

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

1-FI-471-2(II)02

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
	OHIO		

1
346

HAMILTON COUNTY
HAM 471-0.24
PART TWO

783
Red
1-116

1981 SPECIFICATIONS

HAMILTON COUNTY CITY OF CINCINNATI

CONVENTIONAL SIGNS

CENTER LINE	-----	-----
PROPERTY LINE	-----	-----
FENCE	-----	-----
RAILROAD	-----	-----
POLES	-----	-----
GUARD RAIL	-----	-----
DRAIN OR SEWER PIPE	-----	-----
CATCH BASIN	-----	-----
MANHOLES	-----	-----
VALVE CHAMBERS	-----	-----
TELEPHONE CHAMBERS	-----	-----
ELECTRIC CHAMBERS	-----	-----
GAS MAIN	-----	-----
WATER MAIN	-----	-----
TELEPHONE CONDUIT	-----	-----
ELECTRIC CONDUIT	-----	-----
EXISTING RIGHT OF WAY	-----	-----
LIMITED ACCESS	-----	-----
PROPOSED RIGHT OF WAY	-----	-----
PROPOSED LIMITED ACCESS RIGHT OF WAY	-----	-----
TREES OR STUMPS	-----	-----

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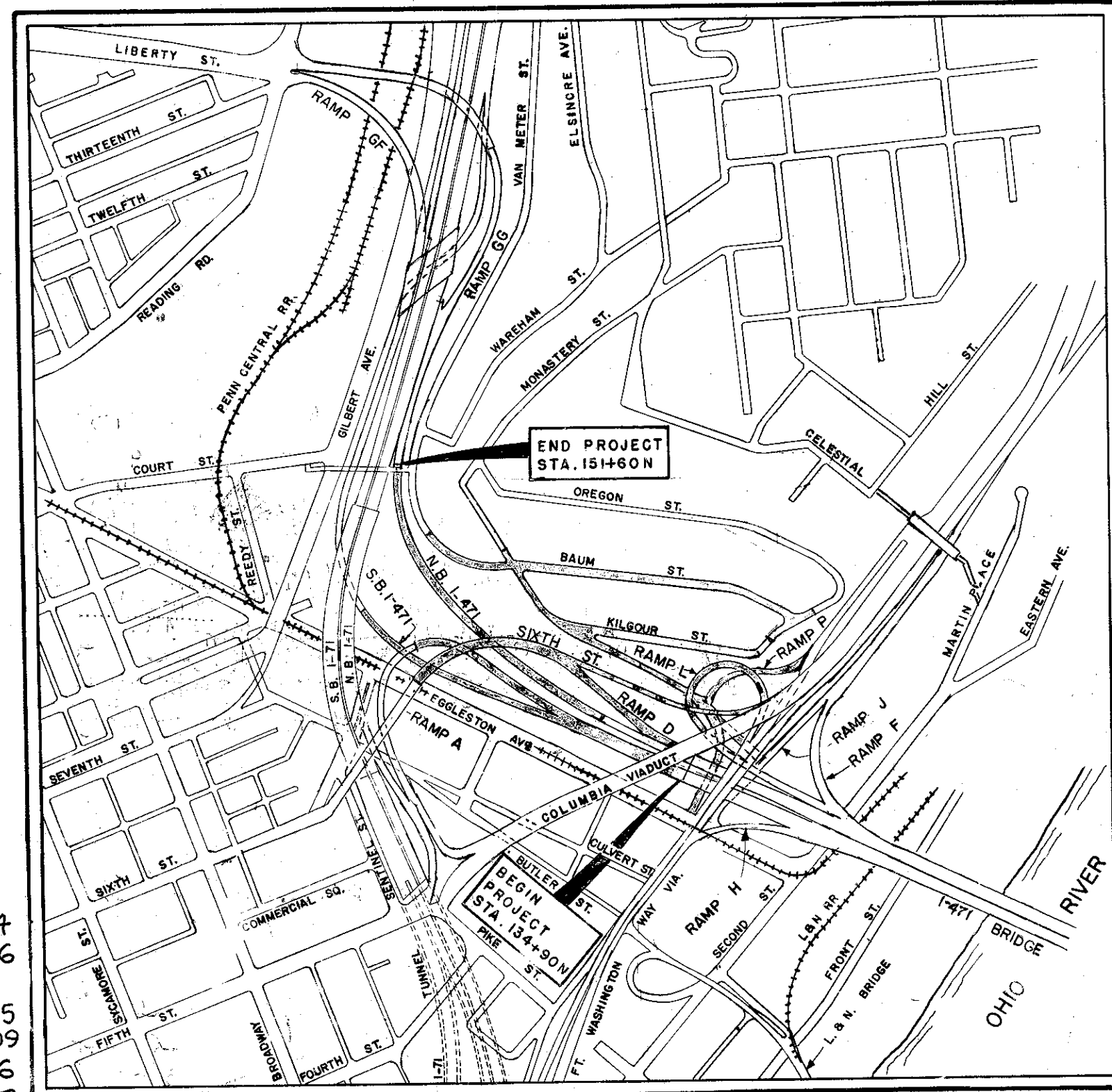
BEGIN PROJECT STA. 134+90N
END PROJECT STA. 151+60N
LENGTH OF PROJECT = 1670 L.F. = 0.316 MILE

LENGTH OF WORK = 5590.00 L.F.
1.053 MILE

PLANS PREPARED BY
HAZELET & ERDAL - CONSULTING ENGINEERS
CINCINNATI, OHIO

FILE NO. HAMILTON COUNTY
HAM-471-0.24 PART TWO
DATE OF LETTER 19
CONTRACT NO.

SEE SHEET NO.3 FOR LINE DATA FOR APPROACH WORK & DESIGN DESIGNATION.

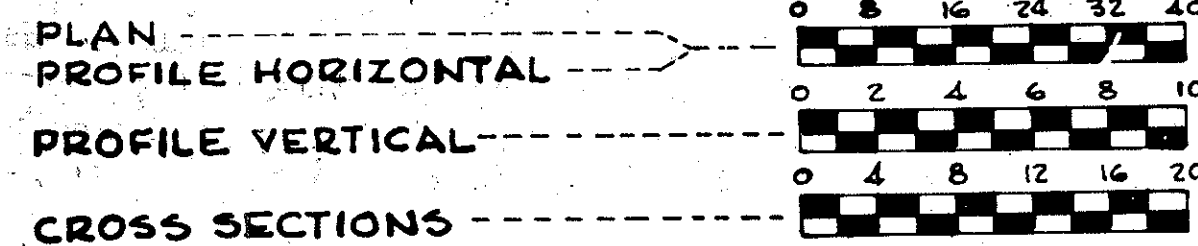


LOCATION MAP



PORTION TO BE IMPROVED
PORTION TO BE IMPROVED UNDER A SEPARATE CONTRACT

SCALES



STANDARD DRAWINGS

BP-1	8-1-65	GR-2B	2-5-82	RB-1-55	2-2-59	HL-15	1-21-76	TC-41.20	3-26-79
BP-2	12-6-76	CB-5	5-1-79	GR-3	2-5-82	FSB-1-62	1-15-63	HL-16	4-6-73
BP-3	12-6-76	GR-4	2-5-82	HL-1	9-6-73	HL-19	3-22-77	TC-41.50	3-26-79
BP-4	7-16-81	MC-3	6-1-73	GR-5	2-5-82	HL-2	7-27-73	TC-42.10	8-19-77
BP-5	7-16-81	MC-4	7-26-76	GR-6	2-5-82	HL-3	7-27-73	TC-42.20	3-26-79
BP-7	12-6-76	MC-6	6-1-65	GR-4A	2-5-82	HL-4	1-21-76	TC-51.11	4-3-79
BP-9	12-6-76	MC-7	10-15-76	TC-32.11	3-21-79	HL-5	9-6-73	TC-52.10	4-3-79
BP-10	1-3-75	MC-10	5-1-76	BR-1	5-29-79	HL-7	1-21-76	TC-52.20	4-3-79
BP-12	7-7-81	MC-11	8-1-78	TC-35.10	10-5-77	HL-8	1-21-76	TC-61.10	4-5-82
		LA-1	6-1-79	BR-2-67	10-15-71	HL-9	3-22-77	TC-71.10	4-9-77
		TC-65.10	5-21-81	SD-1-69	No. 1 & 2	HL-10	6-1-74	TC-72.20	2-26-82
F-1	5-1-76	GR-1	2-5-82	No. 1 & 2	6-12-69	HL-11	6-1-79	TC-82.10	4-11-79
F-3	5-1-76	TC-65.11	5-21-81	A3-1-72	No. 1 & 2	HL-12	4-6-73	TC-82.20	6-18-79

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

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

APPROVED David Schramm
DATE 7/1/82 COUNTY ENGINEER, HAMILTON COUNTY

BY, FOR, ON BEHALF OF, AND IN THE NAME OF THE COUNTY OF HAMILTON, AND UNDER THE AUTHORITY OF ITS BOARD OF COUNTY COMMISSIONERS BY VIRTUE OF SECTION 305.03 REVISED CODE OF OHIO, AND THE RESOLUTION ADOPTED JANUARY 7, 1963, AND ENTERED IN THE JOURNAL OF SAID BOARD.

APPROVED _____
DATE _____ COUNTY ADMINISTRATOR

APPROVED J. J. Biesel
DATE 8/23/82 DIRECTOR OF PUBLIC WORKS, CITY OF CINCINNATI

APPROVED William W. Grayshaw
DATE 5-16-82 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED Robert B. Pifer, I.O.H.S.
DATE 7-2-82 ENGINEER, BUREAU OF BRIDGES & STRUCTURAL DESIGN

APPROVED David Trinkle, Jr.
DATE 7-26-82 CHIEF ENGINEER, PLANNING & DESIGN (ACT'NG.)

APPROVED David J. Wei
DATE 7-26-82 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR

DATE _____

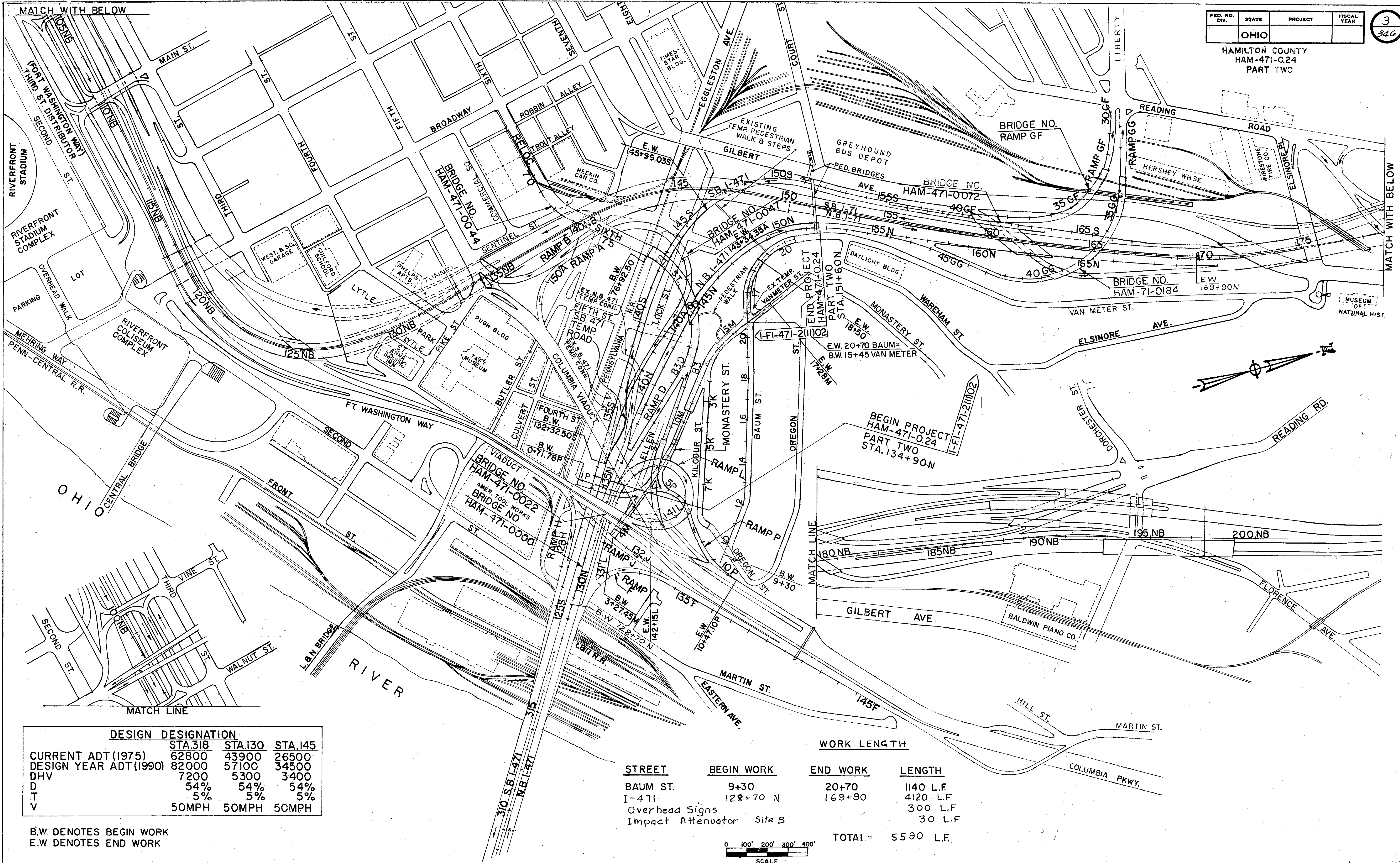
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FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

2
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

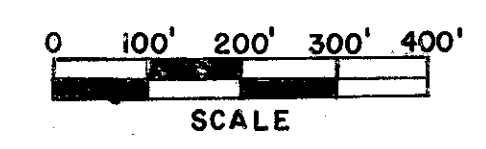
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	DESIGNATION	STA. 318	STA. 130	STA. 145
CURRENT ADT (1975)		62800	43900	26500
DESIGN YEAR ADT (1990)		82000	57100	34500
DHV		7200	5300	3400
D		54%	54%	54%
T		5%	5%	5%
V		50MPH	50MPH	50MPH

B.W. DENOTES BEGIN WORK
E.W. DENOTES END WORK

STREET	BEGIN WORK	END WORK	LENGTH
BAUM ST.	9+30	20+70	1140 L.F.
I-471	128+70 N	169+90	4120 L.F.
Overhead Signs			300 L.F.
Impact Attenuator Site B			30 L.F.
TOTAL			5590 L.F.



TYPICAL SECTIONS TYPE 451

SEQUENCE OF CONSTRUCTION OPERATIONS

1. Install pipe underdrain on outside shoulder where shown. Installation of shallow underdrain in median may be deferred until 451 is placed.
2. Place subbase out to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present.
3. Construct 451.
4. Remove subbase and any contaminated backfill over drain and replace with No. 8 aggregate as shown by (8).
5. Complete Shoulder Construction.

JOINT LEGEND

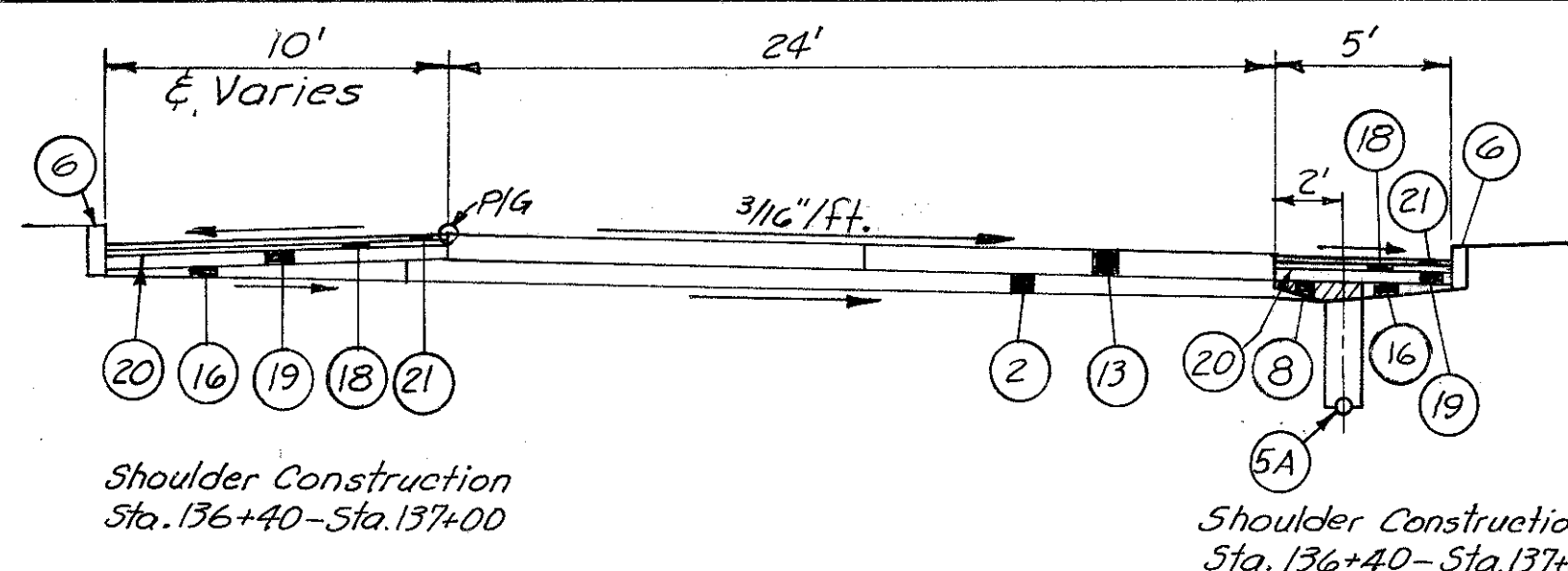
L - Standard Longitudinal Joint

NOTES

For depth and location of underdrains see Plan & Profile Sheets.
For pavement slopes and elevations see Grade Details Sh. Nos. 110-116.
(Subbase follows pavement slope except as noted.)
For Legends see Sh. 7.

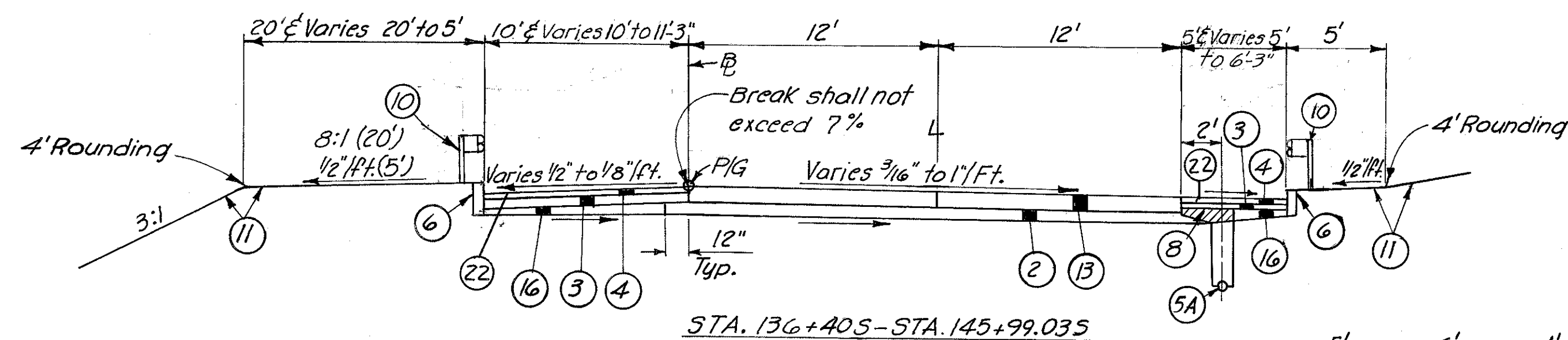
Note:

When Superelevation exceeds 0.059'/ft. provide rounding in 5' shoulder as shown at left.

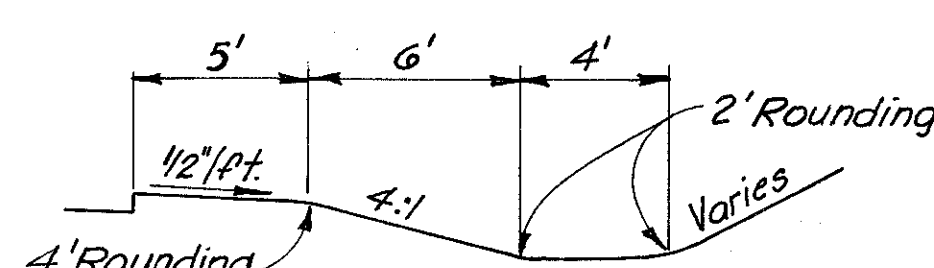


Shoulder Construction
Sta. 136+40 - Sta. 137+00

Shoulder Construction
Sta. 136+40 - Sta. 137+00

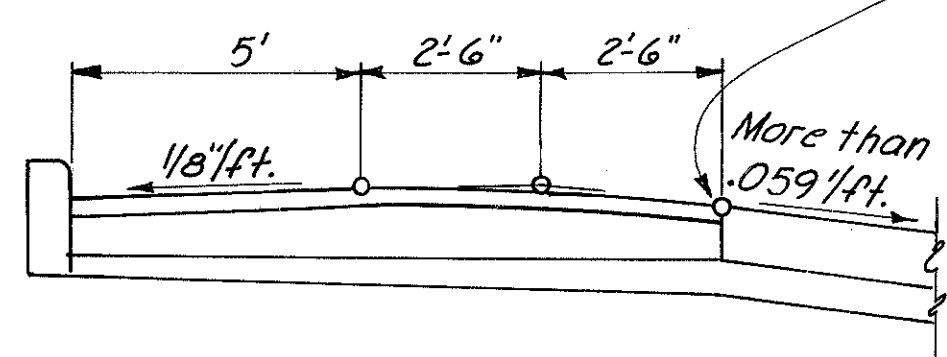


STA. 136+40S - STA. 145+99.03S



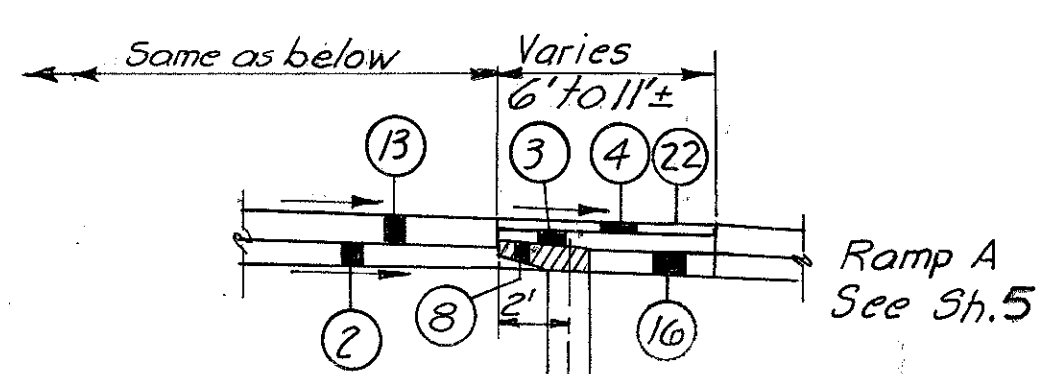
DITCH SECTION

Note: When superelevation exceeds 0.059'/ft. provide rounding in 10' shoulder as shown below.



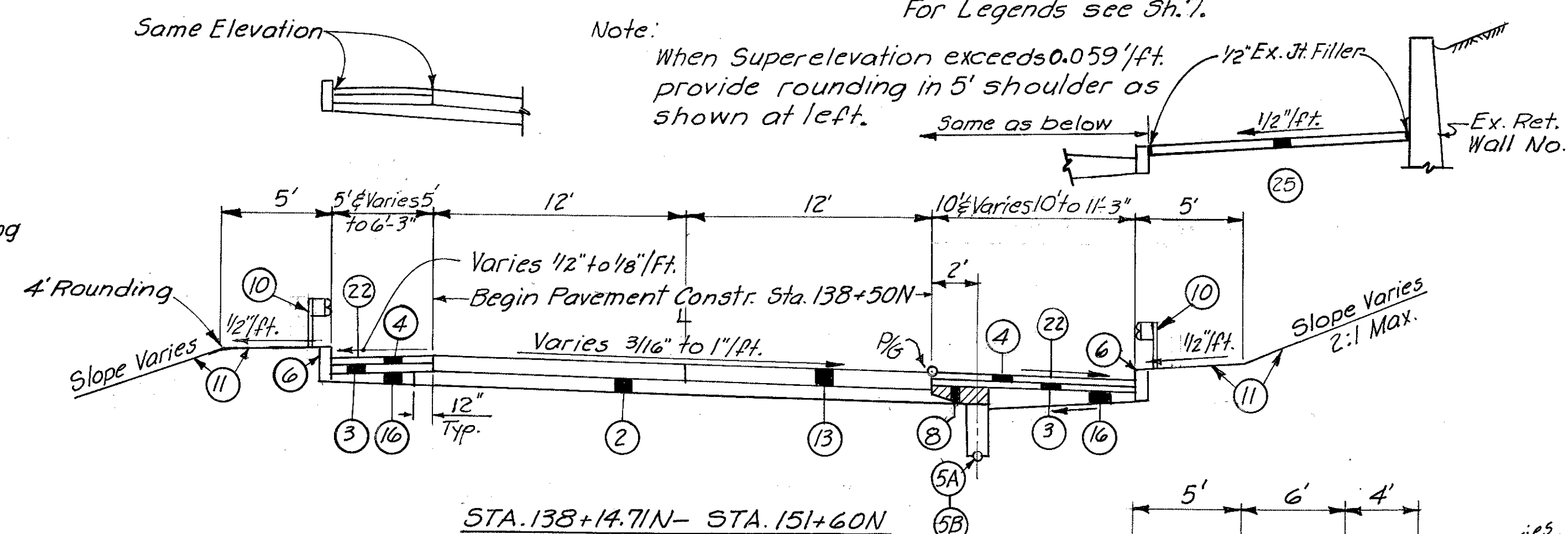
ROUNDING DETAIL

Break shall not exceed 7%

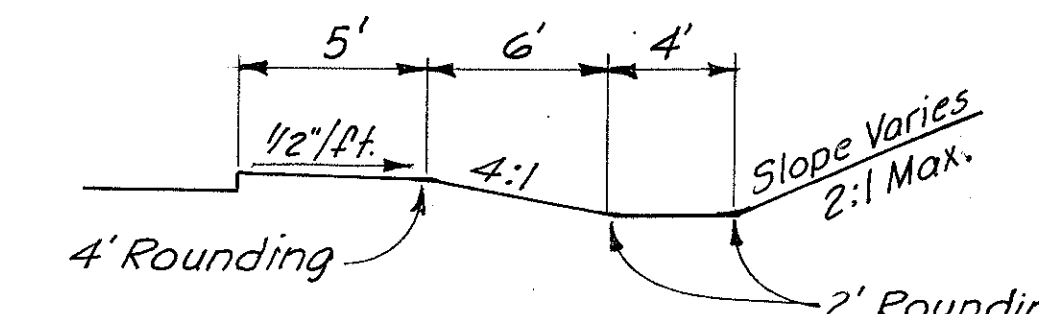


Ramp A
See Sh. 5

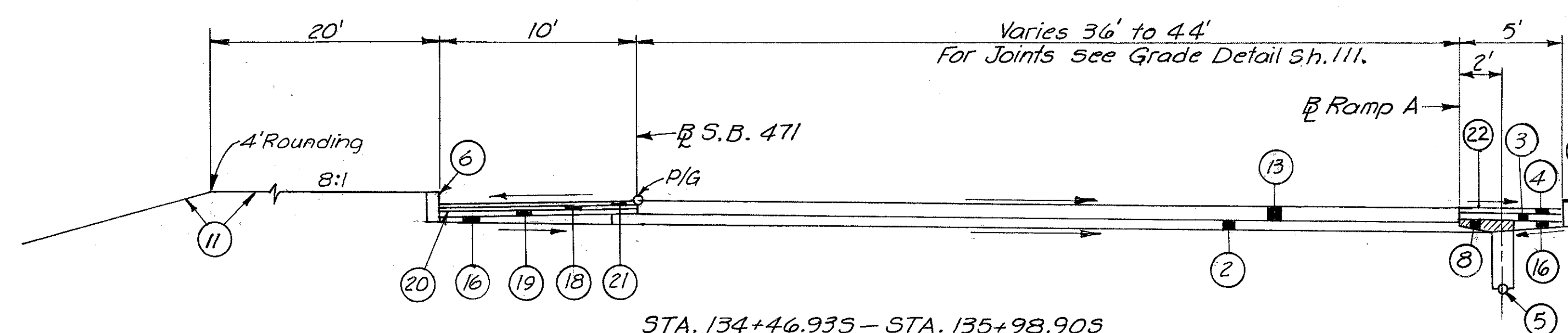
STA. 135+98.90S - STA. 136+40S



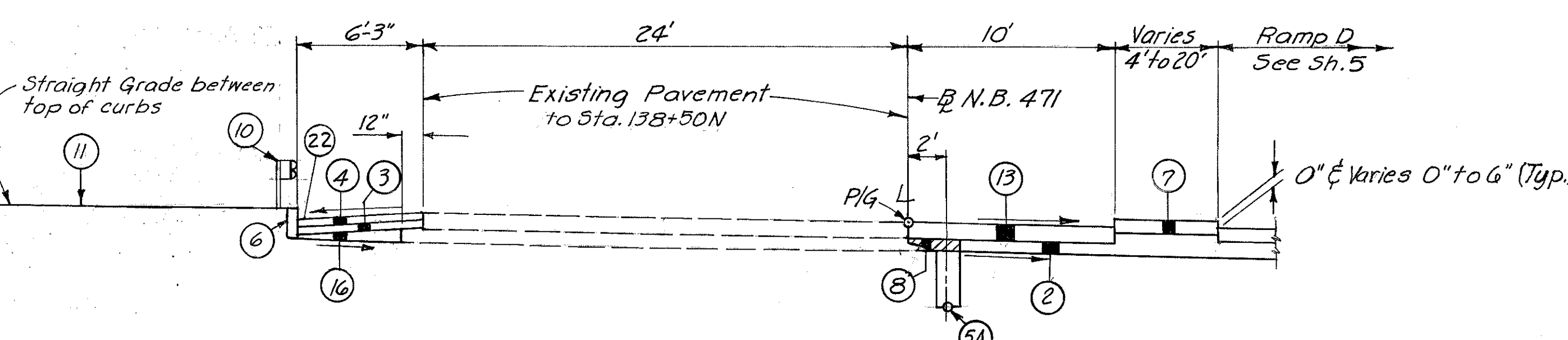
STA. 138+14.71N - STA. 151+60N



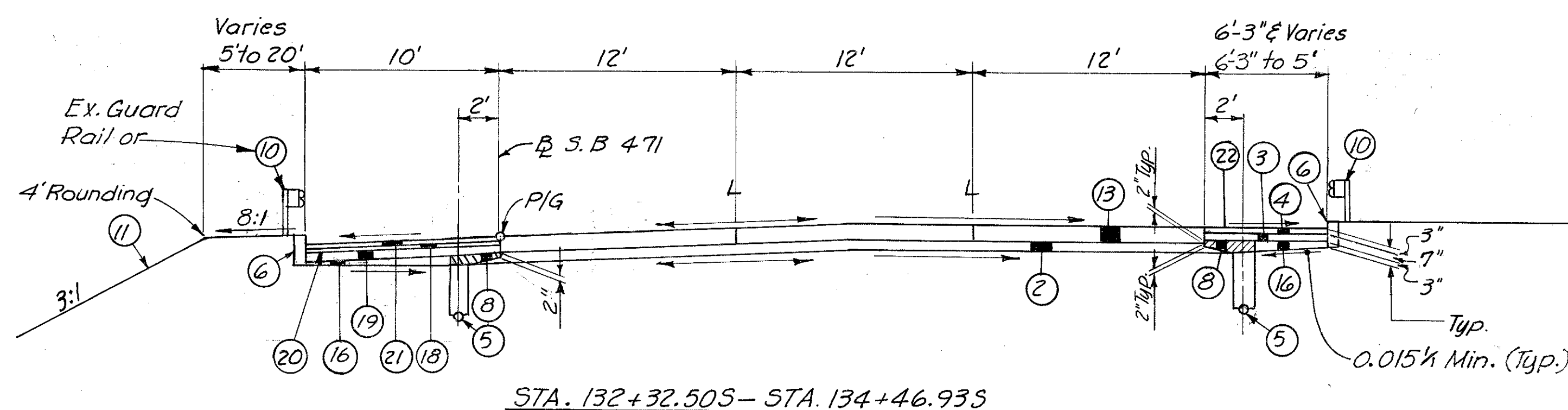
DITCH SECTION



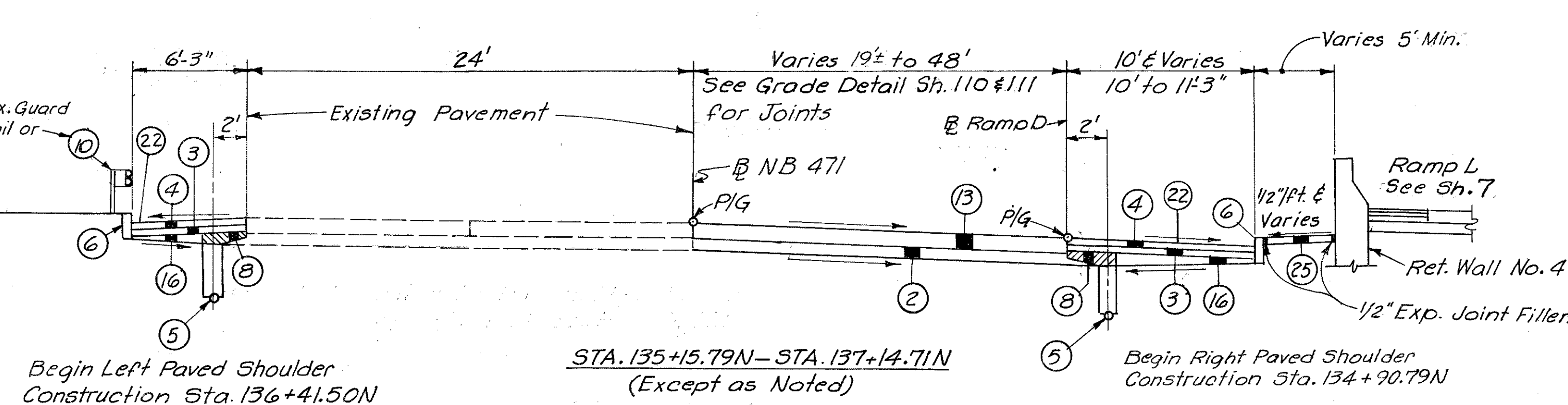
STA. 134+46.93S - STA. 135+98.90S



STA. 137+14.71N - STA. 138+14.71N



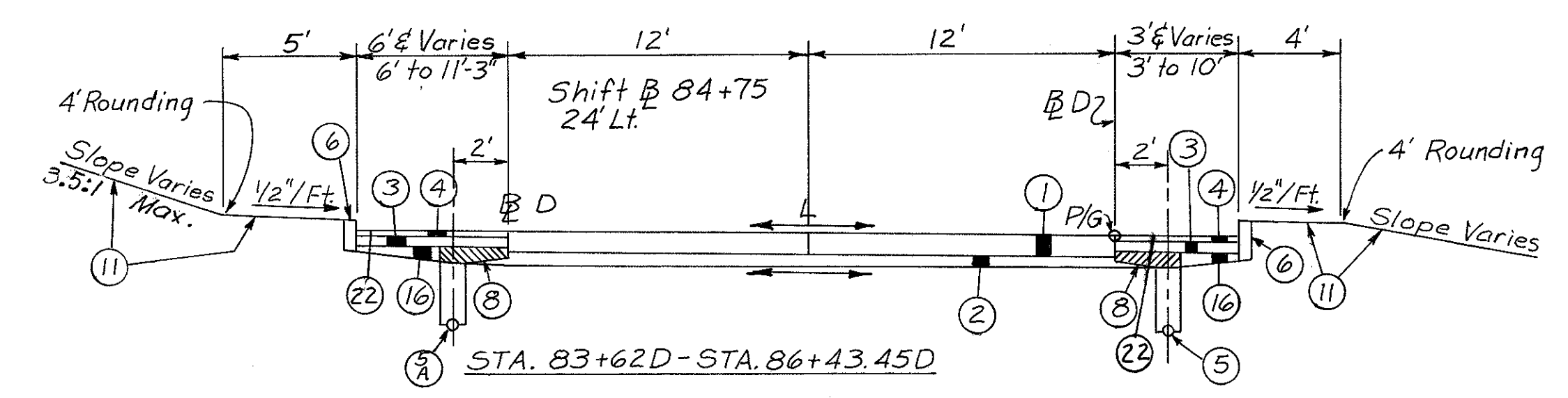
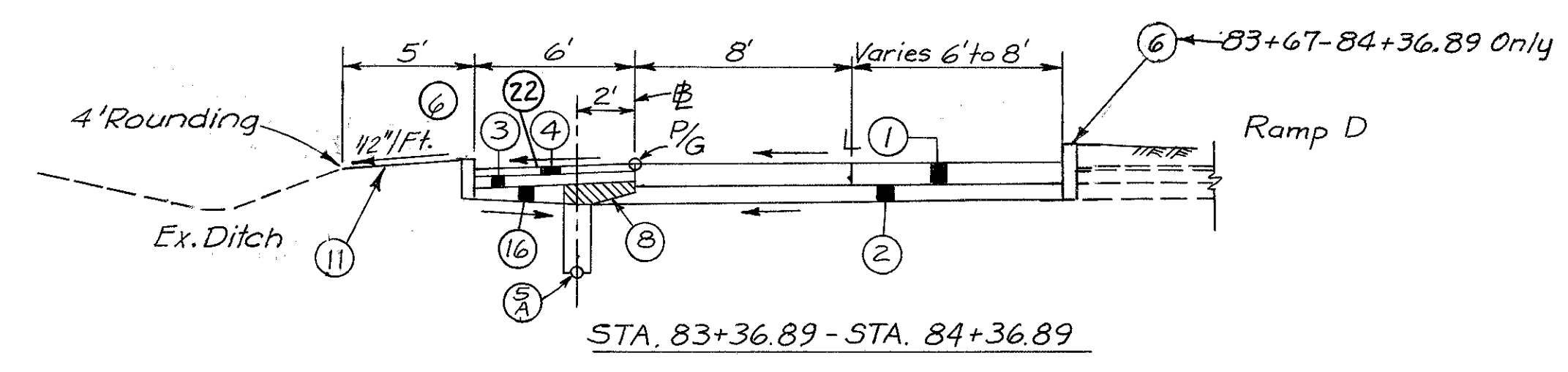
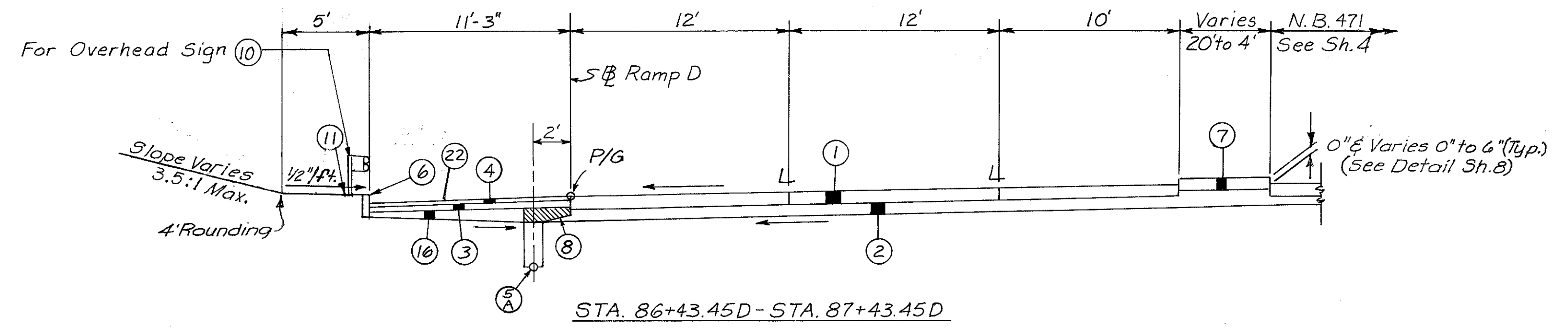
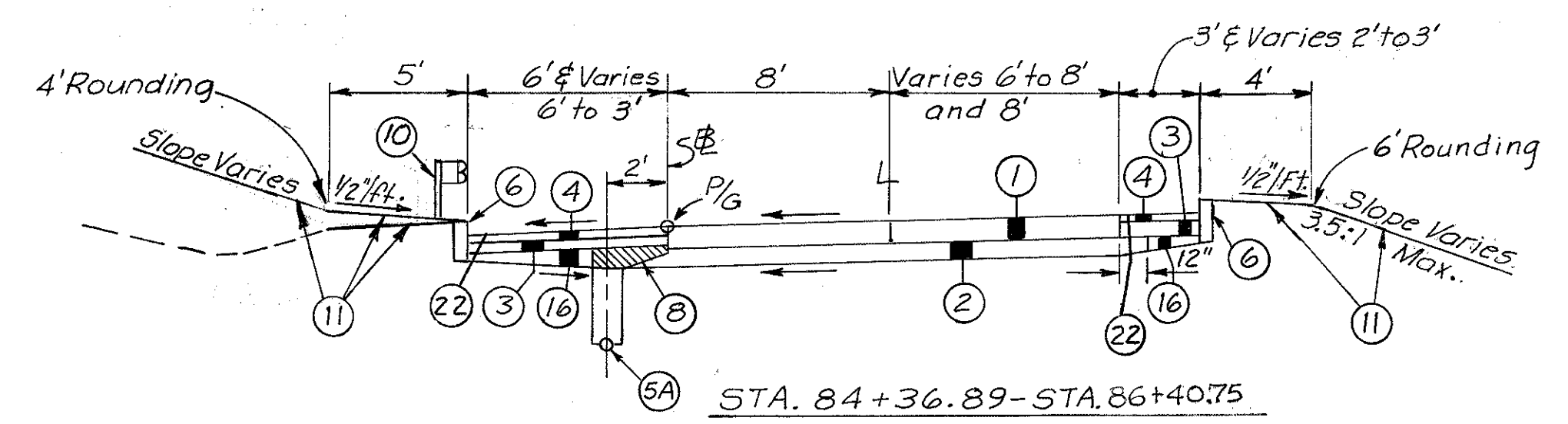
STA. 132+32.50S - STA. 134+46.93S



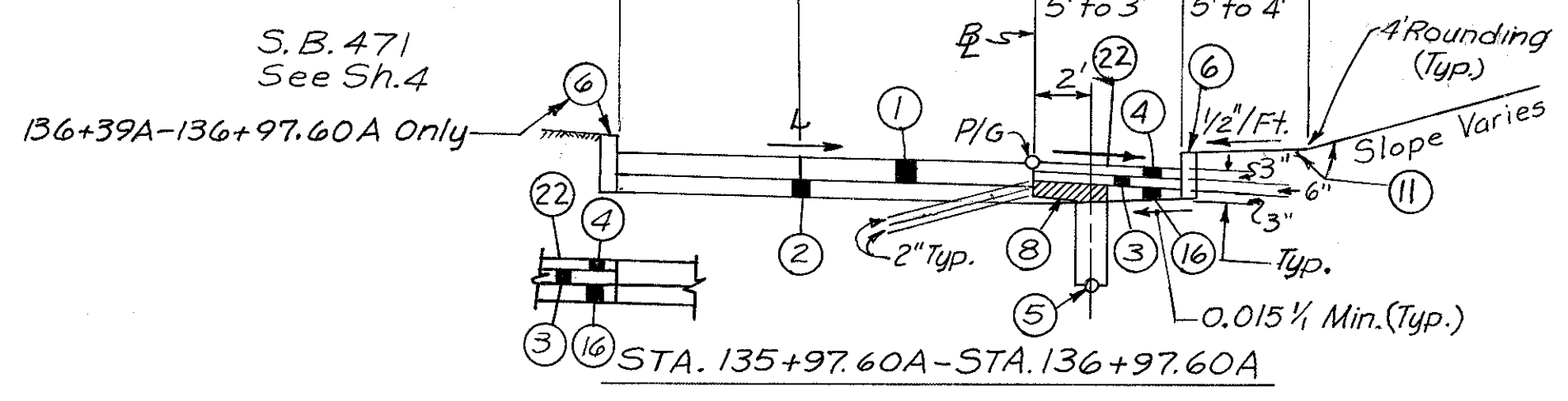
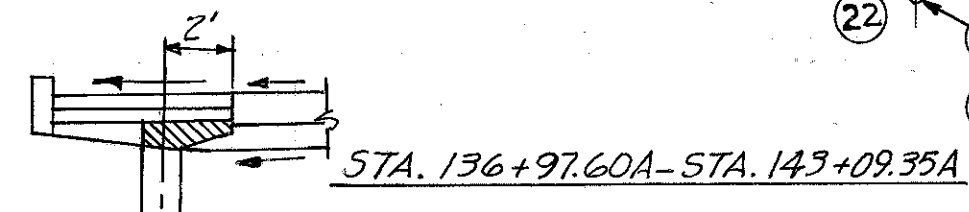
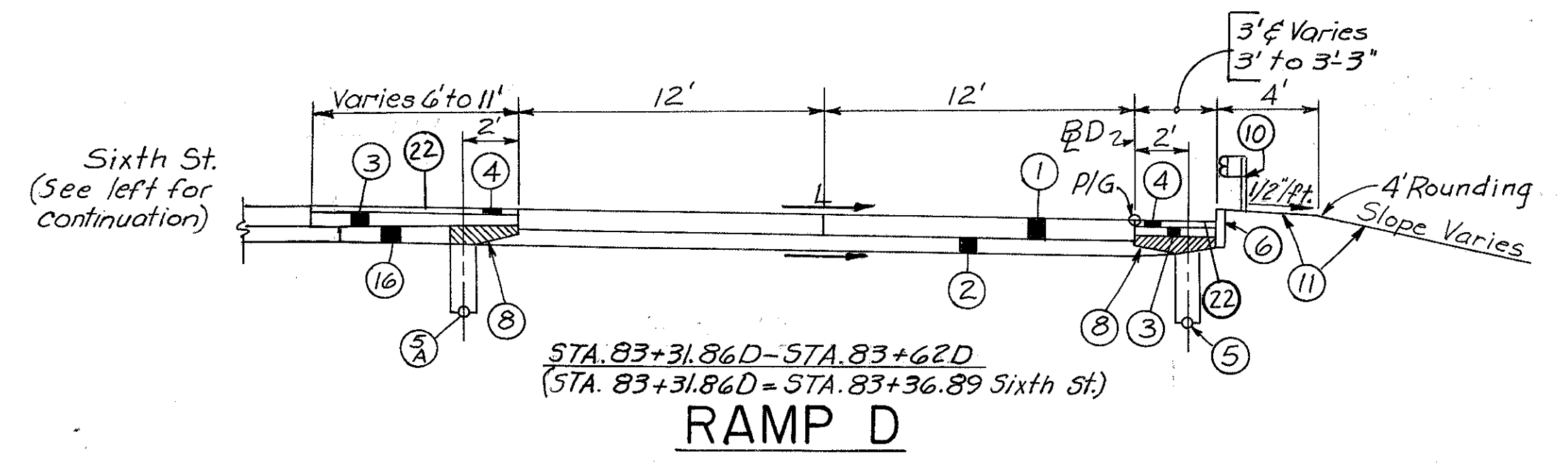
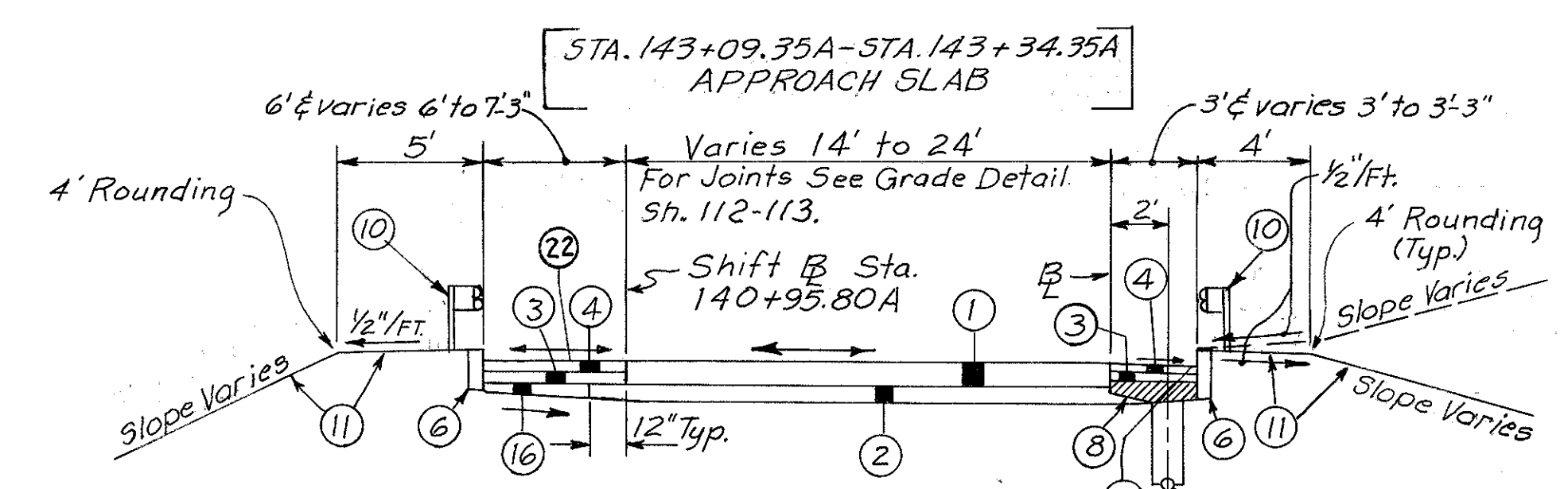
STA. 135+15.79N - STA. 137+14.71N
(Except as Noted)

TYPICAL SECTIONS TYPE 45I

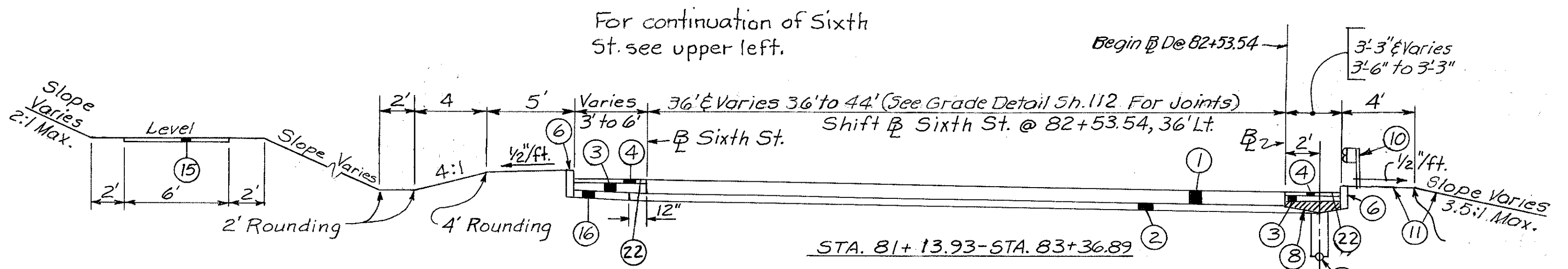
STA. 86+40.75 - STA. 91+32
APPROACH SLAB & BRIDGE



SIXTH ST.

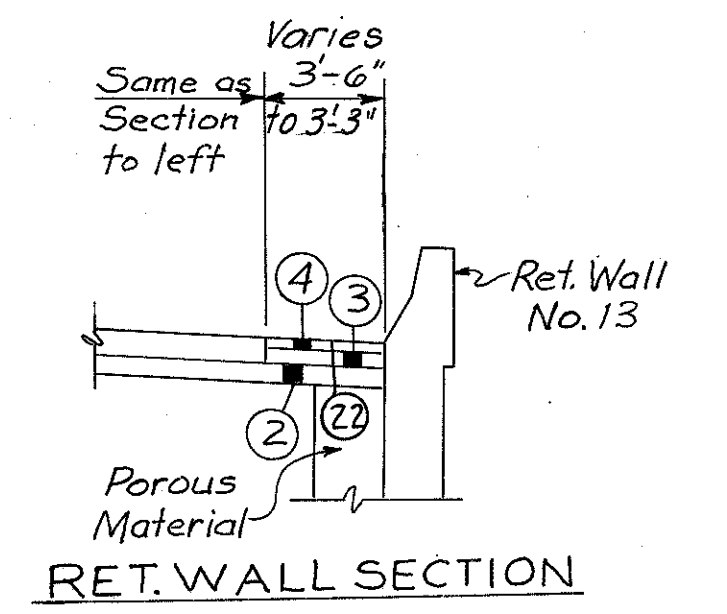


RAMP A



STA. 76+92.50 - STA. 81+13.93
APPROACH SLAB & BRIDGE

SIXTH ST. & RAMP D

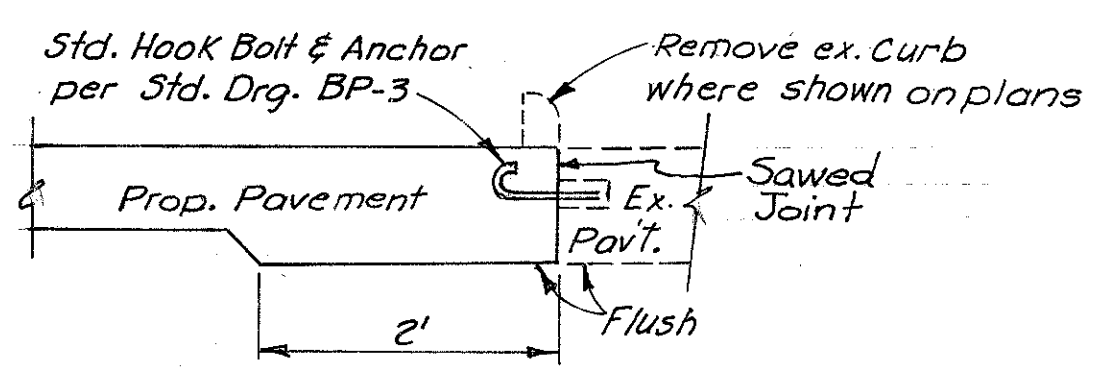
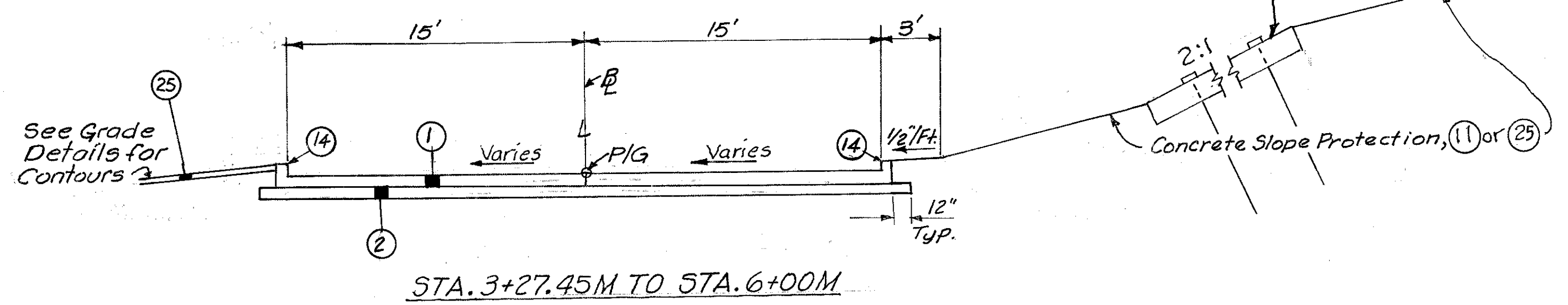
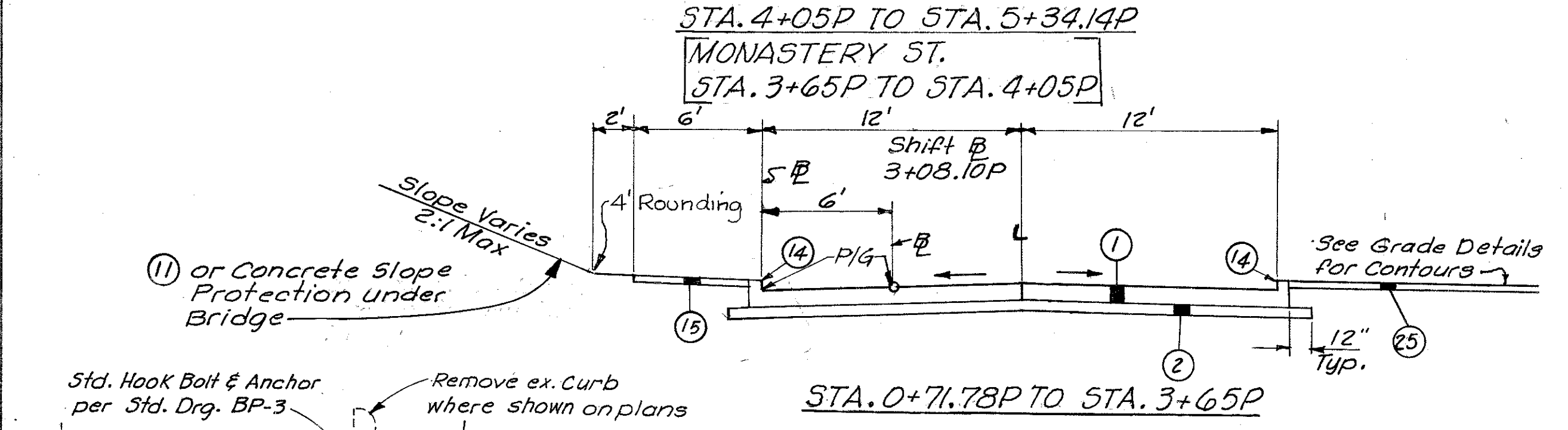
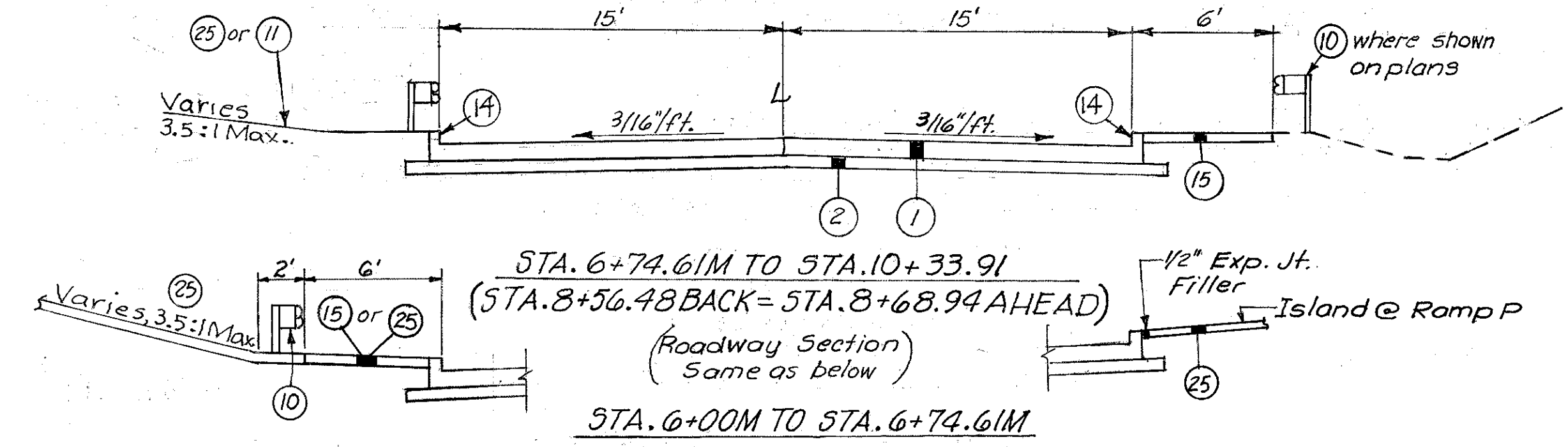
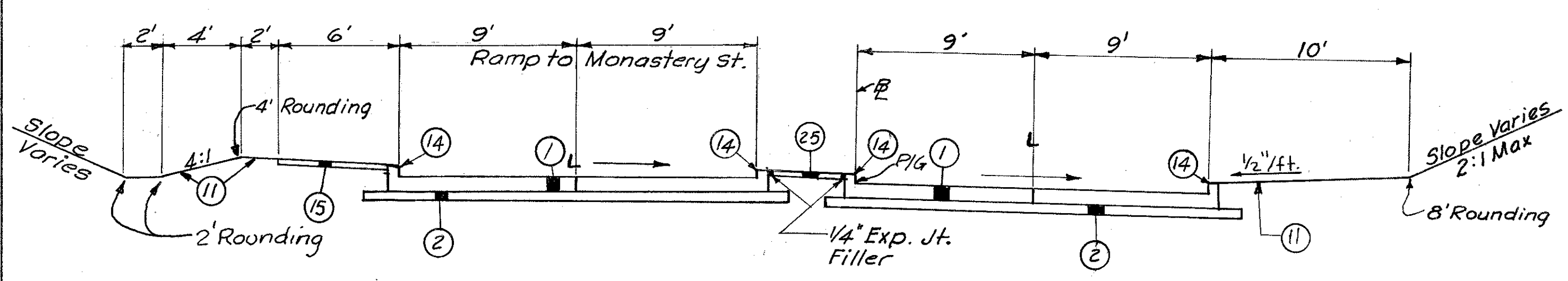
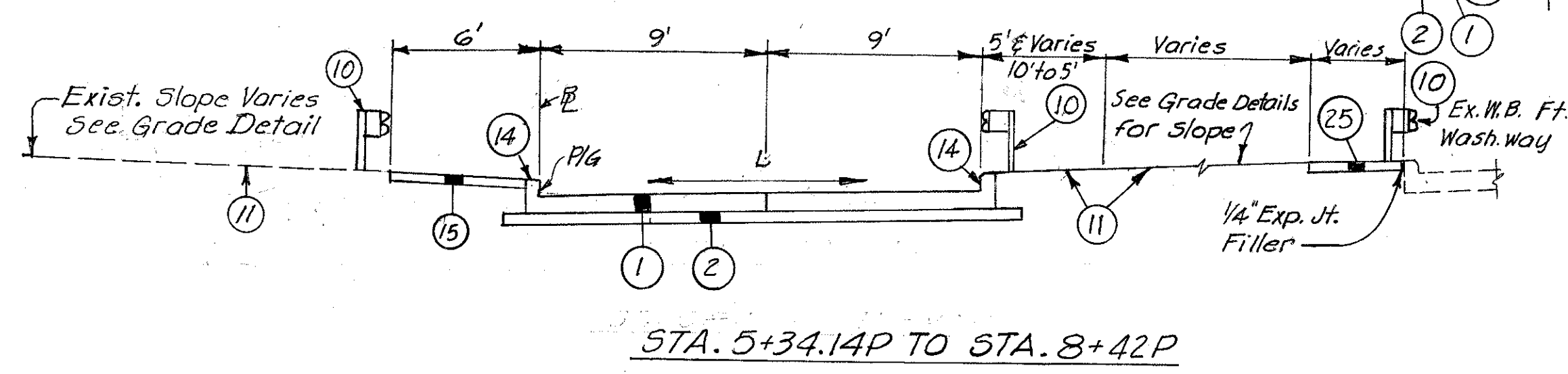
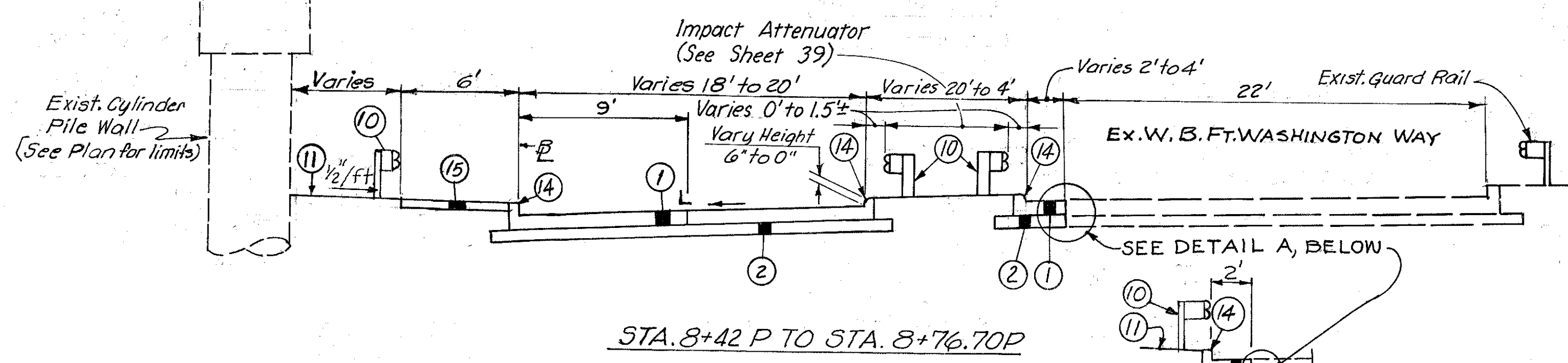
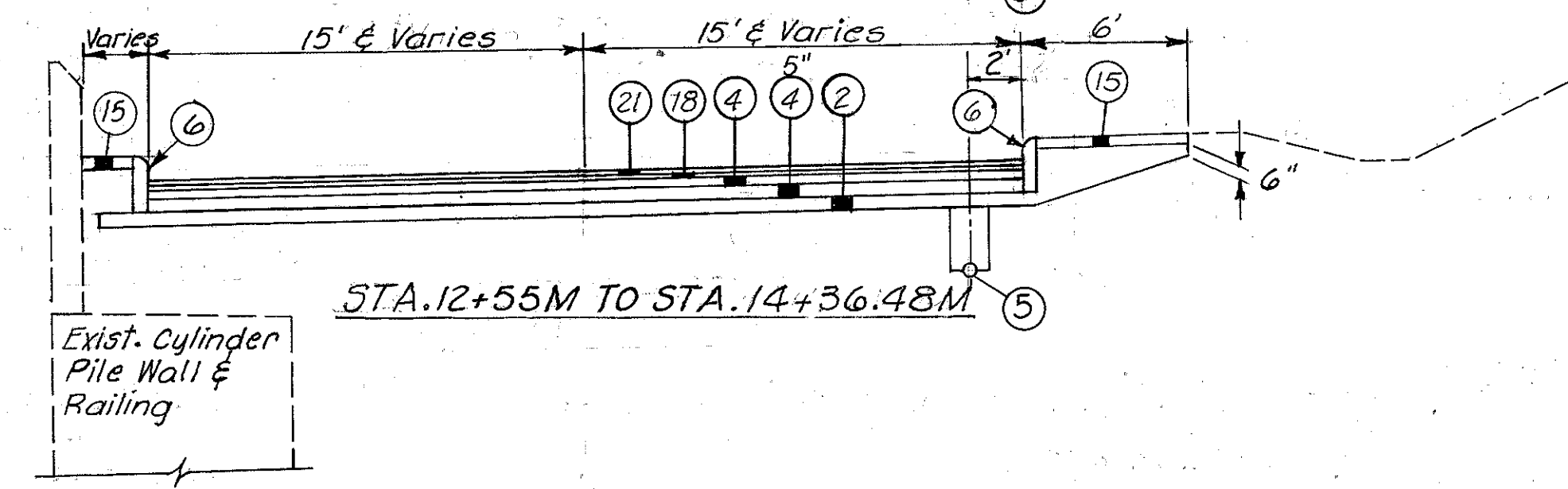
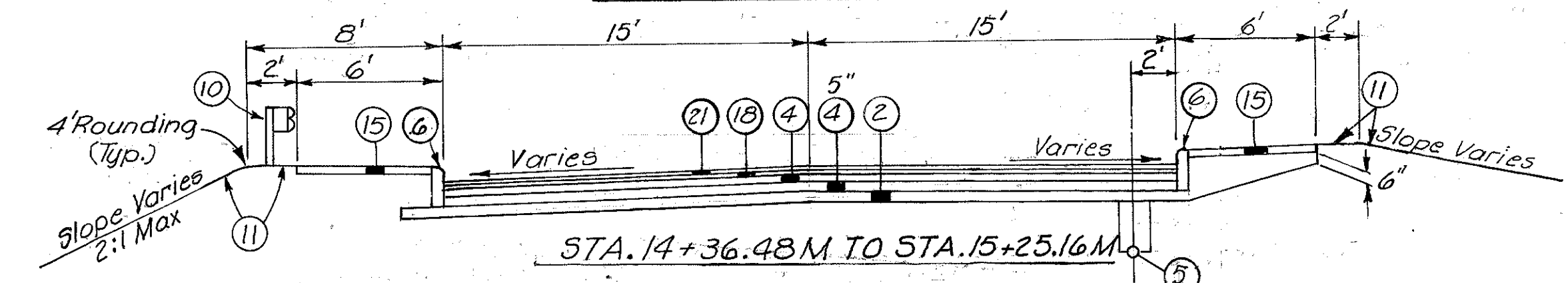
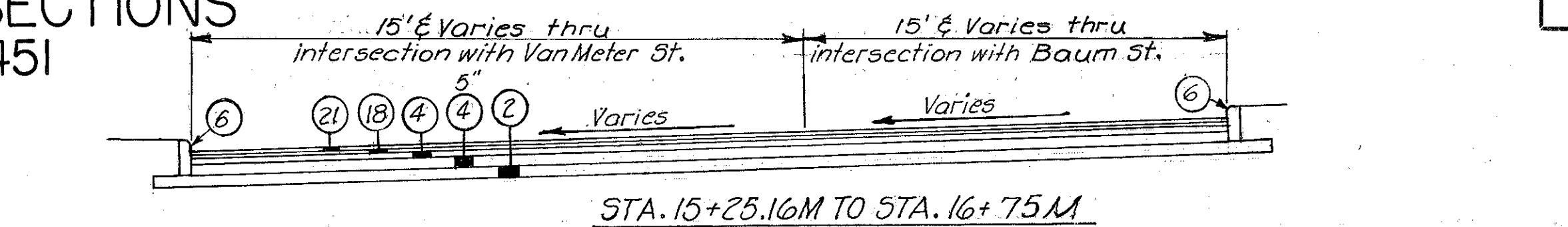
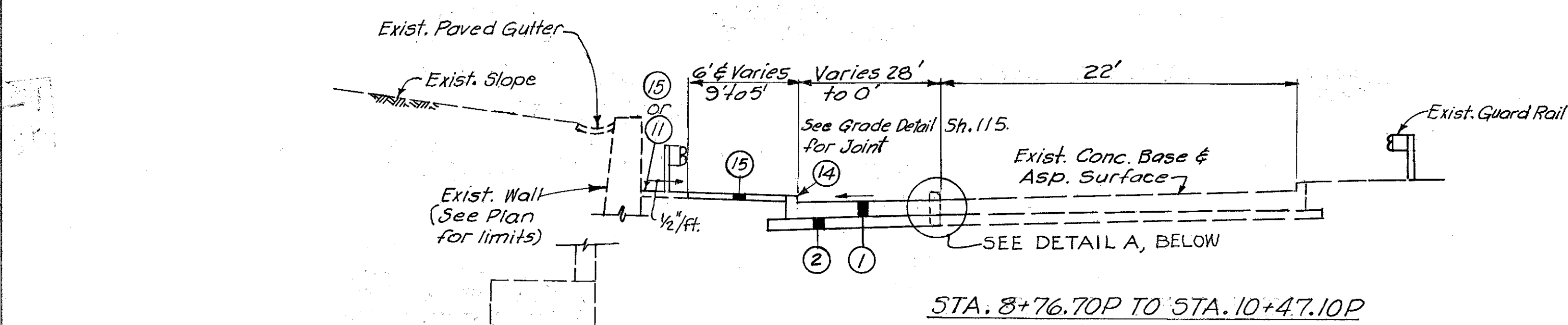


RET. WALL SECTION

NOTES
For pavement slopes and elevations see Grade Detail Sh. 110-116.
For legend see Sh. No. 7.

RAMP A, RAMP D & SIXTH ST. TYPICAL SECTIONS

TYPICAL SECTIONS TYPE 451



Note: Cost of sawed joint, thickened pavement and hook bolt incidental to proposed pavement.
DETAIL A

RAMP P

NOTES
For pavement slopes and elevations see Grade Details see Sh. No. 110-116.
For legends see Sh. No. 7.

MONASTERY ST.

***UNDERDRAIN CLASSIFICATION**

5- Shallow Pipe Underdrain, 30" cover, subgrade to top of pipe, in fill and interior underdrains.

5A-Deep Pipe Underdrain, 50" cover, subgrade to top of pipe, in earth cuts.

5B-Shallow Pipe Underdrains, 707.01 Type III or 707.12 Type III, 12" Cover, subgrade to top of pipe, in rock cuts.

PAVEMENT LEGEND

	DESCRIPTION
1	451 9" Reinforced Portland Cement Concrete Pavement.
2	310 6" (except as noted) Subbase, Type II
3	304 6" (except as noted) Aggregate Base
4	301 3" (except as noted) Bituminous Aggregate Base: AC-20, RT-11 or RT-12
5	605 6" Pipe Underdrain.*
6	609 Curb, Standard Type 6
7	612 Concrete Median, Modified As Per Plan. (See Sh. 11 for Note)
8	Special Drainage Connection using No. 8 Aggregate (See Note in Proposal).
10	606 Guard Rail Type 5.
11	659 Seeding and Mulching.
13	451 10" Reinforced Portland Cement Concrete Pavement.
14	609 Concrete Curb Type 7A. (See Sh. 8 for Details)
15	608 4" Concrete Walk.
16	310 6" (except as noted) Subbase, Type I
17	612 Type A Concrete Traffic Island. (See Sh. 8 for Details)
18	402 1" Asphalt Concrete (AC-20)
19	305 8" Portland Cement Concrete Base.
20	407 Tack Coat @ 0.10 gal. per Sq. Yd. and Cover Aggregate 703.06
21	404 1" Asphalt Concrete (AC-20)
22	409 Seal Coat, using 0.008 Cu. Yd of No. 8 Cover aggregate per Sq. Yd and 0.30 Gal. of Bituminous Material.
25	612 4" Concrete Median, As Per Plan. (See Sh. 11 for Note)

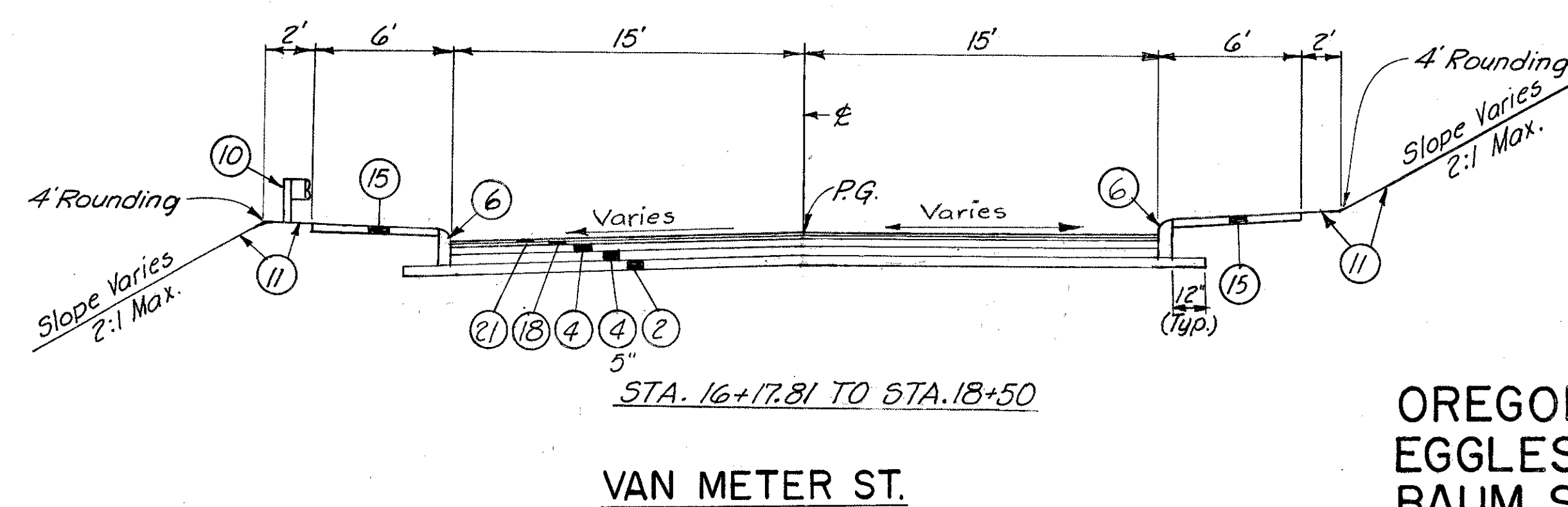
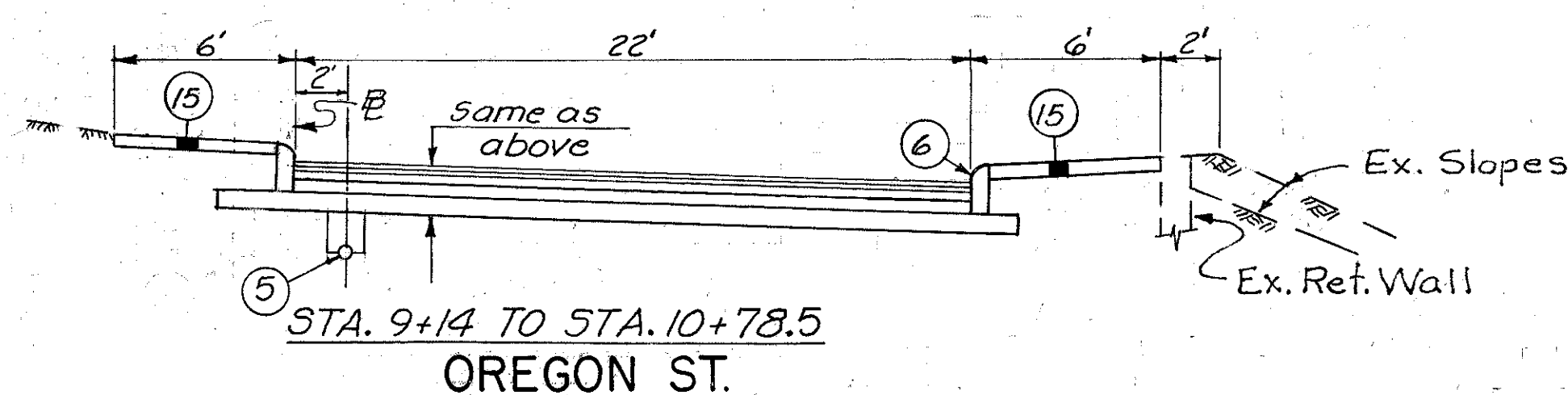
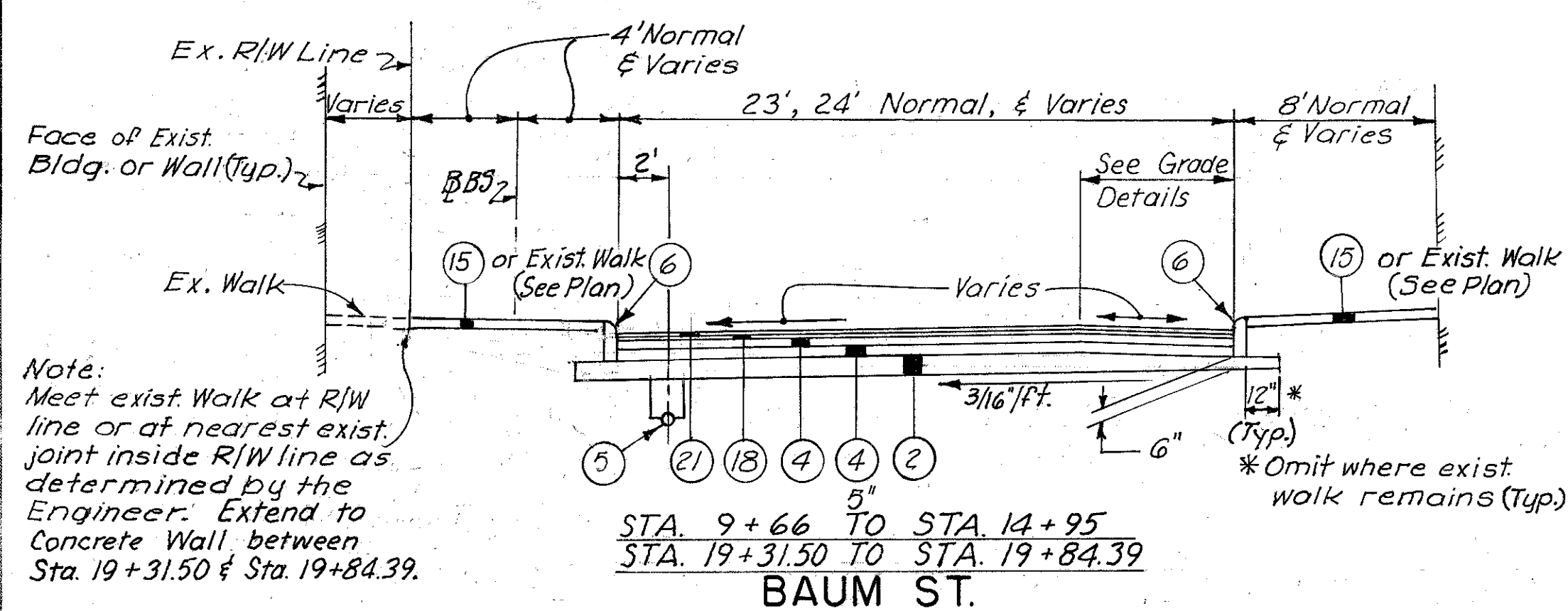
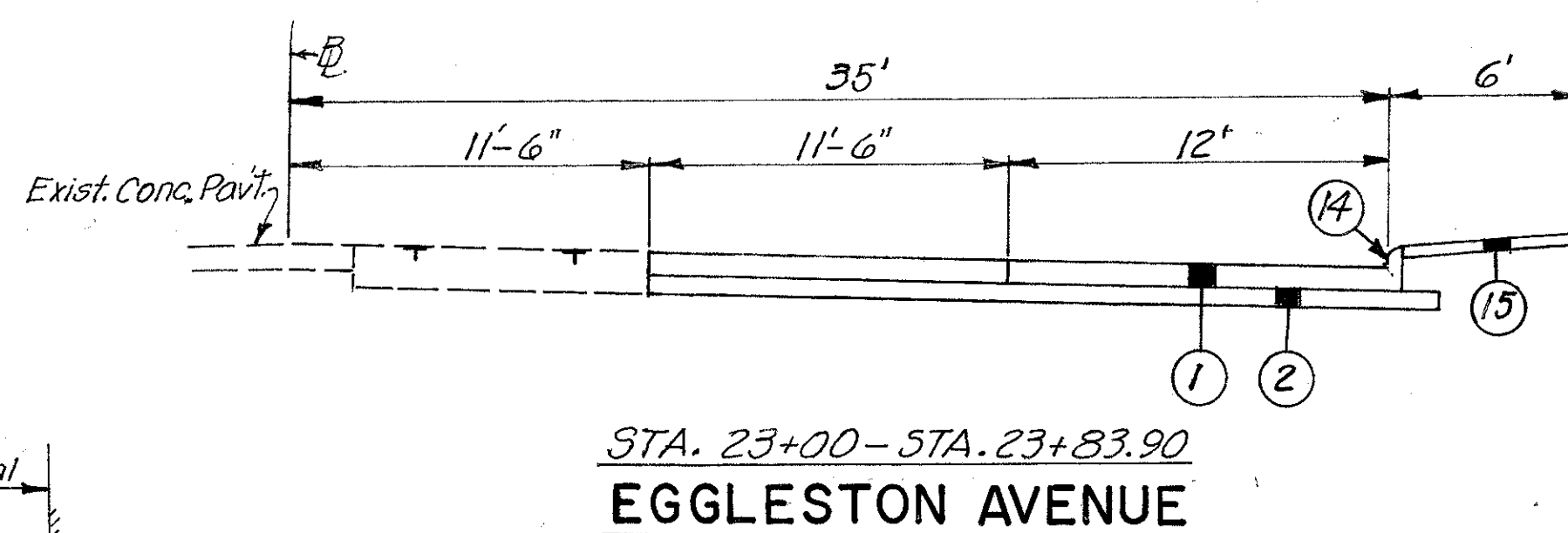
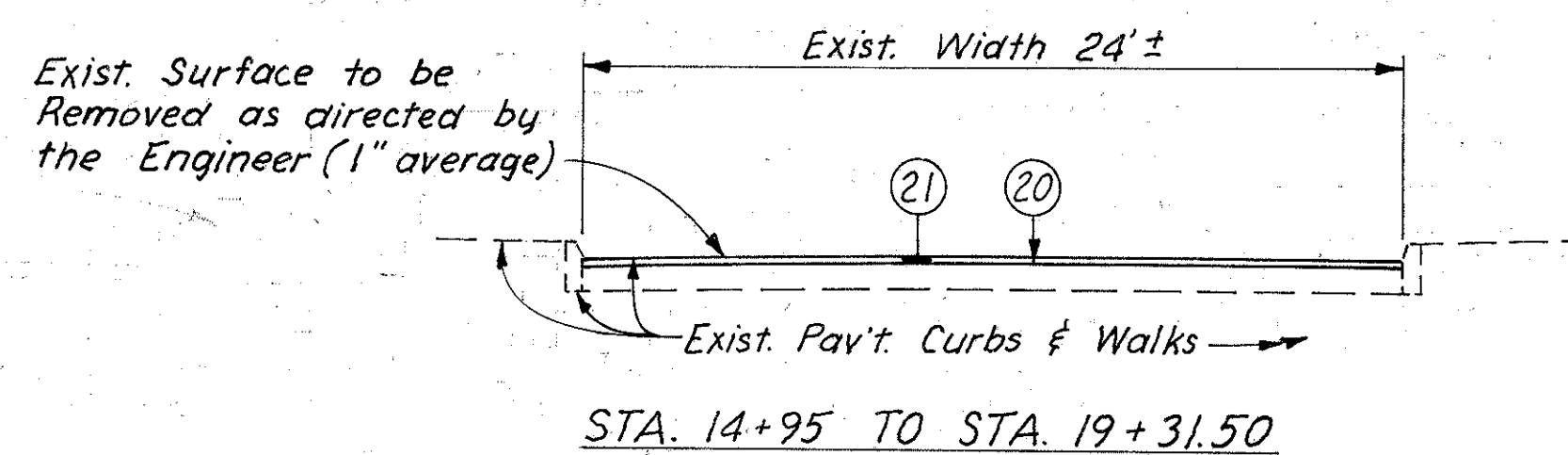
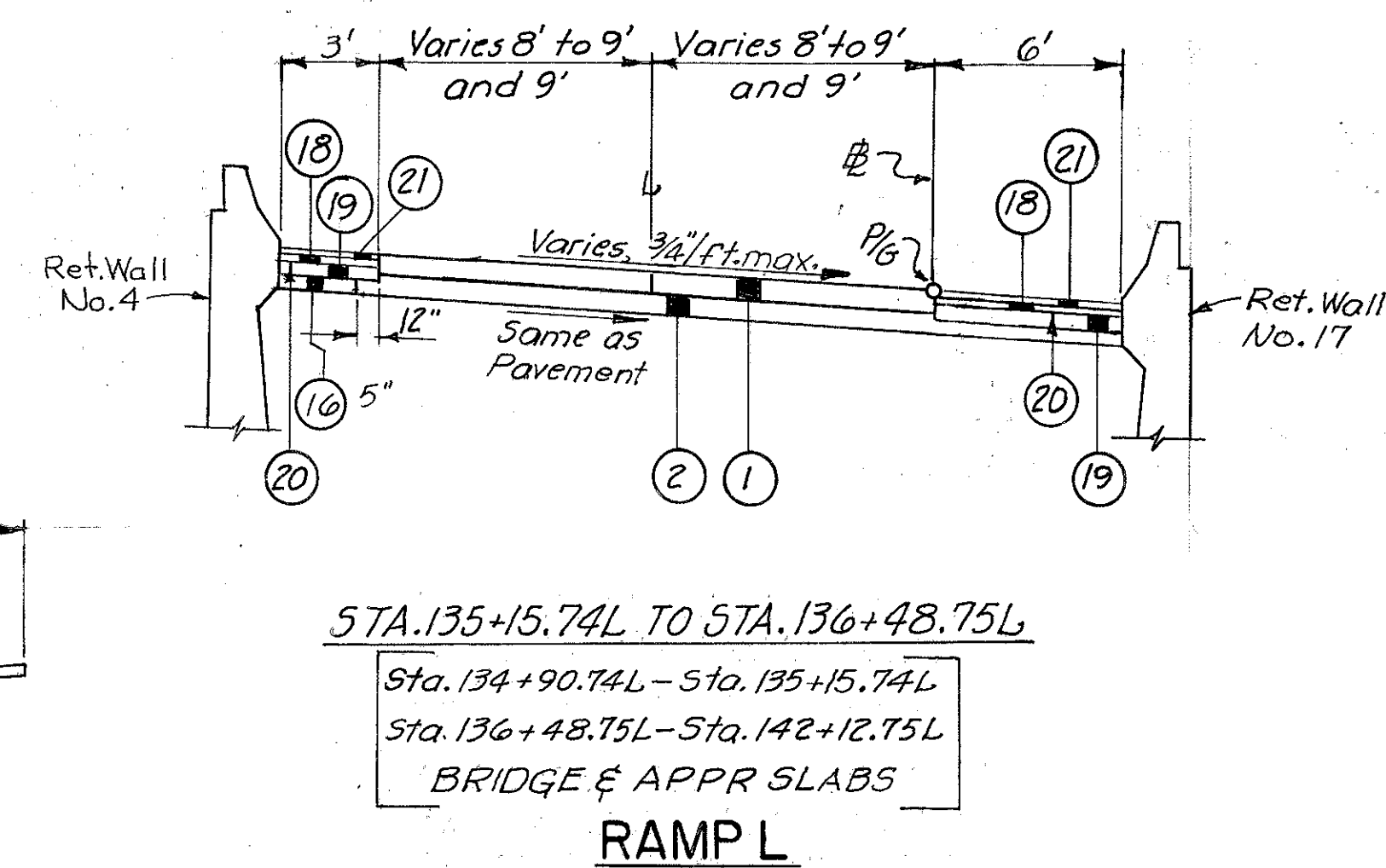
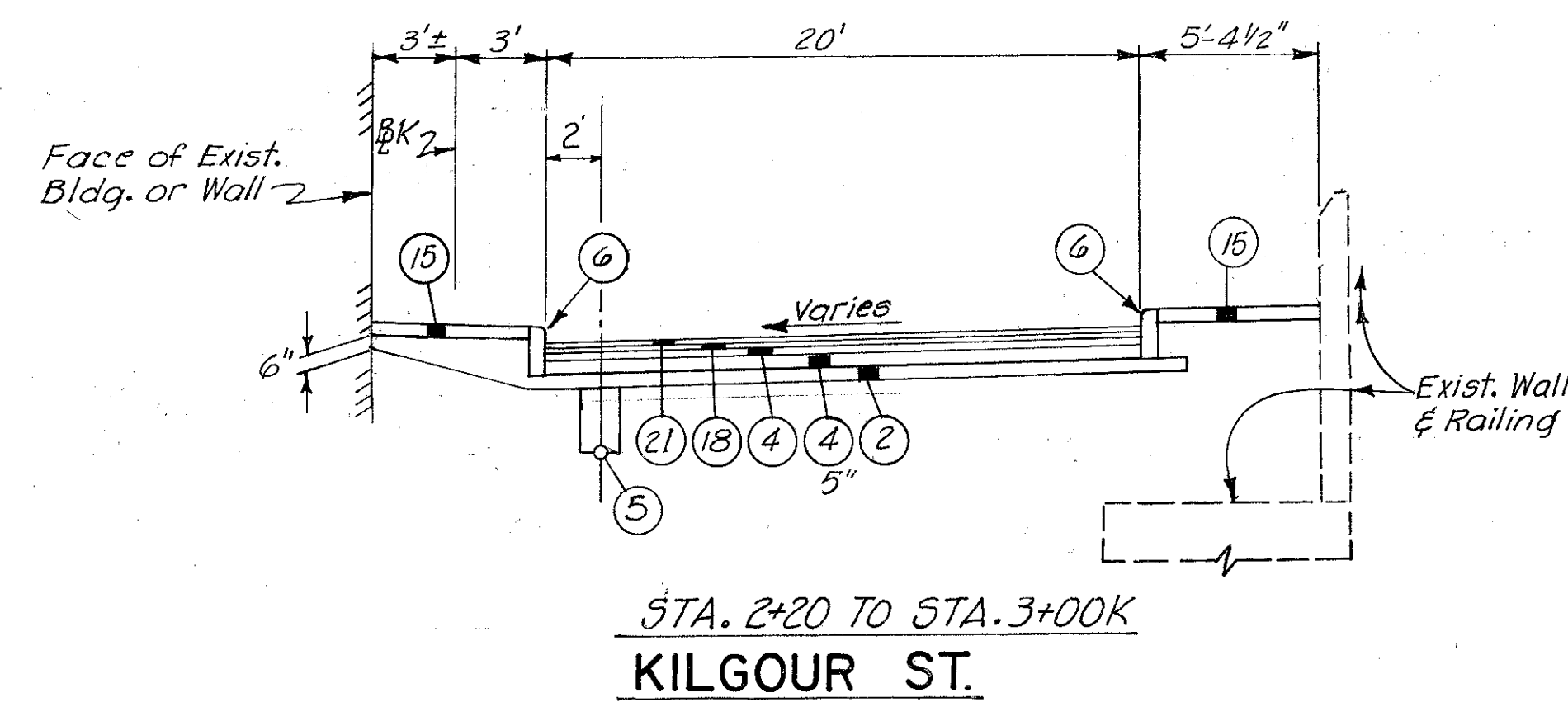
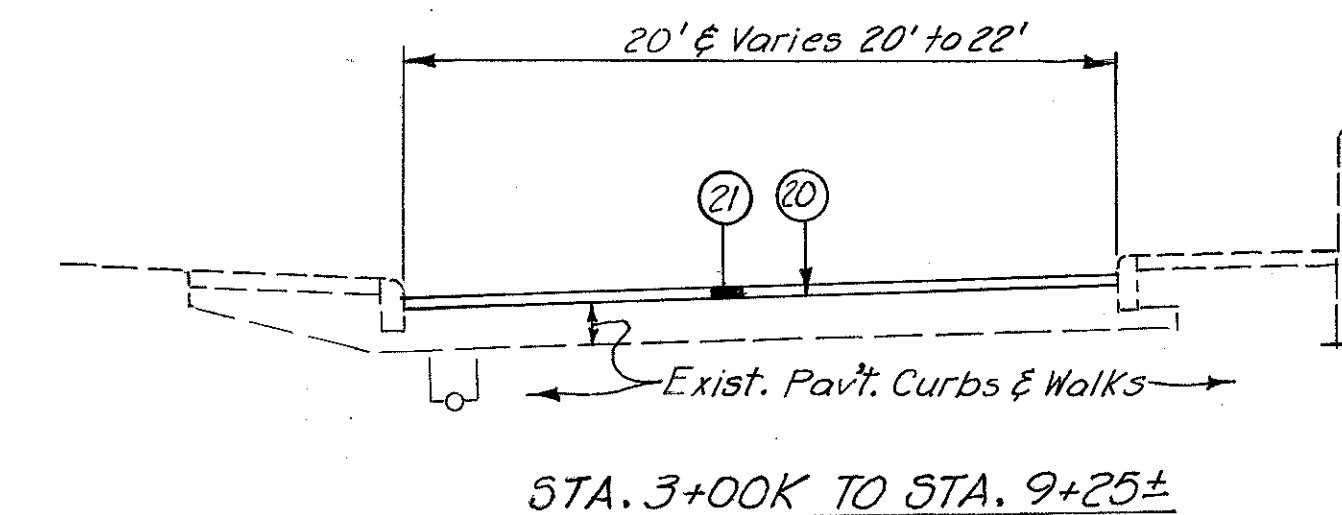
*See Table above for type

**TYPICAL SECTIONS
TYPE 451**

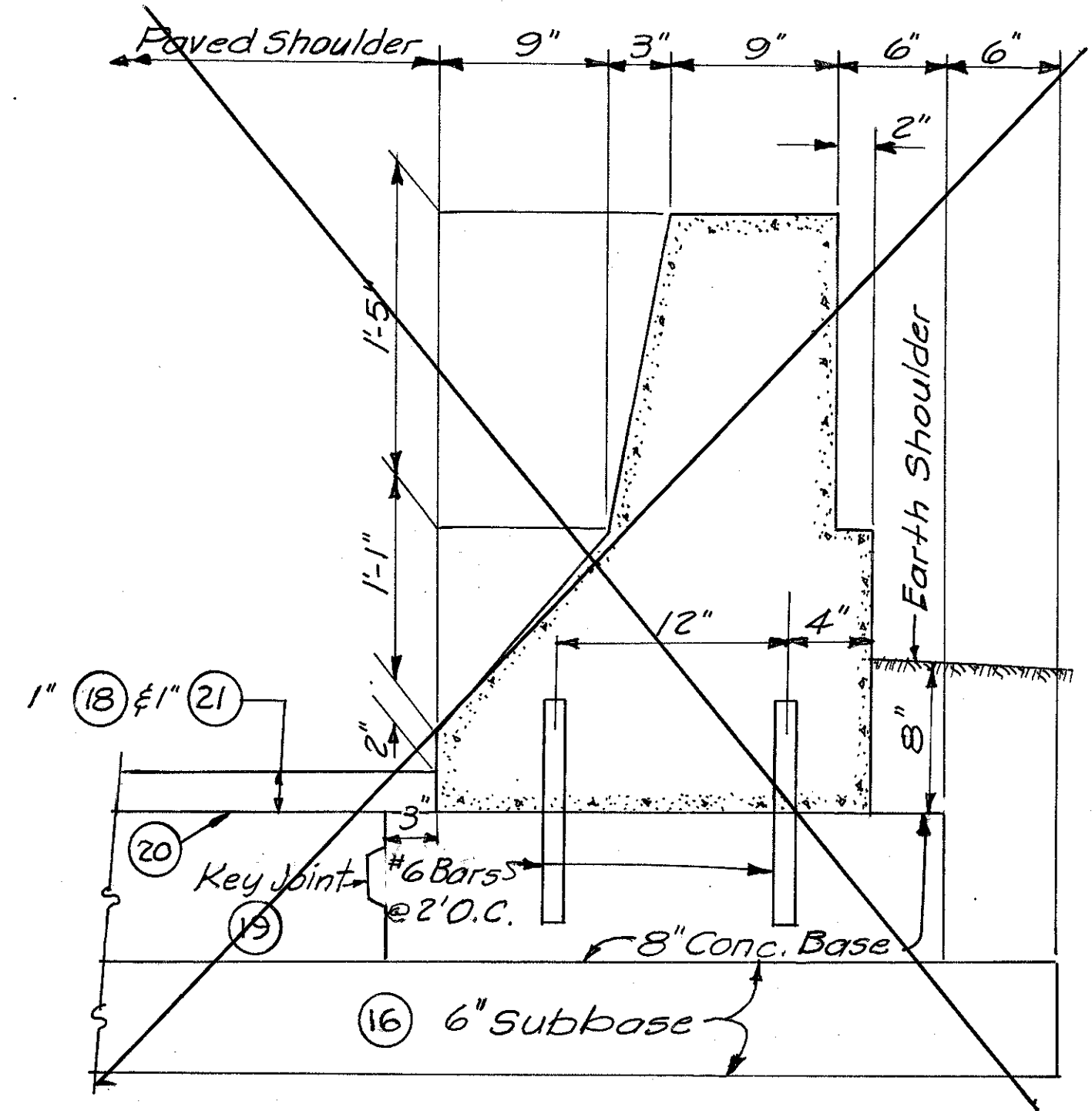
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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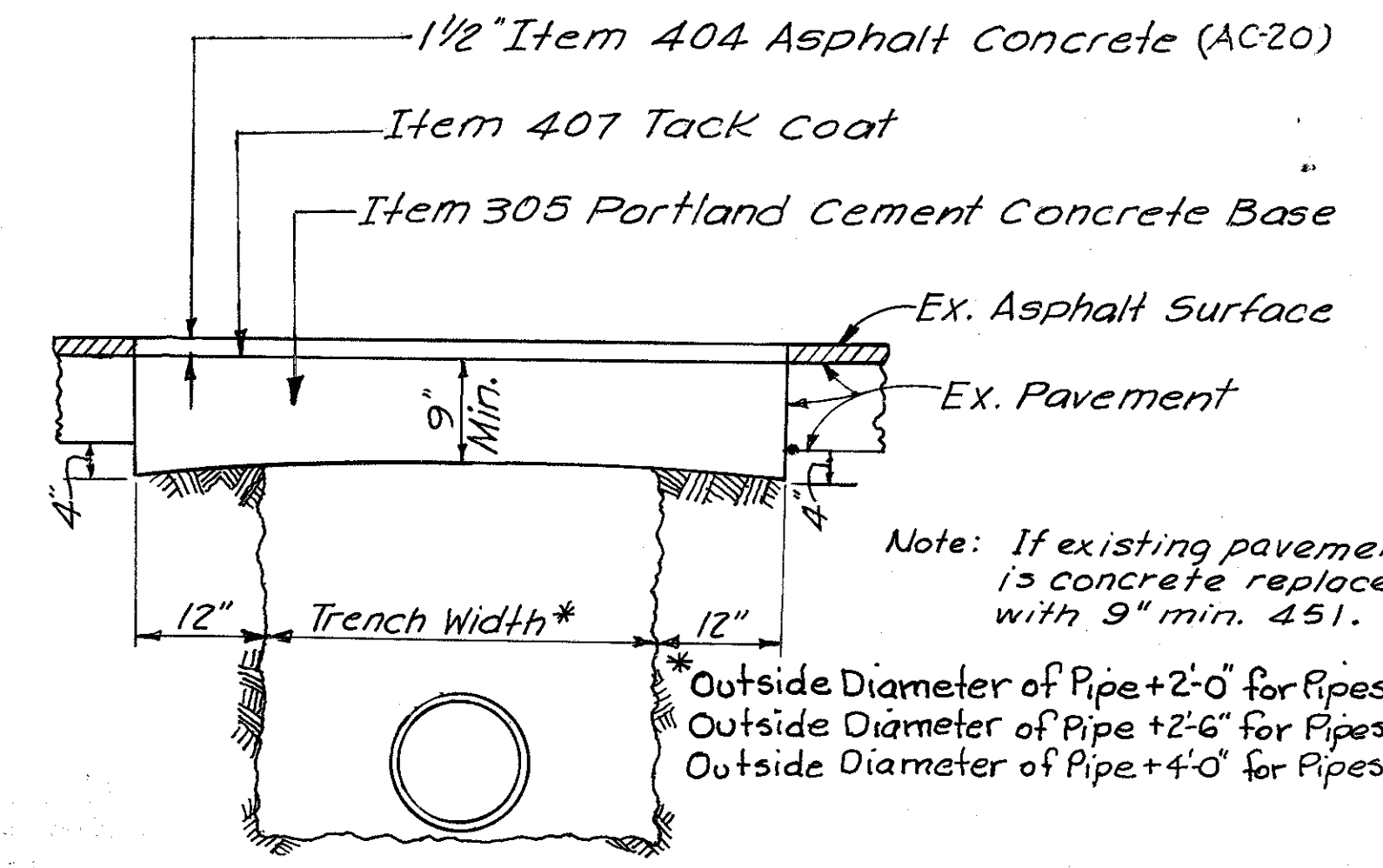
HAMILTON COUNTY
HAM-471-0.24
PART TWO



OREGON ST.
EGGLESTON AVE.
BAUM ST.
KILGOUR ST.
RAMP L
VAN METER ST.
TYPICAL SECTIONS

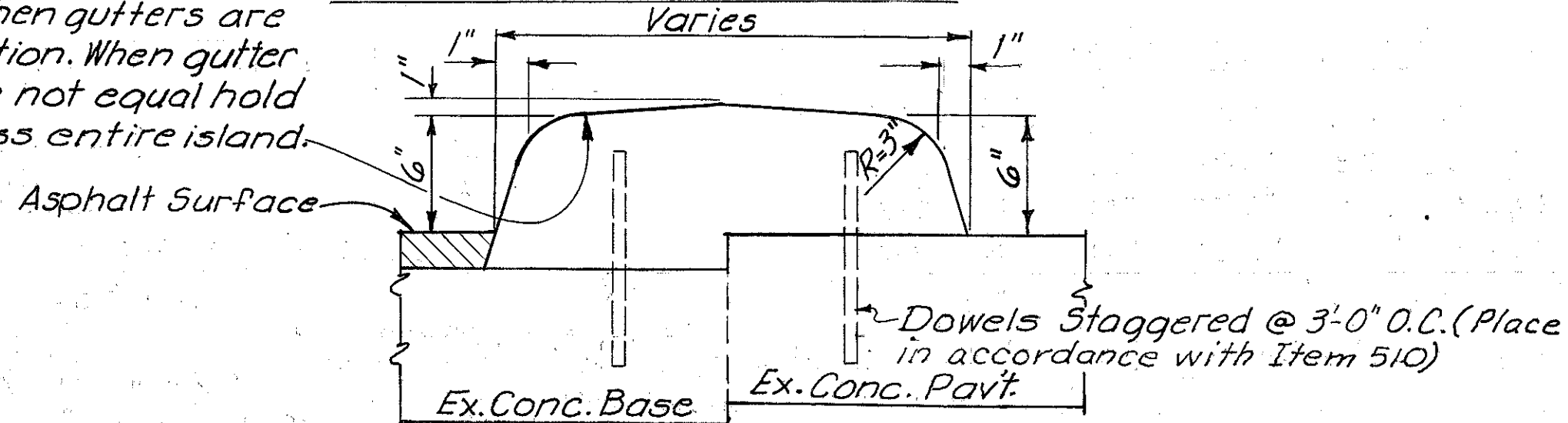


~~SPECIAL PARAPET CURB
DOES NOT APPLY~~



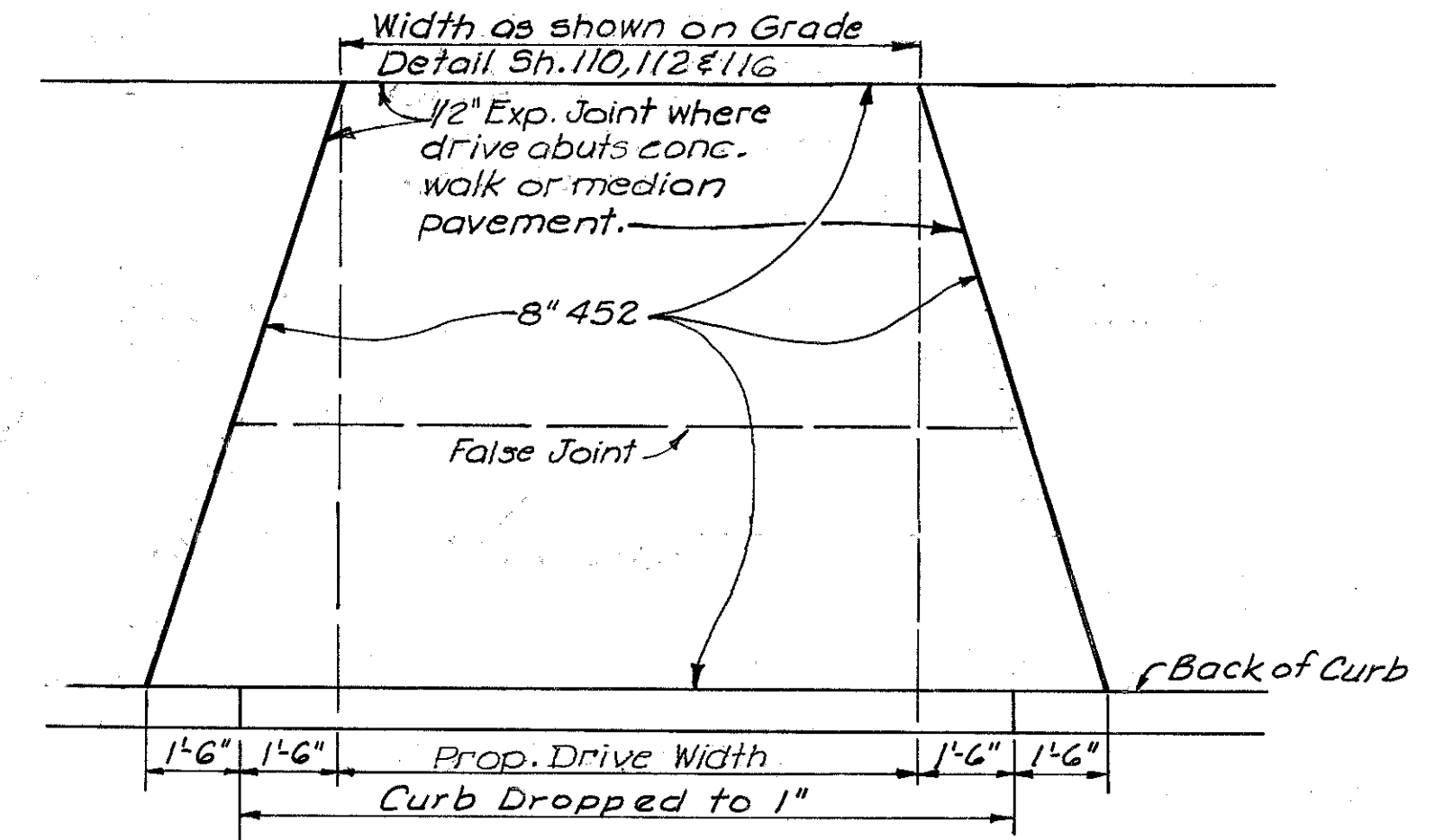
PAVEMENT RESTORATION

Slope shown when gutters are at same elevation. When gutter elevations are not equal hold 6" height across entire island.

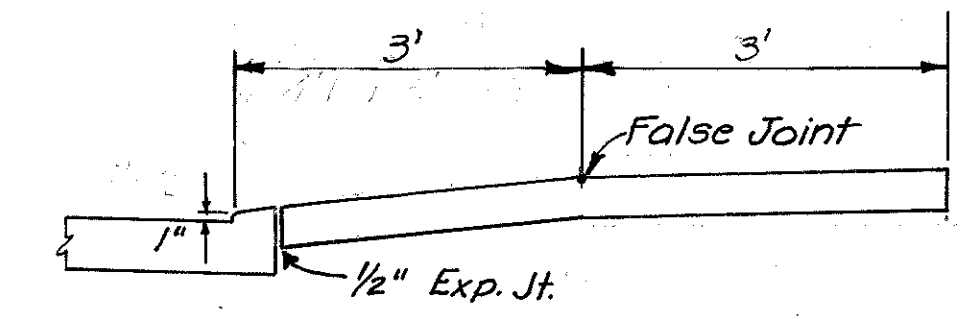


TYPE A CONCRETE TRAFFIC ISLAND

Furnishing and placing dowels included in cost of Type 'A' Conc. Traffic Island.

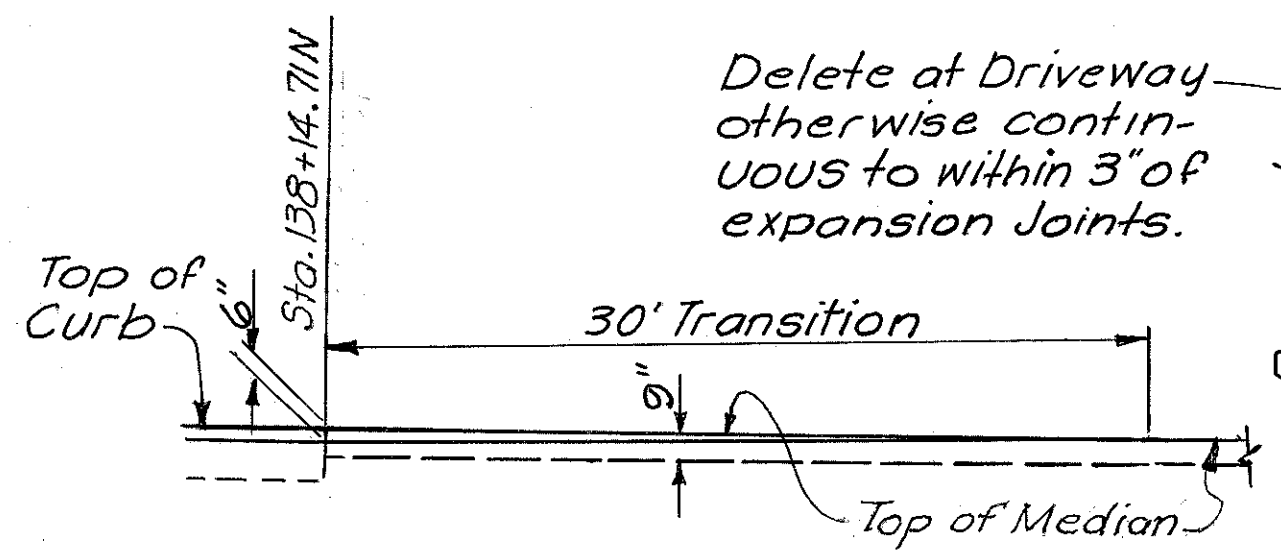


PLAN

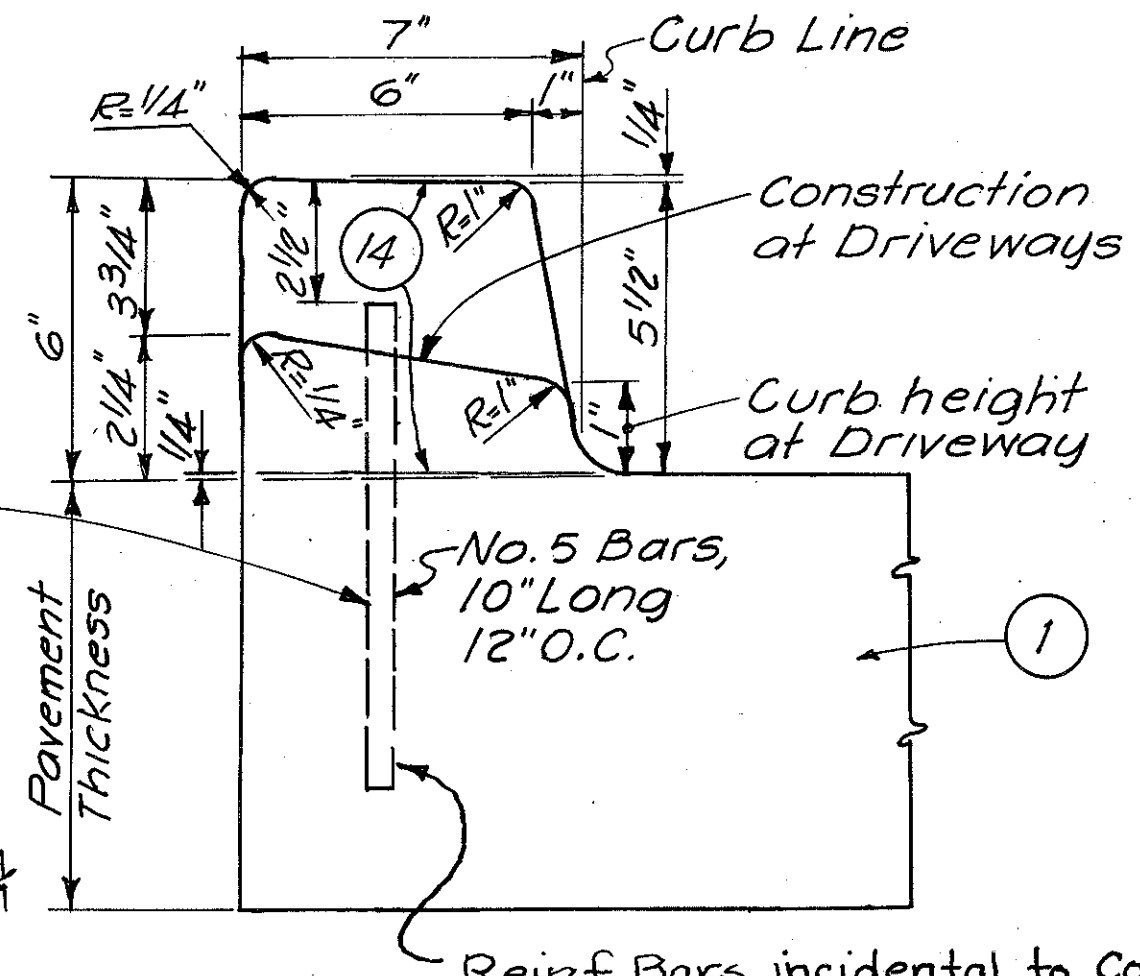


SECTION

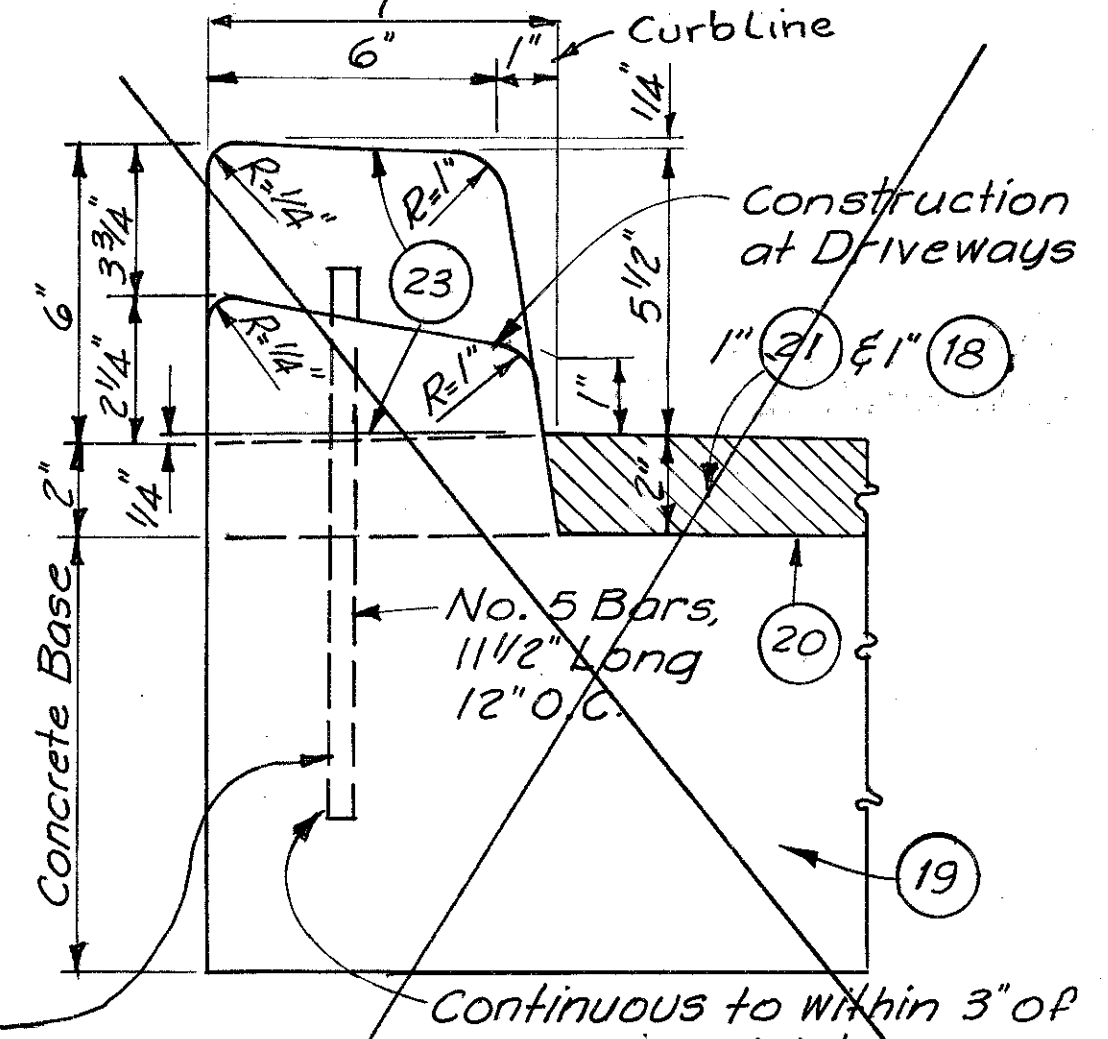
DRIVEWAY DETAILS
FOR MONASTERY & BAUM STREETS
(See Grade Detail Sh. 110, 112 & 116)



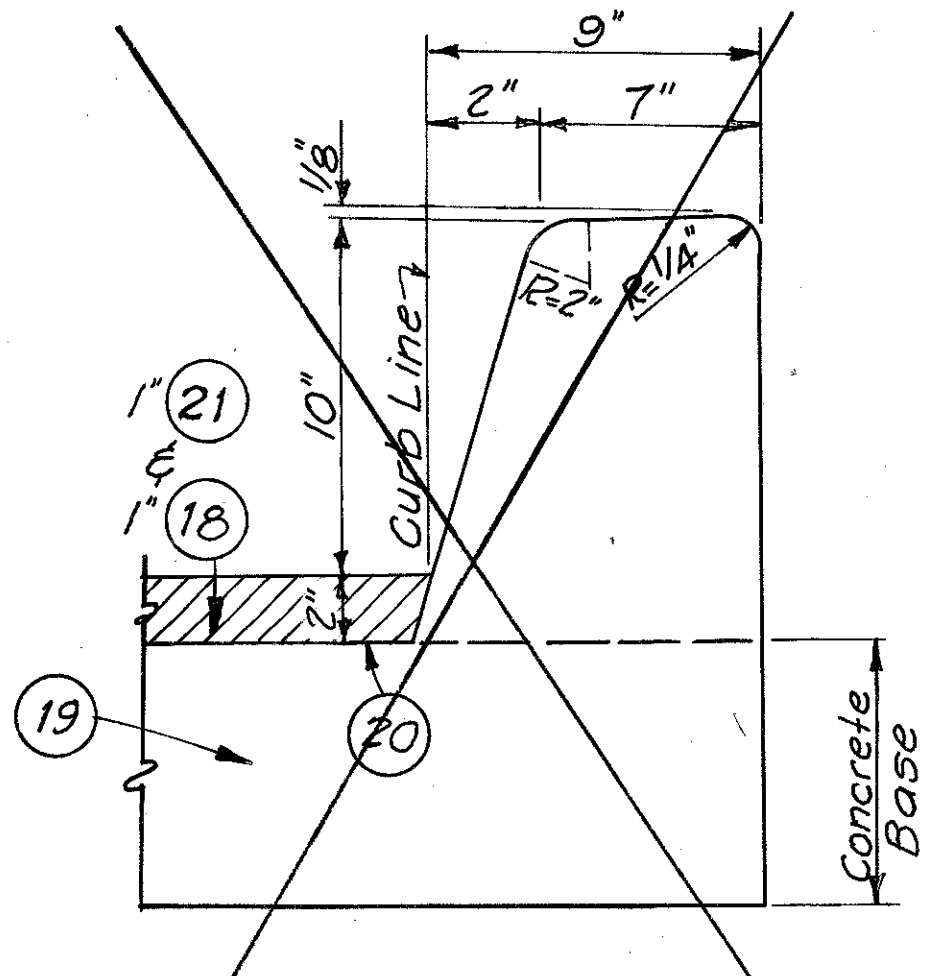
EXIT NOSE DETAIL
STA. 137+14.71N - STA. 138+14.71N



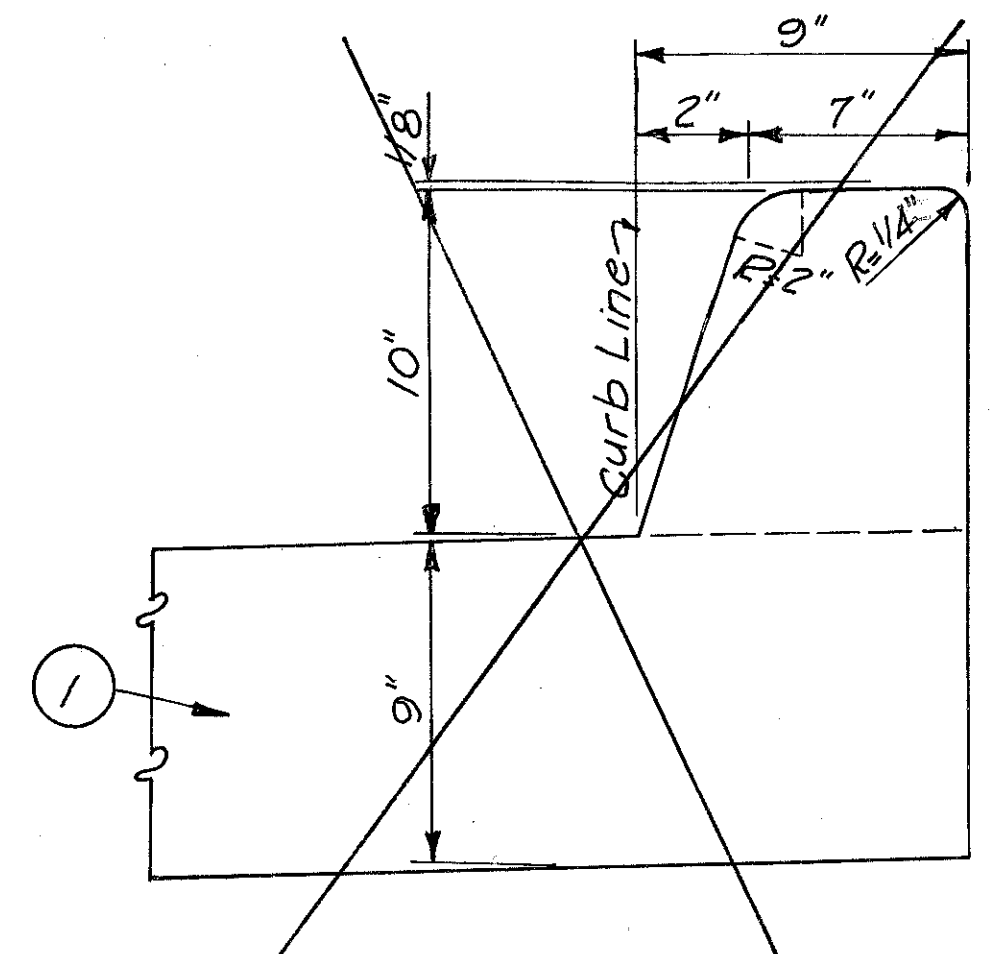
TYPE 7A CONCRETE CURB
City of Cincinnati Acc. No. 5562



TYPE 7B CONCRETE CURB
City of Cincinnati Acc. No. 5590
~~DOES NOT APPLY~~



TYPE IOB CONCRETE CURB
~~DOES NOT APPLY~~

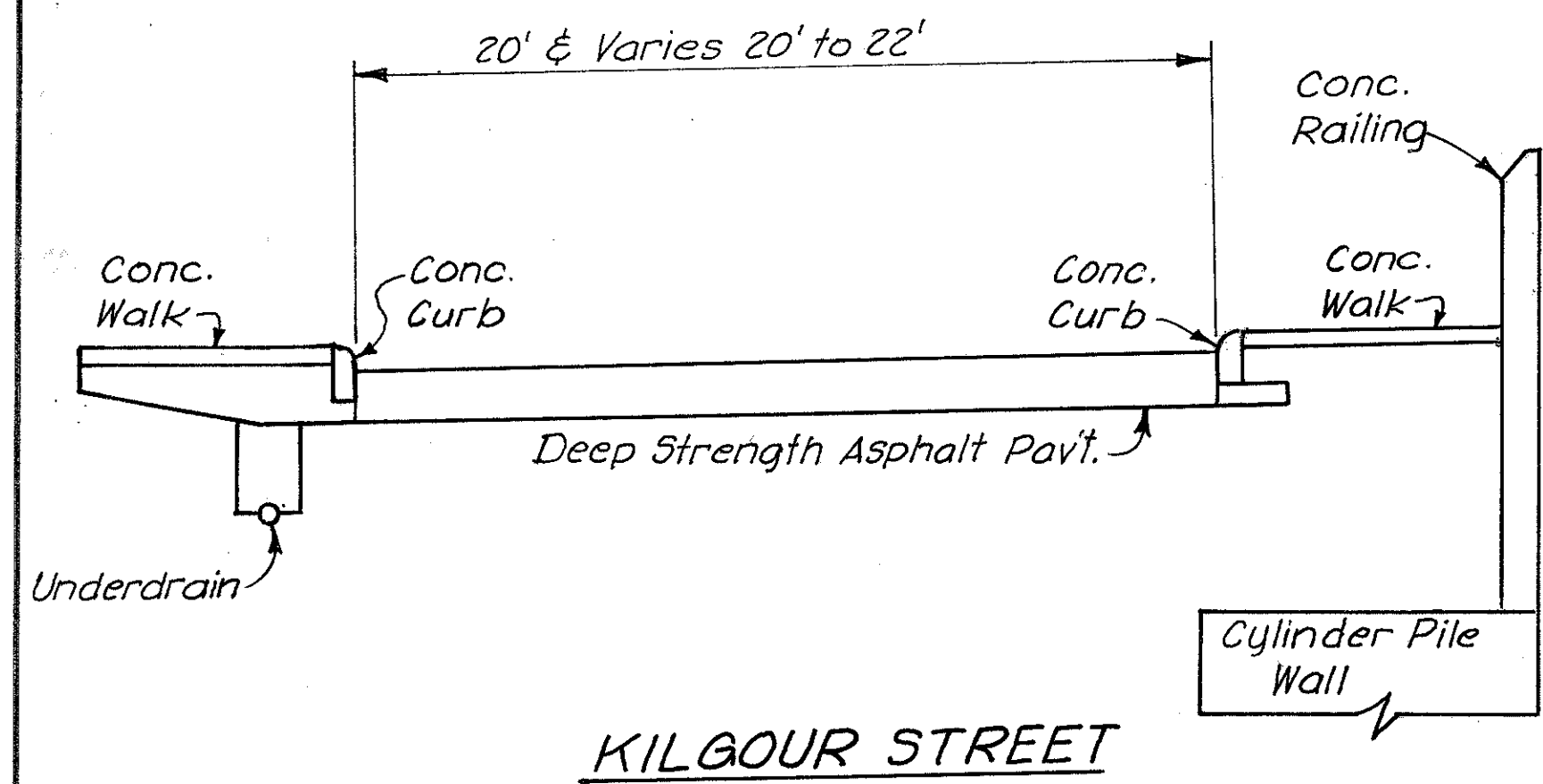


TYPE IOA CONCRETE CURB
~~DOES NOT APPLY~~
MISCELLANEOUS DETAILS

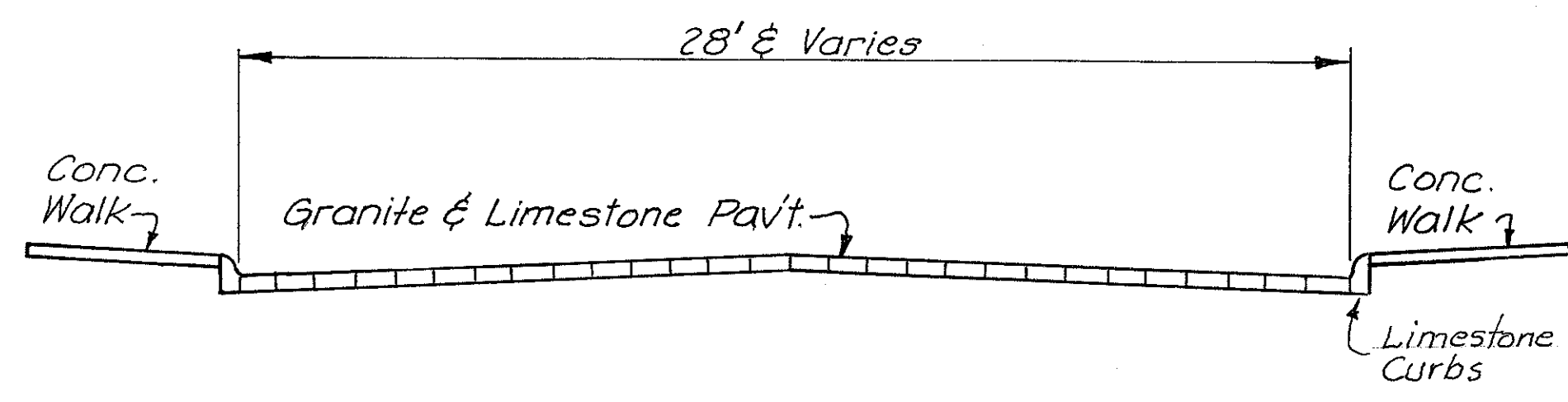
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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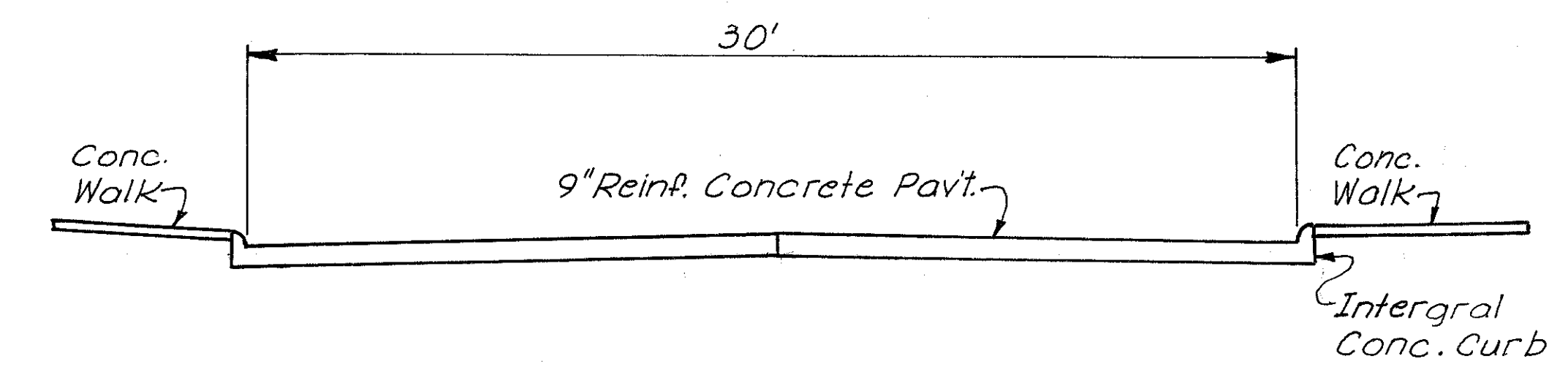
HAMILTON COUNTY
HAM-471-0.24
PART TWO



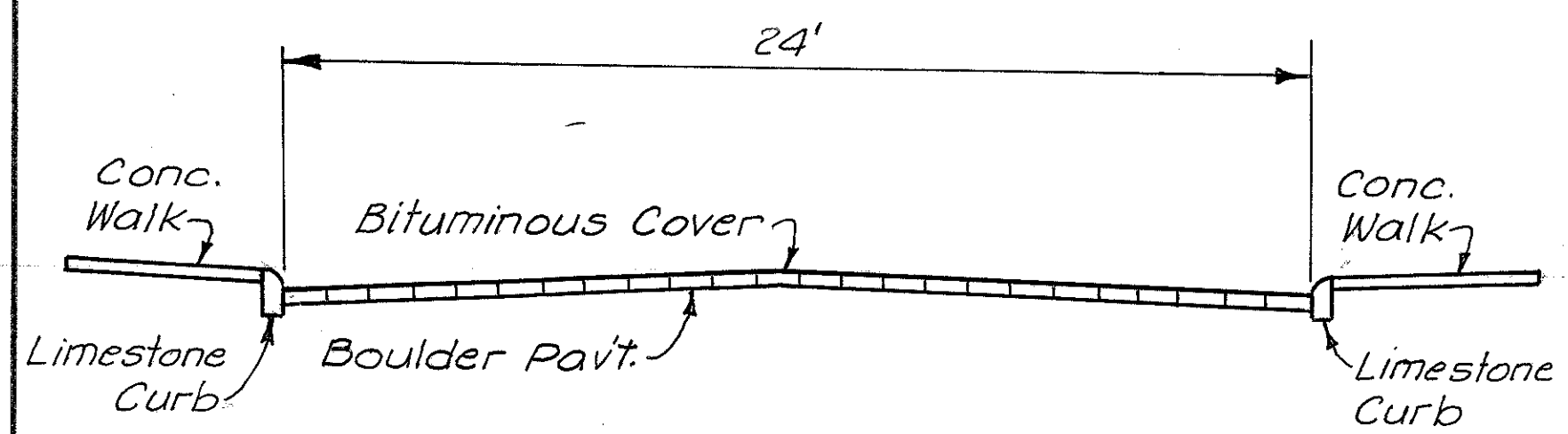
KILGOUR STREET



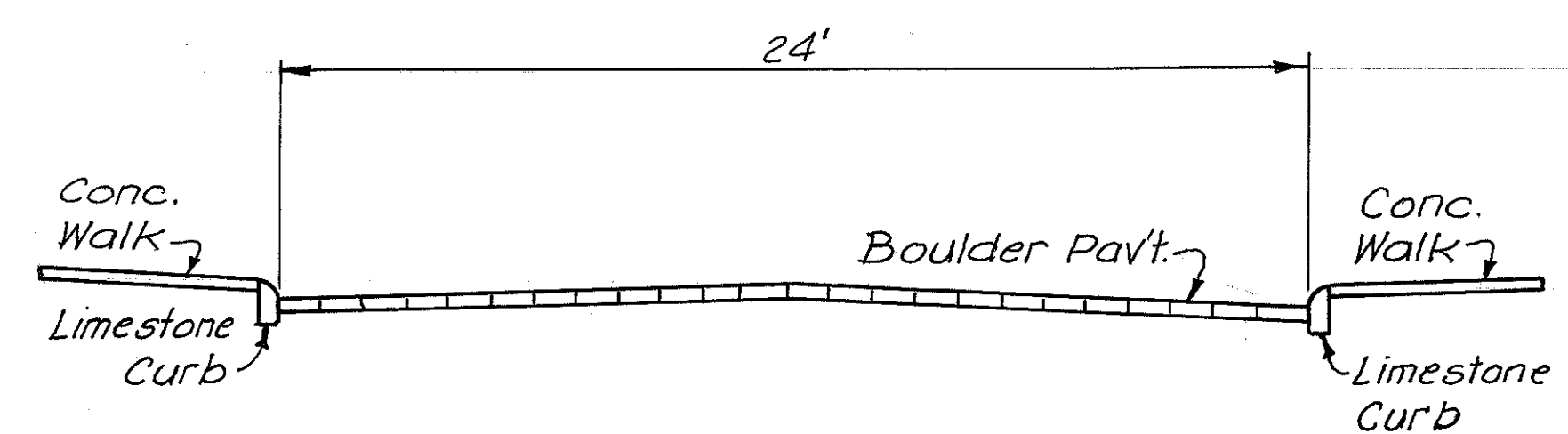
FIFTH STREET



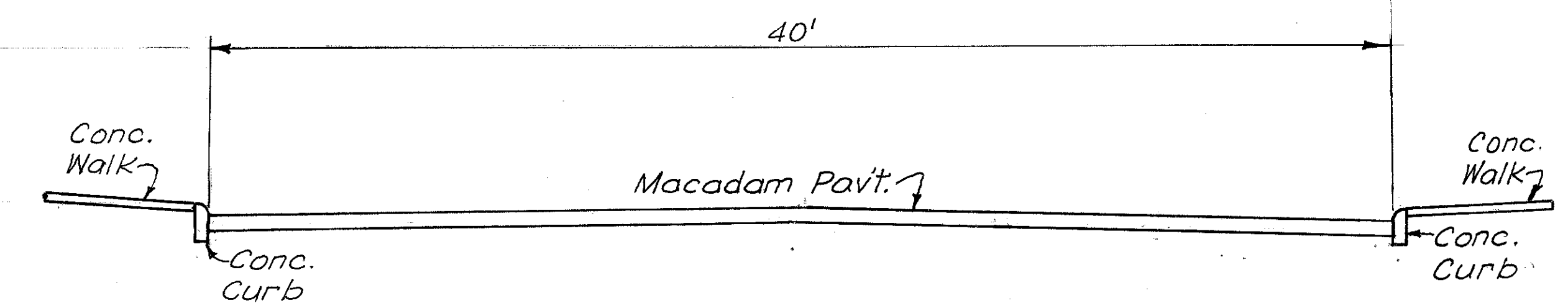
NEW VAN METER STREET



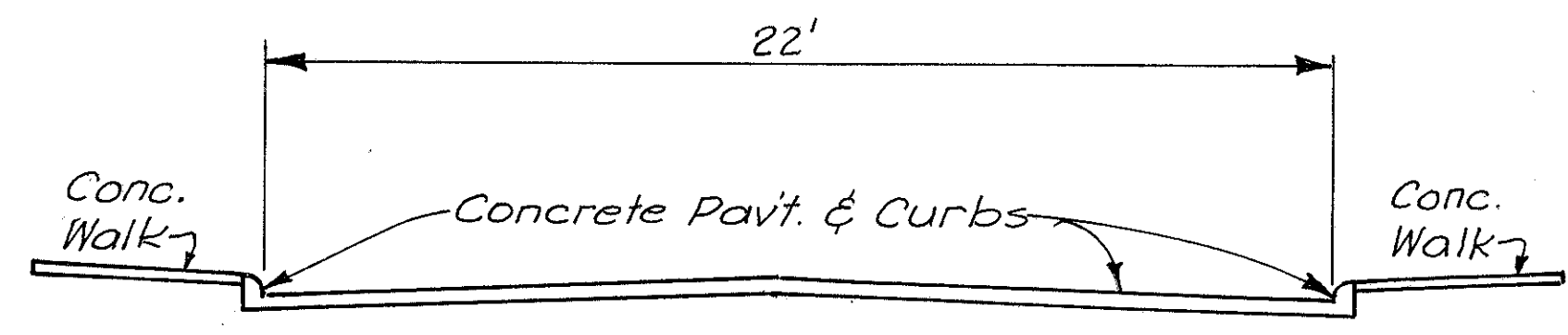
BAUM STREET



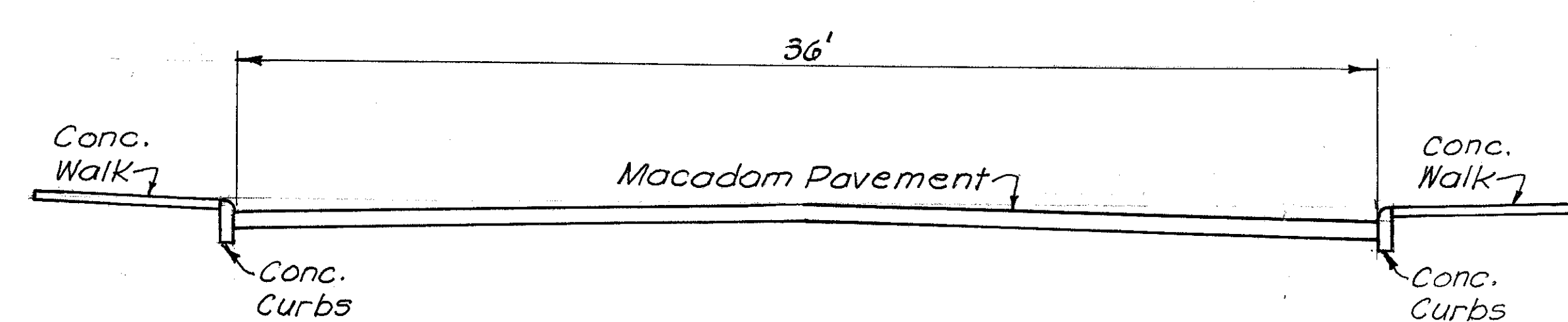
FINN STREET



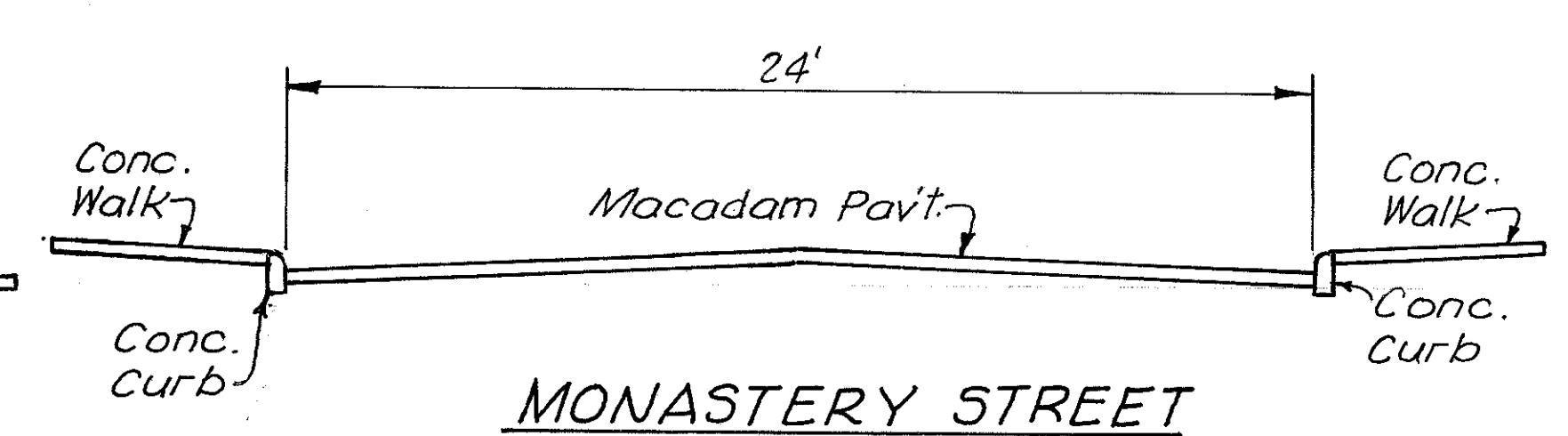
OLD VAN METER STREET



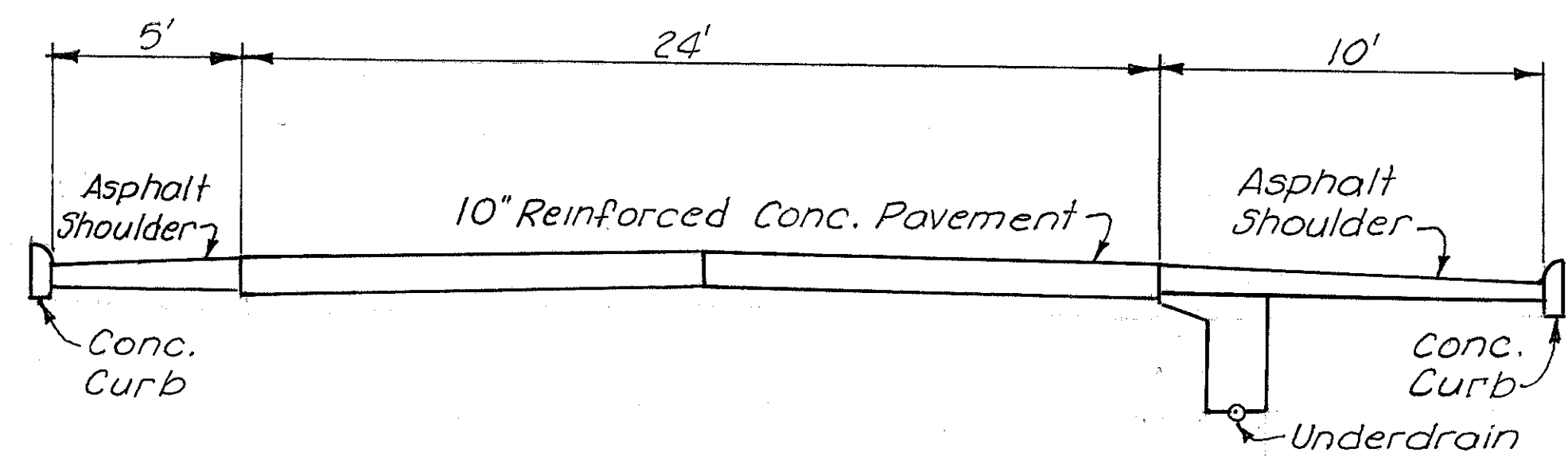
OREGON STREET



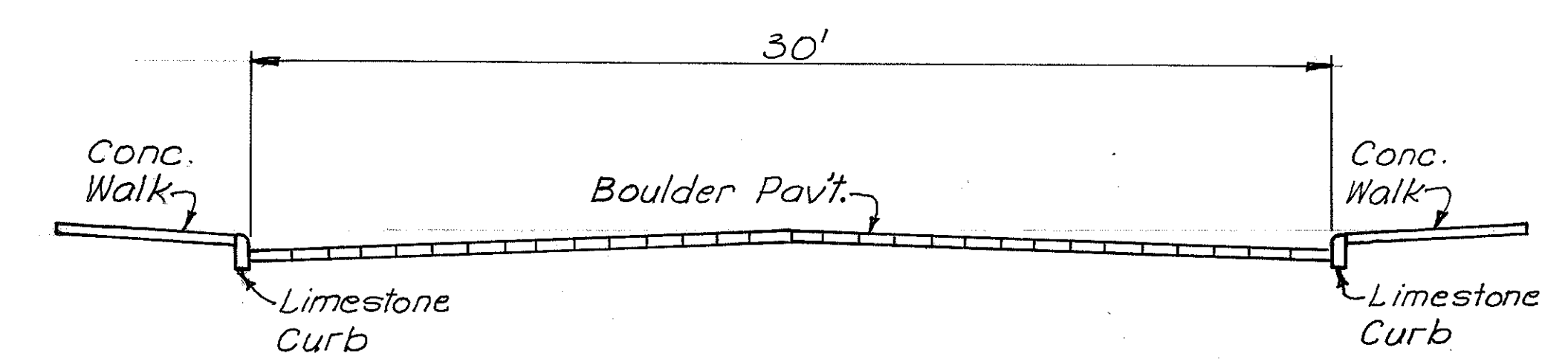
LOCK STREET



MONASTERY STREET



N.B. OR S.B. I-471
(In direction of traffic)



ELLEN STREET

QUANTITIES
 BY C.B.B. DATE 8-80
 CHECKED WWC DATE 9-80

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY
 HAM-471-0.24
 PART TWO

GENERAL

ROADWAY

ELEVATION DATUM

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

MOBILIZATION, AS PER PLAN

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 800 SQ. FT. OF FLOOR SPACE (SINGLE OFFICE OR 2 OFFICE TRAILERS WITH 400 SQ. FT. PER TRAILER MINIMUM) WHICH SHALL BE IN ACCORDANCE WITH 619.02 AND 619.02. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 624 MOBILIZATION AS PER PLAN.

WORK SCHEDULE

The Contractor shall schedule his operations so that the proposed work on Oregon St, and on Baum St. between Oregon St and Monastery St, will be performed during the latter stages of the Project. The scheduling of this work shall be approved by the Engineer prior to the performance thereof.

No separate payment will be made for scheduling the work as outlined above, and all costs in connection therewith will be included in the contract unit prices for the various items of work involved.

WATER AND GAS SHUT-OFF BOXES

THE WATER AND GAS SHUT-OFF BOXES GENERALLY LOCATED BEHIND THE EXISTING CURB ARE SHOWN ON THE PLAN SHEETS AND DESIGNATED BY THE FOLLOWING SYMBOLS:

- oG GAS BOX
- oW WATER BOX

CONTINGENCY QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. ESTIMATED QUANTITIES OF MATERIALS SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

SUMMARY GEOTECHNICAL REPORT I-471 MT. ADAMS

Copies of Shannon & Wilson's Summary Geotechnical Report I-471 Mt. Adams are available for inspection by prospective bidders at the Engineering Division, Room 440, City Hall, in Cincinnati. This summary is available for information only and is not a part of the plans. Information shown in this summary was obtained solely for use in developing the design for the project. No warranty is made for the accuracy of the data contained in the summary and is not to be construed as a part of the plans governing construction of the project.

FIELD AND LABORATORY INVESTIGATIONS

A report of field and laboratory investigations for this project is contained in appendix I to the Summary Geotechnical Report. This appendix is provided for information only and is not a part of the plans. No warranty is made for the accuracy of borings, test pits, laboratory investigations, rock elevations, ground water, or interpretations of surface conditions, even though this information is the result of field investigations for the evaluation of slope stabilization measures on Mt. Adams. It shall be the responsibility of the Contractor, if he deems it necessary, to conduct his own subsurface drilling program to verify soil and rock conditions.

PARKING

THE CONTRACTOR SHALL NOT PERMIT REVENUE PRODUCING PARKING OF MOTOR VEHICLES WITHIN THE RIGHT-OF-WAY OF THIS PROJECT.

CONTRACTOR'S MAINTENANCE RESPONSIBILITY

ON THIS PROJECT, THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF THE EXISTING PAVEMENT PER ITEM 614 SHALL BE LIMITED TO THOSE PORTIONS OF THE EXISTING PAVEMENT LYING WITHIN THE PROPOSED PROJECT LIMITS.

HAUL ROADS

THE CONTRACTOR SHALL NOTIFY THE DISTRICT DEPUTY DIRECTOR AND THE CITY OF CINCINNATI, IN WRITING, AT LEAST TEN DAYS BEFORE USING ANY STREET FOR THE PURPOSE OF HAULING MATERIAL OR EQUIPMENT TO OR FROM THE PROJECT, OF HIS INTENT TO USE THE STREETS. THE CONTRACTOR SHALL INCLUDE IN HIS REPORT THE LIMITS OF THE STREETS WITHIN WHICH HE INTENDS TO OPERATE. THE CONTRACTOR MAY NOT USE A STREET FOR HAULING PURPOSES WITHOUT APPROVAL OF THE DIRECTOR OF DEPARTMENT OF TRANSPORTATION AND THE CITY MANAGER, CITY OF CINCINNATI.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTORS' ATTENTION IS CALLED TO THE EXISTENCE OF A SEPARATE PROJECT, HAM-471-0.24 PART ONE, THAT IS CURRENTLY UNDER CONSTRUCTION AS WELL AS A FUTURE CONTRACT THAT MAY BE AWARDED FOR BEAUTIFICATION OF THE ENTIRE I-471 PROJECT. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE HIS OPERATIONS CONCURRENTLY WITH THESE CONTRACTORS IN SUCH A MANNER THAT WILL RESULT IN COMPLETING THESE PROJECTS AS EXPEDITIOUSLY AS POSSIBLE.

ALL UNDERGROUND WORK SHALL BE SCHEDULED AND COMPLETED AT SOME PLANNED TIME, AGREEABLE TO ALL PARTIES CONCERNED, THAT WILL CAUSE THE LEAST AMOUNT OF INTERFERENCE WITH THE MOVEMENT OF TRAFFIC.

ITEM SPECIAL - IMPACT ATTENUATOR, HI-DRO SYSTEM

THIS WORK SHALL CONSIST OF AN IMPACT ATTENUATOR UNIT AND BACKUP ASSEMBLY SUPPLIED BY ENERGY ABSORPTION SYSTEMS, INC., ONE IBM PLAZA, CHICAGO, ILLINOIS, AND PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PLAN DETAIL SHEETS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, THICKNESSES AND TYPICAL SECTIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.

INCLUDED IN THE COST OF THE IMPACT ATTENUATOR SHALL BE REMOVAL OF EXISTING CONFLICTING MATERIALS, INSTALLATION OF THE CABLE ANCHORAGE PLATE, ANCHOR BOLTS AND HORIZONTAL BACKUP BRACING, CONSTRUCTION OF THE CONCRETE PAD, WALL AND FRONT ANCHORAGE (INCLUDING EXCAVATION AND REINFORCEMENT) AND ALL INCIDENTALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HI-DRO SYSTEM IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE SAFETY-FLEX BELT ASSEMBLY ON THE NOSE OF THE ATTENUATOR SHALL BE MARKED WITH 4 EVENLY SPACED 4" WIDE VERTICAL STRIPES OF WHITE REFLECTIVE MATERIAL. THE FENDER PANELS SHALL BE MARKED WITH WHITE REFLECTIVE MATERIAL IN VERTICAL STRIPES 4" IN WIDTH. CENTER OF THE STRIPE SHALL BE LOCATED 6" FROM THE REAR EDGE OF EACH PANEL.

CONSTRUCTING IMPACT ATTENUATORS SHALL BE ONE OF THE FIRST ITEMS OF WORK. THE CITY WILL REMOVE THE EXISTING IMPACT ATTENUATORS AT THOSE SITES WHERE NEW ONES ARE TO BE INSTALLED BY THE CONTRACTOR. THE ENGINEER SHALL NOTIFY THE CITY TWO WEEKS PRIOR TO START OF CONSTRUCTION AND NO ATTENUATORS SHALL BE REMOVED UNTIL SO ORDERED BY THE ENGINEER.

FOR IMPACT ATTENUATOR SITE PLANS SEE SHEET 117 & 118.

THE ACCEPTED QUANTITY OF IMPACT ATTENUATORS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH INSTALLATION UNDER ITEM SPECIAL - IMPACT ATTENUATOR HI-DRO SYSTEM, BY MODEL NUMBER.

EROSION CONTROL

Item 601, 660 and 667 are provided in the plans for erosion control. Rock of stable nature will not be removed in order to place any of these items and turf of stable nature will not be removed in order to place 660 and 667. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

SURVEY INFORMATION

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ANY SURVEY INFORMATION APPEARING IN THE PLANS, EXCEPT FOR THE CENTERLINE OF THE PROJECT WHICH HE MAY USE TO LAY OUT THE WORK.

GUARDRAIL OVER CULVERTS

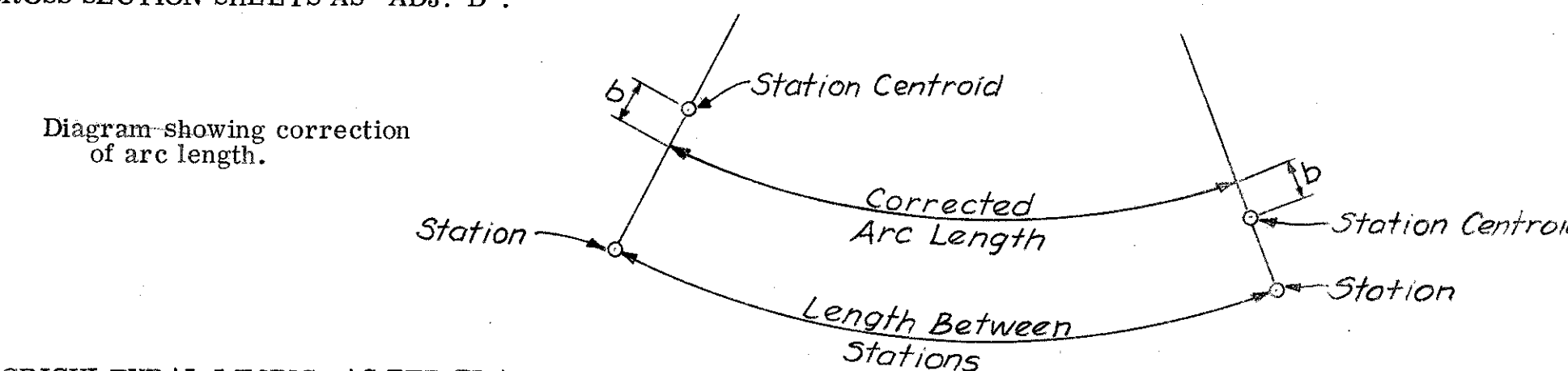
WHEN SUFFICIENT POST DEPTH IS NOT AVAILABLE DUE TO A CULVERT, THE GUARDRAIL POSTS DIRECTLY OVER THE CULVERT SHALL NOT BE DRIVEN, BUT SET IN HOLES. IF THE DISTANCE BETWEEN THE GROUND LINE AND THE TOP OF THE CULVERT IS LESS THAN 3 FT., THE POST SHALL BE ENCASED IN A MINIMUM OF 4" THICKNESS OF CLASS C CONCRETE FOR THE FULL DEPTH OF THE POST. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL TYPE 5.

ITEM 659, SEEDING AND MULCHING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT OF WAY FENCE LINES, BETWEEN THE RIGHT OF WAY LINES IN UNFENCED AREAS, AND WITHIN THE WORK LIMITS FOR AREAS OUTSIDE THE RIGHT OF WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT.

CORRECTION OF ARC LENGTH FOR EARTHWORK COMPUTATIONS

ARC LENGTHS FOR EARTHWORK COMPUTATIONS HAVE BEEN CORRECTED IN ACCORDANCE WITH THE DIAGRAM SHOWN ON THIS SHEET. CORRECTED LENGTHS BETWEEN CENTROIDS ARE SHOWN ON THE CROSS SECTION SHEETS AS "ADJ. D".



AGRICULTURAL LIMING, AS PER PLAN

THE LOCATION AND NEED FOR AGRICULTURAL LIMING MATERIALS WILL BE DETERMINED BY LABORATORY TESTS AFTER ROUGH GRADING OPERATIONS HAVE BEEN PERFORMED. QUANTITIES OF AGRICULTURAL LIMING MATERIALS AS SHOWN ON THE PLANS ARE SUFFICIENT FOR THE ENTIRE PROJECT, BUT WILL BE NON-PERFORMED FOR THE AREAS WHERE TESTS SHOW THAT THE LIMING MATERIAL IS NOT NEEDED.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

EMBANKMENT CONSTRUCTION

BEFORE CONSTRUCTION OF ABUTMENTS OR RETAINING WALLS IN CERTAIN AREAS, EMBANKMENT MUST BE CONSTRUCTED. REFER TO THE STRUCTURE DRAWINGS AND NOTES FOR LOCATION OF THESE AREAS.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

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

659 WATER	15 M. GAL.
601 ROCK CHANNEL PROTECTION TYPE C W/O BEDDING	60 CU. YD.
659 COMMERCIAL FERTILIZER	1.65 TON
207 TEMPORARY SEEDING AND MULCHING	7,700 SQ. YD.
207 STRAW OR HAY BALES	400 EACH
207 TEMPORARY SLOPE DRAINS	300 LIN. FT.
207 TEMPORARY BENCHES, DIKES, DAMS AND SEDIMENT BASINS	1,500 CU. YD.
659 REPAIR SEEDING AND MULCHING	2,000 SQ. YD.

WATERING AND MOWING PERMANENT SEEDING AREAS

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

659 WATER	30 M. GAL.
659 MOWING	60 M. SQ. FT.

ROADWAY

CONCRETE SIDEWALK

WHEREVER THE PROPOSED CONCRETE SIDEWALK ADJOINS OR ABUTS AN EXISTING SIDEWALK, THE EXISTING WALK SHALL BE SAWED AND TRIMMED TO A NEAT LINE AS SHOWN ON THE PLANS. PAYMENT FOR SAWING AND TRIMMING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE FOOT FOR ITEM 608, CONCRETE SIDEWALKS.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO MAKES NO GUARANTEE AS TO THEIR ACCURACY OR COMPLETENESS.

ITEM 203, EMBANKMENT, USING GRANULAR MATERIAL, AS PER PLAN

AN ESTIMATED AMOUNT OF GRANULAR MATERIAL HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AT THE DIRECTION OF THE ENGINEER IN FILLING CAVITIES ENCOUNTERED UNDER PAVEMENT AND ANY OTHER PLACE WHERE ITS USE IS PRACTICAL.

GRANULAR MATERIAL SHALL CONSIST OF SOUND, DURABLE MATERIAL, CONTAINING NOT MORE THAN 5 PERCENT CLAY OR SILT BY WEIGHT AND FREE FROM AN EXCESSIVE AMOUNT OF DELETERIOUS MATERIAL. IT SHALL BE WELL GRADED FROM COURSE TO FINE; 100 PERCENT SHALL PASS A 3 INCH SIEVE, NOT MORE THAN 50 PERCENT SHALL PASS A 1/4" SIEVE AND NOT MORE THAN 10 PERCENT SHALL PASS A NO. 50 SIEVE. THE QUANTITY OF ITEM 203, EMBANKMENT USING GRANULAR MATERIAL, AS PER PLAN, SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 203.

ESTIMATED QUANTITY TO GENERAL SUMMARY 300 C. Y.

ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

THIS WORK SHALL CONSIST OF THE REMOVAL OF FOUNDATIONS, WALLS, WALKS, STEPS, MASONRY AND ANY OTHER OBSTRUCTIONS NOT SPECIFICALLY IDENTIFIED FOR REMOVAL AS A PAY ITEM IN THE PLANS BUT REQUIRED TO BE REMOVED FOR THE CONSTRUCTION OF THIS PROJECT. THE EXTENT OF REMOVAL WILL BE LIMITED TO THAT PORTION NECESSARY FOR THIS CONSTRUCTION AS DETERMINED BY THE ENGINEER.

THE CITY WILL CLAIM AND HAUL FROM THE PROJECT PARKING METERS, STREET SIGNS, FIRE HYDRANTS, STEEL LIGHT POLES AND TRAFFIC BOLES WHICH ARE TO BE REMOVED AND STORED BY THE CONTRACTOR.

PAYMENT FOR ALL THE ABOVE WILL BE MADE AT THE CONTRACT LUMP SUM PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN AND SHALL CONSTITUTE FULL PAYMENT FOR ALL NECESSARY MATERIALS, TOOLS AND LABOR REQUIRED TO COMPLETE THIS ITEM.

ITEM 203, PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAINLINE AND RAMP PAVEMENTS, AND FOR PAVED SHOULDERS.

ITEM 203 - EMBANKMENT "A", AS PER PLAN

ALL SECTIONS OF THIS ITEM APPLY EXCEPT THE EMBANKMENT SHALL CONSIST OF AN IMPERMEABLE CLAY LAYER PLACED TO EXCLUDE SURFACE MOISTURE FROM THE UNDERLYING MATERIAL. SOIL IDENTIFIED AS OHIO CLASSIFICATION A-7-6 OR A-6B SHALL BE CONSIDERED SUITABLE FOR THE IMPERMEABLE CLAY LAYER.

ITEM 203 - EMBANKMENT "B", AS PER PLAN

ALL SECTIONS OF THIS ITEM APPLY EXCEPT THE EMBANKMENT SHALL CONSIST OF A MIXTURE OF SAND, GRAVEL AND/OR SILT FILL WITH LESS THAN 15% CLAY-SIZE PARTICLES (LESS THAN 0.005mm SIZE) AND SHALL HAVE AN EFFECTIVE FRICTION ANGLE OF GREATER THAN 30 DEGREES WHEN COMPACTED TO SPECIFICATION REQUIREMENTS AS DEFINED BY 203.12. (ITEM 310 SUBBASE MAY BE USED FOR THIS MATERIAL).

LOCATIONS OF GUARD RAIL

THE LOCATIONS OF GUARD RAIL RUNS AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATION WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

MOWING OF UNPAVED AREAS

SEE CITY OF CINCINNATI ORDINANCE NO. 216-1969.

ITEM SPECIAL - ADJUST ACCESS RECEPTACLES TO GRADE

THIS WORK SHALL CONSIST OF CAREFULLY REMOVING AND CLEANING THE RECEPTACLE, ADJUSTING THE ELEVATION AND RESETTING THE RECEPTACLE IN THE NEW PAVEMENT OR SIDEWALK. MORTAR USED FOR ADJUSTMENT SHALL BE AS SPECIFIED IN 602.02 AND 602.03.

CABLE LEADS FROM THE STRESS CELLS AND STRAIN GAGES SHALL NOT BE DISCONNECTED OR DISTURBED.

FOR DETAILS OF ACCESS RECEPTACLES, SEE SHEET 119

THE WORK INCLUDED IN THIS ITEM, INCLUDING PAVEMENT AND SIDEWALK REMOVAL AND REPLACEMENT, SHALL BE PAID FOR AT THE CONTRACT PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	EACH	ADJUST ACCESS RECEPTACLES TO GRADE

ITEM 202, PEDESTRIAN STAIRWAY REMOVED

THE EXISTING PEDESTRIAN STAIRWAY STRUCTURE BETWEEN COLUMBIA AVENUE VIADUCT AND THE RAMP BELOW, SHOWN ON SHEET NO. 34, IS TO BE ENTIRELY REMOVED AND THE OPENING IN THE CONCRETE RAILING ON THE VIADUCT CLOSED BY CONSTRUCTION OF CONCRETE RAILING (INCLUDED IN BRIDGE QUANTITIES). THE STAIRWAY STRUCTURE CONSISTS OF FOUR REINFORCED CONCRETE PIERS VARYING IN HEIGHT FROM 7.5 FEET TO 35 FEET SUPPORTED ON CONCRETE FOOTINGS. THE COLUMNS VARY IN CROSS SECTION FROM 3 FOOT SQUARE TO 3 FOOT BY 4 FOOT RECTANGULAR AND ARE TO BE REMOVED TO ONE FOOT BELOW EXISTING GROUND. THE STAIRWAY IS SEVEN FEET WIDE WITH CONCRETE RAILING BOTH SIDES.

THE JOINT BETWEEN THE STAIRWAY STRUCTURE AND THE VIADUCT CONSISTS OF A 1 INCH OPEN JOINT COVERED BY A CHECKERED PLATE. DETAILS FOR THE PROPOSED CONCRETE RAILING TO BE CONSTRUCTED ON THE VIADUCT ARE SHOWN ON SHEET NO. 295, 298 AND 299.

REMOVAL BASIS OF PAYMENT FOR THIS IS TO BE MADE AT THE CONTRACT LUMP SUM PRICE BID FOR ITEM 202 "PEDESTRIAN STAIRWAY REMOVED", AND SHALL CONSTITUTE FULL PAYMENT FOR ALL NECESSARY TOOLS, LABOR AND MATERIAL REQUIRED TO COMPLETE THIS ITEM INCLUDING DISPOSAL OF ALL MATERIALS REMOVED AND BACKFILLING OF ALL EXCAVATIONS. THE CONCRETE RAILING WILL BE PAID FOR AS A SEPARATE ITEM AND IS INCLUDED IN BRIDGE QUANTITIES. (SHEET NO. 268).

PAVEMENT

EXPANSION AND CONTRACTION JOINTS

WHERE TRANSVERSE JOINTS ARE LOCATED CLOSER THAN 10 FEET TO THE REGULAR BLOCKOUT JOINTS AROUND CATCH BASINS, MANHOLES AND WATER VALVES, THE BLOCKOUT JOINTS SHALL BE CONTINUED TO THE TRANSVERSE JOINT. SIMILARLY, WHERE LONGITUDINAL JOINTS ARE LOCATED CLOSER THAN 2 FEET TO THE REGULAR BLOCKOUT JOINTS AROUND CATCH BASINS, MANHOLES AND WATER VALVES, THE BLOCKOUT JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-4.

PROTECTION OF EXISTING MONITORING DEVICES

EXISTING INCLINOMETERS AND PIEZOMETERS ARE LOCATED WITHIN THE PROJECT AREA, AS SHOWN ON PLAN SHEETS NOS. 34 THRU 40 AND ARE BEING READ ON A REGULAR SCHEDULE.

★ THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PRESERVE THESE MONITORING DEVICES. IN THE EVENT ANY OF THE MONITORING DEVICES ARE DISTURBED BY THE CONTRACTOR, THEY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

WHEN THE ELEVATION OF THE EXISTING GROUND, SIDEWALK, PAVEMENT, ETC. IS BEING CHANGED, THE CONTRACTOR SHALL ADJUST THE LENGTH OF THE TUBE AS REQUIRED AND AS DIRECTED BY THE ENGINEER.

IN THOSE AREAS WHERE THE TUBES WILL BE LOCATED IN NEW PAVEMENT OR SIDEWALK, ACCESS RECEPTACLES, TYPE 3 OR 4, AS SHOWN ON SHEET 119, SHALL BE INSTALLED.

ALL THE ABOVE WORK, INCLUDING LABOR, MATERIALS AND INCIDENTALS SHALL BE MEASURED AND PAID FOR UNDER THE LUMP SUM PRICE BID FOR "ITEM SPECIAL, PROTECTION OF EXISTING MONITORING DEVICES".

ITEM 612, CONCRETE MEDIAN, MODIFIED AS PER PLAN

ALL SECTIONS OF THIS ITEM SHALL APPLY EXCEPT AS MODIFIED BELOW. THE EXPOSED HEIGHT OF CURB SHALL VARY FROM 0" TO 6" IN THE LAST 30 FOOT LENGTH, MEASURED IN THE DIRECTION OF TRAFFIC. (SEE DETAILS SHEET 8)

MODIFIED ITEM 612, 4" CONCRETE MEDIAN AS PER PLAN

ALL SECTIONS OF THIS ITEM SHALL APPLY EXCEPT AS MODIFIED AND AUGMENTED BELOW.

THE THICKNESS OF THE CONCRETE SHALL BE 4 INCHES WITH JOINTS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

EXPANSION JOINT MATERIAL (705.03) ONE-HALF INCH THICK SHALL BE INSTALLED BETWEEN THE MEDIAN PAVEMENT AND ANY FIXED STRUCTURE, EXTENDING THE FULL DEPTH OF THE MEDIAN PAVEMENT.

ITEM 202, PORTIONS OF THE TEMPORARY WALL REMOVED

THIS WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF A PORTION OF THE TEMPORARY WALL AS SHOWN ON SHEET 37. THE WALL SHALL BE REMOVED TO A MINIMUM DEPTH OF ONE FOOT BELOW THE SUBGRADE OR FINISHED GROUND LINE AS DIRECTED BY THE ENGINEER.

THE WALL CONSISTS OF 2 FOOT ROUND STEEL PIPES, FILLED WITH CONCRETE, AND ENCASED WITH 6 INCHES OF CONCRETE. THE PIPES ARE SPACED AT 4 TO 5 FEET ON CENTERS WITH 3 INCH THICK LAGGING BETWEEN PIPES. ALL PIPES ARE TIED BACK WITH ROCK ANCHORS. FOR ADDITIONAL DETAILS SEE PLANS FOR HAM-471-0.24, PART ONE. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE BY SQUARE FOOT AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

DRAINAGE

(See Sheet 14 Also)

QUANTITIES
BY J.L.K. DATE 5-80
CHECKED G.J.L. DATE 5-80

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
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PART TWO

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR ALONG WITH LOCAL REPRESENTATIVES SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK.

THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLE COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE PROJECT.

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

CROSSING AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

IF IT IS DETERMINED THAT THE ELEVATIONS OF THE EXISTING CONDUIT OR EXISTING APPURTENANCE TO BE CONNECTED TO DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE PROJECT ENGINEER SHALL BE NOTIFIED BEFORE THE CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY, IF CONSTRUCTED AS PER PLAN, THE PROJECT ENGINEER SHALL BE NOTIFIED BEFORE THE CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

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

SEWER HOUSE DRAINS

EXISTING HOUSE DRAINS: ALL EXISTING HOUSE DRAINS, WHICH INCLUDE SANITARY, YARD, ROOF, BASEMENT OR OTHER SIMILAR PIPE DRAINS, NOW IN USE WHICH ARE DISTURBED BECAUSE OF THE HIGHWAY IMPROVEMENT, SHALL BE REPLACED BY THE CONTRACTOR. CARE SHALL BE TAKEN THAT NO DRAINS CARRYING SANITARY FLOW ARE CONNECTED TO STORM DRAINS. IF THE EXISTING SEWER IS TO BE ABANDONED, THEN A SATISFACTORY HOUSE CONNECTION SHALL BE PROVIDED TO THE NEW SEWER. PAYMENT FOR THIS WORK SHALL BE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF PERTINENT PIPE ITEM. UNRECORDED HOUSE DRAINS THAT ARE ENCOUNTERED DURING CONSTRUCTION AND REQUIRED TO BE REPLACED UNDER THE DIRECTION OF THE ENGINEER SHALL BE PAID FOR AS SPECIFIED.

PROPOSED HOUSE CONNECTIONS: THE CITY OF CINCINNATI WILL NOTIFY PROPERTY OWNERS IN ADVANCE OF CONSTRUCTION THAT, IF THEY CONTEMPLATE NEW HOUSE CONNECTIONS TO THE PROPOSED SEWER, THE PROPERTY OWNER MUST FURNISH, AT HIS SOLE COST, TEES OF THE PROPER SIZE AND MATERIAL TO THE CONTRACTOR. THE CONTRACTOR WILL THEN INSTALL THE TEES AS HE PROCEEDS WITH LAYING THE SEWER AND PAYMENT FOR THE WORK INVOLVED WILL BE AT THE SAME RATE AS THOUGH HE WERE FURNISHING AND LAYING STRAIGHT PIPE.

TO OBTAIN A HOUSE CONNECTION TO EITHER AN EXISTING SEWER THAT IS TO REMAIN OR TO A PROPOSED SEWER THE PROPERTY OWNER OR HIS AGENT, AT HIS SOLE COST, SHALL FURNISH ALL MATERIAL AND LABOR REQUIRED TO INSTALL HOUSE CONNECTION FROM THE CARRIER SEWER TO A POINT BEYOND THE LIMITS OF ROADWAY CONSTRUCTION.

PLUGGING OR SEALING SEWERS

SEWER WHICH ARE TO BE ABANDONED SHALL BE PLUGGED OR SEALED WHERE THEY JOIN MANHOLES OR CATCH BASINS. ALL EXISTING SEWERS ENCOUNTERED IN CONSTRUCTION OPERATIONS, THAT ARE INACTIVE OR ARE TO BE ABANDONED AS DETERMINED BY THE ENGINEER, SHALL BE PLUGGED OR SEALED AT BOTH ENDS WHERE BROKEN INTO BEFORE PROCEEDING WITH BACKFILLING.

WHERE PLUGGING OR SEALING IS REQUIRED, PIPE SEWERS 12 INCHES OR LESS IN DIAMETER SHALL BE PLUGGED BY THE INSTALLATION OF A SUITABLE PRECAST CONCRETE OR VITRIFIED CLAY STOPPER. MASONRY AND PIPE SEWERS LARGER THAN 12 INCHES IN DIAMETER SHALL BE SEALED AT THE REQUIRED LOCATIONS BY THE CONSTRUCTION OF MASONRY BULKHEADS OF BRICK, STONE OR CONCRETE, HAVING A THICKNESS OF ONE-HALF OF THE SEWER DIAMETER, EXCEPT THAT THE MINIMUM THICKNESS SHALL BE 12 INCHES AND THE MAXIMUM THICKNESS SHALL BE 2 FEET.

PAYMENT FOR PLUGGING OR SEALING SEWERS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 203 EXCAVATION, NOT INCLUDING EMBANKMENT, UNLESS OTHERWISE SPECIFIED FOR PAYMENT IN THE PLANS.

UNRECORDED SANITARY CONNECTIONS

ANY UNRECORDED ACTIVE CONNECTIONS TO A SEWER, ENCOUNTERED IN CONSTRUCTION, SHALL BE RECONNECTED TO THE EXISTING SEWERS AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, EXCEPT FOR WORK COVERED IN ITEM 202, SHALL BE AT THE CONTRACT PRICE BID FOR THE FOLLOWING ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES OF THE VARIOUS ITEMS HAVE BEEN INCLUDED FOR USE, UNDER THE DIRECTION OF THE ENGINEER, TO REPLACE UNRECORDED HOUSE CONNECTIONS AND DRAINS ENCOUNTERED IN THE WORK AND REQUIRED TO BE REPLACED. NONE OF THIS MATERIAL SHALL BE ORDERED UNLESS DIRECTED BY THE ENGINEER.

ITEM 603 60 L.F. 6" CONDUIT, TYPE "B", 706.08 WITH 706.12 JOINTS, AS PER PLAN
ITEM 603 60 L.F. 8" CONDUIT, TYPE "B", 706.08 WITH 706.12 JOINTS, AS PER PLAN
ITEM 603 40 L.F. 12" CONDUIT, TYPE "B", 706.01, 706.02 OR 706.08 WITH 706.11 OR 706.12 JOINTS, AS PER PLAN
ITEM 602 2 CU. YD. CONCRETE MASONRY

PAYMENT FOR BENDS, BRANCHES AND STACKS SHALL BE INCLUDED IN THE PERTINENT 603 ITEM.

ANY NECESSARY CONNECTIONS TO COMPLETE THE WORK INVOLVED SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603 CONDUIT TYPE "B".

COOPERATION BETWEEN CONTRACTOR AND PROPERTY OWNER

THE CONTRACTOR MUST COOPERATE WITH THE PROPERTY OWNER OR HIS AGENT TO GIVE SAID PROPERTY OWNER OR HIS AGENT AMPLE OPPORTUNITY FOR EXTENDING SAID SEWER CONNECTION FROM THE TEE BRANCH OR EXISTING SEWER TO A POINT BEYOND ROADWAY CONSTRUCTION LIMITS. THE NECESSARY HOUSE CONNECTIONS SHALL BE INSTALLED BY THE PROPERTY OWNER OR HIS AGENT AT NO COST TO THE CONTRACTOR, OTHER THAN THE COST OF COOPERATION IN SCHEDULING HIS WORK WHICH SAID COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS PIPE ITEMS.

INLET CONNECTIONS

12 INCH AND 15 INCH INLET CONNECTIONS AND CONNECTIONS FOR STRUCTURE DRAINAGE SHALL BE CONDUIT TYPE "B", 706.01, 706.02 OR 706.08, UNLESS OTHERWISE SHOWN ON THE PLANS.

REMOVAL OF PIPE, CATCH BASINS, MANHOLES AND INLETS

THE REMOVAL OF ALL PIPE DRAINS, CATCH BASINS, MANHOLES AND INLETS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

REMOVAL OF EXISTING HOUSE DRAINS

THE REMOVAL, WHERE REQUIRED, OF ALL EXISTING HOUSE CONNECTIONS, WHICH INCLUDE SANITARY, YARD, ROOF, BASEMENT OR OTHER SIMILAR PIPE DRAINS WITHIN THE CONSTRUCTION LIMITS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 203 - EXCAVATION, NOT INCLUDING EMBANKMENT, UNLESS OTHERWISE ITEMIZED FOR PAYMENT IN THE PLANS.

VITRIFIED BRICK

WHERE CALLED FOR ON THE PLANS, VITRIFIED BRICK FOR SEWERS SHALL BE IN ACCORDANCE WITH SEC. 704.011 OF THE CITY OF CINCINNATI SUPPLEMENT TO STATE OF OHIO, DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1981. A COPY OF WHICH IS ON FILE WITH THE ADMINISTRATOR OF CONTRACT SALES, DEPARTMENT OF TRANSPORTATION, 25 SOUTH FRONT STREET, COLUMBUS, OHIO 43215.

STEPS IN INLETS AND CATCH BASINS

STEPS SHALL BE PROVIDED IN ALL INLETS OR CATCH BASINS WITH MINIMUM INTERIOR DIMENSIONS OF 2'-8" AND HAVING A DEPTH OF 4 FT. OR GREATER, OR AT THE DIRECTION OF THE ENGINEER. PAYMENT FOR THESE ITEMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER EACH ITEM 604. THE STEPS SHALL BE BUILT IN ACCORDANCE WITH OSHA STANDARDS AS OF THE DATE OF THIS CONTRACT.

PIPE CUT-OFFS

WHEN BELL AND SPIGOT PIPE IS USED, ANY NECESSARY PIPE CUT-OFFS WILL BE MADE AT THE SPIGOT END OF THE LENGTH OF PIPE ADJACENT TO THE END LENGTH. WHEN TONGUE AND GROOVE PIPE IS USED, THE LENGTH OF PIPE NEXT TO THE END LENGTH SHALL BE CUT AND BUTT JOINT FORMED WITH A COLLAR AS DETAILED IN STANDARD DRAWING NO. MC-4. THE COST OF THE JOINT AND COLLAR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

SEALING OF NEW PIPES

PLUGGING OR SEALING OF NEW PIPES WHERE REQUIRED, SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED UNDER "PLUGGING OR SEALING SEWERS". PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAR FOOT OF THE PERTINENT 603 CONDUIT ITEM.

SEWERS, MANHOLES AND CATCH BASINS REMOVED OR ABANDONED

ALL EXISTING SEWERS, MANHOLES AND CATCH BASINS THAT ARE TO BE ABANDONED OR REMOVED AS PART OF THIS PROJECT ARE NOTED ON THE PLANS. EXISTING CATCH BASINS ARE GENERALLY 3 TO 4 FEET DEEP WITH CONNECTION PIPE FROM 3 TO 7 FEET DEEP. APPROXIMATE MANHOLE DEPTHS ARE SHOWN ON THE SUBSUMMARY SHEET. NO EXTRA PAYMENT WILL BE MADE IN THE EVENT THAT ADDITIONAL DEPTH IS ENCOUNTERED.

SEWERS THAT ARE TO BE ABANDONED SHALL BE SEALED IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED UNDER "PLUGGING OR SEALING SEWERS".

PAYMENT FOR SEALING AND ABANDONING EXISTING SEWERS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 203, EXCAVATION. PAYMENT FOR REMOVAL OF EXISTING SEWERS, WHERE INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER, SHALL BE AT THE CONTRACT UNIT PRICES BID FOR ITEM 202, PIPE REMOVED, WHICH PRICE SHALL ALSO INCLUDE PLUGGING OR SEALING WHEN REQUIRED.

ITEM 604 - MANHOLES AND CATCH BASINS, AS PER PLAN

ALL SECTIONS OF THIS ITEM APPLY EXCEPT THAT THE STATE WILL FURNISH THE FRAMES AND COVERS.

THE CONTRACTOR WILL PICK UP THIS MATERIAL AT THE STATE'S STORAGE YARD, LOCATED UNDER THE I-71 BRIDGE OFF MEHRING WAY, WHEN ADVISED BY THE ENGINEER.

ALL LOOSE RUST AREAS SHALL BE THOROUGHLY CLEANED BY WIRE BRUSHING BEFORE RECEIVING TWO COATS OF BITUMINOUS PAINT.

ITEM 604 - CATCH BASIN TYPE C, AS PER PLAN

ALL SECTIONS OF THIS ITEM SHALL APPLY EXCEPT THAT THE STATE WILL FURNISH THE FRAME AND COVER. THE CAST IRON BEAM WILL BE FURNISHED BY THE CONTRACTOR.

THE CONTRACTOR WILL PICK UP THIS MATERIAL AT THE STATE'S STORAGE YARD, LOCATED UNDER THE I-71 BRIDGE OFF MEHRING WAY, WHEN ADVISED BY THE ENGINEER.

ALL LOOSE RUST AREAS SHALL BE THOROUGHLY CLEANED BY WIRE BRUSHING BEFORE RECEIVING TWO COATS OF BITUMINOUS PAINT.

ITEM 603-12" OR 15" CONDUIT, TYPE "B", 706.02 W/706.11 JOINTS, AS PER PLAN
THIS WORK SHALL BE DONE IN ACCORDANCE WITH ITEM 603 EXCEPT THAT ALL TRENCHES SHALL BE SHEETED AND BRACED (SEE DETAIL SH 63). NO TRENCH SHALL REMAIN OPEN OVERNIGHT, BUT SHALL BE FILLED AT THE END OF EACH WORKDAY.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

LOCATION AND SIZE OF EXISTING PIPE

THE LOCATION, TYPE, DEPTH AND SIZE OF ALL EXISTING PIPE AND HOUSE CONNECTIONS AFFECTED BY THIS PROJECT ARE SHOWN AS NEARLY EXACT AS AVAILABLE INFORMATION WILL PERMIT. THE STATE OF OHIO WILL NOT BE RESPONSIBLE FOR ANY VARIATION FOUND DURING CONSTRUCTION.

NOTE: DRAINAGE CONTINUED ON SHEET 14
REV. 9-9-82 GENERAL NOTES

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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MAINTAINING TRAFFIC

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF, THE CONTRACTOR AND TRAVELING PUBLIC. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION AND PERTINENT ITEM OF THE SPECIFICATIONS, THE FOLLOWING REQUIREMENTS SHALL APPLY.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS PER DAY BY THE ENGINEER AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELED PAVEMENT SAFELY.

ALL PAVEMENT MARKINGS, SIGNS, DRUMS, BARRICADES AND FLAGMAN SHALL BE FURNISHED, ERECTED, MAINTAINED AND/OR REMOVED ON AN INTERIM AND PERMANENT BASIS BY THE CONTRACTOR, THROUGH THE ENTIRE PROJECT, IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION. REQUIREMENTS ARE TO BE MET WHETHER INSIDE OR OUTSIDE THE WORK LIMITS. NO CHANGES IN THE TRAFFIC PATTERN SHALL BE PERMITTED BETWEEN THE HOURS OF 6:00 AM TO 10:00 AM AND 2:00 PM TO 8:30 PM MONDAY THROUGH FRIDAY OR FROM 2 HOURS BEFORE AND 2 HOURS AFTER COLISEUM OR RIVERFRONT STADIUM EVENTS.

THE CONTRACTOR SHALL MAINTAIN THE EXISTING PAVEMENTS WITHIN THE LIMITS OF THE WORK BY MAKING NECESSARY REPAIRS WITH BITUMINOUS MATERIAL WHEN REQUESTED BY THE ENGINEER. AN ESTIMATED AMOUNT OF ASPHALT CONCRETE, 404, HAS BEEN PROVIDED FOR THIS PURPOSE. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY ROADWAYS WHERE REQUIRED AND AS DIRECTED BY THE ENGINEER FOR THE PURPOSE OF MAINTAINING TRAFFIC. AN ESTIMATED AMOUNT OF ASPHALT CONCRETE, 404, AND AN ESTIMATED AMOUNT OF AGGREGATE BASE, ITEM 304, HAS BEEN PROVIDED FOR THIS PURPOSE. THE ASPHALTIC CONCRETE AND AGGREGATE BASE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEMS 404 AND 304. IN LIEU OF 404, AN APPROVED BITUMINOUS PRE-MIXED SURFACE COURSE FOR MAINTAINING TRAFFIC MAY BE USED AND PLANT INSPECTION IS WAIVED FOR EITHER OF THESE ITEMS.

LOCAL TRAFFIC ON ALL STREETS WITHIN THE LIMITS OF WORK AND ON ALL ADJACENT AND INTERSECTING STREETS SHALL BE MAINTAINED IN A MANNER CAUSING THE LEAST AMOUNT OF INCONVENIENCE TO THE ADJUTING PROPERTY OWNERS. TEMPORARY DRIVEWAYS SHALL BE CONSTRUCTED, MAINTAINED AND REMOVED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. AGGREGATE AND CHLORIDE USED FOR MAINTAINING LOCAL TRAFFIC SHALL BE APPLIED ON TEMPORARY ROADWAYS AS DIRECTED AND IN THE AMOUNT REQUESTED BY THE ENGINEER AND SHALL BE PAID FOR AT THE UNIT PRICE BID FOR RESPECTIVE 410 AS PER PLAN AND 616 ITEMS. THE HARDNESS AND SOUNDNESS REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL BE WAIVED FOR THE TRAFFIC COMPACTED SURFACE COURSE.

PEDESTRIAN TRAFFIC

PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON KILGOUR STREET, OREGON STREET, VAN METER STREET, BAUM STREET, AND MONASTERY STREET NORTH OF BAUM STREET BY USE OF EXISTING, PROPOSED, OR TEMPORARY WALKS AND/OR STEPS.

PEDESTRIAN TRAFFIC BETWEEN EGGLESTON AVENUE AND VAN METER STREET SHALL BE MAINTAINED BY USE OF THE EXISTING TEMPORARY WALK AND STEPS (SEE SHEET NO. 38) UNTIL THE SIXTH STREET BRIDGE (HAM-471-0044) AND WALK BETWEEN BAUM STREET AND THE BRIDGE IS COMPLETED AND OPEN TO PEDESTRIAN TRAFFIC. WHEN NO LONGER NEEDED THE TEMPORARY WALK AND STEPS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

TEMPORARY WALKS SHALL BE AT LEAST FIVE FEET WIDE AND MAY BE CONSTRUCTED OF WOOD, ASPHALTIC CONCRETE OR CONCRETE. STEPS SHALL BE CONSTRUCTED OF WOOD WITH RAILINGS BOTH SIDES. WALKS AND STEPS SHALL BE PROPERLY LIGHTED, BARRICADED AND KEPT CLEAN AT ALL TIMES.

THROUGH TRAFFIC SHALL BE MAINTAINED ON FULL WIDTH OF STREETS AT ALL TIMES DURING THE CONSTRUCTION PERIOD EXCEPT AS PROVIDED IN THE FOLLOWING NOTES:

NORTHBOUND I-471 & RAMP D

THE EXISTING ONE WAY TEMPORARY RAMP FROM THE N.B. I-471 BRIDGE TO EGGLESTON AVENUE SHALL BE MAINTAINED UNTIL N.B. 471 AND RAMP "D" ARE COMPLETED AND OPENED TO TRAFFIC. THE SIXTH STREET BRIDGE MUST BE COMPLETED PRIOR TO THIS OPERATION. (SEE PEDESTRIAN TRAFFIC NOTE)

FOR DETAILS AND CONSTRUCTION SCHEDULE FOR MAINTAINING TRAFFIC SEE SHEET NO. 15.

SOUTHBOUND I-471 & RAMP A

THE EXISTING ONE WAY TEMPORARY RAMP FROM EGGLESTON AVENUE TO THE S.B. I-471 BRIDGE SHALL BE MAINTAINED UNTIL S.B. 471 AND THE S.B. TEMPORARY ROAD HAVE BEEN COMPLETED AND OPENED TO TRAFFIC. DURING CONSTRUCTION WORK BETWEEN S.B. 471 AND THE RIVER BRIDGE AT LEAST ONE 17-FOOT LANE OF USEABLE PAVEMENT WIDTH SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES BY USE OF THE TEMPORARY ROAD OR PERMANENT NEW PAVEMENT AND SHOULDER.

FOR DETAILS AND CONSTRUCTION SCHEDULE FOR MAINTAINING TRAFFIC SEE SHEET NO. 15. RAMP A SHALL BE COMPLETED AND OPENED TO TRAFFIC AT THE SAME TIME THAT FULL WIDTH S.B. 471 IS COMPLETED. THE BARRELS AND TEMPORARY GUARD RAIL AT THE INTERSECTIONS OF RAMP "A" WITH COLUMBIA PARKWAY AND RAMP "B" SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER.

BAUM STREET

ONE WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF UTILITIES AND/OR PAVEMENT BY USE OF EXISTING PAVEMENT, TEMPORARY PAVEMENT, OR NEW PAVEMENT.

FULL WIDTH PAVEMENT SHALL BE AVAILABLE FOR USE AT THE CLOSE OF EACH WORKING DAYS' OPERATION.

VAN METER STREET AND TEMPORARY VAN METER STREET

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING THE CONSTRUCTION OF VAN METER STREET BETWEEN MONASTERY STREET AND STATION 18+50 AT WHICH TIME TRAFFIC CAN BE REDUCED TO ONE TEN-FOOT LANE OF ALTERNATING ONE WAY TRAFFIC.

KILGOUR STREET

KILGOUR STREET MAY BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION WORK IN THIS AREA, HOWEVER, AT LEAST ONE LANE MUST BE KEPT OPEN AT ALL TIMES FOR ACCESS BY THE POLICE AND FIRE DEPARTMENTS AND OTHER SERVICE VEHICLES.

MONASTERY STREET

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING CONSTRUCTION WORK AT THE INTERSECTION WITH BAUM STREET AND VAN METER STREET AT WHICH TIME TRAFFIC CAN BE REDUCED TO ONE TEN-FOOT LANE OF ALTERNATING ONE WAY TRAFFIC.

OREGON STREET

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING CONSTRUCTION WORK AT THE INTERSECTION WITH BAUM STREET AT WHICH TIME TRAFFIC CAN BE REDUCED TO ONE TEN-FOOT LANE OF ALTERNATING ONE WAY TRAFFIC.

WESTBOUND FORT WASHINGTON WAY

ONE WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. DURING CONSTRUCTION WORK AT THE INTERSECTION WITH RAMP P AT LEAST TWO TEN-FOOT LANES OF USEABLE PAVEMENT WIDTH SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES. WESTBOUND FORT WASHINGTON WAY SHALL BE REOPENED FOR ITS FULL WIDTH AS SOON AS THE INTERSECTION HAS BEEN COMPLETED.

COLUMBIA PARKWAY - PIKE STREET - FIFTH STREET - RAMP B INTERSECTION

COLUMBIA PARKWAY AND FIFTH STREET ARE EXISTING TWO WAY STREETS. PIKE STREET IS EXISTING ONE WAY SOUTHBOUND FROM FIFTH TO FOURTH STREET. RAMP "B" IS ONE WAY NORTHBOUND. PROPOSED CONSTRUCTION IS PLANNED FOR FIFTH STREET TO BECOME ONE WAY EASTBOUND.

DURING CONSTRUCTION WORK AT THIS INTERSECTION FIFTH STREET, PIKE STREET AND RAMP "B" WILL BE MAINTAINED FULL WIDTH. COLUMBIA PARKWAY CAN BE REDUCED TO TWO 11-FOOT LANES IN EACH DIRECTION.

NO WORK SHALL BE DONE AT THIS INTERSECTION UNTIL DIRECTED BY THE ENGINEER SINCE THE CITY MAY DECIDE THAT FIFTH STREET WILL REMAIN TWO WAY THUS REQUIRING THE WORK SHOWN ON SHEET NO. 41 TO BE NON-PERFORMED.

IMPACT ATTENUATOR SITES (SEE SH-117)

PROJECT SITE "A" - (EASTBOUND FORT WASHINGTON WAY AT RAMP H TO SOUTHBOUND I-471)

THE CONTRACTOR SHALL BE REQUIRED TO KEEP RAMP H OPEN TO TRAFFIC AT ALL TIMES. THE CONTRACTOR SHALL ALSO BE REQUIRED TO KEEP EASTBOUND FORT WASHINGTON WAY OPEN TO TRAFFIC AND FREE OF ALL OBSTRUCTIONS BETWEEN THE HOURS OF 7-9 A.M. AND 3-6 P.M. MONDAY THROUGH FRIDAY, AND FOR TWO (2) HOURS AFTER ALL EVENTS AT RIVERFRONT STADIUM. AT ALL OTHER TIMES THE CONTRACTOR MAY CLOSE THE RIGHT LANE ONLY ON EASTBOUND FORT WASHINGTON WAY. THE INSTALLATION OF THE ATTENUATOR AT THIS LOCATION SHALL BE COMPLETED IN FIVE (5) CONSECUTIVE WORKING DAYS.

PROJECT SITE "B" - (EASTBOUND COLUMBIA PARKWAY AT MARTIN STREET RAMP)

THE CONTRACTOR WILL BE REQUIRED TO HAVE THE ROADWAYS OPEN TO TRAFFIC AND FREE OF ALL OBSTRUCTIONS BETWEEN THE HOURS OF 7-9 AM AND 3-6 PM, MONDAY THROUGH FRIDAY, AND FOR TWO HOURS AFTER ALL EVENTS AT RIVERFRONT STADIUM. AT ALL OTHER TIMES THE CONTRACTOR MAY CLOSE THE RIGHT LANE ADJACENT TO THE GORE ON EASTBOUND COLUMBIA PARKWAY AND 8 FEET ADJACENT TO THE GORE ON THE MARTIN STREET RAMP.

PROJECT SITE "C" - (WESTBOUND COLUMBIA PARKWAY AT RAMP A)

THE CONTRACTOR WILL BE REQUIRED TO HAVE COLUMBIA PARKWAY OPEN TO TRAFFIC AND FREE OF ALL OBSTRUCTIONS BETWEEN THE HOURS OF 7-9 AM AND 4-6 PM, MONDAY THROUGH FRIDAY, AND FOR TWO HOURS PRIOR TO ALL EVENTS AT RIVERFRONT STADIUM. AT ALL OTHER TIMES THE CONTRACTOR MAY CLOSE THE RIGHT LANE ONLY ON WESTBOUND COLUMBIA PARKWAY. THIS ATTENUATOR SHALL BE IN PLACE UPON COMPLETION OF RAMP A CONSTRUCTION AND PRIOR TO OPENING THE RAMP TO TRAFFIC.

PROJECT SITE "D" - (RAMP L AT RAMP F)

THE CONTRACTOR WILL BE REQUIRED TO HAVE RAMP F OPEN TO TRAFFIC AND FREE OF ALL OBSTRUCTIONS BETWEEN THE HOURS OF 7-9 AM AND 4-6 PM, MONDAY THROUGH FRIDAY, AND TWO HOURS PRIOR TO ALL EVENTS AT RIVERFRONT STADIUM. AT ALL OTHER TIMES THE CONTRACTOR SHALL MAINTAIN ONE TEN-FOOT LANE ON RAMP F.

THIS ATTENUATOR SHALL BE IN PLACE UPON COMPLETION OF RAMP L CONSTRUCTION AND PRIOR TO OPENING RAMP L TO TRAFFIC.

PROJECT SITE "E" - (WESTBOUND COLUMBIA PARKWAY AT RAMP TO SIXTH STREET)

PROJECT SITE "F" - (WESTBOUND FT. WASHINGTON WAY AT RAMP P)

THE CONTRACTOR WILL BE REQUIRED TO HAVE W.B. COLUMBIA PARKWAY AND W.B. FT. WASHINGTON WAY OPEN TO TRAFFIC AND FREE OF ALL OBSTRUCTIONS BETWEEN THE HOURS OF 7-9 AM AND 4-6 PM, MONDAY THROUGH FRIDAY, AND TWO HOURS PRIOR TO ALL EVENTS AT RIVERFRONT STADIUM. AT ALL OTHER TIMES THE CONTRACTOR MAY CLOSE THE RIGHT LANE ONLY ON THESE ROADWAYS.

THESE ATTENUATORS SHALL BE IN PLACE UPON COMPLETION OF THE RAMP CONSTRUCTION AND PRIOR TO OPENING THESE RAMPS TO TRAFFIC.

NO RESTRICTIONS TO TRAFFIC SHALL OCCUR DURING THE FOLLOWING TIMES:

- BETWEEN 12:00 NOON FRIDAY AND 6:00 AM TUESDAY ON THE FOLLOWING HOLIDAYS AND/OR HOLIDAY WEEKENDS:
 - MEMORIAL DAY
 - LABOR DAY
- BETWEEN 12:00 NOON ~~FRI DAY~~ ^{TUES DAY} AND 6:00 AM ~~MON~~ ON THE FOLLOWING HOLIDAY AND/OR HOLIDAY WEEKEND:
 - JULY FOURTH
- BETWEEN 12:00 NOON WEDNESDAY AND 6:00 AM MONDAY ON THE FOLLOWING HOLIDAY AND/OR HOLIDAY WEEKENDS:
 - THANKSGIVING DAY
 - CHRISTMAS DAY

THE CONTRACTOR WILL BE REQUIRED ON AN INTERIM AND PERMANENT BASIS TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN, LEGIBLE AND IN GOOD WORKING CONDITION) AND REMOVE ALL LIGHTS, SIGNS, BARRICADES AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY TO THE MAINTENANCE OF TRAFFIC, WHICH ALSO INCLUDES ALL ADVANCE WARNING SIGNS AND REGULATORY SIGNS. ALL SIGNS MUST BE REFLECTORIZED OR ILLUMINATED. "FLASHER" WARNING LIGHTS MUST BE INSTALLED WITH EVERY ADVANCE WARNING TRAFFIC CONTROL DEVICE.

THE STANDARD DEVICE FOR CLOSING ANY LANE OF TRAFFIC SHALL BE PROPERLY WEIGHTED, REFLECTORIZED, 30 OR 55 GALLON DRUMS. OPTIONAL 28" TRAFFIC CONES MAY BE USED FOR DAYTIME OPERATION IN LIEU OF DRUMS, OR AS DIRECTED BY THE ENGINEER. "FLASHING" ARROW BOARDS MUST BE FURNISHED BY THE CONTRACTOR ON ALL LANE CLOSURES.

TAPERS FOR LANE CLOSURES SHALL HAVE REFLECTORIZED DRUMS WITH CONSTRUCTION ARROWS (OW-138) MOUNTED ON THE FIRST, FIFTH AND LAST DRUMS. AN ELECTRIC FLASHING ARROW OF A TYPE SHOWN ON STANDARD CONSTRUCTION DRAWING TC-35.10 SHALL BE INSTALLED IN EACH TAPER CLOSING A LANE TO TRAFFIC.

GENERAL NOTES

MAINTAINING TRAFFIC

IMPACT ATTENUATOR SITES (CONT'D)

THE SERVICES OF AN OFF-DUTY CITY OF CINCINNATI POLICE OFFICER AND CRUISER MAY BE NEEDED WHEN THE CONTRACTOR WORKS ON PROJECT SITES "A" AND "B" AND AT OTHER LOCATIONS. IF THIS NEED ARISES THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THIS SERVICE AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY OF "ITEM SPECIAL-LAW ENFORCEMENT OFFICER WITH PATROL CAR" HAS BEEN INCLUDED IN THE CONTRACT.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT AS LITTLE INTERFERENCE TO TRAFFIC AS IS POSSIBLE. VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST, THE FLOW OF TRAFFIC. VEHICLES AND EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN THE CLOSED AREAS, AND SHALL ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO, OR INTERFERE WITH, THE NORMAL FLOW OF TRAFFIC.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO SIGNS ARE TO BE INSTALLED OR REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE CITY OF CINCINNATI WILL INSTALL AND MAINTAIN ANY DETOUR SIGNING CONSIDERED NECESSARY. A MINIMUM OF TEN WORKING DAYS NOTICE MUST BE GIVEN TO THE PROJECT ENGINEER AND TRAFFIC ENGINEER OF REQUIRED "DETOURS" AND PRIOR TO STARTING WORK AT EACH CONSTRUCTION SITE. PLEASE NOTIFY FRANK LANE OR DENNIS DALY, TRAFFIC ENGINEERING DIVISION, PHONE NUMBER 352-3745.

ERECTION OF OVERHEAD SIGNS

OVERHEAD SIGN SUPPORTS CONSTRUCTED ON NEW ROADWAYS SHALL BE COMPLETED, INCLUDING ERECTION OF THE SIGN PANELS, PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

WORK ON NEW OR EXISTING OVERHEAD SIGN SUPPORTS ON EXISTING ROADWAYS SHALL BE DONE AT ANY TIME EXCEPT BETWEEN THE HOURS OF 7-9 AM AND 4-6 PM MONDAY THROUGH FRIDAY AND FOR TWO HOURS BEFORE AND TWO HOURS AFTER ALL EVENTS AT RIVERFRONT STADIUM OR THE COLISEUM. FOR RESTRICTIONS DURING HOLIDAY WEEKENDS SEE ITEMS A, B & C UNDER "IMPACT ATTENUATOR SITES".

MEETING IN PERSON OR TELEPHONE INDENTURE DURING CONSTRUCTION WORK ONE LANE OF PAVEMENT MAY BE CLOSED TO TRAFFIC ON MULTI-LANE ROADWAYS. SINGLE LANE ROADWAYS MAY BE CLOSED TO TRAFFIC IF TEN FEET OR MORE OF USABLE PAVEMENT WIDTH CANNOT BE PROVIDED.

FOR DETAILS AND REQUIREMENTS FOR MAINTAINING TRAFFIC DURING LANE CLOSURES SEE NOTES UNDER "IMPACT ATTENUATOR SITES".

TEMPORARY PAVEMENT MARKINGS

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

THE TEMPORARY MARKINGS SHALL BE COMPLETE ON ALL PAVEMENT COURSES EXPOSED TO TRAFFIC AT THE END OF EACH DAY'S OPERATION. WHERE PERMANENT MARKINGS ARE CALLED FOR IN THESE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST.

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH SHEET NO. 18 AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

CENTER LINES AND LANE LINES SHALL CONSIST OF 12" SEGMENTS SPACED AT A MAXIMUM 40' CENTER TO CENTER; CHANNELIZING LINES SHALL BE 12" SEGMENTS SPACED AT MAXIMUM 20' CENTER TO CENTER. FREEWAY AND EXPRESSWAY GORE MARKINGS SHALL BE TWO CONTINUOUS LINES, 1500' LONG, 4" WIDE.

THE MATERIAL FURNISHED SHALL BE FLEXIBLE RETROREFLECTIVE PREFERRED PRESSURE SENSITIVE TAPE FOR PAVEMENT LINES. IT SHALL BE FREE OF CRACKS WITH STRAIGHT EDGES AND CONSIST OF PIGMENT AND FILLERS BUT HAVE SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING AN APPROPRIATE REFRACTIVE INDEX TO MEET MINIMUM REFLECTIVE INTENSITY STANDARDS OUTLINED IN THE MANUFACTURERS INFORMATION. MATERIAL SHALL BE FLEXIBLE "WET REFLECTIVE" 3M "SCOTCHLANE" OR APPROVED EQUAL.

GLASS BEADS SHALL BE MIXED UNIFORMLY THROUGHOUT THE MARKING MATERIAL WITH SUFFICIENT SURFACE TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES. THE MATERIAL SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT SURFACES EXPOSED TO TRAFFIC WHEN TEMPORARY MARKINGS ARE PLACED. THE MATERIAL SHALL HAVE A PRE-COATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

WHITE MARKING MATERIAL SHALL BE FREE OF TINT. YELLOW MATERIAL SHALL CONFORM TO COLOR NO. 3353A OF FEDERAL STANDARD 595.

IN ADDITION ALL APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS, IN FORCE AT THE TIME OF PLACEMENT, SHALL BE ADHERED TO. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, OR CHANNELIZING LINE WHERE NORMAL PERMANENT MARKING WOULD LIE, UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE TEMPORARY TAPE SHALL BE PLACED BY ROLLING THE MATERIAL INTO THE SURFACE.

AS AN ALTERNATE MATERIAL TO PAVEMENT MARKING TAPE, THE CONTRACTOR MAY FURNISH AND APPLY PAINTED RETROREFLECTIVE PAVEMENT MARKINGS CONFORMING TO 621. THE WIDTH AND LENGTH OF PAINTED SEGMENT SHALL BE THE SAME AS REQUIRED FOR TEMPORARY TAPE MATERIAL. THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR A SOLID LINE NOR LESS THAN 0.4 GALLONS PER MILE FOR THE 12"X4" DASHED LINE.

THE CONTRACTOR SHALL PROVIDE COMPLETE PAVEMENT MARKINGS FOR ALL TEMPORARY ROADS CONSTRUCTED FOR THIS PROJECT, IN ACCORDANCE WITH MATERIAL AND PERFORMANCE REQUIREMENTS DESCRIBED HEREIN AND IN THE OHIO MANUAL AS DEFINED IN 614.03.

IN ADDITION TO THE REQUIREMENT OF 614.03, THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS THAT ARE VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, ANY CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC SHALL BE REMOVED BY THE CONTRACTOR BEFORE THE FLOW OF TRAFFIC IS DIVERTED TO THE NEXT PHASES. REMOVAL OF EXISTING OR TEMPORARY MARKINGS SHALL BE PERFORMED IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY UNLESS SPECIFICALLY PAID FOR AS A SEPARATE ITEM.

THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE IN CONFORMANCE WITH 621.15 AND 621.16 RESPECTIVELY.

PAYMENT FOR ALL OF THE ABOVE INCLUDING PROVIDING, ERECTING, MAINTAINING AND REMOVING ALL LIGHTS, SIGNS, BARRICADES, WALKS, STEPS, DRUMS, CONES, TEMPORARY BEAM RAIL AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 - MAINTAINING TRAFFIC" EXCEPT AS NOTED BELOW:

ITEM 304	AGGREGATE BASE FOR MAINTAINING TRAFFIC	50 C.Y.
ITEM 404	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC (SEE NOTE IN PROPOSAL)	50 C.Y.
ITEM 410	TRAFFIC COMPACTED SURFACE TYPE C, AS PER PLAN	50 C.Y.
ITEM 615	TEMPORARY ROADS	LUMP SUM
ITEM 615	TEMPORARY PAVEMENT BASES (SIDES)	601 S.Y.
ITEM 616	WATER	250 M. GAL.
ITEM 616	CALCIUM CHLORIDE FOR REMOVAL OF CONFLICTING MARKINGS	1 TON
ITEM SPECIAL	LAW ENFORCEMENT OFFICER WITH PATROL CAR	35 HOURS
ITEM 614	TEMPORARY EDGE LINES, CLASS I	0.16 MILES

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE BY CLASS AND QUANTITY IN THE UNITS DESIGNATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE COMPLETED PAVEMENT, INCLUDING THE PROTECTION OF THE MARKINGS.

LAW ENFORCEMENT OFFICER WITH PATROL CAR
In addition to the requirements of Item 614, a uniformed Law Enforcement Officer and an official patrol car with emergency flashers shall be present during the initial traffic control set-up period and until the traffic is stabilized at each location. This requirement does not preclude the Contractor's use of Law Enforcement Officers for other purposes in the project area. However, where such services are required at the option of contractor, payment for the Law Enforcement Officers' services involved shall be included in the lump sum bid for Item 614, Maintaining Traffic. Arrangements and payments for the services of the Law Enforcement officer will be made by the Contractor.

DRAINAGE CONTINUED

ITEM SPECIAL - PLUG EXISTING HOUSE CONNECTIONS

Existing house connections to houses that have been removed along Baum Street shall be plugged and sealed in accordance with the requirements outlined under "Plugging or Sealing Sewers".

Approximate locations, and the locations where the house connections are to be plugged, are shown on the plans.

Payment for this work will be made at the contract unit price bid for Item Special, Plug Existing House Connection, and shall constitute full payment for all necessary materials, tools and labor required to complete this item of work.

614 TEMPORARY PAVEMENT MARKINGS

GENERAL

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

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

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT OR PAVEMENT MARKING TAPE.

A. PAINT

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

B. PAVEMENT MARKING TAPE

RECYCLED RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE DENSITY STANDARD SPECIFIED IN THE MANUAL OF PRACTICES. THE TAPE SHALL BE FLEKOLITE "W" REFLECTIVE, OR "W" "FLAME" OR AN APPROVED EQUAL.

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

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

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

IN ADDITION TO THE FOREGOING, ALL TEMPORARY PAVEMENT MARKING REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWS.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE UNIFORMLY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE PLACED IN A POSITION ON THE CENTER LINE, LANE LINE, EDGE LINE OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD BE PLACED AS SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEET 15. ALL THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE SPECIFIED SHALL BE FOLLOWS.

TEMPORARY MARKINGS SHALL BE COMPLETED PRIOR TO PAVEMENT PRIOR TO THE START OF THE CONSTRUCTION. IF MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUAL OF PRACTICES. PAVEMENT MARKINGS SHALL BE REMOVED BEFORE THE ROAD IS CHANGED TO THE NEXT PHASE OR REOPENED TO TRAFFIC.

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

A. CLASS I MARKINGS

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

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

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

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

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

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

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

GORE MARKINGS SHALL BE TWO CHANNELIZING LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE 16 GALLONS PER MILE FOR GORE MARKINGS, 24 GALLONS PER MILE FOR CHANNELIZING LINES, AND 4 GALLONS PER MILE FOR LANE AND CENTER LINES.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL REMOVE ALL EXISTING MARKINGS PRIOR TO THE START OF THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING MARKINGS IN ACCORDANCE WITH 621.134. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING MARKINGS IN ACCORDANCE WITH 621.134.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS SHALL BE MEASURED COMPLETE IN PLACE BY CLASS AND MATERIAL. THE LENGTH DESIGNATED, DASH LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETE LINE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED. SEE SECTION 621.15.

TEMPORARY PAVEMENT MARKINGS SHALL BE MEASURED IN LAYOUT, AS SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

BASE AND PAYMENT

PAVEMENT MARKING MATERIALS COMPLETED IN PLACE WILL BE MEASURED IN PLACE AND PAID FOR. PAYMENT SHALL BE FULL OF CONTRACT VALUE FOR MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT COSTS, INCLUDING MAINTENANCE AND NECESSARY REMOVAL OF EXISTING MARKINGS.

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

CURVE NO. 2T
 P.C. = 135+36.15T
 P.I. = 135+92.34T
 P.T. = 136+47.44T =
 136+40.00S, 12'Rt.
 $\Delta = 19^{\circ}30'00''$
 $D_c = 17^{\circ}31'18''$
 $R = 327'$
 $L = 111.29'$
 $T = 56.19'$

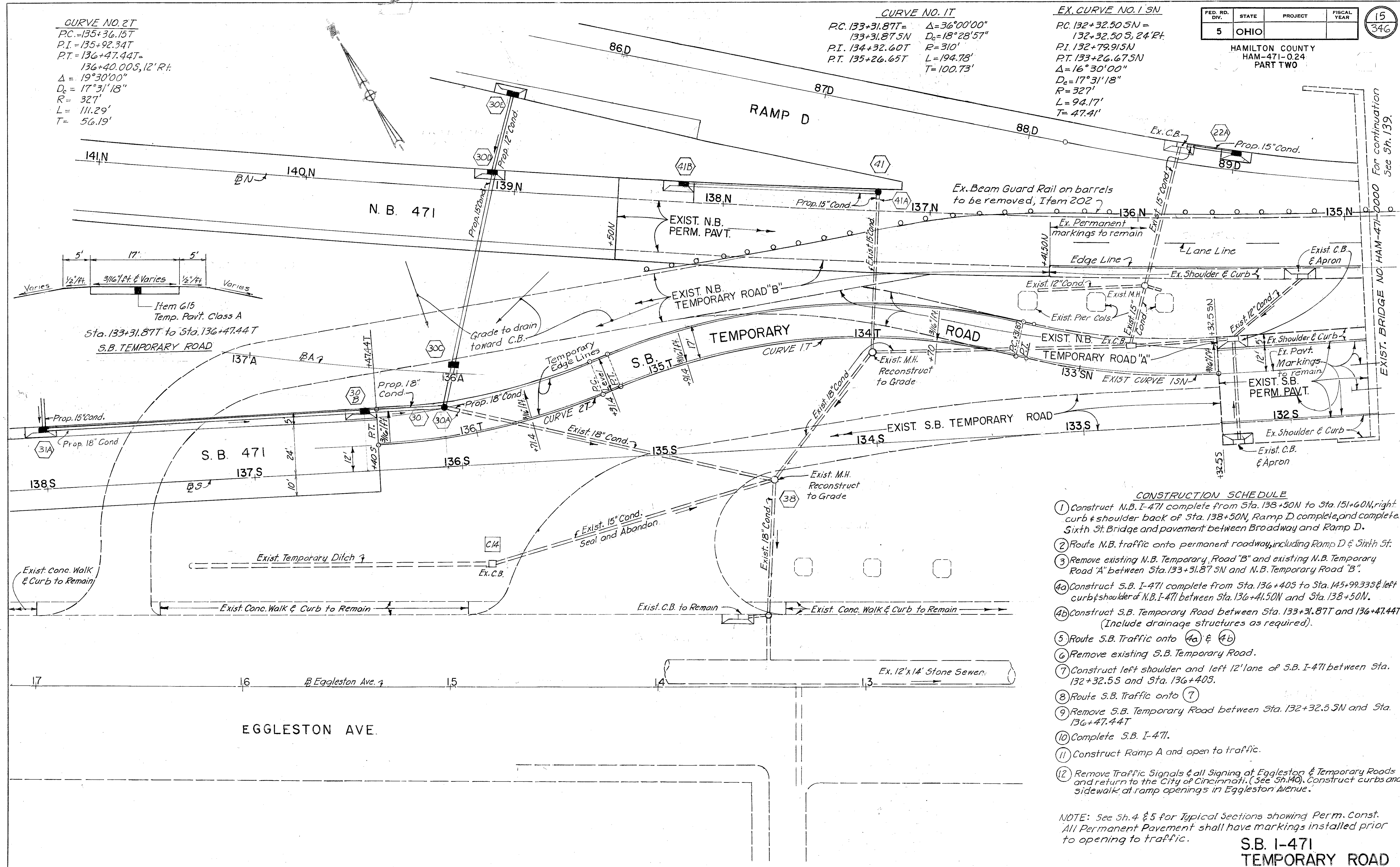
CURVE NO. 1T
 P.C. 133+31.87T = $\Delta = 36^{\circ}00'00''$
 133+31.87SN $D_c = 18^{\circ}28'57''$
 P.I. 134+32.60T $R = 310'$
 P.T. 135+26.65T $L = 194.78'$
 $T = 100.73'$

EX. CURVE NO. 1 SN
 P.C. 132+32.50SN =
 132+32.50S, 24'Rt.
 P.I. 132+79.91SN
 P.T. 133+26.67SN
 $\Delta = 16^{\circ}30'00''$
 $D_c = 17^{\circ}31'18''$
 $R = 327'$
 $L = 94.17'$
 $T = 47.41'$

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

HAMILTON COUNTY
 HAM-471-0.24
 PART TWO

15
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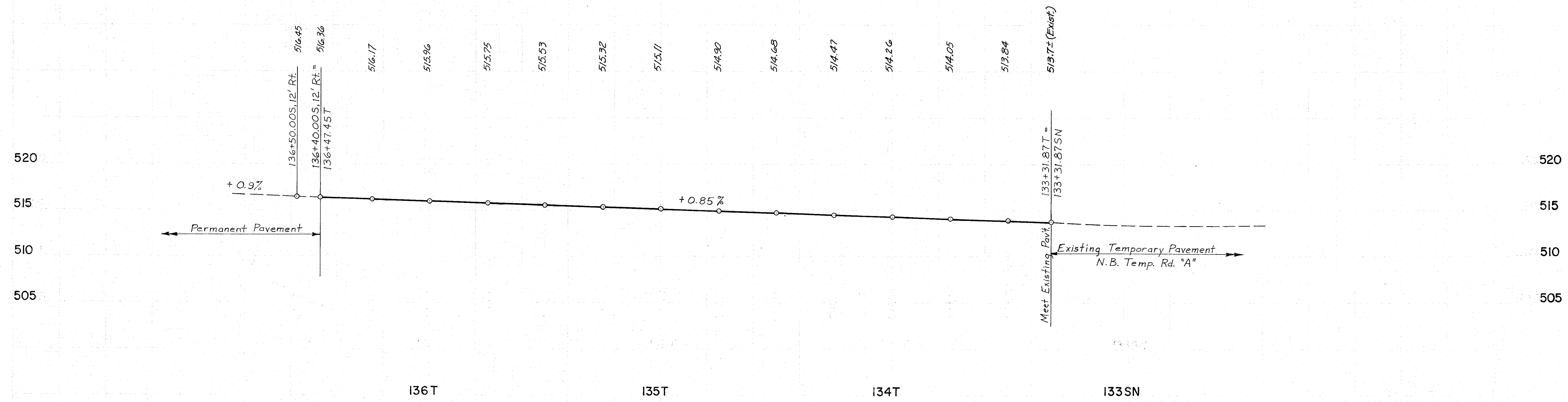


- CONSTRUCTION SCHEDULE**
- 1) Construct N.B. I-471 complete from Sta. 138+50N to Sta. 151+60N, right curb & shoulder back of Sta. 138+50N, Ramp D complete, and complete Sixth St. Bridge and pavement between Broadway and Ramp D.
 - 2) Route N.B. traffic onto permanent roadway, including Ramp D & Sixth St.
 - 3) Remove existing N.B. Temporary Road "B" and existing N.B. Temporary Road "A" between Sta. 133+31.87 SN and N.B. Temporary Road "B".
 - 4a) Construct S.B. I-471 complete from Sta. 136+40S to Sta. 145+99.33S & left curb & shoulder of N.B. I-471 between Sta. 136+41.50N and Sta. 138+50N.
 - 4b) Construct S.B. Temporary Road between Sta. 133+31.87T and 136+47.44T (Include drainage structures as required).
 - 5) Route S.B. Traffic onto 4a & 4b
 - 6) Remove existing S.B. Temporary Road.
 - 7) Construct left shoulder and left 12' lane of S.B. I-471 between Sta. 132+32.55 and Sta. 136+40S.
 - 8) Route S.B. Traffic onto 7
 - 9) Remove S.B. Temporary Road between Sta. 132+32.5 SN and Sta. 136+47.44T
 - 10) Complete S.B. I-471.
 - 11) Construct Ramp A and open to traffic.
 - 12) Remove Traffic Signals & all Signing at Eggleston & Temporary Roads and return to the City of Cincinnati. (See Sh. 140). Construct curbs and sidewalk at ramp openings in Eggleston Avenue.

