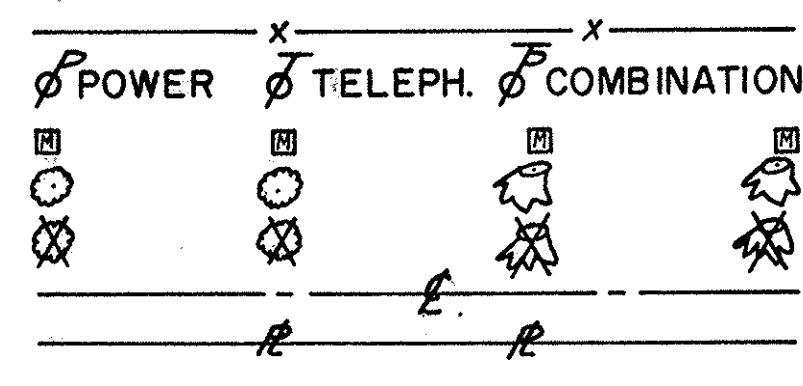


CONVENTIONAL SIGNS

FENCE LINE
UTILITY POLES
MAIL BOX
TREES & STUMPS
TREES & STUMPS TO BE REMOVED
CENTER LINE OF ROAD
PROPERTY LINE
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT OF WAY
GAS VALVE - Ø GV, WATER VALVE - Ø WV, FIRE HYDRANT - Ø F.H.
WATER LINE — W — SAN. SEWER — S — GAS LINE — G —



MINOR REVISIONS
FEB 16 1985

INDEX OF SHEETS

TITLE SHEET	1
MAINTAINING TRAFFIC	2-4
GENERAL NOTES, CALCULATIONS AND GENERAL SUMMARY	6
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STRUCTURES OVER 20' SPAN	14-33, AND 19A, 25A, 25B, 29A, 29B, 30A, 30B & 30C
SHEET 5 NOT USED	

LINE DATA

PROJECT
BEGIN PROJECT STA. 12 + 41.42
END PROJECT STA. 19 + 67.76
LENGTH OF PROJECT 726.34 L.F. OR 0.138 MI.

WORK
BEGIN WORK STA. 11 + 18
END WORK STA. 20 + 46
LENGTH OF WORK 928.00 L.F. OR 0.176 MI.

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

LOCATION PLAN
SCALE OF MILES
0 1 2 3 4

PORTION TO BE IMPROVED
STATE HIGHWAYS
COUNTY HIGHWAYS
OTHER HIGHWAYS
SCALES IN FEET
PLAN
PROFILE: HORIZONTAL
PROFILE: VERTICAL
CROSS SECTIONS

DESIGN DESIGNATION
CURRENT ADT 17,600 (1984)
DESIGN ADT 22,500 (2008)
DHV = 2,100
T = 2%
D = 60%
DV = 35 MPH
LV = 35 MPH
FUNC. CLASS = URBAN PRIN. ARTERIAL

PREPARED AND RECOMMENDED BY
MOSURE AND SYRAKIS CO.

YOUNGSTOWN, OHIO

FILE
NO.

DATE OF LETTING
CONTRACT NO.

19

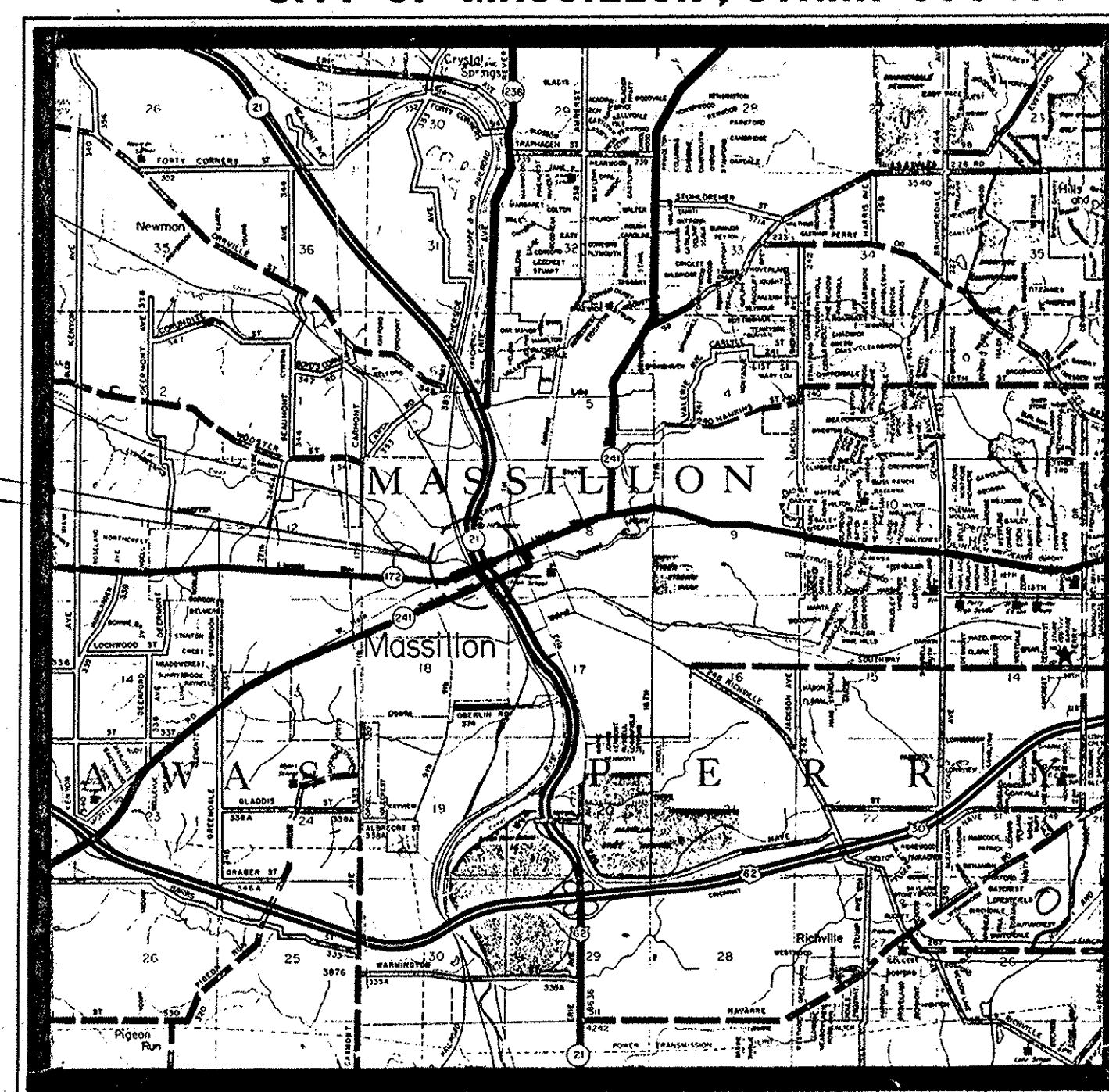
STANDARD DRAWINGS						Supplemental Specifications	
		MT-95.30	10-10-88			847	10-17-83
I-1	12-18-84	MT-99.10	11-14-86			947	10-17-83
BP-5	10-1-87	HL-10.12	5-1-87	HL-30.11	5-1-87		
BP-7	10-1-87	HL-10.13	5-1-87	HL-30.31	5-1-87		
AS-1-81	11-27-81	HL-20.14	5-1-87	HL-50.21	5-1-87	836	11-12-85
RB-1-55	2-2-59	HL-20.15	5-1-87	HL-60.11	5-1-87	852	6-10-87
SD-1-69	6-12-69	TC-35.10	8-29-84			952	12-14-88
EXJ-2-81	4-2-84	TC-84.20	1-20-84			921	12-4-72
		TC-85.20	1-20-84			923	1-10-69
BP-11	1-30-84					902	8-31-79
						944	6-24-89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

STA-172-6.27
RECONSTRUCTION OF EXISTING SEPARATED CROSSING
WITH

CONSOLIDATED RAIL CORPORATION, THE BALTIMORE AND
OHIO RAILROAD COMPANY AND NORFOLK AND WESTERN RAILWAY COMPANY

LINCOLNWAY VIADUCT
CITY OF MASSILLON, STARK COUNTY



BHM-2EO3(5)

FHWA REGION	STATE	PROJECT	
5	OHIO	BHM-2EO3(5)	

STA-172-6.27
LINCOLN WAY WEST
CITY OF MASSILLON
STARK COUNTY

1
33

1989 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATION 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 TO TRAFFIC OF THE HIGHWAY, AND THAT PROVISIONS FOR MAINTENANCE AND SAFETY OF TRAFFIC WILL BE SET FORTH ON THE PLANS AND ESTIMATES. FOR DETOUR PLAN, SEE SHEET NO. 3

APPROVED Francis V. Fischer
DATE MARCH 10, 1989 STARK COUNTY ENGINEER
APPROVED William Brunkley
DATE 3-14-89 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION
APPROVED B.D. Hamilton/WTE
DATE 12/12/89 ENGINEER, BUREAU OF BRIDGES & STRUCTURAL DESIGN
APPROVED Charles J. Still
DATE 1/9/90 CHIEF ENGINEER PLANNING AND DESIGN
APPROVED Bernard B. Hurst
DATE 1/8/90 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

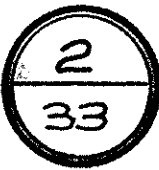
DATE

REVISED 4-22-91
REV. 2-91
Revised 5/1/91

MAINTAINING TRAFFIC NOTES

Quantities			
Calculated / Date	Checked / Date		
DRB 4-88	LLD 4-88		

FHWA REGION	STATE	PROJECT	
5	OHIO		



STA - 172 - 6.27

614 MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES ON THE PROJECT IN ACCORDANCE WITH ITEM 614 MAINTAINING TRAFFIC. AS SHOWN ON SHEETS 3 THROUGH 5, AND AS DESCRIBED BELOW.

ALL SIGNS, BARRICADES, SIGN SUPPORTS, DRUMS, AND INCIDENTALS WITHIN AND ADJACENT TO THE WORK LIMITS OF THE PROJECT, ALONG SR 21, AND ALONG THE SR 21 DETOUR ROUTE SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN CONFORMANCE WITH THE MOST RECENT REVISION, CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD). DETOUR SIGNS, ROUTE SIGNS, SUPPORTS, AND LIGHTS REQUIRED FOR THE SR 172 DETOUR PLAN SHOWN ON SHEET 3, WILL BE FURNISHED BY STARK COUNTY AND ERECTED, MAINTAINED AND REMOVED BY CITY OF MASSILLON FORCES. DEVICES USED TO MAINTAIN TRAFFIC SHALL BE ERECTED IMMEDIATELY PRIOR TO THE BEGINNING OF WORK AND SHALL BE REMOVED IMMEDIATELY AFTER THE TERMINATION OF SAID WORK.

AS SHOWN ON THE SR 172 (LINCOLN WAY) DETOUR PLAN, LINCOLN WAY BETWEEN 6TH STREET, S. W., AND 3RD STREET, S.W., SHALL BE CLOSED TO ALL TRAFFIC DURING CONSTRUCTION OF THIS PROJECT. LINCOLN WAY THROUGH TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 3 VIA: 6TH STREET, S.W., TREMONT AVENUE (SR 241), AND 2ND STREET, S.W. TWO-WAY TRAFFIC SHALL BE MAINTAINED THROUGH THE LINCOLN WAY & 6TH STREET AND LINCOLN WAY & 3RD STREET INTERSECTIONS AT ALL TIMES. THE AMOUNT OF TIME THIS DETOUR IS IN EFFECT SHALL BE KEPT TO ABSOLUTE MINIMUM. ACCESS TO ALL PROPERTIES ABUTTING THE WORK AREA SHALL BE MAINTAINED AT ALL TIMES BY THE USE OF THE EXISTING PAVEMENT.

VEHICULAR AND PEDESTRIAN TRAFFIC ON SR 21 AND RAILROAD TRAFFIC ON THE B&O, CONRAIL, AND N&W TRACKS SHALL BE PROTECTED FROM FALLING DEBRIS THROUGHOUT THIS PROJECT. A MINIMUM VERTICAL CLEARANCE OF 14'-6" SHALL BE MAINTAINED OVER SR 21. THE MINIMUM VERTICAL CLEARANCE OVER THE VARIOUS RAILROAD TRACKS SHALL BE 21.5 FEET OVER NORFOLK & WESTERN TRACKS, 21.0 FEET OVER BALTIMORE & OHIO TRACKS AND 23.0 FEET OVER CONSOLIDATED RAIL CORPORATION TRACKS. VERTICAL CLEARANCES OVER RAILROAD TRACKS SHALL BE AS DEFINED IN THE "CONSTRUCTION CLEARANCE" NOTE ON SHEET 15.

THE WORK ELEMENTS ARE AS FOLLOWS (NOT LISTED IN A MANDATORY WORK SEQUENCE):

ELEMENT 1: TEMPORARY SIGNAL INSTALLATION AND SR 172 DETOUR PLAN

TWO WEEKS PRIOR TO CLOSING THE LINCOLN WAY VIADUCT TO THROUGH TRAFFIC, THE CONTRACTOR SHALL FURNISH AND ERECT A TEMPORARY TRAFFIC SIGNAL INSTALLATION AT THE INTERSECTION OF TREMONT AVENUE & 6TH STREET, S.W., AS DETAILED ON SHEET 3. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE SIGNAL EQUIPMENT CONFORMING TO CONSTRUCTION AND MATERIALS SPECIFICATIONS 625, 632, 713 AND 732, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- 1 EACH WOOD POLE, CLASS 1, 35 FEET
- 144 LIN. FT. MESSENGER WIRE, 7-STRAND, 3/8" DIA. W/ACCESSORIES
- 3 EACH VEHICULAR SIGNAL HEAD, 3-SECTION, 8-INCH LENS, 1-WAY
- 1 EACH VEHICULAR SIGNAL HEAD, 3-SECTION, 8-INCH LENS, 2-WAY
- 1 EACH VEHICULAR SIGNAL HEAD, 5-SECTION, 2 12-INCH LENS, AND 3 8-INCH LENS, 1-WAY
- 5 EACH COVERING OF VEHICULAR SIGNAL HEAD
- 1 EACH DOWN GUY
- 180 LIN. FT. SIGNAL CABLE, 12/C, #14 AWG (FURNISH ONLY)

PAYMENT FOR THE ABOVE MENTIONED ITEMS WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR 614 MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL PROVIDE THE TEMPORARY CENTER LINES AND STOP LINES AT THE INTERSECTION OF TREMONT & 6TH AS SHOWN ON SHEET 3. THE TEMPORARY PAVEMENT MARKINGS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING MT-99.10.

LANE BLOCKAGE AT THE INTERSECTION OF TREMONT & 6TH STREET, S.W., SHALL NOT OCCUR DURING THE HOURS OF 3:00 PM TO 6:00 PM EXCEPT WITH THE PERMISSION OF THE ENGINEER. IF IT IS NECESSARY TO STOP ALL TRAFFIC FOR THE INSTALLATION OF TRAFFIC CONTROL ITEMS, THE WORK SHALL BE SO ARRANGED THAT STOPPAGE IS LESS THAN TEN (10) MINUTES IN ANY THIRTY (30) MINUTE PERIOD. NO STOPPAGE OF TRAFFIC SHALL OCCUR FOR SAID WORK WITHOUT A MASSILLON POLICE OFFICER AT THE SITE FOR ASSISTANCE IN CONTROLLING TRAFFIC AND INFORMING MOTORISTS AS TO THE NATURE OF THE DELAY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID POLICE OFFICER. IF IT IS NECESSARY TO REDUCE TRAFFIC FLOW ON TREMONT AVENUE TO A SINGLE LANE, FLAGGERS SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS THE SINGLE LANE OPERATION IS IN EFFECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID FLAGGERS.

THE CONTRACTOR SHALL CONTACT THE OHIO BELL TELEPHONE COMPANY (MR. PAUL MACKY 489-2632) AND THE OHIO EDISON COMPANY ENGINEERING DEPARTMENT ONE WEEK PRIOR TO ATTACHING THE MESSENGER WIRE TO EITHER OF THE EXISTING WOOD POLES SHOWN ON SHEET 3 TO ALLOW THE UTILITIES TO HAVE PERSONNEL PRESENT DURING INSTALLATION.

TWO WEEKS PRIOR TO CLOSING THE LINCOLN WAY VIADUCT, THE CONTRACTOR SHALL CONTACT THE CITY OF MASSILLON'S ELECTRICIAN (TELEPHONE 832-1176) AND ARRANGE A TIME FOR THE CITY TO PICK UP THE 180-FOOT COIL OF 12/C SIGNAL CABLE AT THE PROJECT FIELD OFFICE. THE CITY OF MASSILLON'S ELECTRICIAN WILL INSTALL THE SIGNAL CABLE, WIRE THE SIGNAL HEADS, AND PERFORM ALL WORK AT THE EXISTING CONTROL CABINET TO PROVIDE THE 3-PHASE SIGNAL OPERATION AS SHOWN ON SHEET 3. THE RESULTING SIGNAL INSTALLATION SHALL BE IN CYCLING OPERATION THROUGHOUT THE DURATION OF THE DETOUR. THE CITY OF MASSILLON'S ELECTRICIAN WILL ALSO BE RESPONSIBLE FOR ANY TEMPORARY SIGNAL TIMING CHANGES AT THE INTERSECTIONS OF LINCOLN WAY & 6TH, LINCOLN WAY & 2ND, AND TREMONT & 2ND TO REDUCE DELAYS FOR THE DETOURING TRAFFIC. THE CITY OF MASSILLON WILL PROVIDE ROUTINE MAINTENANCE FOR ALL SIGNAL INSTALLATIONS DURING THE CONSTRUCTION OF THIS PROJECT.

THE CONTRACTOR SHALL NOTIFY THE OHIO EDISON COMPANY (OEC) TWO WEEKS PRIOR TO CLOSING THE VIADUCT IN ORDER THAT OEC CAN SCHEDULE THE REMOVAL OF THE EXISTING LUMINAIRES AND AERIAL LIGHTING CABLE. OEC CAN NOT REMOVE THE LUMINAIRES AND CABLE UNTIL THE VIADUCT IS CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER OF MASSILLON (TELEPHONE 833-1058) TWO WEEKS PRIOR TO CLOSING THE LINCOLN WAY VIADUCT IN ORDER THAT THE CITY MAY HAVE ADEQUATE TIME TO INSTALL THE "NO PARKING" SIGNING AT TREMONT & 6TH AND SET UP THE DETOUR SIGNING SHOWN ON SHEET 3. FORTY-EIGHT (48) HOURS PRIOR TO THE CLOSING OF LINCOLN WAY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY ENGINEER OF MASSILLON IN ORDER THAT THE CITY MAY NOTIFY ITS POLICE AND FIRE DEPARTMENTS OF THE CLOSURE.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY OF MASSILLON'S ELECTRICIAN FORTY-EIGHT (48) HOURS PRIOR TO OPENING THE COMPLETED LINCOLN WAY FACILITY TO ENABLE THE CITY TO REPLACE THE TEMPORARY CONTROLLER TIMING AT THE AFFECTED INTERSECTIONS WITH THE ORIGINAL TIMING AND SCHEDULE THE REMOVAL OF THE TEMPORARY SIGNAL INSTALLATION AT TREMONT & 6TH. THE CONTRACTOR SHALL PROVIDE TEMPORARY CENTER LINES, CLASS II AND TEMPORARY LANE LINES, CLASS II ON THE LINCOLN WAY VIADUCT AS DIRECTED BY THE ENGINEER.

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THE LINCOLN WAY VIADUCT SHALL NOT BE OPENED TO TRAFFIC UNTIL THE FINAL PAVEMENT MARKING WORK IS COMPLETE AND THE ORIGINAL CONTROLLER TIMINGS HAVE BEEN RESTORED.

ELEMENT 2: SR 21 DETOUR (REPLACE DAMAGED GIRDER)

THE CONTRACTOR SHALL BE PERMITTED TO CLOSE SR 21 BETWEEN CHARLES AVENUE AND CHERRY ROAD TO REMOVE AND REPLACE A GIRDER ON THE SOUTH SIDE OF THE LINCOLN WAY VIADUCT. SR 21 TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 4 VIA CHARLES AVENUE, ERIE STREET, AND CHERRY ROAD. THE SR 21 CLOSURE SHALL ONLY BE PERMITTED BETWEEN THE HOURS OF 10:00 PM AND 5:00 AM. ROAD CLOSURES ARE NOT PERMITTED FRIDAY, SATURDAY OR SUNDAY NIGHTS OR ON HOLIDAYS.

THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND THE CITY'S ELECTRICIAN 72 HOURS PRIOR TO THE SR 21 DETOUR. CITY OF MASSILLON POLICE OFFICERS SHALL BE PRESENT TO ASSIST IN TRAFFIC CONTROL DURING THE DETOUR SET-UP WORK ON SR 21. POLICE OFFICERS SHALL ALSO BE PRESENT AT SR 21 & CHERRY AND SR 21 & CHARLES THROUGHOUT THE DURATION OF THE SR 21 DETOUR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID POLICE OFFICERS.

THE SIGNALIZED INTERSECTION OF SR 21 & CHERRY SHALL REMAIN IN CYCLING OPERATION THROUGHOUT THIS PROJECT. A CITY OF MASSILLON POLICE OFFICER WILL OPERATE THE SIGNAL CONTROLLER THAT CONTROLS SR 21 & CHARLES AND CHARLES & 3RD, S.W., SUCH THAT CIRCULAR RED INDICATIONS ARE DISPLAYED TO NORTHBOUND AND SOUTHBOUND SR 21 TRAFFIC (AND 3RD, S.W.) AND CIRCULAR GREEN INDICATIONS ARE SHOWN TO CHARLES AVENUE TRAFFIC AND TO RIGHT TURNING VEHICLES FROM SR 21 TO CHARLES AVENUE. AT THE CONCLUSION OF THE SR 21 DETOUR, THE POLICE OFFICER WILL ALLOW THE SIGNAL CONTROLLER TO RETURN TO CYCLING OPERATION. THE CITY OF MASSILLON WILL BE RESPONSIBLE FOR COVERING (AND SUBSEQUENTLY UNCOVERING) THE "NO TURN ON RED" SIGN FOR SOUTHBOUND VEHICLES AT CHARLES & 3RD, S.W., PRIOR TO THE BEGINNING OF THE SR 21 DETOUR.

IF THE GIRDER REMOVAL/REPLACEMENT REQUIRES MORE THAN A SINGLE NIGHT CLOSURE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COVERING ALL SR 21 DETOUR SIGNS UNTIL THE DETOUR IS IMPLEMENTED A SECOND NIGHT.

ELEMENT 3: STRUCTURE PAINTING

DURING THIS PHASE OF WORK, OR AT ANY TIME WHEN THE CONTRACTOR REQUIRES EQUIPMENT OR MATERIAL TO BE LOCATED UNDER THE STRUCTURE SUCH THAT ONE LANE OF SR 21 IS BLOCKED, ONE-LANE OPERATION IN EACH DIRECTION SHALL BE PERMITTED ON SR 21 AS SHOWN ON MT-95.30 DURING DAYLIGHT HOURS ONLY. TWO LANES OF TRAFFIC IN EACH DIRECTION ON SR 21 SHALL BE MAINTAINED DURING NIGHT TIME HOURS, WEEKENDS, AND HOLIDAYS BY: 1) PLACING THE DRUMS OR BARRICADES AGAINST THE BACK EDGE OF THE RIGHT SHOULDER, 2) COVERING THE OW-122 AND OW-60 SIGNS, AND 3) REMOVING THE FLASHING ARROW PANEL. DRUMS OR BARRICADES POSITIONED ALONG SR 21 UNDER THE VIADUCT SHALL BE RELOCATED TO A LOCATION TO BE APPROVED BY THE ENGINEER. THE SCHEDULING OF ONE-LANE OPERATION ON SR 21 SHALL BE APPROVED BY THE ENGINEER.

THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES AND OTHER DEVICES TO WARN AND TO PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION AND/OR INSTALLATION OF THE REQUIRED LIGHTING AND ROADWAY ITEMS SUCH AS ANCHOR BOLTS, OPEN EXCAVATIONS, ETC. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, SUCH PEDESTRIAN PROTECTION SHALL UTILIZE, BUT NOT BE LIMITED TO, TYPE A WARNING LIGHTS MOUNTED ON DRUMS, TEMPORARY FENCE, TYPE I, TYPE II, OR TYPE III BARRICADES. PRIOR TO LEAVING THE WORK AREA EACH DAY, THE CONTRACTOR SHALL PLACE DRUMS/BARRICADES WITH LIGHTS COMPLETELY ACROSS THE ROADWAY AND SIDEWALKS ON LINCOLN WAY AS SHOWN ON SHEET 3.

PAYMENT FOR THIS ITEM OF WORK, UNLESS SPECIFICALLY PAID FOR BELOW OR ELSEWHERE, WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614	TEMPORARY CENTER LINES, CLASS I, 947.03 TYPE C	0.02 MILE
ITEM 614	TEMPORARY STOP LINES, CLASS I, 947.03 TYPE C	52 L.F.
ITEM 614	TEMPORARY LANE LINES, CLASS II	0.31 MILE
ITEM 614	TEMPORARY CENTER LINES, CLASS II	0.16 MILE
ITEM SPECIAL	- LAW ENFORCEMENT OFFICER WITH PATROL CAR	40 HOURS

ITEM SPECIAL - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF CMS 614, A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH EMERGENCY FLASHERS OPERATING, SHALL BE PROVIDED AS REQUIRED PER THIS PLAN.

INFORMATION REGARDING ARRANGEMENTS AND PAYMENTS BY THE CONTRACTOR FOR SPECIAL DUTY PATROL SERVICES MAY BE OBTAINED BY CONTACTING THE CITY OF MASSILLON POLICE DEPT., CITY HALL BLDG., MASSILLON, OHIO 44646 ; TELE. : (216) 830-1762.

VEHICULAR SIGNAL HEADS & MESSENGER WIRE
BY CONTRACTOR

EXIST. OBT POLE #22536

MESSENGER WIRE BY CONTRACTOR

EXIST. OE POLE
(OBT CONTACT # 23173)

TREMONT AVE. S.W.
SR 241

6TH ST. S.W.

EXIST. SIGNALIZED
INTERSECTION
TO REMAIN

TEMPORARY WOOD SIGNAL POLE
BY CONTRACTOR

LEGEND:

- (E) EXIST. PVM'T MARKINGS TO REMAIN
- (T-C) TEMP. CENTERLINE, CLASS I, 947.03, TYPE C (100' IN LENGTH)
- (T-S) TEMP. STOP LINE, CLASS I, 947.03 TYPE C
- * EXIST. '2HR PARKING' SIGN TO BE REMOVED (BY CITY)

DETAIL: SIGNAL HEAD ③

12" SIGNAL SECTIONS

8" SIGNAL SECTIONS

SCALE IN FEET: 0 10 20

North Arrow

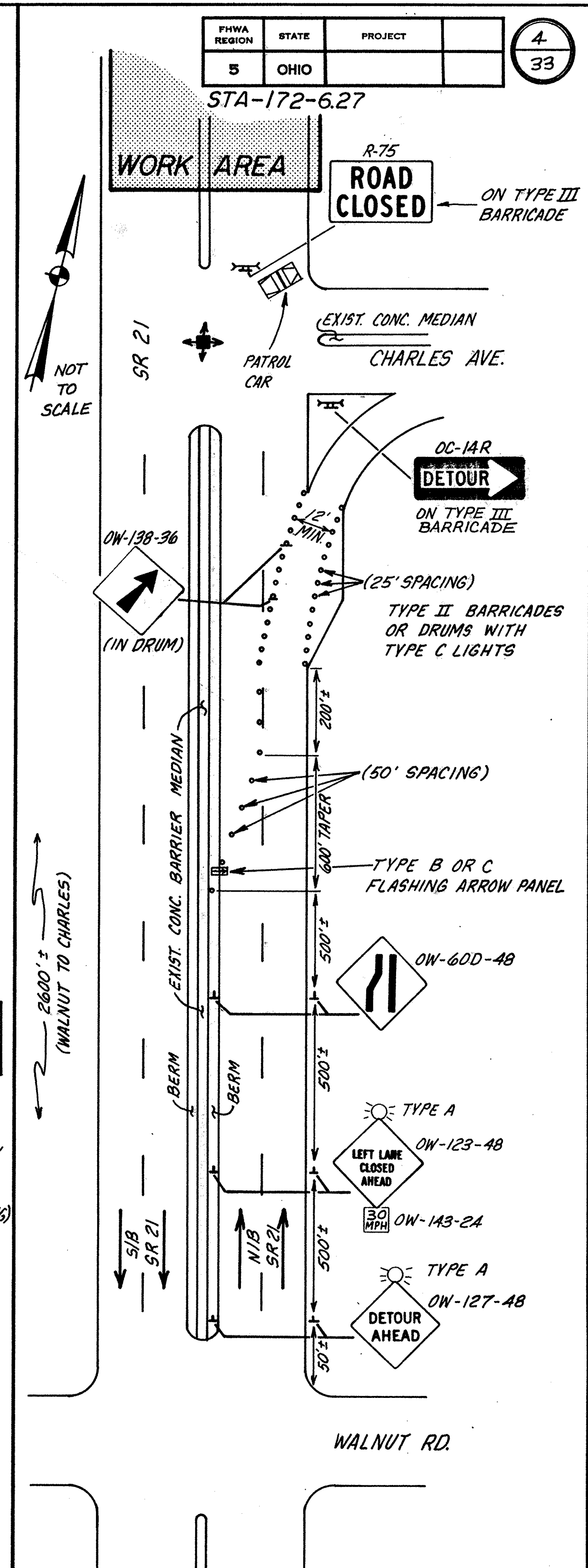
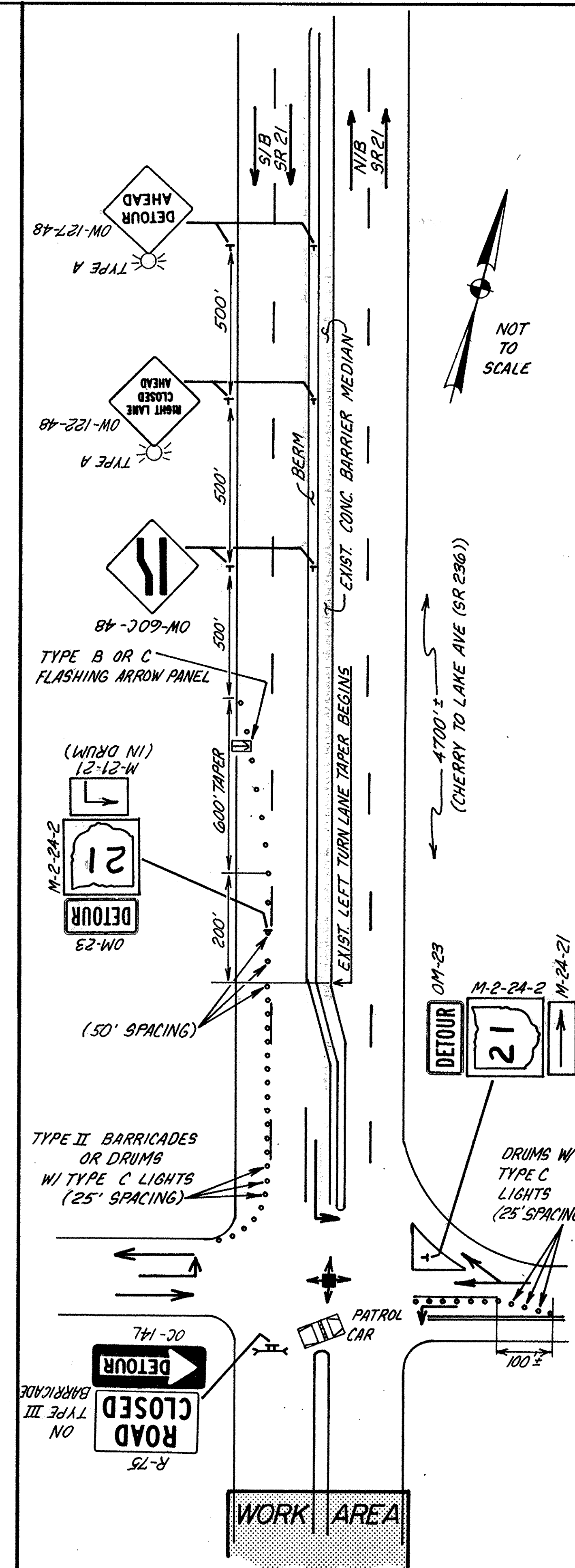
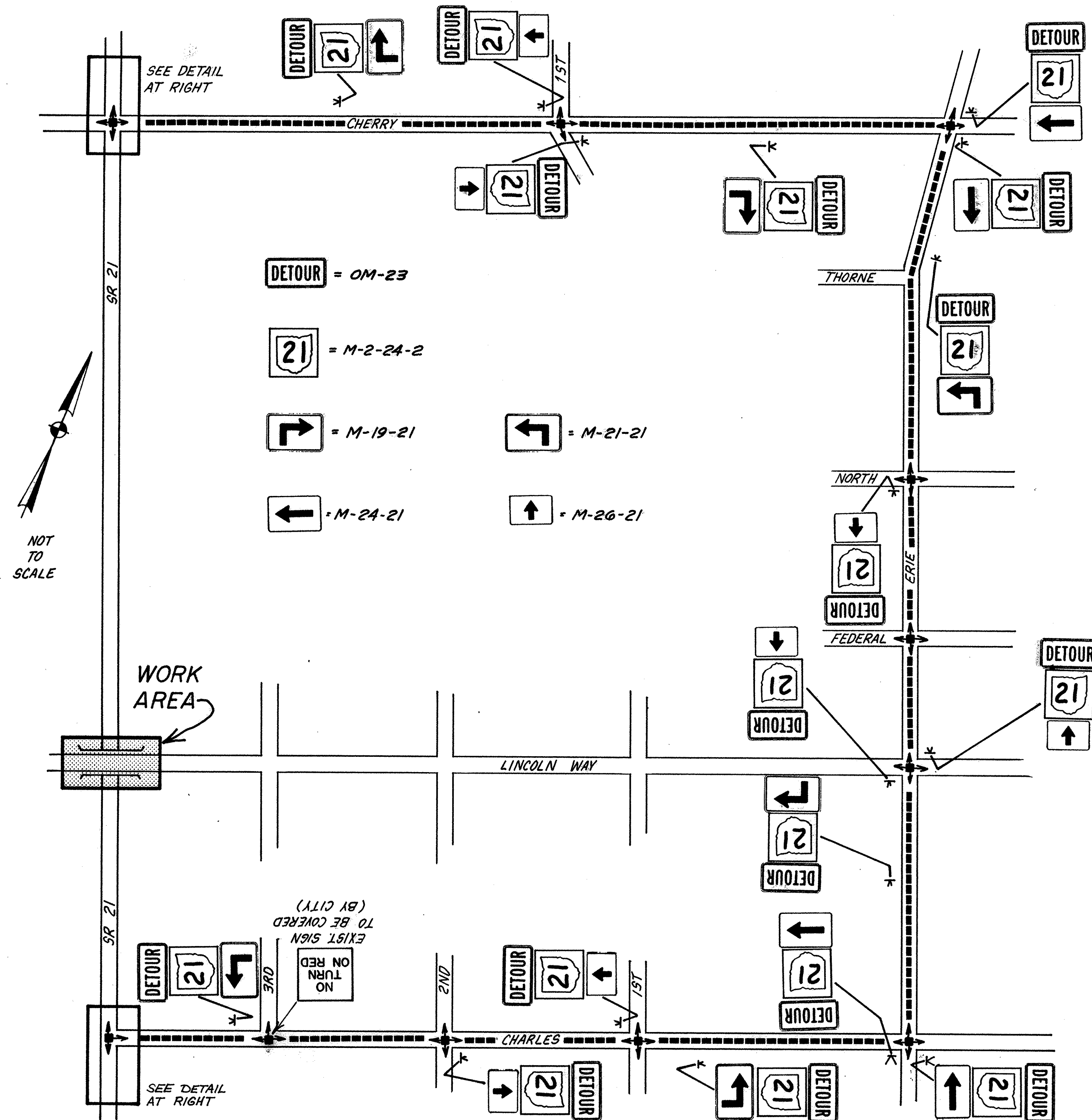
SIGNAL SEQUENCING (BY CITY)															
SEQUENCE INTERVAL	SIGNAL NUMBER												DESCRIPTION OF INTERVAL	TIME	
	1	2	3	4	5	6	7	8	9	10	11	12		%	SEC.
1	G	G	G	G	R	R	G	G	G	G	R	R	Ø 1 GREEN	43	30.1
2	Y	Y	Y	Y	R	R	G	G	Y	Y	R	R	Ø 1 YELLOW CLEAR	5	3.5
3	R	R	R	R	G	G	G	G	R	R	R	R	Ø 2 GREEN	28	19.6
4	R	R	R	R	Y	Y	Y	Y	R	R	R	R	Ø 2 YELLOW CLEAR	5	3.5
5	R	R	Ø 6	G	R	R	R	R	R	G	G	G	Ø 3 GREEN	14	9.8
6	R	R	Ø 6	G	R	R	R	R	R	Y	Y	Y	Ø 3 YELLOW CLEAR	5	3.5
FLASH	Y	Y	Y	Y	R	R	Y	Y	Y	Y	R	R	TOTAL	100	70

[illegible]

1. RED FLASHING LIGHTS SHALL BE USED ON ALL R-75, R-76A, R-76B, AND R-76-SPECIAL SIGNS.
2. ALL SIGNS & SUPPORTS SHOWN WILL BE ERECTED, MAINTAINED, & REMOVED BY THE CITY OF MASSILLON, EXCEPT THOSE INDICATED AS 'BY CONTRACTOR'.

SR 21 DETOUR PLAN

1. ALL MAINTAINING TRAFFIC ITEMS SHOWN ON THIS SHEET WILL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
2. FOR LEGEND, SEE SHEET 3.



GENERAL NOTES

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 400 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

ELEVATION DATUM

ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON U.S.G.S. DATUM.

WALKS

EXISTING WALKS INDICATED TO BE REPLACED ON THE PLAN SHALL BE CONNECTED TO THE EXISTING WALK AT THE NEXT EXISTING JOINT, OR AS DIRECTED BY THE ENGINEER.

ESTIMATED QUANTITY: ITEM 608 - 4" CONCRETE WALK 100 SQ. FT.

UNDERGROUND UTILITIES

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

UTILITIES NOTIFICATION

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

OHIO EDISON CO. EAST OHIO GAS CO.
76 SOUTH MAIN STREET 1201 EAST 55TH STREET
AKRON, OHIO 44308 CLEVELAND, OHIO 44101
(216) 384-5234 (216) 361-2311

OHIO BELL TELEPHONE CO.
832 MCKINLEY AVENUE, N.W.
ROOM 103
CANTON, OHIO 44703
(216) 489-2628

TACK COAT

THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT, AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GAL. PER SQ. YD. OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CONCRETE CURB AS PER PLAN

THE CURB HEIGHT DIMENSION SHOWN IN THE DETAILS ON SHEET NO. 7 ARE APPLICABLE TO ALL CURB REPLACEMENT LOCATIONS NOTED IN THE PLANS AS BEING "AS PER PLAN". CURB DETAILS OTHER THAN THOSE SHOWN SHALL CONFORM TO THE APPROPRIATE STANDARD DRAWING. THE REQUIREMENTS OF ITEM 609 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL APPLY TO THIS WORK.

PAYMENT FOR ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE FOLLOWING:

ITEM 609 - CURB, TYPE 6, AS PER PLAN

CONTINGENCY QUANTITIES

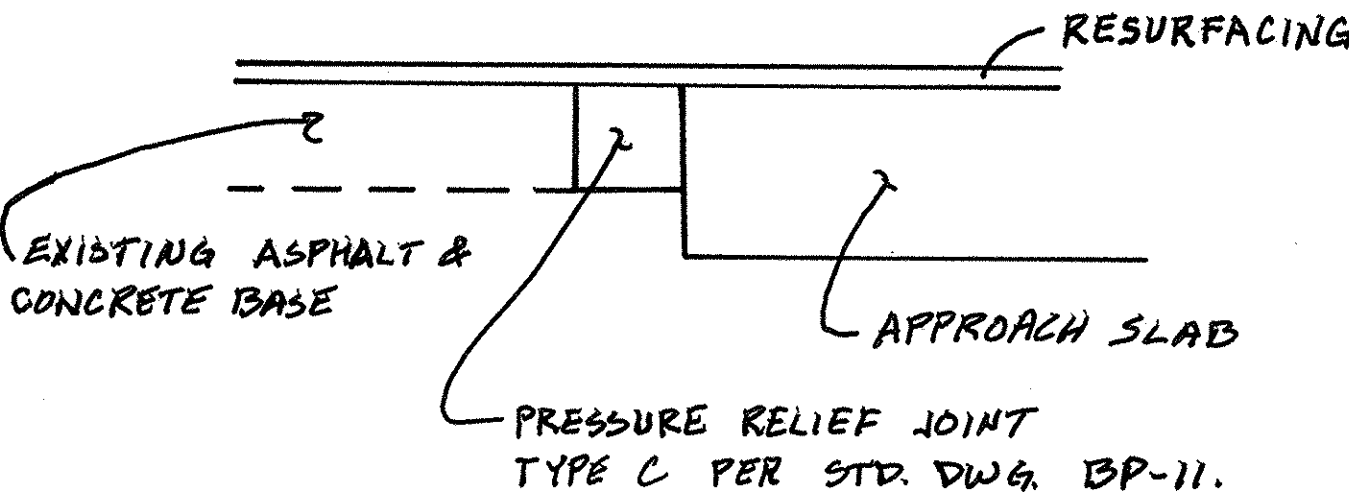
THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD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

JOINT SEALERS

ALL REFERENCES TO 705.01 or 705.02 APPEARING ON STANDARD DRAWINGS OR ON THE PLANS SHALL BE CONSIDERED TO READ 705.04.

PRESSURE RELIEF JOINTS

AN ESTIMATED QUANTITY OF 104 L.F. OF TYPE C PRESSURE RELIEF JOINTS HAVE BEEN PROVIDED IN THE GENERAL SUMMARY. THE COST OF THE AGGREGATE DRAINS (COMPLETE IN PLACE) PER STANDARD DRAWING BP-11 SHALL BE INCLUDED IN THE COST OF ITEM SPECIAL, "PRESSURE RELIEF JOINTS, TYPE C, AS PER PLAN" PER LINEAR FOOT.



CALCULATIONS

ITEM 310~6"SUBBASE (UNDER APPR. SLABS)
[20x52x2x0.5]÷27=38.5 C.Y.

RESURFACING QUANTITIES

PAVEMENT AREA

FEATHER @ WEST APPROACH 2284 S.F.
FEATHER @ EAST APPROACH 1854 S.F.
AREA OF FULL DEPTH RESURF. @ WEST APPROACH 1675 S.F.
(PLANIMETERED AREAS)

ITEM 404~2 1/4" ASPHALT CONCRETE, AC-20
[(2284+1854)+(1675)](2 1/4/12)÷27= 26.00 C.Y.

ITEM 407~TACK COAT
(2284+1854+1675)(0.1)= 64.6 GAL.

ITEM 203~ SUBGRADE COMPACTION (UNDER APPROACH SLABS)
[(20x52x2)]÷9=231.1 S.Y.

