

BHM - 1A19 (7)

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. 8 5535.01 OF THE REVISED CODE OF OHIO.

BOARD OF COMMISSIONERS
CUYAHOGA COUNTY

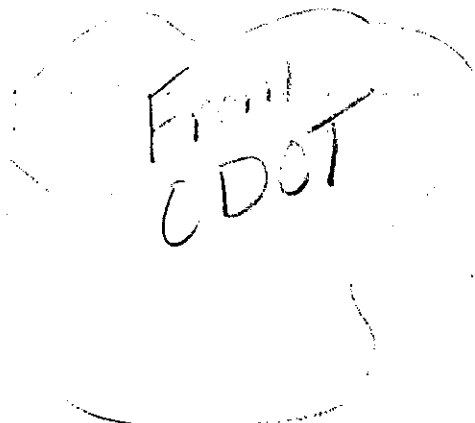
DATE 6/30/86
Virginia Brown
Timothy F. Nagan
Barry O'Grady

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-17- 2.83

CUYAHOGA COUNTY

RIVEREDGE TOWNSHIP
CITY OF FAIRVIEW PARK
CITY OF CLEVELAND

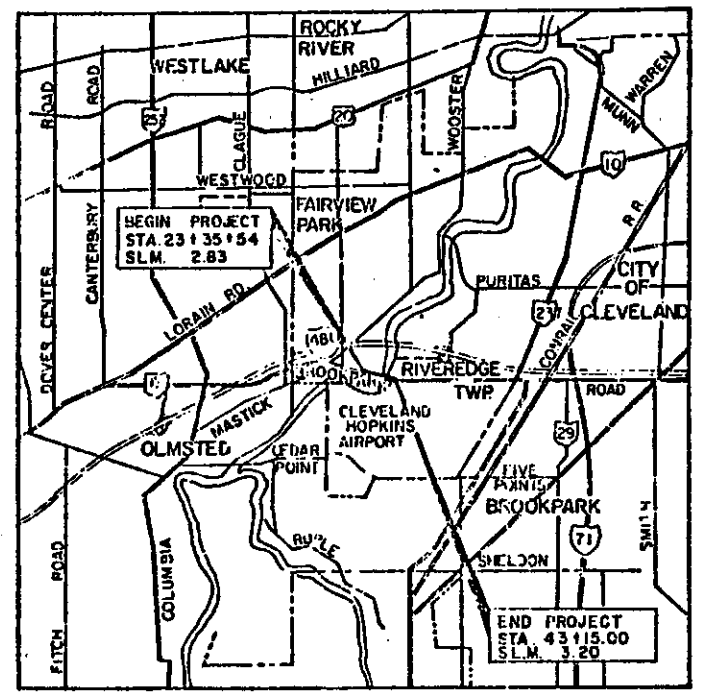


CONVENTIONAL SIGNS

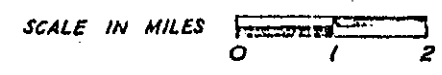
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|----------------------------|-----|--------------------------------|-------|
| ED ACCESS | LA | WATER LINE | H |
| ED R/W | R/W | GAS LINE | O |
| ED EASEMENT | | UNDERGROUND ELECTRICAL | E |
| LINE | | RAILROADS | + |
| ING R/W | | EXISTING RETAINING WALL | |
| TY LINE | P/L | EXISTING SEWER | — |
| Y LINE | | PROPOSED SEWER | - - - |
| RATION LINE | | EXISTING GUARD RAIL | — |
| ING FENCE | | PROPOSED GUARD RAIL | - - - |
| ED FENCE | | | |
| S | ⊙ | TREES AND STUMPS | ⊙ |
| ING MANHOLES | ⊙ | TREES AND STUMPS TO BE REMOVED | ⊙ |
| ED MANHOLES | ⊙ | TELEPHONE OR TELEGRAPH POLE | ⊙ |
| LES ADJUSTED TO GRADE | ⊙ | LIGHT POLE | ⊙ |
| LES REMOVED OR ABANDONED | ⊙ | POWER POLE | ⊙ |
| ING INLETS OR CATCH BASINS | ⊙ | WATER HYDRANT | ⊙ |
| ED INLETS OR CATCH BASINS | ⊙ | EXISTING TRAFFIC SIGNAL | ⊙ |
| BASINS ADJUSTED TO GRADE | ⊙ | PROPOSED TRAFFIC SIGNAL | ⊙ |
| BASINS REMOVED OR ABAND. | ⊙ | | |

INDEX OF SHEETS

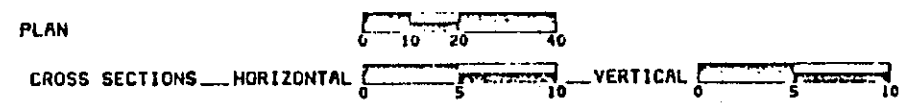
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LOCATION PLAN



PORTION TO BE IMPROVED
STATE & FEDERAL ROADS
OTHER ROADS



STANDARD DRAWINGS					
BP-2	1-11-85	GR-1	1-11-85	HL-1	12-26-84
BP-3	12-6-76	GR-2B	2-5-82	HL-2	7-27-73
BP-4	1-11-85			HL-3	12-20-84
BP-5	1-11-85	GR-4	2-5-82	HL-4	1-21-76
		GR-4A	1-30-84	HL-5	9-6-73
BP-7	12-6-76			HL-7	1-21-76
BP-11	1-30-84			HL-8	1-21-76
				HL-9	3-22-77

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 THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING OF THE HIGHWAY TO TRAFFIC AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

- APPROVED *Thomas J. Hoff, P.E., P.S.*
DATE 5/2/86 COUNTY ENGINEER
- APPROVED *Mark A. Gallo*
DATE 7-8-86 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION
- APPROVED *Walter J. ...*
DATE 7-22-86 ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN
- APPROVED *Wayne H. ...*
DATE 10-2-86 CHIEF ENGINEER, PLANNING AND DESIGN
- APPROVED *William J. ...*
DATE 1-2-86 DIRECTOR, DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATIONS			
NUMBER	DATE	NUMBER	DATE
824	10-8-82		
836	11-12-85		
845	2-25-86		
849	2-24-85		
853	6-25-78		
953	8-21-80		
921	7-4-72		
956	6-25-78		
949	12-24-85		
932	1-25-78		

DESIGN DESIGNATION		
CURRENT A.D.T. (1985)		15,800
DESIGN YEAR A.D.T. (2005)		27,900
D.H.V.		1,674
D		50%
T		3.2%
V		45 MPH

LINE DATA				
	FAIRVIEW PARK	RIVEREDGE TOWNSHIP	CLEVELAND	TOTAL
BEGIN PROJECT	STA. 23+35.54	STA. 39+42.87		STA. 23+35.54
END PROJECT	STA. 39+42.87	STA. 43+15.00		STA. 43+15.00
LENGTH OF PROJECT	1607.33 L.F. OR 0.304 MI.	372.13 L.F. OR 0.071 MI.		1979.46 L.F. OR 0.375 MI.
ADDITIONAL WORK	185.54 L.F.	31.06 L.F.	153.94 L.F.	370.54 L.F.
A. 21+50.00 TO STA. 23+35.54				31.06 L.F.
A. 43+15.00 TO STA. 43+46.06			153.94 L.F.	153.94 L.F.
A. 43+46.06 TO STA. 45+00.00				235.00 L.F.
LENGTH OF WORK	1792.87 L.F. OR 0.340 MI.	403.19 L.F. OR 0.076 MI.	153.94 L.F. OR 0.029 MI.	2350.00 L.F. OR 0.445 MI.

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

FILE NO. CUYAHOGA COUNTY NO. 19
DATE OF LETTING
CHECKED BY DATE
APPROVED BY *David O. Szabo, P.E.*
DATE 4/25/86 ENGINEER OF DESIGN
APPROVED BY *Ernest A. Halonak*

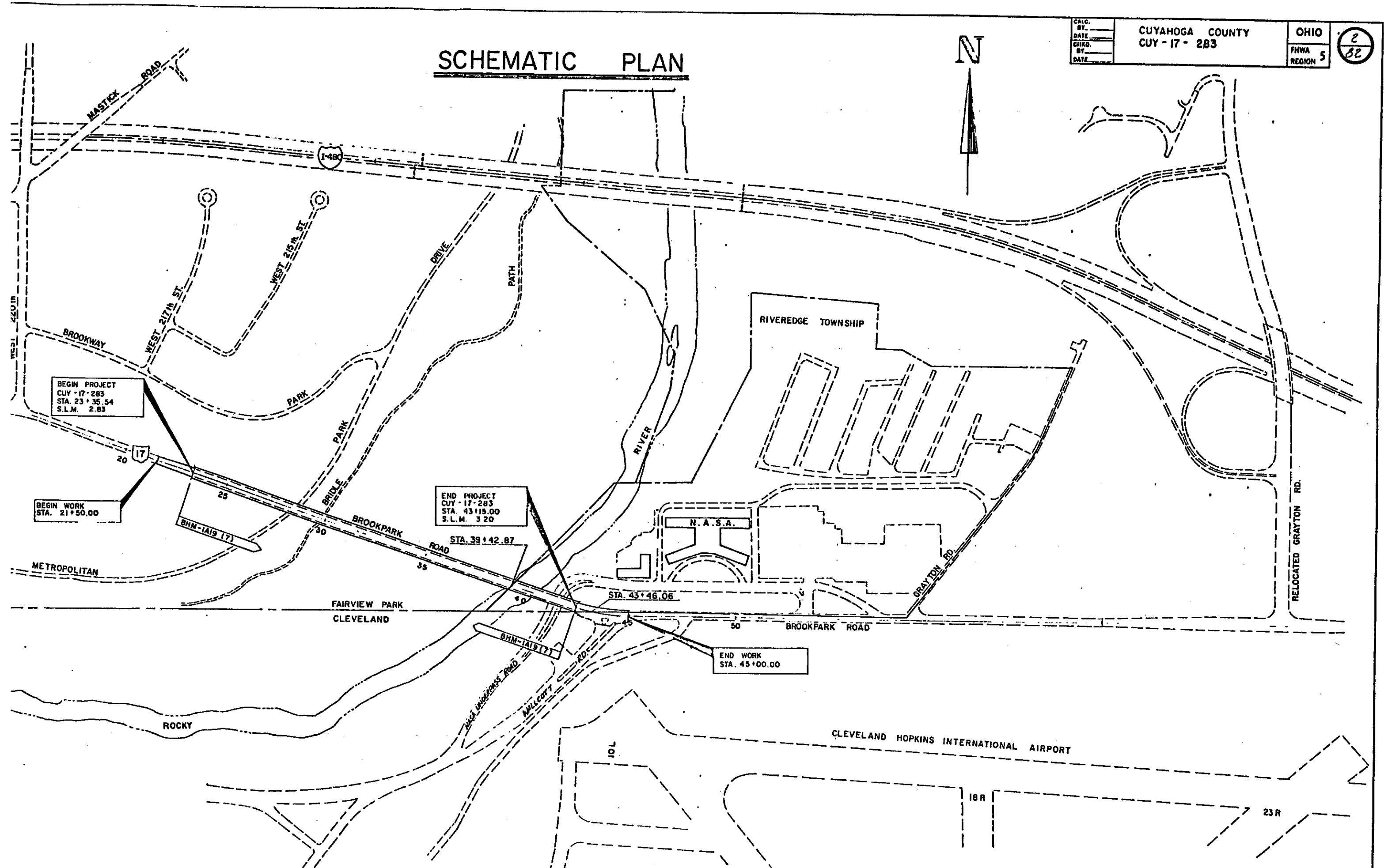
PLANS PREPARED BY
STILSON & ASSOCIATES INC.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:

1691 00008 - 00163

SCHEMATIC PLAN

CALC. BY:	CUYAHOGA COUNTY CUY - 17 - 283	OHIO	2 82
DATE:		FHWA	
CHG. BY:		REGION 5	
DATE:			



BEGIN PROJECT
 CUY - 17 - 283
 STA. 23 + 35.54
 S.L.M. 2.83

BEGIN WORK
 STA. 21 + 50.00

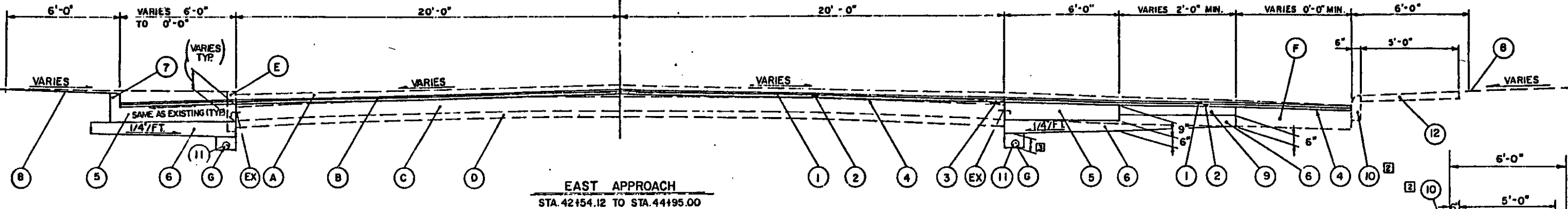
END PROJECT
 CUY - 17 - 283
 STA. 43 + 42.87
 S.L.M. 3.20

END WORK
 STA. 45 + 00.00

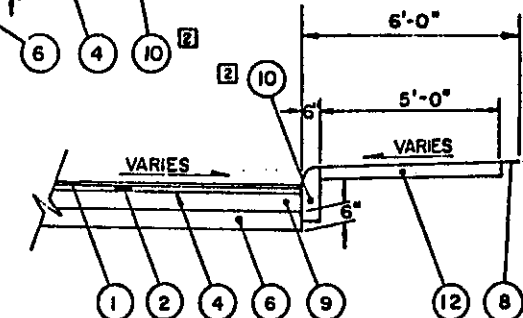
TYPICAL SECTIONS

TYPE 404

BROOKPARK RD.

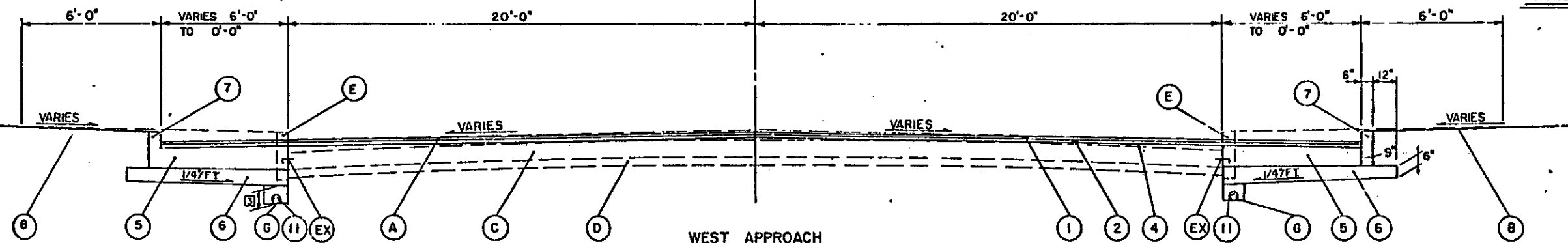


EAST APPROACH
STA. 42+54.12 TO STA. 44+95.00

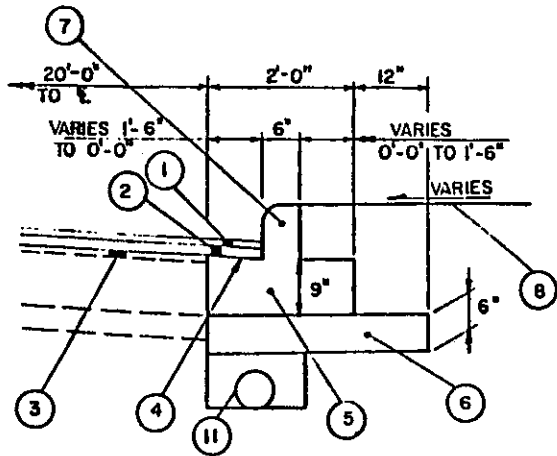


FULL DEPTH ASPHALT PAVEMENT REPLACEMENT

BROOKPARK RD.



WEST APPROACH
STA. 21+55.54 TO STA. 23+35.54



CURB MERGER DETAIL

SCALE IN FEET

EXISTING PAVEMENT LEGEND

- (A) 4" ASPHALT SURFACE COURSE (TO BE REMOVED 2 1/2" DEEP - MINIMUM) []
- (B) 3" BRICK COURSE WITH 3/4" SLAG CUSHION (TO BE REMOVED UNDER ITEM 202) []
- (C) 9" REINFORCED CONCRETE BASE
- (D) 4" SLAG SUBBASE
- (E) STONE CURB (6" x 24") TO BE REMOVED UNDER ITEM 202
- (F) FULL DEPTH ASPHALT PAVEMENT
- (G) 4" UNDERDRAIN TO BE REPLACED

NOTE :

- [] EXISTING ASPHALT PAVEMENT AND BRICK PAVEMENT REMOVAL VARIES, SEE PAVEMENT DETAIL SHEETS
- [] CURB LOCATION VARIES, SEE PAVEMENT DETAIL SHEET.
- [] PLACE NEW UNDERDRAIN INVERT AT SAME DEPTH AS EXISTING

NEW PAVEMENT LEGEND

- (1) ITEM 404 - 1" ASPHALT CONCRETE , AC 20
- (2) ITEM 402 - 1 1/2" ASPHALT CONCRETE , AC 20
- (3) ITEM 403 - VARIABLE DEPTH ASPHALT CONCRETE , AC 20 (0" MIN. - 6" MAX.)
- (4) ITEM 407 - TACK COAT AND COVER AGGREGATE (SEE GENERAL NOTE)
- (5) ITEM 305 - 9" CONCRETE BASE
- (6) ITEM 310 - SUBBASE , TYPE II
- (7) ITEM 609 - CURB , STANDARD TYPE 2-B
- (8) ITEM 659 - SODDING , AS PER PLAN (SEE GENERAL NOTE)
- (9) ITEM 301 - 6" BITUMINOUS AGGREGATE BASE , AC 20 , RT - II OR RT 12
- (10) ITEM 609 - CURB , STANDARD TYPE 6
- (11) ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN
- (12) ITEM 608 - 4" CONCRETE WALK W/ 3" GRANULATED SLAG OR SCREENING BED
- (EX) STANDARD EXPANSION BOLT JOINT

SCALE IN FEET
0 1 2 3

GENERAL NOTES

CALC. BY: T.R.B. DATE: 2/13/82 CHKD. BY: B.B. DATE: 2/13/82	CUYAHOGA COUNTY CUY - 17 - 283	OHIO FHWA REGION 5	a 82
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FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 800 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

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.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENTS BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF SAME.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

UTILITY OWNERSHIP

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

DEPARTMENT OF PUBLIC UTILITIES

DIVISION OF WATER AND HEAT
 1201 LAKESIDE AVENUE
 CLEVELAND, OHIO 44114
 216-271-4264

DEPARTMENT OF PUBLIC SAFETY

DIVISION OF TRAFFIC ENGINEERING AND PARKING
 2001 PAYNE AVENUE
 CLEVELAND, OHIO 44114
 216-664-3194

DEPARTMENT OF PUBLIC SERVICE

DIVISION OF ENGINEERING PLATS AND SURVEYS
 ROOM 518 CITY HALL
 601 LAKESIDE AVENUE
 CLEVELAND, OHIO 44114
 216-664-2381

DIVISION OF AIRPORTS

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
 216-265-6000

CITY OF FAIRVIEW PARK

CITY HALL 216-333-2200
 POLICE DEPARTMENT 216-333-2200

OHIO BELL TELEPHONE COMPANY

820 SUPERIOR AVENUE
 CLEVELAND, OHIO 44113
 216-822-6025

EAST OHIO GAS COMPANY

1201 EAST 95TH STREET
 CLEVELAND, OHIO 44103
 216-361-2753

CLEVELAND ELECTRIC ILLUMINATING CO.

55 PUBLIC SQUARE
 CLEVELAND, OHIO 44113
 216-622-9800, EXT. 3451

CLEVELAND POLICE DEPARTMENT

TRAFFIC DIVISION
 1300 ONTARIO STREET
 CLEVELAND, OHIO 44113
 216-623-5000

REGIONAL TRANSIT AUTHORITY

615 SUPERIOR AVENUE N.W.
 CLEVELAND, OHIO 44113
 216-566-3100

CLEVELAND METROPARK SYSTEM

4101 FULTON PARKWAY
 CLEVELAND, OHIO 44144
 216-351-6300

MAINTENANCE OF TRAFFIC

WHERE THE WORK CALLED FOR UNDER THIS CONTRACT INVOLVES THE CLOSING OF STREETS OR THE RE-ROUTING OF TRAFFIC, THE CONTRACTOR SHALL PROSECUTE TO THE FULLEST EXTENT THE WORK INVOLVED SO AS TO REDUCE TO A MINIMUM THE LENGTH OF TIME THE ROADWAY WILL BE CLOSED TO TRAFFIC. NO STREET WILL BE CLOSED TOTALLY OR PARTIALLY UNTIL NECESSARY FOR CONSTRUCTION AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE CITY OF CLEVELAND TRAFFIC ENGINEERING DIVISION THE CITY OF FAIRVIEW PARK AND THE PROJECT ENGINEER IN WRITING (14) FOURTEEN DAYS IN ADVANCE OF ANY CLOSING OR PARTIAL CLOSING OF AN EXISTING STREET. ALL TRAFFIC CONTROL MEASURES SHALL COMPLY WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). NO PERMANENT OR TEMPORARY ROAD CAN BE OPENED TO TRAFFIC UNTIL ALL PAVEMENT MARKING AND TRAFFIC CONTROL DEVICES ARE INSTALLED IN ACCORDANCE WITH THE OMUTCD.

THE CONTRACTOR WILL BE PERMITTED TO CLOSE BROOKPARK ROAD FOR A MAXIMUM PERIOD OF 24 MONTHS DURING WHICH TIME TRAFFIC WILL BE DETOURED AS SHOWN ELSEWHERE IN THE PLANS. (SEE SHEET NO. 11)

LOCAL ACCESS TO ABUTTING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. VEHICULAR AND PEDESTRIAN TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE NASA UNDERPASS ROADWAY. FOR MAINTENANCE OF TRAFFIC INVOLVING THE CLEVELAND METROPARK SYSTEM SEE SHEET NO. 18.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B	5 Cu. Yd.
ITEM 616 CALCIUM CHLORIDE	5 Cu. Yd.
ITEM 616 WATER	50 M GAL

UNDERDRAINS

WHERE EXISTING UNDERDRAINS ARE ENCOUNTERED AND NO PROVISION HAS BEEN MADE FOR NEW UNDERDRAINS, THEY SHALL BE CONNECTED TO NEW INLET WITH 6 INCH TYPE "F" PIPE. A QUANTITY OF 100 FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THAT PURPOSE. THE MATERIALS SHALL NOT BE ORDERED BY THE CONTRACTOR UNLESS PRIOR APPROVAL IS RECEIVED FROM THE PROJECT ENGINEER. NEW UNDERDRAIN SHALL BE CONNECTED TO CATCH BASIN WITH 10'-0" OF 6" TYPE "F" PIPE.

CONTINGENCY QUANTITIES

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

BROOKPARK RD. P.I.

THE EXISTING BROOKPARK RD. P.I. MONUMENT (STATION 43+76.84) COULD NOT BE LOCATED IN THE FIELD. THE CONTRACTOR SHALL CONDUCT HIS REMOVAL OPERATION IN SUCH A WAY THAT IT CAN BE DETERMINED IF THE EXISTING MONUMENT HAS OR HAS NOT BEEN DESTROYED. A QUANTITY OF 1 ITEM 604 MONUMENT BOX ADJUSTED TO GRADE USING STANDARD MONUMENT BOX FRAME AND COVER HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED IF THE MONUMENT IS LOCATED. NO MATERIALS FOR THE ABOVE SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

CURB TRANSITION

THE CURB SHALL TRANSITION FROM THE STANDARD SECTION USED ON THE APPROACH PAVEMENT TO THE SECTION USED ON THE APPROACH SLAB IN A DISTANCE OF 14 FEET IMMEDIATELY OUTSIDE THE APPROACH SLAB LIMIT.

ITEM SPECIAL, STORM SEWER CLEANING

AS PART OF THIS CONTRACT IT WILL BE NECESSARY TO CLEAN AND INSPECT THE EXISTING STORM SEWER IN METROPOLITAN PARK FROM ITS OUTLET AT ROCKY RIVER (STATION 39+26) TO THE MANHOLE AT PIER NUMBER SEVEN (STATION 29+50) CLEANING SHALL BEGIN AT THE OUTLET AND PROCEED UPSTREAM UNTIL IT IS DETERMINED THAT ALL DIRT AND DEBRIS AFFECTING THE FLOW HAS BEEN REMOVED TO THE SATISFACTION OF THE ENGINEER. ALL MANHOLES THAT ARE TO BE ADJUSTED OR RECONSTRUCTED TO GRADE SHALL BE CLEANED OF FOREIGN MATTER. CLEANING SHALL BE ACCOMPLISHED BY THE USE OF A BUCKET MACHINE, A HIGH VELOCITY WATER MACHINE OR SOME OTHER MEANS APPROVED BY THE ENGINEER. MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 202.02 AND SPECIAL REQUIREMENTS INVOLVING WORK OVER CLEVELAND METROPARKS SECTION 8, SHEET 18.

PAYMENT FOR CLEANING OF THE CONDUIT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "ITEM SPECIAL, STORM SEWER CLEANING", WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL NECESSARY MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM. MANHOLE CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 604 ITEM

AN ESTIMATED QUANTITY OF 735 L.F. OF "ITEM SPECIAL, STORM SEWER CLEANING" WAS CARRIED TO THE GENERAL SUMMARY. THE CONTRACTOR SHALL BE PAID FOR THE ACTUAL NUMBER OF LINEAR FEET AS REQUIRED BY THE ENGINEER AND PART OF THIS QUANTITY MAY BE NON PERFORMED. AFTER THE SEWER HAS BEEN CLEANED, THE ENGINEER WITH THE ASSISTANCE OF THE CONTRACTOR SHALL INSPECT THE CONDITION OF THE EXISTING CONDUIT TO DETERMINE IF ANY REPLACEMENT IS REQUIRED. THE LOCATION TYPE, SIZE AND GRADE OF REQUIRED CONDUIT REPLACEMENT WILL BE DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR REPLACEMENT.

50 L.F. ITEM 202, PIPE REMOVED, 24" AND UNDER
50 L.F. ITEM 202, PIPE REMOVED, OVER 24"
50 L.F. ITEM 603, 24" CONDUIT, TYPE C, 706.01 OR 706.02
50 L.F. ITEM 603, 30" CONDUIT, TYPE C, 706.02

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

ITEM 604 WATERWORK

THIS ITEM SHALL CONSIST OF ADJUSTING WATERWORK MANHOLES AND BOXES. THIS ITEM SHALL ALSO INCLUDE FURNISHING ALL MATERIALS, EXCAVATING, BACKFILLING AND DISPOSAL OF ALL SURPLUS EXCAVATED AND DISCARDED MATERIALS WHICH MAY BE REQUIRED TO COMPLETE THIS ITEM.

WATERWORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER AND HEAT ON FILE IN THE COLUMBUS OFFICE AND DIVISION 12 OFFICE OF THE STATE HIGHWAY DEPARTMENT. NO INSERTS SHALL BE USED FOR ADJUSTMENT. PAYMENT FOR WATERWORK SHALL BE AT THE CONTRACT UNIT PRICE STIPULATED FOR THE VARIOUS ITEMS, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL NECESSARY MATERIALS, LABOR, EQUIPMENT TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ITEM	UNIT	DESCRIPTION
604	EACH	ADJUST VALVE BOX TO GRADE
604	EACH	ADJUST MANHOLE RING AND COVER TO GRADE
604	EACH	RECONSTRUCT MANHOLE TO GRADE, AS PER PLAN
604	EACH	VALVE BOXES AND COVERS

GENERAL NOTES

CALC. BY T.R.B.
 DATE 2/02
 CHKD. BY B.B.
 DATE 2/05

CUYAHOGA COUNTY
 CUY - 17 - 283

OHIO
 FHWA
 REGION 5

5
 82

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 INSPECTIONS 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.

TEMPORARY EROSION AND SEDIMENT CONTROL

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

ITEM 207 - TEMPORARY SEEDING AND MULCHING	200 S.Y.
ITEM 207 - STRAW OR HAYBALES	100 EA.
ITEM 659 - REPAIR SEEDING AND MULCHING	50 S.Y.
ITEM 659 - COMMERCIAL FERTILIZER	0.05 TONS
ITEM 659 - WATER	1 MGAL
ITEM 659 - MOWING	2 M.S.F.

WATERING AND MOWING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

659 WATER	1 M GAL.
659 MOWING	2 M SQ. FT

EROSION CONTROL

ITEMS 601, AND 660 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS, AND 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 THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION

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.

FERTILIZING AND LIMING PERMANENT SEEDED AND SODDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED IN THE GENERAL SUMMARY FOR FERTILIZING AND LIMING PERMANENT SEEDED AND SODDED AREAS

659 COMMERCIAL FERTILIZER	.06 TONS
659 AGRICULTURAL LIMING	.28 TONS

CONTRACTION JOINTS IN BASE WIDENING

WHERE NEW CONCRETE BASE IS PLACED ADJACENT TO EXISTING CONCRETE BASE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW BASE SO AS TO FORM A CONTINUOUS JOINT WITH THAT IN THE EXISTING BASE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN NEW BASE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-4. IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN NEW BASE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

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 407 TACK COAT

THE TACK COAT AND COVER AGGREGATE OPERATION SHALL BE AS DETERMINED AT A PRE-CONSTRUCTION CONFERENCE AS PER 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.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT SHALL FOLLOW THE ALIGNMENT OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE GRADE ARE ON FILE FOR INSPECTION IF NECESSARY AT THE ODOT 12 OFFICE AS PROJECT NO. SH 460 / SEC. E-1.

ITEM 604 - MANHOLES WITH SPECIAL FRAME AND COVER

BOLTED LID MANHOLE FRAME AND COVER AS PER NEENAH R1915G, EAST JORDAN K40-T OR EQUAL SHALL BE USED IN LIEU OF THE FRAME AND COVER DETAIL SHOWN ON THE STANDARD CONSTRUCTION DRAWING FOR THE MANHOLE SPECIFIED.

ITEM 604 - VALVE BOXES AND COVERS

THE CONTRACTOR SHALL FURNISH AND INSTALL, OVER EACH VERTICALLY SET VALVE AT THE LOCATION SHOWN ON THE DRAWINGS, OR AS REQUIRED, VALVE BOXES AND COVERS OF THE TYPES AND SIZES INDICATED ON THE PLANS. THESE SHALL BE CAREFULLY LOCATED OVER THE VALVE NUT AND SHALL BE SET PLUMB AND TRUE, TO ELEVATIONS AS REQUIRED.

CAST IRON SHALL BE ASTM DESIGNATION A-48 WITH NO SPECIFIC REQUIREMENT AS TO CLASS.

PAYMENT FOR VALVE BOXES AND COVERS SHALL BE THE UNIT PRICE PER EACH FOR ITEM 604 WATERWORK CASTING BY TYPE.

GENERAL SUMMARY

CALC. BY: B.B.
 DATE: 2/85
 CHD. BY: A.C.
 DATE: 2/86

CUYAHOGA COUNTY
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ITEM	SHEET NUMBERS				GRAND TOTAL	ITEM	UNIT	DESCRIPTION
	485	8	9	10				
				85	85	202	SO. FT.	ROADWAY WALK REMOVED
202				75	75	608	SO. FT.	4" CONCRETE WALK W/3" GRANULATED SLAG OR SCREENING BED
608				1	3	202	EACH	CATCH BASIN OR INLET ABANDONED
202		2			5	410	CU. YD.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
410	5				50	202	LIN. FT.	PIPE REMOVED, OVER 24"
202	50			35	85	202	LIN. FT.	PIPE REMOVED 24" AND UNDER
232	50			50.0	125	202	LIN. FT.	GUARDRAIL REMOVED
202		75		778	778	202	SO. YD.	PAVEMENT REMOVED
232			800	508	1308	202	SO. YD.	WEARING COURSE REMOVED
202			360	255	615	202	LIN. FT.	CURB REMOVED
203		56	32	6	94	203	CU. YD.	EMBANKMENT
203		10	127	277	414	203	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
604	1				1	604	EACH	MONUMENT BOX ADJUSTED TO GRADE USING STANDARD MONUMENT BOX FRAME AND COVER
606			100	12.5	1125	606	LIN. FT.	GUARDRAIL, TYPE 5
606			2	2	4	606	EACH	ANCHOR ASSEMBLY, STANDARD TYPE T
606			2	1	3	606	EACH	ANCHOR ASSEMBLY, STANDARD TYPE A
616	5				5	616	TON	CALCIUM CHLORIDE
616	50				50	616	M GAL	WATER
								EROSION CONTROL
601		62			62	601	CU. YD.	ROCK CHANNEL PROTECTION, TYPE A WITHOUT FILTER
659			16		16	659	SO. YD.	SEEDING AND MULCHING
207	200				200	207	SO. YD.	TEMPORARY SEEDING AND MULCHING
207	100				100	207	EACH	STRAW OR HAYBALES
659	50				50	659	SO. YD.	REPAIR SEEDING AND MULCHING
659	.11				0.11	659	TONS	COMMERCIAL FERTILIZER
659	2				2	659	M GAL	WATER
659	4				4	659	M.S.F.	MOWING
660			329	285	614	660	SO. YD.	SODDING, AS PER PLAN
659	.28				0.28	659	TONS	AGRICULTURAL LIMING
603	100		40	20	160	603	LIN. FT.	DRAINAGE 6" CONDUIT, TYPE F
603			10	60	70	603	LIN. FT.	12" CONDUIT, TYPE B
603			36	42	78	603	LIN. FT.	12" CONDUIT, TYPE C
603				20	20	603	LIN. FT.	12" CONDUIT, TYPE F
603			36		36	603	LIN. FT.	18" CONDUIT, TYPE C
603			149		149	603	LIN. FT.	18" CONDUIT, TYPE F
603	50				50	603	LIN. FT.	24" CONDUIT, TYPE C, 706.01 OR 706.02
603	50				50	603	LIN. FT.	30" CONDUIT, TYPE C, 706.02
604			2	1	3	604	EACH	CATCH BASIN, STANDARD NO. 3A
604				2	2	604	EACH	CURB CATCH BASIN
604				2	2	604	EACH	MANHOLE, STANDARD NO. 3
604			2		2	604	EACH	MANHOLE, STANDARD NO. 3, WITH SPECIAL FRAME AND COVER
604			2		2	604	EACH	MANHOLE RECONSTRUCTED TO GRADE WITH SPECIAL FRAME & COVER
604		7			7	604	EACH	MANHOLE ADJUSTED TO GRADE WITH SPECIAL FRAME & COVER
605			318	459	777	605	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAIN
SPEC.	735				735	SPEC.	LIN. FT.	STORM SEWER CLEANING

GENERAL SUMMARY

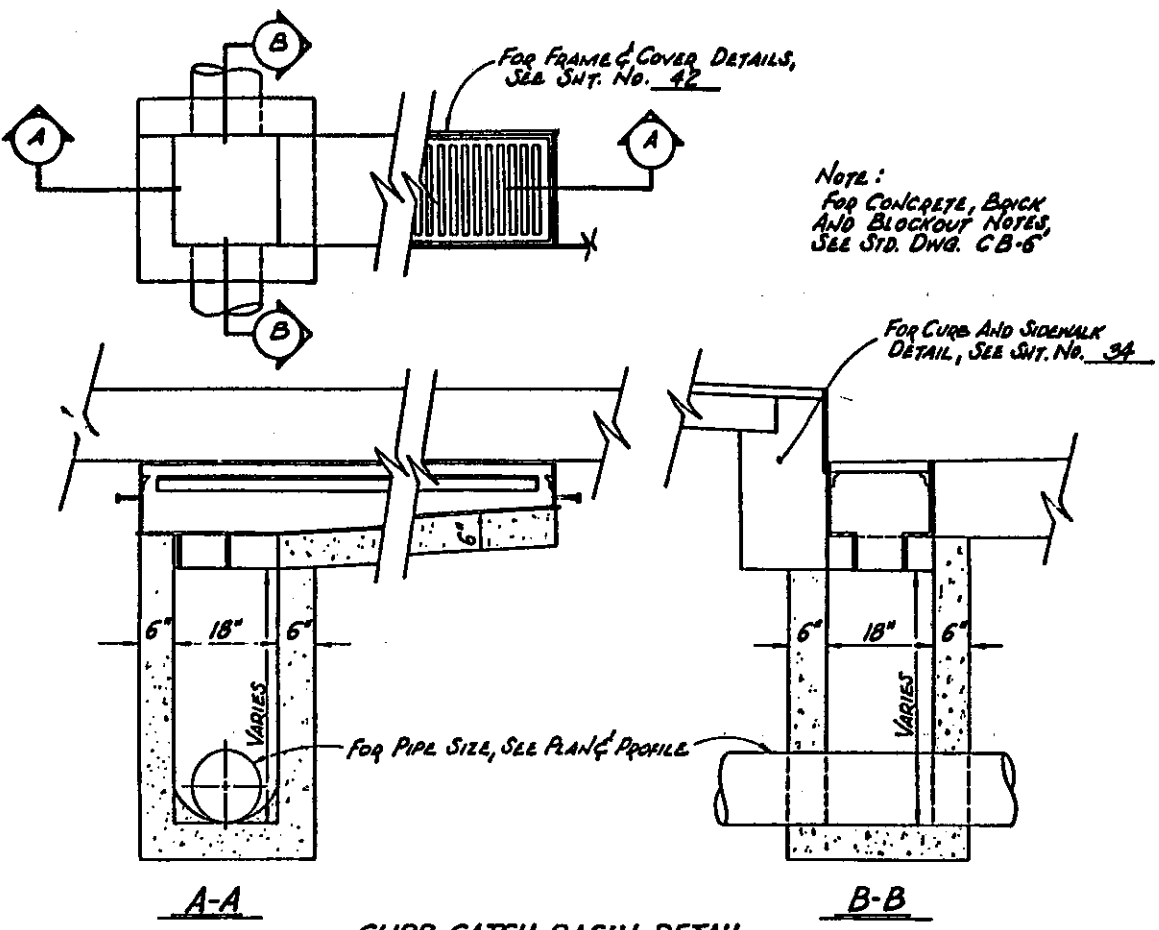
CAL. BY **B.B.**
 DATE **2/85**
 CHKD. BY **A.C.**
 DATE **2/85**

CUYAHOGA COUNTY
 CUY - 17 - 283

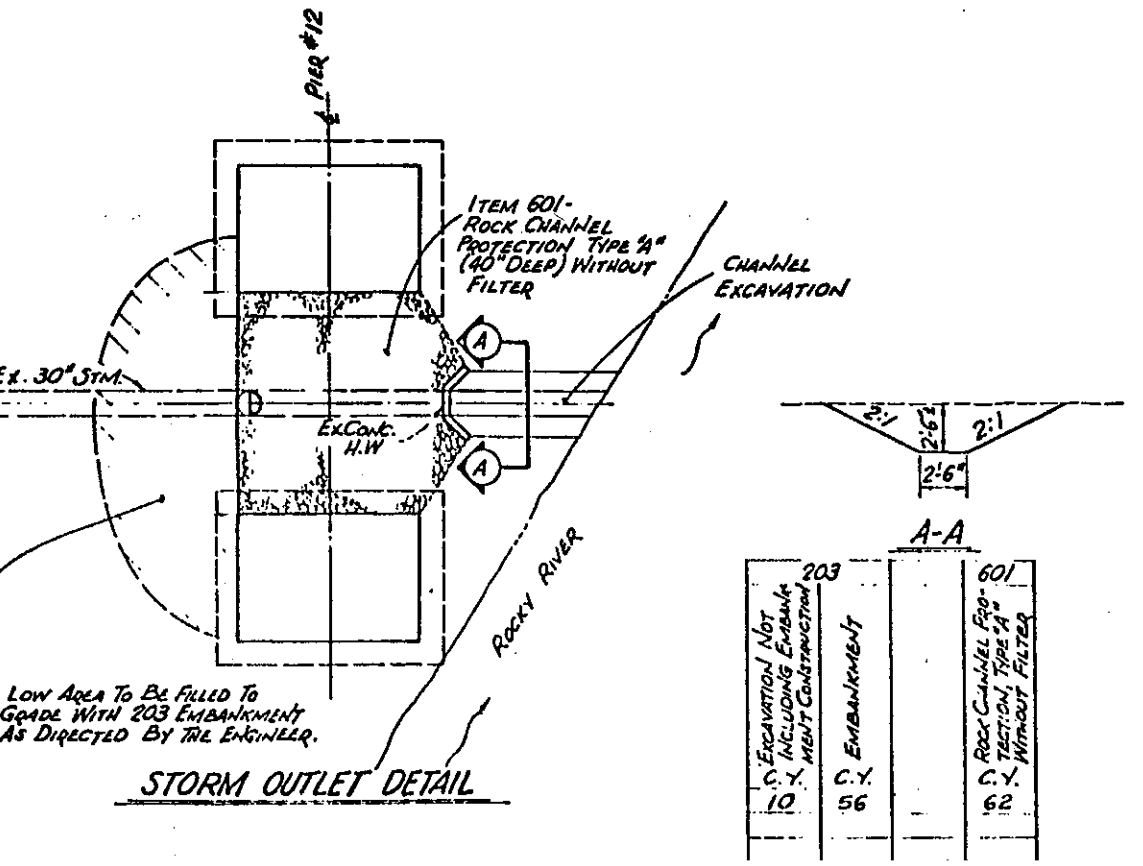
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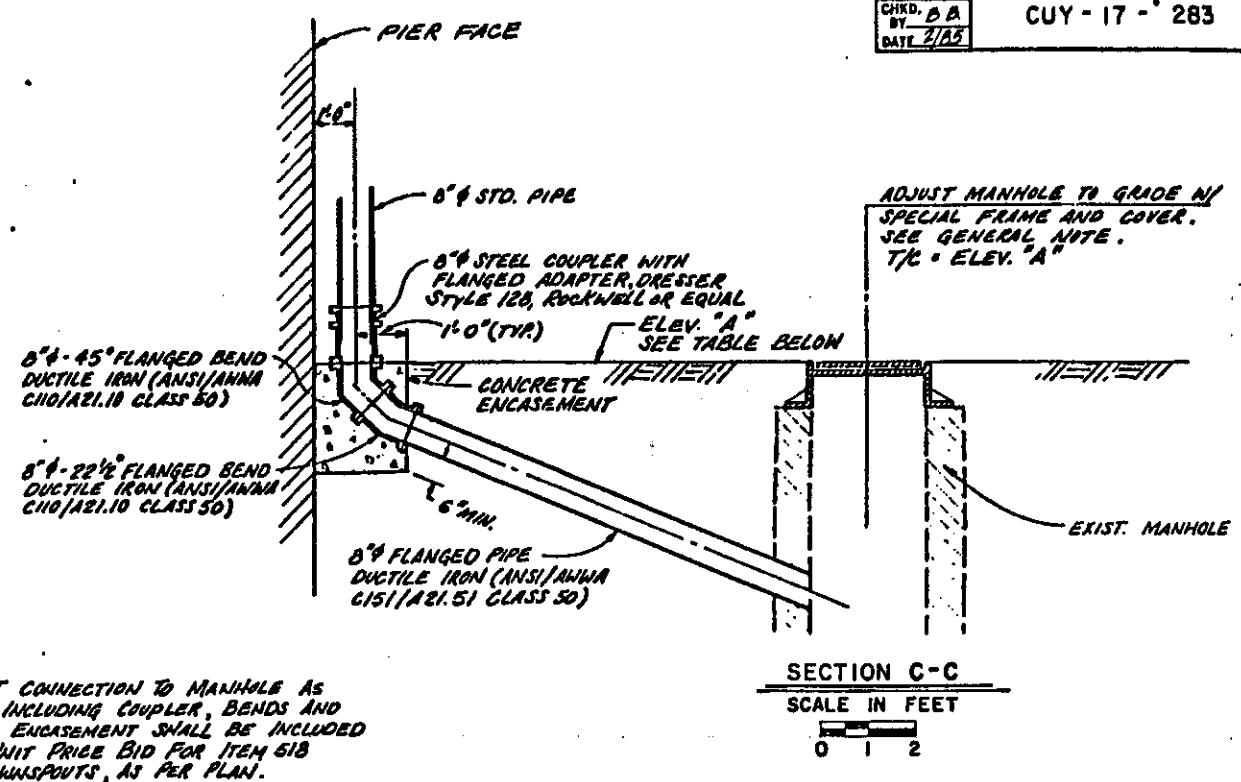
ITEM	SHEET NUMBERS				GRAND TOTAL	ITEM	UNIT	DESCRIPTION
	4	9	10	13				
PAVEMENT								
301			18		18	301	CU. YD.	BITUMINOUS AGGREGATE BASE, AC 20, RT 11 OR RT 12
305			415		415	305	SQ. YD.	9' CONCRETE BASE
310			152		152	310	CU. YD.	SUBBASE, TYPE II
402			108		108	402	CU. YD.	ASPHALT CONCRETE, AC 20
403			82		82	403	CU. YD.	ASPHALT CONCRETE, AC 20
404			72		72	404	CU. YD.	ASPHALT CONCRETE, AC 20
407			258		258	407	GAL.	TACK COAT
407			9		9	407	TON	COVER AGGREGATE
609			595		595	609	LIN. FT.	CURB, STANDARD TYPE 2B
609			16		16	609	LIN. FT.	CURB, STANDARD TYPE 6
611			245		245	611	SQ. YD.	REINFORCED CONCRETE APPROACH SLAB, MODIFIED AS PER PLAN (T-13)
SPEC.		47	53		100	SPEC.	LIN. FT.	PRESSURE RELIEF JOINT, STANDARD TYPE C
WATER WORK								
604		1			1	604	EACH	RECONSTRUCT MANHOLE TO GRADE, AS PER PLAN
604		1			1	604	EACH	VALVE BOX AND COVER
604		1	2		3	604	EACH	ADJUST VALVE BOX TO GRADE
604		1	1		2	604	EACH	ADJUST MANHOLE RING AND COVER TO GRADE
LIGHTING								
SEE SHEET NO. 12 FOR GENERAL SUMMARY								
TRAFFIC CONTROL								
621				75	0.75	621	MILE	LANE LINES
621				45	0.45	621	MILE	CENTER LINES
621				40	40	621	LIN. FT.	CHANNELIZING LINES
621				41	41	621	LIN. FT.	TRANSVERSE LINES
STRUCTURE OVER 20' SPAN								
STRUCTURE CUY - 17 - 283 SEE SHEET NO. 19 FOR GENERAL SUMMARY								
614	LUMP					614		MAINTAINING TRAFFIC
619	LUMP					619		FIELD OFFICE
623	LUMP					623		CONSTRUCTION LAYOUT STAKES
624	LUMP					624		MOBILIZATION



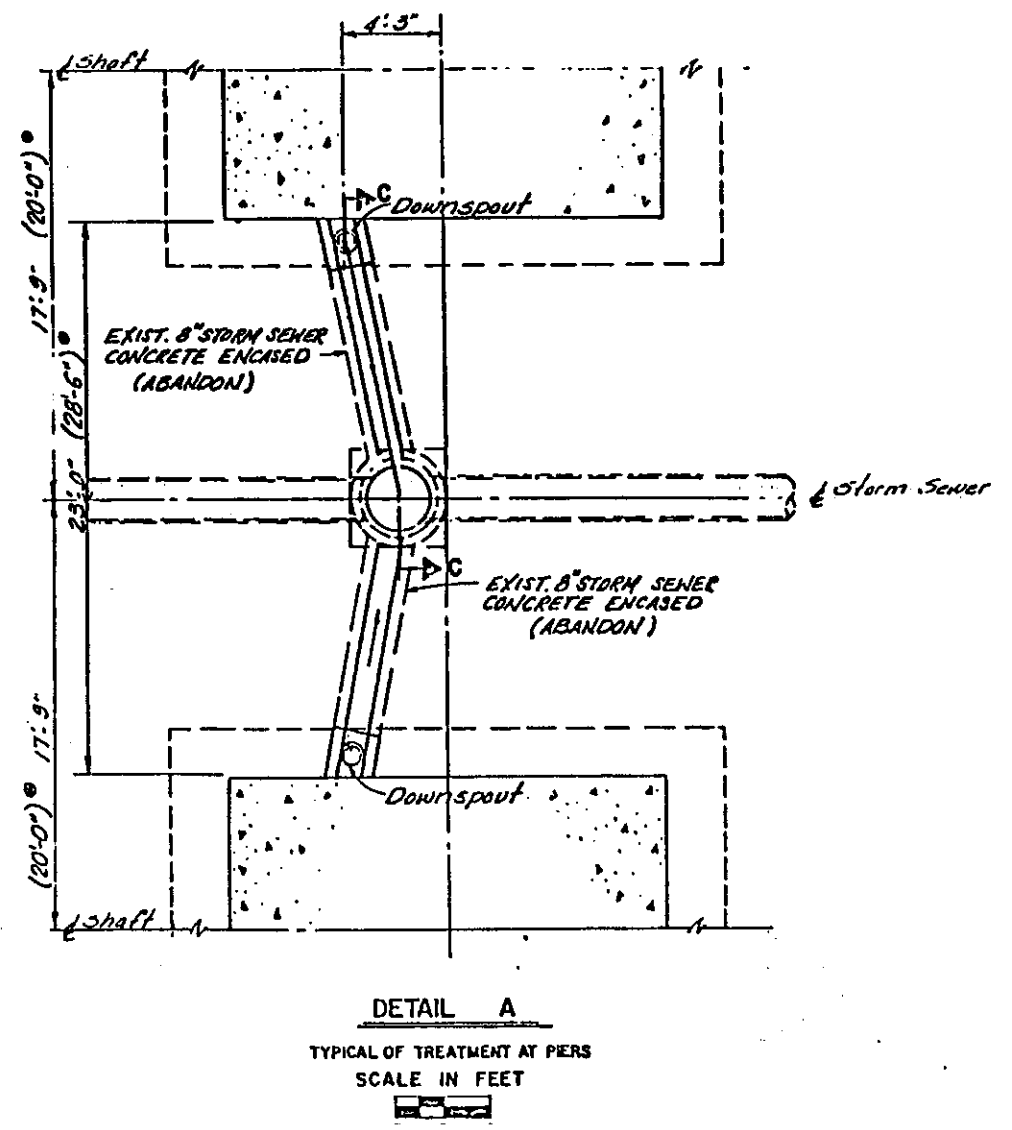
CURB CATCH BASIN DETAIL
 SCALE IN FEET
 0 1 2



Excavation Not Including Embankment Construction	Embankment	Rock Channel Protection, Type "A" Without Filter
C.Y.	C.Y.	C.Y.
10	56	62



NOTE: DOWNSPOUT CONNECTION TO MANHOLE AS DETAILED, INCLUDING COUPLER, BENDS AND CONCRETE ENCASUREMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 618 8" DIA. DOWNSPOUTS, AS PER PLAN.

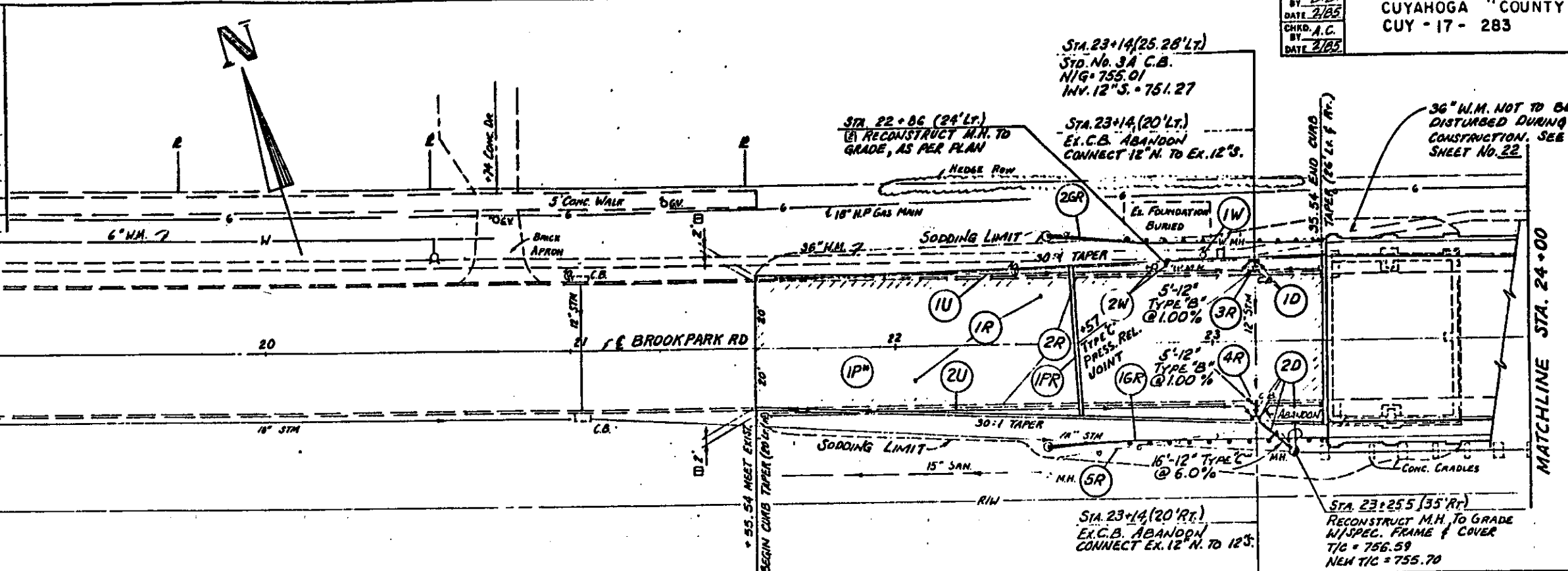


ESTIMATED QUANTITIES		604	ELEVATION "A"
LOCATION	STATION	ADJUST MANHOLE TO GRADE W/ SPECIAL FRAME & COVER	
		Eq.	
West Pylon	25+89.5		701.20
Pier 6	27+50	1	655.02
Pier 7	29+50	1	646.10
Pier 8	31+40	1	642.20
Pier 9	33+35	1	641.92
Pier 10	35+25	1	642.24
Pier 11	37+77	1	640.75
Pier 12	39+05	1	639.66
TOTAL		7	

PAVEMENT ELEVATIONS				
LT. EDGE ELEV.	STATION	RT. EDGE ELEV.	WIDTH	
1147 EX.	+55.64	1147 EX.	20.00	
755.60	21+75	755.06	20.65	
755.46	22+00	755.98	21.48	
755.31	+25	755.87	22.32	
755.20	+50	755.76	23.15	
755.12	+75	755.66	23.98	
755.05	23+00	755.59	24.82	
754.98	+25	755.51	25.65	
754.91	+35.54	755.48	26.00	

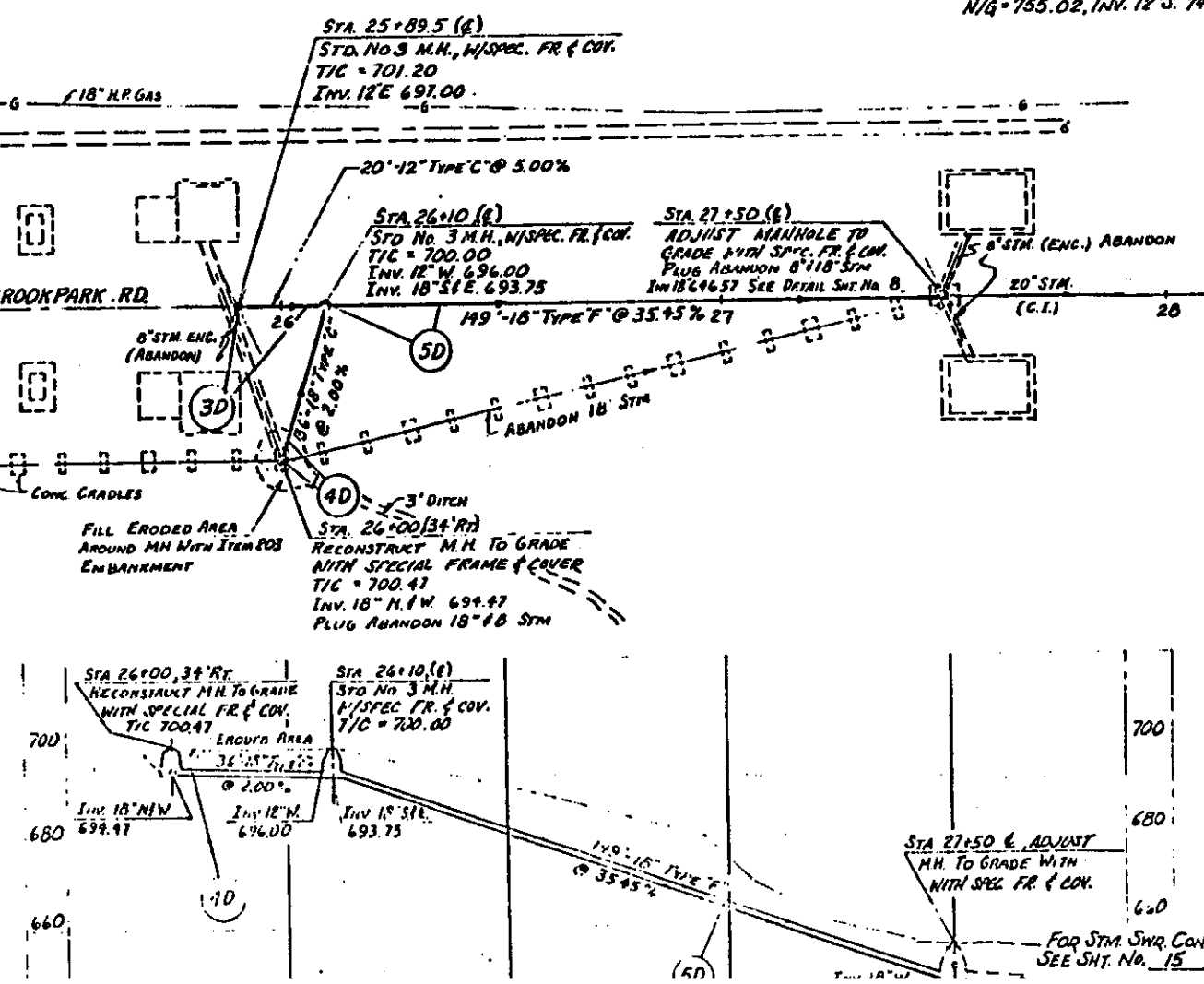
BEGIN SHEET STA. 19+00

MATCHLINE STA. 24+00



MATCHLINE STA. 24+00

ESTIMATED QUANTITIES		WATERWORKS	
TYPE 'B'	TYPE 'C'	TYPE 'C'	TYPE 'F'
12" L.F.	12" L.F.	18" L.F.	18" L.F.
5	1	1	1
ESTIMATED QUANTITIES		WATERWORKS	
CAVATION	127 C.Y.	ADJUST VALVE BOX TO GRADE	EA.
EMBANKMENT	32 C.Y.	ADJUST M.H. RING & COVER TO GRADE	EA.
EDGING	16 SY.	VALVE BOX AND COVER	EA.
SOODING	329 SY.	RECONSTRUCT M.H. TO GRADE, AS PER PLAN	EA.



ITEM NO.	DESCRIPTION	UNIT	QTY.	PRICE	TOTAL
605	UNCLASSIFIED UNDERDRAIN	L.F.			
	WEARING COURSE REMOVED	S.Y.			
	CURB REMOVED	L.F.	800		800
	GUARDRAIL REMOVED	L.F.	360		360
	C.B. ABANDONED	EA.	1		1
	ANCHOR ASSEMBLY TYPE 'T'	EA.	1		1
	ANCHOR ASSEMBLY TYPE 'A'	EA.	1		1
	GUARDRAIL STD. TYPE 5	L.F.	50		50
	TYPE 'F'	L.F.	50		50
	TOTAL				159

ITEM NO.	DESCRIPTION	UNIT	QTY.	PRICE	TOTAL
606	ANCHOR ASSEMBLY TYPE 'T'	EA.	1		1
607	ANCHOR ASSEMBLY TYPE 'A'	EA.	1		1
608	GUARDRAIL STD. TYPE 5	L.F.	50		50
609	TYPE 'F'	L.F.	50		50
	TOTAL				100

SEE CURB MERGER DETAIL
 * FOR PAVEMENT QUANTITIES SEE SHT. NO. 10
 SEE SHT. NO. 10 FOR LEGEND
 SEE DETAIL SHEET NO. 8A

CALC.
BY JRB
DATE 1/85
CHKD.
BY JA
DATE 2/85

CUYAHOGA COUNTY
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SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THESE PLANS.

UTILITIES

SEE SHEET NO. 4

625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS -

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
ILLUMINATING BUILDING
CLEVELAND, OHIO 44113

THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP PERMISSIBLE ON BRANCH CIRCUITS. THE PROJECT WILL RECEIVE 120 VOLT TWO WIRE SECONDARY SERVICE ONE SIDE GROUNDED FROM THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF FULL LIGHTING WITH 1.2 FOOT CANDLE AVERAGE INITIAL ILLUMINATION WITH A MAXIMUM UNIFORMITY RATIO OF 4.0 TO 1.0. FOR CONVENTIONAL UNITS.

625.07 - 713.11 LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED 120 VOLT, 250 WATT INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, CROUSE-HINDS QVM, ITT AMERICAN 400, OR EQUAL APPROVED BY THE ENGINEER. A PHOTO ELECTRIC CELL IS REQUIRED ON ALL 120 VOLT UNITS.

713.14 LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", WESTINGHOUSE "CERAMALUX", SYLVANIA "LUMALUX", OR EQUAL APPROVED BY THE ENGINEER.

CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER.

EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

625.02 HAZARDOUS MATERIALS

NO MATERIAL FURNISHED UNDER THIS SPECIFICATION SHALL CONTAIN POLYCHLORINATED BIPHENYLS (PCBS). TRANSFORMERS, BALLASTS AND CAPACITORS SHALL BE MARKED "NO PCBS" IN ACCORDANCE WITH FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 CFR 761.

GENERAL SUMMARY

LIGHTING QUANTITIES

UNIT	SHEET NUMBERS		TOTAL	ITEM	UNIT	DESCRIPTION	REF. NO.
		13					
625		10	10	625	EACH	LIGHT POLE DESIGN ST8B41.7 (STRUCTURE MOUNTED)	1
625		10	10	625	EACH	LUMINAIRE, STYLE B, TYPE II, 250 WATT HIGH PRESSURE SODIUM 713.11 WITH PE CELL	2 3 4
SPEC.		40	40	SPEC.	EACH	LIGHT POLE ANCHOR BOLTS FOR STRUCTURES 713.01 (1" Ø x 26" L)	5 6
625		4	4	625	EACH	PULLBOX, 713.09, 18"	7
625		3,955	3,955	625	L.F.	CONDUIT, 713.04, 2"	8 9
625		68	68	625	L.F.	CONDUIT, 713.04, 3"	10
625		180	180	625	L.F.	TRENCH, 24" DEEP	11 12
625		3,306	3,306	625	L.F.	NO. 2 AWG, 5000 VOLT DISTRIBUTION CABLE	13
625		3,916	3,916	625	L.F.	NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE	14
625		1,000	1,000	625	L.F.	NO. 10 AWG POLE AND BRACKET CABLE	15
625		2	2	625	EACH	CABLE SPLICING KIT	16 17
625		1	1	625	EACH	POWER SERVICE	18
625		1	1	625	EACH	STRUCTURE GROUNDING SYSTEM FOR BRIDGE NO. CUY-17-0283	19
625		2	2	625	EACH	GROUND ROD, 713.16	20 21
							22 23
							24
625		10	10	625	EACH	CONNECTOR KIT TYPE II	25
625		10	10	625	EACH	CONNECTOR KIT TYPE III	26 27

CALC. BY: JAB
DATE: 1/85
CHKD. BY: JJA
DATE: 2/85

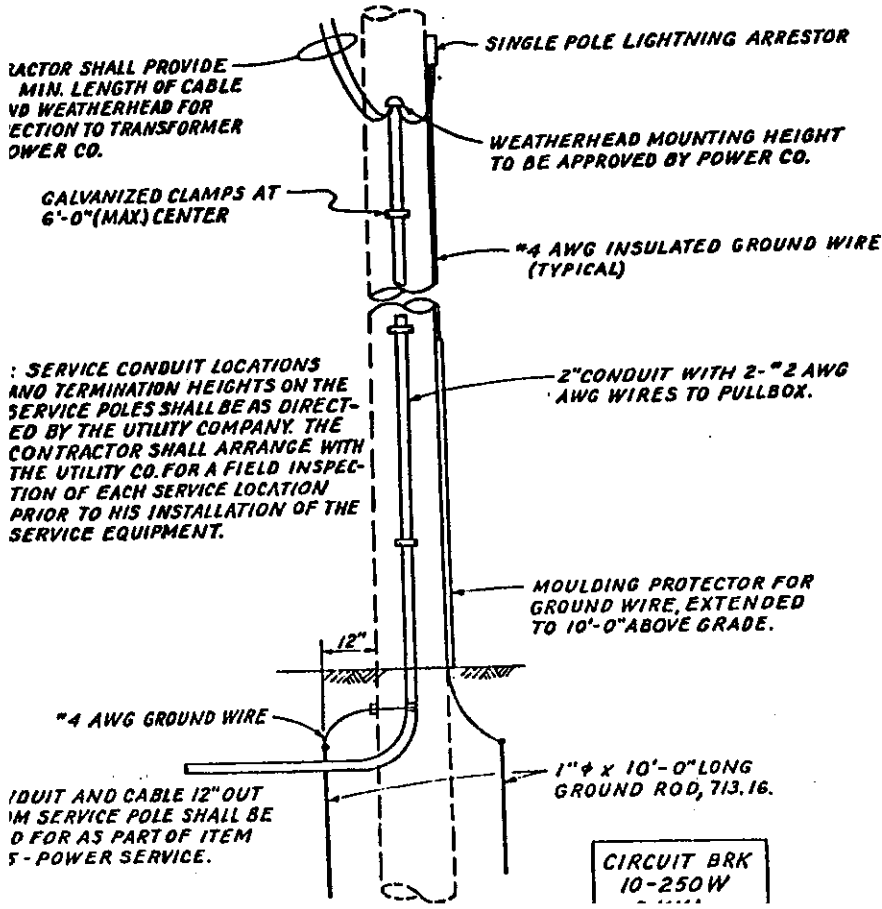
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LIGHTING SUB-SUMMARY

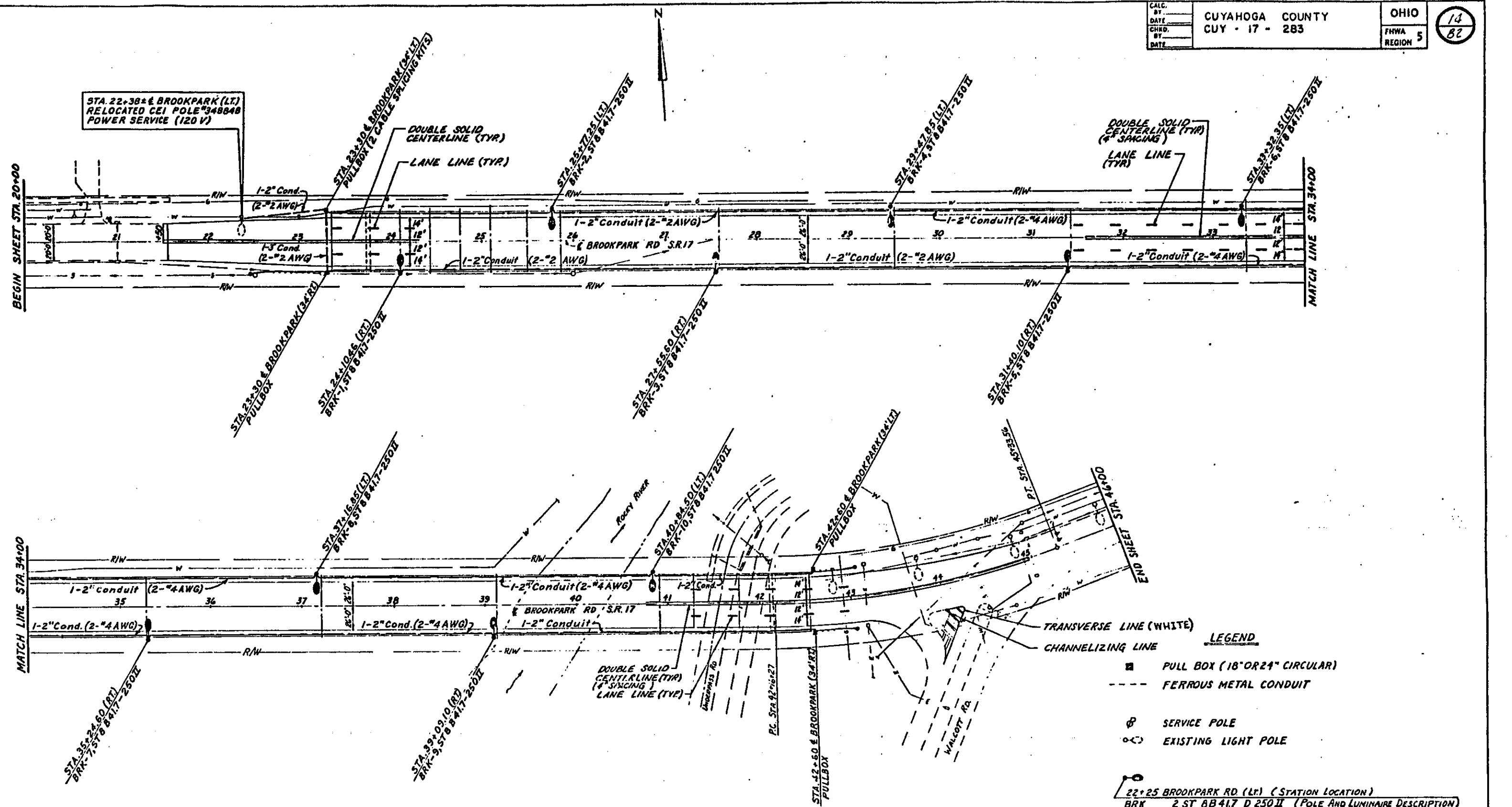
REFERENCE NO.	SIDE	STATION	STATION	LIGHT POLE DESIGN ST 8 B 417 (STR)		LIGHT POLE ANCHOR BOLTS FOR STR. 713.01	PULLBOX, 713.09, 18"	CONDUIT, 713.04, 2"	CONDUIT, 713.04, 3"	TRENCH, 24" DEEP	NO. 4 AWG DISTRIBUTION CABLE		NO. 2 AWG DISTRIBUTION CABLE		NO. 10 AWG POLE & BRACKET CABLE		CABLE SPLICING KIT	CONNECTOR KIT TYPE I		POWER SERVICE	STR. GROUNDING	GROUND ROD, 713.16
				EA.	EA.						L.F.	L.F.	L.F.	L.F.	EA.	EA.		EA.	EA.			
1	LT.	22+38.00	23+30.00					92		92			194				2			1		2
2	LT.	23+30.00	25+77.25				1	247		5			514								1	
3	LT.	25+77.25	29+47.85	1	1	4		371				762	100				1	1				
4	LT.	29+47.85	33+32.35	1	1	4		385				790	100				1	1				
5	LT.	33+32.35	37+16.85	1	1	4		385				790	100				1	1				
6	LT.	37+16.85	40+84.50	1	1	4		368				756	100				1	1				
7	LT.	40+84.50	42+60.00	1	1	4	1	176		5			100				1	1				
8																						
9	LT/RT	23+30.00	23+30.00				1	68		68		156										
10	RT.	23+30.00	24+10.46	1	1	4		80		5		180	100				1	1				
11	RT.	24+10.46	27+55.60	1	1	4		345				710	100				1	1				
12	RT.	27+55.60	31+40.10	1	1	4		385				790	100				1	1				
13	RT.	31+40.10	35+24.60	1	1	4		385				790	100				1	1				
14	RT.	35+24.60	39+09.10	1	1	4		385				790	100				1	1				
15	RT.	39+09.10	42+60.00				1	351		5												
TOTAL (TO SHEET NO.12)				10	10	40	4	3,955	68		180	3,916	3,306	1,000	2	10	10	1	1		1	2



PAVEMENT MARKING SUB-SUMMARY

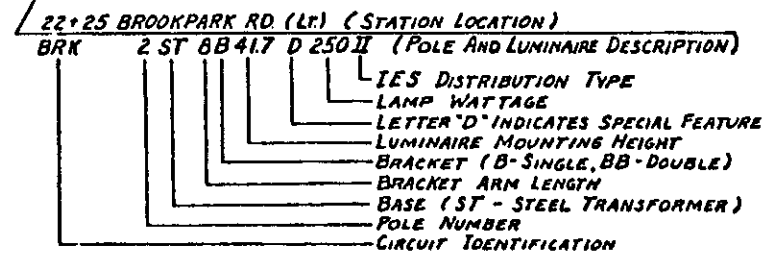
621

SIDE	STATION	STATION	MARKING TYPES			
			LINE LINES	DOUBLE SOLID CENTER LINE	CHANNELIZING LINE	TRANSVERSE LINE (WHITE)
			L.F.	L.F.	L.F.	L.F.
E	21+50	45+00		2350		
Ry/Lr	23+35	43+15	3960			
RT.	43+97	44+18		40	41	
TOTALS (TO SHEET NO. 7)			3960	2350	40	41
			Mi. 75	Mi. 45		

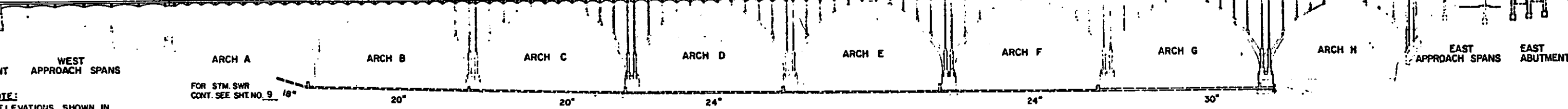
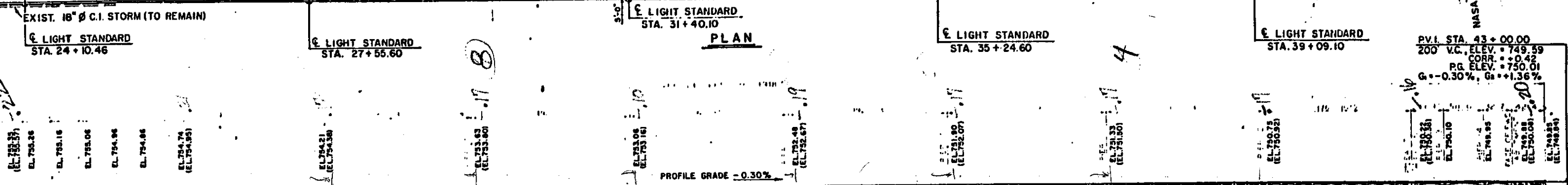
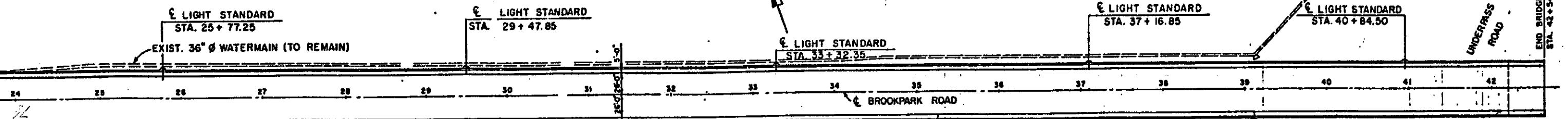


LEGEND

- PULL BOX (18" OR 24" CIRCULAR)
- FERROUS METAL CONDUIT
- ⊕ SERVICE POLE
- ⊙ EXISTING LIGHT POLE

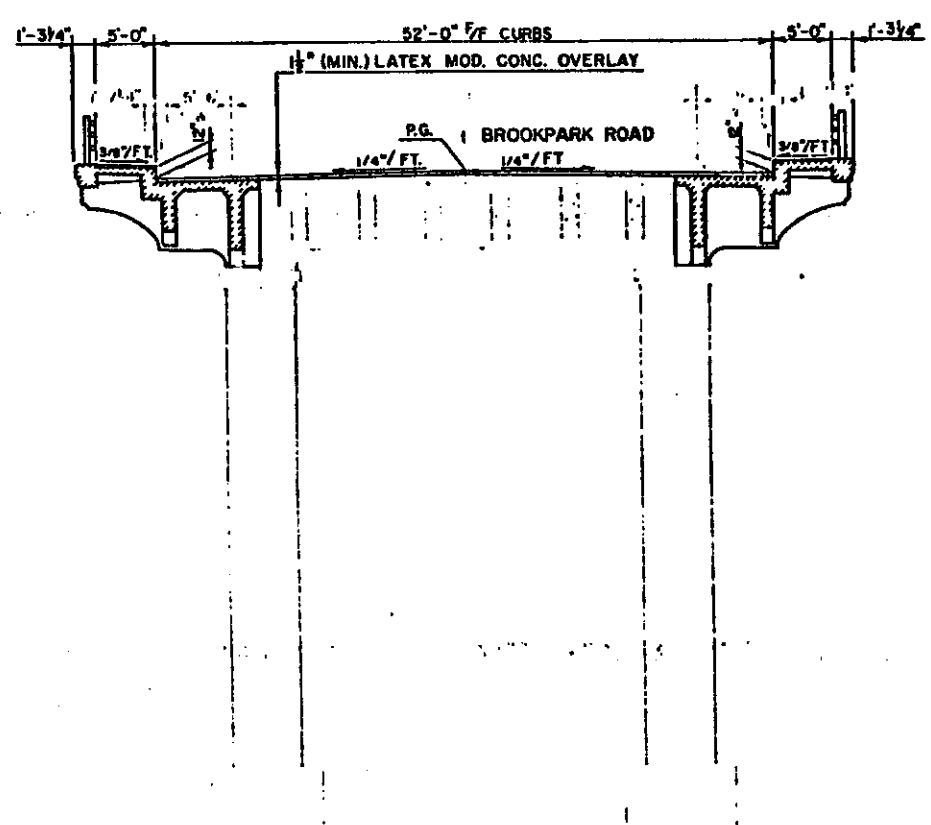


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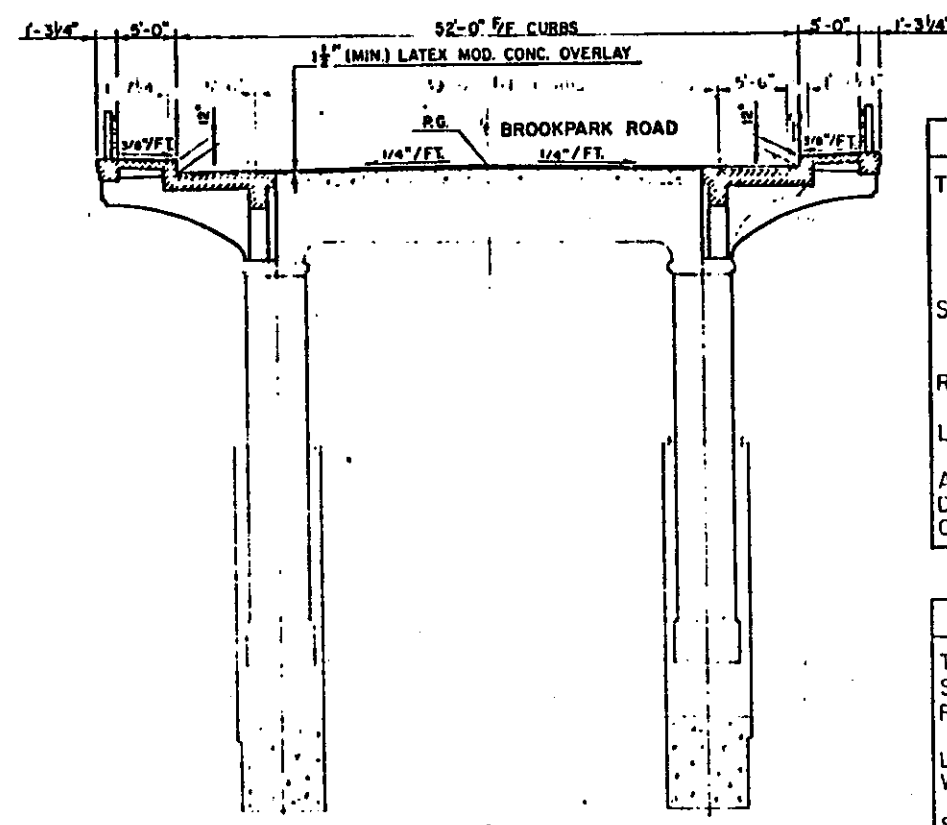


NOTE: ELEVATIONS SHOWN IN PARENTHESES ARE EXISTING.

ELEVATION



TYPICAL SECTION



TYPICAL SECTION
ARCH SPAN

EXISTING STRUCTURE

TYPE: Open spandrel reinforced concrete arches with continuous reinforced concrete beam approach spans. Reinforced concrete deck and substructure both arch and approach spans.

SPANS: West Approach: 32'-7", 4 @ 33'-4", 39'-1"
 Arch Spans: 176'-10 1/2", 6 @ 192'-3", 176'-10 1/2"
 East Approach: 39'-1", 50'-0", 32'-7"

ROADWAY: 39'-0" 1/4" curbs, 5'-6" sidewalks, reinforced concrete railings

LOADING: H-20 (Specification current October 1972)

ALIGNMENT: Tangent and 6° curve left

DATE BUILT: C 1932

CONDITION:

PROPOSED STRUCTURE

TYPE: Same as existing, with widened deck

SPANS: Same as existing

ROADWAY: 52'-0" 1/4" curbs, 5'-0" sidewalks, tubular steel railings (as per plan)

LOADING: HS 20-44

WEARING SURFACE: 1 1/2" (min.) Latex Modified Concrete

SKEW: None

ALIGNMENT: Tangent and 6° curve left

SUPERELEVATION: None

APPROACH SLABS: As-1-81 (Modified as

STRUCTURE SHEET INDEX	
SUBJECT	SHEET No.
General Plan, Elevation & Typical Sections	15
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Estimated Quantities	19
Existing Structure Removal Details	20-21
Abutment Widening Details	22-29
Approach Span Widening Details	30-35
Arch Span Widening Details	36-38
Pylon Details	39
Bearing Details	40
Deck Drainage Details	41-42
Expansion Joint Details	43-44
Curb Plate Details	44
Railing Details	45-47
Reinforcing Steel Lists	48-50
Inventory of Deterioration	51-82

ALDEN E STILSON & ASSOCIATES, LIMITED
 CONSULTING ENGINEERS
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA

CUYAHOGA COUNTY ENGINEER
 CLEVELAND OHIO

BROOKPARK ROAD
 BRIDGE NO. CUY-17-0283
 OVER ROCKY RIVER
 CITIES OF CLEVELAND & FAIRVIEW PARK

GENERAL PLAN AND ELEVATION
 TYPICAL SECTIONS

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-74

NO. B-191

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT. NO.	DATE
APPROACH SLAB	AS-1-81	1-3	11-27-81
HIGHWAY LIGHTING	HL-4		1-21-76(R)
HIGHWAY LIGHTING	HL-5		9-06-73(R)
HIGHWAY LIGHTING	HL-7		1-21-76(R)

(R) INDICATES REVISED DATE

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
EPOXY COATED REINFORCING STEEL	824	10-08-82
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	11-12-85
BRIDGE DECK REPAIR AND OVERLAY WITH LATEX MODIFIED CONCRETE ELASTOMERIC COMPRESSION SEALS	845	2-25-86
FOR STRUCTURAL STEEL JOINTS	849	12-24-85
LATEX FOR CONCRETE MODIFICATION FOR S.S. 853, 956 & 949 SEE BELOW DESIGN SPECIFICATIONS	953	8-21-80

NEW CONSTRUCTION ON THIS BRIDGE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1983 AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS-20-44

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH - 4500 P.S.I.

CONCRETE CLASS C - COMPRESSIVE STRENGTH - 4000 P.S.I.

REINFORCING STEEL - ASTM A615, A616, A617, - GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.

STRUCTURAL STEEL - A36 - YIELD STRENGTH - 36000 P.S.I.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MAT, NEW CONSTRUCTION. LATEX MODIFIED CONCRETE OVERLAY FULL DECK WIDTH AND SIDEWALKS.

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
GROUT ANCHORING WITH NON-SHRINKING EPOXY MORTAR	853	6-26-78
NON-SHRINKING EPOXY MORTAR FOR GROUT ANCHORING	956	6-26-78
PREFORMED POLYCHLOROPRENE ELASTOMERIC JOINT SEALS FOR STRUCTURAL STEEL JOINTS	949	12-24-85

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 SECTIONS 102.5 AND 105.02. #

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID 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.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER AS UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 2000 POUNDS IS INCLUDED IN ITEM 824 FOR THIS PURPOSE.

MAINTENANCE OF TRAFFIC

SEE DETOUR DETAILS AND NOTES ELSEWHERE IN THE PLANS.

UTILITIES

THE EXISTING 36" DIAMETER WATER MAIN SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED METHOD OF PROTECTING AND MAINTAINING THE WATER MAIN DURING CONSTRUCTION TO THE DIRECTOR FOR APPROVAL. NO CONSTRUCTION OPERATIONS AFFECTING THE EXISTING 36" WATER MAIN WILL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE DIRECTOR.

REMOVAL OF PORTIONS OF EXISTING STRUCTURE

UNLESS OTHERWISE INDICATED IN THE PLANS, REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF ITEM 202 AND THE GENERAL NOTE SPECIAL REQUIREMENTS INVOLVING WORK OVER THE CLEVELAND METROPARKS SYSTEM.

LIMITS OF EXISTING CONCRETE REMOVAL SHALL BE DELINEATED BY SAW CUTS TO PROVIDE A SQUARE EDGE FOR PLACEMENT OF NEW CONCRETE. DEPTH OF CUT SHALL BE A MINIMUM OF ONE INCH. CARE SHALL BE EXERCISED IN SAWING CONCRETE SO AS NOT TO NICK OR OTHERWISE DAMAGE EXISTING REINFORCING WHICH IS TO REMAIN. THE CONCRETE SHALL BE REMOVED BY USE OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL EDGED TOOLS. THE WEIGHT OF THE HAMMERS SHALL BE NOT MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 95 POUNDS MAY BE USED, SUBJECT TO APPROVAL OF THE ENGINEER.

PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. WHERE BOND BETWEEN EXISTING CONCRETE AND REINFORCING STEEL THAT IS TO BE RETAINED HAS BEEN DESTROYED, THE UNBONDED CONCRETE ADJACENT TO THE BAR SHALL BE REMOVED TO A DEPTH WHICH WILL PERMIT NEW CONCRETE TO BOND TO THE ENTIRE PERIPHERY OF THE BAR SO DEBONDED. A MINIMUM OF 1-1/4 INCH CLEARANCE AROUND THE PERIMETER OF THE STEEL SHALL BE PROVIDED.

THE USE OF EXPLOSIVES AND HEADACHE BALLS ARE NOT PERMITTED.

ALL MATERIAL REMOVED IN THE EXECUTION OF THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY HIM FROM THE SITE. STORAGE OF MATERIAL REMOVED FOR DISPOSAL OR REUSE SHALL BE WHERE AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROVIDING FALSEWORK AND TEMPORARY BRACING AND SUPPORTS AS MAY BE REQUIRED TO MAINTAIN A COMPLETELY SAFE AND STABLE STRUCTURE AT ALL TIMES. IF IN THE OPINION OF THE ENGINEER ADDITIONAL SUPPORTS ARE REQUIRED, THEY SHALL BE PROVIDED BY THE CONTRACTOR ENTIRELY AT HIS EXPENSE. THE CONTRACTOR SHALL SUBMIT PLANS FOR FALSEWORK AND TEMPORARY BRACING AND SUPPORTS TOGETHER WITH HIS PROPOSED METHOD AND SEQUENCE OF REMOVAL TO THE DIRECTOR FOR APPROVAL.

ITEM SPECIAL - COATING OF CONCRETE SURFACES

ALL CONCRETE SURFACES VISIBLE AFTER COMPLETION OF CONSTRUCTION WITH EXCEPTION OF THE ROADWAY AND SIDEWALK SURFACES; THE UNDERSIDE OF THE ARCH SPAN DECKS, THE FLOOR BEAMS AND THE INSIDE OF THE JACK ARCHES; ALL INTERIOR STRINGERS, THE INSIDE SURFACE OF EXTERIOR STRINGERS, AND THE UNDERSIDE OF THE DECK SLAB IN THE APPROACH SPANS; AND OTHER INACCESSIBLE SURFACES AS EXCEPTED BY THE ENGINEER, SHALL BE COATED WITH A 100% SOLIDS (TWO COMPONENT SYSTEM) EPOXY MATERIAL TO PROTECT THE CONCRETE SURFACE AND TO PROVIDE A UNIFORM COLOR AND TEXTURE, APPLIED IN A SINGLE COAT AT THE RATE OF 100 SQ. FT. PER GAL.

THE MATERIAL SHALL BE POLY-CARB MARK - 65 AS MANUFACTURED BY THE POLY-CARB COMPANY, SOLOW, OHIO; DURALKOTE AS MANUFACTURED BY DURAL INTERNATIONAL CORPORATION, DEER PARK, NEW YORK; PEN-SEAL 50 AS MANUFACTURED BY ADHESIVE ENGINEERING COMPANY, SAN CARLOS, CALIFORNIA OR APPROVED EQUAL. SURFACE PREPARATION, PRODUCT APPLICATION AND CURING SHALL BE IN STRICT COMPLIANCE WITH THE RECOMMENDATION OF THE MANUFACTURER.

THE COLOR SHALL MATCH AS CLOSELY AS POSSIBLE THE EXISTING CLEAN CONCRETE. A TEST SAMPLE PANEL SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL PRIOR TO APPLYING THE COATING.

METHOD OF MEASUREMENT

THE QUANTITY OF FINISH COATING TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE FEET IN PLACE AND COMPLETED.

BASIS OF PAYMENT

COST OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COAT THE STRUCTURE IN ACCORDANCE WITH THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	S.F.	COATING OF CONCRETE SURFACES

* PLANS OF THE EXISTING STRUCTURE ARE AVAILABLE FOR INSPECTION IN THE CUYAHOGA COUNTY ENGINEER'S OFFICE, 1846 STANDARD BUILDING, CLEVELAND, OHIO, 44113.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
GENERAL NOTES		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 12-31-86
NO. B-191		
DESIGN	DRAWN	CHECKED
REVISED TO AS BUILT		

FHWA ACTION	STATE	PROJECT
B	OHIO	

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CUYAHOGA COUNTY

GENERAL NOTES - STRUCTURE REPAIR

INVENTORY OF DETERIORATION: THESE PLANS, SHEETS 51 THRU 82, PRESENT AN INVENTORY OF THE DETERIORATION PRESENT ON THE BROOKPARK ROAD BRIDGE OVER ROCKY RIVER BY TYPE AND EXTENT. THE INVENTORY WAS PERFORMED BETWEEN MAY 22 AND JUNE 23, 1978 AND WAS RE-INVENTORIED FEBRUARY 1986.

THE ORIGINAL INVENTORY WAS OF THE TOTAL STRUCTURE BUT AS IS INDICATED ON THE PLANS, PORTIONS OF THE STRUCTURE WILL BE REMOVED FOR THE WIDENING PART OF THE REHABILITATION PROJECT AND WILL NOT REQUIRE REPAIR. THE RE-INVENTORY WAS RESTRICTED TO THOSE PORTIONS OF THE STRUCTURE TO REMAIN AFTER REMOVAL OPERATIONS.

THE QUANTITIES LISTED IN THE SUMMARY OF QUANTITIES SHEET 51 ARE THE ESTIMATED AMOUNT OF THE VARIOUS TYPE OF REPAIR REQUIRED TO REHABILITATE THE STRUCTURE AND DO NOT INCLUDE THOSE AREAS TO BE REMOVED. THESE QUANTITIES ARE BASED ON VISUAL INSPECTION OF THE EXISTING STRUCTURE AND ARE NOT TO BE CONSTRUED TO REPRESENT THE EXACT AMOUNT OF REPAIR REQUIRED TO REHABILITATE THE BRIDGE. PAYMENT WILL BE BASED ON THE ACTUAL WORK PERFORMED AT THE UNIT PRICE BID FOR THE PERTINENT REPAIR ITEM, AS DIRECTED BY THE ENGINEER.

DESCRIPTION OF DETERIORATION: SHEET 52 OF THE PLANS PROVIDES PHOTOGRAPHIC REPRESENTATION OF THE VARIOUS TYPES OF DETERIORATION PRESENT, ALONG WITH A WRITTEN DESCRIPTION OF EACH.

INSPECTION OF REPAIR AREAS: THE LOCATION OF THE EXISTING AREAS OF THE BRIDGE WHICH REQUIRE REPAIR ARE SHOWN ON THE INVENTORY OF DETERIORATION, SHEETS 51 THRU 82. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIAL, EQUIPMENT, AND LABOR TO PERMIT INSPECTION OF THESE LOCATIONS. THE CONTRACTOR'S SUPERINTENDENT SHALL ACCOMPANY THE ENGINEER IN MAKING A DETAILED EXAMINATION TO MARK THE AREAS OF REPAIR TO BE MADE. THE MATERIAL, EQUIPMENT, AND LABOR SHALL BE FURNISHED FOR WHATEVER LENGTH OF TIME MAY BE NECESSARY TO CONDUCT THIS EXAMINATION.

COST OF ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO CONDUCT THE INSPECTION OF REPAIR AREAS SHALL BE INCLUDED IN ITEM SPECIAL, INSPECTION OF REPAIR AREAS.

CONCRETE REPAIR: UNLESS OTHERWISE INDICATED IN THE FOLLOWING REPAIR METHODS, ALL CONCRETE REPAIR SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF ITEMS 519 OR 520 EXCEPT THAT AN EPOXY BONDING AGENT SHALL BE USED TO BOND NEW CONCRETE TO EXISTING (SEE NOTE "BONDING NEW CONCRETE TO EXISTING CONCRETE") AND EXISTING PRIMARY REINFORCING STEEL SHALL BE EPOXY COATED (WHERE DIRECTED BY THE ENGINEER) IN ACCORDANCE WITH THE SAME PLAN NOTE. ALSO ALL SURFACES TO RECEIVE EPOXY BONDING COMPOUND MUST BE SANDBLASTED CLEAN.

PAYMENT FOR CONCRETE REPAIR: UNLESS OTHERWISE INDICATED, CONCRETE REPAIR SHALL BE PAID FOR UNDER ITEM SPECIAL PATCHING CONCRETE STRUCTURE (REPAIR EQUAL TO OR LESS THAN 6" AVERAGE DEPTH) OR ITEM SPECIAL PATCHING CONCRETE STRUCTURE (REPAIR GREATER THAN 6" AVERAGE DEPTH).

REPAIR METHODS: FOLLOWING IS A DESCRIPTION OF THE SUGGESTED REPAIR METHODS TO BE EMPLOYED FOR EACH OF THE VARIOUS TYPES OF DETERIORATION DESCRIBED ON SHEET 52:

SCALE: IN ACCORDANCE WITH ITEM 519 OR 520 AS MODIFIED HEREIN.

SPALL: IN ALL CASES OF SPALL REPAIR, THE EXISTING REINFORCING STEEL SHALL BE EXPOSED TO DETERMINE IF CORROSION IS PRESENT. WHERE THE EXISTING REINFORCING IS CORRODED, THE BARS SHALL BE UNDERCUT BY A MINIMUM OF 1" AND CLEANED FREE OF ALL CORROSION. PRIOR TO COMPLETING THE REPAIR, THE EXISTING REINFORCING SHALL BE INSPECTED BY THE ENGINEER AND SHALL BE EITHER EPOXY COATED OR REPLACED, AS DIRECTED.

DELAMINATION: LARGE AREAS OF THE EXISTING STRUCTURE APPEAR TO SUFFER FROM DELAMINATION. IN MOST CASES THE EXISTING CONCRETE SURFACE APPEARS TO BE IN GOOD CONDITION WITH NO VISIBLE CRACKS OR DEFECTS. NO REPAIR SHALL BE REQUIRED IN THESE AREAS. WHERE DELAMINATION OF THE CONCRETE SURFACE IS ACCOMPANIED BY A VISIBLE CRACK OR CRACKS, THE CONDITION SHALL BE REMEDIED BY THE INJECTION OF AN EPOXY COMPOUND AS DESCRIBED IN THE REPAIR OF CRACKS.

COST OF ALL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO REPAIR CRACKED, DELAMINATED CONCRETE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, REPAIR OF DELAMINATION (WITH CRACKS).

MISSING FASCIA: MISSING FASCIA IS DIVIDED INTO TWO TYPES: ARCH FASCIA AND COLUMN CAPITAL. IN BOTH CASES, THE FASCIA SHALL BE RESTORED TO ORIGINAL SHAPE AND DIMENSION AS DETERMINED BY ADJACENT FASCIA IN SOUND CONDITION. FOR MINIMUM EXISTING CONCRETE REMOVAL LIMITS FOR ARCH FASCIA REPAIR, SEE DETAIL SHEET 58. WHERE THE MISSING COLUMN CAPITAL FASCIA IS OUTSIDE THE CENTERLINE OF THE COLUMN, THE STRUCTURE REMOVAL SHALL BE EXTENDED TO THE BOTTOM OF THE CAPITAL AND REPLACED WITH THE NEW CONSTRUCTION FOR WIDENING. (SEE DETAIL SHEET 57). OTHER MISSING COLUMN CAPITAL FASCIA SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 519 OR 520 AS MODIFIED BY THESE NOTES.

COST OF ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO REPAIR THE MISSING FASCIA SHALL BE INCLUDED IN ITEM SPECIAL FASCIA REPAIR, ARCH OR FASCIA REPAIR, COLUMN CAPITAL, EXCEPT THAT COST OF COLUMN CAPITAL REMOVED AND REPLACED WITH STRUCTURE WIDENING OPERATIONS, SHALL BE INCLUDED WITH APPROPRIATE ITEMS OF STRUCTURE REMOVAL AND REPLACEMENT FOR PAYMENT.

PATTERN CRACKING: IN ACCORDANCE WITH ITEMS 519 OR 520 AS MODIFIED HEREIN.

CRACK: THE METHOD OF REPAIR SHALL DEPEND ON THE TYPE OF CRACK TO BE REPAIRED. FOR CRACKS NOT ASSOCIATED WITH CORROSION OF REINFORCING STEEL AND WHERE THE ADJACENT CONCRETE IS SOUND AND NOT DISLOCATED, THE CRACK SHALL BE REPAIRED BY THE PRESSURE INJECTION OF EPOXY RESIN BONDING COMPOUND. THE METHOD SHALL CONSIST OF TEMPORARILY SEALING THE SURFACE OF THE CRACK EXCEPT FOR OCCASIONAL OPENINGS, INJECTING THE EPOXY THROUGH THE OPENING SO AS TO COMPLETELY FILL THE CRACK, AND THEN REMOVING THE TEMPORARY SEAL. THE OPERATION SHALL NOT DEFACE THE SURFACE OF THE CONCRETE.

THE EPOXY SHALL BE 100% SOLID MATERIAL AND SHALL DEVELOP THE STRENGTH OF THE CONCRETE. IN GENERAL, THE REPAIR PROCEDURE SHALL BE SIMILAR TO THE METHOD USED BY THE STRUCTURAL CONCRETE BONDING DIVISION OF THE ADHESIVE ENGINEERING COMPANY, 1411 INDUSTRIAL ROAD, SAN CARLOS, CALIFORNIA.

FOR CRACKS IN THE CONCRETE WHICH ARE CAUSED BY THE CORROSION OF REINFORCING BARS BELOW THE CONCRETE SURFACE, THE REPAIR SHALL BE SIMILAR TO THAT EMPLOYED FOR REPAIR OF SPALLS.

REPAIR OF CRACKS IN CONCRETE, UTILIZING EPOXY INJECTION, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL, REPAIRING OF CRACKS IN CONCRETE. THIS PRICE SHALL BE PAYMENT IN FULL FOR FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR TO COMPLETE THE WORK.

REPAIRING OF CRACKS IN CONCRETE CAUSED BY CORRODED REINFORCING SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL PATCHING OF CONCRETE STRUCTURE (REPAIR EQUAL TO OR LESS THAN 6" AVERAGE DEPTH) OR ITEM SPECIAL, PATCHING OF CONCRETE STRUCTURE (REPAIR GREATER THAN 6" AVERAGE DEPTH).

CORNER CRACK: REPAIR METHOD SHALL CONSIST OF REMOVAL OF THE EXISTING CONCRETE SO AS TO EXPOSE THE EXISTING REINFORCING BAR AT THE CORNER. THE CONCRETE SHALL BE REMOVED IN SUCH A FASHION THAT THE EXISTING REBAR SHALL BE A MINIMUM OF 1" CLEAR FROM THE RESULTING CONCRETE SURFACE WHICH SHALL BE APPROXIMATELY NORMAL TO THE EXISTING CONCRETE SURFACES. THE EXTENT OF REMOVAL SHALL ALSO SATISFY THE REQUIREMENT OF ITEM 519 OR 520. THE CORNER SHALL BE RE-FORMED TO MATCH EXISTING AFTER PREPARATION IN ACCORDANCE WITH ITEM 519 OR 520. SEE DETAIL SHEET 58.

COST OF ALL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO REPAIR CORNER CRACKS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, REPAIR OF CORNER CRACKS.

HONEYCOMB: IN ACCORDANCE WITH ITEM 519 OR 520 AS MODIFIED HEREIN.

POPOUIS: NO REPAIR REQUIRED.

DWELL HOLES: DRILLING OF HOLES INTO CONCRETE OR STONE MASONRY AND THE FURNISHING AND PLACING OF GROUT INTO THE HOLES SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 853 AND SUPPLEMENTAL SPECIFICATION 956 EXCEPT FOR THE BASIS OF PAYMENT. DRILLING DWELL HOLES, FURNISHING AND PLACING NON-SHRINKING EPOXY MORTAR AND SETTING STRUCTURAL ELEMENT WILL BE MEASURED AS A UNIT AND PAID FOR AT THE CONTRACT UNIT PRICE BID FOR ITEM 510. DWELL HOLES, AS PER PLAN, THIS PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIAL, EQUIPMENT, AND LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

REPLACEMENT REINFORCEMENT: IT IS INTENDED THAT ALL EXISTING REINFORCING STEEL, UNLESS OTHERWISE INDICATED, SHALL BE RETAINED. HOWEVER, REINFORCING, WHICH IS FOUND TO BE MISSING OR UNSUITABLE FOR RE-USE BECAUSE OF EXCESSIVE CORROSION OR NON-CONTRACTOR RELATED DAMAGE, SHALL BE REPLACED. REPLACEMENT REINFORCEMENT SHALL HAVE CROSS-SECTIONAL AREA EQUIVILANT TO THAT OF THE ORIGINAL. BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL PLAN LOCATION. WORK SHALL BE IN ACCORDANCE WITH ITEM 509 AND THE BARS SHALL BE SPLICED BY LAPPING OR APPROVED MECHANICAL SPLICE AS PER 509.08. ALL REPLACEMENT BARS SHALL BE EPOXY COATED.

REPLACEMENT REINFORCEMENT SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE MEASURED BY WEIGHT IN POUNDS BASED ON TOTAL COMPLETED WEIGHT FOR THE SIZES OF BARS USED. COST OF ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY FOR REMOVAL OF EXISTING REINFORCEMENT AND REPLACEMENT WITH NEW REINFORCEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 824 EPOXY COATED REINFORCING STEEL, GRADE 60.

BONDING NEW CONCRETE TO EXISTING CONCRETE: POLYSULFIDE-EPOXY RESIN ADHESIVE SHALL BE USED FOR BONDING AT ALL ACCESSIBLE LOCATIONS WHERE NEW CONCRETE IS PLACED IN CONTACT WITH EXISTING CONCRETE. THE ADHESIVE FOR ALL APPLICATIONS EXCEPT WHERE MORTAR IS PLACED PNEUMATICALLY AGAINST EXISTING CONCRETE, SHALL BE DURAL 104 AS MANUFACTURED BY DURAL INTERNATIONAL CORP., DEERPARK, NEW YORK, THIOBOND NO. 100, AS MANUFACTURED BY STEELCOAT MANUFACTURING CO., ST. LOUIS, MO., CEILCOAT 348 ADHESIVE, AS MANUFACTURED BY THE CEILCOAT CO., BEREA, OHIO, RESIMELD R-7689-6 AS MANUFACTURED BY THE H.B. FULLER CO. OR ADHESIVE MEETING THE REQUIREMENTS OF AASHTO M-235-75. THE ADHESIVE TO BE USED IN CONJUNCTION WITH PNEUMATICALLY APPLIED MORTAR OR IN THE EVENT OF APPLICATION AT LESS THAN 60° F. OR MORE THAN 104° F. WILL REQUIRE A SLIGHTLY MODIFIED MATERIAL DEPENDING ON THE RECOMMENDATION OF THE MANUFACTURER.

PREPARATION OF THE SURFACE OF THE EXISTING CONCRETE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JUST PRIOR TO APPLICATION, THE PREPARED SURFACE SHALL BE FLUSHED WITH WATER TO REMOVE ALL DUST. WHEN THE SURFACE IS DAMP OR DRY, THE ADHESIVE SHALL BE APPLIED BY THOROUGHLY BRUSHING ONTO THE SURFACE A THICKNESS OF NOT LESS THEN 15 MILS WITH THE COVERAGE AVERAGING AT LEAST ONE GALLON PER 100 SQ. FT. IF THE ADHESIVE SETS AND IS NO LONGER TACKY, BEFORE THE CONCRETE OR MORTAR CAN BE PLACED A SECOND COAT OF ADHESIVE SHALL BE APPLIED. MANUFACTURER'S RECOMMENDATIONS FOR MIXING OF THIS ADHESIVE AND HEALTH PRECAUTIONS SHALL BE STRICTLY OBSERVED.

WHERE EXISTING REINFORCING BARS ARE EXPOSED IN THE AREA TO BE PATCHED, THEY SHALL ALSO BE COATED WITH THE ADHESIVE FOLLOWING THE SAME INSTRUCTIONS AND RECOMMENDATIONS FOR APPLICATION AS FOR BONDING NEW CONCRETE TO EXISTING CONCRETE.

COST OF ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO APPLY THE BONDING ADHESIVE TO THE EXISTING CONCRETE AND/OR REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM OF STRUCTURE REPAIR.

CONCRETE COATING: AFTER ALL WIDENING AND REPAIR OPERATIONS ARE COMPLETED, A COATING, SHALL BE APPLIED TO DESIGNATED SURFACES OF THE NEW AND EXISTING CONSTRUCTION TO PROVIDE PROTECTION AND A UNIFORM APPEARANCE. FOR SURFACES TO BE COATED, MATERIAL AND APPLICATION INSTRUCTIONS, AND METHOD OF PAYMENT SEE GENERAL NOTES - STRUCTURE WIDENING.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY	ENGINEER	
CLEVELAND OHIO		
BROOKPARK ROAD		
BRIDGE NO. CUY-17-0283		
OVER ROCKY RIVER		
CITIES OF CLEVELAND & FAIRVIEW PARK		
GENERAL NOTES STRUCTURE REPAIR		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-21-86
NO. B-191		

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CUYAHOGA COUNTY

SPECIAL REQUIREMENTS INVOLVING WORK OVER THE CLEVELAND METROPARKS SYSTEM

THE CONTRACTOR SHALL CAREFULLY ADHERE TO THE FOLLOWING SPECIFIC REQUIREMENTS:

THE COST OF ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO IMPLEMENT THESE REQUIREMENTS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM OF CONSTRUCTION OR STRUCTURE REPAIR.

