED.



6"X7" INTEGRAL CONCRETE CURB AND 6" PIPE UNDERDRAIN



6"X10" CONCRETE CURB-TYPE 2B

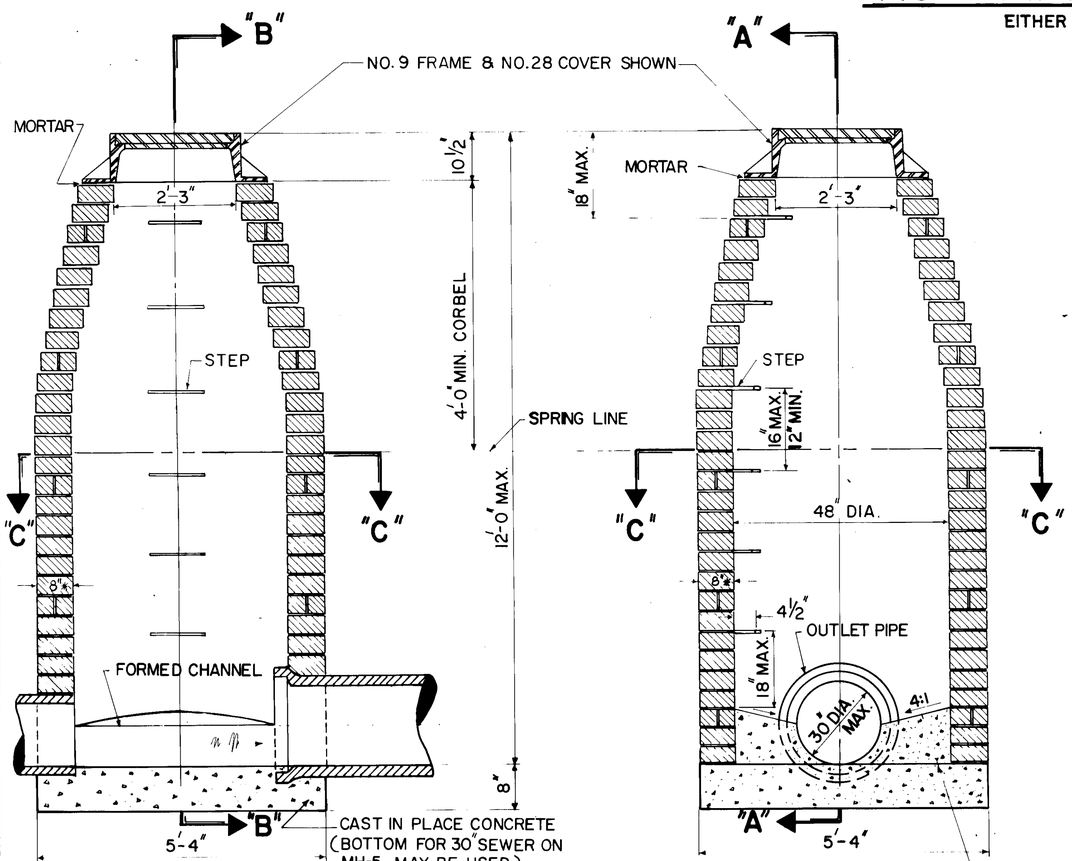
CUYAHOGA COUNTY ENGINEER		
MISCELLANEOUS DETAILS		
CONSTRUCTION DRAWING	DWG. NO. MD-1 DATE: 6-1-81	REV. DATE

NO.IC MANHOLE

EITHER END PERMISSABLE

CUYAHOGA COUNTY
CUY-10-8.69

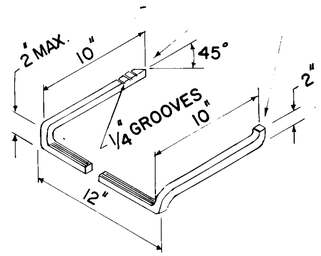
112/113

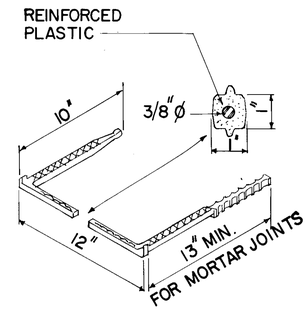


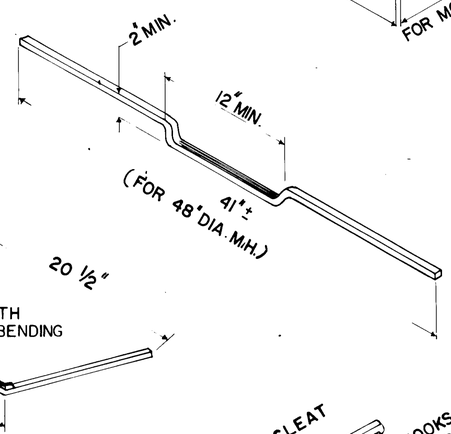
SECTION "A-A"

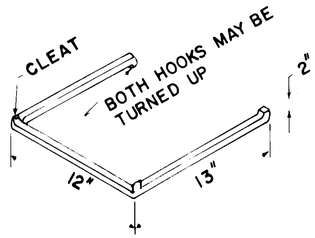
* NOMINAL THICKNESS

SECTION "B-B"









NOTES:

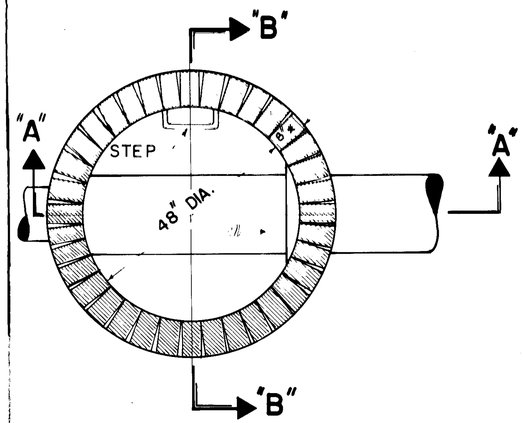
CONSTRUCTION: NO.1 MANHOLE IS FOR SEWERS 30" DIAMETER OR LESS. THE DESIGN SHOWN IS FOR BRICK CONSTRUCTION WITH EVERY SIXTH COURSE A STRETCHER COURSE. THE 8" BOTTOM SHALL BE CAST IN PLACE CLASS "C" CONCRETE. AS AN ALTERNATE THE MANHOLE BOTTOM MAY BE CONSTRUCTED AS DETAILED ON MH-5 FOR 30" DIAMETER CONDUIT. THE BOTTOM CHANNEL SECTIONS SHALL BE FORMED IN THE CONCRETE.

PRECAST SOLID CONCRETE RADIAL BLOCKS OR CAST IN PLACE CONCRETE REINFORCED WITH NO.4 BARS ON 12" CENTERS BOTH VERTICALLY AND HORIZONTALLY, MAY BE USED WITH A WALL THICKNESS OF 6" OR GREATER. PRECAST MANHOLES DETAILED ON MH-3 OR MH-5 MAY BE USED IN LIEU OF THE DESIGN SHOWN HEREON.

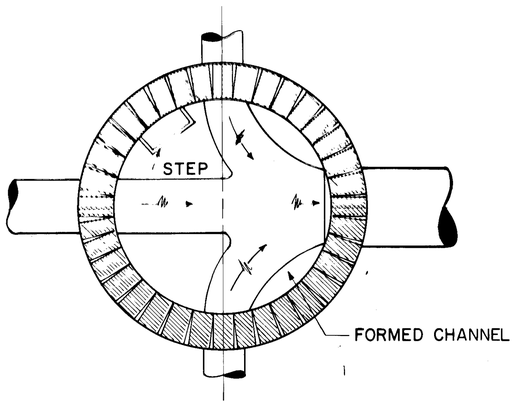
FRAME AND COVER DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN ON MH-10C. THE BASE OF THE FRAME SHALL BE SET IN A FULL BED OF PORTLAND CEMENT MORTAR AND SO ADJUSTED TO CONFORM TO THE FINISHED PAVEMENT OR SHOULDER ELEVATION AND SLOPE

STEPS AS SHOWN HEREON AND MEETING REQUIREMENTS OF 604 OR SUPPLEMENTAL SPECIFICATION 941 SHALL BE INSTALLED WITH A UNIFORM VERTICAL SPACING OF 12" TO 16", 4" MINIMUM WALL EMBENDMENT (USE 7"+ IF WALL THICKNESS PERMITS) AND 4 1/2" CLEARANCE FROM STEP TREAD TO WALL. THE BOTTOM STEP SHALL BE A MAXIMUM OF 18" ABOVE THE STRUCTURE BOTTOM OR BOTTOM CHANNEL EDGE. STEPS SHALL HAVE A DEPRESSED TREAD OR A 1/2" MINIMUM HEIGHT CLEAT AT TREAD ENDS.

NOTE: TO DESIGNER MH-3 AND MH-5 ARE O.D.O.T. STANDARD MANHOLES.



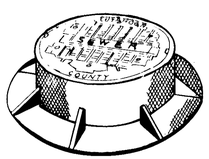
SECTION "C-C"



SECTION BELOW SPRING LINE
SHOWING METHOD OF TURNING SIDE DRAINS

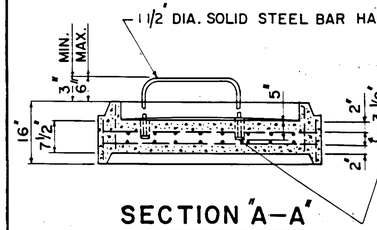
STEP DETAILS

STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF ONE INCH FOR FERROUS METAL AND 3/4" FOR ALUMINUM.

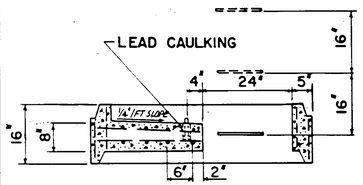


FRAME & COVER
SEE: MH-10C

CUYAHOGA COUNTY ENGINEER			
NO. IC MANHOLE			
CONSTRUCTION DRAWING	DWG. NO. MH-IC DATE: 6-1-81	REV.	DATE



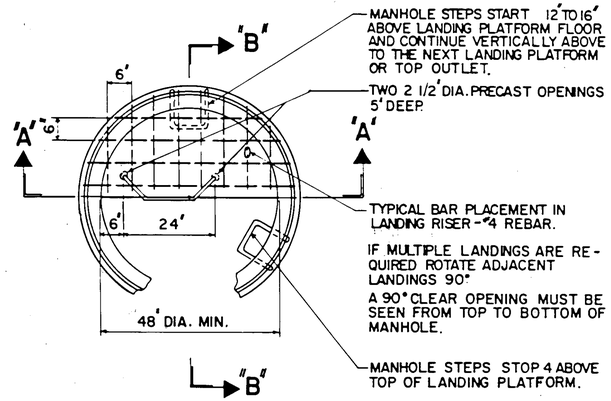
SECTION "A-A"



SECTION 'B-B'

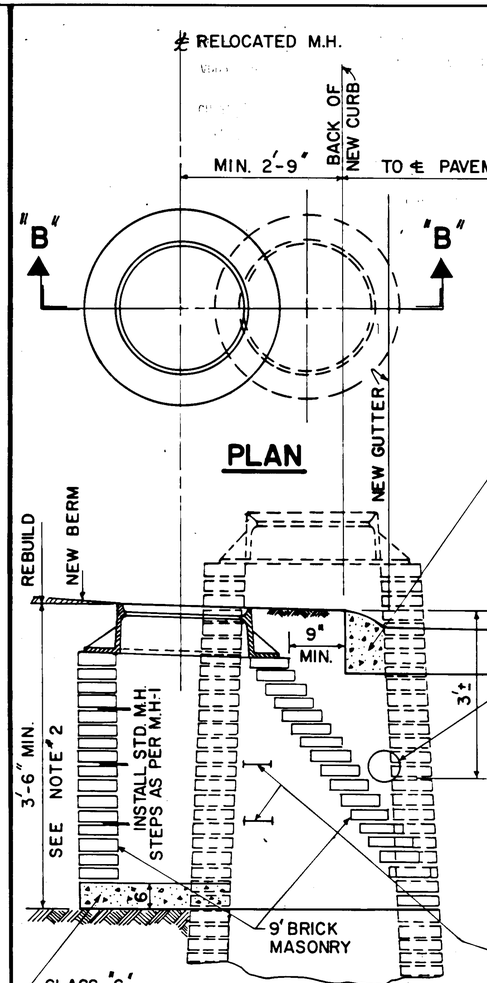
NOTE:

LANDING PLATFORMS AS SHOWN ON THE LANDING DETAILS SHALL BE INSTALLED IN MANHOLES THAT ARE OVER 28 FEET DEEP TO THE INVERT WITH A MAXIMUM VERTICAL SPACING OF 20 FEET.



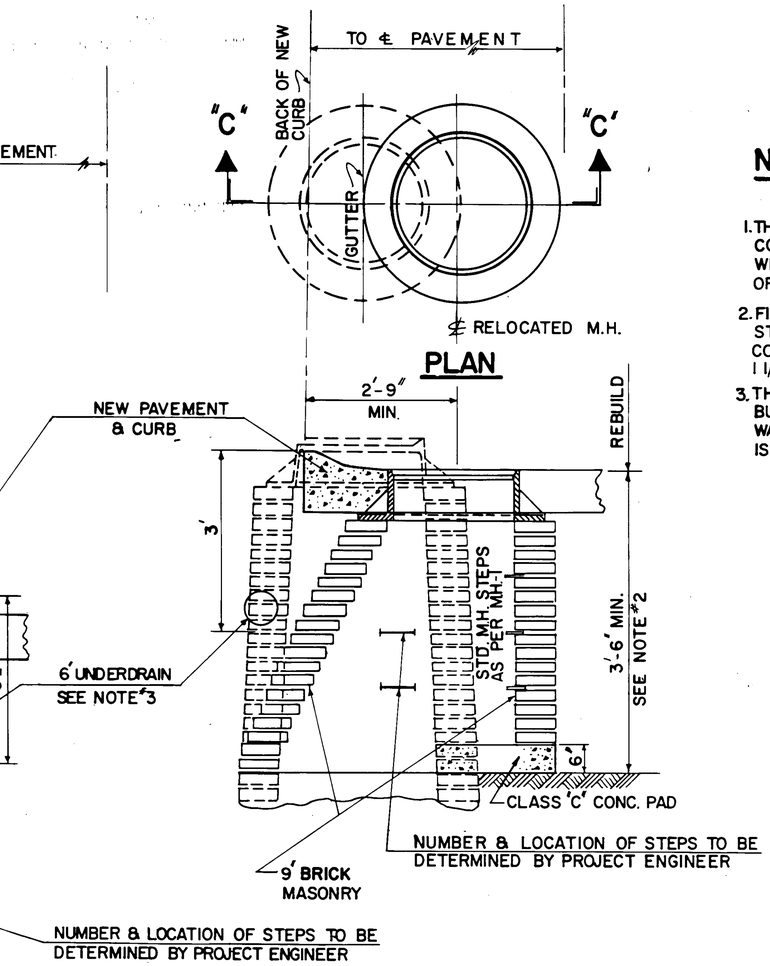
PLAN VIEW

16" LANDING RISER DETAIL FOR PRECAST MANHOLE



PLAN

SECTION "B-B" METHOD-1 IN BERM



PLAN

SECTION "C-C" METHOD-2 IN PAVEMENT

RECONSTRUCTION OF EXISTING MANHOLE WHICH OBSTRUCTS NEW CURB LOCATION

NOTES:

1. THE ENGINEER SHALL INVESTIGATE THE FIELD CONDITIONS GOVERNING THE EXISTING MANHOLE WITH RESPECT TO THE NEW LINE AND ELEVATION OF PAVEMENT AT CURB.
2. FIELD CONDITIONS WILL GOVERN THE AMOUNT OF STRUCTURE TO BE DEMOLISHED AND REBUILT. CORBELLING OF THE BRICK SHALL NOT EXCEED 1 1/2" INCHES FOR EACH COURSE.
3. THE BY PASSING 6" UNDERDRAINS SHALL BE BUILT IN PLACE AROUND THE REBUILT (CORBELLED) WALL BEFORE THE CONSTRUCTION OF PAVEMENT IS STARTED.

CUYAHOGA COUNTY ENGINEER

MISCELLANEOUS DETAILS

CONSTUCTION DRAWING

DWG. NO. MD-2

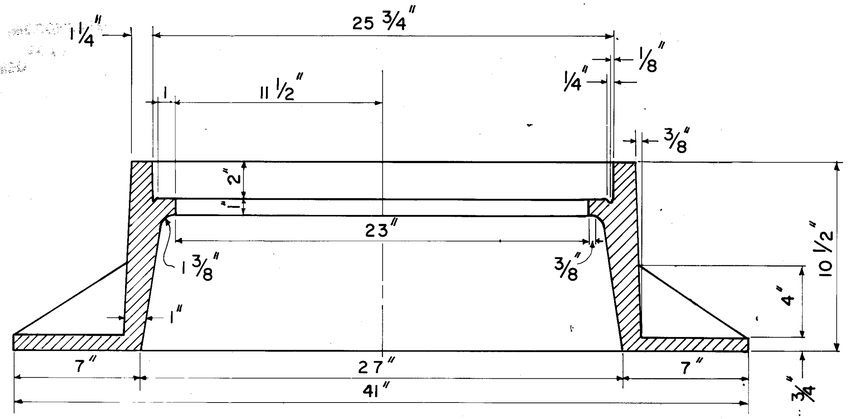
DATE: 6-1-81

REV. | DATE

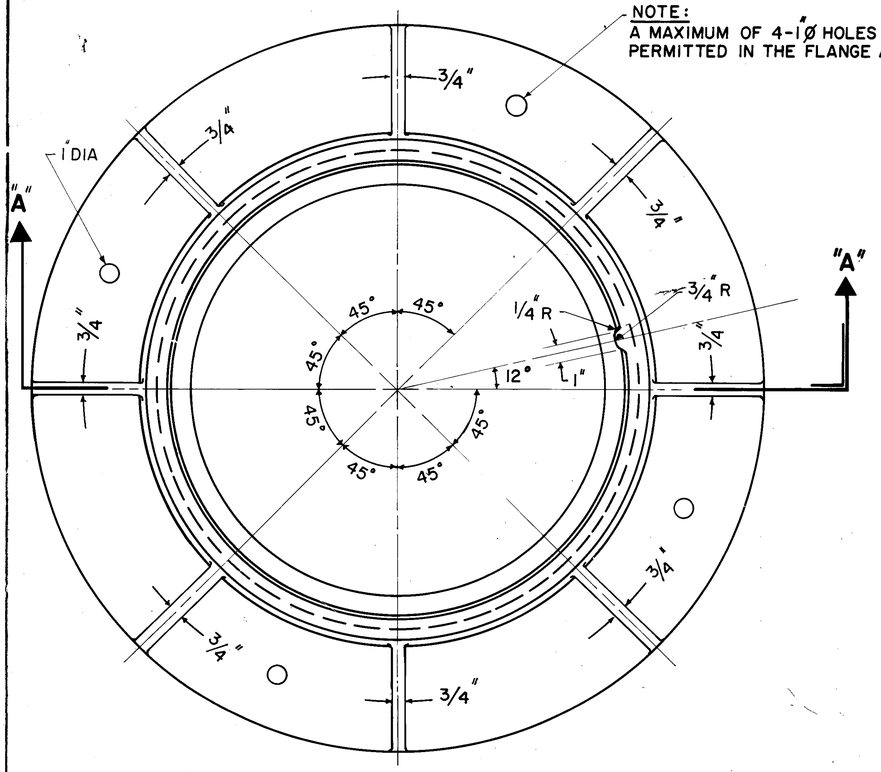
MANHOLE CASTINGS
NO.9 FRAME & NO.28 COVER

CUYAHOGA COUNTY
CUY-10-8.69

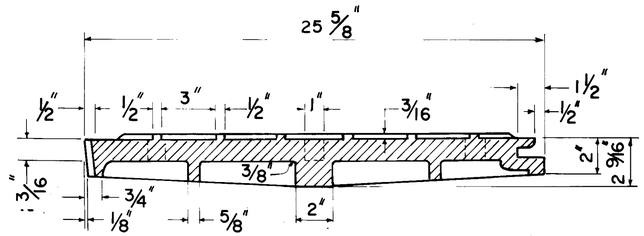
113/113



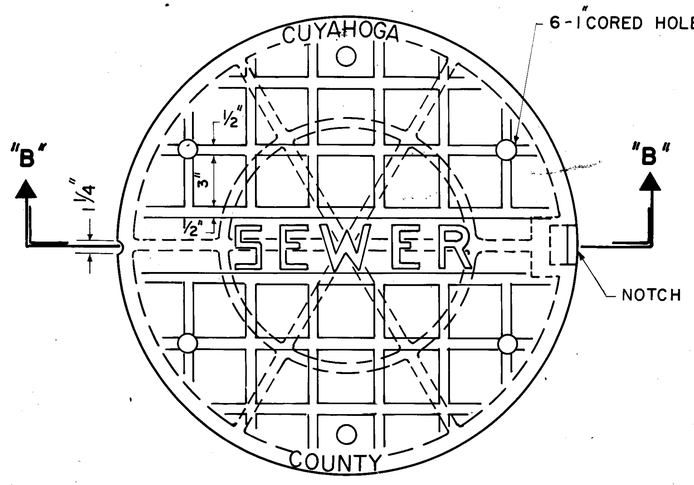
SECTION "A-A"



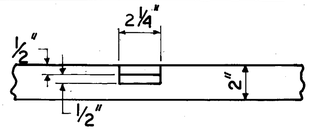
PLAN DETAIL FOR NO.9 FRAME



SECTION "B-B"



PLAN NO.28 COVER



NOTCH DETAIL

NOTES:

CASTINGS SHALL MEET THE REQUIREMENTS OF ITEM 604-711.12 & 711.13. THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN HEREON.

⚠1 MINIMUM WEIGHTS:
FRAME 400 LBS., COVER 198 LBS.

BEARING AREAS OF FRAME AND COVER SHALL BE SO FITTED AND FINISHED AS TO PROVIDE A FIRM AND EVEN SEAT FOR ALL PORTIONS OF THE COVER IN THE FRAME. NO PROJECTIONS SHALL EXIST ON BEARING AREAS OF EITHER CASTING AND THE COVER SHALL SEAT IN ITS FRAME WITHOUT ROCKING. FRAME AND COVER SHALL BE FITTED, MATCHED AND MARKED BEFORE DELIVERY TO THE PROJECT.

HOLES - 6-1" CORED VENT HOLES SHALL BE IN THE COVER AND A MAXIMUM OF 4-1" DIA. HOLES WILL BE PERMITTED IN THE FLANGE OF THE FRAME AS SHOWN.

LUG - THE LUG ON THE FRAME IS TO BE BETWEEN THE TOP OF THE FRAME AND THE TOP OF THE COVER SEAT ONLY AND SHALL BE CAST WITHOUT BATTER. THE LUG MAY BE UNDERCUT OR OMITTED TO PERMIT PROPER MACHINING OF THE COVER SEAT.

ACCEPTABLE ASSEMBLIES ARE NEENAH NO.R-1729, EAST JORDAN NO.1700 OR EQUAL.

THIS DRAWING PREVIOUSLY 9F-9AF & 28 C

CUYAHOGA COUNTY ENGINEER

MANHOLE CASTINGS

CONSTRUCTION DRAWING

DWG. NO. MH-10C

DATE: 6-1-81

REV.	DATE
⚠1	6-19-81

AA B/N 71942R

11-A

SIGN DESIGNATION

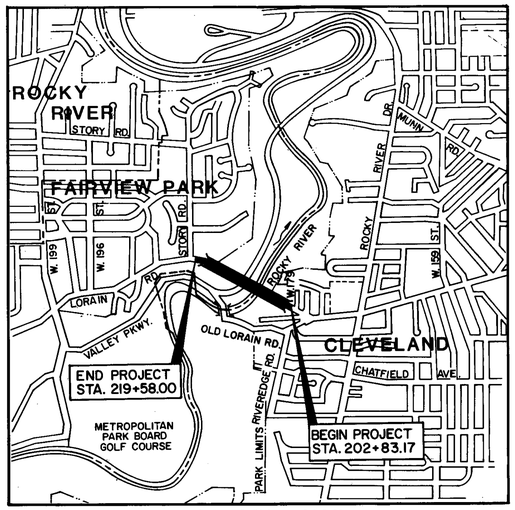
A.D.T. (1982)	= 26,750
Design Year A.D.T. (2002)	= 27,070
D.H.V.	= 2707
D	= 55/45 %
T	= 4 %
V	= 40 m.p.h.

CUY-10-08.69 | OHIO | F.H.W.A. REGION 5 | 1/37

CUYAHOGA COUNTY

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
CUY-10-08.69
LORAIN ROAD VIADUCT-TOWER REPAIRS
CITY OF CLEVELAND &
CITY OF FAIRVIEW PARK
CUYAHOGA COUNTY

INDEX OF SHEETS



LOCATION MAP

SCALE IN FEET
0 1500 3000

Portion to be improved
Other Roads

SCALES

Plan 0 50'

Profile: Horizontal 0 50', Vertical 0 5'

Cross Section: Horizontal 0 5', Vertical 0 5'

SUPPLEMENTAL	SPECIFICATIONS

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

WE, THE COMMISSIONERS OF CUYAHOGA COUNTY IN FORMAL SESSION HEREBY APPROVE THESE PLANS AND CERTIFY THAT THE NECESSARY RIGHT-OF-WAY IS AVAILABLE. WE AGREE TO MAINTAIN THE PROJECT IN A MANNER SATISFACTORY TO THE DIRECTOR, DEPARTMENT OF TRANSPORTATION, STATE OF OHIO, OR HIS DULY AUTHORIZED REPRESENTATIVES AND WILL MAKE AMPLE PROVISIONS EACH YEAR FOR SUCH MAINTENANCE.

DONE UNDER AUTHORITY OF SECTIONS 5555.02 ET SEQ. & 5535.01 OF THE REVISED CODE OF OHIO.

BOARD OF COMMISSIONERS
CUYAHOGA COUNTY

DATE _____

1985 SPECIFICATIONS

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

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

APPROVED DATE 3/20/86 — Thomas J. Deloff P.E., P.S. — COUNTY ENGINEER

APPROVED DATE 3/20/86 — Martin A. Gallo — DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED DATE 3-21-86 — Walter J. Jastrzebski — ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED DATE 3-21-86 — Wayne H. Faulk — CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED DATE 3-21-86 — Warren J. Smith — DIRECTOR, DEPARTMENT OF TRANSPORTATION

FILE Nº	CUYAHOGA COUNTY Nº _____
	DATE OF LETTING _____ 19__
	CONTRACT Nº _____

CHECKED BY _____ DATE _____

APPROVED BY _____
DATE _____ ENGINEER OF DESIGN

APPROVED BY E. G. Habupnik
DATE 3-14-86 BRIDGE ENGINEER

PLANS PREPARED BY

DALTON • DALTON • NEWPORT
ARCHITECTS ENGINEERS PLANNERS
CLEVELAND AKRON COLUMBUS ERIE, PA.

