



CUY-90-14.90

PID 77332/85531

APPENDIX EX-49

CUY-090-1524 PID 0.776

(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

**Innerbelt Bridge
Construction Contract Group 1 (CCG1)**

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

CUYAHOGA COUNTY	OHIO	1
CUY-90-15.40	FHWA REGION 5	20
IR-90-1(127)28	FEDERAL PROJECT	

MICROFILM
SEP 23 1981

MICROFILM
JAN 8 1987

DESIGN DESIGNATIONS

CURRENT ADT (1980)	101,600
DESIGN ADT (2000)	120,650
D.H.V.	6.635
T	11%
D	60%
V	60 MPH

IR-90-1(127)28

CUY - 90 - 15.40

CUYAHOGA COUNTY CITY OF CLEVELAND

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

1983 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

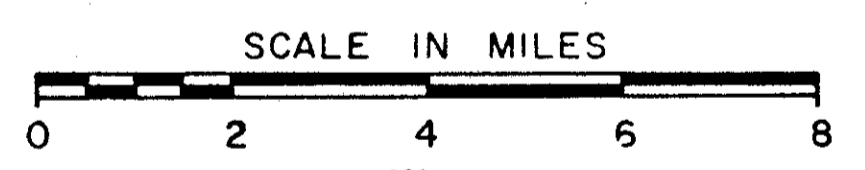
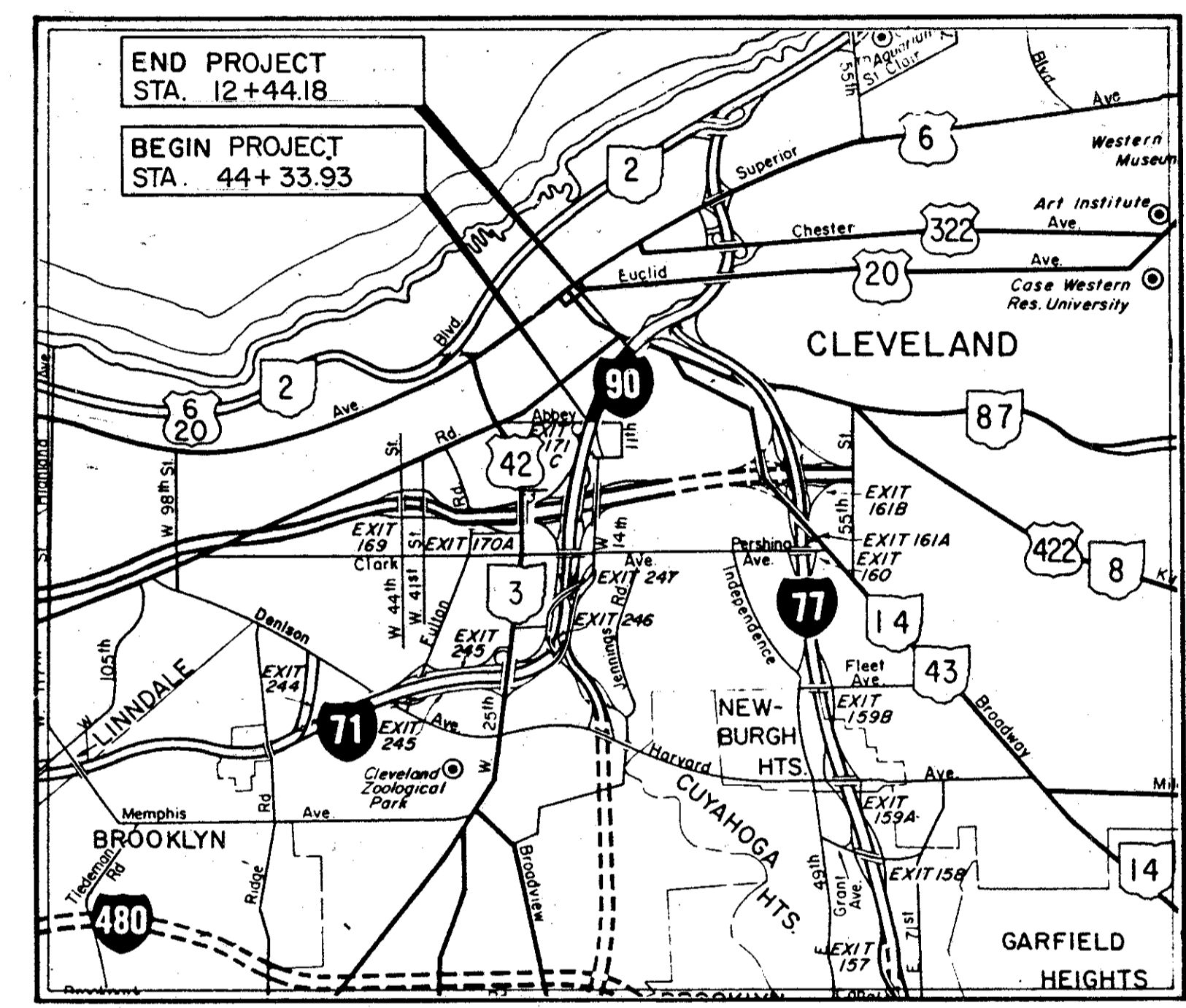
I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

CONVENTIONAL SIGNS

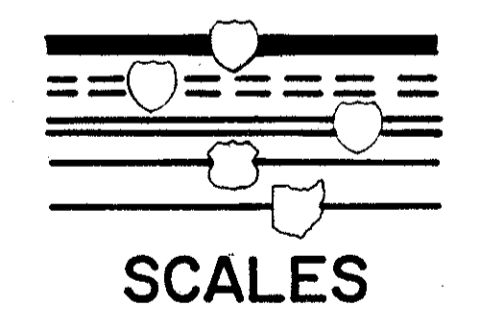
County Line	Limited Access (only)	LA
Township Line	Right of Way (only)	RW
Section Line	Limited Access & Right of Way	LA & RW
Corporation Line	Existing Right of Way	
Fence Line (existing)	Property Line (in existing fence)	
Center Line	Railroad	
Trees, Stumps (to be removed)	Guardrail (existing)	
Utility Poles: Telephone, Power, Light		

INDEX OF SHEETS

TITLE SHEET	1
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PLAN	15
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PORTION TO BE IMPROVED
FUTURE CONSTRUCTION
INTERSTATE
U.S. HIGHWAYS
STATE HIGHWAYS



Plan _____

Profile: _____ Horizontal _____, Vertical _____

Cross Section: Horizontal _____, Vertical _____

SUPPLEMENTAL SPECIFICATIONS	
845	3-2-81
921	12-4-72
953	8-21-80

LINE DATA

PROJECT LIMITS
STA. 12+44.18 TO STA. 43+33.93=3089.75 LIN. FT.
TOTAL=3089.75 LIN. FT. = 0.585 MILES

WORK LIMITS
STA. 1981+00.00 TO STA. 1999+01.08 = 1801.08 LIN. FT.
STA. 3+87.63 TO STA. 64+40.00 = 6052.37 LIN. FT.
TOTAL = 7853.45 LIN. FT. = 1.487 MILES

Approved Mark A. Galle
Date 4-1-83 District Deputy Director of Transportation

Approved Robert B. Phillips
Date 4-14-83 Engineer, Bureau of Bridges and Structural Design

Approved Wynne H. Kunkle
Date 5-5-83 Chief Engineer, Planning and Design

Approved Warren J. Smith
Date 5-5-83 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	7-16-81	TC-35.10	10-5-77
		TC-72.20	2-26-82
MC-3	6-1-73		
MC-9A	5-1-81		

Plan Prepared By:
O.D.O.T. DISTRICT 12
Location & Design

Project: CUY-90-15.40
Date of Letting 19 Contract No. _____
LD0300 Rev. 11-1-78

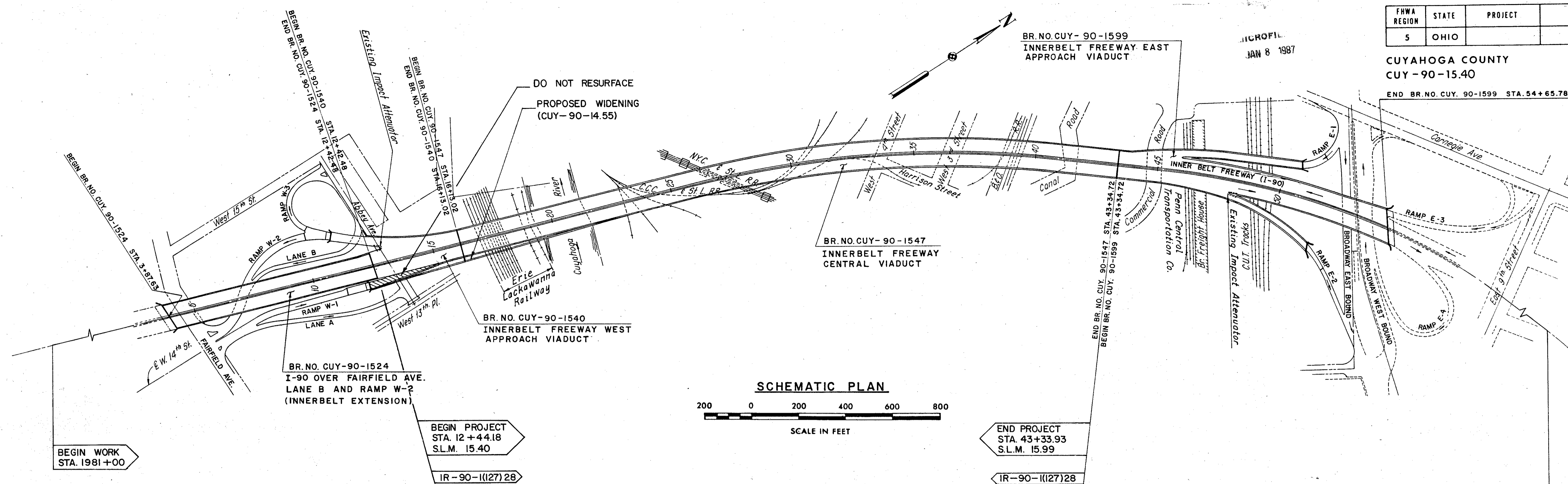
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE _____

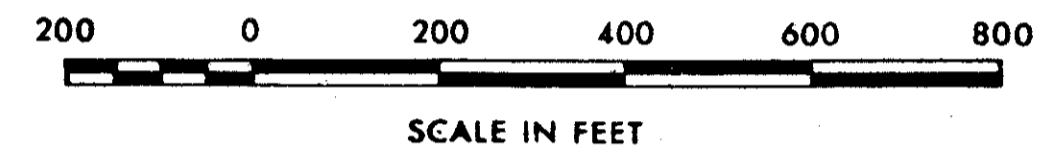
FHWA REGION	STATE	PROJECT
5	OHIO	

CUYAHOGA COUNTY
 CUY-90-15.40
 END BR. NO. CUY. 90-1599 STA. 54+65.78

MICROFIL.
 JAN 8 1987



SCHEMATIC PLAN



BEGIN WORK
 STA. 1981+00

BEGIN PROJECT
 STA. 12+44.18
 S.L.M. 15.40

END PROJECT
 STA. 43+33.93
 S.L.M. 15.99

END WORK
 STA. 64+40

**EXISTING STRUCTURE BR. NO. CUY-90-1524
 (CUY-42-1467)**

TYPE: Units 1W and 1E - Continuous welded steel girder with reinforced concrete deck and substructure.
 Units 2W, 3W and 2E - Continuous steel beam with reinforced concrete deck and substructure.

SPANS: Unit 1W 64'-0", 70'-6", 65'-6", 8'-0" Cantilever.
 Unit 2W 63'-0", 90'-0", 79'-6", 64'-0", 6'-0" Cantilever.
 Unit 3W 66'-0", 3 @ 72'-0", 61'-11 1/2"
 Unit 1E 64'-0", 102'-0", 103'-0", 90'-0", 79'-6", 64'-0", 6'-0" Cantilever.
 Unit 2E 66'-0", 3 @ 72'-0", 61'-11 1/2"

ROADWAY: 2 @ 53'-9" curb to curb with barrier safety curbs and concrete barrier median.

LOAD FREQUENCY: CF2000(57) adequate for A.A.S.H.T.O. alternate loading.

SKEW: Varies

WEARING SURFACE: 2" Dense Concrete.

APPROACH SLAB: AS-1-54 (25' Long)

ALIGNMENT: Tangent

**EXISTING STRUCTURE BR. NO. CUY-90-1540
 (CUY-42R-1743)**

TYPE: Continuous steel beams and girders with concrete deck and substructure.

SPAN: Varies (see General Plan)

ROADWAY: 2 @ 52'-6" with barrier safety curbs and concrete barrier median.

*LOADING: CF 2000

SKEW: Varies

WEARING SURFACE: 2 1/2" Asphalt Concrete

APPROACH SLABS: AS-1-54 (25' Long)

ALIGNMENT: Tangent

**EXISTING STRUCTURE BR. NO. CUY-90-1547
 (CUY-42R-1750)**

TYPE: Steel deck trusses with reinforced concrete deck and substructure.

SPANS: Varies (see General Plans)

ROADWAYS: 2 @ 52'-9" curb to curb with barrier safety curbs and concrete barrier median.

*LOADING: CF 2000, adequate for A.A.S.H.T.O. alternate loading.

SKEW: Varies

WEARING SURFACE: 2 1/2" Asphalt Concrete

ALIGNMENT: Tangent, 1°30' Curve Right, Tangent.

**EXISTING STRUCTURE BR. NO. CUY-90-1599
 (CUY-42-1750)**

TYPE: Continuous steel beams and girders with concrete deck and substructure.

SPAN: Varies

ROADWAY: 2 @ 52'-6" with barrier safety curbs and concrete barrier median.

LOADING: CF 2000, adequate for A.A.S.H.T.O. alternate loading.

SKEW: Varies

WEARING SURFACE: 2 1/2" Dense Concrete

APPROACH SLAB: AS-1-54 (25' Long)

ALIGNMENT: 2° Curve Right

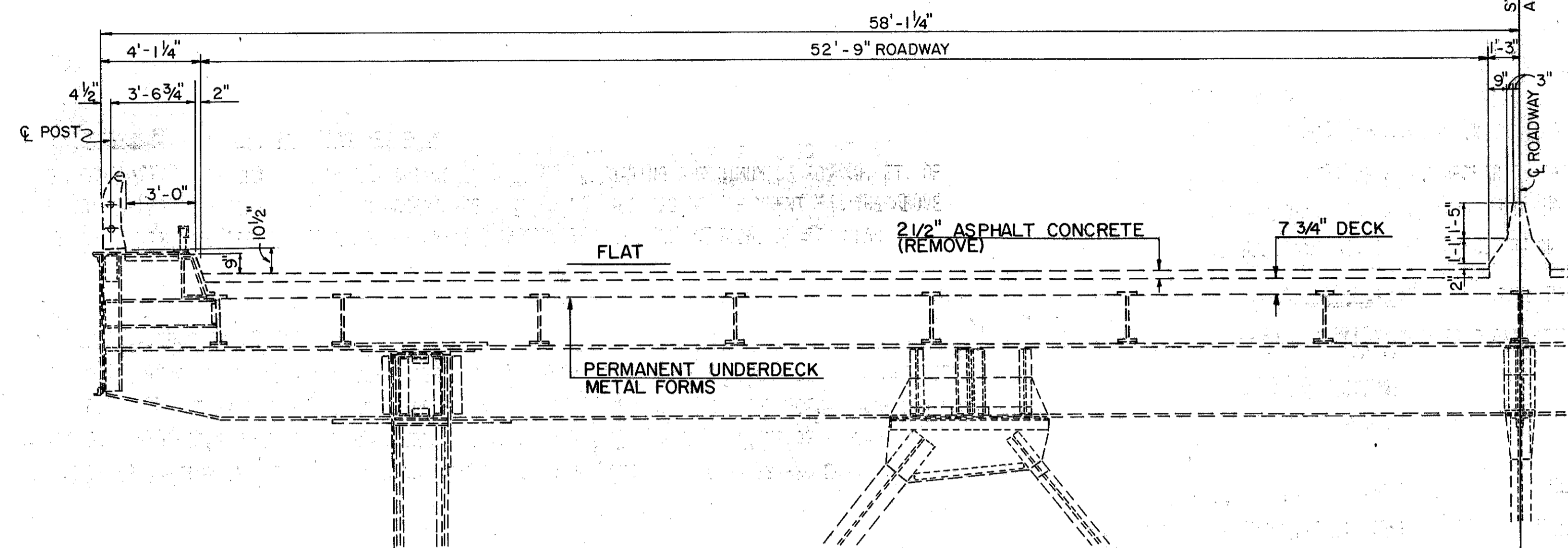
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 LOCATION & DESIGN				
SCHEMATIC PLAN				
BR. NO. CUY - 90-1524		STA. 3+87.63		
90-1540		STA. 54+65.78		
90-1547				
90-1599				
CUYAHOGA COUNTY		OHIO		
DESIGNED	TRACED	CHECKED	REVIEWED	REVISED
DATE	DATE	DATE	DATE	DATE
				SHEET

EXISTING TYPICALS

PROPOSED TYPICALS

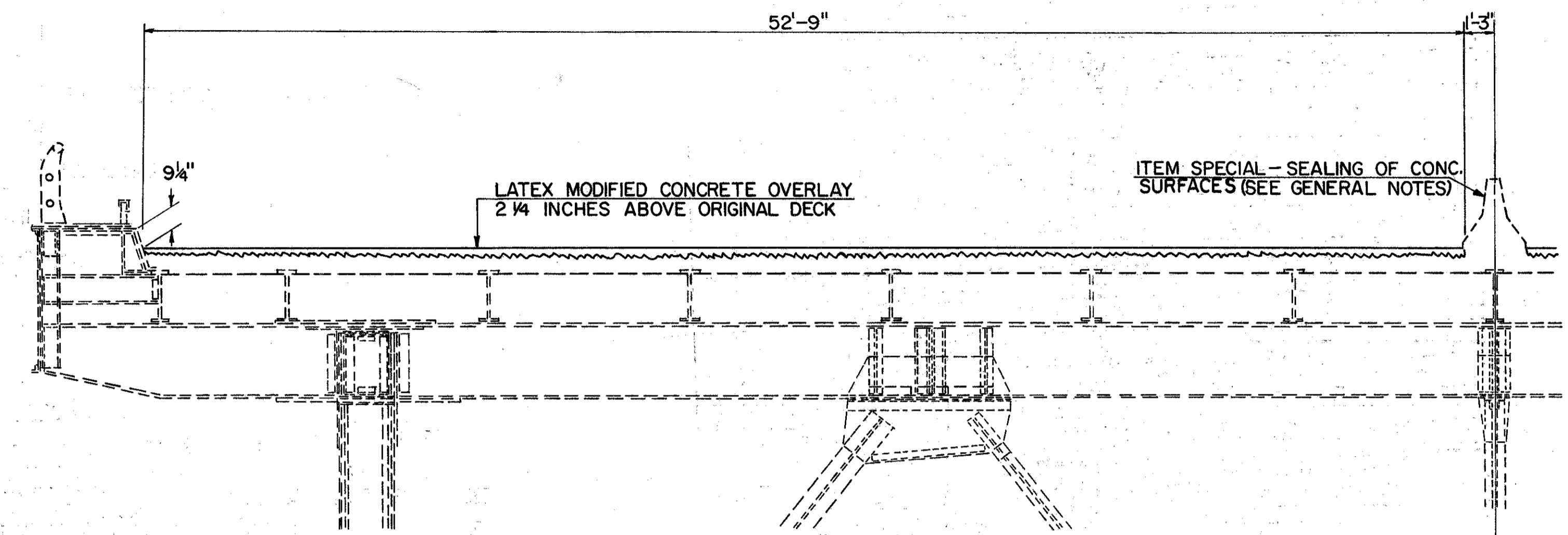
FHWA REGION	STATE	PROJECT
5	OHIO	

CUY-90-1540



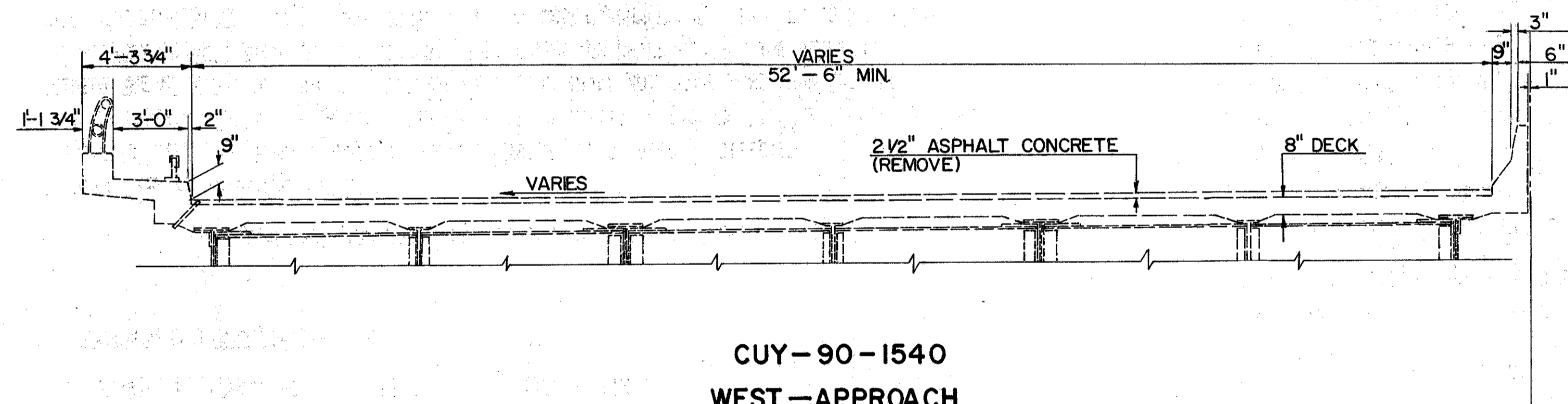
CUY-90-1547
CENTRAL VIADUCT

STA. 16+13.02 TO STA. 43+34.72



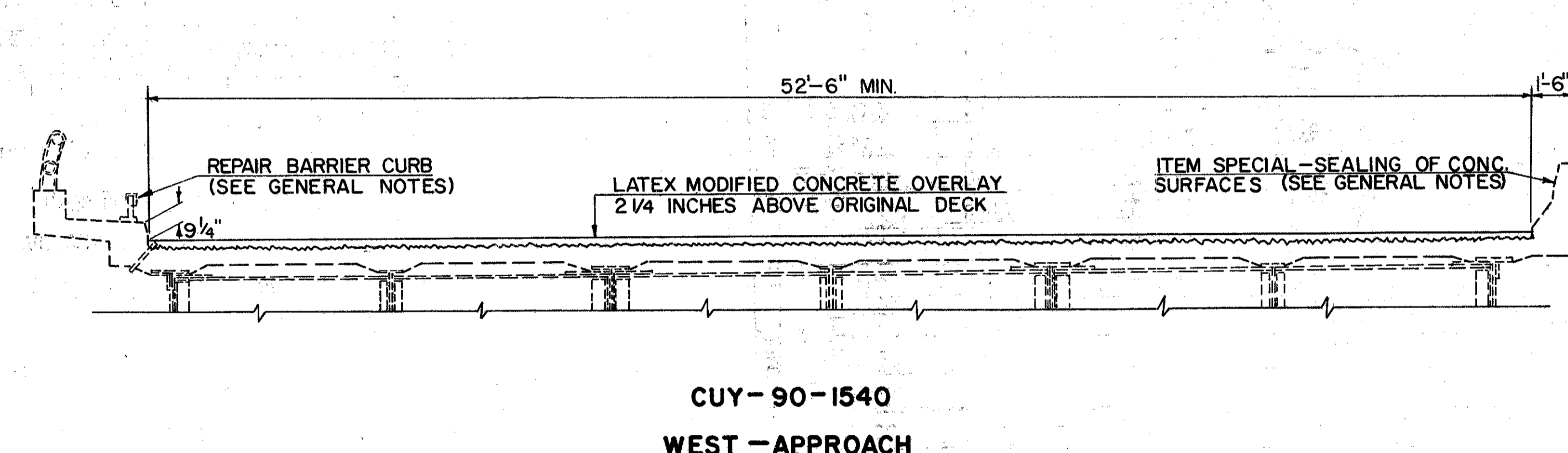
CUY-90-1547
CENTRAL VIADUCT

STA. 16+13.02 TO STA. 43+34.72



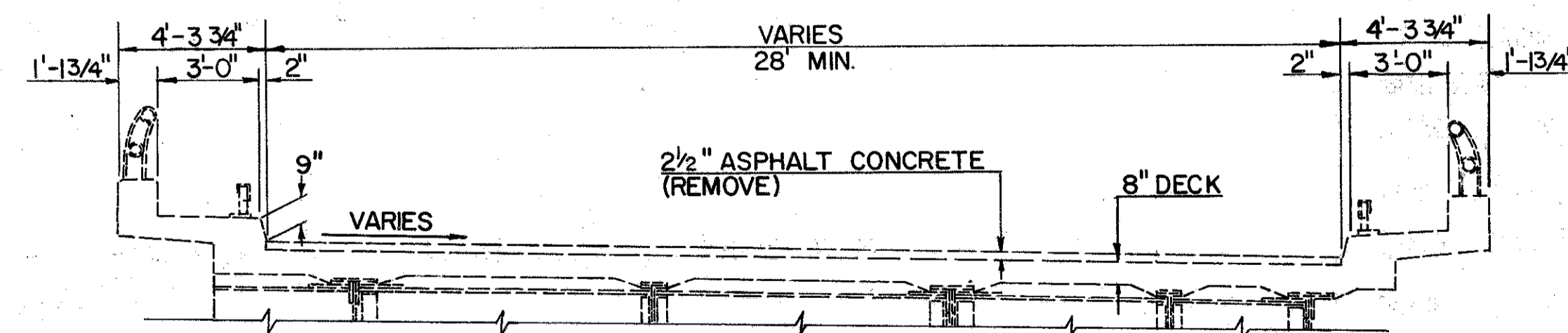
CUY-90-1540
WEST-APPROACH

STA. 12+42.50 TO STA. 16+13.02



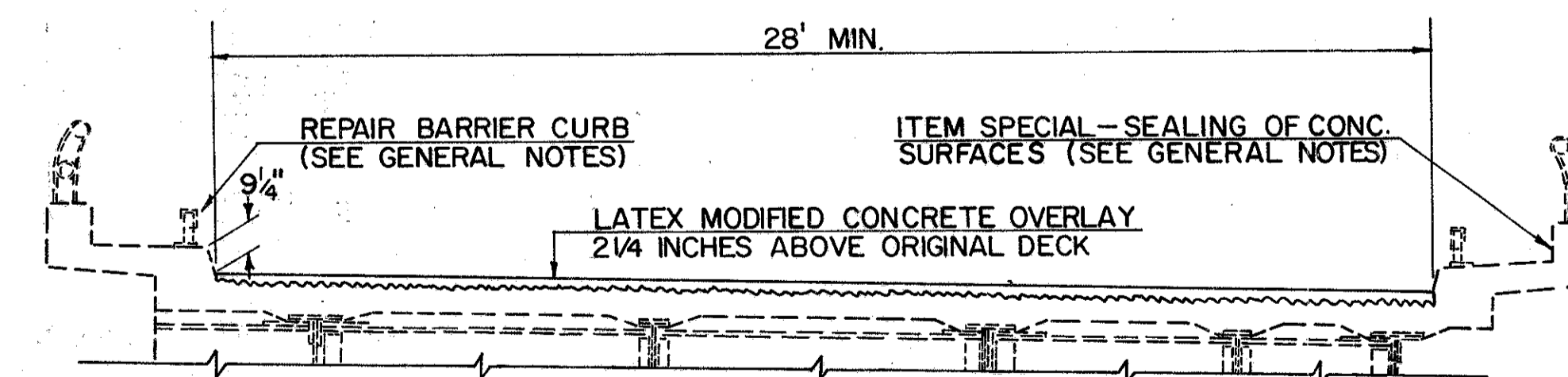
CUY-90-1540
WEST-APPROACH

STA. 12+42.50 TO STA. 16+13.02



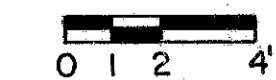
CUY-90-1540
WEST-APPROACH
RAMP W-2

STA. 0+00 TO STA. 5+22



CUY-90-1540
WEST-APPROACH

STA. 0+00 TO STA. 5+22



GENERAL NOTES

REV 8 1987

ITEM 624 - MOBILIZATION, AS PER PLAN

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

CONTINGENCY QUANTITIES

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

RIGHT OF WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY OR EASEMENTS.

ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

THIS ITEM SHALL BE USED TO REPAIR HOLES IN THE BRIDGE DECKS, ROADWAY SURFACE AND BERMS WHICH ARE DAMAGED DURING THE CLOSURE. THE CONTRACTOR SHALL USE THIS ITEM TO MAINTAIN THE HIGHWAY ACCORDING TO SEC. 614.02. THE CONTRACTOR SHALL PERFORM THE ABOVE WORK BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. AND SHALL NOT CLOSE MORE THAN ONE ADDITIONAL LANE TO DO THIS WORK. THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR THE MAINTENANCE OF TRAFFIC AS OUTLINED ABOVE, TO BE USED AS DIRECTED BY THE ENGINEER ON ALL PARTS OF THIS PROJECT.

ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC 150 C.Y.

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC THE CONTRACTORS ATTENTION IS DIRECTED TO 614.05. IN ADDITION THE FOLLOWING PROVISIONS SHALL APPLY:

1. STORED OR PARKED VEHICLES, MATERIALS AND EQUIPMENT SHALL BE LOCATED BEHIND EXISTING PERMANENT GUARDRAIL OR TEMPORARY CONCRETE BARRIER OR ON CLOSED RAMPS. THE EXACT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER
2. ANY REMOVED ITEMS SHALL NOT BE STORED ON THE RIGHT OF WAY FOR MORE THAN THIRTY DAYS.
4. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE STATE.

COST PARTICIPATION

THE QUANTITIES WHICH APPEAR IN THE PLANS HAVE BEEN PLACED IN ONE OF THE FOLLOWING PARTICIPATION AREAS:
ALL ITEMS ARE COST PARTICIPATION II UNLESS SHOWN OTHERWISE

COST PARTICIPATION I

FEDERAL INTERSTATE REPAIR AND STATE PARTICIPATION

COST PARTICIPATION II

100% STATE PARTICIPATION

COOPERATION BETWEEN CONTRACTORS, INTERIM COMPLETION DATE

THE CONTRACTOR IS HEREBY ADVISED THAT A SEPARATE CONTRACT (CUY-90-1455) IS TO BE AWARDED FOR THE IMPROVEMENT OF RAMP W-1 BY CONSTRUCTING AN ACCELERATION LANE ALONG THE SOUTH SIDE OF CUY-90-1540 AND CUY-90-1547. THE AFOREMENTIONED CONTRACT IS SCHEDULED TO BE AWARDED BEFORE OR DURING THIS CONTRACT.

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SO AS TO PERFORM ALL WORK UNDER PHASES I & II EASTBOUND BEFORE NOVEMBER 15 1983. NO LANE CLOSURES WILL BE PERMITTED BETWEEN NOV. 15, 1983 AND APRIL 1, 1984.

THE CONTRACTOR SHALL COOPERATE WITH THE SEPARATE CONTRACTOR TO ARRANGE A SUITABLE WORK SCHEDULE SUBJECT TO THE APPROVAL OF THE ENGINEER, TO PERMIT THE SEPARATE CONTRACTOR TO WORK AND OPERATE NECESSARY EQUIPMENT WITHIN WORK LIMITS TO CARRY OUT THE PROVISION OF HIS CONTRACT.

THE ENGINEER SHALL NOTIFY THE CONTRACTOR A MINIMUM OF THIRTY (30) DAYS PRIOR TO ANY SCHEDULED WORK BY THE SEPARATE CONTRACTOR.

EACH CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGE, BY HIM OR HIS AGENTS, TO THE WORK PERFORMED BY THE OTHER CONTRACTOR.

FILLING EXISTING RUMBLE GROOVES

THE ITEM OF WORK SHALL BE USED TO FILL THE EXISTING RUMBLE GROOVES ON WESTBOUND I-90 FROM STA. 45+00 TO STA. 47+00.

THE EXISTING GROOVES ARE APPROXIMATELY 4 INCHES WIDE AND 3/8 INCHES DEEP INTO THE EXISTING DENSE CONCRETE DECK SURFACE. THE GROOVES SHALL BE PREPARED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO INSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

THE GROOVES SHALL BE FILLED FLUSH WITH MAGNESIUM PHOSPHATE CONCRETE AND SURFACE TEXTURED AS APPROVED BY THE ENGINEER.

GENERALLY, THE SPECIFIC RECOMMENDATIONS REGARDING MATERIALS AND PLACEMENT OF ITEM SPECIAL-PATCHING CONCRETE SURFACES WITH MAGNESIUM PHOSPHATE CONCRETE SHALL APPLY TO THIS ITEM.

PAYMENT FOR ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS REQUIRED TO PERFORM THE WORK AS OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE, PER LINEAL FOOT, OF ITEM SPECIAL - FILLING EXISTING RUMBLE GROOVES.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE:

ITEM SPECIAL - FILLING EXISTING RUMBLE GROOVES 410 LIN. FT.

ADVANCE WARNING SIGNS

	DISTANCE	SIGN	SIZE	DESCRIPTION
LEFT LANE CLOSED	500'	OW-123 MOD	48" X 48"	LEFT LANE CLOSED 500 FT.
		OW-143	31" X 30"	35 MPH
	1000'	OW-123 MOD	48" X 48"	LEFT LANE CLOSED 1000 FT.
	2000'	OW-123 MOD	48" X 48"	LEFT LANE CLOSED 2000 FT.
	3000'	OW-134	48" X 48"	ROAD WORK AHEAD
LEFT 2 LANES CLOSED	500'	OW-123 MOD	48" X 48"	LEFT 2 LANES CLOSED 500 FT.
		OW-143	31" X 30"	35 MPH
	1000'	OW-123 MOD	48" X 48"	LEFT 2 LANES CLOSED 1000 FT.
	2000'	OW-123 MOD	48" X 48"	LEFT 2 LANES CLOSED 2000 FT.
	3000'	OW-134	48" X 48"	ROAD WORK AHEAD
RIGHT LANE CLOSED	500'	OW-123 MOD	48" X 48"	RIGHT LANE CLOSED 500 FT.
		OW-143	31" X 30"	35 MPH
	1000'	OW-123 MOD	48" X 48"	RIGHT LANE CLOSED 1000 FT.
	2000'	OW-123 MOD	48" X 48"	RIGHT LANE CLOSED 2000 FT.
	3000'	OW-134	48" X 48"	ROAD WORK AHEAD
RIGHT 2 LANES CLOSED	500'	OW-123 MOD	48" X 48"	RIGHT 2 LANES CLOSED 500 FT.
		OW-143	31" X 30"	35 MPH
	1000'	OW-123 MOD	48" X 48"	RIGHT 2 LANES CLOSED 1000 FT.
	2000'	OW-123 MOD	48" X 48"	RIGHT 2 LANES CLOSED 2000 FT.
	3000'	OW-134	48" X 48"	ROAD WORK AHEAD
LANE SHIFT	1000'	OW-134 MOD	48" X 48"	ROAD WORK 1000 FT.
		OW-143	31" X 30"	35 MPH
	2000'	OW-134	48" X 48"	ROAD WORK AHEAD
	3000'	OW-134	48" X 48"	ROAD WORK AHEAD
EXIT RAMP ACROSS CLSD. LANE	600'	OW-SPEC	48" X 48"	EXIT RAMP
	500'	OW-SPEC	48" X 48"	EXIT RAMP 500 FT.
	1000'	OW-SPEC	48" X 48"	EXIT RAMP 1000 FT.

ADVANCE WARNING SIGNS ARE REQUIRED ON BOTH SIDES OF THE TRAVELED WAY. DISTANCES ARE MEASURED BACK FROM THE INITIAL POINT OF PAVEMENT MARKING MODIFICATIONS.

MICROFIL
JAN 8 1987

GENERAL NOTES

GENERAL CONSTRUCTION SEQUENCE

THE CONTRACTOR IS REMINDED THAT, IN THE CONDUCT OF THIS PROJECT, HIS SEQUENCE OF OPERATIONS SHALL BE PLANNED AND EXECUTED IN SUCH A WAY AS TO MINIMIZE THE NUMBER OF LANE REDUCTIONS AND/OR LANE WIDTH REDUCTIONS REQUIRED TO MAINTAIN TRAFFIC THROUGH THE PROJECT. IN THIS REGARD, WHEN A TRAFFIC LANE IS CLOSED, ALL OPERATIONS TO THAT LANE (EXCEPT THE FINAL PAVEMENT MARKINGS) SHALL BE PERFORMED IN AN ORDERLY SEQUENCE SUCH THAT IT WILL NOT BE NECESSARY TO AGAIN CLOSE THAT LANE UNTIL THE PAVEMENT MARKING OPERATIONS BEGIN.

IT IS THE INTENT OF THIS PROJECT TO MAINTAIN A MINIMUM OF TWO LANES OF TRAFFIC IN EACH DIRECTION ON THE MAINLINE PAVEMENT UNLESS OTHERWISE NOTED. ALSO, THE CONTRACTOR IS REMINDED THAT THE FLOW OF TRAFFIC SHALL NOT BE "SPLIT" WHEN BEING DIVERTED AROUND A WORK AREA UNLESS THE WORK IS BEING DONE IN THE GORE AREAS OF AN EXIT RAMP.

IN ADDITION TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

MAINTAINING VEHICULAR TRAFFIC

GENERAL PROVISIONS

- TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON I-90, RAMPS W-2, W-3, AND E-2 AS SHOWN ON THE TRAFFIC MAINTENANCE PLANS. A MINIMUM OF TWO LANES SHALL BE MAINTAINED AT ALL TIMES ON I-90. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO MINIMIZE ENCROACHMENT UPON THE TRAVELED WIDTH OF PAVEMENT.
- SINCE FUNCTIONAL TRAFFIC CONTROL IS A MAJOR CONCERN ON THIS PROJECT IT IS ESSENTIAL THAT THE MOTORING PUBLIC BE ADEQUATELY FORWARDED OF FUTURE LANE CLOSURES AND TRAFFIC RESTRICTIONS. THEREFORE, THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION INDICATING THE LOCATION AND DATE OF EACH LANE CLOSURE AT LEAST 2 WEEKS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY CLEVELAND'S POLICE, FIRE AND SERVICE DEPARTMENTS 72 HOURS IN ADVANCE OF IMPLEMENTING SAID CLOSURES.
- NO STOPPAGE OF TRAFFIC OR ESTABLISHMENT OF LANE RESTRICTIONS SHALL OCCUR WITHOUT LAW ENFORCEMENT PERSONNEL AT EACH LOCATION TO DIRECT TRAFFIC.
- DURING OVERHEAD CONSTRUCTION THE CONTRACTOR SHALL PROVIDE, IF DEEMED NECESSARY BY THE ENGINEER, SAFETY NETS AND/OR OTHER SAFETY DEVICES UNDER THE STRUCTURES TO PROTECT TRAFFIC IN THE AREA OF CONSTRUCTION.
- NIGHTTIME WORK SHALL BE PERMITTED. A PLAN FOR LIGHTING FOR NIGHTTIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER. IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA.
- THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NEW WARNING AND INFORMATION SIGNS NECESSARY FOR MAINTAINING TRAFFIC. THE CONTRACTOR SHALL DETERMINE WHAT SIGNS ARE NEEDED AND ADVISE THE ENGINEER TWO (2) WEEKS IN ADVANCE OF HIS DETAILED PLANS. (SEE "ADVANCE WARNING SIGNS" TABLE FOR MINIMUM SIGNING APPLICATIONS)
- TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN STAGES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING THE STAGE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF THE VIEW OF TRAFFIC.

- ALL THROUGH TRAFFIC LANES SHALL BE KEPT OPEN AT ALL TIMES EXCEPT AS NOTED HERE AND IN THE MAINTENANCE OF TRAFFIC PLANS. TRAFFIC MAINTENANCE PHASES SHALL NOT BE IMPLEMENTED CONCURRENTLY. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THE MINIMUM WIDTH OF EACH THRU TRAFFIC LANE BEING MAINTAINED SHALL BE 11 FEET.

- THE CONTRACTOR SHALL COMPLETE ALL MAJOR WORK ITEMS ON EB I-90 PHASE I AND RE-OPEN TO NORMAL TRAFFIC BEFORE IMPLEMENTING ANY OTHER PHASES ON I-90 EB OR WB. THE TRAFFIC MAINTENANCE PLANS SHALL BE IMPLEMENTED AS FOLLOWS:

- | | |
|--------------|-----------|
| 1) PHASE I | EASTBOUND |
| 2) PHASE II | EASTBOUND |
| 3) PHASE I | WESTBOUND |
| 4) PHASE IIA | WESTBOUND |
| 5) PHASE IIB | WESTBOUND |

- WORK ITEMS ON CUY-90-1524 AND CUY-90-1599 WHICH REQUIRE LANE CLOSURES (FOR EXAMPLE: EPOXY SEALING OF CONCRETE SURFACES) SHALL BE PERFORMED DURING DAYLIGHT HOURS. THE CONTRACTOR SHALL EXTEND THE LANE CLOSURE UNDER THE APPROPRIATE TRAFFIC MAINTENANCE PHASE SHOWN ABOVE USING DRUMS OR BARRICADES.

- ALL BARRIER CURB REPAIRS SHALL BE PERFORMED DURING THE APPROPRIATE ADJACENT LANE CLOSURE WHEREVER POSSIBLE.

THE FOLLOWING PROVISIONS APPLY TO THE BARRIER CURB REPAIRS ALONG THE SOUTH HALF OF CUY-90-1599 WHICH MUST BE PERFORMED DURING PHASE II EASTBOUND.

THE PERIOD OF TIME THAT A PARAPET IS LEFT UNPROTECTED BY THE REMOVAL OF BARRIER CURB SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN NO CASE SHALL SUCH PERIOD BE LONGER THAN TWO WEEKS.

THE WORK AREA SHALL BE FORMED BY EXTENDING A ONE LANE CLOSURE BACK TO THE EAST END OF PHASE II OF THE TRAFFIC MAINTENANCE PLANS.

THE LANE CLOSURE SHALL BE IMPLEMENTED USING DRUMS SPACED 25 FEET CENTER TO CENTER. IF, AFTER TWO WEEKS, THE BARRIER CURB HAS NOT BEEN REPLACED THE CONTRACTOR SHALL SUPPLY, INSTALL AND MAINTAIN TEMPORARY CONCRETE BARRIER ALONG THE LANE CLOSURE AT NO ADDITIONAL COST TO THE STATE.

- THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE PRECEDING REQUIREMENTS.

- ALL LABOR, MATERIALS, EQUIPMENT AND ANY INCIDENTALS REQUIRED TO COMPLETE THE WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614-MAINTAINING TRAFFIC.

TRAFFIC CONTROL SYSTEMS

A. WHEN REQUIRED

WHENEVER ANY PART OF THE TRAVELED SURFACE IS BEING WORKED UPON OR IS OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE "MANUAL". THE TRAFFIC CONTROL DEVICE SYSTEM SHALL CONSTITUTE THE MINIMUM PROVISIONS FOR TRAFFIC CONTROL FOR EACH PARTICULAR SITUATION. WHENEVER THE ENGINEER DEEMS IT NECESSARY ESPECIALLY WHERE A GRADE, CURVE, OR MERGE CONDITION EXISTS, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED. ALSO, THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADDITIONAL BARRICADES, ETC. TO PROTECT THE FRESH CONCRETE DURING THE CURING PERIOD FROM ANY VEHICLES WHICH DRIVE AROUND OR THROUGH THE TRAFFIC CONTROL.

B. CONDITIONS

DURING ALL PARTS OF THIS PROJECT, SIGNING, BARRICADES, TEMPORARY PAVEMENT MARKINGS, ETC. SHALL BE LOCATED AS INDICATED ON SHEETS NUMBERED 7 THROUGH 9. THE NUMBER OF LANES AND THE MINIMUM LANE WIDTHS MAINTAINED SHALL BE AS INDICATED ON THE TRAFFIC CONTROL SHEETS.

C. ADVANCE WARNING SIGNS

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

D. FLASHING ARROW REQUIREMENT

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE "MANUAL" AND STD. DRWG. TC-35-10.

E. BRIDGE WORK - GENERAL

WHENEVER ANY WORK IS BEING DONE DIRECTLY OVER A TRAVELED LANE OR SHOULDER THE CONTRACTOR SHALL SUPPLY SUFFICIENT SAFETY EQUIPMENT AS APPROVED BY THE ENGINEER TO PROTECT THE TRAVELING PUBLIC FROM ANY CONSTRUCTION DEBRIS. IF TRAVELED LANES UNDER STRUCTURES ARE TO BE CLOSED FOR REASONS OF SAFETY, METHOD AND TIMES OF CLOSURE MUST BE APPROVED PRIOR TO IMPLEMENTATION BY THE DISTRICT TRAFFIC ENGINEER. PERSONAL CARS SHALL NOT BE PARKED WITHIN THE L/A.

F. FAILURE TO COMPLY

IF THERE IS ANY FAILURE TO COMPLY WITH PROVISIONS FOR TRAFFIC CONTROL SET OUT IN THESE PLANS AND NOTES, OR WITH THE PROVISIONS OF THE "MANUAL", THE HIGHWAY IN THE VICINITY OF THE WORK AREA SHALL NOT BE CONSIDERED IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC. ANY FAILURE TO KEEP THE HIGHWAY IN THE VICINITY OF THE WORK AREA IN A CONDITION FOR THE SAFE AND CONVENIENT USE BY THE TRAVELING PUBLIC SHALL BE CONSIDERED A BREACH OF THIS CONTRACT. WORK SHALL BE SUSPENDED UNTIL THE CONTRACTOR COMPLIES WITH THE PROVISIONS OF THE AFOREMENTIONED ITEMS.

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GENERAL NOTES

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TRAFFIC CONTROL MATERIALS

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE "MANUAL", OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

ALL SIGNS SHALL HAVE A REFLECTORIZED BACKGROUND OF REFLECTIVE MATERIAL AS DESCRIBED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

B. SIGN SUPPORTS

SIGN SUPPORTS SHALL BE OF SUFFICIENT SIZE AND HEIGHT AS TO SUPPORT THE SIGNS AT THE HEIGHT INDICATED IN THE "MANUAL", SUPPORTS SHALL ALSO BE ADEQUATE IN MASS AND STABILITY TO PREVENT THE SIGNS BEING BLOWN OVER BY WIND OR VEHICULAR GENERATED AIR TURBULENCE.

C. DRUMS

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

D. LIGHTING DEVICES

FLASHERS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHES OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES.

CONTINUOUS BURN LIGHTS SHALL BE 12 VOLT BATTERY-OPERATED MODELS WITH MINIMUM 7 INCH DIAMETER YELLOW LENSES, THEY SHALL BE PLACED ABOVE THE GROUND ON THE TOPS OF DRUMS OR BARRICADES AND SPACED AT 50 FT. INTERVALS.

CONTINUOUS BURN LIGHTS AS DESCRIBED ABOVE SHALL BE REQUIRED WHENEVER ANY PORTION OF THE TRAVELED SURFACE IS CLOSED DURING TWILIGHT OR NIGHTTIME HOURS.

E. FLASHING ARROW BARRICADE

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW BARRICADE FOR EACH LANE CLOSED. THE CONTRACTOR SHALL REFER TO TC-35.10 AND THE PROVISION SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING, AND THE USE OF FLASHING ARROW BARRICADES. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

F. ITEM 614 - TEMPORARY PAVEMENT MARKINGS (LANE SHIFTS)

TEMPORARY PAVEMENT MARKINGS SHALL BE REQUIRED AT ALL WORK AREAS AS DETAILED ON SHEETS 7 THRU 9.

GENERALLY, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE TAPE. PAINT OR TAPE TEMPORARY PAVEMENT MARKINGS SHALL BE USED ONLY FROM STA. 12+42 TO STA. 43+35 DURING PHASE I OF THE TRAFFIC MAINTENANCE PLANS, AND ONLY IF PHASE II WILL FOLLOW IMMEDIATELY. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED FOR LANE SHIFTS:

- ITEM 614 - TEMPORARY EDGE LINE, CLASS I, TAPE 3.48 MI.
- ITEM 614 - TEMPORARY EDGE LINE, CLASS I — MI.
- ITEM 614 - 4" TEMPORARY CHANNELIZING LINE, CLASS I, TAPE. 1.94 MI.
- ITEM 614 - 4" TEMPORARY CHANNELIZING LINE, CLASS I. 1.17 MI.

G. ITEM 614 - TEMPORARY PAVEMENT MARKINGS (RESURFACING OR LANE SHIFT REMOVAL)

TEMPORARY MARKINGS SHALL BE PLACED AT THE EXISTING PAVEMENT MARKING LOCATIONS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AFTER RESURFACING OR AFTER LANE SHIFT REMOVALS:

- ITEM 614 - TEMPORARY LANE LINES, CLASS II 5.34 MI.
- ITEM 614 - TEMPORARY EDGE LINES, CLASS I 3.58 MI.
- ITEM 614 - TEMPORARY GORE MARKINGS, CLASS II. 1.00 L.F.

H. TEMPORARY CONCRETE BARRIER

THE TEMPORARY CONCRETE BARRIER TO BE PROVIDED AS LOCATED ON SHEETS 7 THRU 9 SHALL BE EITHER CAST-IN-PLACE OR PRECAST BARRIER. THE REQUIREMENTS OF ITEM 622 AND STANDARD CONSTRUCTION DRAWING MC-9A SHALL APPLY EXCEPT THAT BARRIER SECTIONS SHALL BE LIMITED TO 10'-0" IN LENGTH, AND PINNED TOGETHER. TAPERED END SECTIONS ARE REQUIRED.

EACH SECTION OF BARRIER SHALL BE PROVIDED WITH LIFTING RINGS TO ALLOW FOR EASE IN HANDLING WHEN THE TEMPORARY BARRIER IS REMOVED.

MEASUREMENT OF TEMPORARY CONCRETE BARRIER SHALL BE BASED UPON THE LENGTH OF BARRIER INSTALLED UNDER EACH PHASE OF THE WORK. BARRIERS WHICH ARE TO REMAIN IN PLACE FROM ONE PHASE TO THE NEXT SHALL BE PAID FOR ONCE.

THE FOLLOWING ESTIMATED QUANTITY OF TEMPORARY CONCRETE BARRIER HAS BEEN ADDED TO THE GENERAL SUMMARY:

- ITEM 622 - TEMPORARY CONCRETE BARRIER 15350 L.F.

I. ITEM 202 - TEMPORARY CONCRETE BARRIER REMOVED (EXISTING)

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO REMOVE AND DISPOSE OF EXISTING TEMPORARY CONCRETE BARRIER. THE SUBJECT BARRIER WAS PLACED UNDER PREVIOUS CONTRACTS. THIS ITEM SHALL NOT BE USED FOR PAYMENT FOR REMOVING AND RELOCATING THE TEMPORARY CONCRETE BARRIER WHICH IS PLACED AS PART OF THIS CONTRACT.

- ITEM 202 - TEMPORARY CONCRETE BARRIER REMOVED 1850 L.F.

J. ITEM 622 - TEMPORARY CONCRETE BARRIER, AS PER PLAN

THIS ITEM IS TO PROVIDE SECTIONS OF TEMPORARY CONCRETE BARRIER TO BE USED AS IN "H" ABOVE. WHEN NO LONGER NEEDED THEY SHALL BE PERMANENTLY INSTALLED IN THOSE LOCATIONS WHERE ITEM 202 ABOVE WAS PERFORMED. BARRIER SECTIONS FURNISHED UNDER THIS ITEM MUST BE IN GOOD CONDITION AND APPROVED BY THE ENGINEER PRIOR TO THEIR FINAL RELOCATION.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

- ITEM 622 - TEMPORARY CONCRETE BARRIER, AS PER PLAN. 1850 L.F.

J. REPLACEMENT SIGNS

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENT OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE BID PRICE PER SQUARE FOOT FOR ITEM SPECIAL REPLACEMENT SIGNS AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE AND SUPPORTS: AND PROVIDING NECESSARY REPLACEMENT HARDWARE SUPPORTS, ETC. REPLACEMENT SIGNS SHALL BE NEW BUT OTHER MATERIALS MAY BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

AN ESTIMATED QUANTITY OF ITEM SPECIAL, REPLACEMENT SIGNS HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- ITEM SPECIAL - REPLACEMENT SIGNS 200 S.F.

K. REPLACEMENT DRUMS

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENT OF THE PLANS, SPECIFICATION AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER AND PAID FOR UNDER ITEM SPECIAL REPLACEMENT DRUMS. PAYMENT FOR EACH NEW DRUM SHALL INCLUDE (1) THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM AND (2) PROVIDING, MAINTAINING AND REMOVING NEW DRUMS IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUMS. (REPLACEMENT LIGHTS SHALL NOT BE PAID FOR SEPARATELY BUT CONSIDERED INCIDENTAL TO THIS ITEM OR ITEM 614 MAINTAINING TRAFFIC) AN ESTIMATED QUANTITY OF ITEM SPECIAL, REPLACEMENT DRUMS HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- ITEM SPECIAL - REPLACEMENT DRUMS 200 EACH

L. LAW ENFORCEMENT OFFICER WITH PATROL CAR

THE CONTRACTOR SHALL PROVIDE AND PAY ALL COSTS FOR THE SERVICES OF LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR THE EXCLUSIVE PURPOSE OF CONTROLLING TRAFFIC WHENEVER A CHANGE IN THE TRAFFIC PATTERN TAKES PLACE. THE NUMBER OF OFFICERS AND CARS REQUIRED FOR THIS PURPOSE SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE OFFICERS SHALL MOVE THEIR PATROL CARS AS NECESSARY TO INSURE THEIR CONSTANT PRESENCE AT THE POINT(S) OF SLOWDOWN, STOPPAGE OR BACK-UP. PAYMENT FOR THE ABOVE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR.