- 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 FACILITIES SHALL BE MAINTAINED AT ALL TIMES.
- D. THE PARK ROADS, IN COMBINATION WITH OTHER LOCAL STREETS, SHALL NOT BE DESIGNATED AS DETOUR ROUTE WHILE THE BRIDGE IS BEING RE-CONSTRUCTED.
- 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, BIKE PATH, EQUESTRIAN TRAIL 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 SUCH 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 METROPARKS 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 MAIN-STEM 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 RESULT 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 PHATENSIS), AND 20% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) OR 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 REHABILITATION WORK, SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATION 600 "SEEDING". THIS INCLUDES BUT IS NOT LIMITED TO TREE LAWNS ALONG THE ENTIRE LENGTH OF BROOKPARK ROAD WITHIN THE PROJECT AREA.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
GENERAL NOTES		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-86
NO. B-191		

NOTE:
 ITEM 202, PORTIONS OF STRUCTURE REMOVED INCLUDES THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT.
 THE FOLLOWING MAJOR ITEMS ARE INCLUDED:
 ITEM

REINFORCED CONCRETE	568 C.Y.	APPROXIMATE	438 C.Y.	QUANTITY	2097 C.Y.	PYLONS	317 C.Y.	TOTAL	3420 C.Y.
ASPHALTIC CONCRETE	51 C.Y.	APP. SPANS	198 C.Y.	ARCH SPANS	914 C.Y.				1163 C.Y.
STRUCTURE DRAINAGE		18 CAST IRON SCUPPERS AND ABOUT		1740 L.F. OF 6"Ø DOWNSPOUT					

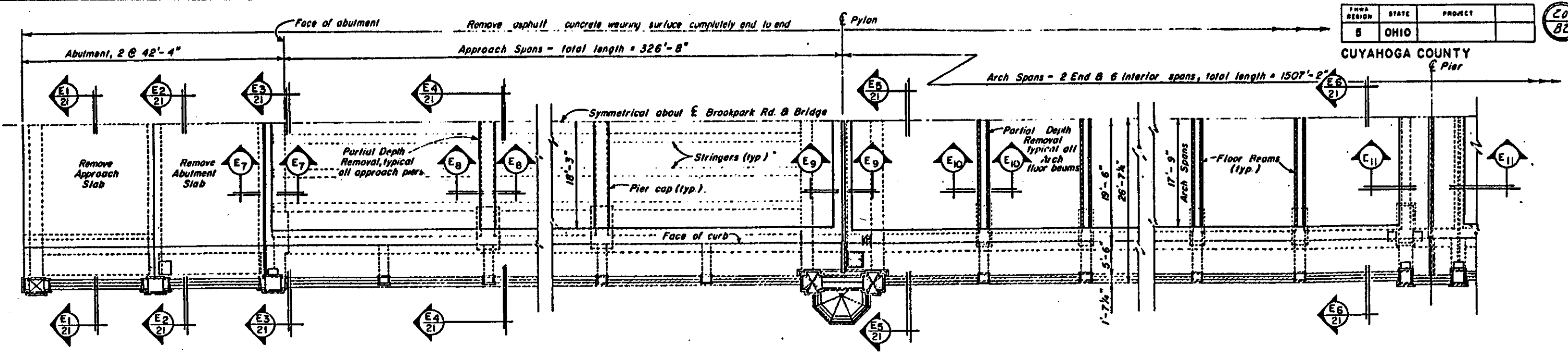
ESTIMATED QUANTITIES										
ITEM	TOTAL	UNIT	DESCRIPTION	WEST ABUTMENT	WEST APPROACH	ARCHES	EAST ABUTMENT	EAST APPROACH	GENERAL	
202	LUMP		PORTIONS OF STRUCTURE REMOVED							
503	295	C.Y.	UNCLASSIFIED EXCAVATION	172			123			
503	60	C.Y.	SHALE EXCAVATION	25			35			
509	178651	LB.	REINFORCING STEEL, GRADE 60	12848	32809	96573	15877	20544		
510	324	EA.	DOWEL HOLES AS PER PLAN	112			172		40	
511	3665	C.Y.	CLASS "S" CONCRETE, SUPERSTRUCTURE (SEE PROPOSAL NOTE)		431	2973		261		
511	472	C.Y.	CLASS "C" CONCRETE, ABUTMENTS ABOVE FOOTINGS	184			288			
511	56	C.Y.	CLASS "C" CONCRETE, FOOTINGS	23			35			
513	66207	LB.	3/8" STEEL CURB PLATE, AS PER PLAN (AISC CERTIFICATION NOT REQUIRED)						66207	
514	66207	LB.	FIELD PAINTING OF NEW STRUCTURAL STEEL, SYSTEM A, AS PER PLAN						66207	
516	124	L.F.	STRUCTURAL STEEL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEALS, 4" NOMINAL WIDTH, AS PER PLAN.						124	
516	558	L.F.	STRUCTURAL STEEL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEAL, 5" NOMINAL WIDTH, AS PER PLAN.						558	
516	8	EA.	BEARING DEVICES, TEFLON COATED STAINLESS STEEL PLATES 1/2" THICK, AS PER PLAN	2	2		2	2		
516	4	EA.	BEARING DEVICES, TEFLON COATED STAINLESS STEEL PLATES 3/4" THICK, AS PER PLAN			4				
517	3838	L.F.	RAILING, AS PER PLAN						3838	
518	18	EA.	SCUPPER, AS PER PLAN						18	
518	1807	L.F.	6" DIA. DOWNSPOUT, AS PER PLAN						1807	
625			SEE SHEET 12 FOR LIGHTING SUMMARY							
824	780522	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	9484	64689	657525	8183	39896	745	
845	755	C.Y.	LATEX MODIFIED CONCRETE OVERLAY, VARIABLE THICKNESS, 1 1/2" MINIMUM	11	83	600	11	50		
SPEC.	LUMP		RENOVATION OF EXISTING BEARING DEVICES							
SPEC.	LUMP		INSPECTION OF REPAIR AREAS							
SPEC.	3000	S.F.	* PATCHING CONCRETE STRUCTURE, REPAIR EQUAL TO OR LESS THAN 6" AVERAGE DEPTH	30	110	2700	30	30		
SPEC.	5000	S.F.	* PATCHING CONCRETE STRUCTURE, REPAIR GREATER THAN 6" AVERAGE DEPTH	50	300	4500	30	120		
SPEC.	266822	S.F.	COATING OF CONCRETE SURFACES	1459	7874	252527	2491	2471		
SPEC.	1500	L.F.	* FASCIA REPAIR, ARCH			1500				
SPEC.	500	L.F.	* FASCIA REPAIR, COLUMN CAPITAL			400		80		
SPEC.	4000	L.F.	* REPAIR OF CRACKS IN CONCRETE WITH EPOXY INJECTION	50	150	3700	40	60		
SPEC.	3500	L.F.	* REPAIR OF CORNER CRACKS		150	3300		50		
SPEC.	6000	S.F.	* REPAIR OF DELAMINATION (WITH CRACKS)	20	180	5750		50		
SPEC.	100	S.F.	† * REPAIR OF HONEYCOMB			100				
SPEC.	8500	S.F.	† * REPAIR OF SCALE	50	1120	7120	20	190		

* BASED ON FEB. 1986 RE-INVENTORY OF PHYSICAL DETERIORATION.



† NO FEDERAL PARTICIPATION

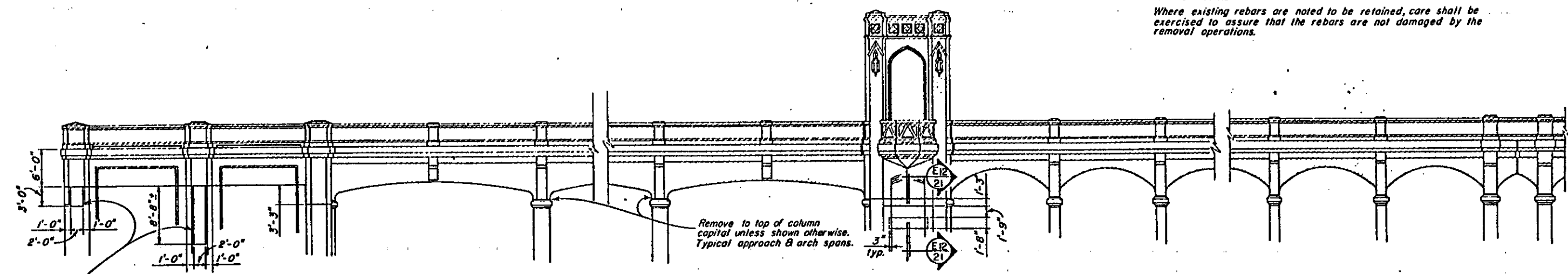
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
ESTIMATED QUANTITIES		
COUNTY	BRIDGE NO.	REPORT NO.
39	39	7068
DATE	3-31-84	
NO. B-191		

CUYAHOGA COUNTY

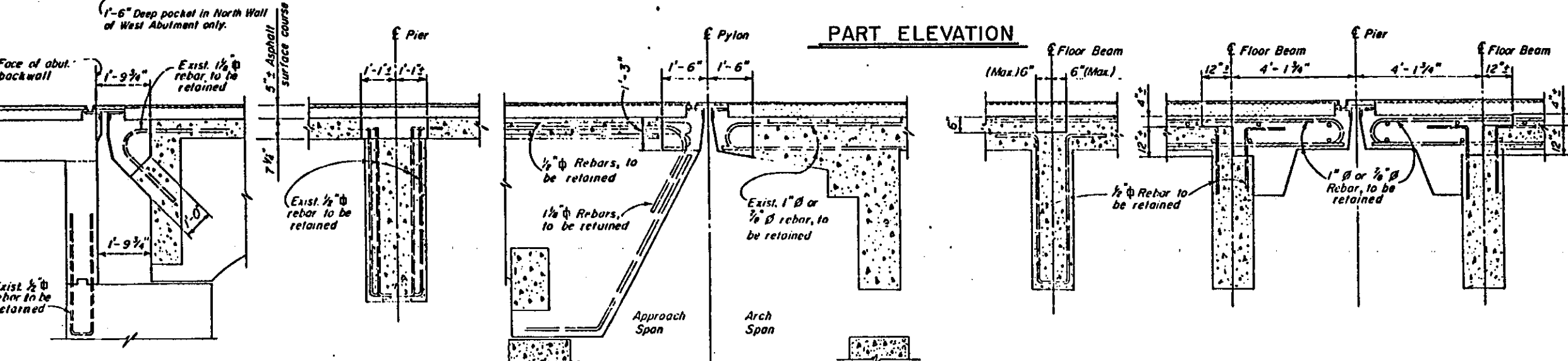


PART PLAN

NOTES:
 These details indicate the limits of existing structure removal required to widen the existing bridge.
 In these details the following symbols denote:
 Existing reinforced concrete to be removed.
 Existing asphaltic concrete surface course to be removed.
 Where existing rebars are noted to be retained, care shall be exercised to assure that the rebars are not damaged by the removal operations.

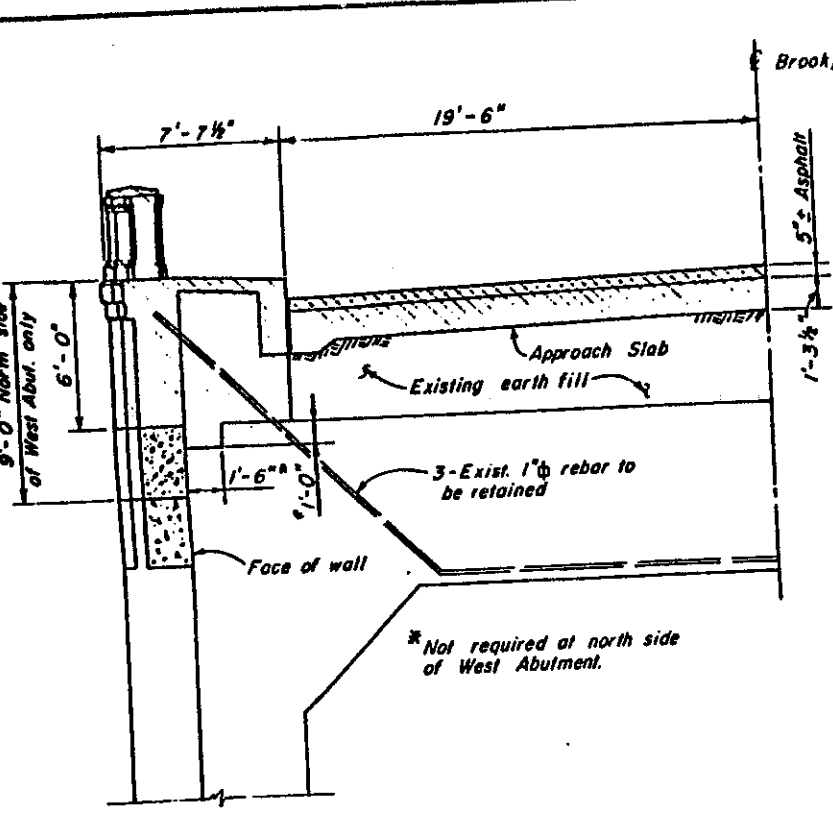


PART ELEVATION

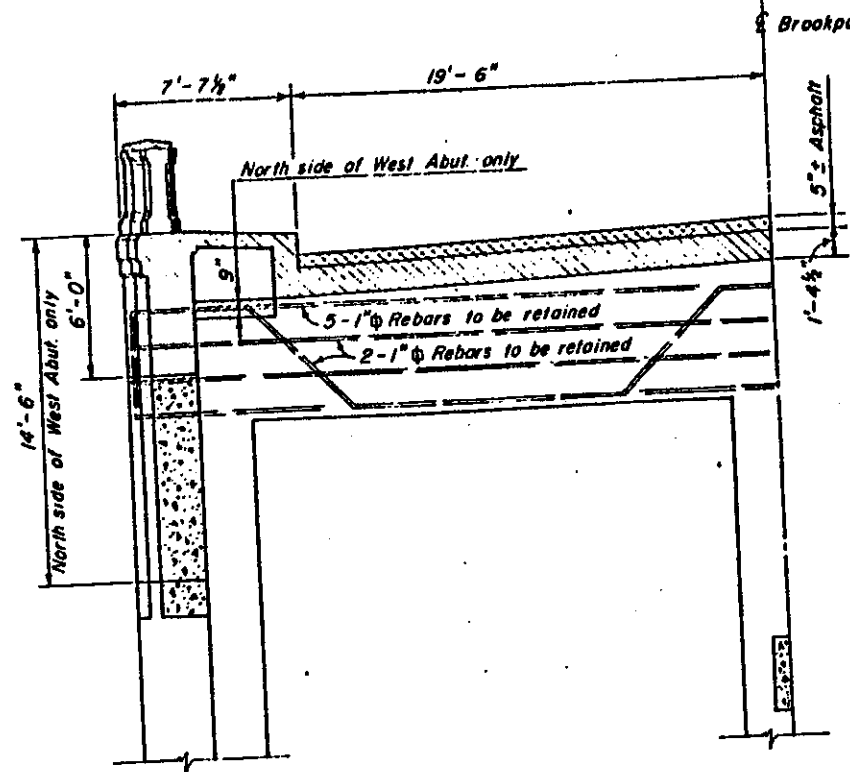


ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
EXISTING STRUCTURE REMOVAL DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-65
NO. B-191		

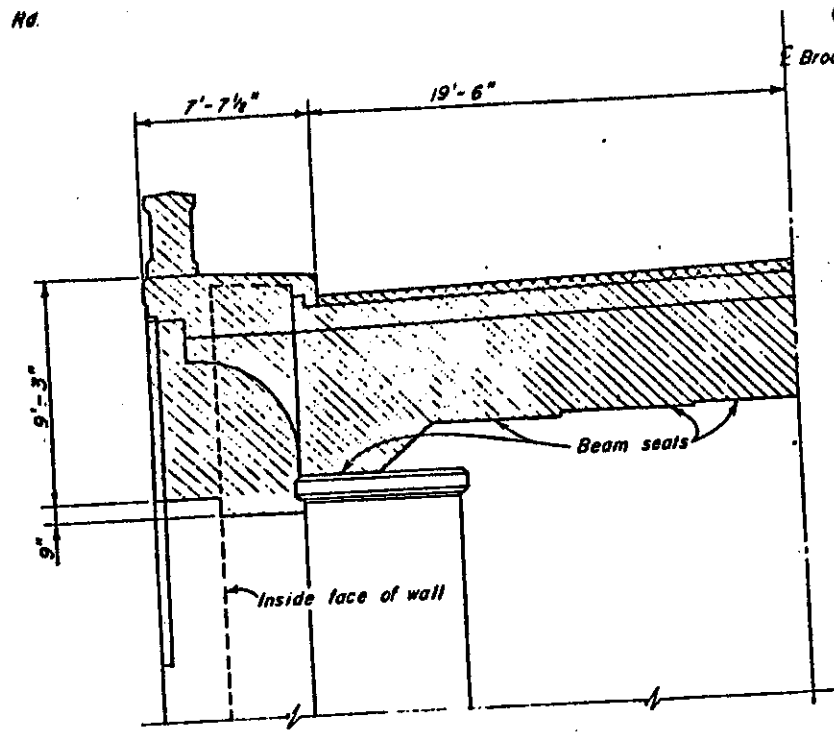
CUYAHOGA COUNTY



SECTION E1-E1

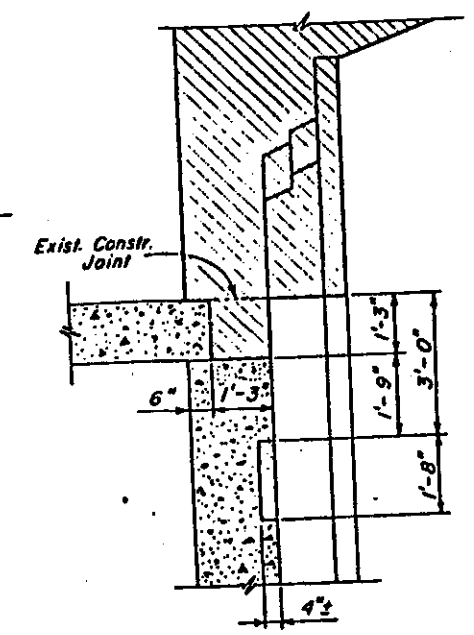


SECTION E2-E2

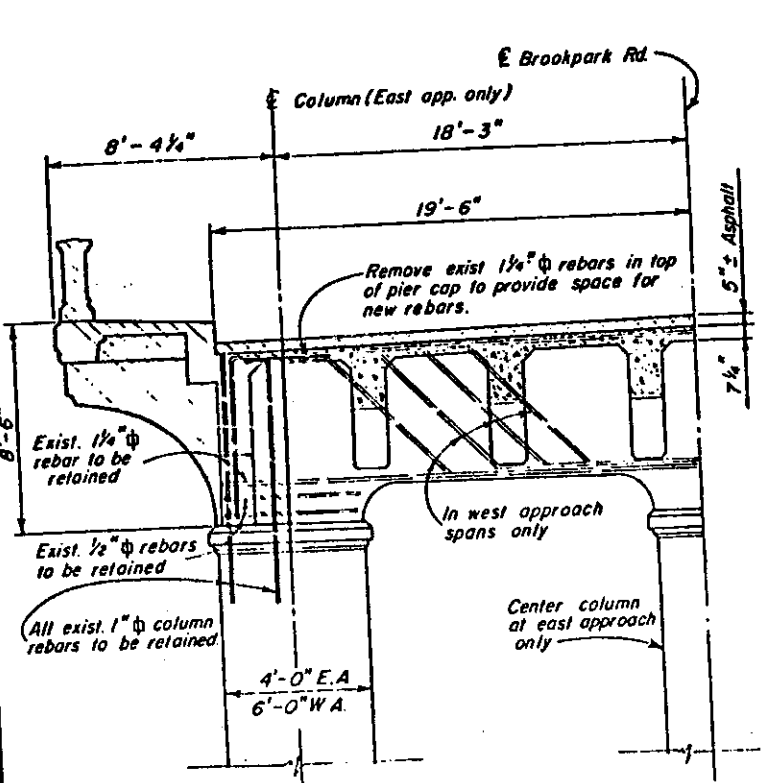


SECTION E3-E3

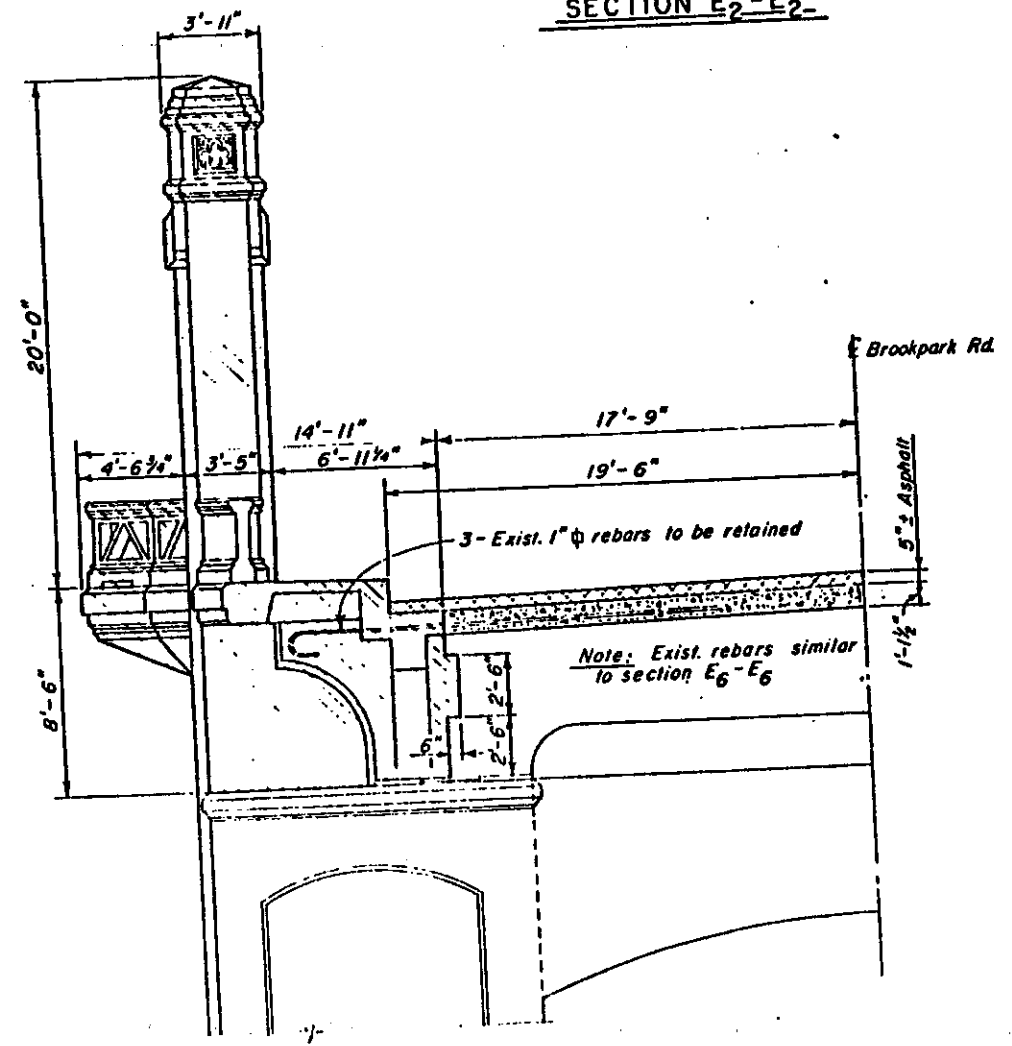
NOTE:
For location of sections shown, see sht. 20.



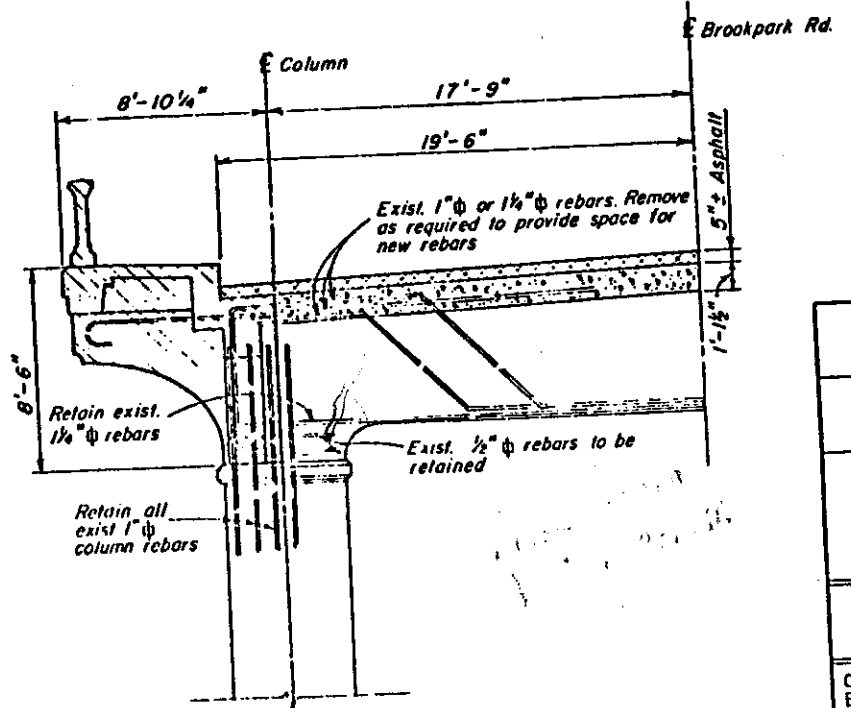
SECTION E12-E12



SECTION EA-EA



SECTION E5-E5



SECTION E6-E6

ALDEN E STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

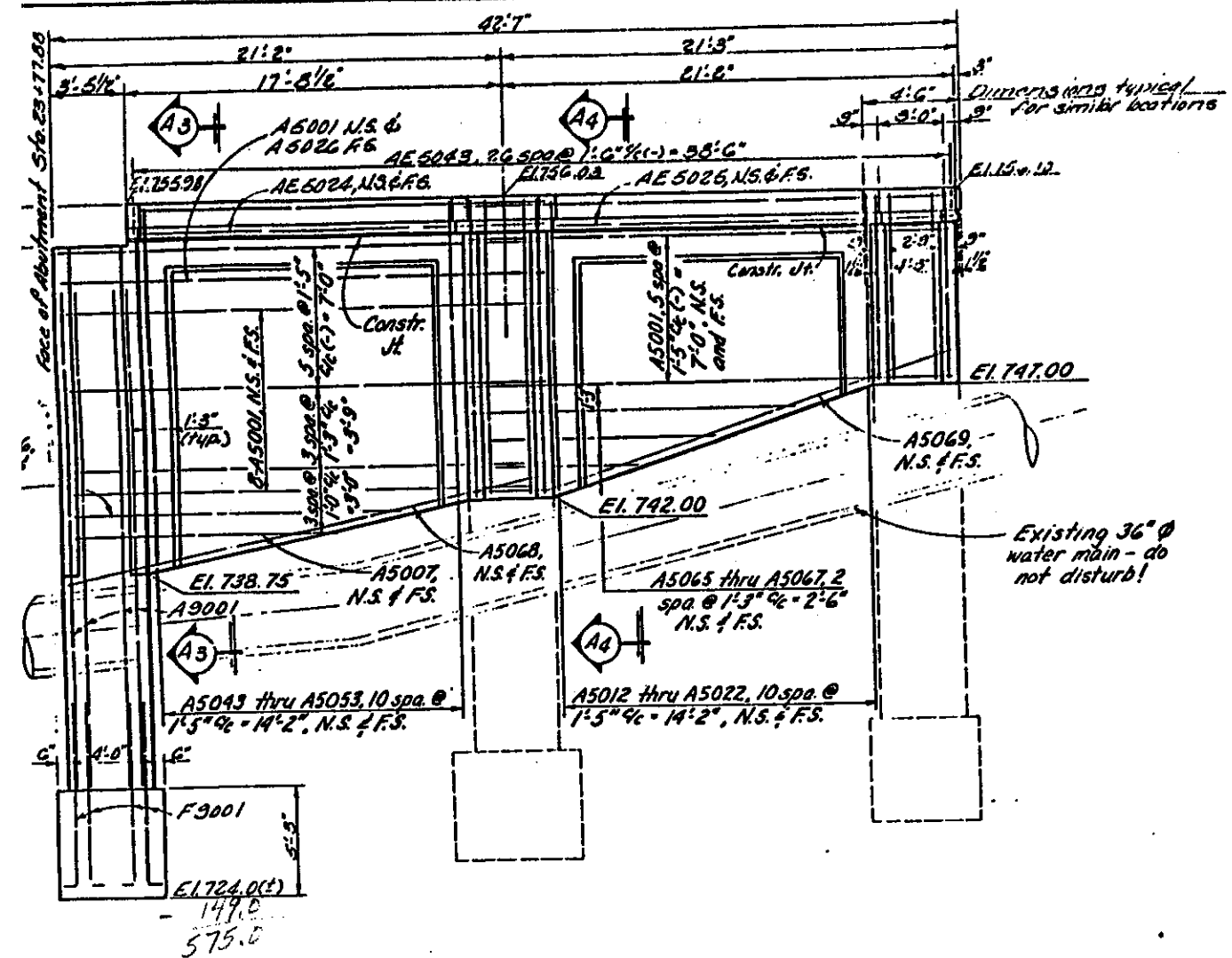
BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

EXISTING STRUCTURE REMOVAL
DETAILS

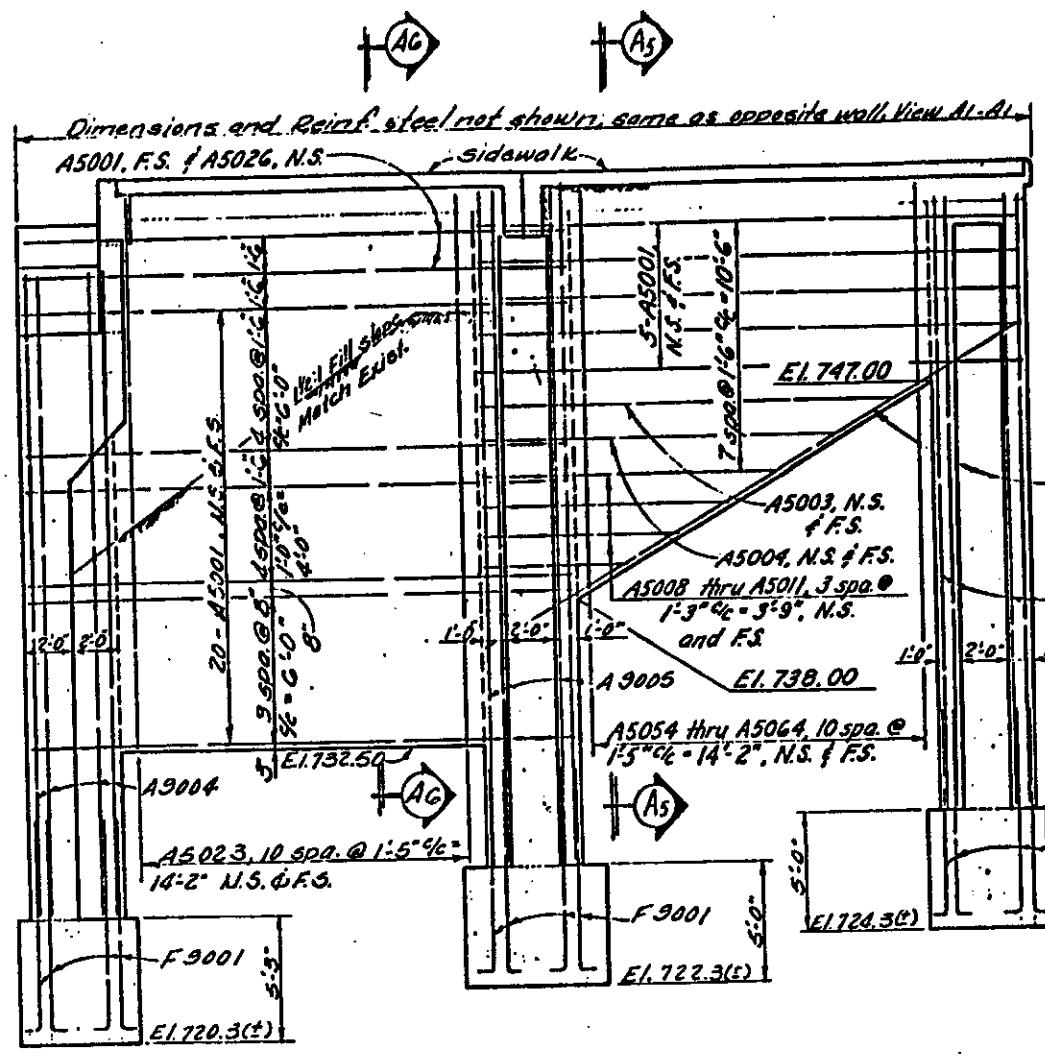
COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-26

NO. B-191

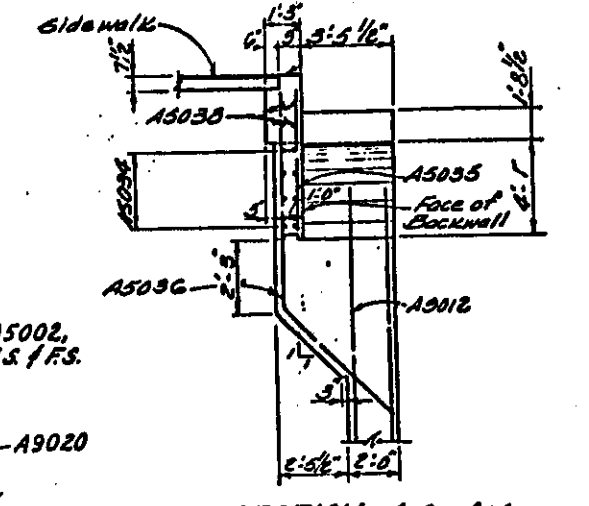
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	KRU	GWM	



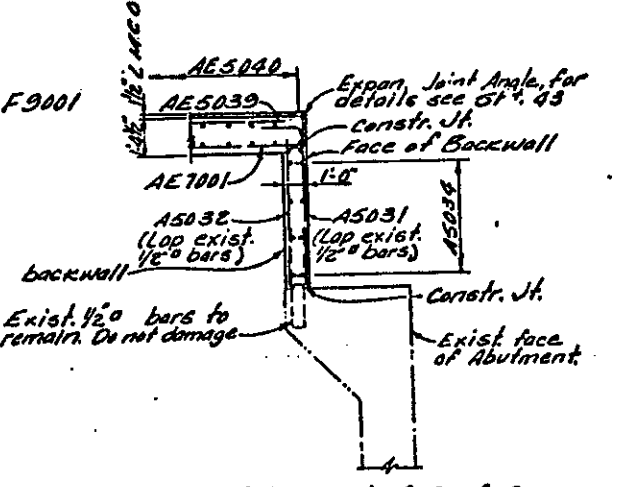
VIEW A1-A1



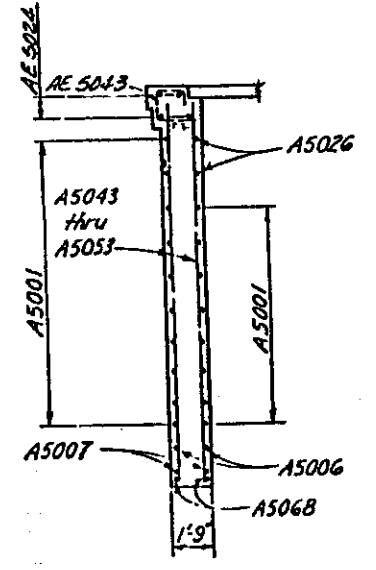
SECTION A2-A2



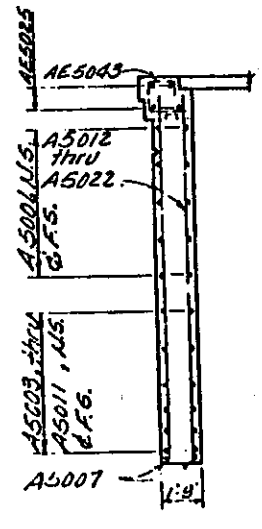
SECTION A14-A14



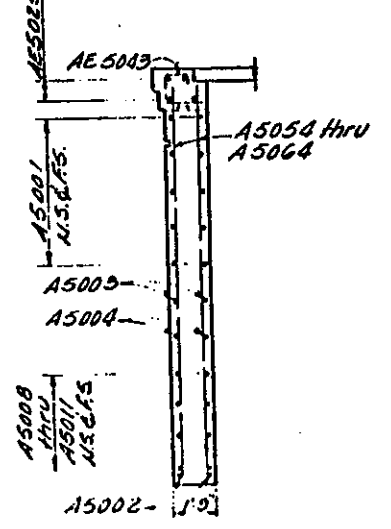
SECTION A15-A15



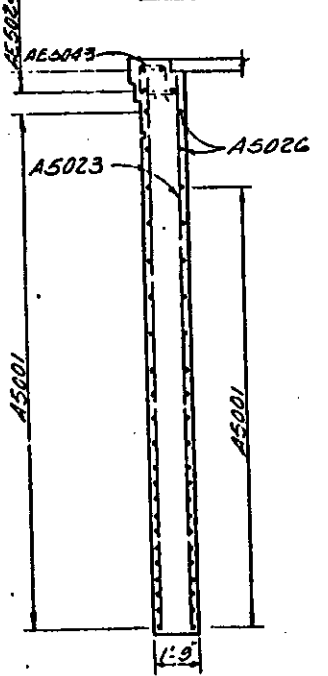
SECTION A3-A3



SECTION A4-A4



SECTION A5-A5



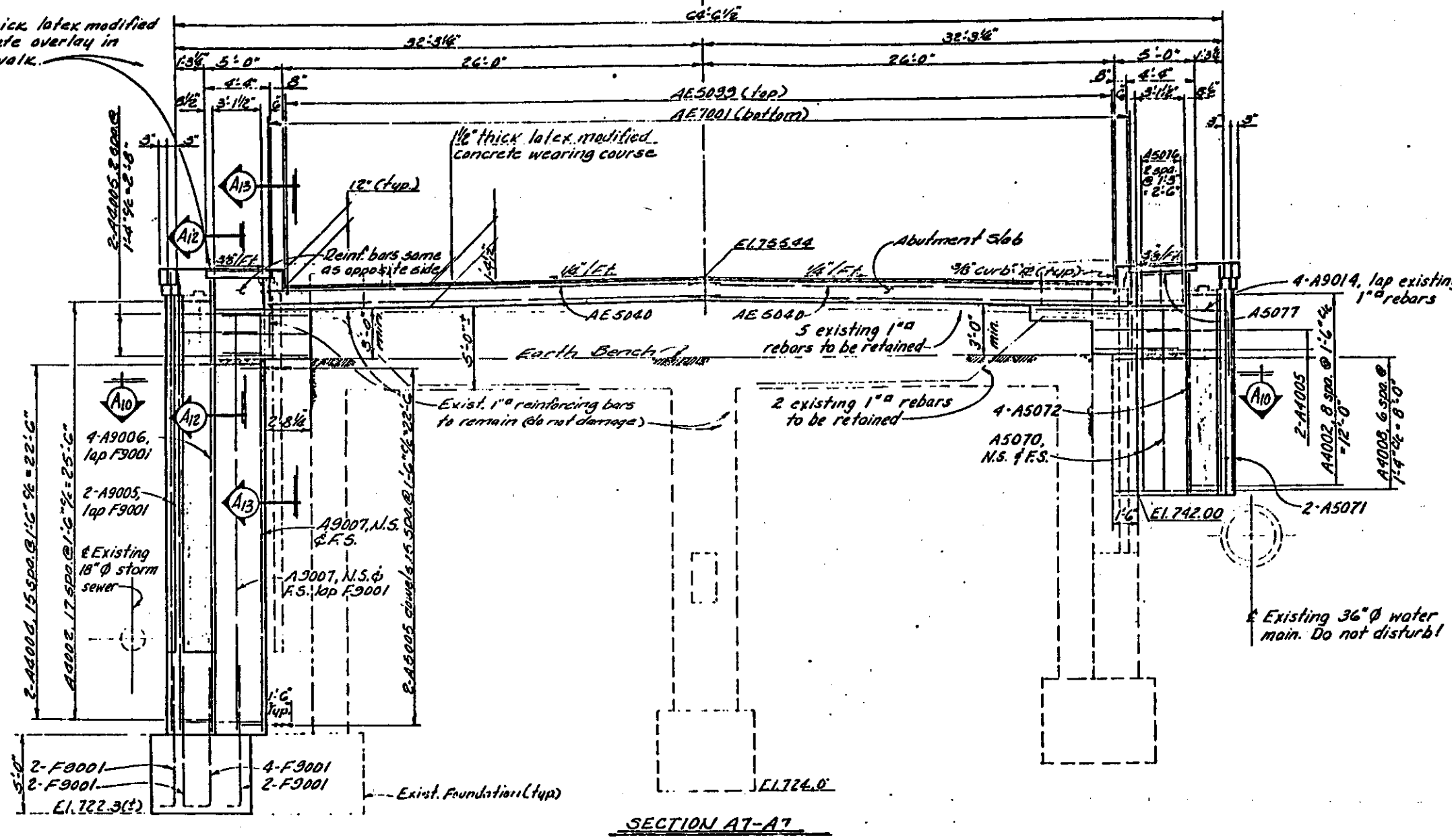
SECTION A6-A6

Note:
For location of Sections A1-A1 & A2-A2 see Sheet 22

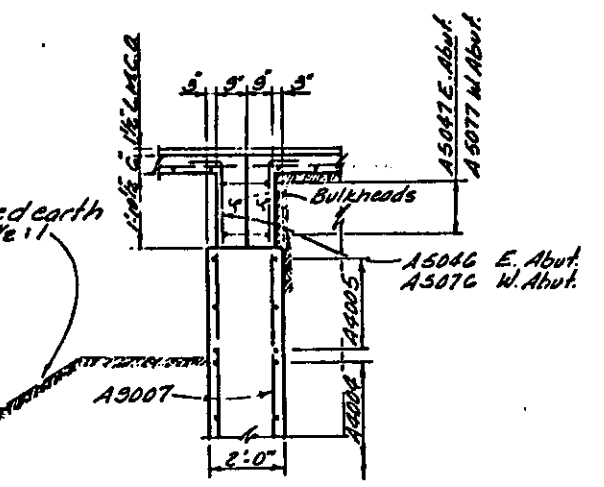
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.			
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO			
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK			
WEST ABUTMENT WIDENING DETAILS			
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-86	
NO. B-191			
DESIGN WM	DRAWN PT	CHECKED GWM	REVISED TO AS BUILT

Brookpark Rd. & Bridge

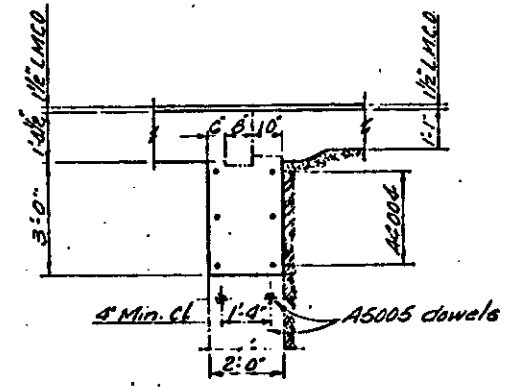
1/2" thick latex modified concrete overlay in sidewalk.



Proposed earth slope 1 1/2:1



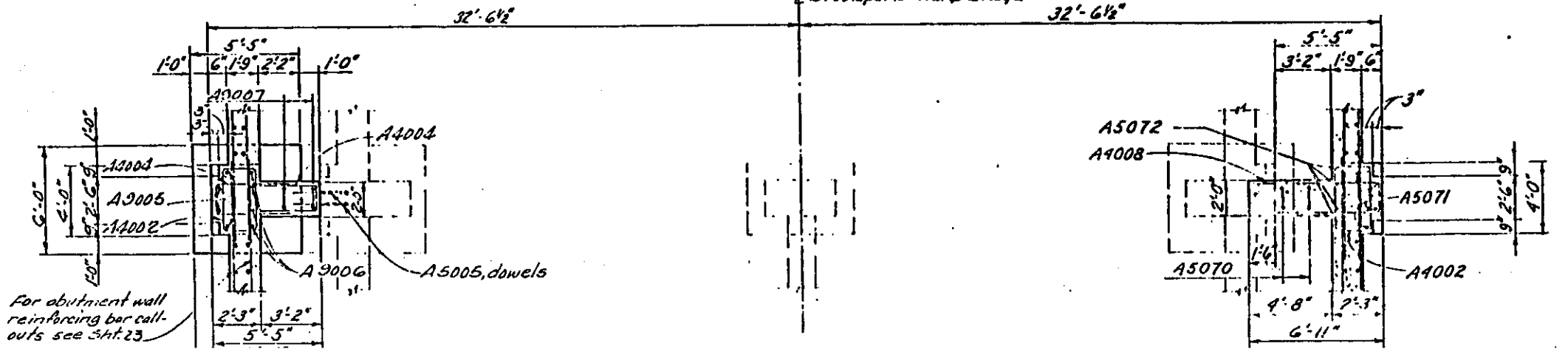
SECTION A12-A12



SECTION A13-A13

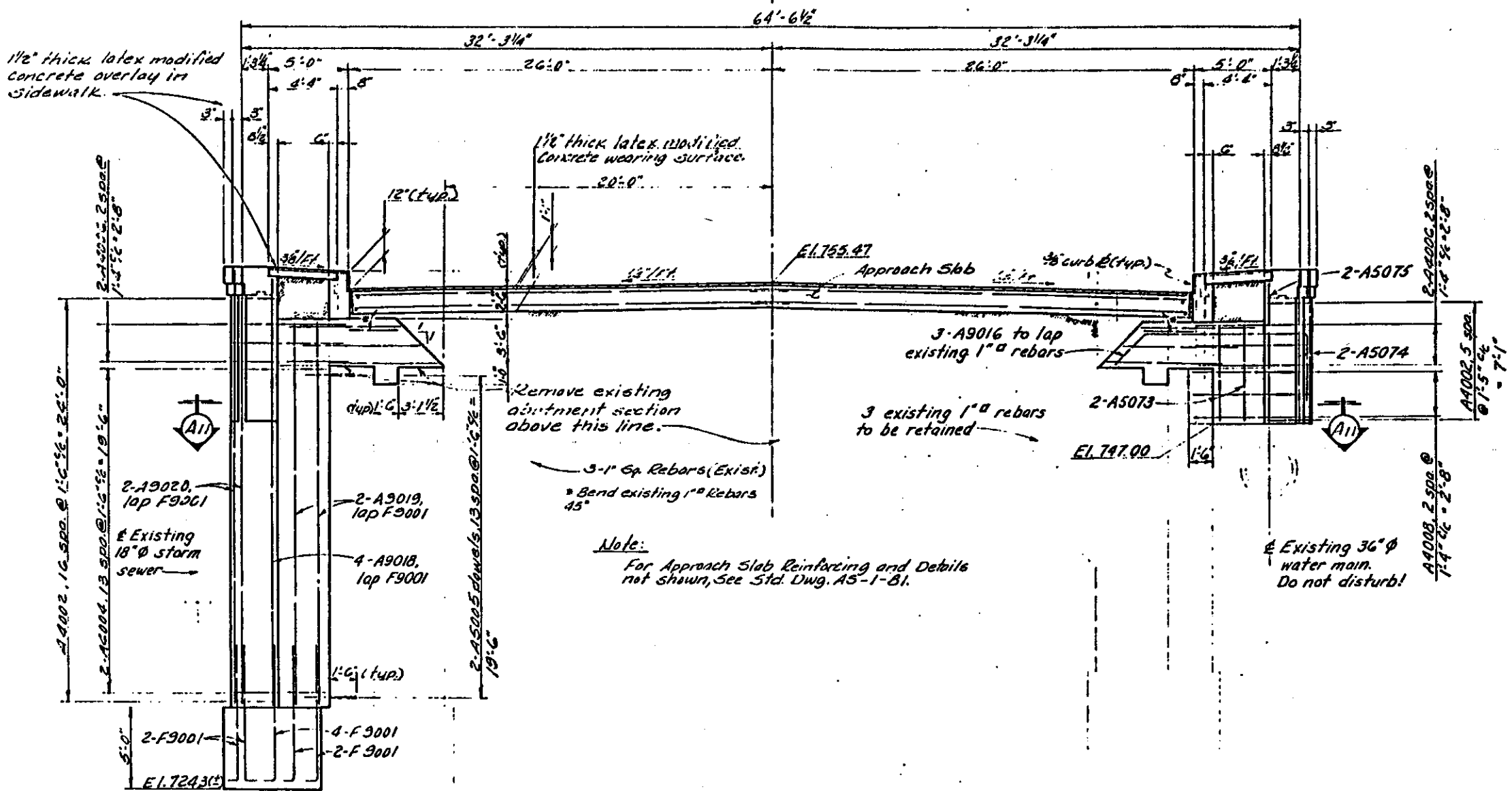
Note: For location of Section A7-A7 see Sheet 82.

Brookpark Rd. & Bridge

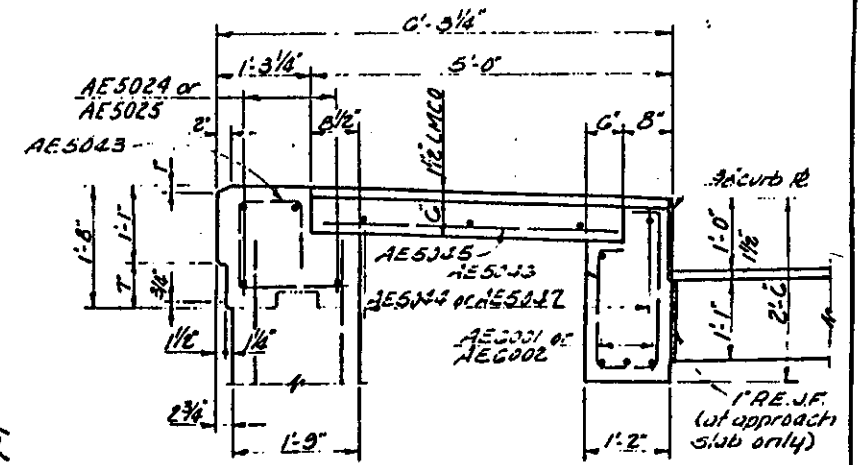


For abutment wall reinforcing bar callouts see Sheet 23.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
WEST ABUTMENT WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-66
NO. B-191		



SECTION AB-AB

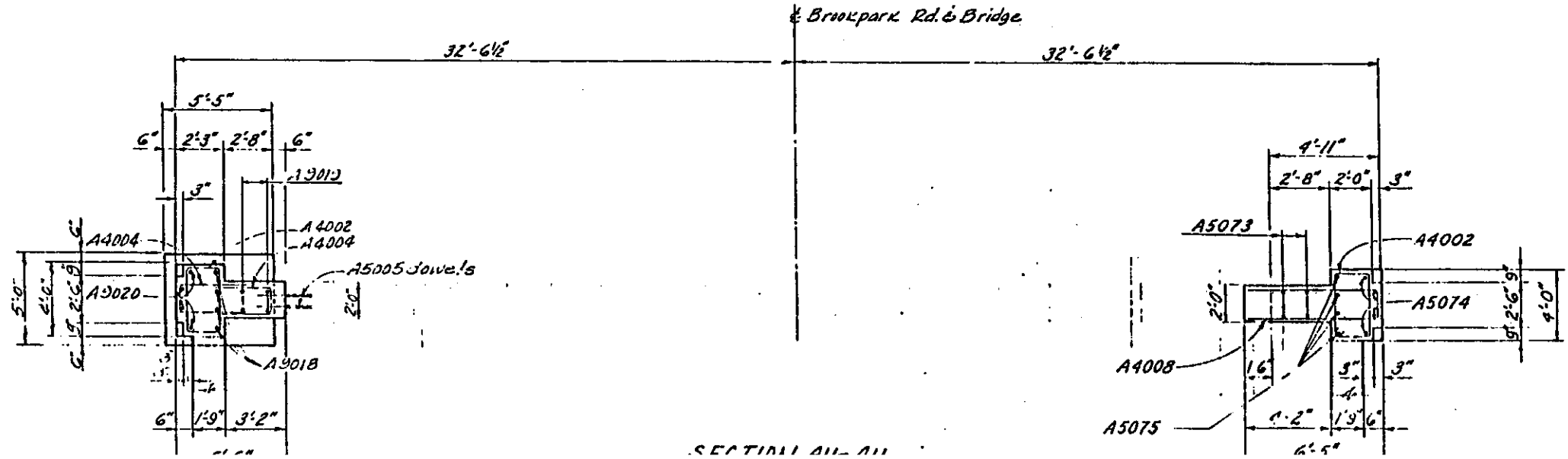


SIDEWALK DETAIL
Detail shown at approach slab.
Detail at abutment slab similar.

Note:
For Approach Slab Reinforcing and Details not shown, See Std. Dwg. A5-1-81.

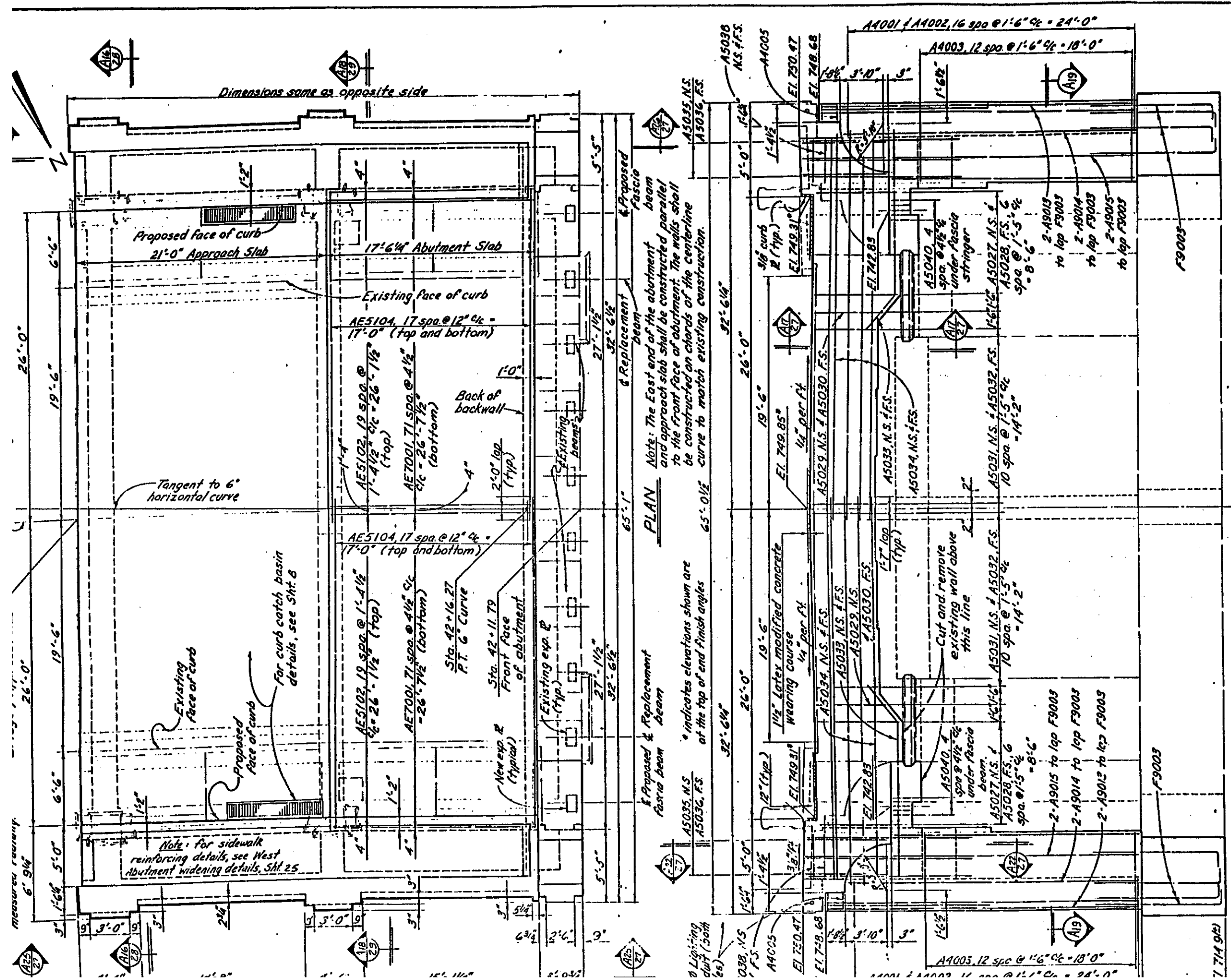
Existing 36" ϕ water main.
Do not disturb!

Note:
For location of Section AB-AB, see Sheet 22.



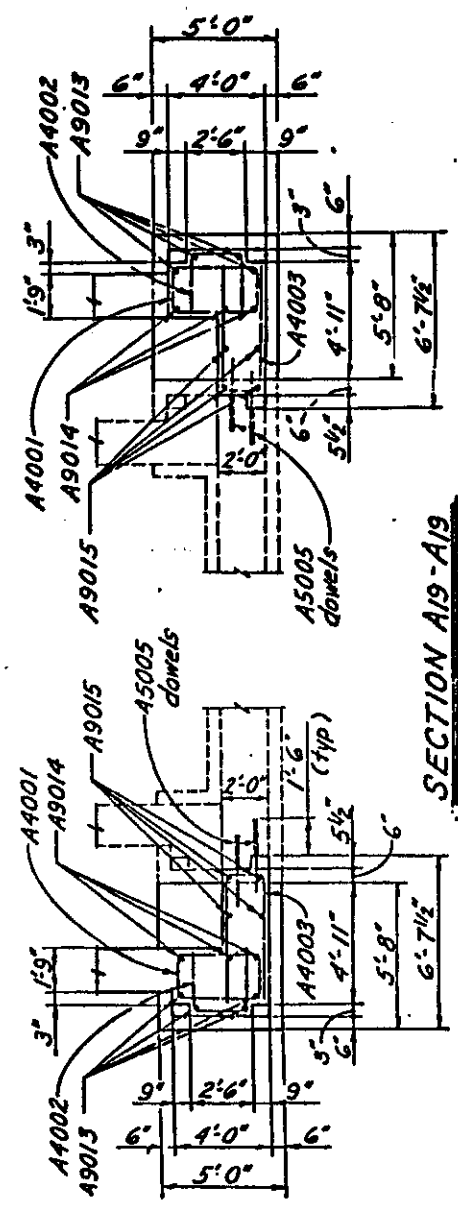
SECTION A1-A1

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
WEST ABUTMENT WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-86
NO. B-191		



PLAN
 Note: The East end of the abutment beam and approach slab shall be constructed parallel to the front face of abutment. The walls shall be constructed on chords of the centerline curve to match existing construction.

ELEVATION



SECTION A19-A19

ALDEN E. STILSON & ASSOCIATES, LIMITED
 CONSULTING ENGINEERS
 CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

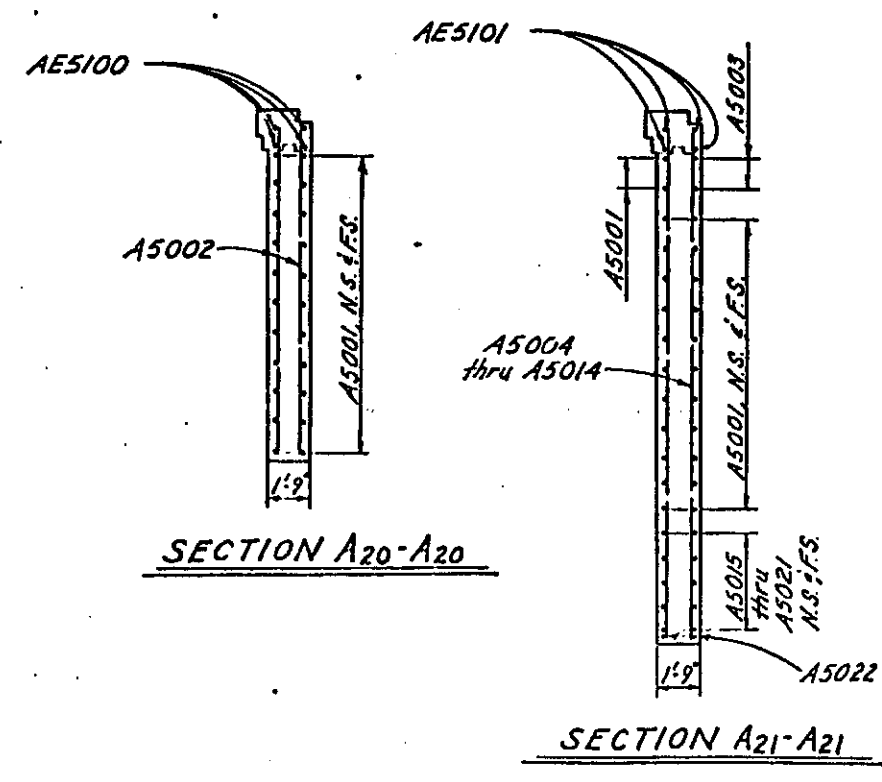
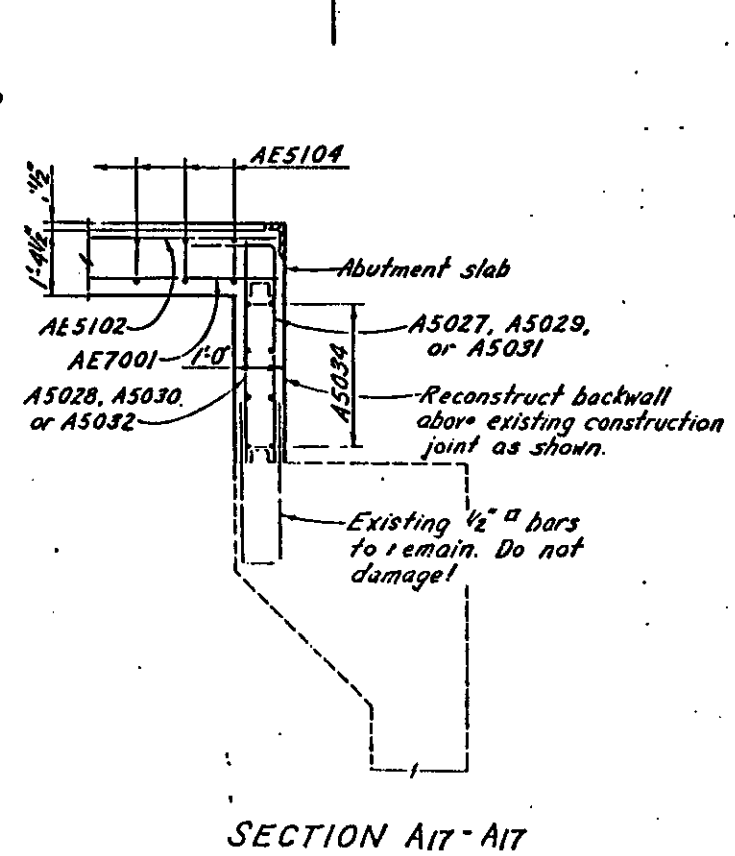
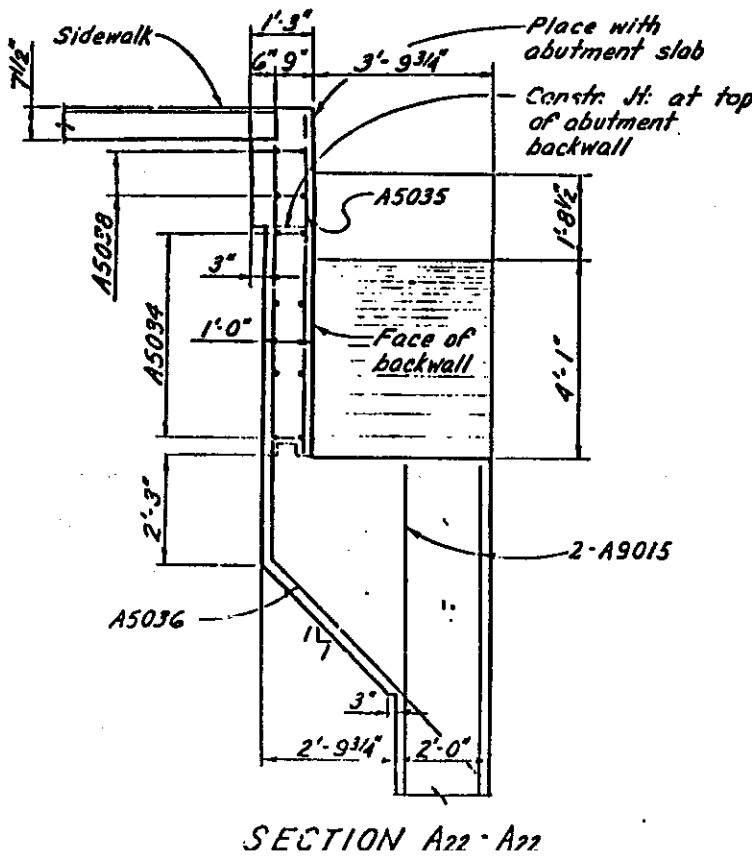
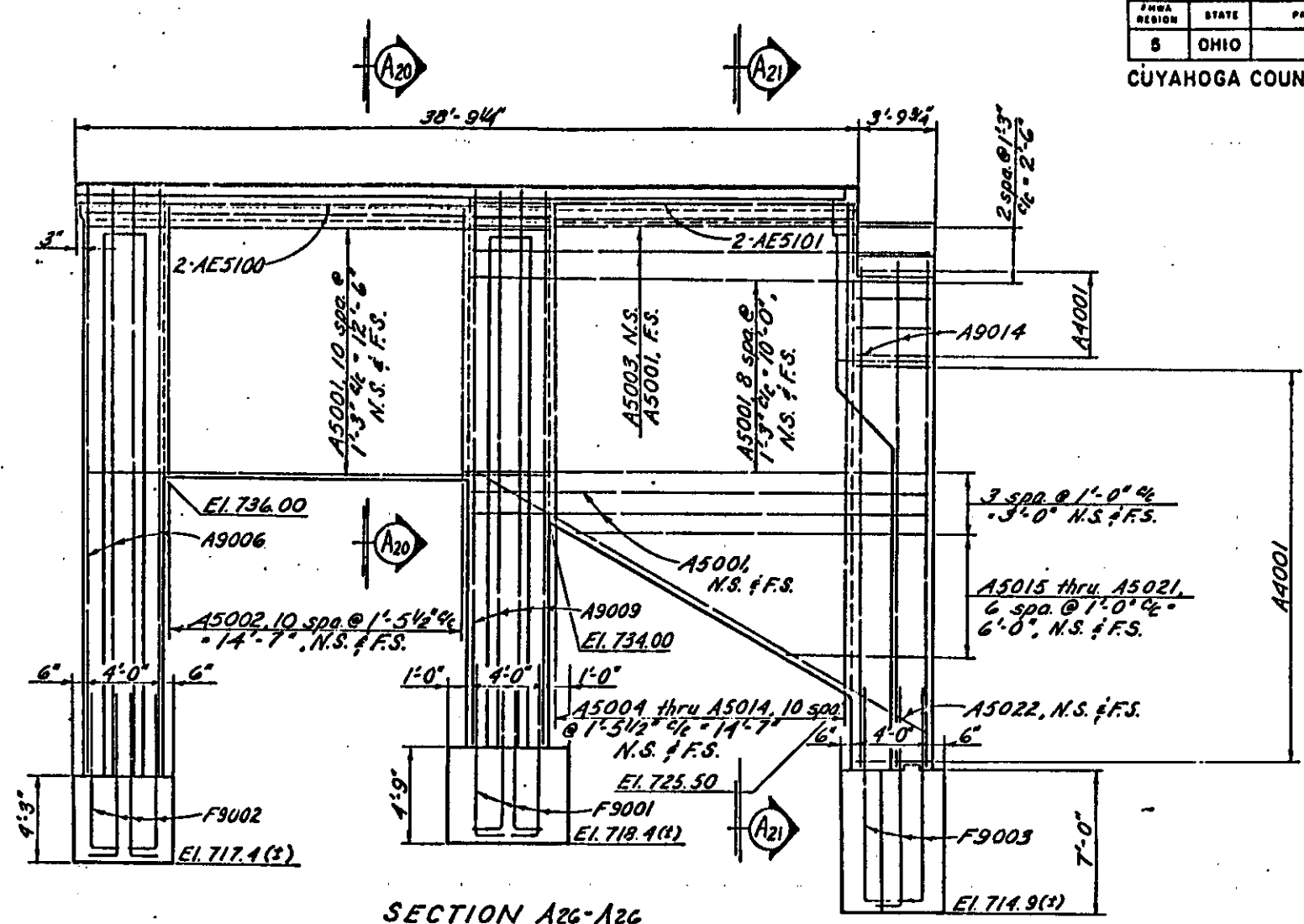
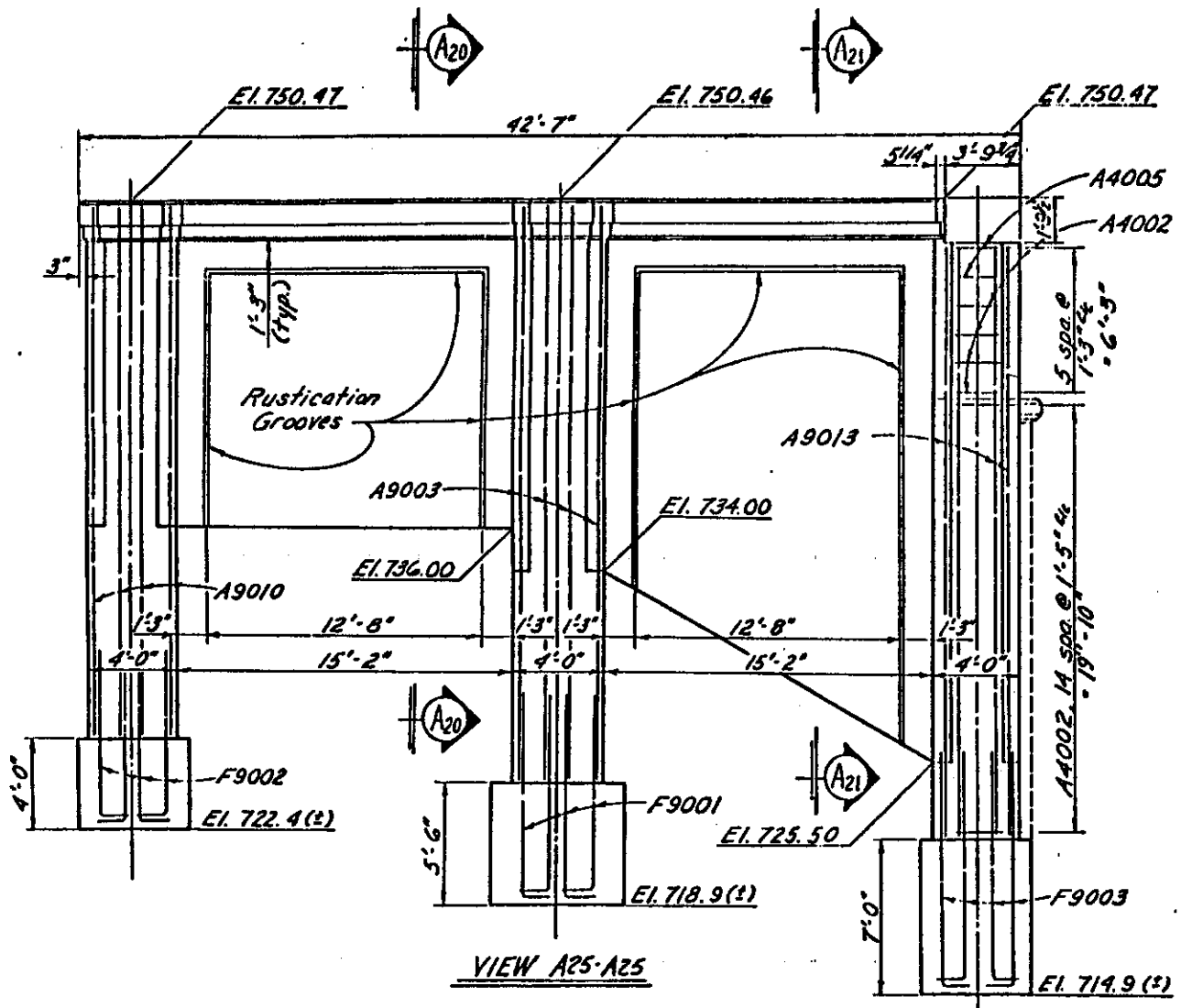
CUYAHOGA COUNTY ENGINEER
 CLEVELAND OHIO

BROOKPARK ROAD
 BRIDGE NO. CUY-17-0283
 OVER ROCKY RIVER
 CITIES OF CLEVELAND & FAIRVIEW PARK

**EAST ABUTMENT
 WIDENING DETAILS**

COUNTY BRIDGE NO. 39 REPORT NO. 7058 DATE: 3-31-86

NO. B-191

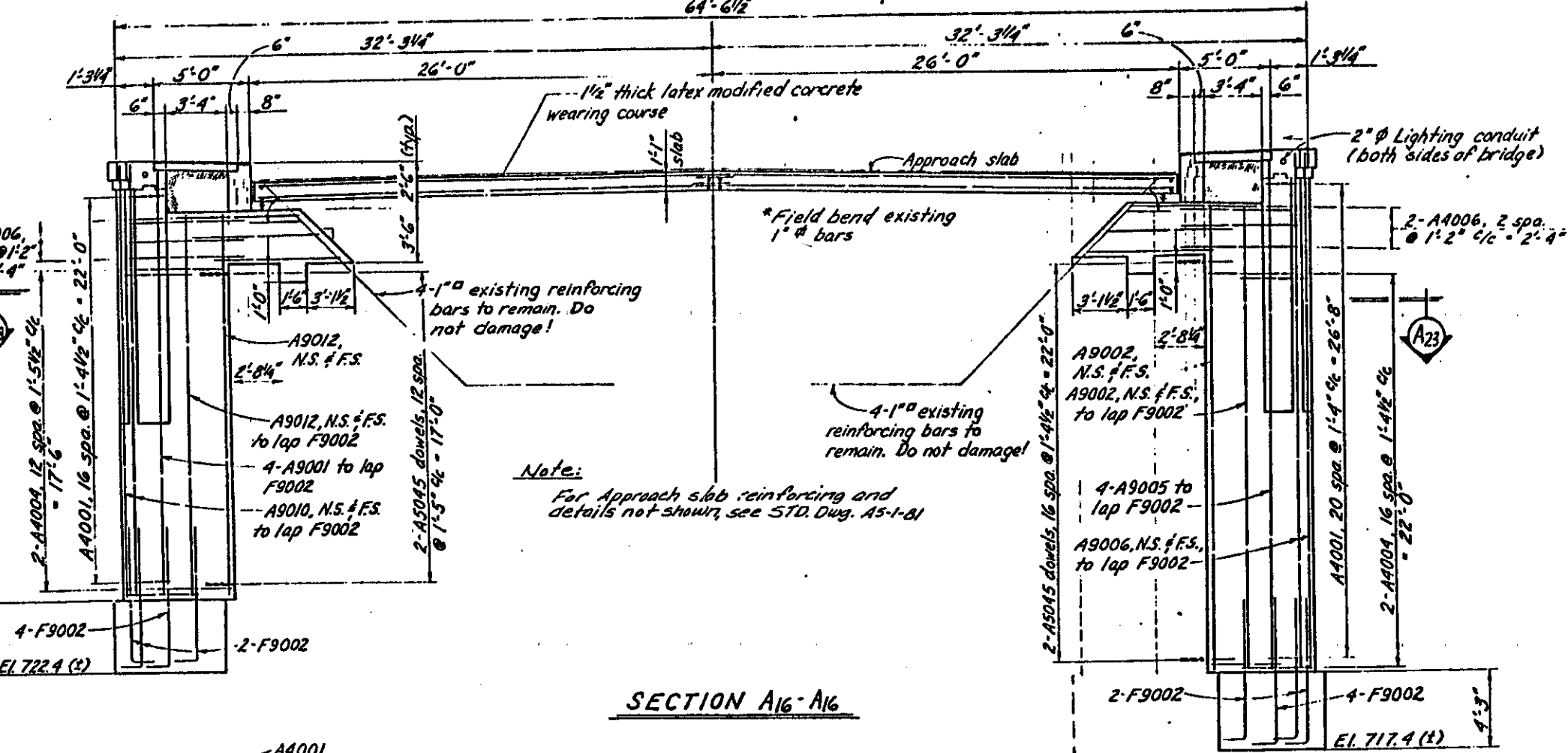


Note:
For location of Sections A17-A17, A25-A25 & A26-A26 See Sheet 26.

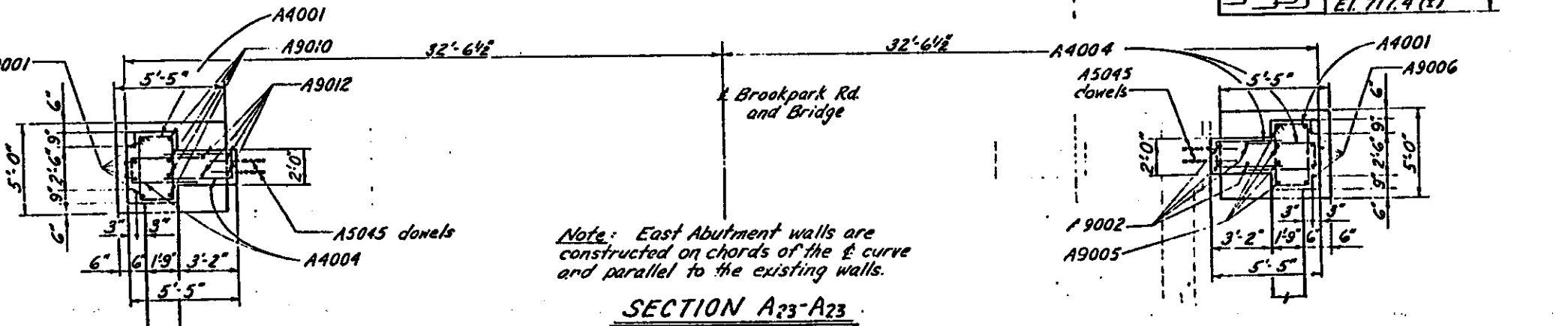
ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
EAST ABUTMENT WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-28
NO. B-191		

Brookpark Rd and Bridge

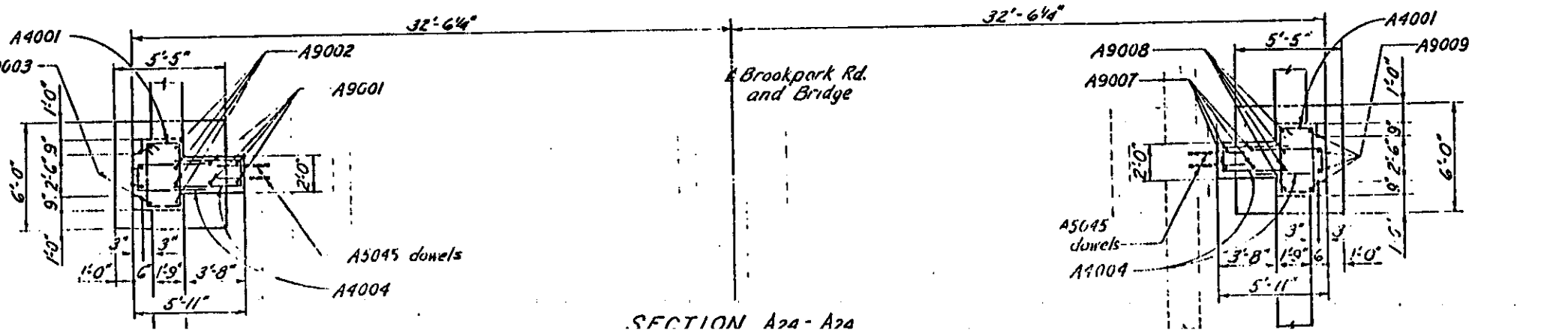
64'-6 1/2"



SECTION A16-A16



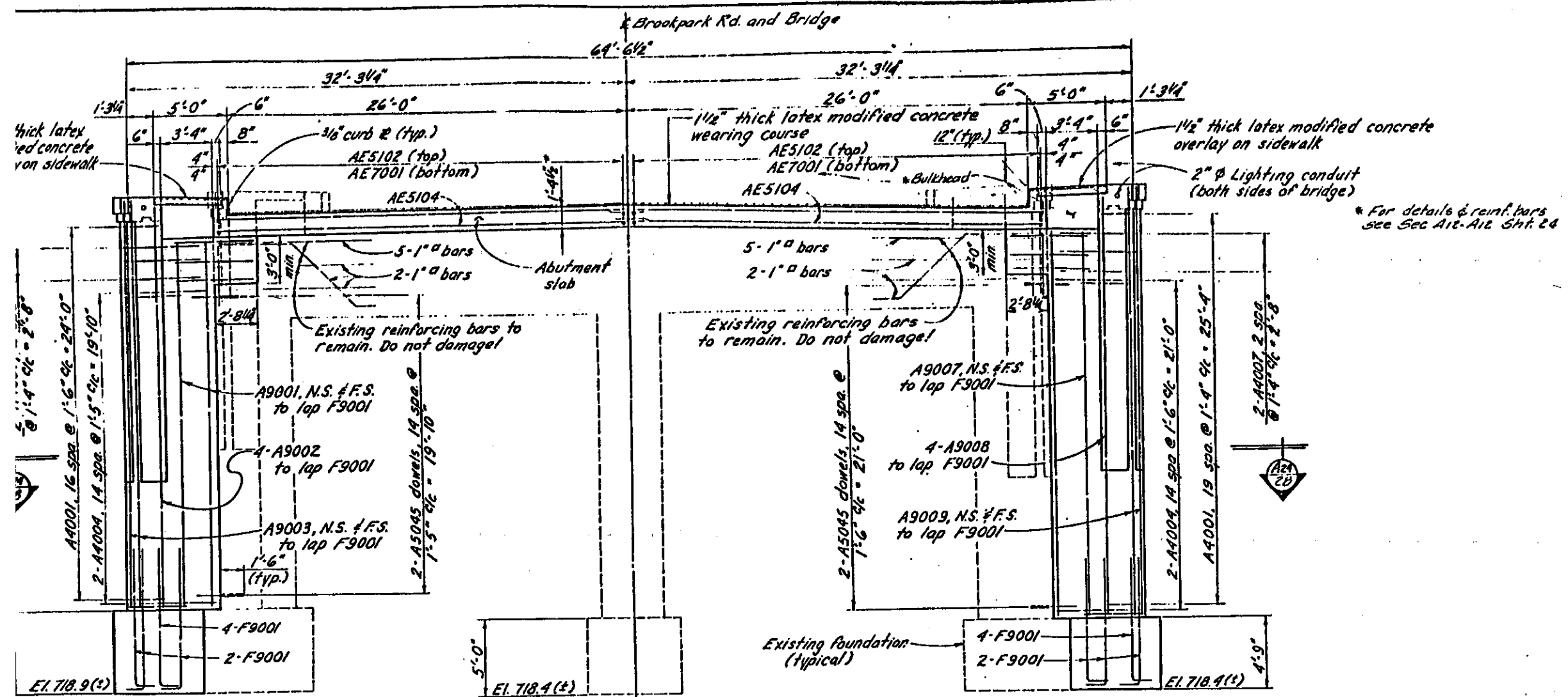
SECTION A23-A23



SECTION A24-A24

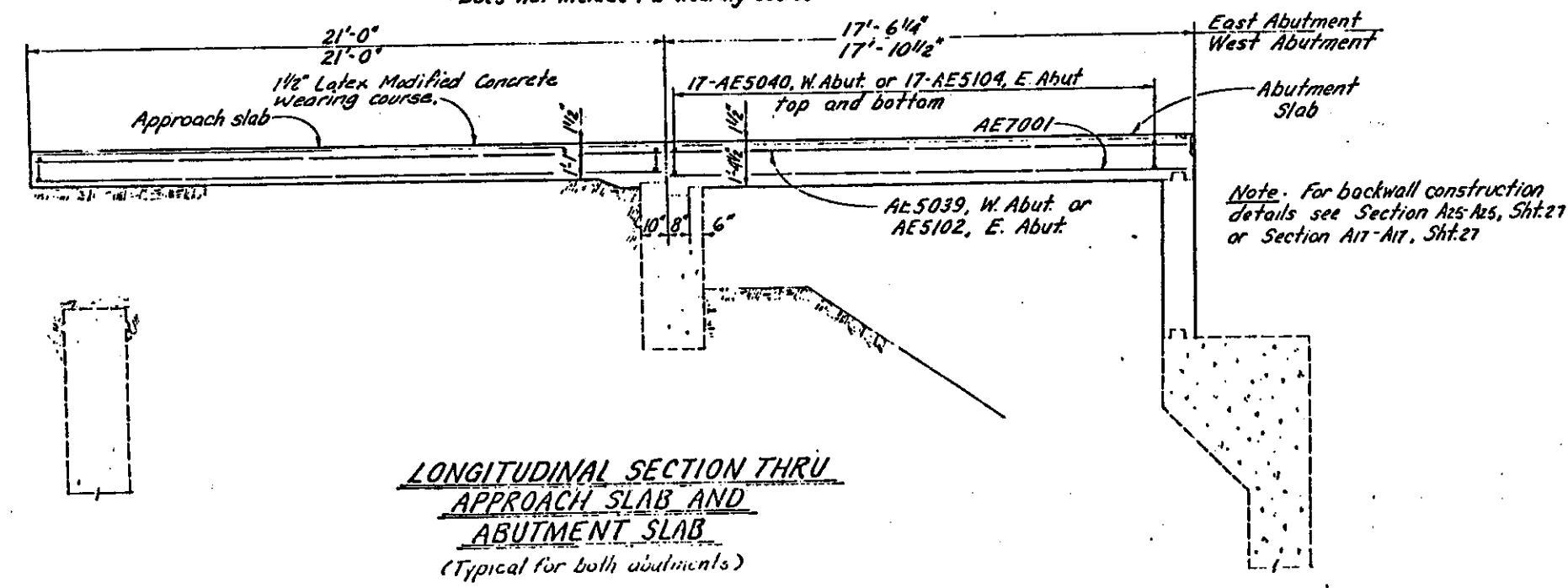
Note:
For location of Section A16-A16 See Sheet 26.
For location of Section A23-A23 See Sheet 29.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
EAST ABUTMENT WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 706B	DATE 3-31-86
NO. B-191		



* For details & reinf. bars see Sec A12-A12 Sht. 24

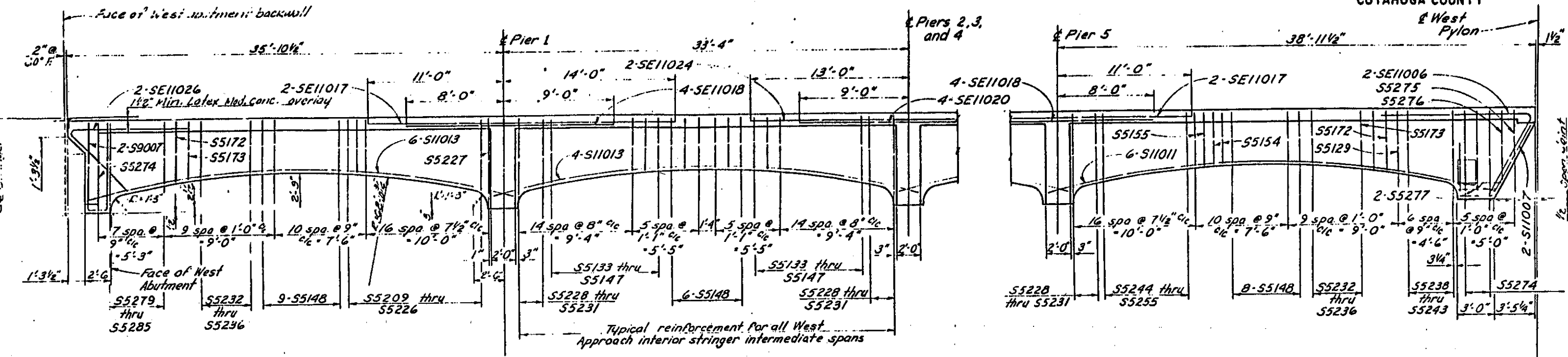
SECTION A18-A18
* Does not include 1 1/2" wearing course



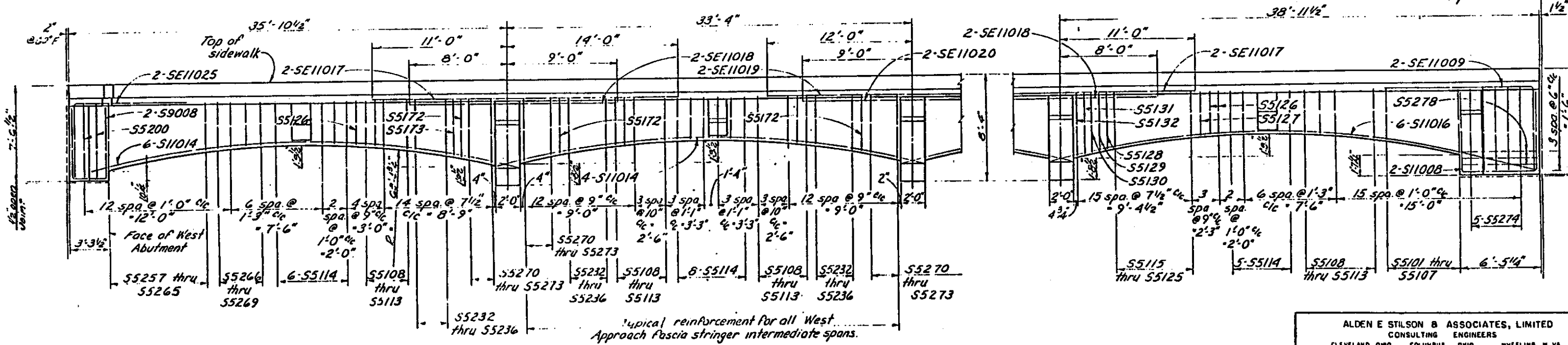
LONGITUDINAL SECTION THRU APPROACH SLAB AND ABUTMENT SLAB
(Typical for both abutments)

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
EAST ABUTMENT WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3.31.86
NO. B-191		
DESIGN	DRAWN	CHECKED
		REVISED TO AS BUILT

CUYAHOGA COUNTY



NEW INTERIOR STRINGER



NEW FASCIA STRINGER

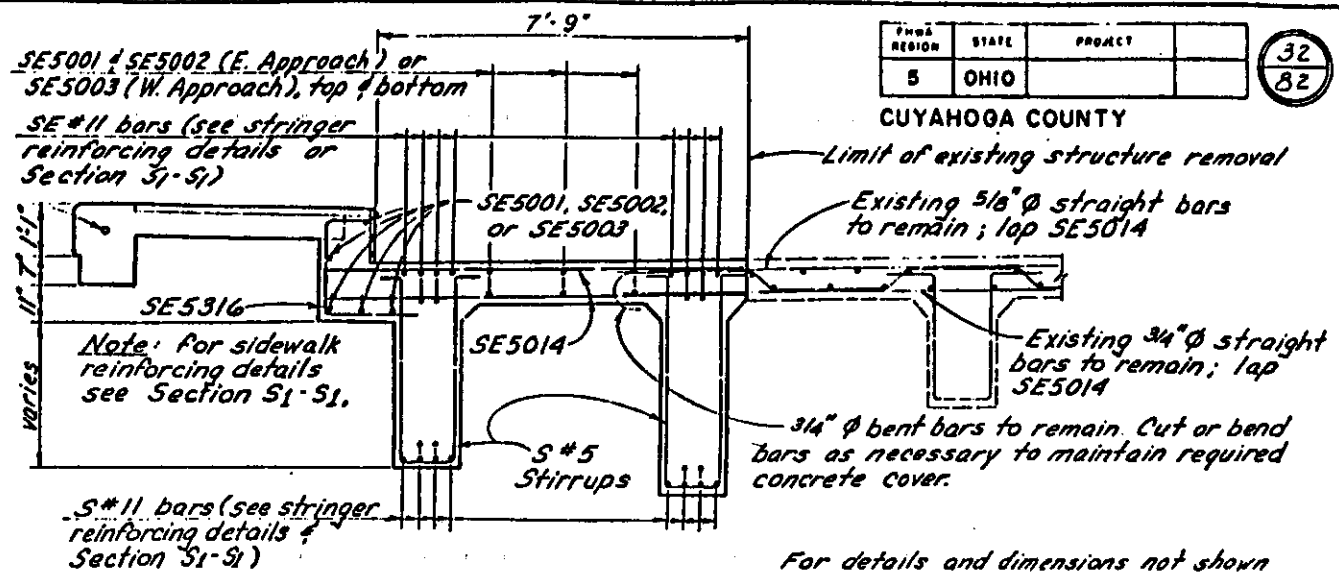
WEST APPROACH STRINGER DETAILS

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
WEST APPROACH SPANS WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-84
NO. B-191		

FED. REGION	STATE	PROJECT
5	OHIO	

32
82

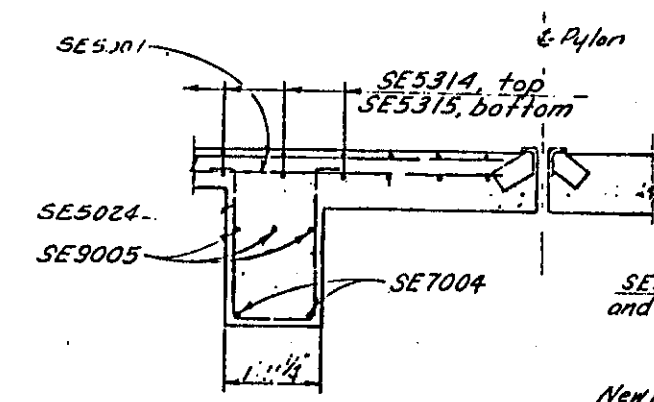
CUYAHOGA COUNTY



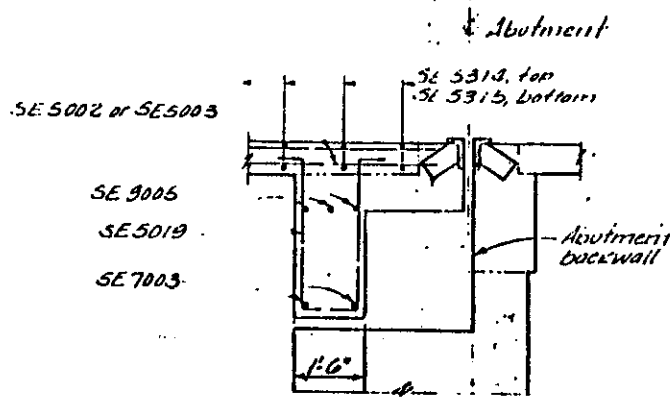
SECTION S7-S7

For details and dimensions not shown see Typical Approach Span Widening Detail, Sht. 35.
For East Approach span stringer reinforcing details, see Sht. 34.
For West Approach span stringer reinforcing details, see Sht. 31.

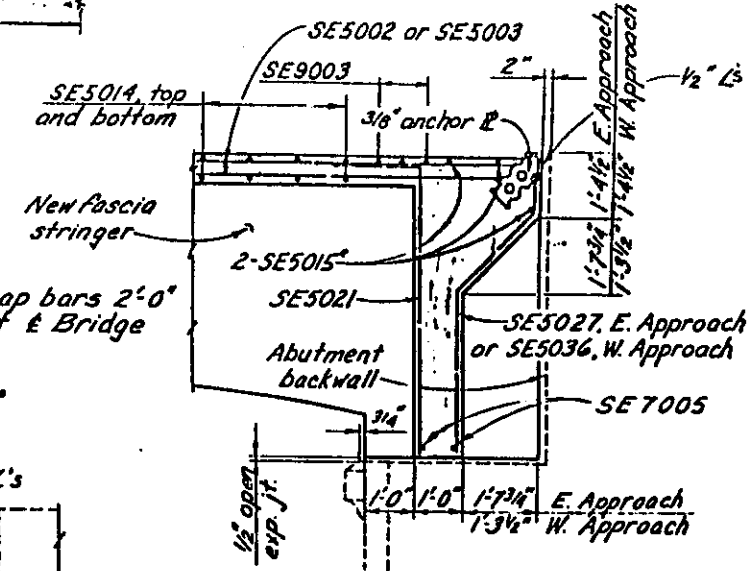
2" ϕ Lighting conduit



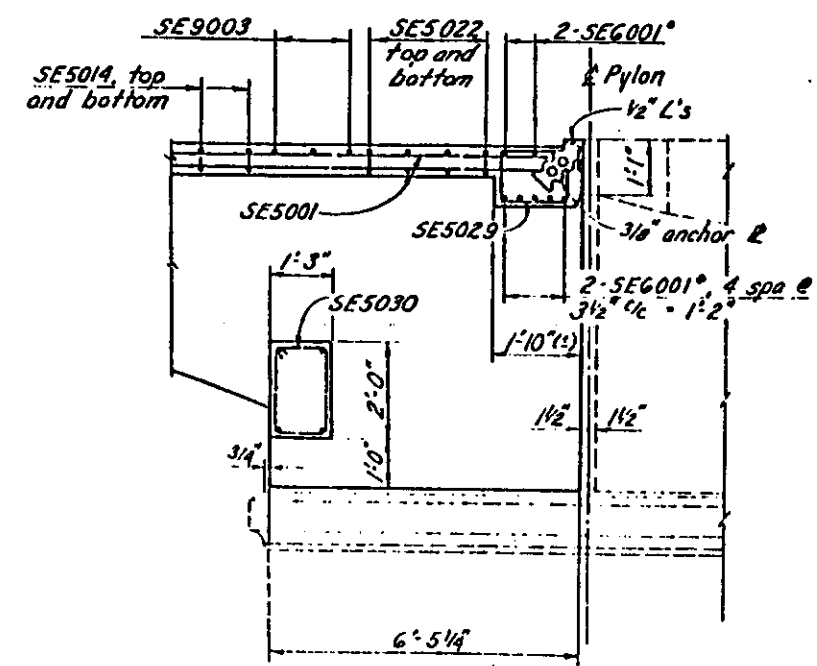
SECTION S10-S10



SECTION S25-S25



SECTION S8-S8



SECTION S9-S9

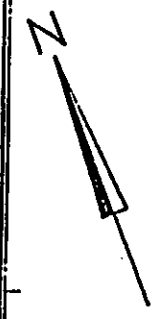
Note:
For location of section S7-S7 see sheet 30.
For location of section S8-S8 S9-S9, etc. see sheet 30, see sheet 34.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
WEST APPROACH SPANS WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-21-84
NO. B-191		

CUYAHOGA COUNTY

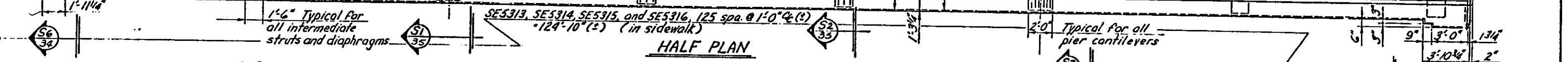
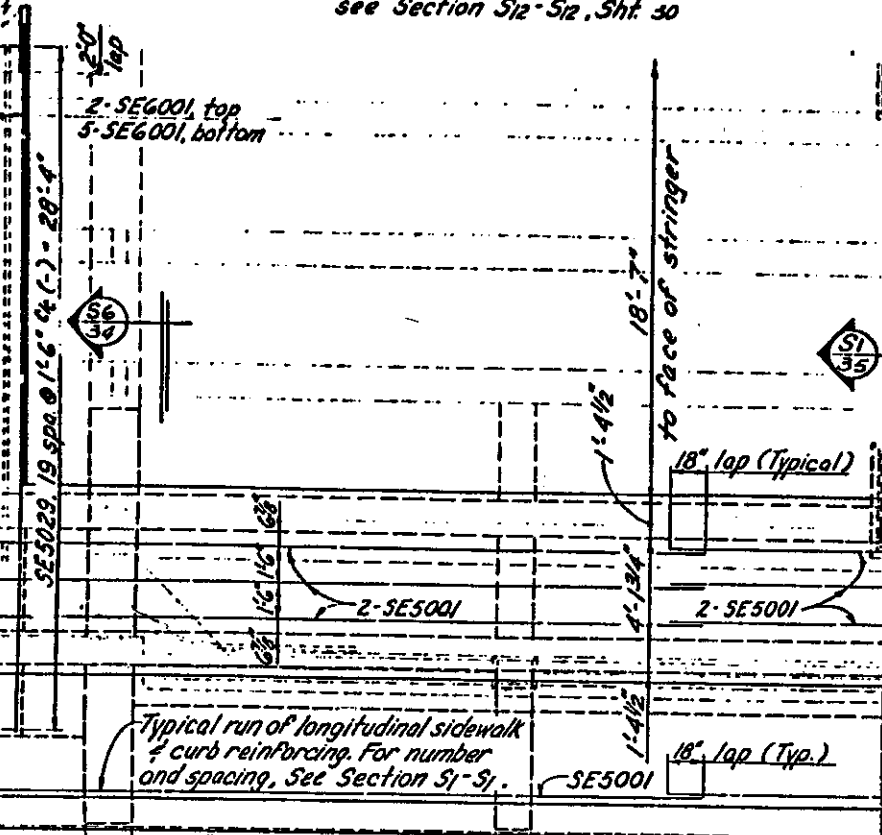
Sta. 42+11.79

Sta. 42+15.60

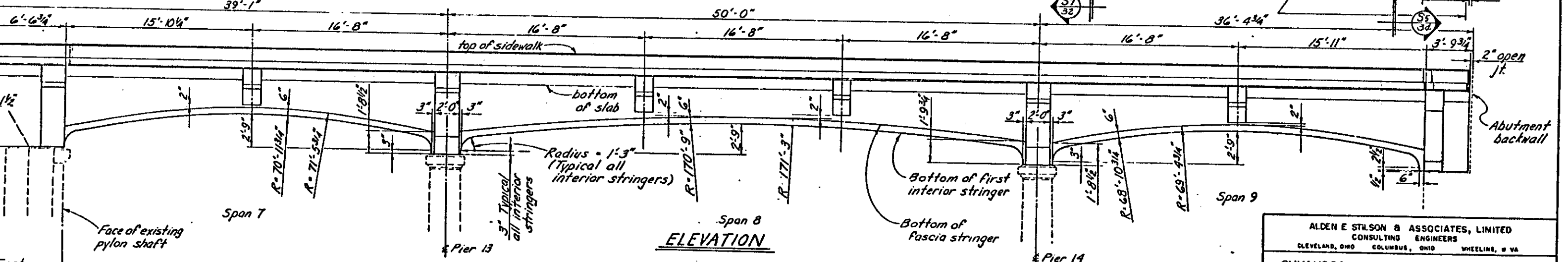


East Pylon

Sta 40+90.12



HALF PLAN



ELEVATION

Structure symmetric about this line

& Brookpark Rd. and Bridge

Mechanical connectors (typ.) (See note, this sheet.)

Existing interior stringers (to remain)

Existing fascia stringers (to be replaced)

Limit of existing structure removal

SE5014, 29 spa. @ 6" c/c, top & bottom to lap existing slab rebar. Typical 7 bays between cantilevers.

SE9003, lap existing 1" bars, typical all intermediate brackets.

New fascia stringer

Remove 2'-2" (±) width of existing slab above existing pier cap to allow placing of new pier cap bars. Typical both piers.

Existing face of curb

SE5028, centered over bracket. Typical all brackets and piers - 6 locations.

Proposed face of curb

Typical run of longitudinal sidewalk & curb reinforcing. For number and spacing, see Section S1-S1.

Replacement and widening sidewalk 14'-0" c/c

Typical for all pier cantilevers

1'-6" Typical for all intermediate struts and diaphragms

SE5313, SE5314, SE5315, and SE5316, 125 spa. @ 1'-0" @ (±) = 124'-10" (±) (in sidewalk)

2" open jt.

Abutment backwall

Note:

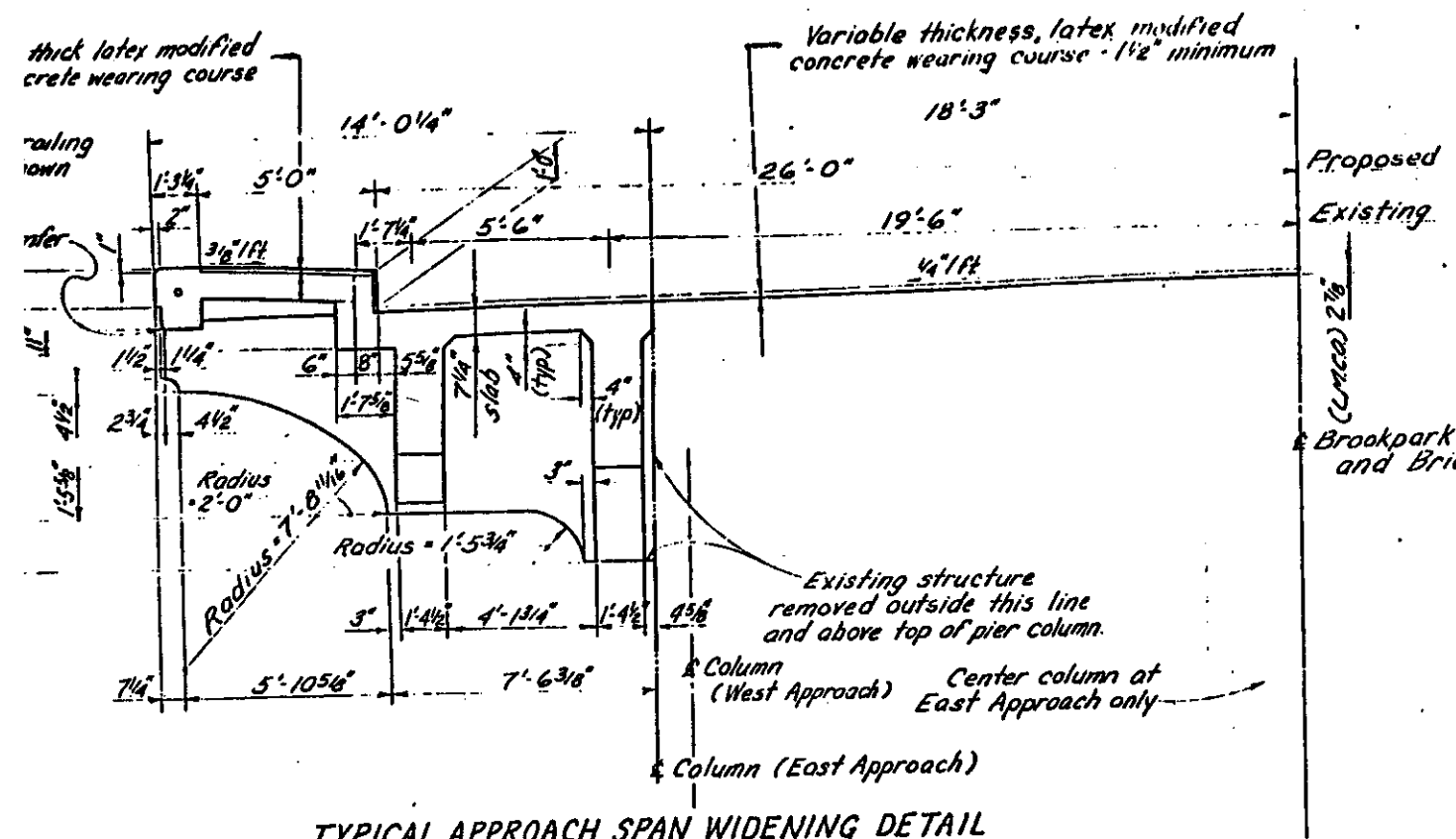
Mechanical connectors shall be an approved, Epoxy Coated, threaded type as manufactured by Erico Products Inc. Solar, Ohio, Fox-Hawlett Industries Inc. Berkeley, Calif. or approved equal. Cost of connectors shall be included in Unit Price Bid for Item 822 Epoxy Coated Reinforcing steel, Grade 60.