F. J. Richardson
F. J. RICHARDSON REG. ENGINEER Nº 19531

STATE OF OHIO — FREDERICK J. RICHARDSON 19531 — REGISTERED PROFESSIONAL ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR _____ DATE _____

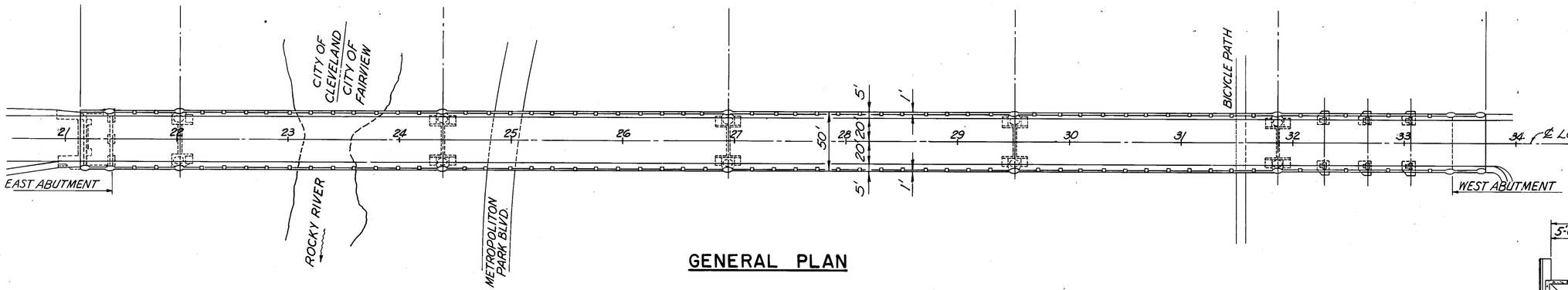
LORAIN ROAD BRIDGE Nº 42

TITLE SHEET

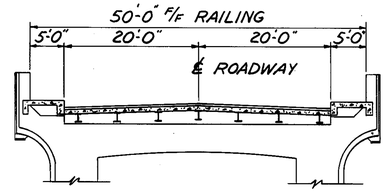
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

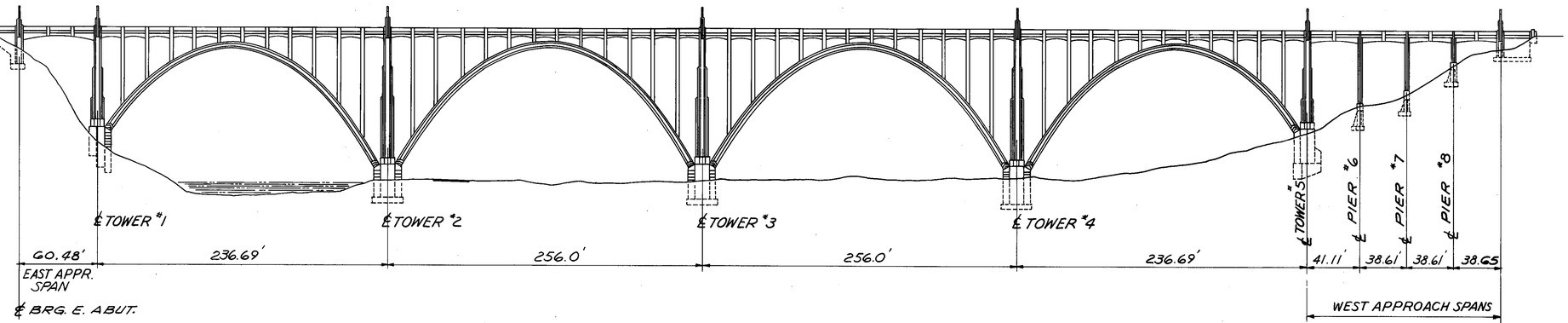
2/37

CUYAHOGA COUNTY
CUY-10-08.69

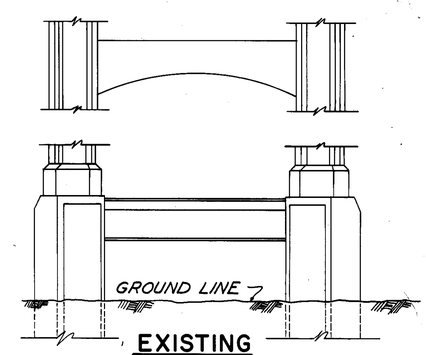


GENERAL PLAN





NORTH ELEVATION



EXISTING TYPICAL SECTION AT TOWER

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	(1)	(2)
202	LUMP	L.S.	REMOVAL OF EXISTING LADDERS &		LUMP
			DRAINAGE PIPES FROM SOUTH TOWER LEGS		
513	179,000	LBS.	STRUCTURAL STEEL (A-36) FOR REPAIRS	82,000	97,000
			(AS PER PLAN)		
SPEC.	LUMP	L.S.	SANDBLASTING & CLEANING OF N. TOWER LEGS	LUMP	
SPEC.	LUMP	L.S.	SANDBLASTING & CLEANING OF S. TOWER LEGS		LUMP
SPEC.	9	EA.	TOWER ACCESS DEVICES	4	5
SPEC.	11,700	EA.	RIVET REPLACEMENT	5,600	6,100

(1) NORTH TOWER LEGS
(2) SOUTH TOWER LEGS

NOTES

1. THE QUANITIES FOR ITEM 513 AND, ITEM SPECIAL, 'RIVET REPLACEMENT' HAVE BEEN ADJUSTED TO ACCOUNT FOR ANY ADDITIONAL REPAIRS, WHICH THE ENGINEER MAY CONSIDER NECESSARY TO BE MADE.
2. SEE STRUCTURAL GENERAL NOTES SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

DALTON • DALTON • NEWPORT
CLEVELAND, OHIO AKRON, OHIO

1/36

GENERAL PLAN & ELEVATION & ESTIMATED QUANTITIES

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	JGV	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

3/37

CUYAHOGA COUNTY
CUY-10-08.69

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTION 102.05, 105.02, AND 513.02.

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

NO SEPARATE PAYMENT WILL BE MADE FOR ANY FIELD MEASUREMENTS BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

PLANS OF THE EXISTING STRUCTURE MAY BE REVIEWED AT THE OFFICES OF THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12, CLEVELAND, OHIO.

REMOVAL OF PORTIONS OF EXISTING TOWERS

THE REMOVAL OF PORTION OF EXISTING TOWERS TO PERFORM STRUCTURAL STEEL REPAIRS SHALL BE IN ACCORDANCE WITH ITEM 202 OF THE STANDARD SPECIFICATIONS.

THE REMOVAL OF VARIOUS STRUCTURAL STEEL MEMBERS TO BE REPAIRED OR REPLACED SHALL BE PERFORMED IN A MANNER AND TO THE EXTENT NECESSARY FOR THE TOWER REPAIR WORK TO BE COMPLETED AT ONLY ONE LOCATION AT A TIME. NO WHOLESALE REMOVAL IS INTENDED OR WILL BE ALLOWED. THE REMOVAL OF THE PORTION OF EXISTING TOWERS AND THE TOWER REPAIR WORK IS TO BE PERFORMED WITH THE BRIDGE OPEN TO TRAFFIC AT ALL TIMES EXCEPT AS NOTED OTHERWISE. THE SAFETY OF THE STRUCTURE AND THE TRAVELING PUBLIC SHALL BE A PRIME CONSIDERATION IN PERFORMING ANY AND ALL WORK.

NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF STRUCTURAL STEEL MEMBERS TO BE REPAIRED OR REPLACED, BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 513 - STRUCTURAL STEEL (A-36) FOR REPAIRS (AS PER PLAN).

REMOVAL OF LADDERS AND DRAINAGE PIPE FROM SOUTH TOWER LEGS

THIS ITEM SHALL CONSIST OF THE REMOVAL OF EXISTING LADDERS AND DRAINAGE PIPES AND SUPPORTS FROM THE SOUTH TOWER LEGS IN ACCORDANCE WITH ITEM 202 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

THE REMOVAL SHALL BE CONDUCTED IN A MANNER TO PRECLUDE DAMAGE TO ANY OTHER PORTIONS OF THE STRUCTURE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CORRECT ANY DAMAGE TO THE STRUCTURE DUE TO HIS DEMOLITION OPERATION, TO THE SATISFACTION OF THE ENGINEER.

THE PAYMENT WILL BE MADE AT THE LUMP SUM CONTRACT PRICE BID FOR ITEM 202 - REMOVAL OF LADDERS AND DRAINAGE PIPE FROM SOUTH TOWER LEGS.

STRUCTURAL STEEL TOWER REPAIRS

STRUCTURAL STEEL TOWER REPAIR WORK SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 513 OF THE STANDARD SPECIFICATIONS AND AS SPECIFIED HEREIN.

ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL BE ASTM A-36 UNLESS NOTED OTHERWISE.

ALL CONNECTIONS FOR STRUCTURAL STEEL REPAIRS SHALL BE MADE USING 7/8" H.S. BOLTS CONFORMING TO ASTM A-325 UNLESS NOTED OTHERWISE.

ALL WELDING SHALL BE AS PER 513.17 OF THE STANDARD SPECIFICATIONS.

AT REPAIR LOCATIONS WHERE THE EXISTING CONNECTION UTILIZES COUNTERSUNK HEAD RIVETS, THE CONNECTION FOR THE NEW MEMBER SHALL BE MADE USING COUNTERSUNK HEAD BOLTS UNLESS NOTED OTHERWISE.

THE REPLACEMENT OF EXISTING STRUCTURAL STEEL TOWER MEMBERS, WHERE SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER, SHALL BE PERFORMED USING THE SAME SIZE MEMBERS AS INDICATED ON THE EXISTING STRUCTURE PLANS UNLESS NOTED OTHERWISE.

BOLT SYMBOLS ARE AS FOLLOWS:

- ○ REMOVE EXISTING RIVET AND PROVIDE NEW 7/8" DIAMETER H.S. BOLTS
- ⊗ FIELD DRILL HOLES IN EXISTING STEEL AND PROVIDE NEW 7/8" DIAMETER H.S. BOLTS

STRUCTURAL STEEL REPAIR WORK MAY BE PERFORMED ON ONLY ONE DIAPHRAGM AT A TIME. WORK ON EACH SUCCEEDING DIAPHRAGM SHALL NOT BE STARTED UNTIL THE WORK ON PREVIOUS DIAPHRAGM IS COMPLETED.

WHERE THE REPAIR OR REPLACEMENT OF ANY OF THE TOWERS' PERIFERAL MEMBERS IS CALLED FOR ON THE PLANS, ONLY THE PORTION OF ONE OF THESE MEMBERS BETWEEN THE CONSECUTIVE FIELD SPLICES SHOWN ON THE PLANS MAY BE REPAIRED OR REPLACED AT A TIME UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

REPAIRS TO DIAGONALS AND GUSSET PLATES CONNECTING THE DIAGONALS, MAY BE PERFORMED FOR ONLY ONE LOCATION AT A TIME. IF BOTH EAST AND WEST DIAGONALS AT THE SAME LEVEL REQUIRE REPAIR, ONLY ONE DIAGONAL MAY BE REPAIRED AT A TIME.

EXISTING FILL PLATES, WHERE USED FOR CONNECTION OF DIAGONAL BRACING ANGLES AT GUSSET PLATES, SHALL BE REUSED WHERE POSSIBLE OR REPLACED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR IS LIMITED TO ONLY THAT PORTION OF THE TOWER REPAIRS EACH DAY WHICH HE CAN PERFORM AND COMPLETE ON THE SAME WORKING DAY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PROVIDE ACCESS FOR THE ENGINEER IN THE TOWERS TO ALL LOCATIONS WHERE TOWER REPAIRS ARE TO BE PERFORMED, AT ALL TIMES, UNTIL THE TOWER REPAIR WORK IS COMPLETED AND ACCEPTED BY THE ENGINEER. THE TOWER ACCESS EQUIPMENT AND LIGHTING SHALL BE AS SEPCIFIED FOR ITEM SPECIAL - TOWER ACCESS DEVICES.

PAYMENT FOR STRUCTURAL STEEL TOWER REPAIRS SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER POUND OF ITEM 513 - STRUCTURAL STEEL (A-36) FOR REPAIRS (AS PER PLAN). NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF ANY PORTIONS OF THE EXISTING TOWERS AND RIVET REMOVAL REQUIRED TO PERFORM THE REPAIRS, BUT THE COST THEREOF SHALL BE INCLUDED ITEM 513 - STRUCTURAL STEEL (A-36) FOR REPAIRS (AS PER PLAN).

PROVIDING THE TOWER ACCESS AS STATED ABOVE SHALL BE INCLUDED IN THE COST OF ITEM SPECIAL - TOWER ACCESS DEVICES.

TOWER REPAIRS PREVIOUSLY COMPLETED (NORTH TOWER LEGS)

NO STRUCTURAL STEEL REPAIRS TO THE NORTH LEG OF TOWER 5 ARE ANTICIPATED.

SOME OF THE TOWER REPAIRS SHOWN FOR THE NORTH LEG OF TOWER 4 HAVE BEEN COMPLETED BY OTHERS.

THE CONTRACTOR AND THE ENGINEER SHALL CONDUCT A JOINT FIELD INVESTIGATION TO DETERMINE THE AMOUNT OF REPAIRS REMAINING FOR THE NORTH LEG OF TOWER 4. THE CONTRACTOR SHALL OBTAIN A WRITTEN AGREEMENT AS TO THE REMAINING WORK TO BE PERFORMED IN THE NORTH LEG OF TOWER 4.

THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM A JOINT INVESTIGATION. ACCESS EQUIPMENT AND LIGHTING SHALL BE AS SPECIFIED FOR ITEM SPECIAL - TOWER ACCESS DEVICES.

NO SEPARATE PAYMENT WILL BE MADE FOR PROVIDING ACCESS OR CONDUCTING THE JOINT INVESTIGATION BUT THE COST THEREOF SHALL BE INCLUDED IN ITEM SPECIAL - TOWER ACCESS DEVICES.

STRUCTURAL STEEL REPAIR WORK FOR SOUTH TOWER LEGS

THE TOWER REPAIR PLANS INDICATE REPAIR WORK REQUIRED FOR THE NORTH TOWER LEGS. THE REPAIR WORK FOR THE SOUTH TOWER LEGS IS EXPECTED TO BE SIMILAR IN AMOUNT AND NATURE. THE QUANTITIES FOR SOUTH TOWER LEG REPAIRS INCLUDED ARE FOR BIDDING ONLY.

WHEN THE INITIAL SANDBLASTING AND THE CLEANING OF THE SOUTH TOWER LEGS IS COMPLETED, THE CONTRACTOR AND THE ENGINEER SHALL CONDUCT A JOINT INVESTIGATION TO DETERMINE THE EXACT NATURE AND THE AMOUNT OF REPAIR WORK REQUIRED.

THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM A JOINT INVESTIGATION. THE ACCESS EQUIPMENT AND LIGHTING SHALL BE AS SPECIFIED FOR ITEM SPECIAL - TOWER ACCESS DEVICES.

NO SEPARATE PAYMENT WILL BE MADE FOR PROVIDING ACCESS OR CONDUCTING THE JOINT INVESTIGATION BUT THE COST THEREOF SHALL BE INCLUDED IN ITEM SPECIAL - TOWER ACCESS DEVICES.

THE JOINT INVESTIGATION MAY RESULT IN THE STRUCTURAL STEEL QUANTITY FOR REPAIRS FOR THE SOUTH TOWER LEGS TO BE SUBSTANTIALLY DIFFERENT FROM THAT SHOWN ON THE PLANS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN WRITTEN AUTHORIZATION AS TO THE AMOUNT AND NATURE OF REPAIRS TO BE PERFORMED FOR THE SOUTH TOWER LEGS.

NO ADJUSTMENT TO THE UNIT PRICE BID FOR ITEM 513 - STRUCTURAL STEEL (A-36) AS PER PLAN WILL BE ALLOWED DUE TO VARIATION IN THE NATURE OR THE QUANTITY OF STRUCTURAL STEEL REPAIRS REQUIRED.

RIVET REPLACEMENT

THIS WORK INCLUDES REMOVAL OF EXISTING RIVETS (NOT ASSOCIATED WITH THE WORK OF ITEM 513) AND THEIR REPLACEMENT WITH HIGH STRENGTH BOLTS AT LOCATIONS SHOWN ON THE CONTRACT DRAWINGS AND AS DIRECTED BY THE ENGINEER.

HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325.

RIVETS SHALL BE REMOVED IN ACCORDANCE WITH ITEM 202 IN A MANNER TO PREVENT ANY DAMAGE TO THE EXISTING STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AS A RESULT OF HIS OPERATIONS AND SHALL CORRECT SAID DAMAGE TO THE SATISFACTION OF THE ENGINEER PRIOR TO THE INSTALLATION OF THE BOLTS.

HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 513 OF THE SPECIFICATIONS.

WHERE ONLY RIVET REPLACEMENT IS CALLED FOR, A MAXIMUM OF TEN (10) RIVETS MAY BE REPLACED AT A TIME UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHERE THE RIVET REPLACEMENT FOR VERTICAL PERIFERAL TOWER MEMBERS IS CALLED FOR ON PLANS, THE CONTRACTOR MAY REPLACE TWO ROWS OF RIVETS BETWEEN TWO CONSECUTIVE DIAPHRAGMS AND ONLY AT ONE LOCATION IN A TOWER AT A TIME PROVIDED BOTH THE ROWS OF RIVETS ARE EITHER ON THE WEST HALF OR THE EAST HALF OF THE TOWER CROSS SECTION.

PAYMENT WILL BE MADE FOR RIVET REPLACEMENT WORK PER EACH AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - RIVET REPLACEMENT.

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SANDBLASTING AND CLEANING OF TOWER INTERIORS

AN INITIAL SANDBLASTING AND CLEANING OF THE NORTH TOWER LEGS INTERIORS HAS BEEN COMPLETED UNDER THE STRUCTURE REHABILITATION AND WIDENING PROJECT

ANY ADDITIONAL SANDBLASTING AND CLEANING OF THE TOWER LEG INTERIORS SHALL BE PERFORMED BY THE CONTRACTOR AS PER 514.06 OF THE STANDARD SPECIFICATION AND AS DIRECTED BY THE ENGINEER TO REMOVE ALL LOOSE DIRT, PAINT, RUST SCALES, SURFACE RUST, ETC., TO FACILITATE A JOINT INSPECTION BY THE CONTRACTOR AND THE ENGINEER TO DETERMINE WHICH FRAMING MEMBERS AND RIVETS ARE TO BE REPLACED AND TO PERFORM THE TOWER REPAIRS.

SANDBLASTING AND CLEANING OF THE NORTH TOWER LEGS IS REQUIRED FOR PORTIONS OF TOWERS 3 AND 4. TOWERS 1 AND 2 MAY REQUIRE ONLY MINIMAL CLEANING. NO SANDBLASTING AND CLEANING WORK IS EXPECTED FOR TOWER 5. THE CONTRACTOR SHALL BASE HIS BID UPON HIS OWN PREBID EXAMINATION OF THE TOWER INTERIORS TO INCLUDE ANY AND ALL SANDBLASTING AND CLEANING REQUIRED TO PERFORM THE TOWER REPAIRS.

SANDBLASTING AND CLEANING OF ALL THE SOUTH TOWER LEGS IS REQUIRED. THIS SHALL ALSO INCLUDE THE FULL LENGTH OF THE UPPER AND LOWER STRUTS.

THE CONTRACTOR IS CAUTIONED THAT THERE MAY BE A CONSIDERABLE AMOUNT OF DEBRIS, SUCH AS PIECES OF BROKEN CONCRETE, PIGEON DROPPINGS, ETC., IN THE TOWERS. THE CONTRACTOR SHALL DISPOSE OF ALL SUCH DEBRIS BEFORE COMMENCING WITH THE SANDBLASTING AND CLEANING OF STRUCTURAL STEEL. THE CLEANING AND DISPOSING OF THIS DEBRIS SHALL BE IN ACCORDANCE WITH ITEM 202 OF THE STANDARD SPECIFICATIONS AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF ITEM SPECIAL - SANDBLASING AND CLEANING OF NORTH TOWER LEGS AND ITEM SPECIAL - SANDBLASTING AND CLEANING OF SOUTH TOWER LEGS.

COMPENSATION WILL BE MADE FOR THE SANDBLASTING AND CLEANING WORK DESCRIBED ABOVE AS PER CONTRACT LUMP SUM PRICE BID FOR THE FOLLOWING ITEMS:

ITEMS	DESCRIPTION
SPECIAL	SANDBLASTING AND CLEANING OF NORTH TOWER LEGS
SPECIAL	SANDBLASTING AND CLEANING OF SOUTH TOWER LEGS

ACCESS TO TOWER INTERIORS

ACCESS TO THE TOWER INTERIORS FOR THE PURPOSE OF REMOVING PORTIONS OF EXISTING TOWERS AND PERFORMING TOWER REPAIRS CAN BE MADE THROUGH AN EXISTING OPENING AT THE BASE OF EACH OF THE TOWERS.

IF ADDITIONAL ACCESS IS REQUIRED, THE FOLLOWING PROCEDURE MAY BE USED:

NORTH TOWER LEGS

- INTRODUCE AN 18" X 36" OPENING IN THE SIDE OF THE NORTH TOWER LEG AS SHOWN IN THE CONTRACT DRAWINGS. THE OPENING SHALL BE REINFORCED AND A CLOSURE PROVIDED AS PER THE ABOVE STATED DETAILS.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN INTRODUCING AND USING THIS OPENING SO AS NOT TO DAMAGE ANY EXISTING STRUCTURAL STEEL TO REMAIN IN PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CORRECT ANY DAMAGE TO PORTIONS OF THE EXISTING TOWERS TO REMAIN, DUE TO HIS OPERATION, TO THE SATISFACTION OF THE ENGINEER.

- THE USE OF THIS ADDITIONAL ACCESS SHALL BE REGULATED AS NECESSARY TO KEEP FOUL WEATHER OR ANY UNDERSIREABLE ELEMENTS FROM ENTERING THE TOWER INTERIORS.

- WHEN THE TOWER REPAIRS ARE COMPLETED, THE CONTRACTOR SHALL INSTALL THE APPROVED CLOSURE AS DETAILED ON THE CONTRACT DRAWINGS AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR MAY SUBMIT DETAILS OF AN ALTERNATE METHOD OF PROVIDING THE ADDITIONAL ACCESS TO THE ENGINEER FOR APPROVAL. EVEN IF THE CONTRACTOR CHOOSES TO USE THE SUGGESTED METHOD FOR THE NORTH TOWER LEGS, HE MUST SUBMIT DETAILS OF HIS OPERATIONS AND THE SEQUENCE OF WORK TO THE ENGINEER FOR APPROVAL.

SOUTH TOWER LEGS

- NO ADDITIONAL OPENING IN THE SIDE OF THE SOUTH TOWER LEGS WILL BE PERMITTED.

- ADDITIONAL ACCESS TO THE SOUTH TOWER LEGS WILL BE IN THE AREA OF THE SIDEWALK AND THE EXISTING TOWER CANTILEVERS WHICH ARE TO BE REMOVED BY OTHERS. THE CONTRACTOR IS REMINDED THAT COORDINATION OF HIS WORK FOR THE SOUTH TOWER LEGS WITH THE WORK OF THE STRUCTURE REHABILITATION AND WIDENING PROJECT WILL BE REQUIRED. COMPENSATION FOR SAID COORDINATION SHALL BE CONSIDERED INCIDENTAL TO THE OTHER ITEMS OF WORK.

- THE CONTRACTOR SHALL USE THE OPENING AT THE TOP OF THE SOUTH TOWER LEGS WITH CAUTION SO AS NOT TO DAMAGE ANY EXISTING STRUCTURAL STEEL TO REMAIN IN PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CORRECT ANY DAMAGE TO PORTIONS OF THE EXISTING TOWERS TO REMAIN, DUE TO HIS OPERATIONS, TO THE SATISFACTION OF THE ENGINEER.

ALL STRUCTURAL STEEL WORK REQUIRED TO OBTAIN THE ACCESS TO TOWER INTERIORS SHALL BE IN ACCORDANCE WITH ALL THE APPLICABLE PROVISIONS OF ITEM 513 OF THE STANDARD SPECIFICATIONS.

NO EXTRA PAYMENT WILL BE MADE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT TO GAIN ACCESS TO THE TOWER INTERIORS BUT COST THEREOF SHALL BE INCLUDED IN THE COST OF ITEM 513 - STRUCTURAL STEEL (A-36) FOR REPAIRS (AS PER PLAN).

TOWER ACCESS DEVICES

THIS ITEM SHALL CONSIST OF PROVIDING ALL LABOR, MATERIALS, EQUIPMENT, LIGHTING, ETC., TO PROVIDE TOWER ACCESS DEVICES IN THE NORTH LEGS OF TOWERS 1 THROUGH 4 AND THE SOUTH LEGS OF TOWERS 1 THROUGH 5 AND OPERATION OF THESE DEVICES TO FACILITATE TOWER INVESTIGATIONS AND TO INSPECT THE TOWER REPAIR WORK BEING PERFORMED OR ALREADY PERFORMED.

THE TOWER ACCESS DEVICES SHALL BE AVAILABLE FOR USE AS DIRECTED BY THE ENGINEER AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT UNTIL SUCH TIME THAT THE TOWER REPAIRS ARE COMPLETED AND ACCEPTED BY THE ENGINEER.

THE TOWER ACCESS DEVICES SHALL BE SIMILAR TO POWER OPERATED ELEVATORS WHICH CAN BE SAFELY OPERATED FROM WITHIN THE DEVICES AND CAN BE STOPPED AT ANY LEVEL IN UP OR DOWN TRAVEL. THE TOWER DEVICES SHALL BE SECURELY ATTACHED AT THE TOP OF TOWERS AND SHALL MEET ALL THE APPLICABLE OSHA AND OHIO ADMINISTRATIVE CODE REQUIREMENTS.

THE TOWER ACCESS DEVICES SHALL BE OF A SIZE THAT WILL PASS THROUGH ALL THE LEVELS OF THE TOWERS AND BE ABLE TO SUPPORT THE WEIGHT OF AT LEAST TWO PERSONS AT A TIME.

THE CONTRACTOR SHALL PROVIDE LIGHTING SUFFICIENT TO PERFORM TOWER INTERIORS' INSPECTION AND AS DIRECTED BY THE ENGINEER.

THE TOWER ACCESS DEVICES SHALL BE MADE OF STRUCTURAL STEEL COMPONENTS AND SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF ITEMS 513 OF THE STANDARD SPECIFICATIONS.

THE TOWER ACCESS DEVICES SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OHIO. THE CONTRACTOR SHALL SUBMIT DETAILS OF SUCH AND A STATEMENT OF CERTIFICATION BY THE REGISTERED PROFESSIONAL ENGINEER SHOWING THAT THE TOWER ACCESS DEVICES MEET ALL OSHA AND OHIO ADMINISTRATIVE CODE REQUIREMENTS AND ALL REQUIREMENTS MENTIONED HEREIN TO THE ENGINEER FOR APPROVAL BEFORE ANY FABRICATION OR INSTALLATION OF THE TOWER ACCESS DEVICES.

NO DISTINCTION WILL BE MADE FOR MEASUREMENT AND PAYMENT AMONG TOWER ACCESS DEVICES FOR THE VARIOUS TOWERS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID PER EACH FOR ITEM SPECIAL - TOWER ACCESS DEVICES.

SUGGESTED CONSTRUCTION SEQUENCE

THE TOWERS' INTERIOR STRUCTURAL STEEL REPAIR WORK TO BE PERFORMED UNDER THIS PROJECT SHALL BE COORDINATED WITH THE WORK OF THE STRUCTURE REHABILITATION AND WIDENING PROJECT. NORMAL TRUCK TRAFFIC ON THE STRUCTURE MUST BE PROHIBITED DURING THE REPAIRS TO THE LOWER STRUT CONNECTION. IN ORDER TO MINIMIZE THIS DISRUPTION TO TRUCK TRAFFIC, THE LOWER STRUT CONNECTION REPAIRS MUST BE COMPLETED IN ALL THREE TOWER LEGS SIMULTANEOUSLY.

FOLLOWING IS A SUGGESTED CONSTRUCTION SEQUENCE:

NORTH TOWER LEGS

NORTH TOWER LEG REPAIR WORK SHALL BE PERFORMED WHILE TRAFFIC IS BEING MAINTAINED ON THE SOUTH HALF OF THE STRUCTURE AND COMPLETED PRIOR TO OR AT THE SAME TIME THE REMAINING WORK ON THE STRUCTURE REHABILITATION AND WIDENING PROJECT FOR THE NORTH HALF IS BEING COMPLETED.

1. PROVIDE ADDITIONAL APPROVED ACCESS FOR THE NORTH TOWER LEGS, IF DEEMED NECESSARY

2. COMPLETE SANDBLASTING AND CLEANING OPERATION

3. PROVIDE TOWER ACCESS DEVICES PER INSPECTION

4. CONDUCT A JOINT INVESTIGATION WITH THE ENGINEER TO IDENTIFY PORTIONS OF WORK ALREADY COMPLETED AND DETERMINE ANY ADDITIONAL WORK NOT IDENTIFIED ON THE PLANS. THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION PRIOR TO FABRICATING ANY STRUCTURAL STEEL OR PERFORMING ANY TOWER REPAIRS.