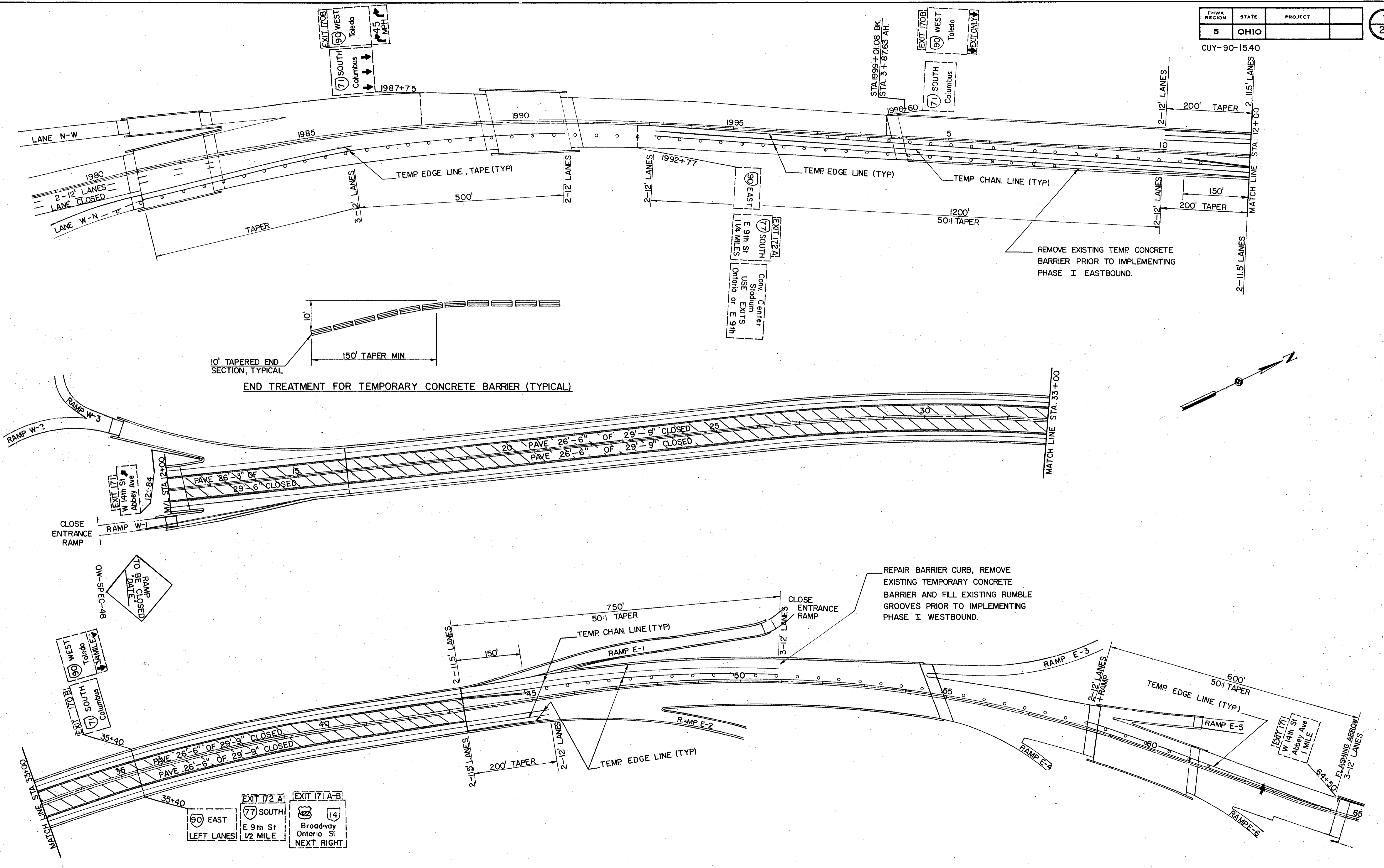
THE FOLLOWING PAY ITEM AND QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- ITEM SPECIAL - LAW ENFORCEMENT OFFICER WITH PATROL CAR 200 HOURS

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ARRANGEMENTS REGARDING SCHEDULING AND PAYMENT OF LAW ENFORCEMENT OFFICER WITH PATROL CAR.

This requirement does not preclude the Contractor's use of Law Enforcement Officer for other purposes in the project area. However, where such use is at the option of the Contractor, payment for the Law Enforcement officer's services involved shall be included in the lump sum bid for Item 614, Maintaining Traffic.

CUY-90-1540



614 TEMPORARY PAVEMENT MARKINGS

NOTE B

GENERAL

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

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

MATERIALS

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

A. PAINT

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

B. PAVEMENT MARKING TAPE

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

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

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

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

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

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

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

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

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

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

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

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

	WHITE	YELLOW
OBSERVATION ANGLE	0.2 0.5	0. 0.5
SPECIFIC LUMINANCE	1770 1270	1310 770
(MCD/FT ²)/FC		

THE TAPE SHALL BE T-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 5710, 5711, 6270, 6211)" OR AN APPROVED EQUAL.

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

LAYOUT

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

PLACEMENT

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

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

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

A. CLASS I MARKINGS

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

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

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

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 10 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

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

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

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 2-FOOT INTERVALS.

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

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

CONFLICTING MARKINGS

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

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASH LINE QUANTITIES SHALL BE THE LENGTH OF THE COMPLETED STRIP, INCLUDING GAPS IN SECTIONS AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.134.

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

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL

COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES/L'N. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

PAVEMENT MARKING - ITEM 621

STATION TO STATION	SIDE	EDGE LINE, WHITE	EDGE LINE, YELLOW	LANE LINE, 4-IN	CHANNELIZING LINE	TRANSVERSE LINE
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
1981+00 - 1991+00	EB	1000		1000		
1993+13 - 12+00	EB	1400	1400	4200		
12+00 - 43+35	EB	3150	3135	9405		
43+35 - 45+35	EB	200	200	600		
58+40 - 64+40	WB			600		
43+35 - 50+85	WB	500	750	2250		
16+15 - 43+35	WB	2720	2720	8160		
12+00 - 16+15	WB	415	415	1245	160	110
RAMP W-2	WB	250	250	360		
10+00 - 12+00	WB	200	200	400		
TOTALS		9835	9070	28220	160	110
		= 3.58 MI.		= 5.34 MI.		

STRUCTURE NOTES

COMPUTED BY: ENF
CHECKED BY: EMM

FHWA REGION	STATE	PROJECT	
5	OHIO		

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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 102.05, 105.02 AND 513.02.

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

PLANS OF EXISTING BRIDGES

CONSTRUCTION PLANS FOR THE EXISTING BRIDGES ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 OFFICE, 10100 BROADWAY AVENUE, GARFIELD HEIGHTS, OHIO, AND ARE AVAILABLE FOR VIEWING.

ITEM 509 - REINFORCING STEEL, AS PER PLAN

THIS ITEM SHALL BE USED TO REPLACE REINFORCING STEEL WHICH IS BENT, ELONGATED, MISSING, OR EXTREMELY CORRODED. BARS SHALL BE THE SAME SIZE AS THE ORIGINAL BARS AND SHALL BE PLACED AS NEAR AS POSSIBLE TO THEIR ORIGINAL LOCATION. BARS SHALL BE LAPPED ACCORDING TO SEC. 509.08. PAYMENT FOR THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK, INCLUDING REMOVAL OF THE EXISTING STEEL. THE FOLLOWING ESTIMATED QUANTITY OF REINFORCING STEEL IS TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER.

ITEM 509 - REINFORCING STEEL, AS PER PLAN 500 POUNDS.

TYING REBARS

THE PURPOSE OF THIS ITEM IS TO TIE EXPOSED STEEL REINFORCING BARS WHICH ARE IN CROSS CONTACT OR LAPPED. TACK WELDING SHALL NOT BE PERMITTED. THIS WORK SHALL BE PERFORMED WHERE AND AS DETERMINED BY THE ENGINEER TO RESTRICT THE RELATIVE MOVEMENT OF THE REINFORCING BARS.

PAYMENT FOR THIS WORK INCLUDING EXTRA REMOVAL OF CONCRETE AS REQUIRED TO PERMIT TYING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS).

ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY (2 1/2 INCHES THICK)

THIS ITEM SHALL BE IDENTICAL TO ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY (1 1/2 INCHES THICK) EXCEPT THAT ALL REFERENCE TO LMC OVERLAY (1 1/2 INCHES THICK) SHALL BE CONSIDERED TO READ LMC OVERLAY (2 1/2 INCHES THICK).

ITEM SPECIAL - SEALING OF CONCRETE SURFACES

TREATMENT SHALL BE APPLIED TO EXPOSED BRIDGE COMPONENTS AS LISTED IN ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE.

THIS TREATMENT SHALL NOT BE PERFORMED UNTIL CONCRETE REPAIRS HAVE BEEN COMPLETED.

SPECIFIED CONCRETE SURFACES SHALL BE SEALED USING EITHER SILANE OR AN EPOXY SEALER. SEE THE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS, AND APPLICATION PROCEDURES.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE

- A. DESCRIPTION: THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND FORMING, MIXING, PLACING, FINISHING AND CURING OF THE MAGNESIUM PHOSPHATE CONCRETE PATCHES, AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED ON EXPOSED COMPONENTS OF THE PLAN STRUCTURES FROM STA. 3+87.63 (SLM 15.24) TO STA. 54+65.78 (SLM 16.20) AS LISTED BELOW.
 - 1. CURBS, SIDEWALKS AND PARAPETS (ROADWAY AND TOP FACES ONLY).
 - 2. CONCRETE BARRIER MEDIAN (ROADWAY AND TOP FACES ONLY)
 - 3. THE TWO MAINLINE AND FOUR RAMP ABUTMENTS INCLUDING WINGWALLS AND BACKWALLS.
- B. MATERIALS: PATCHING MATERIAL SHALL BE MADE USING A BLEND OF MAGNESIA AND SELECTED AGGREGATE WITH AN ACTIVATOR. THESE MATERIALS SHALL BE MIXED AND PLACED PER MANUFACTURER'S RECOMMENDATIONS. THE PATCHING MATERIAL SHALL BE HORN 240 CONCRETE, FAST CRETE, BOSTIK 276, SET 45 OR AN APPROVED EQUAL.
- C. REMOVAL OF CONCRETE: THE ENGINEER SHALL SOUND THE STRUCTURE AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, AND DISINTEGRATED CONCRETE PLUS ONE-FOURTH INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM THREE-FOURTH INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATION, THE ENGINEER WILL RESOUND THE AREAS TO INSURE THAT ONLY SOLID CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. THE PATCHING DEPTH SHALL NOT BE LESS THAN ONE-HALF INCH. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 35 POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO INSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. FOR PATCHES WHICH DO NOT USE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE DRY. FOR PATCHES WHICH REQUIRE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW CONCRETE SHALL BE MECHANICALLY ROUGHENED.
- E. FORMS: FORMS, WHEN REQUIRED TO RESTORE VERTICAL SURFACES IN AN ACCEPTABLE MANNER, SHALL BE ERECTED FLUSH WITH THE FACES OF REPAIR AREAS TO INSURE THAT THE CONCRETE DOES NOT ESCAPE FROM THE PATCH AREA.
- F. PATCHING: THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES, TOOLS, EQUIPMENT, LABOR AND MATERIALS SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS EXCEPT THAT NO ADDITIONAL AGGREGATE SHALL BE USED. WHEN FORMS ARE USED CONCRETE SHALL BE PLACED THROUGH AT LEAST ONE HOLE AT THE HIGHEST POINT OF THE AREA TO BE PATCHED. THE FORMS SHALL BE TAPPED TO VIBRATE THE CONCRETE AND INSURE THAT IT REACHES THE LOWEST REGIONS OF THE PATCH AREA. THE SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA.
- G. CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- H. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL COMPLETED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH COMPLETE IN PLACE AND ACCEPTED. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED, OR IF A PATCH EXTENDS COMPLETELY THROUGH A MEMBER BOTH EXPOSED SURFACES SHALL BE INCLUDED.
- I. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT CONTRACT PRICE BID FOR:

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
SPECIAL	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE
- J. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH
MAGNESIUM PHOSPHATE CONCRETE..... 4300 SQ. FT. I
4300 SQ. FT. II

FHWA REGION	STATE	PROJECT
5	OHIO	

CUYAHOGA COUNTY
 CUY-90-15.40

STRUCTURE NOTES

MICROFIL
 JAN 8 1987

CUY-90-1547 JOINT MODIFICATIONS

DESCRIPTION OF WORK

1. TO REPLACE EXISTING DAMAGED CONTRACTION SEALS BY MODIFYING THE JOINTS AS DETAILED.
2. TO ADD CURB SEALS AT ALL CURB JOINT OPENINGS.
3. TO SEAL THE SIDEWALK JOINTS WHICH ALIGN WITH THE CONTRACTION JOINTS.
4. TO TACK WELD ALL REMAINING UNDAMAGED BAR RAISINGS TO PREVENT ANY FURTHER FAILURES.

REPAIR LIMITS

1. THE JOINTS SHALL BE MODIFIED WHENEVER BAR RAISINGS ARE LOOSE OR MISSING AND/OR THE COPPER WATERSTOP IS DAMAGED. WHEREVER THESE REPAIRS ARE MADE THEY SHALL BE DONE ACROSS BOTH CLOSED LANES (FROM A POINT 28 FT. FROM CENTER LINE TO EITHER THE CURB OR TO A POINT 6 INCHES FROM THE BARRIER MEDIAN).
2. ALL OUTSIDE CURB JOINTS SHALL BE MODIFIED.
3. ALL CONTRACTION JOINTS IN THE SIDEWALK SHALL BE SEALED.
4. ALL REMAINING BAR RAISINGS SHALL BE TACK WELDED AS SPECIFIED.

GENERAL

ANY MISCELLANEOUS REMOVALS OR NECESSARY PREPARATIONS WHICH ARE NOT SPECIFICALLY MENTIONED IN THESE NOTES SHALL BE CONSIDERED INCIDENTAL TO THE PERTINENT REMOVAL OR INSTALLATION ITEMS.

PREPARATION OF DAMAGED CONTRACTION JOINT

1. REMOVE BOTH 4" x 1/2" BAR RAISINGS BY DRILLING OR BURNING THE CAP SCREWS OFF AND BY CUTTING THE BARS AT THE REPAIR LIMIT. SOME BAR RAISINGS ARE WELDED DOWN AND SHALL BE REMOVED IN A MANNER WHICH WILL NOT DAMAGE THE REMAINING STEEL.
2. REMOVE THE COPPER WATERSTOP.
3. GRIND THE REMAINING STEEL SURFACE SMOOTH.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED UNDER ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT.

4. INSTALL TWO 3/4" x 1/2" BAR RAISINGS AS DETAILED.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF BOTH BAR RAISINGS SHALL BE INCLUDED UNDER ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN.

PREPARATION OF DAMAGED CONTRACTION JOINT AT CROSS DRAIN

1. REMOVE THE 4" x 1/2" BAR RAISING AS NOTED ABOVE.
2. REMOVE THE 2" x 3/8" RETAINING PLATE AND CAP SCREWS FLUSH WITH THE SIDE OF THE CROSS DRAIN. EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE THE CROSS DRAIN.
3. REMOVE THE COPPER WATERSTOP.
4. GRIND THE REMAINING STEEL SURFACES SMOOTH.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCLUDED UNDER ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN.

5. INSTALL ONE 3/4" x 1/2" BAR RAISING AS DETAILED.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF ONE BAR RAISING SHALL BE INCLUDED UNDER ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN.

PREPARATION OF CURB JOINTS

1. CUT THE STEEL CURB PLATE(S) AS NECESSARY TO PROVIDE FOR THE INSTALLATION OF THE 2" x 2" ANGLE SO THAT THE FACE OF THE ANGLE ALIGNS WITH THE FACE OF THE EXISTING DECK JOINT.
2. CLEAN OUT THE EXISTING FILLER MATERIAL IN THE LAST 4 INCHES OF THE COPPER WATERSTOP (IF THE WATERSTOP HAS NOT BEEN REMOVED). BEND THE COPPER WATERSTOP SO THAT ITS SIDES FIT FLUSH AGAINST THE SIDE OF THE EXISTING JOINT.
3. SANDBLAST CLEAN ALL AREAS TO BE WELDED AND THE BACK SIDE OF THE STEEL CURBS WHICH ARE TO BE IN CONTACT WITH THE NEW ANGLES. INSTALL BOTH 2" x 2" x 3/8" STEEL ANGLES AS SHOWN. GRIND ALL WELDS SMOOTH (ESPECIALLY THE PLUG WELDS).
4. SMOOTH ANY DISCONTINUITIES BETWEEN THE NEW STEEL ANGLES AND THE SIDES OF THE DECK JOINT (OR THE REMAINING COPPER WATERSTOP) USING A TROWELABLE EPOXY ADHESIVE FILLER WITH EXCELLENT ADHESION AS APPROVED BY THE ENGINEER.
5. PAINT ALL EXPOSED STEEL SURFACES AS PER 514.06.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF EACH PAIR OF CURB ANGLES AS SPECIFIED SHALL BE INCLUDED IN THE UNIT PRICE, PER EACH, FOR ITEM 516 - CURB SEAL ANGLES.

TACK WELDING EXISTING BAR RAISINGS

1. THE AREAS TO BE TACKED SHALL BE SANDBLASTED AND THEN PREHEATED TO BETWEEN 100°F AND 150°F IMMEDIATELY PRIOR TO TACK WELDING.
2. TWO MEDIUM SIZE TACK WELDS AS APPROVED BY THE ENGINEER SHALL BE PLACED ON EACH CAP SCREW AS DETAILED. THE TACK WELDS SHALL NOT EXTEND MORE THAN 1/8" INCH ABOVE THE JOINT AND SHALL BE GROUND DOWN IF NECESSARY.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT NECESSARY TO MAKE THE TACK WELDS AS SPECIFIED SHALL BE INCLUDED IN THE UNIT PRICE, PER LINEAR FOOT, FOR ITEM 516 - TACK WELDING OF EXISTING BAR RAISING. MEASUREMENT SHALL BE BASED ON THE LENGTH OF EACH BAR RAISING TACK WELDED.

PREPARATION FOR INSTALLATION OF JOINT SEALS

1. ALL AREAS WHICH ARE TO BE IN CONTACT WITH THE JOINT SEALS (EXCEPT THE PAINTED CURB ANGLES) SHALL BE SANDBLASTED CLEAN JUST PRIOR TO THE INSTALLATION OF THE JOINT SEALS. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PERTINENT JOINT SEAL ITEM.

PRECOMPRESSED SELF-ADHESIVE JOINT SEAL

1. THE MATERIAL FOR THIS ITEM IS AN OPEN CELL BITUMEN IMPREGNATED FOAM SEAL OF THE SIZES SPECIFIED. IT SHALL BE "EMSEAL" AS MANUFACTURED BY EMSEAL CORPORATION, "COMPRIBAND V" AS MANUFACTURED BY SECOA CORPORATION OR AN APPROVED EQUAL. THE SEAL SHALL BE SUPPLIED WITH A SELF-ADHESIVE BACKING AND THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. SPLICES SHALL BE MITERED. BUTT JOINTS SHALL NOT BE PERMITTED.
3. BACKER ROD SHALL BE PLACED BELOW THE SEAL TO INSURE INSTALLATION AT THE PROPER DEPTH.
4. WHEN INSTALLED ADJACENT TO A COPPER WATERSTOP WHICH IS TO REMAIN, THE SEAL SHALL EXTEND 4 INCHES MINIMUM INTO THE INTACT COPPER WATERSTOP. THE JOINT SHALL BE PREPARED AS PER PARAGRAPH 7 BELOW.
5. THE JOINT SEAL SIZES AS DETAILED ARE THE MINIMUM SIZES ACCEPTABLE. IF A LARGER DEPTH IS USED, THE END SHALL BE TRIMMED TO A DEPTH OF 2 INCHES FOR INSTALLATION BETWEEN THE CURB ANGLES.
6. WHEN INSTALLED AT THE CURB LINE THE SEAL SHALL BE CUT AS DETAILED TO PROVIDE FOR A GRADUAL BEND AT THE CURB LINE.

7. SEALS INSTALLED NEXT TO THE BARRIER MEDIAN SHALL BE EXTENDED 4 INCHES INTO THE INTACT COPPER WATERSTOP. SUFFICIENT JOINT FILLER MATERIAL SHALL BE REMOVED FROM THE COPPER WATERSTOP TO ALLOW FOR THE PLACEMENT OF THE NEW SEAL. THE SIDES OF THE COPPER WATERSTOP SHALL BE BENT FLUSH WITH THE SIDES OF THE DECK JOINT. ANY DISCONTINUITIES BETWEEN THE COPPER WATERSTOP AND THE DECK JOINT SHALL BE SMOOTHED USING A TROWELABLE EPOXY ADHESIVE FILLER AS APPROVED BY THE ENGINEER.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE UNIT COST, PER LINEAR FOOT, OF ITEM 516 - PRE-COMPRESSED SELF-ADHESIVE JOINT SEAL. MEASUREMENT SHALL BE BASED ON THE NUMBER OF LINEAR FEET OF SEAL INSTALLED REGARDLESS OF THE SIZE USED.

POURED JOINT SEAL

1. THE MATERIAL FOR THIS ITEM IS A TWO PART, COLD APPLIED, CHEMICALLY CURING, SELF LEVELING, ELASTOMERIC, POLYURETHANE JOINT SEALANT. IT SHALL BE "FX-551" AS MANUFACTURED BY FOX INDUSTRIES INCORPORATED, "UREXPAN NR-200" AS MANUFACTURED BY PECORA CORPORATION OR AN APPROVED EQUAL.
2. IT SHALL BE USED AS A SECONDARY SEAL ON TOP OF THE PREFORMED EXPANSION JOINT SEAL AND TO SEAL THE TRANSITION BETWEEN THE EXISTING COPPER WATERSTOP AND THE PREFORMED EXPANSION JOINT SEAL.
3. IT SHALL ALSO BE USED AS A PRIMARY SEAL ON THE SIDEWALK CONTRACTION JOINTS.
4. MEASUREMENT OF PAY LENGTH SHALL BE AS FOLLOWS:
 - A. 4 FT. FOR EACH SIDEWALK CONTRACTION JOINT.
 - B. 1 FT. FOR EACH CURB SEAL WHEN NOT CONTINUOUS WITH A JOINT MODIFICATION.
 - C. FACE OF CURB TO FACE OF MEDIAN. WHEN ONLY TWO LANES ARE REPAIRED, MEASUREMENT SHALL BE TO THE LIMIT OF THE PREFORMED JOINT SEAL OVERLAP INTO THE COPPER WATERSTOP.
5. THE INSTALLED AND CURED MATERIAL SHALL BE 1/2" INCH DEEP AND SHALL BE BONDED TO THE SIDES OF THE JOINT. ANY UNBONDED SECTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
6. DAMS AS REQUIRED TO CONTAIN THE POURED SEALER SHALL BE INCIDENTAL TO THIS ITEM OF WORK.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE UNIT COST, PER LINEAR FOOT, OF ITEM 516 - POURED POLYURETHANE JOINT SEAL.

ESTIMATED QUANTITIES

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

ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT	540 LIN. FT.
ITEM 202 - REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN	800 LIN. FT.
ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN.	540 LIN. FT.
ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B; AS PER PLAN.	800 LIN. FT.
ITEM 516 - CURB SEAL ANGLES	48 EACH
ITEM 516 - TACK WELDING OF EXISTING BAR RAISING	2150 LIN. FT.
ITEM 516 - PRE-COMPRESSED SELF-ADHESIVE JOINT SEAL	1400 LIN. FT.
ITEM 516 - POURED POLYURETHANE JOINT SEAL	1600 LIN. FT.

STRUCTURE NOTES

COMPUTED BY: ENF
CHECKED BY: EMM

FHWA REGION	STATE	PROJECT
5	OHIO	

13
20

CUYAHOGA COUNTY
CUY-90-1540

MICROFILM
JAN 8 1987

CUY-90-1540, CUY-90-1599 - BARRIER CURB REPAIR

DESCRIPTION OF WORK

1. TO REPLACE THE ANCHORAGE SYSTEM OF THE EXISTING BARRIER CURBS.
2. TO REPAIR EXISTING DAMAGED LONGITUDINAL OR TRANSVERSE REBARS WITHIN THE REPAIR LIMITS.
3. TO REPLACE DAMAGED POSTS OR CURB RAIL ELEMENTS AS NECESSARY.

REPAIR LOCATIONS

1. THE PROPOSED WORK APPLIES TO ALL CURB POST LOCATIONS ON CUY-90-1540 AND CUY-90-1599 EXCEPT THE SOUTHERLY CURB POSTS ALONG RAMP W-1 ON CUY-90-1540 FROM STA. 7+27 TO STA. 10+80.
2. REPLACEMENT OF DAMAGED POSTS OR CURB RAIL ELEMENTS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.

PROPOSED WORK

1. THE PROPOSED WORK SHALL BE AS SHOWN ON THE PLAN DETAILS, SHEETS 18 AND 19
2. THE EXISTING BARRIER CURB RAIL ELEMENTS AND POSTS SHALL BE CAREFULLY REMOVED AND SAFELY STORED FOR REINSTALLATION ON THE NEW ANCHORAGE SYSTEM. THE LOCATIONS ON THE EXISTING ANCHORS SHALL BE CAREFULLY REFERENCED TO INSURE THAT THE NEW ANCHORS ARE PLACED IN THE EXACT LOCATIONS WHICH WILL PROVIDE FOR THE REINSTALLATION OF THE BARRIER CURBS WITH NO MODIFICATIONS TO THE BARRIER RAIL ELEMENTS OR THE BASE PLATES.
3. EXTREME CAUTION SHALL BE EXERCISED TO PREVENT DAMAGE TO THE TRANSVERSE SIDEWALK REINFORCING STEEL, EXPOSURE OF THE TOP DECK SLAB REINFORCING STEEL AND UNDUE DEFORMATION OF THE LONGITUDINAL SIDEWALK STEEL. THE CONCRETE REMOVAL, SURFACE PREPARATION, MATERIALS, PLACING AND CURING OF CONCRETE SHALL BE AS PER SUPPLEMENTAL SPECIFICATION 845.

ALL COSTS OF REMOVAL AND REINSTALLATION OF THE BARRIER CURB, CONCRETE REMOVAL, LATEX MODIFIED CONCRETE ENCASMENT, SUPPLYING AND INSTALLING THE NEW ANCHORS AND MISCELLANEOUS HARDWARE AND ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REPAIR THE BARRIER CURB AS DETAILED SHALL BE INCLUDED IN THE UNIT COST, PER EACH, OF ITEM SPECIAL - BARRIER CURB POST ANCHORAGE SYSTEM.

4. ALL DAMAGED REINFORCING STEEL (CUT OR SEVERELY CORRODED), AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED BY WELD SPLICING A SIMILAR SIZE BAR ADJACENT TO THE DAMAGED BAR. THE NEW BAR SHALL EXTEND A MINIMUM OF 4 INCHES BEYOND THE UNDAMAGED ENDS OF THE BAR BEING REPAIRED. THE SPLICE SHALL BE MADE BY WELDING AS DETAILED IN THE PLANS. ALL WELDING SHALL MEET THE REQUIREMENTS OF AWS D12.1. STEEL SHALL MEET THE REQUIREMENTS OF ITEM 509.