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BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
EAST APPROACH SPANS WIDENING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-21-84
NO. R-101		

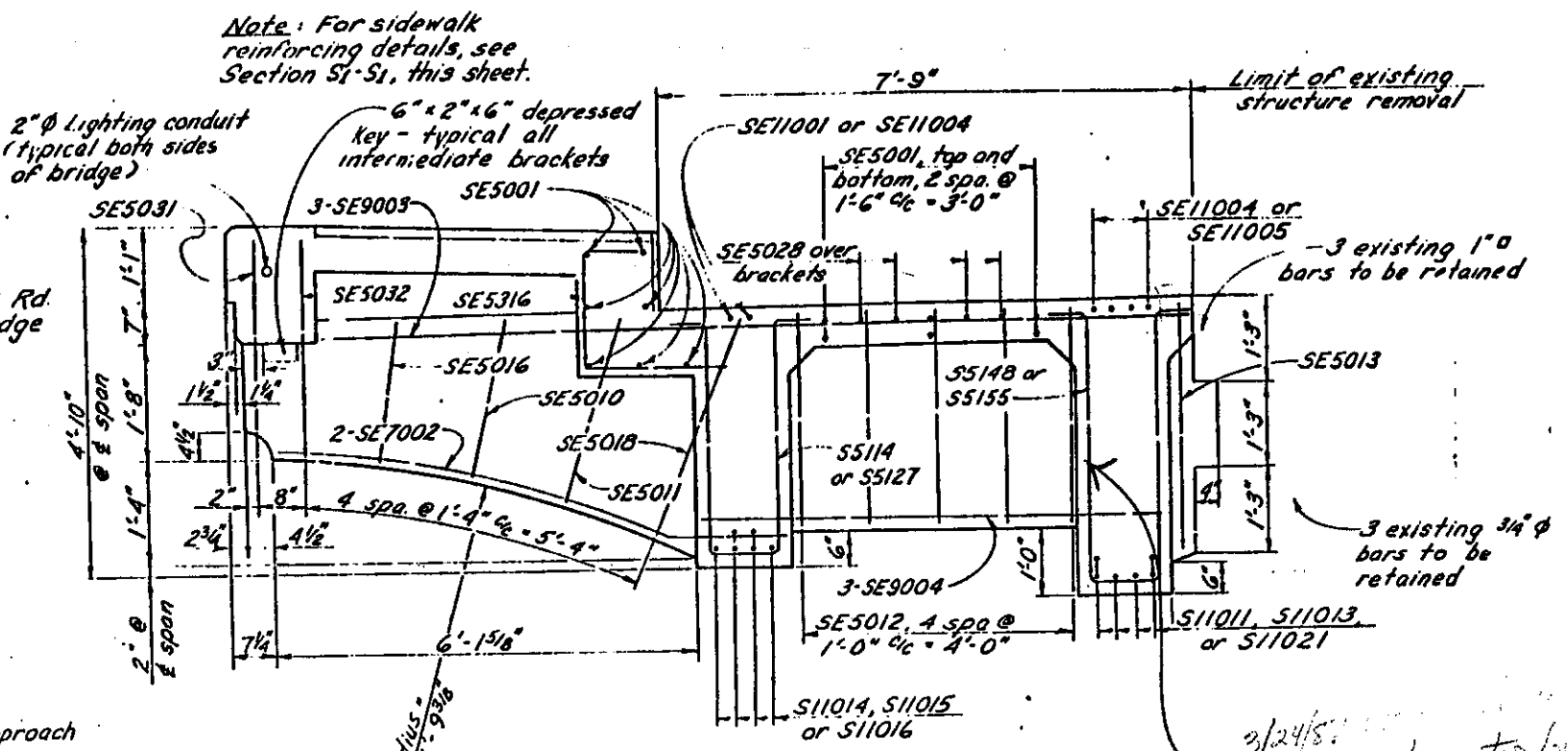
FEDERAL REGION	STATE	PROJECT
5	OHIO	



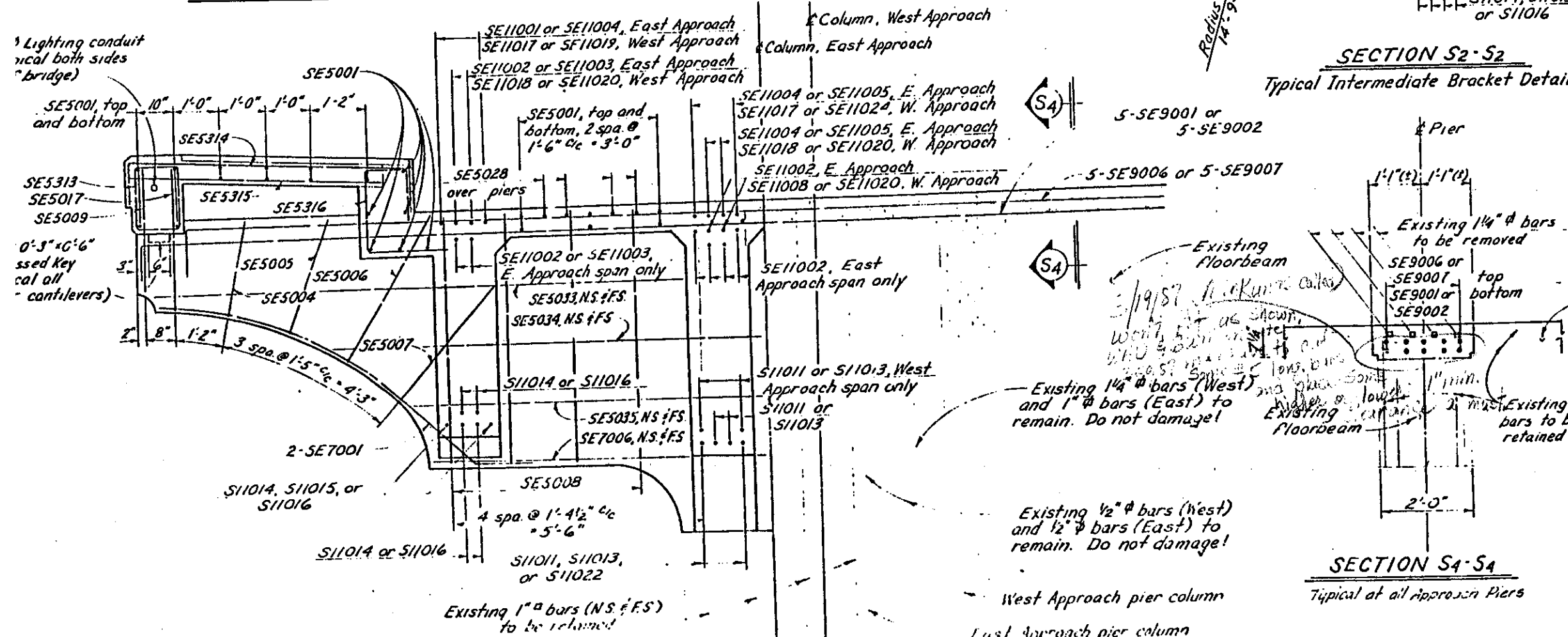
CUYAHOGA COUNTY



TYPICAL APPROACH SPAN WIDENING DETAIL



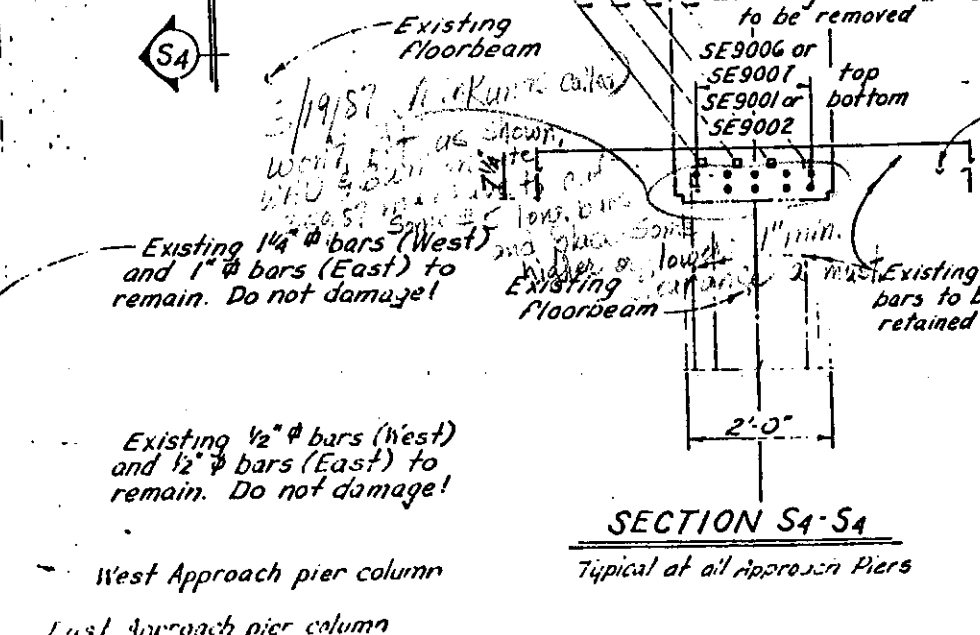
SECTION S2-S2
Typical Intermediate Bracket Detail



SECTION S1-S1

3/24/87
 Stirrups low too low.
 In shear zone not right
 tip of beams to not
 tip of beams tip + ...

Note:
 Each run of longitudinal deck reinforcing center of shall consist of the following:
 On East Approach: 4-SE5001 and 1-SE5002 (lap 1'-6")
 On West Approach: 7-SE5001 and 1-SE5003 (lap 1'-6")
 For location of Section S1-S1, S2-S2 & S4-S4 see Sheets 30 & 33.



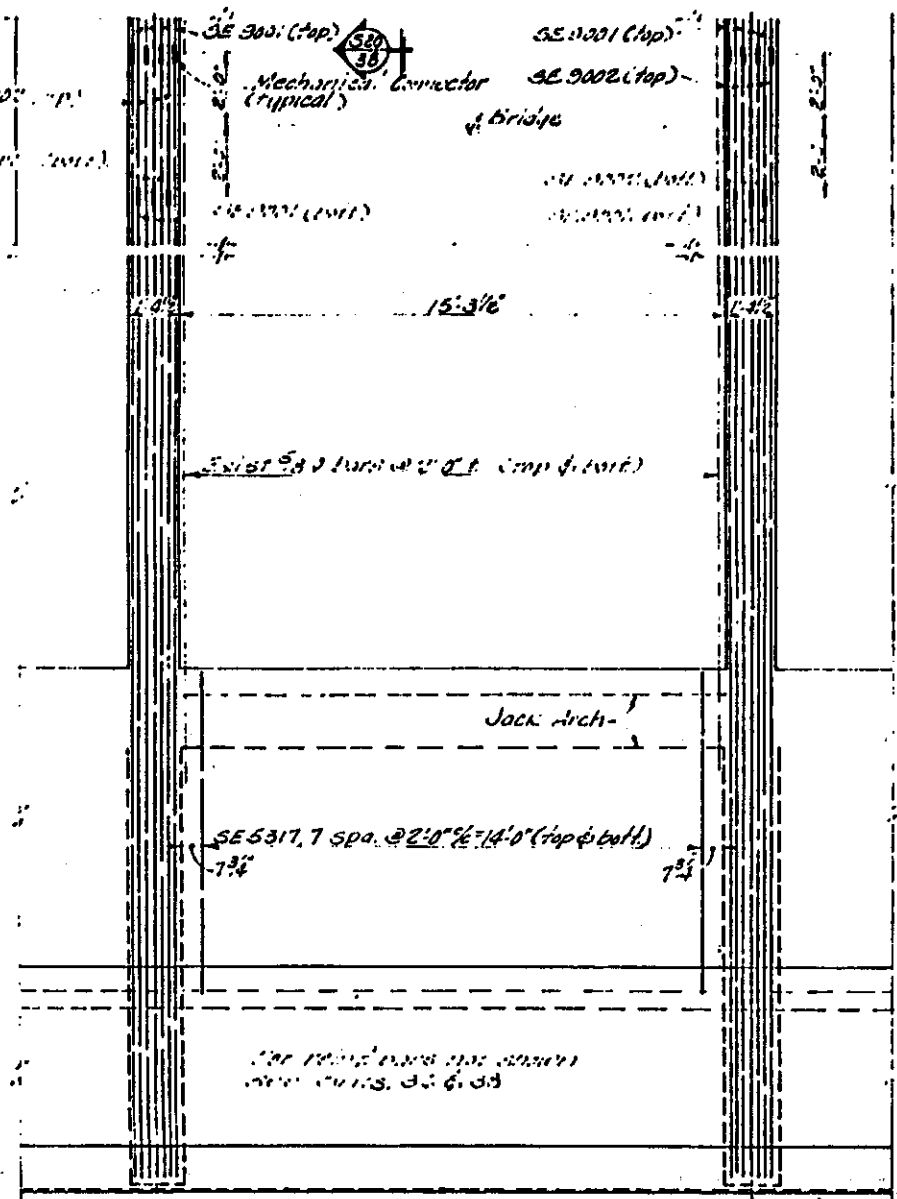
SECTION S4-S4
Typical at all Approach Piers

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CUYAHOGA COUNTY	ENGINEER	
CLEVELAND OHIO		
BROOKPARK ROAD		
BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
APPROACH SPAN DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-84
NO. B-191		
DESIGN	DRAWN	CHECKED
		REVISED TO AS BUILT

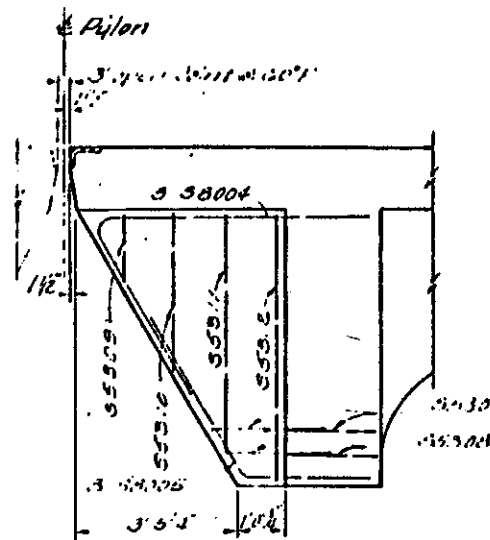
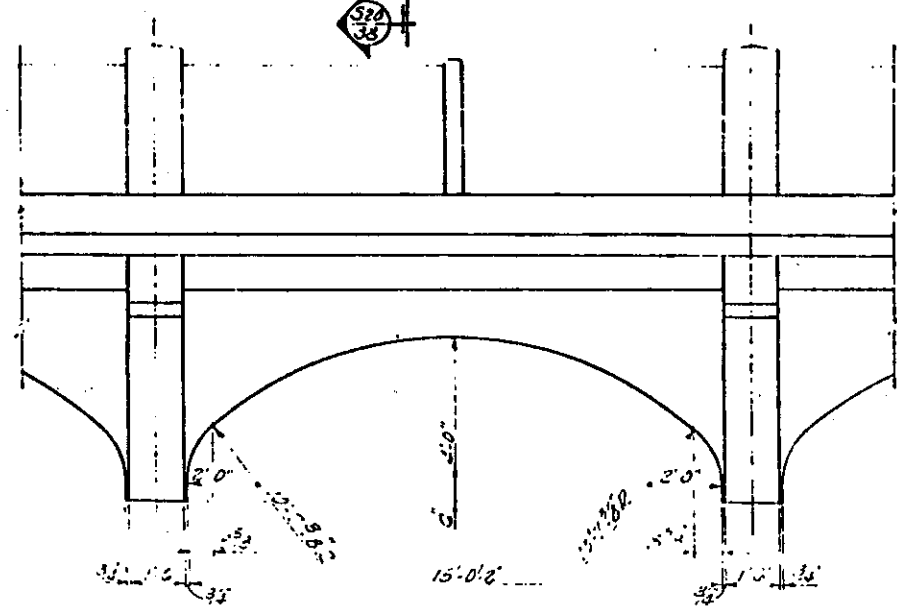
FWSA REGION	STATE	PROJECT
5	OHIO	

37
32

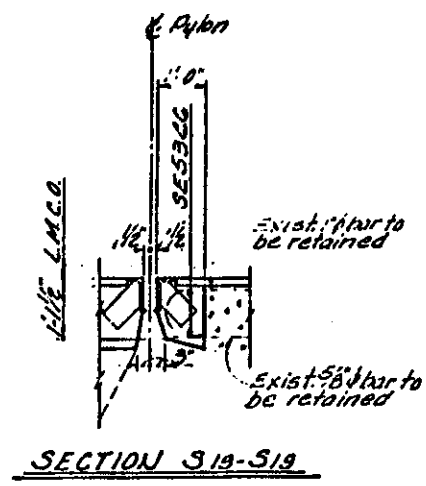
CUYAHOGA COUNTY



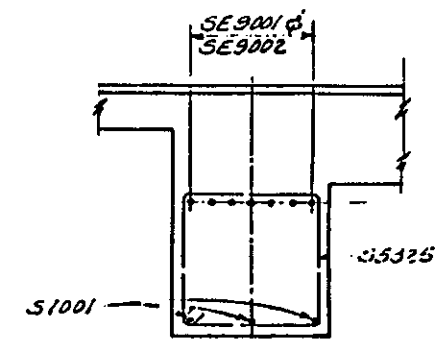
PART PLAN
TYPICAL INTERMEDIATE ARCH DECK SPAN DETAILS



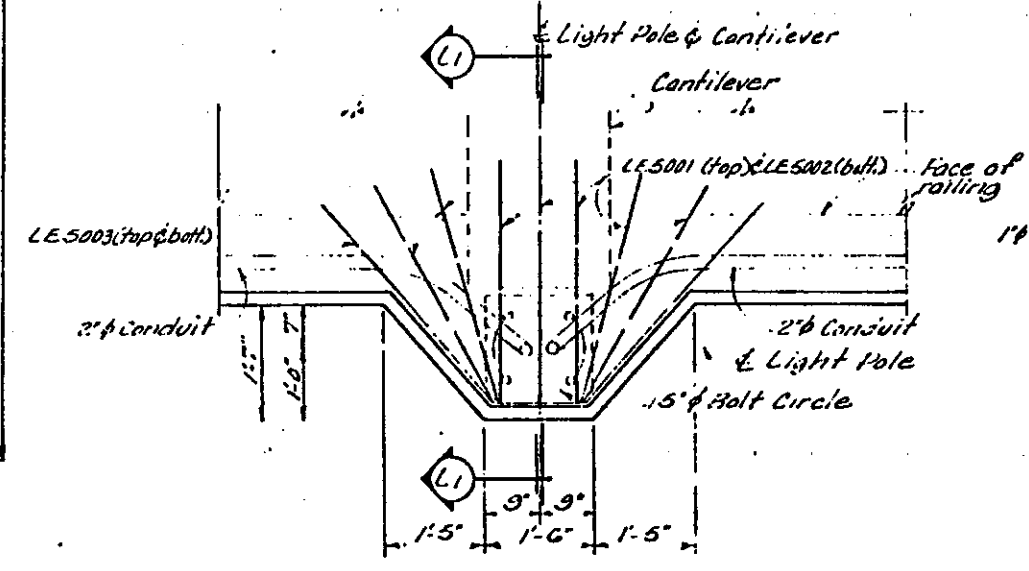
SECTION S14-S14



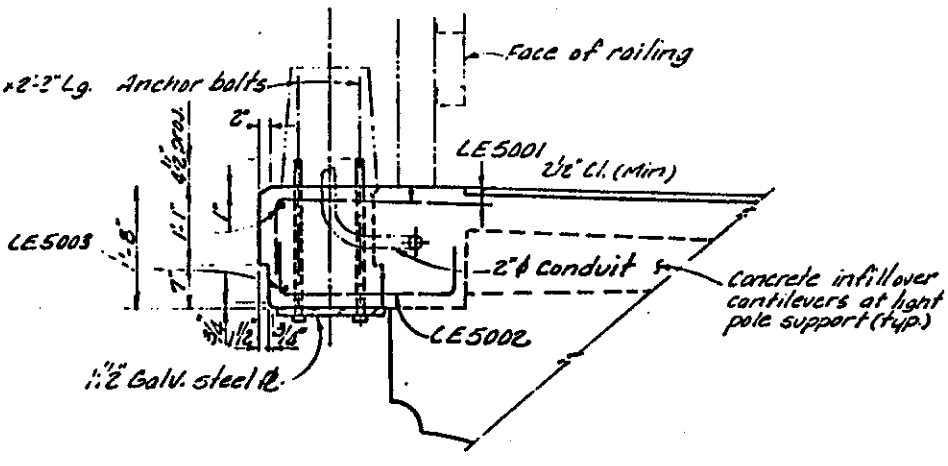
SECTION S19-S19



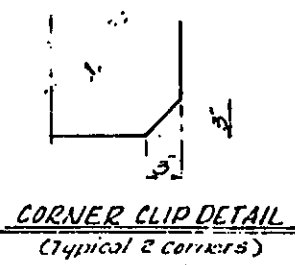
SECTION S26-S26



PLAN



SECTION LI-LI



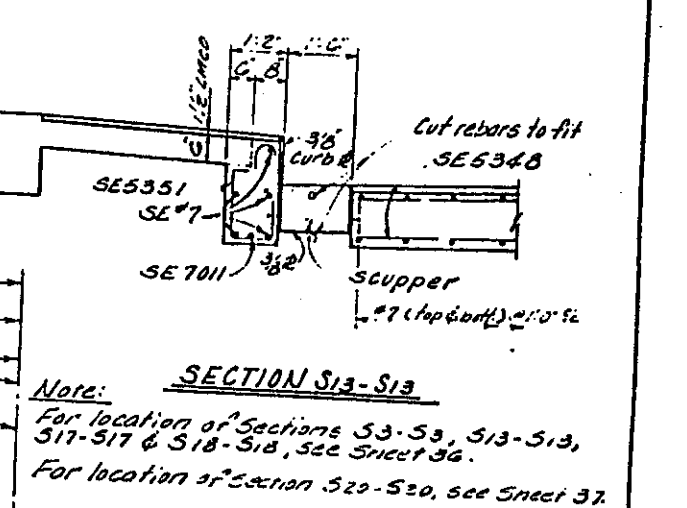
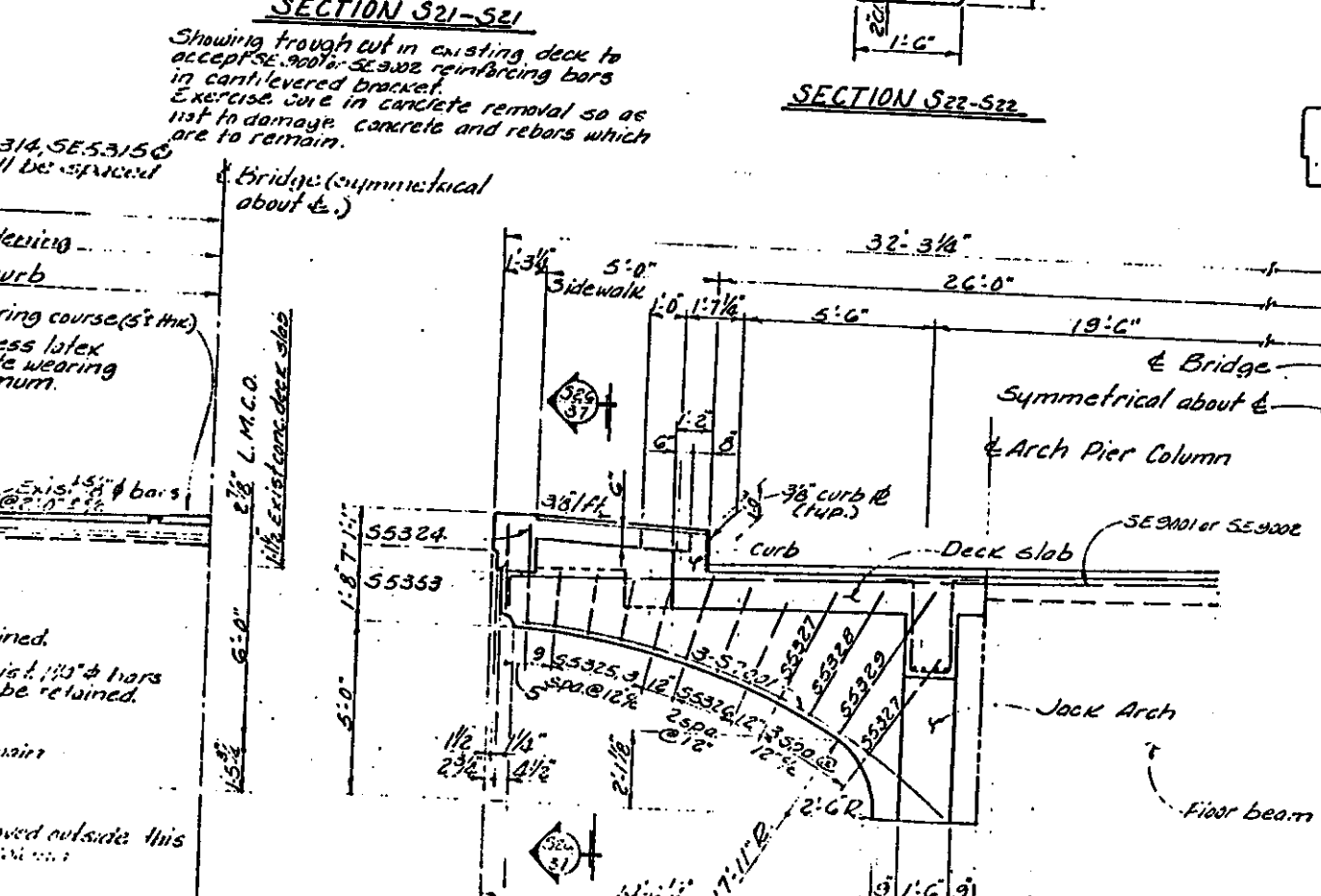
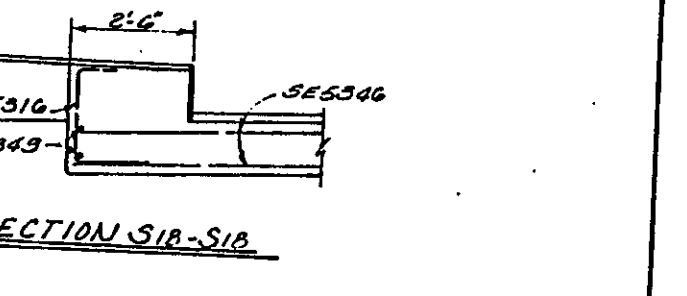
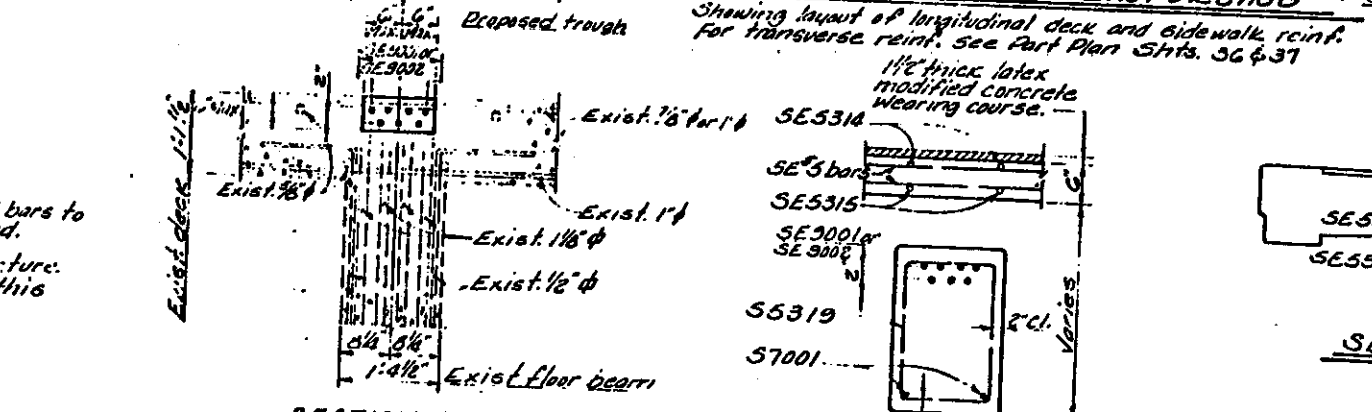
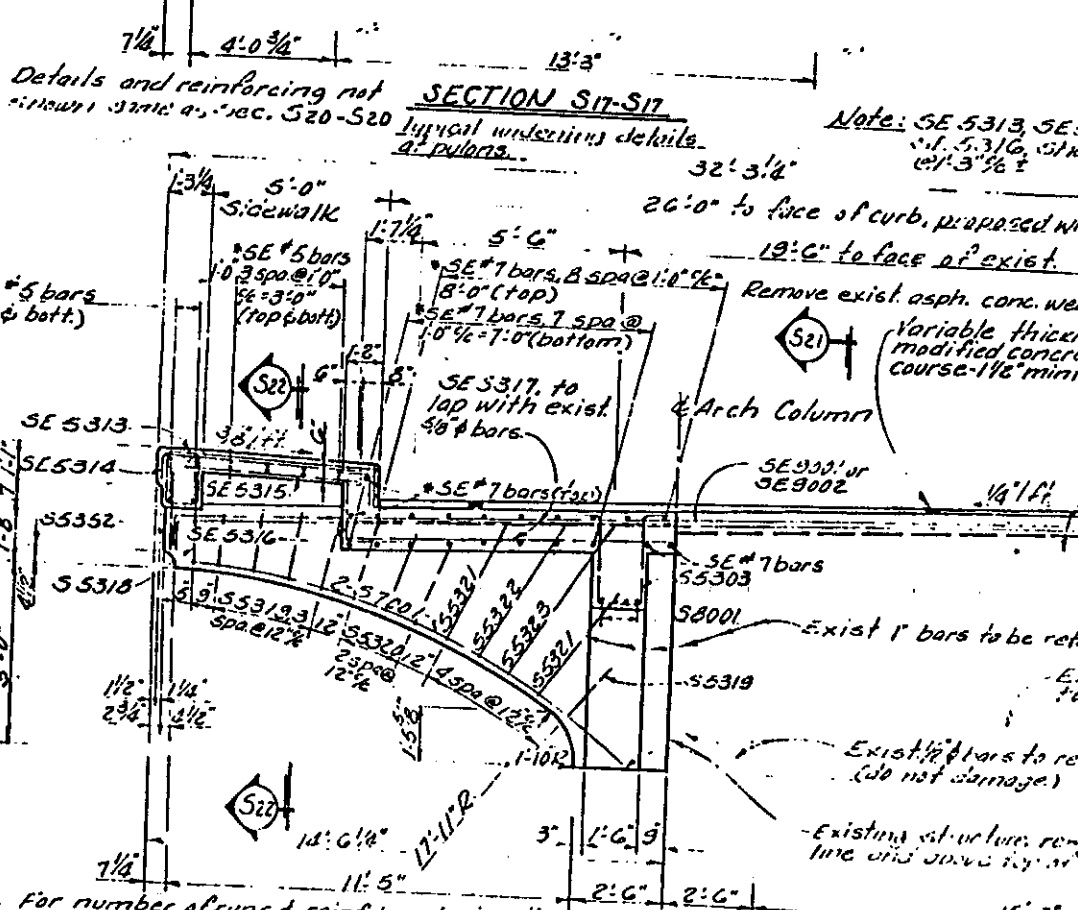
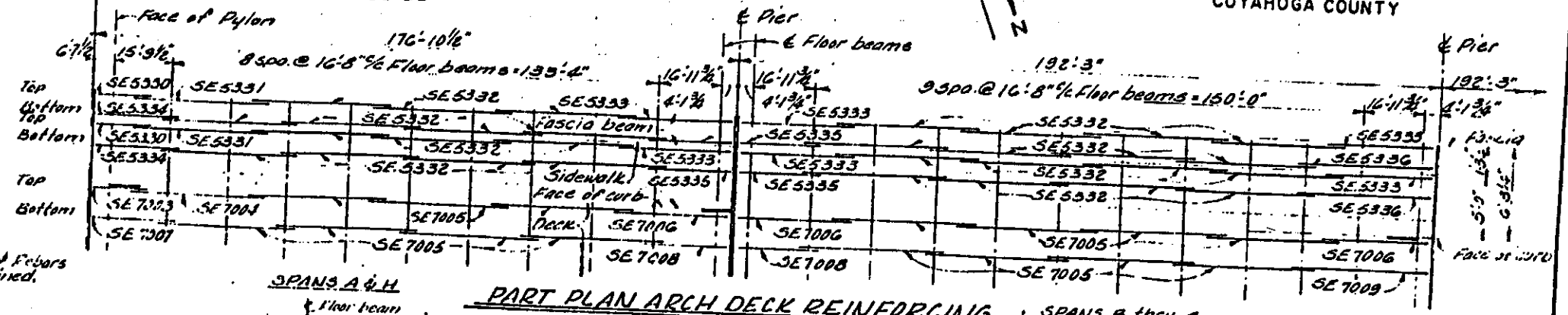
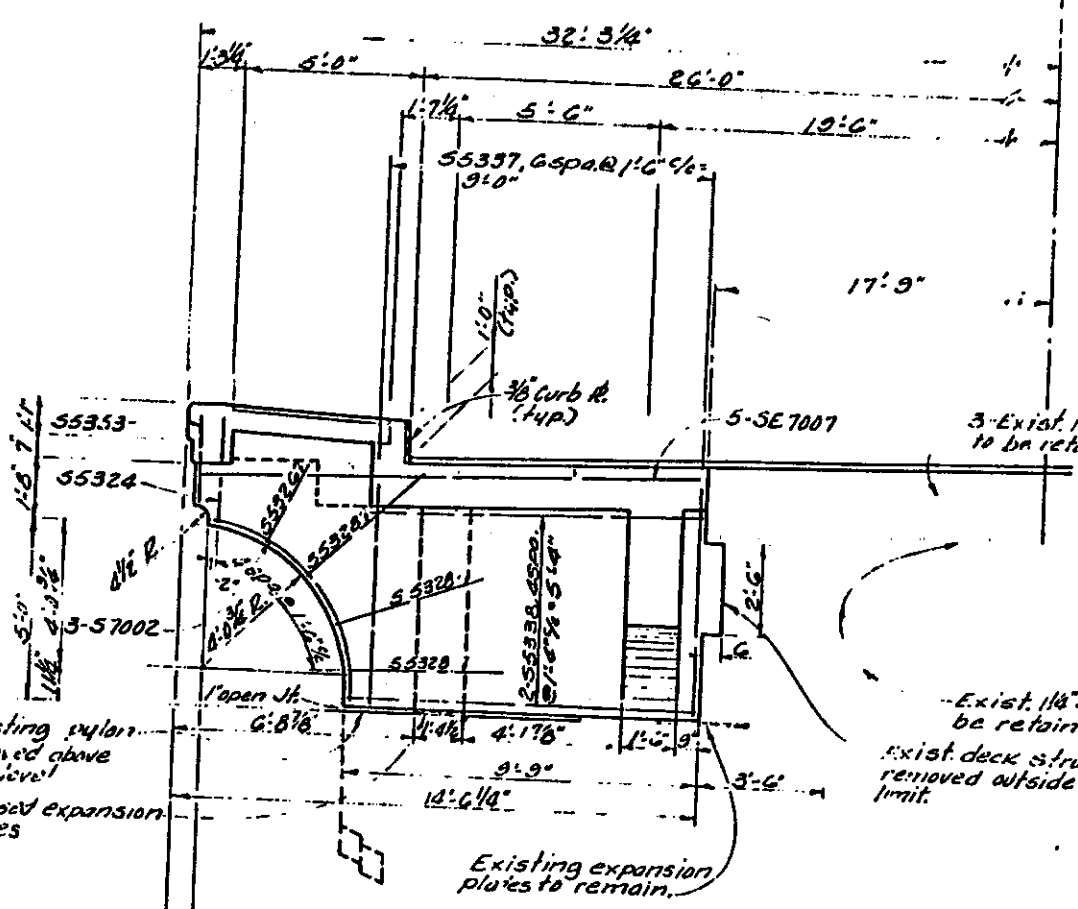
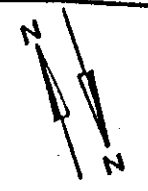
CORNER CLIP DETAIL

TYPICAL LIGHT POLE SUPPORT DETAILS

Note: For location of Light Standards see Lighting Plan, sheet 14.

ALDEN E. STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.		
CUYAHOGA COUNTY	ENGINEER	
CLEVELAND OHIO		
BROOKPARK ROAD		
BRIDGE NO. CUY-17-0283		
OVER ROCKY RIVER		
CITIES OF CLEVELAND & FAIRVIEW PARK		
ARCH SPAN WIDENING DETAILS		
COUNTY	BRIDGE NO.	REPORT NO. DATE
39	7068	3-31-64
NO. B-191		

Note: lap #5 bars 1'-7" min.
lap #6 bars 1'-11" min.
lap #7 bars 2'-2" min.
lap #8 bars 2'-6" min.
For transverse spacing of longitudinal rebar see section 5e-3e



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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

ARCH SPAN WIDENING DETAILS

COUNTY ENGINEER

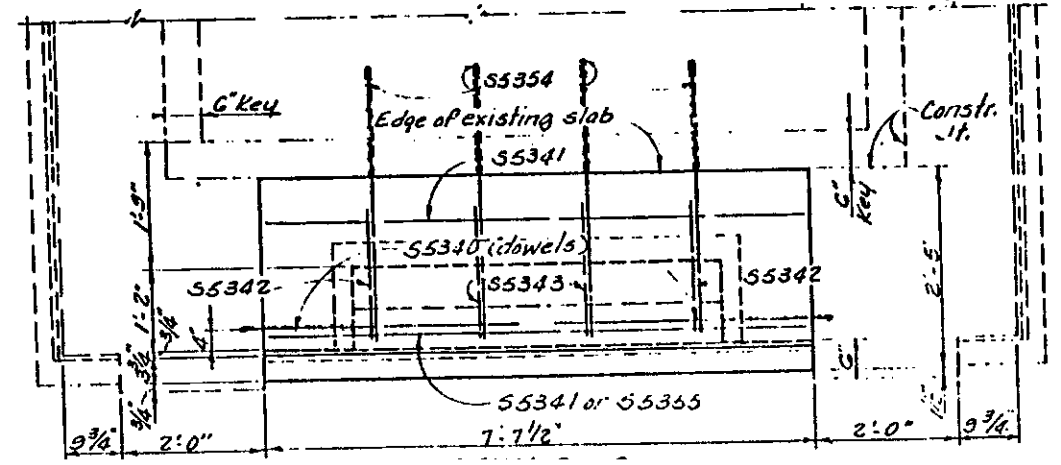
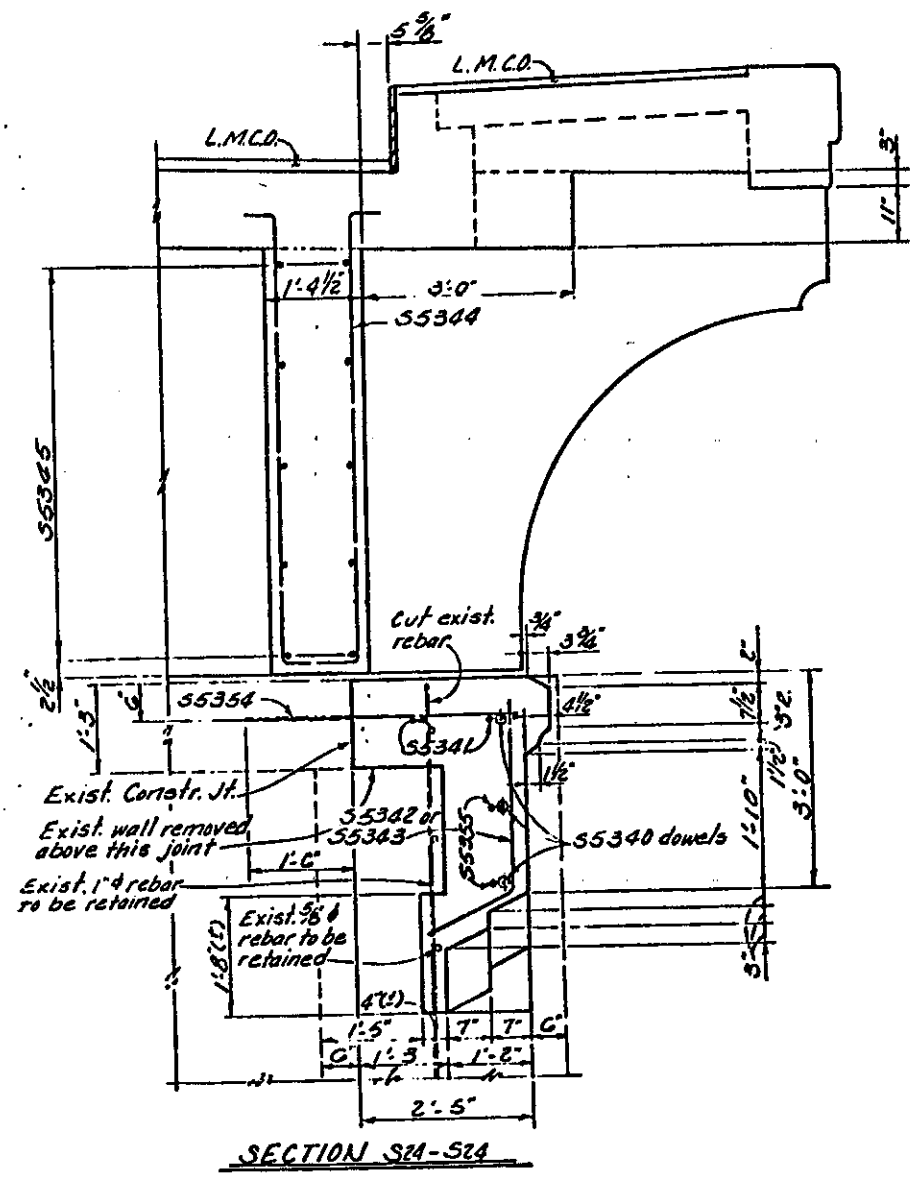
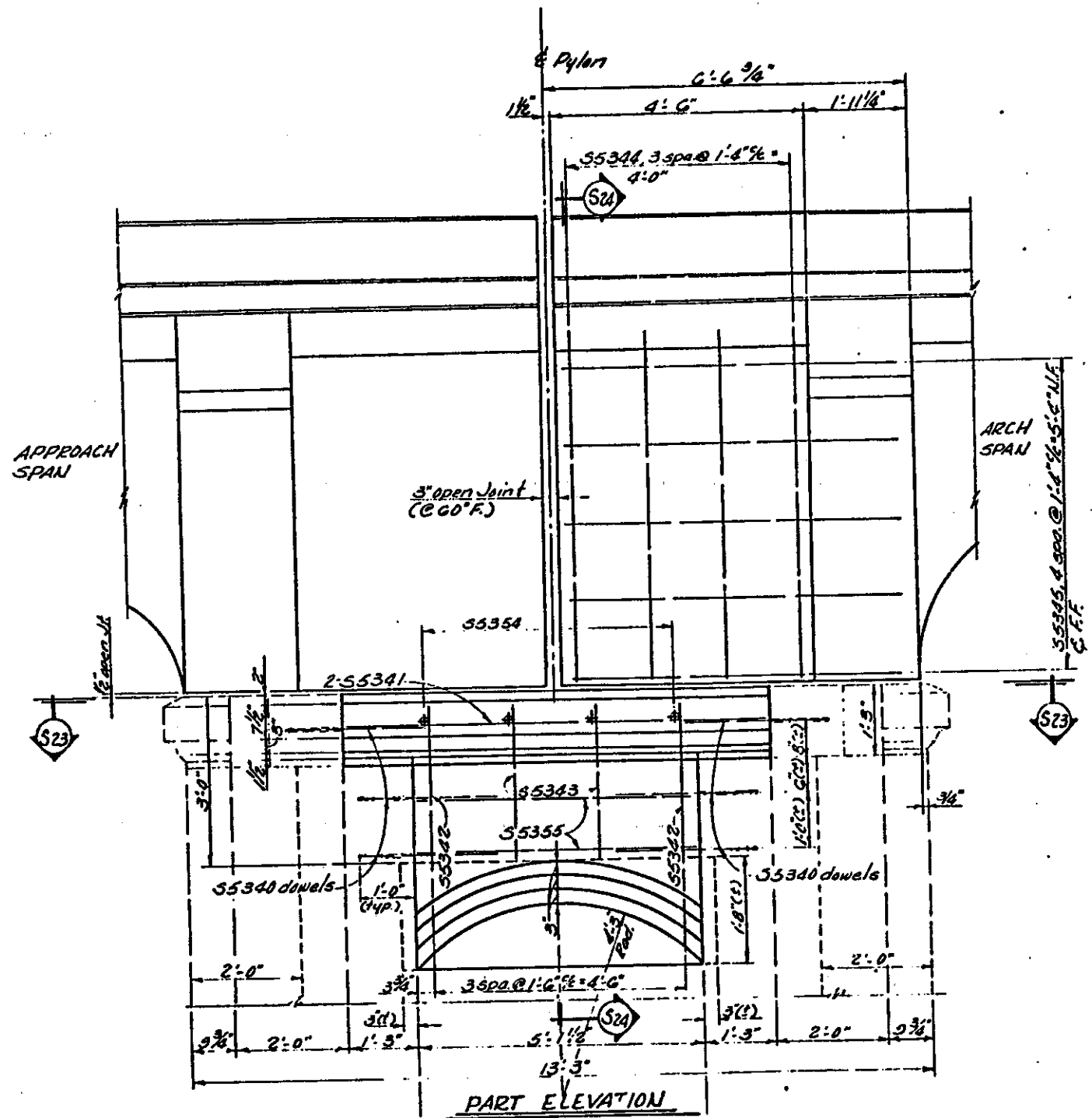
Details and reinforcing not shown around piers, sec. S20-S20

Note: SE 5313, SE 5314, SE 5315
if SE 5316, shall be spaced at 3'-6"

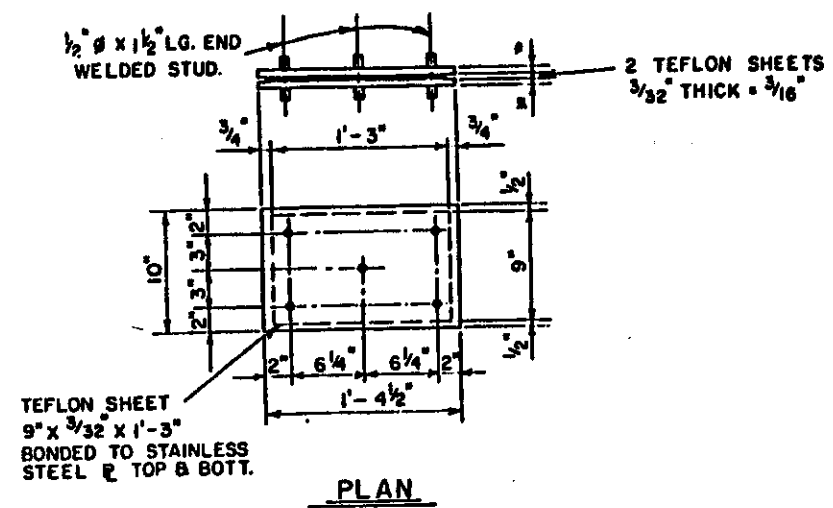
SECTION S21-S21
Showing trough cut in existing deck to accept SE 9001, SE 9002 reinforcing bars in cantilevered bracket. Exercise care in concrete removal so as not to damage concrete and rebar which are to remain.

Note: SECTION S13-S13
For location of Sections S3-S3, S13-S13, S17-S17 & S18-S18, see Sheet 36.
For location of Section S20-S20, see Sheet 37.

For number of runs & rebar...



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CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
PYLON DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-84
NO. B-191		
DESIGN	DRAWN	CHECKED
REVISED TO AS BUILT		



DETAILS OF PROPOSED STAINLESS STEEL EXPANSION PLATES

* PROVIDE 8 SETS USING 1/2" THICK PLATES FOR NEW STRINGERS AT ABUTMENT AND APPROACH SPAN SIDE OF PYLONS AND 4 SETS USING 3/4" THICK PLATES AT ARCH SPAN SIDE OF PYLONS.

ITEM 516 BEARING DEVICES (TEFLON COATED STAINLESS STEEL PLATES)

THE BEARINGS ARE EXPANSION DEVICES UTILIZING TWO MATED SHEETS OF TEFLON TO PROVIDE A LOW FRICTION SLIDING SURFACE, EPOXY BONDED TO STAINLESS STEEL PLATES.

THE TEFLON SHEETS COMPRISING THE SLIDING SURFACE SHALL BE MADE FROM 100% VIRGIN (NOT REPROCESSED) POLY(TETRAFLUOROETHYLENE) (TFE) RESINS, MEETING THE REQUIREMENTS OF ASTM D-1457, REINFORCED WITH GROUND GLASS FIBERS, AS MANUFACTURED BY: FLUOROCARBON, PINE BROOK, NEW JERSEY; TOBI ENGINEERING INC., BENSenville, ILLINOIS; FEL-PRO INC, SKOKIE, ILLINOIS OR APPROVED EQUAL. THE COEFFICIENT OF FRICTION OF THE TEFLON TO ITSELF SHALL BE 0.05 FROM INITIAL INSTALLATION DEFORMATION SHALL NOT EXCEED 0.002 INCHES UNDER ALLOWABLE STATIC LOAD.

THE STAINLESS STEEL PLATES SHALL BE OF THE SIZE INDICATED ON THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A240 TYPE 304, THE END WELDED STUDS SHALL BE OF MATERIAL COMPATIBLE WITH THAT OF THE PLATES.

AFTER BONDING OF THE TEFLON SHEETS AND INSTALLATION OF THE STUDS, A TRUE FLAT PLANE SURFACE SHALL RESULT ALLOWING 100% CONTACT BETWEEN THE MATING TEFLON SURFACES.

BONDING OF THE TEFLON SHEETS TO THE STAINLESS STEEL PLATES SHALL BE PERFORMED IN THE FACTORY OF THE BEARING MANUFACTURER. SELECTION OF THE EPOXY ADHESIVE AND SUPPLEMENTING THE SURFACE PREPARATION AND ADHESIVE APPLICATION PROCEDURES GIVEN BELOW SHALL BE BY THE BEARING MANUFACTURER WITH APPROVAL OF THE DIRECTOR. AS A CONDITION OF SUCH APPROVAL, THE BEARING MANUFACTURER SHALL SUBMIT PROOF OF THE ADEQUACY OF HIS PROPOSED BONDING SYSTEM.

THE BONDING SURFACE OF THE STEEL SHALL BE CLEANED OF RUST, SCALE, OIL AND GREASE BY BLAST CLEANING. THE ENTIRE SURFACE TO BE BONDED SHALL BE BLAST CLEANED TO THE ANCHOR PROFILE REQUIRED AND WIPED CLEAN WITH CLEANING SOLVENT. BLAST CLEANING SHALL BE PERFORMED WITHIN A MAXIMUM OF FOUR HOURS PRIOR TO BONDING.

THE TFE SURFACE SHALL BE ETCHED IF REQUIRED.

NOT MORE THAN ONE-HALF (1/2) HOUR PRIOR TO USE, A SUFFICIENT QUANTITY OF EPOXY SHALL BE PREPARED FOR THE AMOUNT OF WORK TO BE PERFORMED. ACCURATELY MEASURED PROPORTIONS OF THE TWO COMPONENTS SHALL BE BLENDED IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S INSTRUCTIONS. TO INSURE ACCURATE PROPORTIONS FOR ALL PRODUCTION RUNS AND A RELATIVELY BUBBLE-FREE MIXTURE OF UNIFORM CONSISTENCY, THE BEARING MANUFACTURER SHALL PROVIDE SPECIFIC INSTRUCTIONS AND, IF NECESSARY, SPECIFIC EQUIPMENT FOR THE PROPER BLENDED OF THE EPOXY COMPONENTS.

A THIN UNIFORM COAT OF EPOXY SHALL BE SPREAD OVER THE ENTIRE SURFACE TO BE BONDED. IT MAY BE APPLIED TO EITHER THE STEEL OR THE TFE SURFACE OR TO BOTH.

THE TFE SURFACE SHALL THEN BE BONDED TO THE STEEL SURFACE UNDER FACTORY CONTROLLED CONDITIONS USING HEAT AND PRESSURE FOR THE TIME REQUIRED TO SET THE EPOXY ADHESIVE USED.

A COPY OF THE ADHESIVE MANUFACTURER'S INSTRUCTIONS, THE COMPLETE PROCEDURES USED TO ACHIEVE ADEQUATE BOND STRENGTH, AND A BONDED TFE/STEEL SAMPLE SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL PRIOR TO THE START OF PRODUCTION BONDING.

METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE NUMBER OF UNITS (CONSISTING OF TWO PLATES WITH TEFLON BONDED) REQUIRED.

BASIS OF PAYMENT: ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO IMPLEMENT THE PROVISIONS OF THESE SPECIFICATIONS WILL BE PAID FOR IN THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
516	EACH	BEARING DEVICES, TEFLON COATED STAINLESS STEEL PLATES, 1/2" THICK, AS PER PLAN
516	EACH	BEARING DEVICES, TEFLON COATED STAINLESS STEEL PLATES, 3/4" THICK, AS PER PLAN

ITEM SPECIAL - RENOVATION OF EXISTING BEARING DEVICES

THE EXISTING BEARING DEVICES ARE TWO BRONZE PLATES SEPARATED BY A 1/16 INCH THICK ASBESTOS SHEET COATED WITH GRAPHITE TO ACT AS A LOW FRICTION SLIDING SURFACE.

THE INTENT OF THIS ITEM IS TO REPLACE THE EXISTING ASBESTOS WITH TEFLON SHEETS.

THE TEFLON SHEETS SHALL CONFORM TO THE REQUIREMENTS FOR TEFLON SHEETS AS STATED IN THE SPECIFICATION FOR ITEM 516 BEARING DEVICES (TEFLON COATED STAINLESS STEEL PLATES). THE SHEETS SHALL BE 1/16 INCH THICK AND OF THE SAME PLAN DIMENSIONS AS THE BRONZE PLATES. TWO SHEETS ARE REQUIRED FOR EACH BEARING.

THE FOLLOWING PROCEDURE SHALL BE USED TO IMPLEMENT THE RENOVATION OF THE EXISTING BEARINGS:

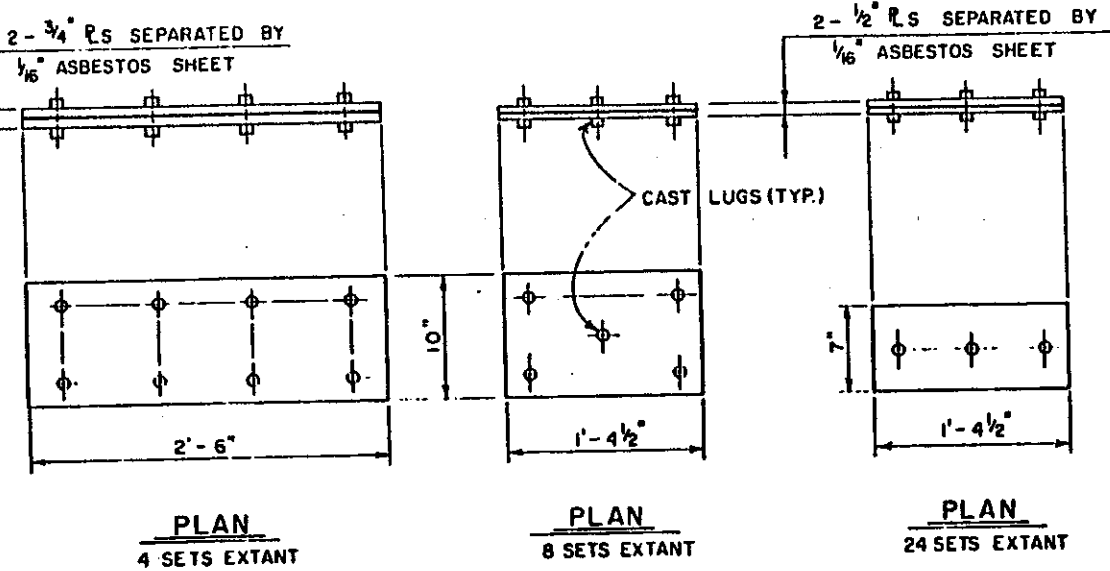
- A) AFTER THE REMOVAL OF EXISTING CONCRETE REQUIRED FOR WIDENING OF THE BRIDGE IS COMPLETE IN THE SPAN UNDER CONSIDERATION, THE END OF THE SPAN SHALL BE JACKED UP IN ORDER TO REMOVE THE ASBESTOS SHEET AND CLEAN THE SURFACE OF THE BRONZE PLATES. THE END OF THE SPAN SHALL BE RAISED A MAXIMUM OF 1/2 INCH. CARE SHALL BE EXERCISED IN THE JACKING OPERATION TO INSURE THAT THE TOTAL WIDTH OF THE SPAN IS RAISED UNIFORMLY AND THAT NO DAMAGE TO THE STRUCTURE RESULTS.
- B) UPON COMPLETION OF RAISING OF THE END OF THE SPAN, THE EXISTING ASBESTOS FABRIC SHALL BE REMOVED AND THE BRONZE PLATES CLEANED IN ACCORDANCE WITH INSTRUCTIONS SUPPLIED BY THE MANUFACTURER OF THE EPOXY BONDING AGENT.
- C) THE SURFACE OF THE TEFLON SHEET TO BE IN CONTACT WITH THE BRONZE PLATE SHALL BE TREATED IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S INSTRUCTIONS AND COATED WITH EPOXY BONDING AGENT. TWO MATED SHEETS SHALL THEN BE INSERTED BETWEEN THE BRONZE PLATES AND PROPERLY ALIGNED. WHEN TEFLON SHEETS ARE IN PLACE AT ALL BEARING LOCATIONS AT ONE SPAN END, THE STRUCTURE SHALL BE LOWERED.

THE EPOXY BONDING COMPOUND SHALL BE SUPPLIED BY THE MANUFACTURER OF THE TEFLON SHEETS AND SHALL BE FORMULATED TO BE COMPATIBLE WITH THE BRONZE PLATES AND THE TEFLON SHEETS SUPPLIED. IN ADDITION, IT SHALL HAVE ADEQUATE POT LIFE TO ALLOW SUFFICIENT TIME TO COMPLETE OPERATIONS NECESSARY TO INSERT THE TEFLON SHEETS AND LOWER THE STRUCTURE.

THE CONTRACTOR SHALL SUBMIT HIS PROPOSED METHOD AND PROCEDURE FOR JACKING THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. NO JACKING OPERATIONS WILL BE PERMITTED WITHOUT APPROVAL OF THE DIRECTOR.

BASIS OF PAYMENT: THE COST OF ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO IMPLEMENT THE PROVISIONS OF THESE SPECIFICATIONS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	RENOVATION OF EXISTING BEARING DEVICES



DETAILS OF EXISTING BRONZE EXPANSION PLATES

NOTE: SHOWN FOR INFORMATION ONLY.

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CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

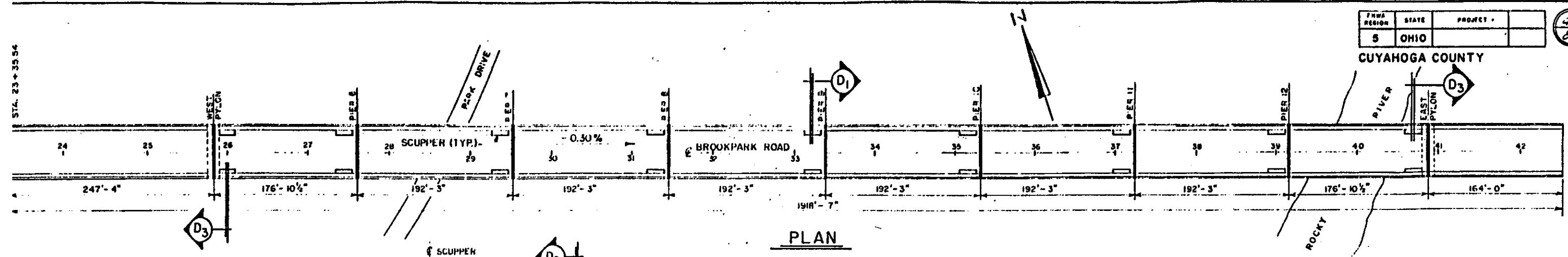
BEARING DEVICES

COUNTY BRIDGE NO. 39 REPORT NO. 7058 DATE 2-27-84

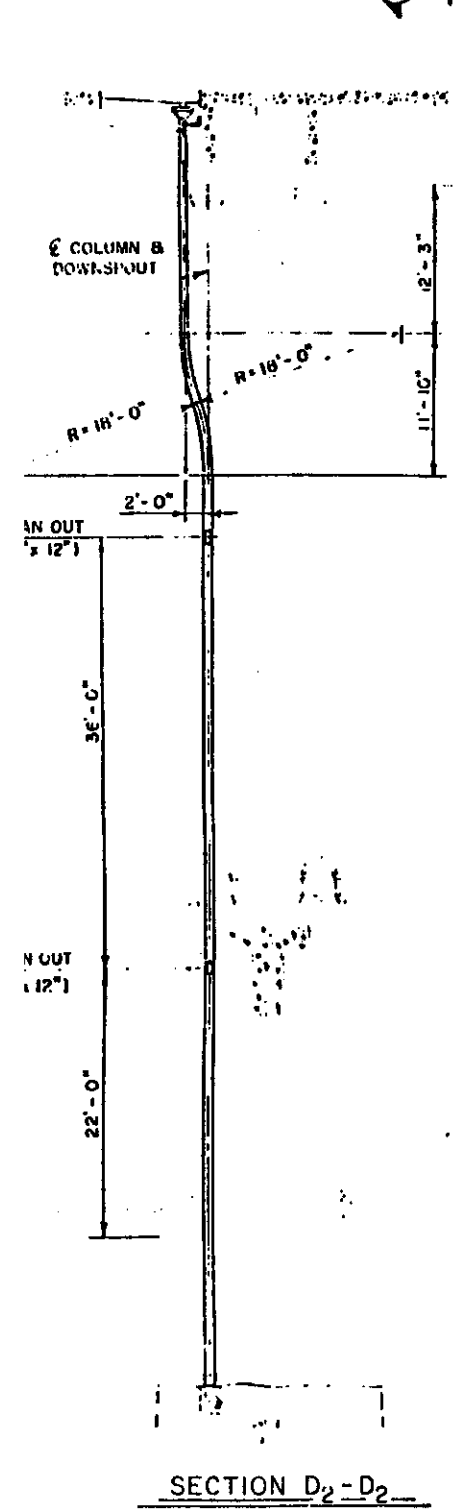
NO. B-191

DESIGN	DRAWN	CHECKED	REVISED TO AS BUILT
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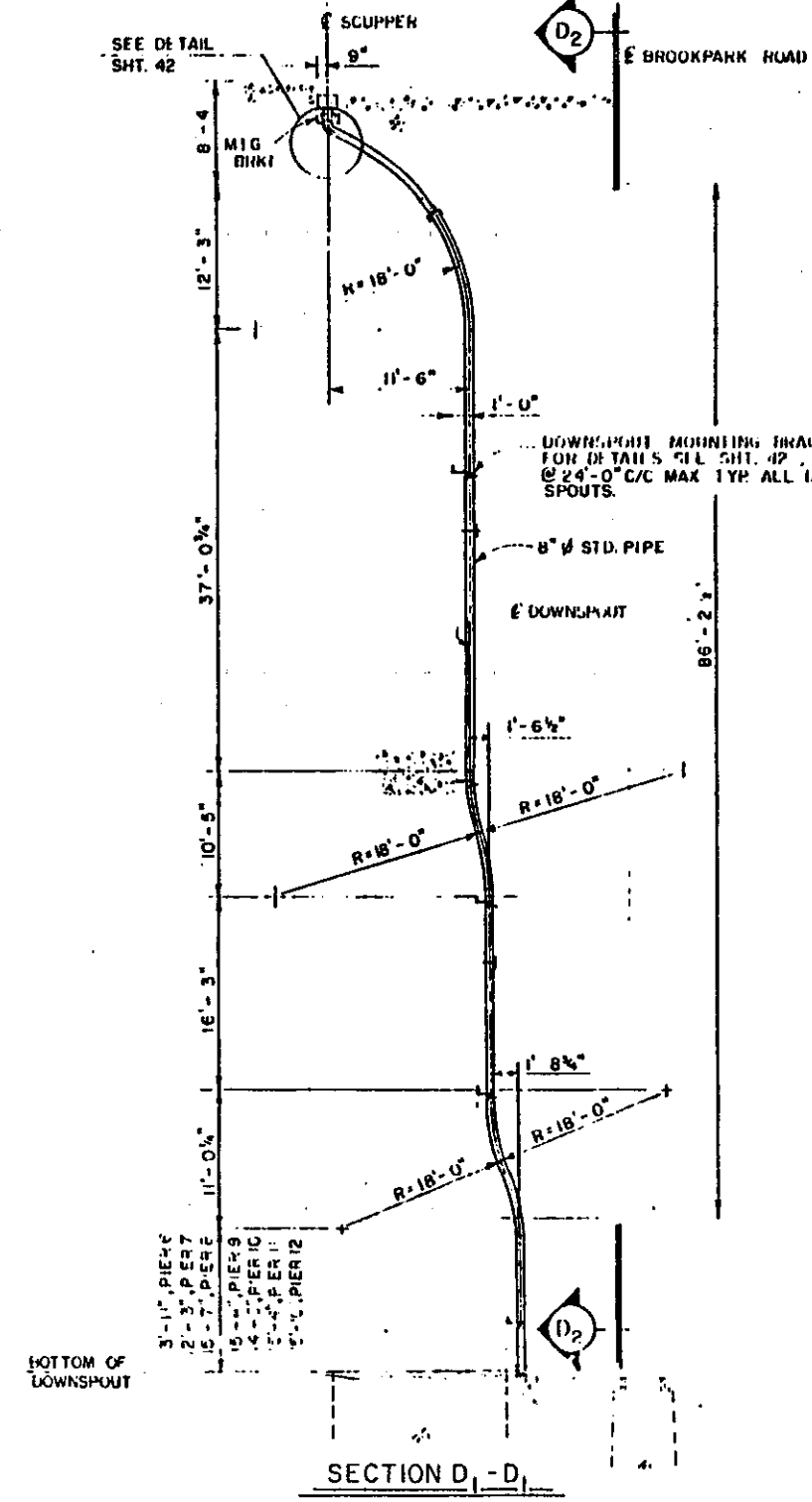
CUYAHOGA COUNTY



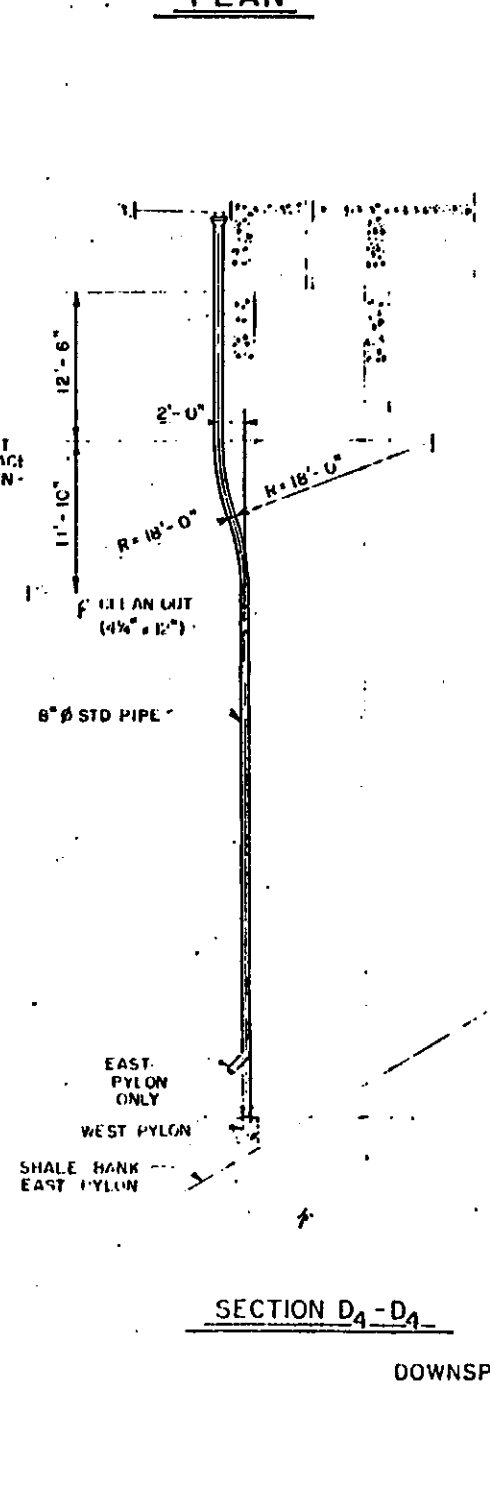
PLAN



SECTION D₂-D₂

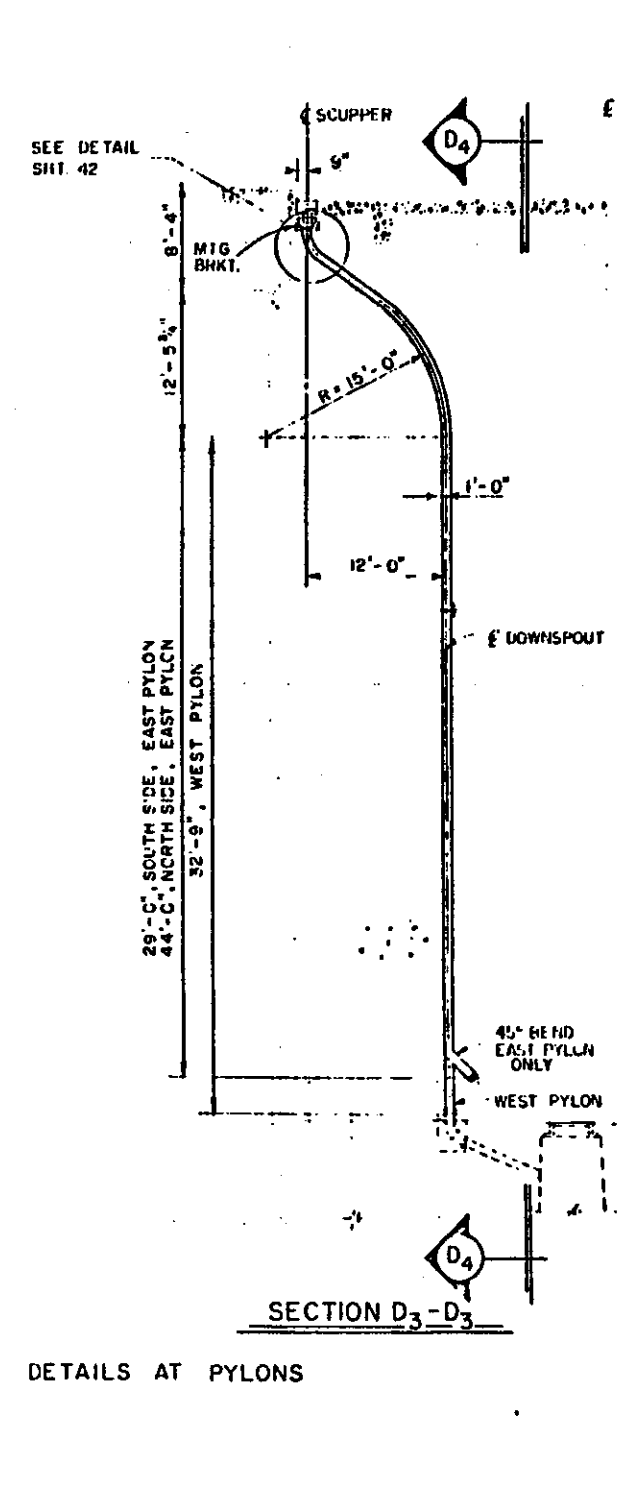


SECTION D₁-D₁



SECTION D₄-D₄

DOWNSPOUT DETAILS AT PYLONS



SECTION D₃-D₃

NOTES:

- FOR SCUPPER DETAILS SEE SHT. 42.
- DOWNSPOUTS SHALL BE FABRICATED FROM STANDARD WEIGHT STEEL PIPE AND WELDING FITTINGS.
- THE DOWNSPOUTS SHALL BE FABRICATED IN SECTIONS SIZED TO FACILITATE SHIPPING AND ERECTION.
- ALL SHOP CONNECTIONS SHALL BE WELDED.
- ALL FIELD CONNECTIONS SHALL BE AS DETAILED ON SHT. 42.
- THE DOWNSPOUTS AND MOUNTING BRACKETS SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 711-02.
- SHOP DRAWINGS SHALL INCLUDE DETAILS OF THE SCUPPER GRATES.
- SELF DRILLING ANCHORS FOR THE MOUNTING BRACKETS SHALL CONFORM TO SEC. 712.01. THREADED STEEL INSERTS MAYBE USED IN LIEU OF THE SELF DRILLING ANCHORS IN LOCATIONS WHERE NEW CONCRETE IS CALLED FOR.
- COST OF MOUNTING BRACKETS, FIELD CONNECTIONS AND CLEAN CUTS TO BE INCLUDED WITH THE UNIT PRICE FOR ITEM 516 8" DIA DOWN-OUT, AS PER PLAN.
- FOR DETAILS OF DOWNSPOUT CONNECTION TO EXISTING MANHOLES SEE SECTION C-C, SHT. 8.

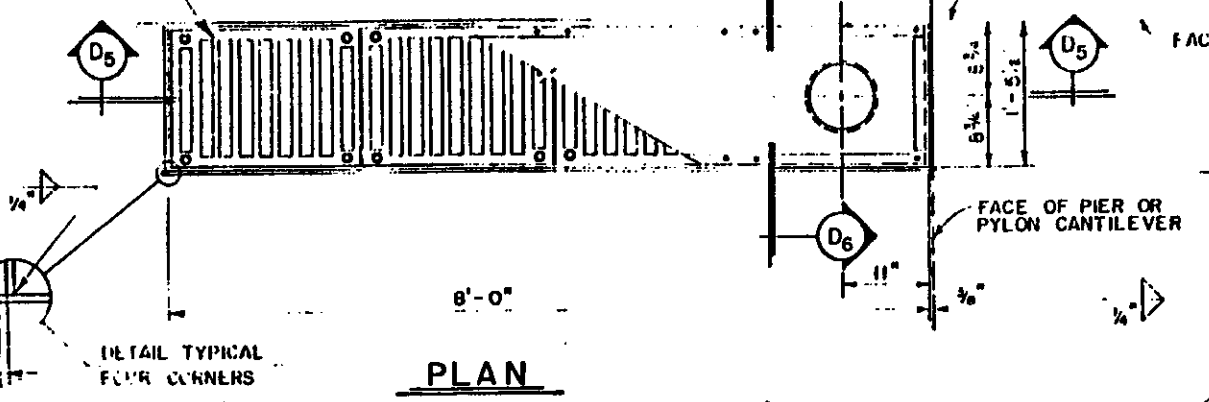
ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
DECK DRAINAGE DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-64
NO. B-191		
DESIGN	DRAWN	CHECKED
REVISED TO AS BUILT		

FED. REGION	STATE	PROJECT
5	OHIO	

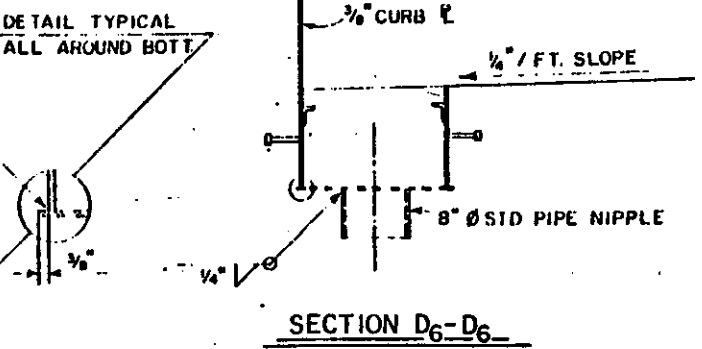
42
82

CUYAHOGA COUNTY

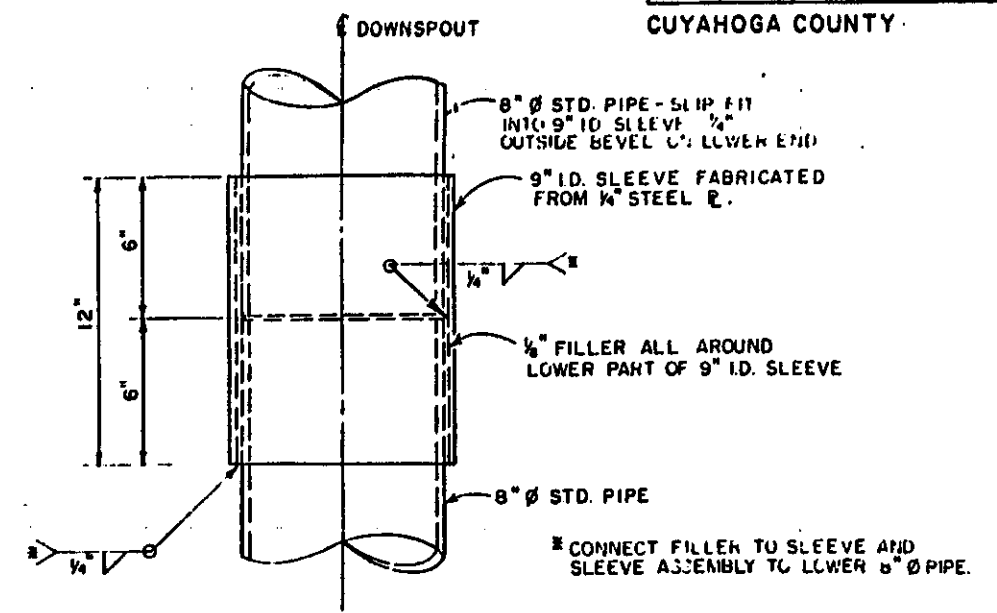
4-17" x 24" HEAVY DUTY CAST IRON TRENCH GRATES, R-4090-E, TYPE II AS MANUFACTURED BY NEFFMAN FOUNDRY CO. NEFFMAN, WISCONSIN TYPE M1 AS MANUFACTURED BY EAST JORDAN IRON WORKS INC. EAST JORDAN, MICH (OR APPROVED EQUAL). TRENCH GRATES TO BE SUPPLIED WITH SECURITY HOLDING SYSTEM. SUPPORT ANGLE'S SHALL BE DRILLED AND TAPPED TO MATCH HOLES SIZE AND LOCATION FOR THE GRATES SUPPLIED.



PLAN

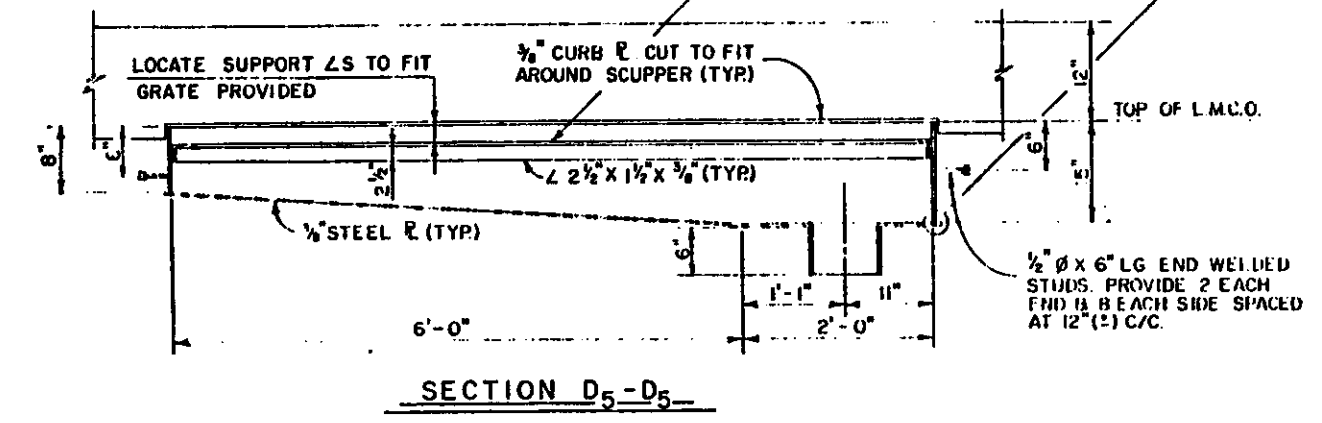


SECTION D6-D6



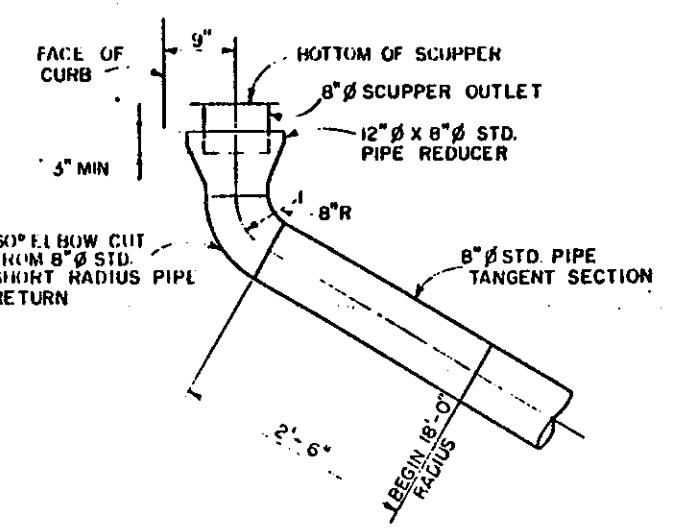
DETAIL OF DOWNSPOUT FIELD CONNECTION

PROVIDE AS REQUIRED TO FACILITATE SHIPPING AND ERECTING.

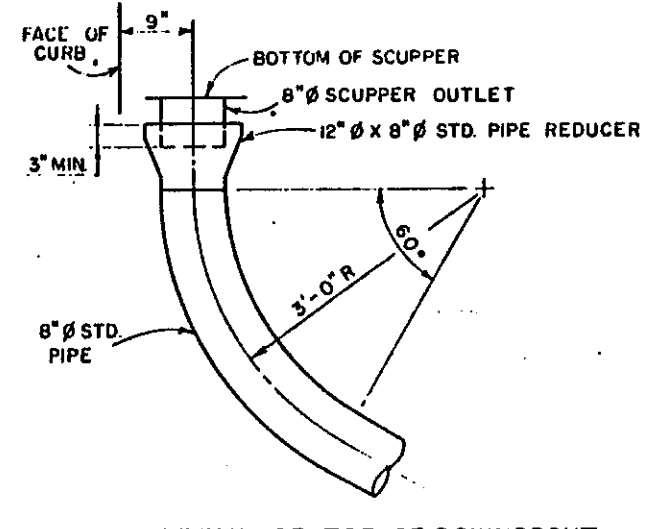


SECTION D5-D5

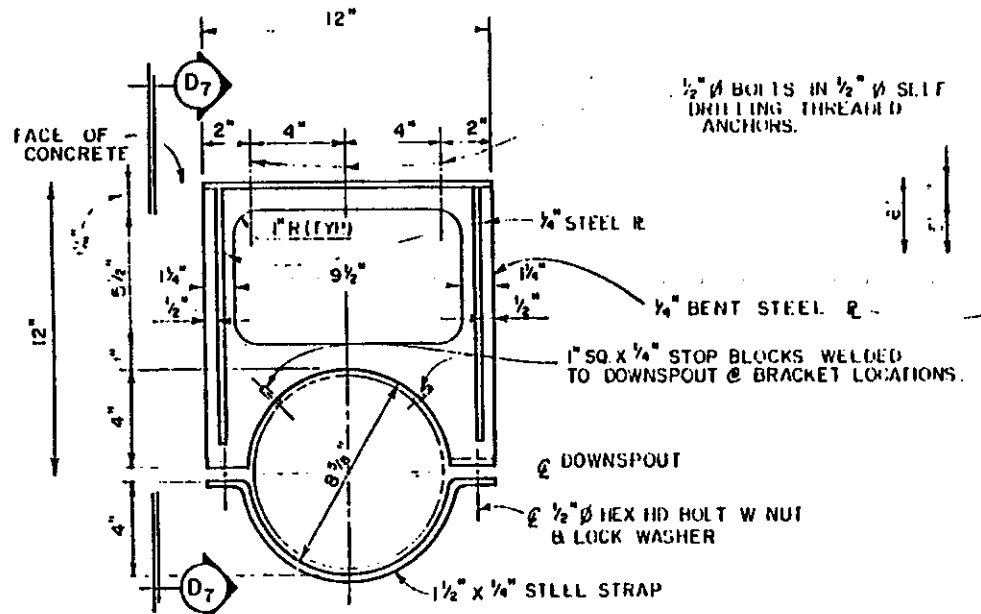
SCUPPER DETAILS



DETAIL OF TOP OF DOWNSPOUT @ PIERS

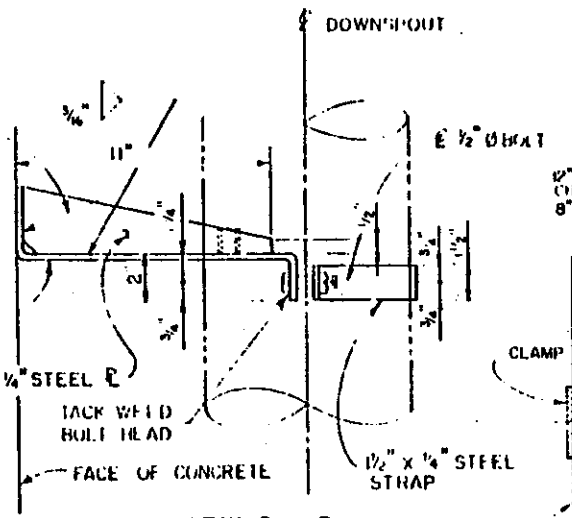


DETAIL OF TOP OF DOWNSPOUT @ PYLONS

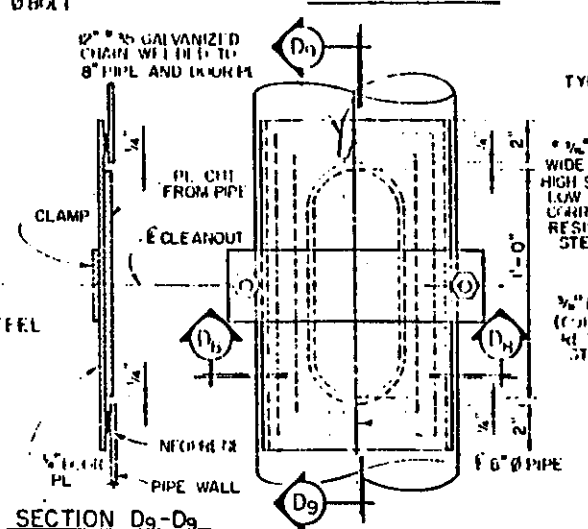


PLAN

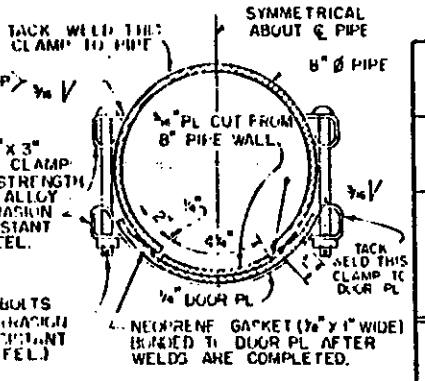
DETAILS OF DOWNSPOUT MOUNTING BRACKET



VIEW D7-D7



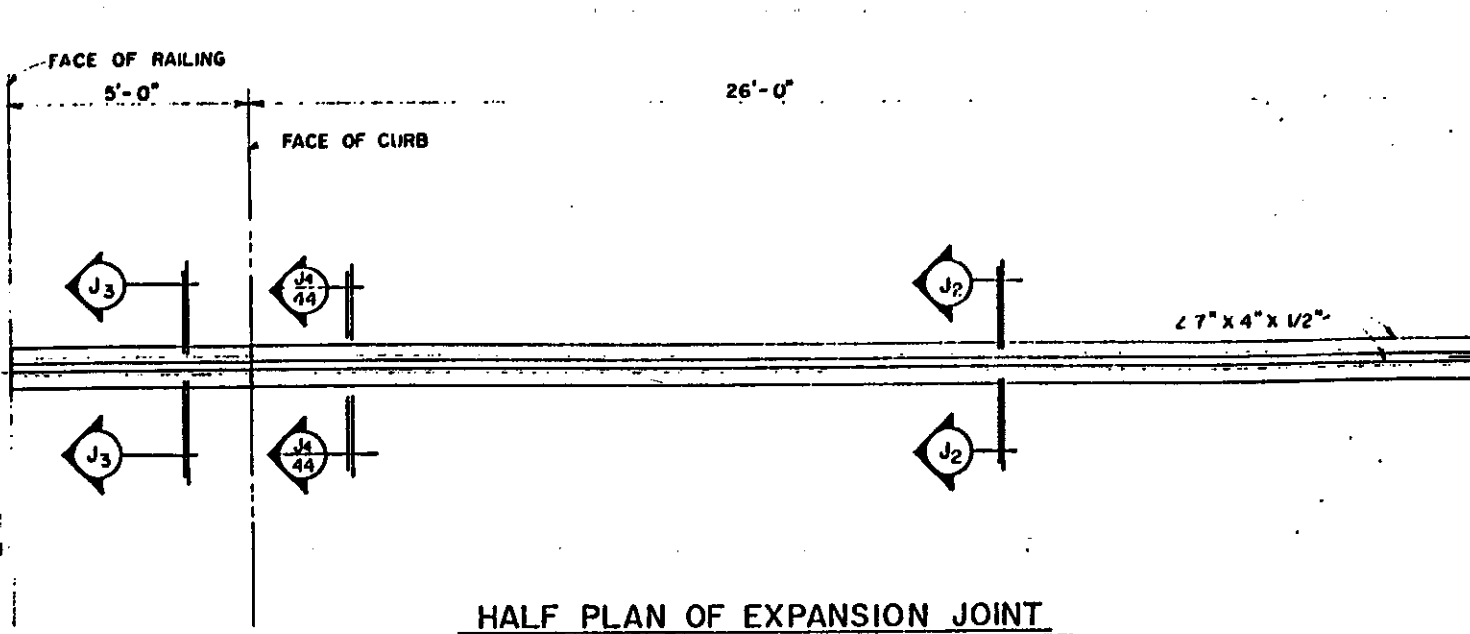
SECTION D9-D9



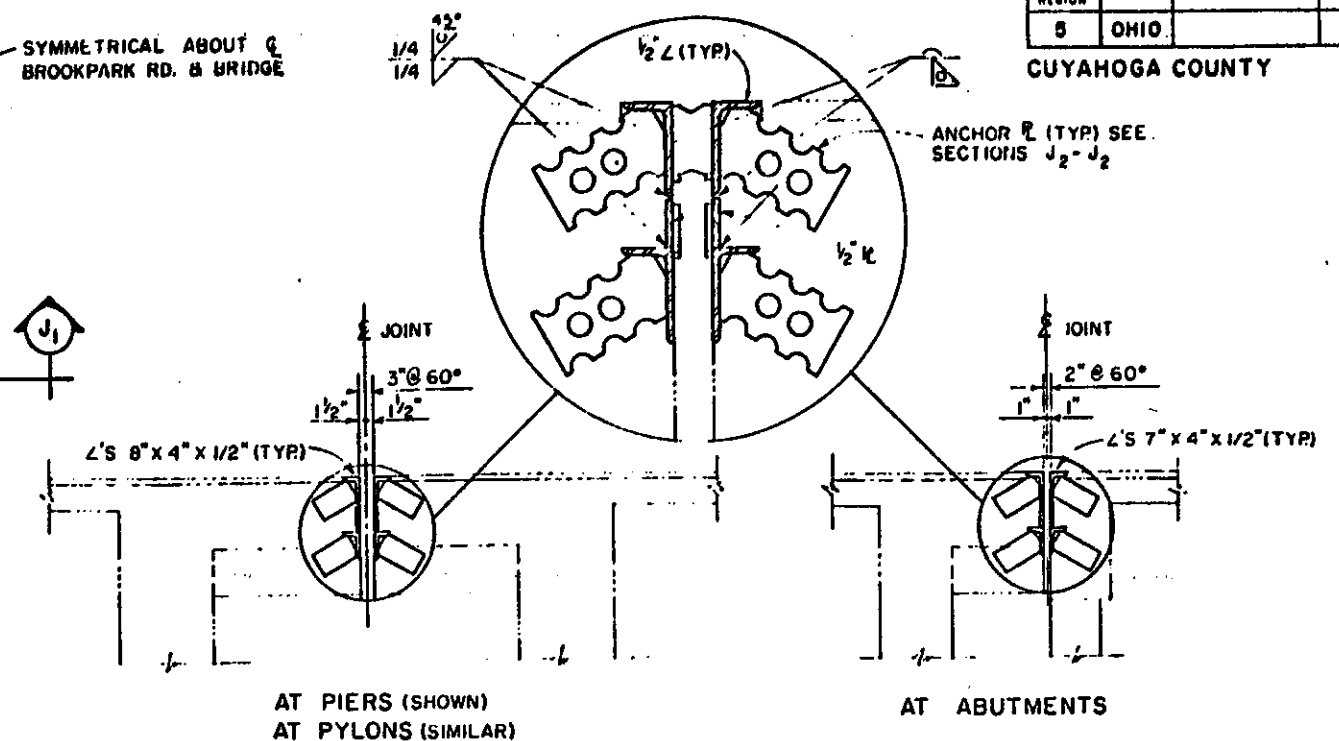
SECTION D8-D8

*CLAMPS ARE AVAILABLE FROM SUPPLIERS OF PARTS FOR OVERHEAD SIGN SUPPORTS.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY	ENGINEER	
CLEVELAND OHIO		
BROOKPARK ROAD		
BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
DECK DRAINAGE DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 8-31-86
NO. B-191		

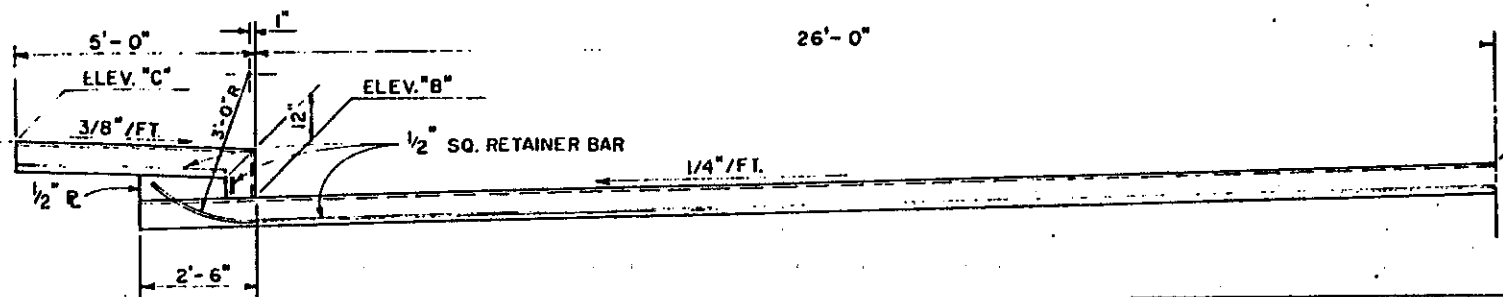


HALF PLAN OF EXPANSION JOINT
 ABUTMENT JOINT SHOWN. JOINTS AT PIER AND PYLON SIMILAR



SECTIONS J₂-J₂

DETAILS NOT SHOWN SAME AS IN SECTION J₂-J₂



SECTION J₁-J₁

NOTE: BOTH SIDES OF JOINT ARE THE SAME.

JOINT LOCATION	ELEVATION		
	"A"	"B"	"C"
W. ABUT., STA. 23+74.50	755.36	754.83	755.90
W. PYLON, STA. 25+82.87	754.74	754.20	755.36
PIER 6, STA. 27+59.75	754.21	753.67	754.83
PIER 7, STA. 29+52.00	753.63	753.09	754.25
PIER 8, STA. 31+44.25	753.06	752.52	753.68
PIER 9, STA. 33+36.50	752.48	751.94	753.10
PIER 10, STA. 35+28.75	751.90	751.36	752.52
PIER 11, STA. 37+21.00	751.33	750.79	751.95
PIER 12, STA. 39+13.25	750.75	750.21	751.37
E. PYLON, STA. 40+80.13	750.22	749.68	750.84
E. ABUT., STA. 42+15.52	749.65	749.11	750.27

NOTES:

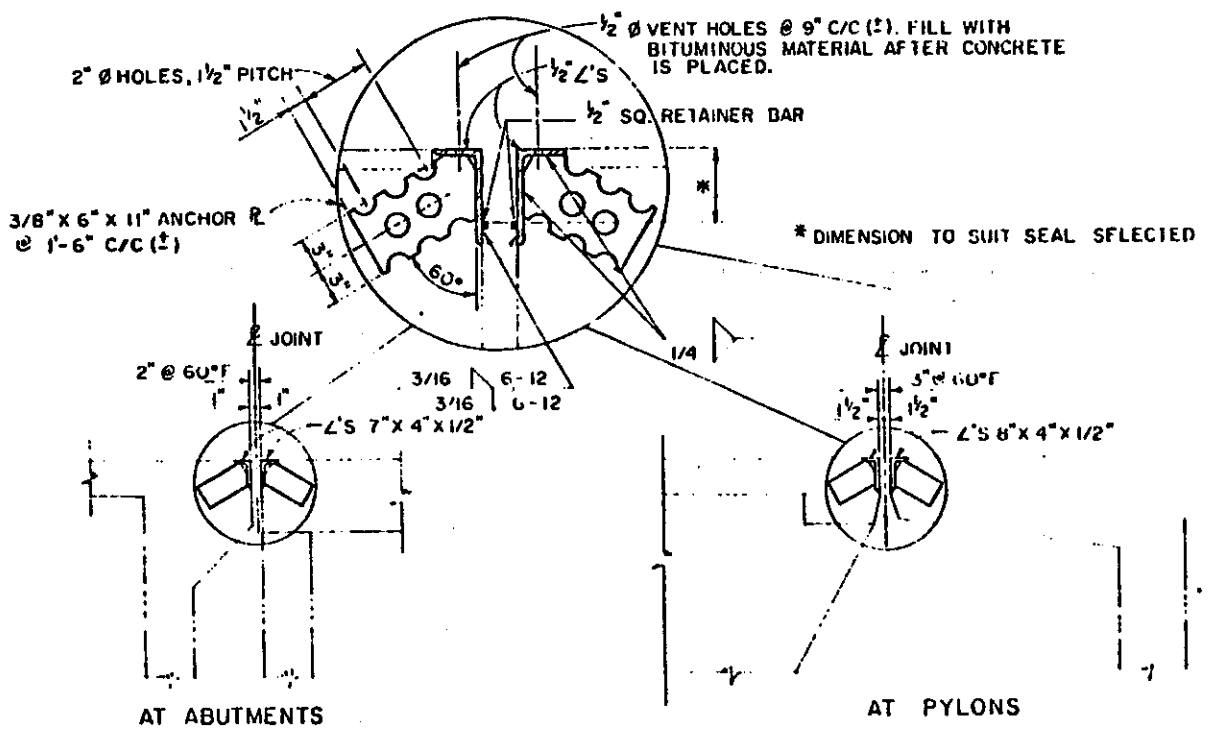
EXPANSION JOINT ARMOR SHALL BE FABRICATED FROM A36 STEEL. AT THE TIME OF INSTALLATION THE JOINT SHALL BE ADJUSTED TO PROVIDE A JOINT WIDTH OF 2" @ 60°F AT THE ABUTMENTS AND 3" @ 60°F AT THE PYLONS AND PIERS.

THE EXPANSION JOINT SHALL BE FILLED WITH AN ELASTOMERIC COMPRESSION SEAL MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPEC. B49 AND SIZE AS SHOWN IN THE PLANS.

JOINTS IN THE ELASTOMERIC COMPRESSION SEAL WILL BE PERMITTED ONLY WHERE SHOWN ON THE PLANS.

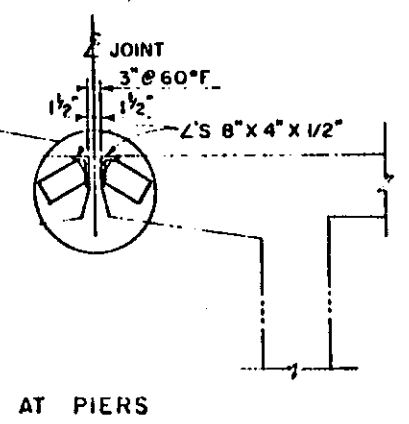
THE EXPANSION JOINT ASSEMBLY SHALL BE SHIPPED TO THE JOB SITE ASSEMBLED, INCLUDING COMPRESSION OF THE SEAL, READY TO BE INSTALLED. PROVISION SHALL BE MADE FOR ADJUSTMENT OF THE OPENING AT TIME OF INSTALLATION TO ASSURE THE DESIRED OPENING AT 60°F.

PORTIONS OF THE ARMOR IN CONTACT WITH CONCRETE OR THE COMPRESSION SEAL SHALL NOT BE PAINTED. AFTER INSTALLATION, EXPOSED STEEL SURFACES SHALL RECEIVE TWO PRIME COATS AND ONE FINISH COAT IN ACCORDANCE WITH ITEM 514, SYSTEM B. COST OF PAINTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516 STRUCTURAL STEEL EXPANSION JOINT.



AT ABUTMENTS

AT PYLONS



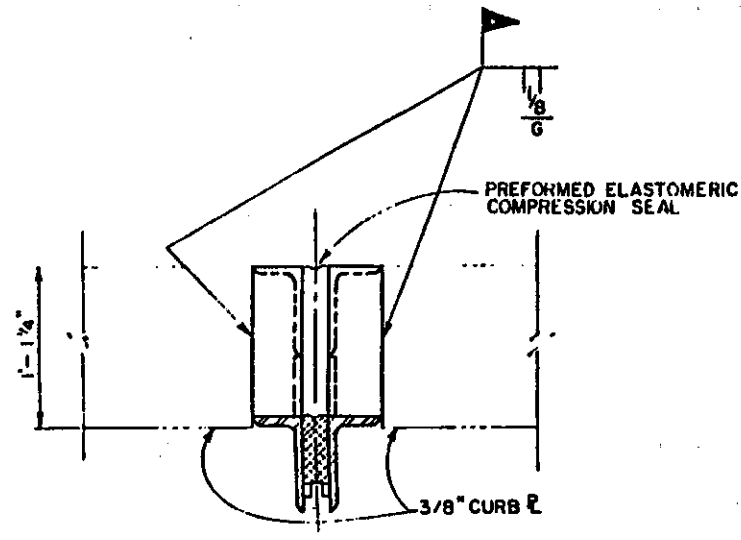
AT PIERS

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
COMPRESSION SEAL EXPANSION JOINT DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE: 2-27-66
NO. B-191		
DESIGN	DRAWN	CHECKED REVISED TO AS BUILT

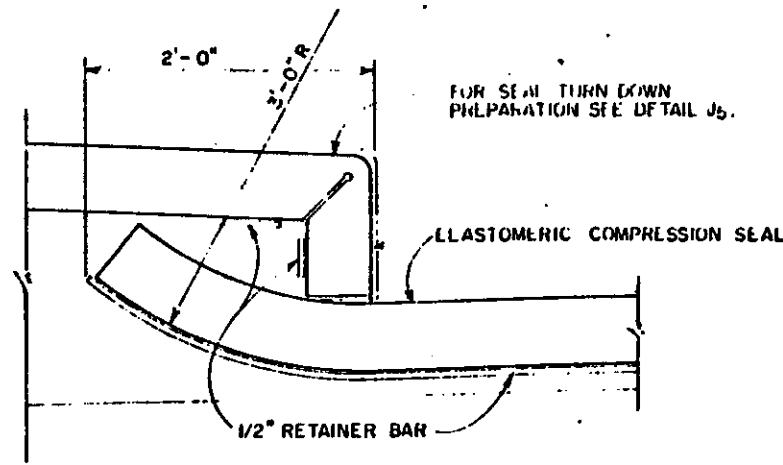
FHWA REGION	STATE	PROJECT
8	OHIO	



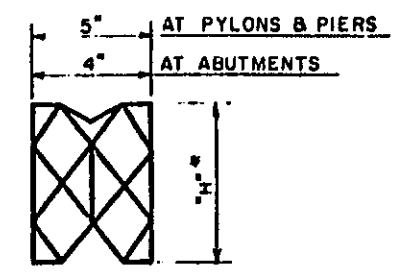
CUYAHOGA COUNTY



SECTION J₄-J₄
TYPICAL ALL EXPANSION JOINTS

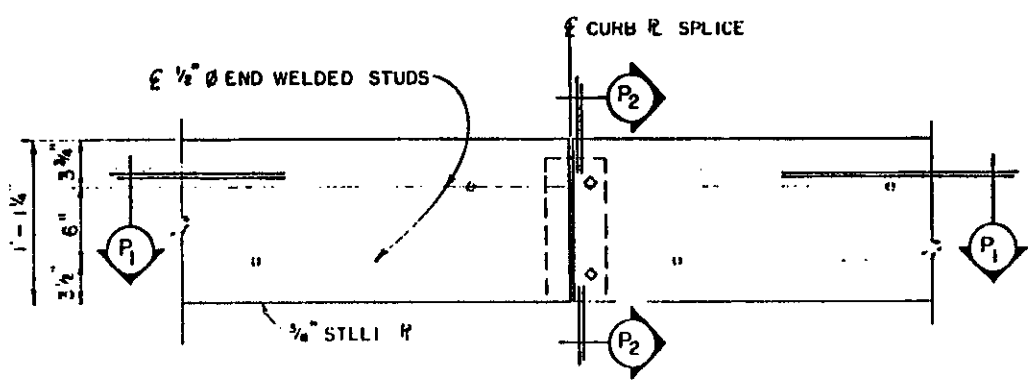


DETAIL OF ELASTOMERIC COMPRESSION SEAL AT CURBS

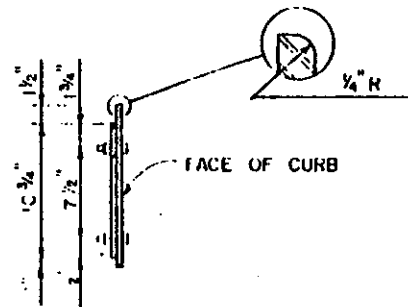


COMPRESSION SEAL DETAIL

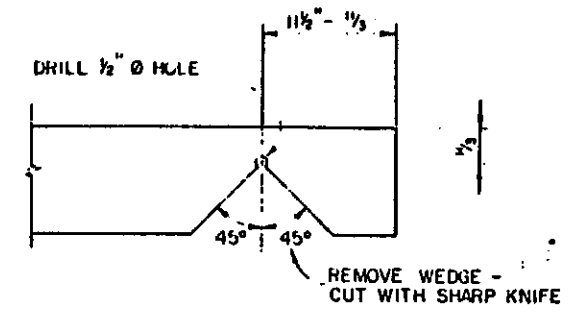
* VALUE FROM CATALOG OF SEAL MANUFACTURER CHOSEN. FOR INSTALLATION PROCEDURES, MATERIAL REQUIREMENTS AND MANUFACTURING CONTROLS, SEE SUPPLEMENTAL SPEC. 849.



ELEVATION

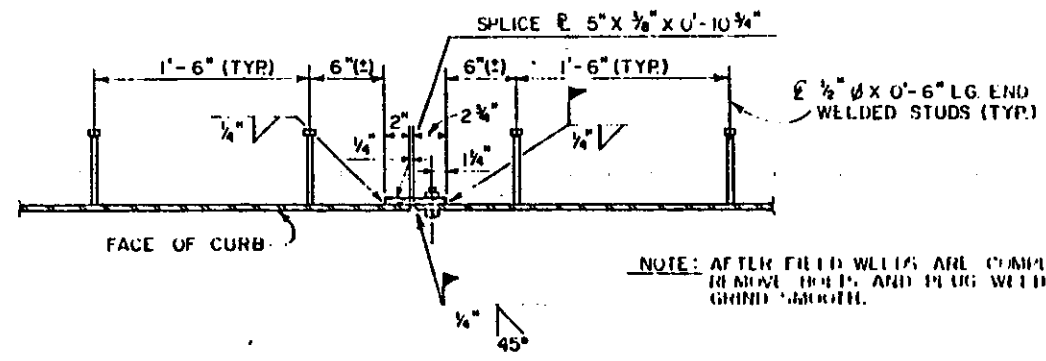


SECTION P₂-P₂



DETAIL J₅

SHOWING PREPARATION FOR SEAL TURN DOWN AT CURBS



SECTION P₁-P₁

CURB PLATE DETAILS

NOTE: AFTER FIELD WELLS ARE COMPLETE, REMOVE HOLES AND PLUG WELD JOINTS. GRIND SMOOTH.