SUMMARY OF QUANTITIES AND GENERAL SUMMARY

TOTAL FROM SHEET NO.							GENERAL SUMMARY			DESCRIPTION
2	6	7	9				ITEM	QUAN TITY	UNIT	
										ROADWAY
		24	28				202	52	LIN.FT.	CURB REMOVED
		570	168				202	738	SQ.FT.	WALK REMOVED
		125	124				202	249	SQ.YD.	PAVEMENT REMOVED
	100	570	168				608	838	SQ.FT.	4" CONCRETE WALK
	231						203	231	SQ.YD.	SUBGRADE COMPACTION
										PAVEMENT
		10	9				305	19	SQ.YD.	8" CONCRETE BASE, AS PER PLAN (DETAIL ON SH. 9)
	26						404	26	CUYD	ASPHALT CONCRETE, AC-20.
	65						407	65	GAL.	TACK COAT
	104						SPEC.	104	LIN.FT.	PRESSURE RELIEF JOINTS, TYPE C, AS PER PLAN
		116	116				611	232	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=13")
		24	28				609	52	LIN.FT.	CURB, TYPE 6, AS PER PLAN
	39						310	39	CUYD.	SUBBASE, TYPE I, GRADING A
										FOR STRUCTURE QUANTITIES, SEE SHEET No. 32
										FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET No. 11
										FOR LIGHTING QUANTITIES, SEE SHEET No. 11
40							SPEC.	40	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR
	LUMP						619	LUMP		FIELD OFFICE
							623	LUMP		CONSTRUCTION LAYOUT STAKES
							624	LUMP		MOBILIZATION
							614	LUMP		MAINTAINING TRAFFIC

* AS PER PLAN

LENGTH OF TAP

SAME AS LENGTH C

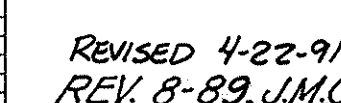
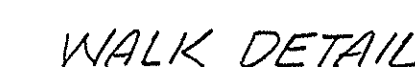
PLAN

LENGTH OF TAPER IS

SAME AS LENGTH OF

GUTTER LINE

CURB TAPER DETAIL



TYPICAL SECTION LINCOLNWAY WEST

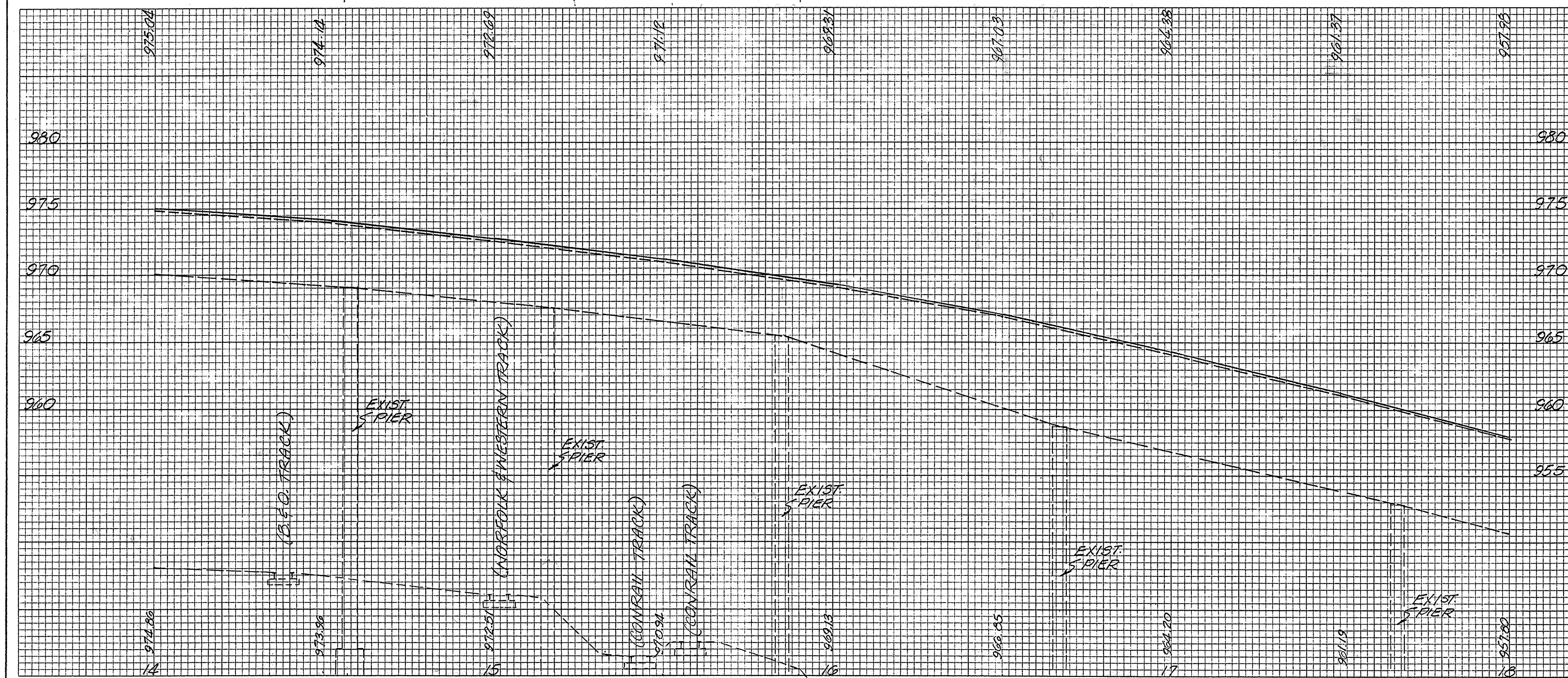
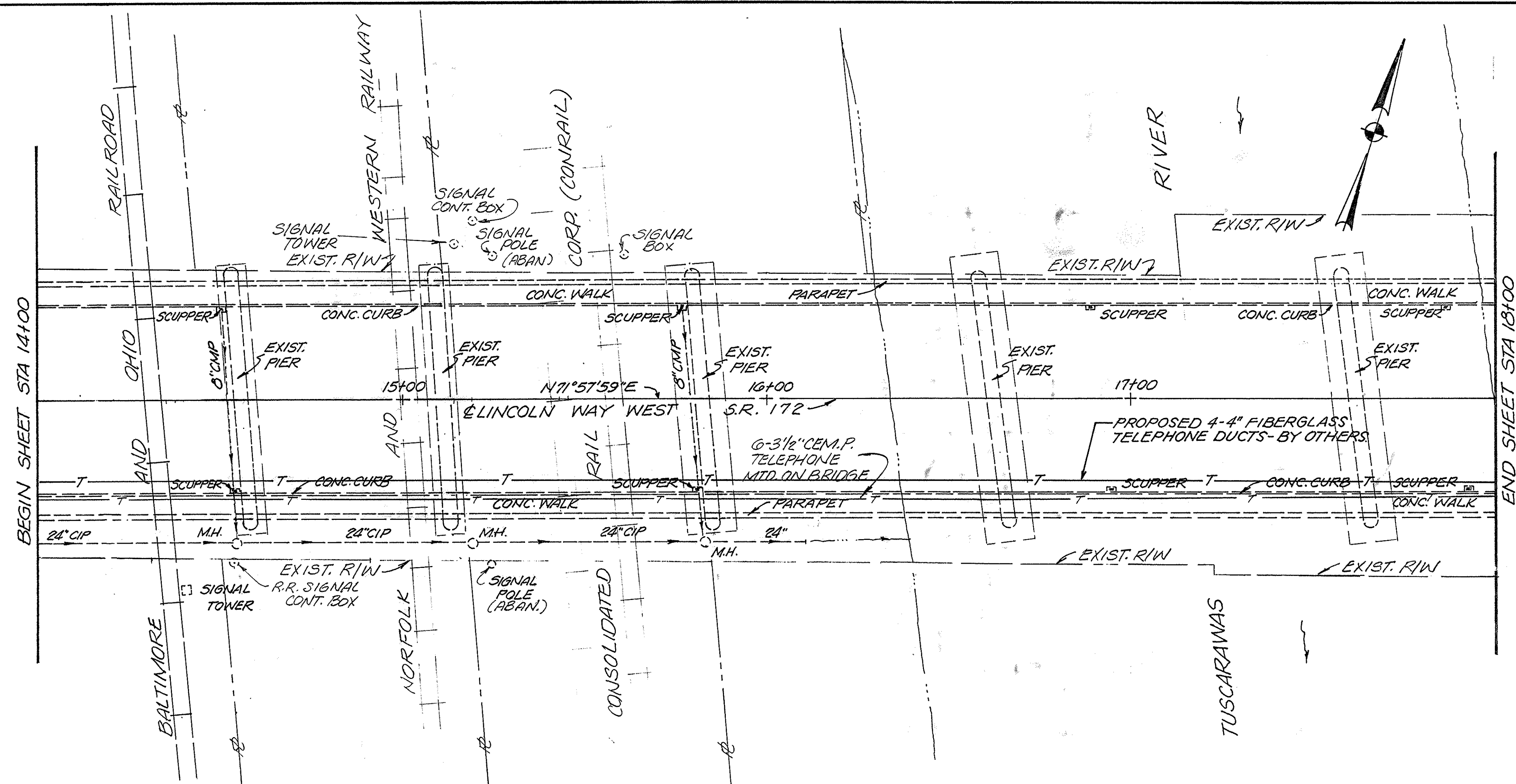
STA 10+00 TO STA 14+00

CALC. BY RJS DATE 12/86
CHKD. BY DS DATE 1/89

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

8
33

STA-172-6.27
LINCOLN WAY WEST
CITY OF MASSILLON
STARK COUNTY

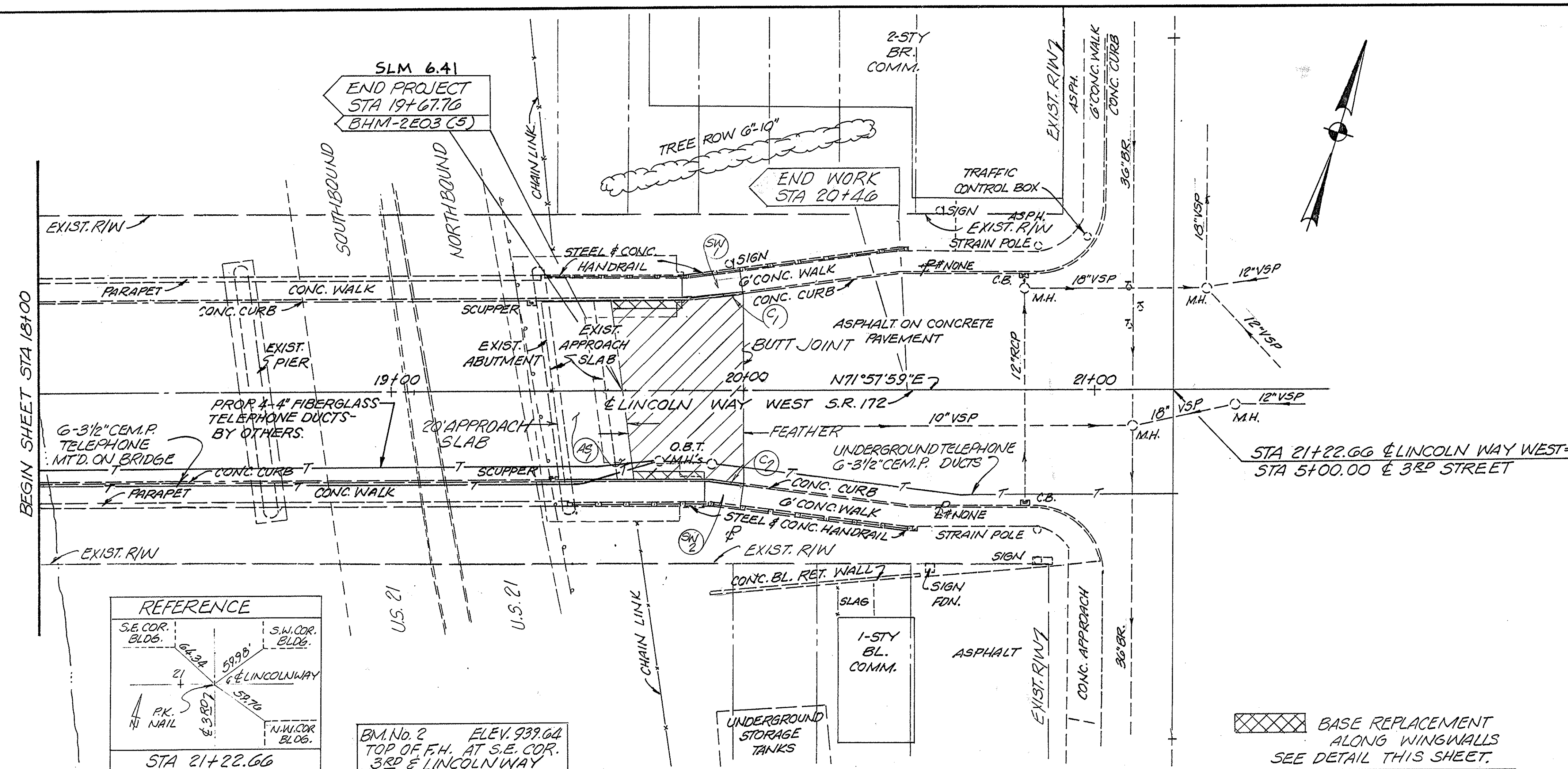


EXIST. & PROPOSED STRUCTURE DATA
 TYPE - CONTINUOUS STEEL BEAM GIRDER BRIDGE WITH CONCRETE FLOOR & SUBSTRUCTURE
 SPANS - GIRDER UNIT - 80'-100'-100'-80' C/G BEARINGS
 BEAM UNIT - 68'-10", 58'-5 1/2", 68'-6", 68'-6"
 55'-0" C/G BEARINGS
 ROADWAY - 52' FACE TO FACE CURBS
 LOADING - HS 20-44
 SKEW - 6° 45' R.F. FOR E. ABUT., PIERS 1, 2, 3, 4, 5
 5° 22' R.F. FOR W. ABUT., PIERS 6, 7, 8
 WEARING SURFACE - 2 1/2" BITUMINOUS (EXIST.)
 1" MONOLITHIC (PROPOSED)
 APPROACH SLABS - 15' LONG (EXIST.)
 20'-0" AS-1-81 (PROPOSED)

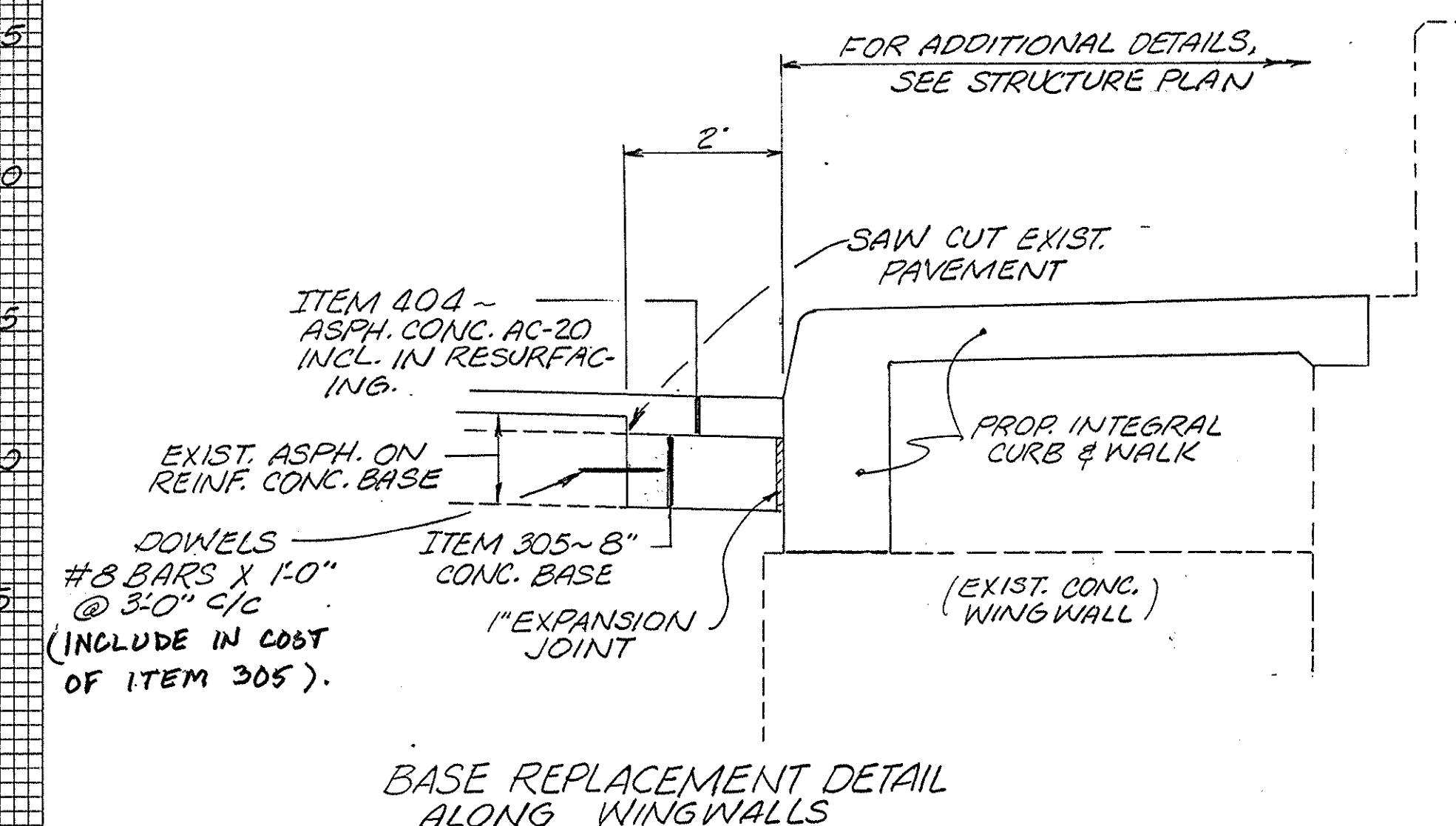
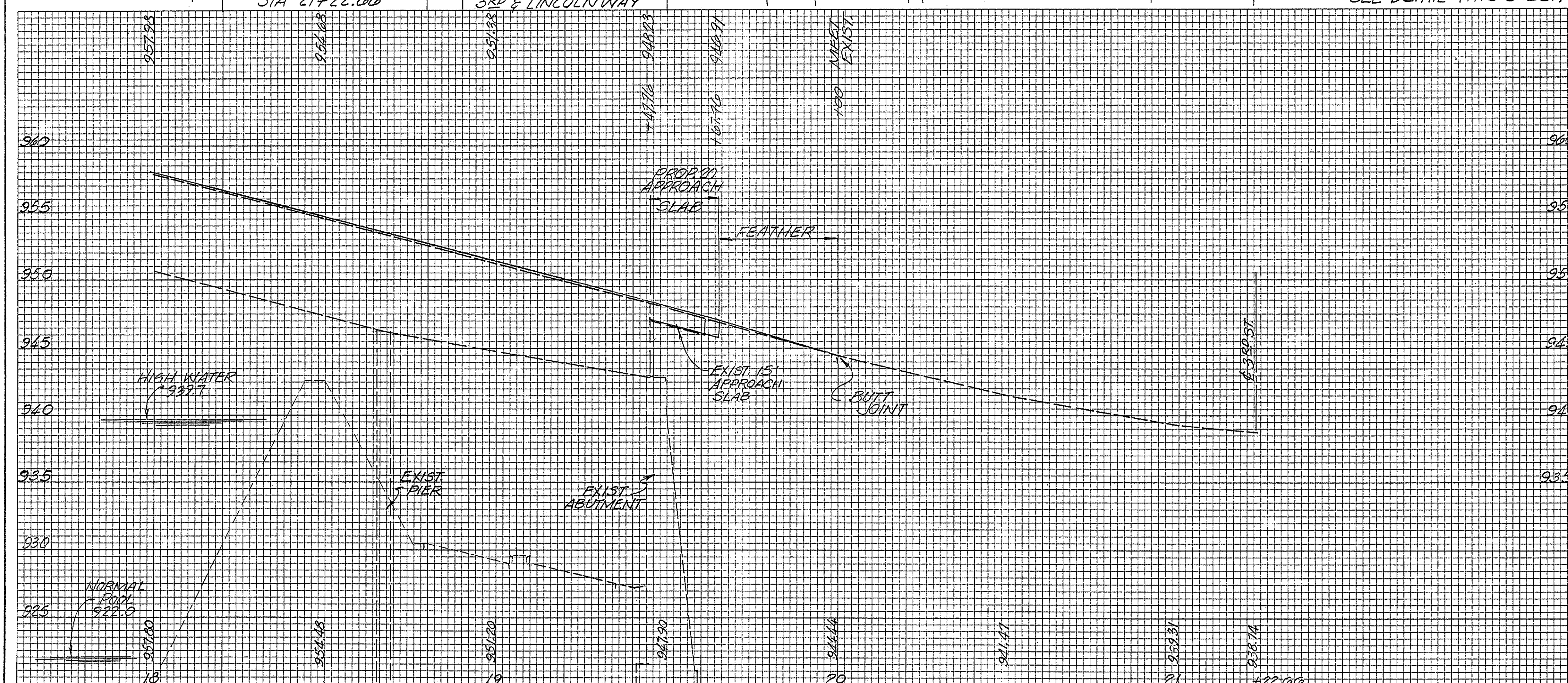
REVISED 4-22-91
REV. 8-89, J.M.O.

STA 14+00 TO STA 18+00

STA - 172 - G.27
LINCOLN WAY WEST
CITY OF MASSILLON,
STARK COUNTY



REFERENCE NO.	STATION TO STATION	SIDE	202	202	609	608	202	611	305	# AS PER PLA		
			CURB REMOVED	WALK REMOVED	CURB CONC. TYPE 6, AS PER P.L.	4" CONCRETE WALK	PAVEMENT REMOVED	REINFC CONC. APPR. SLAB TIE B.	8" CONCRETE BASE *			
			L.F.	S.F.	L.F.	S.F.	S.Y.	S.Y.	S.Y.			
C-1	19+83 - 20+00	LT	17		17							
C-2	19+89 - 20+00	RT	11		11							
SW-1	19+83 - 20+00	LT		102		102						
SW-2	19+89 - 20+00	RT		66		66						
AS-1	19+47.76 - 19+67.76	L&R					124	116	9			
TOTAL			28	168	28	168	124	116	9			



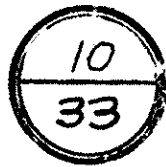
REVISED 4-22-91
REV. 8-89 J.M.O.

STA 18+00 TO STA 21+22.66

LIGHTING &
TRAFFIC CONTROL GENERAL NOTES

Quantities			
Calculated / Date	Checked / Date		
DRB 2-12-87	RJC 2-13-87		

FHWA REGION	STATE	PROJECT	
5	OHIO		



STA-172-6.27

LIGHTING

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.

AT LEAST 2 WORKING DAYS BEFORE DIGGING, THE CONTRACTOR SHOULD CALL THE OHIO UTILITIES PROTECTION SERVICE, TOLL-FREE, 800-362-2764. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY.

SEE SHEET 6 FOR ADDITIONAL UTILITY INFORMATION.

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.

CONDUIT ON STRUCTURE

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, FOR THE LINCOLN WAY VIADUCT.

EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

EXPANSION FITTINGS AND GROUNDS

THE EXPANSION FITTINGS OR GROUNDS SHOWN ARE NOT TO BE CONSIDERED COMPLETE IN NUMBER OR MORE THAN APPROXIMATE IN LOCATION.

PULLBOX UNDERDRAINS

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULLBOXES. DRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 40 FEET. AN ESTIMATED QUANTITY OF 240 LINEAR FEET OF ITEM 603, 4" CONDUIT, TYPE E, ZOZ.15 IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

REMOVAL OF EXISTING LUMINAIRES AND LIGHTING CABLE

UPON TWO (2) WEEKS ADVANCE NOTICE BY THE CONTRACTOR AND UPON THE CLOSING OF THE LINCOLN WAY VIADUCT TO TRAFFIC, THE OHIO EDISON COMPANY (OEC) WILL REMOVE THE EXISTING LUMINAIRES AND AERIAL LIGHTING CABLE FROM THE STRUCTURE.

REMOVAL OF CITY AERIAL CABLE

UPON TWO (2) WEEKS ADVANCE NOTICE BY THE CONTRACTOR AND UPON THE CLOSING OF THE LINCOLN WAY VIADUCT TO TRAFFIC, THE CITY OF MASSILLON WILL REMOVE THE AERIAL CABLE PRESENTLY USED FOR CHRISTMAS LIGHTING ALONG THE VIADUCT.

SPECIAL ~~MODIFICATION OF EXISTING STRUCTURE GROUNDING SYSTEM~~

THE CONTRACTOR SHALL PROVIDE A COMPLETE STRUCTURE GROUNDING SYSTEM AS PER 625 AND 713 FOR THE LINCOLN WAY VIADUCT.

THE LINCOLN WAY VIADUCT IS COMPOSED OF TWO (2) UNITS WITH TWO (2) FIXED PIERS (SEE STRUCTURE PLAN SHEETS). THE TWO UNITS WILL BE RE-DECKED IN THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND TESTING ANY EXISTING GROUND AND PROVIDING ALL ADDITIONAL MATERIALS NECESSARY TO PROVIDE AN ENTIRE STRUCTURE GROUNDING SYSTEM FOR THE COMPLETED TWO-UNIT BRIDGE.

PAYMENT FOR ITEM SPECIAL - MODIFICATION OF EXISTING STRUCTURE GROUNDING SYSTEM WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH STRUCTURE GROUNDING SYSTEM INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS COMPLETE IN PLACE.

TRAFFIC CONTROL

632 REMOVAL OF AERIAL SIGNAL INTERCONNECT CABLE

THE CONTRACTOR SHALL REMOVE THE EXISTING FIGURE "8" SIGNAL INTERCONNECT CABLE BETWEEN THE OHIO EDISON POLE AT STA 11+40(LEFT) AND THE STEEL POLE AT STA 19+96(LEFT). THE REMOVED CABLE SHALL BE STORED ON THE PROJECT FOR THE CITY OF MASSILLON TO PICK UP. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHO WILL NOTIFY THE CITY ELECTRICIAN 72 HOURS IN ADVANCE OF WHEN THE SIGNAL INTERCONNECT CABLE WILL BE REMOVED. AT THE COMPLETION OF THE PROJECT, ANY STORED CABLE STILL REMAINING ON THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

PAYMENT FOR 632 REMOVAL OF AERIAL SIGNAL INTERCONNECT CABLE WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT INCLUDING LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS.

632 DOWN GUY

UPON REMOVAL OF THE AERIAL SIGNAL INTERCONNECT CABLE WEST OF THE EXISTING STEEL POLE AT STA 19+96 (LEFT), THE CONTRACTOR SHALL BE RESPONSIBLE FOR GUYING THE ABOVE MENTIONED POLE IF DEEMED NECESSARY BY THE ENGINEER. GUY ASSEMBLIES SHALL BE IN ACCORDANCE WITH 713.19 AND STANDARD CONSTRUCTION DRAWING TC-84.20. AN ESTIMATED QUANTITY OF 1 DOWN GUY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

THE OHIO EDISON COMPANY SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY NECESSARY GUY ASSEMBLIES ON OEC POLE #2521C3/111 AT STA 11+40, LEFT.

PAYMENT SHALL BE AS PER 632.29.

632 INTERCONNECT CABLE

THIS ITEM OF WORK SHALL BE AS PER 632.22 AND AS NOTED BELOW. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHO WILL CONTACT THE CITY ELECTRICIAN 1 (ONE) WEEK IN ADVANCE OF SPLICING THE INTERCONNECT CABLE TO THE EXISTING AERIAL INTERCONNECT CABLE IN ORDER THAT CITY OF MASSILLON PERSONNEL MAY BE PRESENT WHILE THE CONTRACTOR MAKES THE REQUIRED SPLICES.

625 GROUND ROD

THE CONTRACTOR SHALL FURNISH AND INSTALL A GROUND ROD FOR THE EXISTING ANCHOR BASE POLE AT STA 19+96, LEFT, AS PER 625.10. THE CONTRACTOR SHALL SECURELY WELD A NUT ON THE TOP OF THE POLE BASE PLATE FOR THE GROUND CONNECTION DUE TO THE ABSENCE OF A CONDUIT ELL AND A HAND HOLE IN THE EXISTING POLE. THE GROUND WIRE SHALL BE KEPT AS CLOSE TO THE POLE BASE AND FOUNDATION TOP AS POSSIBLE.

PAYMENT SHALL BE AS PER 625.25.

COORDINATION WITH OHIO EDISON COMPANY

THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHO WILL NOTIFY THE OHIO EDISON COMPANY AT THE ADDRESS LISTED BELOW THREE (3) WORKING DAYS PRIOR TO INSTALLING THE 1½-INCH CONDUIT BETWEEN THE OEC POLE AT STA 11+40 LEFT, AND THE PULL BOX AT STA 12+09 LEFT. UPON NOTIFICATION, OEC WILL PROVIDE AND INSTALL A CONDUIT FOR LIGHTING CABLE IN THE TRENCH BEING PROVIDED BY THE CONTRACTOR FOR THE 1½-INCH CONDUIT FOR SIGNAL INTERCONNECT CABLE.

OHIO EDISON COMPANY
STARK DIVISION ENGINEERING
663 SOUTH ERIE STREET
MASSILLON, OHIO 44646
(216) 833-3141 EXT. 250
CONTACT: MR. KEN DOWNS

TRAFFIC CONTROL AND
LIGHTING GENERAL SUMMARY

FHWA
REGION
5

STATE
OHIO

PROJECT

Quantities
Calc. Date
DRB 2-12-87

Chk'd. Date
RJC 2-13-87

STA-172-6.27

11
33

ITEM	TOTAL FROM SHEET NO.																		PARTICIPATION SUB- TOTAL			GENERAL SUMMARY			DESCRIPTION	
									2			10										TOTAL	UNIT	ITEM		
																									TRAFFIC CONTROL	1
																										2
									0.02													0.02	MI	614	TEMPORARY CENTER LINES, CLASS I, 947.03 TYPE C	3
									52													52	LF	614	TEMPORARY STOP LINES, CLASS I, 947.03 TYPE C	4
									0.31													0.31	MI	614	TEMPORARY LANE LINES, CLASS II	5
									0.16													0.16	MI	614	TEMPORARY CENTER LINES, CLASS II	6
																						0.31	MI	621	LANE LINES	7
																						0.16	MI	621	CENTER LINES	8
																										9
																										10
																										11
																						1	EA	625	GROUND ROD	12
																						2	EA	625	PULLBOX, 713.08, 18"	13
																						3	EA	625	JUNCTION BOX, TYPE II, 12"x10"x10"	14
																										15
																						177	LF	625	TRENCH	16
																						75	LF	625	CONDUIT, 713.04, 1 1/2"	17
																						785	LF	625	CONDUIT, 713.04, 2"	18
																										19
																						2	EA	632	CONDUIT RISER, 1 1/2" DIA.	20
																						949	LF	632	INTERCONNECT CABLE, 7/C, No. 14 AWG	21
												1										1	EA	632	DOWN GUY	22
																						856	LF	632	REMOVAL OF AERIAL SIGNAL INTERCONNECT CABLE	23
																										24
																										25
																										26
																										27
																										28
																										29
																										30
																										31
																										32
																						32	EA	625	LIGHT POLE ANCHOR L-BOLTS FOR STRUCTURE	33
																						8	EA	625	JUNCTION BOX, TYPE I, 18"x8"x6"	34
																						4	EA	625	PULL BOX, 713.08, 18"	35
																										36
																						105	LF	625	TRENCH, 24" DEEP	37
																						1574	LF	625	CONDUIT, 713.04, 4"	38
																										39
																										40
																						240	LF	603	4" CONDUIT, TYPE E, 707.15	41
																						1	EA	SPECIAL	MODIFICATION OF EXISTING STRUCTURE GROUNDING SYSTEM	42
																										43
																										44
																										45
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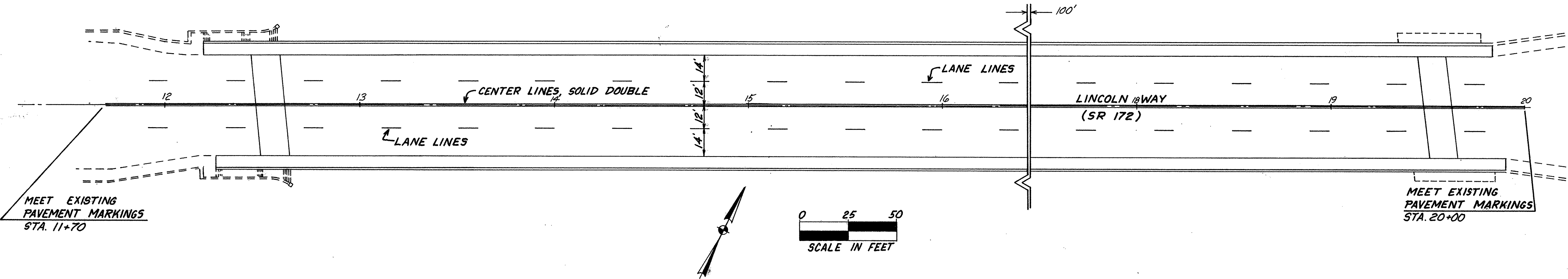
PAVEMENT MARKING PLAN

Quantities			
Calculated / Date	Checked / Date		
DRB 2-10-87	RJC 2-13-87		

FHWA REGION	STATE	PROJECT	
5	OHIO		

13
33

STA-172-6.27



TRAFFIC CONTROL SUB-SUMMARY

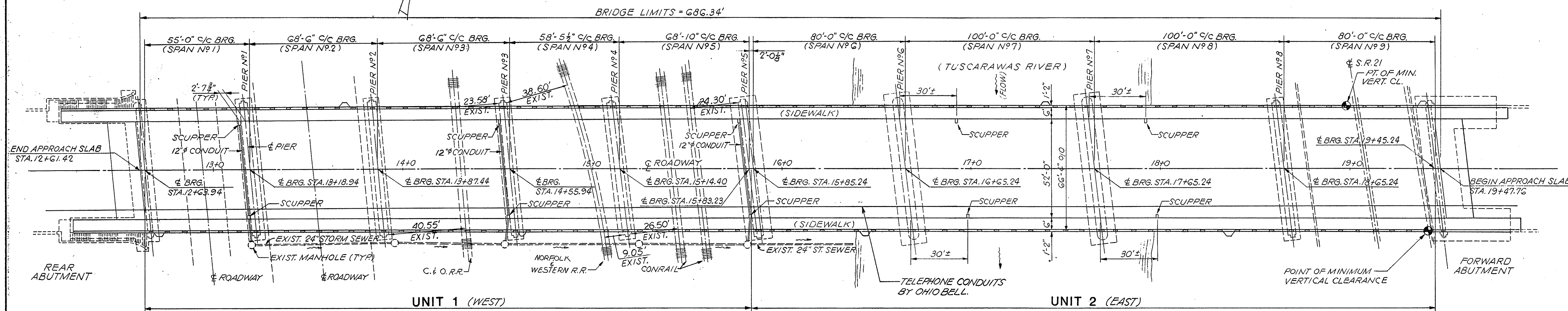
REF. NO.	LOCATION		LANE LINES	CENTER LINES, SOLID DOUBLE	GROUND ROD	PULLBOX, 713.08, 18"	JUNCTION BOX, TYPE II, 12" X 10" X 10"	TRENCH	CONDUIT, 713.04, 1 1/2"	CONDUIT, 713.04, 2"	CONDUIT RISER, 1 1/2" DIA.	INTERCONNECT CABLE, 7/8 NO. 14 AWG	REMOVAL OF AERIAL SIGNAL INTERCONNECT CABLE
	FROM — TO	SIDE	L.F.	L.F.	EA.	EA.	EA.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.
1	LINCOLN WAY												
2	11+70-20+00	E		830									
3	11+70-20+00	L&R	1660										
4													
5													
6	11+40-19+96	L											856
7	11+40	L									1	32	
8	11+40-12+09	L						69	69			74	
9	12+09	L				1							
10	12+09-12+60	L						51		51		51	
11	12+60-14+00	L					1			140		145	
12	14+00	L											
13	14+00-16+00	L								200		205	
14	16+00	L					1						
15	16+00-18+00	L								200		205	
16	18+00	L					1						
17	18+00-19+43	L								143		143	
18	19+43-19+94	L						51		51		56	
19	19+94	L				1							
20	19+94-19+96	L						6	6			6	
21	19+96	L			1						1	32	
22													
23													
24													
25													
26													
27													
28	TOTAL		1660	830	1	2	3	177	75	785	2	949	856
29	TOTAL (MILES)		0.31	0.16									

LIGHTING SUB-SUMMARY

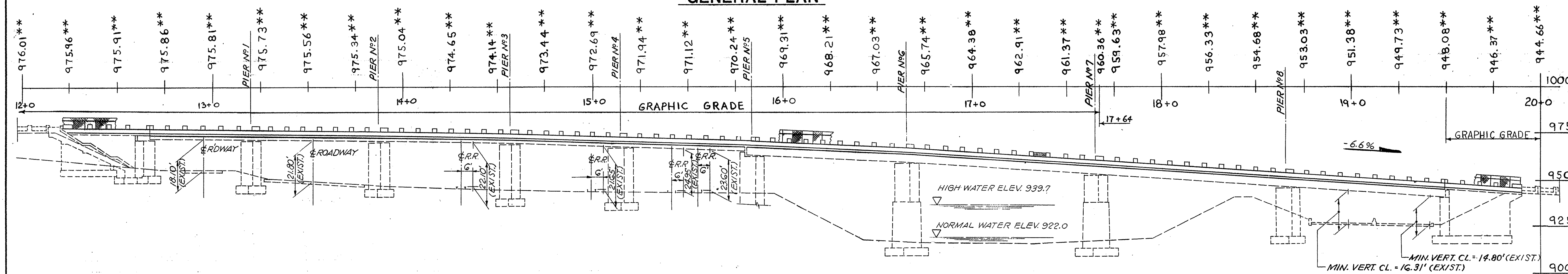
REF. NO.	LOCATION		LIGHT POLE ANCHOR L-BOLTS FOR STRUCTURE	JUNCTION BOX, TYPE I, 18" X 8" X 6"	CONDUIT, 713.04, 4"	TRENCH, 24" DEEP	PULL BOX, 713.08, 18"
			625 EA.	625 EA.	625 L.F.	625 L.F.	625 EA.
1	LINCOLN WAY						
2							
3	12+11	L					1
4	12+11-13+70	L			159		
5	13+70	L	4	1			
6	13+70-15+58	L			188		
7	15+58	L	4	1			
8	15+58-17+38	L			180		
9	17+38	L	4	1			
10	17+38-19+37	L			199		
11	19+37	L	4	1			
12	19+37-19+96	L			59		
13	19+96	L			2	2	1
14							
15	12+15	R			2	2	1
16	12+15-12+66	R			51	51	
17	12+66-12+72	R			6		
18	12+72	R	4	1			
19	12+72-14+64.5	R			192.5		
20	14+64.5	R	4	1			
21	14+64.5-16+46.1	R			182		
22	16+46.1	R	4	1			
23	16+46.1-18+36.8	R			190.5		
24	18+36.8	R	4	1			
25	18+36.8-19+50	R			113		
26	19+50-19+98	R			48	48	
27	19+98	R			2	2	1
28							
29	TOTAL		32	8	1574	105	4

REVISED 4-22-91

STA 172-6.27
CITY OF MASSILLON



GENERAL PLAN



GENERAL ELEVATION

ITEM 513 STRUCTURAL STEEL*		STRUCTURAL STEEL CATEGORY I (CONT.)	
STRUCTURAL STEEL - CATEGORY I		STRUCTURAL STEEL - CATEGORY III	
(THE FOLLOWING MATERIAL TO BE PAID FOR BY OHIO BELL TELEPHONE CO.)		GIRDER MATERIAL - INCLUDING BOLTS	
N°	DESCRIPTION	1	WEB PL 52" x 3/8" x 30'-9"
1	MC18 x 42.7" x 6'-4" LG.	2	FLANGE PL 13" x 1/2" x 30'-9"
2	PL 5" x 9" x 3'-6" LG.	3	PL 6" x 5/8" x 4'-4" (WEB STIFFENING)
3	PL 5" x 8" x 1'-9" LG.	4	PL 13" x 1/2" x 3'-6" (FLG. SPL. PL.)
		5	PL 5" x 9" x 3'-6" (FLG. SPL. PL.)
		6	PL 5" x 8" x 1'-9" (FILL PL.)
		7	PL 13" x 1/2" x 1'-9" (FILL PL.)
STRUCTURAL STEEL - CATEGORY I		STRUCTURAL STEEL - CATEGORY I	
BOLTS		STEEL BOLSTER (F125)	
1 ROCKER ASSEMBLY, R-75		1 ROCKER ASSEMBLY (E50)	
2 W 18 x 50 (CVN) x 361'-6"		1 ROCKER ASSEMBLY (E75)	
24 PL 15" x 13 1/2" x 5/8"		3 ROCKER ASSEMBLY (E125)	
24 PL 13" x 7" x 3/8"		W21 x G2 (CVN) x G7'-2" L.F.	
48 PL 13" x 2 3/4" x 3/8"		1 W21 x G8 (CVN) x 17'-6"	
13 W 18 x 55 (CVN) x 12'-9"		6 PL 19 1/2" x 8" x 1'-5 1/2" & 6 PL 8 1/2" x 3" x 1'-9 1/2"	
		12 PL 3 1/2" x 3/8" x 1'-9 1/2"	

* SEE SHEET 19/20 FOR ESTIMATED QUANTITIES.

** ELEVATIONS GIVEN ARE FOR C. OF ROAD.

REV. 2-91
REV. 7-89
REVISED 4-22-91 1/20

MOSURE AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

GENERAL PLAN

REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
D.P.	J.M.O.	-	W.H.	-
9-85	10-85	-	1-87	-

Revised 5/1/91

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS
REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED	11-27-81
EXJ-2-81	REVISED	4-02-84
RB-1-55	REVISED	2-02-59
SD-1-69	DATED	6-12-69
HL-20.14	DATED	5-01-87
HL-20.15	DATED	5-01-87
I-1	REVISED	12-18-84
AND TO SUPPLEMENTAL SPECIFICATIONS:		
836	DATED	11-12-85
852	DATED	6-10-87
952	DATED	12-14-88

DESIGN SPECIFICATIONS

NEW PORTIONS OF THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989, AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN LOADING

DESIGN LOADING - HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES

CONCRETE CLASS S - COMPRESSIVE STRENGTH
4500 P.S.I.
CONCRETE CLASS C - COMPRESSIVE STRENGTH
4000 P.S.I.
REINFORCED STEEL - ASTM A615, A616, A617 -
GRADE 60 MINIMUM YIELD STRENGTH
60,000 P.S.I.
STRUCTURAL STEEL ASTM
A36 - UNIT STRESS 20,000 P.S.I.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM
MAT, AND 2-1/2" COVER.

MONOLITHIC WEARING SURFACE

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

ORIGINAL PLANS: THE ORIGINAL PLANS FOR THIS
STRUCTURE ARE AVAILABLE TO BIDDERS FOR REFERENCE AT
THE FOLLOWING LOCATION:

STARK COUNTY ENGINEER
5165 SOUTHWAY ST. S.W.
CANTON, OHIO 44706

PROPOSED WORK

MAJOR WORK INCLUDES:

- REMOVAL OF CONCRETE DECK, WEARING SURFACE,
SIDEWALKS, BLAST PLATES AND RAILING POSTS. METAL
RAILING PANELS SHALL BE SAVED FOR REUSE.
- REMOVAL OF ABUTMENT BACKWALLS, RAILING POSTS,
SIDEWALKS, GRADE BEAMS, PIER POSTS AND APPROACH
SLABS. METAL RAILING PANELS SHALL BE SAVED FOR
REUSE.
- REPLACING DAMAGED PORTION OF GIRDER, CURB LINE
STRINGERS, AND FLOOR BEAMS IN UNIT 2 AS INDICATED
ON THE PLANS.
- PATCHING THE ABUTMENTS AND PIERS AS INDICATED ON
THE PLANS.
- PLACING NEW CONCRETE DECK, SIDEWALKS AND RAILING
POSTS.
- PLACING NEW CONCRETE ABUTMENT BACKWALLS, RAILING
POSTS, SIDEWALKS, GRADE BEAMS, AND APPROACH SLABS.
- REPLACING METAL RAILING PANELS ON SUPERSTRUCTURE
AND ABUTMENTS.
- CLEANING AND PAINTING ALL STRUCTURAL STEEL AND
METAL RAILING PANELS.
- REMOVAL AND REPLACEMENT OF THE SOUTHERN CURBLINE
STRINGER, BEARINGS, AND ASSOCIATED ANGLE CROSS
FRAMES IN UNIT 1 AS INDICATED ON THE PLANS.
- REMOVAL AND REPLACEMENT OF APPROXIMATELY THIRTY
(30) INTERMEDIATE CROSSFRAME ANGLES FROM UNIT 1 AS
DIRECTED BY THE ENGINEER.
- INSTALLATION OF PROTECTIVE FENCING ON THE BRIDGE
AS INDICATED ON THE PLANS.

PORTIONS OF STRUCTURES REMOVED

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC,
PORTIONS OF THE EXISTING STRUCTURE AS INDICATED IN
THE PROPOSED WORK NOTE SHALL BE REMOVED. THE
ABUTMENTS AND PIERS SHALL BE REMOVED TO THE LIMITS
SHOWN ON THE DRAWINGS. ONLY AFTER A PROCEDURE FOR
THE REMOVAL OF THESE EXISTING ITEMS HAS BEEN
SUBMITTED AND APPROVED BY THE DIRECTOR AND THE
RAILROADS SHALL DEMOLITION COMMENCE.

ALL NECESSARY PRECAUTIONS SHALL BE EXERCISED
TO PREVENT DEBRIS FROM FALLING TO AND/OR DAMAGING
THE GROUND, THE TUSCARAWAS RIVER, S.R. 21, FIFTH
STREET OR THE RAILROAD TRACKS AND ROAD BED. NO
DEBRIS SHALL BE ALLOWED TO REMAIN ON THE SITE.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE
INCORPORATED INTO THE NEW WORK AND 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 TO BE UNUSABLE BECAUSE OF CORROSION OR
OTHER DEFICIENCIES SHALL BE REPLACED WITH NEW
STEEL. REPLACEMENT REINFORCING STEEL SHALL BE PAID
FOR AT THE BASE BID UNIT PRICE FOR ITEM 509.

DECK REMOVAL

CARE SHALL BE TAKEN DURING REMOVAL OF THE DECK
NOT TO DAMAGE THE COVER PLATES AND/OR FLANGES OF
THE GIRDERS AND BEAMS. ANY DAMAGE THAT OCCURS DUE
TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY
THE CONTRACTOR, SUBJECT TO APPROVAL BY THE ENGINEER
AT THE CONTRACTOR'S EXPENSE.

ABUTMENT AND PIER POST REMOVAL

EXISTING REINFORCING STEEL, WHICH CROSSES A

GENERAL NOTES

CUTTING PLANE THAT WILL BECOME AN EXPOSED SURFACE,
SHALL BE REMOVED A MINIMUM OF 1 INCH BELOW THE
FINAL SURFACE OF THE CONCRETE. THE RESULTING HOLE
SHALL BE FILLED WITH A NONSHRINKING EPOXY MORTAR
MEETING THE REQUIREMENTS OF SUPPLEMENTAL
SPECIFICATION 956. OTHER EXISTING REINFORCING
STEEL SHALL BE CUT AND/OR RETAINED AS INDICATED IN
THE PLANS OR AS DIRECTED BY THE ENGINEER, TO SERVE
AS DOWELS IN THE REBUILT STRUCTURE. THESE BARS
SHALL BE CLEANED OF ALL CONCRETE FRAGMENTS AND
FOREIGN MATTER. NECESSARY LABOR, EQUIPMENT AND
MATERIAL REQUIRED TO CUT AND CLEAN EXISTING
REINFORCING STEEL AND TO REMOVE EXISTING
REINFORCING STEEL BELOW THE SURFACE OF THE CONCRETE
AND TO GROUT FILL THE RESULTING HOLE SHALL BE
PROVIDED BY THE CONTRACTOR AND SHALL BE INCLUDED
WITH ITEM 202 FOR PAYMENT.

REMOVAL SURFACES SHALL BE FINISHED SMOOTH AND
SLOPED AWAY FROM BEARINGS AT A MINIMUM RATE OF
1/4" PER FOOT.

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 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.

DIMENSIONS

DIMENSIONS GIVEN ARE MEASURED HORIZONTALLY AND
AT 60°F UNLESS OTHERWISE NOTED. DIMENSIONS GIVEN
FOR THE EXISTING STRUCTURE ARE FROM THE ORIGINAL
CONSTRUCTION PLANS. SOME VARIATION FROM PLAN
DIMENSION IS EXPECTED. THE CONTRACTOR SHALL BE
RESPONSIBLE FOR PROPER FIT-UP BETWEEN THE PROPOSED
AND EXISTING CONSTRUCTION. ADEQUATE MEASUREMENTS
SHALL BE MADE IN THE FIELD PRIOR TO THE
FABRICATION OF ANY PART TO INSURE THAT ALL PARTS
CAN BE PROPERLY ASSEMBLED AS SPECIFIED IN THE
PLANS. ANY ADDITIONAL COST RESULTING FROM
VARIATIONS FROM THE PLAN DIMENSIONS IS THE
RESPONSIBILITY OF THE CONTRACTOR.

MAINTENANCE OF TRAFFIC

TRAFFIC SHALL BE MAINTAINED ACCORDING TO "614
MAINTAINING TRAFFIC" AS SHOWN ON SHEETS 2-5 OF THIS
PLAN. LINCOLN WAY AND STREETS BELOW THE WEST END
OF THE STRUCTURE WILL BE CLOSED TO TRAFFIC DURING
CONSTRUCTION OF THIS PROJECT. TWO LANES OF TRAFFIC
WITH A MINIMUM HORIZONTAL WIDTH OF 24'-0" AND A
MINIMUM VERTICAL CLEARANCE OF 14'-6" SHALL BE
MAINTAINED IN EACH DIRECTION ON SR 21 AT ALL TIMES
EXCEPT AS INDICATED IN THE NOTE "614 MAINTAINING
TRAFFIC" ON SHEET 2.