PAYMENT FOR ALL NECESSARY LABOR, MATERIALS (INCLUDING THE NEW SECTION OF REINFORCING STEEL) AND EQUIPMENT NECESSARY TO REPAIR EACH DAMAGED REINFORCING BAR SHALL BE INCLUDED IN THE UNIT PRICE, PER EACH, OF ITEM SPECIAL-WELDED REINFORCING BAR SPLICE.

5. ANY DAMAGED BARRIER CURB RAIL ELEMENTS OR CURB POSTS, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED IN KIND. GENERALLY, ELEMENTS ARE THREE PANELS LONG. WHEN REPLACED IT SHALL INCLUDE THE ENTIRE ELEMENT LENGTH. MATERIALS SHALL BE GALVANIZED STEEL AND CONSTRUCTED AS DETAILED IN THE PLANS. ANY MISCELLANEOUS HARDWARE NECESSARY TO CONNECT THESE ELEMENTS TO THE EXISTING ELEMENTS OR POSTS, SHALL ALSO BE INCLUDED UNDER THIS ITEM OF WORK.

PAYMENT FOR REMOVAL OF THE EXISTING BARRIER RAIL ELEMENT OR POST AND SUPPLYING AND INSTALLING THE NEW ITEMS AS WELL AS ANY OTHER LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REPAIR THE DAMAGED BARRIER CURB SHALL BE INCLUDED IN THE UNIT COST, PER LINEAR FOOT, OF ITEM 517 - RAILING (STEEL BARRIER CURB) OR PER EACH, OF ITEM 517 - BARRIER CURB POSTS.

ESTIMATED QUANTITIES

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE:

	<u>CUY-90</u>	<u>CUY-90</u>	
	<u>-1540</u>	<u>-1599</u>	
ITEM 517 - RAILING (STEEL BARRIER CURB)	<u>50</u>	<u>100</u>	L.F.
ITEM 517 - BARRIER CURB POSTS	<u>7</u>	<u>14</u>	EACH
ITEM SPECIAL - BARRIER CURB POST ANCHORAGE SYSTEM	<u>99</u>	<u>496</u>	EACH
ITEM SPECIAL - WELDED REINFORCING BAR SPLICE	<u>200</u>	<u>500</u>	EACH

CUY-90-1547 ACCESS DOOR REPAIRS (SEE SHEET 20 FOR DETAILS)

DESCRIPTION OF WORK

1. TO REPLACE ALL EXISTING HINGE SYSTEMS ON THE PULLBOX DOORS AND CATWALK ACCESS DOORS.
2. TO REPLACE ANY DAMAGED, MISSING OR SMOOTH STEEL DOORS WITH NEW 1/2 INCH STEEL RAISED PATTERN STEEL DOORS OF THE DIMENSIONS SHOWN.

REPLACEMENT OF CATWALK ACCESS DOOR HINGES

1. SEVER THE EXISTING HINGES AS SHOWN. REMOVE ANY OTHER VARIOUS ACCESS DOOR HINGES, HOLD DOWN PLATES, BARS OR MISCELLANEOUS MODIFICATIONS. GRIND SMOOTH ANY SHARP EDGES.
2. SANDBLAST CLEAN THE AREAS TO BE IN CONTACT WITH THE NEW HINGES.
3. INSTALL TWO NEW 4 INCH BY 4 INCH STAINLESS STEEL HINGES (MINIMUM THICKNESS 0.130 INCHES) BY WELDING TO THE STEEL SIDEWALK PLATES (SEE WELDING REQUIREMENTS).
4. PAINT ALL EXPOSED STEEL SURFACES AS PER 514.06.

PAYMENT FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF EACH PAIR OF HINGES, INCLUDING REMOVAL ITEMS, AS OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE, PER EACH, OF ITEM SPECIAL - CATWALK ACCESS DOOR HINGE MODIFICATIONS.

REPLACEMENT OF PULLBOX DOOR HINGES

1. REMOVE THE EXISTING HINGES AND ANY OTHER VARIOUS HOLD DOWN PLATES, BARS OR MISCELLANEOUS MODIFICATIONS. GRIND SMOOTH ANY SHARP EDGES.
2. SANDBLAST CLEAN THE AREAS TO BE IN CONTACT WITH THE NEW HINGES.
3. INSTALL TWO NEW 3 INCH BY 3 INCH STAINLESS STEEL HINGES (MINIMUM THICKNESS 0.092 INCHES) BY WELDING TO THE STEEL SIDEWALK PLATES (SEE WELDING REQUIREMENTS).
4. PAINT ALL EXPOSED STEEL SURFACES AS PER 514.06.

PAYMENT FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF EACH PAIR OF HINGES, INCLUDING REMOVAL ITEMS, AS OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE, PER EACH, OF ITEM SPECIAL - PULLBOX DOOR HINGE MODIFICATIONS.

REPLACEMENT OF CATWALK ACCESS DOOR OR PULLBOX DOORS

1. THE REPLACEMENTS SHALL BE MADE AT THE LOCATIONS AS DETERMINED BY THE ENGINEER.
2. THE EXACT DIMENSIONS NECESSARY SHALL BE FIELD VERIFIED TO INSURE AN EXACT FIT UP.
3. PAYMENT SHALL INCLUDE THE COST OF DISPOSAL OF THE EXISTING UN-USABLE DOORS.
4. THE REPLACEMENT CATWALK ACCESS DOOR SHALL INCLUDE THE FABRICATION OF AN ACCESS HANDLE AS DETAILED. STEEL SHALL BE 1/2 INCH RAISED PATTERN PLATE.
5. PAINT ALL STEEL AS PER 514.06

PAYMENT FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE FABRICATION AND INSTALLATION OF EACH REPLACEMENT DOOR AS OUTLINED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE, PER EACH, OF ITEM 513 - STEEL CATWALK ACCESS DOOR OR ITEM 513 - STEEL PULLBOX DOOR.

STAINLESS STEEL HINGE WELDING REQUIREMENTS

THE WELDING PREPARATION AND PROCEDURE SHALL MEET THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT THE WELDING PROCEDURE FOR APPROVAL BY THE ENGINEER PRIOR TO MAKING ANY WELDS. IF THE HINGES ARE SUPPLIED WITH HOLES, THEY SHALL BE FILLED FLUSH WITH WELD.

ESTIMATED QUANTITIES

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

ITEM 513 - STEEL CATWALK ACCESS DOOR (AISC CERTIFICATION NOT REQUIRED)	<u>20</u>	EACH
ITEM 513 - STEEL PULLBOX DOOR (AISC CERTIFICATION NOT REQUIRED)	<u>6</u>	EACH
ITEM SPECIAL - CATWALK ACCESS DOOR HINGE MODIFICATION	<u>82</u>	EACH
ITEM SPECIAL - PULLBOX DOOR HINGE MODIFICATION	<u>80</u>	EACH

ITEM 202-WEARING COURSE REMOVED
ITEM 845-LATEX MOD. CONC. OVERLAY (2 1/2" THICK)
ITEM 845-LATEX MOD. CONC. OVERLAY (VAR. THICKNESS)
ITEM 845-FULL DEPTH REPAIR
ITEM SPECIAL-SEALING OF CONC. SURFACE

CUY-90-1524	CUY-90-1540	CUY-90-1547	CUY-90-1599(T)
I	I	I	
1987 S.Y.	5558 S.Y. 5558 S.Y. 370 C.Y. 10 C.Y.	31,359 S.Y. 31,359 S.Y. 2090 C.Y. 55 C.Y.	3866 S.Y.

GENERAL SUMMARY

MICROFILM
JAN 8 1987

COMPUTED BY:
CHECKED BY:

CALC. BY: <i>E.N.F.</i>
DATE:
CHKD. BY: <i>E.M.M.</i>
DATE:

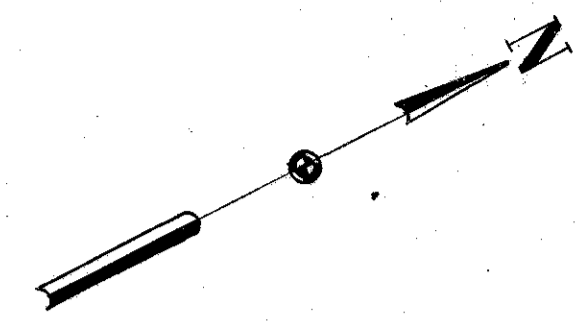
CUY - 90 - 15.40

OHIO
FHWA REGION 5

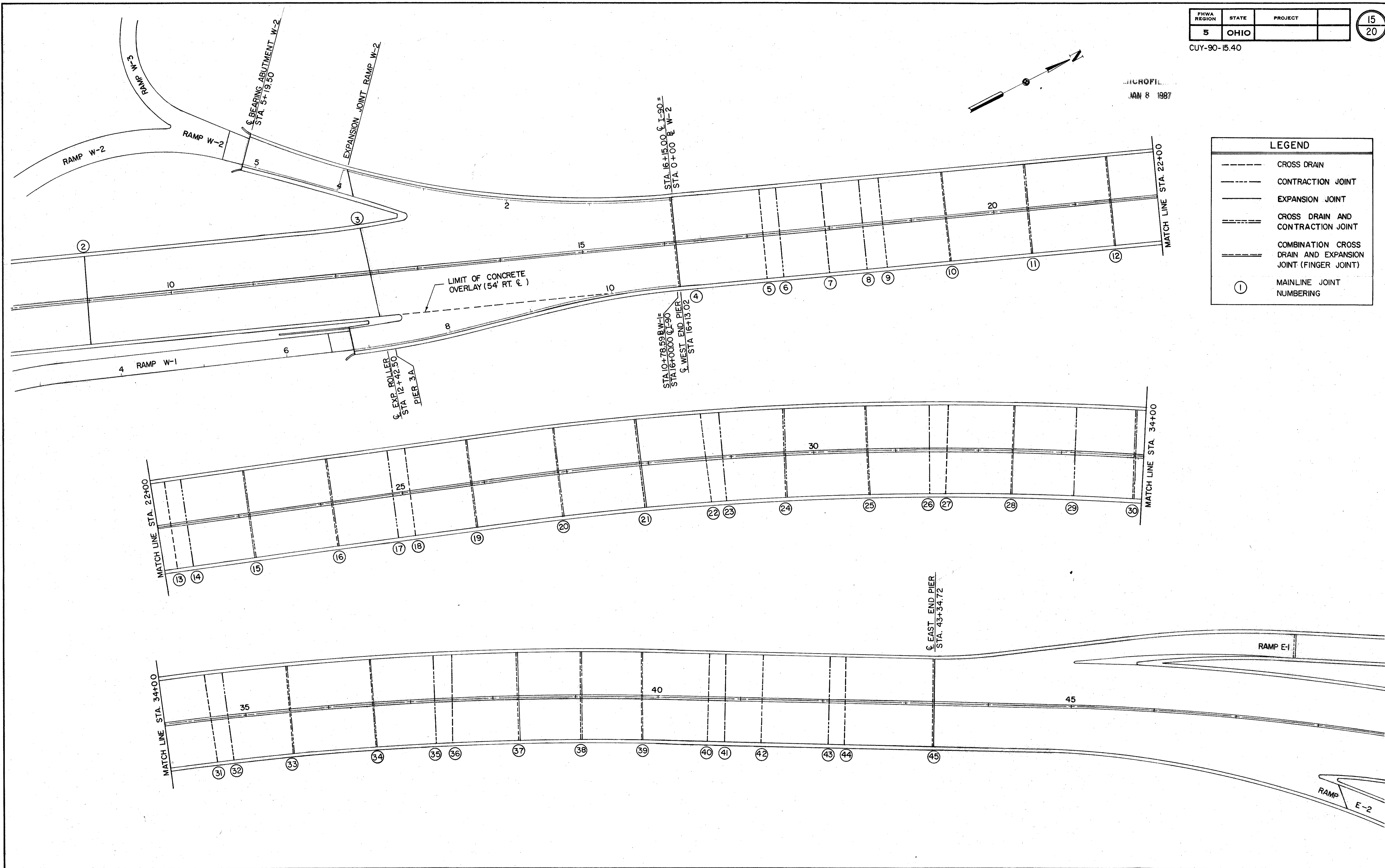
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ITEM	GEN. NOTES						CUY-90-1524		CUY-90-1540		CUY-90-1547		CUY-90-1599		SUB-TOTAL		ITEM	QUANT.	UNIT	DESCRIPTION	
	4	6	10	12	11 I	11 II	13 I	13 II	13 I	13 II	13 I	13 II	13 I	13 II	I	II					
202									5558		31359				36917		202	36917	S.Y.	WEARING COURSE REMOVED	
202				540											540		202	540	L.F.	REMOVAL OF COPPER WATERSTOP AT CONTRACTION JOINT	
202				800											800		202	800	L.F.	REMOVAL OF COPPER WATERSTOP AT CROSS DRAIN	
202		1850													1850		202	1850	L.F.	TEMPORARY CONCRETE BARRIER REMOVED	
404	150														150		404	150	C.Y.	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
509						500									500		509	500	LBS.	REINFORCING STEEL, AS PER PLAN	
513											20				20		513	20	EACH	STEEL CATWALK ACCESS DOOR (AISC CERTIFICATION NOT REQUIRED)	
513											6				6		513	6	EACH	STEEL PULLBOX DOOR (AISC CERTIFICATION NOT REQUIRED)	
516				540											540		516	540	L.F.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED A, AS PER PLAN	
516				800											800		516	800	L.F.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, MODIFIED B, AS PER PLAN	
516				48											48		516	48	EACH	CURB SEAL ANGLES	
516				2150											2150		516	2150	L.F.	TACK WELDING OF EXISTING BAR RAISING	
516				1400											1400		516	1400	L.F.	PRE-COMPRESSED SELF-ADHESIVE JOINT SEAL	
516				1600											1600		516	1600	L.F.	POURED POLYURETHANE JOINT SEAL	
517									50				100		150		517	150	L.F.	RAILING (STEEL BARRIER CURB NOT INCLUDING POSTS)	
517									7				14		21		517	21	EACH	BARRIER CURB POSTS	
614		3.48													3.48		614	3.48	MI.	TEMPORARY EDGE LINE, CLASS I, TAPE	
614		3.58													3.58		614	3.58	MI.	TEMPORARY EDGE LINE, CLASS I	
614		1.94													1.94		614	1.94	MI.	4" TEMPORARY CHANNELIZING LINE, CLASS I, TAPE	
614		1.17													1.17		614	1.17	MI.	4" TEMPORARY CHANNELIZING LINE, CLASS I	
614		5.34													5.34		614	5.34	MI.	TEMPORARY LANE LINES, CLASS II	
614		100													100		614	100	L.F.	TEMPORARY GORE MARKINGS, CLASS II	
621				3.58											3.58		621	3.58	MI.	EDGE LINES	
621				5.34											5.34		621	5.34	MI.	LANE LINES, 4 INCH	
621				160											160		621	160	L.F.	CHANNELIZING LINES	
621				110											110		621	110	L.F.	TRANSVERSE LINES	
622		15,350													15350		622	15350	L.F.	TEMPORARY CONCRETE BARRIER	
622		1850													1850		622	1850	L.F.	TEMPORARY CONCRETE BARRIER, AS PER PLAN	
845								5558		31359					36917		845	36917	S.Y.	LATEX MODIFIED CONCRETE OVERLAY (2 1/2" THICK)	
845								370		2090					2460		845	2460	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)	
845								10		55					65		845	65	C.Y.	FULL DEPTH REPAIR	
Special	410														410		SPEC.	410	L.F.	FILLING EXISTING RUMBLE GROOVES	
Special								1987		1034		1875		3866		8762		SPEC.	8762	S.Y.	SEALING OF CONCRETE SURFACES
Special						4300	4300								4300	4300	SPEC.	8600	S.F.	PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE	
Special											82				82		SPEC.	82	EACH	CATWALK ACCESS DOOR HINGE MODIFICATION	
Special											80				80		SPEC.	80	EACH	PULLBOX DOOR HINGE MODIFICATION	
Special									99			496		595		595	SPEC.	595	EACH	BARRIER CURB POST ANCHORAGE SYSTEM	
Special								200				500		700		700	SPEC.	700	EACH	WELDED REINFORCING BAR SPLICE	
Special		200												200		200	SPEC.	200	S.F.	REPLACEMENT SIGNS	
Special		200												200		200	SPEC.	200	EACH	REPLACEMENT DRUMS	
Special		200												200		200	SPEC.	200	HR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
																	614	LUMP SUM	LUMP	MAINTAINING TRAFFIC	
																	624	LUMP SUM	LUMP	MOBILIZATION, AS PER PLAN	

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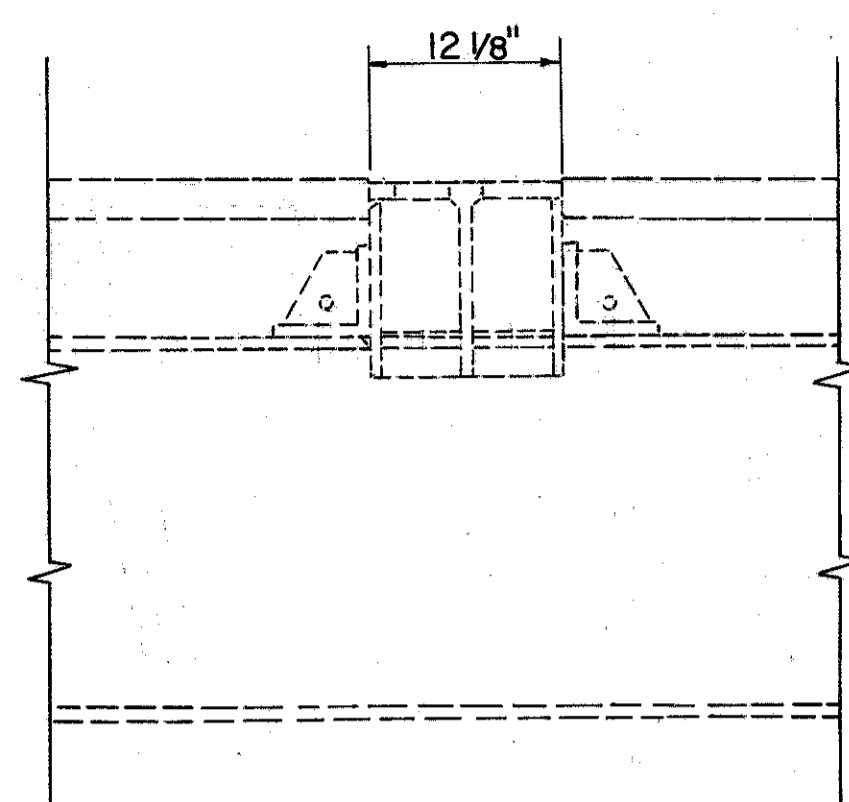


LEGEND	
	CROSS DRAIN
	CONTRACTION JOINT
	EXPANSION JOINT
	CROSS DRAIN AND CONTRACTION JOINT
	COMBINATION CROSS DRAIN AND EXPANSION JOINT (FINGER JOINT)
	MAINLINE JOINT NUMBERING

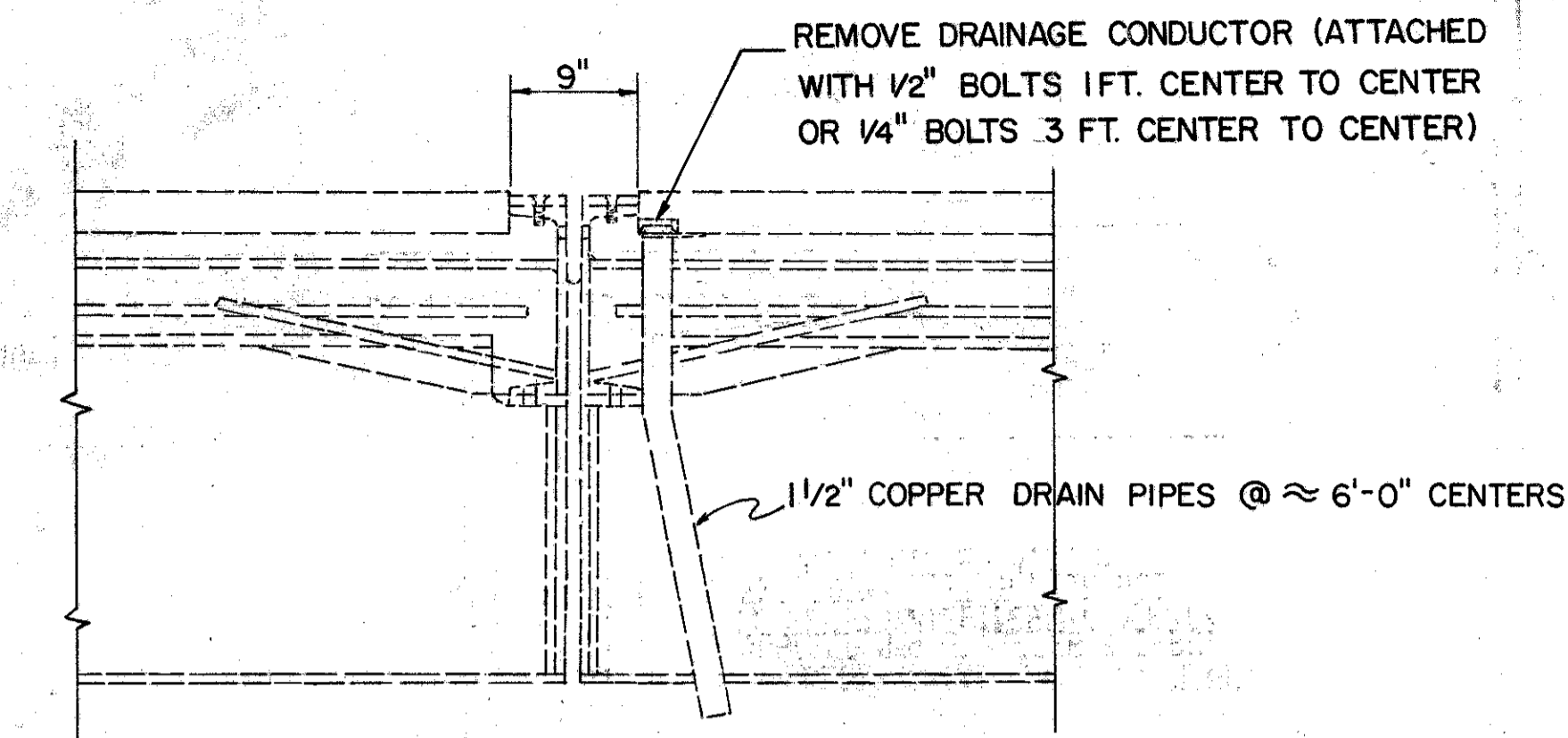
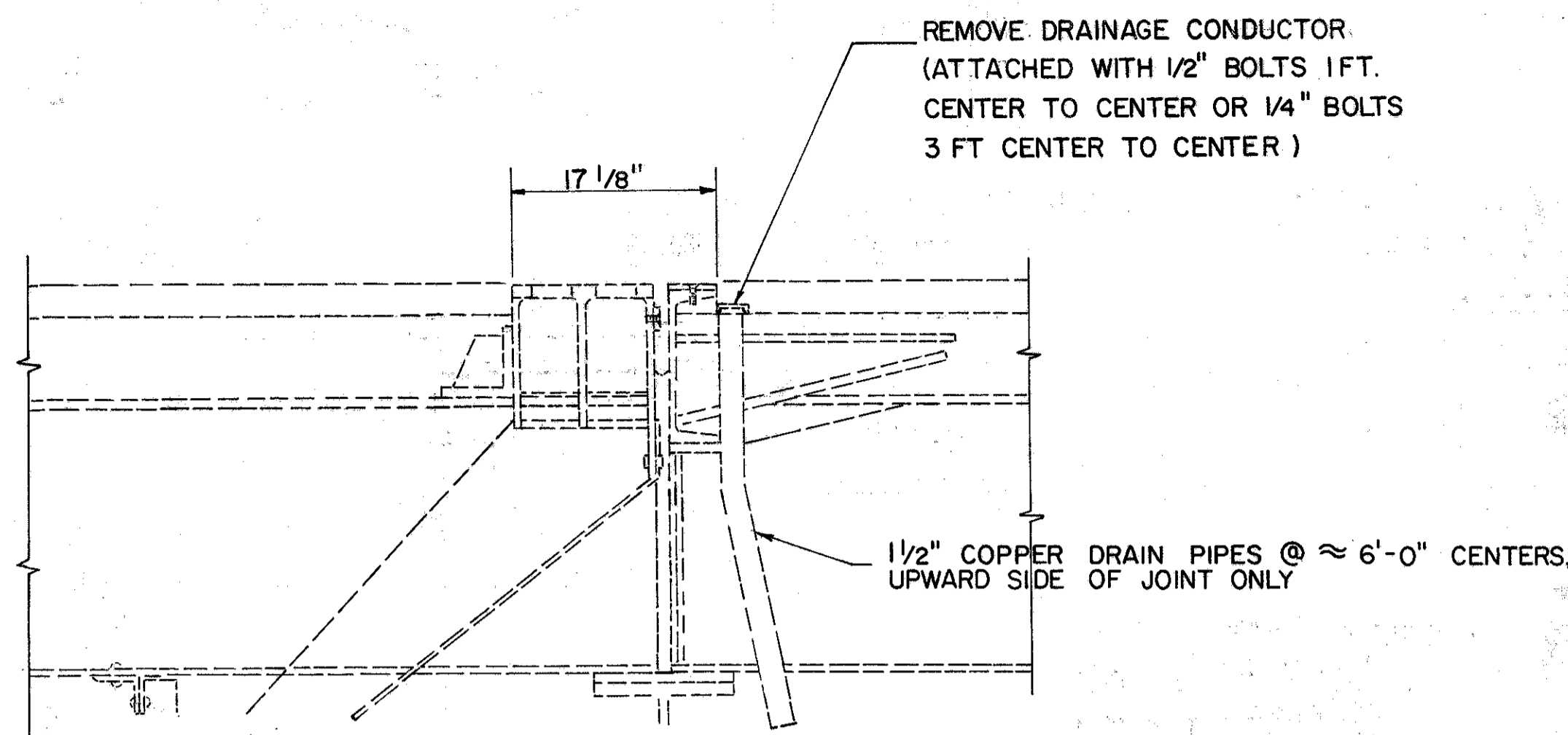