NOTES:

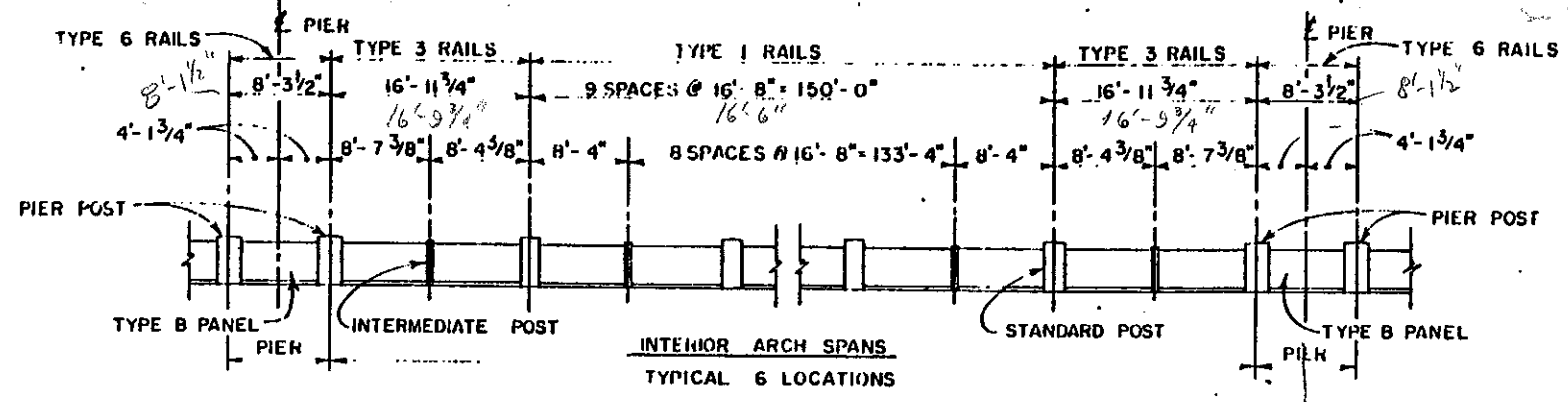
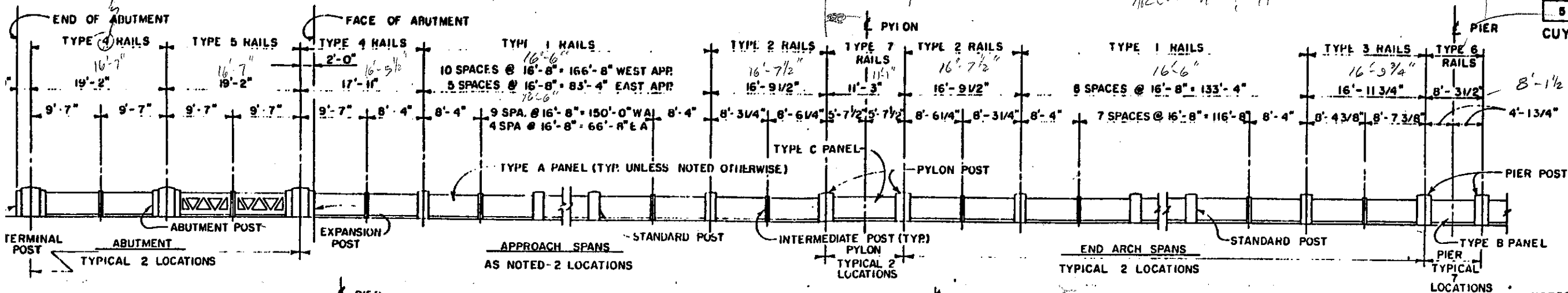
THE 3/8" CURB PLATES SHALL BE MADE OF A36 STEEL.
NON-CONTACT SURFACES OF THE CURB PLATES SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 USING ONE PRIME COAT OF 70817 AND ONE INTERMEDIATE COAT AND ONE FINISH COAT OF 70818 MODIFIED TO MATCH THE COLOR OF CLEAN CONCRETE. THE INTERMEDIATE AND FINISH COATS SHALL BE FIELD APPLIED AND PAID FOR UNDER ITEM 514. FIELD PAINTING OF NEW STRUCTURAL STEEL, SYSTEM A, AS PER PLAN, COST OF PRIME COAT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 513, 3/8" STEEL CURB PLATE, AS PER PLAN.
FOR LOCATION OF SECTION J₄-J₄ SEE SHT. 43.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
COMPRESSION SEAL EXPANSION JOINT & CURB PLATE DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-86
NO. B-191		
DESIGN	DRAWN	CHECKED REVISED TO AS BUILT

FHWA REGION	STATE	PROJECT
5	OHIO	

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82

CUYAHOGA COUNTY



RAILING POST SPACING

NOTE: RAILS NOT SHOWN
SPACING SHOWN FOR ONE SIDE

Symmetry

NOTES

ALL RAILING POSTS, RAILS, AND PANELS SHALL BE FABRICATED FROM STANDARD COLD FORMED WELDED STRUCTURAL STEEL TUBING (ASTM A500, GRADE B). POST BASE PLATES SHALL BE MADE OF A36 STEEL. THE PLATES SHALL BE CAST IN PLACE WITH THE SIDEWALK CONCRETE AND SHALL BE LOCATED TO BE LEVEL IN ALL DIRECTIONS.

THE POSTS SHALL BE ACCURATELY LOCATED ON THE BASE PLATES, TO ASSURE TRUE VERTICAL AND HORIZONTAL ALIGNMENT AND SHALL BE FIELD WELDED TO THE BASE PLATES.

THE RAILS ARE CONSIDERED FIXED AT EACH INTERMEDIATE POST. SLOTTED HOLES ALLOW THERMAL MOVEMENT AT EACH END.

WITH THE EXCEPTION OF THE BOTTOM ONE INCH OF THE POSTS, ALL RAILING POSTS, RAILS, AND PANELS SHALL BE GIVEN THREE COATS OF PAINT IN THE SHOP CONSISTING OF ONE PRIME COAT OF 708.17 AND ONE INTERMEDIATE COAT AND ONE FINISH COAT OF 708.18 MODIFIED TO MATCH THE COLOR OF CLEAN CONCRETE.

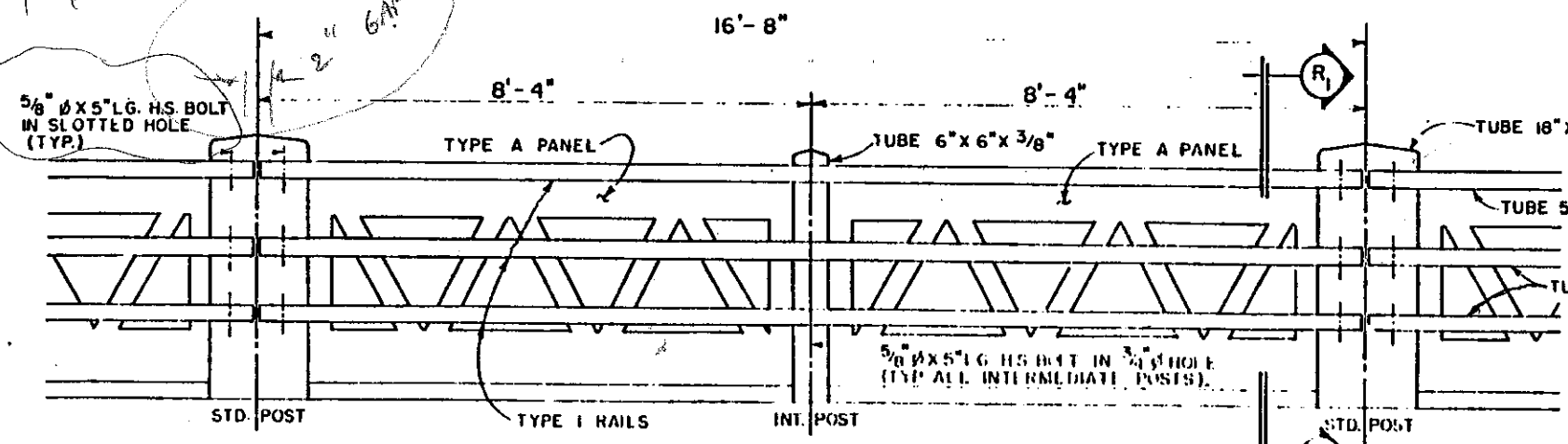
AFTER FIELD WELDING OF THE POSTS IS COMPLETE, THE UNPAINTED AREAS AND ANY DAMAGED AREAS, AS DIRECTED BY THE ENGINEER, SHALL RECEIVE THREE COATS OF FIELD APPLIED PAINT MATCHING THAT APPLIED IN THE SHOP.

ALL PAINT SHALL BE SUPPLIED BY THE SAME MANUFACTURER AND SHALL BE CERTIFIED BY HIM TO BE COMPATIBLE.

SURFACE PREPARATION AND PAINT APPLICATION SHALL BE IN ACCORDANCE WITH ITEM 514 AND THE MANUFACTURERS INSTRUCTIONS.

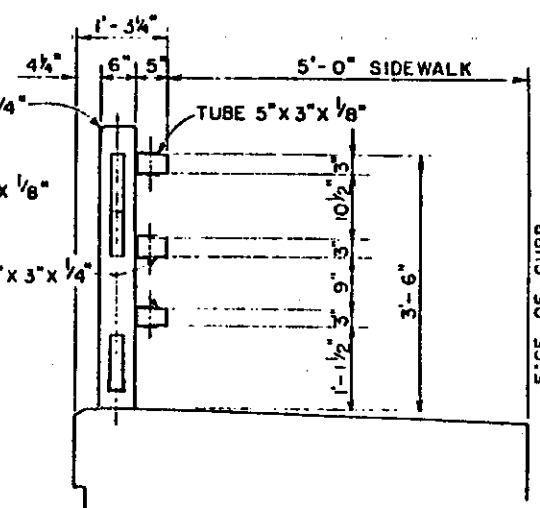
COST OF PAINTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 517 RAILING, AS PER PLAN.

Anchor Bolts



RAILING PANEL DETAIL

TYPICAL FOR 16'-8" POST SPACING SIMILAR OTHER LOCATIONS



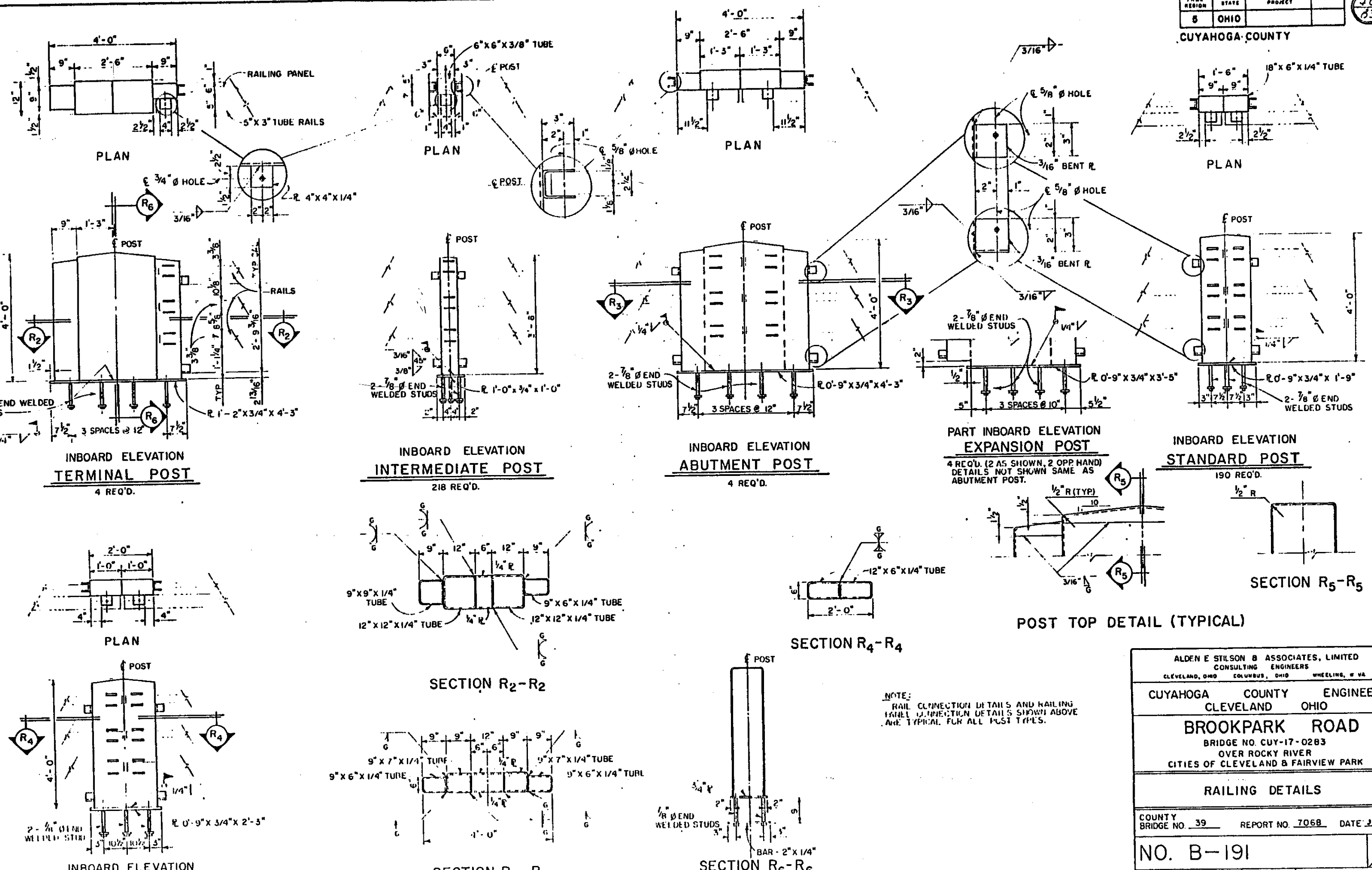
SECTION R1-R1

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W VA		
CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO. CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
RAILING DETAILS		
COUNTY BRIDGE NO. 39	REPORT NO. 7068	DATE 3-31-24
NO. B-191		
DESIGN	DRAWN	CHECKED
		REVISED TO AS BUILT

FHWA REGION	STATE	PROJECT
5	OHIO	

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82

CUYAHOGA COUNTY



4 REQ'D.
218 REQ'D.
4 REQ'D.
4 REQ'D. (2 AS SHOWN, 2 OPP. HAND) DETAILS NOT SHOWN SAME AS ABUTMENT POST.

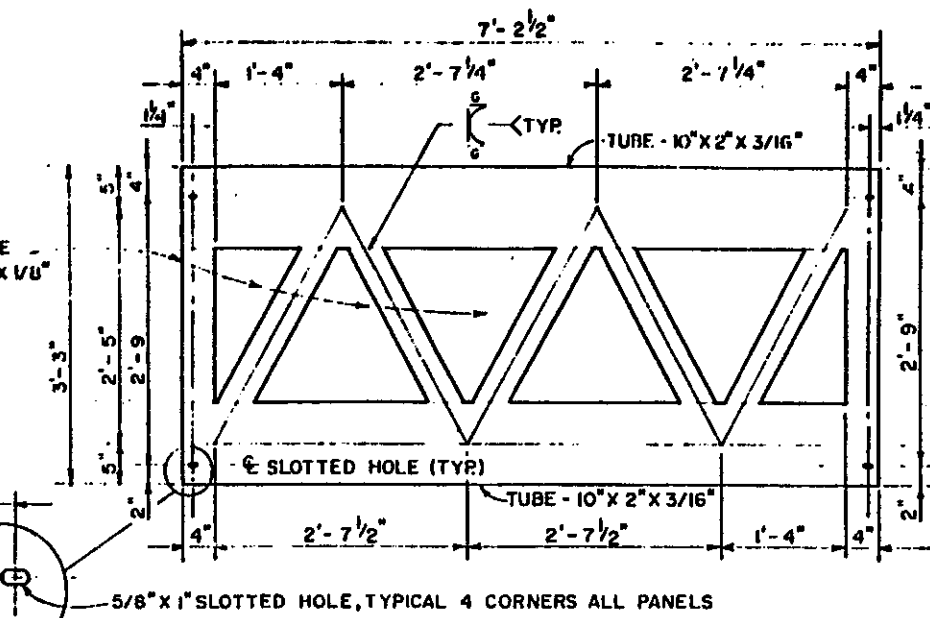
NOTE:
RAIL CONNECTION DETAILS AND RAILING PANEL CONNECTION DETAILS SHOWN ABOVE ARE TYPICAL FOR ALL POST TYPES.

ALDEN E STILSON & ASSOCIATES, LIMITED CONSULTING ENGINEERS CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA		
CUYAHOGA COUNTY	ENGINEER	
CLEVELAND OHIO		
BROOKPARK ROAD		
BRIDGE NO. CUY-17-0283		
OVER ROCKY RIVER		
CITIES OF CLEVELAND & FAIRVIEW PARK		
RAILING DETAILS		
COUNTY	REPORT NO.	DATE
BRIDGE NO. 39	7068	3-31-72
NO. B-191		

TRUSS REGION	STATE	PROJECT
8	OHIO	

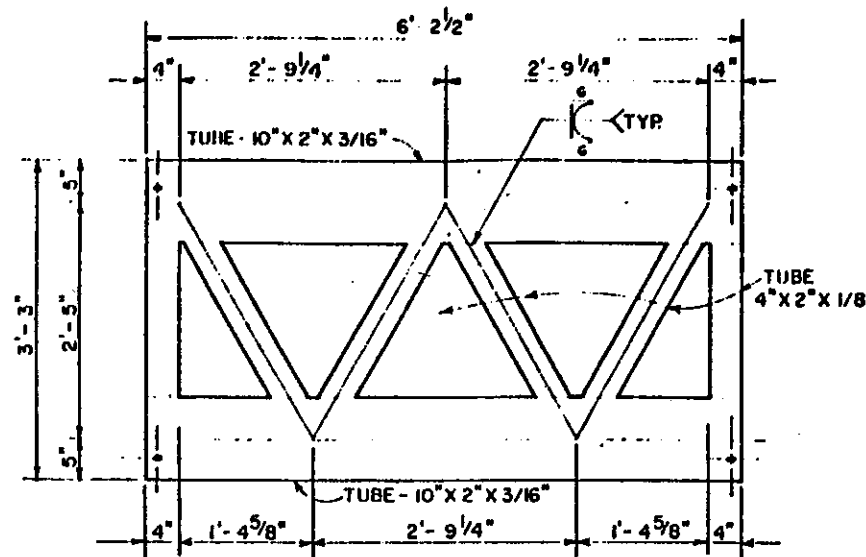
41
82

CUYAHOGA COUNTY



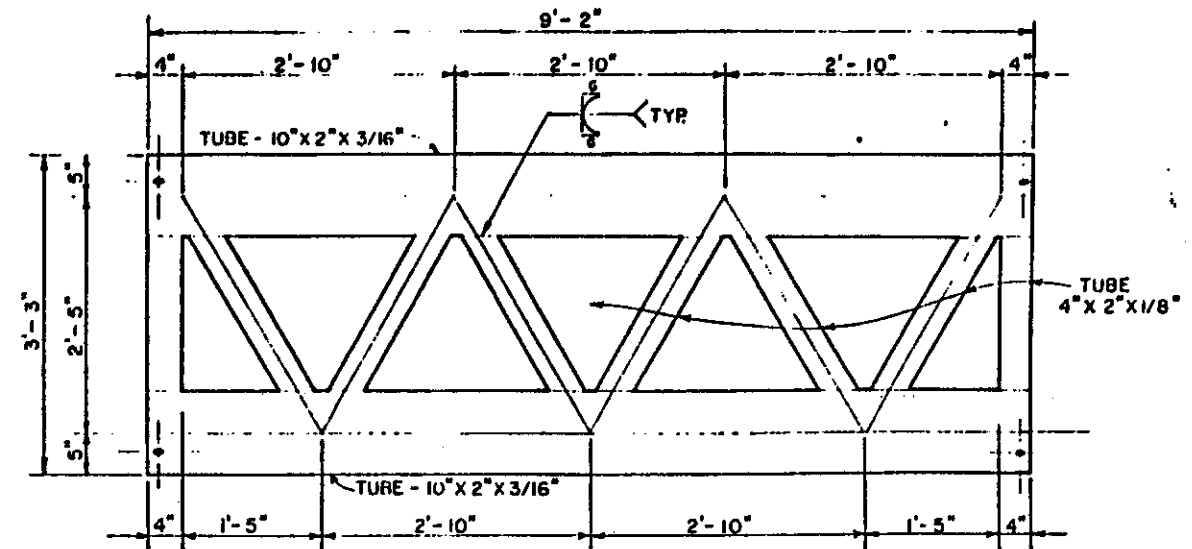
RAILING PANEL - TYPE A

436 REQ'D.



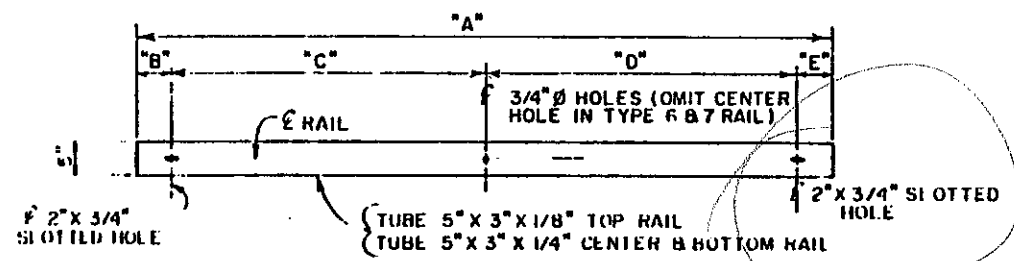
RAILING PANEL - TYPE B

USE AT PIERS - 14 REQ'D.



RAILING PANEL - TYPE C

USE AT PYLONS - 4 REQ'D.



RAIL DETAIL

RAIL TYPE	DIMENSION					NO. REQ'D.		
	"A"	"B"	"C"	"D"	"E"	TOP	CENTER	BOT
1	16'-6"	3 1/2"	7'-11 1/2"	7'-11 1/2"	3 1/2"	170	170	170
2	16'-7 1/2"	3 1/2"	7'-10 3/4"	8'-0 1/4"	5"	8	8	8
3	16'-10"	3 1/2"	7'-11 7/8"	8'-13/8"	5"	28	28	28
4	17'-9"	3 1/2"	7'-11 1/2"	8'-8 1/2"	9 1/2"	8	8	8
5	19'-0"	9 1/2"	8'-8 1/2"	8'-8 1/2"	9 1/2"	4	4	4
6	8'-11 1/2"	5"			5"	14	14	14
7	11'-1"	5"			5"	4	4	4

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

RAILING DETAILS

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-64

NO. B-191

**CUYAHOGA COUNTY
BROOKPARK ROAD**

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

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.

A BAR MARK WITH THE PREFIX 'E' INDICATES THAT REINFORCING STEEL SHALL BE EPOXY COATED.

PK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
001	109	11-2	813	3	3-8	1-8	3-8	1-8		
002	34	5-9	131	1		1-11	2-2	1-11		
003	26	11-8	204	1		5-2	1-8	5-2		
004	120	8-3	661	1		3-5	1-8	3-5		
005	4	3-5	9	1		0-9	2-2	0-9		
006	12	9-7	77	1		4-1	1-8	4-1		
007	12	10-11	88	1		4-9	1-8	4-9		
001	92	22-10	2191	ST						
002	44	13-0	597	ST						
003	4	18-7	78	ST						
004	4	15-6		ST						
RU			901	VARY	LENGTH	BY	0-9	7/8		
014	4	23-9		ST						
015	4	7-0		ST						
RU			307	VARY	LENGTH	BY	1-9			
021	4	17-6		ST						
022	4	26-2	109	ST						
027	14	8-7	125	1	1-9	7-0				
028	14	7-0	102	ST						
029	2	7-1	15	1	1-9	5-6				
030	2	5-6	12	ST						
031	22	7-2	164	1	1-9	5-6				
032	22	5-6	126	ST						
033	4	16-5	88	12	12-6	3-0		2-6		
034	16	31-10	531	ST						
035	8	6-8	42	ST						
036	8	15-1	94	12	8-10	4-5		4-5		
038	8	3-0	25	ST						
040	10	8-6	88	1	1-3	4-3	1-3			
045	172	3-0	558	ST						
046	12	2-11	37	1	1-0	2-0				
047	8	2-9	17	ST						
001	8	23-0	626	ST						
002	8	25-0	680	ST						
003	4	25-7	348	ST						
005	4	27-8	376	ST						
006	4	28-4	395	ST						
007	4	24-3	330	ST						
008	4	26-3	357	ST						
009	4	26-10	365	ST						
010	4	23-7	321	ST						
012	4	20-3	275	ST						
013	8	26-5	719	ST						
014	4	24-7	334	ST						
015	8	23-0	626	ST						
9001	20	10-3	697	1	1-3	9-3				
9002	20	9-10	669	1	1-3	8-10				
9003	16	11-9	639	1	1-3	10-9				
				EAST	ABUTMENT,	EPOXY	COATED			
5043	54	4-4	244	2	1-6	1-4	0-9	1-2		
5044	10	16-1	168	ST						
5045	50	4-1	213	ST						
5046	50	4-5	230	2	0-3	1-7	0-10	2-0	0-3	
5047	10	20-8	216	ST						
5100	8	27-10	191	ST						
5101	8	18-10	151	ST						
5102	40	17-0	709	ST						
5104	36	28-0	1051	ST						
7001	144	17-0	5004	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
A 4001	34	5-9	131	1		1-11	2-2	1-11		
A 4002	84	11-2	627	3	1-8	3-8	1-8	3-8		
A 4003	26	10-7	184	1		4-7	1-8	4-7		
A 4004	60	8-7	344	1		3-7	1-8	3-7		
A 4005	10	11-7	77	1		5-1	1-8	5-1		
A 4006	12	9-11	79	1		4-3	1-8	4-3		
A 4007	4	3-11	10	1		1-0	2-2	1-0		
A 4008	10	13-7	91	1		6-1	1-8	6-1		
A 5001	82	22-0	1882	ST						
A 5002	2	25-0	52	ST						
A 5003	2	17-3	36	ST						
A 5004	2	14-8	31	ST						
A 5005	112	3-0	350	ST						
A 5006	2	14-6	30	ST						
A 5007	2	10-9	22	ST						
A 5008	2	5-10		ST						
THRU			75	VARY	LENGTH	BY	2-1	3/8		
A 5011	2	12-2		ST						
A 5012	2	8-0		ST						
THRU			240	VARY	LENGTH	BY	0-5	7/8		
A 5022	2	13-0		ST						
A 5023	22	23-0	528	ST						
A 5026	4	18-0	75	ST						
A 5027	14	7-1	103	1	0-9	6-6				
A 5028	14	6-3	91	ST						
A 5029	2	6-4	13	1	0-9	5-9				
A 5030	2	5-6	11	ST						
A 5031	22	5-7	128	1	0-9	5-0				
A 5032	22	5-0	115	ST						
A 5033	4	16-5	88	12	12-6	3-0		2-6		
A 5034	16	30-6	509	ST						
A 5035	6	7-1	44	ST						
A 5036	6	14-9	92	12	9-1	4-0		4-0		
A 5038	8	3-0	25	ST						
A 5042	10	5-11	62	1	1-1	4-0	1-1			
A 5043	2	13-6		ST						
THRU			347	VARY	LENGTH	BY	0-3	7/8		
A 5053	2	16-9		ST						
A 5054	2	8-3		ST						
THRU			278	VARY	LENGTH	BY	0-9	1/4		
A 5064	2	16-0		ST						
A 5065	2	7-1		ST						
THRU			68	VARY	LENGTH	BY	3-9	1/2		
A 5067	2	14-8		ST						
A 5068	2	22-6	47	ST						
A 5069	2	24-0	50	12	3-6	19-6		6-2		
A 5070	4	11-4	50	ST						
A 5071	4	13-6	56	ST						
A 5072	4	13-0	54	ST						
A 5073	4	5-11	26	ST						
A 5074	4	8-8	36	ST						
A 5075	4	8-2	34	ST						
A 5076	12	2-11	37	1	1-0	2-0				
A 5077	8	2-9	17	ST						
A 9001	4	24-9	337	ST						
A 9004	4	28-0	381	ST						
A 9005	4	28-4	385	ST						
A 9006	4	27-9	377	ST						
A 9007	4	25-8	349	ST						
A 9008	3	26-4	269	ST						
A 9009	2	25-4	172	ST						
A 9010	2	22-5	152	ST						
A 9011	3	23-0	235	ST						
A 9012	2	21-9	148	ST						
A 9013	2	19-1	130	ST						
A 9014	4	15-10	215	1	4-0	11-11				
A 9016	3	16-4	167	6	1-0	1-9	10-0	4-0		
A 9018	4	25-9	350	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
A 9019	4	23-2	316	ST						
A 9020	4	26-4	358	ST						
F 9001	42	9-0	1285	1	1-3	8-0				
				WEST	ABUTMENT,	EPOXY	COATED			
AE 5024	8	18-0	151	ST						
AE 5025	8	22-9	190	ST						
AE 5039	38	17-4	687	ST						
AE 5040	72	28-3	2121	ST						
AE 5043	54	4-4	244	2	1-6	1-4	0-9	1-2		
AE 5044										

**CUYAHOGA COUNTY
BROOKPARK ROAD**

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.

BAR SIZE DESIGNATION

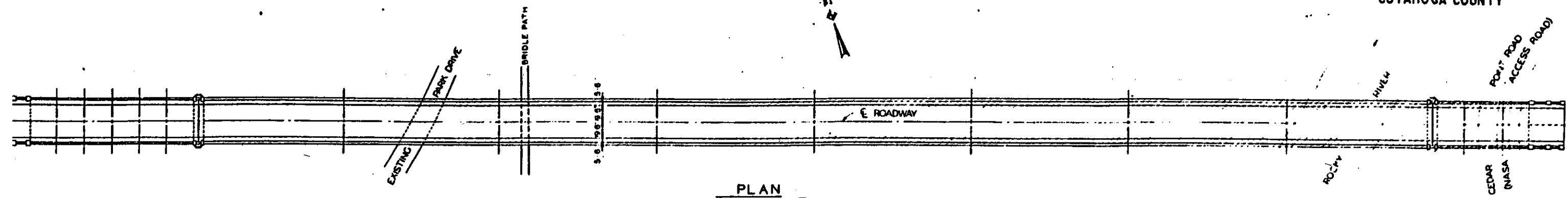
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

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.

A BAR MARK WITH THE PREFIX 'E' INDICATES THAT REINFORCING STEEL SHALL BE EPOXY COATED.

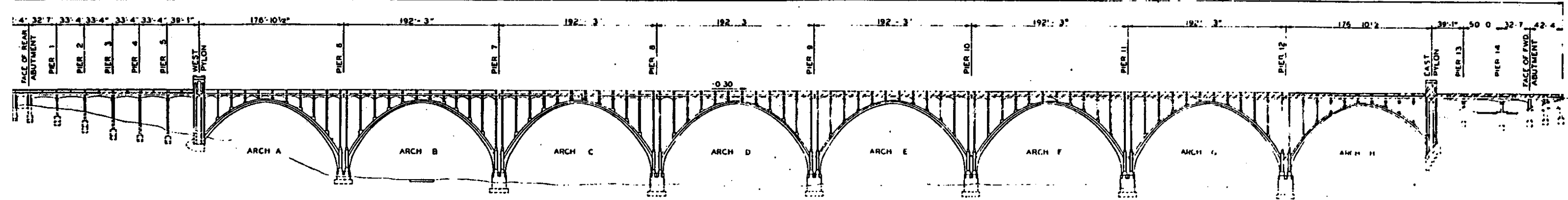
PK	NUM.	LENGTH	HEIGHT	TYPE	A	B	C	D	E	NOTE	MARK	NUM.	LENGTH	HEIGHT	TYPE	A	B	C	D	E	NOTE	MARK	NUM.	LENGTH	HEIGHT	TYPE	A	B	C	D	E	NOTE	
											ARCH SPANS, EPOXY - COATED																						
											PYLON FACIA BARS																						
											LIGHTING SUPPORT BARS																						
001	336	30-0	10519	ST							S 5301	1204	6-0	7535	1	0-6	2-2	1-2	2-2	0-6		SE 7003	44	15-8	1394	ST							
003	48	10-10	542	ST							S 5302	688	7-0	5023	1	0-9	2-8	1-2	2-8	0-6		SE 7004	44	35-1	3155	ST							
004	10	7-5	77	3	1-9	1-8	1-9	1-8			S 5303	688	9-0	6458	1	0-6	3-8	1-2	3-8	0-6		SE 7005	2604	35-7	189377	ST							
005	10	8-7	90	3	2-4	1-8	2-4	1-8			S 5304	20	11-1	374	3	1-2	4-1	1-2	4-1			SE 7006	308	30-8	19201	ST							
006	10	8-8	90	1	0-6	3-3	1-8	3-3	0-6		S 5305	28	9-5	275	3	1-2	3-3	1-2	3-3			SE 7007	40	23-4	1908	ST							
007	10	8-4	87	1	0-6	3-1	1-8	3-1	0-6		S 5306	28	8-1	236	3	1-2	2-7	1-2	2-7			SE 7008	160	22-1	7222	ST							
008	40	12-10	535	1	0-6	5-4	1-8	5-4	0-6		S 5307	8	6-5	54	1		2-9	1-2	2-9			SE 7009	120	38-9	9505	ST							
009	10	9-7	100	3	2-10	1-8	2-10	1-8			S 5308	8	5-11	49	1		2-6	1-2	2-6														
010	12	6-11	87	3	2-0	1-2	2-0	1-2			S 5309	4	6-5	27	3	1-2	1-9	1-2	1-9														
011	12	6-10	86	1	0-6	2-7	1-2	2-7	0-6		S 5310	4	9-11	41	3	1-2	3-6	1-2	3-6			SE 9001	1288	30-3	132471	1	29-9	0-9					
012	60	7-8	490	1	0-6	3-0	1-2	3-0	0-6		S 5311	4	12-11	54	3	1-2	5-0	1-2	5-0			SE 9002	1288	34-3	149888	1	33-9	0-9					
013	12	8-8	108	1	0-6	3-6	1-2	3-6	0-6		S 5312	4	13-9	57	3	1-2	5-5	1-2	5-5														
014	1440	8-5	12446	ST							S 5318	156	7-2	1166	1	0-6	2-9	1-2	2-9	0-6													
015	6	29-6	185	ST							S 5319	780	6-7	5356	3	1-2	1-10	1-2	1-10														
016	12	6-5	80	3	1-9	1-2	1-9	1-2			S 5320	468	6-8	3254	1	0-6	2-6	1-2	2-6	0-6													
017	10	8-9	91	3	2-5	1-8	2-5	1-8			S 5321	312	8-8	2820	1	0-6	3-6	1-2	3-6	0-6													
018	12	8-2	102	1	0-6	3-3	1-2	3-3	0-6		S 5322	156	10-8	1736	1	0-6	4-6	1-2	4-6	0-6													
019	2	8-4	17	1	0-6	3-4	1-2	3-4	0-6		S 5323	156	11-8	1898	1	0-6	5-0	1-2	5-0	0-6													
020	2	9-10	21	1	0-6	4-1	1-2	4-1	0-6		S 5324	32	7-8	256	1	0-6	2-9	1-8	2-9	0-6													
021	6	7-11	50	1	6-1	2-0					S 5325	112	7-7	886	3	1-8	1-10	1-8	1-10														
022	16	9-10	164	ST							S 5326	88	7-2	658	1	0-6	2-6	1-8	2-6	0-6													
023	2	9-2	17	1	0-6	3-3	1-2	3-3	0-6		S 5327	56	9-2	535	1	0-6	3-6	1-8	3-6	0-6													
024	2	9-6	20	1	0-6	3-7	1-8	3-7	0-6		S 5328	40	10-8	445	1	0-6	4-3	1-8	4-3	0-6													
025	2	10-6	22	1	0-6	4-2	1-8	4-2	0-6		S 5329	28	11-10	346	1	0-6	4-10	1-8	4-10	0-6													
026	2	9-10	21	1	0-6	3-10	1-8	3-10	0-6		S 5337	28	14-8	428	1	0-6	6-3	1-8	6-3	0-6													
028	44	4-8	214	1	1-9	3-1					S 5338	40	8-4	389	ST																		
029	40	4-9	198	3	1-4	0-11	1-4	0-11			S 5352	156	5-8	922	1	0-6	2-0	1-2	2-0	0-6													
030	8	5-9	48	3	0-11	1-8	0-11	1-8			S 5353	32	6-8	223	1	0-6	2-3	1-8	2-3	0-6													
031	2	7-5	16	3	2-5	1-2	2-5	1-2			S 7001	396	14-3	11534	5	18-1	14-3																
032	2	8-7	18	3	2-10	1-2	2-10	1-2			S 7002	12	7-3	178	5	4-3	0-8	6-7															
033	20	11-7	242	ST																													
034	20	9-6	198	ST																													
035	20	7-8	160	ST																													
036	6	6-10	43	12	1-0	1-3	3-8	1-3			S 8001	688	21-0	38576	5	10-10	21-0																
5313	416	5-1	2206	3	0-11	1-4	0-11	1-4			S 8002	84	7-3	1626	25	5-6	4-0	10-4	1-9														
5314	416	7-4	3182	2	0-9	5-10	1-0				S 8003	84	8-5	1888	1	1-9	6-9																
5315	416	5-3	2278	ST							S 8004	12	9-8	310	4	2-0	3-8	5-6															
5316	416	4-0	1736	1		1-9	1-9	0-9			S 8005	12	6-5	206	6	2-0	3-3	2-7															
6001	14	29-6	620	ST																													
7001	20	9-1	371	24	4-11	7-9	1-6	1-7	1-3		SE 5313	3024	5-1	16033	3	0-11	1-4	0-11	1-4														
7002	24	7-5	364	25	5-9	1-3	14-11	1-8			SE 5314	3024	7-4	23130	2	0-9	5-10	1-0															
7003	4	6-4	52	5	4-2		6-4				SE 5315	3024	5-3	16559	ST																		
7004	4	7-3	59	5	4-3	0-9	6-6				SE 5316	2572	5-3	14084	2		2-0	1-9	0-9	1-0													
7005	4	8-5	69	ST							SE 5317	2662	8-10	24525	ST																		
7006	20	7-2	293	ST							SE 5330	24	15-4	384	ST																		
8012	8	8-3	176	ST							SE 5331	24	34-7	866	ST																		
8013	8	6-6	139	ST							SE 5332	744	34-11	27095	ST																		
9001	25	30-7	2600	1	1-0	29-10					SE 5333	168	30-1	5271	ST																		
9002	25	32-7	2770	1	1-0	31-10					SE 5334	24																					

CUYAHOGA COUNTY



PLAN

OVERALL LENGTH = 1918.58'



ELEVATION

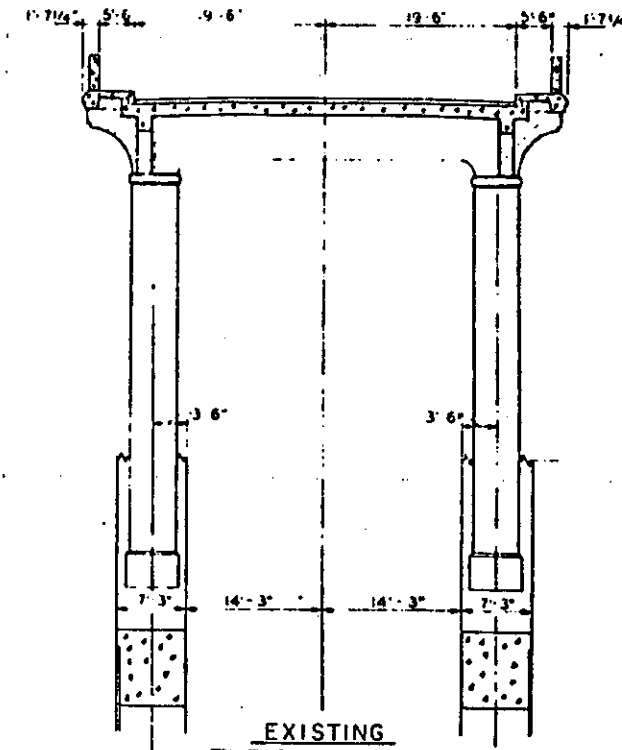
SUMMARY OF QUANTITIES

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE		SPALL		DELAMINATION W/CRACKS		MISSING FASCIA		PATTERN CRACKING		CRACK		CORNER CRACK		POPOUTS		HONEYCOMB	
		S.F.	S.F.	S.F.	S.F.	L.F.	S.F.	S.F.	L.F.	L.F.	EACH	S.F.	S.F.	S.F.	S.F.				
WEST APPROACH SPANS	REAR ABUT.	13	40	43	110	5	10	4	30			4	30						
	PIERS	534	660	510	303	40		6	10		60	20	26	40					
	STRINGERS	16	20	101	20					151	60	166	80	41					
ARCH SPANS	WEST PYLON	78	420	8	420	170	50				20	8	40	30					
	STRINGERS	890		522						271	233		1298						
	FLOORBEAMS	73		40						26	148		102						
	COLUMNS	1637	2550	380	760	713	1430	307	370	253	510	300	1319	1980	50				
EAST APPROACH SPANS	ARCH	1787	3570	383	1920	1244	1620	281	1400	640	1600	1739	2340	549	820			22	70
	PIERS	246	980	152	610	1858	2230			560	208	830	62	120	115	290			
	FWD. ABUT.	6	10	34	60	12						30							
TOTAL MEASURED QUANTITY	PIERS	1	10	5	40	35	20				30	10	10	10					
	STRINGERS	8		154	20					18	10	11	10	18					
	EAST PYLON	24	160	10	140						60	40							
TOTAL ESTIMATED QUANTITY		8500		5000		6000		2000		3000		4000		3500		400		100	

Note:
Cross hatched area denotes limits of existing structure to be removed for structure widening. Typical all sheets.

The physical inventory of measured quantities of deterioration was performed between May 22 and June 23, 1978.

A re-inventory of quantities of deterioration was performed in February, 1986. The values listed in the column headed '86 of the Summary of Quantities table, this sheet, list the results of the re-inventory.



ALLEN E. STURSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

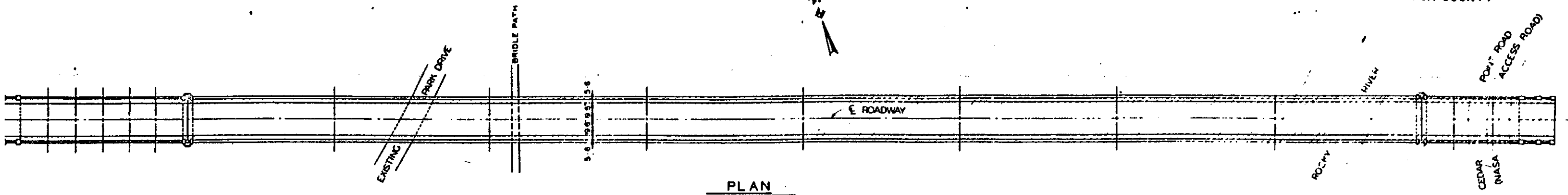
BROOKPARK ROAD
BRIDGE NO CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

BRIDGE PLAN & QUANTITIES

COUNTY BRIDGE NO 39 REPORT NO 7068 DATE 3-31-84

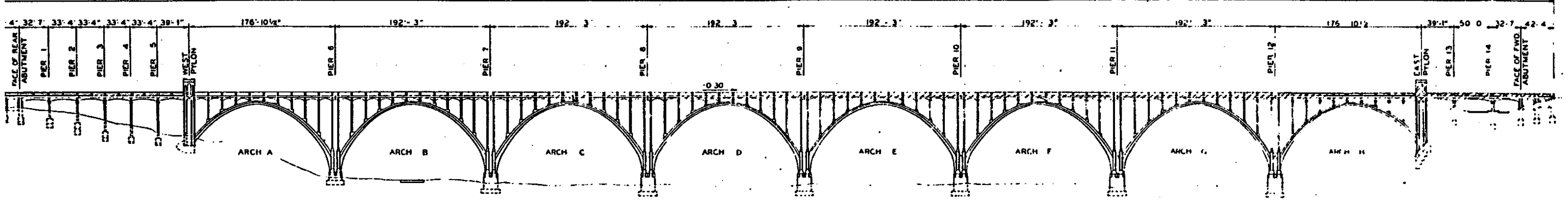
NO. B-191

CUYAHOGA COUNTY



PLAN

OVERALL LENGTH = 1918.58'



ELEVATION

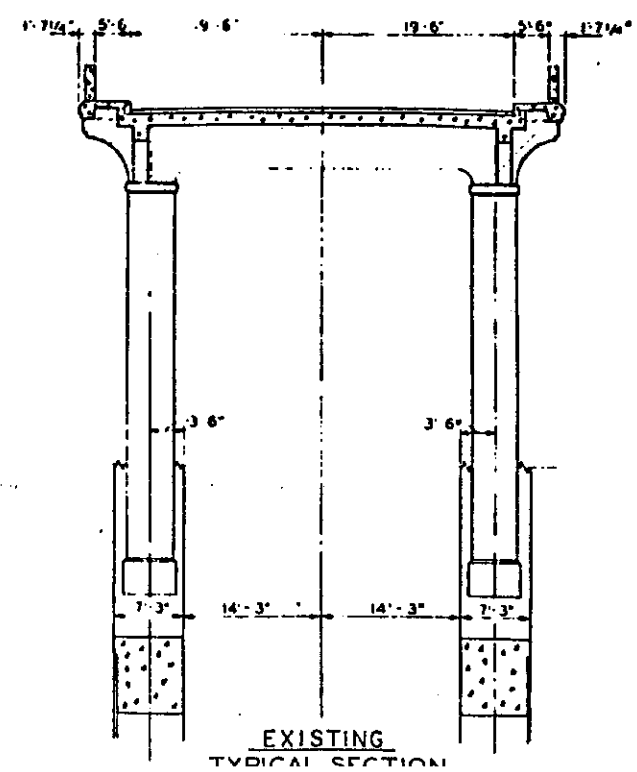
SUMMARY OF QUANTITIES

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE		SPALL		DELAMINATION W/CRACKS		MISSING FASCIA		PATTERN CRACKING		CRACK		CORNER CRACK		POPOUTS		HONEYCOMB		
		S.F.	S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.	'78	'86	'78	'86	'78	'86	'78	'86	
WEST APPROACH SPANS	REAR ABUT.	13	40	43	110	5	10	4	30			4	30							
	PIERS	534	660		510	303	40	6	10		60		20	26	40					
	STRINGERS	16	20	101	20					151		166	80	41						
	WEST PYLON	78	420	8	420	170	50				20	8	40		30					
ARCH SPANS	STRINGERS	890		522						271		233		1298						
	FLOORBEAMS	73		40						26		148		102						
	COLUMNS	1697	2550	380	760	713	1430	307	370	253	510	300	1319	1980		50				
	ARCH	1787	3570	383	1920	1244	1620	281	1400	640	1600	1799	2340	549	820			22	70	
EAST APPROACH SPANS	PIERS	246	980	152	610	1858	2230				560	208	830	62	120	115	290			
	FWD. ABUT.	6	10	34	60	12							30							
	PIERS	1	10	5	40	35	20						30		10					
	STRINGERS	8		154	20					18	10	11	10	18	10					
TOTAL	MEASURED QUANTITY	5373	8420	1832	4610	4340	5400	598	1810	1359	2850	2577	3720	3415	3010		340		70	
	ESTIMATED QUANTITY		8500		5000		6000		2000		3000		4000		3500		400		100	

Note:
Cross hatched area denotes limits of existing structure to be removed for structure widening. Typical all sheets.

The physical inventory of measured quantities of deterioration was performed between May 22 and June 23, 1978.

A re-inventory of quantities of deterioration was performed in February, 1986. The values listed in the column headed '86 of the Summary of Quantities table, this sheet, list the results of the re-inventory.



EXISTING TYPICAL SECTION

ALFRED STRLSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

BRIDGE PLAN & QUANTITIES

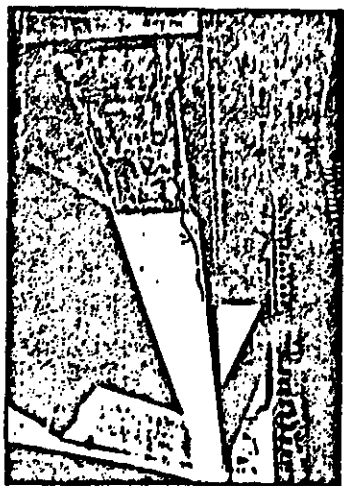
COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-84

NO. B-191

FHWA REGION	STATE	PROJECT
8	OHIO	

52
82

CUYAHOGA COUNTY



CORNER CRACK - Cracks which extend completely through and diagonally across a corner.



CORNER CRACK

POPOUTS - Conical fragments that break out of the surface of the concrete leaving small holes. Generally about 1" in diameter by approximately 1/2" deep.

POPOUTS



HONEYCOMB - Areas where the mortar did not fully cover the aggregate and come to the surface during construction. Patches made to these areas have deteriorated.

HONEYCOMB

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

DETERIORATION DESCRIPTION

COUNTY
BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-84

NO R-191

2

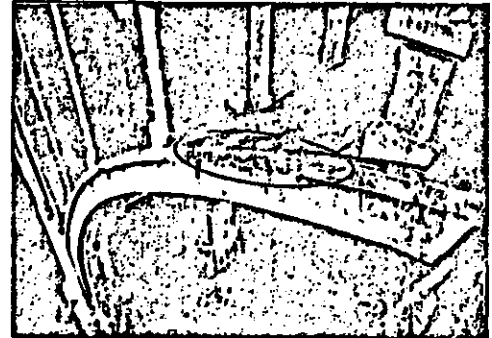


Missing Fascia

MISSING FASCIA - Areas where the fascia of the arches or the column capitals has either scaled or spalled away.

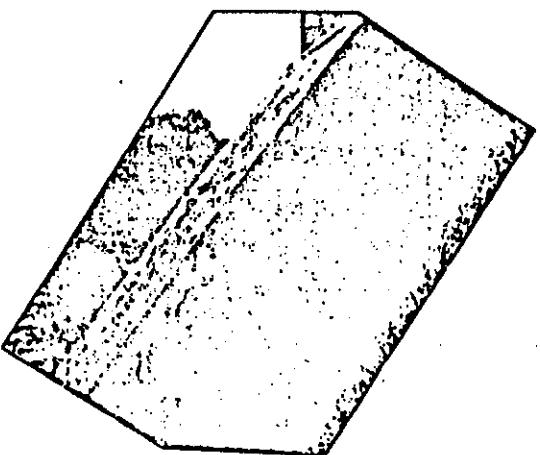
MISSING FASCIA

Pattern Cracking



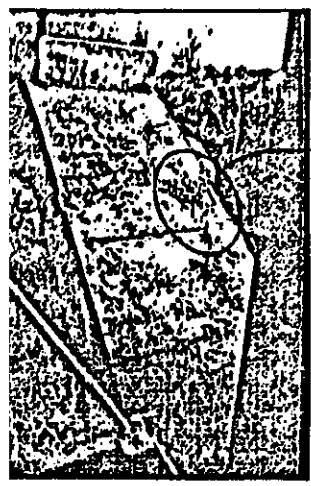
PATTERN CRACKING - Interconnected cracks forming networks of varying size. The cracks vary in width from barely visible to well-defined openings. Pattern cracking is generally a prelude to scale.

PATTERN CRACKING



CRACK - A linear fracture in the concrete extending partially through the concrete member. The cracks vary in width from barely visible to well-defined openings.

CRACK



Scale

SCALE - The gradual loss of surface mortar and aggregate. The degree of scale varies from light to severe.

Light scale - loss of surface mortar up to 1/4" deep, with surface exposure of coarse aggregate.

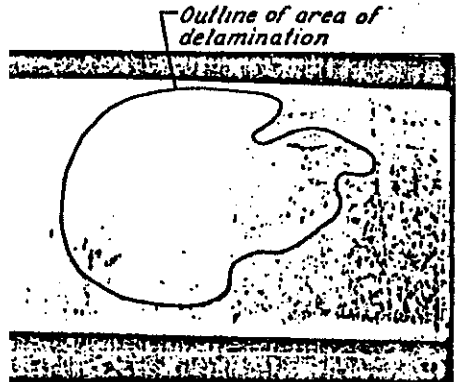
Severe scale - loss of coarse aggregate as well as surface mortar and the mortar surrounding the aggregate. Depth of loss exceeds 1".

SCALE

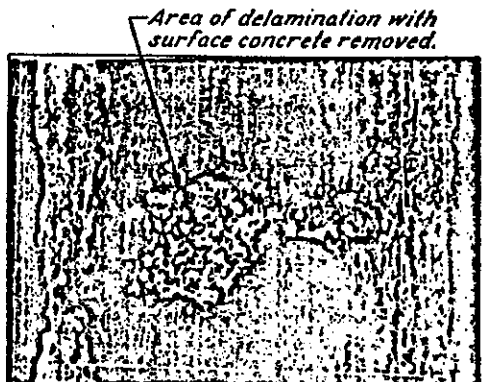


SPALL - An irregularly shaped depression in the concrete caused by a separation and loss of a portion of the surface concrete. A fracture is revealed roughly parallel, or slightly inclined, to the surface. Reinforcing steel is exposed in many cases.

SPALL



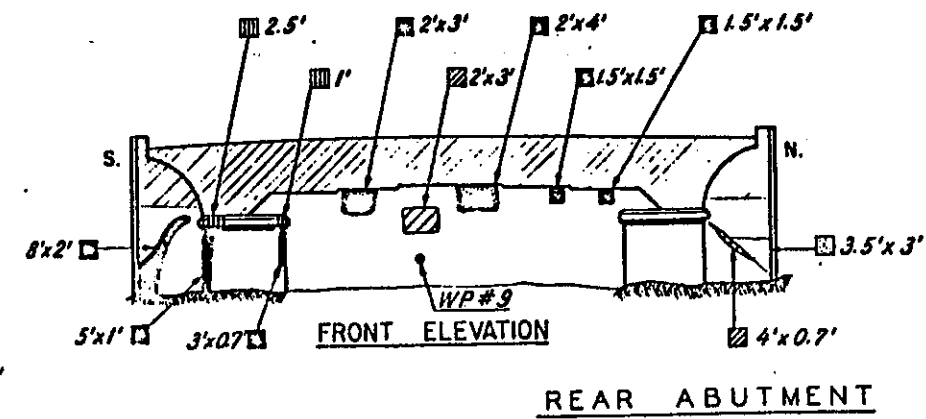
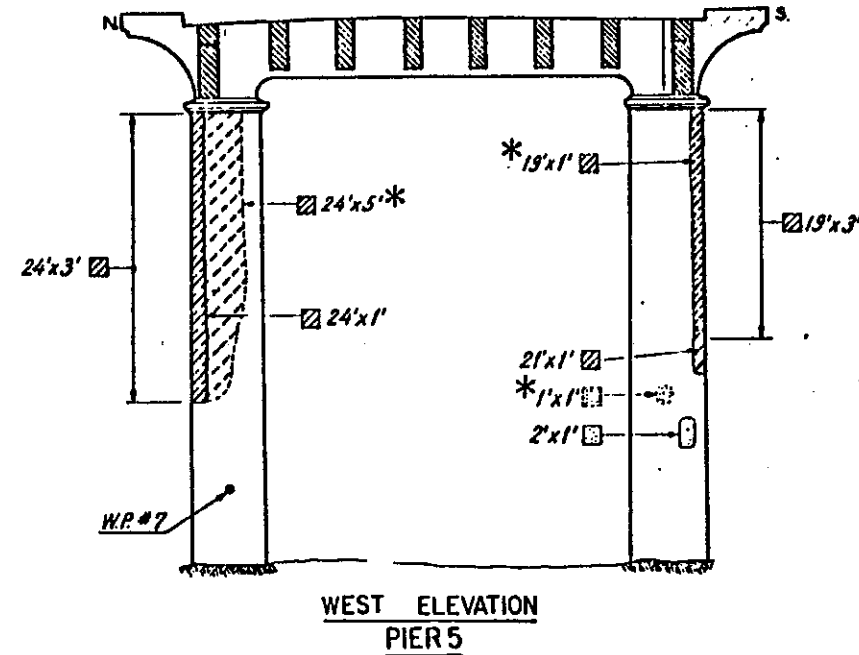
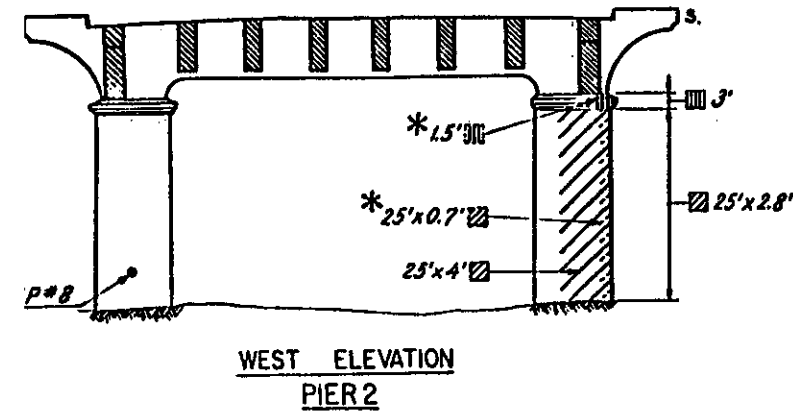
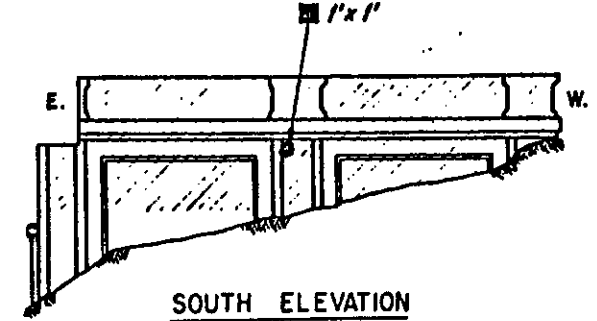
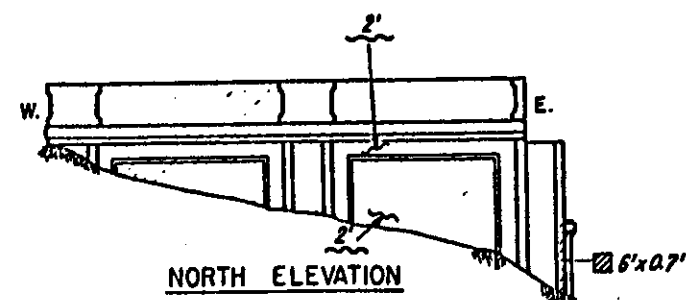
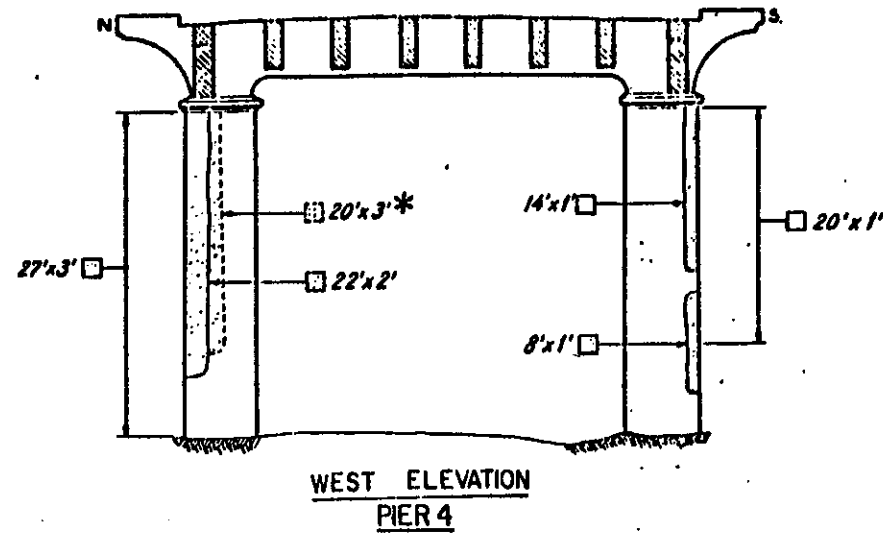
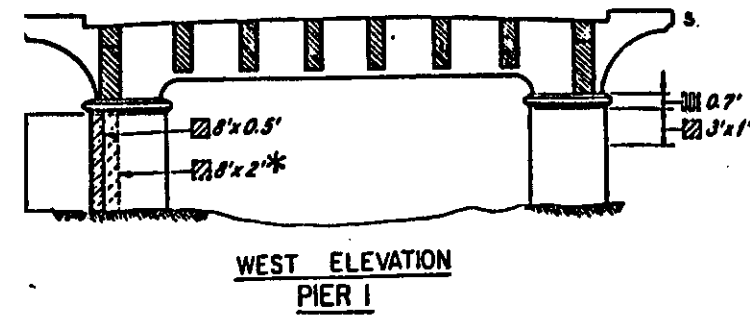
Outline of area of delamination



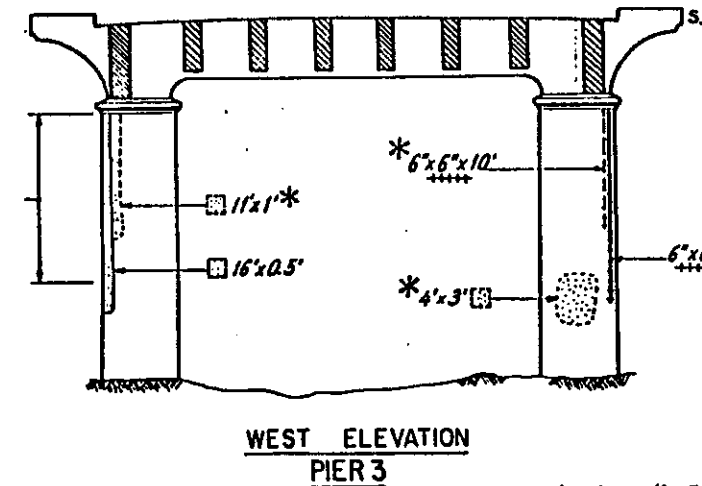
Area of delamination with surface concrete removed.

DELAMINATION - A fracture plane roughly parallel to the surface of the concrete. The depth of the delamination varies up to about 2". The surface appears to be in good condition but gives off a hollow sound when struck with a hammer or steel bar.

DELAMINATION



Note:
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WP #9 = Windsor Probe #9 - average concrete strength 5975 p.s.i.

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
REAR ABUT.									
TOTAL QUANTITIES	13	43	5	4		4			

WP #7 = Windsor Probe #7 - average concrete strength 5600 p.s.i.
WP #8 = Windsor Probe #8 - avg. conc. strength of 2 shots 4325 p.s.i.

indicates limits of quantities on south and north sides
* = Opposite side

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
PIER 1 NORTH COLUMN	20								
PIER 1 SOUTH COLUMN	3								
PIER 2 NORTH COLUMN									
PIER 2 SOUTH COLUMN	100								
PIER 3 NORTH COLUMN									

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
PIER 3 NORTH COLUMN									
PIER 4 NORTH COLUMN									
PIER 4 SOUTH COLUMN									
PIER 5 NORTH COLUMN	72								
PIER 5 SOUTH COLUMN	32								

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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

WEST APPROACH
REAR ABUTMENT & PIERS 1 THRU 5

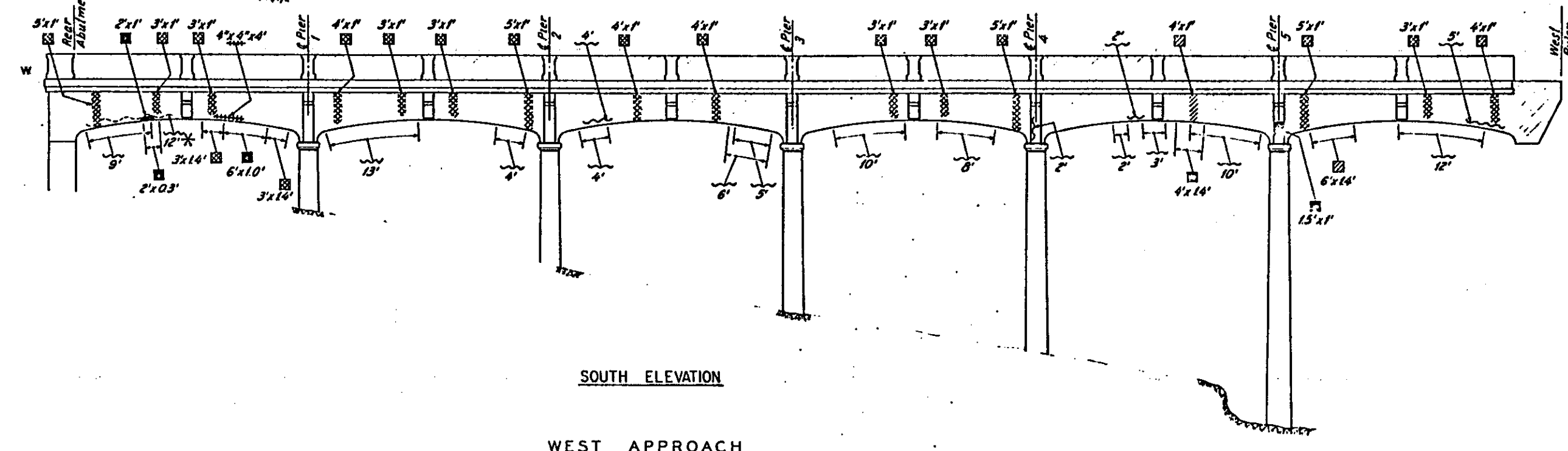
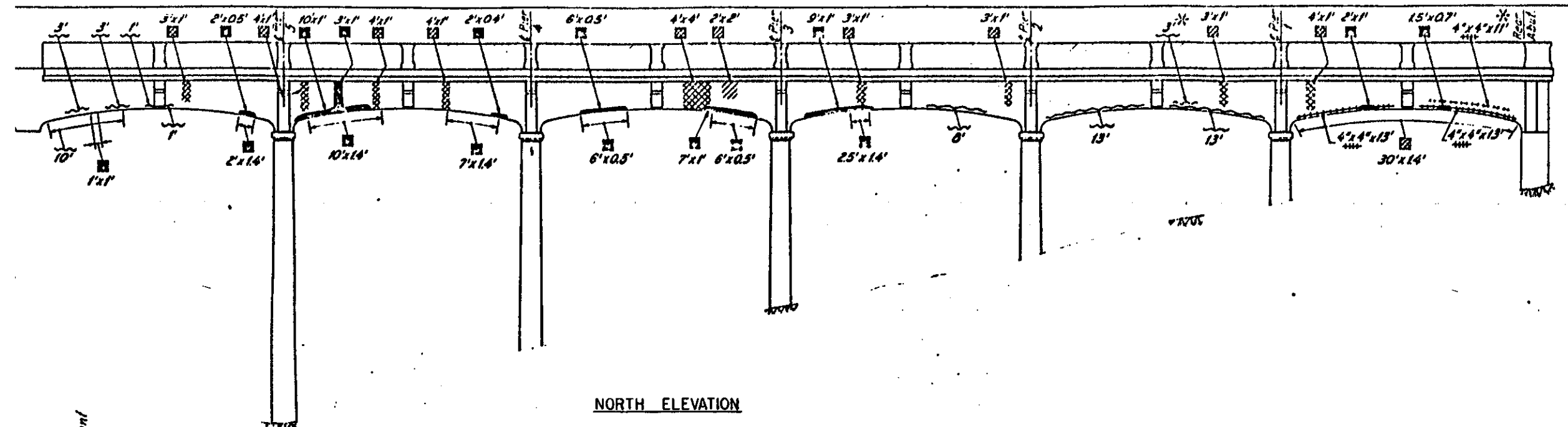
COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-84

NO B-191

FEDERAL REGION	STATE	PROJECT
5	OHIO	

54
82

CUYAHOGA COUNTY



WEST APPROACH

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

— indicates limits of quantity on east, west, top or bottom sides
* - Opposite side

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
ELEMENT OF STRUCTURE	SYMBOL	UNIT	UNIT	UNIT	UNIT	UNIT	UNIT	UNIT	UNIT
		S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH EXTERIOR STRINGER	OUTSIDE	4	37		44	42	26		
	INSIDE		38		42	10	0		
SOUTH EXTERIOR STRINGER	OUTSIDE	4	2		57	11	4		
	INSIDE	8	13		8	66			
FLOOR BEAM	NORTH					12			
	SOUTH		2			2			
TOTAL QUANTITIES		16	92		151	166	41		

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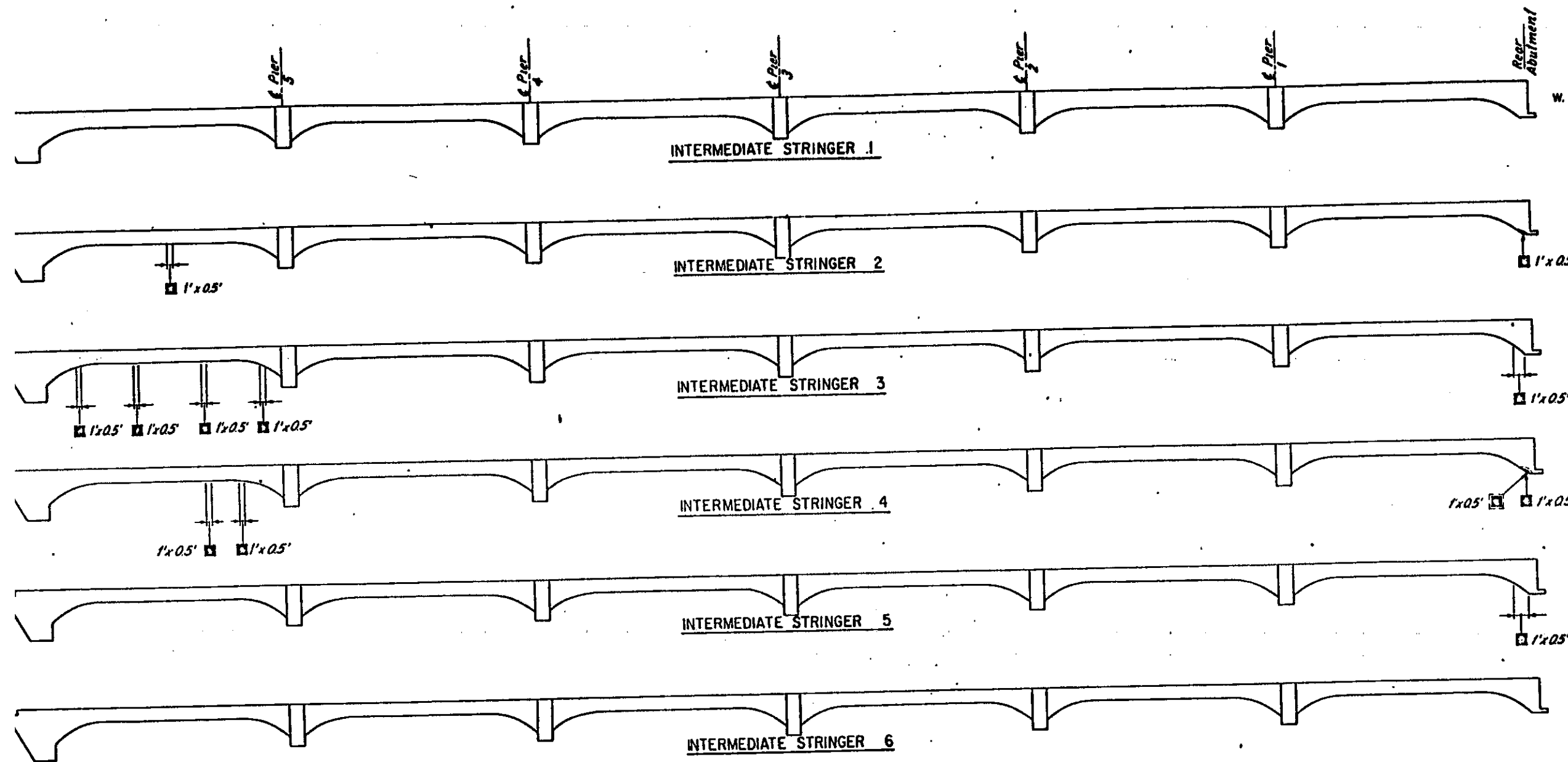
BROOKPARK ROAD
BRIDGE NO CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

WEST APPROACH
NORTH & SOUTH ELEVATION

COUNTY BRIDGE NO 39 REPORT NO 7068 DATE 3-21-84

NO. B-191

4/32



INTERMEDIATE STRINGER 1

INTERMEDIATE STRINGER 2

INTERMEDIATE STRINGER 3

INTERMEDIATE STRINGER 4

INTERMEDIATE STRINGER 5

INTERMEDIATE STRINGER 6

WEST APPROACH
NORTH ELEVATION

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
STRINGER 1	N FACE BOT TOW									
STRINGER 2	N FACE		/							
	B-TOW									
STRINGER 3	N FACE		3							
	S FACE									

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
STRINGER 4	N FACE BOT TOW		/							
STRINGER 5	N FACE		/							
	S FACE									
STRINGER 6	N FACE									
	S FACE									
TOTAL QUANTITIES			9							

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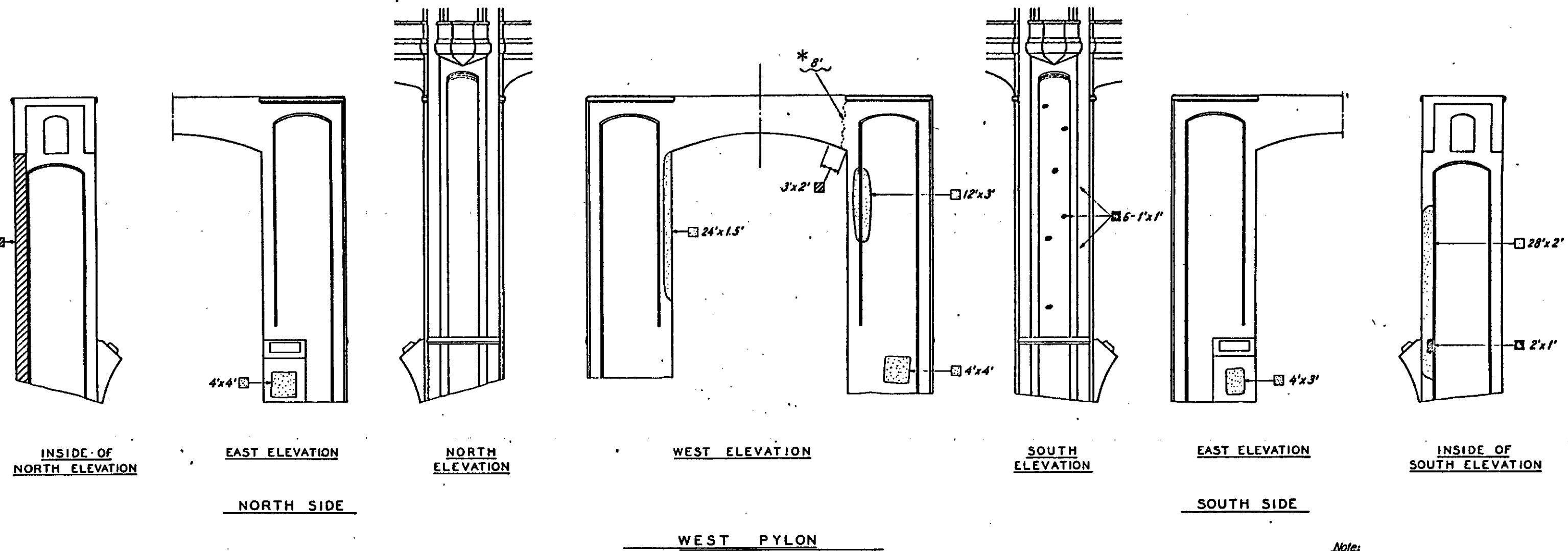
BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

WEST APPROACH
INTERMEDIATE SPANDRELS

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-76

NO. B-191 5/32

DESIGN DRAWN CHECKED REVISED TO AS BUILT



Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

↔ indicates limits of quantities on bottom sides
* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH SIDE	NORTH FACE			36						
	WEST FACE									
	SOUTH FACE	72		16						
SOUTH SIDE	EAST FACE		2	54			8			
	NORTH FACE	6		52						
	WEST FACE		6							
	SOUTH FACE			12						
	EAST FACE									
TOTAL QUANTITIES		78	8	170			8			

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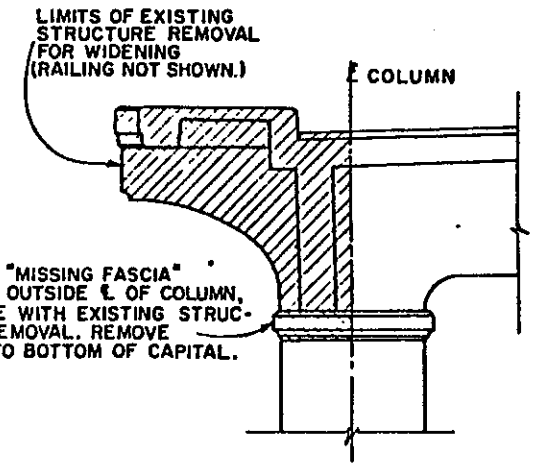
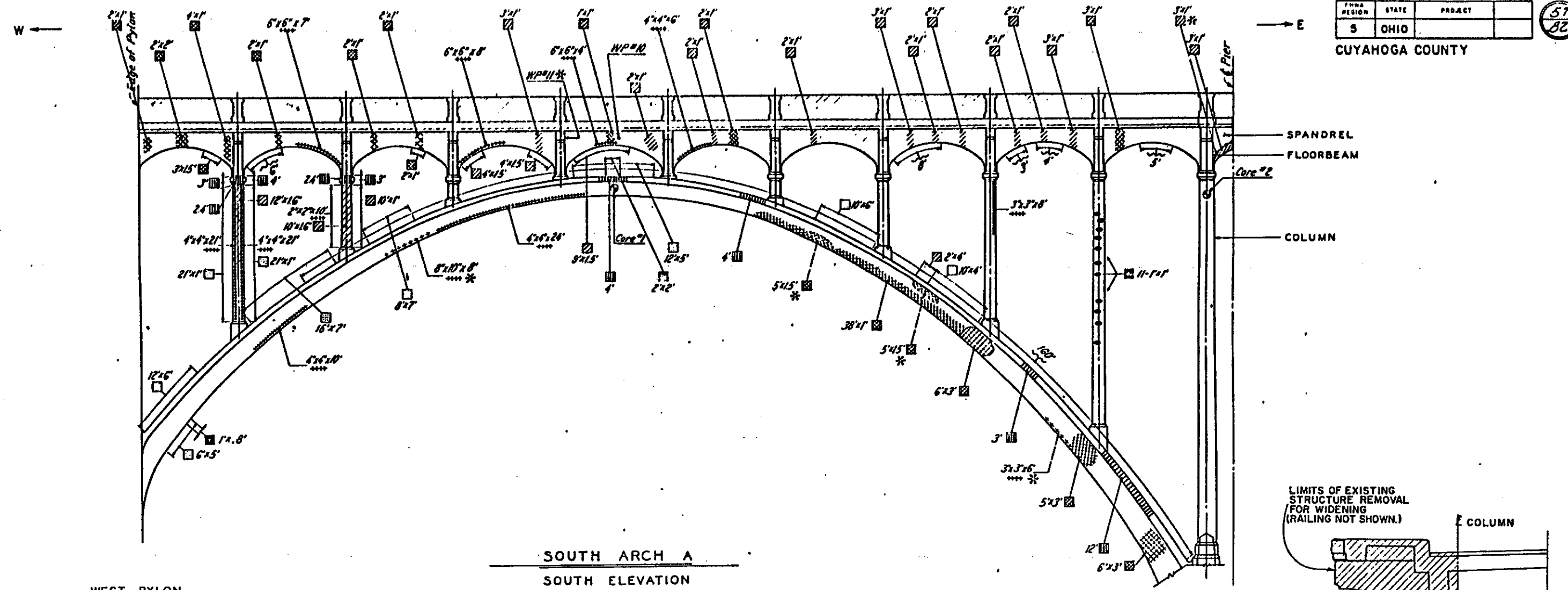
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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

WEST PYLON

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-84

NO. B-191



PIER 6

WHERE "MISSING FASCIA" OCCURS OUTSIDE OF COLUMN, INCLUDE WITH EXISTING STRUCTURE REMOVAL. REMOVE EXIST. TO BOTTOM OF CAPITAL.

DETAIL OF EXISTING STRUCTURE REMOVAL

— indicates limits of quantity on east, west, top or bottom sides.
* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
SPANDREL	OUTSIDE	26				22	26	25		
	BOTTOM	26				7				
	INSIDE	3								
FLOORBEAM										
COLUMN	NORTH FACE	35	11		5			50		
	SOUTH FACE				7					
	EAST FACE	10		21	3			10		
	WEST FACE			21	3			14		
ARCH	NORTH FACE				23	16		34		
	SOUTH FACE					89				
	TOP	8	4	400			160			
	BOTTOM		1	37						
TOTAL QUANTITIES		108	16	472	38	134	186	133		

Note:
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Core #1
Compressive Strength - 5662 psi
Column Chloride Content - 1.44 lb/ky
Delamination - Top 2"

Core #2
Compressive Strength - 5671 psi
Column Chloride Content - 3.11 lb/ky
Delamination - 3/4" Deep

Windsor Probe #10
Concrete Strength - 5425 psi

Windsor Probe #11
Concrete Strength - 5800 psi

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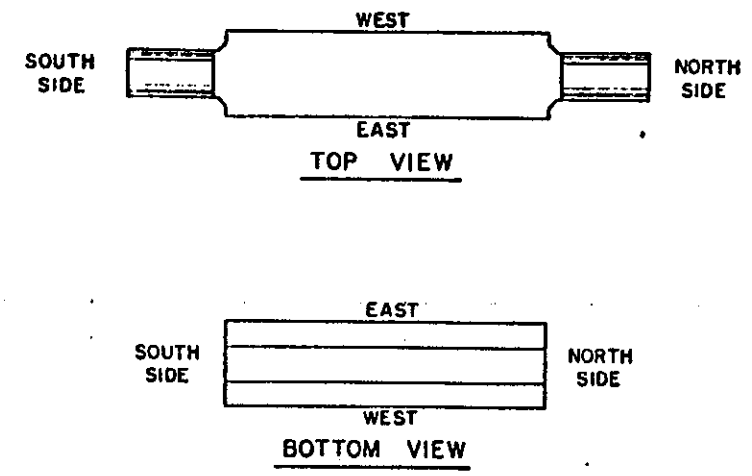
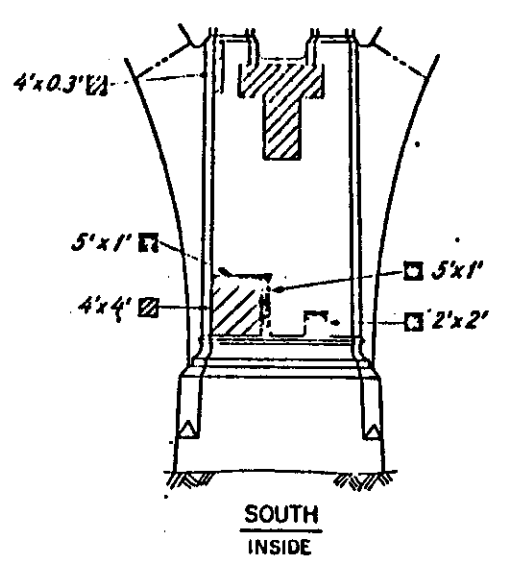
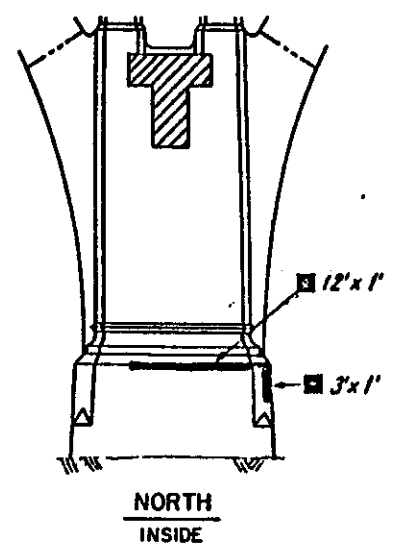
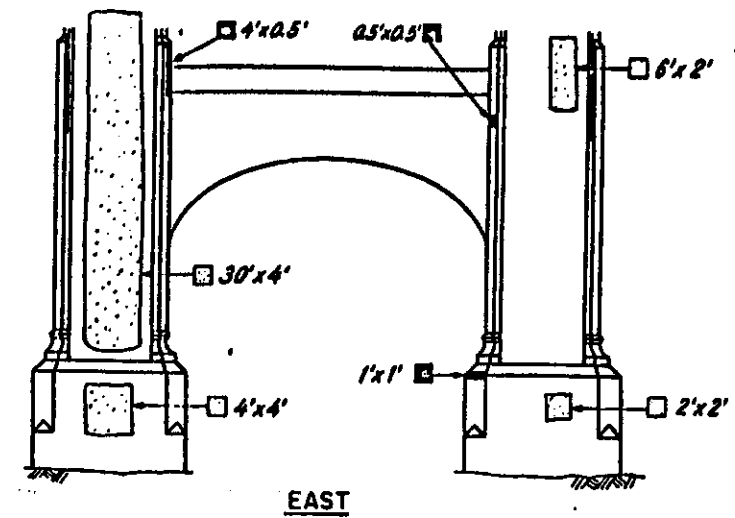
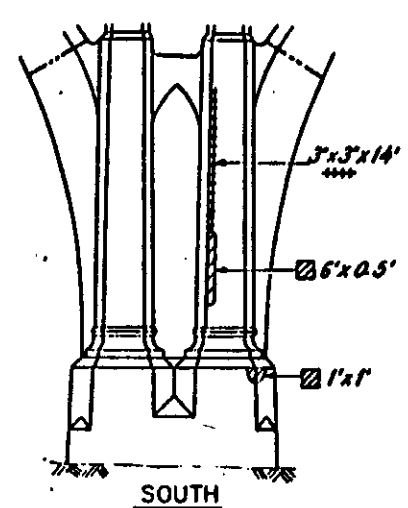
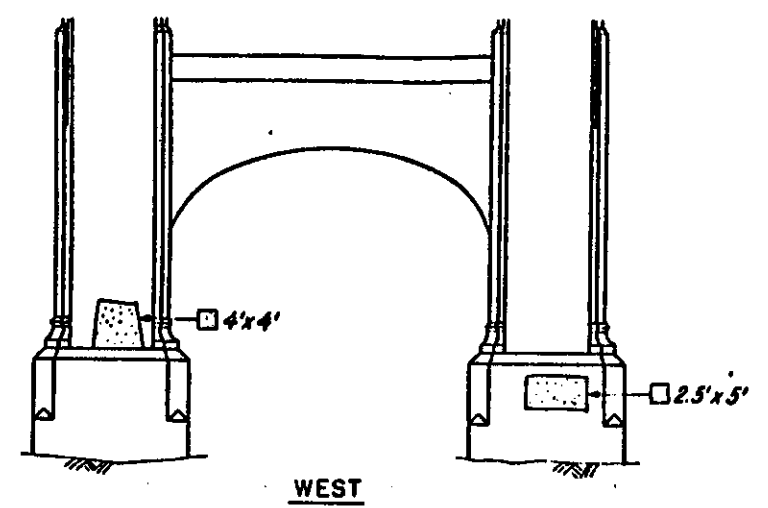
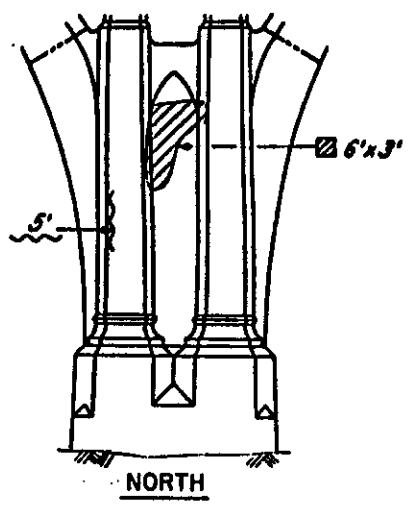
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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

SOUTH ARCH A

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-84

NO. B-191 7/32



PIER 6

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH PIER LEG	NORTH FACE	18		16			5			
	WEST FACE									
	SOUTH FACE		15	16						
SOUTH PIER LEG	EAST FACE	17	14	13				14		
	NORTH FACE									
	WEST FACE		2	136						
TOTAL QUANTITIES		39	32	181			5	14		

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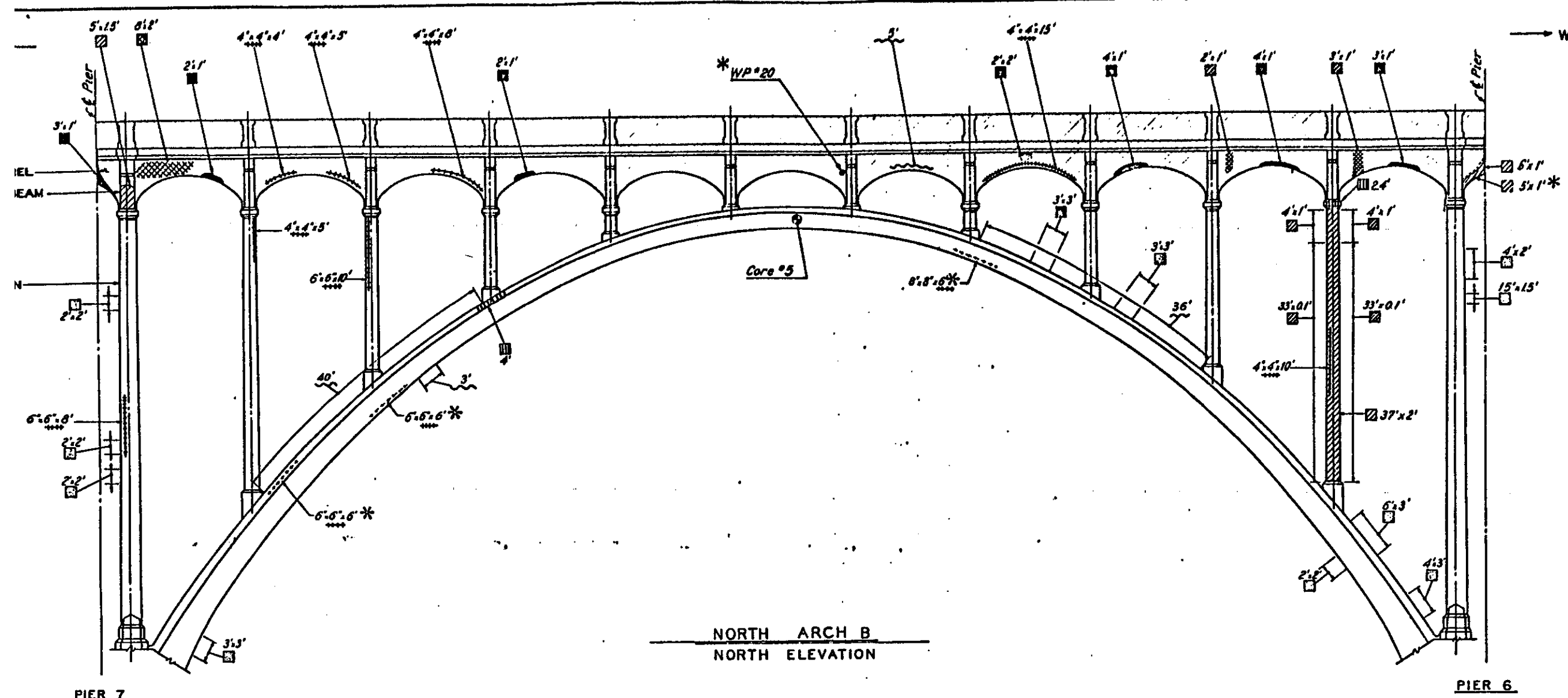
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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER 6

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-66

NO. B-191



NORTH ARCH B
NORTH ELEVATION

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

— indicates limits of quantity on east, west, top or bottom sides.
* - Opposite side

TYPE OF DETERIORATION	ELEMENT OF STRUCTURE	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
			S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
SPANDREL	OUTSIDE		6	22			21	5	32		
	BOTTOM INSIDE		5								
FLOORBEAM			0								
COLUMN	NORTHFACE		74			2					
	SOUTHFACE										
	EAST FACE		7		12						
	WEST FACE		7		10						
ARCH	NORTHFACE					4					
	SOUTHFACE								18		
	TOP			9	39			76			
	BOTTOM				13			3			
TOTAL QUANTITIES			107	31	74	6	21	84	50		

Core #5
Compressive Strength - 7265 p.s.i.
Calcium Chloride Content - 0.68 lbs./c.y.

Windsor Probe #20
Concrete Strength - 6525 p.s.i.

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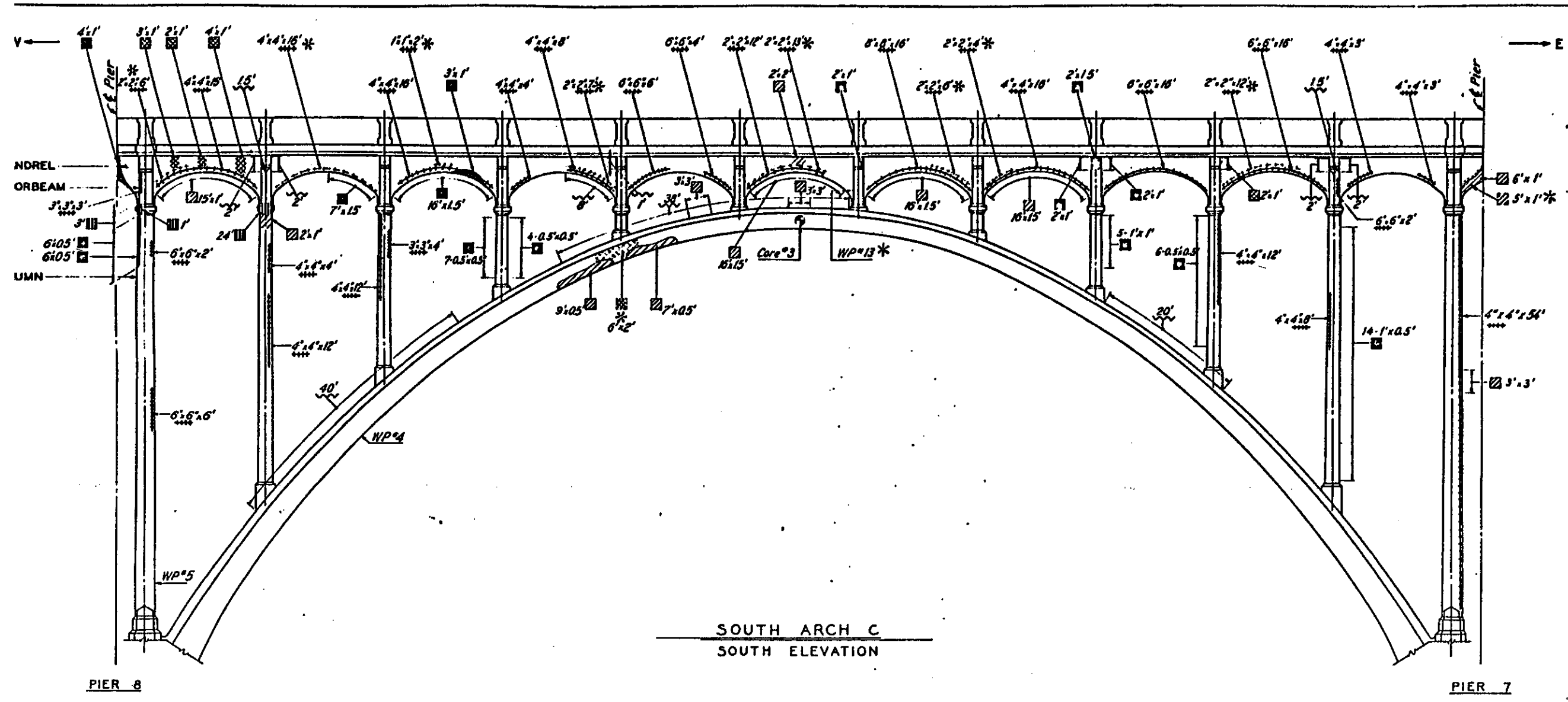
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BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

NORTH ARCH B

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-84

NO. B-191



SOUTH ARCH C
SOUTH ELEVATION

Note:
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* - Opposite side

TYPE OF DETERIORATION	ELEMENT SYMBOL OF UNIT STRUCTURE	SCALE		SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.E.								
SPANDREL	OUTSIDE	10	7				9		135		
	BOTTOM	87	35					8			
	INSIDE	5							66		
FLOORBEAM			9				2	13	5		
COLUMN	INRTH FACE										
	SOUTH FACE	2	3			3			114		
	EAST FACE	9	13			3					
	WEST FACE		7								
ARCH	INRTH FACE						12				
	SOUTH FACE	8							38		
	TOP	18									
TOTAL QUANTITIES			139	74		6	23	119	320		

Core #3
Compressive Strength - 7290 psi
Calcium Chloride Content - 1.09 lbs / CY

Windsor Probe #4
Concrete Strength - 6150 psi

Windsor Probe #5
Concrete Strength - 5975 psi

Windsor Probe #13
Concrete Strength - 5600 psi

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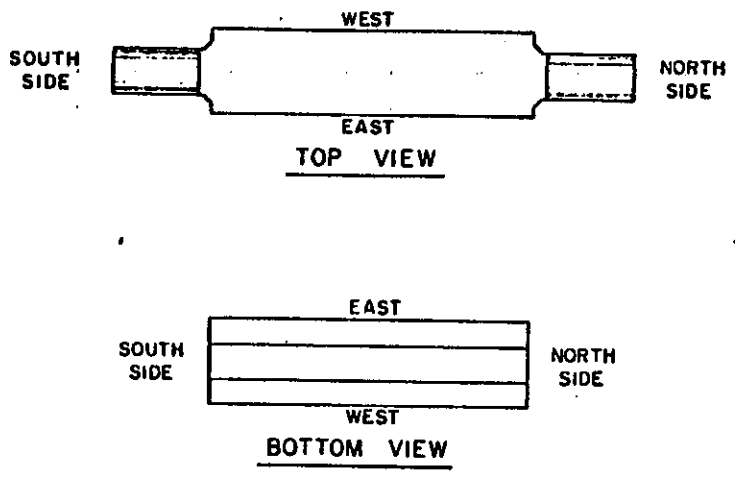
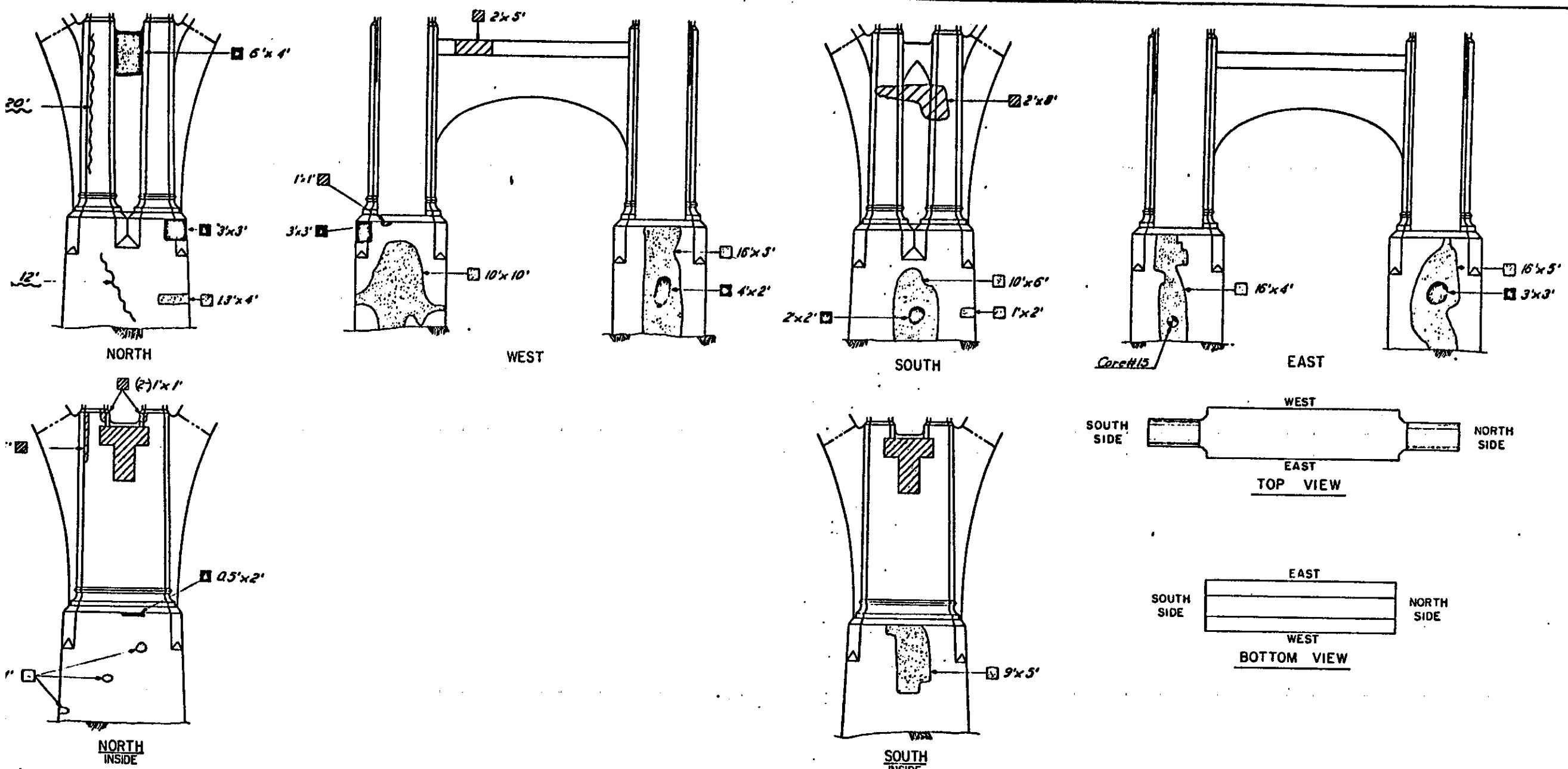
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BRIDGE NO CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

SOUTH ARCH C

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-84

NO. B-191



PIER 8

Note:
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Core # 15
Strength - 7976 psi.
Calcium chloride content 2.43% by
Delamination 3/4" to 1 1/4" deep

TYPE OF DETERIORATION	ELEMENT OF UNIT STRUCTURE	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
			S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH PIER LEG	WEST FACE	[Symbol]	11	33	5			32			
	EAST FACE	[Symbol]	6	1	3						
	SOUTH FACE	[Symbol]	9		71						
SOUTH PIER LEG	NORTH FACE	[Symbol]			45						
	WEST FACE	[Symbol]	16	8	72						
	EAST FACE	[Symbol]		4	58						
TOTAL QUANTITIES			33	55	418			32			

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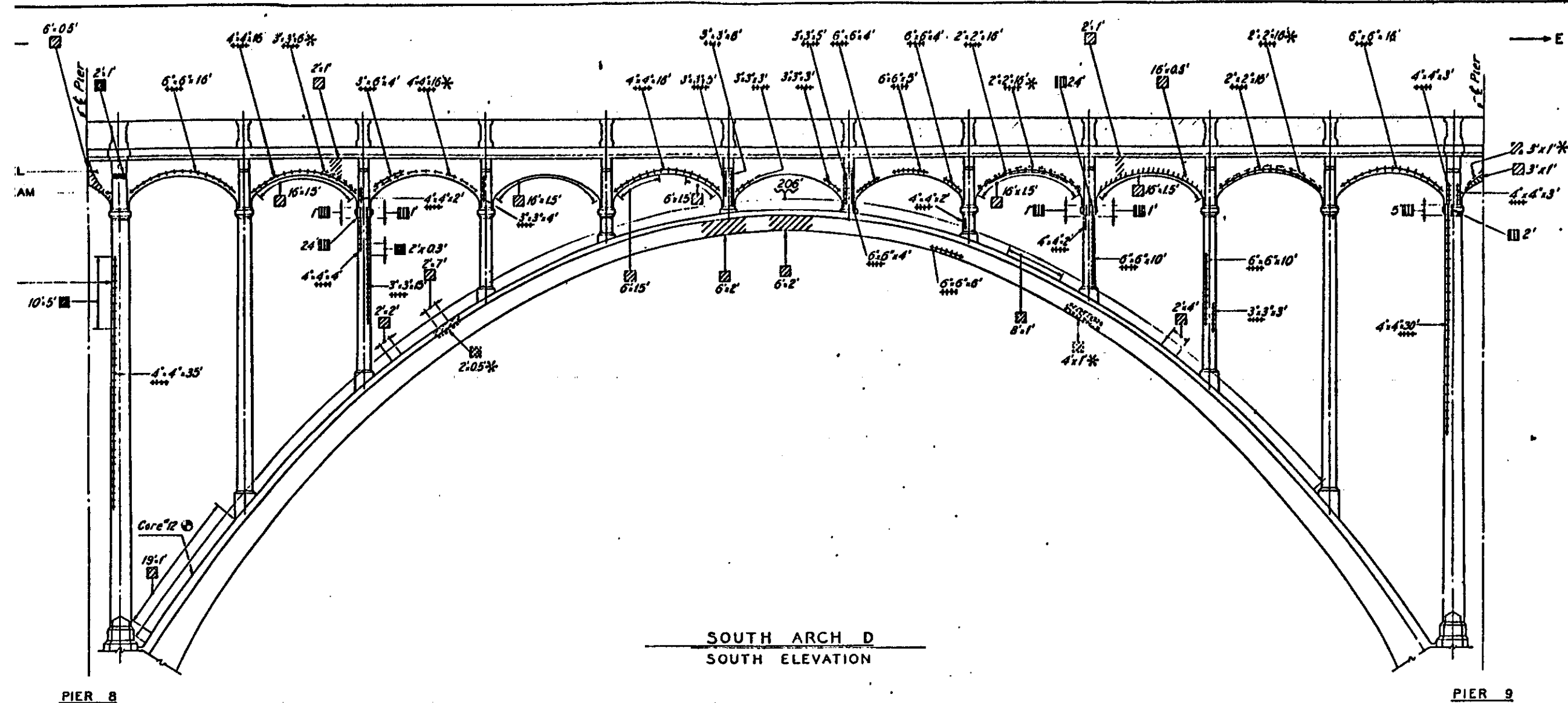
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BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER 8

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-86

NO. B-191 15



SOUTH ARCH D
SOUTH ELEVATION

PIER 8

PIER 9

Note:
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* - Opposite side

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
SPANDREL	OUTSIDE 10 114							119	
	INSIDE 3							54	
FLOORBEAM		2						32	
COLUMN	NORTH FACE			1				111	
	SOUTH FACE			2					
	EAST FACE		50	7					
	WEST FACE								
ARCH	NORTH FACE	24			5			6	
	SOUTH FACE	26			27	206			
	TOTAL QUANTITIES	105	52		16	32	206	322	

Core #12
Compression Strength - 9012 p.s.i.
Calcium Chloride Content - 1.96 lbs / CY
Delamination - 2" to 2 1/4" deep

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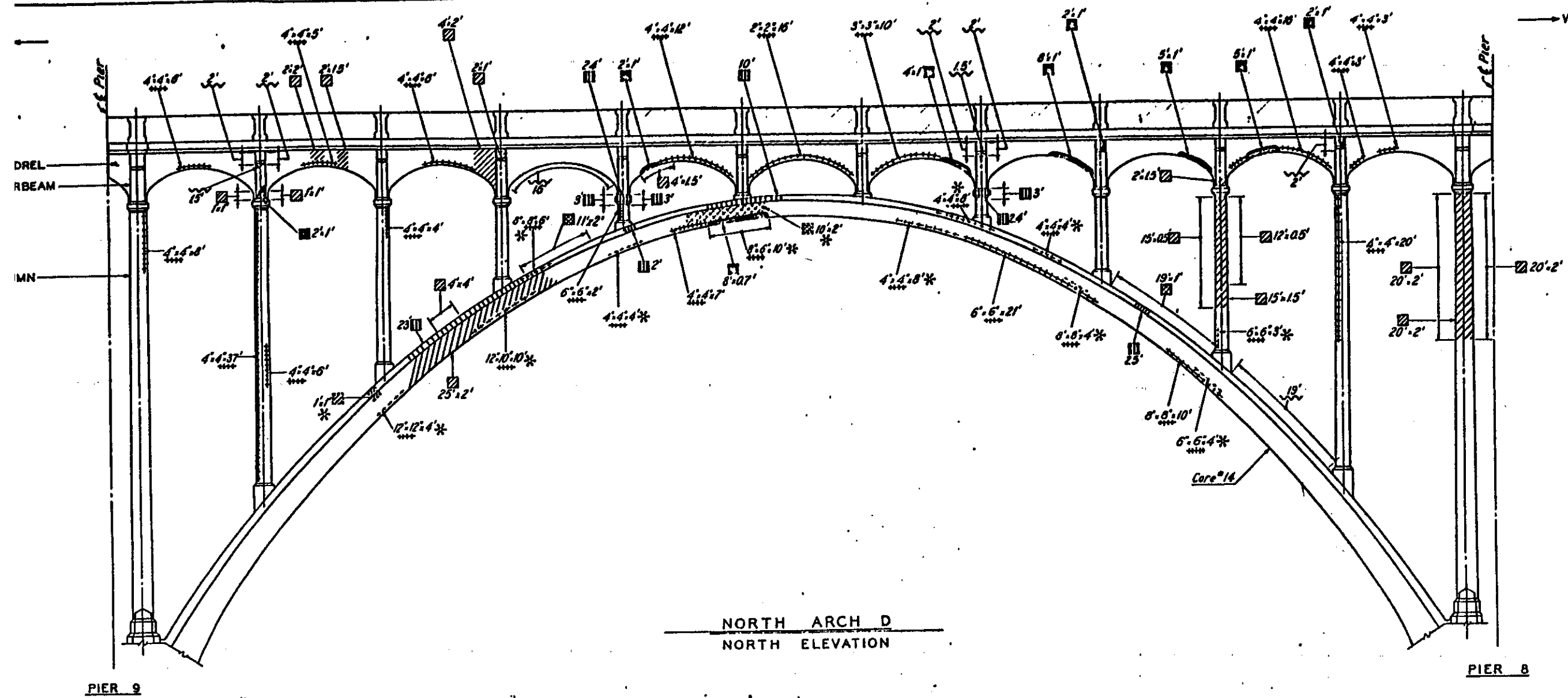
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BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