5. COMPLETE ALL APPROVED STRUCTURAL STEEL REPAIRS. THE REPAIR WORK IN THE AREA OF THE LOWER STRUT CONNECTION SHALL BE COMPLETED FIRST.

6. COMPLETE ALL RIVET REPLACEMENT WORK.

SOUTH TOWER LEGS

WORK IDENTIFIED AS REQUIRED IN THE SOUTH TOWER LEGS SHALL ALSO INCLUDE WORK REQUIRED IN THE UPPER AND LOWER STRUTS. NO ADDITIONAL ITEM OF WORK FOR STRUT REPAIR IS INTENDED. COMPENSATION FOR WORK IN THE UPPER AND LOWER STRUTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF WORK FOR THE SOUTH TOWER LEGS.

SOUTH TOWER LEG REPAIR WORK CAN COMMENCE IMMEDIATELY FOLLOWING REMOVAL OF PORTIONS OF SIDEWALK AND EXISTING TOWER CANTILEVERS UNDER THE STRUCTURE REHABILITATION AND WIDENING PROJECT.

1. PERFORM WORK IN SOUTH TOWER LEGS, SIMILAR TO ITEMS 2 THROUGH 6 FOR THE NORTH TOWER LEGS EXCEPT IN ITEM 4 - DELETE "IDENTIFY PORTIONS OF WORK ALREADY COMPLETED AND".

2. COMPLETE ALL NECESSARY CLEANUP WORK, ETC., AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE CONSTRUCTION SEQUENCE OF WORK TO THE ENGINEER FOR APPROVAL. EVEN IF THE CONTRACTOR CHOOSES TO USE THE SUGGESTED CONSTRUCTION SEQUENCE, HE MUST SUBMIT THE DETAILS OF HIS PROPOSED METHOD OF WORK, PERSONNEL, DURATION OF WORK, HOURS, ETC., TO THE ENGINEER FOR APPROVAL.

BOTTOM ACCESS COVER

THE CONTRACTOR SHALL REPLACE THE BOTTOM ACCESS COVERS AS DIRECTED BY THE ENGINEER. WHEREVER POSSIBLE THE EXISTING COVERS SHALL BE CLEANED AND REUSED. IF THE EXISTING COVERS CANNOT BE LOCATED OR REUSED THE CONTRACTOR SHALL PROVIDE NEW COVERS AS DETAILED IN THE CONTRACT DRAWINGS ON SHEET 5/37. THE COST OF REPLACING EXISTING COVERS OR FURNISHING AND INSTALLING THE NEW COVER WILL BE INCIDENTAL TO THE COST OF ITEM 513 STRUCTURAL STEEL (A-36) FOR REPAIRS (AS PER PLAN)

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STRUCTURAL GENERAL NOTES

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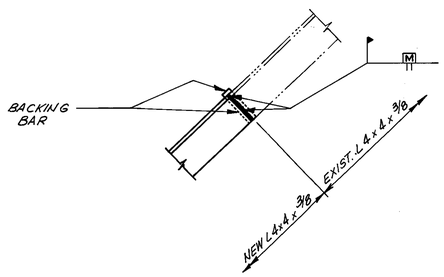

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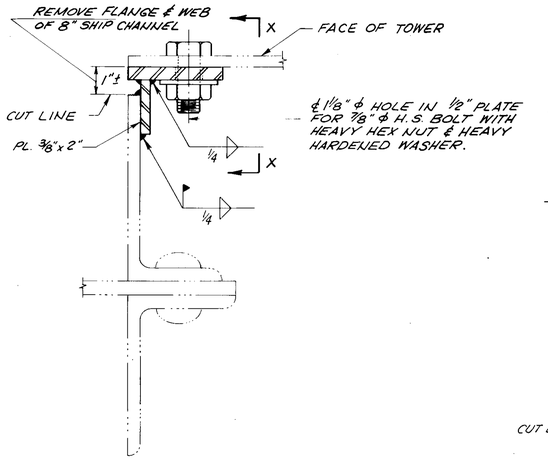
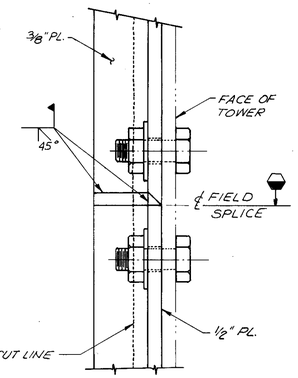
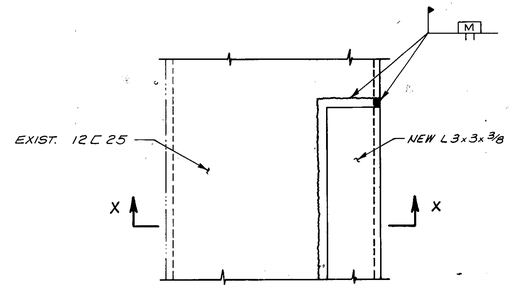


SECTIONAL PLAN

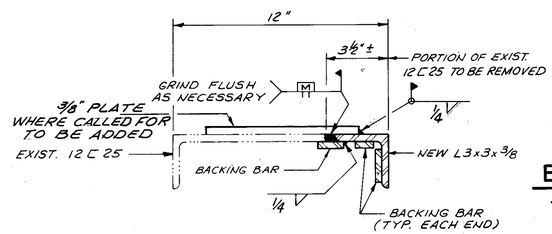


SECTION X-X

DETAIL "B"

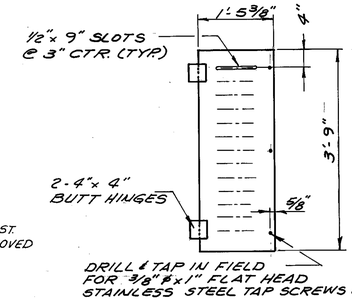


PLAN VIEW



SECTION X-X

DETAIL "C"



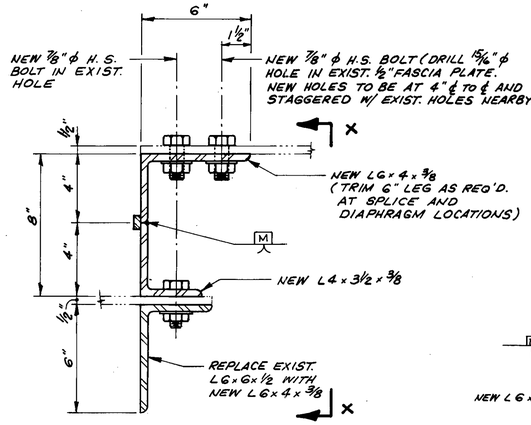
BOTTOM ACCESS COVER DETAIL

SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION

PLAN VIEW

SECTION Y-Y

DETAIL "D"



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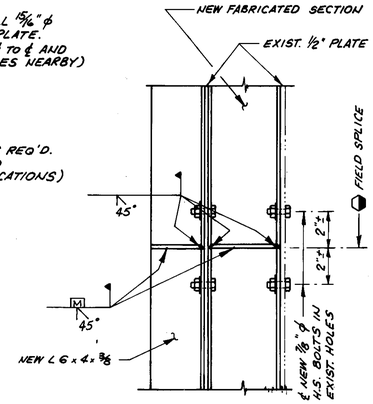
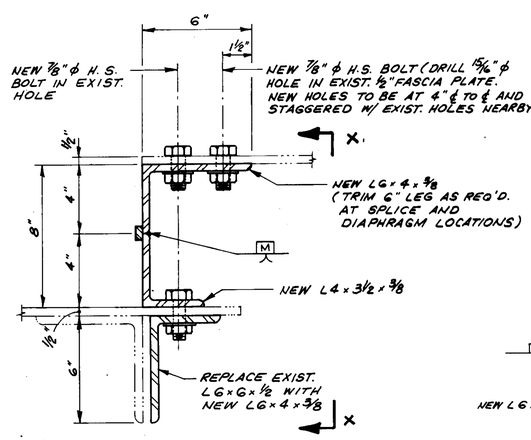


SECTION X-X

DETAIL "G"



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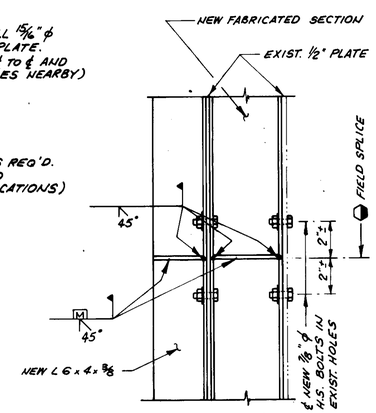

SECTION X-X

DETAIL "H"

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COMMON REPAIR DETAILS

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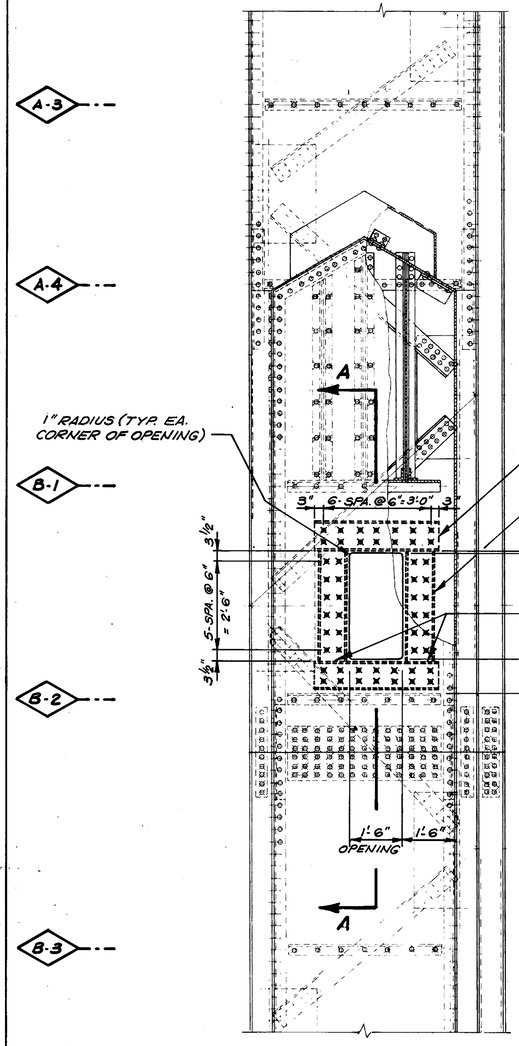
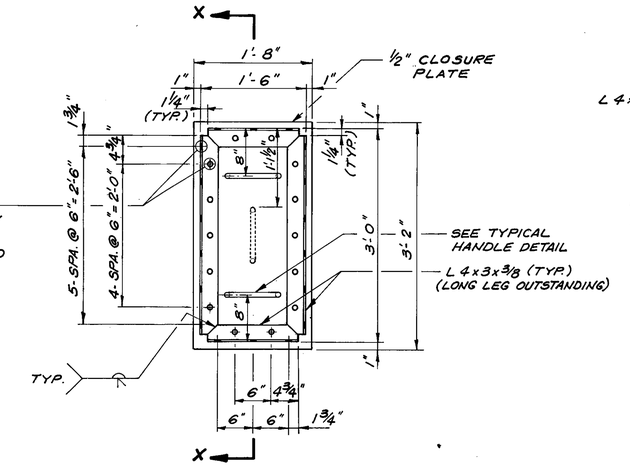


EAST ELEVATION



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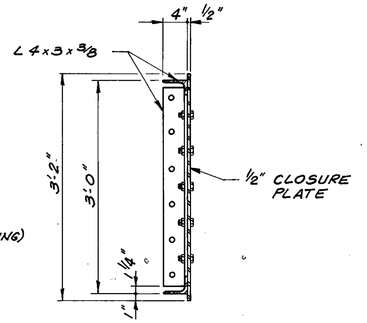
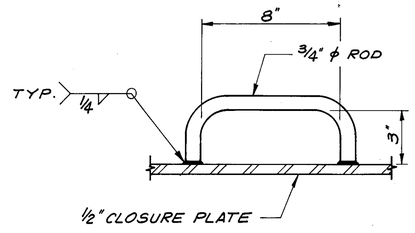
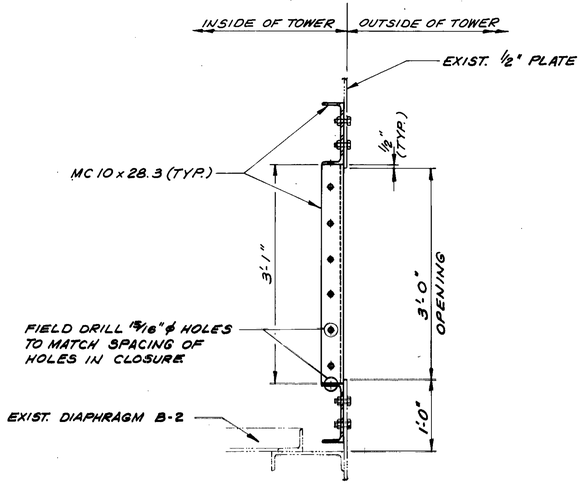


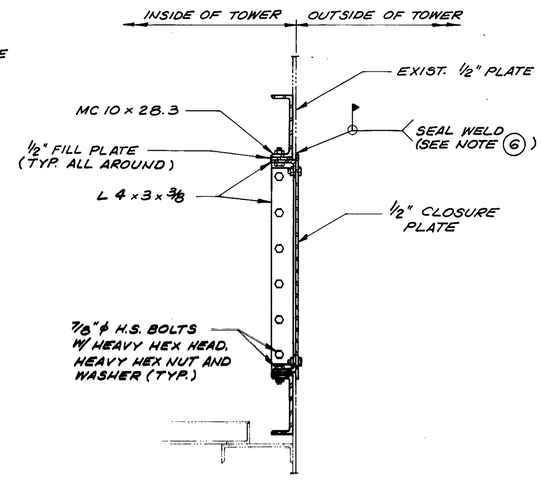
SECTION X-X



TYPICAL HANDLE DETAIL



WITHOUT CLOSURE



WITH CLOSURE

SECTION A-A

NOTES FOR TOWER ACCESS OPENING DETAILS

1. THE TOWER ACCESS OPENINGS ARE TO BE USED FOR TOWERS 1N, 2N, 3N, AND 4N ONLY. ONLY ONE ACCESS OPENING MAY BE MADE PER EACH TOWER IN THE EAST OR WEST FACE AT THE OPTION OF THE CONTRACTOR.
2. ALL STRUCTURAL STEEL SHALL BE A-36.
3. ALL FASTENERS SHALL BE,7/8" H.S. BOLTS CONFORMING TO ASTM A-325 UNLESS NOTED OTHERWISE. ALL HOLES FOR 7/8" DIAMETER BOLTS SHALL BE 15/16" DIAMETER.
4. THE EXISTING TOWER PLATE SHALL NOT BE CUT UNTIL THE MC 10 X 28.3 CHANNEL ARMOUR HAS BEEN INSTALLED.
5. THE EXISTING 1/2" PLATE MAY BE CUT AFTER THE 2" DIAMETER HOLES ARE DRILLED AT EACH CORNER OF THE OPENING TO PROVIDE SMOOTH CORNERS. THE CUT EDGE SHALL BE GROUND SMOOTH.
6. UPON COMPLETION OF ALL THE REPAIR WORK FOR A TOWER, THE CLOSURE MAY BE BOLTED IN PLACE AND A SEAL WELD PLACED AS SHOWN IN THE DETAILS AND AS DIRECTED BY THE ENGINEER.

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TOWER ACCESS OPENING DETAILS

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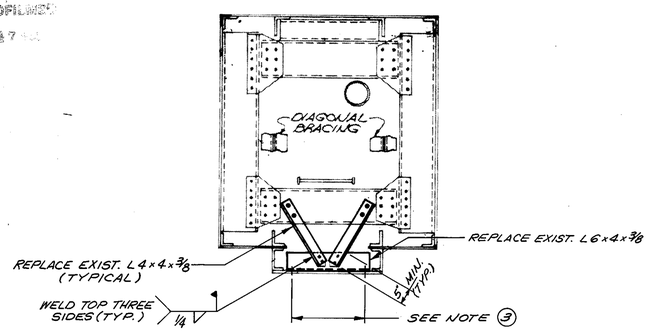
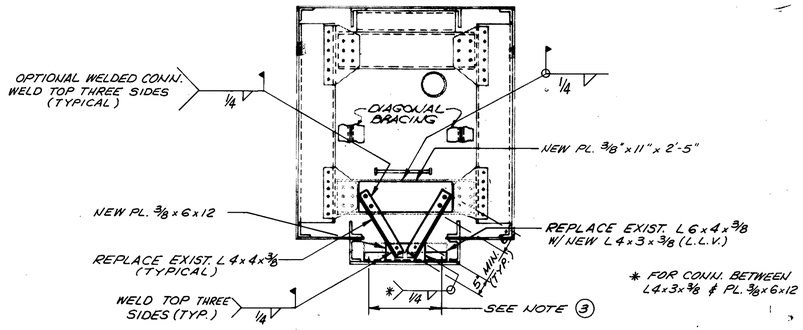
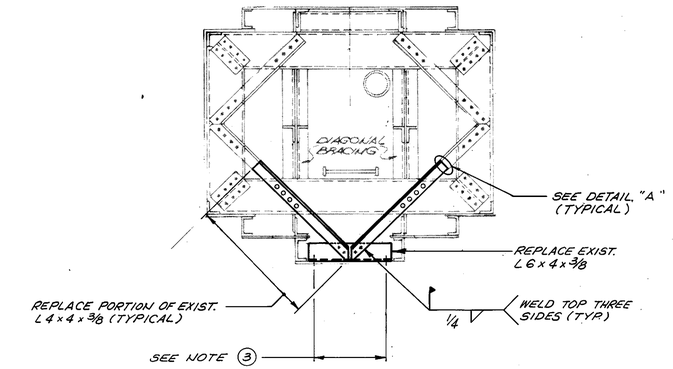
CUY-10-08.69



REPAIRS TO DIAPHRAGM A-1 TOWER IN

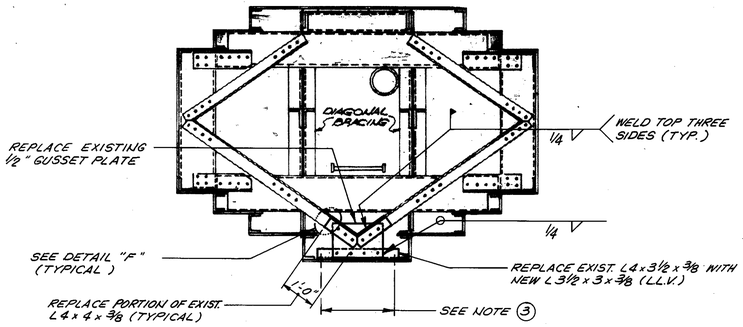


REPAIRS TO DIAPHRAGM A-2 THRU A-4 TOWER IN

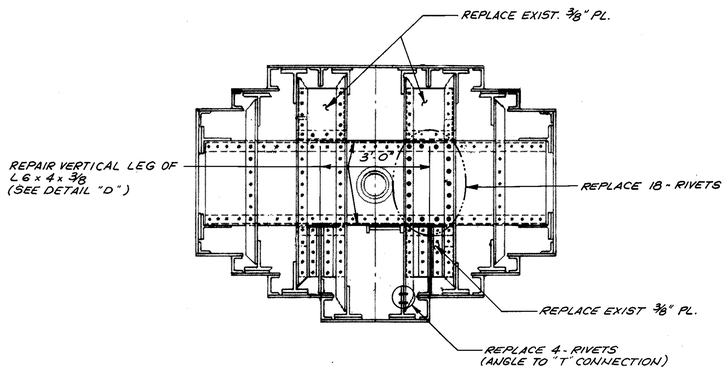


REPAIRS TO DIAPHRAGM B-1 THRU B-5 TOWER IN

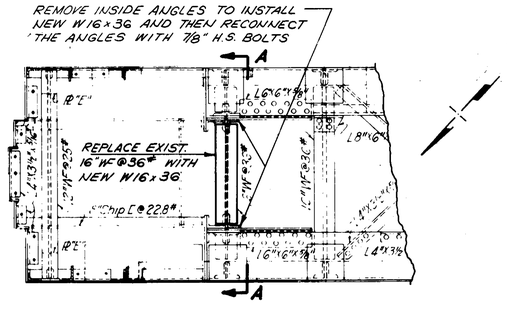
(TYP. FOR ALL DIAPHRAGM)



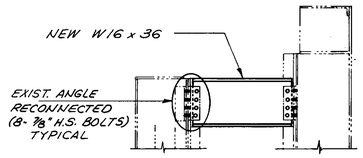
REPAIRS TO DIAPHRAGM C-1 TOWER IN



REPAIRS TO DIAPHRAGM D-1 TOWER IN



PARTIAL PLAN - TOWER GIRDER IN



SECTION A-A

NOTES

1. FOR STRUCTURE GENERAL NOTES, SEE SHEETS 2/36 THRU 3/36
2. FOR LOCATION OF DIAPHRAGM, SEE SHEET 7/36
3. REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/ NEW COUNTER SUNK HEAD BOLTS.

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6/36

TOWER IN REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	JJP	3-12-86	

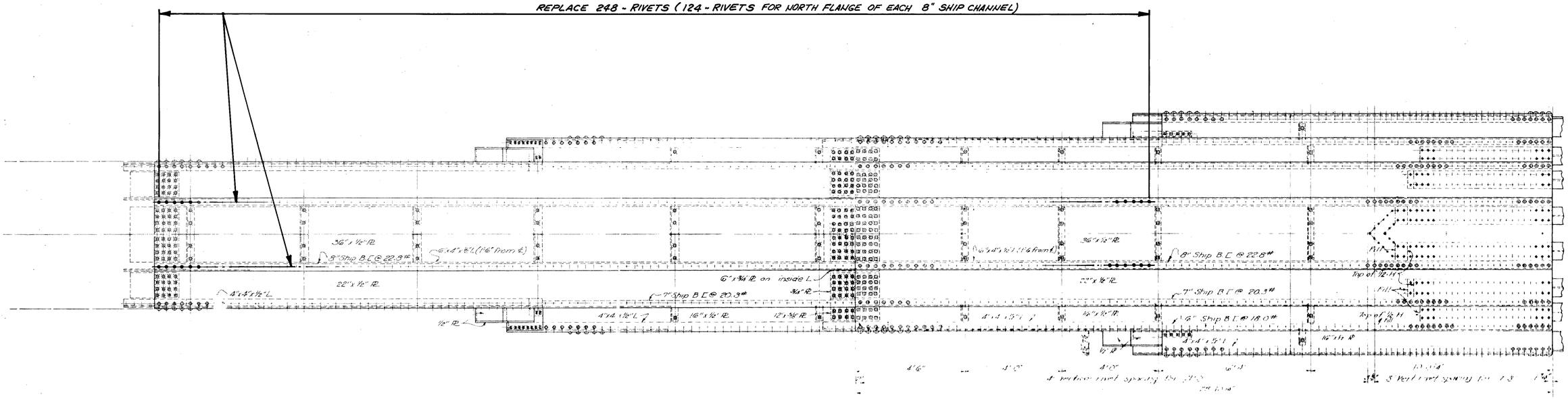
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

8/37

CUYAHOGA COUNTY
CUY-10-08.69

A-1 A-2 A-3 A-4 B-1 B-2 B-3 B-4 B-5 C-1 D-1

REPLACE 248 - RIVETS (124 - RIVETS FOR NORTH FLANGE OF EACH 8" SHIP CHANNEL)

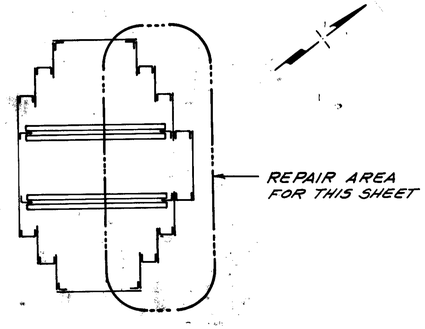


NORTH ELEVATION

NOTES

a) REFER TO GENERAL NOTES, SHEET 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.



KEY DIAGRAM

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CLEVELAND, OHIO AKRON, OHIO

7/36

TOWER 1N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

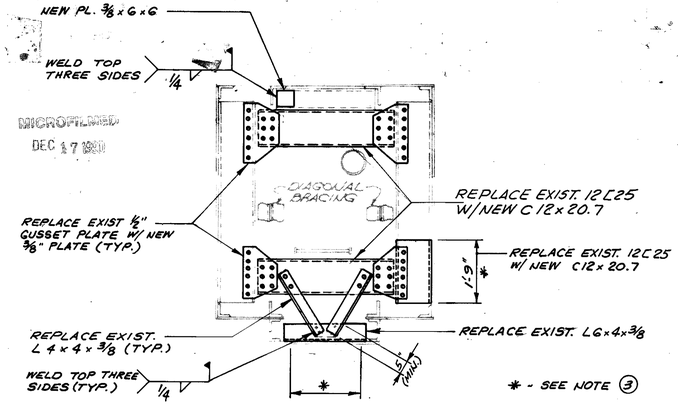
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGP	3-12-96	

MICROFILMED
DEC 17 1986

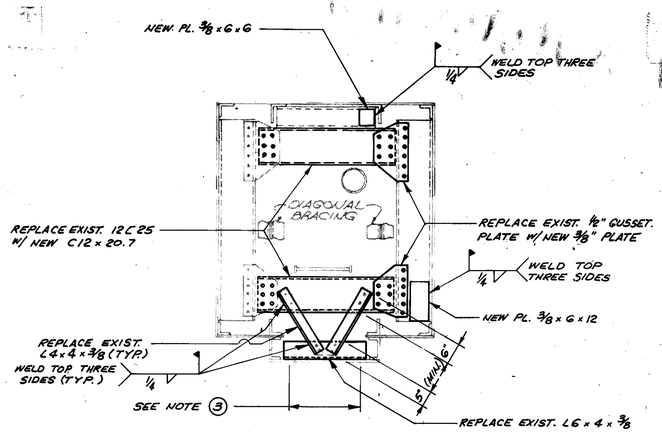
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

9/37

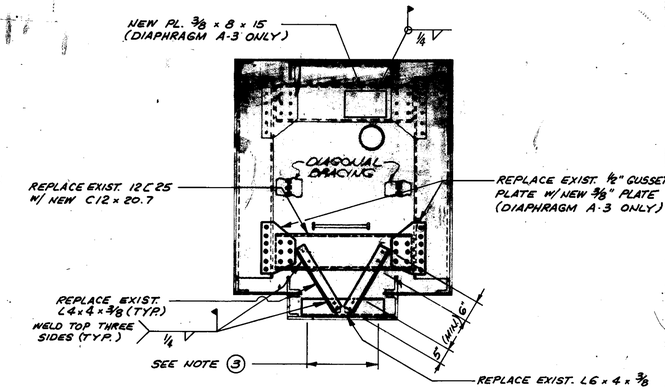
CUYAHOGA COUNTY
CUY-10-08.69



REPAIRS TO DIAPHRAGM A-1
TOWER 2N



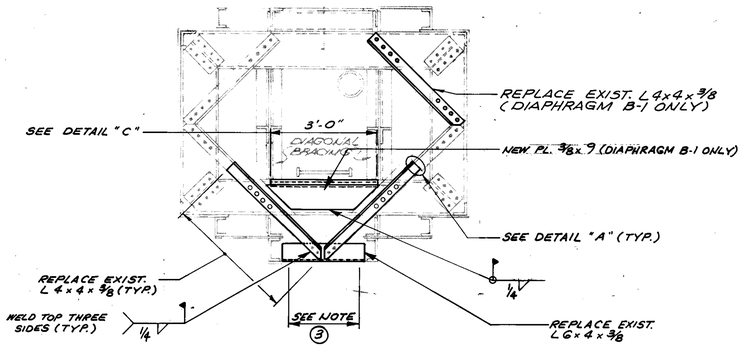
REPAIRS TO DIAPHRAGM A-2
TOWER 2N



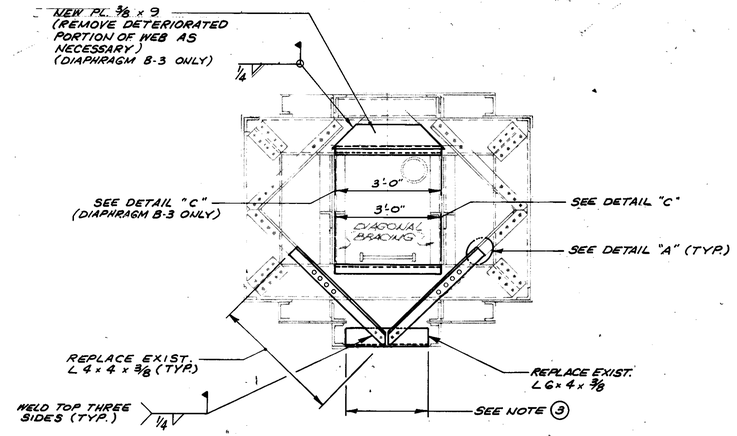
REPAIRS TO DIAPHRAGM A-3 & A-4
TOWER 2N

NOTES

1. FOR STRUCTURE GENERAL NOTES SEE SHEETS 2/36 THRU 3/36
2. FOR LOCATION OF DIAPHRAGM, SEE SHEETS 12/36 & 15/36
3. REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/ NEW COUNTER SUNK HEAD BOLTS.