NOTE: See Sh. 4 & 5 for Typical Sections showing Perm. Const. All Permanent Pavement shall have markings installed prior to opening to traffic.

**S.B. I-471
 TEMPORARY ROAD**

EXIST. BRIDGE NO. HAM-471-0000 For continuation See Sh. 139.



SUMMARY OF QUANTITIES

QUANTITIES
BY J.L.K. DATE 5-80
CHECKED G.J.T. DATE 5-80

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
HAM-471-0.24
PART TWO

ITEM 202 REMOVED OR ABANDONED

Manhole Removal Designation On Plan Sheet	Location	See Sheet No.	Each	Depth Ft.	
M-1	Ramp D 87+35D	49' Lt.	35	1	2.0
M-2	Ramp A 139+32A	29' Lt.	36	1	8.5
M-3	S.B. Exp. 139+183	50' Rt.	36	1	7.0
M-4	S.B. Exp. 144+323	22' Rt.	37	1	4.0
M-5	Monastery 15+57M	8' Lt.	37	1	5.4
Total to General Summary Metropolitan Sewer District			5	(5)	

Catch Basin Removal Designation On Plan Sheet	Location	See Sheet No.	Each	
C-1	Ramp L 141+62L	28' Lt.	34	1
C-2	Ramp L 142+04L	36' Rt.	34	1
C-3	Ramp P 0+82P	2' Rt.	34	1
C-4	Ramp P 0+82P	24' Rt.	34	1
C-5	S.B. Exp. 135+855	48' Lt.	35	1
C-6	Ramp P 9+35P	13' Rt.	39	1
C-7	S.B. Exp. 139+103	34' Lt.	36	1
C-8	S.B. Exp. 139+483	34' Lt.	36	1
C-9	Not Used			
C-10	Not Used			
C-11	Monastery St. 16+17M	11' Rt.	37	1
C-12	Monastery St. 16+32M	11' Rt.	37	1
Total to General Summary			10	

Pipe Removal Designation on Plan Sheet	Location	See Sheet No.	Pipe Removal Lin. Ft. Over 24"			
			27" Dia.	30" Dia.	36" Dia.	42" Dia.
P-1	Monastery St. 4+17M	31' Rt.	34			
P-2	Ramp P 2+17P	95' Rt.	34			18
* P-3	S.B. Exp. 139+293				55	
* P-4	Ramp A 139+40			55		
* P-5	S.B. Exp. 144+265				43	
Total to General Summary *Metropolitan Sewer District					191	(153)

UNDERDRAINS

ITEM SPECIAL PLUG EXISTING HOUSE CONNECTIONS

Location	Plug @ Existing Sewer	Plug @ Back of Walk
North Side of Baum St.		
Sta. 10+80	/	
Sta. 12+05	/	
Sta. 12+20	/	
Sta. 12+43	/	
Sta. 12+69	/	
Sta. 13+56	/	
Sta. 13+83	/	
South Side of Baum St.		
Sta. 12+06	/	
Sta. 12+82	/	
Sta. 13+02	/	
Sta. 13+31	/	
Sta. 13+38	/	
Sta. 13+57	/	
Sta. 13+60	/	
Sta. 13+81	/	
Sta. 13+90	/	
Sta. 14+66	/	
Sta. 15+04	/	
Sta. 16+49	/	
Sta. 16+66	/	
Sta. 17+16	/	
Sta. 17+46	/	
Sta. 17+98	/	
Sta. 18+29	/	
Sub Totals	17	7
TOTALS TO GENERAL SUMMARY (17+7) = 24		
Metropolitan Sewer District	(24)	

Symbol Designation Shown on Plan Sheet	Location Station to Station	Side	Sheet	Unclassified Pipes (Lin. Ft.)		Deep Pipes (Lin. Ft.)		Shallow Pipes (Lin. Ft.)		Shallow Pipes (Lin. Ft.)		6" x 6" x 60° Bend Each	6" x 6" Wye Each	6" x 6" Tee - Each	6" x 6" x 30° Bend - Each	
				Item 605		Item 603		Item 605		Item 603						
				Sec. 605.03	Type F	Sec. 605.03	Type F	Sec. 605.03	Type F	Type B	Type F					
U-1	S.B. Exp. 132+255 to 133+005	Lt.	34					70	8							
U-2	S.B. Exp. 132+255 to 134+023	Rt.	34 & 35					167	10							
U-3	S.B. Exp. 134+005 to 135+98A	Rt.	35					186	12							
U-4	Ramp D 88+75D to 89+63D	Lt.	34					83	8							
U-5	Ramp D 83+32D to 88+75D	Lt.	34, 35 & 36			528	18									
U-6	N.B. Exp. 137+25N to 140+85N	Rt.	35 & 36			355	8									
U-7	Kilgour St. 1+15K to 2+15K	Lt. & Rt.	36					100								
U-8	Monastery St. 13+16M to 15+25M	Rt.	36					178	20							
U-9	Baum St. 19+31.5 B5 to 19+78B5	Rt.	36					35	10							
U-10	Sixth St. 84+25 to 86+00	Lt.	35			165	10									
U-11	Sixth St. 83+75 to 84+25	Lt.	36			40	10									
U-12	Ramp D 82+75 Sixth St. to 85+50D	Rt.	35 & 36					355	20							
U-13	Ramp D 85+50D to 86+00D	Rt.	35			48	5									
U-14	S.B. Exp. 136+075 to 138+005	Rt.	35 & 36			183	10									
U-15	S.B. Exp. 138+005 to 142+255	Rt.	36 & 37			415	10									
U-16	Ramp A 138+00A to 143+15A	Rt. & Lt.	36 & 37			481	20									
U-17	N.B. Exp. 140+85N to 146+50N	Rt.	36 & 37			550	18									
U-18	S.B. Exp. 142+255 to 145+995	Rt.	37 & 38			353	10									
U-19	N.B. Exp. 146+50N to 149+47N	Rt.	37 & 38													
U-20	N.B. Exp. 149+50N to 151+60N	Rt.	38							312	8					
U-21	Ramp A 136+01A to 137+95A	Rt.	35 & 36					184	10	205	8					
U-22	Ramp A 139+61A to 142+00A	Rt.	36 & 37			242	10									
U-23	Not Used															
U-24	Baum St. 10+31B5 to 14+95B5	Rt.	39 & 40					452	10							
U-25	Baum St. 10+26B5 to 10+19B5-792	Rt. & Lt.	39					126								
U-26	Ramp A 143+03A	Rt. & Lt.	37													
U-27	Sixth St. 81+22	Rt. & Lt.	36							28						
U-28	Monastery St. 9+79	Rt. & Lt.	35							40						
U-29	Sixth St. 86+25	Rt. & Lt.	35							34	18					
U-30	S.B. Exp. 132+515	Rt. & Lt.	34							20						
U-31	N.B. Exp. 135+63N	Rt.	34							40						
U-32	Ramp L 135+32L	Rt. & Lt.	34							26						
Totals to General Summary				48	5	3312	124	1936	88	20	727	34				
Totals for Information Only												13	1	3	1	

ITEM SPECIAL IMPACT ATTENUATOR, HY-DRO SYSTEM

Location	Sheet	Each	Model No.
Ramp H & E.B. Ft. Washington Way Viaduct	117	1	2091300N85
Martin St. Ramp & E.B. Columbia Parkway	117	1	209800585
Columbia Pkwy & Ramp A	118	1	2091200N85
Ramp F & Ramp L	118	1	2091000N85
Columbia Pkwy & Sixth St.	118	1	2091200N85
Ramp P & W.B. Ft. Washington Way	39	1	209800545
TOTAL		6	

For description of pay item see Sh. 10

BY CNB 9-79
CHECKED SCC DATE 9-79

HAMILTON COUNTY
HAM-471-0.24

ITEM 451 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
10" THICKNESS

Station to Station	Sq. Ft.
N.B. Expressway	
138+50.00 to 143+92.34	24 x 543.5 + 298.7 x 10 = 16,031
143+92.34 to 146+95.08	24 x 306.2 = 7,349
146+95.08 to 151+06.16	24 x 420.6 = 10,094
151+06.16 to 151+60.00	24 x 54.9 = 1,318
Subtotal	= 34,792 S.F.

S.B. Expressway	
132+32.50 to 134+46.93	36 x 214.4 = 7,718
134+46.93 to 135+98.90	36 x 152.0 + 0.5 x 8.5 x 152.0 } -0.67(2x152) = 5,914
135+98.90 to 139+68.19	24 x 369.3 = 8,863
139+68.19 to 142+68.19	24 x 298.0 = 7,152
142+68.19 to 145+46.79	24 x 274.8 = 6,595
145+46.79 to 145+99.03	24 x 51.0 = 1,224
Subtotal	= 37,466 S.F.

Ramp D	
87+43.45 to 88+17.66	74.2 x 0.5 (38+25) = 2,337
88+17.66 to 89+39.00	121 x 0.5 (25+8) = 1,997
Subtotal	= 4,334
Total	= 76,592 S.F.
	= 8,510 S.Y.

9" THICKNESS	
Ramp L	
135+15.74 to 135+94.78	83.6 x 17.1 = 1,430
135+94.78 to 136+48.75	57.1 x 18.0 = 1,028
Subtotal	= 2,458 S.F.

Ramp A	
135+97.60 to 136+97.60	101 x 0.5 (14+16) = 1,515
136+97.60 to 139+09.43	214.3 x 0.5 (14+19.22) = 3,560
139+09.43 to 140+95.80	186.4 x 0.5 (19.22+24) = 4,028
140+95.80 to 143+18.00	24 x 233.8 = 5,611
Subtotal	= 14,714 S.F.

Ramp D	
82+53.54 to 83+31.86	24 x 80.6 = 1,934
83+31.86 to 86+43.45	24 x 311.6 = 7,478
86+43.45 to 87+43.45	34 x 100 = 3,400
Subtotal	= 12,812 S.F.

Sixth Street Connection	
80+84.1 to 82+53.54	36 x 176.9 = 6,368
82+53.54 to 83+36.89	12 x 83.4 + 0.5 x 8 x 83.4 } -0.67(2x83) = 1,223
83+36.89 to 84+36.89	100 x 15 = 1,500
84+36.89 to 86+40.75	103.9 x 16 + 100 x 15 = 3,162
Subtotal	= 12,253 S.F.

Ramp P	
0+71.78 to 2+36.50	164.7 x 24 = 3,953
2+36.50 to 3+08.10	77.3 x 24 = 1,855
3+08.10 to 3+90.00	32 x 24 + 24 x 0.5 (29+5) } +4900(0.0231) + 100(1.1865) = 1,408
3+88.00 to 4+04.73	0.5 x 18 x 18 = 162
4+04.73 to 4+56.82	49.3 x 18 + 4(1.1865) = 892
4+56.82 to 5+34.14	73.2 x 18 = 1,318
Right turn to Monastery	4900(0.2146) + 0.5 x 12 x 25 + 0.5 x 16 x 75 } -4/3(0.5 x 4.5 x 75) - 0.5 x 13 x 17 + 4/3(0.5 x 1 x 28) = 1,484
5+34.14 to 6+59.62	121.8 x 18 = 2,192
6+59.62 to 7+29.35	69.7 x 18 = 1,255
7+29.35 to 8+67.11	139.9 x 18 + 27 x 1.5 x 0.5 = 2,538
8+67.11 to 10+47.11	10 x 19 + 57 x 0.5 (20+12) - } 2/3 x 0.5 x 57 + 0.5 x 12 x 117 - } 2/3 x 3 x 14 + 2 x 40 + 27 x 0.5 (2+4) + } 0.5(56 x 8) - 4 x 4 = 1,926
Add for Type 7A Curb	0.58 x 1777 = 1,031
Deduct for Catch Basins	-6 x 4.0 x 15 = -360
Subtotal	= 19,654 S.F.

Eggleston Avenue	
23+00.00 to 23+83.90	235 x 83.90 = 1,972
Add for Type 7A Curb	0.58 x 83.90 = 49
Subtotal	= 2,021 S.F.

Station to Station	Sq. Ft.
Monastery Street	
3+27.45 to 10+33.91	(529.03 + 164.97) 30 + 23 x 7.6 + 23 x 4.3 = 21,094
Add for Type 7A Curb	1187 x 0.58 = 689
Deduct for Catch Basins	-6 x 4.0 x 15 = -360
Subtotal	= 21,423 S.F.
Total	= 85,335 S.F.
	= 9,482 S.Y.

ITEM 301 BITUMINOUS AGGREGATE BASE	
N.B. Expressway	
138+14.71 to 143+92.34	Rt. 10 x 205.3 + 50 x 0.5 (10+11.25) + 11.25 x 321.7 = 6,203
136+41.50 to 143+92.34	Lt. 100.5 x 0.5 (6.25+5.0) + 480.0 x 5.0 + 174.0 x 6.25 = 4,053
143+92.34 to 146+95.08	Rt. 11.25 x 156.8 + 31.8 x 0.5 (10+11.25) + 11.25 x 10 = 3,227
143+92.34 to 146+95.08	Lt. 6.25 x 151.4 + 51.3 x 0.5 (6.25+5) + 107.8 x 5 = 1,774
146+95.08 to 151+06.16	Rt. 10 x 407.5 = 4,075
146+95.08 to 151+06.16	Lt. 5 x 430.2 = 2,151
151+06.16 to 151+60.00	Rt. 10 x 53.6 = 536
151+06.16 to 151+60.00	Lt. 52.4 x 0.5 (5+6.25) + 4 x 6.25 = 320
Deduct for Catch Basins	-6 x 4.00 x 15 = -360
Subtotal	= 21,979 S.F.

S.B. Expressway	
132+32.50 to 134+46.93	Rt. 92.5 x 6.25 + 50 x 0.5 (6.25+5.0) + 71.9 x 5 = 1,219
137+00.00 to 139+68.19	Lt. 35 x 0.5 (0.38+11.25) + 50 x 0.5 (10+11.25) + 11.25 x 115 + 68 x 10 = 2,884
134+46.93 to 135+98.90	Rt. 5 x 150.4 = 752
135+98.90 to 139+68.19	Rt. 5 x 369.3 + 0.5 x 5.0 x 45 - 60 x 5 = 1,659
139+68.19 to 142+68.19	Lt. 10 x 300.8 = 3,008
139+68.19 to 142+68.19	Rt. 5 x 168.7 + 50 x 0.5 (5+6.25) + 78.6 x 6.25 = 1,605
142+68.19 to 145+46.79	Lt. 10 x 230.2 = 2,302
142+68.19 to 145+46.79	Rt. 6.25 x 270.3 = 1,689
145+46.79 to 145+99.03	Lt. 10 x 52.7 = 527
145+46.79 to 145+99.03	Rt. 6.25 x 49.5 = 309
Deduct for Catch Basins	-3 x 4.00 x 15 - 2 x 5 x 15 - 5 x 4.6 = -353
Subtotal	= 16,101 S.F.

Ramp A	
135+97.60 to 139+09.43	Rt. 3 x 211.5 + 100 x 0.5 (5+3) = 1,035
136+97.60 to 139+09.43	Lt. 214.6 x 0.5 (2+6) = 858
139+09.43 to 140+95.80	Lt. Rt. 186.4 (3+6) = 1,678
140+95.80 to 143+25.00	Rt. 3.25 x 254.6 - 25 x 0.25 = 821
140+95.80 to 143+32.00	Lt. 160 x 7.25 + 73.1 x 6 = 1,599
Deduct for Catch Basins	-(4 x 15 + 3 x 15 + 5 x 10.4) = -157
Subtotal	= 5,834 S.F.

Ramp D	
82+53.54 to 83+31.86	Rt. 3.25 x 78.0 = 254
83+31.86 to 84+68.45	Rt. 3.25 x 68.1 + 10 x 0.5 (3+3.25) + 58.5 x 3 = 428
83+31.86 to 85+43.45	Lt. 6 x 211.6 + 0.5 x 5 x 30 = 1,345
85+43.45 to 86+43.45	Lt. 100.0 x 0.5 (11.25+6) = 863
84+68.45 to 86+43.45	Rt. 175.00 x 0.5 (10+3) = 1,138
86+43.45 to 88+00.00	Lt. 100.00 x 11.25 + 56.6 x 0.5 (10+11.25) = 1,726
88+00.00 to 89+63.00	Lt. 163.00 x 10 = 1,630
Deduct for Catch Basins	-3 x 4 x 15 - 3 x 15 = -225
Subtotal	= 7,159 S.F.

Sixth Street Connection	
80+62 to 82+48.77	Lt. 204.1 x 0.5 (5+3) = 816
81+16 to 82+53.54	Rt. 3.5 x 60.7 + 10 x 0.5 (3.5+3.25) + 66.5 x 3.25 = 462
82+48.77 to 83+36.89	Lt. 88.1 x 0.5 (5+6) = 485
83+36.89 to 86+40.75	Lt. 223.1 x 6 + 80.75 x 0.5 (6+3.7) = 1,730
84+36.89 to 86+40.75	Rt. 100.0 x 2.5 + 103.9 x 3 = 562
Deduct for Catch Basins	-4 x 15 = -60
Subtotal	= 3,995 S.F.

Baum Street	
9+25, 54' Rt. to 10+03, 91' Lt.	22(165) = 3,630
9+56 to 10+31.55	23(12.44 x 4 + 15) + 2 x 15.2 x 0.2146 = 1,586
10+31.55 to 12+46.26	23(169.75) + (24.70 + 24.74) 23.5 = 5,066
12+46.26 to 14+95.00	24 x 248.7 = 5,969
19+31.50 BS to 16+03.00M	24 x 126.5 = 3,036
19+83.00 BS to 15+88.00M	Lt. 30 ² x 0.9708 = 874
16+09.00 M to 16+30.00 M	Rt. 30 ² x 0.0361 = 32
Deduct for Catch Basins	-5 x 4 x 15 = -300
Subtotal	= 19,893 S.F.

Station to Station	Sq. Ft.
Van Meter Street	
15+60.00 to 18+50.00	(8" Thick) 30 x 290 = 8,700
15+60.00 to 16+17.00	Rt. 30 ² x 0.5880 + 25 = 554
15+45.00 to 15+85.00	Lt. 50 ² x 0.0664 = 166
Subtotal	= 9,420 S.F.

Monastery Street	
2+20.00K to 1+74.21K	24 x 45.79 = 1,099
1+74.21K to 1+12.71K	24 x 65.20 = 1,565
1+12.71K to 13+75.00M	0.5(24+30) x 59 = 1,593
13+75.00M to 14+72.00M	30 x 97 = 2,910
14+72.00M to 15+91.03M	30 x 119.03 = 3,571
15+91.03M to 16+75.00M	23 x 83.97 = 1,931
16+75.00M to 16+92.00M	4 x 17 = 68
Deduct for Catch Basins	-4 x 4 x 15 = -240
Subtotal	= 12,497 S.F.

Kilgour Street	
2+20.00K to 3+00.00K	20 x 80 = 1,600
Subtotal	= 1,600 S.F.
Subtotal (8")	= 43,410 x (3+5) x 1/27 = 1072 C.Y.
Total (3"+8")	= 1582 C.Y.

ITEM 304 AGGREGATE BASE	
Area from 301(3") Calculations	= 55,068 Sq. Ft.
Volume	= 55,068 x 1/12 x 1/27 = 1,020 Cu. Yds.

ITEM 404 ASPHALT CONCRETE	
Area from 301(8") Calculations	Subtotal = 43,410 S.F.
Baum Street 14+95 to 19+31.50	24 x 436.5 = 10,476 S.F.
Subtotal	= 10,476 S.F.

S.B. Expressway	
132+32.50 to 136+85	Lt. 10 x 452.5 = 4,525
136+85 to 137+00.00	Lt. 15 x 0.5 (10+10.38) = 153
136+40 to 137+00.00	Rt. (60-15) x 5 = 225
Subtotal	= 4,903 S.F.

Ramp L	
135+14 to 136+48.75	Lt. 148.4 x 3 = 445
134+91 to 135+94.78	Rt. 103 x 6 - 4 x 15 = 558
135+94.78 to 136+48.75	Rt. 53 x 6 = 318
Subtotal	= 1,321 S.F.

Kilgour Street	
From Part I, 402 calculations	Subtotal = 12,636 S.F.
Subtotal	= 72,746 S.F.
	= 224 C.Y.

Approach Slabs	
HAM-471-0047	25 x 27 + 8.6 x 0.5 + 2 x 3 = 685 S.F.
Subtotal	= 685 S.F.
Total	= 229 C.Y.

ITEM 609 TYPE 7A CONCRETE CURB	
Station to Station	Lin. Ft.
Monastery Street	
3+32.00 to 5+36.73	Lt. 27 + 192 = 219
3+25.00 to 5+90.00	Rt. 26 + 253 = 279
6+07.00 to 7+49.75	Lt. = 144
6+18.00 to 6+74.00	Rt. = 59
7+16.00 to 7+49.75	Rt. = 33
7+49.75 to 8+56.48	Rt. & Lt. 106.73 x 2 = 213
8+68.94 to 10+33.91	Rt. & Lt. 164.97 x 2 = 330
Deduct for Catch Basins	-6 x 15 = -90
Subtotal	= 1,187 L.F.
Eggleston Avenue	
23+00.00 to 23+84	Rt. = 84
Subtotal	= 84 L.F.

Ramp P	
0+71.78 to 3+08.10	▬ = 236
3+08.10 to 3+77.00	Lt. = 71
0+71.78 to 2+36.50	Rt. = 165
2+36.50 to 3+08.10	Rt. = 83
3+08.10 to 3+22.42 + Return Rt.	= 38
3+89.00 to 4+04.73	Rt. = 16
4+09.00 to 4+59.00	▬ = 53

CNB 9-79
 CHECKED SCC 9-79
 WWC 12-81

HAMILTON COUNTY
 HAM-471-0.24
 PART TWO

(TYPE 7A CURB CONT.)

Station to Station	Lin.Ft.
Ramp P	
4+04.73 to 6+59.62 Rt.	=228
Rt. Turn Lane to Monastery	=149
4+88.72 to 5+34.14	= 47
5+34.14 to 6+59.62	=125
6+59.62 to 7+29.35	=140
7+29.35 to 10+47.10	=318
7+29.35 to 8+65.30 Rt.	=144
Along existing W.B.Romp	= 54
Deduct for Catch Basins	-6 x 15 = -90
Subtotal	= 1,777 L.F.
Total	= 3,048 Lin. Ft.

Station to Station	Lin.Ft.
Baum Street (Incl. Oregon St. Intersection)	
9+25.00, 54' Rt. to 10+03.00, 91' Lt.	= 277
9+56.00 to 10+31.55 Rt.	= 81
9+88.00 to 10+31.55 Lt.	= 66
10+31.55 to 14+95.00 Rt. & Lt.	= 936
19+31.50 to 19+75.00 Rt.	= 44
19+31.50 to 19+84.39 Lt.	= 53
19+84.39 BS to 15+25.00 M Lt.	= 67
Deduct for Catch Basins	-5 x 15 = -75
Subtotal	= 1,449 L.F.
Van Meter Street	
16+60.01 M to 16+17.81 V.M. Rt.	= 64
16+17.81 V.M. to 18+50.00 V.M. Rt.	= 221
15+47.60 M to 15+84.87 V.M. Lt.	= 56
15+84.87 V.M. to 18+50.00 V.M. Lt.	= 278
Subtotal	= 619 L.F.

Station to Station	Sq. Ft.
Baum Street (Continued)	
9+90.00, 15' Radius Lt.	= 102
9+91.00 to 10+13.00 Lt.	21 x 5.5 = 116
10+13.00 to 10+31.55 Lt.	18 x 5 = 90
9+77.00 to 10+22.00 Rt.	52 x 7 - 23 x 7 = 203
10+31.55 to 12+01.30 Lt.	168 x 6.5 = 1,092
12+01.30 to 13+83.50 Lt.	184.2 x 7.5 = 1,382
19+31.50 to 19+75 Rt.	43.5 x 8 - 4 x 3 = 336
19+31.50 to 19+84.39 Lt.	53 x 9.5 = 503
Subtotal	= 5,450 S.F.

ITEM 609 STANDARD TYPE 6 CURB

N.B. Expressway	Lin.Ft.
138+14.71 to 143+92.34 Rt.	=577
136+41.50 to 143+92.34 Lt.	=754
143+92.34 to 146+95.08 Rt.	=300
143+92.34 to 146+95.08 Lt.	=311
146+95.08 to 151+06.16 Rt.	=404
146+95.08 to 151+06.16 Lt.	=432
151+06.16 to 151+60.00 Rt.	= 53
151+06.16 to 151+60.00 Lt.	= 56
Deduct for Catch Basins	-6 x 15 = -90
Subtotal	= 2,797 Lin. Ft.

Monastery Street	Lin.Ft.
2+20.00 K to 1+74.21 K Rt.	= 46
1+74.21 K to 1+12.71 K Rt.	= 61
1+12.71 K to 14+72.00 M Rt.	= 148
14+72.00 M to 15+25.16 M Rt.	= 53
14+00.00 M to 14+72.00 M Lt.	= 76
14+72.00 M to 15+47.60 M Lt.	= 76
16+33.00 M to 16+75.00 M Rt.	= 42
16+60.01 M to 16+92.00 M Lt.	= 32
Deduct for Catch Basins	-4 x 15 = -60
Subtotal	= 474 L.F.

Kilgour Street	Sq. Ft.
13+20.26 M (15' Rt.) to 3+00.00 K Lt.	191 x 6 = 1,146
2+20.00 to 3+00.00 Rt.	10 x 4 + 22 x 1 + 48 x 4.9 = 297
Subtotal	= 1,443 S.F.

S.B. Expressway	Lin.Ft.
132+33.00 to 134+46.93 Rt.	=214
132+33.00 to 134+46.93 Lt.	=214
134+46.93 to 135+98.90 Rt.	=150
134+46.93 to 139+68.19 Lt.	=521
136+41.00 to 139+68.19 Rt.	=332
139+68.19 to 142+68.19 Lt.	=302
139+68.19 to 142+68.19 Rt.	=295
142+68.19 to 145+46.79 Lt.	=282
142+68.19 to 145+46.79 Rt.	=270
145+46.79 to 145+99.00 Lt.	= 53
145+46.79 to 145+99.00 Rt.	= 49
Deduct for Catch Basins	-6 x 15 - 4.6 = -95
Subtotal	= 2,587 Lin. Ft.

ITEM 608 4" CONCRETE WALK

Station to Station	Sq. Ft.
Ramp P	
0+71.78 to 2+36.50 Lt.	164.7 x 5.4 = 889
2+36.50 to 3+08.10 Lt.	70.2 x 5.4 = 379
3+08.10 to 3+39.73 Lt.	31.6 x 5.4 = 171
3+39.73 to 3+90.00 Lt.	53.6 x 5.4 = 289
Along Right Turn Lane to Monastery	103.7 x 5.4 = 560
4+88.72 to 5+34.14 Lt.	46.5 x 5.4 = 251
5+34.14 to 6+59.62 Lt.	127.7 x 5.4 + 0.5(29 x 4 + 18 x 3) = 775
6+59.62 to 7+29.35 Lt.	40.4 x 8.4 + 29.3 x 5.4 = 497
7+29.35 to 8+67.10 Lt.	136.4 x 5.4 = 737
8+67.10 to 10+47.10 Lt.	179.0 x 5.4 + 0.5 x 80 x 3 = 1,087
Subtotal	= 5,635 S.F.

Van Meter Street	Sq. Ft.
Curb Return to Monastery	(57.6 + 32) 5.5 + 37 x 8 = 789
16+17.81 to 18+50.00 Rt.	218 x 5.5 = 1,199
15+84.87 to 18+50.00 Lt.	281.4 x 5.5 = 1,546
Subtotal	= 3,534 S.F.

Ramp A	Lin.Ft.
135+97.60 to 139+09.43 Rt.	=311
136+39.00 to 139+09.43 Lt.	=274
139+09.43 to 140+95.80 Rt. & Lt.	=373
140+95.80 to 143+11.00 Lt.	=210
140+95.80 to 143+23.00 Rt.	=251
Deduct for Catch Basins	-2 x 15 - 10.4 = -40
Subtotal	= 1,379 Lin. Ft.

Monastery Street	Sq. Ft.
7+31.57 to 7+49.75 Rt.	18.2 x 5.4 = 98
7+49.75 to 8+56.48 Rt.	110.2 x 5.4 = 595
8+68.94 to 10+58.90 Rt.	190.0 x 5.4 = 1,026
13+20.26 to 14+63.10 Rt.	134.3 x 5.5 = 739
14+80.50 to 15+25.16 Rt.	44.7 x 5.5 = 246
14+00.00 to 14+72.00 Lt.	44.3 x 5.5 + 32 x 0.5(1+5.5) = 348
14+72.00 to 15+47.60 Lt.	75.6 x 5.5 = 416
Curb Return to Baum St.	60.2 x 5.5 = 331
Curb Return to Van Meter St.	52.4 x 5.5 = 288
16+47 to 16+82 Rt.	26 x 9 + 4 x 8 + 5 x 7 = 301
14+33.50 to Sixth St. Conn.	201.6 x 6.0 = 1,210
10+07 to 10+58.9 Lt.	51.9 x 1.9 = 99
Subtotal	= 5,697 S.F.

Eggleston Avenue	Sq. Ft.
I-471 Temporary Conn.	(153+60)(5.5) = 1,172
18+03.00 to 18+43.00	40 x 5.5 = 220
23+00.00 to 23+84.00	84 x 5.4 = 454
Subtotal	= 1,846 S.F.

Sixth Street Connection	Lin.Ft.
80+62.00 to 82+53.54 Lt.	=210
82+53.54 to 83+36.89 Lt.	= 83
83+36.89 to 85+97.00 Lt.	=260
83+67.00 to 84+47.00 Rt.	= 80
Deduct for Catch Basin	-1 x 15 = -15
Subtotal	= 618 Lin. Ft.

Sixth Street Conn.	Sq. Ft.
80+22.00 to 80+62.00 Lt.	43.0 x 5.3 = 228
Subtotal	= 228 S.F.

ITEM 611 REINFORCED CONCRETE APPROACH SLAB(T=13") MODIFIED AS PER PLAN			
RAMP A	Side of Roadway	Type CLT Fence	Type CLT Gate
		5' High, Lin. Ft.	14' Dbl. Opening C.P.A.
Br. Ham-471-0047 Rear Approach	25 x 27 + 8.6 x 0.5 + 2 x 3		
Monastery Street Rear Approach	25 x 31.5		
Reloc. Sixth Street	20.8 x 76.2 + 9.7 x 4.7		
Br. Ham-471-0044 Fwd. Approach	x 0.5 - 4.2 x 1.7 x 0.5		
Off Columbia Viaduct	25 x 22		
Ramp L			
Br. Ham-471-0000	25 x 19		
Rear Approach	26.2 x 27		
Subtotal			
Total			

ITEM 607 FENCE AND GATES

Station to Station	Side of Roadway	Type CLT Fence	Type CLT Gate
		5' High, Lin. Ft.	14' Dbl. Opening C.P.A.
131+56 S.B. to 150+20 S.B.	Lt.	1982 Lin. Ft.	2 Ea.
86+70 Sixth St. to 87+70 Sixth St.	Rt.	108	1
144+50 N.B. to 145+87 N.B.	Rt.	141	2
10+15 M to 86+10 Sixth St.	Rt.	102	2
10+60 M to 10+72 M	Rt.	35	—
Totals		2,368 Lin. Ft.	3 Ea.

Fence, Gates, etc. is shown on Grade Detail Sh. 110-114.
 C.P.A. denotes Corner Post Assembly (Not a pay item)

HAMILTON COUNTY
 HAM-471-0.24
 PART TWO

ITEM 310 SUBBASE, TYPE II

N.B. Expressway	Sq. Ft.	
Area of 10"-451	= 34,792	
Area of Conc. Median 1200 x 13/16	= 2,600	
Area of Underdrains 2.58(270+550+18)		
+ 3/2 + 8 + 205 + 8)	= 3,537	
Area 1.0' beyond Ed. of Pav't. 1(1310+27)	= 1,337	
Subtotal	= 42,266 S.F.	
S.B. Expressway		
Area of 10"-451	= 37,466	
Area of Underdrains 2.58 x 1416	= 3,653	
Area 1.0' beyond Edge of Pavement 1 x 1299	= 1,299	
RAMP A Subtotal	= 42,418 S.F.	
Area of 9"-451	= 14,714	
Area of Approach Slab	= 685	
Area of Underdrains 2.58 x 338 + 3 x 604	= 2,684	
Area of Shoulders Next to Wall 21 x 6	= 126	
Area 1.0' beyond Edge of Pavement 1 x 418	= 418	
RAMP D Subtotal	= 18,627 S.F.	
Area of 10"-451	= 4,334	
Area of 9"-451	= 12,812	
Area of Underdrains 2.58(762) + 3 x 187	= 2,527	
Area 1.0' beyond Edge of Pavement 1(44)	= 44	
Area of Shoulders Next to Wall 26 x 3.3	= 86	
Subtotal	= 19,803 S.F.	
Ramp L		
Area of 9"-451	= 2,458	
Area of Approach Slabs (475 + 707)	= 1,182	
Area 1.0' beyond Edge of Pavement 1(148)	= 148	
Area of Shoulders Next to Wall 6 x 156	= 936	
Subtotal	= 4,724 S.F.	
Sixth Street Connection		
Area of 9"-451	= 12,253	
Area of Approach Slabs 1604 + 550	= 2,154	
Area of Underdrains 2.58 x 225	= 581	
Area of Shoulder Next to Walls 3.5 x 135 + 4 x 41	= 637	
Area 1.0' beyond Edge of Pav't. 1(535)	= 535	
Subtotal	= 16,160 S.F.	
Ramp P		
Area of 9"-451	= 19,654	
Area 1.0' behind 7A Curb 1(1777 + 90)	= 1,867	
Area of C.B. Blockouts 6 x 4.58 x 15	= 412	
Subtotal	= 21,933 S.F.	
Monastery Street		
Area of 9"-451	= 21,423	
Area of 8"-301	= 12,497	
Area of Approach Slab	= 788	
Area of C.B. Blockouts 6 x 4.58 x 15 + 4 x 4 x 15	= 652	
Area 1.0' behind 7A Curbs 1(1187 + 90 + 2 x 25)	= 1,327	
Area under & 1.0' behind Type 6 Curb 184 x 1.5	= 276	
Area of Type 6 Curb with Underdrain 350 x 6 x (13/16)	= 4,550	
Kilgour Street Subtotal	= 41,513 S.F.	
Area of 8"-301	= 1,600	
Area under & 1.0' behind Type 6 Curb (Rt.) 84 x 1.5	= 126	
Area of Type 6 Curb with Underdrain 80 x 6 x (13/16)	= 1,040	
Van Meter Street Subtotal	= 2,766 S.F.	
Area of 8"-301	= 9,420	
Area under & 1.0' behind Type 6 Curb 619 x 1.5	= 929	
Eggleston Avenue Subtotal	= 10,349 S.F.	
Area of 9"-451	= 2,021	
Area 1.0' behind 7A Curb 84 x 1	= 84	
Baum Street Subtotal	= 2,105 S.F.	
Area of 8"-301 19,893 x (.8/5)	= 31,829	
Area under & 1.0' behind Type 6 Curb 1524 x 1.5	= 2,286	
Area of C.B. Blockouts 5 x 4 x 15	= 300	
Subtotal	= 34,415 S.F.	
Total Area of 310	= 257,079 S.F.	
Volume of 310 257,079 x 6/2 x 1/27	= 4,761 Cu. Yd.	

ITEM 310 SUBBASE, TYPE I

N.B. Expressway (Avg. T=6")	Sq. Ft.	
Area of 3"-301	= 21,979	
Area of Catch Basins in Shoulders	= 360	
Deduct: Area of Underdrains	= -3,537	
Area 1.0' beyond Edge of Pav't.	= -1,337	
Total (T=6")	= 17,465 S.F.	
S.B. Expressway (Avg. T=4 1/2")		
Area of 404	= 4,903	
Area of 3"-301	= 16,101	
Area of Catch Basins in Shoulders 353 + 75	= 428	
Deduct: Area of Underdrains	= -3,653	
Area 1.0' beyond Edge of Pav't.	= -1,299	
Subtotal	= 16,480 S.F.	
Ramp A (Avg. T=4 1/2")		
Area of 3"-301	= 5,834	
Area of Catch Basins in Shoulders	= 157	
Deduct: Area of Underdrains	= -2,684	
Area 1.0' beyond Edge of Pav't.	= -418	
Area next to Walls	= -126	
Subtotal	= 2,763 S.F.	
Ramp D (Avg. T=4 1/2")		
Area of 3"-301	= 7,159	
Area of Catch Basins in Shoulders	= 225	
Deduct: Area of Underdrains	= -2,527	
Area 1.0' beyond Edge of Pav't.	= -44	
Area next to Walls	= -86	
Subtotal	= 4,727 S.F.	
Sixth Street Connection (Avg. T=4 1/2")		
Area of 3"-301	= 3,995	
Area of Catch Basins in Shoulders	= 60	
Deduct: Area of Underdrains	= -581	
Area 1.0' beyond Edge of Pav't.	= -535	
Area next to Walls	= -637	
Subtotal	= 2,302 S.F.	
Total (T=4 1/2")	= 26,272 S.F.	
Ramp L (Avg. T=5")		
Area of 404	= 1,321	
Area of Catch Basin in Shoulder	= 60	
Deduct: Area 1.0' beyond Edge of Pavement	= -148	
Area next to Wall	= -936	
Total (T=5")	= 297 S.F.	
Volume of 310 Subbase: 17,465 x 0.5 ÷ 27 = 323 C.Y.		
26,272 x 0.375 ÷ 27 = 365 C.Y.		
297 x 0.42 ÷ 27 = 5 C.Y.		
Total = 693 C.Y.		

ITEM 203 PROOF ROLLING
 (Rate = 3000 S.Y. per Hour)

N.B. Expressway	Sq. Ft.	
Area of 10"-451	= 34,792	
Area of 3"-301	= 21,979	
Area of Catch Basin Blockouts 6.0 x 4.00 x 15.00	= 360	
Subtotal	= 57,131 S.F.	

ITEM 203 PROOF ROLLING (Continued)

S.B. Expressway	Sq. Ft.	
Area of 404	= 4,903	
Area of 10"-451	= 37,466	
Area of 3"-301	= 16,101	
Area of Catch Basin Blockouts 353 + 75	= 428	
Subtotal	= 58,898 S.F.	
Ramp A		
Area of 9" 451	= 14,714	
Area of 3" 301	= 5,834	
Area of Approach Slabs	= 685	
Area of Catch Basin Blockouts 2 x 4 x 15 + 3 x 15	= 165	
Subtotal	= 21,398 S.F.	
Ramp D		
Area of 10"-451	= 4,334	
Area of 9"-451	= 12,812	
Area of 3"-301	= 7,159	
Area of Catch Basin Blockouts 3 x 4 x 15 + 3 x 15	= 225	
Subtotal	= 24,530 S.F.	
Ramp L		
Area of 9"-451	= 2,458	
Area of 404	= 1,321	
Area of Approach Slabs 475 + 707	= 1,182	
Area of Catch Basin Blockouts 4 x 15	= 60	
Subtotal	= 5,021 S.F.	
Total Area	= 166,978 S.F.	

$\frac{166,978}{9 \times 3000} = 6$ Hours Proof Rolling

ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

N.B. Expressway (I-471) & Ramp D	C.Y.	
S.B. Expressway (I-471) & Ramp A	= 49,286	
Baum Street	= 957	
Oregon Street	= 190	
Ramp P, Ramp L & Sixth St. Conn.	= 14,718	
Monastery Street, Ramp L & Sixth St. Conn.	= 28,348	
Van Meter Street	= 865	
Total	= 119,879 C.Y.	

ITEM 203 EMBANKMENT

N.B. Expressway (I-471) & Ramp D		
S.B. Expressway (I-471) & Ramp A	= 1,599	
Baum Street	= 29	
Oregon Street	= 10	
Ramp P, Ramp L & Sixth St. Conn.	= 211	
Monastery Street, Ramp L & Sixth St. Conn.	= 4,837	
Van Meter Street	= 76	
Total	= 17,283 C.Y.	

CNB 9-79
 CHECKED SCC 9-79
 WWC 12-81

HAMILTON COUNTY
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 PART TWO

ITEM 402 ASPHALT CONCRETE
 Area from 404 Calculations
 72,746 - 12,636 (Kilgour St. Part I) - 10,476 (Baum St.) = 49,634 S.F.
 Total $49,634 \times \frac{1}{12} \times \frac{1}{27} =$ 153 C.Y.

ITEM 407 TACK COAT
 (Rate of Application = 0.10 gal. per Sq. Yd.)
 Area from 404 Calculations $4903 + 1321 + 685 + 10,476 + 12,636 = 30,021$ S.F.
 Total = $30,021 \div 9 \times 0.10 =$ 334 Gals.

ITEM 407 COVER AGGREGATE
 (Rate of Application = 7 Lbs. per Sq. Yd.)
 Area from 407 Tack Coat Calculation = 30,021 S.F.
 Total = $30,021 \times \frac{1}{9} \times 7 \times \frac{1}{2000} =$ 12 Tons

ITEM 305 PORTLAND CEMENT CONCRETE BASE
 8" Thick
 Area from 404 Calculations $4903 + 1321 = 6,224$ S.F.
 Total $6,224 \times \frac{1}{9} =$ 692 S.Y.

ITEM 203 SUBGRADE COMPACTION
 Area of 10" - 451 = 76,592
 Area of 9" - 451 = 85,335
 Area of 3" - 301 = 55,068
 Area of 402 = 49,634
 Area of Catch Basin Blockouts $4 \times 5.5 \times 15 + 36 \times 4.5 \times 15 + 2 \times 3.5 \times 15 = 2,865$
 Area of Approach Slabs = 4,809
 Area of Type 6 Curb $11,247 \times 0.5 = 5,624$
 Area of #12 Concrete Median = 1,200
 Total = $281,127$ S.F.
 = 31,236 S.Y.

ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT
 Location Station to Station Sq. Ft.
 Monastery Street
 Sta. 3+87 Lt. $0.5(20+26) 5.42 = 125$
 Sta. 4+64 Lt. $0.5(20+26) 5.42 = 125$
 Sta. 14+72 Rt. $14 \times 41 + 0.5(14+20) 5.42 = 666$
 Baum Street
 Sta. 9+92 Rt. $0.5(20+26) 7 = 161$
 Total = 1077 S.F.
 = 120 S.Y.

ITEM 411 STABILIZED CRUSHED AGGREGATE
 Station to Station 6" Thick Sq. Ft.
 N.B. Expressway
 Sta. 135+55 to Sta. 136+90 $29 \times 0.5(109+135) + 0.5 \times 9 \times 135 = 4,146$
 Deduct for Pier Columns $- 3 \times 9 \times 9 = - 243$
 Total = $3,903$ S.F.
 Volume = $3,903 \times \frac{6}{12} \times \frac{1}{27} =$ 72 C.Y.

ITEM 606 GUARD RAIL AND ASSEMBLIES

Station to Station	Side	Type 5 Lin. Ft.	Type 5 Barrier Lin. Ft.	Anchor Assembly Type A Type T	Anchor Type A Barrier Design Each	Bridge Terminal Assembly, Type A Each
N.B. Expressway						
136+53 to 138+27	Lt.	162.5		1		
141+45 to 143+70	Rt.	200		1		1
142+84 to 145+40	Lt.	200	25	1	1	
144+56 to 145+87	Rt.	125		1		1
150+43 to 151+60	Lt.	100		1		
S.B. Expressway						
132+52 to 133+25	Lt.	50		1		
131+60 to 134+53	Rt.	275		1		1
141+90 to 145+99	Rt.	387.5		1	1	
137+75 to 139+10	Lt.	137.5		1	1	
Ramp A						
140+20 to 143+30	Rt.	350				1
141+50 to 143+10	Lt.	137.5			1	1
Ramp D						
83+00 to 84+00	Rt.	75		1		1
86+30 to 88+05	Lt.	137.5		1	1	
Ramp P						
5+58 to 9+85	Lt.	412.5			1	1
6+35 to 8+65	Rt.	212.5			2	
Sixth Street Connection						
84+75 to 86+00	Lt.	112.5			1	1
Ft. Washington Way						
43+49 to 45+98	Lt.	225			1	1
Monastery Street						
3+23 P to 9+92 M	Lt.	387.5			1	1
14+37 M to 15+85 V.M.	Lt.	150			1	
8+70 M to 10+20 M	Rt.	125			1	1
Van Meter Street						
15+85 to 18+50	Lt.	287.5				
Totals		4250	25	8	14	11

Item 601 CONCRETE SLOPE PROTECTION
 Location Station to Station Sq. Ft.
 Under Ft. Washington Way Viaduct
 North of Monastery Street $(17+27 \times 1.12 + 83) 64 = 8,335$
 Under Ramp L Bridge
 North of Monastery Street $(17+25 \times 1.12 + 13) 31 + 76 \times 28 = 3,926$
 Deduct for Pier Columns & Blocks $-(4 \times 9 \times 9 + 4 \times 3 \times 3 + 4 \times 3.5 \times 3.5 + 7 \times 7.5 \times 3.0) = -1,984$
 Total = $10,277$ S.F.
 = 1,142 S.Y.

ITEM 615 TEMPORARY PAVEMENT, CLASS A
 Station to Station Sq. Ft.
 S.B. Expressway
 Sta. 133+31.87 T to Sta. 136+47.44 T $318.02 \times 17 = 5,406$
 Total = $5,406$ S.F.
 = 601 S.Y.

ITEM 615 TEMPORARY ROADS
 Total = Lump Sum

ITEM 203 EMBANKMENT "A", AS PER PLAN
 Location C.Y.
 N.B. Expressway (I-471) & Ramp D 567
 Total = 567 C.Y.

ITEM 203 EMBANKMENT "B", AS PER PLAN
 Location C.Y.
 N.B. Expressway (I-471) & Ramp D 16,580
 S.B. Expressway (I-471) & Ramp A 150
 Monastery St., Ramp L & Sixth Street Connection 13,480
 Ramp P, Ramp L & Sixth St. Conn. 1,357
 Total = 31,567 C.Y.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A
 Location Lin. Ft.
 135+60 N.B. 24
 132+45 S.B. 36
 143+00 A, Ramp A 24
 81+25 Sixth St. 36
 86+25 Sixth St. 16
 9+75 Monastery St. 30
 135+25 L, Ramp L 16
 Total = 182 L.F.

ITEM SPECIAL - ADJUST ACCESS RECEPTACLES TO GRADE
 Station Location Each
 Kilgour Street
 0+43 K 7' Lt. (Pavement) 1
 1+36 K 20' Rt. (Pavement) 1
 2+15 K 25' Rt. (Pavement) 1
 2+23 K 25' Rt. (Sidewalk) 1
 2+31 K 1' Rt. (Sidewalk) 1
 2+31 K 11' Rt. (Pavement) 1
 7+02 K 11' Rt. (Pavement) 1
 Total = 7 Each

ITEM SPECIAL - DRAINAGE CONNECTION USING No. 8 AGGREGATE
 Length of Underdrains from Sheet 18
 $(48 + 5 + 3312 + 124 + 1936 + 88 + 727 + 34) = 6,274$ Lin. Ft.
 Area of Connection from Typical Sections
 $2.58 \times 0.58 - 0.5 \times 1.42 \times 0.33 = 1.26$ Sq. Ft.
 Volume = $6,274 \times 1.26 \div 27 = 293$ C.Y.

ITEM 659 SEEDING AND MULCHING

(Planimeter used where no calculations shown)

Station to Station	Sq. Ft.
S.B. Expressway	
132+30 S to 133+70 S Lt. 140 x 73 - 1/2 x 94 x 46	= 8,058
134+71 S to 141+50 S Lt. 679 x 46	= 31,234
141+50 S to 142+52 S Lt. 102 x 31	= 3,162
143+06 S to 143+55 S Lt. 45 x 46	= 2,070
143+95 S to 145+75 S Lt. Planimeter	= 10,440
Subtotal	= 54,964 S.F.
Between S.B. & N.B. Expressways	
131+60 S to 132+56 S 1/2 x 76 (25+32)	= 2,166
133+65 S to 136+40 S 275 x 1/2 (38+57)	= 13,063
Subtotal	= 15,229 S.F.
Between S.B. Exp'way & Ramp A	
	= 34,640
Subtotal	= 34,640 S.F.
N.B. Expressway	
139+65 N to 144+30 N Lt.	= 18,180
144+97 N to 146+50 N Lt.	= 12,080
146+50 N to 148+00 N Lt.	= 33,510
Subtotal	= 63,770 S.F.
Between N.B. Exp'way & Ramp D	
138+15 N to 141+25 N 310 x 1/2 (20+64)	= 13,020
141+25 N to 143+70 N	= 11,840
Subtotal	= 24,860 S.F.
Between Ramp D & Sixth St.	
83+60 D to 85+75 D 215 x 1/2 (5+38)	= 4,623
85+75 D to 87+50 D 175 x 1/2 (35+68)	= 9,013
87+50 D to 88+18 D	= 2,720
Subtotal	= 16,356 S.F.
Between Sixth St. & Monastery St.	
8+00 M to 10+60 M 74 x 1/2 (27+21) + 32 x 121 + 53 x 34	= 8,510
10+60 M to 13+38 M 240 x 39 + 41 x 46	= 11,246
Subtotal	= 19,756 S.F.
Sixth Street	
80+00 to 82+20 Lt. 250 x 75	= 18,750
Subtotal	= 18,750 S.F.
Ramp P	
4+50 to 6+05 Lt.	= 15,300
6+50 to 10+00 Lt.	= 6,200
Subtotal	= 21,500 S.F.
Between Sixth St. & Ramp P W. of Ramp L E. of Ramp L	
	= 11,360
	= 11,620
Subtotal	= 22,980 S.F.
Monastery Street	
8+00 M to 11+70 M Rt.	= 26,800
12+30 M to 14+00 M Rt. 155 x 5	= 775
14+00 M to 15+50 M Rt.	= 4,200
14+35 M to 15+50 M Lt. 115 x 30	= 3,450
Subtotal	= 35,225 S.F.
Van Meter Street	
15+50 M to 18+50 VM Lt. 350 x 30	= 10,500
15+80 VM to 18+50 VM Rt. 240 x 30	= 7,200
Subtotal	= 17,700 S.F.
Total	= 345,730 S.F.
	= 38,414 S.Y.

ITEM 667 SEEDING AND JUTE MATTING

	Sq. Ft.
Ramp A	
Abutment, South Side	= 1,920
Abutment, North Side	= 3,520
Total	= 5,440 S.F.
	= 605 S.Y.

ITEM 659 COMMERCIAL FERTILIZER

Rate of Application = 20 lbs. per 1000 S.F. of Seeded and Sodded Areas

$$\frac{20(345,730 + 5,440 + 1410)}{1000 \times 2000} = \underline{\underline{3.5 \text{ Tons}}}$$

ITEM 659 AGRICULTURAL LIMING, AS PER PLAN

Rate of Application = 100 lbs. per 1000 S.F. of Seeded and Sodded Areas

$$\frac{100(345,730 + 5,440 + 1410)}{1000 \times 2000} = \underline{\underline{17.6 \text{ Tons}}}$$

ITEM 612 4" CONCRETE MEDIAN, AS PER PLAN

Station to Station	Sq. Ft.
N.B. Expressway	
143+73 to 144+53 Rt. 81 x 0.5 (1.5+2)	= 142
144+20 to 145+18 Lt. 78 x 0.5 x 12.5 + 89 x 0.5	= 1,297
	x 25 - 4 x 4 x 4 - 0.67 x 89 x 4 = 1,297
145+87 to 150+34.44 Rt. 10.92 x 435	= 4,750
150+34.44 to 151+09.70 Rt. 73.2 x 0.5 (10.92+6.0)	= 619
151+09.70 to 151+60 Rt. 49 x 0.5 (6.0+4.5)	= 257
Subtotal	= 7,065 S.F.
S.B. Expressway	
142+50 to 143+00 Lt. 77 x 0.5 (25+31) - 2 x 4 x 4	= 2,124
143+50 to 144+00 Lt. 64 x 0.5 (39+33.5) + 0.67 x (15 x 59.5) - 0.67 (1.5 x 49.5)	= 2,298
	- 2 x 4 x 4 = 2,298
142+00 to 143+00 Rt. 96 x 0.5 x 59.5 + 142.5 x 0.5	= 7,386
	x 64 + 0.67 (102 x 3) + 0.67 x (96 x 6) + 0.67 (61 x 0.5) - 0.67 (142.5 x 6) - 2 x 4 x 4 = 7,386
143+17 to 143+87 Rt. 66 x 4.5	= 297
Subtotal	= 12,105 S.F.
Sixth Street Connection	
86+69 to 87+53 Ctr. 84 x 31.8 - 3.9 x 10.5	= 2,630
87+89 to 89+30 Rt. 10360 - 3 x 9 x 9 - 4.3 x 10.5	= 10,072
Subtotal	= 12,702 S.F.
Area between S.B. and Eggleston Ave.	
133+04 S to 134+72 S Lt. 102 x 0.5 (64+69) + 0.5 x (94 x 46) - 3 x 9 x 9	= 8,749
Subtotal	= 8,749 S.F.
Ramp L	
136+77 to 137+31 56.6 x 36.9	= 2,089
137+68 to 140+46 291.4 x 36.9 - 70 x 3 x 2/3	= 10,613
140+74 to 140+97.75 24.9 x 36.9	= 919
140+97.75 to 141+60.75 66 x 35	= 2,310
141+60.75 to 142+12 54 x 31	= 1,674
Deduct for Columns 18 x 3.14 x 1.5 x 1.5	= 127
Subtotal	= 17,478 S.F.

Station to Station	Sq. Ft.
Ramp D	
88+18 to 89+62 Lt. 144 x 4.5 + 56 x 0.5 x 55	= 1,136
	+ 34 x 0.5 (5.5+15.5) - 67 (35 x 1) = 1,136
Subtotal	= 1,136 S.F.
Monastery Street	
Island at Ramp P Lt. 195.8 x 46.3	= 9,066
10+60.2 to 12+56 0.33 (77 x 12) + 19 x 0.5 (11+8)	= 485
12+56 to 13+38 3.5 x 8 - 18 x 6 x 7.5	= 92
Deduct for Columns - 13 x 3.14 x 1.5 x 1.5	= - 92
Subtotal	= 10,663 S.F.
Area between Ramp L and W.B. Ft. Washington Way	8879 - 4 x 9 x 9 - 2 x 5 x 6 = 8,495
Area between Ramp L, Ramp P, Monastery St. & Sixth St. Conn.	11628 - 4 x 9 x 9 - 3 x 4 x 4 - 3.5 x 8 - 18 x 6 x 7.5 = 10,418
Area between Ramp P, Ramp J, Eggleston Ave. & Monastery St.	36330 - 15 x 3 x 3 - 11 x 4 x 4 = 36,019
Subtotal	= 54,932 S.F.
Total	= 124,830 S.F.
	= 13,870 S.Y.

ITEM 612 CONCRETE MEDIAN, MODIFIED AS PER PLAN

Station to Station	Sq. Ft.
N.B. Expressway	
137+14.71 to 138+14.71 Rt. 100 x 0.5 (20+4)	= 1,200
Total	= 1,200 S.F.
	= 133 S.Y.

ITEM 612 TYPE A CONCRETE TRAFFIC ISLAND

Station to Station	Sq. Ft.
Columbia Parkway	
Island at Ramp B Entrance	= 1,610
9+35 C to 10+27 C	= 491
134+48 B to 134+87 B	= 217
Total	= 2,318 S.F.
	= 258 S.Y.

ITEM 660 SODDING

Station to Station	Sq. Ft.
N.B. Expressway	
145+04 to 145+80 Rt. 76 x 6	= 456
S.B. Expressway	
144+24 to 145+91 Rt. 159 x 6	= 954
Total	= 1,410 S.F.
	= 157 S.Y.

ITEM 623 CONSTRUCTION LAYOUT STAKES

Total	= Lump Sum
--------------	-------------------

BY CNB 9-79
 WJC 12-81
 SCC 9-79

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

24
346

HAMILTON COUNTY
 HAM-471-0.24
 PART TWO

ITEM 201 CLEARING AND GRUBBING

Total = Lump Sum

ITEM 202 PAVEMENT REMOVED

Station to Station	Sq.Ft.
Existing E.B. Third St. Ramp 130+00 J to 131+70 J Lt. 169 x 24	= 4,056
Existing Ellen Street 3+87 M to 4+95 M 108 x 30	= 3,240
Existing W.B. Ramp to Eggleston 7+50 P to 9+33 P Planimeter = 2,800 Ellen St. to 7+50 P 281 x 17 + 400 x 0.2146 = 4,863	
Existing Traffic Island Pike & Columbia 2 x 18	= 36
Existing Van Meter Street Eggleston to Lock 93 x 0.5(8+24) + 9 x 21 + 56 x 25 + 625(0.1410) + 27.9 x 0.5(3+8) = 3,458	
Existing Fifth Street Fifth and Lock 75 x 37 + 55 x 34 + 65 x 31 = 6,660	
Existing I-471 Conn. to Eggleston South Bound 219 x 18 + 165 x 0.5(82) + 152 x 9 + 27.314 x 35 ² (0.5) = 11,519 North Bound "A" 210 x 17 = 3,570 North Bound "B" 447 x 24 + 46 x 5 + 900 x 0.215 = 11,152	
Van Meter St. Temp. Connection 16+46.33 to 18+50 203.67 x 30 = 6,110 Intersection at Monastery = 6,588	
Oregon Street 165 x 23 + 15 x 24 + 2 x 15 ² x 0.215 = 4,252	
Total = 68,304 S.F. = 7,589 S.Y.	

ITEM 202 CURB REMOVED

Station to Station	Lin. Ft.
Ramp P 9+33 to 10+47	= 117
Ramp B and Sentinel Street	= 52
Ramp B and Columbia Parkway	= 76
Van Meter St. Temp. Connection 248 + 28 + 395	= 671
I-471 Temp. Connection at Eggleston 30 + 25 + 18 + 30	= 103
Ellen Street 390 + 170 + 110 + 170	= 840
Lock Street near Fifth Street 30 + 280 + 40 + 260	= 610
Van Meter Street near Lock Street 60 + 160 + 190	= 410
Kilgour Street 2+00 to 3+00 Lt.	= 100
Baum Street Oregon Street to 19+75 532 + 510 + 44 + 44	= 1,130
Ramp J 129+78 to 130+78	= 100
Total = 4,209 L.F.	

ITEM 202 WALK REMOVED

Station to Station	Sq. Ft.
Kilgour Street 2+00 to 3+00 Lt. 100 x 7	= 700
Baum Street Area from 4" Concrete Sidewalk	= 5,450
Van Meter Street 243 x 5.5 + 37 x 8	= 1,633
I-471 Temp. Conn. at Eggleston Northbound 0.67 x 5.42(20+4.5) = 89 Southbound 0.67 x 5.42(15+19.5) = 125 Total = 7,997 S.F.	

ITEM 202 GUARDRAIL REMOVED

Station to Station	Lin. Ft.
Van Meter St. Temp. Connection	= 387.5
S.B. Expressway 132+52 to 132+77 Lt.	= 25
Ramp P 8+30 to 8+75 Rt.	= 62.5
Total = 475 L.F.	

ITEM 608 CURB RAMPS

	Type I	Type 2
Monastery St. 6+25 Rt. & Lt.	= 1	1
6+55 Rt. (In Island)	=	1
6+75 Rt. (Opposite Island)	=	1
15+50 Rt.	= 1	
15+75 Lt.	= 1	
16+38 Lt.	= 1	
Kilgour St. 2+25 Rt.	=	2
Baum St. 9+66 Rt.	= 1	
9+86 Lt.	= 1	
Totals (Each)	<u>6</u>	<u>5</u>

ITEM 409 SEAL COAT BITUMINOUS MATERIAL

Areas from Sht. 19 Bituminous Aggregate Base 3" Thick	
N.B. Expressway 21,979 Sq. Ft.	
S.B. Expressway 16,101	
Ramp A 5,834	
Ramp D 7,159	
Sixth St. 3,995	
Total 55,068 S.F. = 6119 S.Y.	
Bituminous Material = 6119 x 0.3 = 1836 Gal.	

ITEM 409 SEAL COAT COVER AGGREGATE No. 8

6119 x 0.008 = 49 Cu.Yd.

ITEM 202 PORTIONS OF TEMPORARY WALL REMOVED

AS PER PLAN

(Stations refer to Temporary Wall Reference Line)

10+455 to 10+955	50 x 1/2 x 7 = 175 S.F.
10+955 to 11+455	50 x 1/2(7+9) = 400
11+455 to 11+755	30 x 1/2(9+10) = 285
11+755 to 12+235	48 x 1/2(10+3) = 312
12+235 to 12+775	54 x 1/2(3+4) = 189
12+775 to 13+185	41 x 1/2(4+3) = 144
Total	<u>= 1505 S.F.</u>

ITEM 202 WEARING COURSE REMOVED

Baum Street (Est. 1" average depth)	
14+95 to 19+31.50 24 x 436.5	= 10,476 S.F.
Total = 1,164 S.Y.	

GENERAL SUMMARY

TYPE I FUNDS UNLESS OTHERWISE SHOWN

ITEM	QUANTITY	UNIT	DESCRIPTION	FEDERAL, STATE & METROPOLITAN SEWER DISTRICT	FEDERAL, STATE & CITY OF CINCINNATI DEPARTMENT OF PUBLIC WORKS	FI FUNDS		CALCULATION SHEET NO.
						FEDERAL CITY &	STATE	
			ROADWAY					
Special	1	Each	Impact Attenuator, Hi-dro System, Model No. 209800S4S				1	18
Special	1	Each	Impact Attenuator, Hi-dro System, Model No. 2091300N85				1	
Special	1	Each	Impact Attenuator, Hi-dro System, Model No. 209800S85				1	
Special	2	Each	Impact Attenuator, Hi-dro System, Model No. 2091200N85				2	
Special	1	Each	Impact Attenuator, Hi-dro System, Model No. 2091000N85				1	18
Special	7	Each	Adjust Access Receptacles to Grade					22
Special	Lump	Lump	Protection of Existing Monitoring Devices				Lump	11
201	Lump	Lump	Clearing and Grubbing				Lump	24
202	1164	Sq. Yd.	Wearing Course Removed				1164	24
202	7997	Sq. Ft.	Walk Removed				7997	24
202	7589	Sq. Yd.	Pavement Removed				7589	24
202	4209	Lin. Ft.	Curb Removed				4209	24
202	Lump	Lump	Pedestrian Stairway Removed				Lump	11
202	Lump	Lump	Portion of Structures Removed, As Per Plan				Lump	11
202	475	Lin. Ft.	Guardrail Removed				475	24
202	1505	Sq. Ft.	Portions of Temporary Wall Removed, As Per Plan				1505	24
202	191	Lin. Ft.	Pipe Removed, Over 24"		153		38	18
202	6	Each	Manhole Removed		6			18
202	12	Each	Catch Basin Removed				12	18
203	17283	Cu. Yd.	Embankment				17283	21
203	119,879	Cu. Yd.	Excavation, not including Embankment Construction				119,879	21
203	31,236	Sq. Yd.	Subgrade Compaction				31,236	22
203	31,567	Cu. Yd.	Embankment "B" As Per Plan				31,567	22
203	300	Cu. Yd.	Embankment Using Granular Material, As Per Plan				300	11
203	6	Hours	Proof Rolling				6	21
203	567	Cu. Yd.	Embankment "A" As Per Plan				567	22
304	50	Cu. Yd.	Aggregate Base for Maintaining Traffic				50	14
404	50	Cu. Yd.	Bituminous Concrete for Maintaining Traffic (See Note in Proposal)				50	14
410	50	Cu. Yd.	Traffic Compacted Surface, Type C, As Per Plan				50	14
411	72	Cu. Yd.	Stabilized Crushed Aggregate				72	22
606	4250	Lin. Ft.	Guard Rail, Type 5				4250	22
606	25	Lin. Ft.	Guard Rail, Type 5, Barrier Design				25	
606	1	Each	Anchor Assembly, Barrier Design, Standard Type A				1	
606	11	Each	Bridge Terminal Assembly, Standard Type A				11	
606	8	Each	Anchor Assembly, Standard Type A				8	
606	14	Each	Anchor Assembly, Standard Type T				14	22
607	2368	Lin. Ft.	Fence, Type CLT				2368	20
607	3	Each	14' Gate, Type CLT				3	20
608	23,833	Sq. Ft.	4" Concrete Walk				23,833	20
608	6	Each	Curb Ramps, Standard Type 1				6	24
608	5	Each	Curb Ramps, Standard Type 2				5	24
							534	20
615	601	Sq. Yd.	Temporary Pavement, Class A				601	22
615	Lump	Lump	Temporary Roads				Lump	22
616	1	Tons	Calcium Chloride				1	14
616	250	M. Gals.	Water				250	14

GENERAL SUMMARY

TYPE I FUNDS UNLESS OTHERWISE SHOWN

ITEM	QUANTITY	UNIT	DESCRIPTION	FEDERAL, STATE & METROPOLITAN SEWER DISTRICT	FEDERAL, STATE & CITY OF CINCINNATI DEPARTMENT OF PUBLIC WORKS	CALCULATION SHEET NO.
EROSION CONTROL						
207	7700	Sq.Yd.	Temporary Seeding & Mulching		7700	10
207	400	Each	Straw or Hay Bales		400	10
207	1500	Cu.Yd.	Temporary Benches, Dikes, Dams & Sediment Basins		1500	10
207	300	Lin.Ft.	Temporary Slope Drains		300	10
601	1142	Sq.Yd.	Concrete Slope Protection		1142	22
601	60	Cu.Yd.	Rock Channel Protection Type C without bedding			
659	38414	Sq.Yd.	Seeding & Mulching		38414	23
659	5.15	Ton	Commercial Fertilizer		5.15	23,10
659	17.6	Ton	Agricultural Liming, As Per Plan		17.6	23
659	45	M.Gal.	Water		45	10
659	60	M.Sq.Ft.	Mowing		60	10
659	2000	Sq.Yd.	Repair Seeding and Mulching		2000	10
660	157	Sq.Yd.	Sodding		157	23
667	605	Sq.Yd.	Seeding & Jute Matting		605	23
DRAINAGE						
518	43	Lin.Ft.	6" Std. Pipe Downspout Alloy Steel (707.11) or Hot Dipped Galvanized Steel Including Specials		43	17
603	30	Lin.Ft.	6" Conduit, Type B		30	
603	251	Lin.Ft.	6" Conduit, Type F		251	
603	540	Lin.Ft.	12" Conduit, Type B		540	
603	108	Lin.Ft.	12" Conduit, Type B, 706.02, As Per Plan		108	
603	10	Lin.Ft.	12" Conduit, Type B, 706.02 with 706.11 Joints, As Per Plan	5	5	
603	525	Lin.Ft.	12" Conduit, Type C		525	
603	232	Lin.Ft.	12" Conduit, Type C, 707.13		232	
603	665	Lin.Ft.	15" Conduit, Type B		665	
603	118	Lin.Ft.	15" Conduit, Type B, 706.01, 706.02 or 706.08		118	
603	43	Lin.Ft.	15" Conduit, Type B, 706.02 with 706.11 Joints, As Per Plan	43		
603	97	Lin.Ft.	15" Conduit, Type C		97	
603	193	Lin.Ft.	18" Conduit, Type B		193	
603	4	Lin.Ft.	18" Conduit, Type B, 706.01, 706.02 or 706.08		4	
604	4	Each	Manhole, Type P, As Per Plan	4		
604	2	Each	Manhole, Type P		2	
604	4	Each	Manhole, Type B, As Per Plan		4	
604	17	Each	Manhole, Reconstructed to Grade	5	12	
604	18	Each	Catch Basin, Type A-2		18	
604	6	Each	Catch Basin, Type A-2, As Per Plan		6	
604	9	Each	Catch Basin, Type P, As Per Plan		9	
604	1	Each	Catch Basin, Type C,		1	
604	3	Each	Catch Basin, Type C, As Per Plan		3	
604	1	Each	Standard No.5 Catch Basin, As Per Plan		1	
604	2	Each	Construct Concrete Apron at Catch Basin, As Per Plan		2	
604	1	Each	Catch Basin, Furnish Casting, Type P and Adjust to Grade		1	17
604	3	Each	Manhole, Adjusted to Grade	3		
605	48	Lin.Ft.	6" Unclassified Pipe Underdrains		48	18
605	3312	Lin.Ft.	6" Deep Pipe Underdrains		3312	18
605	2354	Lin.Ft.	6" Shallow Pipe Underdrains		2354	18
605	727	Lin.Ft.	6" Shallow Pipe Underdrains 707.01 Type III or 707.12 Type III		727	18
Special	293	Cu.Yd.	Drainage Connection using No. 8 Aggregate		293	22
Special	24	Each	Plug Existing House Connections	24		
602	2	Cu.Yd.	Concrete Masonry	2		17
603	125	Lin.Ft.	6" Conduit Type B, 706.08 with 706.12 Joints, As Per Plan	125		17
603	60	Lin.Ft.	8" Conduit Type B, 706.08 with 706.12 Joints, As Per Plan	60		17
603	40	Lin.Ft.	12" Conduit Type B, 706.01, 706.02 or 706.08 with 706.11 or 706.12 Joints, As Per Plan	40		17

GENERAL SUMMARY

TYPE I FUNDS UNLESS OTHERWISE SHOWN

V.W.S. 9-80
W.W.C. 12-81

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
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ITEM	QUANTITY	UNIT	DESCRIPTION PAVEMENT	FEDERAL, STATE & CITY OF CINCINNATI DEPARTMENT OF PUBLIC WORKS	CALCULATION SHEET NO.
301	1582	Cu.Yd.	Bituminous Aggregate Base AC-20, RT-11 or RT-12	1582	19
304	1020	Cu.Yd.	Aggregate Base	1020	19
305	692	Sq.Yd.	8" Portland Cement Concrete Base	692	22
310	4761	Cu.Yd.	Subbase, Type II	4761	21
310	693	Cu.Yd.	Subbase, Type I	693	21
402	153	Cu.Yd.	Asphalt Concrete AC-20	153	22
404	229	Cu.Yd.	Asphalt Concrete AC-20	229	19
407	334	Gal.	Tack Coat	334	22
407	12	Tons	Cover Aggregate	12	22
409	1836	Gal.	Seal Coat Bituminous Material	1836	24
409	49	Cu.Yd.	Seal Coat Cover Aggregate No.8	49	24
451	9482	Sq.Yd.	9" Reinforced Portland Cement Concrete Pavement	9482	19
451	8510	Sq.Yd.	10" Reinforced Portland Cement Concrete Pavement	8510	19
452	120	Sq.Yd.	8" Plain Portland Cement Concrete Pavement	120	22
609	11,247	Lin. Ft.	Curb, Standard Type G	11,247	20
609	3048	Lin. Ft.	Concrete Curb, Type 7A	3,048	19 & 20
Special	182	Lin. Ft.	Pressure Relief Joint, Standard Type A	182	22
611	534	Sq. Yd.	Reinforced Concrete Approach slab (T=13"), modified as per plan		
612	133	Sq. Yd.	Concrete Median, Modified As Per Plan	133	23
612	13,870	Sq. Yd.	4" Concrete Median, Modified as per plan.	13,870	23
612	258	Sq. Yd.	Type "A" Concrete Traffic Island	258	23
Special	35	Hr.	Law Enforcement Officer with Patrol Car	35	14
614	Lump	Lump	Maintaining Traffic	Lump	
623	Lump	Lump	Construction Layout Stakes	Lump	
624	Lump	Lump	Mobilization, as per plan	Lump	
LIGHTING					
For Estimated Quantities see Sheet No.121					
TRAFFIC CONTROL					
For Estimated Quantities see Sheet No.133 & 134					
WATER WORKS					
For Estimated Quantities see Sheet No.55					
STRUCTURES OVER 20' SPAN					
			Bridge No. HAM-471-Ramp L over Monastery St. & Ramp P	For Estimated Quantities see Sheet No.190	Repair of Existing Asphalt Concrete Surface Coarse Bridge Decks
			Bridge No. HAM-471-Monastery St.	do	239
			Bridge No. HAM-471-0044 Sixth St. Conn. over S.B.I-471	do	309
			Bridge No. HAM-471-Relocated Sixth St. off Columbia Viaduct	do	268
RETAINING WALLS					
For Estimated Quantities see Sheet No.187					

GENERAL SUMMARY

Rev. 9-9-82

1F
P.C. Sta. 128+41.32F
P.I. Sta. 128+54.07F
P.C.C. Sta. 128+66.82F
 $\Delta = 1^{\circ}06'18''$
 $D = 4^{\circ}20'00''$
 $R = 1322.21'$
 $L = 25.50'$
 $T = 12.75'$

2F
P.C.C. Sta. 128+66.82F
P.I. Sta. 128+86.82F
P.C.C. Sta. 129+06.82F
 $\Delta = 2^{\circ}54'00''$
 $D = 7^{\circ}15'00''$
 $R = 790.29'$
 $L = 40.00'$
 $T = 20.00'$

3F
P.C.C. Sta. 129+06.82F
P.I. Sta. 129+26.84F
P.C.C. Sta. 129+46.82F
 $\Delta = 5^{\circ}49'01''$
 $D = 14^{\circ}32'31.5''$
 $R = 394.00'$
 $L = 40.00'$
 $T = 20.02'$

Note:
For Additional Alignment and Witness Data inside Boxed Outline see Sh. 32.

1E.B.
P.C. Sta. 42+82.19
P.I. Sta. 43+86.77
P.T. Sta. 44+90.52
 $\Delta = 12^{\circ}30'00''$
 $D = 6^{\circ}00'00''$
 $R = 954.91'$
 $L = 208.33'$
 $T = 104.58'$

2E.B.
P.C. Sta. 45+37.74
P.I. Sta. 46+26.20
P.T. Sta. 47+13.96
 $\Delta = 12^{\circ}26'40''$
 $D = 7^{\circ}03'42''$
 $R = 811.36'$
 $L = 176.22'$
 $T = 88.46'$

1A
P.C. Sta. 134+46.93A
P.I. Sta. 136+80.21A
P.T. Sta. 139+09.43A
 $\Delta = 18^{\circ}30'00''$
 $D = 4^{\circ}00'00''$
 $R = 1432.40'$
 $L = 462.50'$
 $T = 233.28'$

1N
P.C. Sta. 132+11.50N
P.I. Sta. 138+04.02N
C.S. Sta. 143+92.34N
 $\Delta = 11^{\circ}48'30''$
 $D = 1^{\circ}00'00''$
 $R = 5729.58'$
 $L = 1180.84'$
 $T = 592.52'$

3P
P.C. Sta. 7+29.35P
P.I. Sta. 7+99.39P
P.C.C. Sta. 8+67.10P
 $\Delta = 25^{\circ}31'00''$
 $D = 18^{\circ}31'24.6''$
 $R = 309.31'$
 $L = 137.75'$
 $T = 70.04'$

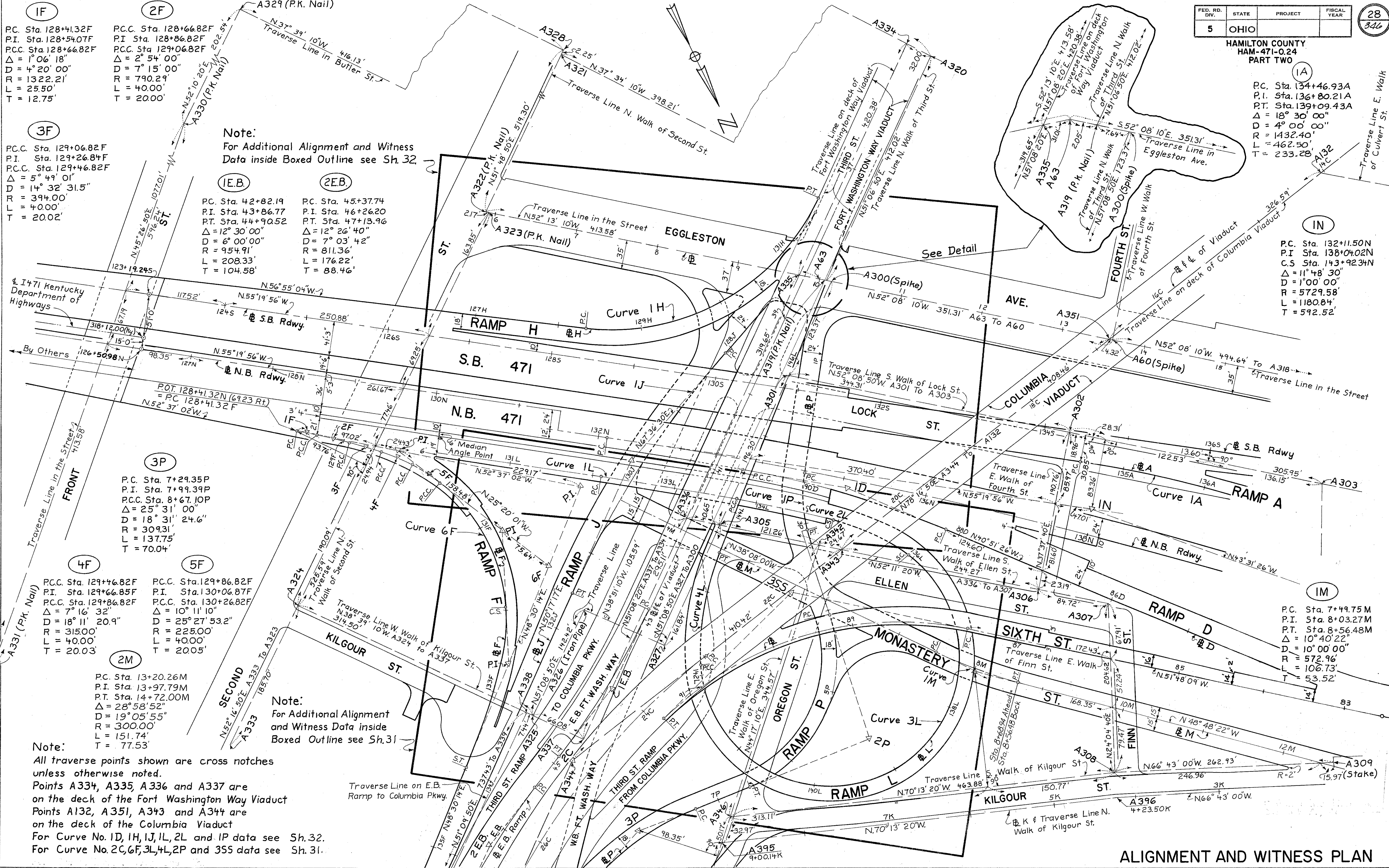
4F
P.C.C. Sta. 129+46.82F
P.I. Sta. 129+66.85F
P.C.C. Sta. 129+86.82F
 $\Delta = 7^{\circ}16'32''$
 $D = 18^{\circ}11'20.9''$
 $R = 315.00'$
 $L = 40.00'$
 $T = 20.03'$

5F
P.C.C. Sta. 129+86.82F
P.I. Sta. 130+06.87F
P.C.C. Sta. 130+26.82F
 $\Delta = 10^{\circ}11'10''$
 $D = 25^{\circ}27'53.2''$
 $R = 225.00'$
 $L = 40.00'$
 $T = 20.05'$

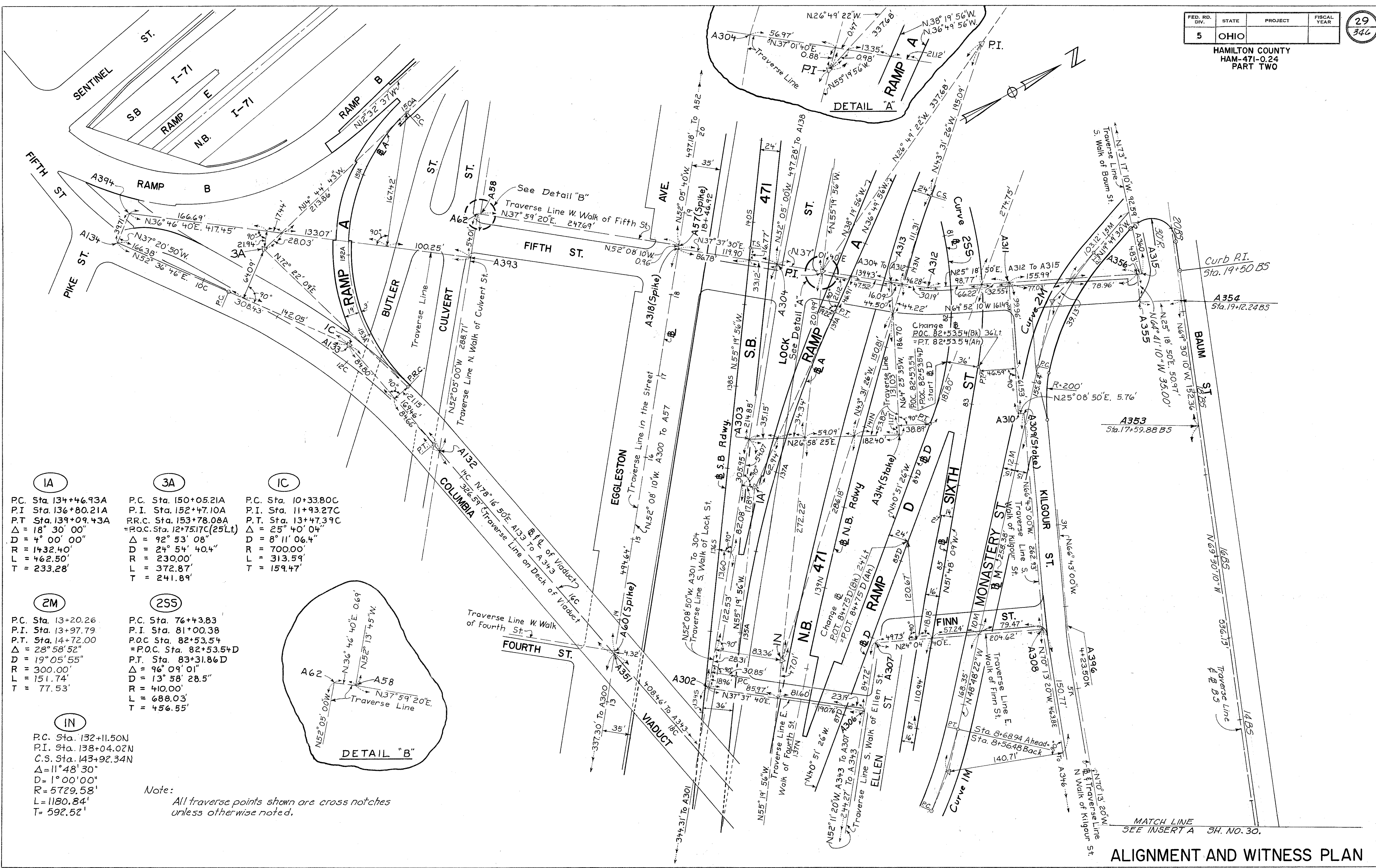
2M
P.C. Sta. 13+20.26M
P.I. Sta. 13+97.79M
P.T. Sta. 14+72.00M
 $\Delta = 28^{\circ}58'52''$
 $D = 19^{\circ}05'55''$
 $R = 300.00'$
 $L = 151.74'$
 $T = 77.53'$

Note:
For Additional Alignment and Witness Data inside Boxed Outline see Sh. 31.

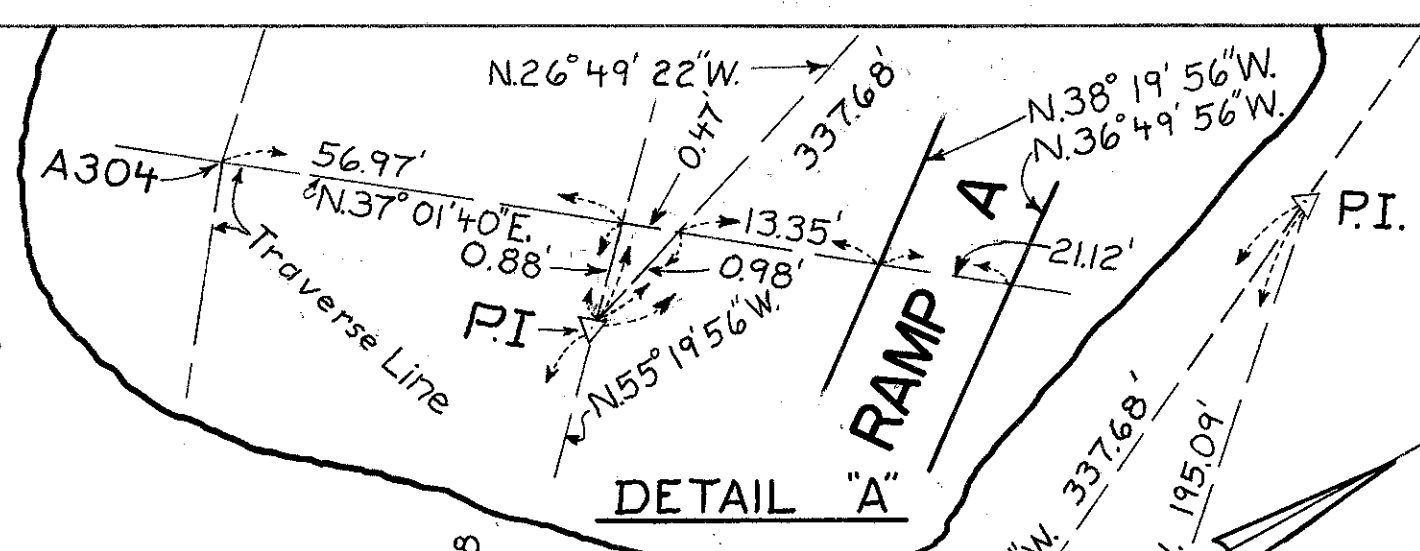
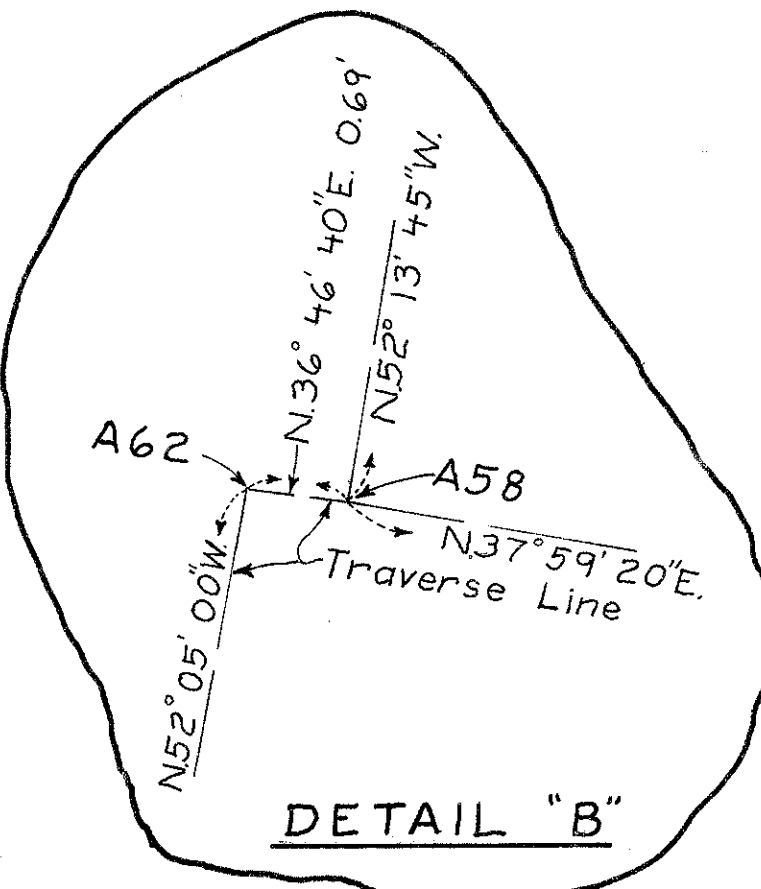
Note:
All traverse points shown are cross notches unless otherwise noted.
Points A334, A335, A336 and A337 are on the deck of the Fort Washington Way Viaduct
Points A132, A351, A343 and A344 are on the deck of the Columbia Viaduct
For Curve No. 1D, 1H, 1J, 1L, 2L and 1P data see Sh. 32.
For Curve No. 2C, 6F, 3L, 4L, 2P and 35S data see Sh. 31.



HAMILTON COUNTY
HAM-471-0.24
PART TWO



- | | | |
|------------------------------|-------------------------------|------------------------------|
| IA | 3A | IC |
| P.C. Sta. 13+46.93A | P.C. Sta. 150+05.21A | P.C. Sta. 10+33.80C |
| P.I. Sta. 136+80.21A | P.I. Sta. 152+47.10A | P.I. Sta. 11+93.27C |
| P.T. Sta. 139+09.43A | P.R.C. Sta. 153+78.08A | P.T. Sta. 13+47.39C |
| $\Delta = 18^\circ 30' 00''$ | =P.O.C. Sta. 12+75.17C(25Lt.) | $\Delta = 25^\circ 40' 04''$ |
| D = 4' 00' 00" | $\Delta = 92^\circ 53' 08''$ | D = 8' 11' 06.4" |
| R = 1432.40' | D = 24' 54' 40.4" | R = 70000' |
| L = 462.50' | R = 230.00' | L = 313.59' |
| T = 233.28' | L = 372.87' | T = 159.47' |
| 2M | 255 | |
| P.C. Sta. 13+20.26 | P.C. Sta. 76+43.83 | |
| P.I. Sta. 13+97.79 | P.I. Sta. 81+00.38 | |
| P.T. Sta. 14+72.00 | P.O.C. Sta. 82+53.54 | |
| $\Delta = 28^\circ 58' 52''$ | =P.O.C. Sta. 82+53.54+D | |
| D = 19' 05' 55" | P.T. Sta. 83+31.86D | |
| R = 300.00' | $\Delta = 96^\circ 09' 01''$ | |
| L = 151.74' | D = 13' 58' 28.5" | |
| T = 77.53' | R = 410.00' | |
| | L = 688.03' | |
| | T = 456.55' | |
| IN | | |
| P.C. Sta. 132+11.50N | | |
| P.I. Sta. 138+04.02N | | |
| C.S. Sta. 143+92.34N | | |
| $\Delta = 11^\circ 48' 30''$ | | |
| D = 1' 00' 00" | | |
| R = 5729.58' | | |
| L = 1180.84' | | |
| T = 592.52' | | |



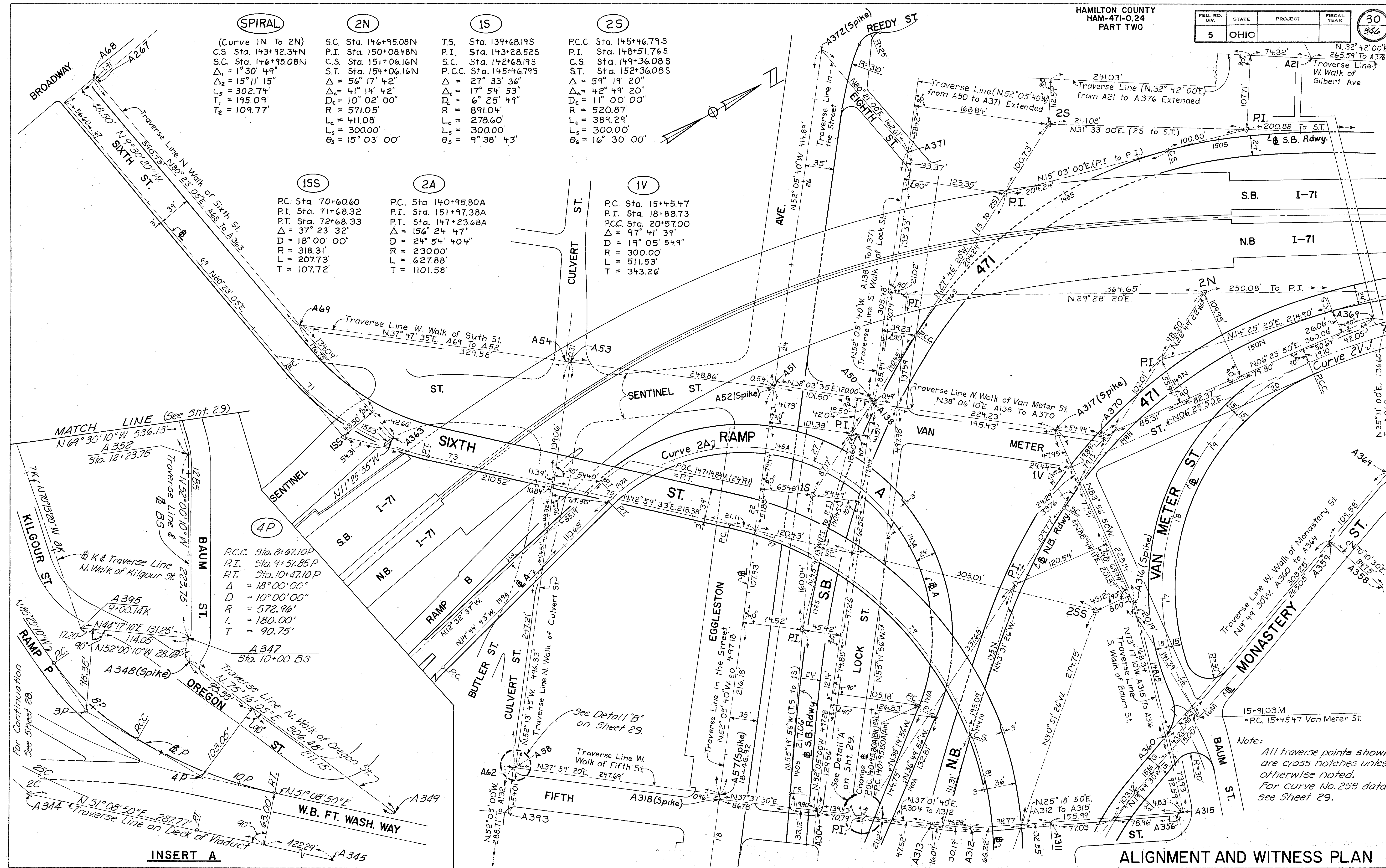
Note:
All traverse points shown are cross notches unless otherwise noted.

MATCH LINE
SEE INSERT A SH. NO. 30.

ALIGNMENT AND WITNESS PLAN

(SPIRAL) (Curve IN To 2N) C.S. Sta. 143+92.34N S.C. Sta. 146+95.08N $\Delta_1 = 1^\circ 30' 49"$ $\Delta_2 = 15^\circ 11' 15"$ $L_s = 302.74'$ $T_1 = 195.09'$ $T_2 = 109.77'$	(2N) S.C. Sta. 146+95.08N P.I. Sta. 150+08.48N C.S. Sta. 151+06.16N S.T. Sta. 154+06.16N $\Delta = 56^\circ 17' 42"$ $\Delta_c = 41^\circ 14' 42"$ $D_c = 10^\circ 02' 00"$ $R = 571.05'$ $L_c = 411.08'$ $L_s = 300.00'$ $\theta_s = 15^\circ 03' 00"$	(1S) T.S. Sta. 139+68.19S P.I. Sta. 143+28.52S S.C. Sta. 142+68.19S P.C.C. Sta. 145+46.79S $\Delta = 27^\circ 33' 36"$ $\Delta_c = 17^\circ 54' 53"$ $D_c = 6^\circ 25' 49"$ $R = 891.04'$ $L_c = 278.60'$ $L_s = 300.00'$ $\theta_s = 9^\circ 38' 43"$	(2S) P.C.C. Sta. 145+46.79S P.I. Sta. 148+51.76S C.S. Sta. 149+36.08S S.T. Sta. 152+36.08S $\Delta = 59^\circ 19' 20"$ $\Delta_c = 42^\circ 49' 20"$ $D_c = 11^\circ 00' 00"$ $R = 520.87'$ $L_c = 389.29'$ $L_s = 300.00'$ $\theta_s = 16^\circ 30' 00"$
---	---	---	---

(1SS) P.C. Sta. 70+60.60 P.I. Sta. 71+68.32 P.T. Sta. 72+68.33 $\Delta = 37^\circ 23' 32"$ $D = 18^\circ 00' 00"$ $R = 318.31'$ $L = 207.73'$ $T = 107.72'$	(2A) P.C. Sta. 140+95.80A P.I. Sta. 151+97.38A P.T. Sta. 147+23.68A $\Delta = 156^\circ 24' 47"$ $D = 24^\circ 54' 40.4"$ $R = 230.00'$ $L = 627.88'$ $T = 1101.58'$	(1V) P.C. Sta. 15+45.47 P.I. Sta. 18+88.73 P.C.C. Sta. 20+57.00 $\Delta = 97^\circ 41' 39"$ $D = 19^\circ 05' 54.9"$ $R = 300.00'$ $L = 511.53'$ $T = 343.26'$
--	---	---



MATCH LINE (See Sht. 29)
N69°30'10"W 536.13'
Sta. 12+23.75
A352

(4P)
P.C.C. Sta. 8+67.10P
P.I. Sta. 9+57.85P
P.T. Sta. 10+47.10P
 $\Delta = 18^\circ 00' 00"$
 $D = 10^\circ 00' 00"$
 $R = 572.96'$
 $L = 180.00'$
 $T = 90.75'$

See Detail "B" on Sheet 29.

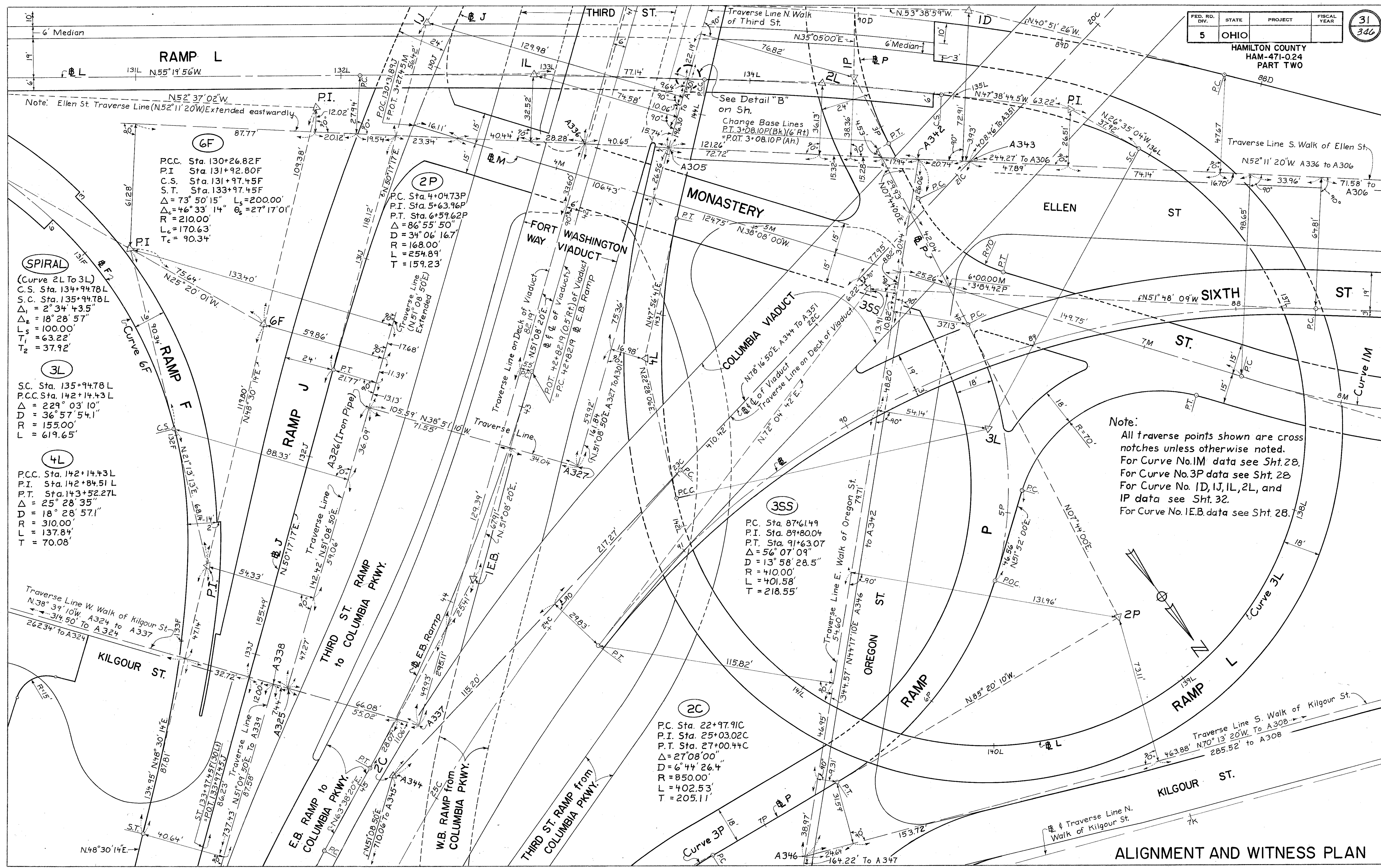
Traverse Line W. Walk of Fifth St.
N37°59'20"E. 247.69'

15+910.3M
= P.C. 15+45.47 Van Meter St.

Note:
All traverse points shown are cross notches unless otherwise noted.
For Curve No. 2SS data see Sheet 29.

INSERT A

ALIGNMENT AND WITNESS PLAN



Note: Ellen St. Traverse Line (N52°11'20"W) Extended eastwardly.

(6F)
P.C.C. Sta. 130+26.82F
P.I. Sta. 131+92.80F
C.S. Sta. 131+97.45F
S.T. Sta. 133+97.45F
 $\Delta = 73^\circ 50' 15''$ $L_s = 200.00'$
 $\Delta_s = 46^\circ 33' 14''$ $\theta_s = 27^\circ 17' 01''$
 $R = 210.00'$
 $L_c = 170.63'$
 $T_c = 90.34'$

(SPIRAL)
(Curve 2L To 3L)
C.S. Sta. 134+94.78L
S.C. Sta. 135+94.78L
 $\Delta_1 = 2^\circ 34' 43.5''$
 $\Delta_2 = 18^\circ 28' 57''$
 $L_s = 100.00'$
 $T_1 = 63.22'$
 $T_2 = 37.92'$

(3L)
S.C. Sta. 135+94.78L
P.C.C. Sta. 142+14.43L
 $\Delta = 229^\circ 03' 10''$
 $D = 36^\circ 57' 54.1''$
 $R = 155.00'$
 $L = 619.65'$

(4L)
P.C.C. Sta. 142+14.43L
P.I. Sta. 142+84.51L
P.T. Sta. 143+52.27L
 $\Delta = 25^\circ 28' 35''$
 $D = 18^\circ 28' 57.1''$
 $R = 310.00'$
 $L = 137.84'$
 $T = 70.08'$

(2P)
P.C. Sta. 4+04.73P
P.I. Sta. 5+63.96P
P.T. Sta. 6+59.62P
 $\Delta = 86^\circ 55' 50''$
 $D = 34^\circ 06' 16.7''$
 $R = 168.00'$
 $L = 254.89'$
 $T = 159.23'$

(3SS)
P.C. Sta. 87+61.49
P.I. Sta. 89+80.04
P.T. Sta. 91+63.07
 $\Delta = 56^\circ 07' 09''$
 $D = 13^\circ 58' 28.5''$
 $R = 410.00'$
 $L = 401.58'$
 $T = 218.55'$

(2C)
P.C. Sta. 22+97.91C
P.I. Sta. 25+03.02C
P.T. Sta. 27+00.44C
 $\Delta = 27^\circ 08' 00''$
 $D = 6^\circ 44' 26.4''$
 $R = 850.00'$
 $L = 402.53'$
 $T = 205.11'$

Note:
All traverse points shown are cross notches unless otherwise noted.
For Curve No. 3P data see Sht. 28.
For Curve No. 3P data see Sht. 28.
For Curve No. 1D, 1J, 1L, 2L, and 1P data see Sht. 32.
For Curve No. 1E.B data see Sht. 28.

ID
P.C. Sta. 88+17.66D
P.I. Sta. 89+46.12D
P.C.C. Sta. 90+73.51D
 $\Delta = 12^\circ 47' 33''$
D = 5'00'00"
R = 1145.92'
L = 255.85'
T = 128.46'

IH
P.C. Sta. 128+33.27H
P.I. Sta. 130+32.86H
P.T. Sta. 131+78.57H
 $\Delta = 71^\circ 56' 36''$
D = 20'50"05.4"
R = 275.00'
L = 345.30'
T = 199.59'

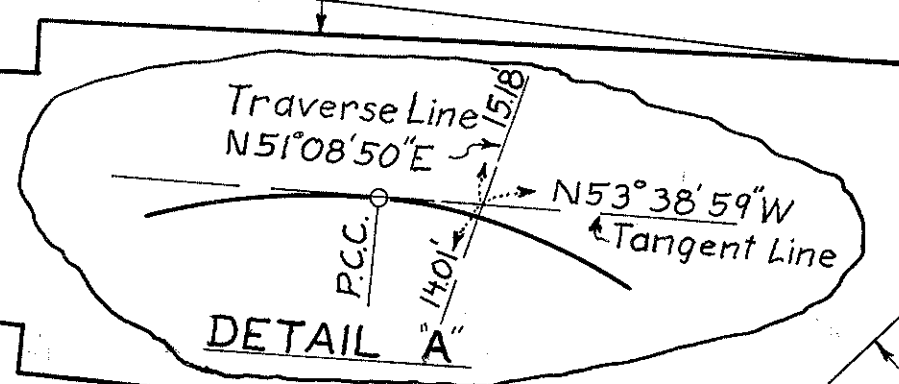
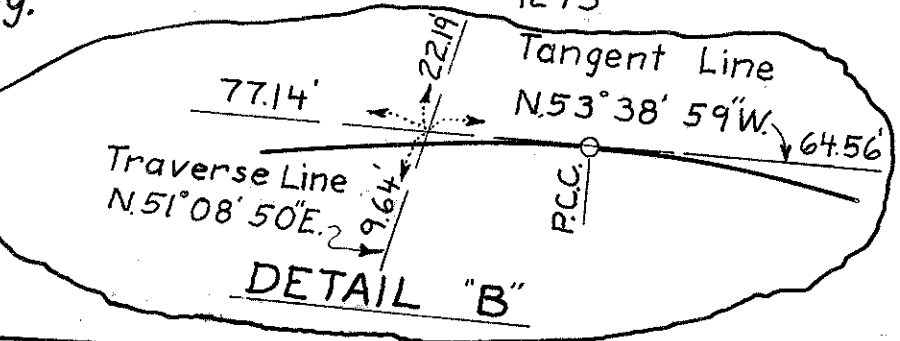
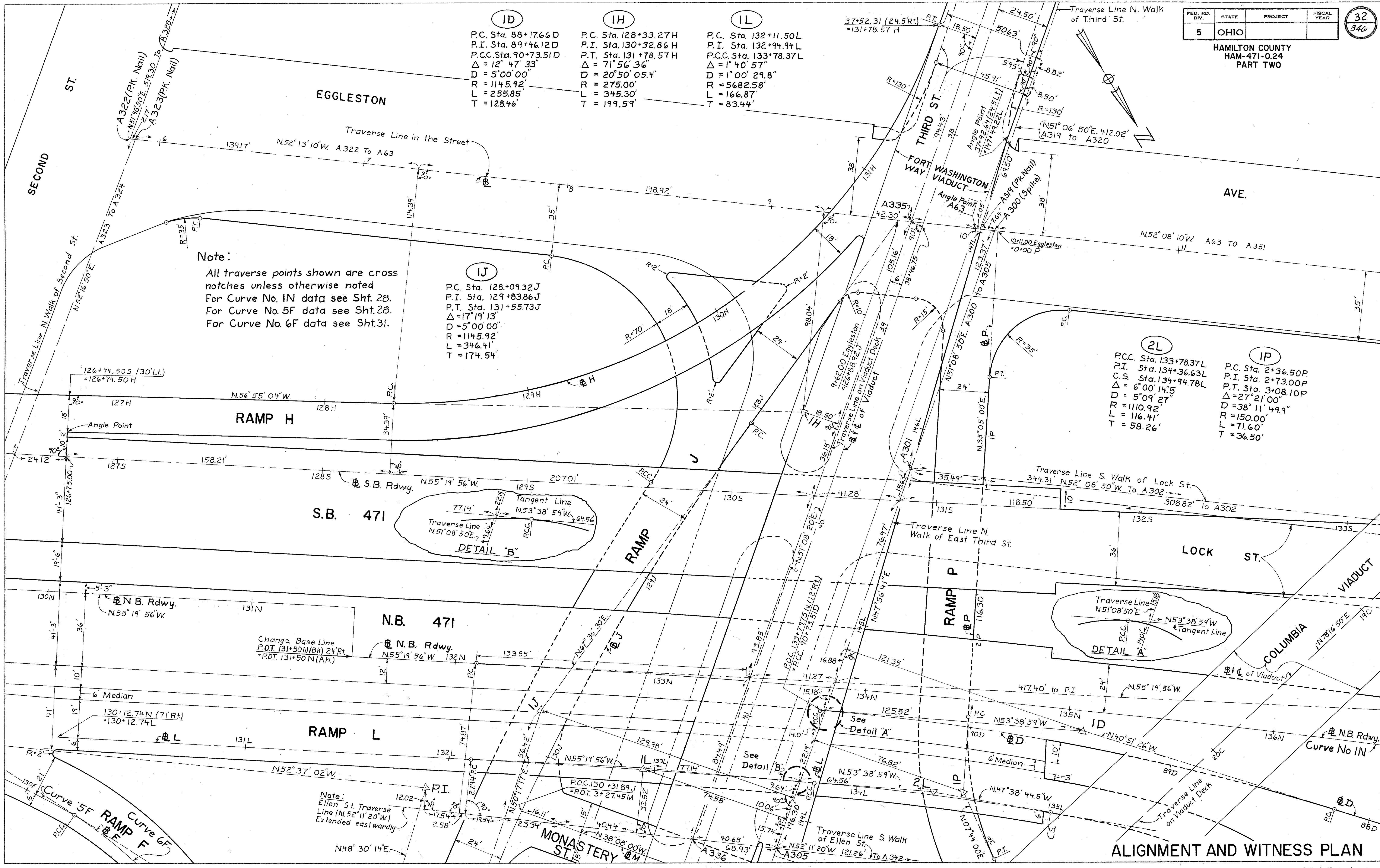
IL
P.C. Sta. 132+11.50L
P.I. Sta. 132+94.94L
P.C.C. Sta. 133+78.37L
 $\Delta = 1^\circ 40' 57''$
D = 1'00"29.8"
R = 5682.58'
L = 166.87'
T = 83.44'

IJ
P.C. Sta. 128+09.32J
P.I. Sta. 129+83.86J
P.T. Sta. 131+55.73J
 $\Delta = 17^\circ 19' 13''$
D = 5'00'00"
R = 1145.92'
L = 346.41'
T = 174.54'

2L
P.C.C. Sta. 133+78.37L
P.I. Sta. 134+36.63L
C.S. Sta. 134+94.78L
 $\Delta = 6^\circ 00' 14.5''$
D = 5'09'27"
R = 1110.92'
L = 116.41'
T = 58.26'

IP
P.C. Sta. 2+36.50P
P.I. Sta. 2+73.00P
C.S. Sta. 3+08.10P
 $\Delta = 27^\circ 21' 00''$
D = 38'11"49.9"
R = 150.00'
L = 71.60'
T = 36.50'

Note:
All traverse points shown are cross notches unless otherwise noted
For Curve No. 1N data see Sht. 28.
For Curve No. 5F data see Sht. 28.
For Curve No. 6F data see Sht. 31.



Note:
Ellen St. Traverse Line (N52°11'20"W) Extended eastwardly



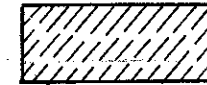

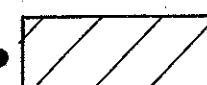
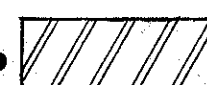


BENCH MARKS

LOCATION	ELEVATION
S.W. corner concrete footer of 8" metal light standard, N.E. corner Eggleston Ave. & Sentinel St.	521.23
S.E. corner sandstone window sill 915 Monastery St.	636.22
N.W. corner concrete footer of 1st. light standard S. of Pedestrian Bridge at Court St. E. side I-71	565.69
N.E. corner concrete step P.L. Entrance No. 391 Baum St.	612.02
N.W. corner stone projection at N.W. corner Pugh Bldg. 1 1/2 above conc. walk	540.56






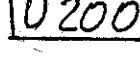
UTILITY OWNERS

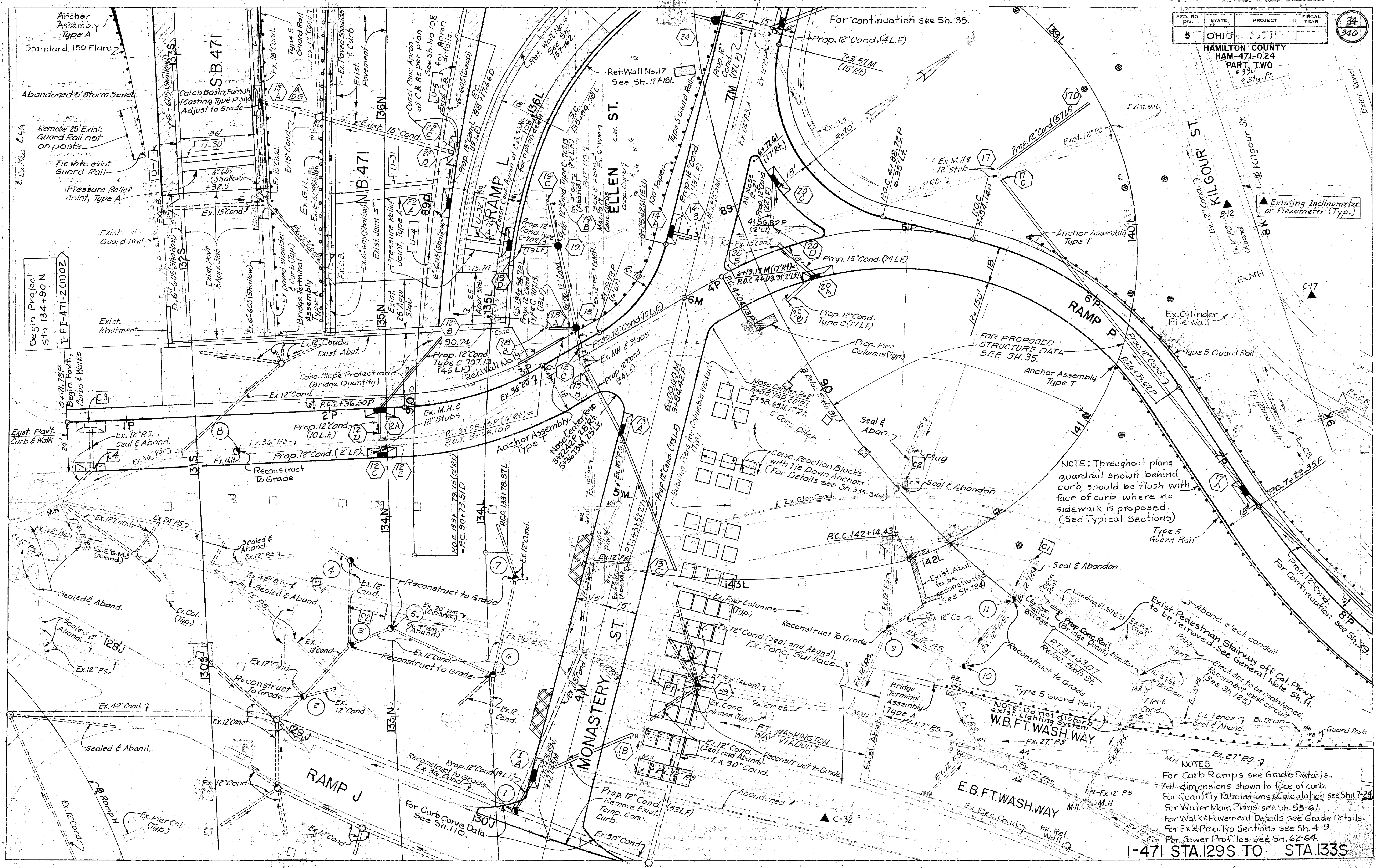
UTILITY	OWNER	ADDRESS
Gas Light & Power	Cinti. Gas & Electric Co.	4th & Main Sts., Cinti. 2, Ohio
Water	Cinti. Water Works	4747 Spring Grove Ave. Cinti. Ohio
Storm Sewers	Division of Engineering	City Hall, Cinti. 2, Ohio
Telephone	Cincinnati Bell	225 E. 4th St., Cinti., 2 Ohio
Telegraph	Western Union Telegraph Co.	4th St. & Walnut St. Cinti. 2, Ohio
Railroad	Penn Central	105 S. Meridan St. Indianapolis, Ind.
Sanitary and Combined Sewers	The Metropolitan Sewer District of Greater Cincinnati	1600 Gest St. Cinti. 4, Ohio

LEGEND

-  Item 451 Reinforced Portland Cement concrete Pavement, 9" or 10" (See Typical Sections)
-  Item 452 8" Plain Portland Cement concrete Pavement
-  Item 612 Concrete median, As Per Plan
-  Item 608 4" Concrete Walk
-  Item 304 6" Aggregate Base
Item 301 3" Bituminous Aggregate Base
Item 409 Seal Coat
-  Item 404 1" Asphalt Concrete AC-20
Item 402 1" Asphalt Concrete AC-20
Item 301 Bituminous Aggregate Base AC-20 or 702.09 RT-11 or RT-12
3" & 5" Depth (See Typical Sections)
-  Item 402 1" Asphalt Concrete AC-20
Item 404 1" Asphalt Concrete AC-20
Item 305 8" Portland Cement Concrete Base
Item 407 Tack coat @ 0.10 Gal. per Sq. Yd. and cover aggregate
-  Item 404 1" Asphalt Concrete AC-20

• Item 310 Subbase is a part of these pavement compositions.
See Typical Sections for Type and thickness of subbase

-  MI Indicates Manhole to be removed or abandoned
-  CI Indicates Catch Basin or Inlet to be removed
-  PI Indicates Pipe to be removed
-  BG Indicates Manhole or Catch Basin to be adjusted to grade
-  200 Indicates Manhole Reconstructed to grade
-  U200 Indicates Underdrain



NOTE: Throughout plans guardrail shown behind curb should be flush with face of curb where no sidewalk is proposed. (See Typical Sections)

NOTE: Do not disturb existing lighting system

NOTE: Pedestrian Stairway off Col. Pkwy. to be removed. See General Note Sh. 11.

NOTE: Aband. elect. conduit to be removed. See General Note Sh. 12.

NOTE: Elect. Box to be maintained. Reconnect exist. circuit. (See Sh. 125)

NOTE: C.L. Fence to be removed. Seal & Aband.

NOTE: Br. Drain to be removed. Seal & Aband.

NOTE: M.H. to be removed. Seal & Aband.

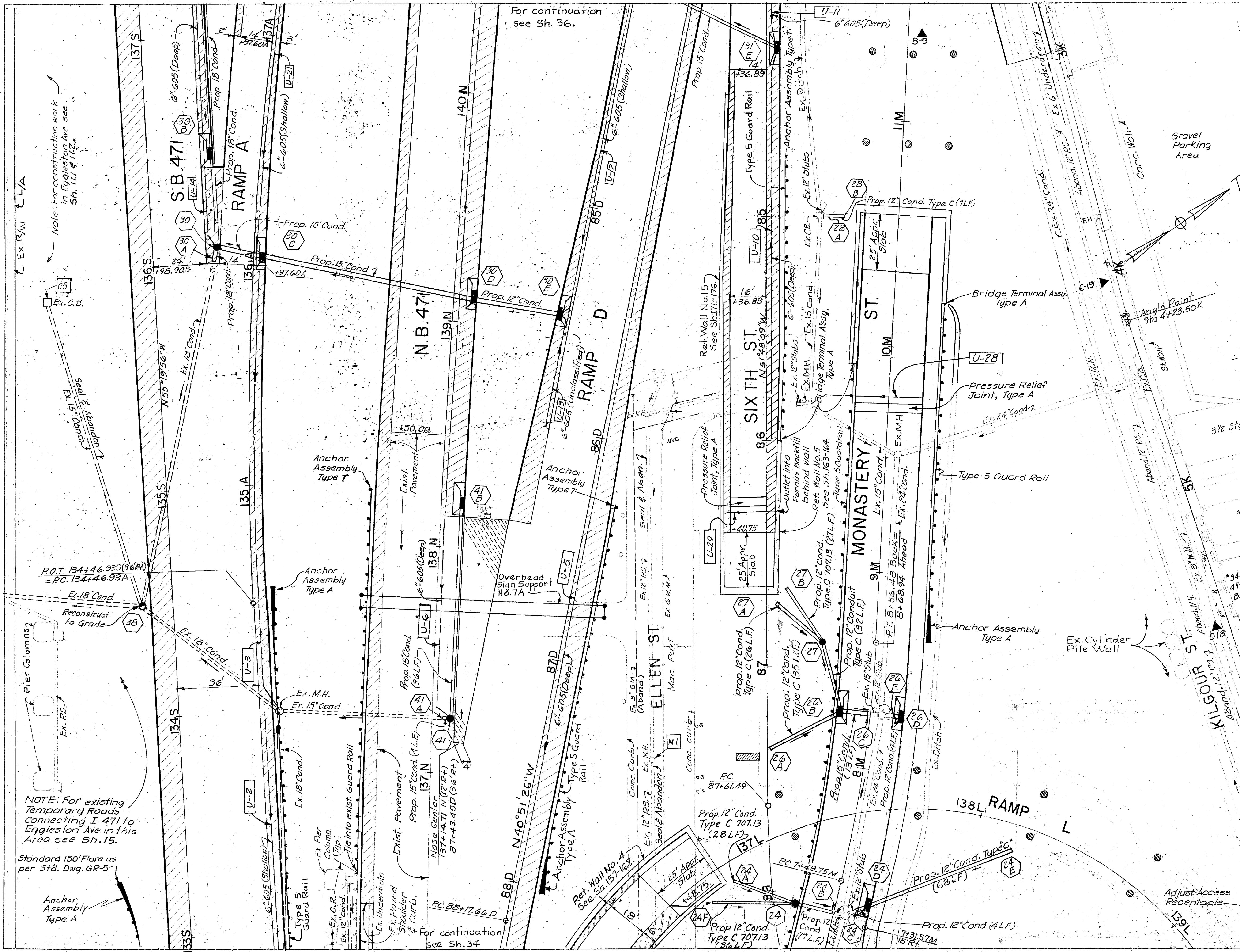
NOTES

- For Curb Ramps see Grade Details.
- All dimensions shown to face of curb.
- For Quantity Tabulations & Calculation see Sh. 17-24.
- For Water Main Plans see Sh. 55-61.
- For Walk & Pavement Details see Grade Details.
- For Ex. & Prop. Typ. Sections see Sh. 4-9.
- For Sewer Profiles see Sh. 62-64.

SIXTH STREET PROPOSED STRUCTURE
 TYPE: Continuous Curved Welded Plate Girder with reinforced concrete deck.
 SPANS: Varies.
 ROADWAY: 23.5' Parapets, Railing Type Varies.
 LIVE LOAD: HS 20-44
 SKEW: Rear Abut. and Pier 1 are 90° to Base Line, Piers 2 and 3 are radial.
 SURFACE COURSE: 2 1/2" Asphalt Concrete (Spans 1, 2 and 3)
 ALIGNMENT: See Curve Data
 SUPERELEVATION: Varies
 APPROACH SLAB: A5-I-72 (Modified) 25' Long.

MONASTERY STREET PROPOSED STRUCTURE
 TYPE: 2 Continuous Spans, 2 Simple Spans and 3 Continuous Spans reinforced concrete slab and substructure.
 SPANS: Span 1=30'-6", Spans 2 thru 7=40'-6" (measured along Monastery St.)
 ROADWAY: 30'-0" Parapets with a 6'-0" sidewalk on the North Side and a 2'-0" curb on the South Side.
 LIVE LOADING: HS20-44 and the Alternate Military Loading.
 SKEW: None
 WEARING SURFACE: 1" Monolithic Concrete
 ALIGNMENT: Tangent
 SUPERELEVATION: Varies
 APPROACH SLAB: A5-I-72 25' Long

RAMP PROPOSED STRUCTURE
 TYPE: Continuous Steel Rolled Curved Beams with Reinforced Concrete Deck and Substructure.
 SPANS: Varies
 ROADWAY: 28'-6" Parapets & Varies.
 SKEW: All Piers and Abutments are Radial.
 LIVE LOADING: HS 20-44
 SURFACE COURSE: 2 1/2" Asphalt Concrete.
 ALIGNMENT: 36° 57' 54.1" Curve Right.
 SUPERELEVATION: .0625' per ft.
 APPROACH SLABS: A5-I-72 25' Long.



Note: For construction work in Eggleston Ave. see Sh. 111 & 112.

NOTE: For existing Temporary Roads Connecting I-471 to Eggleston Ave. in this Area see Sh. 15.

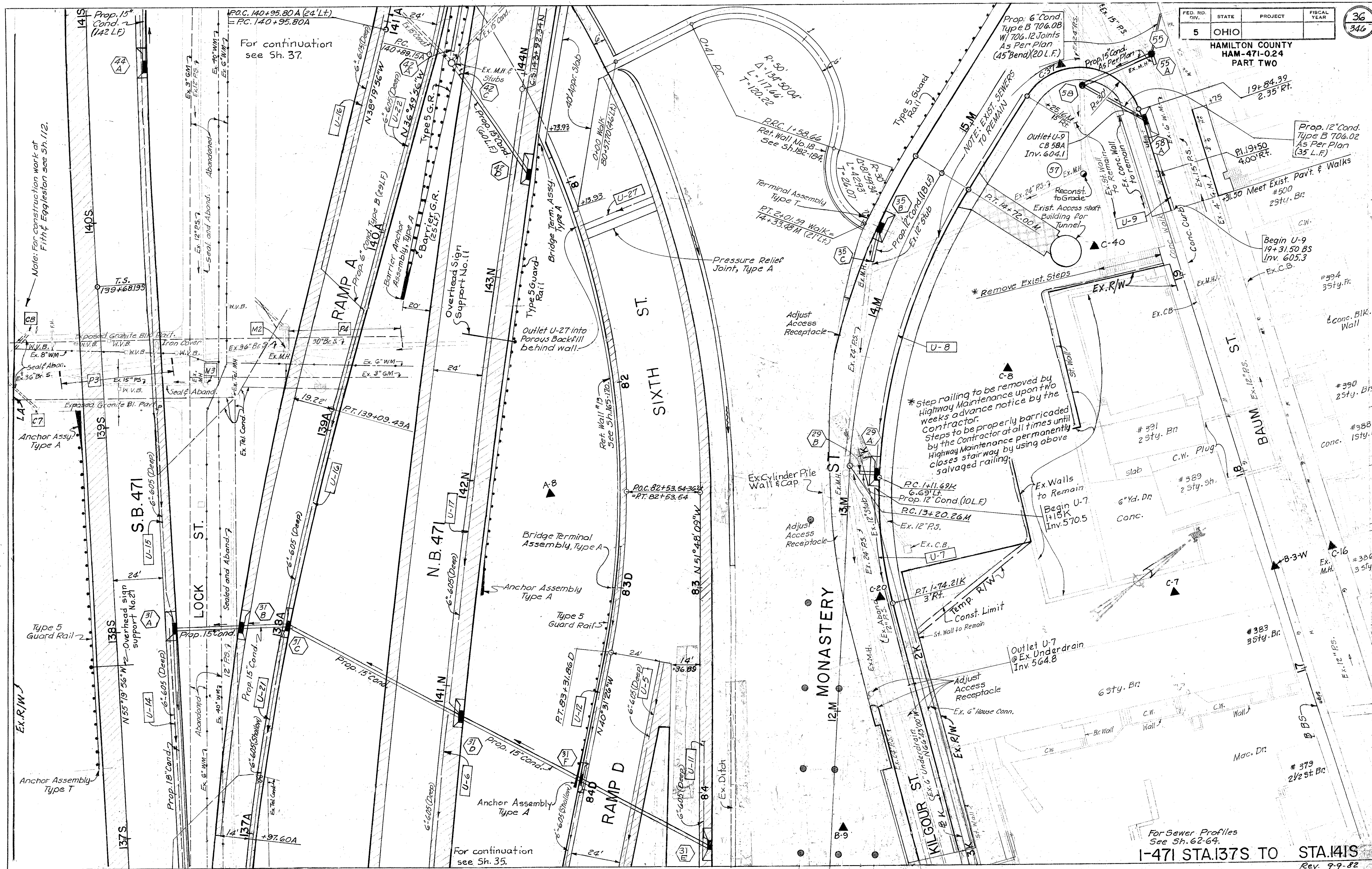
Standard 150' Flare as per Std. Dwg. GR-5

For continuation see Sh. 36.

For continuation see Sh. 34

I-471 STA. 133S TO STA. 137S

For Sewer Profiles See Sh. 62-64.
#332 2sty. Br.
#334 2sty. Br.
#336 2sty. Br.
#338 3sty. Br.



Note: For construction work at Fifth & Eggleston see Sh. 112.

For continuation see Sh. 37.

For continuation see Sh. 35.

For Sewer Profiles See Sh. 62-64.

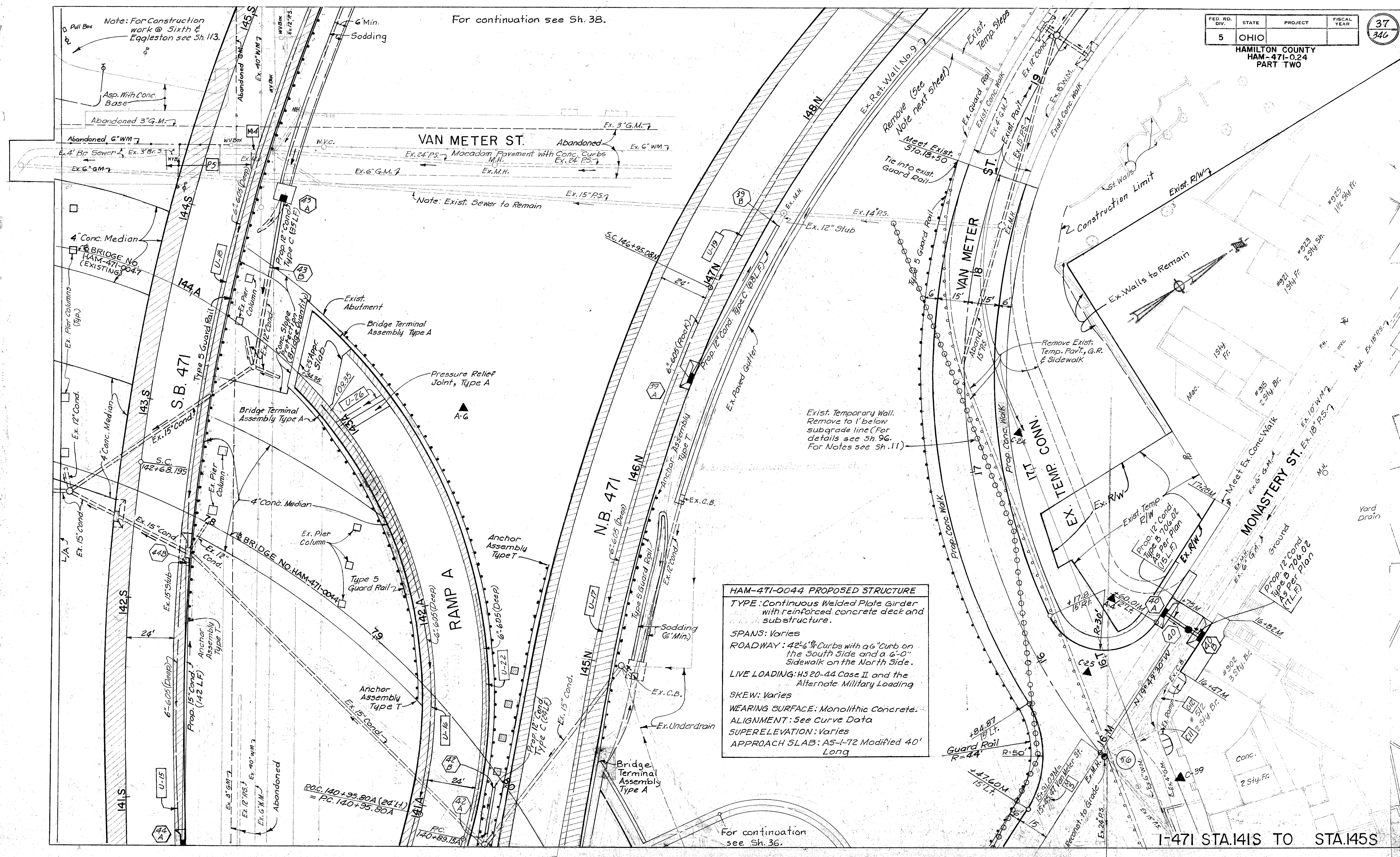
I-471 STA. 137S TO STA. 141S

Rev. 9-9-82

For continuation see Sh. 38.

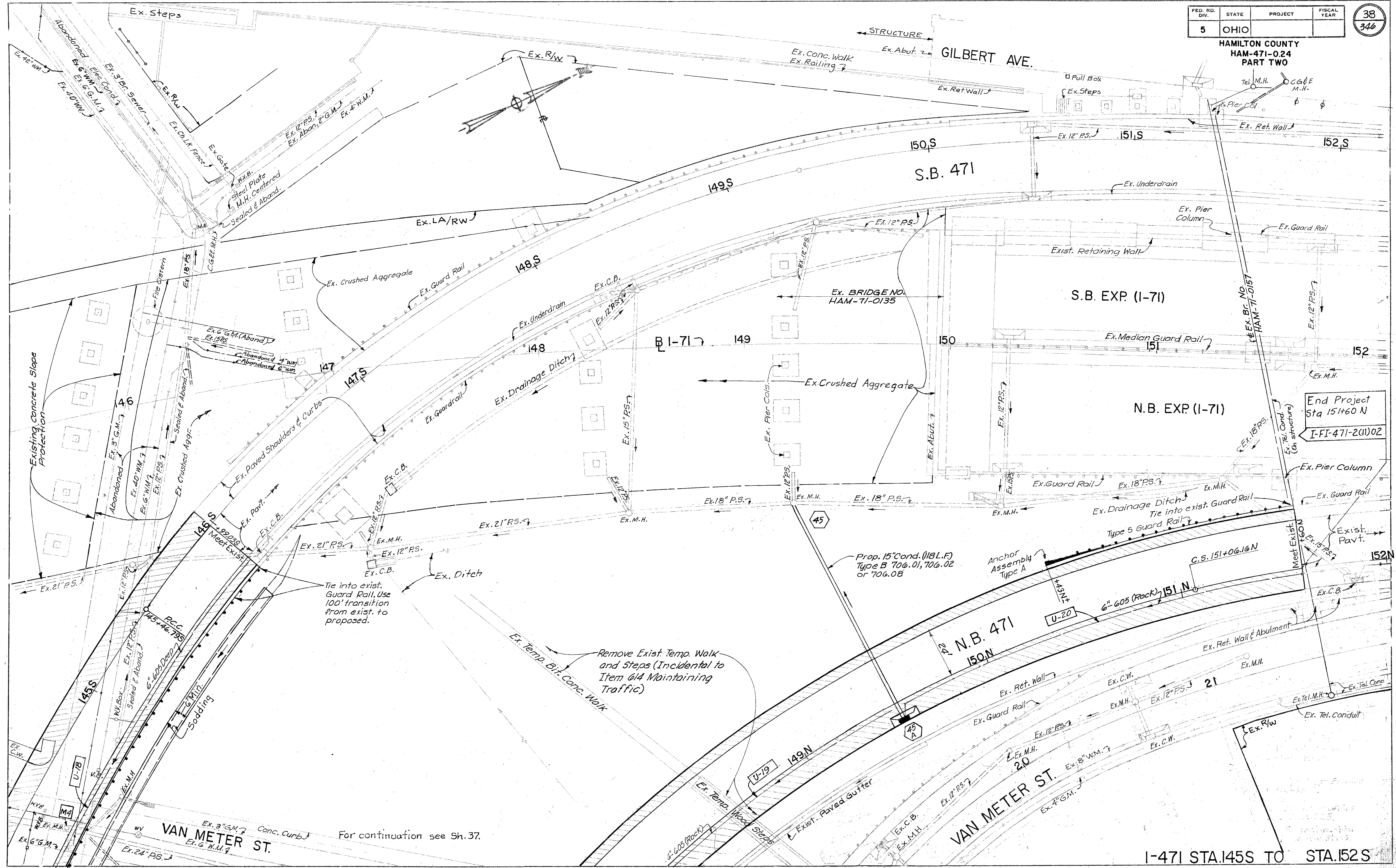
For continuation see Sh. 36.

HAM-471-0044 PROPOSED STRUCTURE
 TYPE: Continuous Welded Plate Girder with reinforced concrete deck and substructure.
 SPANS: Varies
 ROADWAY: 42'-6" Curbs with a 6" Curb on the South Side and a 6'-0" Sidewalk on the North Side.
 LIVE LOADING: H5 20-44 Case II and the Alternate Military Loading
 SKEW: Varies
 WEARING SURFACE: Monolithic Concrete
 ALIGNMENT: See Curve Data
 SUPERELEVATION: Varies
 APPROACH SLAB: A5-I-72 Modified 40' Long



I-471 STA. 141S TO STA. 145S

HAMILTON COUNTY
HAM-471-024
PART TWO



End Project
Sta 151+60 N
I-FI-471-2(11)02

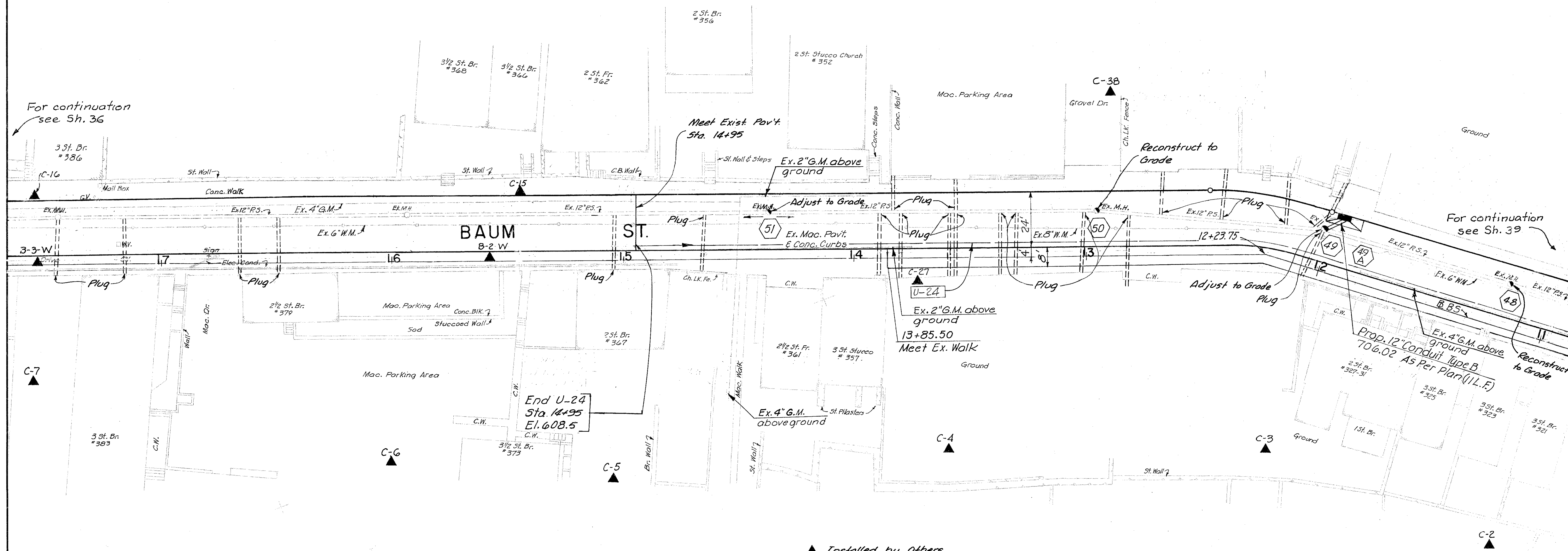
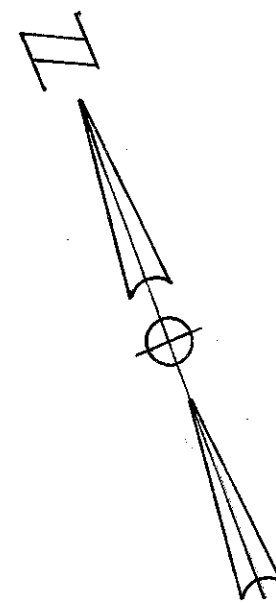
For continuation see Sh. 37.

I-471 STA. 145S TO STA. 152S

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

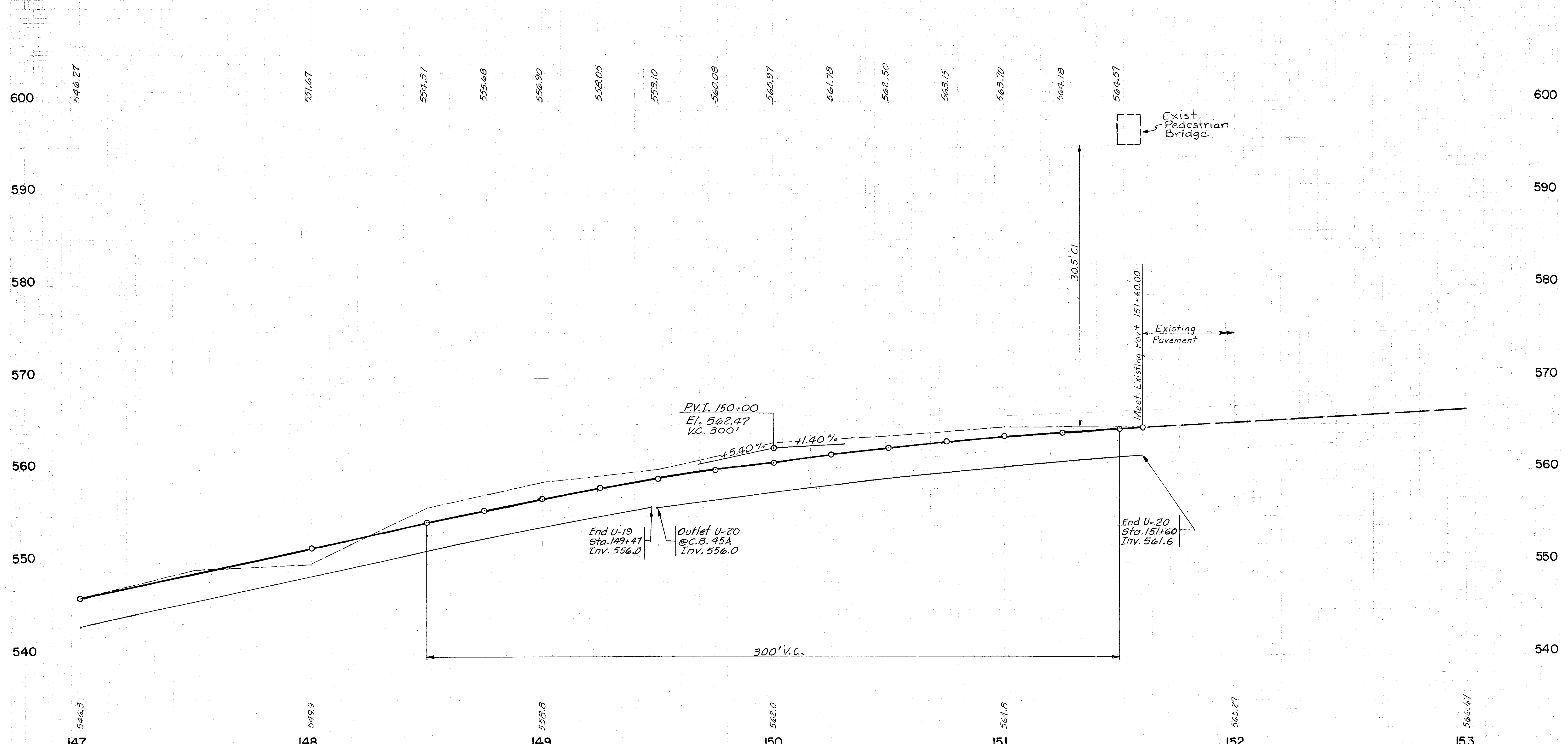
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346

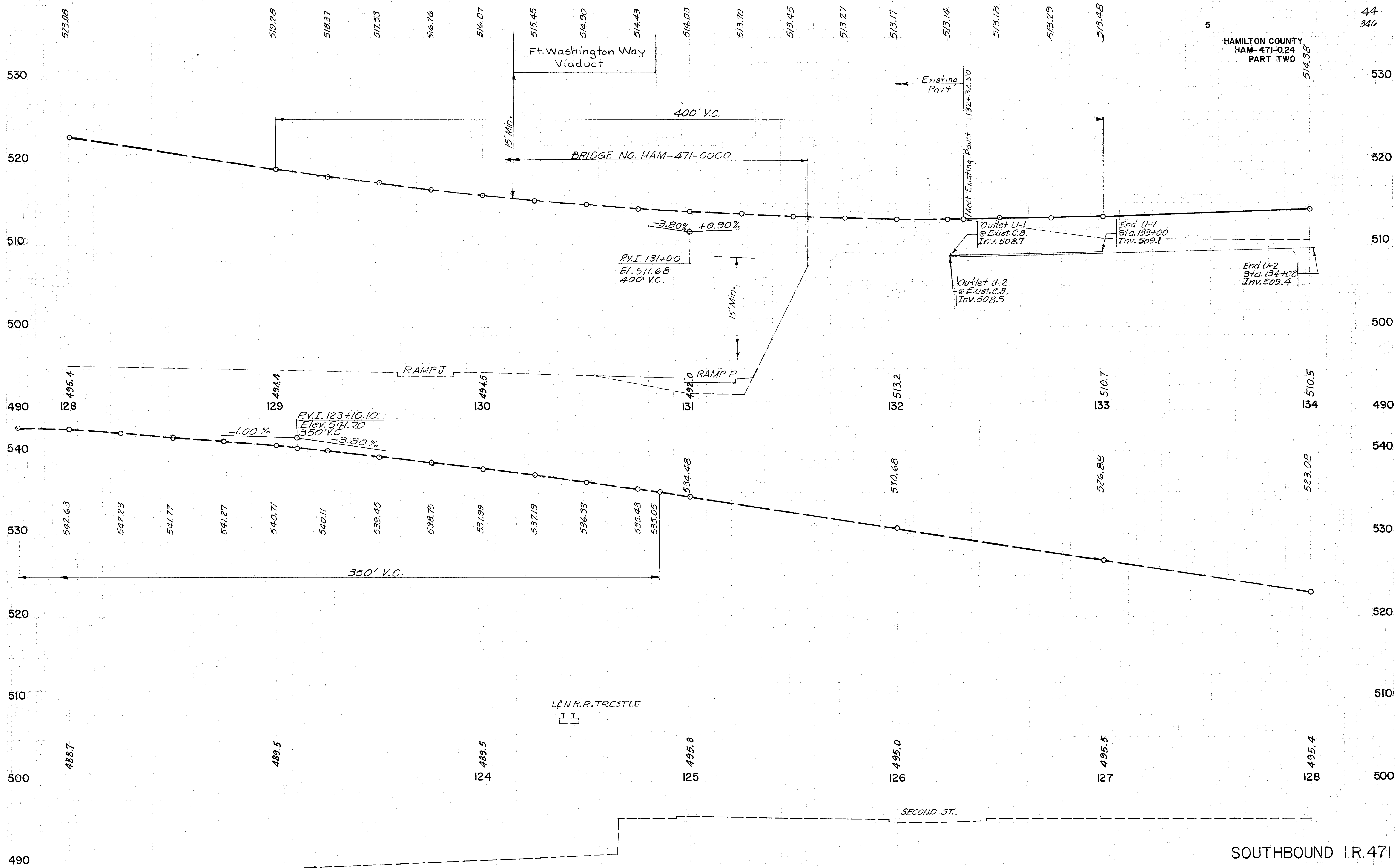
HAMILTON COUNTY
HAM-471-0.24
PART TWO

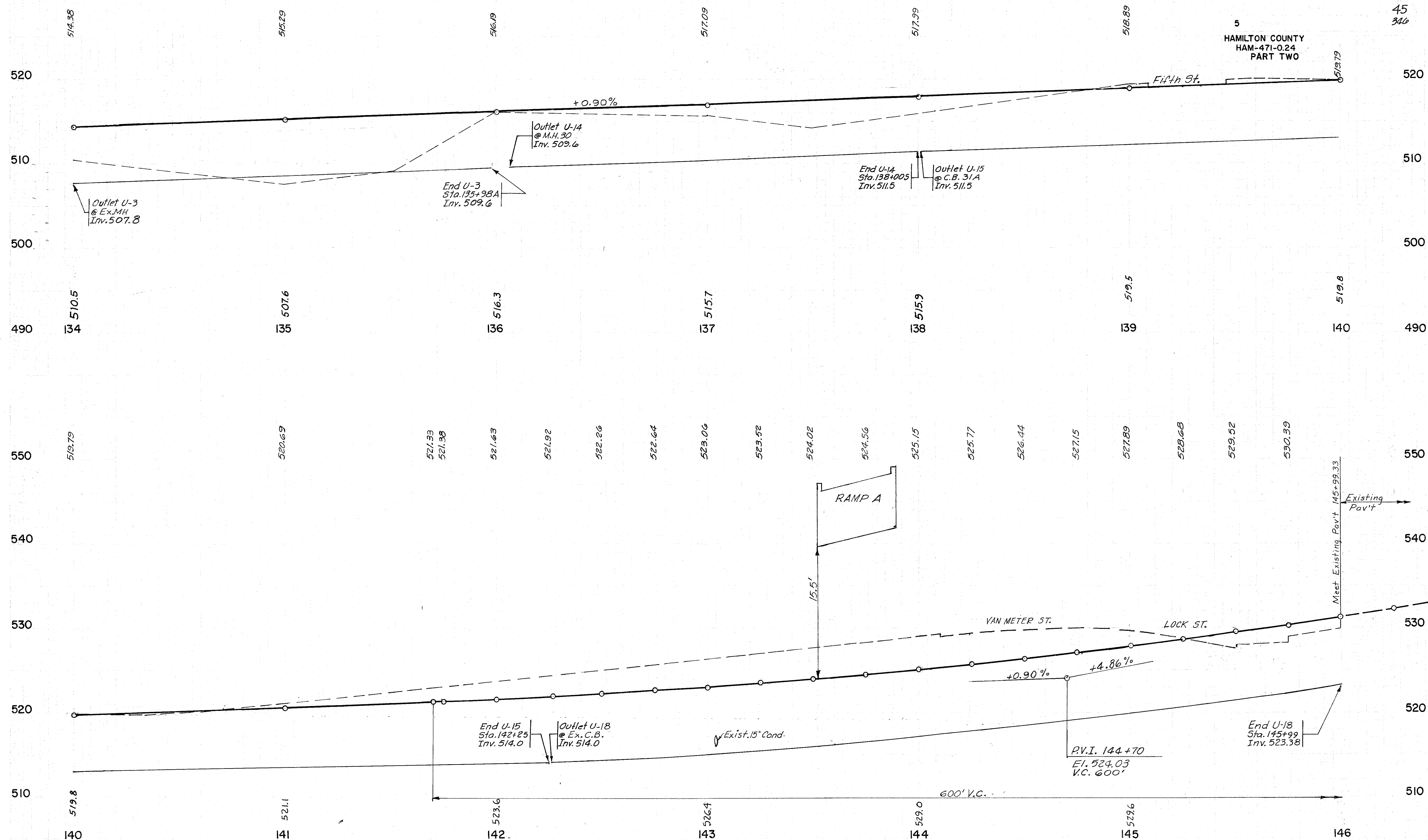


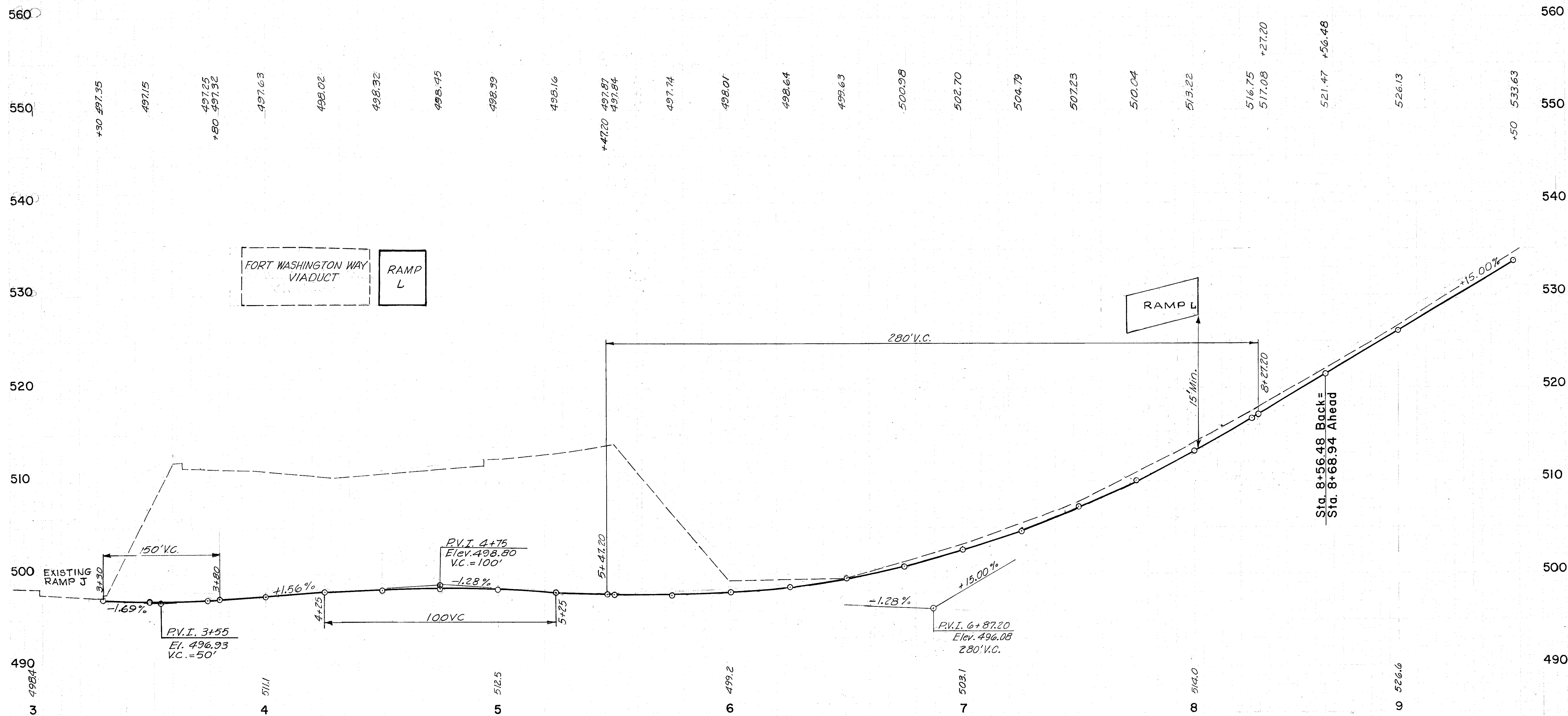
▲ Installed by Others

BAUM ST.
STA. 11 TO STA. 17+50
Rev. 9-9-82

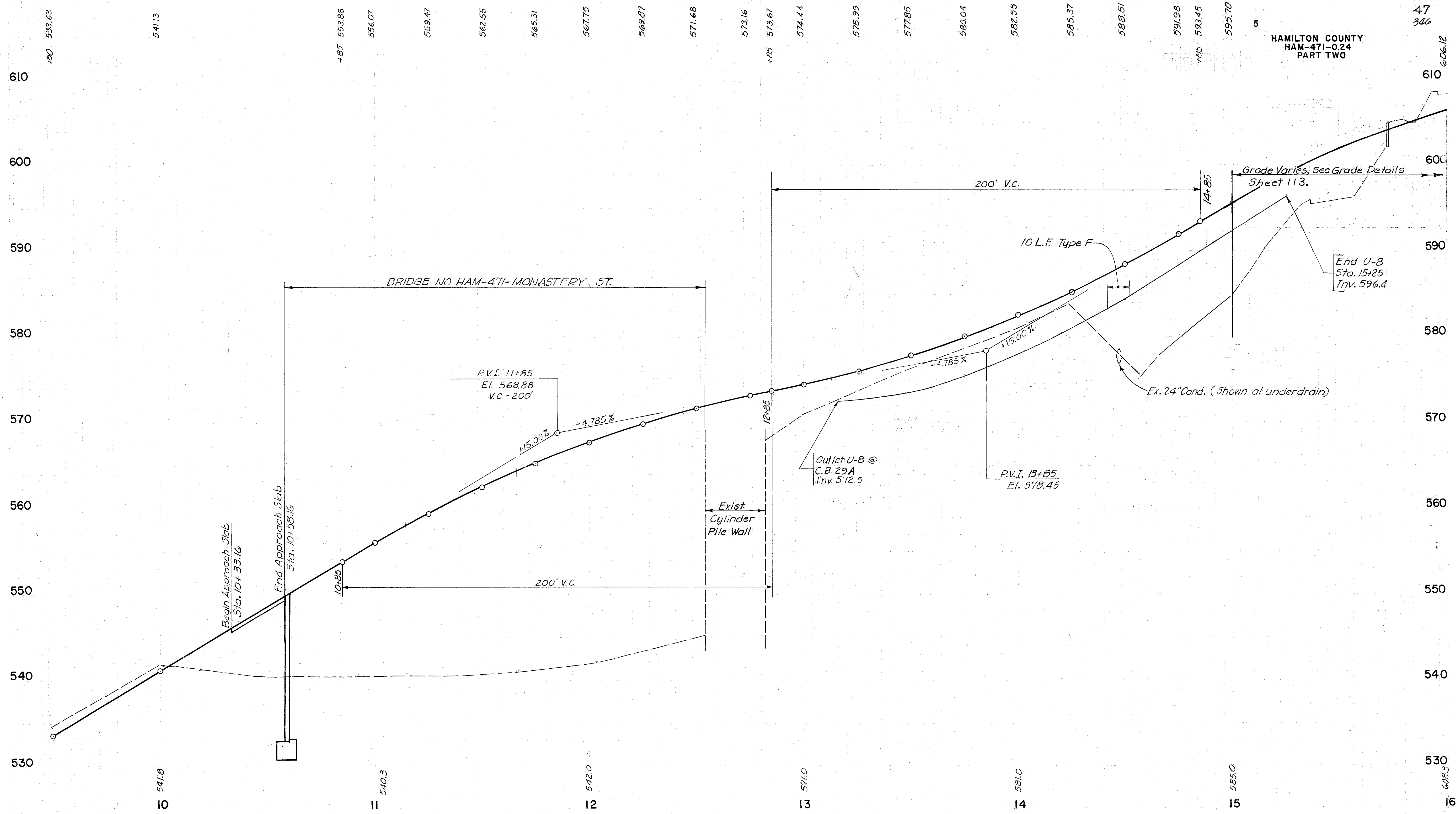


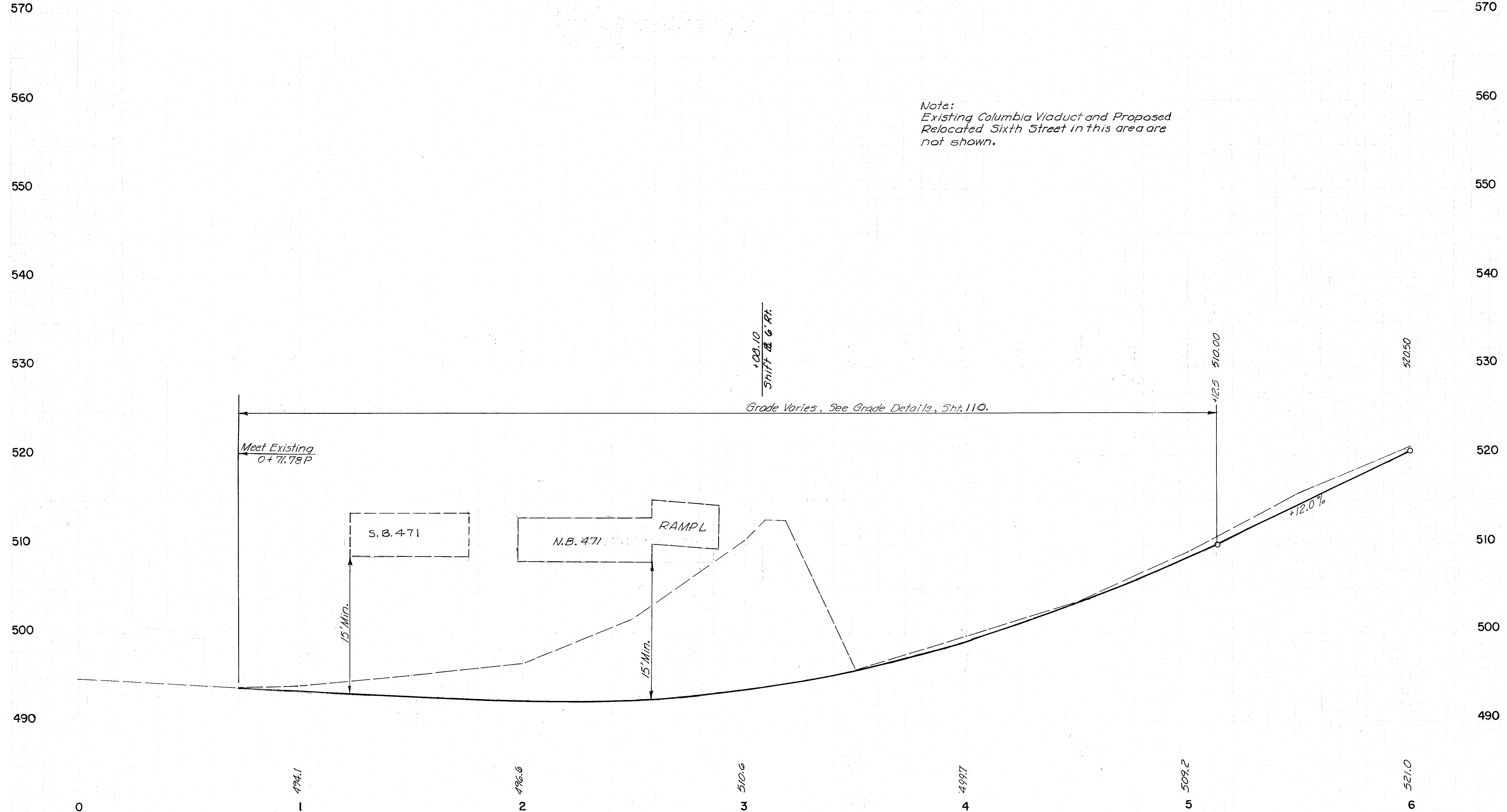




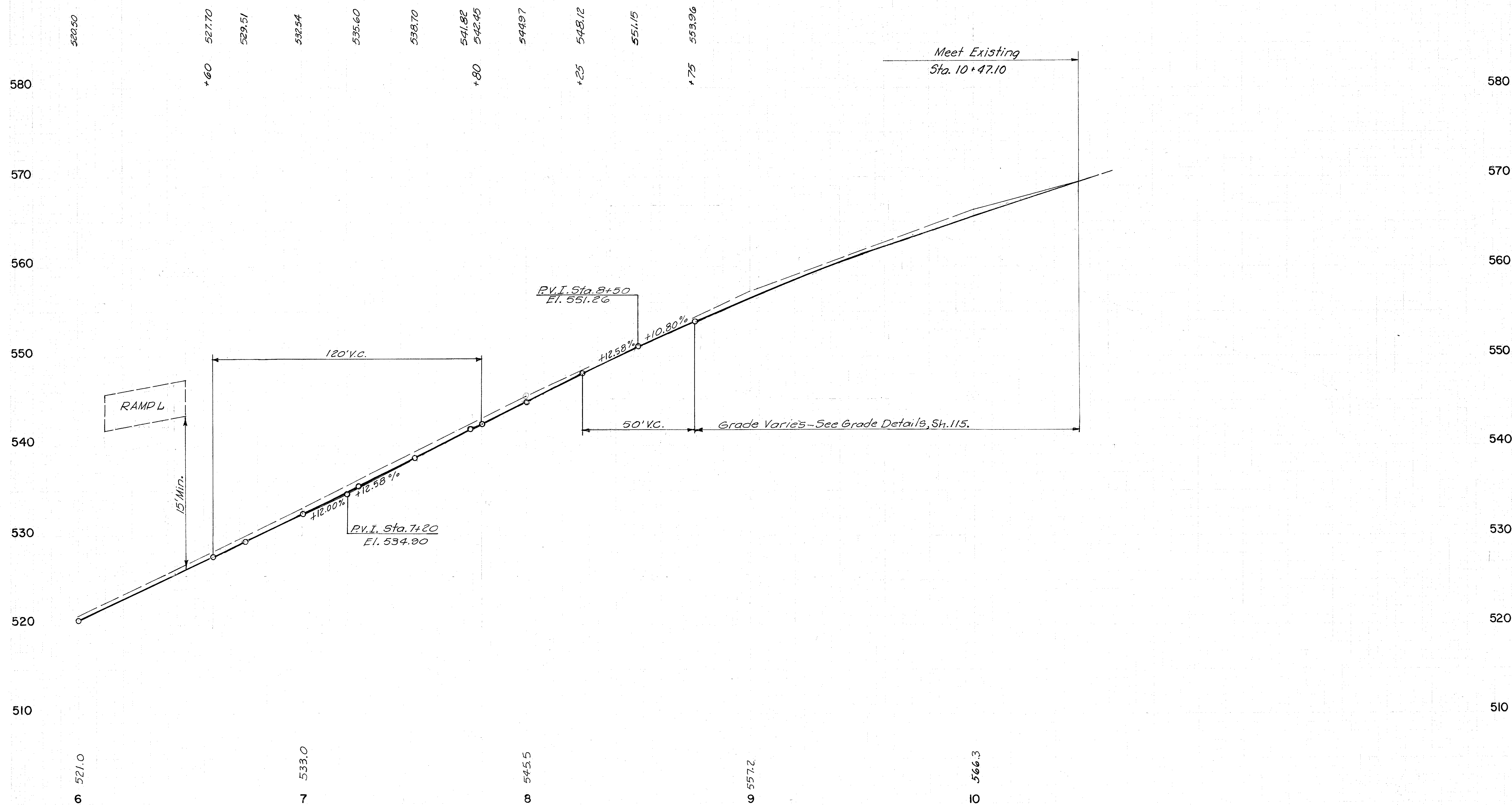


MONASTERY STREET
 STA. 3+00 TO STA. 9+50

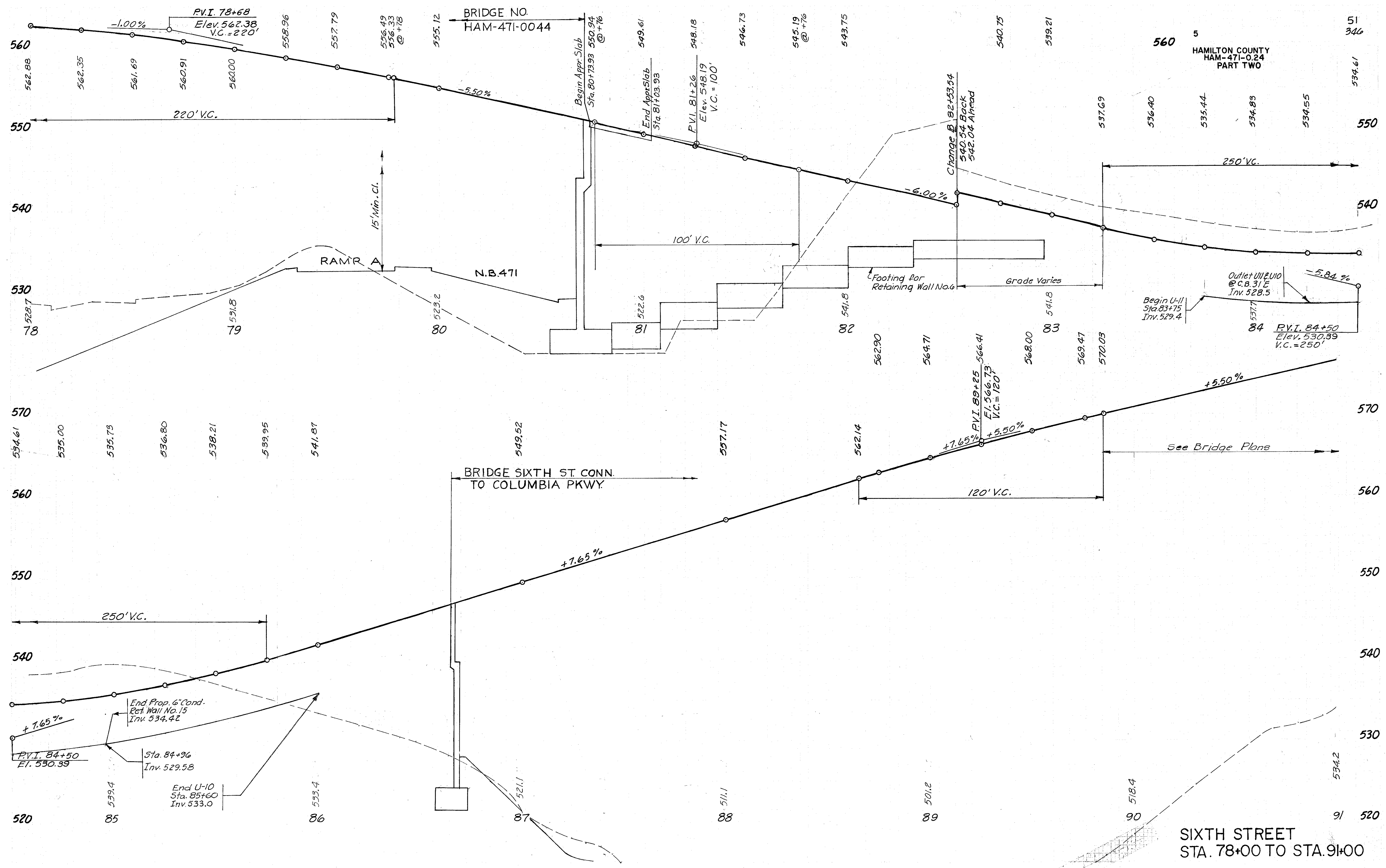




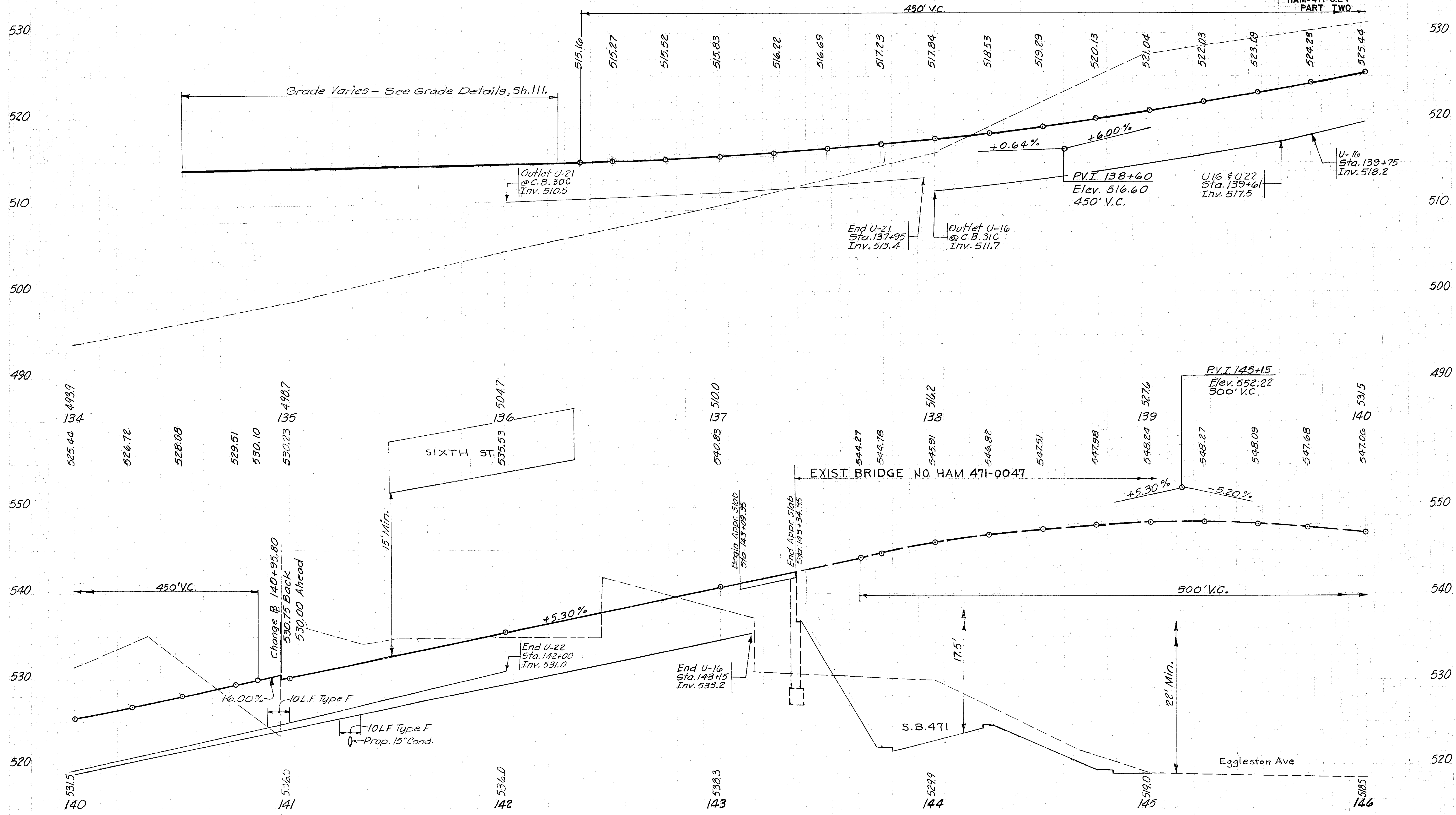
RAMP P
STA. 0+00 TO STA. 6+00



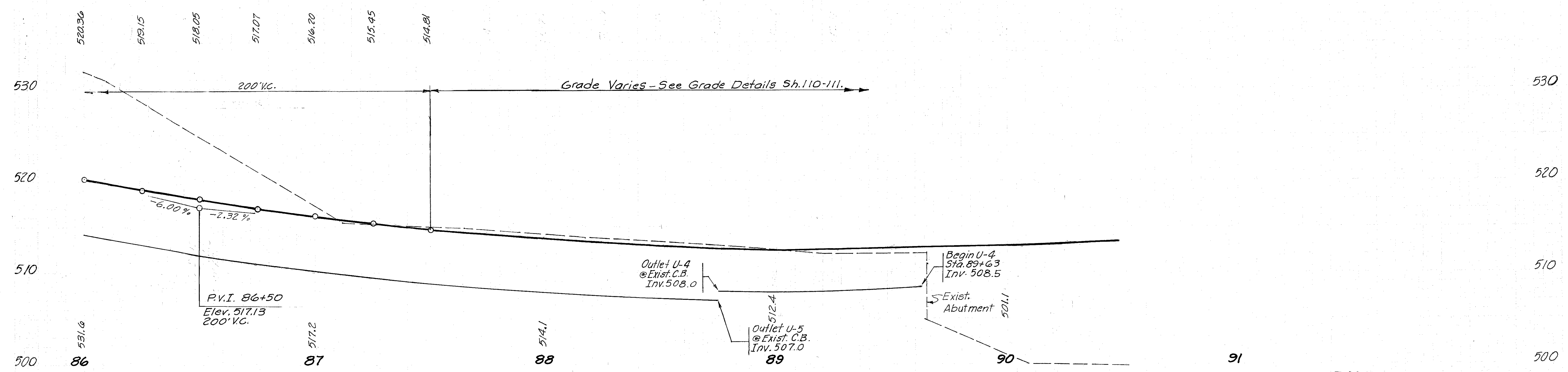
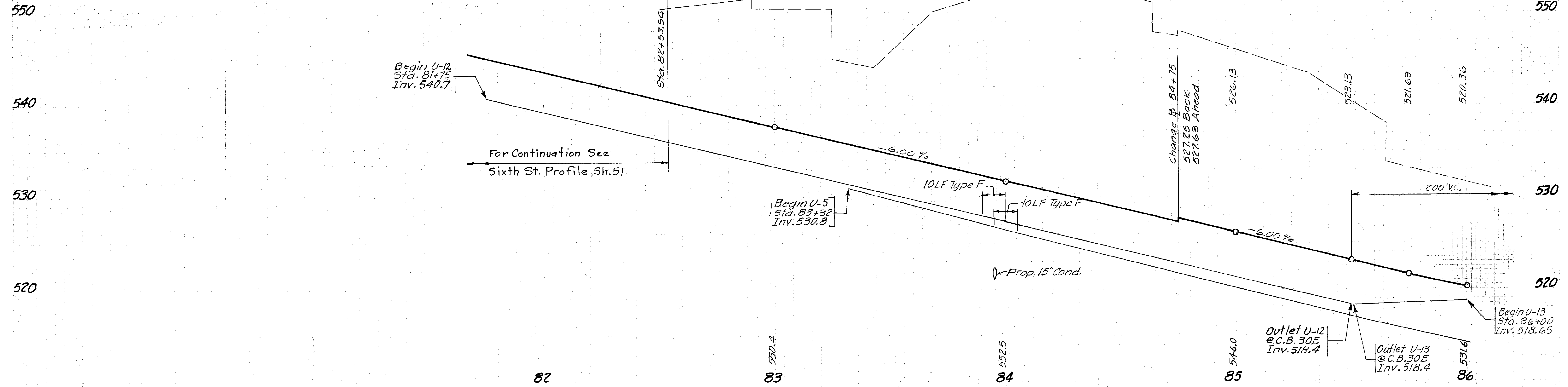
RAMP P
 STA. 6+00 TO STA. 10+47.10



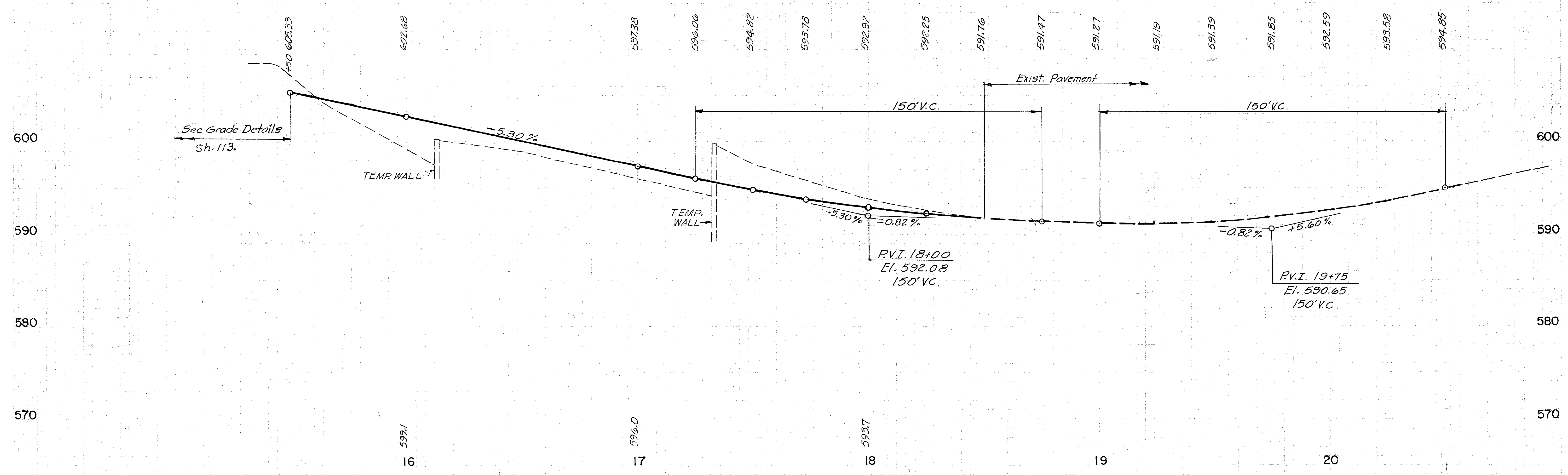
SIXTH STREET
STA. 78+00 TO STA. 91+00



RAMP A
STA. 134+00 TO STA. 146+00



RAMP D
STA. 80+00 TO STA. 91+00



GENERAL PROVISIONS

WATER MAIN ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED JANUARY 1, 1981, AND MODIFIED BY THE CITY OF CINCINNATI SUPPLEMENT TO SAID STATE OF OHIO SPECIFICATIONS, EFFECTIVE JANUARY 1, 1981, AND ANY SUPPLEMENTS OR CHANGES THERETO.

A CUSHION OF 12" SHALL BE MAINTAINED BETWEEN THE PROPOSED WATER MAINS AND THE EXISTING SEWERS, INLET CONNECTIONS, AND RAINS. IF A GREATER CLEARANCE IS DESIRED, IT WILL BE SO DESIGNATED. BUILDING SEWER LATERALS ARE NOT TO BE DISTURBED OR TRAPPED. EXISTING DRAINS, SEWERS, AND CULVERTS ARE NOT TO BE DISTURBED. IF THE WATER MAIN IS TO BE UNDER CULVERTS OR PIPE SEWERS, THEY SHALL BE TUNNELED AND BACKFILLED WITH CLASS "T" CONCRETE.

ALL BACKFILL TO BE METHOD "A" EXCEPT WHERE OTHERWISE NOTED.

NO PART OF ANY FIRE HYDRANT SETTING SHALL BE INSTALLED CLOSER THAN FIVE FEET TO ANY DRIVEWAY, INLET, UTILITY POLE, OR GUY WIRE ANCHOR.

ALL VALVES TO BE PURCHASED FROM THE CINCINNATI WATER WORKS.

NO EXTRA PAYMENT WILL BE MADE FOR LEAD JOINTS.

REQUEST FOR PERMISSION TO RESTORE ANY SURFACES OUTSIDE THE IMPROVEMENT LIMITS SHALL BE MADE TO THE HIGHWAY MAINTENANCE DIVISION IN WRITING. ADDRESS:

MR. JAMES D. JESTER, SUPERINTENDENT
HIGHWAY MAINTENANCE DIVISION
3300 COLERAIN AVENUE
CINCINNATI, OHIO 45225

COPIES OF THE STATE SPECIFICATIONS ARE ON FILE AT THE OFFICE OF CONTRACT SALES OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, 25 SOUTH FRONT STREET, COLUMBUS, OHIO, AND AT THE OFFICES OF THE CITY ENGINEER OF CINCINNATI, OHIO.

ALL INSTRUCTIONS SHALL BE WORKED THROUGH THE PROJECT ENGINEER. ALL WATER MAIN WORK SHALL BE DONE UNDER THE DIRECTION, SUPERVISION, AND INSPECTION OF THE CINCINNATI WATER WORKS AND THE PROJECT ENGINEER.

THE CINCINNATI WATER WORKS SHALL FURNISH ALL FERRULES. THE CONTRACTOR WILL BE RESPONSIBLE FOR THEIR PROPER INSTALLATION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR REMOVAL AND REPLACEMENT OF ANY POLES AND GUYS NECESSARY FOR THE INSTALLATION OF THE PROPOSED WATER MAINS, AND ANY COST CONNECTED THERETO SHALL BE HIS EXPENSE.

ALL PIPE AND SPECIALS SHALL BE IN ACCORDANCE WITH CITY OF CINCINNATI SPECIFICATION 40-110-79.

ALL PROPOSED WATER MAINS WILL BE HYDROSTATICALLY TESTED FOR LEAKAGE IN ACCORD WITH 1101.054, 'HYDROSTATIC TEST FOR LEAKAGE,' OF ITEM 1101, "LAYING PIPE AND FITTINGS." THIS TEST WILL BE CONDUCTED BY THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR ALL PIPE SEWERS DISTURBED IN THE COMPLETION OF THIS PROJECT. IN THE EVENT IT BECOMES NECESSARY TO REPAIR OR REPLACE EXISTING PIPE SEWERS, THE CONTRACTOR MUST NOTIFY SEWER MAINTENANCE, 352-4905, BEFORE PROCEEDING WITH THE WORK.

SPECIAL PROVISIONS

WITHIN BAUM STREET FROM OREGON STREET TO MONASTERY STREET, THE CONTRACTOR IS ADVISED THAT THE LENGTH OF TRENCH OPENINGS WILL NOT BE PERMITTED TO EXCEED FORTY (40) FEET AND THAT LATERAL TRENCH SUPPORT, EITHER A SHEETING SYSTEM OR A TRENCH BOX, MUST BE UTILIZED. BACKFILL MATERIAL SHALL BE COMPACTED IN FOUR INCH HORIZONTAL LAYERS BY A SATISFACTORY MECHANICAL MEANS. FLUSHING OR JETTING OF THE TRENCH WILL NOT BE PERMITTED. THE TRENCH MUST BE BACKFILLED WHEN NOT WORKING. BACKFILL MUST BE SUITABLE FOR MOVING TRAFFIC. TEMPORARY BLACKTOP MAY BE REQUIRED AS DIRECTED BY THE WATER WORKS.

THE EXISTING 6" WATER MAINS MUST REMAIN IN SERVICE UNTIL THE PROPOSED 8" WATER MAINS HAVE BEEN INSTALLED AND THE EXISTING WATER SERVICE BRANCHES RECONNECTED.

IN ORDER TO KEEP THE SHUT DOWN PERIOD TO A MINIMUM, EACH CONNECTION TO THE EXISTING WATER MAIN MUST BE DONE IN ONE CONTINUOUS OPERATION.

CALC. DRS DATE 4-2-82

CHKD. DRS DATE 4-2-82

GENERAL PROVISIONS - GENERAL SUMMARY - BILL OF MATERIAL

SUGGESTED BILL OF MATERIAL

(FURNISHED BY CONTRACTOR)

- 61 EACH - 18' LENGTHS 8" DUCTILE IRON PIPE C.J. TH. CL. #55
- 2 EACH - 18' LENGTH 6" DUCTILE IRON PIPE C.J. TH. CL. #55
- 4 EACH - 8" 45° BENDS 2 M.J.
- 1 EACH - 8" 22 1/2° BEND 2 M.J.
- 3 EACH - 8" 11 1/4° BENDS 2 M.J.
- 1 EACH - 6" 90° BEND 2 M.J.
- 1 EACH - 6" OFFSET BEND M.J. X P.E. 18" DROP
- 1 EACH - 4" BLIND FLANGE WITH BOLTS, NUTS AND GASKET
- 1 EACH - 10" X 8" REDUCER 2 P.E.
- 5 EACH - 8" X 6" REDUCER 2 P.E.
- 3 EACH - 8" SOLID SLEEVE M.J.
- 4 EACH - 6" SOLID SLEEVE P.J.
- 1 EACH - 6" SOLID SLEEVE M.J.
- 3 EACH - 8" X 8" TEES 3 M.J.
- 2 EACH - 8" X 6" TEE 3 M.J.
- 4 EACH - 8" VALVES C.J.
- 1 EACH - 6" VALVE C.J.
- 1 EACH - 6" FIRE HYDRANT (B.T.)-(FURNISHED BY C.F.D.)
- 2 EACH - M.H.C. & C.
- 3 EACH - VALVE BOXES COMPLETE
- 67 EACH - POLYETHYLENE FLATTENED TUBES 8 MIL THICKNESS 24" WIDTH 20' LENGTH
- 2 EACH - POLYETHYLENE FLATTENED TUBES 8 MIL THICKNESS 20" WIDTH 20' LENGTH
- 7 EACH - POLYETHYLENE TAPE WITH ADHESIVE 1 1/2" WIDTH, 100' LENGTH

SERVICE BRANCH MATERIAL

(FURNISHED BY CINCINNATI WATER WORKS)

- 144 LIN. FT. - 3/4" COPPER SERVICE PIPE
- 7 EACH - 3/4" FERRULES
- 4 EACH - 1" FERRULES (A.C.)
- 1 EACH - 1 1/2" FERRULES
- 5 EACH - 3/4" STOP COCKS
- 3 EACH - 3/4" X 3/4" COPPER TO COPPER COUPLINGS
- 5 EACH - 3/4" X 5/8" COPPER TO LEAD COUPLINGS
- 5 EACH - CURB BOXES

THE ABOVE LIST IS A SUGGESTED BILL OF MATERIAL NECESSARY TO PERFORM THE WATER MAIN AND BRANCH RELOCATION WORK AS PROPOSED ON THE DRAWINGS. THE CONTRACTOR SHALL FURNISH ADDITIONAL MATERIAL WHERE NEEDED. NO ALLOWANCE WILL BE MADE FOR UNUSED MATERIAL NOR WILL ANY EXTRA PAYMENT BE MADE FOR ADDITIONAL SPECIALS REQUIRED TO COMPLETE THE WATER MAIN WORK. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN FIELD MEASUREMENTS BEFORE ORDERING MATERIAL.

GENERAL SUMMARY - PROJECT COST*

ITEM	QUAN.	UNIT	DESCRIPTION	TYPE CODE Y060	ITEM NO.
1101	1116	LIN. FT.	FURNISHING & LAYING 8" DUCTILE IRON PIPE & FITTINGS		SPECIAL
1101	31	LIN. FT.	FURNISHING & LAYING 6" DUCTILE IRON PIPE & FITTINGS		SPECIAL
1110	2	CU. YD.	CONCRETE CLASS 'C'		SPECIAL
1110	2	CU. YD.	CONCRETE, CLASS 'C' HIGH-EARLY STRENGTH		SPECIAL
1110	2	CU. YD.	CONCRETE, CLASS 'T'		SPECIAL
1111	2	EACH	8" VALVE CHAMBER		SPECIAL
1105	1	EACH	FURNISHING AND INSTALLING 4" BLIND FLG. PLUG IN EX. WATER MAIN		SPECIAL
1116	3	EACH	FURNISHING AND INSTALLING VALVE BOX COMPLETE		SPECIAL
1119	2	CU. YD.	ADDITIONAL EXCAVATION		SPECIAL
1121	3	CU. YD.	FILLING ABANDONED WATER WORKS STRUCTURE		SPECIAL
1123	20	LIN. FT.	CHANGING PIPE SEWER 12" AND UNDER		SPECIAL
1125	4	EACH	RESETTING EXISTING VALVE BOXES COMPLETE		SPECIAL
1126	144	LIN. FT.	HAULING, INSTALLING AND CONNECTING 3/4" COPPER SERVICE PIPE		SPECIAL
1128	1	EACH	RECONNECTING EXISTING 1/2" THRU 2" SERVICE BRANCH		SPECIAL
1128	2	EACH	RECONNECTING EXISTING 5/8" THRU 1" SERVICE BRANCHES		SPECIAL
1132	8	EACH	RESETTING EXISTING CURB AND ROADWAY BOXES		SPECIAL
204	2	CU. YD.	SPECIAL EXCAVATION		SPECIAL
509	295	LBS.	REINFORCING STEEL		509
602	2	CU. YD.	BRICK MASONRY		SPECIAL
1131	5	EACH	HAULING AND INSTALLING CURB AND ROADWAY BOXES		SPECIAL
604	2	EACH	ADJUST MANHOLE CURB AND COVER TO GRADE		SPECIAL
626	1	MFBM	SHEETING AND BRACING ORDERED LEFT IN PLACE		SPECIAL
1112	1	EACH	HAULING AND INSTALLING FIRE HYDRANTS		SPECIAL
1130	5	EACH	DISCONNECTING EXISTING 5/8" THRU 1" SERVICE BRANCHES		SPECIAL

***PROJECT COST PARTICIPATION**

- FEDERAL
- STATE
- CINCINNATI WATER WORKS

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

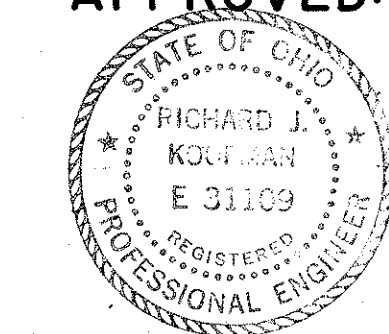
55
346

HAMILTON COUNTY
HAM - 471-O.24
PART TWO

STATE CONTRACT

**NEWPORT BRIDGE
CONNECTION
THIRD STREET TO SIXTH STREET
PROPOSED 8" WATER MAIN**

APPROVED:



SCALE: HOR. 1" = 20'
VERT. 1" = 10'

Simon Steich, Cgt
C.F.D.

Richard J. Koopman
PRINCIPAL ENGINEER

Wm. S. Aljmu
CHIEF ENGINEER

**CINCINNATI WATER WORKS
ENGINEERING DIVISION**

APRIL, 1982

Rev. 9-9-82
Revised 9-1-82
REVISED 5-3-82

D-1375-G

SHEET 1 of 7

BY J.E.L., H.J.K.
PLATTED BY D.R.
DRAWN BY D.R.H., J.P.D.
DESIGNED BY D.R.H.
CHECKED BY D.R.S.

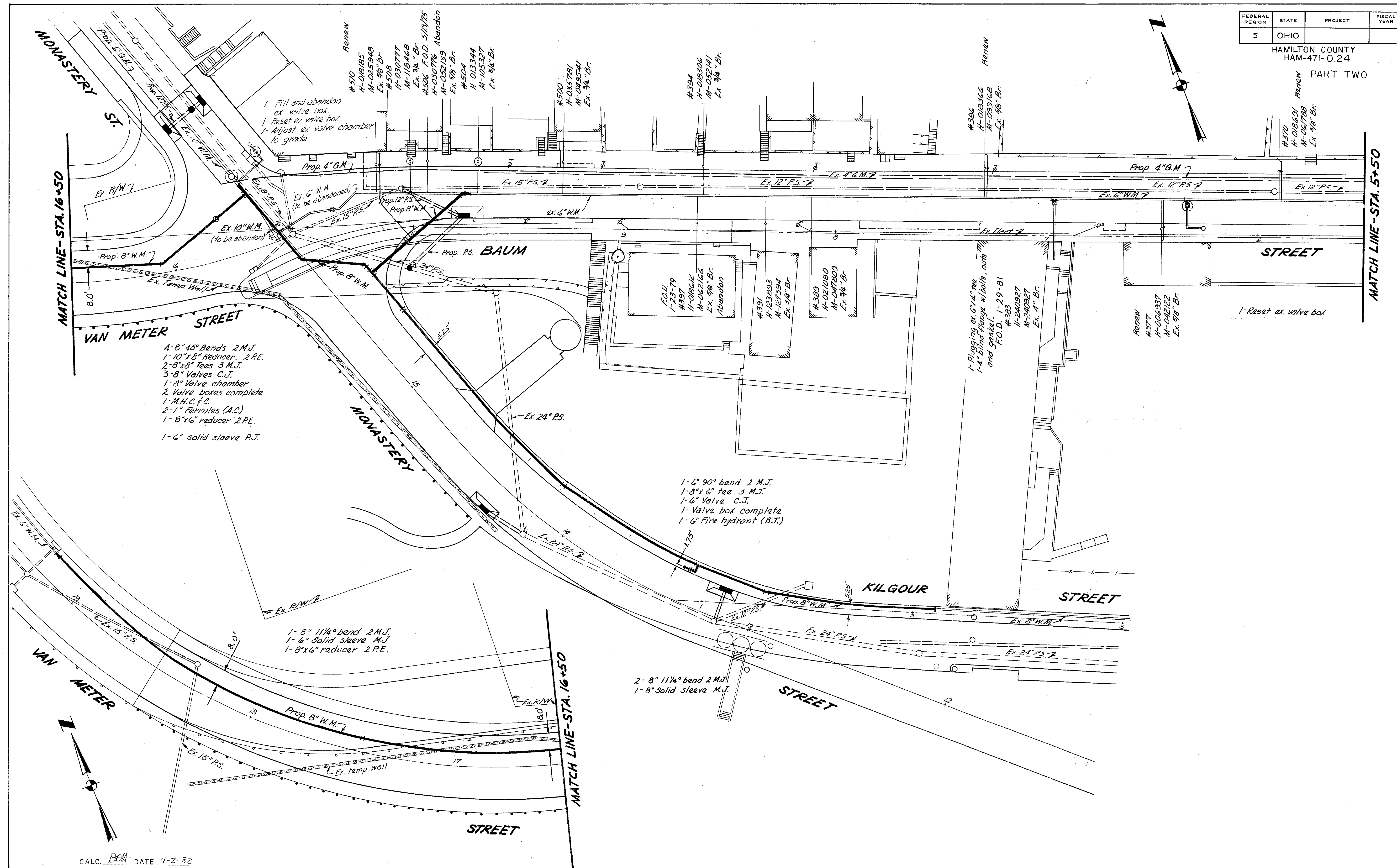
SURVEYED
PLATTED
DRAWN
DESIGNED
CHECKED

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

56
346

HAMILTON COUNTY
HAM-471-0.24

PART TWO



- 4-8" 45° Bands 2 M.J.
- 1-10"x8" Reducer 2 P.E.
- 2-8"x8" Tees 3 M.J.
- 3-8" Valves C.J.
- 1-8" Valve chamber
- 2-Valve boxes complete
- 1-M.H.C. f.c.
- 2-1" ferrules (A.C.)
- 1-8"x6" reducer 2 P.E.
- 1-6" solid sleeve P.J.

- 1-8" 1 1/4° bend 2 M.J.
- 1-6" solid sleeve M.J.
- 1-8"x6" reducer 2 P.E.

- 2-8" 1 1/4° bend 2 M.J.
- 1-8" solid sleeve M.J.

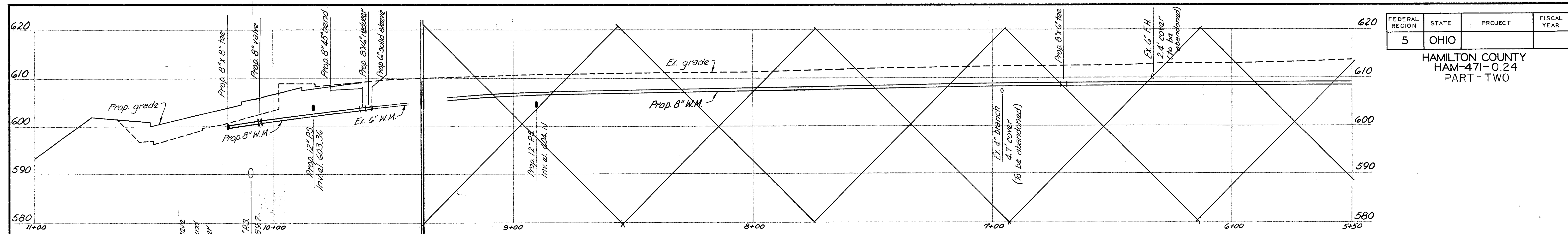
- 1-6" 90° band 2 M.J.
- 1-8"x6" tee 3 M.J.
- 1-6" Valve C.J.
- 1-Valve box complete
- 1-6" Fire hydrant (B.T.)

CALC. DBH DATE 4-2-82
CHK'D DRS DATE 4-2-82

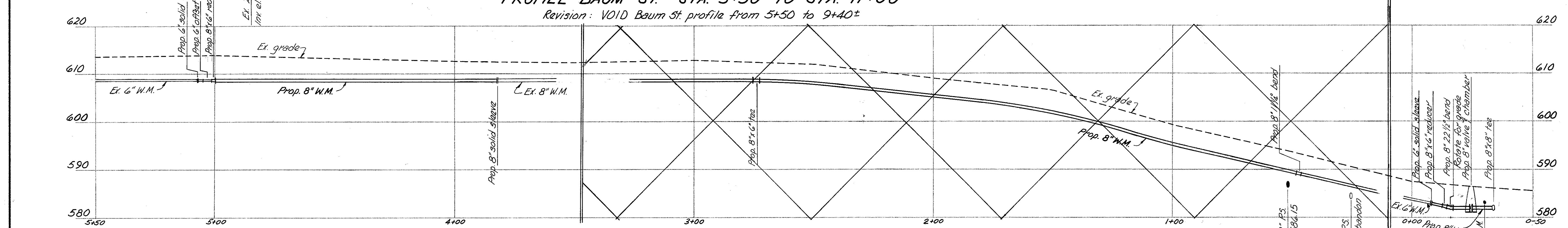
WATER WORKS PLANS

D-1375-G

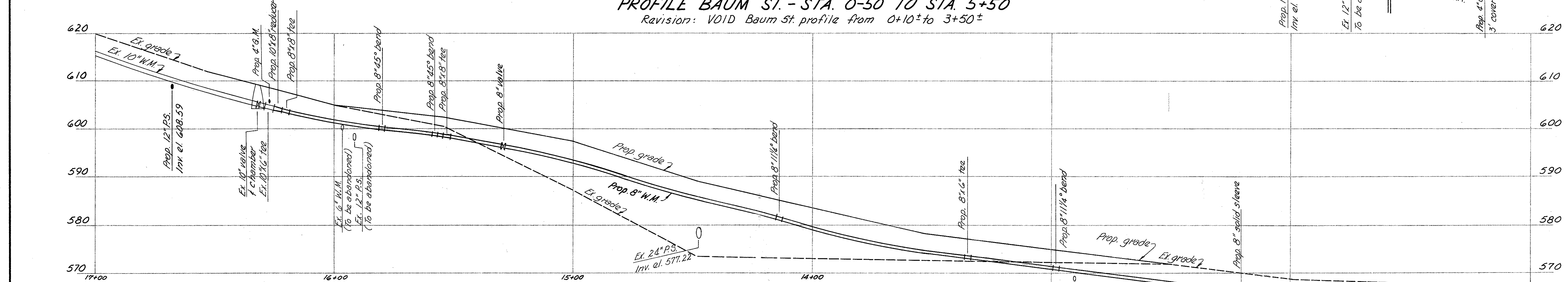
Rev. 9-9-82
SHEET 2 of 7



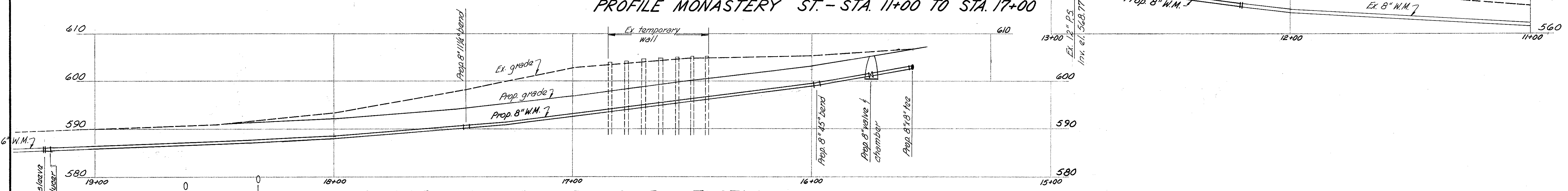
PROFILE BAUM ST. - STA. 5+50 TO STA. 11+00
Revision: VOID Baum St. profile from 5+50 to 9+40±



PROFILE BAUM ST. - STA. 0+50 TO STA. 5+50
Revision: VOID Baum St. profile from 0+10± to 3+50±



PROFILE MONASTERY ST. - STA. 11+00 TO STA. 17+00



PROFILE VAN METER ST. - STA. 15+00 TO STA. 19+00

CALC. DBA DATE 4-2-82
CHK'D. DBS DATE 4-2-82

SERVICE BRANCH SUMMARY

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

59
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

HOUSE NO.	STREET	STATION OR LOCATION	OUT	EXISTING BRANCH SIZE	HYDRANT No	METER No	COPPER PIPE	FERRULE	STOP COCK	COPPER TO COPPER COUPLING	COPPER TO LEAD COUPLING	CURB BOX	ROADWAY BOX	DISCONNECT EXISTING SERVICE BRANCH	RECONNECT	INSTALL STOP COCK IN EXISTING LINE	RENEW	SERVICE SADDLE	RESET BOX	LOWER EXISTING SERVICE BRANCH	ABANDON EXISTING SERVICE BRANCH	REMARKS
317	BAUM STREET	0+21	2.2' L	3/4"	017520	050153																
318	BAUM STREET	0+29	29.2' R	5/8"	028768	062173	19' - 3/4"	3/4"	3/4"		3/4" X 5/8"	1					1					
319	BAUM STREET	0+52	2.7' L	3/4"	004539	023586													1			
320	BAUM STREET	0+45	29.5' R	3/4"	016956	037877																NO WORK
321	BAUM STREET	0+82	2.5' L	3/4"	016724	019695													1			
323	BAUM STREET	1+04	2.2' L	3/4"	019160	032617													1			
325	BAUM STREET	1+29	2.6' L	3/4"	019730	051754													1			
329	BAUM STREET	1+63	2.6' L	3/4"	020763	052238													1			
331	BAUM STREET	1+71	2.8' L	3/4"	020620	052239								1								F.O.D. 4-14-80 ABANDON EX. CURB BOX
354	BAUM STREET	4+18	31.5' R	3/4"	046536	134708	3' - 3/4"	3/4"		3/4" X 3/4"					1							
356	BAUM STREET	4+41	28.8' R	3/4"	047086	044537	3' - 3/4"	3/4"		3/4" X 3/4"					1							
357	BAUM STREET	3+89	5.0' L	1 1/2"	241893	241893															1	F.O.D. 1-14-81 ABANDON EX. CURB BOX
359	BAUM STREET	4+23	2.6' L	3/4"	019819	052602															1	F.O.D. 1-29-81 ABANDON EX. CURB BOX.
360	BAUM STREET	5+13	30.0' R	5/8"	019758	106039								1								F.O.D. 3-10-78 ABANDON EX. CURB BOX
361	BAUM STREET	4+25	0.7' L	1"	241894	241894															1	F.O.D. 1-14-81 ABANDON EX. CURB BOX.
365	BAUM STREET	4+61	1.3' L	3/4"	016638	048864															1	F.O.D. 12-3-80 ABANDON EX. CURB BOX
366	BAUM STREET	5+40	30.5' R	3/4"	018171	059718																NO WORK
367	BAUM STREET	4+86	2.2' L	1 1/2"	240928	240928		1 1/2"														
370	BAUM STREET	5+91	29.0' R	5/8"	018691	061788	18' - 3/4"	3/4"	3/4"		3/4" X 5/8"	1					1					
373	BAUM STREET	5+46	7.8' L	1 1/2"	241895	241895								1								F.O.D. 1-14-81 ABANDON EX. CURB BOX
377	BAUM STREET	6+45	2.5' L	5/8"	006937	042122	20' - 3/4"	3/4"	3/4"		3/4" X 5/8"	1					1					
383	BAUM STREET	6+99	14.9' L	4"	240927	240927																F.O.D. 1-29-81 SEE PLAN (SHEET #2)
386	BAUM STREET	7+29	29.3' R	5/8"	018366	099168	20' - 3/4"	3/4"	3/4"		3/4" X 5/8"	1					1					
389	BAUM STREET	8+12	0.0'	3/4"	021080	047809																NO WORK
391	BAUM STREET	8+34	2.0' L	3/4"	123893	127394																NO WORK
394	BAUM STREET	8+64	29.4' R	3/4"	018306	052141																NO WORK
397	BAUM STREET	8+67	2.3' L	5/8"	018612	062166																F.O.D. 1-23-79 ABANDON EX. CURB BOX
500	BAUM STREET	9+30	31.5' R	3/4"	035781	049541																NO WORK
504	BAUM STREET	9+71	31.0' R	3/4"	013344	105327																
506	BAUM STREET	9+94	30.4' R	5/8"	030776	052139																F.O.D. 5-13-75 ABANDON EX. CURB BOX
508	BAUM STREET	10+01	31.3' R	3/4"	030777	118468	17' - 3/4"	3/4"		3/4" X 3/4"												
510	BAUM STREET	10+18	30.0' R	5/8"	018185	025948	44' - 3/4"	3/4"	3/4"		3/4" X 5/8"	1					1					

CALC. DBA DATE 4-2-82
CHKD. DRS DATE 4-2-82

BRANCH SUMMARY

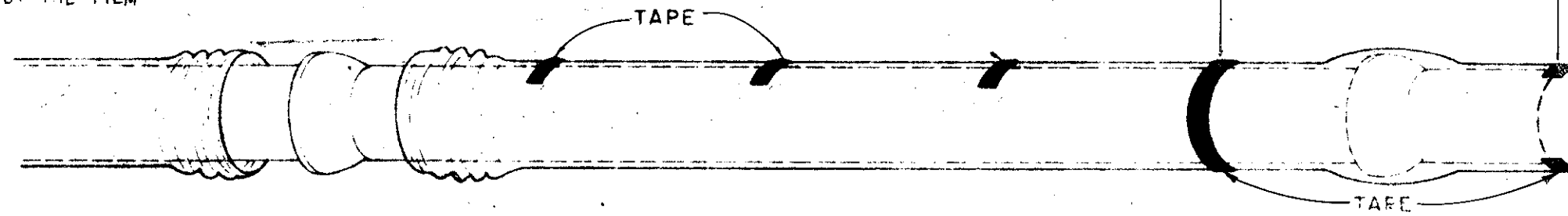
WATER WORKS PLANS

D-1375-G

Rev. 9-9-82
SHEET 5 of 7

TAPE MATERIAL

POLYETHYLENE TAPE 1-1/2" WIDE AS RECOMMENDED BY THE FILM MANUFACTURER.



MATERIAL SPECIFICATIONS

IN ACCORDANCE WITH ASTM D-1248 TYPE 1, CLASS A OR C, GRADE E-1 FLOW RATE 0.4 MAX. DIELECTRIC STRENGTH VOLUME RESISTIVITY MIN. OHM-CM = 10¹²
 POLYETHYLENE FILM THICKNESS 8 MILS
 TENSILE STRENGTH 1200 P.S.I. MIN. ELONGATION 300% MIN. DIELECTRIC STRENGTH 800 VOLTS/MIL

THE FOLLOWING METHOD ILLUSTRATES THE PROCEDURE FOR APPLYING POLYETHYLENE:

CUT POLYETHYLENE TUBE TO A LENGTH APPROXIMATELY TWO FEET LONGER THAN THE LENGTH OF THE PIPE SECTION, SLIP THE TUBE AROUND THE PIPE, CENTERING IT TO PROVIDE A ONE FOOT OVERLAP ON EACH ADJACENT PIPE SECTION, AND BUNCHING IT ACCORDION FASHION LENGTHWISE UNTIL IT CLEAPS THE PIPE ENDS.

LOWER THE PIPE INTO THE TRENCH AND MAKE UP THE PIPE JOINT WITH THE PRECEDING SECTION OF PIPE, A SHALLOW BELL HOLE MUST BE MADE AT JOINTS TO FACILITATE INSTALLATION OF THE POLYETHYLENE TUBE.

AFTER ASSEMBLING THE PIPE JOINT, MAKE THE OVERLAP OF THE POLYETHYLENE TUBE, PULL THE BUNCHED POLYETHYLENE FROM THE PRECEDING LENGTH OF PIPE, SLIP IT OVER THE END OF THE NEW LENGTH OF PIPE AND SECURE IN PLACE THEN SLIP THE END OF THE POLYETHYLENE FROM THE NEW PIPE SECTION OVER THE END OF THE FIRST WRAP UNTIL IT OVERLAPS THE JOINT AT THE END OF THE PRECEDING LENGTH OF PIPE, SECURE THE OVERLAP IN PLACE, TAKE UP THE SLACK WIDTH TO MAKE SNUG, BUT NOT TIGHT, FIT ALONG THE BARREL OF PIPE, SECURING THE FOLD AT QUARTER POINTS.

REPAIR ANY RIPS, PUNCTURES, OR OTHER DAMAGE TO THE POLYETHYLENE WITH ADHESIVE TAPE OR WITH A SHORT LENGTH OF POLYETHYLENE TUBE CUT OPEN, WRAPPED AROUND THE PIPE, AND SECURED IN PLACE. PROCEED WITH INSTALLATION OF THE NEXT SECTION OF PIPE IN THE SAME MANNER.

PIPE-SHAPED APPURTENANCES:

BEND, REDUCERS, OFFSETS AND OTHER PIPE-SHAPED APPURTENANCES SHALL BE COVERED WITH POLYETHYLENE IN THE SAME MANNER AS THE PIPE.

JUNCTIONS BETWEEN WRAPPED AND UNWRAPPED PIPE:

WHERE POLYETHYLENE WRAPPED PIPE JOINS A PIPE WHICH IS NOT WRAPPED, EXTEND THE POLYETHYLENE TUBE TO COVER THE UNWRAPPED PIPE A DISTANCE OF AT LEAST TWO FEET, SECURE THE END WITH CIRCUMFERENTIAL TURNS OF TAPE.

ODD SHAPED APPURTENANCES:

VALVES, TEES, CROSSES AND OTHER ODD-SHAPED PIECES WHICH CANNOT BE WRAPPED PRACTICALLY IN A TUBE SHALL BE WRAPPED WITH A FLAT SHEET OR SPLIT LENGTH OF POLYETHYLENE TUBE. THE SHEET SHALL BE PASSED UNDER THE APPURTENANCE AND BROUGHT UP AROUND THE BODY. SEAMS SHALL BE MADE BY BRINGING THE EDGES TOGETHER, FOLDING OVER TWICE, AND TAPING DOWN. SLACK WIDTH AND OVERLAPS AT JOINTS SHALL BE HANDLED AS DESCRIBED ABOVE. TAPE POLYETHYLENE SECURELY IN PLACE AT VALVE STEM AND OTHER PENETRATIONS.

OPENINGS IN ENCASEMENT:

OPENINGS FOR BRANCHES, SERVICE TAPS, BLOW-OFFS, AIR VALVES, AND SIMILAR APPURTENANCES SHALL BE MADE BY MAKING AN X-SHAPED CUT IN POLYETHYLENE AND TEMPORARILY FOLDING THE FILM BACK AFTER THE APPURTENANCE IS INSTALLED, TAPE THE SLACK SECURELY TO THE APPURTENANCE AND REPAIR THE CUT, AS WELL AS ANY OTHER DAMAGED AREAS IN THE POLYETHYLENE, WITH TAPE.

BACKFILL FOR POLYETHYLENE WRAPPED PIPE:

BACKFILL MATERIAL SHALL BE THE SAME AS SPECIFIED FOR PIPE WITHOUT POLYETHYLENE WRAPPING, SPECIAL CARE SHOULD BE TAKEN TO PREVENT DAMAGE TO THE POLYETHYLENE WRAPPING WHEN PLACING BACKFILL, BACKFILL MATERIAL SHOULD BE FREE FROM CINDERS, REFUSE, BOULDERS, ROCKS, STONES OR OTHER MATERIAL THAT COULD DAMAGE POLYETHYLENE.

PIPE DIA.	MIN. FLAT TUBE WIDTH (INCHES)
4	16
6	20
8	24
10	27
12	30
16	37
20	45

POLYETHYLENE ENCASEMENT FOR GRAY & DUCTILE IRON PIPE

TYPICAL BACKFILL REQUIREMENTS

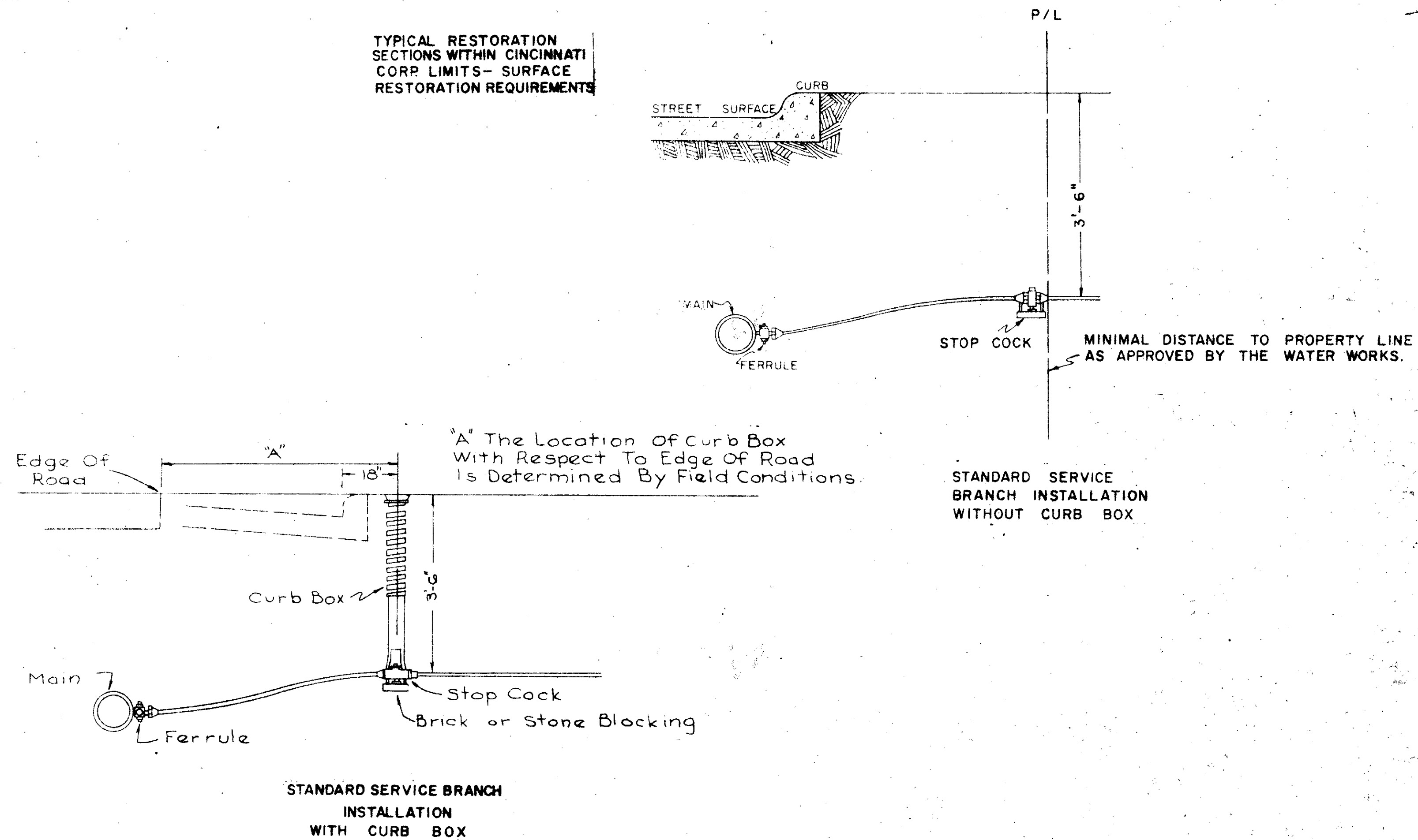
Restoration Class	TYPICAL RESTORATION SECTIONS	Backfill	BACKFILL CROSS SECTION	METHOD DESIGNATION	FOR NOMINAL PIPE SIZES	PIPE AREA	BALANCE OF BACKFILL
8-A OTHER THAN PAVED AREA DITCH LESS THAN 2'0" FROM THE ROADWAY ALSO STREET UNDER CONSTRUCTION OR PROPOSED CONSTRUCTION.	Less Than 2' Restore Surface to Original Condition Or Better NOTE: 8-A Will Apply Only When The Requirements Of Restoration Classes 11-A & 11-B Have Been Waived By The Department Of Public Works.	A		A	UNDER 12"	EMBEDMENT MATERIAL	BACKFILL GRAVEL
8-B UNIMPROVED.	Over 2' Restore Surface To Original Condition Or Better.	A or B		B	UNDER 12"	EMBEDMENT MATERIAL	COARSE FILL
9 SODDED AREAS	Ex. Sod 3" Sod 3" Top Soil	A or B		B	12" & 16"	EMBEDMENT MATERIAL	COARSE FILL
11-AB11-B OTHER THAN PAVED AREA DITCH LESS THAN 2'0" FROM THE ROADWAY.	Less Than 2' 1-1/2" T-35C Mat or Cold 3" Gravel or Chips Coarse Aggregate 2" to 4" In Size 2-5" Course. 2-4" Courses Water Bound Macadam Base Course	A		A	20" & OVER	EMBEDMENT MATERIAL	BACKFILL GRAVEL

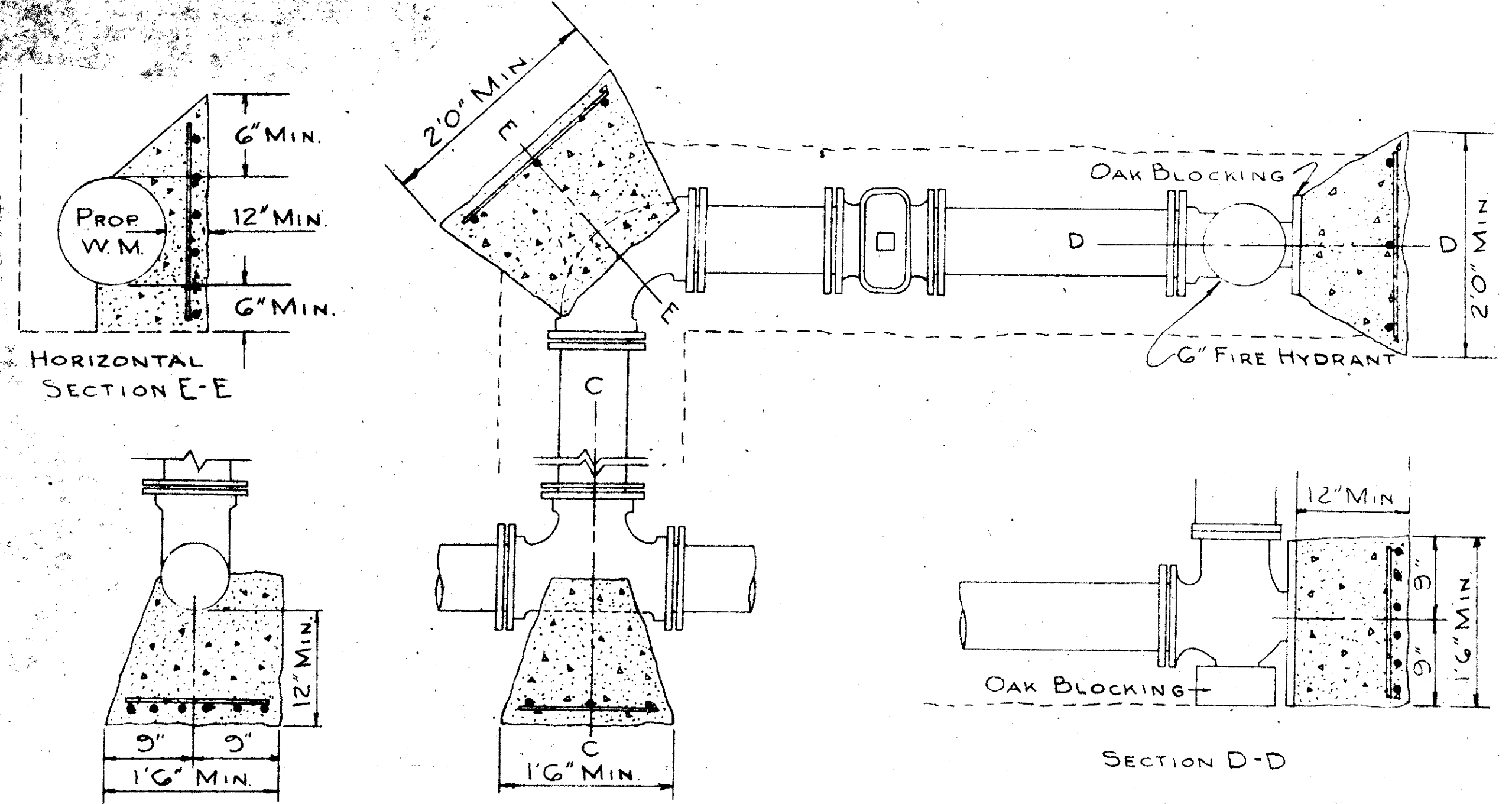
TYPICAL RESTORATION SECTIONS WITHIN CINCINNATI CORP. LIMITS. SURFACE RESTORATION AND BACKFILL REQUIREMENTS

CALC. EPH DATE 4-2-82
 CHKD. ORS DATE 4-2-82

Restoration Class	TYPICAL RESTORATION SECTIONS	Backfill	Restoration Class	TYPICAL RESTORATION SECTIONS	Backfill
1-R CONCRETE ROADWAY	3" Min Saw Cut Both Edges Class C Conc. With Road Mesh Ex. Conc. Rd.	A	4-R BITUMINOUS ON STONE BASE OR SURFACE TREATED OR OILED MACADAM STREET OR DRIVE.	Saw Cut Mac. Both Edges 1 1/2" Type 404 Asphalt Concrete Ex. Mac. Coarse Aggregate 2" to 4" In Size 2-5" Courses.	A
1-D CONCRETE DRIVE	REPLACE ENTIRE BLOCK 3" Min Saw Cut Both Edges Class C Conc. With Road Mesh Ex. Rd. Ex. Conc. Rd. Edge Of Road	A	5-R LOW TYPE PAVEMENT PLAIN MAG ADAM GRAVEL ETC NOT TREATED OR OILED. 5-D GRAVEL SURFACE DRIVE	R. Restore Surface And Base Course, If Any, To Original Condition Or Better. Ex. Pav't. Asphalt Shingle Water Bound Macadam, Gravel, Etc. D. 3" Gravel Or Chips 2-4" Courses Water Bound Macadam Base Course	A
2 BRICK OR BLOCK PAVEMENT	1 1/2" Binder Course 1" Asphalt Wearing Surface Sand Cushion 4" Class C Conc. Base Ex. Surface Ex. Base	A	6 SIDE WALKS OF CEMENT, BRICK FLAGSTONE ETC.	Replace Entire Block 5" Concrete Walk Class "C" Concrete	A
3 ASPHALT OR OTHER BITUMINOUS PAVEMENTS ON CONCRETE ETC. BASE OR MACHINE PAVED BITUMINOUS PAVEMENT.	Saw Cut Both Edges Of Asphalt 1 1/2" Compacted Bituminous Binder 1" Sheet Asphalt Class "C" Concrete	A	7 CONCRETE BASE ONLY OR ANY SIMILAR MATERIAL USED AS A BASE INCIDENT TO THE RESURFACING OF A STREET UNDER CONTRACT OR BY CITY FORCES.	Saw Cut Both Edges Of Asphalt Class "C" Conc.	A

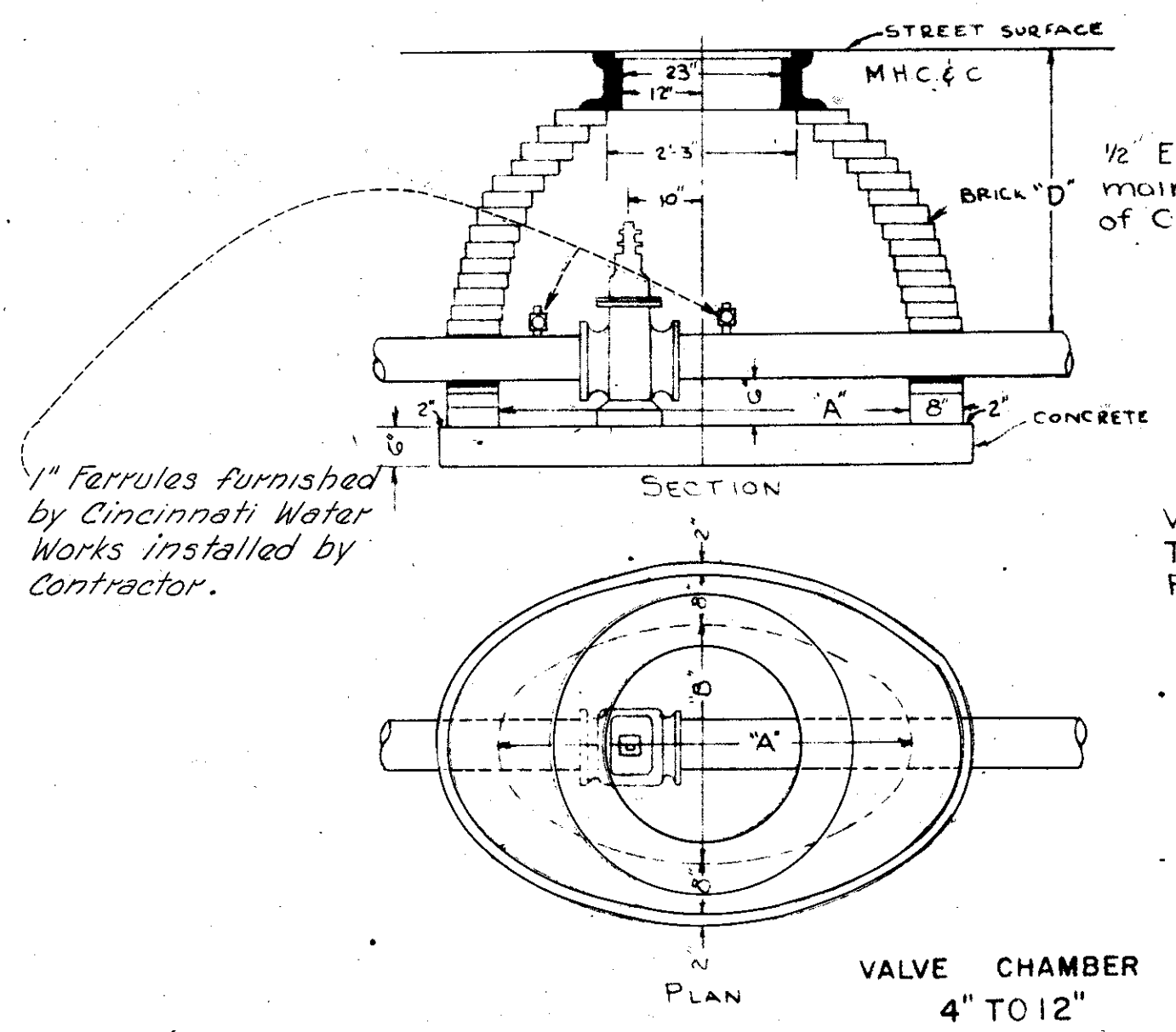
TYPICAL RESTORATION SECTIONS WITHIN CINCINNATI CORP. LIMITS- SURFACE RESTORATION REQUIREMENTS





Note:
Refer to Standard Drawing "Typical Blocking Detail Cast Iron Tees for placement of reinforcing steel in all blocking shown on this sheet.
Note:
Concrete blocking to be poured against undisturbed earth on the thrust side.