SOUTH ARCH D

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 2-29-84

NO. B-191



Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

Indicates limits of quantity on east, west, top or bottom sides.
* = Opposite side

TYPE OF DETERIORATION	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
SPANDREL	OUTSIDE	15	24					77		
	BOTTOM	6					16			
	INSIDE									
FLOORBEAM		7	6				13			
COLUMN	NORTH FACE	63			5			77		
	SOUTH FACE				3			3		
	EAST FACE	49			6					
	WEST FACE	15			33			39		
ARCH	NORTH FACE	57	6					39		
	SOUTH FACE	1						62		
	TOP	16				41	19			
TOTAL QUANTITIES		252	36		52	41	13	257		

Core #14
Compressive Strength - N.A.
Calcium Chloride Content - 1.74 lbs/C.Y.
Delamination - None

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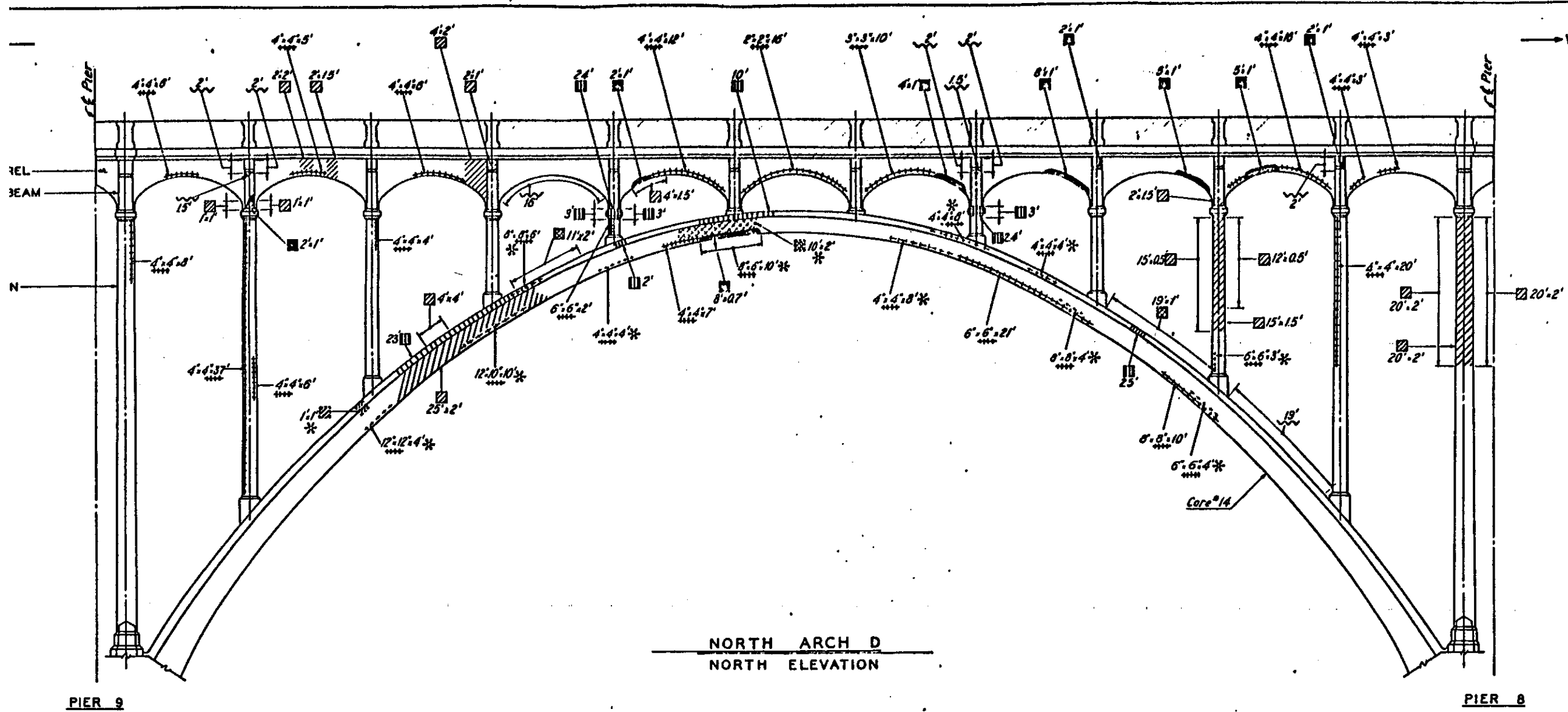
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BRIDGE NO CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

NORTH ARCH D

COUNTY BRIDGE NO 39 REPORT NO 7068 DATE 3-21-86

NO. B-191 17/32

DESIGN | DRAWN | CHECKED | REVISED TO AS BUILT



NORTH ARCH D
NORTH ELEVATION

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

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* - Opposite side

TYPE OF DETERIORATION ELEMENT	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB	UNIT
											S.F.
SPANDREL	OUTSIDE	15	24					77			
	BOTTOM INSIDE	6					16				
FLOORBEAM		7	6				13				
COLUMN	NORTH FACE	63			5			77			
	SOUTH FACE							3			
	EAST FACE	48			3						
	WEST FACE	15			6						
ARCH	NORTH FACE	50	6		38			38			
	SOUTH FACE	1						62			
	TOP BOTTOM	16				41	19				
TOTAL QUANTITIES		252	36		52	41	13	257			

Core #14
Compressive Strength - N.A.
Calcium Chloride Content - 1.74 lbs/C.Y.
Delamination - None

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CLEVELAND OHIO

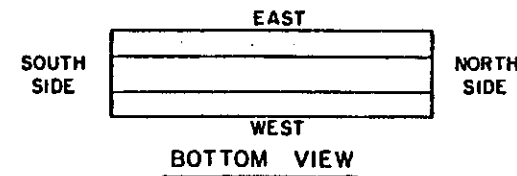
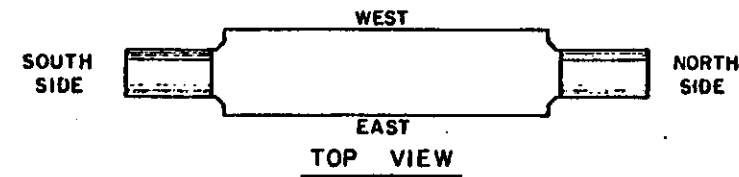
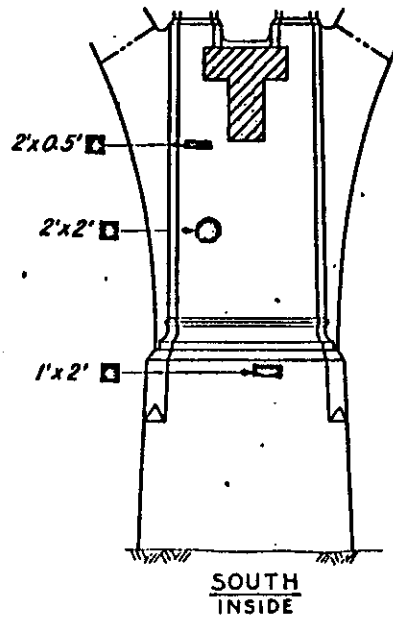
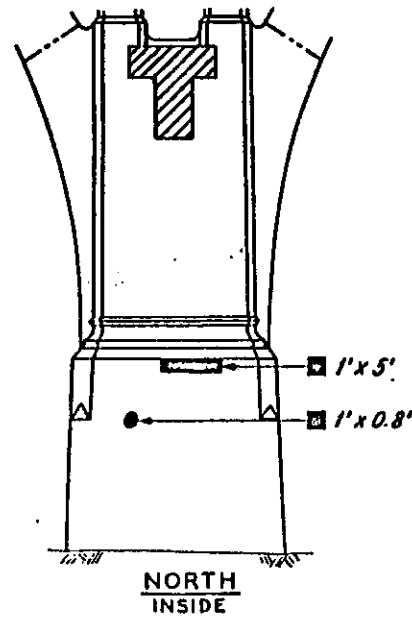
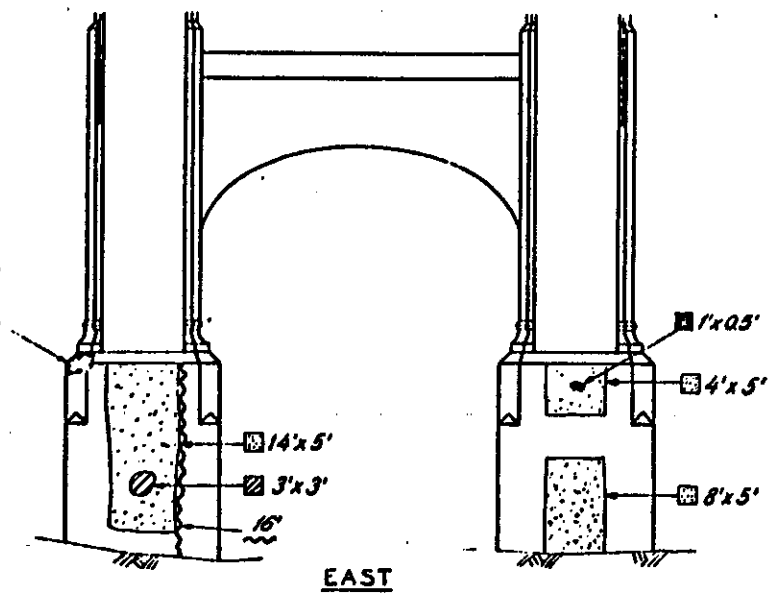
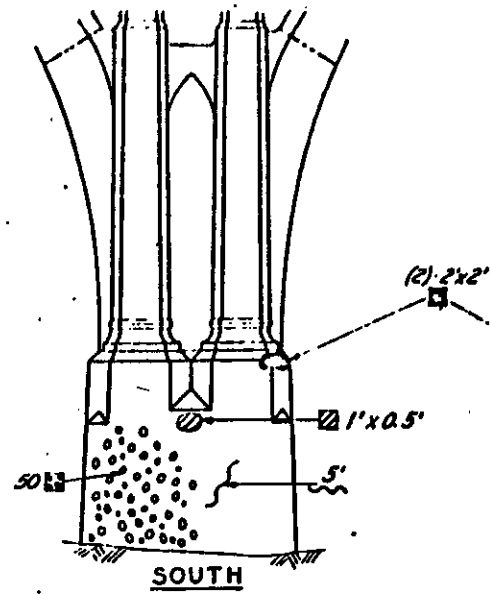
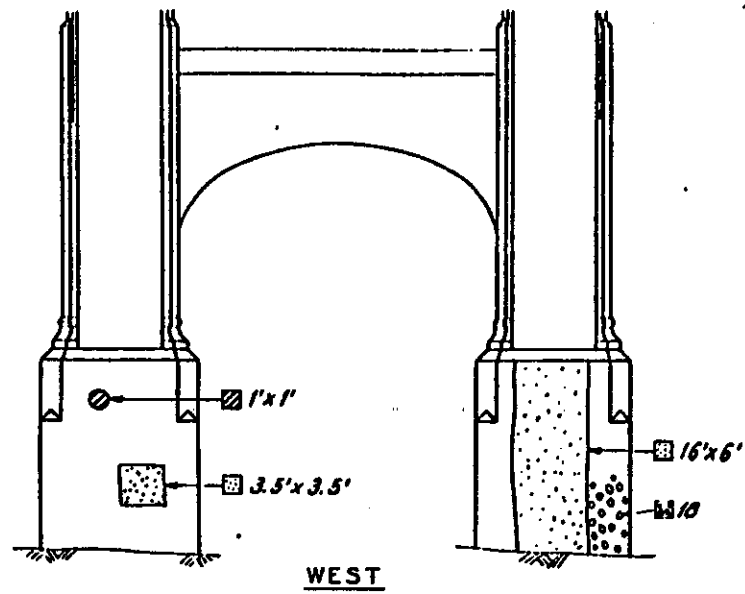
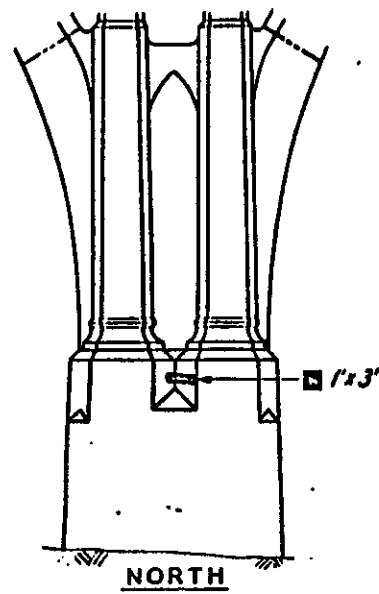
BROOKPARK ROAD
BRIDGE NO CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

NORTH ARCH D

COUNTY BRIDGE NO 39 REPORT NO 7068 DATE 2-21-86

NO. B-191

17
32



PIER 9

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH PIER LEG	NORTH FACE	1	3	12						
	WEST FACE									
	SOUTH FACE		6							
SOUTH PIER LEG	EAST FACE		1	59						
	NORTH FACE		7	96					13	
	WEST FACE	1	4				5		50	
	EAST FACE	9	4	70			16			
TOTAL QUANTITIES		11	25	237			21		63	

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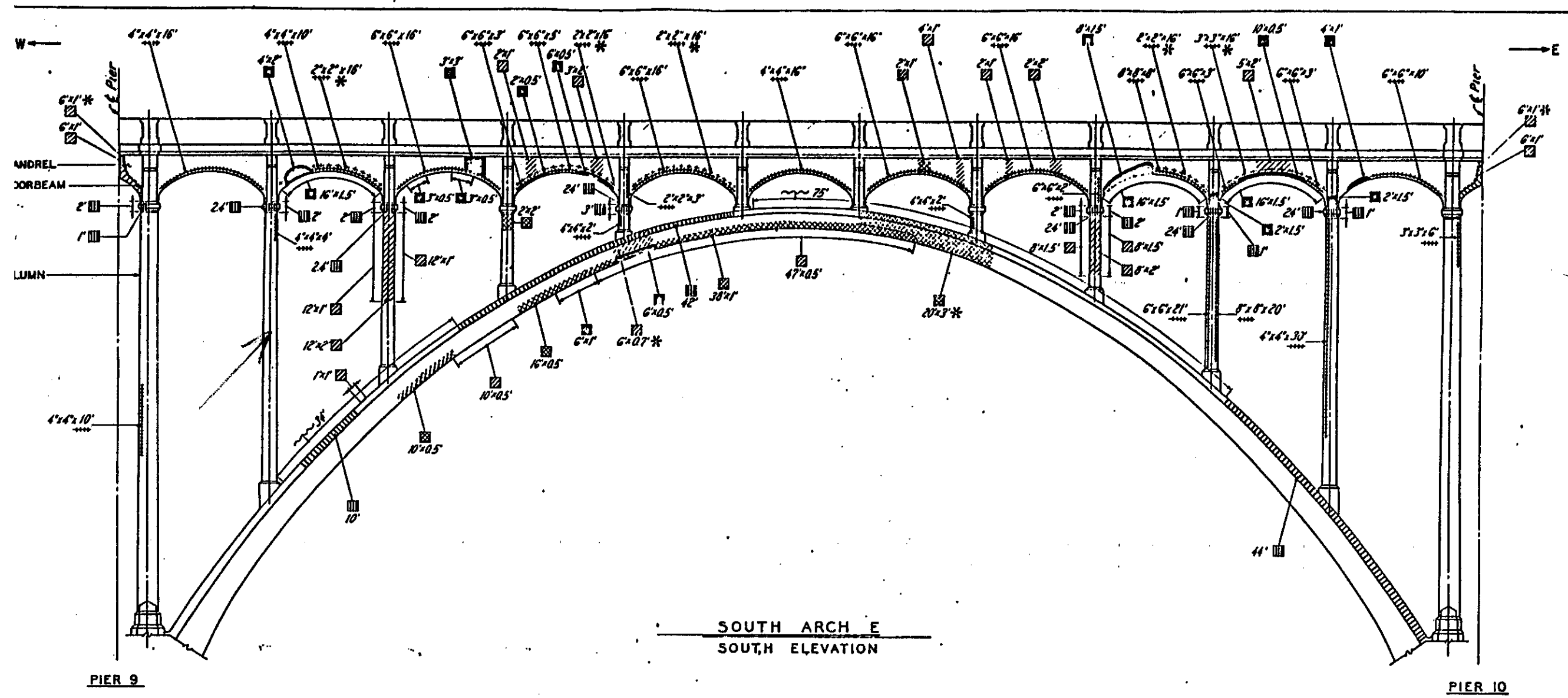
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER 9

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-27-84

NO. P-101 18



SOUTH ARCH E
SOUTH ELEVATION

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

— indicates limits of quantity on east, west, top or bottom sides.
* - Opposite side

TYPE OF DETERIORATION	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
ELEMENT OF STRUCTURE	SYMBOL	S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	EACH	S.F.
SPANDREL	OUTSIDE	40	42		2		130		
	BOTTOM		75						
	INSIDE	12					60		
FLOORBEAM			6				5		
COLUMN	NORTH FACE	40			15	4	35		
	SOUTH FACE	24			0				
	EAST FACE	24			0				
	WEST FACE	28			10				
ARCH	NORTH FACE	4			60				
	SOUTH FACE	1	3		36	51			
	TOP						109		
TOTAL QUANTITIES		174	132		163	117	129	319	

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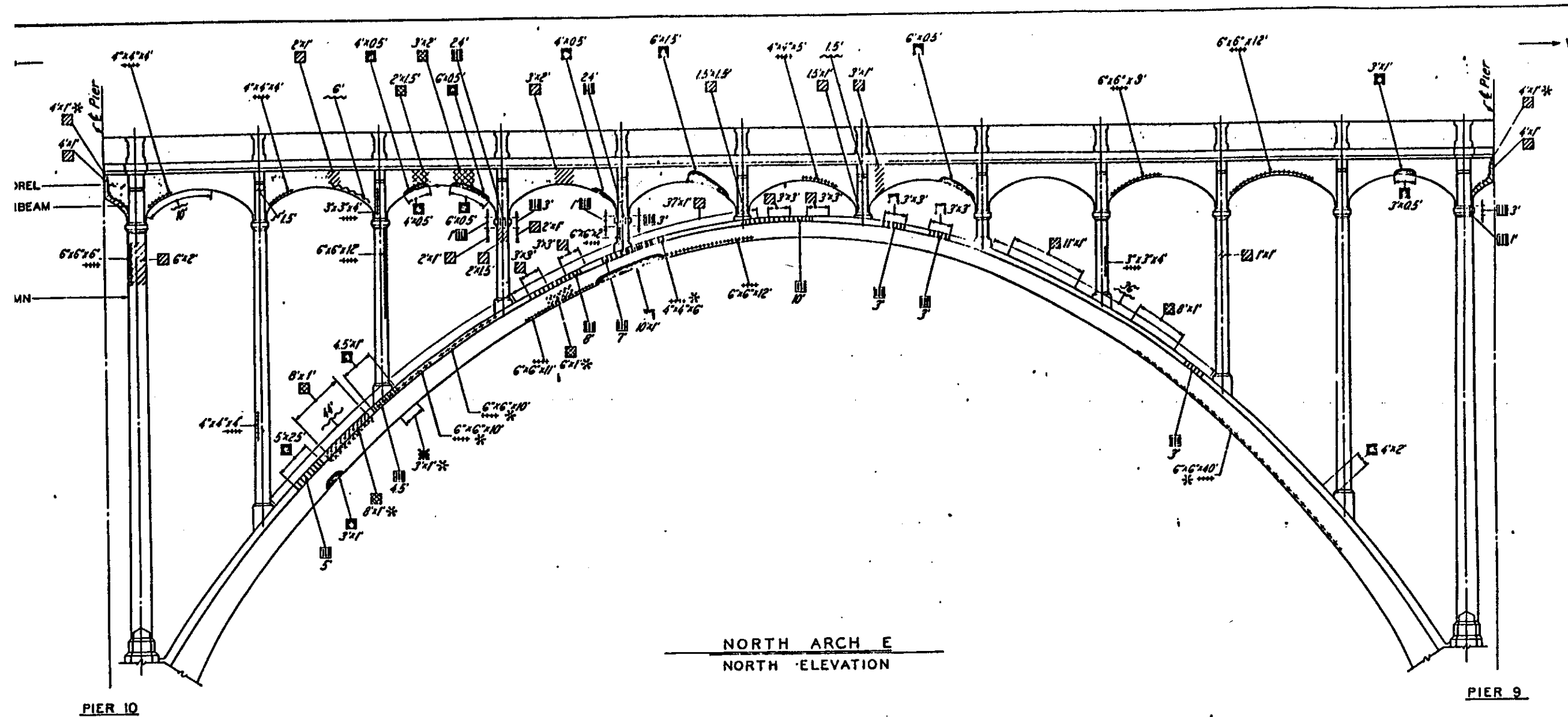
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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO CUY-17-6283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

SOUTH ARCH E

COUNTY BRIDGE NO 39 REPORT NO 7068 DATE 2-21-74

NO. B-191 13/77



NORTH ARCH E
NORTH ELEVATION

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

— indicates limits of quantity on east, west, top or bottom sides
* - Opposite side

TYPE OF DETERIORATION ELEMENT OF UNIT STRUCTURE	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
SPANDREL	OUTSIDE	19	22			9	6	34		
	BOTTOM		7				10			
	INSIDE	0								
FLOORBEAM		4					3	4		
COLUMN	NORTH FACE	16			6			23		
	SOUTH FACE				2					
	EAST FACE	2			9					
	WEST FACE	2			9					
ARCH	NORTH FACE		13		44			23		
	SOUTH FACE					14		66		
	TOP	73	44			27	80			
TOTAL QUANTITIES		124	89		61	30	89	133		

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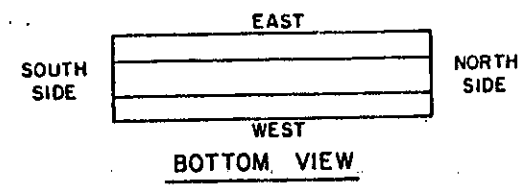
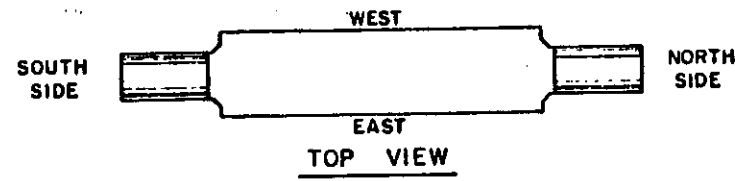
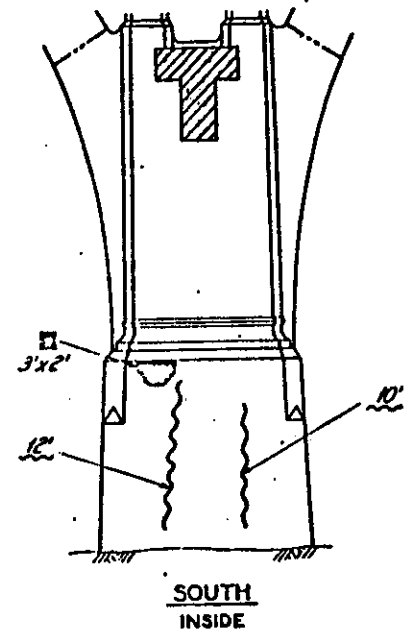
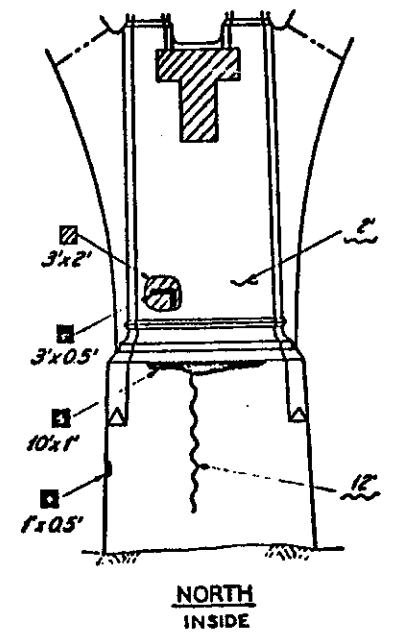
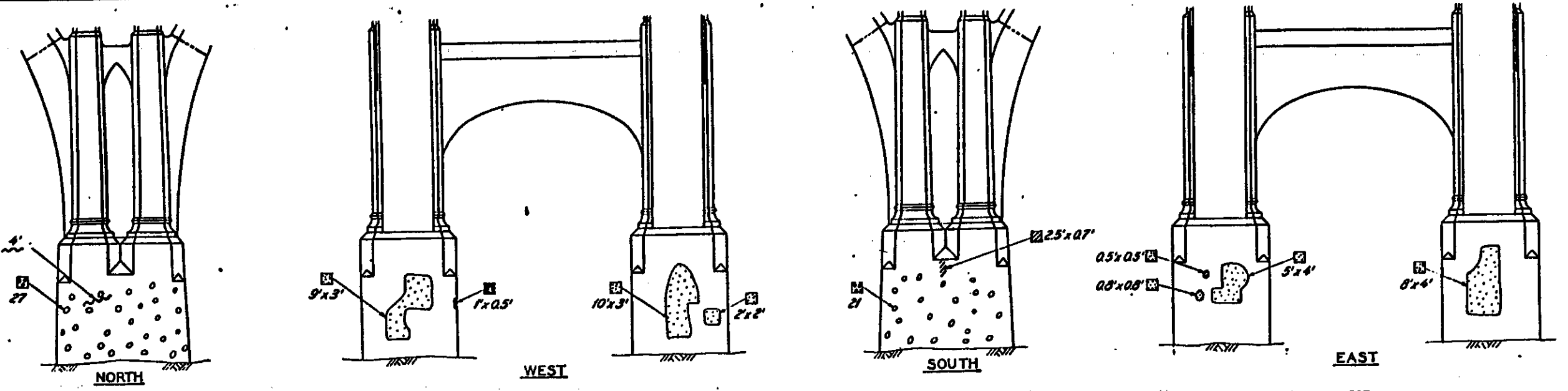
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

NORTH ARCH E

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-84

NO. B-191



PIER 10

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACK	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH PIER LEG	NORTH FACE		1	27			4		27	
	WEST FACE		4	12			14			
	SOUTH FACE									
SOUTH PIER LEG	EAST FACE			32			22			
	NORTH FACE		6	34					21	
	WEST FACE		2							
TOTAL QUANTITIES		6	19	114			40		48	

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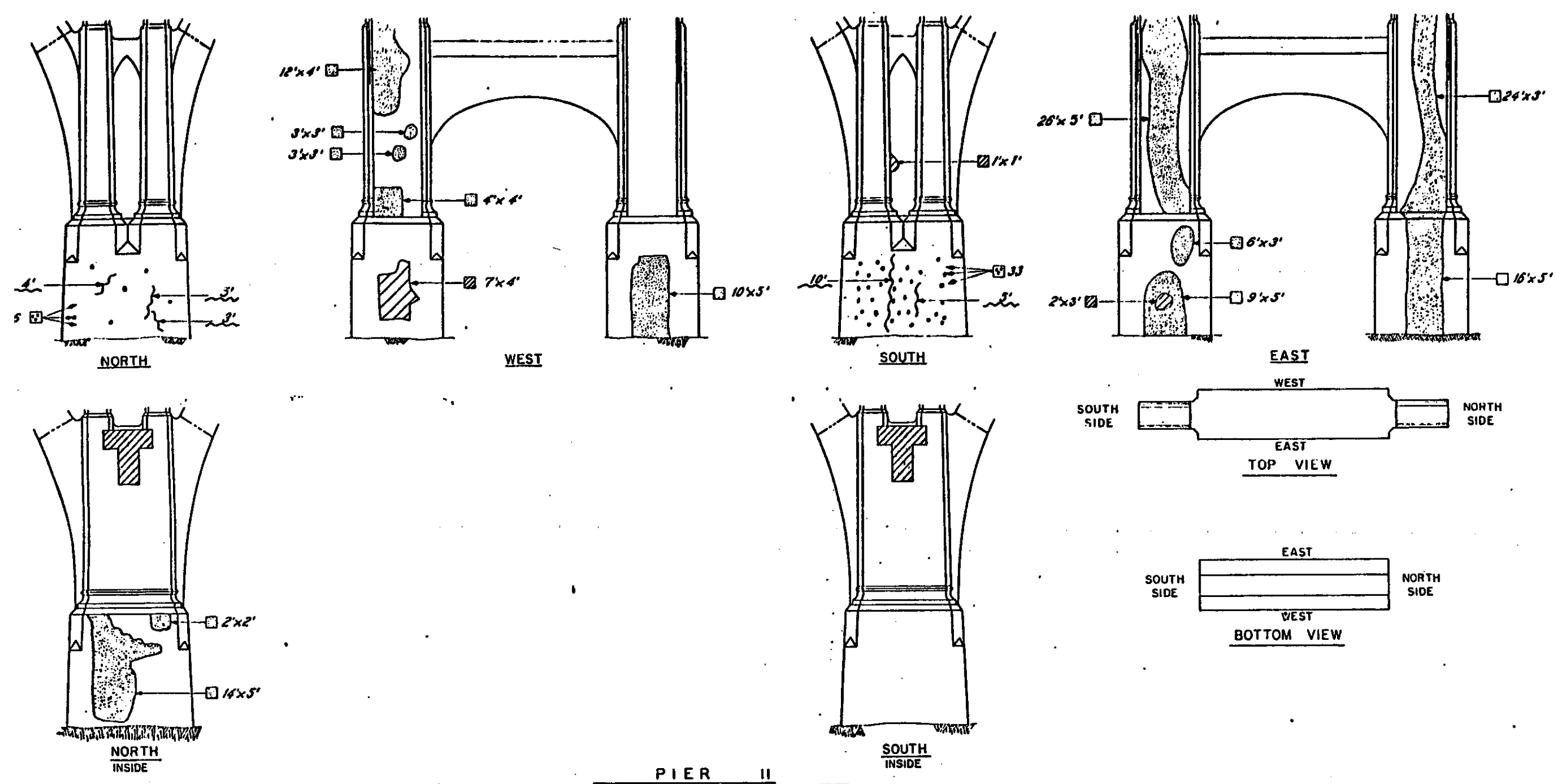
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER 10

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-84

NO. B-191



Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH PIER LEG	NORTH FACE						12		6	
	WEST FACE	28		82						
	SOUTH FACE			74						
	EAST FACE			152						
SOUTH PIER LEG	NORTH FACE									
	WEST FACE	1		50			15		33	
	EAST FACE	6		187						
TOTAL QUANTITIES		35		545			27		39	

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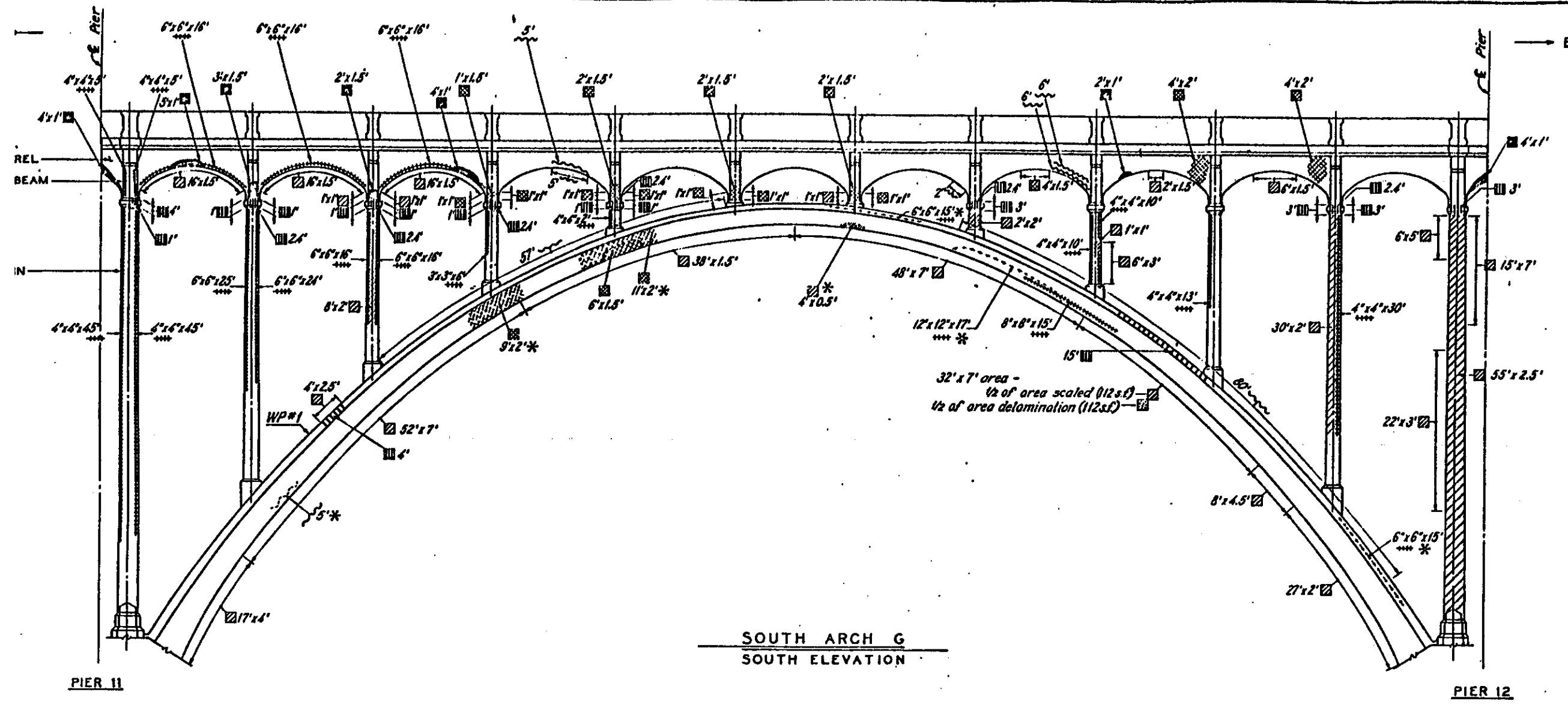
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER II

COUNTY 39 REPORT NO. 2068 DATE 2-21-84

NO B-191 21 / 32



SOUTH ARCH G
SOUTH ELEVATION

— indicates limits of quantity on east, west, top or bottom sides.
 WP #1 - Windsor Probe Set #1 - average concrete strength 6150 p.s.i.
 * - Opposite side

Note:
 Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE S.F.	SPALL S.F.	DELAMINATION S.F.	MISSING FASCIA L.F.	PATTERN CRACKING S.F.	CRACK L.F.	CORNER CRACK L.F.	POPOUTS EACH	HONEY-COMB S.F.
SPANDREL	OUTSIDE	84	19			16	17	40		
	BOTTOM INSIDE					6	7			
FLOORBEAM		3	8			18		10		
COLUMN	NORTH FACE	219			18			242		
	SOUTH FACE	123			13					
	EAST FACE	96			7					
	WEST FACE	2					5	47		
ARCH	NORTH FACE	10			19			137		
	SOUTH FACE	1027		112						
TOTAL QUANTITIES		1564	27	112	47	40	116	362		

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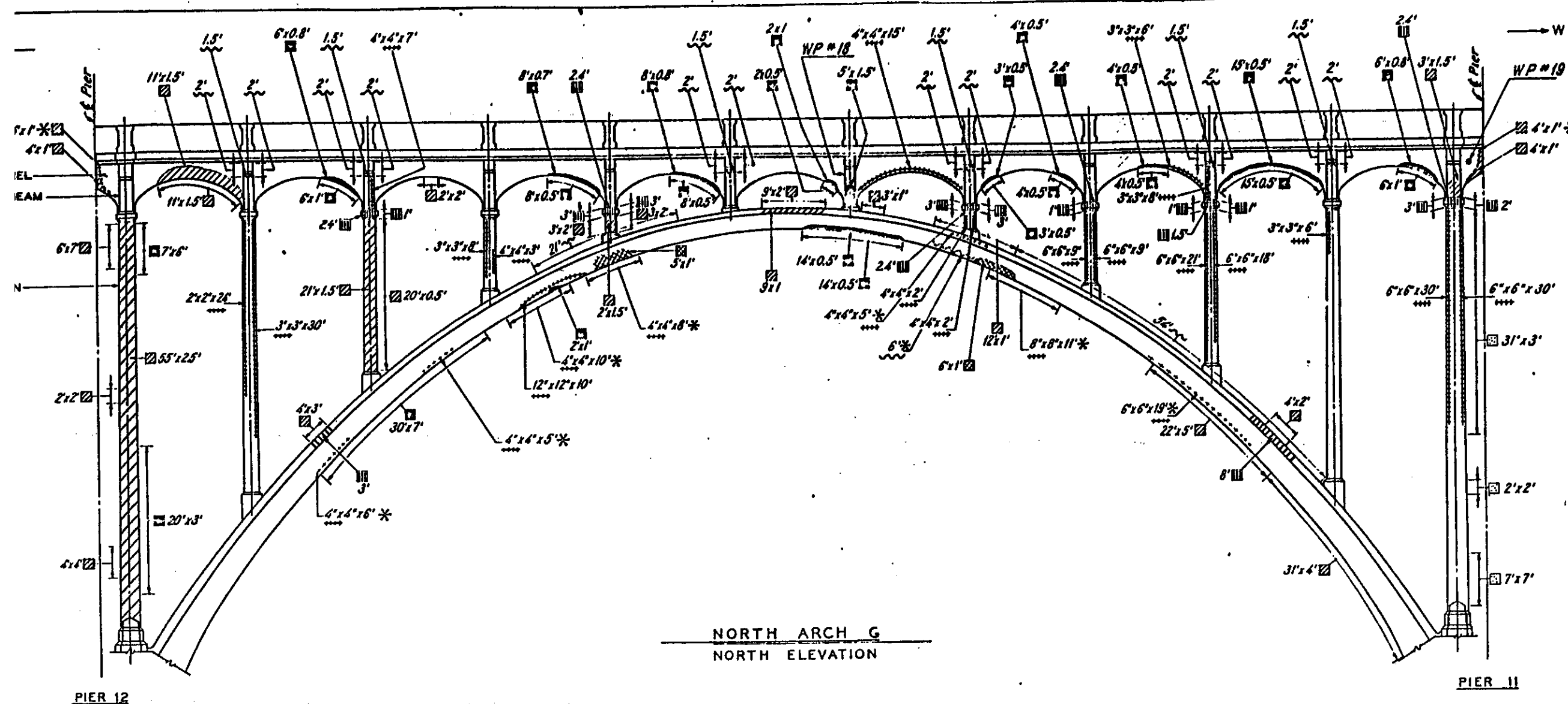
CUYAHOGA COUNTY ENGINEER
 CLEVELAND OHIO

BROOKPARK ROAD
 BRIDGE NO. CUY-17-0283
 OVER ROCKY RIVER
 CITIES OF CLEVELAND & FAIRVIEW PARK

SOUTH ARCH G

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-84

NO B-191



Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1985 re-inventory are included in the Summary of Quantities, sheet 51.

* - Opposite side

TYPE OF DETERIORATION	ELEMENT OF STRUCTURE	SYMBOL	SCALE		SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
			UNIT	S.F.								
	SPANDREL	OUTSIDE		25								
		BOTTOM		21								
		INSIDE		0								
	FLOORBEAM			5					33	15		
	COLUMN	NORTH FACE		172			14			192		
		SOUTH FACE		63			11					
		EAST FACE		16	102	146	10					
	ARCH	WEST FACE		9	9	11	11		6	10		
		SOUTH FACE		53					75	35		
		TOTAL		234	217					29		
	TOTAL QUANTITIES		611	407	146	46	11	114	332			

WP # 18 - Windsor Probe # 18
Concrete Strength - 7,250 psi.

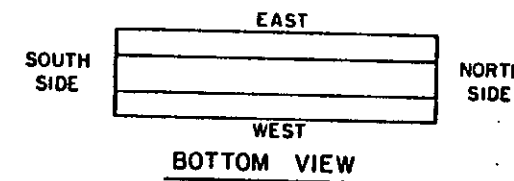
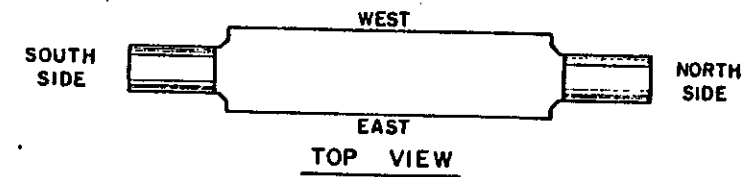
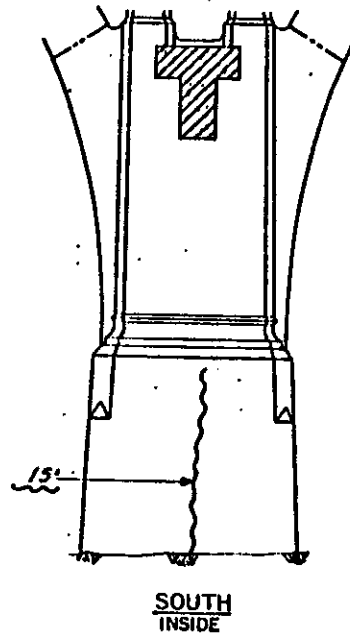
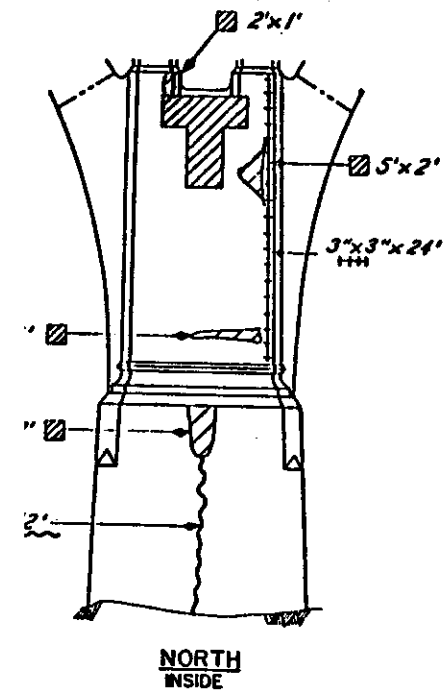
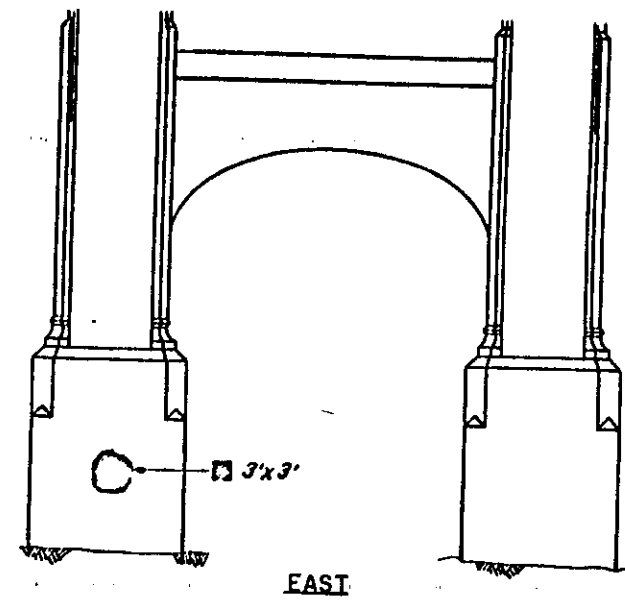
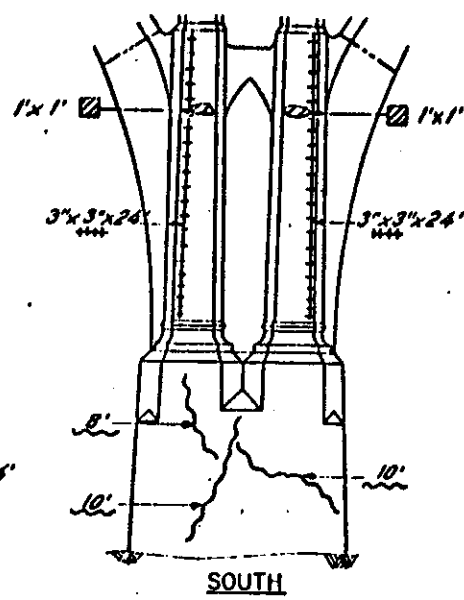
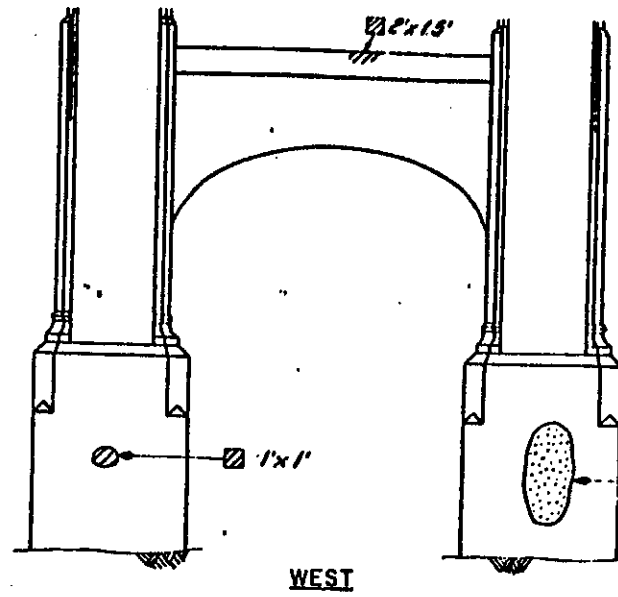
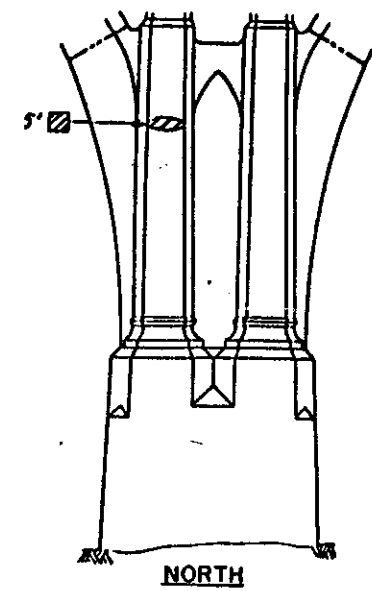
WP # 19 - Windsor Probe # 19
Concrete Strength - 5,050 psi.

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CUYAHOGA COUNTY ENGINEER CLEVELAND OHIO		
BROOKPARK ROAD BRIDGE NO CUY-17-0283 OVER ROCKY RIVER CITIES OF CLEVELAND & FAIRVIEW PARK		
NORTH ARCH G		
COUNTY BRIDGE NO 39	REPORT NO 7068	DATE 3-21-84
NO B-191		26 / 32

FUND REGION	STATE	PROJECT
8	OHIO	

77
82

CUYAHOGA COUNTY



PIER 12

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION	SYMBOL	SCALE		SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
			S.F.	S.F.								
NORTH PIER LEG	NORTH FACE		2									
	WEST FACE		1									
	SOUTH FACE		23						12			
	EAST FACE											
SOUTH PIER LEG	WEST FACE		3		32				15			
	SOUTH FACE		2						28	40		
	EAST FACE			9								
TOTAL QUANTITIES			31		9	32			55	40		

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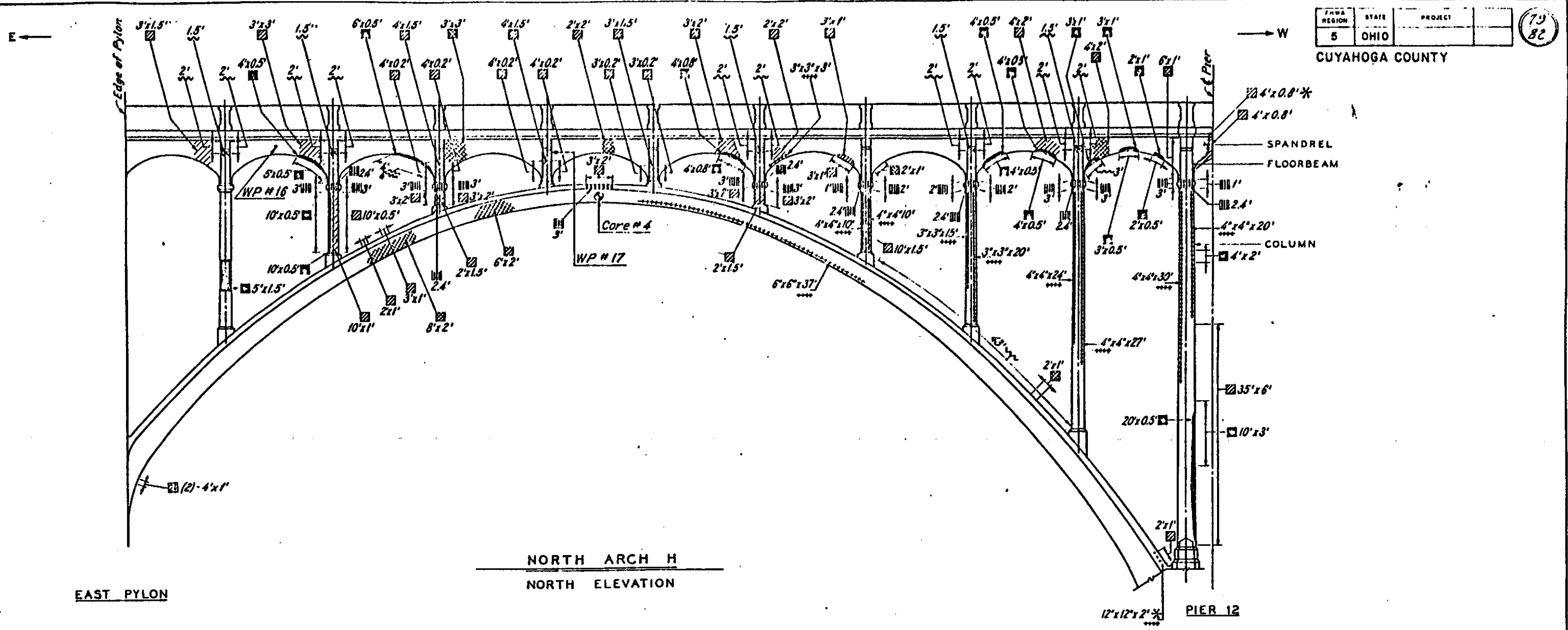
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

PIER 12

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-85

NO R-191 27



NORTH ARCH H
NORTH ELEVATION

EAST PYLON

PIER 12

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	QUANTITIES								
		SCALE S.F.	SPALL S.F.	DELAMINATION S.F.	MISSING FASCIA L.F.	PATTERN CRACKING S.F.	CRACK L.F.	CORNER CRACK L.F.	POPOUTS EACH	HONEY-COMB S.F.
SPANDREL	OUTSIDE	38	20			21		3		
	BOTTOM (INSIDE)	3	12			2	11			
FLOORBEAM		21				6	28			
COLUMN	NORTHFACE	31	23		17			156		
	SOUTHFACE									
	EAST FACE	12	5		13					
ARCH	WEST FACE	197	33		11					
	SOUTHFACE					28		37		
TOTAL QUANTITIES	TOP	13				2	43	2		8
	BOTTOM									
TOTAL QUANTITIES		318	98		52	59	82	153		8

Core # 4
Compressive Strength - 7393 p.s.i.
Calcium Chloride Content - 0.87 lb/cy
Delamination - none

WP # 16 - Windsor Probe # 16
Concrete Strength - 4150

WP # 17 - Windsor Probe # 17
Concrete Strength - 9250

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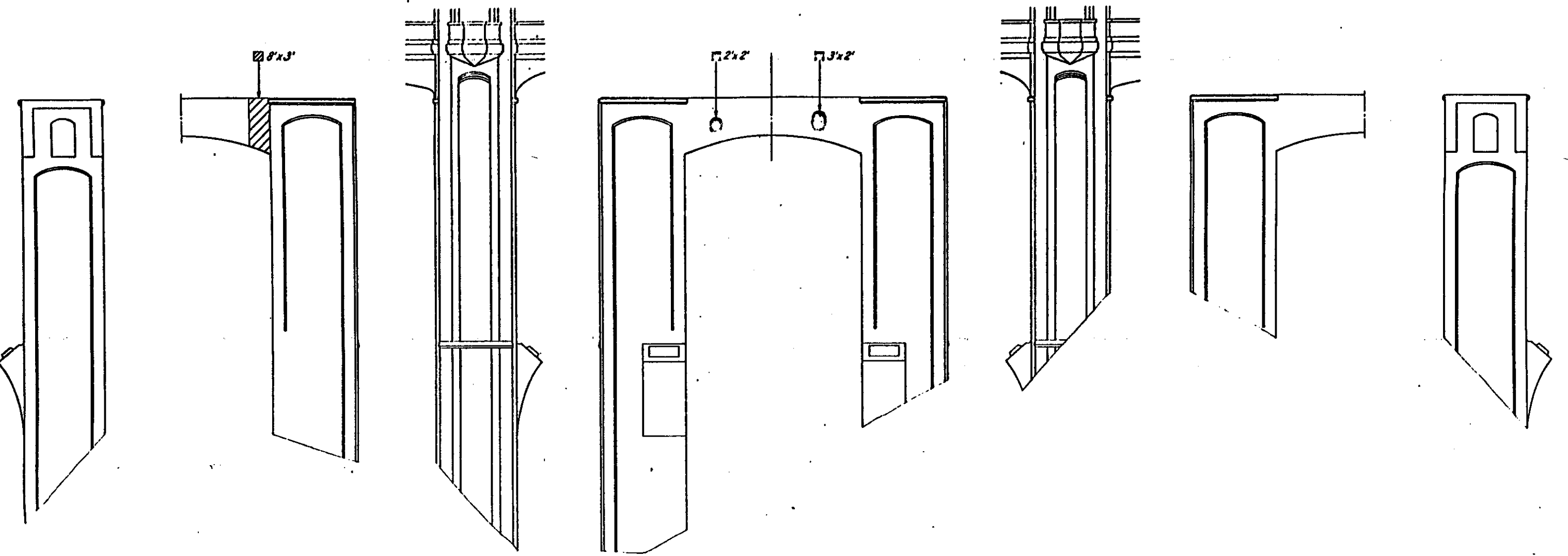
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CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

NORTH ARCH H

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-21-86

NO B-191 29/32



INSIDE OF NORTH ELEVATION EAST ELEVATION NORTH ELEVATION WEST ELEVATION SOUTH ELEVATION EAST ELEVATION INSIDE OF SOUTH ELEVATION

NORTH SIDE SOUTH SIDE

EAST PYLON

* - Opposite side

TYPE OF DETERIORATION ELEMENT OF STRUCTURE	SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH SIDE	NORTH FACE		4							
	WEST FACE									
	EAST FACE	24								
SOUTH SIDE	WEST FACE		6							
	NORTH FACE									
	EAST FACE									
TOTAL QUANTITIES		24	10							

Note:
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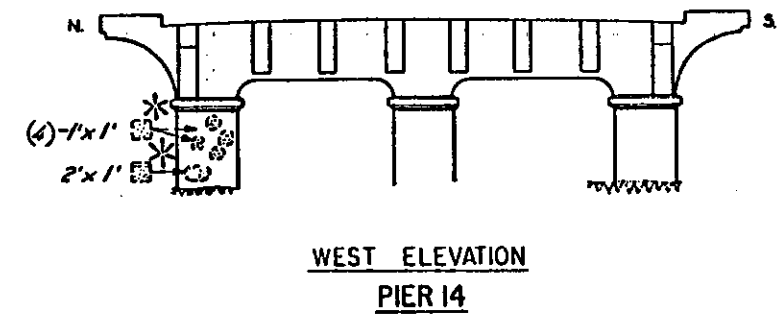
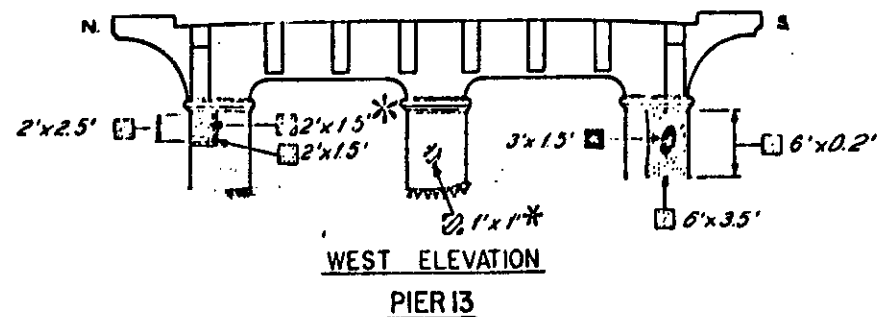
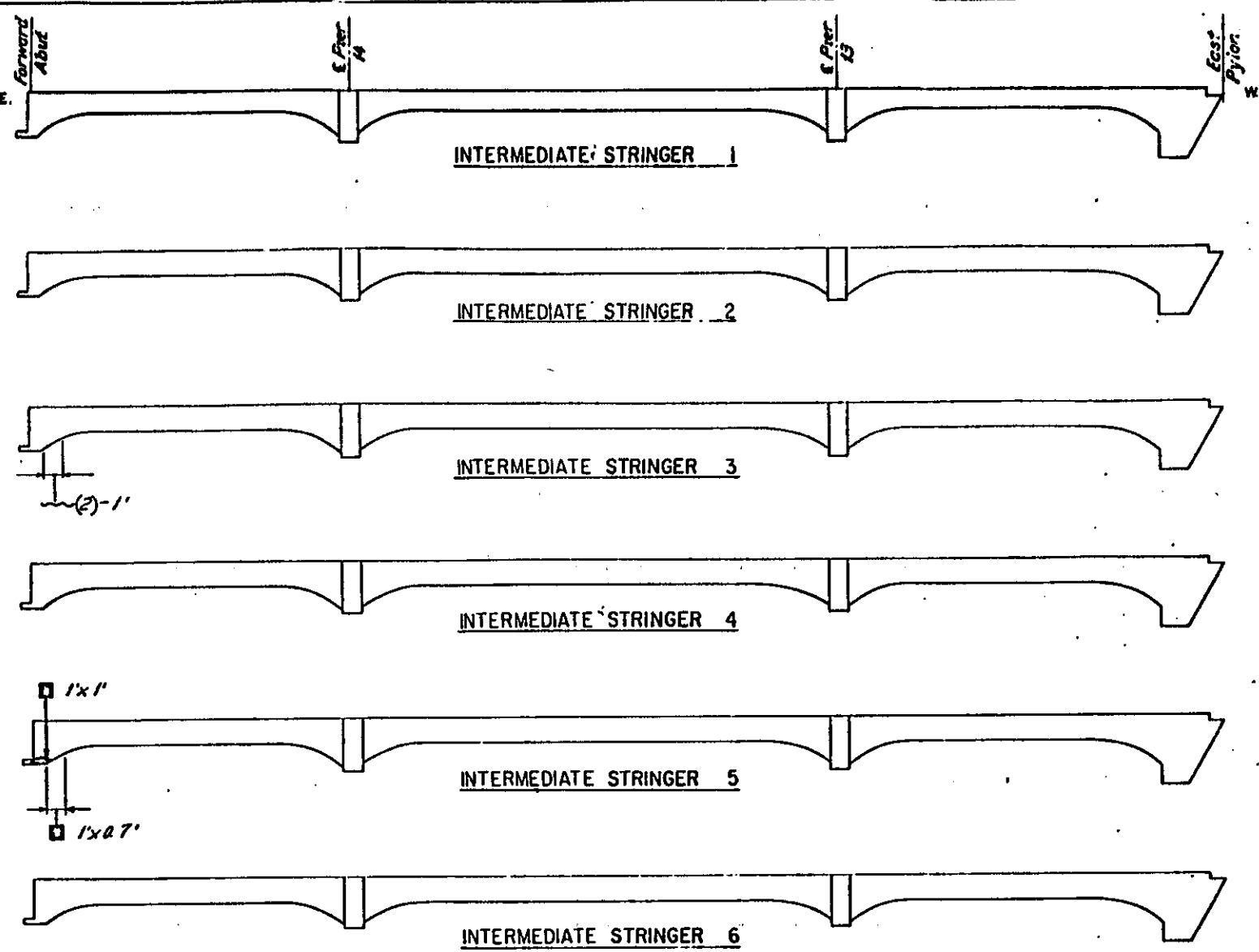
CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

EAST PYLON

COUNTY BRIDGE NO. 39 REPORT NO. 706B DATE 3-31-84

NO B-191



EAST APPROACH

* - Opposite side

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
STRINGER 1	OUTSIDE BOTTOM									
STRINGER 2	OUTSIDE BOTTOM									
STRINGER 3	OUTSIDE BOTTOM						2			
STRINGER 4	OUTSIDE BOTTOM									
STRINGER 5	OUTSIDE BOTTOM		1							
STRINGER 6	OUTSIDE BOTTOM									
TOTAL QUANTITIES			2				2			

ELEMENT OF STRUCTURE	TYPE OF DETERIORATION SYMBOL	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
		S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
PIER 13 NORTH COLUMN	NORTH FACE			5						
	WEST FACE			3						
	SOUTH FACE									
PIER 13 CENTER COLUMN	NORTH FACE									
	WEST FACE									
	SOUTH FACE									
PIER 13 SOUTH COLUMN	NORTH FACE									
	WEST FACE	1								
	SOUTH FACE									
PIER 14 NORTH COLUMN	NORTH FACE									
	WEST FACE		5	17	1					
	SOUTH FACE									
PIER 14 CENTER COLUMN	NORTH FACE									
	WEST FACE									
	SOUTH FACE									
PIER 14 SOUTH COLUMN	NORTH FACE									
	WEST FACE									
	SOUTH FACE									
TOTAL QUANTITIES										

Note:
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CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

EAST APPROACH
INTERMEDIATE SPANDRELS, PIER 13, 14

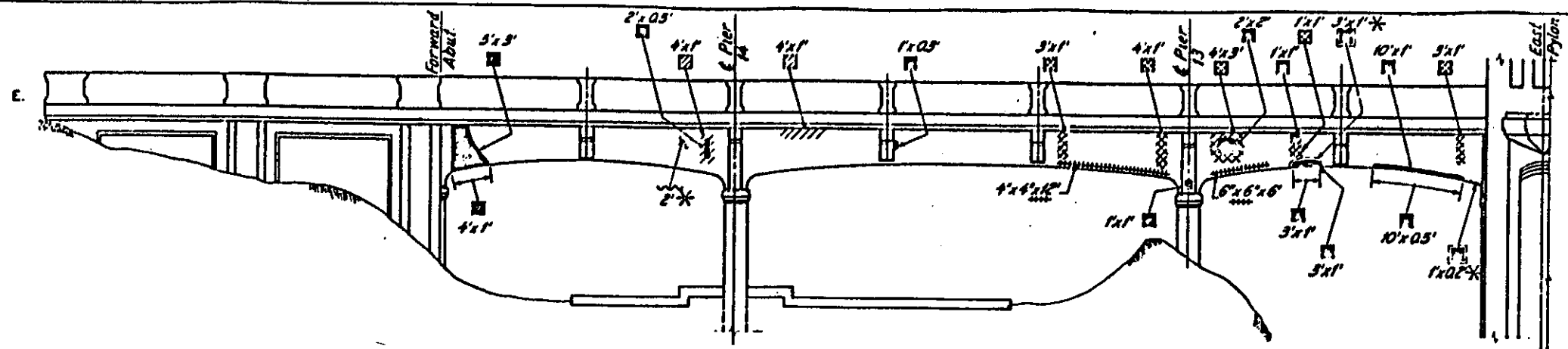
COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 2-28-84

NO B-191

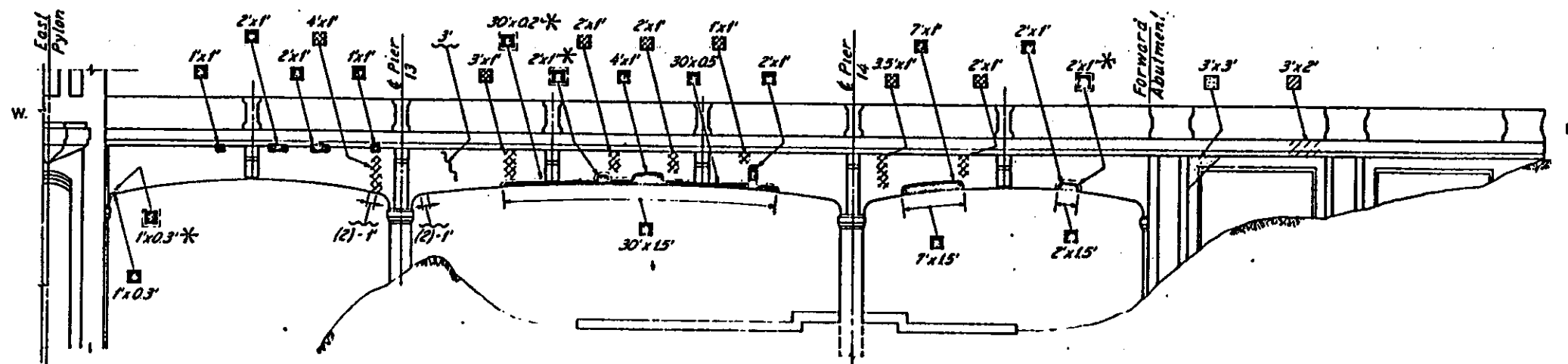
FHWA REGION	STATE	PROJECT
8	OHIO	

82
82

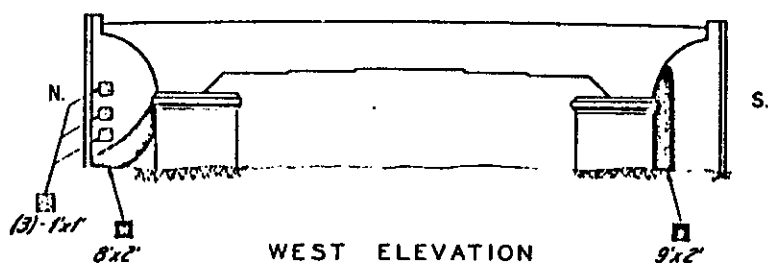
CUYAHOGA COUNTY



NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION
FORWARD ABUTMENT



EAST APPROACH

Note:
Quantities and measurements shown on this sheet are based on the 1978 inventory of physical deterioration. Changes resulting from the 1986 re-inventory are included in the Summary of Quantities, sheet 51.

— indicates limits of quantity on east, west, top or bottom sides
* - Opposite side

TYPE OF DETERIORATION	ELEMENT SYMBOL	LIMIT OF STRUCTURE	SCALE	SPALL	DELAMINATION	MISSING FASCIA	PATTERN CRACKING	CRACK	CORNER CRACK	POPOUTS	HONEY-COMB
			S.F.	S.F.	S.F.	L.F.	S.F.	L.F.	L.F.	EACH	S.F.
NORTH EXTERIOR STRIPHER	OUTSIDE		8	32					18		
	BOTTOM INSIDE			12							
SOUTH EXTERIOR STRIPHER	OUTSIDE			3				2			
	BOTTOM INSIDE			36			18	3			
FORWARD ABUT.	EAST FACE		6		9			4			
	SOUTH FACE WEST FACE			34	3						

ALDEN E. STALSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

CUYAHOGA COUNTY ENGINEER
CLEVELAND OHIO

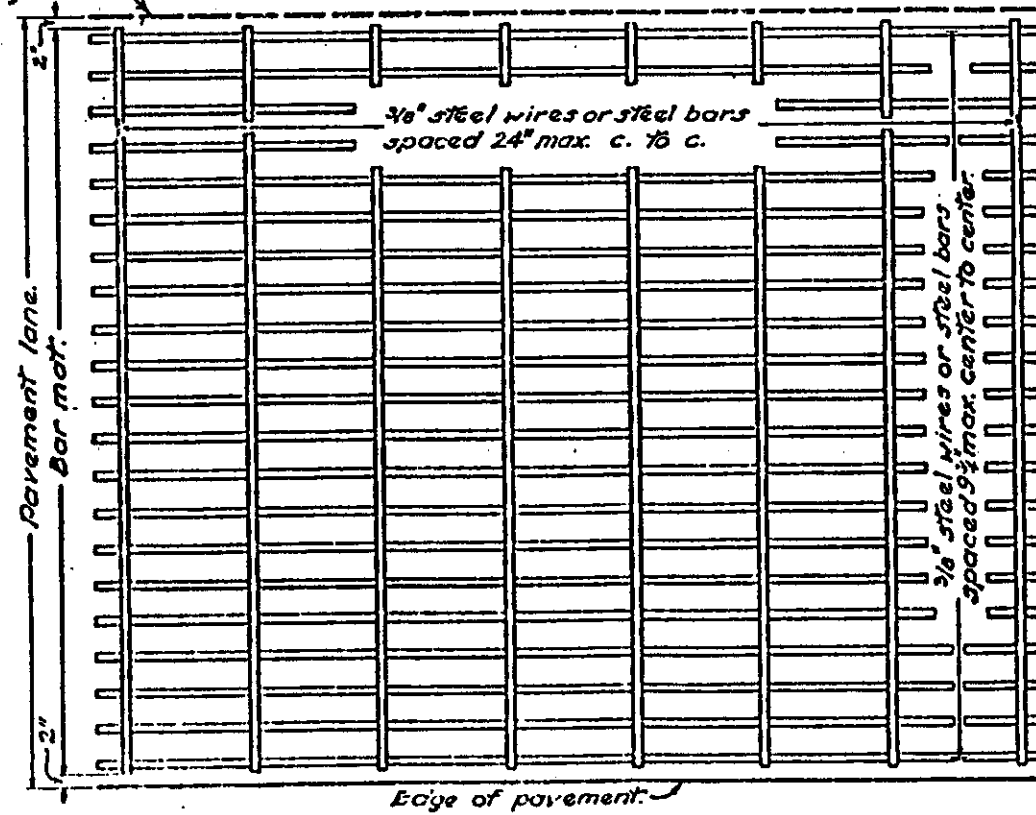
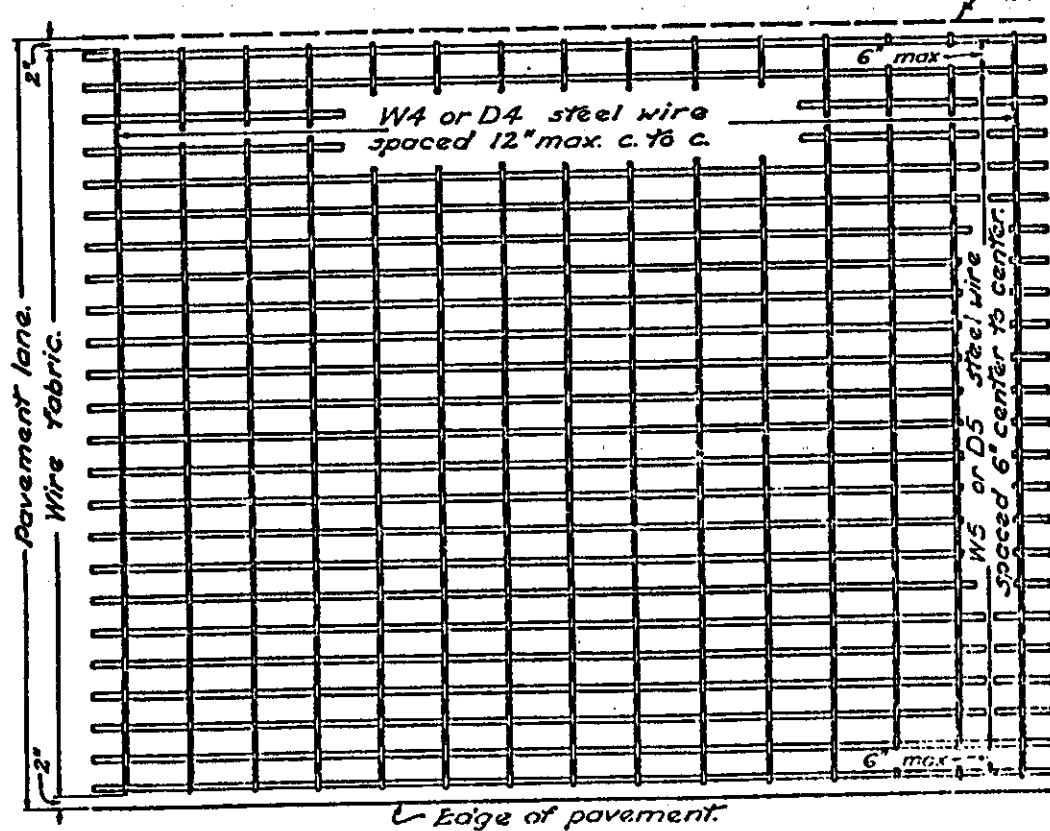
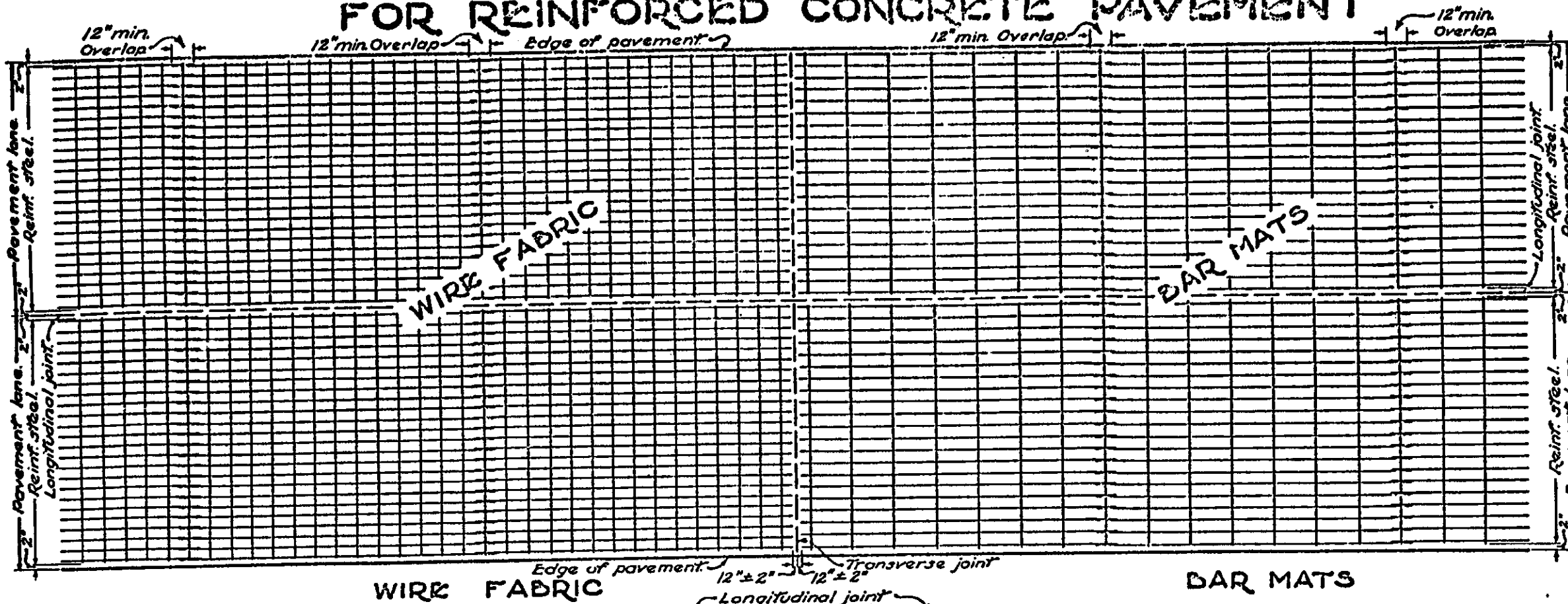
BROOKPARK ROAD
BRIDGE NO. CUY-17-0283
OVER ROCKY RIVER
CITIES OF CLEVELAND & FAIRVIEW PARK

EAST APPROACH
NORTH & SOUTH ELEVATION

COUNTY BRIDGE NO. 39 REPORT NO. 7068 DATE 3-31-86

NO. D. 101 32

STEEL REINFORCING FOR REINFORCED CONCRETE PAVEMENT



NOTES

Steel reinforcing in normal or wider lane widths may consist of two units with an approved longitudinal hinge. The hinge shall consist of W4 or D4 steel wires connecting the two units such that the longitudinal members on either side of the hinge will be properly spaced when the reinforcing is in final position.

The distance from the top of the concrete pavement to the reinforcing steel may vary from 2 1/2 inches to 7 1/2 + 1 inch, where T = thickness of the concrete pavement.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

PAVEMENT REINFORCING

STANDARD
CONSTRUCTION
DRAWING

BP-2

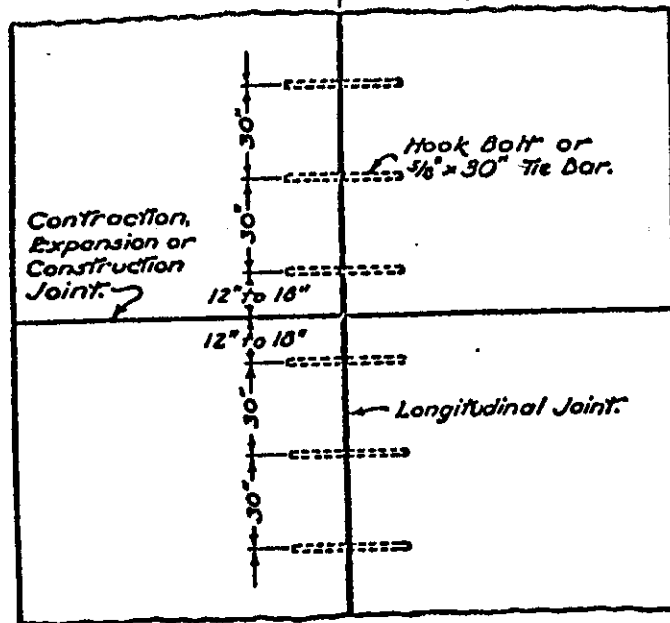
APPROVED *[Signature]* ENGR., L. B. D.

DATE
6-1-65
1-10-67
1-17-68
12-1-68
12-6-76
1-11-85

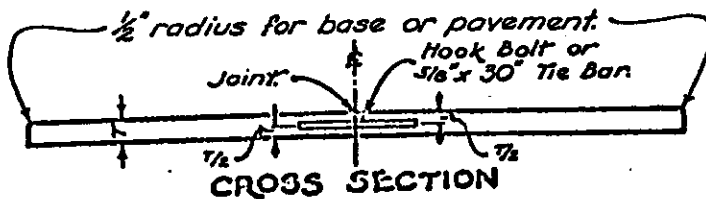
LONGITUDINAL JOINTS

NOTES

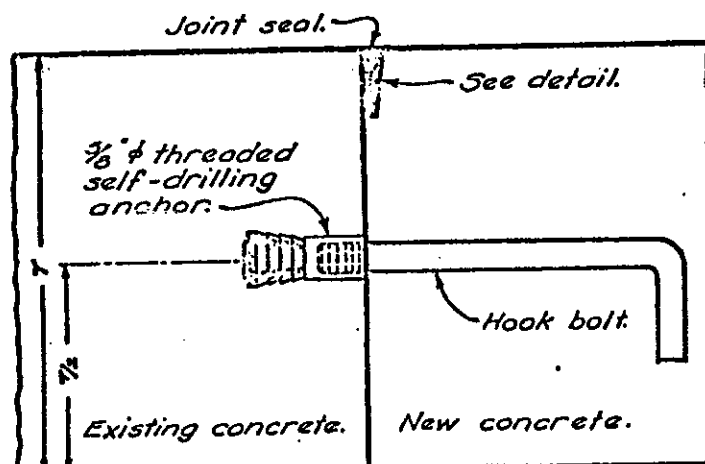
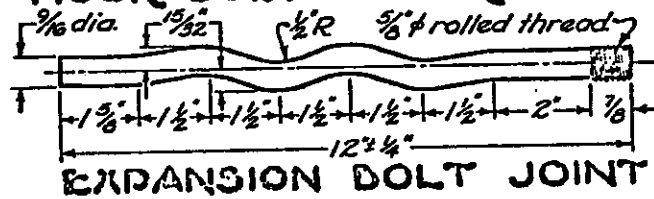
TIE BAR OR HOOK BOLT SPACING



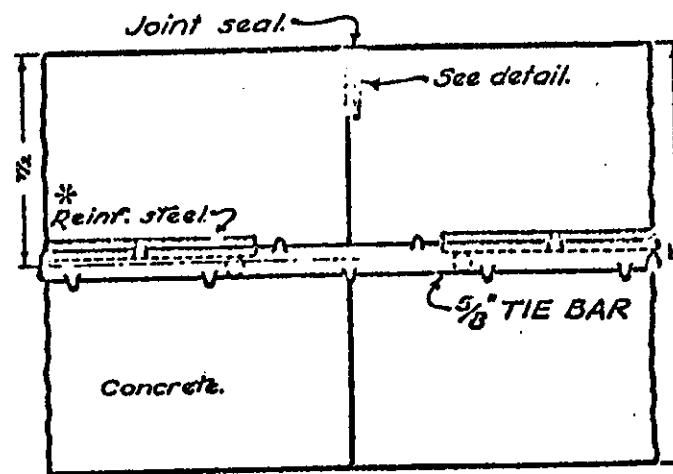
PLAN



HOOK BOLT ALTERNATE



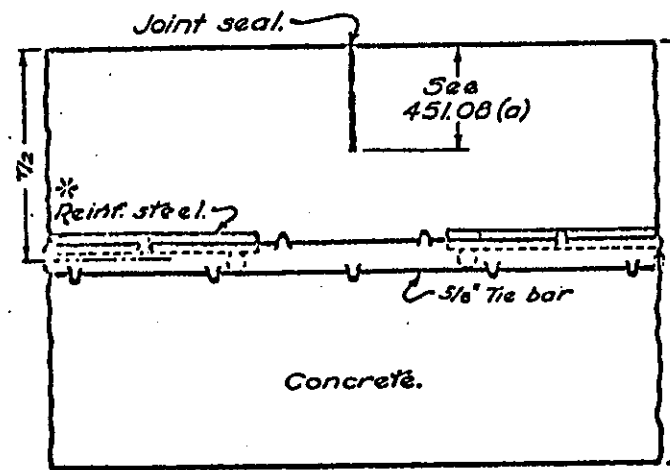
BUTT JOINT



DETAIL OF JOINT

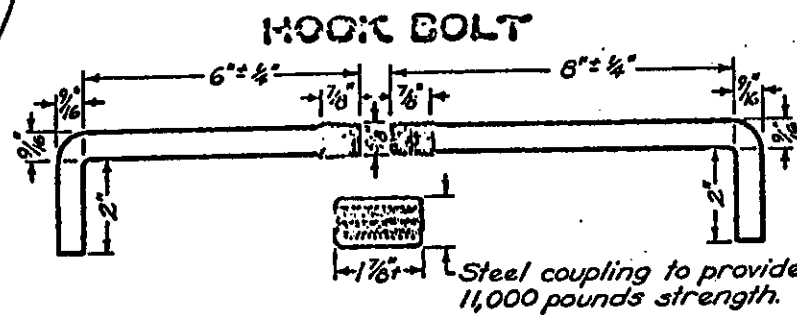
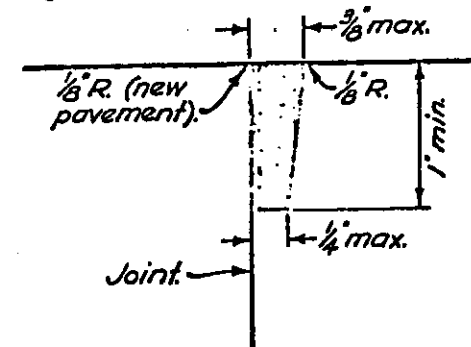
* For 451 only.

SAWED JOINT

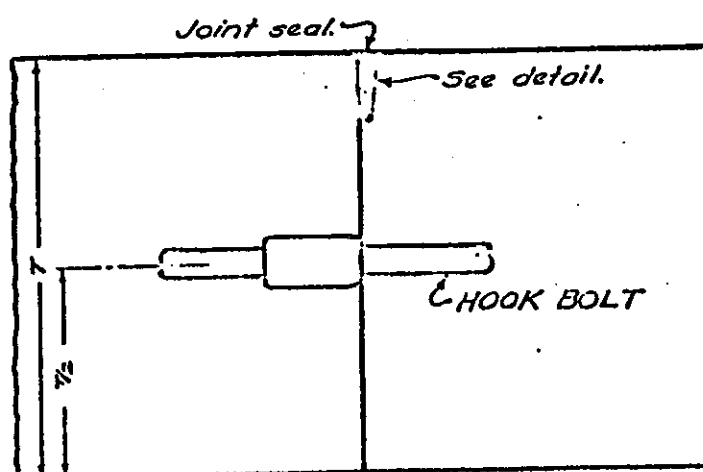


DETAIL OF JOINT

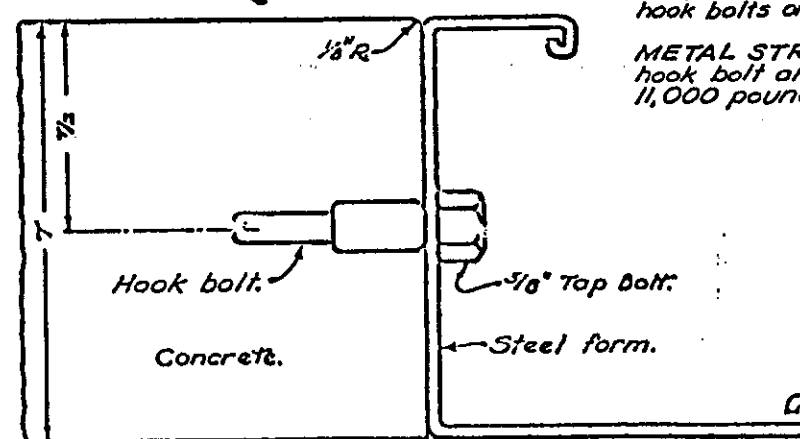
GROOVE AND SEAL DETAIL



BUTT JOINT



ACCEPTABLE METHOD OF FORMING JOINT



GENERAL: Longitudinal joints shall be used when called for on the typical section and shall be constructed as shown on this drawing in 451 and 452 pavement and 305 base. The joint shall be on the centerline of the pavement unless otherwise shown on the plans. Tie bars shall be 3/8 inch round, deformed bars. A satisfactory device shall be used to hold the tie bars in proper position or they may be installed by a mechanical installing device.

BUTT JOINT: The longitudinal joint between adjoining slabs poured in separate operations shall be a butt joint with hook bolts or tie bars, unless otherwise shown on plans. If tie bars are to be bent they shall be of billet grade steel and no part of the bend shall extend into the first slab poured.

Aluminum couplings for hook bolts may be substituted for steel, provided that the specified strength requirements for metal assemblies are met.

EXPANSION BOLT JOINT: Self-drilling anchors may be of the flush-end type or of the snap-off chuck-end type conforming to Federal Specification No. FF-S-325, Group III, Type 1(a) or (c) except for the outside diameter of the anchor. The hook bolt or alternate may be used to complete the assembly. Unless otherwise required by the plans expansion anchors and bolts shall be spaced at 30 inches where pavement widening is 6 feet or less in width and at 60 inches where widening exceeds 6 feet in width. Cost of expansion bolt joint shall be included in the unit price bid for new pavement and no separate payment will be made.

GROOVES: Grooves for sealing expansion bolt or butt joints in 451 or 452 pavements shall be formed by impressing a device or bar into the newly deposited concrete adjacent to the existing or previously poured lane. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion of the concrete.

Adjoining slabs adjacent to grooved joints shall be edged with a thin metal edger having a radius of 1/8 inch. Any impression left in the surface of the pavement by the flat part of the edging tool shall be eliminated. In lieu of the above method the longitudinal joint may be sawed to a depth of one inch and an approximate width of 1/8 inch.

After the joint is formed it shall be protected from dirt and foreign matter until the joint seal is placed.

SEALING JOINTS: Sawed joints may be sealed with 705.01, 705.02 or 705.11 joint sealer.

Sealing of longitudinal joints in 305 base is not required.

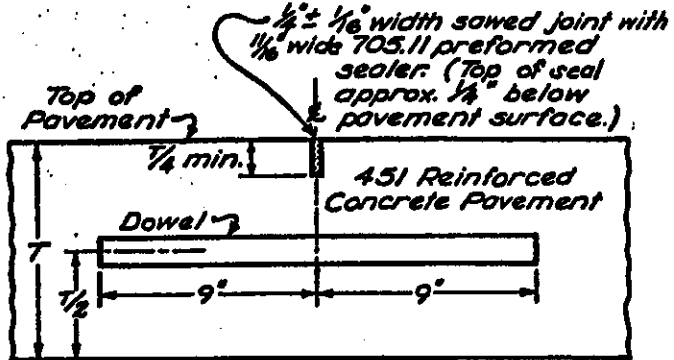
HOOK BOLTS: Hook bolt inserts shall be turned to a tight fit when installed in threaded anchor shields, hook bolts or coupling.

METAL STRENGTH: Tie bars, hook bolt assemblies and hook bolt alternate shall have a minimum strength of 11,000 pounds.

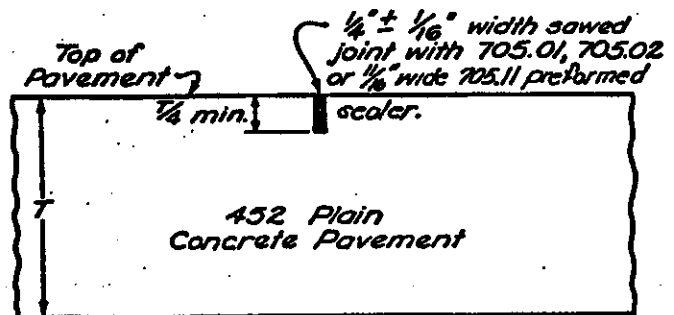
BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
LONGITUDINAL PAVEMENT JOINTS	
DATE	6-1-69 12-20-66 1-10-67 5-1-68 12-1-68 1-1-71 12-6-76
STANDARD CONSTRUCTION DRAWING BP-3	
APPROVED <i>W. C. Cunningham</i> ENGR., L. & D.	

TRANSVERSE JOINTS

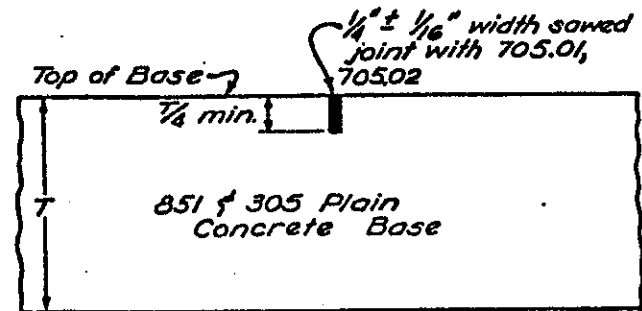
CONTRACTION JOINTS



SECTION - 451 PAVEMENT

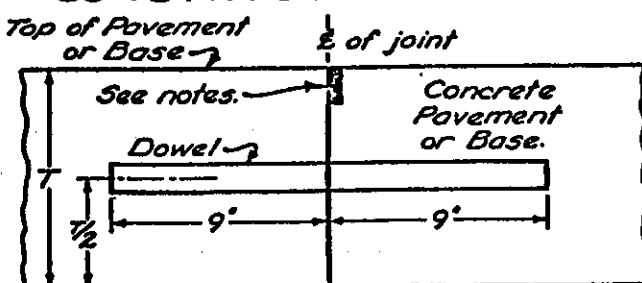


SECTION - 452 PAVEMENT



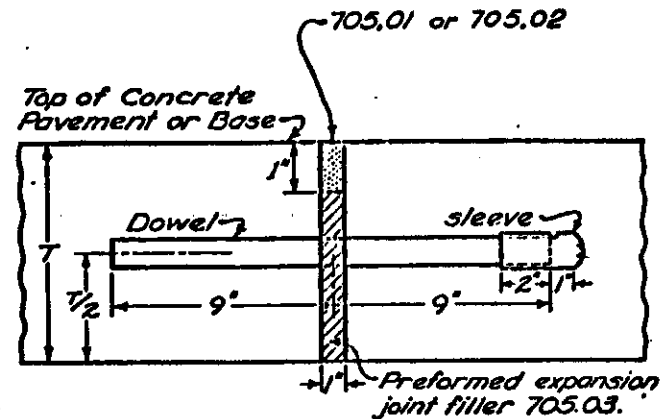
SECTION - 851 & 305 BASE

CONSTRUCTION JOINT

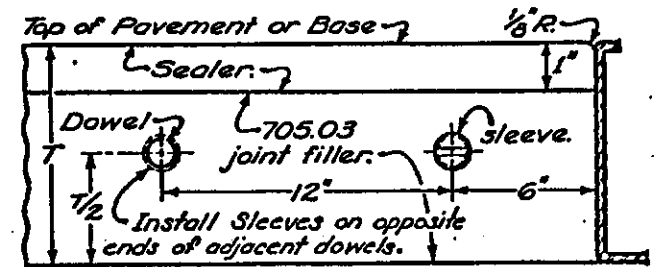


SECTION THROUGH CONSTRUCTION JOINT

EXPANSION JOINT



SECTION THROUGH EXPANSION JOINT



SIDE ELEVATION OF EXPANSION JOINT

GENERAL: Notes and details shown on this drawing shall be considered in conjunction with and supplemental to the pertinent specifications for portland cement concrete pavements and bases, and incidentals related thereto.

All joints shall be constructed normal to the centerline of the pavement lane unless otherwise directed.

Where dowels are specified, they shall be round, straight steel bars of the size indicated in the following table, and shall be shop coated with a suitable rust inhibitor. Dowels shall be spaced at 12" centers, beginning 6" from the longitudinal joint.

DOWEL SIZE	
(T) THICKNESS OF PAVEMENT	DIAMETER OF DOWEL
8.5" or less	1"
8.6" to 10"	1 1/4"
over 10"	1 1/2" or as shown on plan

ASSEMBLY: Each joint assembly used to hold dowels in position shall be continuous between longitudinal joints and between longitudinal joint and pavement edge. The assembly shall be firmly held in proper position by at least eight 1/2" steel pins driven at an angle to brace the assembly from lateral and vertical displacement during the placing of the concrete. These pins shall be at least 18" in length. Two of these pins shall be driven opposite each other at each end

of the assembly and the remaining pins shall be driven in staggered positions on each side of the assembly. In exceptional cases where it is impractical to use the 18" length pins, such as where hardpan or rock is encountered, the Engineer may authorize use of shorter pins provided the assembly is held firmly. Where the assembly is placed on granular material which may allow settlement or distortion of the assembly, a minimum of 6 steel plates, each having a bearing area of approximately 25 square inches and a cross-section which will not bend under the imposed load, shall be placed under the assembly. One plate shall be used at each of the four end pins. The remaining plates shall be spaced uniformly on each side of the assembly. The method of staking and placing bearing plates shall be approved by the Engineer.

Dowel spacing is shown for pavement lanes of even foot widths. Where other widths are specified, standard cages may be used with dowel spacings adjusted as follows:

The 6" dowel spacing shall be maintained at the longitudinal joint. The spacing at the outer edge of the lane may be increased up to 12". Where an odd width of lane occurs, a dowel shall be placed 6" from the outer edge of the lane if the standard cage would provide for a space exceeding 12". Such a dowel shall be held rigidly in proper position by a method satisfactory to the Engineer, or a dowel cage of greater length than required may be used by cutting the assembly and splicing to attain the required length.

This drawing is intended for use with a uniform depth pavement. When the project involves the placing of variable depth pavement, the joint components shall be held in place in accordance with the method shown in the plan or as approved by the Engineer.

EXPANSION JOINTS: Expansion joint filler shall be held rigidly in position and shall be continuous for the full width of each lane. The face of the expansion joint shall be perpendicular to the concrete surface and shall not be skewed horizontally except when abutting a skewed bridge approach slab.

Smooth dowels shall be used, and free movement shall be provided by applying a coating of an oil such as S.A.E. 140 or other "bond-breaking" material just prior to placing the concrete. One free end of each dowel shall be equipped, after coating, with a sleeve of metal or other approved material approximately 3" long, designed with crimped end and overlapping seams, fitting closely around the dowel. Each sleeve shall be provided with a depression or interior projection to act as a stop for the dowel sufficiently distant from the crimped end to allow 1" for longitudinal dowel movement with pavement expansion. In lieu of this requirement, any other means may be used if approved by the Director.

Proper size dowel holes shall be punched or drilled into the preformed expansion joint filler in order to insure tight fitting dowels.

CONTRACTION JOINTS: All contraction joints in 451 reinforced concrete pavement shall be dowelled. Contraction joints in plain concrete base or pavement shall be dowelled if within 500' of a pressure relief joint. Contraction joints without dowels shall be skewed with the right edge of the joint 4 feet ahead of the left edge in the direction of travel for a 24-foot wide pavement.

To provide for longitudinal movement at the joint, dowels shall be smooth and coated with a bond breaking material

such as S.A.E. 140 oil just prior to placing the concrete. Contraction joints of the type specified shall be spaced in accordance with the following table:

CONTRACTION JOINT SPACING	
TYPES OF PAVEMENT OR BASE	MAXIMUM SPACING BETWEEN JOINTS
451 Reinforced Concrete Pavement	40 lin. ft.
452 Plain Concrete Pavement	17 lin. ft. Skewed when not dowelled
851 & 305 Plain Concrete Base	20 lin. ft.

CONSTRUCTION JOINTS: Smooth dowels shall be used in transverse construction joints in all portland cement concrete pavement and base. The joint shall be formed by using an adequate bulkhead that will provide a straight joint. The bulkhead shall have openings provided for dowel bars spaced as outlined under "ASSEMBLY." The bulkhead shall be shaped to fit the typical section of the pavement or base. Dowels shall be held rigidly in position during the placing of the concrete.

Construction joints in reinforced concrete pavement may be located at a contraction joint or between contraction joints, provided they are not closer than 10 feet to another parallel joint. In plain concrete pavement or concrete base a construction joint shall not be located closer than 5 feet to another parallel joint.

Kerf and seal conforming in all respects to details shown for contraction joints shall be provided at each construction joint in concrete pavement and base.

SEALING BASE CONTRACTION JOINTS:

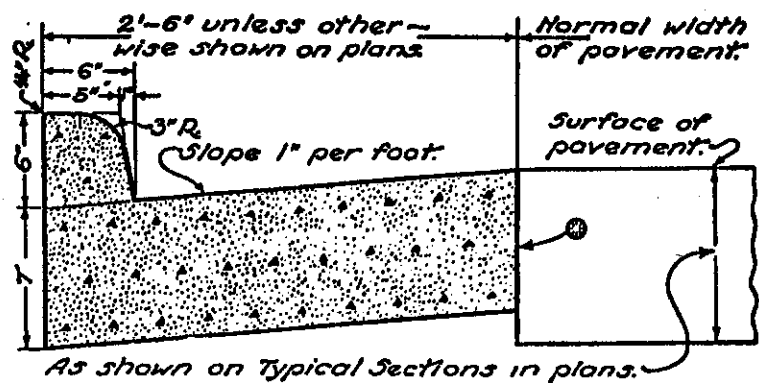
All contraction joints for plain concrete bases shall be sealed as detailed hereon and the cost included in the unit price bid for Item 305 or 851.

The requirement for sealing base contraction joints may be waived by the Engineer provided the joints will not be contaminated by traffic or construction equipment and will be cleaned and free of all foreign material just prior to overlaying with the surface courses.

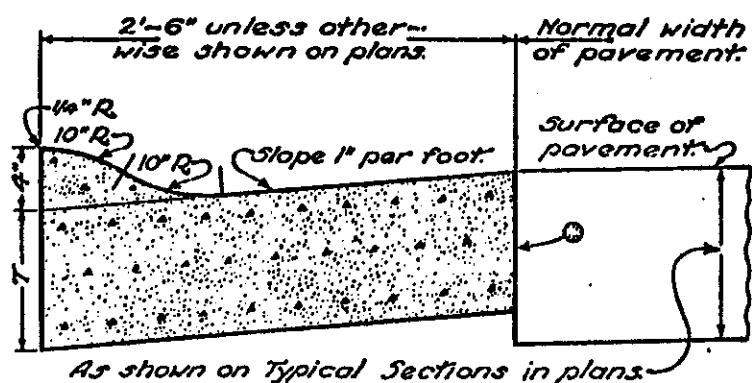
* Dowel coatings conforming to the requirements of specification 709.13 Type A do not require a bond breaker.

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION		DATE 6-1-65 1-10-67 1-1-69 1-1-71 12-6-76 7-16-81 1-11-85
TRANSVERSE PAVEMENT JOINTS		
STANDARD CONSTRUCTION DRAWING	BP-4	
APPROVED: <i>[Signature]</i>	ENGR. L. B.D.	

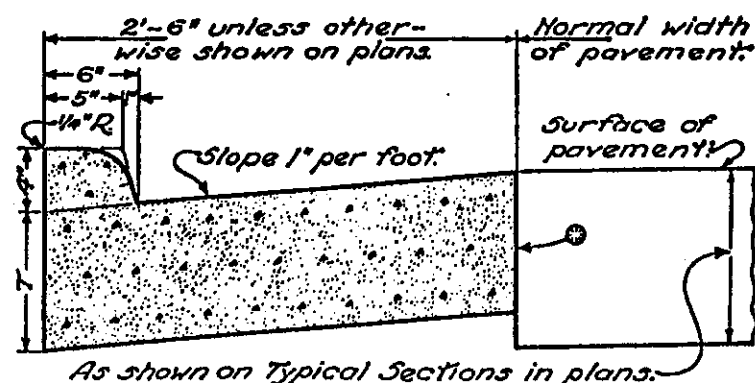
STANDARD CONCRETE CURBS AND COMBINED CURB AND GUTTER



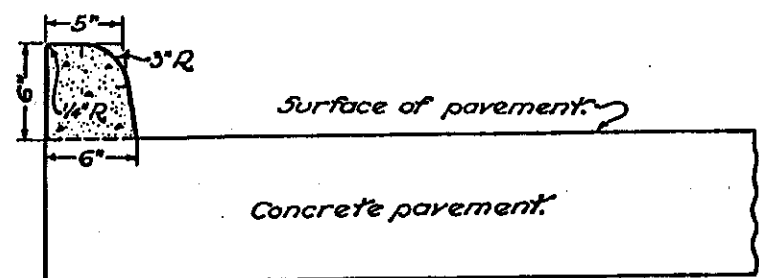
As shown on Typical Sections in plans.
TYPE 2



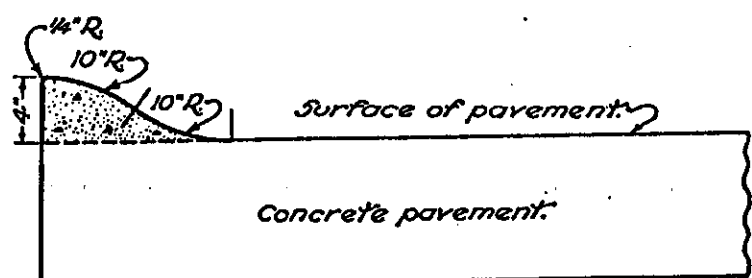
As shown on Typical Sections in plans.
TYPE 3



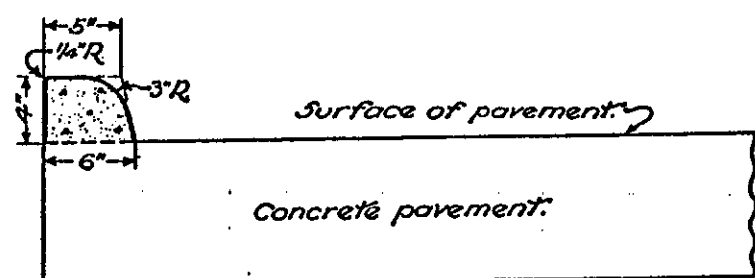
As shown on Typical Sections in plans.
TYPE 4



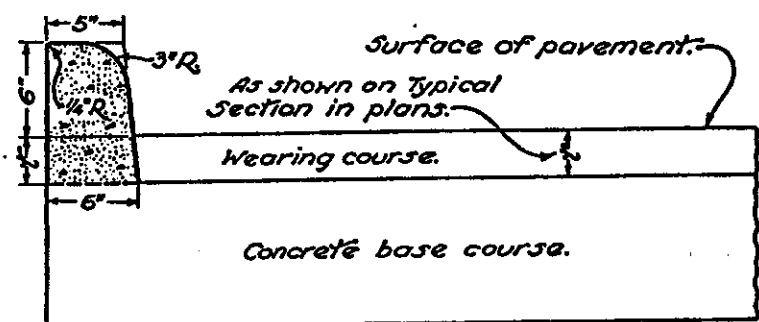
TYPE 2-A



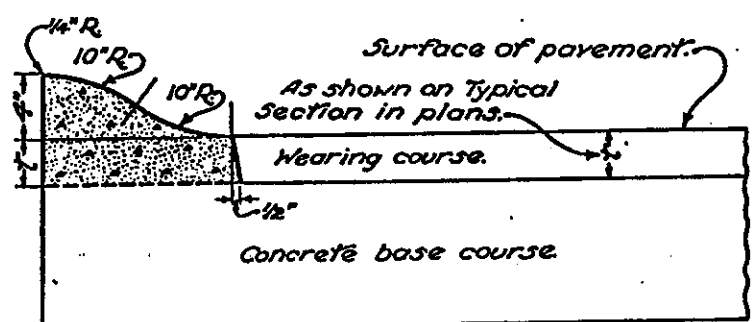
TYPE 3-A



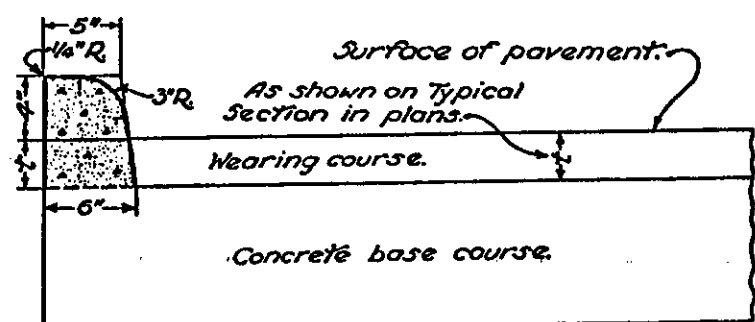
TYPE 4-A



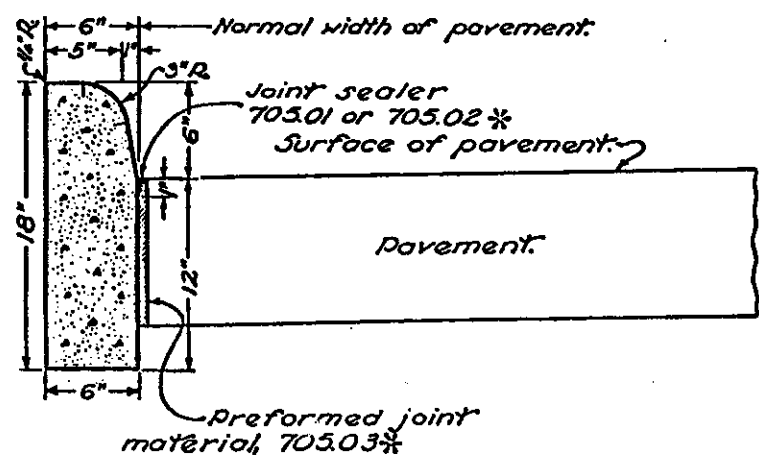
TYPE 2-B



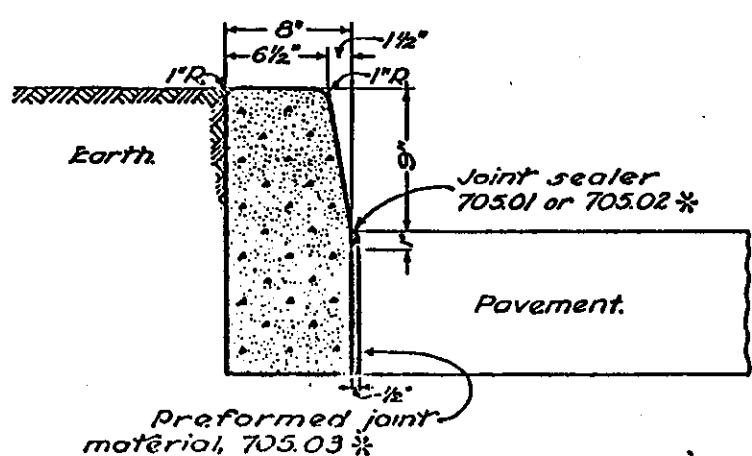
TYPE 3-B



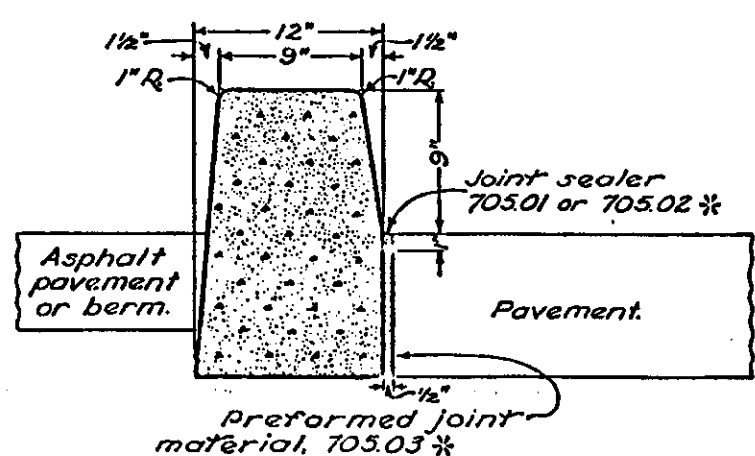
TYPE 4-B



TYPE 6



TYPE 7



TYPE 8

NOTES

GENERAL—This drawing shows alternate types of curb that may be used on various types of pavement. Typical section of project shows the type to be used, also the thickness of the edge of the pavement or the edge of the curb and gutter section.