PLAN VIEW

MICROFIL
JAN 8 1987



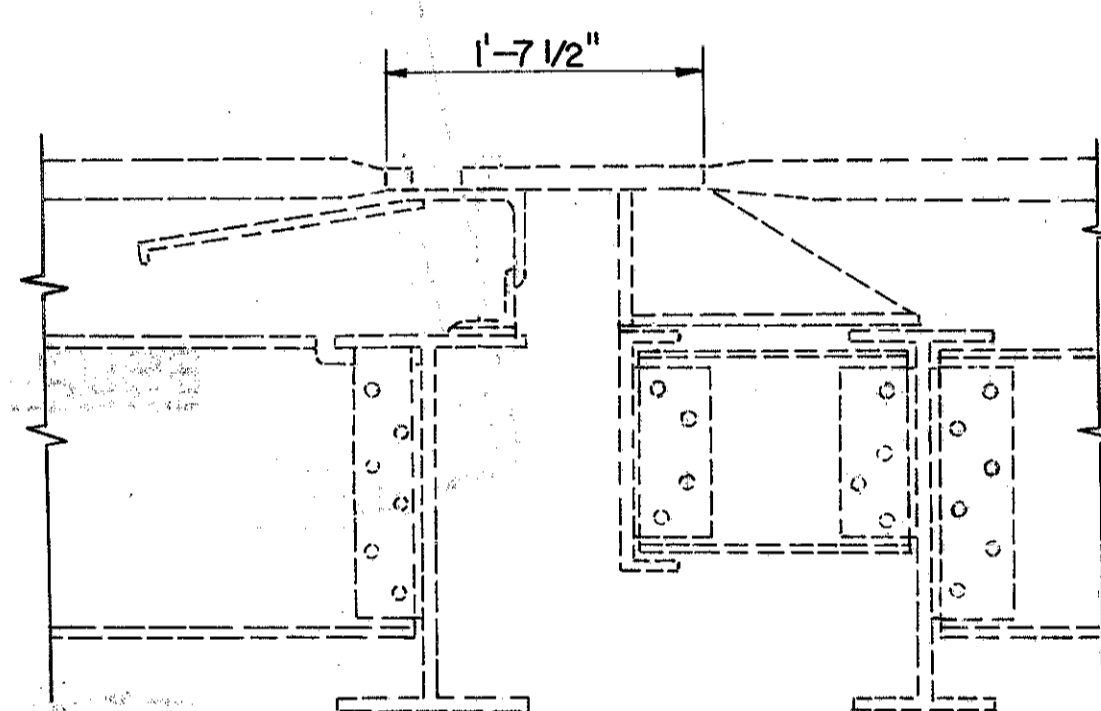
* - REMOVE ASPHALT DRAINAGE CONDUCTOR (NOT SHOWN)



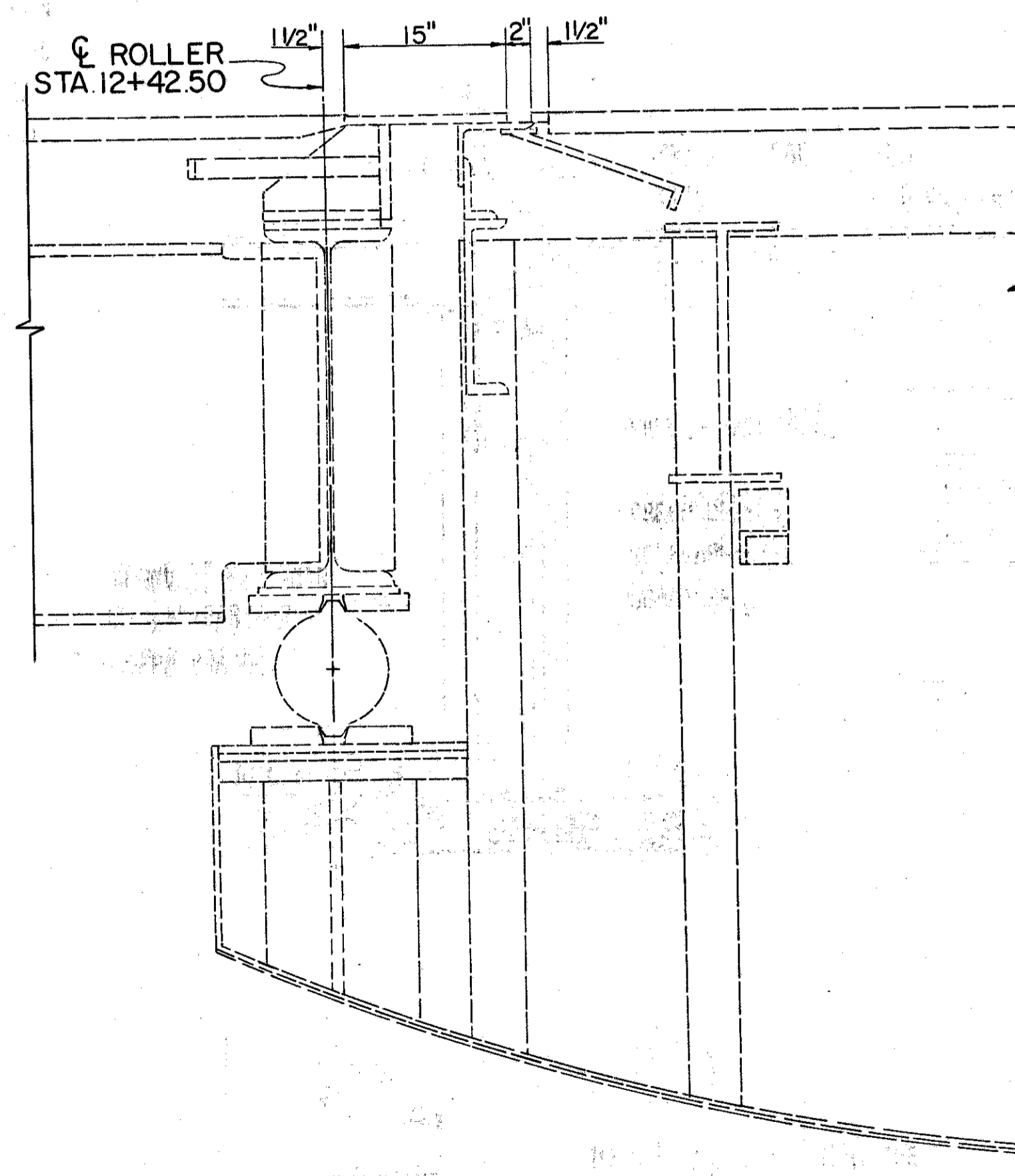
CROSS DRAIN *
JOINTS (5), (7), (9), (13), (18), (22), (27), (31), (36), (40), (42) & (44)

CROSS DRAIN AND CONTRACTION JOINT
JOINTS (10), (11), (15), (16), (19), (20), (24), (25), (30), (33), (34), (38) & (39)

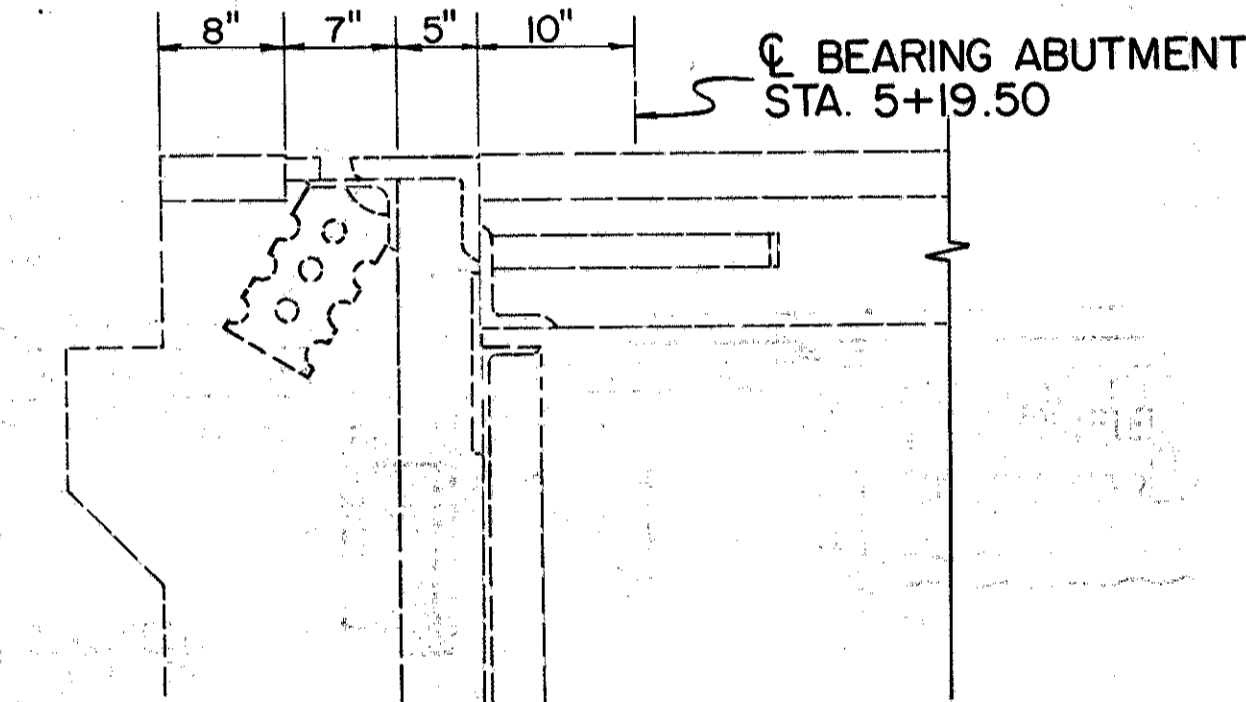
CONTRACTION JOINT
JOINTS (6), (8), (14), (17), (23), (26), (29), (32), (35), (41) & (43)



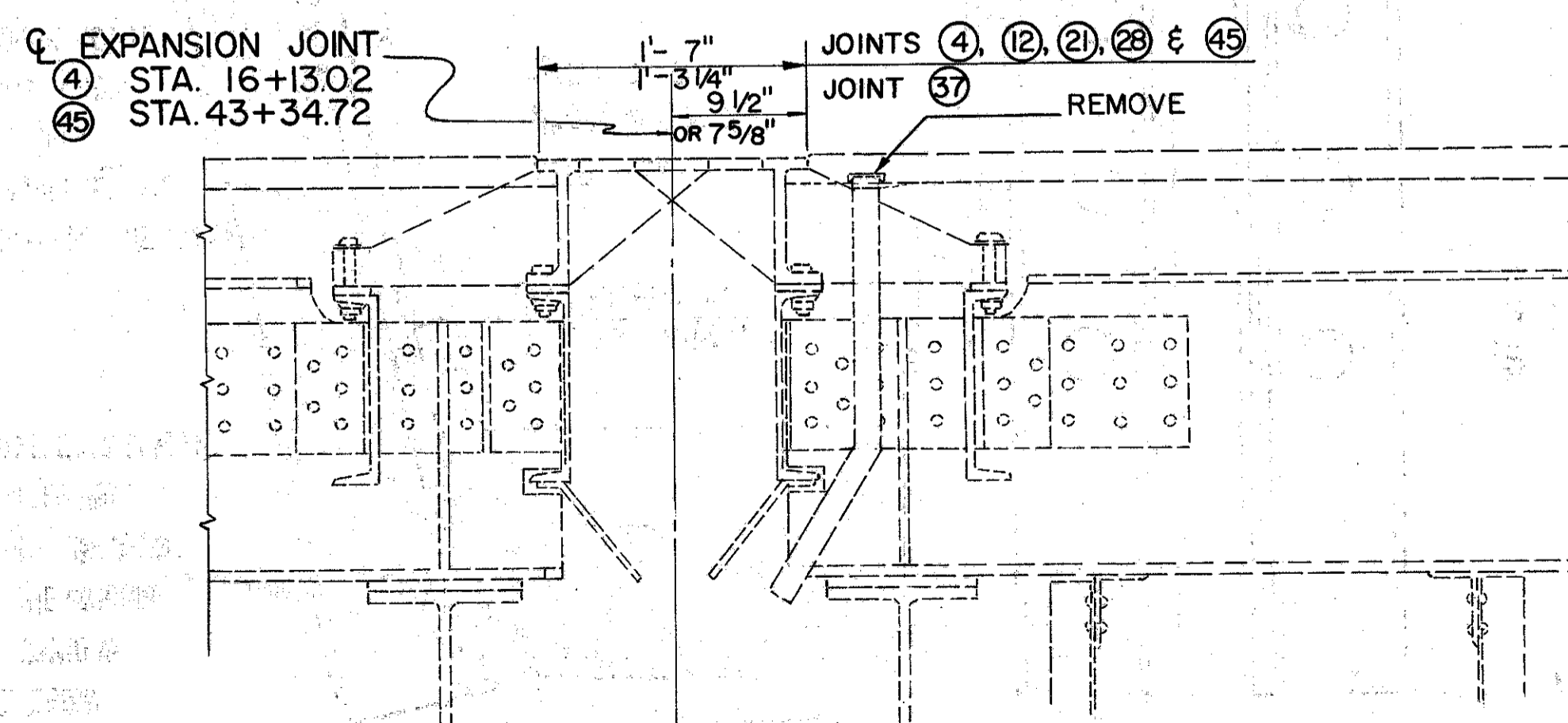
EXPANSION JOINT* - RAMP W-2



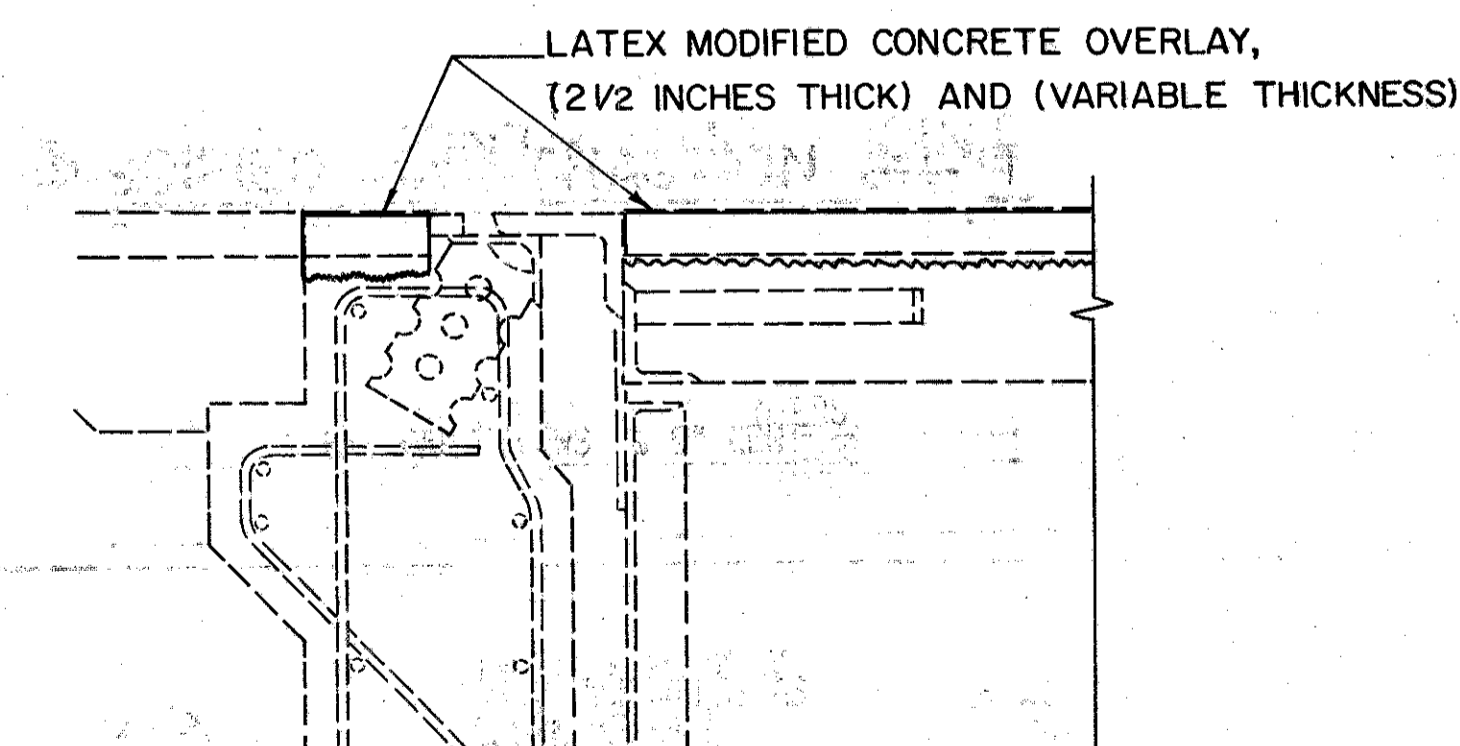
EXPANSION JOINT* - WEST END OF WEST APPROACH
JOINT (3)



ABUTMENT JOINT* - RAMP W-2



EXPANSION JOINT
WEST & EAST END PIERS OF CENTRAL VIADUCT - JOINTS (4) & (45)
INTERMEDIATE JOINTS (12), (21), (28) & (37)



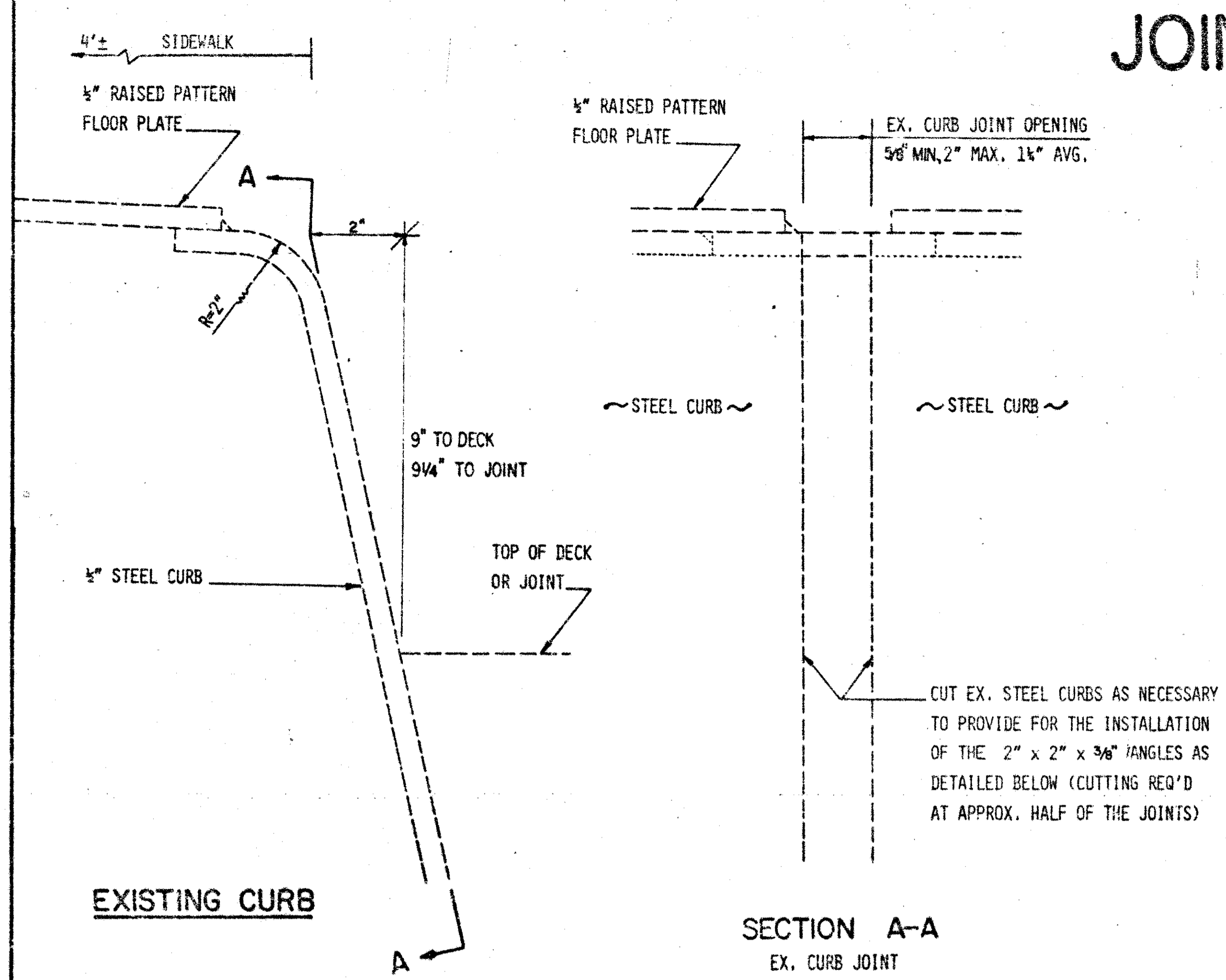
TYPICAL ABUTMENT* - RAMPS W-1, W-2 & W-3

THE EXISTING JOINTS SHOW THE WEARING COURSE 1/4 INCH ABOVE THE JOINTS. THE LATEX OVERLAY SHALL BE FINISHED FLUSH OR JUST SLIGHTLY ABOVE THE JOINT AS DETAILED ABOVE.

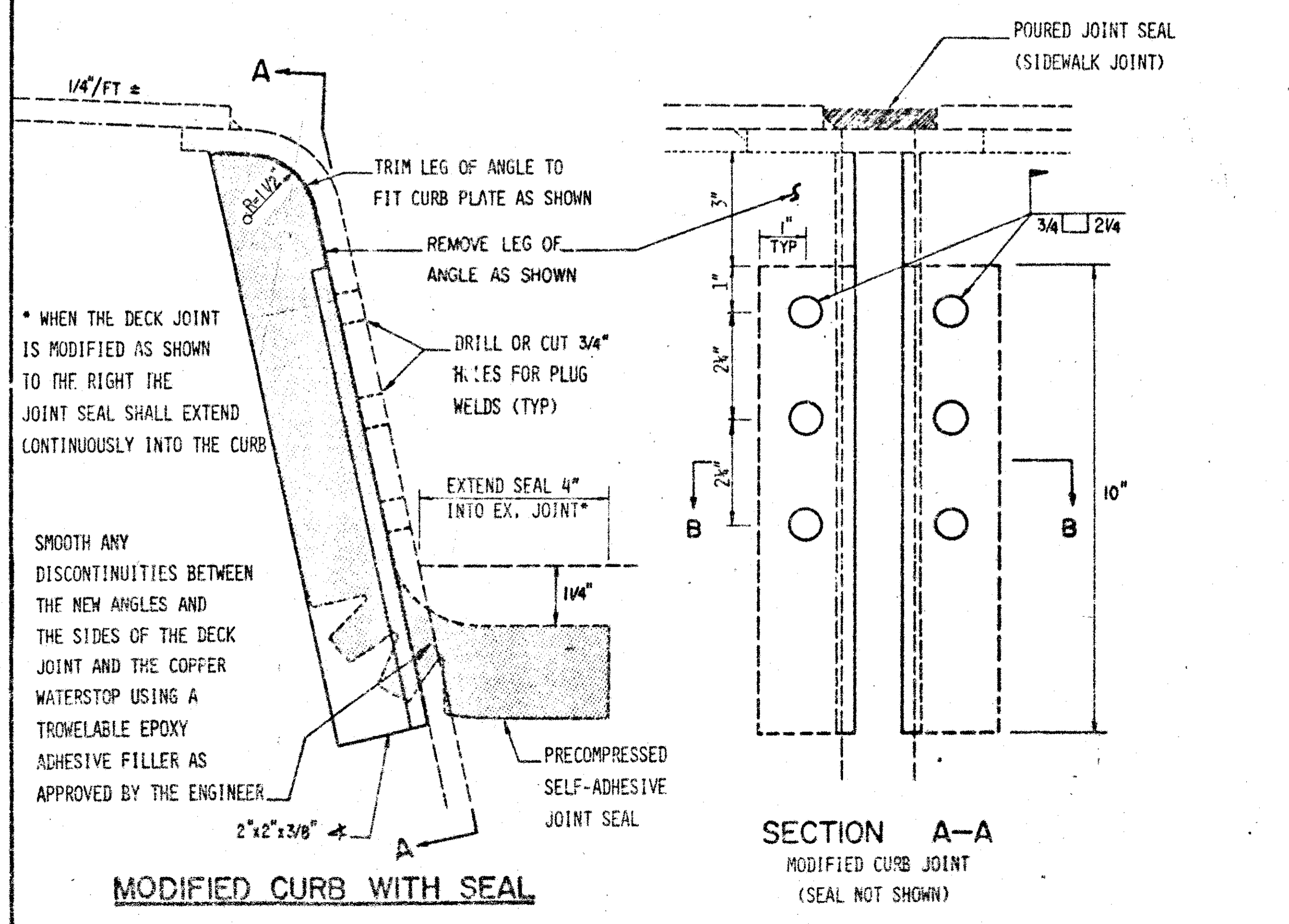
SCALE
0" 6" 12"