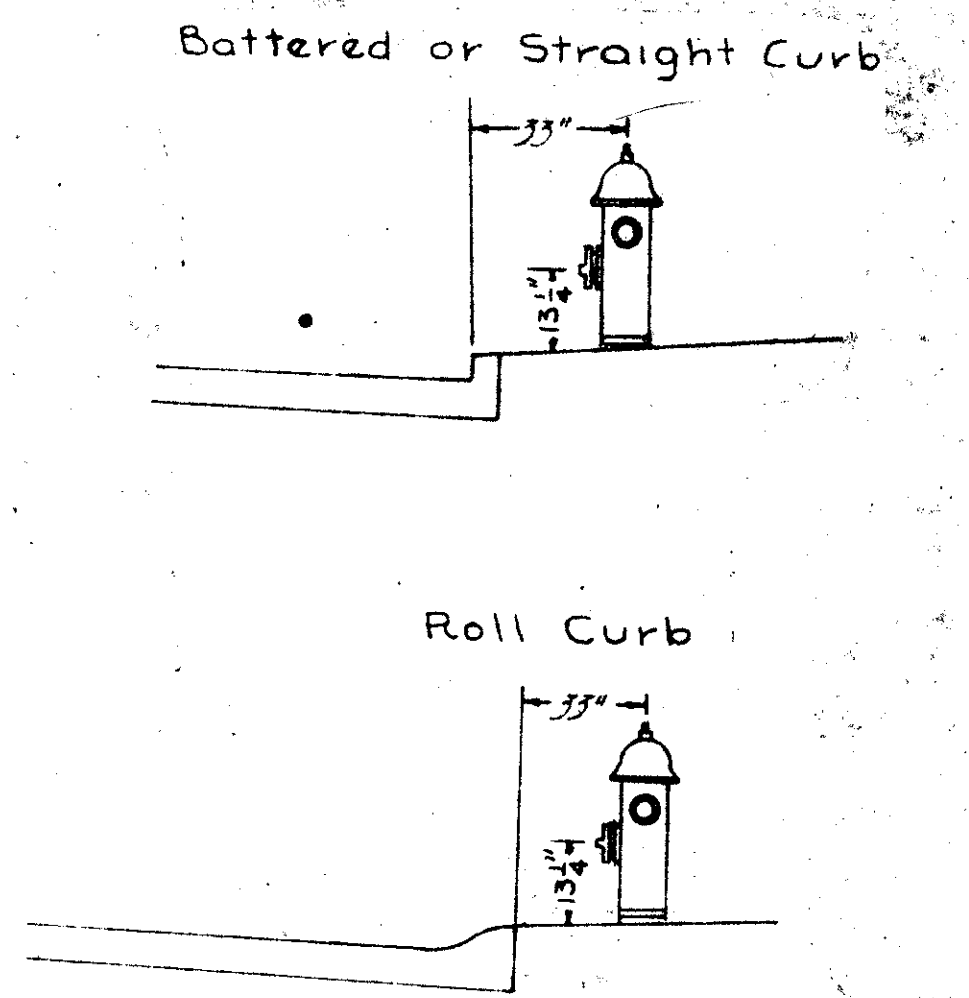
TYPICAL CONC. BLOCKING FOR FIRE HYDRANT SETTING



1/2" Expansion Felt around main the full thickness of Chamber wall

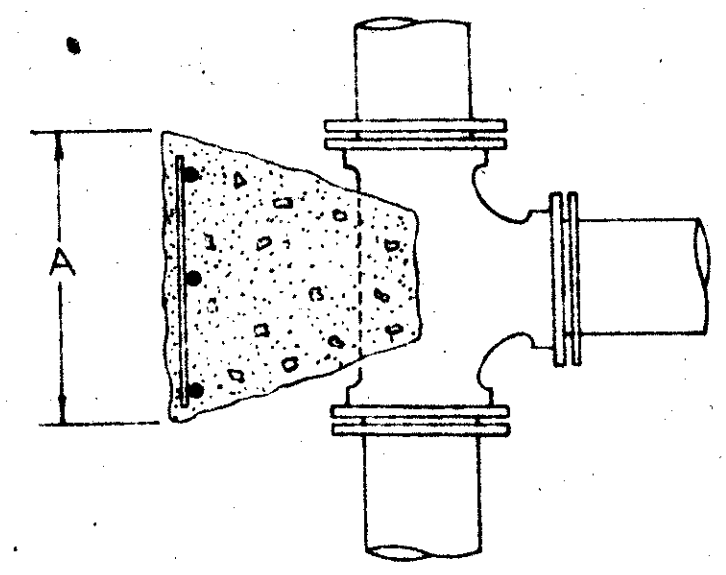
SIZE OF VALVE	A	B	D	CONC. CU. YDS.	BRICK CU. YDS.
4"-6"	8"	5'-0"	3'-0"	0.5	1.3
10"-12"	5'-0"	4'-0"	3'-6"	0.6	1.6

WHEN "D" DISTANCE IS GREATER THAN 3'-0" THE CONTRACTOR WILL BE COMPENSATED FOR ADDITIONAL BRICKWORK UNDER ITEM #G02.



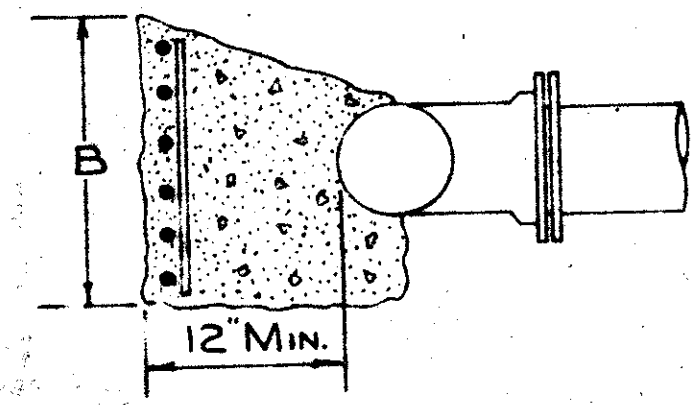
No Part Of Any Fire Hydrant Setting Shall Be Closer Than Five (5'-0") Ft. To Any Drive Way, Sewer Inlet, Utility Pole, Or Anchor Wire.

FIRE HYDRANT SETTING MEASUREMENTS



CONC. BLOCK TO BE POURED AGAINST SOLID GROUND.

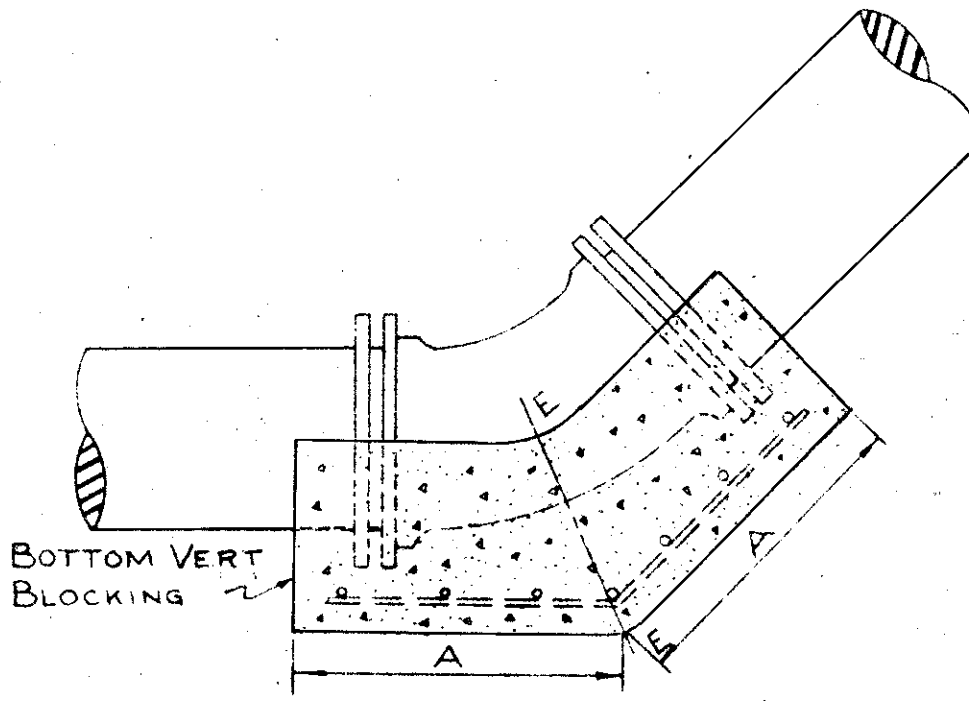
3/4" REINFORCING BARS TO BE PLACED ON THRUST SIDE 6" O.C.



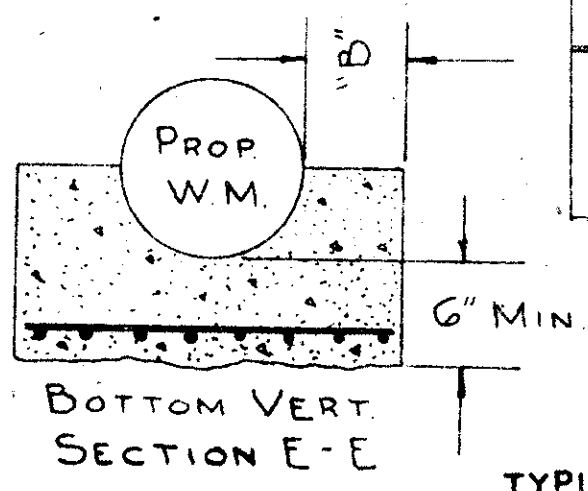
TYPICAL BLOCKING DETAIL CAST IRON TEES

FOR ESTIMATING ONLY

SIZE	RUN	BRANCH	125 TO 200 P.S.I.		CU. YDS. CONC.	LBS. STEEL
			A	B		
6"	6"	6"	2'-0"	2'-0"	0.2	21
8"	6"	6"	2'-0"	2'-0"	0.2	21
8"	8"	8"	3'-0"	2'-3"	0.2	32



3/4" REINFORCING BARS TO BE PLACED ON THRUST SIDE 6" O.C.



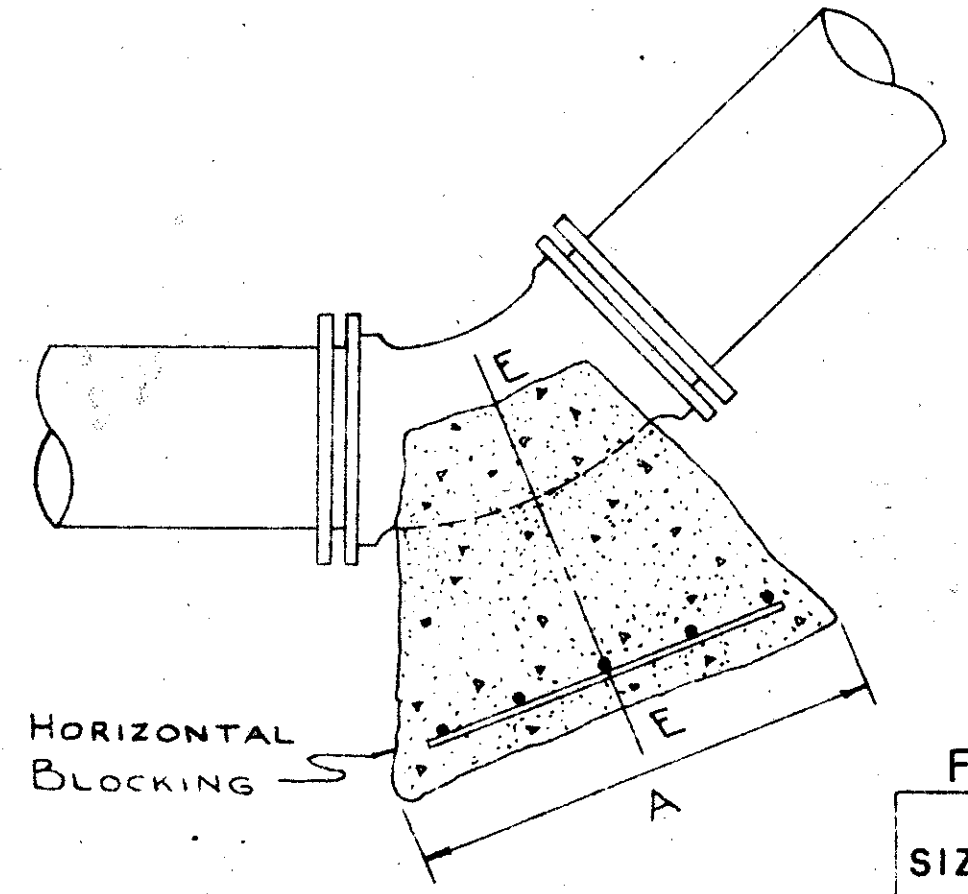
TYPICAL BLOCKING DETAIL CAST IRON BENDS BOTTOM VERTICAL

FOR ESTIMATING ONLY

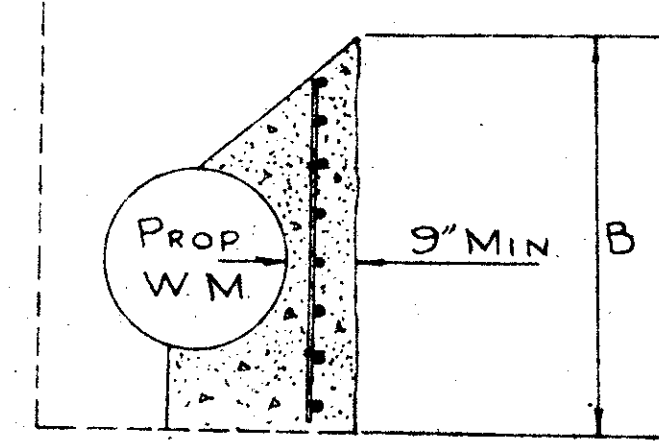
SIZE	DEGREE BEND	125 TO 200 P.S.I.		CU. YDS. CONC.	LBS. STEEL
		A	B		
8"	11 1/4	1'-0"	0'-6"	0.1	20
	22 1/2	1'-0"	0'-6"	0.1	20
	45	1'-6"	0'-6"	0.2	30

Note:
Pressure ranges as shown are operating pressures. Concrete and steel quantities are calculated using operating pressure plus 50 P.S.I.

Note:
Concrete blocking to be poured against undisturbed earth on the thrust side.



3/4" REINFORCING BARS TO BE PLACED ON THRUST SIDE 6" O.C.



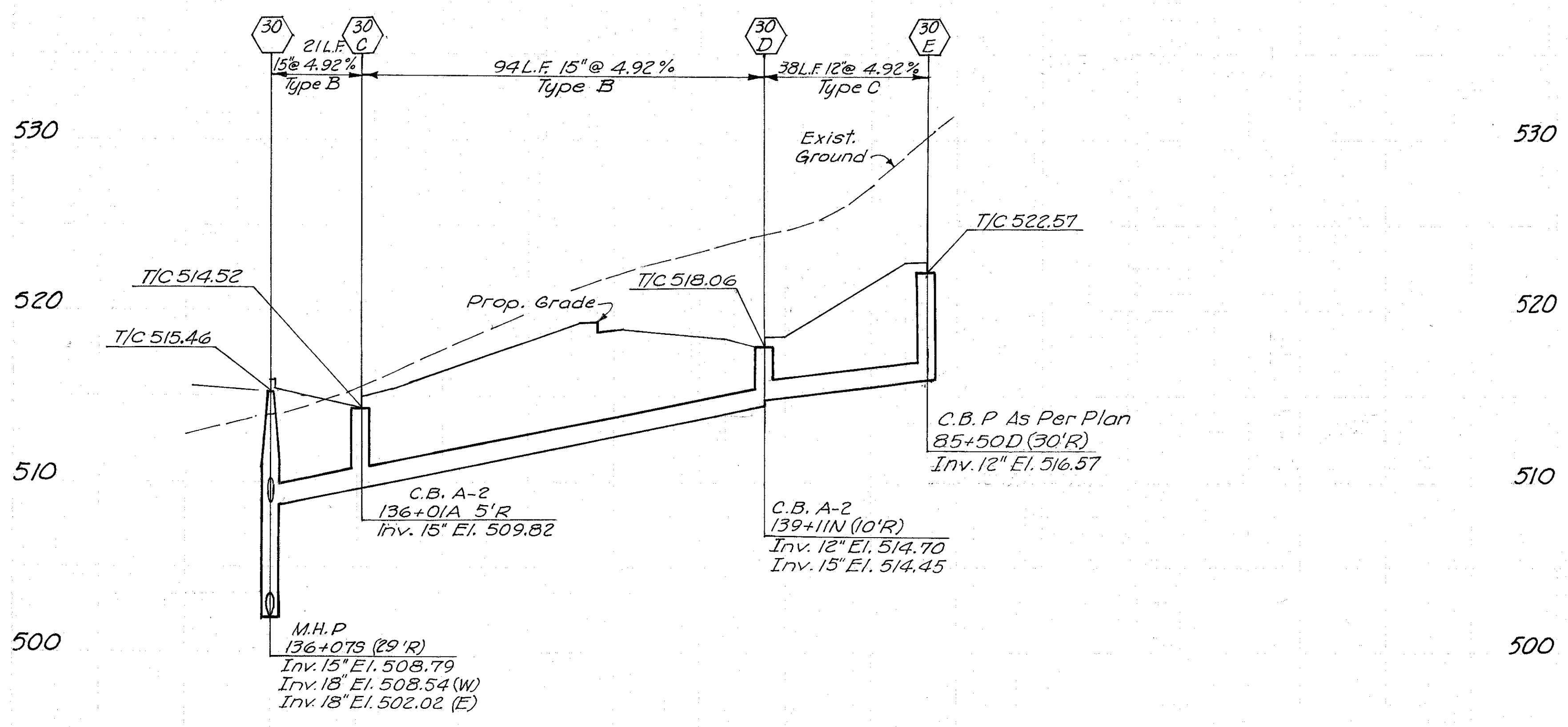
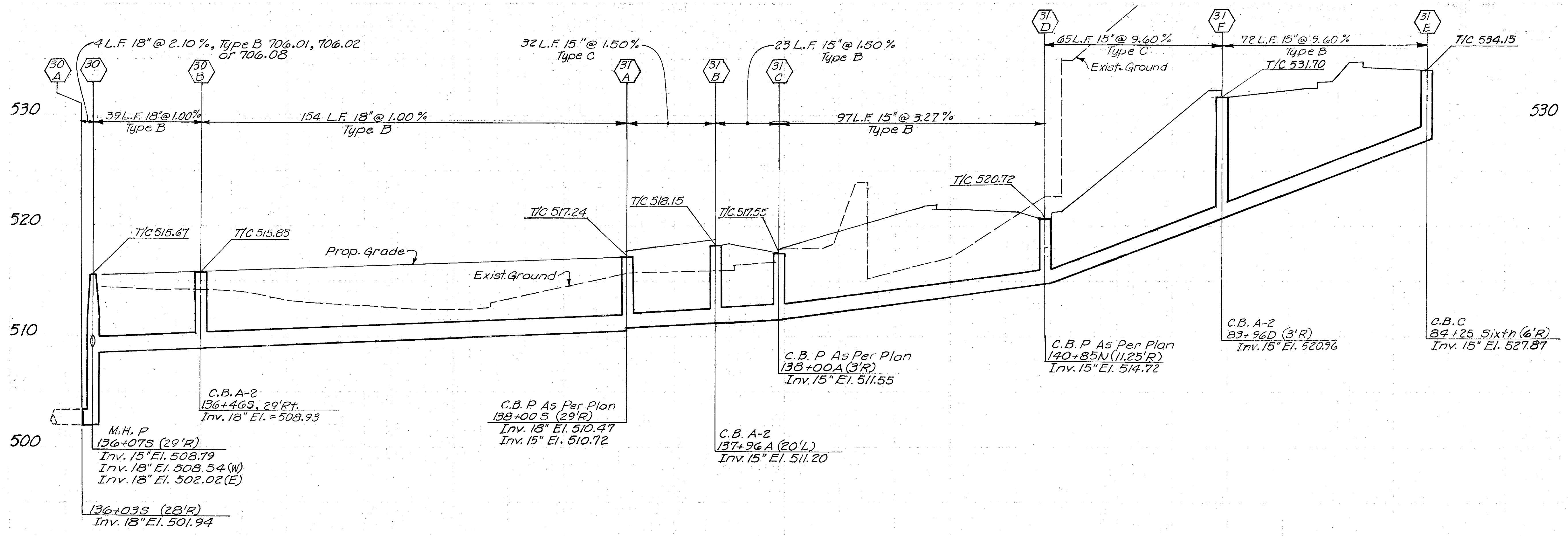
HORIZONTAL SECTION E-E

TYPICAL BLOCKING DETAIL CAST IRON BENDS HORIZONTAL

FOR ESTIMATING ONLY

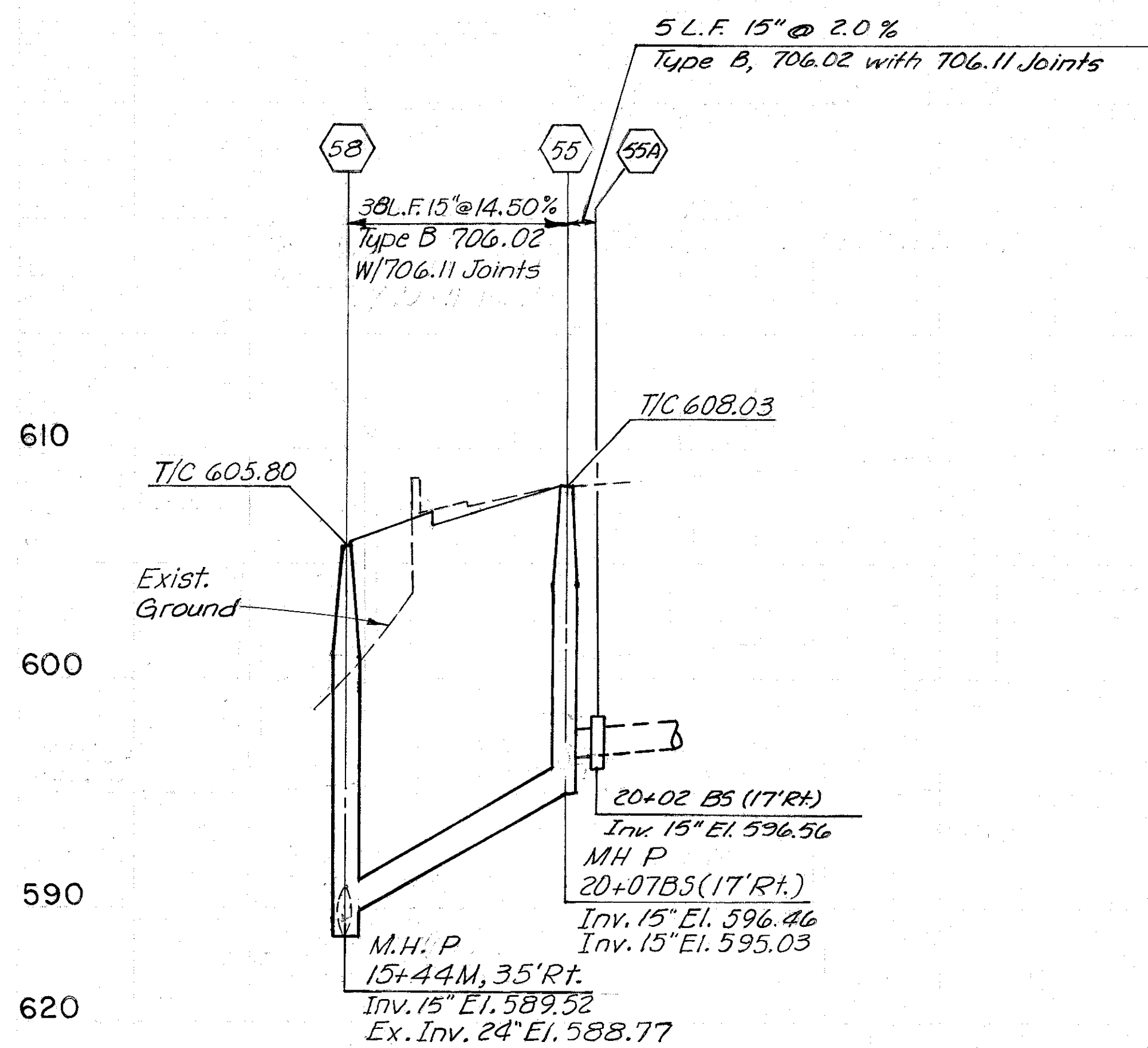
SIZE	DEGREE BEND	125 TO 200 P.S.I.		CU. YDS. CONC.	LBS. STEEL
		A	B		
8"	11 1/4	1'-6"	1'-9"	0.1	17
	22 1/2	1'-6"	1'-9"	0.1	17
6"	45	2'-6"	2'-0"	0.2	24
6"	45	1'-6"	1'-6"	0.1	14

CALC. DRS DATE 4-2-82
CHKD. DRS DATE 4-2-82

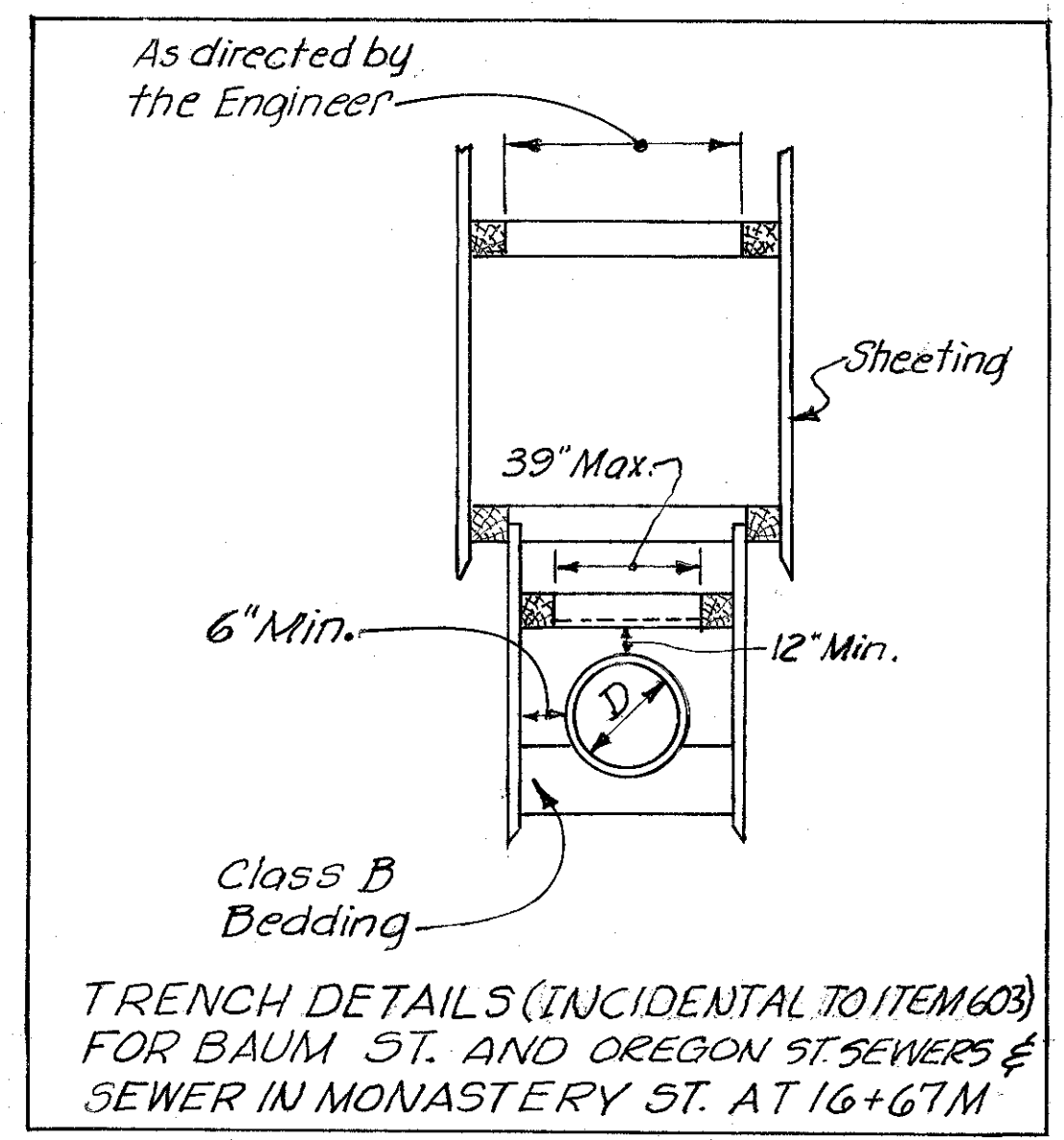


For Plan of Sewers, See Sheet 35#36

SEWER PROFILES

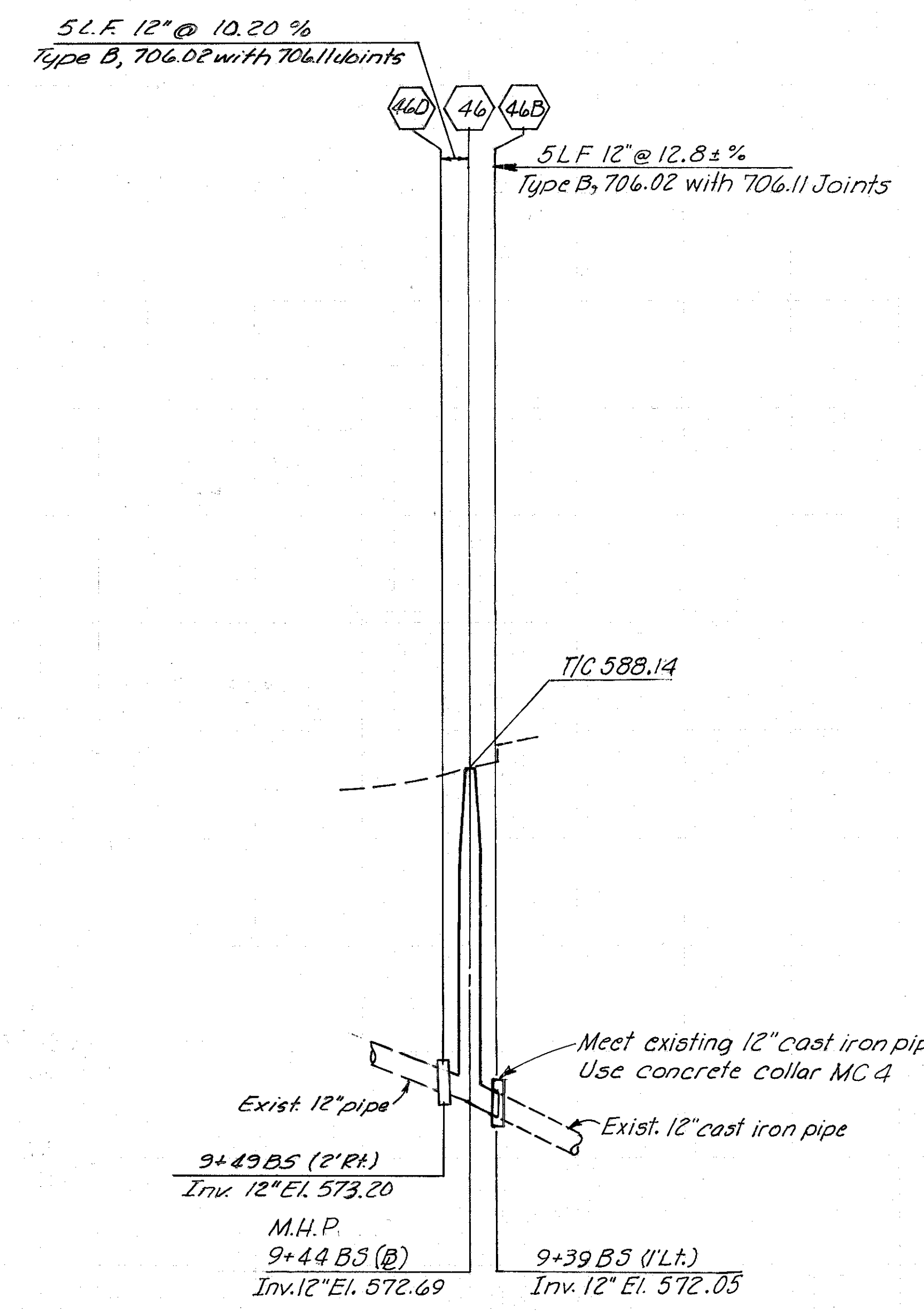


610
600
590
620
610
600
590
580
570



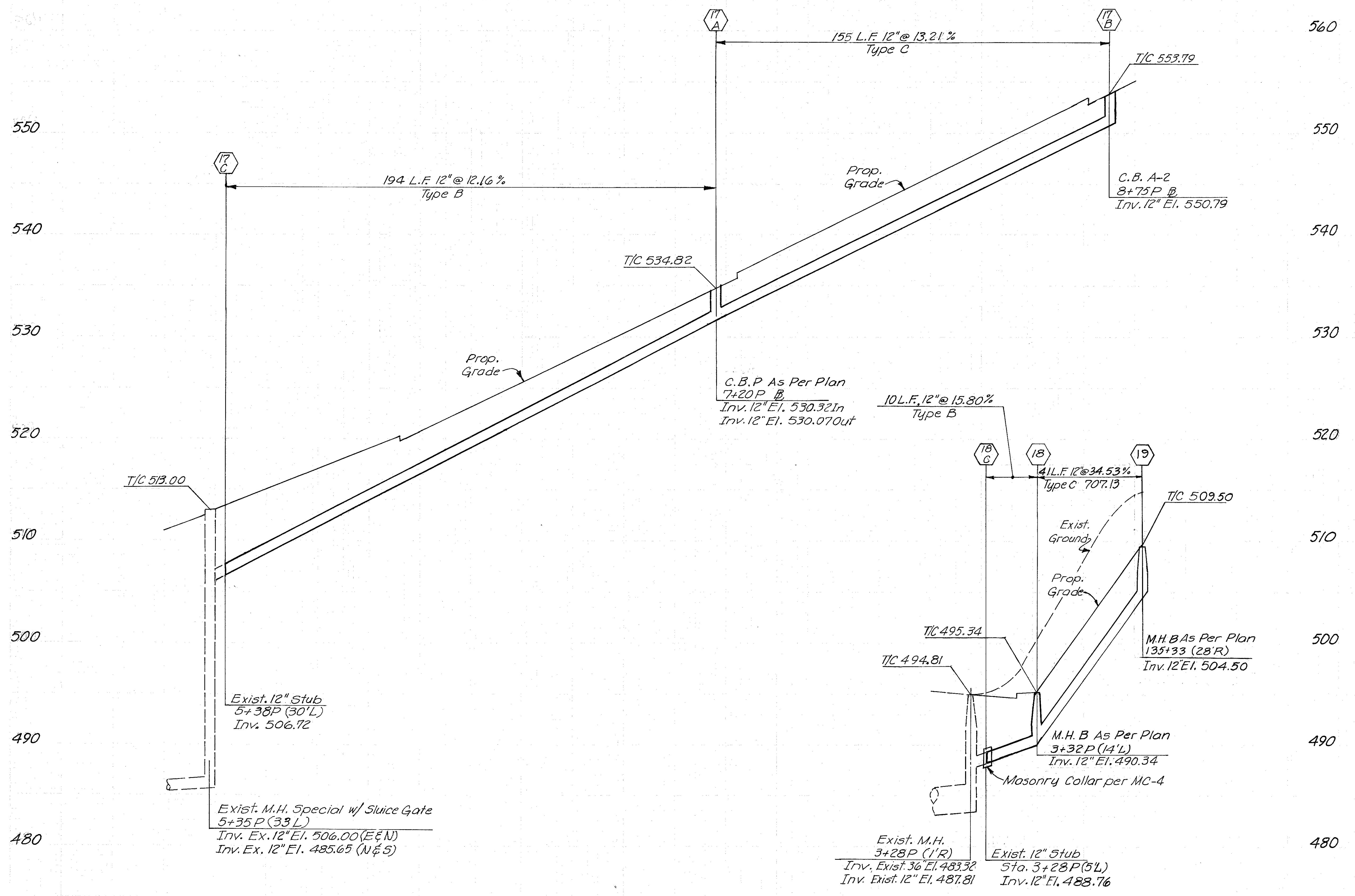
TRENCH DETAILS (INCIDENTAL TO ITEM 603)
FOR BAUM ST. AND OREGON ST. SEWERS &
SEWER IN MONASTERY ST. AT 16+67M

Note: All excavation for the sewers, including manholes, in Baum St., Oregon St. and Monastery St. shall be done in sheeted and braced trench. Trench to be sheeted and braced (incidental to Item 603). All items in Baum St., Oregon St. and Monastery St. are As Per Plan. No trench shall be left open overnight, but shall be filled at the end of each workday.



620
610
600
590
580
570

For Plan of Sewers, see Sheet 36, 39 & 40.



For Plan of Sewers, See Sheet 34 & 39.

SEWER PROFILES

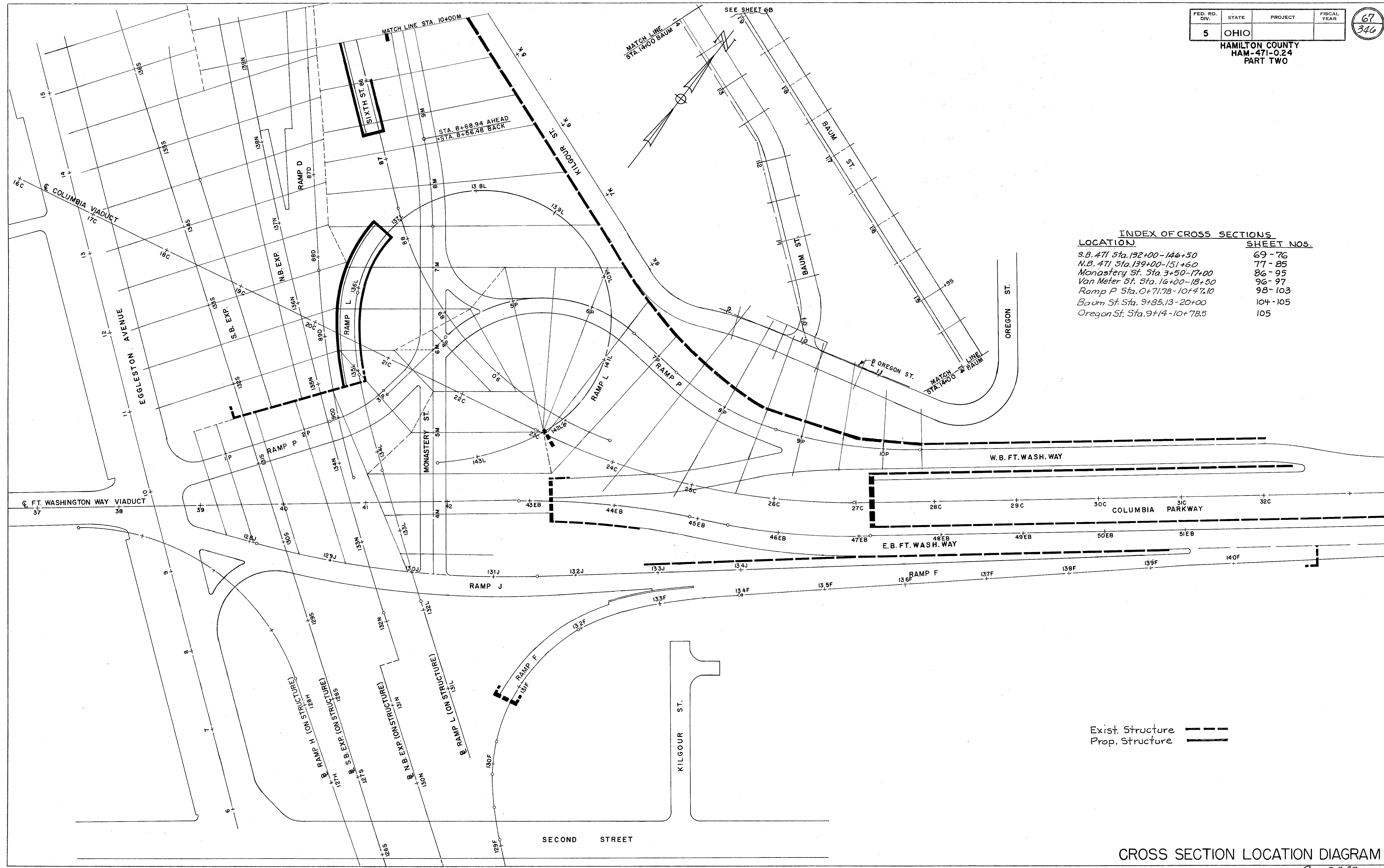
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

67
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

INDEX OF CROSS SECTIONS

LOCATION	SHEET NOS.
S.B. 471 Sta. 132+00-146+50	69-76
N.B. 471 Sta. 139+00-151+60	77-85
Monastery St. Sta. 3+50-17+00	86-95
Van Meter St. Sta. 16+00-18+50	96-97
Ramp P Sta. 0+71.78-10+47.10	98-103
Baum St. Sta. 9+85.13-20+00	104-105
Oregon St. Sta. 9+14-10+78.5	105



CROSS SECTION LOCATION DIAGRAM

Rev. 9-9-82

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

68
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

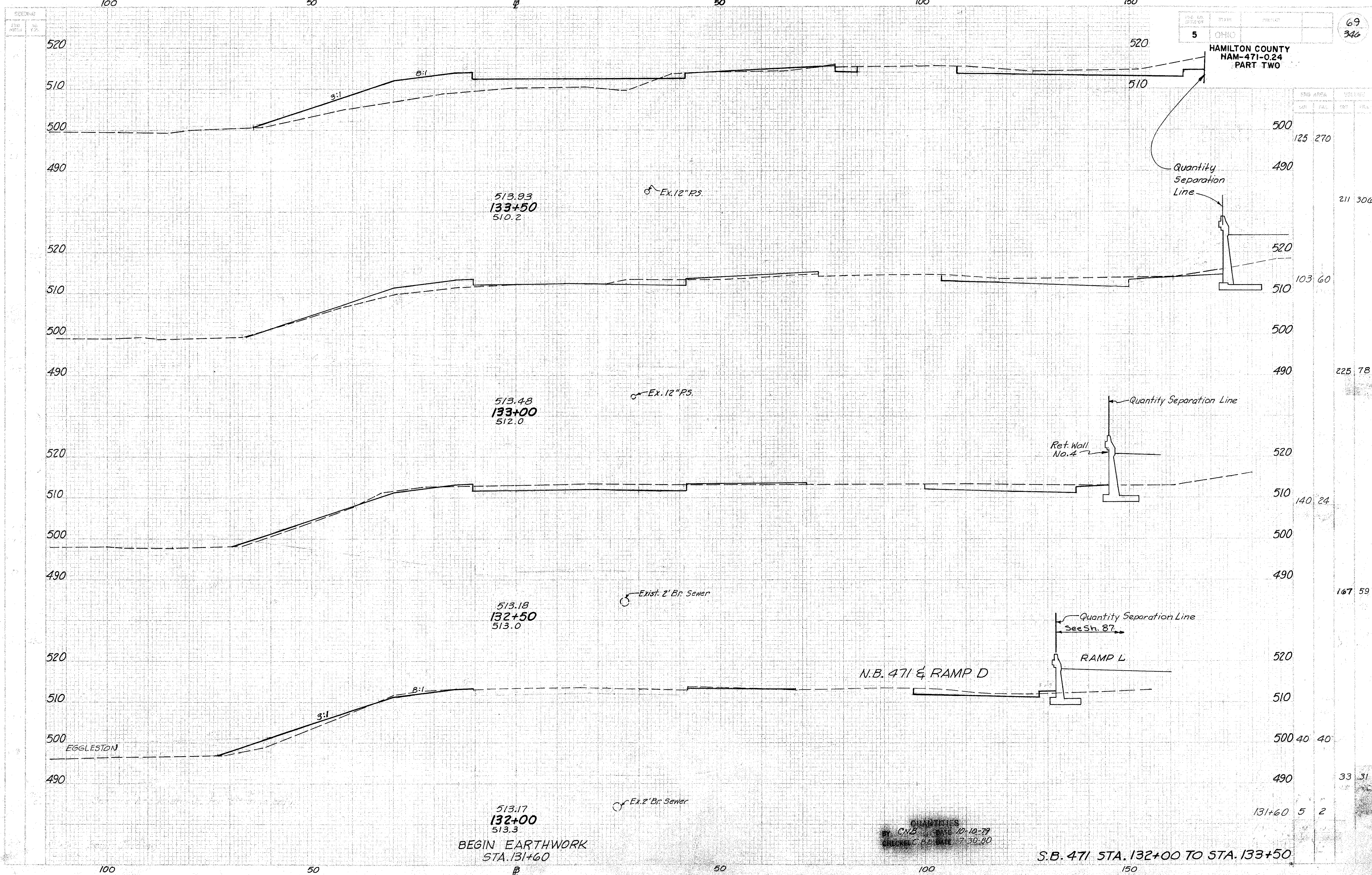


CROSS SECTION LOCATION DIAGRAM

Rev. 9-9-82

HAMILTON COUNTY
HAM-471-0.24
PART TWO

End Areas
Volume Calc.
Volume Chkd.



EMB. AREA		VOL. (CU YD)	
CUT	FILL	CUT	FILL
125	270		
		211	306
103	60		
		225	78
		140	24
		167	59
		500	40
		490	33
		131+60	5
			2

BEGIN EARTHWORK
STA. 131+60

QUANTITIES
BY C.N.B. DATE 10-10-79
CHECKED C.P.B. DATE 7-30-80

S.B. 471 STA. 132+00 TO STA. 133+50

100

50

E

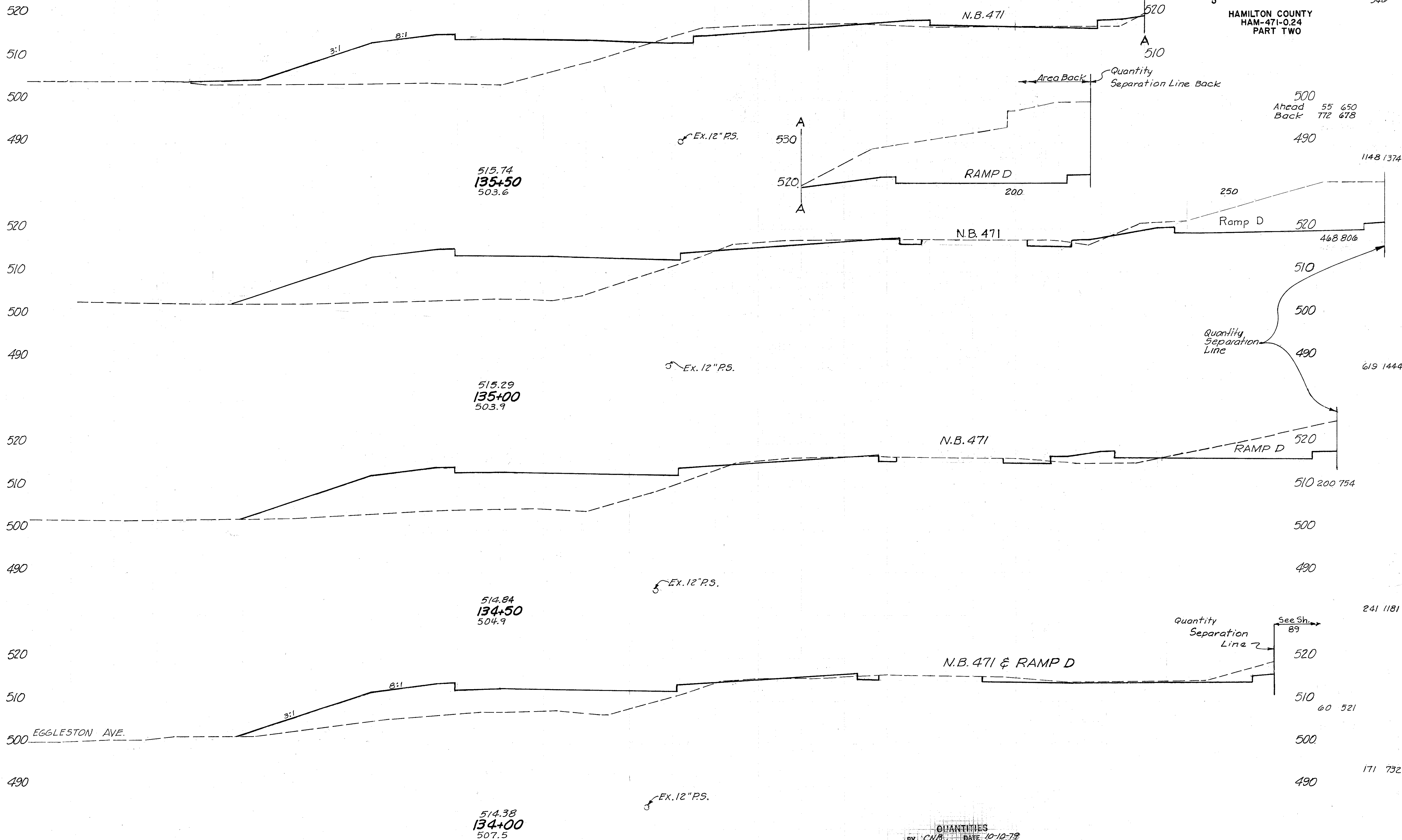
50

100

150

70
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



End Areas
Volume Calc.
Volume chkd.

500
Ahead 55 650
Back 772 678

1148 1374

619 1444

510 200 754

241 1181

171 732

125 270

QUANTITIES
BY: C.N.B. DATE: 10-10-78
CHECKED: C.B.B. DATE: 7-30-80

S.B. 471 STA. 134+00 TO STA. 135+50
150

100

50

E

50

100

150

100

50

E

50

100

150

5

HAMILTON COUNTY
HAM-471-0.24
PART TWO

71
346

530

520

510

500

530

520

510

500

530

520

510

500

520

510

500

530

520

510

500

530

520

510

500

530

520

510

500

520

510

500

517.54
137+50
510.2

517.09
137+00
511.8

516.64
136+50
512.9

516.19
136+00
511.8

RAMP A

Ex. 12" P.S.

Ex. 8" P.S.

Ex. 8" P.S.

Ex. 8" P.S.

Quantity Separation Line

Quantity Separation Line

see Str. 77

EGGLESTON AVE.

4%

3:1

8:1

End Areas
Volume Calc.
Volume CKD.

QUANTITIES
CNB DATE 10-10-79
CHECKED C.B.B. DATE 7-30-80

S.B. 471 STA. 136+00 TO STA. 137+50 55 650
150

100

50

E

50

100

100

50

B

50

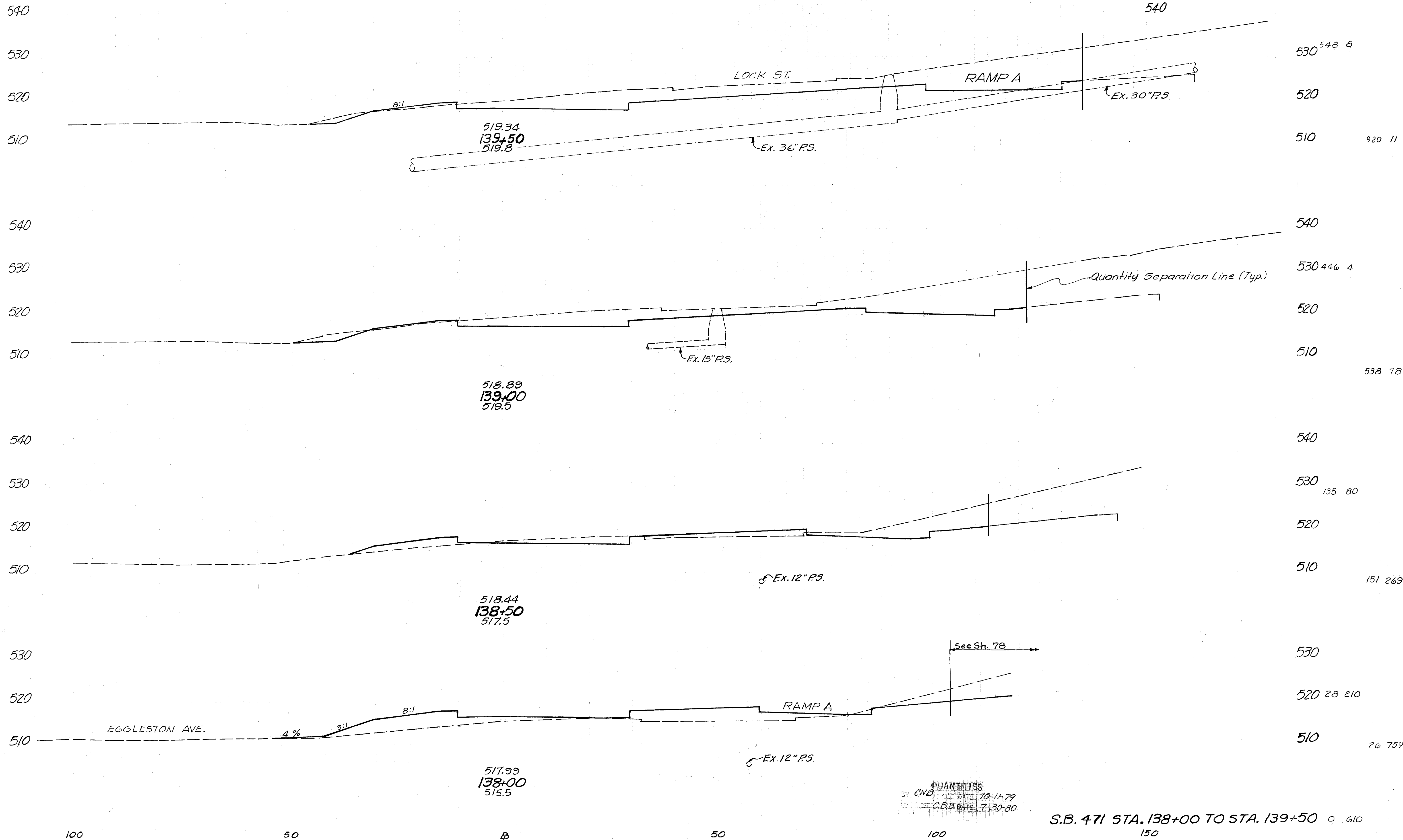
100

150

72
346

5

HAMILTON COUNTY
HAM-471-0.24
PART TWO



End Area
Volume Calc.
Volume Chkd.

QUANTITIES
BY: CNB DATE: 10-11-79
CHECKED: C.B.B. DATE: 7-30-80

S.B. 471 STA. 138+00 TO STA. 139+50 0 610
150

100

50

B

50

100

100

50

±

50

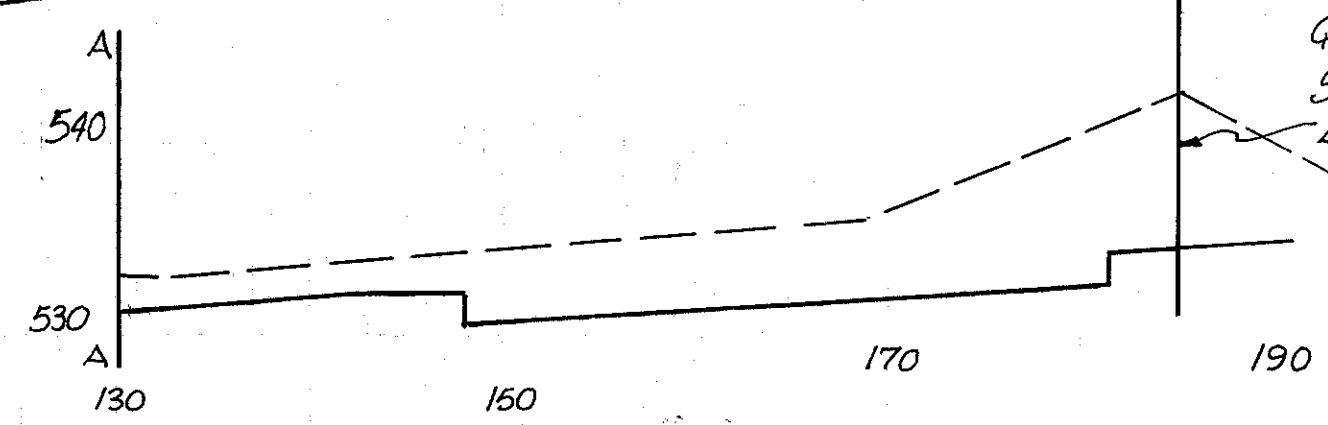
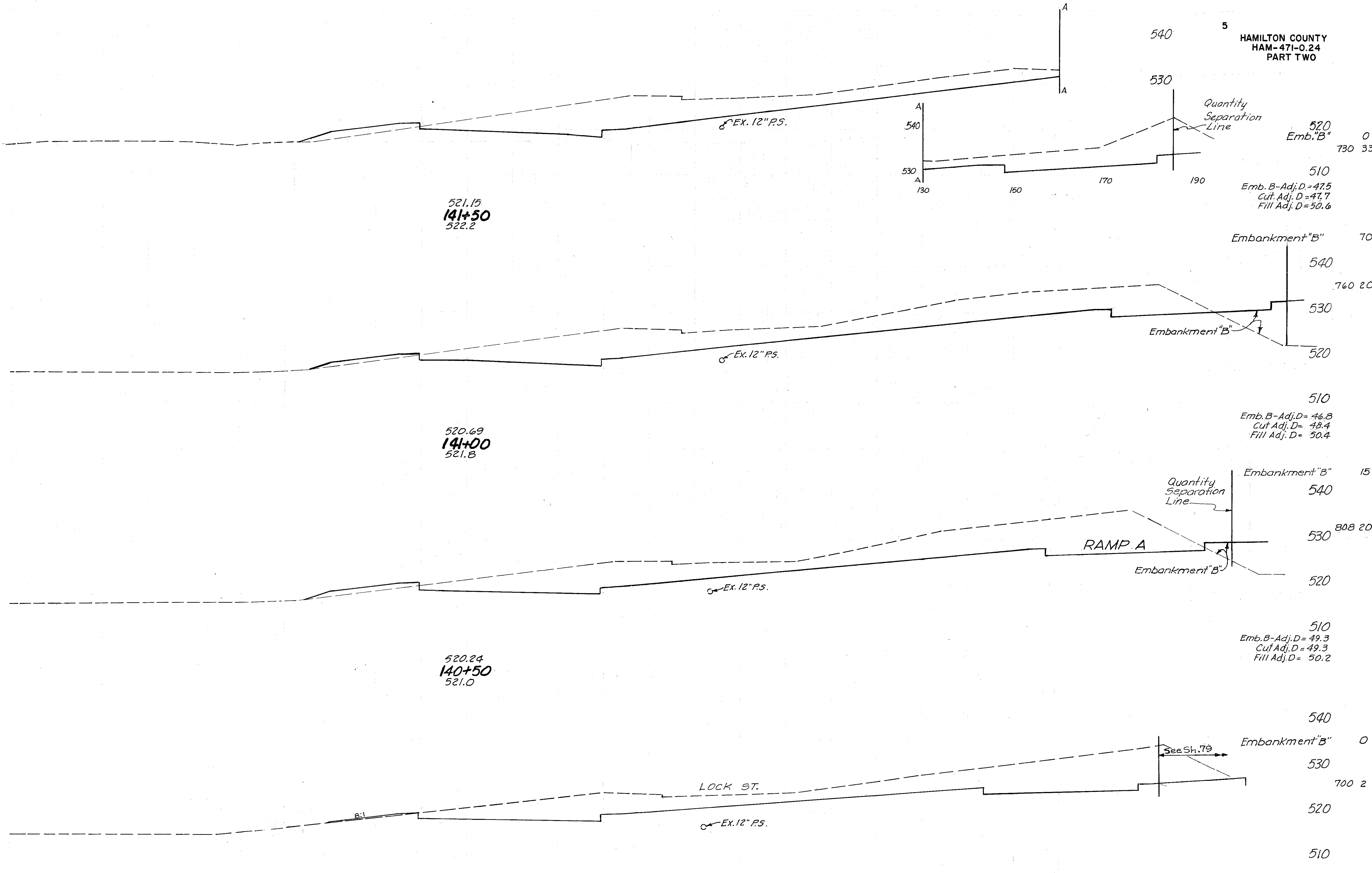
100

150

73
346

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

540
530
520
510
540
530
520
510
540
530
520
510
540
530
520
510



521.15
141+50
522.2

Emb. "B"
520 0
730 33
510
Emb. B-Adj. D=47.5
Cut. Adj. D=47.7
Fill Adj. D=50.6
1316 62
50

520.69
141+00
521.8

Embankment "B"
540 70
530 760 20
520

520.24
140+50
521.0

510
Emb. B-Adj. D=46.8
Cut Adj. D=48.4
Fill Adj. D=50.4
1405 74
37

519.79
140+00
521.0

Embankment "B"
540 15
530 808 20
520

510
Emb. B-Adj. D=49.3
Cut Adj. D=49.3
Fill Adj. D=50.2
1376 14
20

Embankment "B"
540 0
530 700 2
520

End Areas
Volume Calc.
Volume Chkd.

QUANTITIES
BY: C.N.B. DATE: 10-11-79
CHECKED: C.B.B. DATE: 8-01-80

S.B. 471 STA. 140+00 TO STA. 141+50 548 8

100

50

±

50

100

150

100

50

B

50

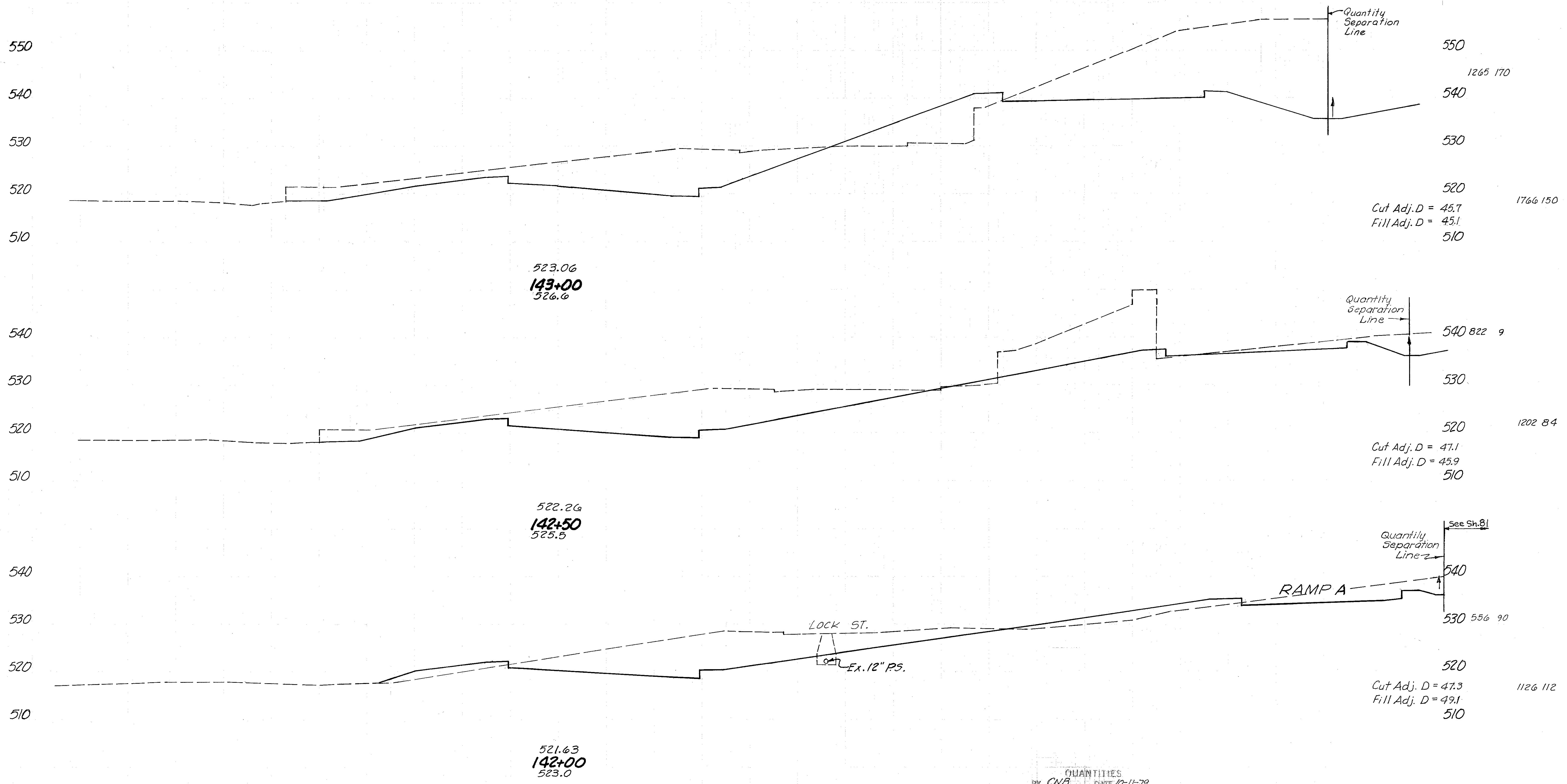
100

150

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

74
346

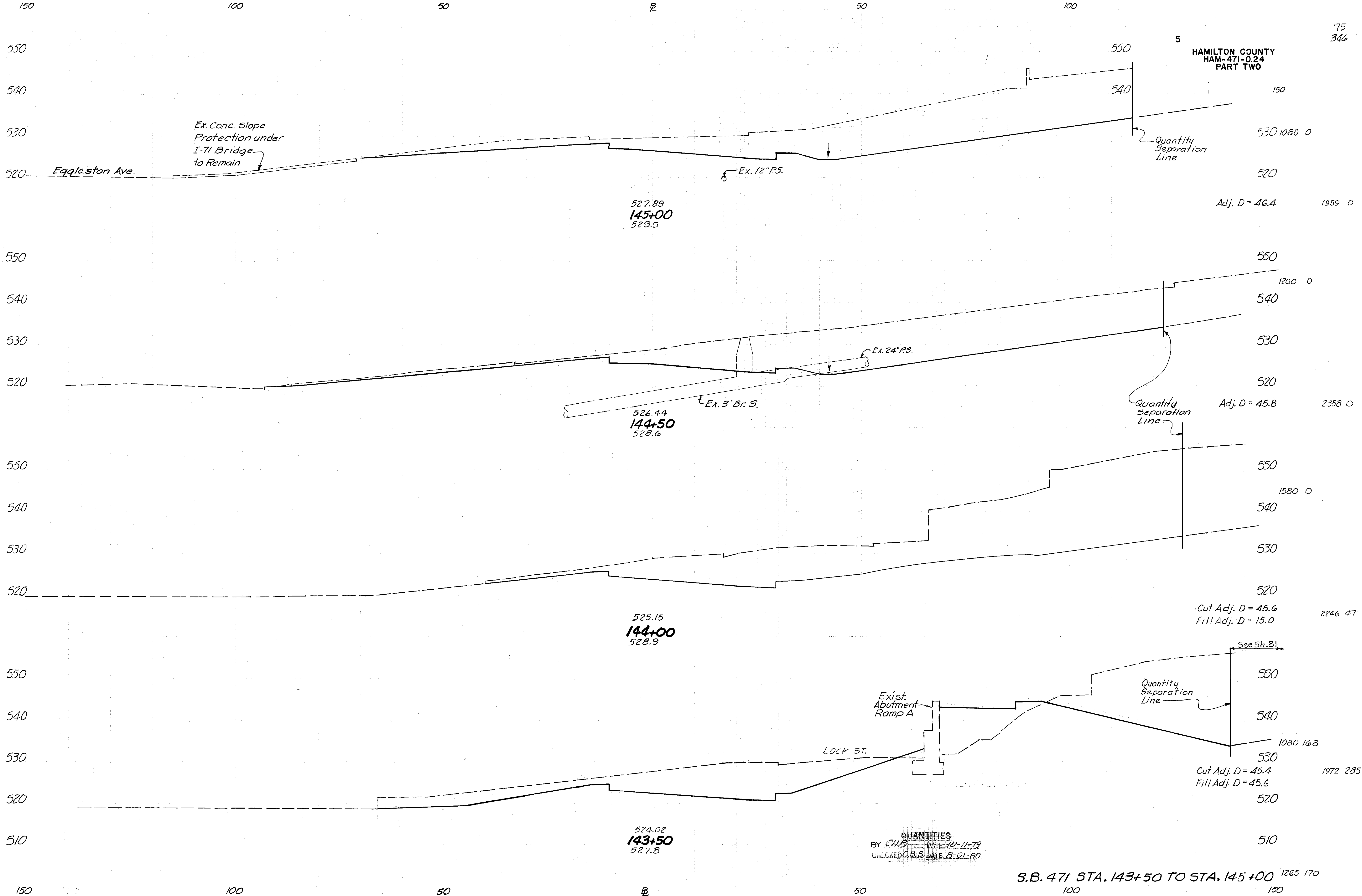
End Areas
Volume Calc.
Volume Chkd.



QUANTITIES
BY CNB DATE 10-11-79
CHECKED C.B.B. DATE 8-01-80

S.B. 471 STA. 142+00 TO STA. 143+00 730 33

HAMILTON COUNTY
HAM-471-0.24
PART TWO



End Areas
Vol. Calc.
Vol. Chkd.

QUANTITIES
BY CWS DATE 10-11-79
CHECKED C.B.B. DATE 8-21-80

S.B. 471 STA. 143+50 TO STA. 145+00 1265 170

75
346

1959 0

2358 0

2246 47

1972 285

Station	Ground Elevation	Proposed Elevation	Notes	Quantity
143+50	527.89	529.5	Ex. 12" P.S.	1959 0
144+00	526.44	528.6	Ex. 3' Br. S.	2358 0
144+00	525.15	528.9	Ex. 24" P.S.	2246 47
143+50	524.02	527.8	Exist. Abutment Ramp A	1972 285

150

100

50

±

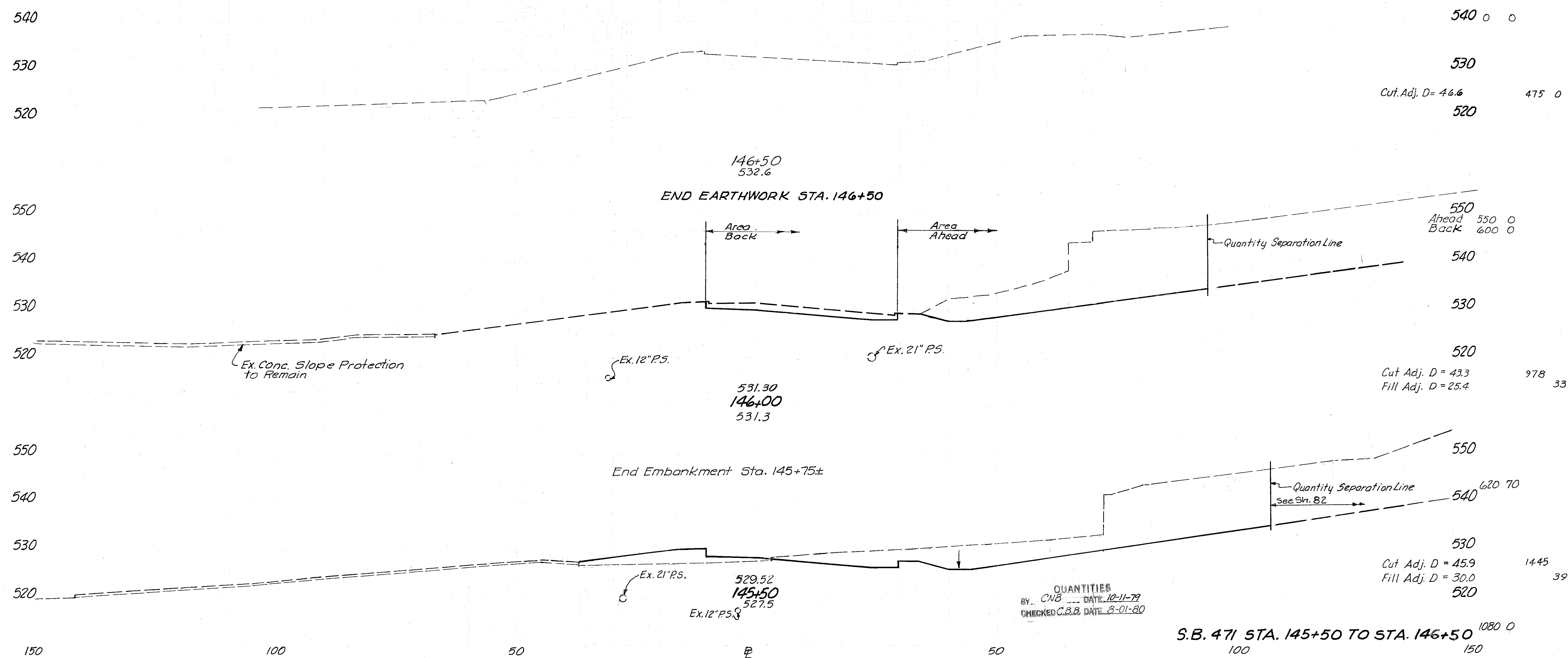
50

100

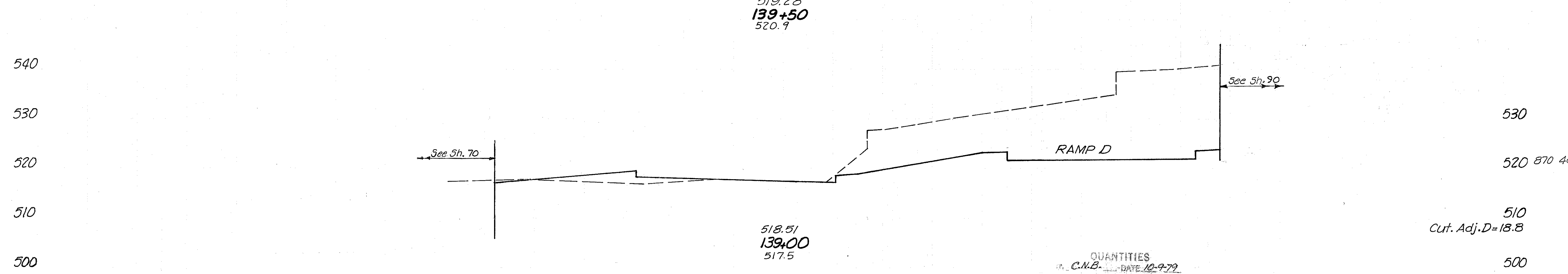
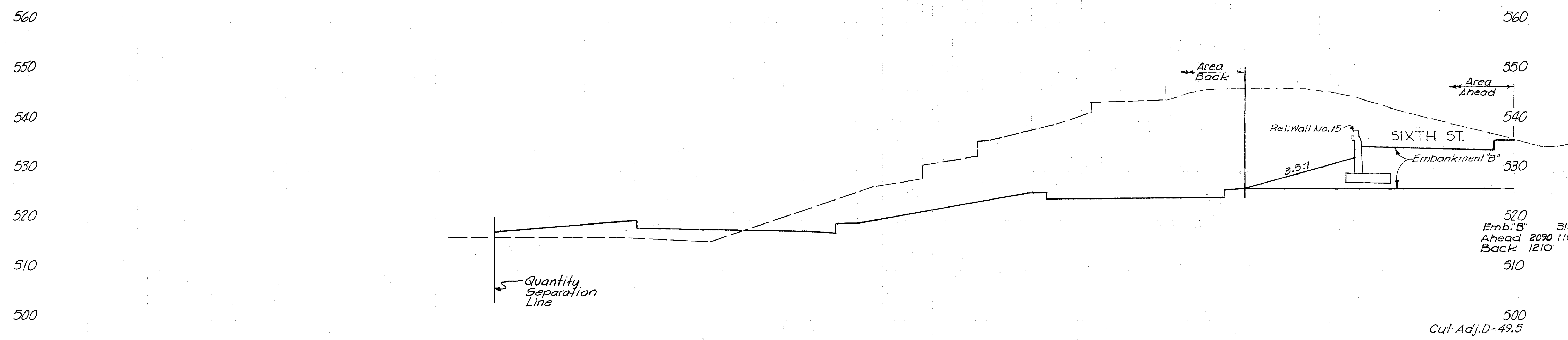
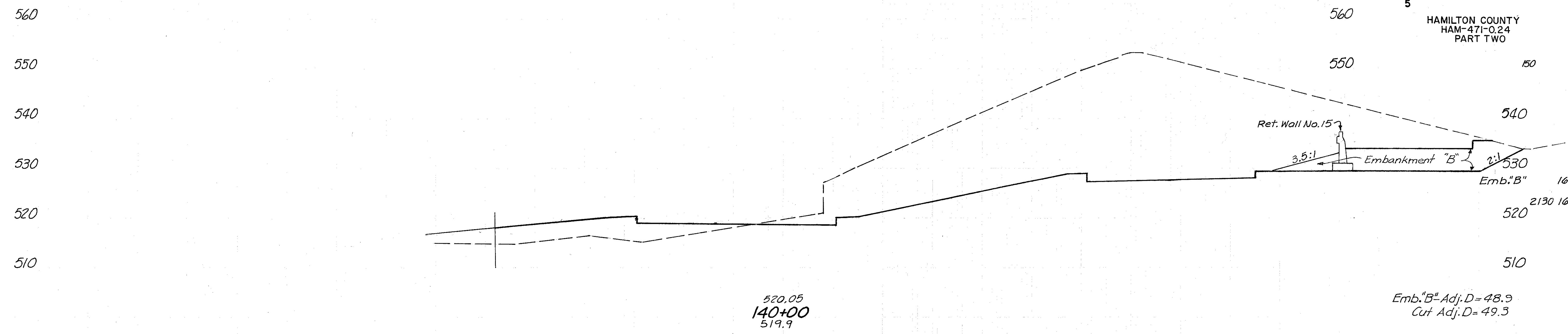
5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

76
346

150



End Areas
Volume Calc.
Volume Chkd.



QUANTITIES
C.N.B. DATE 10-9-79
CHECKED C.B.B. DATE 8-01-80

138+81 Begin Earthwork

N.B. 471 STA. 139+00 TO STA. 140+00

End Areas
Volume Calc.
Volume Chkd.

150

100

50

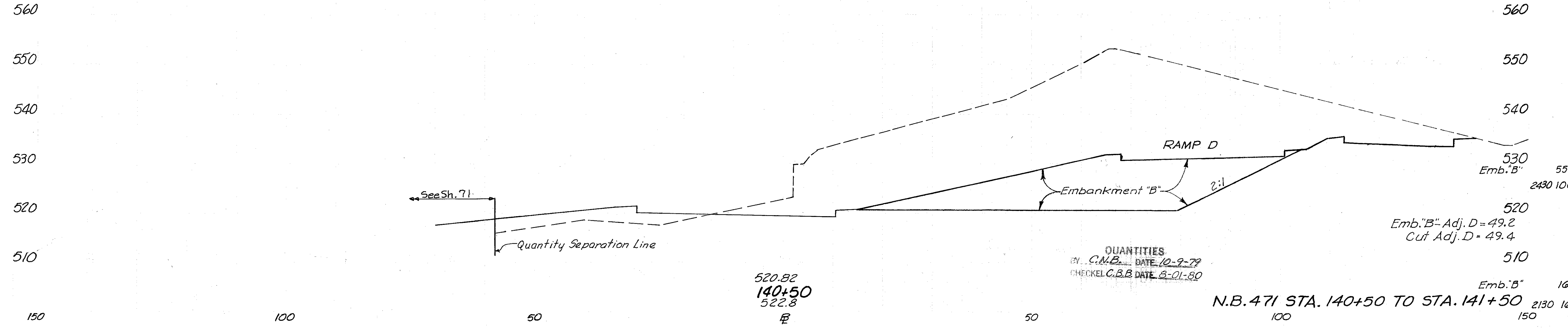
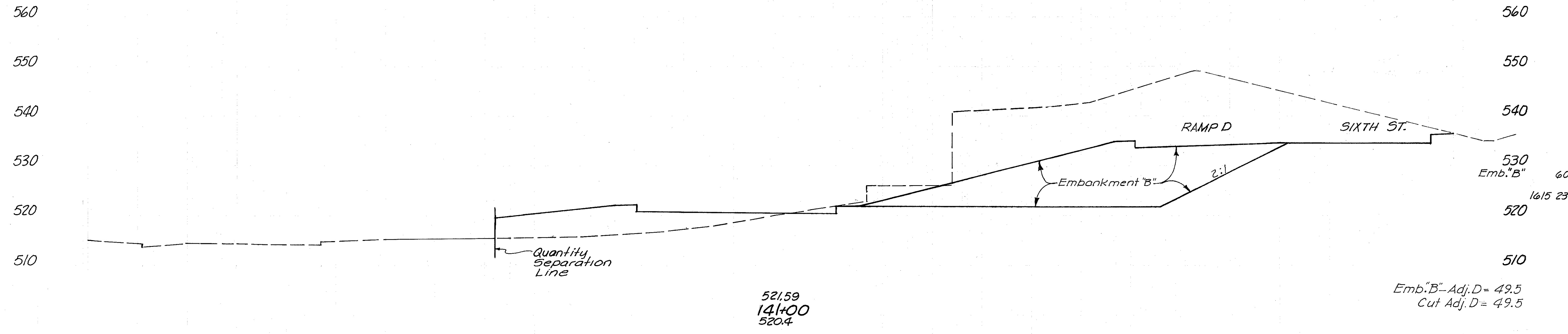
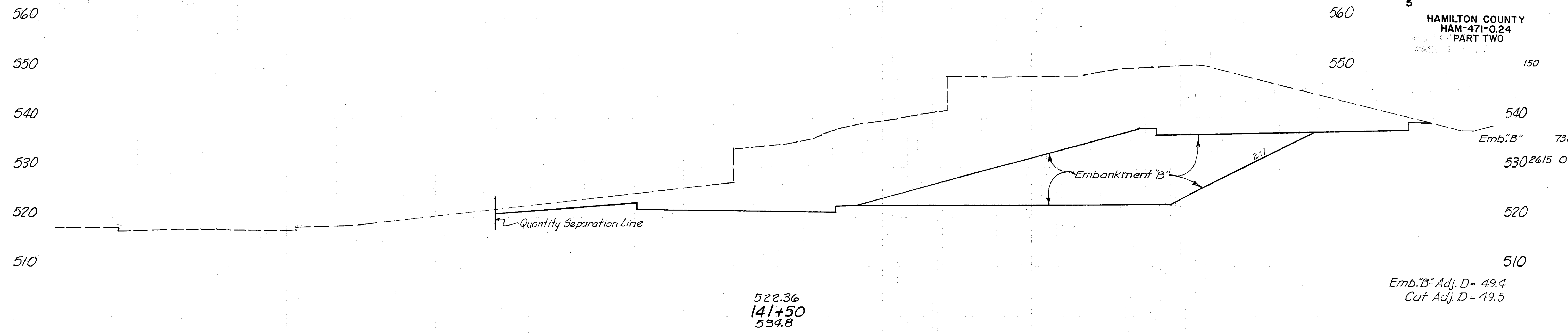
0

50

100

78
346

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO



End Areas
Volume Calc.
Volume Chkd.

150

100

50

0

50

100

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO
M-471-0.30

79
346

150

560

550

540

530

520

560

550

540

530

520

Emb."B" 625
235 35
Emb."B"- Adj.D= 49.4
Cut Adj.D= 49.9
1715
3377 32

525.88
143+00
524.5

Quantity Separation Line 2

560

550

540

530

520

560

550

540

530

520

Emb."B" 1250
3420 0
Emb."B"- Adj.D= 49.3
Cut Adj.D= 49.6
2109
6526 0

E.FIFTH ST.

Quantity Separation Line

524.33
142+50
538.8

Ex. 30" P.S.

3.5:1

Ret. Wall 13

Emb.ment "B"

2:1

560

550

540

530

520

560

550

540

530

520

Emb."B" 1060
3685 0
Emb."B"- Adj.D= 49.4
Cut Adj.D= 49.6
1637
5787 0

See Sh. 72

Quantity Separation Line

523.18
142+00
539.3

3.5:1

SIXTH ST.

Emb.ment "B"

2:1

LOCK ST.

RAMP A

QUANTITIES
BY: CNB DATE 10-10-79
CHECKED C.B.B. DATE 8-01-80

N.B. 471 STA 142+00 TO STA. 143+00
2615 0
150

150

100

50

0

50

100

150

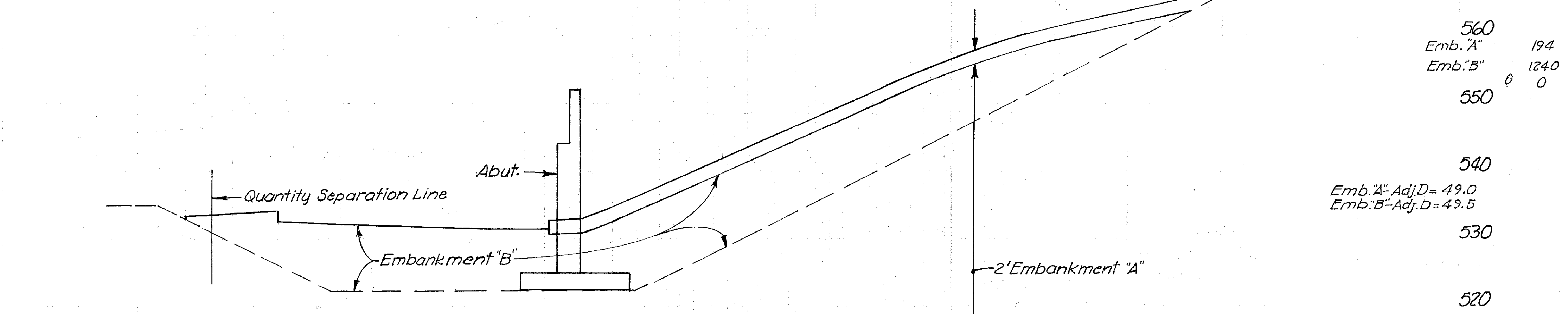
End Areas
Volume Calc.
Volume Chkd.

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

570
560
550
540
530
520

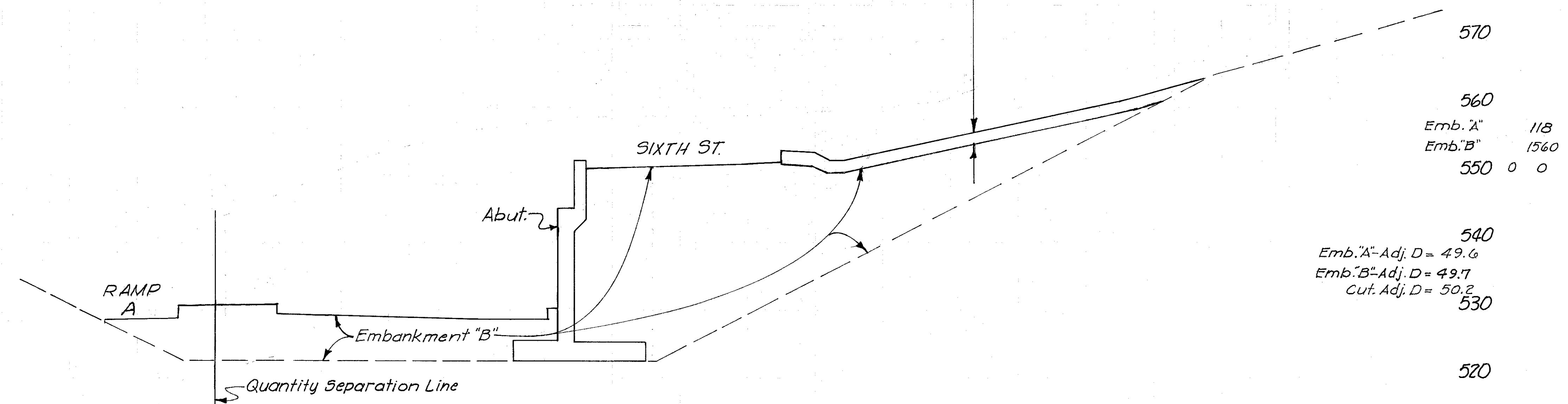
570
560
550
540
530
520

560
550
540
530
520



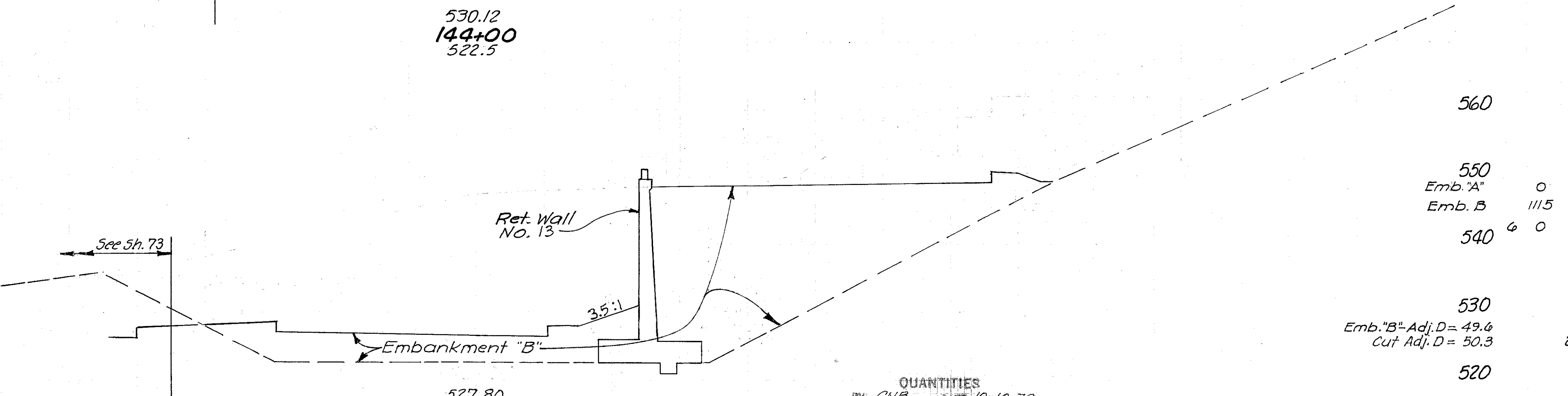
532.77
144+50
 522.2

560
 Emb. "A" 194
 Emb. "B" 1240
 0 0
 550
 540
 Emb. "A" Adj. D = 49.0 283
 Emb. "B" Adj. D = 43.5 2587
 0 0
 530
 520



530.12
144+00
 522.5

570
 560
 Emb. "A" 118
 Emb. "B" 1560
 0 0
 550
 540
 Emb. "A" Adj. D = 49.6 108
 Emb. "B" Adj. D = 49.7 2462
 Cut. Adj. D = 50.2 6 0
 530
 520



527.80
143+50
 522.6

QUANTITIES
 BY C.V.B. DATE 10-10-79
 CHECKED C.B.B. DATE 8-01-80

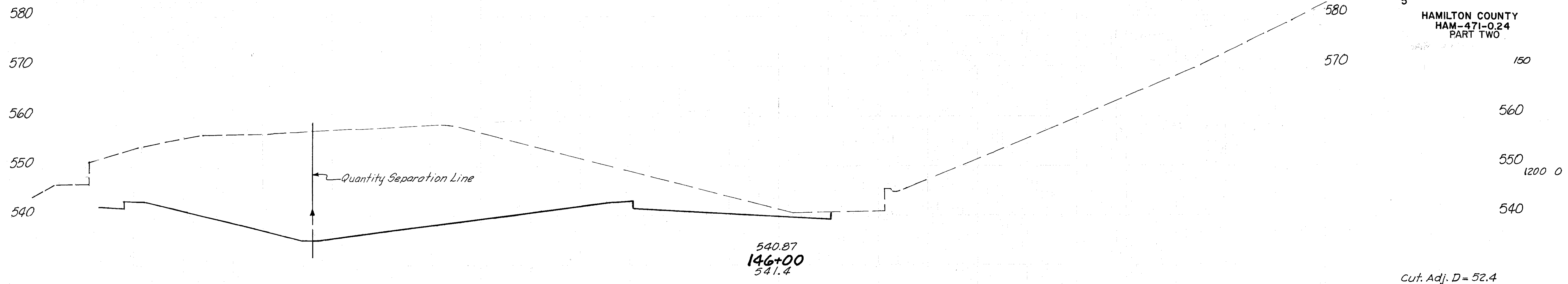
560
 550
 Emb. "A" 0
 Emb. "B" 1115
 0 0
 540
 530
 Emb. "B" Adj. D = 49.4 1598
 Cut Adj. D = 50.3 224 32
 520

N.B. 471 STA. 143+50 TO STA. 144+50 235 35
 100 150

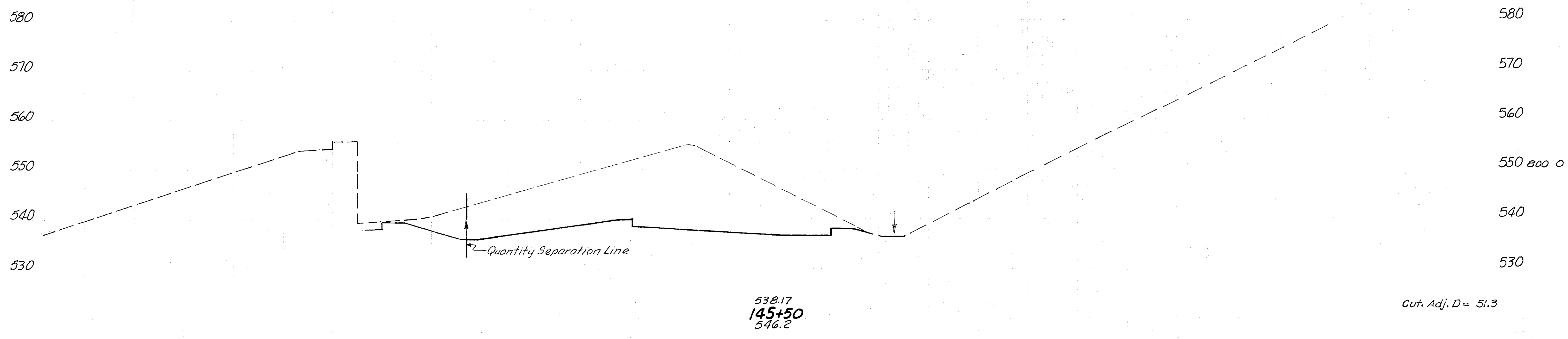
End Areas
 Volume Calc.
 Volume Chkd.

HAMILTON COUNTY
HAM-471-024
PART TWO

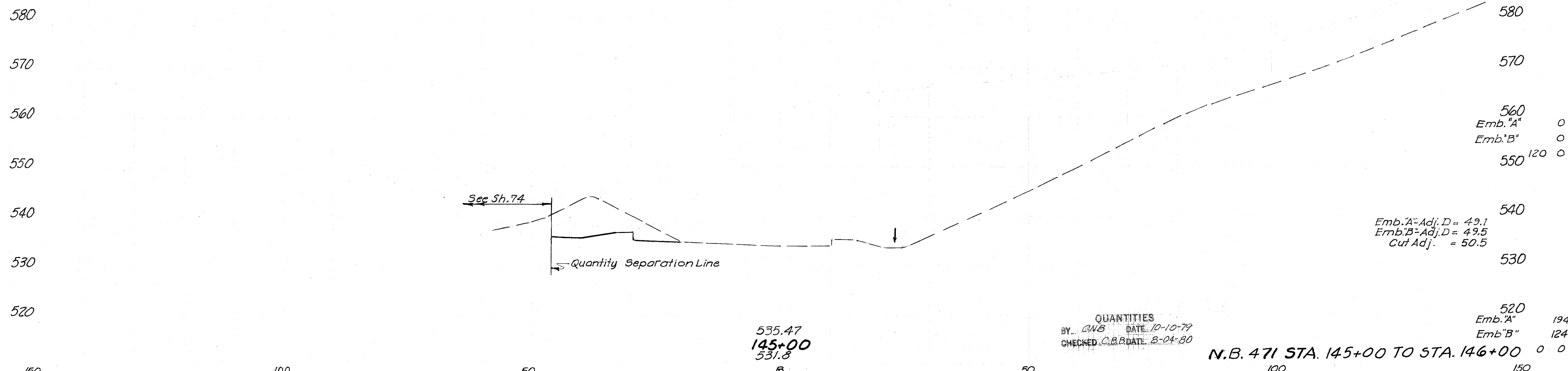
81
346



Cut. Adj. D = 52.4 1941 0



Cut. Adj. D = 51.3 874 0



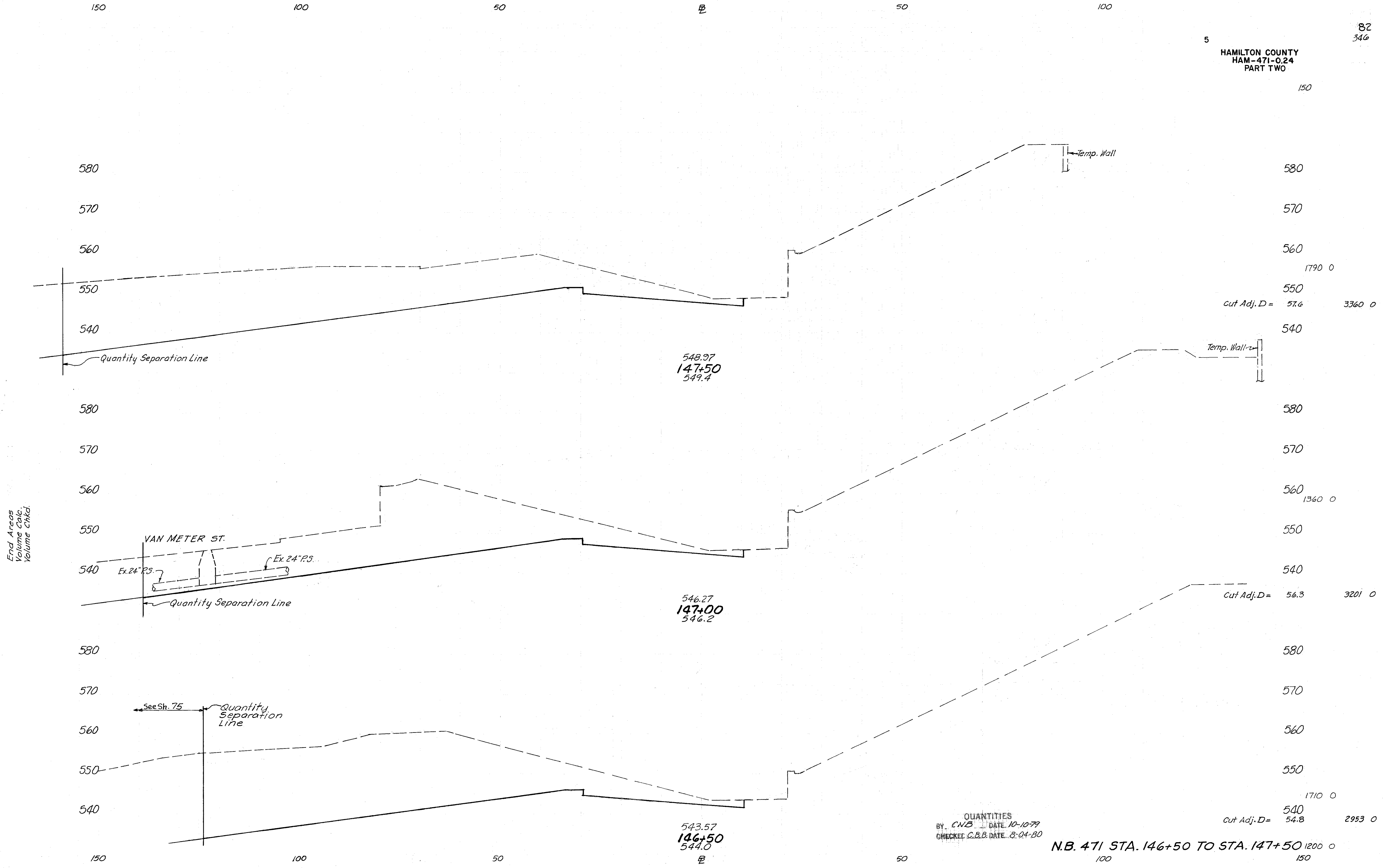
Emb. "A" Adj. D = 49.1
Emb. "B" Adj. D = 49.5
Cut Adj. = 50.5

QUANTITIES
BY: GNB DATE: 10-10-79
CHECKED: C.B.B. DATE: 8-04-80

Emb. "A" 194
Emb. "B" 1240

N.B. 471 STA. 145+00 TO STA. 146+00

End Areas
Volume Calc.
Volume Chkd.

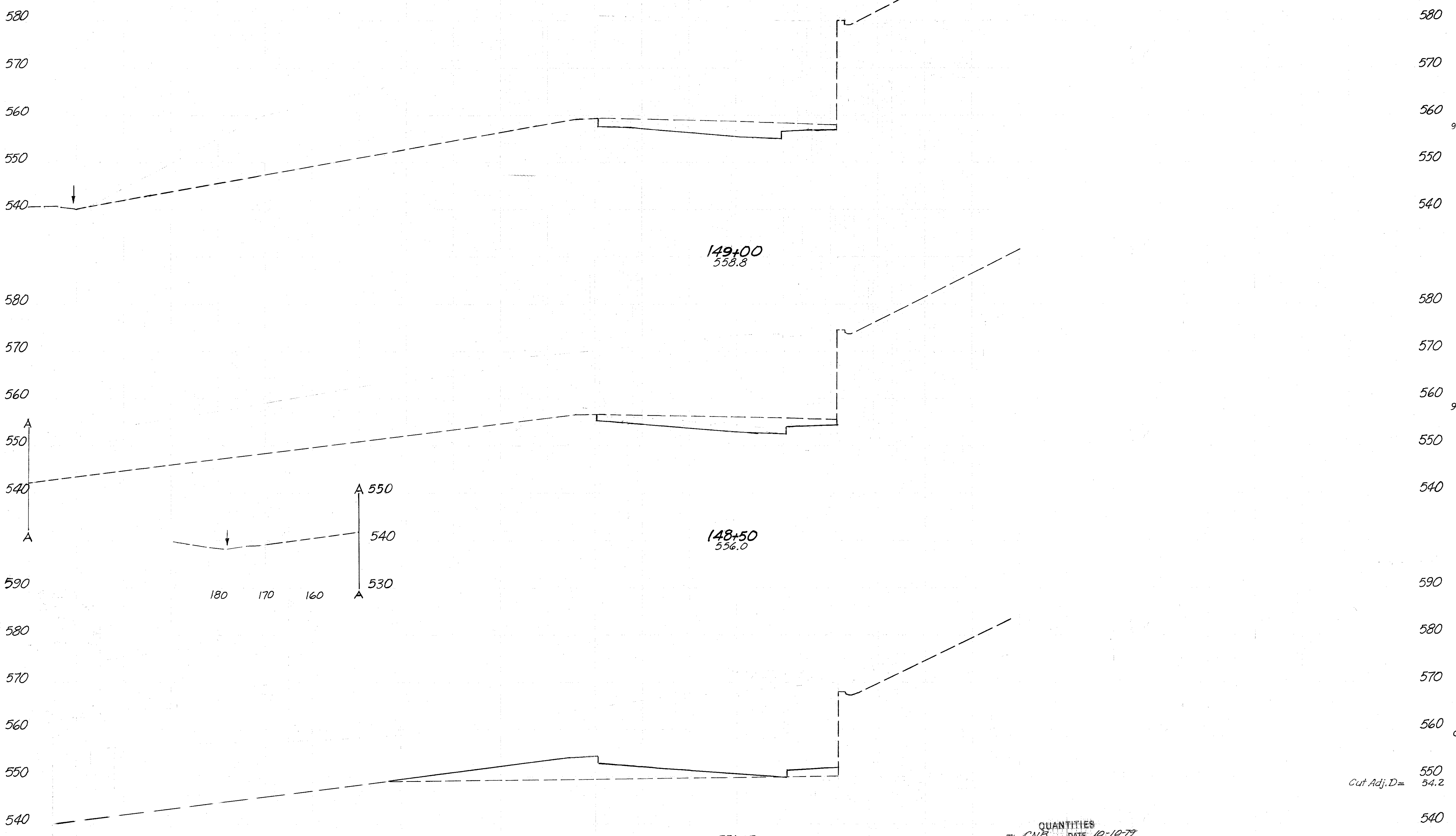


End Areas
 Volume Calc.
 Volume Chkd.

QUANTITIES
 BY: C.N.B. DATE: 10-10-79
 CHECKED: C.B.B. DATE: 8-04-80

N.B. 471 STA. 146+50 TO STA. 147+50

150 100 50 E 50 100



150
580
570
560
550
540
90 0
167 0
580
570
560
550
540
90 0
590
580
570
560
550
540
83 181
590
580
570
560
550
540
195
1797 181
540

149+00
558.8

148+50
556.0

551.67
148+00
549.9
E

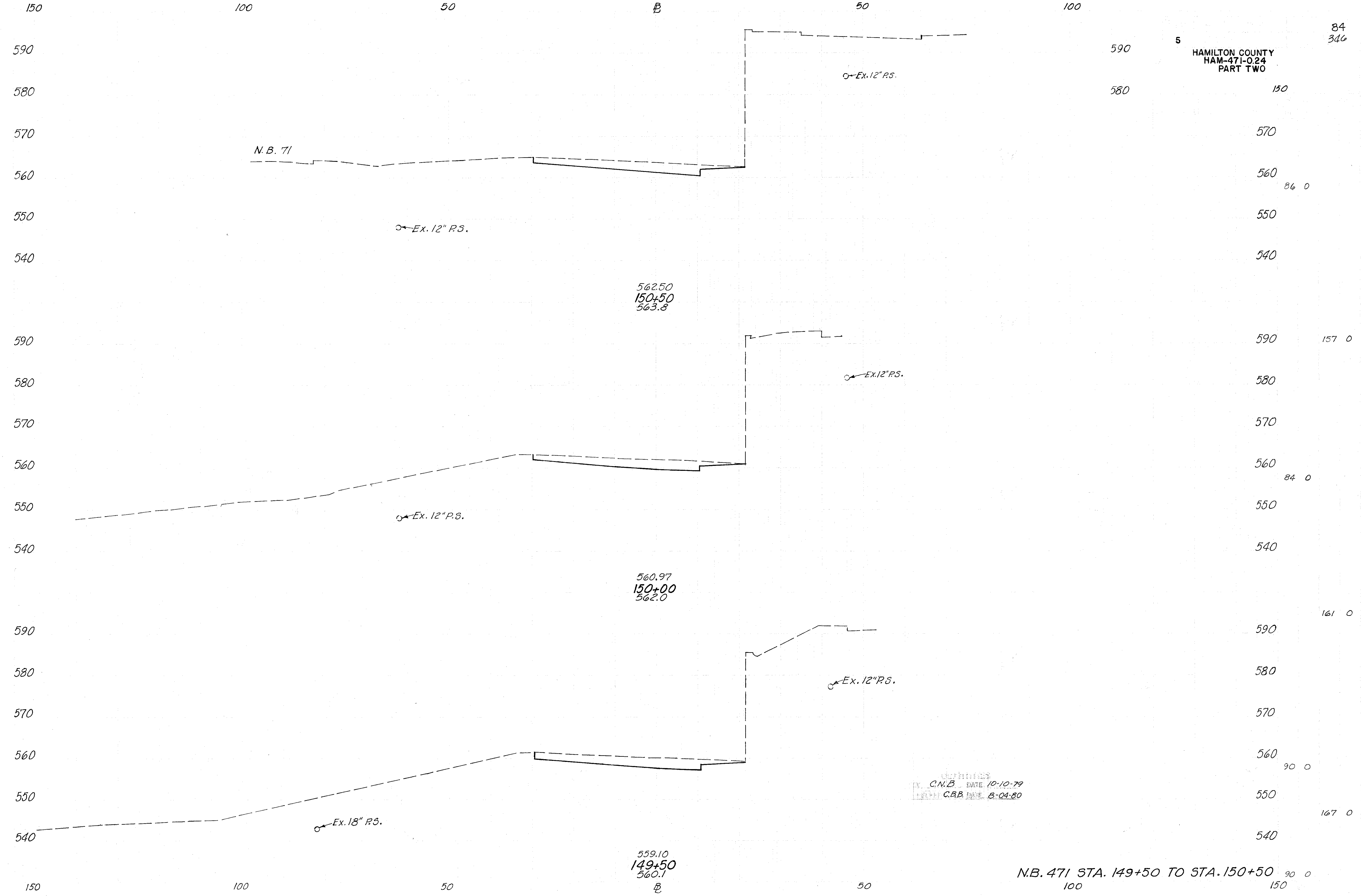
QUANTITIES
BY C.N.B. DATE 10-10-79
CHECKED C.B.B. DATE 8-04-80

N.B. 471 STA. 148+00 TO STA. 149+00 1790 0
100 150

End Areas
Volume Calc.
Volume Chkd.

150 100 50 E 50 100

End Area's
 Volume Calc.
 Volume Chkd.



562.50
 150+50
 563.8

560.97
 150+00
 562.0

559.10
 149+50
 560.1

EX. C.N.B. DATE 10-10-79
 DATE C.B.B. DATE 8-04-80

N.B. 471 STA. 149+50 TO STA. 150+50

84
 346

86 0

84 0

90 0

90 0

157 0

161 0

167 0

150

100

50

B

50

100

5

HAMILTON COUNTY
HAM-471-0.24
PART TWO

85
346

150

End Areas
Volume Calc.
Volume Chkd.

590

580

570

560

590

580

570

560

60 0

END EARTHWORK STA. 151+60

Ex. Ref. Wall

564.71
151+60
564.7

590

580

570

560

550

590

580

570

560

550

164 0

88 0

161 0

N.B. 71

C.N.B. 10-10-79
C.B.B. 8-04-80

563.70
151+00
564.8

N.B. 471 STA. 151+00 TO STA. 151+60 86 0
100 150

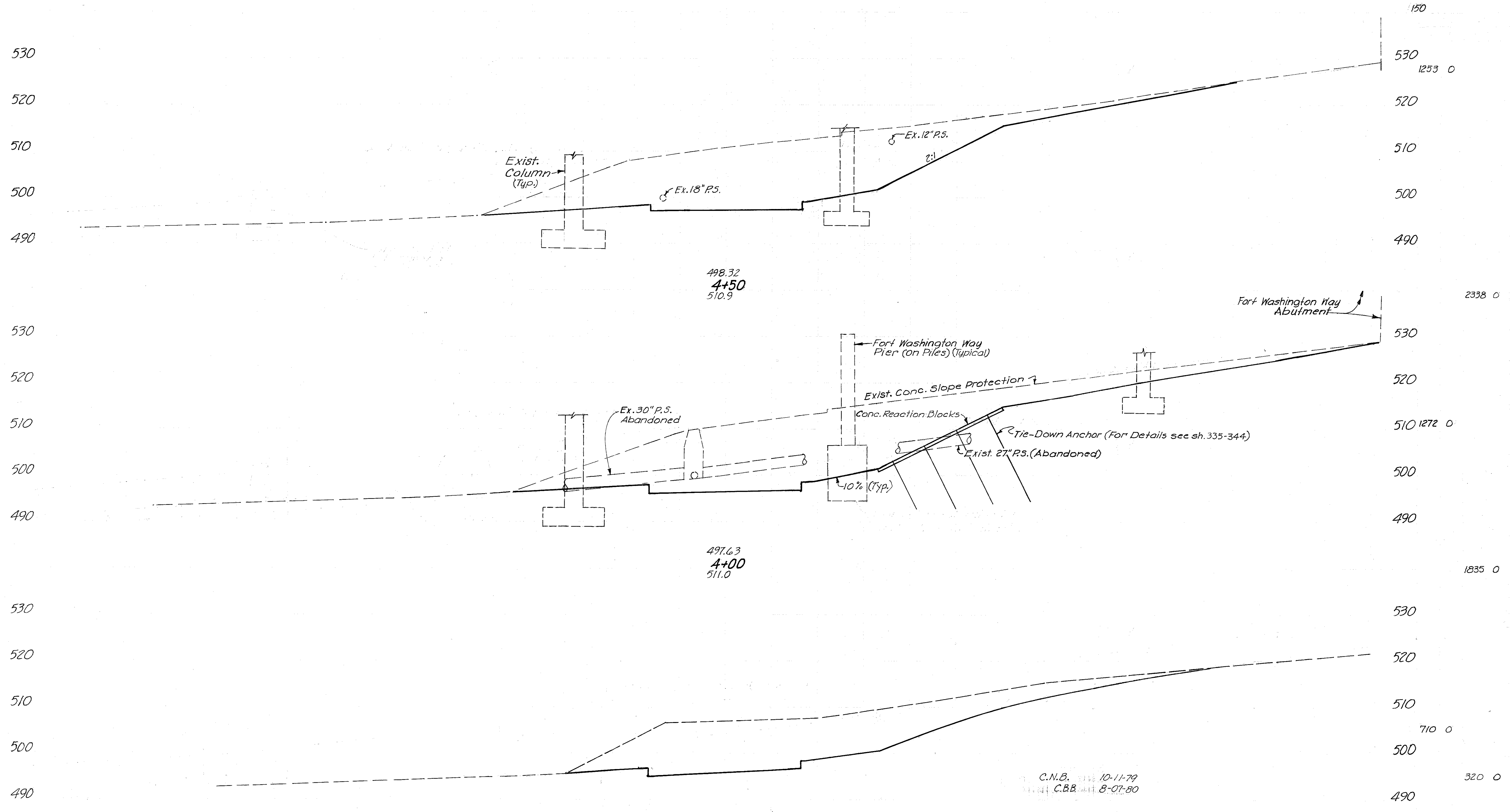
150

100

50

B

50



498.32
4+50
 510.9

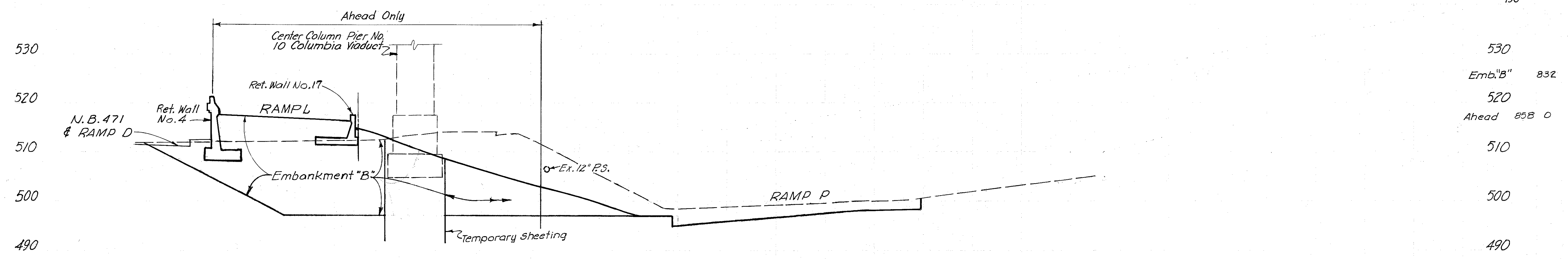
497.63
4+00
 511.0

497.15
3+50
 507.1
BEGIN EARTHWORK
STA. 3+27.45

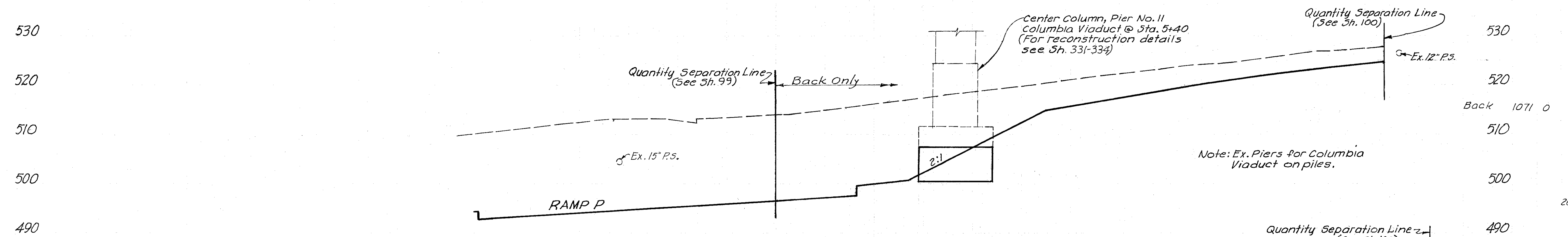
C.N.B. 10-11-79
 C.B.B. 8-07-80

MONASTERY STREET
STA. 3+50 TO STA. 4+50

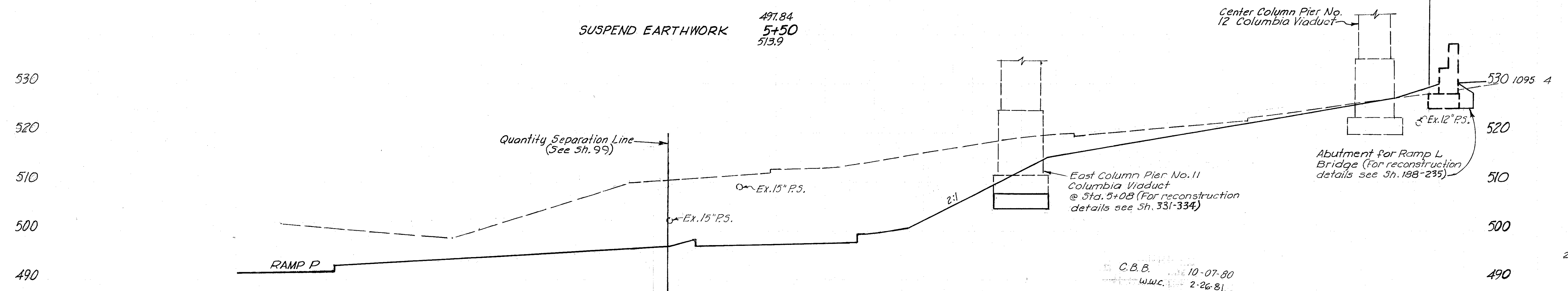
Sta. 3+27.45M 55 0



RESUME EARTHWORK
 498.01
 6+00
 499.2



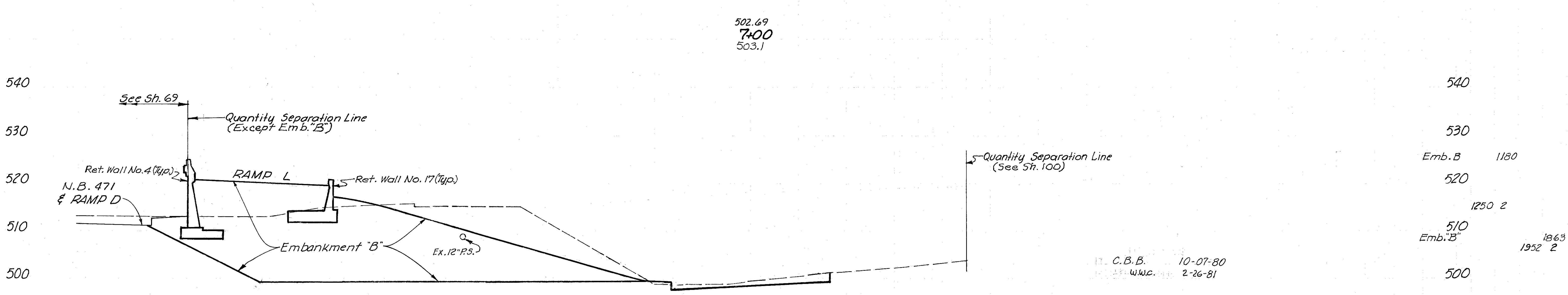
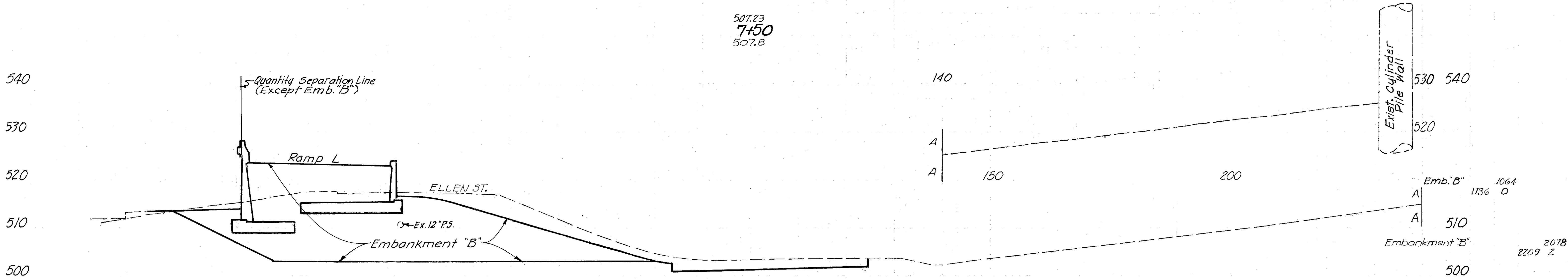
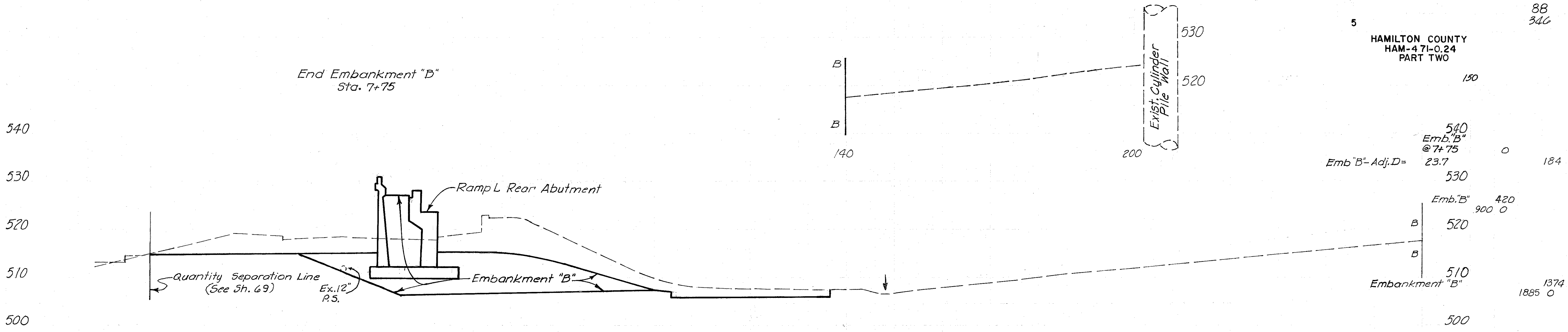
SUSPEND EARTHWORK
 497.84
 5+50
 513.9



498.39
 5+00
 512.5

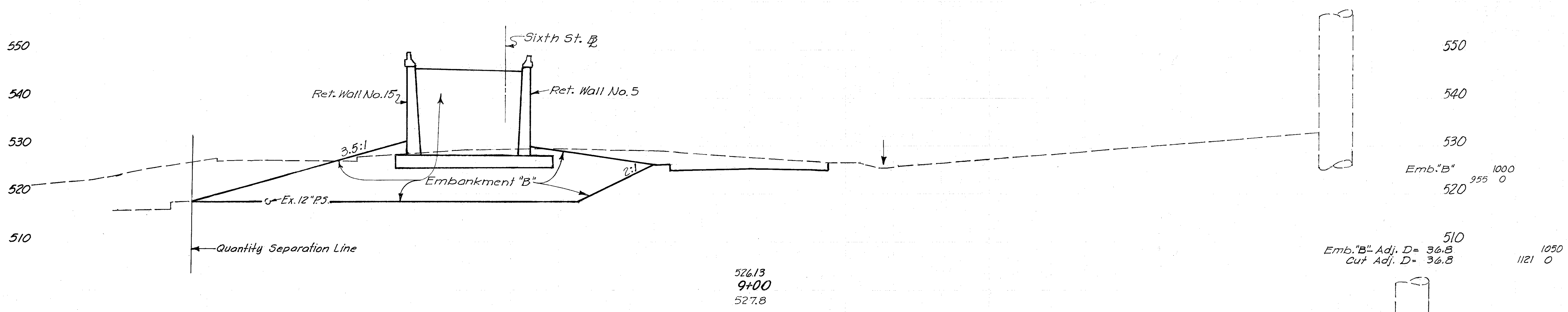
C.B.B. 10-07-80
 W.W.C. 2-26-81

MONASTERY STREET
 STA. 5+00 TO STA. 6+00

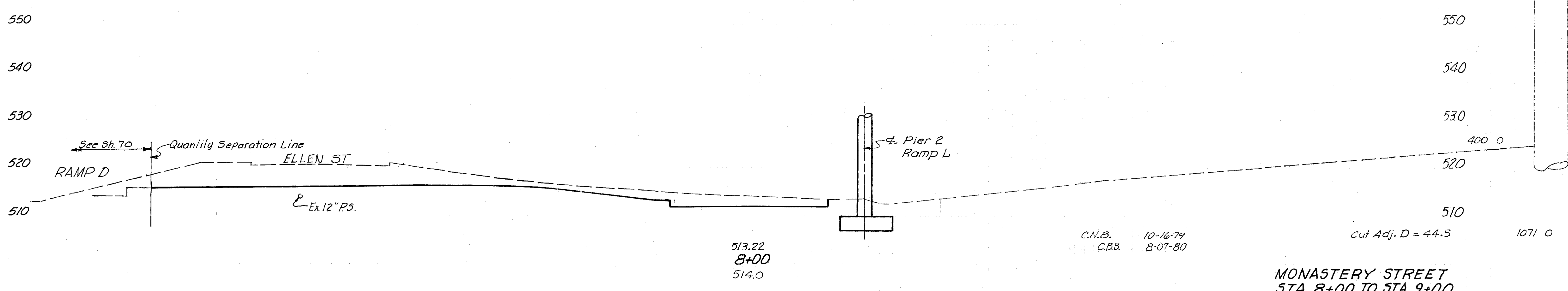
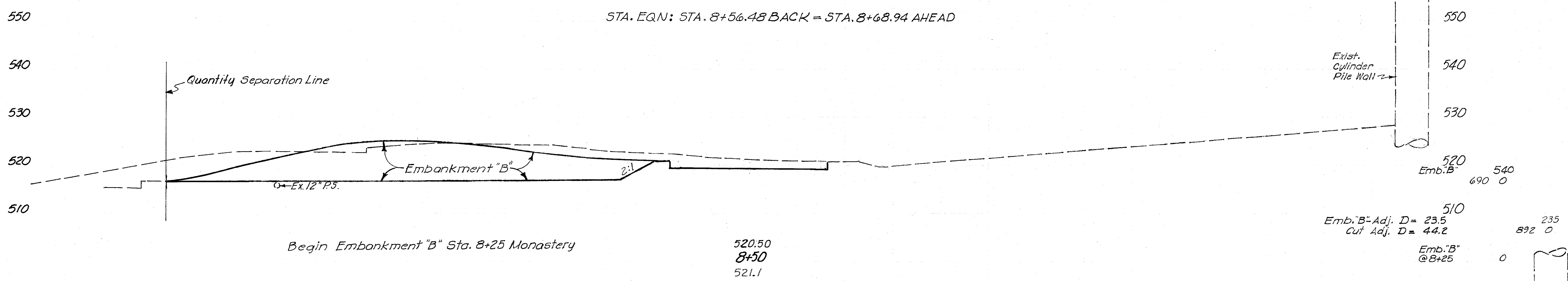


MONASTERY STREET STA. 6+50 TO STA. 7+50 Emb. "B" 832 858

HAMILTON COUNTY
HAM-471-0.24
PART TWO



STA. EQN: STA. 8+56.48 BACK = STA. 8+68.94 AHEAD



C.N.B. 10-16-79
C.B.B. 8-07-80

MONASTERY STREET
STA. 8+00 TO STA. 9+00

Suspend Earthwork
Sta. 10+62

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

90
346

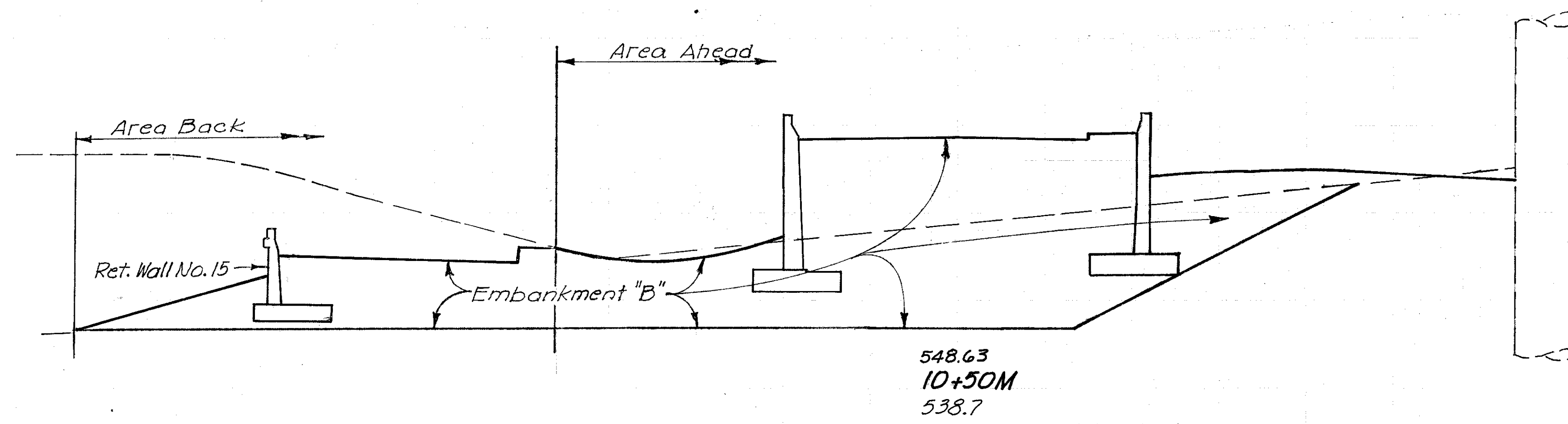
560

550

540

530

520



560 150

Embankment "B"	550	810	1210	0
Emb. "B"				538
Embankment "B"	540	810	1210	0
Emb. "B"				360
Embankment B	530	1700	1540	0
Emb. "B"				2389
				3519

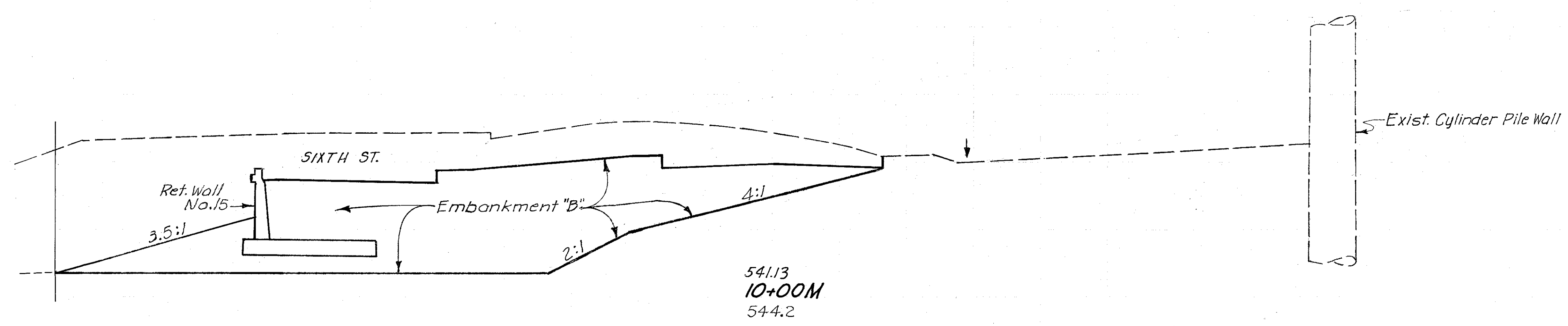
560

550

540

530

520



560 1040

Embankment "B"	550	2100	1040	0
Emb. "B"				1787
				2907

560

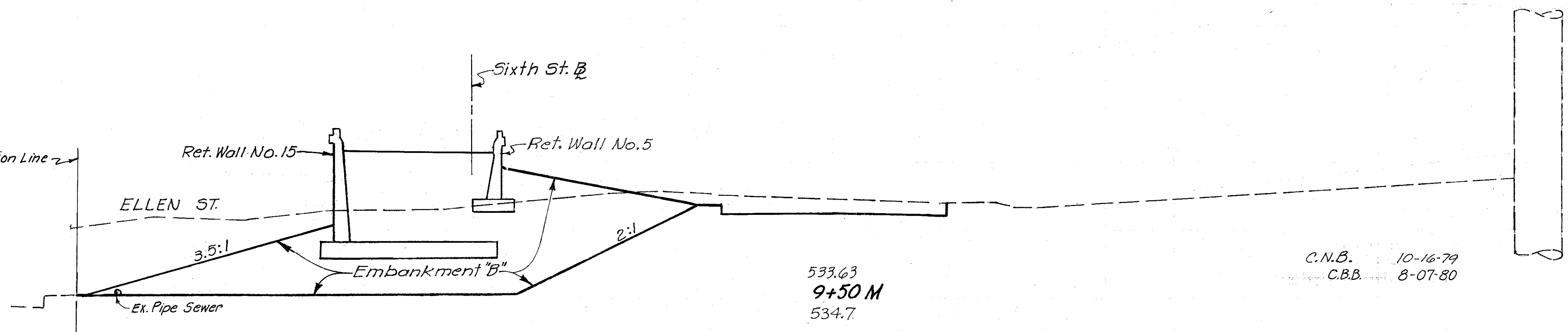
550

540

530

520

Quantity Separation Line



560 890

Embankment "B"	550	1040	1040	0
Emb. "B"				1750
				1847
Embankment "B"	530	1000	955	0

MONASTERY STREET
STA. 9+50 TO STA. 10+50

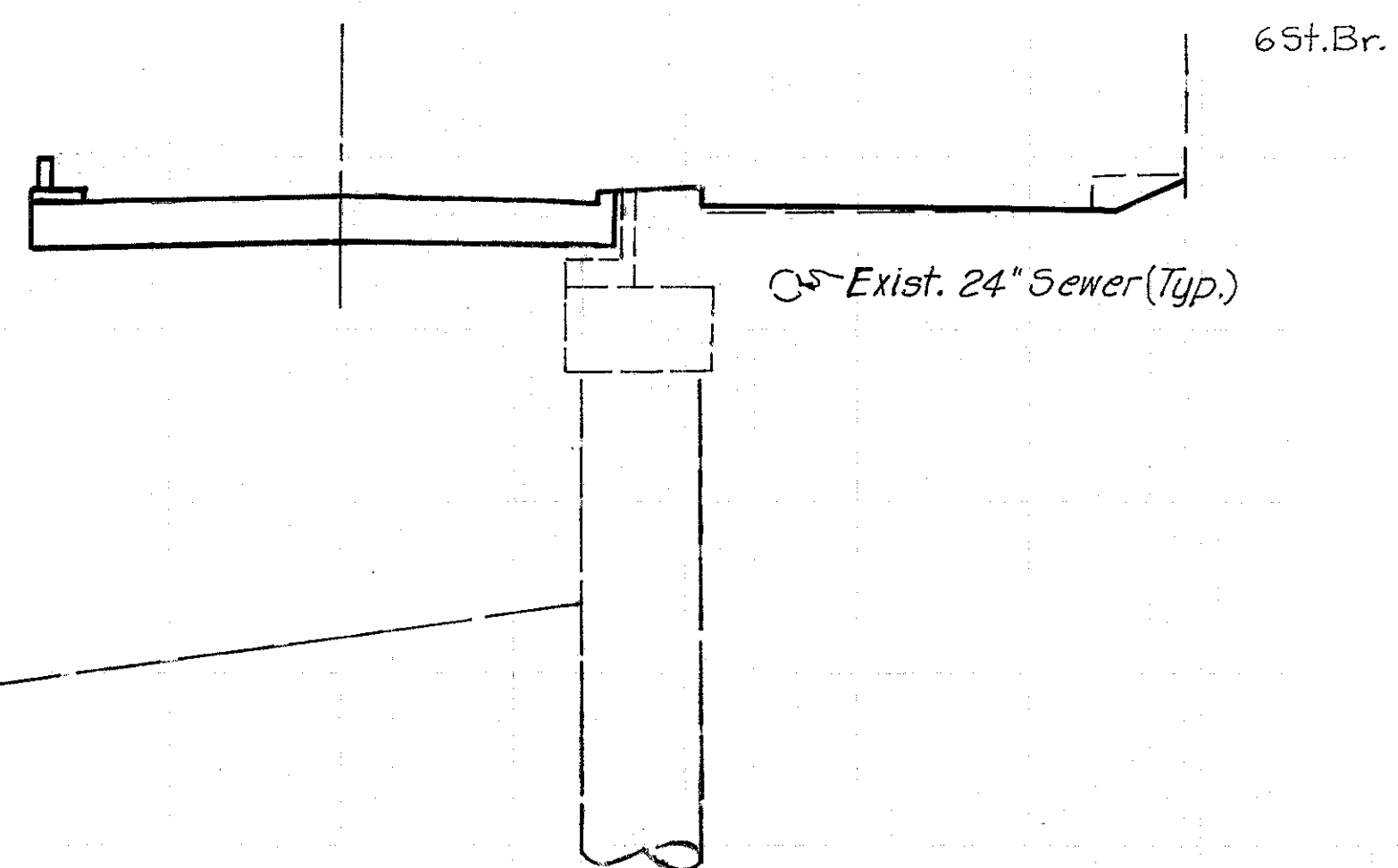
570

560

550

540

530



567.75
12+00M
542.0

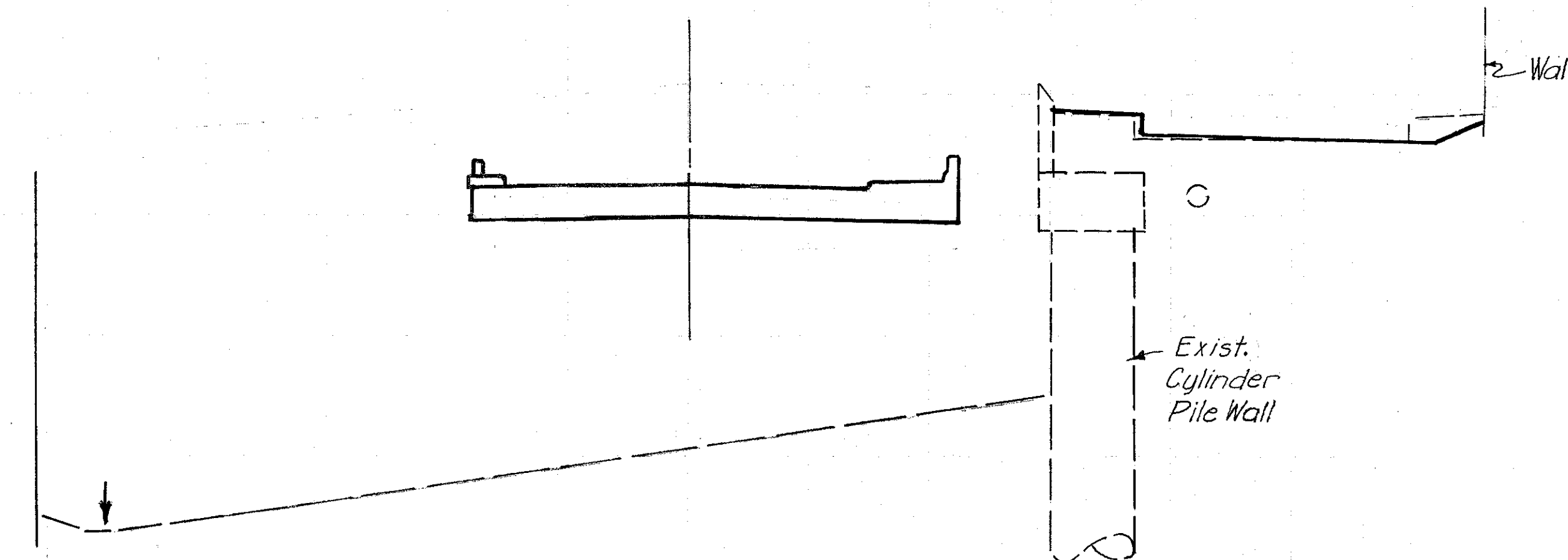
570

560

550

540

530



562.55
11+50M
540.6

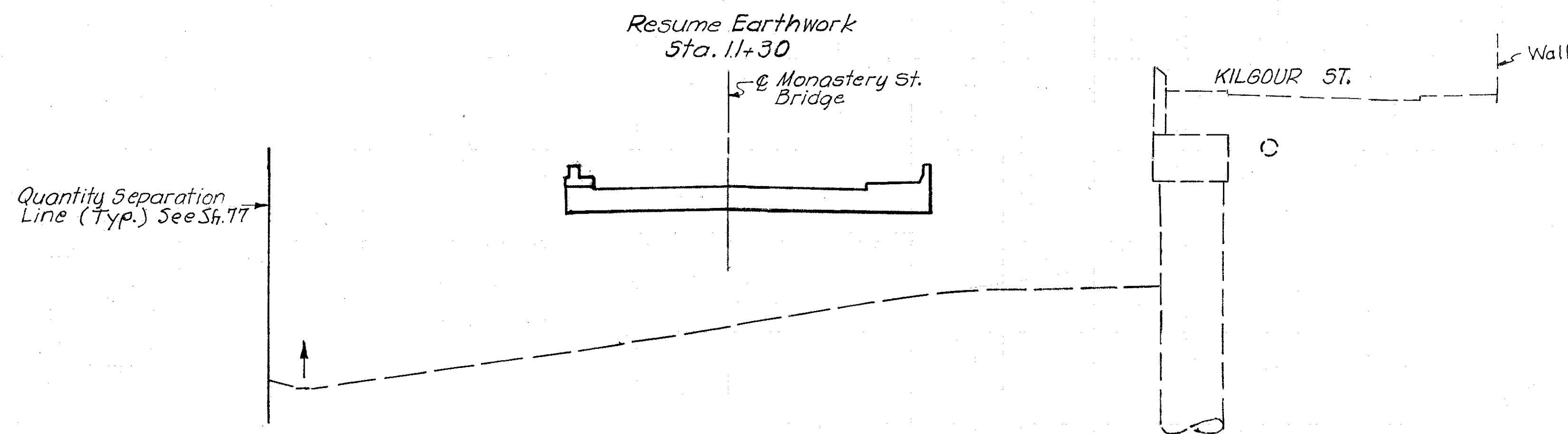
570

560

550

540

530



556.07
11+00M
540.3

C.N.B. 10-16-79
C.B.B. 8-07-80

150

570

560

550

540

530

6 0

13 0

570

8 0

560

550

6 0

540

530

Sta. 11+30M 8 0

570

560

550

540

530

MONASTERY STREET
STA. 11+00 TO STA. 12+00

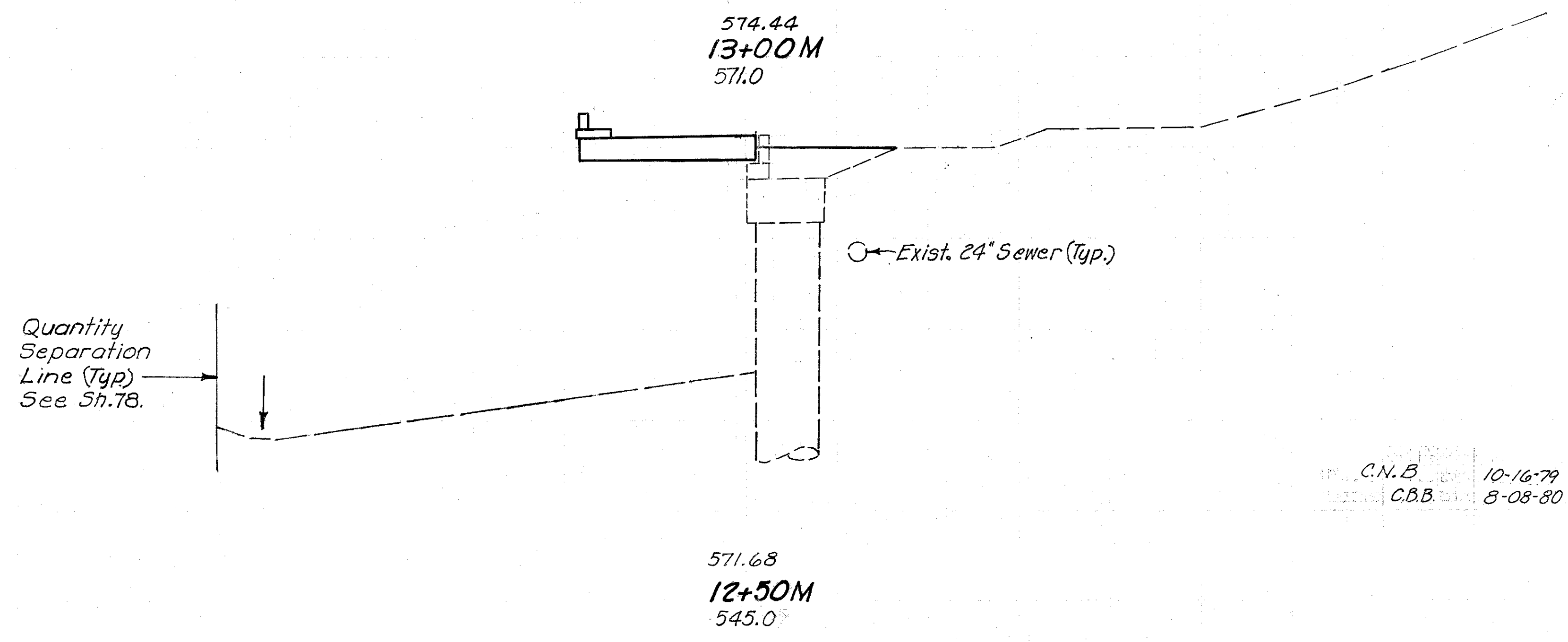
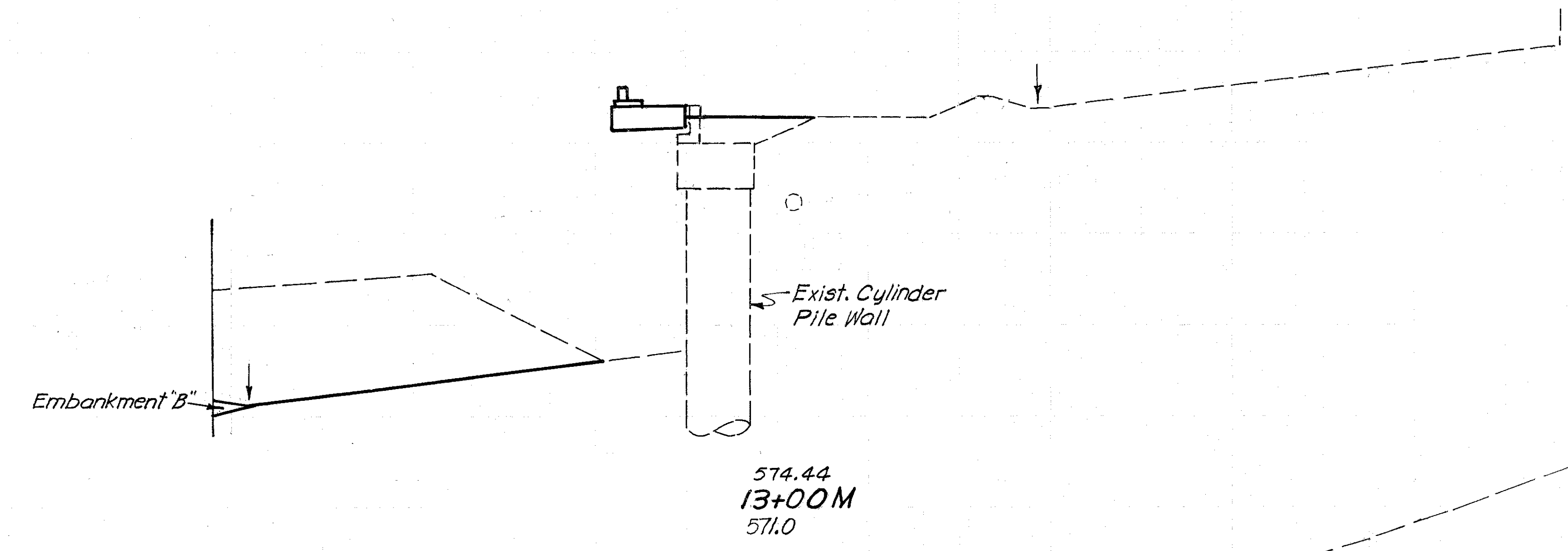
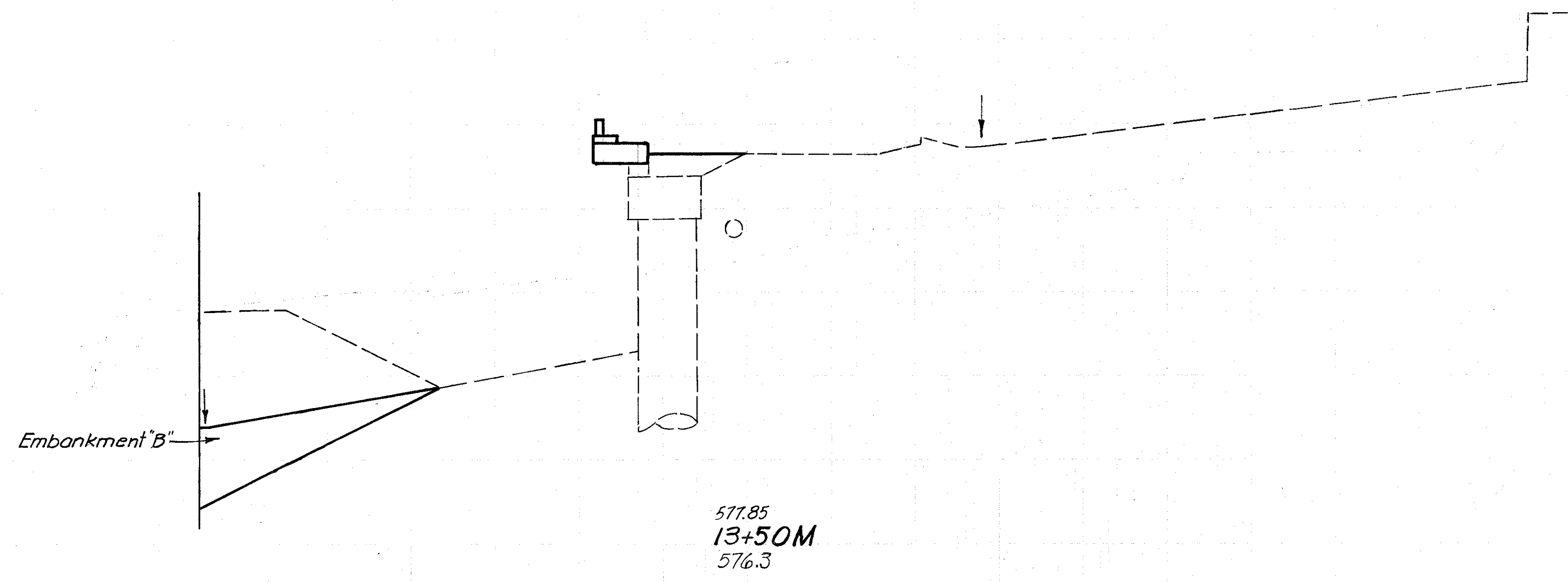
5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

92
346

580
570
560
550
540

580
570
560
550
540

570
560
550
540
530



580	150		
570		570	
560		560	120
550		550	375 28
540		540	
		Emb. "B"	116
		Cut Adj. D= 55.2	813 56
580		580	
570		570	5
560		560	420 32
550		550	
540		540	5
		Emb. "B"	389 106
570		570	0
560		560	83
550		550	
540		540	6 77
530		530	

C.N.B. 10-16-79
C.B.B. 8-08-80

MONASTERY STREET
STA. 12+50 TO STA. 13+50

150

100

50

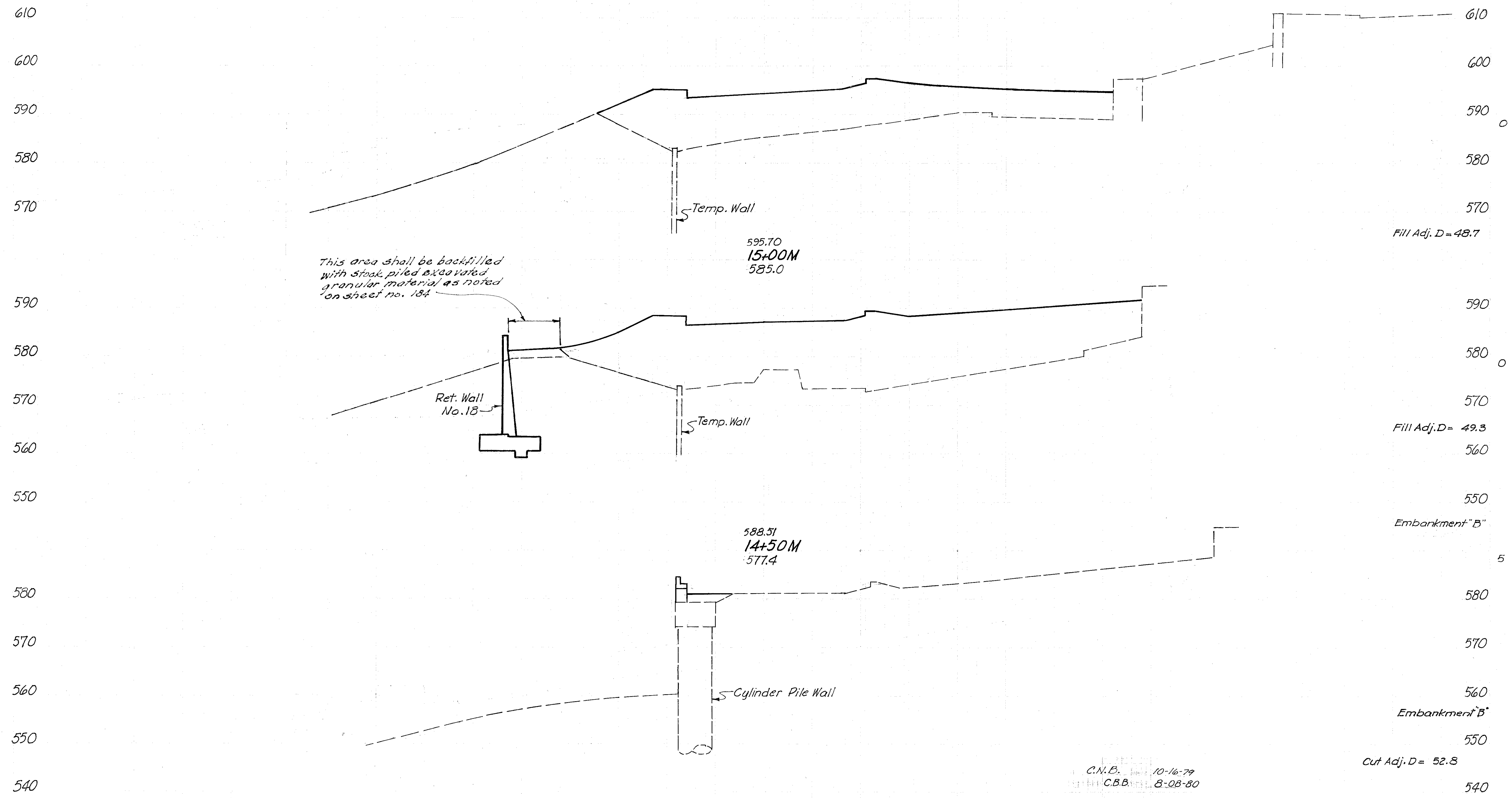
50

50

100

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

93
346



This area shall be backfilled with stock piled excavated granular material as noted on sheet no. 184

595.70
15+00M
585.0

Ret. Wall
No. 18

Temp. Wall

588.51
14+50M
577.4

Cylinder Pile Wall

C.N.B. 10-16-79
C.B.B. 8-08-80

582.55
14+00M
581.0

0 820
0 1993
Fill Adj. D = 48.7

0 1390
5 1281
Fill Adj. D = 49.3

0
5 13
Embankment "B"

372 38
Cut Adj. D = 52.8

120
375 28
Embankment "B"

MONASTERY STREET
STA. 14+00 TO STA. 15+00

150

100

50

50

50

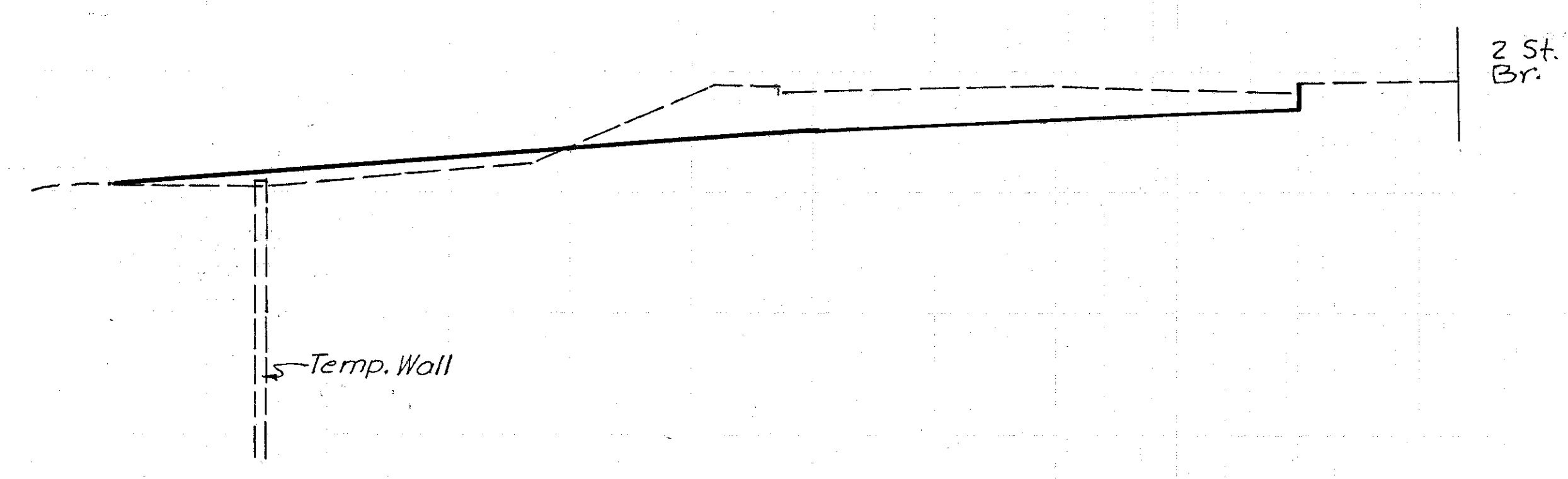
100

150

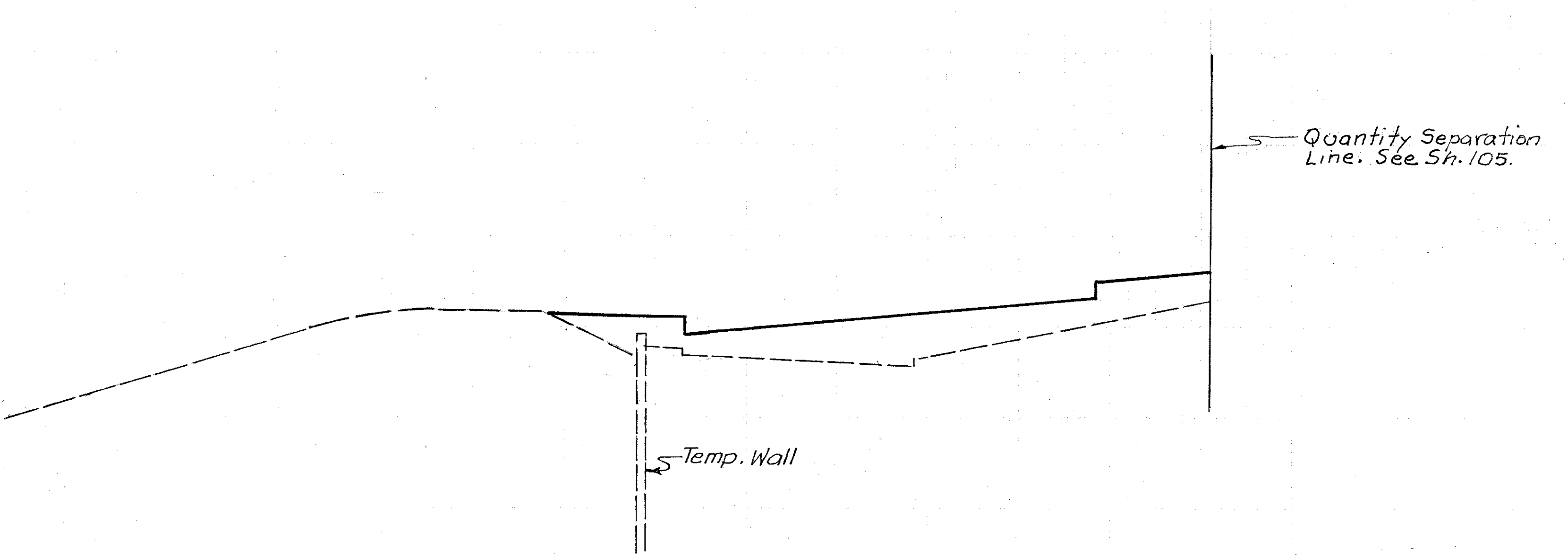
Revised 3-14-83

620
610
600
590
580
570
560
550
610
600
590
580
570
560
550

620
610
600
590
580
570
560
550
610
600
590
580
570
560
550



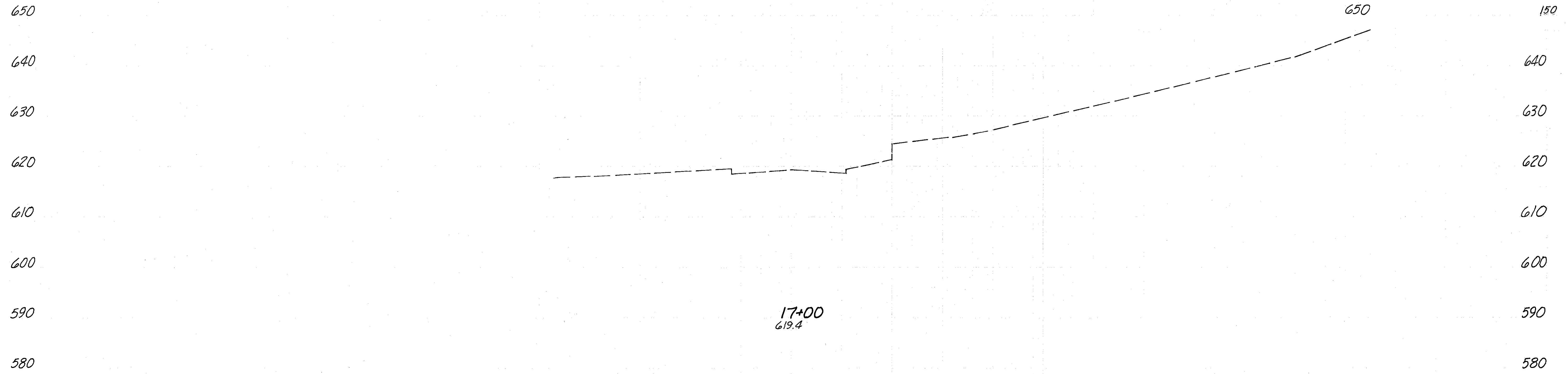
606.12
16+00
603.5



602.05
15+50
596.0

C.N.E. 10-16-79
C.B.B. 8-08-80

MONASTERY STREET
STA. 15+50 TO STA. 16+00

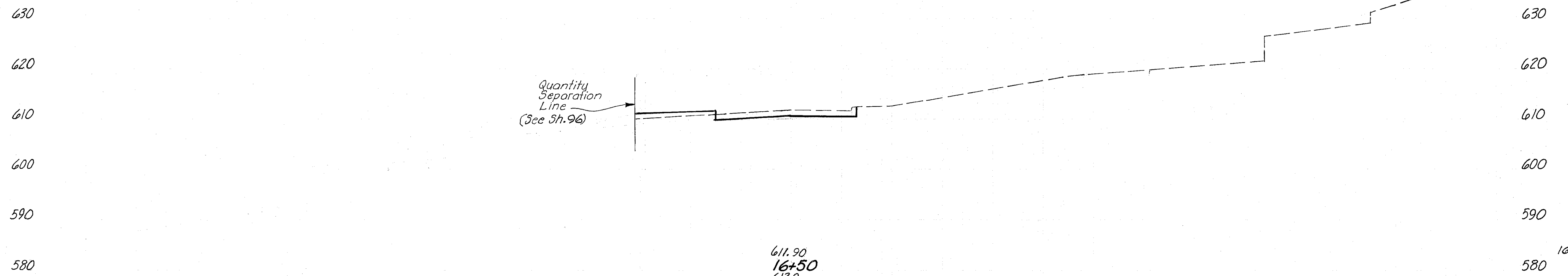


17+00
619.4

END EARTHWORK
16+75

Quantity
Separation
Line
(See Sh. 96)

611.90
16+50
612.0



16 0

15 5

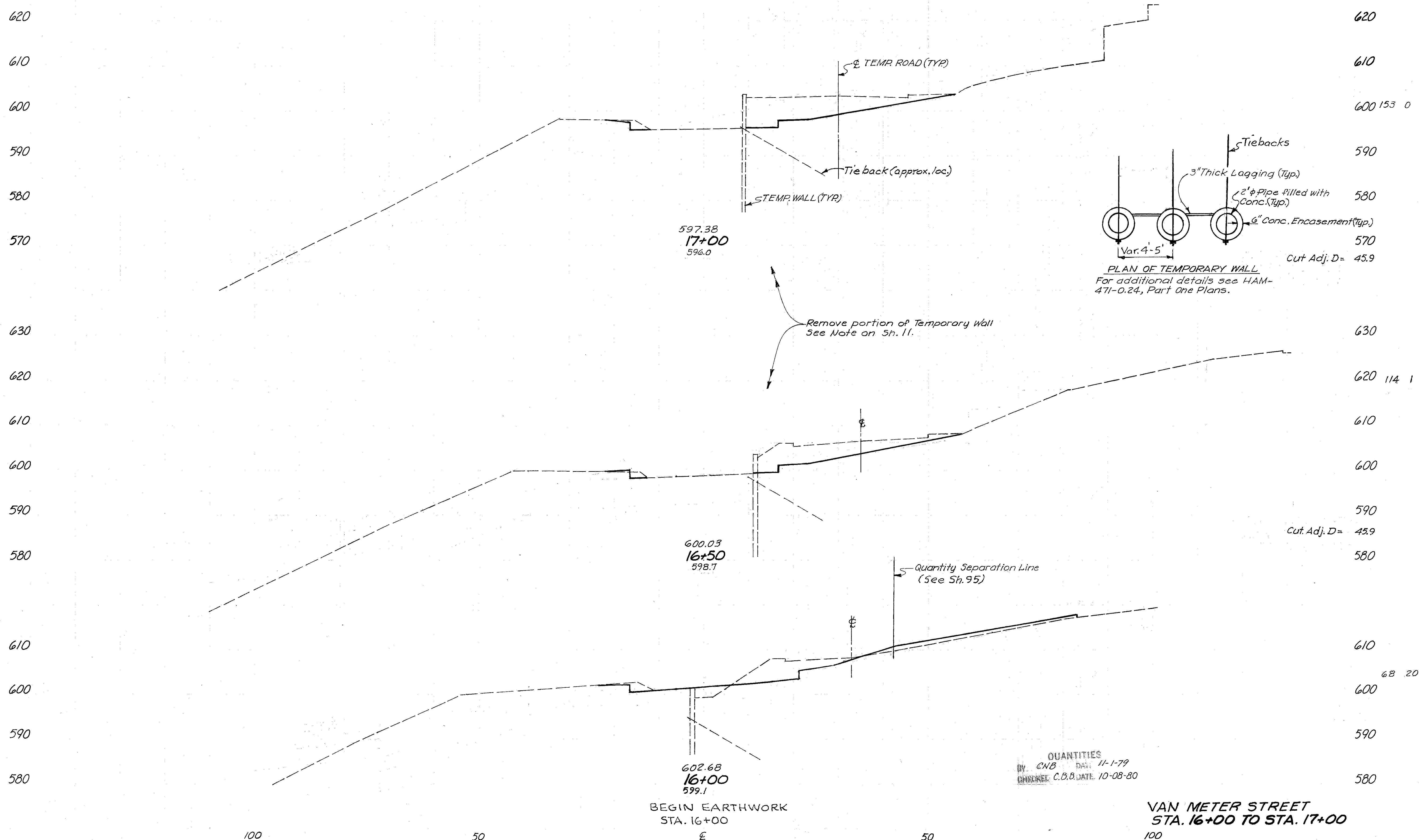
16 10

C.N.B. 10-16-79
C.B.B. 8-08-80

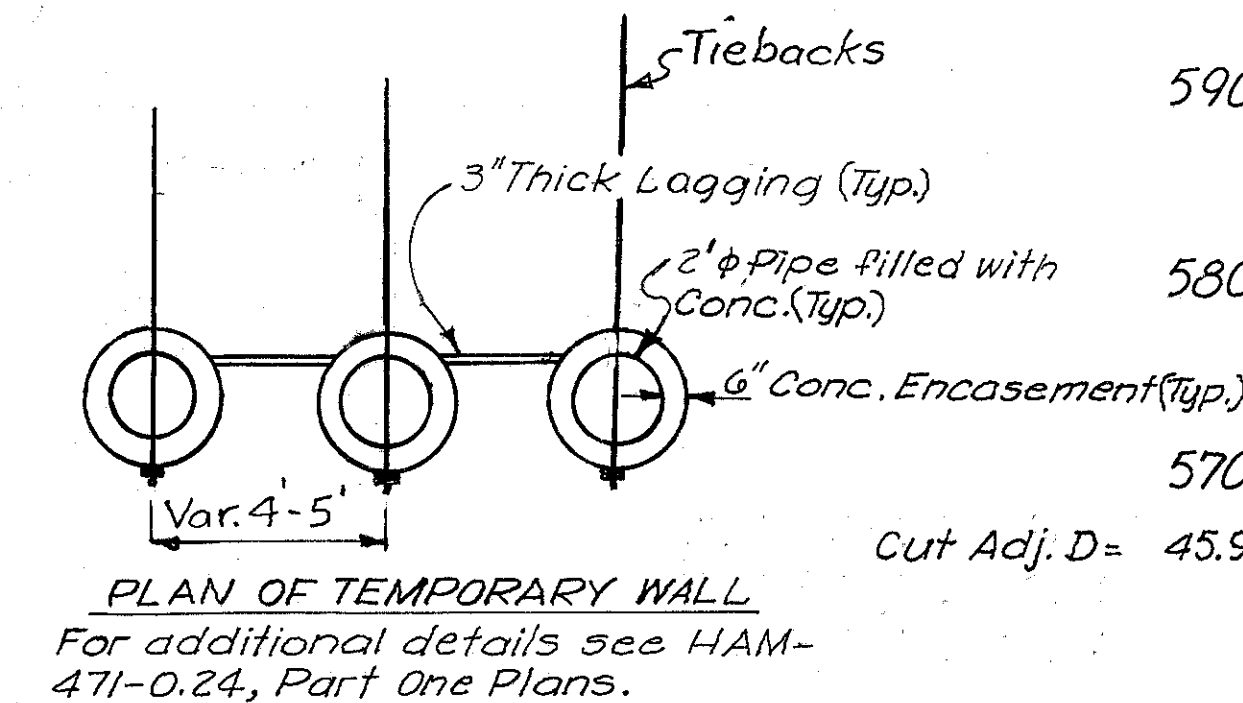
154 28

MONASTERY STREET
STA. 16+50 TO STA. 17+00

150 20



End Areas
Volume Calc.
Volume Chkd.



BEGIN EARTHWORK
STA. 16+00

QUANTITIES
BY CNB DATE 11-1-79
CHECKED C.B.B. DATE 10-08-80

VAN METER STREET
STA. 16+00 TO STA. 17+00

100

50

±

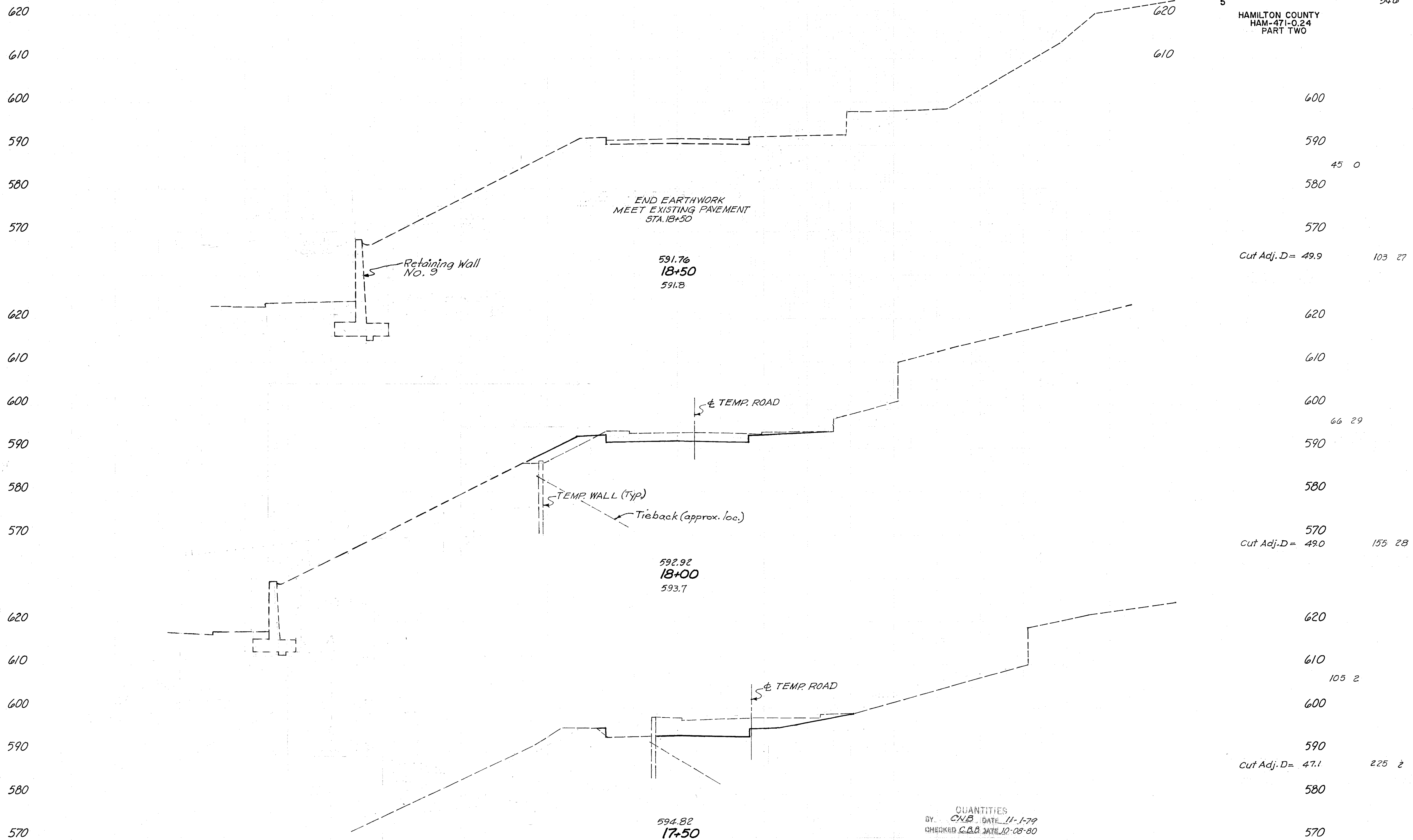
50

100

5

HAMILTON COUNTY
HAM-471-0.24
PART TWO

97
346



End Areas
Volume Calc.
Volume Chkd.

VAN METER STREET
STA. 17+50 TO STA. 18+50
153 0

100

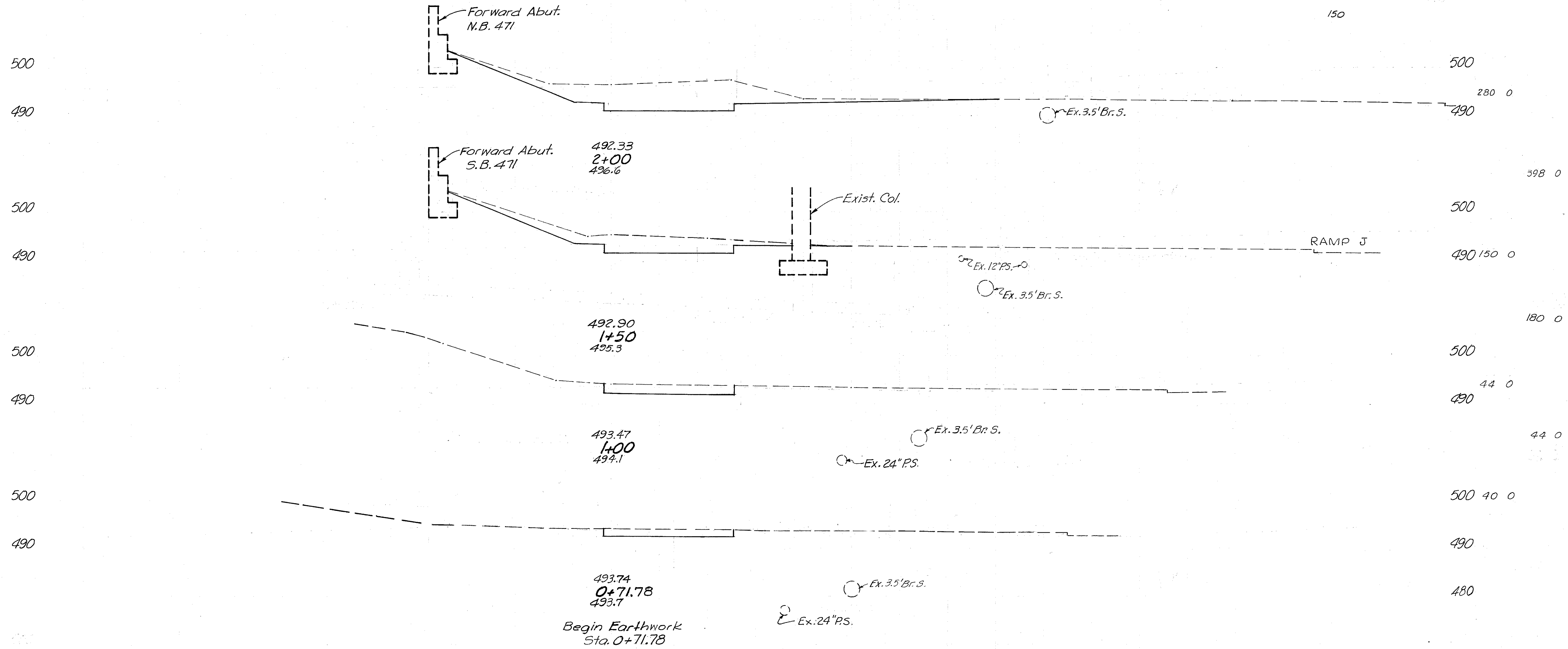
50

±

50

100

End Areas
Volume Calc.
Volume Chkd.

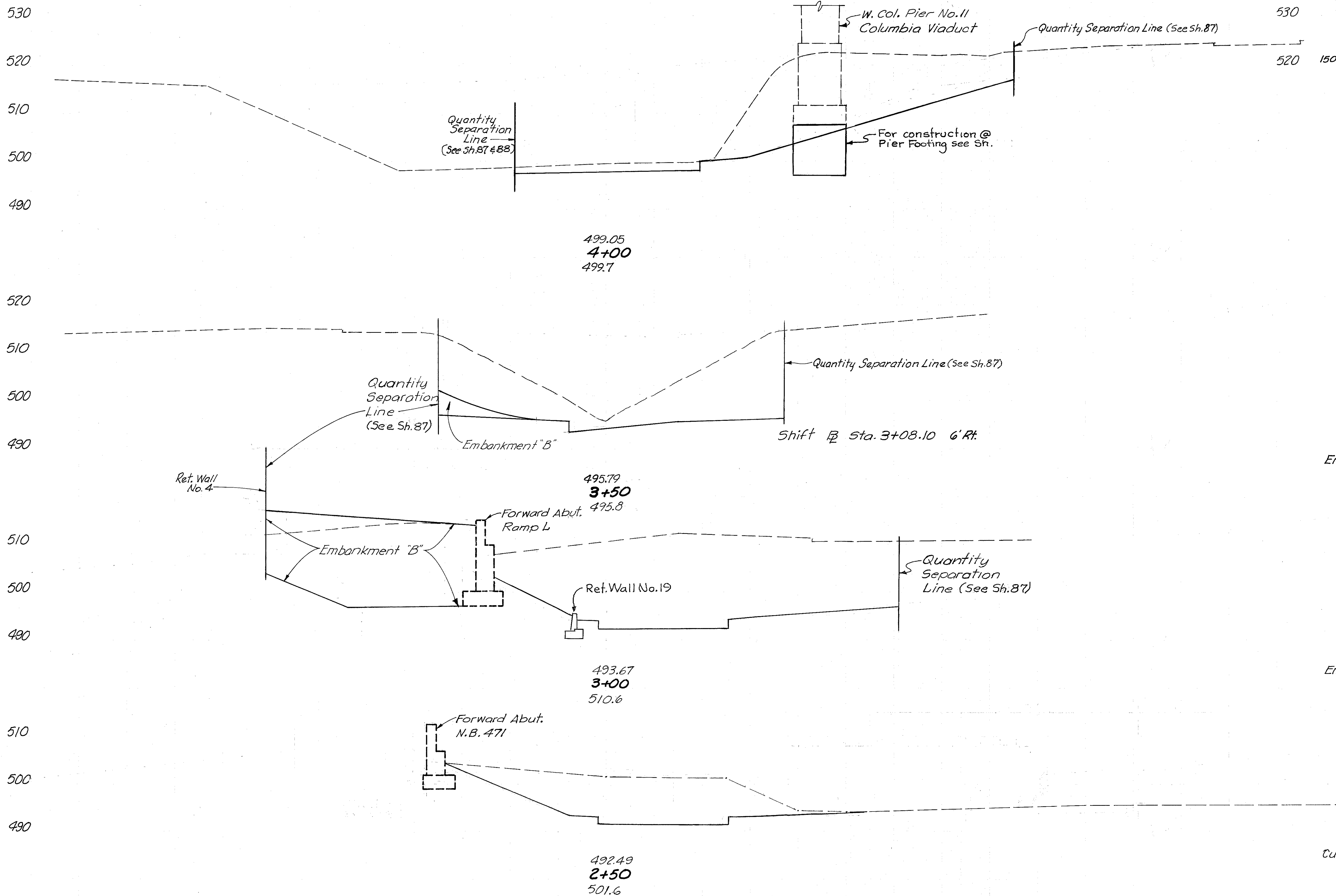


493.74
0+71.78
493.7
Begin Earthwork
Sta. 0+71.78

QUANTITIES
BY: CVE DATE: 11-1-79
CHECKED: C.B.B. DATE: 8-28-80

RAMP P
STA. 0+71.78 TO STA. 2+00
150

HAMILTON COUNTY
HAM-471-024
PART TWO



End Areas
Volume Calc.
Volume Chkd.

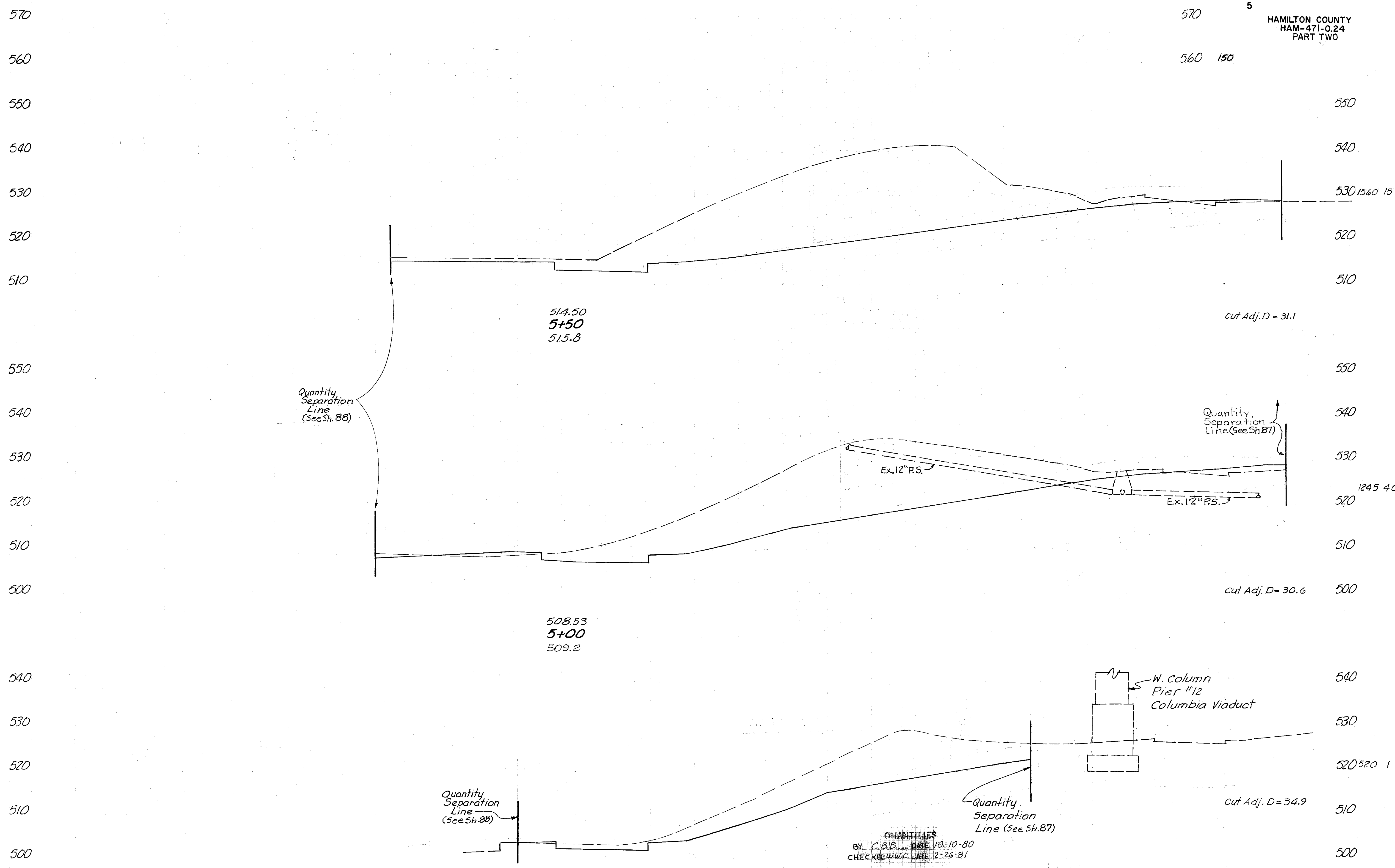
530	530	150	510	0	680	0
520	520	150	500	0	680	0
510	510	150	490	23	1259	0
500	500	150	490	25	680	0
490	490	150	510	0	500	0
490.05	490.05	150	490	718	2518	0
4+00	4+00	150	510	710	2017	0
499.7	499.7	150	500	0	500	0
495.79	495.79	150	490	616	2375	0
3+50	3+50	150	510	0	500	0
495.8	495.8	150	490	50.6	0	0
493.67	493.67	150	490	0	0	0
3+00	3+00	150	490	0	0	0
510.6	510.6	150	490	0	0	0
492.49	492.49	150	490	0	0	0
2+50	2+50	150	490	0	0	0
501.6	501.6	150	490	0	0	0

QUANTITIES
BY C.N.B. DATE 11-6-79
CHECKED C.B.B. DATE 3-08-80

RAMP
STA. 2+50 TO STA. 4+00

280 0

HAMILTON COUNTY
HAM-471-0.24
PART TWO



End Areas
Volume Calc.
Volume Chkd

Quantity
Separation
Line
(See Sh. 88)

Quantity
Separation
Line (See Sh. 87)

QUANTITIES
BY: C.B.B. DATE 10-10-80
CHECKED: W.C. DATE 2-26-81

RAMP P
STA. 4+50 TO STA. 5+50

514.50
5+50
515.8

508.53
5+00
509.2

503.73
4+50
503.5
0

cut Adj. D = 31.1

cut Adj. D = 30.6

cut Adj. D = 34.9

1615 51

1000 38

776 1

530 1560 15

1245 40

520 520 1

680 0

100

50

0

50

100

101
346

HAMILTON COUNTY
HAM-471-024
PART TWO

570

570

560

560 150

550

550

540

540 225 15

530

530

200

532.54
7+00
533.0

Cut Adj. D= 46.1

747 16

570

570

560

560

550

550

540

540

530

530

520

520

650 2

Exist. Cylinder
Pile Wall (Typ.)

Pier 8
Ramp L

Ex. Abut.
Ramp L

526.50
6+50
527.0

Cut Adj. D= 31.2

1011 32

570

570

560

560

550

550

540

540

1100 33

530

530

520

520

1571 44

Quantity
Separation
Line (See Sh. 88)

520.50
6+00
521.0

Cut Adj. D= 31.9

QUANTITIES
BY C.B.B. DATE 10-10-80
CHECKED W.W.C. DATE 2-26-81

RAMP P
STA. 6+00 TO STA. 7+00

1560 15

100

50

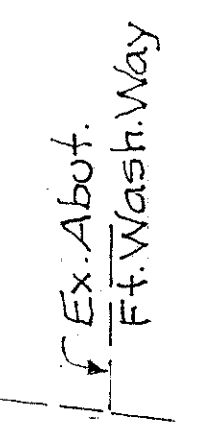
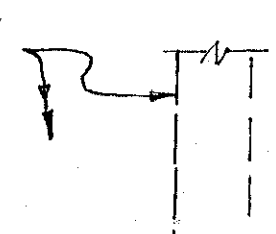
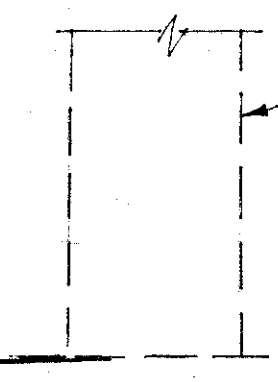
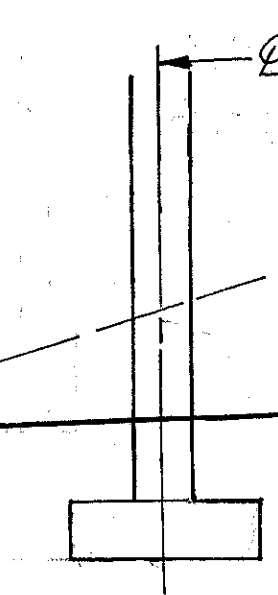
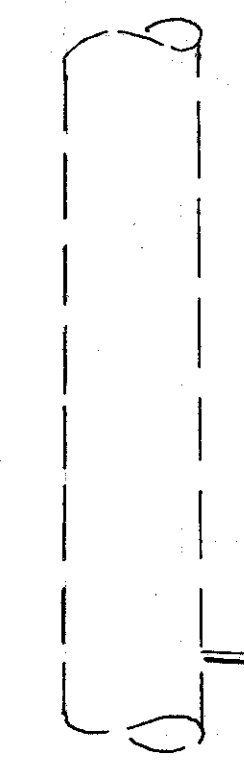
0

50

100

150

End Areas
Volume Calc.
Volume Chkd.



100

50

±

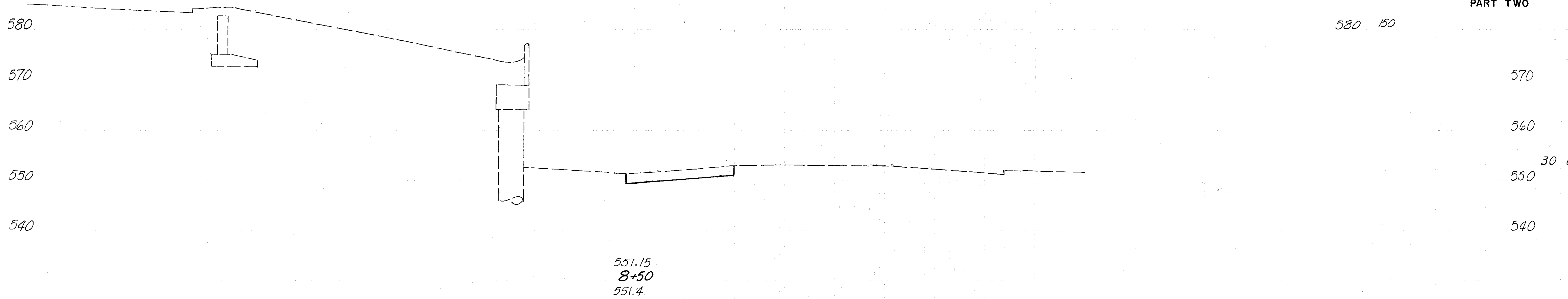
50

100

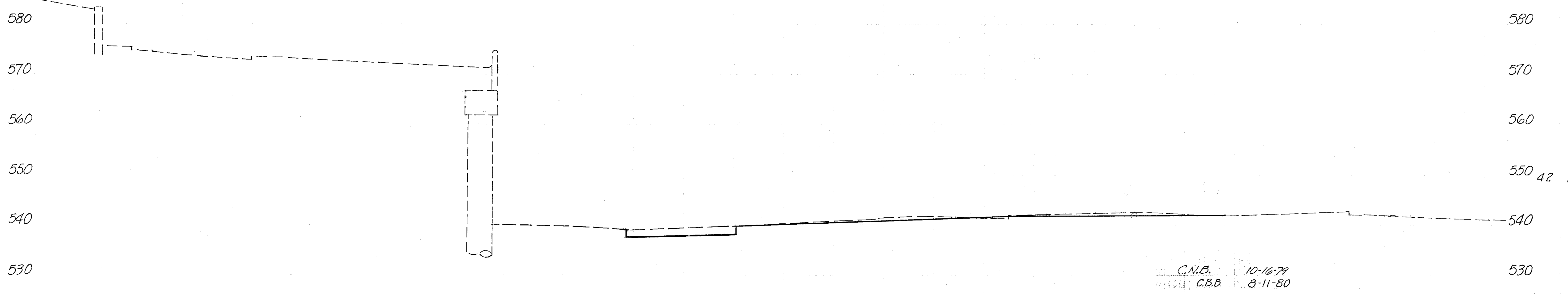
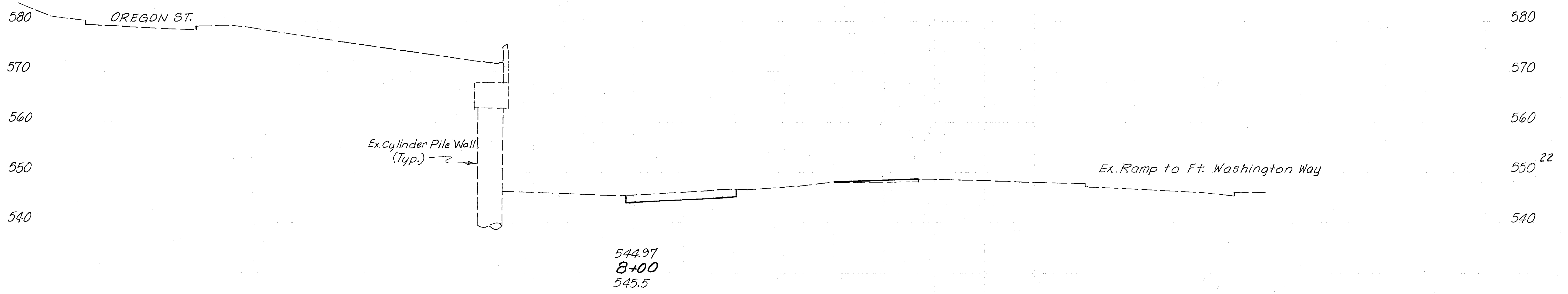
102
346

5
HAMILTON COUNTY
HAM-471-0.24
PART TWO

580 150



End Areas
Volume Calc.
Volume Check.



C.N.B. 10-16-79
C.B.B. 8-11-80

RAMP P
STA. 7+50 TO STA. 8+50
150

225 15

100

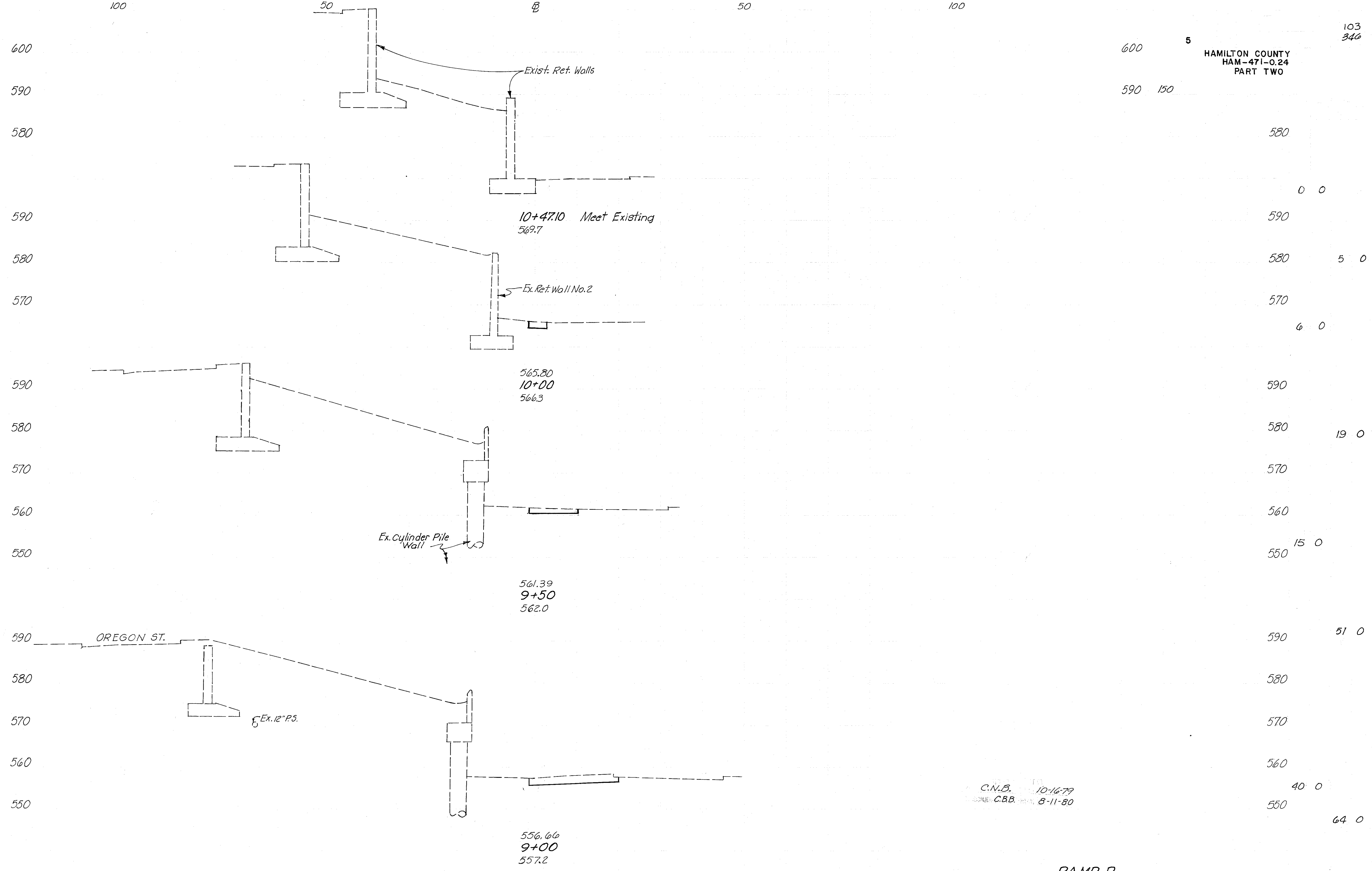
50

±

50

100

End Areas
Volume Calc.
Volume Ch. kd.

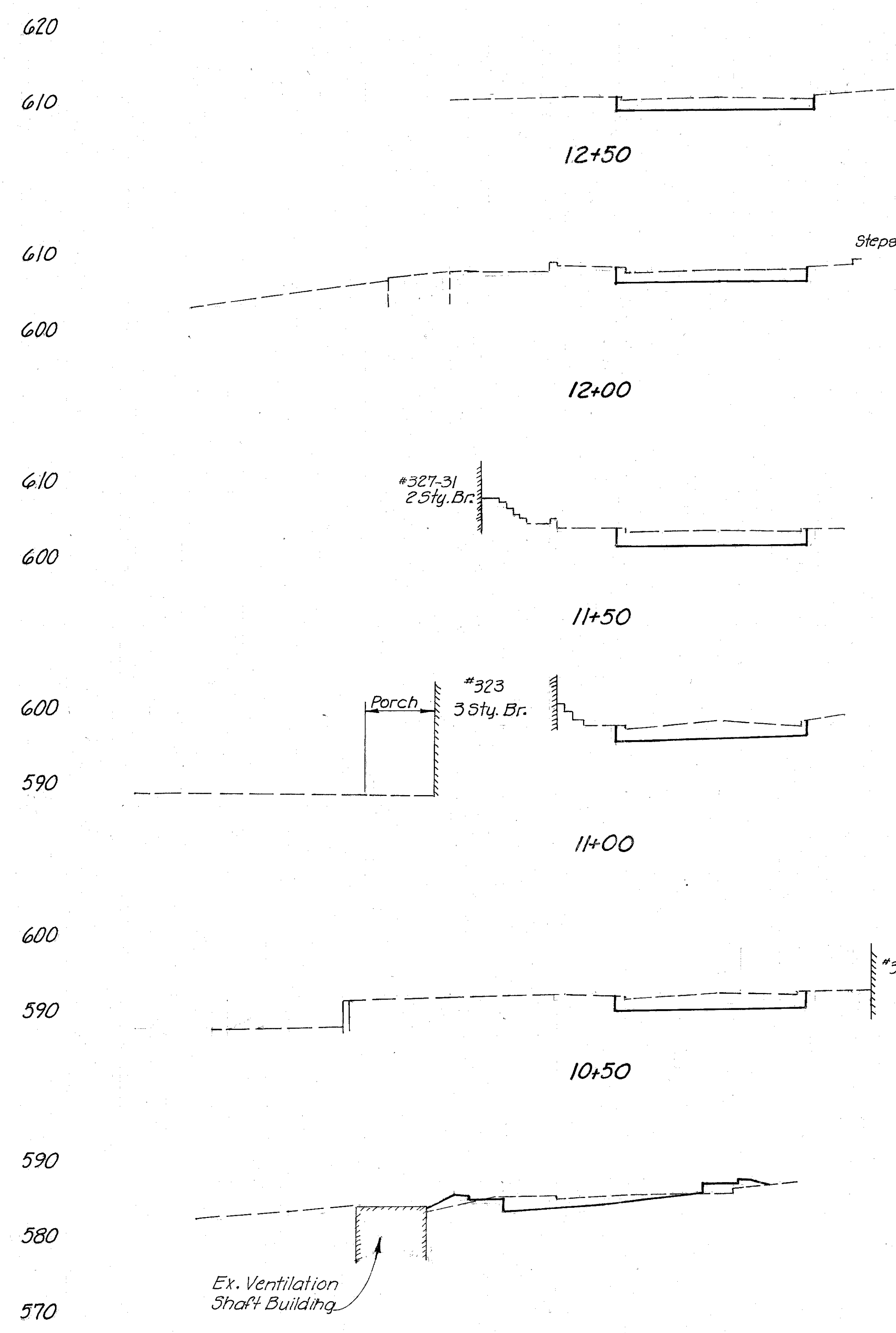


C.N.B. 10-16-79
C.B.B. 8-11-80

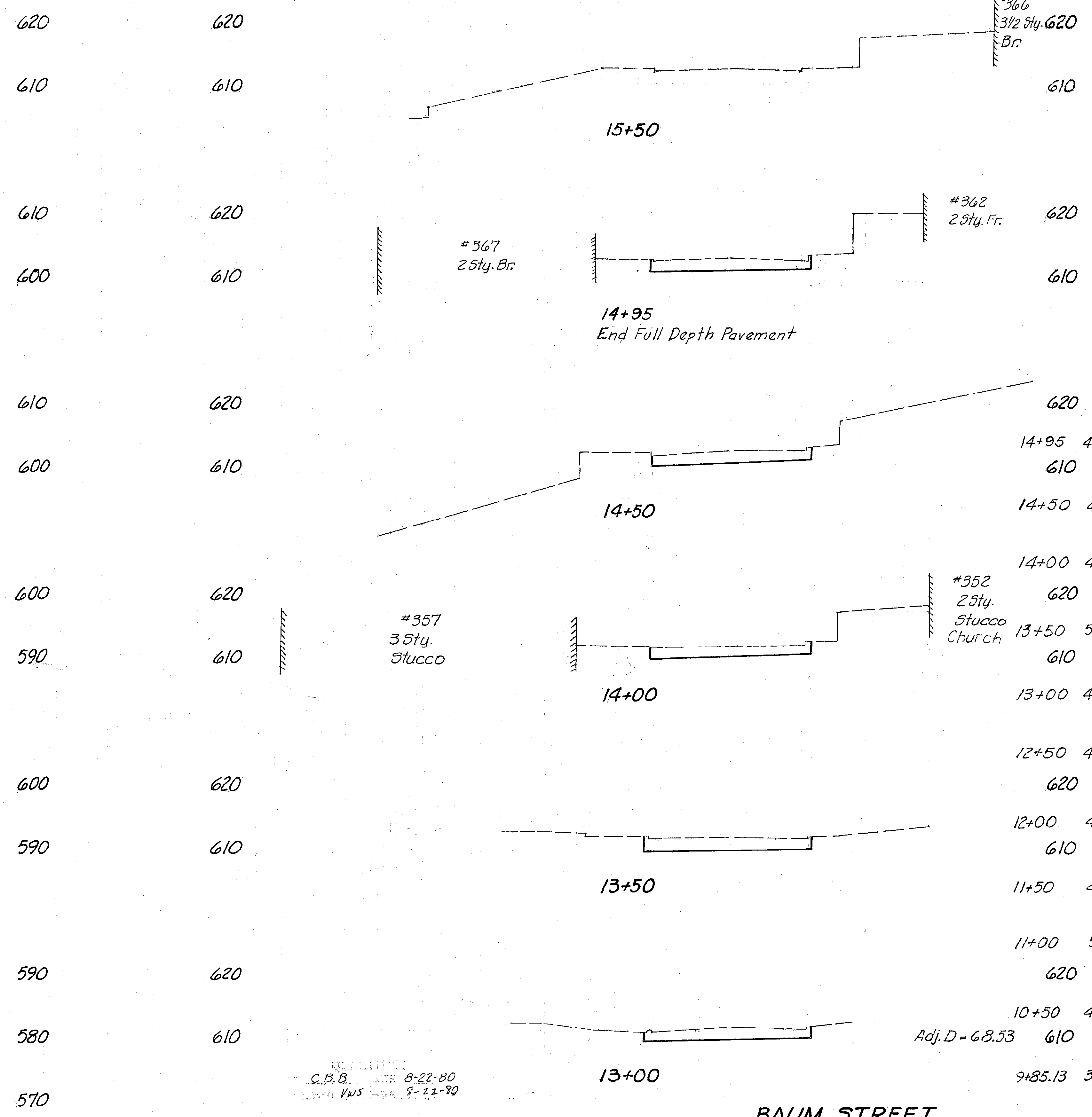
RAMP P
STA. 9+00 TO STA. 10+47.10

600	5	
590	150	
580		0 0
590		5 0
580		6 0
590		19 0
580		15 0
590		51 0
580		40 0
570		64 0
560		
550		
550		30 0

HAMILTON COUNTY
HAM-471-0.24
PART TWO



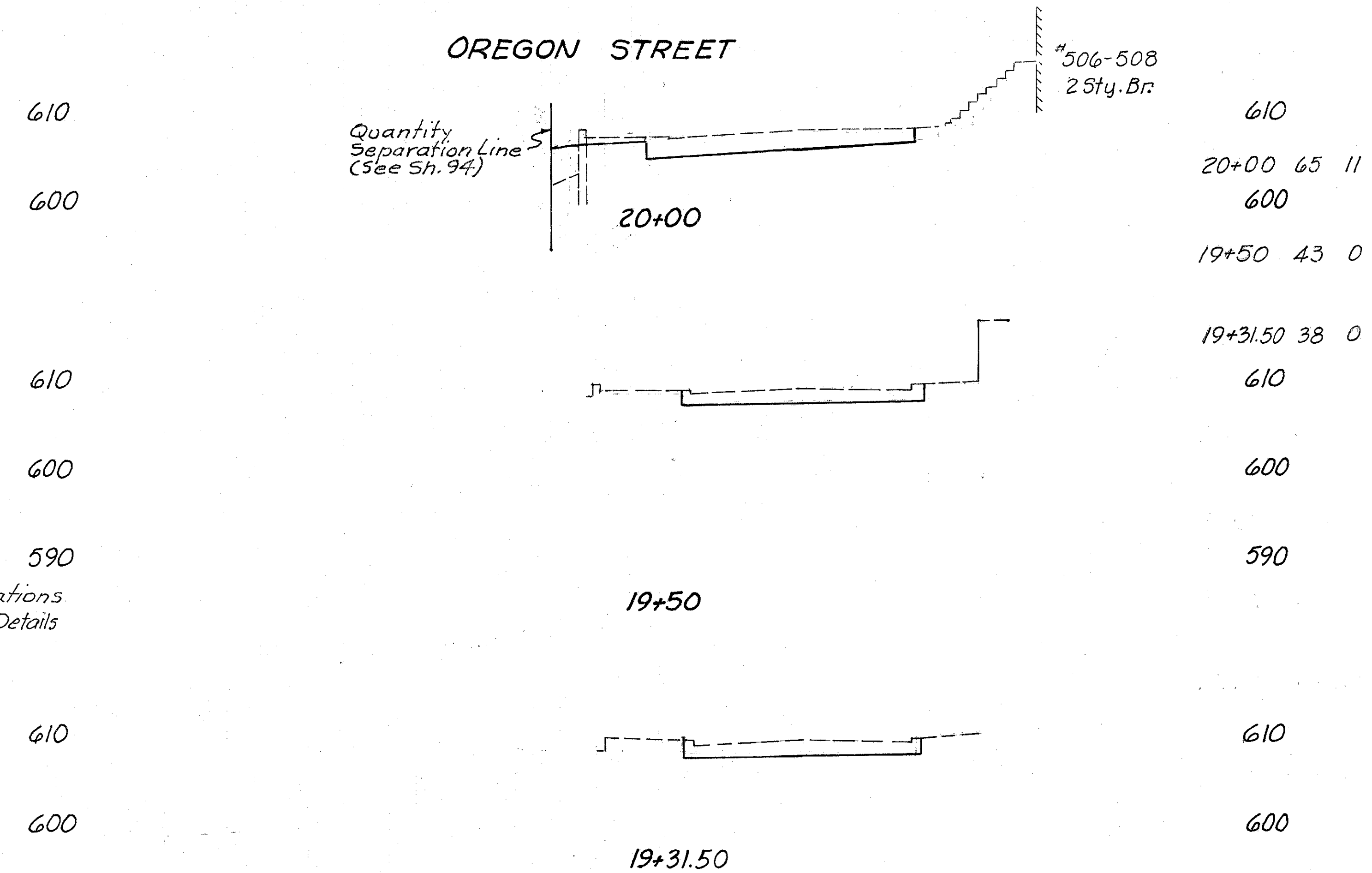
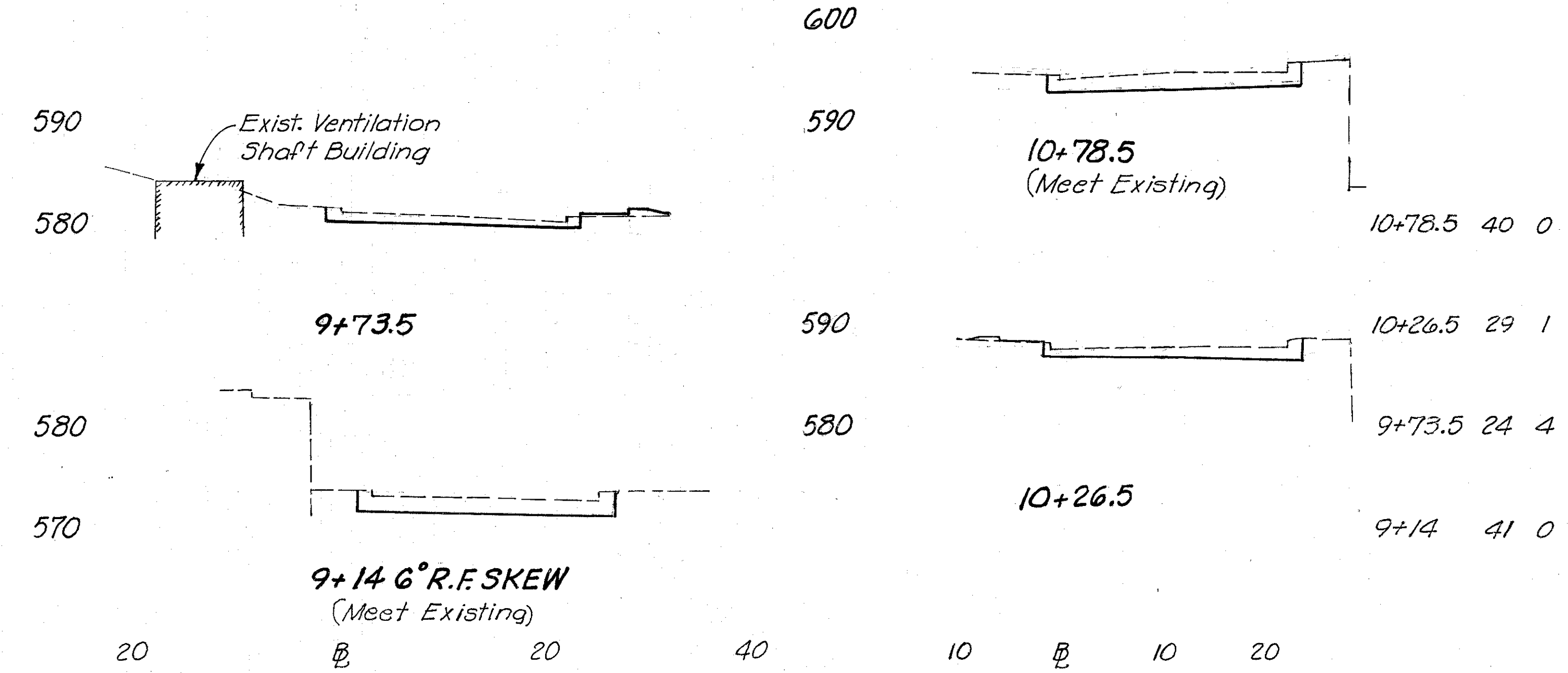
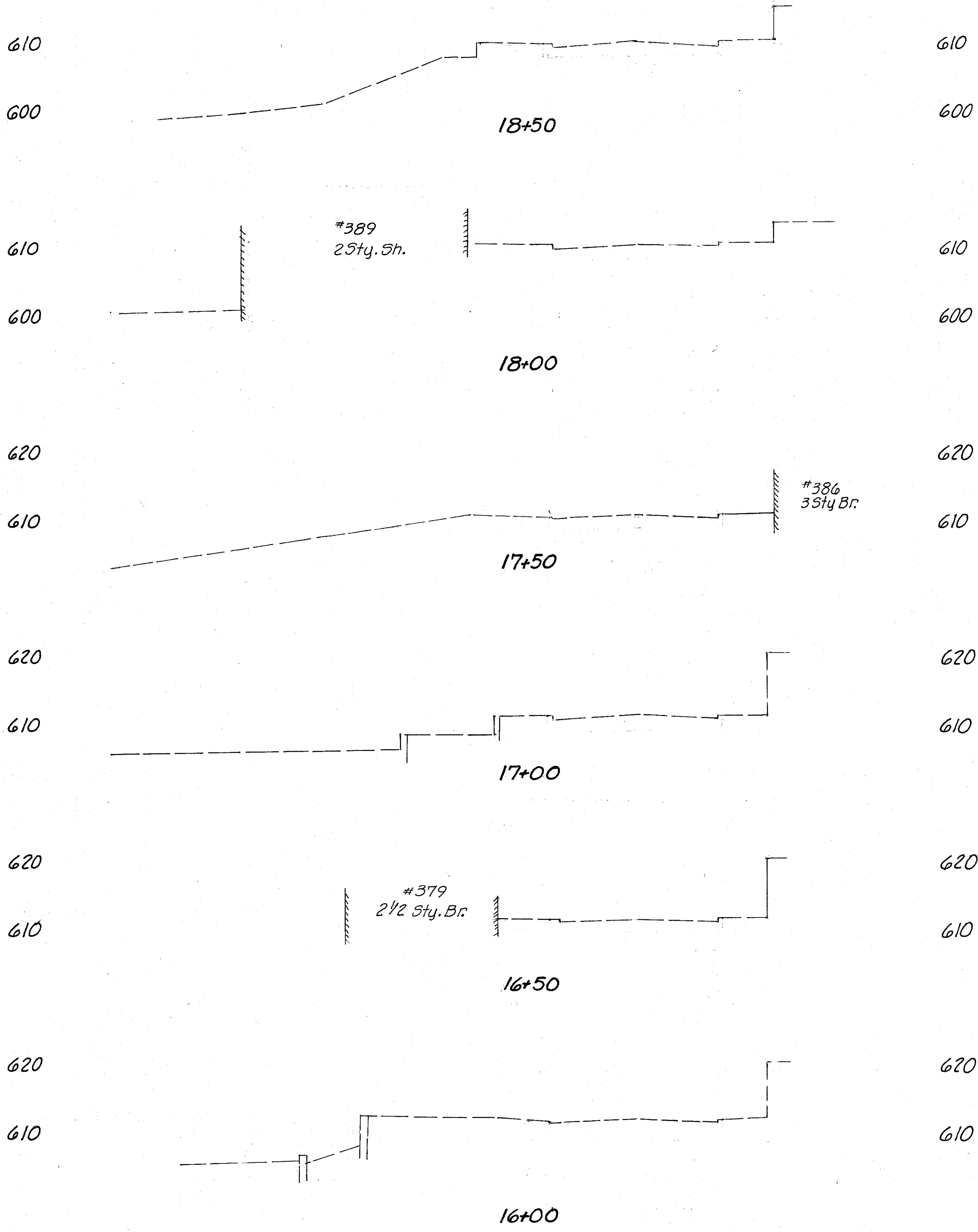
For Typ elevations
See Grade Detail
Sh. No. 116



14+95	45 0	
	610	73 0
14+50	43 0	77 0
	14+00	40 0
	620	83 0
	13+50	50 0
	610	87 0
	13+00	44 0
		78 0
	12+50	40 0
	620	74 0
	12+00	40 0
	610	79 0
	11+50	45 0
		88 0
	11+00	50 0
	620	91 0
	10+50	48 0
	Adj. D = 68.53	610
		99 19
	9+85.13	30 15

C.B.B. 8-22-80
VNS 9-22-80

BAUM STREET
STA. 9+85.13 TO STA. 15+50



For *T_p* elevations
See Grade Details
Sheet No. 116

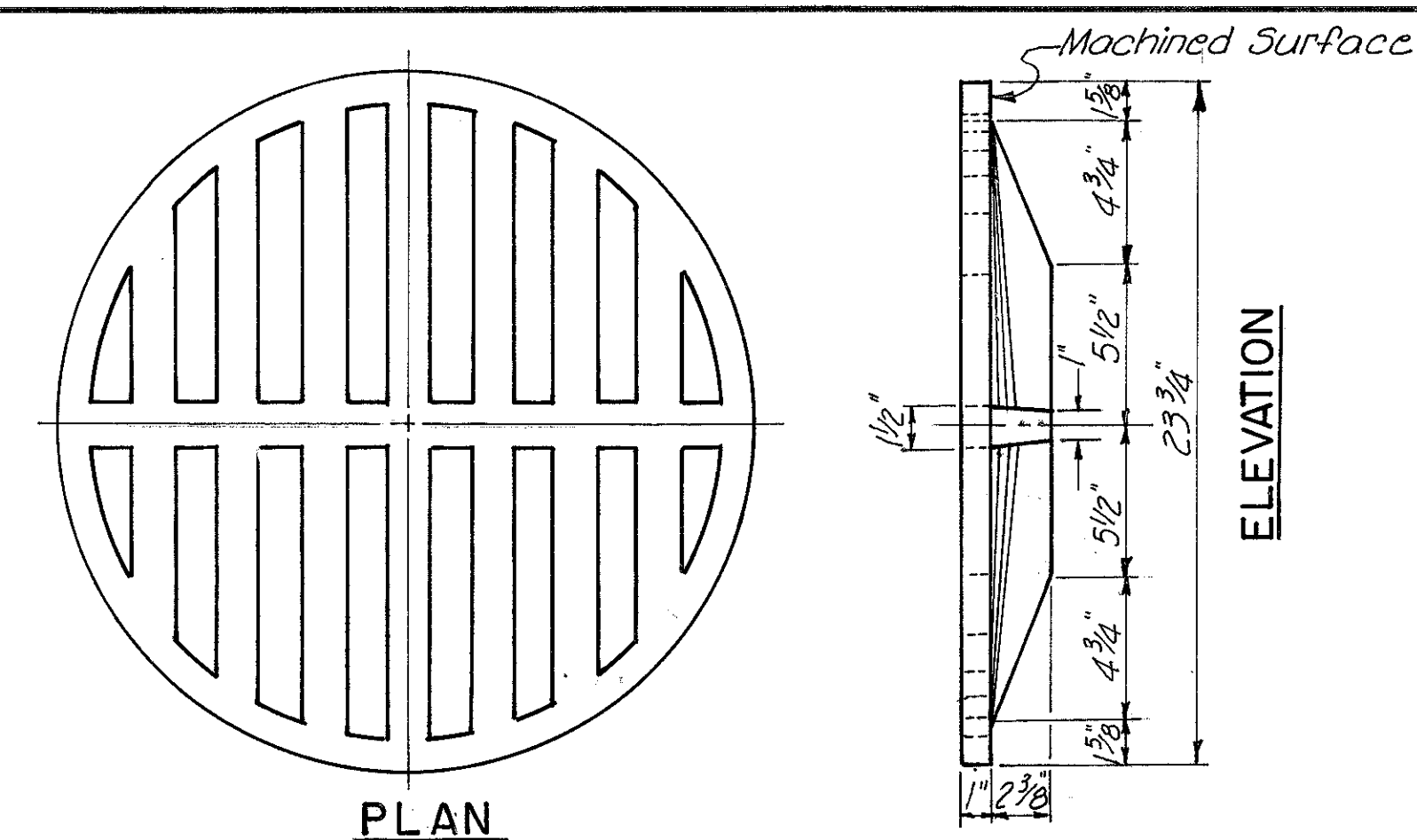
DATE: 8-22-80
SCC: [unclear]
DATE: 8-22-80

19+31.50
Begin Full Depth Pavement
BAUM STREET STA. 16+00 TO STA. 20+00
OREGON STREET STA. 9+14 TO STA. 10+78.5

10+78.5	40	0	66	1
10+26.5	29	1	52	5
9+73.5	24	4	72	4
9+14	41	0		

20+00	65	11	100	10
19+50	43	0	28	0
19+31.50	38	0		

Note: All Acc. No's shown are City of Cincinnati Acc. No's.