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EXISTING METAL RAILING PANELS

THE EXISTING METAL RAILING PANELS ON THE
SUPERSTRUCTURE AND ABUTMENTS ONLY SHALL BE DISMANTLED,
GIVEN A MARK ACCORDING TO PANEL NUMBER, (E.G., 2N, 5S)
AND STOCKPILED FOR REUSE. PAYMENT IS INCLUDED WITH
ITEM 202.

THE METAL RAILING SHALL BE CLEANED AND PAINTED AS
PER NEW STRUCTURAL STEEL. THE CLEANING AND PAINTING
IS INCLUDED WITH ITEM SPEC, FIELD PAINTING OF EXISTING
METAL RAILING SYSTEM OZEU.

THE METAL RAILING PANELS ON THE APPROACHES BEYOND
THE END OF THE WINGWALL SHALL BE CLEANED AND PAINTED
AS ABOVE. COST OF THIS WORK IS FUNDED 100% BY THE
CITY OF MASSILLON AND PAID FOR UNDER ITEM SPEC. FIELD
PAINTING OF EXISTING METAL RAILING APPROACHES, SYSTEM
OZEU.

UTILITIES PROTECTION

CARE SHALL BE EXERCISED TO PROTECT AND PREVENT
DAMAGE TO THE RAILROAD AERIAL LINES THAT RUN BELOW THE
STRUCTURE AND THE TELEPHONE CONDUITS THAT RUN ALONG
THE SOUTH CURB STRINGER DURING DECK REMOVAL AND OTHER
CONSTRUCTION OPERATIONS. THE OHIO BELL TELEPHONE
COMPANY SHALL PROVIDE SUPPORT FOR THE TELEPHONE
CONDUIT DURING REPLACEMENT OF PORTION OF EXTERIOR
GIRDER IN UNIT 2 AND REPLACEMENT OF ABUTMENT

SOUTHERN CURBLINE STRINGER REPLACEMENT - UNIT 1

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE
STABILITY OF THE STRUCTURE AND EXISTING OHIO BELL
COMPANY TELEPHONE CONDUIT BANK ATTACHED TO THE
EXISTING SOUTHERN CURBLINE STRINGER DURING STRINGER
REPLACEMENT. ALL TEMPORARY SUPPORTS AND SHORING ARE
THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR
SHALL SUBMIT HIS PROPOSED SCHEME FOR SHORING TO THE
DIRECTOR AT LEAST FIFTEEN (15) DAYS BEFORE SHORING IS
TO BE DONE. NO SHORING WORK SHALL BE PERFORMED BY THE
CONTRACTOR UNTIL THE SCHEME IS APPROVED IN WRITING BY
THE DIRECTOR. APPROVAL DOES NOT RELIEVE THE
CONTRACTOR OF RESPONSIBILITY FOR DAMAGES.

PAYMENT FOR SHORING AND REMOVAL OF THE CURBLINE
STRINGER IS INCLUDED WITH PAY ITEM 202, PORTIONS OF
STRUCTURES REMOVED. PAYMENT FOR NEW CURBLINE
STRINGERS, BEARINGS, AND ANGLE CROSS FRAMES IS
INCLUDED WITH PAY ITEM 513, STRUCTURAL STEEL (A36,
AISC CATEGORY 1).

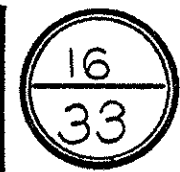
MOSURE AND SYRAKIS CO., LTD. CONSULTING ENGINEERS AND PLANNERS YOUNGSTOWN, OHIO				
GENERAL NOTES				
REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21 STARK COUNTY OHIO				
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REV. 2-91

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GENERAL NOTES (CONT.)

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CONSTRUCTION CLEARANCE - RAILROAD TRACKS

THE EXISTING MINIMUM HORIZONTAL CLEARANCES TO PIERS SHALL BE MAINTAINED WHENEVER POSSIBLE. IF DURING THE COURSE OF THE CONTRACTOR'S SHORING OR ERECTION PROCEDURES ENCROACHMENT ON THIS CLEARANCE BECOMES NECESSARY, THE CONTRACTOR SHALL COOPERATE WITH THE INVOLVED RAILROAD IN ACCOMPLISHING THE WORK. ANY COSTS INCURRED BY THE RAILROAD TO PERFORM THIS WORK SHALL BE BORNE BY THE CONTRACTOR.

THE MINIMUM VERTICAL CLEARANCES THAT MUST BE MAINTAINED SHALL BE 21.5 FEET OVER NORFOLK & WESTERN RAILROAD TRACKS, 21.0 FEET OVER BALTIMORE AND OHIO RAILROAD TRACKS, AND 23.0 FEET OVER CONSOLIDATED RAIL CORPORATION TRACKS. VERTICAL CLEARANCE IS DEFINED AS THE MINIMUM MEASUREMENT FROM THE TOP OF THE HIGHER RAIL OF A SET OF TRACKS TO THE LOW POINT OF THE OVERHEAD STRUCTURE OCCURRING WITHIN THE LATERAL LIMITS 6'-0" LEFT OR RIGHT OF THE CENTERLINE OF THE TRACKS.

STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL

DESCRIPTION: THIS ITEM SHALL CONSIST OF FURNISHING, FABRICATING, AND INSTALLING STRUCTURAL EXPANSION JOINTS WITH ELASTOMERIC STRIP SEALS.

MATERIALS: STRUCTURAL STEEL FOR THE EXPANSION JOINT SHALL CONFORM TO ASTM A588 OR A36 WITH SYSTEM IZEU PAINT ON EXPOSED STEEL SURFACES. PAINT TO BE INCLUDED WITH COST OF EXPANSION JOINTS FOR PAYMENT. STRIP SEALS SHALL BE FURNISHED IN ONE COMPLETE PIECE. CUTS, TEARS, CRACKS OR OTHER SUCH IRREGULARITIES SHALL BE CAUSE FOR REJECTION. THE NEOPRENE SEALS SHALL MEET THE REQUIREMENTS OF ASTM D2628 (MODIFIED TO OMIT THE RECOVERY TEST) AND SHALL ALSO HAVE THE PROPERTIES SPECIFIED IN TABLE P.

PREPARATION FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF PREPARED SURFACES, ALL SURFACES OF ELASTOMERIC STRIP SEALS SHALL BE CLEANED WITH METHYL ETHYL KETONE (MEK), TOULENE (T) OR OTHER APPROVED SOLVENT USING CLEAN DISPOSABLE CLOTHS.

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

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

SHOP DRAWINGS: SHOP DRAWINGS SHOWING ALL DETAILS AND DIMENSIONS OF THE STRIP SEAL, STRIP SEAL EXTRUSIONS, AND JOINT ARMOR SHALL BE SUBMITTED FOR APPROVAL.

TESTING: EACH LOT OF STRIP SEALS SHALL BE TESTED TO ENSURE COMPLIANCE WITH TABLE P AND ASTM D 2628. TESTING SHALL BE PERFORMED BY AN ACCREDITED LABORATORY AND THE COST OF TESTING SHALL BE INCLUDED WITH THE COST OF STRIP SEAL EXPANSION JOINTS. TWO COPIES OF CERTIFIED TEST DATA SHALL BE SUBMITTED FOR APPROVAL.

MEASUREMENTS: FOR PAY PURPOSES SHALL BE BASED ON THE LINEAR FEET OF JOINT SYSTEM MEASURED HORIZONTALLY ALONG THE JOINT CENTERLINES AND BETWEEN THE OUTER LIMITS OF THE FABRICATED JOINT, FURNISHED AND PLACED INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE INCLUDING THE JOINT ARMOR, ANCHORING DEVICES AND TEMPORARY SUPPORTS. PAYMENT SHALL BE MADE PER LINEAR FEET FOR ITEM 516 "STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS". ALSO INCLUDED ARE RETAINERS AND GLANDS.

TABLE P - STRIP SEALS

PROPERTY	REQUIREMENTS	ASTM
TENSILE STRENGTH, MIN. PSI	2000	D412
ELONGATION @ BREAK, MIN. PERCENT	250	D412
HARDNESS, TYPE A DUROMETER	60±7	D2240 (MODIFIED)
OVEN AGING, 70 HR @ 212°F		
TENSILE STRENGTH, LOSS, MAX.	20%	D573
ELONGATION, LOSS MAX.	20%	
HARDNESS, TYPE A DUROMETER (POINTS CHANGE)	0 TO +10	
OZONE RESISTANCE		
20% STRAIN, 300 PPHM, IN AIR AT 104°F. (WIPED WITH TOULENE TO REMOVE SURFACE CONTAMINATION)	NO CRACKS	D1149

CONSTRUCTION PROCEDURE FOR STRUCTURAL EXPANSION JOINTS:

1. ABUTMENT BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER SUPERSTRUCTURE CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
2. PLACE BACKWALL CONCRETE OR THE FINAL DECK UNIT CONCRETE, AT INTERMEDIATE JOINTS, DURING STABLE OR RISING AMBIENT TEMPERATURES AND CONCLUDE PLACEMENT AT OR IMMEDIATELY BEFORE THE DAY'S PEAK AMBIENT TEMPERATURE.
3. NOT MORE THAN FOUR HOURS PRIOR TO THE DAY'S PEAK AMBIENT TEMPERATURE, SET ABUTMENT OR INTERMEDIATE EXPANSION JOINT WIDTH TO THE PLAN DIMENSION WHICH SHALL BE ADJUSTED AS INDICATED IN TABLE 1.
4. LOOSEN TEMPORARY END DAM BOLTS AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.

STRUCTURAL EXPANSION JOINTS

SEE STANDARD DRAWING EXJ-2-81 FOR JOINT ARMOR ADJUSTMENT DETAIL. D_{TA} SHALL BE AS SHOWN IN TABLE 1.

TABLE 1

EXPANSION JOINT OPENING ADJUSTMENT, D_{TA}^*

TEMP.	REAR ABUT.	INTER JT.	FWD. ABUT.
90°F	-1/2"	-3/4"	-3/8"
80°F	-1/4"	-1/2"	-1/4"
70°F	-1/8"	-1/4"	-1/8"
60°F	0	0	0
50°F	+1/8"	+1/4"	+1/8"
40°F	+1/4"	+1/2"	+1/4"
30°F	+1/2"	+3/4"	+3/8"

* D_{TA} = ADJUSTMENT (INCHES) FOR A PEAK AMBIENT TEMPERATURE OTHER THAN 60°F.

EXTERIOR GIRDER REPLACEMENT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING GIRDER REPLACEMENT. THE LOCATION OF THE SPLICE POINT IN THE UNLOADED CONDITION SHALL BE MAINTAINED BY USE OF TEMPORARY SUPPORTS. A SUGGESTED REPLACEMENT PROCEDURE FOLLOWS, HOWEVER, THE CONTRACTOR MAY USE ALTERNATE METHODS APPROVED BY THE DIRECTOR.

1. REMOVE CONCRETE RAILING, SIDEWALK AND DECK ON UNIT 2.
2. ERECT A TEMPORARY SUPPORT NEAR THE PROPOSED SPLICE POINT ON THE UNDAMAGED PORTION OF GIRDER LEFT IN PLACE. THE SUPPORT SHALL BE FITTED TO PREVENT DEFLECTION OF GIRDER END WHEN DAMAGED SECTION IS REMOVED. SEE SHT. MT-2, ELEMENT 3, STRUCTURE PAINTING, FOR REQUIREMENTS FOR MAINTAINING TRAFFIC DURING ERECTION OF THE TEMPORARY SUPPORT ON S.R. 21.
3. REMOVE WEB SPLICE PLATES, SAVING PLATES FOR RE-USE.

4. CUT GIRDER ANGLES AND COVER PLATES AT CENTERLINE OF WEB SPLICE AND REMOVE DAMAGED SECTION.
5. REMOVE RIVETS IN FLANGES AS REQUIRED FOR NEW SPLICE. GRIND OFF ANY BURRS OR SURFACE NICKS CAUSED BY DISASSEMBLY OF THE GIRDER AND SPLICE. CLEAN EXISTING WEB SPLICE PLATES, FLANGES & WEB OF EXISTING GIRDER WHICH WILL BE IN CONTACT WITH THE SPLICE PLATES. CLEAN SPLICE AREAS TO BARE METAL.
6. ERECT NEW GIRDER
7. REMOVE TEMPORARY SUPPORT

THE CONTRACTOR SHALL SUBMIT 3 COPIES OF HIS PROPOSED REPLACEMENT PROCEDURE TO THE DIRECTOR FOR APPROVAL. PAYMENT FOR ITEMS 1, 3, 4, AND 5 IS INCLUDED WITH PAY ITEM 202, PORTIONS OF STRUCTURES REMOVED. PAYMENT FOR ITEMS 2, 6, AND 7 IS INCLUDED WITH PAY ITEM 513, STRUCTURAL STEEL (A36, AISC CATEGORY III).

REMOVAL OF RIVETS

RIVETS SHALL BE REMOVED BY ONE OF THE FOLLOWING METHODS:

1. SHEAR RIVET HEADS USING A PNEUMATIC RIVET BREAKER (HELDOG) AND DRIVE OUT RIVET SHANK WITH A PNEUMATIC PUNCH.
2. FLAME CUT RIVET HEAD 1/16 OF AN INCH ABOVE THE BASE METAL USING A RIVET SCARFING TIP AND DRIVE OUT SHANK USING A PNEUMATIC PUNCH.

IF, IN THE OPINION OF THE ENGINEER, RIVET SHANKS CANNOT BE REMOVED BY PUNCHING WITHOUT DAMAGING THE BASE METAL, THE RIVET SHANK SHALL BE REMOVED BY DRILLING. RIVET REMOVAL, EXCEPT FOR CONTINGENCY PAY ITEM, TO BE INCLUDED WITH ITEM 202.

FOUR INCH (4") DIAMETER CONDUIT

DETAILS OF THE JUNCTION BOXES FOR THE FOUR INCH (4") DIAMETER CONDUIT SHALL BE IN ACCORDANCE WITH STANDARD DRAWING HL-20.14, DATED 5-01-87, EXCEPT THAT THE CAVITY IN THE CONCRETE BELOW THE TYPE I JUNCTION BOXES, AS SHOWN IN THE SECTION "B-B", SHALL BE FIVE INCHES (5") WIDE INSTEAD OF FOUR INCHES (4") AND THE 1'-0" DIMENSION TO THE CENTER OF POLE SHALL BE 10".

DETAILS OF THE EXPANSION FITTINGS SHALL BE IN ACCORDANCE WITH THE STANDARD DRAWING HL-20.15, DATED 5-01-87, EXCEPT THAT THE CAVITIES IN CONCRETE FOR CONDUIT EXPANSION FITTINGS, AS SHOWN IN DETAILS "A" AND "B", SHALL BE AS INDICATED IN APPROPRIATE PLAN DETAILS.

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STARK COUNTY, OHIO				
DESIGNED M.S.	DRAWN —	CALC. —	CHECKED W.H.	REVIEWED —
12-86	—	—	2-87	—

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REV 2-91

Revised 5/1/91

FORWARD ABUTMENT

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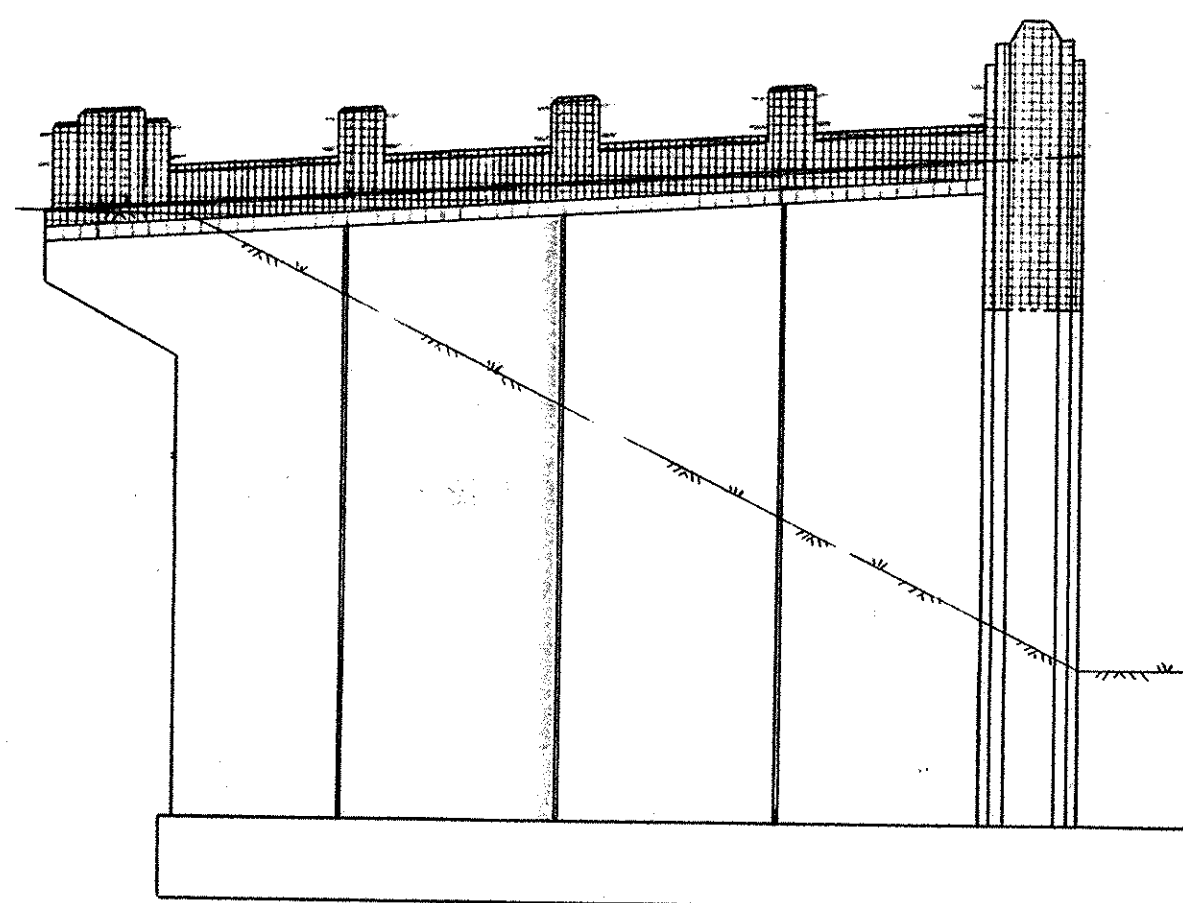
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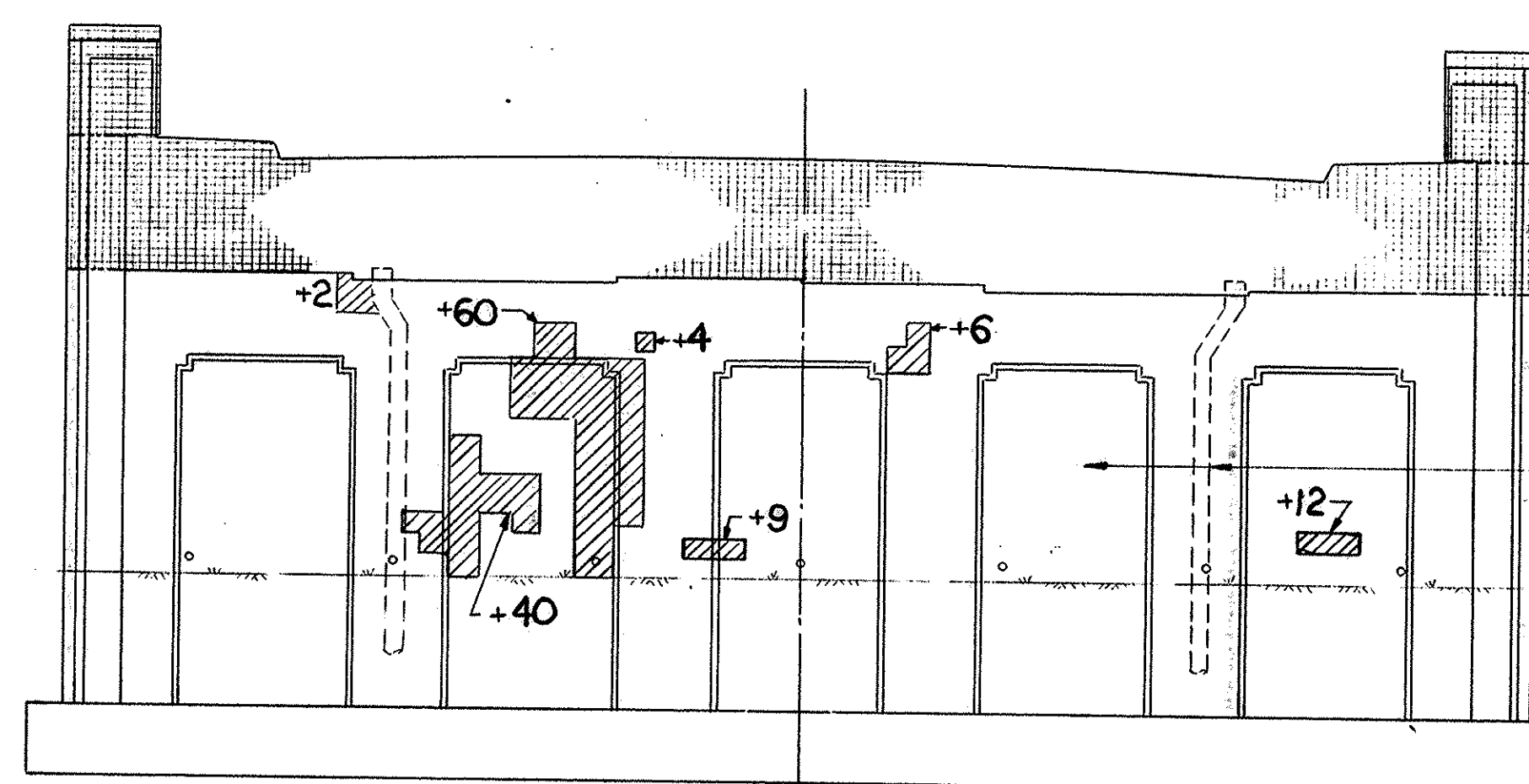
KEY

- PORTIONS OF STRUCTURE TO BE REMOVED
- SPALLED AREA, NEAR SIDE
- SPALLED AREA, FAR SIDE

- +6 APPROX. PATCHING AREA, S.F., NEAR SIDE
- 6 APPROX. PATCHING AREA, S.F., FAR SIDE

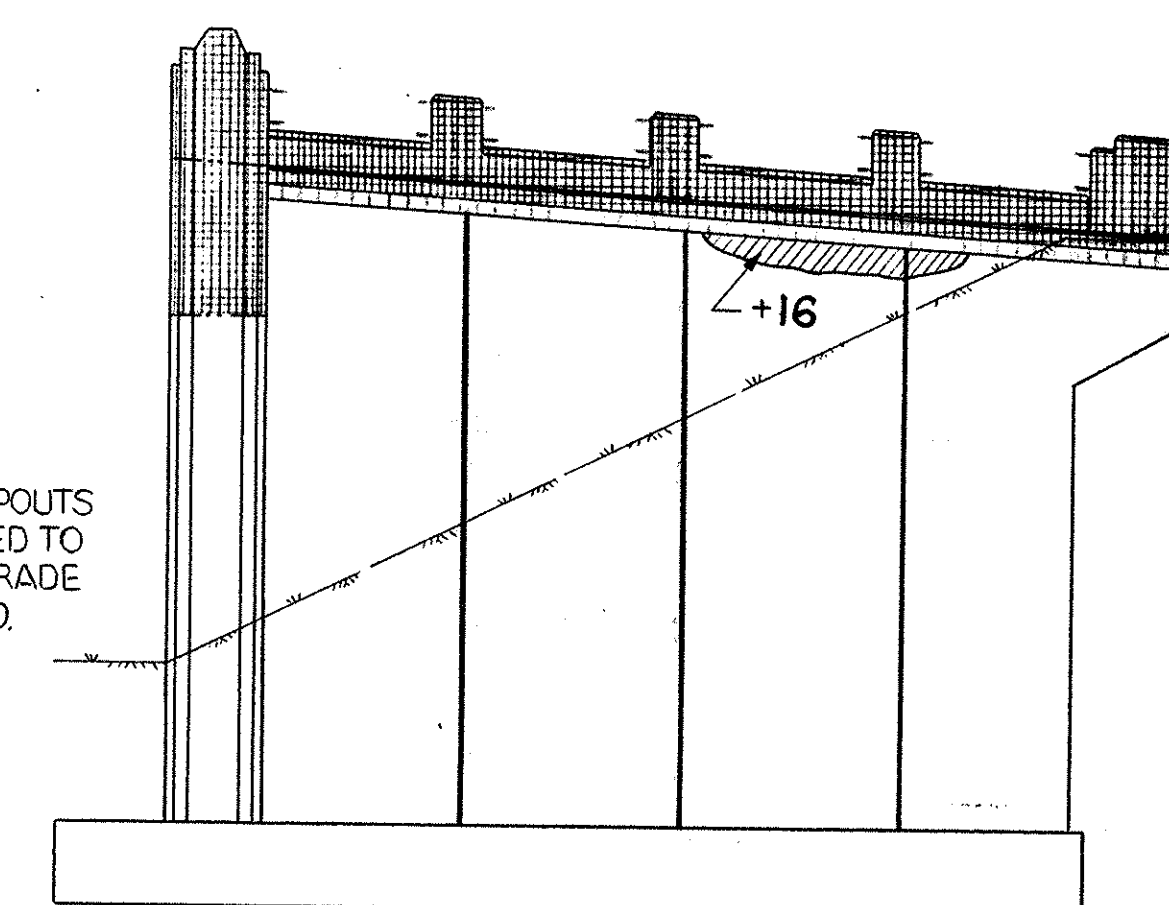


NORTH ELEVATION



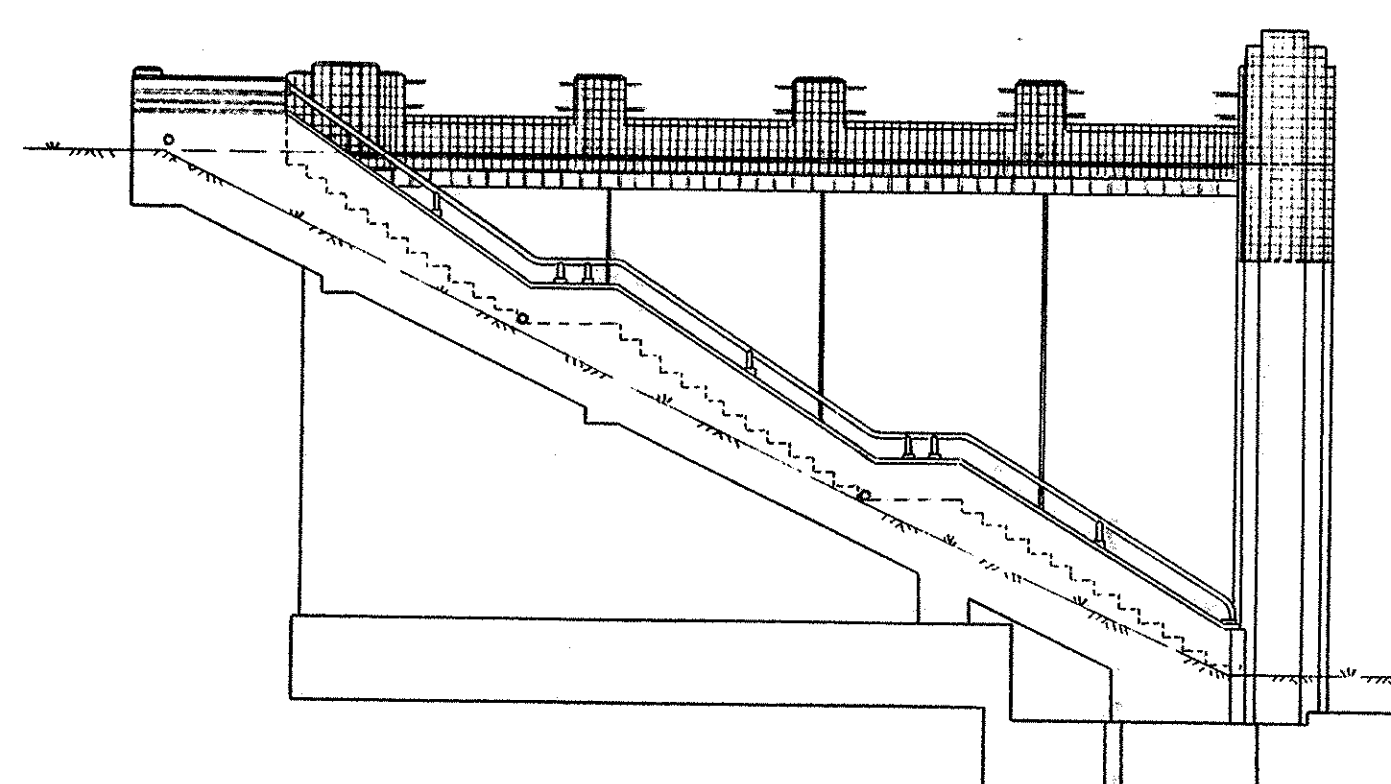
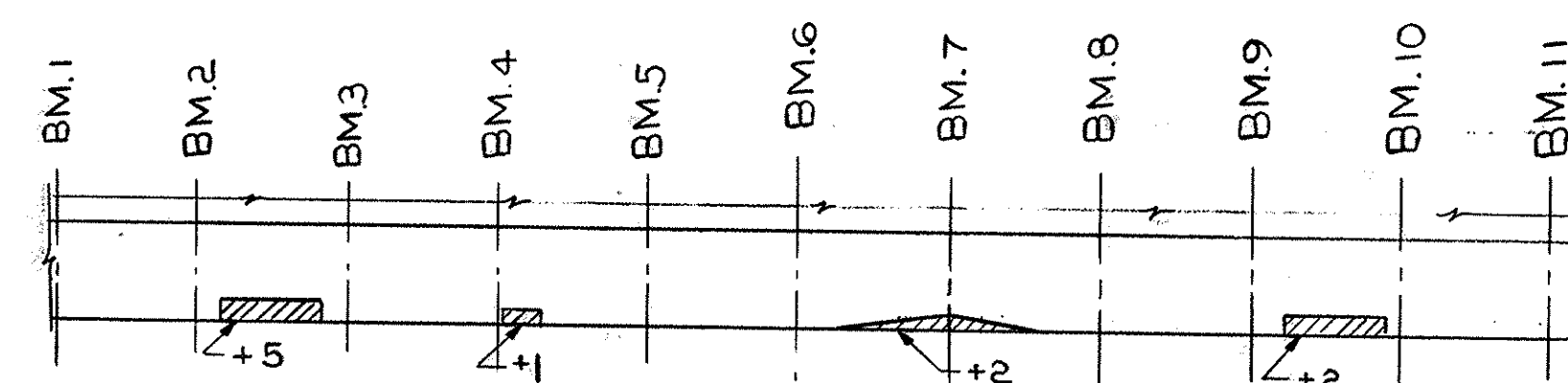
WEST ELEVATION

EXIST. DOWNSPOUTS
TO BE REMOVED TO
1'-0" BELOW GRADE
AND PLUGGED.

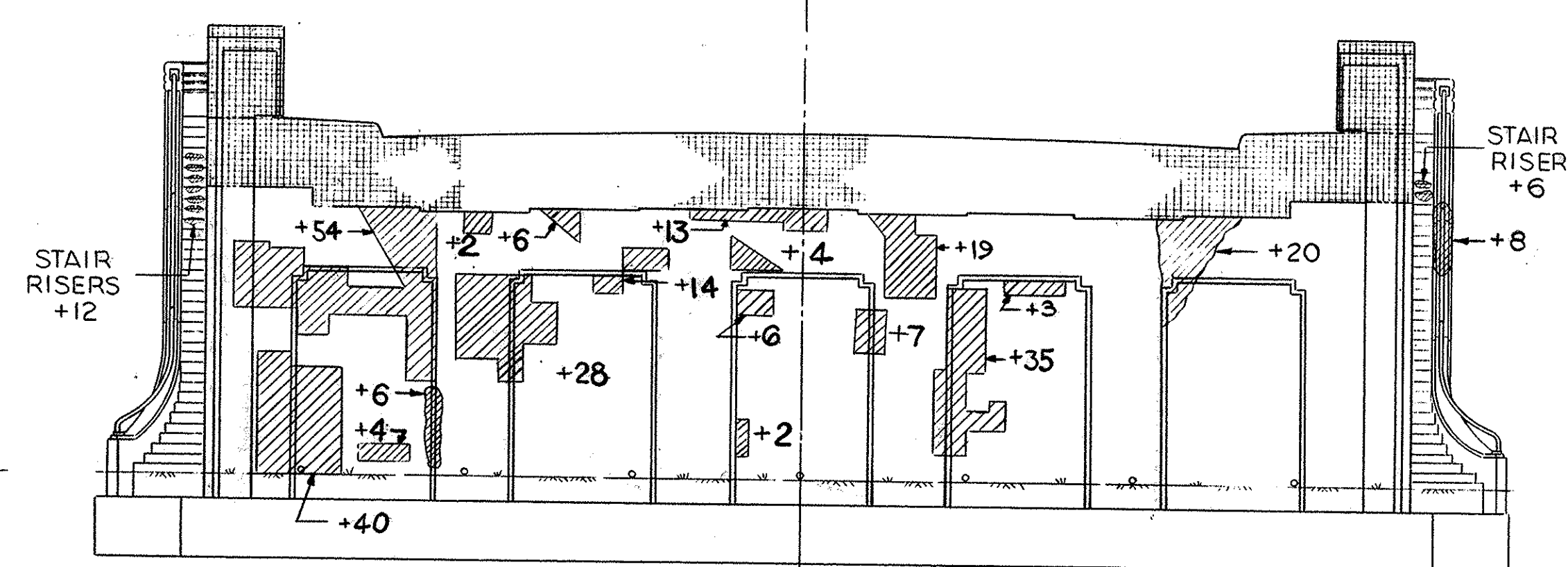


SOUTH ELEVATION

REAR ABUTMENT

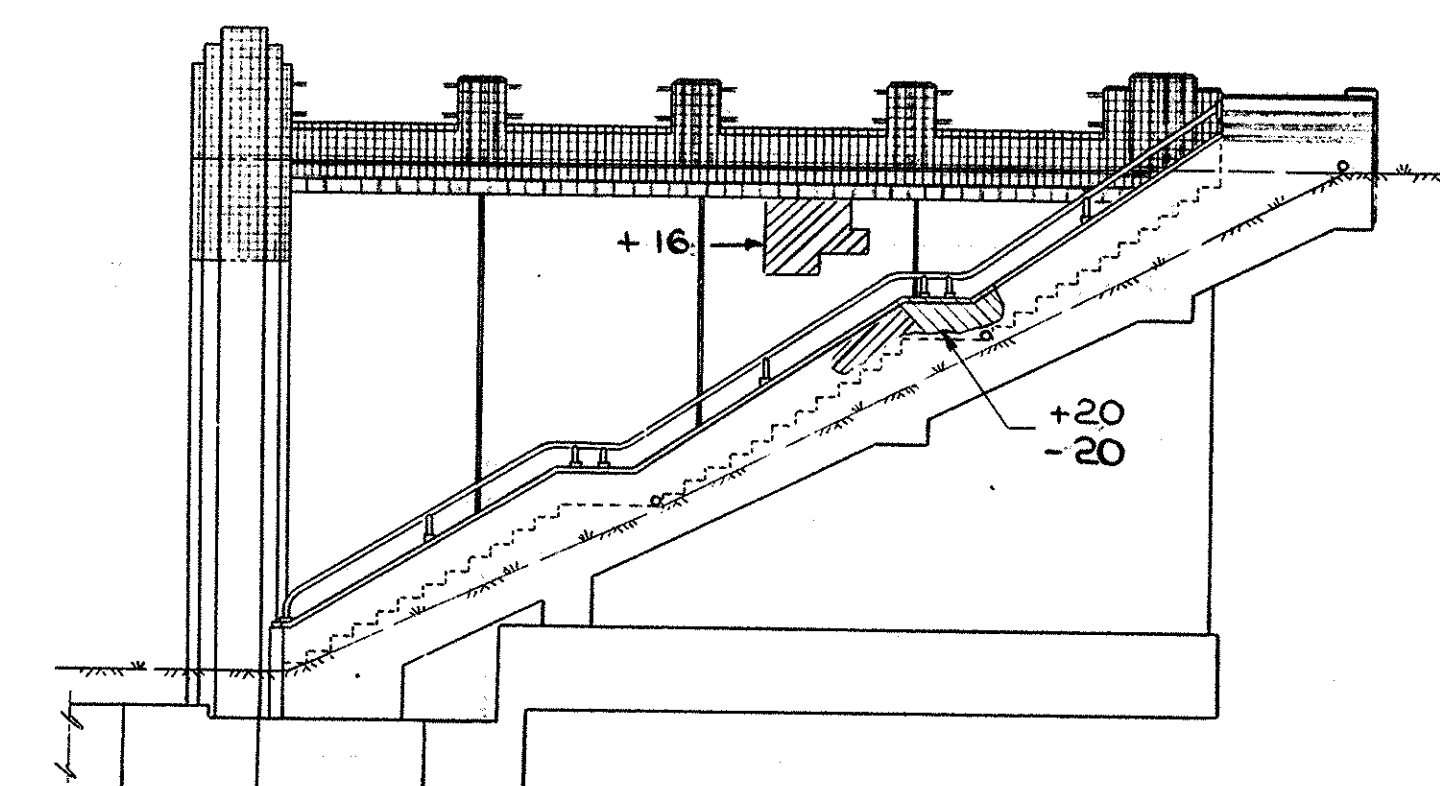


SOUTH ELEVATION



EAST ELEVATION

STAIR
RISERS
+6



NORTH ELEVATION

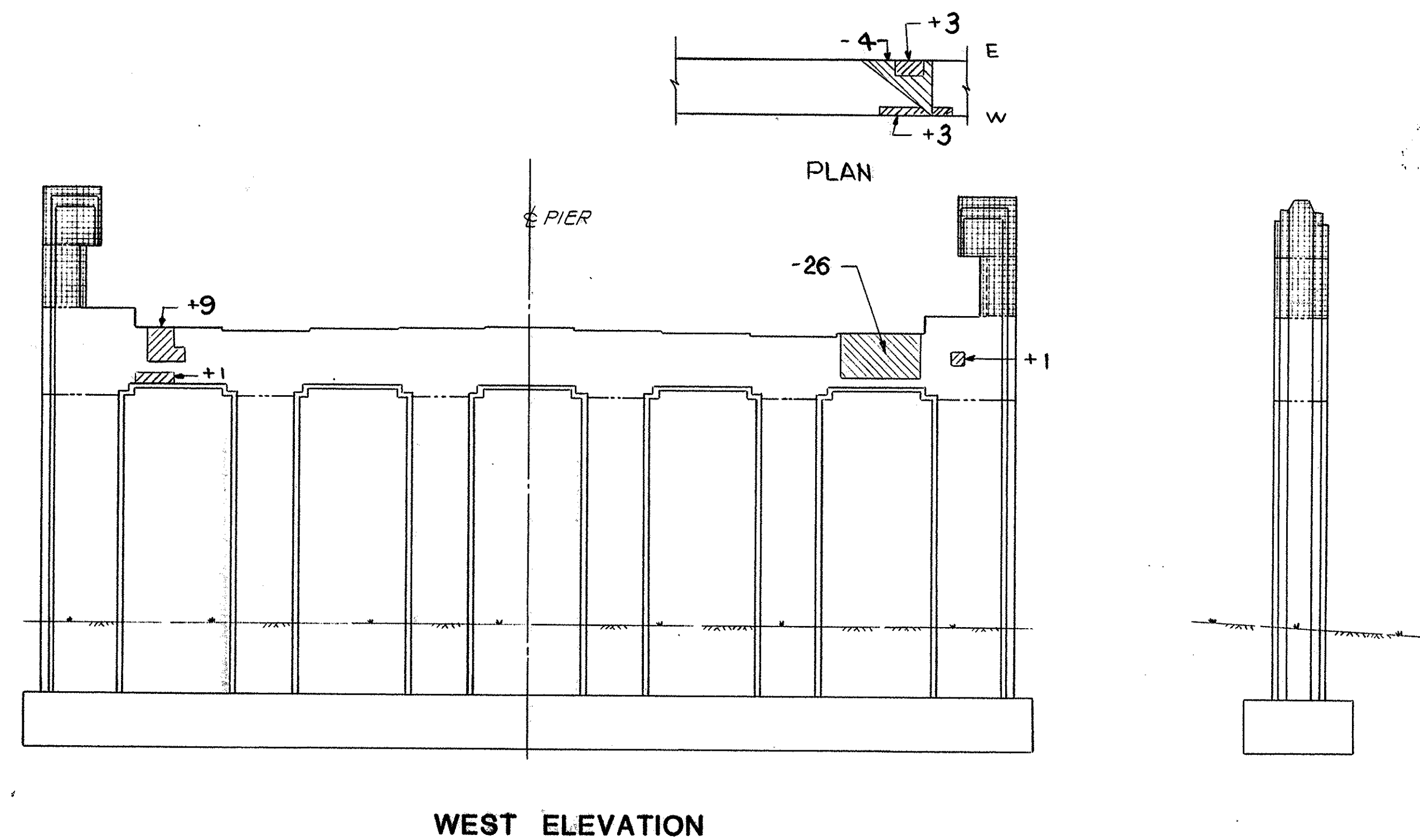
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CONCRETE REMOVAL & REPAIR AREAS
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STARK COUNTY OHIO

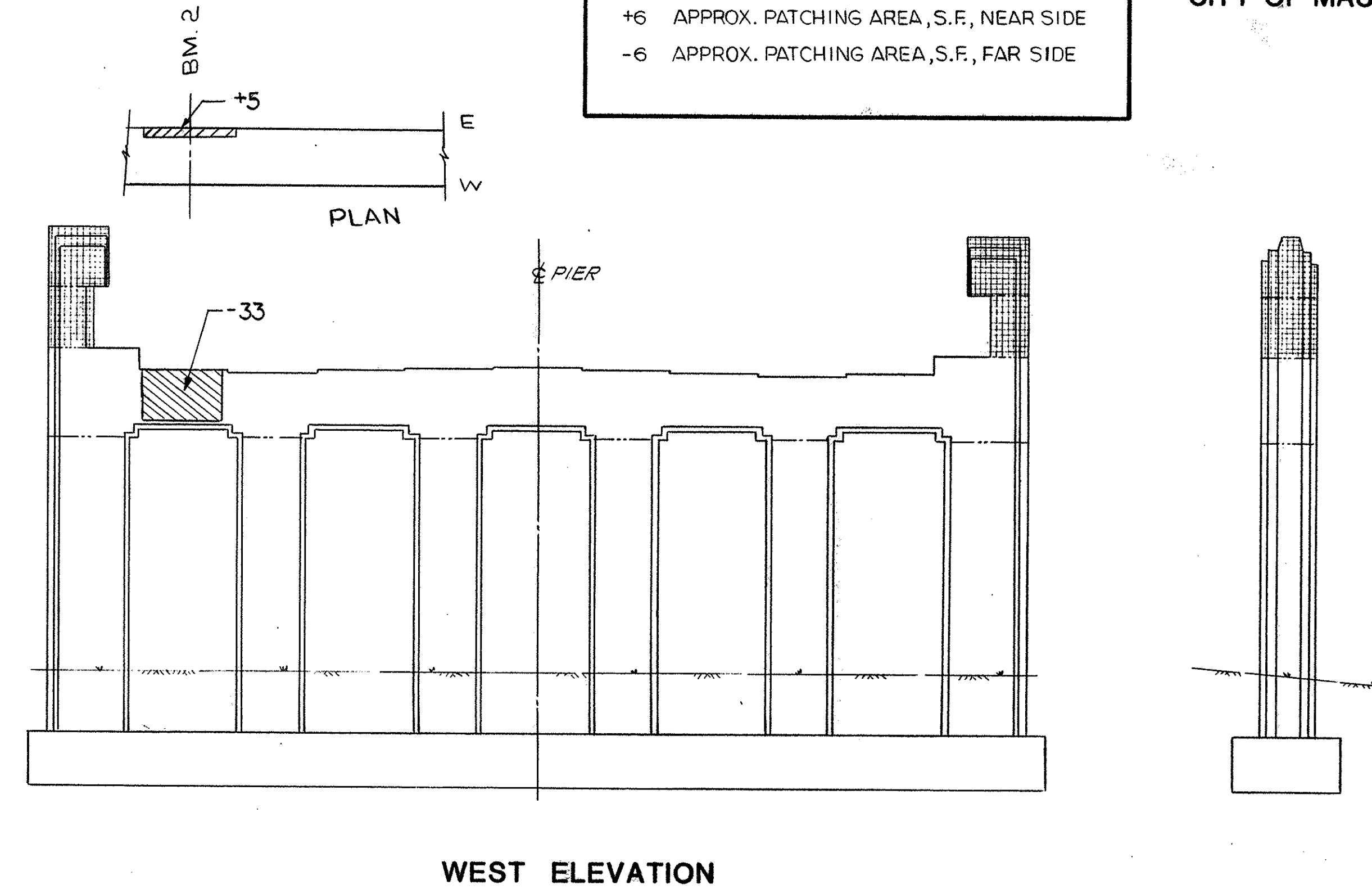
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PIER 4