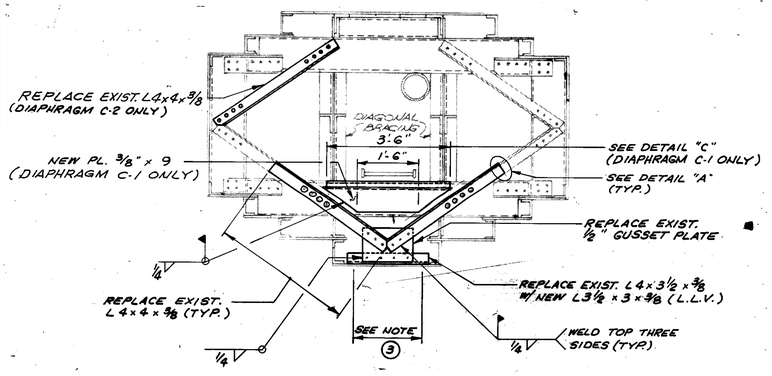


REPAIRS TO DIAPHRAGM B-1 & B-2
TOWER 2N

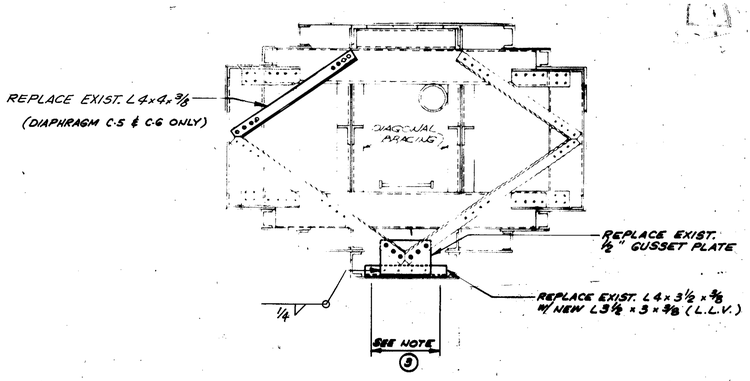


REPAIRS TO DIAPHRAGM B-3 & B-4
TOWER 2N

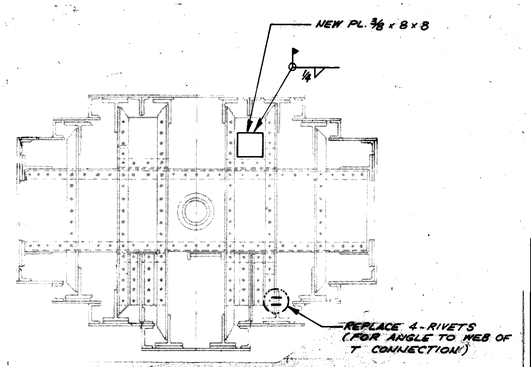
(TYP. FOR ALL DIAPHRAGM)



REPAIRS TO DIAPHRAGM C-1 & C-2
TOWER 2N



REPAIRS TO DIAPHRAGM C-3 THRU C-6
TOWER 2N



REPAIRS TO DIAPHRAGM D-1
TOWER 2N

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8/36

TOWER 2N REPAIR DETAILS

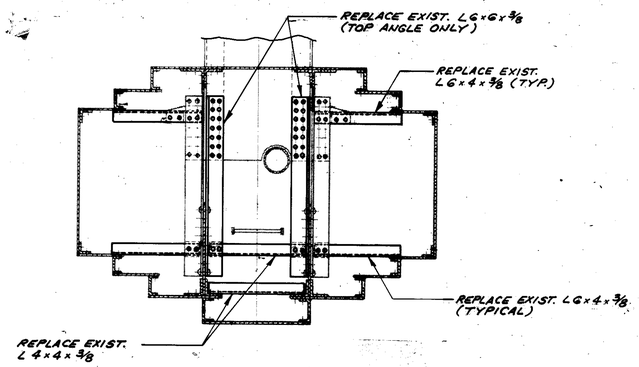
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	GGP	3-12-86	

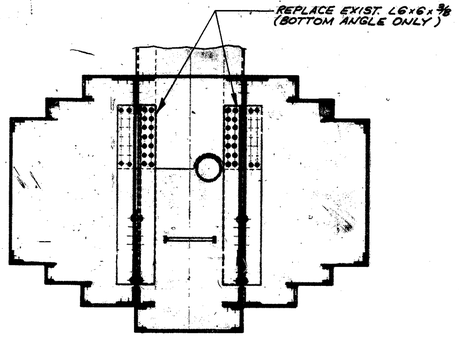
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

10/37

CUYAHOGA COUNTY
CUY-10-08.69



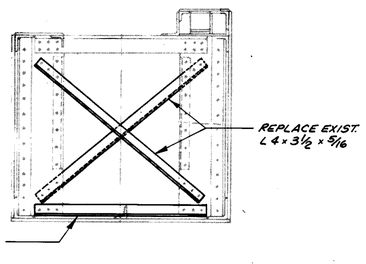
SECTION N-N
TOWER 2N



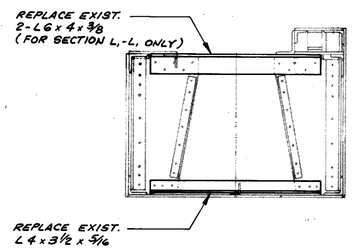
SECTION M-M
TOWER 2N

NOTES

1. SEE SHEET 10/36 FOR LOCATION OF SECTION K-K, L_1-L_1, & L_2-L_2
2. SEE SHEET 11/36 FOR LOCATION OF SECTION N-N & M-M.



SECTION K-K
TOWER 2N



SECTION L_1-L_1
TOWER 2N
(SECTION "L_2-L_2" SIMILAR EXCEPT AS NOTED)

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9/36

TOWER 2N REPAIR DETAILS

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OVER ROCKY RIVER
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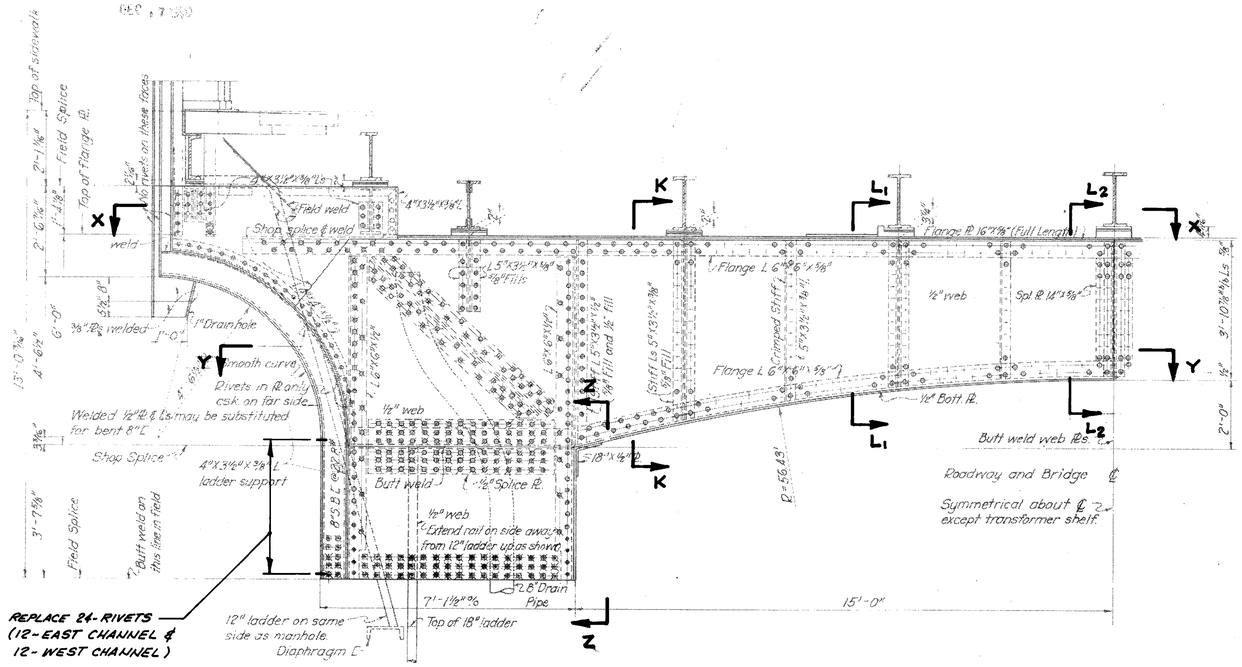
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	GJP	3-12-81	

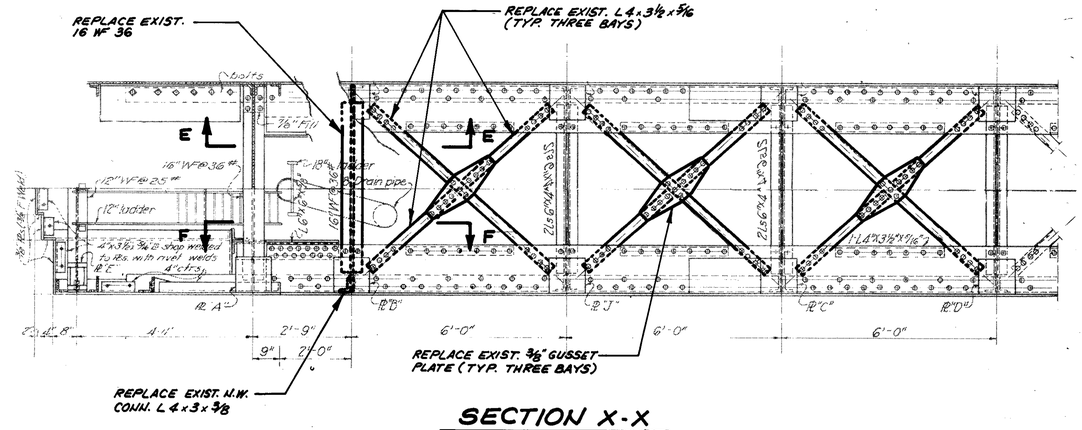
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

11/37

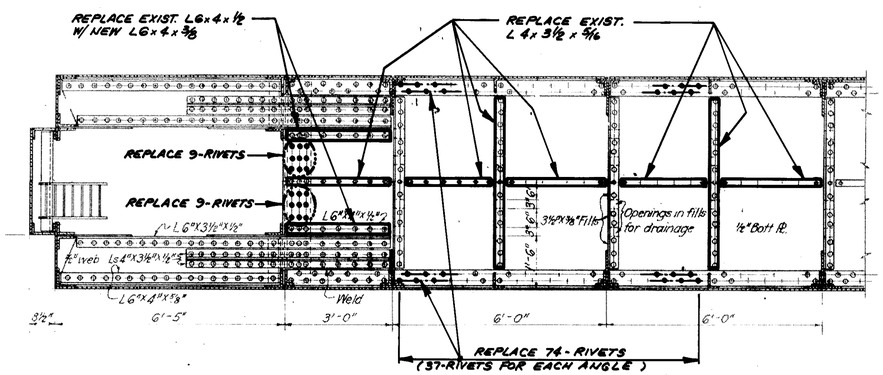
CUYAHOGA COUNTY
CUY-10-08.69



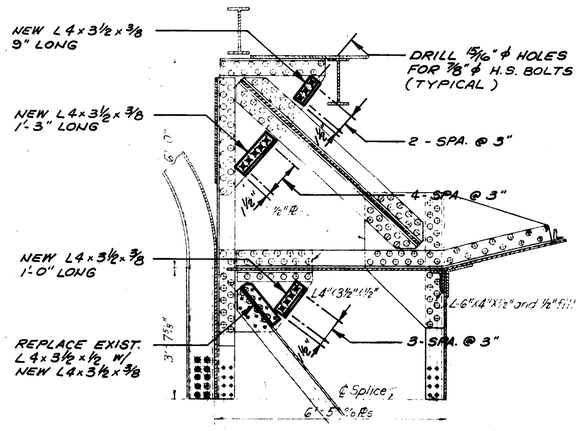
TOWER GIRDER - WEST ELEVATION



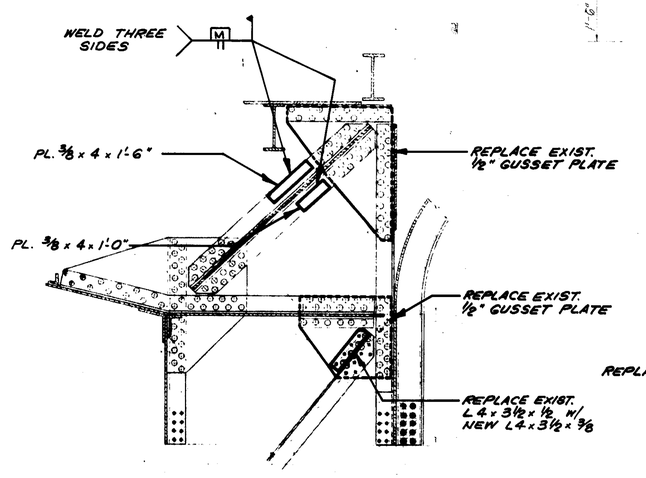
SECTION X-X



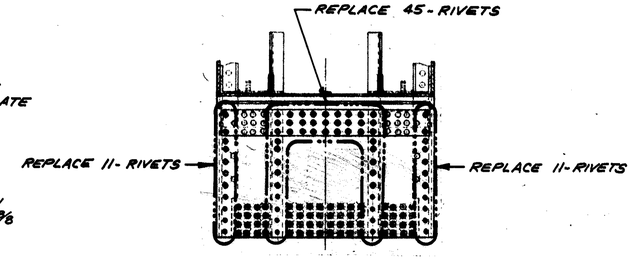
SECTION Y-Y



SECTION E-E



SECTION F-F



VIEW Z-Z

NOTES

a) REFER TO GENERAL NOTES SHEET 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) SEE SHEET 9/36 FOR SECTION K-K.

c) SEE SHEET 9/36 FOR SECTION L₁-L₁ (L₂-L₂ SIMILAR).

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10/36

TOWER 2N REPAIR DETAILS

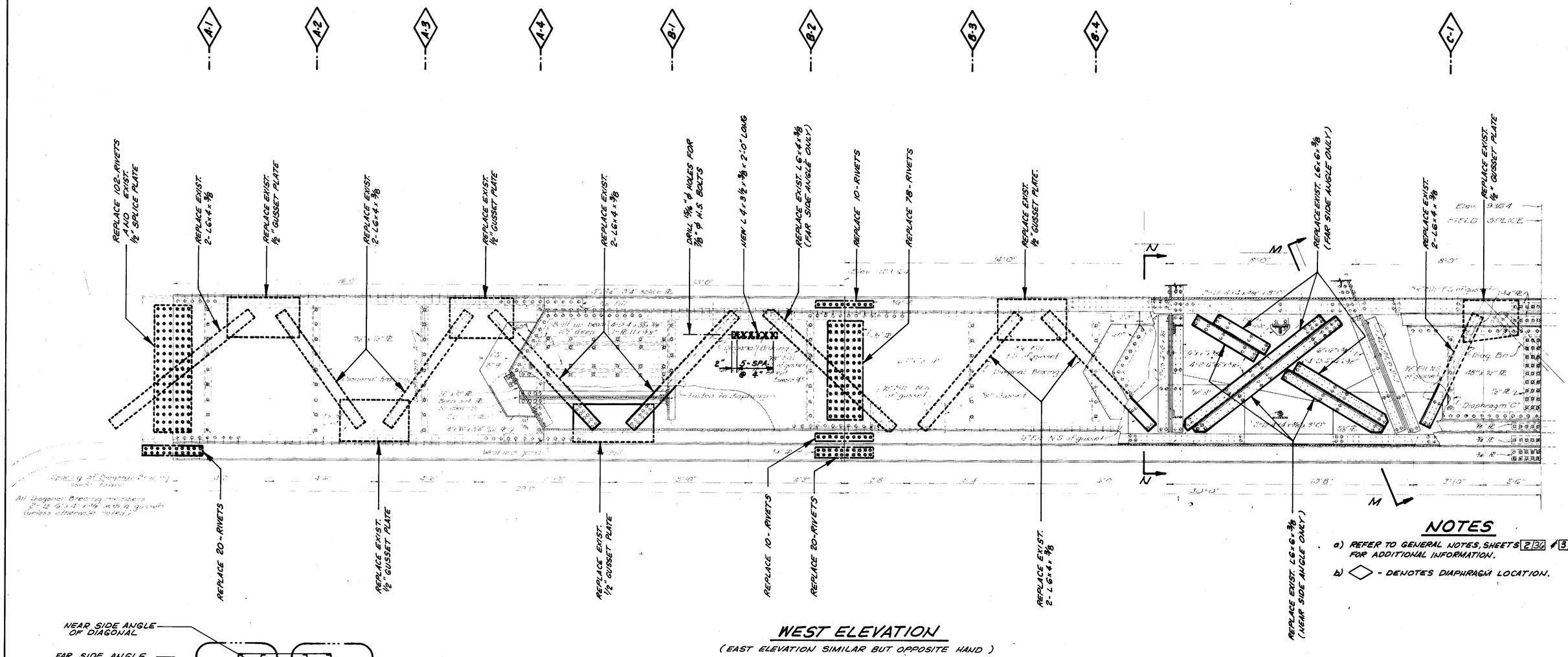
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

12/37

CUYAHOGA COUNTY
CUY-10-08.69



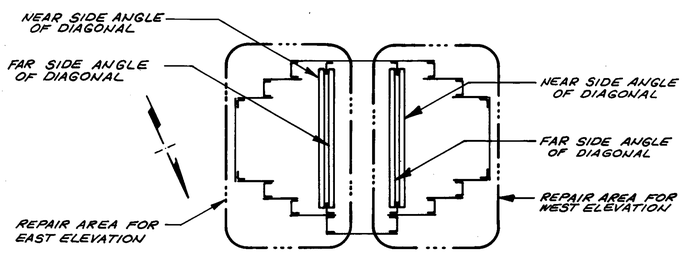
WEST ELEVATION

(EAST ELEVATION SIMILAR BUT OPPOSITE HAND)

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.



KEY DIAGRAM

DALTON · DALTON · NEWPORT
CLEVELAND OHIO — AKRON OHIO

11/36

TOWER 2N REPAIR DETAILS

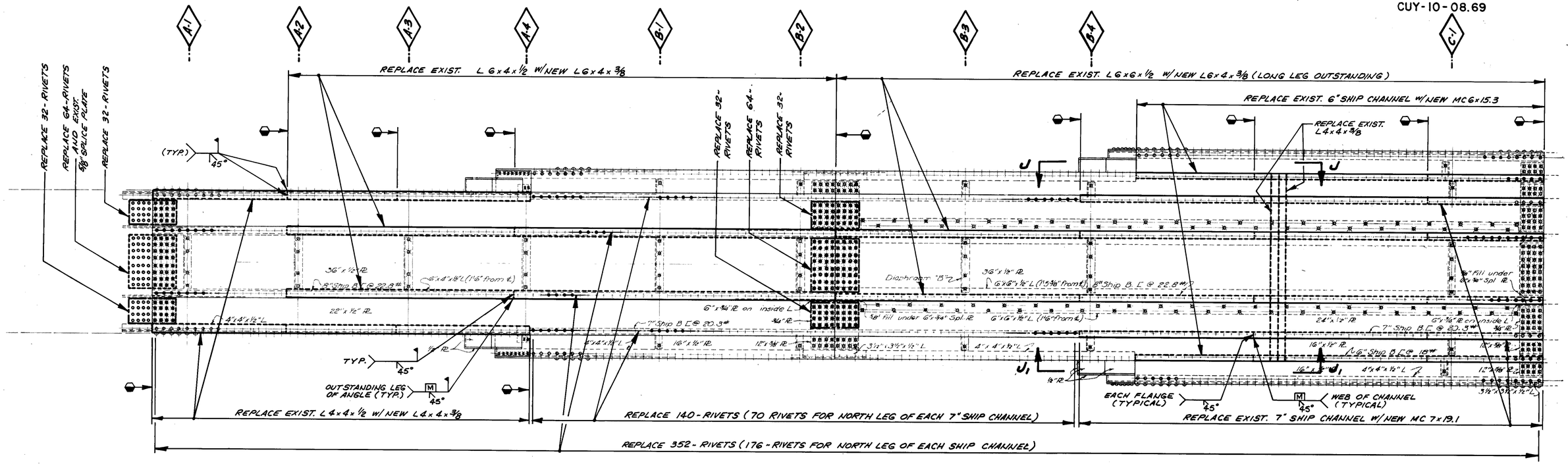
LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-91	

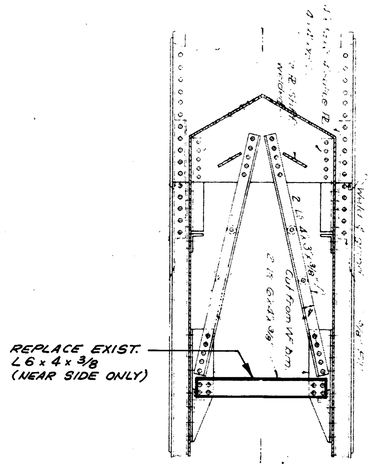
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

13/37

CUYAHOGA COUNTY
CUY-10-08.69

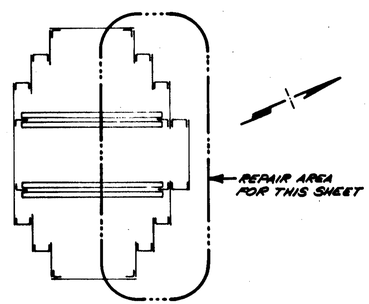


NORTH ELEVATION



SECTION J-J

(SECTION "J1-J1" SIMILAR)



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ◒ - DENOTES FIELD SPLICE LOCATION. REATTACH ANY EXISTING RIVETED FIELD SPLICE PLATES WITH NEW 7/8" ϕ H.S. BOLTS. COST TO BE INCIDENTAL TO THE COST OF STRUCTURAL STEEL (A-36) FOR REPAIRS.

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TOWER 2N REPAIR DETAILS

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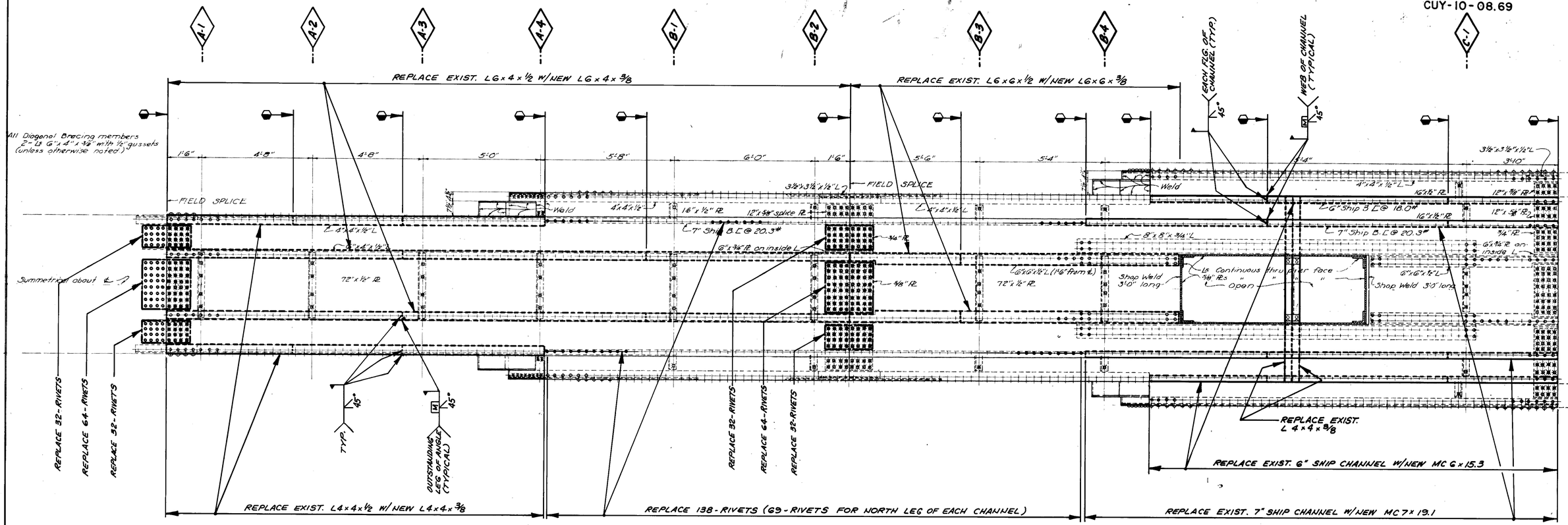
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	

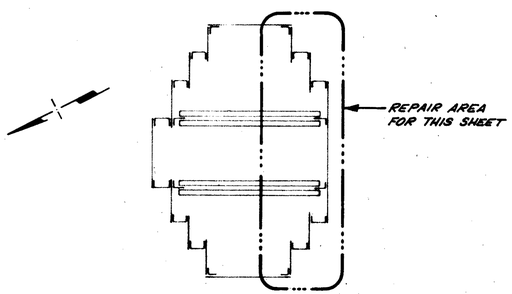
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

14
37

CUYAHOGA COUNTY
CUY-10-08.69



SOUTH ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ⊖ - DENOTES FIELD SPLICE LOCATION. REATTACH ANY EXISTING RIVETED FIELD SPLICE PLATES WITH NEW ⅞" ϕ H.S. BOLTS. COST TO BE INCIDENTAL TO THE COST OF STRUCTURAL STEEL (A-36) FOR REPAIRS.