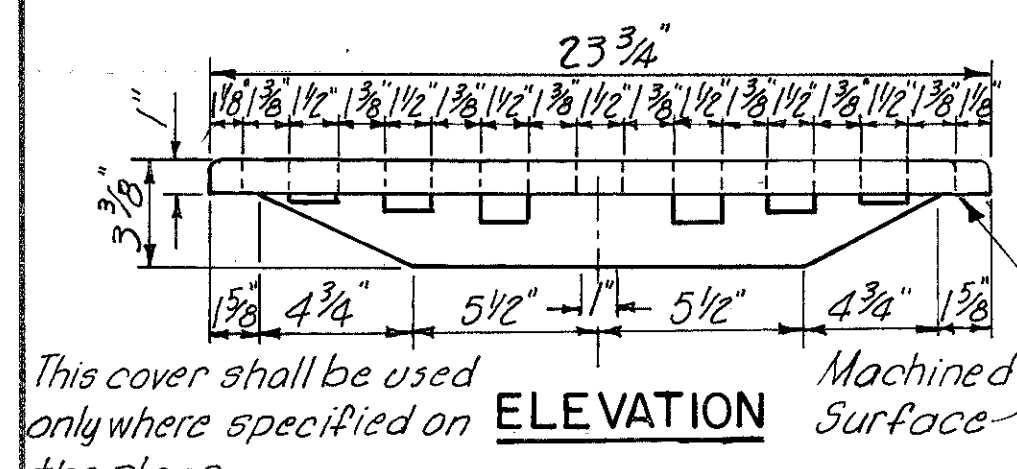


PLAN

ELEVATION

City of Cincinnati
Acc. No. 49007

Note: For use with city manhole frame, Acc. No. 49005. Approx. Wt. 105 lbs. All Castings to receive 2 Coats of Bituminous Paint.

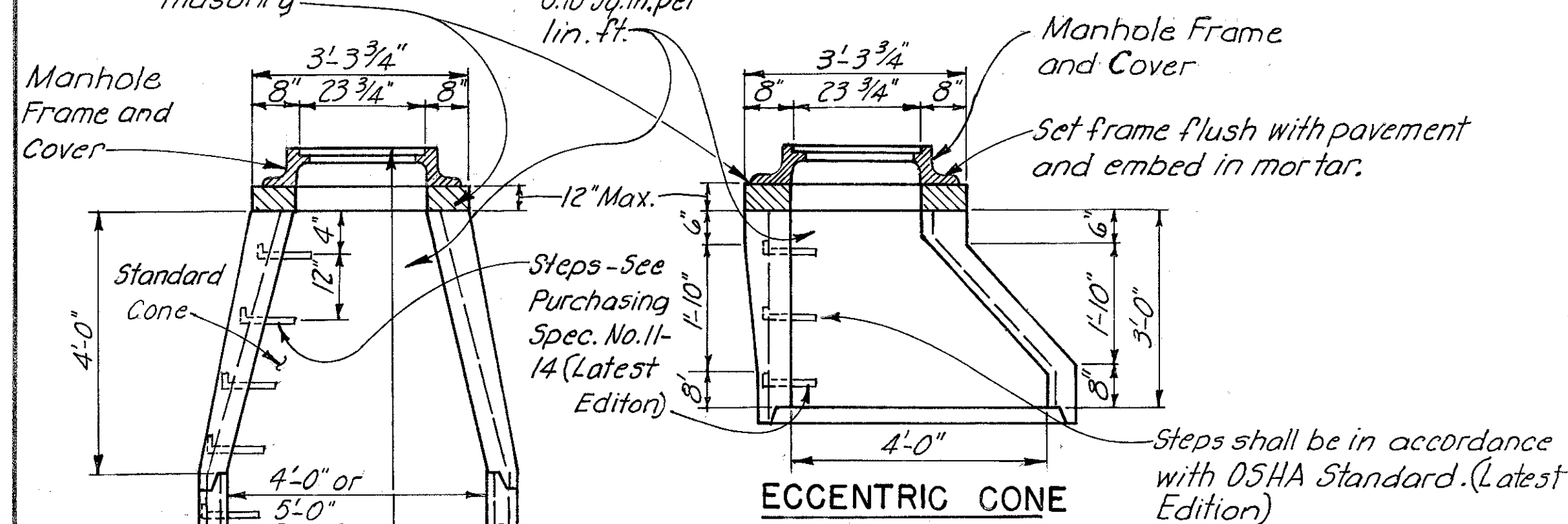


This cover shall be used only where specified on the plans.

GRATING MANHOLE COVER

Adjust casting to grade with brick masonry

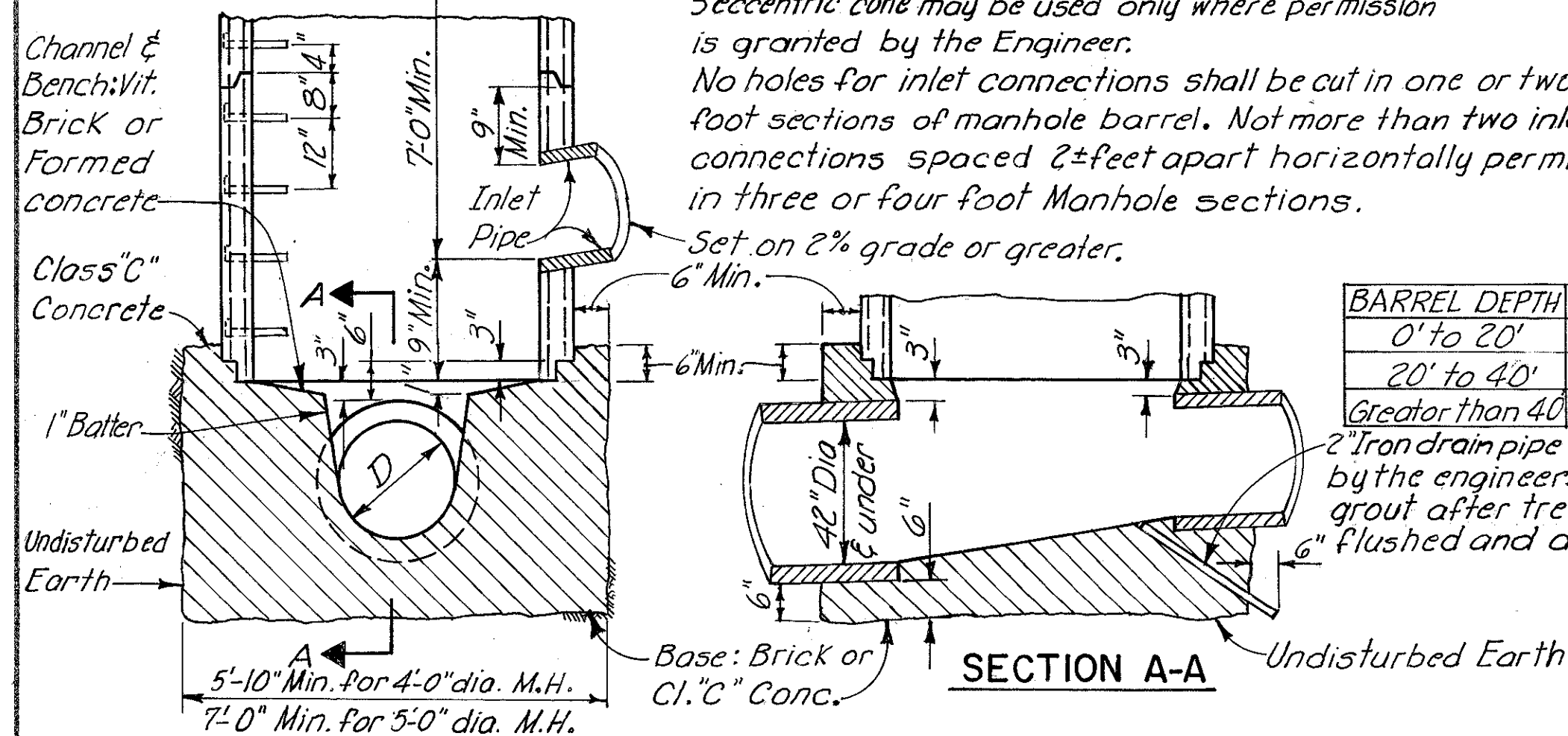
Cone Reinf. 0.10 Sq. in. per lin. ft.



ECCENTRIC CONE

3' eccentric cone may be used only where permission is granted by the Engineer. No holes for inlet connections shall be cut in one or two foot sections of manhole barrel. Not more than two inlet connections spaced 2 feet apart horizontally permitted in three or four foot manhole sections.

Set on 2% grade or greater.



BARREL DEPTH	WALL THICKNESS
0' to 20'	9"
20' to 40'	13"
Greater than 40'	18"

2" Iron drain pipe to be used as directed by the engineer. Fill completely with grout after trench has been 6" flushed and drained.

PRECAST CONCRETE BARREL

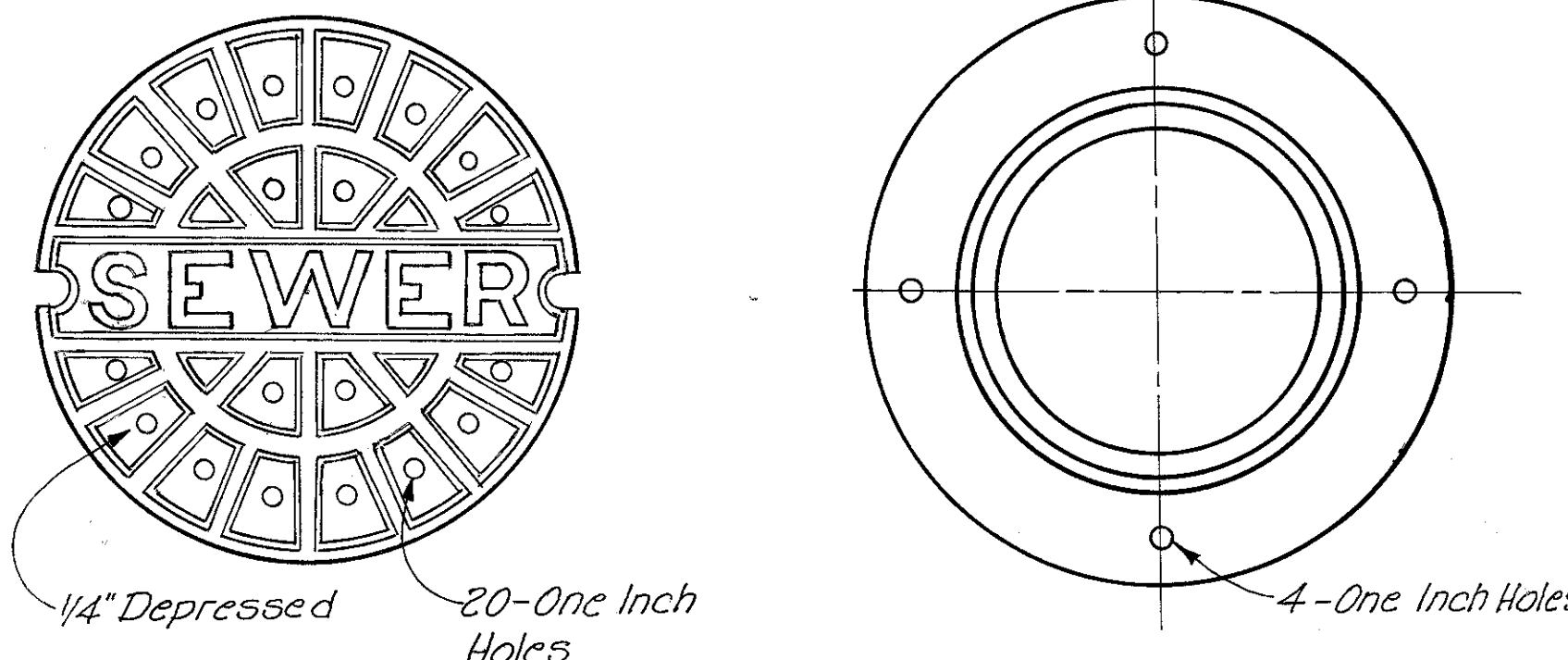
Joints on manhole sections shall be made with a rubber gasket meeting the requirement of ASTM C-443, except that only 'O' Ring and 'Tylox CR' gaskets are acceptable.

MANHOLE TYPE P

City of Cincinnati Acc. 49001

5' diameter manhole shall be constructed of 60" precast concrete manhole sections. A 5' to 4' reducer shall be used immediately under the cone.

Precast concrete barrels, cones and reducers shall meet requirements of 706.13 Precast Reinforced Concrete Manhole Riser Sections. State of Ohio Department of Highways Construction and Materials Specifications (Latest Edition).

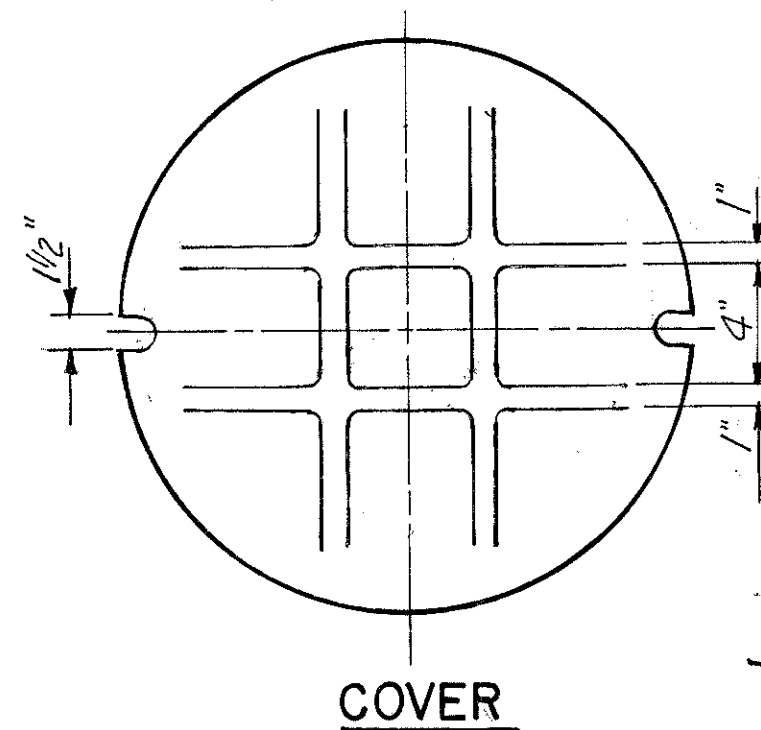


FRAME

COMPUTED WEIGHTS

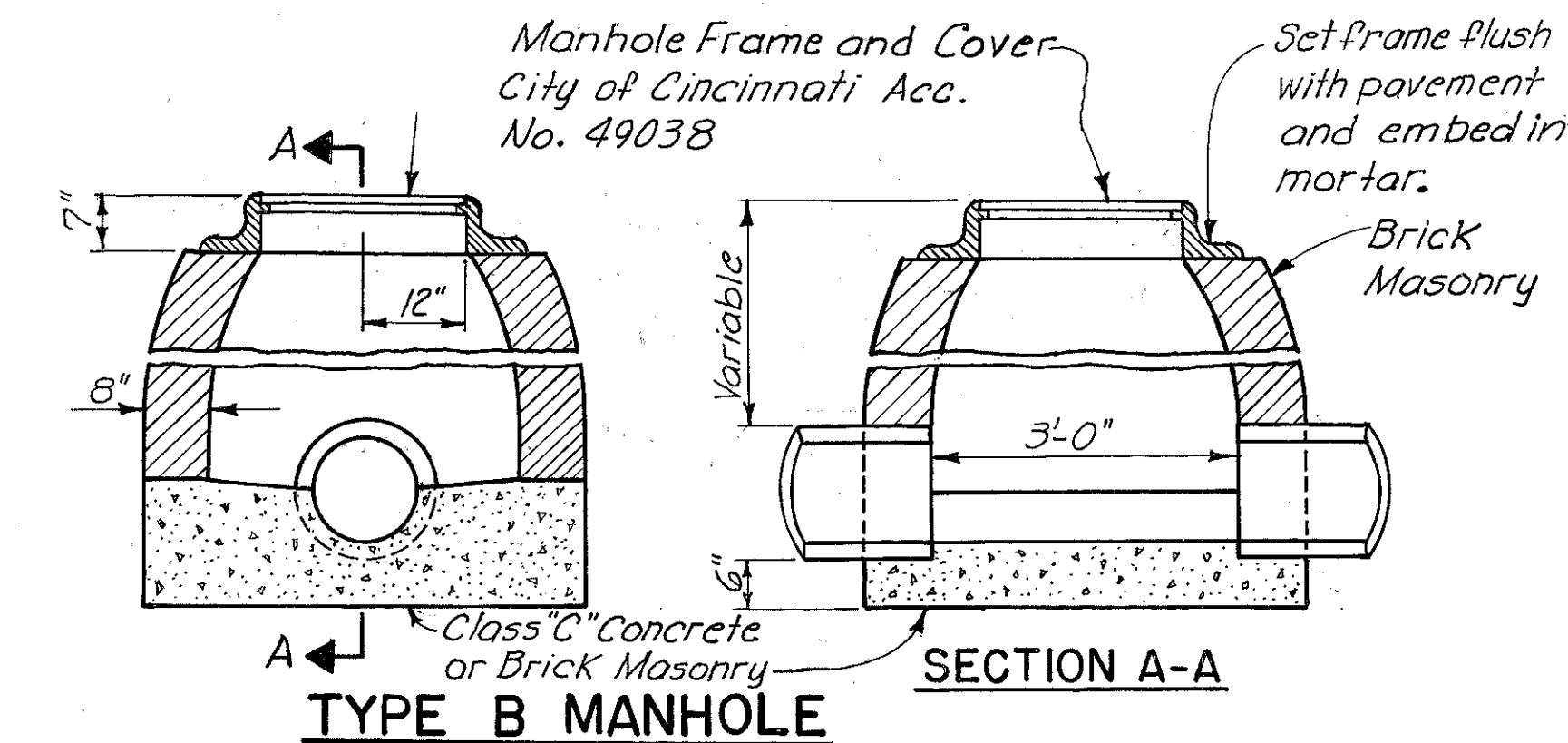
Frame	332 lbs.
Cover	155 lbs.
Total	487 lbs.

City of Cincinnati Acc. No. 49005



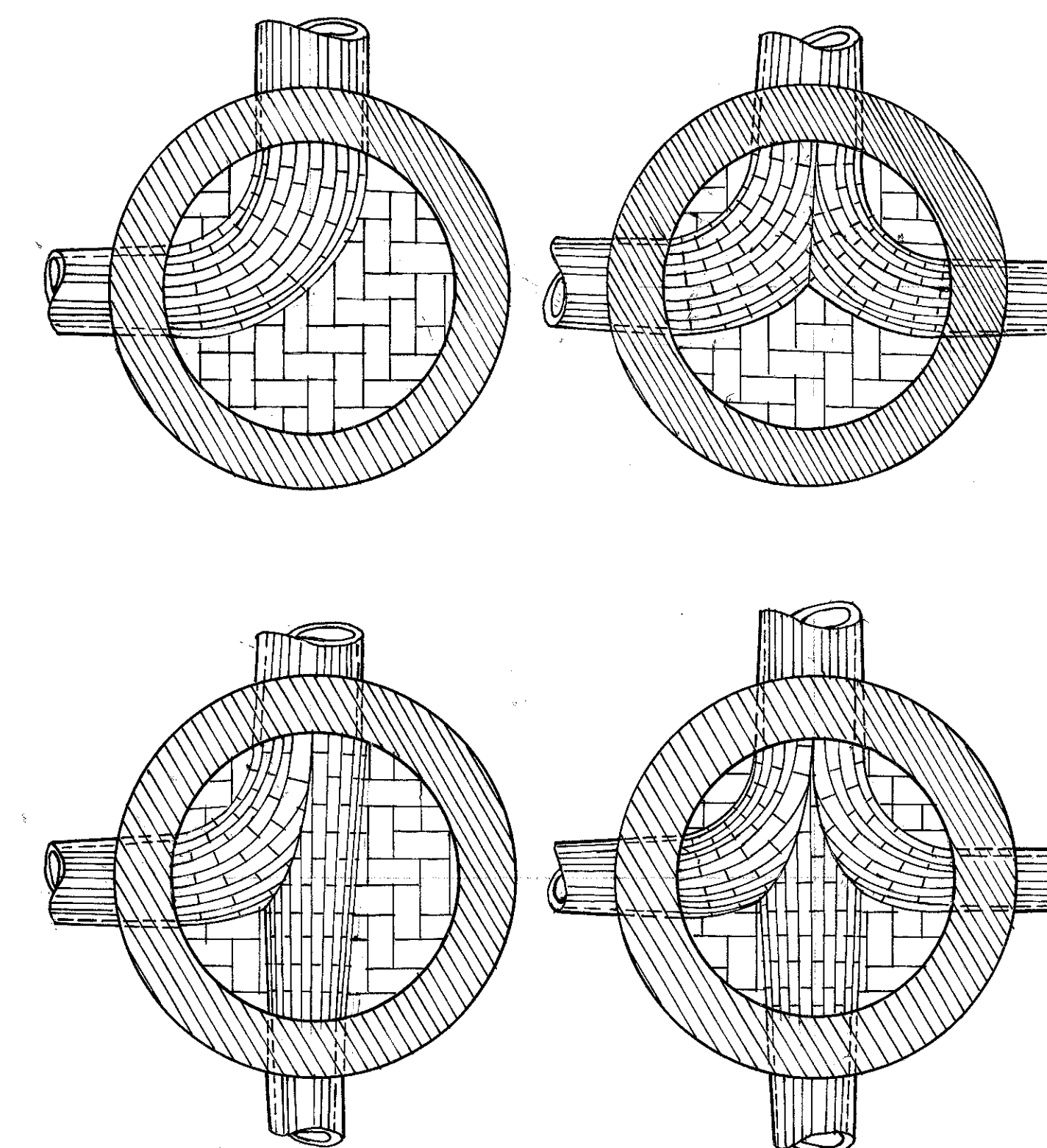
COVER

MANHOLE FRAME AND COVER



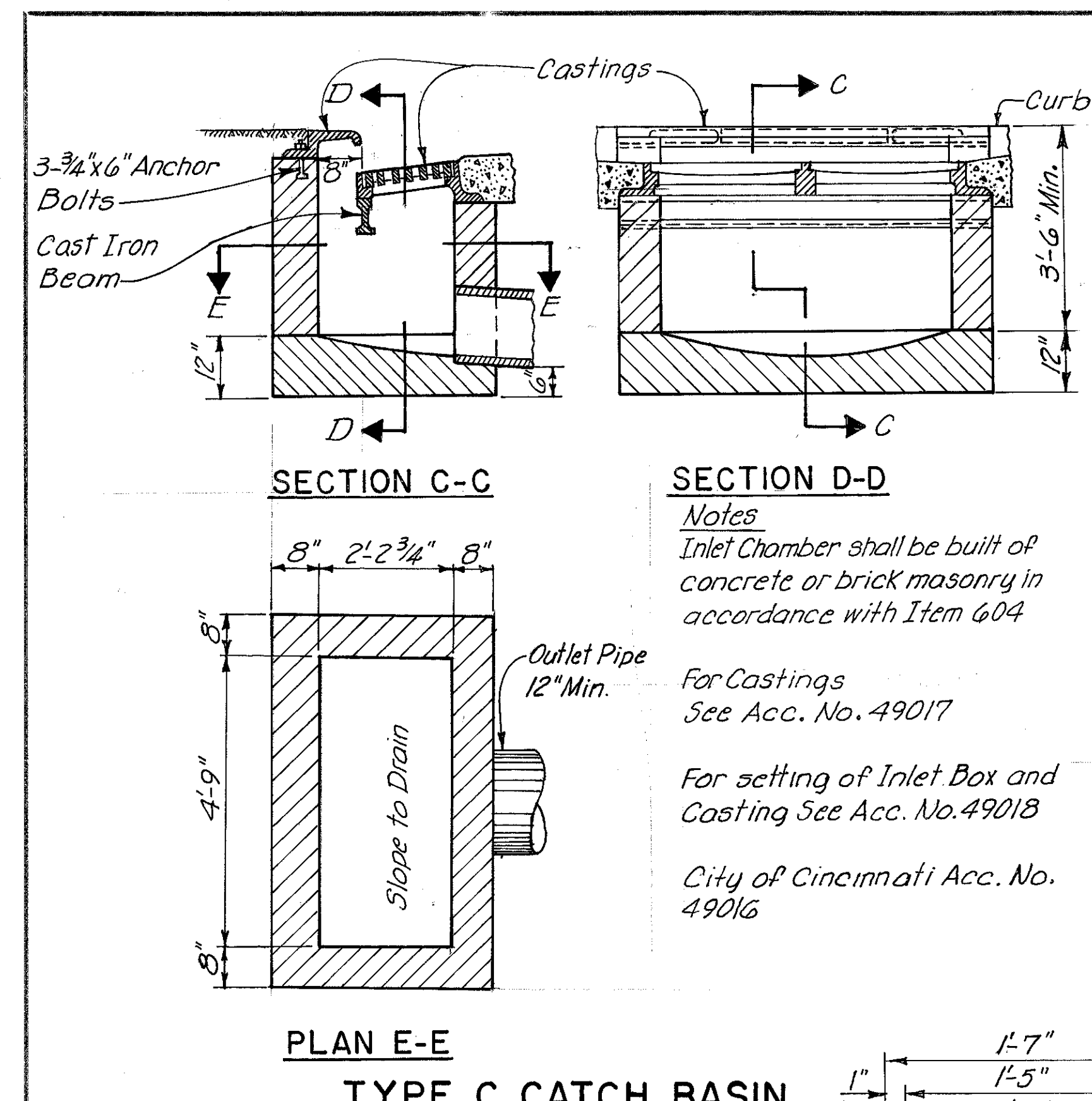
TYPE B MANHOLE

Note: Channel and Bench may be made of vitrified brick or formed of Class C concrete. Where sewer does not change size or direction at manhole, channel pipe may be used.



City of Cincinnati Acc. No. 49004

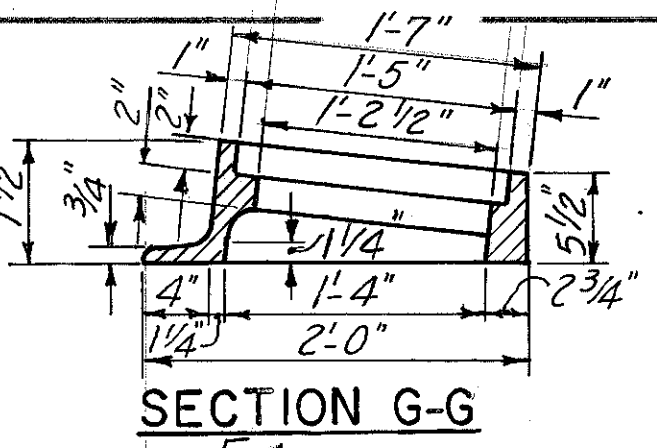
TYPICAL INVERTS



SECTION C-C

SECTION D-D

PLAN E-E



SECTION G-G

Notes
Inlet Chamber shall be built of concrete or brick masonry in accordance with Item 604

For Castings See Acc. No. 49017

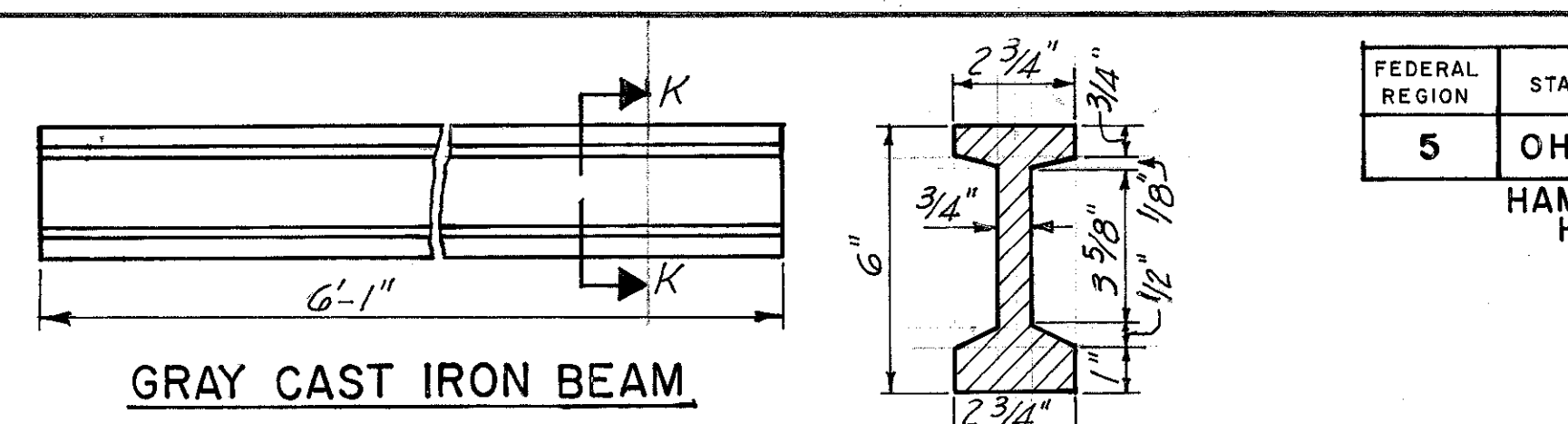
For setting of Inlet Box and Casting See Acc. No. 49018

City of Cincinnati Acc. No. 49016

WALL HORIZONTAL REINFORCING STEEL DEPTH	BAR SPACING
4' to 8'	#5 @ 16"
8' to 12'	#5 @ 12"
12' to 16'	#5 @ 8"

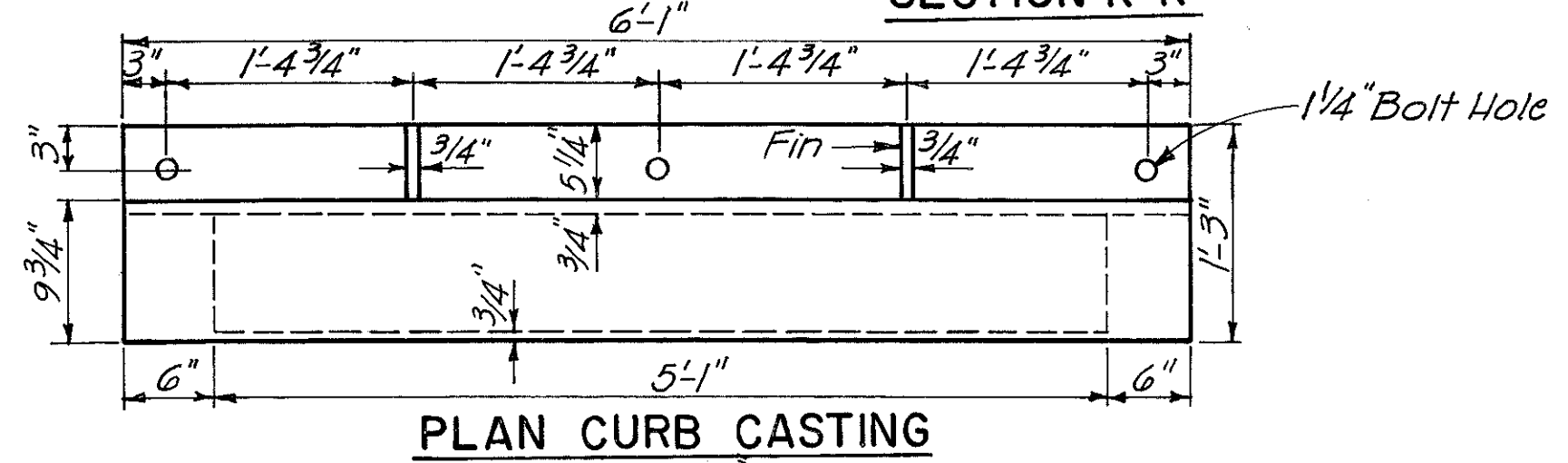
Notes:
All bars shall clear interior face of wall by 2". Bar lengths shall be 5'-10" for longer side and 3'-5" for the short side. Vertical reinforcing bars shall be #5 and placed 2'± o.c. Four of these shall be located at the corners of the chambers.

Note: All casting to receive 2 coats of Bituminous paint

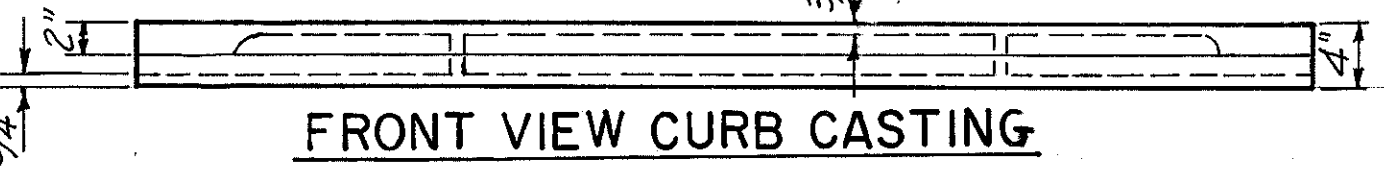


GRAY CAST IRON BEAM

SECTION K-K



PLAN CURB CASTING



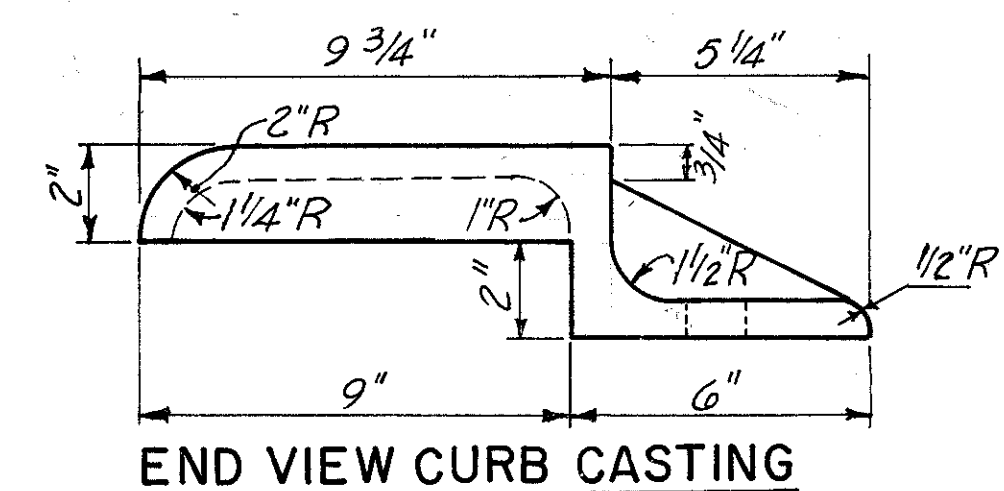
FRONT VIEW CURB CASTING

For Grating Details See Type A-2 Catch Basin-this sheet

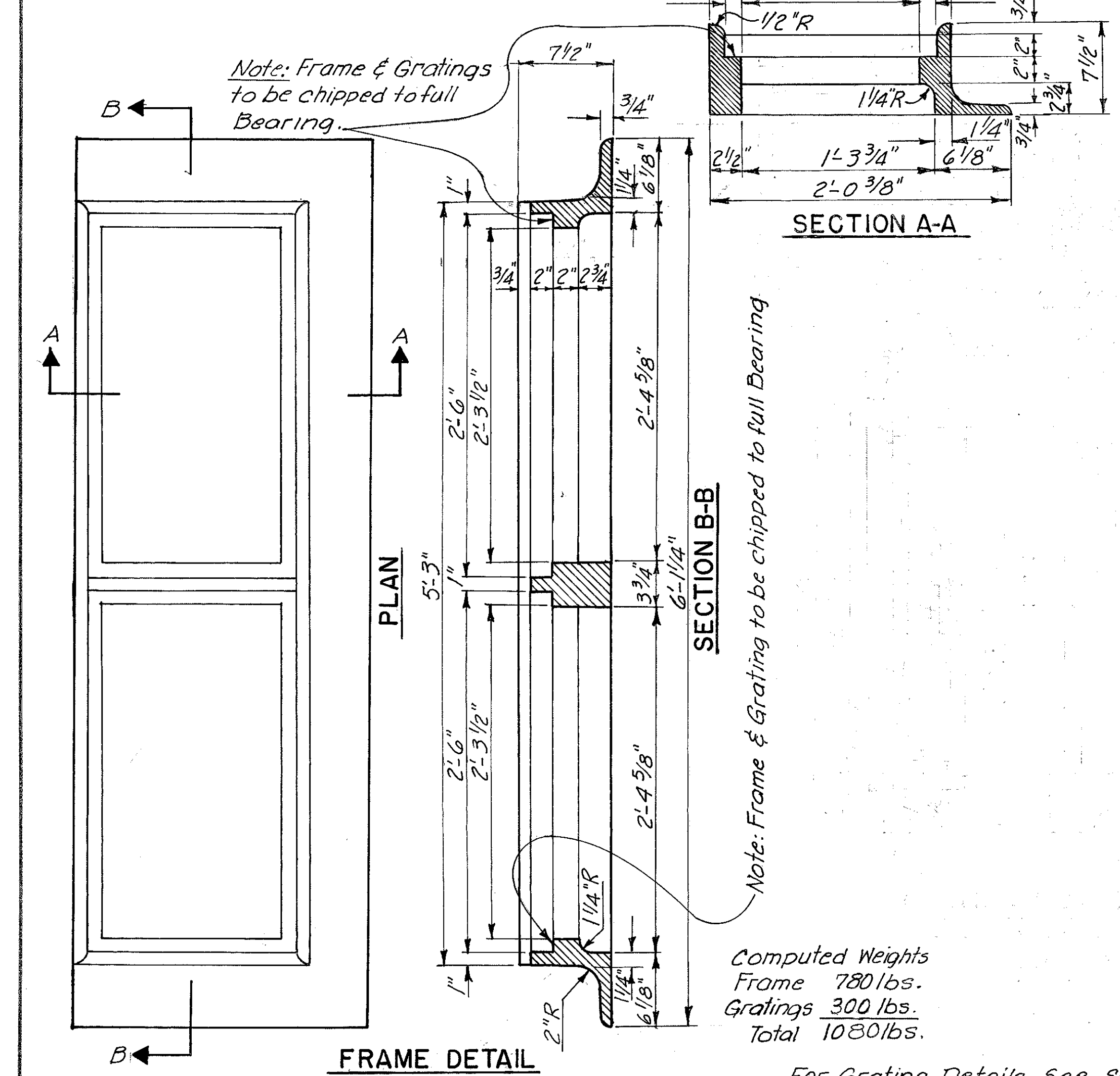
GRATING DETAIL
2'-REQUIRED

Computed Weights

Frame	680 Lbs.
Gratings	296 Lbs.
Curb Casting	305 Lbs.
Cast Iron Beam	162 Lbs.
Total	1443 Lbs



END VIEW CURB CASTING



TYPE C CATCH BASIN

SECTION A-A

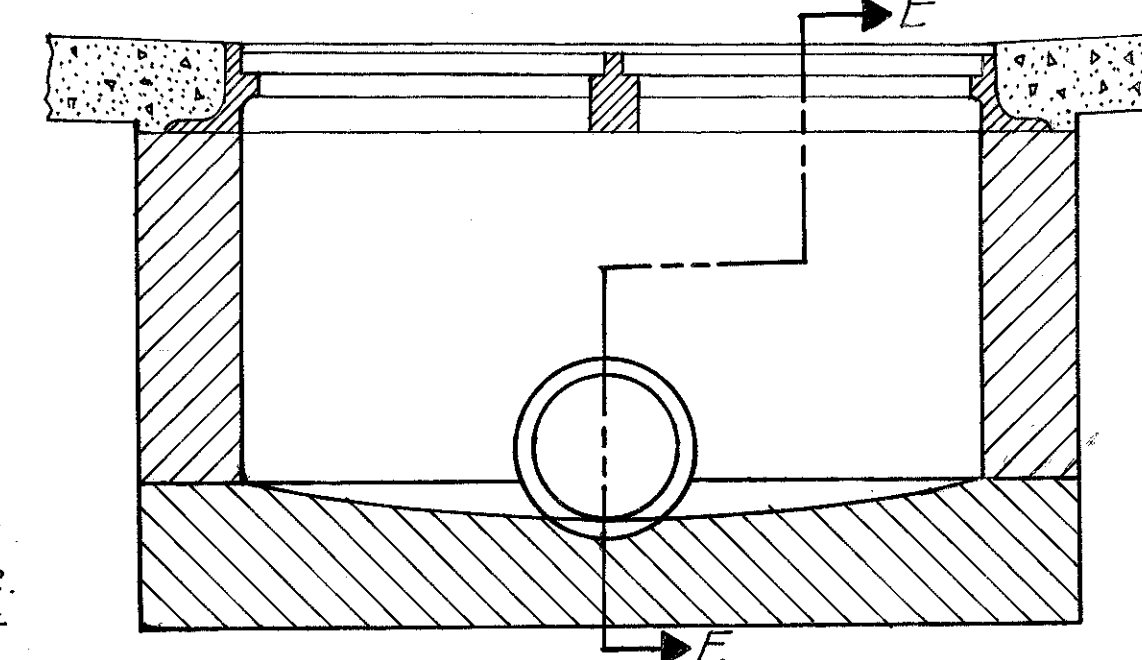
SECTION B-B

WALL HORIZONTAL REINFORCING STEEL DEPTH	BAR SPACING
4' to 8'	#5 @ 16"
8' to 12'	#5 @ 12"
12' to 16'	#5 @ 8"

Notes:
All bars shall clear interior face of wall by 2". Bar lengths shall be 6'-2" for longer side and 2'-4" for the short side. Vertical reinforcing bars shall be #5 and placed 2'± o.c. Four of these shall be located at the corners of the chambers.

For Castings See Acc. No. 49014

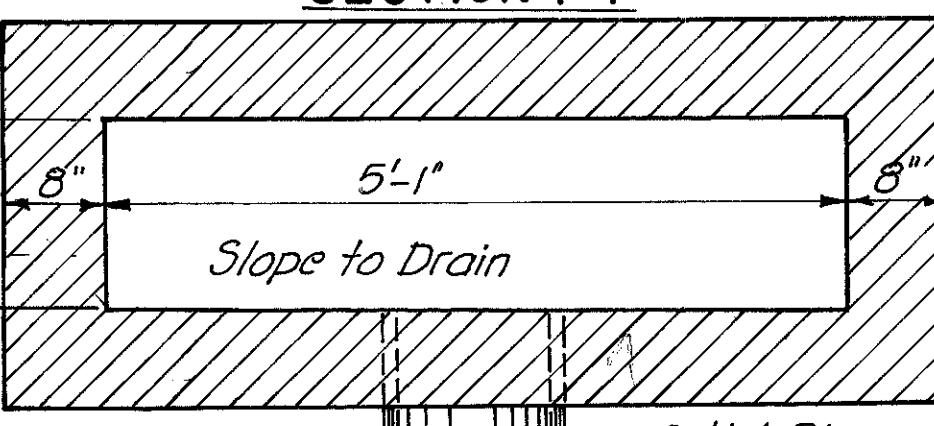
CASTING FOR TYPE C CATCH BASIN



SECTION F-F

WALL HORIZONTAL REINFORCING STEEL DEPTH	BAR SPACING
4' to 8'	#5 @ 16"
8' to 12'	#5 @ 12"
12' to 16'	#5 @ 8"

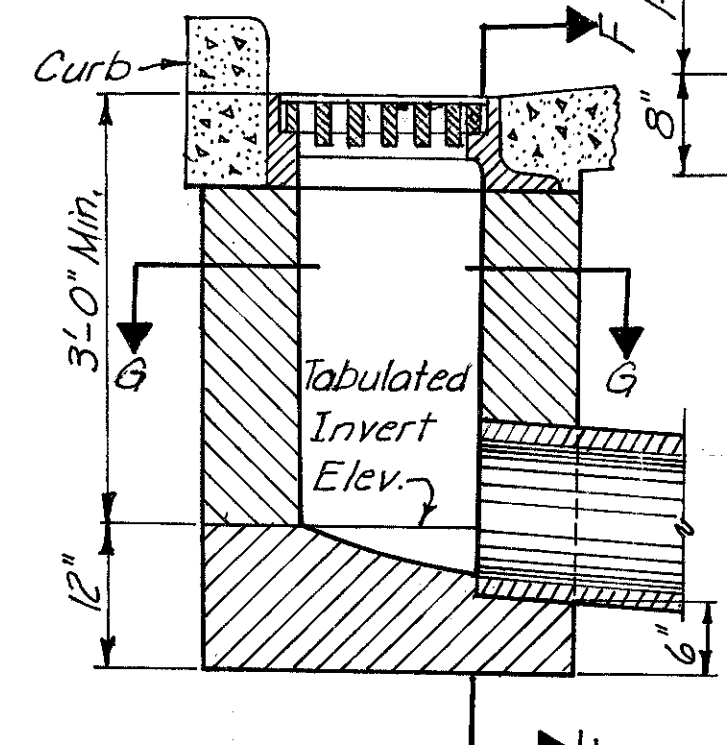
Notes:
All bars shall clear interior face of wall by 2". Bar lengths shall be 5'-10" for longer side and 4'-7" for the short side. Vertical reinforcing bars shall be #5 and placed 2'± o.c. Four of these shall be located at the corners of the chambers.



PLAN G-G

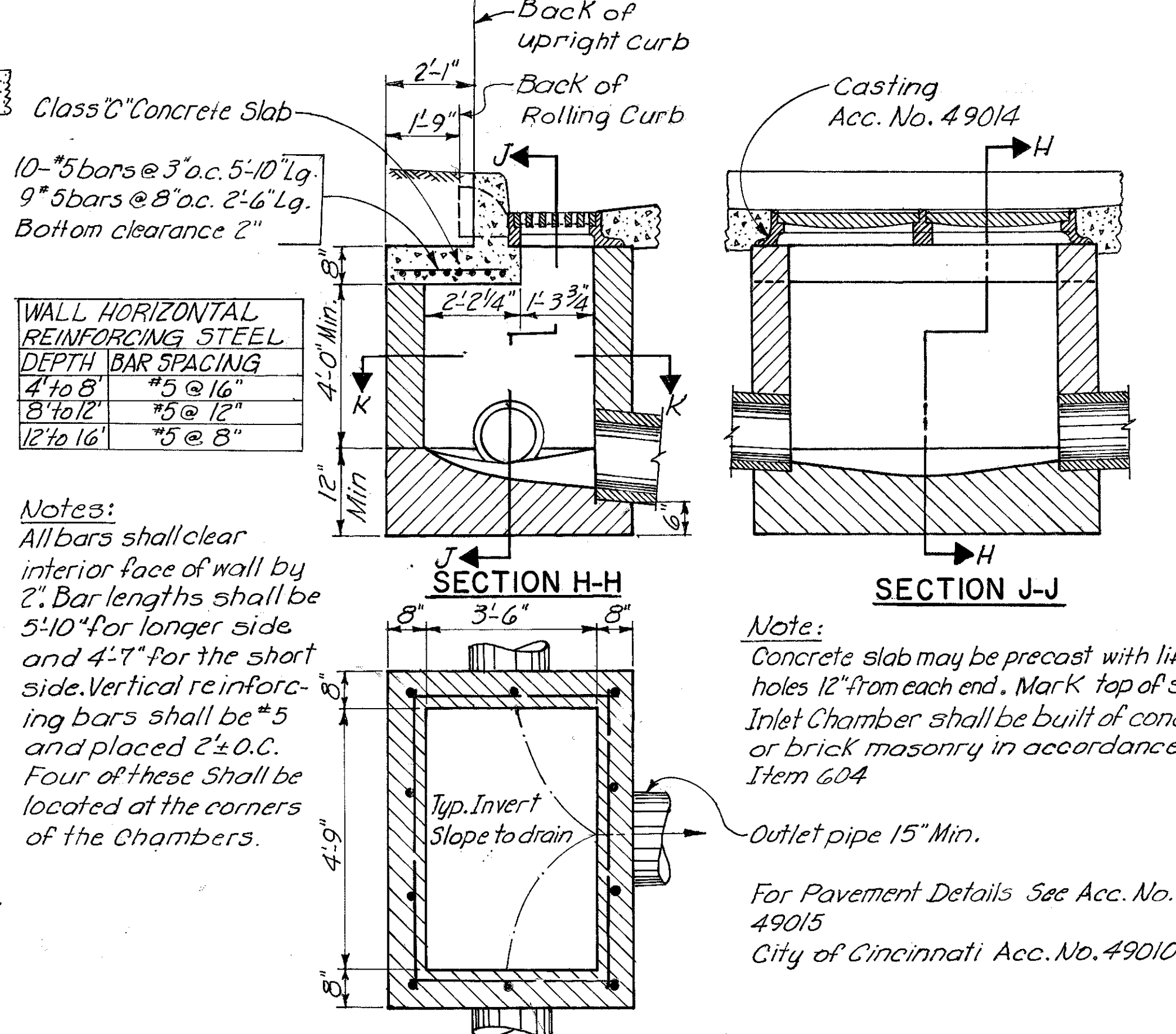
Inlet chamber shall be built of concrete or brick masonry in accordance with Item 604. For setting of Inlet Box and Castings See Acc. No. 49015.

City of Cincinnati Acc. No. 49013



SECTION E-E

TYPE A-2 CATCH BASIN



SECTION H-H

SECTION J-J

PLAN K-K

TYPE P CATCH BASIN
SEWER DETAILS

Note:
Concrete slab may be precast with lift holes 12" from each end. Mark top of slab. Inlet Chamber shall be built of concrete or brick masonry in accordance with Item 604

Outlet pipe 15" Min.
For Pavement Details See Acc. No. 49015
City of Cincinnati Acc. No. 49010

Computed Weights

Frame	780 lbs.
Gratings	300 lbs.
Total	1080 lbs.

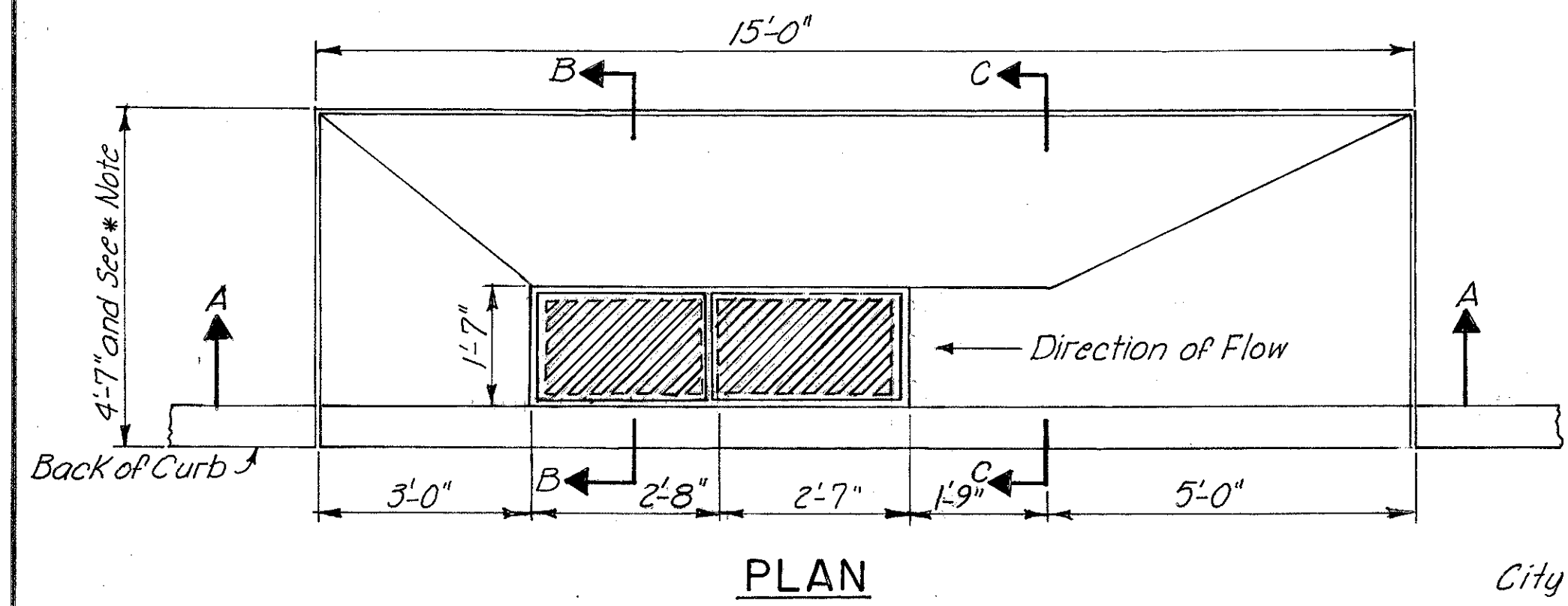
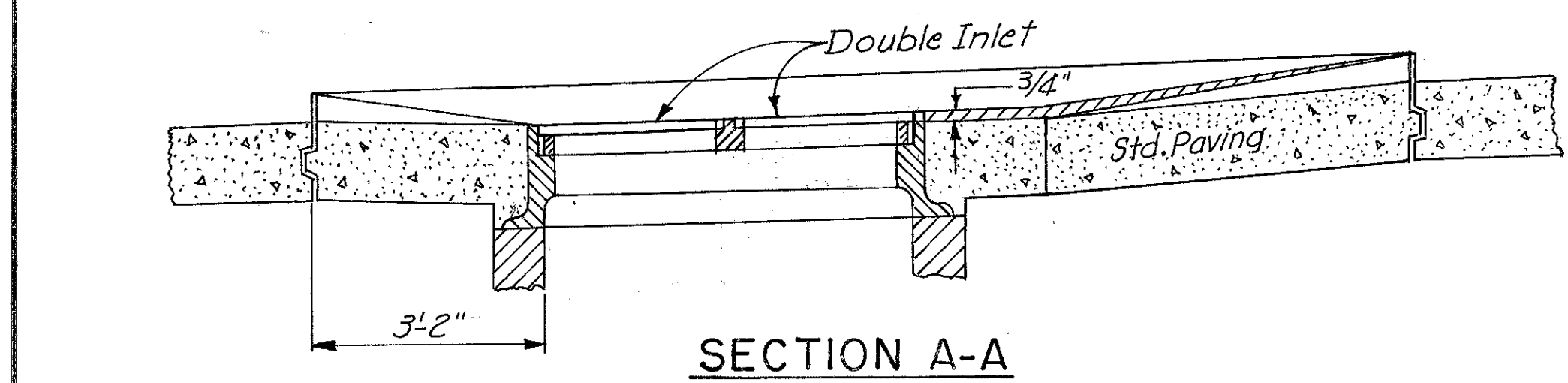
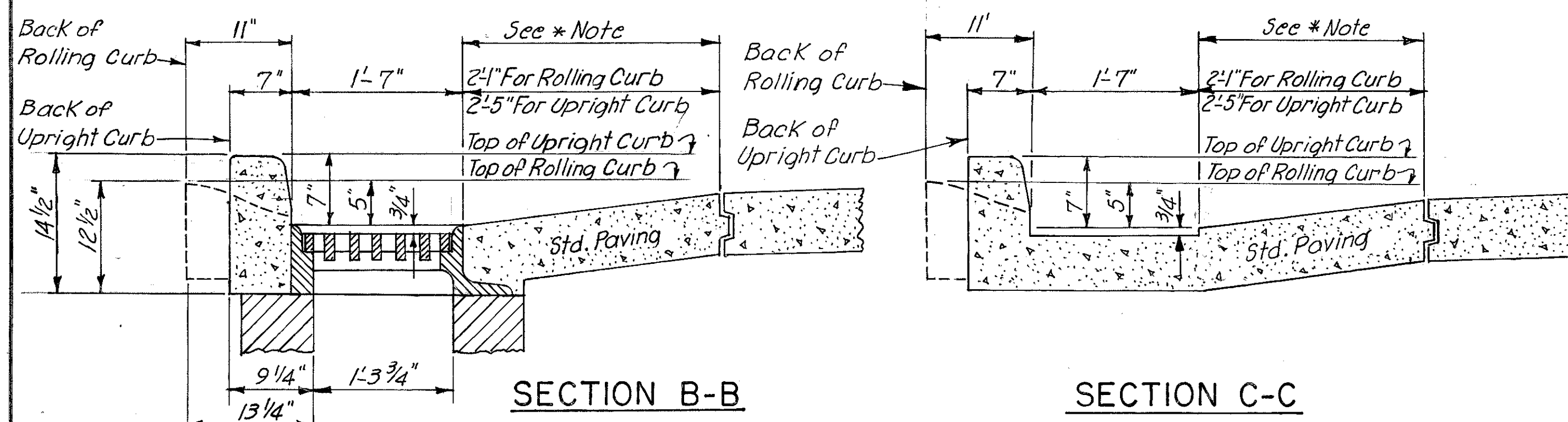
For Grating Details See Sh. 108.

CASTING FOR TYPE A-2 OR P CATCH BASIN

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

108
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

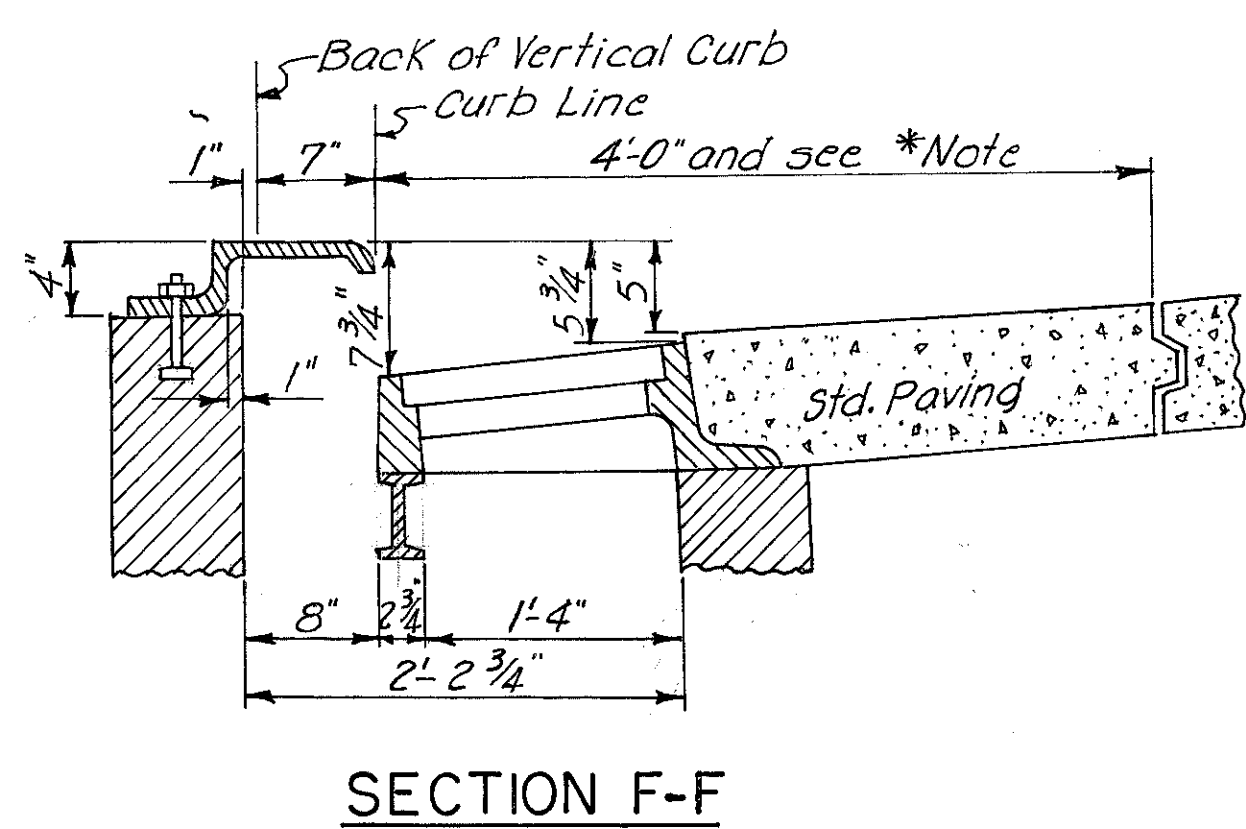
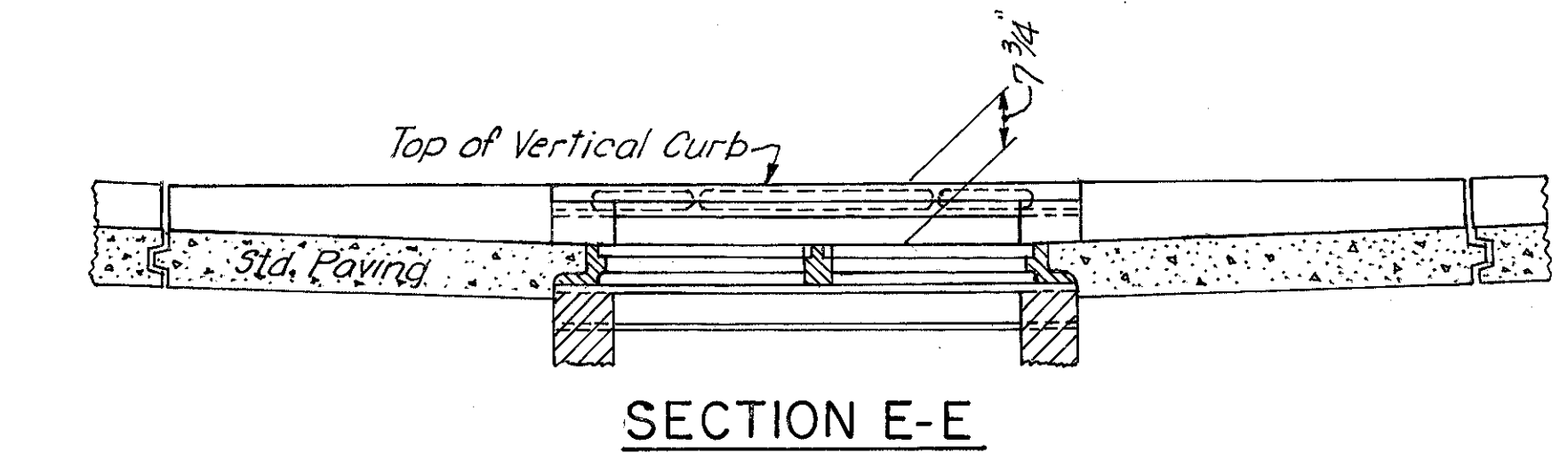
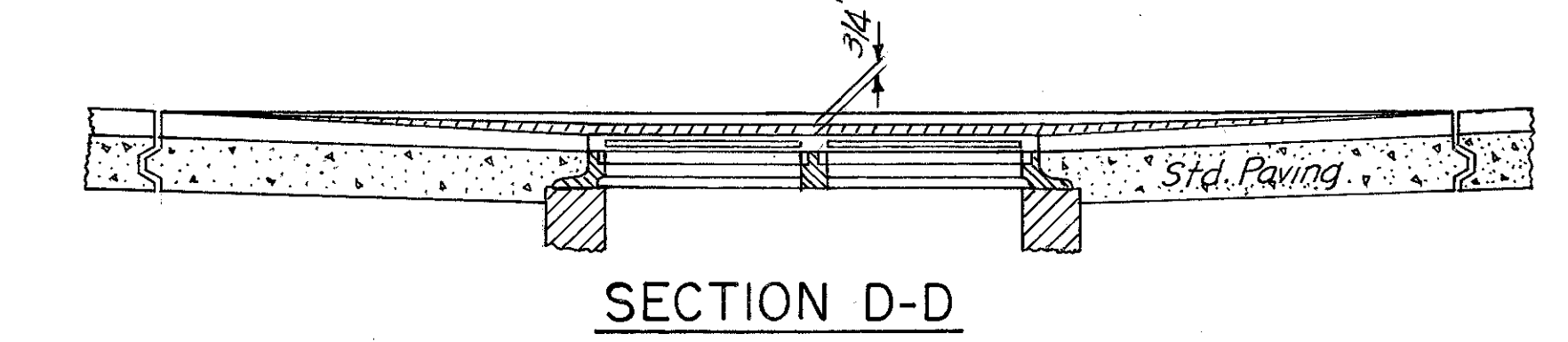
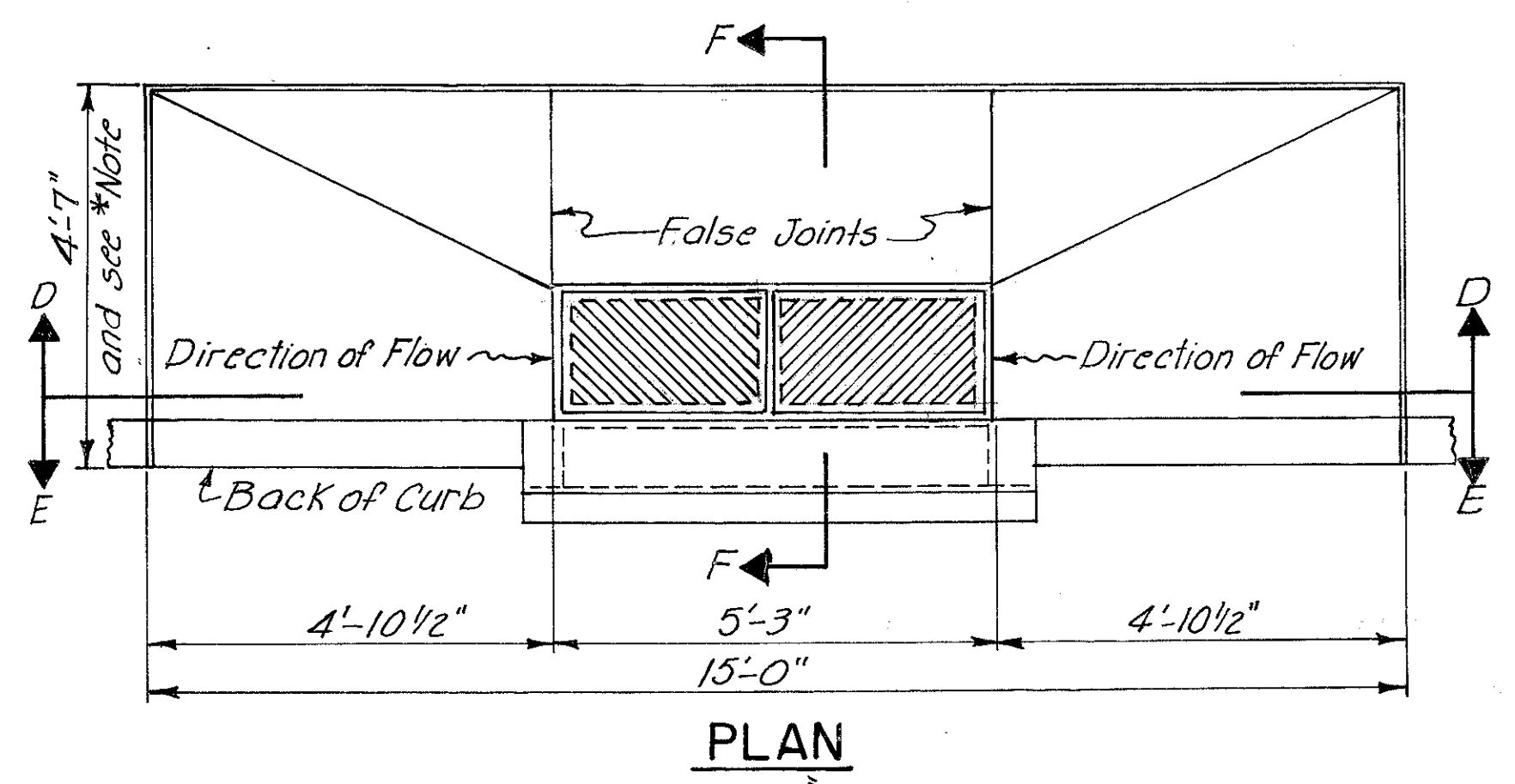


TYPE A2 CATCH BASIN
FRAME AND GRATING Acc. No. 49014
CATCH BASIN TYPE A2 Acc. No. 4901B

*Note: Alter this dimension to meet Edge of Concrete Paving for Bituminous paved shoulder of 5' width & under. Otherwise construct as shown.

Note: Payment for all labor and material required to construct the pavement & curb shall be included in the Unit price bid for Item. 604, Type A-2, C or P Catch Basins.

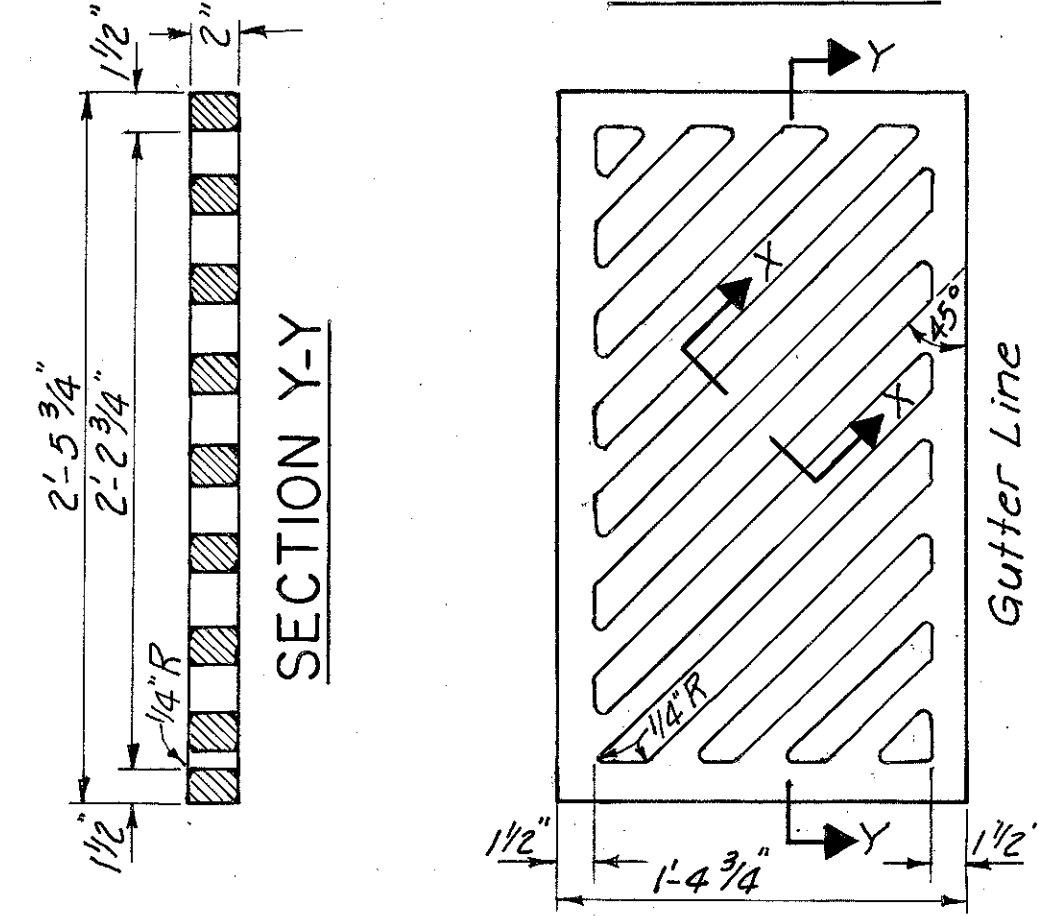
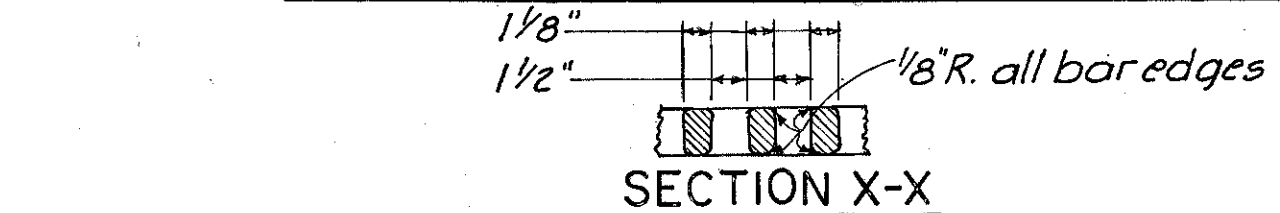
City of Cincinnati Acc. No. 49015



TYPE C CATCH BASIN
FRAME AND GRATING Acc. No. 49017
CATCH BASIN TYPE C Acc. No. 49016

City of Cincinnati Acc. No. 49018

PAVEMENT DETAILS
FOR TYPE A-2 & P CATCH BASINS

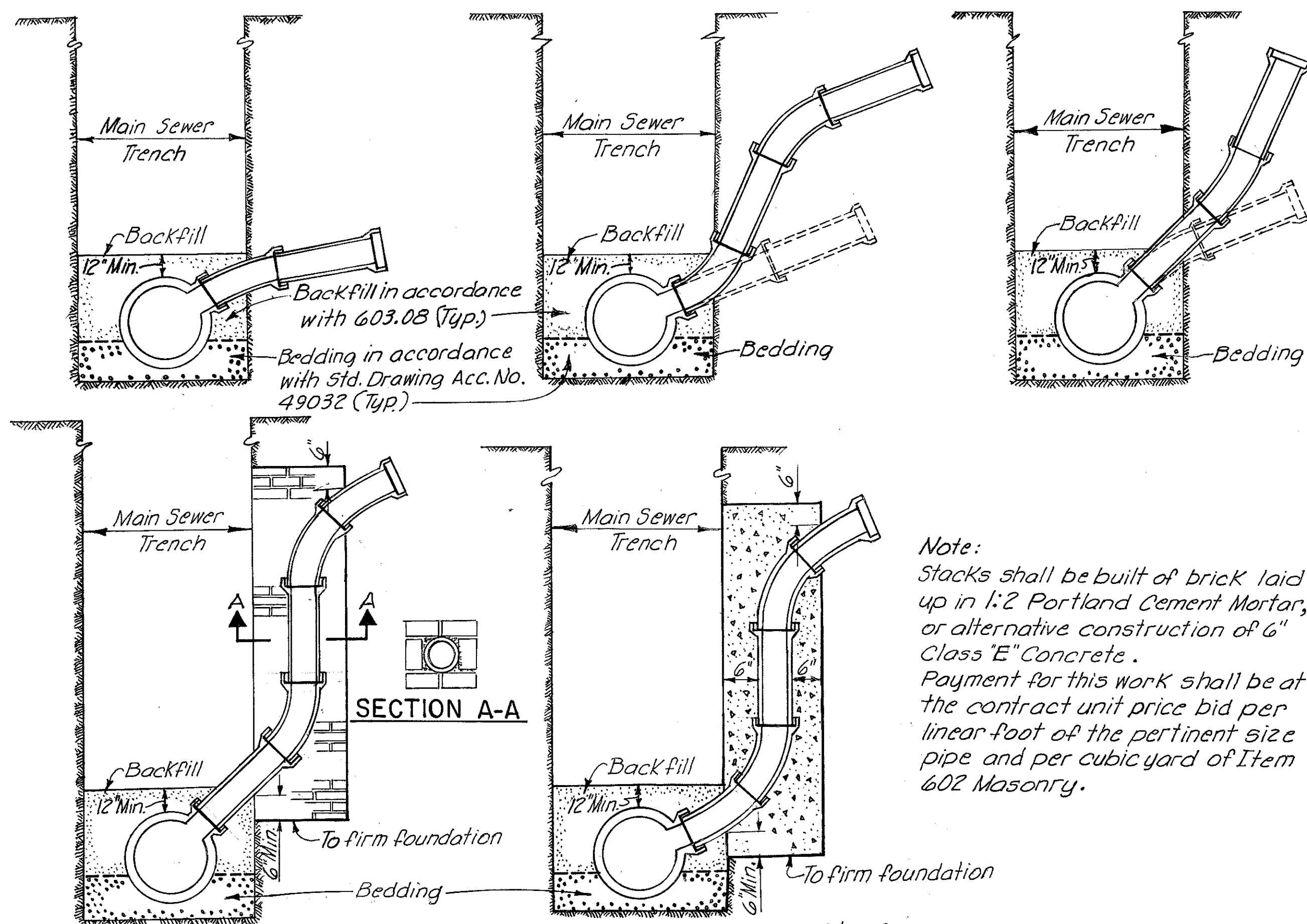


GRATING DETAIL
2-REQUIRED



City of Cincinnati Acc. No. 49014

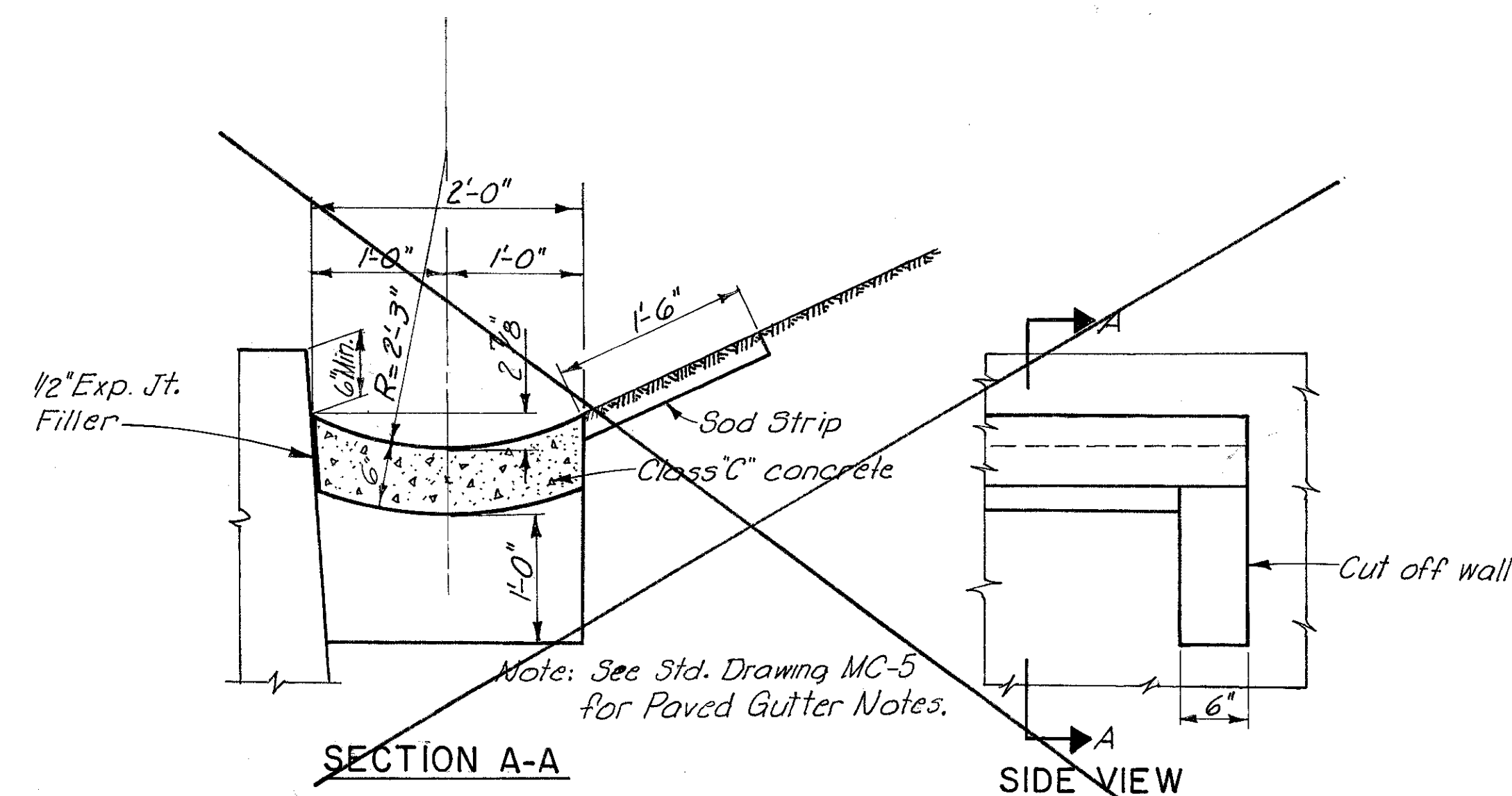
PAVEMENT DETAILS
FOR TYPE C CATCH BASIN



Note:
Stacks shall be built of brick laid up in 1:2 Portland Cement Mortar, or alternative construction of 6" Class "E" Concrete.
Payment for this work shall be at the contract unit price bid per linear foot of the pertinent size pipe and per cubic yard of Item 602 Masonry.

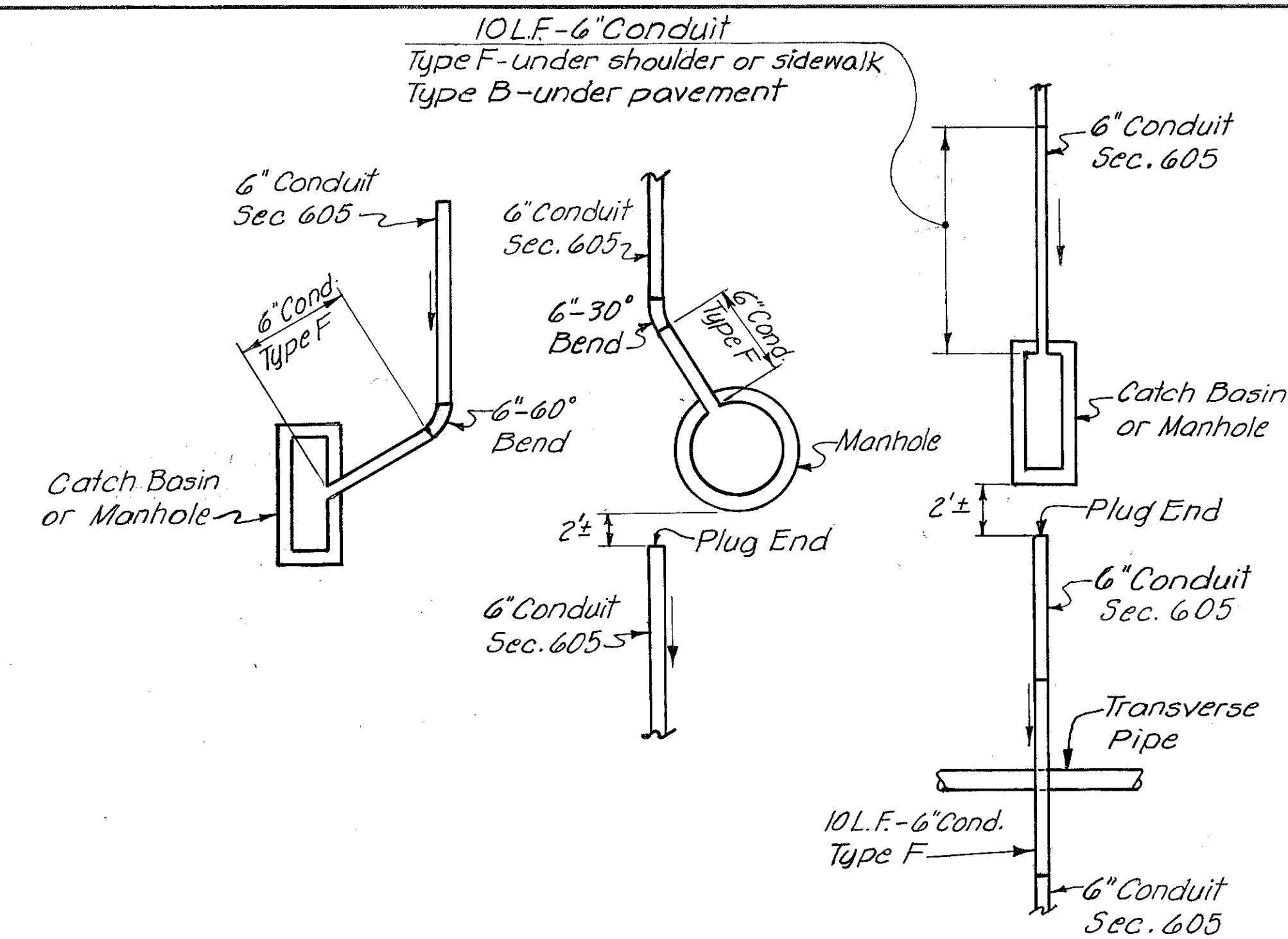
City of Cincinnati Acc. No. 49033

TYPICAL HOUSE DRAINS AND STACKS

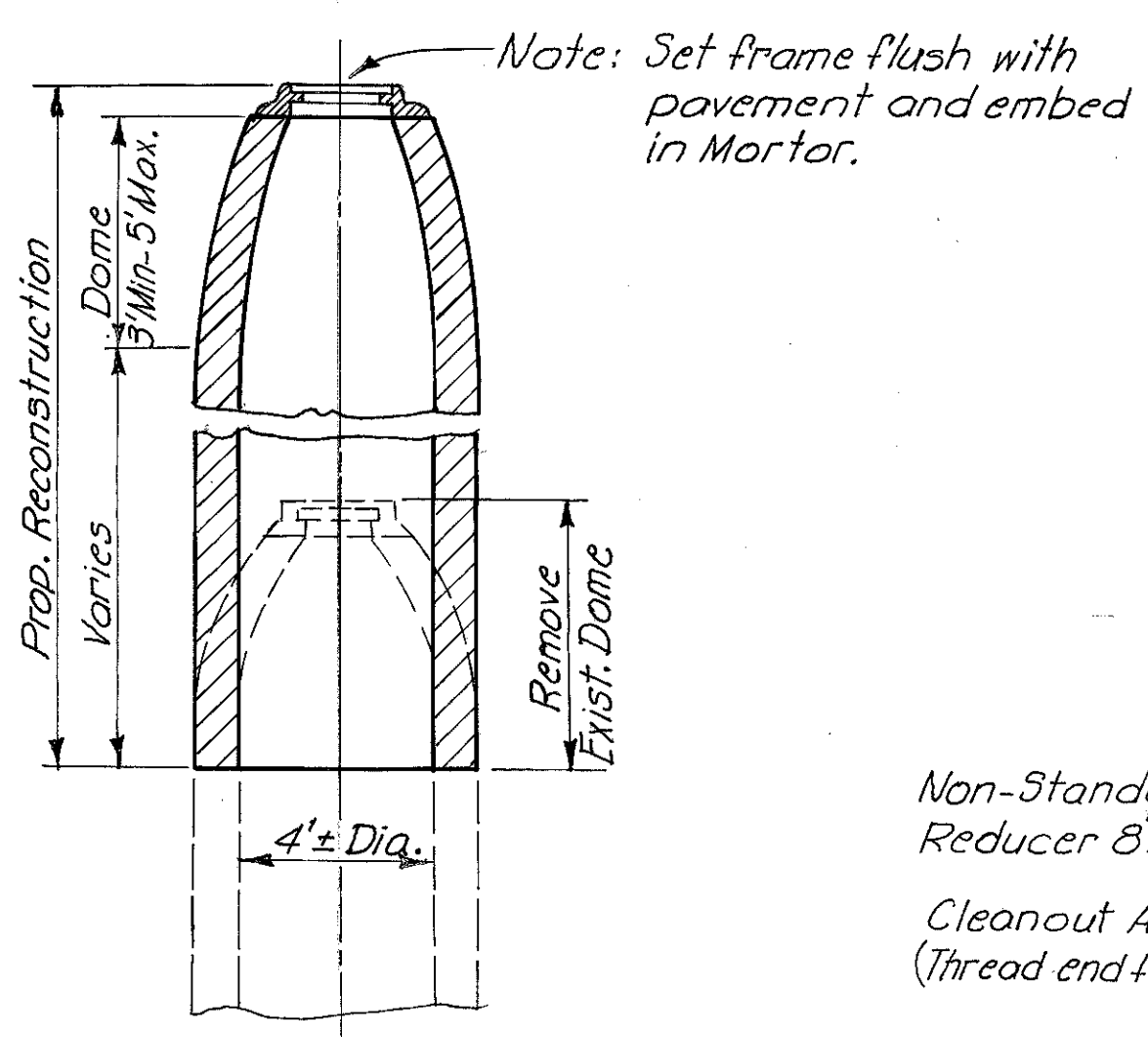


Note: See Std. Drawing MC-5 for Paved Gutter Notes.

~~TYPE 2 MODIFIED PAVED GUTTERS~~



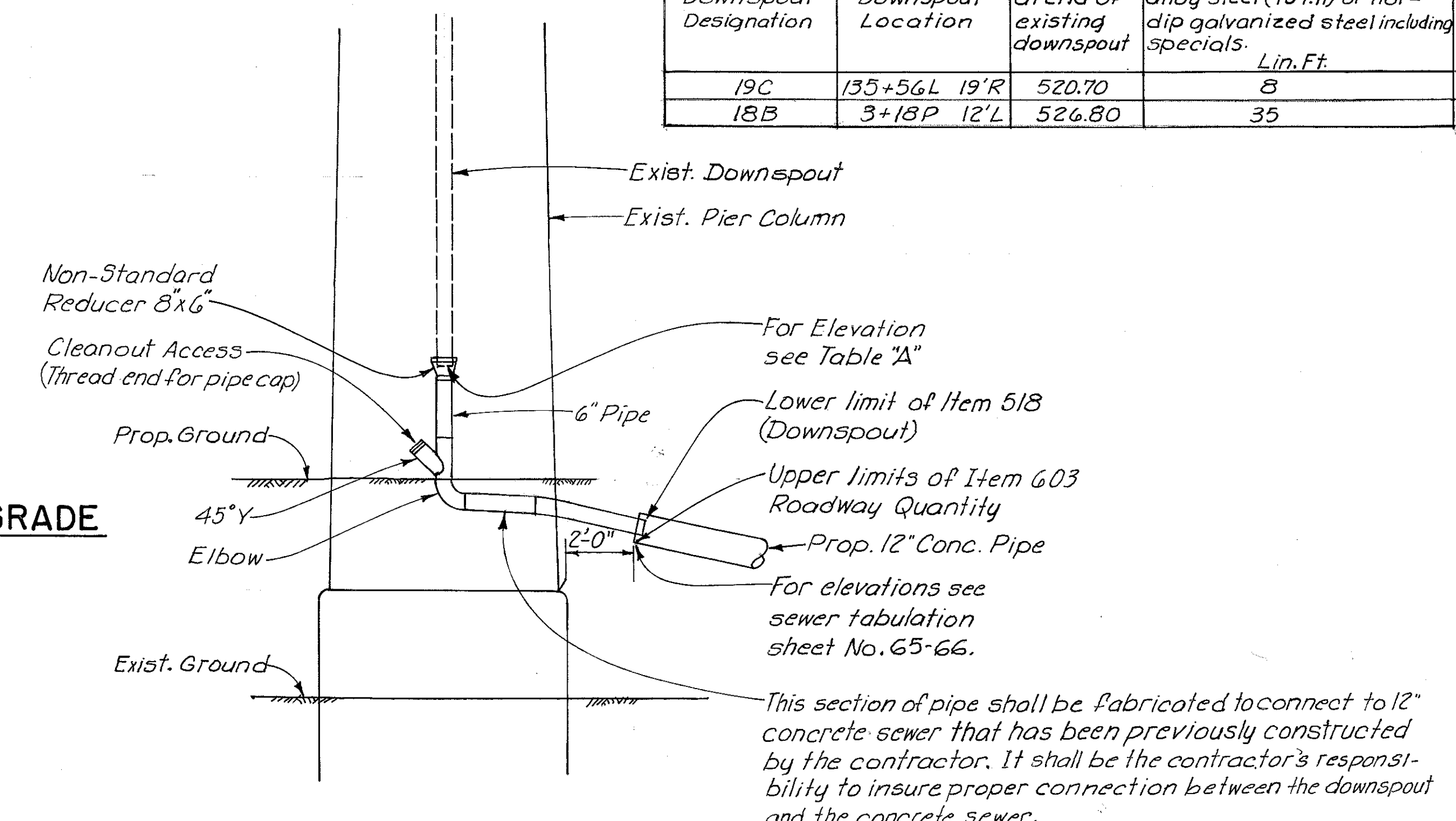
UNDERDRAIN DETAILS



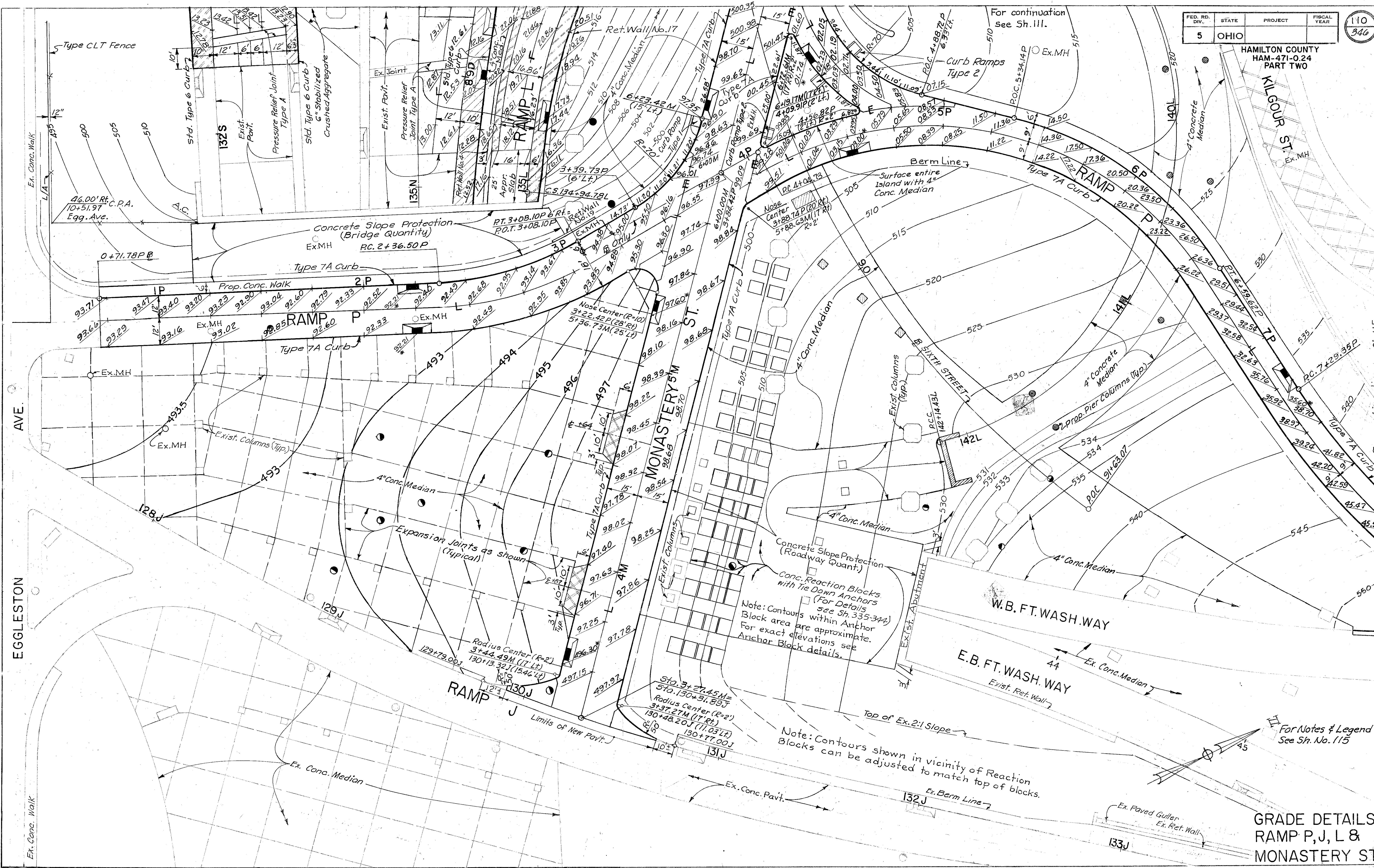
TYPICAL SECTION
MANHOLE RECONSTRUCTED TO GRADE

TABLE "A"

Downspout Designation	Downspout Location	Elevation at end of existing downspout	Standard pipe downspout, alloy steel (707.11) or hot-dip galvanized steel including specials.
			Lin. Ft.
19C	135+56L 19'R	520.70	8
18B	3+18P 12'L	526.80	35



DOWNSPOUT DETAIL
EXISTING COLUMBIA VIADUCT PIERS



EGGLESTON AVE.

GRADE DETAILS
RAMP P, J, L &
MONASTERY ST.

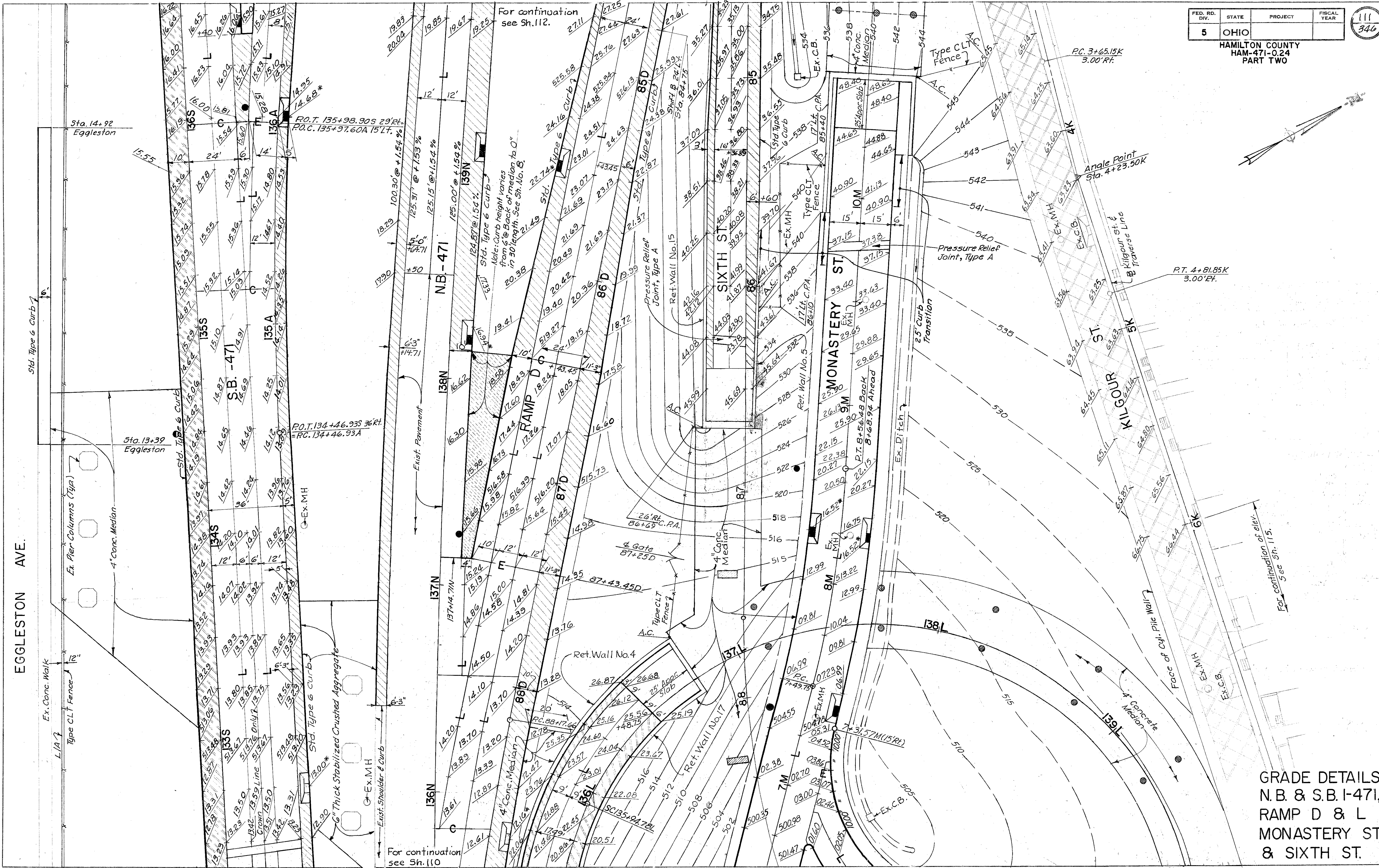
Note: Contours shown in vicinity of Reaction Blocks with Tie Down Anchors (For Details see Sh. 335-344) Block area are approximate. For exact elevations see Anchor Block details.

Note: Contours shown in vicinity of Reaction Blocks can be adjusted to match top of blocks.




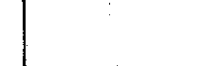
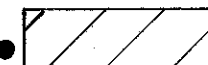




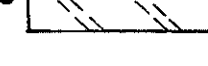



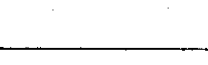
For Notes & Legend See Sh. No. 115

For continuation see Sh. 115

For continuation see Sh. 111.

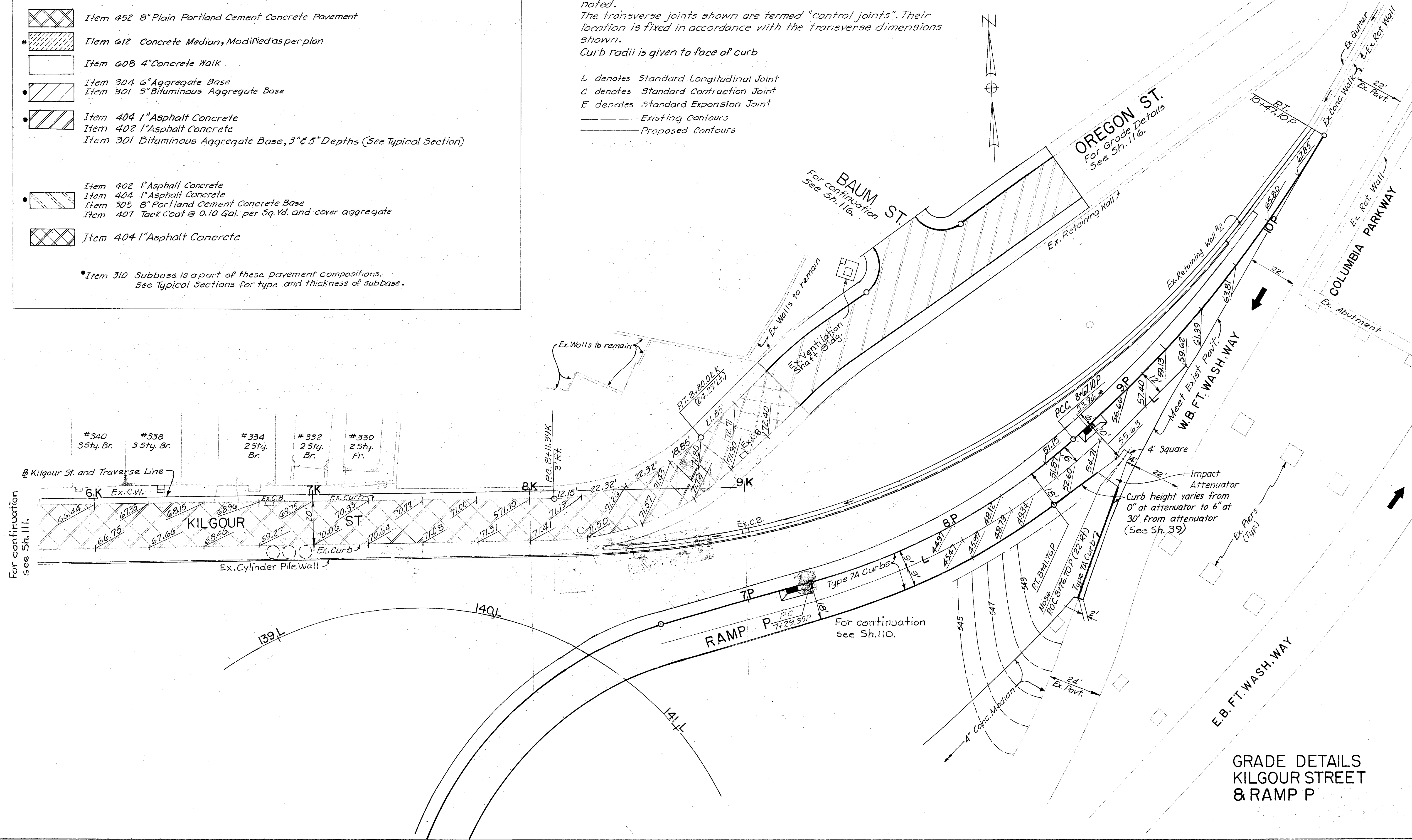


LEGEND

-  Item 451 Reinforced Portland Cement Concrete Pavement, 9" or 10" (See Typical Sections)
-  Item 452 8" Plain Portland Cement Concrete Pavement
-  Item 612 Concrete Median, Modified as per plan
-  Item 608 4" Concrete Walk
-  Item 304 6" Aggregate Base
-  Item 301 3" Bituminous Aggregate Base
-  Item 404 1" Asphalt Concrete
-  Item 402 1" Asphalt Concrete
-  Item 301 Bituminous Aggregate Base, 3" & 5" Depths (See Typical Section)
-  Item 402 1" Asphalt Concrete
-  Item 404 1" Asphalt Concrete
-  Item 305 8" Portland Cement Concrete Base
-  Item 407 Tack Coat @ 0.10 Gal. per Sq. Yd. and cover aggregate
-  Item 404 1" Asphalt Concrete
- Item 310 Subbase is a part of these pavement compositions. See Typical Sections for type and thickness of subbase.

Notes:
 Pavement elevations are shown at 25' intervals, measured along the base line, unless otherwise indicated.
 Elevations shown with a * denote theoretical gutter elevation. For grating elevation, see sewer tabulation sheet.
 Elevations shown are at top of pavement or gutter line except as noted.
 The transverse joints shown are termed "control joints". Their location is fixed in accordance with the transverse dimensions shown.
 Curb radii is given to face of curb

L denotes Standard Longitudinal Joint
 C denotes Standard Contraction Joint
 E denotes Standard Expansion Joint
 --- Existing Contours
 ——— Proposed Contours

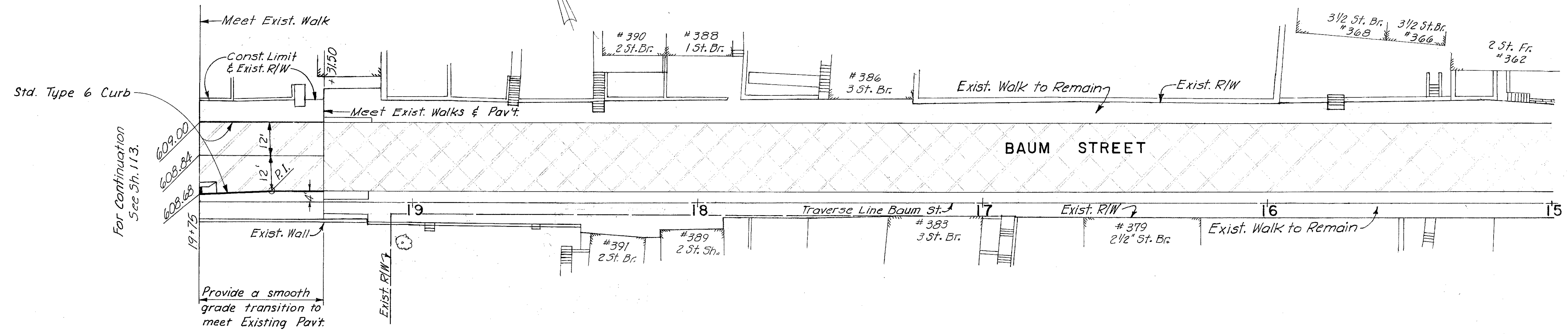
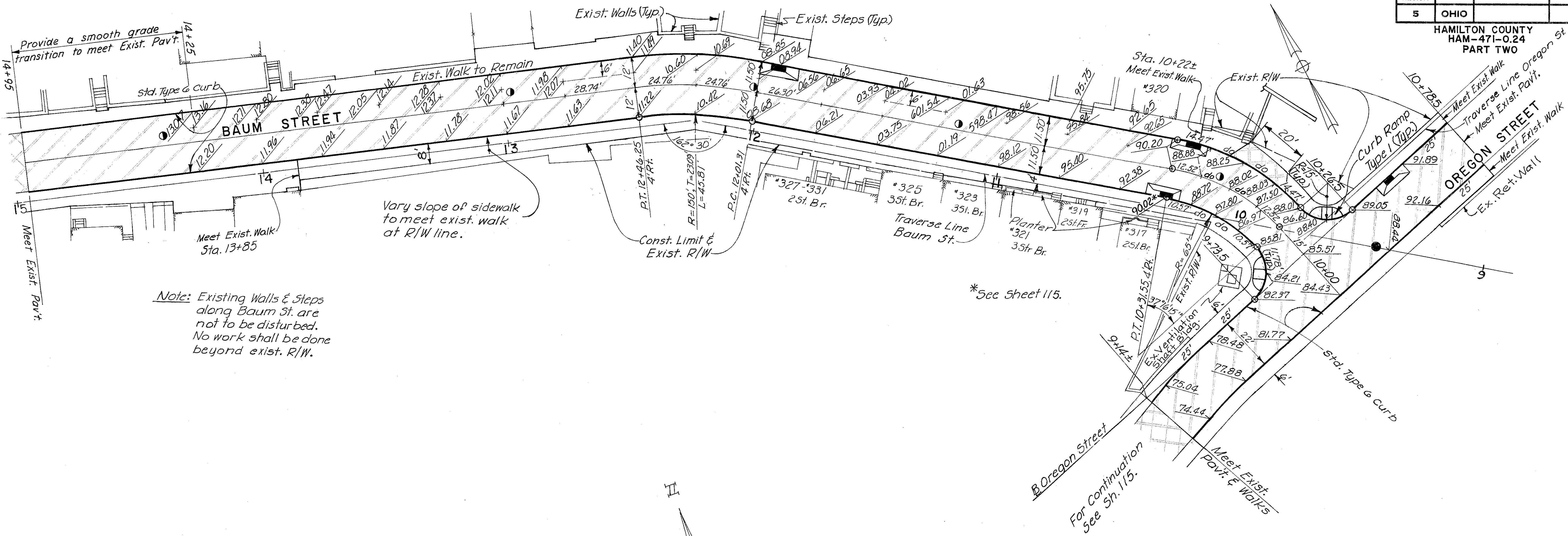


GRADE DETAILS
KILGOUR STREET
& RAMP P

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

116
310

HAMILTON COUNTY
HAM-471-0.24
PART TWO



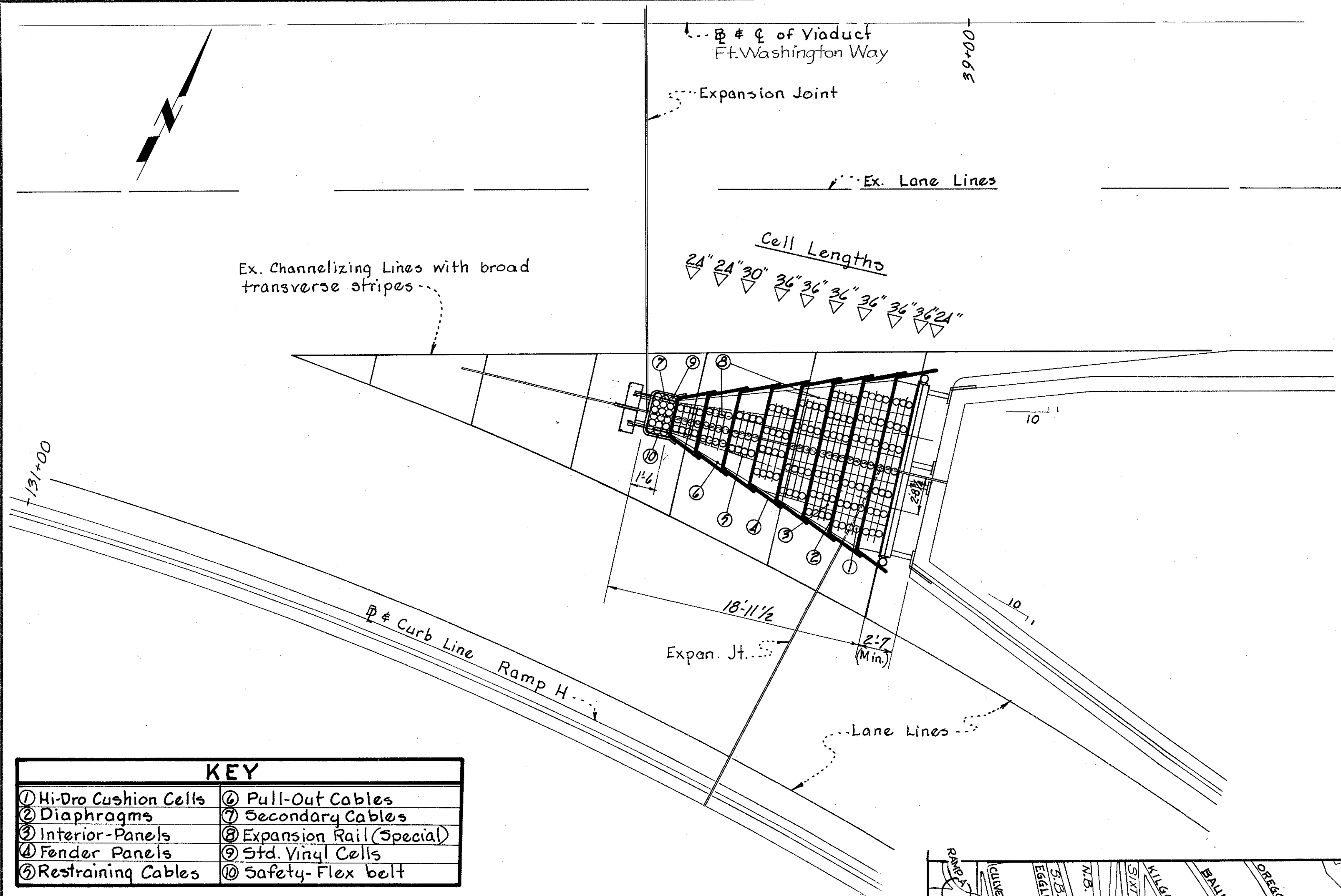
GRADE DETAILS
BAUM STREET
Rev. 9-9-82

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

117
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

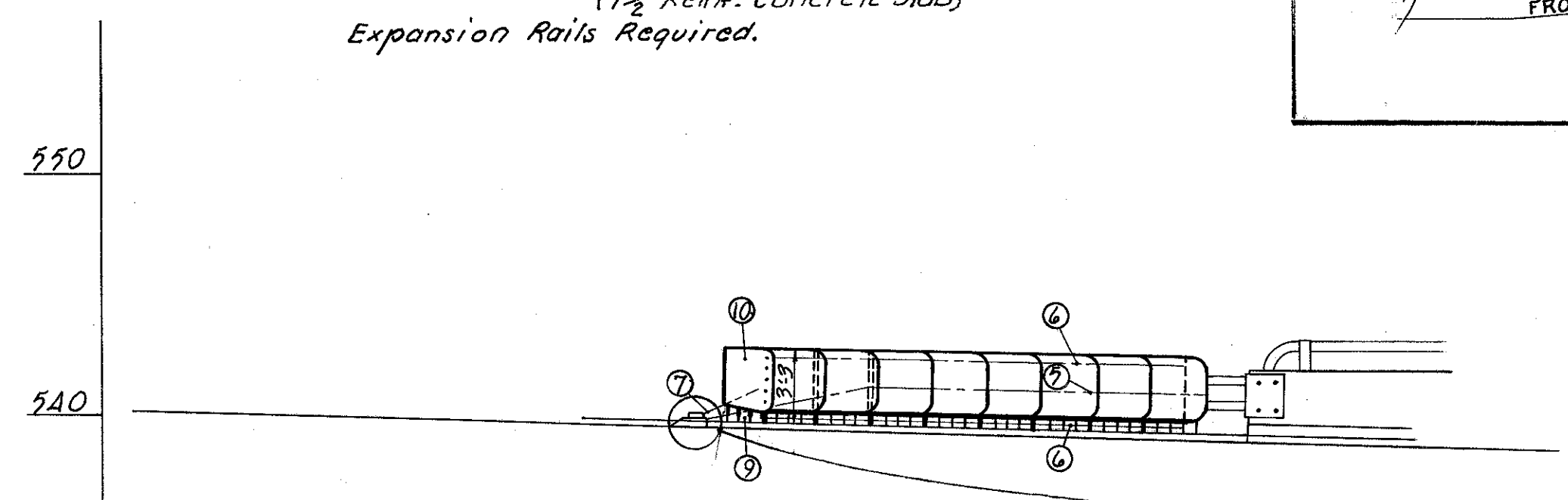
784 Red
117
316



KEY	
① Hi-Dro Cushion Cells	⑥ Pull-Out Cables
② Diaphragms	⑦ Secondary Cables
③ Interior Panels	⑧ Expansion Rail (Special)
④ Fender Panels	⑨ Std. Vinyl Cells
⑤ Restraining Cables	⑩ Safety-Flex belt

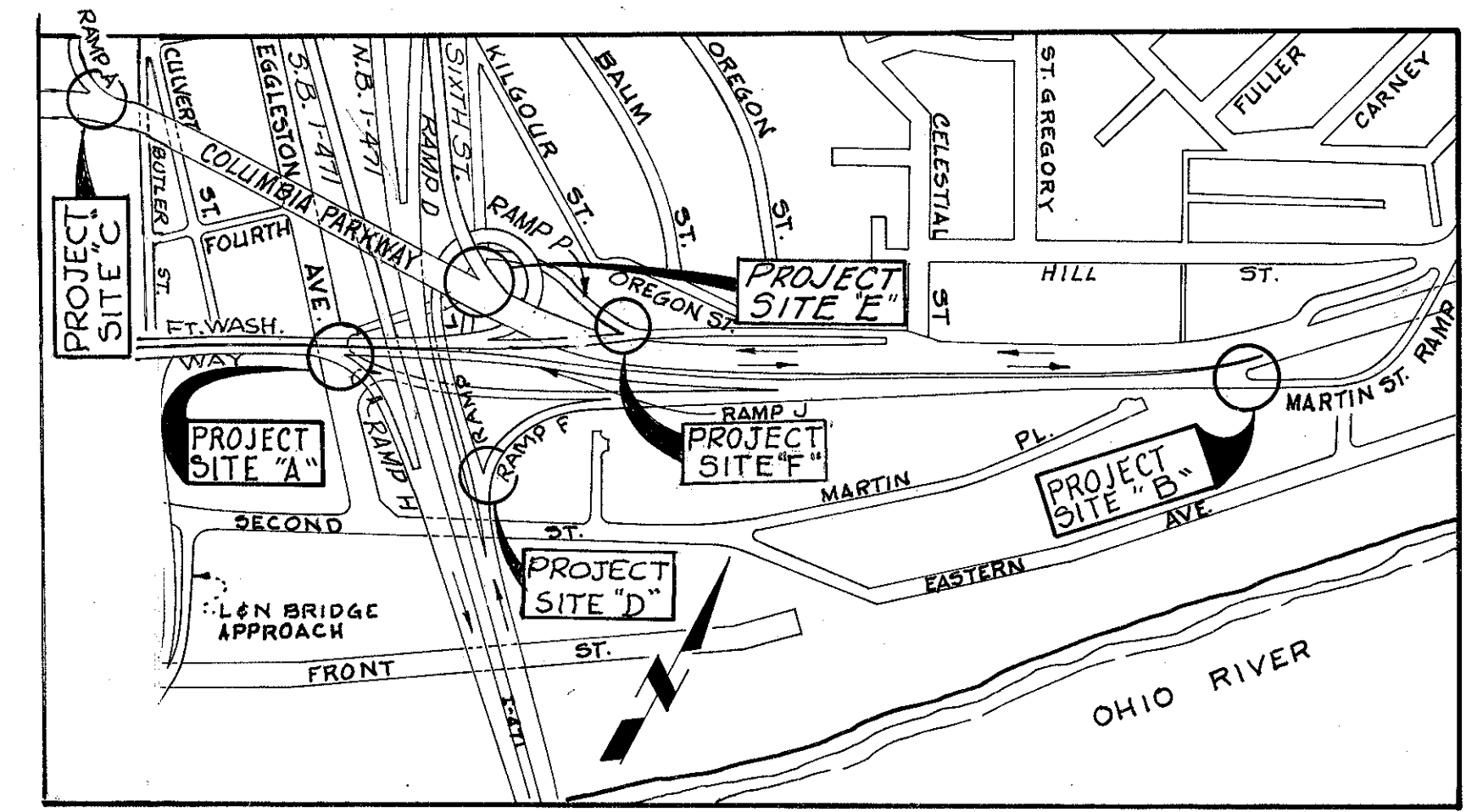
PLAN SITE "A"

Type: 8-Bay Hi-Dro Crash Cushion
Model No: 2091300N85
Backup: Horizontal Bracing
Foundation: Concrete leveling pad as necessary, see Note 2 below.
Cable Anchorage: Plate Anchor Assembly (1 1/2" Reinf. Concrete Slab)
Expansion Rails Required.



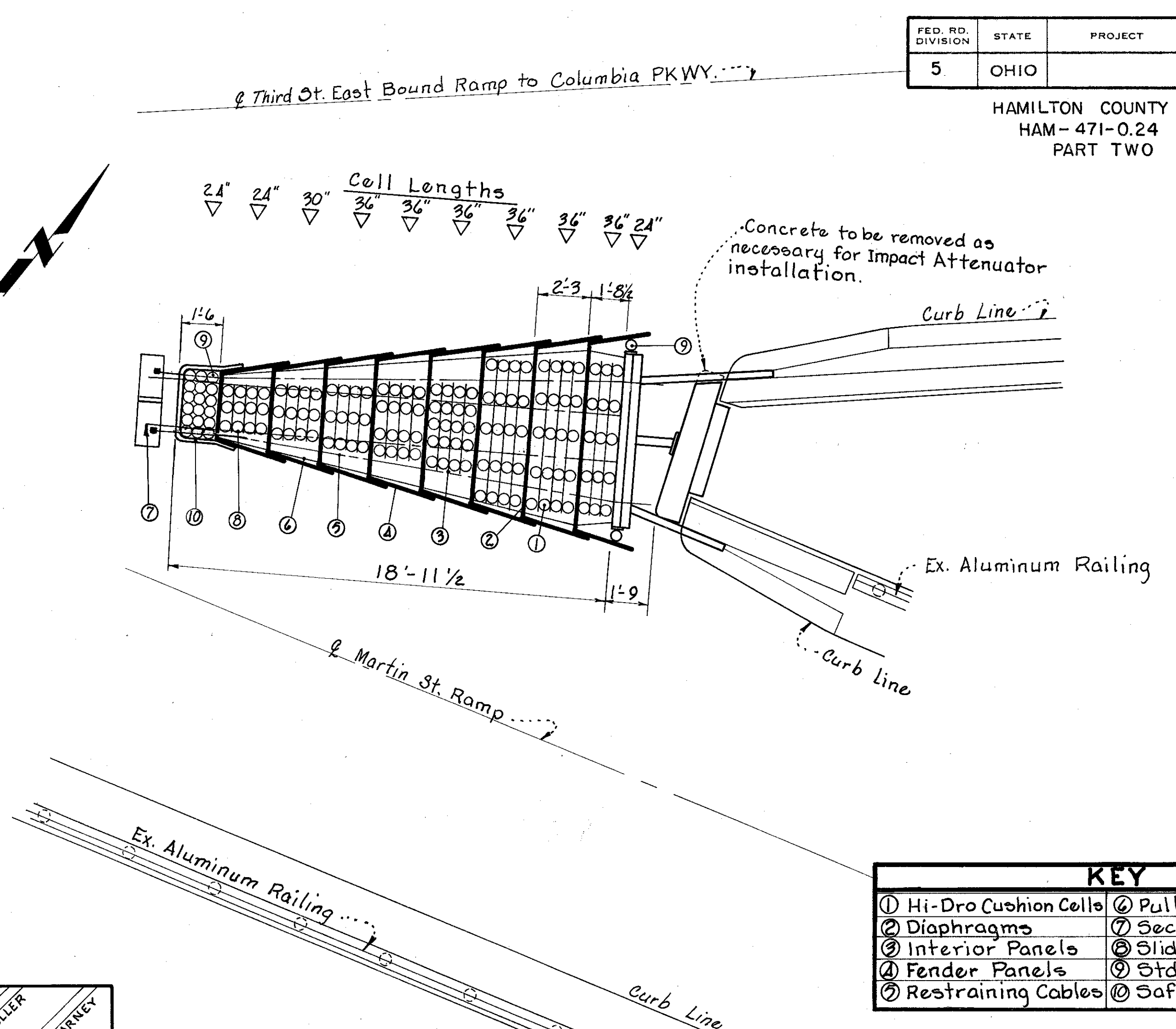
NOTES:
1. Manufacturer recommends removal of all curbs and islands.
2. Use a concrete leveling pad where cross slopes exceed 5%.

ELEVATION SITE "A"



VICINITY PLAN

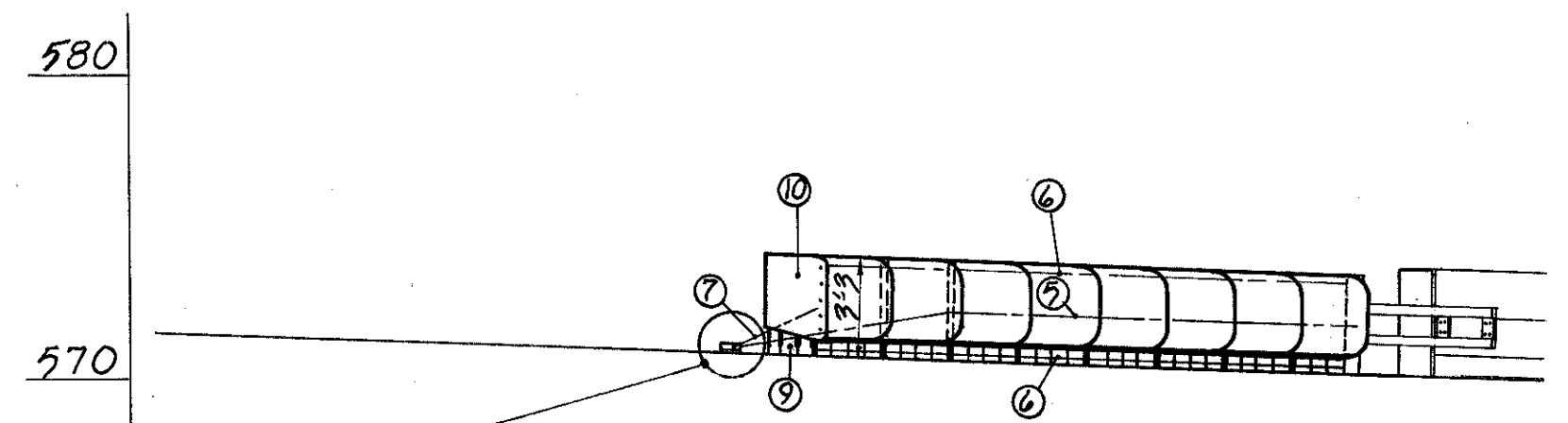
For Project Site "F" Details see Sh. 39.



KEY	
① Hi-Dro Cushion Cells	⑥ Pull-Out Cables
② Diaphragms	⑦ Secondary Cables
③ Interior Panels	⑧ Slide Straps
④ Fender Panels	⑨ Std. Vinyl Cells
⑤ Restraining Cables	⑩ Safety-Flex Belt

Type: 8-Bay Hi-Dro Crash Cushion
Model No: 209800585
Backup: Horizontal Bracing
Foundation: Concrete leveling pad as necessary.
Cable Anchorage: Plate Anchor Assembly (8 1/2" Reinf. Concrete Slab)

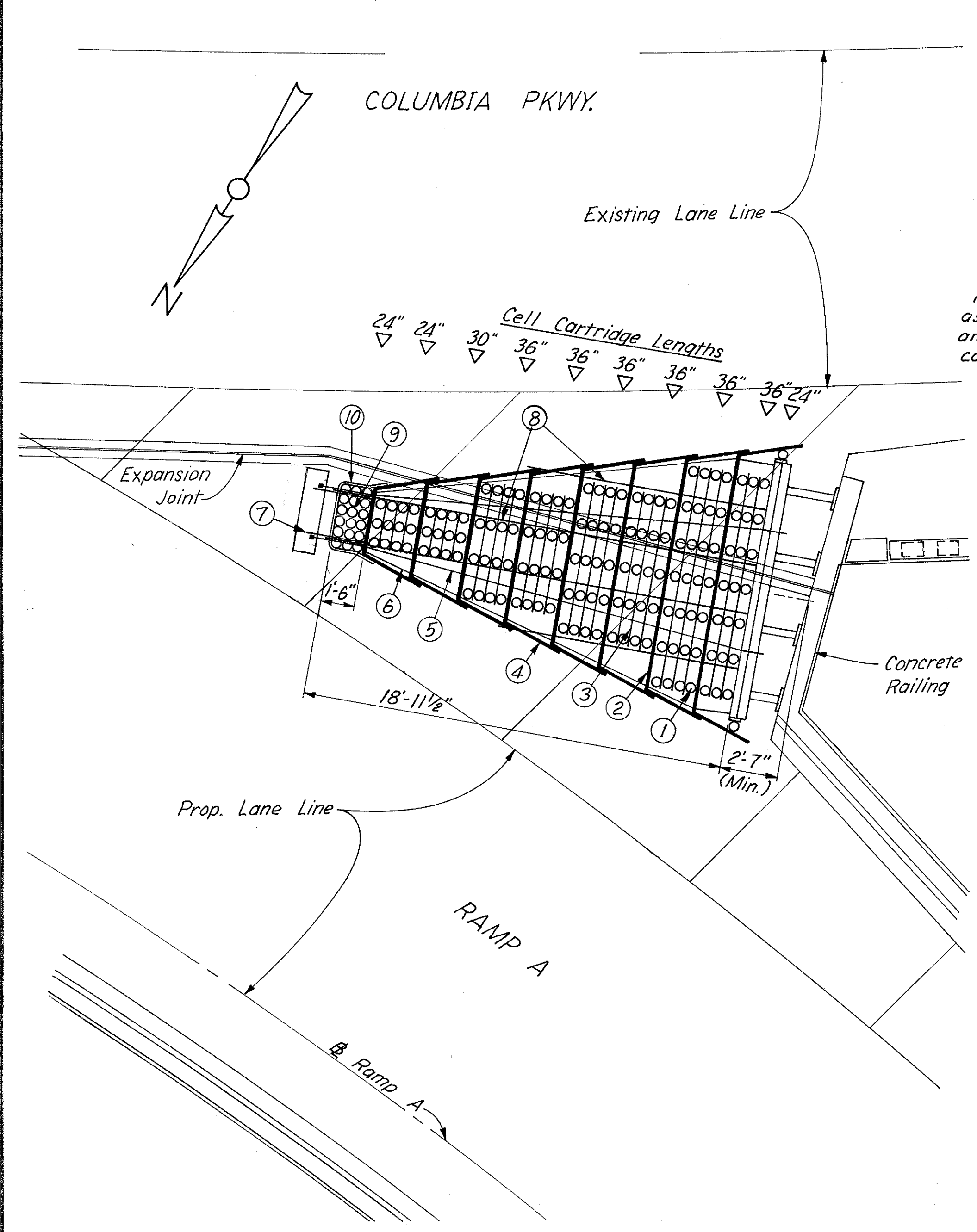
PLAN SITE "B"



ELEVATION SITE "B"

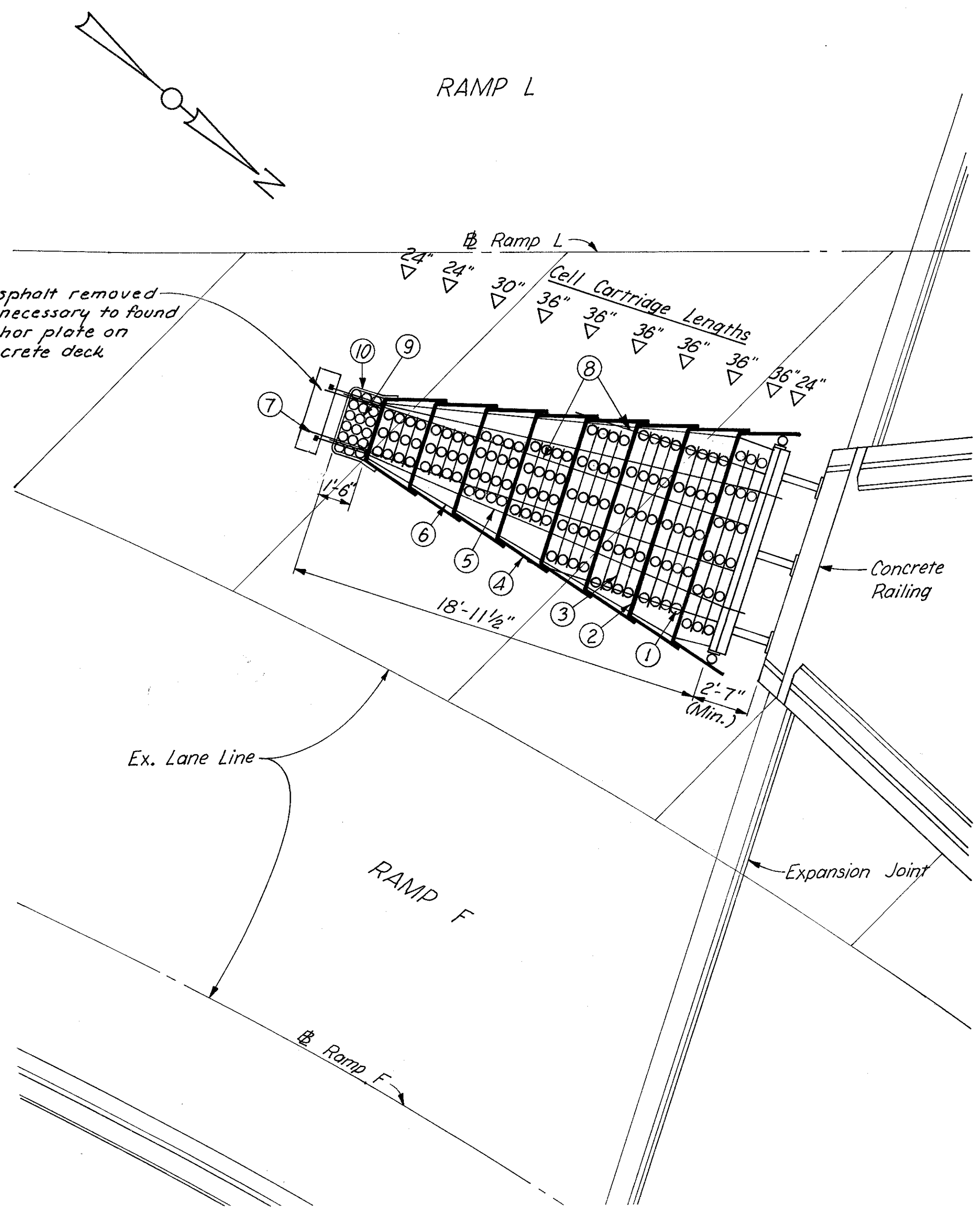
NOTES
The City's Highway Maintenance Division will remove the existing sand drums (impact attenuator) at Site "A", Site "B", Site "C" and Site "D". The Engineer shall notify the city two (2) weeks in advance of when the Contractor is ready to install the new attenuator and it shall be installed immediately upon removal of the existing facility so the area has continuous protection. For Plan Site "F" See Sheet 39.

CITY OF CINCINNATI DEPARTMENT OF PUBLIC WORKS DIVISION OF ENGINEERING					
HAM-471-0.24 CINCINNATI-NEWPORT BRIDGE APPROACH 3RD STREET TO 6TH STREET IMPACT ATTENUATOR SITE PLAN					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
D.W.R.	D.Y.R.				



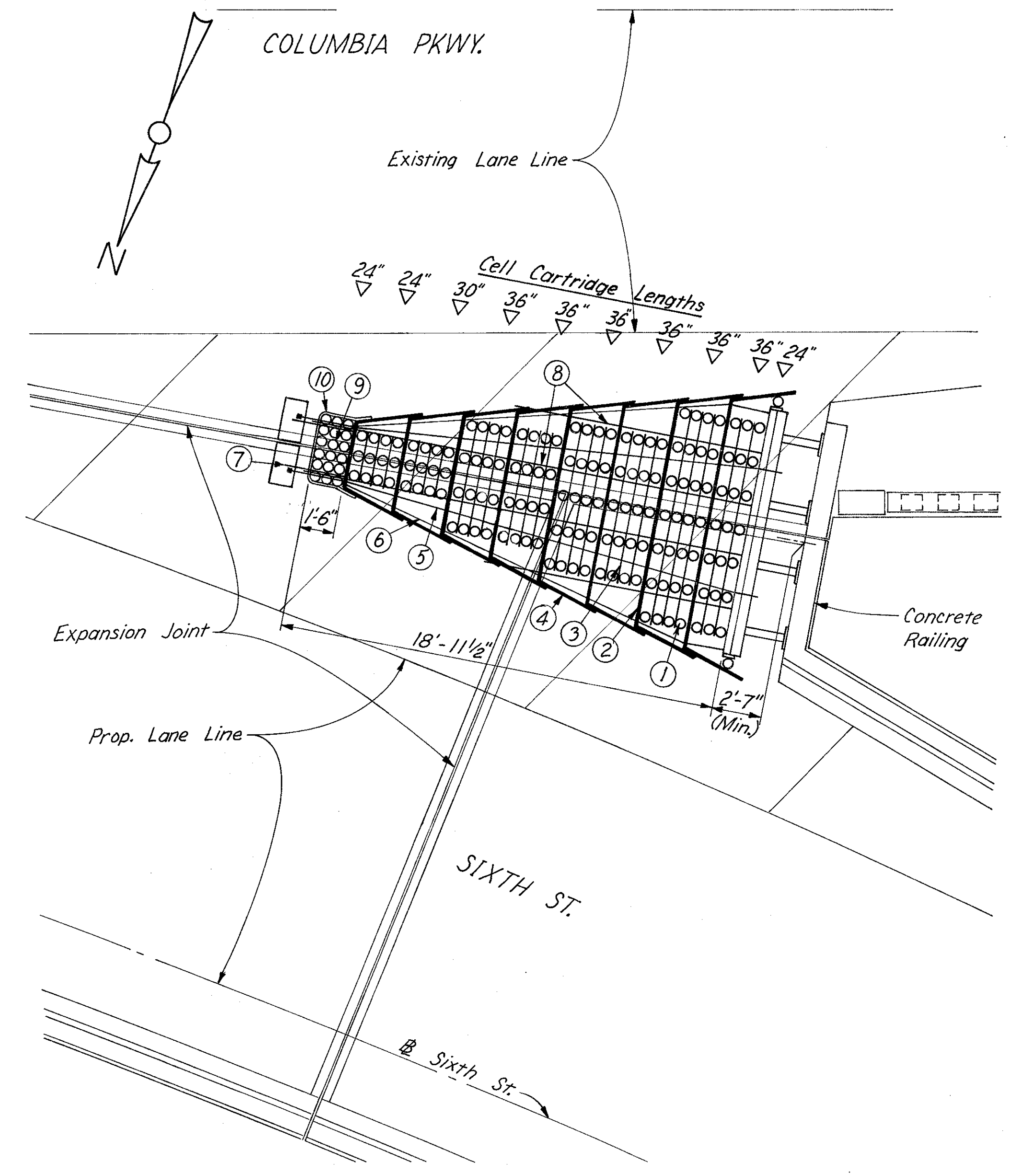
PLAN
SITE "C"

Type: 8-Bay Hi-Dro Crash Cushion.
Model No. 2091200N85
Backup: Horizontal Bracing.
Foundation: Concrete Leveling Pad as necessary.
Anchor Assembly: Plate Anchor Assembly.
(9/4" Reinf. Concrete Slab)
Expansion Rails Required.



PLAN
SITE "D"

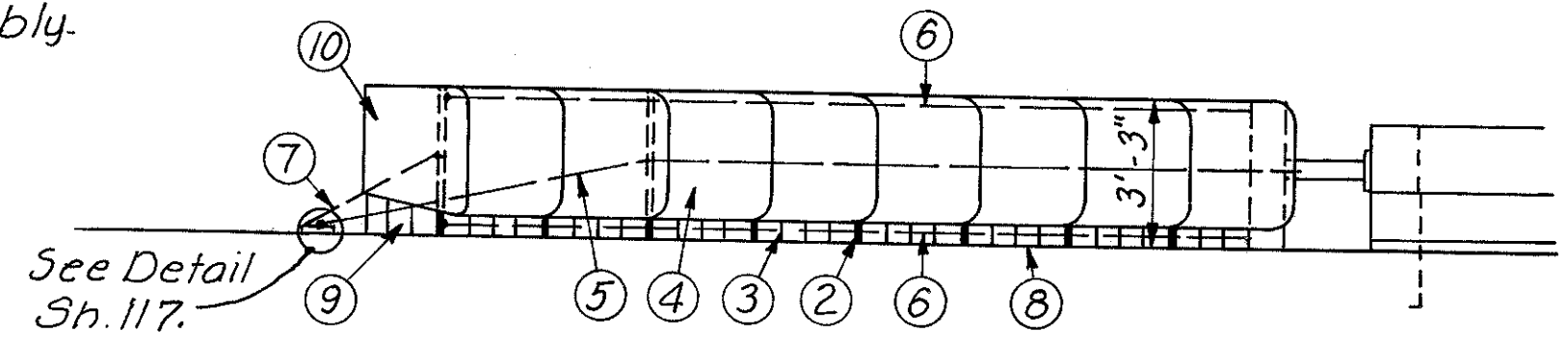
Type: 8 Bay Hi-Dro Crash Cushion.
Model No. 2091000N85
Backup: Horizontal Bracing.
Foundation: Concrete Leveling Pad as necessary.
Anchor Assembly: Plate Anchor Assembly.
(9/4" Reinf. Concrete Slab)



PLAN
SITE "E"

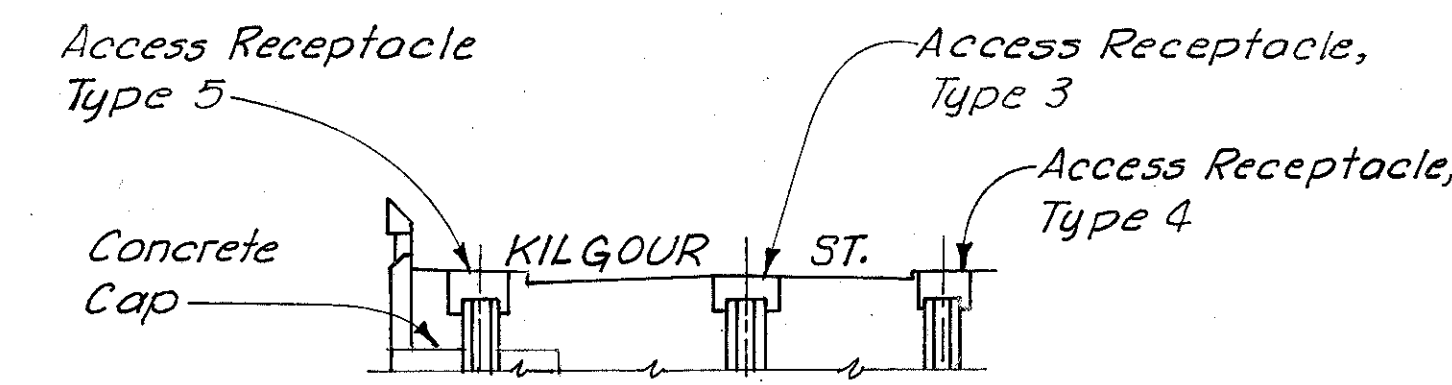
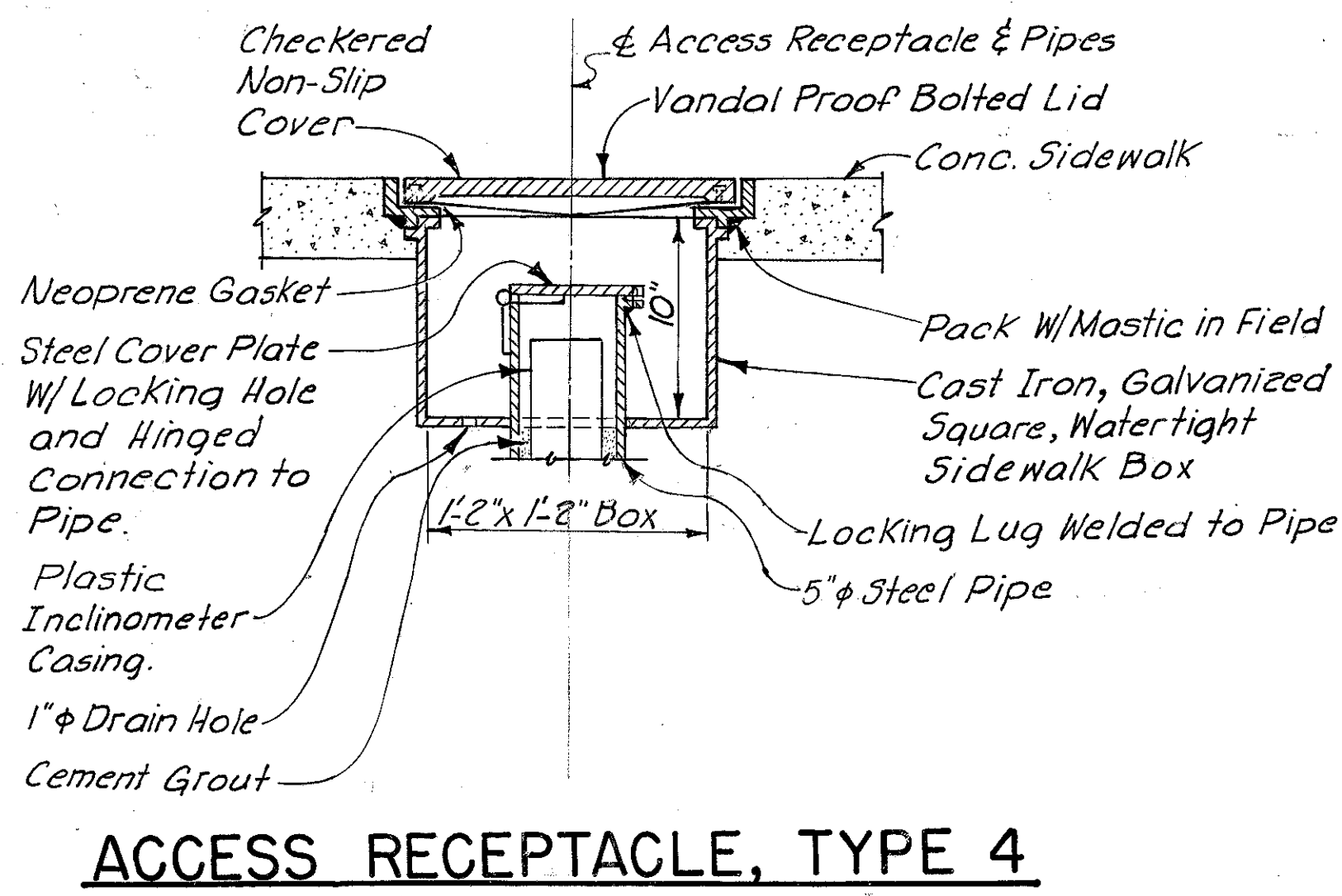
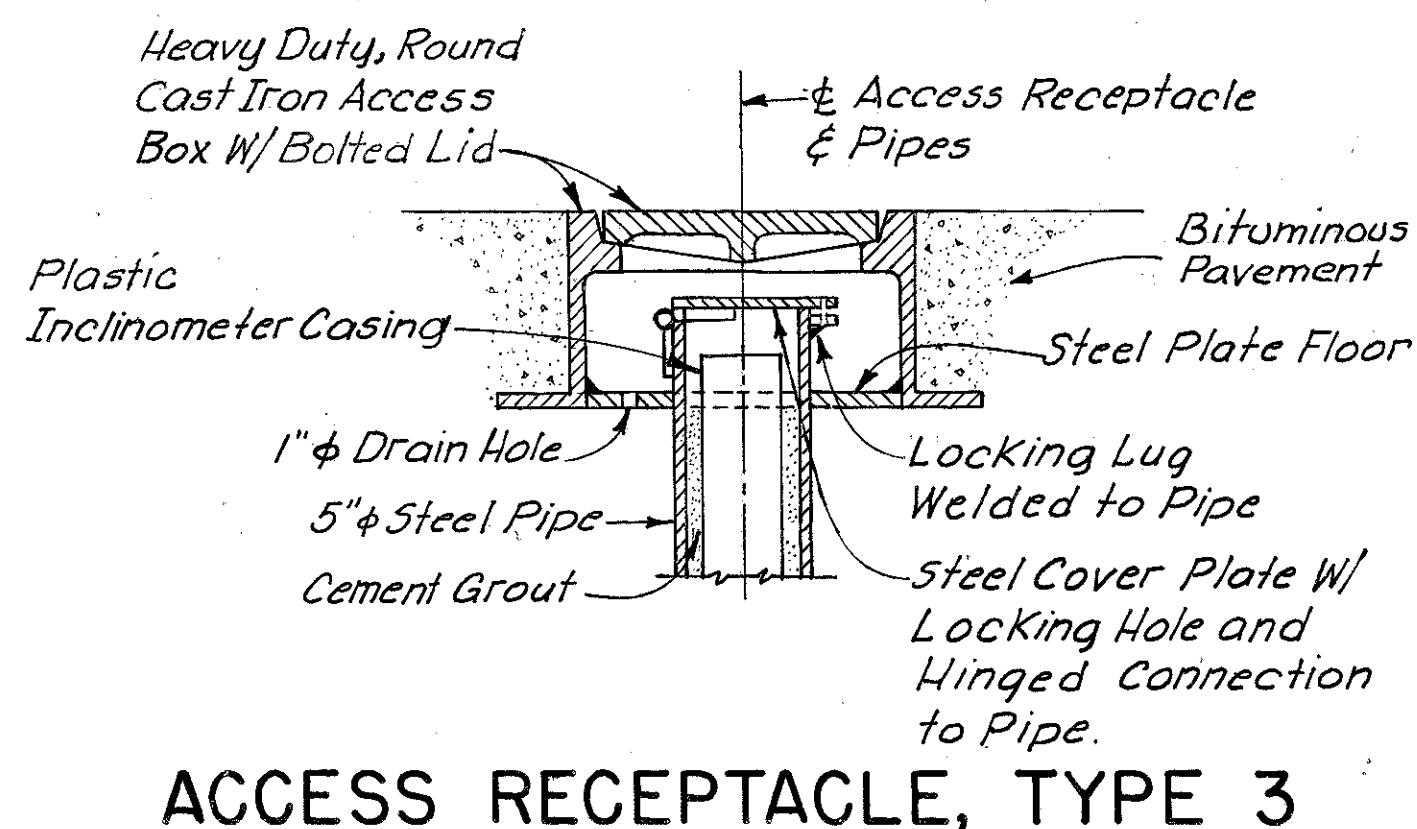
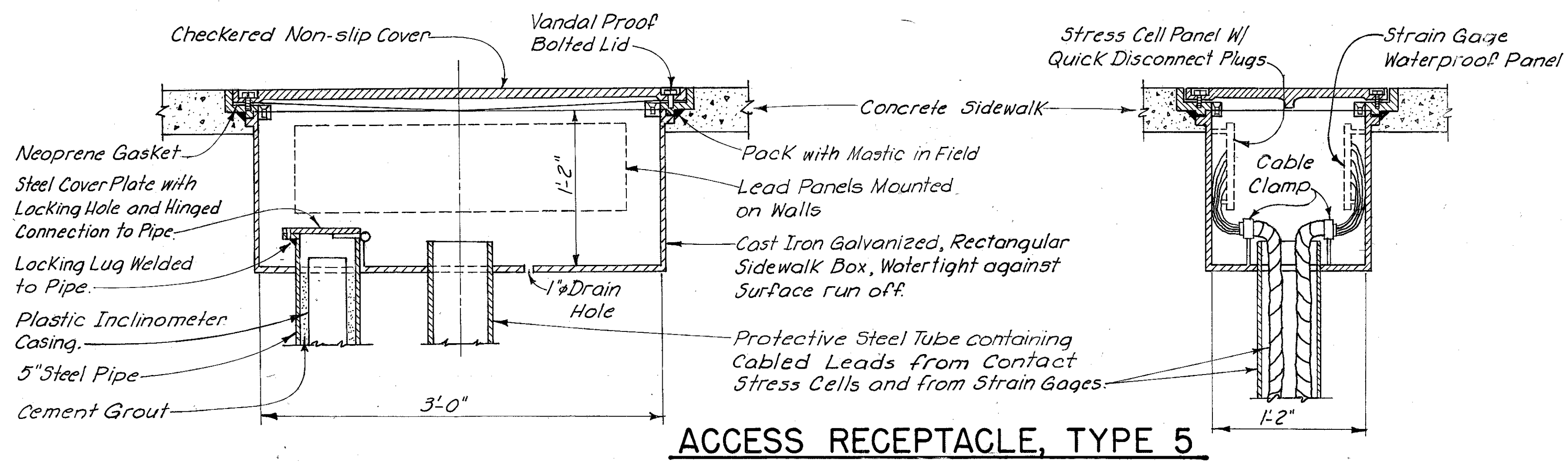
Type: 8-Bay Hi-Dro Crash Cushion.
Model No.: 2091200N85
Backup: Horizontal Bracing.
Foundation: Concrete Leveling Pad as necessary.
Anchor Assembly: Plate Anchor Assembly.
(9/4" Reinf. Concrete Slab)
Expansion Rails Required.

NOTES:
Manufacturer recommends removal of all curbs & islands.
Use a Concrete leveling pad where cross slopes exceed 5%.

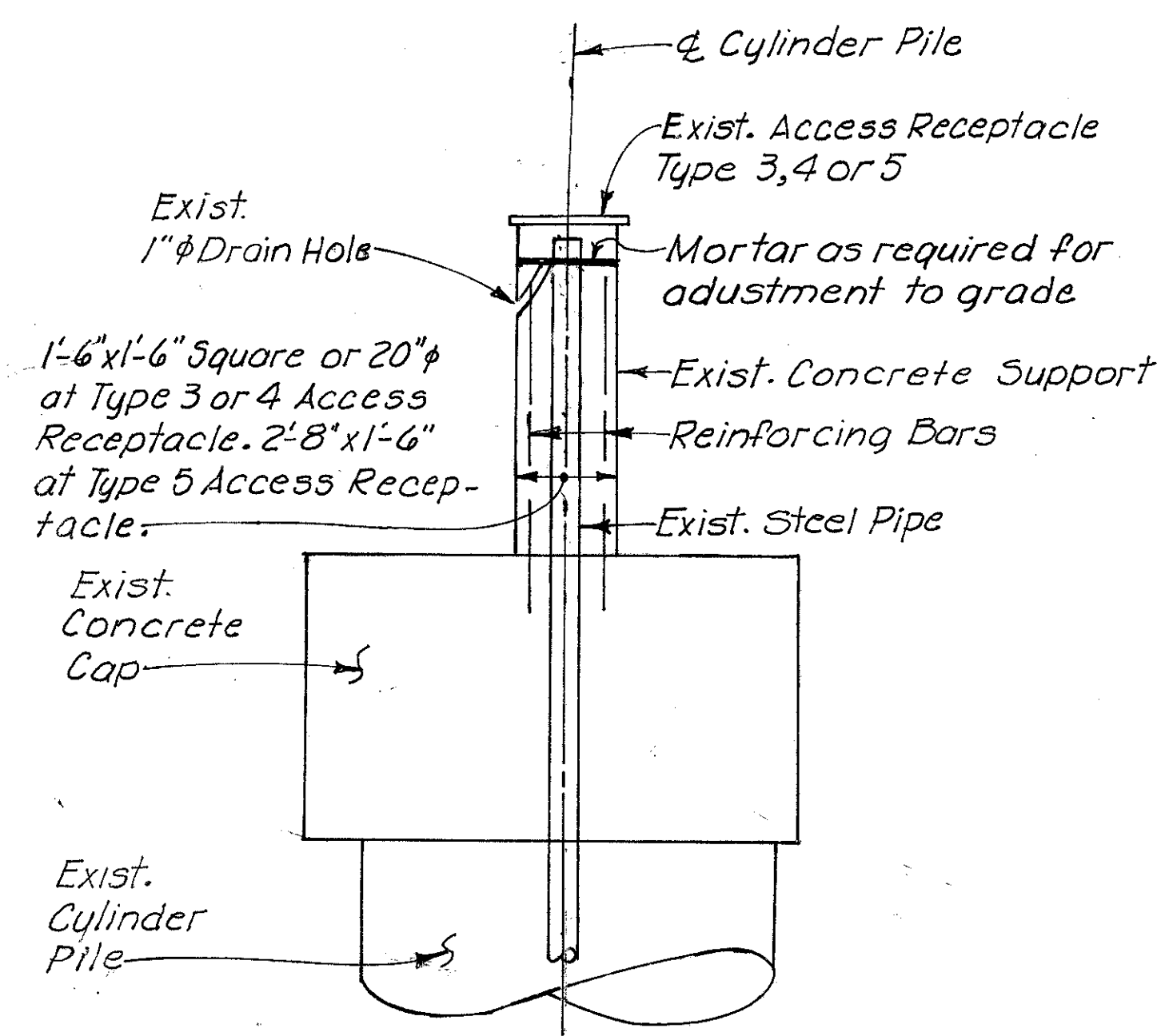


TYPICAL ELEVATION

KEY:	
① Hi-Dro Cushion Cells	⑥ Pull-Out Cables
② Diaphragms	⑦ Secondary Cables
③ Interior Panels	⑧ Expansion Rail (Special)
④ Fender Panels	⑨ Std. Vinyl Cells
⑤ Restraining Cables	⑩ Safety-Flex Belt



NOTE: The Access Receptacles have been furnished and temporarily set by others. The Contractor shall adjust the Receptacles to grade when constructing adjacent pavement and sidewalks. For location of Receptacles see 5h.21. For description of work see 5h.11.



LIGHTING

SPECIFICATIONS

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

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

625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS :

CINCINNATI GAS & ELECTRIC CO.
4TH & MAIN STREETS
CINCINNATI, OHIO 45202

SERVICE REQUIREMENTS: 3-WIRE, 120/240 VOLT SERVICE

THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP WITH A MAXIMUM UNIFORMITY OF 4.0 TO 1 FOR CONVENTIONAL UNITS.

625.07 - 713.11 LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED 240 VOLT, 200 WATT, INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, WESTINGHOUSE OV-25, ITT AMERICAN 400, OR EQUAL APPROVED BY THE ENGINEER.

STYLE C LUMINAIRES SHALL HAVE SINGLE RATED 240 VOLT, 310 WATT, INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M-1000, WESTINGHOUSE OV-50, ITT AMERICAN 1000, OR EQUAL APPROVED BY THE ENGINEER.

713.14 LAMPS

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

ITEM SPECIAL - LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 713.01 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS.

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. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

ITEM SPECIAL - CABLE SPLICING KIT

THIS ITEM SHALL CONSIST OF PROVIDING AND INSTALLING AN APPROVED CABLE SPLICING KIT AS DESCRIBED IN PARAGRAPH 5 OF SECTION 713.15 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH "ITEM SPECIAL - CABLE SPLICING KIT".

ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

THE PAY ITEMS IN THE LIGHTING GENERAL SUMMARY INCLUDE THE PULL BOX OR JUNCTION BOX ADJACENT TO EACH LIGHTED SIGN AND THE ELECTRICAL SERVICE CONNECTIONS LEADING INTO THE BOX, INCLUDING SPLICES OR CONNECTOR KITS IN THE PULL BOX OR JUNCTION BOX. QUANTITIES FOR ELECTRICAL SERVICE FROM THE CONNECTION IN THE PULL BOX OR JUNCTION BOX TO THE SIGN ARE INCLUDED IN THE TRAFFIC CONTROL GENERAL SUMMARY.

ITEM SPECIAL - INSTALLATION FLUSH MOUNT ISLAND LIGHT, AS PER PLAN

FLUSH MOUNT ISLAND LIGHTS SHALL BE INSTALLED ON ISLANDS WHERE AND AS SHOWN ON PLANS. ISLAND LIGHTS WITH CONE TYPE REFLECTORS TO BE FURNISHED BY THE CITY OF CINCINNATI. A 69 WATT 120 VOLT TYPE A21 CLEAR TRAFFIC SIGNAL LAMP IS TO BE FURNISHED BY THE CONTRACTOR. THE CONTRACT UNIT PRICE BID FOR "ITEM SPECIAL - INSTALLATION FLUSH MOUNT ISLAND LIGHT AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, EXCEPT AS NOTED ABOVE, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

BRACKET ARMS

ALL ARMS SHALL ACCOMMODATE A 2" SLIP FITTER LUMINAIRE. FITTING AND SHAFT PLATE FOR ARMS SHALL BE SIMILAR TO THOSE NOW IN USE BY THE CITY TO PROVIDE INTERCHANGEABILITY OF ARMS.

ITEM SPECIAL - TEMPORARY LIGHTING

THIS ITEM SHALL CONSIST OF MAINTAINING EXISTING LIGHTING ON ALL EXISTING ROADWAYS REMAINING OPEN TO TRAFFIC THROUGH THE PROJECT AREA. SHOULD THE CONTRACTOR REQUIRE THE REMOVAL OF LIGHTING FROM AN EXISTING ROADWAY, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

ON PERMANENT NEW ROADWAYS OPENED TO TRAFFIC, EITHER THE PERMANENT NEW LIGHTING SHALL BE INSTALLED BEFORE OPENING, OR TEMPORARY LIGHTING PROVIDING AN AVERAGE INITIAL INTENSITY OF ONE FOOTCANDLE SHALL BE INSTALLED BEFORE OPENING.

WHERE TEMPORARY LIGHTING IS TO BE INSTALLED, AND A DETAILED LAYOUT IS NOT SHOWN IN THE PLANS, THE CONTRACTOR SHALL SUBMIT FOUR (4) SETS OF THE PROPOSED DETAILED PLANS TO THE ENGINEER FOR REVIEW AND APPROVAL. THESE PLANS SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, SIZE OF LAMPS, MOUNTING HEIGHT, AND OTHER PERTINENT INFORMATION.

WOOD POLES WITH OVERHEAD WIRING MAY BE USED. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED BY THE CONTRACTOR AND THE TEMPORARY LIGHTING INSTALLATIONS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR WHEN NO LONGER NEEDED.

RECONDITIONED OR APPROVED USED MATERIAL MAY BE FURNISHED FOR TEMPORARY LIGHTING. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE A FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET.

THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL, AND MAINTENANCE OF ANY TEMPORARY LIGHTING REQUIRED.

WHERE CONVENIENT POWER SUPPLY IS NOT AVAILABLE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE NECESSARY ARRANGEMENTS WITH THE POWER SUPPLY AGENCY FOR EXTENSION OF SERVICE TO A CONVENIENT LOCATION.

THE LUMP SUM BID PRICE FOR "ITEM SPECIAL - TEMPORARY LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PROVIDE THE TEMPORARY LIGHTING AS SPECIFIED.

HIGH VOLTAGE DIRECT CURRENT TEST

A HIGH VOLTAGE TEST, AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 839, SHALL BE PERFORMED ON ALL DISTRIBUTION CABLE AND DUCT CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCES, DELINEATOR POSTS, SIGN SUPPORTS, ETC., IN THE IMMEDIATE VICINITY OF THE LOCATION OF THE CABLE RUN BEING TESTED, HAS BEEN COMPLETED.

MATERIAL FOR INSTALLATION ONLY

CERTAIN QUANTITIES ARE SHOWN IN THE PLANS AS "INSTALLATION ONLY". THESE ITEMS WILL BE FURNISHED BY THE STATE AND INSTALLED BY THE CONTRACTOR.

AT LEAST TWO WEEKS ADVANCE NOTICE SHALL BE GIVEN THE ENGINEER WHEN THE CONTRACTOR IS READY TO INSTALL THESE ITEMS.

UPON NOTIFICATION BY THE ENGINEER, THE CONTRACTOR WILL PICK UP THESE ITEMS AT THE ODOT DISTRICT 08 STORAGE FACILITY IN LEBANON, OHIO.

FOLLOWING IS A LIST OF THESE ITEMS:

DESCRIPTION	QUANTITY
ANCHOR BOLTS, 1" x 76 1/2" (2 PER SET)	3 SETS
GROUND RODS, 1" x 10'	35 EACH
PULL BOX, 18" SQUARE CONCRETE	10 EACH
JUNCTION BOX, 8" x 6" x 6"	2 EACH
JUNCTION BOX, 18" x 6" x 6"	6 EACH
NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	11,131 LIN. FT.

ITEM 625 - LIGHT POLE FOUNDATION, BY SIZE, AS PER PLAN

ALL SECTIONS OF THIS ITEM APPLY EXCEPT THAT THE STATE WILL FURNISH THE REQUIRED REINFORCEMENT AND ANCHOR BOLTS FOR THE FOUNDATIONS.

THE ANCHOR BOLTS ARE STORED AT ODOT DISTRICT 08 STORAGE FACILITY IN LEBANON, OHIO, AND THE REINFORCEMENT IS STORED AT ODOT RENTAL STORAGE AREA BENEATH THE BRENT SPENCE BRIDGE NORTH OF MEHRING WAY. THESE ITEMS SHALL BE PICKED UP BY THE CONTRACTOR WHEN NOTIFIED BY THE ENGINEER.

ITEM 625 - LIGHT POLES, BY DESIGN, AS PER PLAN

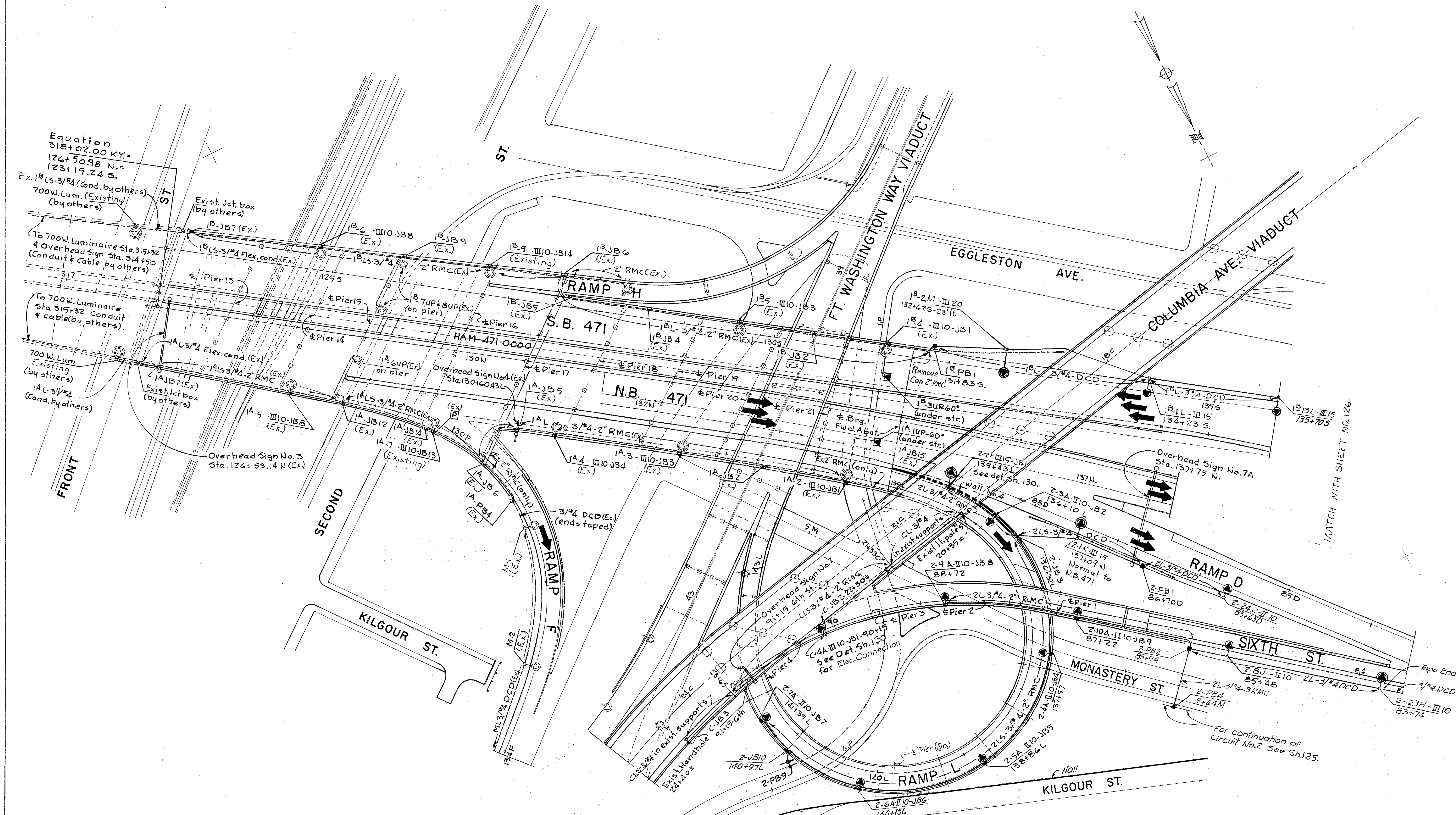
ALL SECTIONS OF THIS ITEM APPLY EXCEPT THAT THE STATE WILL FURNISH THE BRACKET ARMS. BEFORE ORDERING THE POLES THE CONTRACTOR AND ENGINEER SHALL VERIFY THAT THE BRACKET ARM AND POLE ARE COMPATIBLE.

THE BRACKET ARMS ARE STORED AT ODOT RENTAL STORAGE AREA BENEATH THE BRENT SPENCE BRIDGE NORTH OF MEHRING WAY AND SHALL BE PICKED UP BY THE CONTRACTOR WHEN NOTIFIED BY THE ENGINEER.

625.07-713.11 LUMINAIRES

THE HIGH PRESSURE SODIUM BALLAST, INCLUDING STARTING AIDS, MUST PROTECT ITSELF AGAINST NORMAL LAMP FAILURE MODES. THE BALLAST SHALL BE CAPABLE OF OPERATION WITH THE LAMP IN AN OPEN OR SHORT CIRCUIT CONDITION FOR SIX MONTHS WITHOUT SIGNIFICANT LOSS OF BALLAST LIFE.

THE LUMINAIRE MANUFACTURER SHALL SUPPLY BALLAST ELECTRICAL DATA AND LAMP OPERATING VOLT-WATT TRACES FOR NOMINAL AND PLUS OR MINUS TEN PERCENT (±10%) RATED LINE VOLTAGE TO VERIFY BALLAST PERFORMANCE AND COMPLIANCE WITH LAMP SPECIFICATIONS, FOR THE RATED LIFE OF THE LAMP.



Equation
 $318 + 02.00 KY =$
 $126 + 50.98 N =$
 $123 + 19.24 S.$

Ex. 1BLS-3/4 (Cond. by others)
 700W. Lum. (Existing)
 (by others)

To 700W. Luminaire Sta. 319+32
 & Overhead Sign Sta. 314+50
 (Conduit & Cable by others)

To 700W. Luminaire
 Sta. 319+32 Conduit
 & cable (by others).

700W. Lum.
 Existing
 (by others)

1AL-3/4
 (Cond. by others)

Overhead Sign No. 3
 Sta. 126+53.14 N (EX)

Overhead Sign No. 4
 Sta. 130+60.43L

Overhead Sign No. 7A
 Sta. 137+75 N.

See det. Sh. 130
 for Elec. Connection

For continuation of
 Circuit No. 2 See Sh. 125.

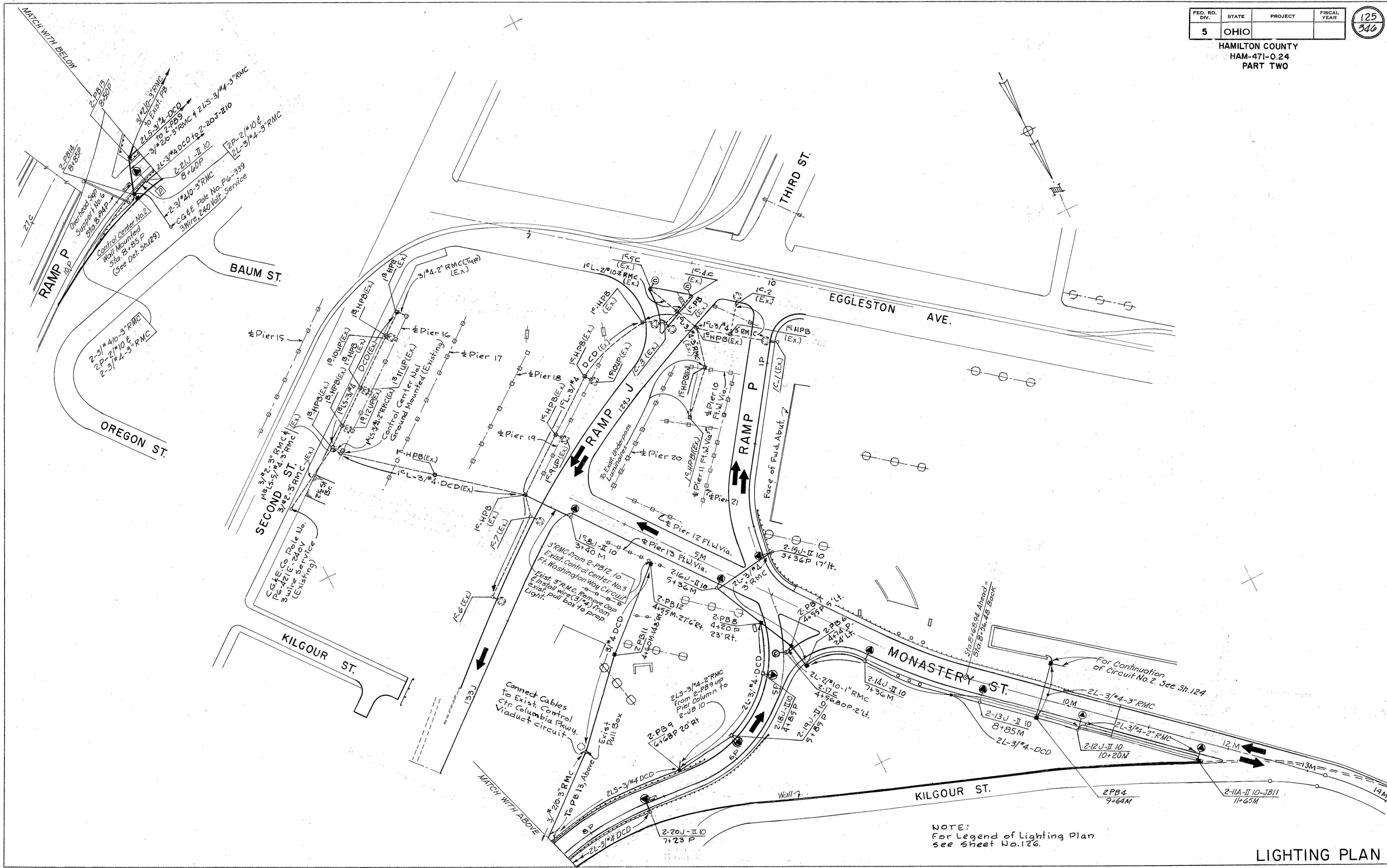
NOTE:
 For Legend of Lighting Plan
 see Sheet No. 126.

MATCH WITH SHEET NO. 126.

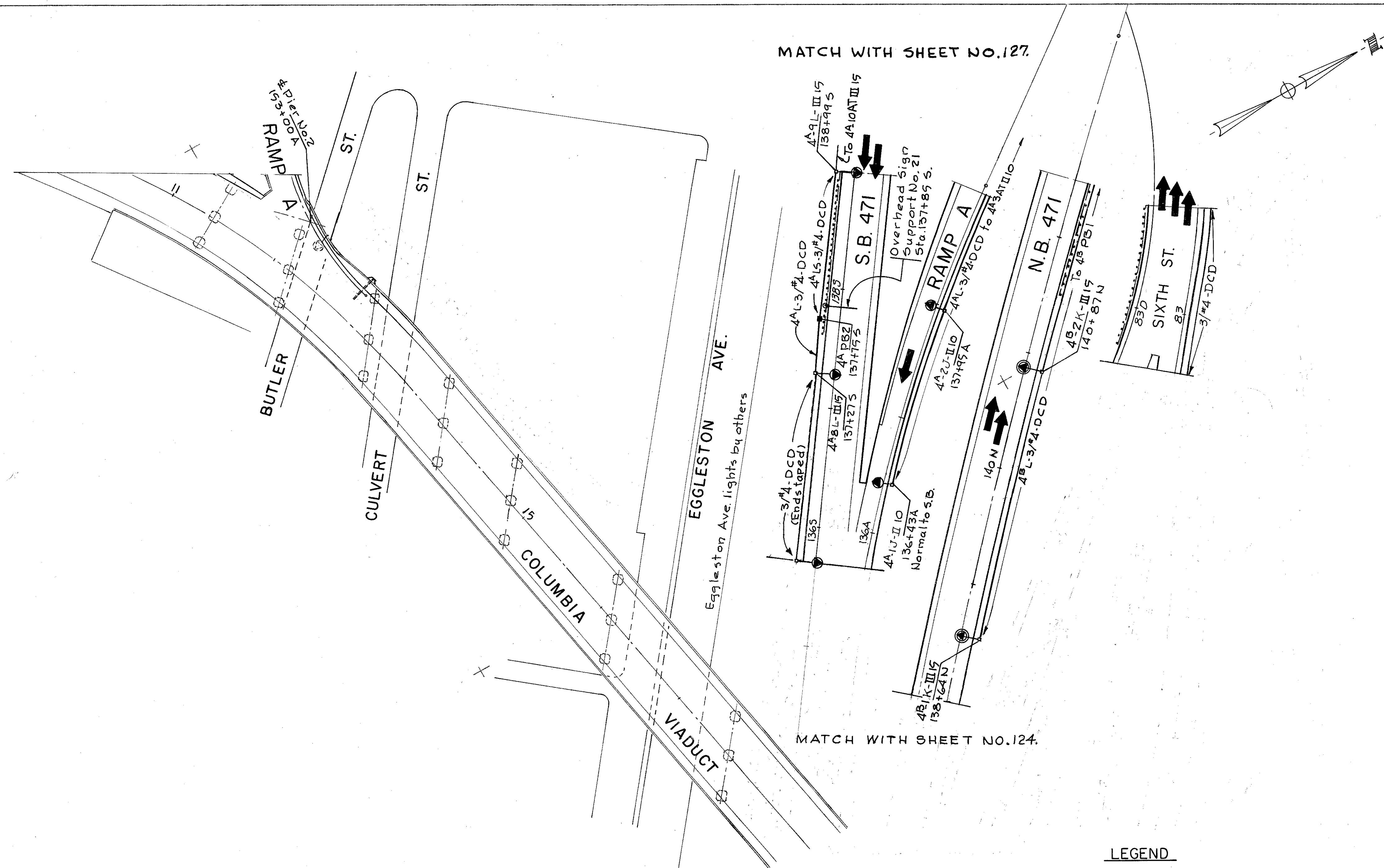
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

125
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



LIGHTING PLAN



LEGEND
(FOR LIGHTING PLAN ONLY)

WIRE AND CONDUIT IDENTIFICATION			
1	2	3	4
4A-LS	3/4"	DCD	=
Branch	L. Lighting S. Signing P. Photoelect.	No. and size of conductors	1/2" or 3/4" RMC - Size, Rigid Metallic Conduit. DCD - Duct Cable Direct burial.

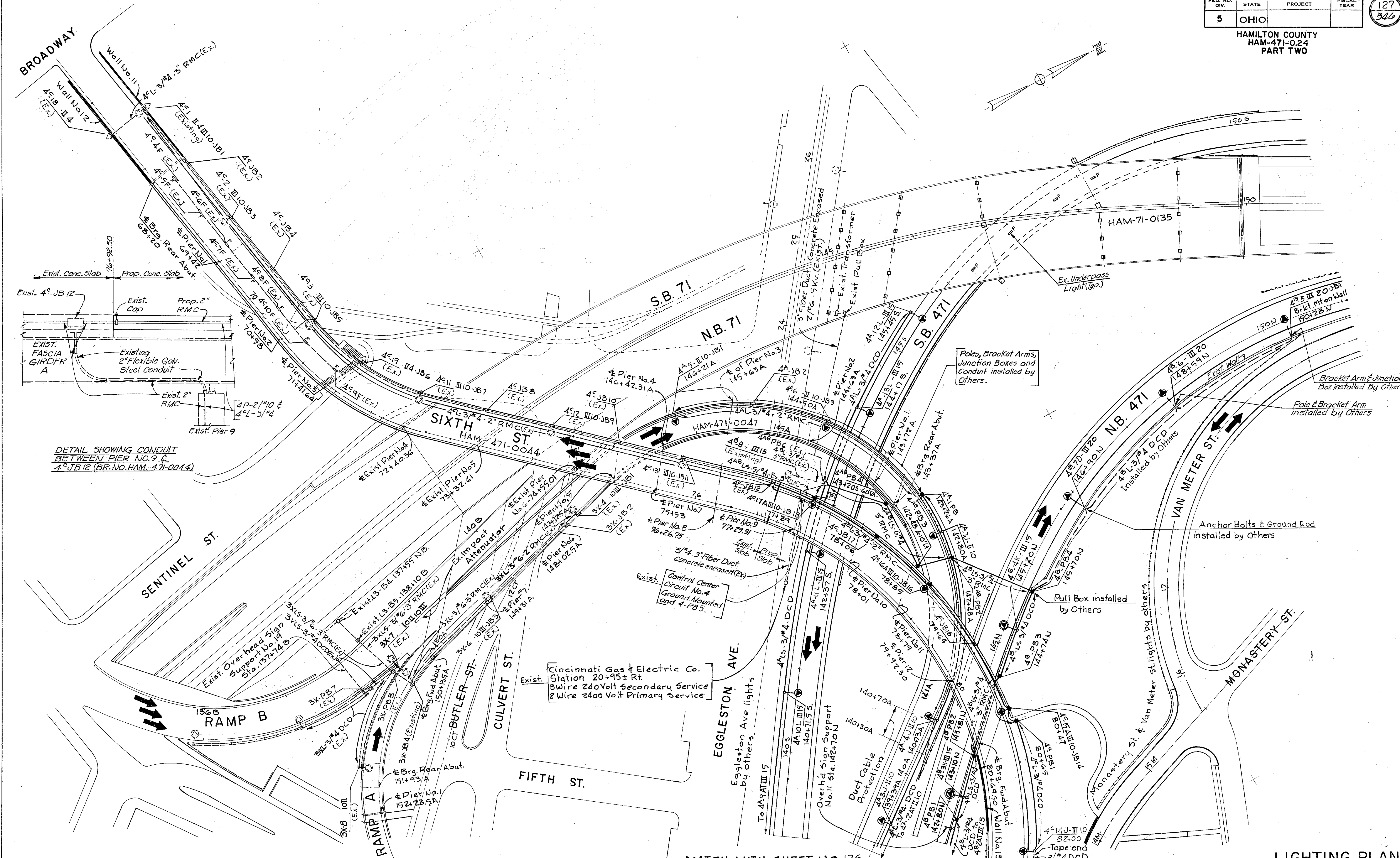
LIGHT POLE IDENTIFICATION AND JUNCTION BOX DESIGNATION			
1	2	3	4
4E-19A-III10-JB15	=	Branch	Type Distribution
80+45		Light Pole No. & Ref. Letter	Junction box
		Station where located	4 Number

PULL BOX IDENTIFICATION		
1	2	3
4A-PB4	=	Branch
143+205-60' Rt.		Circuit No.
		Pull box 17" Sq. No. of Box
		Sta. where located - offset from base line in ft. and direction

- LEGEND**
- ⊙ 310 Watt H.P.S. Vapor Luminaire 240 Volt, Transformer base, Ground Mounted.
 - ← 100 Watt H.P.S. Vapor Luminaire 240 Volt, Anchor base, Wall or Structure Mounted.
 - ⊙ 200 Watt H.P.S. Vapor Luminaire 240 Volt, Anchor base, Structure, Wall or Ground Mounted.
 - ⊙ 200 Watt H.P.S. Vapor Luminaire 240 Volt, Transformer base Ground Mounted.
 - ⊙ Glare Shield
 - 100 Watt H.P.S. Vapor Underpass Luminaire 240 Volt.
 - F 460 Watt Fluorescent Luminaire 120 Volt, Concrete Pull Box 17" Square.
 - PB Existing Pull Box. □ Existing Junction Box
 - JB Junction Box 18" x 8" x 6".
 - ⊙ Photo electric Cell and Socket.
 - ⊙ Flush mounted Island light with cone reflector, Furnished by City of Cincinnati, installed by Contractor.
 - o—o—o— Overhead Sign Support

Note: Dashed lines indicate existing installation except where noted.
H.P.S. denotes High Pressure Sodium.

HAMILTON COUNTY
HAM-471-0.24
PART TWO



DETAIL SHOWING CONDUIT BETWEEN PIER NO. 9 & 4° JB 12 (BR. NO. HAM-471-0044)

Exist. Cincinnati Gas & Electric Co. Station 20+95± Rt. 3 Wire 240 Volt Secondary Service 2 Wire 2400 Volt Primary Service

Poles, Bracket Arms, Junction Boxes and Conduit installed by Others.

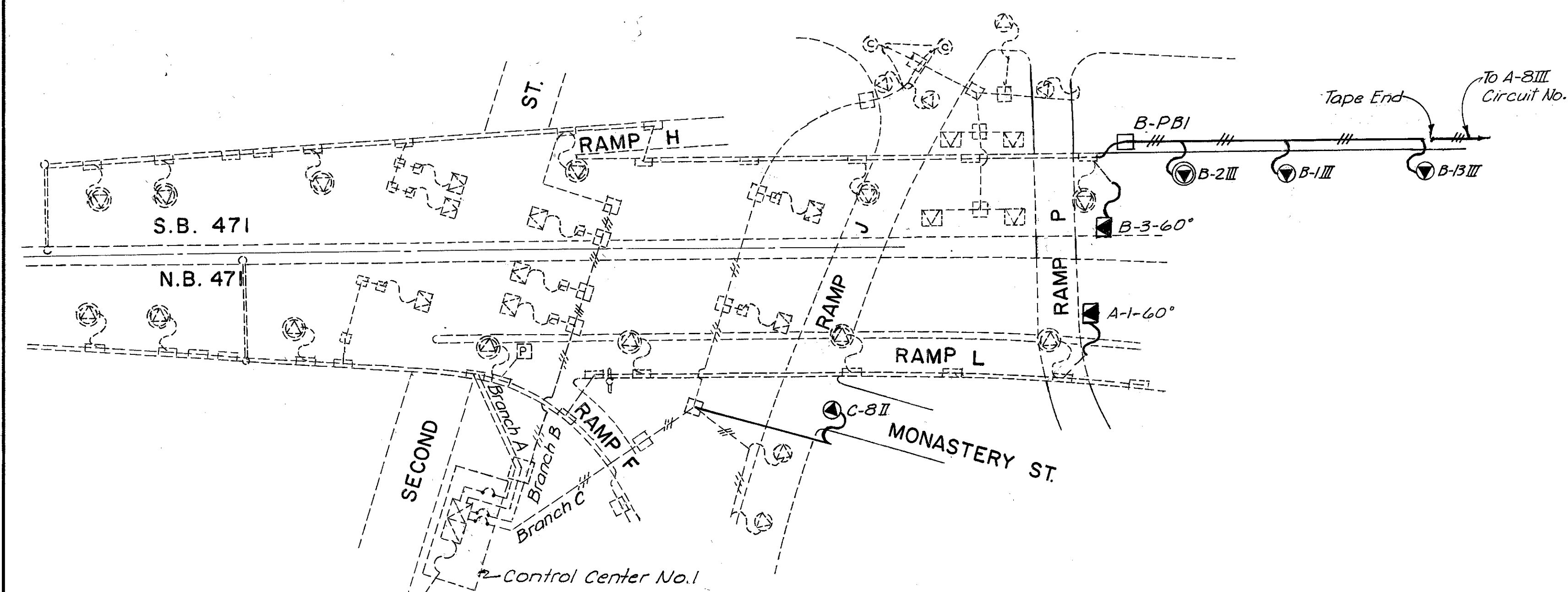
Bracket Arm & Junction Box installed by Others

Anchor Bolts & Ground Rod installed by Others

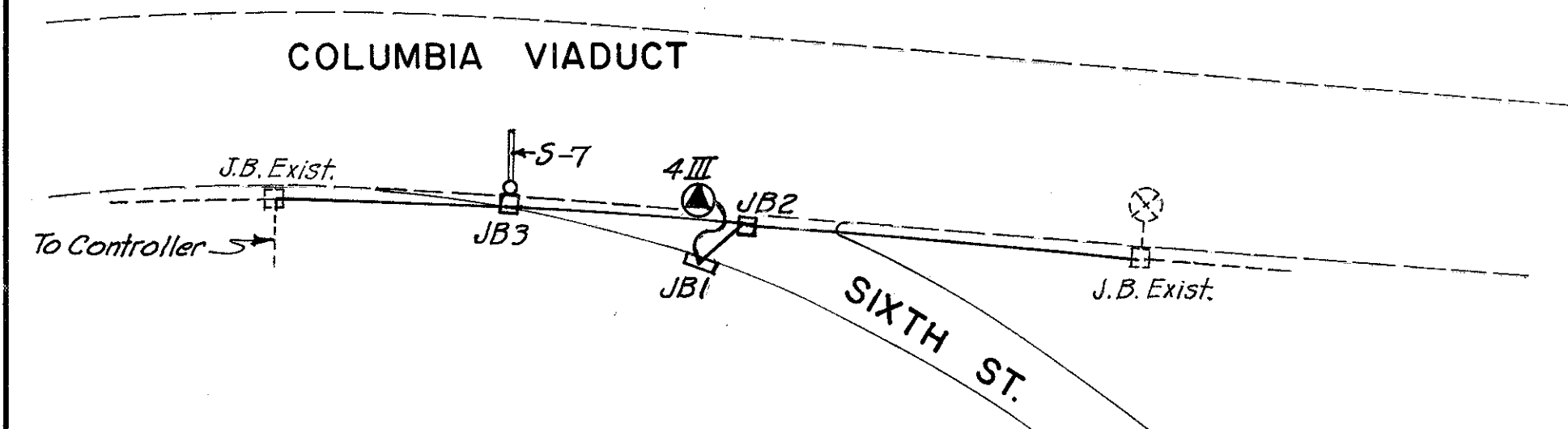
Pull Box installed by Others

MATCH WITH SHEET NO. 126.

LIGHTING PLAN

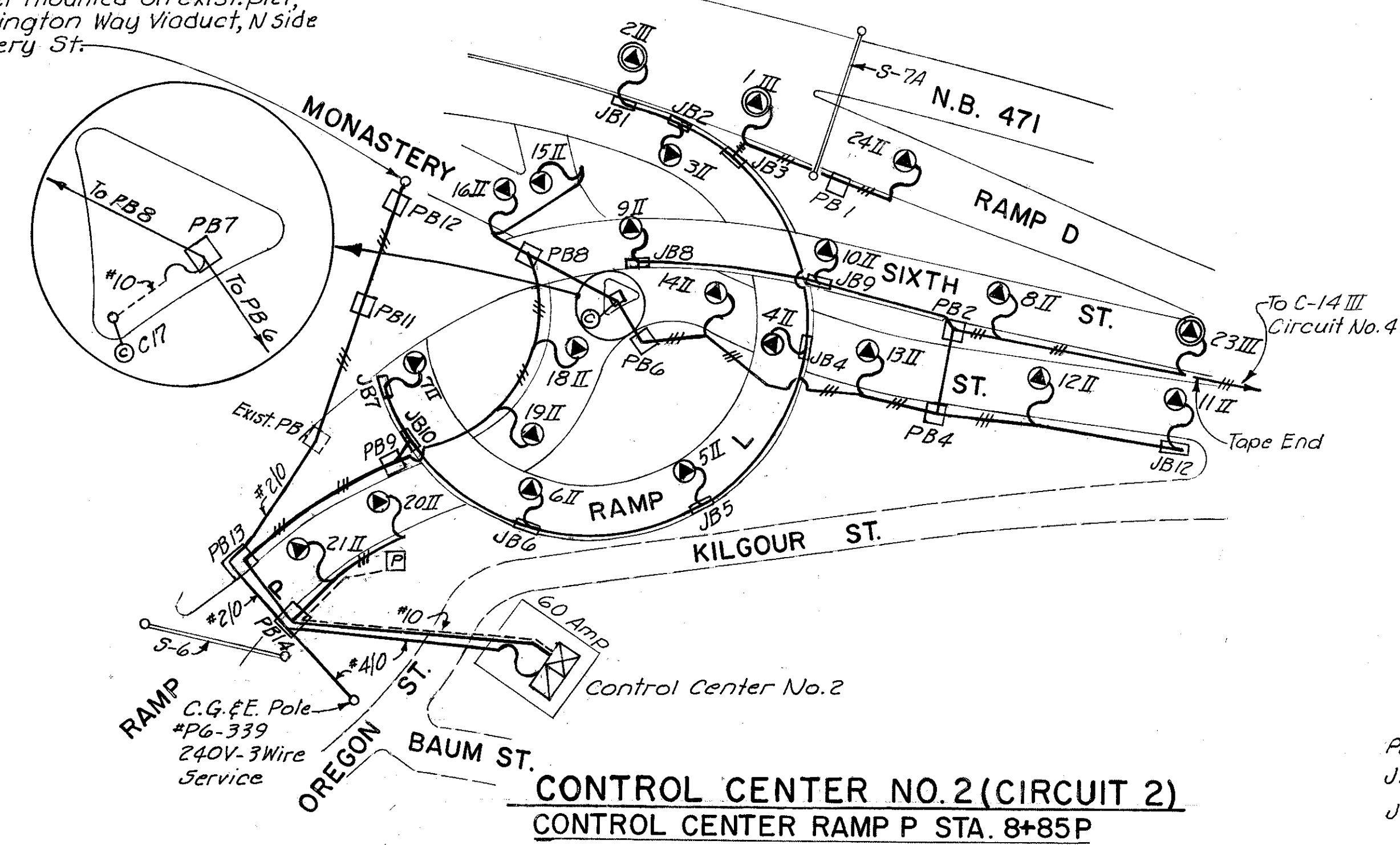


ADDITIONS TO EXIST. CONTROL CENTER NO. 1 (CIRCUITS A, B, & C)
CONTROL CENTER NORTH SIDE OF SECOND ST. EAST OF EGGLESTON AVE.

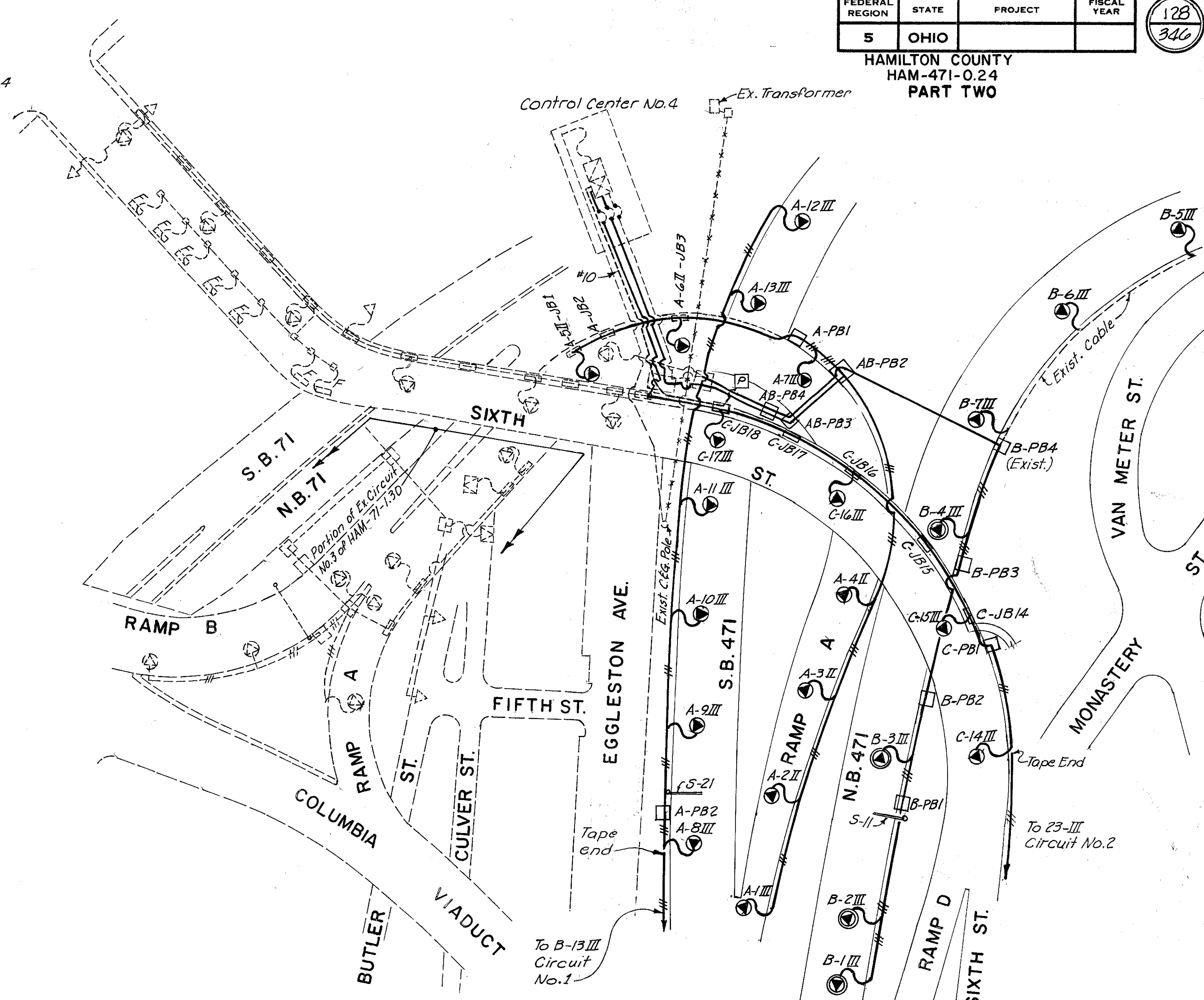


ADDITIONS TO EXISTING CIRCUIT C

To Existing Control Center No. 3.
Controller mounted on exist. pier,
Ft. Washington Way Viaduct, N Side
Monastery St.



CONTROL CENTER NO. 2 (CIRCUIT 2)
CONTROL CENTER RAMP P STA. 8+85P



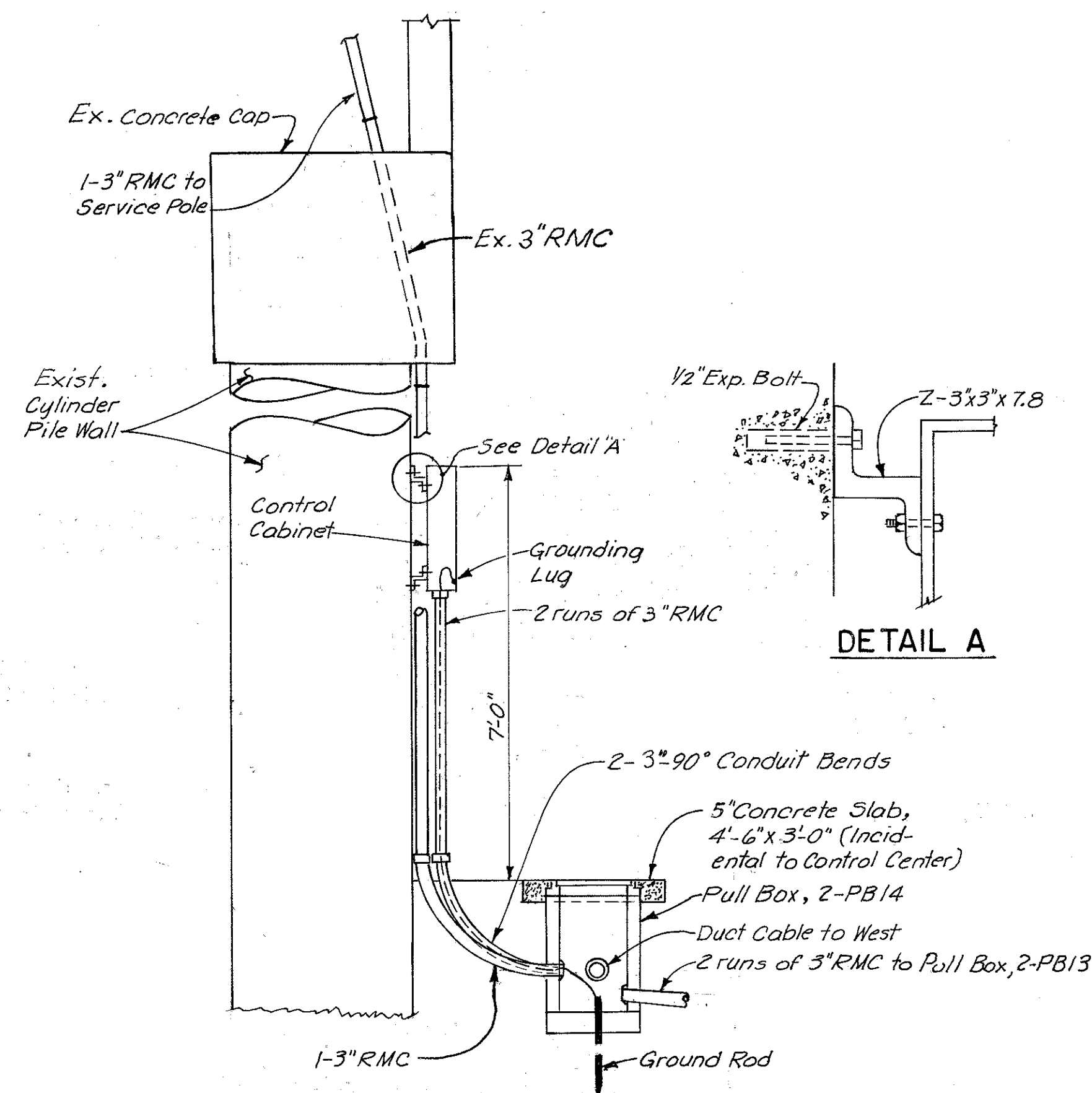
ADDITIONS TO EXIST. CONTROL CENTER NO. 4 (CIRCUITS A, B, & C)
CONTROL CENTER EAST SIDE EGGLESTON AVE. UNDER SIXTH ST. STRUCTURE

LEGEND
(FOR CIRCUIT DIAGRAMS ONLY)

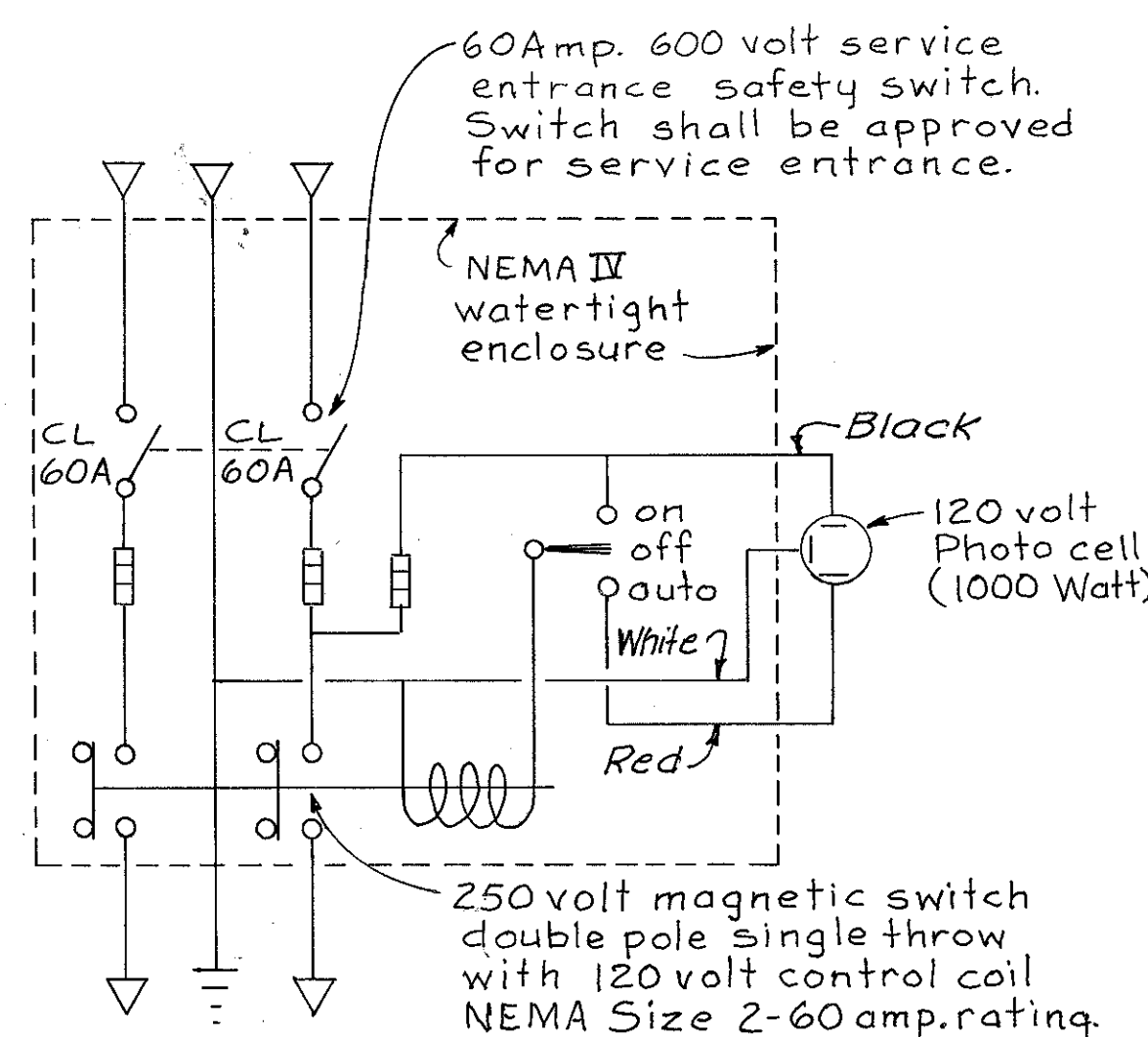
- Dashed lines indicate existing installation.
- 310 Watt H.P.S. Vapor Luminaire Type II or III distribution. 240 Volt-310 Watt lamp, Regulator Type Ballast.
- ▲ 200 Watt H.P.S. Vapor Luminaire Type II or III distribution. 240 Volt-200 Watt lamp, Regulator Type Ballast.
- ▲ 100 Watt H.P.S. Vapor Luminaire Type distribution. 240 Volt 100 Watt lamp, Regulator Type Ballast.
- ▲ 100 Watt H.P.S. vapor Underpass Luminaire, 70° or 60° beam. 240 Volt-100 Watt lamp, Regulator Type Ballast.
- Flush Mounted Island light with cone reflector 69 Watt 120 Volt Incandescent lamp. (Furnished by City of Cincinnati, installed by Contractor.)
- Photoelectric Cell and Socket.
- PB Pull Box.
- JB Junction Box 18"x8"x6".
- JB Junction Box 8"x6"x6".

- ~ Fuse.
- ⊗ Circuit Breaker
- ⊠ Contactor
- ⊡ Secondary Switch.
- o—o—o— Overhead Sign Support.
- Three 1" 600 Volt cable
- Three 1" 600 Volt cable
- One Duct Cable containing three 1" 600 V. Cables
- *** Existing 5 KV Cable

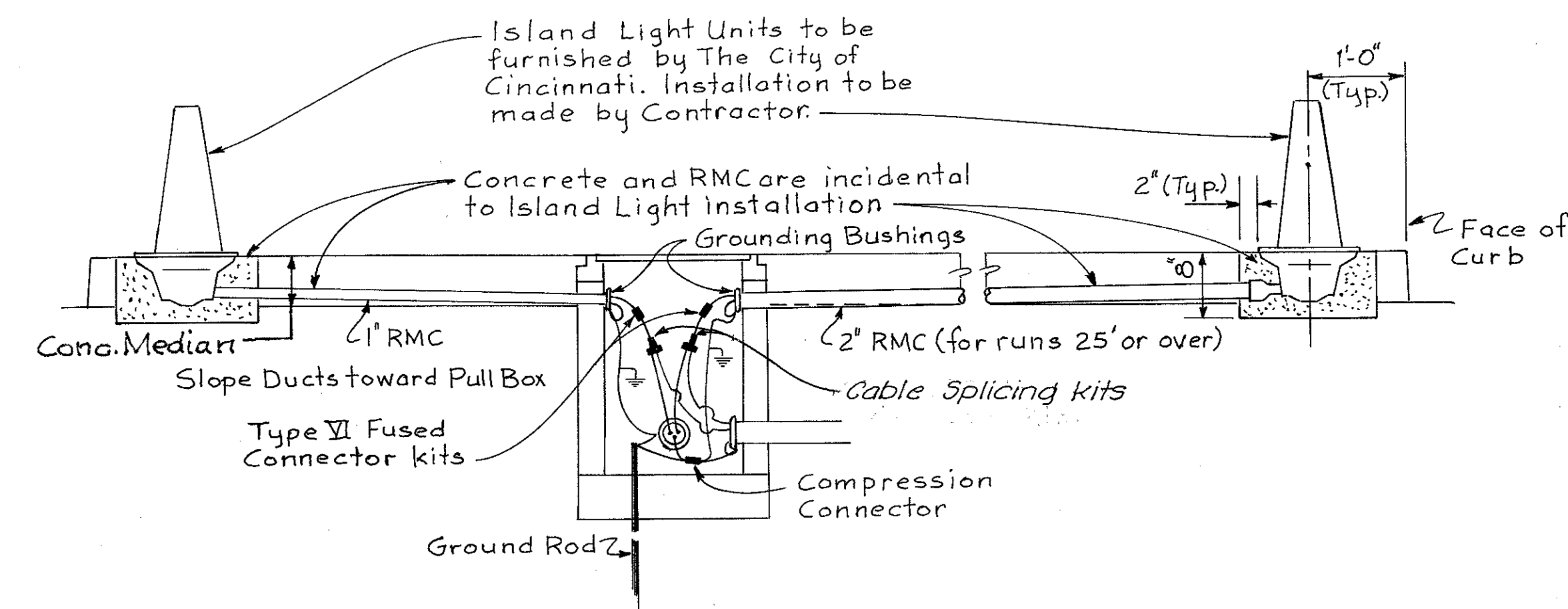
Note:
All conductors are No. 4 unless indicated otherwise.



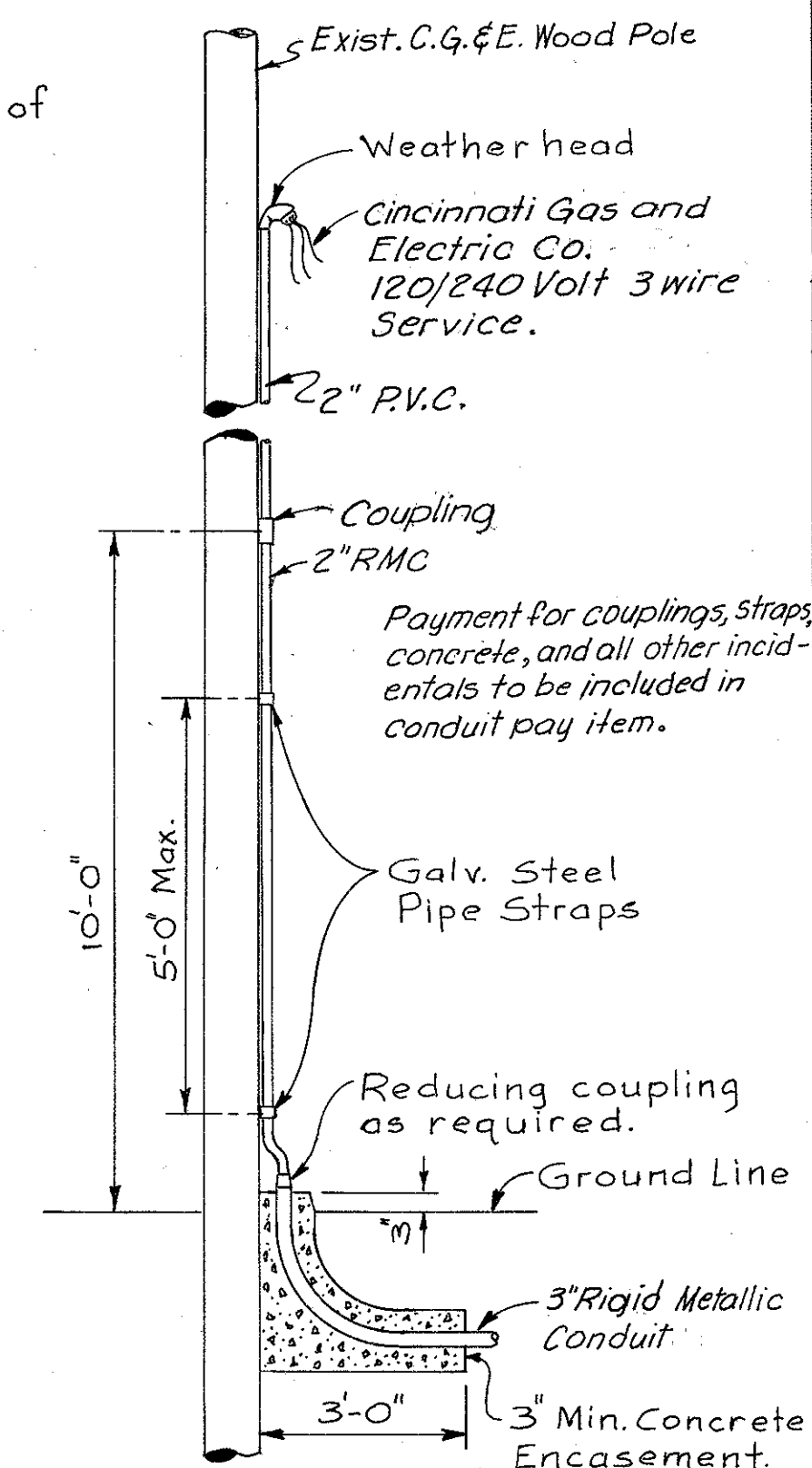
WALL MOUNTED CONTROL CENTER
CIRCUIT NO. 2
STA. 8+85 P±



CONTROLLER WIRING DIAGRAM
CIRCUIT NO. 2



TYPICAL ISLAND LIGHT INSTALLATION

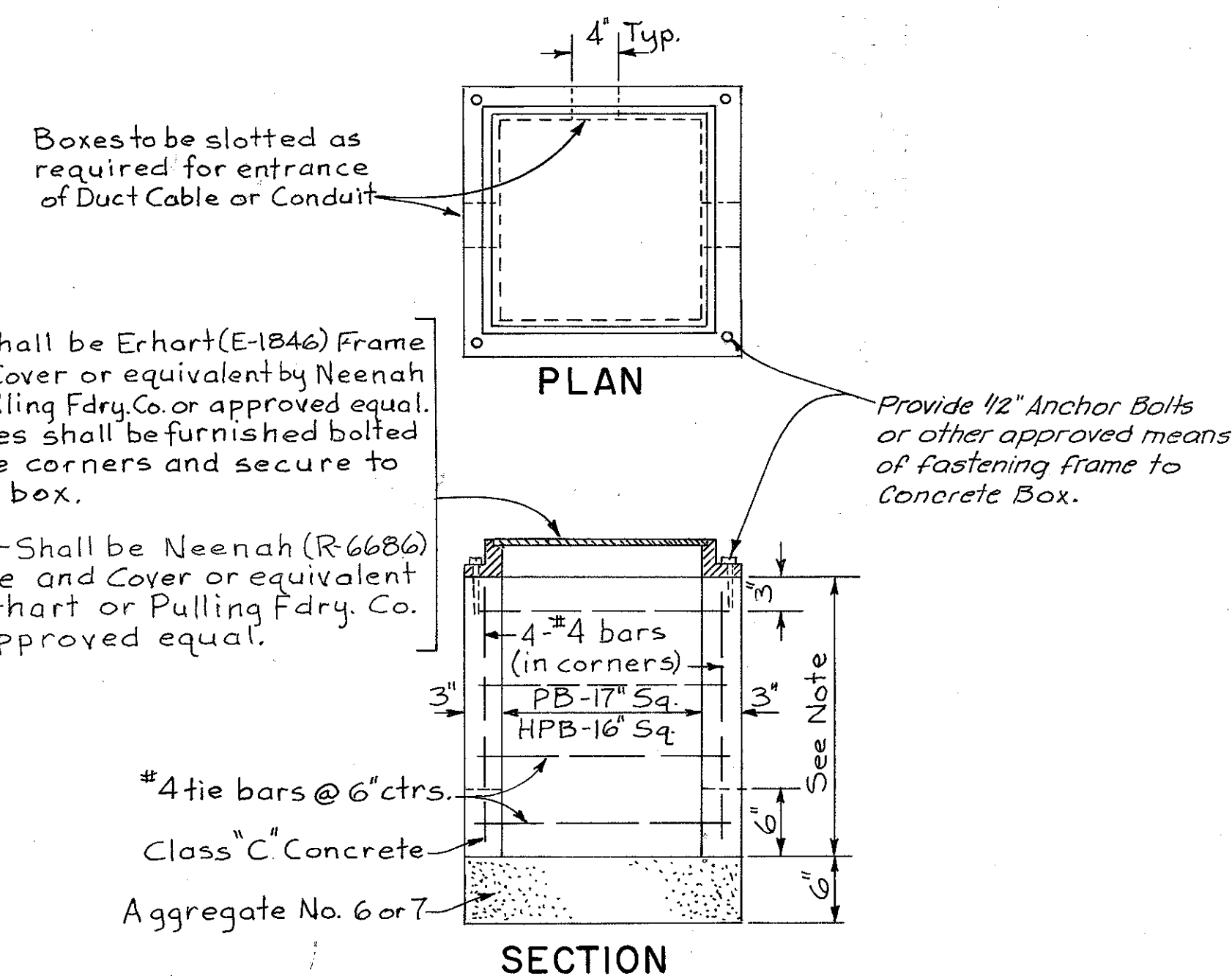


DETAIL OF POWER SUPPLY CONNECTION

WALL NO.	POLE NO.	STATION	ANCHOR BOLT			DESIGN NO.
			Diameter Bolt Circle	Projection above Foundation	Size	
4	2-2A-III15	135+43L	12 1/2"	3"	1"x40"	A15B 32.7
9	4B-7A-III20	146+90N	11 1/2"	2 3/4"	1"x40"	A20B 30.6

Note: Anchor Bolts on Wall No. 9 were placed under the previous contract. Verify dimensions before ordering pole.