PIER 3



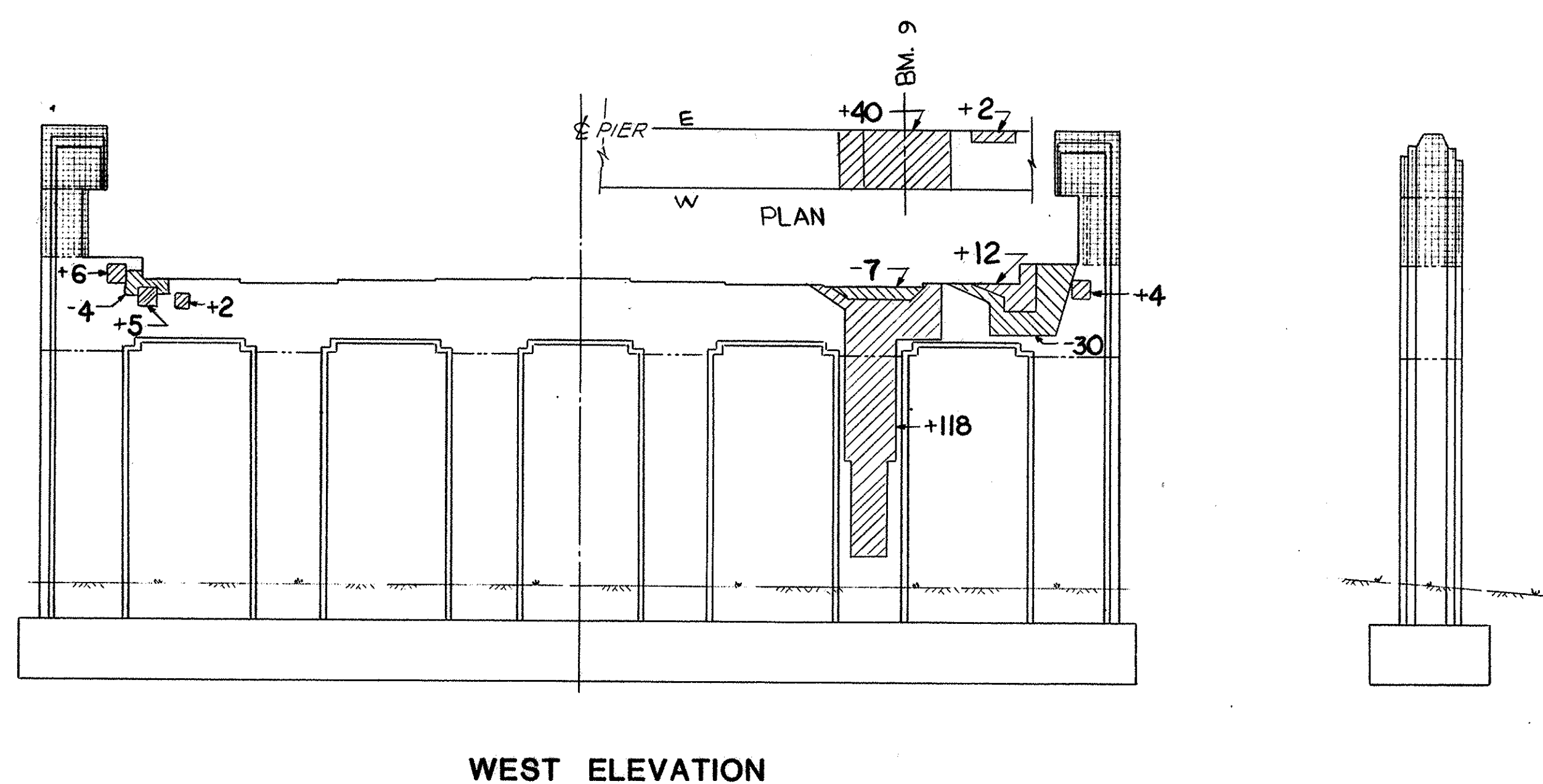
- KEY**
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 - SPALLED AREA, FAR SIDE
 - +6 APPROX. PATCHING AREA, S.F., NEAR SIDE
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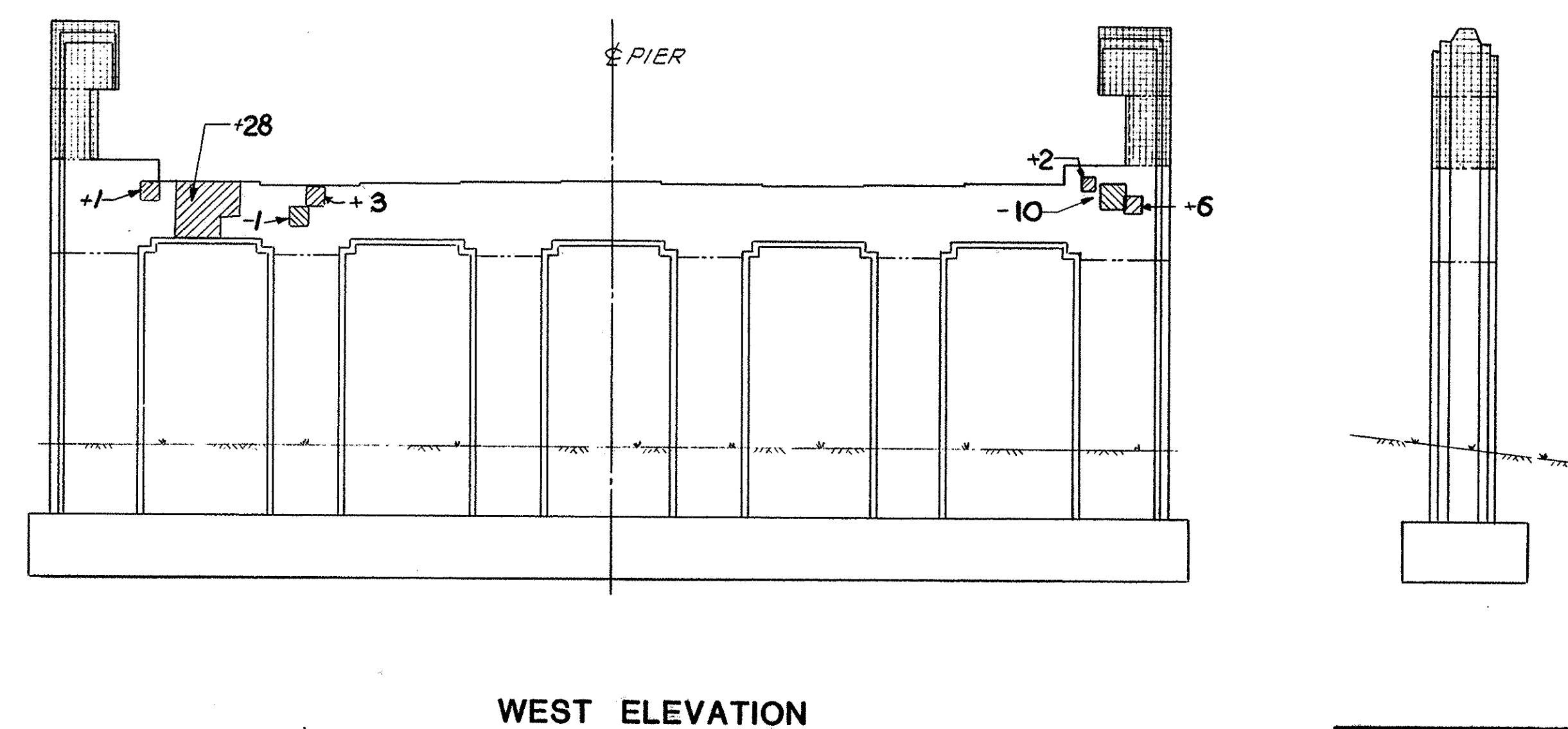
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PIER 2



PIER 1

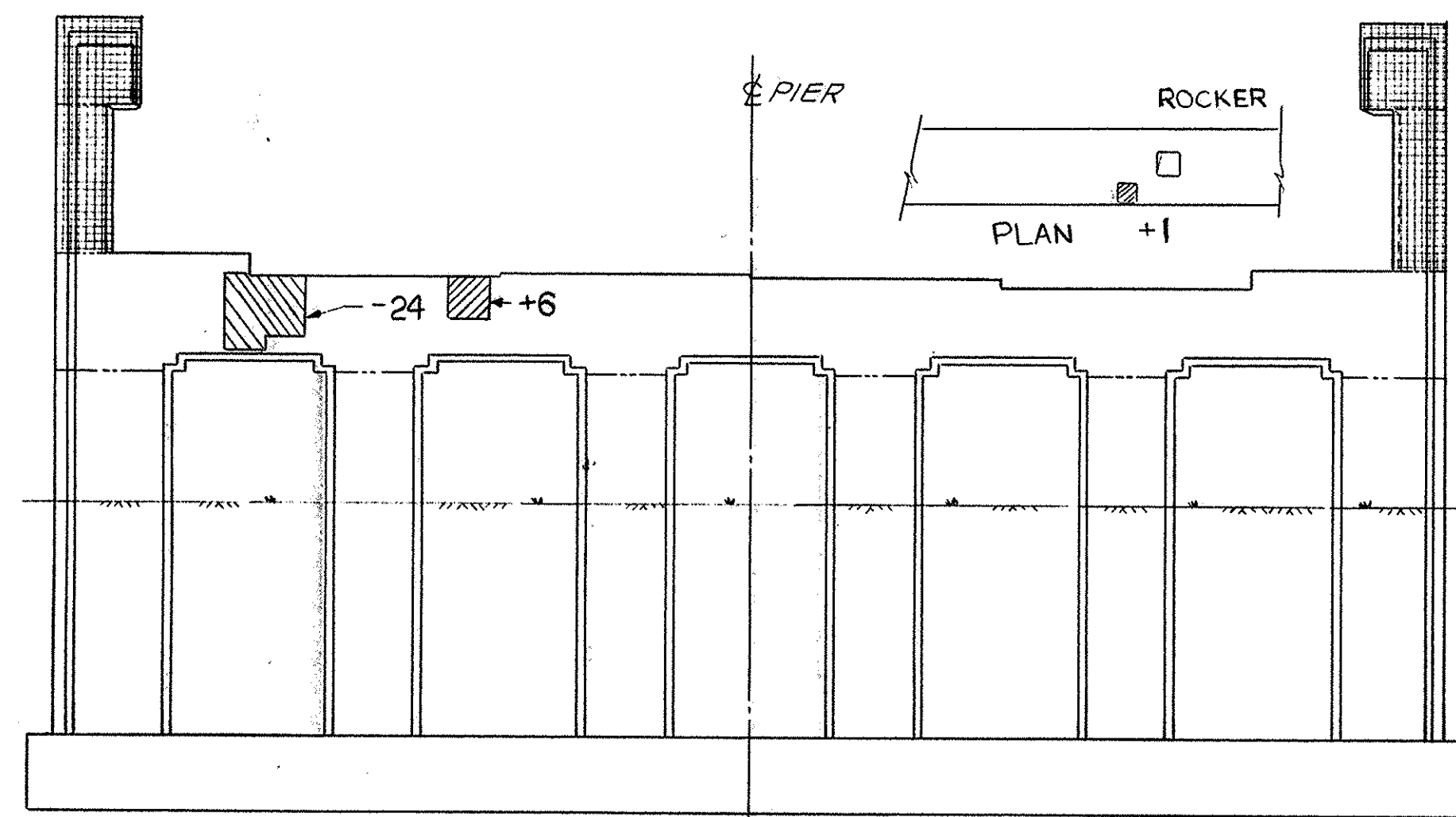


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CONCRETE REMOVAL & REPAIR AREAS				
PIERS 1 THRU 4				
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REVISED 2-91
2-88

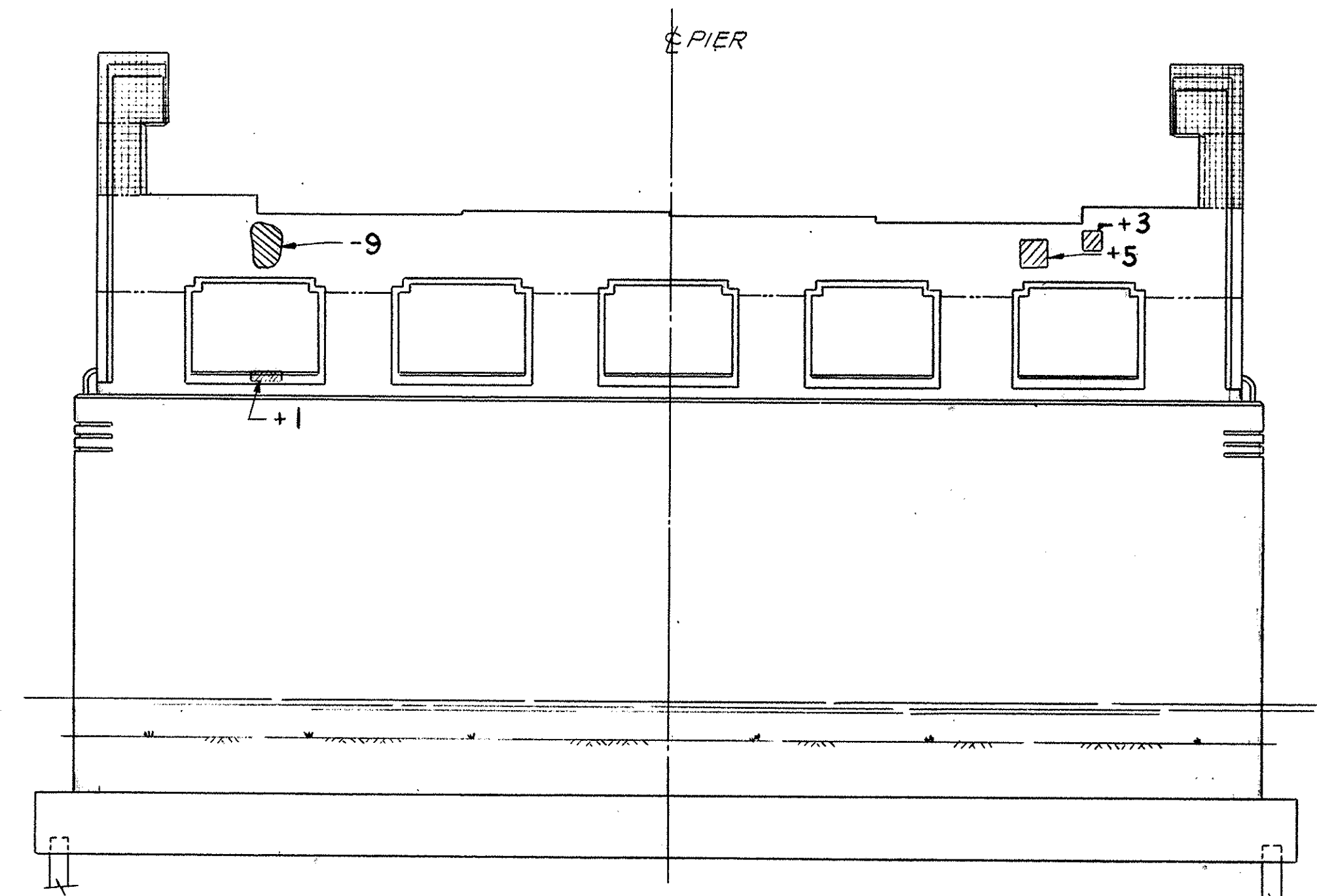
5/20

PIER 8



WEST ELEVATION

PIER 7

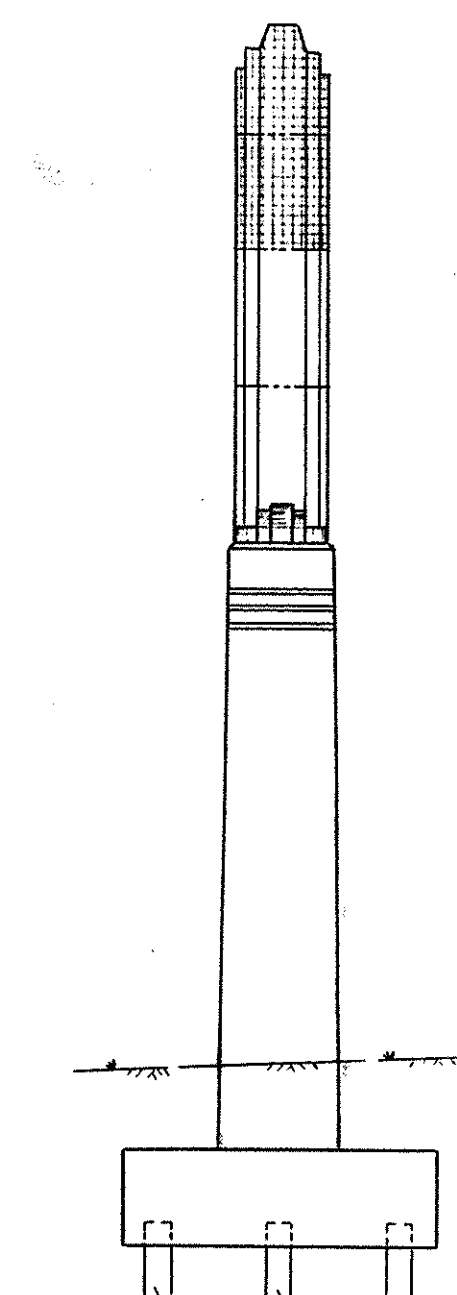


WEST ELEVATION

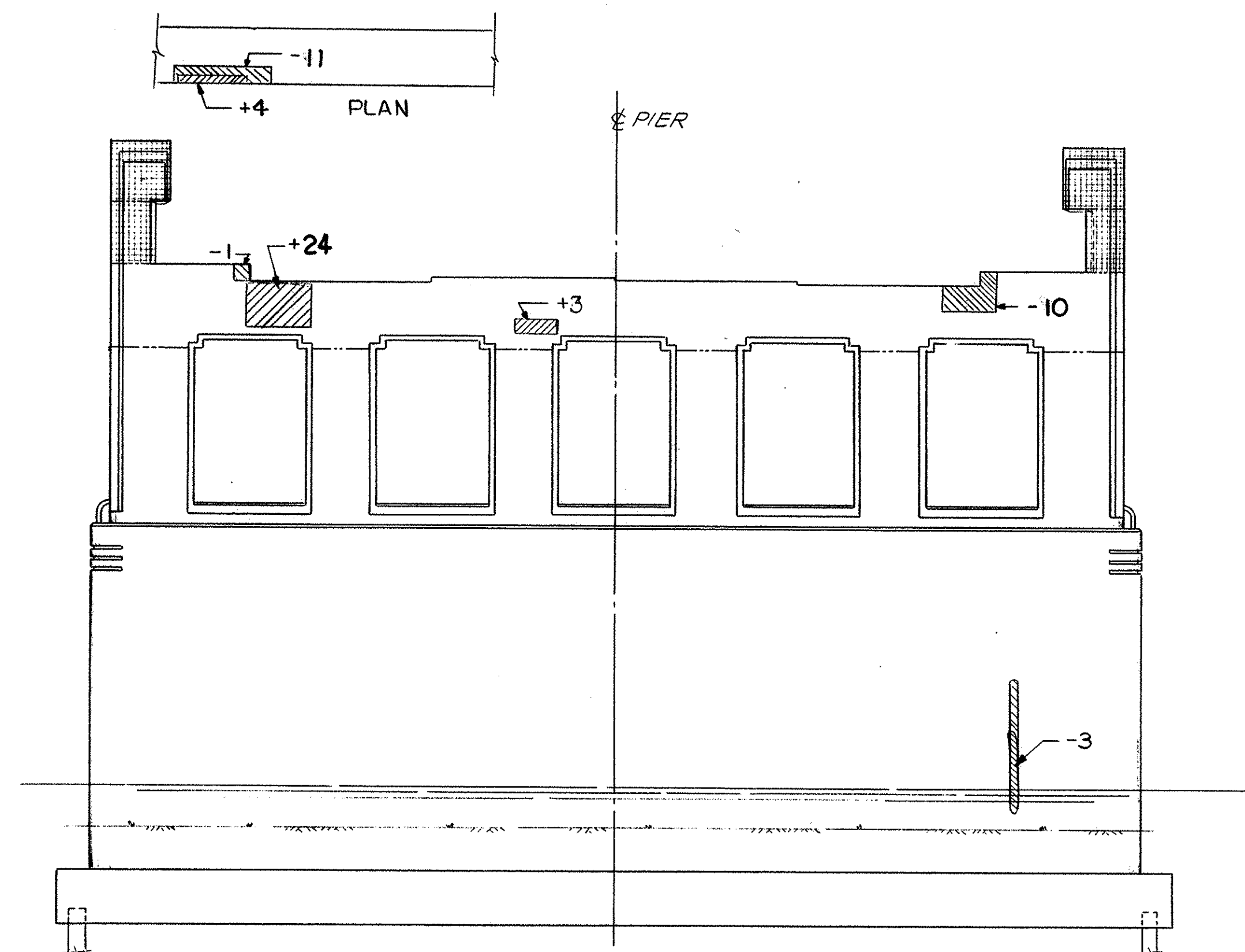
FHWA REGION	STATE	PROJECT
5	OHIO	

19
33

STA 172-6.27
CITY OF MASSILLON

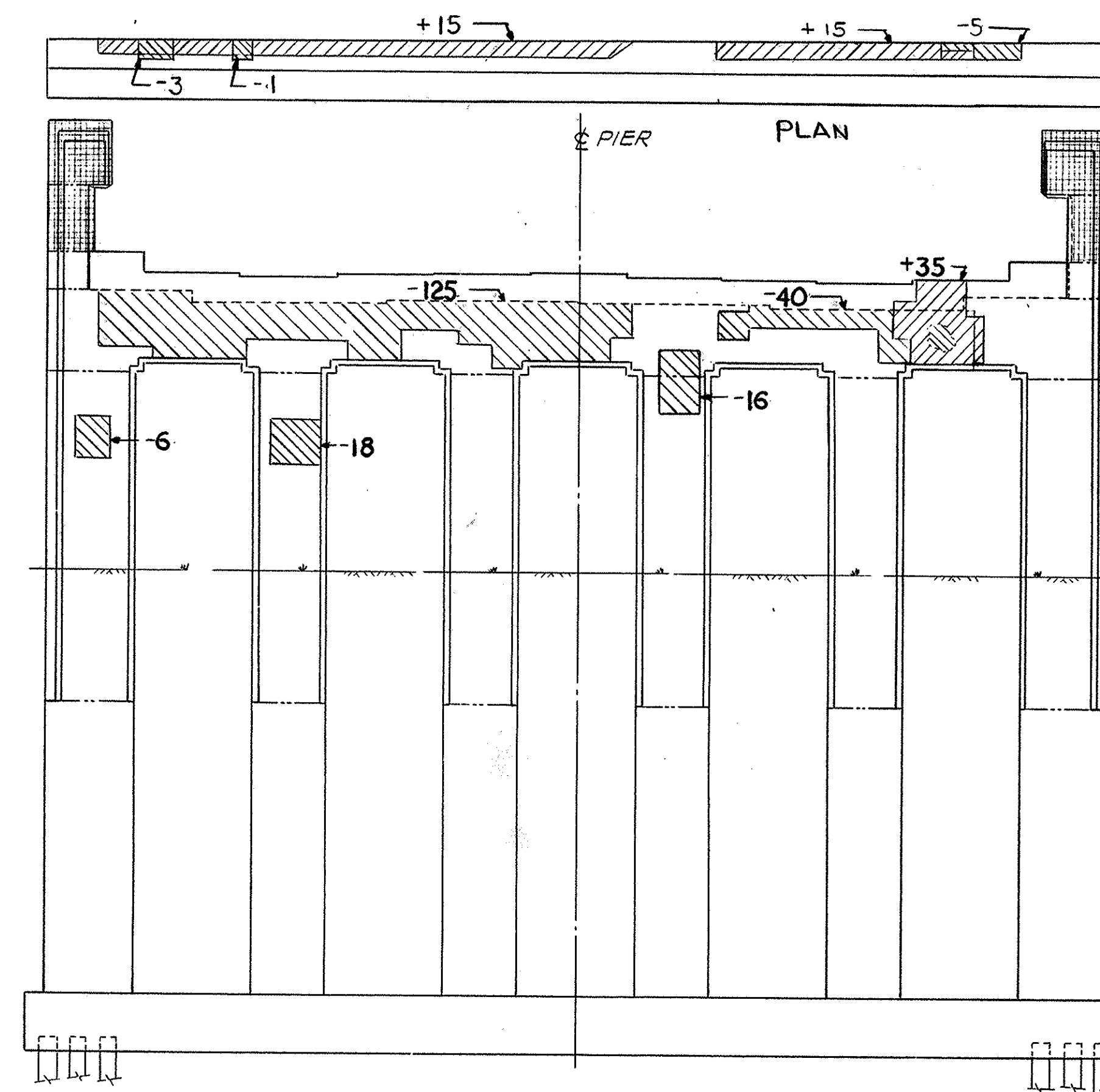


PIER 6



WEST ELEVATION

PIER 5



WEST ELEVATION

KEY	
	PORTIONS OF STRUCTURE TO BE REMOVED
	SPALLED AREA, NEAR SIDE
	SPALLED AREA, FAR SIDE
+6	APPROX. PATCHING AREA, S.F., NEAR SIDE
-6	APPROX. PATCHING AREA, S.F., FAR SIDE

MOSURE AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

CONCRETE REMOVAL & REPAIR AREAS
PIERS 5 THRU 8
REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
DP	AM	J.M.O.	W.H.	
9-85	9-85	10-85	2-87	

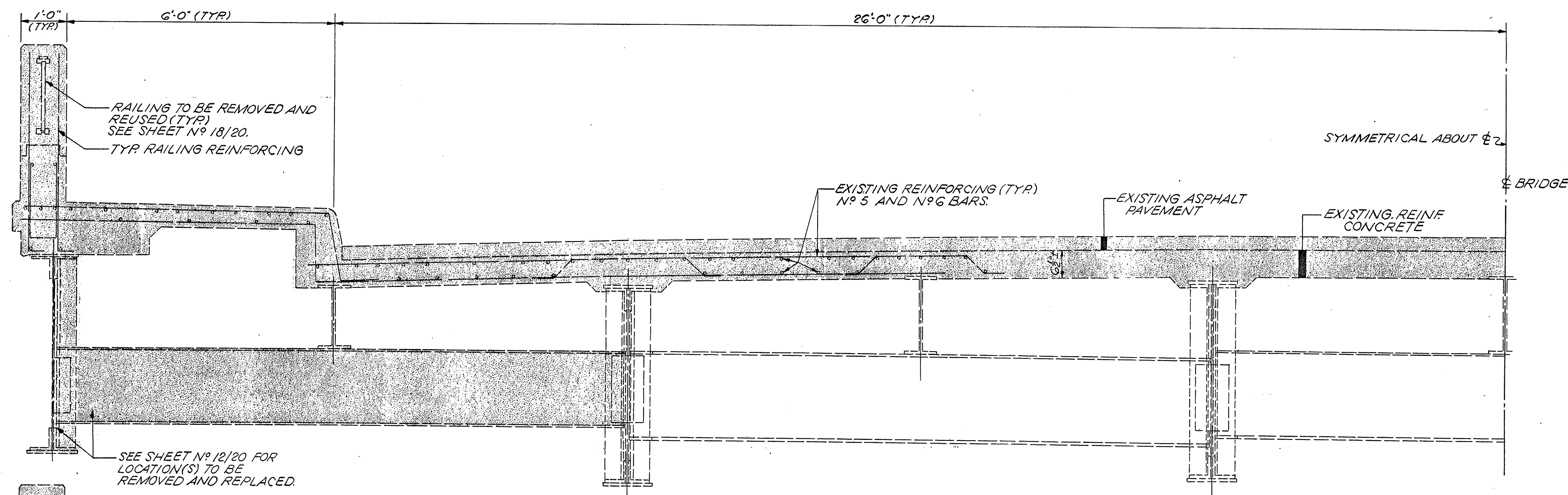
REVISED 2-81
2-88

6/20

FHWA REGION	STATE	PROJECT	
5	OHIO		

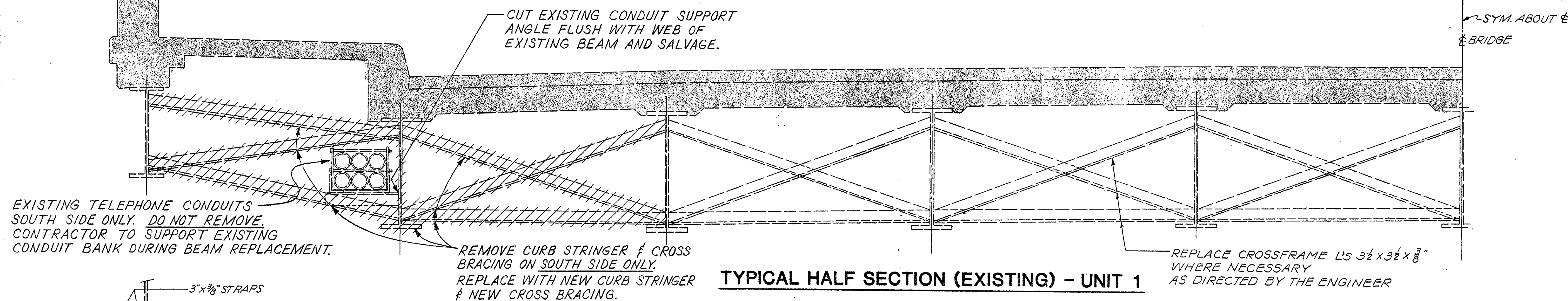
19A
33

STA-172-6.27
CITY OF MASSILLON

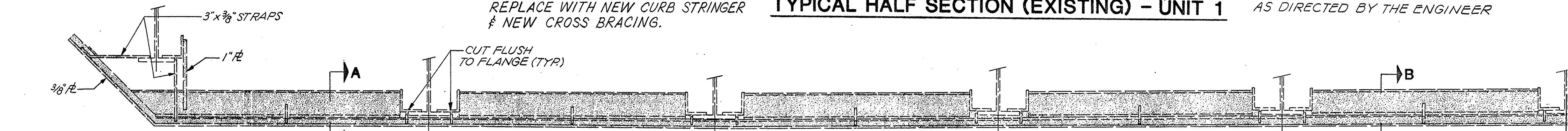


TYPICAL HALF SECTION (EXISTING) - UNIT 2

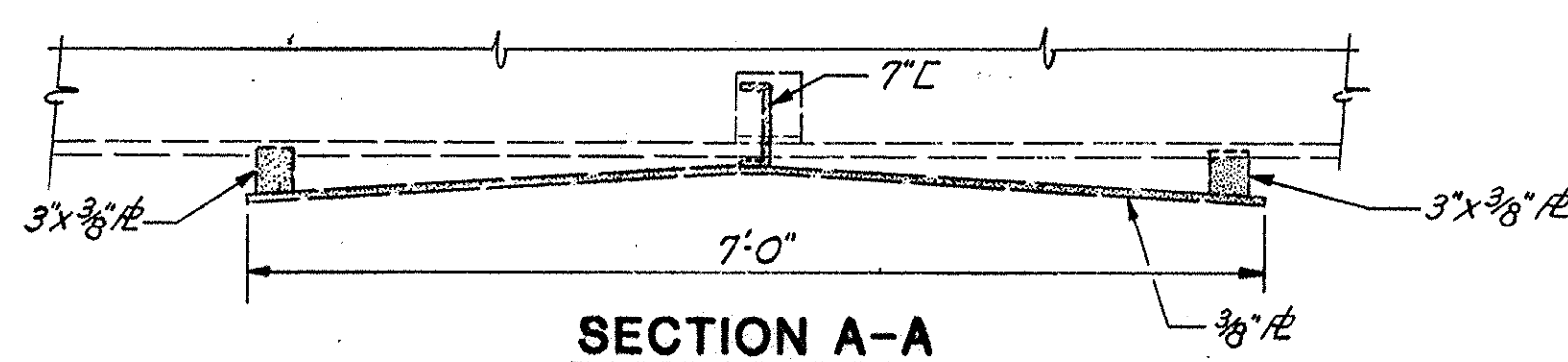
KEY
OR
PORTIONS OF STRUCTURE
TO BE REMOVED.



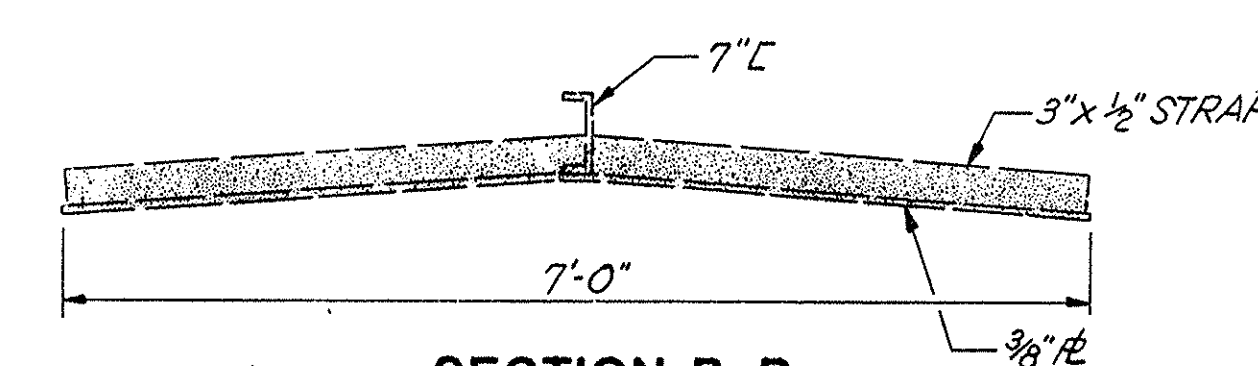
TYPICAL HALF SECTION (EXISTING) - UNIT 1



EXISTING BLAST PLATE - UNIT 1



SECTION A-A



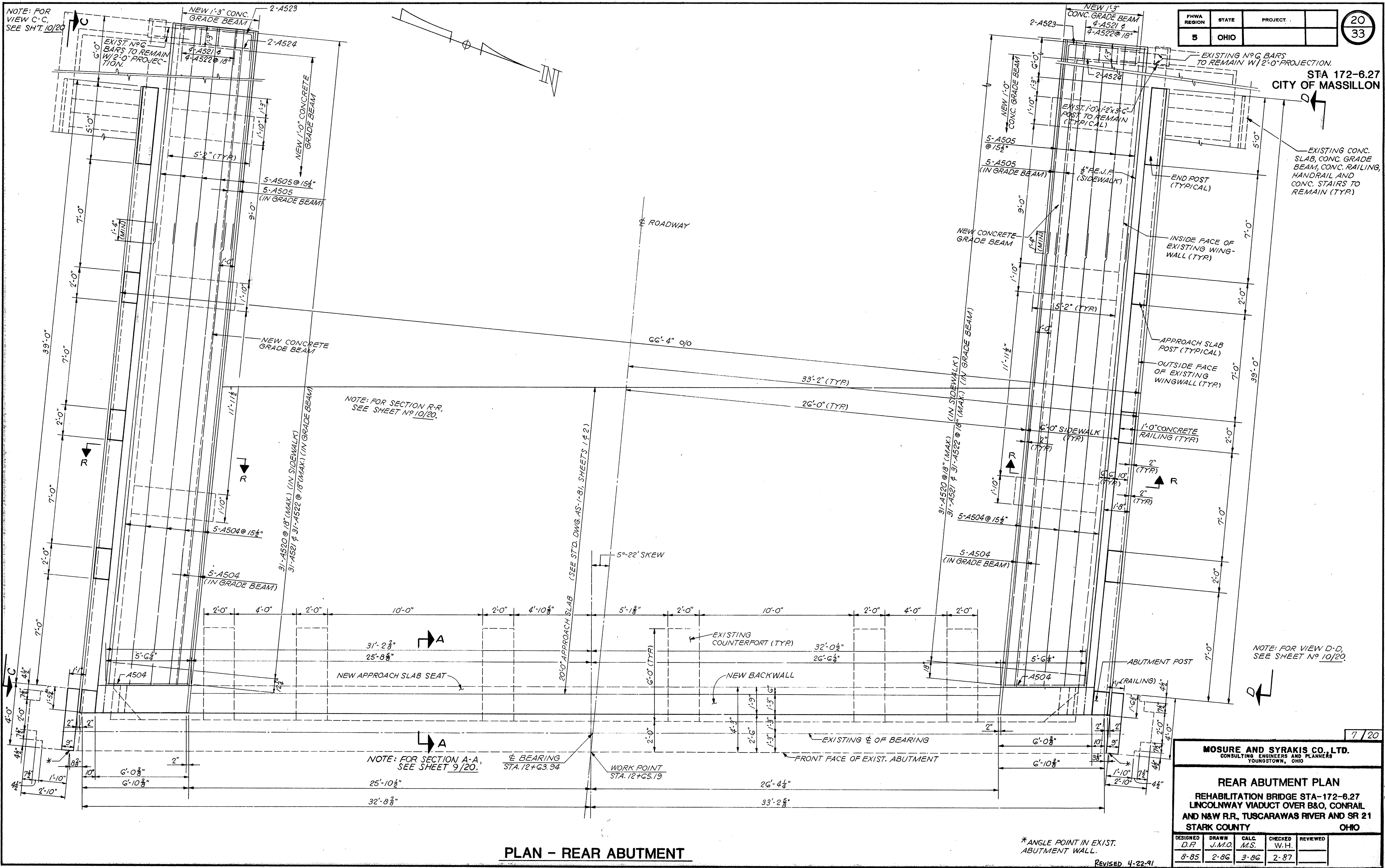
SECTION B-B

REVISED 4-22-91
REV. 2-91

MOSURE AND SYRAKIS CO., LTD. CONSULTING ENGINEERS AND PLANNERS YOUNGSTOWN, OHIO				
TRANS. SECTION-SUPERSTRUCTURE PORTIONS FOR REMOVAL REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR21 STARK COUNTY OHIO				
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
J.V.	J.M.O.	-	W.H.	
4-87	4-87	-	2-88	

NOTE: FOR VIEW C-C, SEE SHEET 10/20

FHWA REGION	STATE	PROJECT	20
5	OHIO		33



PLAN - REAR ABUTMENT

MOSURE AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

REAR ABUTMENT PLAN
REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B.O. CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

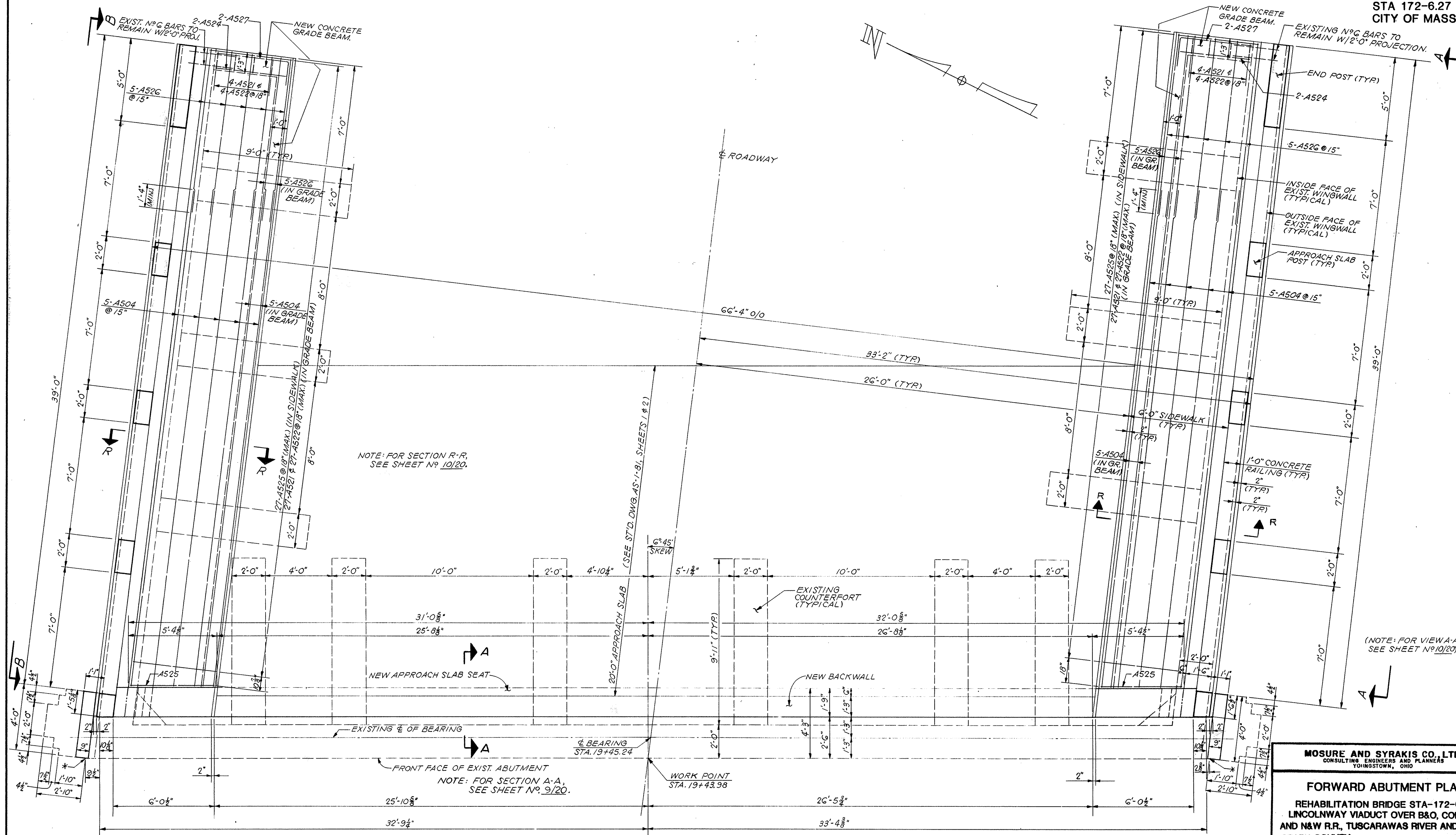
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
D.P.	J.M.O.	M.S.	V.H.	
8-85	2-86	3-86	2-87	

REVISD 4-22-91

(NOTE: FOR VIEW B-B,
SEE SHEET N° 10/20)

FHWA REGION	STATE	PROJECT	21 33
5	OHIO		

STA 172-6.27
CITY OF MASSILLON



PLAN - FORWARD ABUTMENT

* ANGLE POINT IN EXIST.
ABUTMENT WALL.