JOINTS—One inch expansion joints shall extend up to the top of the curb and shall be constructed in the curb and gutter section in such a manner that the joint seal will extend the full width of the gutter and into the curb face a sufficient distance to seal the joint to an elevation of at least two (2) inches above the flow line of the gutter. Dowel bars shall be used in the curb and gutter section at expansion joints which are identical with the joints in the pavement.

All joints shall be constructed perpendicular to the edge of the curb and to the surface of the pavement.

Transverse expansion joint material shall meet the requirements of 705.03.

* Expansion joint material and joint sealer is not required when curb is adjacent to flexible type pavement.

⊙ Butt joints shall be provided between combined curb-and-gutter and new rigid pavements, with tie bars or hook bolts provided at five foot intervals. Combined curb-and-gutter shall be tied to existing rigid pavements with expansion hook bolts spaced at five foot intervals. If the combined curb-and-gutter adjoins a new rigid base or an existing rigid base or pavement that is to be surfaced with bituminous material, a butt joint shall be provided and tie bars, hook bolts or expansion hook bolts shall be omitted.

Thickness of gutter plate "T" shall be 9 inches unless otherwise shown on the plans.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

CONCRETE CURBS
AND
COMBINED CURB
AND GUTTER

STANDARD
CONSTRUCTION
DRAWING

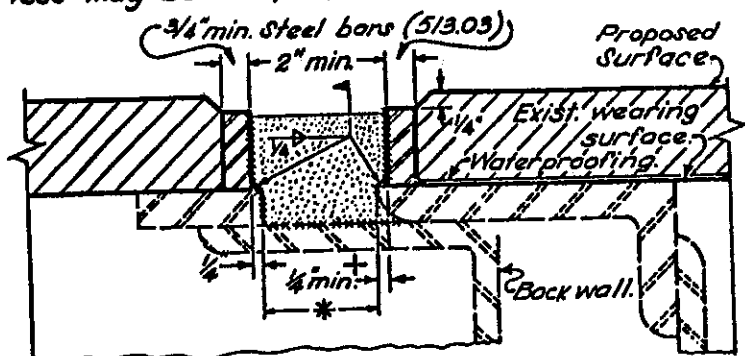
BP-7

APPROVED: [Signature] ENGR. L. B. D.

DATE
6-1-66
12-6-76

RESURFACING

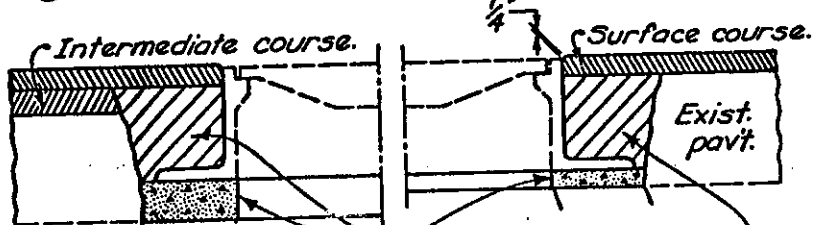
Increase as necessary to maintain 2" min. opening.
Vertical extension of joints found to be closed to 1/2" or less may be non-performed as directed by the Engineer.



As a part of item 516, seal joint with a hot-applied bridge deck waterproofing material which also meets the requirements of 70501. Sandblast vertical surfaces (1) and wipe clean. Seal joint before rust forms. If rust forms, re-sandblast. Use bond breaker on the horizontal surface (2).

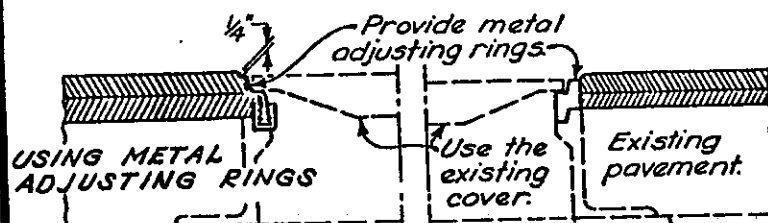
MAINTENANCE OF TRAFFIC: Generally the bars shall be welded while the lane is closed for waterproofing or resurfacing. However, if traffic is routed over the bars before resurfacing, temporary ramps shall be constructed to the tops of the bars using 402 or 404 feathering at a max. slope of 6 ft/in. The ramps shall be removed prior to resurfacing. Payment for placing and removing the ramps shall be included in the lump sum bid for Item 614.

VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS



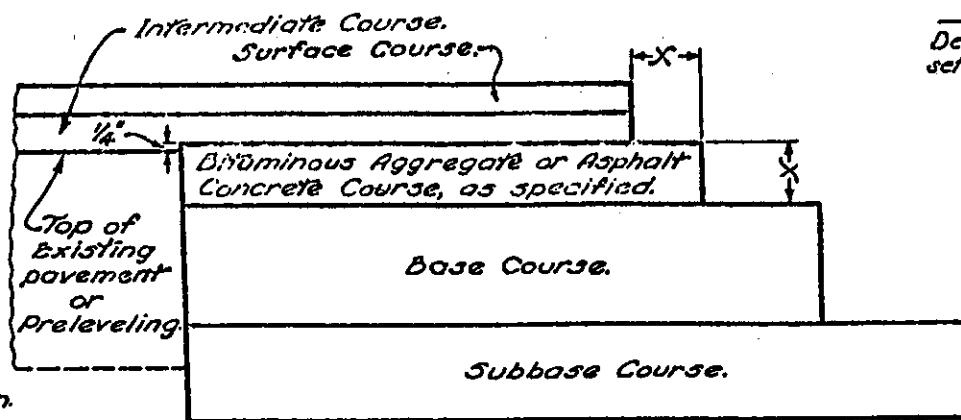
Grade rings, bricks, Class C concrete or mortar. Max. mortar thickness 1 1/2".
Class C concrete or 3" layers of compacted asphalt concrete.

USING CONCRETE OR MORTAR



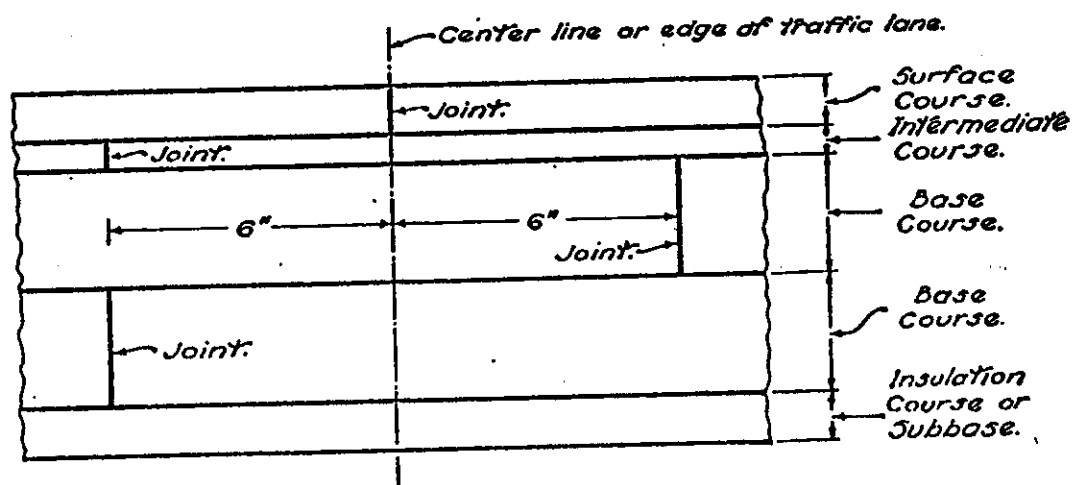
USING METAL ADJUSTING RINGS

Metal adjusting rings shall: (a) attach securely to the existing frame by welding or mechanical devices; (b) consist either of cast metal having an integral rim and seat, or be fabricated metal with a sturdy connection between the seat and rim; and (c) provide an even seat for the manhole cover. In addition, the adjusting ring type shall be a design acceptable to the local governmental agency responsible for street and sewer maintenance. Details to the Engineer shall be

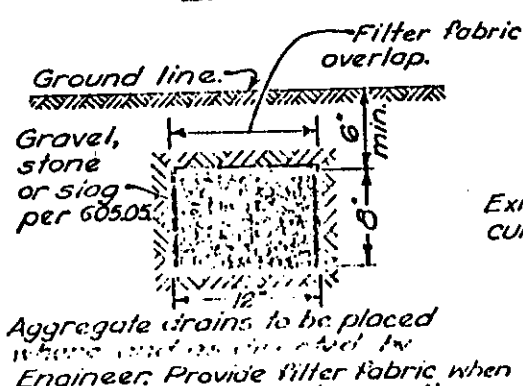


The Bituminous Aggregate in the upper part of the base widening shall finish approximately 1/4" above the edge of the existing pavement where no preleveling is used. Where a preleveling (using intermediate course material) is specified, it shall be placed prior to excavation of the widening trench and the upper course of the base widening shall finish approximately 1/4" above the preleveling.

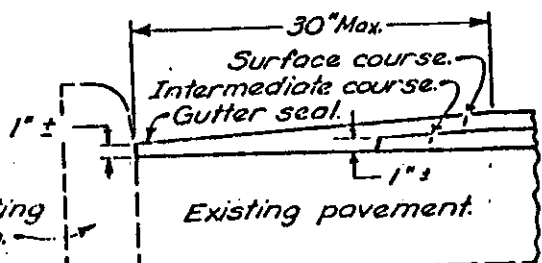
COURSE DETAIL FOR WIDENING



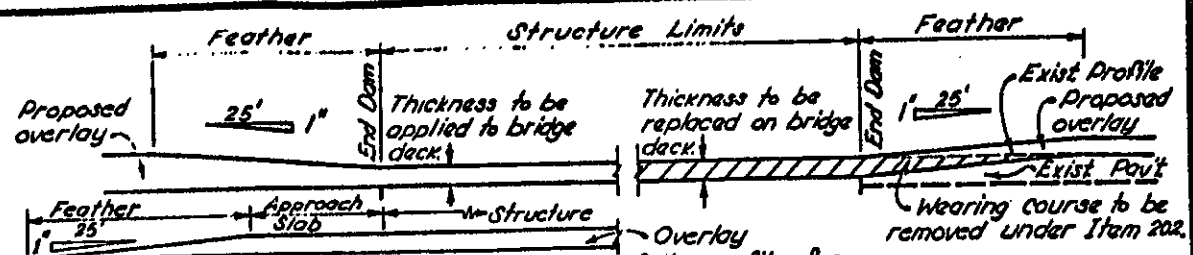
LAPPING LONGITUDINAL JOINTS



Aggregate drains to be placed where and as directed by Engineer. Provide filter fabric when

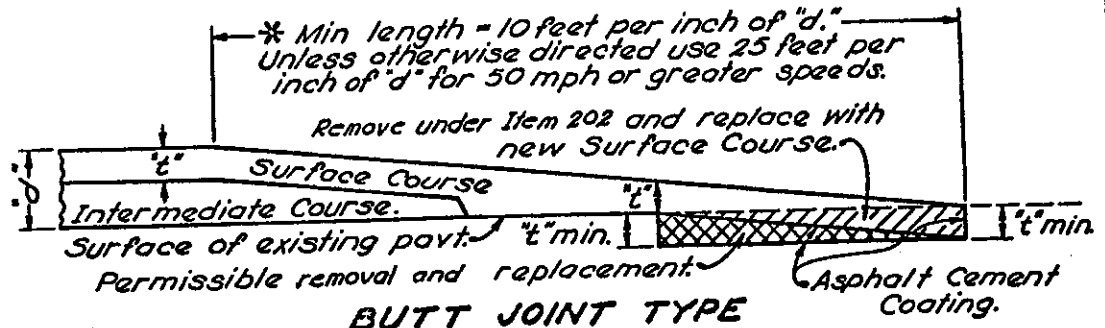


Special care shall be taken during construction to obtain maximum compaction of bituminous concrete in gutters.

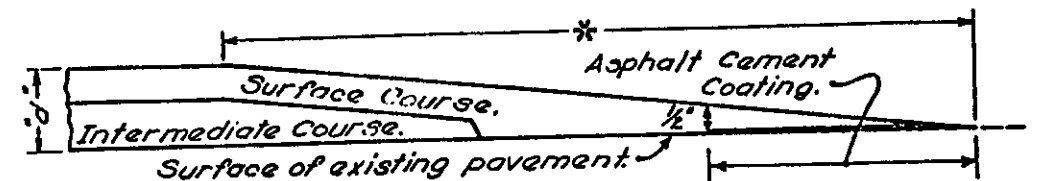


Details assume non-settled approach slabs. Smoothing of the profile for settlement is required per plan grades or as directed by the Engineer.

FEATHERING AT STRUCTURES



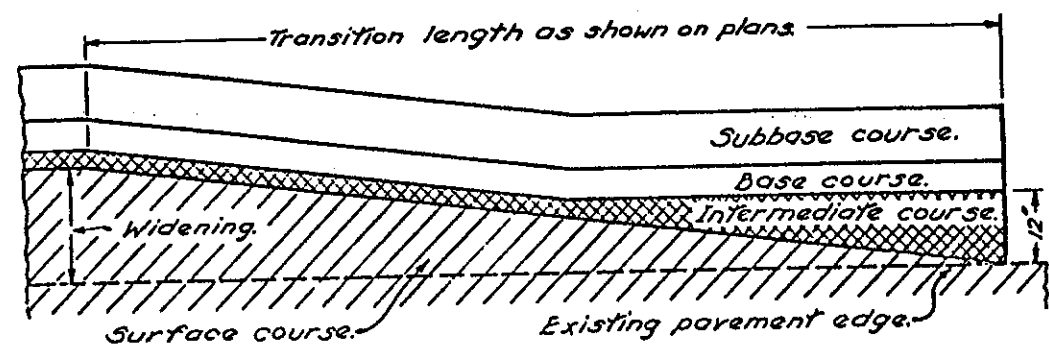
BUTT JOINT TYPE



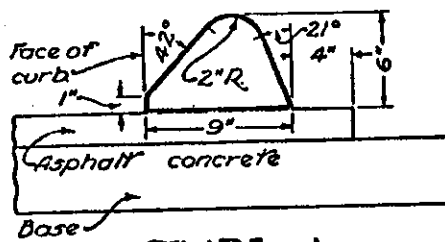
TAPER EDGE TYPE

NOTE: Either butt or taper type may be used unless type is specified by the plan.

PLACING FEATHERED AREAS



MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT



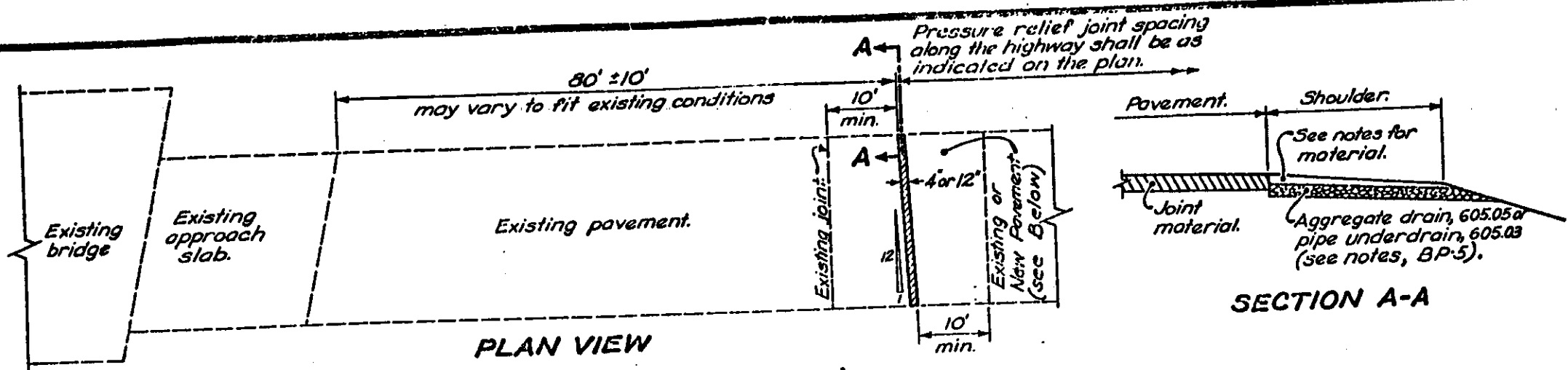
TYPE I ASPHALT CONCRETE CURB

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

RESURFACING

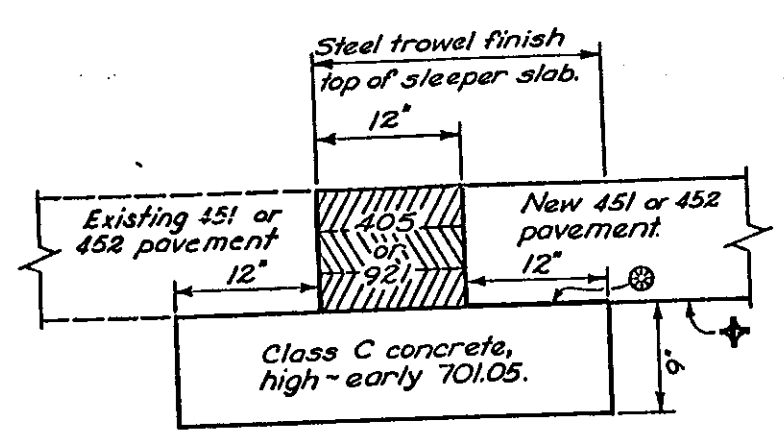
STANDARD CONSTRUCTION DRAWING BP-5

DATE: 9-1-35, 1-1-71, 6-1-72, 8-11-75, 4-16-79, 7-16-81, 1-11-85

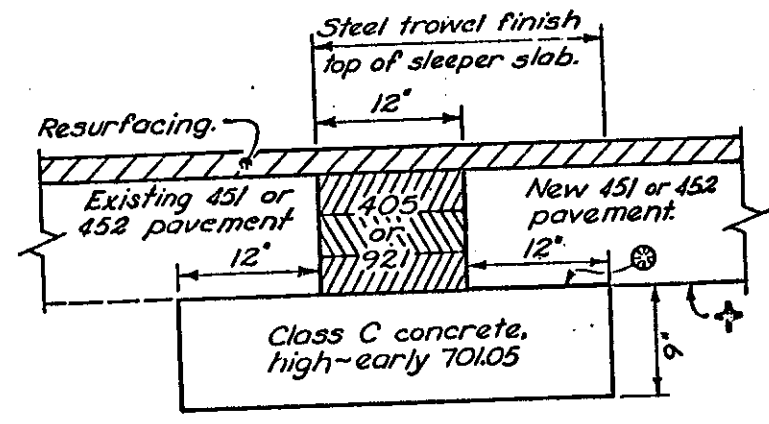


SECTION A-A

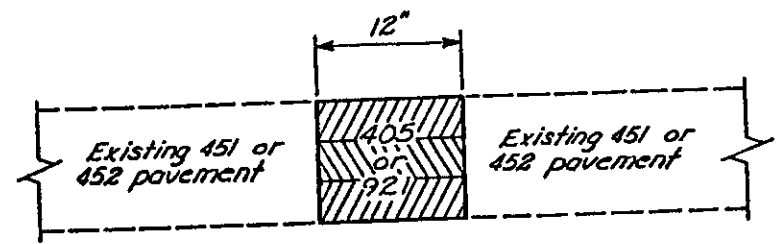
PRESSURE RELIEF JOINTS - TYPES B, C & D



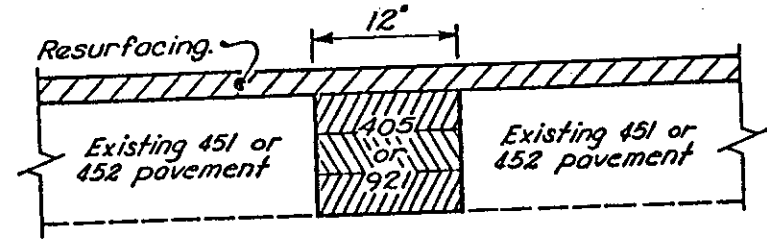
TYPE B



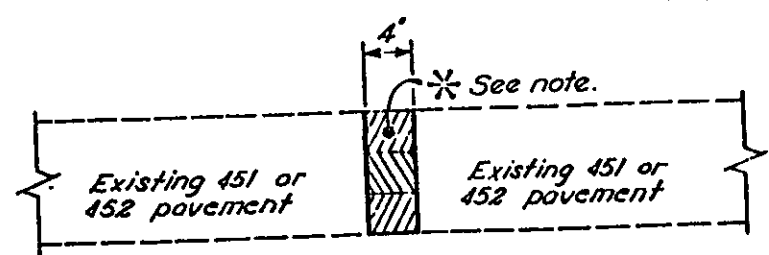
TYPE B - WITH RESURFACING



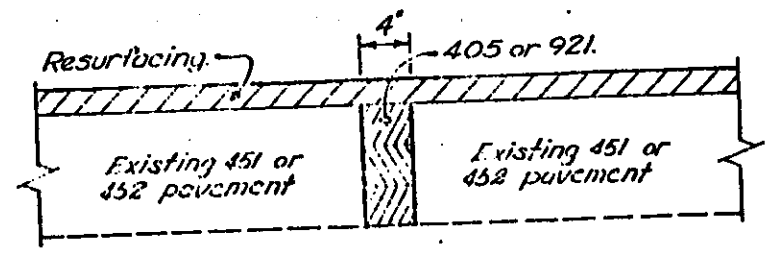
TYPE C



TYPE C - WITH RESURFACING



TYPE D



TYPE D - WITH RESURFACING

- ⊗ Polyethylene bond-breaker or equal.
- ✦ Care shall be taken to finish the subbase or sub-grade surface smooth and as high or slightly higher than the sleeper slab.

NOTES

ALL JOINTS shall be sawed full depth, however, the cut may be made in two passes. To reduce the possibility of saw binding, joints should be cut, if possible, on overcast days and/or when the temperature is less than 70°.

ON CURBED PAVEMENTS the pressure relief joint shall be cut through to the back of curb. After filling the joint, asphalt concrete shall be formed and tamped in place to conform to the adjacent curb.

SKIEW of the pressure relief joint shall be 12:1 or greater unless otherwise directed by the Engineer.

ANY OF THE PRESSURE RELIEF JOINT TYPES shown may be filled with two or three lifts of loosely compacted 405 or 921 asphalt concrete. *In pavement that is not to be resurfaced in the near future the Type D joint may be filled (in accordance with manufacturer's instructions) with material manufactured for pressure relief joints, such as Meadows Sealtight polyethylene or Froth Pak urethane foam or approved equal.

AGGREGATE DRAINS shall be provided from the low end (or ends) of each pressure relief joint to the embankment slope or ditch inslope. A drain will be required at both ends of the joint if the pavement is crowned with transverse slopes toward both edges. If a feasible outlet is not available for aggregate drains, then metal pipe underdrains, with perforated pipe and aggregate backfill, shall be provided instead of aggregate drains and the pipe extended to a suitable outlet. The material above the filter aggregate of the drain in paved shoulder area may be the same as the shoulder pavement or may be the same as the asphalt material used in the pressure relief joint and included in 605 for payment.

MEASUREMENT of the pressure relief joint for pay purposes shall be along the centerline of the joint, edge to edge of pavement or back to back of curbs. Payment shall be per linear foot for Item Special, Pressure relief joint, Type —, which shall include all work and materials necessary to complete the joint except for the aggregate drains or pipe underdrains which shall be constructed and paid for as Item 605.

CEMENT other than the 701.05 specified may be used if approved by the Engineer, provided an accelerating admixture meeting the requirements of ASTM-C494 Type C or E, and an air entraining admixture meeting the requirements of 705.10 is added at the mixer.

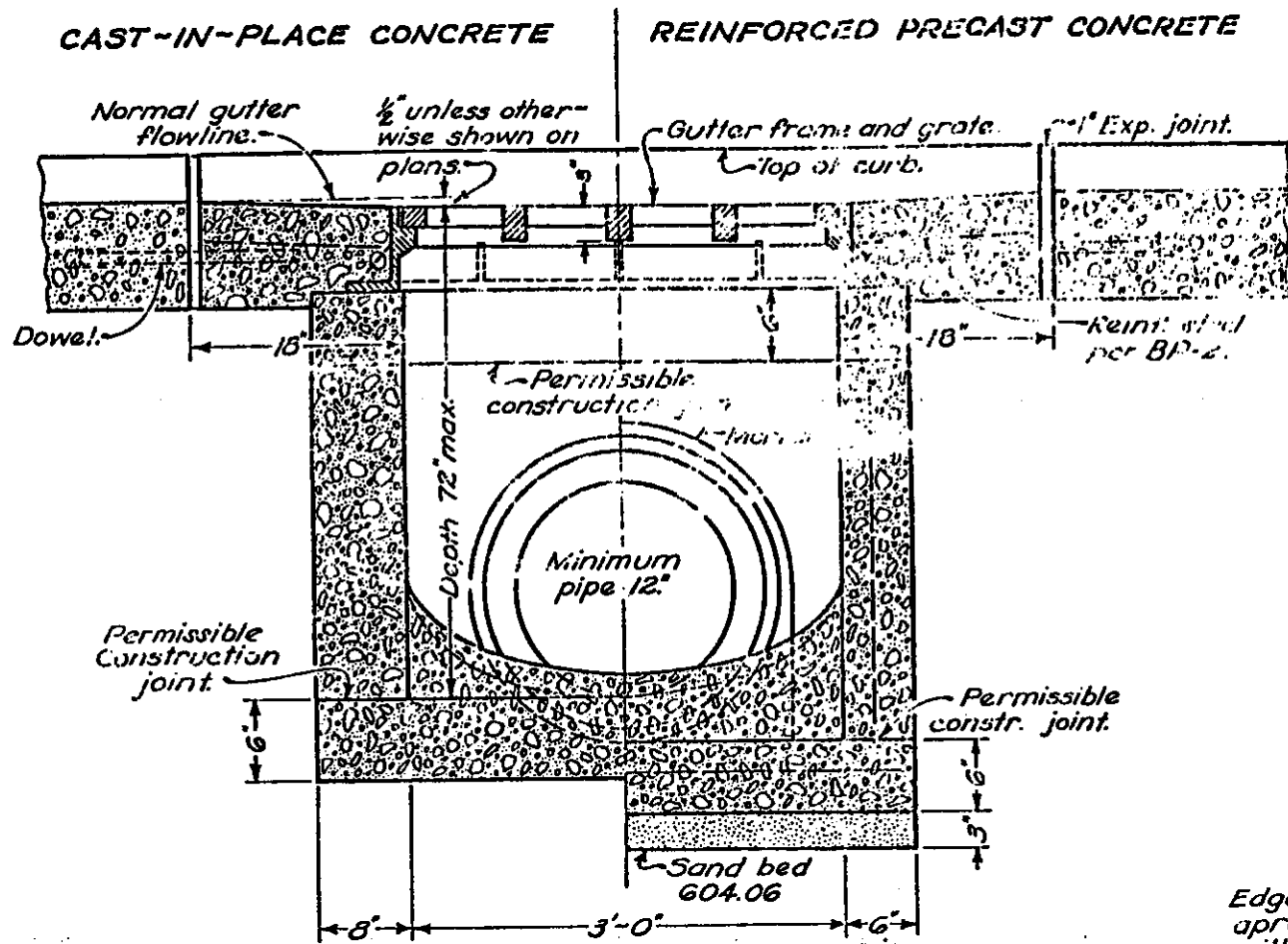
BUREAU OF LOCATION AND DESIGN
 CIVIL DEPARTMENT OF TRANSPORTATION

PRESSURE RELIEF JOINT TYPES B, C & D

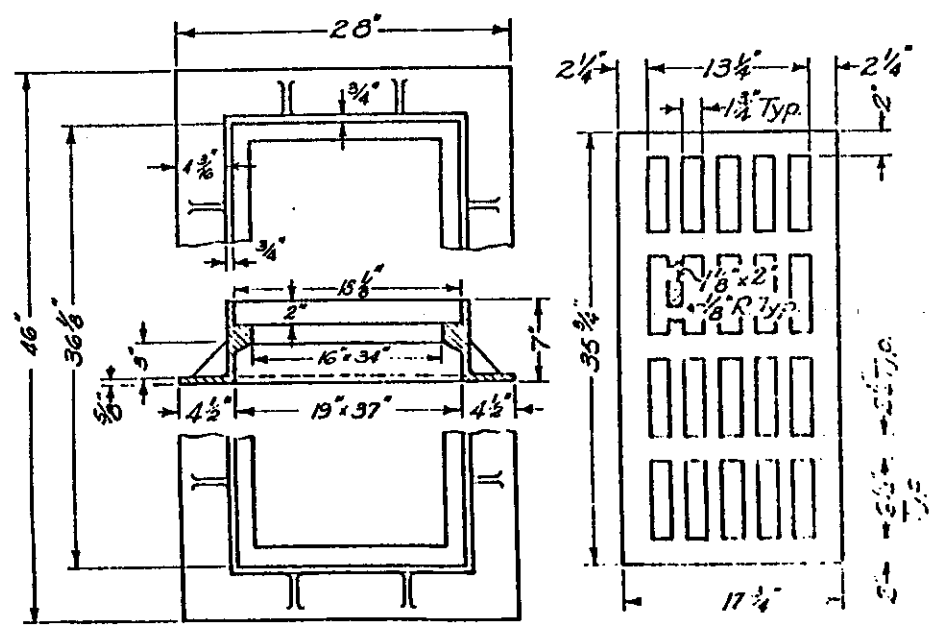
STANDARD CONSTRUCTION DRAWING BP-11

APPROVED: *[Signature]* ENGR. L.B.D.

DATE: 1-3-75
1-30-64

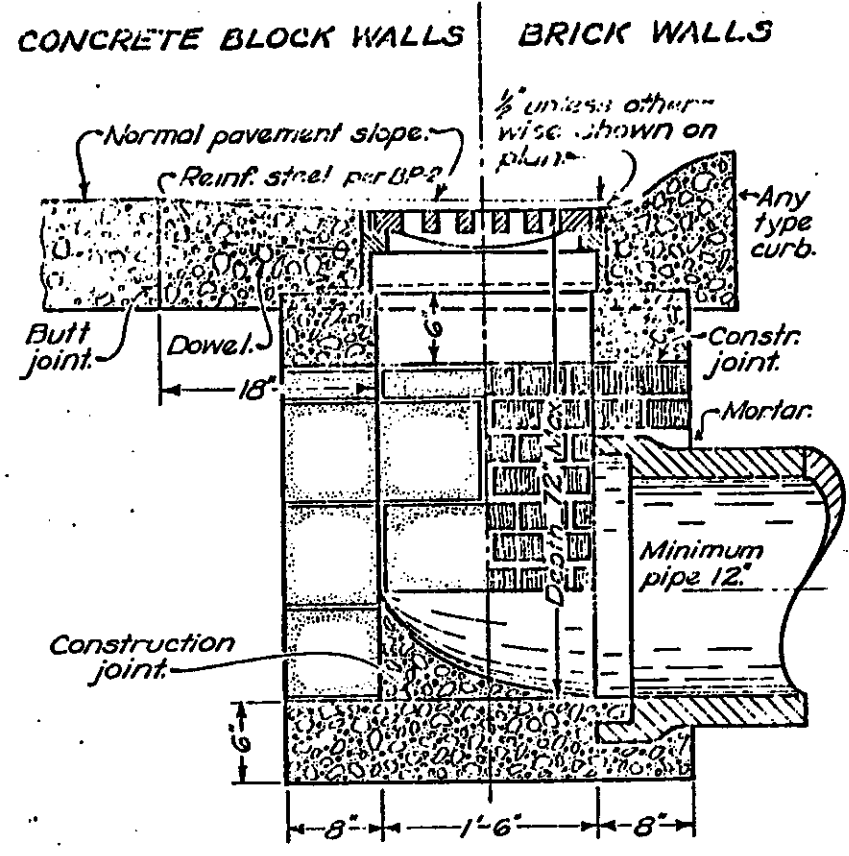


SECTION A-A

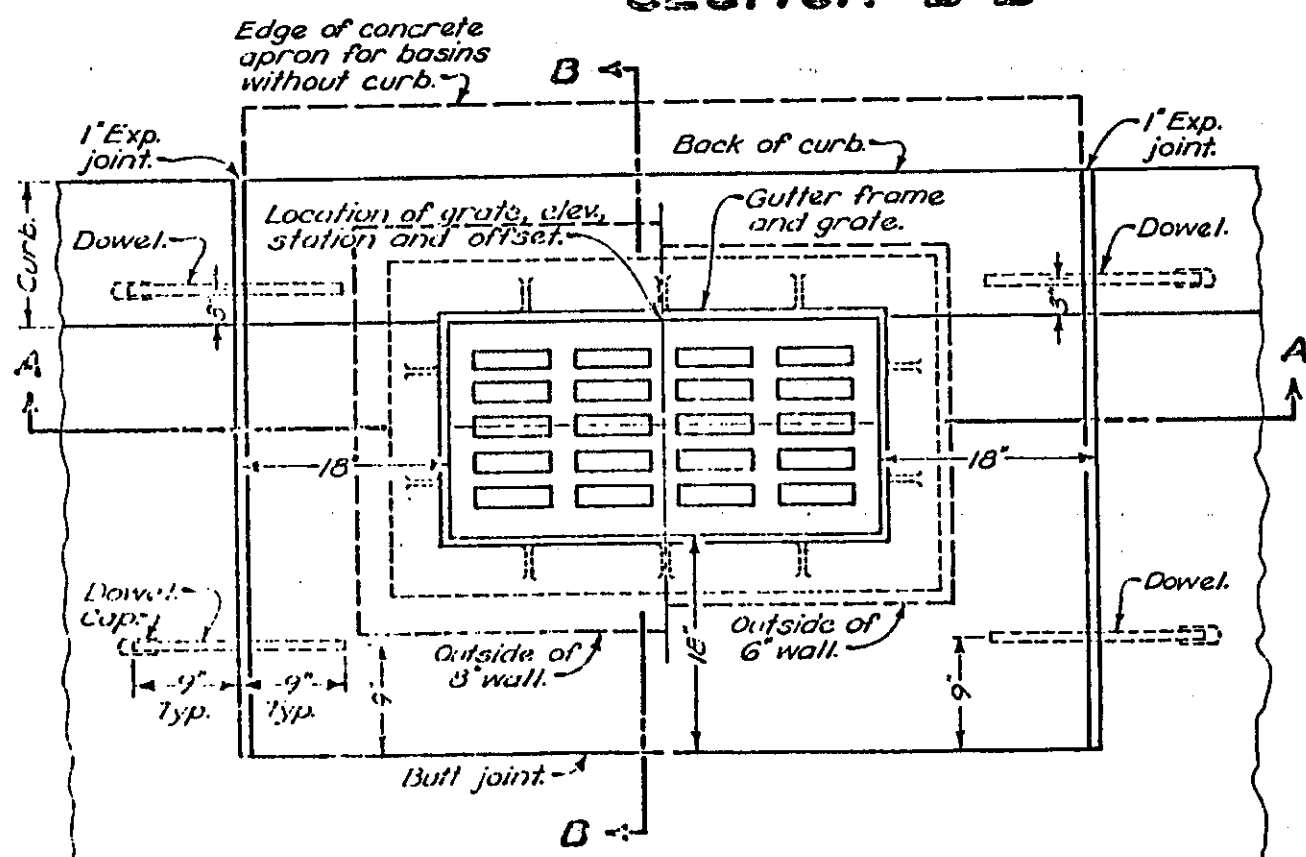


FRAME

GRATE



SECTION B-B



PLAN OF CATCH BASIN & PAVEMENT JOINTS

CASTINGS:
The design shall be essentially the same and equally as strong as those shown hereon.

WEIGHT of the castings, minimum:
Grate 210 pounds
Frame 265 pounds

BEARING AREAS of frame and grate shall be so fitted and finished as to provide a firm and even seat for all 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. Frame and grate shall be fitted, matched and marked before delivery to the project.

DOWELS: Four 1"x18" dowels are required for concrete pavement and curb. See BP-4 for dowel details.

CONCRETE, cast-in-place, to be Class C. All precast concrete shall meet the requirements of 706.13 with 6 ± 2% air void content in the hardened concrete and be marked with the catch basin number.

BRICK, concrete block or cast-in-place walls shall have a nominal thickness of 8 inches. Precast walls shall have a minimum thickness of 6 inches and be reinforced sufficiently to permit shipping and handling without damage.

OPENINGS for pipes shall be O.D.+2" when fabricated or field cut.

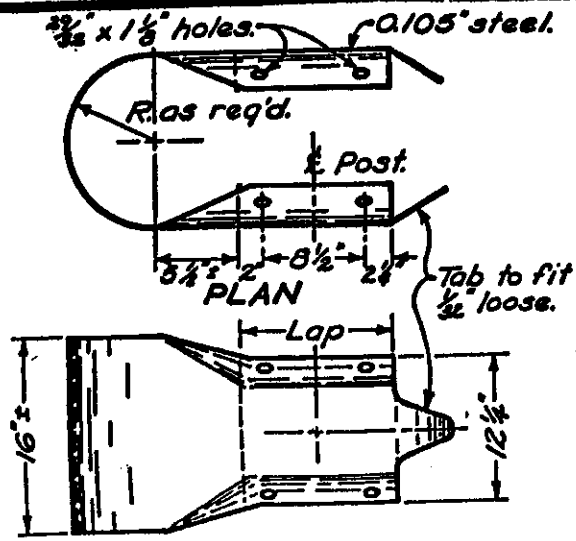
BLOCKOUT apron shall be Class C concrete. Cost of apron shall not be included in catch basin bid price when located in PCC pavement and no deduction in normal pavement quantities shall be made because of the blockout. When adjacent paving is asphalt, the dowels shall be omitted and the cost of the concrete apron shall be included in the catch basin bid price. Cost of curb, if any, shall be included in item 609. For basins without curb, the grate elevation shall be 1" below the normal pavement slope measured at the center of the grate.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

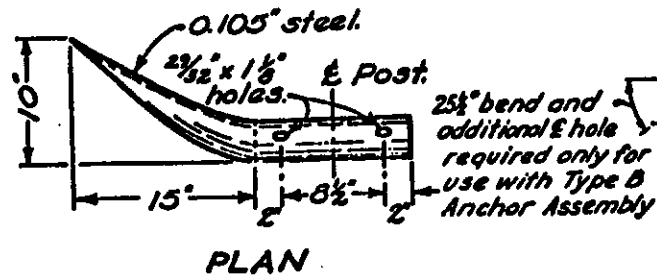
CATCH BASINS

STANDARD CONSTRUCTION DRAWING CB-6

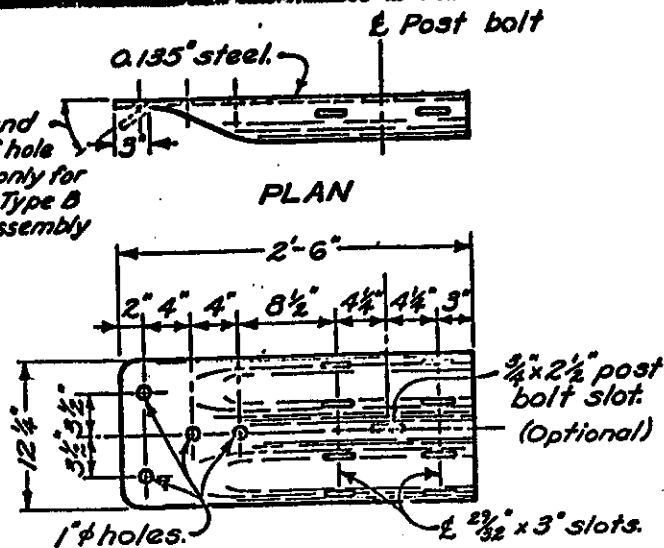
DATE 5-1-79



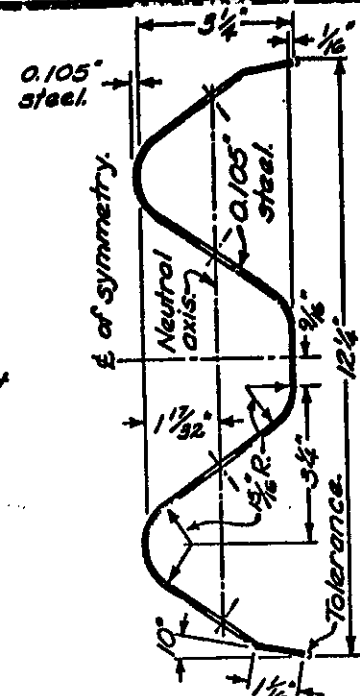
BUFFER END SECTION



FLARED END SECTION



TERMINAL CONNECTOR



SECTION BEAM RAIL

NOTES
BEAM RAIL ELEMENTS shall be 12'-6" effective length, unless otherwise specified, with 3/4" x 2 1/2" post bolt slots on 6"-3" centers regardless of post spacing. Field punching or drilling of bolt holes or slots for irregularly spaced posts shall be according to 606.05.

BEAM RAIL SPLICE between two rail elements, or rail and terminal connector shall be lapped in the direction of traffic. The buffer or flared end sections shall lap on the traffic face. A 12" length of beam rail (Back-Up Plate), with a 3/4" dia. bolt hole or a 3/4" x 2 1/2" slot, shall be provided at posts not having a rail splice.

SPECIAL POST MOUNTINGS: Inlet mounted posts are required for guardrail posts located on a drainage inlet. Footing anchors are required for guardrail posts located on footers with less than 3'-5" cover except that for footer cover of 2'-6" to 3'-5" the posts may be installed by using a 4" minimum concrete encasement. The inlet mounted post may be used for footing anchors in runs with steel posts.

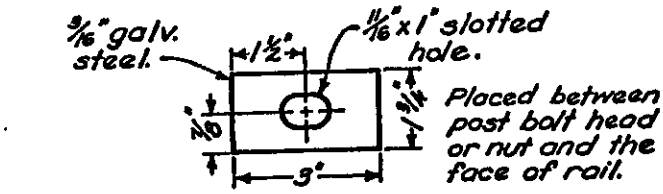
When standard post depth is not available due to a culvert, the guardrail posts directly over the culvert shall not be driven, but set in holes with a 4" minimum concrete encasement for the maximum post depth available.

Cost of the inlet mounted posts, footing anchors, and concrete encasement shall be included in the unit price bid for guardrail of the type required by the plan. **STEEL POST SIZES:** The W6 x 8.5 and W6 x 15.5 posts may be used in lieu of the W6 x 9 and W6 x 15 respectively which are shown on the various Standard Construction Drawings for guardrail.

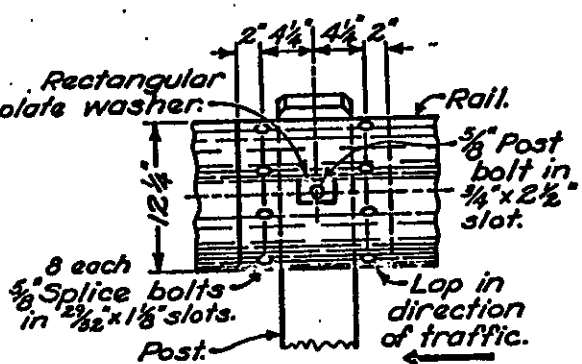
ANCHORS conforming to 712.01, or anchors per FF-S-325 Group II, Type 4, Class 1 or 2 or Group VIII, Type 1 or 2 with proof load certification per 712.01, may be substituted with the same bolt diameter specified. If there is any question of deteriorated concrete, expansion anchors will not be allowed, as determined by the Engineer. Where self-drilling anchors are permitted and used for guardrail construction, the holes shall be drilled with the expansion shield (not by a drill bit) and the shield shall be installed flush with the concrete surface.

The Engineer shall visually inspect, after installation, all expansion anchors used in guardrail construction. The Engineer may require the Contractor to test load any expansion anchor to 1/4 the certified proof load in direct pull. The equipment and method used shall meet the approval of the Engineer. Each expansion anchor that fails to meet the test requirements shall be reset or removed and replaced with bolts extending through the concrete or grouted in place, as directed by the Engineer.

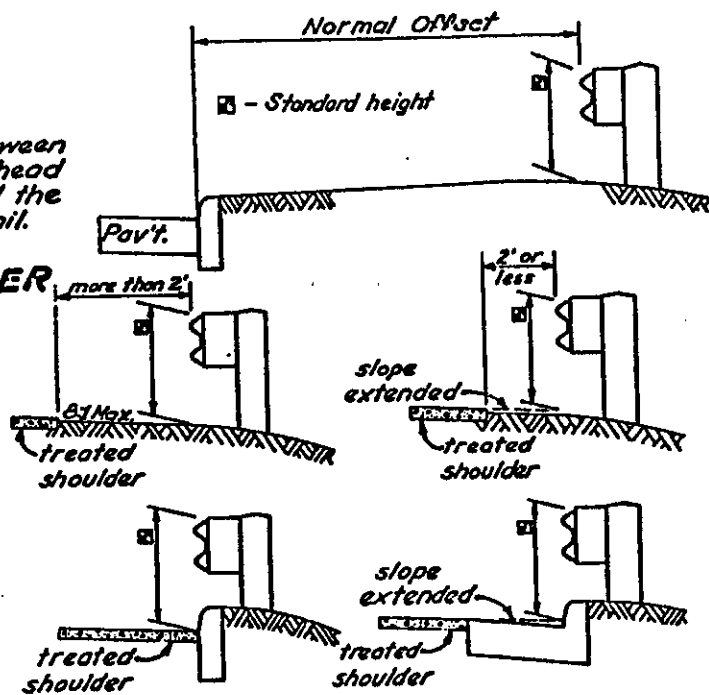
PROTECTIVE COATING: In lieu of the requirements of 710.06, expansion shields, anchors and insert anchor assemblies installed (embedded) in concrete may be coated according to good commercial practices. Any bolts screwed into these embedded devices shall meet 712.01.



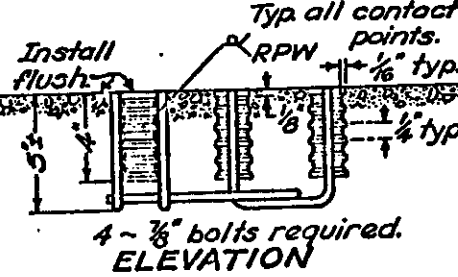
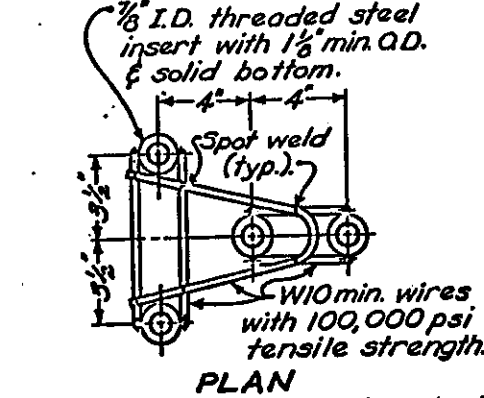
RECTANGULAR PLATE WASHER



BEAM RAIL SPLICE



MEASURING GUARDRAIL HEIGHT

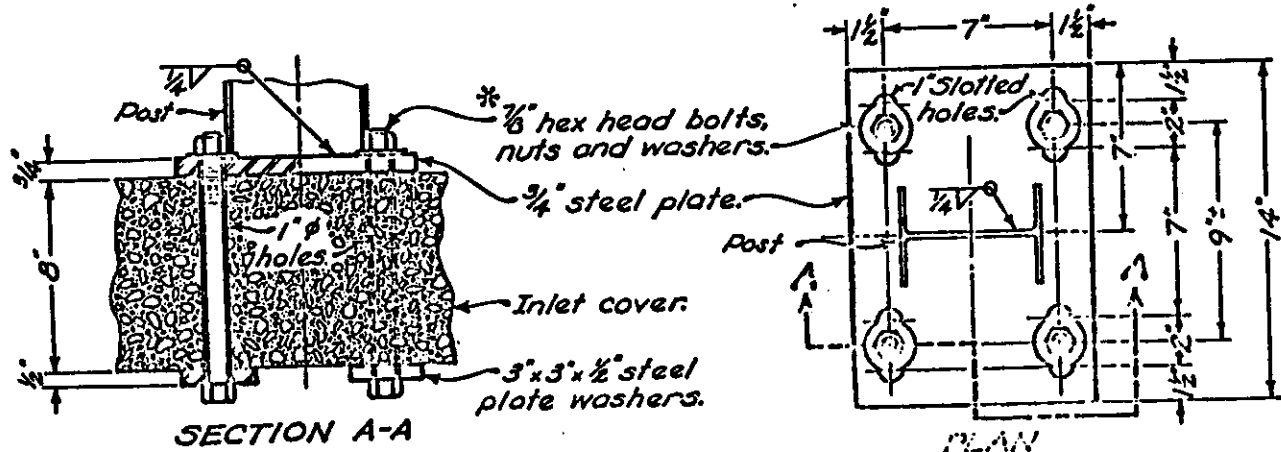


CONCRETE INSERT ANCHOR ASSEMBLY

L (in)	T (in)	Std. Bar	min	Bolt Use
18	2 1/2	3 1/2		Type 5: WP/WB
10	2 1/2			Type 4: WP
2	1 1/2			Type 5: SP/WB
1 1/2		Full		Type 4: SP
				Type 5: SP/SB
				Splice bolt

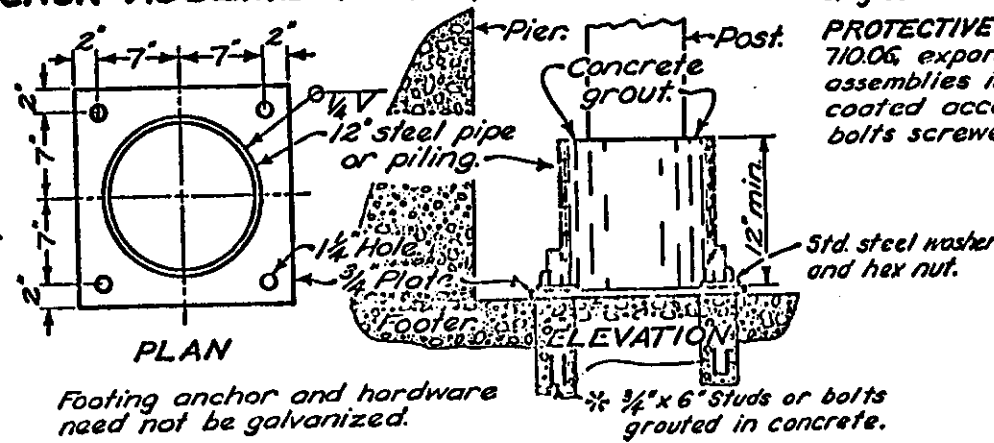
WP=wood post WB=wood block
 SP=steel post SB=steel block
 Longer bolt may be needed for round WP larger than 6" dia.

BUTTON HEAD BOLT
 (For post and splice bolts)



SECTION A-A

INLET MOUNTED POST



PLAN
 Footing anchor and hardware need not be galvanized.

ELEVATION

FOOTING ANCHOR

BUREAU OF LOCATION AND DESIGN
 OHIO DEPARTMENT OF TRANSPORTATION

GUARDRAIL DETAILS

STANDARD CONSTRUCTION DRAWING GR-1

APPROVED: *[Signature]* ENGR. L.O.P.

DATE: 12-6-75
 2-5-82
 1-11-83

NOTES

POSTS may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x9 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Posts may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed, if required, after posts are set.

FOR DETAILS not shown see GR-1.

SPACER BLOCKS: When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

WASHERS: Place a rectangular plate washer between the face of rail and post bolt head or nut. All other washers indicated are standard galvanized steel of the appropriate size.

WELDED BEAM guardrail posts and spacer blocks may be used for Item 606, Guardrail, provided the web and flange sizes are as shown hereon. Welding of the web to the flanges shall conform to ASTM A769, Class 1 using A36 steel with the following exceptions:

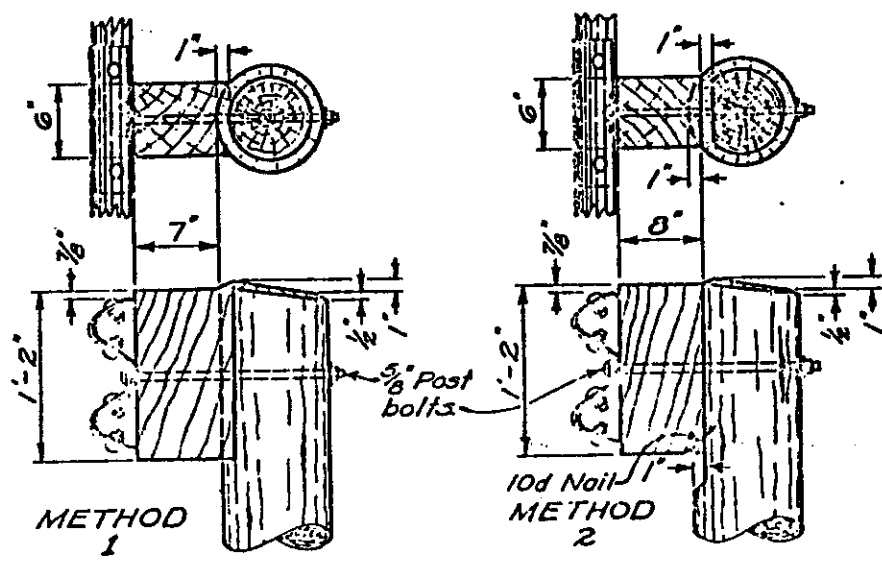
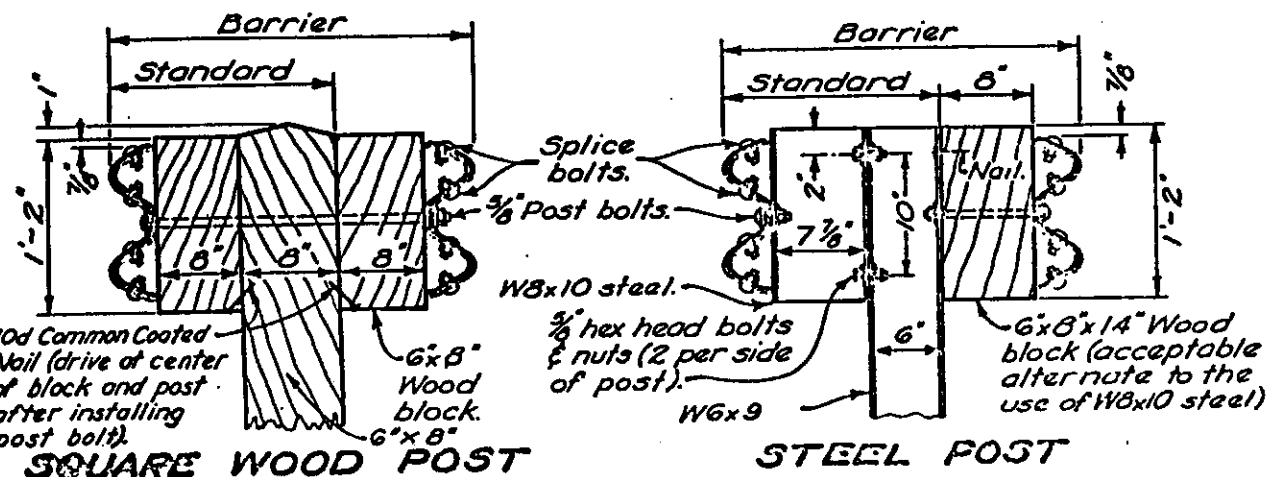
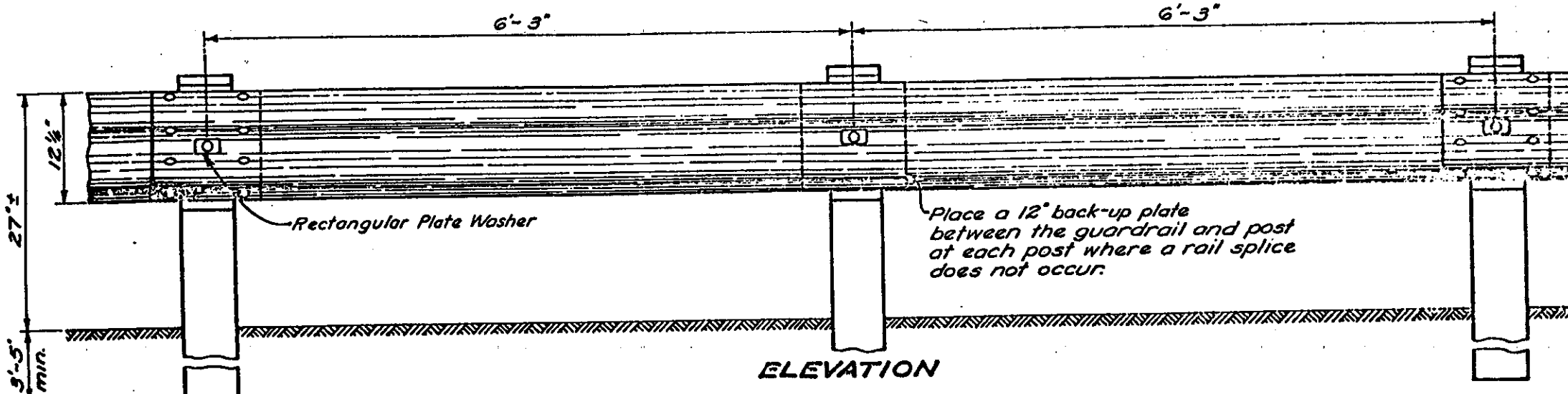
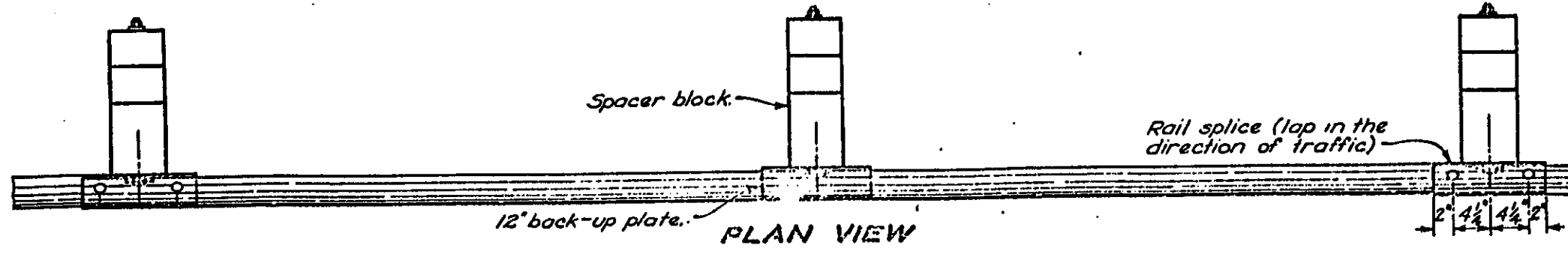
7.2 Test reports of tensile properties for each lot shall accompany each shipment.

11. Ultrasonic inspection need not be performed on welded beams used for Item 606.

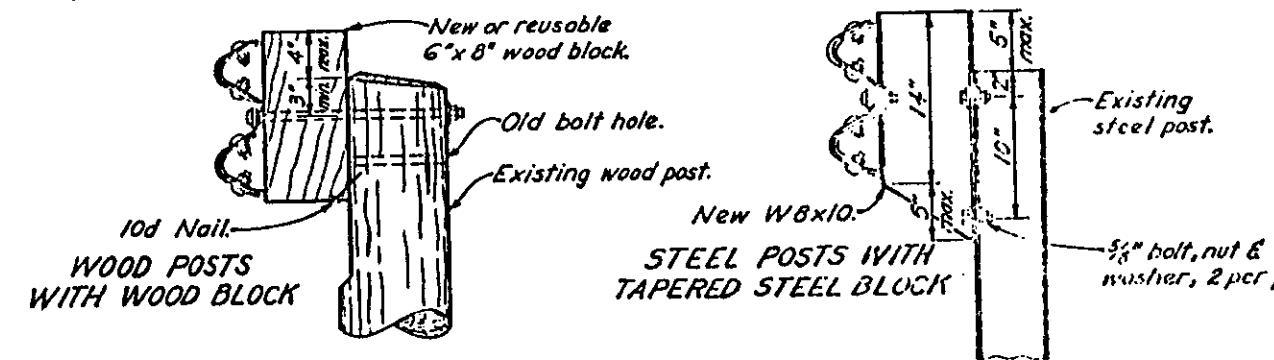
12. Beams which have imperfections repaired by welding shall not be accepted for use in Item 606.

13. Random samples shall be tested by the Department from materials delivered to the project site or other locations designated by the Laboratory.

STEEL BEAM POSTS & BLOCKS				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W 6x8.5	5.85"	3.94"	.194"	.170
Rolled W 6x9	5.90"	3.94"	.215"	.170
Rolled W 8x10	7.89"	3.94"	.205"	.170
Welded 6x8.5	6.10"	3.94"	.194"	.170
Welded 6x9	6.0"	3.94"	.215"	.170
Welded 8x10	8.0"	3.94"	.205"	.170



Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.



RAISING EXISTING GUARDRAIL HEIGHT

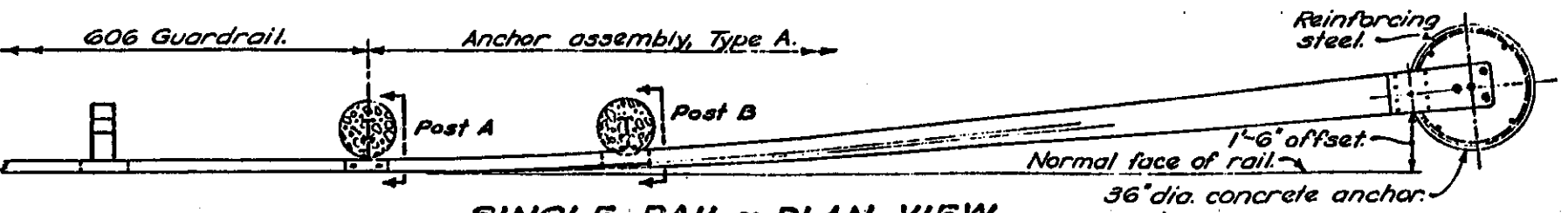
BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

**GUARDRAIL
TYPE 5**

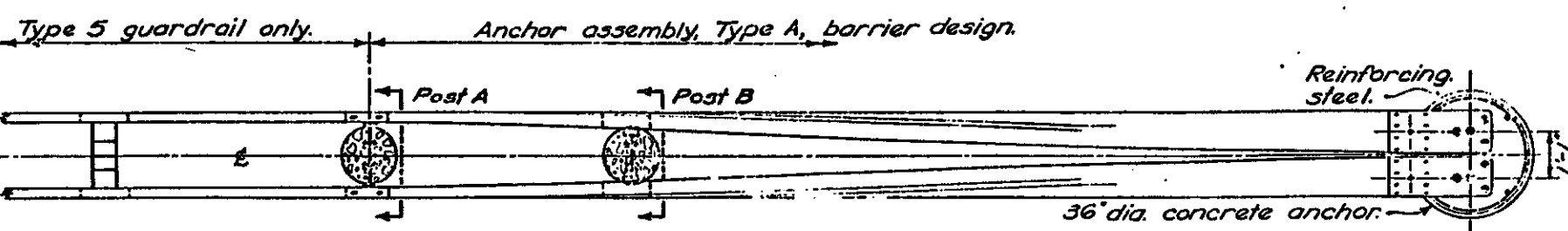
STANDARD CONSTRUCTION DRAWING
APPROVED: [Signature] ENGR. L.B.D.

GR-2B

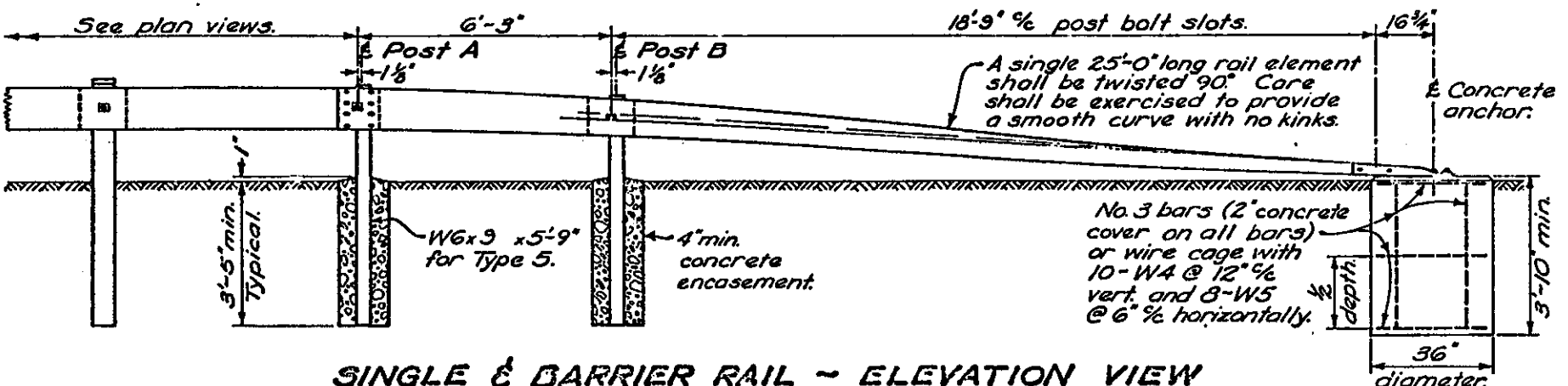
DATE
2-15-82
1-9-71
12-6-76
2-5-82



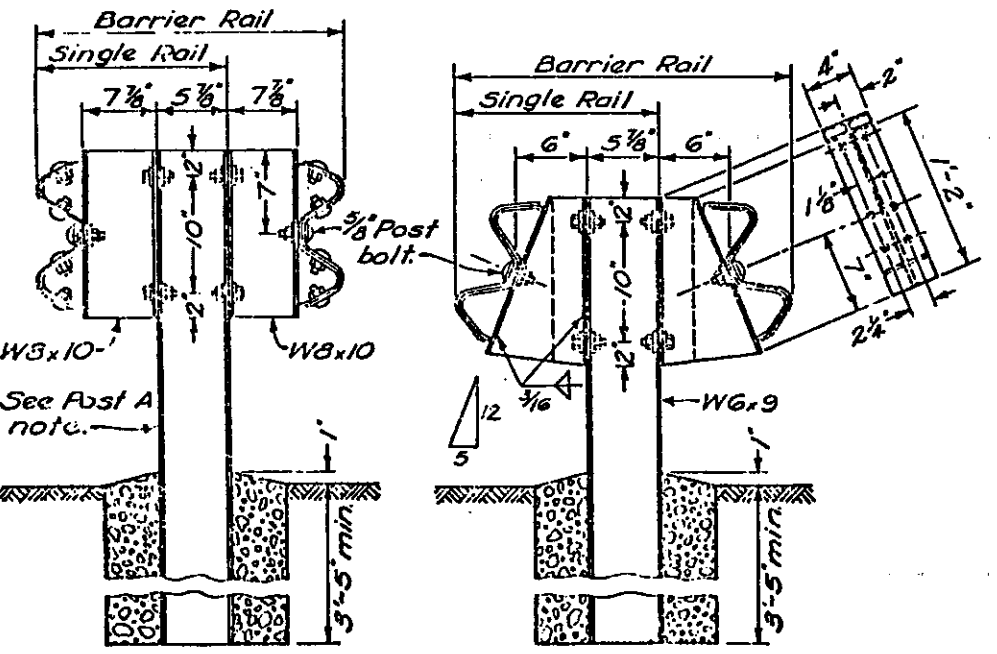
SINGLE RAIL - PLAN VIEW



BARRIER RAIL - PLAN VIEW

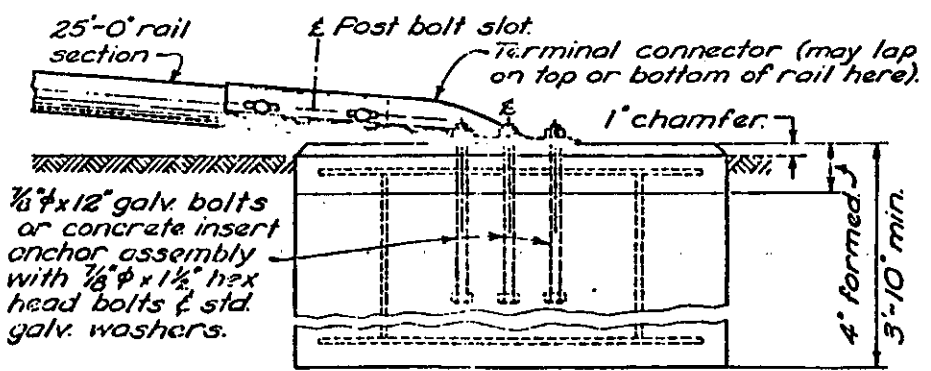


SINGLE & BARRIER RAIL - ELEVATION VIEW



POST A

POST B



CONCRETE ANCHOR

NOTES

GENERAL: For details not shown, see GR-1 and other Standard Construction Drawings pertaining to specific guardrail type. All steel parts shall be galvanized.

ANCHOR ASSEMBLY TYPE A can be used at each free end of Type 4, 5 or 7 guardrail or barrier rail. It is primarily an approach end. The 1'-6" flare offset from normal face of rail, shown in the plan view (for single rail installations), will be utilized only where shoulder width is insufficient for providing standard offsets shown on GR-5 and GR-6. Use of the 1'-6" offset will generally be limited to upgrading existing highways for safety or the construction or reconstruction of highways with design traffic less than 1000 ADT or design speeds less than 50 mph.

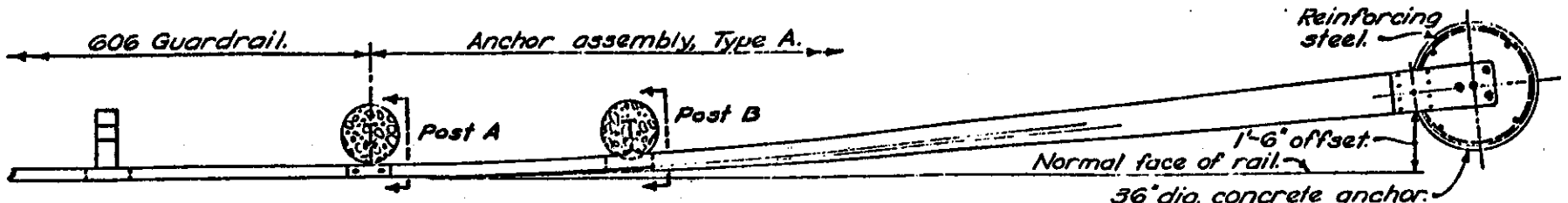
SPACERS for Post B shall be made of 3/16" steel plate 710.15, or two sections of W6x9 or W8x10 cut in the web (see dashed line) and welded together on both sides. All steel spacers and posts may be provided with additional bolt holes so that these items will not be required to be made right and left handed. Spacers shall be fastened to their posts with two 5/8" hexhead bolts and nuts with standard washers on both sides.

POST BOLT WASHERS: Place a rectangular plate washer between the face of rail and post bolt head. All other washers indicated on this drawing are standard galvanized steel of the appropriate size.

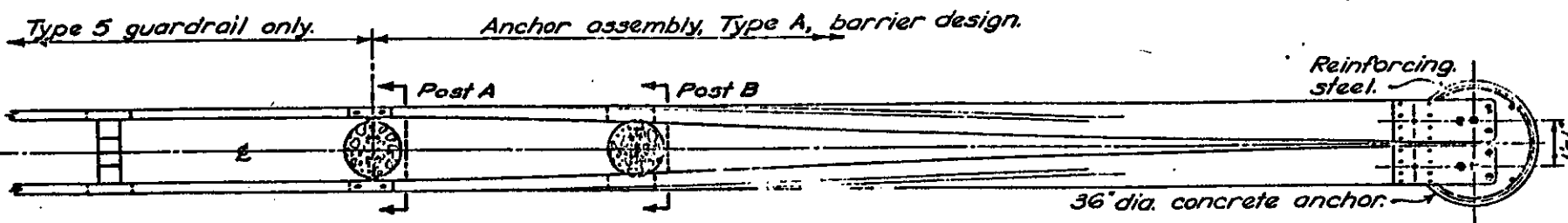
CONCRETE ANCHOR: Form top 4" of anchor and slope the top to conform to slope of the adjacent ground. The 36" diameter anchor may be replaced by a 2'-6" square anchor at the contractor's option.

POST A: Rail details are shown for Type 5 guardrail. Where anchor assembly is attached to Type 4 or 7 guardrail, Post A shall be a standard Type 4 or 7 line post set in concrete, and the spacer block shall be omitted. Post bolt shall be 5/8" φ.

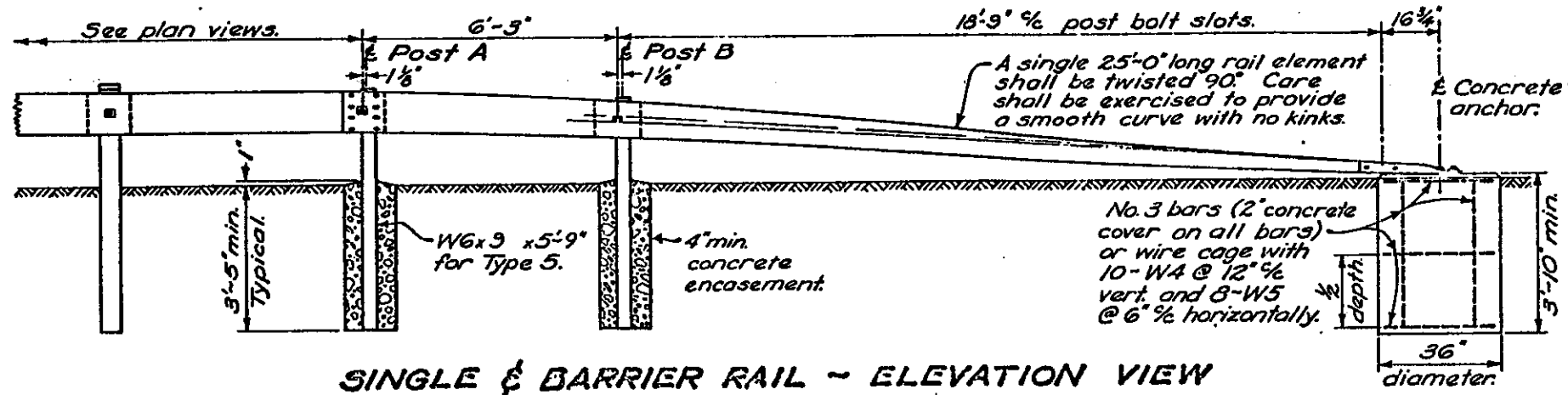
BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
TYPE A ANCHOR ASSEMBLY	
DATE 1-1-71 11-6-71 12-6-71 2-5-72	
STANDARD CONSTRUCTION DRAWING	GR-4



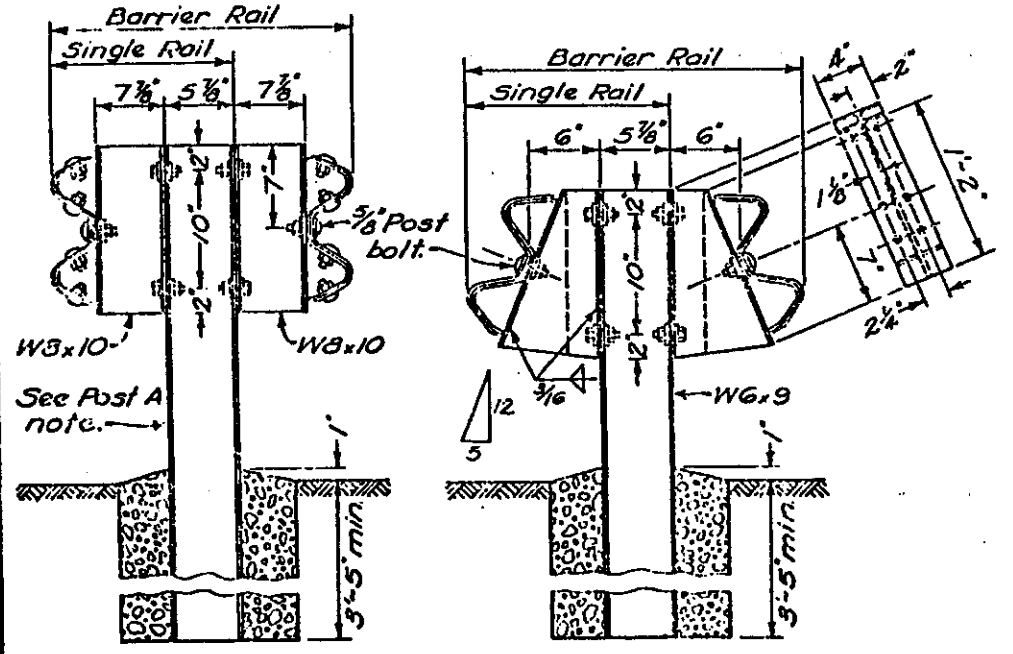
SINGLE RAIL - PLAN VIEW



BARRIER RAIL - PLAN VIEW

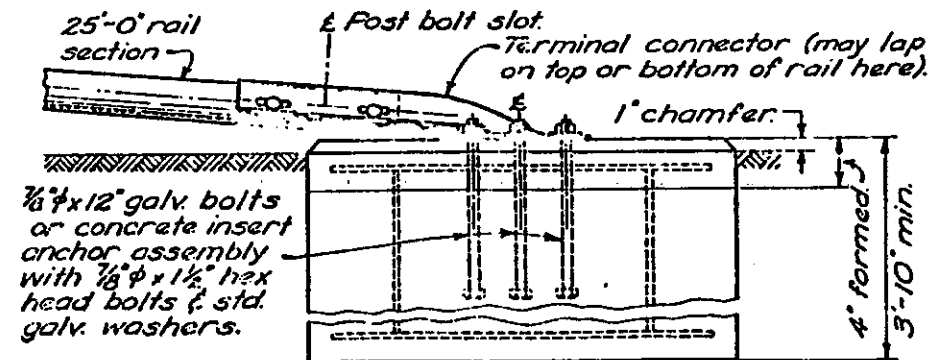


SINGLE & BARRIER RAIL - ELEVATION VIEW



POST A

POST B



CONCRETE ANCHOR

NOTES

GENERAL: For details not shown, see GR-1 and other Standard Construction Drawings pertaining to specific guardrail type. All steel parts shall be galvanized.

ANCHOR ASSEMBLY TYPE A can be used at each free end of Type 4, 5 or 7 guardrail or barrier rail. It is primarily an approach end.

The 1'-6" flare offset from normal face of rail, shown in the plan view (for single rail installations), will be utilized only where shoulder width is insufficient for providing standard offsets shown on GR-5 and GR-6. Use of the 1'-6" offset will generally be limited to upgrading existing highways for safety or the construction or reconstruction of highways with design traffic less than 1000 ADT or design speeds less than 50 mph.

SPACERS for Post B shall be made of 3/16" steel plate 710.15, or two sections of W6x9 or W6x10 cut in the web (see dashed line) and welded together on both sides.

All steel spacers and posts may be provided with additional bolt holes so that these items will not be required to be made right and left handed.

Spacers shall be fastened to their posts with two 3/8" hexhead bolts and nuts with standard washers on both sides.

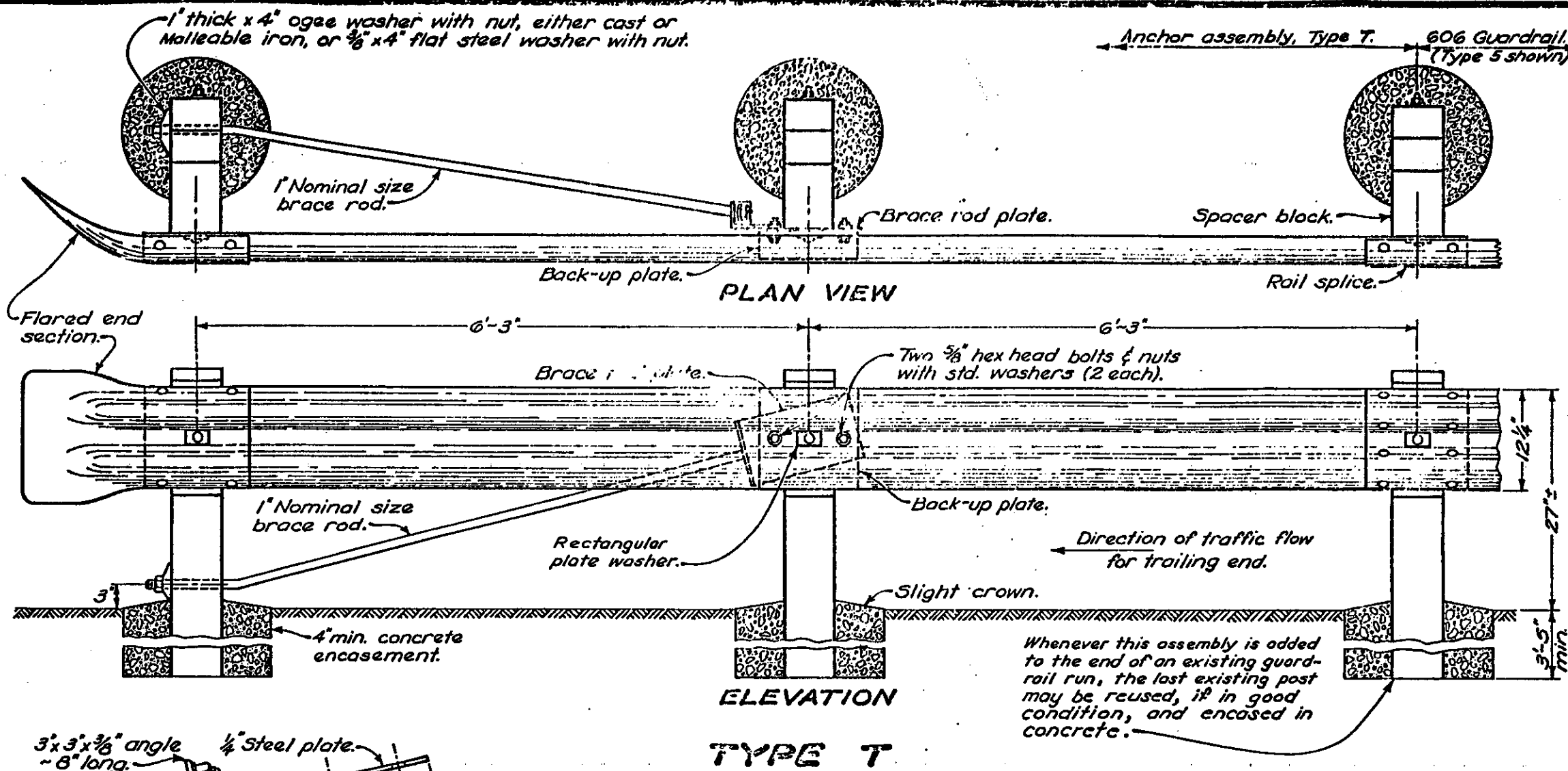
POST BOLT WASHERS: Place a rectangular plate washer between the face of rail and post bolt head.

All other washers indicated on this drawing are standard galvanized steel of the appropriate size.

CONCRETE ANCHOR: Form top 4" of anchor and slope the top to conform to slope of the adjacent ground. The 36" diameter anchor may be replaced by a 2'-6" square anchor at the contractor's option.

POST A: Rail details are shown for Type 5 guardrail. Where anchor assembly is attached to Type 4 or 7 guardrail, Post A shall be a standard Type 4 or 7 line post set in concrete, and the spacer block shall be omitted. Post bolt shall be 3/8" φ.

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
TYPE A ANCHOR ASSEMBLY	
DATE 1-1-71 1-6-71 12-6-71 2-8-71	
STANDARD CONSTRUCTION DRAWING	GR-4



NOTES

FOR DETAILS not shown, see GR-1 and other Standard Construction Drawings pertaining to design of specific guardrail types.

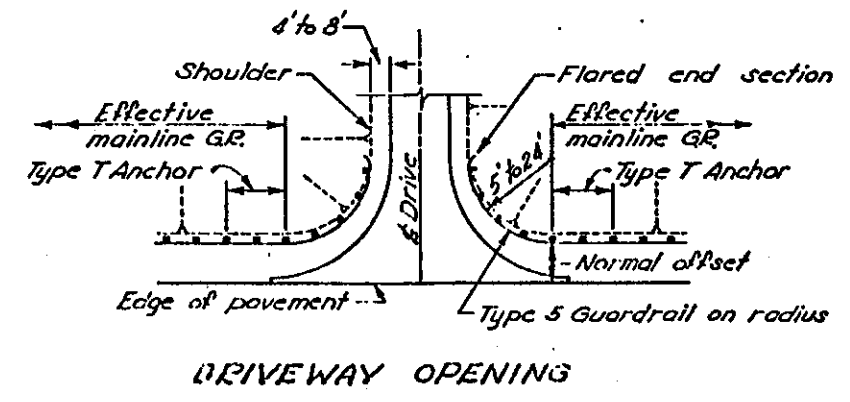
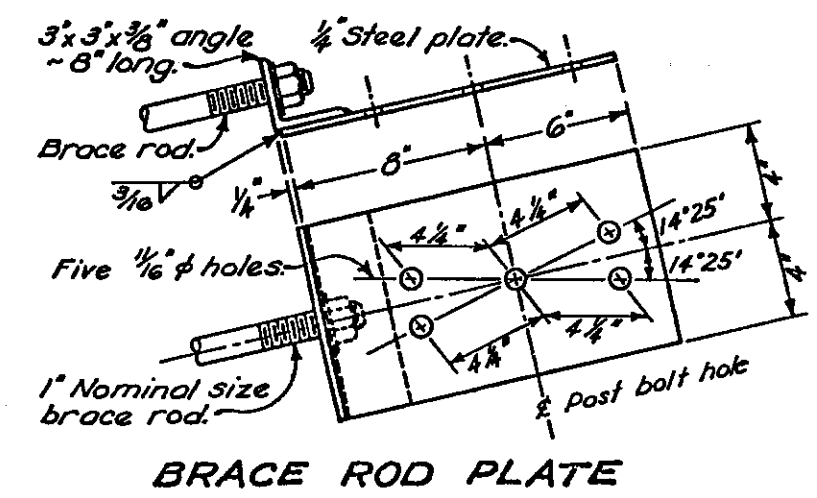
WASHERS: Place a galvanized rectangular plate washer between the face of rail and post bolt head. All other washers indicated are standard galvanized steel of the appropriate size.

POSTS shall be the same as used on the adjacent guardrail, with 4 inch minimum concrete encasement.

SPACER BLOCKS shall be omitted if the adjacent run of guardrail does not have spacer blocks. If necessary, spacer blocks may be notched in the field, in a manner satisfactory to the Engineer, to accommodate the installation of the brace rod plate 5/8" attachment bolts.

BRACE ROD assembly shall be galvanized and develop a tensile strength of at least 10,000 pounds.

APPLICATION: Anchor assembly, Type T shall normally be installed at the trailing ends of roadside guardrail and tubular back-up bridge railing (see DBR-2-73) on directional roadways or ramps provided the assembly does not encroach upon the clear zone of any opposing traffic on an adjacent roadway. Whenever guardrail is to be turned back along a private drive, the Type T anchor assembly shall be located parallel to the mainline and just prior to curving the guardrail back along the driveway. The flared end section hardware piece shall be placed at the end of the driveway guardrail. The low end of the brace rod shall be closest to the driveway.

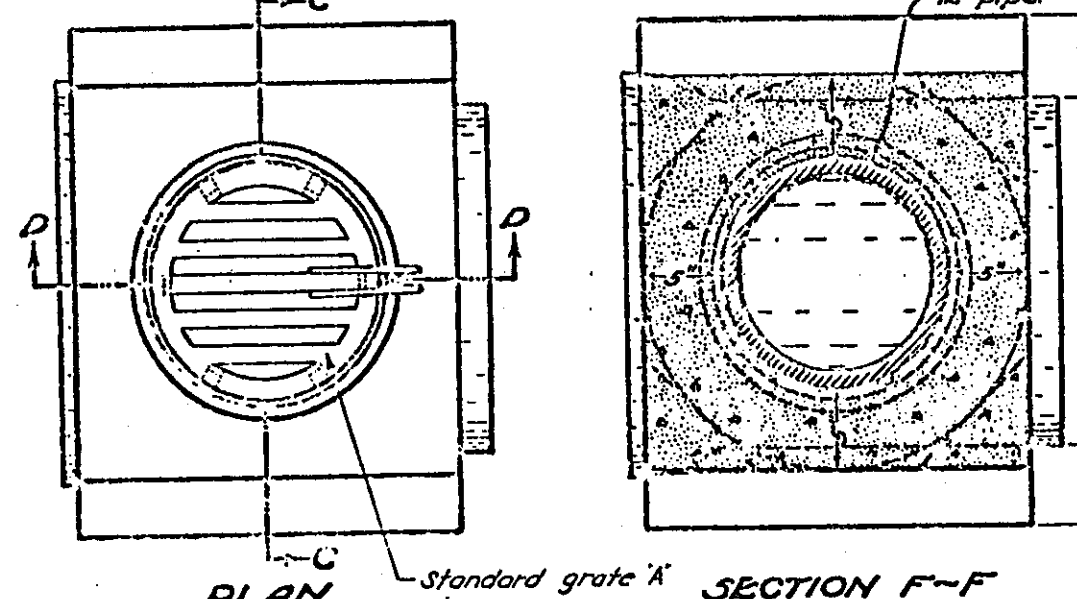
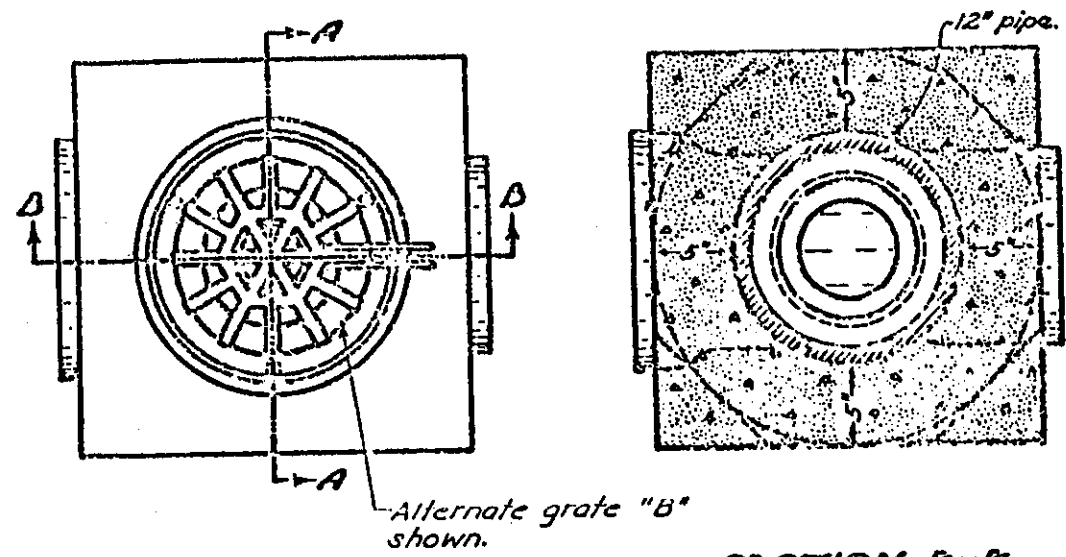
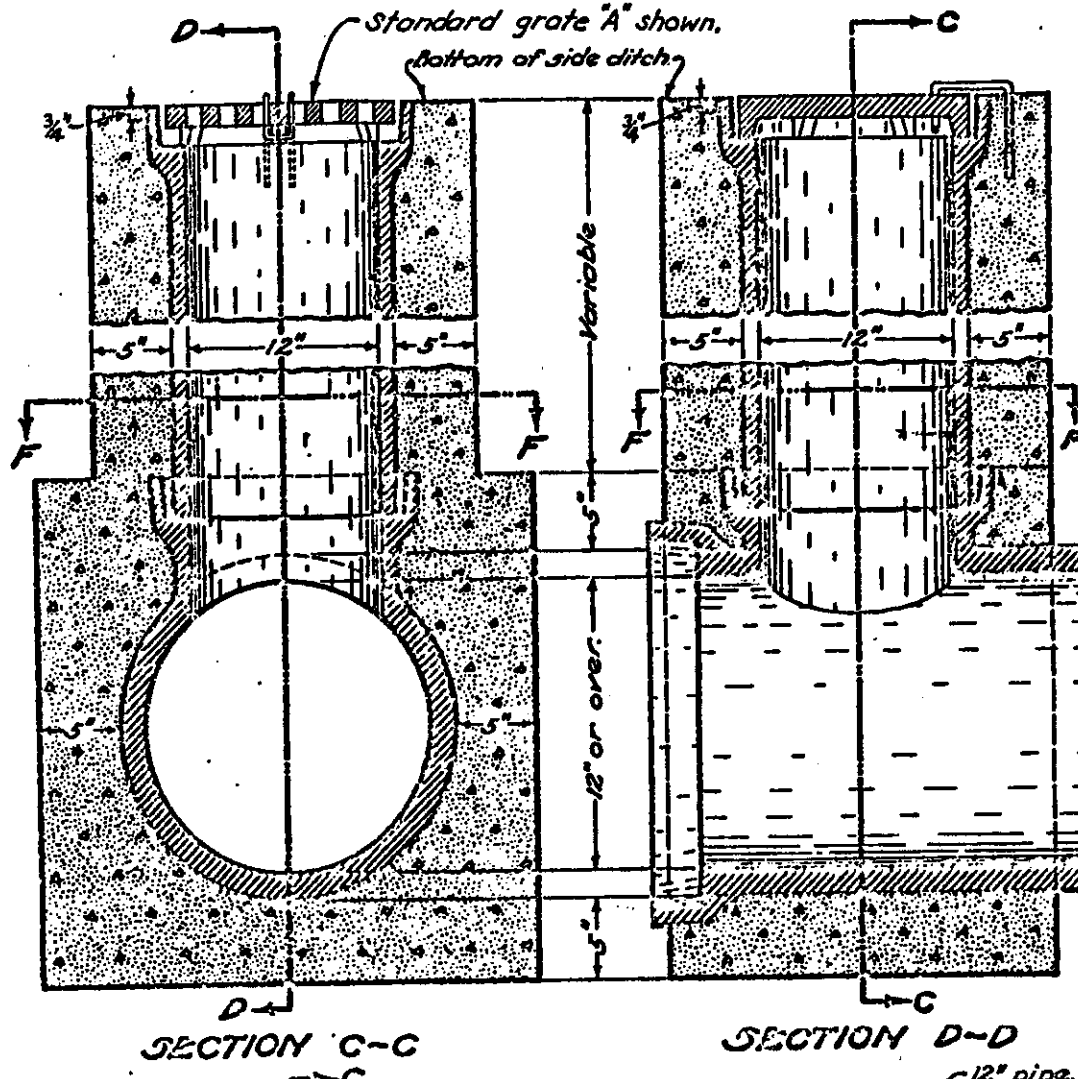
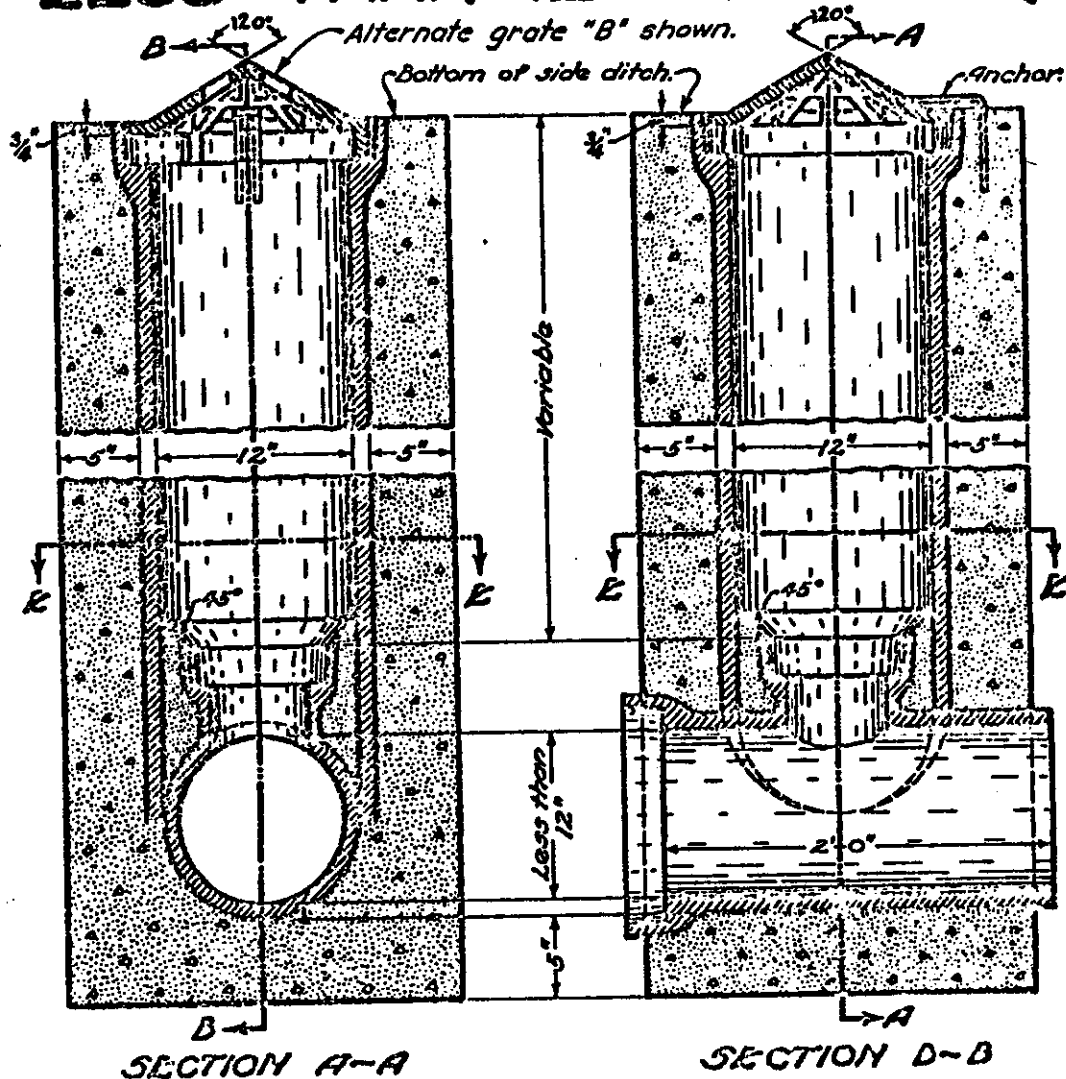


BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
TYPE T ANCHOR ASSEMBLY	
STANDARD CONSTRUCTION DRAWING	GR-4A
DATE 7-26-76 2-5-82 1-30-84	

STANDARD NO. 1 SIDE DITCH INLETS

CONSTRUCTED ON PIPE
LESS THAN 12" DIAMETER

CONSTRUCTED ON PIPE
12" DIAMETER OR OVER



CASTINGS shall meet the requirements of 604. The design shall be essentially the same and equally as strong as the one shown hereon. Minimum weight shall be 20 pounds for alternate grate "B" and 30 pounds for standard grate "A".

ANCHOR for casting to be a 3/8 in. rod, 2 ft. long, bent around grate as shown and anchored into concrete casing.

CONCRETE casing for riser may be square, round or hexagonal in shape, and shall be Class "C".

RISER PIPE in all cases shall be 12 in. in diameter regardless of size of sewer line.

TEE:—Where sewer line is not continuous through inlet the upstream opening of the tee shall be properly plugged using preformed stopper and sealed joint.

RISER AND TEE shall be constructed of standard strength vitrified clay pipe or non-reinforced concrete pipe having bell and spigot ends.

STANDARD GRATE "A" shall be provided unless the plans specifically call for Grate "B".

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
SIDE DITCH INLETS	
DATE: 6-1-'65 12-18-84	
STANDARD CONSTRUCTION DRAWING	I-1
APPROVED: <i>[Signature]</i> ENGR. L. & D.	

CONSTRUCTION METHODS

NOTES

GRADE STAKES shall be set at the following intervals:
 For grades less than 0.70% - 25 ft.
 For grades of 0.70% and over - 50 ft.

GRADE POLE shall be a straight pole dressed with corners rounded, size depending on length but approximately 1" x 2". The pole shall be equipped with a metal bracket on the bottom with a projecting length of 12". Notches shall be cut on the pole for the depth of the flowline below the grade string and for the depth of trench. A spirit level shall be used on the pole to determine when the pole is vertical.

ALTERNATE METHODS: The Engineer may approve other methods of determining alignment and gradient of pipe lines if the Contractor can demonstrate that the same degree of accuracy can be obtained as can be obtained by use of the method shown on this drawing.

MASONRY COLLARS: Where plans require that a pipe extension be joined to the end of an existing pipe with a butt joint, a collar shall be provided and the cost shall be included in the price bid for new conduit.

EROSION CONTROL PADS AND ANIMAL GUARDS shall be provided at the outlet end of all pipe underdrains and farm drains except when they outlet into a drainage structure.

The steel bolts or rods for the animal guard shall be galvanized per 710.10. In lieu of drilling or punching the 1/2" diameter holes into the pipe, a metal collar meeting all of the above requirements, may be clamped on the end of the pipe, if approved by the Engineer.

Payment for the erosion control pads and the animal guards shall be included in the price bid for Item 603 - Conduit, Type F.

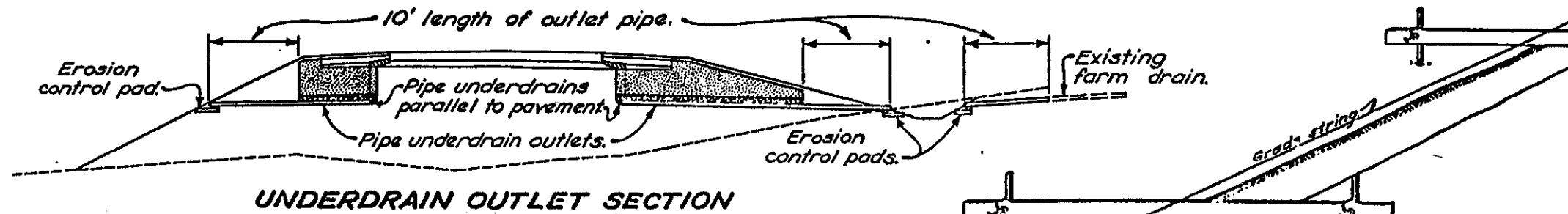
*If wire fabric is used in the slab, #3 bars @ 24" centers, overlapping the fabric 12", may be used in the cutoff wall.

*Reinforcing steel as per 601.04.

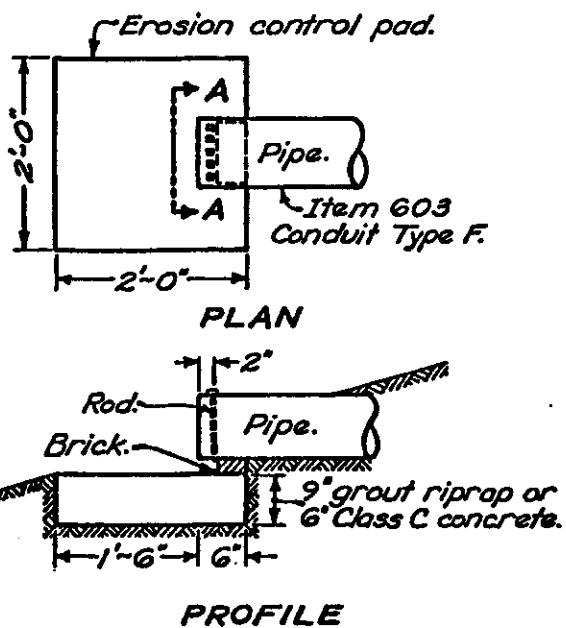
6" Reinforced concrete slab.

RIPRAP CUTOFF WALL
 Cutoff wall shall be included in the price bid for Item 601 Riprap-6" Reinforced Concrete Slab.