JOINT MODIFICATIONS

CUY-90-1540



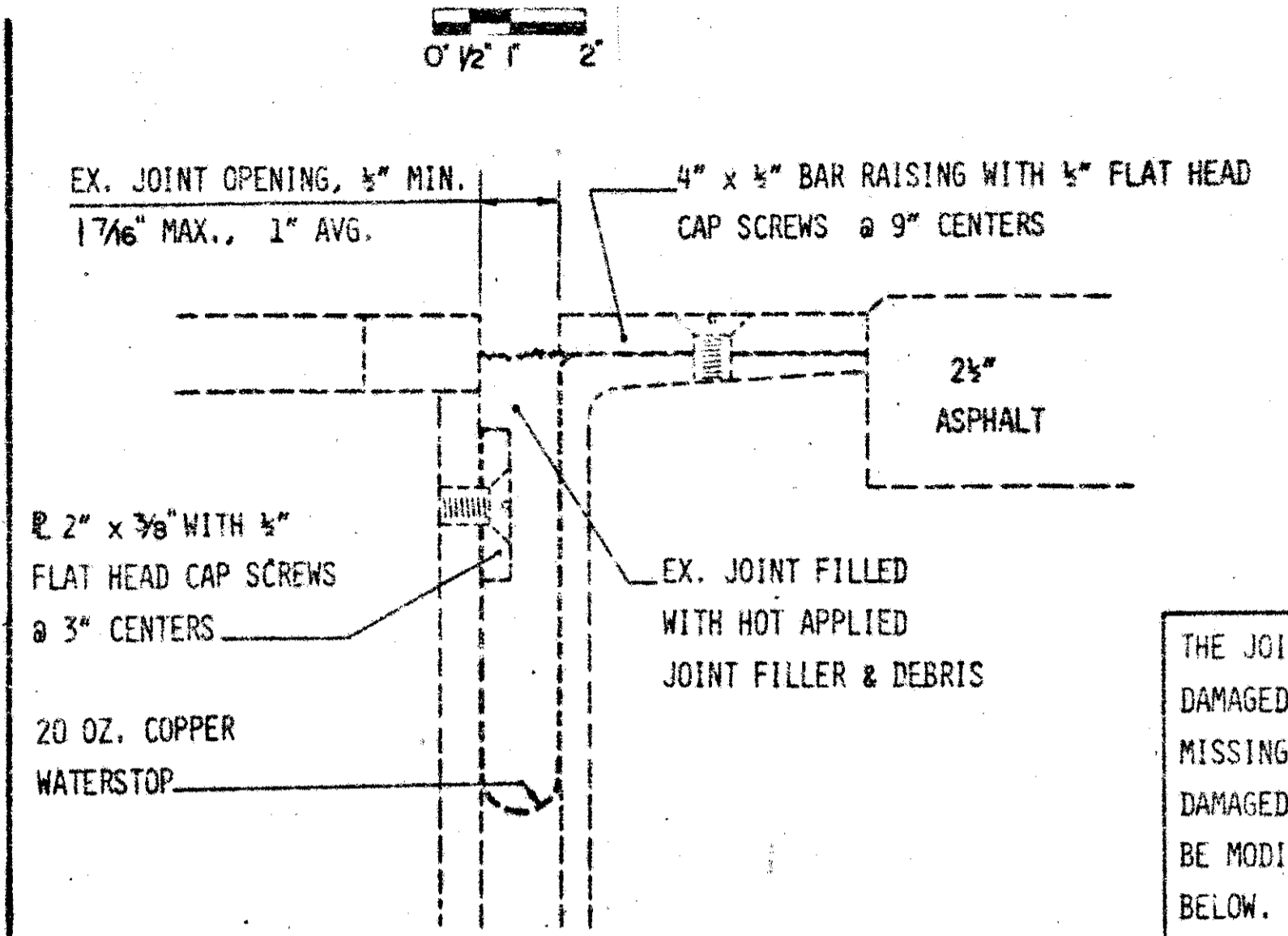
EXISTING CURB



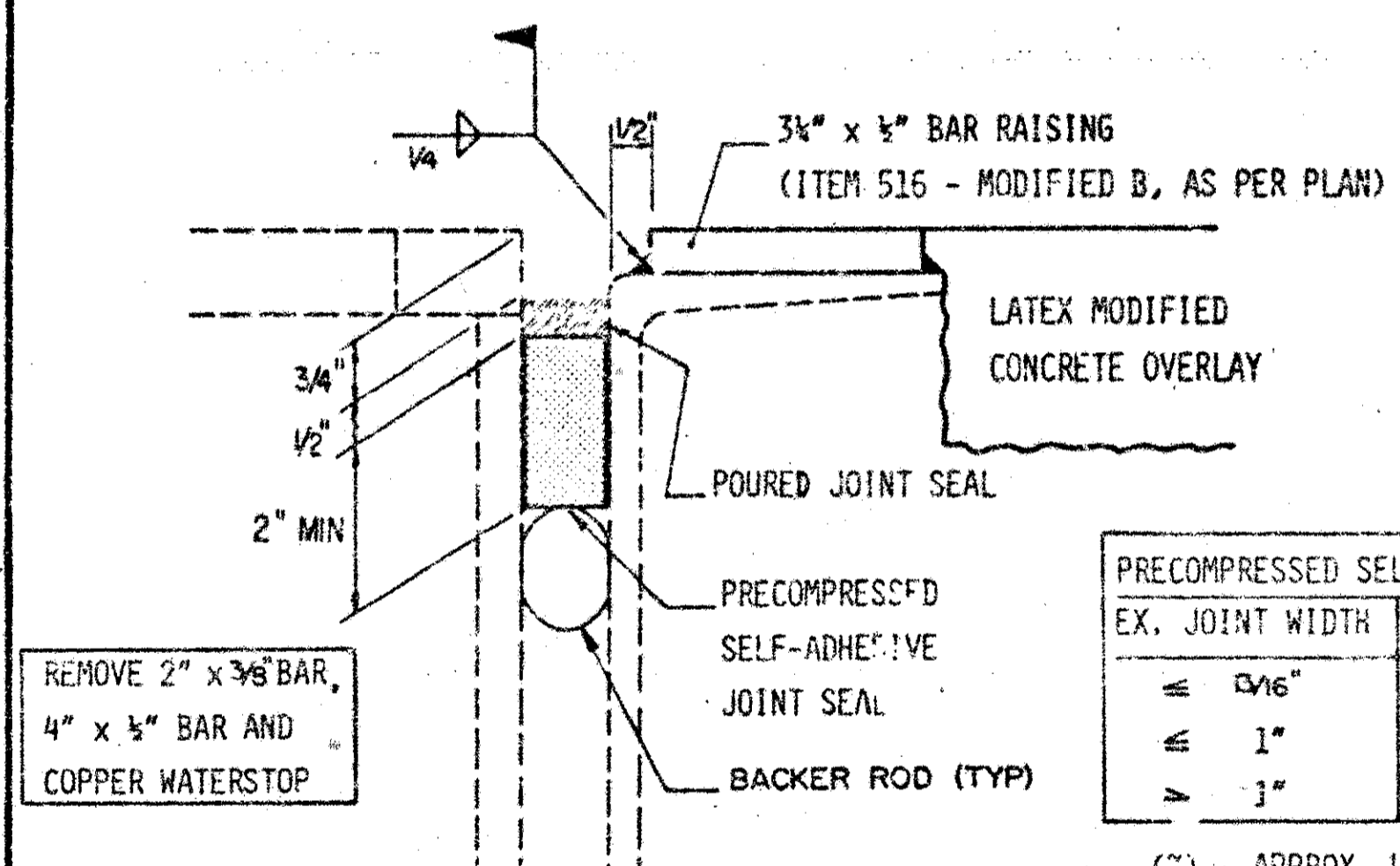
MODIFIED CURB WITH SEAL

SECTION A-A
EX. CURB JOINT

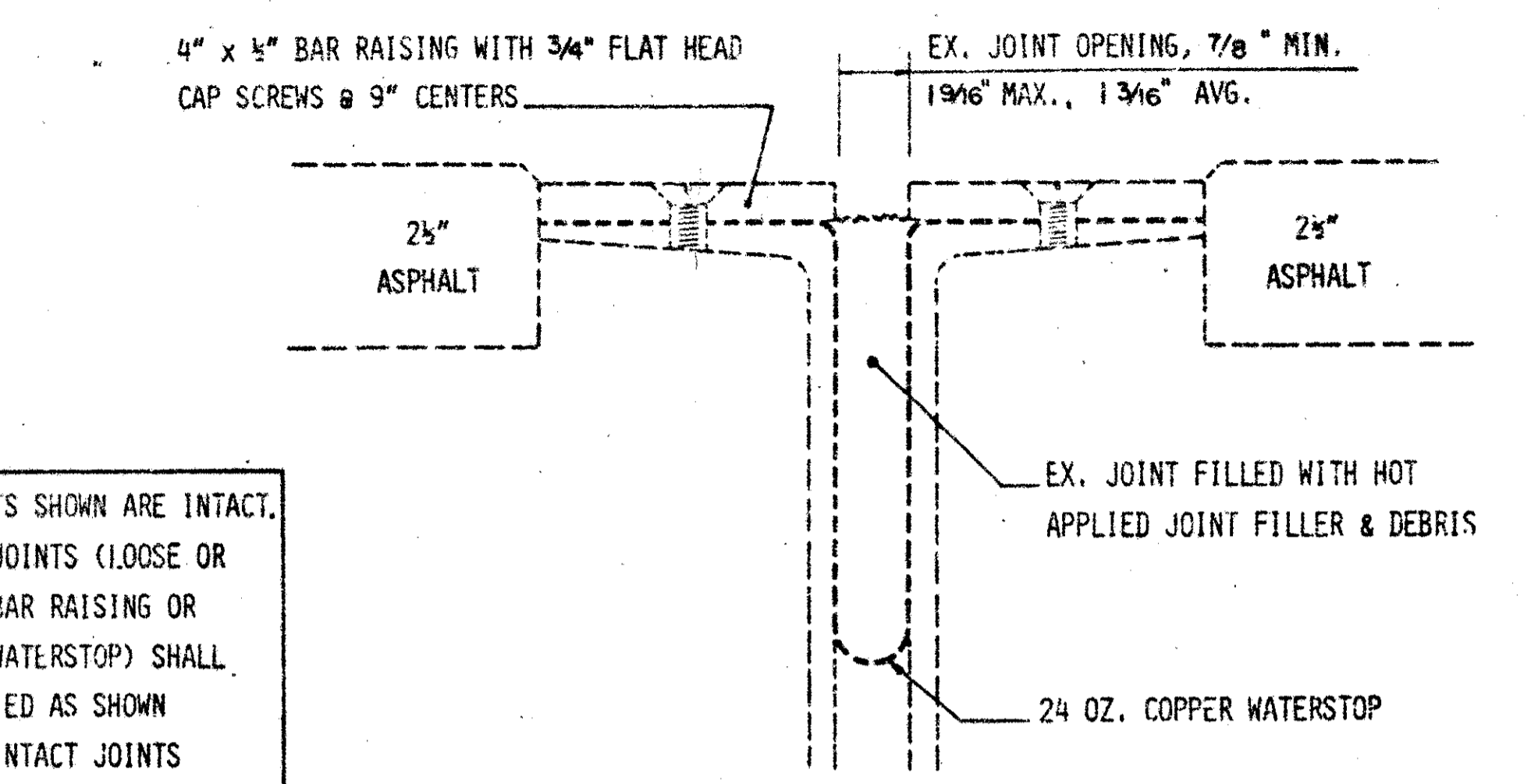
SECTION A-A
MODIFIED CURB JOINT
(SEAL NOT SHOWN)



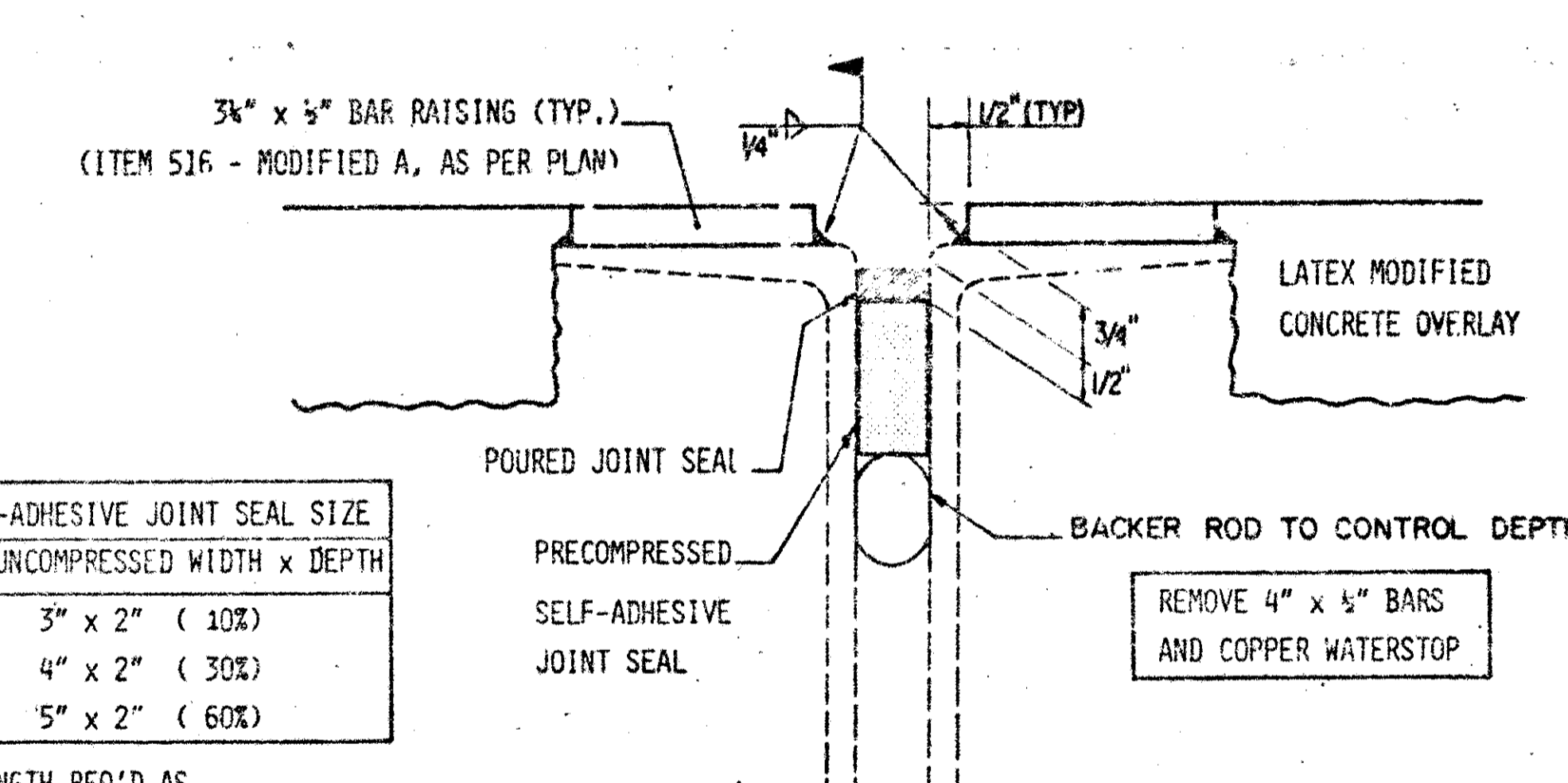
EXISTING CONTRACTION JOINT AT CROSS DRAIN



MODIFIED CONTRACTION JOINT AT CROSS DRAIN



EXISTING CONTRACTION JOINT

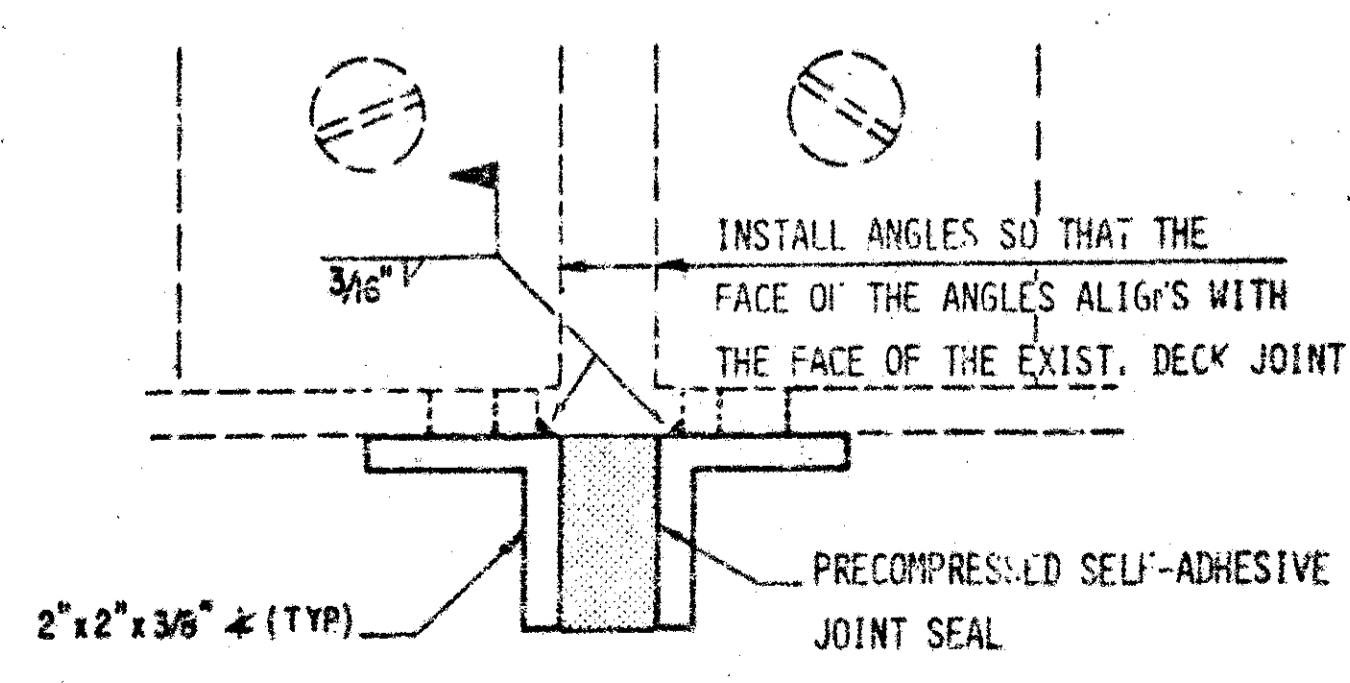


MODIFIED CONTRACTION JOINT

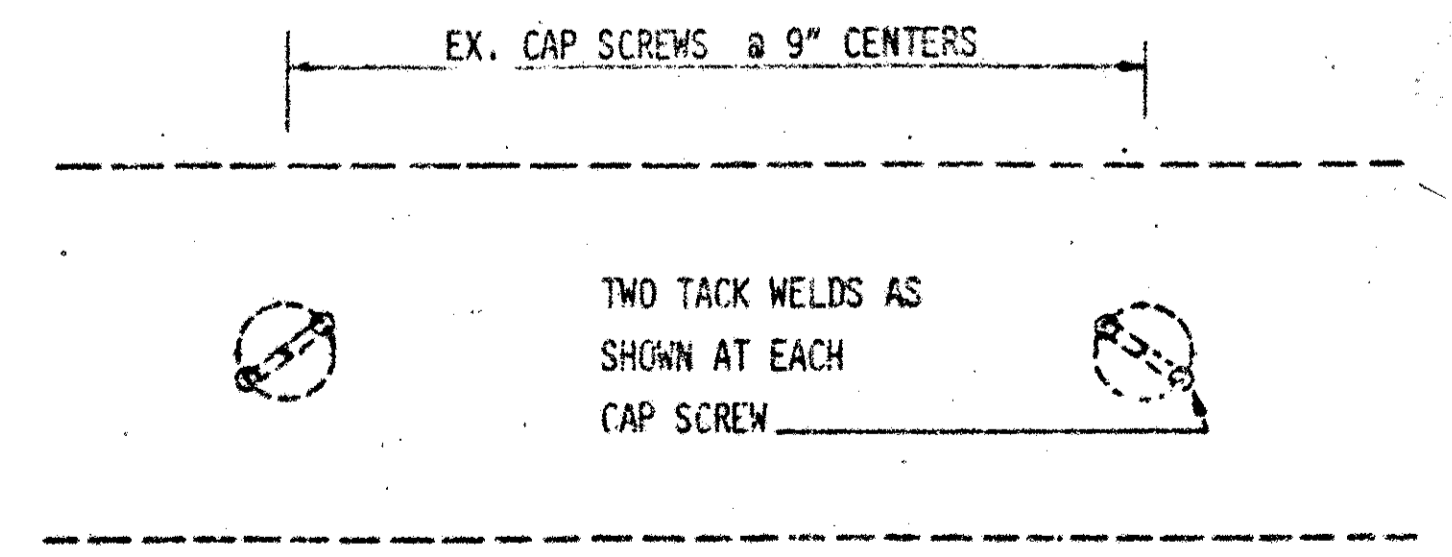
THE JOINTS SHOWN ARE INTACT. DAMAGED JOINTS (LOOSE OR MISSING BAR RAISING OR DAMAGED WATERSTOP) SHALL BE MODIFIED AS SHOWN BELOW. INTACT JOINTS SHALL BE TACK WELDED AS DETAILED BELOW

PRECOMPRESSED SELF-ADHESIVE JOINT SEAL SIZE	
EX. JOINT WIDTH	UNCOMPRESSED WIDTH x DEPTH
≤ 3/16"	3" x 2" (10%)
≤ 1"	4" x 2" (30%)
> 1"	5" x 2" (60%)

(%) - APPROX. LENGTH REQ'D AS PERCENTAGE OF TOTAL BID LENGTH



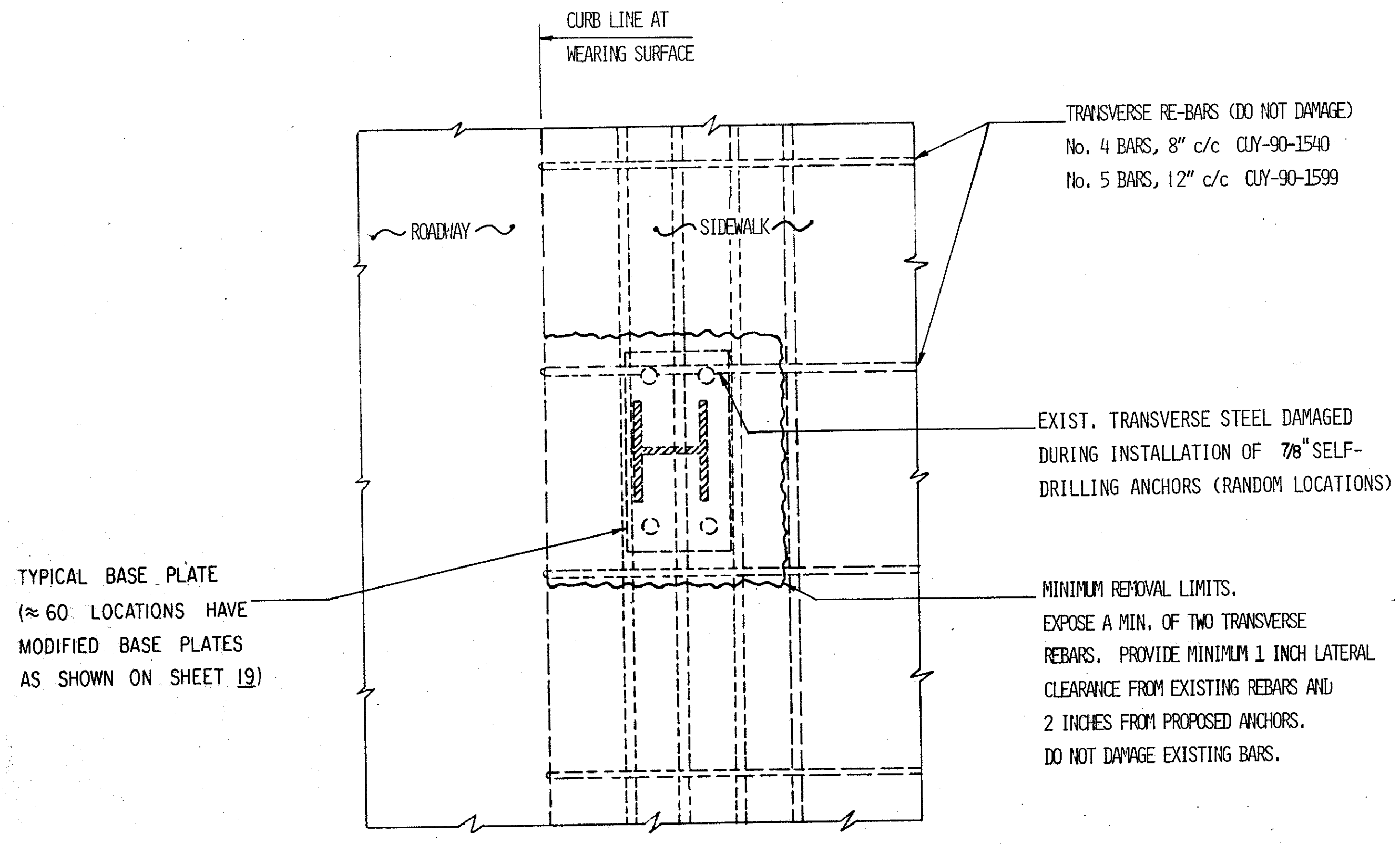
SECTION B-B
(ROTATED 180°)



TACK WELDING EX. UNDAMAGED BAR RAISING

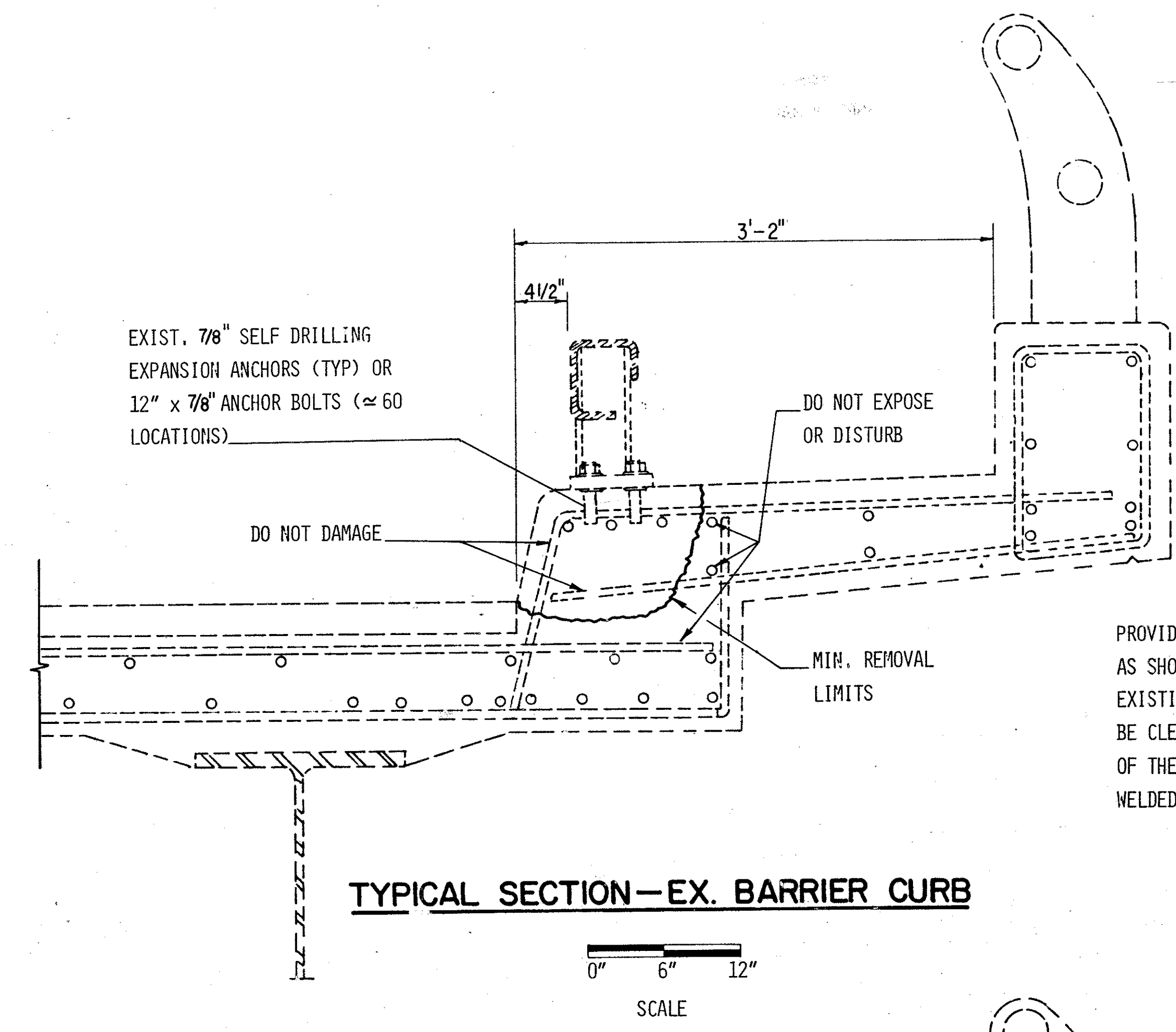
CUY-90-1540

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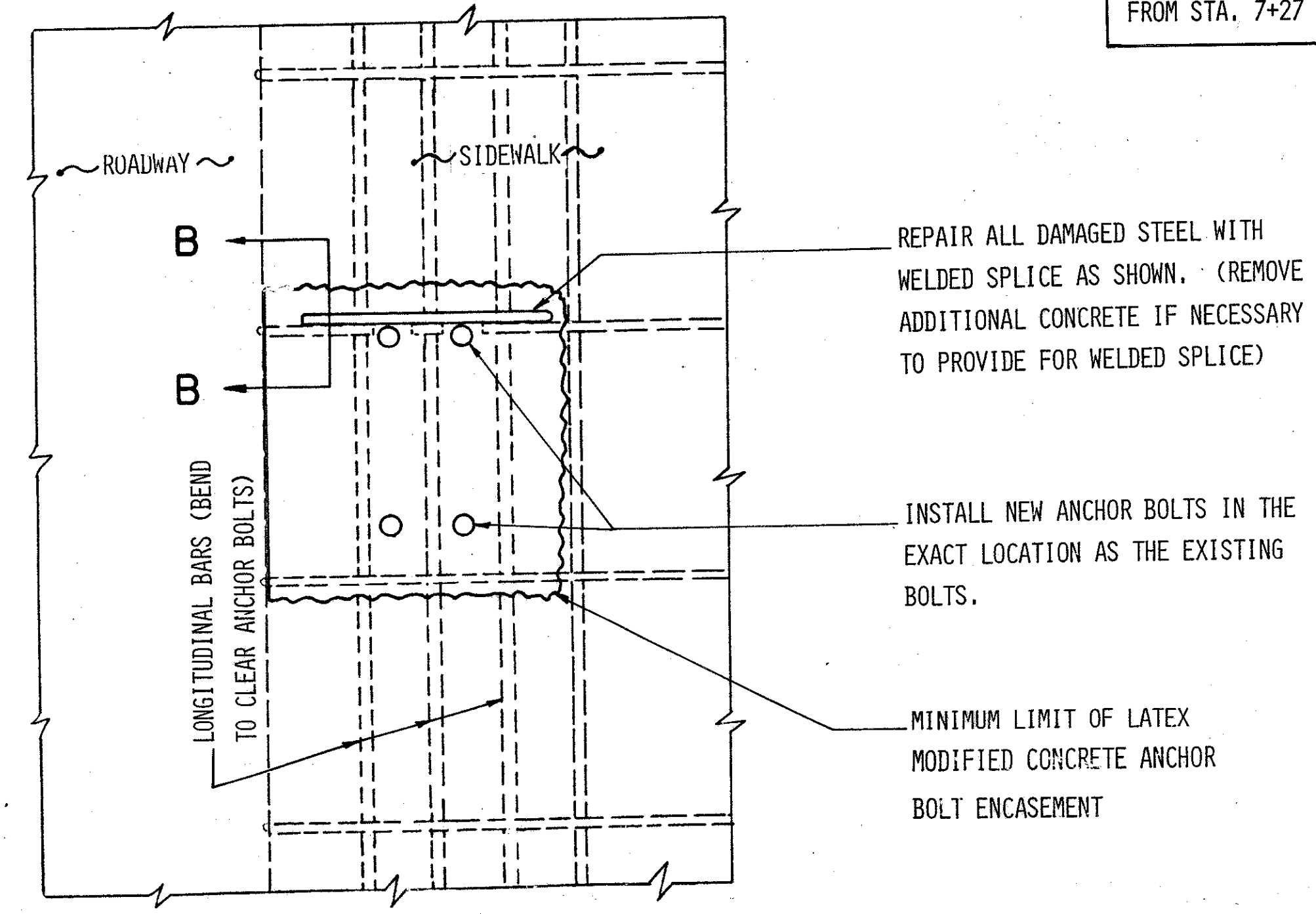