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TOWER 2N REPAIR DETAILS

LORAIN ROAD VIADUCT
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BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

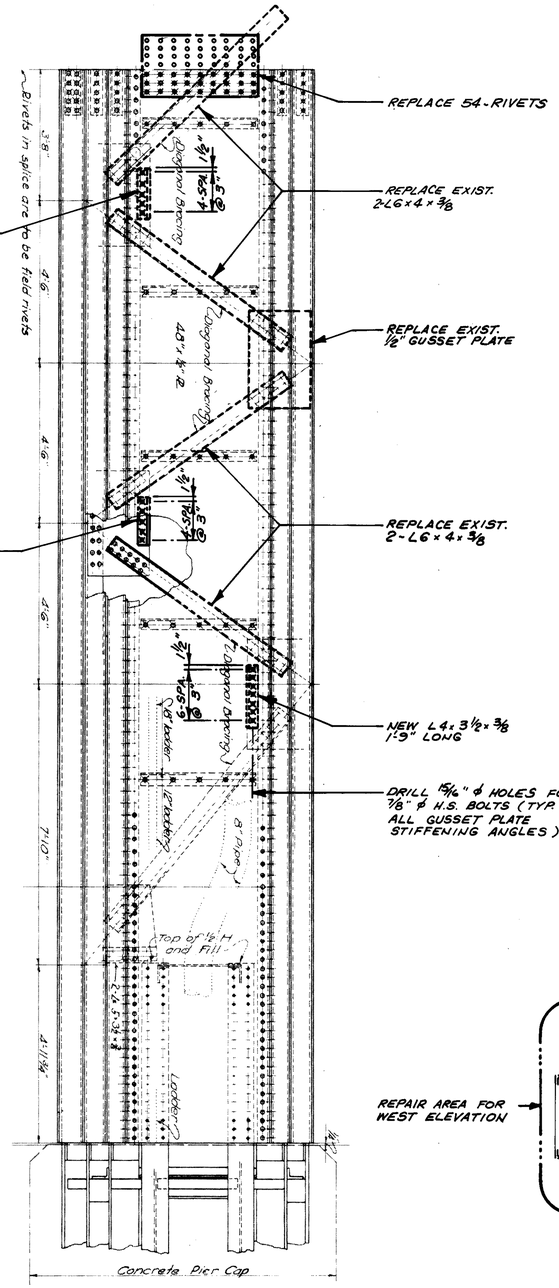
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

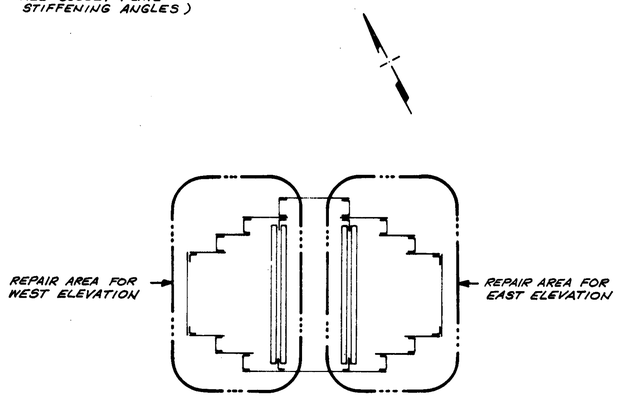
15/37

CUYAHOGA COUNTY
CUY-10-08.69

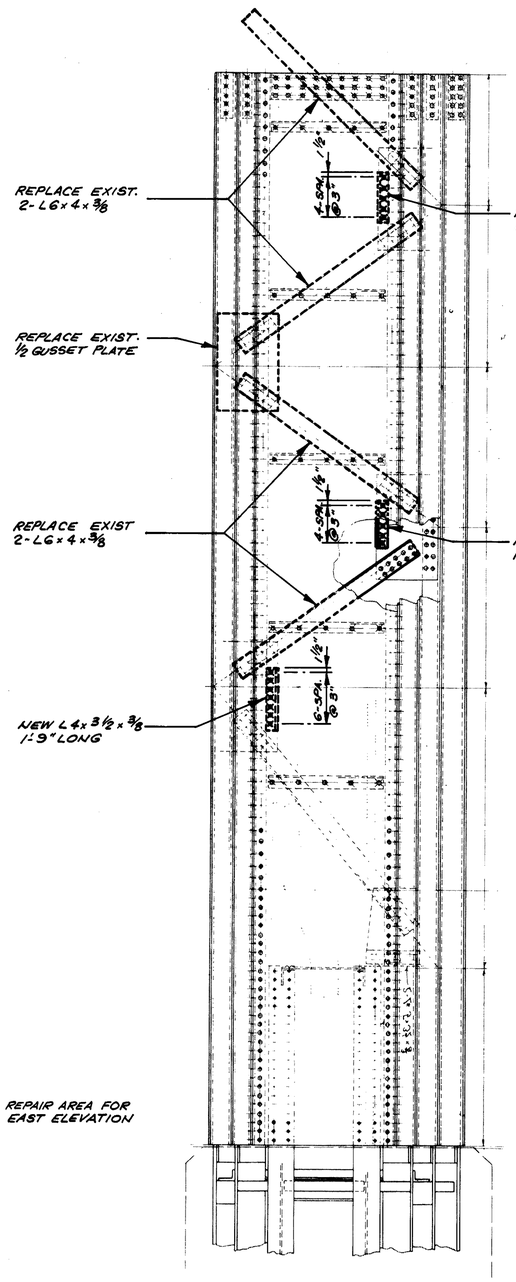
C-2 C-3 C-4 C-5 C-6 D-1



WEST ELEVATION



KEY DIAGRAM



EAST ELEVATION

NOTES

a) REFER TO GENERAL NOTES SHEETS E 134 & E 136 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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TOWER 2N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

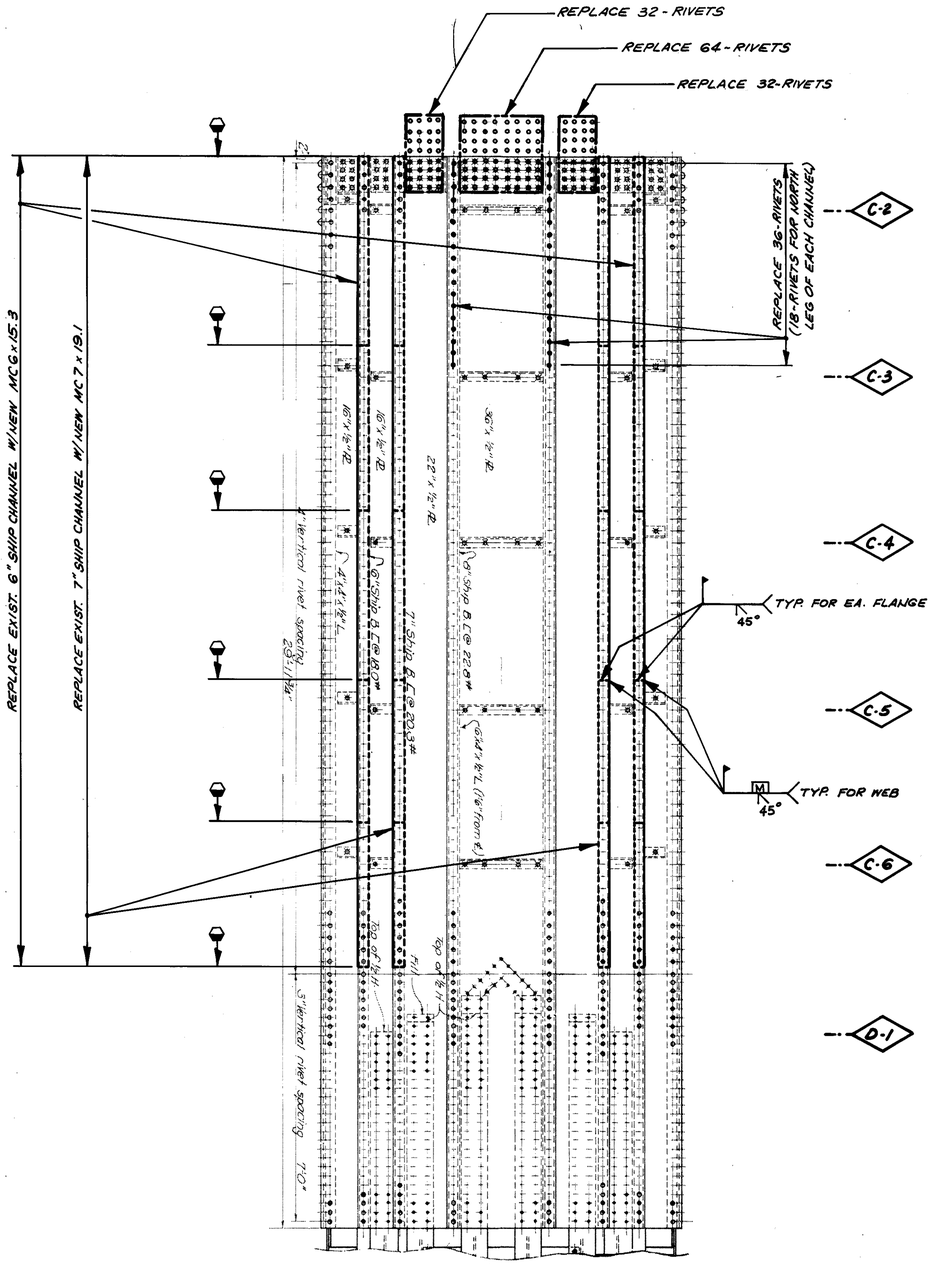
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JOP	3-12-86	

DEC 17

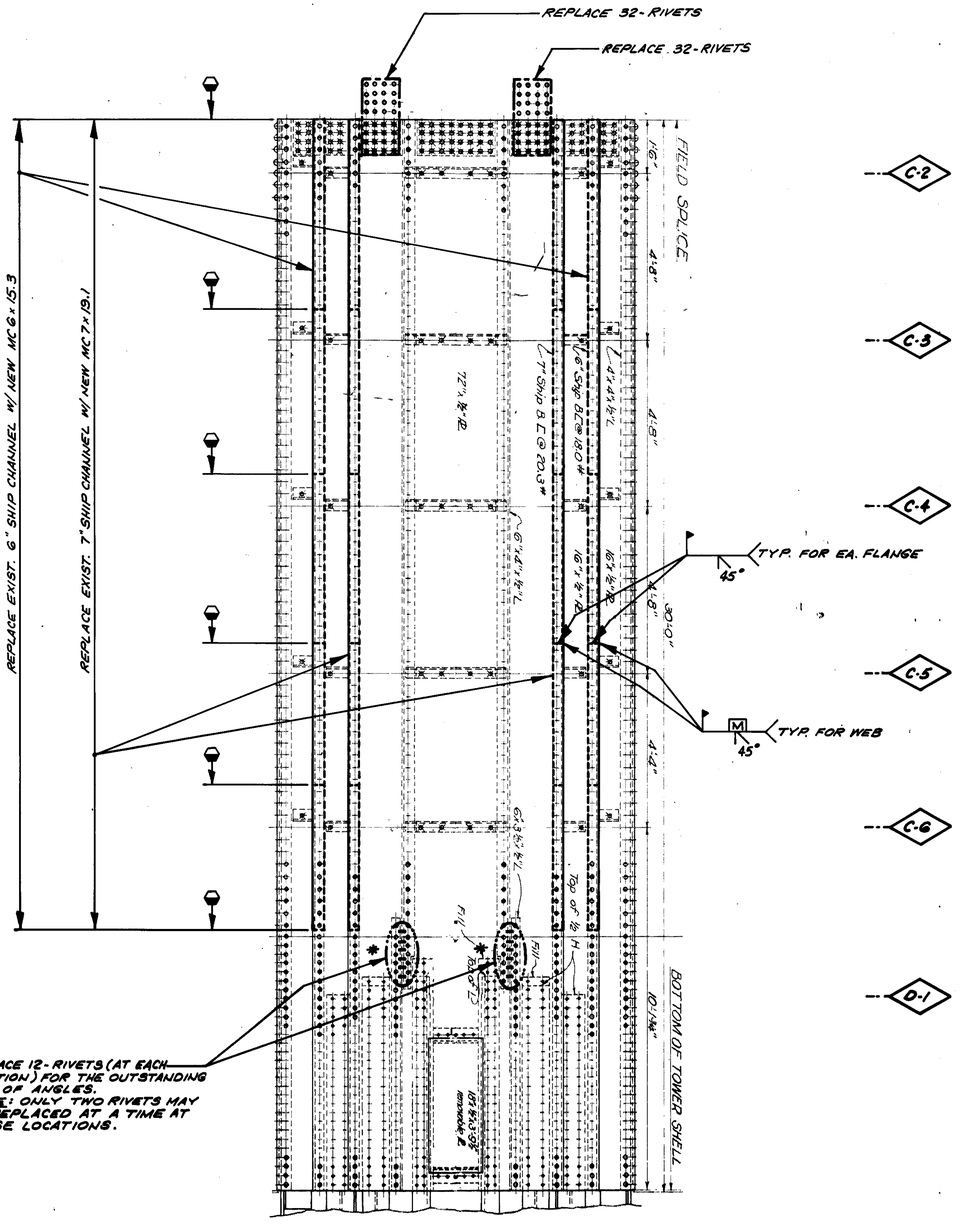
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

16/37

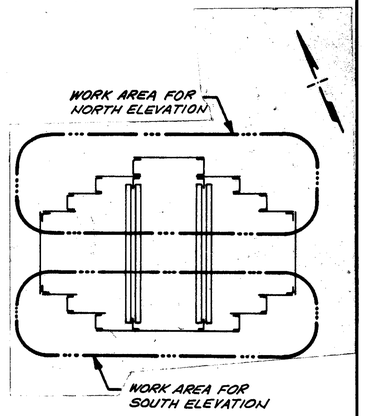
CUYAHOGA COUNTY
CUY-10-08[illegible]



NORTH ELEVATION



SOUTH ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ◒ - DENOTES FIELD SPLICE LOCATION. REATTACH ANY EXISTING RIVETED FIELD SPLICE PLATES WITH NEW 7/8" ϕ H.S. BOLTS. COST TO BE INCIDENTAL TO THE COST OF STRUCTURAL STEEL (A-36) FOR REPAIRS.

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15/36

TOWER 2N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

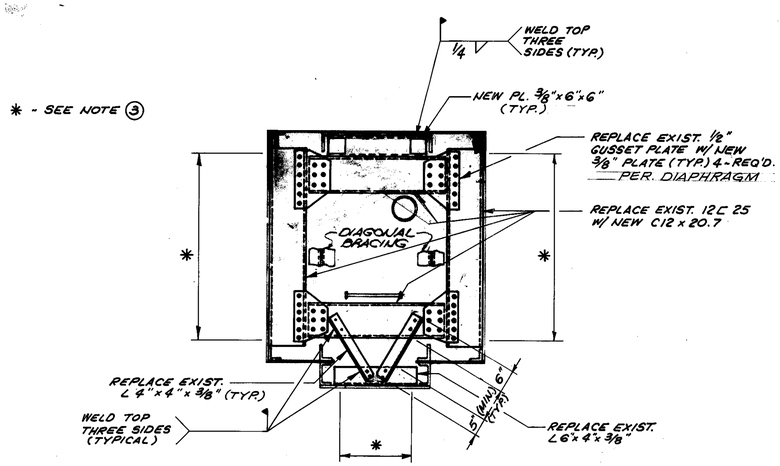
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	

DEC 17 19

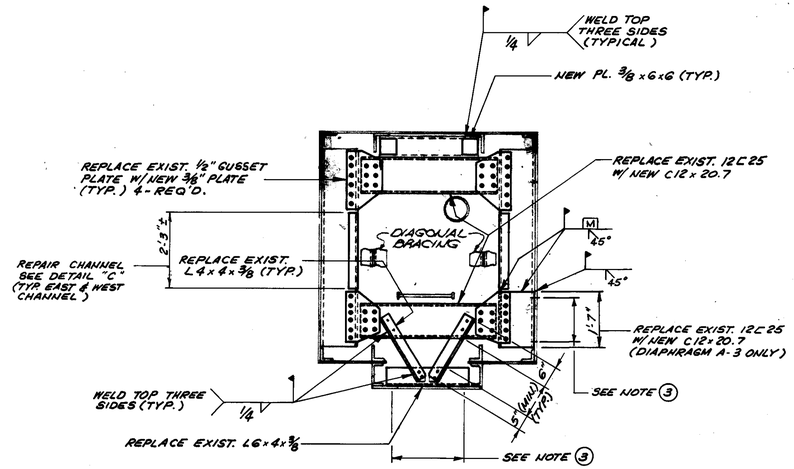
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

17/37

CUYAHOGA COUNTY
CUY-10-08.69



REPAIRS TO DIAPHRAGM A-1 & A-2
TOWER 3N



REPAIRS TO DIAPHRAGM A-3 & A-4
TOWER 3N

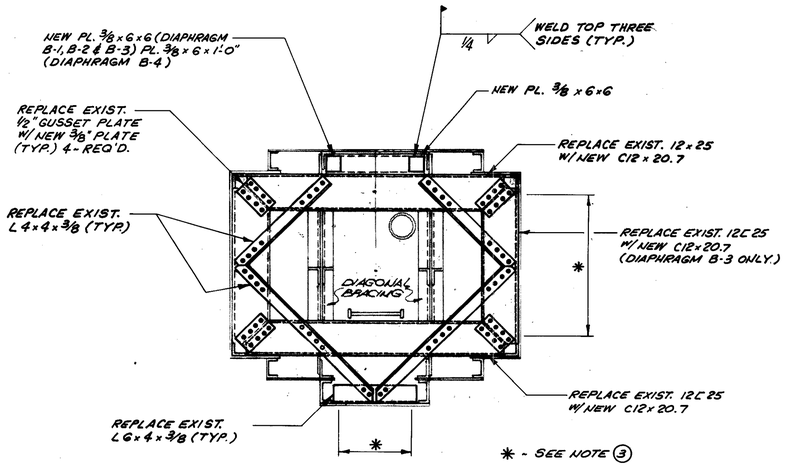
NOTES

(1) FOR STRUCTURE GENERAL NOTES, SEE SHEETS 2/36 THRU 3/36

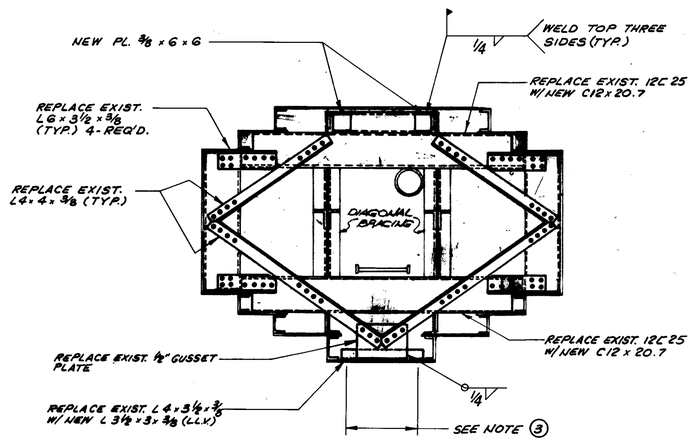
(2) FOR LOCATION OF DIAPHRAGM, SEE SHEETS 19/36 & 22/36

(3) REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/ NEW COUNTER SUNK HEAD BOLTS.

(TYP. FOR ALL DIAPHRAGM)



REPAIRS TO DIAPHRAGM B-1 THRU B-4
TOWER 3N



REPAIRS TO DIAPHRAGM C-1 & C-2
TOWER 3N

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16/36

TOWER 3N REPAIR DETAILS

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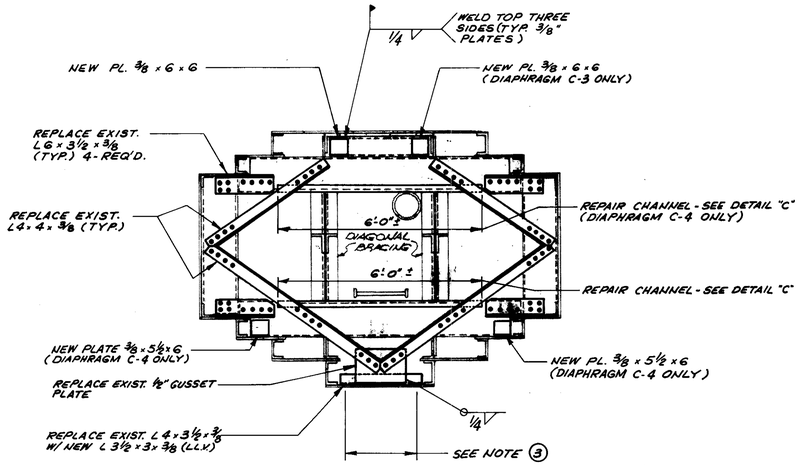
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	JAP	3-12-96	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

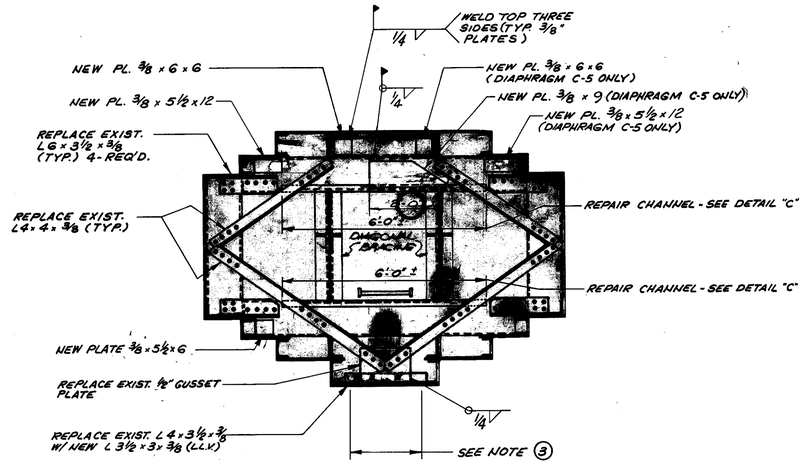
18/37

CUYAHOGA COUNTY
CUY-10-08.69



REPAIRS TO DIAPHRAGM C-3 & C-4
TOWER 3N

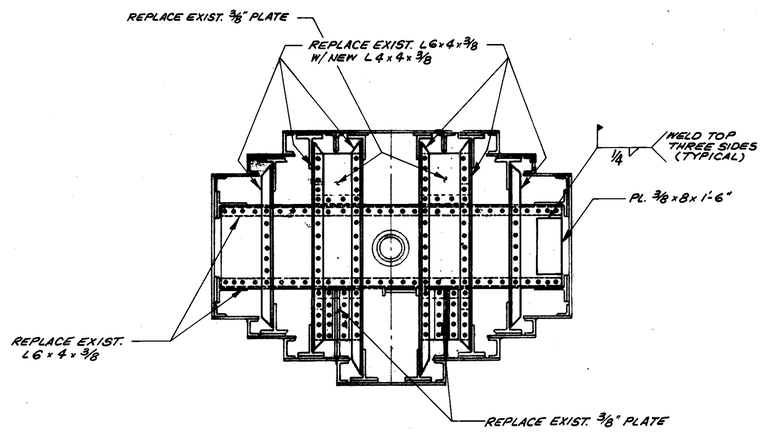
(TYP. FOR ALL DIAPHRAGM)



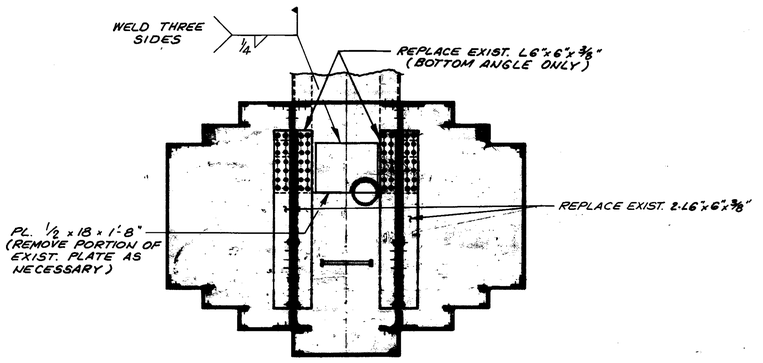
REPAIRS TO DIAPHRAGM C-5 & C-6
TOWER 3N

NOTES

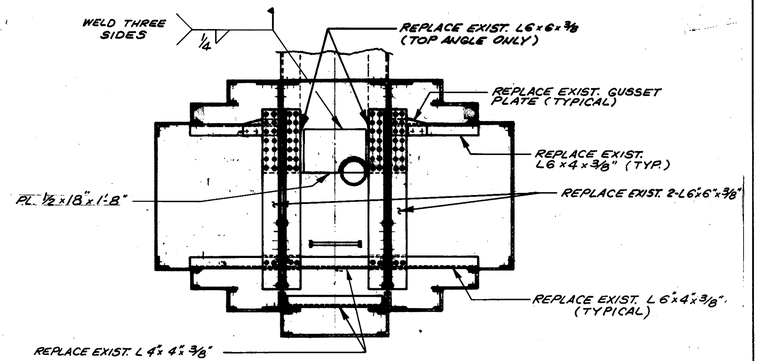
1. FOR STRUCTURE GENERAL NOTES SEE SHEETS 2/36 THRU 3/36
2. FOR LOCATION OF DIAPHRAGM, SEE SHEETS 19/36 & 22/36
3. REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/NEW COUNTER SUNK HEAD BOLTS.
4. SEE SHEET 19/36 FOR LOCATION OF SECTION N-N & M-M



REPAIRS TO DIAPHRAGM D-1
TOWER 3N



SECTION M-M
TOWER 3N



SECTION N-N
TOWER 3N

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17/36

TOWER 3N REPAIR DETAILS

LORAIN ROAD VIADUCT
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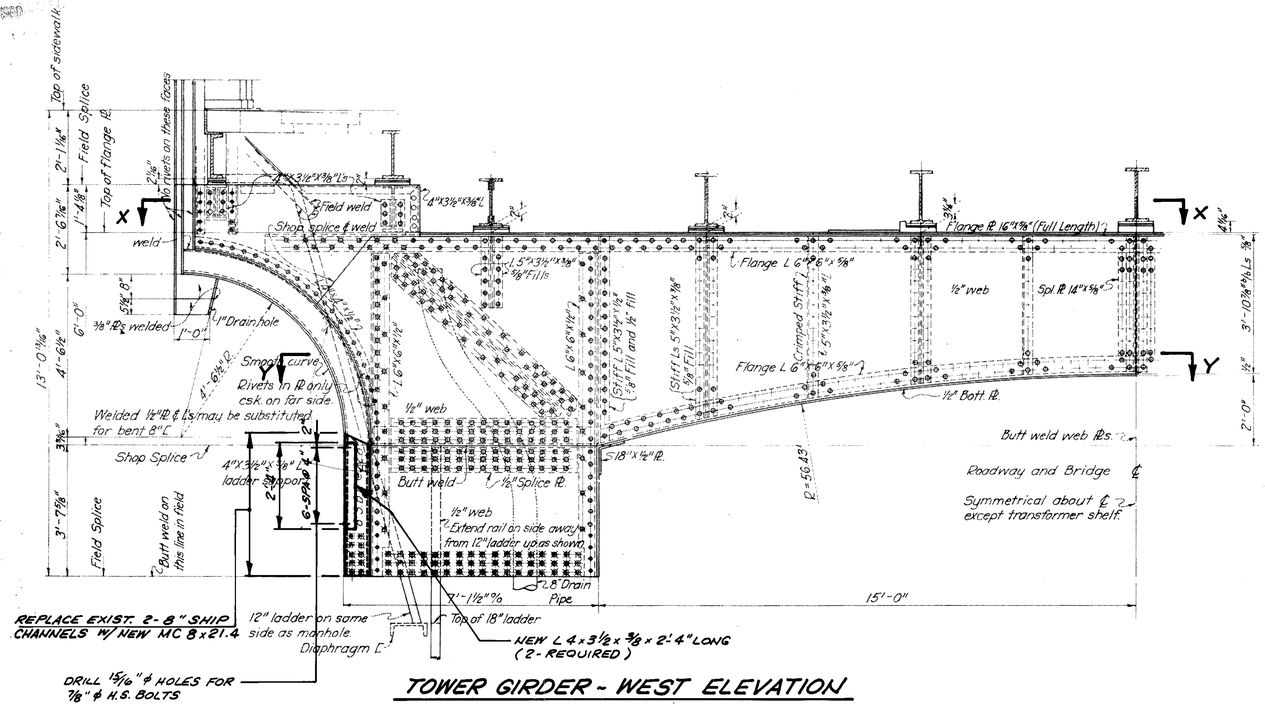
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	EF		BKL	JDP	3-12-96	

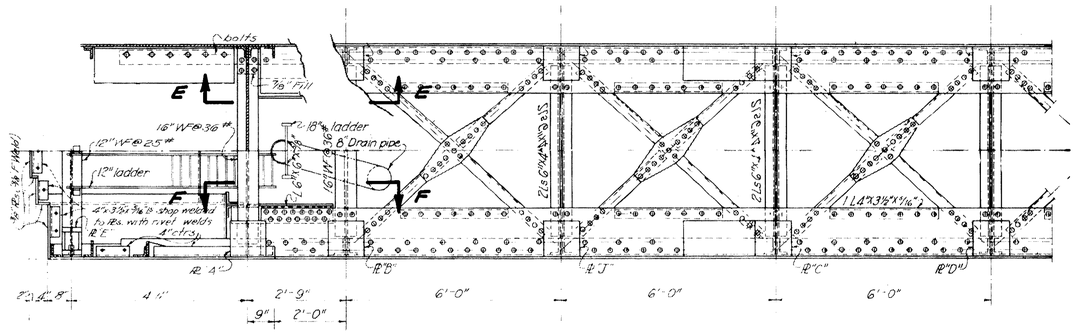
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