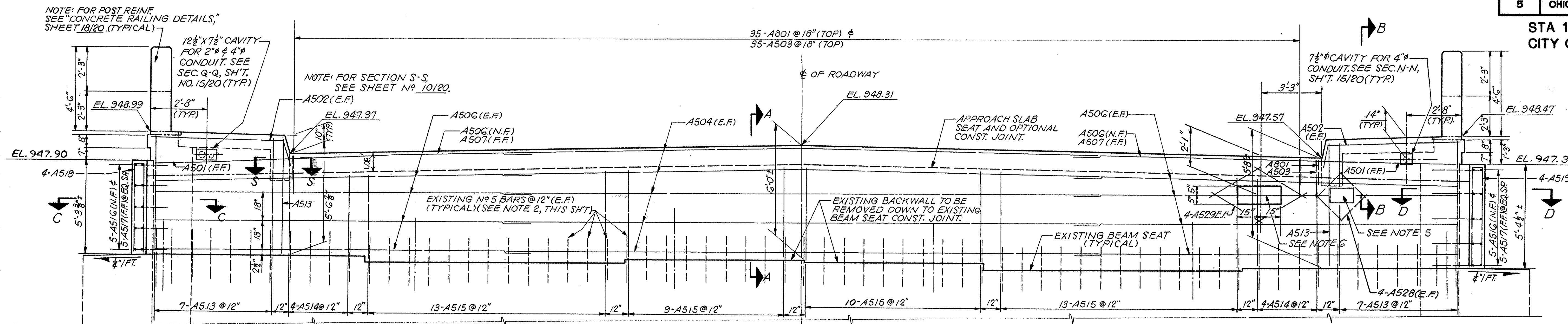
REVISED 4-22-91

MOSURE AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

FORWARD ABUTMENT PLAN
REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O. CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

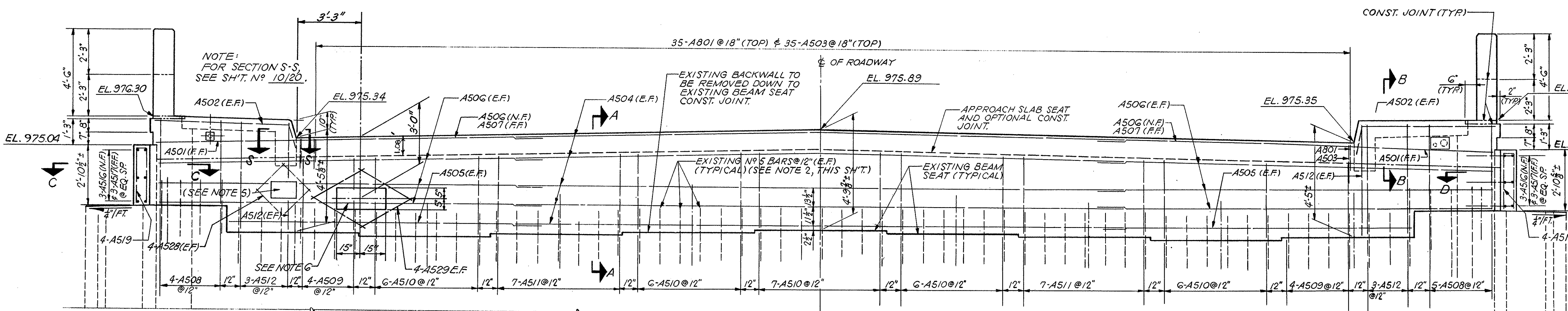
DESIGNED D.P.	DRAWN J.M.O.	CALC. M.S.	CHECKED W.H.	REVIEWED
8-85	2-86	3-86	2-87	

STA 172-6.27
CITY OF MASSILLON



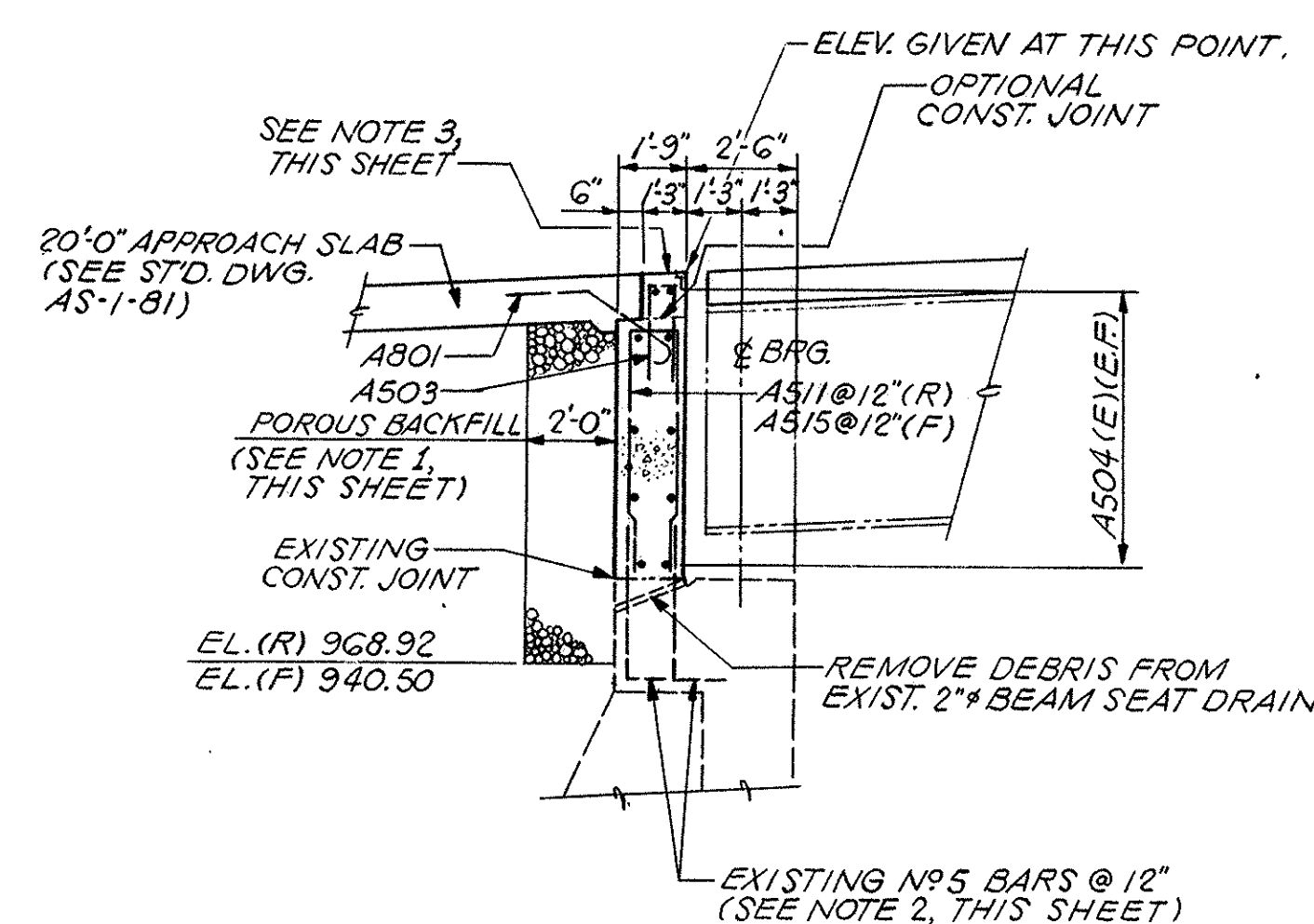
PARTIAL ELEVATION - FORWARD ABUTMENT

(NOTE: FOR PLAN VIEW, SEE SHEET NO. 8/20)

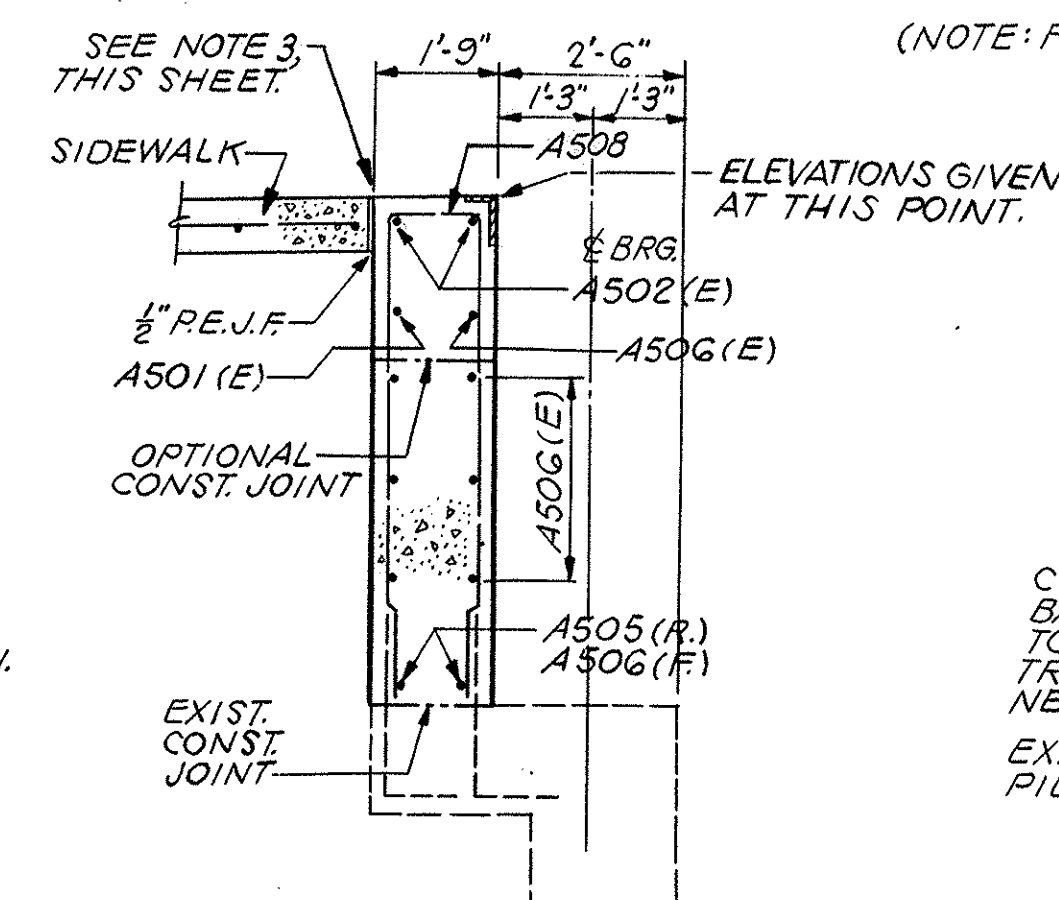


PARTIAL ELEVATION - REAR ABUTMENT

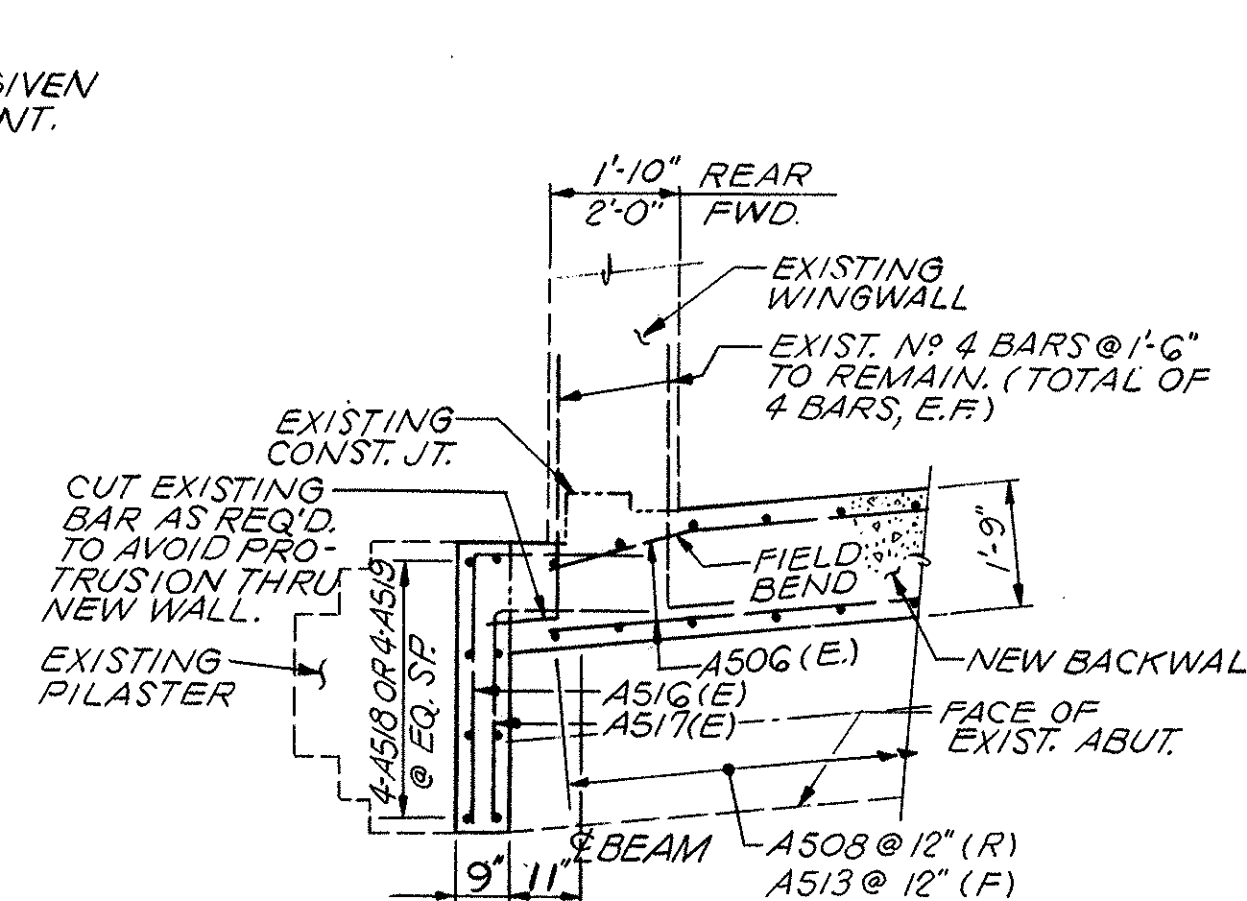
(NOTE: FOR PLAN VIEW, SEE SHEET NO. 7/20)



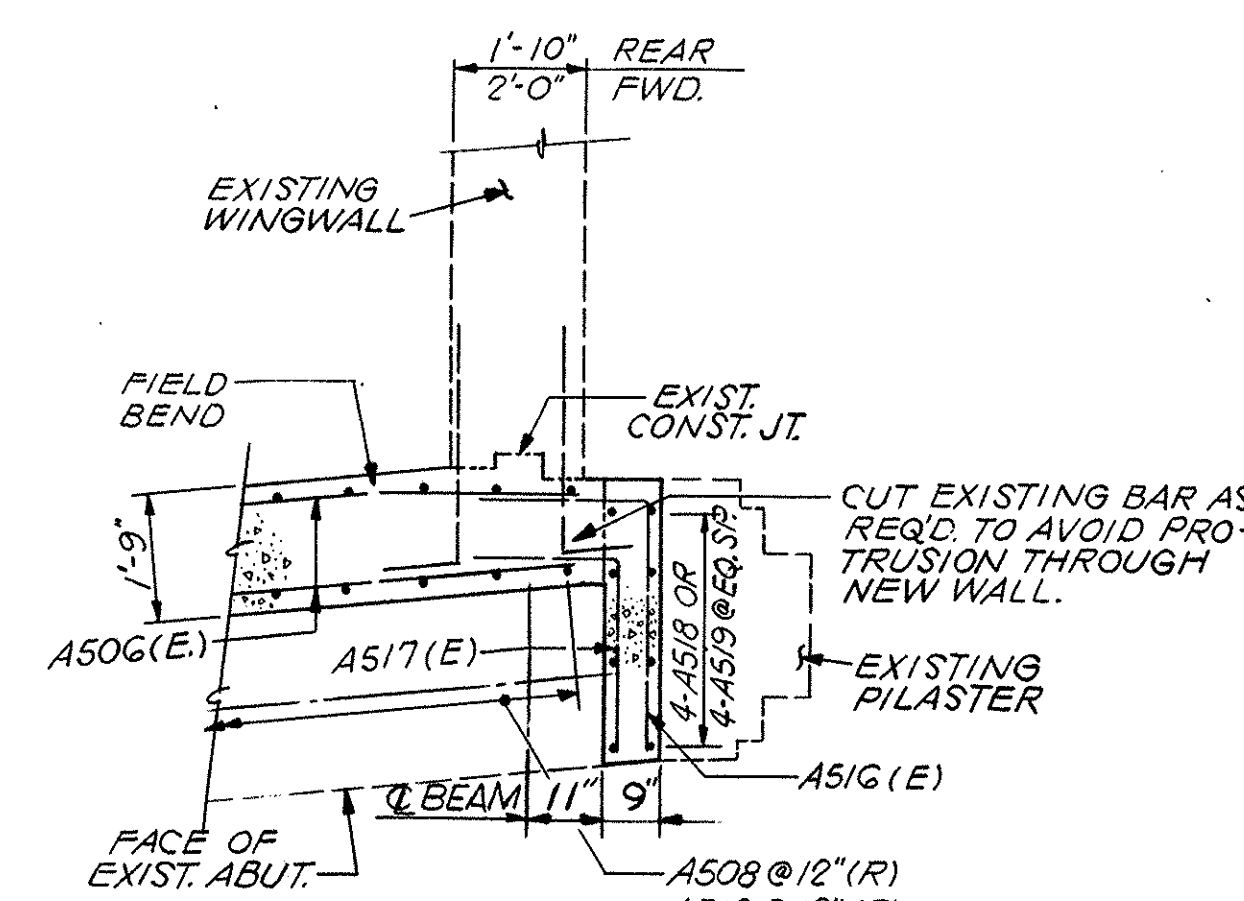
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES

NOTE 1: POROUS BACKFILL, 2' THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND Laterally TO THE ENDS OF THE EXISTING WINGWALLS.

NOTE 2: CUT THE EXISTING VERTICAL NO. 5 BARS 2'-0" ABOVE THE EXISTING BEAM SEAT AND SPLICE WITH THE NEW NO. 5 BARS. THE EXISTING BARS SHALL BE REPLACED IF DAMAGED.

THE CUTTING AND CLEANING OF EXISTING BARS SHALL BE INCLUDED WITH PORTIONS OF STRUCTURES REMOVED FOR PAYMENT.

NOTE 3: FORWARD ABUTMENT TOP OF BACKWALL SLOPE IS SHOWN. REAR ABUTMENT TOP BACKWALL SLOPE IS OPPOSITE DIRECTION.

NOTE 4: BACKWALL ELEVATIONS ARE GIVEN AT THE FRONT FACE OF BACKWALL.

NOTE 5: CUT REINFORCING AS REQUIRED TO CLEAR OPENING FOR TELEPHONE CONDUIT. SIZE AND LOCATION OF OPENING SHALL BE DETERMINED IN FIELD. OPENING SHALL BE FILLED W/ GROUT AROUND CONDUIT AND TYPE A WATERPROOFING APPLIED TO BACKFACE OF BACKWALL. INCLUDE WITH ITEM 511 FOR PAYMENT.

NOTE 6: CUT REINFORCING AS REQUIRED TO CLEAR OPENING FOR TELEPHONE CONDUITS. OPENING SHALL BE FILLED WITH GROUT AROUND CONDUITS AND TYPE A WATERPROOFING APPLIED TO BACKFACE OF BACKWALL. INCLUDE WITH ITEM 511 FOR PAYMENT.

LEGEND

R = REAR ABUTMENT ONLY.
F = FORWARD ABUT. ONLY.
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
E = EACH ABUTMENT

REV. 7-89, J.M.O.

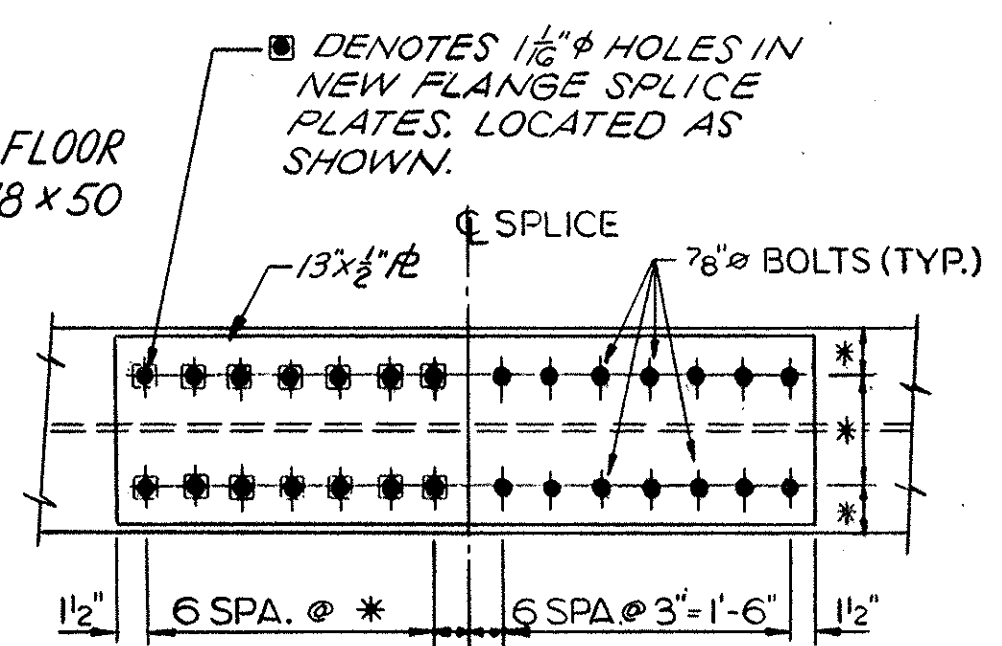
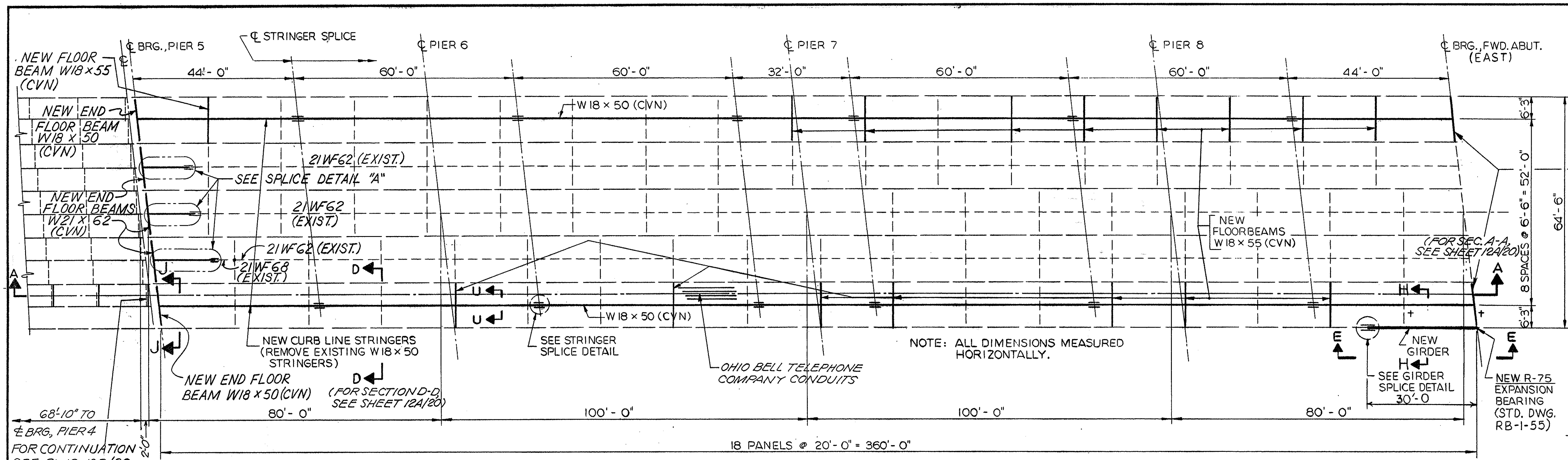
MOSURE AND SYRAKIS CO. LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

PARTIAL ELEVATIONS -
REAR AND FORWARD ABUTMENTS
REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL,
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

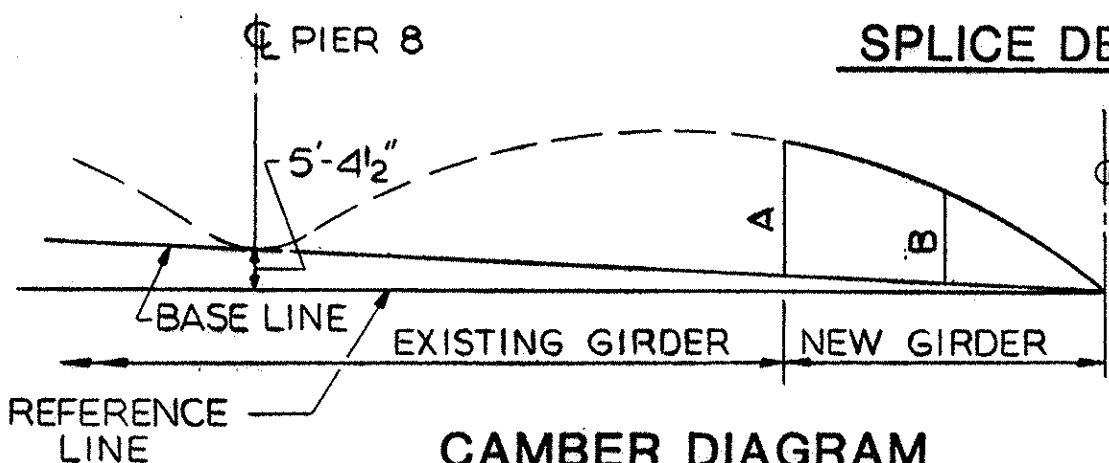
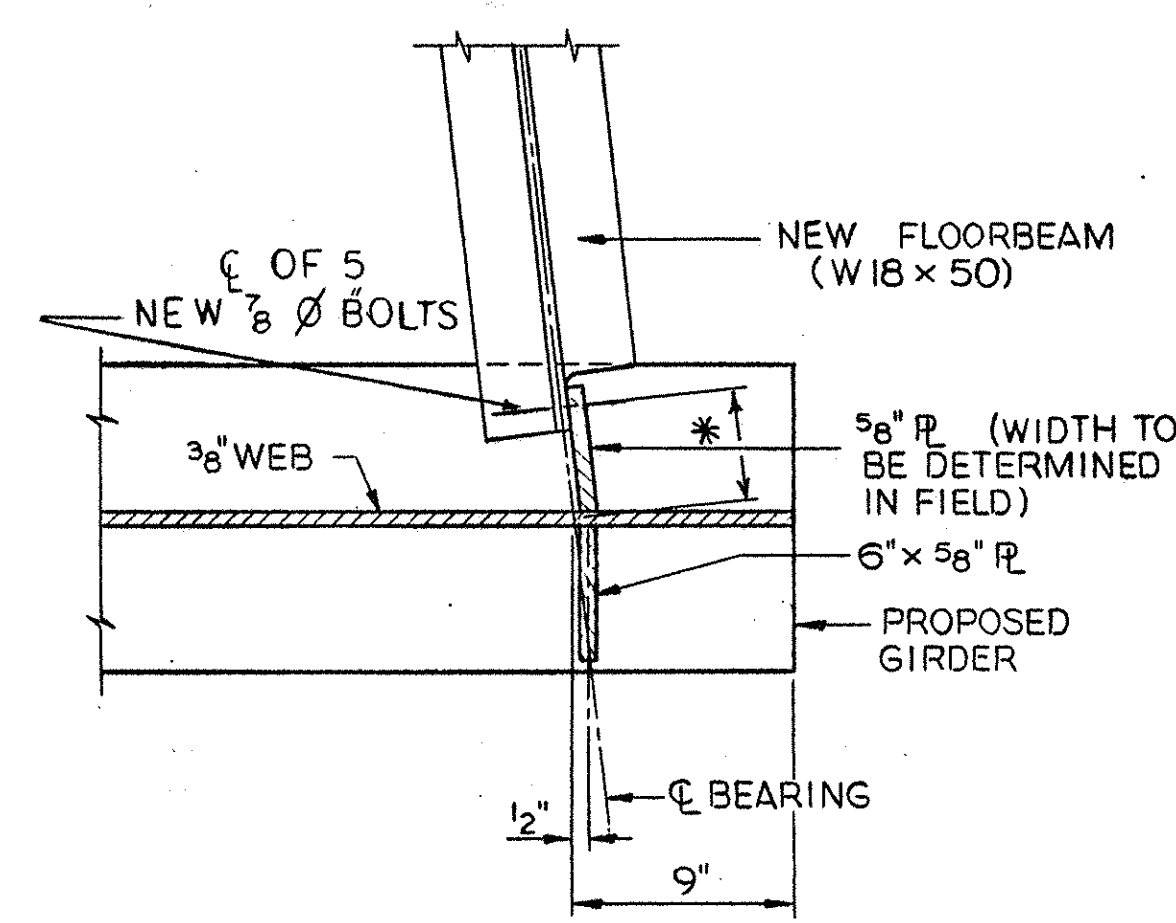
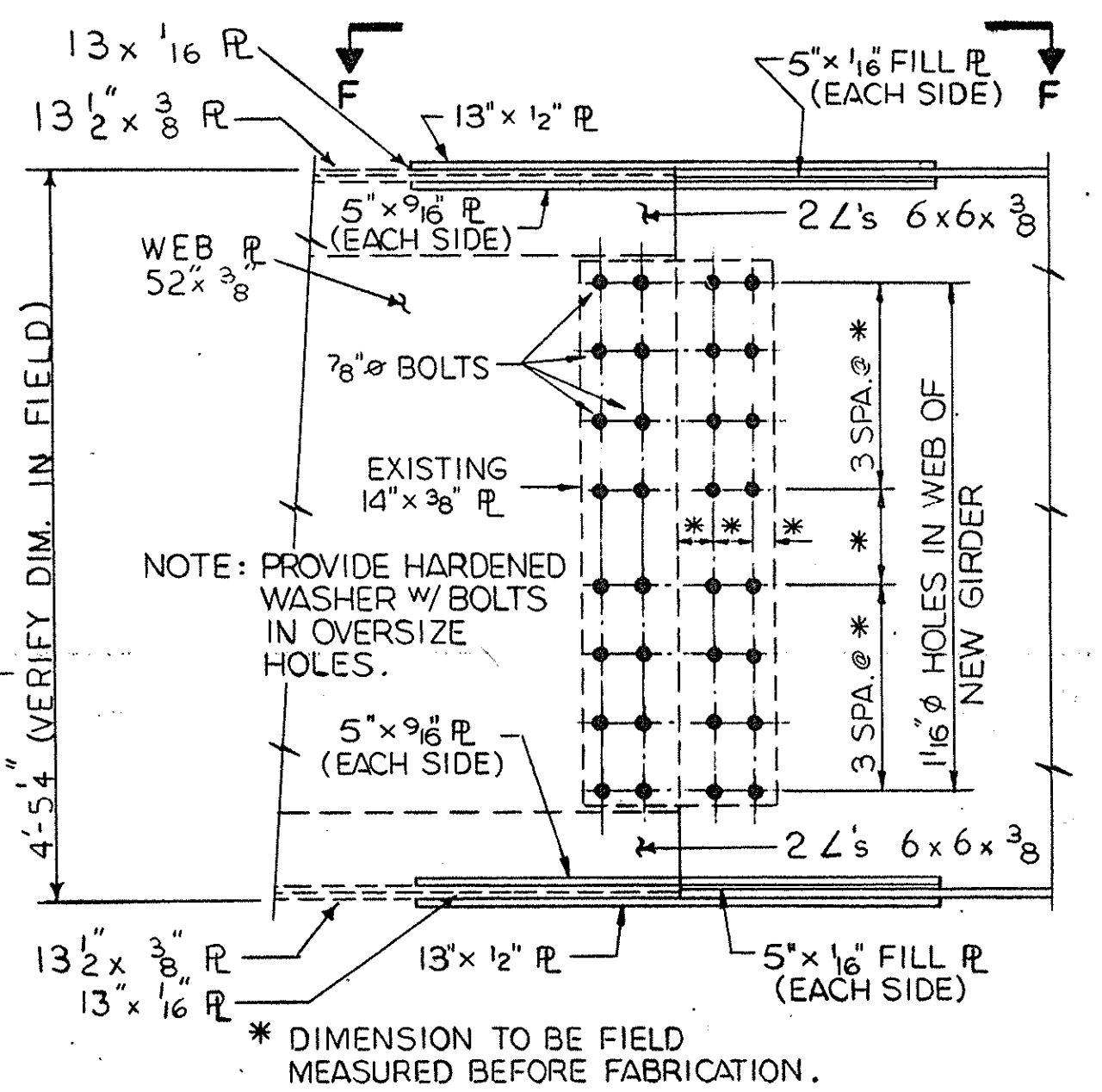
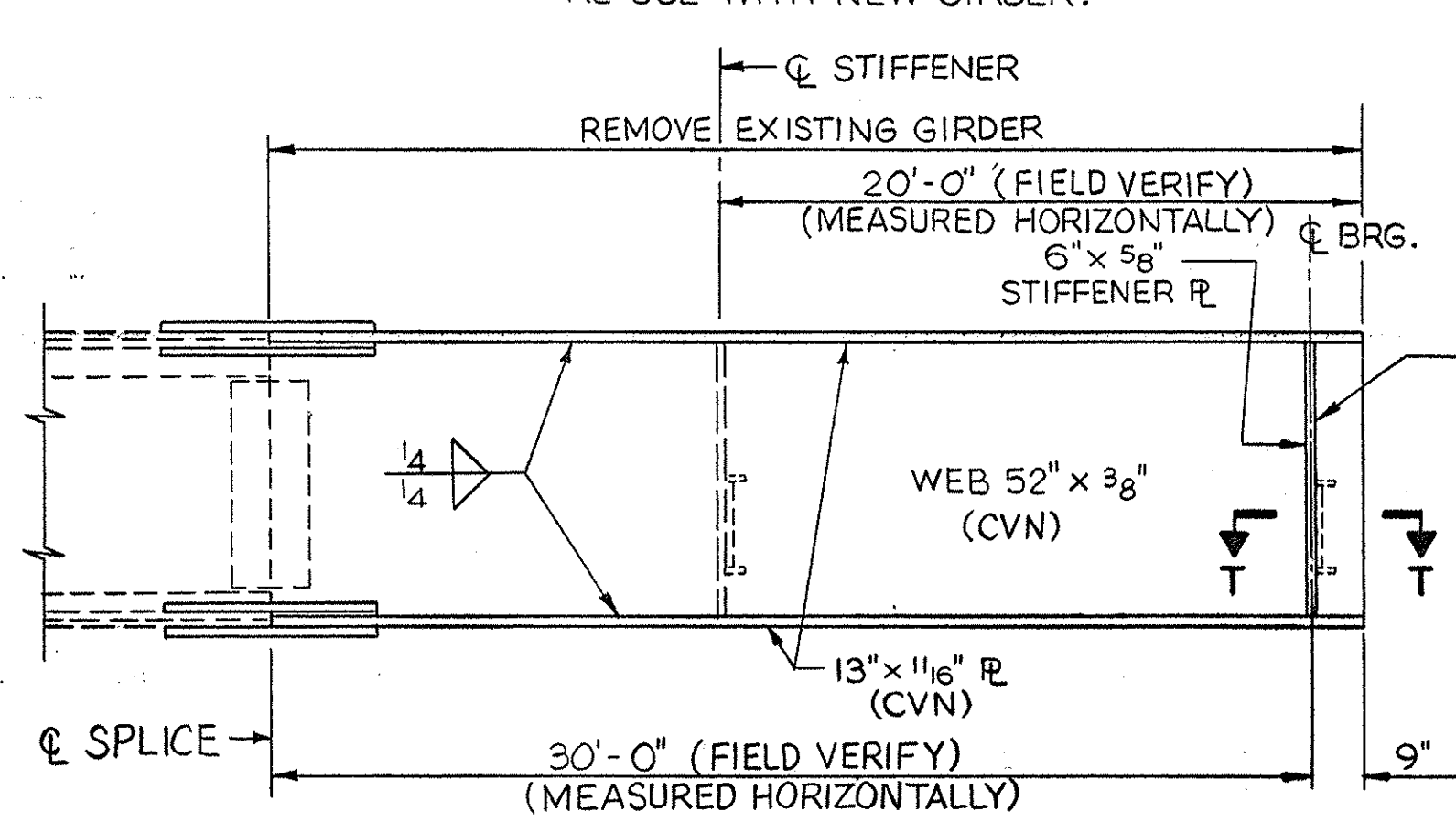
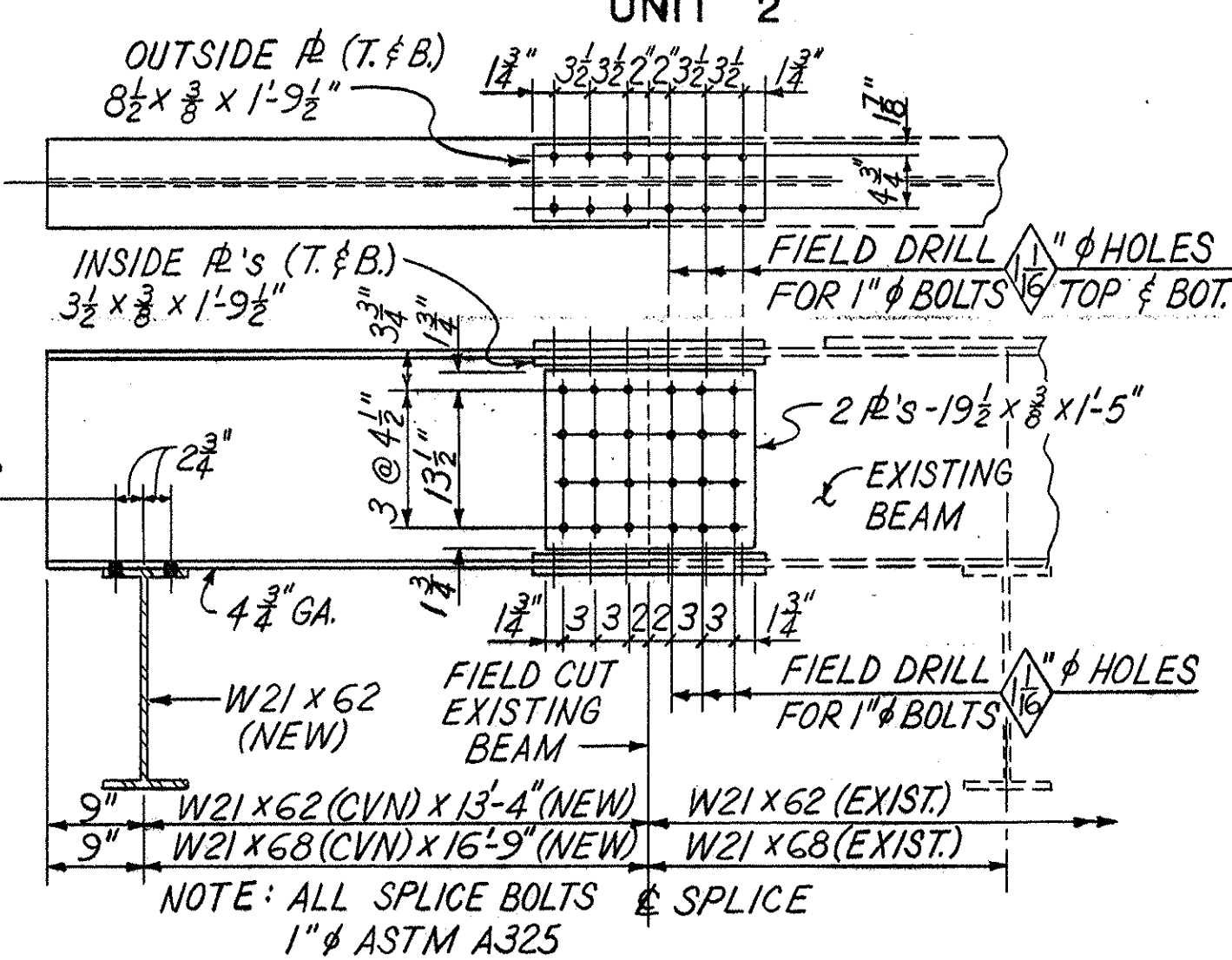
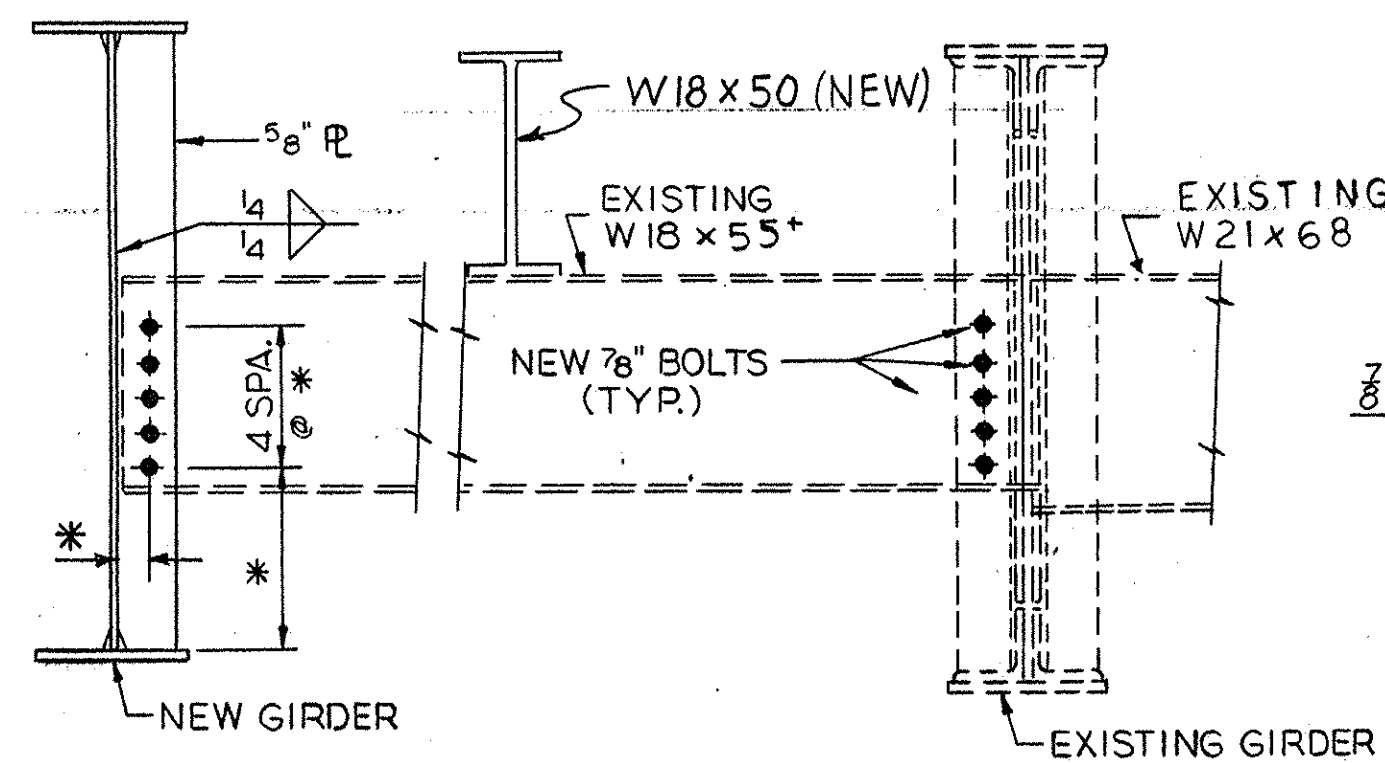
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
D.P.	J.M.O.	M.S.	W.H.	
8-85	9-85	3-86	2-87	

REVISED 4-22-91

STA 172-6.27
CITY OF MASSILLON



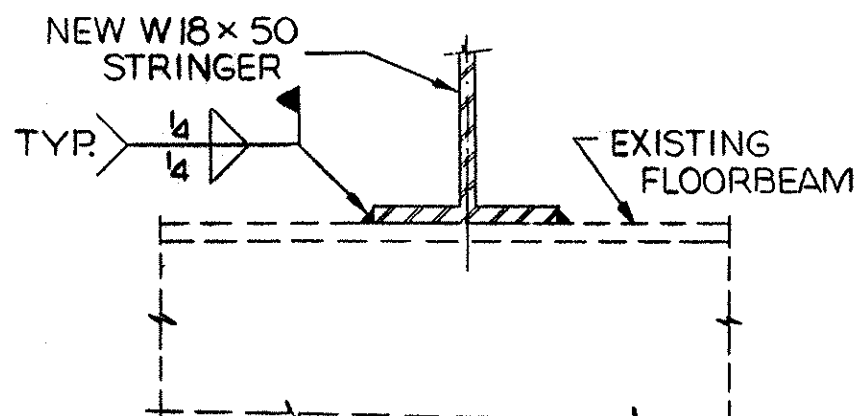
REMOVE EXISTING CROSS-BRACING AND REPLACE WITH NEW MC18x42.7. (SEE SECTION C-C, SHEET NO. 12A/20)



CAMBER & DEFLECTION FOR EXTERIOR GIRDER			
POINT	SPlice A	3/4 POINT B	
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	
DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/16"	3/4"	
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	—	—	
REQUIRED SHOP CAMBER	3/4"	13/16"	

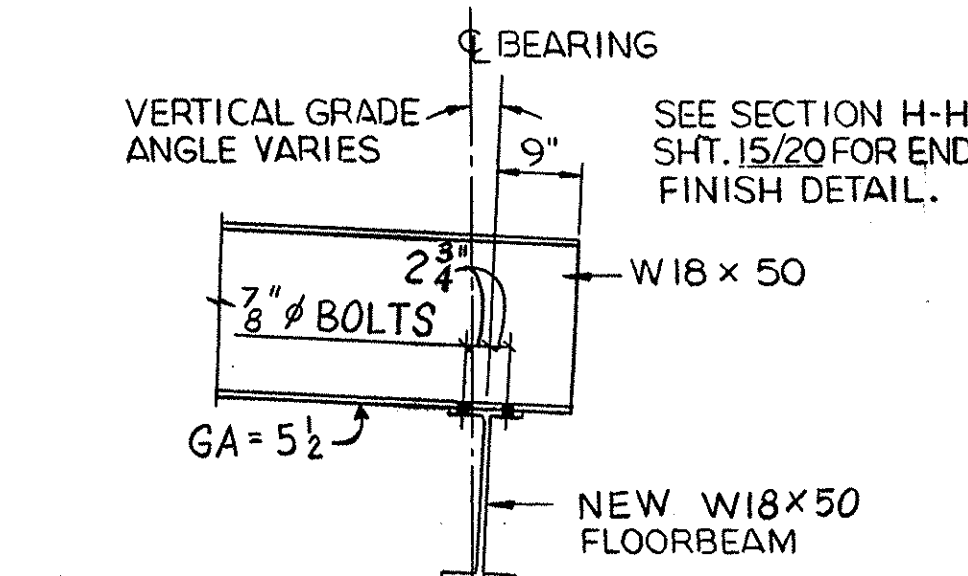
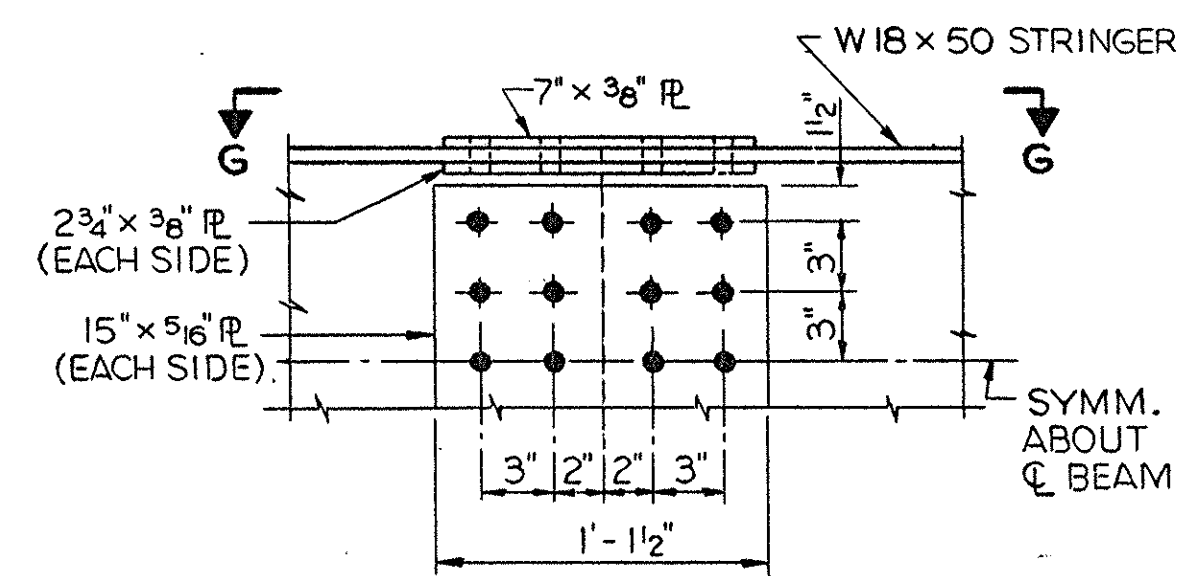
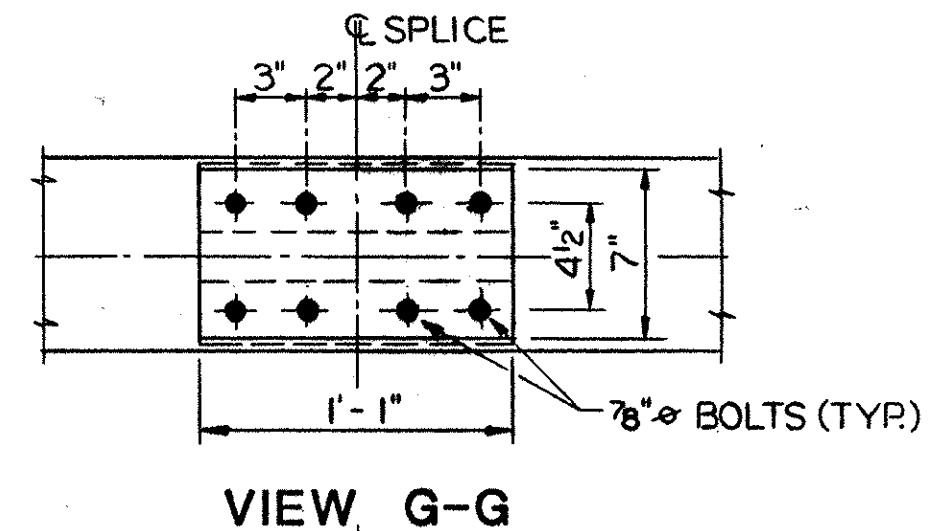
BASE LINE IS A LINE ALONG THE C OF THE GIRDER @ THE C OF THE WEB BETWEEN THE C BEARING @ THE ABUTMENT AND C BEARING @ THE PIER.

REFERENCE LINE IS A HORIZONTAL LINE EXTENDING FROM THE C BEARING @ THE ABUTMENT AT THE C WEB.



NOTE: REMOVE EXISTING W18 x 50 CURB LINE STRINGERS BY REMOVING ALL STRINGER TO FLOORBEAM WELDS. FINISH THE TOP FLANGE OF THE FLOORBEAM BY GRINDING SMOOTH. ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED.

ALL BOLTS ARE ASTM A325.