REFERENCE LETTER	DESIGN NUMBER	FOUNDATION ANCHOR BOLTS		BASE STYLE
		SIZE DIAMETER x LENGTH	BOLT CIRCLE DIA.	
A	A 10B 32.5	1 1/2" x 40" or 8 3/2"	11"	A
D	A 20B 30.6	EXIST.	11.5"	A
F	A 15B 32.7	1" x 40"	12.5"	A
H	AT 10B 41.7	1" x 40"	15.0"	AT
J	AT 10B 34.2	1" x 40"	15.0"	AT
K	AT 15B 41.7	1" x 40"	15.0"	AT
L	AT 15B 34.2	1" x 40"	15.0"	AT
M	AT 20B 41.7	1" x 40"	15.0"	AT



NOTE: All Pull boxes shall be 2'-3" deep except those at crossovers which shall be 2'-9" deep. Top of boxes shall be flush with concrete or 1" max. above finished ground.

PB OR HPB PULL BOX DETAILS

TRAFFIC CONTROLS

632 REMOVAL OF EXISTING TRAFFIC SIGNAL INSTALLATION AT EGGLESTON & I-471

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH ITEM 632 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF CINCINNATI, IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

QUANTITY	DESCRIPTION
2 EA.	VEHICULAR SIGNAL HEAD, 3-SECTION, 8 INCH LENS
2 EA.	VEHICULAR SIGNAL HEAD, 3-SECTION, 2-8 INCH LENS, 1-12 INCH LENS
3 EA.	VEHICULAR SIGNAL HEAD, 3-SECTION, 12 INCH LENS
2 EA.	VEHICULAR SIGNAL HEAD, 1-SECTION, 8 INCH LENS
1 EA.	SIGNAL CONTROLLER CABINET AND CONTROL EQUIPMENT
1 EA.	SAFETY SWITCH, 60 AMPERE
1 EA.	SECTIONALIZER
680 LIN. FT.	MESSENGER WIRE, 1/4", 3 STRAND WITH ACCESSORIES
220 LIN. FT.	MESSENGER WIRE, 5/16", 7 STRAND WITH ACCESSORIES
110 LIN. FT.	POWER CABLE, 2/C #6AWG
240 LIN. FT.	INTERCONNECT CABLE, 12/C #12 AWG
430 LIN. FT.	SIGNAL CABLE, 5/C #14AWG
380 LIN. FT.	SIGNAL CABLE, 7/C #14AWG
2 EA.	WOOD POLE, 45', CLASS 1
1 EA.	MAST ARM, 10', WITH ACCESSORIES

MATERIAL FOR INSTALLATION ONLY

CERTAIN QUANTITIES ARE SHOWN IN THE PLANS AS "INSTALLATION ONLY". THESE ITEMS WILL BE FURNISHED BY THE STATE (OR CITY) AND INSTALLED BY THE CONTRACTOR.

AT LEAST TWO WEEKS ADVANCE NOTICE SHALL BE GIVEN THE ENGINEER WHEN THE CONTRACTOR IS READY TO INSTALL THESE ITEMS.

UPON NOTIFICATION BY THE ENGINEER, THE CONTRACTOR WILL PICK UP THESE ITEMS, EXCEPT AS NOTED, AT THE LOCATIONS GIVEN BELOW.

FOLLOWING IS A LIST OF THESE ITEMS:

QUANTITY	LOCATION	DESCRIPTION
1	RENTAL STORAGE	OVERHEAD SIGN SUPPORT, TYPE 12.24, DESIGN 4, 26' ARMS, COMPLETE
1	RENTAL STORAGE	OVERHEAD SIGN SUPPORT, TYPE 12.24, DESIGN 5, 22' ARMS, COMPLETE
4	DISTRICT 08	GROUND RODS
5	DISTRICT 08	BALLAST, TYPE A
1	DISTRICT 08	BALLAST, TYPE B
2	DISTRICT 08	BALLAST, TYPE C
1	DISTRICT 08	BALLAST, TYPE D
5	DISTRICT 08	72" FLUORESCENT FIXTURE
5	DISTRICT 08	96" FLUORESCENT FIXTURE
1		INTERNALLY ILLUMINATED SIGN (BY CITY)

THE STATE OF OHIO RENTAL STORAGE AREA IS UNDER THE BRENT SPENCE BRIDGE NORTH OF MEHRING WAY. THE DISTRICT 08 STORAGE FACILITY IS IN LEBANON, OHIO.

THE CITY WILL DELIVER THE INTERNALLY ILLUMINATED SIGN TO THE CONTRACTOR.

TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS

REFERENCE TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 859, 957, 958 AND 959 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 632, 730, 731 AND 732.

632 REUSE OF EXISTING PEDESTRIAN SIGNAL AND PUSH BUTTON

THIS ITEM SHALL CONSIST OF DISCONNECTING THE WIRING FROM THE PEDESTRIAN SIGNAL AND PUSH BUTTON, REMOVING SAME FROM POLE AND INSTALLING SIGNAL AND PUSH BUTTON ON POLE AT NEW LOCATION AS SHOWN IN PLANS. BRACKET ARMS SHALL BE REMOVED AND REUSED WHERE REQUIRED. SIGNAL AND PUSH BUTTON SHALL BE CONNECTED INTO EXISTING CIRCUITS AS DESCRIBED IN PLANS. OPENINGS LEFT IN POLES SHALL BE CLOSED BY GALVANIZED PLUGS OR CAPS. PUSH BUTTON SIGNS SHALL BE REMOVED AND REUSED WHERE REQUIRED.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID FOR "REUSE OF EXISTING PEDESTRIAN SIGNAL AND PUSH BUTTON" AND SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM.

632 REUSE OF EXISTING PEDESTRIAN SIGNAL POLE

THIS ITEM SHALL CONSIST OF REMOVING THE 4" x 8' PEDESTRIAN SIGNAL POLE FROM ITS EXISTING FOUNDATION AND INSTALLING SAME ON NEW FOUNDATION CONSTRUCTED BY OTHERS. THE NEW FOUNDATION HAS THREADED COUPLINGS SET FLUSH WITH TOP OF CONCRETE INTO WHICH NEW ANCHOR BOLTS ARE TO BE SCREWED AND POLE ATTACHED. ANCHOR BOLTS AND CONDUIT IN OLD FOUNDATION ARE TO BE REMOVED BELOW TOP OF CONCRETE AND OPENINGS FILLED WITH GROUT.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID FOR "REUSE OF EXISTING PEDESTRIAN SIGNAL POLE" AND SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM.

632 REMOVAL OF PORTION OF EXISTING SIGNAL INSTALLATION

THIS WORK SHALL CONSIST OF THE REMOVAL OF TRAFFIC SIGNALS, PEDESTRIAN SIGNALS, PUSH BUTTON SIGNS, WIRING AND SUPPORTS AT COLUMBIA PARKWAY, RAMP B AND PIKE STREET AS SHOWN AND DESCRIBED IN THE PLANS.

ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO ITEM SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR "632 REMOVAL OF PORTION OF EXISTING SIGNAL INSTALLATION" AND SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM.

632 MAINTENANCE OF EXISTING SIGNAL INSTALLATION

THE EXISTING SIGNAL INSTALLATIONS SHALL BE MAINTAINED AT ALL TIMES BY USE OF EXISTING FACILITIES, NEW FACILITIES, TEMPORARY FACILITIES OR COMBINATION OF EACH.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR ITEM 632 MAINTENANCE OF EXISTING SIGNAL INSTALLATION AND SHALL INCLUDE ALL NECESSARY MATERIAL AND LABOR REQUIRED TO COMPLETE THIS ITEM.

631 SIGN SERVICE

IN LIEU OF THE REQUIREMENTS OF 631.06, CABLE FOR SIGN SERVICE SHALL BE RATED THE SAME AS THE HIGHWAY LIGHTING DISTRIBUTION AND CIRCUIT CABLE USED ON THIS PROJECT.

631 BALLAST WIRING ENCLOSURE MOUNTING BRACKET ASSEMBLY

Ballast enclosure mounting bracket assemblies shall be furnished for installation on existing overhead sign supports by bolts in tapped holes. Brackets shall be in accordance with plan details and galvanized in accordance with 711.02. Brackets shall be of two sizes: Type A for span type supports and shown on TC-32.10 and Type B for single pole and overpass structures as detailed in the plans and on TC-32.11. Payment will be at the contract unit price for each assembly which shall include all necessary brackets, field drilling and hardware, furnished and in place.

847 BROKEN LINE PAVEMENT MARKINGS

The requirements of Supplemental Specification 847.03 shall be modified for application of broken lines. The lines shall be applied in a 40-foot cycle consisting of a 10-foot dash and a 30-foot space between dashes.

631 ENCLOSURE PADLOCKS

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH ITEM 631 SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS, AND KEYING IN ACCORDANCE WITH THE FOREGOING SPECIFICATION.

202 REMOVAL OF TEMPORARY BEAM RAIL

TEMPORARY BEAM RAIL 606.04 MOUNTED ON DRUMS, INCLUDING ALL ATTACHED POSTS, SIGNS, DELINEATORS, ETC., SHALL BE CAREFULLY DISMANTLED, REMOVED, AND THE SITE CLEANED FOR USE BY TRAFFIC. BEAM RAIL AND OTHER COMPONENTS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY STATE FORCES.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO ITEMS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER ITEM 202, LINEAR FOOT, REMOVAL OF TEMPORARY BEAM RAIL FOR STORAGE.

631 BALLAST WIRING ENCLOSURE

Ballast enclosures shall be furnished and installed on overhead sign supports as shown on TC-32.10 or detailed in the plans. The enclosure shall be mounted on brackets which are a part of new overhead supports or separately furnished for existing supports. Enclosures shall be weatherproof NEMA Type 4 in accordance with plan details, fabricated of 0.06 inch steel galvanized in accordance with 711.02. The front cover shall be removable and bear a warning sign conforming to 713.20, paragraph 8d. Conduit fittings and attachment hardware shall be furnished with the enclosure. Enclosures shall contain a steel panel complying with 713.20, paragraph 8e for installing terminal blocks and busbars, rated at 600 volts and provided with marker strips and capable of terminating the wire gage used. Ballasts shall be arranged in the enclosure in the same relative position as their associated luminaire on the sign support structure. Enclosures shall be of two sizes: Type A for span type supports as shown on TC-32.10 and Type B for single pole structures as detailed in the plans and in accordance with the following table:

SIZE (NOMINAL), INCHES	TYPE A	TYPE B
BARRIER TERMINAL BLOCK; NO. UNITS, NO. TERMINALS (MIN)	42x12x10 2,10	18x12x10 2,4
SOLID INSULATED BUSBAR; NO. UNITS, NO. TERMINALS (MIN)	2,11	2,5
SOLID UNINSULATED BUSBAR; NO. UNITS, NO. TERMINALS (MIN)	1,11	1,5

Payment will be at the contract unit price for each enclosure, furnished, in place, complete and ready for service.

DESCRIPTION OF WORK

- The work shall consist of furnishing and placing plowable raised pavement markers (hereafter referred to as RPMs) in accordance with the lines, symbols, and dimensions shown on the plans or as described herein on highway sections where the RPM's have never been installed to date.
- The replacement of damaged or missing RPM's within existing marker installations in accordance with the lines, symbols and dimensions shown on the plans or as described herein. This work includes furnishing replacement RPM's.
- The replacement of damaged or missing prismatic retro-reflectors on highway sections with existing marker installations where casting remains intact in accordance with the lines, symbols and dimensions shown on the plans or as described herein. This work includes furnishing replacement prismatic retro-reflectors.

The Contractor shall furnish all material, services, labor and equipment necessary for the required pavement preparation and pavement marker placement for each item described herein.

MATERIALS

The RPM shall consist of two components. One component is a casting; the other component is a prismatic retro-reflector. Both components of the RPM used for this project shall be Stimsonite Model 96 as manufactured by the Amerace Corporation, Niles, Illinois, or an approved functional equivalent. The RPM casting is an iron casting, snow plowable in two opposing directions, designed to be equipped with a replaceable prismatic retro-reflector. Prismatic retro-reflectors shall retro-reflect in one direction only (one way) or in two opposing directions (two-way).

The adhesive used to bond the RPM to the pavement shall be a two-component standard set epoxy available from Poly-Carb, Inc. or General Adhesives and Chemical Company or an approved functional equivalent made with the following formulation.

Component A	Parts by Weight
Epoxy Resin (Epon 828 or equal)	100.00
Titanium Dioxide	7.68
#13 Talc U	36.64
Component B	Parts by Weight
N-Aminoethyl piperazine (Jefferson or equal)	25.10
Nonyl Phenol	50.03
Talc (Fiberine C-400, Sierra or equal)	69.28
Molacco Black	0.23

The adhesive used by the Contractor to bond the prismatic retro-reflector to castings shall be MACCO, LN-602 (Liquid Nails), a waterproof synthetic rubber and resin based adhesive, manufactured by SCM Glidden-Durkee, Division of SCM Corporation, Macco Adhesives Group, Wickliffe, Ohio 44092 or an approved functional equivalent.

TESTING AND CERTIFICATION

RPMs and prismatic retro-reflectors shall be furnished and placed by the Contractor. The Contractor shall furnish to the Engineer, certified Test Data of the material's physical characteristics and Certification that the materials were manufactured and assembled in accordance with applicable State specifications. The results of all factory quality control inspection of the prismatic retro-reflector to casting bond shall be included in the physical characteristics data.

The epoxy adhesive shall be furnished by the Contractor. The Contractor shall furnish to the Engineer a Certificate of Analysis containing the Certified Formulation and Certified Test Data to be obtained in the following manner:

The Certified Formulation shall be, for each of the Component Parts, the actual percent by weight, the name of the producer and brand name of the material, and the producer's code number. A certified formulation will be required annually for each Component Part A and B. Certified Test Data for the properties of the Component Parts, Components A (Epoxy) and B (Hardener), and the Cured System shall be obtained in accordance with the Methods of Test of AASHTO M237-73. The respective properties of the Component Parts to be tested are noted in Sections 2.3.1 to 2.3.3 and 2.3.5 to 2.3.7. The properties of both Components A and B to be tested are noted in Section 3.1. The properties of the Cured System to be tested are listed in Table 7. Certified Test Data for the Component Parts may be obtained by the respective manufacturers. Certified Test Data for Components A and B and the Cured System may be obtained by either the Epoxy Adhesive producer or an independent test laboratory.

For sampling purposes a batch shall consist of a single charge of all Components into a mixing chamber.

A certified formulation will be required for each batch of Component Parts A and B. Certified Test Data will be required for each 1,000 gallons or fraction thereof of material. Batches of less than 1,000 gallons shall be combined in proportion to their size in order to form a composite sample representative of no more than 1,250 gallons. This composite sample shall be thoroughly mixed and shall serve to represent the material to be tested. The Contractor shall also furnish the Engineer a 1 pint sample of each Component Part from the initial batch of epoxy adhesive to be used on the project and from any subsequent batches when required by the Engineer.

PAVEMENT PREPARATION

The Contractor shall clean and prepare the pavement to which the RPM casting is to be bonded, to the satisfaction of the Engineer, such that at the time of RPM installation the pavement shall be free of dirt, dust, oil, grease, moisture, curing compound, loose or unsound layers or any other material which would interfere with proper bonding of the RPM to the pavement. Sand blasting shall be used when directed by the Engineer.

INSTALLATION AND REPLACEMENT OF RPMs

At the time of installation, or replacement the RPM casting shall be free of dirt, dust, oil, grease, rust, moisture or any foreign matter which will impair adhesion to the pavement. It shall be the Contractor's responsibility to clean each contaminated casting by sand blasting or other acceptable procedure to remove all such foreign matter prior to installation. Before beginning RPM casting installation or replacement, the Contractor shall accurately and adequately lay out, by reference points, the location of all RPMs, to assure their proper placement.

RPMs shall not be placed on pavement surfaces that show visible evidence of cracking, checking, spalling, or failure of underlying base material.

If an RPM falls within a distance equal to ten percent of typical longitudinal spacing of a bridge enddam, the marker shall be relocated onto the approach slab.

RPMs shall not be placed on active signal detector loops and detector lead-in cables.

RPMs shall not be placed directly over pavement markings except where the markings deviate visibly from their correct alignment, and then only with the approval of the Engineer.

If during the pre-installation layout operation, it is determined that a RPM would be placed at a point with one of the aforementioned conditions or at a pavement construction joint or within an intersection of a driveway or public street as the result of typical marker spacing, the affected marker shall be relocated longitudinally a sufficient distance to a point approved by the Engineer. The distance the RPM may be relocated shall not exceed 10% of the typical RPM spacing. Where it would be necessary to relocate the marker a distance greater than 10% of the typical marker spacing, the affected RPM shall not be installed.

When replacing RPM's at a location within an existing pattern of RPM's a new location shall be cut into the pavement one foot away from the damaged or missing casting. The old locations of the damaged or missing castings are not suitable for new castings.

The pavement surface temperature at the time of application shall be not less than 50°F. The ambient air temperature shall be not less than 50°F. No RPMs shall be installed if the pavement surface is not dry.

The Contractor shall keep traffic off newly installed or replaced RPMs for the minimum period specified in the following table.

Ambient Air Temperature °F	Minimum Period (Minutes) Protected from Traffic
100	15
90	20
80	25
70	30
60	35
50 (no application below 50°F)	45

During periods of high ambient relative humidity, epoxy may require slightly longer drying time than indicated above.

RPMs shall be installed by inserting the two keels on the casting into parallel slots cut into the pavement. Within 7 days after the slots are cut into the pavement, the RPM castings shall be installed.

The epoxy adhesive shall be mixed by combining Component Parts A (Epoxy) and B (Hardener) in a ratio of 1:1 by volume. The epoxy adhesive requires that the mixing operation and placing of the RPMs be done rapidly. Any mixed batch that becomes so viscous that it cannot be readily extruded from under the RPM with light pressure shall not be used. The epoxy adhesive shall be maintained at 60°F to 80°F before mixing. Any heating of the epoxy adhesive shall be by the application of indirect heat. The epoxy adhesive shall not be heated above 120°F.

Before applying the epoxy adhesive, the slots shall be brushed or blown clean of loose material and shall be dry. The cleaned slots shall be filled with epoxy adhesive. Sufficient epoxy shall be placed in and between the slots to insure that all voids beneath and around the casting are filled so as to create a watertight seal around the casting. The keels of the casting shall be hand placed into the slots in such a manner as to assure that the tips of the RPM's snowplow deflecting surfaces are below the pavement surface and that the four lugs on the keels of the casting are in contact with the pavement.

The Contractor may attach the prismatic retro-reflectors to new castings, which do not include a prismatic retro-reflector already factory attached by Amerace Corporation, at any time prior to the insertion of the casting into the pavement slots. Otherwise, the prismatic retro-reflector shall not be attached to a new casting until after the epoxy adhesive in the pavement slots has properly hardened. In either operation, the following prismatic retro-reflector attachment procedure shall be used. The RPM casting shall be free of dirt, dust, oil, grease, rust, moisture or any foreign matter (including damaged reflectors or parts thereof) which will impair adhesion of the prismatic retro-reflector to the casting. Sandblasting or another procedure acceptable to the Engineer shall be utilized to free the casting of foreign matter. The recessed attachment area shall be coated with LN-602 (Liquid Nails) adhesive. The backing paper shall then be peeled from the butyl adhesive bottom of the prismatic retro-reflector and the prismatic retro-reflector shall be inserted into the

recessed attachment area and pressed into place until a small amount of adhesive will squeeze out on both sides and a firm bond has been made with the casting. The Contractor shall press the prismatic retro-reflector into place by the application of a 100 pound load or by a procedure acceptable to the Engineer. Adhesive material shall not be permitted on the reflective surface of the prismatic retro-reflector. The pavement surface temperature and the ambient air temperature shall be between 40°F and 90°F at the time of application of the prismatic retro-reflector. The Contractor shall not attach the prismatic retro-reflector to the casting when rain is imminent.

REPLACEMENT OF RETRO-REFLECTORS

Damaged or missing retro-reflectors within the existing marker installations where the casting remains intact shall be replaced with the reflector type shown on the details in the plan. Damaged reflectors include those that are loose or have been broken, chipped, cracked or have otherwise lost their retro-reflective properties as determined by the Engineer.

The location of existing RPM's that require the replacement of damaged or missing retro-reflectors shall be determined by the Engineer.

Some existing castings have remnants of the old retro-reflector or contain retro-reflectors that are not serviceable due to cracking, discoloration, etc. If the casting is specified by the Plan or Engineer to have the retro-reflector replaced, the work shall include removing the old portion of the retro-reflector. The attachment procedure of prismatic retro-reflectors that are replacing damaged or missing prismatic retro-reflectors within existing marker installations shall be performed as described in "Installation and Replacement of RPMs".

CHANNELIZING LINES

RPMs which are used in channelizing line applications shall have one-way prismatic retro-reflectors facing traffic which shall be white in color to match the channelizing line color. RPMs shall be placed so that the near edge of the marker casting is no more than 1 inch from the near edge of the channelizing line. Placement of the RPMs and RPM spacing shall be as shown on the details in this plan.

LANE LINES

RPMs which are used in lane line applications shall have two-way prismatic retro-reflectors, crystal white facing traffic and red facing the opposite direction. RPMs shall be placed between and in line with the dashes of the lane line. Placement of the RPMs and RPM spacing shall be as shown on the details in this plan.

EDGE LINES

RPMs which are used in edge line applications shall have prismatic retro-reflectors which match the edge line color (white facing traffic for right edge lines; yellow facing traffic for the left edge lines). RPMs shall be

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placed so that the near edge of the marker casting is no more than 1 inch from the near edge of the edge line.

The number of retro-reflective faces required, the placement of RPMs and the RPM spacing shall be as shown on the details in this plan.

CENTER LINES

RPMs which are used in centerline applications shall have two-way prismatic retro-reflectors, which shall be yellow to match the centerline color. RPMs shall be placed between the lines of double line centerline and between and in line with the dashes on single line centerline. Placement of the RPMs and RPM spacing shall be as shown on the details in this plan.

METHOD OF MEASUREMENT

The number of RPMs installed or replaced will be the actual number, furnished, complete, in place, and accepted, in the units designated, including layout, premarking, surface preparation, and the furnishing and application of all required epoxy adhesive.

The number of prismatic retro-reflectors replaced will be the actual number furnished, complete, in place, and accepted in the units designated, including existing casting preparation and application of all required adhesive.

BASIS OF PAYMENT

Payment for accepted quantities in place will be made at the contract unit price for:

ITEM	UNIT	DESCRIPTION
Special	Each	Raised Pavement Marker
Special	Each	Raised Pavement Marker Replaced
Special	Each	Prismatic Retro-reflector Replaced

Payment shall be full compensation for all materials, labor, incidentals, and equipment for placement of the RPMs and Prismatic Retro-reflectors.

AUGUST 13, 1979
Revised MARCH 30, 1981
Revised MAY 26, 1981

QUANTITIES
BY C.B.B. DATE 11-79
CHECKED W.W.C. DATE 12-79

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GENERAL SUMMARY

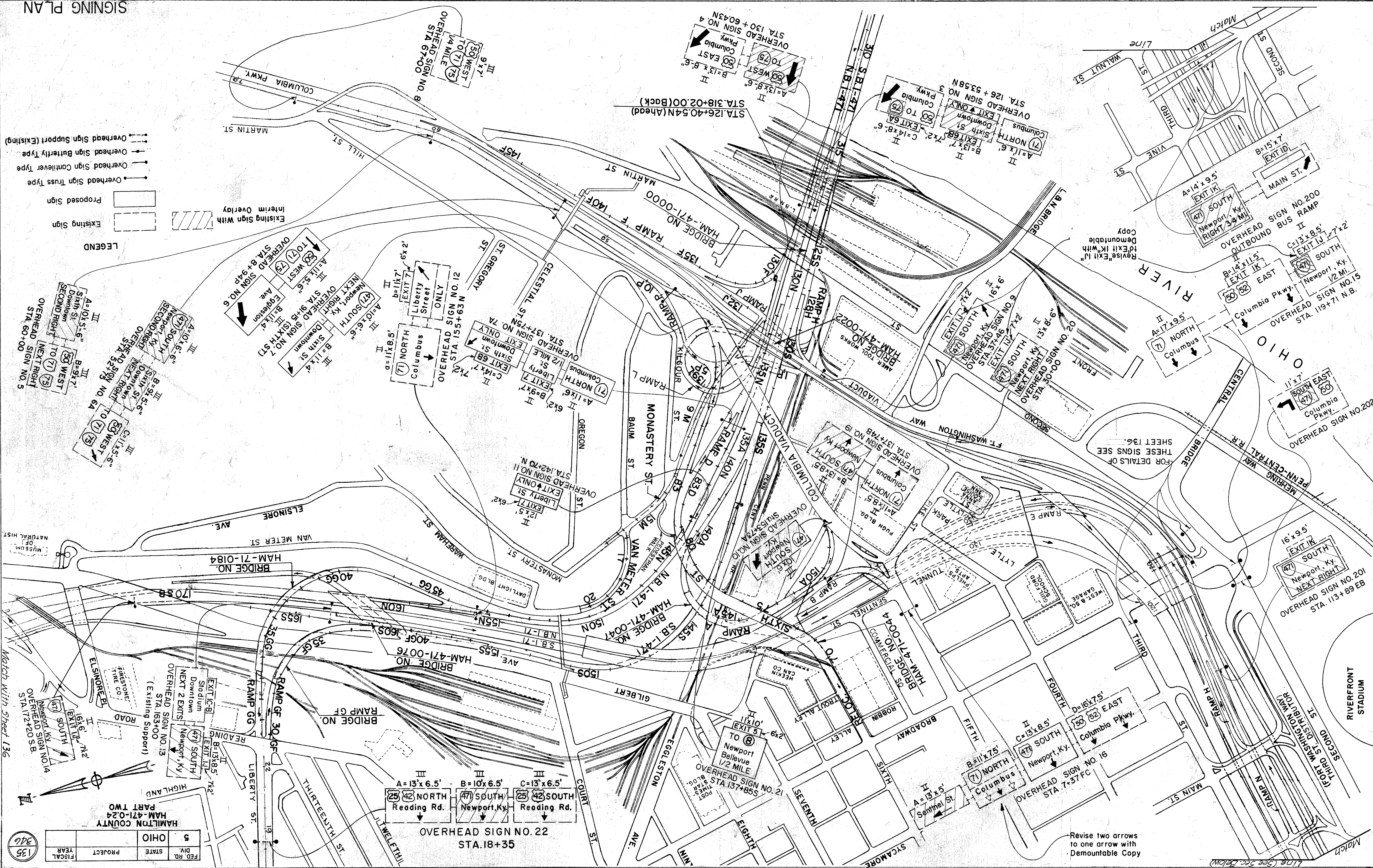
TRAFFIC CONTROLS

ITEM	SHEET NUMBER					PARTICIPATION					ITEM	TOTAL QUANT.	UNIT	DESCRIPTION	
	138	140	144	147	148	PROJECT									
630	272					27.2					630	27.2	C.Y.	Concrete for Anchor Base Foundations	57
630			156			156					630	156	L.F.	Ground Mounted Supports, 54 x 7.7 Beam	58
630	1					1					630	1	Ea.	Overhead Sign Support Type 7.65 Design G, 62' Span	59
630	1					1					630	1	Ea.	Overhead Sign Support Type 7.65 Design B, 114' Span	60
630	1					1					630	1	Ea.	Overhead Sign Support Type 12.30 Design G, 26' Arm	61
630	1					1					630	1	Ea.	Removal of Overhead Mounted Sign and Reerection	62
630			26			26					630	26	Ea.	Sign Support Assembly, Pole Mounted	63
630			5			5					630	5	Ea.	Sign Support Assembly, Bridge Mounted	64
630			15			15					630	15	L.F.	One Way Support, No. 4 Post	65
630			430			430					630	430	S.F.	Signs, Flat Sheet	66
630	885		233			1118					630	1118	S.F.	Signs, Extrusheet	67
630	4					4					630	4	Ea.	Existing Signs Revised with Demountable Copy	68
630	26					26					630	26	Ea.	Removal of Overlay Sign	69
630				111		111					630	111	L.F.	Ground Mounted Supports, No. 4 Post	70
630				178		178					630	178	L.F.	Ground Mounted Supports, No. 3 Post	71
630				139		139					630	139	L.F.	Ground Mounted Supports, No. 2 Post	72
630				8		8					630	8	Ea.	Breakaway Beam Connection	73
630				2.7		2.7					630	2.7	C.Y.	Concrete for Embedded Foundations	74
631	5					5					631	5	Ea.	Sign Service	75
631	10					10					631	10	Ea.	Signs Wired	76
631	3					3					631	3	Ea.	Disconnect Switch with Enclosure, Type Y	77
631	1					1					631	1	Ea.	Ballast, Type D	78
631	5					5					631	5	Ea.	Ballast, Type A, Installation Only	79
631	2					2					631	2	Ea.	Disconnect Switch with Enclosure, Type X	80
631	1					1					631	1	Ea.	Ballast, Type C, Installation Only	81
631	1					1					631	1	Ea.	Ballast, Type D, Installation Only	82
631	2					2					631	2	Ea.	Ballast, Type CMRI-100-120	83
631	1					1					631	1	Ea.	Ballast, Type CMRI-175-120	84
631	5					5					631	5	Ea.	72" Fluorescent Fixture, Installation Only	85
631	5					5					631	5	Ea.	96" Fluorescent Fixture, Installation Only	86
631	2					2					631	2	Ea.	Mercury Vapor Luminaire with Type 100 Watt Lamp	87
631	5					5					631	5	Ea.	72" Fluorescent Lamps, Type SH0	88
631	5					5					631	5	Ea.	96" Fluorescent Lamps, Type HO	89
631	1					1					631	1	Ea.	Mercury Vapor Luminaire with Type 175 Watt Lamp	90
631					1	1					631	1	Ea.	Internally Illuminated Sign, Installation Only	91
631	2					2					631	2	Ea.	Ballast Enclosure, Type B	92
631	2					2					631	2	Ea.	Ballast Enclosure Mounting Bracket Assembly, Type B	93
632			1			1					632	1	Ea.	Removal of Traffic Signal Installation	94
632															95
632						2					632	2	Ea.	Vehicular Signal Head, 3-Section, 12-Inch Lens, One-Way	96
632						82					632	82	L.F.	Loop Detector Pavement Cutting	98
632						252					632	252	L.F.	Loop Detector Wire	99
632						300					632	300	L.F.	Signal Cable, 7-conductor No. 14 AWG	100
632						1		1			632	2	Ea.	Maintenance of Existing Signal Installation	101
632															102
632						1					632	1	Ea.	Removal of Portion of Existing Signal Installation	103
632						1					632	1	Ea.	Reuse of Existing Pedestrian Signal Pole	104
632						2					632	2	Ea.	Reuse of Existing Pedestrian Signal and Pushbutton	105
632								1			632	1	Ea.	Signal Arm Modification	106
632						46					632	46	L.F.	Loop Detector Lead-In Cable	107
625						1					625	1	Ea.	Pull Box, Concrete, 17" Square	108
625						36					625	36	L.F.	3" Conduit, Jacked under Pavement, 713.04	109
SPEC.	259					259					SPEC.	259	Ea.	Raised Pavement Marker	110
															111
															112

SIGNING PLAN

- Overhead Sign Support (Existing)
- Overhead Sign Butterfly Type
- Overhead Sign Cantilever Type
- Overhead Sign Truss Type
- Proposed Sign
- Existing Sign
- Interim Overlay
- Existing Sign With

LEGEND



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		PROJECT	HAMILTON COUNTY PART TWO
STATE	OHIO		
DIV.	S		

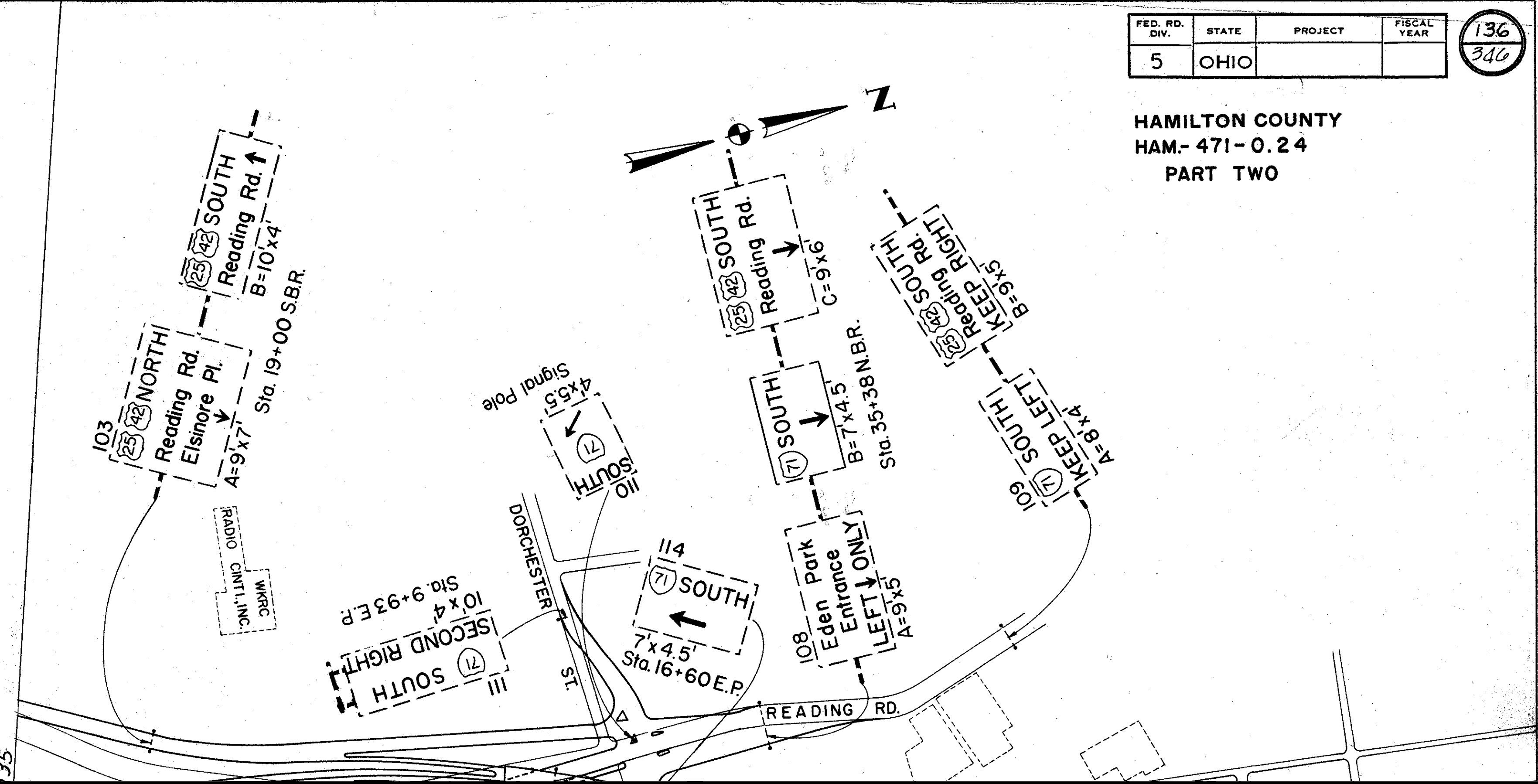
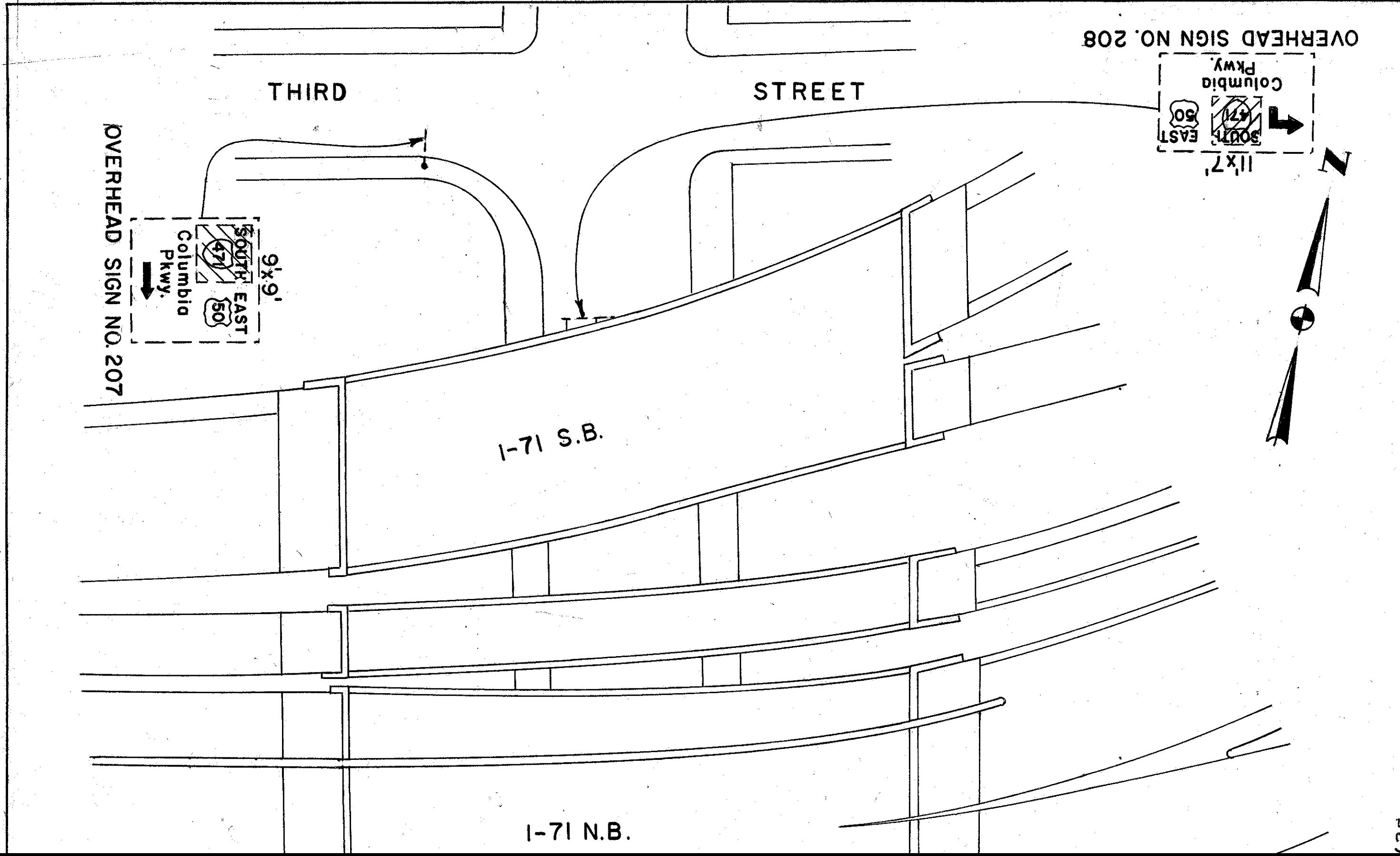
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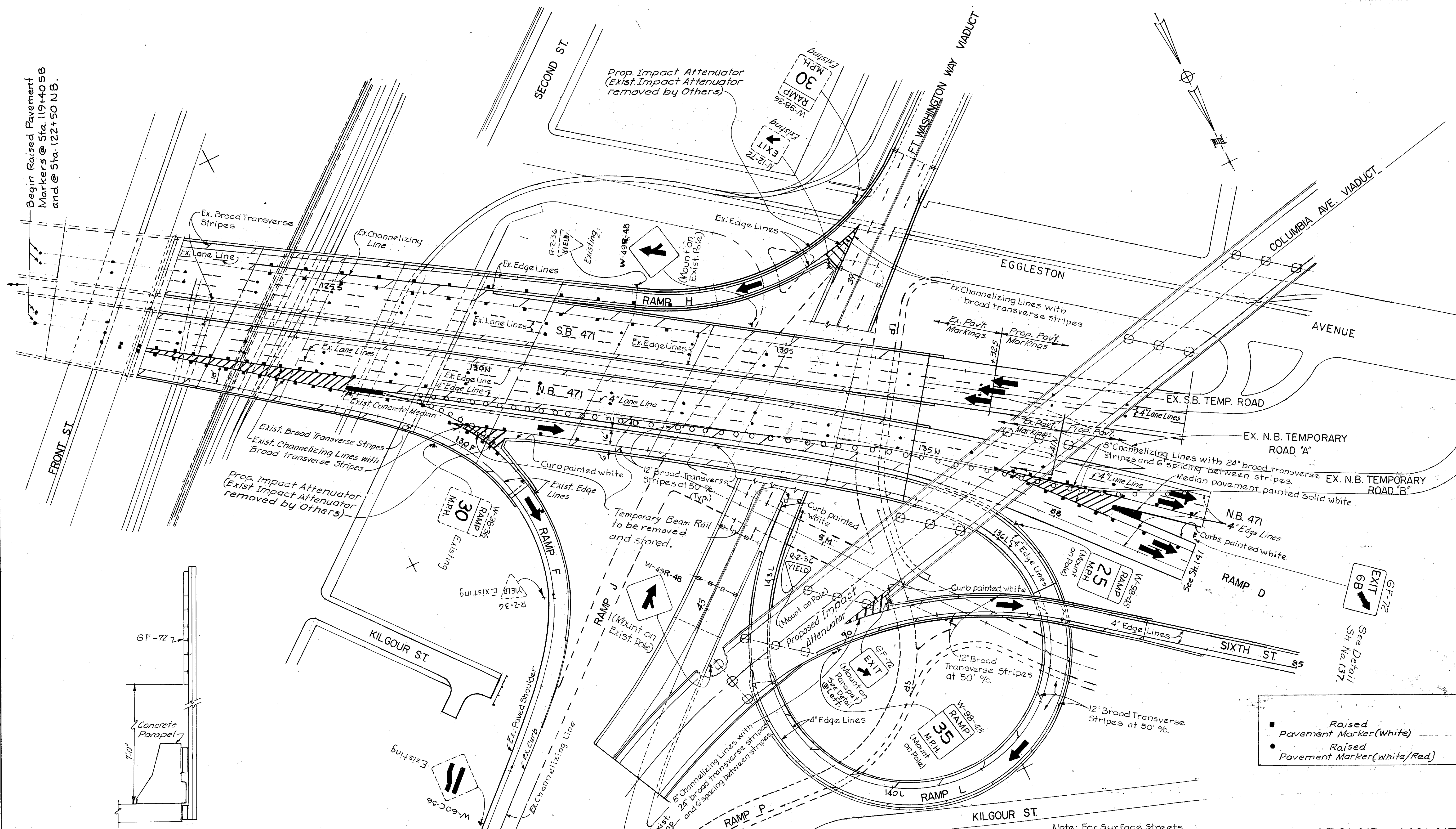
Line (See Sec. Below)

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
5	OHIO		

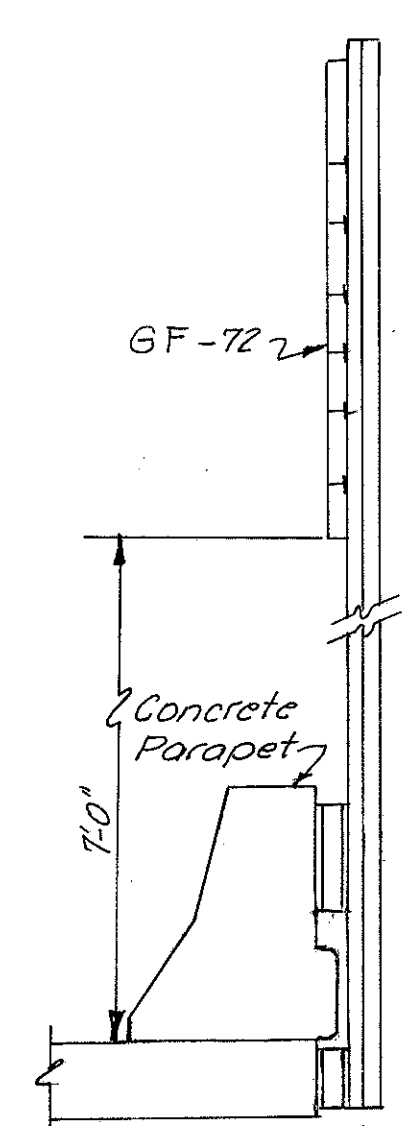
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Begin Raised Pavement Markers @ Sta. 119+40 SB and @ Sta. 122+50 NB.

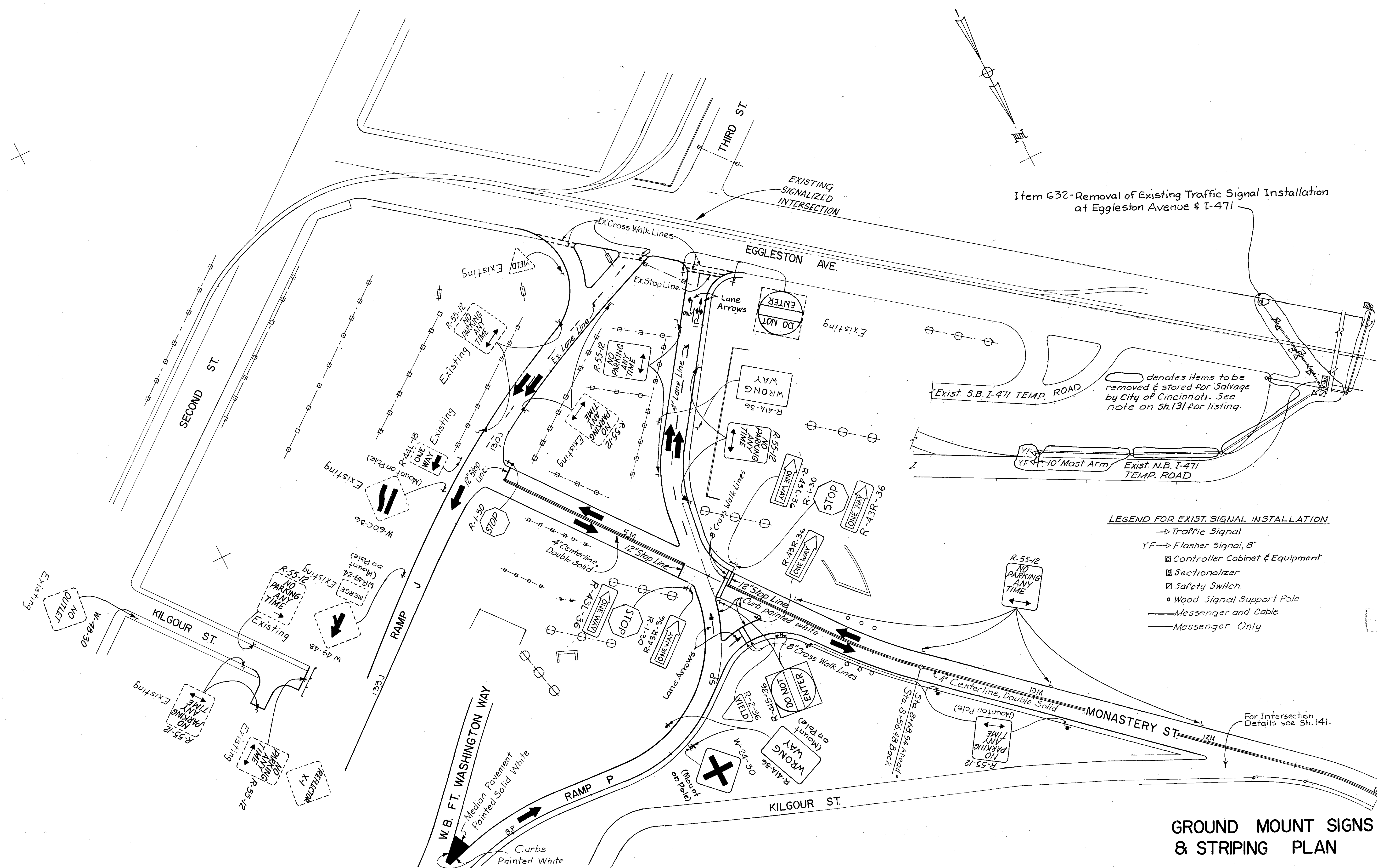


BRIDGE MOUNTING FOR GF-72 SIGN
SIXTH STA. 89+43, RT.
See Detail Sh. No. 141.

- Raised Pavement Marker (White)
- Raised Pavement Marker (White/Red)

Note: For Surface Streets See Sheet No. 140.

GROUND MOUNT SIGNS & STRIPING PLAN



Item G32-Removal of Existing Traffic Signal Installation at Eggleston Avenue & I-471

denotes items to be removed & stored for Salvage by City of Cincinnati. See note on Sh.131 for listing.

- LEGEND FOR EXIST. SIGNAL INSTALLATION**
- Traffic Signal
 - YF → Flasher Signal, 8"
 - ☐ Controller Cabinet & Equipment
 - ☐ Sectionalizer
 - ☐ Safety Switch
 - Wood Signal Support Pole
 - Messenger and Cable
 - Messenger Only

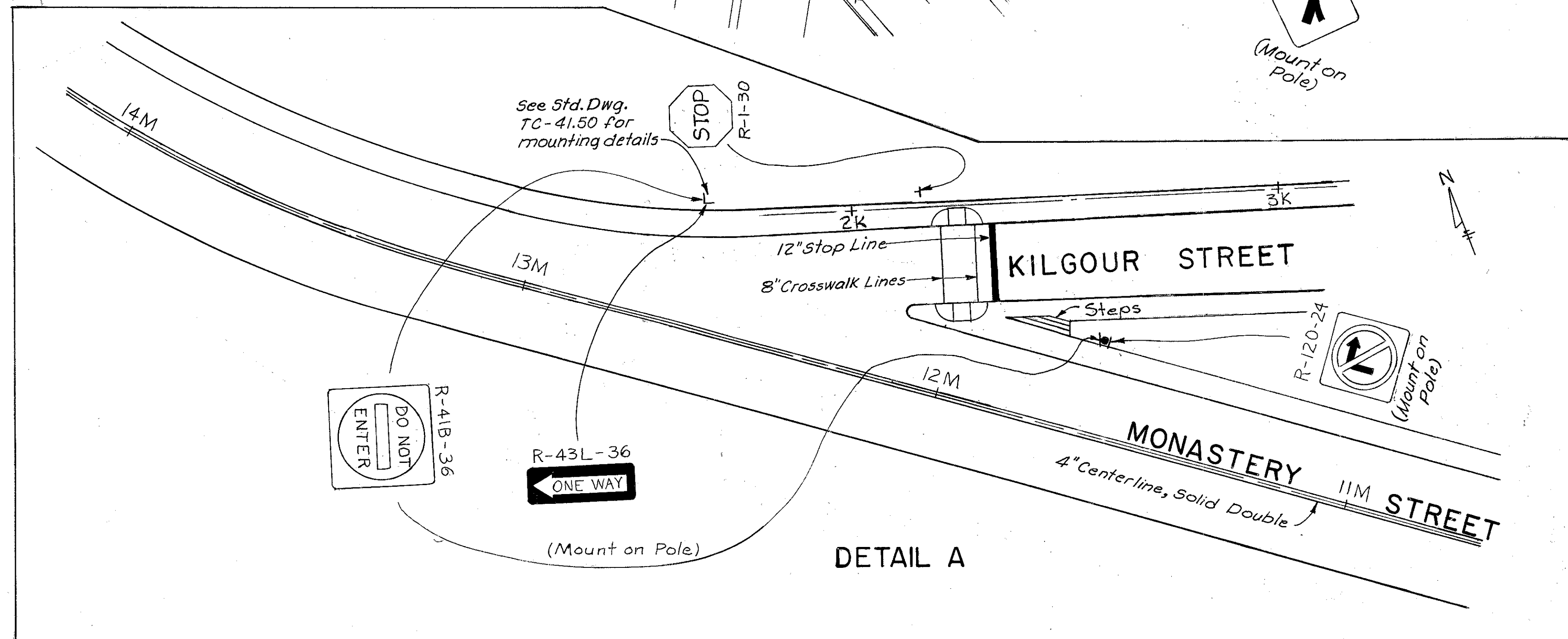
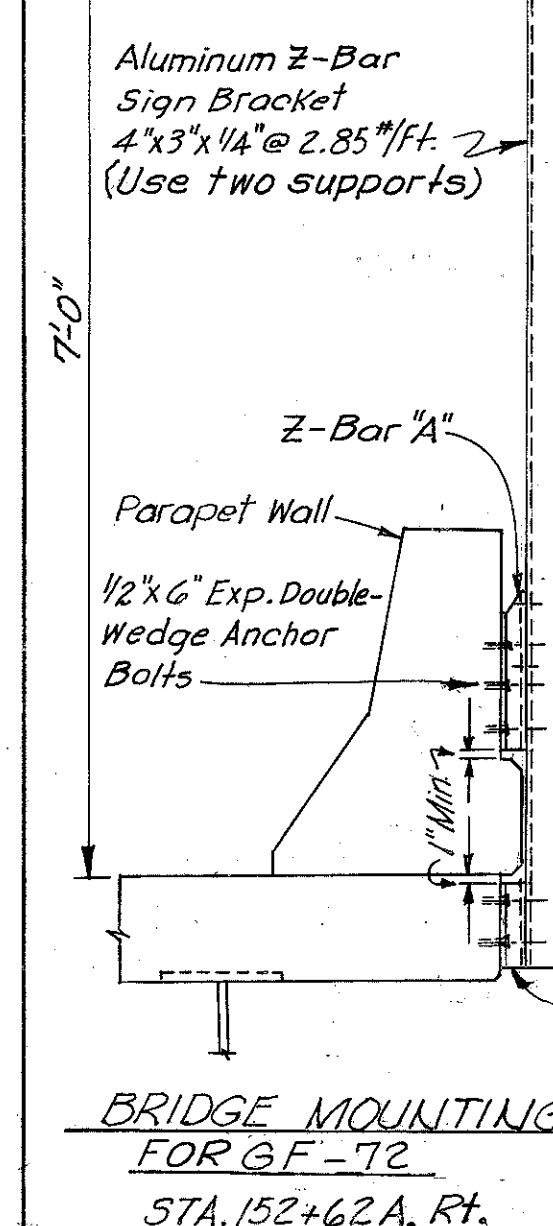
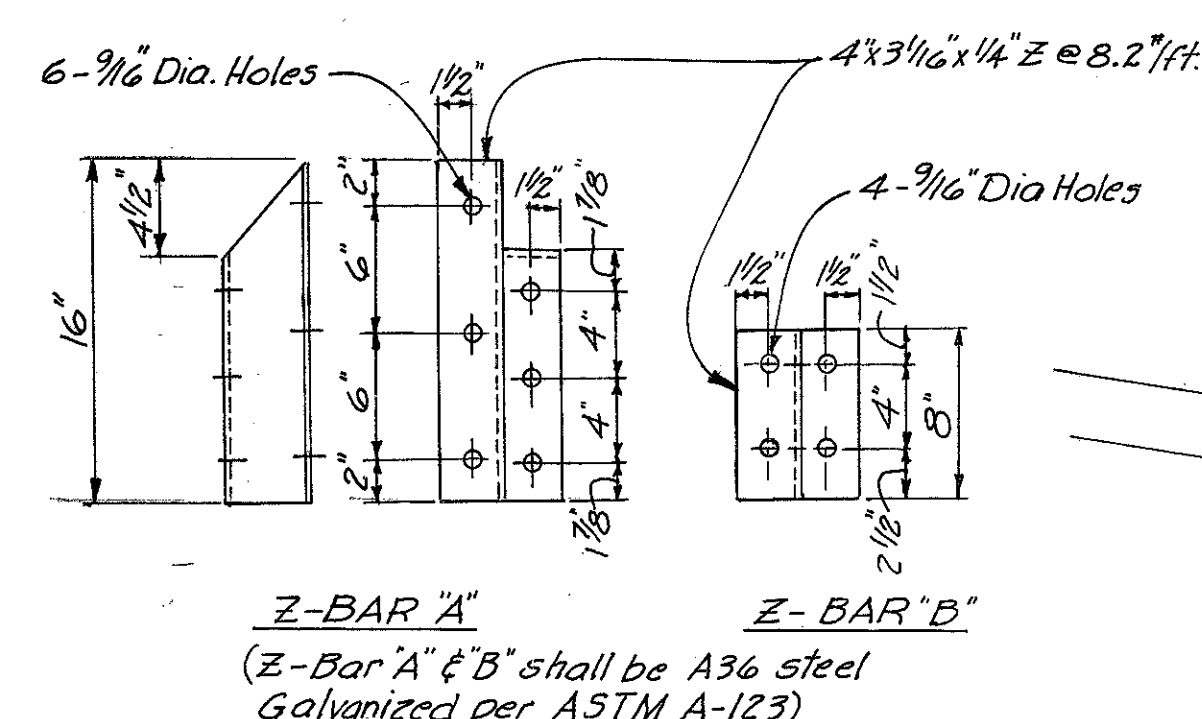
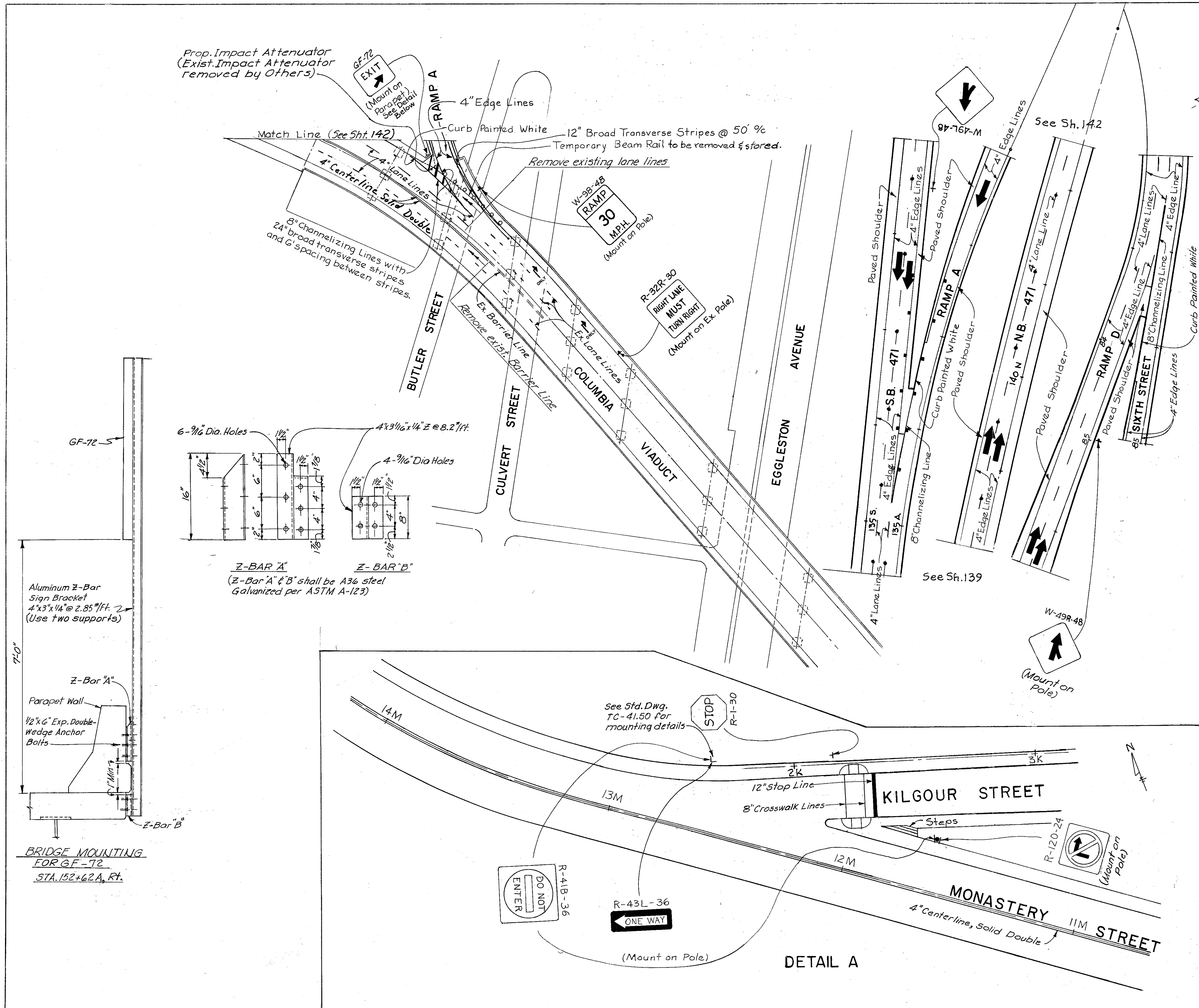
GROUND MOUNT SIGNS & STRIPING PLAN

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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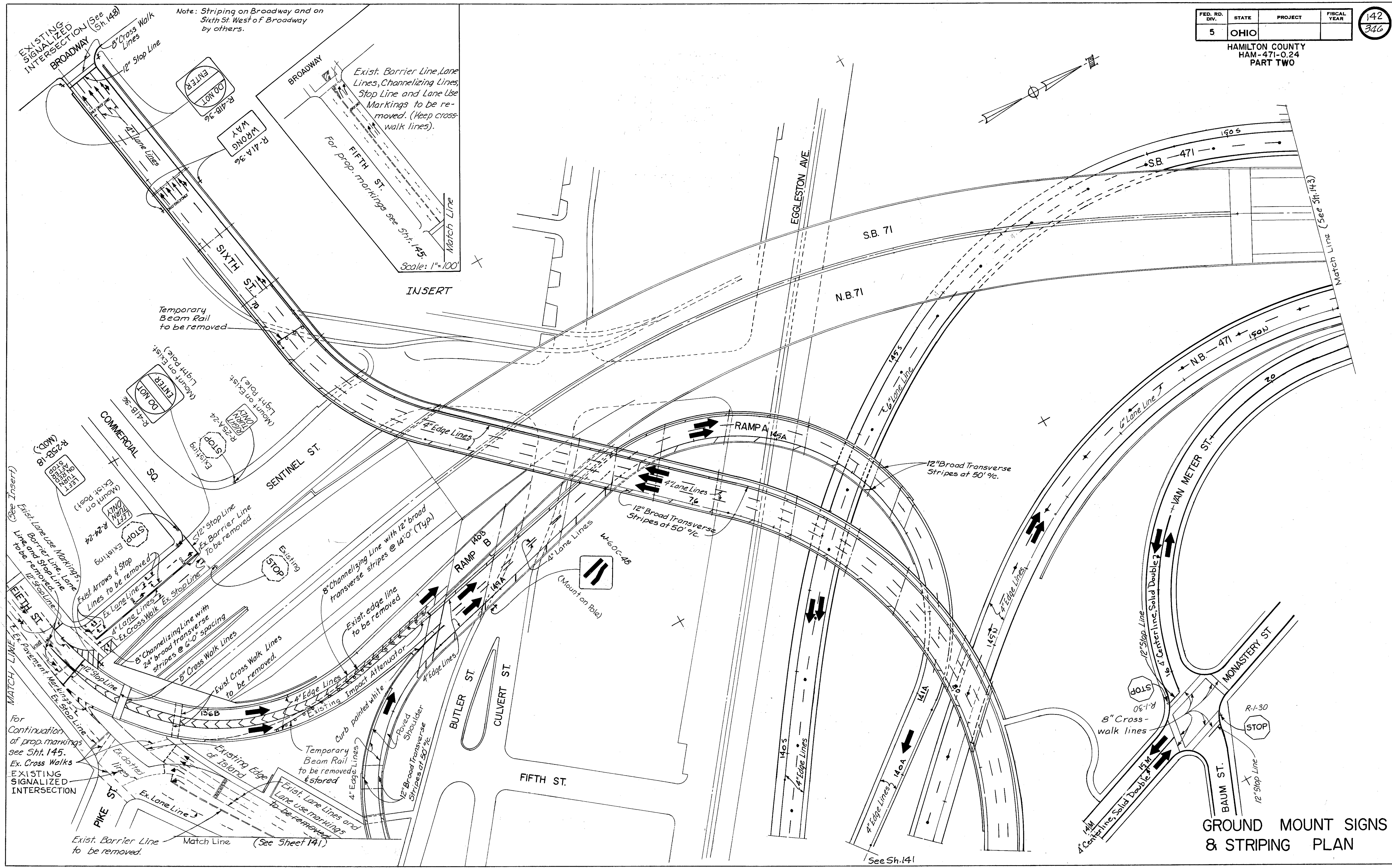
Prop. Impact Attenuator
(Exist. Impact Attenuator
removed by Others)



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Note: Striping on Broadway and on Sixth St. West of Broadway by others.

Exist. Barrier Line, Lane Lines, Channelizing Lines, Stop Line and Lane Use Markings to be removed. (Keep cross-walk lines).

Scale: 1"=100'

INSERT

Temporary Beam Rail to be removed

12" Broad Transverse Stripes at 50%.

12" Broad Transverse Stripes at 50%.

Exist. edge line to be removed

Temporary Beam Rail to be removed & stored

For Continuation of prop. markings see Sht. 145. Ex. Cross Walks EXISTING SIGNALIZED INTERSECTION

Exist. Barrier Line to be removed. Match Line (See Sheet 141)

GROUND MOUNT SIGNS & STRIPING PLAN

See Sh. 141

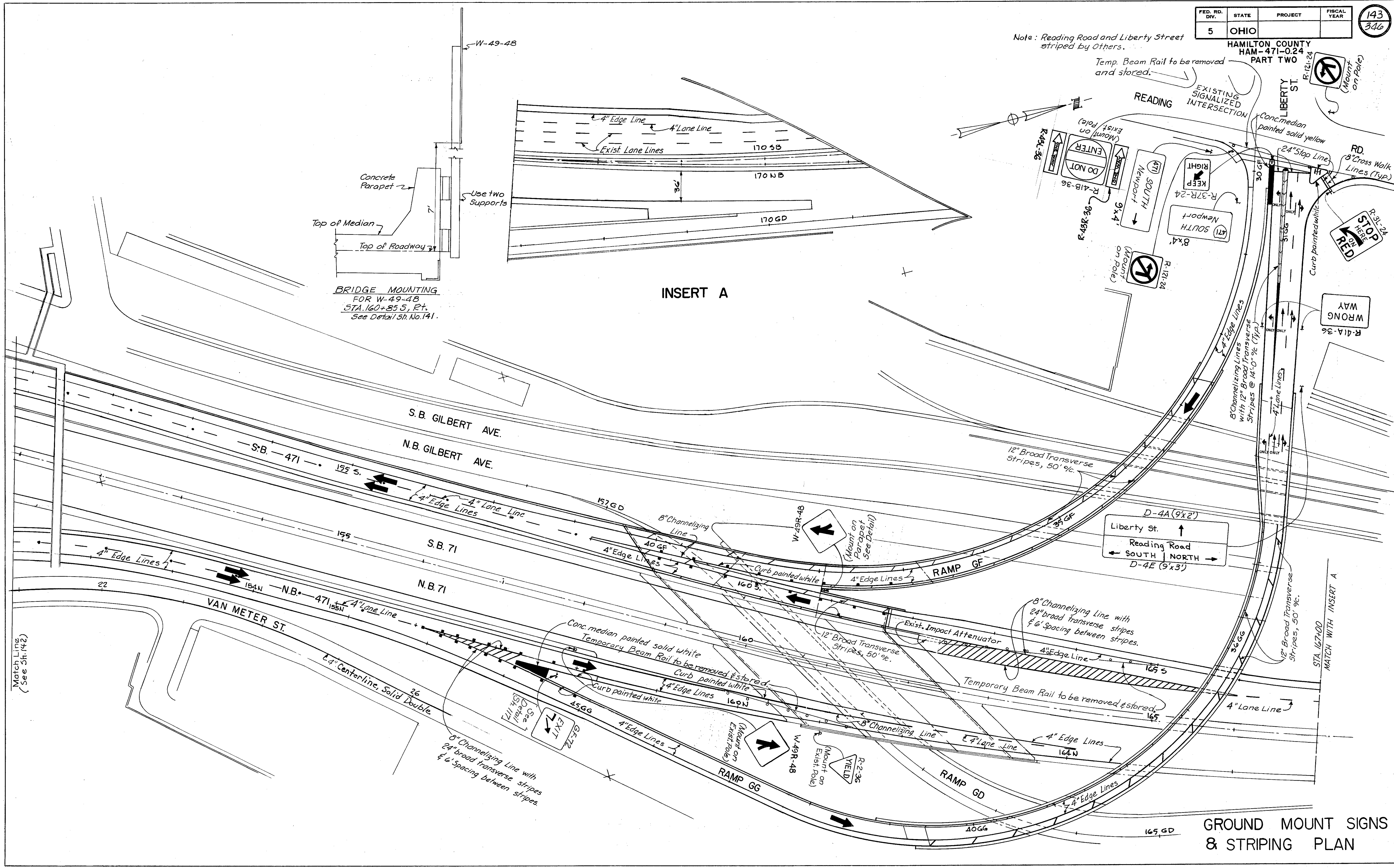
Match Line (See Sh. 143)

Note: Reading Road and Liberty Street striped by Others.

BRIDGE MOUNTING
FOR W-49-48
STA. 160+85 S, R.T.
See Detail Sh. No. 141.

INSERT A

GROUND MOUNT SIGNS
& STRIPING PLAN



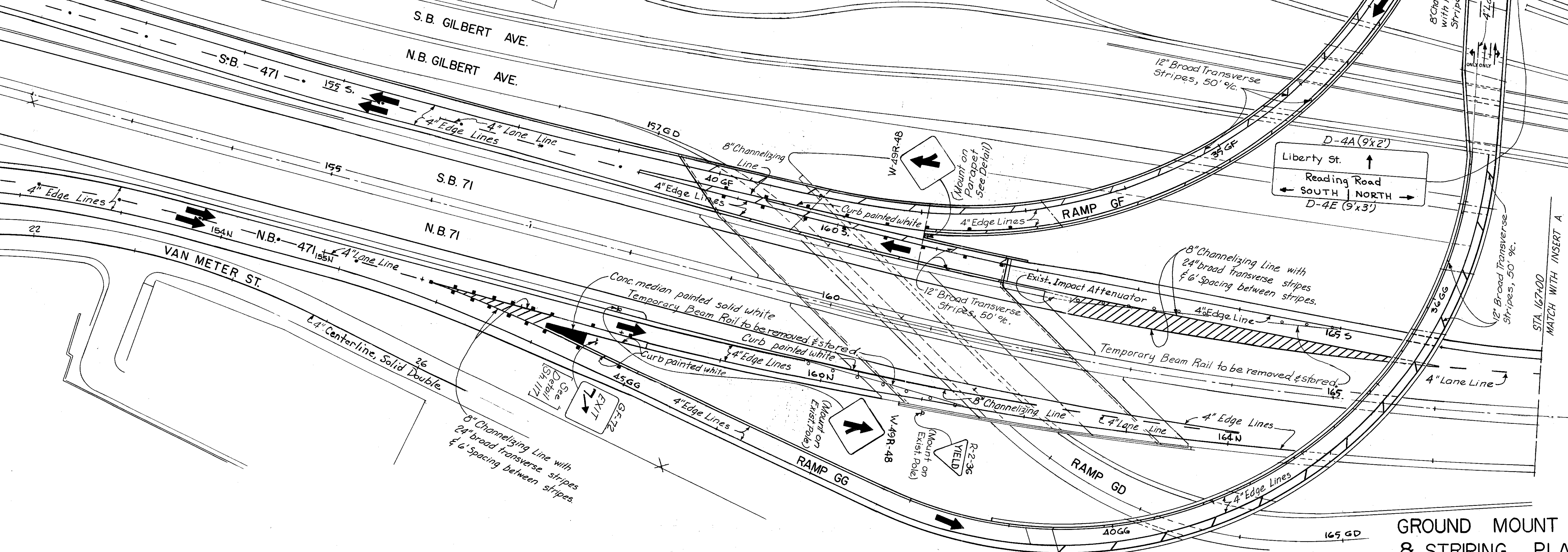
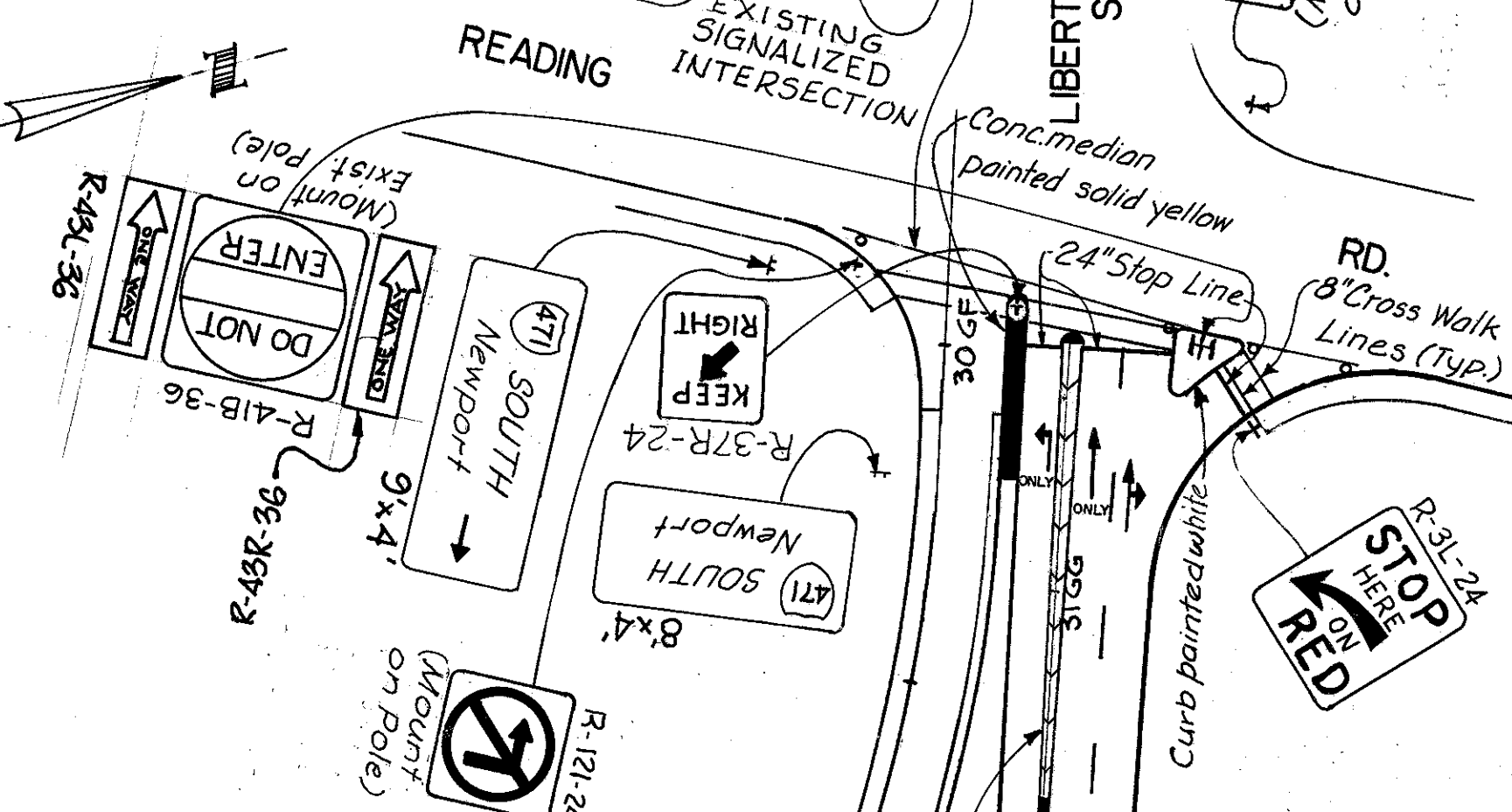
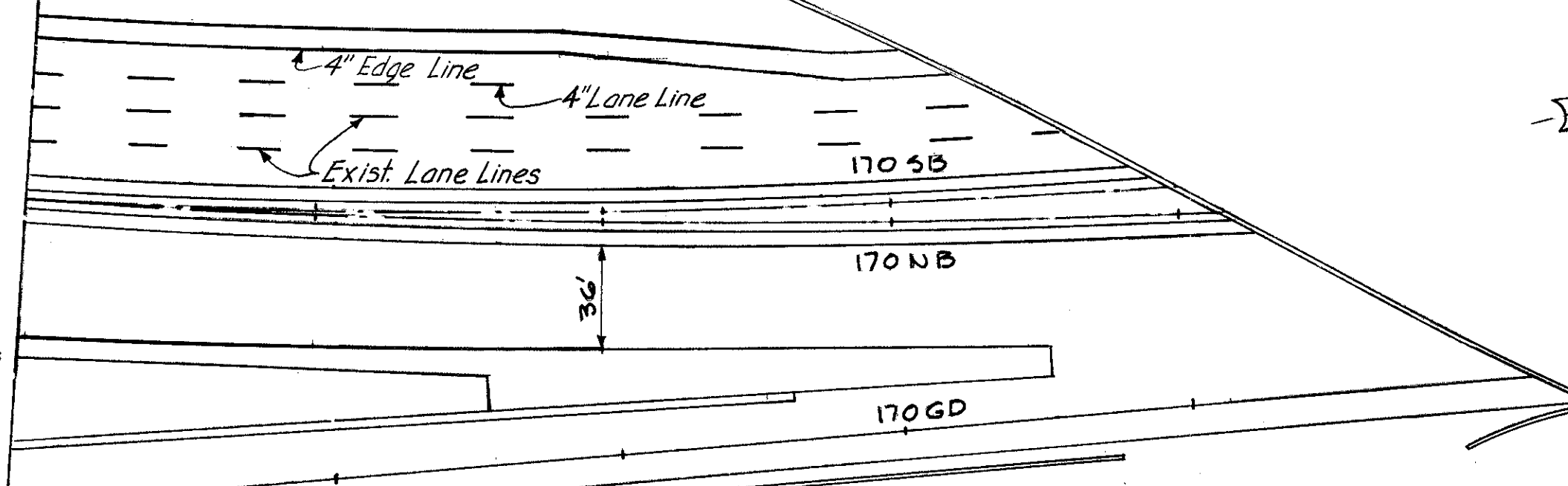
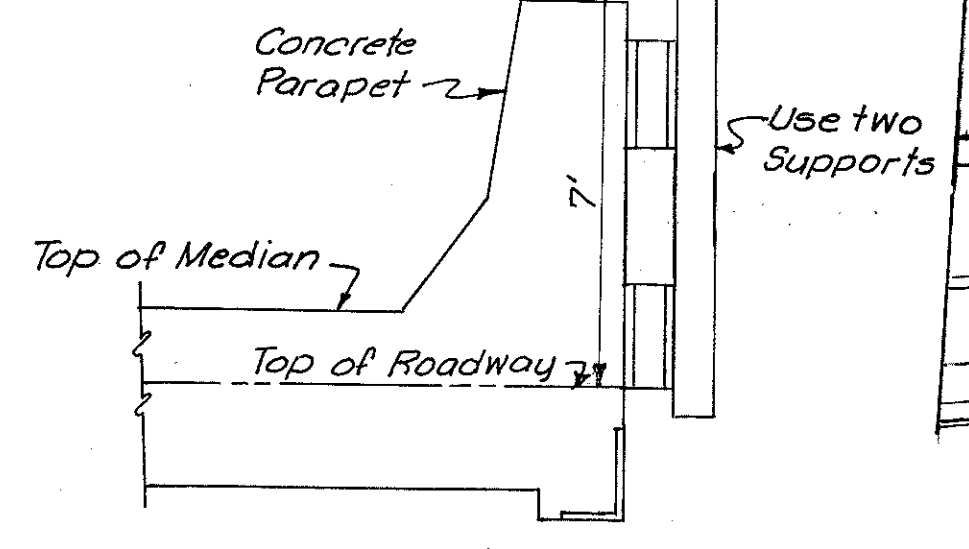
Match Line
(See Sh. 142)

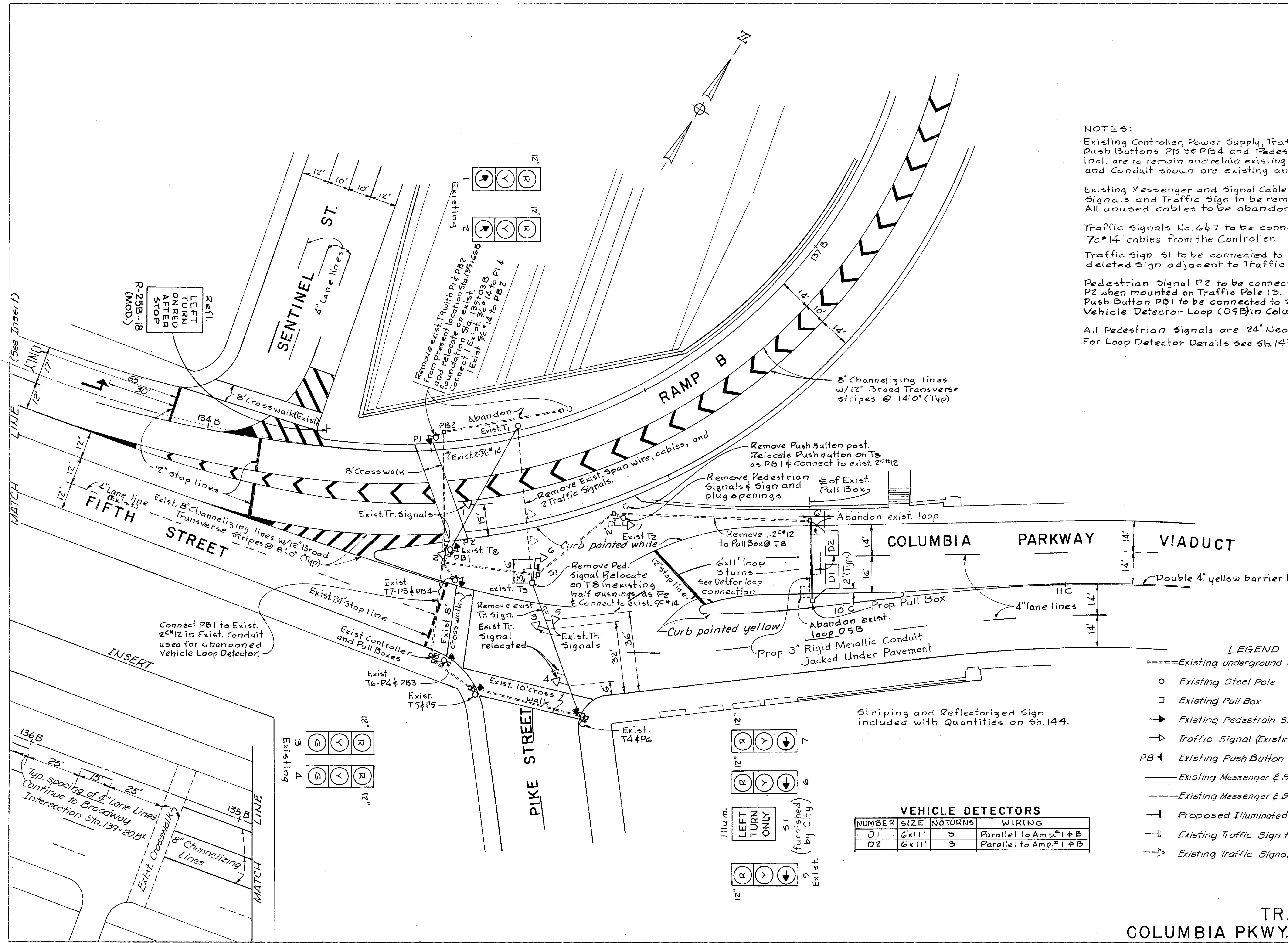
STA. 167+00
MATCH WITH INSERT A

STOP
HERE
ON
RED

WRONG
WAY

Liberty St. ↑
Reading Road
SOUTH | NORTH
D-4E (9'x3')





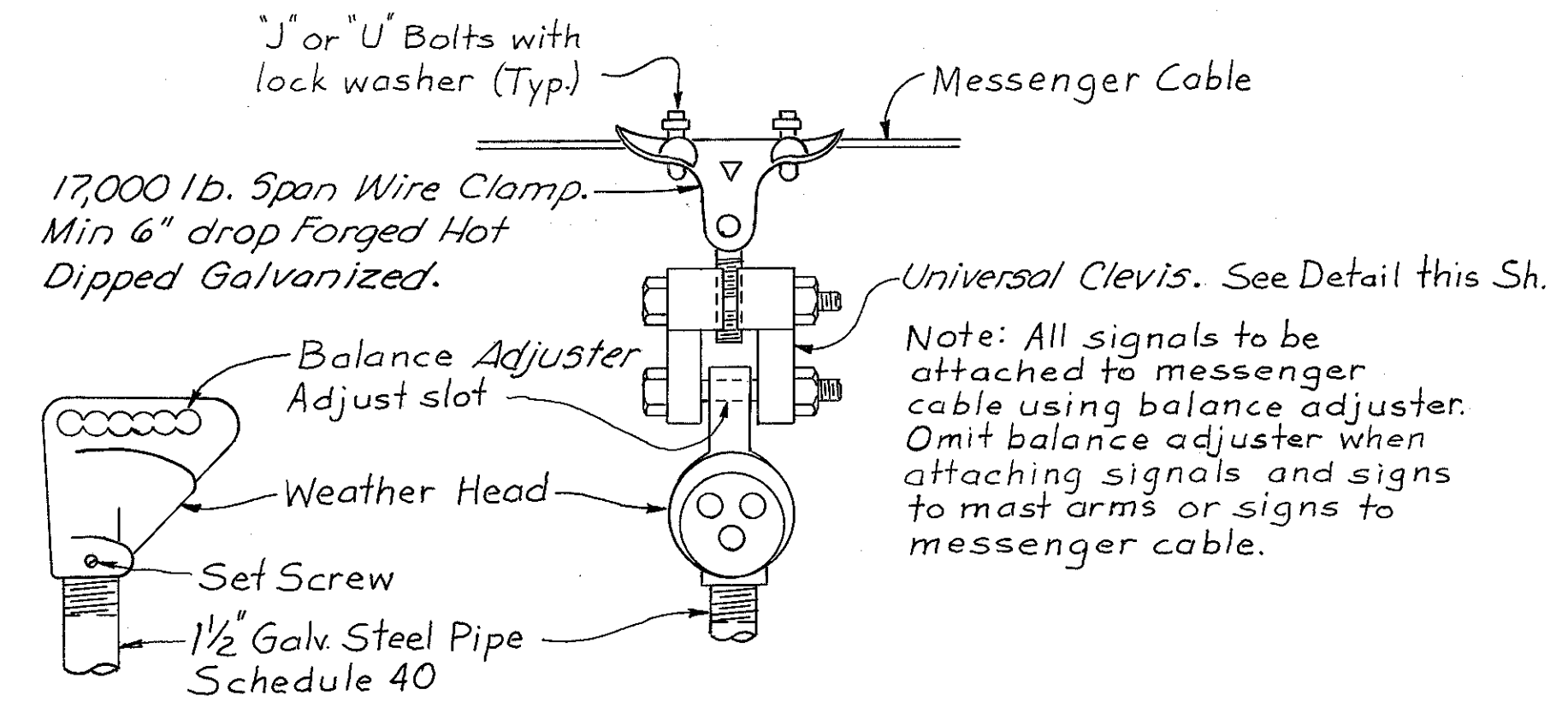
NOTES:
 Existing Controller, Power Supply, Traffic Signals 1 to 5 incl., Push Buttons PB 3 & PB 4 and Pedestrian Signals P3 to P6 incl. are to remain and retain existing circuitry. Pull Boxes and Conduit shown are existing and are to remain.
 Existing Messenger and Signal Cable, Traffic and Pedestrian Signals and Traffic Sign to be removed as per plan. All unused cables to be abandoned except as noted.
 Traffic Signals No. 6 & 7 to be connected by two new 7c#14 cables from the Controller.
 Traffic Sign 51 to be connected to 2c#12 cables from deleted sign adjacent to Traffic Signal No. 5.
 Pedestrian Signal P2 to be connected to 9c#14 used for P2 when mounted on Traffic Pole T3.
 Push Button PB1 to be connected to 2c#12 used for abandoned Vehicle Detector Loop (D9B) in Columbia Parkway.
 All Pedestrian Signals are 24" Neon Grid.
 For Loop Detector Details see Sh. 147.

- LEGEND**
- ==== Existing underground Conduit
 - Existing Steel Pole
 - Existing Pull Box
 - ➔ Existing Pedestrian Signal (24" Neon)
 - ➔ Existing Traffic Signal (Existing as noted)
 - PB ➔ Existing Push Button
 - Existing Messenger & Signal Cable
 - Existing Messenger & Signal Cable to be removed
 - ➔ Proposed Illuminated Traffic Sign (furnished by City)
 - ➔ Existing Traffic Sign to be removed
 - ➔ Existing Traffic Signal to be removed

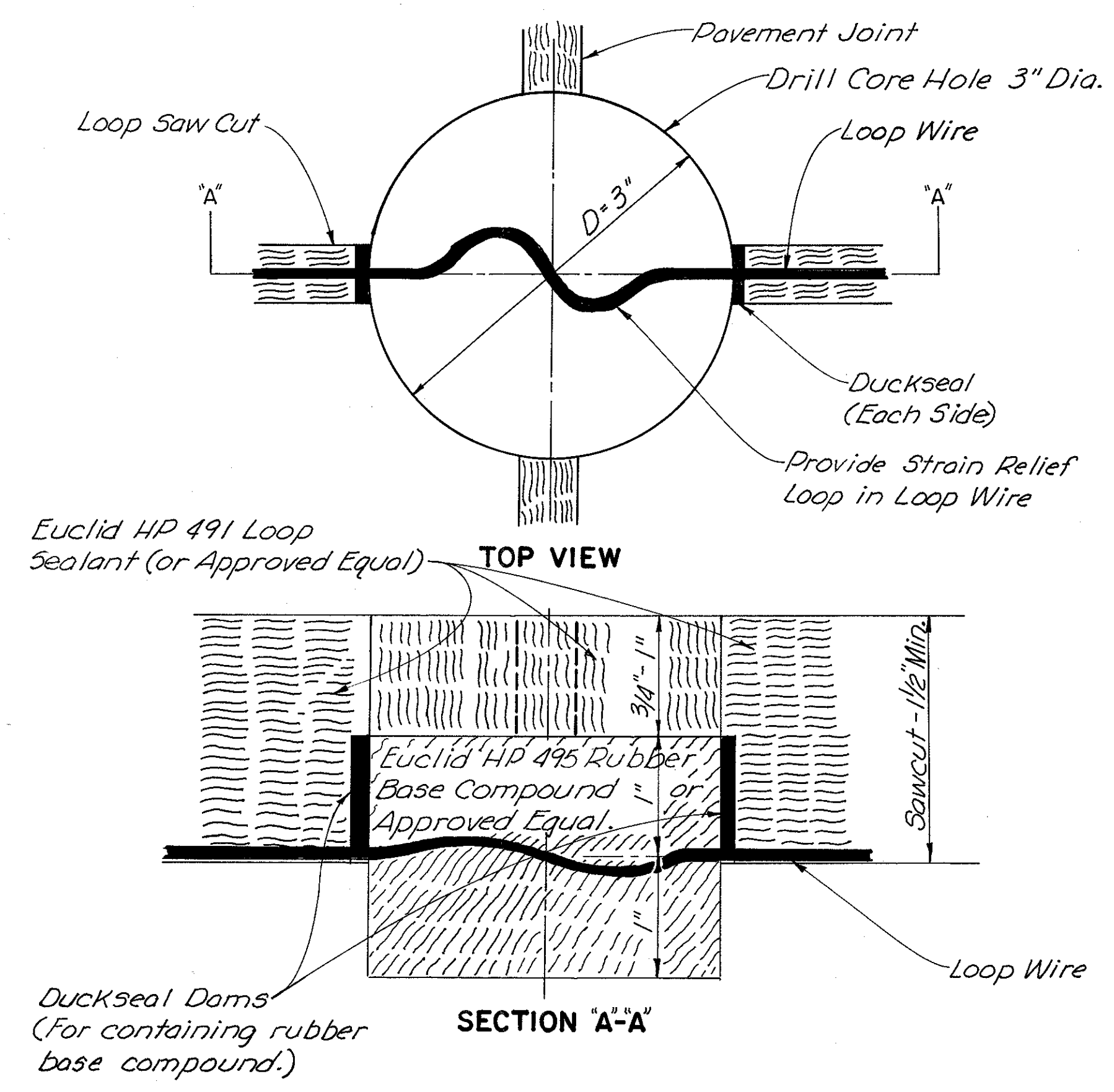
VEHICLE DETECTORS

NUMBER	SIZE	NOTURNS	WIRING
D1	6'x11'	3	Parallel to Amp. #1 & B
D2	6'x11'	3	Parallel to Amp. #1 & B

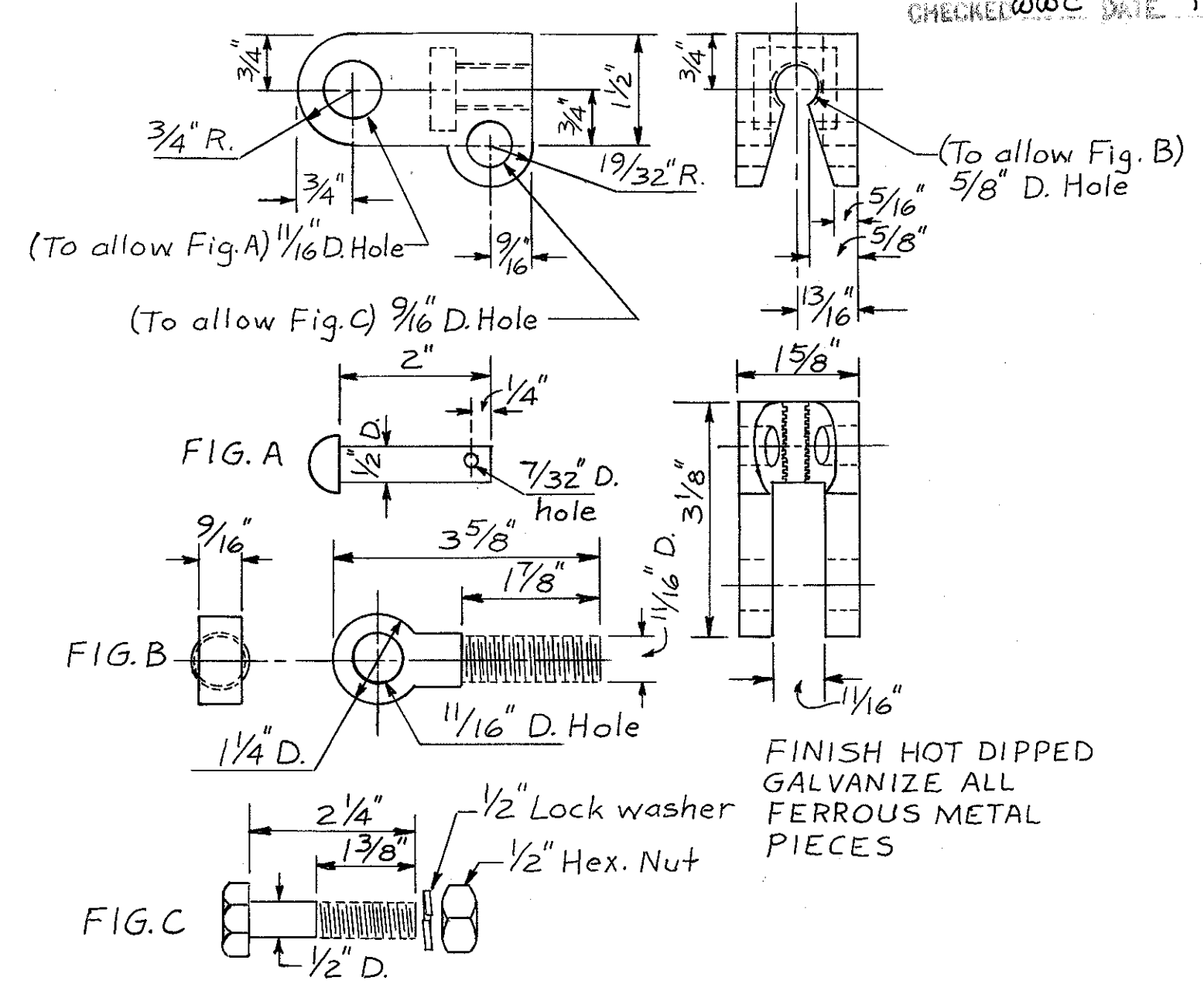
TRAFFIC CONTROL PLAN
COLUMBIA PKWY, RAMP B AND PIKE ST.



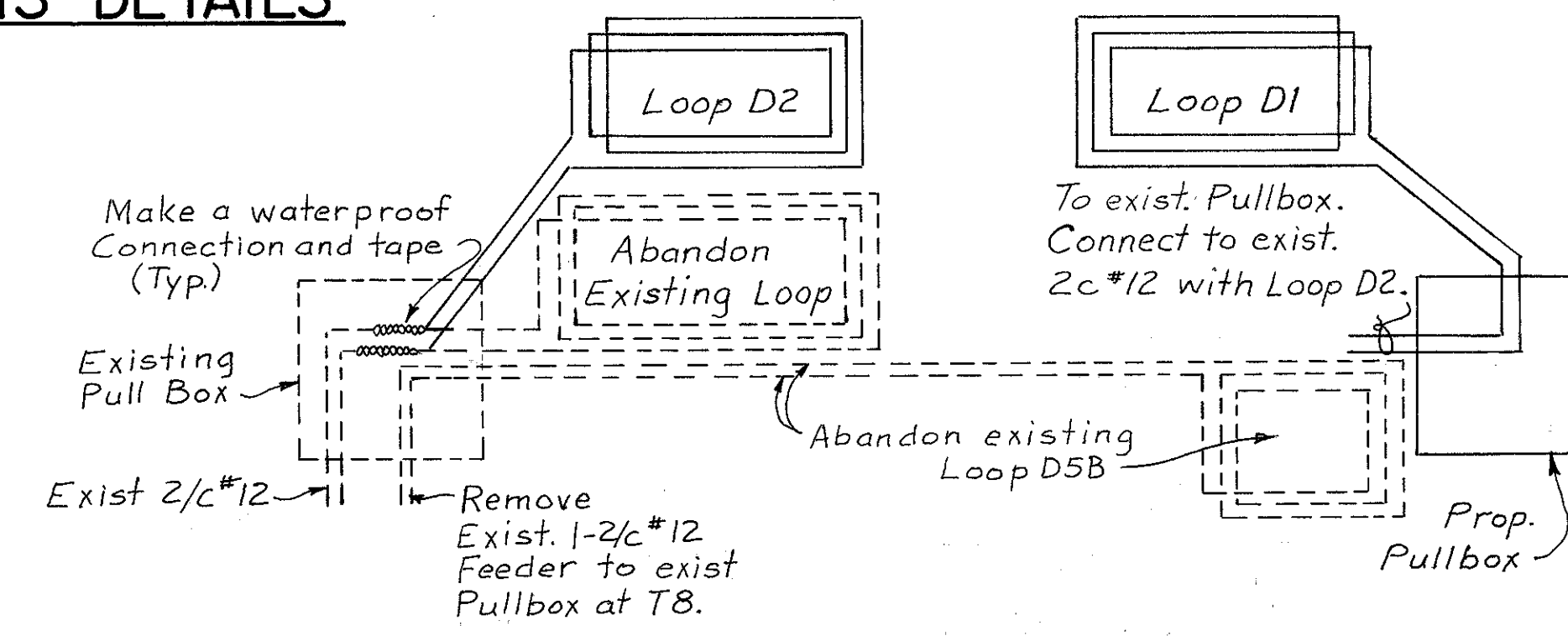
SPAN WIRE HANGER ASSEMBLY



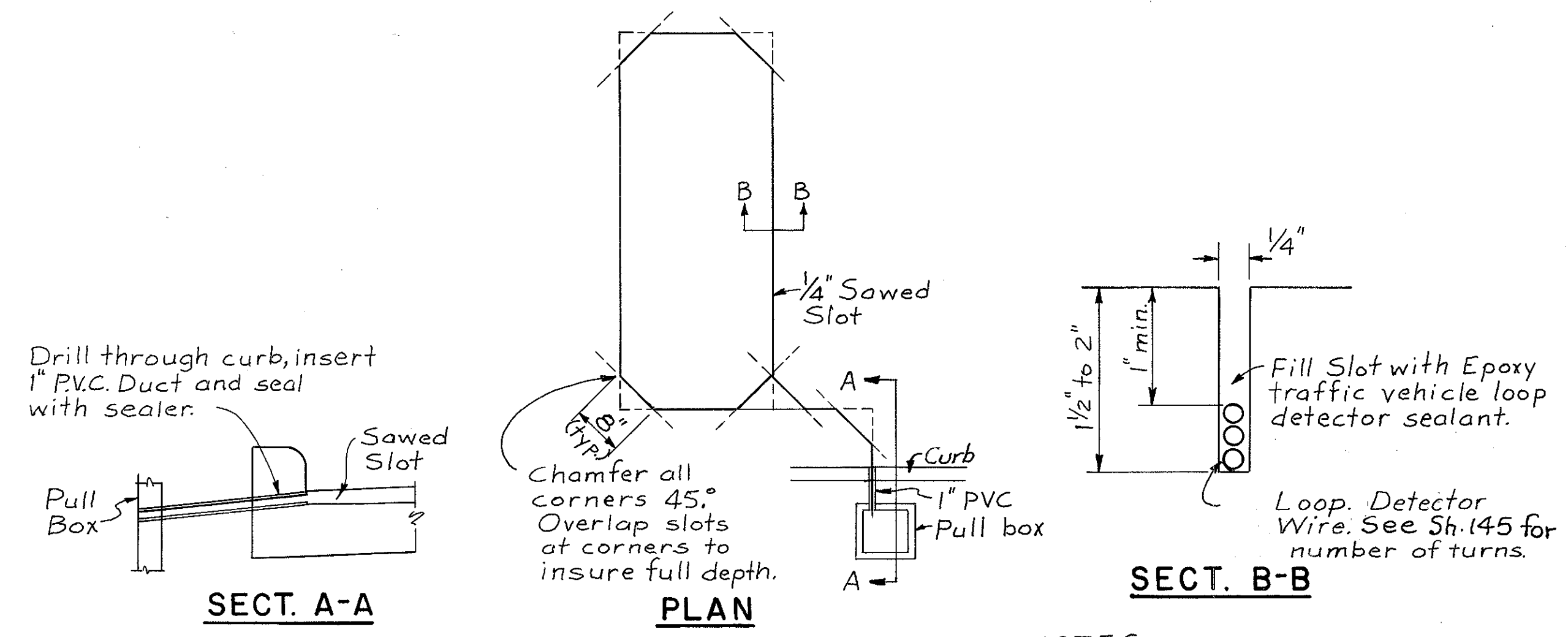
**LOOP DETECTOR WIRE
SPEC. JOINT RELIEF DETAIL**



UNIVERSAL CLEVIS DETAILS



COLUMBIA PARKWAY LOOP CONFIGURATION



- NOTES**
1. Blow out slots thoroughly before installing Cable.
 2. Seat cable firmly in bottom of slot using wood stick, making certain that insulation is not scarred or damaged.
 3. Test loop and feeder cable for leakage. Resistance to ground must not be less than five megohms.
 4. Apply joint sealer.
 5. Retest as per note 3.

VEHICLE DETECTOR LOOP DETAILS

TRAFFIC CONTROL SUB-SUMMARY

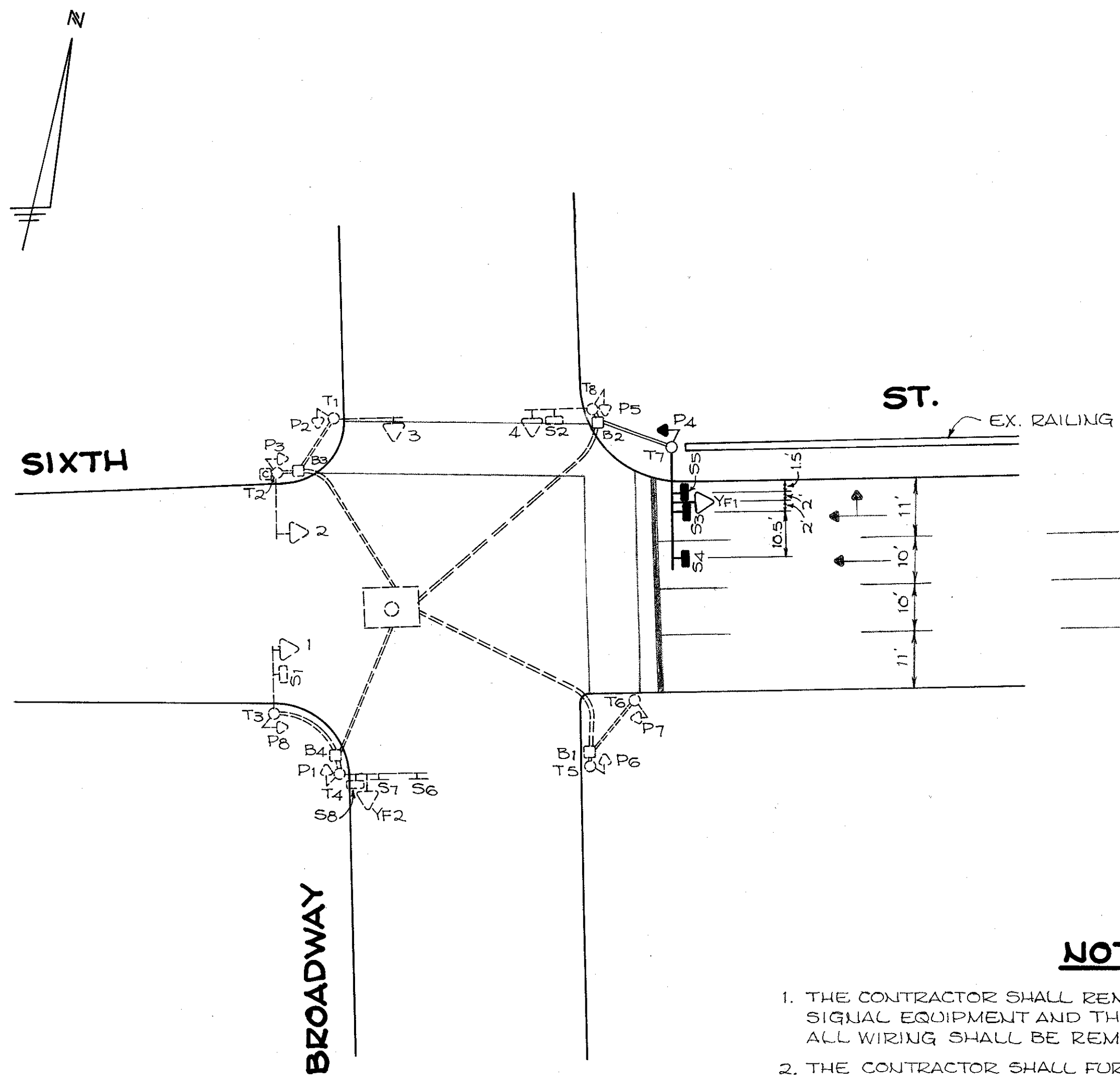
ITEM	UNIT	TOTAL QUANTITY	PROJECT COST	DESCRIPTION
632	Each	2		Vehicular Signal Head 3 Section 12" Lens, One Way.
	Lin. Ft.	82		Loop Detector Pavement Cutting.
	Lin. Ft.	252		Loop Detector Wire
	Each	1		Reuse of Existing Pedestrian Signal Pole.
	Each	2		Reuse of Existing Pedestrian Signal and Push Button.
	Each	1		Removal of Portion of Existing Signal Installation.
632	Each	1		Maintenance of Existing Signal Installation.
631	Each	1		Internally Illuminated Sign, Installation Only.
625	Each	1		Pullbox 17" Sq. Concrete
625	L.F.	36		3" Conduit, Jacked Under Pavement, 713.04
632	L.F.	300		Signal Cable, 7-conductor No. 14 AWG
632	L.F.	46		Loop Detector Lead-in Cable

**TRAFFIC CONTROL SUB-SUMMARY
& TRAFFIC CONTROL DETAILS**

**PROPOSED TRAFFIC SIGNAL ARM
"A1" MECHANICAL DATA**

ARM GAUGE	ARM DIA. (INCH)		(FT.) LENGTH	MAXIMUM LOADING	
	BASE	TOP		WGT. (FT.-LBS.)	AREA (FT.-SQ. FT.)
7	7	3.36	26	4004	502

SIGNAL ARM SHALL BE GALV. STEEL AND MEET THE REQUIREMENTS OF 713.01. ARM, FITTINGS, HARDWARE & THE PLATES SHALL BE HOT-DIPPED GALV. IN ACCORDANCE WITH ASTM A-123 & A-153. GUSSET & FLANGE PLATES SHALL CONFORM TO ASTM A-36 HI-STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM A-193 ARM PLATES SHALL BE ONE PIECE STEEL PLATE PER 711.01.



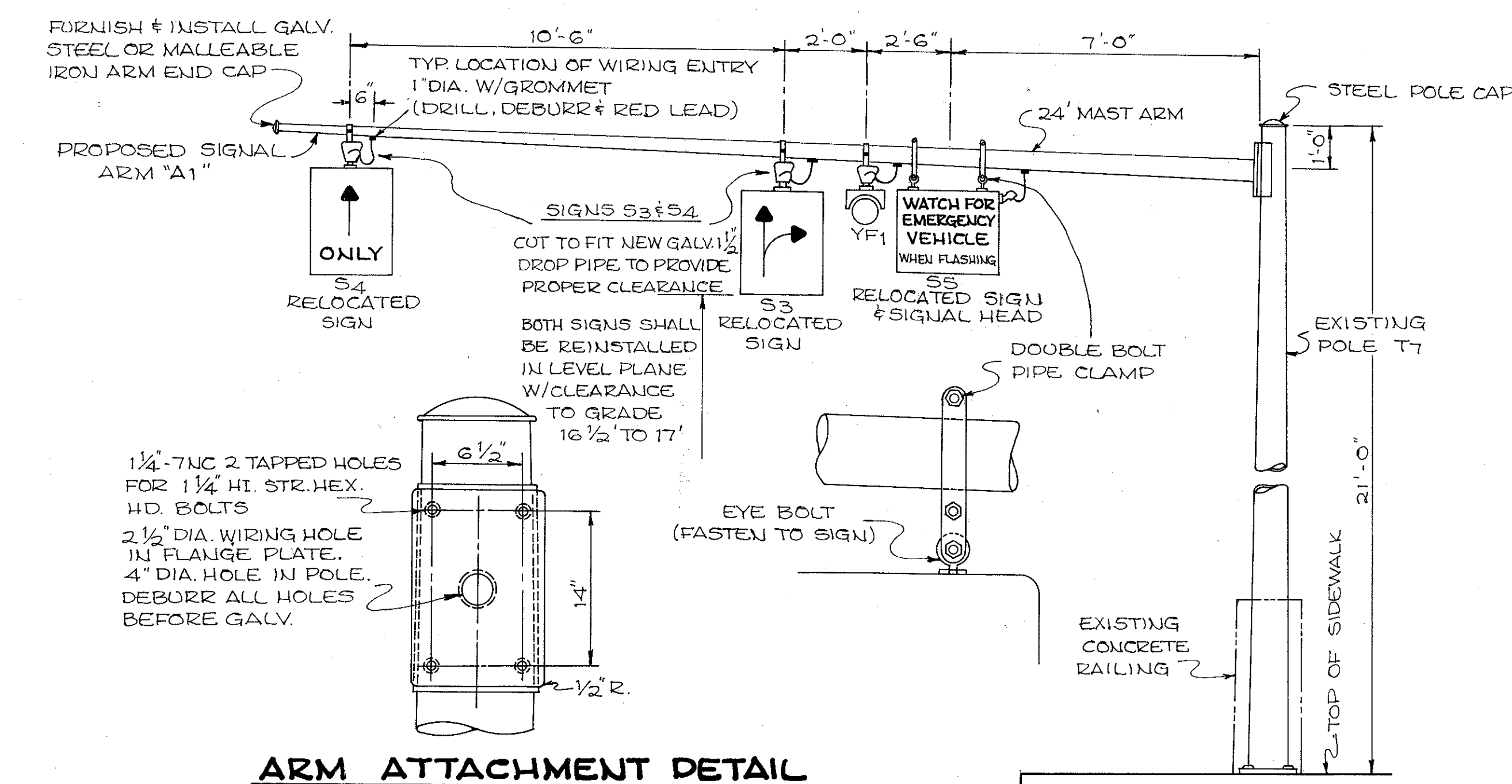
- LEGEND**
- EXISTING POLE W/PROP. SIGNAL ARM
 - EXISTING POLES & ARMS
 - EXISTING TRAFFIC SIGNAL HEADS
 - EXISTING PEDESTRIAN SIGNAL HEADS
 - ==== EXISTING UNDERGROUND CONDUIT
 - EXISTING PULLBOXES
 - ⊥ PROPOSED REINSTALLED SIGNS
 - PROPOSED REINSTALLED SIGNALS

NOTES

1. THE CONTRACTOR SHALL REMOVE THE EXISTING SIGNS, SIGNAL EQUIPMENT AND THE EXISTING 18' SIGNAL ARM. ALL WIRING SHALL BE REMOVE TO PULLBOX B2.
2. THE CONTRACTOR SHALL FURNISH AND ERECT A NEW 26' SIGNAL ARM AS INDICATED ON THE PLAN AND SHALL INSTALL EXISTING SIGNS AND SIGNALS AS SHOWN.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL 1-2C#12 & 1-5C#14 CABLES SPLICED TO EXIST. 2C#12 & 5C#14 CA. RESP. IN PULLBOX B2 W/APPROVED SPLICES. 5C#14 CABLE SHALL CONNECT TO SIGN S5 AND SIGNAL YF1. 2C#12 CABLE SHALL CONNECT TO SIGN S3 AND S4

PAYMENT FOR ITEM 632 "SIGNAL ARM MODIFICATION" WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR REMOVING EXISTING ARM, WIRING AND EQUIPMENT AND FURNISHING AND INSTALLING A NEW 26' ARM PER PLAN REQUIREMENTS INCLUDING REINSTALLING EXISTING EQUIPMENT AND REWIRING. THIS PRICE SHALL INCLUDE ALL LABOR, MATERIALS, SUPPLIES, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

PAYMENT FOR ITEM 632 "MAINTENANCE OF EXISTING SIGNAL INSTALLATION" WILL BE MADE AS DESCRIBED IN THE GENERAL NOTES, SH-131.



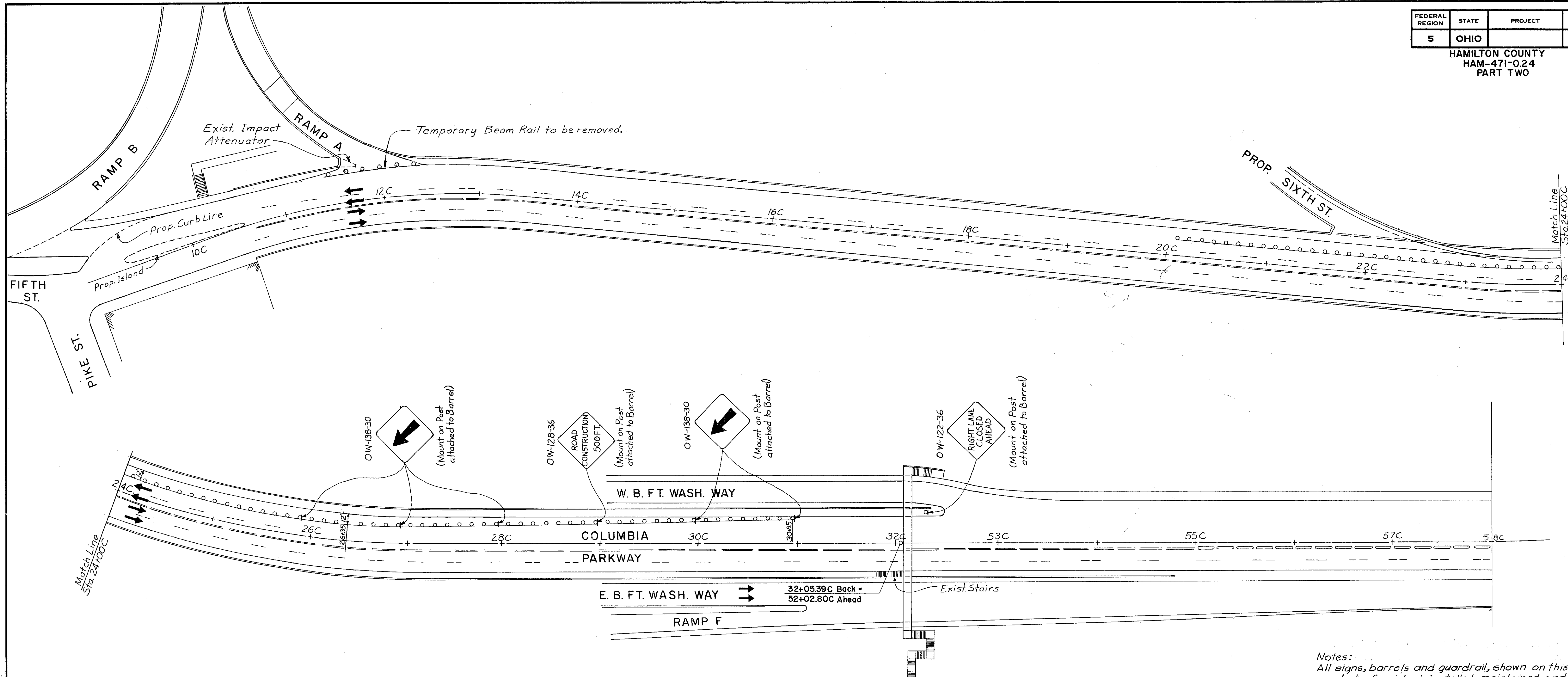
ARM ATTACHMENT DETAIL

**SIGNAL AND SIGN POLE DETAILS
SIXTH ST. & BROADWAY**

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

149
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



Notes:
All signs, barrels and guardrail, shown on this sheet are to be furnished, installed, maintained and subsequently removed by the contractor except as noted. Payment for this work shall be included in the lump sum price bid for Item 614, Maintaining Traffic. (See Sh.13#14 for Traffic Notes.)

LEGEND

Temporary Beam Rail mounted on drums spaced at 12.5' %, one side only

Existing Lane Lines

Existing Center Lines

COLUMBIA PARKWAY
TEMPORARY TRAFFIC CONTROL DETAILS

HAMILTON COUNTY
HAM-471-0.24
PART TWO

NOTES

FABRICATION- ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

* **FOUNDATION**- THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

** **ERECTION**- VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM C OF POLE TO C OF SIGN DOES NOT EXCEED THE MAX. SIGN AREA TIMES "B".

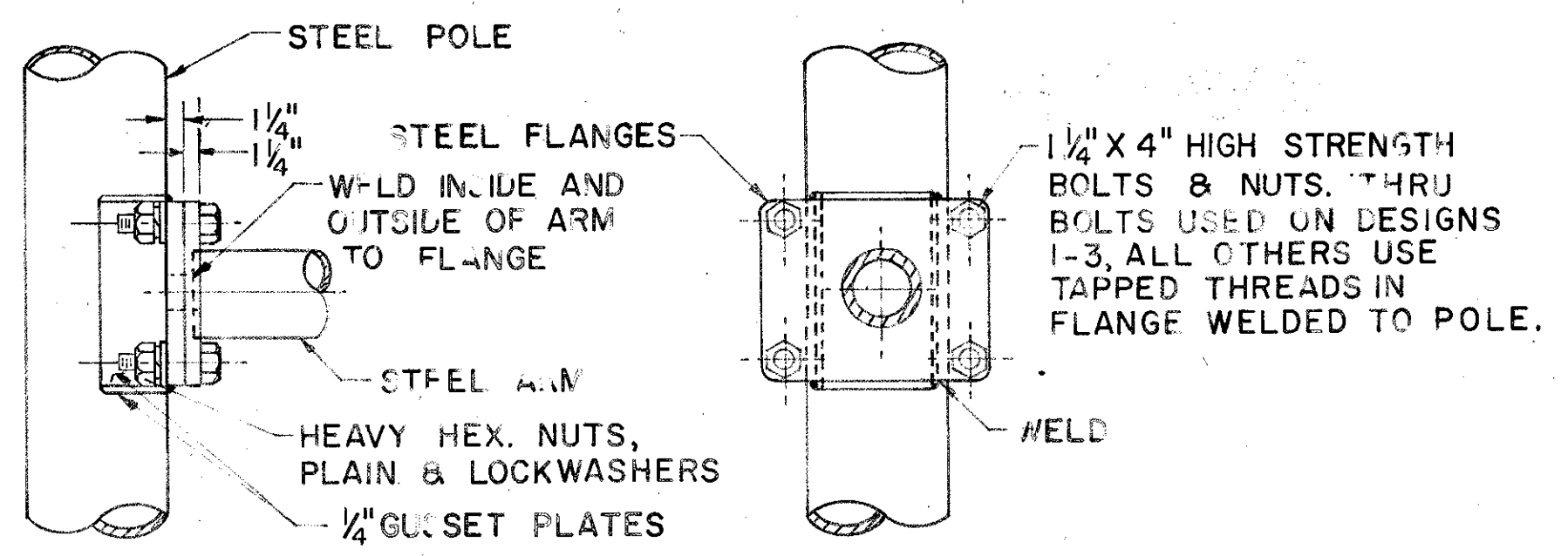
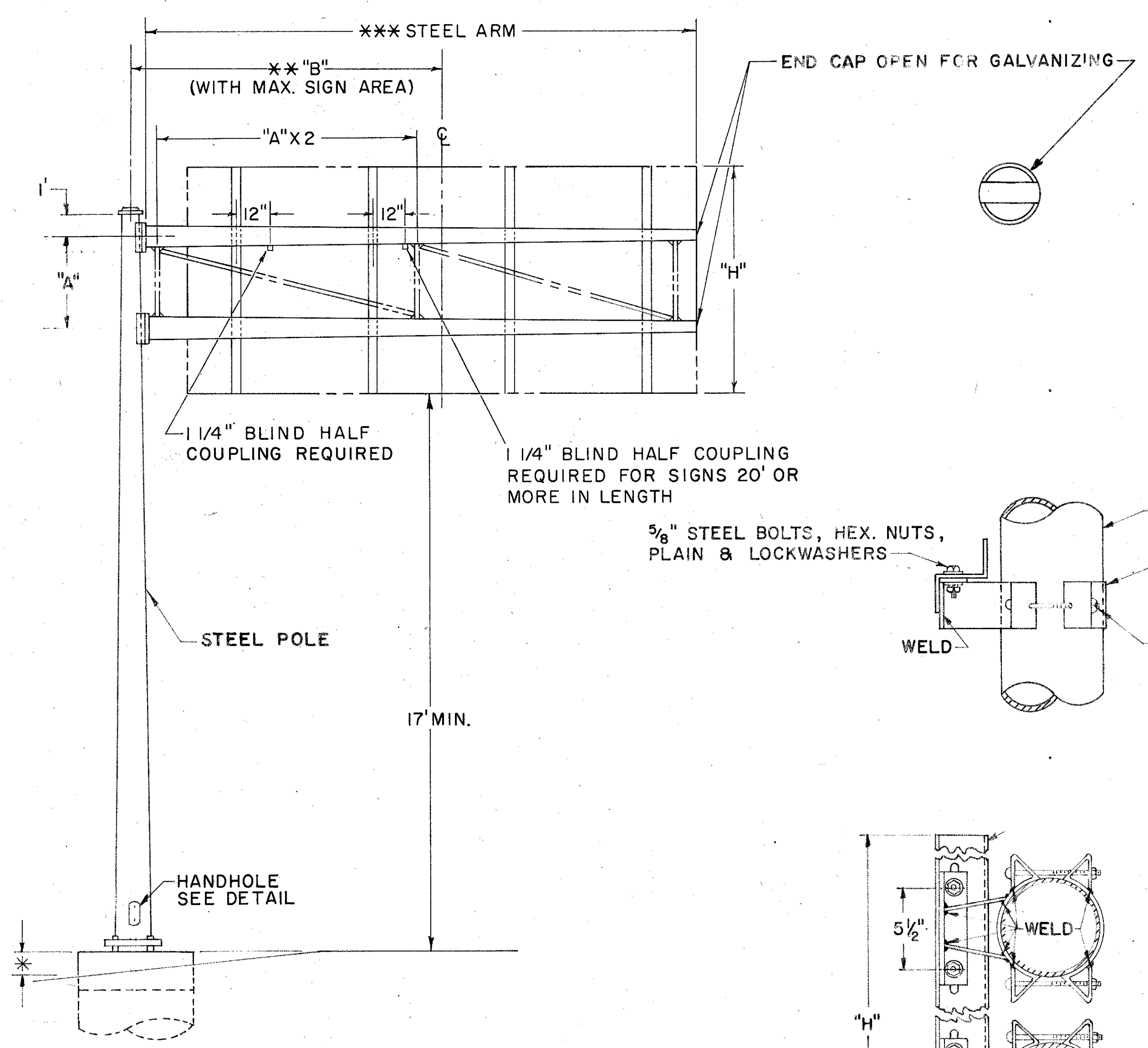
*** **ARMS** 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3" X 3" X 3/8" ANGLES WELDED TO GUSSET PLATES.

MATERIAL- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A193 GRADE B7 AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

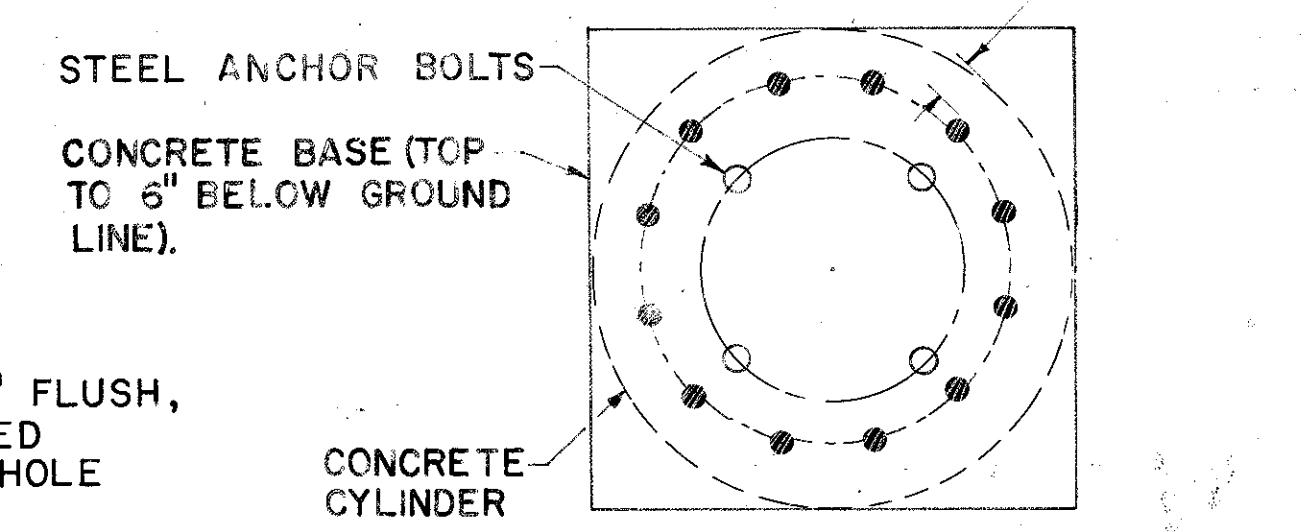
SOILS- THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL- REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D_T" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 630 CONCRETE FOR ANCHOR BASE FOUNDATIONS.

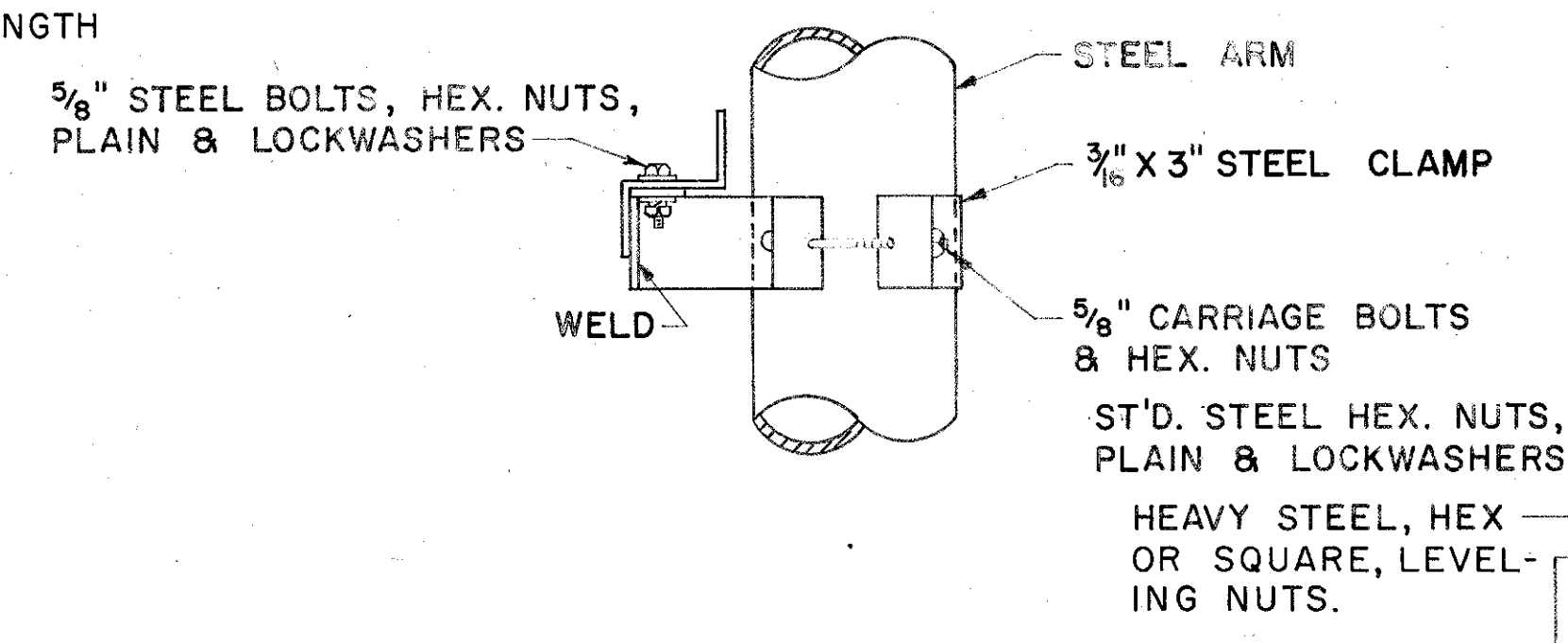
DESIGN
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.



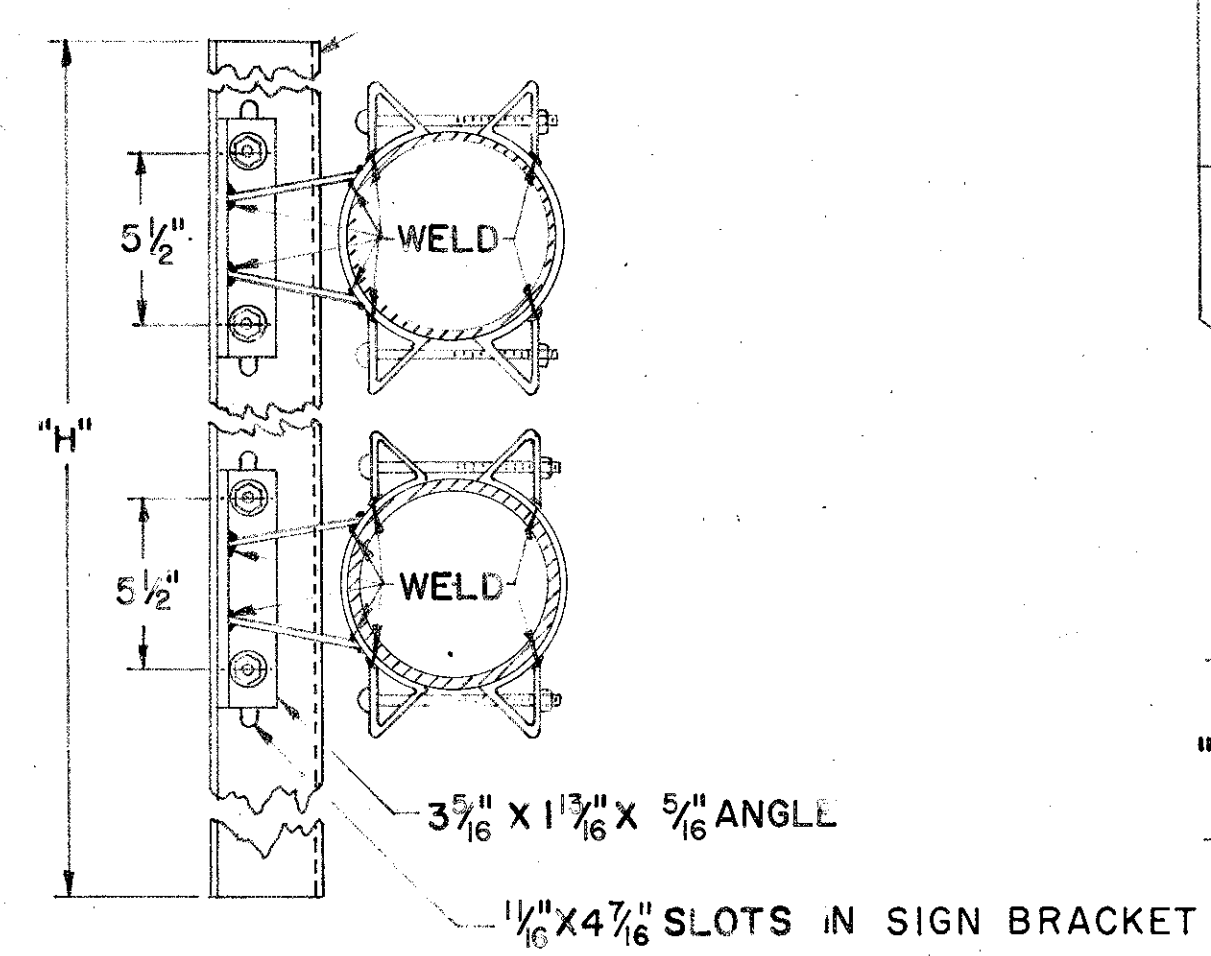
ARM ATTACHMENT



FOUNDATION DETAIL



POLE BASE DETAIL



SIGN ATTACHMENT DETAIL

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM **B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF BARS SIZE	REIN REQ'D
1	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 6.9" X 4.66" X 16'-0"	4'	12'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	80	3/4"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	30	3/4"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3" X 6.06" X 16'-0"	4'	12'	11'	3'-0"	15 1/2"	8 3/8"	23"	2"	22"	2" X 96"	120	1"	12
4	3 Ga, 16" X 12.5" X 25'-0"	3 Ga, 9.2" X 6.40" X 20'-0"	4'	16'	11'	3'-0"	16 5/8"	8 3/8"	24 1/2"	2"	23 1/2"	2" X 96"	120	1"	12
5	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 11" X 7.92" X 22'-0"	6'	14'	13'	3'-0"	18"	9 3/3"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
6	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 8.86" X 26'-0"	6'	18'	13'	3'-0"	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
7	2 PLY 7 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 9.14" X 24'-0"	6'	14'	15'	3'-0"	18"	9 3/4"	26 1/2"	2 1/2"	25 1/2"	2 1/2" X 144"	240	1 1/4"	12
8	2 PLY 1/4", 18" X 14.36" X 26'-0"	3 Ga, 12.5" X 8.58" X 28'-0"	6'	18'	15'	3'-0"	18"	11 1/4"	26 1/2"	3"	25 1/2"	3" X 144"	240	1 1/4"	12

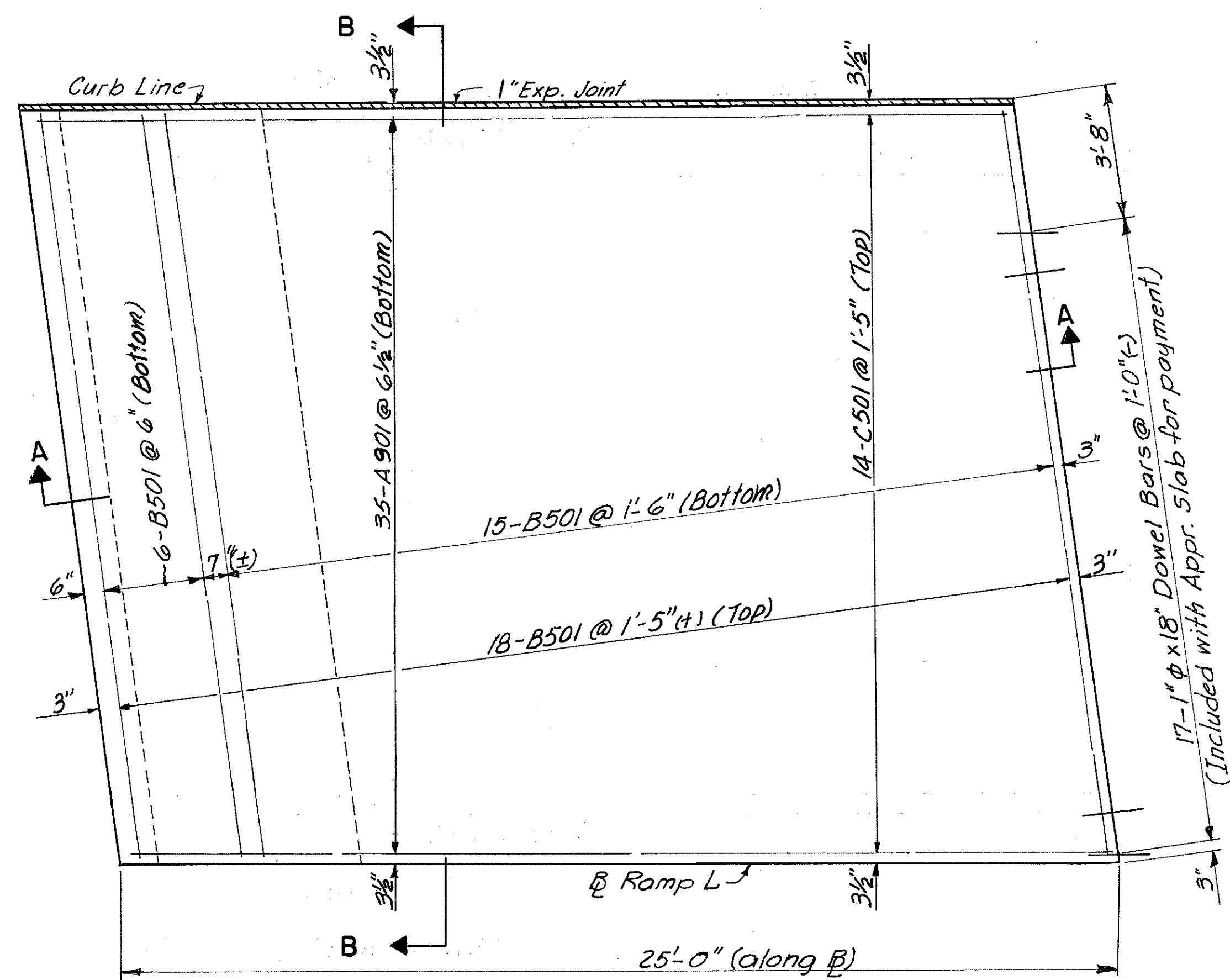
BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT No. 12.24

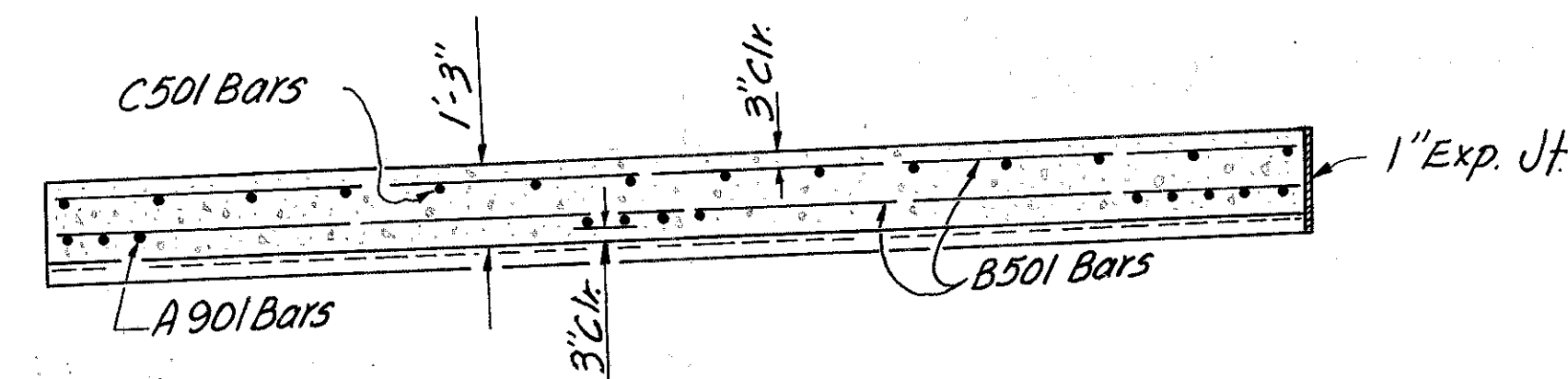
DATE 8-18-61
4-11-62
4-18-67

APPROVED *Robert E. Conner*
ENGINEER OF TRAFFIC

HAMILTON COUNTY
 PROJECT 024
 PART TWO

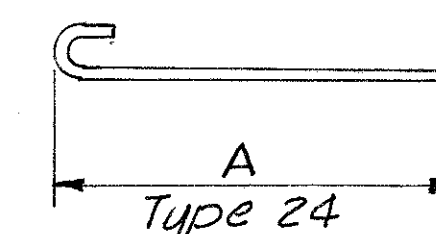


PLAN



SECTION B-B

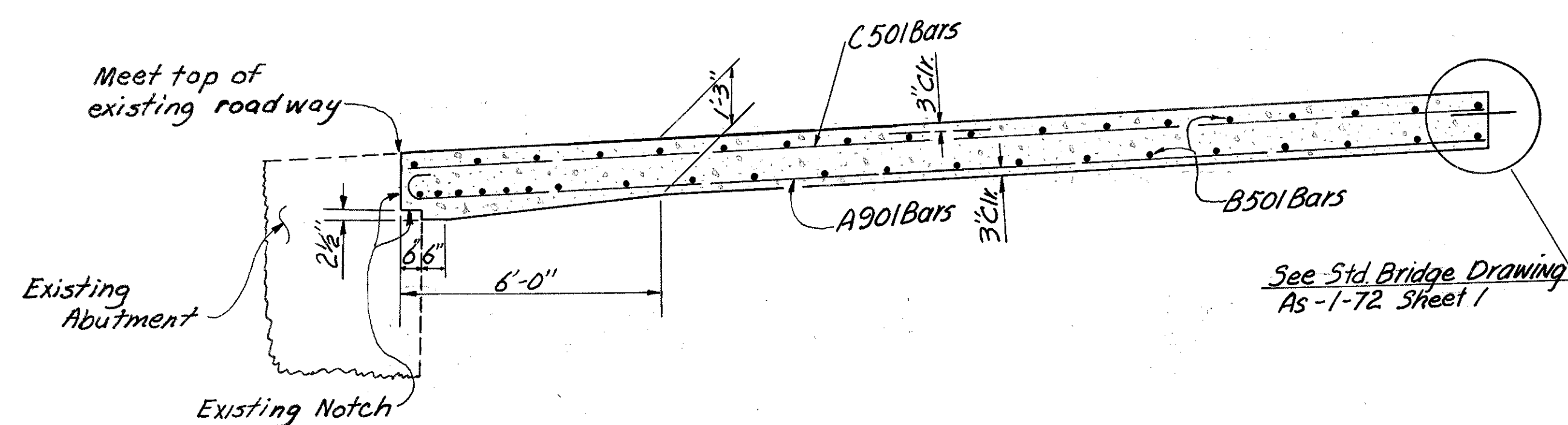
BAR BENDING DIAGRAM



REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	TYPE	DIM. A
C501	14	24'-6"	Str.	
B501	39	18'-8"	Str.	
A901	35	25'-9"	24	24'-6"

17-1" x 18" Dowel Bars



SECTION A-A

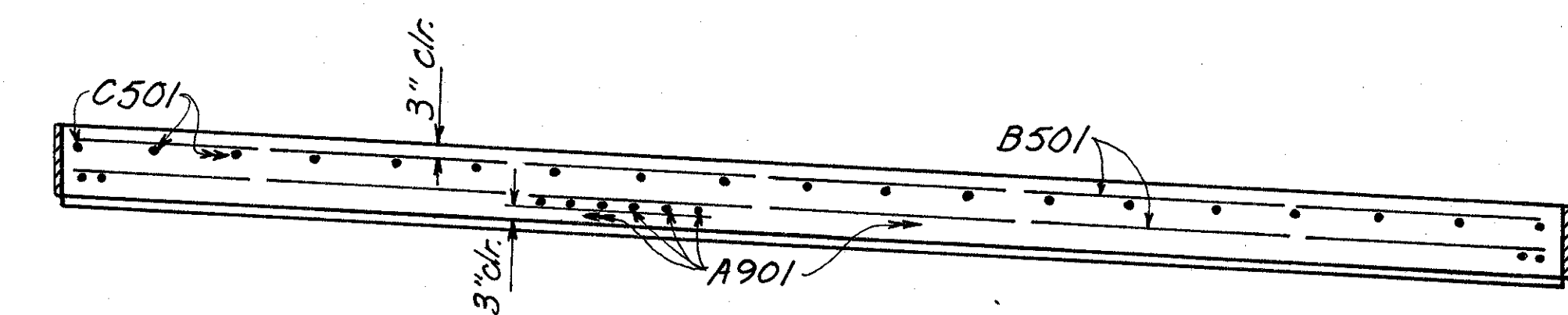
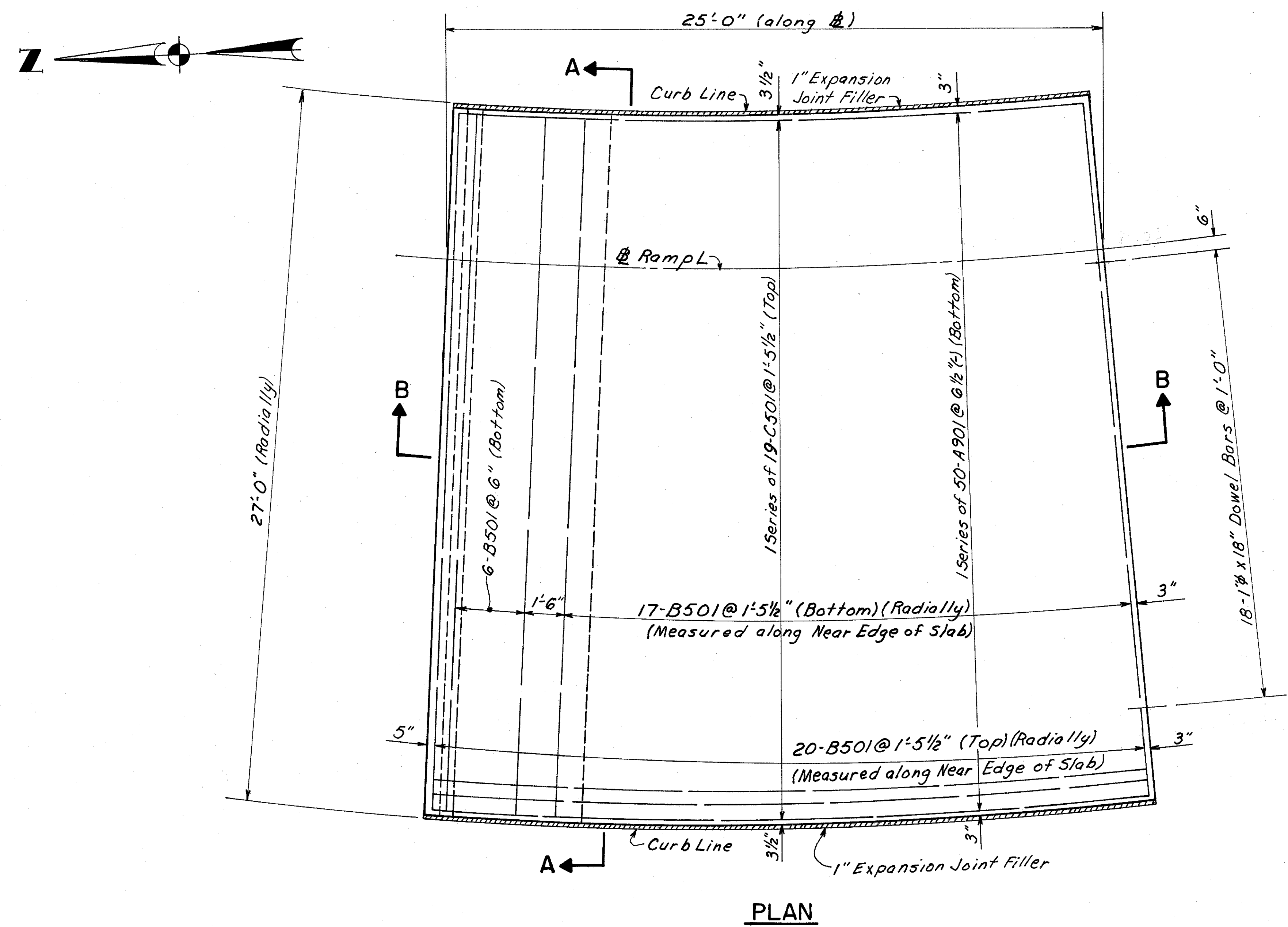
Do not provide jacking holes.
 For Notes and details not shown see
 Standard Bridge Drawing AS-1-72 Sheets 1&2

HAZELET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

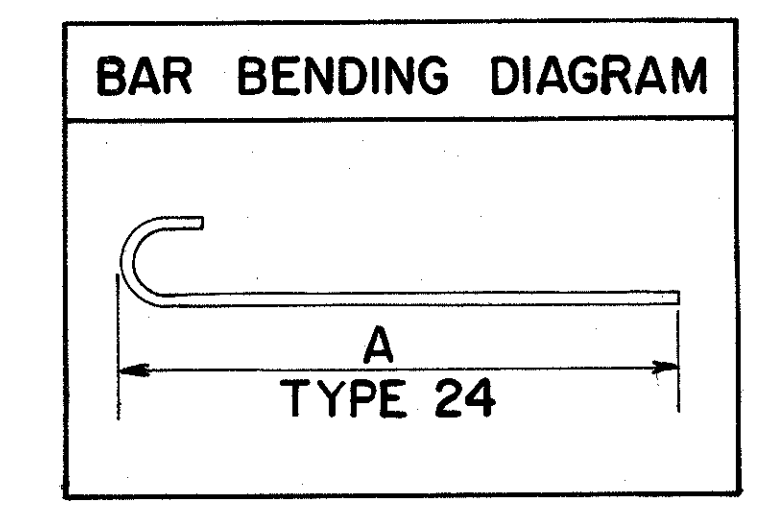
FORWARD APPROACH SLAB

Sta. 134+90.74L to Sta. 135+15.74L

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	R.J.F.	Y.K.	S.C.C. 2/2	J.H.O. 3-23-82	

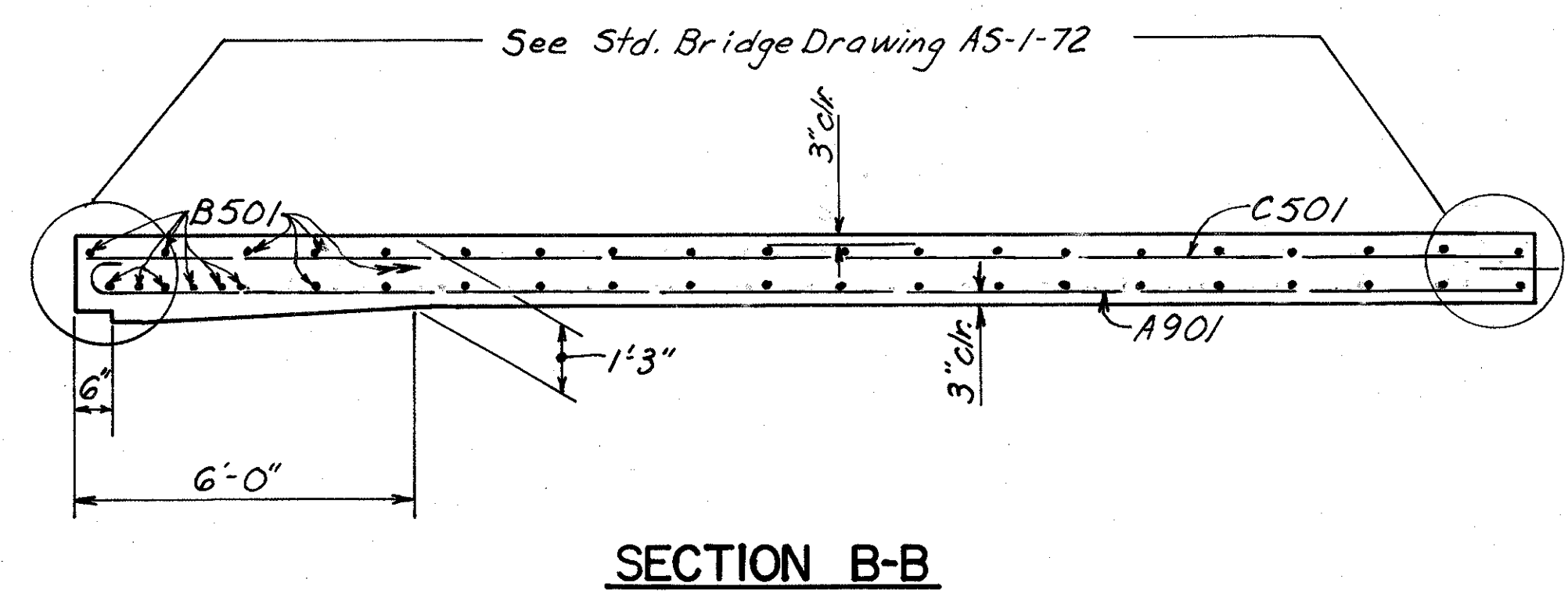


SECTION A-A



REINFORCING STEEL LIST				
MARK	NUMBER	LENGTH	TYPE	DIM. A
A901	1 Series of 50	24'-10" to 29'-1"	24	23'-7" to 27'-10"
B501	43	26'-4"	Str.	
C501	1 Series of 19	23'-7" to 27'-10"	Str.	

18-1" ϕ x 18" Dowel Bars

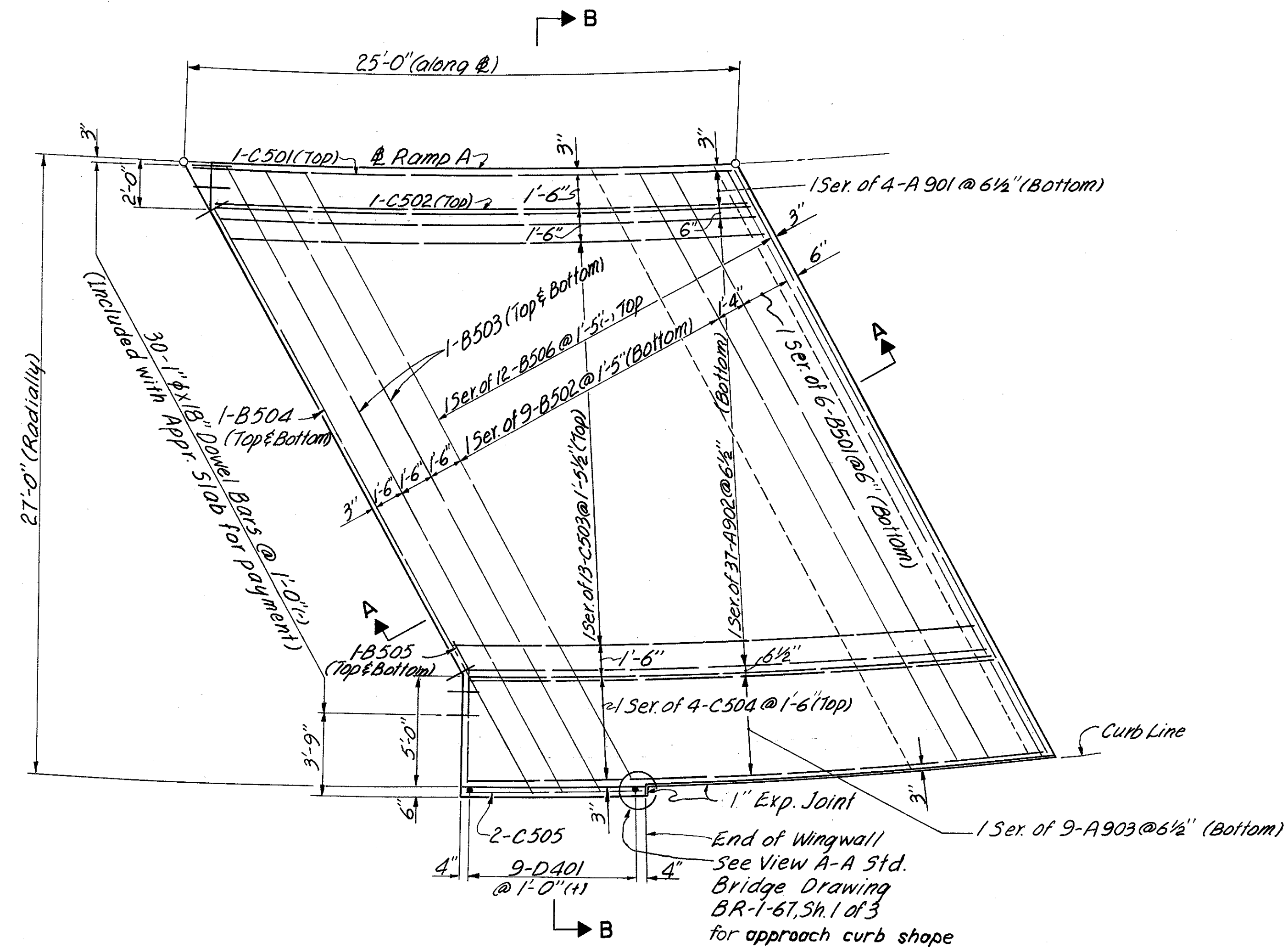


Do not provide jacking holes.
For Notes and details not shown see
Standard Bridge Drawing AS-1-72
Sheets 1 and 2.

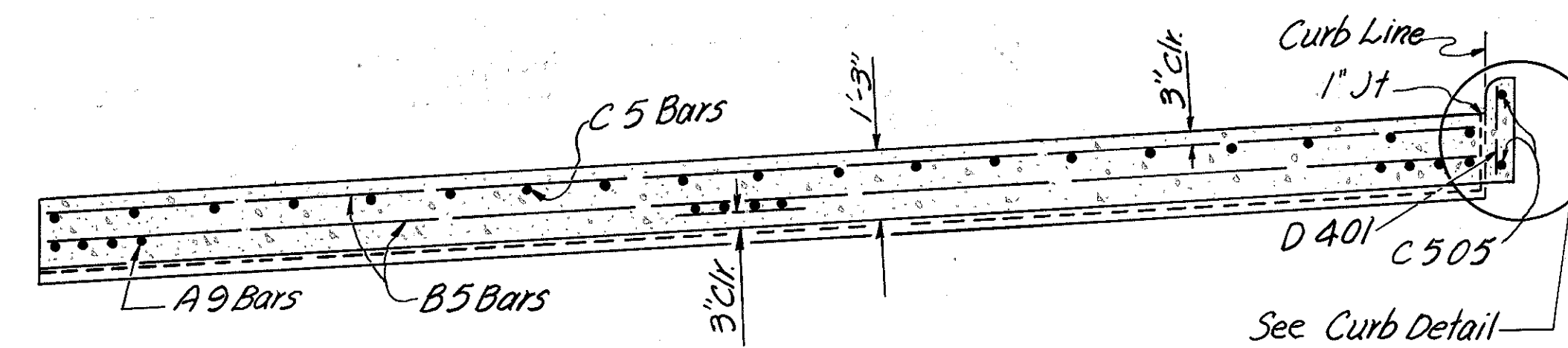
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

REAR APPROACH SLAB
Sta. 136+48.75L to Sta. 136+73.75L
RAMP L

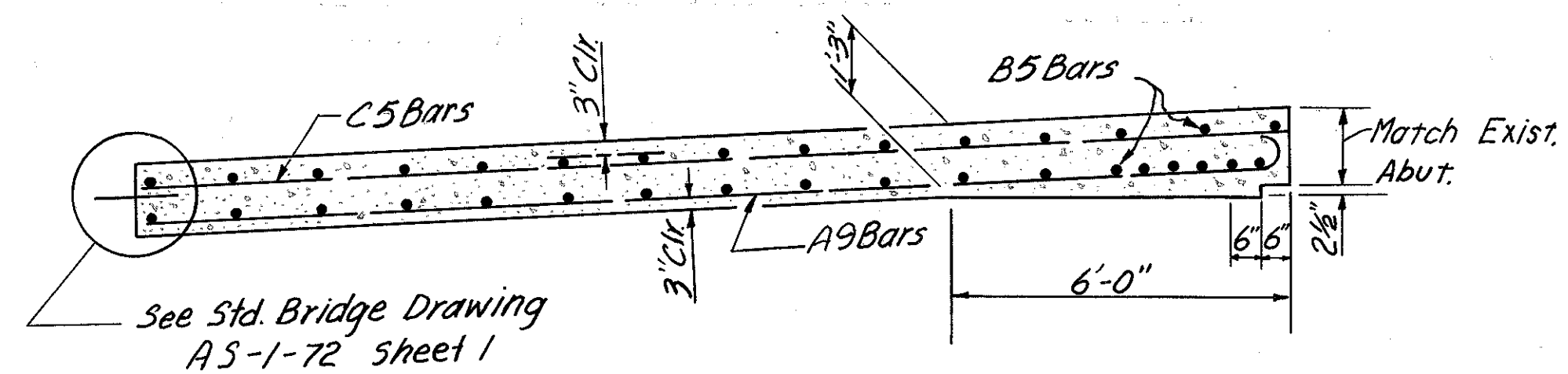
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	DSD		WJ	JHO 3-23-82	



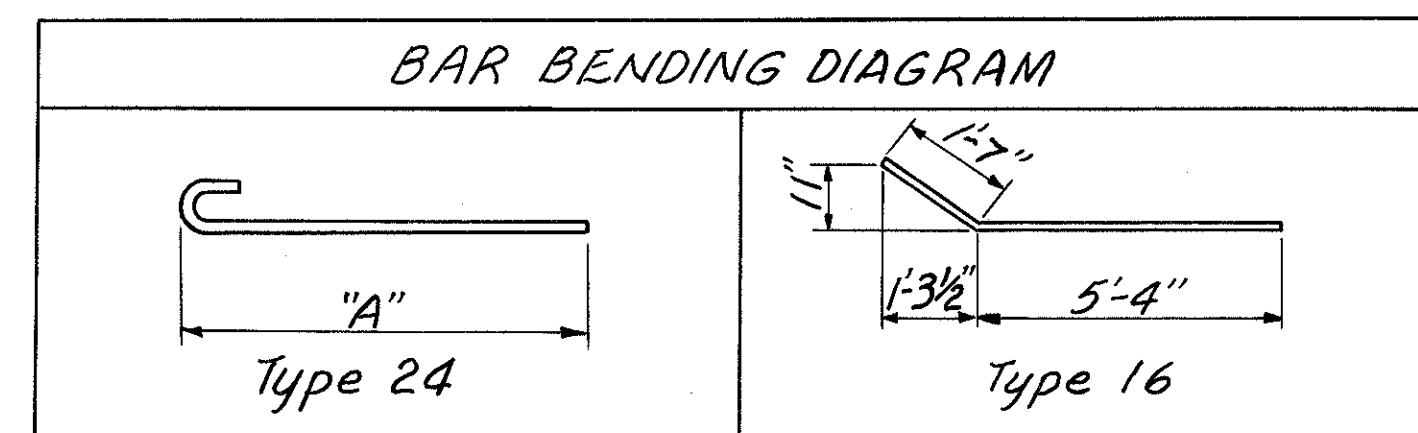
PLAN



SECTION B-B

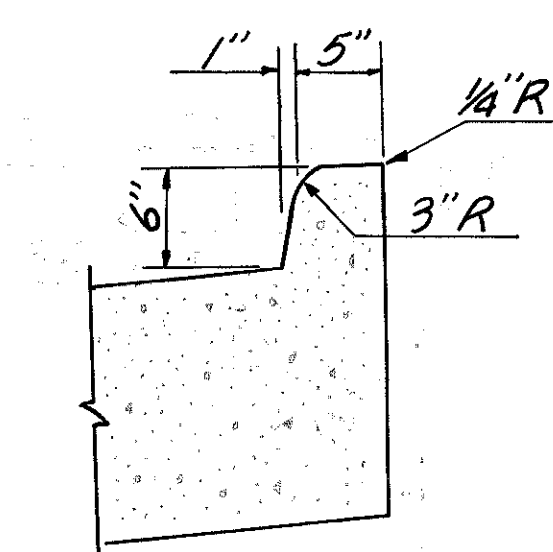


SECTION A-A



REINFORCING STEEL LIST				
MARK	NUMBER	LENGTH	TYPE	DIM. A
A 901	1 Ser. of 4	24'-5" to 25'-7"	24	23'-2" to 24'-4"
A 902	1 Ser. of 37	25'-6" to 24'-7"	24	24'-3" to 23'-4"
A 903	1 Ser. of 9	24'-11" to 27'-9"	24	23'-8" to 26'-6"
B 501	1 Ser. of 6	30'-8" to 30'-10"	Str.	
B 502	1 Ser. of 9	31'-0" to 32'-3"	Str.	
B 503	4	33'-2"	Str.	
B 504	2	31'-4"	Str.	
B 505	2	6'-11"	16	
B 506	1 Ser. of 12	32'-3" to 30'-8"	Str.	
C 501	1	23'-2"	Str.	
C 502	1	24'-2"	Str.	
C 503	1 Ser. of 13	24'-3" to 23'-6"	Str.	
C 504	1 Ser. of 4	23'-6" to 26'-6"	Str.	
C 505	2	8'-3"	Str.	
D 401	9	1'-5"	Str.	

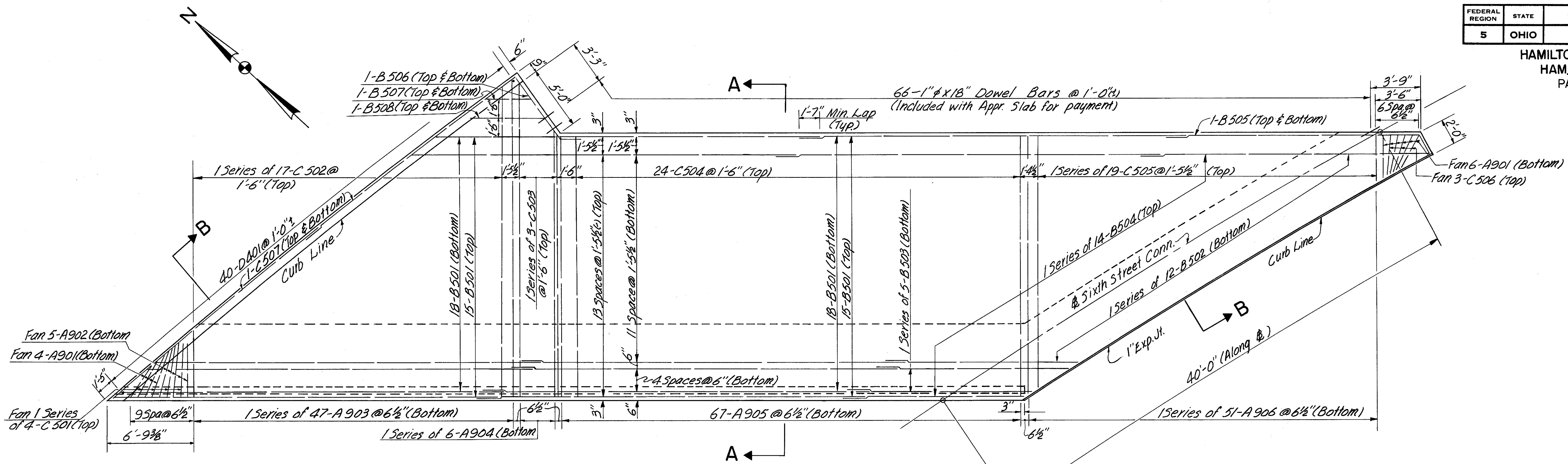
30-1" x 18" Dowel Bars



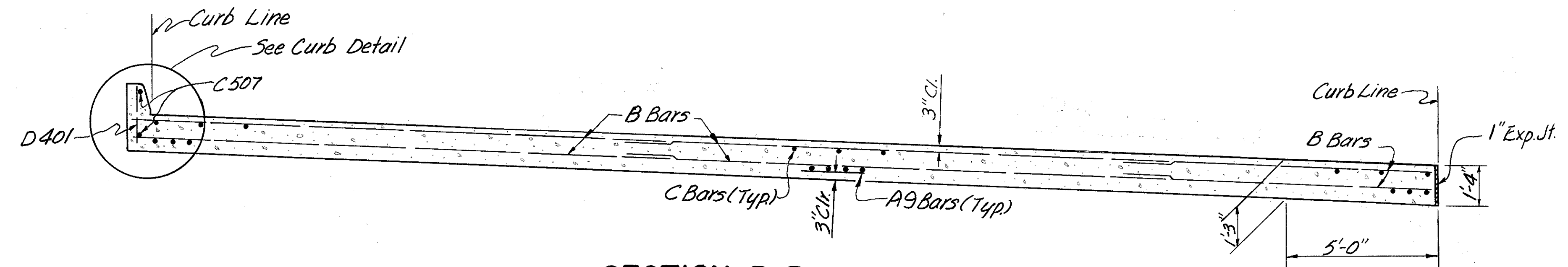
CURB DETAIL

Do not provide jacking holes.
For notes and details not shown see
Standard Bridge Drawing AS-1-72
sheets 1 and 2

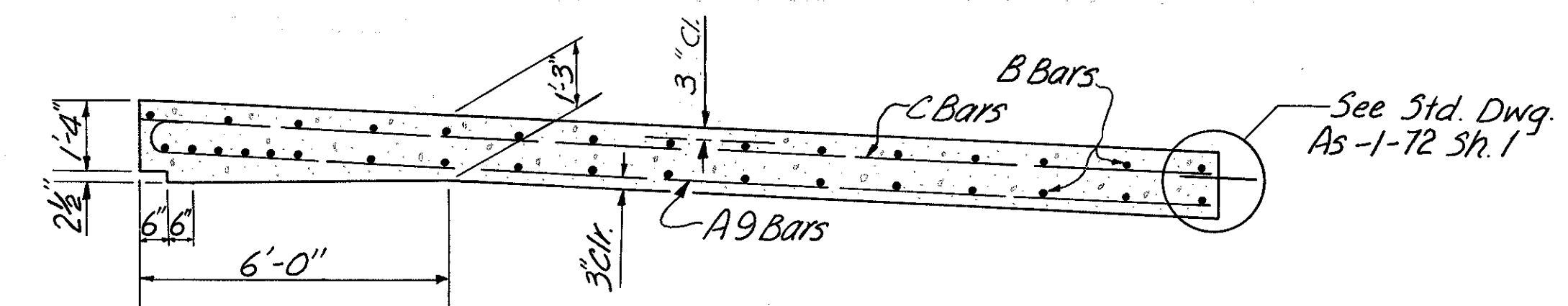
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
REAR APPROACH SLAB				
Sta. 143+09.35A to Sta. 143+34.35A				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	VWS	YK	SCC	J140
			2/2	3-23-82
				REVISED



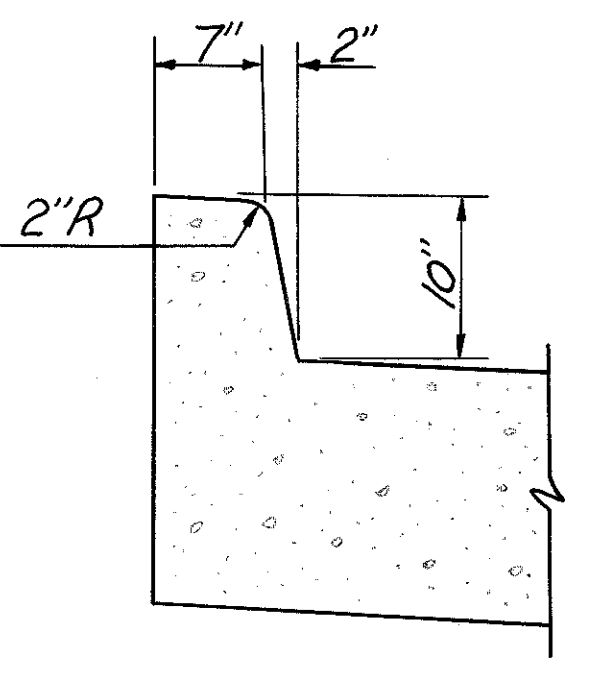
PLAN



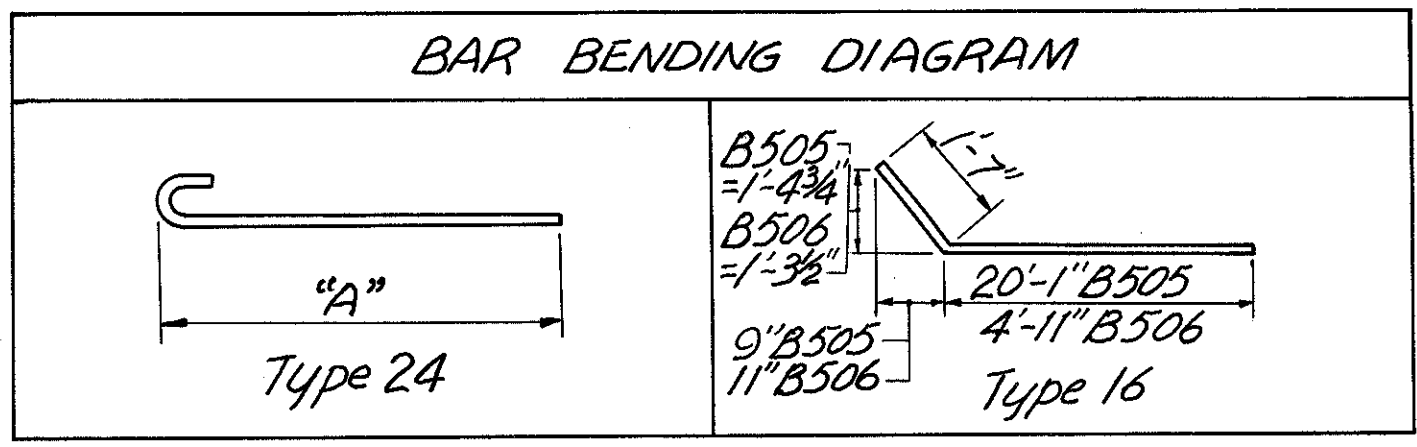
SECTION B-B



SECTION A-A



CURB DETAIL



BAR BENDING DIAGRAM

REINFORCING STEEL LIST				
MARK	NUMBER	LENGTH	TYPE	DIM. A
A901	10	3'-0"	Str.	
A902	5	5'-6"	24	4'-3"
A903	1 Ser. of 47	6'-6" to 25'-11"	24	5'-3" to 24'-8"
A904	1 Ser. of 6	25'-9" to 21'-11"	24	24'-6" to 20'-8"
A905	67	21'-6"	24	20'-3"
A906	1 Ser. of 51	21'-3" to 4'-9"	24	20'-0" to 3'-6"
B501	66	30'-0"	Str.	
B502	1 Ser. of 12	15'-2" to 22'-8"	Str.	
B503	1 Ser. of 5	14'-4" to 15'-1"	Str.	
B504	1 Ser. of 14	14'-4" to 22'-8"	Str.	
B505	2	21'-8"	16	
B506	2	6'-6"	16	
B507	2	3'-0"	Str.	
B508	2	6'-0"	Str.	
C501	1 Ser. of 4	3'-3" to 4'-3"	Str.	
C502	1 Ser. of 17	5'-3" to 24'-0"	Str.	
C503	1 Ser. of 3	24'-6" to 20'-4"	Str.	
C504	24	20'-3"	Str.	
C505	1 Ser. of 19	19'-6" to 3'-6"	Str.	
C506	3	3'-0"	Str.	
C507	4	21'-0"	Str.	
D401	40	1'-9"	Str.	

66-1" φ x 18" Dowel Bars

Do not provide jacking holes.
For Notes and Details not shown see
Standard Bridge Drawing AS-1-72
Sheets 1 and 2

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

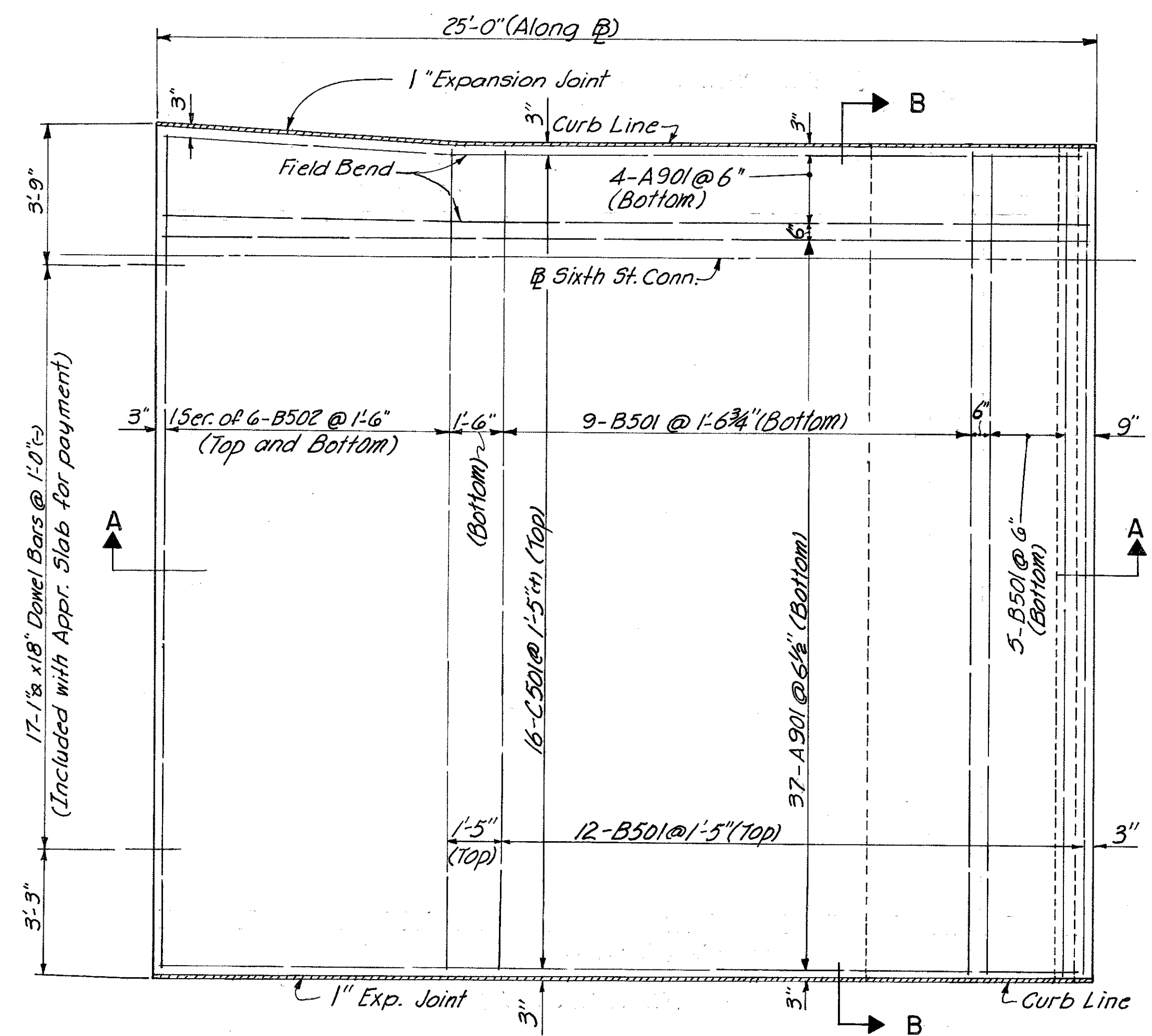
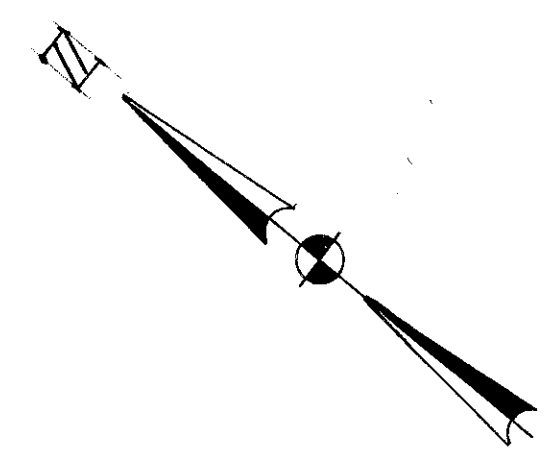
FORWARD APPROACH SLAB
Sta. 80+7393 to 81+1393
SIXTH STREET CONNECTION

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	YK		JKL	JHO 3-23-82	

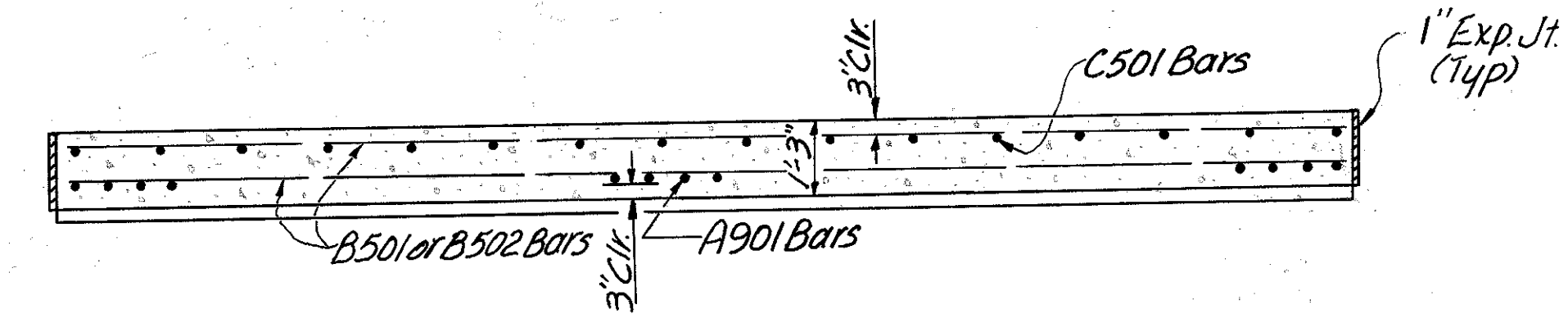
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

155
346

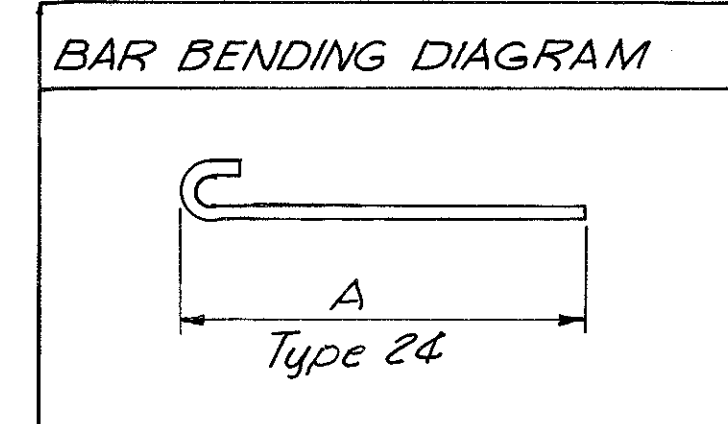
HAMILTON COUNTY
HAM-471-024
PART TWO



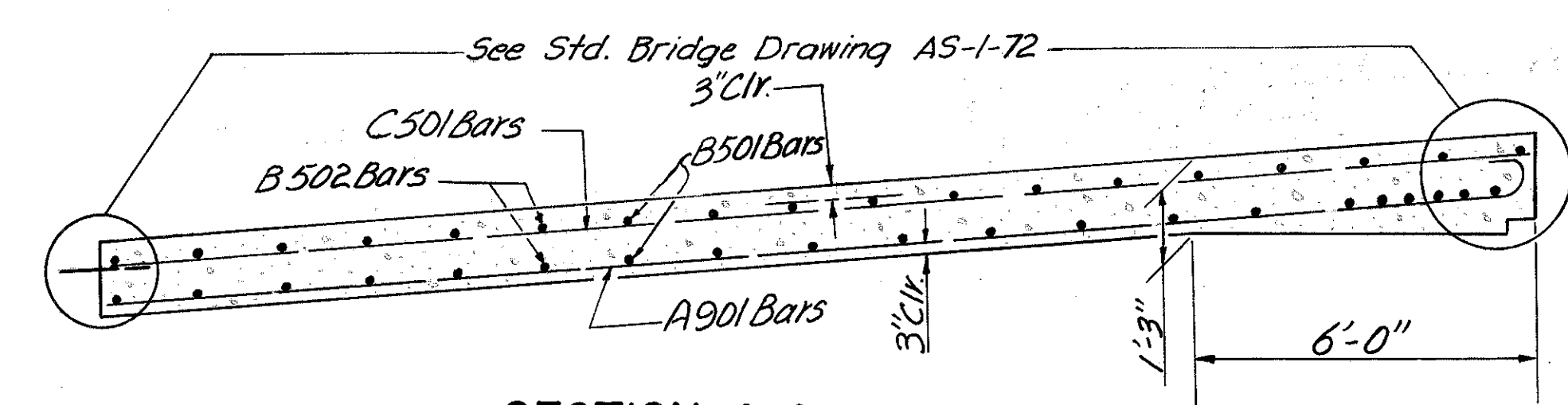
PLAN



SECTION B-B



REINFORCING STEEL LIST				
MARK	NUMBER	LENGTH	TYPE	DIM. A
B501	26	21'-6"	Str.	
B502	2 Ser. of 6	21'-6" to 21'-11"	Str.	
C501	16	24'-6"	Str.	
A901	41	25'-9"	24	24'-6"
17-1"φ x 18" Dowel Bars				



SECTION A-A

Do not provide jacking holes.
For Notes and details not shown see
Standard Bridge Drawing AS-1-72 Sheets 1&2

HAZELET & ERDAL
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CINCINNATI, OHIO

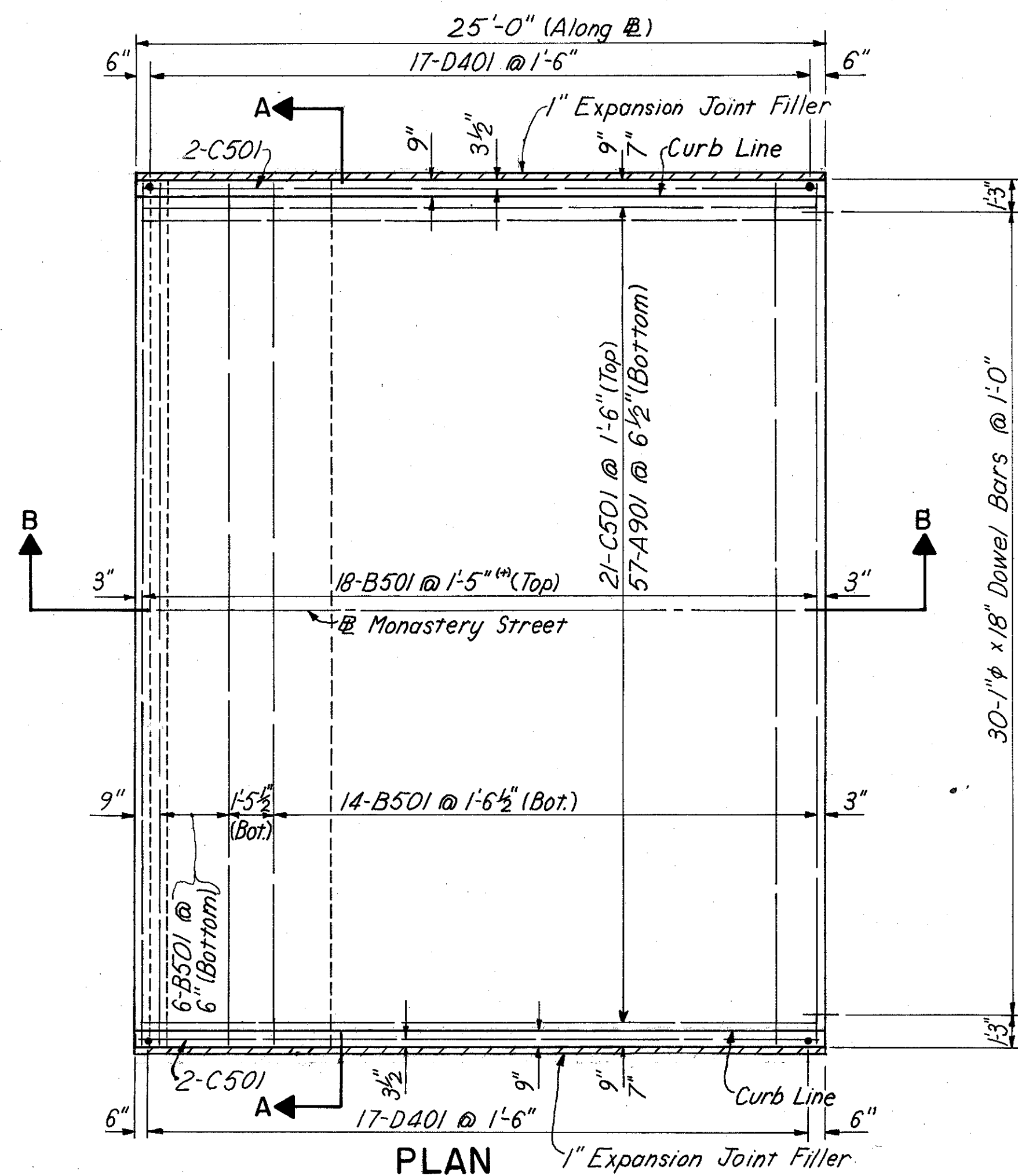
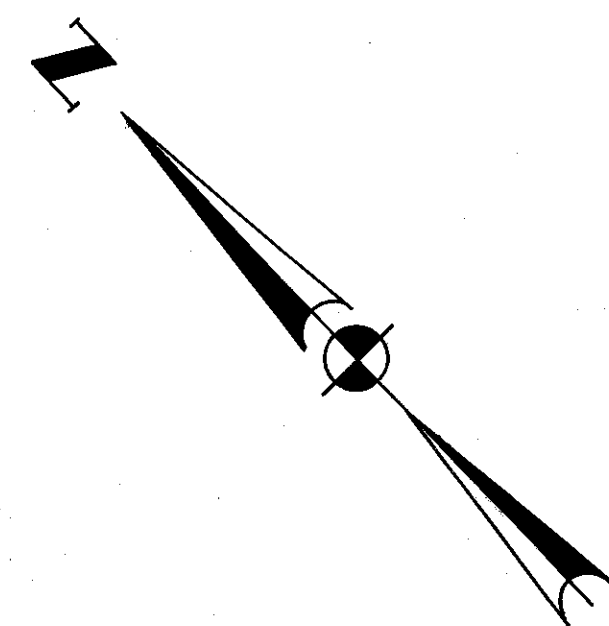
REAR APPROACH SLAB
Sta. 86+40.75 to Sta. 86+65.75
SIXTH STREET CONNECTION

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	R.J.F.	YK	SCC 3/2	JHO 3-23-82	

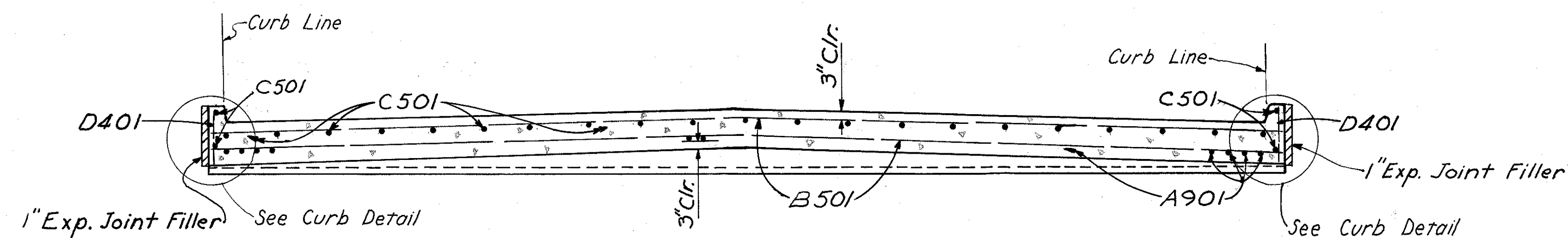
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

156
346

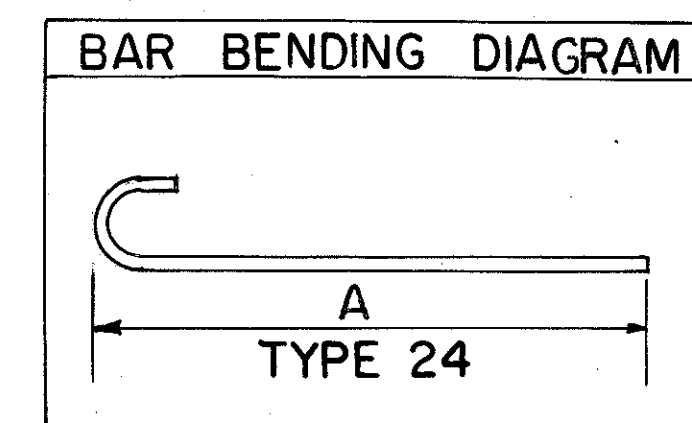
HAMILTON COUNTY
HAM-471-0.24
PART TWO



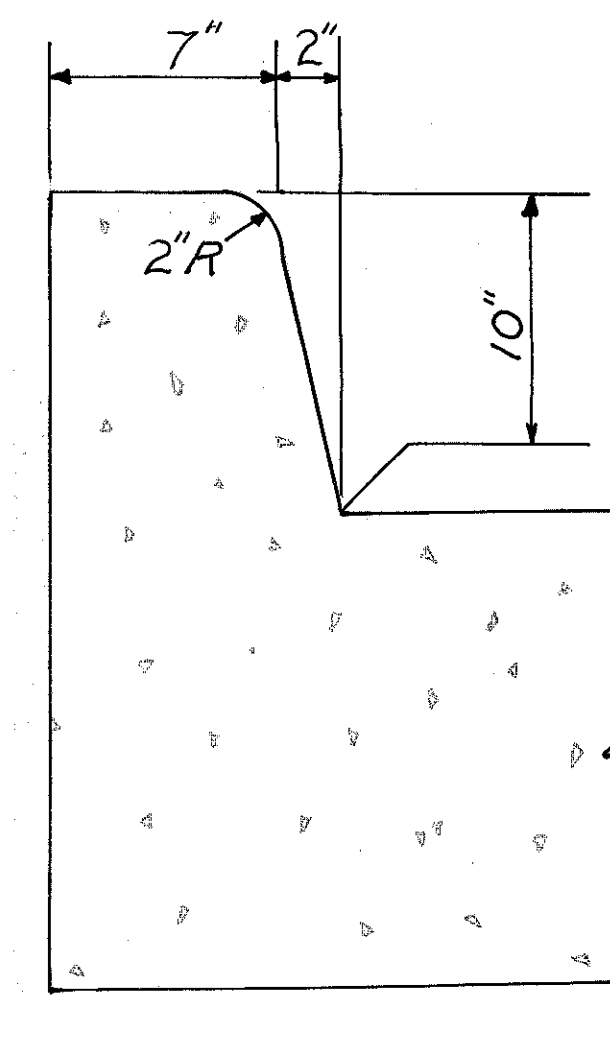
PLAN



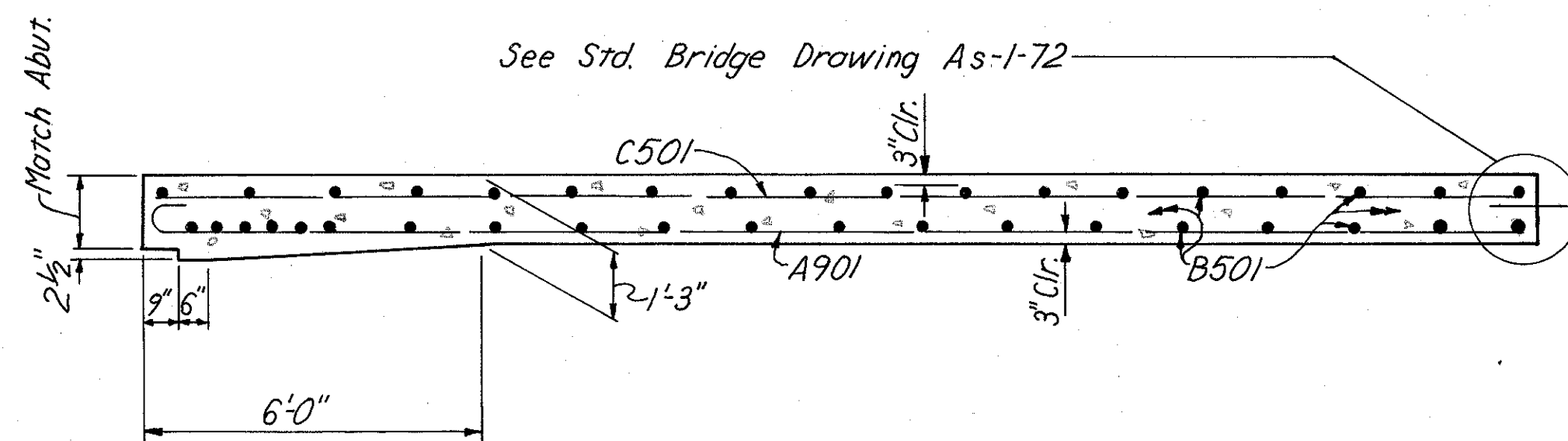
SECTION A-A



REINFORCING STEEL LIST				
MARK	NUMBER	LENGTH	TYPE	DIM. A
A901	57	25'-9"	24	24'-6"
B501	38	31'-0"	Str.	
C501	25	24'-6"	Str.	
D401	34	1'-7"	Str.	
30-1" x 18" Dowel Bars				



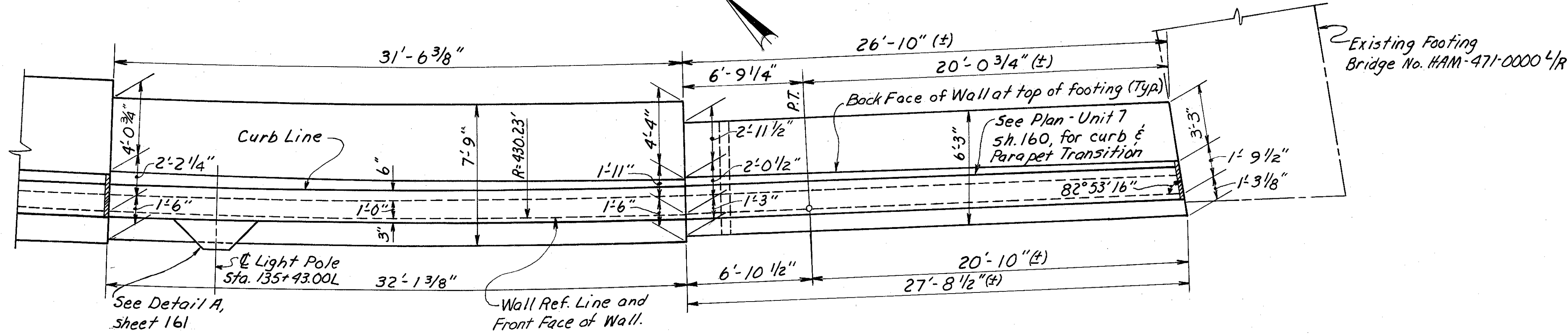
CURB DETAIL



SECTION B-B

Do not provide jacking holes.
For Notes and details not shown see Standard Bridge Drawing AS-1-72, Sheets 1 and 2

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
REAR APPROACH SLAB Sta. 10+33.91M to Sta. 10+58.91M MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RMC		ML	JHO 3-23-82	

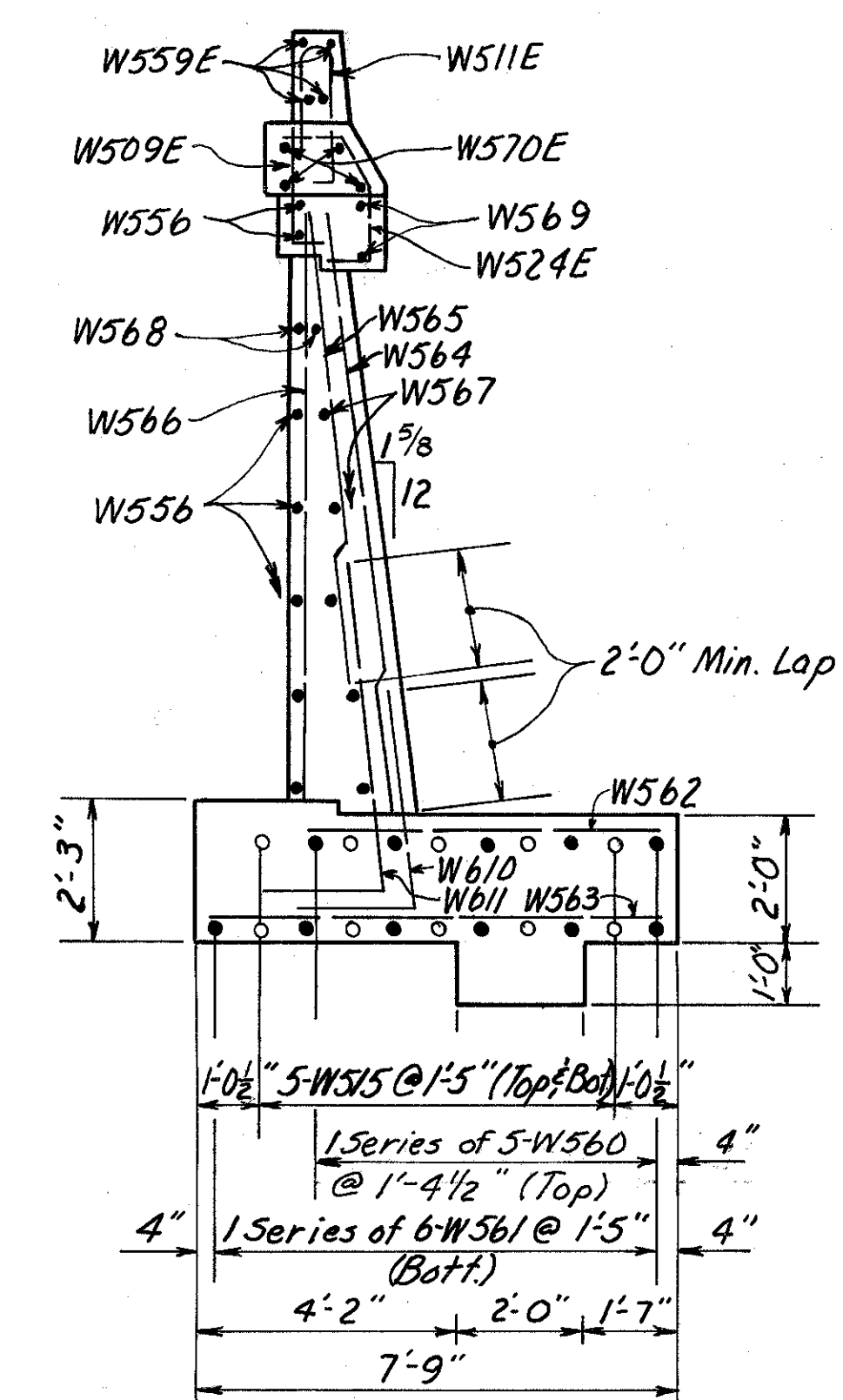


UNIT 6

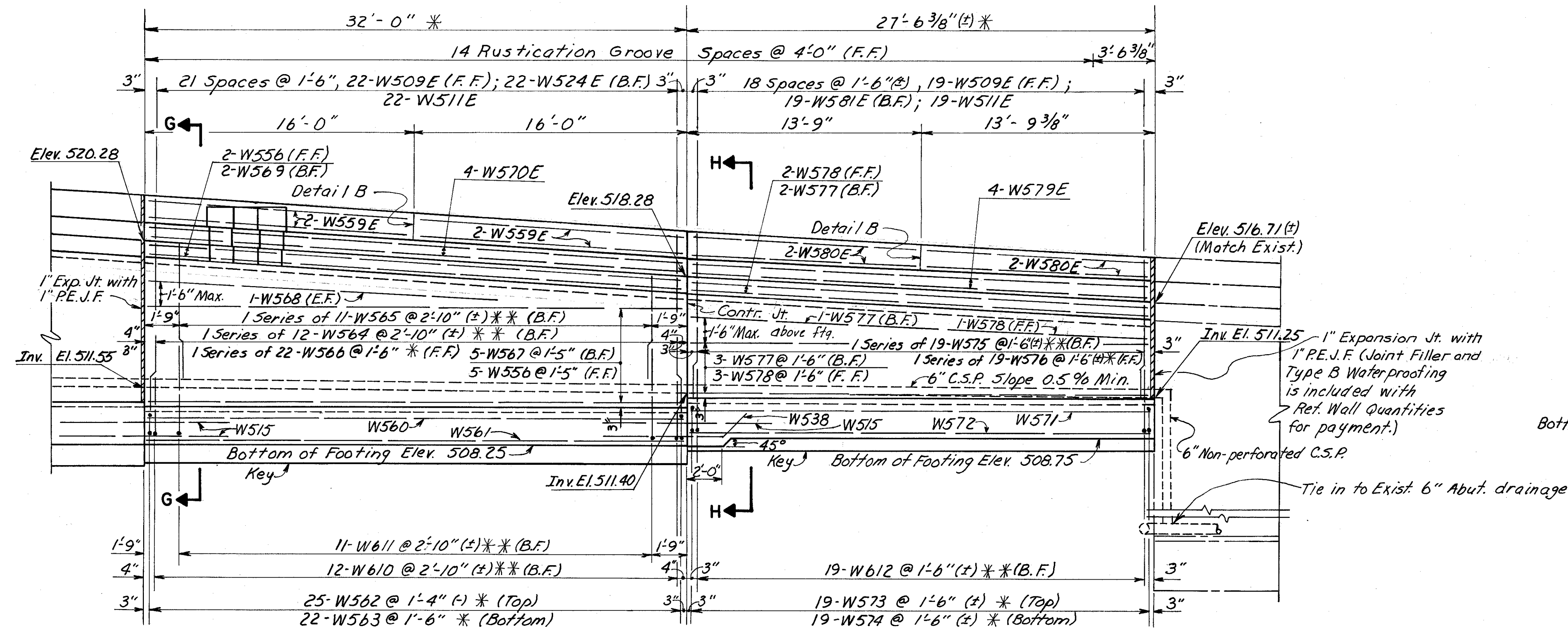
UNIT 7

PLAN

(Curb, Parapet and Key Not Shown)



SECTION G-G

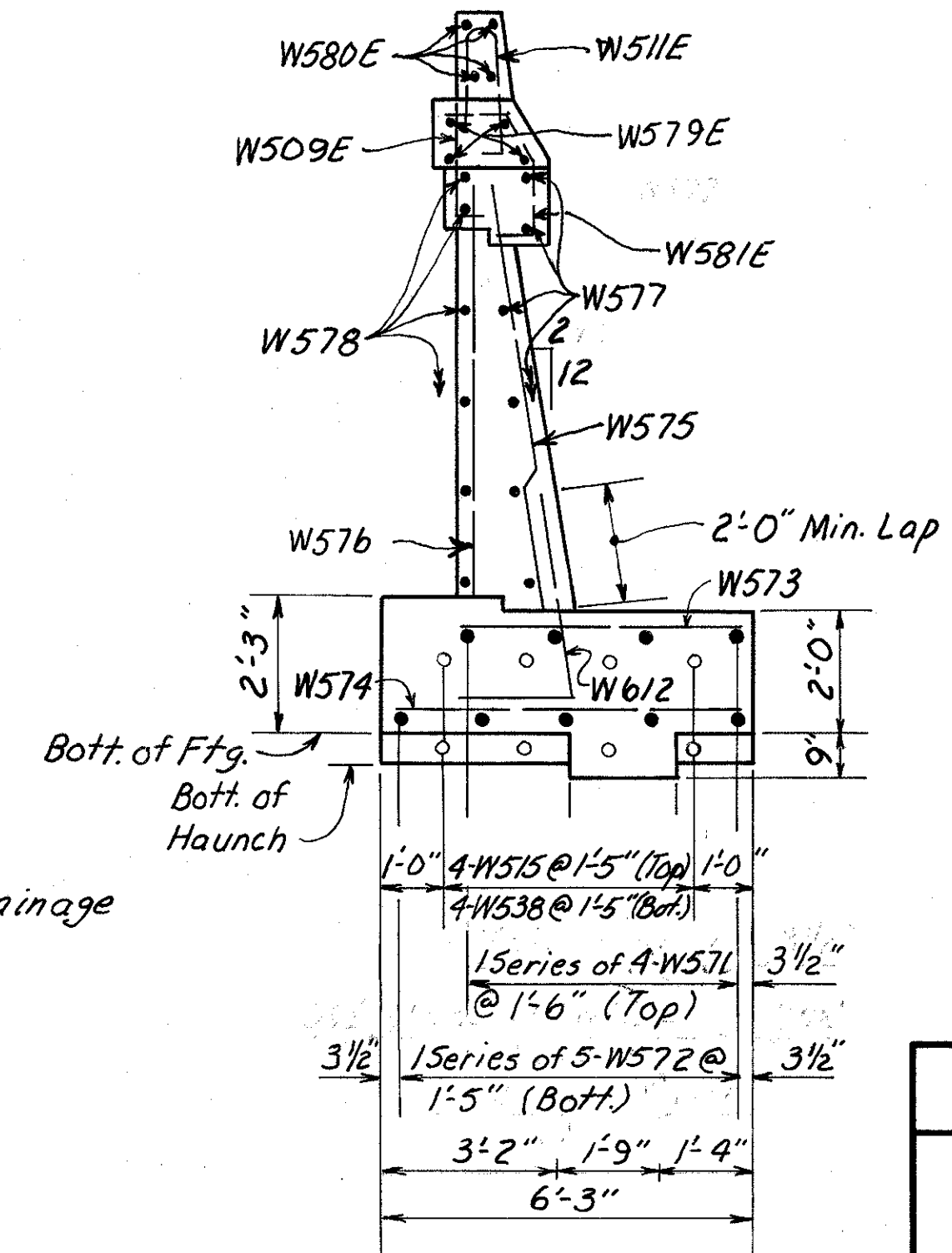


UNIT 6

UNIT 7

ELEVATION

Note:
* denotes measured along Reference Line.
** denotes measured along Back Face of Wall.

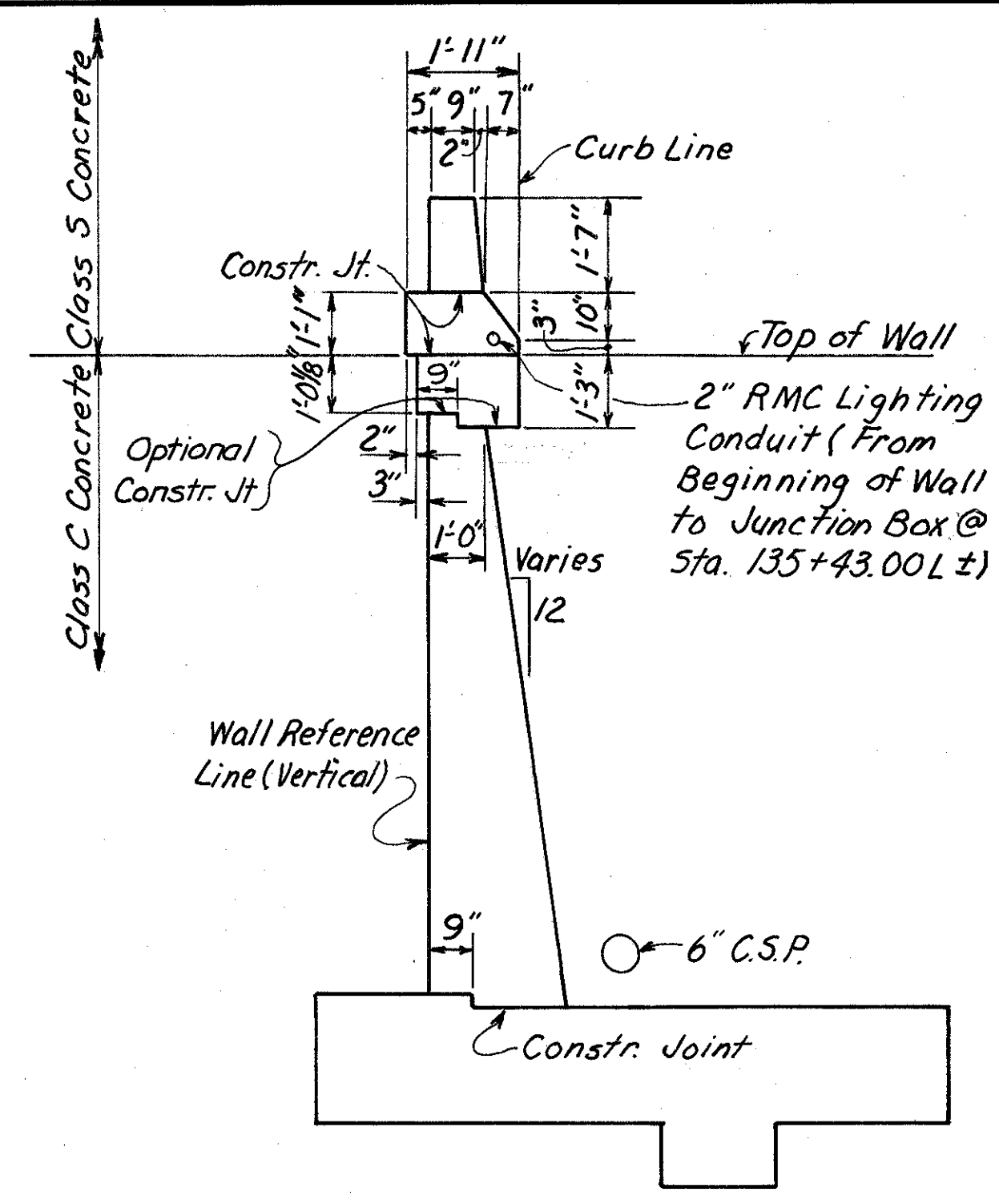


SECTION H-H

Note:
F.F. denotes Front Face
B.F. denotes Back Face
E.F. denotes Each Face.
For other notes see sheet 157

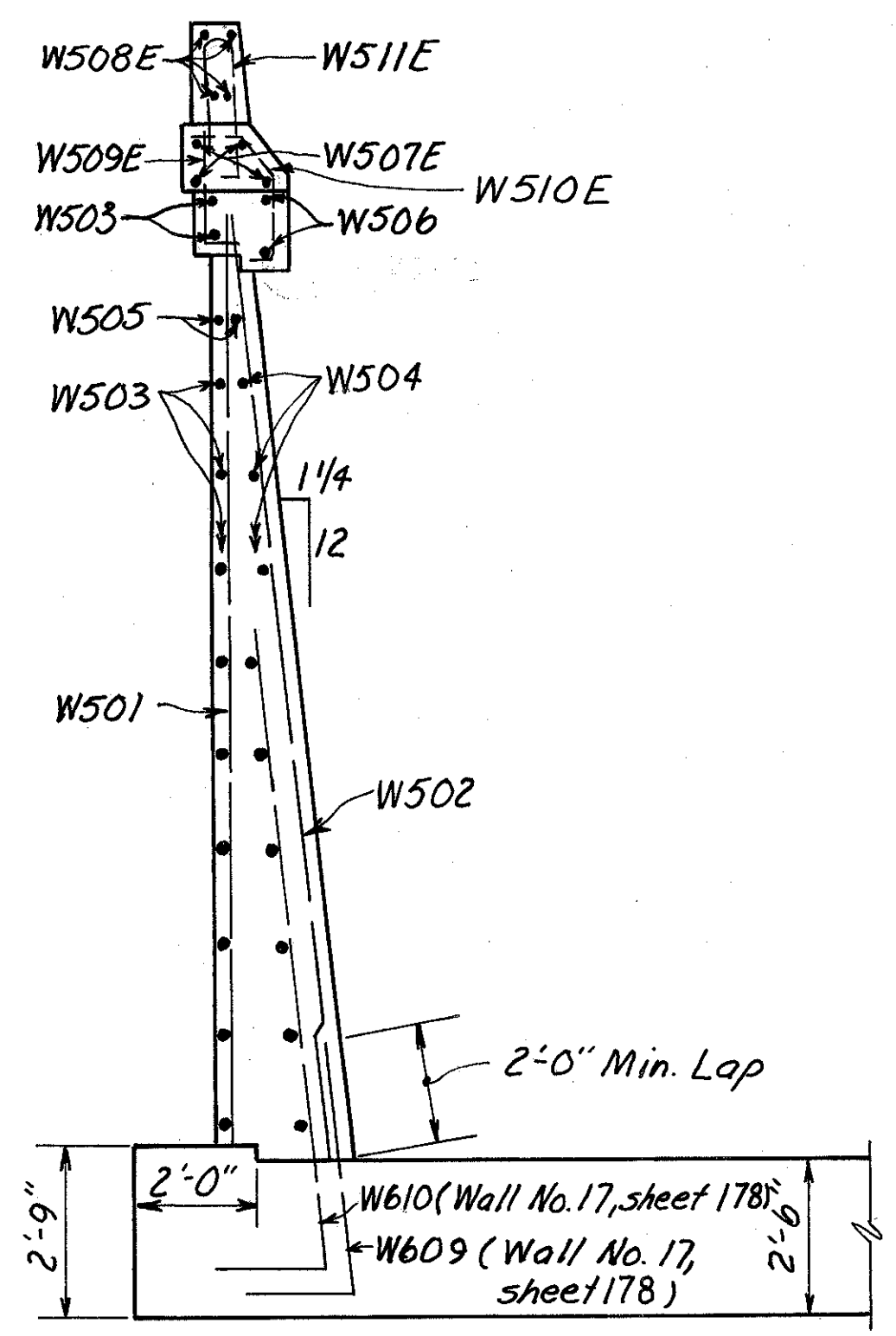
P.E.J.F. denotes Preformed
Expansion Joint Filler

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 4 SHEET 3 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	DSD		2/2	JHD 3-23-82	

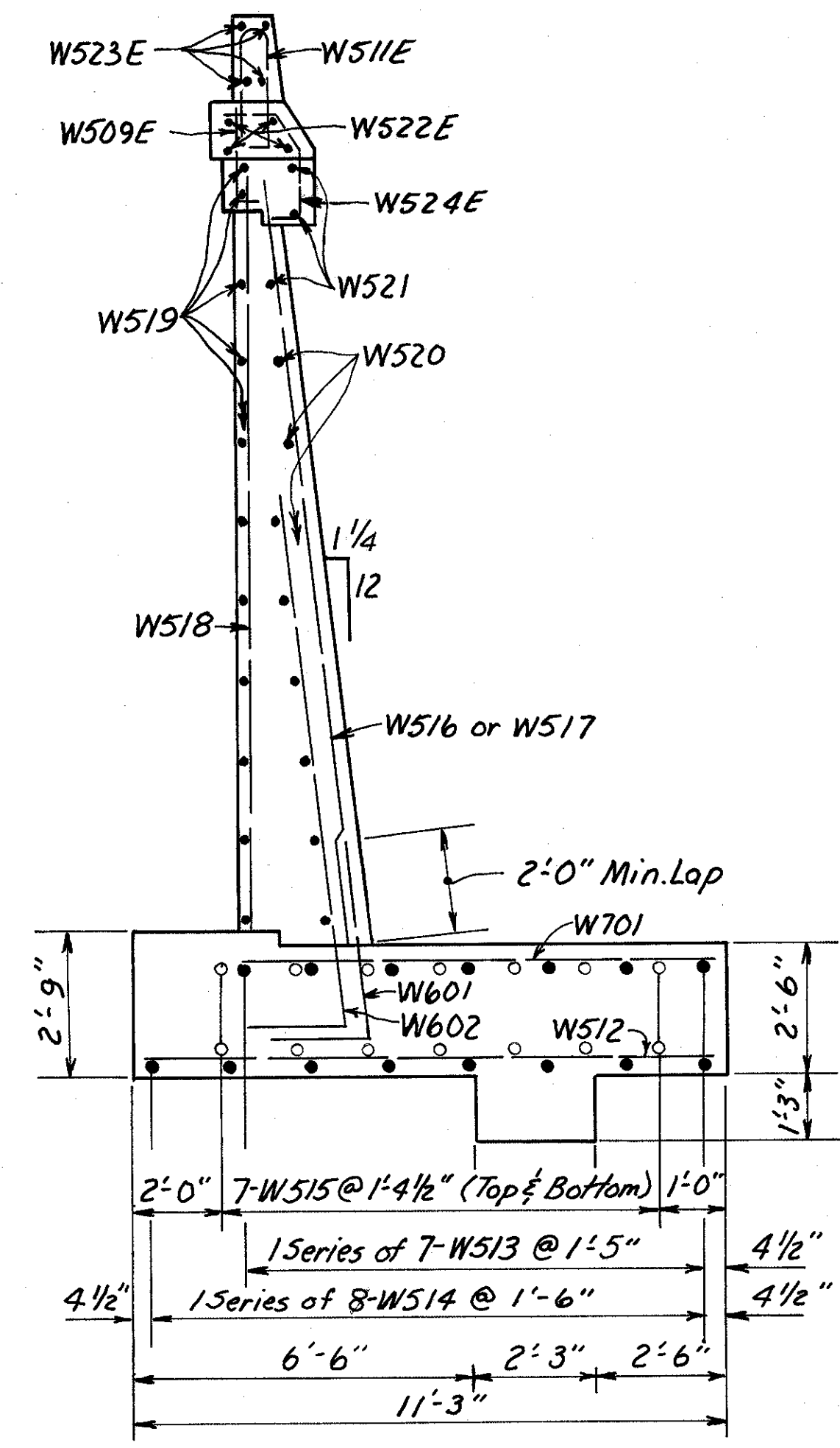


TYPICAL WALL SECTION
(For other information see detail sections)

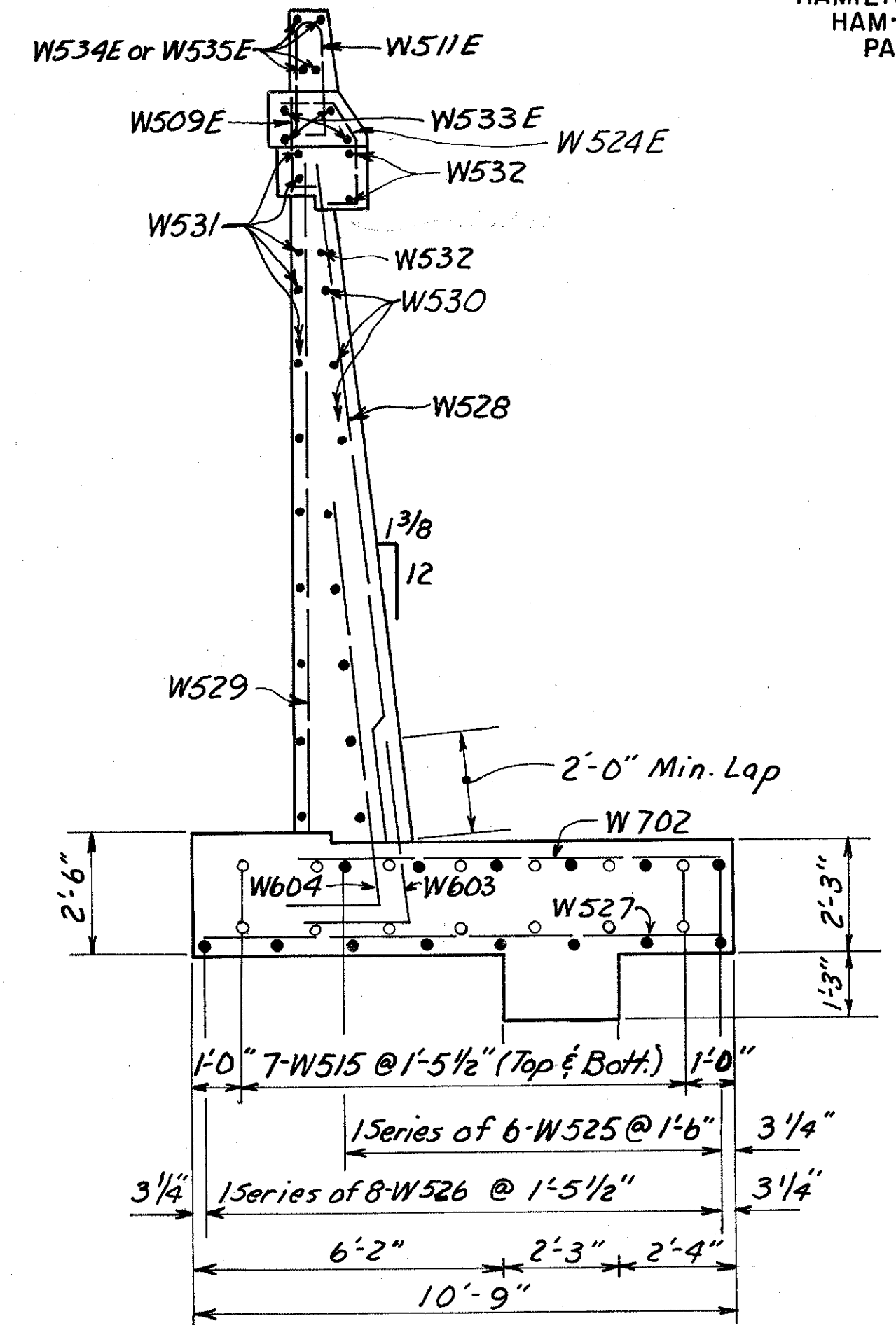
For Unit 1 Curb and Parapet see Section B-B.
For Unit 7 Curb and Parapet see Section J-J.