19/37

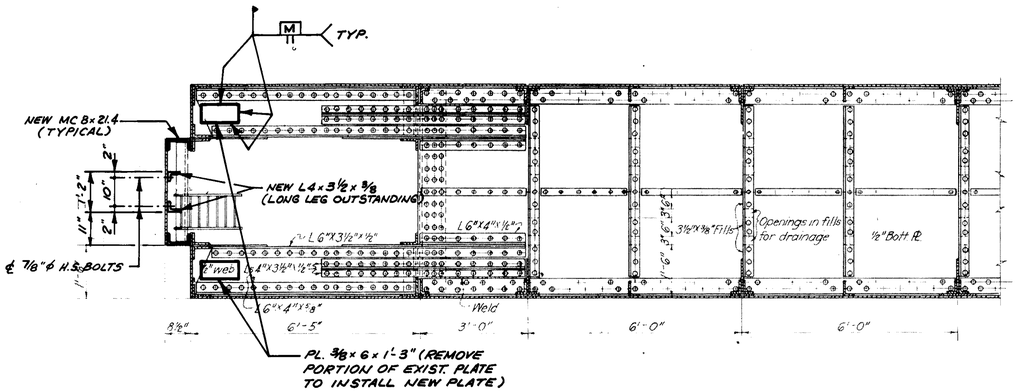
CUYAHOGA COUNTY
CUY-10-08.69



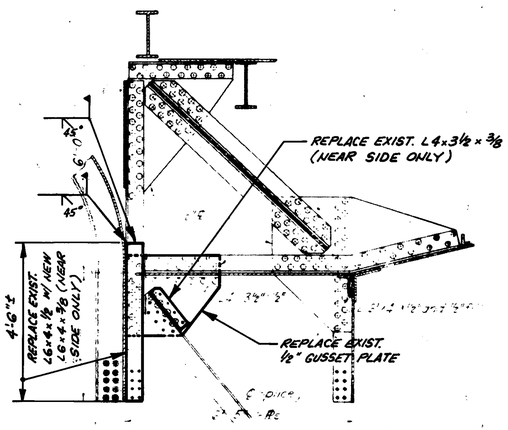
TOWER GIRDER - WEST ELEVATION



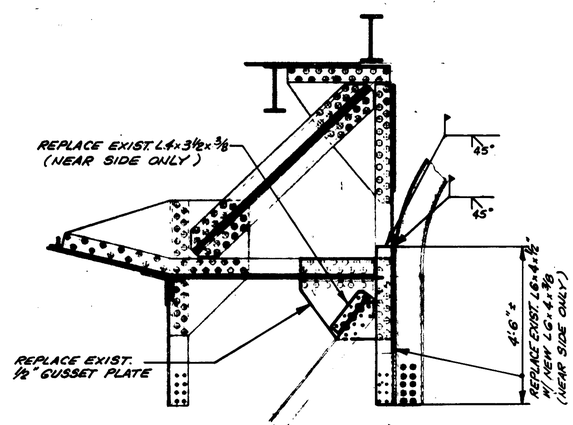
SECTION X-X



SECTION Y-Y



SECTION E-E



SECTION F-F

NOTE

a) REFER TO GENERAL NOTES SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

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TOWER 3N REPAIR DETAILS

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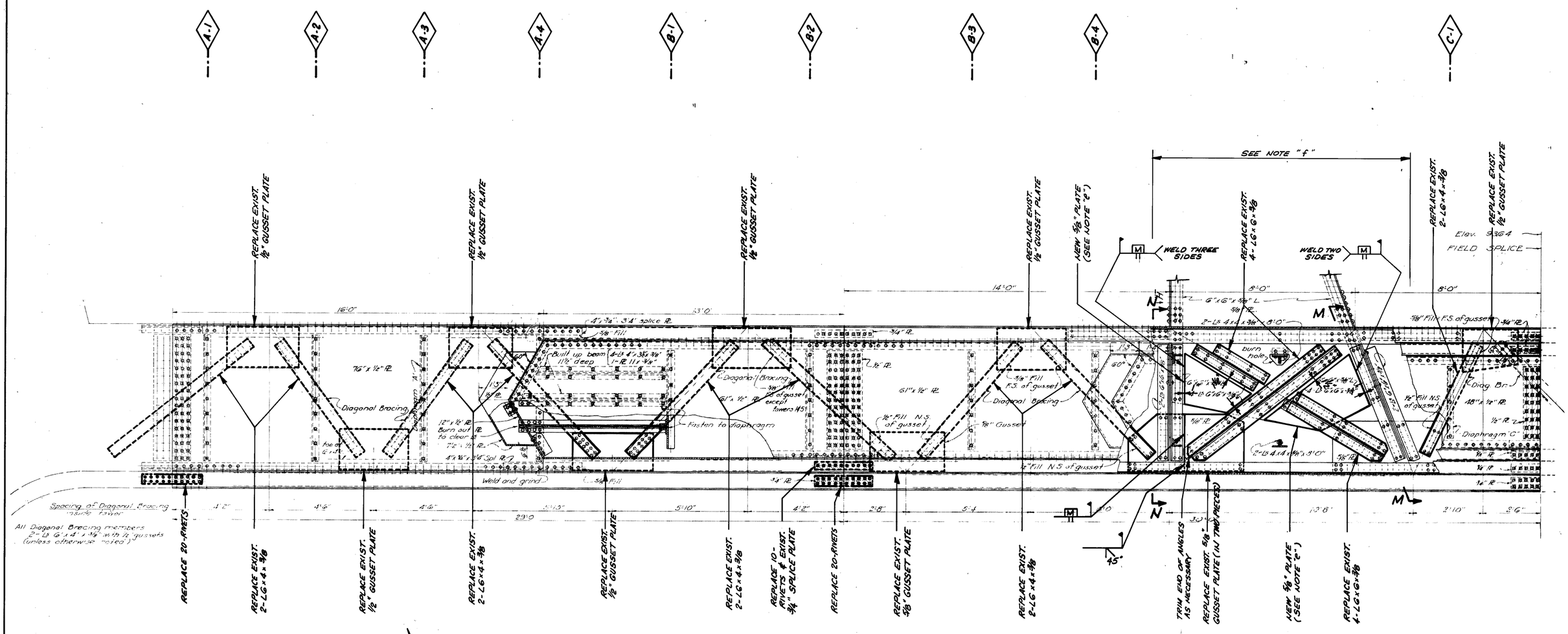
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JSP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

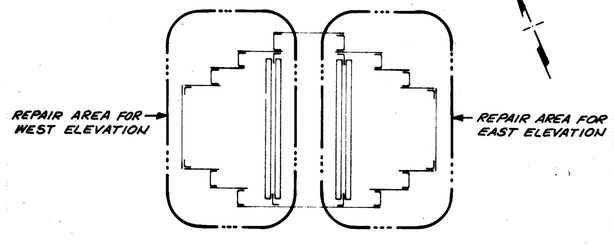
20/37

CUYAHOGA COUNTY
CUY-10-08.69



WEST ELEVATION

(EAST ELEVATION REPAIRS SIMILAR BUT OPPOSITE HAND)



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) SEE SHEET 17/36 FOR SECTION N-N.

d) SEE SHEET 17/36 FOR SECTION M-M.

e) REMOVE DETERIORATED PORTIONS OF EXISTING PLATE TO WELD NEW 5/8" PL. IN PLACE.

f) IN THIS AREA, ONLY ONE SET OF ANGLES MAY BE REPLACED AT A TIME.

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19/36

TOWER 3N REPAIR DETAILS

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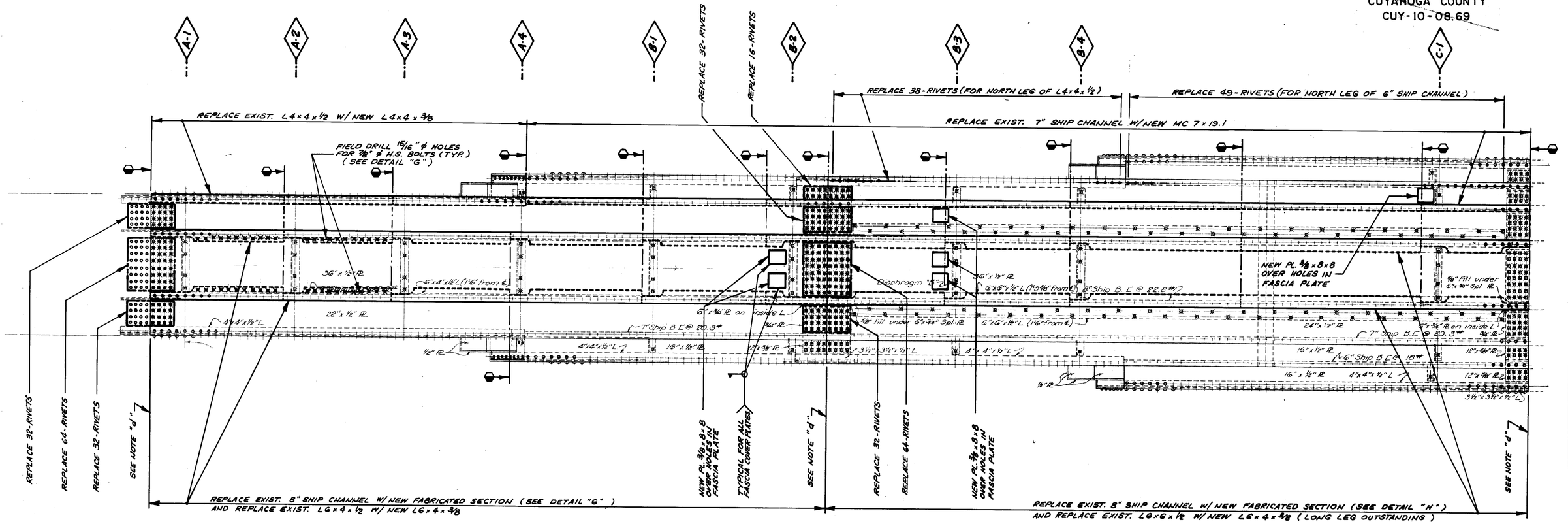
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE	REVISED
BKL	D.T.		BKL	JDP	3-12-96	

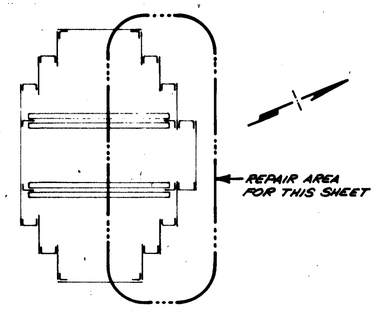
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

CUYAHOGA COUNTY
CUY-10-08.69

21/37



NORTH ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2|36 & 3|36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ◒ - DENOTES FIELD SPLICE LOCATION.

d) REATTACH EXISTING SPLICE PLATES FOR THE SECTIONS BEING REPLACED. GRIND WELDS AS NECESSARY TO FACILITATE THE CONNECTION. COST OF THIS WORK SHALL BE INCIDENTAL TO THE COST OF STRUCTURAL STEEL (A-36) FOR REPAIRS.

e) SEE SHEET 4|36 FOR DETAILS G & H.

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20/36

TOWER 3N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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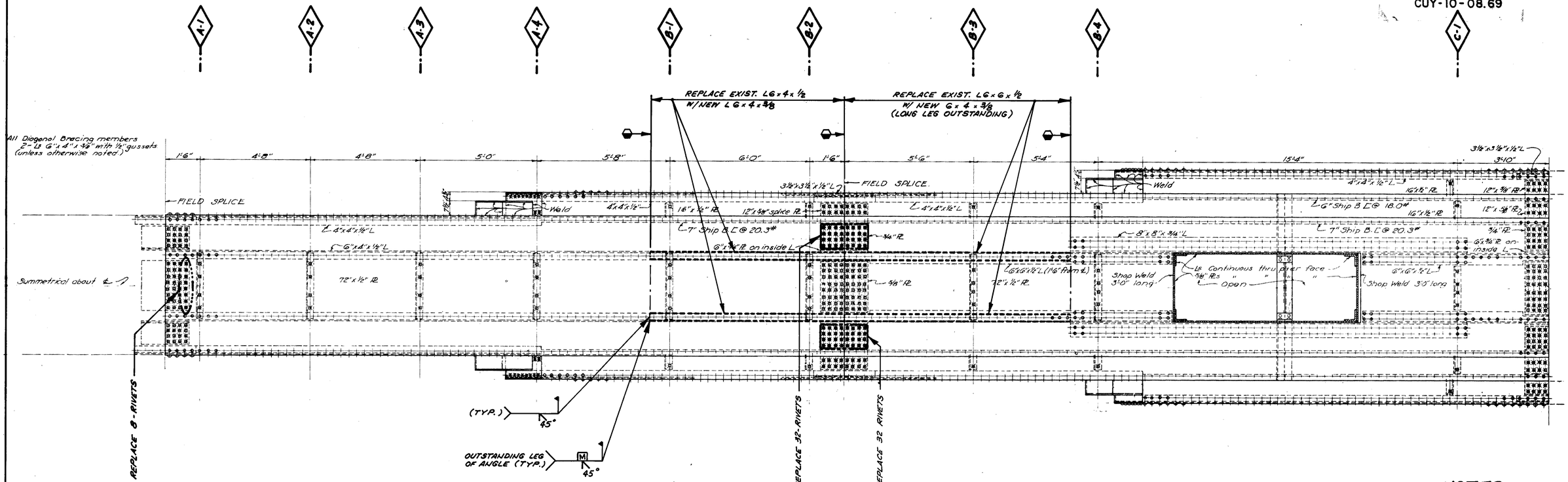
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGF	3-12-96	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

CUYAHOGA COUNTY
CUY-10-08.69

22/37



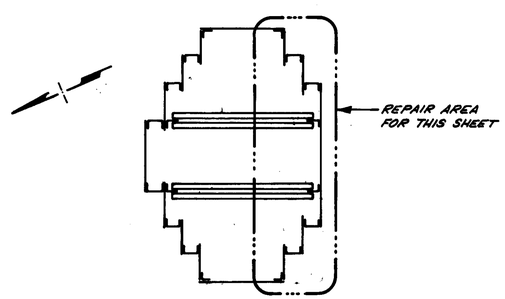
SOUTH ELEVATION

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ◒ - DENOTES FIELD SPLICE LOCATION. (SEE NOTE "d" SHEET 20/36)



KEY DIAGRAM

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21/36

TOWER 3N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

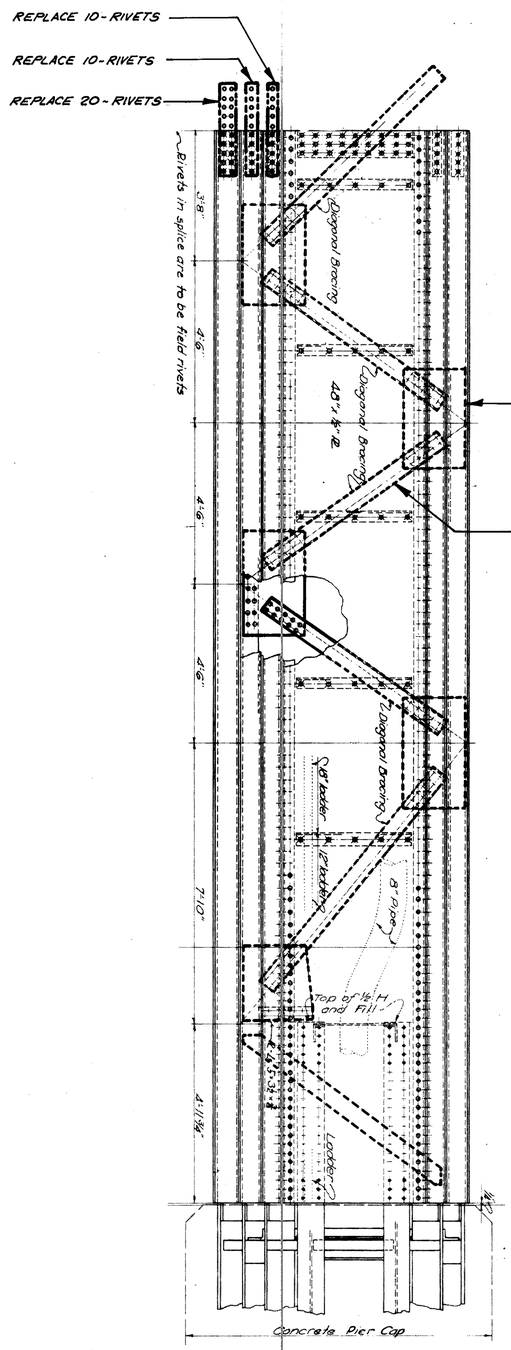
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

23
37

CUYAHOGA COUNTY
CUY-10-08.69

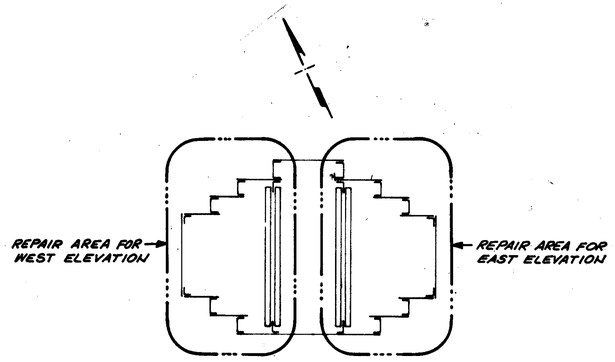
C-2
C-3
C-4
C-5
C-6
D-1



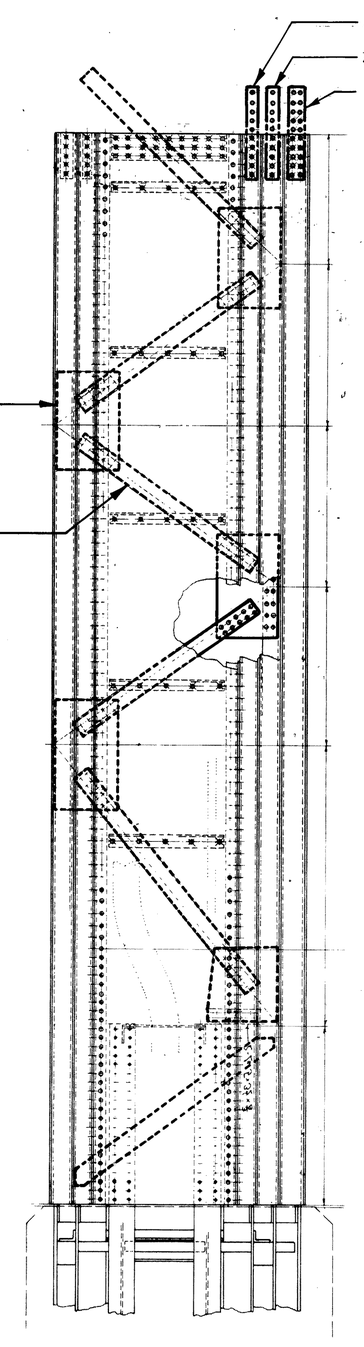
WEST ELEVATION

REPLACE EXIST. ½" GUSSET PLATE (TYPICAL EA. PLATE AS SHOWN)

REPLACE EXIST. 2-L6x4x⅜ (TYPICAL EA. DIAGONAL AS SHOWN)



KEY DIAGRAM



EAST ELEVATION

REPLACE EXIST. ½" GUSSET PLATE (TYPICAL EA. PLATE AS SHOWN)

REPLACE EXIST. 2-L6x4x⅜ (TYPICAL EA. DIAGONAL AS SHOWN)

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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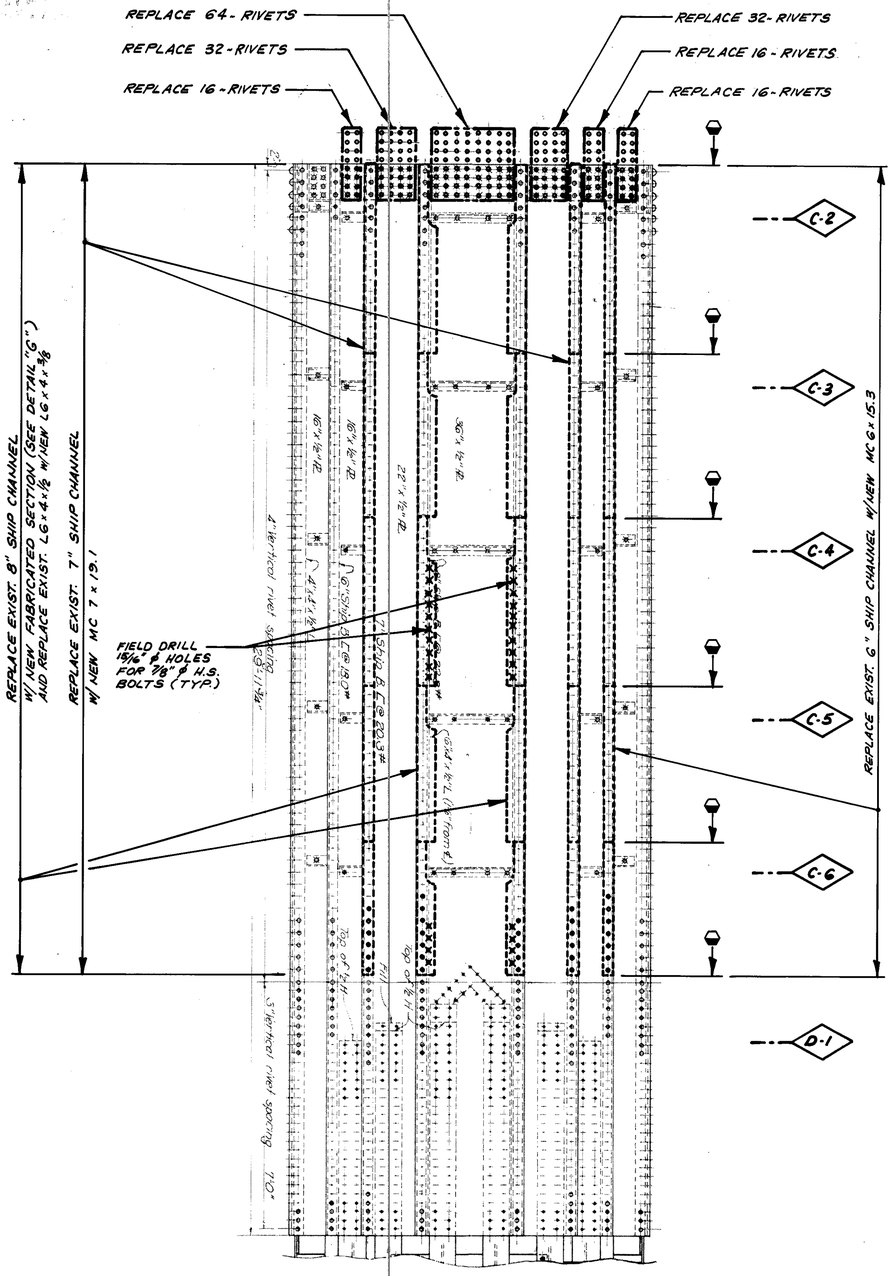
22/36

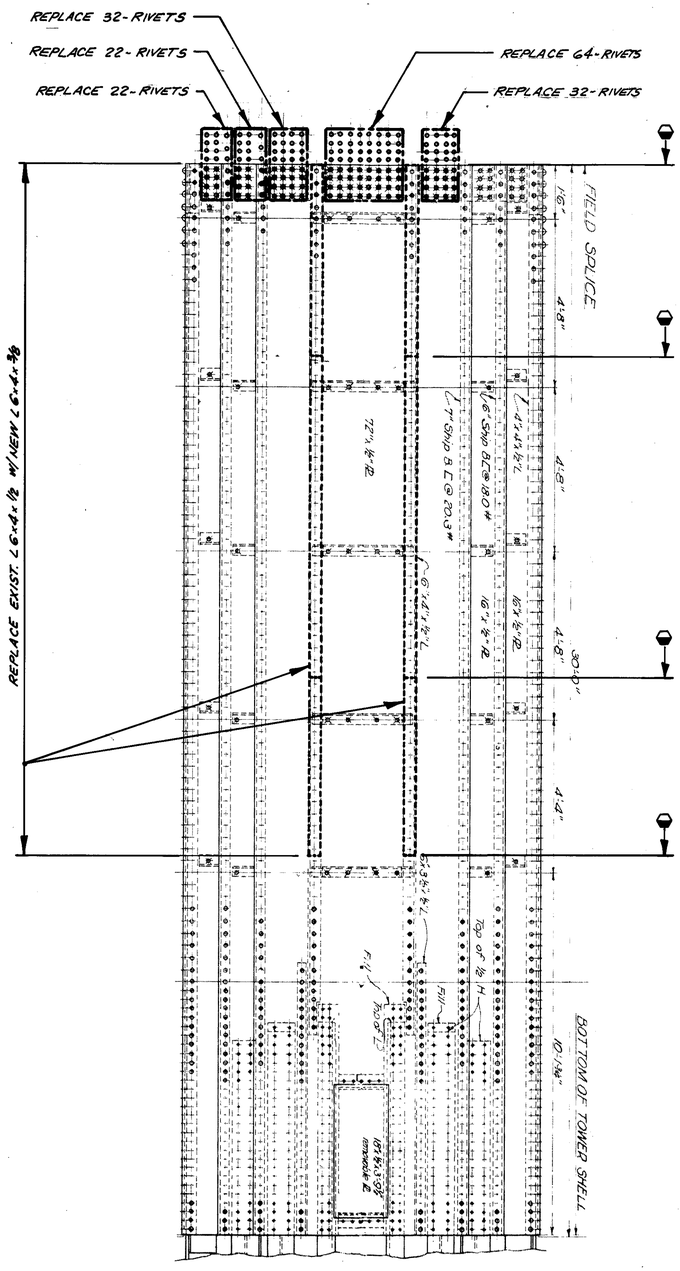
TOWER 3N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BRL	D.T.		BRL	JJP	3/2/86	



NORTH ELEVATION

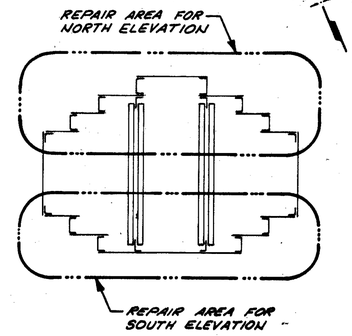


SOUTH ELEVATION

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

24/37

CUYAHOGA COUNTY
CUY-10-08.69



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, SHEETS 2/36 & 3/36 FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) ◒ - DENOTES FIELD SPLICE LOCATION. (SEE NOTE "d", SHEET 20/36).

d) SEE SHEET 4/36 FOR DETAIL "G".