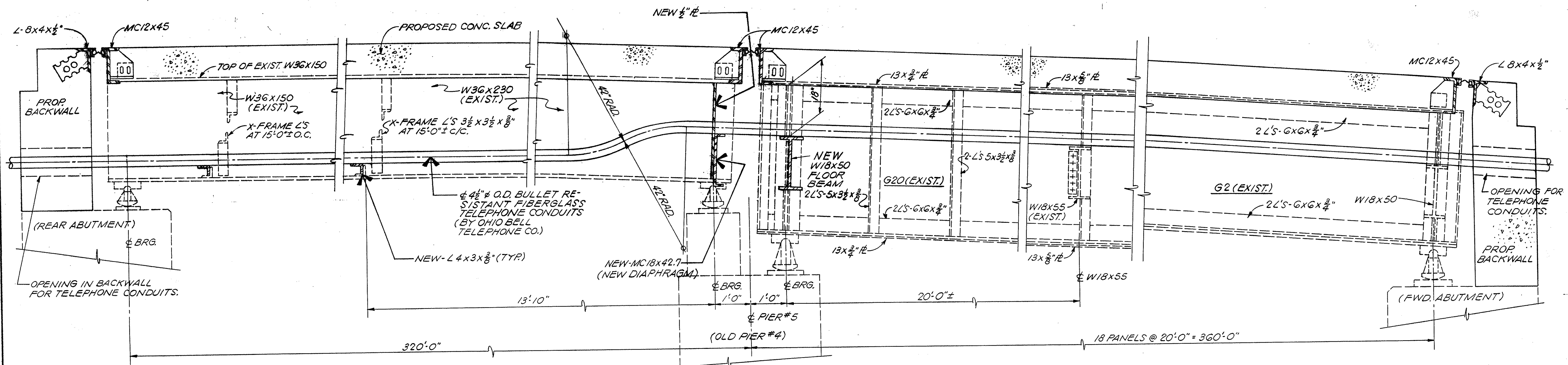
MOSEUR AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

FRAMING PLAN & STEEL DETAILS

REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

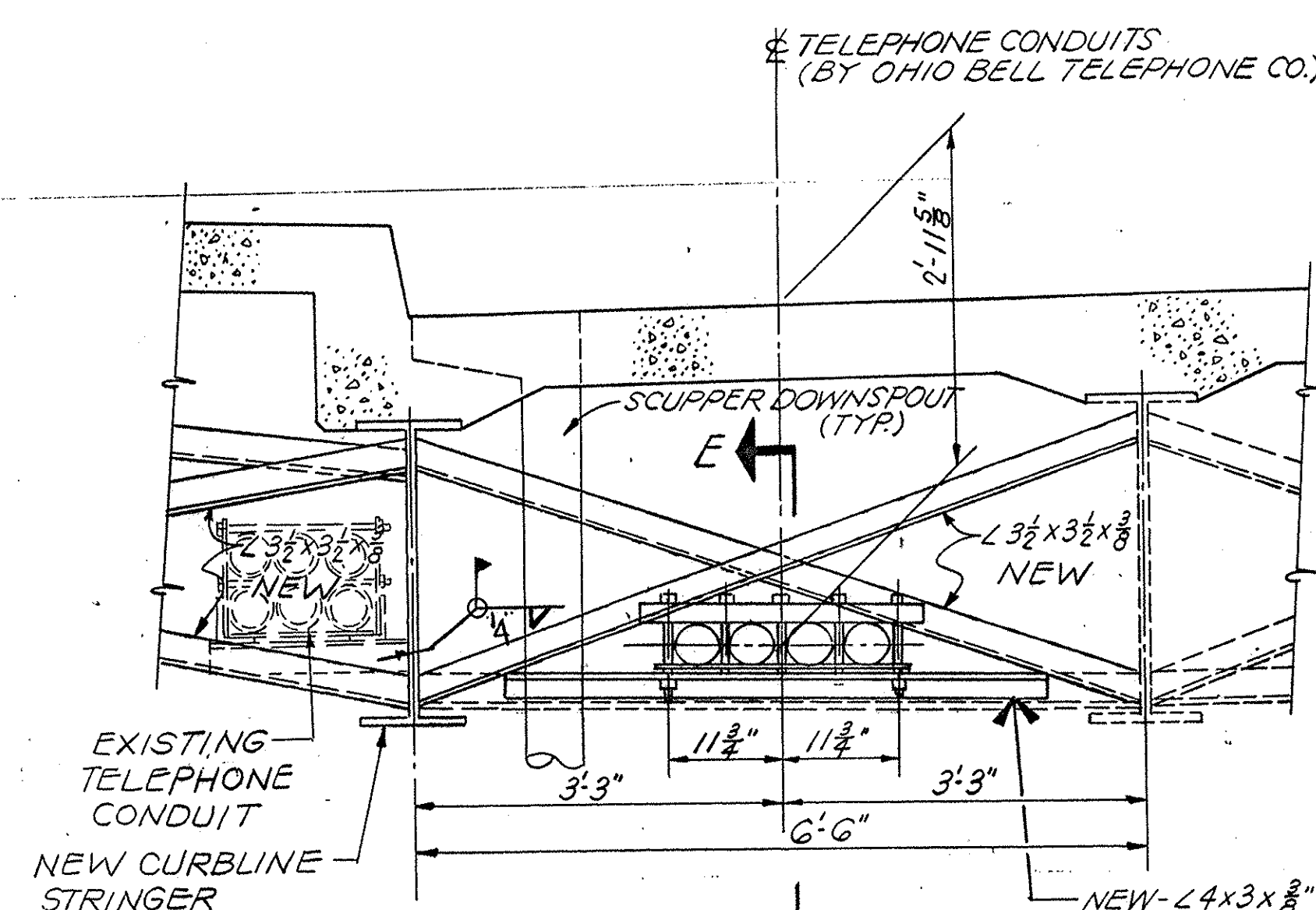
DESIGNED MS	DRAWN AM	CALC. MS	CHECKED WH	REVIEWED
8-85	8-85	8-85	2-87	

REVISED 4-22-91



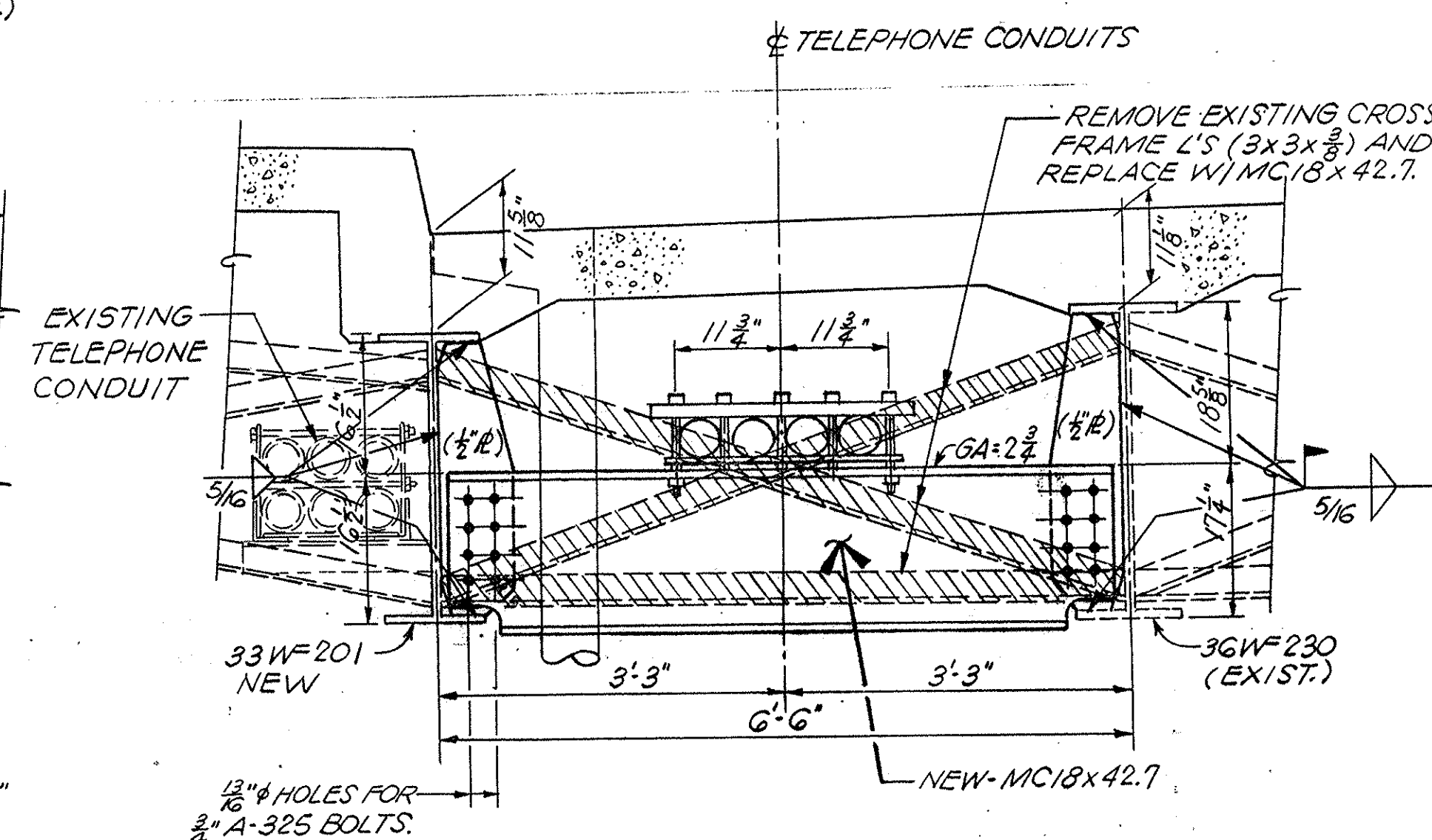
LONGITUDINAL SECTION A-A
(LOOKING NORTH) *NOTE: FOR*

NOTE: FOR SEC. A-A LOCATION,
SEE SHEET 12/20.



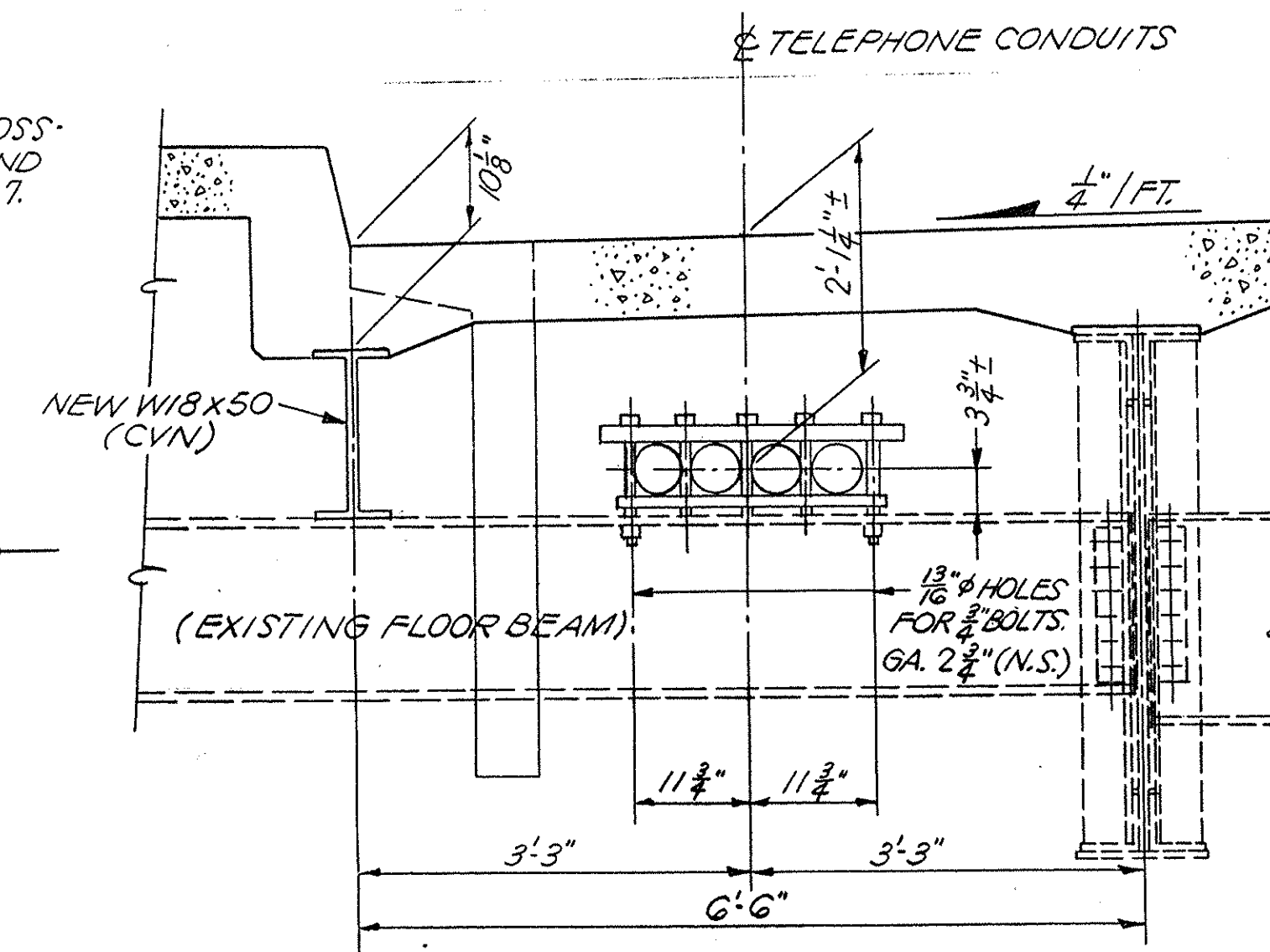
SECTION B-B

(FOR LOCATION, SEE SHEET 12/20)



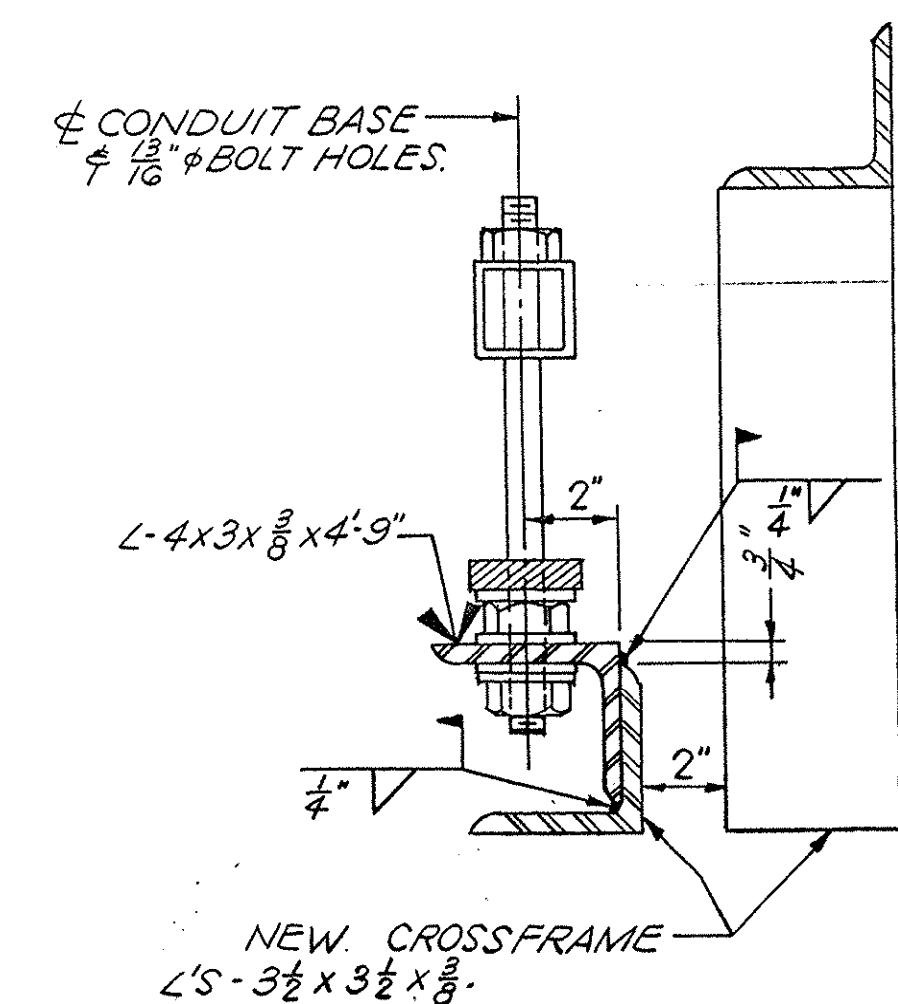
SECTION C-C

(FOR LOCATION, SEE SHEET 12/20)



SECTION D-D

(FOR LOCATION, SEE SHEET 12/20)



SECTION E-E

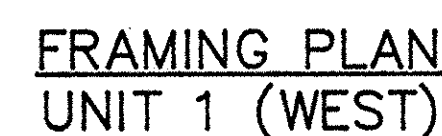
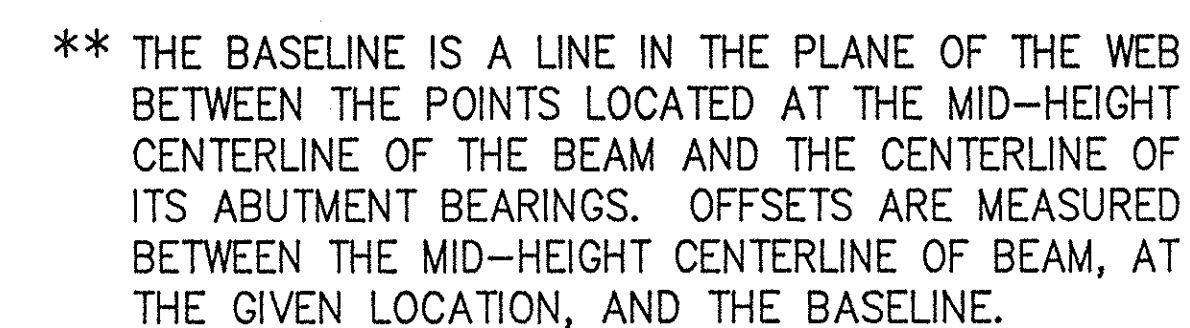
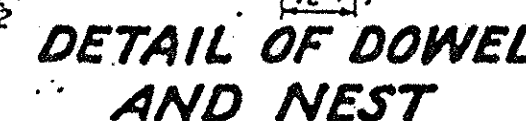
MOSURE AND SYRAKIS CO.
YOUNGSTOWN, OHIO

TELEPHONE CONDUIT DETAILS

REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
A.C.	J.M.O.	A.C.	W.H.	
7-89	7-89	7-89	7-89	

REVISED 4-22-91
REV. 2-91

[illegible]

STRUCTURAL STEEL ROCKER													
NO.	ROCKER NO.	MAX. LOAD	B	L	T	H	R	M	A	D	G	Y	C
1	E-50	50,000#	7"	17"	1 $\frac{1}{2}$ "	8 $\frac{3}{8}$ "	4 $\frac{1}{2}$ "	12"	2"	1 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	1 $\frac{15}{16}$ "	2"
1	E-75	75,000#	8"	19"	1 $\frac{1}{2}$ "	9 $\frac{5}{8}$ "	5 $\frac{1}{2}$ "	16"	2 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	6"	1 $\frac{3}{8}$ "	2 $\frac{1}{2}$ "
3	E-125	125,000#	11"	21"	2"	12 $\frac{5}{8}$ "	7 $\frac{1}{2}$ "	12"	3"	1 $\frac{3}{4}$ "	7"	1 $\frac{7}{16}$ "	3"

* NOTE:
REMOVE EXISTING CURBLINE CROSSFRAMES, CURBLINE STRINGERS AND BEARINGS. REMOVE CROSSFRAMES TO STRINGER WELDS BY GRINDING SMOOTH. EXISTING ANCHOR BOLTS AT BEARINGS TO BE SALVAGED AND REUSED. ALL THE ABOVE WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED.

<h1 style="margin: 0;">MOSURE AND SYRAKIS CO.</h1> <p style="margin: 0;">YOUNGSTOWN, OHIO</p>				
<h2 style="margin: 0;">FRAMING PLAN (UNIT 1)</h2>				
<p style="margin: 0;">REHABILITATION BRIDGE STA-172-6.27</p> <p style="margin: 0;">LINCOLNWAY VIADUCT OVER B&O, CONRAIL</p> <p style="margin: 0;">AND N&W R.R., TUSCARAWAS RIVER AND SR 21</p>				
<p style="margin: 0;">STARK COUNTY</p>				<p style="margin: 0;">OHIO</p>

STA 172-6.27
CITY OF MASSILLON

NOTES:

- ELEVATIONS SHOWN ON PLAN ARE SCREED ELEVATIONS AT THE GUTTER LINE WHICH INCLUDE DEAD LOAD DEFLECTION AND ARE LOCATED AT $\frac{1}{4}$ POINTS OF THE SPAN.
- ALL DIMENSIONS SHOWN ON SLAB PLAN ARE HORIZONTAL.
- SEE SHEET N°15/20 FOR SECTION V-V
- " H-H
- " J-J
- " M-M
- " N-N
- " P-P
- " Q-Q

PLACE TRANSVERSE BARS PARALLEL TO EXPANSION JOINT AT FORWARD ABUTMENT.

*FOR PILASTER DETAILS, SEE SHEET N° 18/20.

MINIMUM SLAB REINFORCEMENT SPLICE LENGTHS	
TRANSVERSE BARS:	#5 = 1'-8"
	#6 = 1'-11"
LONGITUDINAL BARS:	#4 = 1'-5"
	#5 = 1'-4"

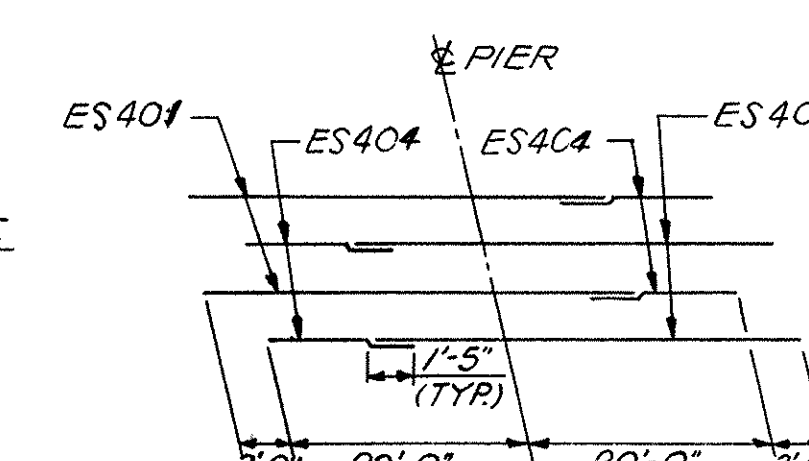


DIAGRAM SHOWING STAGGER OF ES401 & ES404 BARS (OVER PIERS 6, 7, 8)

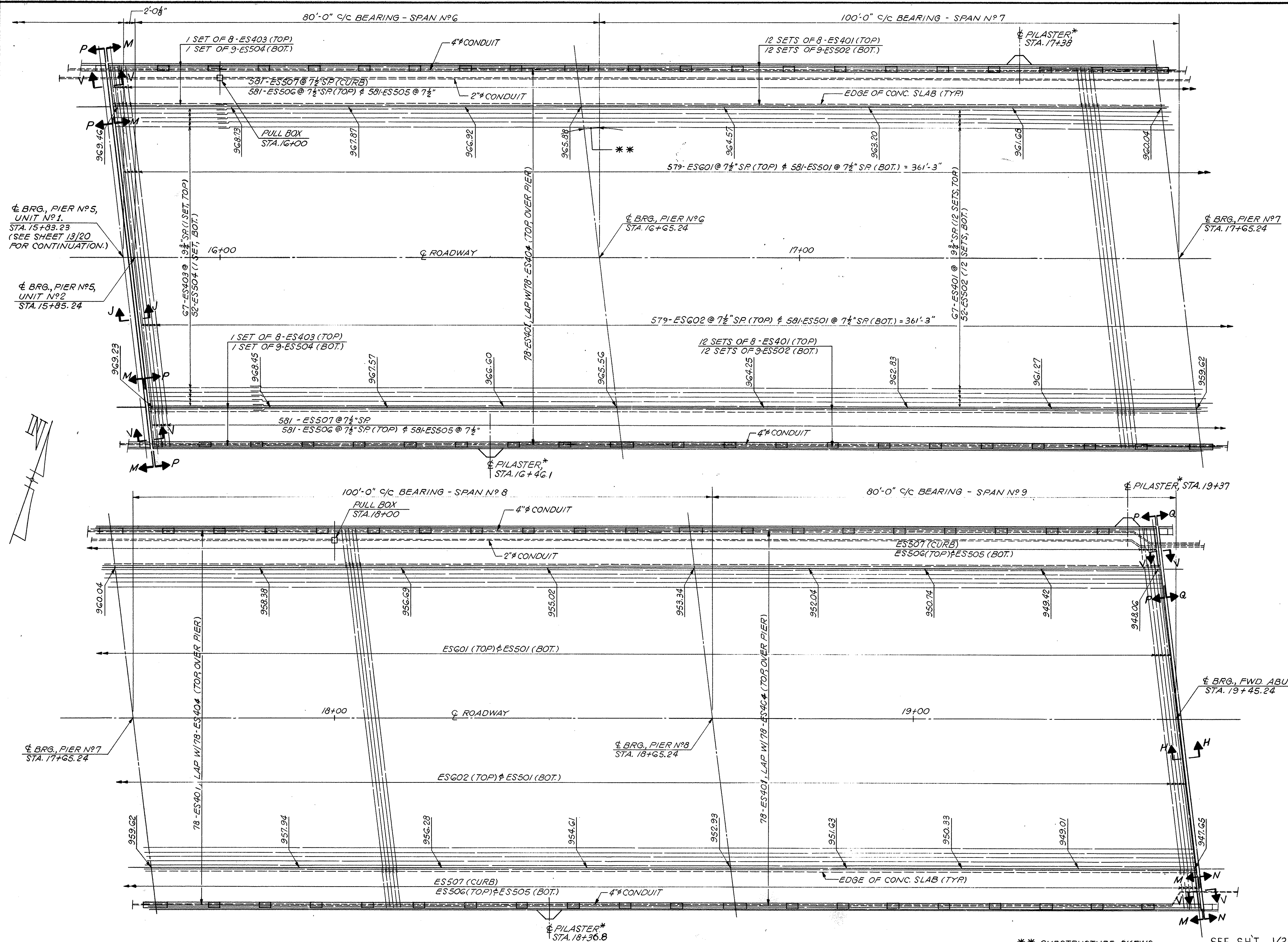
MOSURE AND SYRAKIS CO., LTD. CONSULTING ENGINEERS AND PLANNERS YOUNGSTOWN, OHIO				
SLAB PLAN AND SCREED ELEVATIONS-UNIT 2 REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21 STARK COUNTY OHIO				
DESIGNED D.P.	DRAWN J.M.O.	CALC. M.S.	CHECKED W.H.	REVIEWED
8-85	8-85	3-86	2-87	

SLAB PLAN AND SCREED ELEVATIONS - UNIT 2

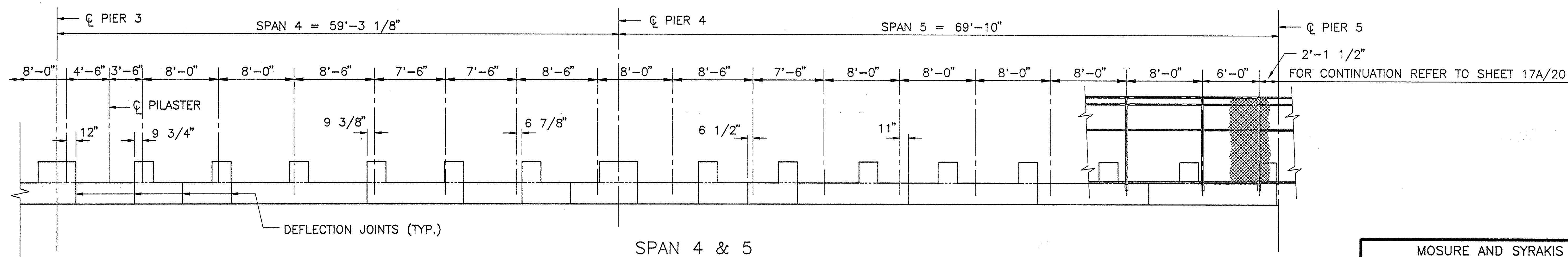
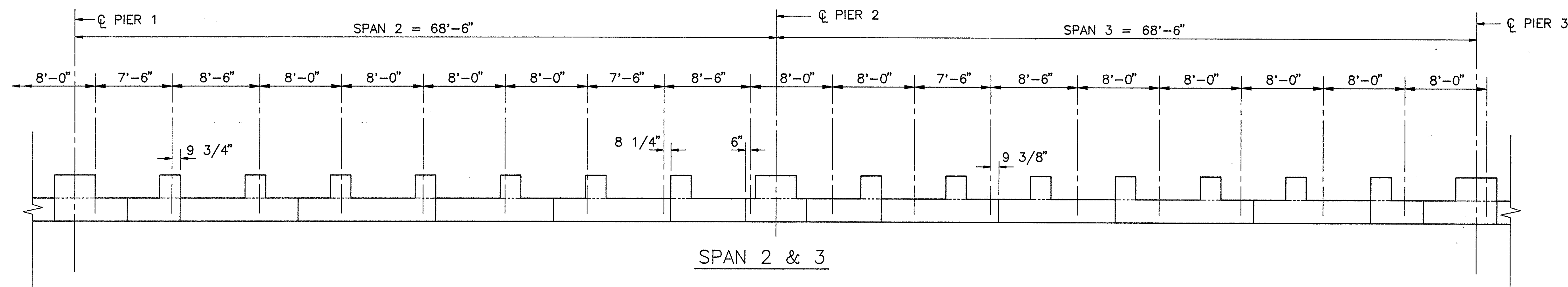
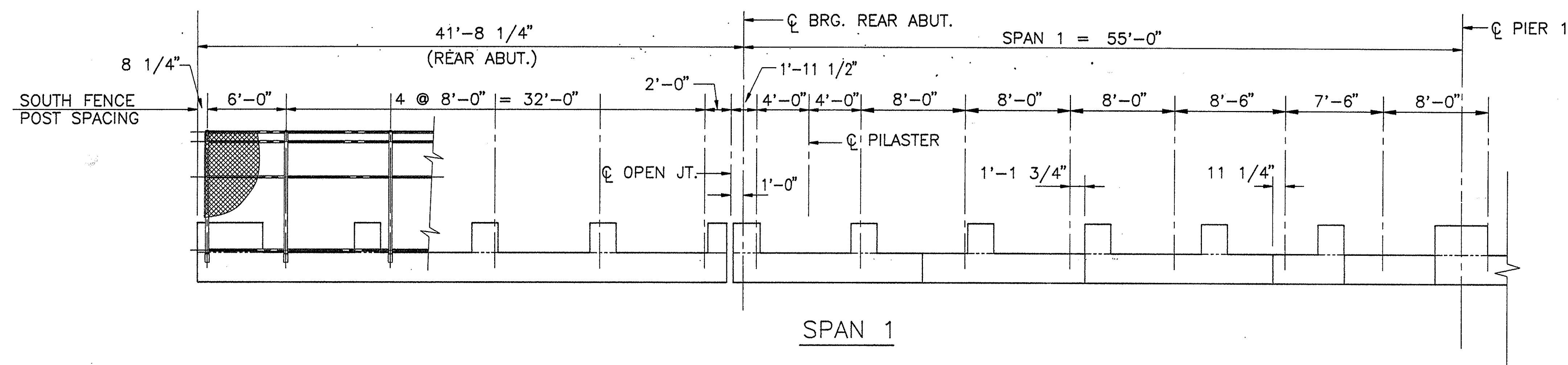
** SUBSTRUCTURE SKEWS: PIERS 5, 6, 7, & 8 AND FORWARD ABUTMENT = 6° 45'

SEE SH'T. 1/20 FOR SCUPPER LOCATION.

REVISED 4-22-91



CALC. BY DATE	STA. 172-6.27 CITY OF MASSILLON	OHIO FHWA REGION 5	29A 33
CHKD. BY DATE			
FEDERAL PROJECT	STATE PROJECT		

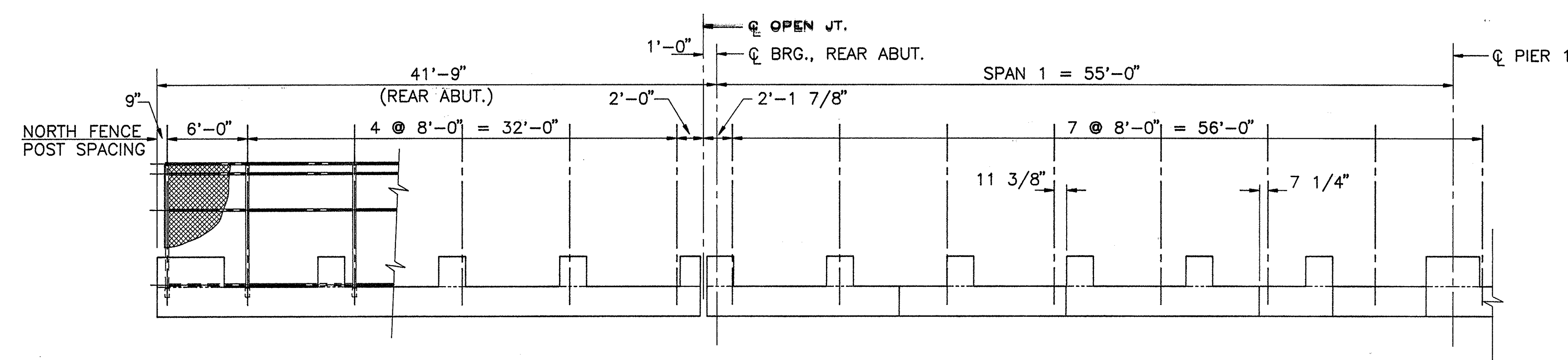


UNIT 1 - SOUTH FENCE ELEVATION (LOOKING NORTH)

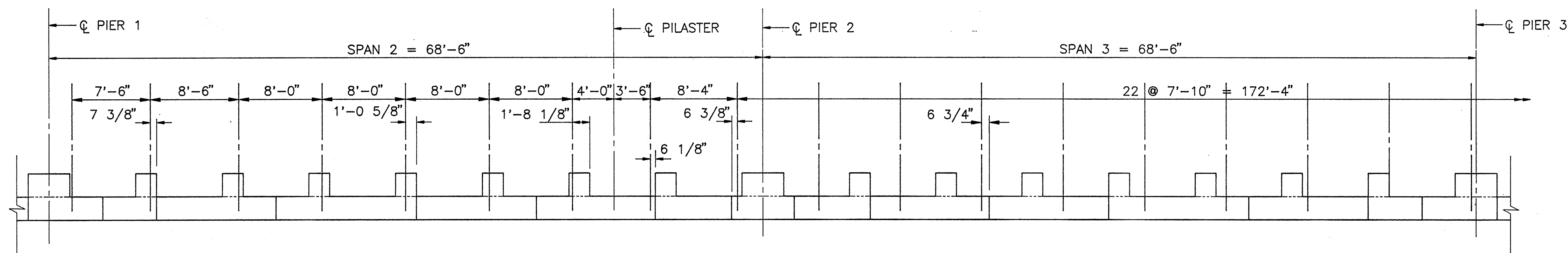
NOTE: FOR FENCE DETAILS REFER TO SHEET 17C/20.

MOSURE AND SYRAKIS CO. YOUNGSTOWN, OHIO			
SOUTH FENCE ELEVATION - UNIT 1			
REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21 STARK COUNTY OHIO			
DESIGNED	DRAWN	CALC.	CHECKED
A.C.	R.M.	A.C.	W.H.
1-91	1-91	1-91	2-91

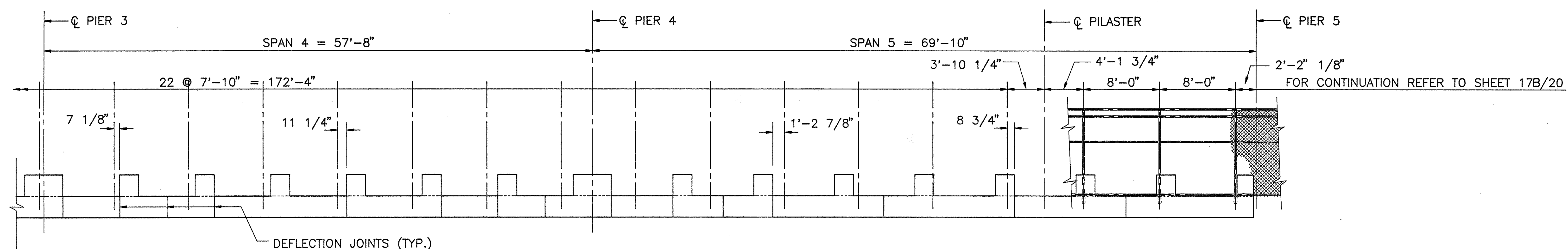
REVISED 4-22-91



SPAN 1



SPANS 2 & 3



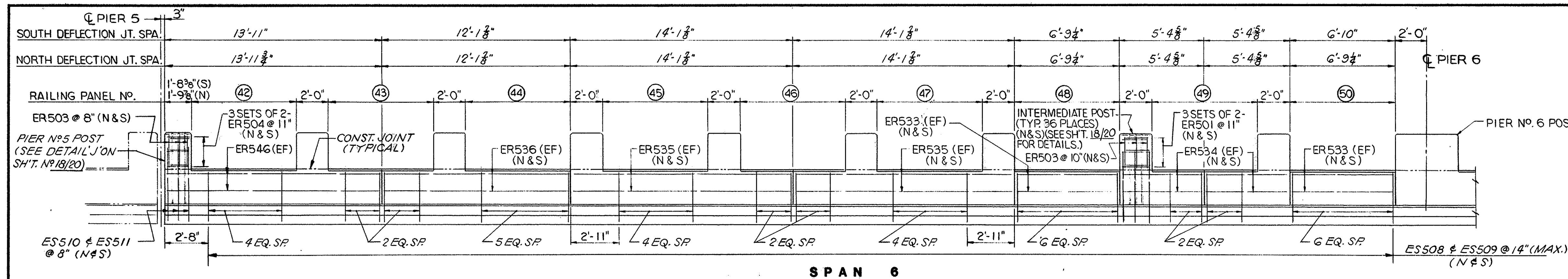
SPANS 4 & 5

UNIT 1 - NORTH FENCE ELEVATION (LOOKING NORTH)

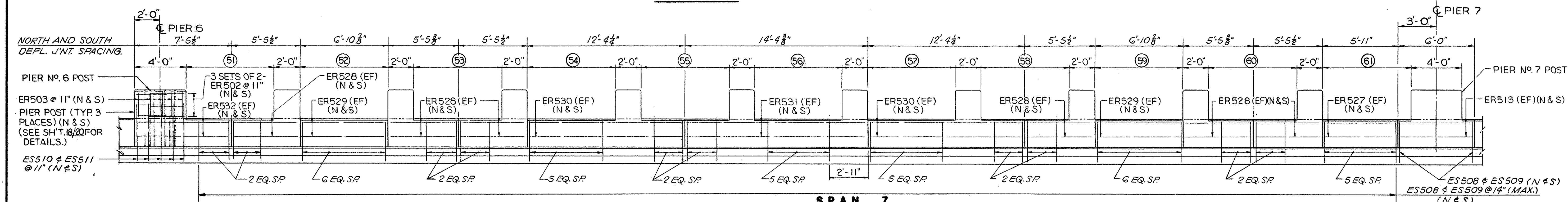
NOTE: FOR FENCE DETAILS REFER TO SHEET 17C/20.

MOORE AND SYRAKIS CO. YOUNGSTOWN, OHIO				16B/20
NORTH FENCE ELEVATION - UNIT 1				
REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21 STARK COUNTY OHIO				
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
A.C.	R.M.	A.C.	W.H.	
1-91	2-91	2-91	2-91	

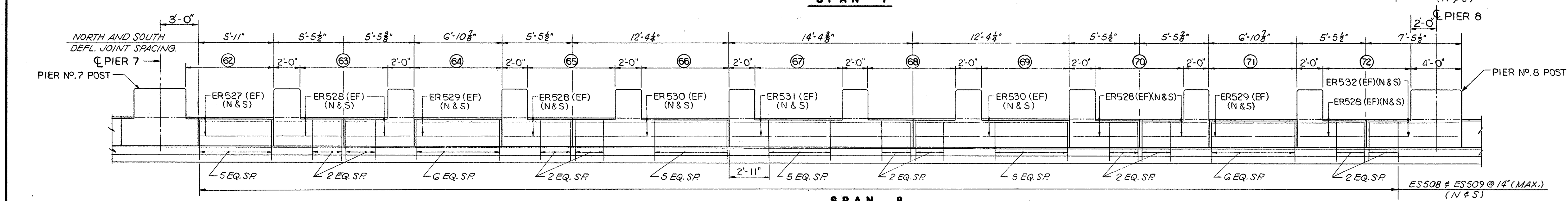
REVISED 4-22-91



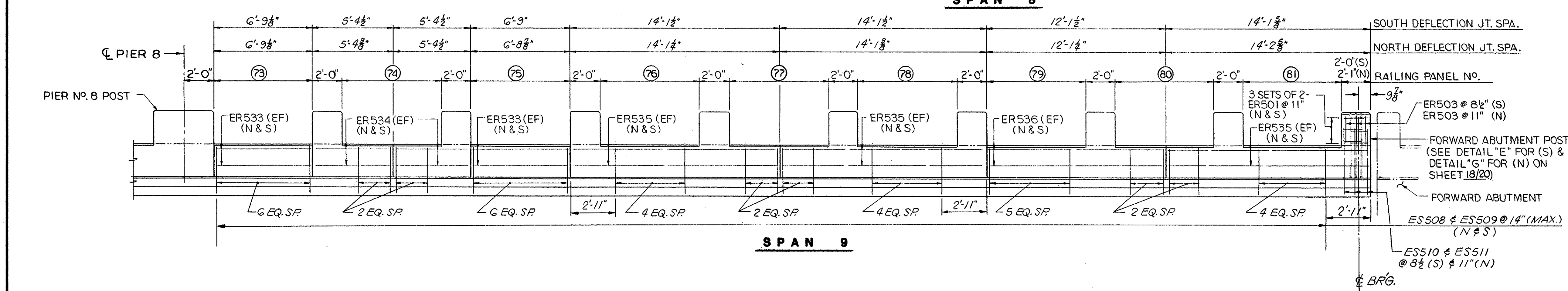
SPAN 6



SPAN 7



SPAN 8



SPAN 9

UNIT 2 - RAILING ELEVATION
(SOUTH RAILING ELEVATION SHOWN)
(NORTH RAILING ELEVATION, OPPOSITE HAND)

FHWA REGION	STATE	PROJECT	30
5	OHIO		33

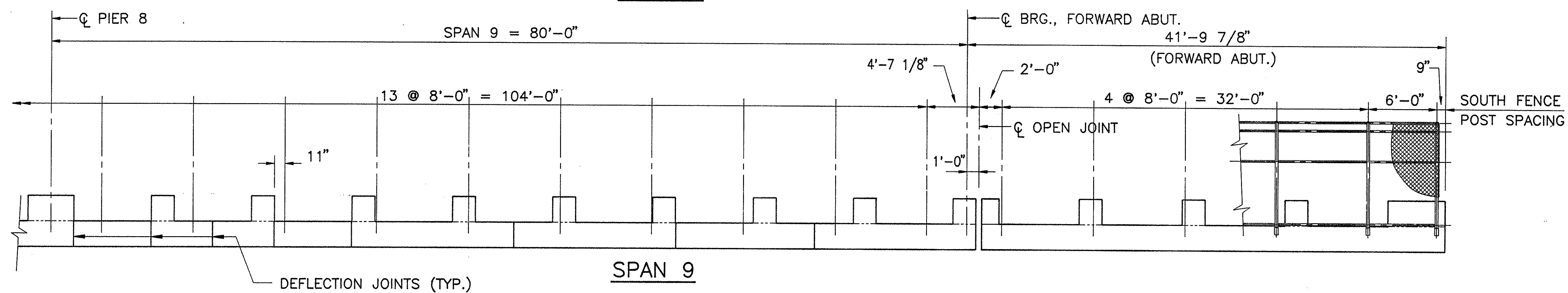
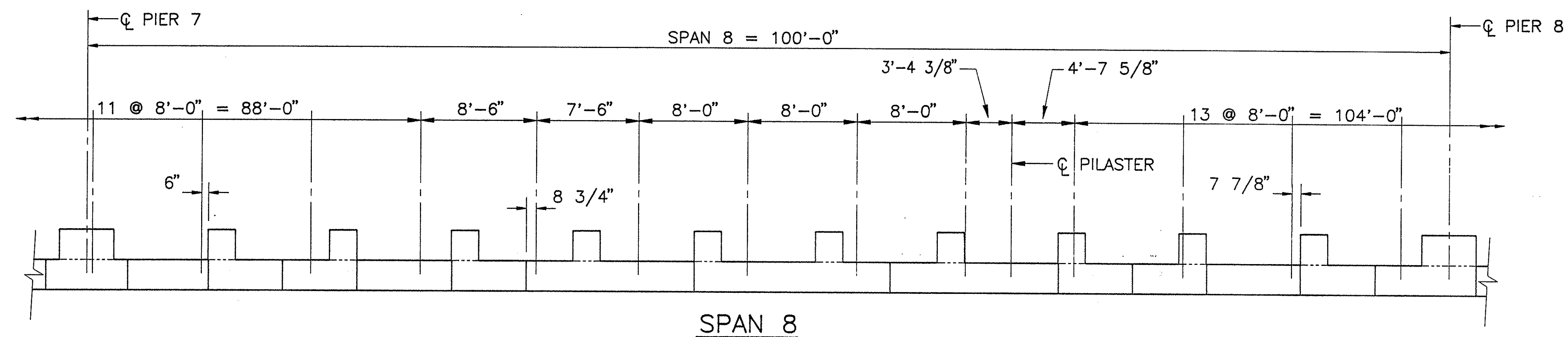
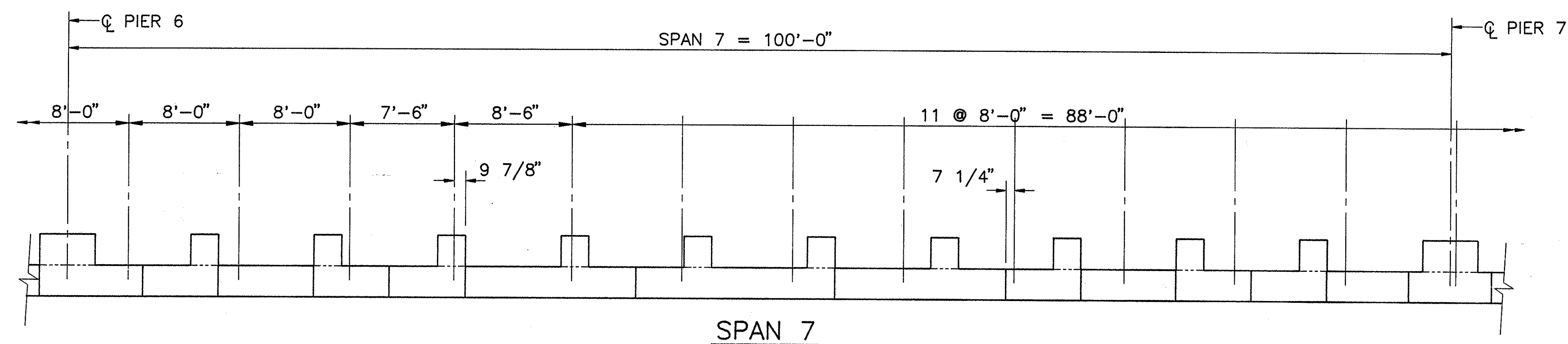
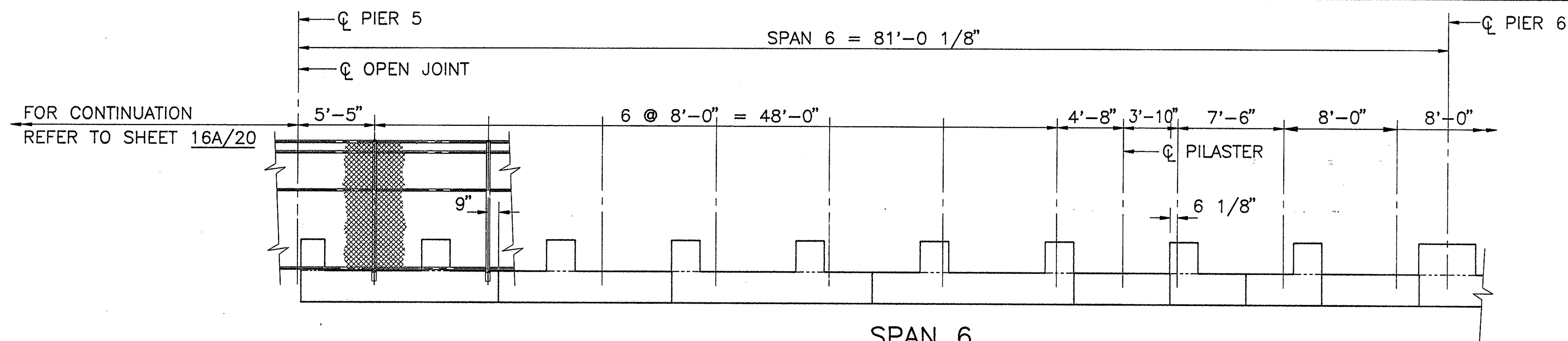
STA 172-6.27
CITY OF MASSILLON

NOTE:
THE LEGEND AND NOTES ON
SHEET 16/20 ARE APPLICABLE
TO THIS SHEET ALSO.