BUREAU OF ROADWAY DESIGN	
OHIO DEPARTMENT OF TRANSPORTATION	
DRAINS AND SEWERS	
STANDARD CONSTRUCTION	
MC-4	
DATE	6-1-63 6-13-69 7-26-78

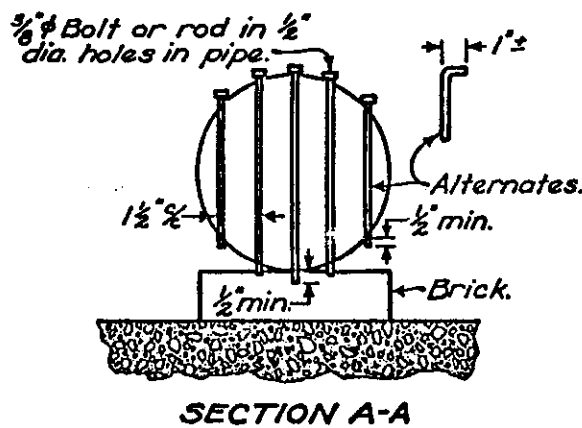


UNDERDRAIN OUTLET SECTION



PLAN

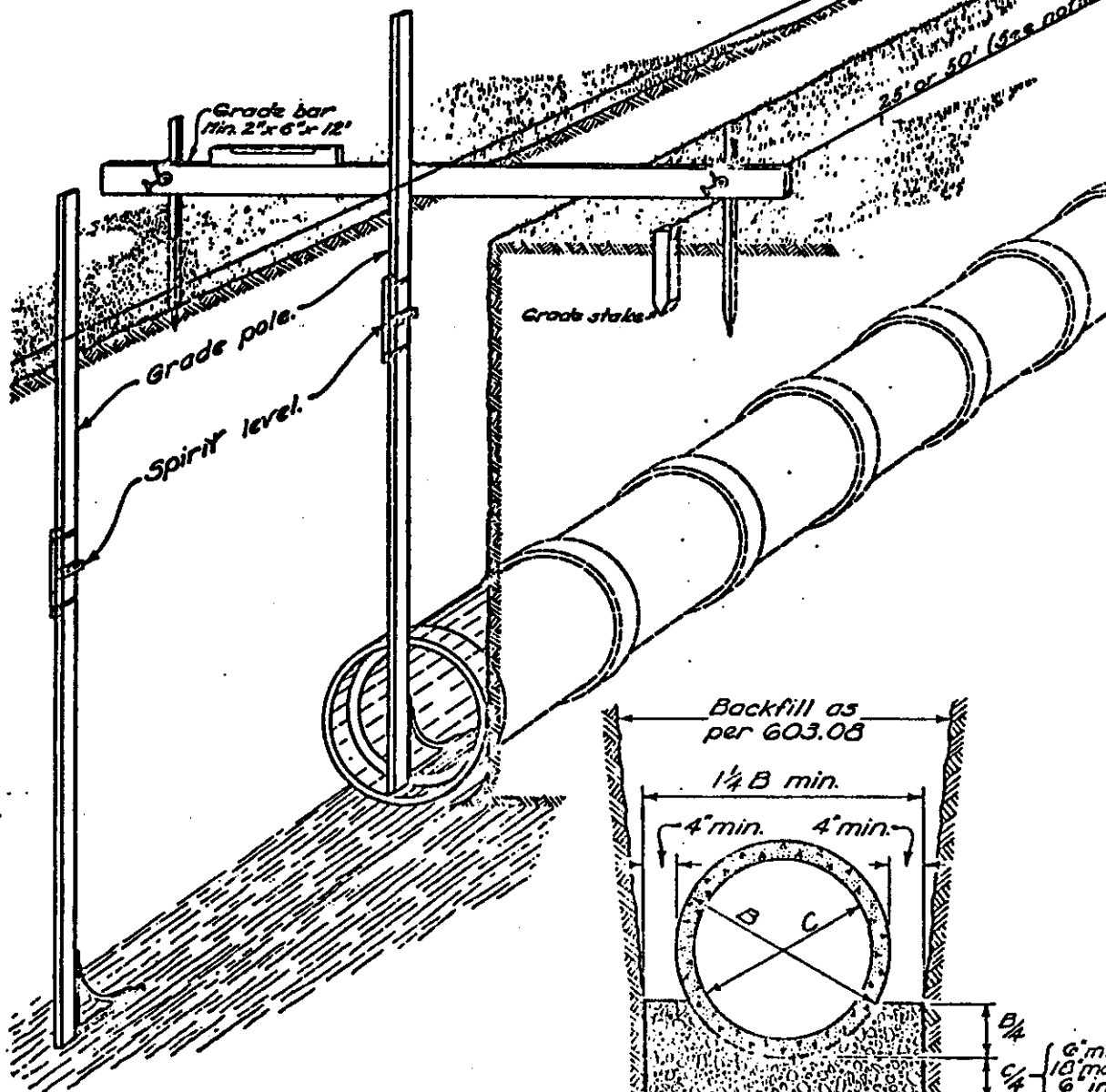
PROFILE



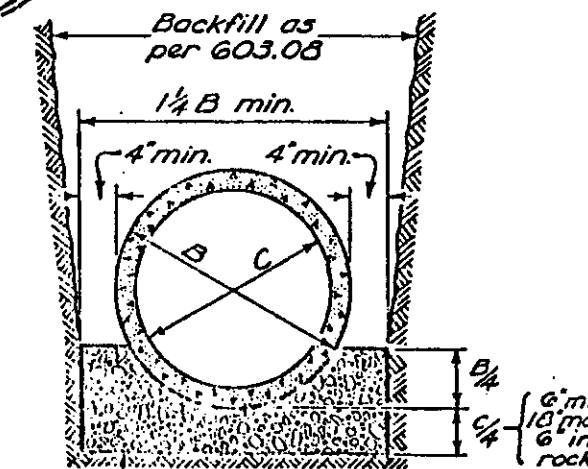
SECTION A-A

Conduit Size	4"	6"	8"	10"	12"	15"	18"
No. of Bolts	2	3	5	6	7	9	11

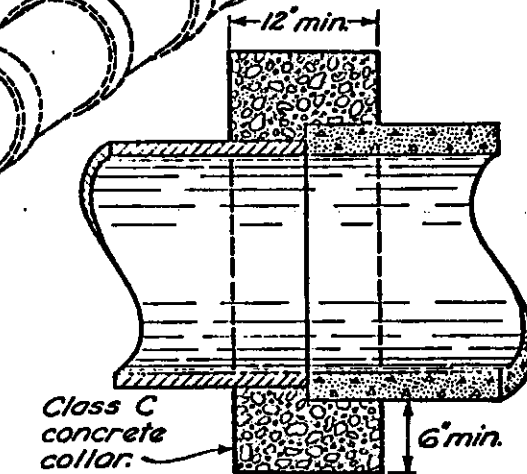
ANIMAL GUARD AND EROSION CONTROL PAD FOR OUTLET PIPE



LAYING PIPE

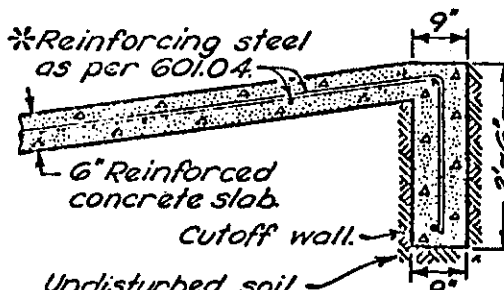


CONCRETE CRADLE

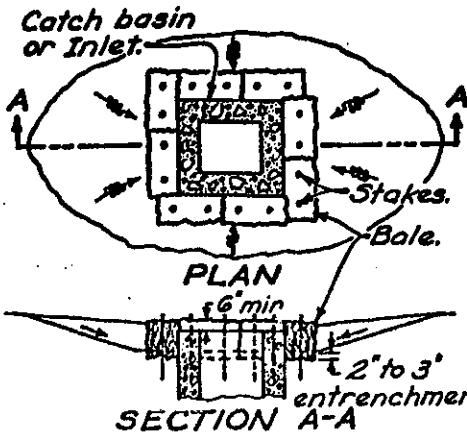


MASONRY COLLAR

Plain or reinforced concrete cradle, Class C.



STRAW OR HAY BALES

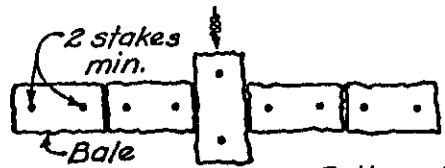


SECTION A-A
BALE INLET FILTER

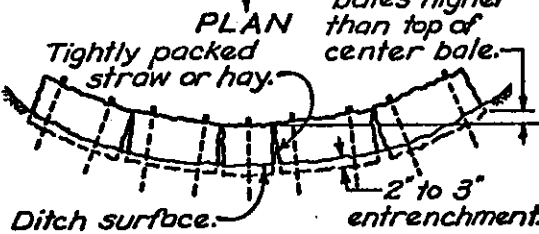
BALE PLACEMENT: Bales shall be tightly placed, adjacently, and entrenched 2" to 3" before staking; or a small amount of loose soil shall be lightly compacted along the upstream edge of the bales.

Each bale shall be firmly staked with a minimum of 2 stakes at least 3' in length. Stakes shall be wooden 2x2; reinforcing bars or fence posts, as approved by the engineer.

Loose straw or hay shall be scattered for a distance of 10' on the upstream side of each ditch check, and shall be wedged between and under staked bales.



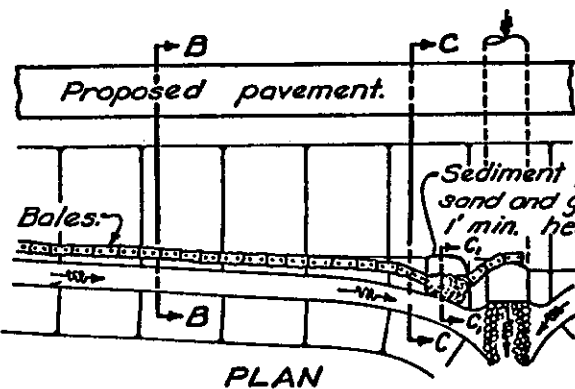
Bottom of end bales higher than top of center bale.



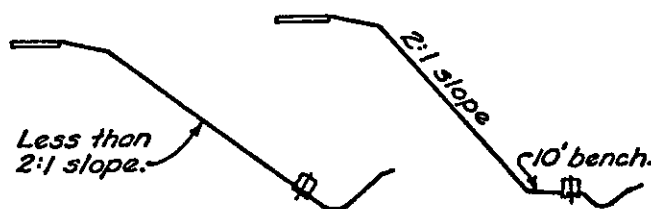
ELEVATION
BALE DITCH CHECK

SEDIMENT PITS shall be provided where directed by the Engineer and their cost included in the price bid for adjacent 207 Items.

BASIS OF PAYMENT: Straw or hay bale installation shall be paid for under Item 207, Each, Straw or hay bales. Cost will include placing, staking, maintaining and removing.



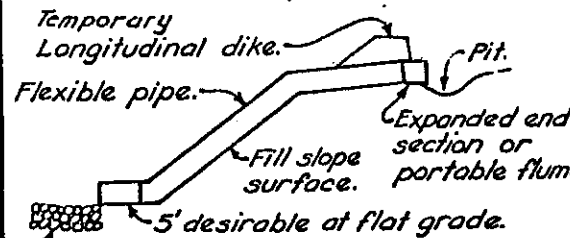
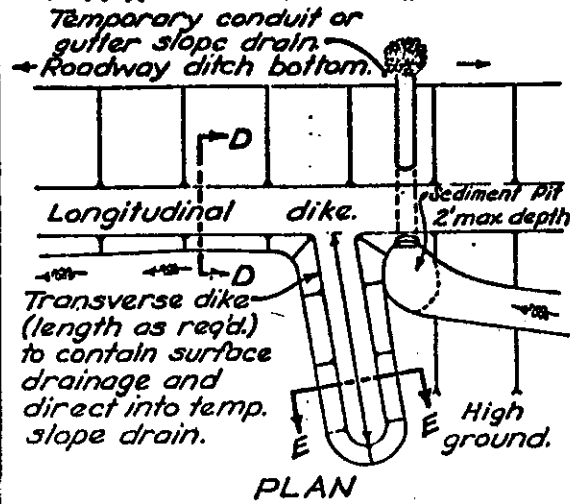
PLAN



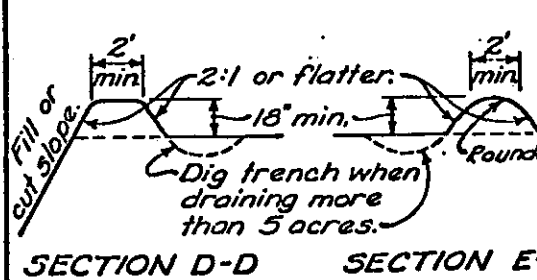
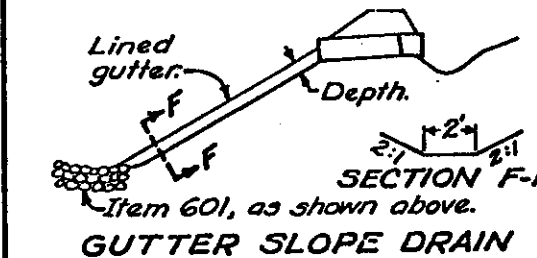
SECTION B-B SECTION C-C
BALE FILTER DIKE

Not to scale.

DIKES AND SLOPE PROTECTION



CONDUIT SLOPE DRAIN



SECTION D-D SECTION E-E

TEMPORARY SLOPE DRAINS RECOMMENDED SIZES

Area in acres	Pipe Sizes			Gutter depth
	Smooth	Corrugated	Half-round	
0-4	6"	6"	18"	8"
4-8	8"	12"	18"	8"
8-12	10"	15"	21"	12"

Not to scale.

GENERAL: Dikes & drains shown shall be used when earthwork operations on slopes higher than 8' are suspended for three weeks or more and/or as directed by the Engineer. Smaller dikes used at the end of a day's operation shall be considered as part of the earthwork.

Temporary slope drains shall be suitably positioned and anchored to prevent movement or undermining, as directed by the Engineer.

LONGITUDINAL DIKES shall be constructed of suitable 203 material and compacted to 85% maximum density.

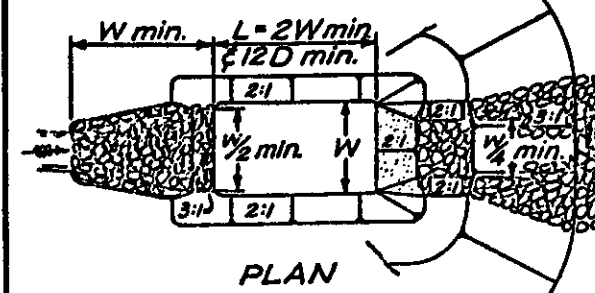
CONDUITS for slope drains shall be corrugated steel pipe, corrugated or smooth plastic pipe, rubber conduit, or an approved equal.

GUTTERS for slope drains shall be lined with Type C rock channel protection, crushed aggregate slope protection, portland cement concrete, bituminous concrete, plastic sheeting (on slopes 4:1 max.), partial pipe section or approved equal.

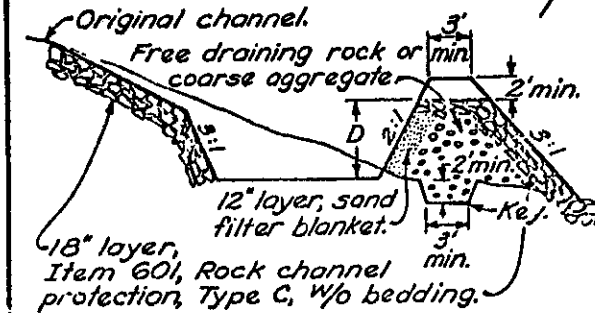
SEDIMENT PITS shall be provided where directed by the Engineer and their cost included in the price bid for adjacent 207 Items.

BASIS OF PAYMENT: Temporary dikes shall be paid for under Item 207, Cubic Yard, Temporary benches, dikes, dams and sediment basins. Temporary slope drains shall be paid for under Item 207, Linear foot, Temporary slope drains. Rock required shall be paid for under Item 601, Rock channel protection, Type C, w/o bedding.

SEDIMENT BASINS & DAMS

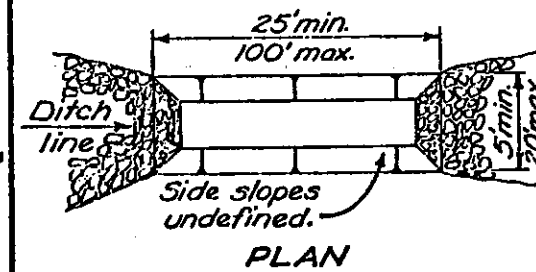


PLAN

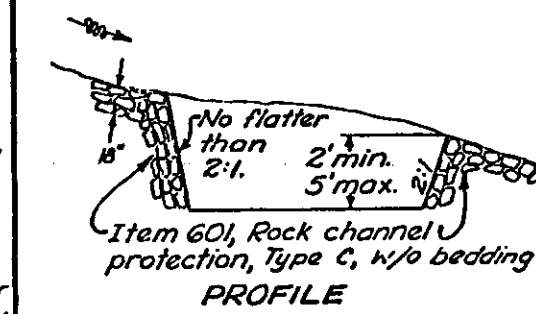


PROFILE

SEDIMENT DAM



PLAN



PROFILE

SEDIMENT BASIN

EMBANKMENT for sediment basin construction shall be as per 203 compacted as directed by the Engineer.

MAINTENANCE: Sediment pits, dams and basins shall be acceptably maintained. Deposited sediment shall be removed when the initial volume has been reduced one-half. The sand filter blanket on sediment basins shall be replaced when deposited sediment is removed. The cost of maintenance shall be covered by Item 207.

FILTERS: Plastic filter fabric, as approved by the engineer, may be substituted for the sand filter blanket on sediment dams. Such fabrics may be cleaned in lieu of replacement, when approved by the Engineer.

SIZE: A series of smaller basins or dams may be substituted for a larger basin or dam when approved by the Engineer.

BASIS OF PAYMENT: Sediment Dams and Basins shall be paid for under Item 207 Cubic Yard Temporary benches, dikes, dams and sediment basins. Rock required shall be paid for under Item 601, Cubic Yard, Rock channel protection, Type C, w/o bedding.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

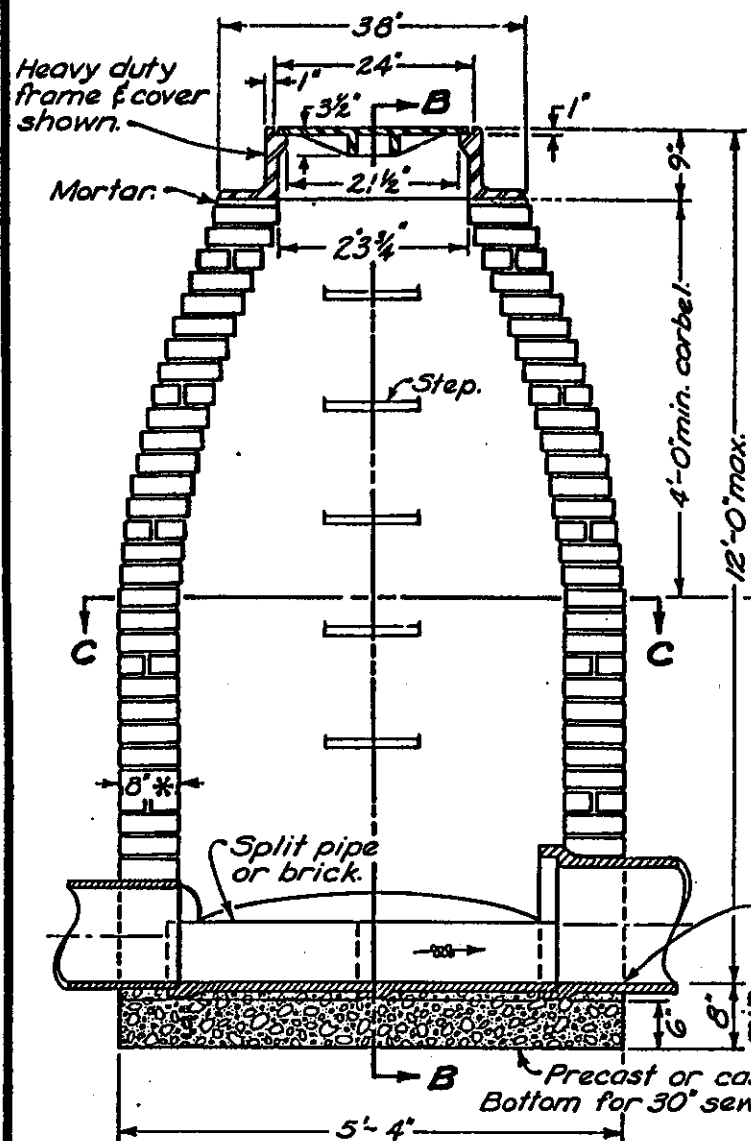
TEMPORARY EROSION CONTROL

STANDARD CONSTRUCTION DRAWING
APPROVED: *[Signature]* ENGR. L. B. D.

MC-11

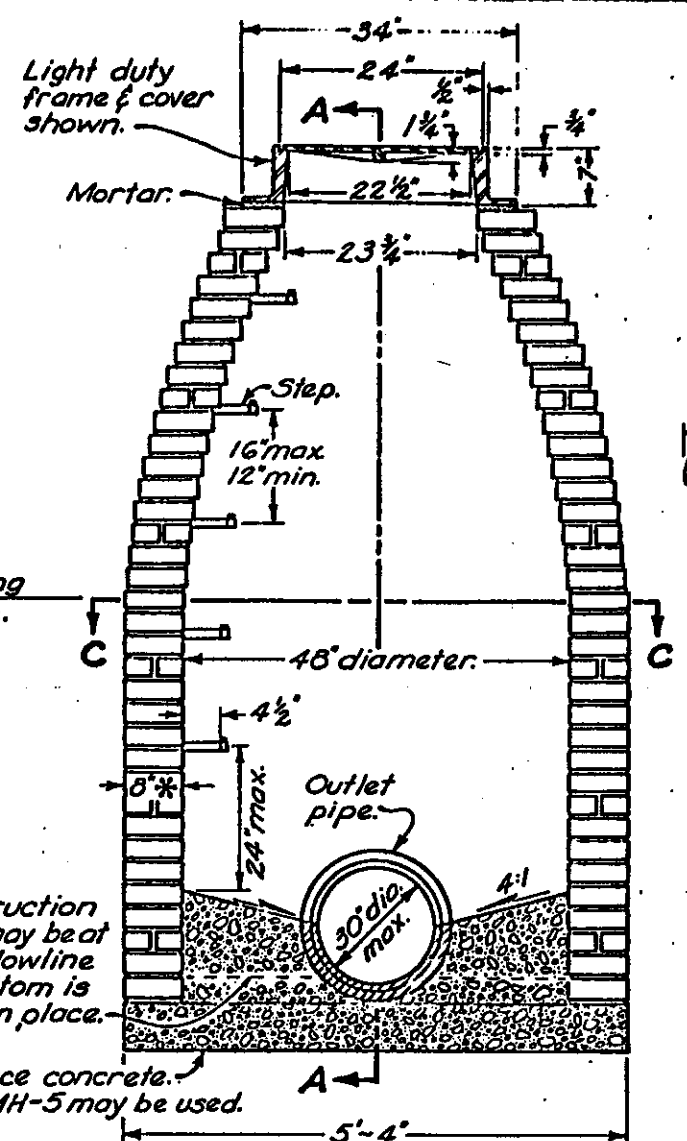
DATE
8-1-78

Not to scale.

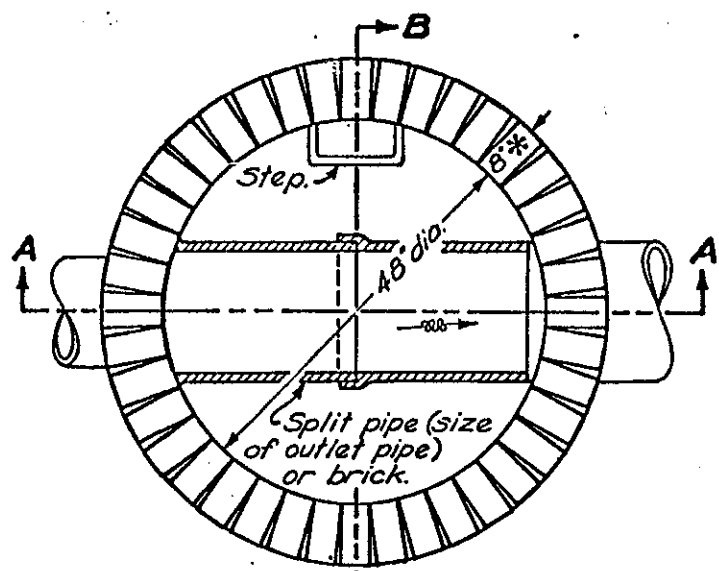


SECTION A-A

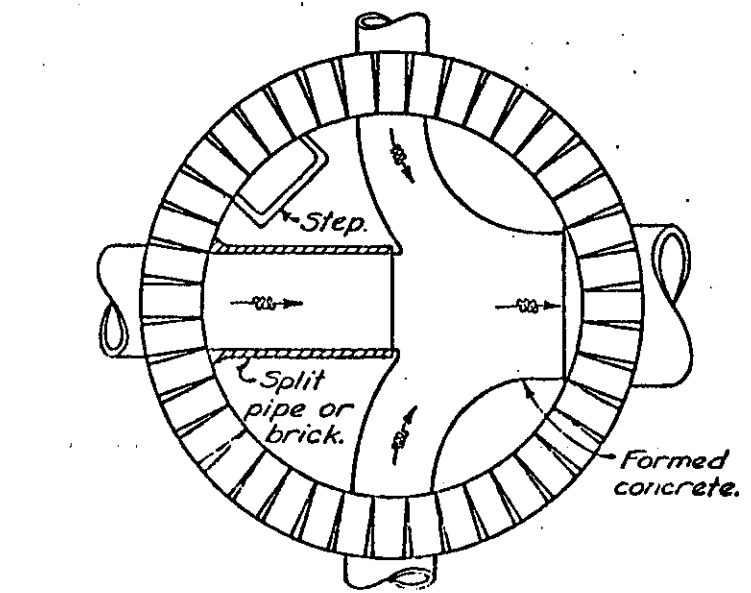
* Nominal thickness.



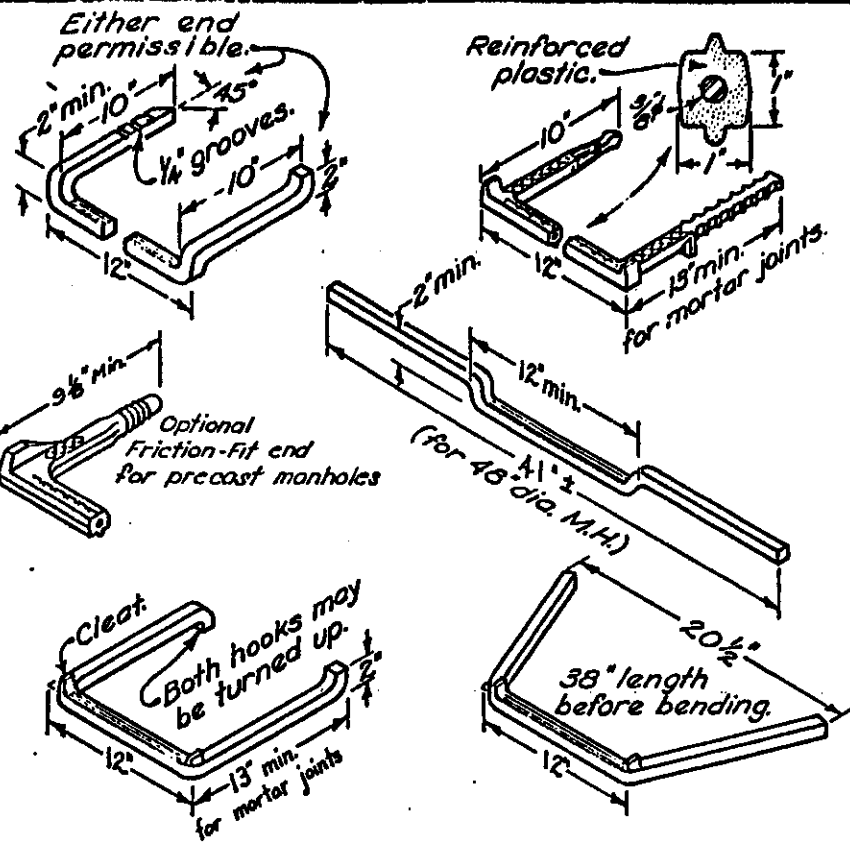
SECTION B-B



SECTION C-C

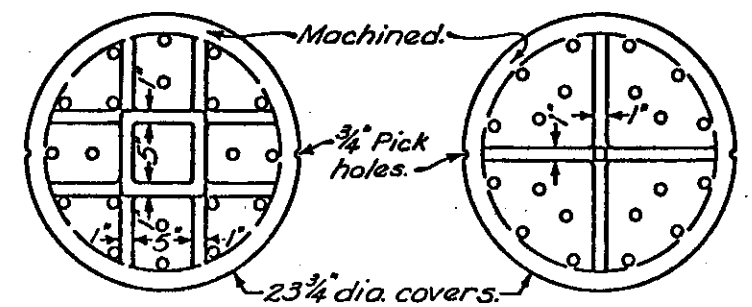


SECTION BELOW SPRING LINE SHOWING METHOD OF TURNING SIDE DRAINS

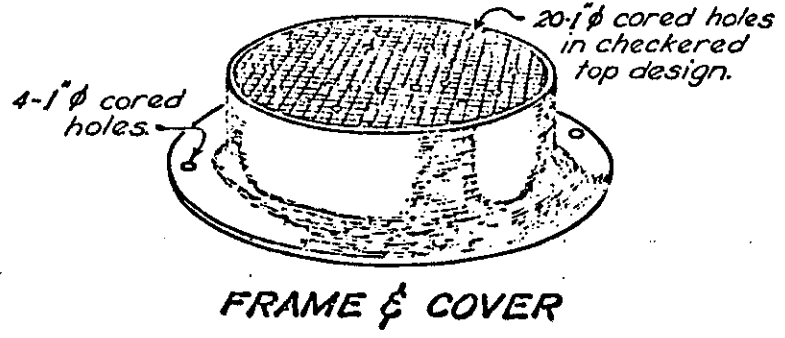


STEP DETAILS

Steps shall have a minimum cross sectional dimension of one inch for ferrous metal and 3/4 inch for aluminum.



HEAVY DUTY COVERS - BOTTOM VIEW and **LIGHT DUTY COVERS - BOTTOM VIEW**



FRAME & COVER

NOTES

CONSTRUCTION: Number 1 manhole is for sewers 30" diameter or less. The design shown is for brick construction with every sixth course a stretcher course. The 6" bottom may be precast or cast in place concrete. The bottom channel sections shall be built with concrete and lined with split pipe or brick except curved channels may 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 unless otherwise required by the plans.

FRAME AND COVER shall be of heavy design (475 lbs. min. total weight) when the manhole is placed within the limits of the pavement or shoulder; otherwise the light design (275 lbs. min.) may be used. Bearing areas shall be finished smooth and fitted so as to provide a firm and even seat for all portions of the cover in the frame. Each cover shall seat in its frame without rocking and shall be marked as a matched frame and cover before delivery to the project. 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. Castings meeting Item 604 requirements and designed essentially the same and equally as strong as those shown hereon shall be provided.

STEPS shall conform to the material requirements of specification 604. All steps shall have a depressed tread or a 1/2" minimum cleft height at the ends.

Steps installed in fresh concrete shall be embedded to minimum depth of 4". Steps installed in mortar joints shall be embedded to a minimum depth of 7".

Friction-fit steps meeting the requirements of 711.31 with a 1/2" diameter rebar may be used in precast manholes. The receiving holes for friction-fit steps shall not penetrate the manhole wall.

The Engineer may require the contractor to test load a maximum of one step per manhole to a proof load of 400 lbs. in direct pull. The equipment and method used shall meet the approval of the Engineer.

If the selected step fails the pullout test, the remaining steps in that manhole shall also be tested. All steps not passing the pullout test shall be removed and a new step installed and tested to the satisfaction of the Engineer. Cost of testing shall be incidental to the unit price bid for the manhole.

DROP PIPE, when specified on the plans, shall be constructed as shown on MH-2.

SANITARY SEWER COVERS shall be without the pick and vent holes shown hereon and shall include a sealing gasket affixed to the bearing surface. Bolt-down covers shall not be used unless specified in the plans.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

**No. 1
MANHOLE**

STANDARD CONSTRUCTION DRAWING MH-1

DATE: 6-1-65, 10-1-65, 6-12-75, 12-18-84

NOTES

GENERAL: With normal soil and site conditions this standard precast manhole may be used for any required manhole depth.

Sections of the precast manhole shall be cast and assembled with either all tongue or all groove ends up. Lift holes may be provided in each section for handling.

TOP AND TRANSITION (or reducer) sections may be either eccentric cone or flat slab.

BASES for Number 3 Manholes are shown with monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Openings for inlet and outlet pipes shall be provided, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete precast in the base or by field construction as shown on MH-1 and MH-2.

OPENINGS IN RISER SECTIONS for 18" and smaller inlet pipes may be prefabricated or cut in the field provided the sides of the pipe at the springline do not project into the manhole.

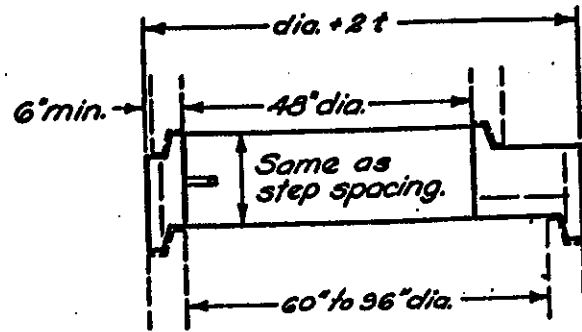
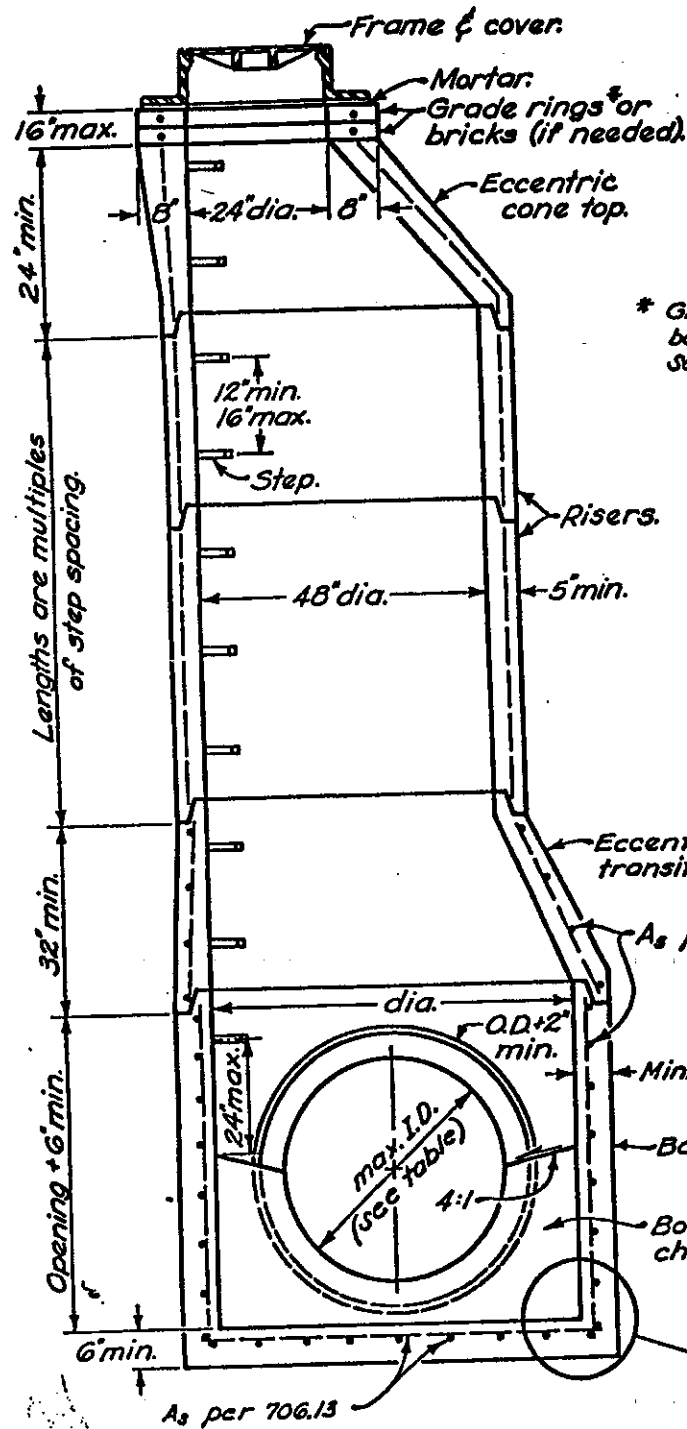
CONNECTIONS between precast manhole sections and pipes on sanitary sewers may be sealed with resilient connectors conforming to ASTM C923.

JOINT SEAL between precast manhole sections on sanitary sewers shall be resilient and flexible gasket joints per 706.11.

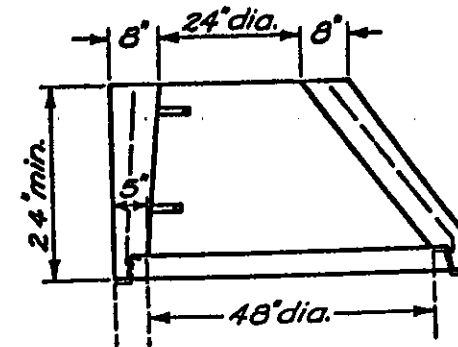
MATERIALS for bases and other precast sections, including reinforcement not specified hereon, shall comply with the requirements of 706.13.

DROP PIPE, when specified on the plans, shall be constructed as shown on MH-2.

STEPS, FRAMES AND COVERS shall conform with the requirements set forth on MH-1.



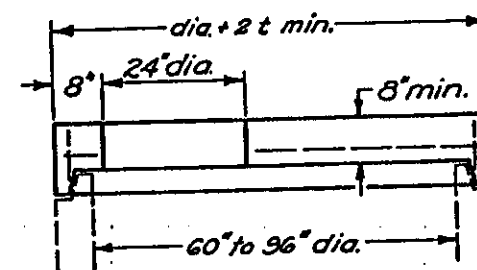
FLAT SLAB TRANSITION



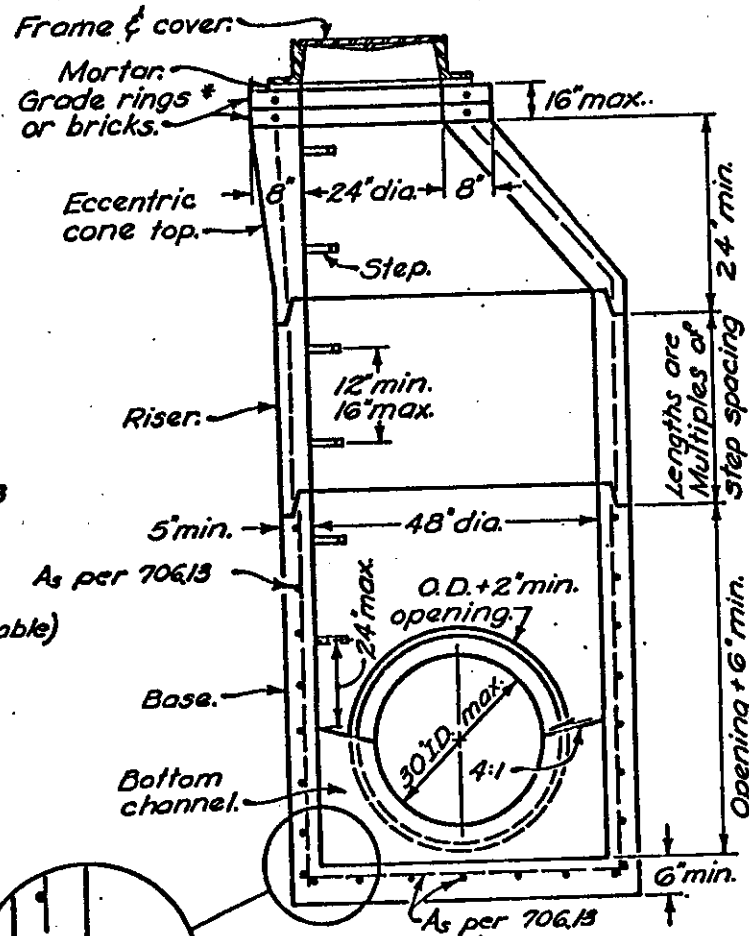
ALTERNATE ECCENTRIC CONE TOP



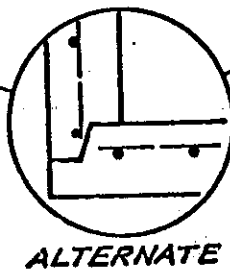
FLAT SLAB TOP



FLAT SLAB TOP



48" PRECAST BASE FOR 30" AND SMALLER PIPE



ALTERNATE

Base I.D.	Min. t"	Max. Pipe Size
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	60"

60" to 96" PRECAST BASE
SEE TABLE FOR MAXIMUM PIPE SIZES

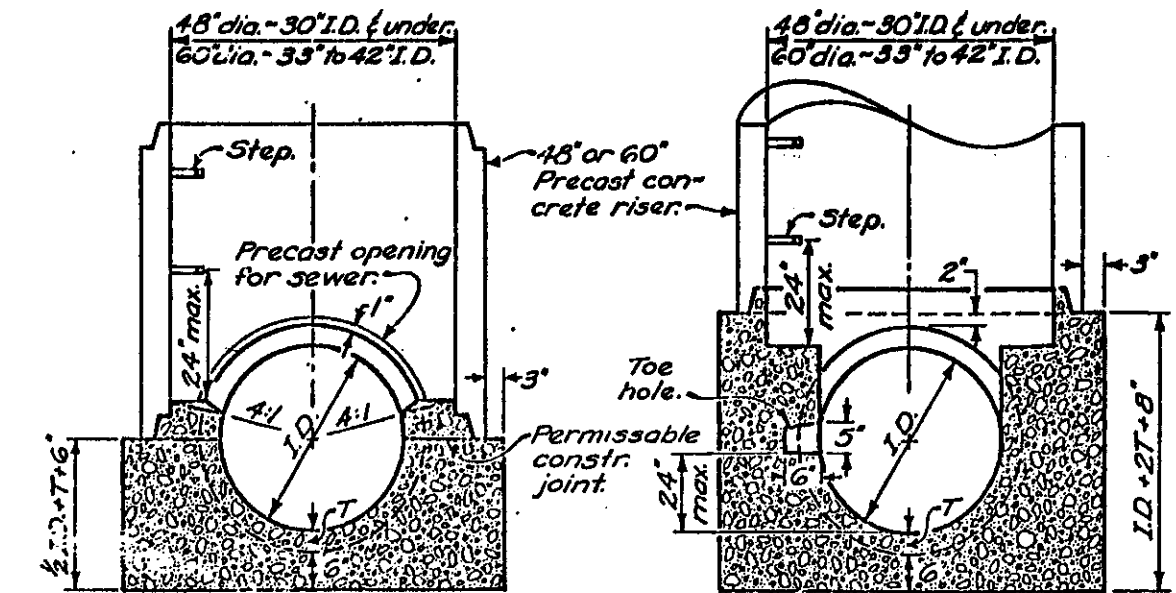
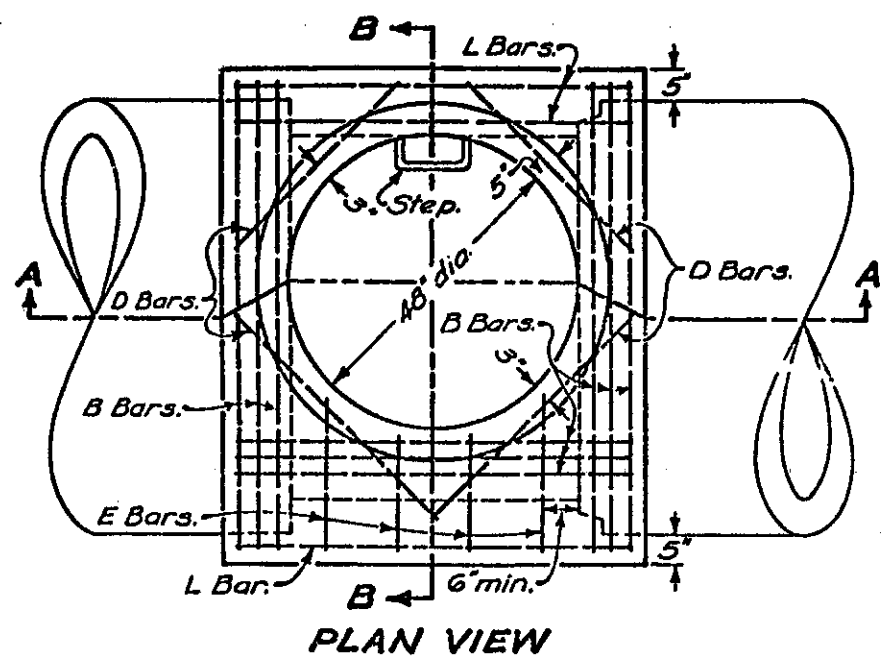
SECTION VIEWS OF REINFORCED PRECAST MANHOLES

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

**No. 3
MANHOLE**

DATE
6-12-75
12-18-84

STANDARD CONSTRUCTION DRAWING
APPROVED _____ ENGR., L.I.D.



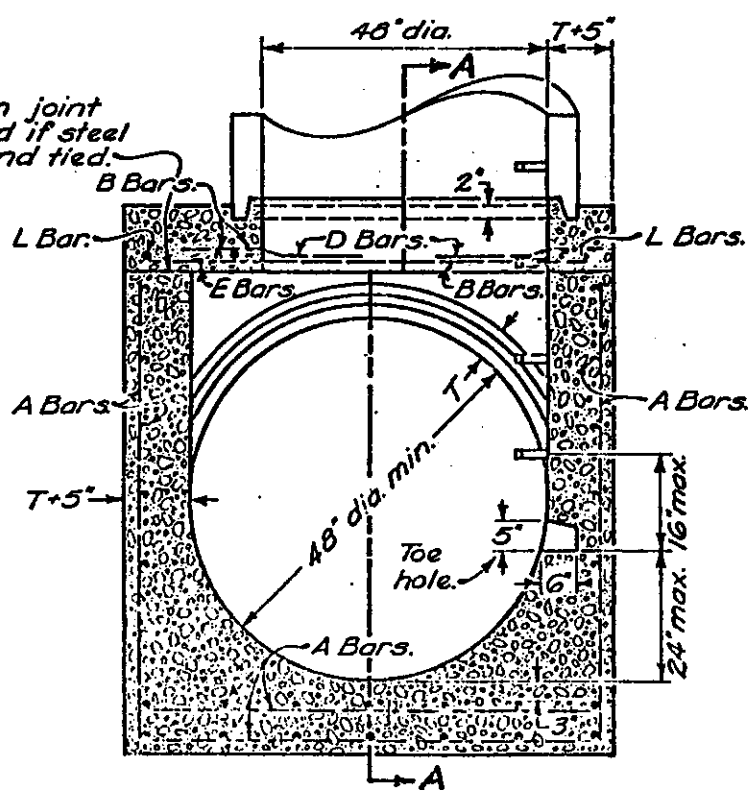
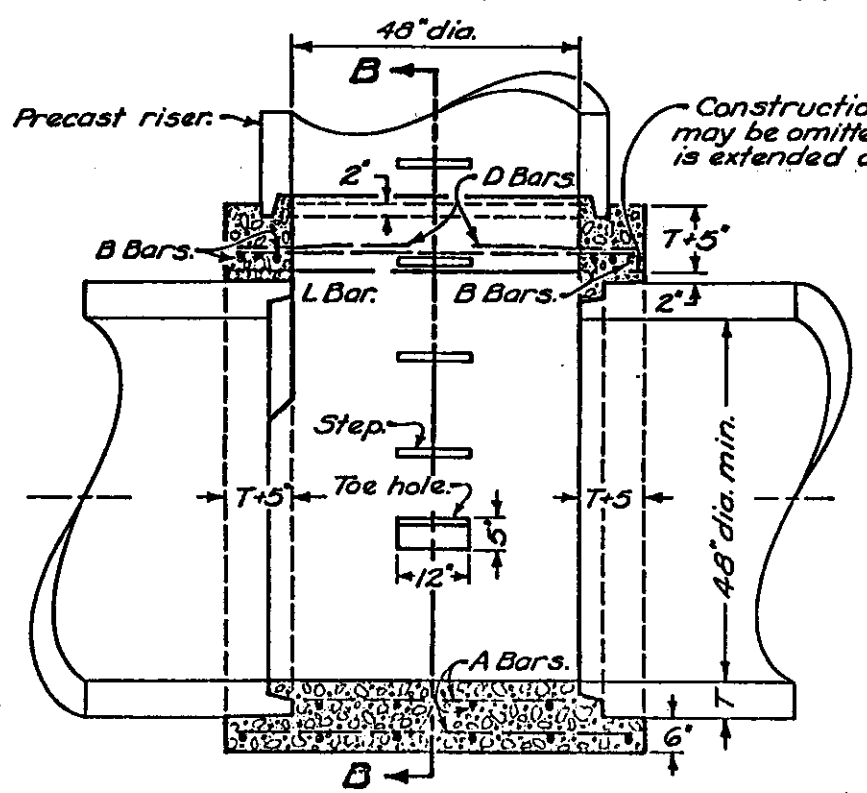
MANHOLE BASES ON SEWERS 42" AND UNDER

NOTES
 NUMBER 5 MANHOLE shall consist of a base or bottom as detailed hereon and other manhole components as detailed or specified on MH-3. In lieu of the tongue and groove junction between the riser and the base, the base may have a flat surface and the riser may have a square end set in a bed of mortar on the base.

OPENINGS for the 42" and under inlet and outlet sewer pipes shall be prefabricated in the riser section unless the manhole base is built to an elevation 2" above the top of the inlet and outlet pipes.

CONCRETE for the bases may be Class C or meet the requirements of 706.13. The bases may be precast or cast in place. If precast, the base on sewers 42" and under shall have sufficient steel reinforcement to permit shipping and placement without damage to the base. The base on sewers 48" and over shall be reinforced as shown.

T = thickness of intercepting sewer pipe.



SECTION A-A
 SECTION B-B
 MANHOLE BASE ON SEWERS 48" AND OVER

REINFORCING STEEL LIST				
Bar	Spacing	Bar sizes for sewers		
		48"-60"	66"-78"	84"-96"
A	12" $\frac{1}{2}$ both ways	$\frac{5}{8}$ " ϕ	$\frac{3}{4}$ " ϕ	$\frac{7}{8}$ " ϕ
B	3" $\frac{1}{2}$ both ways	$\frac{5}{8}$ " ϕ	$\frac{3}{4}$ " ϕ	$\frac{7}{8}$ " ϕ
L	as shown	$\frac{5}{8}$ " ϕ	$\frac{3}{4}$ " ϕ	$\frac{7}{8}$ " ϕ
D	as shown	$\frac{5}{8}$ " ϕ	$\frac{5}{8}$ " ϕ	$\frac{5}{8}$ " ϕ
E	12" $\frac{1}{6}$	$\frac{5}{8}$ " ϕ	$\frac{5}{8}$ " ϕ	$\frac{5}{8}$ " ϕ

This drawing previously MH-1A.

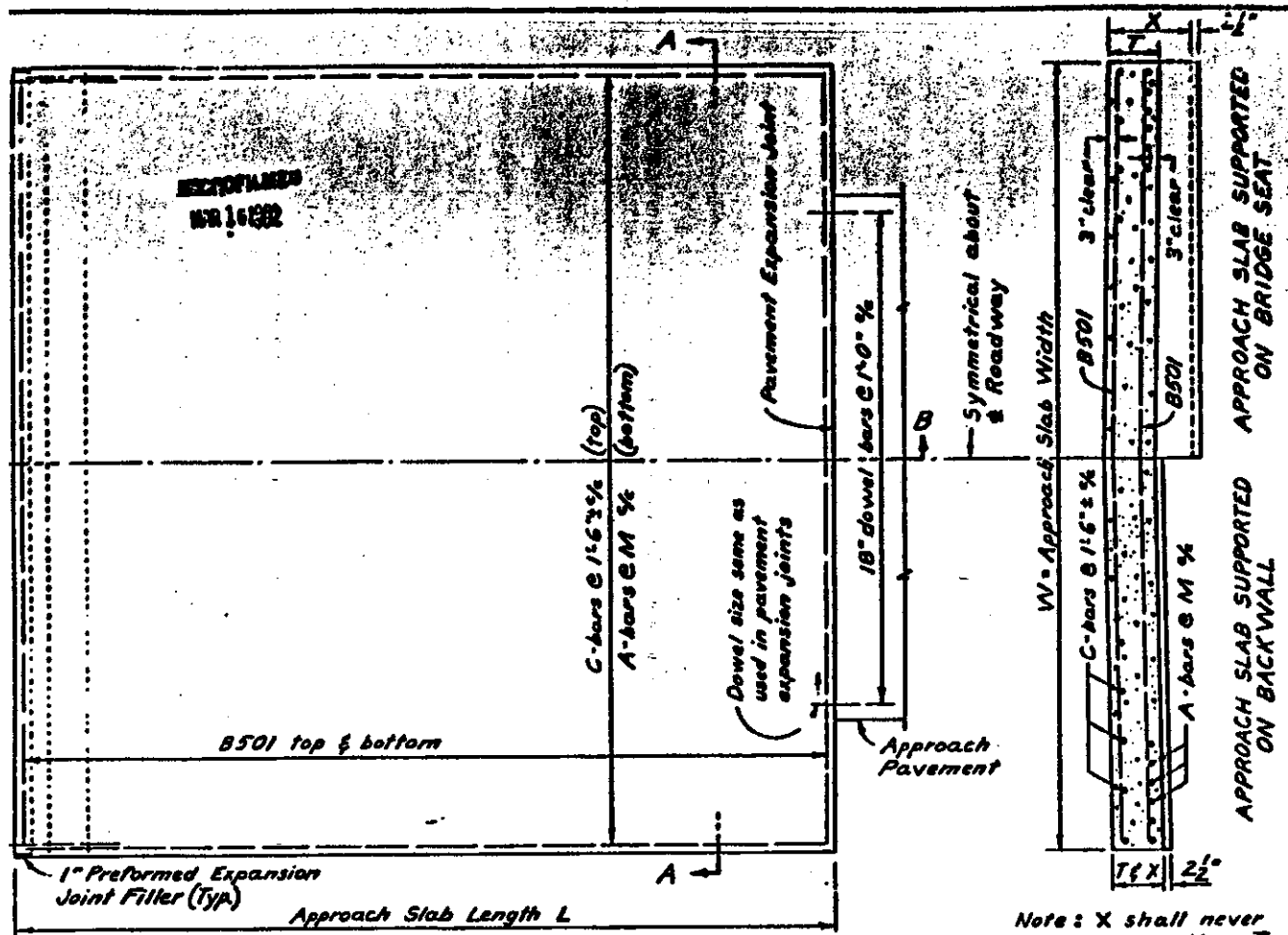
BUREAU OF ROADWAY DESIGN
 OHIO DEPARTMENT OF TRANSPORTATION

**No. 5
 MANHOLE**

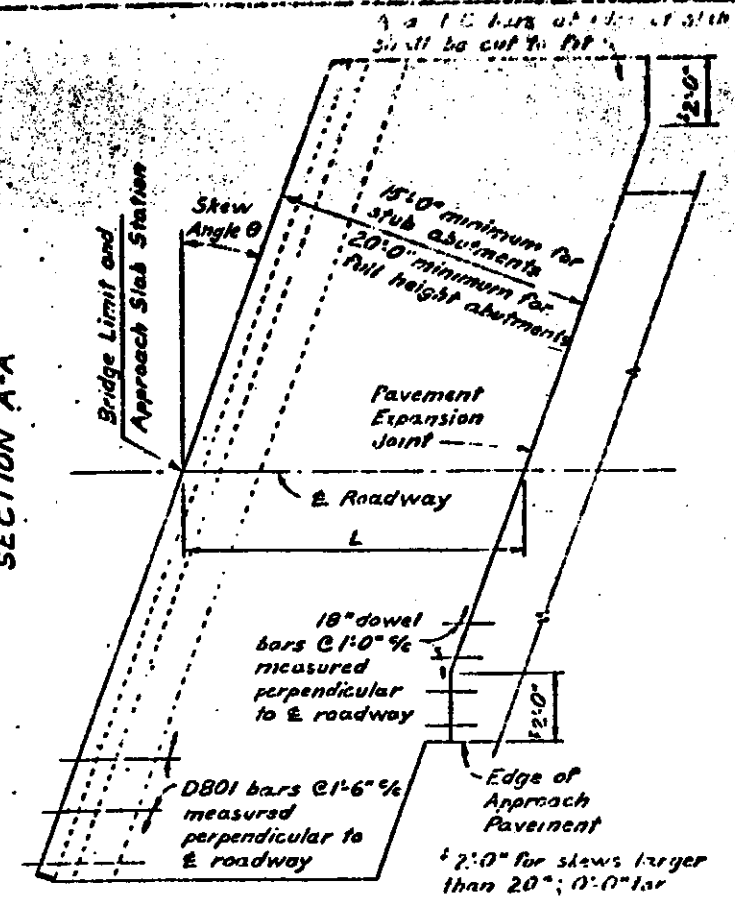
DATE: 6-12-75

STANDARD CONSTRUCTION DRAWING MH-5

APPROVED: [Signature] P.N.R. R.D.



PLAN



SECTION A-A

APPROACH SLAB FOR SKEWED BRIDGE

DESIGN SPECIFICATIONS: This standard drawing conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977, including the 1978, 1979, 1980 and 1981 Interim Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA
 Design Loading: HS20-44 and the Alternate Military Loading
 Concrete Class C: compressive strength 4000 p.s.i.
 Reinforcing Steel: ASTM A615, A616 or A617 - Grade 60 minimum yield strength 60,000 p.s.i.

REINFORCING STEEL: For skewed bridges the A and C bars shall be placed parallel to the center line of roadway and the B bars shall be placed parallel to the abutments.

PREFORMED EXPANSION JOINT FILLER AND SEALER at the corners and sides of the approach slab shall be included in the price bid per sq. yd. for the approach slab.

PREFORMED ELASTOMERIC JOINT SEALER shown at the bridge limit end of the approach slab shall be included in the price bid per sq. yd. for the approach slab.

LONGITUDINAL CONSTRUCTION JOINTS required for stage construction shall be as per 611.09

CURBS, BRIDGES WITH SIDEWALKS: For bridges constructed with raised sidewalks, deflector parapets or other types of construction which retain roadway surface drainage, the approach slabs shall either include integral curbs or be constructed in conjunction with bridge curbs. Curb height shall be transitioned uniformly between bridge curb height and approach curb height in a length as follows: Where wingwall extends beyond end of approach slab, use a minimum length of 10 ft. beyond end of wingwall. Where the approach slab extends beyond the end of wingwall, transition in this length. However, the transition length shall not be less than 10 ft. and the transition shall extend beyond the end of approach slab if necessary.

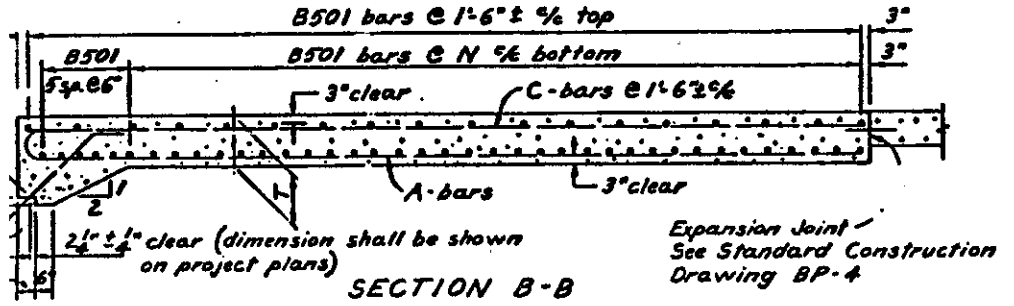
APPROACH SLAB WIDTH (W): Generally approach slabs shall be the same width as the bridge roadway.

LENGTH of approach slabs shall be shown on project plans.

CROWN shall conform to that of the approach pavement and bridge deck. If the rate of crown of the bridge deck differs from that of the approach pavement, a smooth transition shall be provided within the limits of the approach slab.

WEARING SURFACE: Generally approach slabs shall have an asphalt concrete wearing surface only when both the approach pavement surface and the bridge wearing surface are asphalt concrete.

EXPANSION JOINT details at the approach pavement end of the approach slab are used only in conjunction with concrete pavement or concrete base course. Payment for the expansion joint, including dowel bars, preformed expansion joint filler and joint sealer, is included in the price bid per sq. yd. for the approach slab.



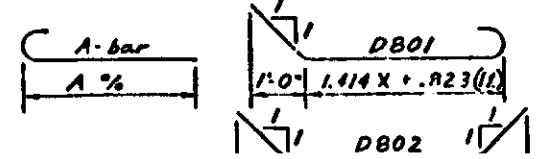
SECTION B-B

3" embedment length is measured to the plane of the DB01 bar.

REINFORCING STEEL (For one approach slab)

Thickness T	A-BARS					B501 (bottom)		B501 (top)		C-BARS			DB01 or DB02
	Sp'g M	Mark	Length	Dimension A	No. Req'd	Length	No. Req'd	Length	No. Req'd	Mark	Length	No. Req'd	
12"	10"	A1001	15'-11"	14'-6"	1	(W-0.5) sec 0	9"	22	(W-0.5) sec 0	11	C501	14'-6"	1
13"	7 1/2"	A1002	20'-11"	19'-6"	1	(W-0.5) sec 0	8"	31	(W-0.5) sec 0	14	C502	19'-6"	1
15"	7"	A1003	25'-11"	24'-6"	1	(W-0.5) sec 0	8"	39	(W-0.5) sec 0	18	C503	24'-6"	1
17"	6 1/2"	A1004	30'-11"	29'-6"	1	(W-0.5) sec 0	8 1/2"	44	(W-0.5) sec 0	21	C504	29'-6"	1

Approach Slab Width, out-to-out, in feet
 Angle of Skew
 bar spacing in inches
 bar spacing in inches
 Approach Slab Thickness at abutment end in feet.



At the option of the contractor, the DB01 bars may be lapped 1'-0" minimum at the centerline of roadway, or where

GENERAL: This drawing provides design and general construction details. The project plans will show length, skew, curbs (if any), estimated quantity (sq. yds.), and special notes and details where necessary for conditions other than those indicated hereon, the approach slab shall be designed to fit the ends of the bridge and the approach pavement.

ANCHOR BARS DB01 or DB02 shall be detailed for the specific bridge and shall be included with Item 509 under abutments or superstructure for payment. DB01 bars cannot be used where approach slabs are supported on abutments. DB02 bars shall be used on prestressed concrete bridge piers where the approach slab is supported on an 11 inch thick backwall.

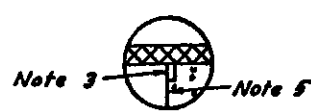
REVISIONS

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF BRIDGES AND STRUCTURAL DESIGN

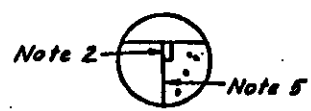
STANDARD
 REINFORCED CONCRETE
 APPROACH SLABS

APPROVED: Robert A. ...
 DATE: 1-27-81
 ENGINEER: BRIDGES, 45-1-31

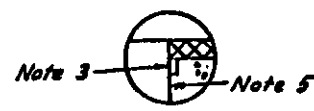
DRAWN BY: ...
 CHECKED BY: ...



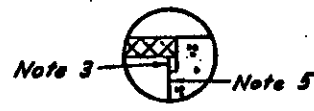
DETAIL A



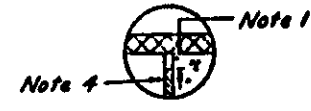
DETAIL B



DETAIL C



DETAIL D



DETAIL E



DETAIL F



DETAIL G



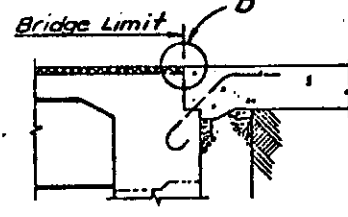
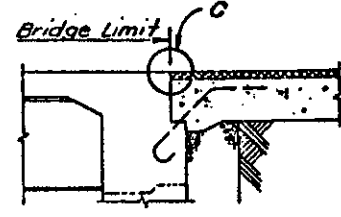
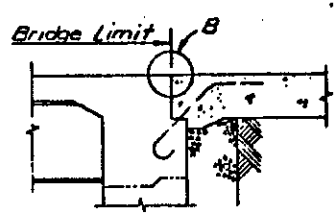
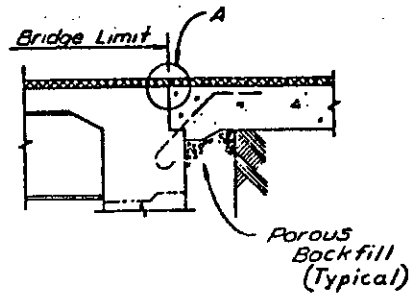
DETAIL H

ASPHALT CONCRETE WEARING SURFACE ON BRIDGE DECK AND APPROACH SLAB

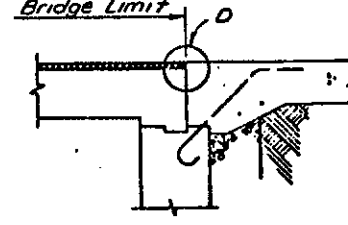
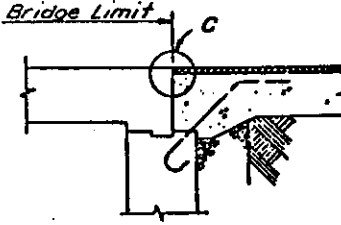
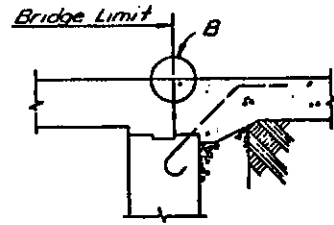
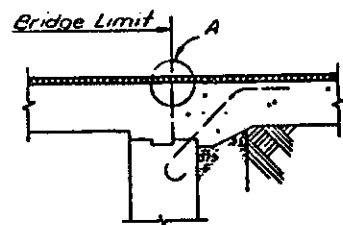
CONCRETE WEARING SURFACE ON BRIDGE DECK AND APPROACH SLAB

CONCRETE WEARING SURFACE ON BRIDGE DECK ONLY

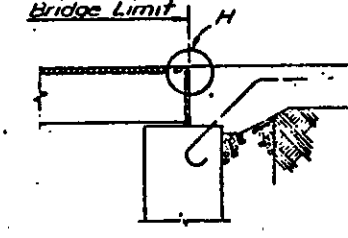
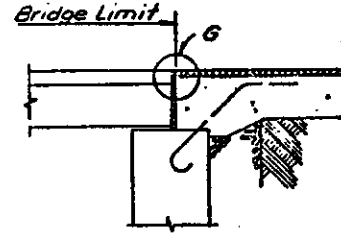
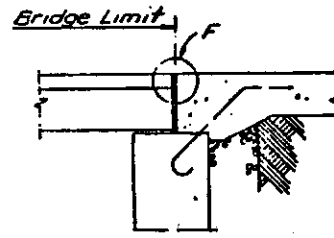
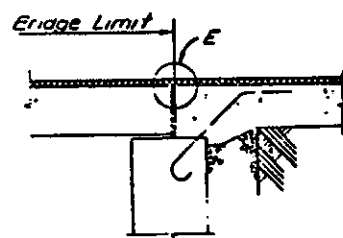
ASPHALT CONCRETE WEARING SURFACE ON BRIDGE DECK ONLY



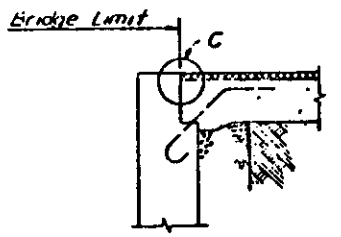
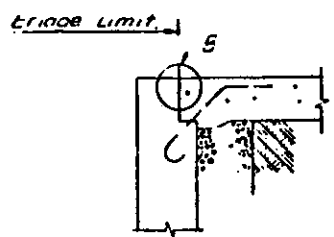
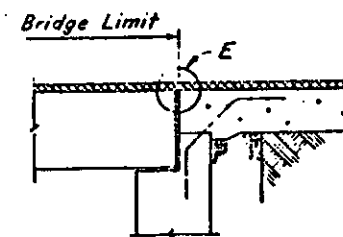
ON BRIDGES WITH INTEGRAL CONSTRUCTION



ON SLAB BRIDGES



ON PRESTRESSED CONCRETE BOX BEAM BRIDGES



APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL

Note 1: 2" joint sealer 705.01 or 705.02

Note 2: Preformed elastomeric joint sealer 705.11 (1 1/4" for 1/2" joint) depressed 1/8" below roadway, placed in 1/2" x 2 1/4" groove.

Note 3: Preformed elastomeric joint sealer 705.11 (1 1/4" for 1/2" joint) placed in 1/2" x 2 1/8" groove.

Note 4: 1" preformed expansion joint filler.

Note 5: Type A waterproofing.

Type A waterproofing shall not extend above the bottom of the groove into which the preformed elastomeric joint sealer is to be placed. It shall be applied to the entire area of the abutment or superstructure which comes into contact with the approach slab.

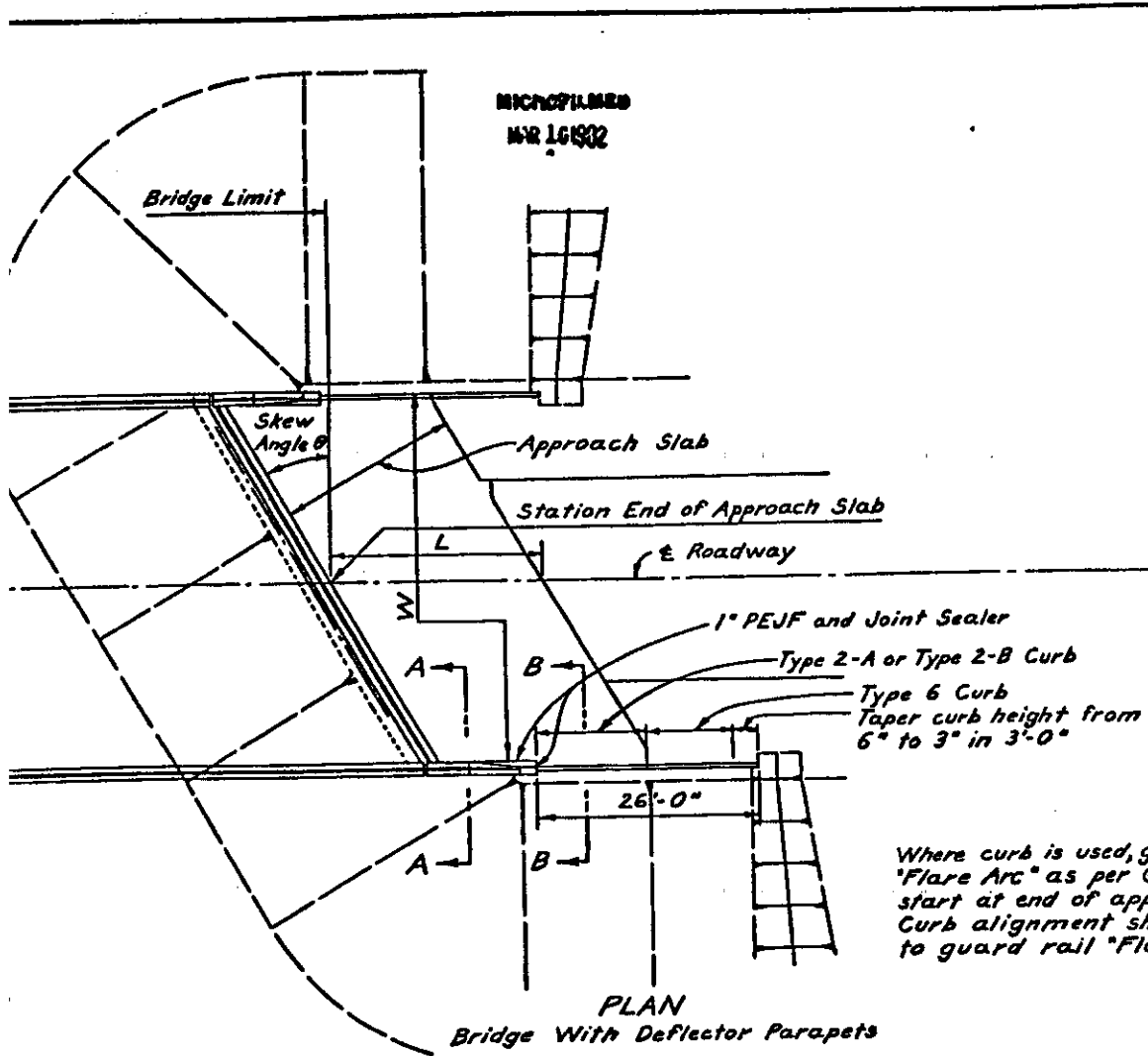
For prestressed concrete box beam bridges with asphalt concrete on both bridge deck and approach slab, the top of approach slab at the bridge end shall be constructed to the level of the top of the beams to facilitate waterproofing of the joint. The thickness of asphalt concrete at the approach end shall be the thickness of asphalt concrete used on the roadway pavement. The thickness of asphalt concrete shall vary uniformly, if necessary, in the length of the approach slab. The base shall be graded to permit the bottom of the approach slab to be parallel to the top.

For structures having asphalt concrete wearing surface on both bridge deck and approach slabs and where no deck expansion devices are provided, the deck membrane waterproofing shall extend beyond the bridge limits a distance of 2'-0".

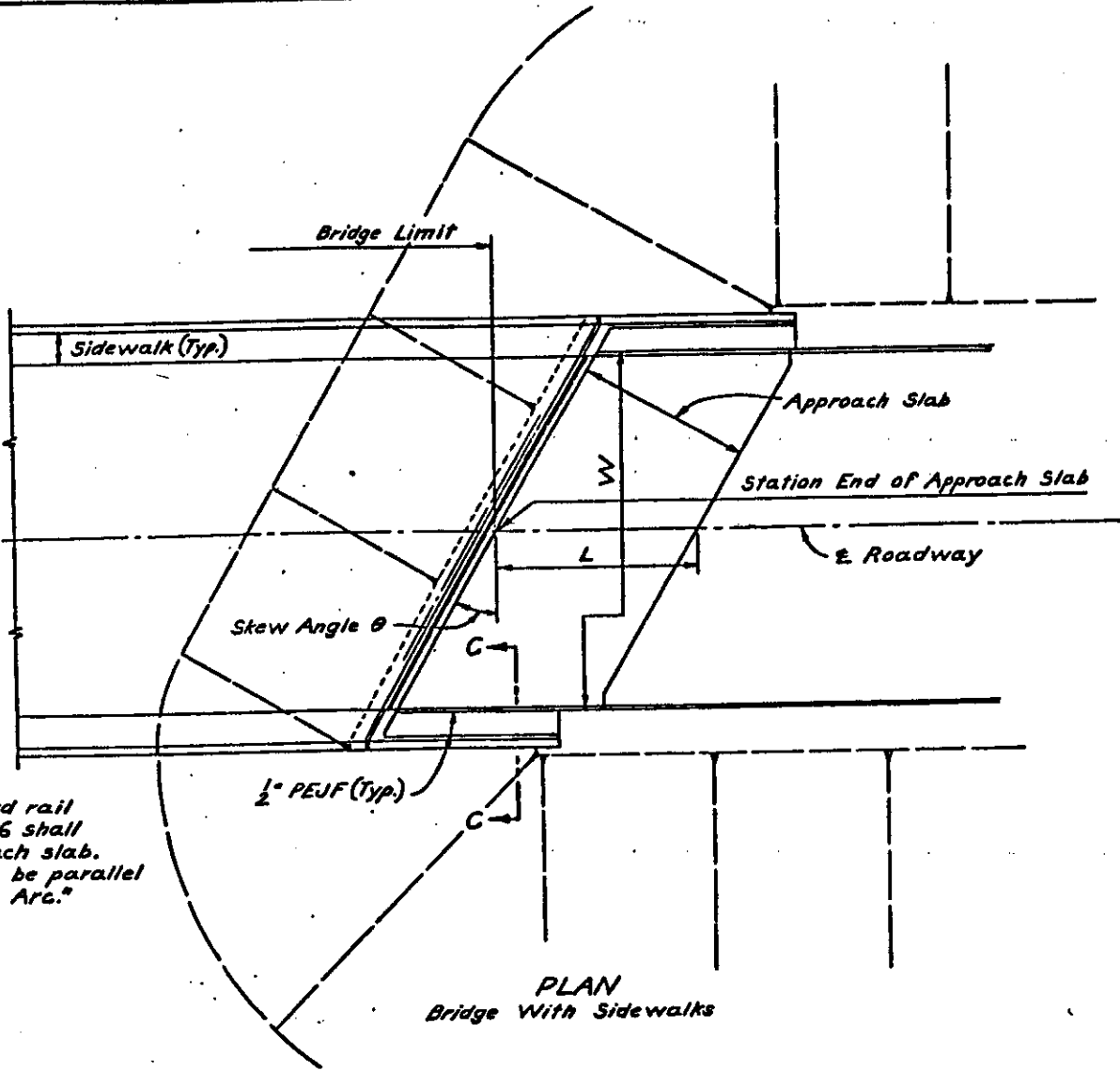
Note: Approach slab seat on prestressed concrete box beam bridges is shown at same elevation as beam seat. However, it may actually be higher or lower than the beam seat depending on box beam depth.

REVISIONS	STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN			
	STANDARD REINFORCED CONCRETE APPROACH SLABS			
	APPROVED: <i>Robert B. Plester</i> DATE: 11-27-81 ENGINEER OF BRIDGES			DRWG. NO. AS-1-B1
	PREPARED FFE	TRACED	CHECKED G.S.B.	REVIEWED W.J.J. SHEET NO. 2 OF 3 SHEETS

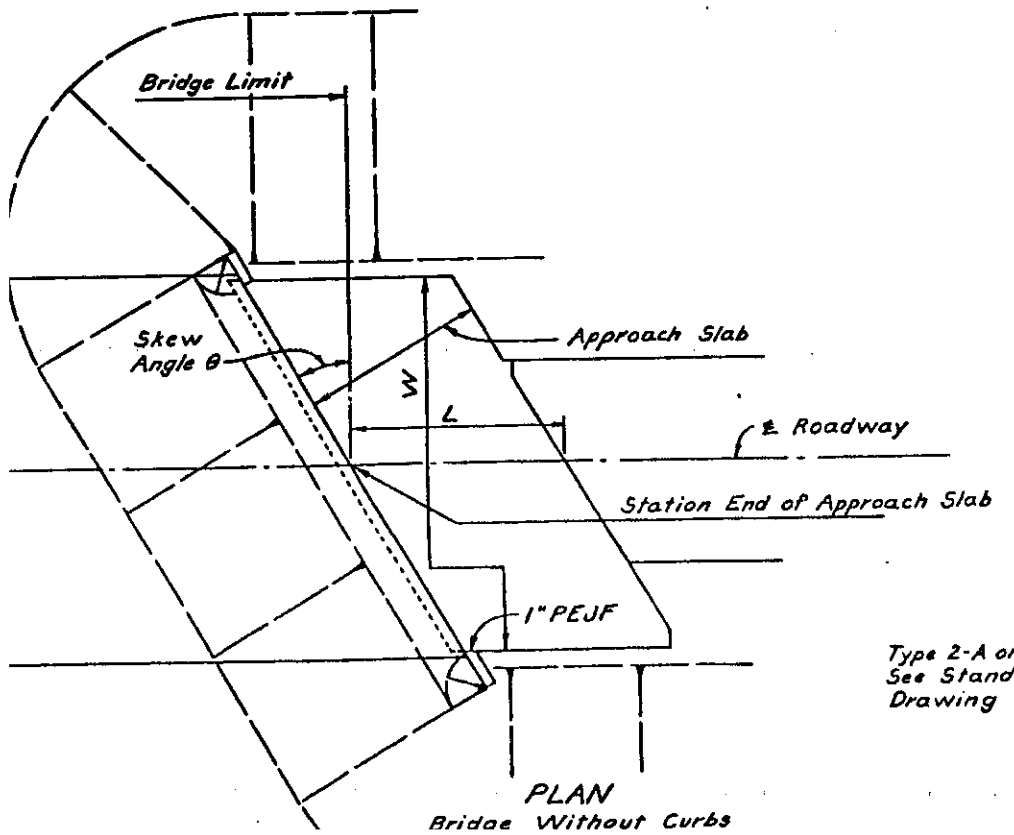
MICROFILMED
NR 161902



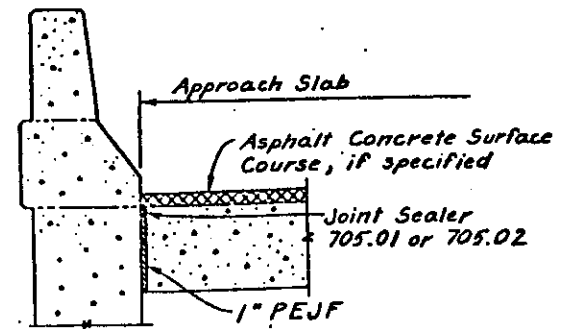
PLAN
Bridge With Deflector Parapets



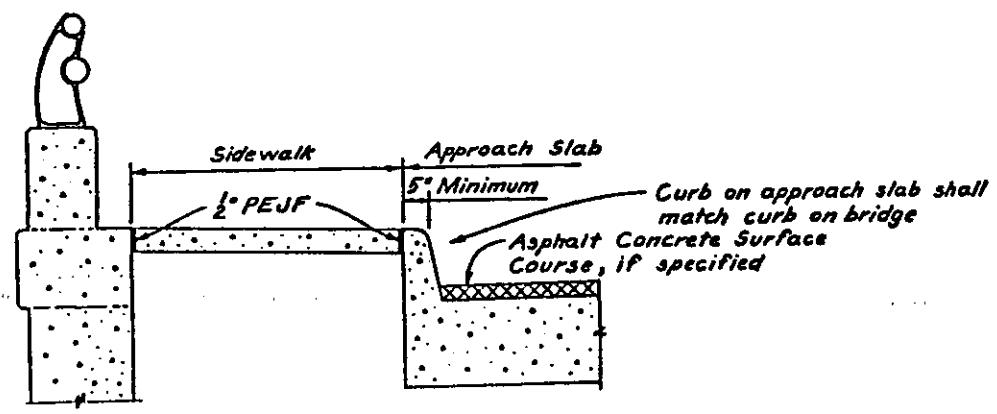
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Bridge With Sidewalks



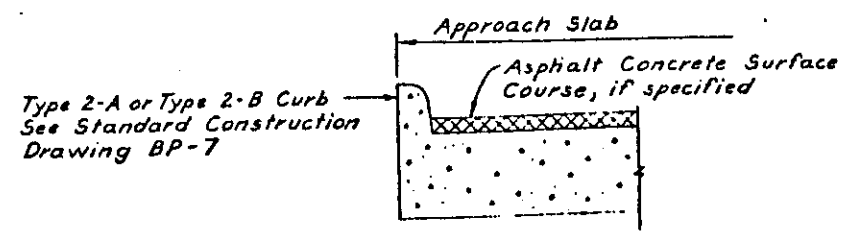
PLAN
Bridge Without Curbs



SECTION A-A



SECTION C-C



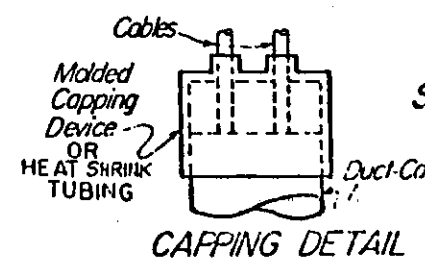
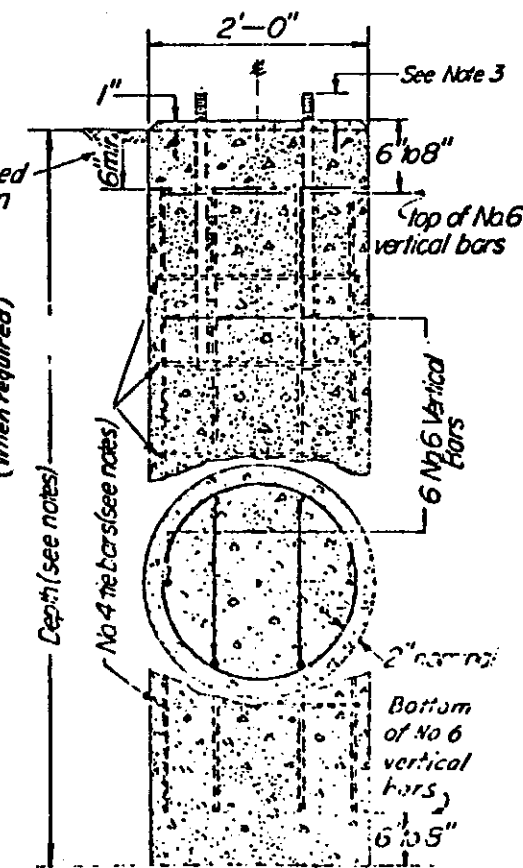
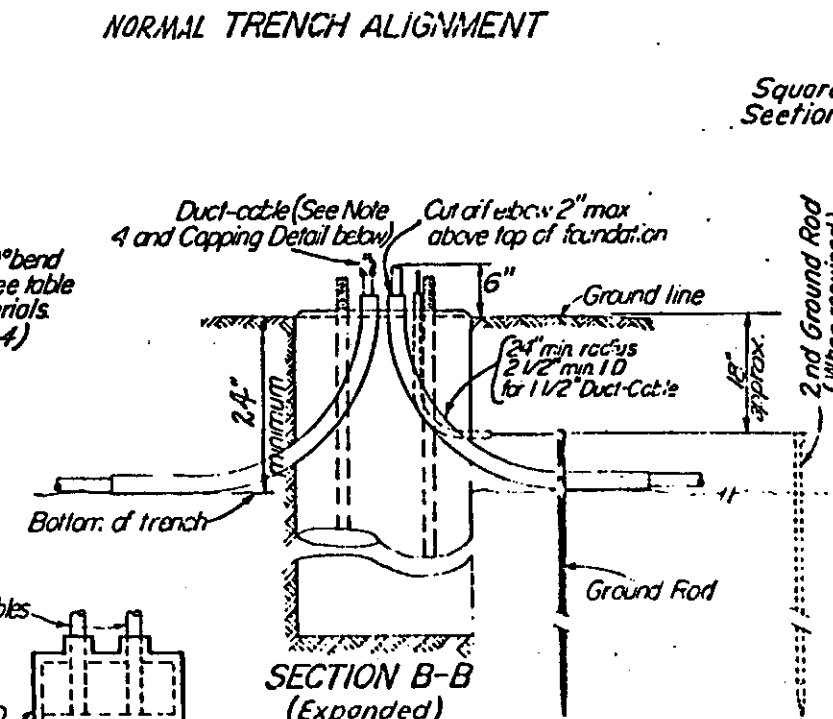
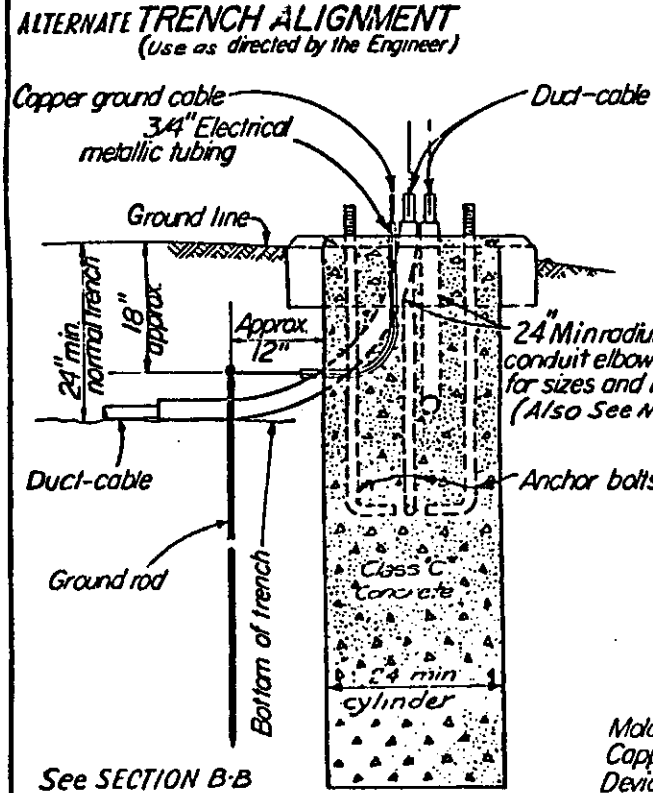
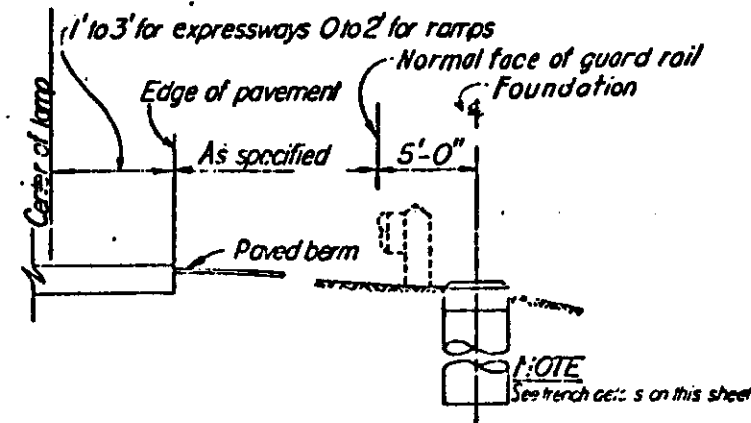
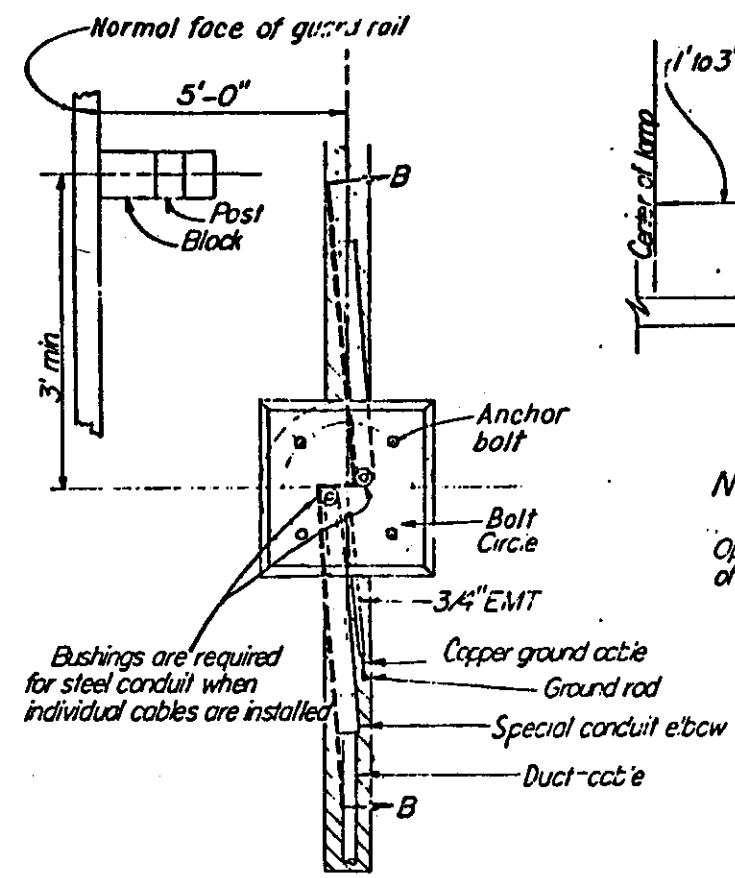
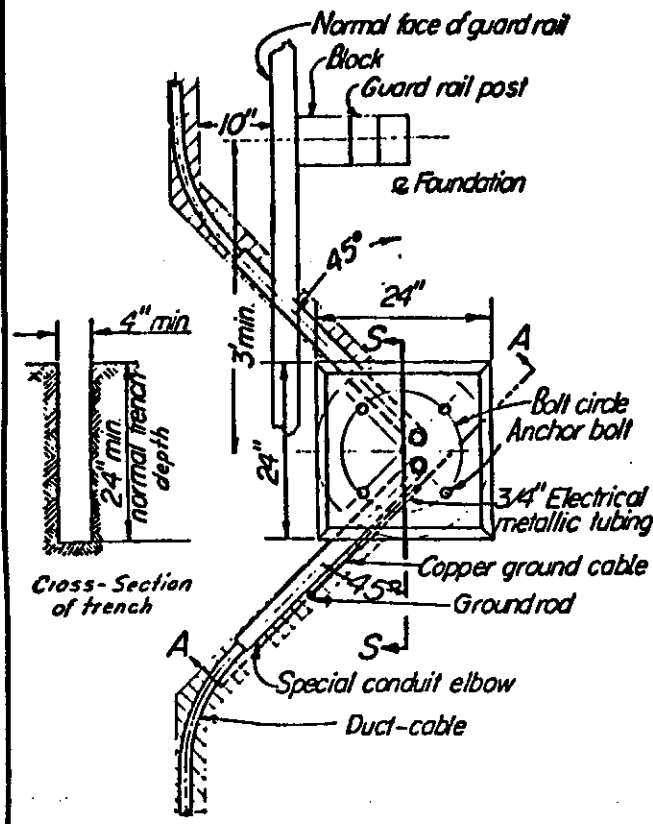
SECTION B-B

REVISIONS			
STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN			
STANDARD REINFORCED CONCRETE APPROACH SLABS			
APPROVED: <i>Robert B. Plis</i> DATE: 11-27-81 ENGINEER OF BRIDGES			DRWG. NO. AS-1-B1
PREPARED FFE	DESIGNED GSD	CHECKED WJJ	REVIEWED SHEET NO. 3 OF 3 S1:273

FOUNDATION AND TRENCH DETAILS

NOTES

- FOUNDATION**
Minimum depths to be as follows:
6 feet for poles having a mounting height less than 40 ft.
8 feet for poles having a mounting height 40 ft. thru 44 ft.
9 feet for poles having a mounting height 45 ft. thru 49 ft.
10 feet for poles having a mounting height of 50 ft. thru 55 ft.
No. 4 Tie bars required as follows:
4 No. 4 tie bars for 6 ft depth
5 No. 4 tie bars for 8 and 9 ft depth
6 No. 4 tie bars for 10 ft depth
Rotate bars to clear conduits.
- COPPER GROUND CABLE:**
No. 4 AWG, stranded insulated copper ground cable shall be used. Exothermically weld cable to ground rod, run free end through 3/4" EMT and connect as shown on HL-9, POLE WIRING.
Use two coats of insulating varnish over exothermic weld and exposed conductor.
- ANCHOR BOLT DATA:**
For anchor bolt data see HL-3, POLE BASE DETAILS
- CONDUIT:**
Where 2" or 3" diameter conduit terminates in a foundation the conduit elbows in the foundation shall be the same size as the conduit. The ends of conduit elbow containing distribution cable shall be closed as described in 625.13
When the terminating conduit is steel the conduit elbows in the pole foundation shall also be steel.
At the last light pole on a circuit the vacant conduit elbow in the light pole foundation shall be stubbed out and capped.
- GROUND RODS:**
When a second ground rod is required it shall be installed in the cable trench as shown in SECTION B-B.
- REINFORCING STEEL:**
Reinforcing steel may be assembled in cages by approved welding of bars.
Subject to approval of the Engineer cages may be assembled in a spiral conformation.

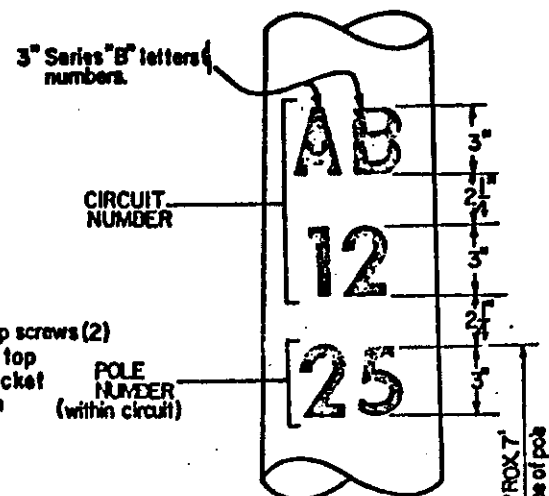
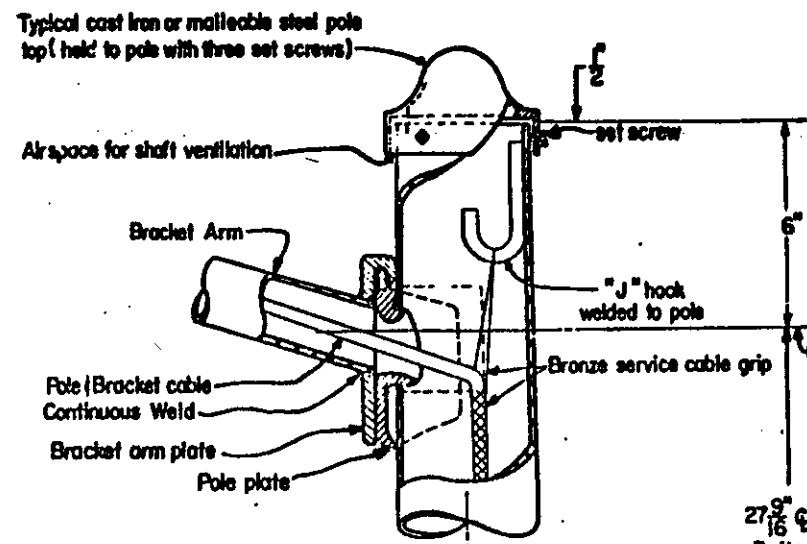


SPECIAL CONDUIT ELBOWS 90° BENDS						
2" 2 1/2" 3" 3 1/2" 4" 4 1/2" 5" 5 1/2" 6" 6 1/2" 7" 7 1/2" 8" 8 1/2" 9" 9 1/2" 10" 10 1/2" 11" 11 1/2" 12" 12 1/2" 13" 13 1/2" 14" 14 1/2" 15" 15 1/2" 16" 16 1/2" 17" 17 1/2" 18" 18 1/2" 19" 19 1/2" 20" 20 1/2" 21" 21 1/2" 22" 22 1/2" 23" 23 1/2" 24" 24 1/2" 25" 25 1/2" 26" 26 1/2" 27" 27 1/2" 28" 28 1/2" 29" 29 1/2" 30" 30 1/2" 31" 31 1/2" 32" 32 1/2" 33" 33 1/2" 34" 34 1/2" 35" 35 1/2" 36" 36 1/2" 37" 37 1/2" 38" 38 1/2" 39" 39 1/2" 40" 40 1/2" 41" 41 1/2" 42" 42 1/2" 43" 43 1/2" 44" 44 1/2" 45" 45 1/2" 46" 46 1/2" 47" 47 1/2" 48" 48 1/2" 49" 49 1/2" 50" 50 1/2" 51" 51 1/2" 52" 52 1/2" 53" 53 1/2" 54" 54 1/2" 55" 55 1/2" 56" 56 1/2" 57" 57 1/2" 58" 58 1/2" 59" 59 1/2" 60" 60 1/2" 61" 61 1/2" 62" 62 1/2" 63" 63 1/2" 64" 64 1/2" 65" 65 1/2" 66" 66 1/2" 67" 67 1/2" 68" 68 1/2" 69" 69 1/2" 70" 70 1/2" 71" 71 1/2" 72" 72 1/2" 73" 73 1/2" 74" 74 1/2" 75" 75 1/2" 76" 76 1/2" 77" 77 1/2" 78" 78 1/2" 79" 79 1/2" 80" 80 1/2" 81" 81 1/2" 82" 82 1/2" 83" 83 1/2" 84" 84 1/2" 85" 85 1/2" 86" 86 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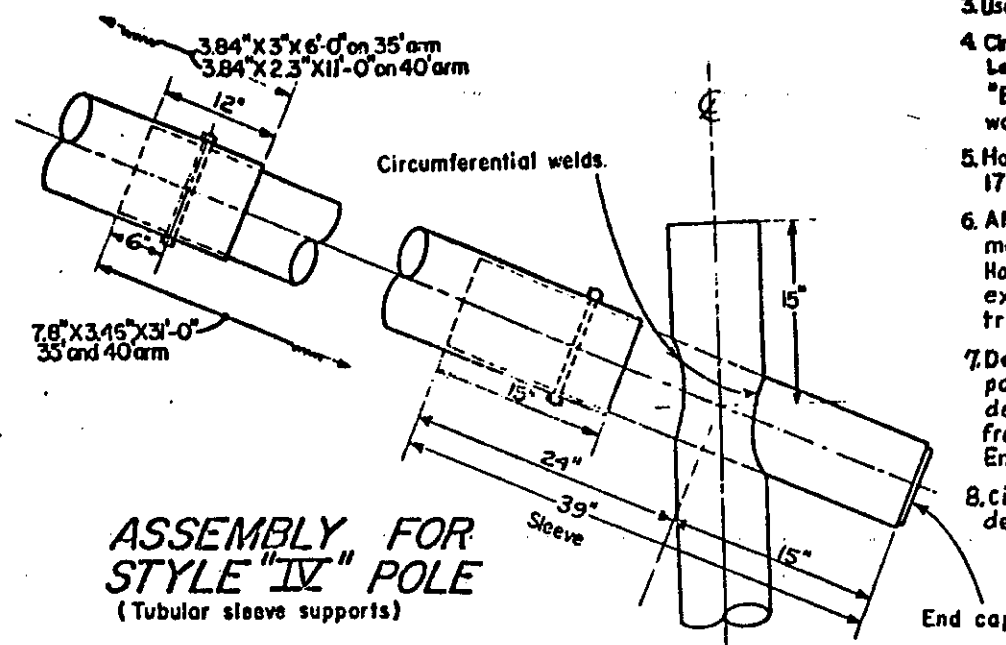
LIGHT POLE DETAILS

NOTES

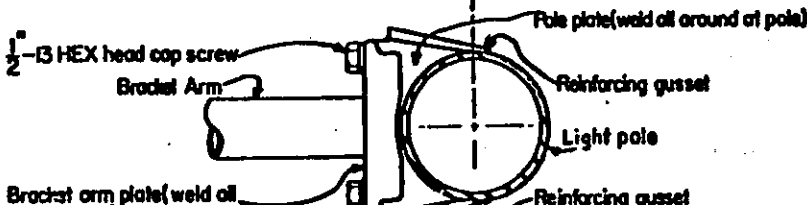
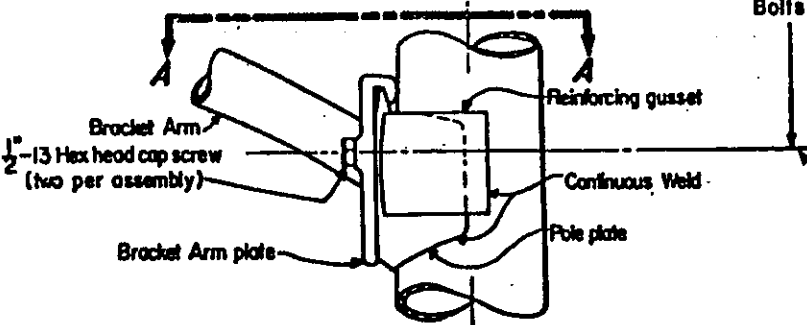
1. Handholes are not required on poles with transformer bases.
2. Hand holes shall be opposite the roadway unless such location renders them inaccessible. (See NOTE 6)
3. Use of Reinforcing gussets is optional.
4. Circuit and light numbers shall be as scheduled on light plan sheets. Labels shall meet the requirements of 713.18 and shall contain 3 series "B" letters and numbers as per the "Standard Alphabets for Highway Signs" published by the Federal Highway Administration.
5. Handholes for bridge poles shall be on roadway side and 17" from center of handhole to bottom of base.
6. All light poles mounted on raised concrete median barriers shall be equipped with handholes. Handholes shall be located beneath the bracket arm extending over the Northbound or Westbound traffic lanes.
7. Details shown hereon are essentially for galvanized steel pole designs meeting 713.01 requirements. For aluminum designs, or other permitted steel material designs, variations from these details will be acceptable, as approved by the Engineer.
8. Circuit identification details are applicable to all pole designs.



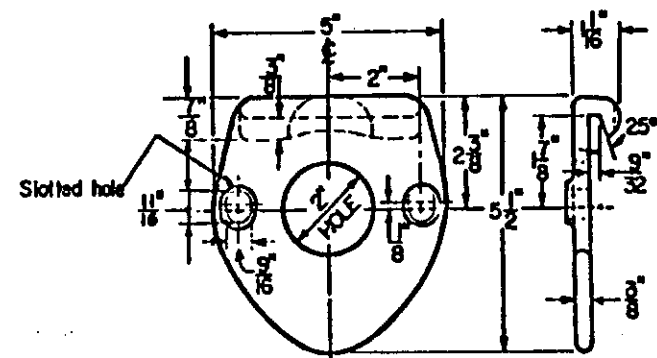
LIGHT POLE LABELS FOR CIRCUIT IDENTIFICATION (See note 4)



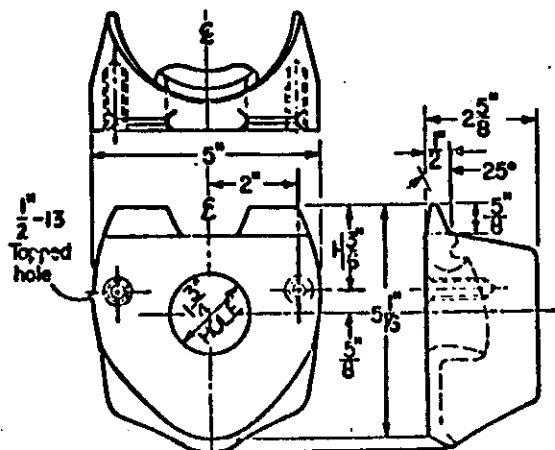
ASSEMBLY FOR STYLE "IV" POLE (Tubular sleeve supports)



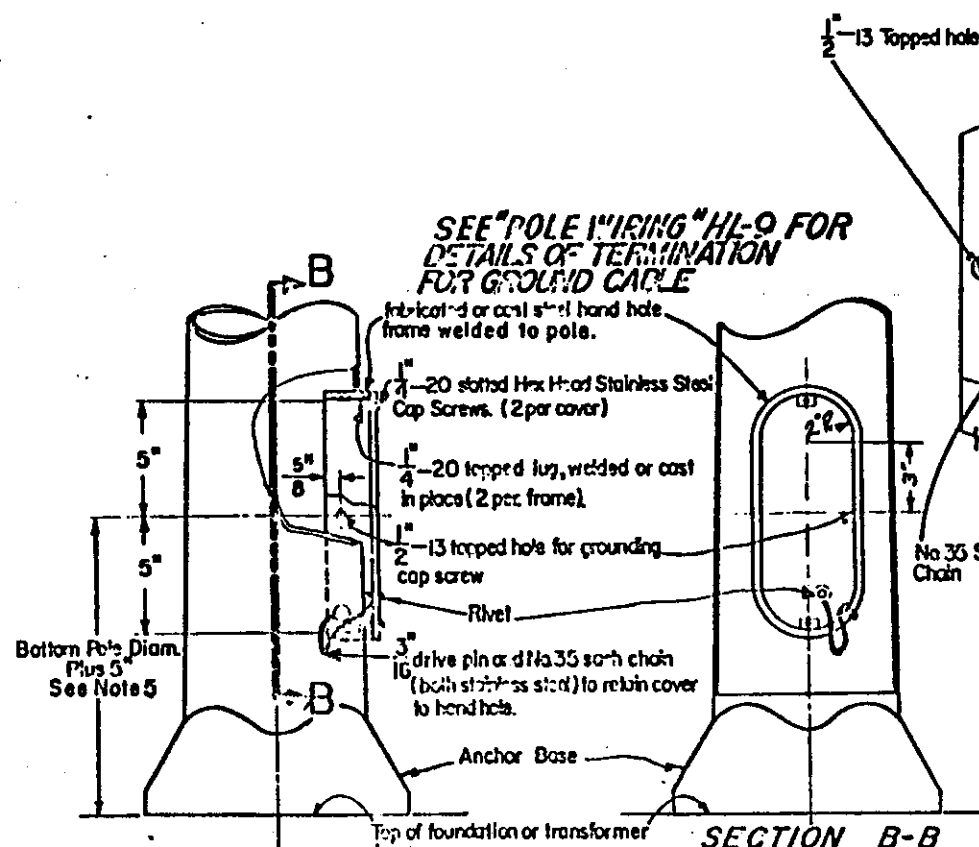
SECTION A-A POLE TOP and BRACKET ARM ASSEMBLIES



BRACKET ARM PLATE (CAST STEEL)

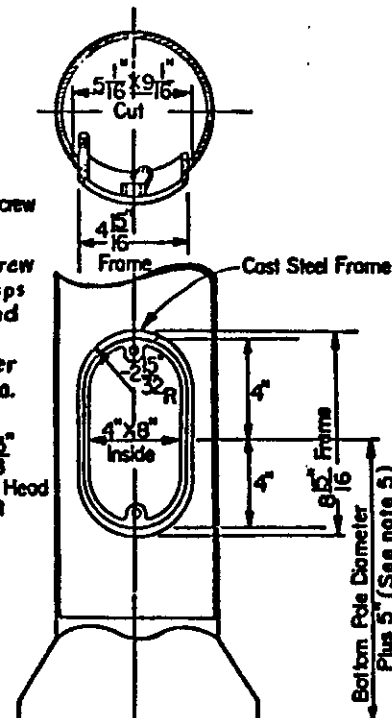


POLE PLATE (CAST STEEL)



HAND HOLE WITH COVER

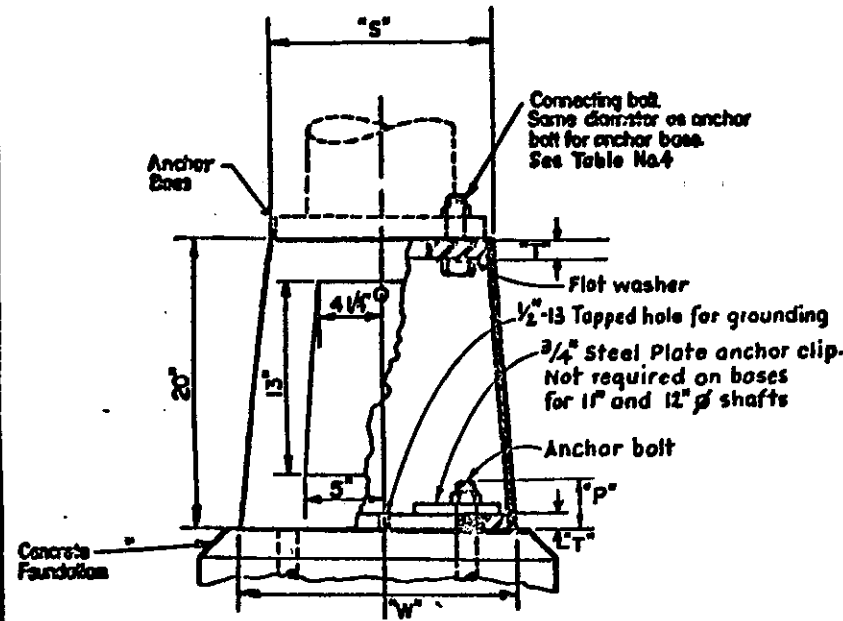
See Notes 1 & 2



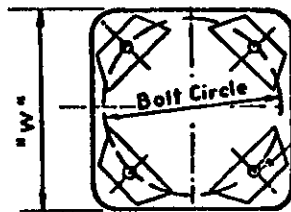
ALTERNATE HAND HOLE

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
LIGHT POLE DETAILS	
STANDARD CONSTRUCTION	HI-9
DATE	11-1-65 7-27-73

POLE BASE DETAILS



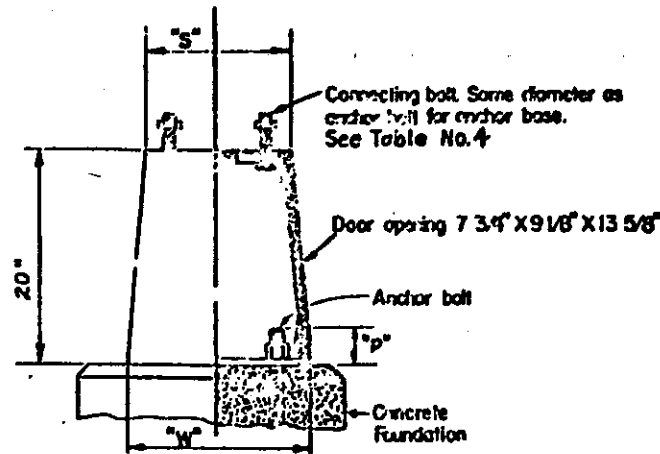
SHAFT SIZE	"T"	"S"	"W"	BOLT CIRCLE	"P"
6.0" thru 9.2"	3 1/4" min	13" sq.	16" sq.	15"	4 1/2"
8.5" thru 10"	1 1/4" min	15" sq.	18" sq.	17 1/4"	4 1/2"
11" and 12"	1 1/4"	17" sq.	25" sq.	22"	4 1/2"



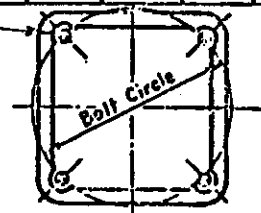
BASE FRAME

STEEL TRANSFORMER BASES

NOTES (continued)
7. The AT-X base shall be used with anchor base poles having diameters of 7.5" thru 9.5" and having bolt circles 10 1/2" thru 13". For poles whose bottom shaft diameter is 9.5" and bolt circle 13", the top-slots of the AT-X base will require special machining for fit.