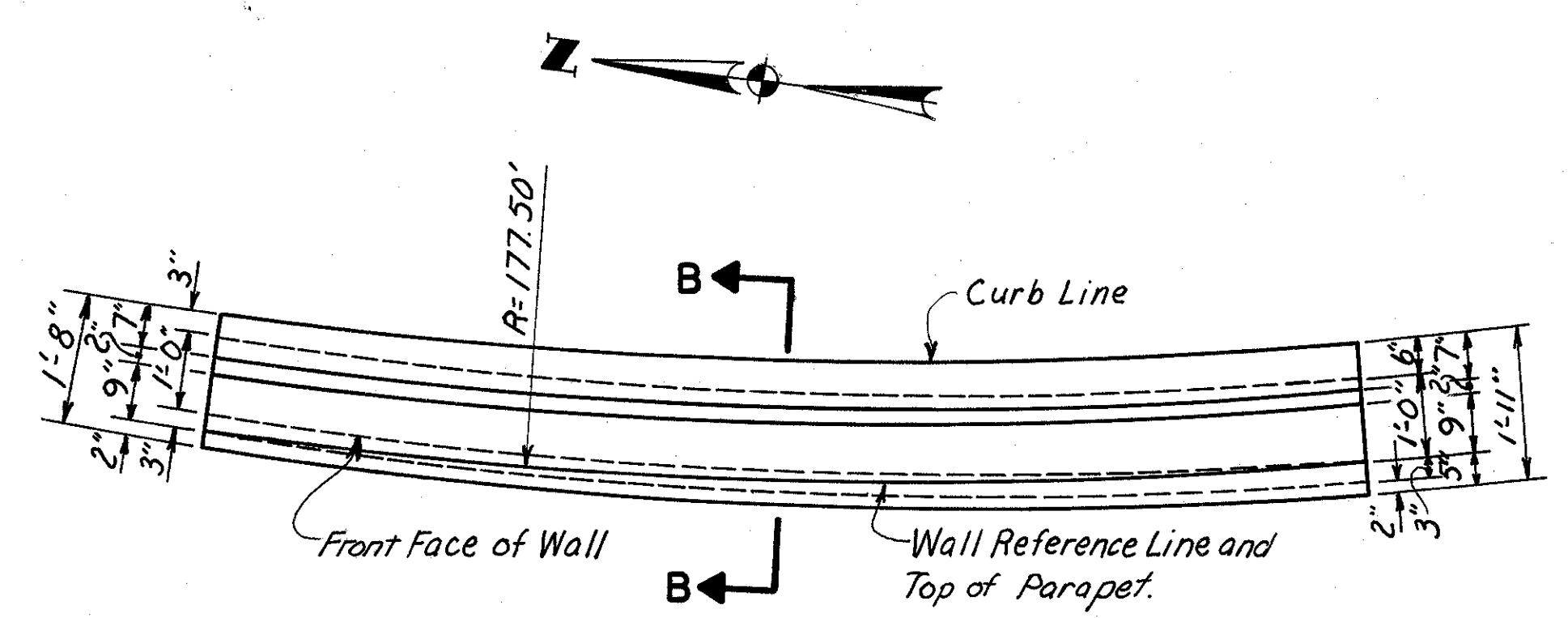
SECTION A-A



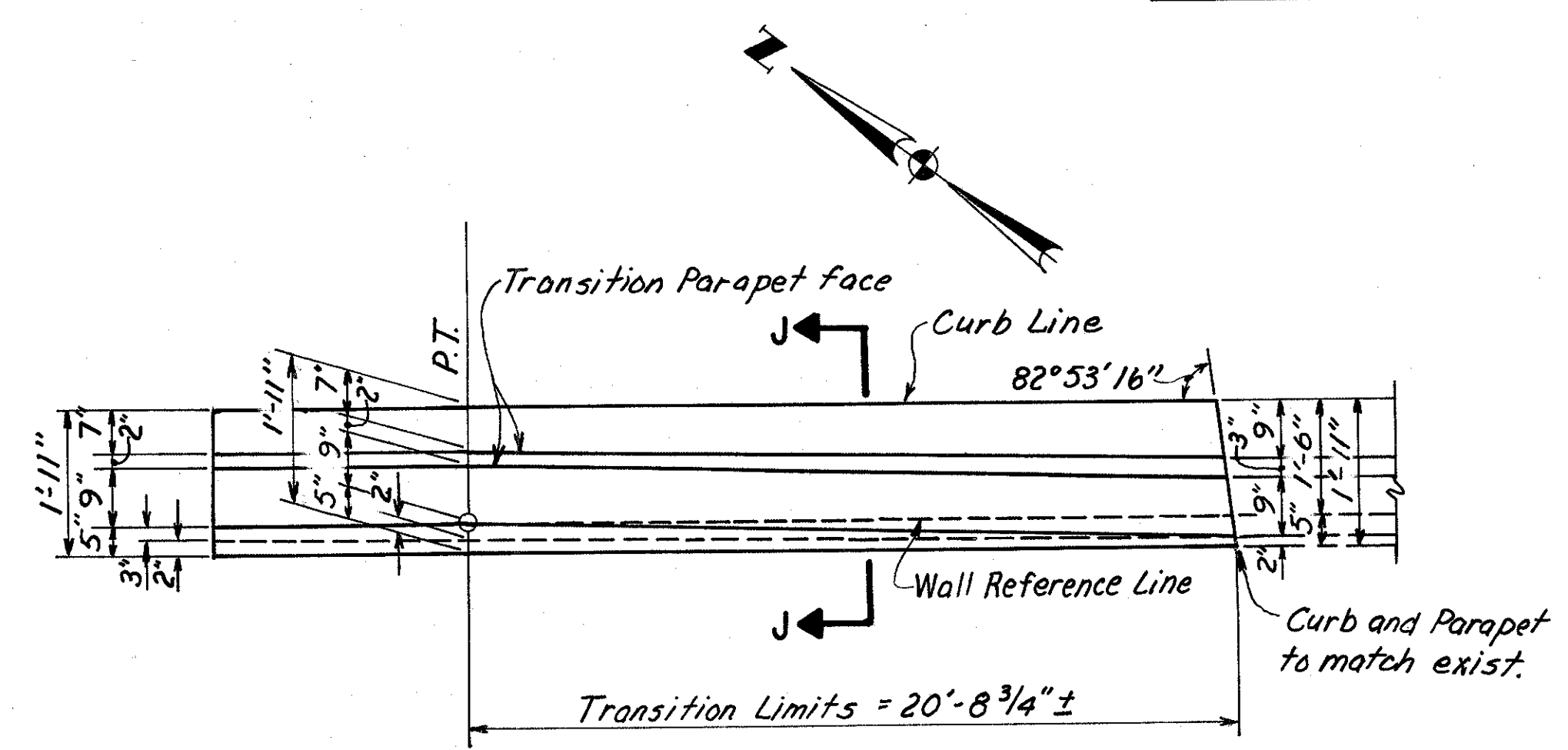
SECTION C-C



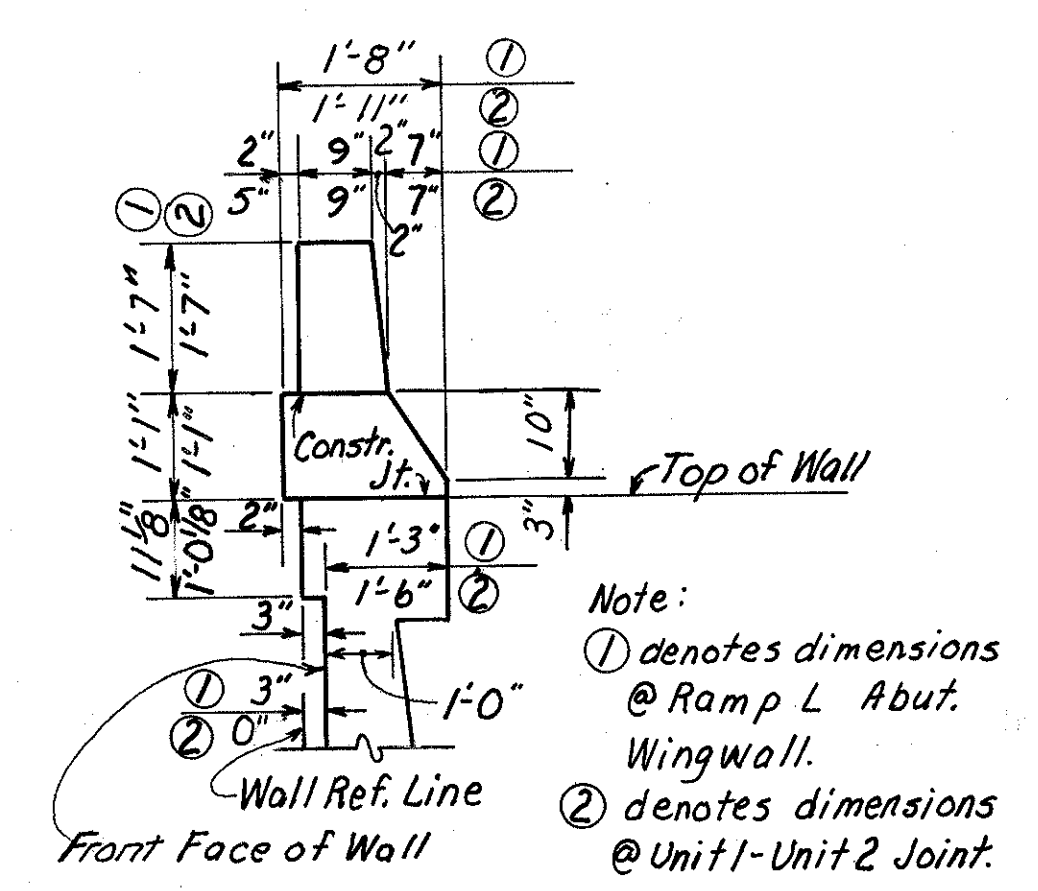
SECTION D-D



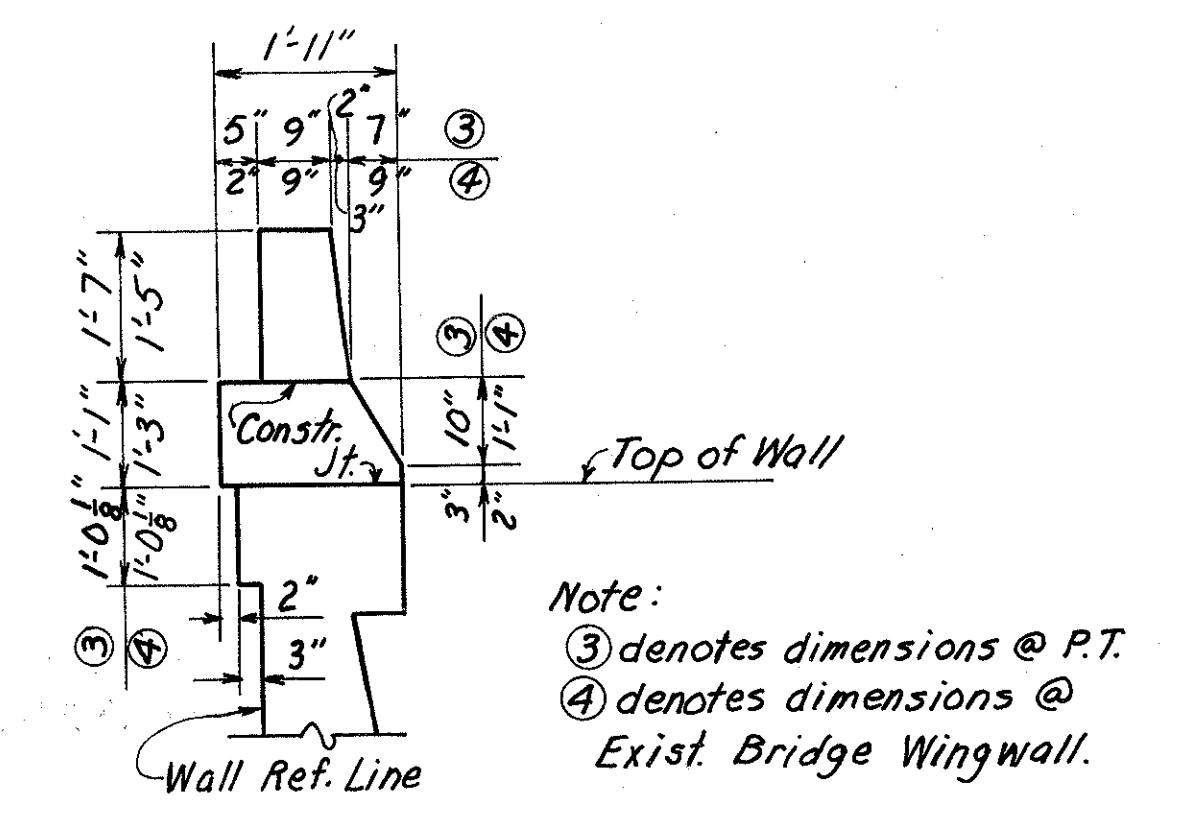
PLAN - UNIT 1
(Wall and Parapet Transition)



PLAN - UNIT 7
(Curb and Parapet Transition)



SECTION B-B



SECTION J-J

Note:
① denotes dimensions @ Ramp L Abut. Wingwall.
② denotes dimensions @ Unit 1-Unit 2 Joint.

Note:
③ denotes dimensions @ P.T.
④ denotes dimensions @ Exist. Bridge Wingwall.

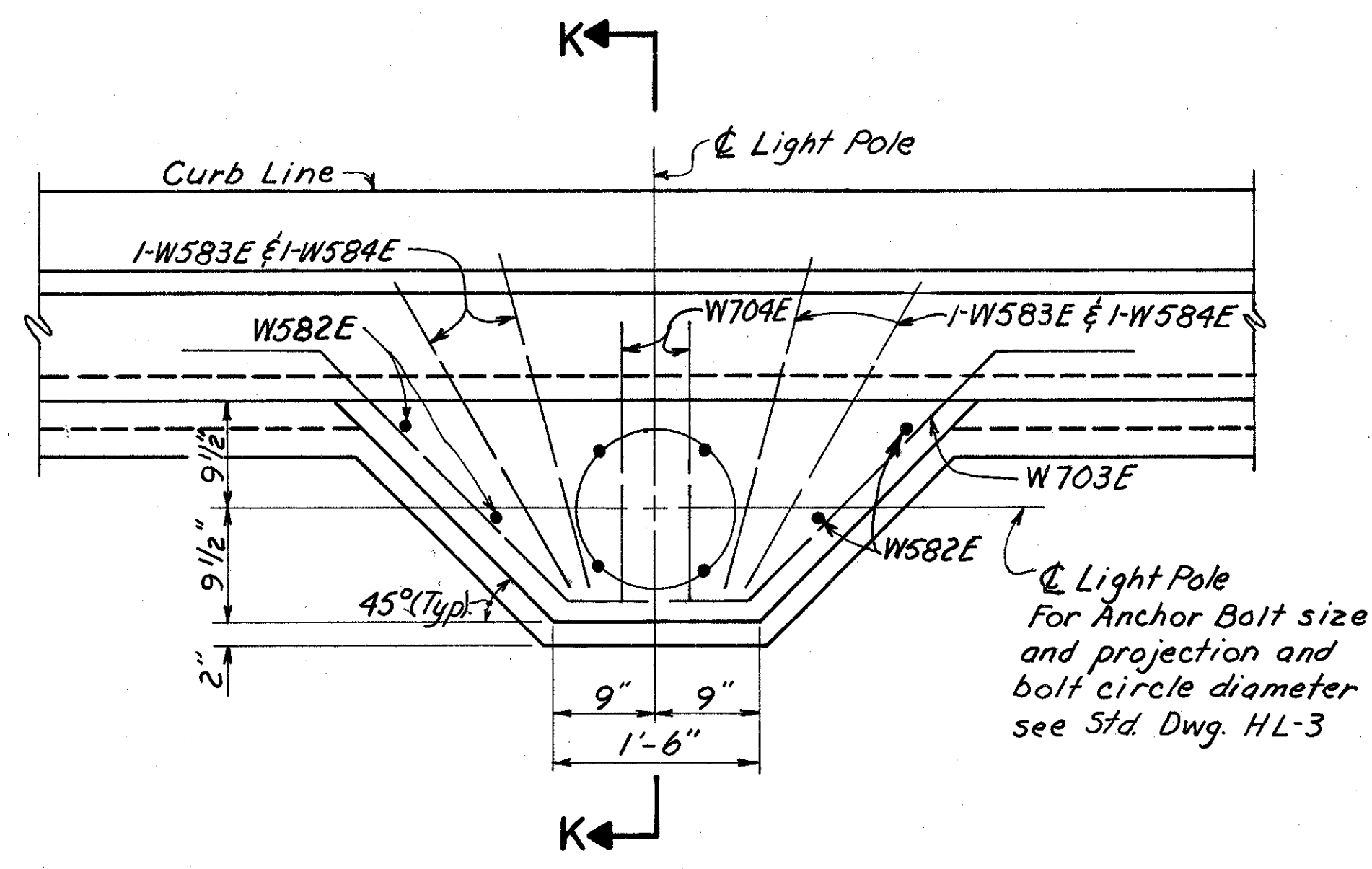
Notes:
For location of Sections A-A, C-C and D-D see sh. 157

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL					
NO. 4					
SHEET 4 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	DSD		JL	JHO 3-23-82	

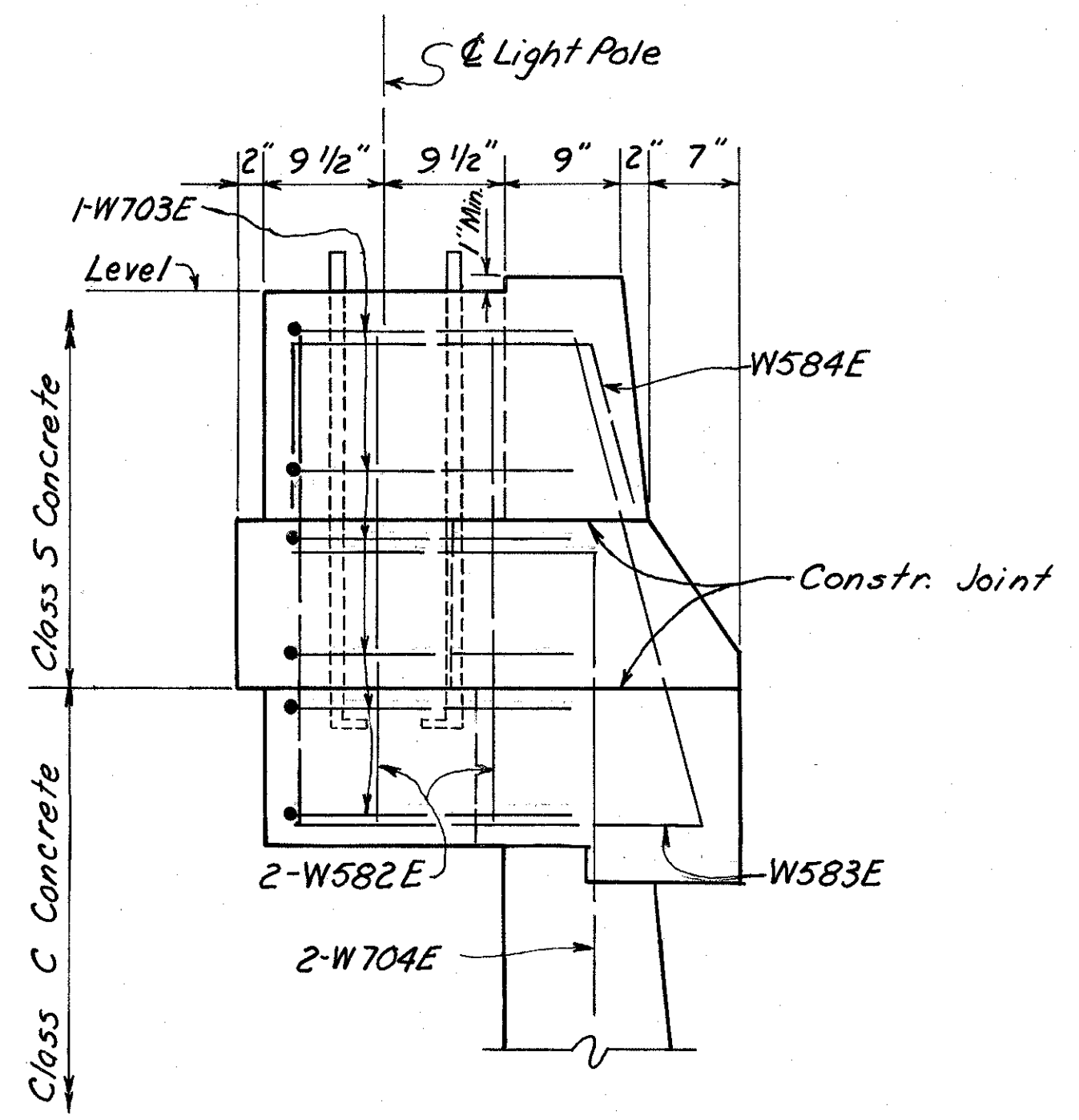
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

161
346

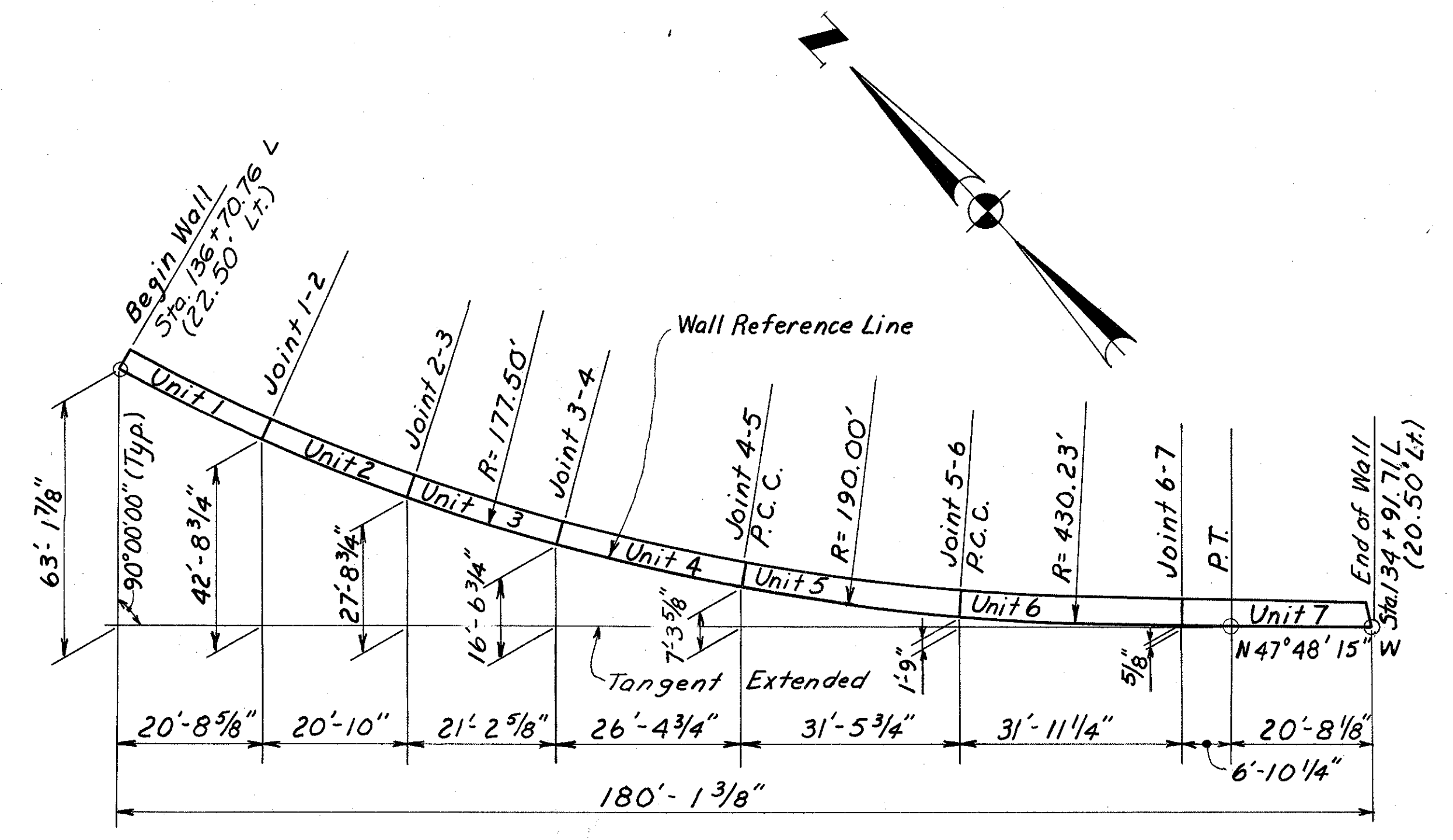
HAMILTON COUNTY
HAM-471-0.24
PART TWO



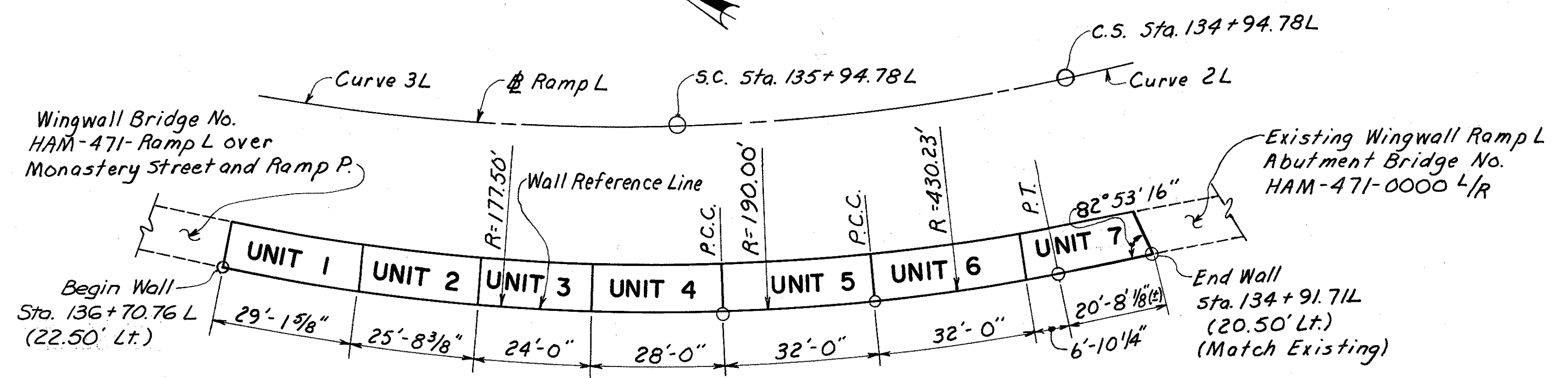
DETAIL A



SECTION K-K



STAKE-OUT DIAGRAM



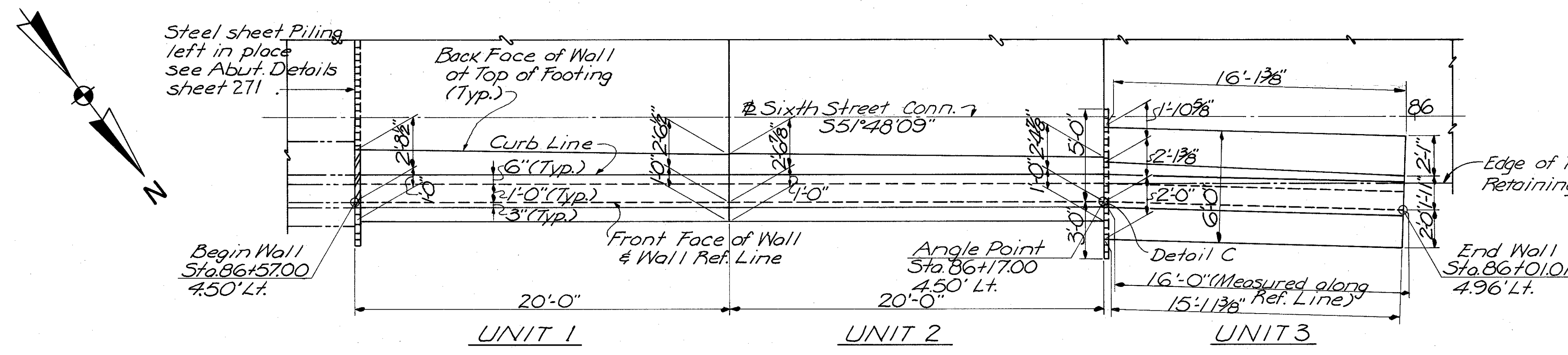
LOCATION PLAN

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 4 SHEET 5 OF 6					
DESIGNED WL	DRAWN DSD	TRACED	CHECKED WZ	REVIEWED DATE JHO 3-23-82	REVISED

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

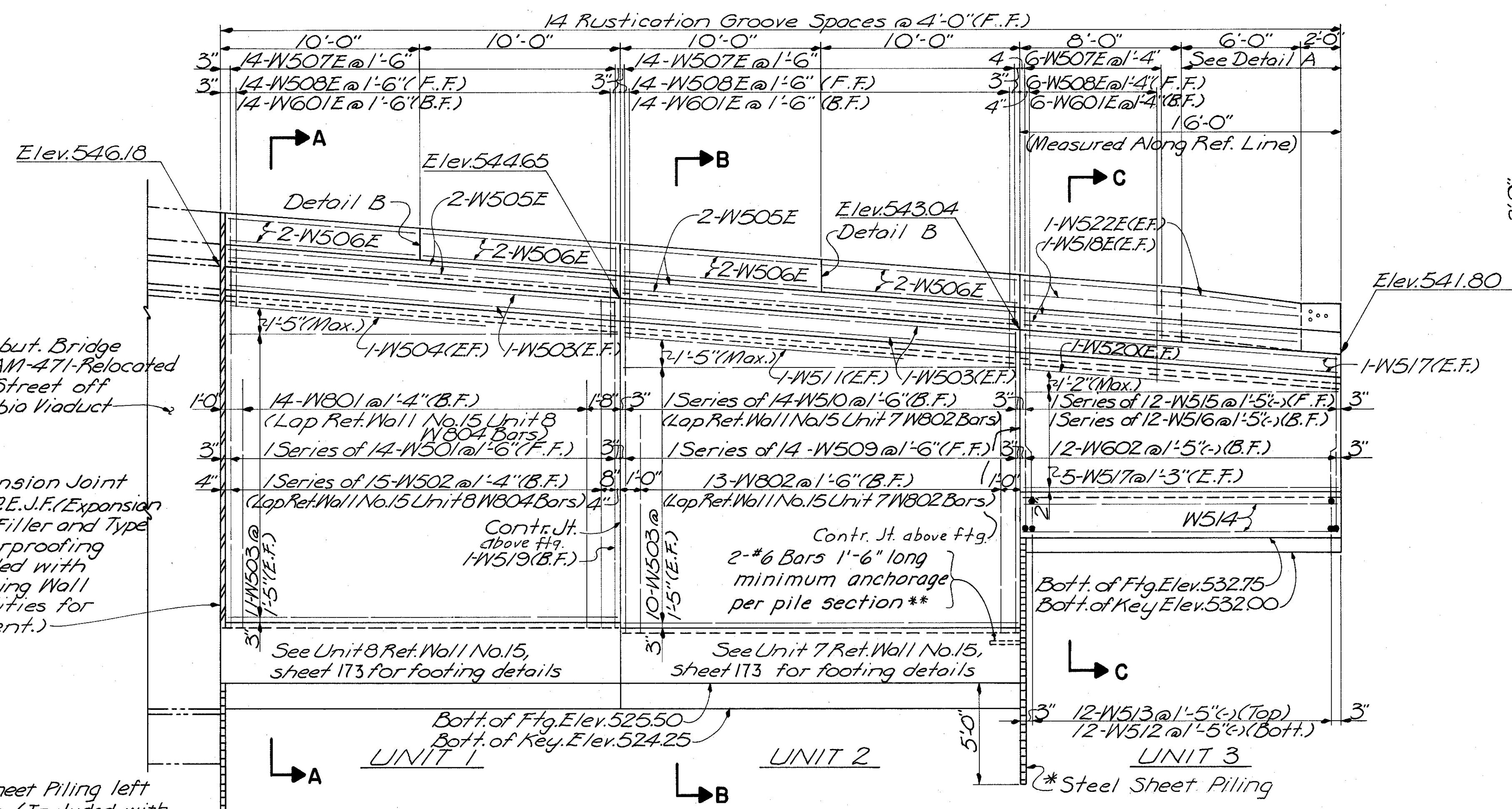
163
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



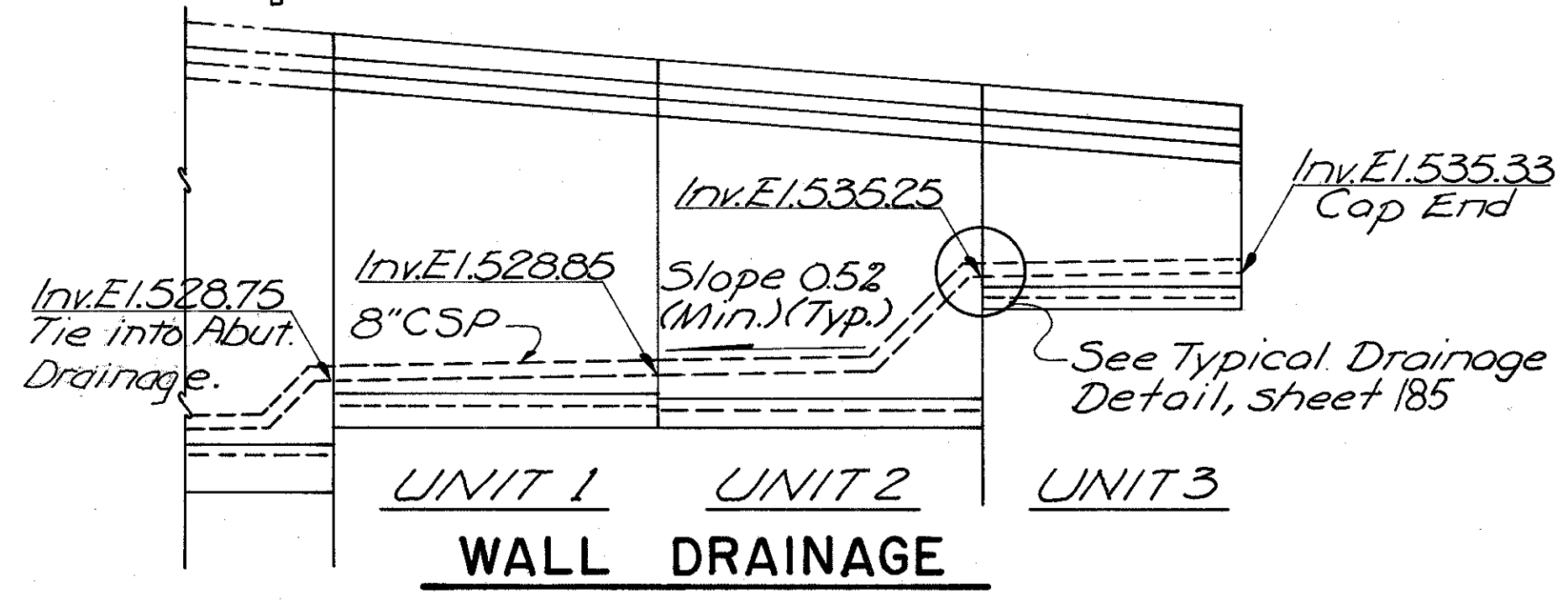
PLAN

(Curb, Parapet and Key Not shown)

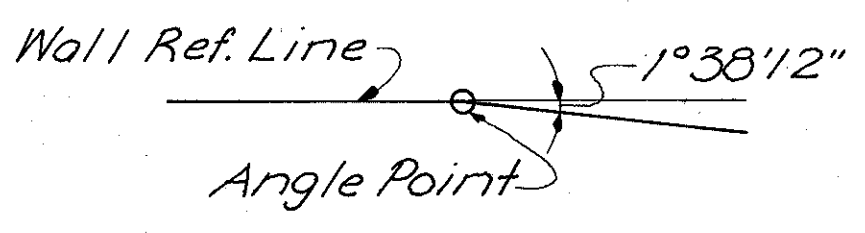


ELEVATION

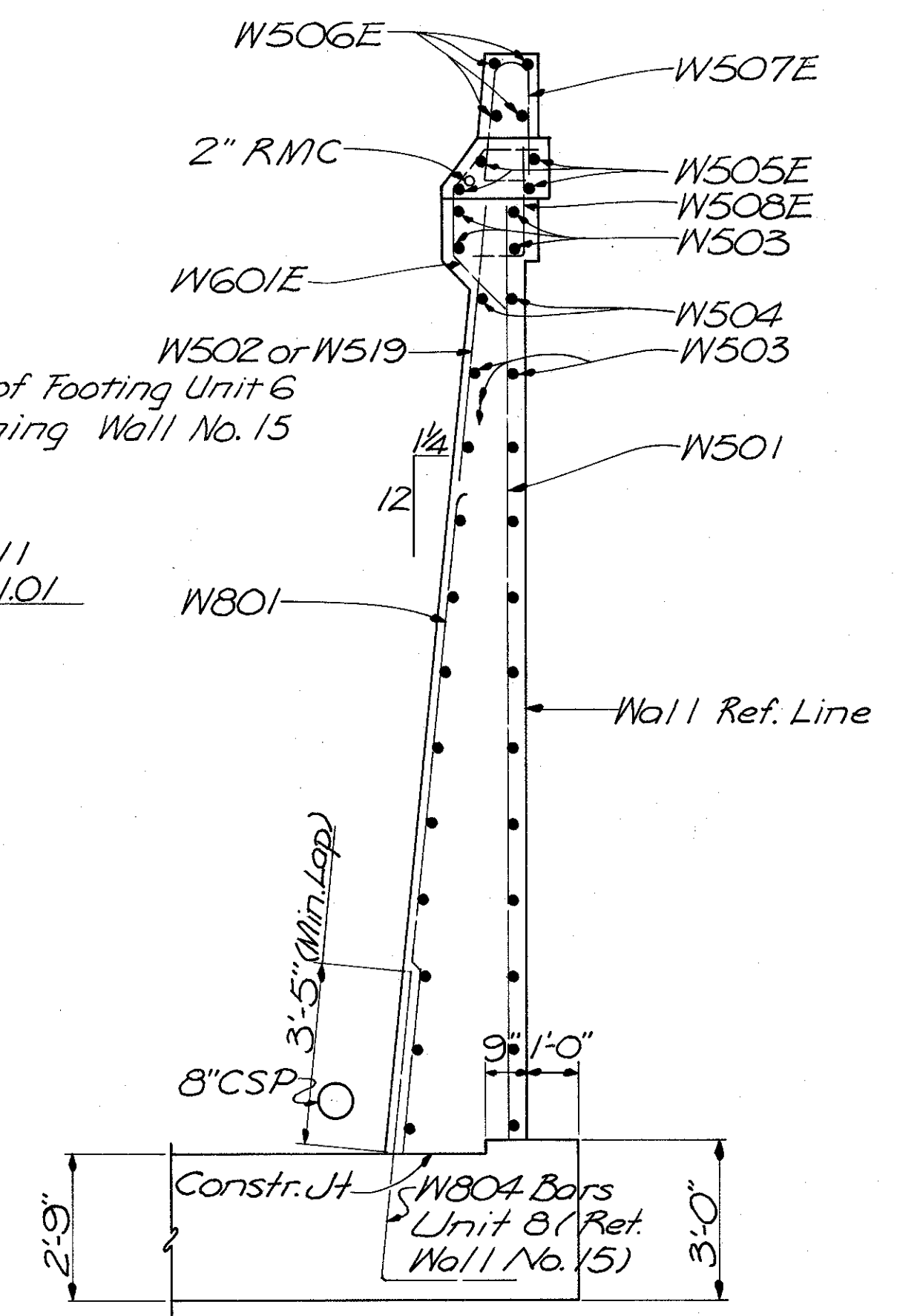
* Steel Sheet Piling left in place shall have a minimum section modulus of 7 in³ per foot of wall. Used piling in good condition may be used.
** Include with 504 for payment



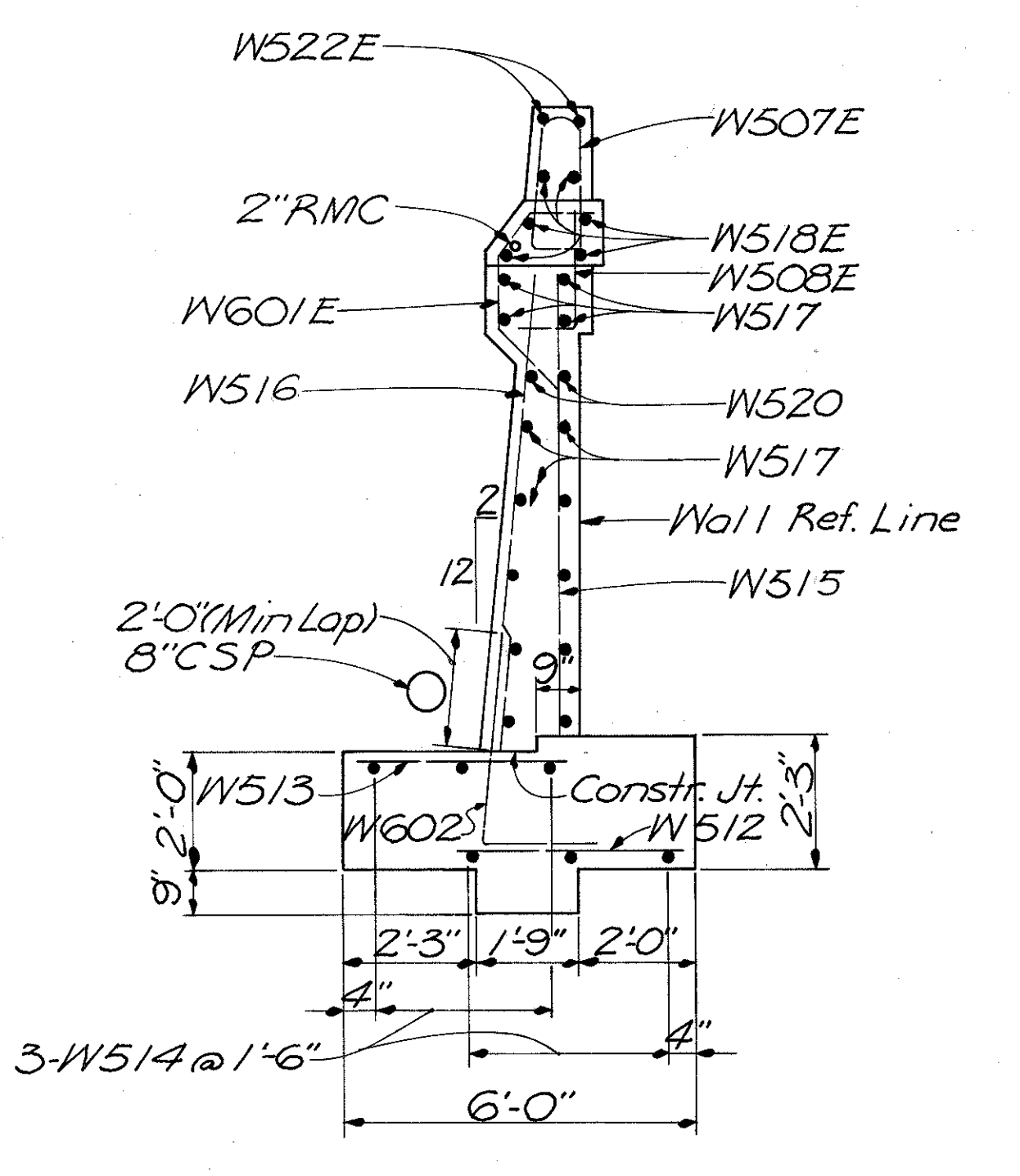
WALL DRAINAGE



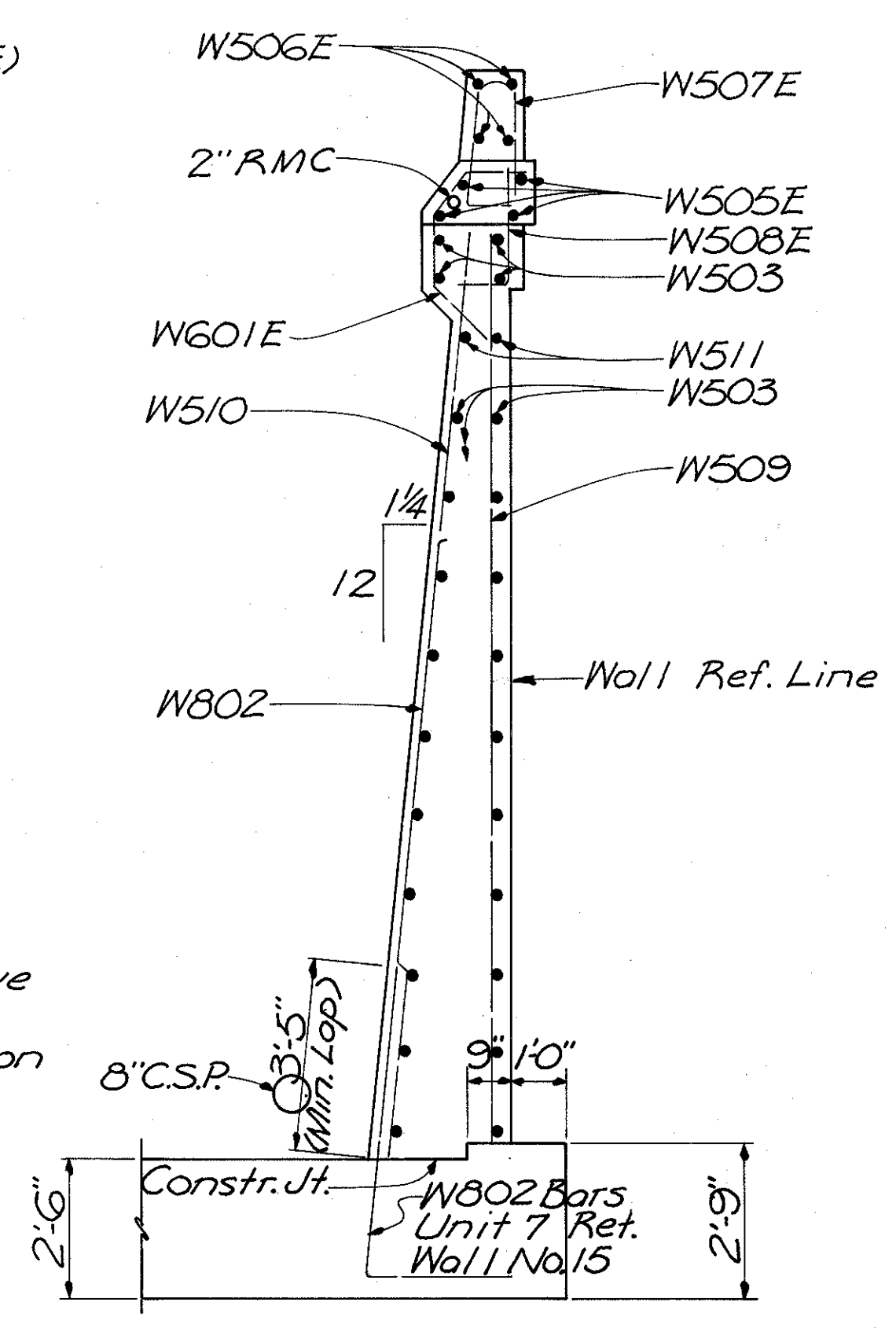
DETAIL C



SECTION A-A



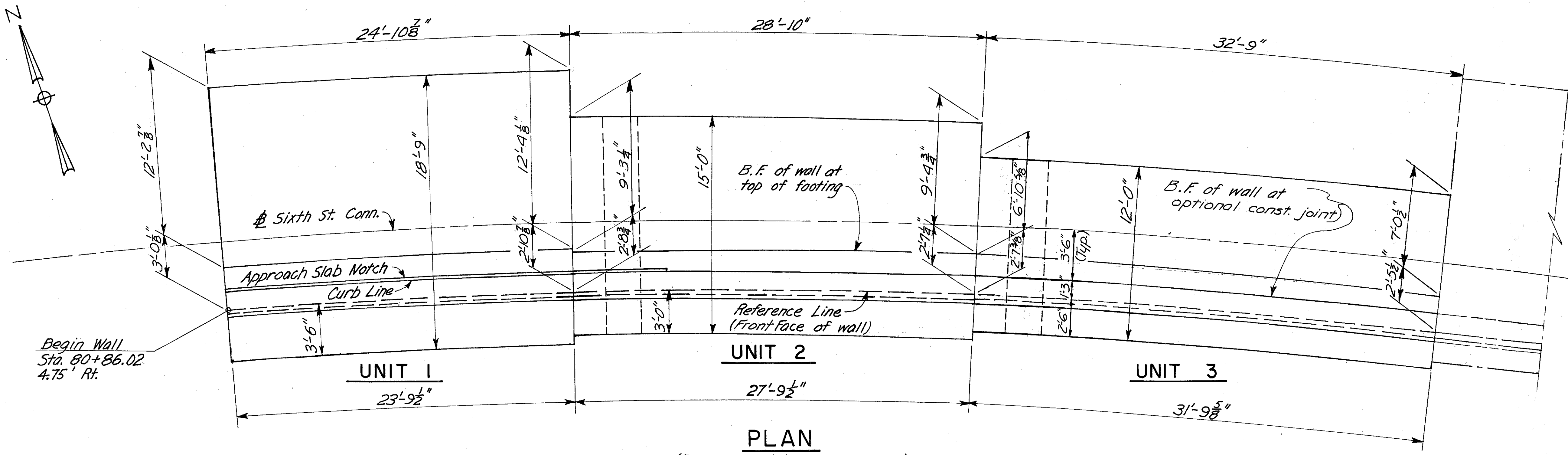
SECTION C-C



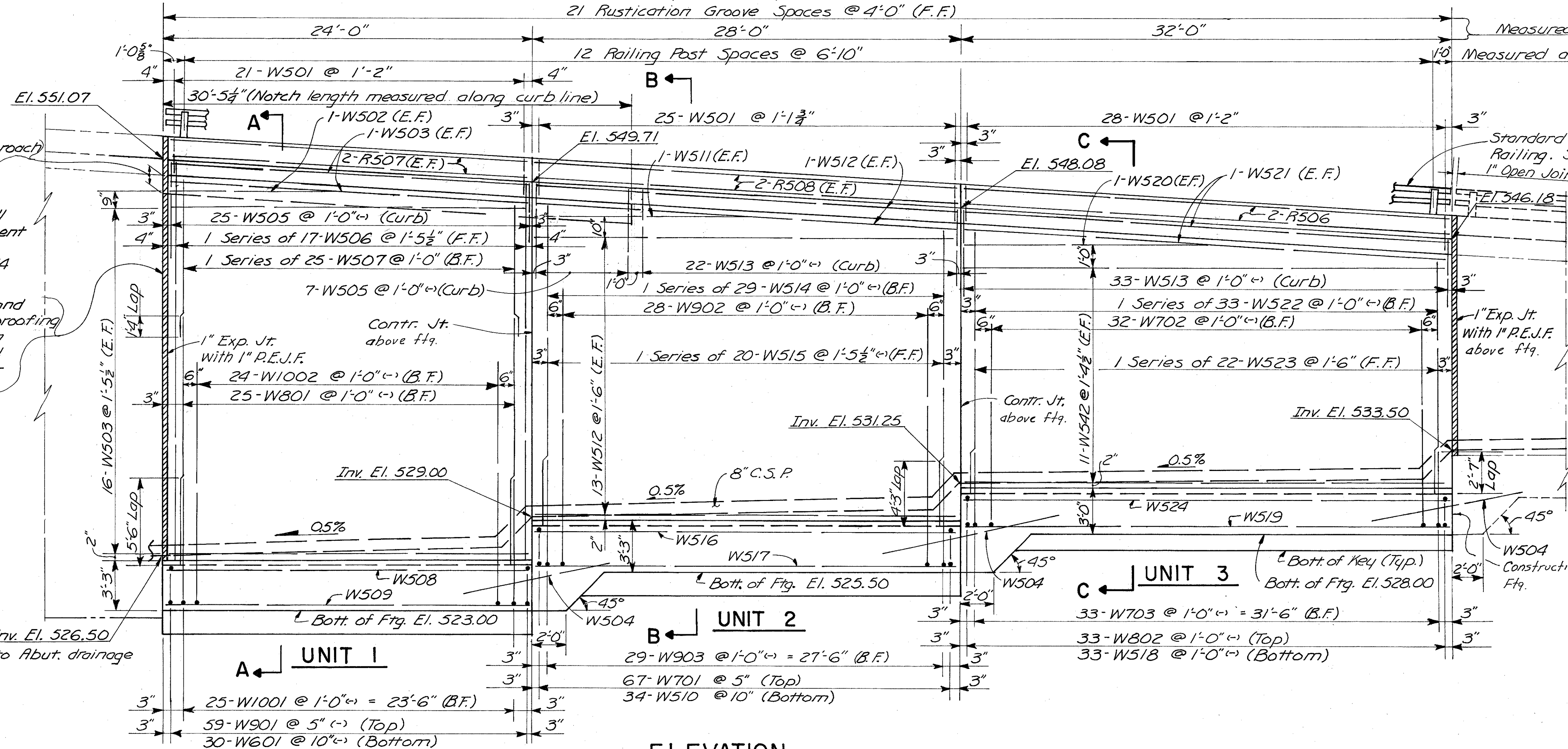
SECTION B-B

Notes:
F.F. denotes Front Face
B.F. denotes Back Face
E.F. denotes Each Face
Work with Units 6, 7, and 8 of Retaining Wall No. 15
For Detail B see sheet 175
For General Notes No. 2 thru 6 see sheet 185
For Contraction Joint Detail see sheet 185
For Expansion Joint Detail see sheet 185
For Rustication Groove Detail see sheet 185
For Typical Wall Section see sheet 164
Form joints shall be arranged to coincide with rustication grooves.
P.E.J.F. denotes Preformed Expansion Joint Filler.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 5 SHEET 1 OF 2					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	YK		WZ	JHO 3-23-82	



DESIGN ASSUMPTIONS
Maximum foundation pressure = 5000 lbs. per sq. ft.
Coefficient of friction "f" of masonry on subfoundation = 0.45



1'-2 3/4" deep Approach Slab Notch

South Wingwall Forward Abutment Bridge No. Ham-471-0044

1" Joint Filler and Type B Waterproofing included with Retaining Wall Quantities for Payment.

16-W503 @ 1'-5 1/2" (E.F.)

1'-2 3/4" deep Approach Slab Notch

Standard Bridge Sidewalk Railing. See Std. Dwg. BR-2-67
1" Open Joint in Railing at Exp. Jts (Typ)

Notes:
F.F. denotes Front Face
B.F. denotes Back Face
E.F. denotes Each Face
For Expansion Joint Detail, see sh. 185
For Contraction Joint Detail, see sh. 185
For Rustication Groove Detail, see sh. 185
For General Notes Number 1 thru 6 see sh. 185
For Typical Drainage Detail, see sh. 185
All concrete shall be class C concrete
For Sections A-A, B-B, and C-C see sh. 168
W504 Bars shall be centered under Stem Exp. Jt. or Contr. Jt.
Form joints shall be arranged to coincide with rustication grooves.
P.E.J.F. denotes Preformed Expansion Jt. Filler.
Railing posts are set normal to grade.
Ends of parapets at joints are vertical
For Architectural Treatment of Wall Front Face, see Sh. 168

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

**RETAINING WALL
NO. 13
SHEET 1 OF 6**

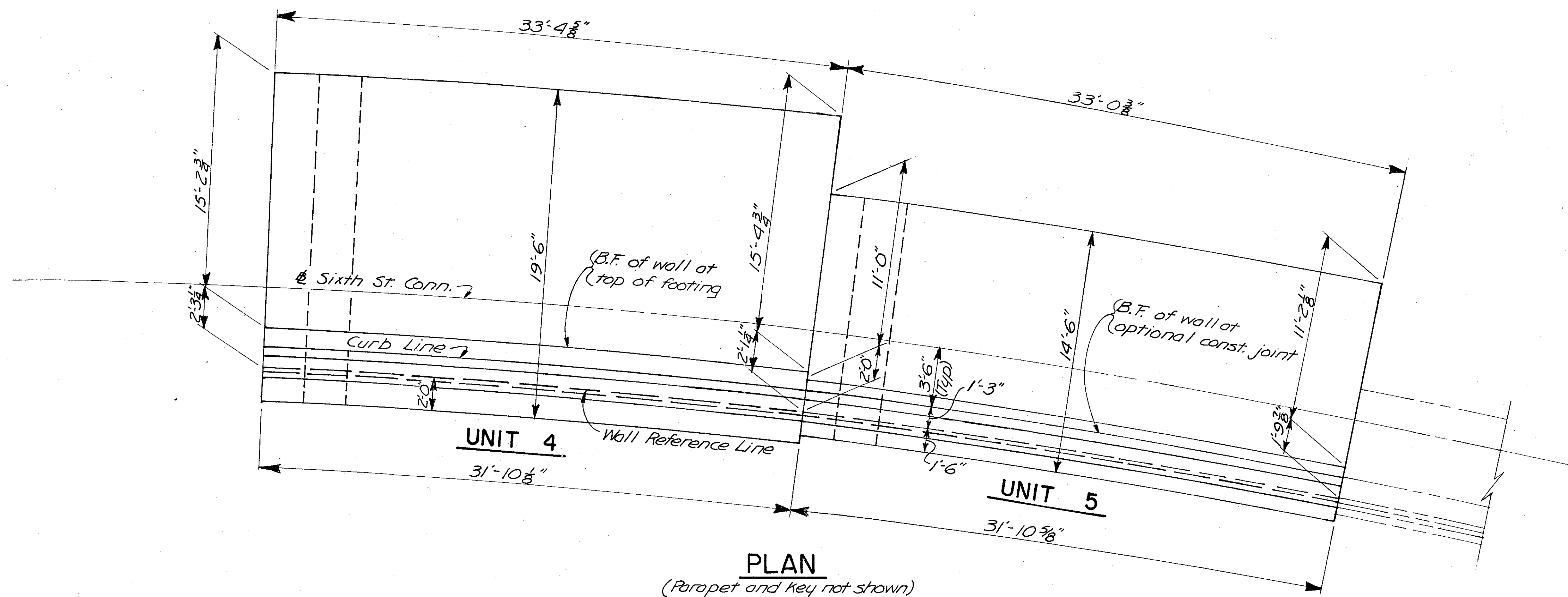
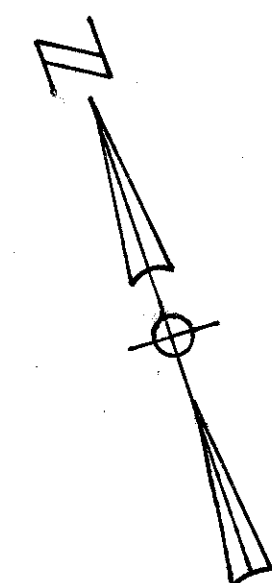
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	FVB		W.L. H.L.L.	JHO 3-23-82	

ELEVATION

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

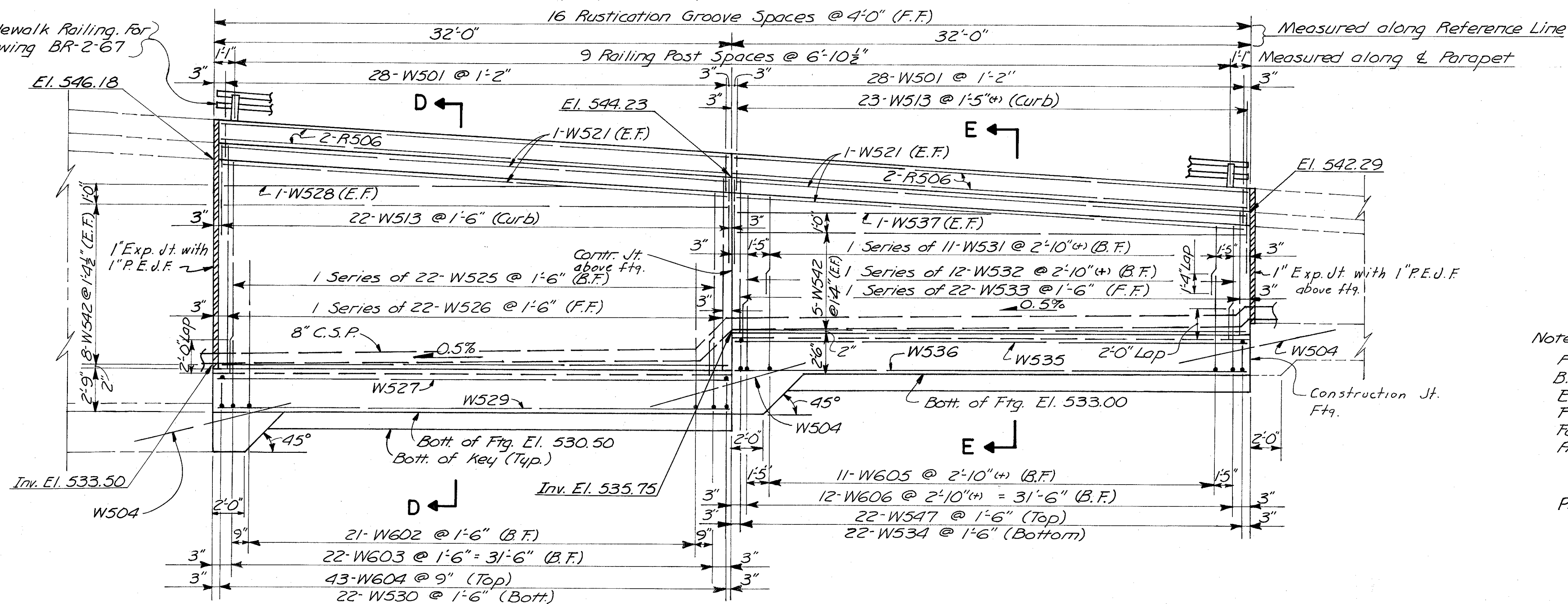


PLAN

(Parapet and Key not shown)

16 Rustication Groove Spaces @ 4'-0" (F.F.)

Standard Bridge Sidewalk Railing, for details see Std. Drawing BR-2-67



UNIT 4

UNIT 5

ELEVATION

Notes:

- F.F. denotes Front Face
- B.F. denotes Back Face
- E.F. denotes Each Face
- For Sections D-D & E-E, see sh. 169
- For Other Notes, see sh. 165
- All reinforcing steel spacing is measured along vertical face of wall except as noted.
- P.E.J.F. denotes Preformed Expansion Joint Filler

**RETAINING WALL
NO. 13
SHEET 2 OF 6**

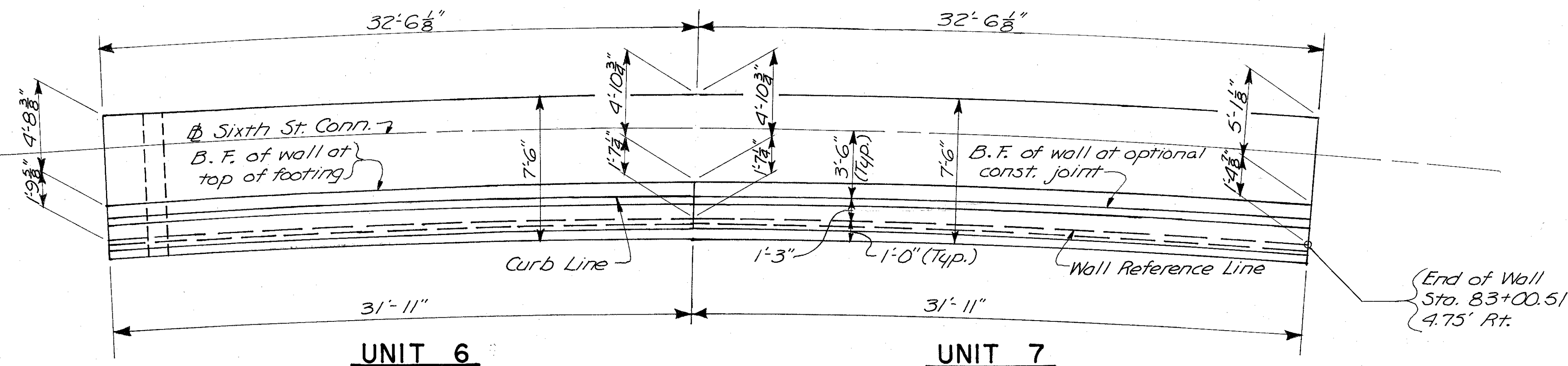
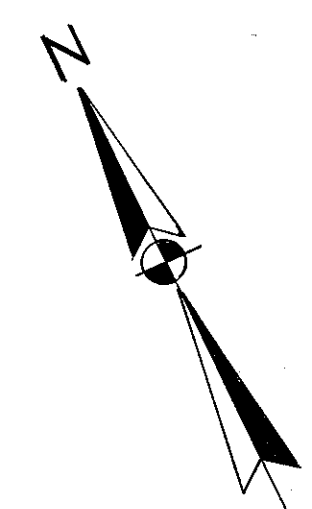
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISE
HLL	FVB		HLL	JHO 3-23-82	

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

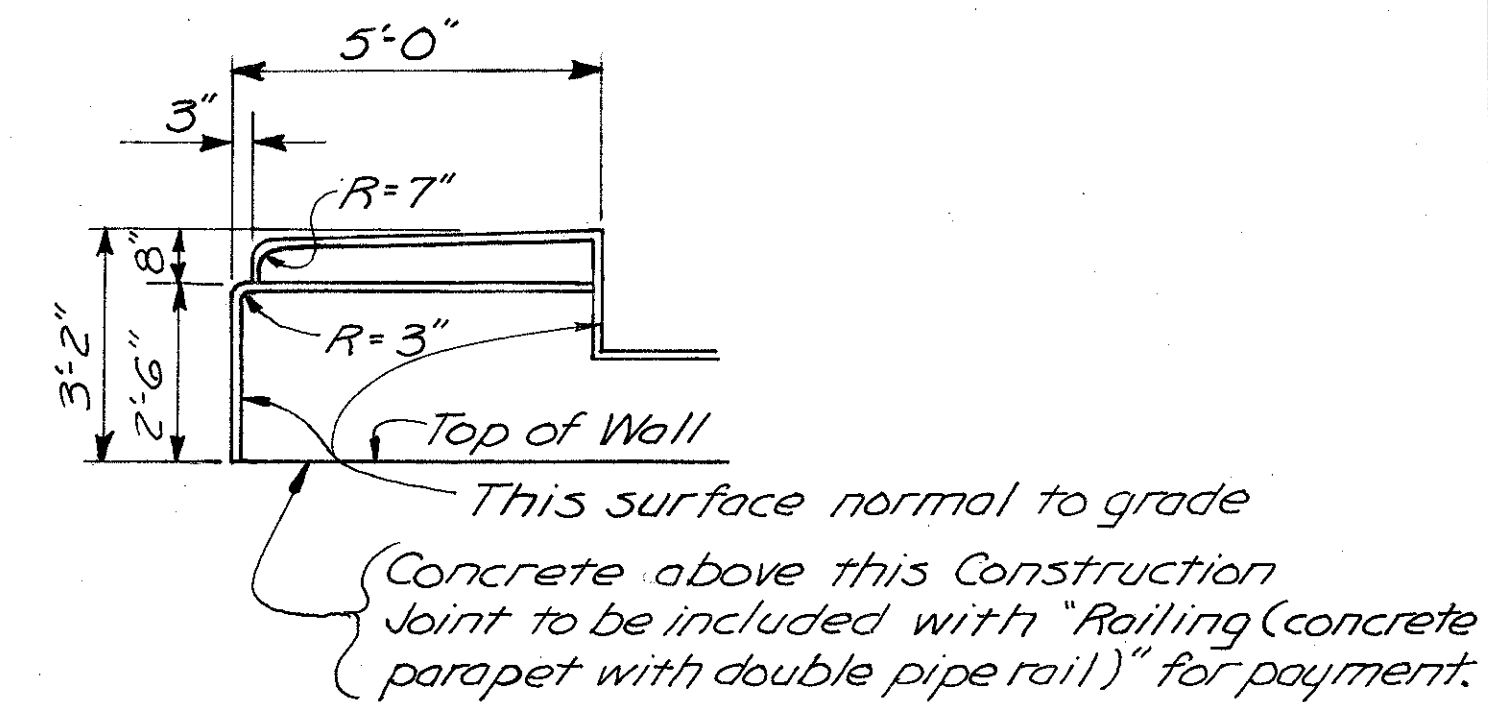
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

167
346

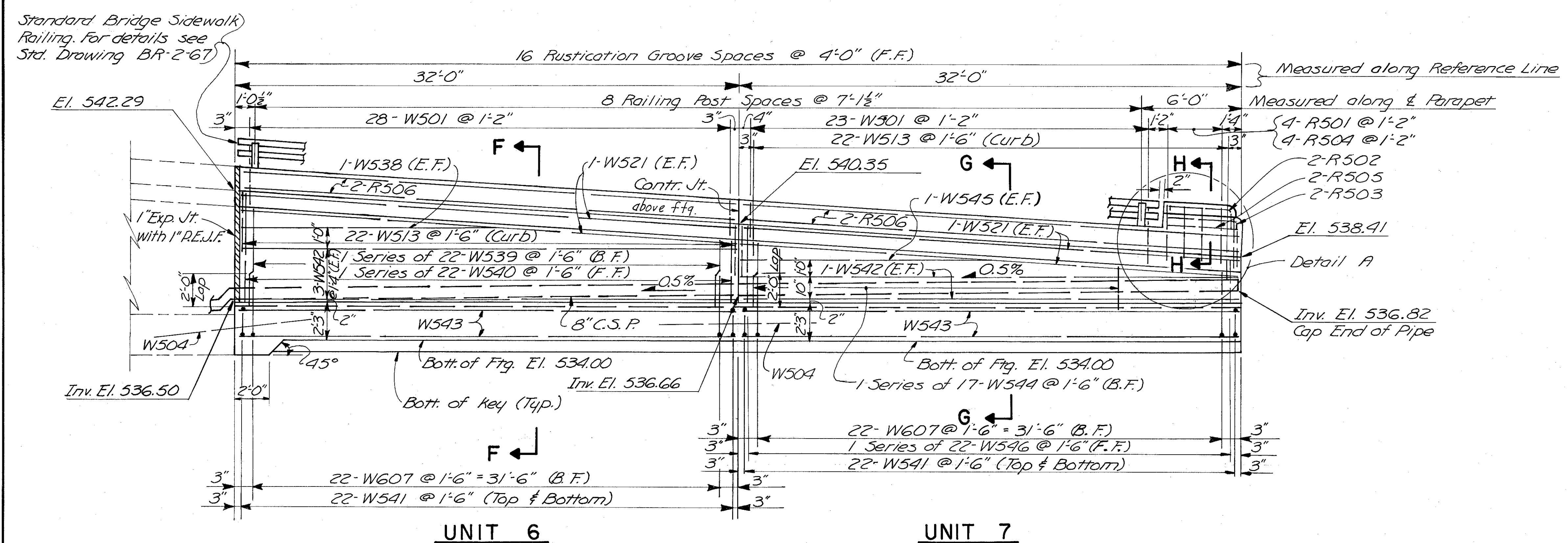
HAMILTON COUNTY
HAM-471-0.24
PART TWO



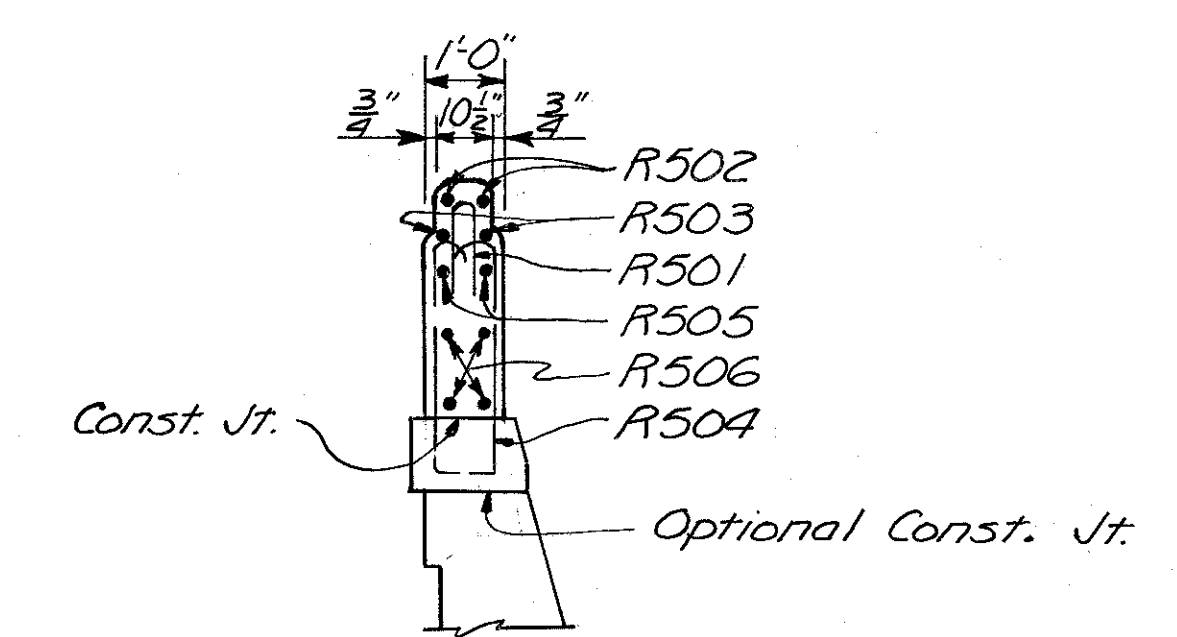
PLAN
(Parapet and key not shown)



DETAIL A



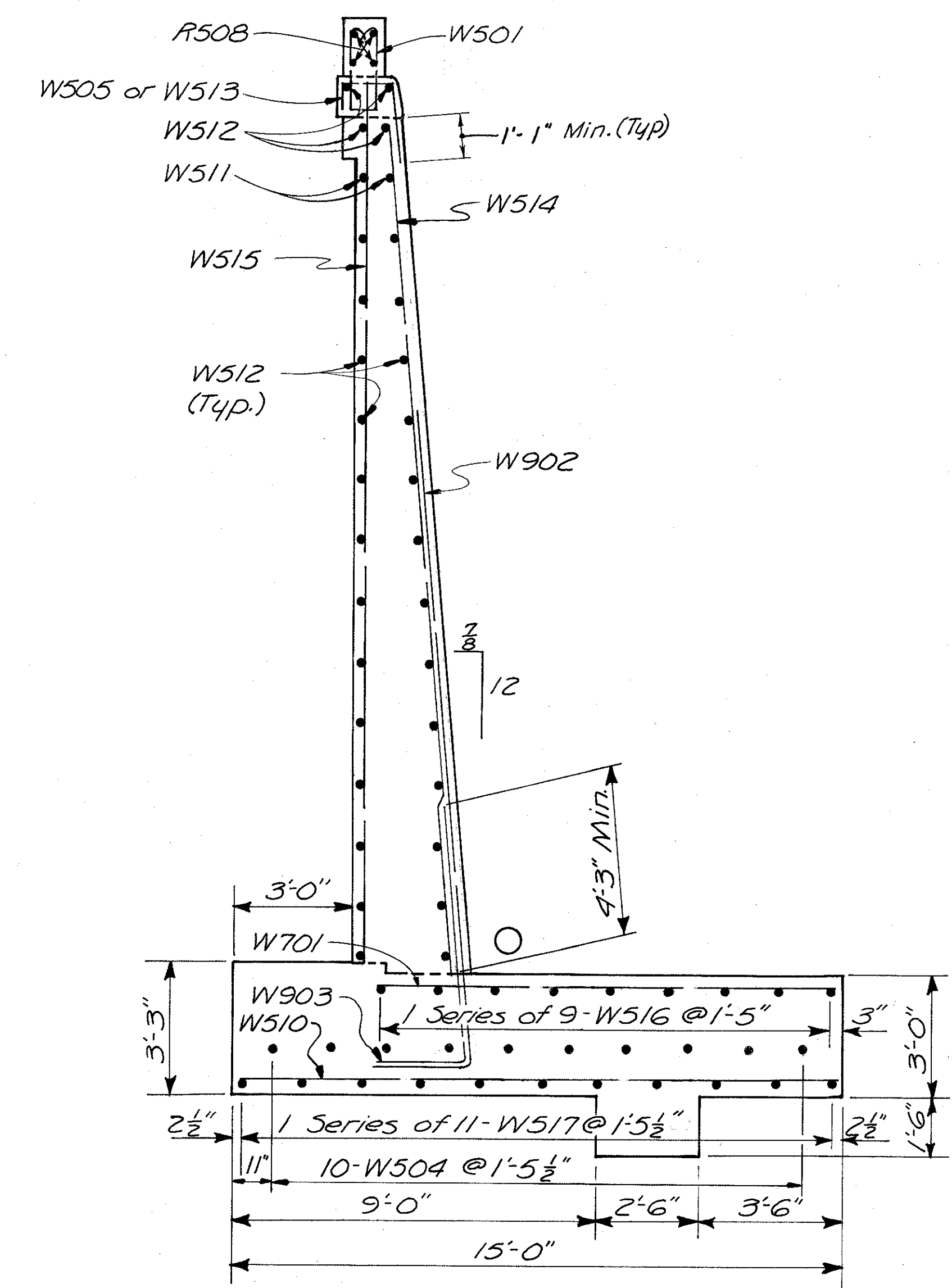
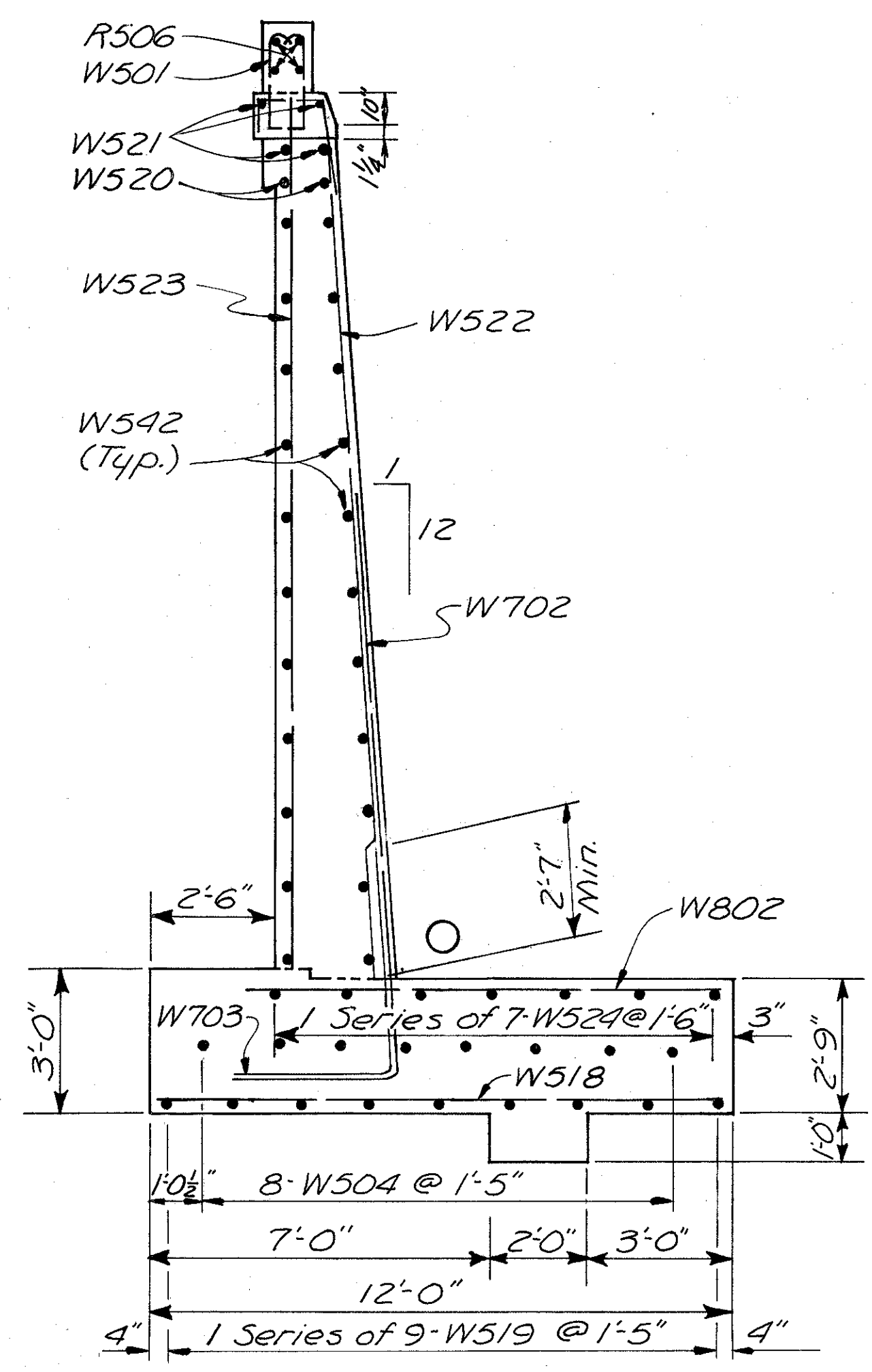
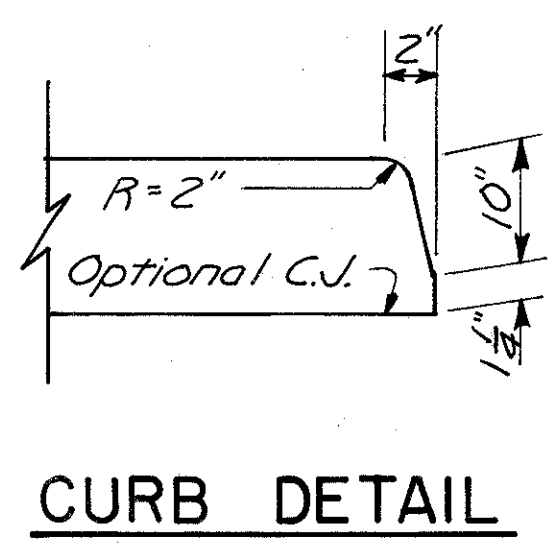
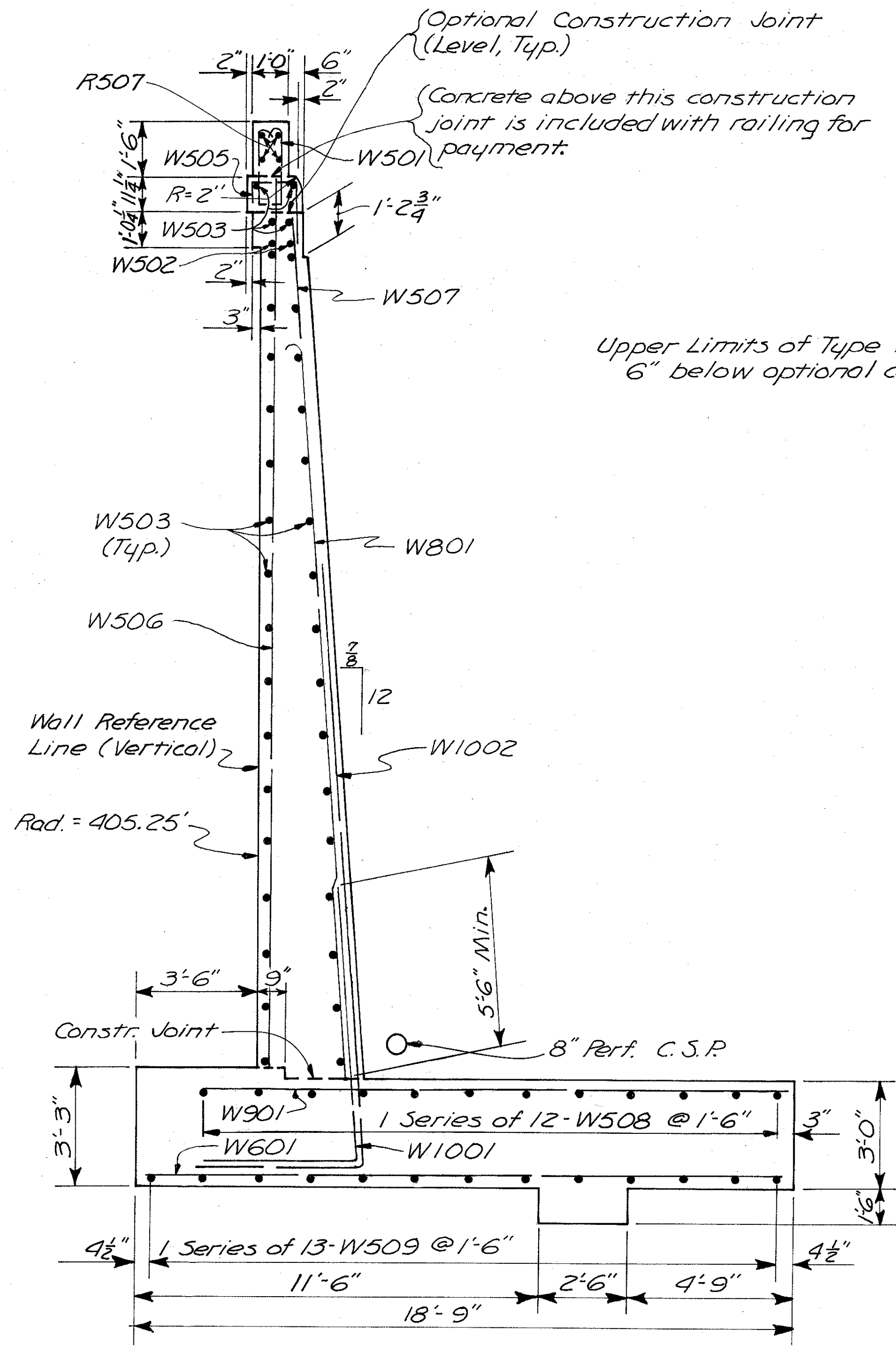
ELEVATION



SECTION H-H

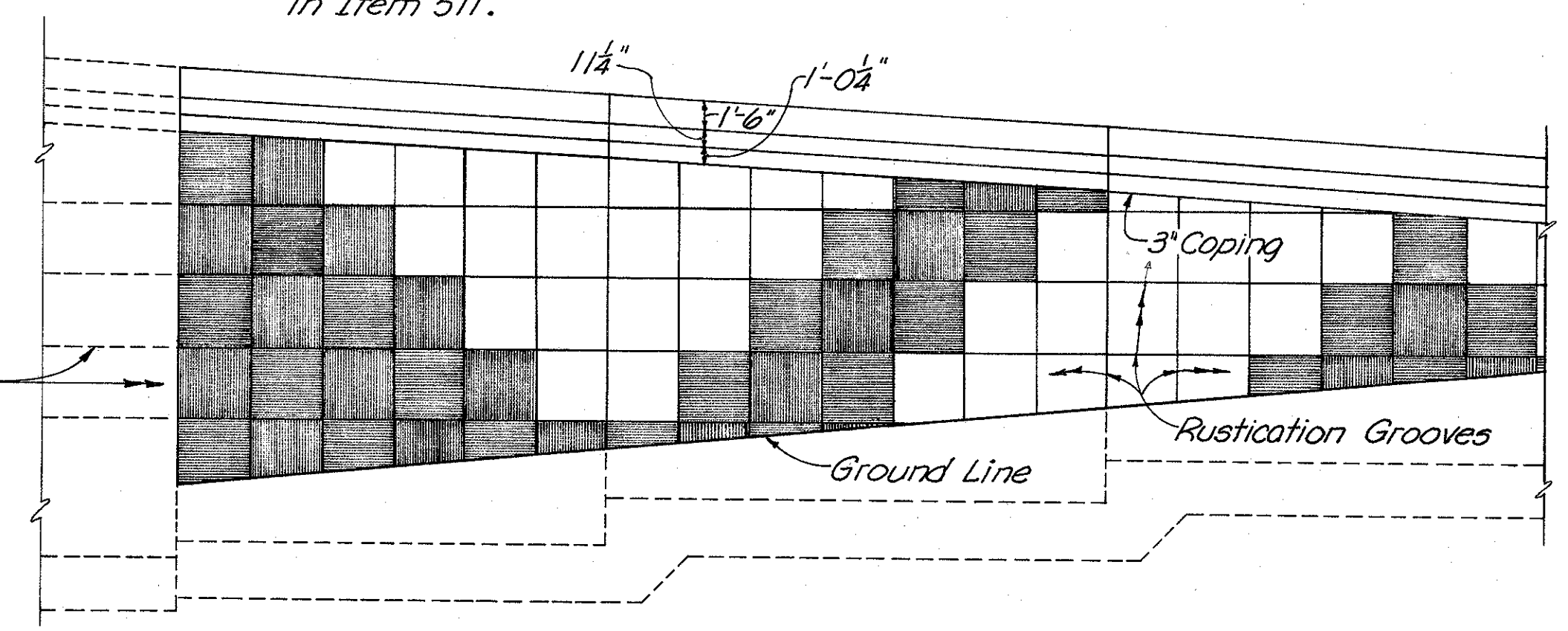
Notes:
F.F. denotes Front Face
B.F. denotes Back Face
E.F. denotes Each Face
For Sections F-F & G-G, see sh. 169
For Other Notes, see sh. 165
P.E.J.F. denotes Preformed Expansion Joint Filler

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 13 SHEET 3 OF 6					
DESIGNED HLL	DRAWN FVB	TRACED	CHECKED W.L. HLL.	REVIEWED DATE JHO 3-23-82	REVISED



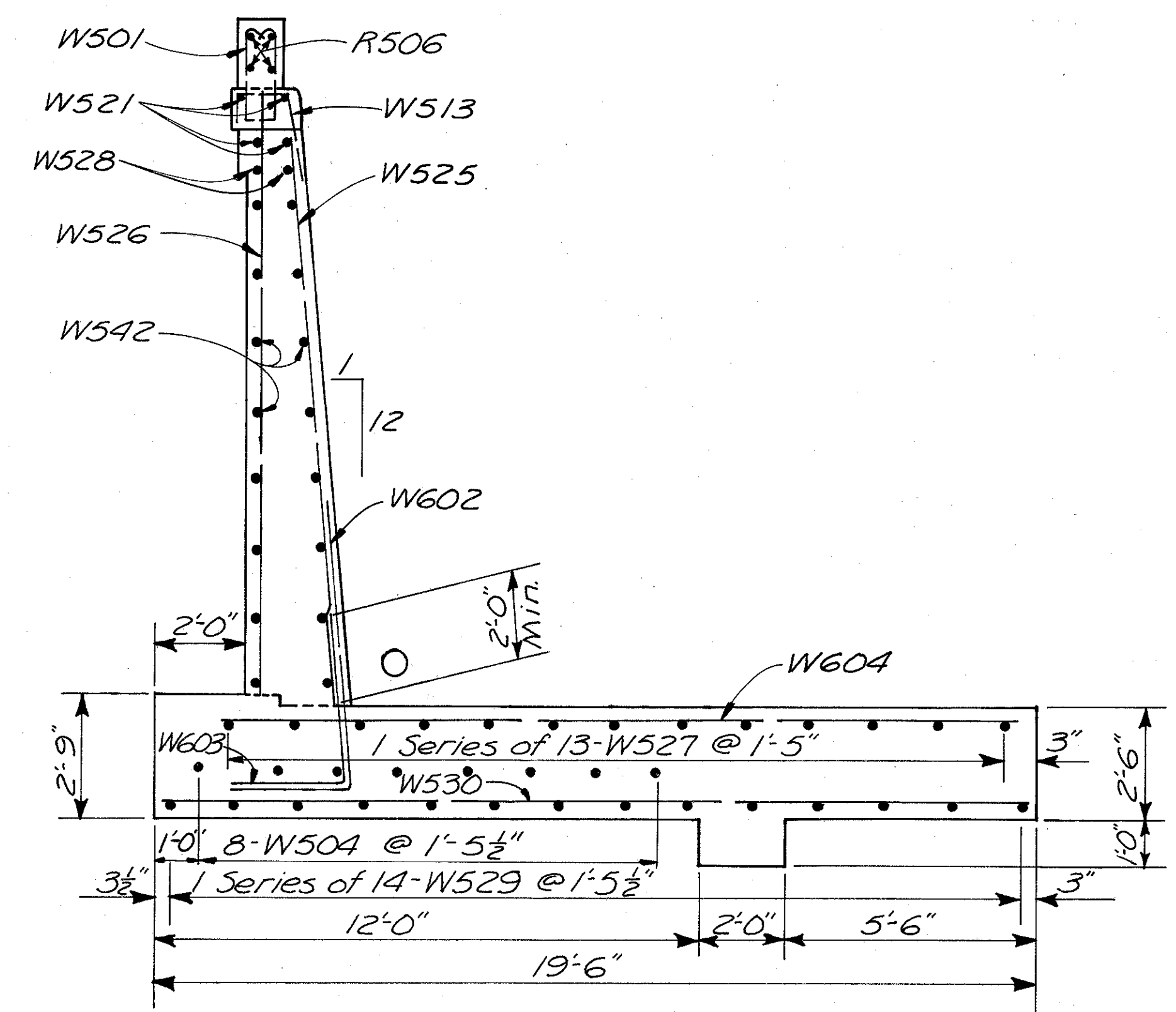
Notes:
The front face of the wall shall have a textured finish as produced by striated plywood forms. The texture finish shall be uniform and extend to the vertical limits shown for the entire wall length. Four ft. by four ft. form panels shall be used where possible. The panels shall be placed with the striations of the forms alternating horizontally and vertically. Payment for the noted architectural treatment is included in Item 511.

Rustication Grooves and pattern shall be matched with Abut. 5. Wingwall

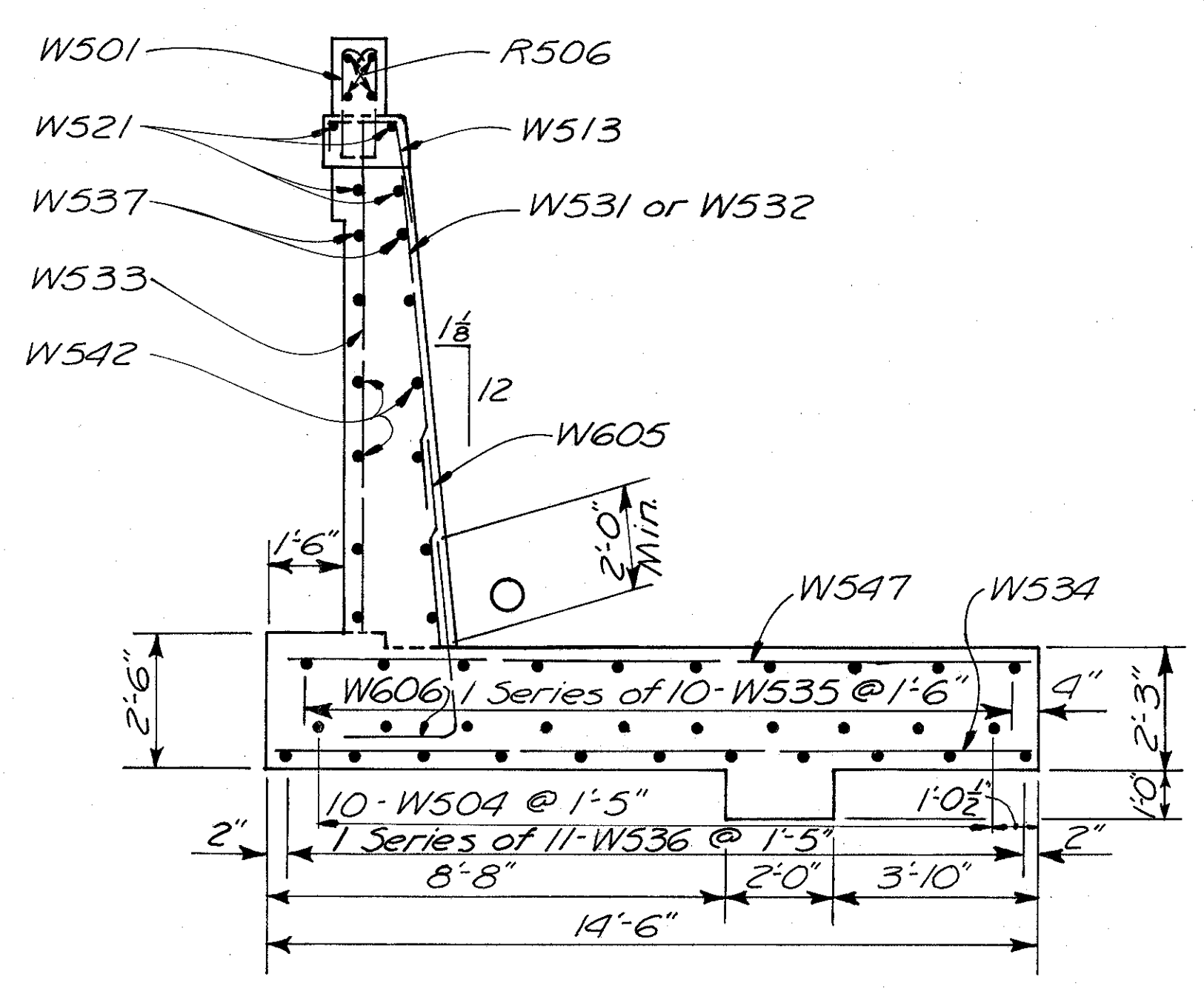


Note:
Dimensions & Details shown in Section A-A are typical for all sections unless noted otherwise.

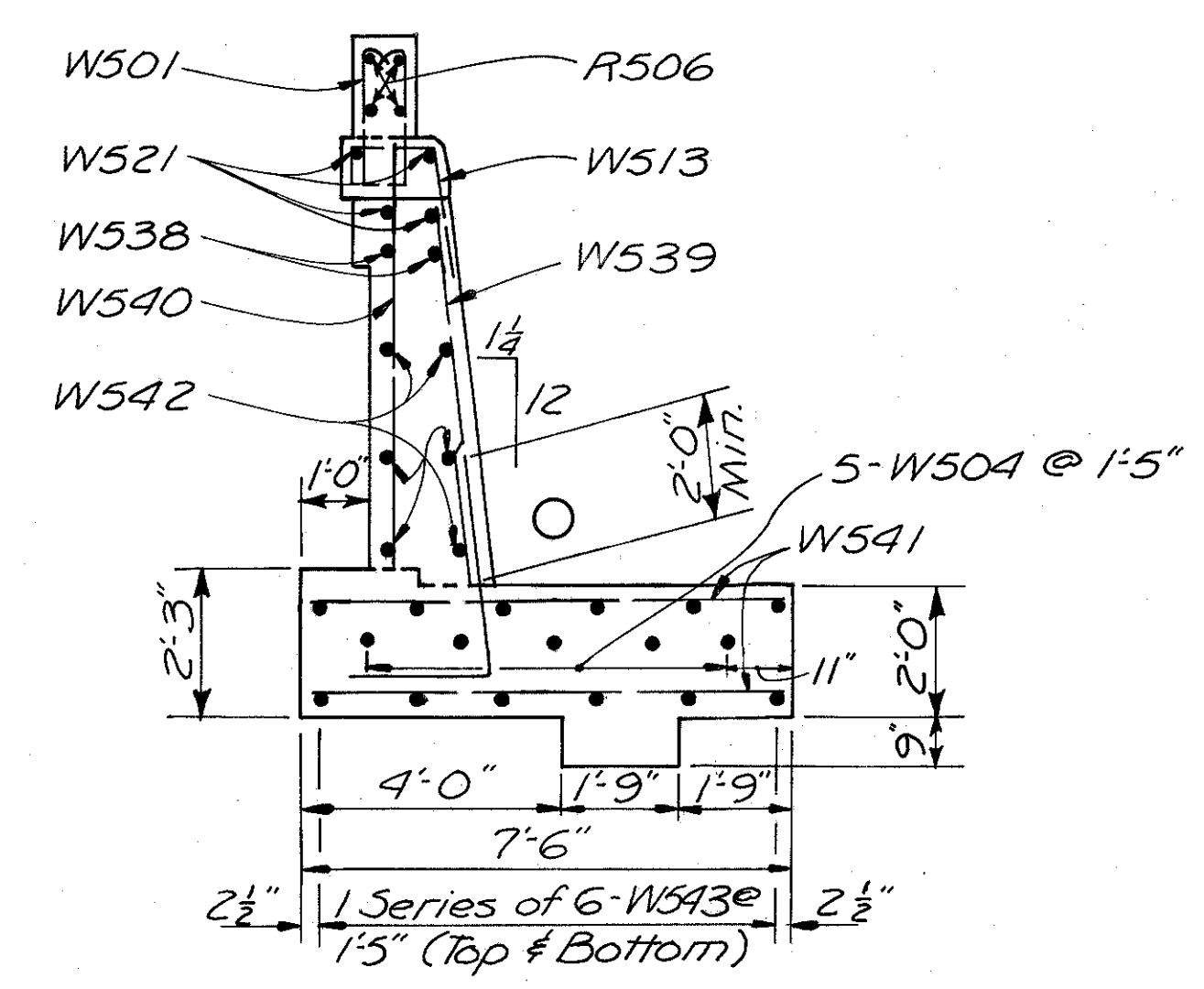
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 13 SHEET 4 OF 6					
DESIGNED HLL	DRAWN FVB	TRACED	CHECKED W.L. HLL	REVIEWED DATE JHO 3-23-82	REVISED



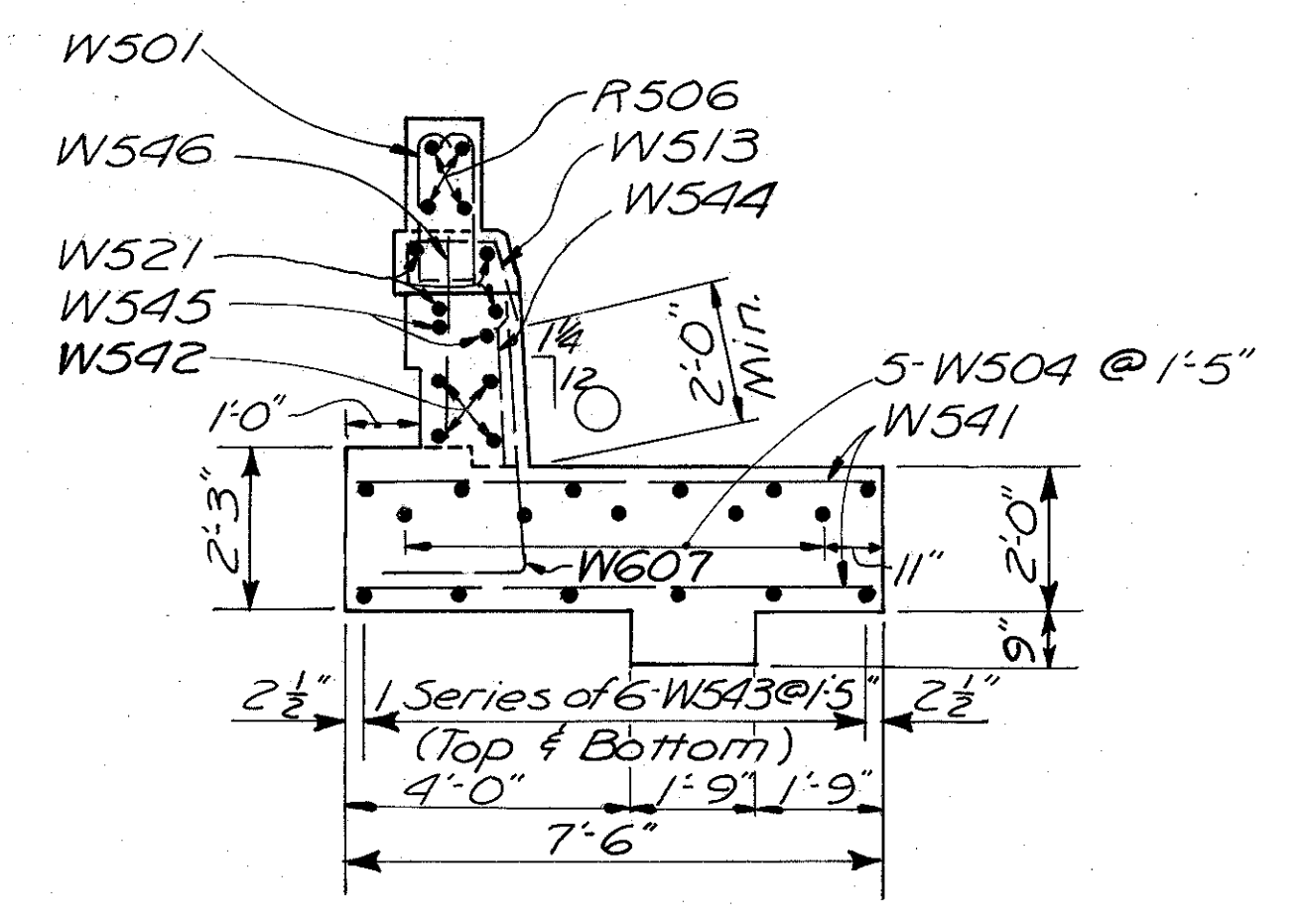
SECTION D-D
(For Location of Section D-D see sh.166)



SECTION E-E
(For Location of Section E-E, see sh.166)



SECTION F-F
(For Location of Section F-F, see sh.167)



SECTION G-G
(For Location of Section G-G, see sh.167)

Notes:
Dimensions & Details shown in Section A-A are typical for all sections unless noted otherwise. For Section A-A, see sh.168

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 13 SHEET 5 OF 6					
DESIGNED HLL	DRAWN FVB	TRACED	CHECKED W.L. HLL	REVIEWED DATE JHO 3-23-82	REVISED

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
W501	14	5'-7"	181	1,054	2'-2"	8"					
W502	Str.	15'-0"	2	31							
W503	Str.	23'-8"	36	889							
W504	Str.	10'-0"	46	480							
W505	2	3'-5"	32	114	1'-10"	1'-2"	8"				
W506	Str.	23'-3" to 24'-7"	1 Series of 17	424							
W507	Str.	7'-10" to 9'-3"	1 Series of 25	223							
W508	Str.	23'-8" to 24'-6"	1 Series of 12	301							
W509	Str.	23'-5" to 24'-6"	1 Series of 13	325							
W510	Str.	14'-8"	34	520							
W511	Str.	13'-8"	2	29							
W512	Str.	27'-8"	30	866							
W513	6	3'-6"	144	526	8"	1'-2"	1'-11"	2'-3/4"	1'-10-3/4"		
W514	Str.	18'-5" to 20'-0"	1 Series of 29	581							
W515	Str.	19'-2" to 20'-9"	1 Series of 21	437							
W516	Str.	27'-8" to 28'-6"	1 Series of 9	264							
W517	Str.	27'-5" to 28'-6"	1 Series of 11	321							
W518	Str.	11'-8"	33	402							
W519	Str.	31'-5" to 32'-5"	1 Series of 9	300							
W520	Str.	16'-3"	2	34							
W521	Str.	31'-9"	20	662							
W522	Str.	14'-3" to 16'-2"	1 Series of 33	523							
W523	Str.	15'-0" to 16'-11"	1 Series of 22	366							
W524	Str.	31'-7" to 32'-5"	1 Series of 7	234							
W525	Str.	10'-0" to 12'-0"	1 Series of 22	252							
W526	Str.	10'-9" to 12'-8"	1 Series of 22	269							
W527	Str.	31'-8" to 33'-0"	1 Series of 13	438							
W528	Str.	15'-8"	2	33							
W529	Str.	31'-6" to 33'-0"	1 Series of 14	471							
W530	Str.	19'-2"	22	440							
W531	Str.	3'-3" to 5'-1"	1 Series of 11	48							
W532	Str.	5'-10" to 7'-9"	1 Series of 12	85							
W533	Str.	6'-7" to 8'-7"	1 Series of 22	174							
W534	Str.	14'-2"	22	325							
W535	Str.	31'-8" to 32'-8"	1 Series of 10	335							
W536	Str.	31'-6" to 32'-8"	1 Series of 11	368							
W537	Str.	16'-6"	2	34							
W538	Str.	16'-0"	2	33							
W539	Str.	3'-2" to 5'-1"	1 Series of 22	95							
W540	Str.	3'-10" to 5'-9"	1 Series of 22	110							
W541	Str.	7'-2"	88	658							
W542	Str.	31'-8"	58	1,916							
W543	Str.	31'-7" to 32'-2"	4 Series of 6	798							
W544	Str.	2'-0" to 3'-2"	1 Series of 17	46							
W545	Str.	15'-6"	2	32							
W546	Str.	2'-0" to 3'-11"	1 Series of 22	68							
W547	Str.	13'-8"	22	314							
W601	Str.	18'-5"	30	830							
W602	19	10'-11"	21	344	1'-11"	8'-11 1/2"	9'-0"	9"			
W603	19	6'-2"	22	204	1'-11"	4'-2 3/4"	4'-3"	4 1/4"			
W604	Str.	17'-2"	43	1,109							
W605	19	7'-11"	11	131	1'-11"	5'-11 3/4"	6'-0"	6 3/4"			
W606	19	5'-11"	12	107	1'-11"	3'-11 3/4"	4'-0"	4 1/2"			
W607	19	5'-8"	44	375	1'-11"	3'-8 3/4"	3'-9"	4 3/4"			
W701	Str.	11'-5"	67	1,563							
W702	19	14'-6"	32	948	2'-2"	12'-3 3/4"	12'-4"	1'-0 3/4"			
W703	19	7'-3"	33	489	2'-2"	5'-0 3/4"	5'-1"	5"			
W801	Str.	16'-0"	25	1,068							
W802	Str.	9'-10"	33	866							

REINFORCING STEEL LIST (CONT.)

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
W901	Str.	16'-9"	59	3,360							
W902	19	19'-3"	28	1,833	2'-10"	16'-4 1/2"	16'-5"	1'-2 1/4"			
W903	19	9'-10"	29	970	2'-10"	6'-11 3/4"	7'-0"	6"			
W1001	19	11'-5"	25	1,228	3'-2"	8'-2 3/4"	8'-3"	7 1/4"			
W1002	19	18'-11"	24	1,954	3'-2"	15'-8 1/2"	15'-9"	1'-1 3/4"			
R501	33	3'-3"	4	*	9"	1'-3"					2 3/8"
R502	27	6'-7"	2	*	7 1/2"	1'-0"	5"	1"	5"	4'-0"	4 3/8"
R503	2	8'-3"	2	*	3'-2"	4'-8"	8"				
R504	14	7'-7"	4	*	3'-2"	8"					
R505	Str.	4'-8"	2	*							
R506	Str.	31'-8"	20	*							
R507	Str.	23'-8"	4	*							
R508	Str.	27'-8"	4	*							

Total Weight of Reinforcing Steel = 34,627 Lbs.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
503	99	Cubic Yard	Unclassified Excavation
509	34,627	Pound	Reinforcing steel, Grade 60
511	312	Cubic Yard	Class C concrete, footings
511	178	Cubic Yard	Class C concrete, wall above footings
512	29	Square Yard	Type B Waterproofing
516	90	Square Foot	1" preformed expansion joint filler
517	212	Linear Foot	Railing (concrete parapet with double pipe rail)
518	218	Linear Foot	8" perforated corrugated steel pipe, including specials, 107.01

Note: The above quantities are carried to the Summary of Quantities sheet 186

Notes: REINFORCING STEEL SAMPLES: Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

For Bar Bending Schedule, see sh. 346

R bars marked with an * are included in Item 517, for payment.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

RETAINING WALL
NO. 13
SHEET 6 OF 6

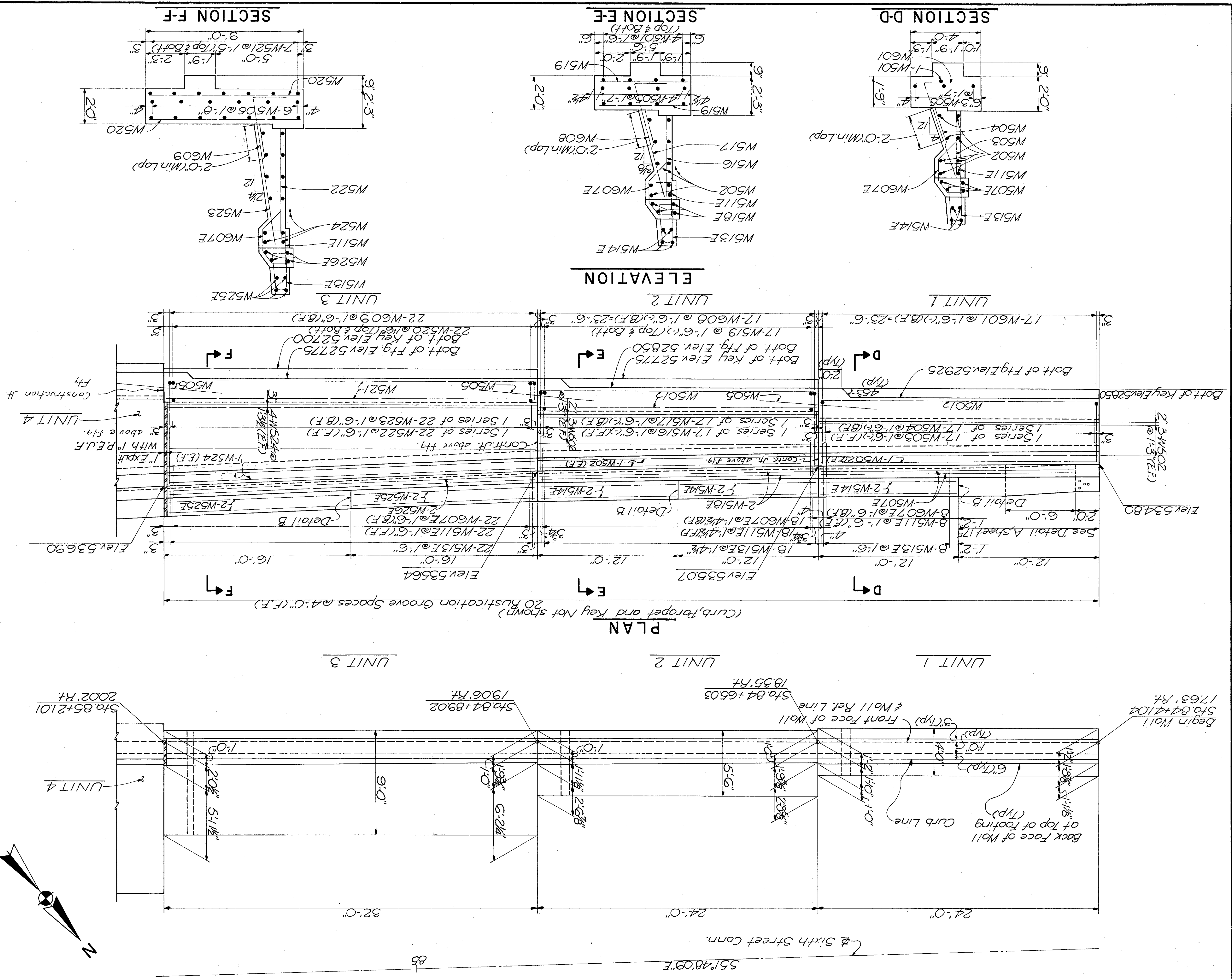
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	FVB		HLL	JHO 3-23-82	

Rev. 9-9-82

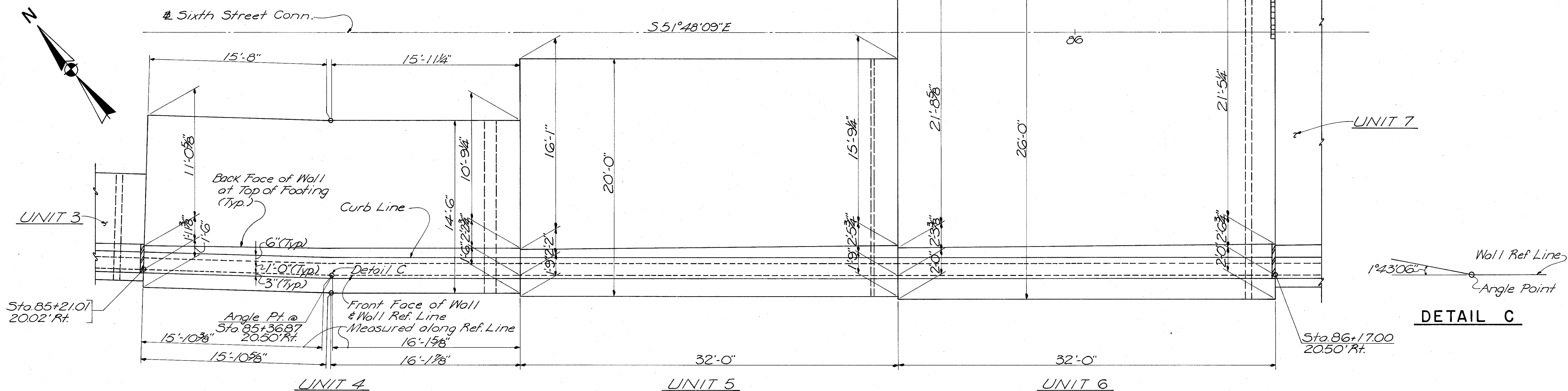
RETAINING WALL
 NO. 15
 SHEET 1 OF 6

HAZLET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

Notes:
 F.F. denotes Front Face
 B.F. denotes Back Face
 E.F. denotes Each Face
 For Wall Drainage see sheet
 sheet 175.
 For Typical Wall Section see
 sheet 175.
 For General Notes No. 2 thru 6
 see sheet 185.
 For contraction joint detail
 see sheet 185.
 For Expansion joint detail see
 sheet 185.
 For Rustication Groove Detail
 see sheet 185.
 For Design Assumptions see
 sheet 175.
 For Detail B see sheet 175
 W505 Bars are to be centered
 under contraction joint or
 form joints shall be arranged to
 coincide with rustication grooves.
 For Architectural Treatment of Wall
 Front Face, see Sh. 173
 P.E.U.F. denotes Performed
 Expansion Joint Filler

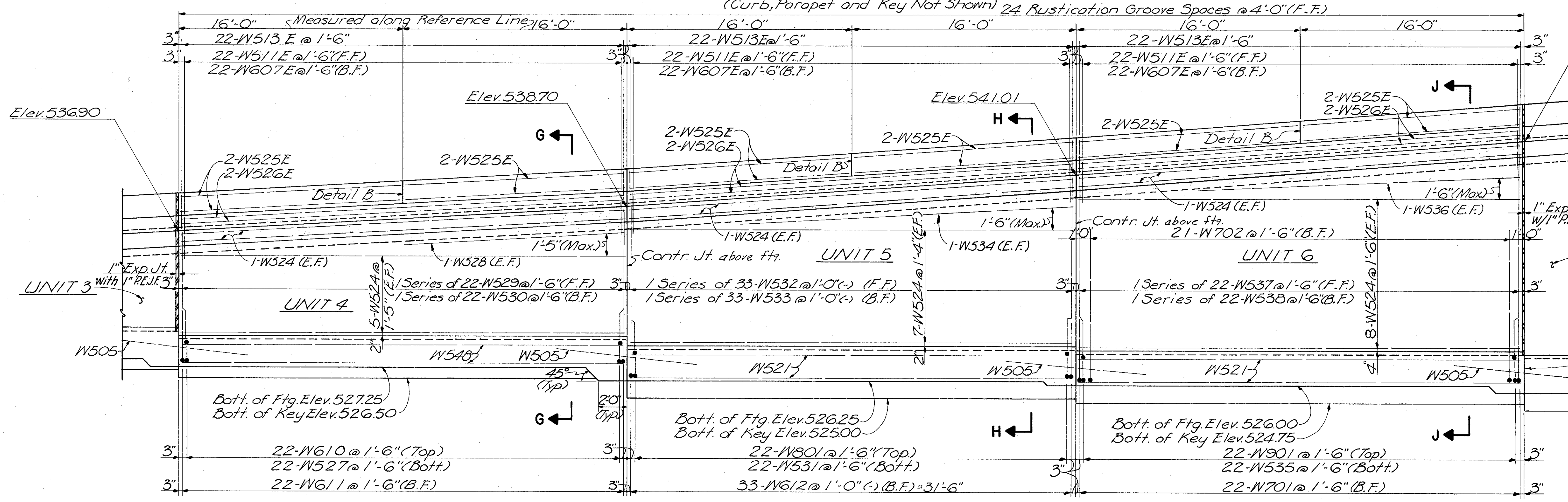


Steel Sheet Piling, left in place. See Retaining Wall No. 5, sheet 163 for details.



PLAN

(Curb, Parapet and Key Not Shown) 24 Rustication Groove Spaces @ 4'-0" (F.F.)



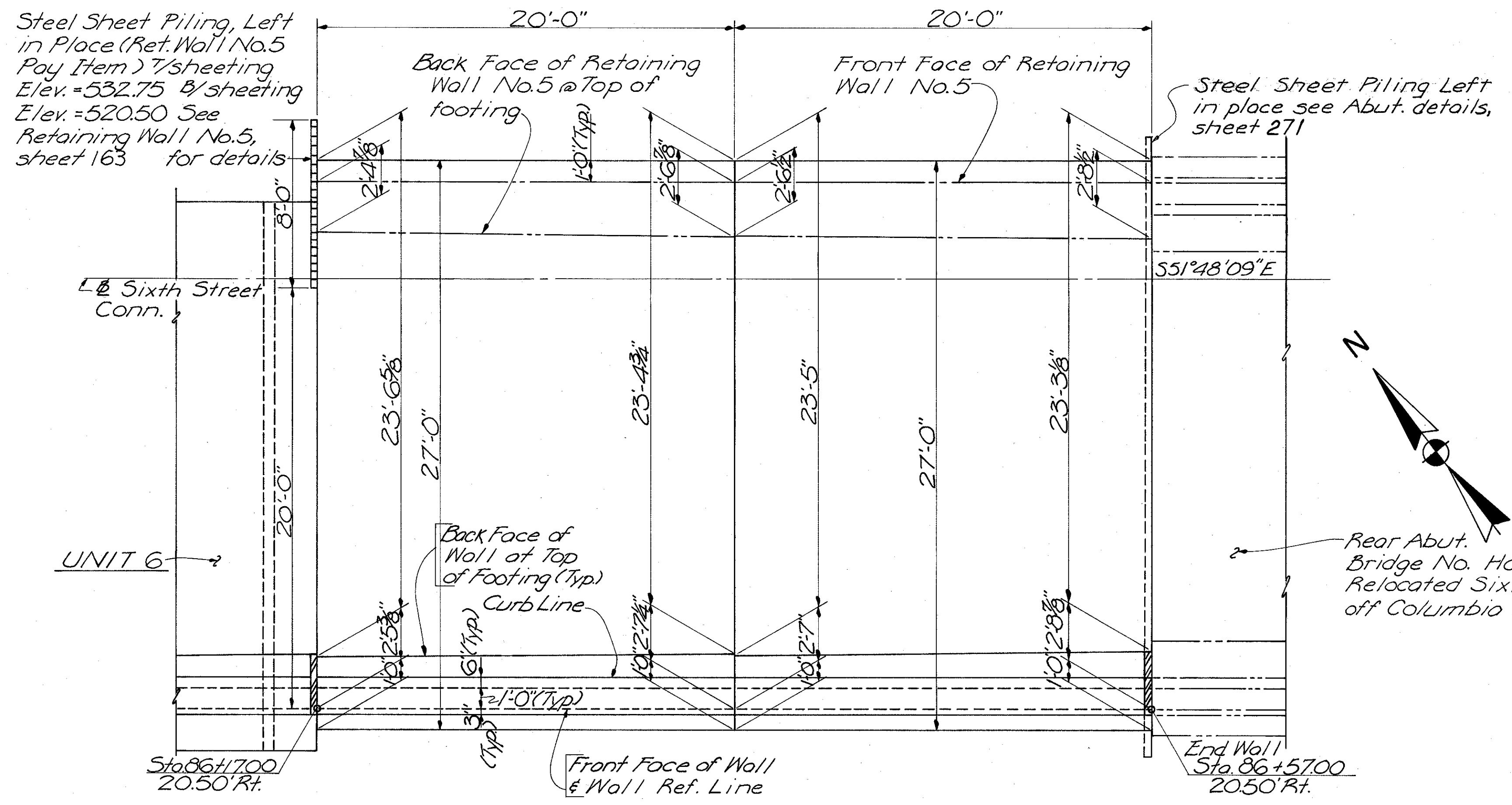
ELEVATION

Notes:
 F.F. denotes Front Face
 B.F. denotes Back Face
 E.F. denotes Each Face
 For other Notes see sheet 171
 For Sections G-G, H-H, & J-J see sheet 174
 For Detail B see sheet 175
 Work Units 6, 7 and 8 with Retaining Wall no. 5.
 P.E.J.F. denotes Preformed Expansion Joint Filler.

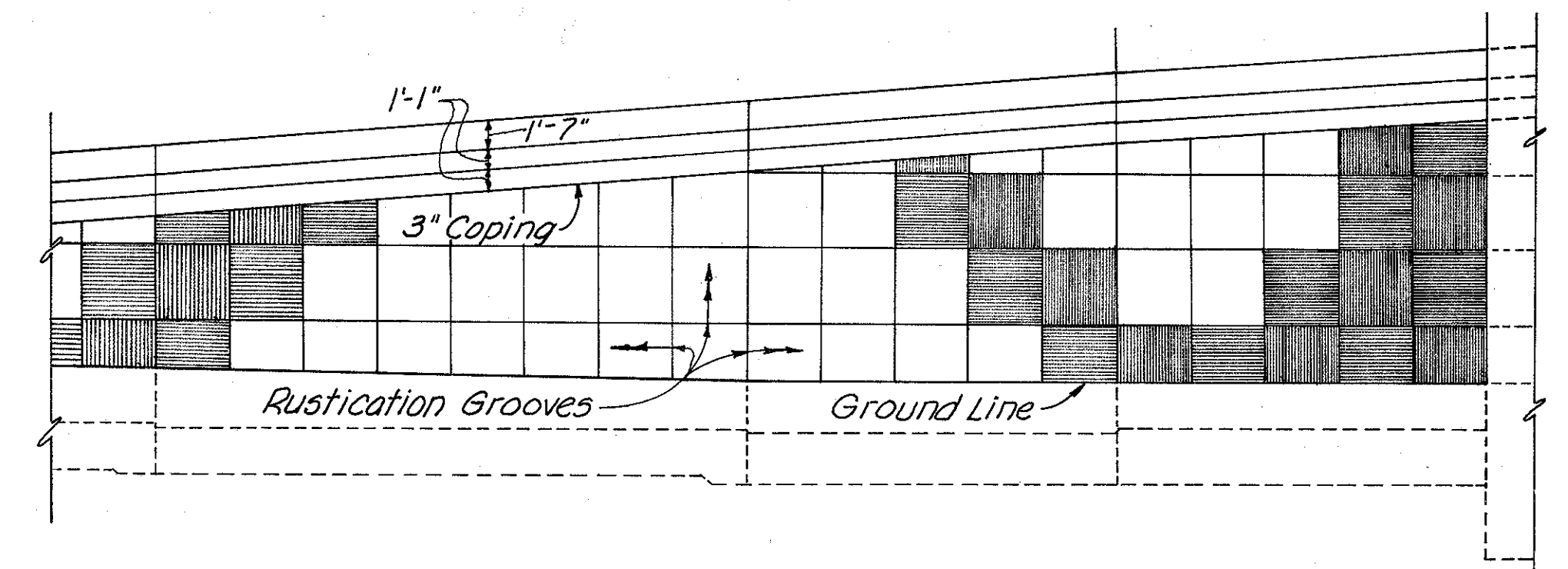
HAZLET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

**RETAINING WALL
 NO. 15
 SHEET 2 OF 6**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	YK		WZ	JHO 3-23-82	

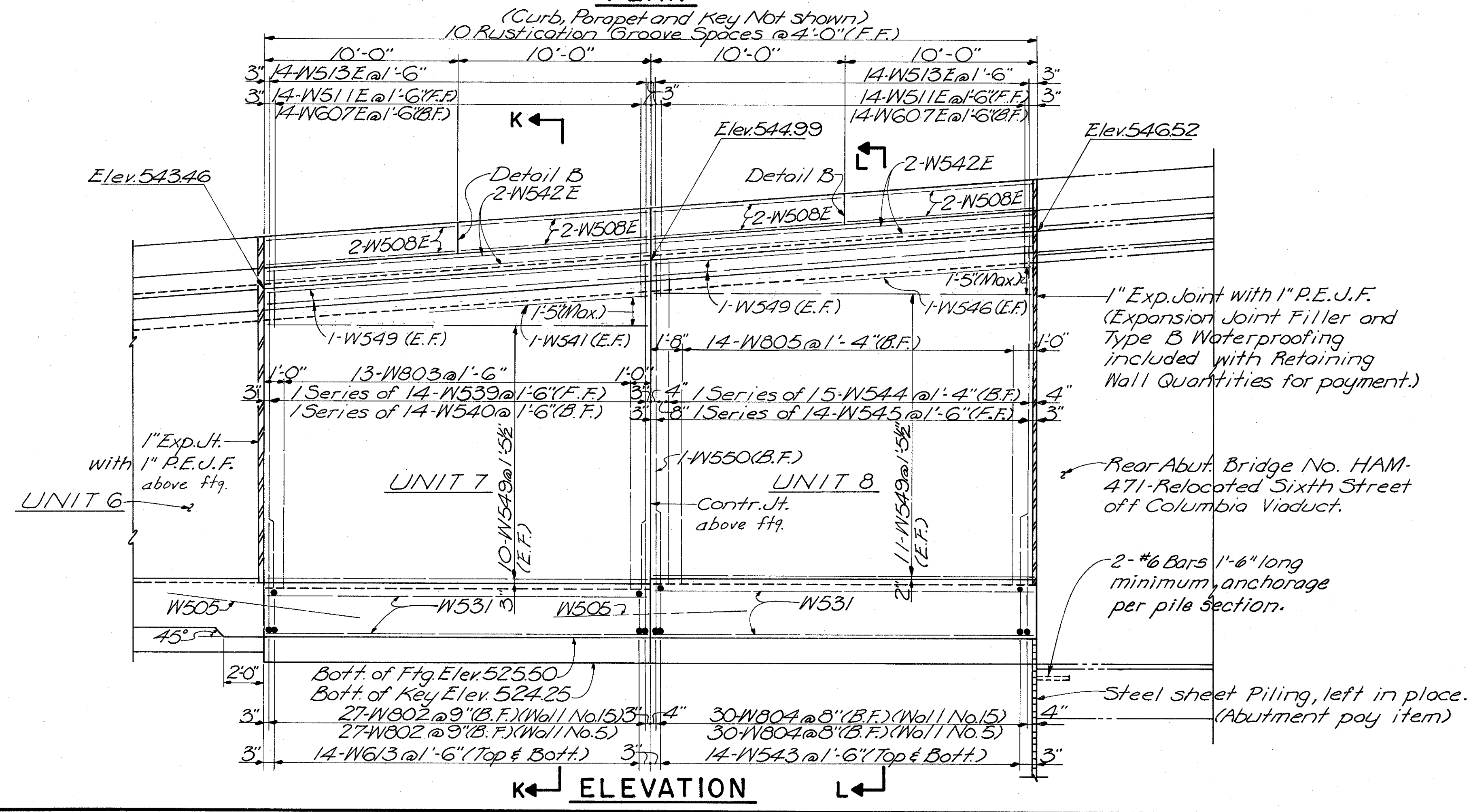


Notes:
The front face of the wall shall have a textured finish as produced by striated plywood forms. The texture finish shall be uniform and extend to the vertical limits shown for the entire wall length. Rustication Grooves and pattern shall be matched with Abut. 5. Wingwall.
Four feet by four feet form panels shall be used where possible. The panels shall be placed with the striations of the forms alternating horizontally and vertically. Payment for the noted architectural treatment is included in Item 511.



ARCHITECTURAL TREATMENT OF WALL

UNIT 7 UNIT 8
PLAN



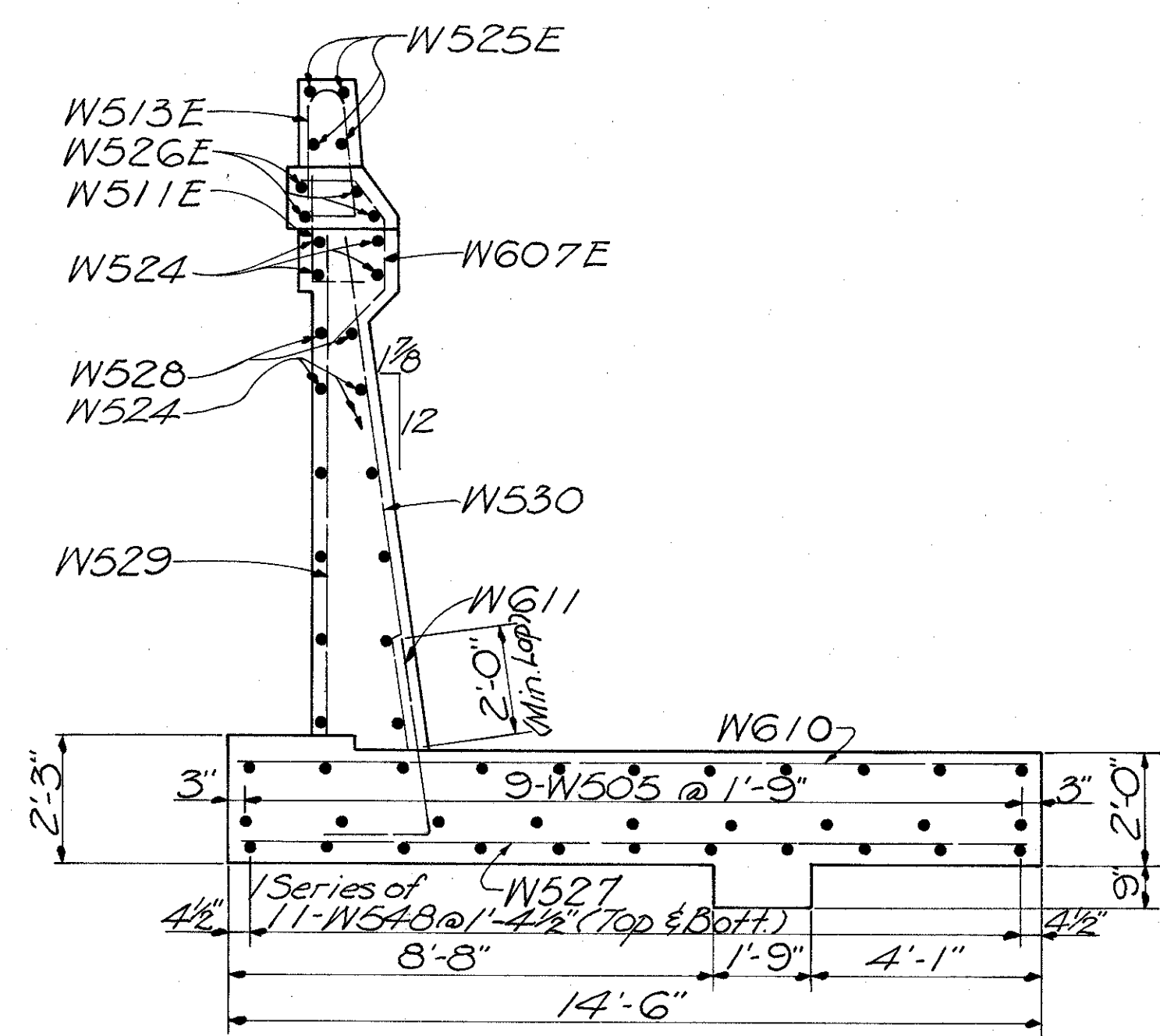
Notes:
F.F. denotes Front Face
B.F. denotes Back Face
E.F. denotes Each Face
For Detail B see sheet 175
For other notes see sheet 171
Work Units 6, 7, and 8 with Retaining Wall No. 5
For Sections K-K & L-L see sheet 174
P.E.J.F. denotes Preformed Expansion Joint Filler.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 15					
SHEET 3 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.L.L.	YK		W.L.	J.H.O. 3-23-82	

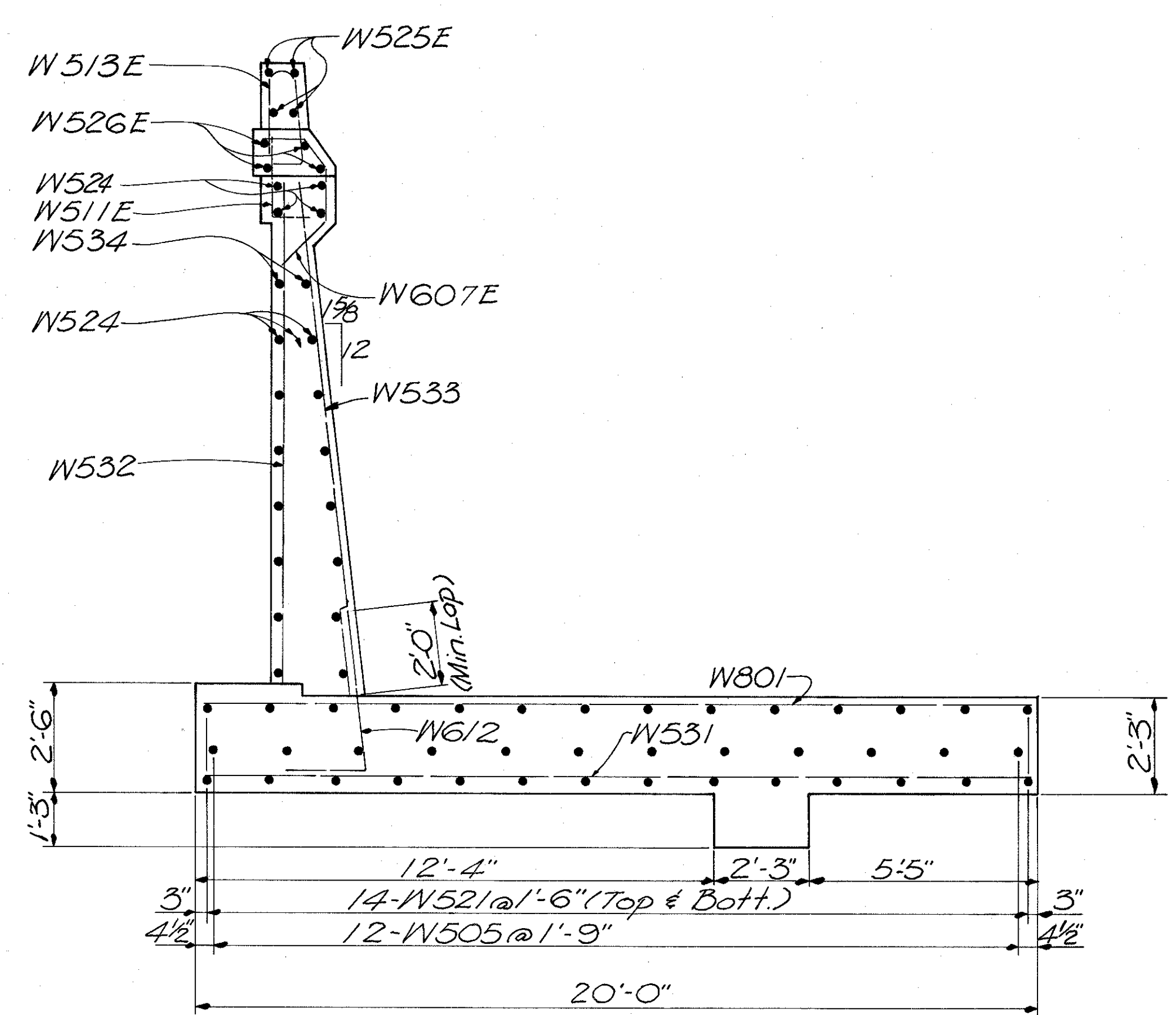
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

174
346

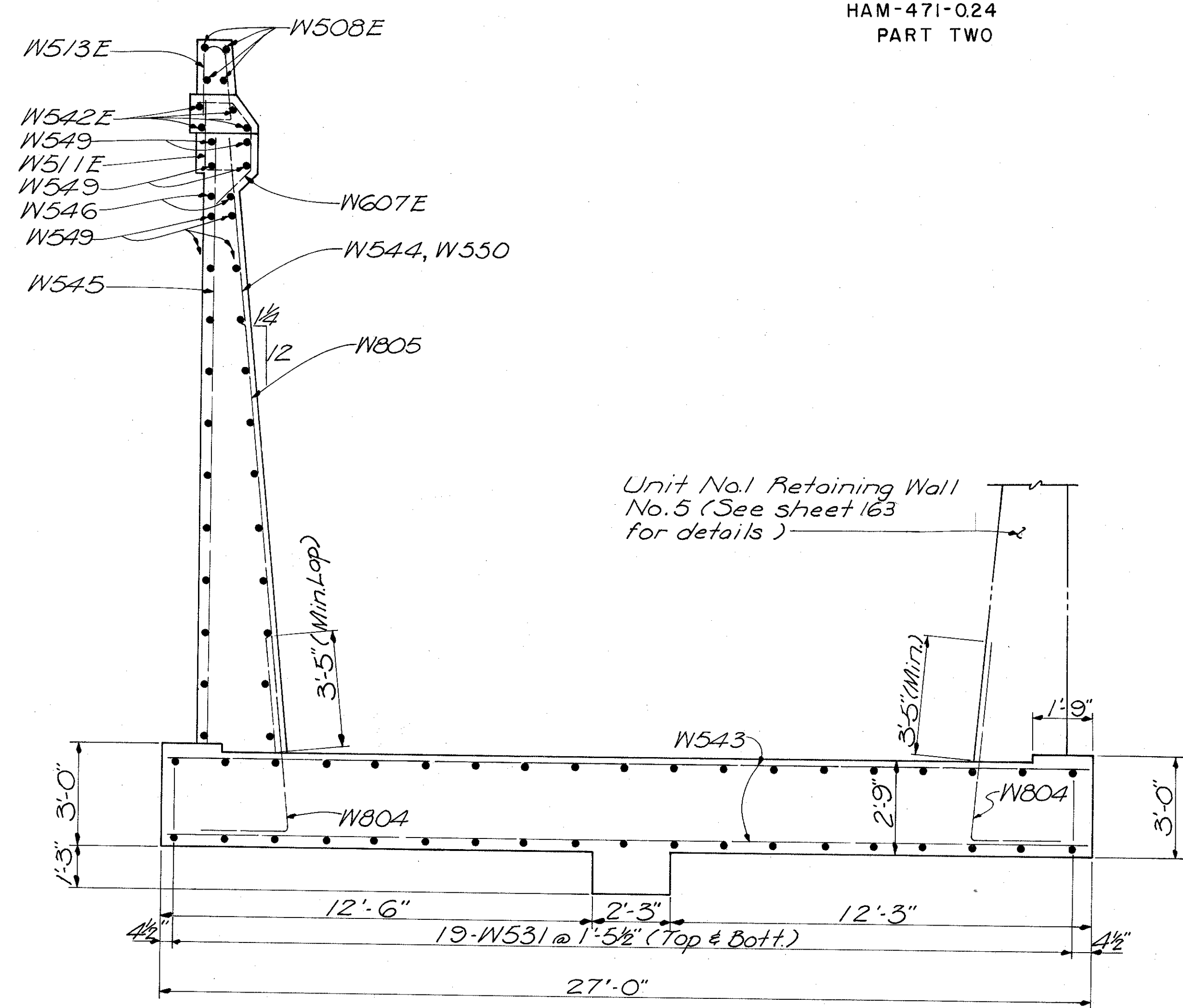
HAMILTON COUNTY
HAM-471-024
PART TWO



SECTION G-G

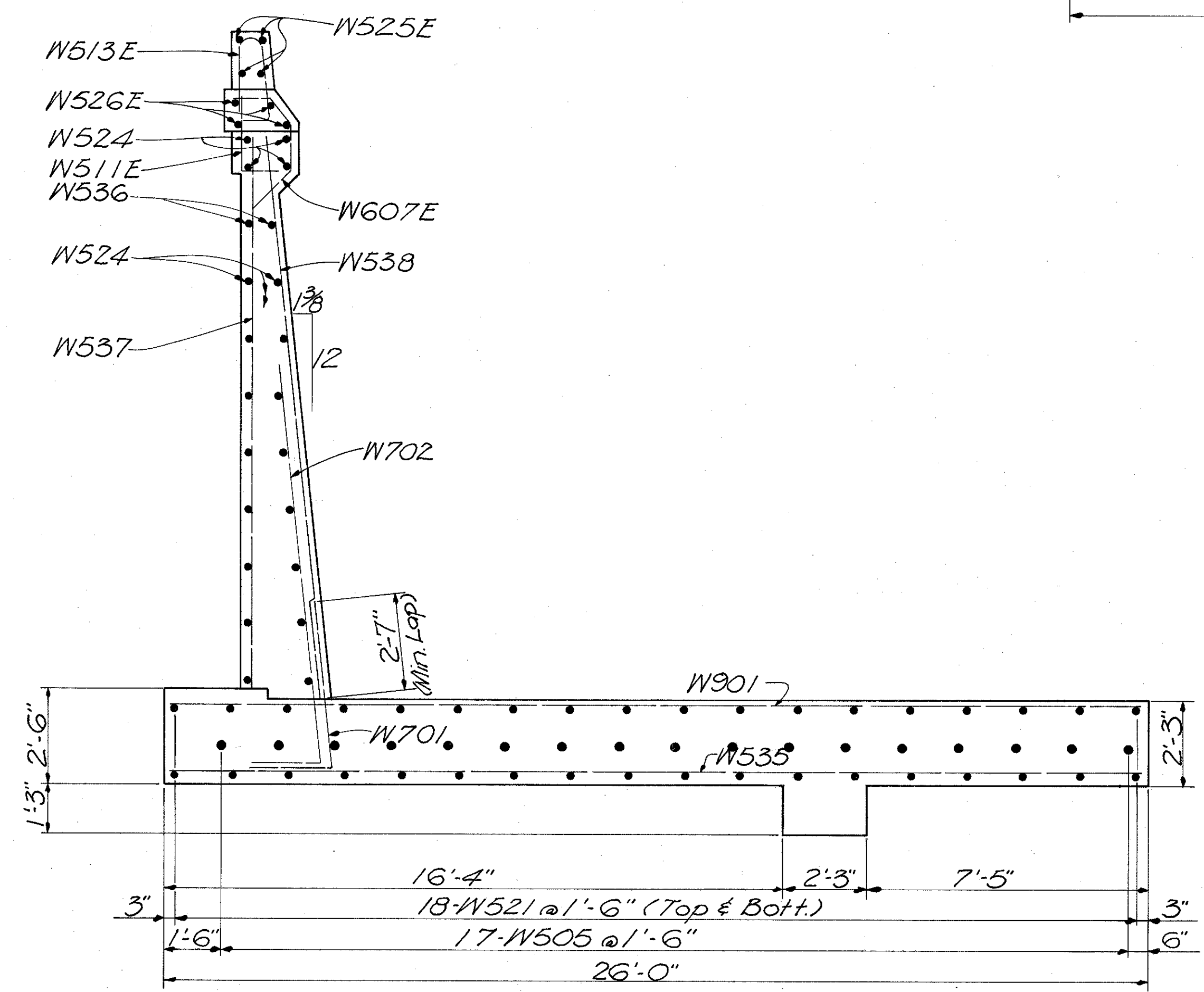


SECTION H-H

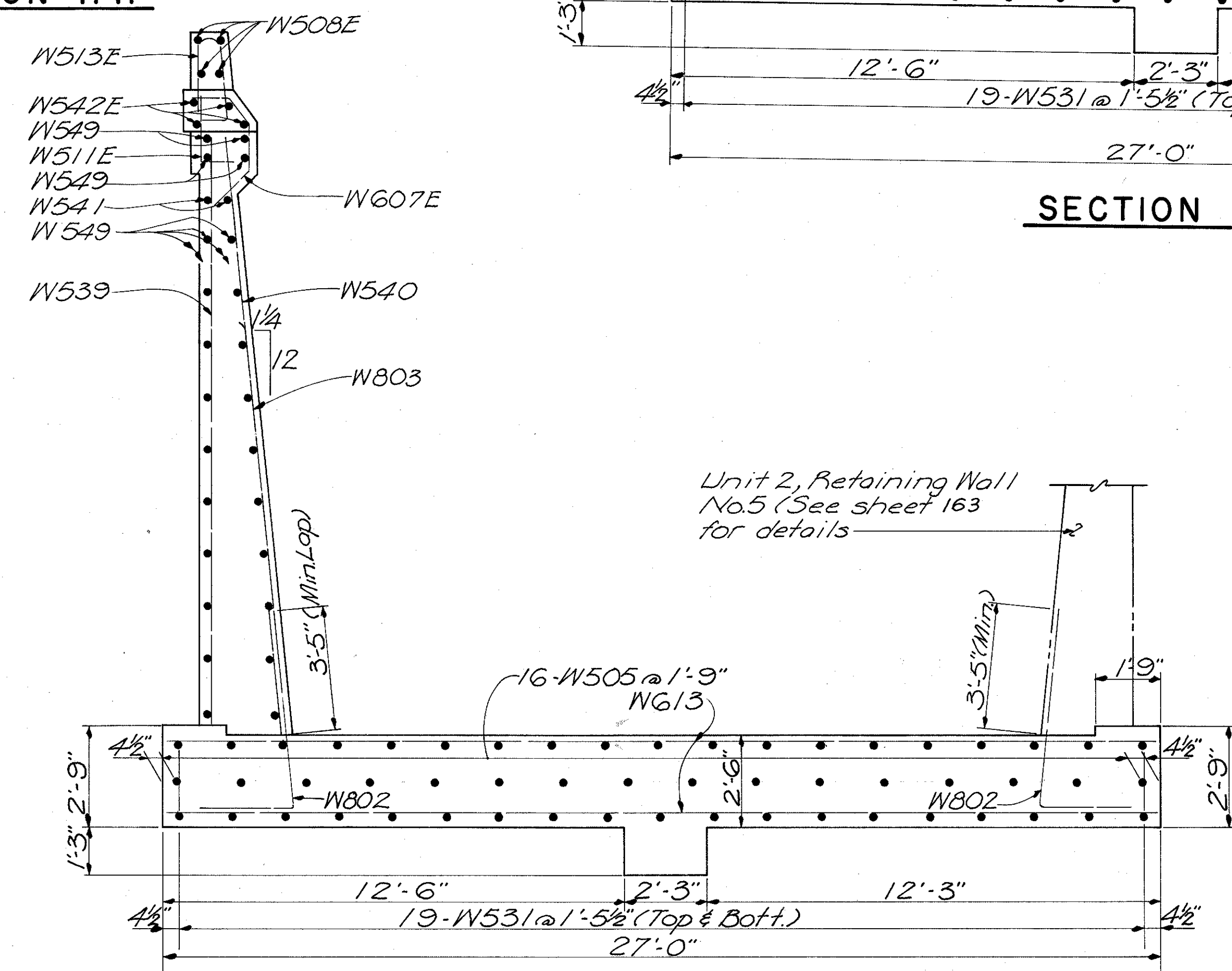


SECTION L-L

Unit No. 1 Retaining Wall No. 5 (See sheet 163 for details)



SECTION J-J

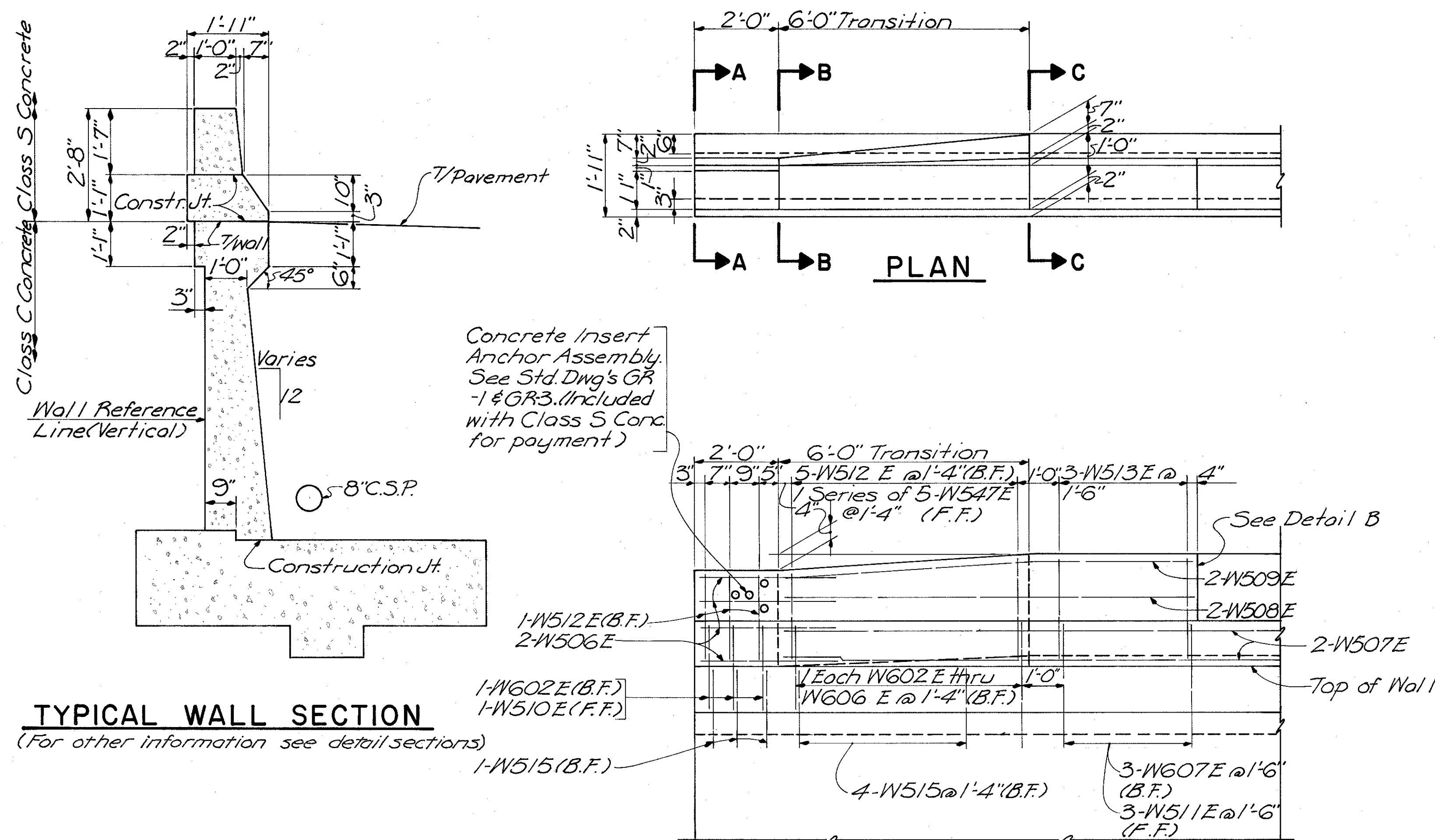


SECTION K-K

Unit 2, Retaining Wall No. 5 (See sheet 163 for details)

Notes:
For location of Sections G-G, H-H and J-J see sheet 172
For location of Sections K-K & L-L see sheet 173
For Typical Wall Section see sheet 175

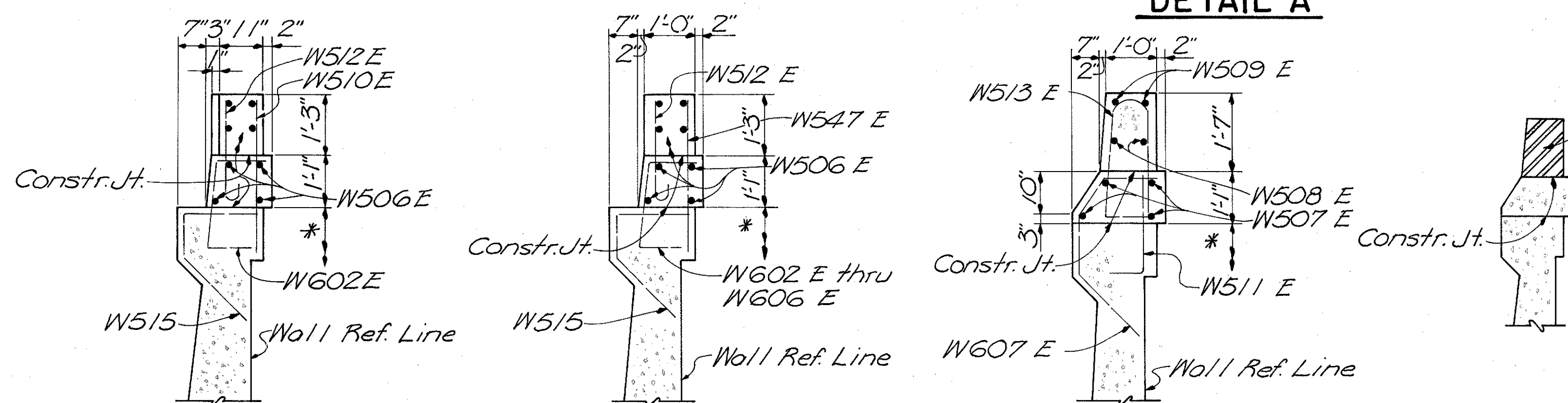
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 15 SHEET 4 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	YK		WZ	JHO 3-23-82	



TYPICAL WALL SECTION

(For other information see detail sections)

**ELEVATION
DETAIL A**



SECTION A-A

SECTION B-B

SECTION C-C

DETAIL B

(Deflection Joint)

Note: *See Typical Wall Section for other information.

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
503	114	Cubic Yard	Unclassified Excavation
509	25,125	Pound	Reinforcing Steel, Grade 60
511	28	Cubic Yard	Class S Concrete, Curb and Parapet
511	324	Cubic Yard	Class C Concrete, Footings
511	132	Cubic Yard	Class C Concrete, Wall above footings
512	29	Square Yard	Type B Waterproofing
516	80	Square Foot	1" Preformed Expansion Joint Filler
518	217	Linear Foot	8" perforated corrugated steel pipe, including specials, 70701
Special	4,071	Pound	Epoxy Coated Reinforcing Steel, Grade 60, (See Proposal Note)

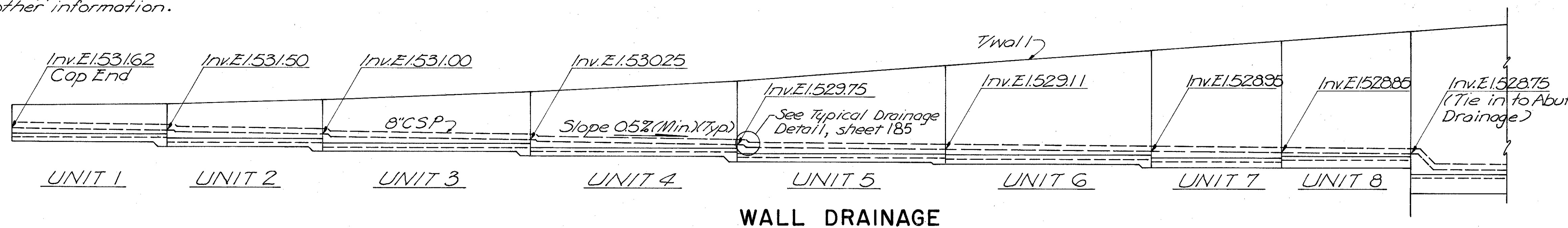
Note: The above quantities are carried to the Summary of Quantities, Sheet 186.

DESIGN ASSUMPTIONS

Maximum foundation pressure = 5,000 Lb. per sq. ft.
Coefficient of friction "μ" of masonry on subfoundation = 0.45

Notes:

F.F. denotes Front Face
B.F. denotes Back Face



WALL DRAINAGE

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 15 SHEET 5 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	YK		JL	JHO 3-23-82	
Rev. 9-9-82					

HAMILTON COUNTY
HAM-471-0.24
PART TWO

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS							RADIUS
					A	B	C	D	E	F	G	
W501	Str.	23'-6"	9	221								
W502	Str.	23'-8"	18	444								
W503	Str.	3'-5" to 3'-8"	1 Series of 17	63								
W504	Str.	3'-8" to 3'-11"	1 Series of 17	67								
W505	Str.	10'-0"	67	699								
W506E	Str.	4'-4"	8	36								
W507E	Str.	21'-6"	4	90								
W508E	Str.	9'-6"	18	178								
W509E	16	9'-6"	2	20	4"	3'-9"	5'-9"	5'-9"				
W510E	Str.	3'-1"	3	10								
W511E	17	2'-7"	145	391	10 1/2"	1'-10"						
W512E	24	2'-8"	8	22	2'-1"							
W513E	46	5'-6"	145	832	2'-2"	2'-5"	8"	1 1/4"				3 3/8"
W514E	Str.	11'-6"	12	144								
W515	6	3'-6"	7	26	1'-5"	10"	1'-5"	1'-0"	1'-0"			
W516	Str.	4'-2" to 4'-9"	1 Series of 17	79								
W517	Str.	4'-5" to 5'-0"	1 Series of 17	83								
W518E	Str.	23'-6"	4	98								
W519	Str.	5'-0"	34	177								
W520	Str.	8'-6"	44	390								
W521	Str.	31'-6"	78	2,563								
W522	Str.	5'-6" to 6'-9"	1 Series of 22	141								
W523	Str.	5'-9" to 7'-0"	1 Series of 22	146								
W524	Str.	31'-8"	64	2,114								
W525E	Str.	15'-6"	32	517								
W526E	Str.	31'-6"	16	526								
W527	Str.	14'-0"	4	58								
W528	Str.	15'-9"	2	33								
W529	Str.	7'-3" to 9'-0"	1 Series of 22	186								
W530	Str.	7'-6" to 9'-3"	1 Series of 22	192								
W531	Str.	19'-6"	98	1,993								
W532	Str.	9'-9" to 12'-1"	1 Series of 33	376								
W533	Str.	10'-0" to 12'-4"	1 Series of 33	384								
W534	Str.	23'-9"	2	50								
W535	Str.	25'-6"	22	585								
W536	Str.	23'-0"	2	48								
W537	Str.	12'-4" to 14'-9"	1 Series of 22	311								
W538	Str.	12'-7" to 15'-0"	1 Series of 22	316								
W539	Str.	15'-1" to 16'-7"	1 Series of 14	231								
W540	Str.	15'-4" to 16'-10"	1 Series of 14	235								
W541	Str.	11'-3"	2	23								
W542E	Str.	19'-6"	8	163								
W543	Str.	26'-6"	28	774								
W544	Str.	16'-8" to 18'-1"	1 Series of 15	272								
W545	Str.	16'-4" to 17'-10"	1 Series of 14	249								
W546	Str.	11'-9"	2	25								
W547E	Str.	3'-1" to 3'-5"	1 Series of 5	17								
W548	Str.	31'-1" to 31'-6"	2 Series of 11	718								
W549	Str.	19'-8"	50	1,026								
W550	Str.	16'-7"	1	17								
W601	19	5'-5"	17	138	1'-11"	3'-3 1/4"	3'-6"	1'-1 1/4"				
W602E	7	3'-7"	4	22	11"	1'-9 3/4"	1'-10"	3 1/2"	10"			
W603E	7	4'-0"	1	6	1'-3"	1'-10"	1'-11"	6 1/2"	10"			
W604E	45	3'-8"	1	6	1'-1"	1'-0"	9 3/4"	3 3/4"	10"	10 1/2"		
W605E	45	3'-10"	1	6	1'-2 1/2"	1'-0 1/2"	9 1/4"	4 1/2"	10"	10 1/2"		
W606E	61	4'-5"	1	7	1'-0"	1'-2 1/2"	8 3/4"	5 3/4"	11 1/2"	10 1/2"	1'-5"	
W607E	61	4'-6"	145	980	1'-0"	1'-2 1/2"	9"	6 1/4"	11 1/2"	11"	1'-5"	
W608	19	5'-8"	17	145	1'-11"	3'-7 1/2"	3'-9"	11 1/2"				
W609	19	5'-8"	22	187	1'-11"	3'-8 1/4"	3'-9"	8 1/4"				
W610	Str.	14'-0"	22	463								
W611	19	5'-8"	22	187	1'-11"	3'-8 1/2"	3'-9"	7"				
W612	19	5'-11"	33	293	1'-11"	3'-11 1/2"	4'-0"	6 1/2"				
W613	Str.	26'-6"	28	1,114								
W701	19	6'-9"	22	304	2'-2"	4'-6 3/4"	4'-7"	6 1/4"				
W702	19	13'-1"	21	562	2'-2"	10'-10 1/4"	10'-11"	1'-3"				

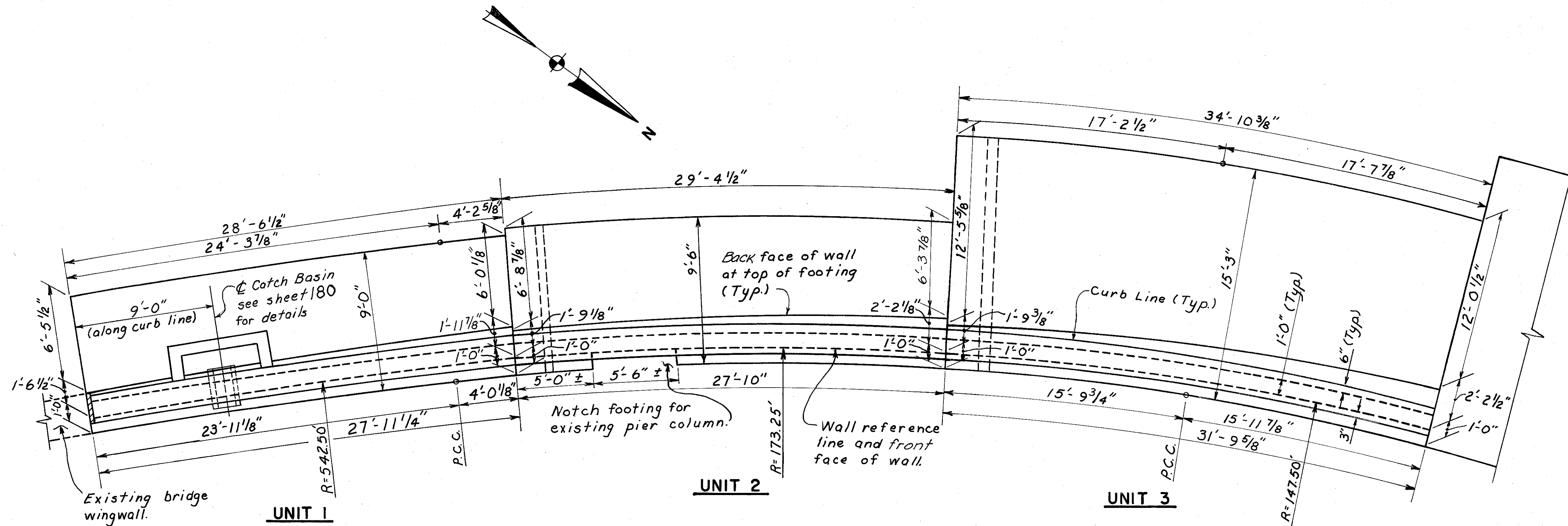
REINFORCING STEEL LIST (CONT.)

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS							RADIUS
					A	B	C	D	E	F	G	
W801	Str.	19'-6"	22	1,145								
W802	19	8'-2"	54	1,177	2'-6"	5'-7 3/4"	5'-8"	7"				
W803	Str.	10'-10"	13	376								
W804	19	8'-5"	60	1,348	2'-6"	5'-10 1/2"	5'-11"	7 1/4"				
W805	Str.	12'-5"	14	464								
W901	Str.	25'-6"	22	1,907								

Total Weight Reinforcing Steel (excluding epoxy coated reinforcing) = 25,125 Lbs.
Total Weight Epoxy Coated Reinforcing Steel = 4,071 Lbs.

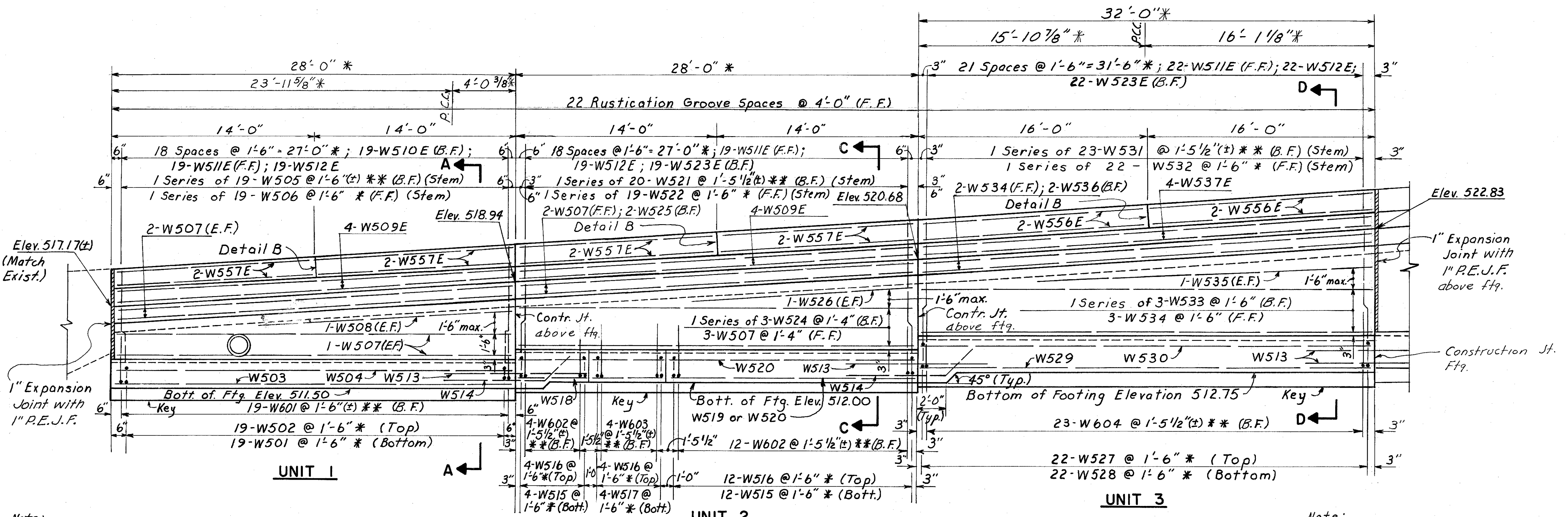
Notes:
Reinforcing Steel Samples: Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.
For Bar Bending Schedule see sheet 346
Bar Marks with an E denotes Epoxy Coated Reinforcing Steel. For Example W602E.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 15					
SHEET 6 OF 6					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FVB		WZ	JHO 3-23-82	



PLAN
(Curb, Parapet and Key Not Shown)

Notes:
 F.F. denotes Front Face
 B.F. denotes Back Face
 E.F. denotes Each Face
 For Contraction Joint Detail see sh. 185
 For Expansion Joint Detail see sheet 185
 For Rustication Groove Detail see sh. 185
 For Location Plan & Stake Out see sh. 180
 For Typical Wall Section see sheet 179
 For Wall Drainage see sheet 180
 For Unit 1 Parapet Transition see sh. 178
 For Detail B see sheet 175
 For General Notes No. 2 thru No. 6 see sheet 185
 For Sections A-A, C-C, and D-D see sheet 179
 Center W513 bars in footing under Contraction Joint or Expansion Joint in stem.
 P.E.J.F. denotes Preformed Expansion Joint Filler.
 Use of chords to approximate curved surfaces is not permitted.
 Form joints shall be arranged to coincide with rustication grooves.



ELEVATION

Note:
Field bend reinforcing to clear drainage pipe.

Note:
 * Denotes measured along Wall Reference Line.
 ** Denotes measured along Back Face of wall.

DESIGN ASSUMPTIONS

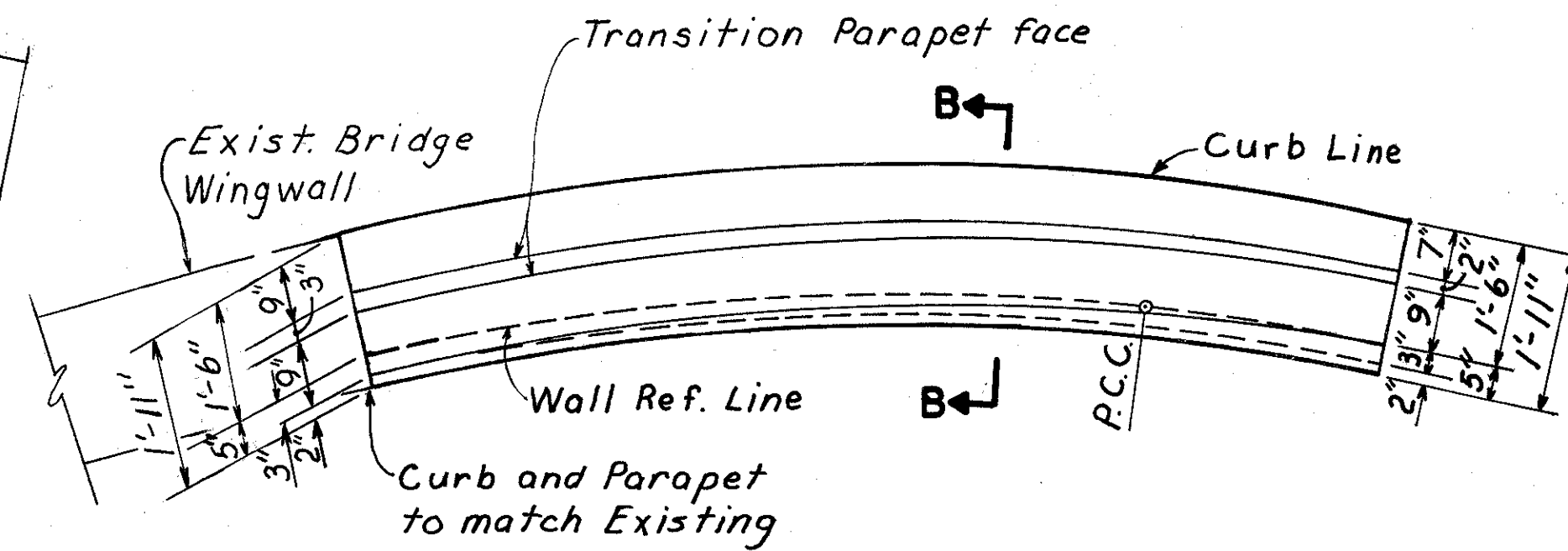
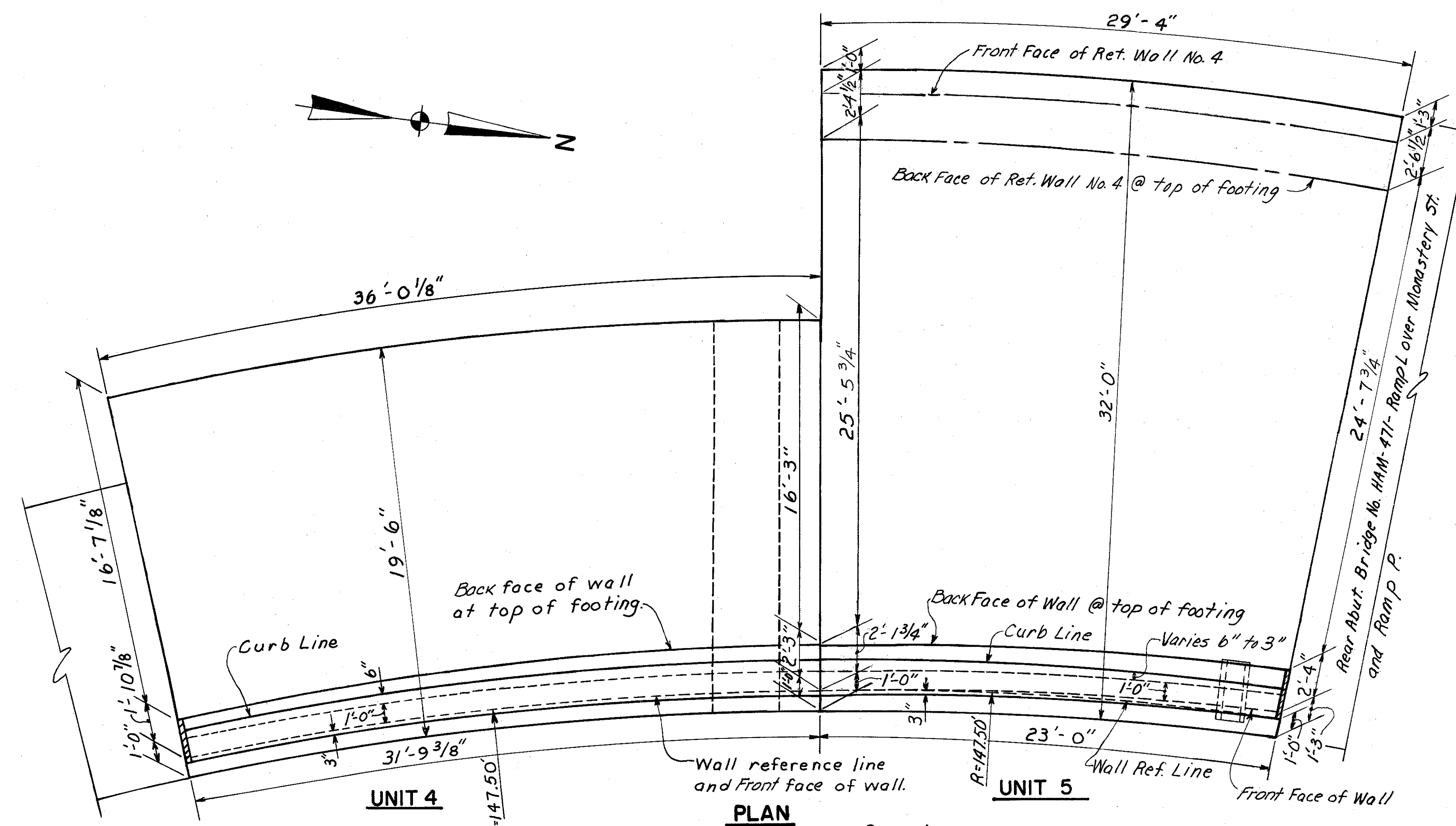
Maximum foundation pressure = 5,000 lb. per sq. ft.
 Coefficient of friction "f" of masonry on subfoundation = 0.45

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 17 SHEET 1 OF 5					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	DSD		ML	JH-D 3-23-82	

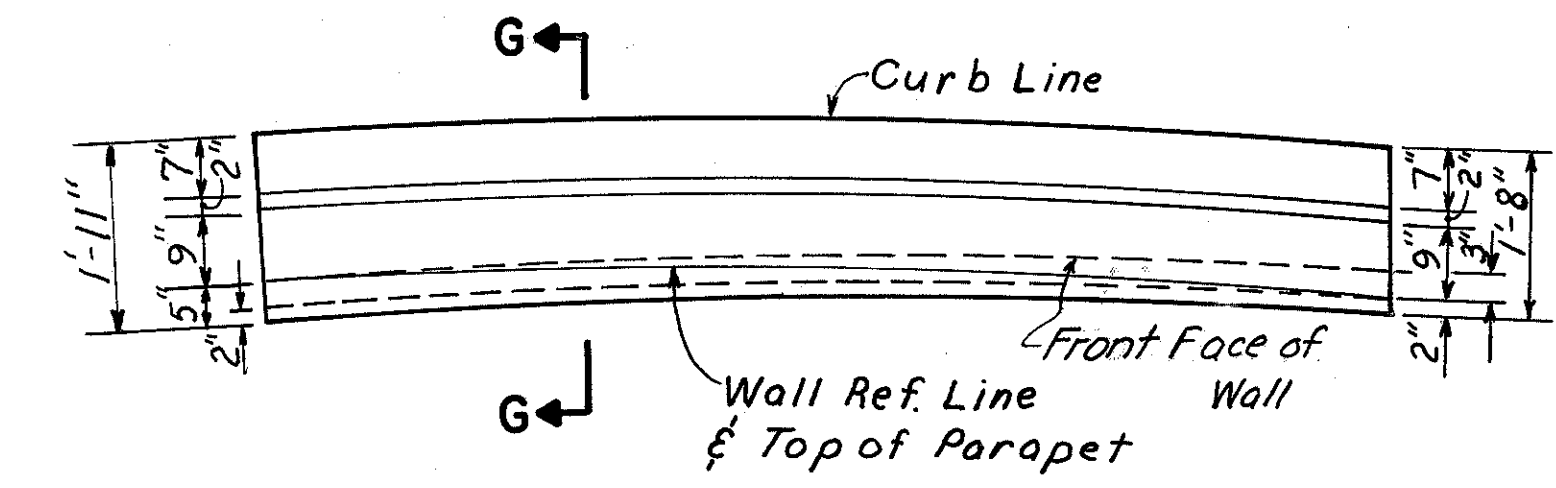
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

178
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

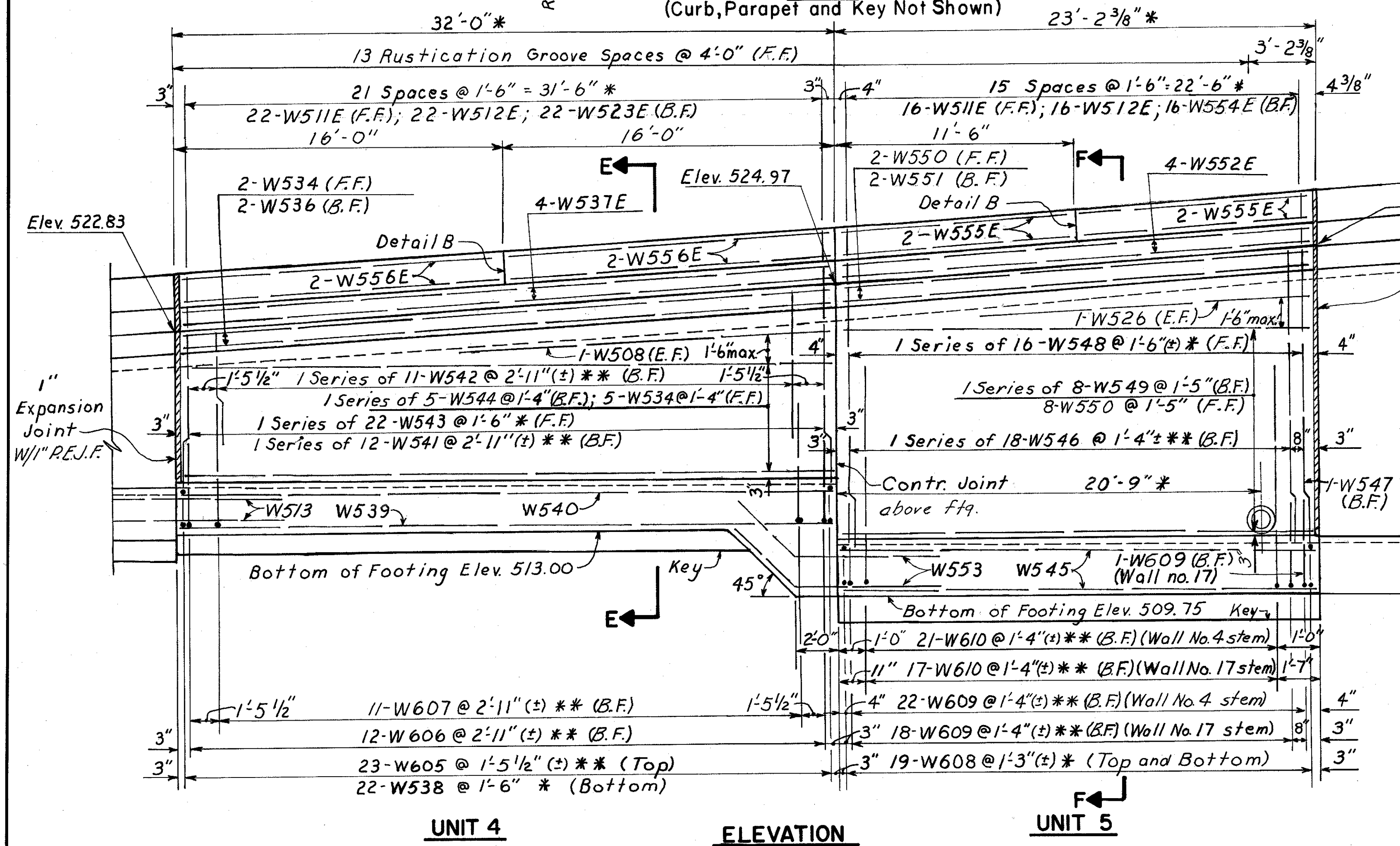


PLAN - UNIT 1
(CURB & PARAPET TRANSITION)

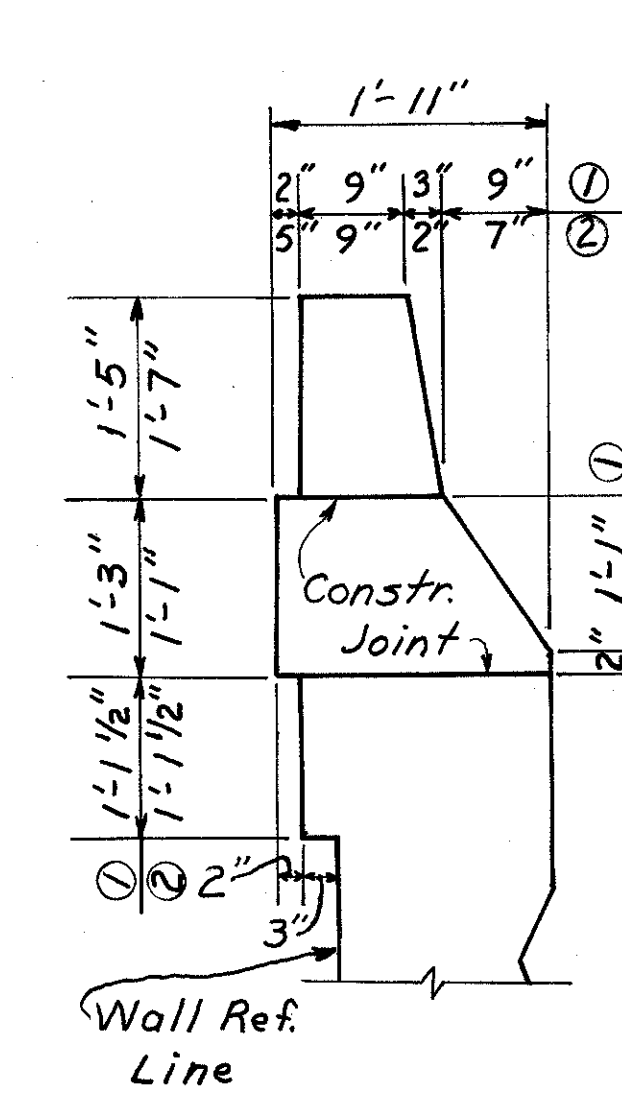


PLAN - UNIT 5
(CURB & PARAPET TRANSITION)

Notes:
Work Unit 5 with Unit 1 of Retaining Wall No. 4, sheet 157
For Sections E-E and F-F see sh. 179
For other notes see sheet 177

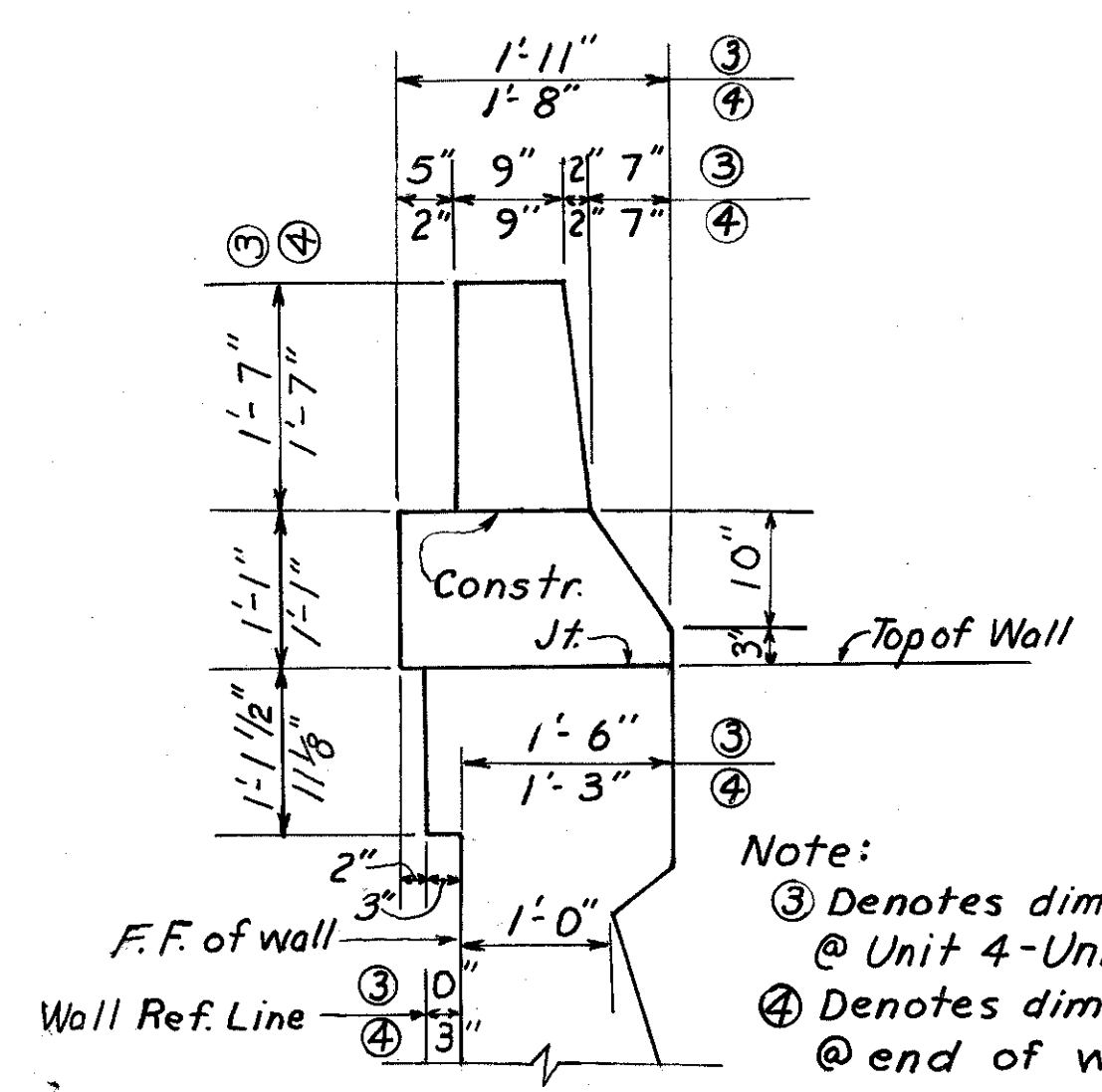


1" Expansion Joint w/ 1" P.E.J.F. (Joint filler and Type B Waterproofing included with Ret. Wall quantities for payment.)



SECTION B-B

Note:
① Denotes dimensions @ Exist Bridge Wingwall.
② Denotes dimensions @ Unit 1 - Unit 2 joint.

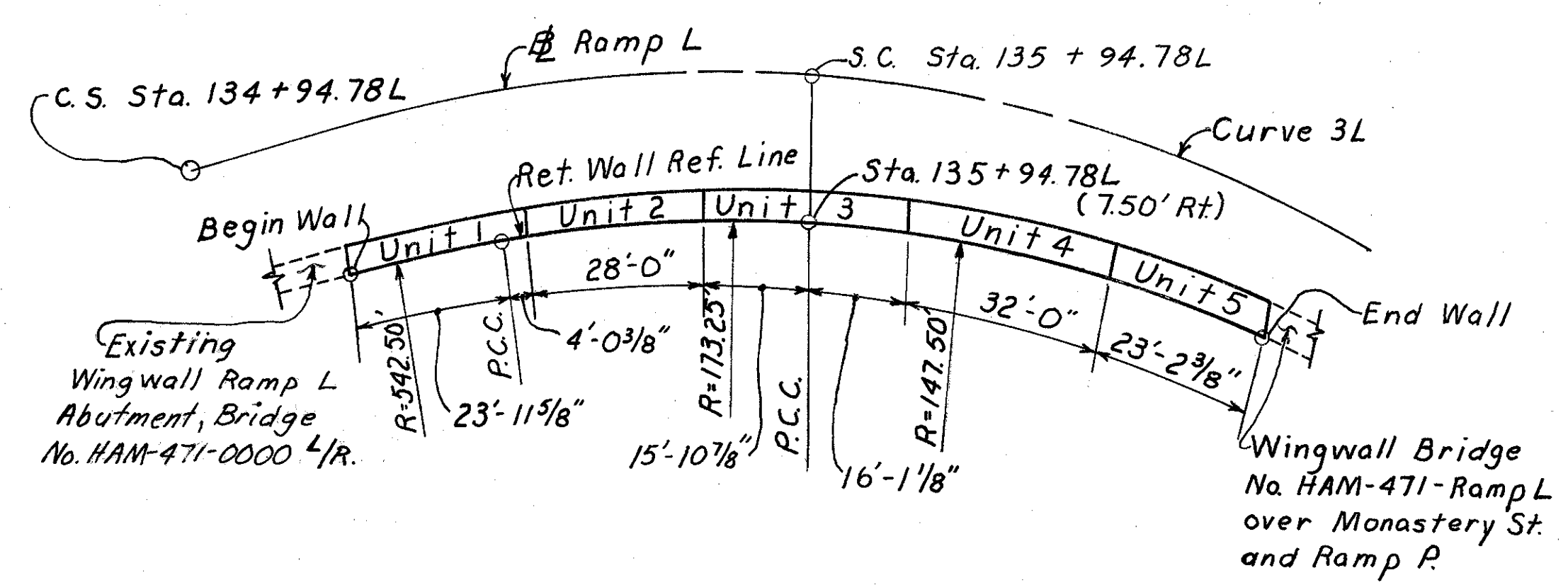
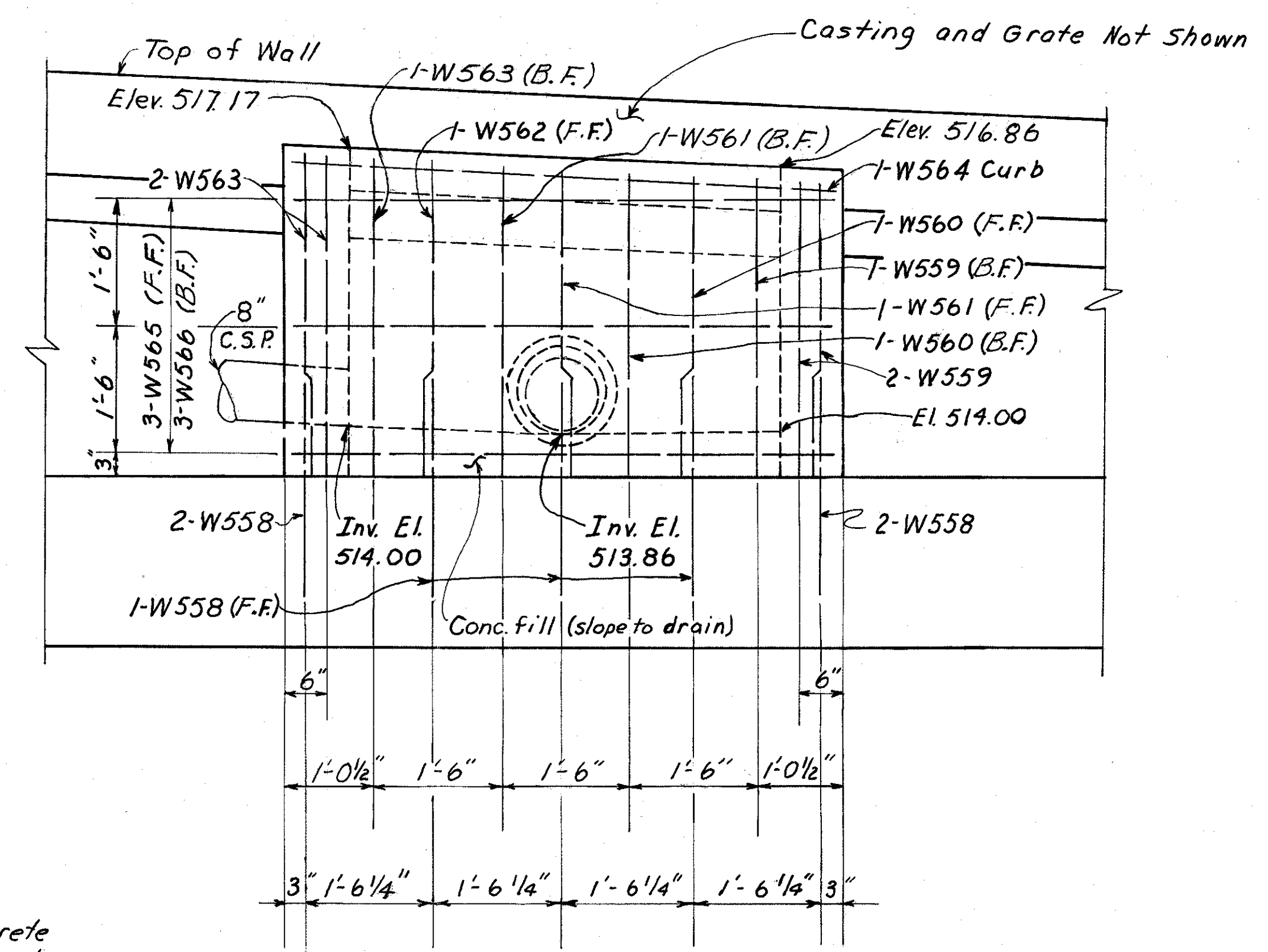
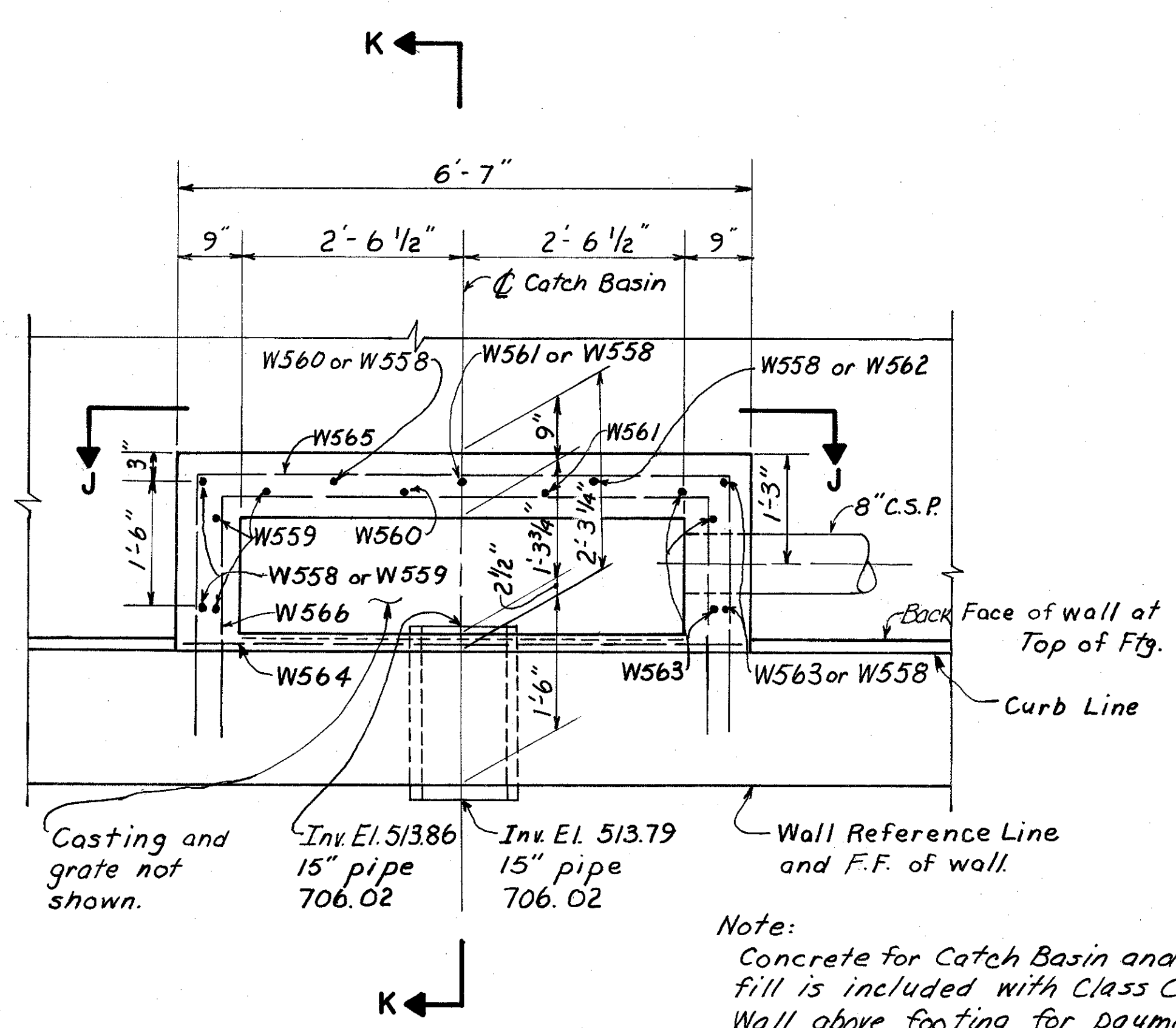


SECTION G-G

Note:
③ Denotes dimensions @ Unit 4 - Unit 5 joint.
④ Denotes dimensions @ end of wall.

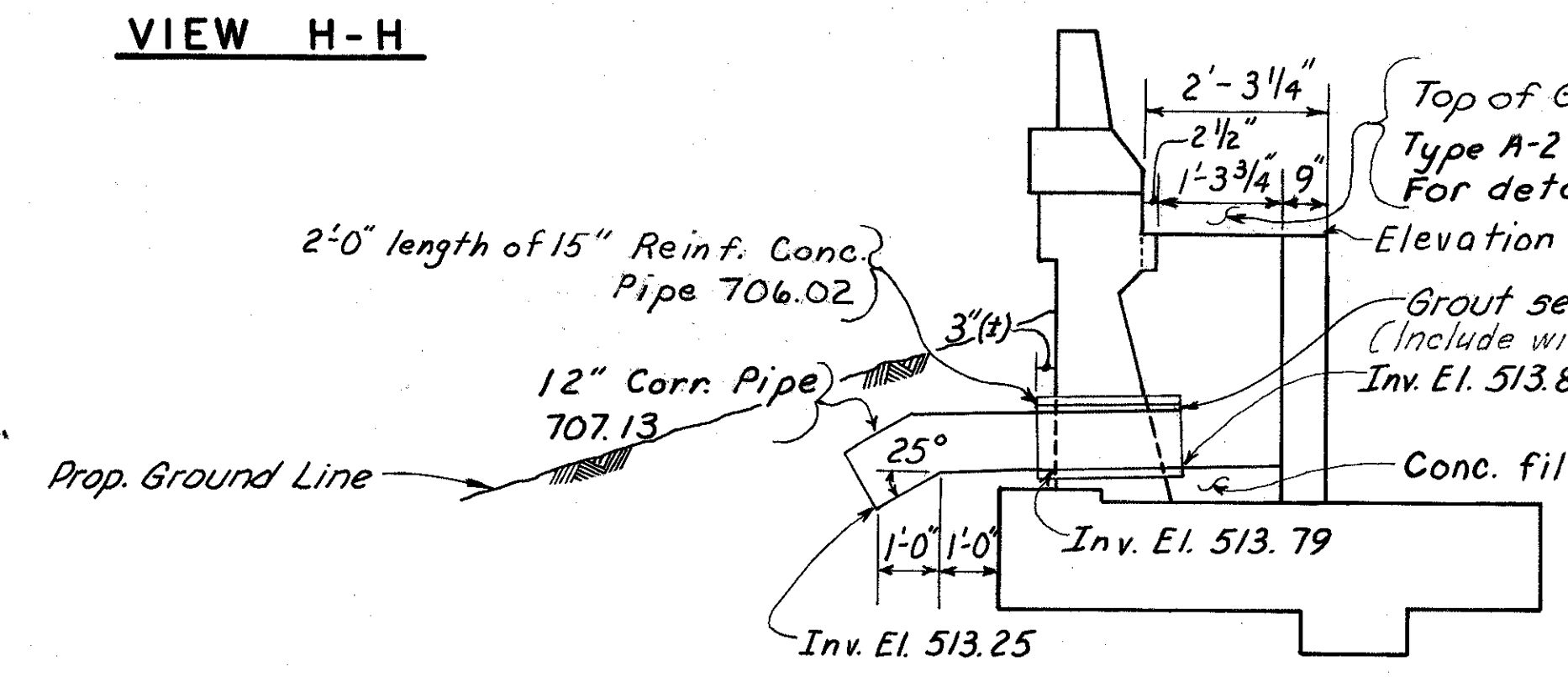
Note:
* Denotes measured along Wall Reference Line.
** Denotes measured along Back Face of Wall.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 17 SHEET 2 OF 5					
DESIGNED WL	DRAWN DSD	TRACED	CHECKED JL	REVIEWED DATE JH 3-23-82	REVISED



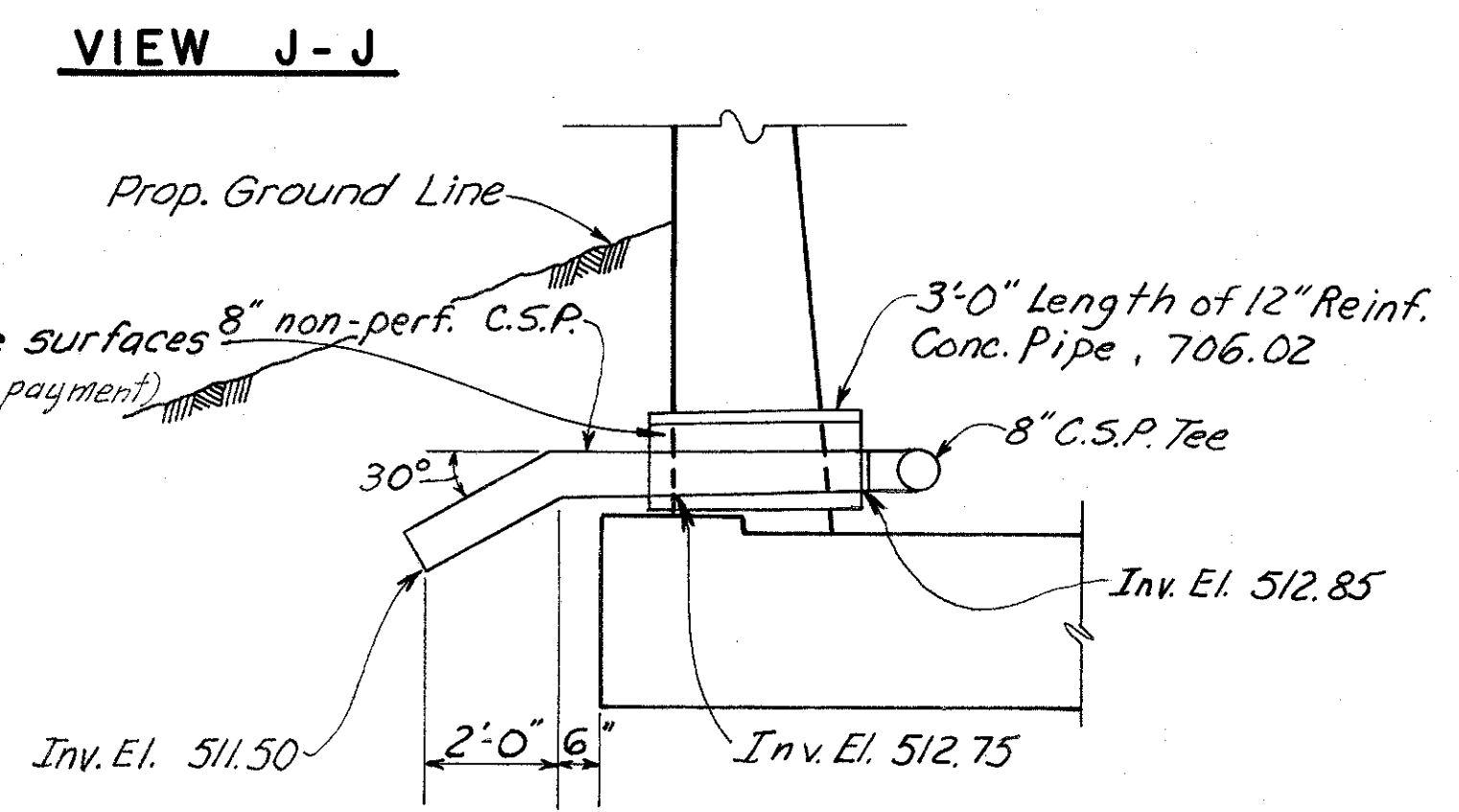
LOCATION PLAN
(For Ramp L see Alignment and Witness, sheet 28)

VIEW H-H

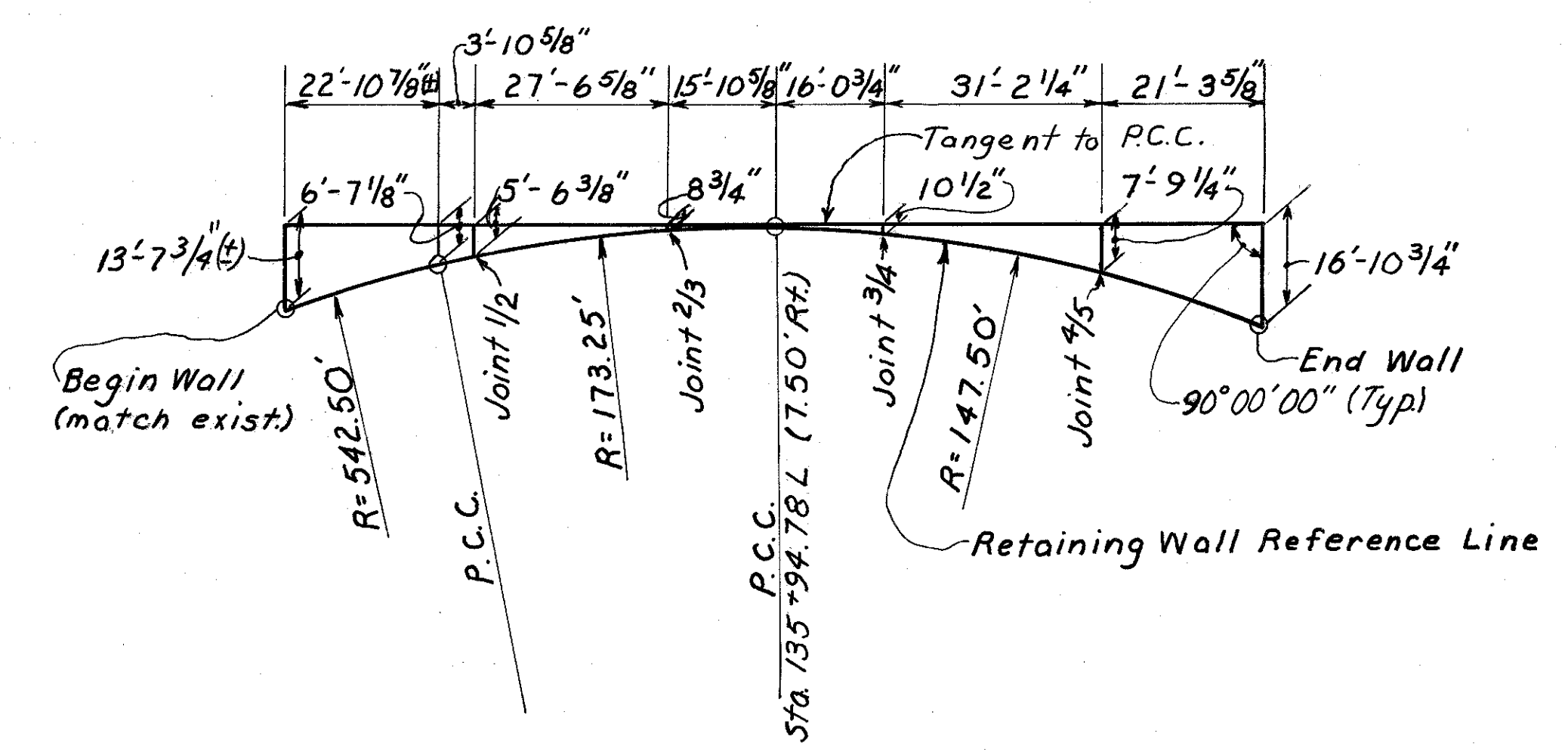


SECTION K-K

VIEW J-J

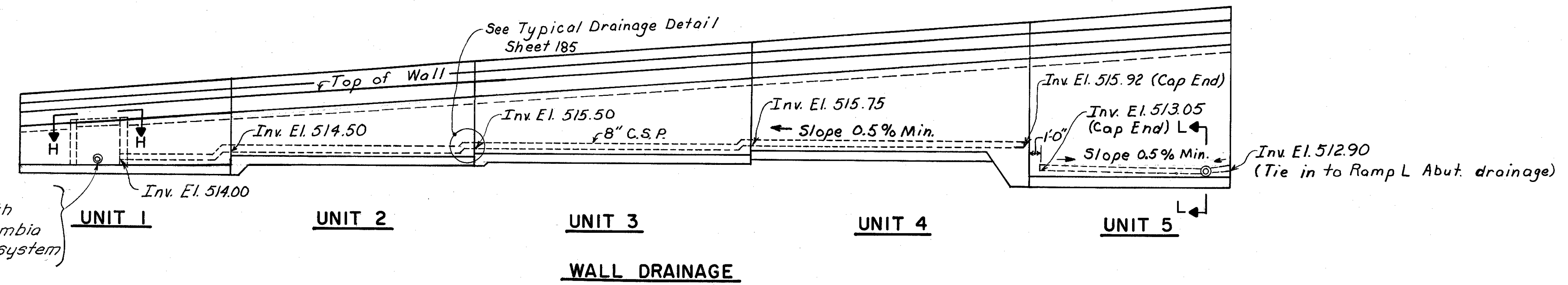


SECTION L-L



STAKE-OUT DIAGRAM

Note:
For other notes see sheet 177



WALL DRAINAGE

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO. 17 SHEET 4 OF 5					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	DSD		WKL	Jtk 3-23-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS								
					A	B	C	D	E	F	G	R	
W501	Str.	8'-8"	19	172									
W502	Str.	7'-7"	19	150									
W503	Str.	27'-7" to 28'-2"	1 Series of 7	204									
W504	Str.	27'-8" to 28'-2"	1 Series of 6	175									
W505	Str.	3'-9" to 5'-6"	1 Series of 19	92									
W506	Str.	3'-6" to 5'-3"	1 Series of 19	87									
W507	Str.	27'-8"	13	375									
W508	Str.	18'-0"	4	75									
W509E	Str.	27'-8"	8	231									
W510E	61	4'-8"	19	92	1'-0 3/4"	1'-3"	9 3/4"	7"	11"	1'-0"	1'-6"		
W511E	17	2'-5"	98	247	7 1/2"	1'-11"							
W512E	46	5'-3"	98	537	2'-2"	2'-5"	7 1/2"	1 1/4"					2 1/8"
W513	Str.	10'-0"	32	334									
W514	16	9'-7"	12	120	1'-11 1/4"	6'-10"	2'-9"	1'-11 1/4"					
W515	Str.	9'-2"	16	153									
W516	Str.	7'-11"	20	165									
W517	Str.	8'-2"	4	34									
W518	Str.	4'-8"	1	5									
W519	Str.	17'-0"	1	18									
W520	Str.	27'-9" to 29'-0"	2 Series of 6	355									
W521	Str.	4'-9" to 6'-6"	1 Series of 20	117									
W522	Str.	4'-6" to 6'-3"	1 Series of 19	107									
W523E	61	4'-7"	63	301	1'-0 3/4"	1'-4 1/2"	8 1/2"	6"	10"	10 1/2"	1'-6"		
W524	Str.	27'-10" to 28'-0"	1 Series of 3	87									
W525	Str.	27'-10"	2	58									
W526	Str.	16'-0"	4	67									
W527	Str.	13'-7"	22	312									
W528	Str.	14'-11"	22	342									
W529	Str.	31'-6" to 34'-5"	1 Series of 11	378									
W530	Str.	31'-10" to 34'-5"	1 Series of 10	345									
W531	Str.	5'-6" to 7'-8"	1 Series of 23	158									
W532	Str.	5'-3" to 7'-5"	1 Series of 22	145									
W533	Str.	31'-10" to 32'-0"	1 Series of 3	100									
W534	Str.	31'-8"	12	396									
W535	Str.	24'-0"	2	50									
W536	Str.	31'-11"	4	133									
W537E	Str.	31'-8"	8	264									
W538	Str.	19'-2"	22	440									
W539	Str.	31'-6" to 35'-7"	1 Series of 14	490									
W540	Str.	31'-10" to 35'-7"	1 Series of 13	457									
W541	Str.	7'-5" to 9'-6"	1 Series of 12	106									
W542	Str.	5'-4" to 7'-6"	1 Series of 11	74									
W543	Str.	7'-2" to 9'-3"	1 Series of 22	188									
W544	Str.	31'-11" to 32'-1"	1 Series of 5	167									
W545	Str.	22'-8" to 28'-11"	2 Series of 22	1,184									
W546	Str.	12'-7" to 14'-0"	1 Series of 18	250									
W547	Str.	14'-1"	1	15									
W548	Str.	12'-4" to 13'-10"	1 Series of 16	218									
W549	Str.	23'-1" to 23'-4"	1 Series of 8	194									
W550	Str.	22'-10"	10	238									
W551	Str.	23'-0"	2	48									
W552E	Str.	22'-10"	4	95									
W553	16	10'-11"	26	296	2'-10"	6'-11"	4'-0"	2'-10"					
W554E	61	4'-4"	16	72	10 1/2"	1'-4 1/2"	8 1/2"	6"	10"	10 1/2"	1'-3"		
W555E	Str.	11'-3"	8	94									
W556E	Str.	15'-8"	16	261									
W557E	Str.	13'-8"	16	228									
W558	17	3'-8"	7	27	7 1/2"	3'-2"							
W559	Str.	3'-5"	5	18									
W560	Str.	3'-6"	2	7									
W561	Str.	3'-7"	2	7									
W562	Str.	3'-8"	1	4									
W563	Str.	3'-9"	5	20									
W564	Str.	6'-3"	1	7									
W565	1	12'-8"	3	40	3'-4"	6'-3"							
W566	1	11'-3"	3	35	3'-0"	5'-6"							
W601	19	5'-5"	19	155	1'-11"	3'-4 3/4"	3'-6"	10 1/4"					
W602	19	5'-8"	16	136	1'-11"	3'-7 3/4"	3'-9"	10 1/2"					
W603	19	5'-6"	4	33	1'-9"	3'-7 3/4"	3'-9"	10 1/2"					
W604	19	5'-11"	23	204	1'-11"	3'-11"	4'-0"	9 1/4"					
W605	Str.	18'-0"	23	622									
W606	19	5'-11"	12	107	1'-11"	3'-11 1/2"	4'-0"	7 1/2"					
W607	19	7'-11"	11	131	1'-11"	5'-11"	6'-0"	11"					
W608	Str.	31'-8"	38	1,807									
W609	19	6'-2"	41	380	1'-11"	4'-2 3/4"	4'-3"	5 1/4"					
W610	19	12'-9"	38	728	1'-11"	10'-9 1/4"	10'-10"	1'-1 1/2"					

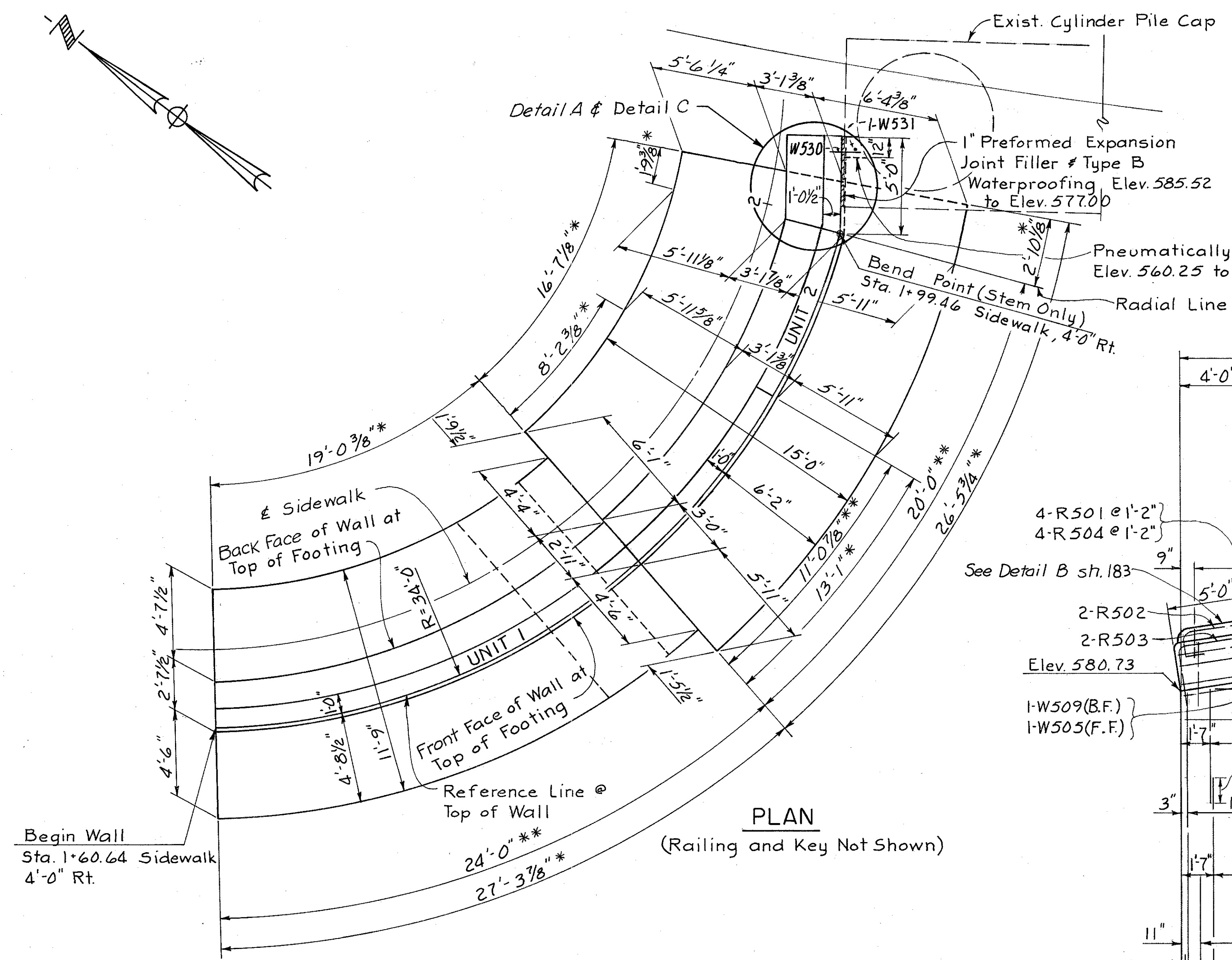
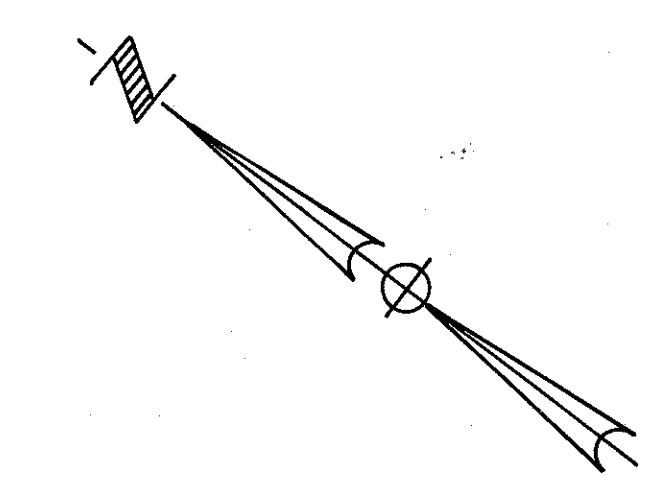
Total Weight of Reinforcing Steel, Grade 60 = 14,142 Lbs.
Total Weight of Epoxy Coated Reinforcing Steel, Grade 60 = 2,422 Lbs.