PLAN VIEW - EX. BARRIER CURB
BARRIER RAIL ELEMENTS AND BOTTOM REIN. STEEL NOT SHOWN
SCALE 0" 6" 12"

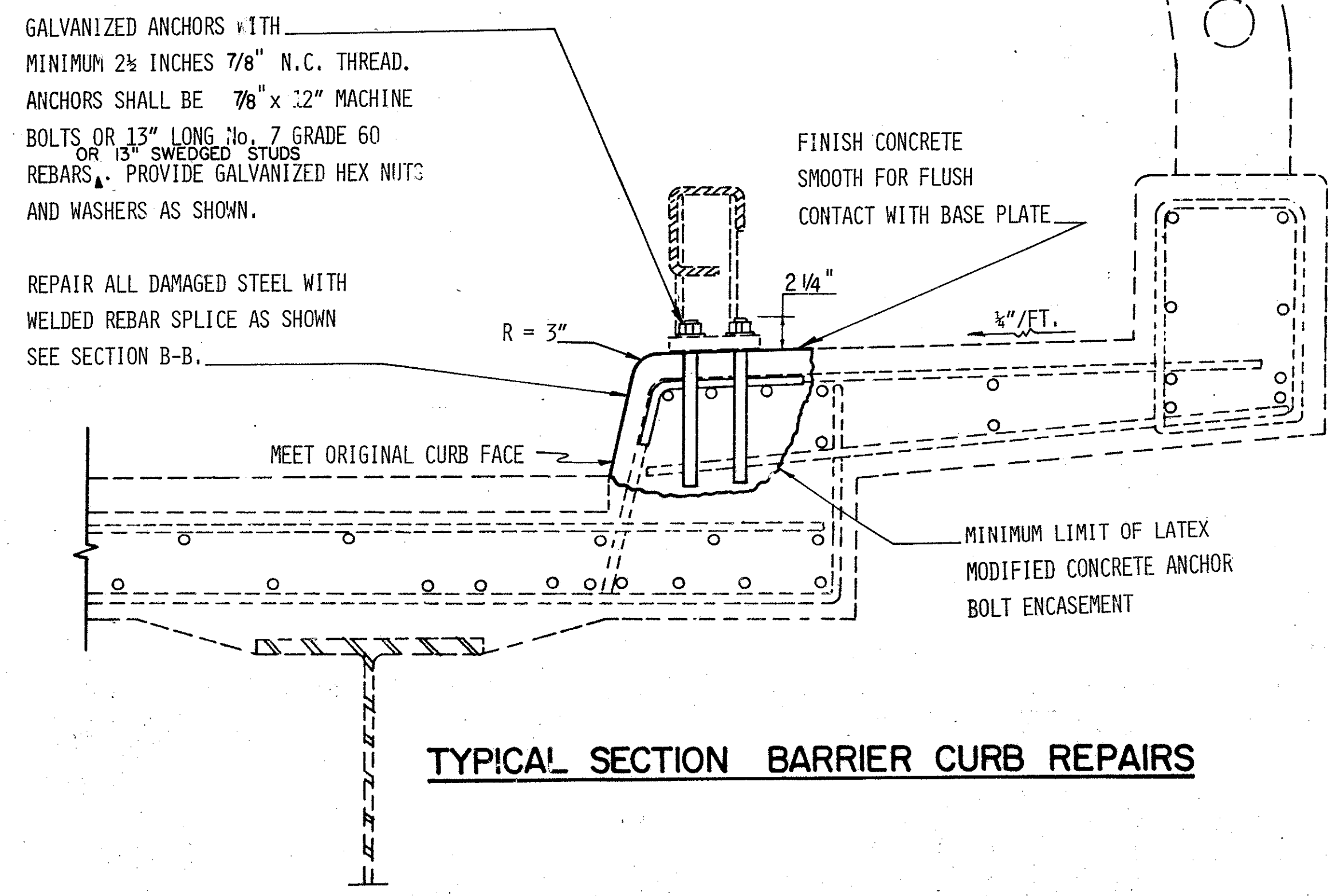
PROPOSED WORK SHOWN APPLIES TO ALL BARRIER CURB POSTS LOCATIONS ON CUY-90-1540 & CUY-90-1599 EXCEPT THE SOUTH CURB ALONG RAMP W-1 ON CUY-90-1540 FROM STA. 7+27 TO STA. 10+80



TYPICAL SECTION - EX. BARRIER CURB
SCALE 0" 6" 12"



PLAN VIEW - BARRIER CURB REPAIRS
BARRIER RAIL ELEMENTS, CURB POSTS AND BOTTOM REIN. STEEL NOT SHOWN



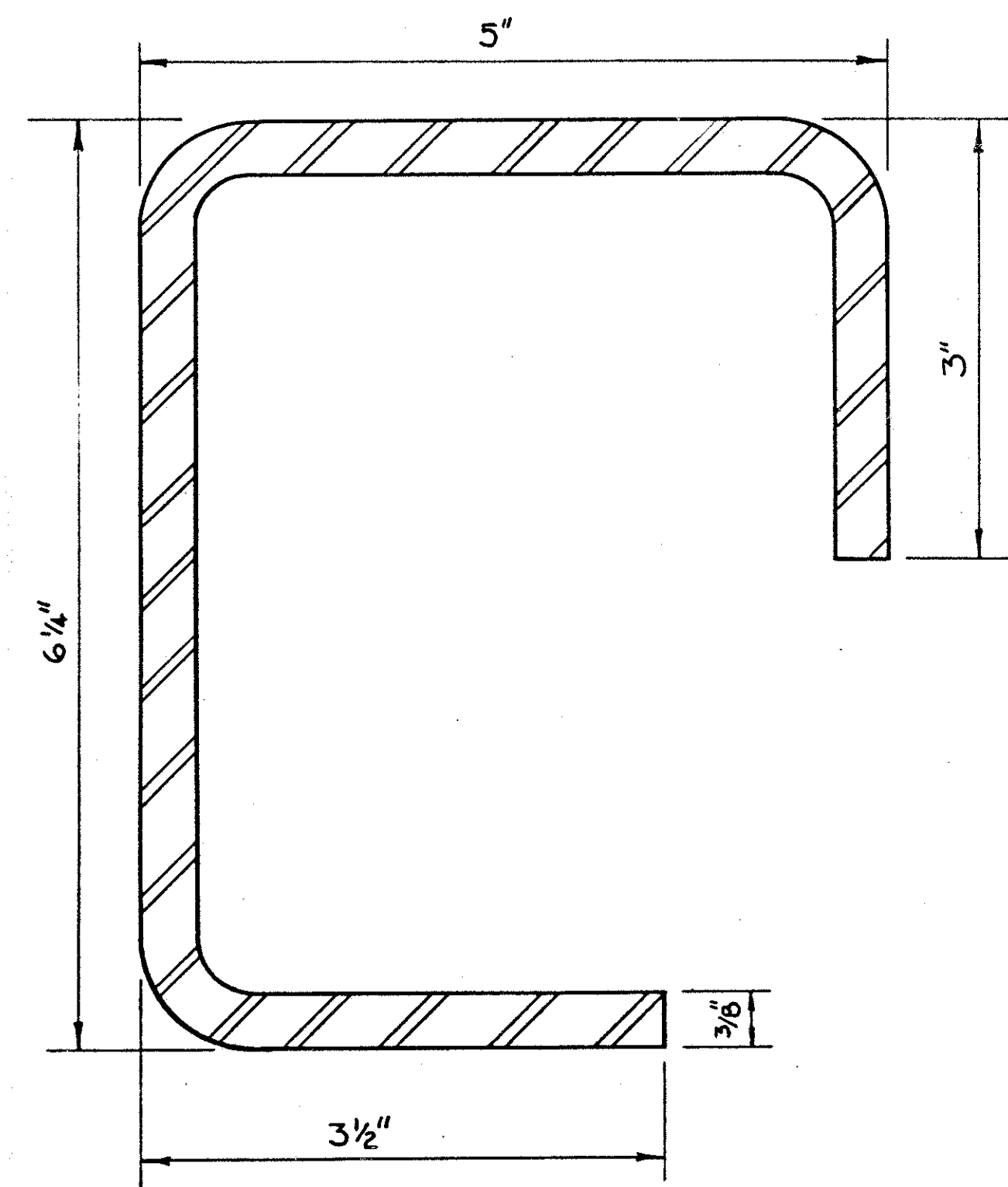
TYPICAL SECTION BARRIER CURB REPAIRS
SCALE 0" 6" 12"

FHWA REGION	STATE	PROJECT	
5	OHIO		

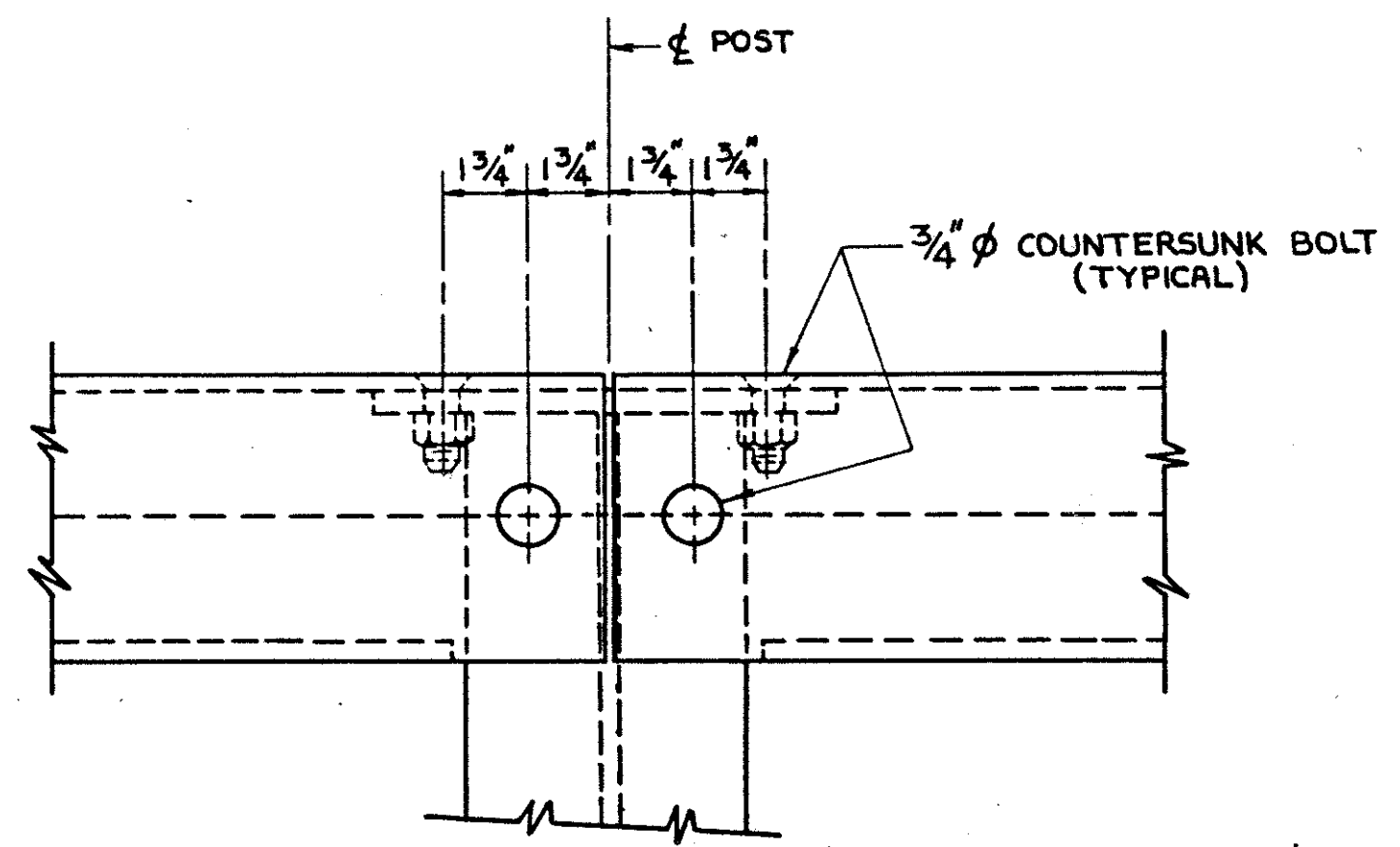
19
20

CUYAHOGA COUNTY
CUY-90-15.40

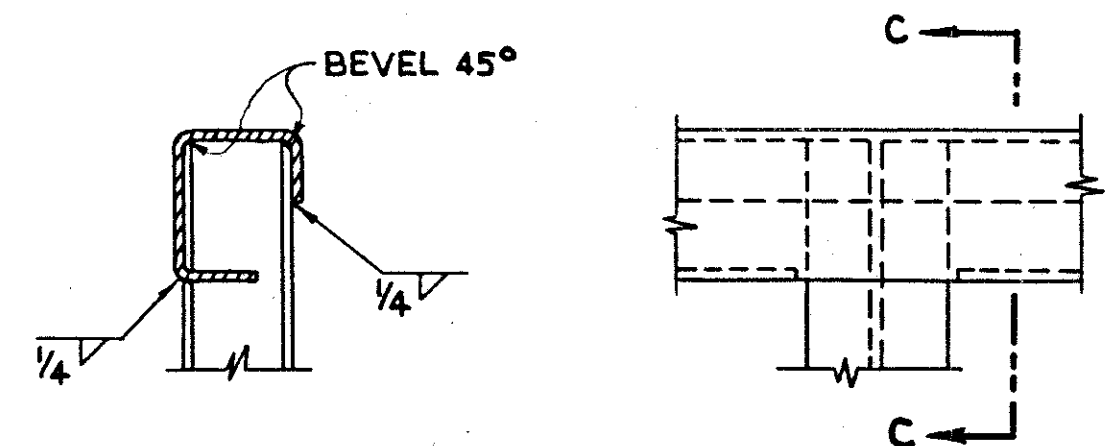
MICROFILM
JAN 8 1987



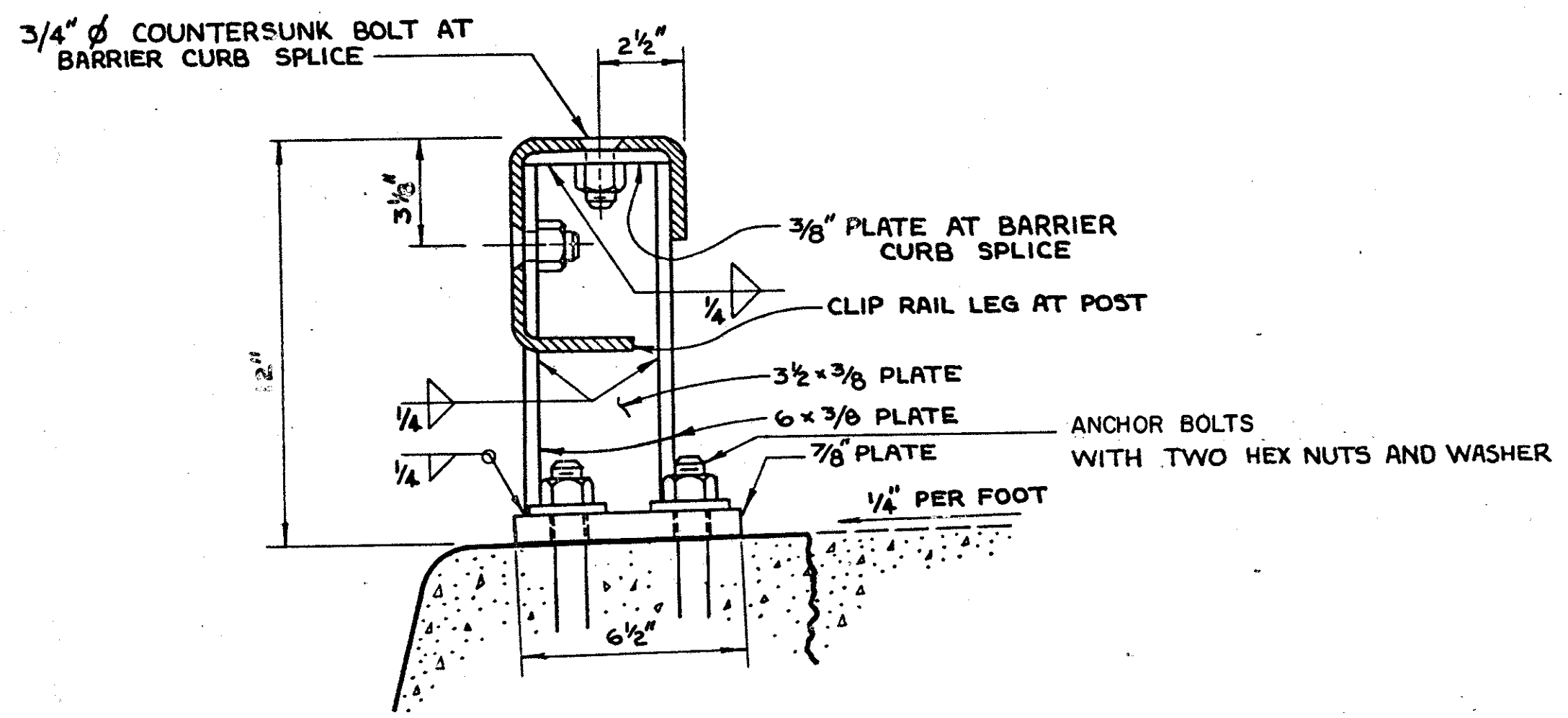
FULL SIZE SECTION OF RAIL



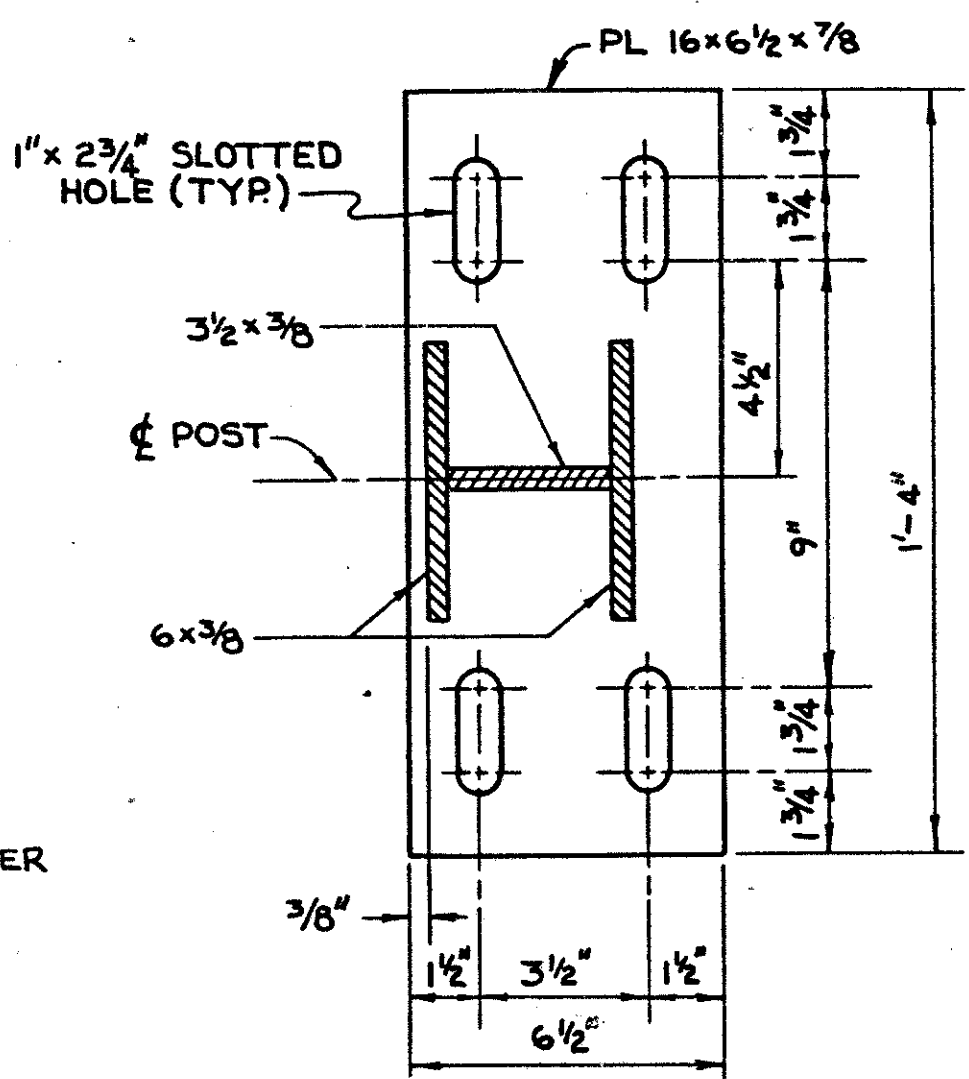
DETAIL AT BARRIER CURB SPLICE



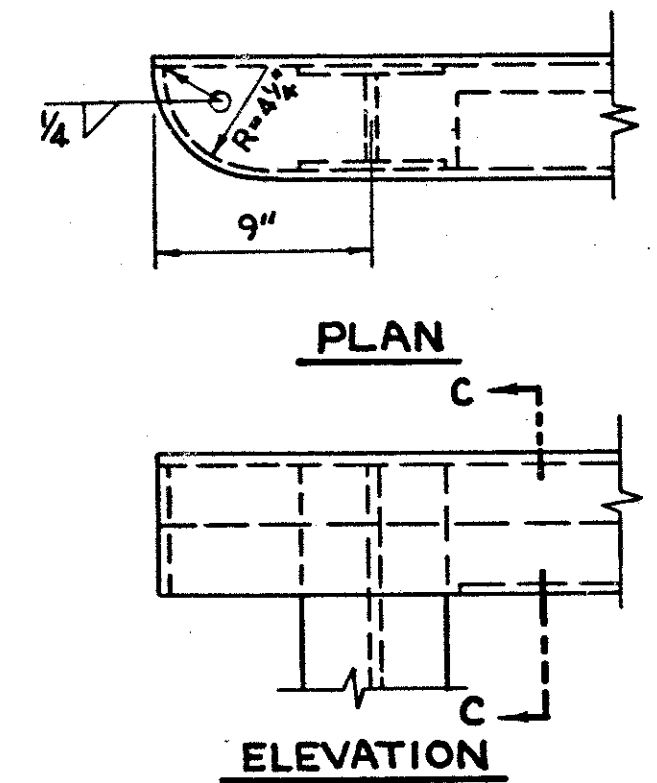
SECTION C-C
ELEVATION
DETAILS AT INTERMEDIATE POST



POST DETAIL



SECTION D-D
REPLACEMENT BASE PLATE FOR 7/8" BOLTS



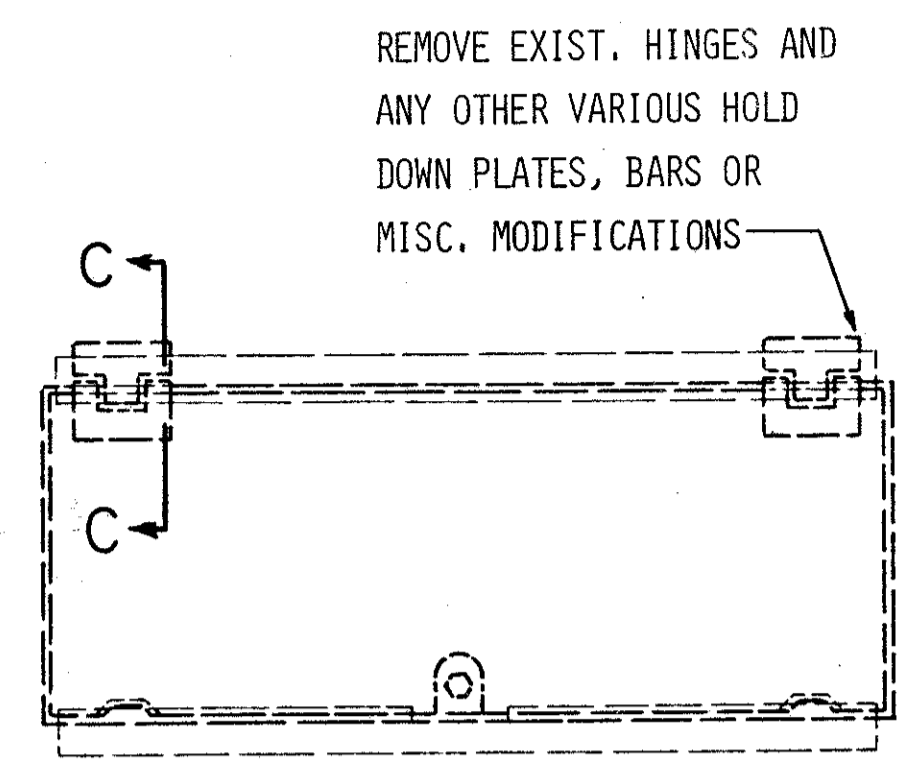
PLAN
ELEVATION
END POST DETAIL TRAILING END

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 12 BRIDGE DEPARTMENT						
BARRIER CURB REPAIR DETAILS						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