TYPE	"P"	"S"	"W"	BOLT CIRCLE	SHAFT SIZE
AT-A	4 1/2"	13"	16 3/8"	15"	SEE NOTE 2
AT-C	4 1/2"	14.50"	17 1/4"	17 1/4"	SEE NOTE 3
AT-X	4 1/2"	13"	14"	12 1/2"	SEE NOTE 7

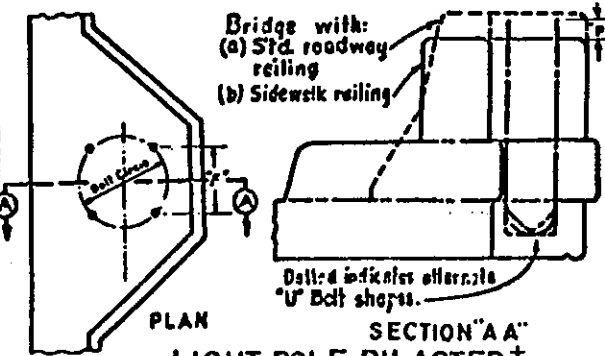


BASE FRAME

CAST ALUMINUM TRANSFORMER BASES SHALL NOT BE USED WHERE OVERHEAD WIRING IS REQUIRED

SHAFT SIZE	"F"	U-BOLT LENGTH †	
		SIDEWALK	STD. RDWY
6.9"	6 3/4"	75"	82"
7.0"	7 1/8"	75"	82"
7.5"	7 1/8"	76 1/2"	83 1/2"
8.0"	7 3/4"	76 1/2"	83 1/2"
8.5"	8 1/8"	76 1/2"	83 1/2"
9.0"	8 1/8"	78"	85"
9.5"	9 1/4"	78"	85"
10.0"	9 1/2"	79 1/2"	86 1/2"
11.0"	10 1/2"	79 1/2"	86 1/2"
12.0"	11 1/2"	81"	88"

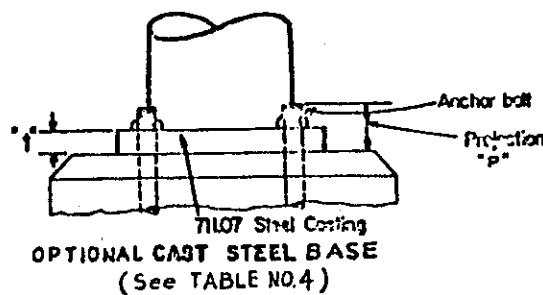
† See NOTE 4



PLAN SECTION "A-A"
LIGHT POLE PILASTER †

BRIDGE MOUNTED POLES

† For pilaster dimensional details, See HL-4



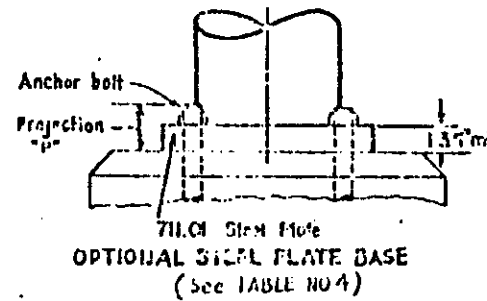
7107 Steel Casting
OPTIONAL CAST STEEL BASE
(See TABLE NO. 4)

SHAFT SIZE	BOLT CIRCLE	BOLT PROJ. †	"P"	PLATE THICK. †	PLATE PROJ. †	PLATE SIZE
6.5"	9 1/2"	2 1/8"	23"	1/2"	1 1/2"	1 1/2" x 40"
7.5"	10 1/2"	2 5/8"	11 1/2"	1/2"	1 1/2"	1 1/2" x 40"
8"	11"	2 3/8"	13 1/2"	1/2"	1 1/2"	1 1/2" x 40"
8.5"	11 1/2"	2 3/8"	11 1/2"	1/2"	1 1/2"	1 1/2" x 40"
9"	12 1/2"	3"	15 1/2"	1/2"	1 1/2"	1 1/2" x 40"
9.5"	13"	3 1/8"	13 1/2"	1/2"	1 1/2"	1 1/2" x 60"
10"	13 1/2"	3 3/8"	13 1/2"	1/2"	1 1/2"	1 1/2" x 60"
11"	15"	3 7/8"	15 1/2"	1/2"	1 1/2"	1 1/2" x 60"
12"	17"	4"	19 1/2"	1/2"	1 1/2"	1 1/2" x 60"

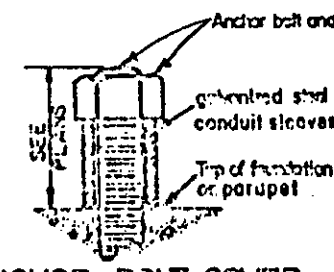
† Based on cast steel anchor bases only. For plate bases the projection shall be increased by the amount the plate thickness exceeds the "P" dimension shown.

STEEL ANCHOR BASES

(See optional base plate details on either side)



7107 Steel Plate
OPTIONAL STEEL PLATE BASE
(See TABLE NO. 4)



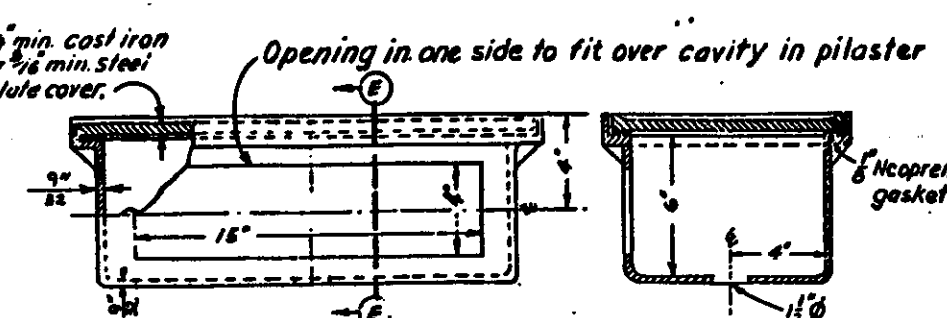
ANCHOR BOLT COVER
Note: To be placed on all light pole anchor bolts provided for future lighting installations.

NOTES

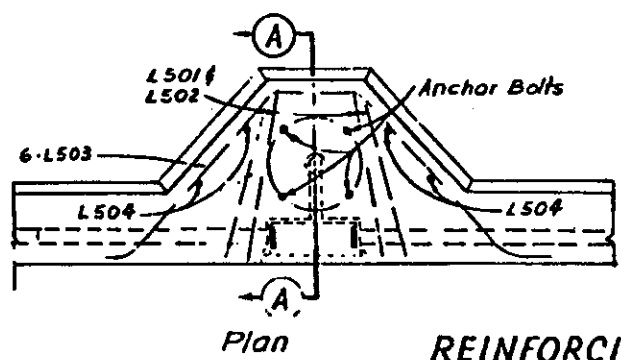
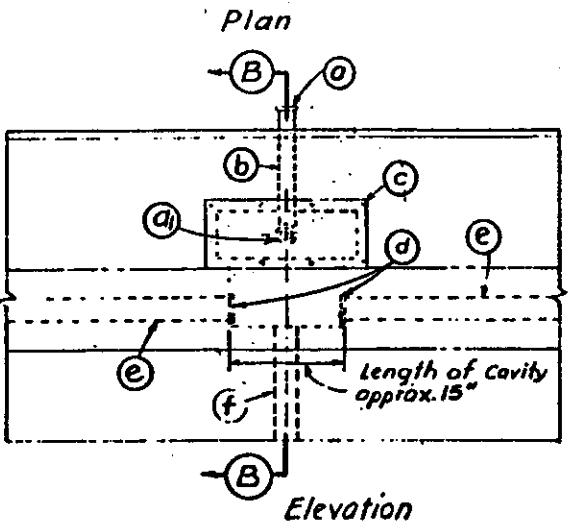
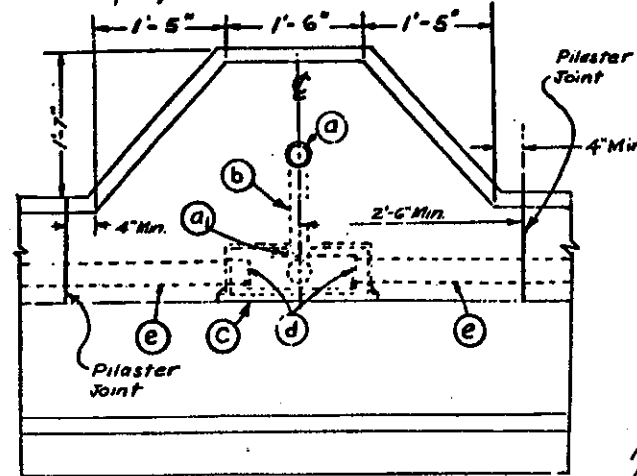
- For pole grounding details see "POLE WIRING" HL-9
- Type AT-A base shall normally be used with anchor base poles having diameters of 6 inches through 9.2 inches inclusive, and mounting heights through 41.7 feet.
- Type AT-C base must be used for anchor base poles having diameters of 9.5 inches and 10 inches and mounting heights through 51.7 except for exclusions listed below:
 - a All double-arm poles with mounting heights of 50 feet.
 - A All single-arm poles with mounting heights of 50 feet and arm lengths of 25 feet and 30 feet.
 - c All double-arm poles with mounting heights of 45 feet and arm lengths of 25 feet and 30 feet.
 - d All single-arm poles with mounting heights of 45 feet and arm length of 30 feet.
- On excepted poles above, transformer bases of material other than cast aluminum shall be used.
- U-bolt lengths shown in TABLE NO. 5 are developed lengths and may vary ± 1/2". Lengths are for 1", 1 1/4", 1 1/2" and 1 3/4" diam. bolts. Lengths shown are for bridges with sidewalk railing and for bridges having a standard roadway railing.
- For anchor bolt data when transformer bases are to be mounted on bridge pilasters see TABLE NO. 1 and TABLE NO. 2.
- For median-mounted pole base details See HL-22

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
POLE BASE DETAILS	
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APPROVED: [Signature]	DATE: 11-1-65 7-27-73 12-28-84

STRUCTURE LIGHTING I



(c) Type I Junction Box with cast iron or steel plate cover.



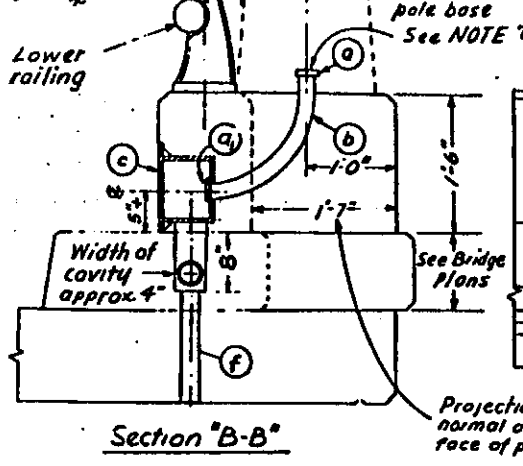
REINFORCING STEEL LIGHT POLE PILASTER FOR BRIDGE

Section "E-E"

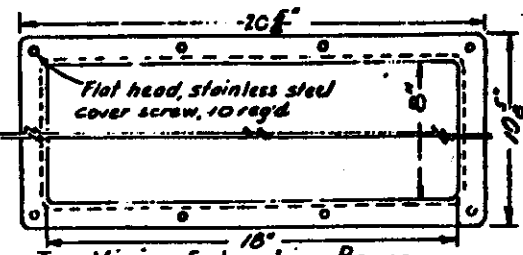
List of Items Shown Below

- (a) Grounding bushing for 1 1/2" φ conduit.
- (a₁) Grounding bushing & locknut for 1 1/2" φ conduit.
- (b) Modified 1 1/2" φ conduit long radius 90° elbow.
- (c) Type I Junction Box
- (d) Grounding bushing for 2" φ conduit, including locknut.
- (e) 2" φ conduit
- (f) 2" φ conduit drain
- (g) 1 1/2" φ conduit.
- (h) Type II Junction Box.

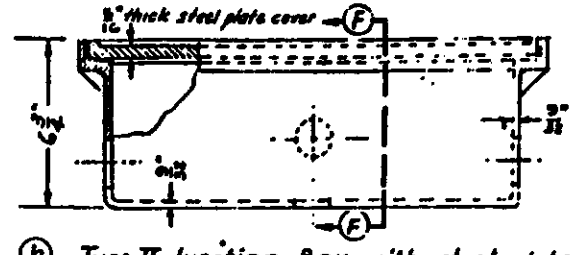
Minimum clearance between pole base and lower tube of railing - 5 1/2"



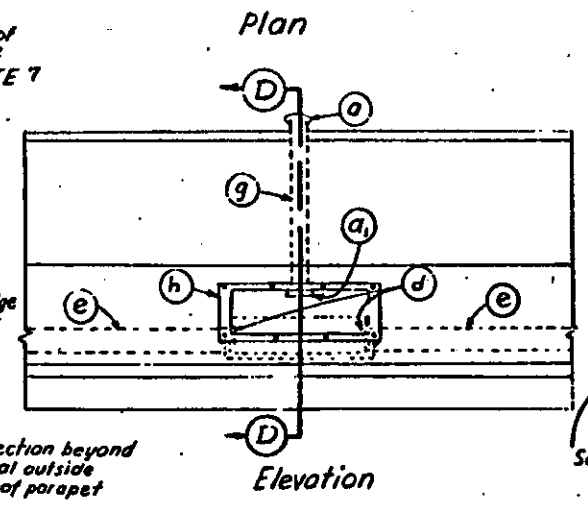
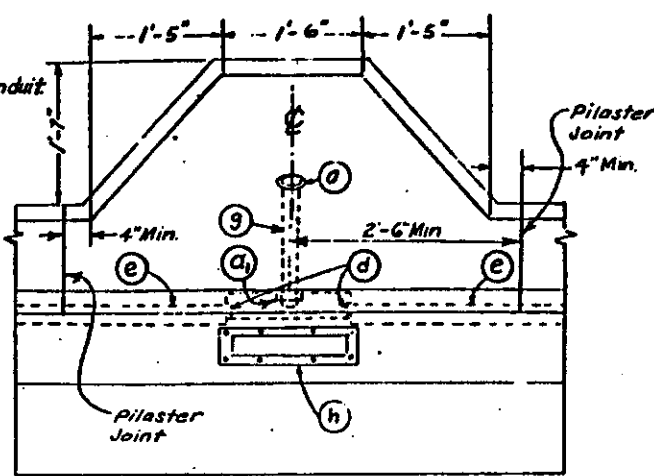
Section "B-B"



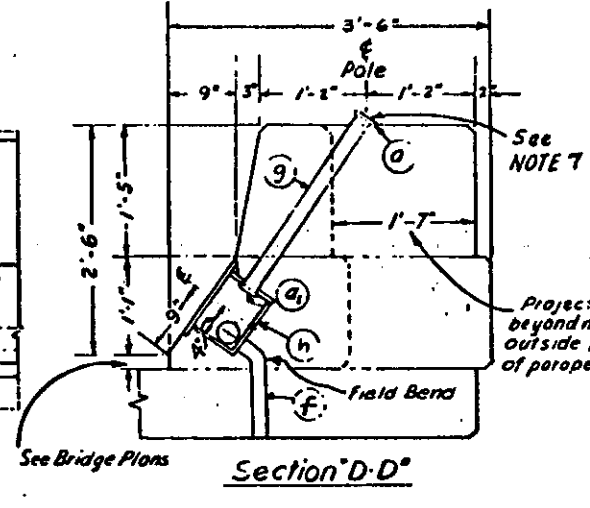
Top View of Junction Boxes (Conduit openings not shown)



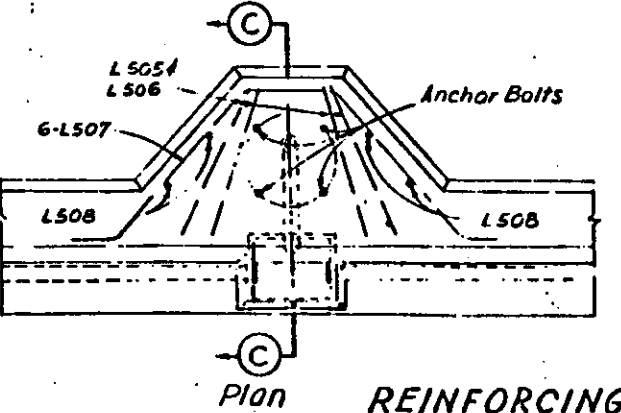
(h) Type II Junction Box with steel plate cover only



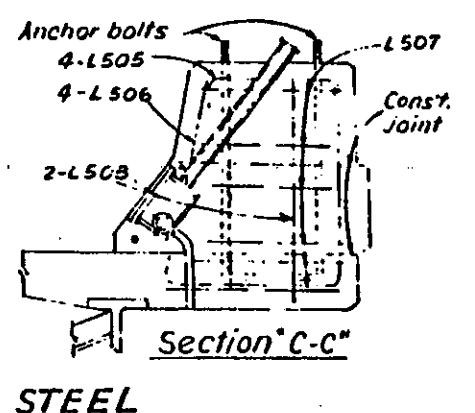
Elevation



Section "D-D"



REINFORCING STEEL LIGHT POLE PILASTER FOR BRIDGE WITH STANDARD ROADWAY RAILING



Section "C-C"

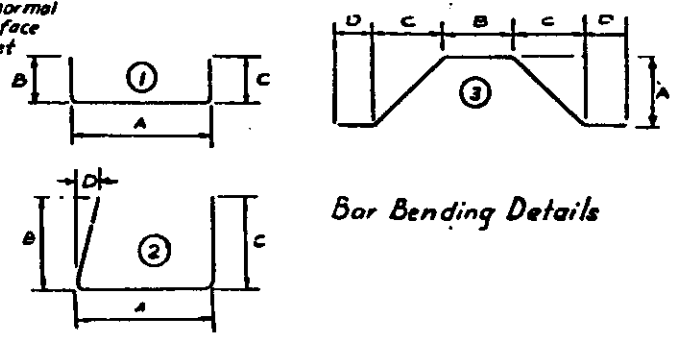
NOTES

1. All conduit shall conform to 713.04
2. Grounding bushings are provided in 2" conduit to interconnect structure conduit system with structure grounding system shown on HL-2
3. For anchor bolt details see HL-3, POLE BASE DETAILS.
4. Junction Boxes shall conform to 713.12, except that base material composition of galvanized steel plate covers, shall conform to ASTM A-242 or A-36.
5. All conduit openings in junction boxes shall be bossed, drilled and tapped.
6. Payment for pilaster reinforcing steel and concrete shall be included in 509 and 511 items for the structure.
7. Where conduit is provided for future installation of poles the conduit shall be capped.

REINFORCING STEEL LIST - ONE PILASTER

Mark	No.	Length	Weight	Shape	Type	A	B	C	D
L501	4	3'-1"	13	B	1	2'-1"	7"	7"	
L502	4	7'-8"	31	B	1	2'-1"	2'-11"	2'-11"	
L503	6	8'-0"	50	E	3	2'-1"	1'-4"	2'-1"	0'-6"
L504	4	2'-11"	12	S					
L505	4	2'-10"	12	B	1	1'-10"	7"	7"	
L506	4	8'-5"	36	B	2	2'-4"	8'-2"	3'-2"	0'-6"
L507	6	7'-3"	45	B	3	1'-10"	1'-4"	1'-10"	0'-6"
L508	4	3'-2"	13	S					

BAR SIZE is indicated in the bar mark. The first digit where three digits are used indicates the bar size number. For example: L501 is a No 5 size bar.



Bar Bending Details

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

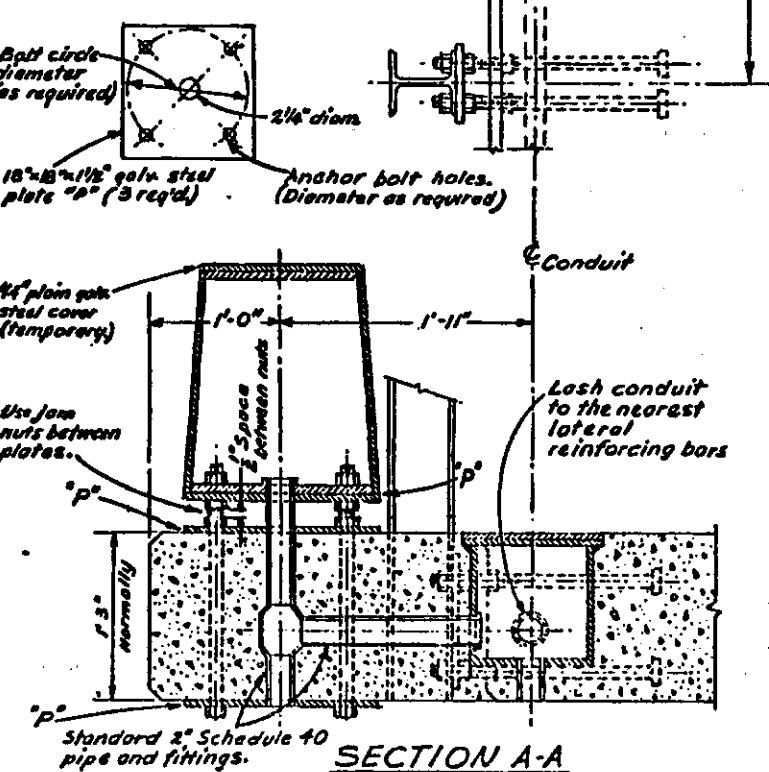
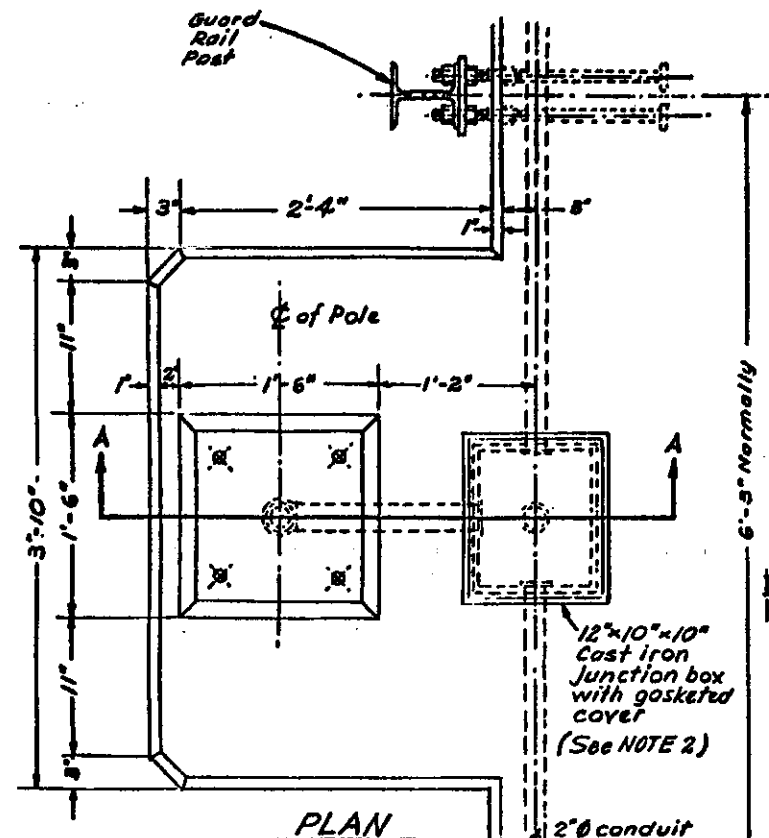
HIGHWAY LIGHTING

STRUCTURE LIGHTING I

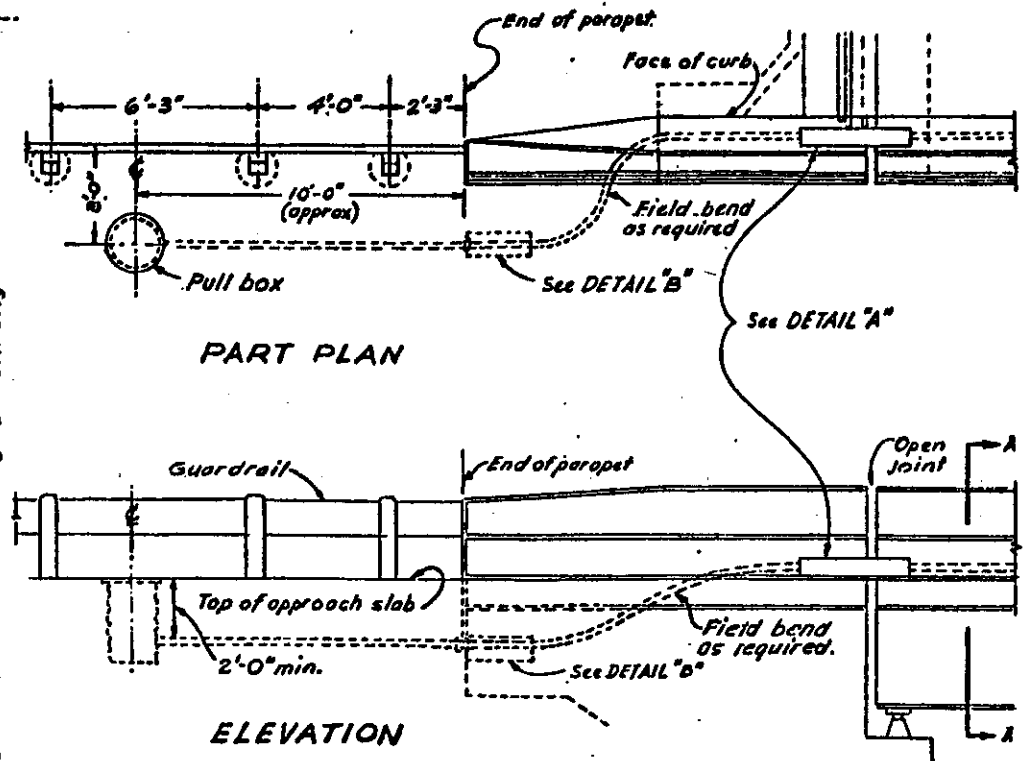
STANDARD

DATE
11-49
4-4-73
2-2-75
1-21-76

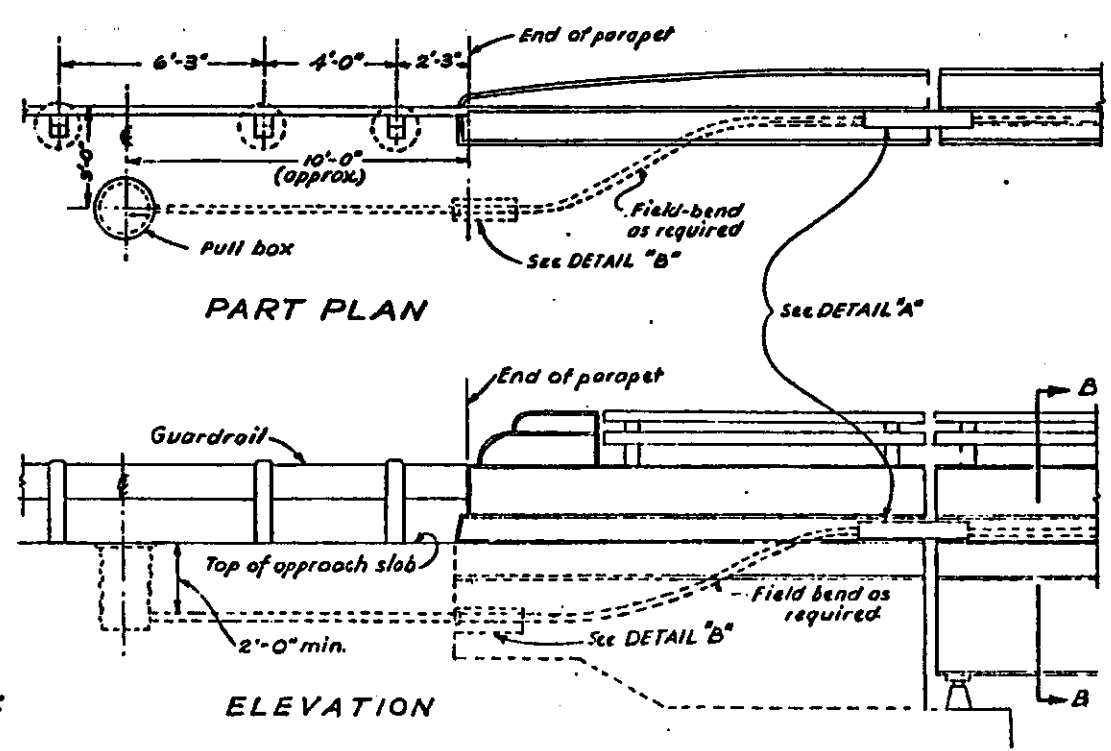
STRUCTURE LIGHTING II



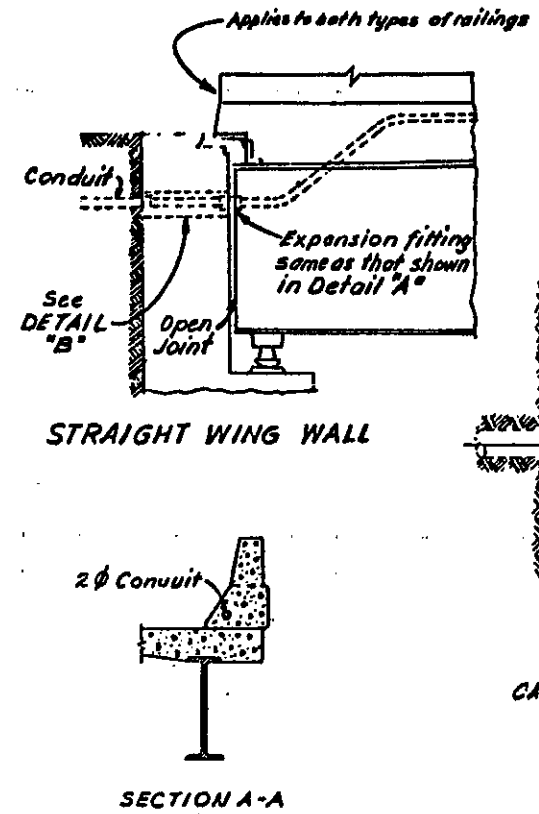
LIGHT POLE PILASTER FOR BRIDGE WITHOUT CURBS AND WITH HIGHWAY GUARD RAIL



CONDUIT DETAILS FOR BRIDGE WITH STANDARD ROADWAY RAILING

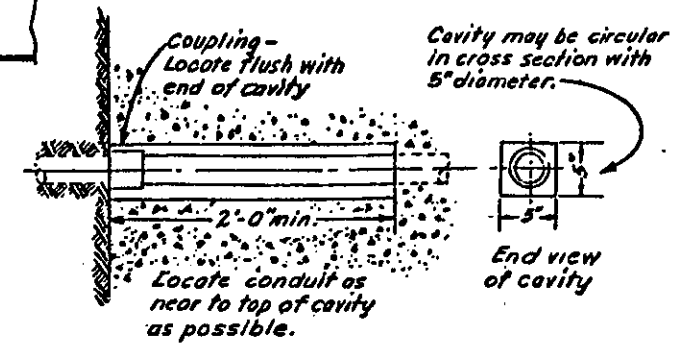


CONDUIT DETAILS FOR BRIDGE WITH SIDEWALK RAILING

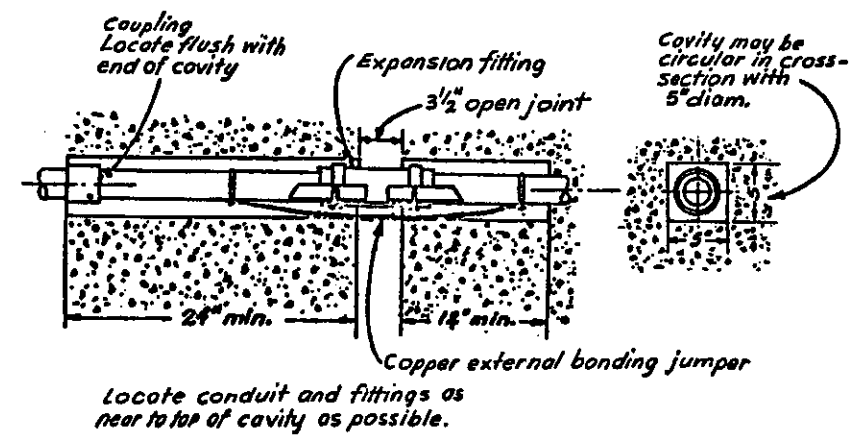


NOTES

1. Fill space around the conduit and/or fittings within the cavity with a polyurethane foam or other approved cold applied joint sealer.
2. All conduit openings in junction boxes shall be bossed drilled and topped. Covers shall be 1/4 inch thick cast iron.



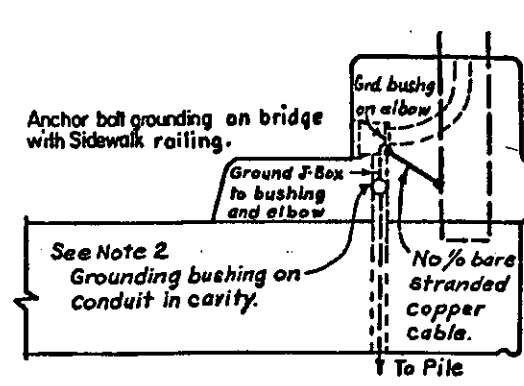
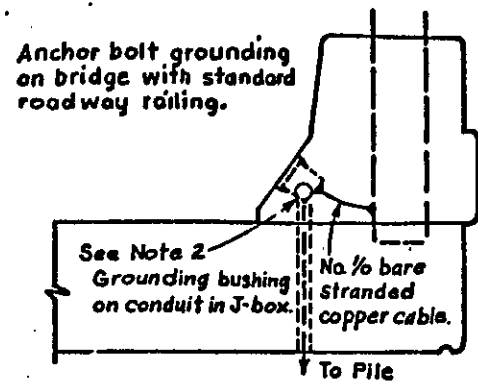
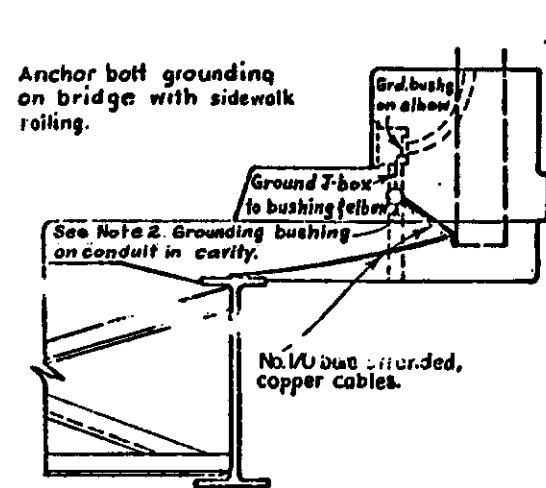
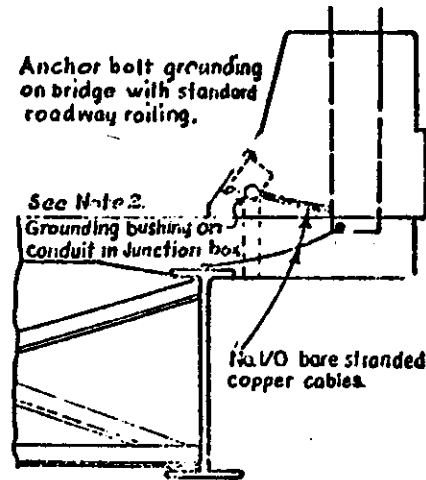
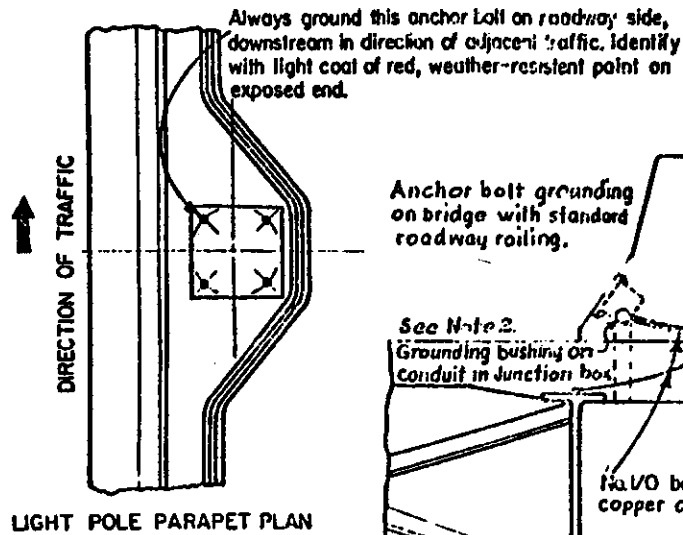
DETAIL B
CAVITY FOR CONDUIT CONNECTION AT BRIDGE ABUTMENTS
Dimensions may be altered to fit abutment design



DETAIL A
CAVITY FOR CONDUIT EXPANSION FITTING
Dimensions may be altered to fit abutment design.

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
STRUCTURE LIGHTING II	
DATE 9-6-73	HL-5
STANDARD CONSTRUCTION DRAWING	
APPROVED: [Signature] Engineer of Design Services	

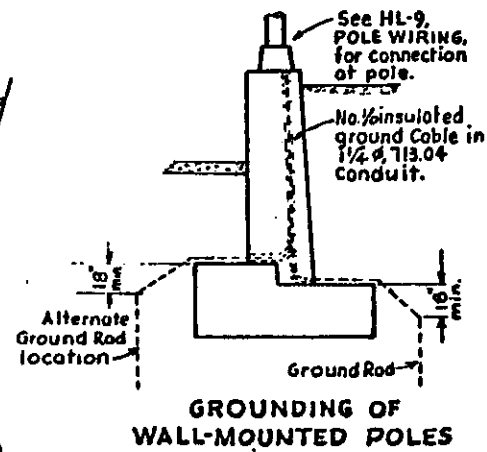
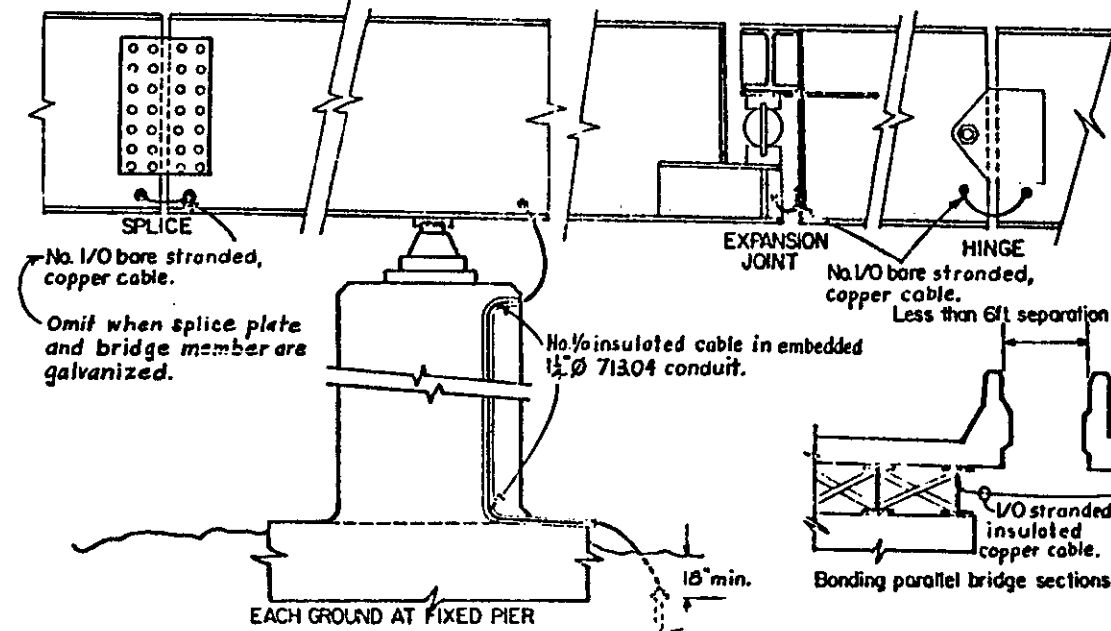
STRUCTURE GROUNDING



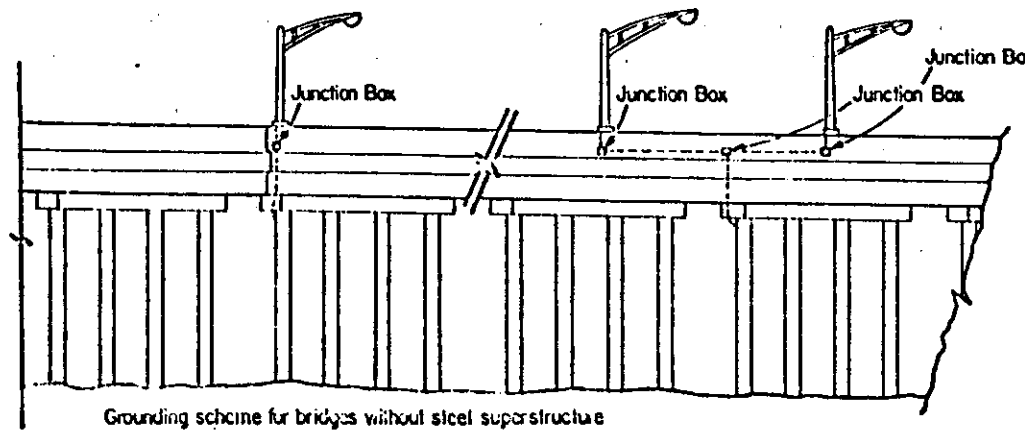
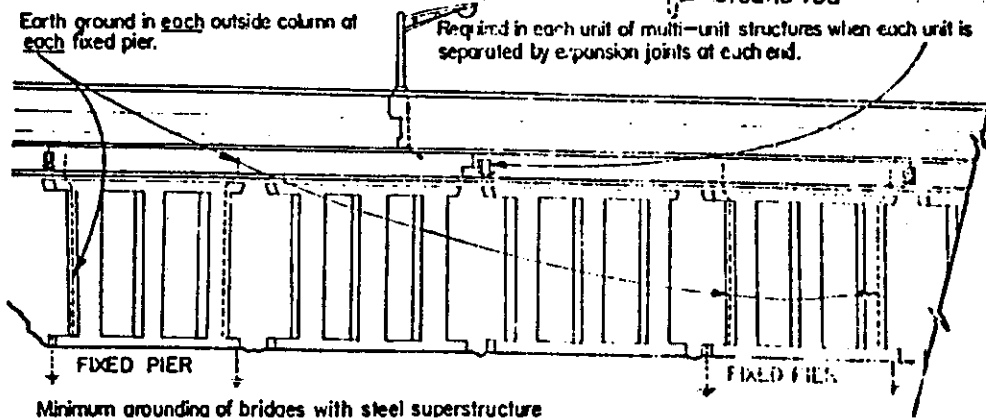
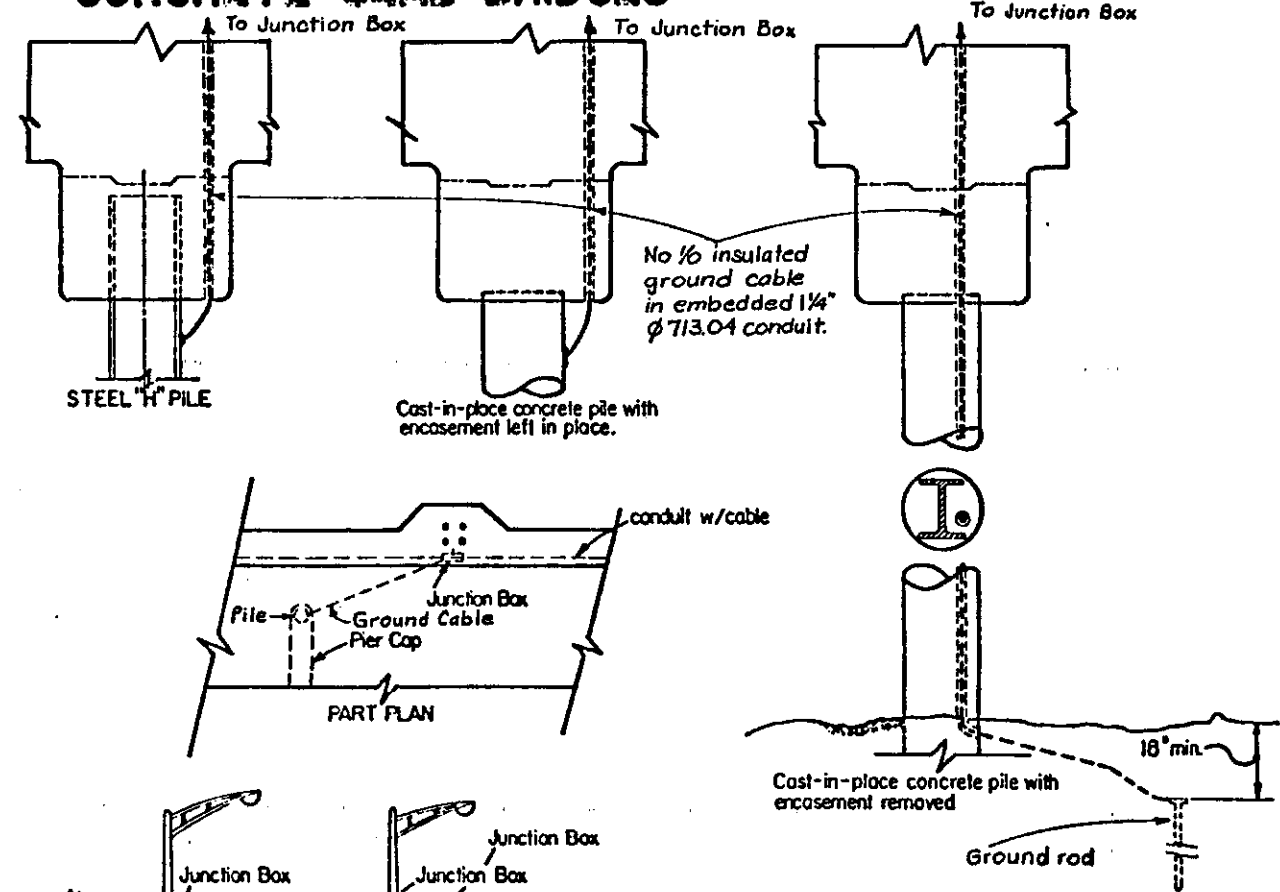
NOTES

1. Copper grounding cable shall be connected to structural steel, pile encasement, piling, ground rods, junction boxes and anchor bolts by means of exothermic welding. Two coats of insulating varnish shall be applied over the exothermic weld and exposed cable.
2. Structure grounding system shall be connected to structure conduit system by the use of conduit grounding bushings as shown on HL-4 and this drawing.

STEEL BEAM BRIDGES

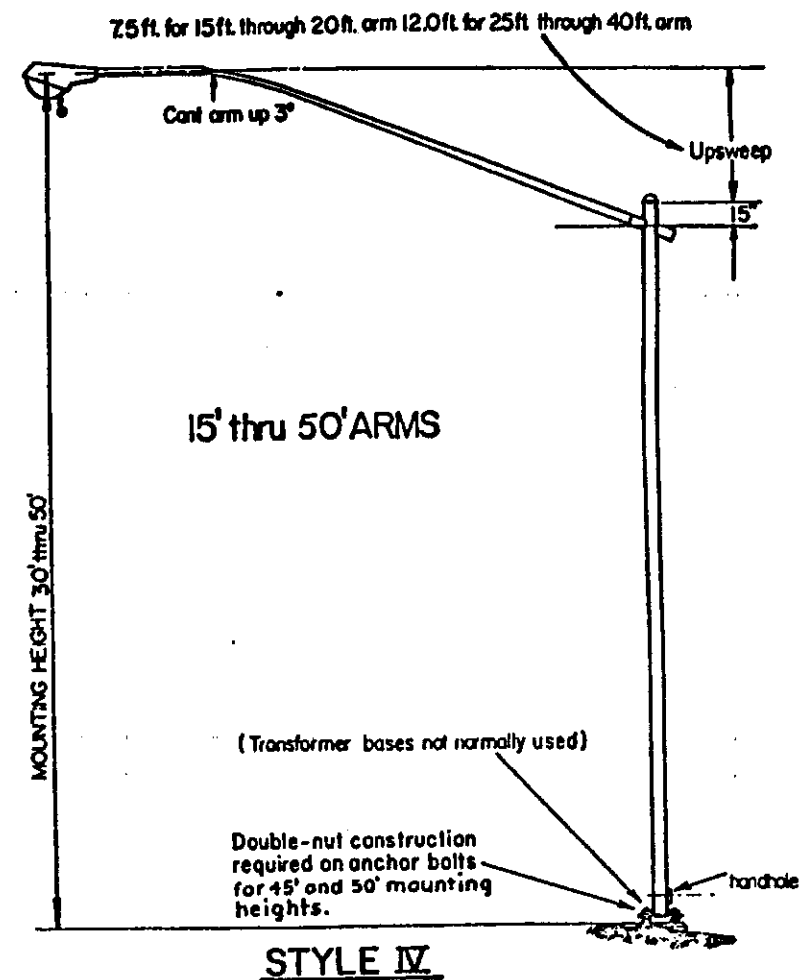
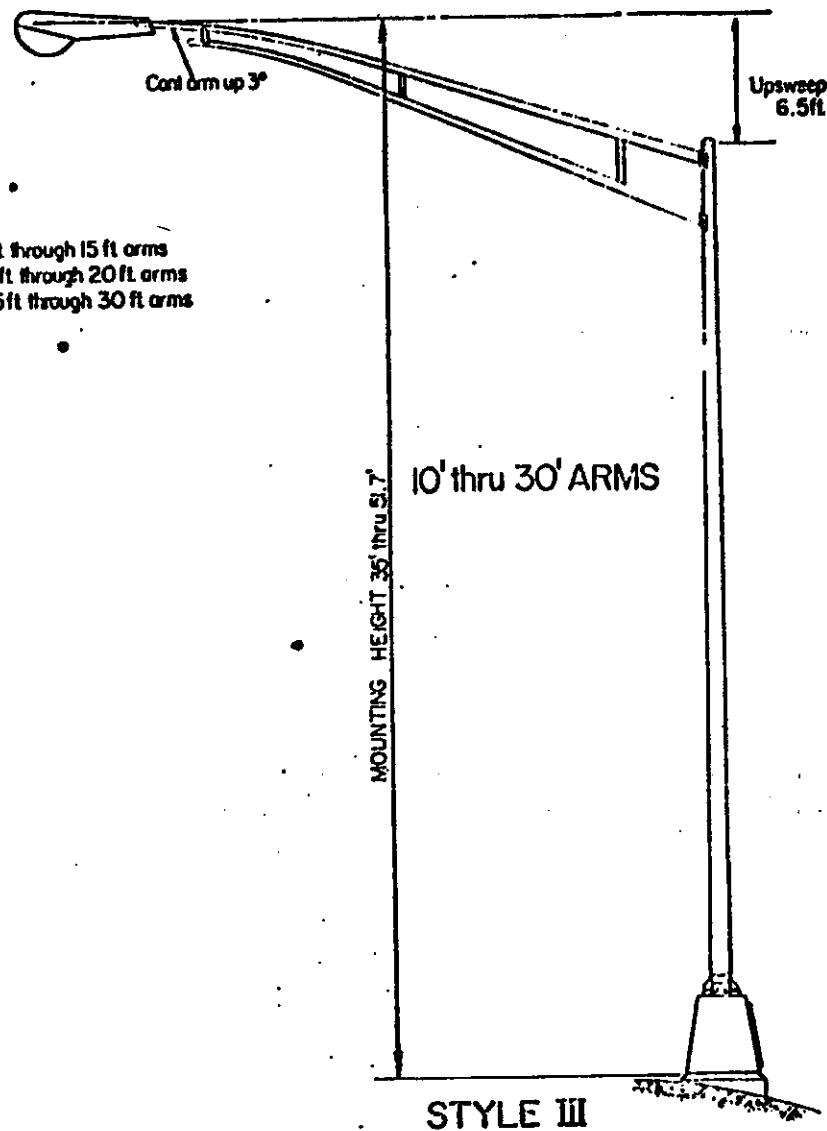
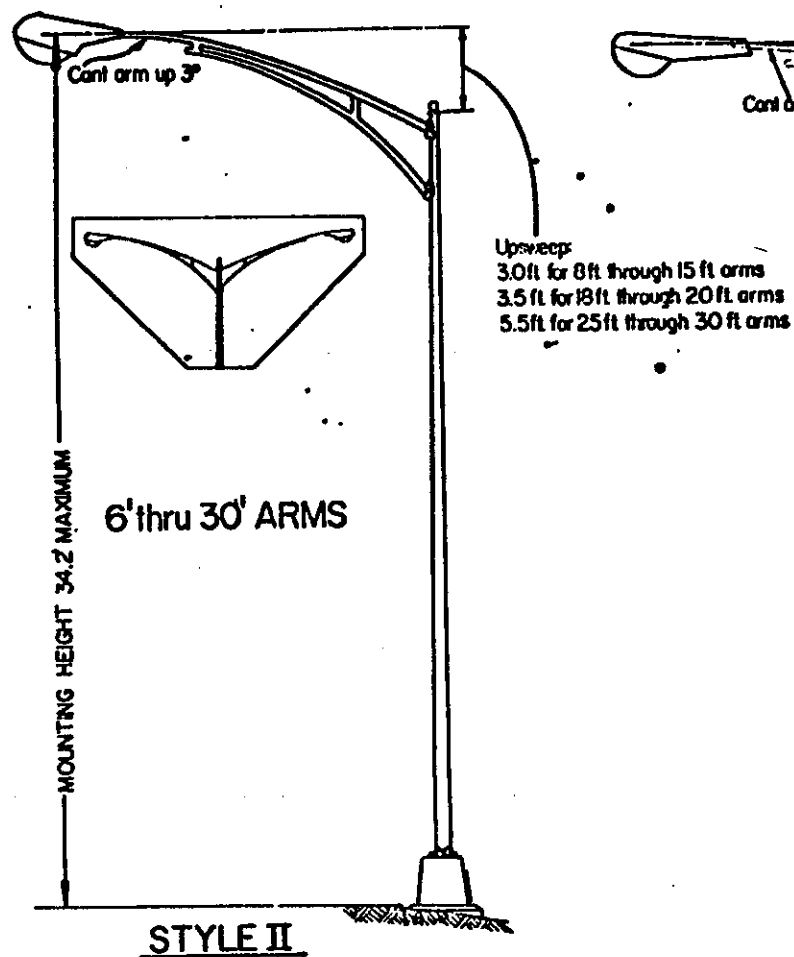
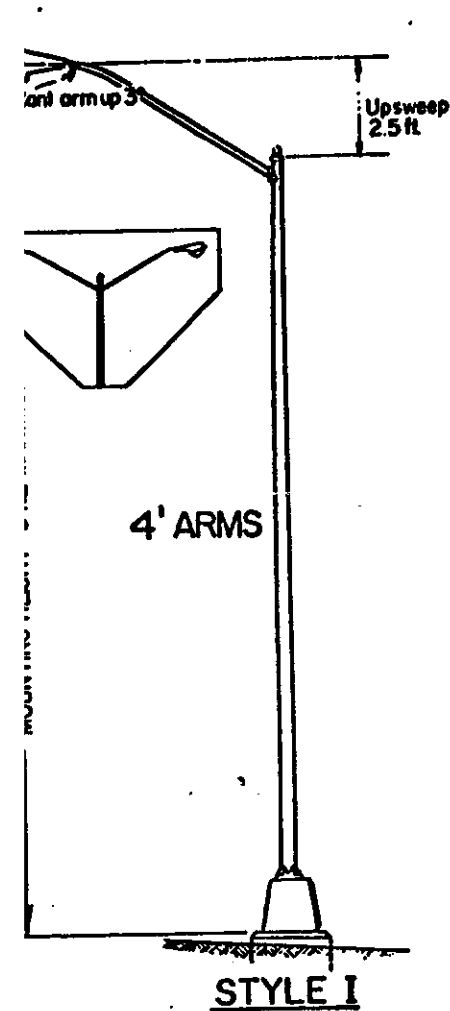


CONCRETE SLAB BRIDGES

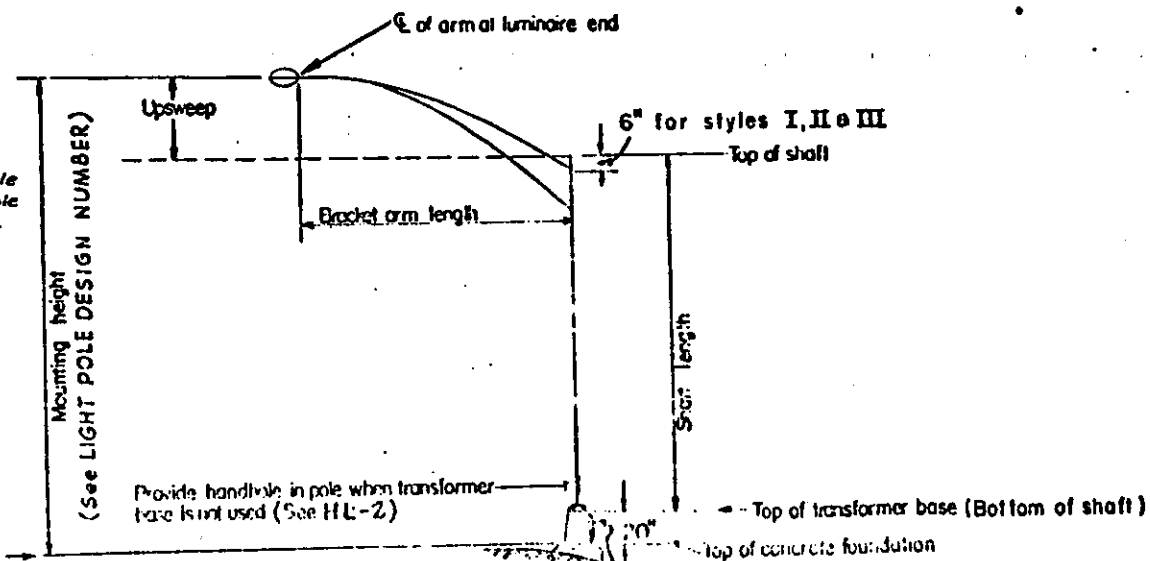
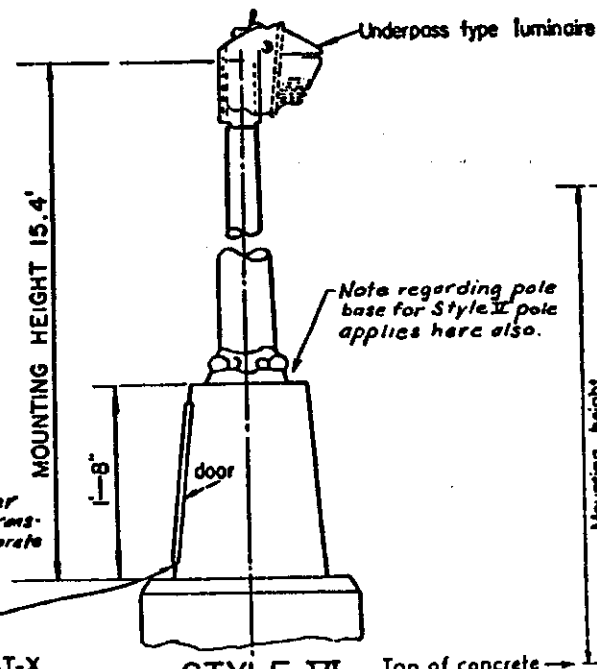
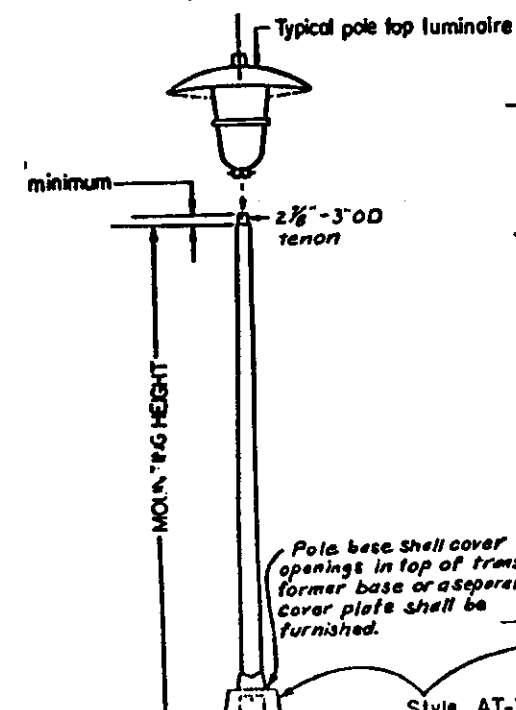


BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
STRUCTURE GROUNDING	
DATE 4-6-79 9-6-79 1-21-76	HL-7
STANDARD CONSTRUCTION DRAWING	

LIGHT POLE STYLES



NOTE: Subject to the approval of the Engineer, modification of the ratio of bracket upsweep to arm length is permissible provided the basic pole proportions are maintained as shown.



Base type: A - Anchor
AT - Aluminum Transformer
ST - Steel Transformer
T - Steel or Aluminum Transformer

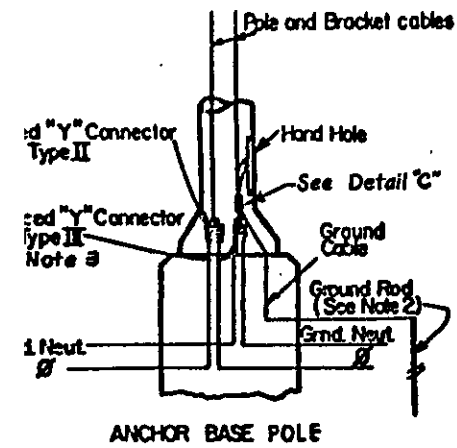
Bracket arm(s)
Special features (See details)
Mounting height
Arm Length. (The distance from top of foundation, retaining wall or bridge parapet to the center of the bracket arm or the luminaire end)

"B" = Single arm
"BB" = Double arm (if unequal arms Ex. 10 B 15 B)
"ON" = Post top

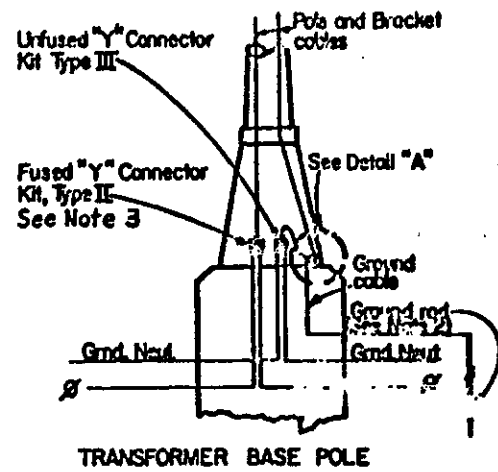
LIGHT POLE DESIGN NUMBER

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
LIGHT POLE STYLES	
STANDARD	DATE 9-6-73 12-10-73 1-21-74

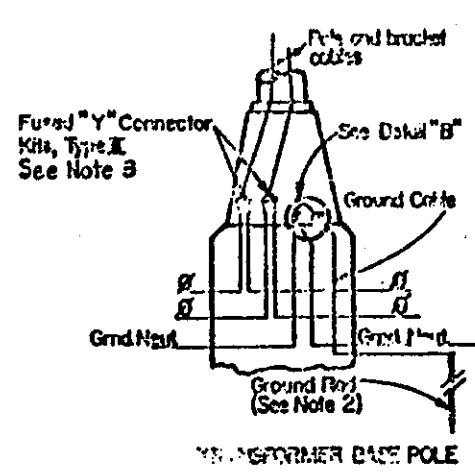
POLE WIRING



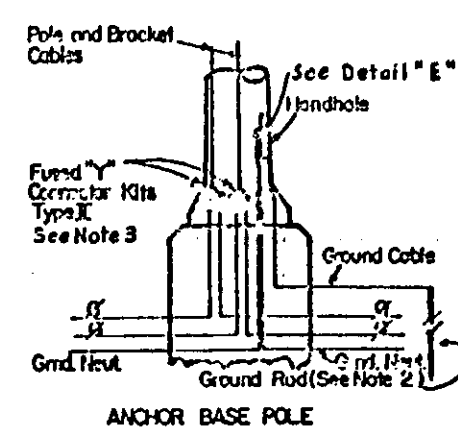
480 VOLT, TWO-WIRE, GROUNDED NEUTRAL



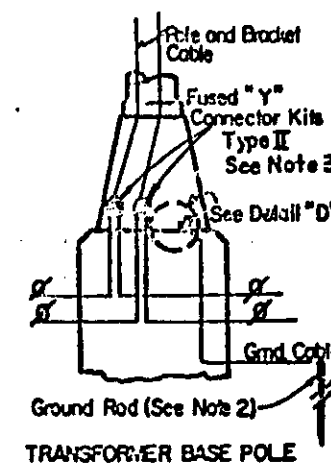
TRANSFORMER BASE POLE



120/240 VOLTS, THREE WIRE, GROUNDED NEUTRAL



ANCHOR BASE POLE

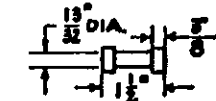


TRANSFORMER BASE POLE

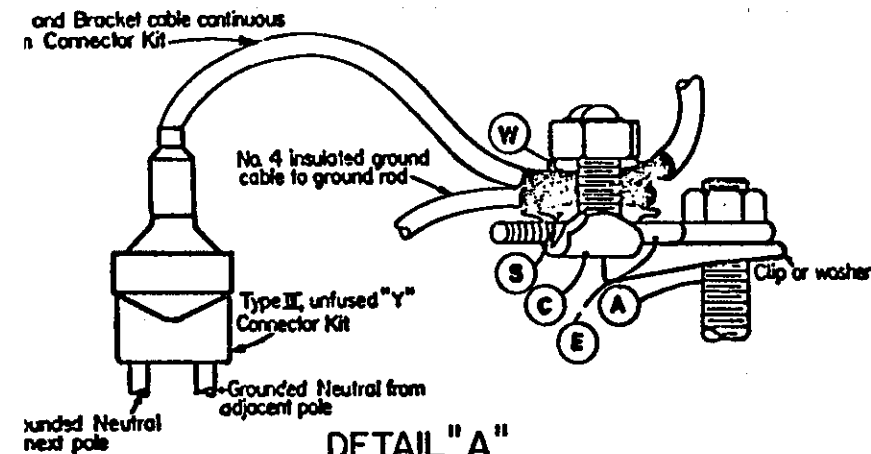
240 & 480 VOLTS, TWO-WIRE, UNGROUNDED

NOTES

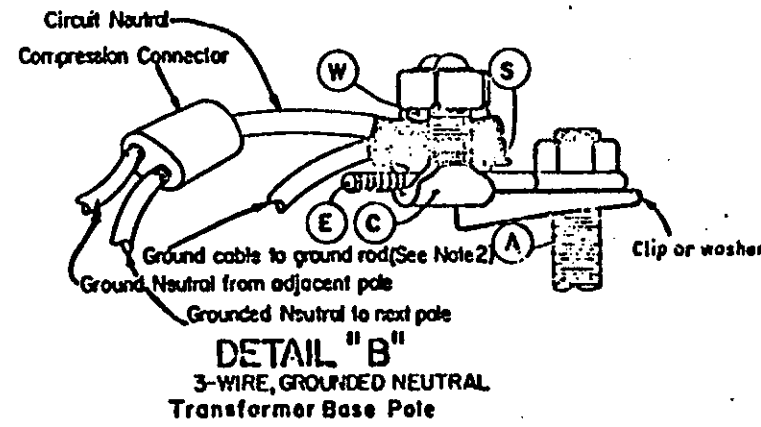
1. Provide sufficient stock in all cables to permit bringing kits outside of pole base through handhole of anchor base poles or door in transformer base poles.
2. For structure-mounted poles substitute "Structure grounding system" for "ground rod."
3. Fuses for connector kits shall be as follows:



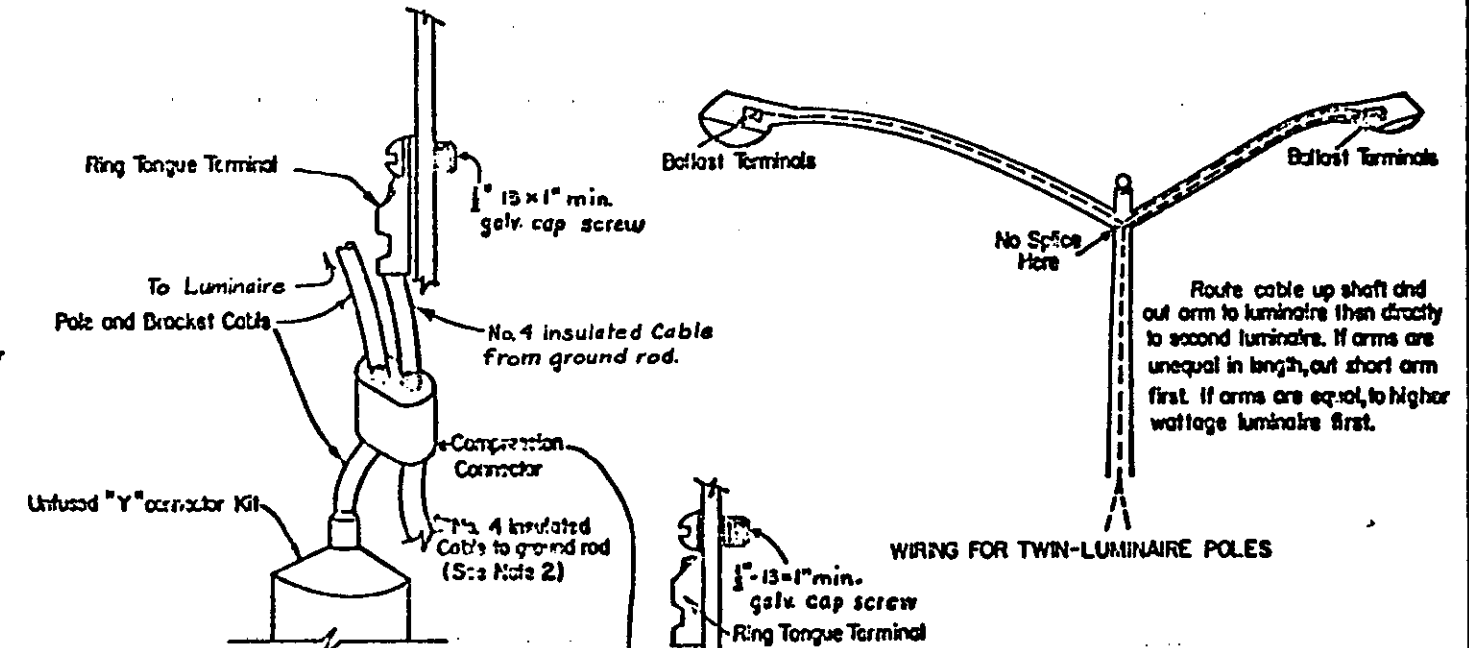
Any standard Midget Ferrule type fuse, (except glass tube) may be used in this connection. Fuses rated 600 volts and 10 amperes, minimum shall be used unless otherwise specified.



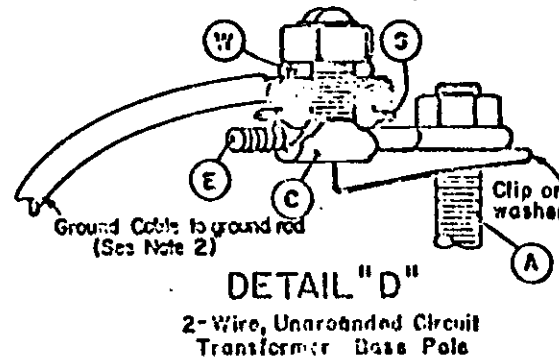
DETAIL "A"
2-Wire Grounded Neutral
Transformer Base Pole



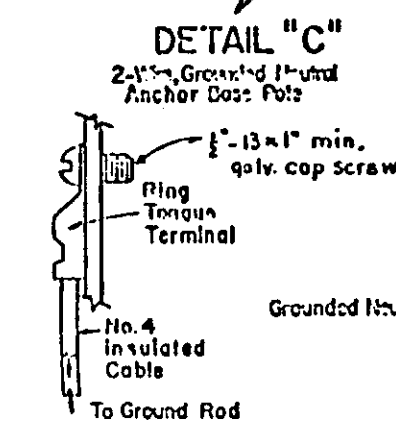
DETAIL "B"
3-WIRE, GROUNDED NEUTRAL
Transformer Base Pole



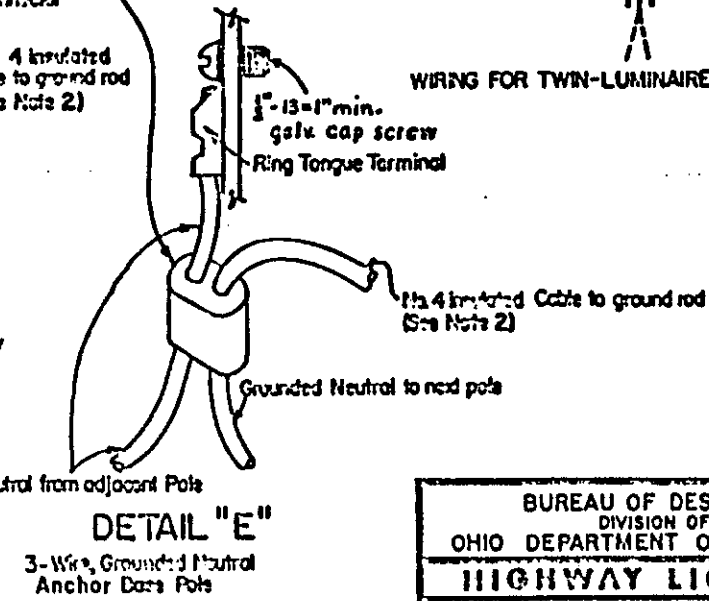
WIRING FOR TWIN-LUMINAIRE POLES



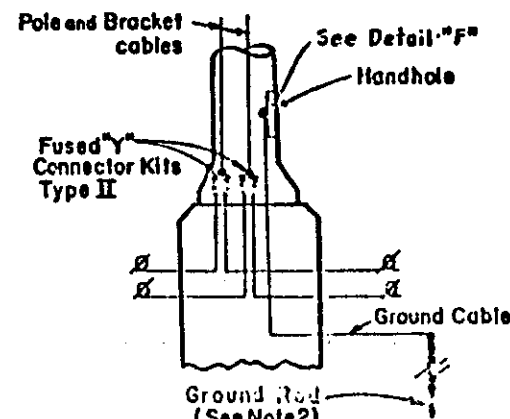
DETAIL "D"
2-Wire, Ungrounded Circuit
Transformer Base Pole



DETAIL "C"
2-Wire, Grounded Neutral
Anchor Base Pole



DETAIL "E"
3-Wire, Grounded Neutral
Anchor Base Pole

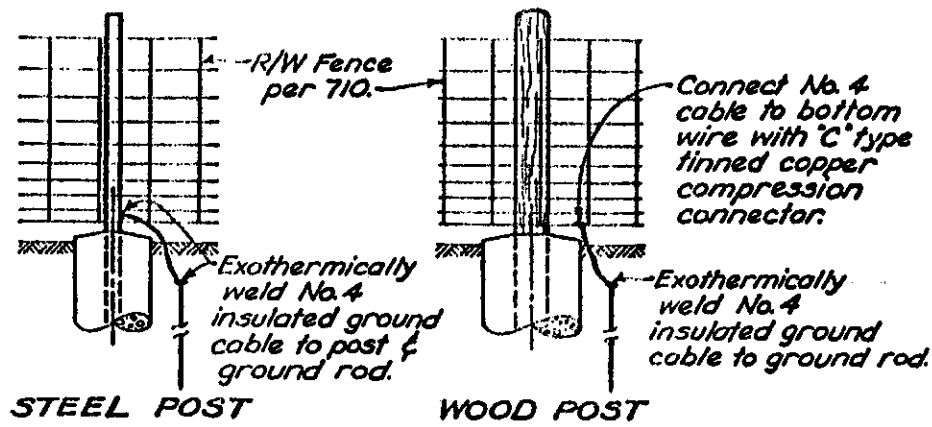


DETAIL "F"
Pole and Bracket Cables

LEGEND of ITEMS COMMON to DETAILS "A", "B", & "D"

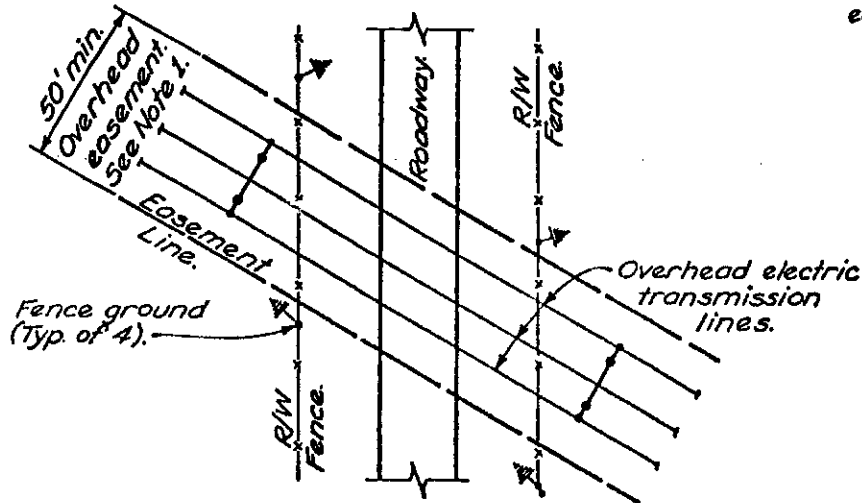
- (A) Anchor Bolt
- (C) Tin Plated Copper Split Bolt Connector with the following components:
 - (S) Spacer (Tin plated)
 - (W) Washer
 - (E) 3/8" X 4" Galv. Steel eyebolt

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
POLE WIRING	
DATE 1-21-74	DATE 3-22-77

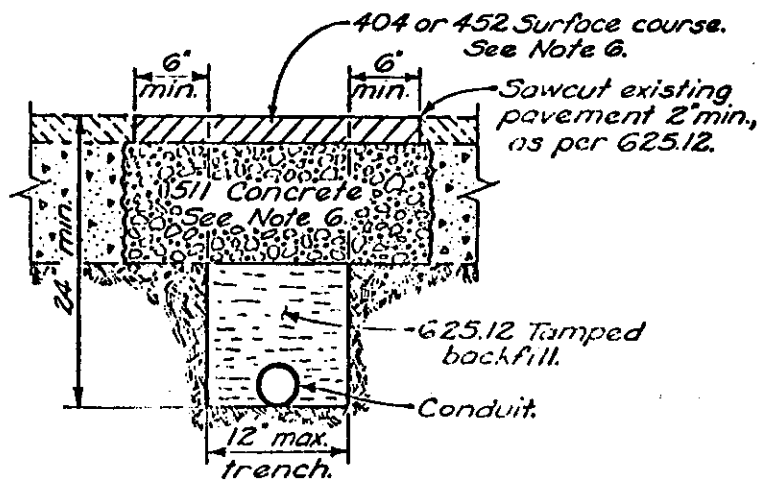


R/W FENCE GROUND

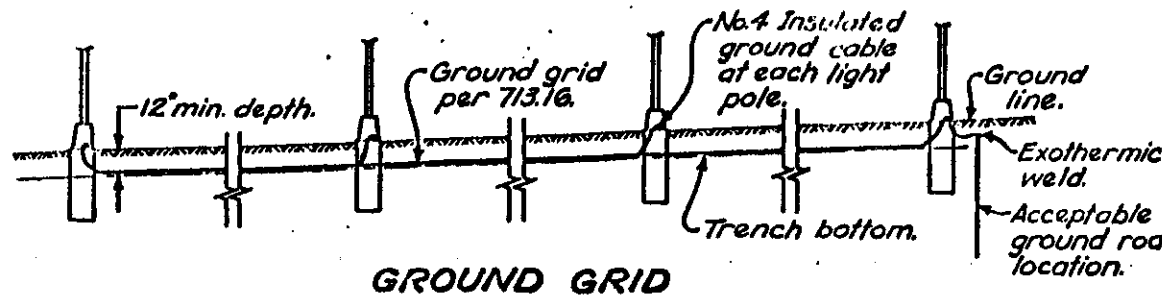
When specifically noted on the plans, and in Notes 1, 2 & 3, R/W Fences shall be grounded as shown above. See also Note 4.



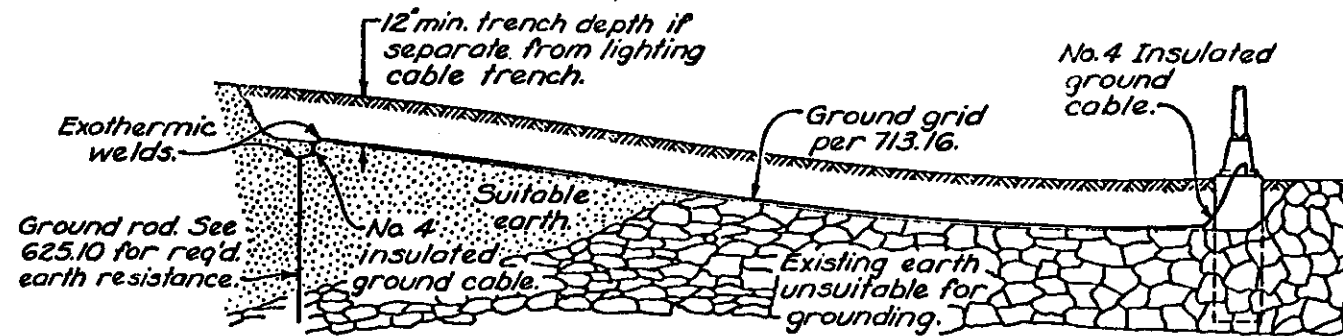
FENCE GROUNDS AT TRANSMISSION LINE CROSSING



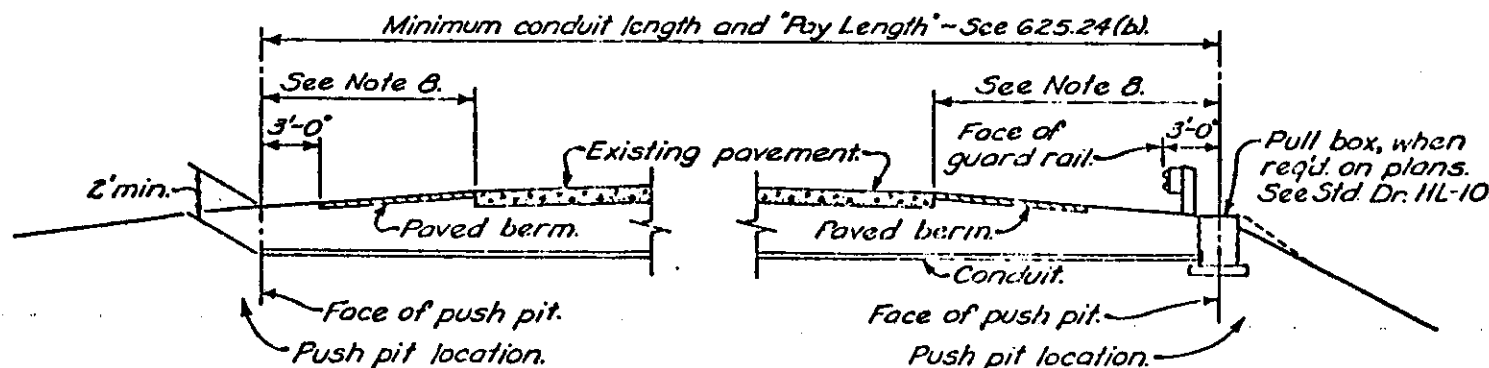
TRENCH IN PAVED AREAS



GROUND GRID



MODIFIED GROUND GRID - INDIVIDUAL POLE



CONDUIT JACKED UNDER PAVEMENT

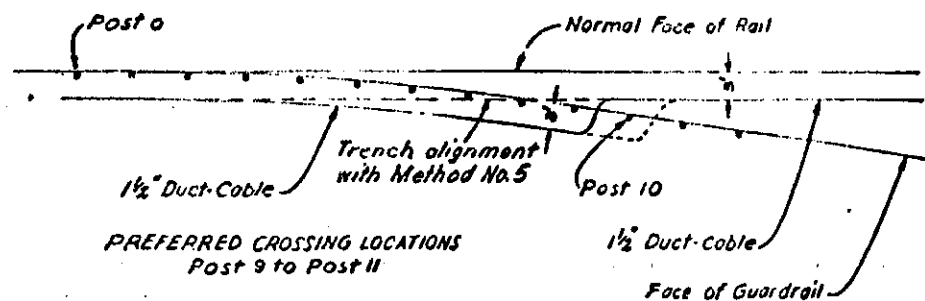
NOTES

1. Where overhead transmission line easements 50 feet or more in width cross a fenced roadway right-of-way, each fence shall be grounded as shown hereon.
2. Where overhead electric power line easements less than 50 feet in width cross a fenced roadway right-of-way, each fence shall be grounded directly below the centerline of the power line crossing.
3. Where overhead transmission lines rated 110KV or higher are parallel to roadway fences and the transmission line easement is contiguous to the roadway right-of-way the roadway fences shall be grounded at least every 300 ft.
4. Fence grounds will be paid for at the unit price bid for 625 Ground rod.
5. Apply two coats of insulating varnish over all exothermic welds and exposed cable.
6. At trench locations in paved areas, replacement of disturbed flexible pavement shall consist of 511 Concrete placed to within 2" of the surface and a 404 Surface course matching the existing surface. Replacement of disturbed rigid pavement shall consist of 511 Concrete with surface placed and finished in accordance with 452.
7. Site clearing and restoration shall be in accordance with 603.09.
8. When undermining shoulder areas that do not have paved berms provide 3/4" thick steel surface plates, corrugated pipe sleeves, shoring or other approved means to prevent cave-in.
9. When conduit is jacked or drilled under divided pavements cable may be installed in a trench through the median area when specified in the plans.

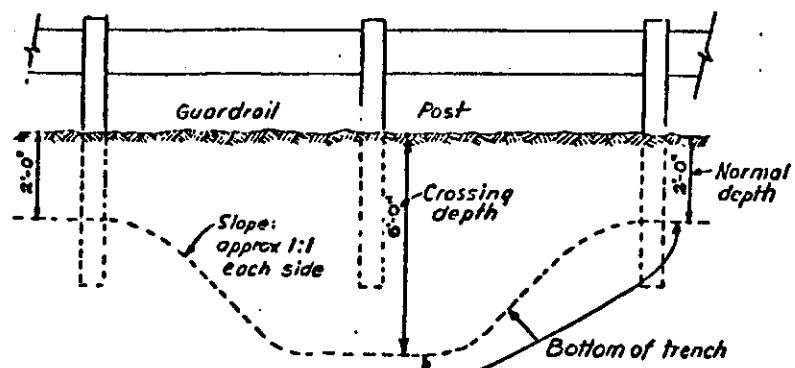
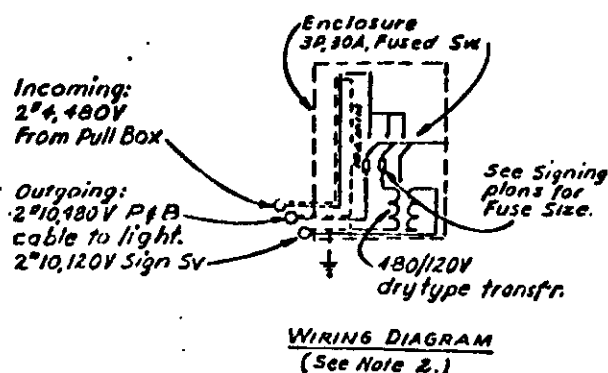
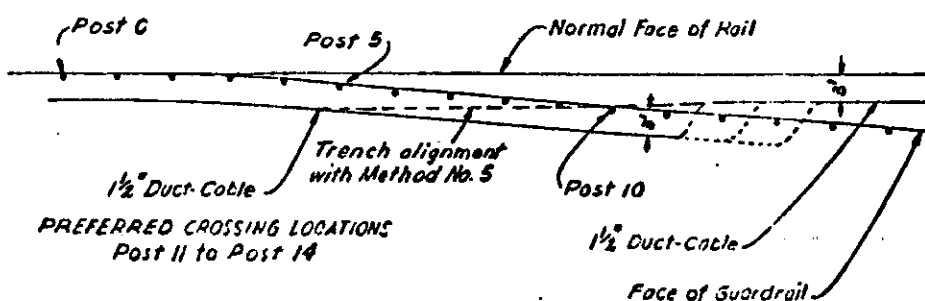
BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	DATE 6-1-79
MISCELLANEOUS I	
STANDARD CONSTRUCTION DRAWING	HL-11
APPROVED: [Signature] Engineer of Design Services	

MISCELLANEOUS DETAILS II

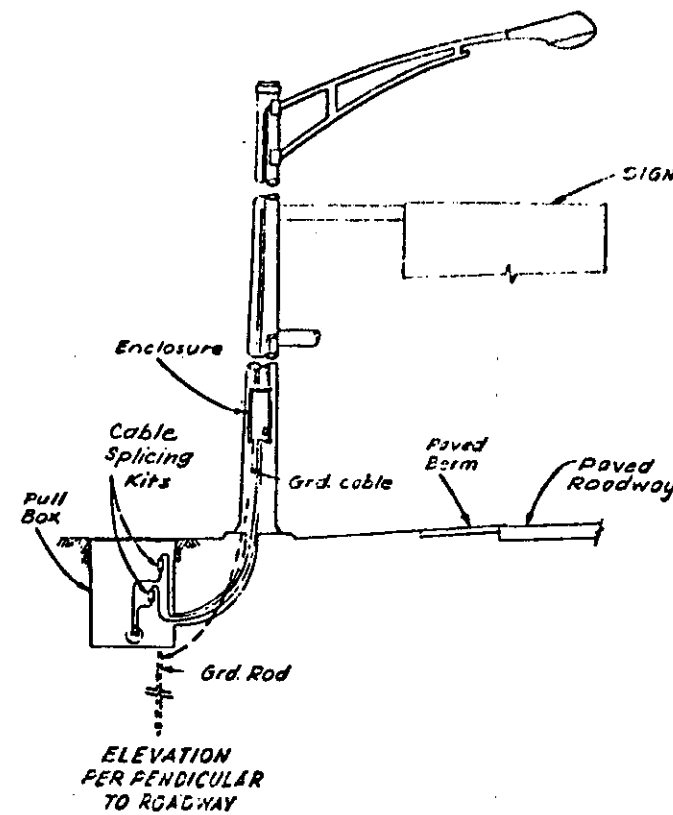
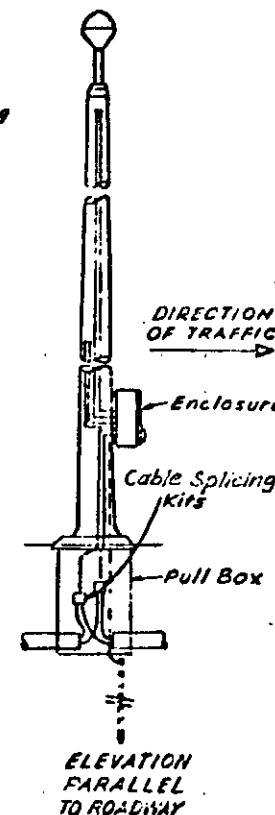
STANDARD GUARDRAIL FLARE FOR CUT TO FILL AND FILL TO FILL AREAS 1" = 10'



INTRODUCED GUARDRAIL FLARE BECAUSE OF OBSTRUCTION 1" = 10'

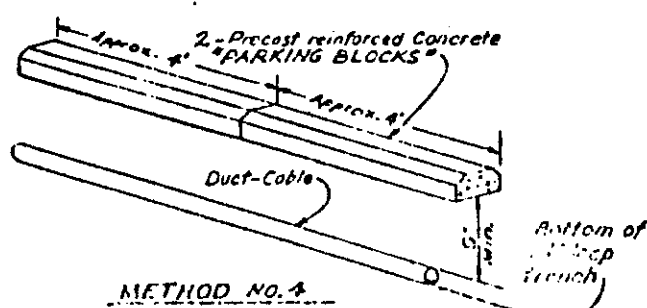
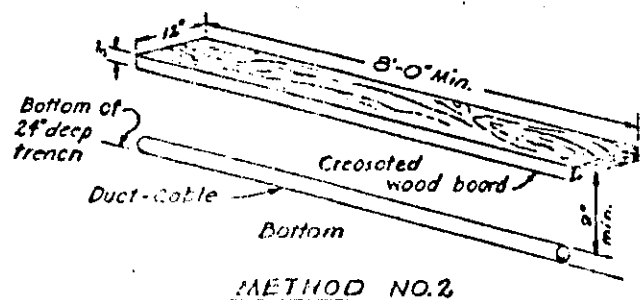
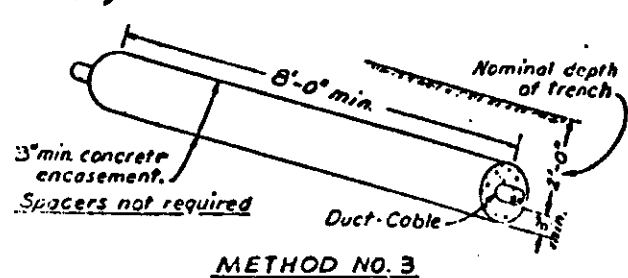
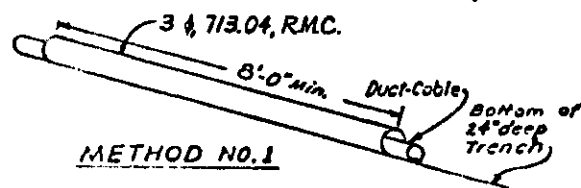


METHOD NO. 5 for PROTECTING DUCT-CABLE UNDER GUARD RAIL
Increased depth of cable trench at point of crossing.
To be used whenever trench alignment is within 1'-6" of posts.
(See NOTE No. 1)



WIRING FOR COMBINATION LIGHT AND SIGN POLE

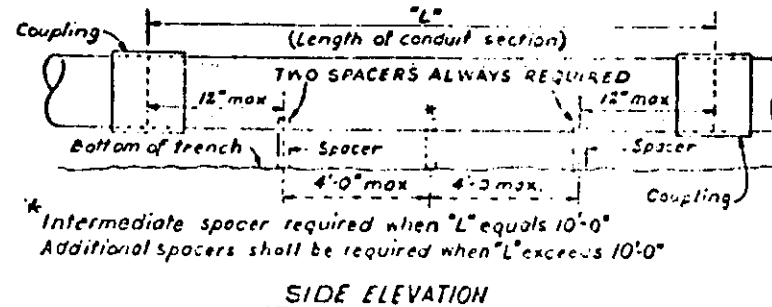
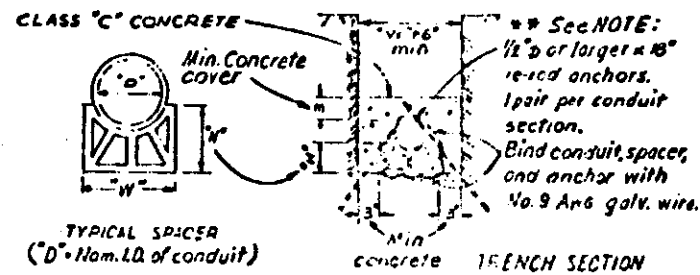
METHODS OF PROTECTING DUCT-CABLE UNDER GUARD RAIL (See NOTE No. 1)



CONCRETE ENCASED CONDUIT

"O"	"W"	"W"
2"	3 1/8"	5 1/2"
3"	3 3/8"	6 1/4"
4"	4 1/8"	7 1/2"
5"	4 3/8"	8 1/2"

Nominal spacer dimensions



** NOTE: DELETE ANCHORS AND BINDING WIRE WHEN USING STEEL CONDUIT.

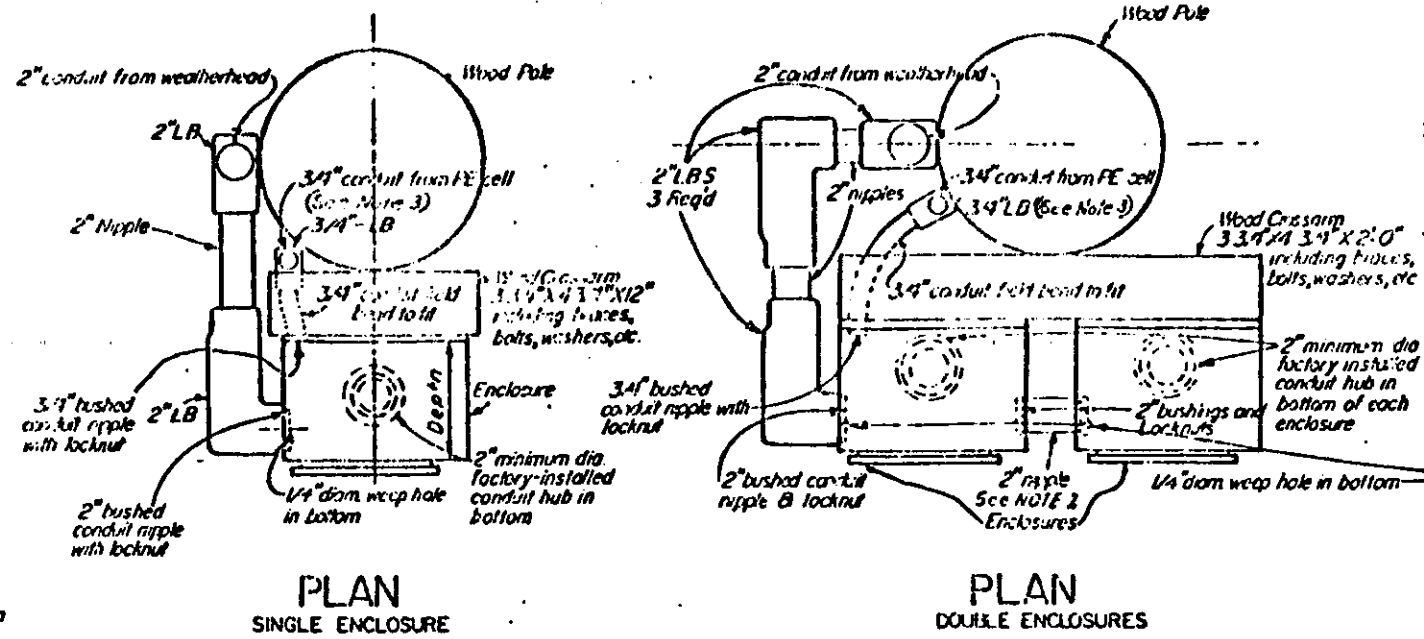
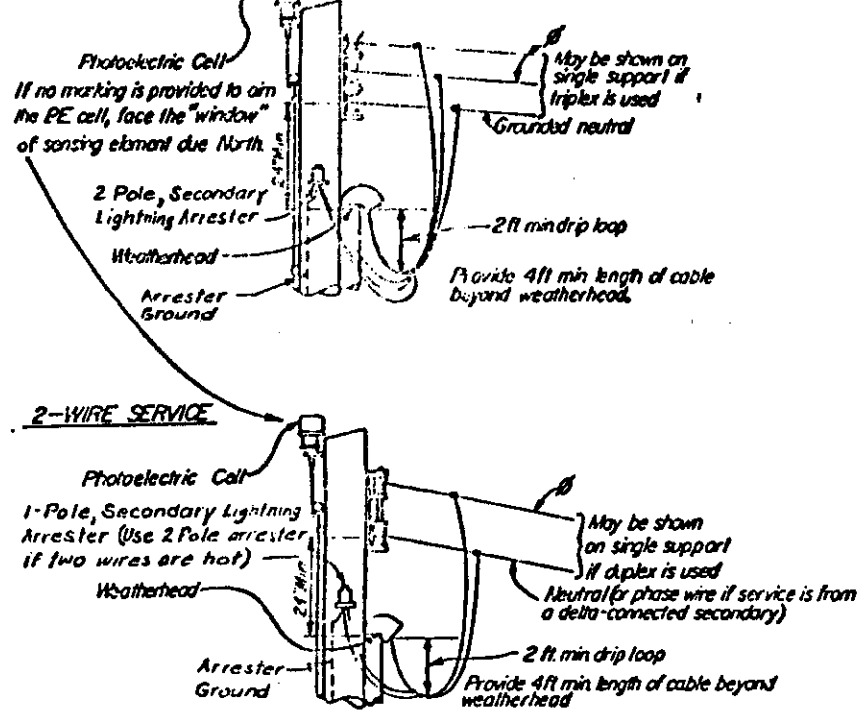
NOTES

1. Payment for protection of duct-cable and distribution cable under guard rail, as detailed in Methods 1 thru 5, shall be included in the unit prices bid for the affected cable and trench items.
2. Wiring diagram shown is required when illuminated signs are fluorescent type. For mercury vapor type delete the 480/120 volt dry type transformer and change Sign Service to read "2 #10, 480V"

BUREAU OF DESIGN SERVICES DIVISION OF HIGHWAYS OHIO DEPARTMENT OF TRANSPORTATION	
HIGHWAY LIGHTING	
MISCELLANEOUS DETAILS II	
DATE 9-4-73 12-28-84	HL-12
STANDARD CONSTRUCTION DRAWING	
APPROVED: [Signature] Engineer of Design Services	

SERVICE POLES AND CONTROL CENTERS

TYPICAL SERVICE POLE HEADS



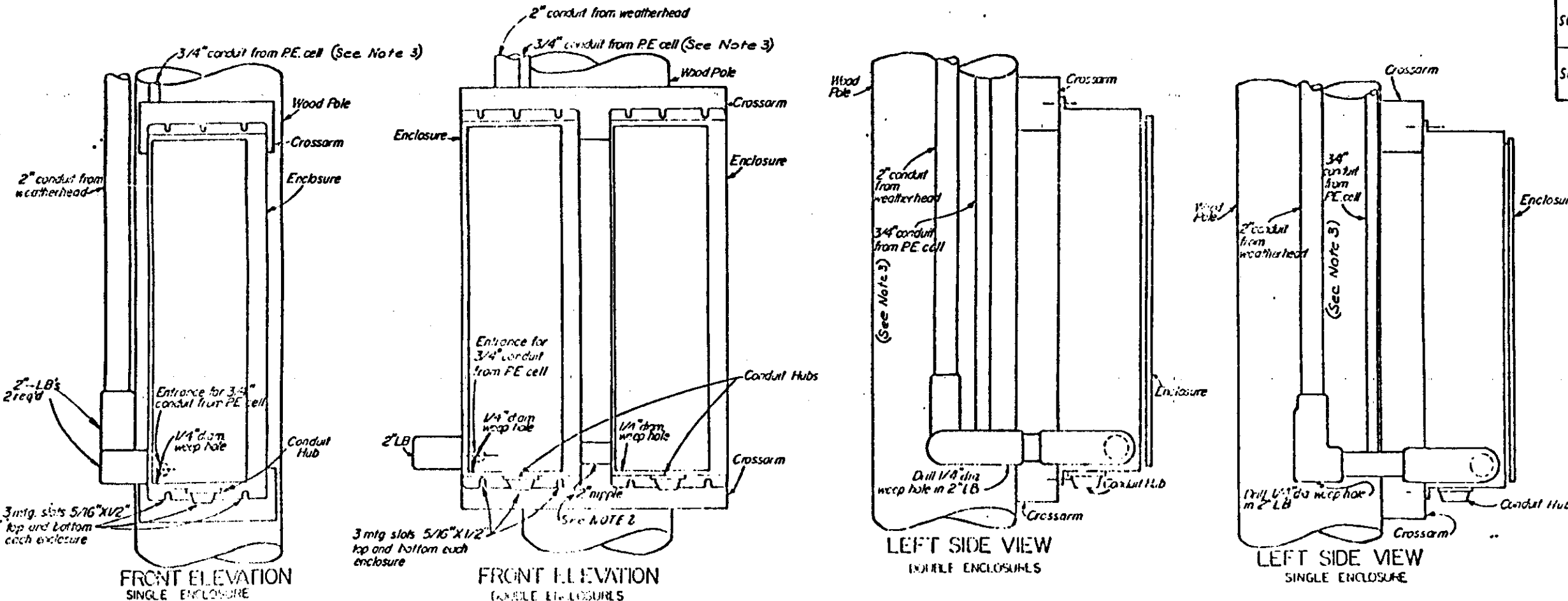
NOTES

- All openings in enclosures shall be made by fabricator
- Two or more enclosures may be mounted with sides abutting. The 2" nipple shown shall then be replaced by the installation of 2" insulated bushings in the openings for cables.
- The 3/4" conduit for control wiring between PE Cell and contactor enters the back of the enclosure at the bottom.
- All conduit shall conform to 113.04

ENCLOSURE TYPES

MINIMUM INTERIOR DIMENSIONS				
TYPE NO.	PRINCIPLE CONTENTS	WIDTH	HEIGHT	DEPTH
S-60	60 ampere fused switch.	10 1/2"	18"	6 1/8"
S-100	100 ampere fused switch.	14"	24"	8.81"
SC-60	60 ampere combination fused switch & contactor.	14"	34"	7 5/8"
SC-100	100 ampere combination fused switch & contactor.	14 1/2"	42"	8.81"

* See "PLAN" view of Single Enclosure. The interior depth dimension shall not include any part of the enclosure door which may protrude into the interior of the enclosure.



BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

CONTROL CENTERS

STANDARD CONSTRUCTION DRAWING HL-15

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