Notes:
REINFORCING STEEL SAMPLES:
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08. For Bar Bending Schedule see sheet 346 Bar Marks with an E denote Epoxy Coated Reinforcing Steel, for example W509E.

ITEM	TOTAL	UNIT	ESTIMATED QUANTITIES	
			DESCRIPTION	
509	14,142	Pound	Reinforcing Steel, Grade 60	
503	81	Cubic Yard	Unclassified Excavation	
511	17	Cubic Yard	Class S Concrete, Curb and Parapet	
511	234	Cubic Yard	Class C Concrete, Footings	
511	64	Cubic Yard	Class C Concrete, Wall above Footing	
512	15	Square Yard	Type B Waterproofing	
516	48	Square Foot	1" Preformed Expansion Joint Filler	
518	134	Linear Foot	8" Perforated Corrugated Steel Pipe, including specials, 707.01	
518	8	Linear Foot	8" Non-Perforated Corrugated Steel Pipe, 707.01	
518	2	Linear Foot	15" Reinforced Concrete Pipe, 706.02	
518	3	Linear Foot	12" Reinforced Concrete Pipe, 706.02	
518	5	Linear Foot	12" Bituminous Corrugated Steel Pipe, 707.13	
604	1	Each	Type A-2 Casting and Grate	
Special	2,422	Pound	Epoxy Coated Reinforcing Steel, Grade 60 (See Proposal Note)	

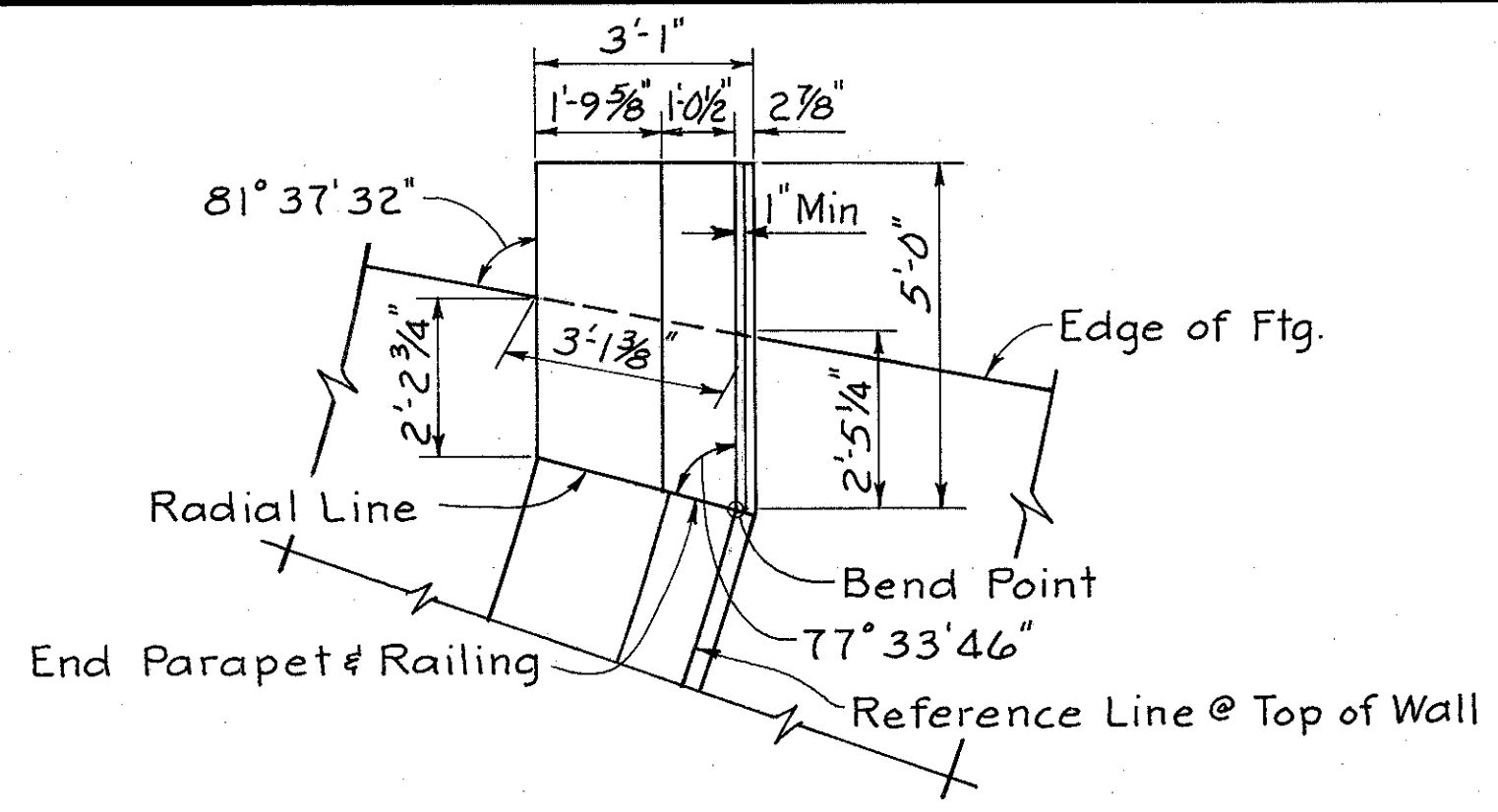
Note:
The above quantities are carried to the Summary of Quantities, sheet 186

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
RETAINING WALL				
NO. 17				
SHEET 5 OF 5				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DSD		JLZ	JLZ 3-23-82
				REVISED

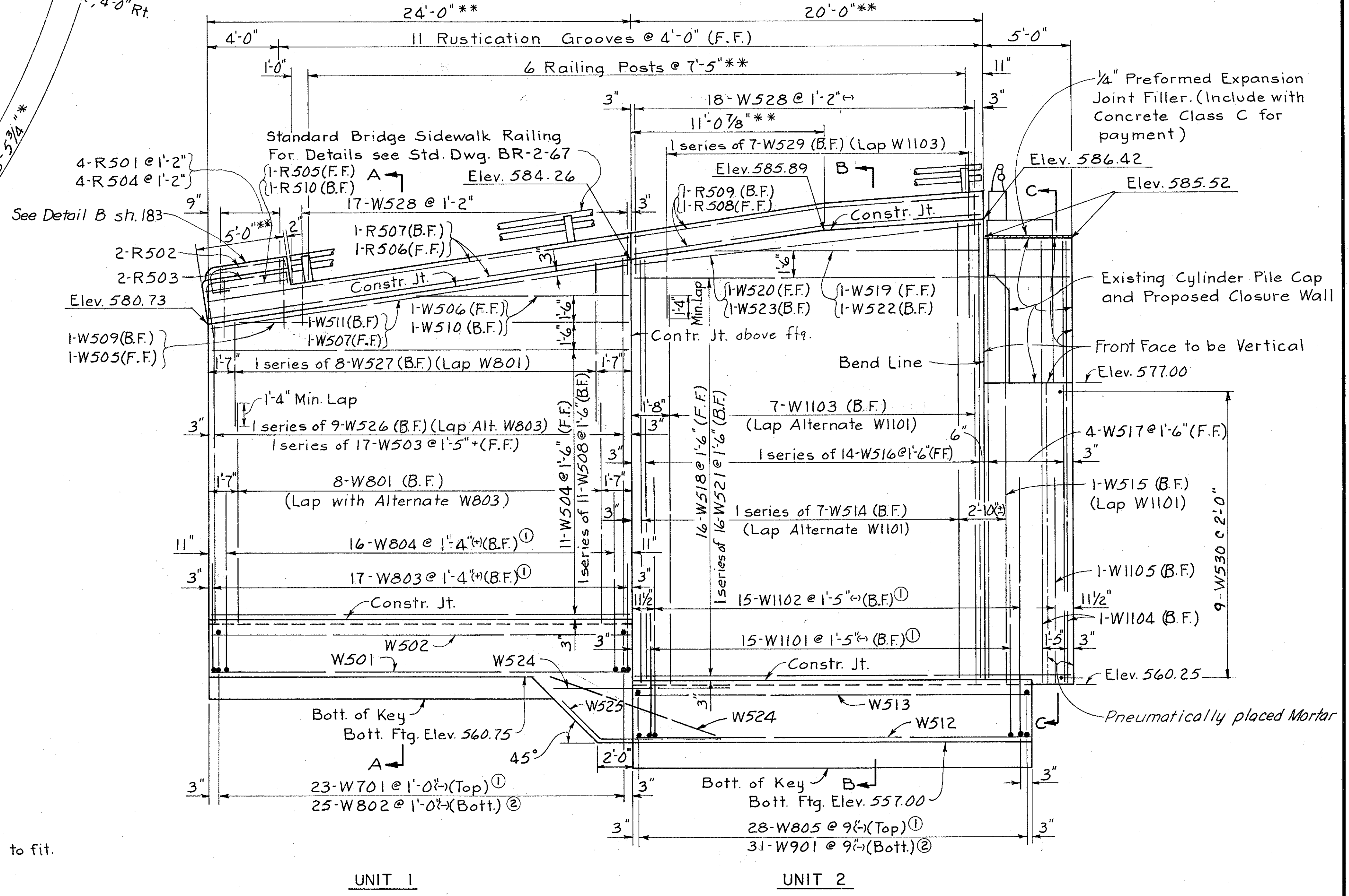


Note:
* Denotes measured along edge of footing
** Denotes measured along Reference Line

Notes:
F.F. Denotes Front Face of wall
B.F. Denotes Back Face of wall
For Sections A-A, B-B and C-C see Sh. 183
W524 Bars are to be centered under contraction joint in the stem. Field bend to fit.
For Contraction Joint and Rustication Groove Details see Sh. 185
All Concrete shall be Class C Concrete.
See Sh. 185 for General Notes No. 1 thru 4
① Denotes measured along BACK Face of Wall @ Top of Footing
② Denotes measured along Front Face of Wall @ Top of Footing
For Wall Layout see Sh. 184
For Detail C, see Sh. 183
For the spacing of the W524 and W525 bars beneath the contraction joint, see Section B-B, Sh. 183
Railing posts are set normal to grade.
Use of chords to approximate curved surfaces is not permitted.
Form joints shall be arranged to coincide with rustication grooves.



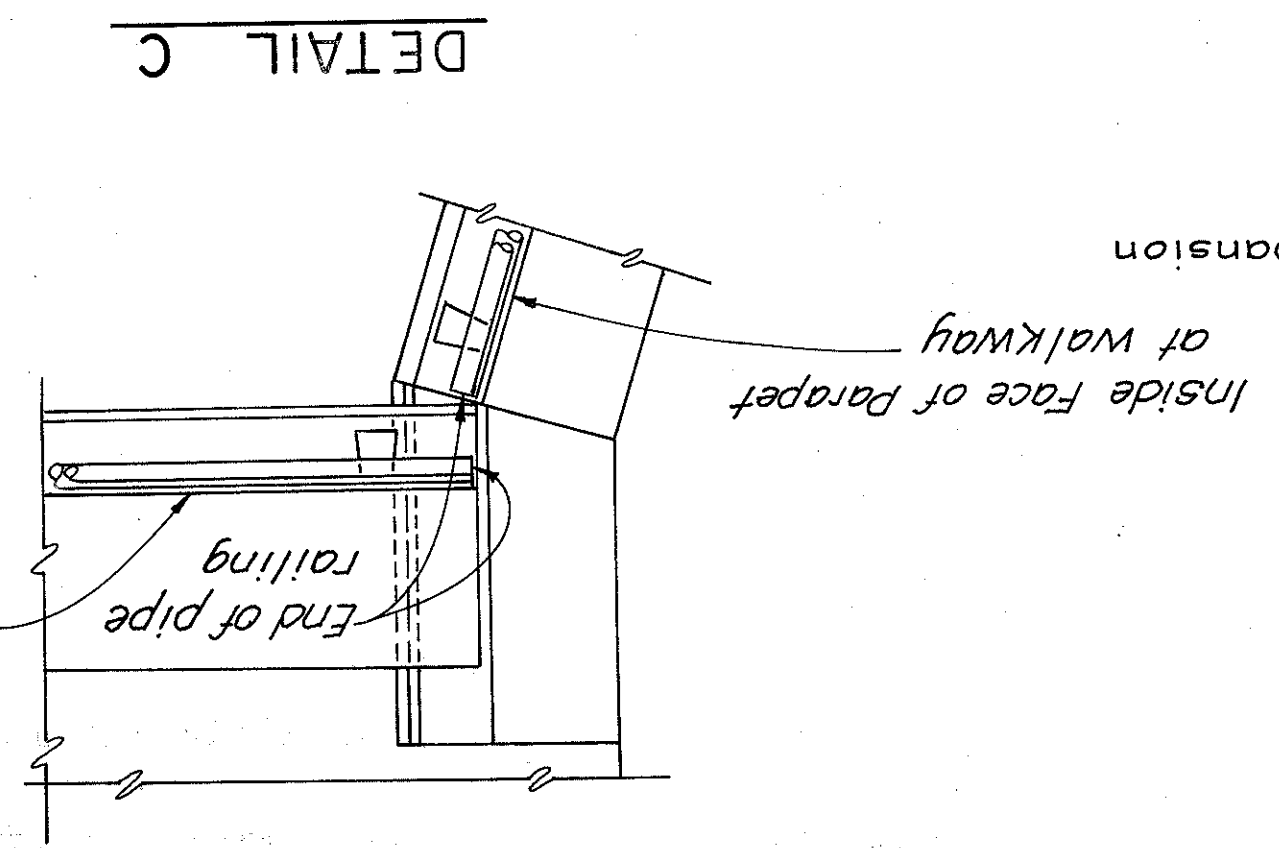
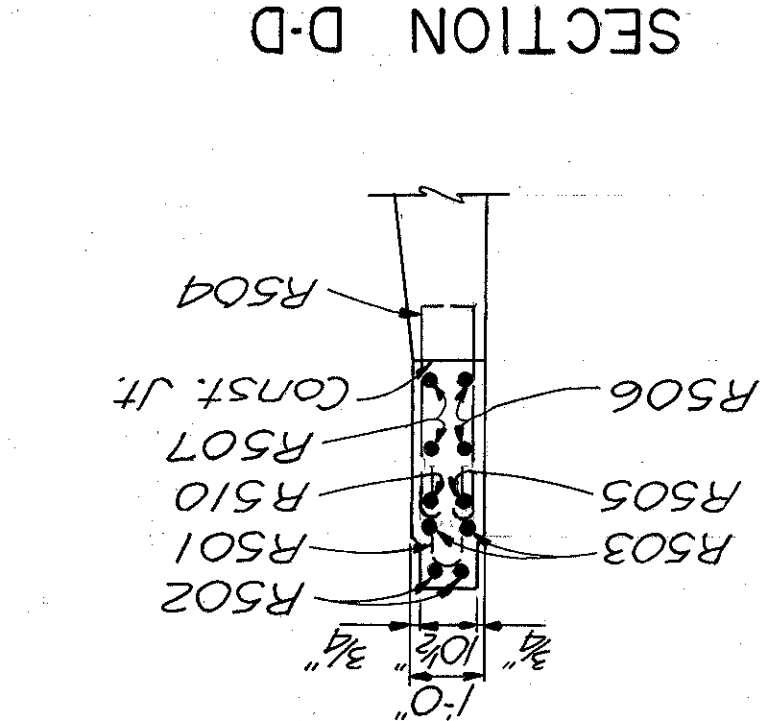
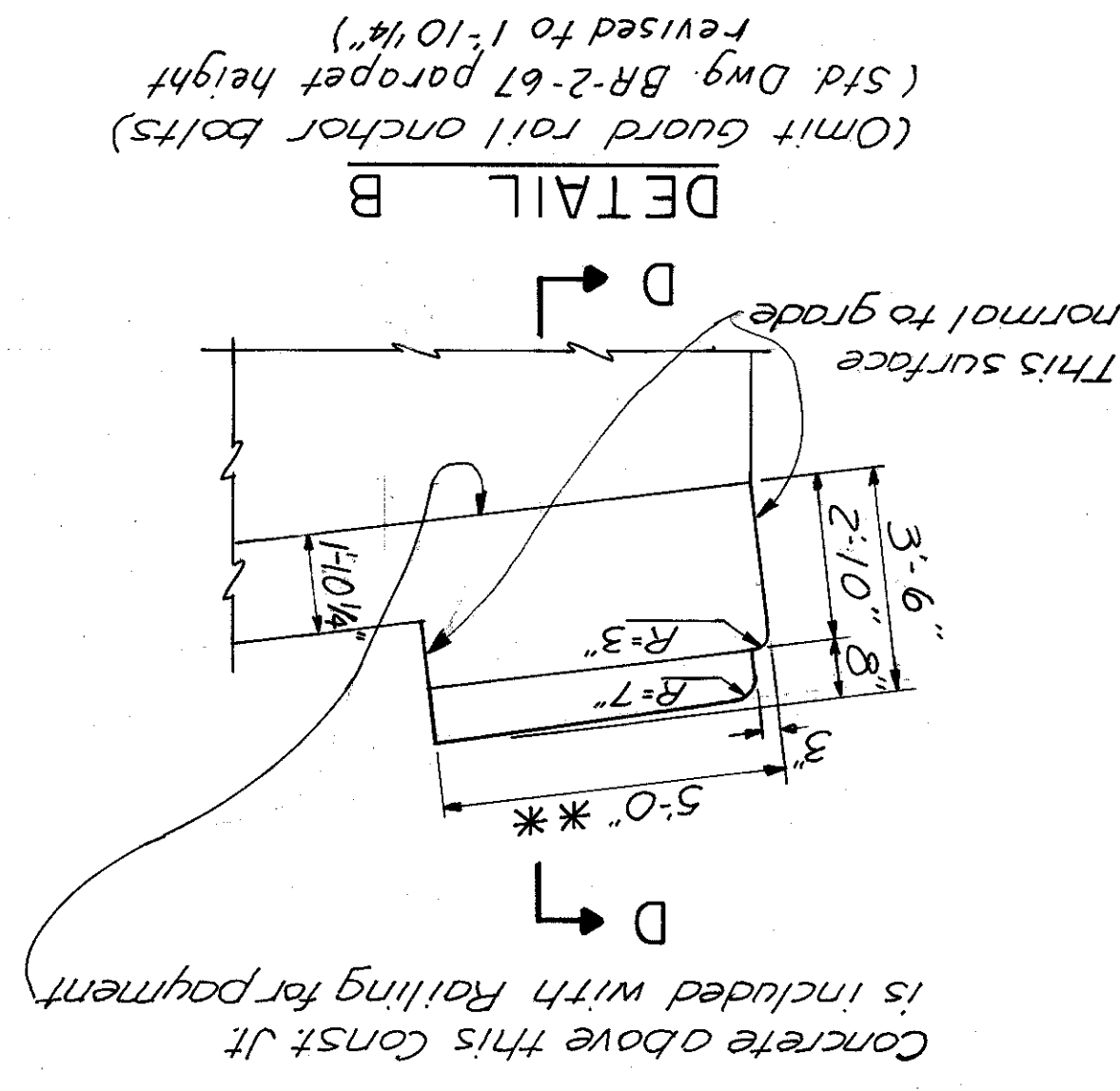
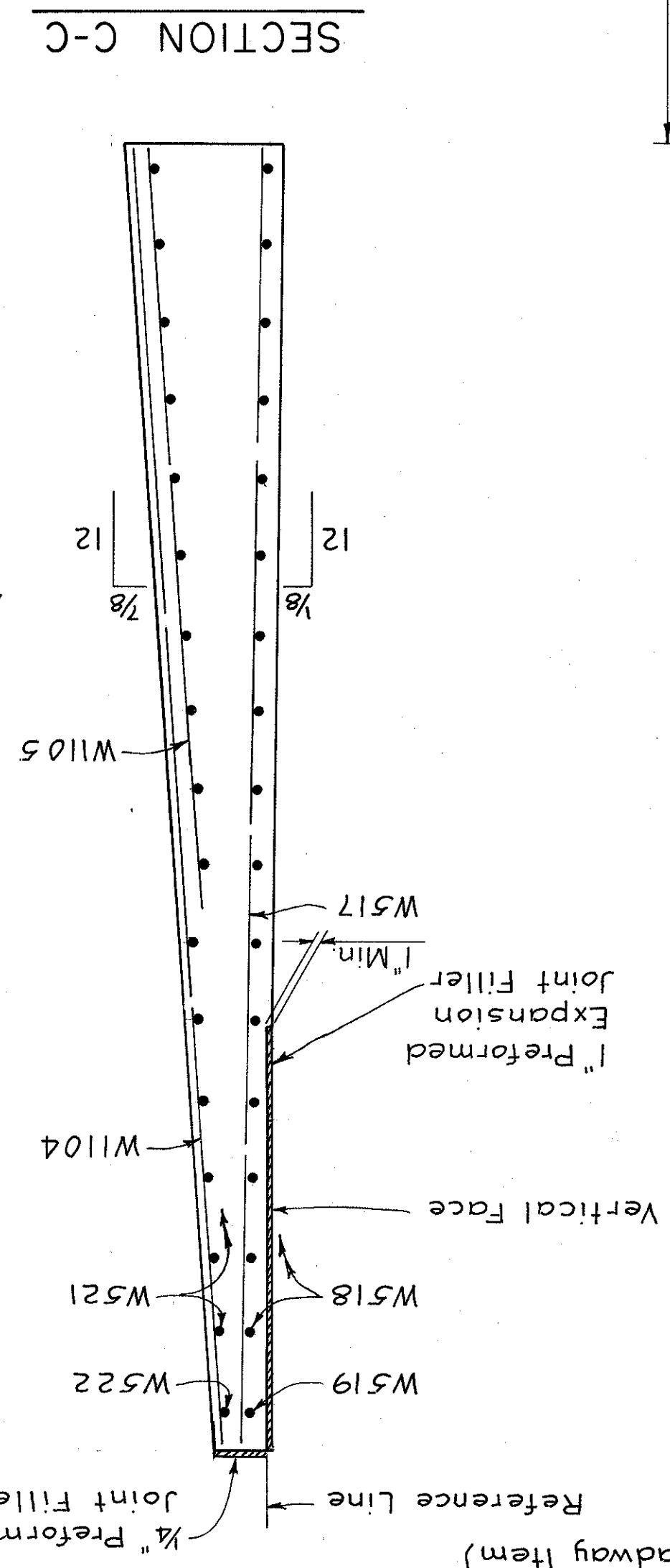
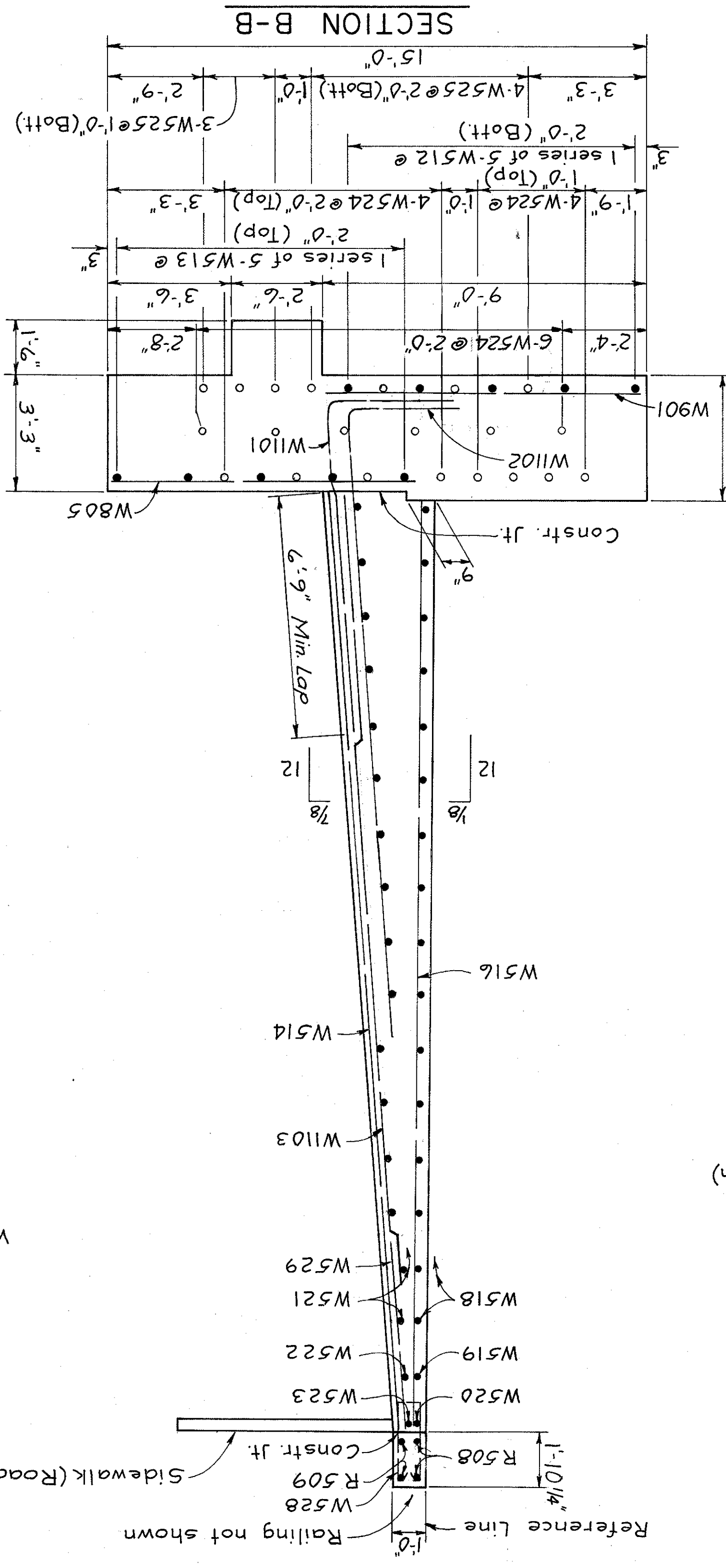
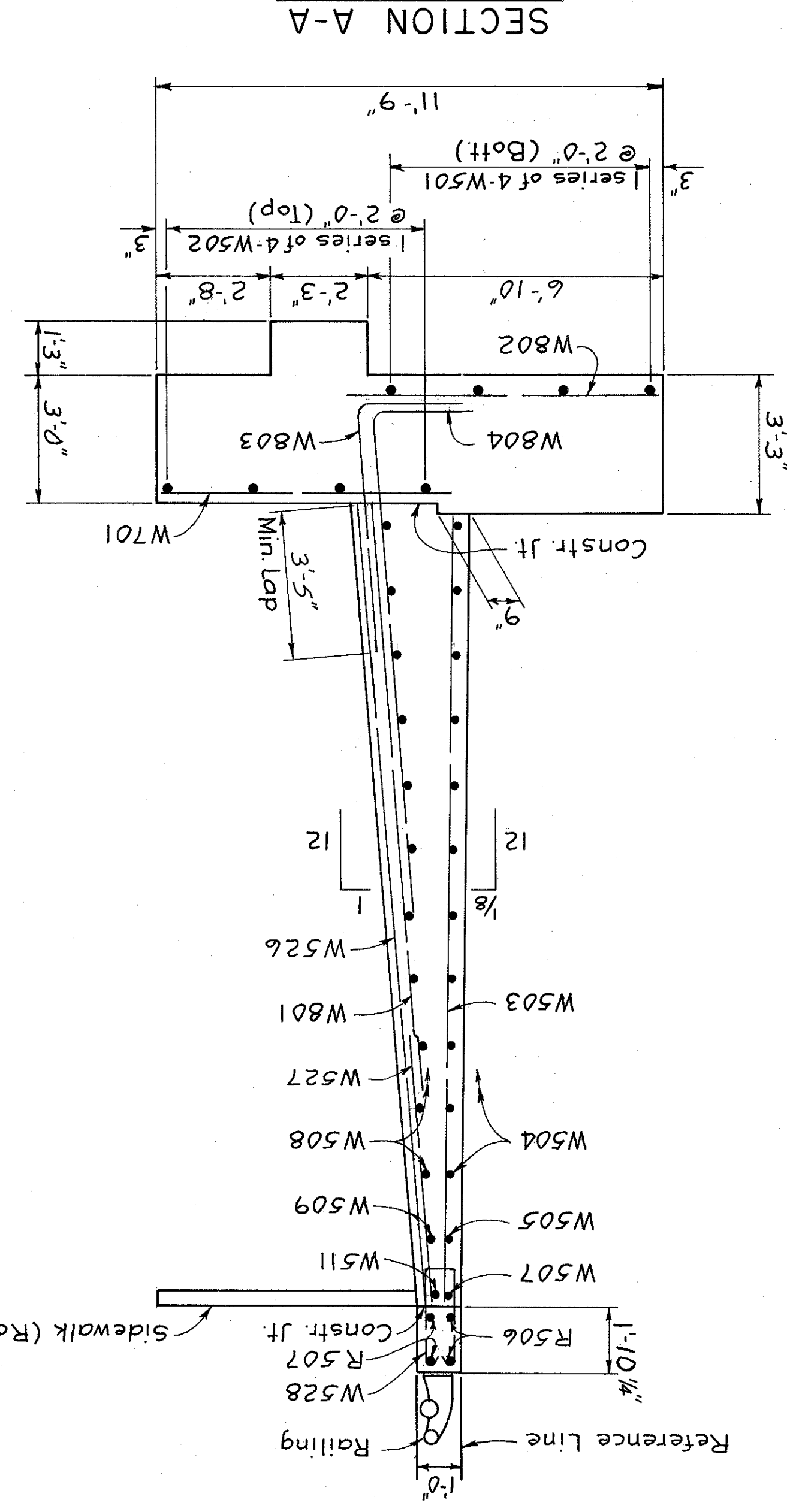
DETAIL A



ELEVATION
(Development)

DESIGN ASSUMPTIONS
Maximum Foundation Pressure 5000 lbs./sq. ft.
Coeff. of Friction "f" of Masonry on Subfoundation 0.45

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
RETAINING WALL NO.18					
SHEET 1 of 3					
DESIGNED ALT	DRAWN ALT.	TRACED	CHECKED WL	REVIEWED DATE JH0 3-23-82	REVISED



Note: Field Bend R502 & R503
 to fit parapet curvature

Concrete above this Const Jt
 is included with Railing for payment

DETAIL B
 (Omit guard rail anchor bolts)
 (Std. Dwg. BR-2-67 parapet height
 revised to 1'-10 1/4")

Inside Face of Parapet
 railing
 End of pipe
 at walkway
 Monastery St. Bridge

ITEM 520, PNEUMATICALLY PLACED MORTAR

DESCRIPTION: This item applies to the furnishing and placing of a minimum thickness of 12 inches of Pneumatically Placed Mortar between the existing cylinder pile and the end of the retaining wall as shown on the plans and in accordance with Item 520 of the Construction and Material Specifications, except as modified herein.

EQUIPMENT: All equipment necessary for the execution and completion of the work shall meet the approval of the Engineer.

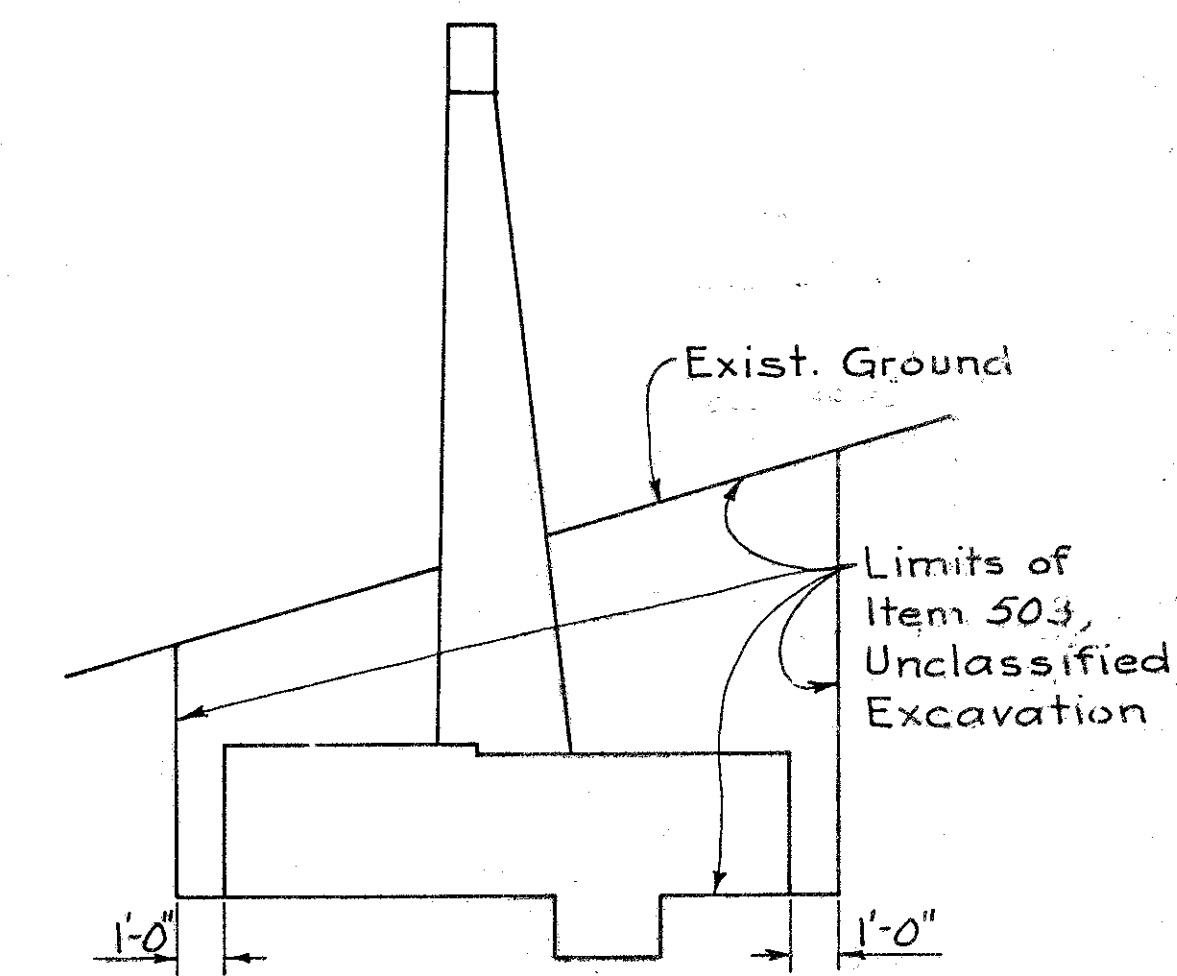
MATERIAL: Materials shall conform to the following:
1. Fine aggregate shall be as specified in Section 703.02 of the Construction and Material Specifications.
2. Portland cement shall be as specified in Section 701.04 of the Construction and Material Specifications.
3. Water shall be clean and potable.

METHOD OF MEASUREMENT: The footage for payment shall be the actual number of linear feet of mortar, applied in place.

BASIS OF PAYMENT: Payment will be made at contract price for:
ITEM UNIT Description
520 Linear Foot Pneumatically Placed Mortar

ESTIMATED QUANTITIES			
Item	Total	Unit	Description
503	Lump	Lump Sum	Cofferdams, cribs, and sheeting
503	242	Cubic Yard	Unclassified excavation
509	11244	Pound	Reinforcing steel, grade 60
511	82	Cubic Yard	Class C Concrete, footings
511	76	Cubic Yard	Class C Concrete, wall above footings
512	10	Square Yard	Type B Waterproofing
516	29	Square Foot	1" Preformed expansion joint filler
517	44	Linear Foot	Railing (concrete parapet with double pipe rail)
520	17	Linear Foot	Pneumatically placed mortar

Note: The above quantities are carried to the Summary of Quantities Sh. 186



TYPICAL EXCAVATION SECTION

The excavated granular material, Embankment B, excavated for construction of retaining wall No. 18 shall be stockpiled and left on the site and shall be reused for backfilling once the new wall construction has been completed. Where additional fill is required behind the new wall to raise the existing grade, as shown on the cross section at Station 14+50 M, on Sheet 93, the additional fill shall be the remainder of the stockpiled excavated granular material. The fill shall be placed in maximum 8-inch loose lifts and compacted to not less than 90% modified proctor.

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

RETAINING WALL NO. 18

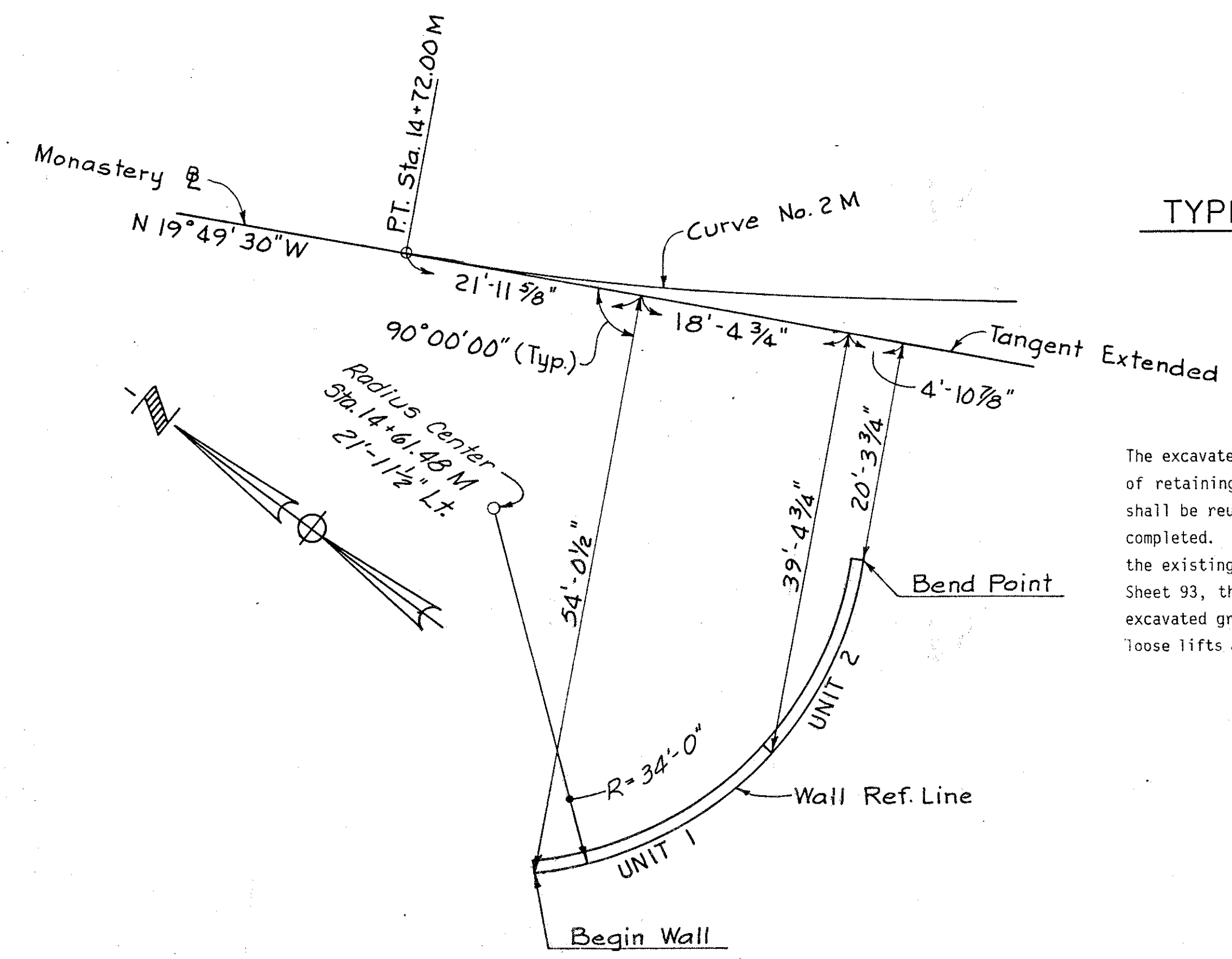
SHEET 3 of 3

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ALT	ALT		W.L.	JH 3-23-82	3-17-82

REINFORCING STEEL LIST											
Mark	Type	Length	No. of Bars	Weight	Dimensions						
					A	B	C	D	E	F	R
W501	22	26'-7" to 22'-4"	1 series of 4	102	26'-7" to 22'-4"						38'-4 1/2" to 32'-4 1/2"
W502	22	18'-8" to 22'-11"	1 series of 4	87	18'-8" to 22'-11"						27'-2 1/2" to 33'-2 1/2"
W503	Str.	16'-7" to 20'-0"	1 series of 17	324							
W504	22	23'-6"	11	270	23'-6"						33'-10"
W505	22	22'-0"	1	23	22'-0"						33'-10"
W506	22	12'-1"	1	13	12'-1"						33'-10"
W507	22	23'-8"	1	25	23'-8"						33'-10"
W508	22	22'-0" to 23'-1"	1 series of 11	259	22'-0" to 23'-1"						31'-8" to 33'-3"
W509	22	21'-8"	1	23	21'-8"						33'-3"
W510	22	11'-11"	1	12	11'-11"						33'-3"
W511	22	23'-4"	1	24	23'-4"						33'-3"
W512	22	25'-9" to 20'-6"	1 series of 5	121	25'-9" to 20'-6"						39'-10 1/2" to 31'-10 1/2"
W513	22	21'-6" to 16'-3"	1 series of 5	98	21'-6" to 16'-3"						33'-5" to 25'-5"
W514	Str.	23'-10" to 25'-10"	1 series of 7	181							
W515	Str.	25'-1"	1	26							
W516	Str.	23'-8" to 25'-9"	1 series of 14	361							
W517	Str.	24'-10"	4	104							
W518	22	24'-7"	16	410	24'-7"						33'-10"
W519	22	20'-6"	1	21	20'-6"						33'-10"
W520	22	19'-9"	1	21	19'-9"						33'-10"
W521	22	22'-6" to 23'-9"	1 series of 16	386	22'-6" to 23'-9"						31'-6" to 33'-3"
W522	22	20'-2"	1	21	20'-2"						33'-3"
W523	22	19'-5"	1	20	19'-5"						33'-3"
W524	Str.	10'-0"	14	146							
W525	16	10'-0"	7	73	2'-3"	6'-10"	3'-2"	2'-3"			
W526	Str.	16'-10" to 20'-3"	1 series of 9	174							
W527	Str.	4'-10" to 7'-10"	1 series of 8	53							
W528	14	6'-3"	35	228	2'-6"	8"					
W529	Str.	3'-4" to 5'-3"	1 series of 7	31							
W530	Str.	1'-6"	9	14							
W531	Str.	16'-0"	1	17							
W701	Str.	6'-8"	23	313							
W801	Str.	13'-7"	8	290							
W802	Str.	7'-0"	25	467							
W803	19	8'-8"	17	393	2'-6"	6'-1 3/4"	6'-2"	6"			
W804	19	14'-3"	16	609	2'-6"	11'-8 1/2"	11'-9"	11 3/4"			
W805	Str.	8'-8"	28	648							
W901	Str.	8'-9"	31	922							
W1101	19	13'-4"	15	1063	3'-7"	9'-8 3/4"	9'-9"	8 1/2"			
W1102	19	21'-5"	15	1707	3'-7"	17'-9 1/2"	17'-10"	1'-3 1/2"			
W1103	Str.	22'-1"	7	821							
W1104	Str.	24'-10"	2	264							
W1105	Str.	14'-10"	1	79							
R501	33	3'-3"	4	*	9"	1'-3"					2 3/8"
R502	27	6'-11"	2	*	10 1/2"	1'-0"	5"	1"	5"	3'-10"	4 3/8"
R503	2	8'-8"	2	*	3'-6"	4'-6 1/2"	10 1/2"				
R504	14	8'-3"	4	*	3'-6"	8"					
R505	22	4'-7"	1	*	4'-7"						33'-9"
R506	22	23'-8"	2	*	23'-8"						33'-8 1/2"
R507	22	23'-4"	2	*	23'-4"						33'-2 1/2"
R508	22	19'-7"	2	*	19'-7"						33'-8 1/2"
R509	22	19'-4"	2	*	19'-4"						33'-2 1/2"
R510	22	4'-6"	1	*	4'-6"						33'-2 1/2"

Notes: Reinforcing Steel Samples: Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08. R Bars marked (*) are included with railing for payment, Item 517. For Bar Bending Schedule see Sh. 346. Total Weight of Reinforcing Steel = 11,244 lbs.

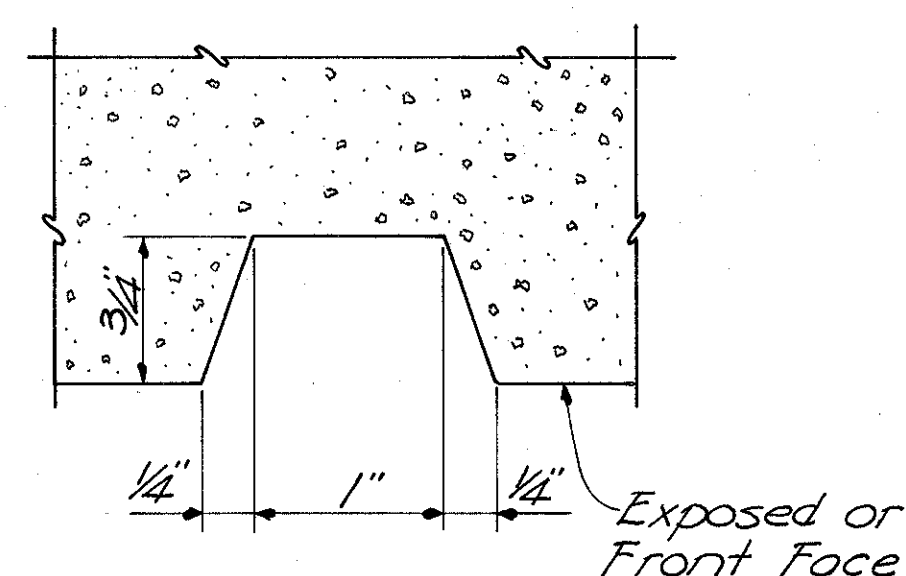
† R508 & R509 Bars, in addition to the assigned horizontal bending radius, will require field bending (vertical plane) to conform to bend in top and bottom of parapet.
†† W518 thru W523 Bars will require field bending for portion projecting into the 5'-0" length of straight wall (East End of Unit 2).



WALL LAYOUT

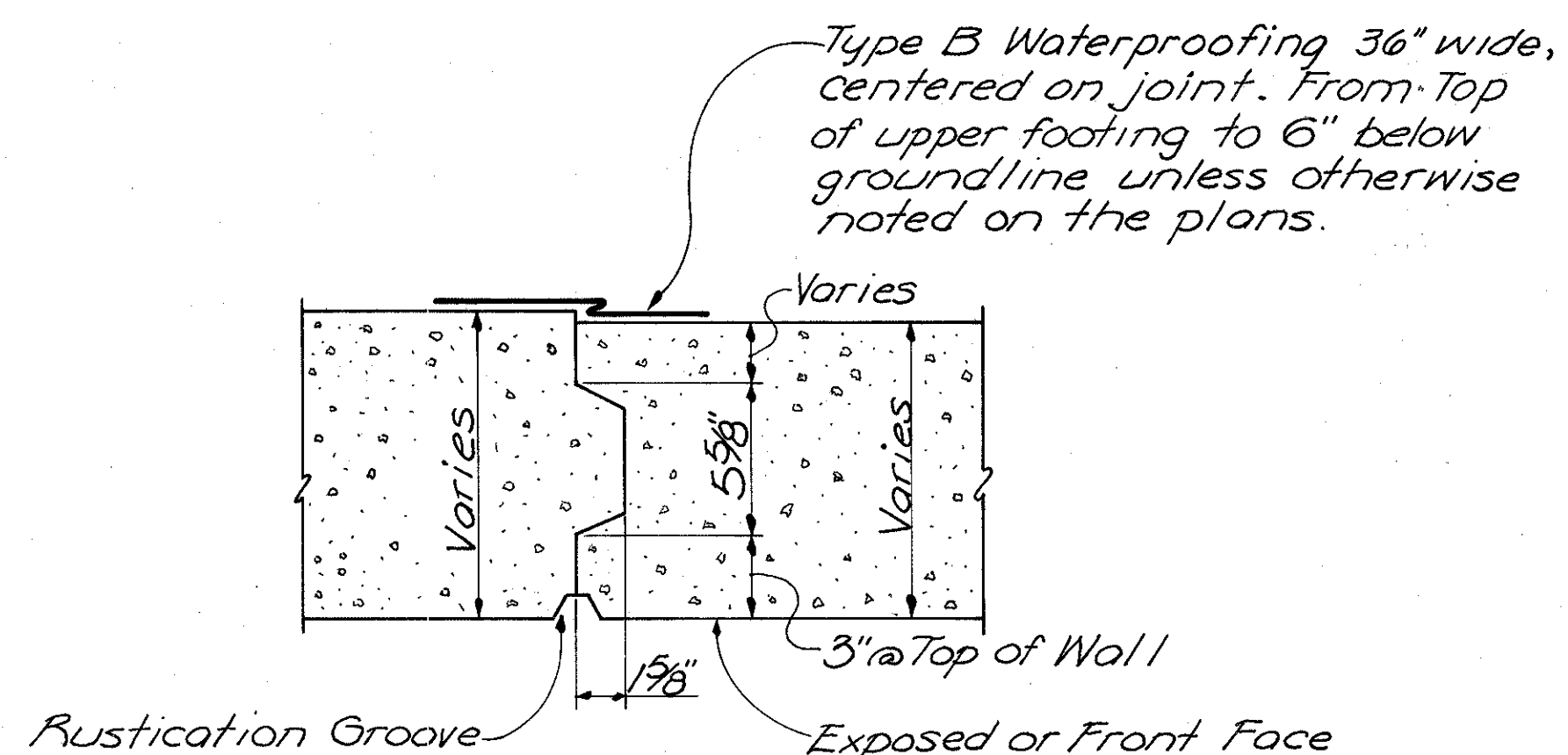
GENERAL NOTES

- Note 1 Reference Shall be made to Standard Drawing BR-2-67 Revised 10-15-71.
- Note 2 Design Unit Stresses Concrete Class S, Compressive Strength 4500 psi for curb and parapet Concrete Class C, Compressive Strength 4000 psi for substructure. Reinforcing Steel - ASTM A615, A616, or A617, Grade 60, Minimum Yield Strength 60,000 psi.
- Note 3 Reinforcing Bars Provide 3" clearance to reinforcing steel in footings and 2" clearance elsewhere (Minimum).
- Note 4 Footing Keys Keys for footings on soil shall be placed in a carefully made trench against undisturbed earth.
- Note 5 Expansion Joint Filler The 1" preformed expansion joint filler shall be carried up thru the concrete parapet.
- Note 6 Embankment B Placement Embankment B underneath Retaining walls 4, 5, 13, 15 and 17 shall be compacted to a minimum of 8" above bottom of footing elevation before proceeding with Structure Excavation (Item 503, Unclassified Excavation).

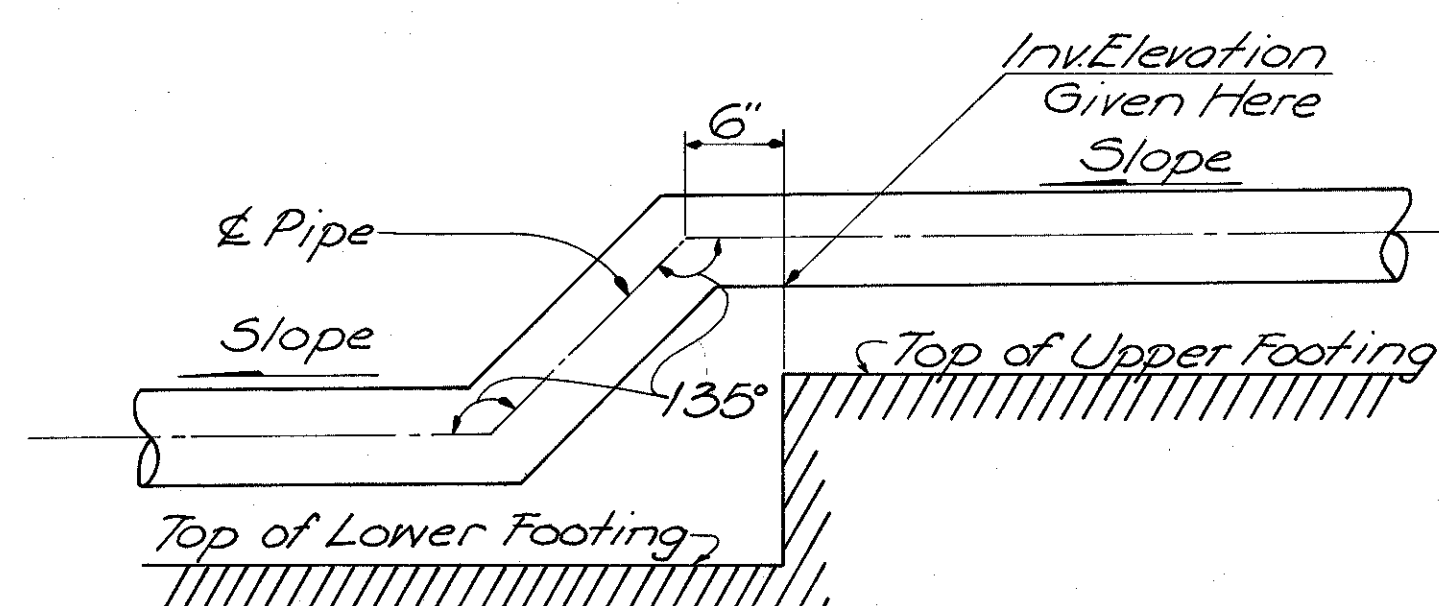


RUSTICATION GROOVE

(Note: Form joints shall be arranged to coincide with rustication grooves.)

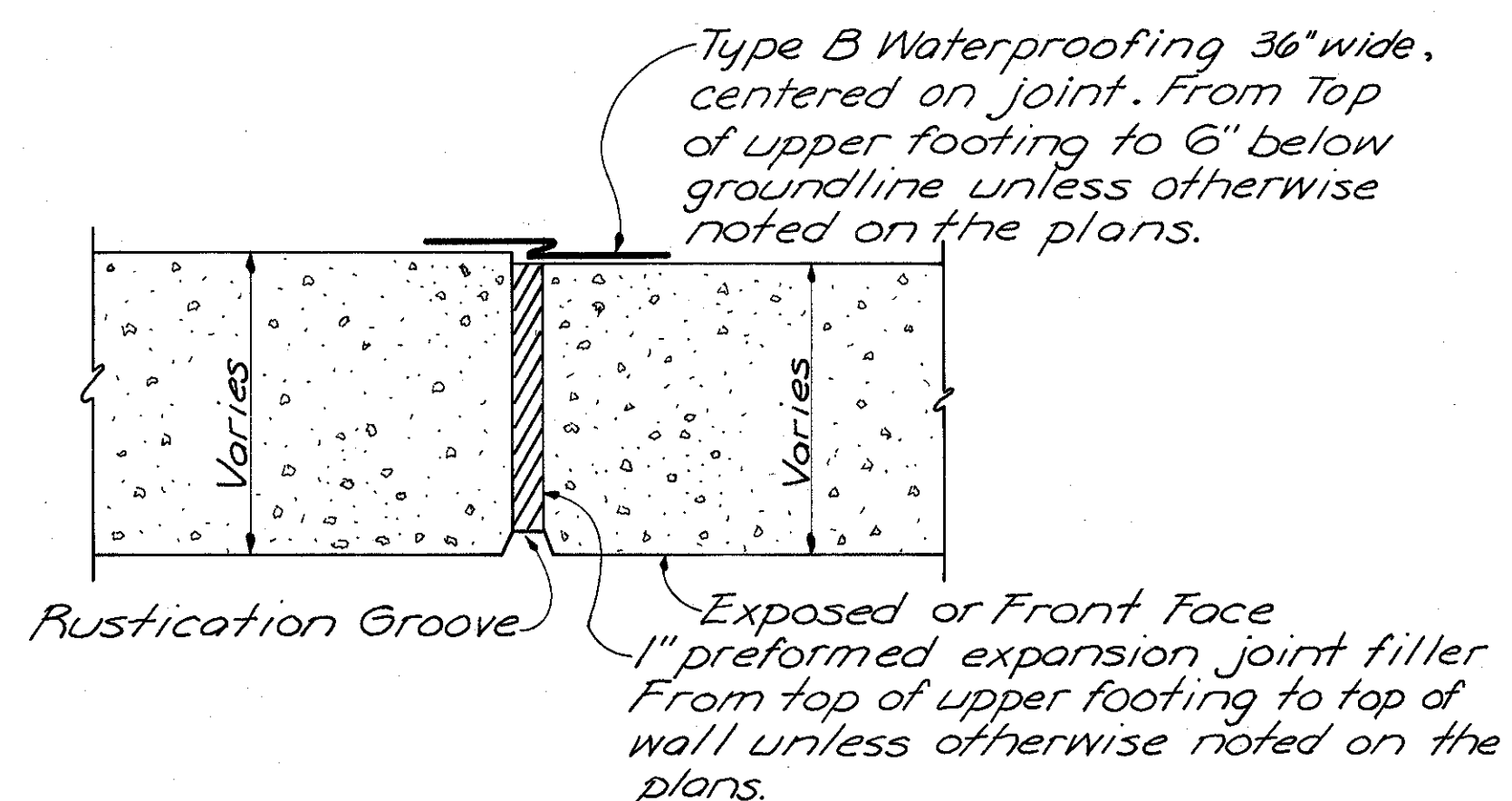


CONTRACTION JOINT



TYPICAL DRAINAGE DETAIL

(Note: For size & slope of Pipe see wall plans.)



EXPANSION JOINT

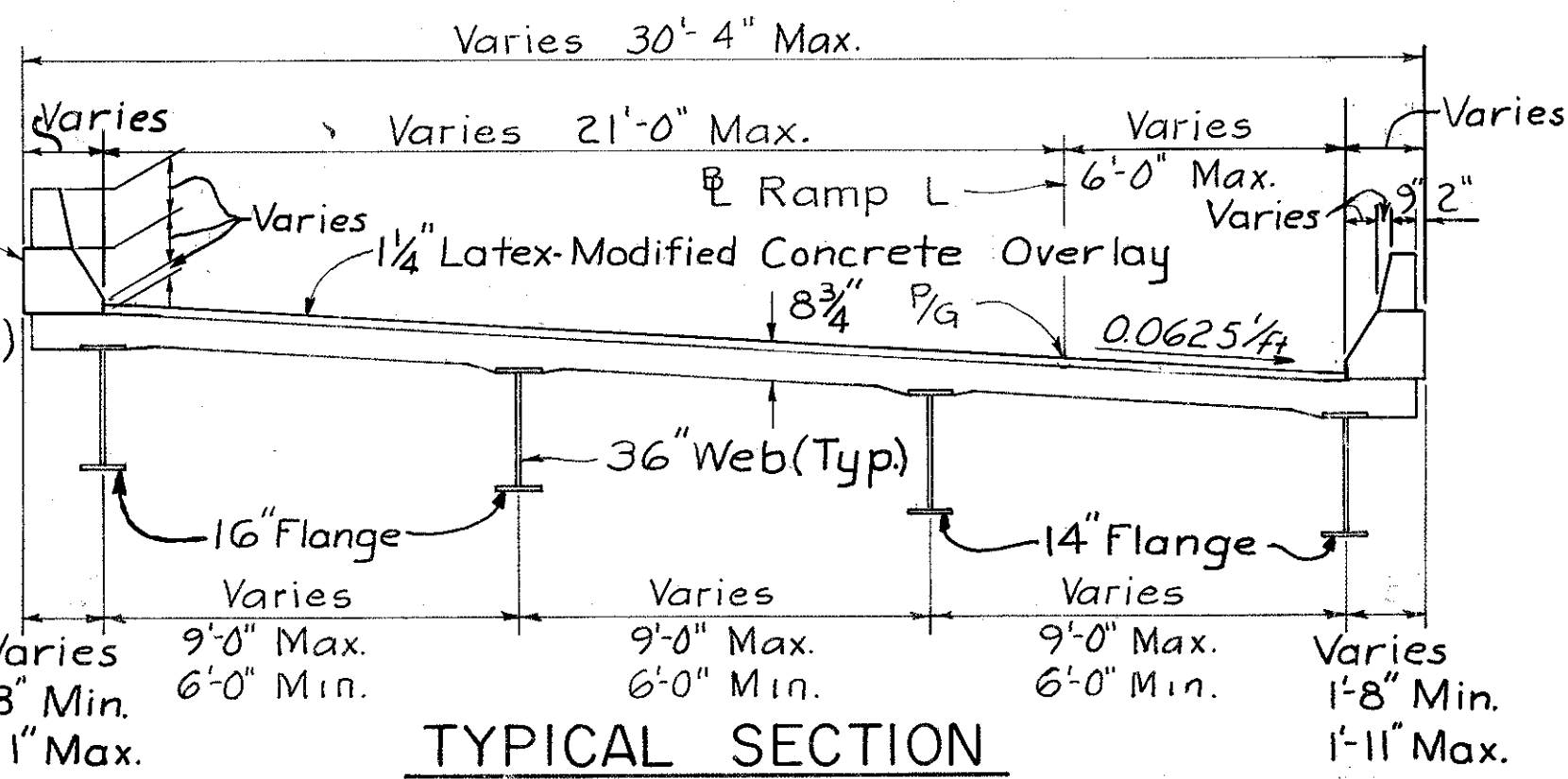
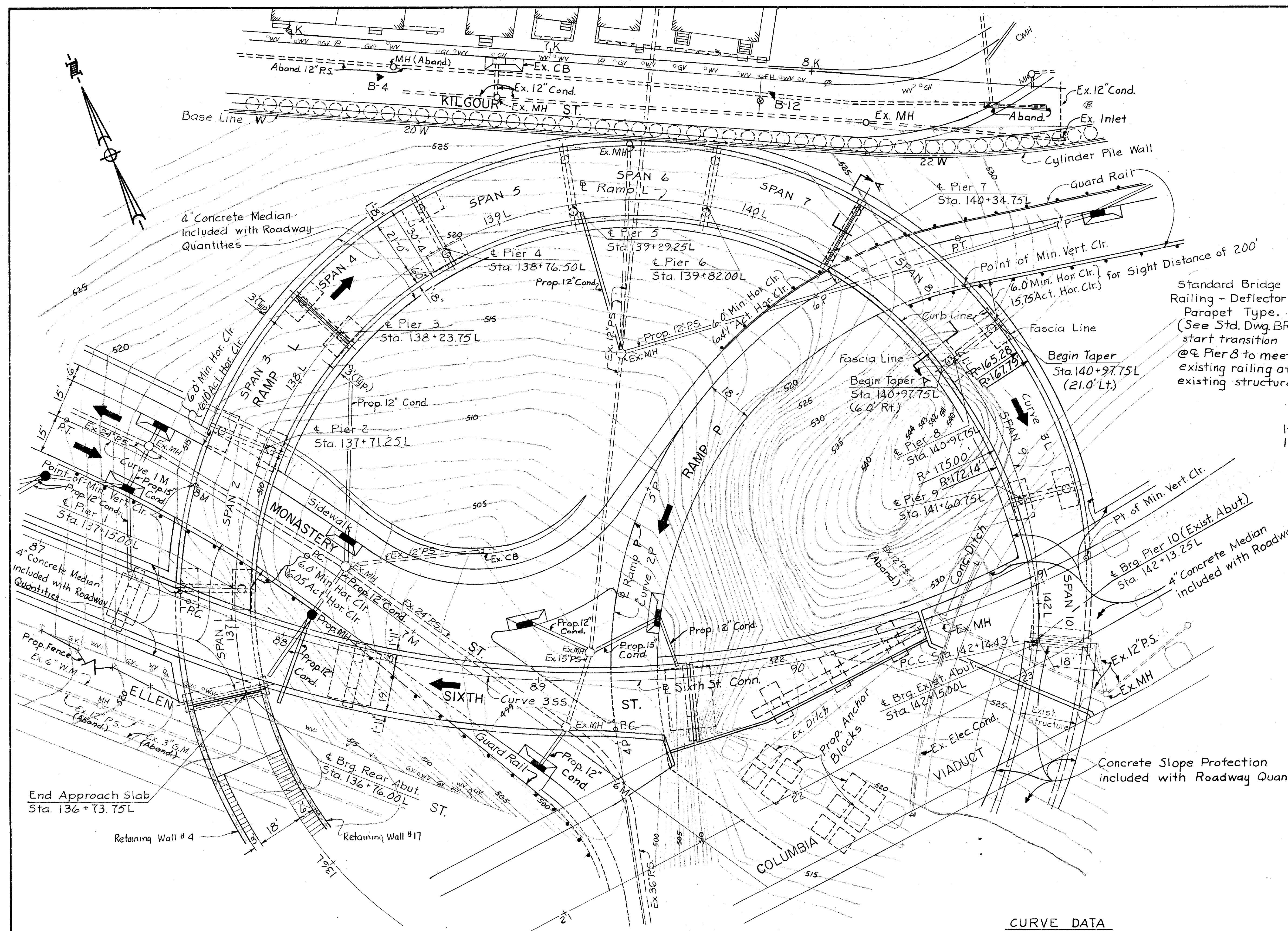
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

187
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

ITEM	UNIT	DESCRIPTION	SUB-SUMMARY SHEET NUMBERS								TOTALS
			RETAINING WALL NUMBERS								
			4	5	13	15	17	18	19		
503	Lump Sum	Cofferdams, cribs and sheeting								Lump	Lump
503	Cubic Yard	Unclassified Excavation	60	4	99	114	81	242	30		630
504	Square Foot	Steel Sheet Piling left in place (minimum section modulus of 7in ³ per foot of wall)		98							98
509	Pound	Reinforcing Steel, Grade 60	14,640	3,653	34,627	25,125	14,142	11,244	593		104,024
511	Cubic Yard	Class S Concrete, Curb and Parapet	23	7		28	17				75
511	Cubic Yard	Class C Concrete, Footings	145	8	312	324	234	82	7		1112
511	Cubic Yard	Class C Concrete, Wall above Footings	137	50	178	132	64	76	6		643
512	Square Yard	Type B Waterproofing	30	14	29	29	15	10			127
516	Square Foot	1" Preformed Expansion Joint Filler	83	37	90	80	48	29			367
517	Linear Foot	Railing (concrete parapet with double pipe rail)			212			44			256
518	Linear Foot	6" Perforated Helical Corrugated Steel Pipe, including specials, 707.01	197								197
518	Linear Foot	6" Non-Perforated Helical Corrugated Steel Pipe, 707.01	11								11
518	Linear Foot	8" Perforated Corrugated Steel Pipe, including specials, 707.01		59	218	217	134				628
518	Linear Foot	15" Reinforced Concrete Pipe, 706.02					2				2
518	Linear Foot	12" Bituminous Corrugated Steel Pipe, 707.13					5				5
518	Linear Foot	8" Non-Perforated Corrugated Steel Pipe, 707.01					8				8
518	Linear Foot	12" Reinforced Concrete Pipe, 706.02					3				3
520	Linear Foot	Pneumatically placed mortar						17			17
604	Each	Type A-2 Casting and Grate					1				1
625		See sheet 121 for Lighting Summary									
Special	Pound	Epoxy Coated Reinforcing Steel, Grade 60. (See Proposal Note)	3,579	1,081		4,071	2,422				11,153

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUMMARY OF QUANTITIES					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		HLL	JHO 3-23-82	



PROPOSED BRIDGE

Type: Continuous Steel Curved Plate Girders with Reinforced Concrete Deck and Substructure
 Spans: Varies, see Table for Span Lengths
 Roadway: 28'-2" 1/4 Parapets (Span 1 thru 8) + Varies, 28'-2" 1/4 Parapets to 19'-6" 1/4 Parapets (Spans 9 & 10) see Plan
 Skew: All Piers and Abutment are Radial
 Live Loading: HS 20-44 Case II and the Alternate Military Loading
 Wearing Surface: Latex-Modified Concrete Overlay
 Approach Slab: AS-1-72 (25'-0" long) (Rear Abutment Only)
 (See Details, sheet 152)
 Alignment: 36° 57' 54.1" Curve Right
 Superelevation: .0625 ft. per ft.

SPAN	LENGTH
1	39'-0"
2	56'-3"
3	52'-6"
4 thru 7	52'-9"
8 & 9	63'-0"
10	52'-6"

Note: For Bench Marks see Sh. No. 33

1984 Traffic Count: ADT-8100
 DHV 800
 ADTT 400

CURVE DATA

Curve	PC Sta.	PI Sta.	PT Sta.	Delta	D	R	L	T
Sixth St Curve (355)	87+61.49	89+80.04	91+63.07	56° 07' 09"	13° 58' 28.5"	410.00'	401.58'	218.55'
Monastery St Curve (1M)	7+49.75 M	8+03.27 M	8+56.48 M	10° 40' 22"	10° 00' 00"	572.96'	106.73'	53.52'
Ramp P Curve (2P)	4+04.73 P	5+63.96 P	6+59.62 P	86° 55' 50"	34° 06' 16.7"	168.00'	254.89'	159.23'
Ramp L Curve (3L)	135+94.78 L	142+14.43 L	142+14.43 L	229° 03' 10"	36° 57' 54.1"	155.00'	619.65'	339.70'

PLAN

HAZELET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

SITE PLAN
 BRIDGE NO. HAM-471-RAMP L OVER
 MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	ALT		WZ	J10 3-23-82	

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	ABUTMENT	PIERS 1-9	PIER 10 (EX. ABUT.)	GENERAL
202	Lump	Lump Sum	Portions of Structures Removed				Lump	
503	Lump	Lump Sum	Cofferdams, Cribbs and Sheeting				Lump	
503	395	Cubic Yard	Unclassified Excavation		10	385		
505	Lump	Lump Sum	Test Pile					Lump
506	Lump	Lump Sum	Pile Test Load, Steel					Lump
506	1	Each	Subsequent Pile Test Load, Steel					1
507	4,220	Linear Foot	Steel Piles, HP10x42		600	3,620		
507	510	Linear Foot	12" Cast-in-Place Reinforced Concrete Piles				510	
509	144,510	Pound	Reinforcing Steel, Grade 60	50,034	7,331	86,366	779	
510	44	Each	Dowel Holes				44	
511	181	Cubic Yard	Class C Concrete, Footings		30	140	11	
511	175	Cubic Yard	Class C Concrete, Caps and Columns			174	1	
511	47	Cubic Yard	Class C Concrete, Abutment above Footing		47			
511	548	Cubic Yard	Class S Concrete, Superstructure	548				
511	1	Cubic Yard	Class S Concrete, Curb and Parapet		1			
512	12	Square Yard	Type B Waterproofing		12			
513	469,000	Pound	Structural Steel	469,000				
514	469,000	Pound	Field Painting of New Structural Steel, System A	469,000				
516	56	Linear Foot	Expansion Joint Device, As Per Plan Type I	56				
516	20	Linear Foot	Expansion Joint Device, As Per Plan Type II	20				
516	12	Each	Laminated Elastomeric Bearings (2"x12"x20" elastomeric pad with 2"x14"x3" steel load plate), Type 1	12				
516	8	Each	Laminated Elastomeric Bearings (2"x9"x14" elastomeric pad with 1-11/16"x11"x28" steel load plate), Type 2	8				
516	16	Each	Laminated Elastomeric Bearings (2"x15"x20" elastomeric pad with 2-1/16"x17"x34" steel load plate), Type 3	16				
516	8	Each	Laminated Elastomeric Bearings (3"x9"x15" elastomeric pad with 1-11/16"x11"x29" steel load plate), Type 4	8				
516	4	Each	Laminated Elastomeric Bearings (3"x9"x15" elastomeric pad with 2-11/16"x11"x29" steel load plate), Type 5	4				
516	4	Each	Laminated Elastomeric Bearings (3-1/2"x9"x16" elastomeric pad with 1-1/16"x11"x30" steel load plate), Type 6	4				
518	4	Each	Drain Inlet	4				
518	30	Linear Foot	8" Perforated Corrugated Steel Pipe, Including Specials, 707.01		30			
518	59	Linear Foot	8" Non-Perforated Corrugated Steel Pipe, Including Specials, 707.01		23		36	
518	82	Linear Foot	8" Std. Pipe Downspout, Galvanized Steel 707.08 Including Specials		10	69	3	
518	3	Linear Foot	12" Reinforced Concrete Pipe, 706.02		3			
523	3	Hour	Dynamic Pile Tests					3
625			See Sheet 121 for Lighting Summary					
845	1,654	Square Yard	Latex Modified Concrete Overlay (1-1/4 inches thick) (See Proposal Note)	1,654				
849	28	Linear Foot	Elastomeric Compression seals for structural steel joints, 1-1/4 inch width	28				
Special	88,938	Pound	Epoxy Coated Reinforcing Steel, Grade 60 (See Proposal Note)	88,761	177			
Special	Lump	Lump Sum	First Pile Restrike					Lump
Special	110	Each	Subsequent Pile Restrike					110
Special	152	Linear Foot	Drilled Shafts			152		

GENERAL NOTES

REFERENCE: Shall be made to Standard Drawings BR-1 dated 5-29-79, AS-1-72 Sheets 1 and 2 dated 6-30-72 and to Supplemental Specifications 836 dated 3-12-75, 845 dated 3-2-81, 849 dated 10-19-81, 853 dated 6-26-78, 953 dated 8-21-80 and 956 dated 6-26-78.

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

DESIGN DATA: Design Loading - HS20-44 case II and the Alternate Military Loading.
Concrete Class S - Compressive strength 4,500 psi for superstructure.
Concrete Class C - Compressive strength 4,000 psi for substructure.
Structural Steel - A572 unit stress 27,000 psi (All structural steel except plates over 2" thick)
A588 unit stress 27,000 psi (Plates over 2" thickness).
Reinforcing Steel - ASTM A615, A616 or A617, Grade 60, Minimum yield strength 60,000 psi
Spiral reinforcement may be plain bars ASTM A82 or A615.
Deck Protective Method - Epoxy coated reinforcing steel, top mat only.
Latex modified concrete overlay.
Monolithic wearing surface thickness is assumed for design purposes to be 1".

PORTIONS OF EXISTING STRUCTURES REMOVED: In order to construct Pier 10, portions of the existing structure shall be removed.
Cost of all removals of portions of the existing structure shall be included in the contract lump sum price bid for Item 202, Portions of Structures Removed. See Sheets 194 and 223.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure. 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.

EMBANKMENT CONSTRUCTION: The approach embankment shall be constructed to the level of the Rear Abutment footing, minimum and paid for under Item 203 Embankment. No payment will be made for unclassified Excavation for the Rear Abutment.

STEEL PILES: Shall be driven to bedrock. The bearing capacity shall be considered obtained by refusal on hard bedrock or by penetrating soft bedrock for several inches with a minimum resistance of 20 blows per inch. The design load is 55 tons per pile. The piles shall be driven by a pile hammer having a State's energy rating that is within the range of 20,000 to 30,000 foot-pounds.

CONCRETE PILES: 12 INCH PRECAST PRESTRESSED CONCRETE PILES may be substituted for the 12 inch cast-in-place reinforced concrete piles shown on these plans. Drawings showing details of and specifications for prestressed concrete piles are available from the Director, Bureau of Bridges. If the prestressed pile alternate is chosen, the method of measurement and basis of payment shall be the same as for cast-in-place reinforced concrete piles per 507.
The piles shall be driven to a minimum bearing capacity of 40 tons per pile.

GENERAL NOTES CONTINUED ON SHEET NO.191.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
ESTIMATED QUANTITIES & GENERAL NOTES BRIDGE NO. HAM-471-RAMP LOVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FVB		WJL	JHO 3-23-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

GENERAL NOTES CONTINUED FROM SHEET NO. 190

FOUNDATION BEARING PRESSURE: The shafts for Piers 5, 6 and 7 are designed for a maximum bearing pressure of 20 tons per square foot.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

PILE RESTRIKE:

DESCRIPTION: This item shall consist of returning the pile driving equipment to a service pile that has been allowed to set a minimum of seven days after it had been driven to the required capacity, and then restriking the pile to determine its present capacity.

GENERAL: To perform this item it will be necessary to delay cutting off driven service piles at plan footing embedment elevation until after the restrike has been completed. A Dynamic Pile Test may be required to establish if the pile being restruck is maintaining adequate capacity when bearing in the clay shale bedrock. If necessary, the pile penetration shall be increased by driving the pile until the required capacity has been reestablished.

The use of the first pile restrike and its location shall be determined by the Director. One or more subsequent pile restrikes, if provided in the proposal, shall be applied if and where directed by the Engineer.

METHOD OF MEASUREMENT: Pile restrike will be measured as a unit and shall apply to the first pile per structure when a restrike is performed. Subsequent pile restrike will be measured as a unit and shall apply to all piles where a restrike is performed, excluding the first pile restrike.

Subsequent pile restrike will be nonperformed if determined by the Director to be unnecessary.

Dynamic pile tests, if required, will be measured and paid for under 523.

Measurement and payment for all driven piles will be as provided in 507.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
Special	Lump Sum	Pile Restrike
Special	Each	Subsequent Pile Restrike

DRILLED SHAFTS

DESCRIPTION: This item shall consist of excavating a 48 inch minimum shaft through the overburden and into bedrock consisting of Claystone (Clay Shale) with Limestone stringers: Furnishing and installing a temporary casing through the soils and weathered rock if necessary in order to prevent caving: Furnishing and placing Portland Cement Concrete and Furnishing all labor, material and equipment necessary to complete the drilled shafts.

GENERAL: The Contractor shall locate the center of each shaft within a one-inch radius of the position shown on the plans. Shafts not located properly shall be re-installed at the Contractor's expense.

The top elevation of each shaft shall be as shown on the plans. The bottom of each shaft shall be no higher than that shown on the plans but shall be lowered if necessary to maintain an 8 foot minimum embedment into bedrock.

Top of rock shall be defined as the point at which the first continuous Limestone interbed is encountered for each shaft. Top of rock for each shaft embedment will be determined by the Engineer in the field after inspection of each hole.

The shafts shall be installed straight and shall not deviate more than one-sixteenth of an inch per foot from the vertical. If the shaft axis varies more than this, the design of the shaft shall be modified by the Contractor and/or the shaft shall be re-excavated to within allowable tolerances such that the shafts can be constructed their full diameters at no additional cost to the State.

DRILLED SHAFTS CONT'D

EXCAVATION: Excavation shall be in accordance with 503 of the Construction and Material Specifications except as modified and augmented herein.

Where obstacles such as large boulders are encountered, they shall be removed. Blasting of such obstacles will not be permitted. The concrete for the shafts is intended to be placed against the existing subsoils without the use of permanent forms.

If water is encountered during the installation of any shaft, or if the nature of the excavation is such that there is danger of foreign substances, earth or other debris contaminating or falling into the concrete mix during the placing operations, then the Contractor shall use temporary steel shells for placing of the shaft concrete.

Temporary steel shells, if used, shall be withdrawn as the concrete is placed so that the concrete completely fills the excavated space to the top of the shafts.

If water is encountered during the installation of any shaft, the Contractor shall be responsible for any special procedures necessary to accomplish the installation, to the satisfaction of the Director.

The Contractor shall not allow a completed or partially completed shaft excavation to remain open longer than 24 hours without prior approval of the Engineer.

CONSTRUCTION: One of the holes shall be drilled, the concrete placed and permitted to set prior to drilling another hole.

Before the placing of the shaft concrete, the shaft excavation shall be clean and free from all foreign matter. In all cases the excavation shall be inspected and approved by the Engineer. Upon this approval, the reinforcement may then be installed and the concrete placed. There shall be no water in the hole when the concrete is placed, except under certain conditions when artesian water is encountered.

MATERIALS: Concrete for all shafts shall be Class C concrete in accordance with the Construction and Material Specifications. For purposes of identification the concrete shall be considered Structural Concrete (excluding Superstructure Concrete).

Metal Shells shall be water-tight and shall be of sufficient strength to withstand the earth pressures during the installation procedures.

METHOD OF MEASUREMENT: The length of each shaft to be paid for shall be the completed and accepted length, measured along the axis of the shaft from the bottom of the drilled hole to the top of the shaft as shown on sheet 202 and 203.

If the bottom of the shaft is lowered by the Engineer from the plan elevation, in order to provide the minimum embedment into the rock, then the measured length shall extend to to this new elevation.

BASIS OF PAYMENT: Payment will be made at the contract price, which price shall be payment in full for all the work hereinbefore described.

Payment will be made under:

Item	Unit	Description
Special	Linear Foot	Drilled Shafts

The reinforcing steel will be paid for as specified under Item 509, "Reinforcing Steel, Grade 60".

GENERAL NOTES CONTINUED ON SHEET NO. 192

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL NOTES					
BRIDGE NO. HAM-471-RAMPL OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FVB		WZ	J40 3-23-82	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

192
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

GENERAL NOTES CONTINUED FROM SHEET NO.191

ELASTOMERIC COMPRESSION SEALS
FOR STRUCTURAL STEEL JOINTS,
1-1/4 INCH WIDTH:

DESCRIPTION: This item shall conform to Supplemental Specification 849.

EXPANSION JOINT DEVICE,
AS PER PLAN:

DESCRIPTION: This item shall include the furnishing of elastomeric seals, adhesive, bolts, nuts, washers, extruded steel clamp bars, mortar, paint and all other incidentals and labor to fabricate, assemble, construct and install the Expansion Joint Device in accordance with the Plans and Item 516 of the Construction and Material Specifications, except as modified and augmented herein.

MATERIAL: Extruded clamp bars shall be A 36 Steel. Exposed surfaces shall be painted in the field with two prime coats and one finish coat of System B paint, 514. Clamp bars shall be furnished in segments not less than 12 feet in length, with joints located at lane edges.

Elastomeric joint seal shall be ONFLEX as manufactured by the Old North Manufacturing Co., Inc. of Lenoir, N.C. or BENDOFLEX or approved alternate. ONFLEX or BENDOFLEX seals shall be reinforced neoprene or EPDM conforming to the physical requirements shown in the manufacturer's latest brochure. Certified test data shall be submitted for approval prior to incorporation of the seals into the joints. The elastomeric seal for one joint shall be furnished in one continuous piece.

Adhesive (PRIMA LUBE, BON LASTIC or as recommended by the seal manufacturer) shall be applied to the upper surface of the elastomeric sheet or on the bottom surface of the clamp bar. It should be spread thinly using a serrated spatula or a doctor blade to obtain a complete and uniform coating on the clamping surface immediately prior to final joint assembly.

Magnesium Phosphate Mortar concrete shall be made using a blend of magnesia and selected aggregates with an activator. These materials shall be mixed and placed as per manufacturer's recommendations. Coarse aggregate may be added in accordance with the manufacturer's instructions. The material may be STEELCOTE FC-100, by Steelcote Manufacturing Company, BOSTIK 276 by the Upco Company, MAGNA-CRETE by Republic Steel, HORN 240 by A.C. Horn, Inc., SET 45 by Set Products, Inc. or an approved alternate. Concrete shall be cured as per manufacturer's recommendations.

Bolts, nuts and hardened washers - ASTM A325.

Special 2" round washers - steel.

SHOP ASSEMBLY: The metal parts of the joints including clamp bars, bolts and washers shall be assembled in the shop to verify proper fit and fabrication. Joint armor and clamp bars shall be shaped to conform to the roadway surface profile and when assembled there shall be metal to metal bearing at the bolts.

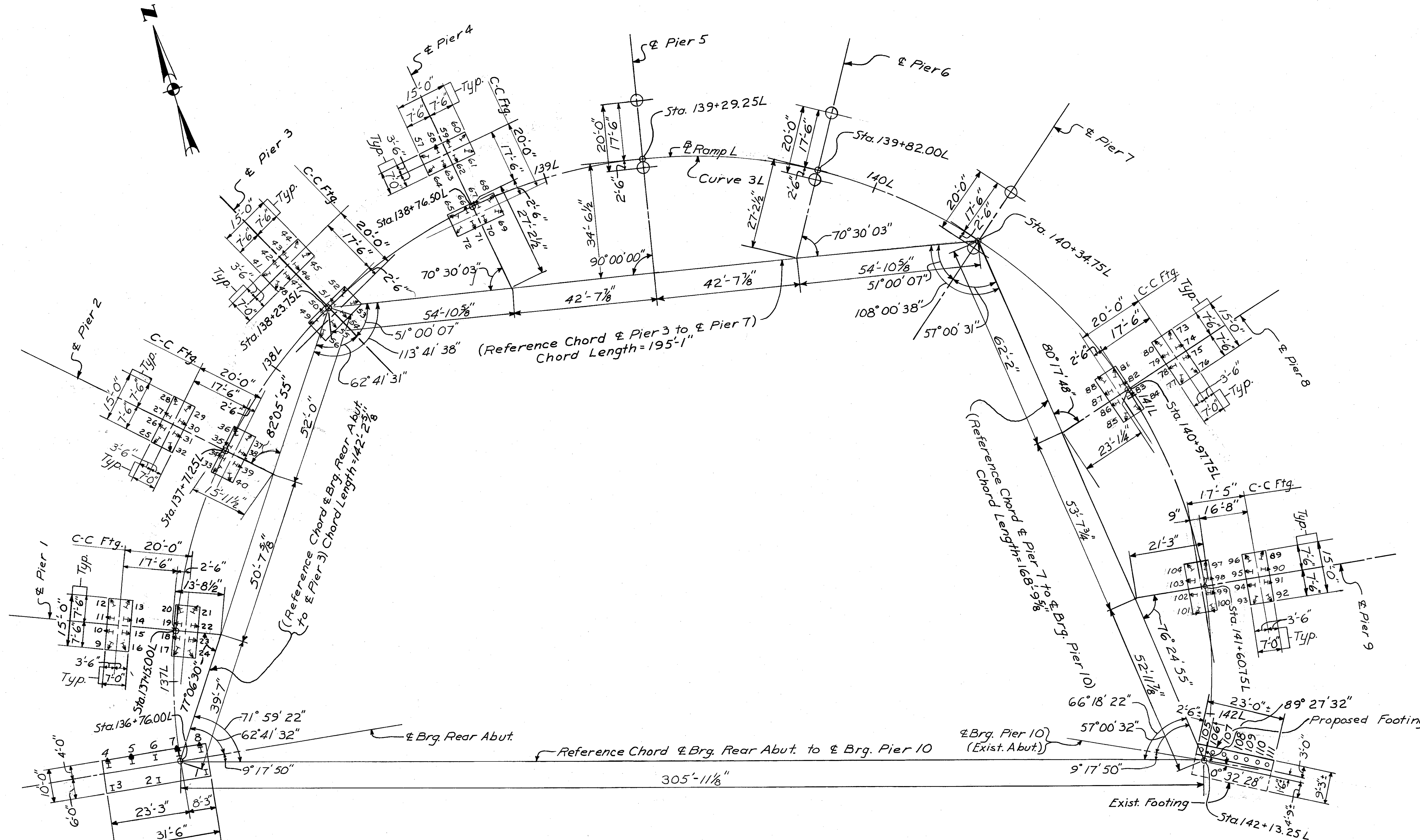
INSTALLATION: The Contractor shall install the joints in accordance with the plans and the recommendations of the manufacturer. The structural surface of the roadway joint seal shall be parallel to the roadway surface. The special 2" round washers may be spot welded or structurally bonded to the joint armor in the shop.

METHOD OF MEASUREMENT: The quantity shall be measured in linear feet. The pay quantity is the horizontally projected sealed length measured within the limits shown on drawing no. 225.

BASIS OF PAYMENT: Payment will be made at contract prices for:

Item	Unit	Description
516	Linear Foot	Expansion Joint Device, As Per Plan, Type I
516	Linear Foot	Expansion Joint Device, As Per Plan, Type II

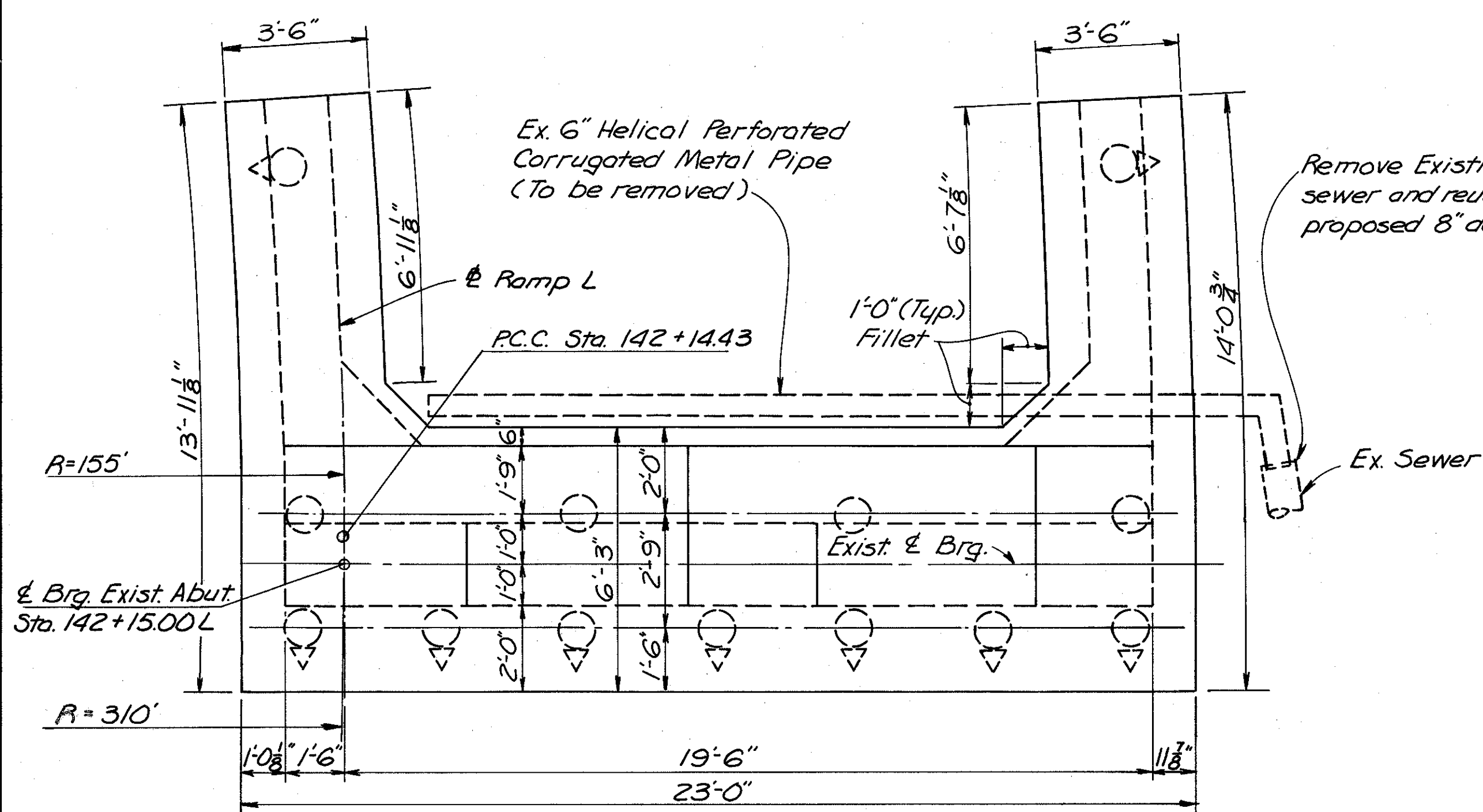
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL NOTES					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	FVB		WJL	JHO 3-25-82	



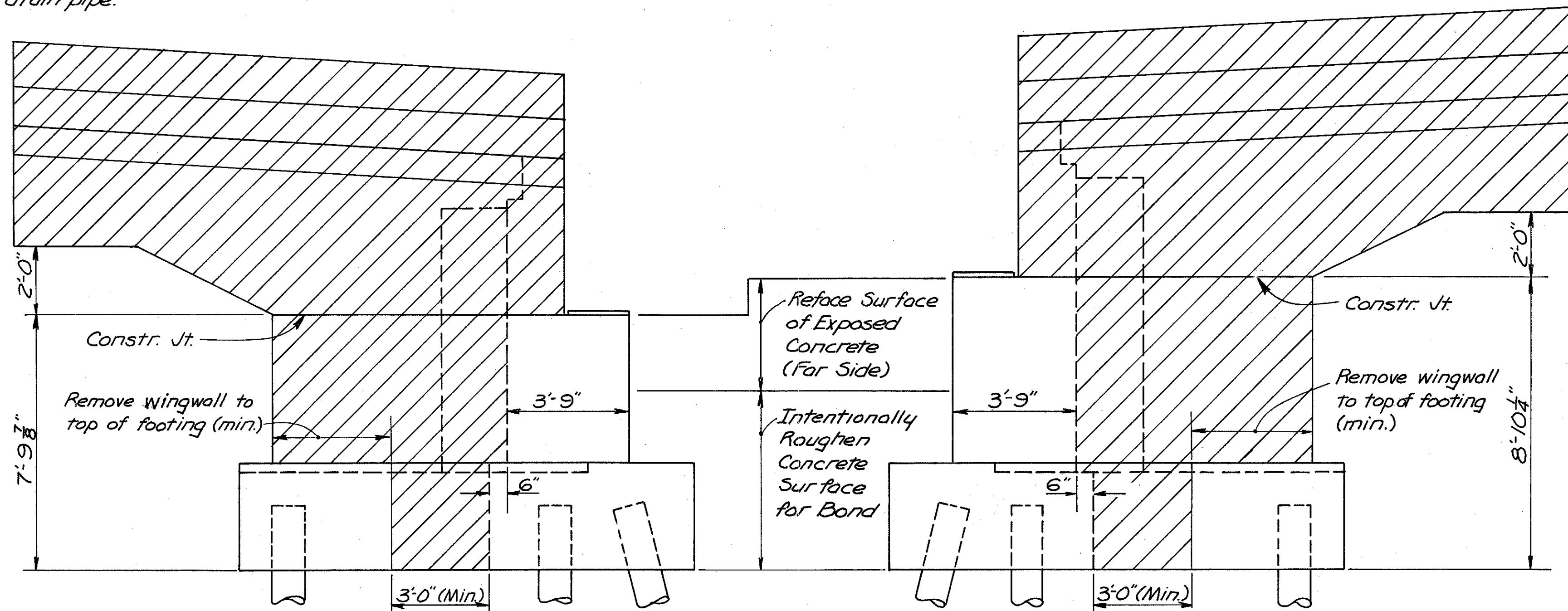
Notes:
 For location of piling see sheets 195, 206 and 207
 I denotes vertical piles, HP10x42.
 I denotes battered piles, HP10x42, 1 on 4.
 O denotes vertical piles, 12" cast-in-place
 Piers 5, 6, and 7 have 36" Diameter Columns on 48" Diameter Shafts.
 For Alignment and Witness Plan, see sheet 28

STAKEOUT PLAN

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
STAKEOUT PLAN					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RMC		W	JHO 3-23-82	



EXISTING FOOTING PLAN

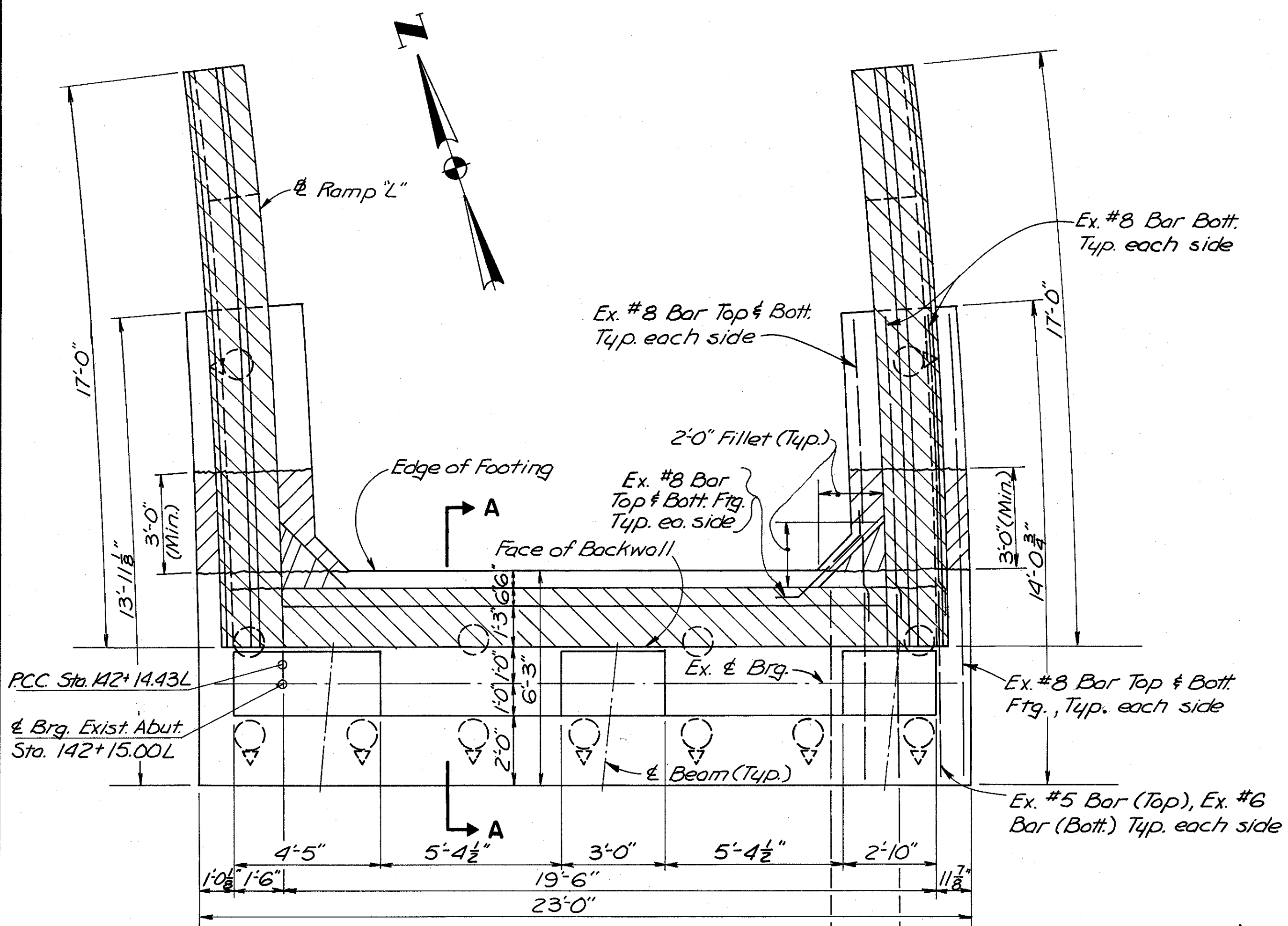


WEST WINGWALL ELEVATION

(Existing Abutment)

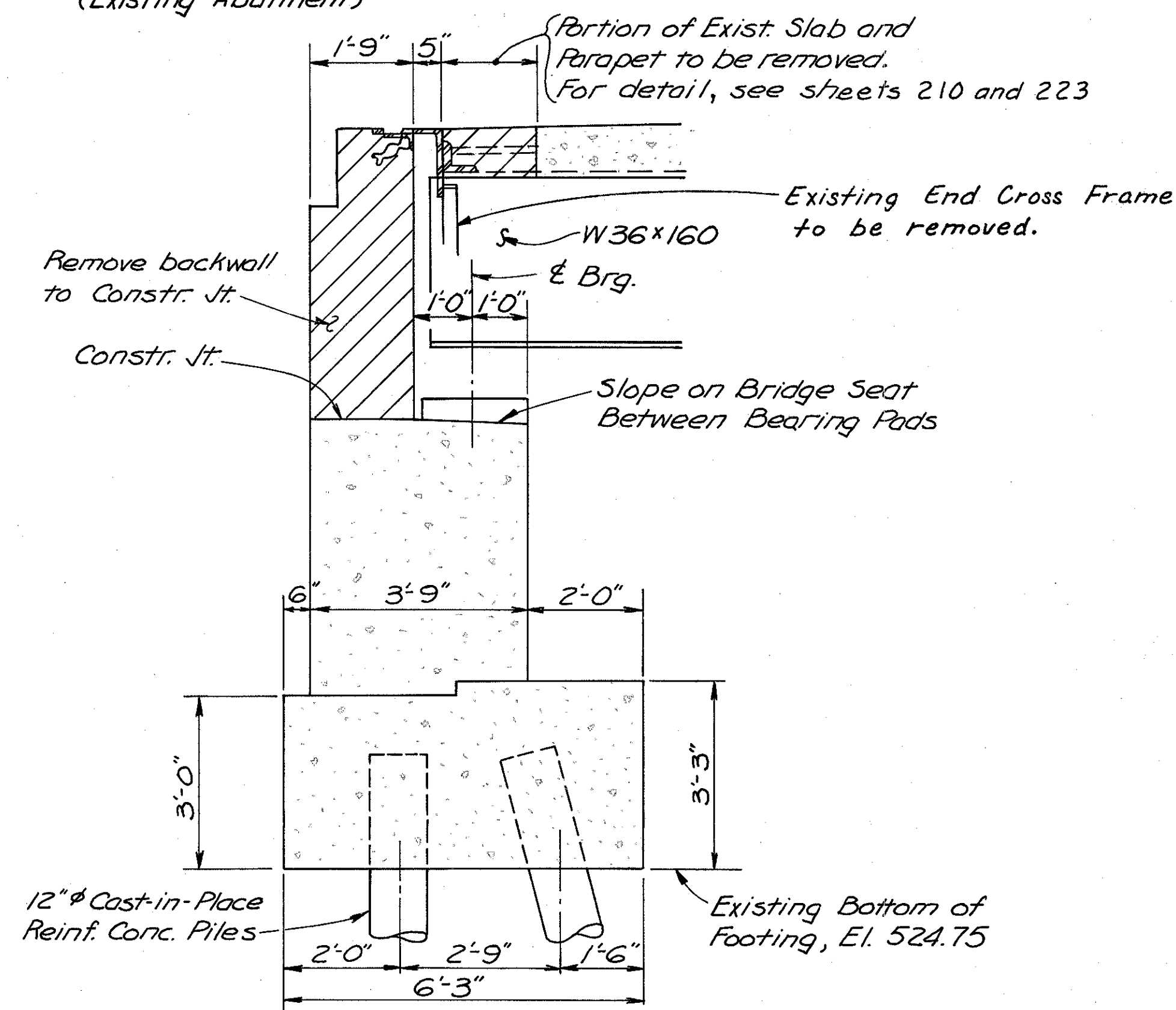
EAST WINGWALL ELEVATION

(Existing Abutment)



REMOVAL PLAN

(Existing Abutment)



SECTION A-A

(Existing Abutment)

For Existing Structure Verification
Note, See Sheet 190

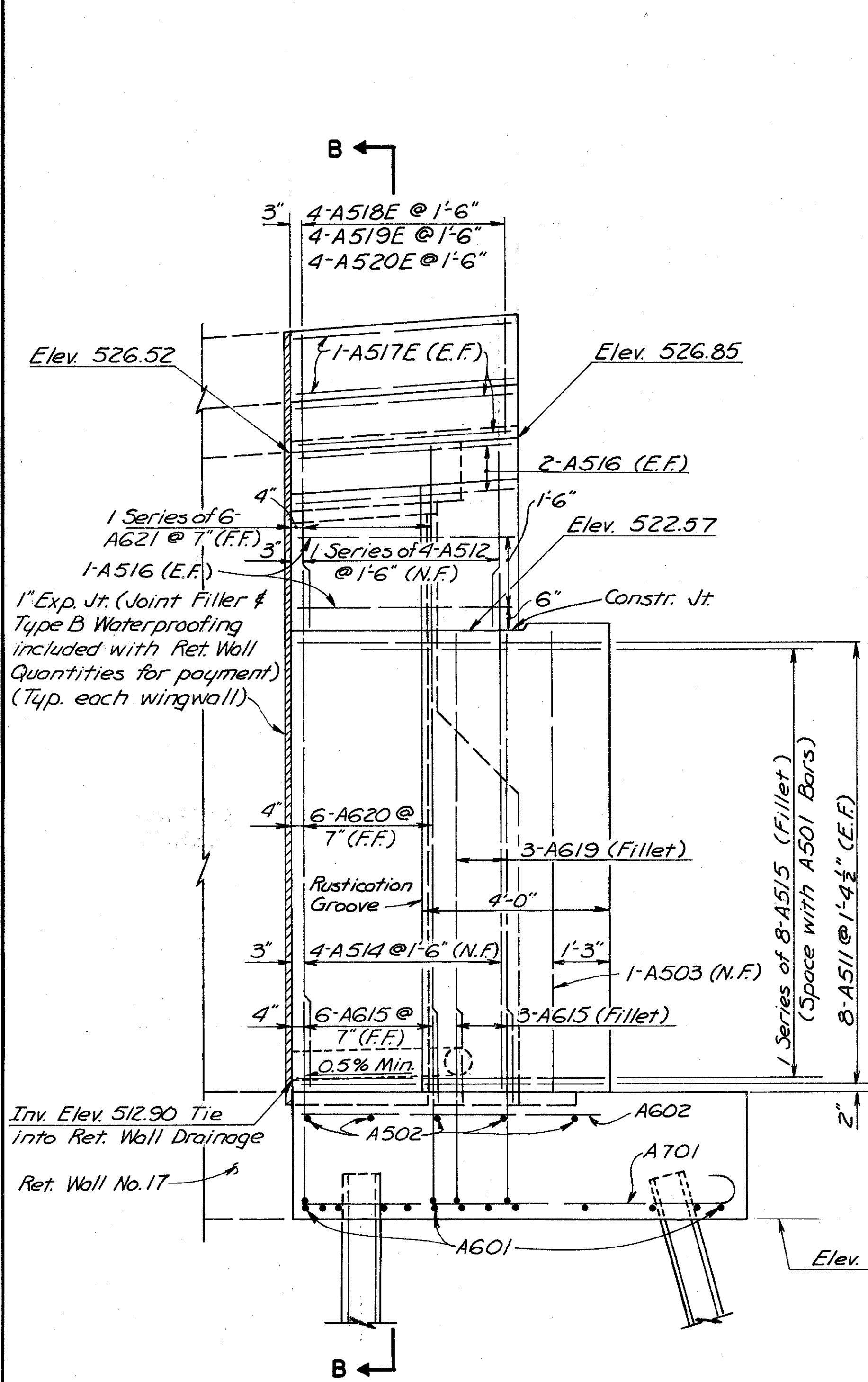
Denotes Portion of Existing
Abutment or Wingwall to be
Removed.

Denotes existing battered pile

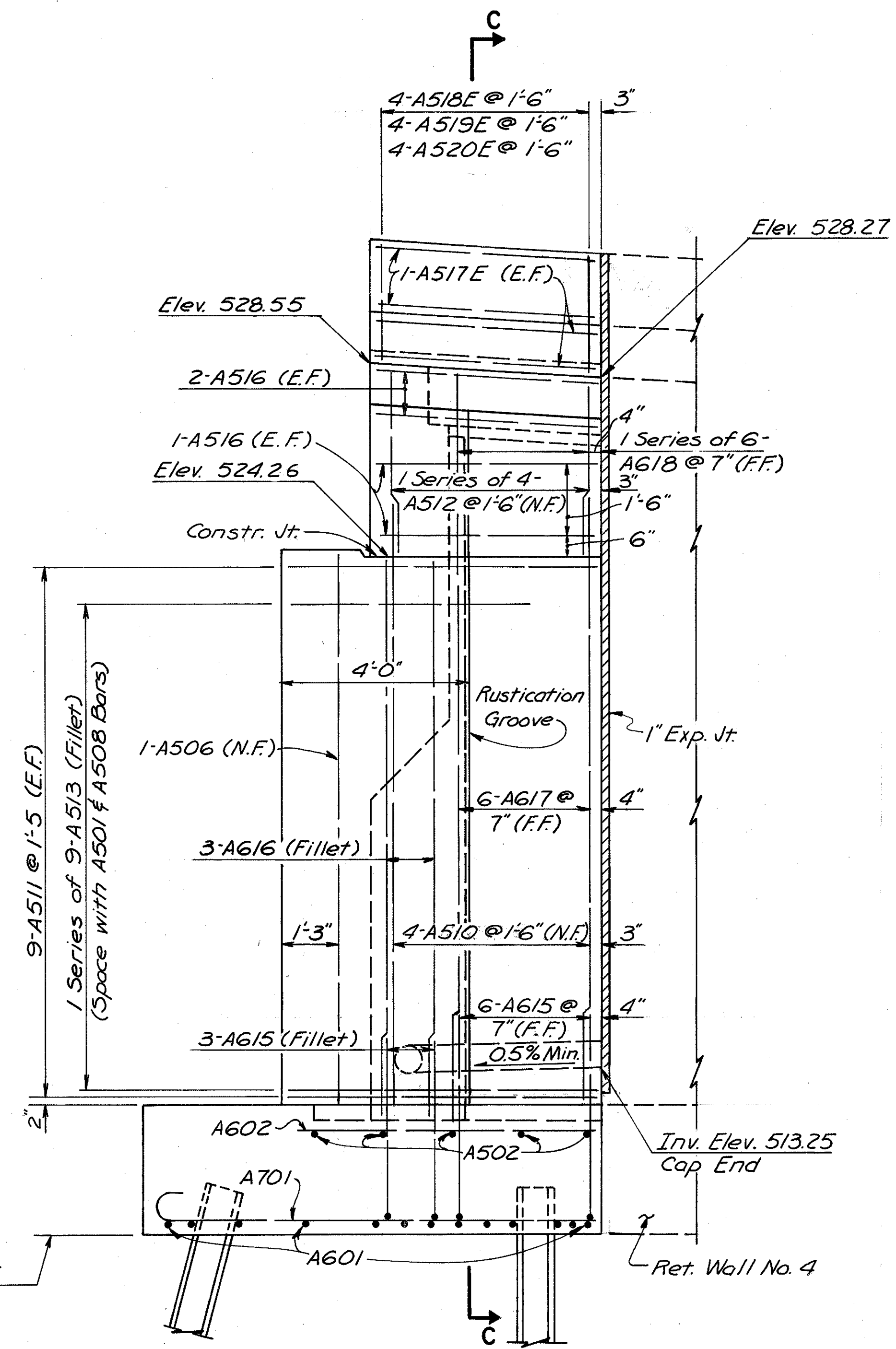
HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

**REMOVAL OF PORTIONS
OF EXISTING ABUTMENT
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P**

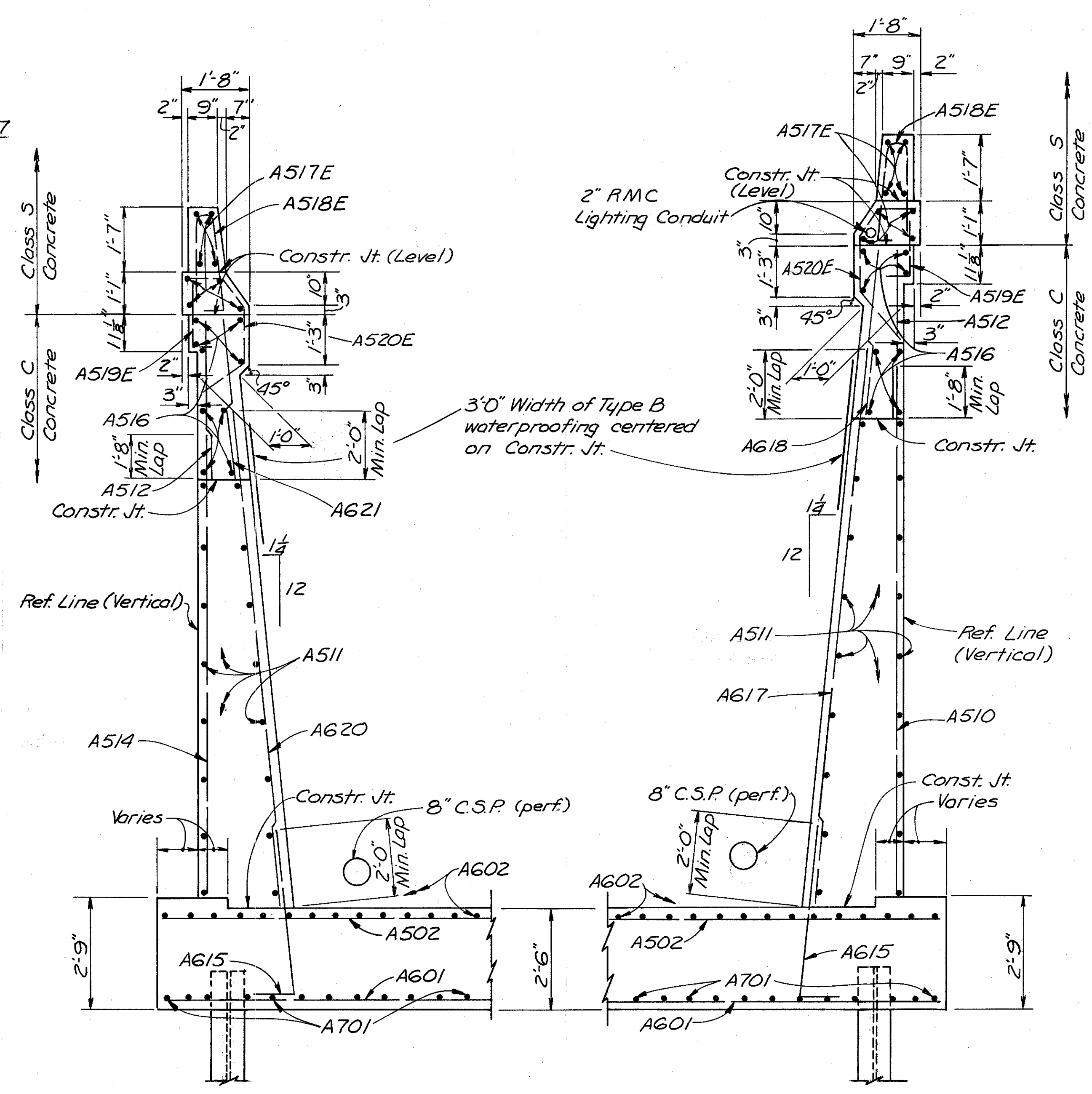
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DSD	FVB	H.L.L.		J110 3-23-82	



EAST WINGWALL ELEVATION



WEST WINGWALL ELEVATION



SECTION B-B

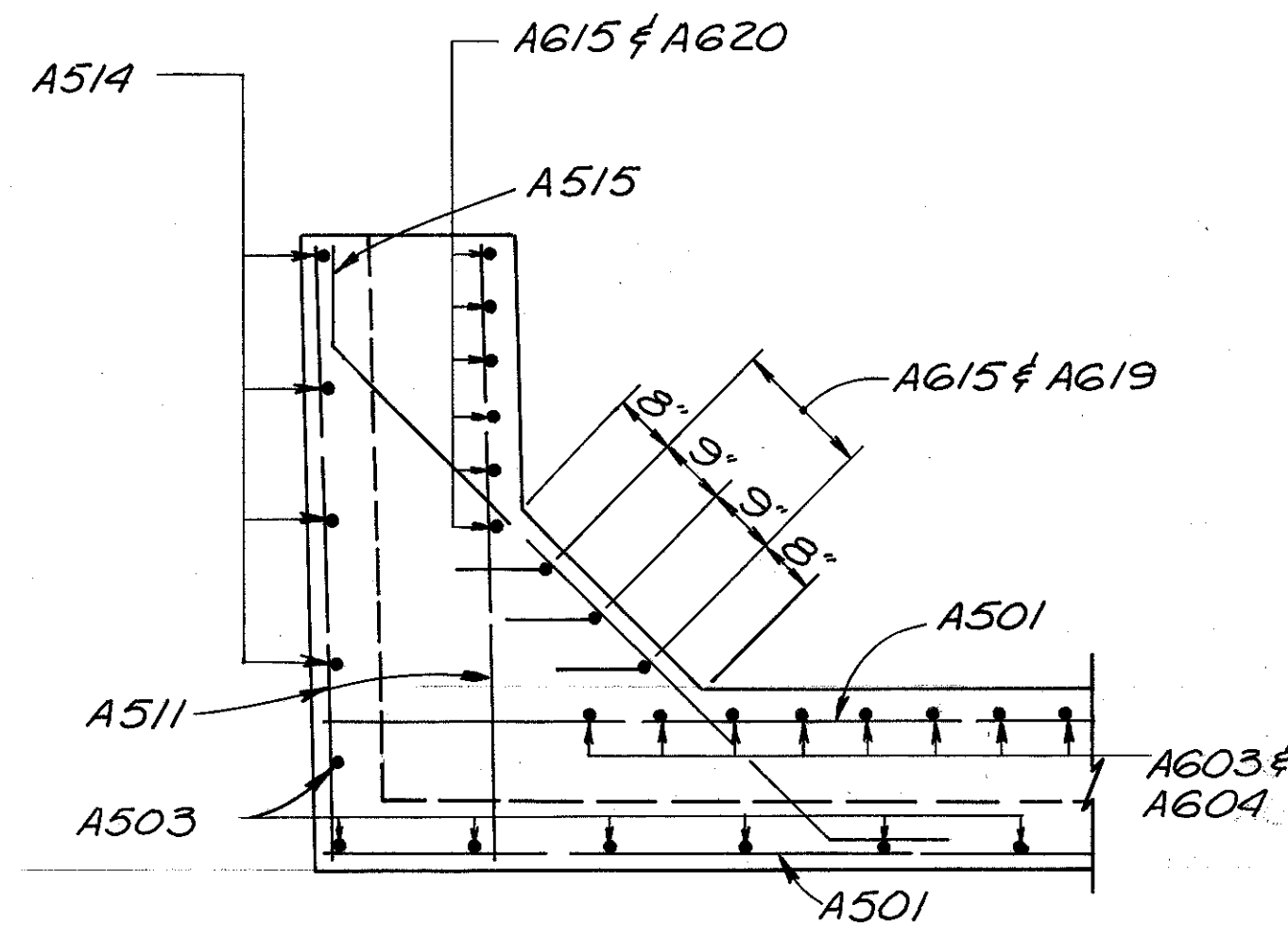
SECTION C-C

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
REAR ABUTMENT				
BRIDGE NO. HAM-471-RAMP L OVER				
MONASTERY ST. AND RAMP P				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
WL	FVB		WL	JHO 3-23-82

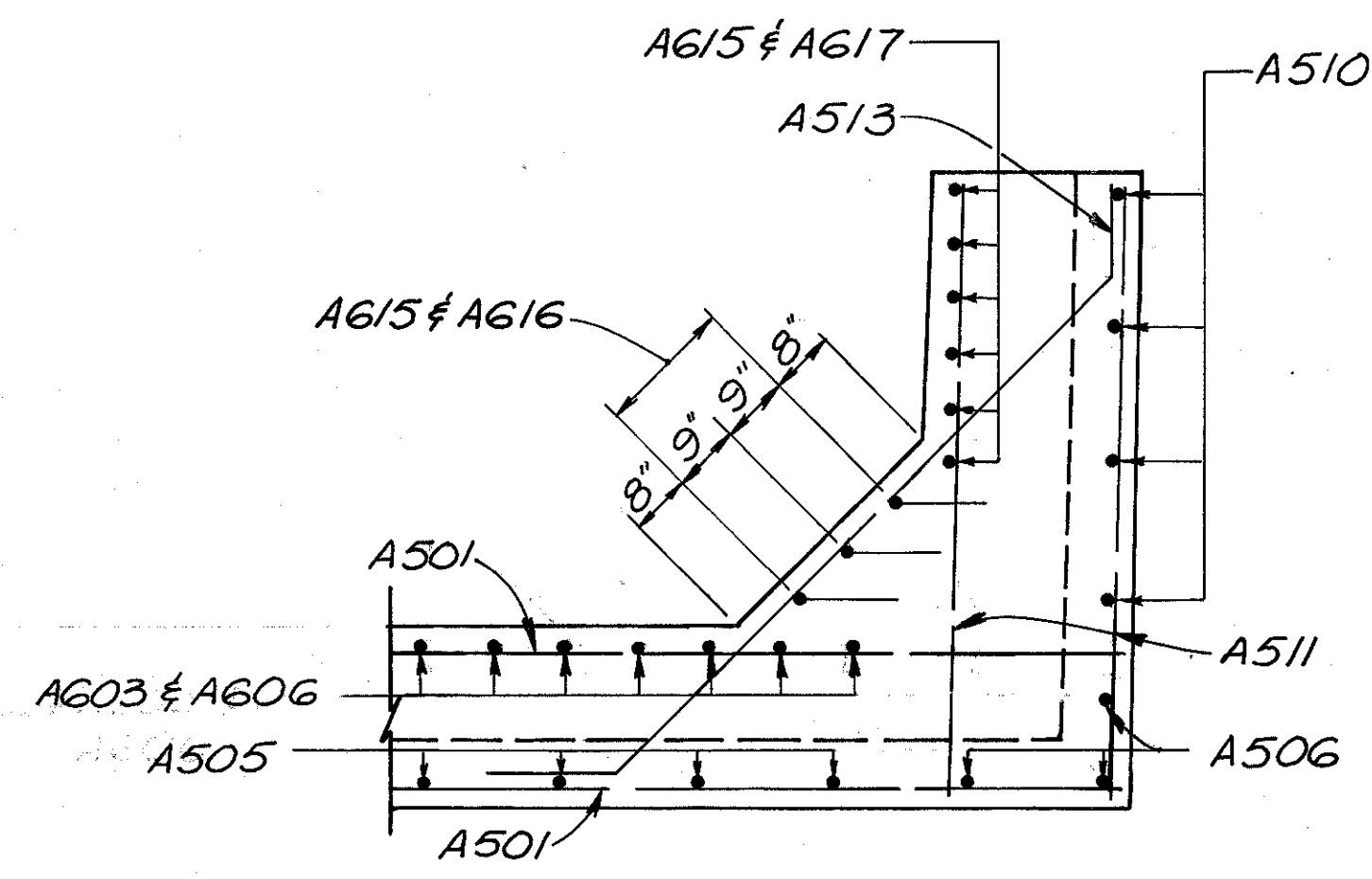
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

197
346

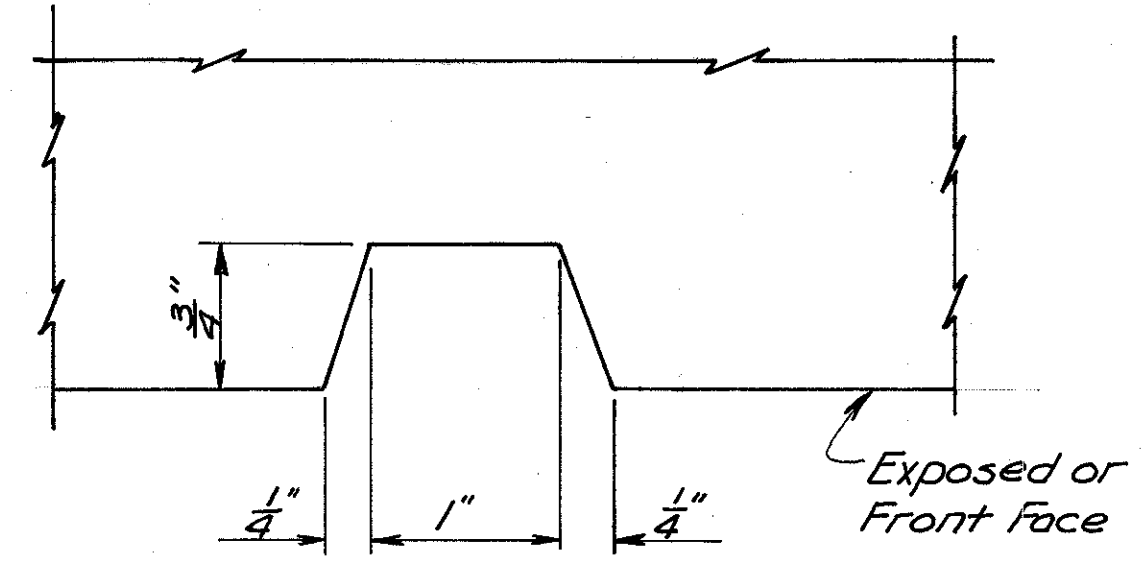
HAMILTON COUNTY
HAM-471-0.24
PART TWO



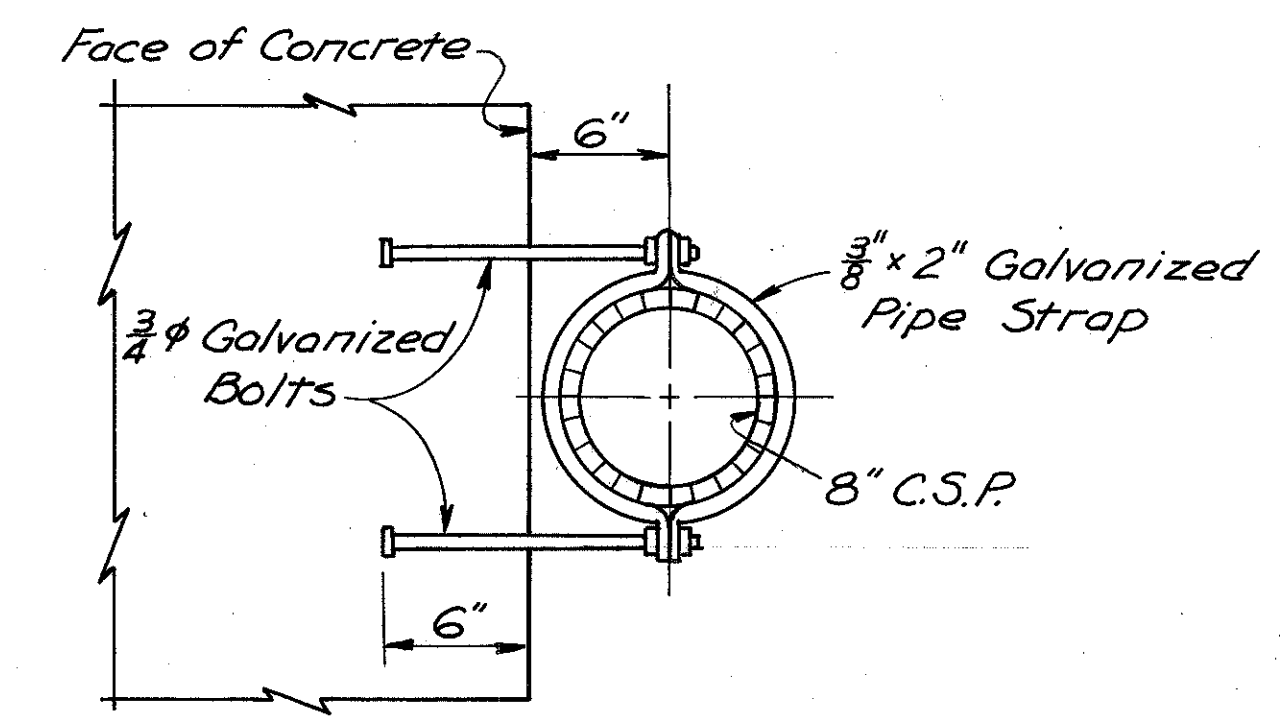
SECTION D-D



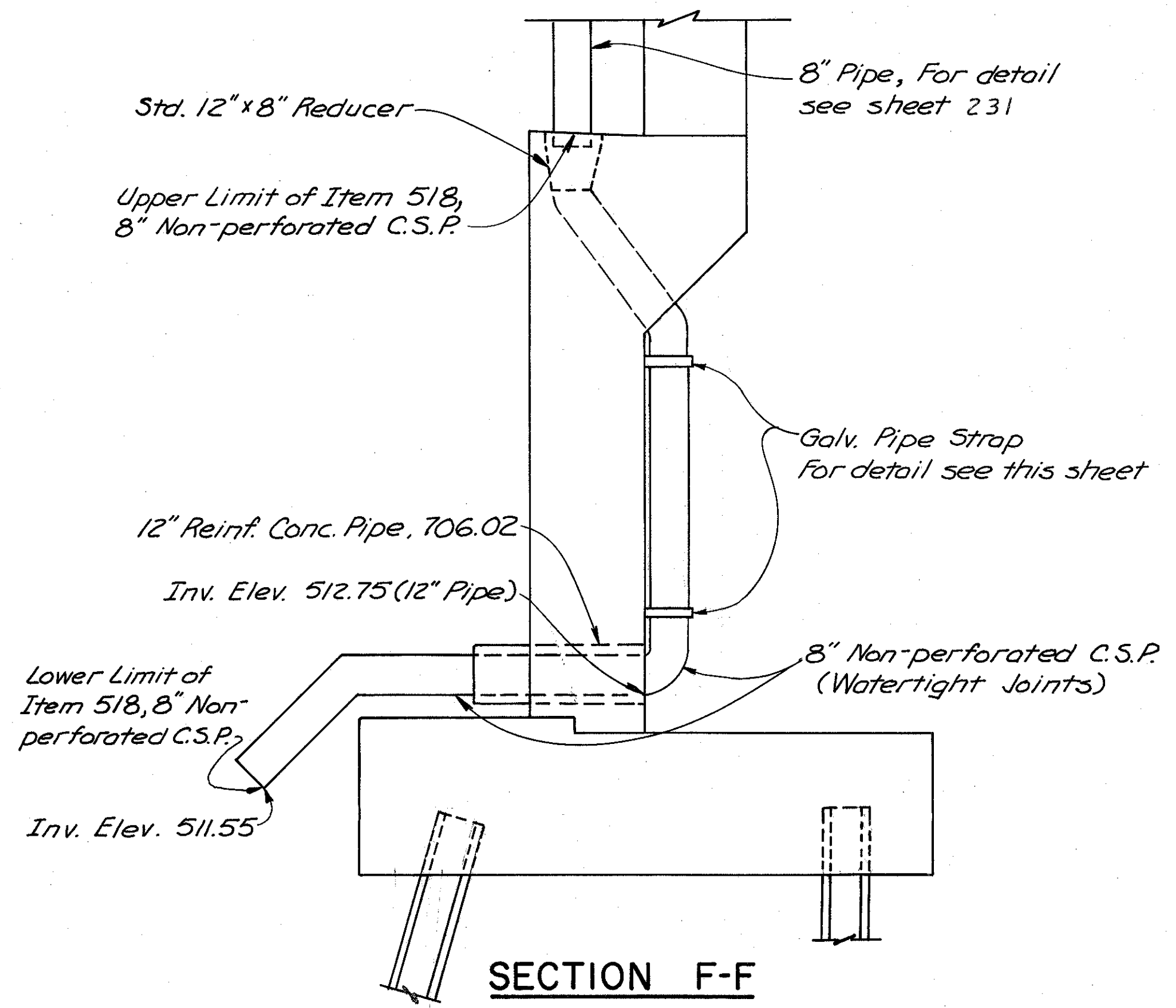
SECTION E-E



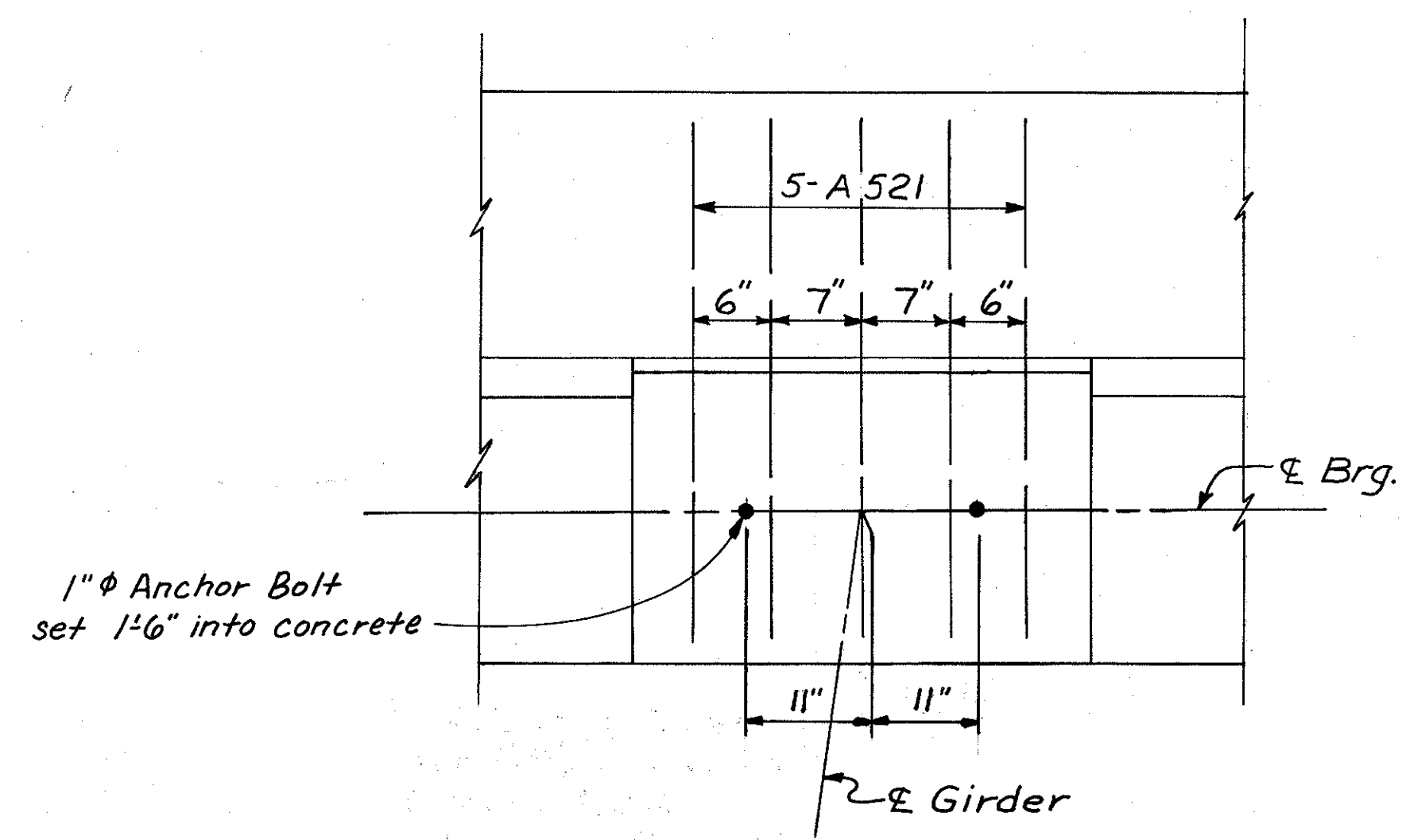
RUSTICATION GROOVE



STRAP DETAIL



SECTION F-F



BEARING ANCHOR PLAN

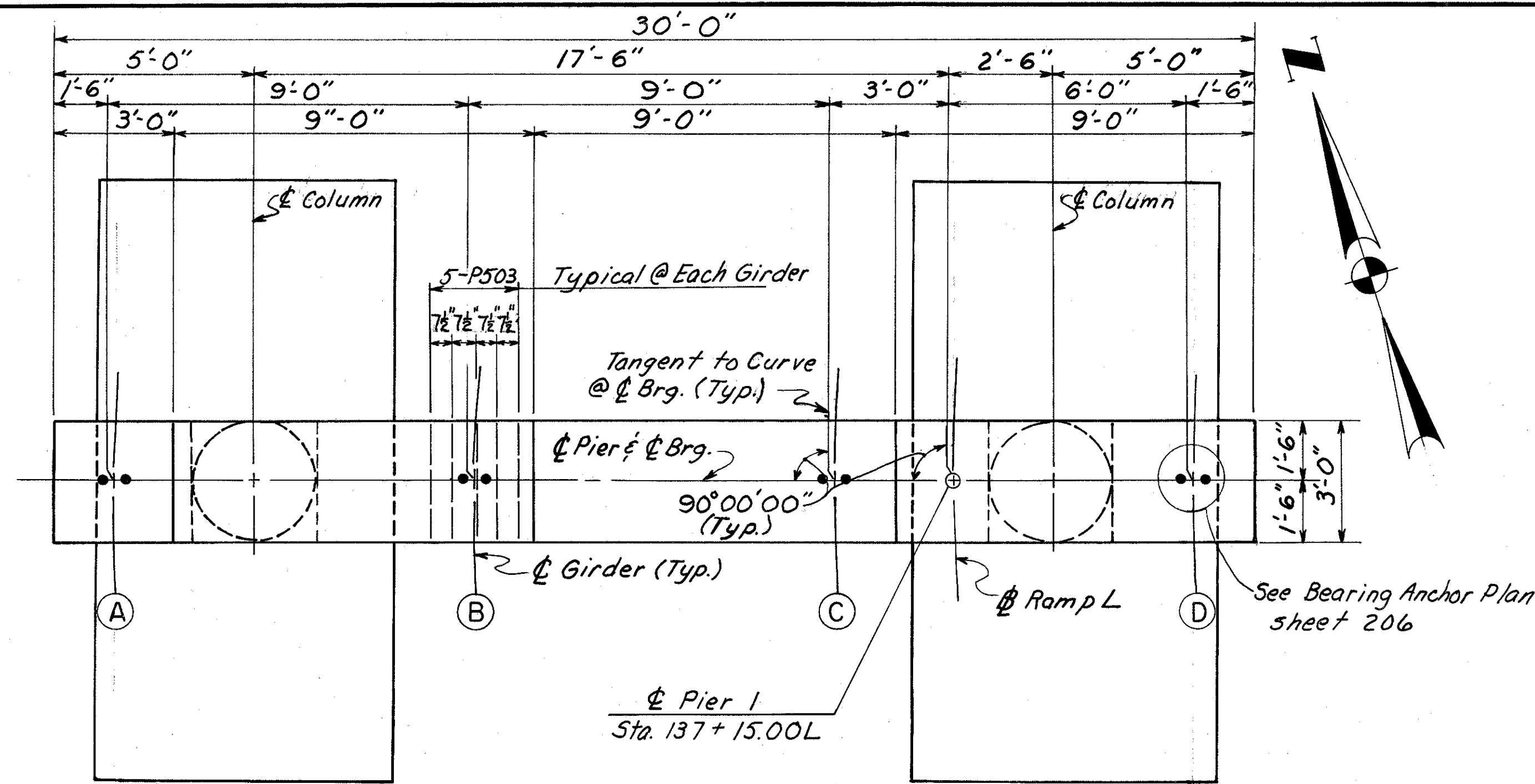
Note: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of bearing anchors.

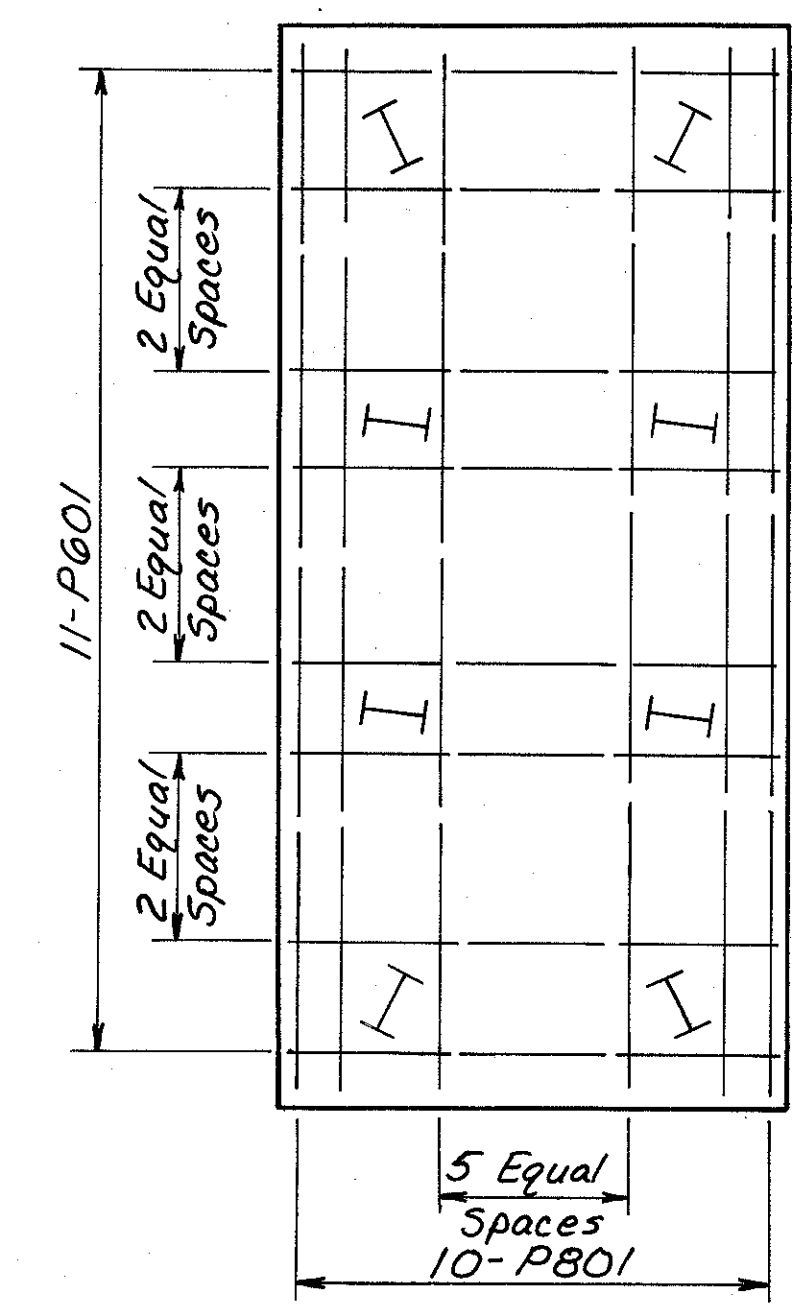
Concrete surface beneath the elastomeric bearings shall have a broom finish.

Embankment B underneath the Rear Abutment shall be compacted to a minimum of 8 inch above bottom of footing elevation before proceeding with structural excavation (Item 503, Unclassified Excavation).

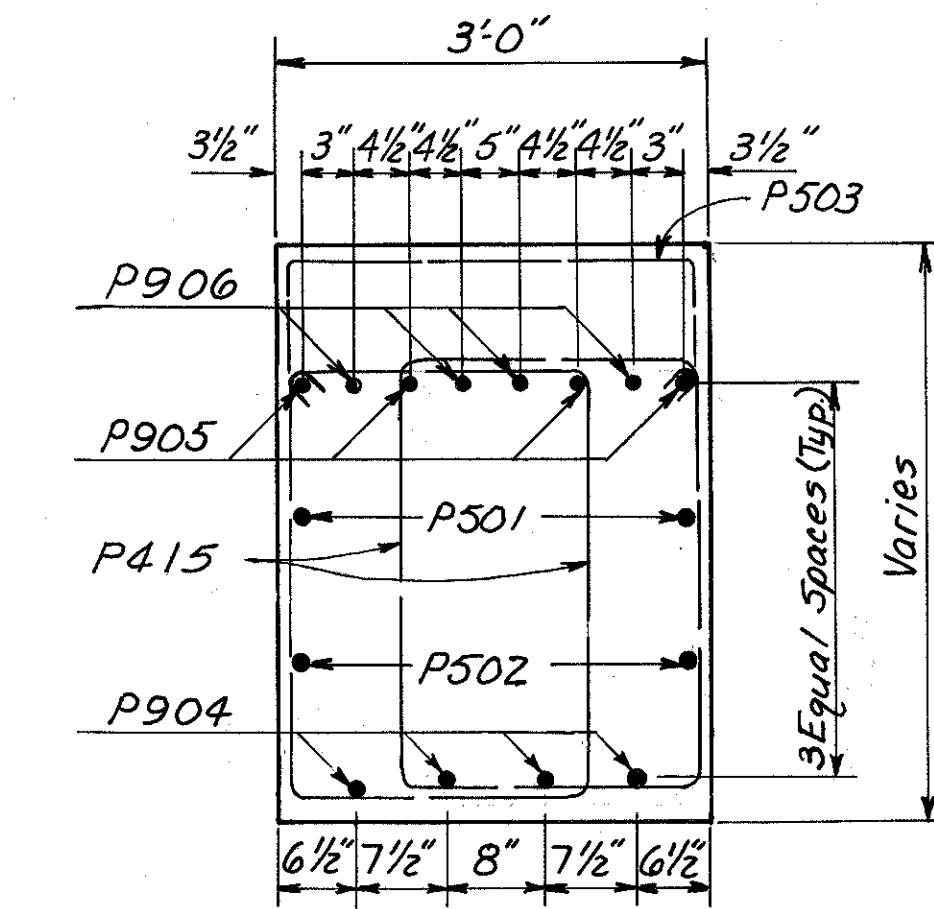
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
REAR ABUTMENT					
BRIDGE NO. HAM-471-RAMPL OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	FVB		WL	3/40 3-23-82	



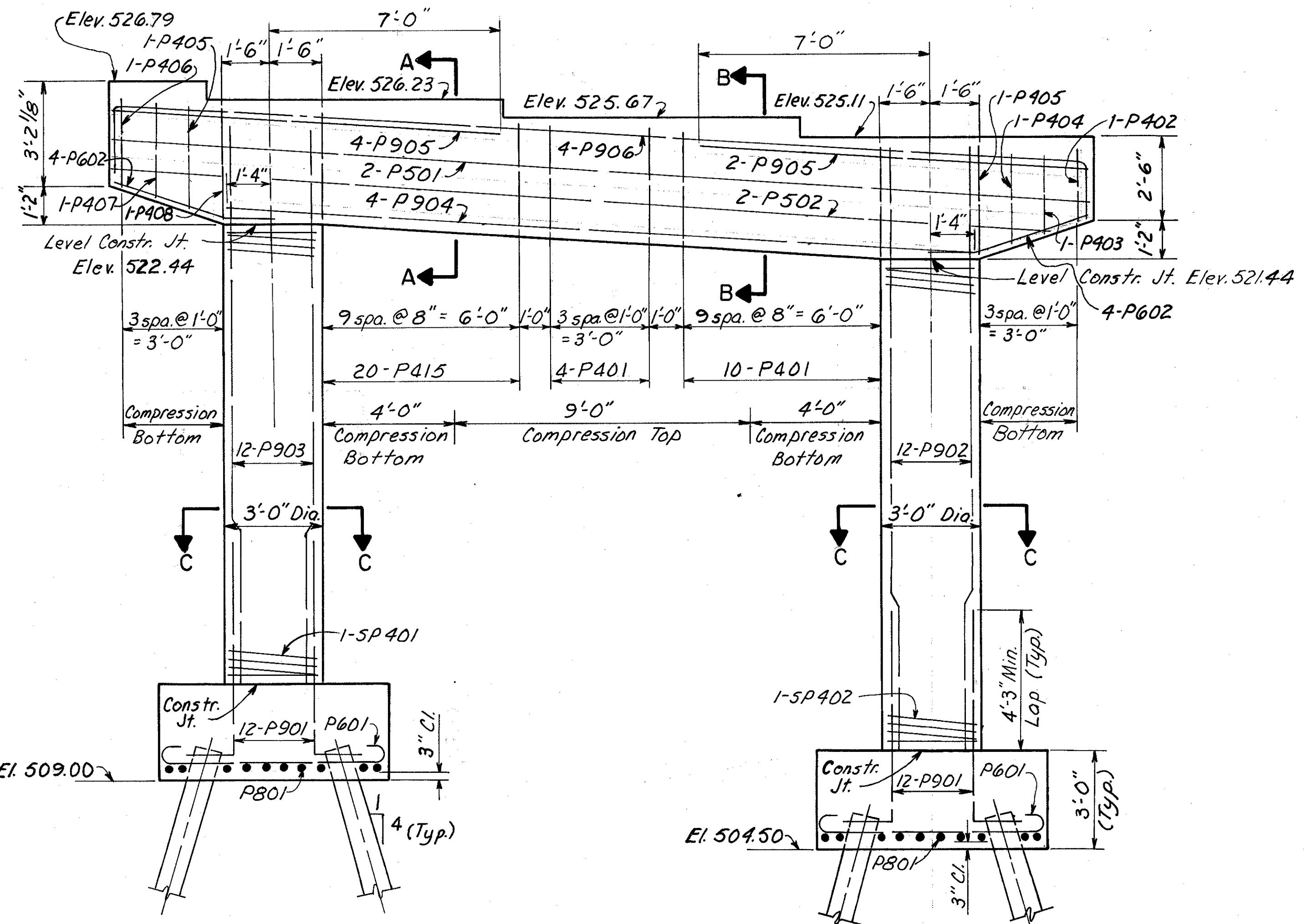
PLAN



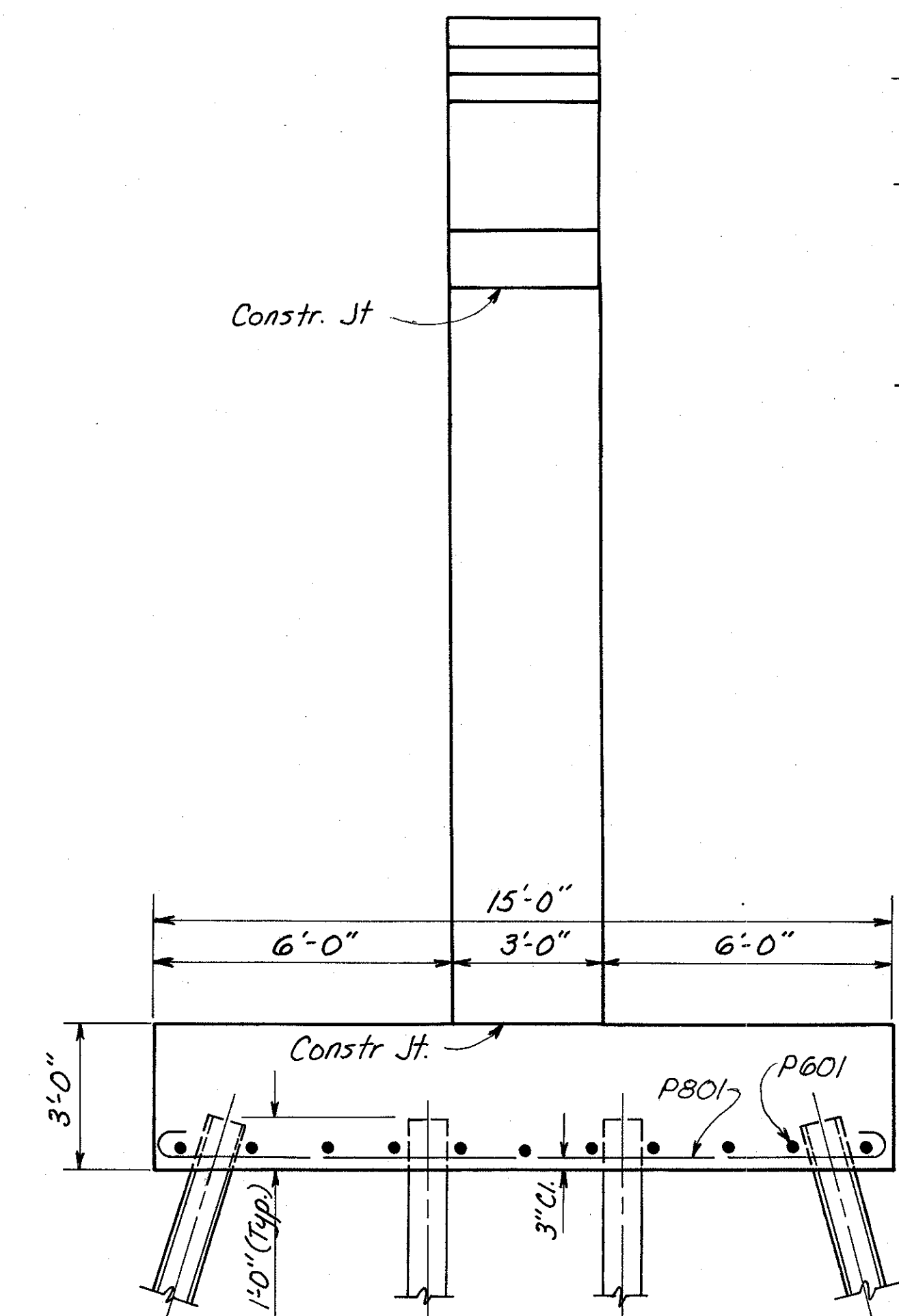
TYPICAL FOOTING



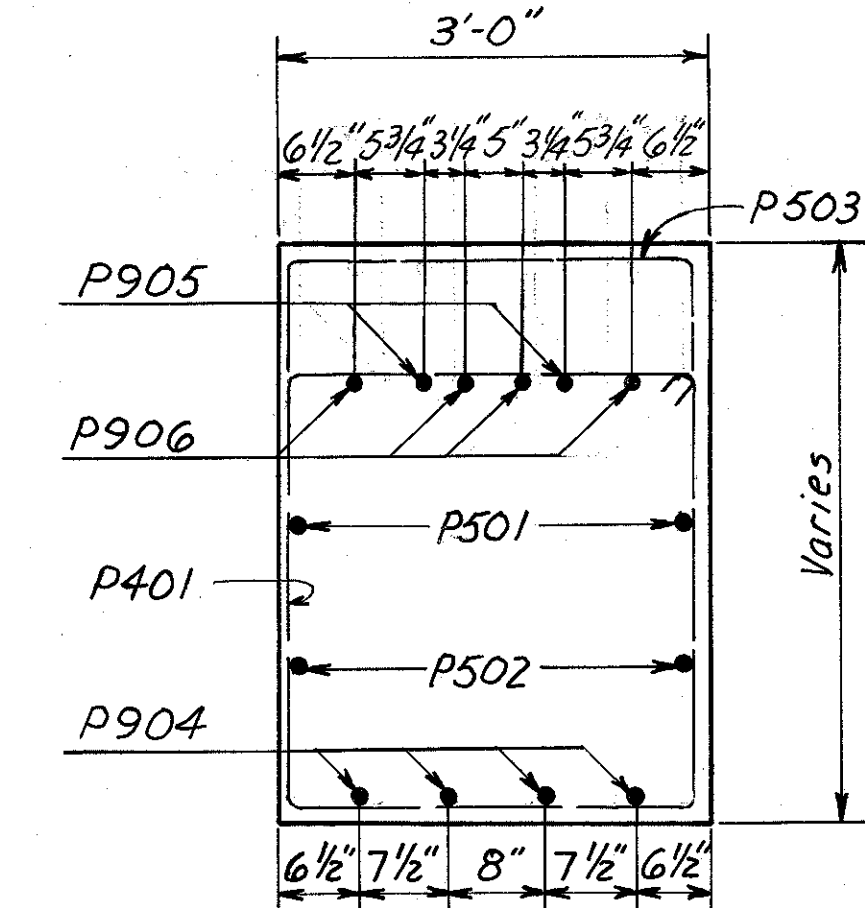
SECTION A-A



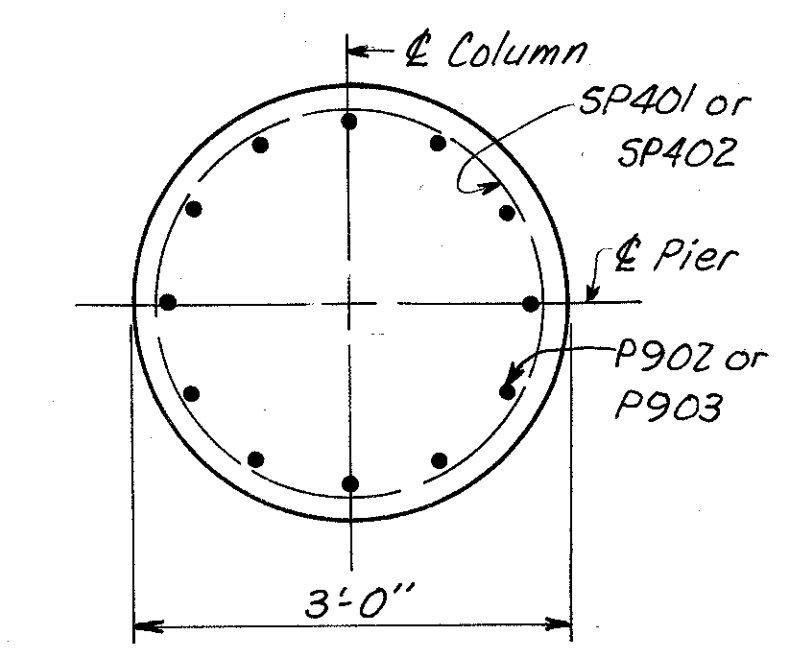
ELEVATION



END ELEVATION



SECTION B-B



SECTION C-C

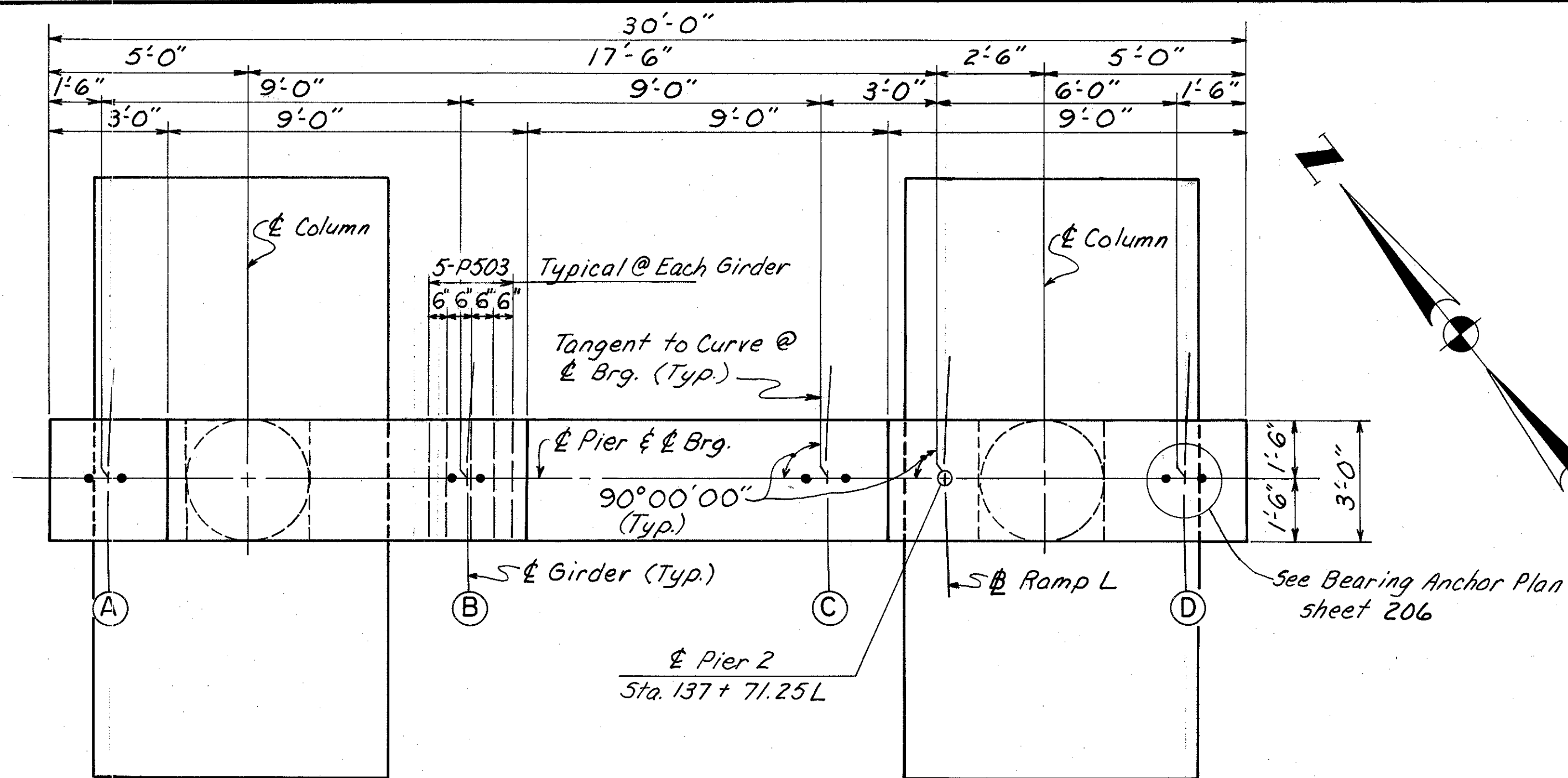
Note:
Place P4 bar hooks in compression area of cap.
For Footing Plan see sheet 206
Provide 2" minimum clearance for reinforcing except as noted.
All concrete shall be Class C concrete.
Ground wire shall extend thru both columns.
See standard Drawing HL-7.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PIER 1					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED MRT	DRAWN DSD	TRACED	CHECKED WEL	REVIEWED DATE JKO 3-23-82	REVISED

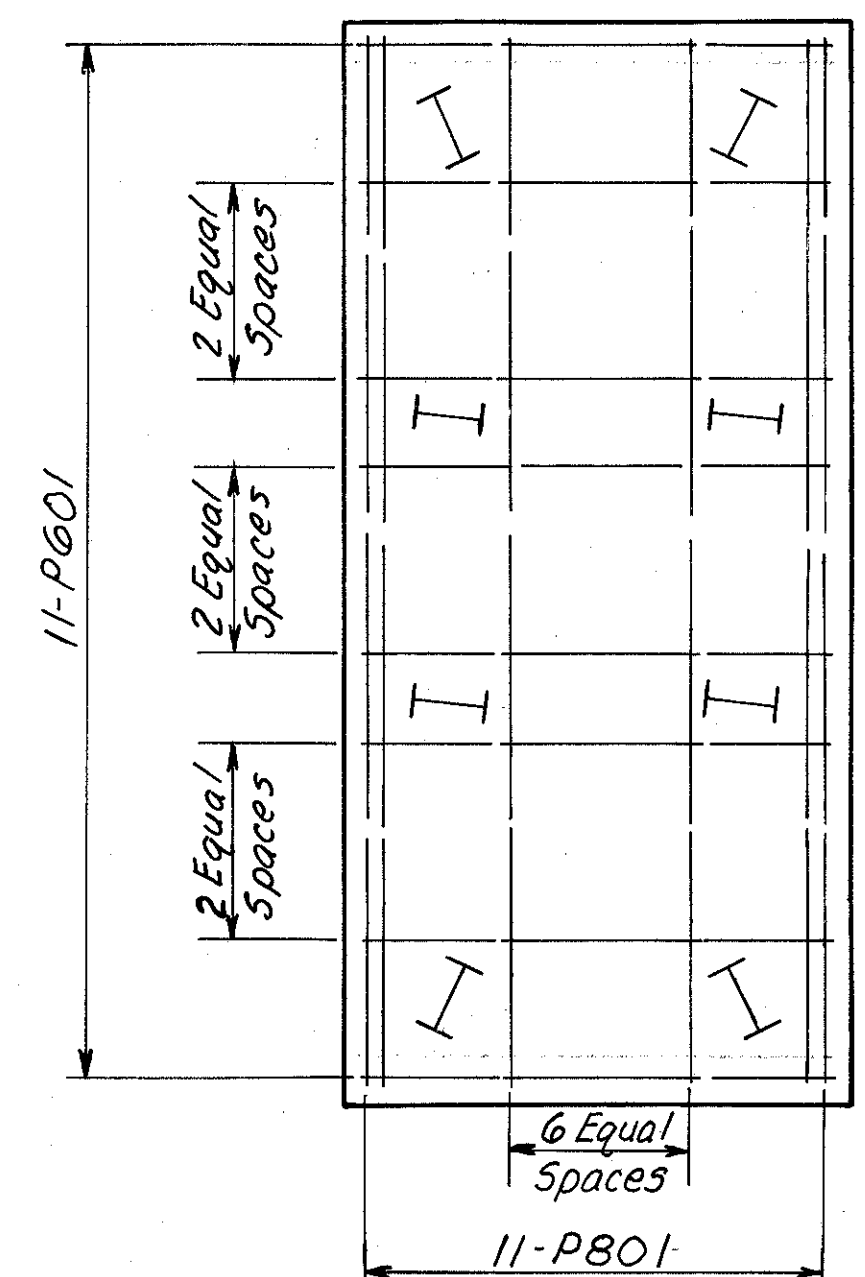
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		199

346

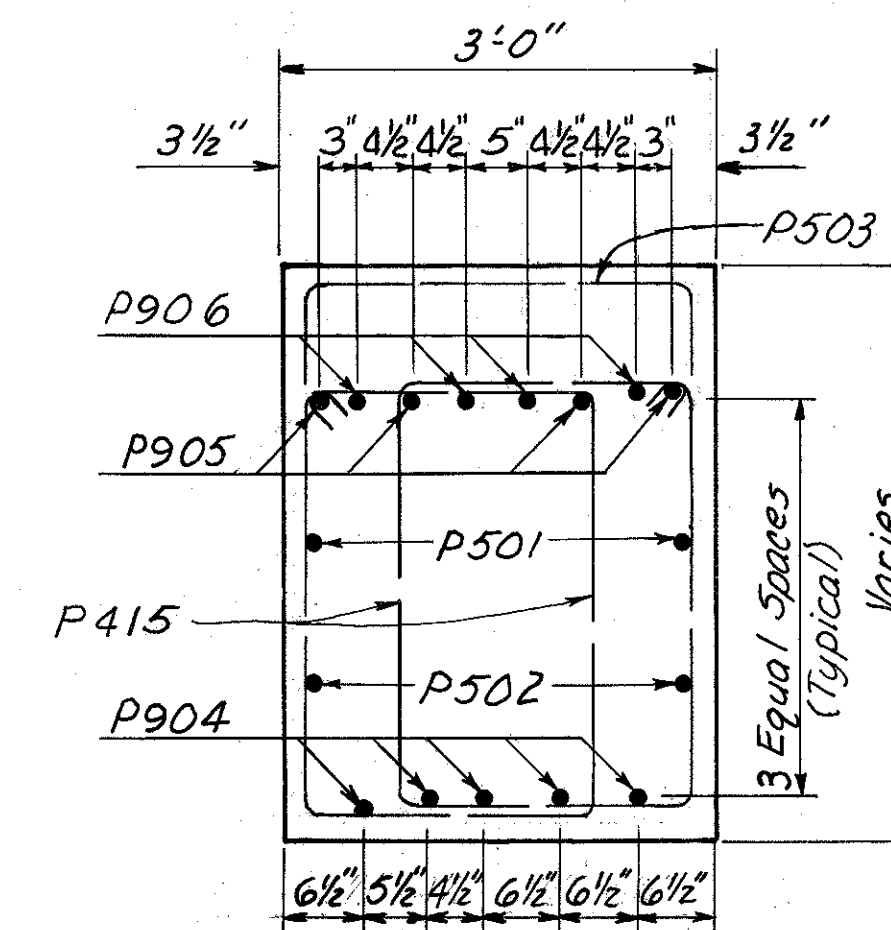
HAMILTON COUNTY
HAM-471-0.24
PART TWO



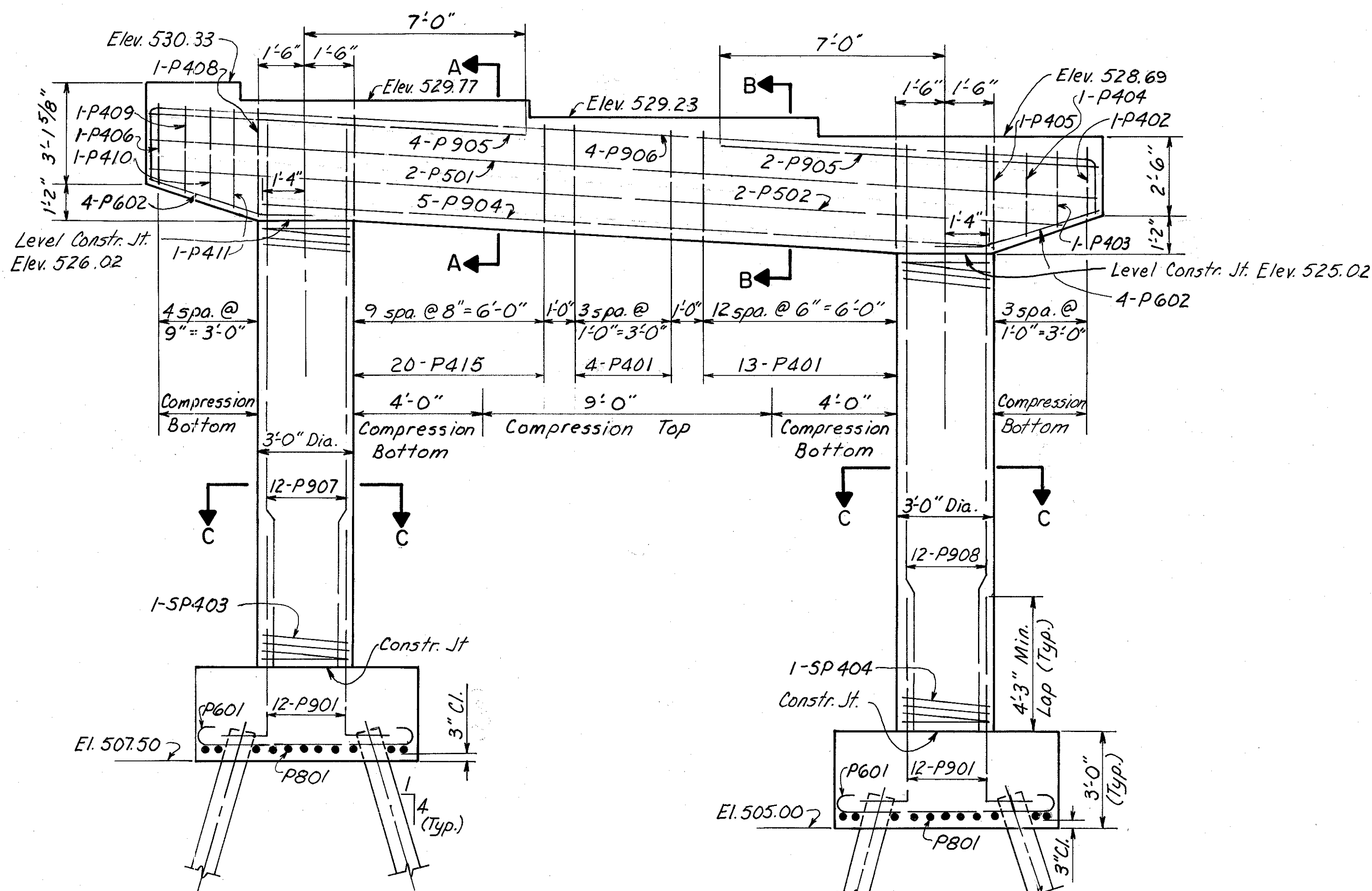
PLAN



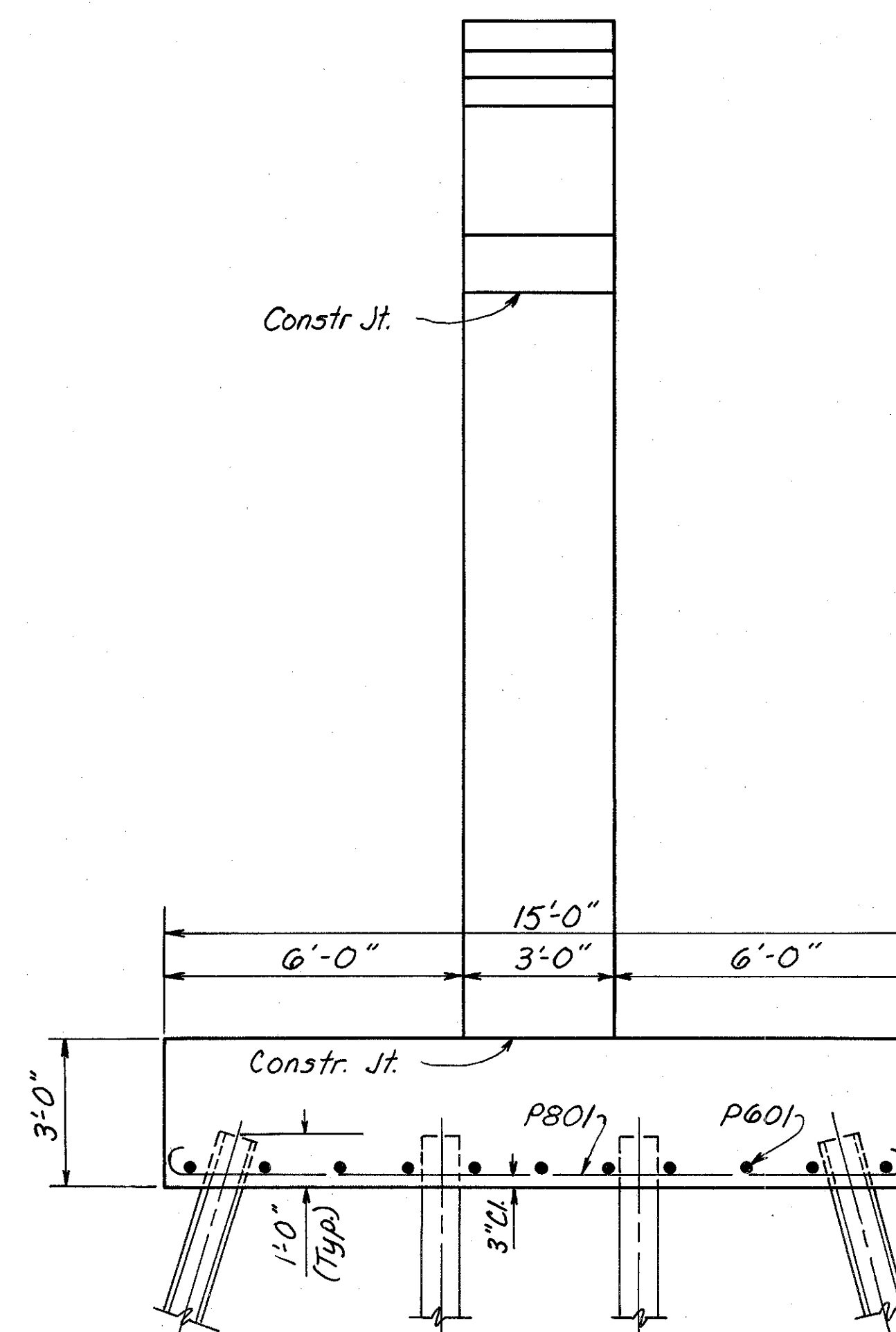
TYPICAL FOOTING



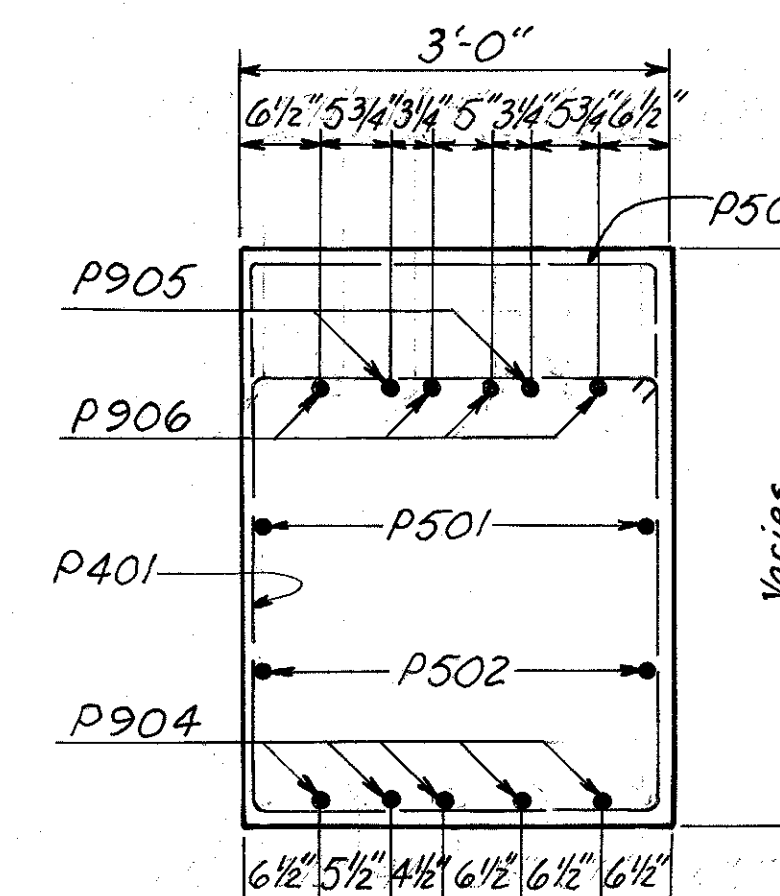
SECTION A-A



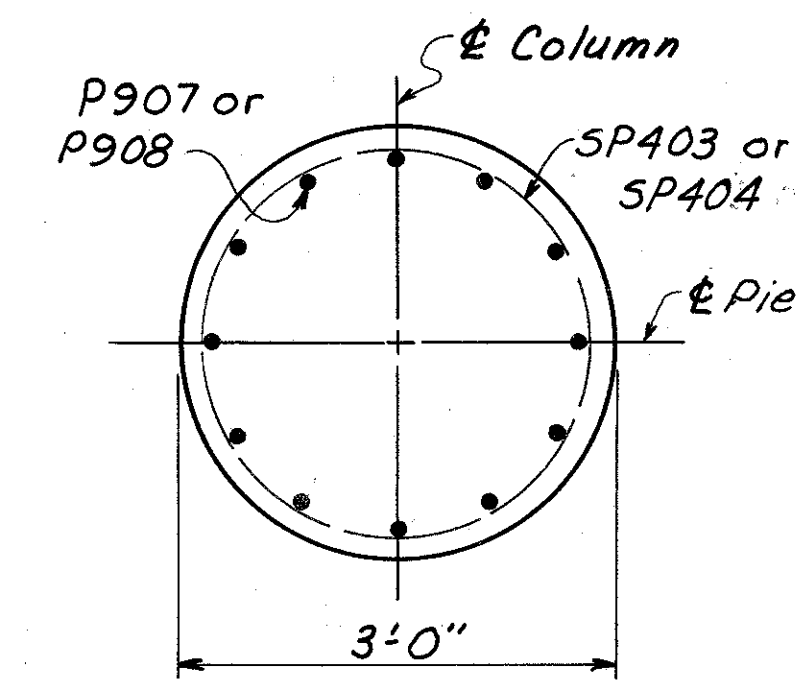
ELEVATION



END ELEVATION



SECTION B-B



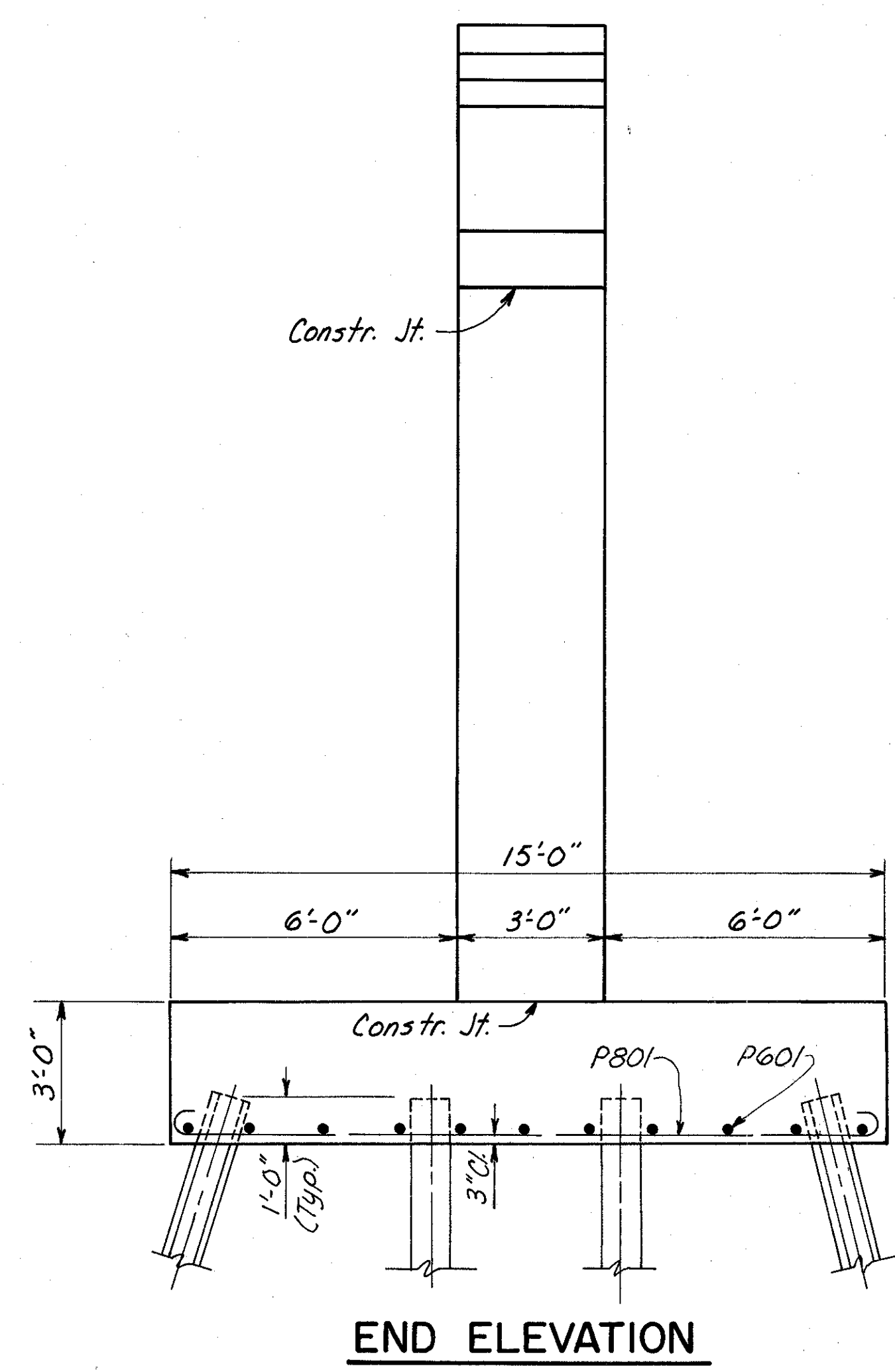
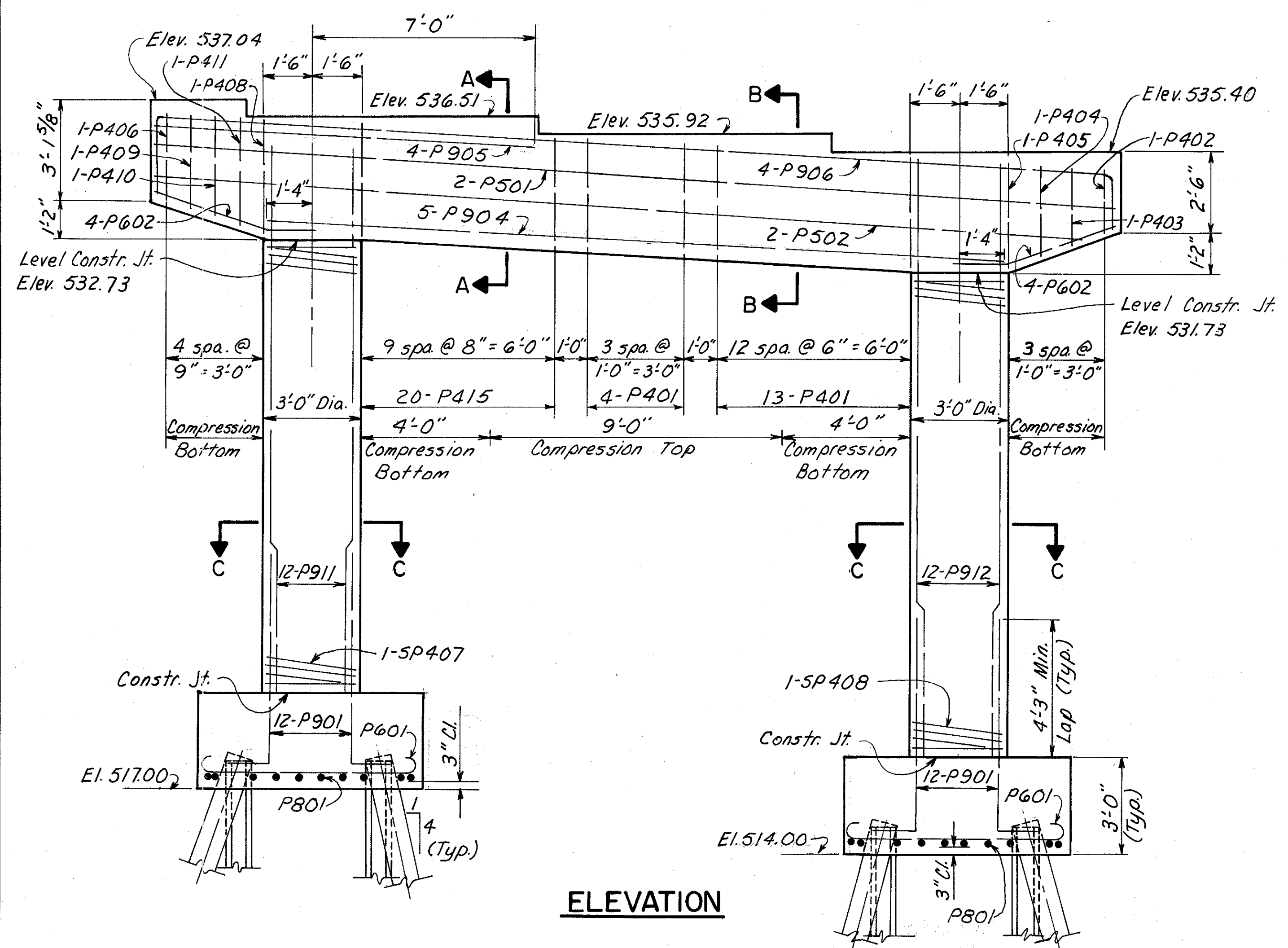
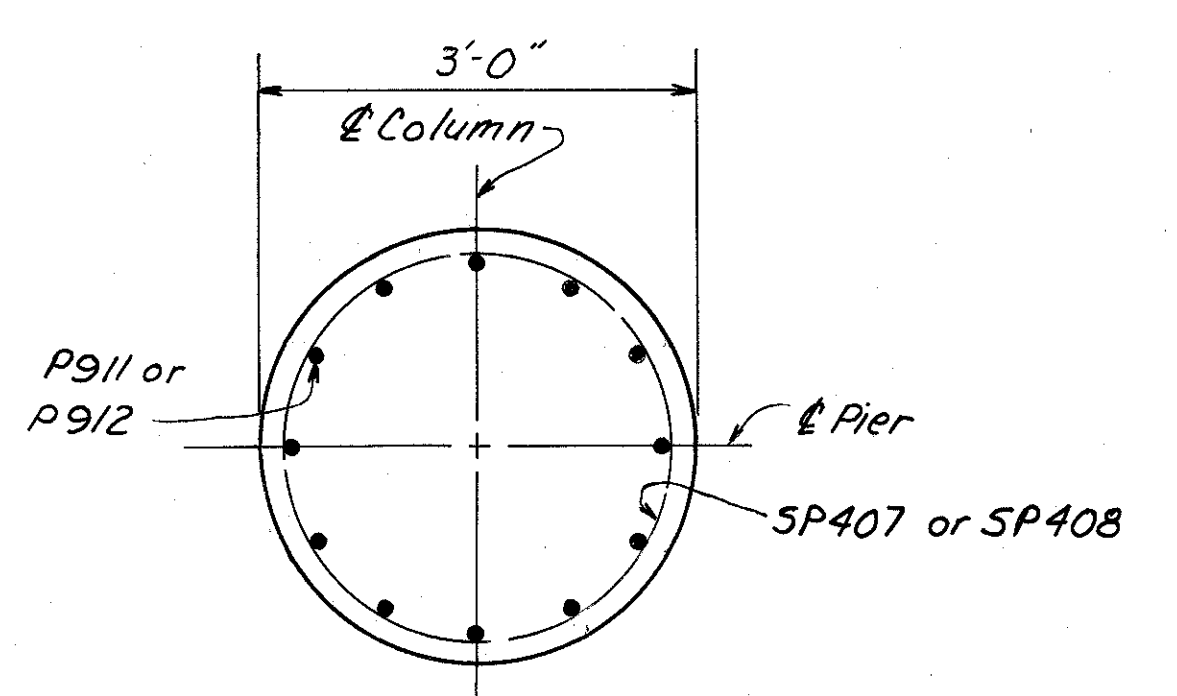
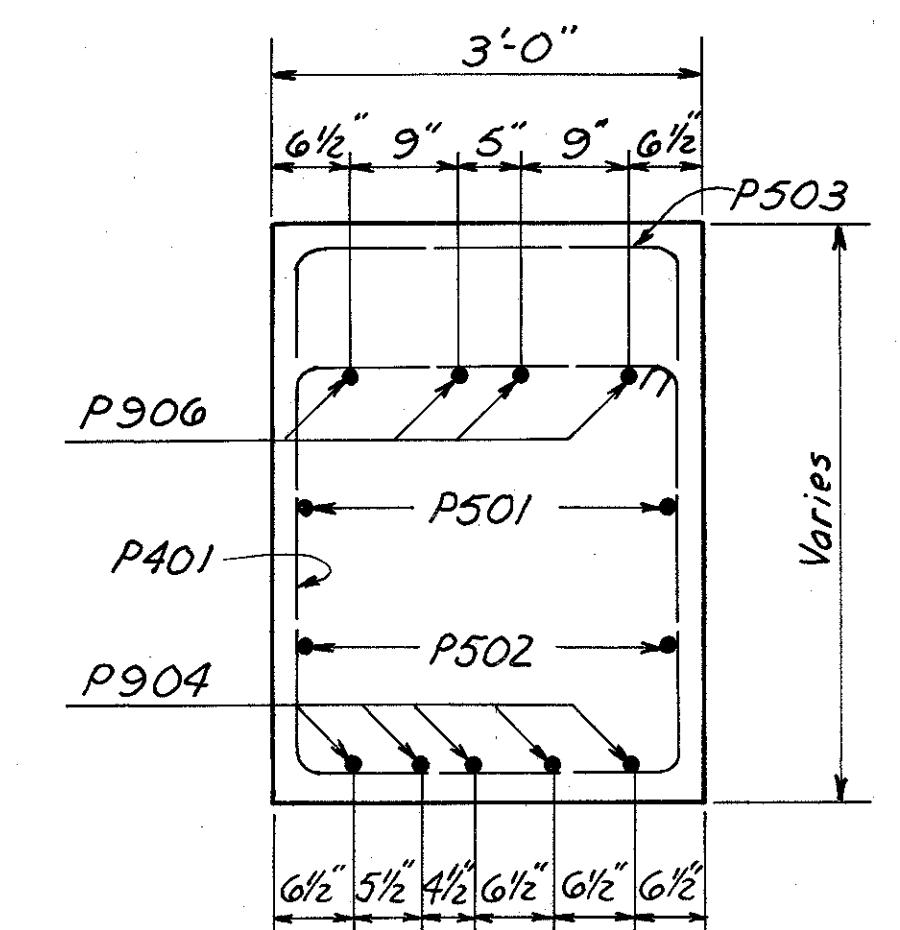
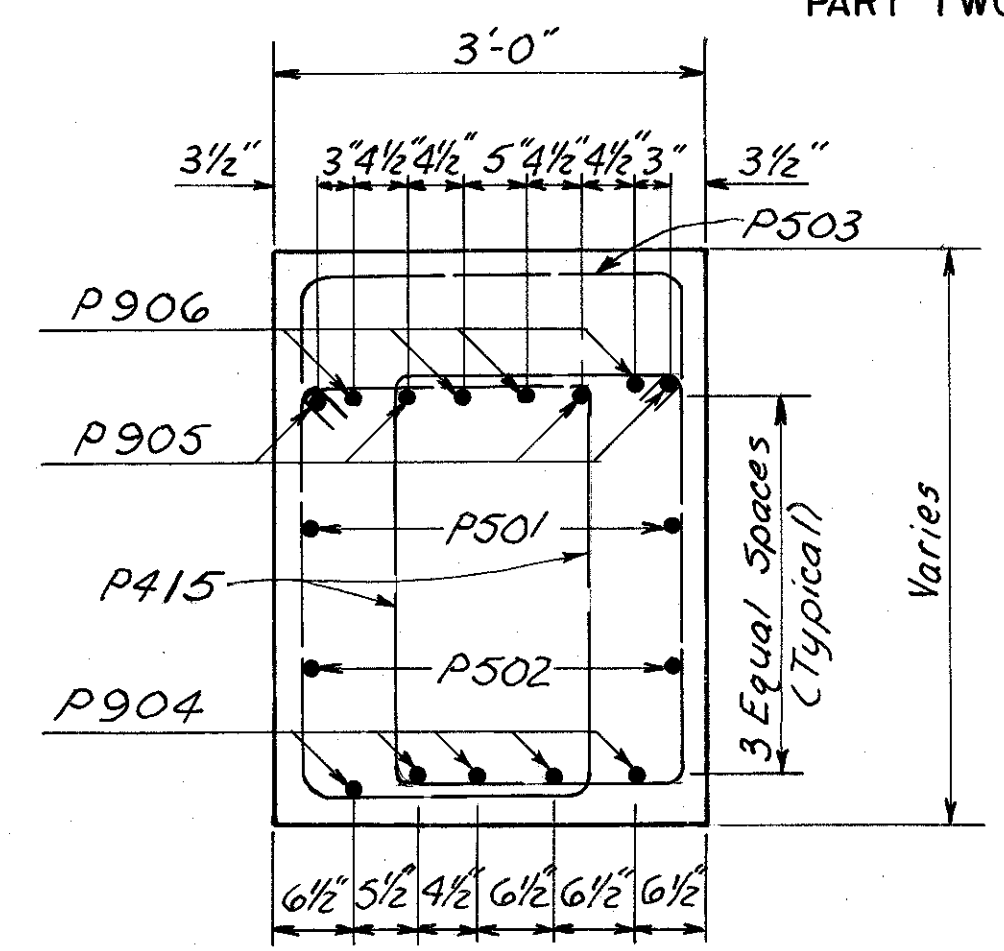
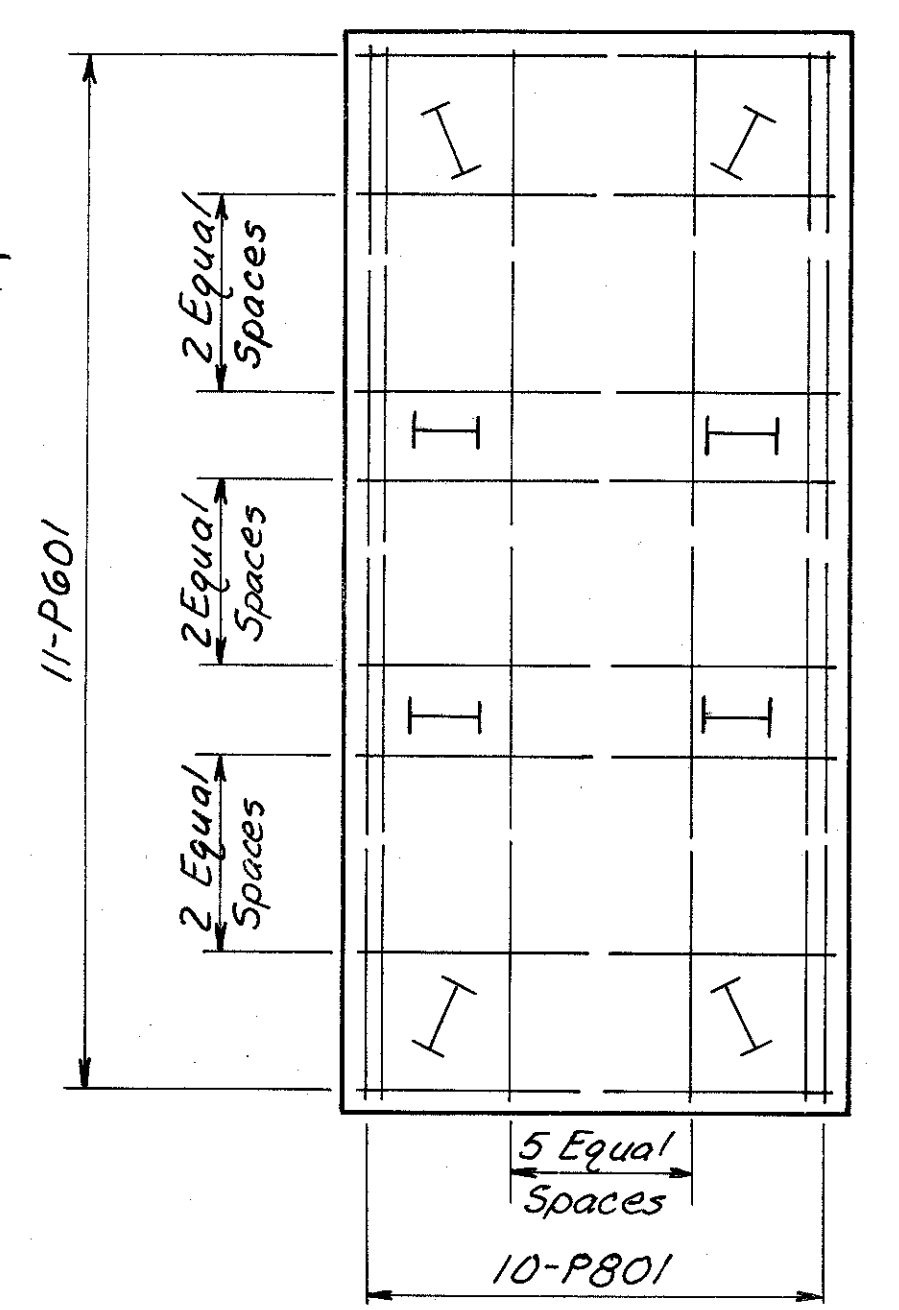
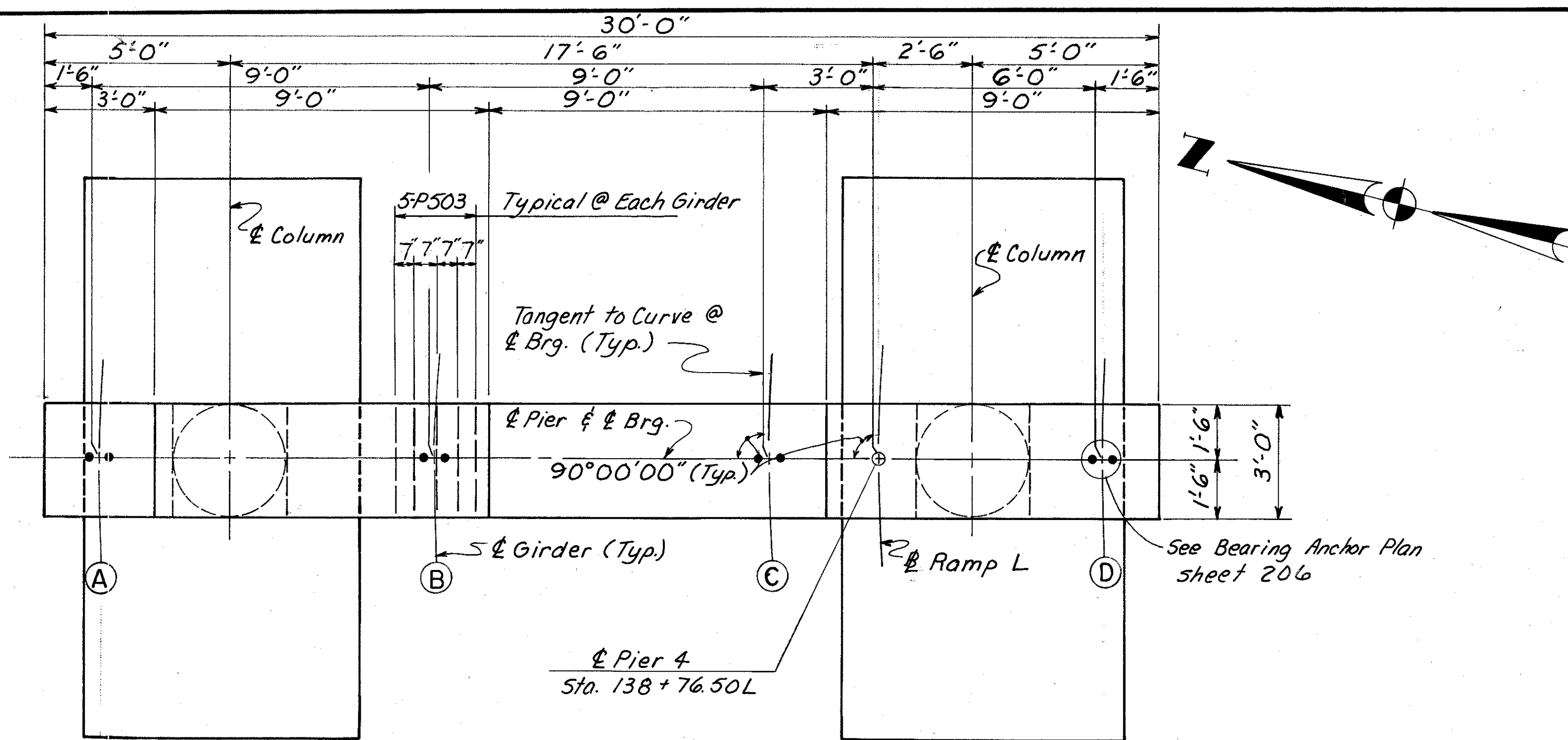
SECTION C-C

Note:
Place P4 bar hooks in compression area of cap.
For Footing Plan see sheet 206.
Provide 2" minimum clearance for reinforcing except as noted.
All concrete shall be Class C concrete.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
PIER 2				
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRT	DSD		WJL	3/14/82
				3-23-82

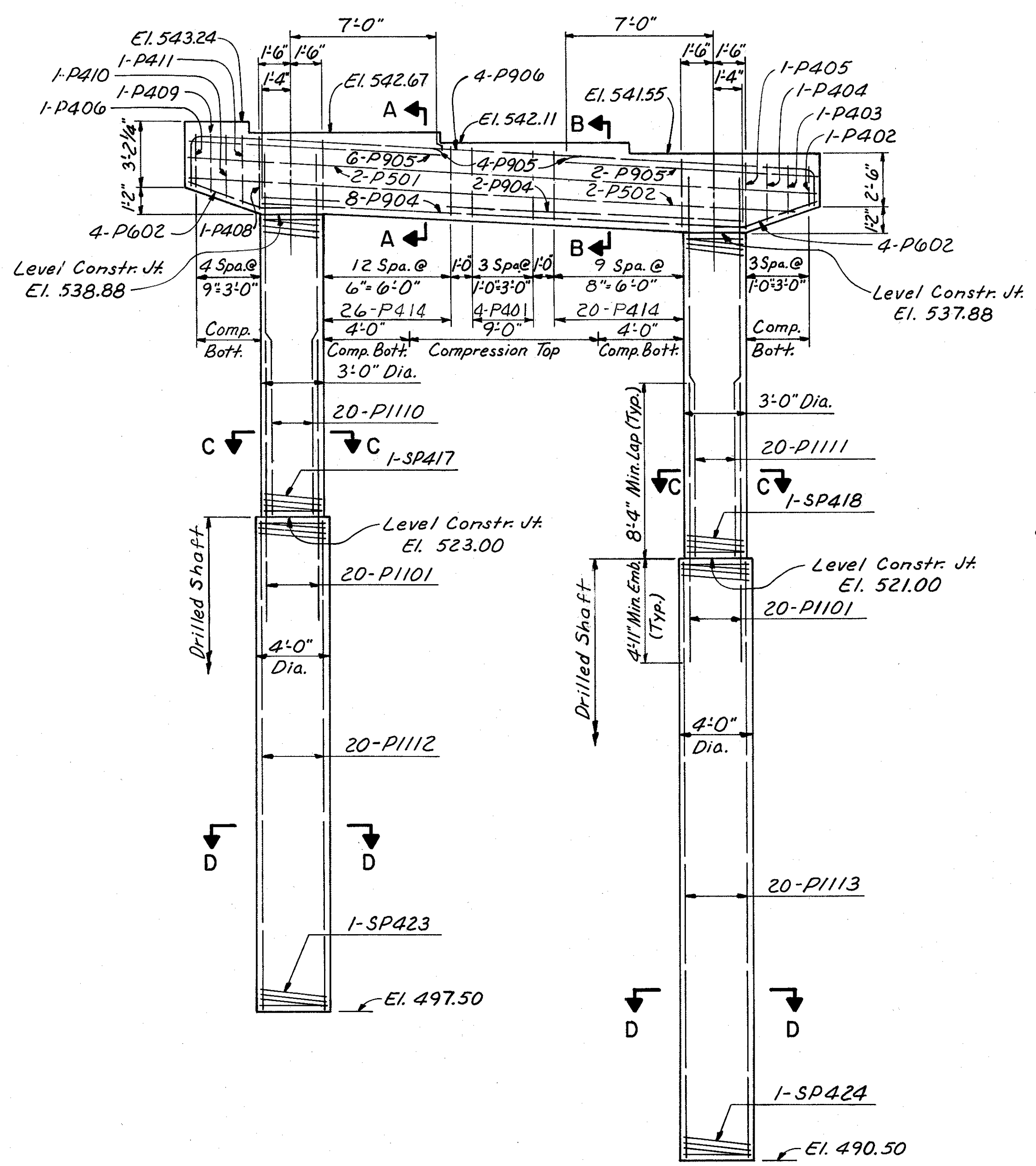
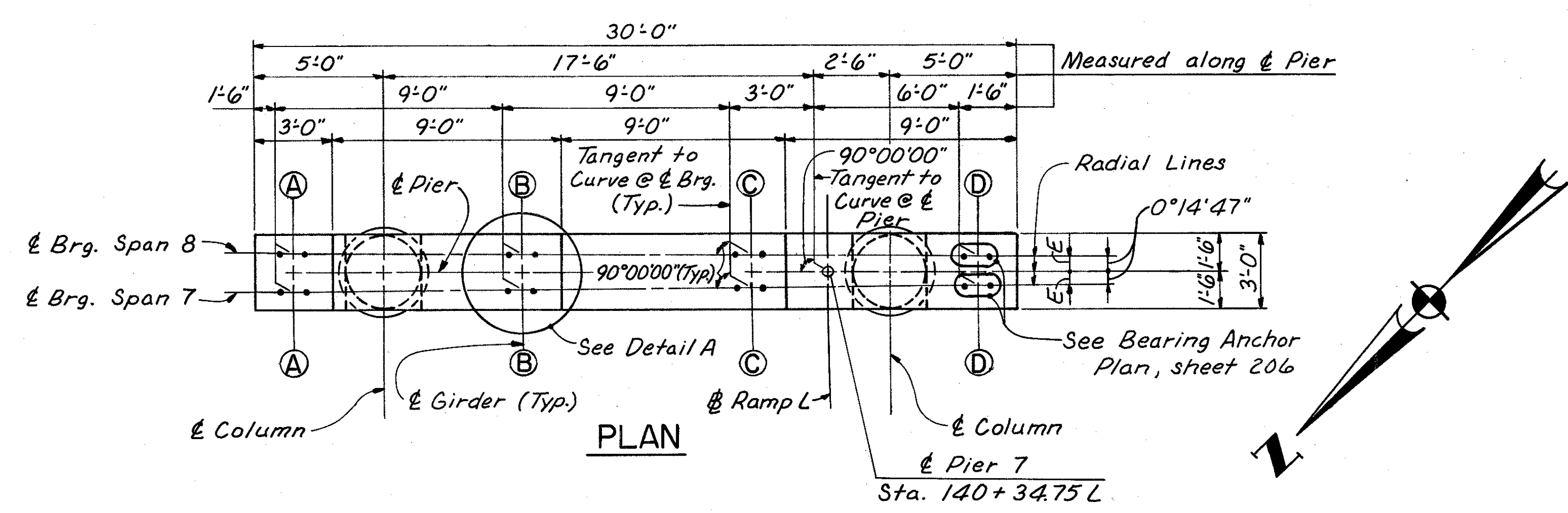
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR	201 346
5	OHIO	HAMILTON COUNTY HAM-471-0.24 PART TWO		

HAMILTON COUNTY
HAM-471-0.24
PART TWO

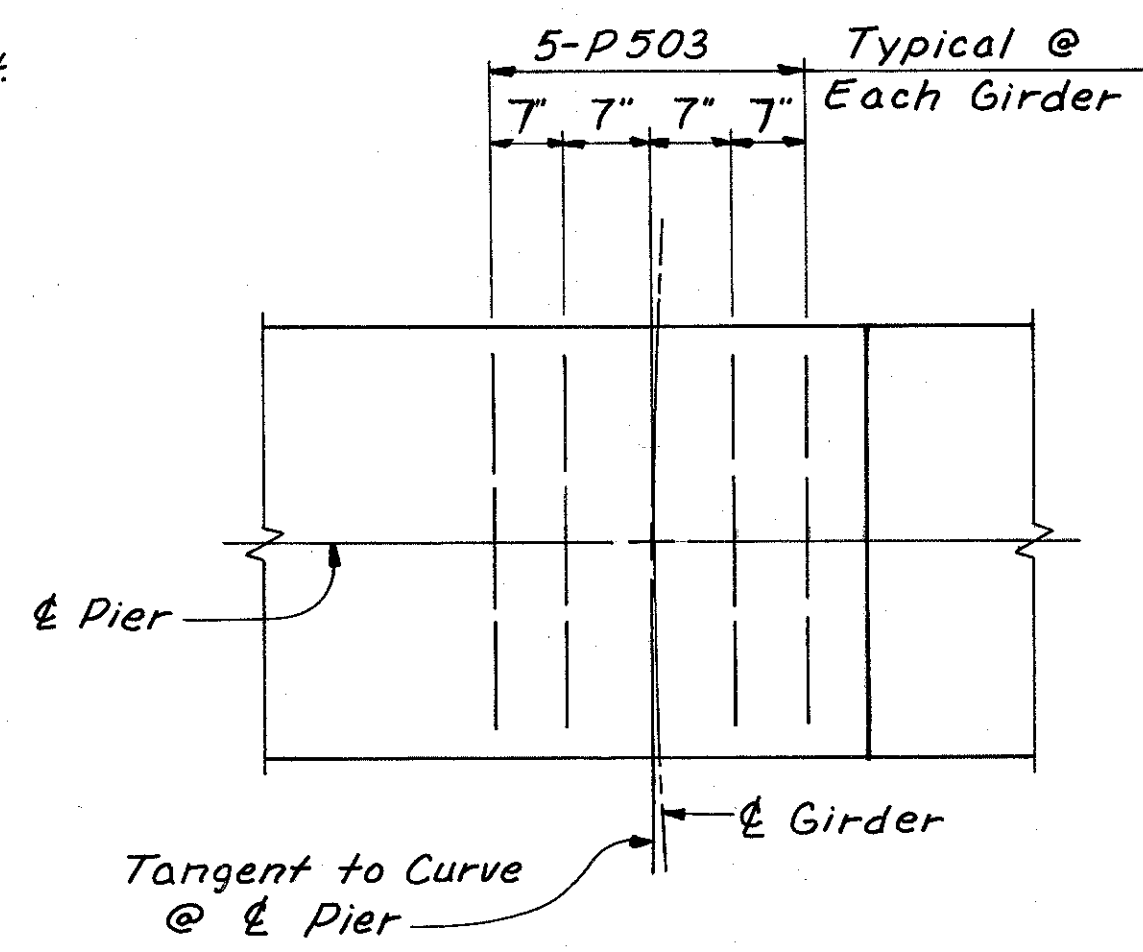
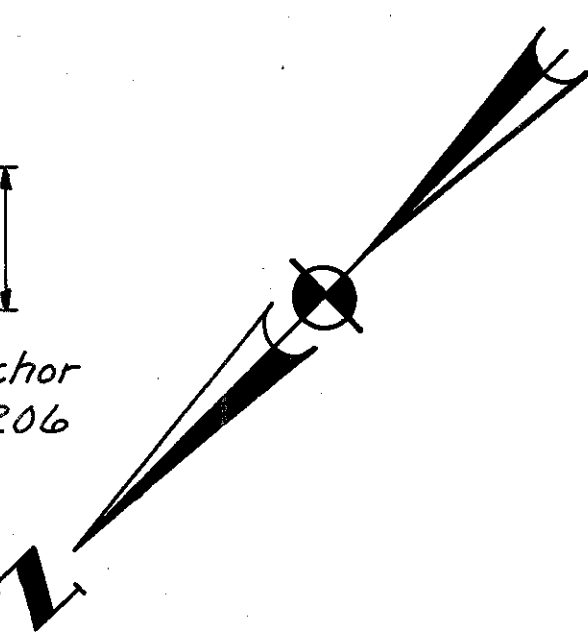


Note:
Place P4 bar hooks in compression area of cap.
For Footing Plan see sheet 206
Provide 2" minimum clearance for reinforcing except as noted.
All concrete shall be Class C concrete.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PIER 4					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	DSD		WJL	J40 3-23-82	

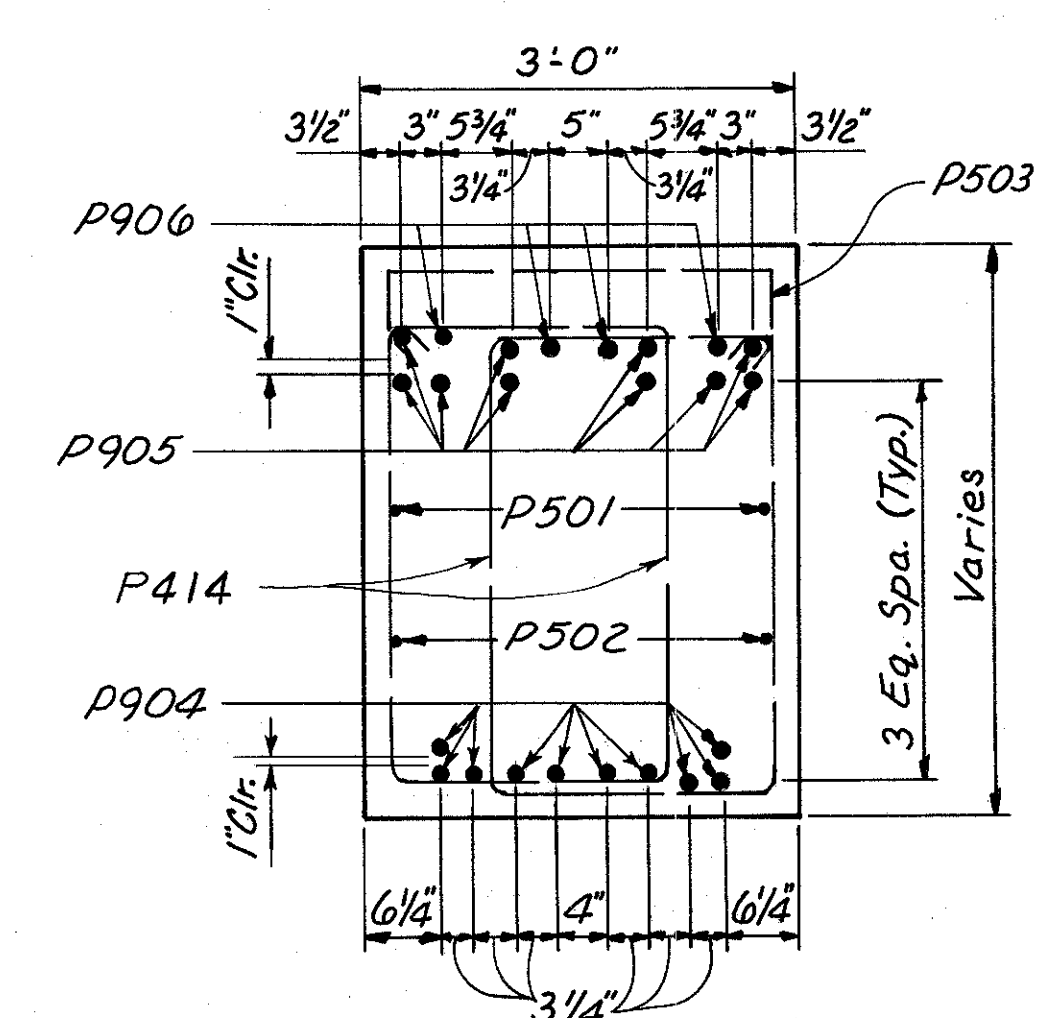


ELEVATION

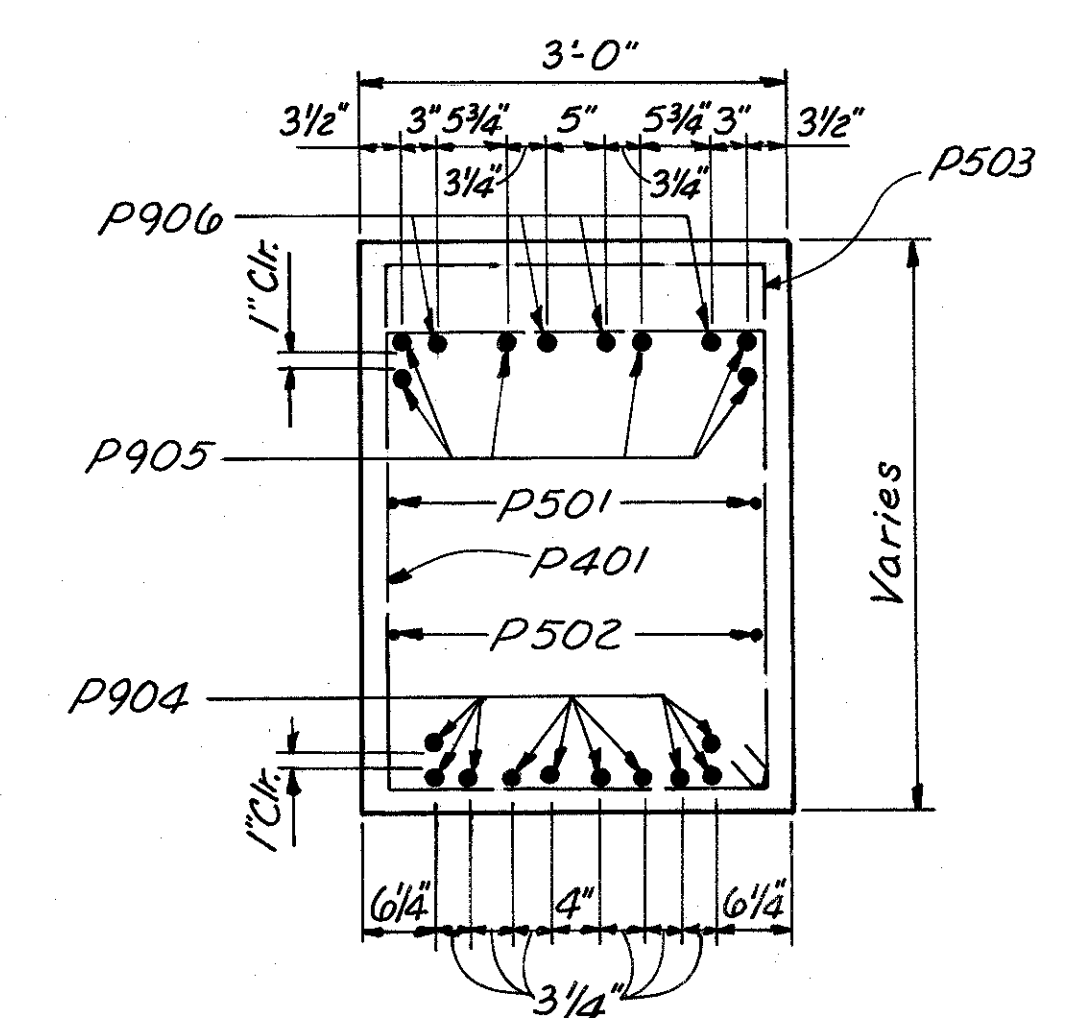


DETAIL A

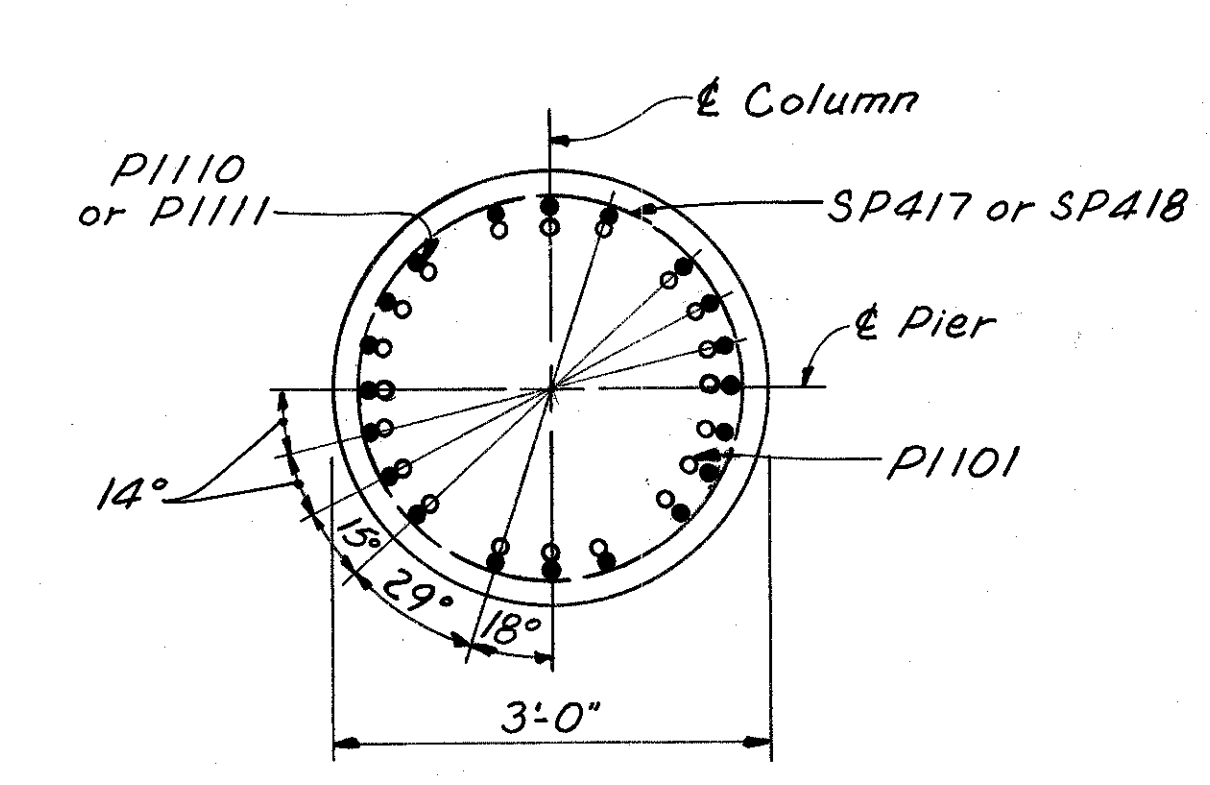
DIMENSION E	
Girder	⊥ Offset & Pier to & Girder @ & Brg.
A	9 1/16"
B	8 5/8"
C	8 1/8"
D	7 1/16"



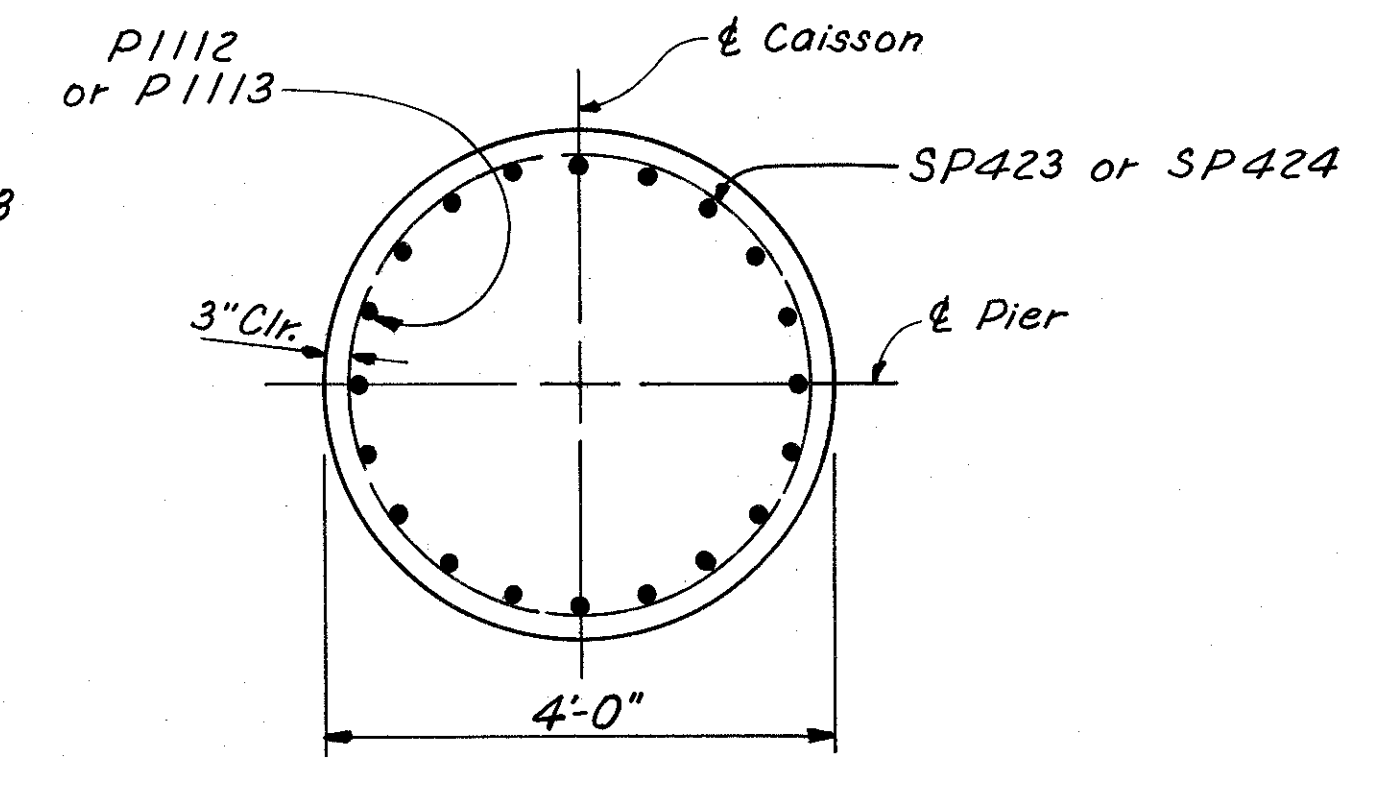
SECTION A-A



SECTION B-B



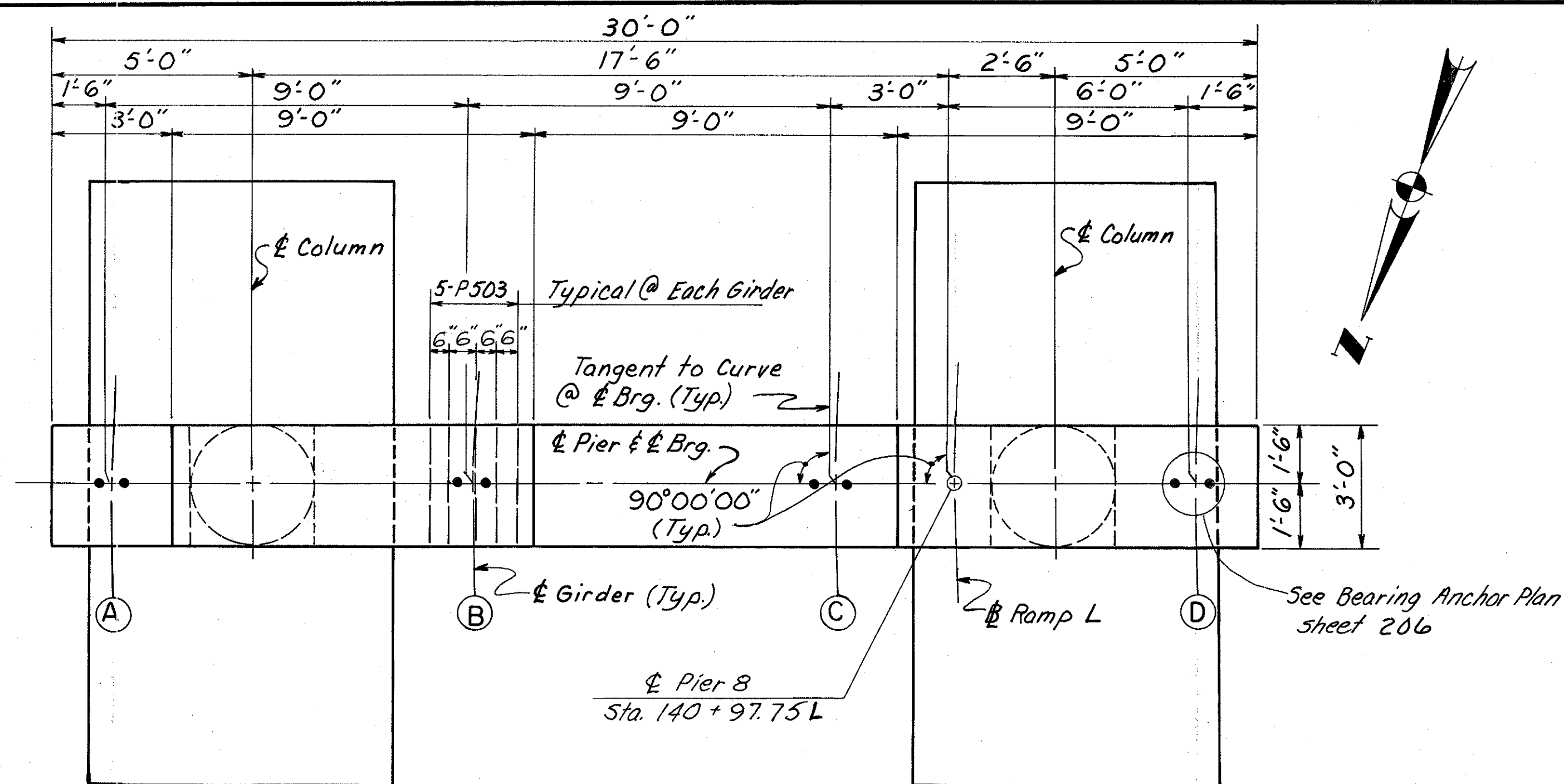
SECTION C-C



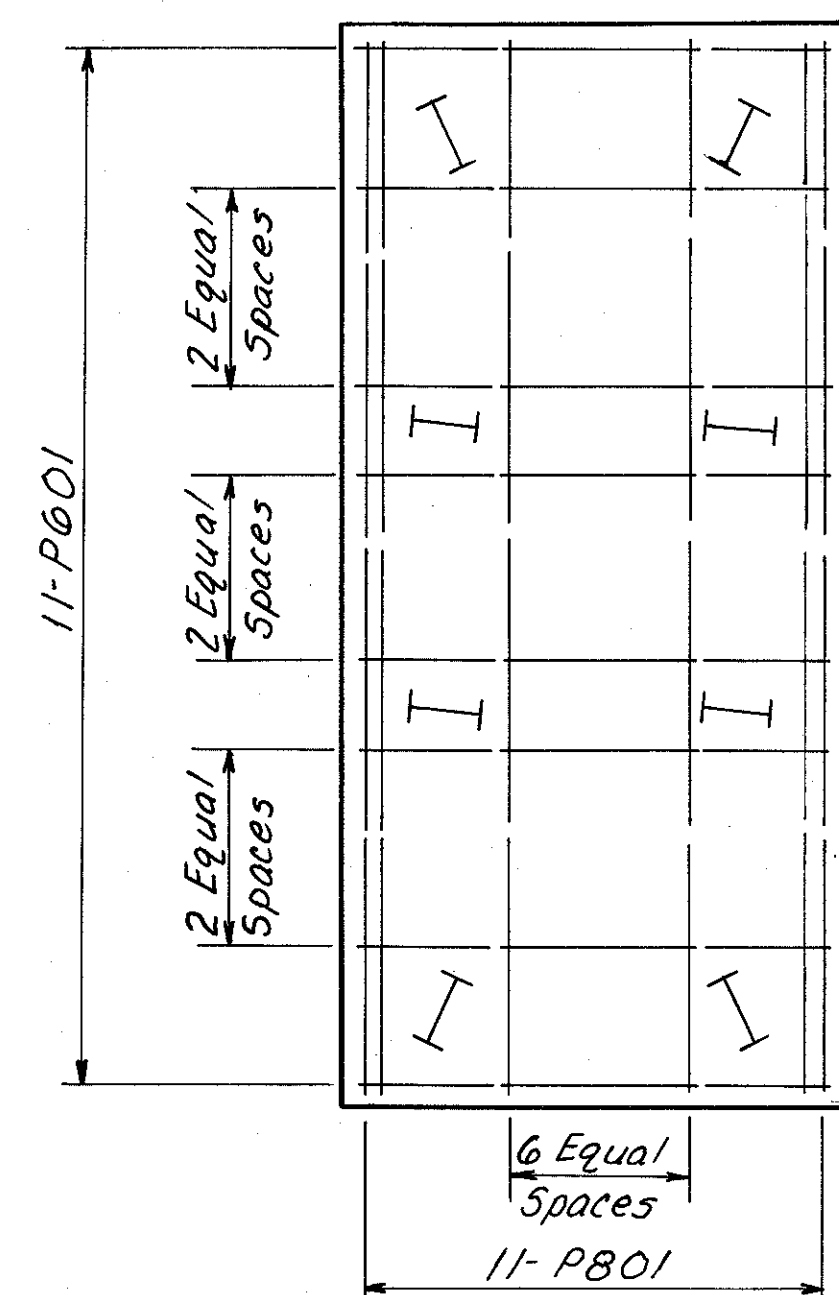
SECTION D-D

Notes:
Place P4 bar hooks in compression area of cap.
All concrete shall be Class C Concrete.
Provide 2" minimum clearance for reinforcing except as noted.