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23/36

TOWER 3N REPAIR DETAILS

LORAIN ROAD VIADUCT
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STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

25/37

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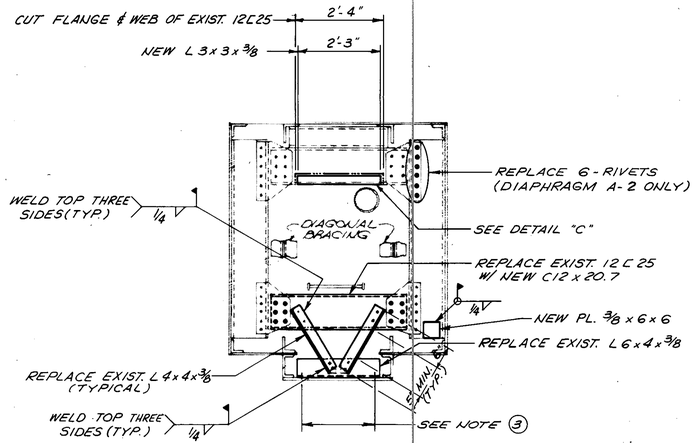
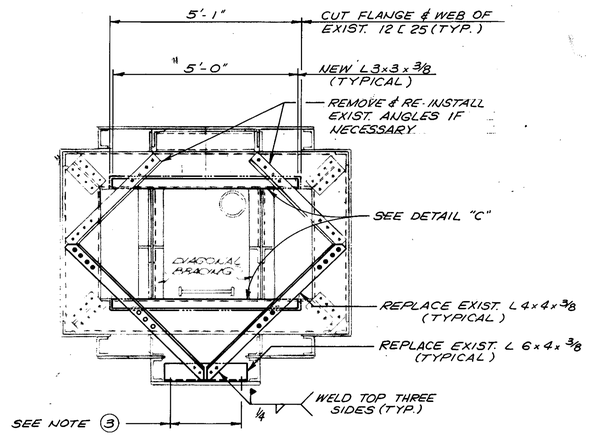
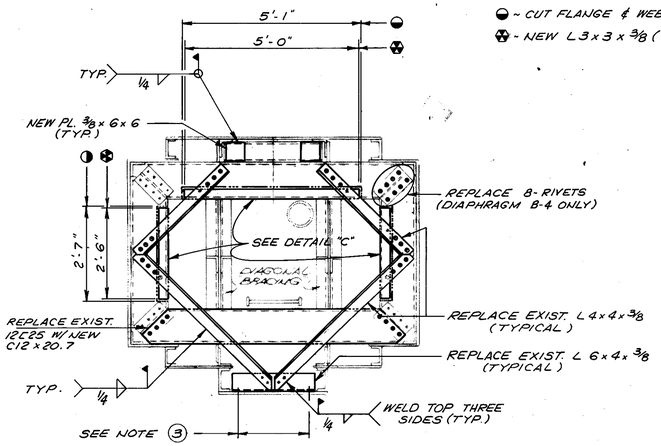


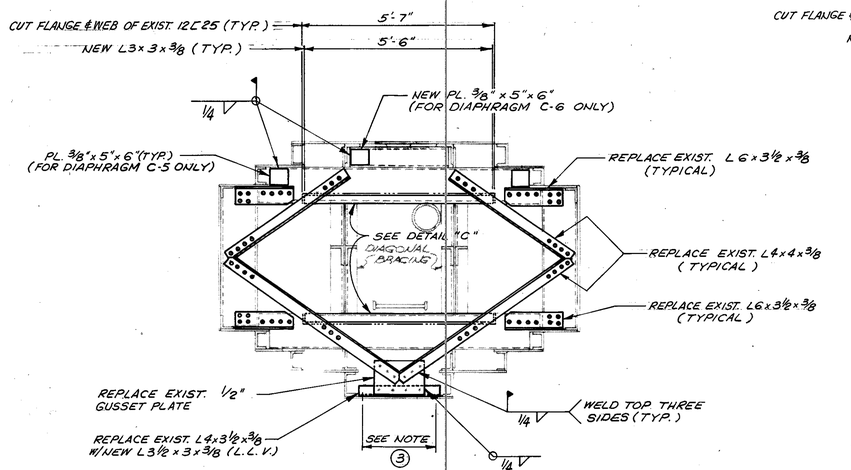
REPAIRS TO DIAPHRAGMS A-1 THRU A-4
TOWER 4N



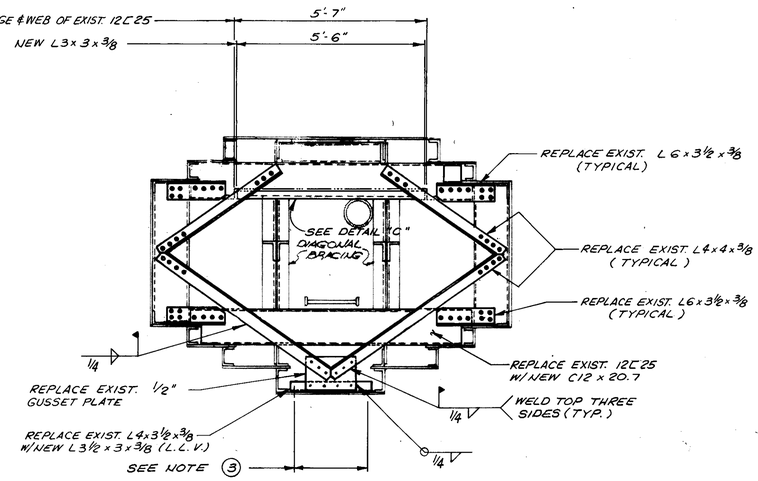
REPAIRS TO DIAPHRAGM B-1 & B-2
TOWER 4N



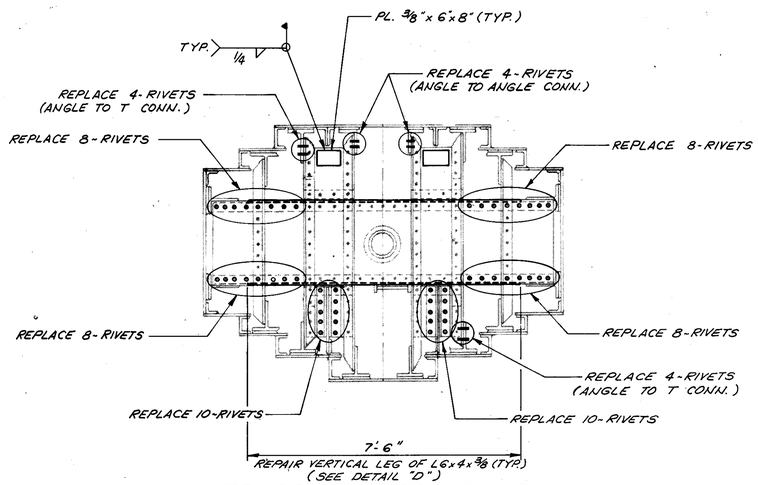
REPAIRS TO DIAPHRAGM B-3 & B-4
TOWER 4N



REPAIRS TO DIAPHRAGMS C-1, C-3 THRU C-6
TOWER 4N



REPAIRS TO DIAPHRAGM C-2
TOWER 4N



REPAIRS TO DIAPHRAGM D-1
TOWER 4N

NOTES

(1) FOR STRUCTURE GENERAL NOTES SEE SHEETS 2/36 THRU 3/36

(2) FOR LOCATION OF DIAPHRAGM, SEE SHEETS 27/36 & 31/36

(3) REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/ NEW COUNTER SUNK HEAD BOLTS.

(4) SOME OF THE STRUCTURAL STEEL REPAIR SHOWN ON THIS SHEET HAVE BEEN COMPLETED UNDER THE PREVIOUS PROJECT. THE CONTRACTOR SHALL PREFORM THE REMAINING REPAIRS AS DIRECTED BY THE ENGINEER.

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24/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
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CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	JGP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

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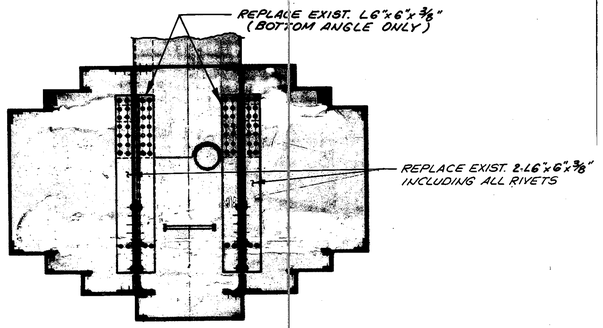
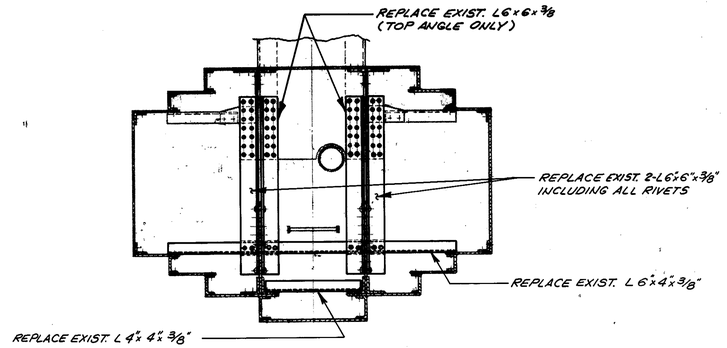
CUYAHOGA COUNTY
CUY-10-08.69



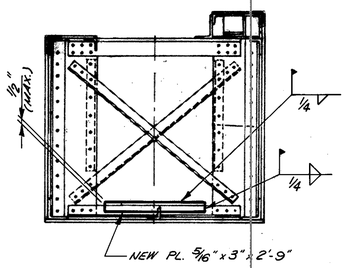
SECTION M-M
TOWER 4N



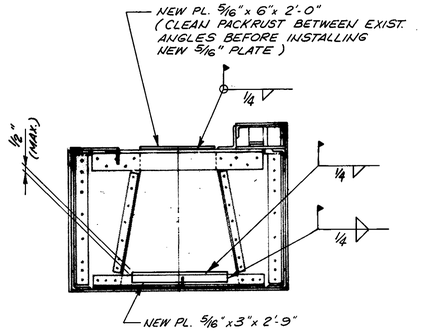
SECTION N-N
TOWER 4N

NOTES

1. SEE SHEET 27/36 FOR LOCATION OF SECTIONS N-N & M-M.
2. SEE SHEET 26/36 FOR LOCATION OF SECTIONS K-K, L_1-L_1 & L_2-L_2.



SECTION K-K
TOWER 4N



SECTION L_1-L_1
TOWER 4N
(SECTION "L_2-L_2" SIMILAR)

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25/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
BRIDGE Nº CUY-10-0869
STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	GJP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
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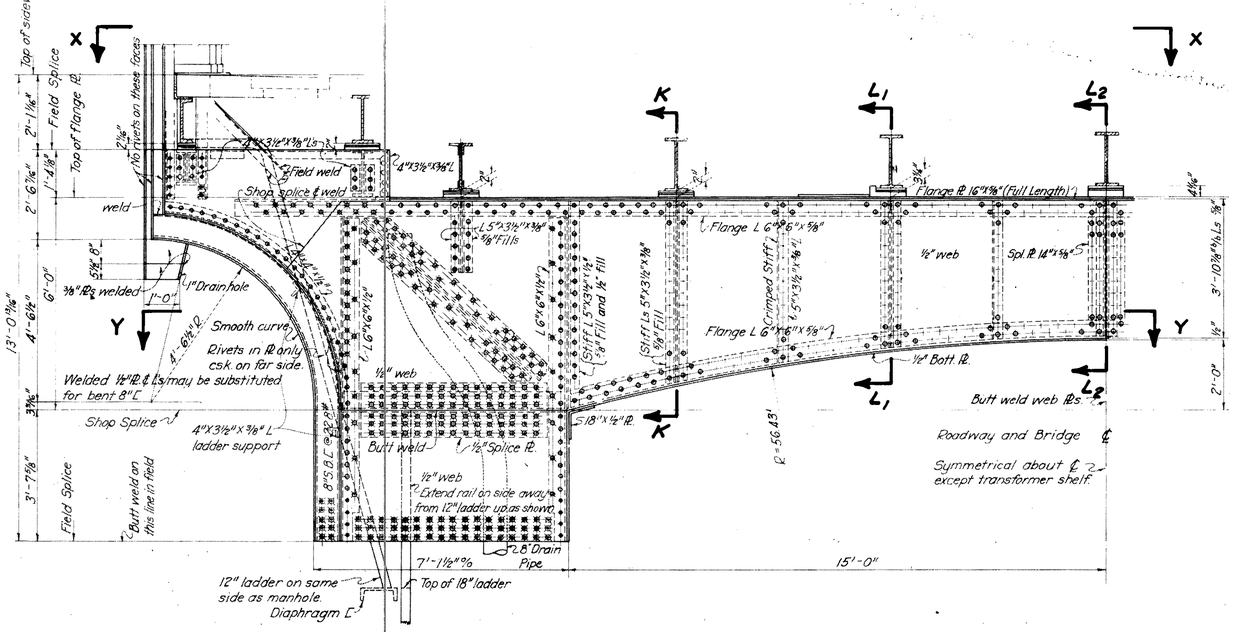
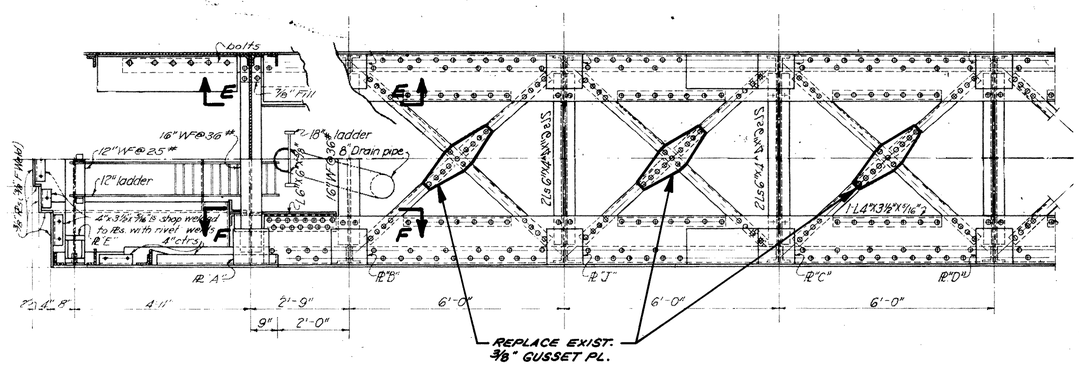
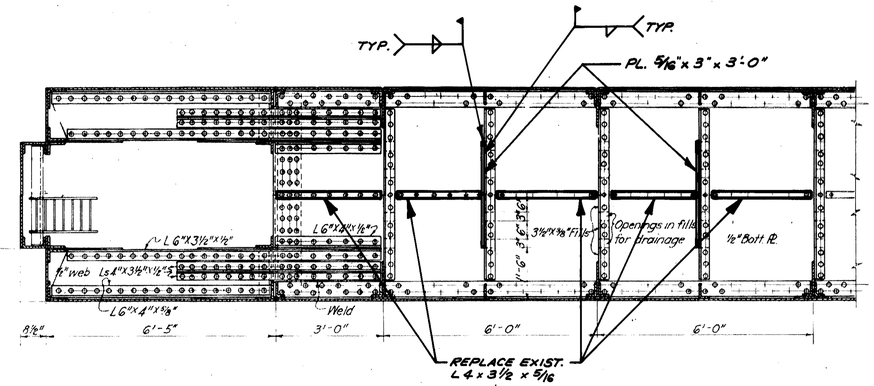


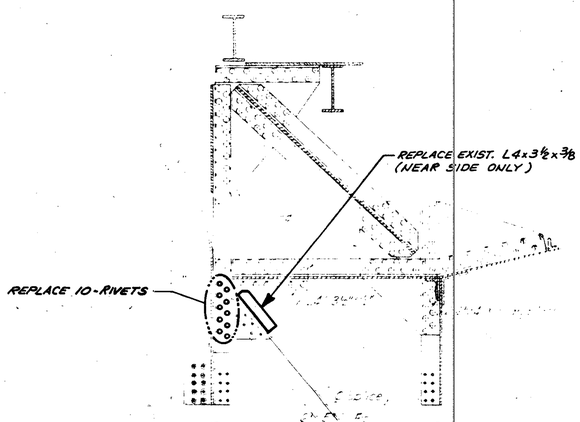
TOWER GIRDER - WEST ELEVATION



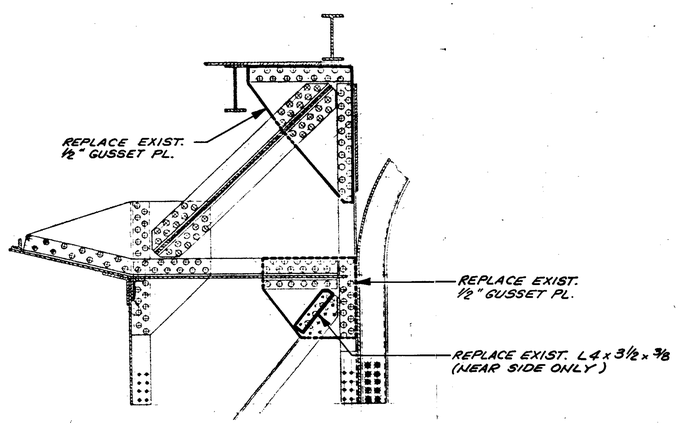
VIEW X-X



SECTION Y-Y



SECTION E-E



SECTION F-F

NOTE

a) REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.

b) SEE SHEET 25/36 FOR SECTION "K-K".

c) SEE SHEET 25/36 FOR SECTION "L1-L1" & "L2-L2".

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26/36

TOWER GIRDER 4N REPAIRS

LORAIN ROAD VIADUCT OVER ROCKY RIVER

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STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL JJP		3-12-81	

F.H.W.A. REG.	STATE	PROJECT	
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28/37

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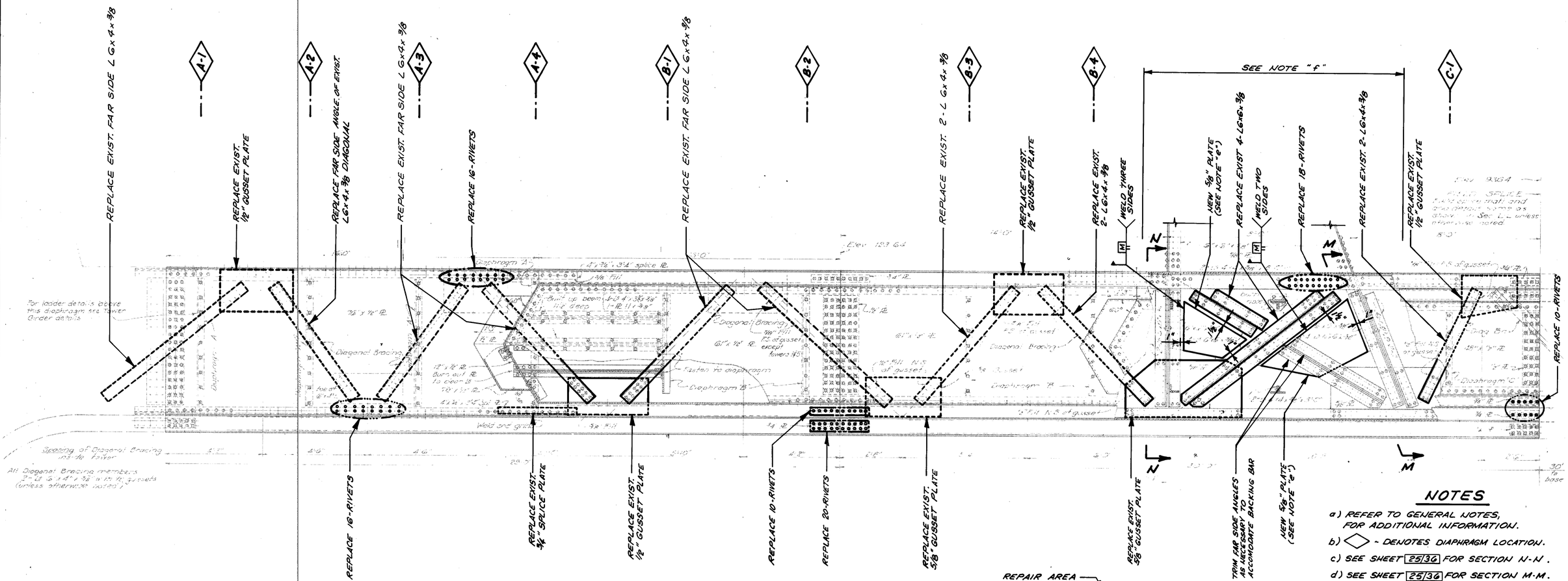
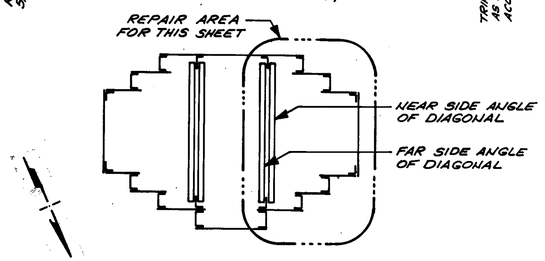


WEST ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

c) SEE SHEET 25/36 FOR SECTION N-N.

d) SEE SHEET 25/36 FOR SECTION M-M.

e) REMOVE DETERIORATED PORTIONS OF EXISTING PLATE TO WELD NEW 5/8" PL. IN PLACE.

f) IN THIS AREA, ONLY ONE SET OF ANGLES MAY BE REPLACED AT A TIME.

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27/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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CUYAHOGA COUNTY OHIO

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BKL	D.T.		BKL	JJP	3-72-R	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

29/37

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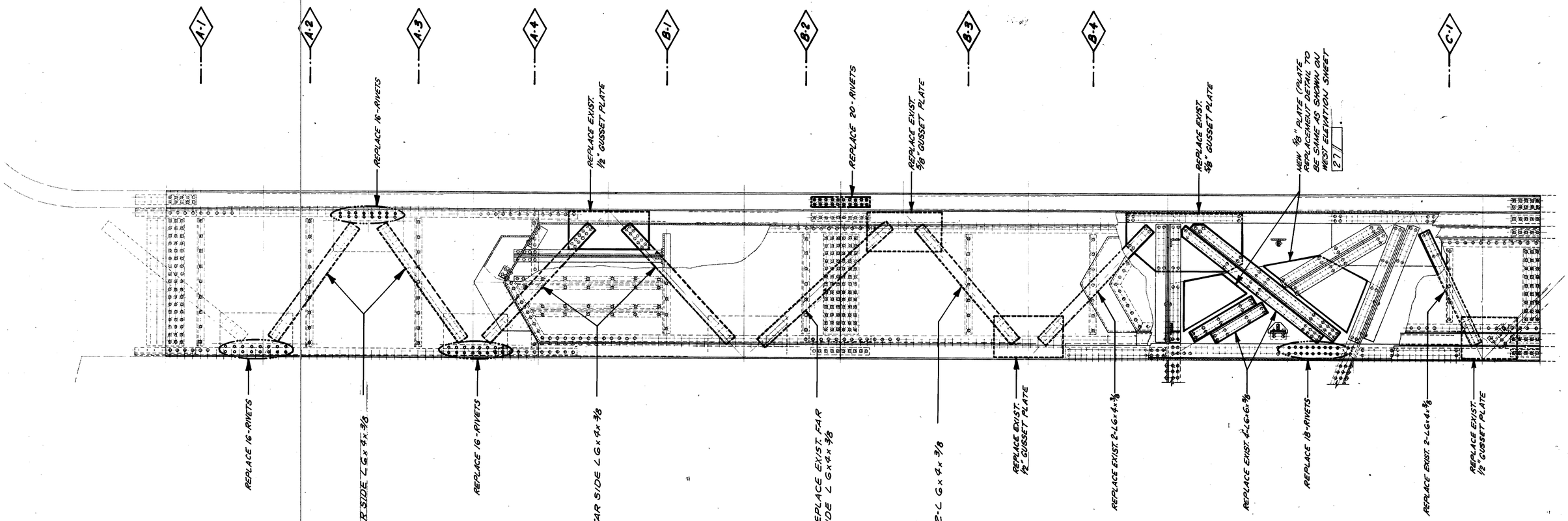
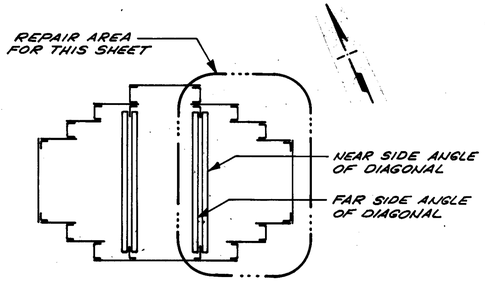


EAST ELEVATION

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.



KEY DIAGRAM

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28/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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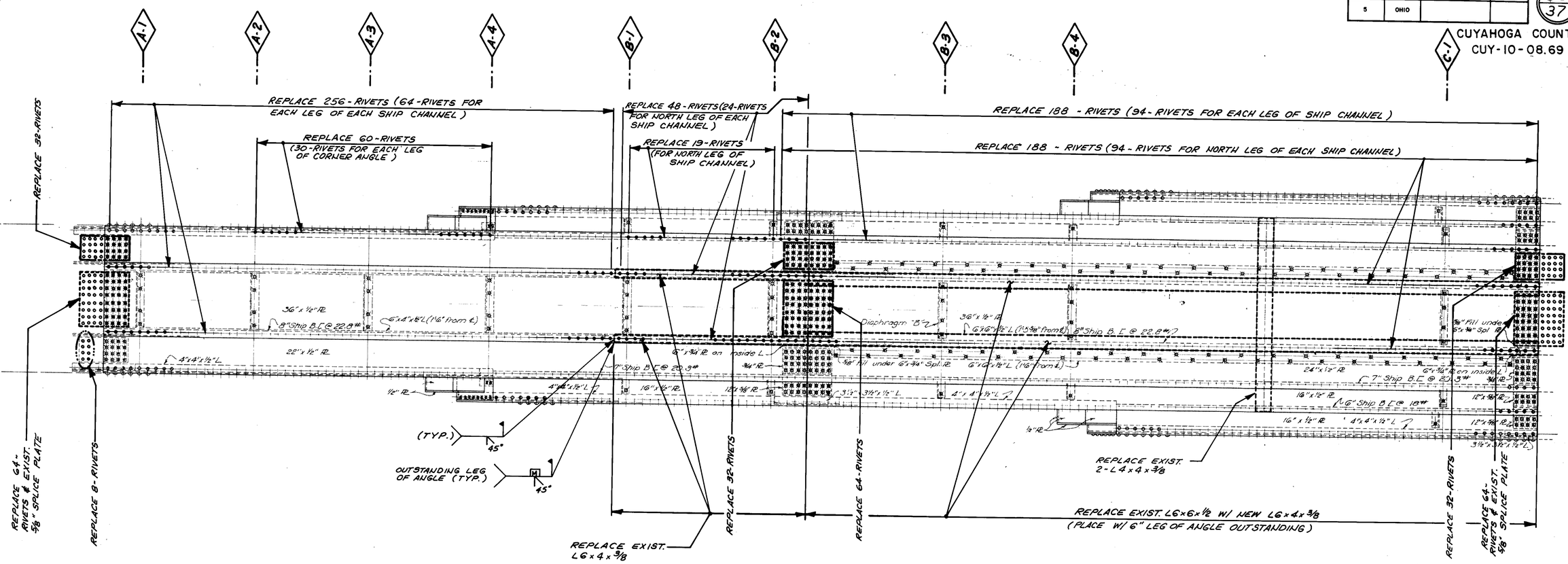
CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JDP	3-12-86	

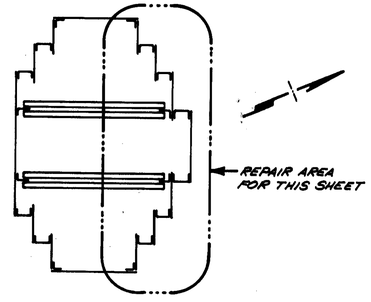
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

30/37

CUYAHOGA COUNTY
CUY-10-08.69



NORTH ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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29/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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CUYAHOGA COUNTY OHIO

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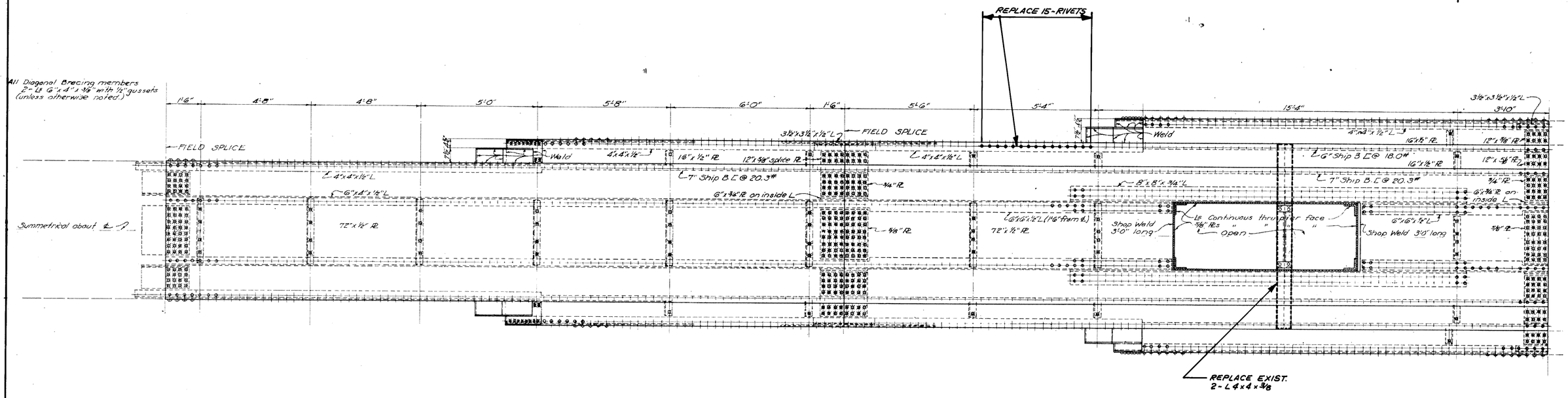
BKL	D.T.		BKL	JJP	3-12-86	