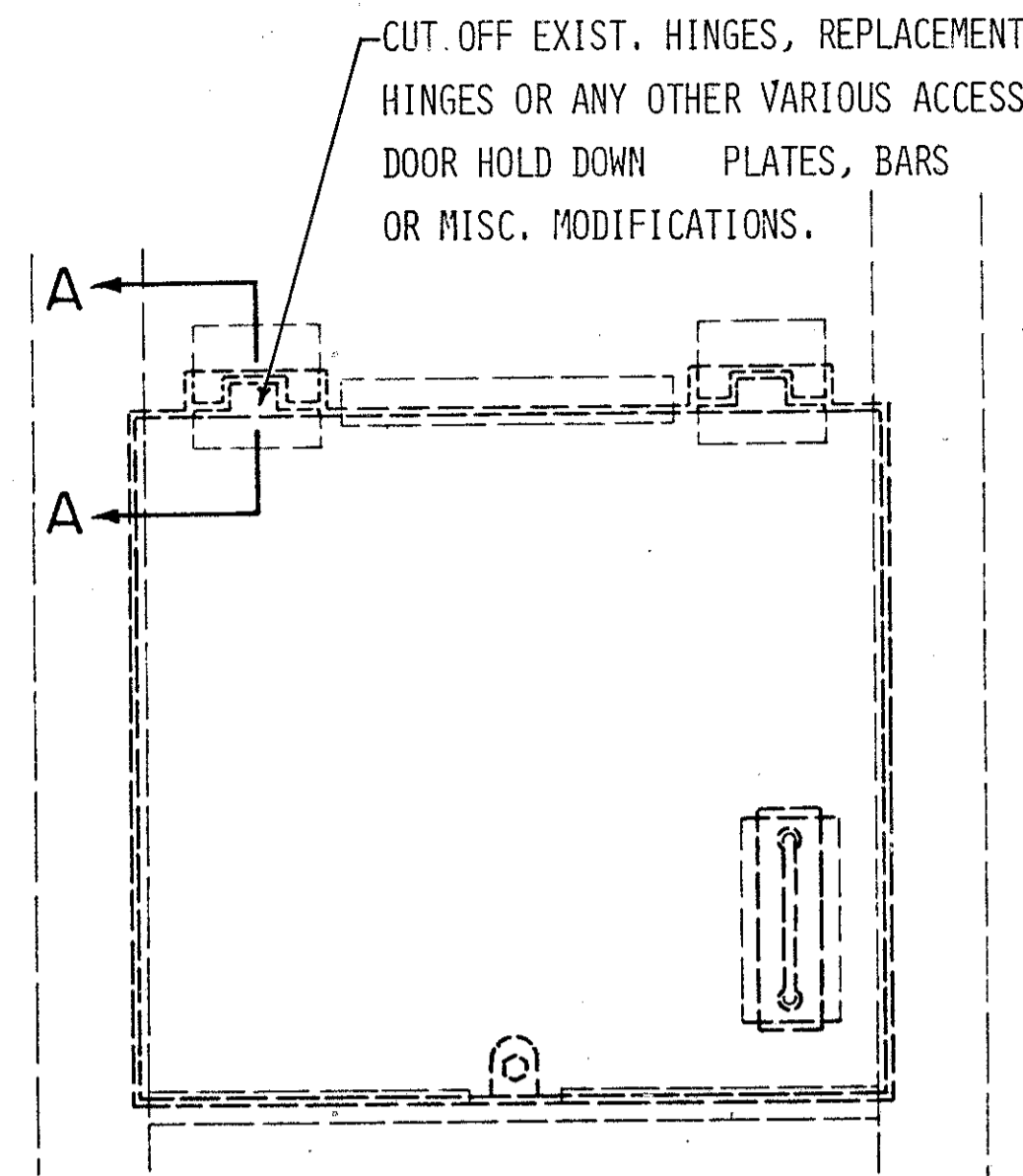
FHWA REGION	STATE	PROJECT
5	OHIO	

MICROFIL
JAN 8 1987

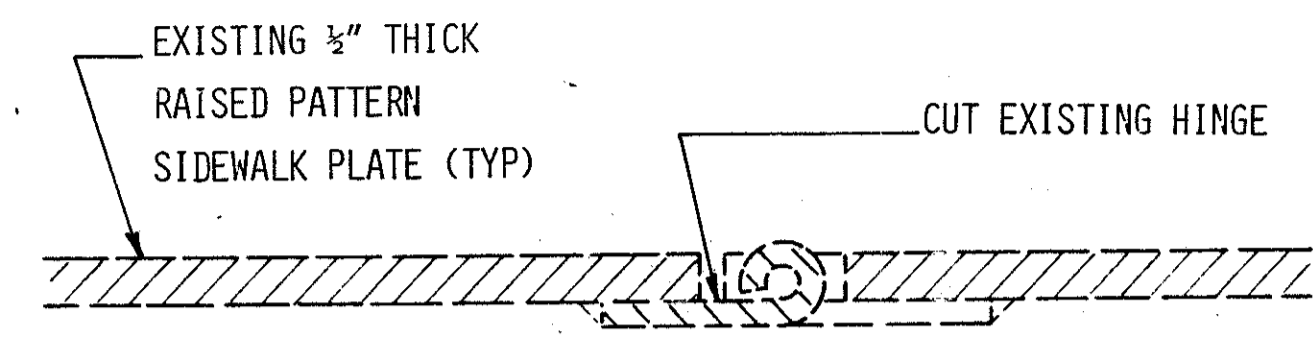
CUY-90-1540



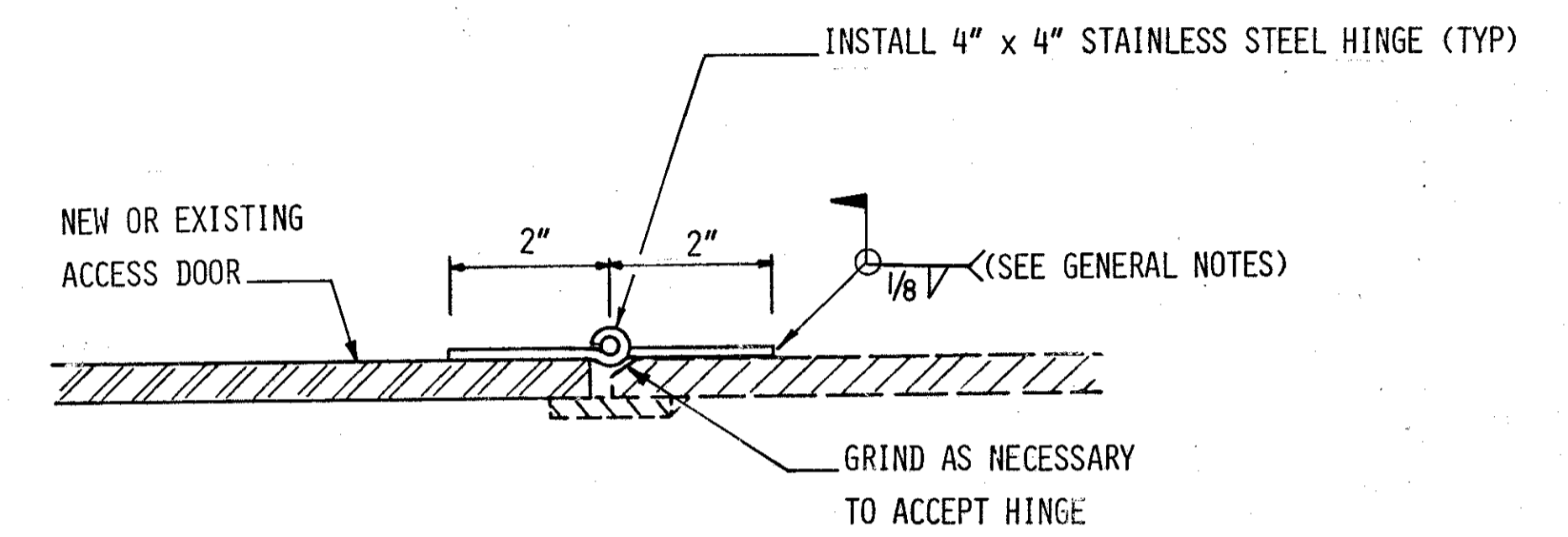
EXISTING PULLBOX DOOR



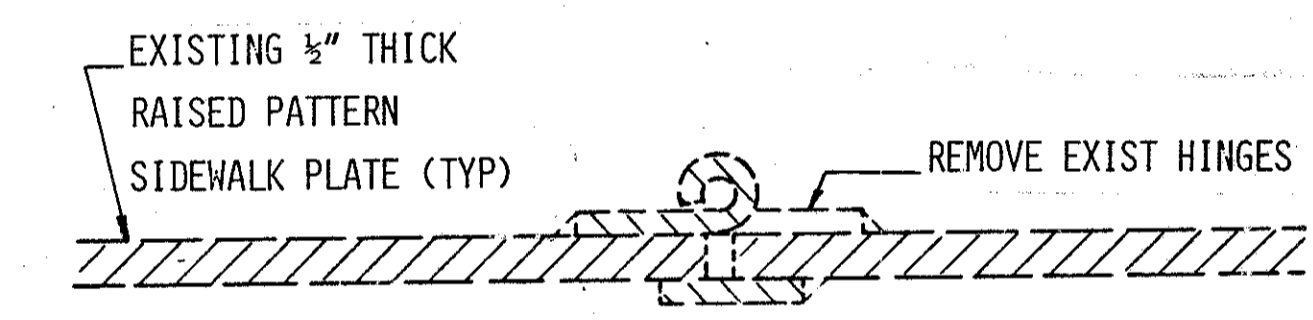
EXIST. CATWALK ACCESS DOOR



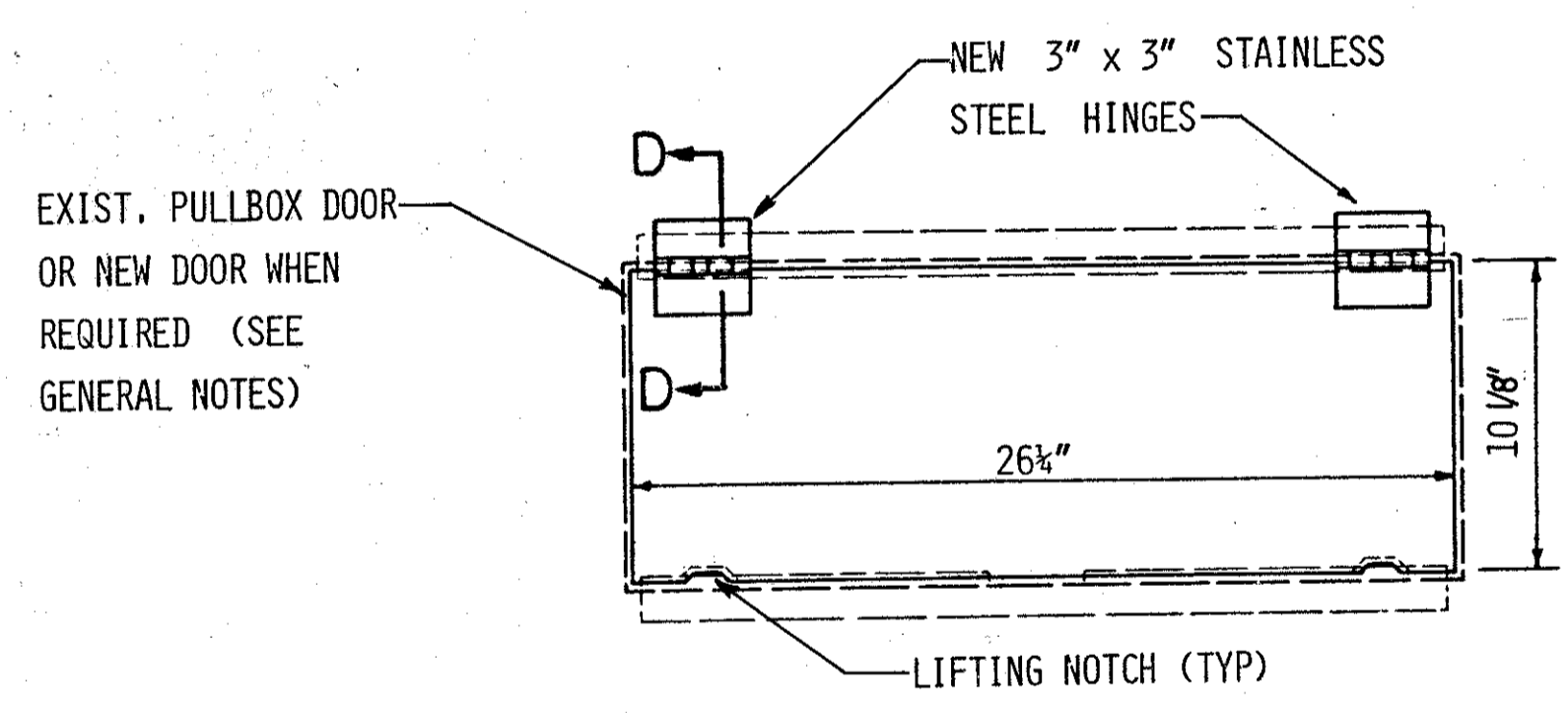
SECTION A-A



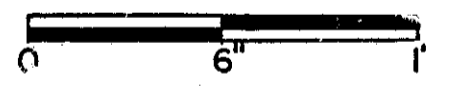
SECTION B-B



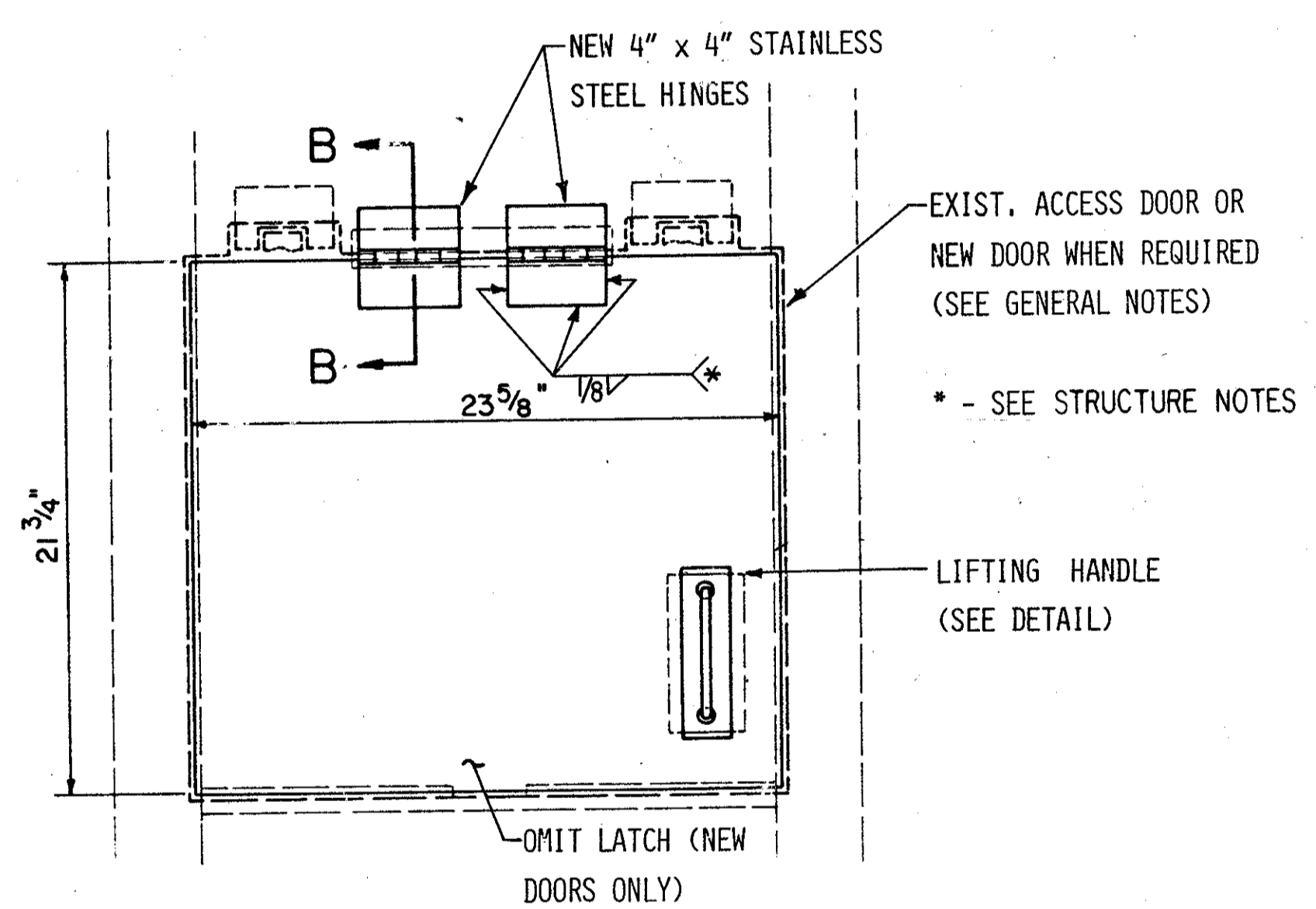
SECTION C-C



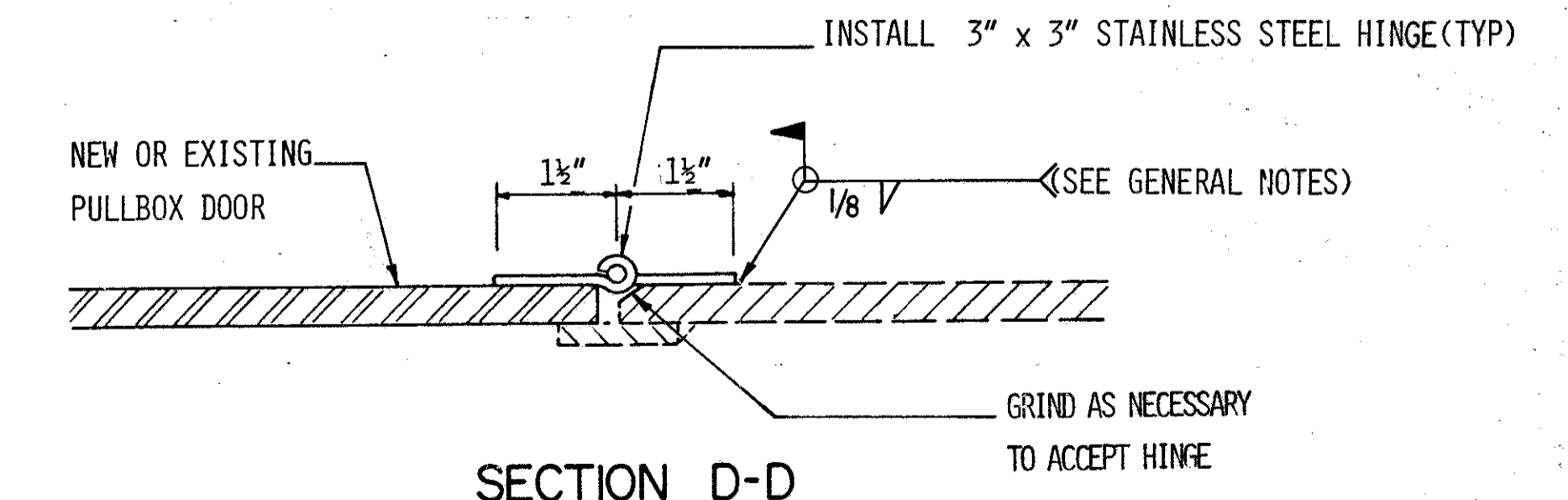
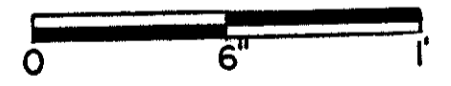
MODIFIED PULLBOX DOOR



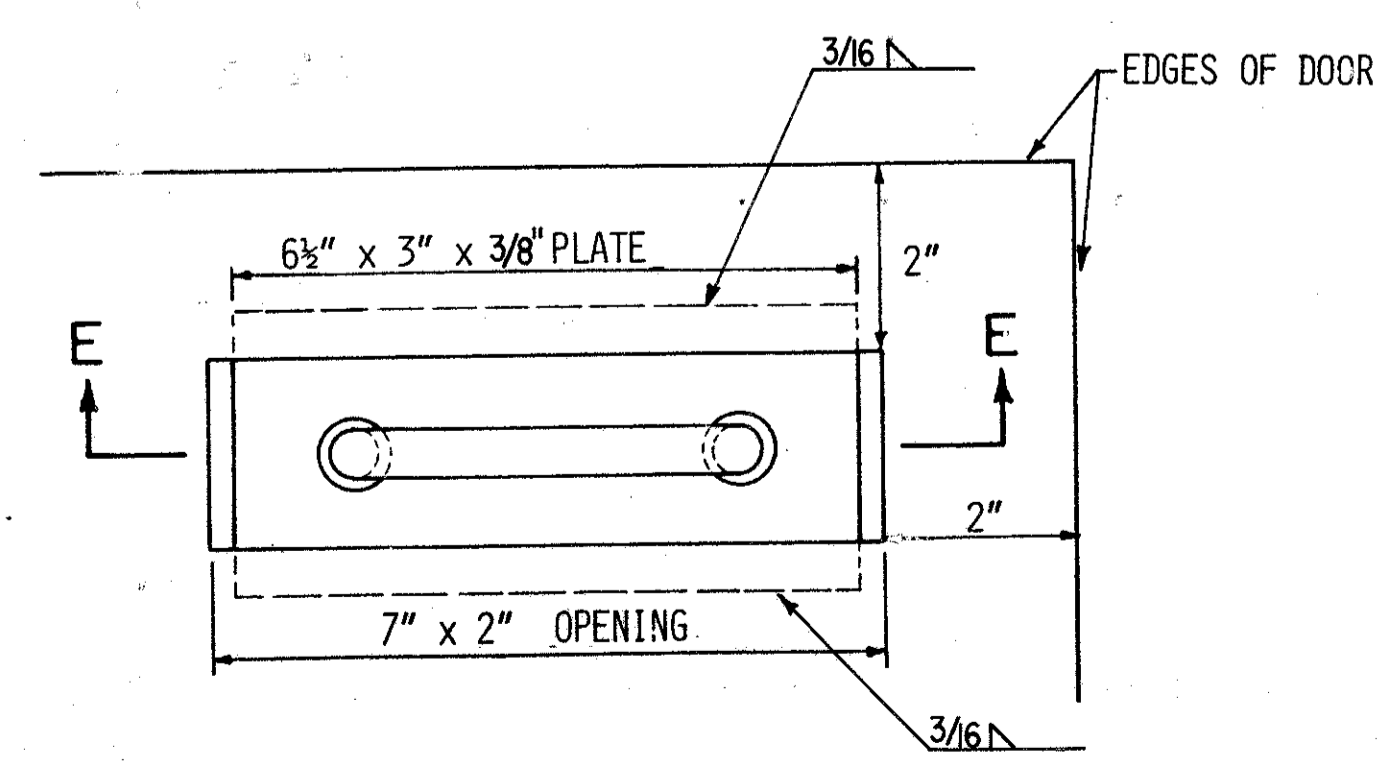
CUT OUT SECTION OF NEW DOOR AND/OR MODIFY HINGE LOCATIONS AS NECESSARY TO MATCH FIELD CONDITIONS



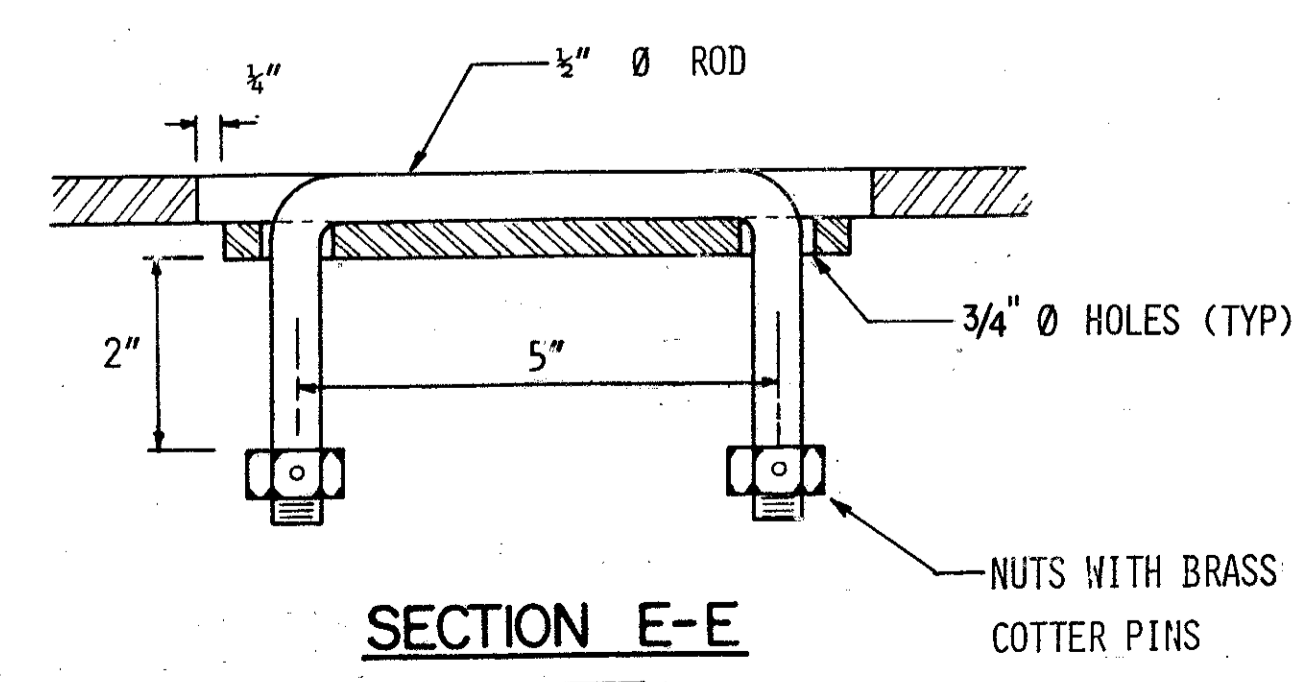
MODIFIED CATWALK ACCESS DOOR



SECTION D-D



LIFTING HANDLE



SECTION E-E