PROTECTIVE FENCING NOT SHOWN-SEE
SHEETS 17A/20 & 17B/20 FOR LOCATION
OF POSTS AND SHEET 17C/20 FOR
DETAILS.

MOSURE AND SYRAKIS CO., LTD.				
CONSULTING ENGINEERS AND PLANNERS YOUNGSTOWN, OHIO				
RAILING ELEVATION, RAILING REINF., & DEFLECTION JT. SPA. - UNIT 2				
REHABILITATION BRIDGE STA-172-6.27				
LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21				
STARK COUNTY OHIO				
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
DP	AM	MF	WH	
8/85	8/85	3/86	2/87	

REVISED 4-22-91
REV. 2-91



UNIT 2 - SOUTH FENCE ELEVATION (LOOKING NORTH)

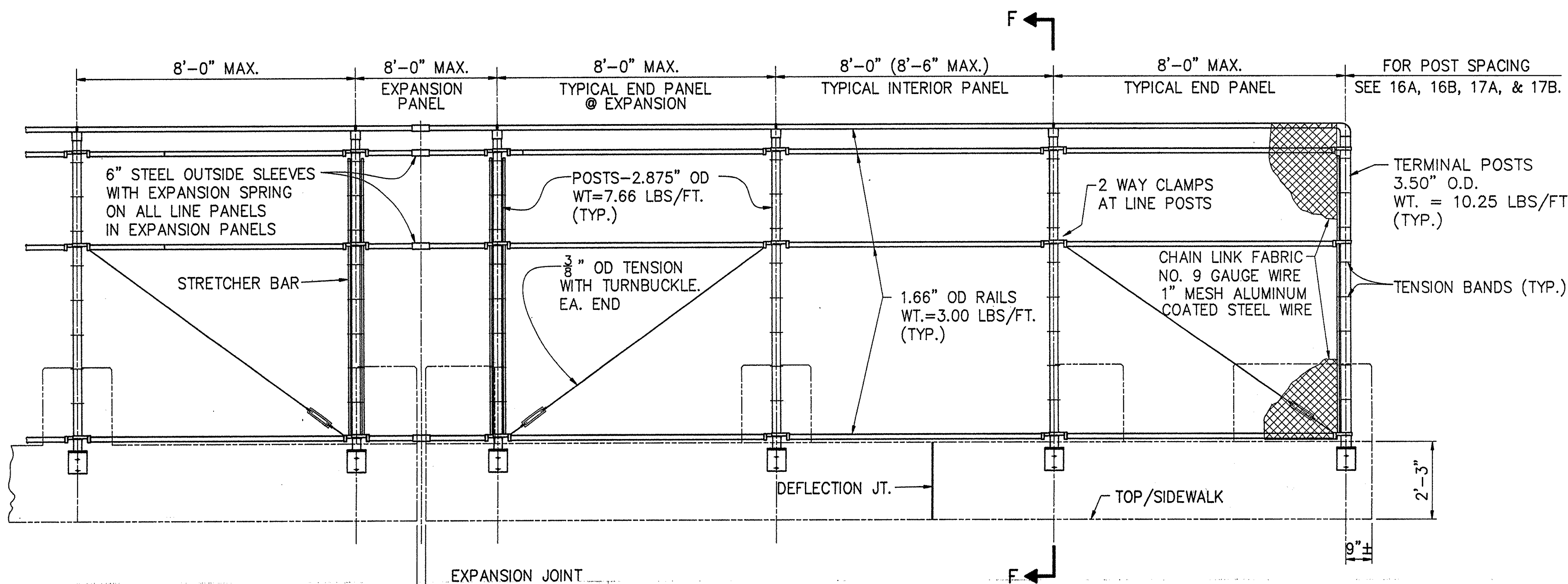
CALC. BY: _____ DATE: _____ CHKD. BY: _____ DATE: _____ FEDERAL PROJECT: _____	STA. 172-6.27 CITY OF MASSILLON OHIO FHWA REGION 5 STATE PROJECT: _____	30A 33
--------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	-----------

MOSURE AND SYRAKIS CO. YOUNGSTOWN, OHIO				
SOUTH FENCE ELEVATION - UNIT 2 REHABILITATION BRIDGE STA-172-6.27 LINCOLNWAY VIADUCT OVER B&O, CONRAIL AND N&W R.R., TUSCARAWAS RIVER AND SR 21 STARK COUNTY OHIO				
DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
A.C.	R.M.	A.C.	W.H.	
1-91	1-91	1-91	2-91	

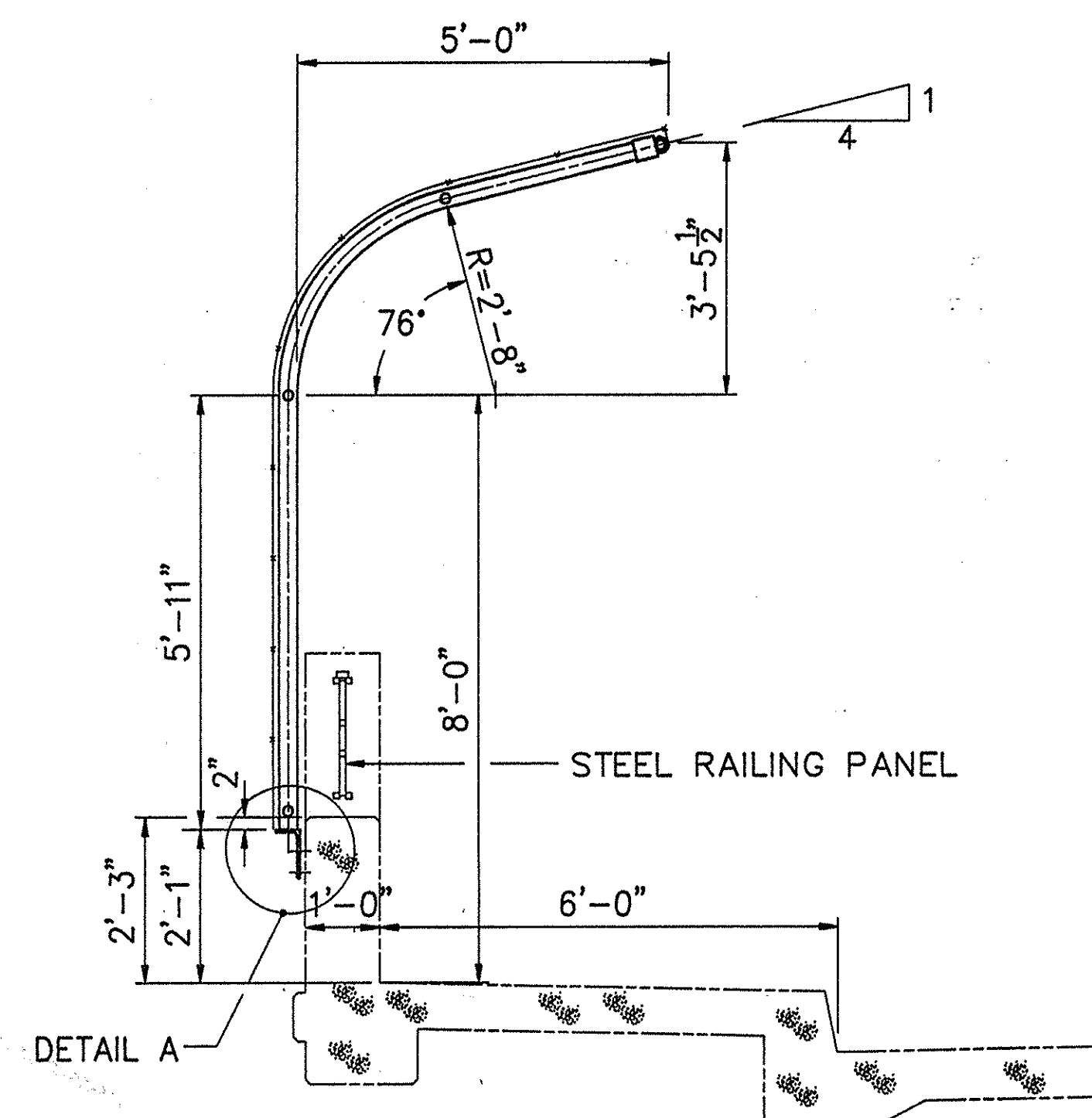
NOTE: FOR FENCE DETAILS REFER TO
SHEET 17C/20.

REVISED 4-22-91

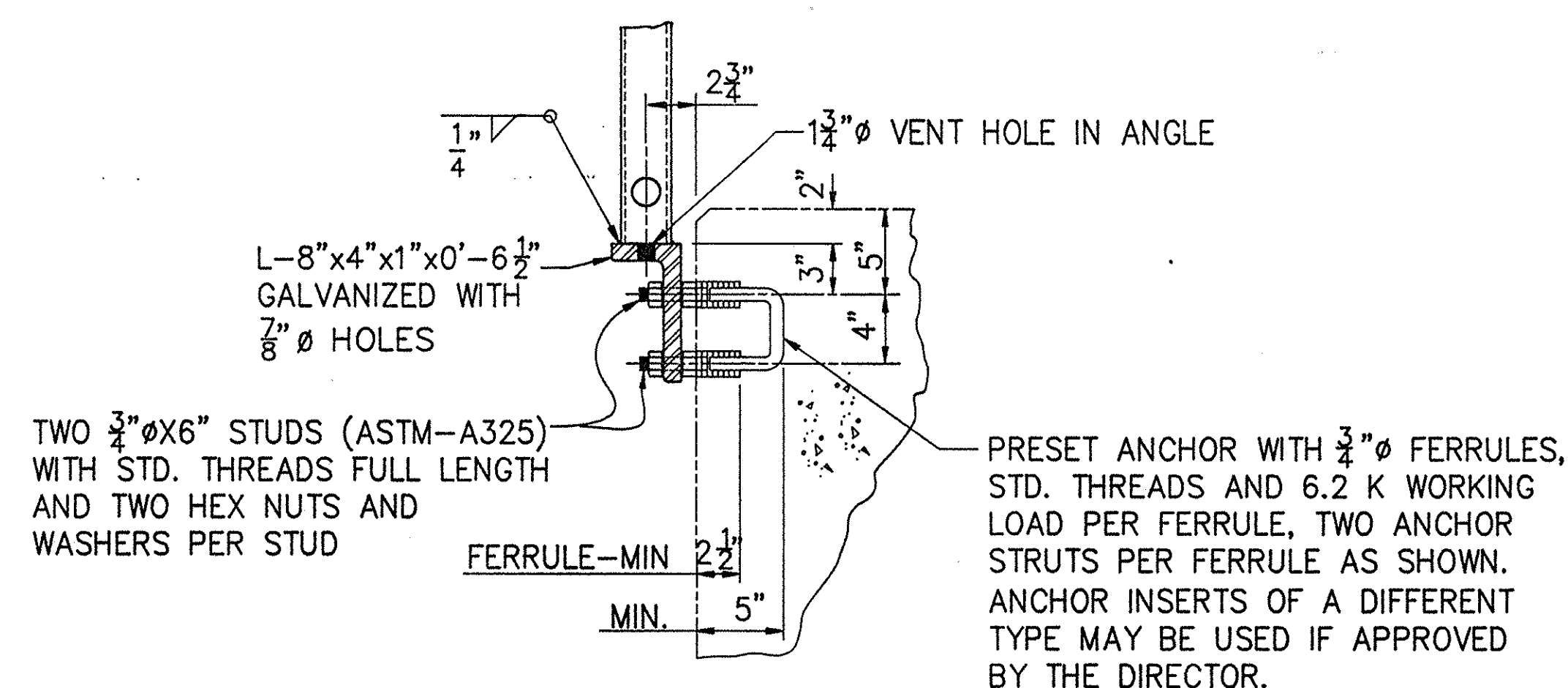
CALC. BY DATE	STA. 172-6.27 CITY OF MASSILLON	OHIO FHWA REGION 5	30C 33
CHKD. BY DATE			
FEDERAL PROJECT	STATE PROJECT		



GENERAL ELEVATION
STEEL RAILING PANELS NOT SHOWN



SECTION F-F



DETAIL A

NOTES:

ITEM 607 - FENCE, TYPE CL. AS PER PLAN:

THIS ITEM INCLUDES THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE FENCING. TENSION BANDS SHALL BE A MINIMUM OF 12 GAUGE STEEL BY 7/8 INCHES WIDE ASSEMBLED WITH 5/16 INCH DIAMETER BY 1 1/4 INCH GALVANIZED OR CADMIUM PLATED BOLTS. ONE TENSION BAND SHALL BE REQUIRED FOR EACH FOOT OF FABRIC HEIGHT. FIELD WELDING SHALL NOT BE PERMITTED. FENCE POSTS AND ANCHOR BOLTS SHALL BE TRULY VERTICAL. RAILS SHALL BE PARALLEL TO GRADE. THE FABRIC AND RAILS SHALL BE FREE TO EXPAND OR CONTRACT ACROSS BRIDGE EXPANSION JOINTS. MATERIALS AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF ITEM 607 EXCEPT THAT ALUMINUM ALLOY POSTS AND BASE PLATES SHALL NOT BE USED. FABRIC TIES SHALL BE SPACED 14 INCH C/C MAXIMUM ON LINE POSTS AND 24 INCH C/C MAXIMUM ON ALL RAILS. ALL POSTS AND PIPE SIZES ARE NOTED ON THE PLANS. SPRING LOADED TOP RAIL EXPANSION SLEEVES SHALL BE PROVIDED AT APPROXIMATELY 100 FOOT INTERVALS IN ALL HORIZONTAL RAILS MORE THAN FOUR FEET ABOVE THE POST BASES. STRETCHER BARS AND MISCELLANEOUS HARDWARE SHALL BE THAT OF THE CHAIN LINK FENCE INDUSTRY STANDARD. BRACKETS FOR STEEL POSTS MAY BE OF ANY COMMERCIAL WELDABLE STEEL HAVING A YIELD STRENGTH OF NOT LESS THAN 36,000 P.S.I.

MATERIALS:

FABRIC SHALL BE 1" MESH WOVEN FROM NO. 9 GAUGE, ALUMINUM COATED STEEL WIRE CONFORMING TO A.A.S.H.T.O. M181, TYPE II. THE ENDS OF THE FABRIC SHALL BE KNUCKLED SELVAGE AT THE TOP AND BOTTOM.

SCREENING INSTRUCTIONS:

LINE POST RAILS SHALL BE INSTALLED AS PER PLAN AND CHAIN LINK FABRIC SHALL BE STRETCHED AND SECURELY FASTENED TO TERMINAL AND LINE POSTS IN ACCORDANCE WITH PLAN DETAILS. GALVANIZED TIES SHALL BE USED FOR FASTENING FABRIC TO LINE POSTS AT 14" CENTERS AND STRETCHER BAR BANDS 1/8" X 1" FLAT AT 14" CENTERS SHALL BE USED FOR FASTENERS AT TERMINAL POSTS. ALL WORK TO CONFORM WITH ITEM 607 FENCE, TYPE CL, OF O.D.O.T. SPECIFICATIONS EXCEPT AS NOTED ON DETAIL PLAN.

MOSURE AND SYRAKIS CO.
YOUNGSTOWN, OHIO

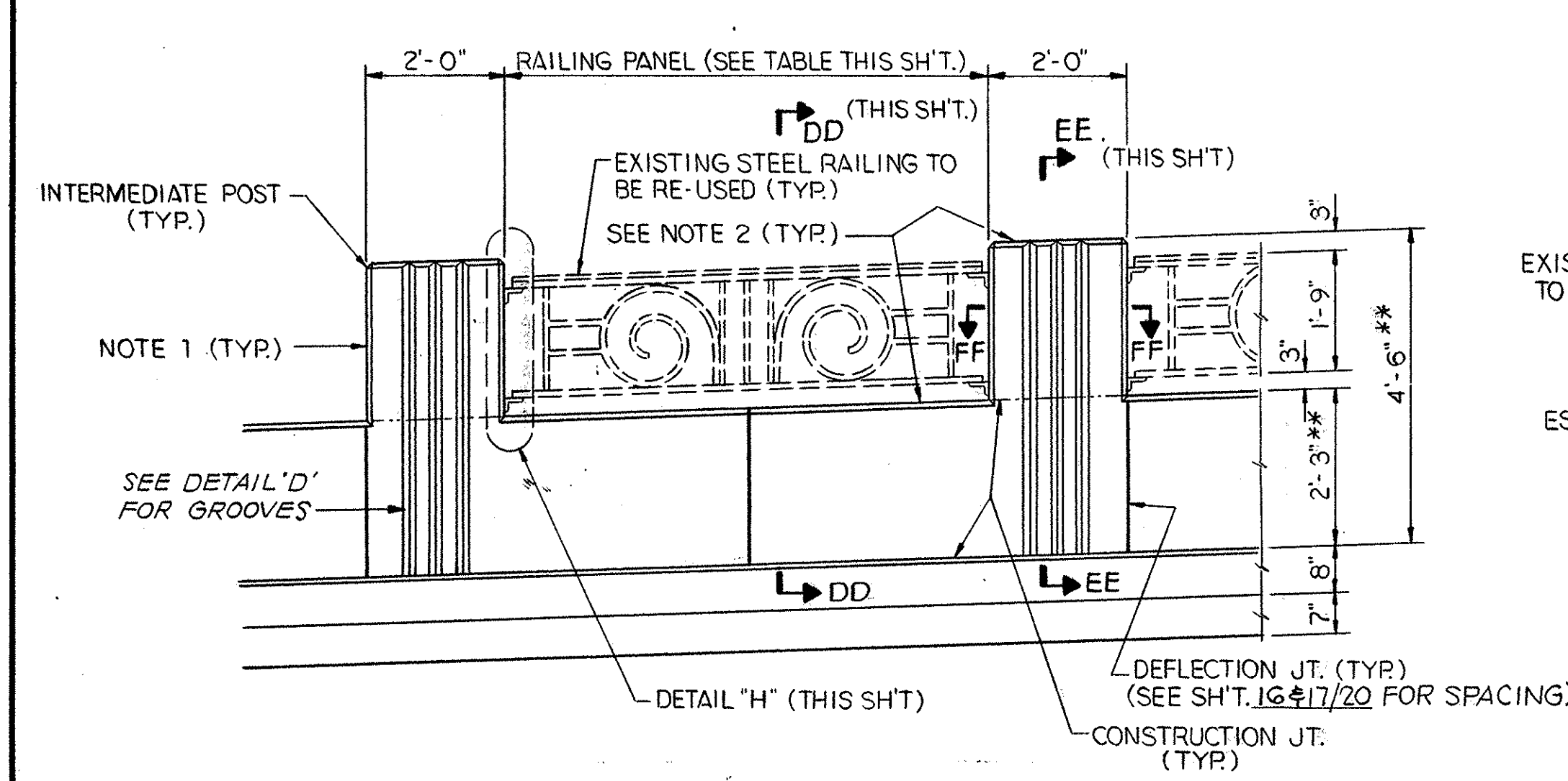
FENCE DETAILS

REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
A.C.	E.K.	A.C.	W.H.	
2-91	2-91	2-91	2-91	

REVISED 4-22-91

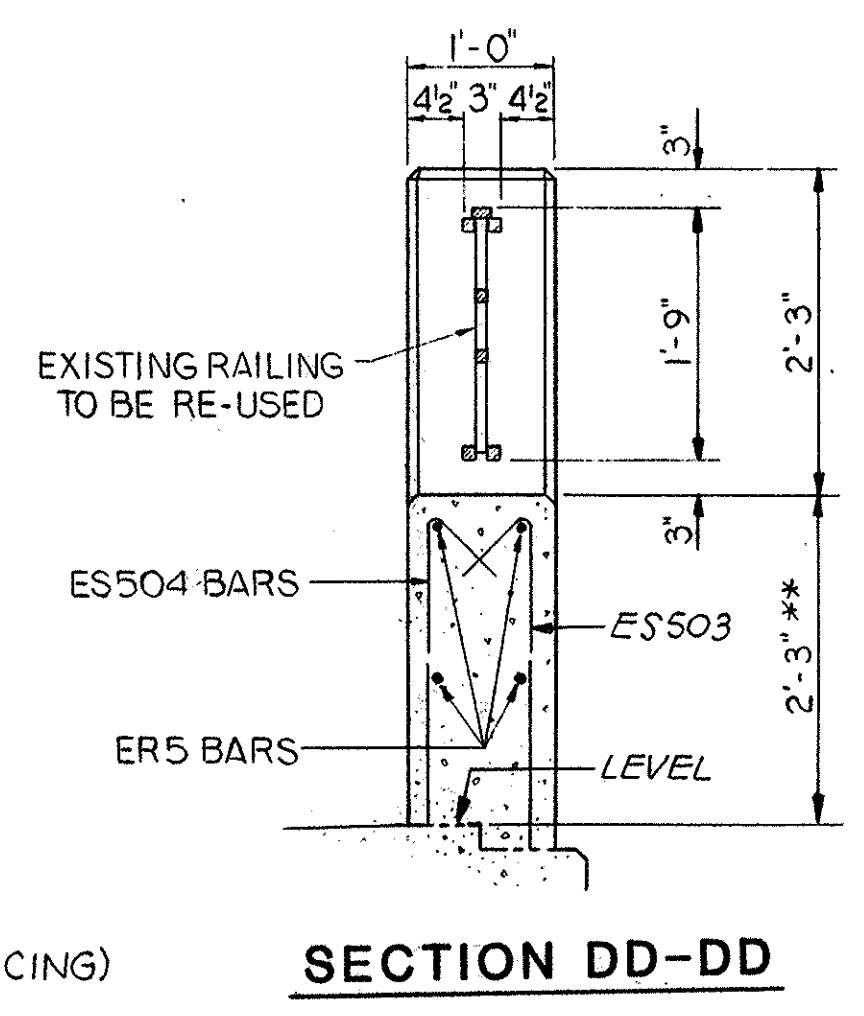
STA 172-6.27
CITY OF MASSILLON



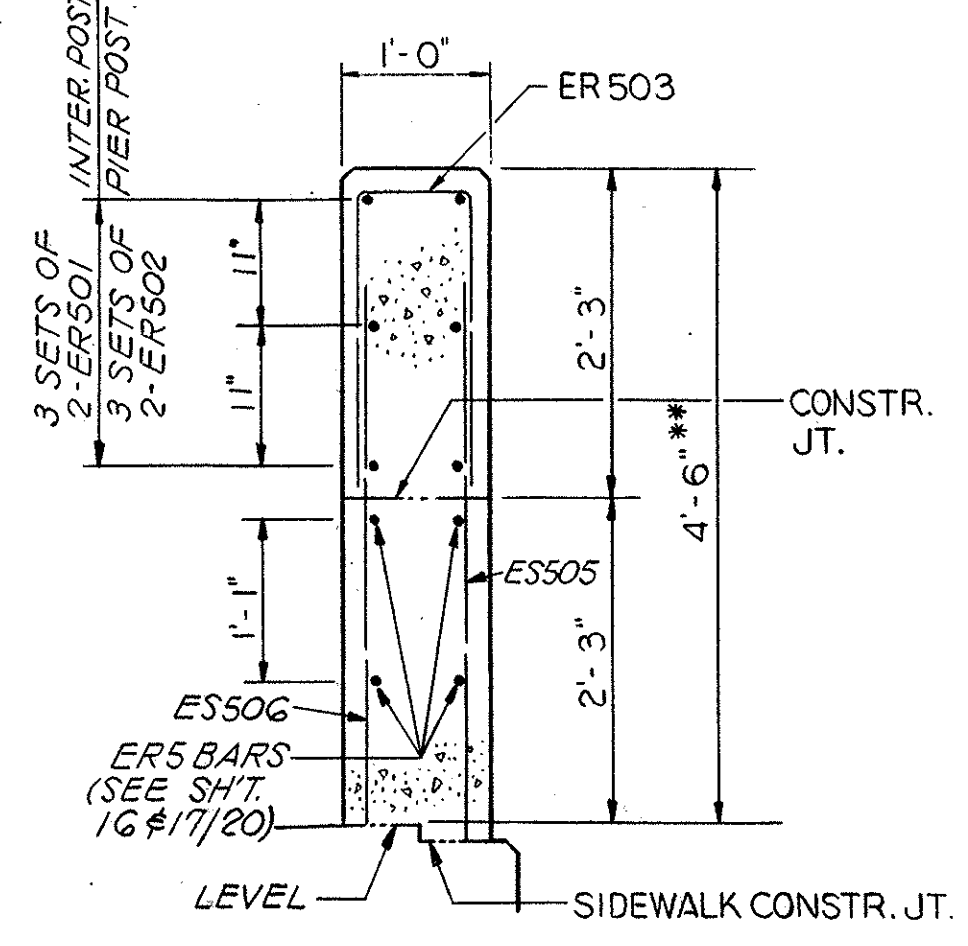
TYPICAL RAILING PANEL

** MEASURED ON INSIDE FACE.

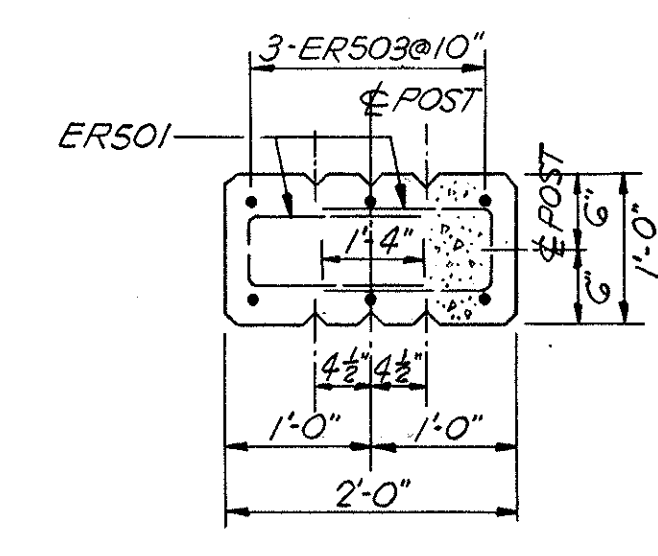
SPAN	RAILING PANEL TABLE		SOUTH SIDE	
	NORTH SIDE			
	PANEL LENGTH	PANEL NO.	PANEL LENGTH	PANEL NO.
REAR ABUTMENT	7'-0"	1 THRU 4	7'-0"	1 THRU 4
SPAN 1	6'-11 $\frac{3}{8}$ "	5	6'-11 $\frac{1}{2}$ "	5
SPAN 1	6'-11 $\frac{3}{8}$ "	6 THRU 9	6'-11 $\frac{3}{8}$ "	6 THRU 9
SPAN 1	6'-11 $\frac{3}{8}$ "	10	6'-11 $\frac{1}{2}$ "	10
SPAN 2	6'-3 $\frac{3}{4}$ "	11 & 18	6'-3 $\frac{3}{4}$ "	11 & 18
SPAN 2	6'-3 $\frac{3}{4}$ "	12 THRU 17	6'-3 $\frac{3}{4}$ "	12 THRU 17
SPAN 3	6'-3 $\frac{3}{4}$ "	19 & 26	6'-3 $\frac{3}{4}$ "	19 & 26
SPAN 3	6'-3 $\frac{3}{4}$ "	20 THRU 25	6'-3 $\frac{3}{4}$ "	20 THRU 25
SPAN 4	5'-11 $\frac{1}{2}$ "	27	6'-2 $\frac{1}{4}$ "	27
SPAN 4	5'-11 $\frac{3}{8}$ "	28 THRU 32	6'-2 $\frac{1}{8}$ "	28 THRU 32
SPAN 4	5'-11 $\frac{1}{2}$ "	33	6'-2 $\frac{1}{4}$ "	33
SPAN 5	6'-5 $\frac{3}{4}$ "	34 & 41	6'-5 $\frac{1}{2}$ "	34 & 41
SPAN 5	6'-5 $\frac{3}{4}$ "	35 THRU 40	6'-5 $\frac{3}{4}$ "	35 THRU 40
SPAN 6	6'-9 $\frac{1}{4}$ "	42 & 50	6'-10"	42 & 50
SPAN 6	6'-9 $\frac{1}{4}$ "	43 THRU 49	6'-9 $\frac{1}{4}$ "	43 THRU 49
SPAN 7	6'-11"	51 & 61	6'-11"	51 & 61
SPAN 7	6'-10 $\frac{3}{8}$ "	52 THRU 60	6'-10 $\frac{3}{8}$ "	52 THRU 60
SPAN 8	6'-11"	62 & 72	6'-11"	62 & 72
SPAN 8	6'-10 $\frac{3}{8}$ "	63 THRU 71	6'-10 $\frac{3}{8}$ "	63 THRU 71
SPAN 9	6'-9 $\frac{3}{8}$ "	73	6'-9 $\frac{3}{8}$ "	73
SPAN 9	6'-8 $\frac{3}{8}$ "	74 THRU 80	6'-9"	74 THRU 80
SPAN 9	6'-9 $\frac{3}{8}$ "	81	6'-9 $\frac{3}{8}$ "	81
FORWARD ABUTMENT	7'-0"	82 THRU 85	7'-0"	82 THRU 85



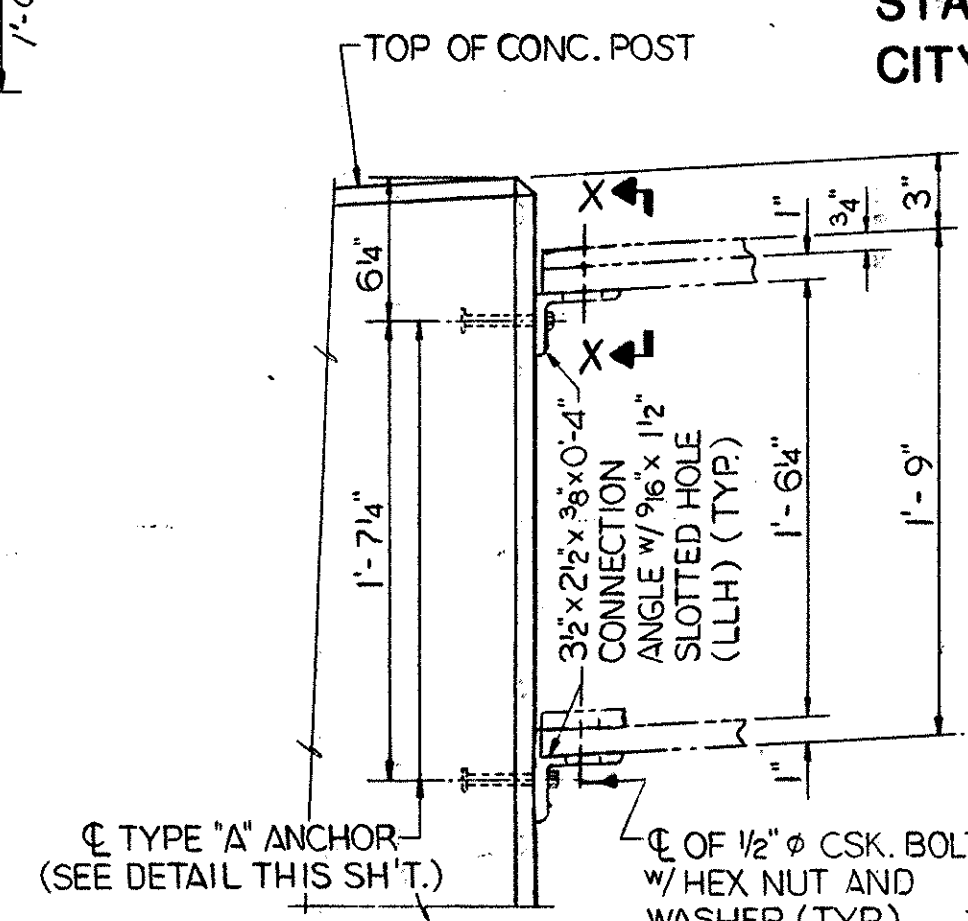
SECTION DD-DD



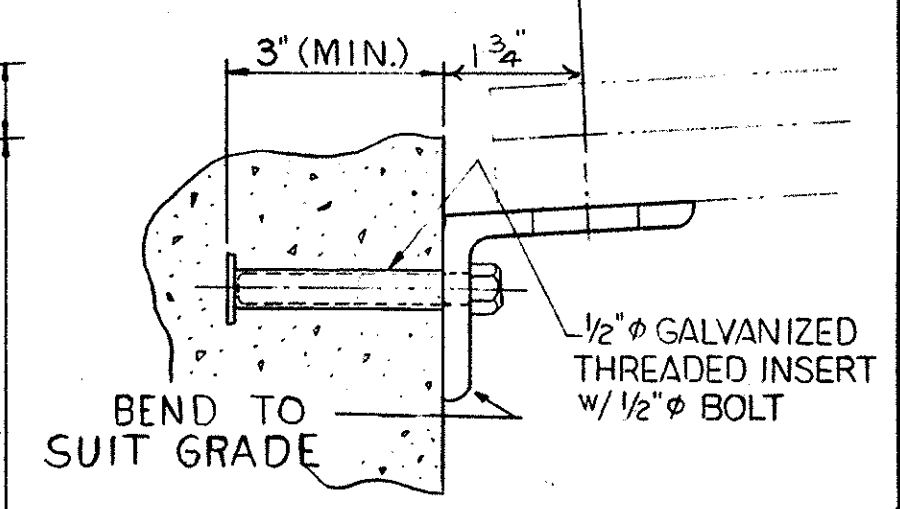
SECTION EE-EE



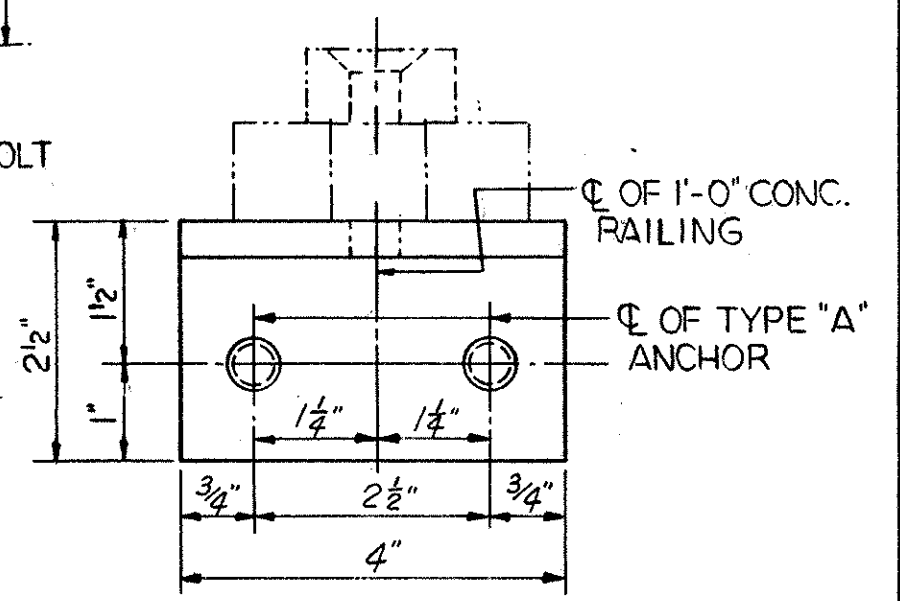
SECTION FF-FF



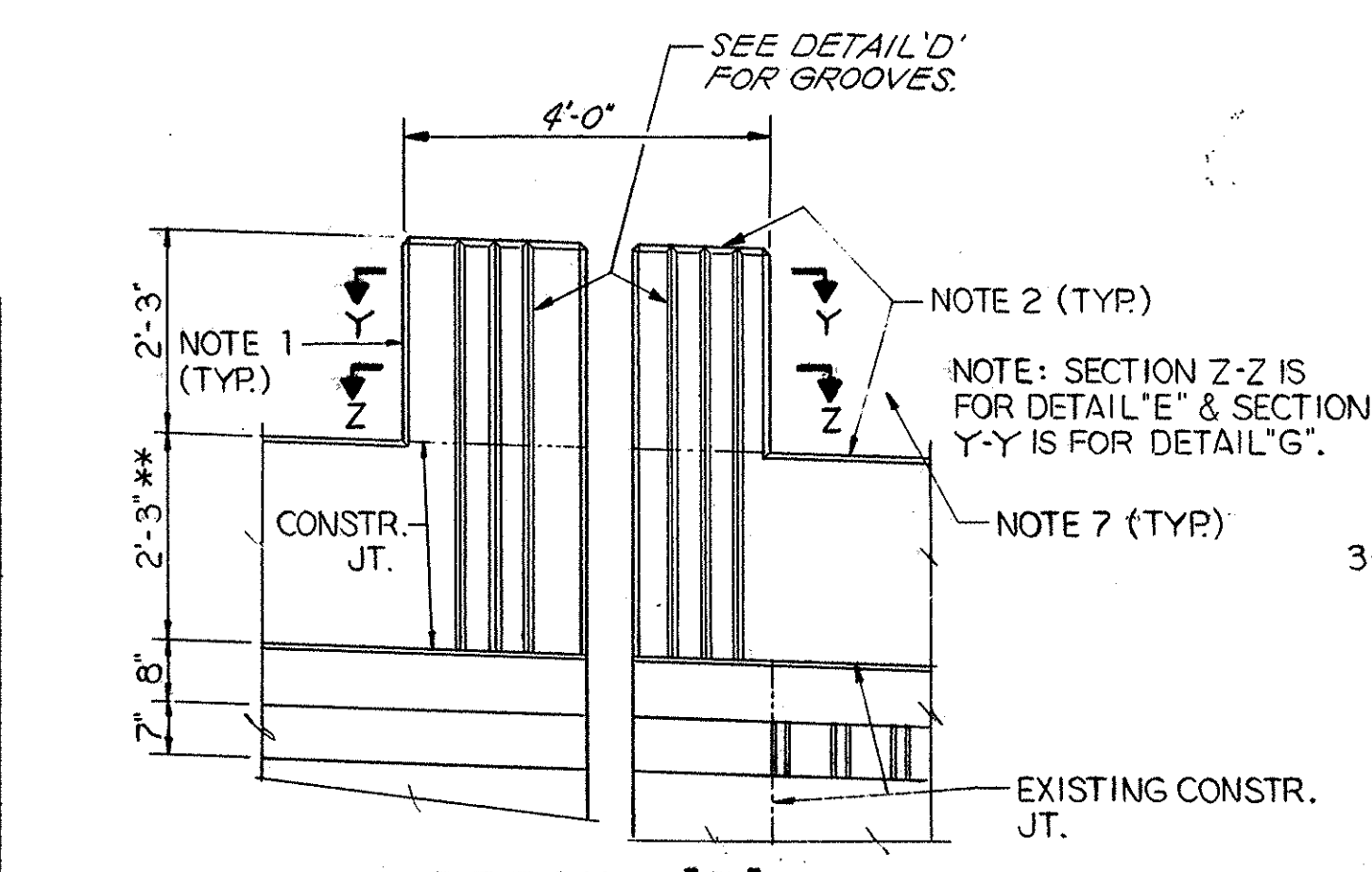
DETAIL 'H'



TYPE 'A' ANCHOR DETAIL

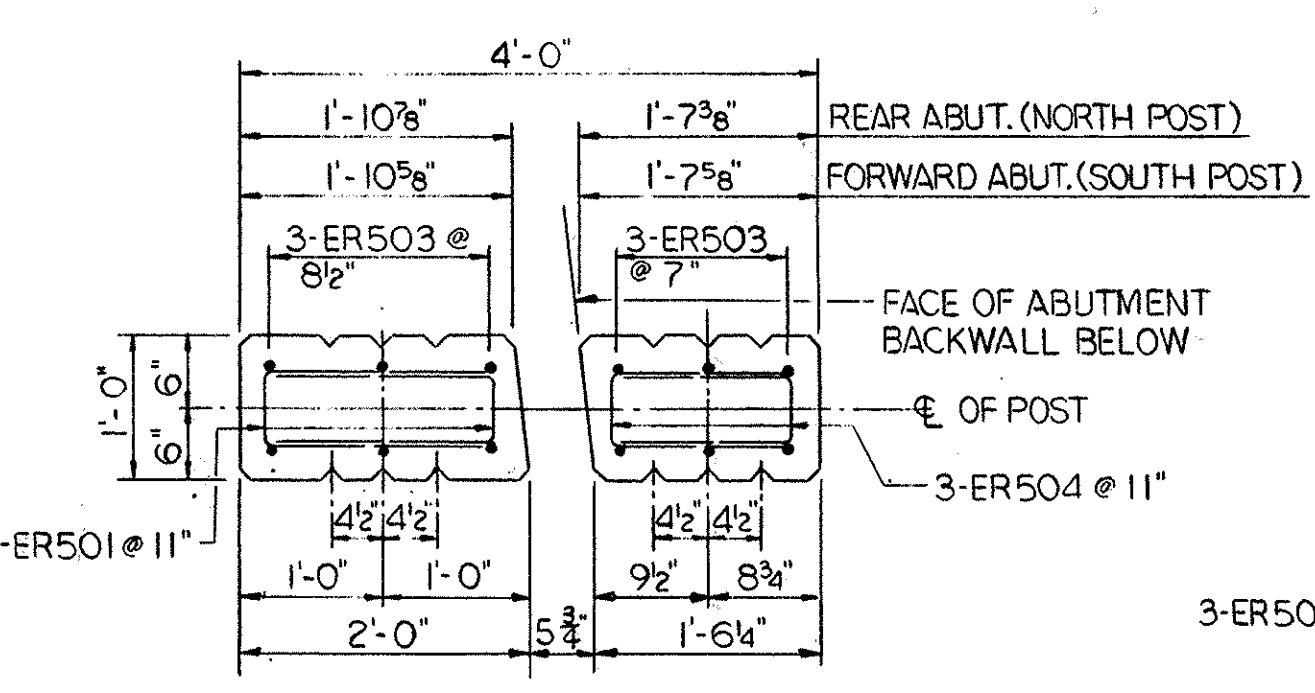


SECTION X-X

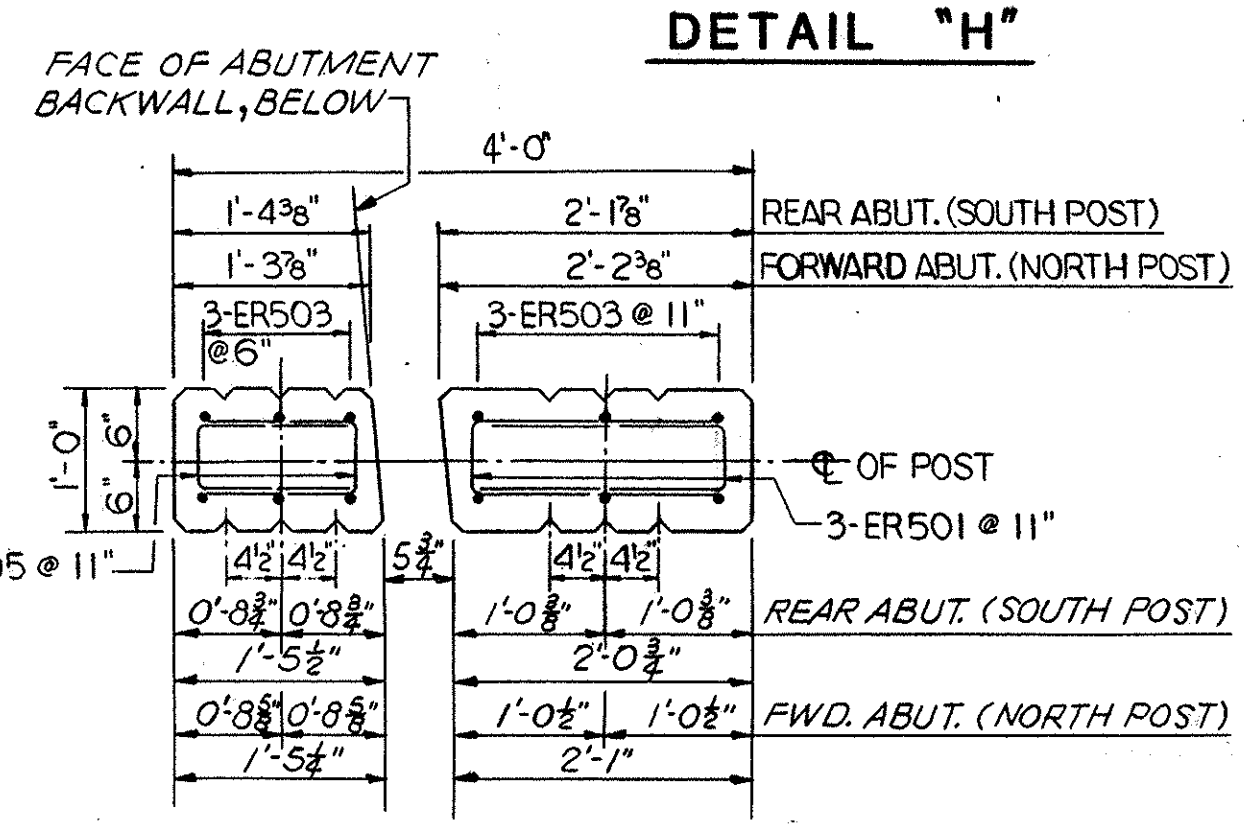


DETAIL 'E'