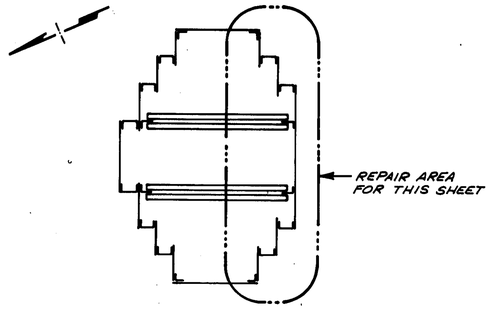
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

31/37

CUYAHOGA COUNTY
CUY-10-08.69



SOUTH ELEVATION



KEY DIAGRAM

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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30/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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STA. 204+93.17 TO STA. 217+23.00
CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JGP	3-12-82	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

32/37

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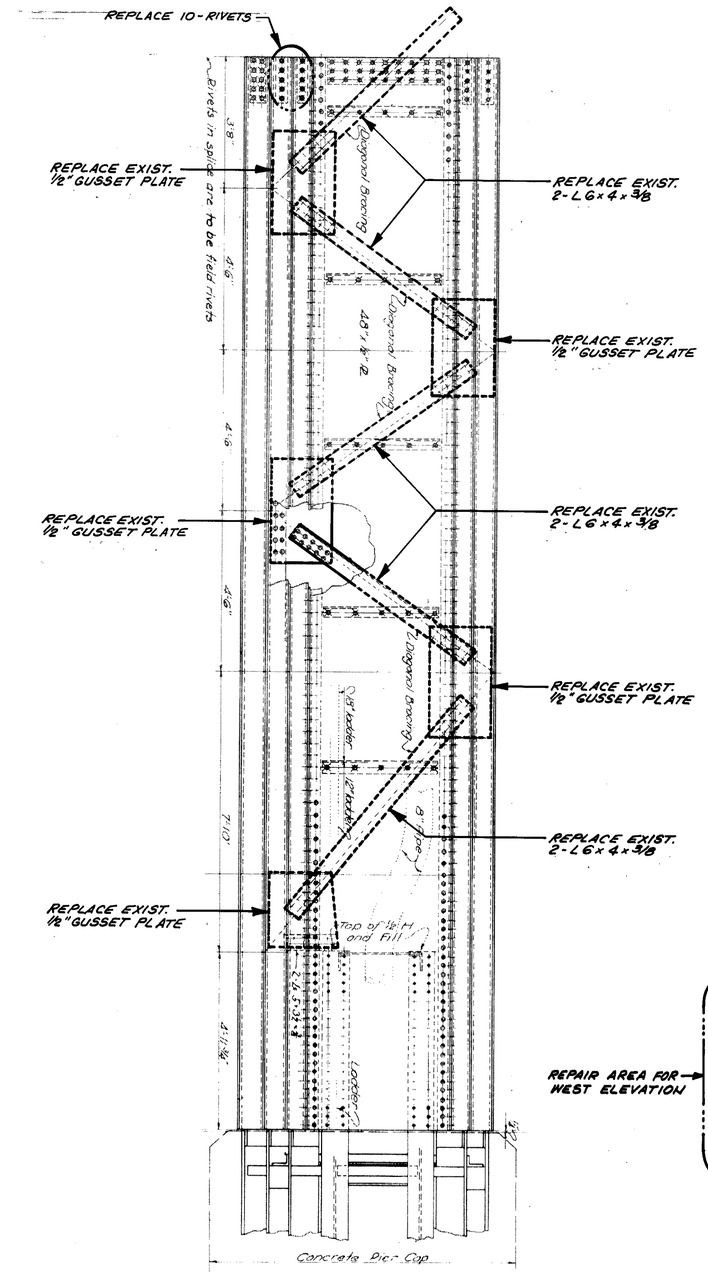
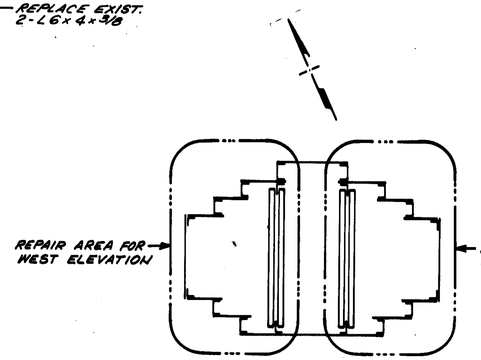


WEST ELEVATION



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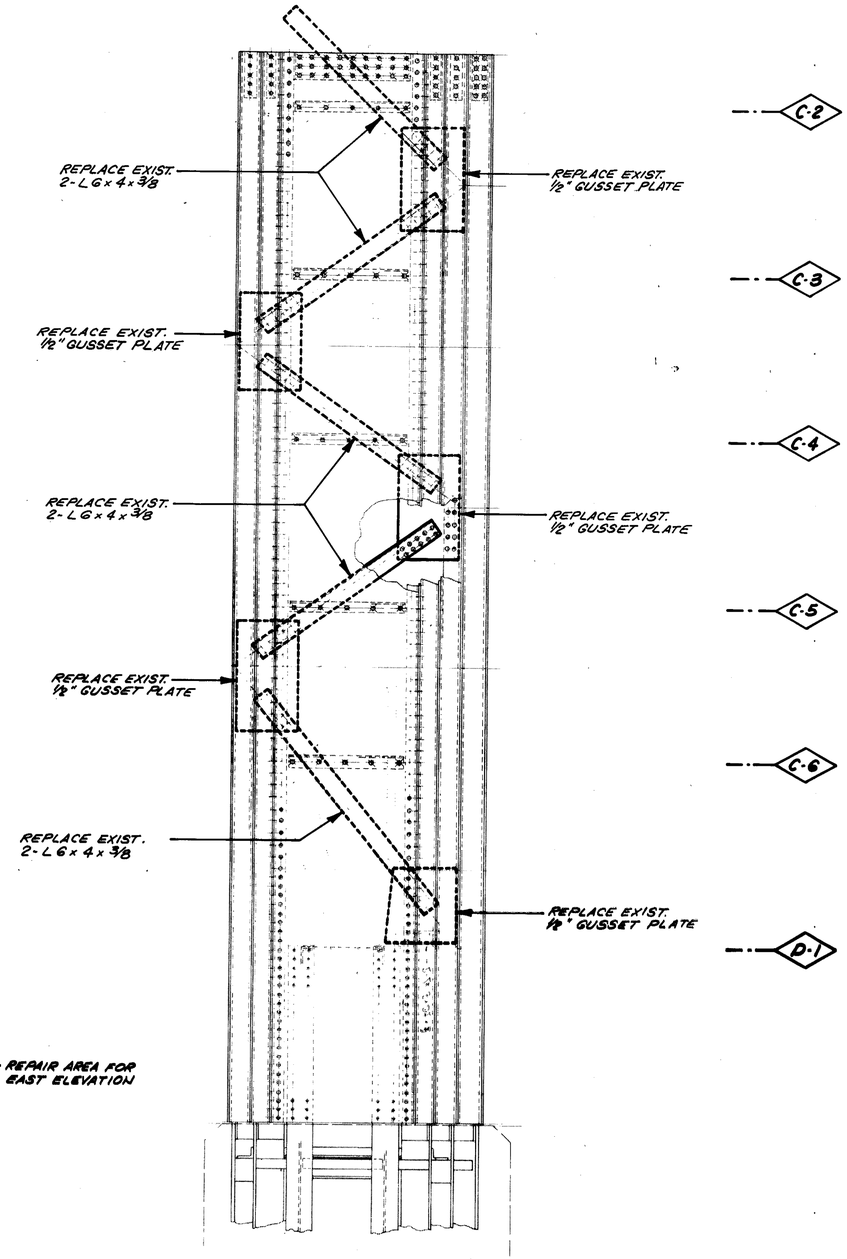

EAST ELEVATION

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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31/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
OVER ROCKY RIVER
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CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	

F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

33
37

CUYAHOGA COUNTY
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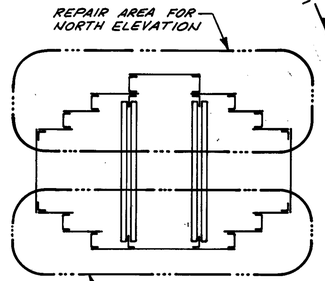

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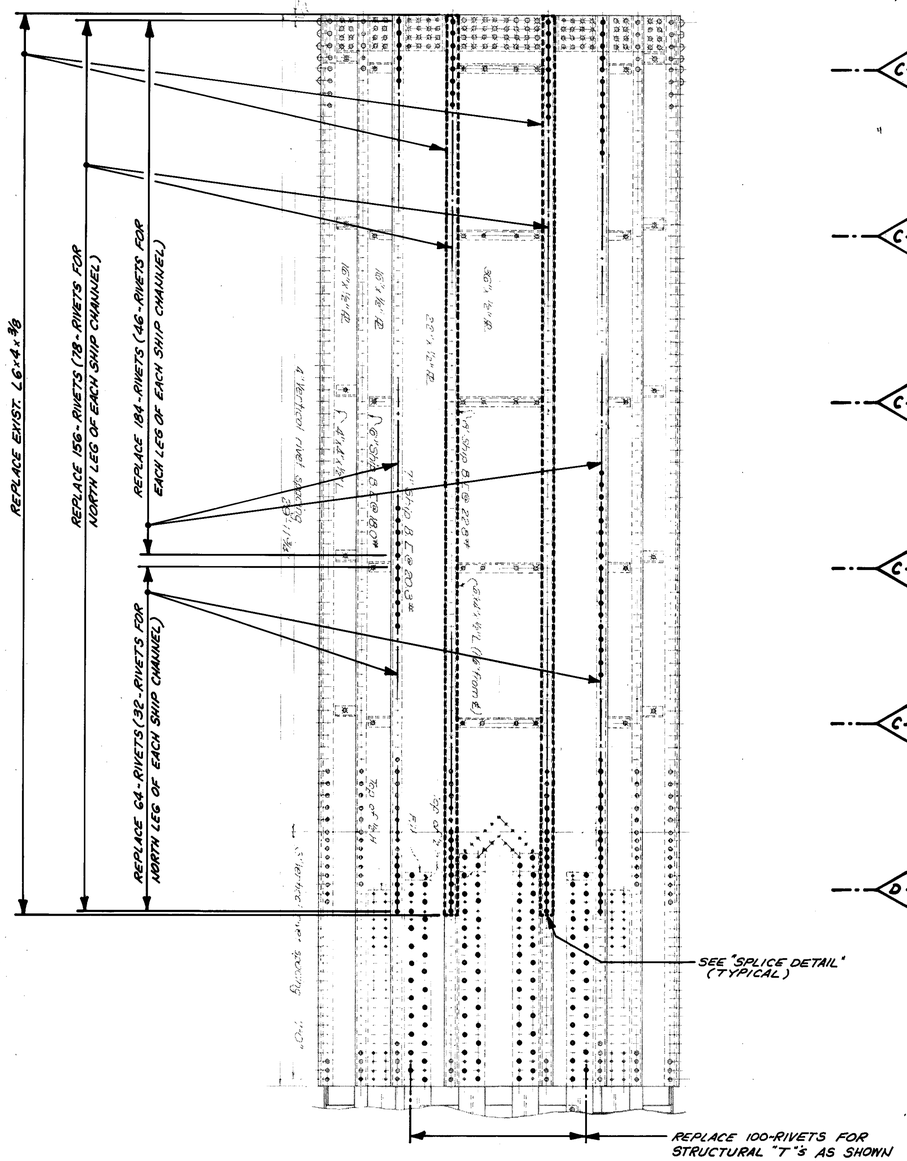
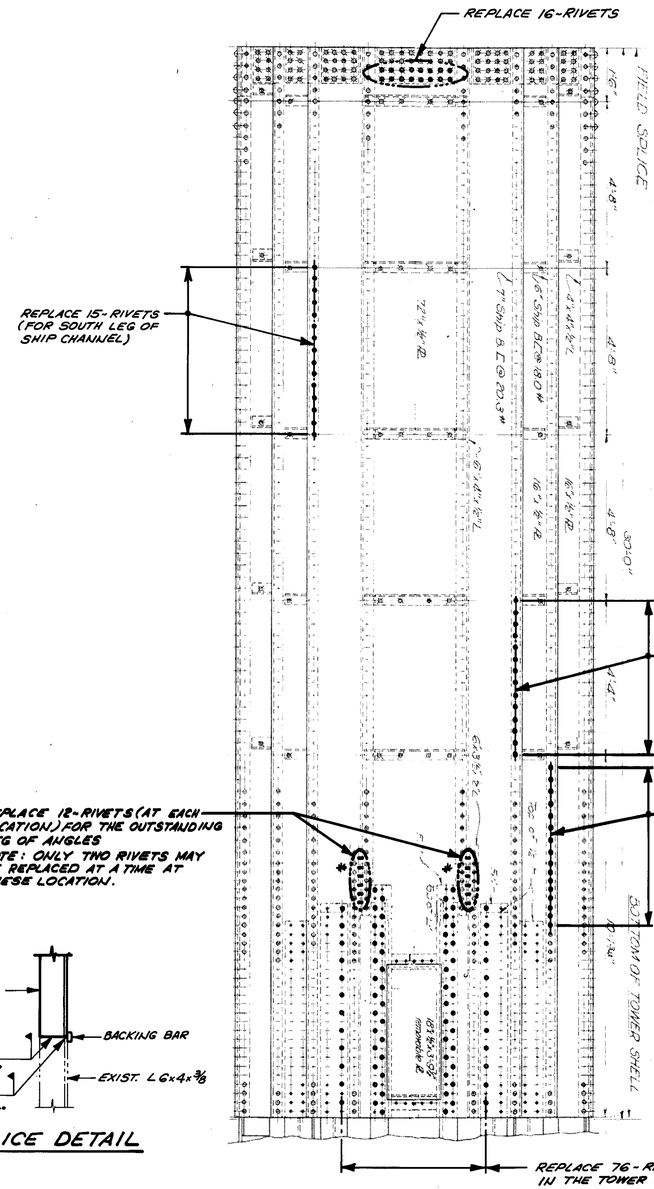


NORTH ELEVATION



SOUTH ELEVATION

SPLICE DETAIL

NOTES

a) REFER TO GENERAL NOTES, FOR ADDITIONAL INFORMATION.

b) ◇ - DENOTES DIAPHRAGM LOCATION.

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32/36

TOWER 4N REPAIR DETAILS

LORAIN ROAD VIADUCT
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CUYAHOGA COUNTY — OHIO

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BKL	D.T.		BKL	JJP	3-12-96	

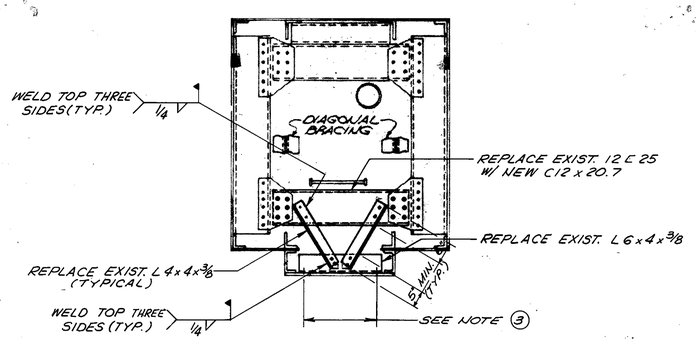
F.H.W.A. REG.	STATE	PROJECT	
5	OHIO		

34/37

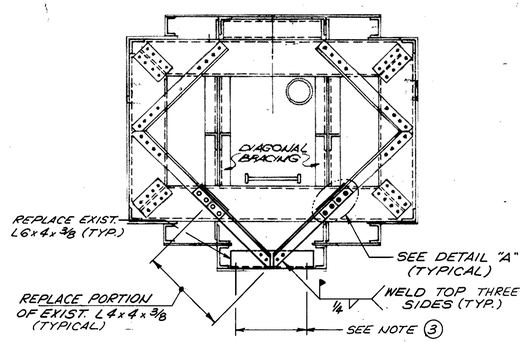
CUYAHOGA COUNTY
CUY-10-08.69

NOTES

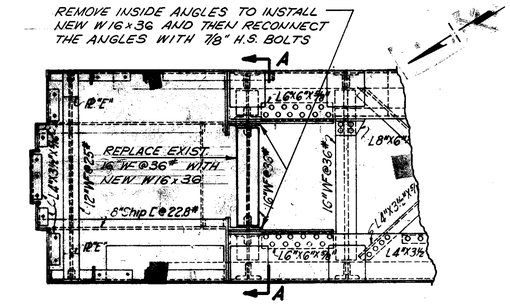
1. FOR STRUCTURE GENERAL NOTES, SEE SHEETS 2/36 THRU 3/36
2. FOR LOCATION OF DIAPHRAGM, SEE SHEET 34/36
3. REPLACE EXISTING COUNTER SUNK HEAD RIVETS W/ NEW COUNTER SUNK HEAD BOLTS.



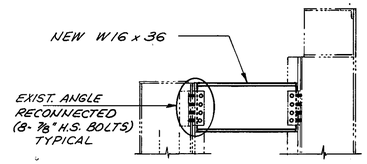
REPAIRS TO DIAPHRAGM A-1 THRU A-4
TOWER 5N



REPAIRS TO DIAPHRAGM B-1, B-2, B-4 & B-5
TOWER 5N

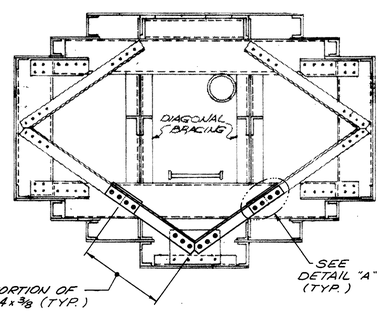


PARTIAL PLAN - TOWER GIRDER 5N

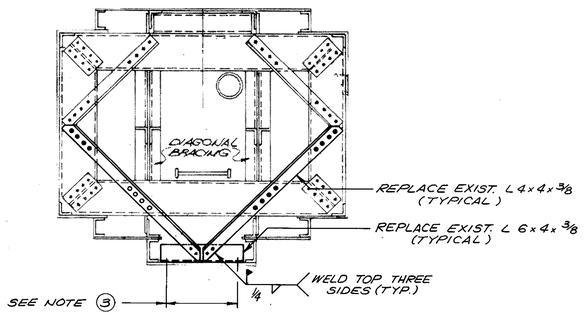


SECTION A-A

(TYP. FOR ALL DIAPHRAGM)



REPAIRS TO DIAPHRAGM C-1
TOWER 5N



REPAIRS TO DIAPHRAGM B-3
TOWER 5N

NOTE

TOWER 5N REPAIR WORK SHOWN HERE HAS BEEN COMPLETED. THIS SHEET IS INCLUDED HERE FOR INFORMATION ONLY

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33/36

TOWER 5N REPAIR DETAILS

LORAIN ROAD VIADUCT
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CUYAHOGA COUNTY — OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	F.F.		BKL	GJP	3-12-86	

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5	OHIO		

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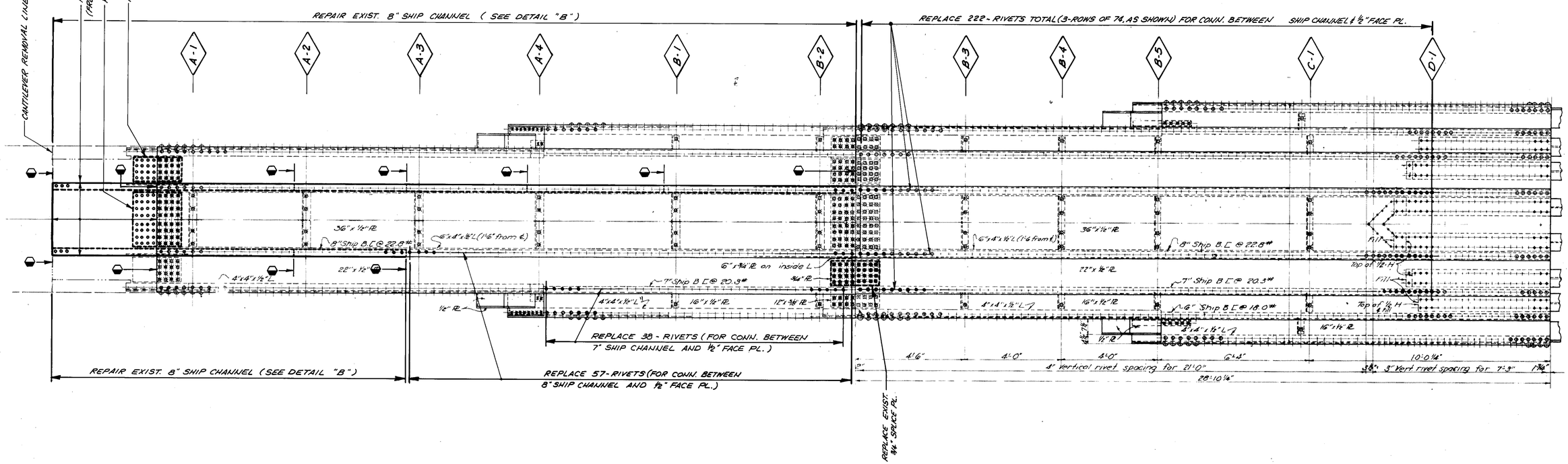
CUYAHOGA COUNTY
CUY-10-08.69



NORTH ELEVATION

NOTES

a) A-1 - DENOTES DIAPHRAGM LOCATION.

b) SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

c) ● - DENOTES FIELD SPLICE LOCATION, SEE DETAIL "B", SHEET 4/36

NOTE

TOWER 5N REPAIR WORK SHOWN HERE HAS BEEN COMPLETED. THIS SHEET IS INCLUDED HERE FOR INFORMATION ONLY

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34/36

TOWER 5N REPAIR DETAILS

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CUYAHOGA COUNTY OHIO

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BKL	D.T.		BKL	JJP	3-12-86	

	STATE	PROJECT	
	OHIO		

36/37

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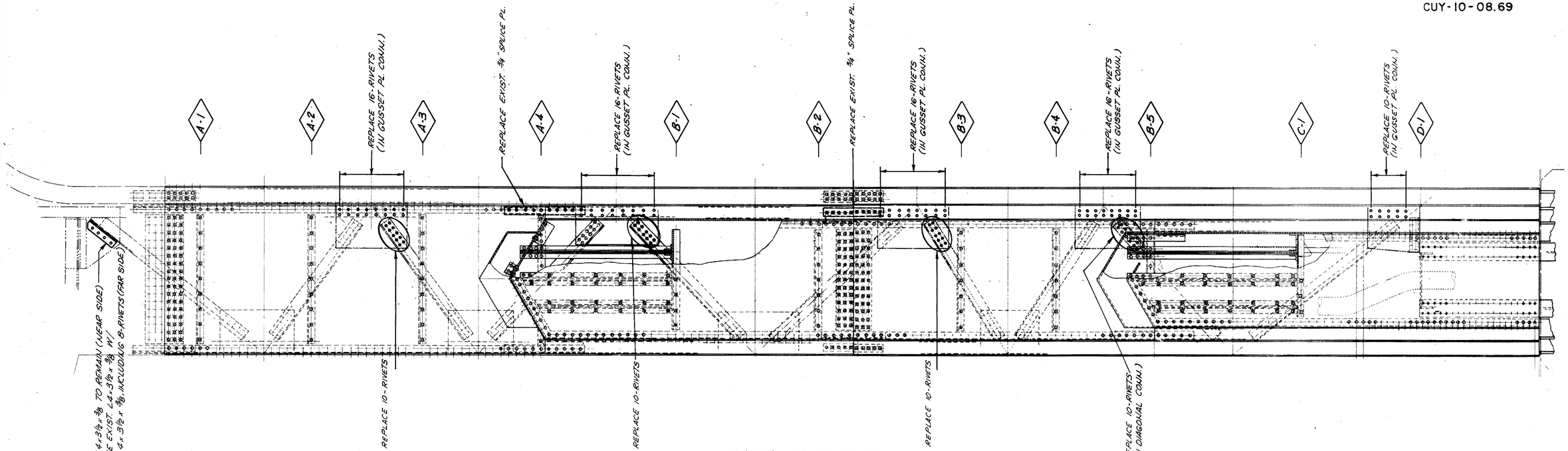

EAST ELEVATION

NOTES

a) A-1 - DENOTES DIAPHRAGM LOCATION.

b) SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

NOTE

TOWER SN REPAIR WORK SHOWN HERE HAS BEEN COMPLETED. THIS SHEET IS INCLUDED HERE FOR INFORMATION ONLY

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35/36

TOWER SN REPAIR DETAILS

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CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	

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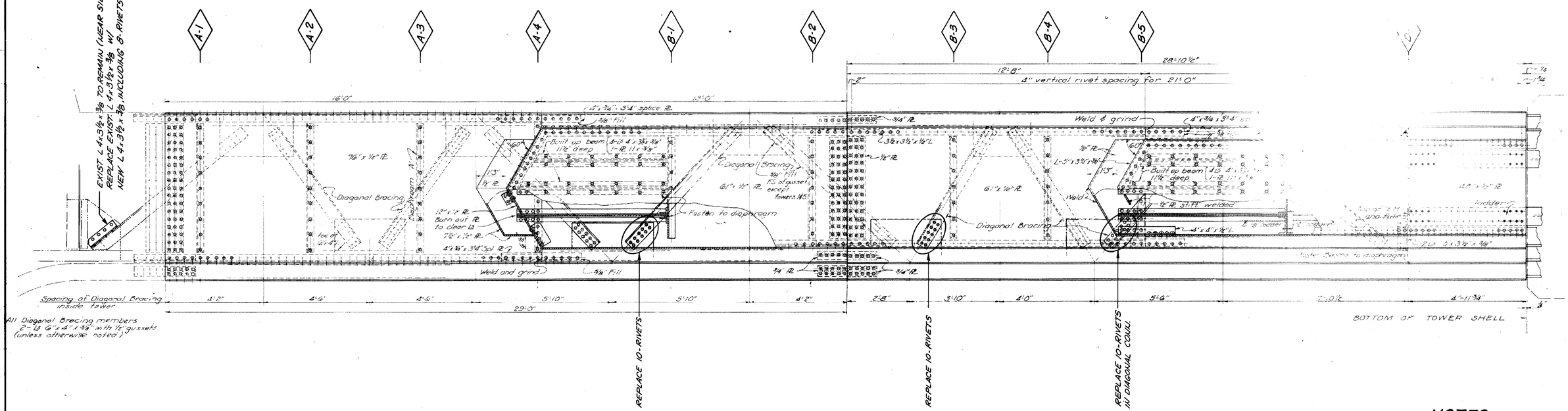
69



All Diagonal Bracing members 2-L8 6"x4"x⅜" with ½" gussets (unless otherwise noted)

WEST ELEVATION

NOTES

a) A-1 -DENOTES DIAPHRAGM LOCATION.

b) SEE GENERAL NOTES FOR ADDITIONAL INFORMATION

NOTE

TOWER 5N REPAIR WORK SHOWN HERE HAS BEEN COMPLETED. THIS SHEET IS INCLUDED HERE **FOR INFORMATION ONLY**

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TOWER 5N REPAIR DETAILS

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CUYAHOGA COUNTY OHIO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BKL	D.T.		BKL	JJP	3-12-86	