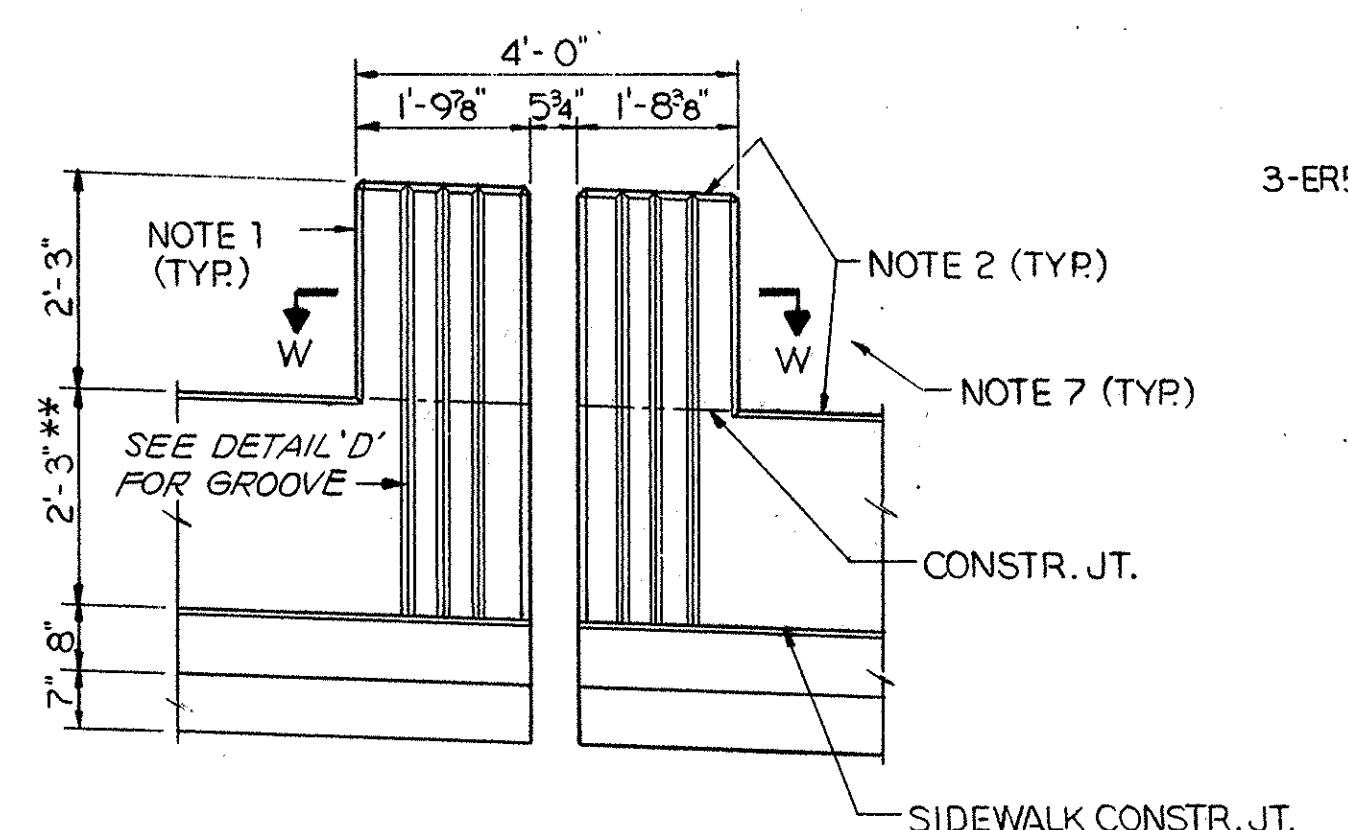
DETAIL 'G' OPPOSITE HAND AND AS NOTED



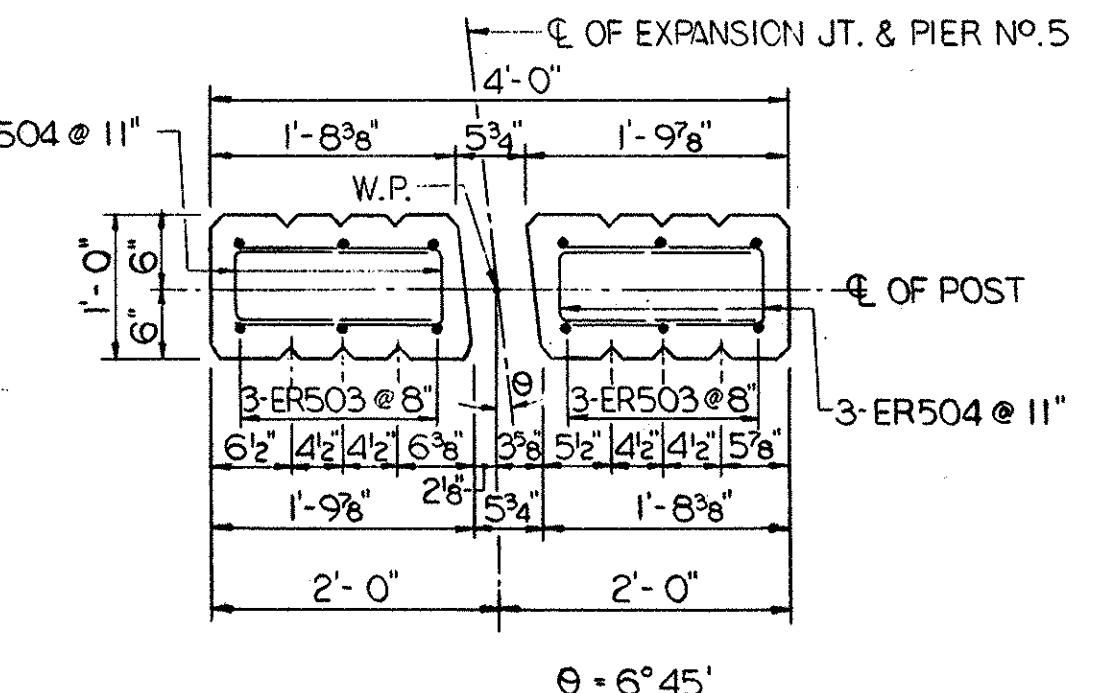
SECTION Z-Z



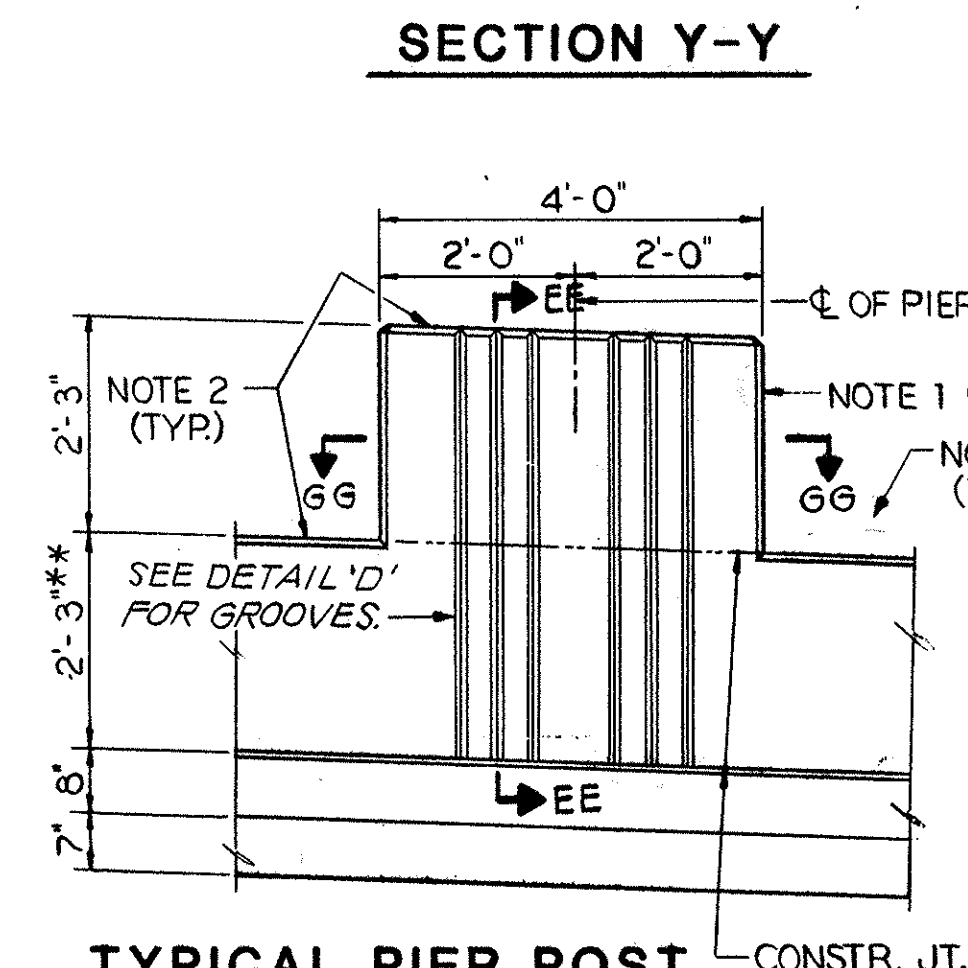
SECTION Y-Y



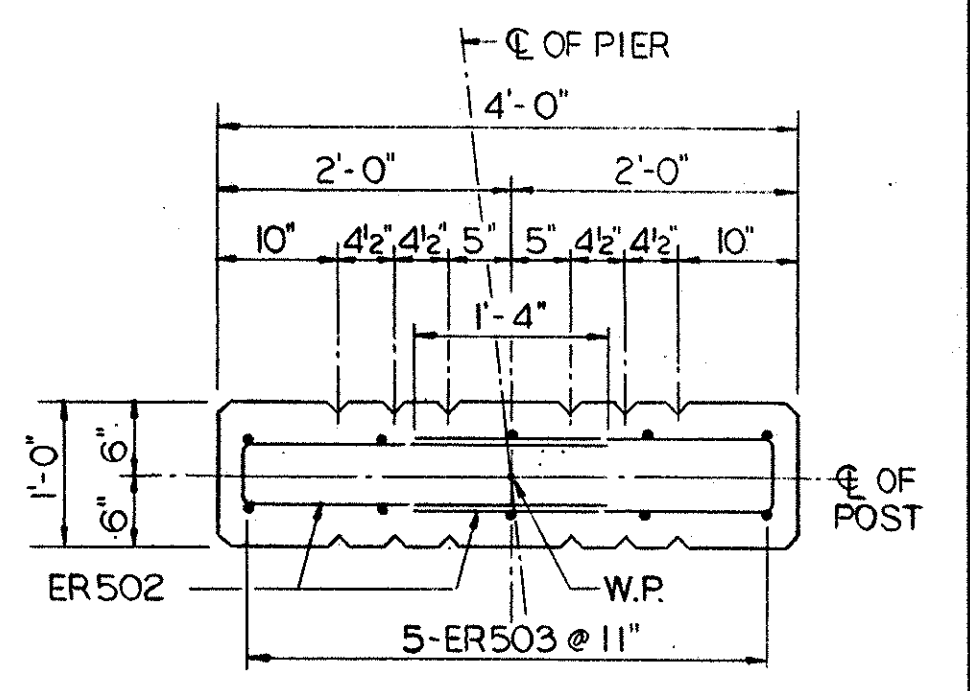
DETAIL 'J'



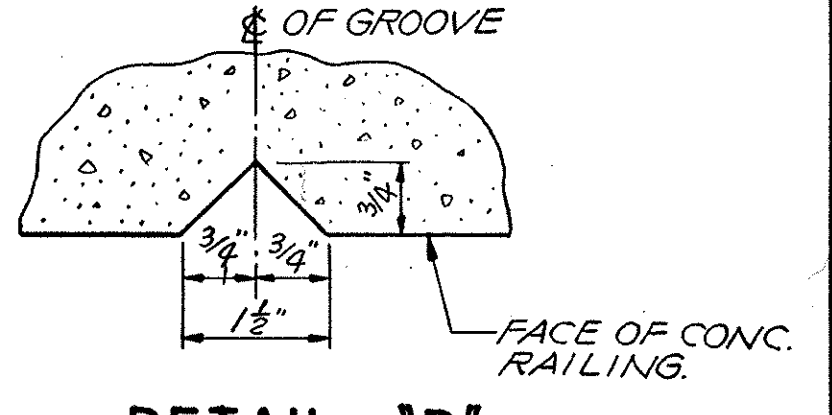
SECTION W-W



TYPICAL PIER POST

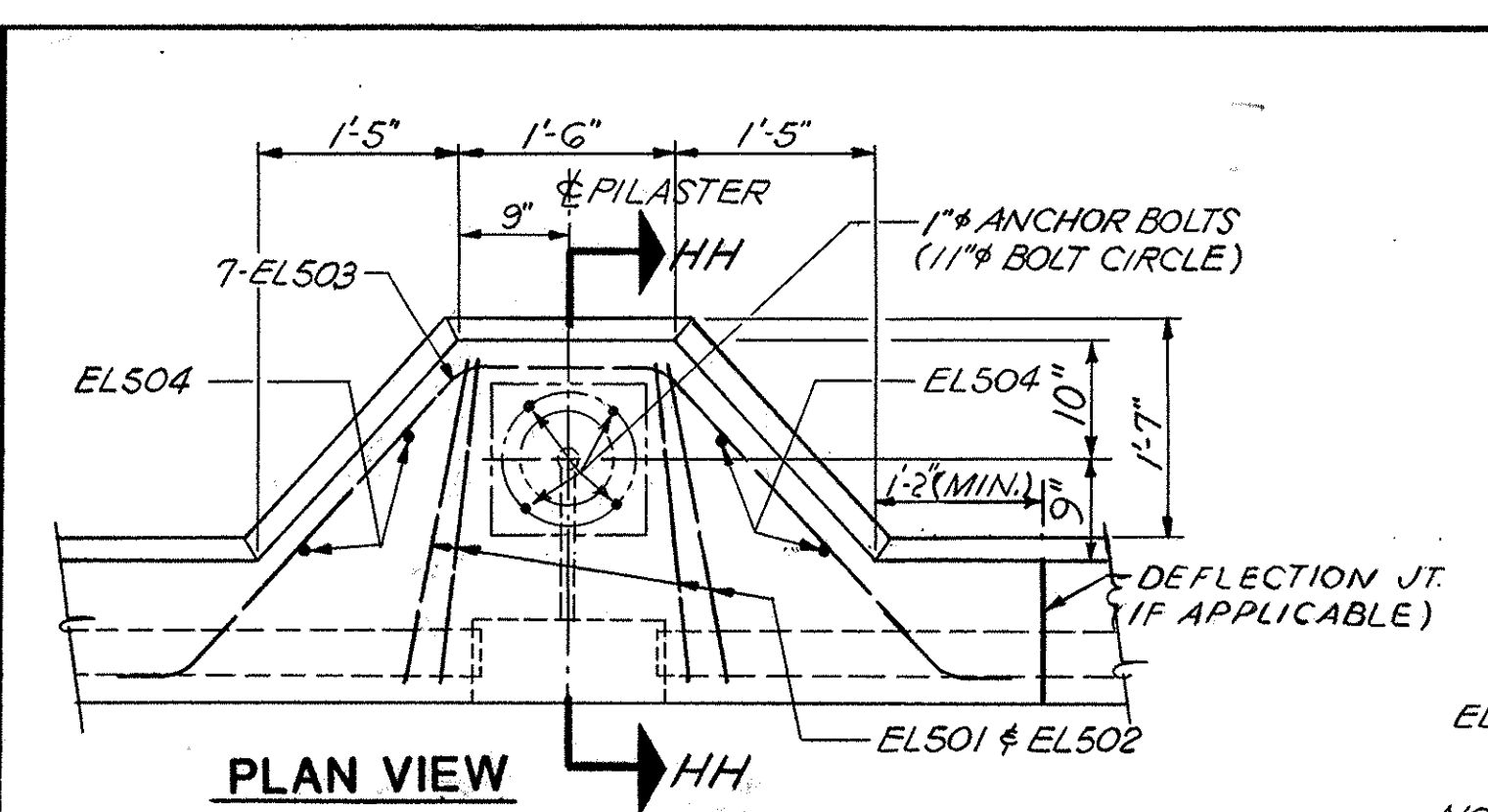


SECTION GG-GG



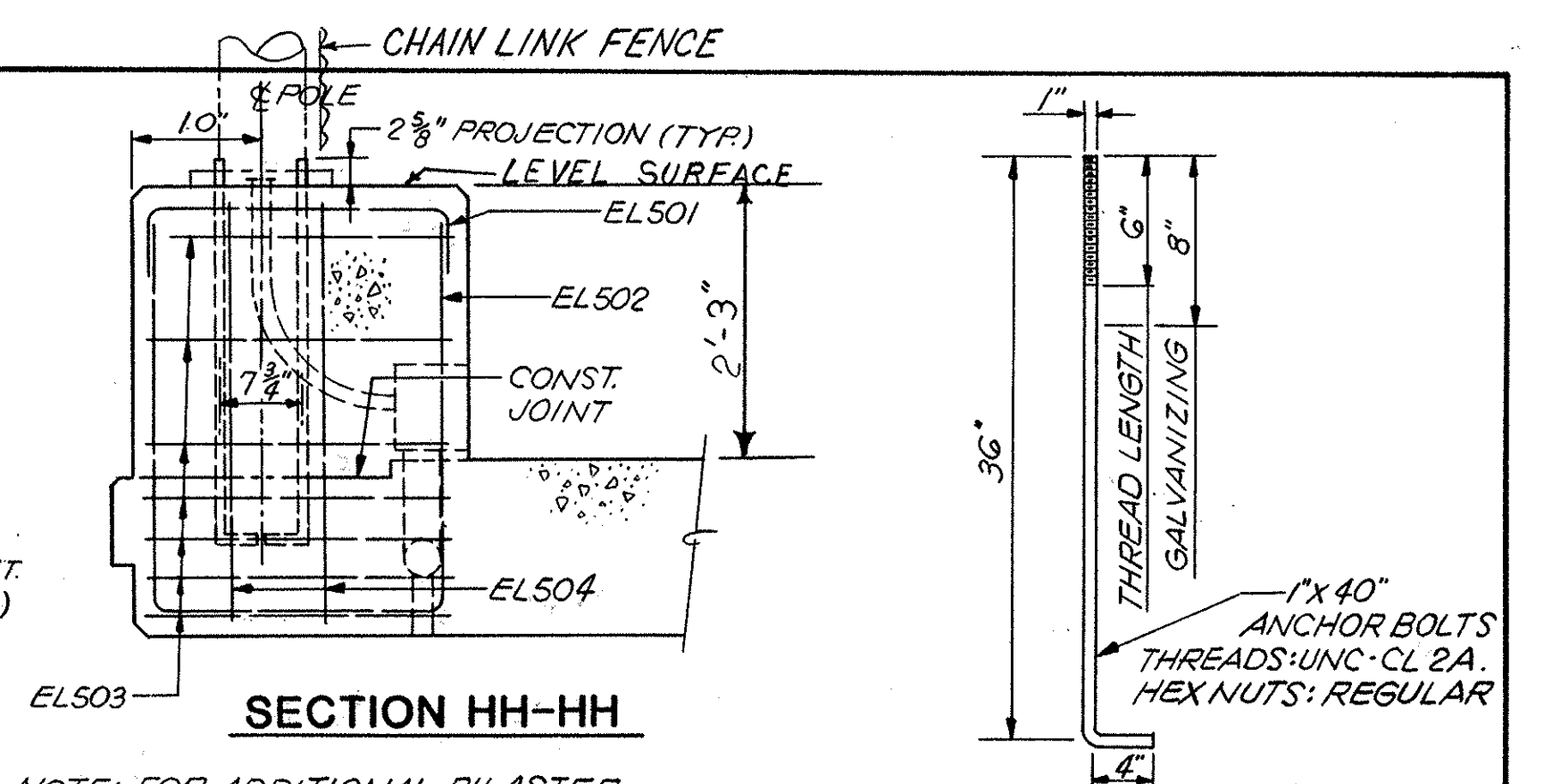
DETAIL 'D' (TYP. POST GROOVE)

- NOTE 1 - THE ENDS OF ALL CONCRETE POSTS SHALL BE VERTICAL.
- NOTE 2 - THE TOP OF ALL CONCRETE POSTS AND THE TOP OF THE 2'-3" CONCRETE RAILING PARAPET SHALL BE PARALLEL WITH FINISHED CENTERLINE GRADE.
- NOTE 3 - ER BARS SHALL BE INCLUDED WITH RAILING FOR PAYMENT.
- NOTE 4 - CONCRETE ABOVE SIDEWALK CONSTRUCTION JOINT SHALL BE INCLUDED WITH RAILING FOR PAYMENT.
- NOTE 5 - ALL CHAMFERS TO BE 3/4".
- NOTE 6 - ALL RAILING ELEVATIONS SHOWN ARE SOUTH ELEVATIONS OF THE SOUTH RAILING. NORTH ELEVATIONS OF THE NORTH RAILING ARE THE SAME EXCEPT THE ROADWAY, CONCRETE RAILING AND TOP OF CONCRETE POST SLOPES ARE OPPOSITE DIRECTION.
- NOTE 7 - EXISTING STEEL RAILING NOT SHOWN, SEE TYPICAL RAILING DETAILS, THIS SHEET.
- NOTE 8 - RAILING TO BE INSTALLED SO THAT "HORIZONTAL" ELEMENTS ARE PARALLEL WITH FINISHED CENTER LINE GRADE AND VERTICAL ELEMENTS ARE TRULY VERTICAL. RAILING PANELS ARE TO BE CLEARLY MARKED AS NOTED ON SHT. 2220 TO INSURE PROPER INSTALLATION.



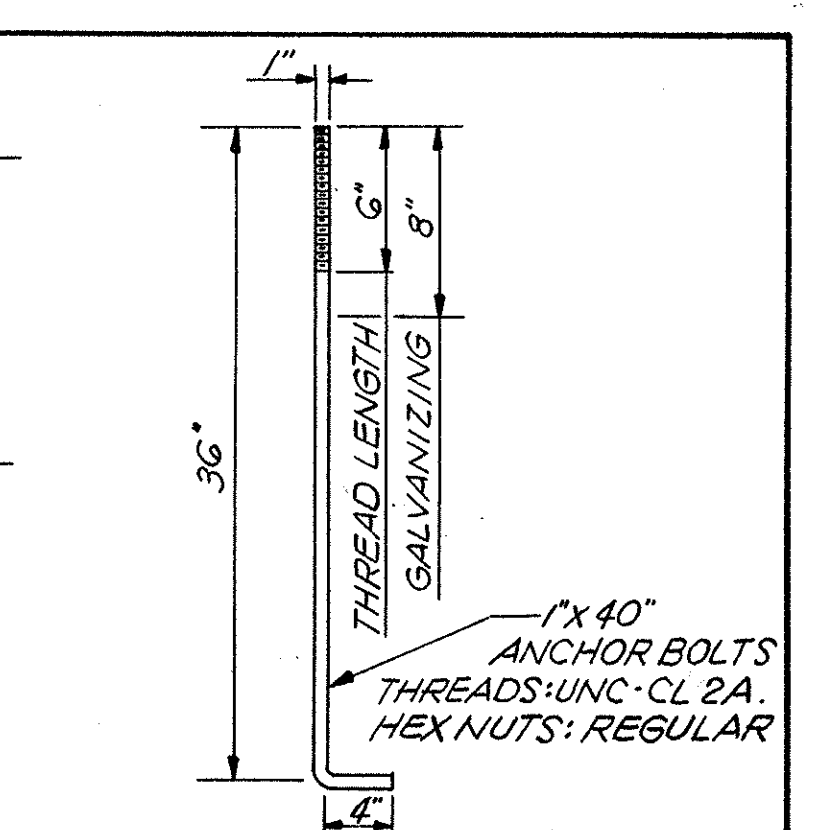
PLAN VIEW

PILASTER DETAILS



SECTION HH-HH

NOTE: FOR ADDITIONAL PILASTER DETAILS, SEE STD. DWG. HL-20.14.



ANCHOR BAR DETAIL

MOSURE AND SYRAKIS CO. LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

CONCRETE RAILING DETAILS

REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R., TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
DP	AM	M.S.	WH	
9-85	9-85	3-86	2-87	

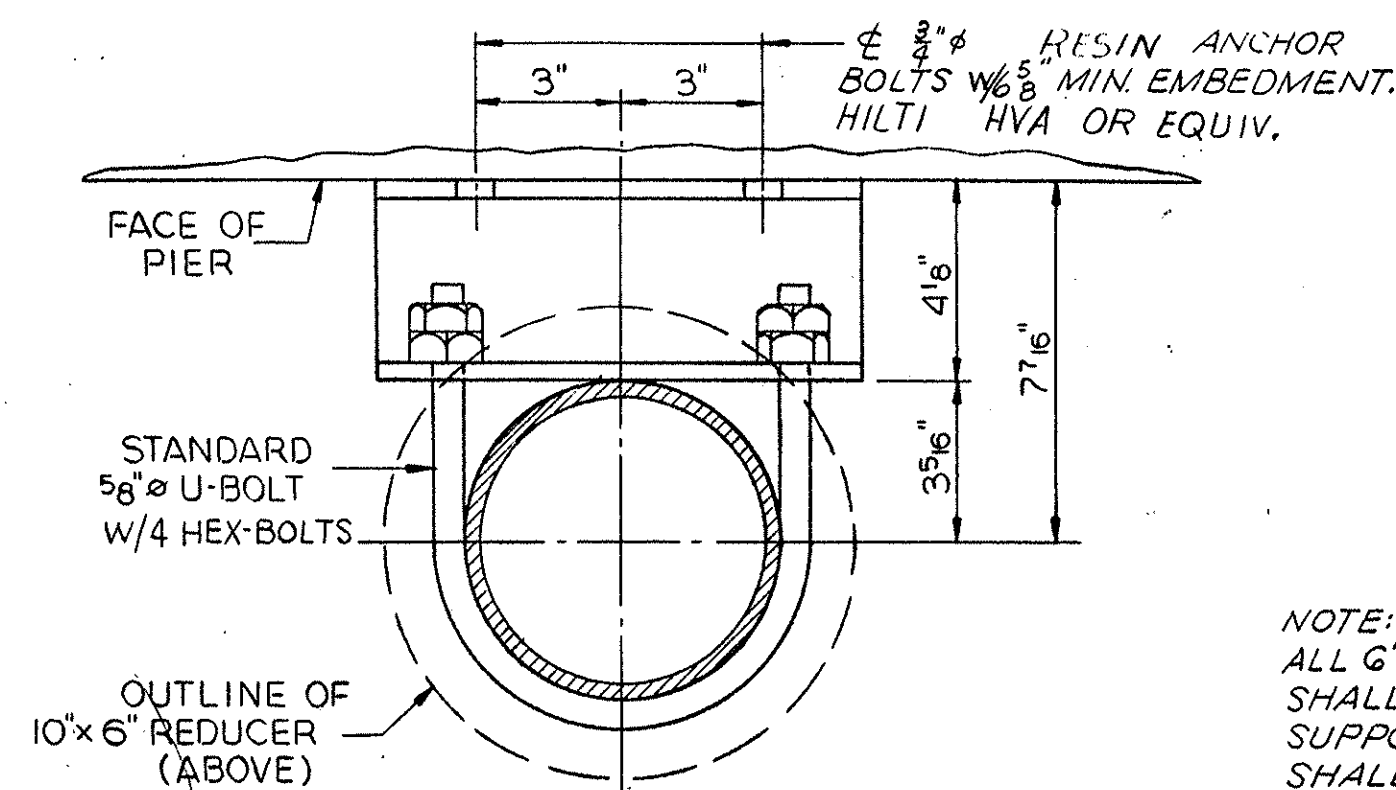
REVISED 4-22-91
REV. 2-91

FWHA REGION	STATE	PROJECT
5	OHIO	

32
33

STA 172-6.27
CITY OF MASSILLON

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	BY OHIO BELL TELEPHONE COMPANY	100% CITY OF MASSILLON
202	11200	LUMP		PORTIONS OF STRUCTURES REMOVED.	L.S.	L.S.	L.S.		
202	38601	1,132	L.F.	DISMANTLE AND STORE (FOR REUSE) EXISTING METAL RAILING PANELS.	1,020	112			
503	21100	19	C.Y.	UNCLASSIFIED EXCAVATION		19			
509	11500	8,071	L.B.	REINFORCING STEEL, GRADE 60.		8,021	50		
509	15800	317,697	L.B.	EPOXY COATED REINFORCING STEEL, GRADE 60.	317,697				
511	45700	75	C.Y.	CLASS 'C' CONCRETE, ABUTMENTS.		75			
511	34400	1,303	C.Y.	CLASS 'S' CONCRETE, SUPERSTRUCTURE.	1,303				
513	12200	4,400	L.B.	STRUCTURAL STEEL (A36, AISC CATEGORY III), As per plan	#	4,400			
513	11100	125,641	L.B.	STRUCTURAL STEEL (A36, AISC CATEGORY I), As per plan	#	124,358	1,283		
516	31000	168	L.F.	JOINT SEALER, 705.04		168			
516	11210	198.7	L.F.	STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEAL (5")	198.7				
517	76900	1,527	L.F.	RAILING (CONCRETE PARAPET W/ EXISTING METAL RAILING.)	1,365	162			
518	21100	65	C.Y.	POROUS BACKFILL.		65			
518	12300	10	EA.	SCUPPERS, INCLUDING SUPPORTS.	10				
518	43900	138	L.F.	6" PIPE DOWNSPOUT, GALVANIZED STEEL 707.08, INCLUDING SPECIALS.		138			
519	11100	1,253	S.F.	PATCHING CONCRETE STRUCTURES.		503	750		
603	04600	183	L.F.	12" CONDUIT, TYPE 'C'.			183		
604	10100	6	EA.	INLET, No. 1			6		
607	20001	1,527	L.F.	FENCE, TYPE C.L., AS PER PLAN.	1,367	160			
SPEC.	51267500	2305	S.Y.	SEALING OF CONCRETE SURFACES (SEE PROPOSAL NOTE).	2,066	239			
SPEC.		4580	S.F.	PAINTING OF NEW STEEL, SYSTEM 1ZEU.*	4580				
SPEC.		78,120	S.F.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU *	78,120				
SPEC.		78,120	S.F.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU *	78,120				
SPEC.		78,120	S.F.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU *	78,120				
SPEC.		78,120	S.F.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU *	78,120				
SPEC.		2000	L.F.	CAULKING *	2000				
SPEC.		3050	S.F.	FIELD PAINTING OF EXISTING METAL RAILING, SYSTEM OZEU *	3050				
SPEC.		658	S.F.	FIELD PAINTING OF EXISTING METAL RAILING, APPROACHES, SYSTEM OZEU *		658			
SPEC.		15,600	L.F.	GRINDING FLANGE EDGES *	15,600				
SPEC.		32	HR	GRINDING FINS, TEARS, SLIVERS *	32				
SPEC.		LUMP		HAZARDOUS WASTE MANAGEMENT *	LUMP				
SPEC.	11100	500	S.F.	PNEUMATICALLY PLACED MORTAR *		200	300		
SPEC.		LUMP		NON-HAZARDOUS WASTE MANAGEMENT *	LUMP				
				CONTINGENCIES - AS DIRECTED BY THE ENGINEER					
513		500	EA.	RIVETS REMOVED AND REPLACED BY A-325 BOLTS	500				

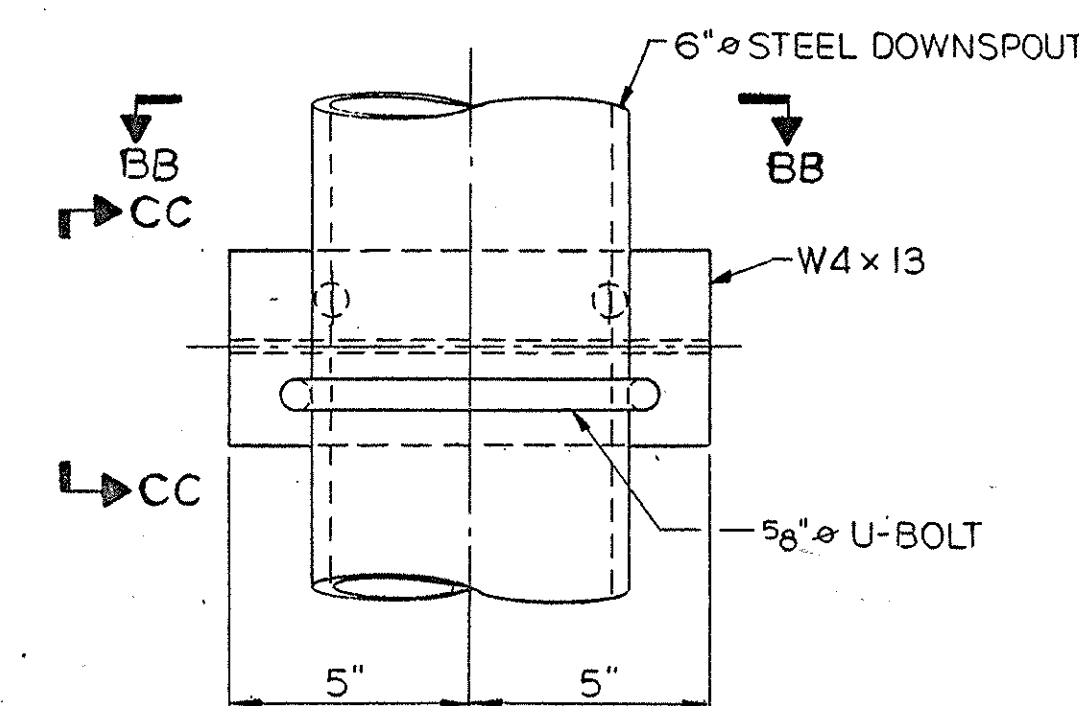


SECTION BB-BB

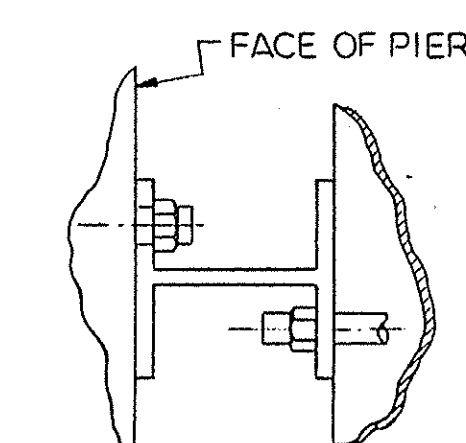
NOTE:
ALL 6" PIPE, SUPPORTS AND SPECIALS
SHALL BE GALVANIZED AS PER 711.02.
SUPPORTS, INCLUDING U-BOLTS,
SHALL BE A-36.

▲ No Federal or
State Participation

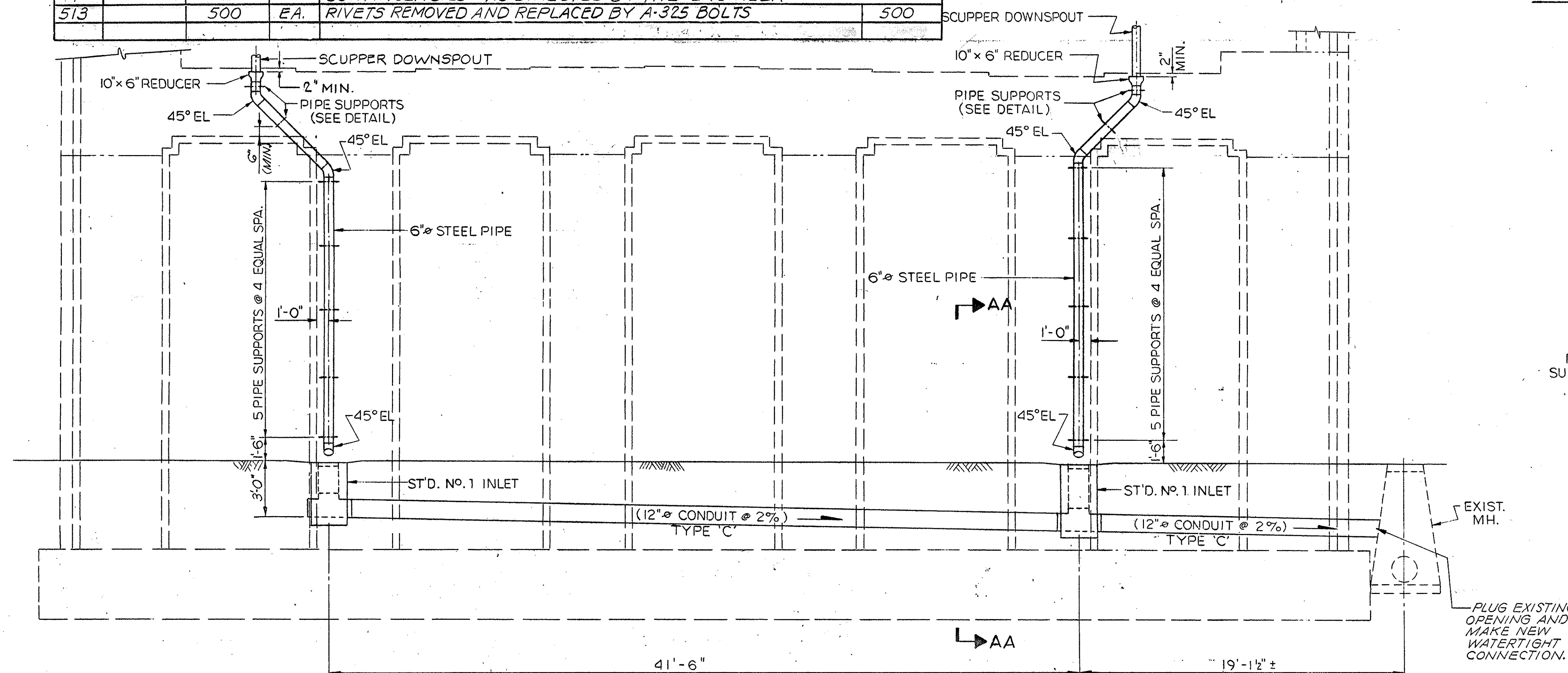
* SEE PROPOSAL NOTE
SEE SHT. 10 OF 20 FOR
TABULATION.



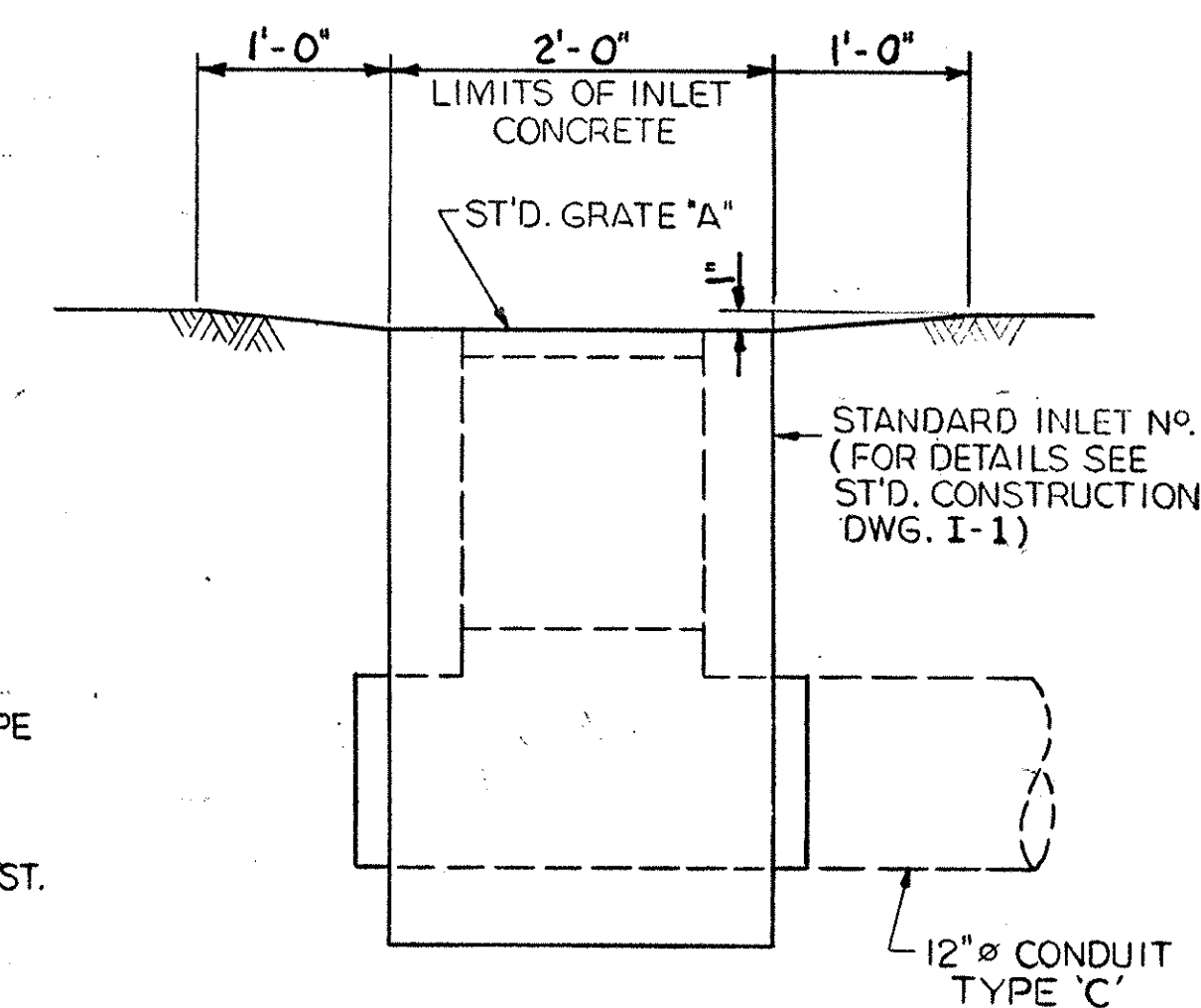
PIPE SUPPORT DETAIL



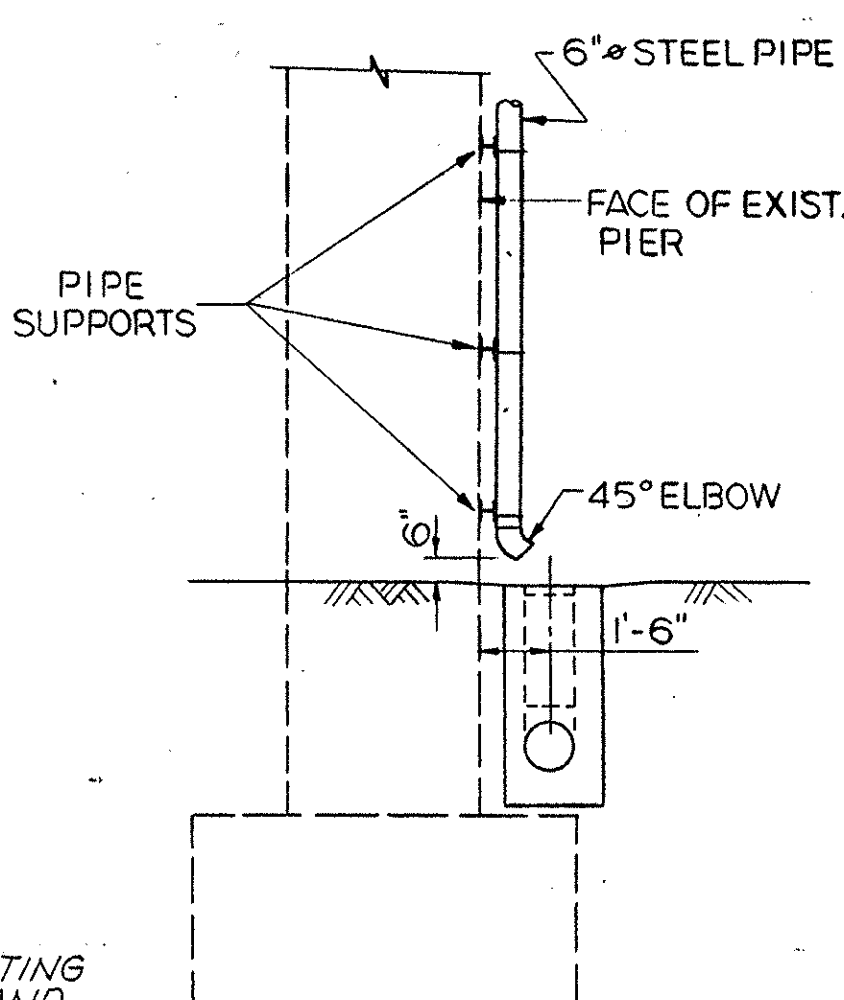
SECTION CC-CC



WEST ELEVATION - PIERS 1, 3, & 5



INLET DETAIL



SECTION AA-AA

(REV. 2-91)
(REV. 7-89, J.M.O.)

19/20

MOSURE AND SYRAKIS CO., LTD.
CONSULTING ENGINEERS AND PLANNERS
YOUNGSTOWN, OHIO

**DRAINAGE DETAILS AND
ESTIMATED QUANTITIES**
REHABILITATION BRIDGE STA-172-6.27
LINCOLNWAY VIADUCT OVER B&O, CONRAIL
AND N&W R.R. TUSCARAWAS RIVER AND SR 21
STARK COUNTY OHIO

DESIGNED	DRAWN	CALC.	CHECKED	REVIEWED
MAF	AM	-	WH	-
3-86	3-86	-	2-87	-

REVISED 4-22-91

Revised 2/29/90 Revised 5/1/91