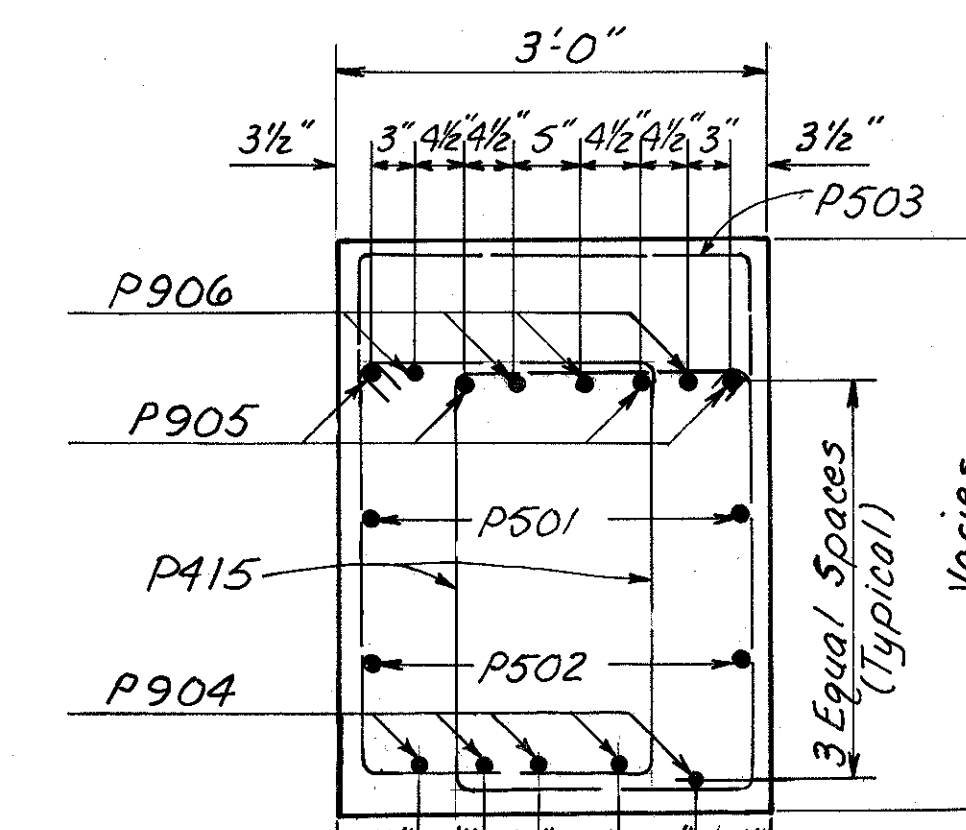
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PIER 7					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRT	MRT		WZ	JH 3-23-82	



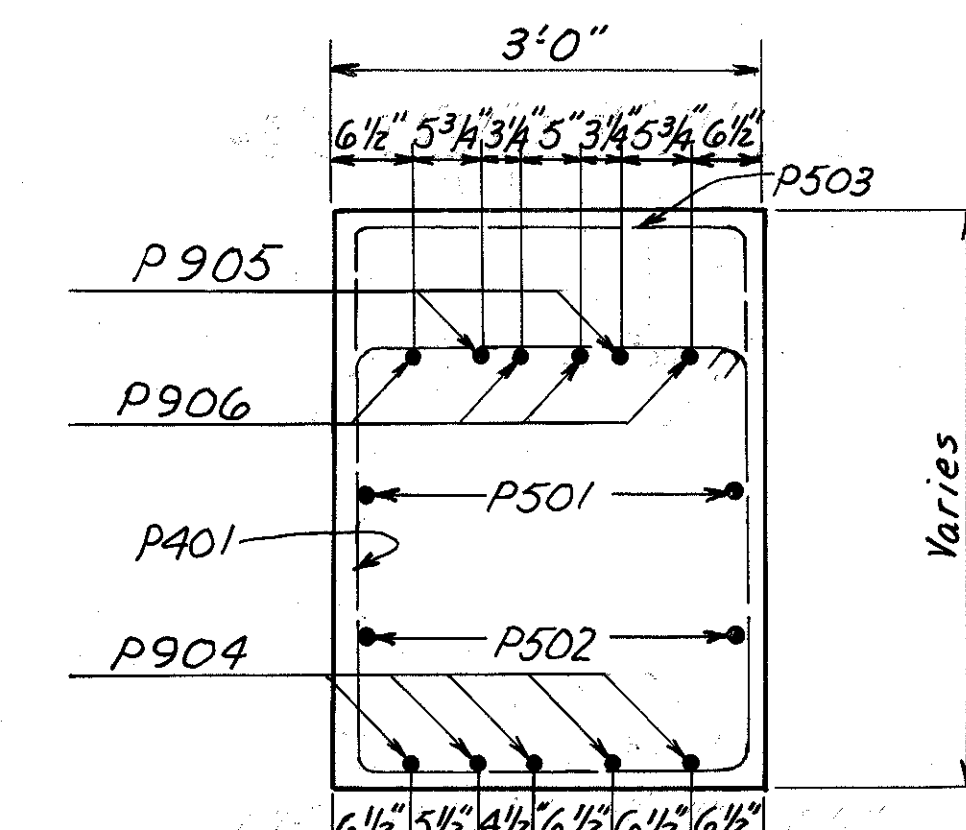
PLAN



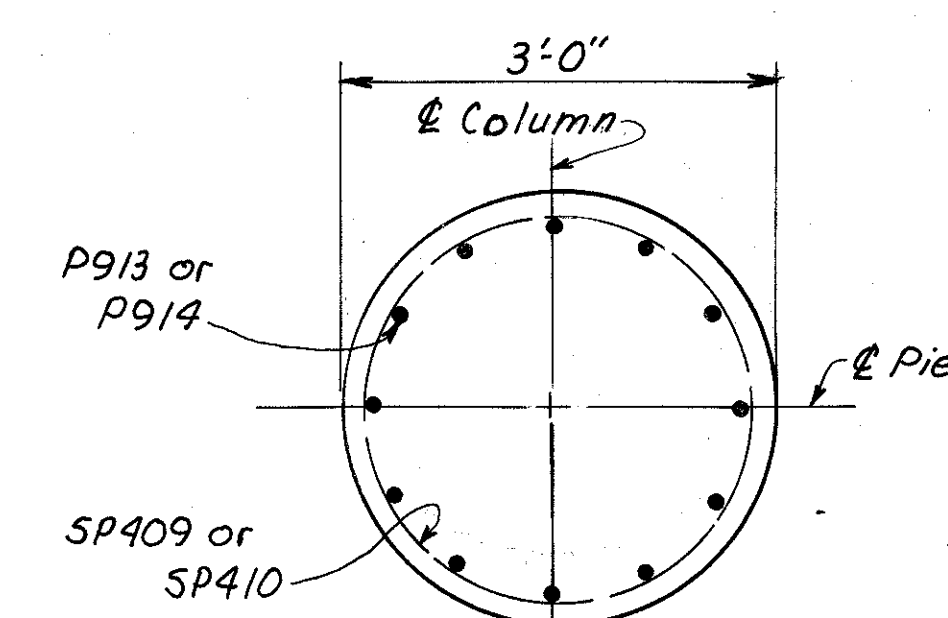
TYPICAL FOOTING



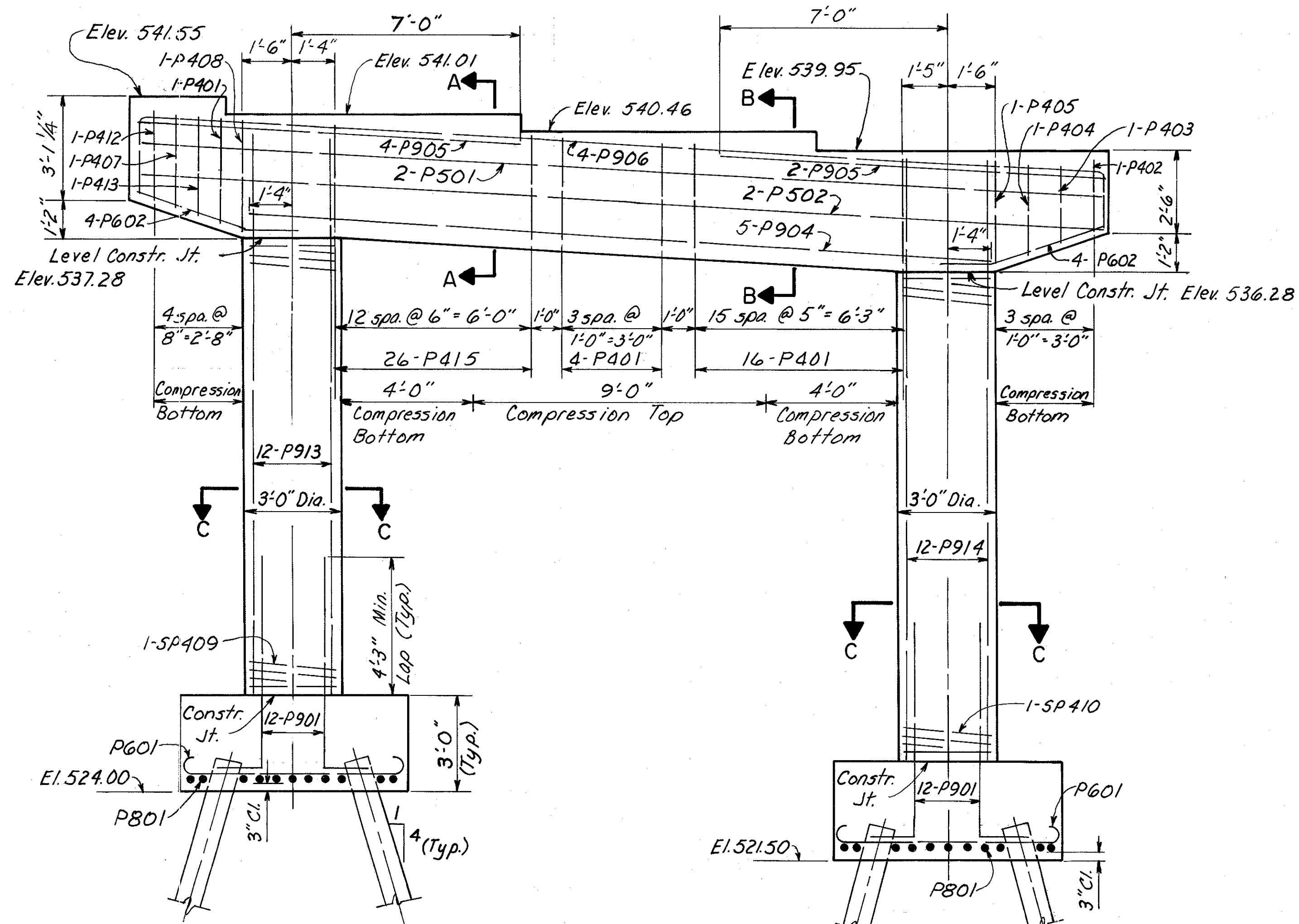
SECTION A-A



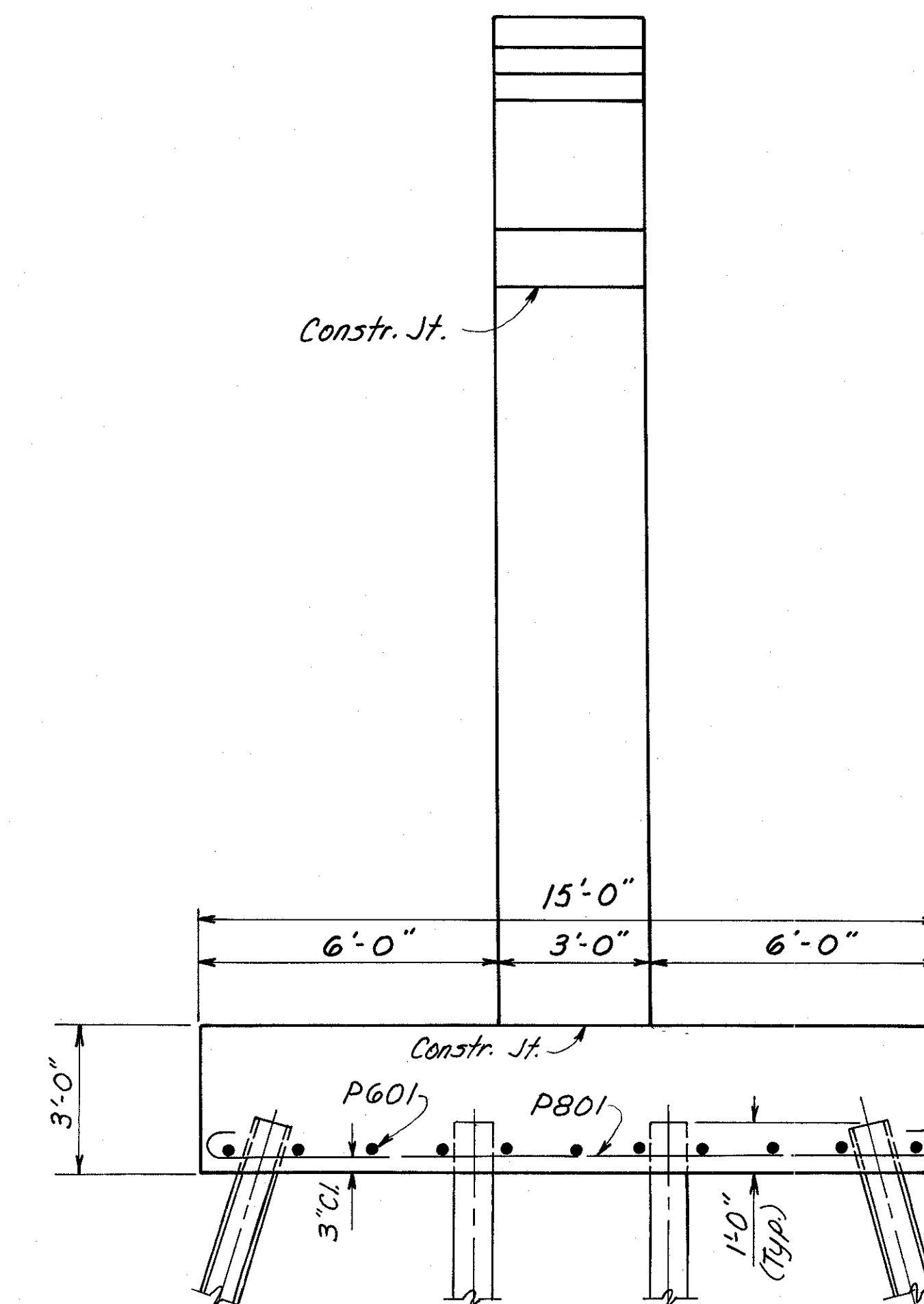
SECTION B-B



SECTION C-C



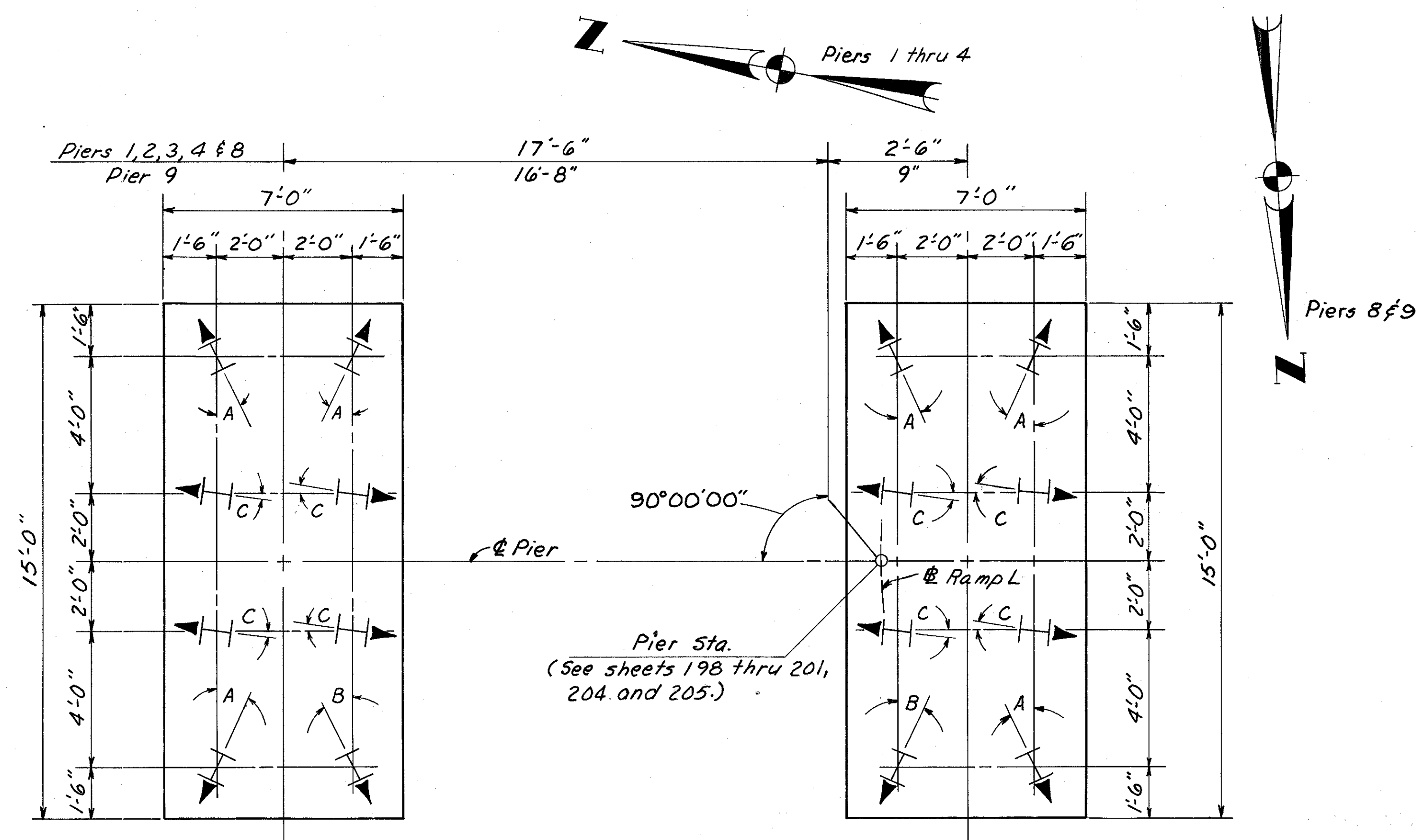
ELEVATION



END ELEVATION

Note:
 Place P4 bar hooks in compression area of cap.
 For Footing Plan see sheet 206
 Provide 2" minimum clearance for reinforcing except as noted.
 All concrete shall be Class C concrete.

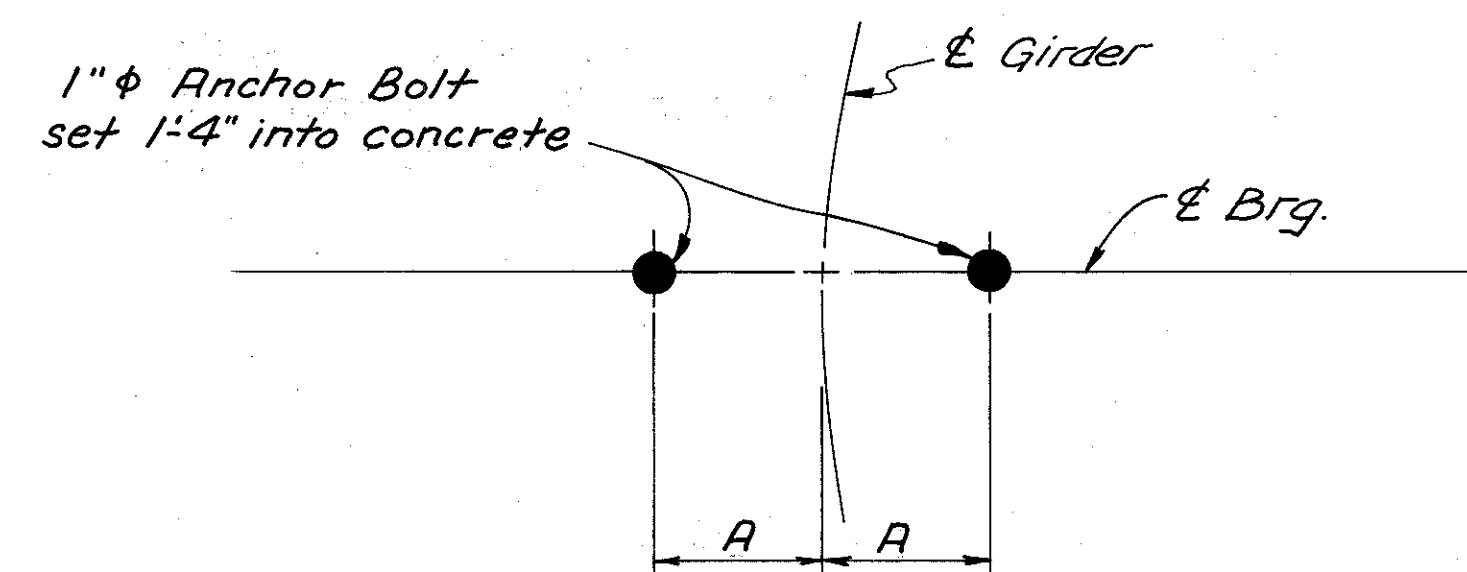
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PIER 8					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	DSD		WJL	JHD 3-23-82	



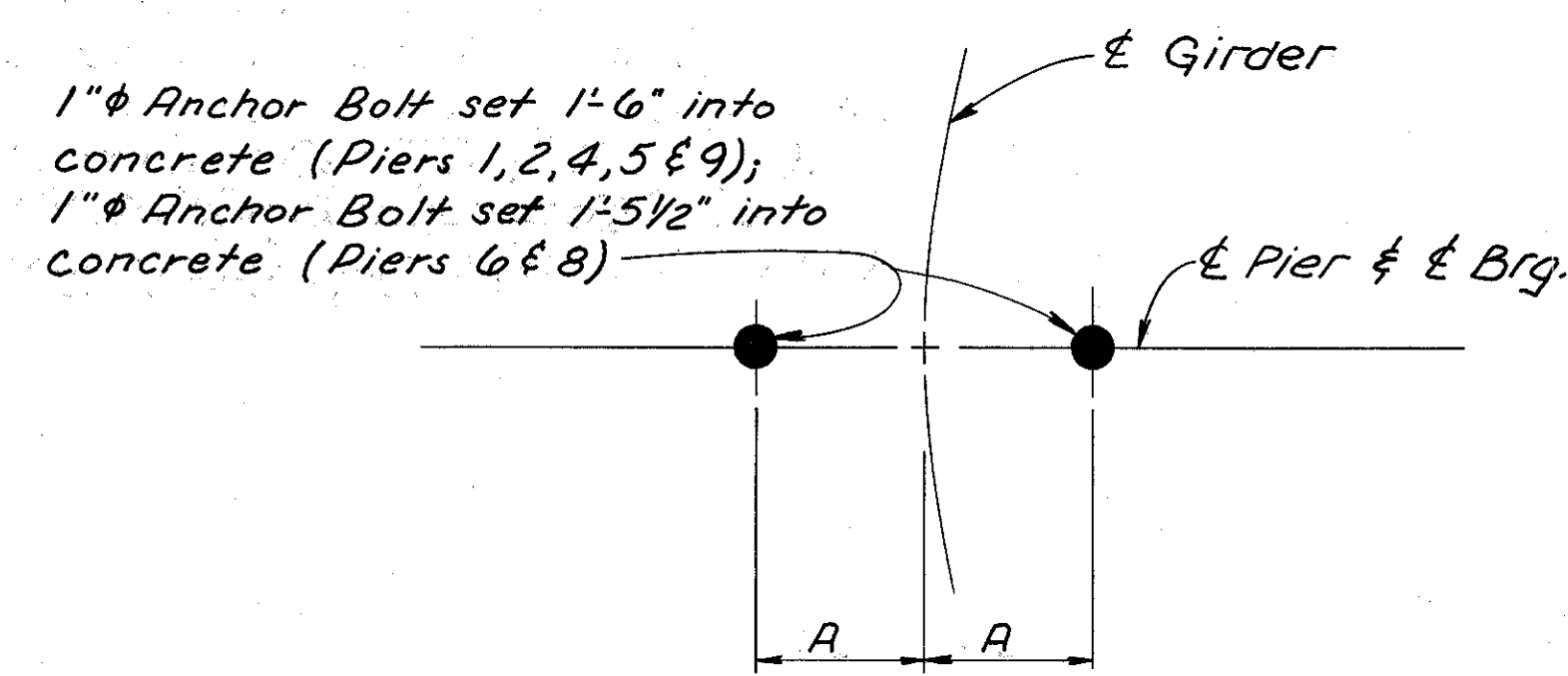
FOOTING PLAN
(Piers 1, 2, 3, 4, 8, and 9)

PIER	ANGLE		
	A	B	C
1	25°	20°	7°
2 & 3	25°	25°	7°
4	20°	20°	0
8 & 9	20°	20°	7°

Note:
All piles HP 10x42 steel H piles.
Piles battered 1 on 4 in direction shown.



BEARING ANCHOR PLAN
(Typical Piers 3 and 7)



BEARING ANCHOR PLAN
(Typical for Piers 1, 2, 4, 5, 6, 8 and 9)

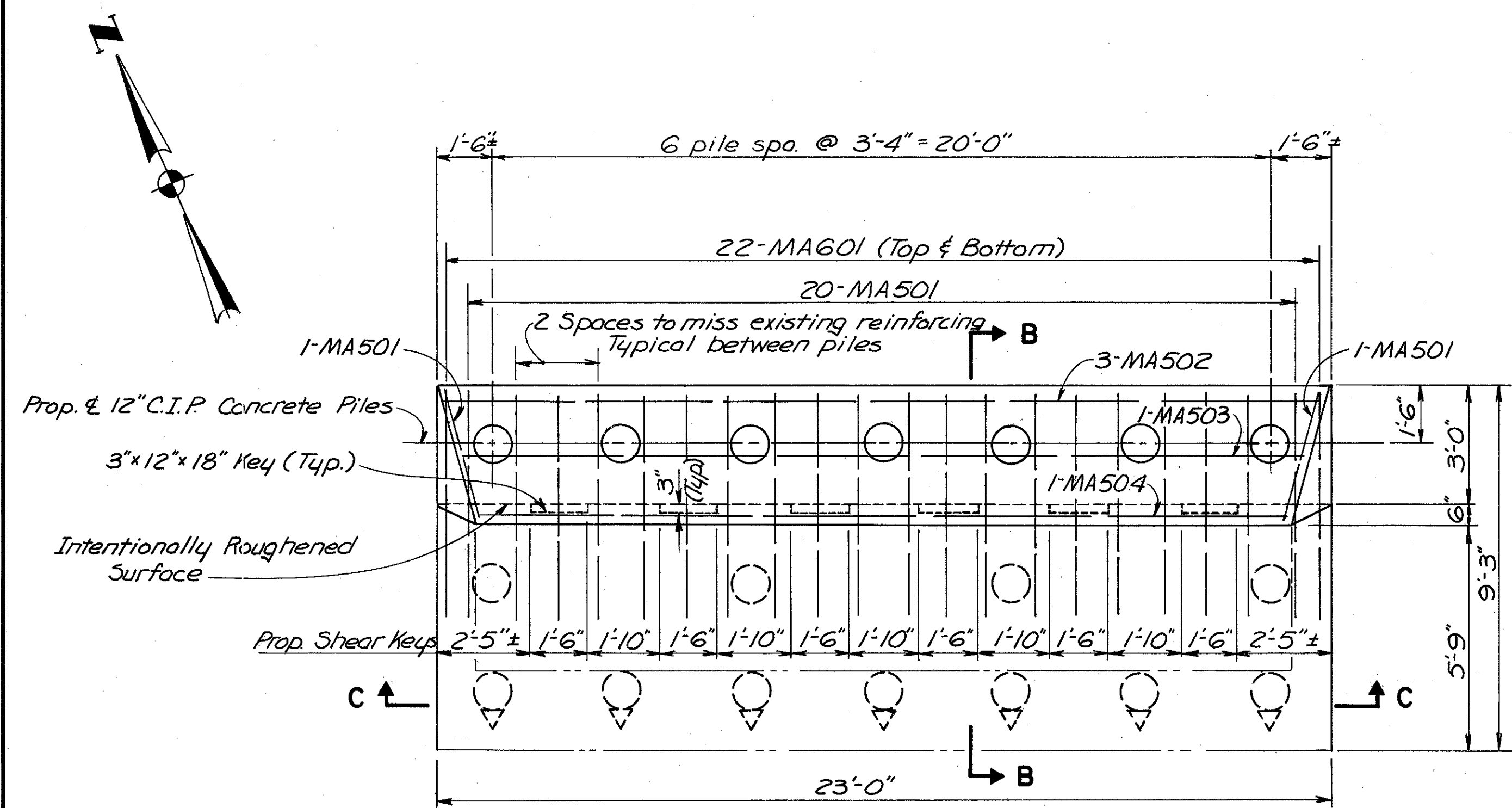
Note: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of bearing anchors.

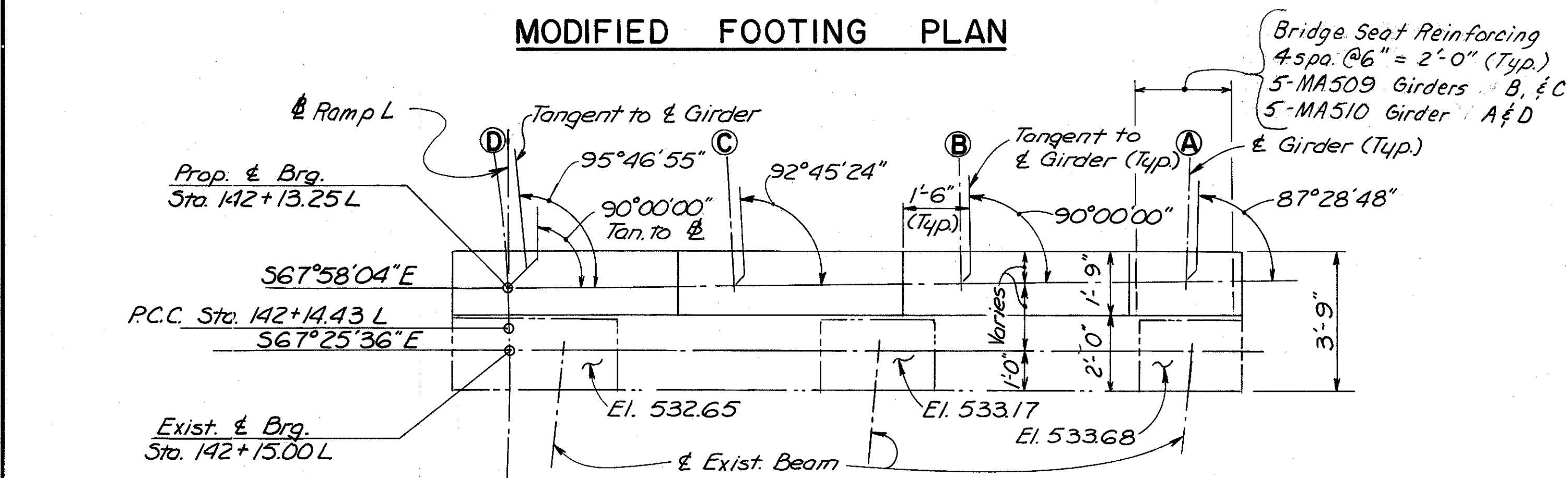
Concrete surface beneath the elastomeric bearings shall have a broom finish.

ANCHOR BOLT OFFSETS	
LOCATION	DIMENSION A
Pier 1	1'-1"
Pier 2	1'-2"
Pier 3, Span 3	11/2"
Pier 3, Span 4	11/2"
Pier 4	1'-2"
Pier 5	1'-1"
Pier 6	1'-2"
Pier 7, Span 7	11/2"
Pier 7, Span 8	1'-0"
Pier 8	1'-2"
Pier 9	1'-1"

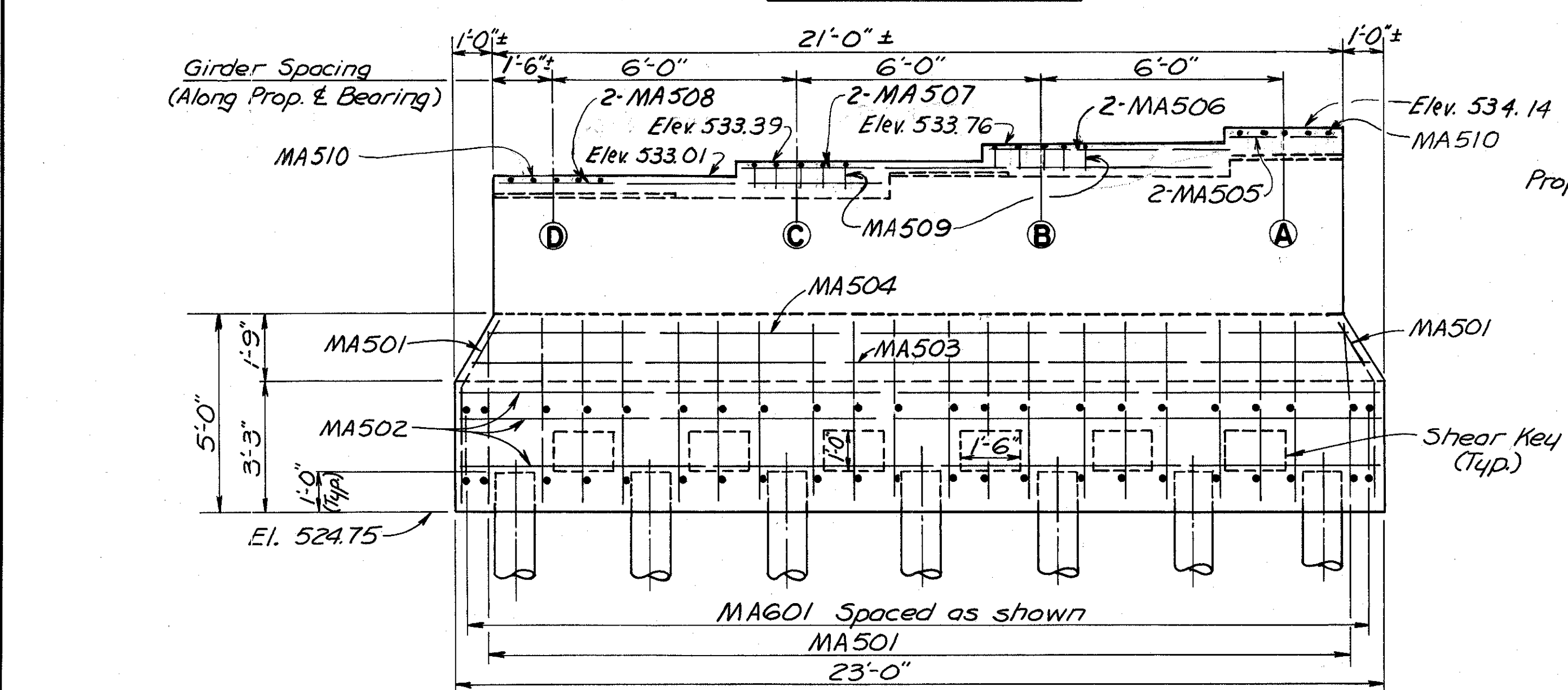
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
PIER DETAILS				
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DSD		WZ	JHO 3-23-82



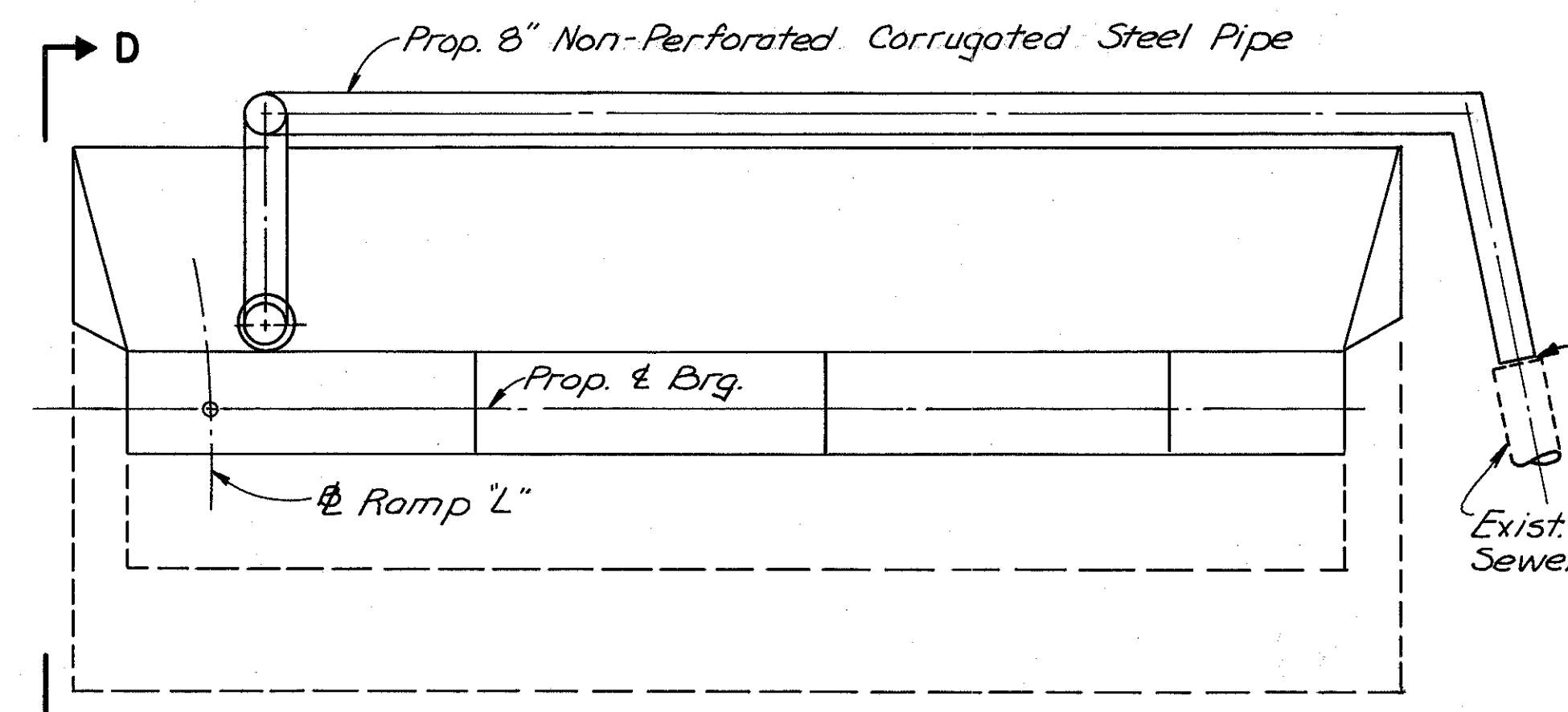
MODIFIED FOOTING PLAN



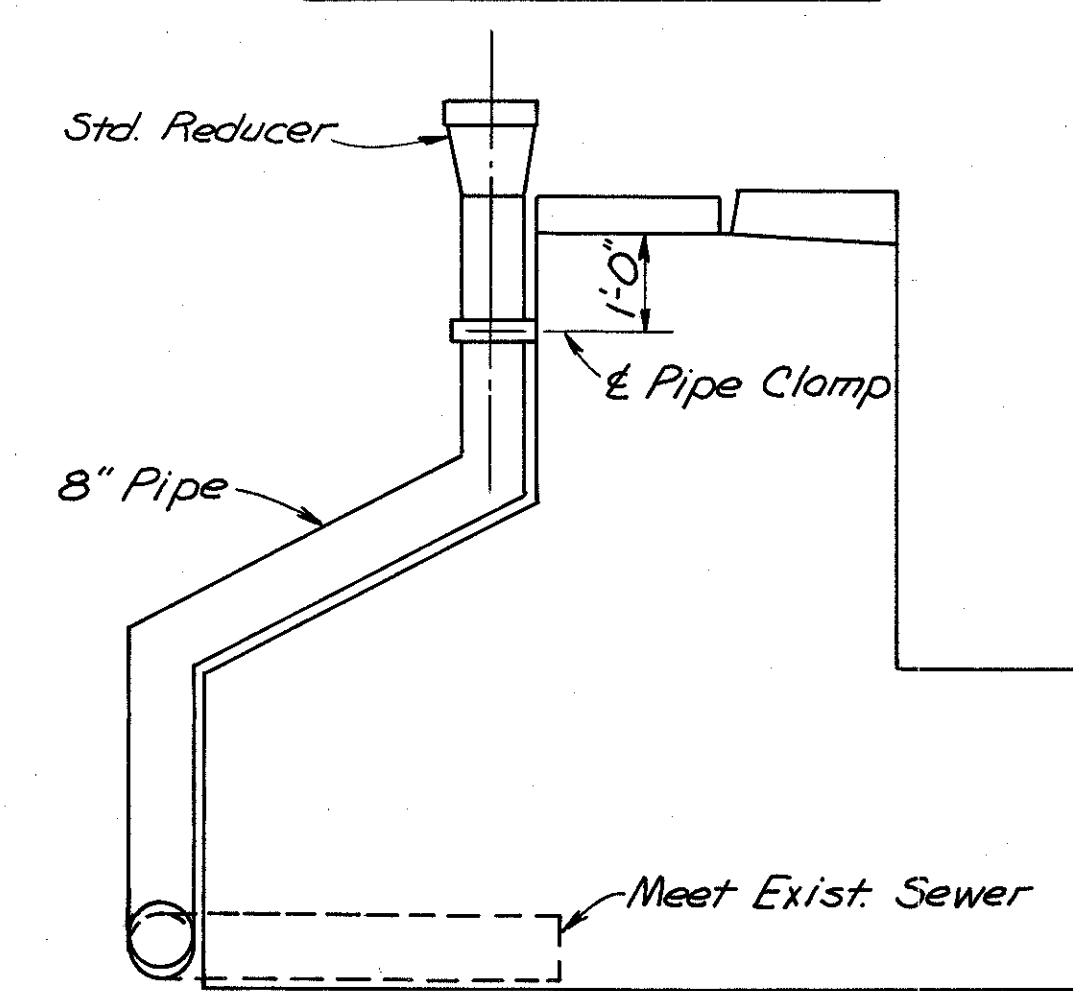
BEARING PLAN



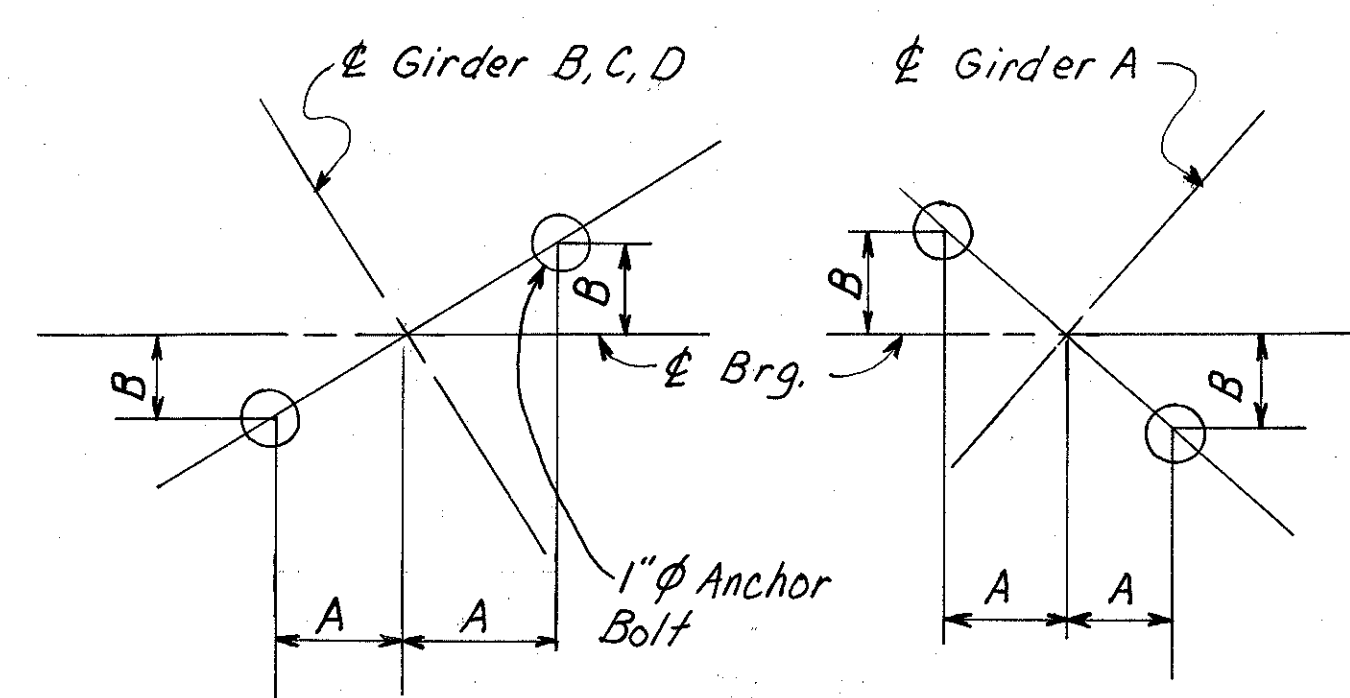
SECTION C-C



DRAINAGE PLAN



VIEW D-D



Set Girder Anchor Bolts 1'-6" into concrete

BEARING ANCHOR PLAN

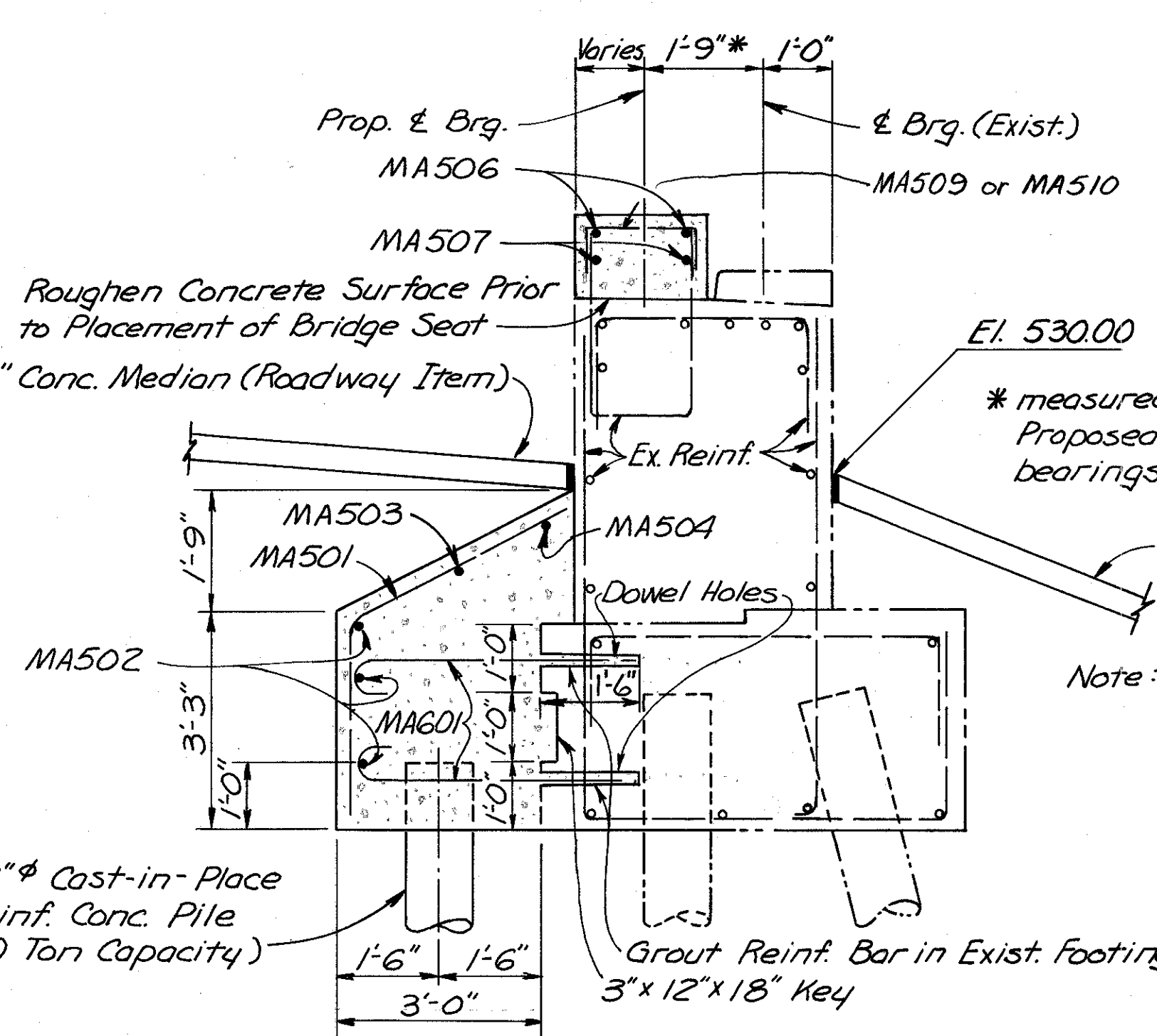
GIRDER	DIMENSION	
	A	B
A	11"	1 1/2"
B	11"	0"
C	11"	1 1/2"
D	10 5/16"	1 1/8"

Note: At the option of the Contractor, bearing anchors (or formed holes) located and supported by templates, may be cast in place.

Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of bearing anchors.

Concrete surfaces beneath the elastomeric bearings shall have a broom finish.

All Concrete shall be Class 'C' Concrete



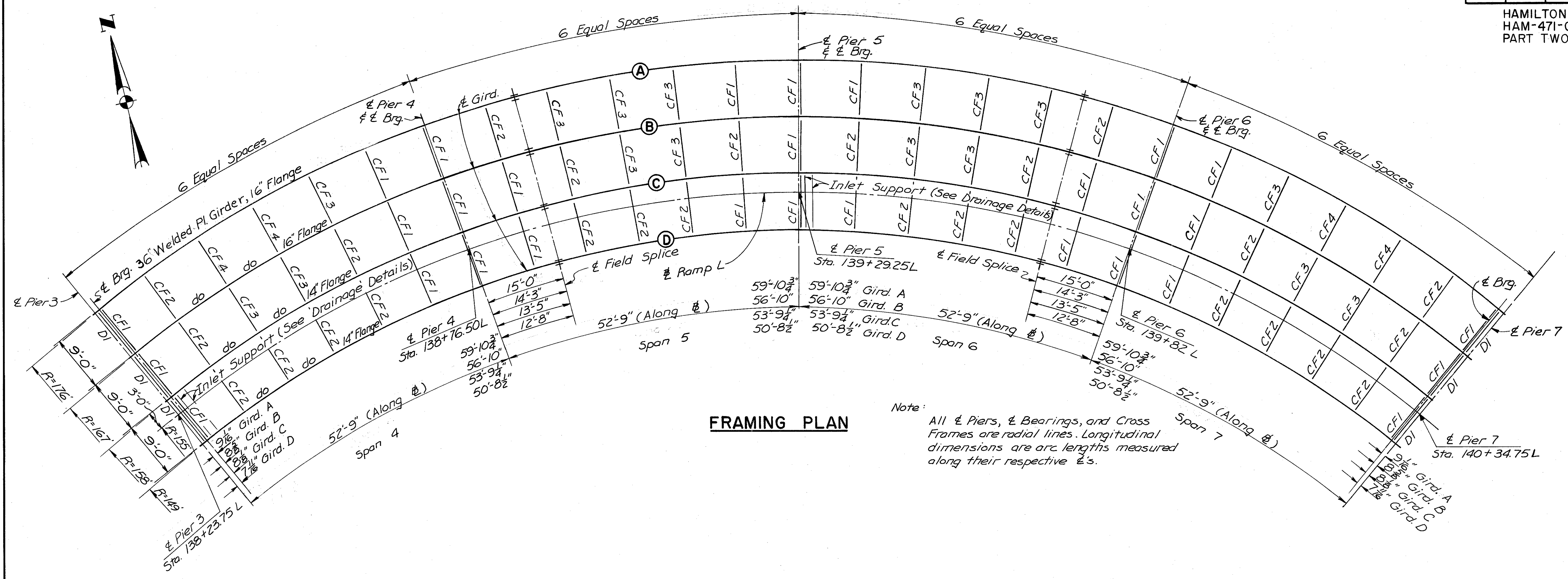
SECTION B-B

Note: Special care should be exercised in drilling of dowel holes to avoid damage to existing reinforcing steel.

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

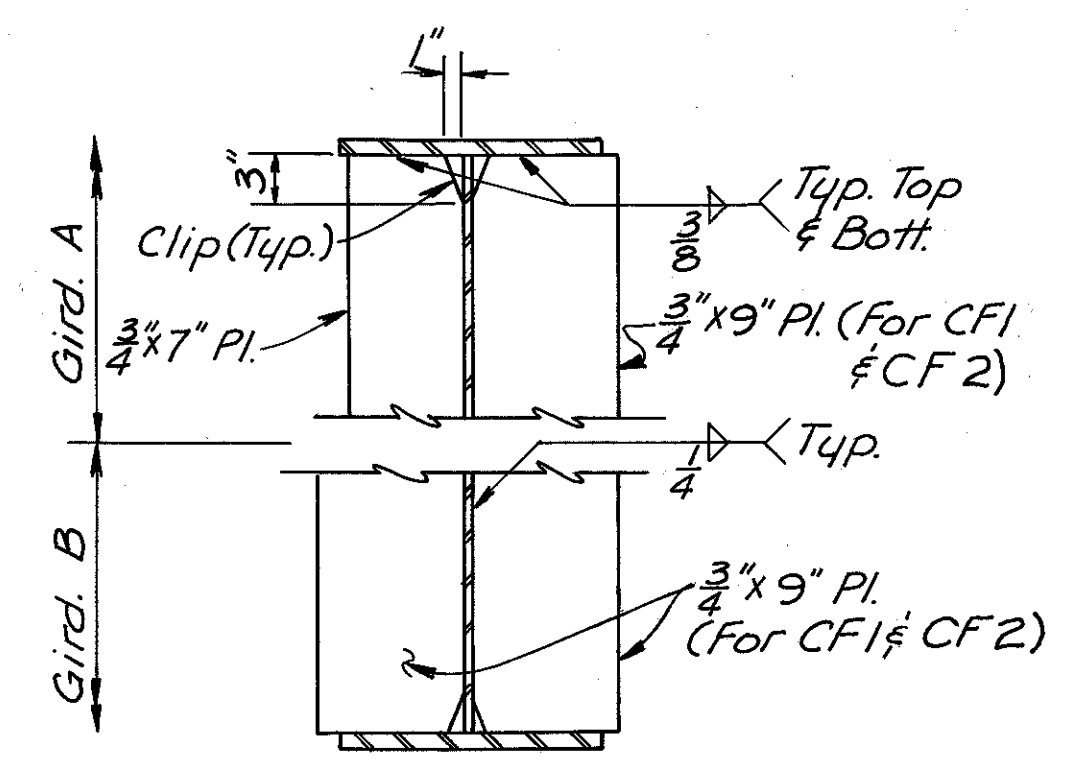
**PIER 10 (EXISTING ABUTMENT)
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	D5D	FVB	HLL	JH0 3-23-82	

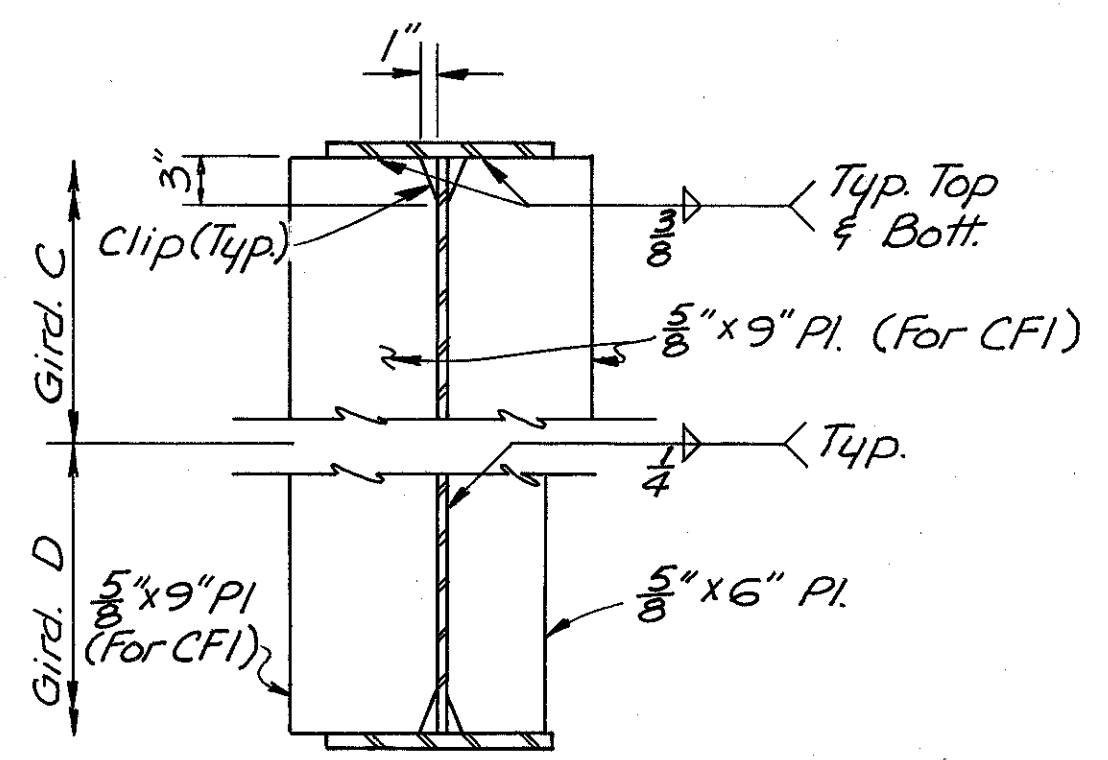


FRAMING PLAN

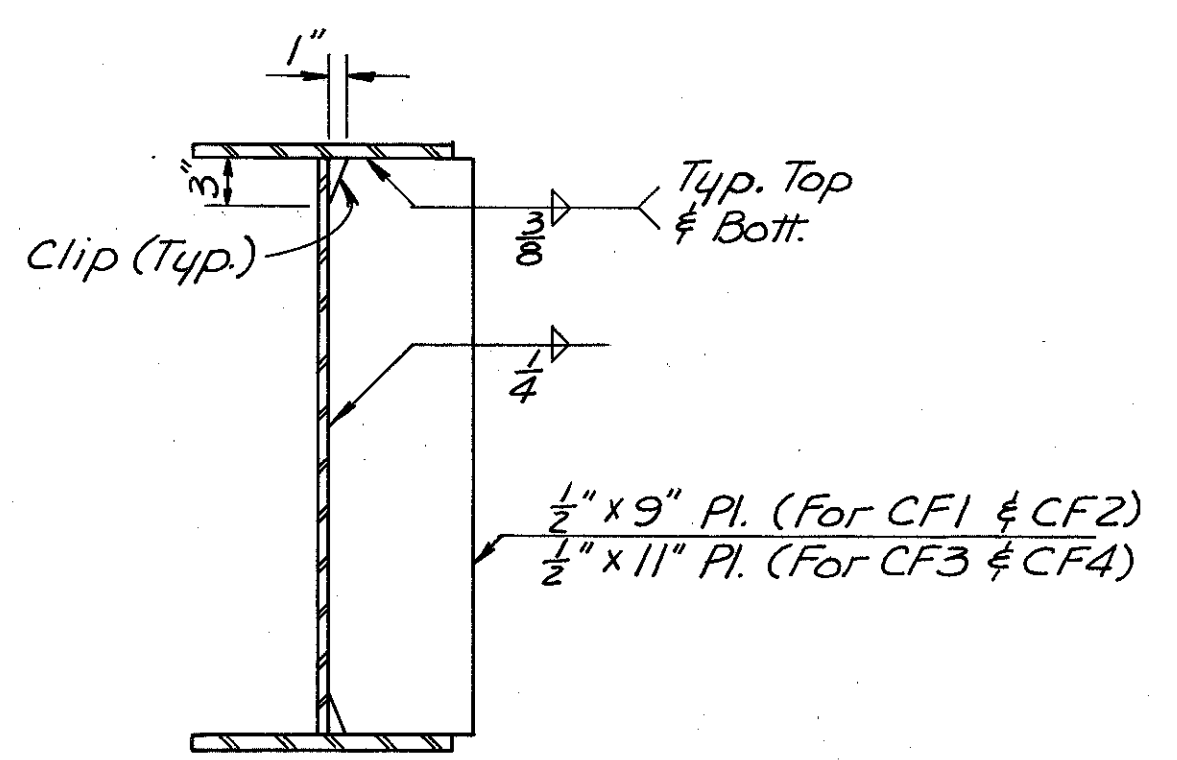
Note: All Piers, Bearings, and Cross Frames are radial lines. Longitudinal dimensions are arc lengths measured along their respective centerlines.



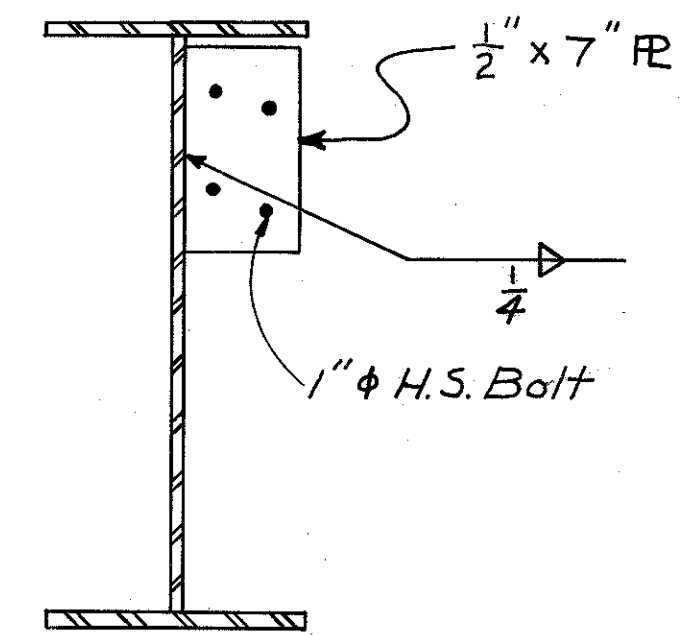
BEARING STIFFENER
(Girder A & B)



BEARING STIFFENER
(Girder C & D)



INTERMEDIATE STIFFENER



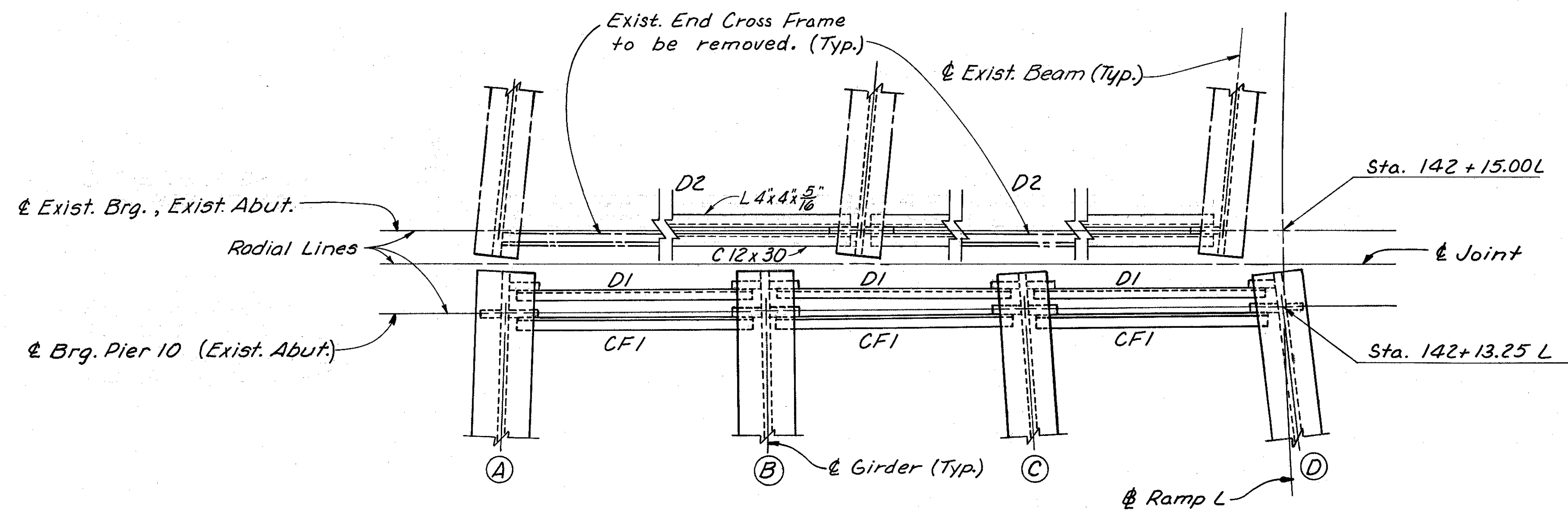
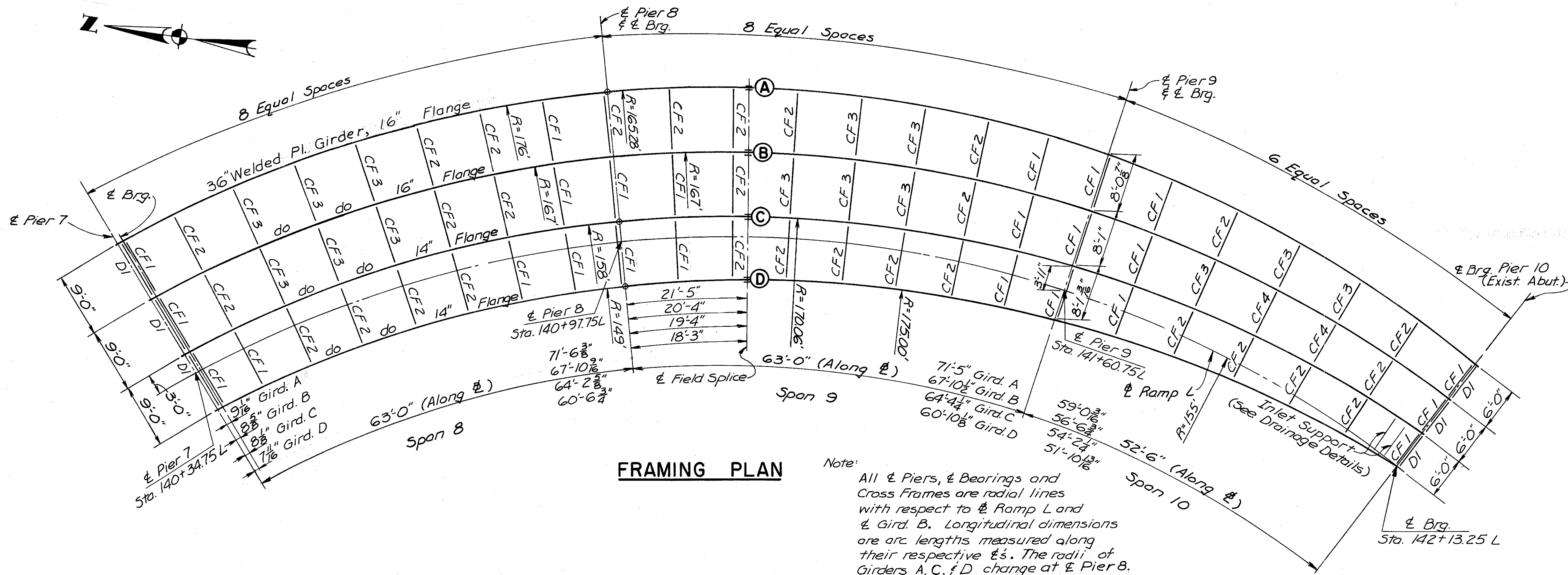
DIAPHRAGM CONNECTION PLATE

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-RAMP LOVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	FVB	FVB	VDG	JH0 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

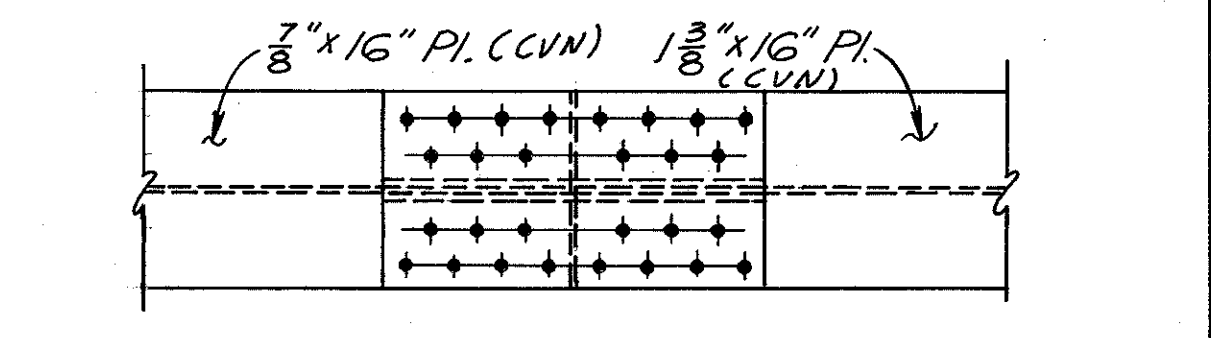
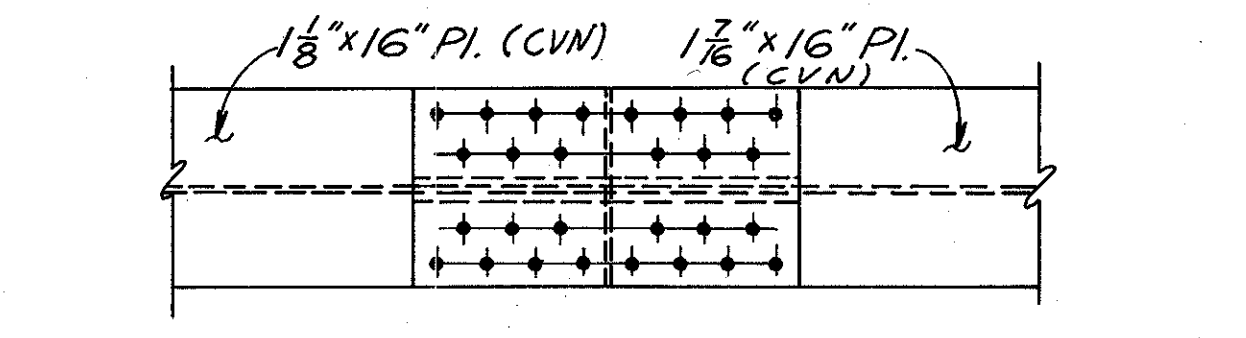
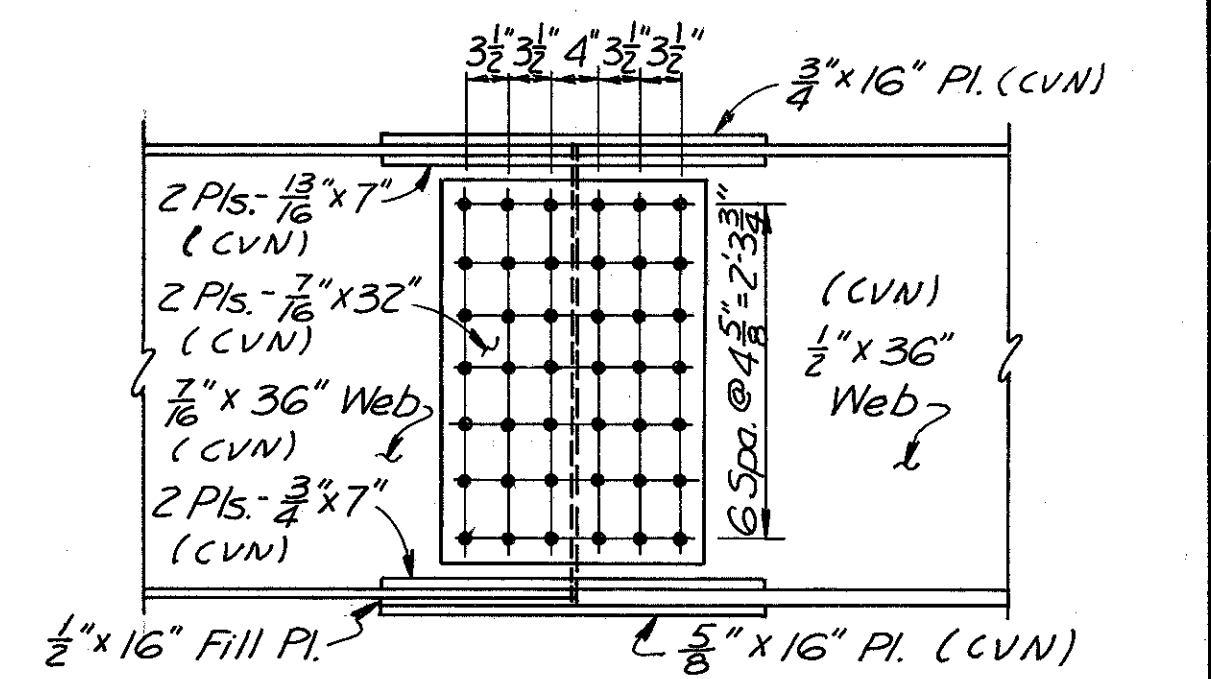
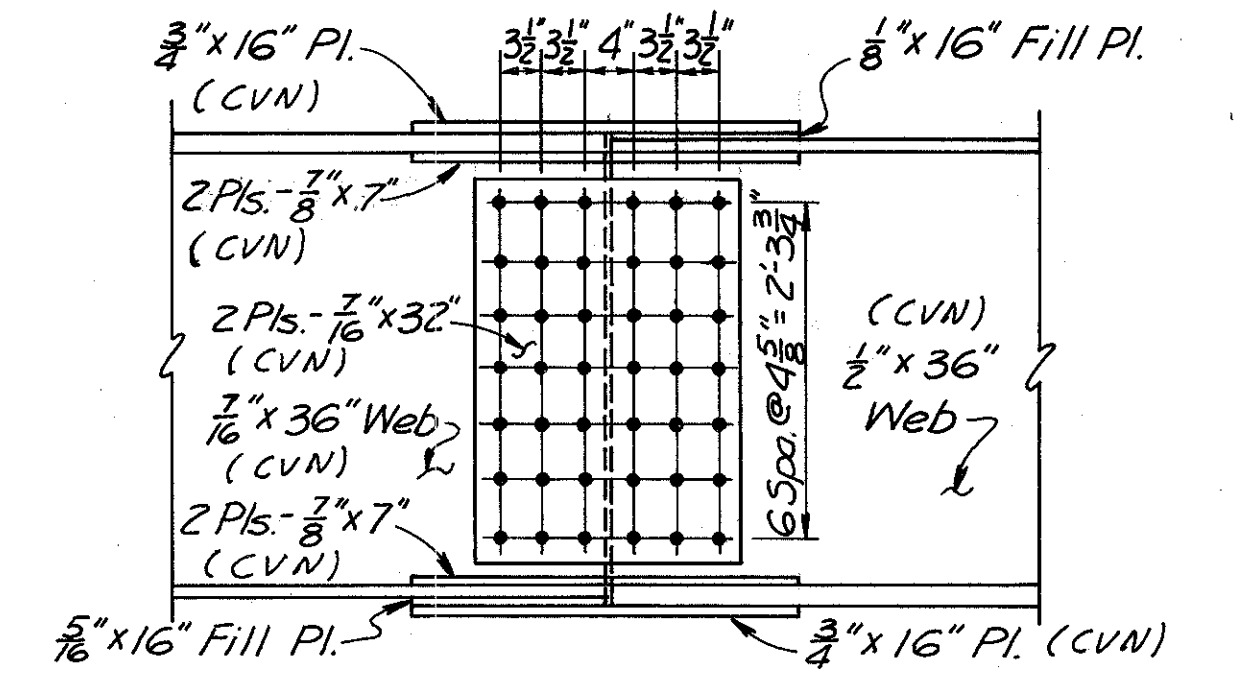
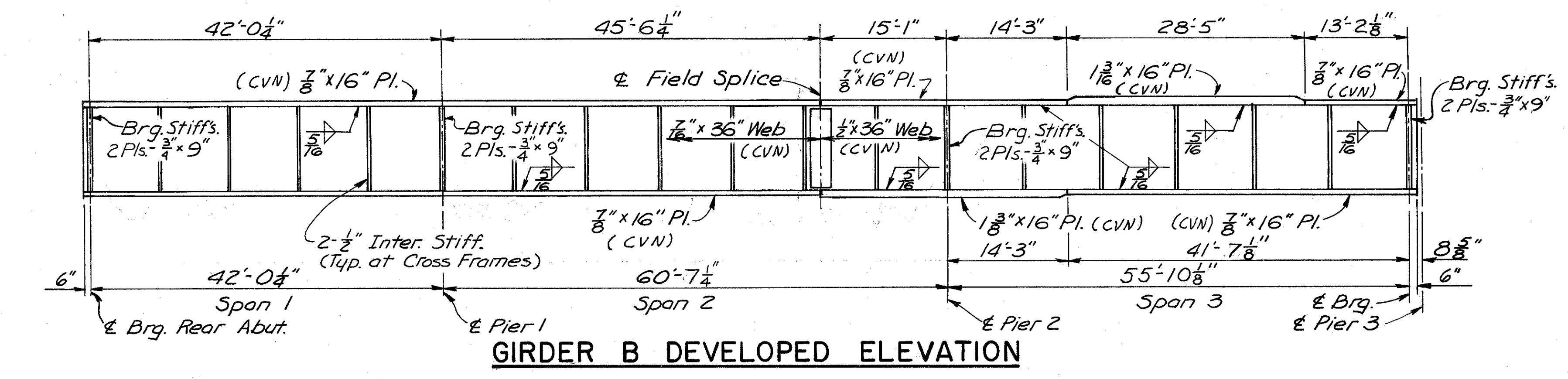
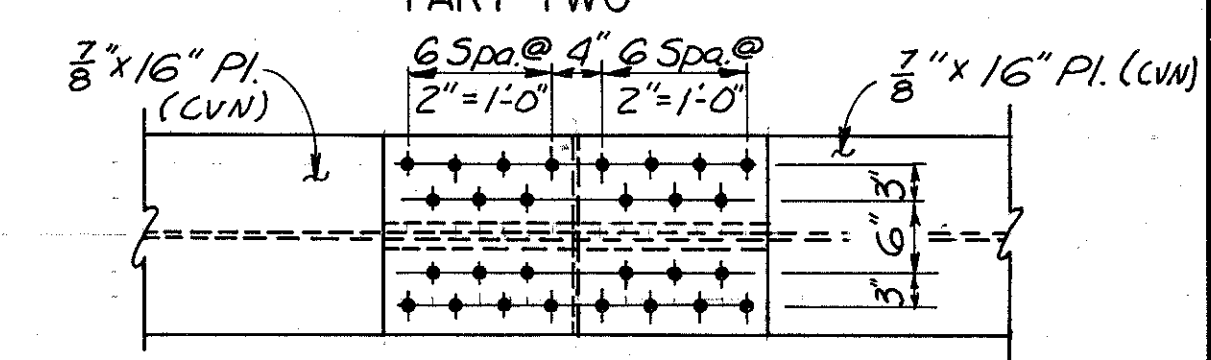
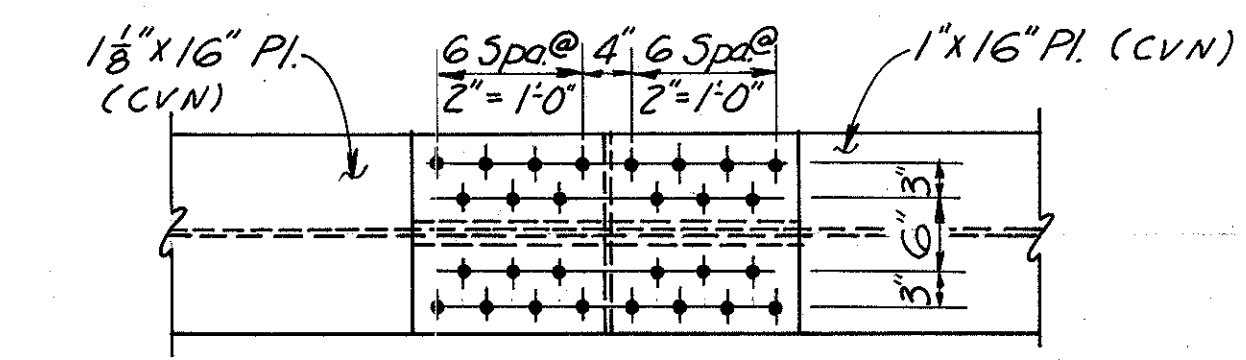
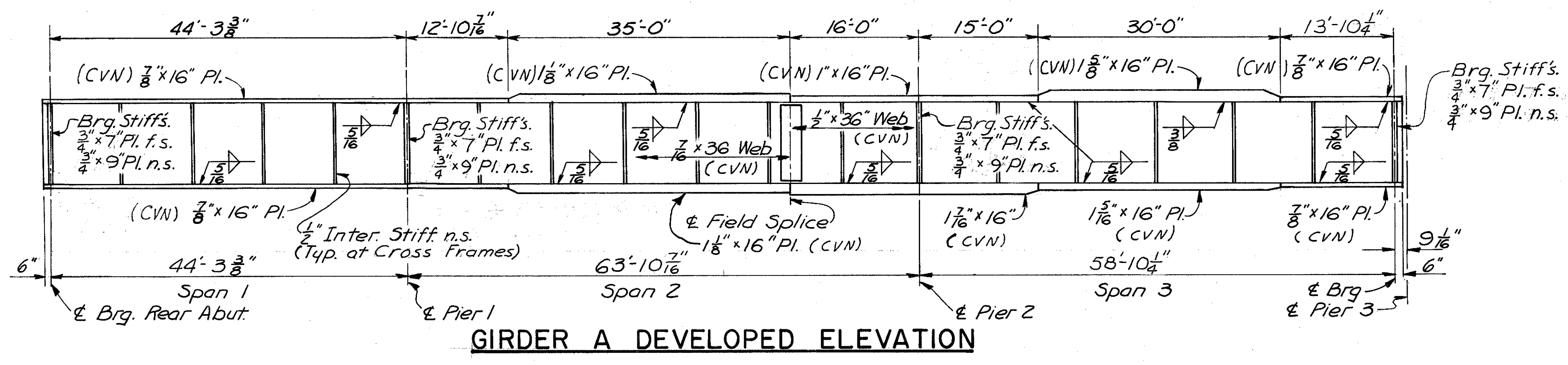
210
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



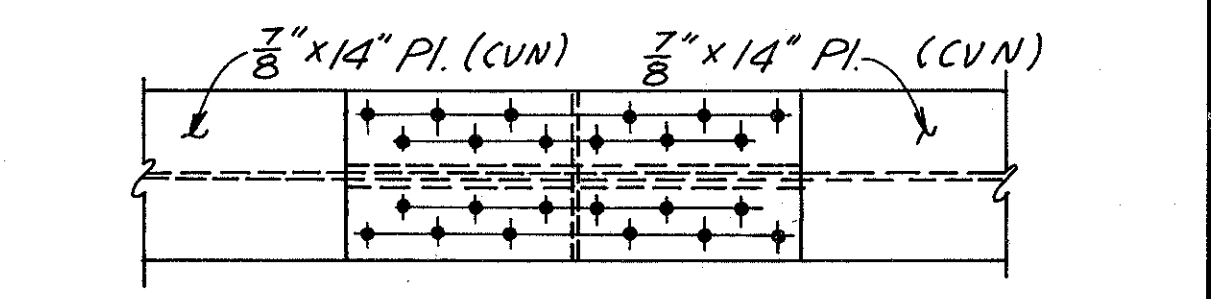
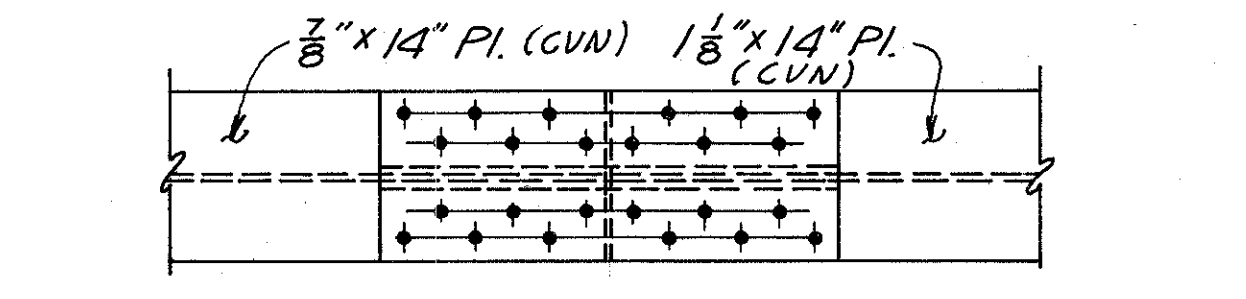
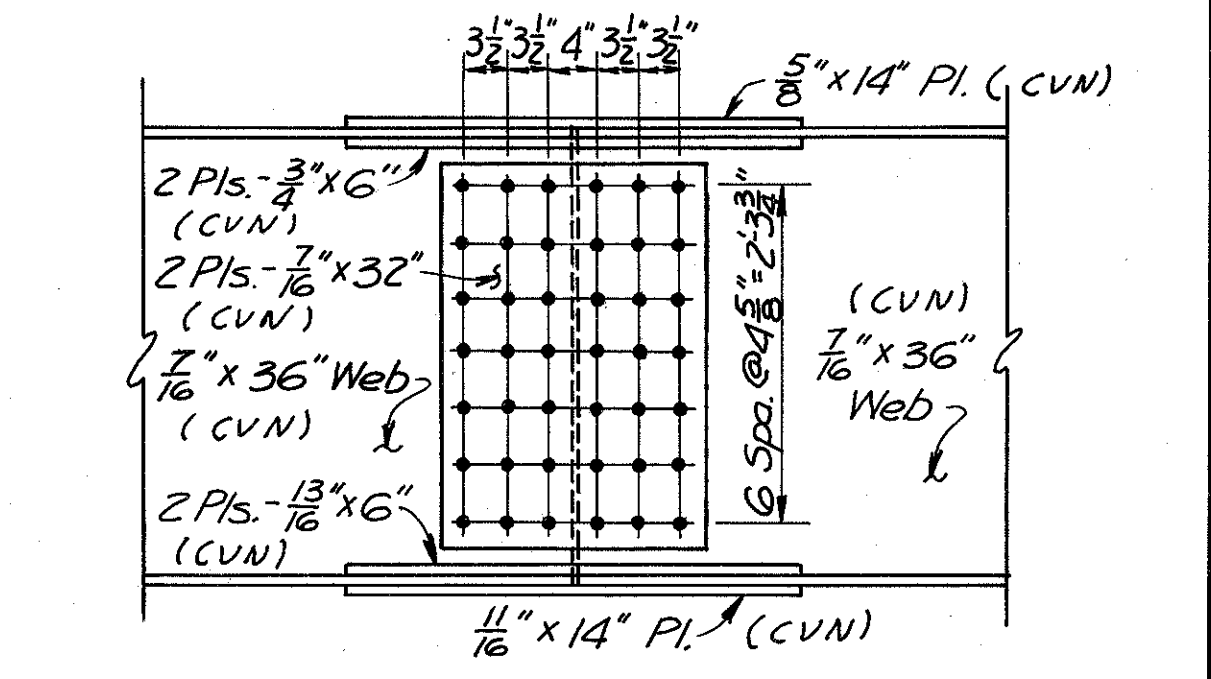
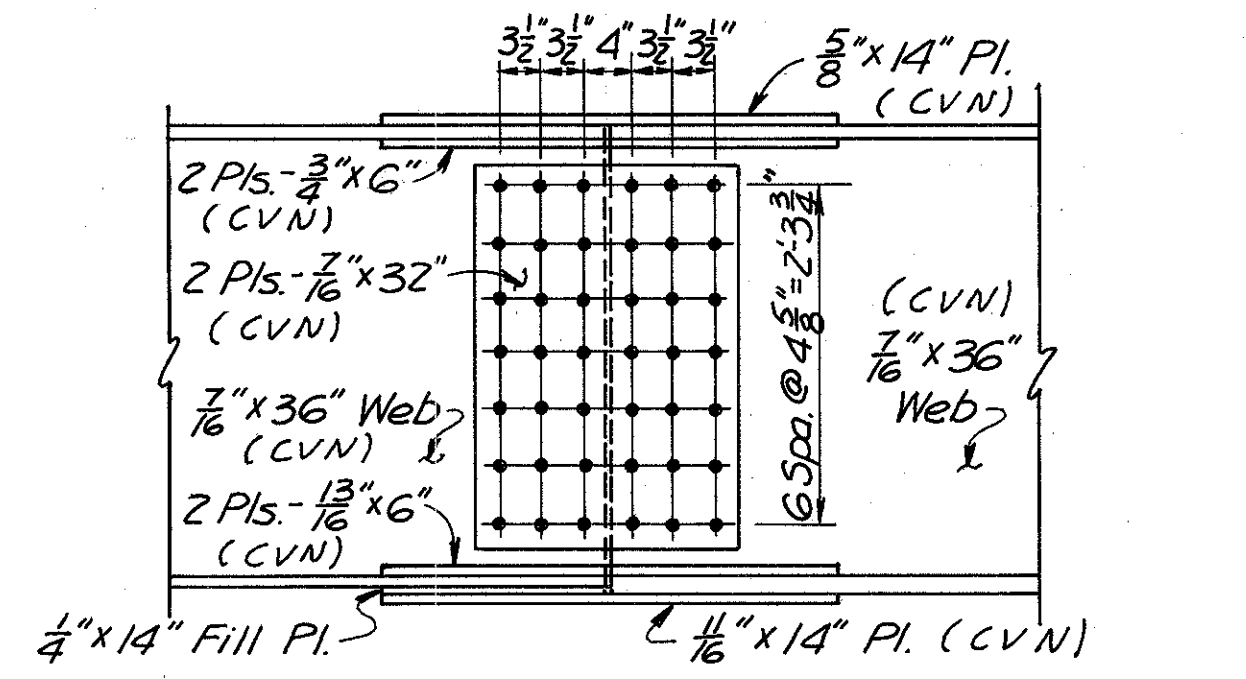
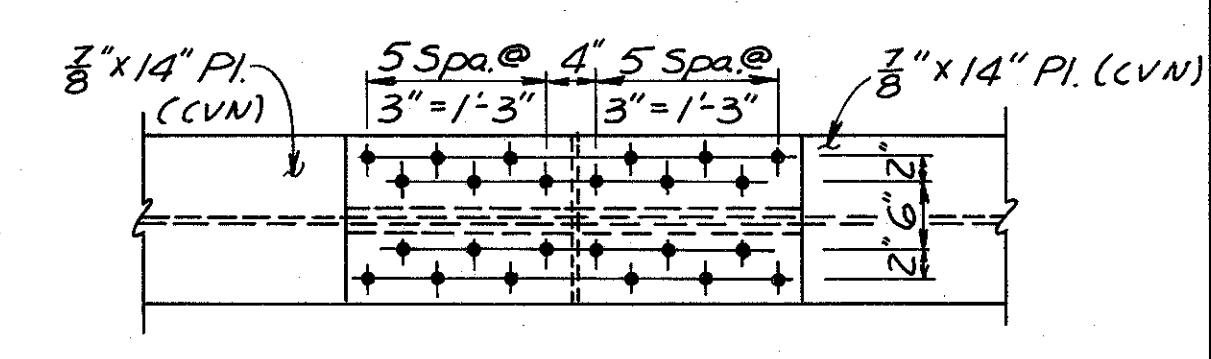
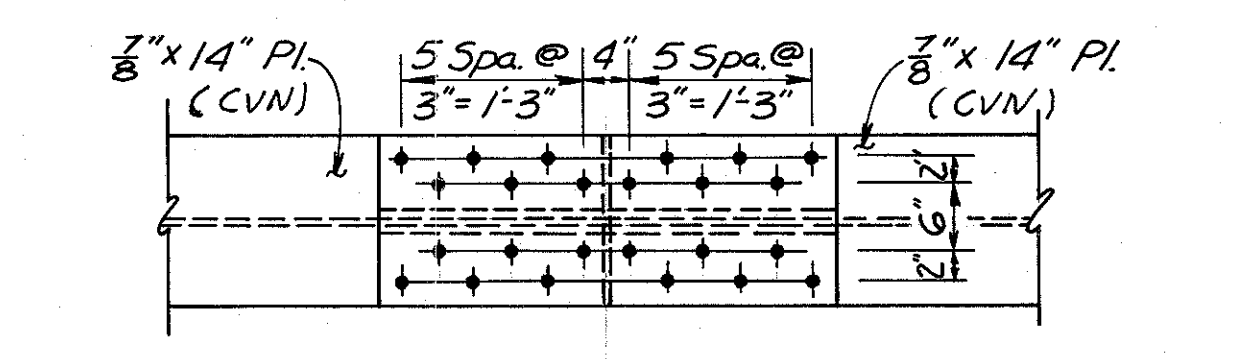
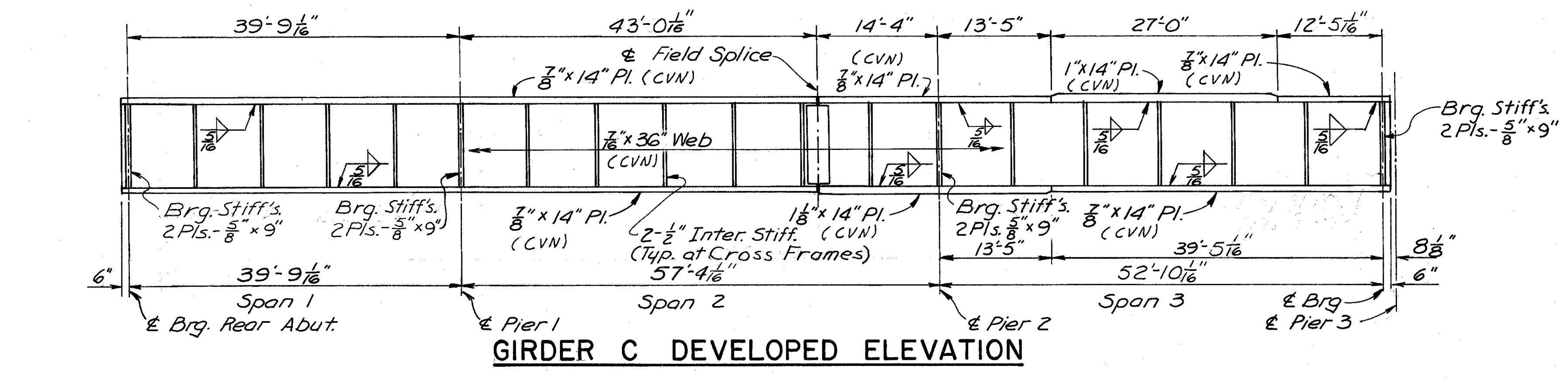
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	FVB	FVB	VDG	JHO 3-23-82	

HAMILTON COUNTY
HAM-471-024
PART TWO



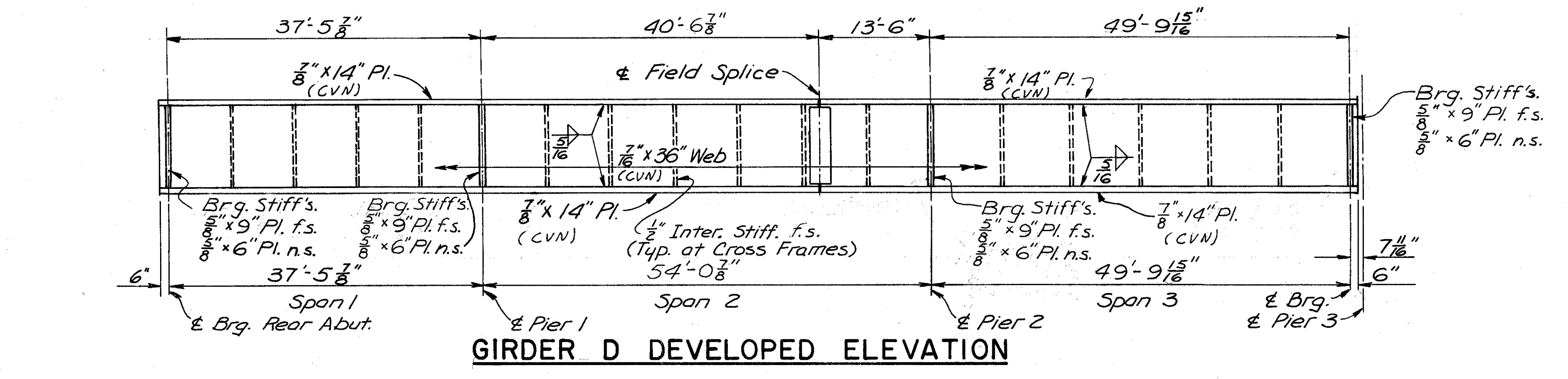
GIRDER A SPLICE (Span 2)

GIRDER B SPLICE (Span 2)



GIRDER C SPLICE (Span 2)

GIRDER D SPLICE (Span 2)



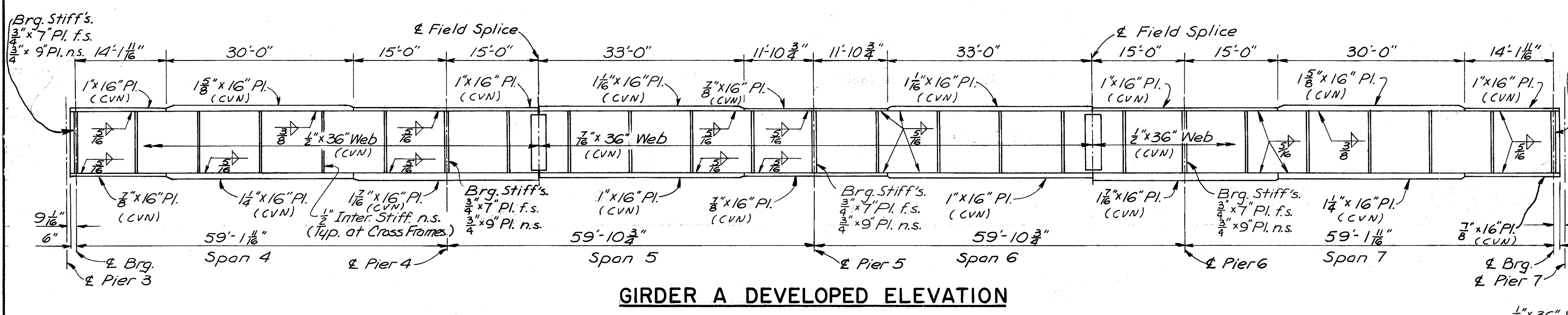
Note:
All bolts shall be 1" ϕ H.S. bolts (A325-Type 1)
f.s. denotes far side.
n.s. denotes near side.
Where a shape or plate is designated (CVN)
the material shall meet specified minimum
notch toughness requirements.
Structural steel shall conform to ASTM, A572, Grade 50,
except that plates over 2" thick shall be A588.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

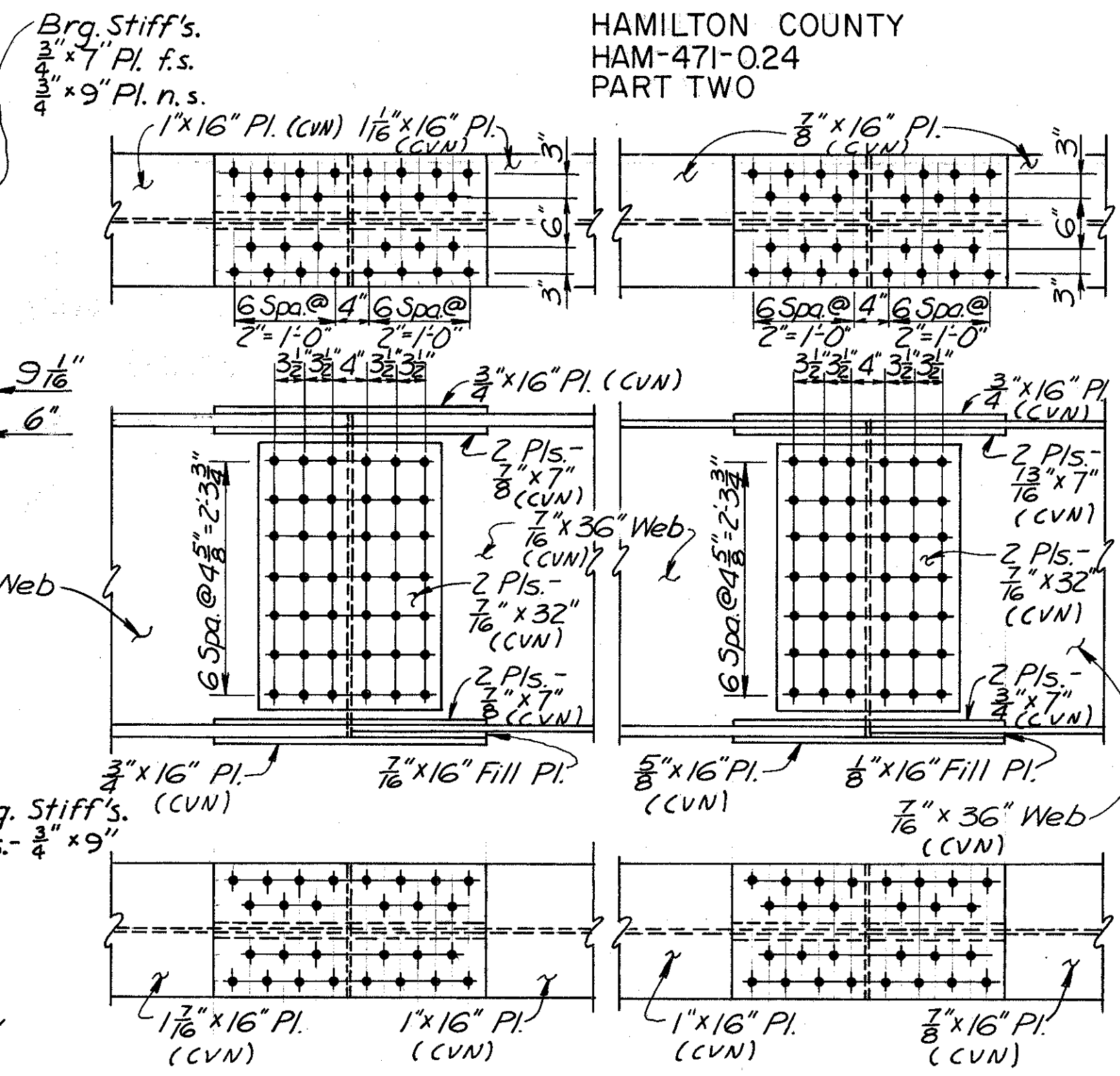
STRUCTURAL STEEL DETAIL
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
V D G	F V B	F V B	V D G	J 40 3-23-82	

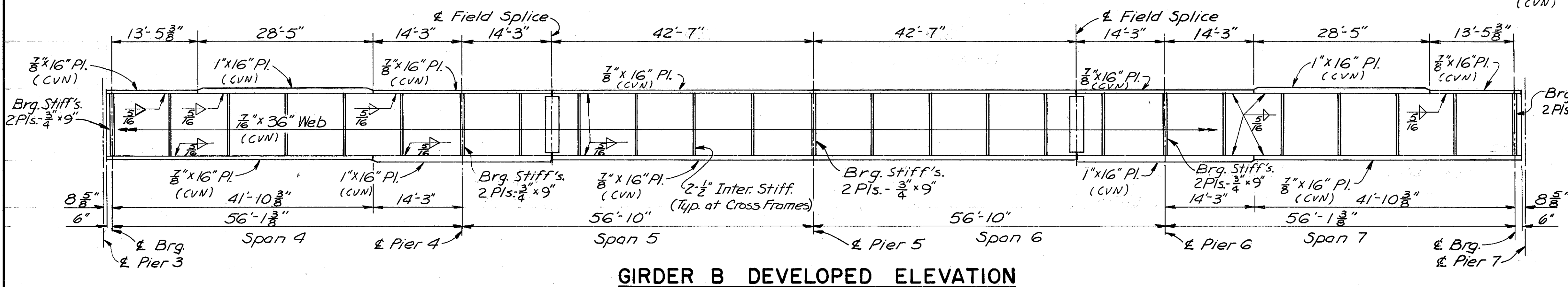
HAMILTON COUNTY
HAM-471-024
PART TWO



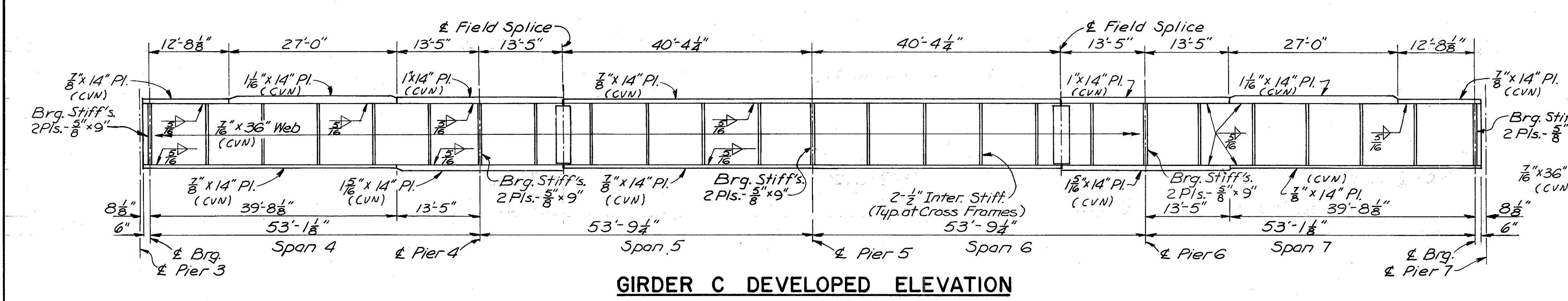
GIRDER A DEVELOPED ELEVATION



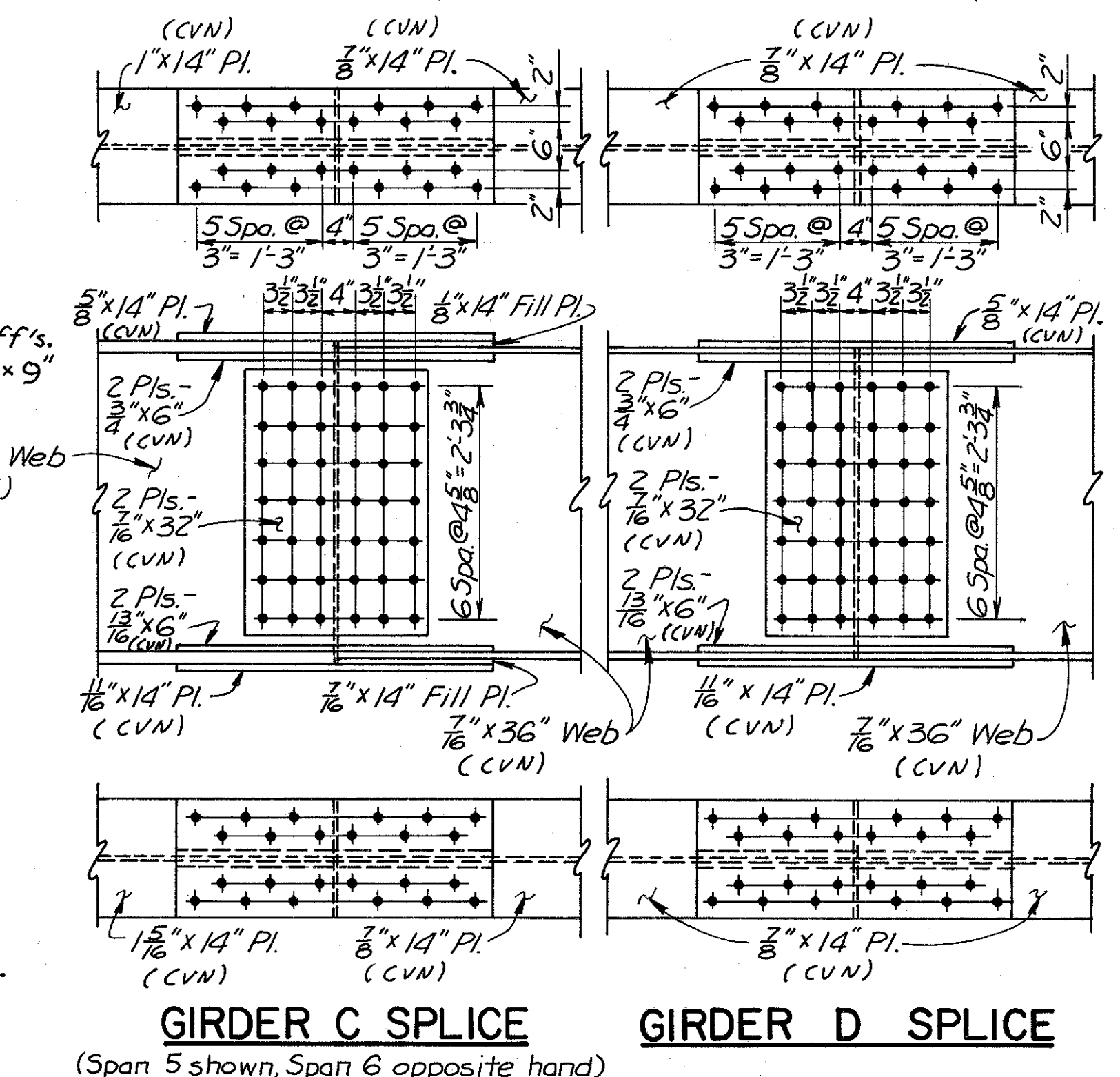
GIRDER A SPLICE (Span 5 shown, Span 6 opposite hand)
GIRDER B SPLICE (Span 5 shown, Span 6 opposite hand)



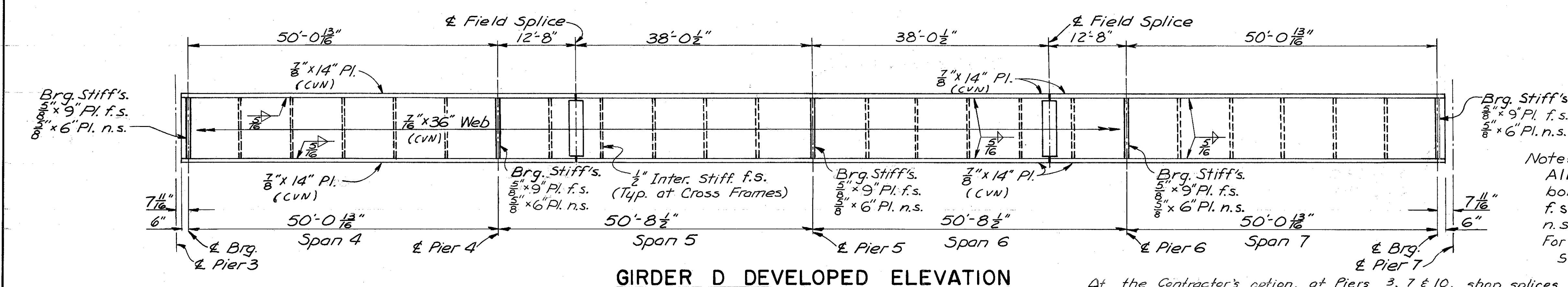
GIRDER B DEVELOPED ELEVATION



GIRDER C DEVELOPED ELEVATION



GIRDER C SPLICE (Span 5 shown, Span 6 opposite hand)
GIRDER D SPLICE (Span 5 shown, Span 6 opposite hand)



GIRDER D DEVELOPED ELEVATION

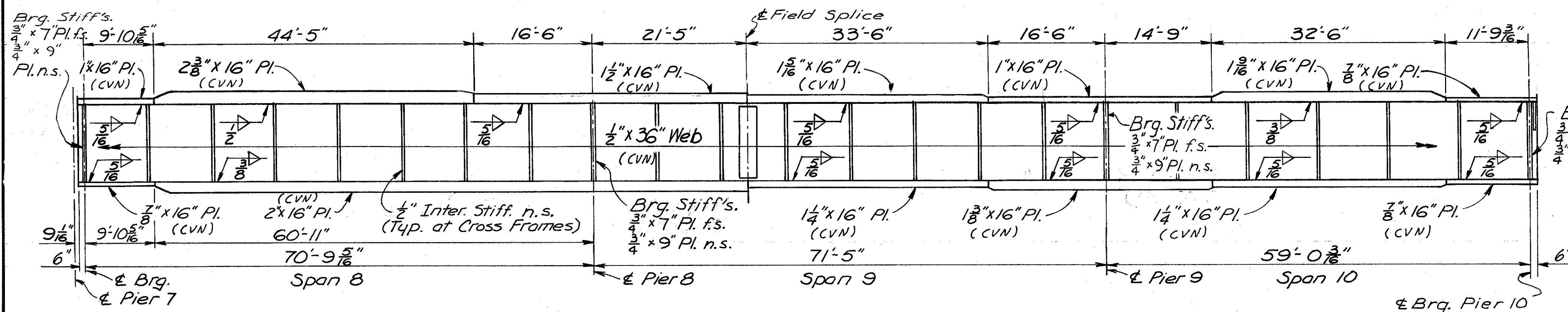
Note:
All bolts shall be 1" φ H.S. bolts (A325-Type 1).
f.s. denotes far side
n.s. denotes near side
For additional notes see Sheet 211

At the Contractor's option, at Piers 3, 7 & 10, shop splices in the flange plates may be eliminated by extending the thicker plate. Structural steel pay weight will be based on plan dimensions.

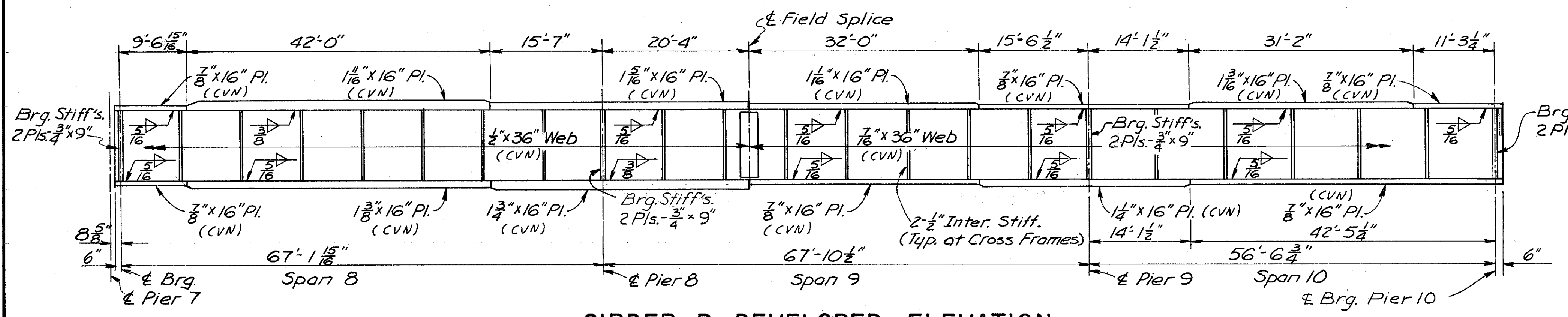
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STRUCTURAL STEEL DETAIL
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P

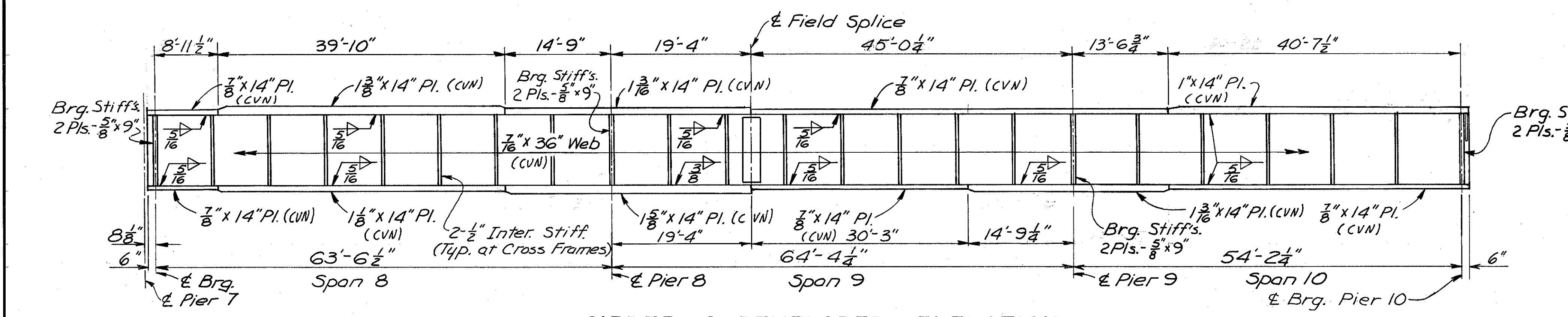
DESIGNED	DRAWN	TRACED	CHECKED	REVIEW DATE	REVISED
VDG	FVB	FVB	VDG	JH 3-23-82	



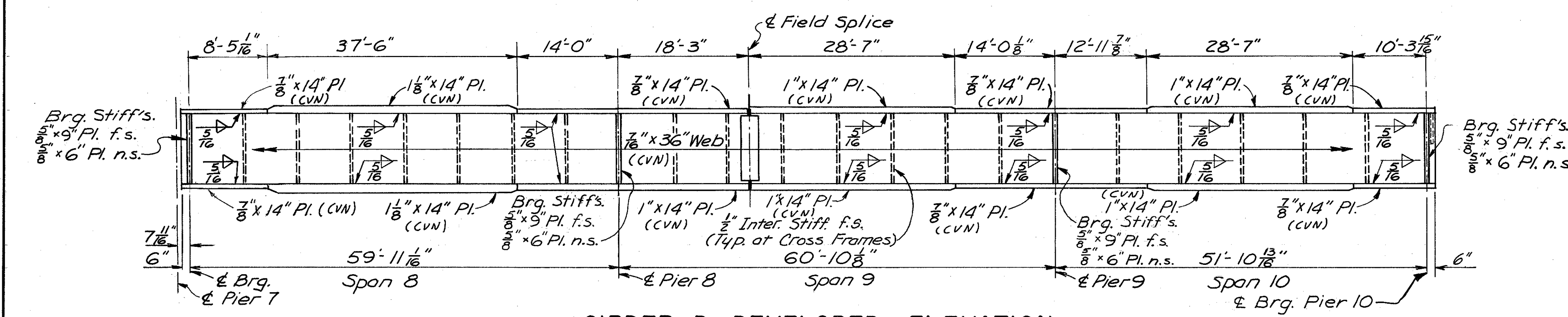
GIRDER A DEVELOPED ELEVATION



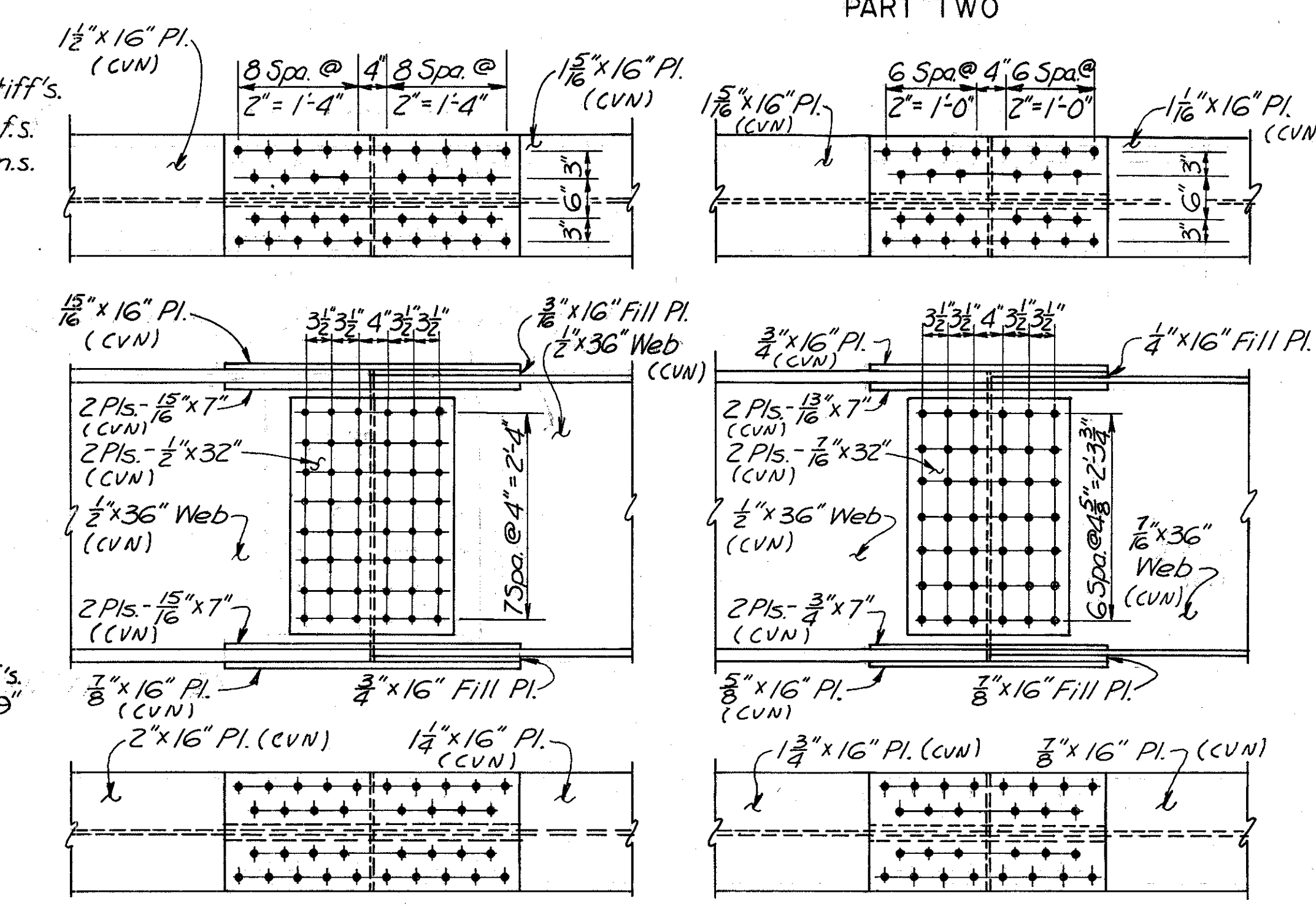
GIRDER B DEVELOPED ELEVATION



GIRDER C DEVELOPED ELEVATION

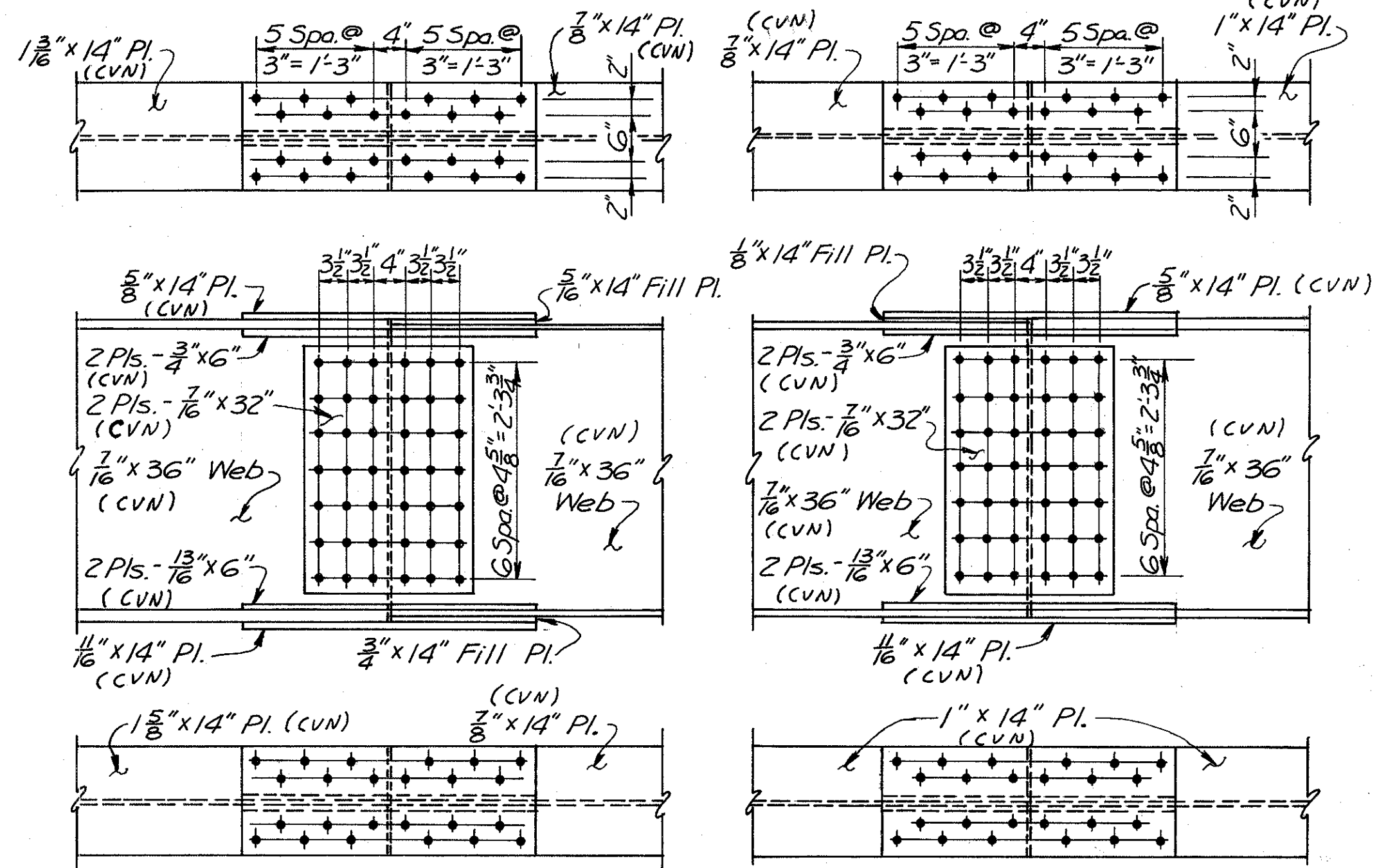


GIRDER D DEVELOPED ELEVATION



GIRDER A SPLICE (Span 9)

GIRDER B SPLICE (Span 9)



GIRDER C SPLICE (Span 9)

GIRDER D SPLICE (Span 9)

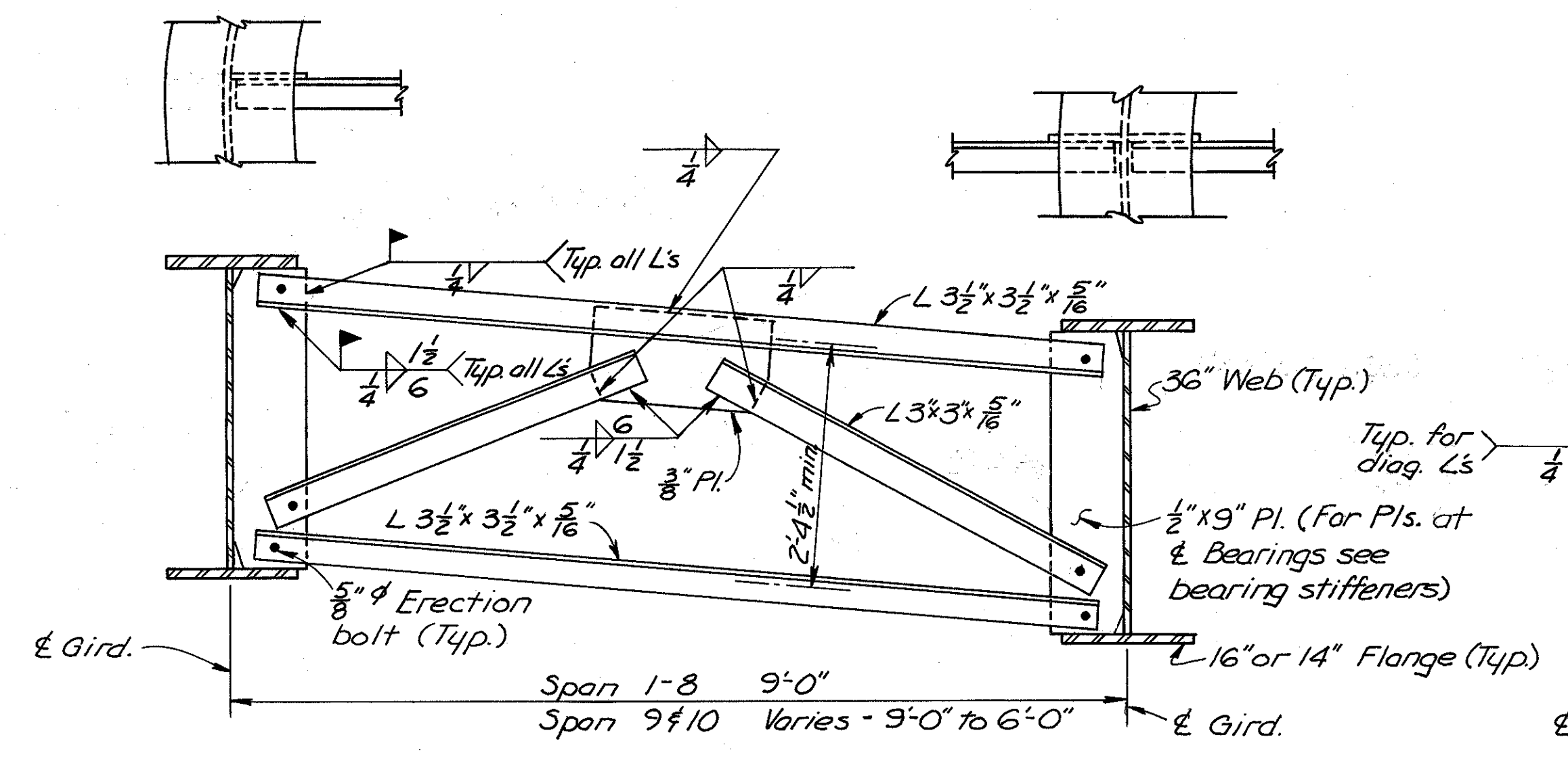
Note
 All bolts shall be 1" φ H.S. bolts (A325-Type1)
 f.s. denotes for side
 n.s. denotes near side
 Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements.
 Structural steel shall conform to ASTM, A 572, Grade 50, except that plates over 2" thick shall be A588.

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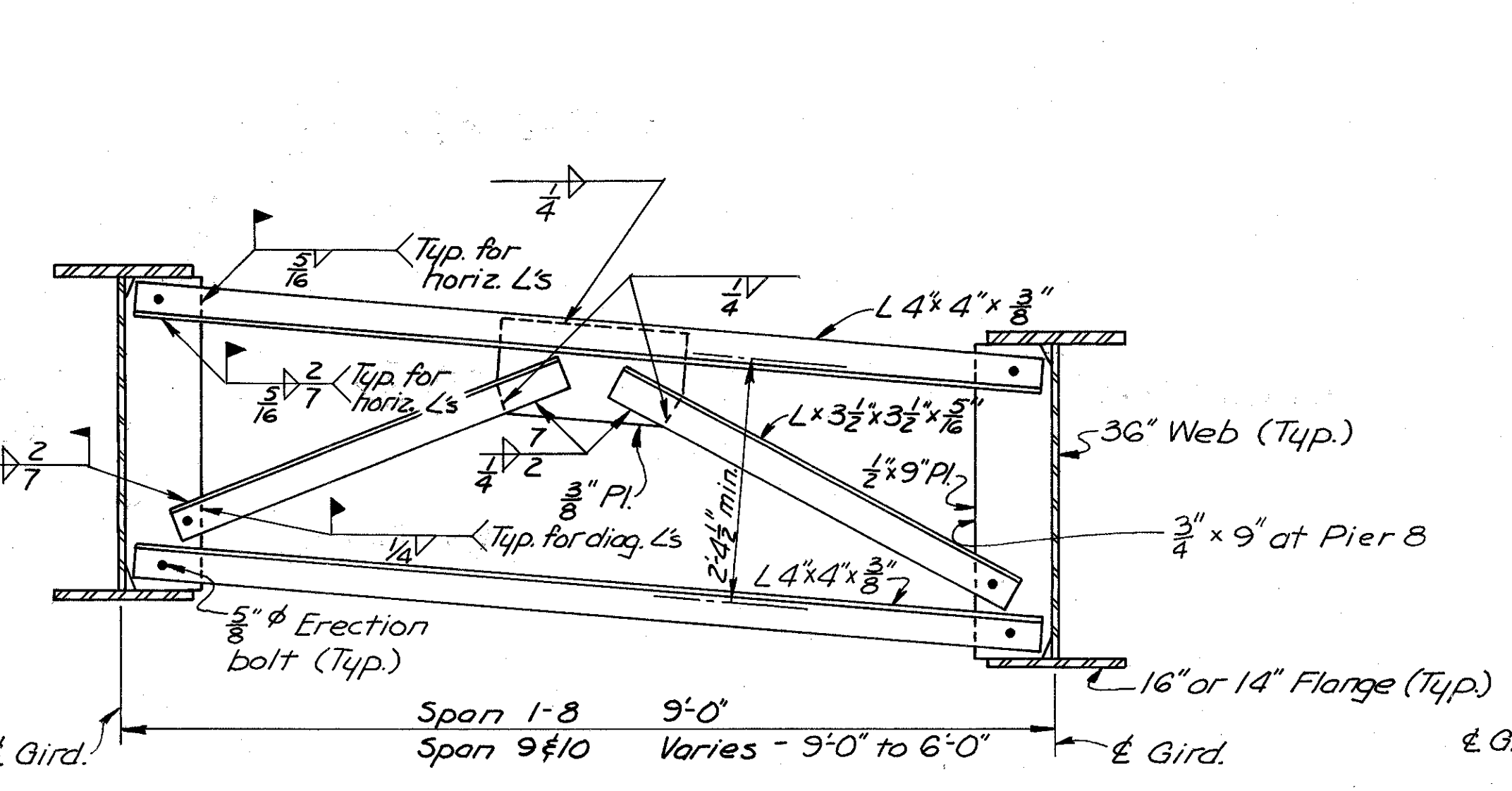
STRUCTURAL STEEL DETAIL
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	FVB	FVB	VDG	JH 3-23-82	

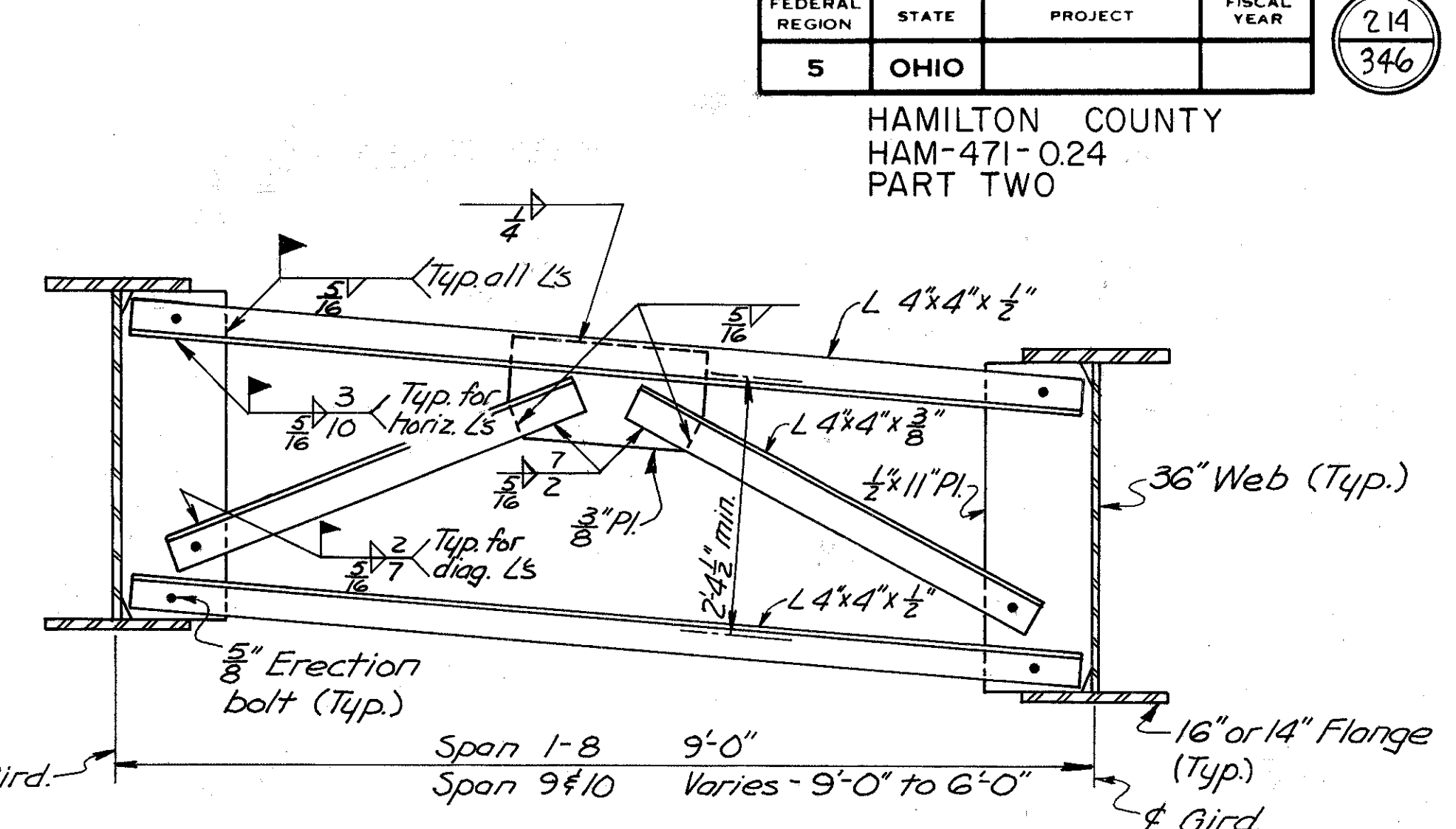
HAMILTON COUNTY
HAM-471-0.24
PART TWO



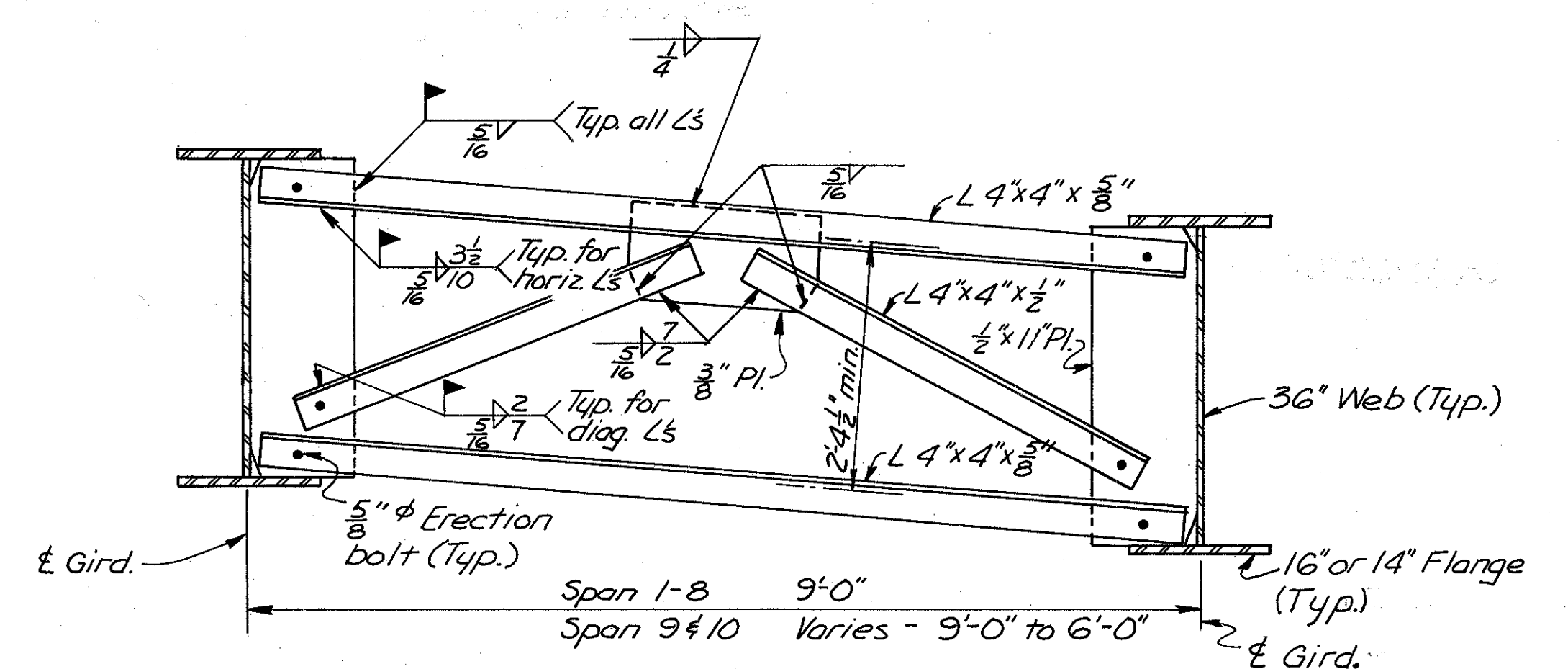
CROSS FRAME CF1



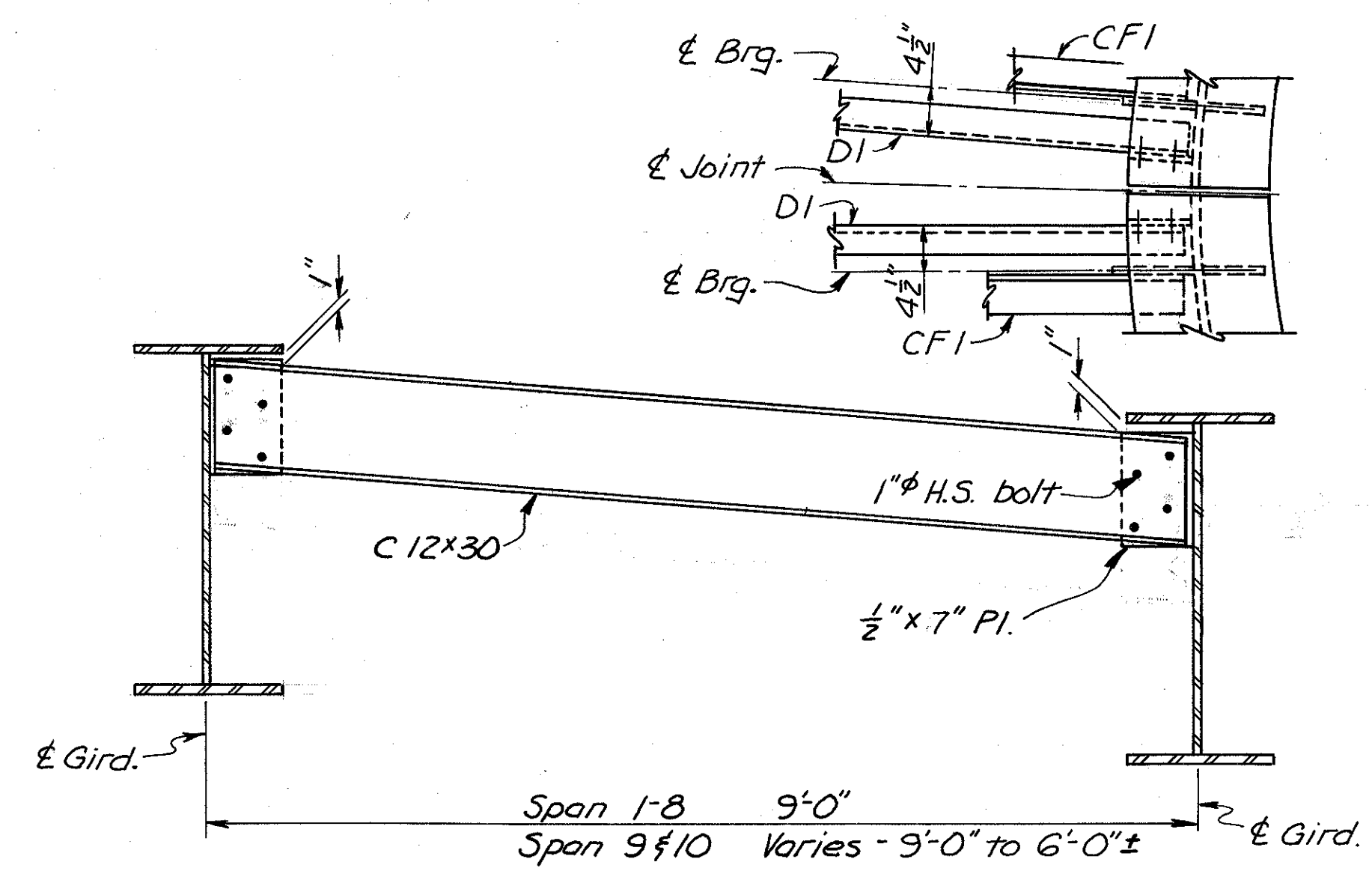
CROSS FRAME CF2



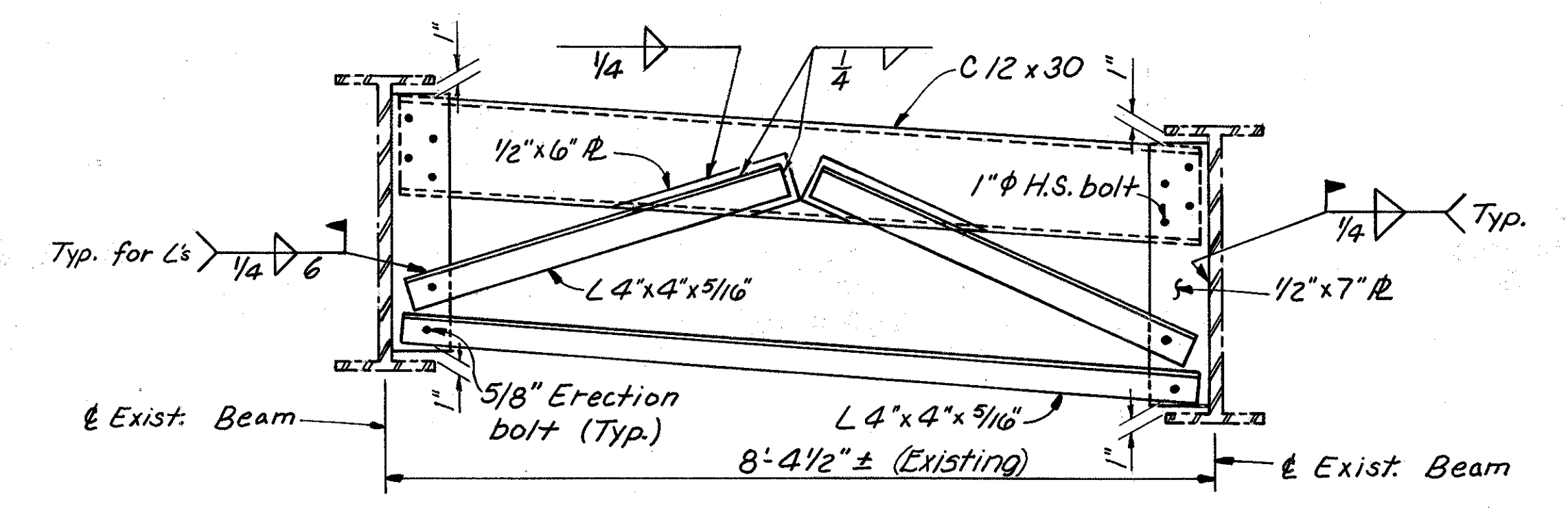
CROSS FRAME CF3



CROSS FRAME CF4



DIAPHRAGM DI



DIAPHRAGM D2

Note:
1" φ H.S. bolts shall be A325-Type 1

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STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	FVB	FVB	VDG	JH0 3-23-82	

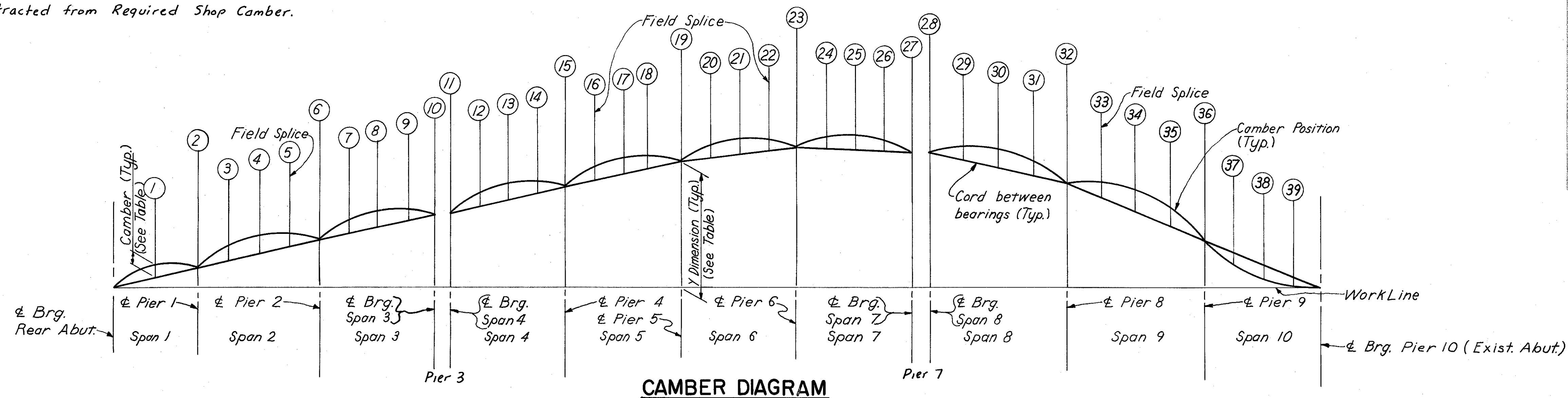
HAMILTON COUNTY
HAM-471-0.24
PART TWO

DEFLECTION AND CAMBER (inches)

Girder	DESCRIPTION	Span 1				Span 2				Span 3				Span 4				Span 5				Span 6				Span 7				Span 8				Span 9				Span 10			
		1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.	1/2	1/4	3/8	F.S.				
A	Deflection due to weight of steel	0	1/16	1/16	0	1/16	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0
	Deflection due to remaining D.L.	1/8	3/16	5/16	1/8	1/4	1/2	3/8	1/4	3/8	3/8	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4				
	Heat-Curved Camber Loss	3/8	3/8	5/8	1/4	9/16	1	7/8	13/16	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2				
	Adjustment req'd for H&V *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	Required Shop Camber	1/2	5/8	1	3/8	7/8	1 5/8	1 3/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4				
	Deflection due to weight of steel	0	1/16	1/16	0	1/16	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0				
	Deflection due to remaining D.L.	1/8	3/16	5/16	1/8	1/4	3/8	5/16	1/4	3/8	3/8	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4				
	Heat-Curved Camber Loss	3/8	3/8	5/8	1/4	9/16	1	7/8	13/16	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2				
C	Adjustment req'd for H&V *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	Required Shop Camber	1/2	5/8	1	3/8	7/8	1 5/8	1 3/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4				
	Deflection due to weight of steel	0	1/16	1/16	0	1/16	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0				
	Deflection due to remaining D.L.	1/8	3/16	5/16	1/8	1/4	3/8	5/16	1/4	3/8	3/8	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4	1/2	1/2	1/2	1/4				
D	Heat-Curved Camber Loss	3/8	3/8	5/8	1/4	9/16	1	7/8	13/16	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2	1 1/2	1 1/2	1 1/2	1/2				
	Adjustment req'd for H&V *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	Required Shop Camber	1/2	5/8	1	3/8	7/8	1 5/8	1 3/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4	1 5/8	2 1/8	2 1/8	1 1/4				
	Deflection due to weight of steel	0	1/16	1/16	0	1/16	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0	1/8	1/8	1/8	0				

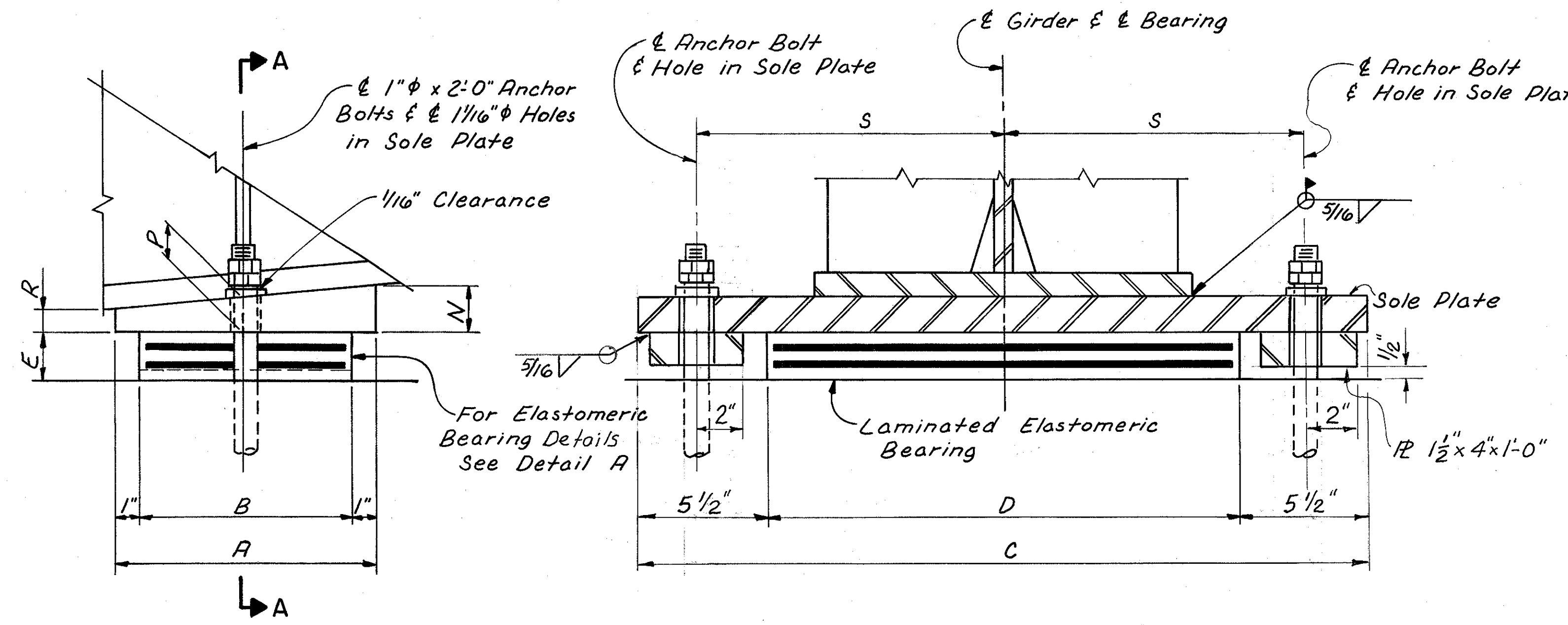
* denotes Horizontal Curve and Vertical Curve adjustments
(-) negative values are measured downward

Tabulation of shop camber shown in above box is based on heat curving the girders to obtain the proper horizontal curvature. If heat curving is not used, then the amount shown under "Heat-Curved Camber Loss" shall be subtracted from Required Shop Camber.



Pier	Girder A Y Dim.	Girder B Y Dim.	Girder C Y Dim.	Girder D Y Dim.
1	1'-9 1/4"	1'-9 1/8"	1'-8 15/16"	1'-8 13/16"
2	4'-3 3/8"	4'-3 1/2"	4'-3 3/16"	4'-2 3/16"
3-Span 3	6'-8 1/8"	6'-7 9/16"	6'-7"	6'-6 7/16"
3-Span 4	6'-8 7/8"	6'-8 5/16"	6'-7 3/4"	6'-7 3/16"
4	9'-1 1/4"	9'-0 7/16"	8'-11 1/16"	8'-10 15/16"
5	11'-6"	11'-5"	11'-4 1/8"	11'-3 1/16"
6	12'-10 3/8"	12'-9 3/16"	12'-8"	12'-6 7/8"
7-Span 7	12'-5 5/8"	12'-4 3/16"	12'-2 13/16"	12'-1 1/2"
7-Span 8	12'-5 1/2"	12'-3 13/16"	12'-2 7/16"	12'-1 1/16"
8	9'-7 7/16"	9'-5 2/8"	9'-4 1/4"	9'-2 1/16"
9	4'-5 1/8"	4'-3 15/16"	4'-2 1/16"	4'-1 1/2"

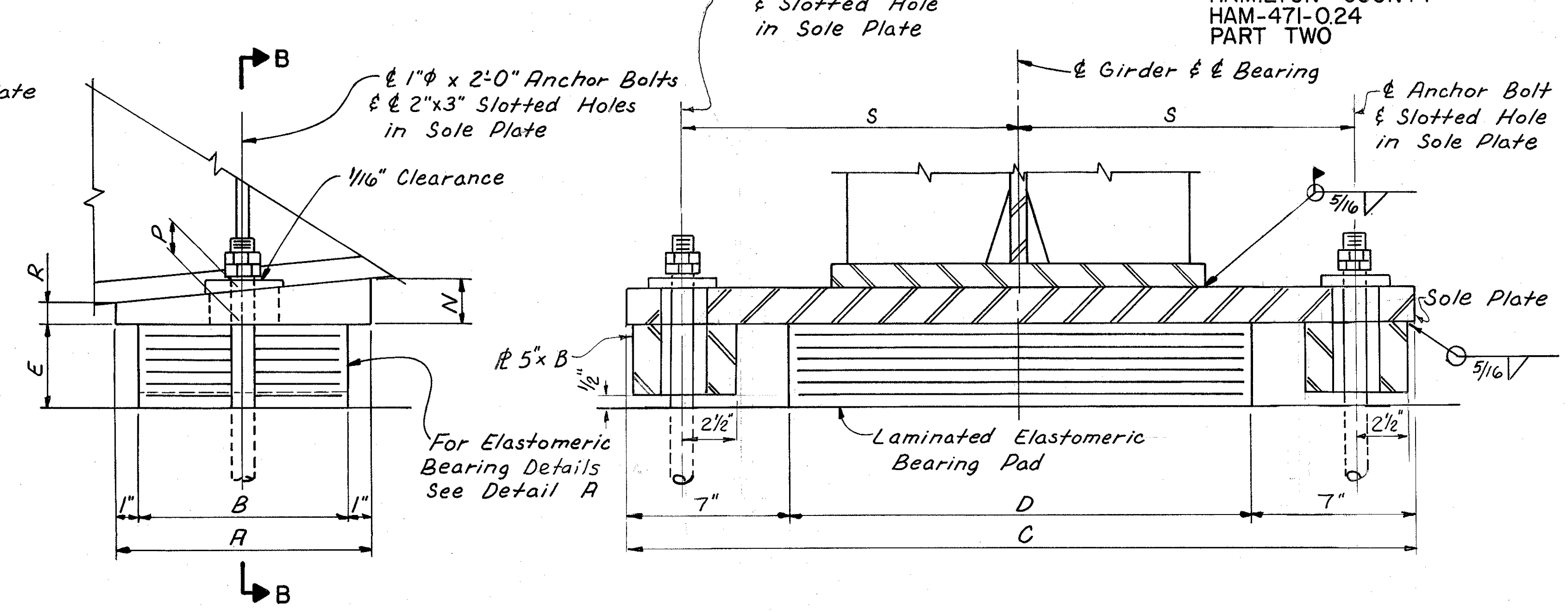
HAMILTON COUNTY
HAM-471-024
PART TWO



ELEVATION

SECTION A-A

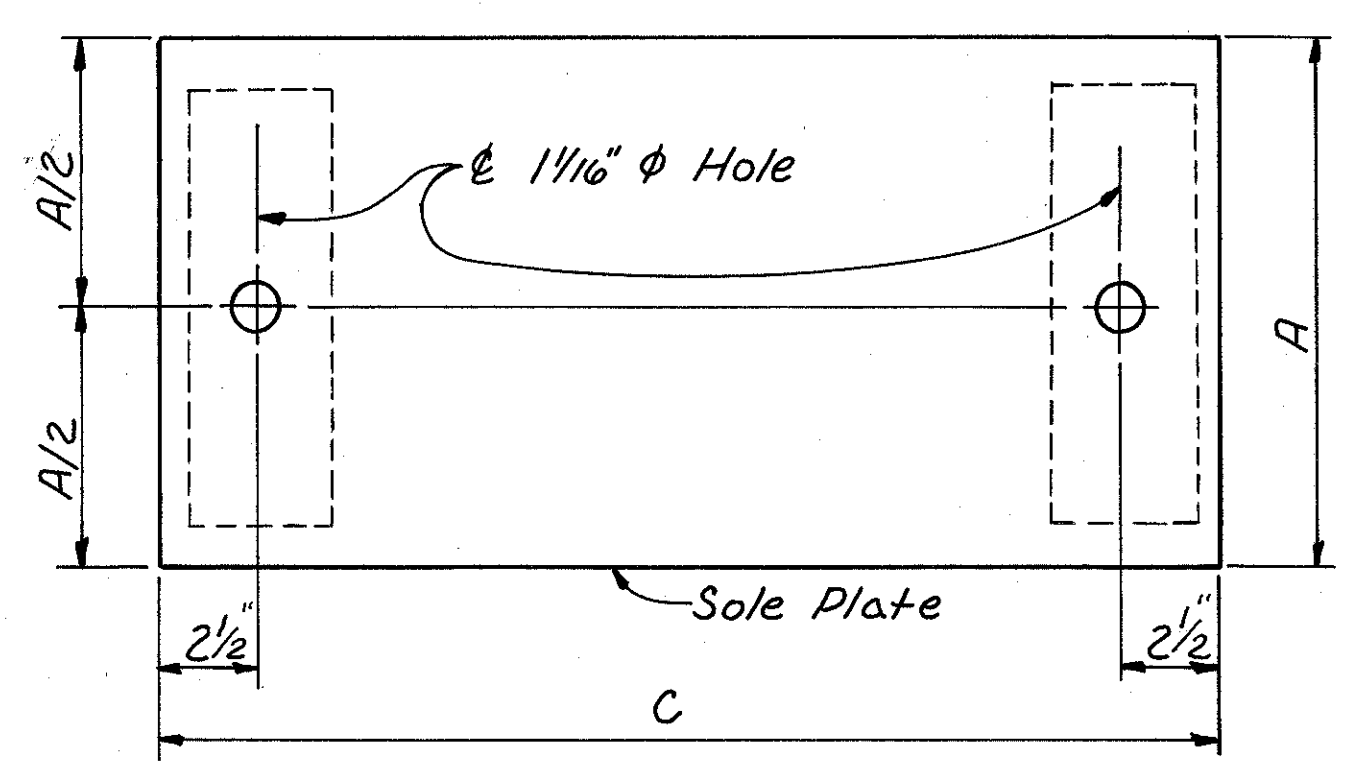
FIXED BEARING DETAILS



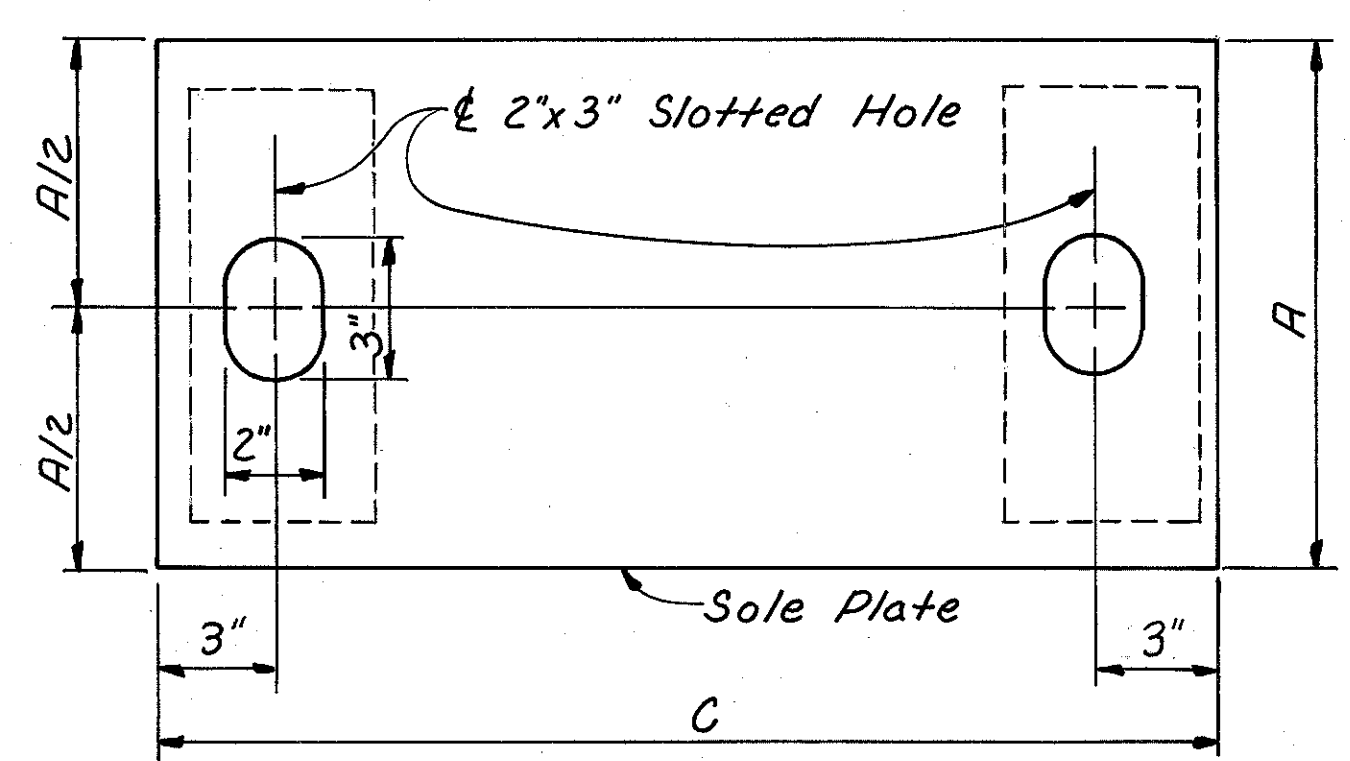
ELEVATION

SECTION B-B

EXPANSION BEARING DETAILS

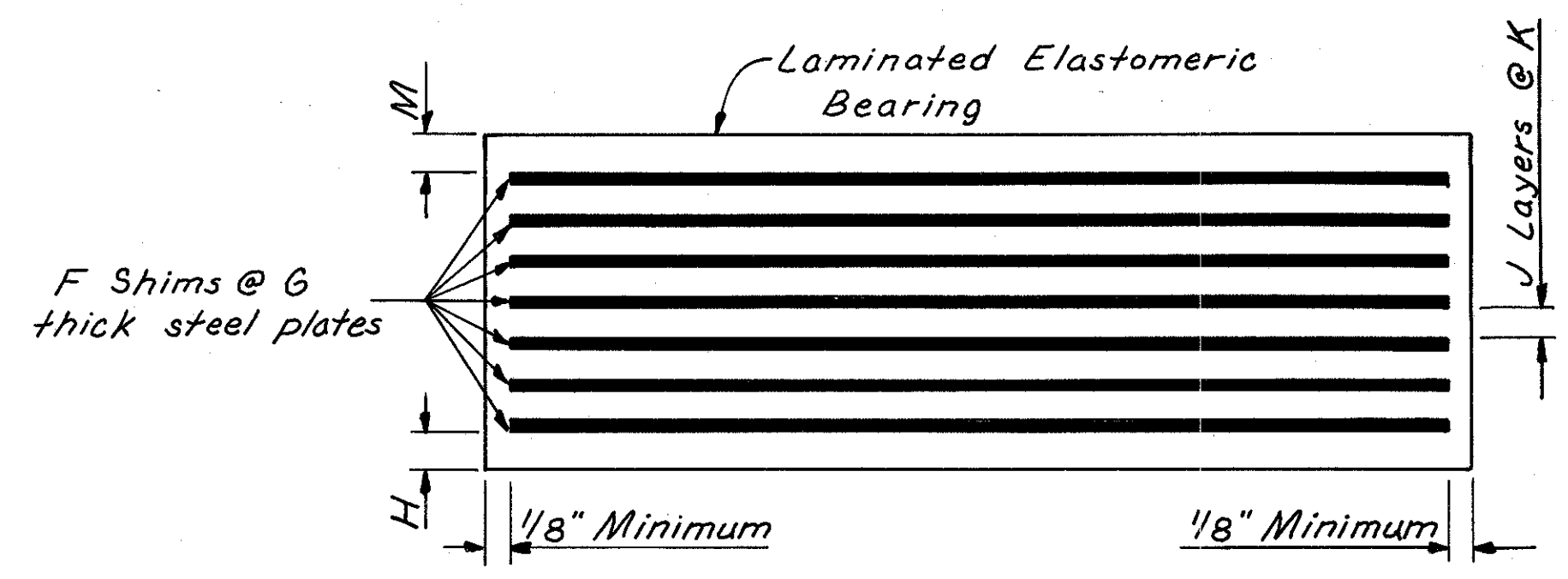


FIXED

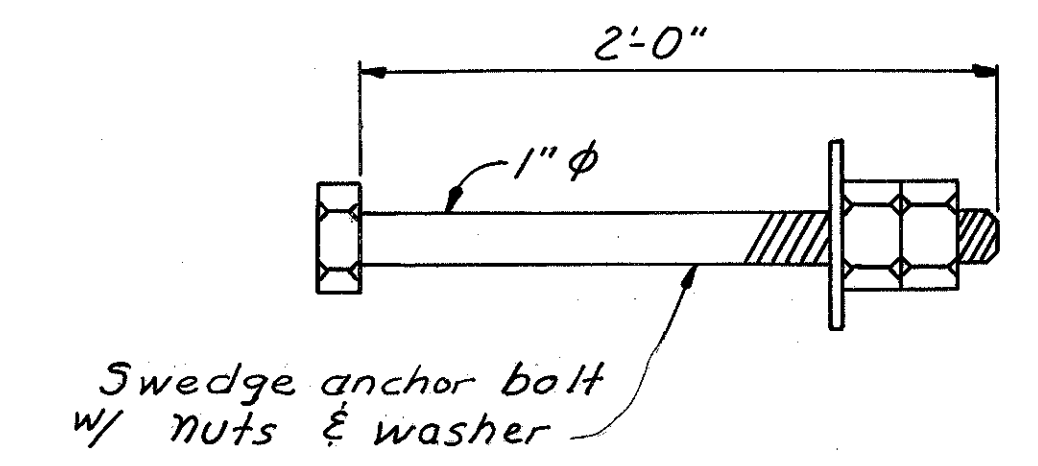


EXPANSION

SOLE PLATE PLAN



DETAIL A



ANCHOR BOLT DETAIL

Notes:
Elastomer shall be of 50 Durometer Neoprene.
Sole plates and shim plates shall be of A36 Steel.
Elastomer shall be vulcanized bonded to sole plate during the molding process. Concrete surface beneath bearing shall have a broom finish.
Set bearings at 40°F.
Holes in sole plate shall be centered on Anchor Bolts.
Welding shall be controlled so that the plate temperature at the elastomer bonded surface does not exceed 300°F as determined by the use of pyrometric sticks or other temperature monitoring devices.
The quenching of metal to accelerate cooling shall be prohibited.

LOCATION	NUMBER REQUIRED	TYPE / NO.	DIMENSIONS														
			A	B	C	D	E	F	G	H	J	K	M	N	P	R	S
Rear Abut.	4	Exp. / 2	11"	9"	2'-4"	1'-2"	2"	4	3/32"	5/16"	3	5/16"	3/8"	1 1/16"	1 1/32"	1"	11"
Pier 1	4	Fix / 1	1'-2"	1'-0"	2'-7"	1'-8"	2"	2	1/4"	1/2"	1	1/2"	1/2"	2"	19/16"	1 1/8"	1'-1"
Pier 2	4	Exp. / 3	1'-5"	1'-3"	2'-10"	1'-8"	2"	2	1/8"	9/16"	1	9/16"	5/8"	2 1/16"	1 7/32"	1"	1'-2"
Pier 3, Span 3	4	Exp. / 4	11"	9"	2'-5"	1'-3"	3"	6	3/32"	1/4"	5	3/8"	5/16"	1 1/4"	1 1/32"	1"	11 1/2"
Pier 3, Span 4	4	Exp. / 5	11"	9"	2'-5"	1'-3"	3"	6	3/32"	1/4"	5	3/8"	5/16"	2 1/16"	2 1/32"	2"	11 1/2"
Pier 4	4	Exp. / 3	1'-5"	1'-3"	2'-10"	1'-8"	2"	2	1/8"	9/16"	1	9/16"	5/8"	2 1/16"	1 7/32"	1"	1'-2"
Pier 5	4	Fix / 1	1'-2"	1'-0"	2'-7"	1'-8"	2"	2	1/4"	1/2"	1	1/2"	1/2"	2"	19/16"	1 1/8"	1'-1"
Pier 6	4	Exp. / 3	1'-5"	1'-3"	2'-10"	1'-8"	2"	2	1/8"	9/16"	1	9/16"	5/8"	2 1/16"	1 7/32"	1 5/8"	1'-2"
Pier 7, Span 7	4	Exp. / 4	11"	9"	2'-5"	1'-3"	3"	6	3/32"	1/4"	5	3/8"	5/16"	1 1/4"	1 1/32"	1 5/8"	11 1/2"
Pier 7, Span 8	4	Exp. / 6	11"	9"	2'-6"	1'-4"	3 1/2"	8	3/32"	1/4"	7	5/16"	5/16"	1 1/16"	1 1/32"	1"	1'-0"
Pier 8	4	Exp. / 3	1'-5"	1'-3"	2'-10"	1'-8"	2"	2	1/8"	9/16"	1	9/16"	5/8"	2 1/16"	1 7/32"	1 1/4"	1'-2"
Pier 9	4	Fix / 1	1'-2"	1'-0"	2'-7"	1'-8"	2"	2	1/4"	1/2"	1	1/2"	1/2"	2"	1 1/2"	1"	1'-1"
Pier 10	4	Exp. / 2	11"	9"	2'-4"	1'-2"	2"	4	3/32"	5/16"	3	5/16"	3/8"	1 1/16"	1 1/32"	1 1/8"	11"

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CINCINNATI, OHIO

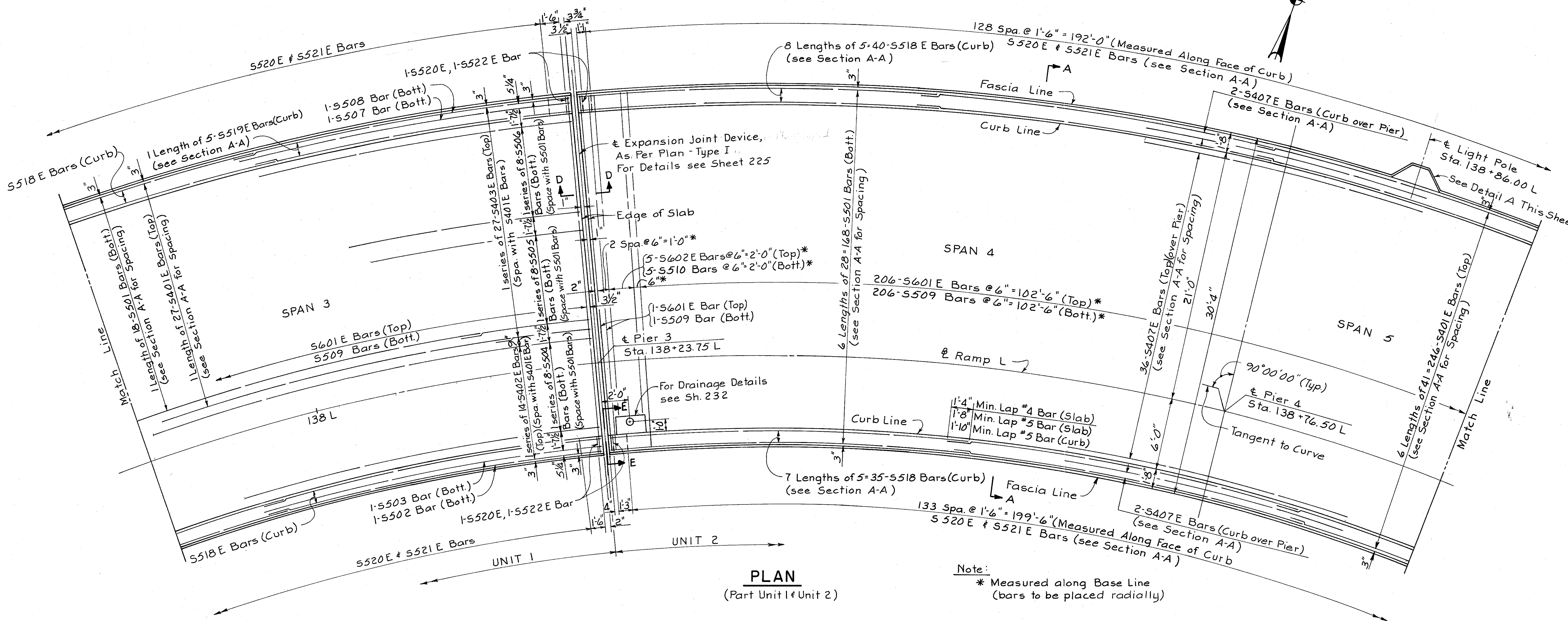
BEARING DETAILS
BRIDGE NO. HAM-471-RAMP OVER
MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MRT		H.L.L.	JHO 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

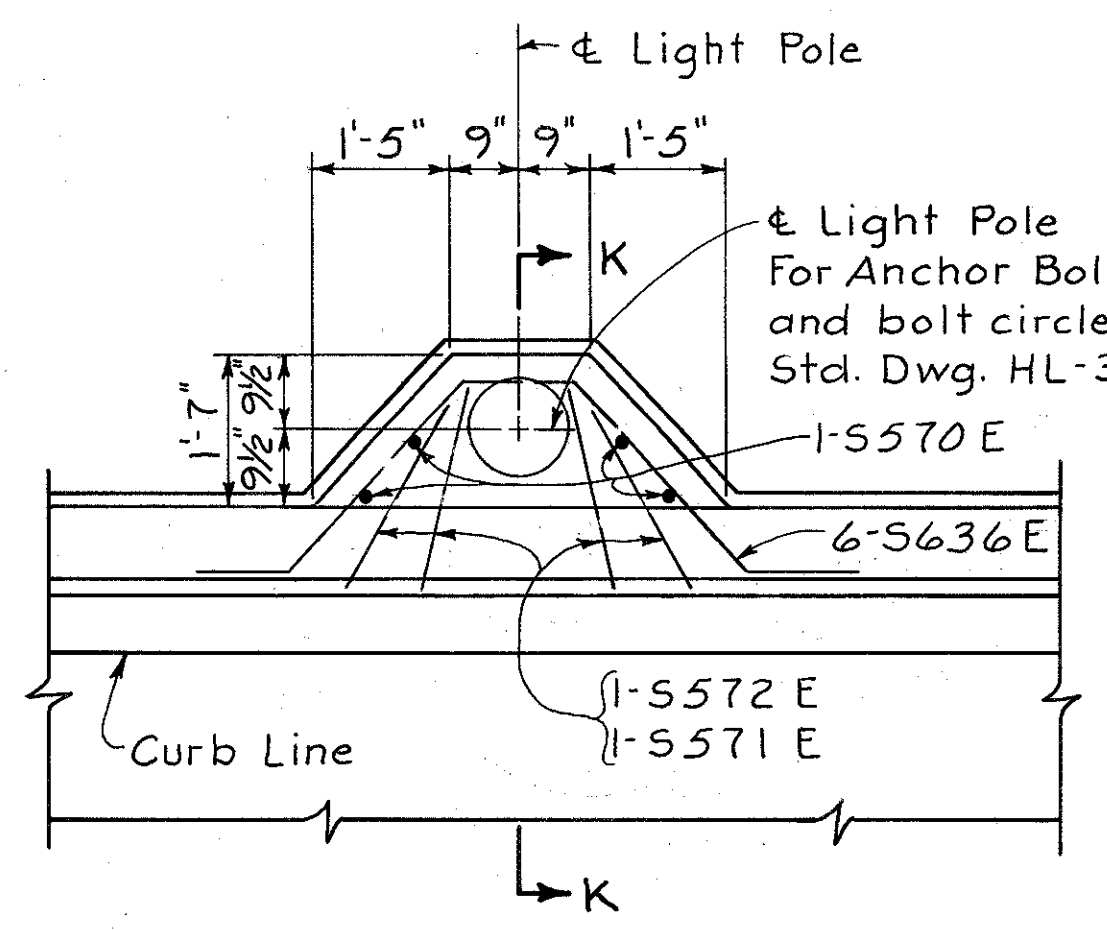
218
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HAMILTON COUNTY
HAM-471-0.24
PART TWO

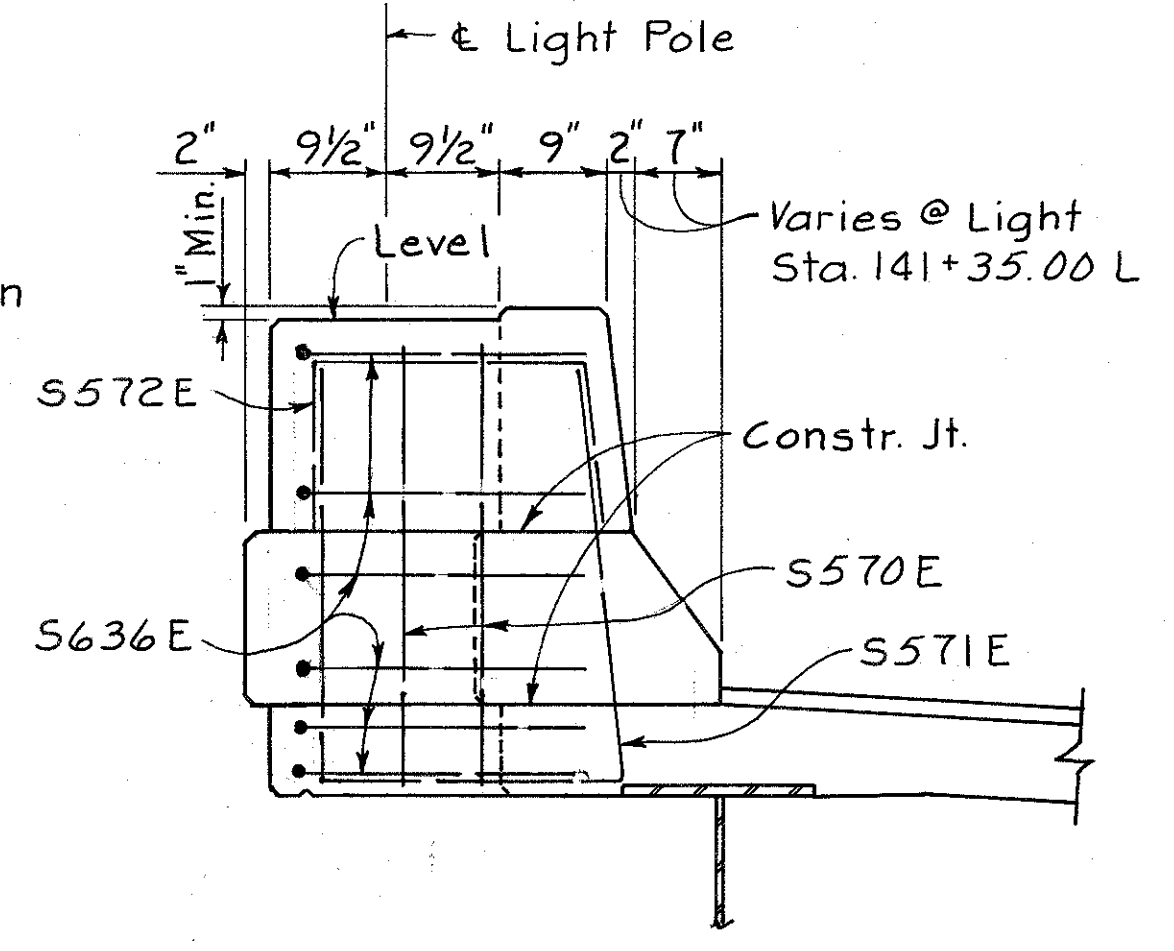


PLAN
(Part Unit 1 & Unit 2)

Note:
* Measured along Base Line
(bars to be placed radially)



DETAIL A



SECTION K-K

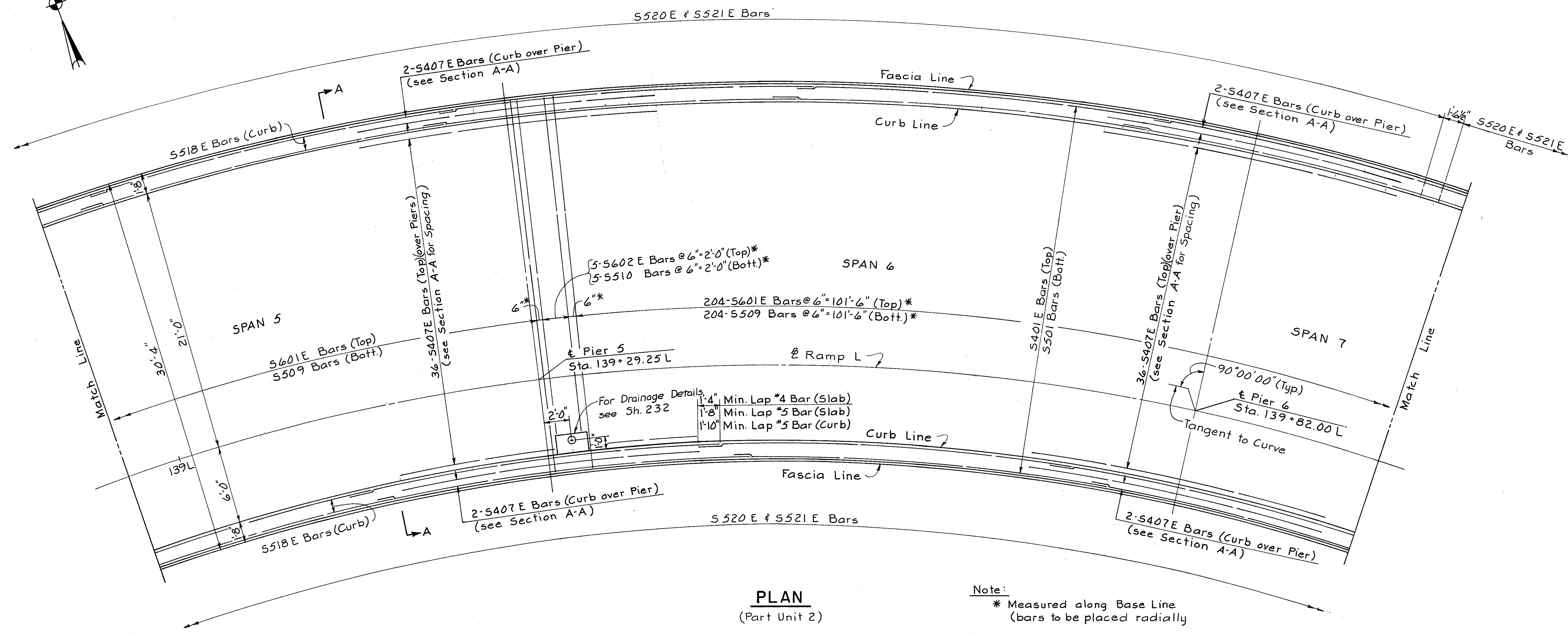
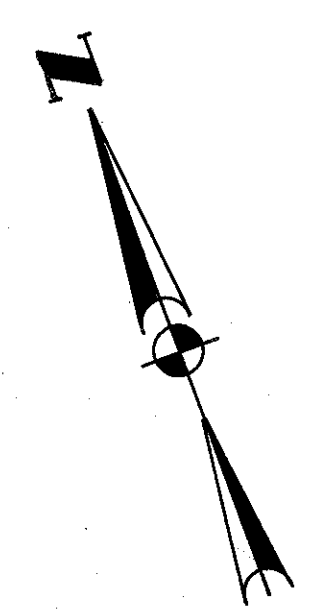
Notes:
S407E Bars centered over & Pier
For Section A-A see sh. 222
For Section D-D and E-E see sh. 225
For other notes see sh. 217

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	ALT		W/L	JHO 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

219
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

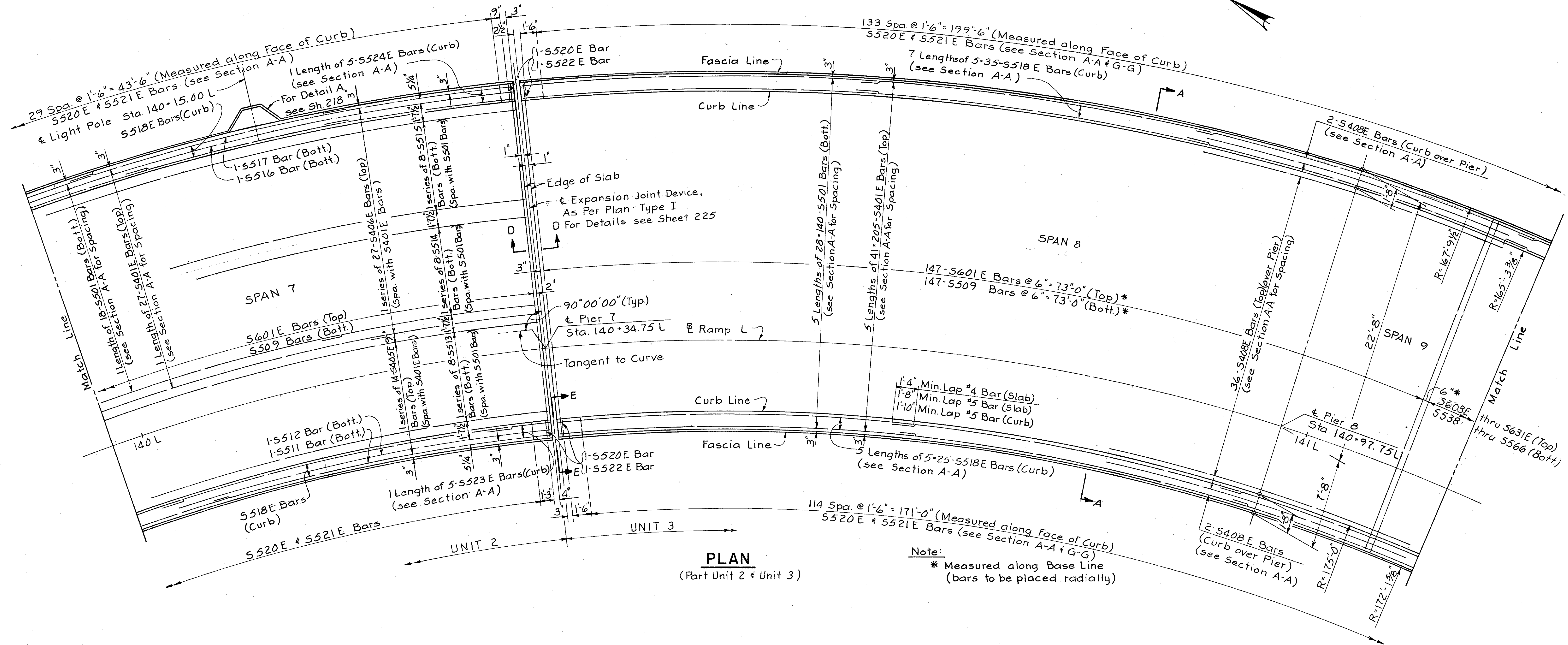
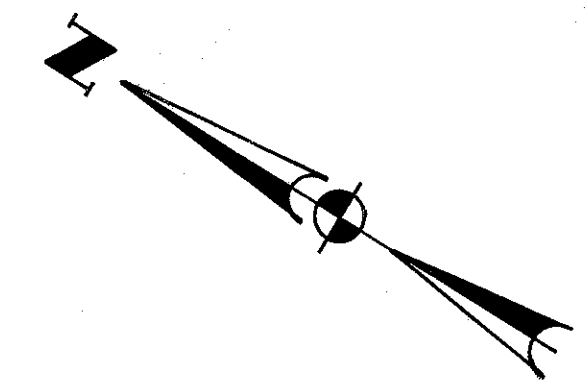


PLAN
(Part Unit 2)

Note:
* Measured along Base Line
(bars to be placed radially)

Notes:
5407E Bars centered over & Pier.
For Section A-A see sh. 222
For other notes see sh. 217

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	ALT		JHL	JHO 3-23-82	



PLAN
(Part Unit 2 & Unit 3)

Note:
* Measured along Base Line
(bars to be placed radially)

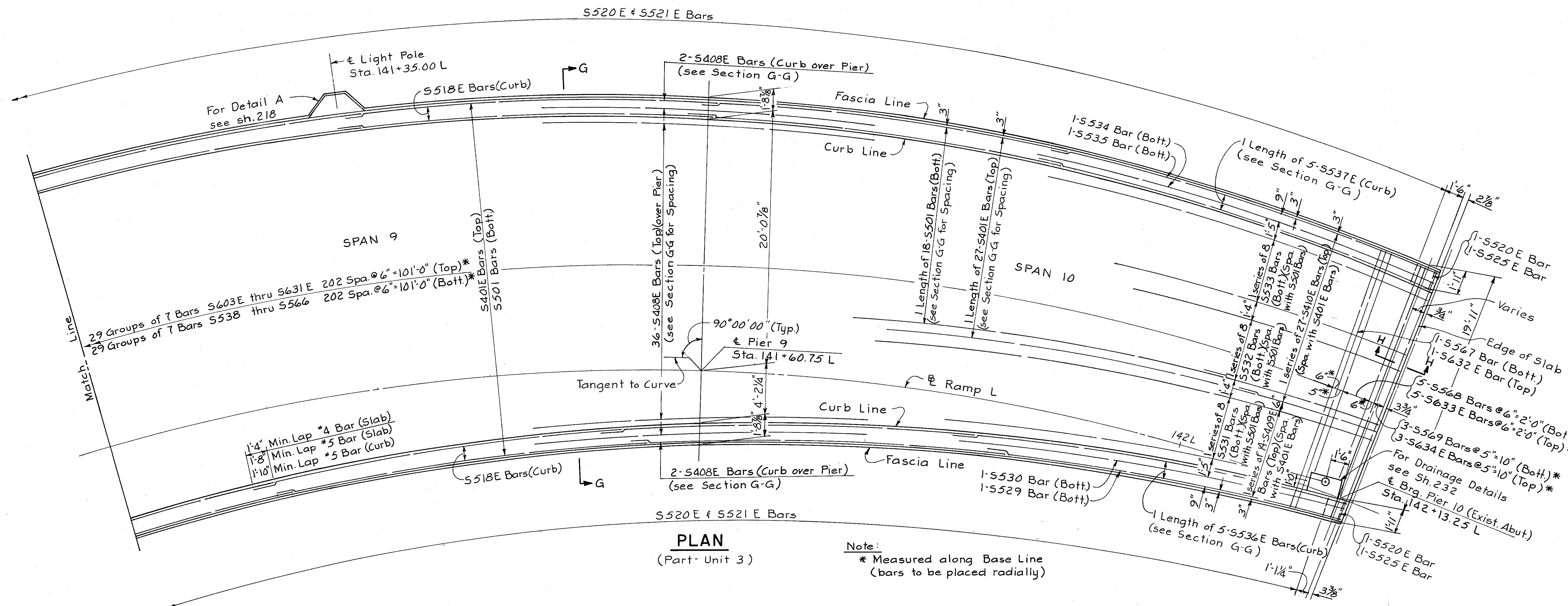
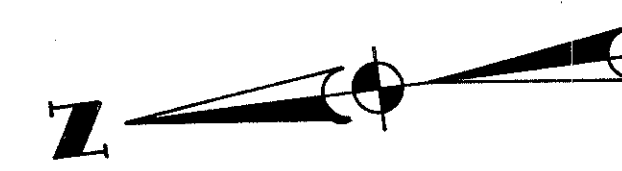
Notes:
 & Pier 8 is P.C.C. for Fascia Lines and Curb Lines
 S408 E Bars centered over & Pier 8
 For Section A-A & G-G see sh. 222
 For Section D-D & E-E see sh. 225
 For other notes see sh. 217

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	ALT		WZ	JHO 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN
(Part Unit 3)

Note:
* Measured along Base Line
(bars to be placed radially)

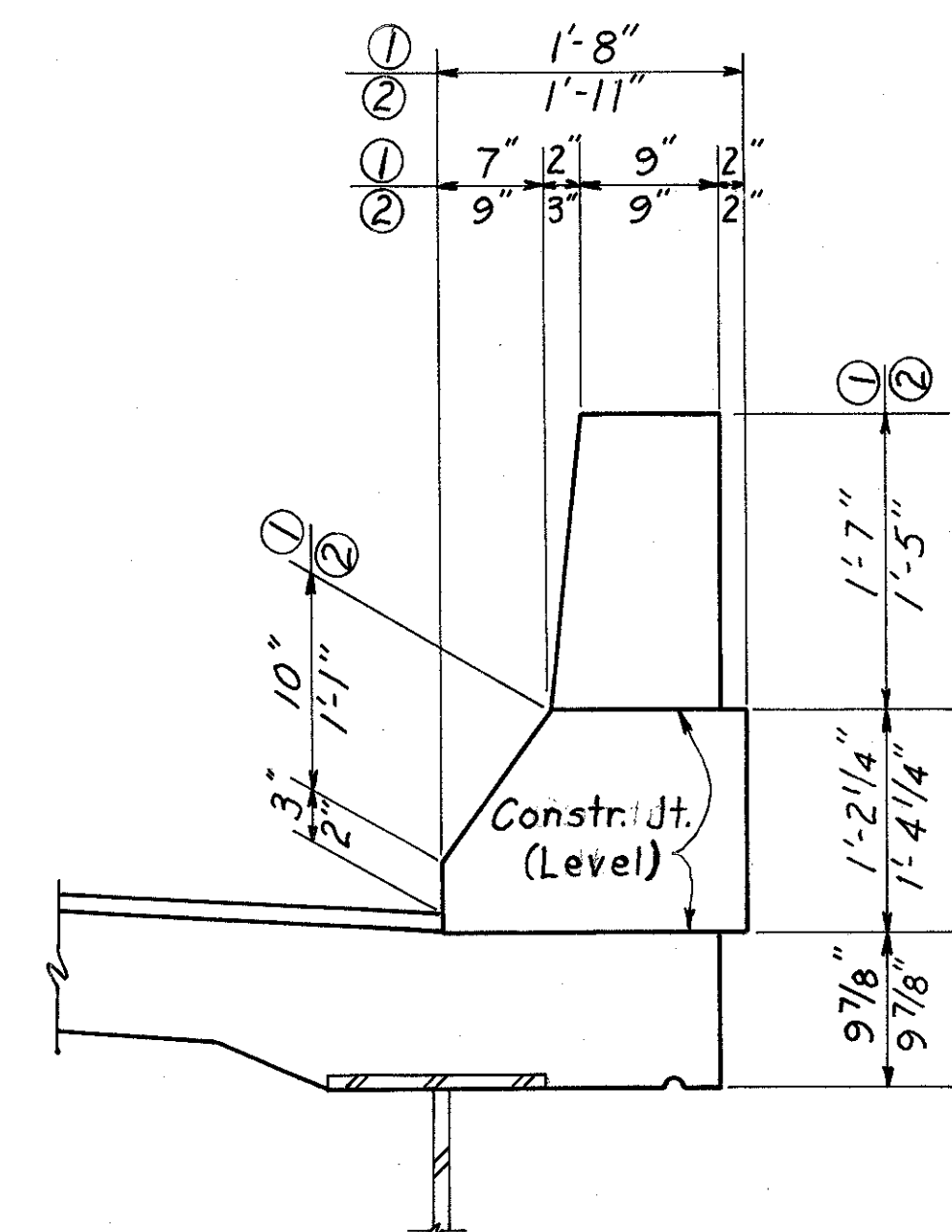
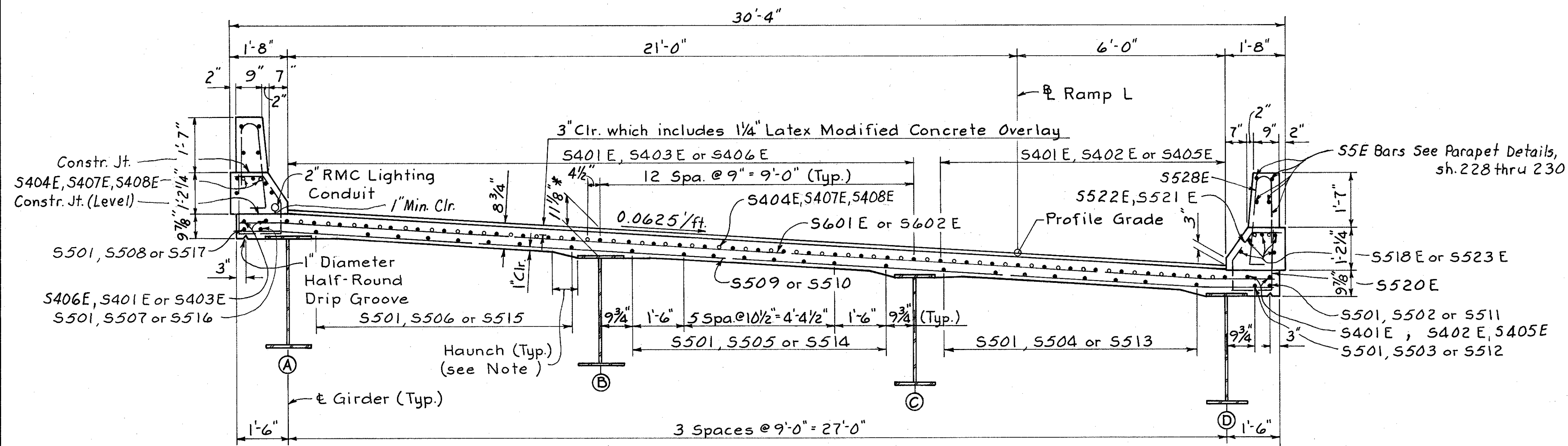
Notes:
S408 E Bars centered over & Pier 9
For Section G-G see sh. 222
For Section H-H see sh. 223
For other notes see sh. 217

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	ALT		JL	JHO 3-23-82	

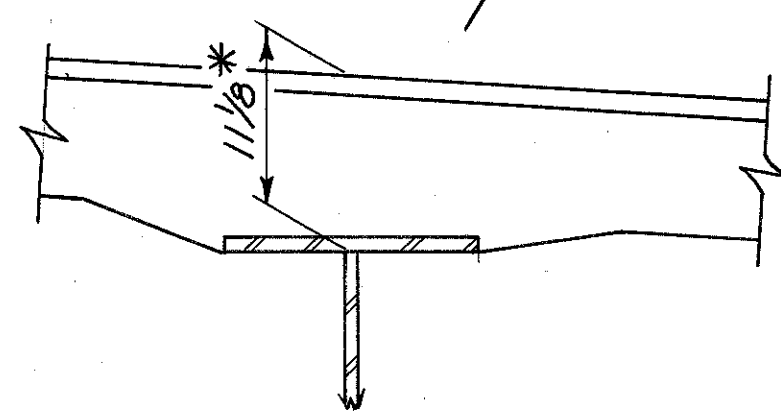
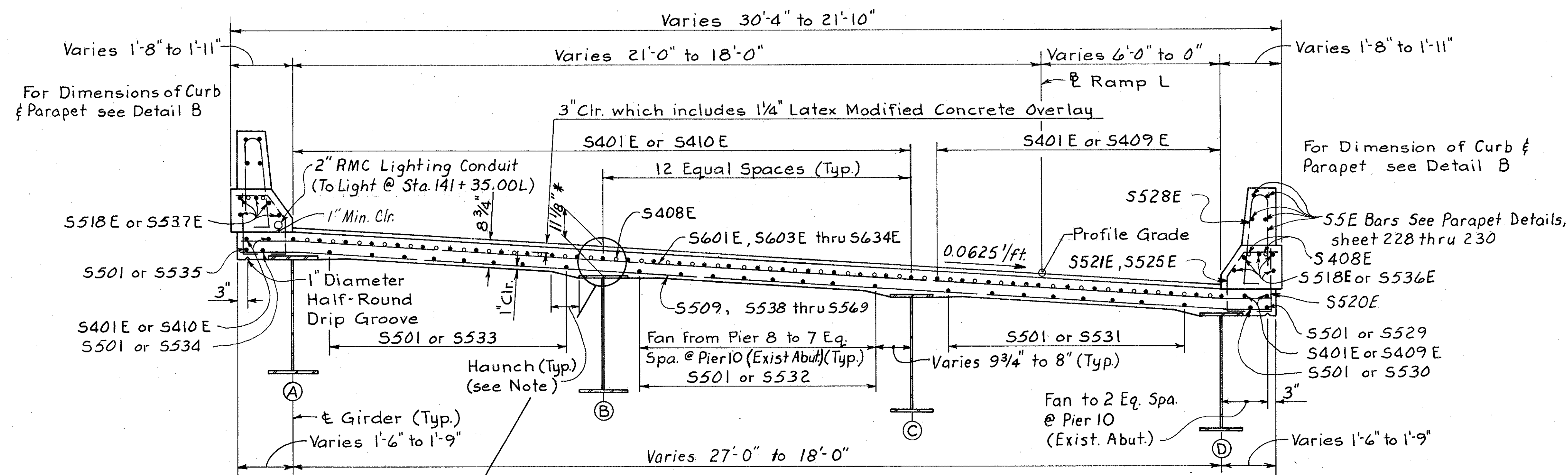
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
HAM-471-0.24
PART TWO



Note:
① denotes dimensions @ Pier 8
② denotes dimensions @ Pier 10 (Exist. Abut.)



Notes:
A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

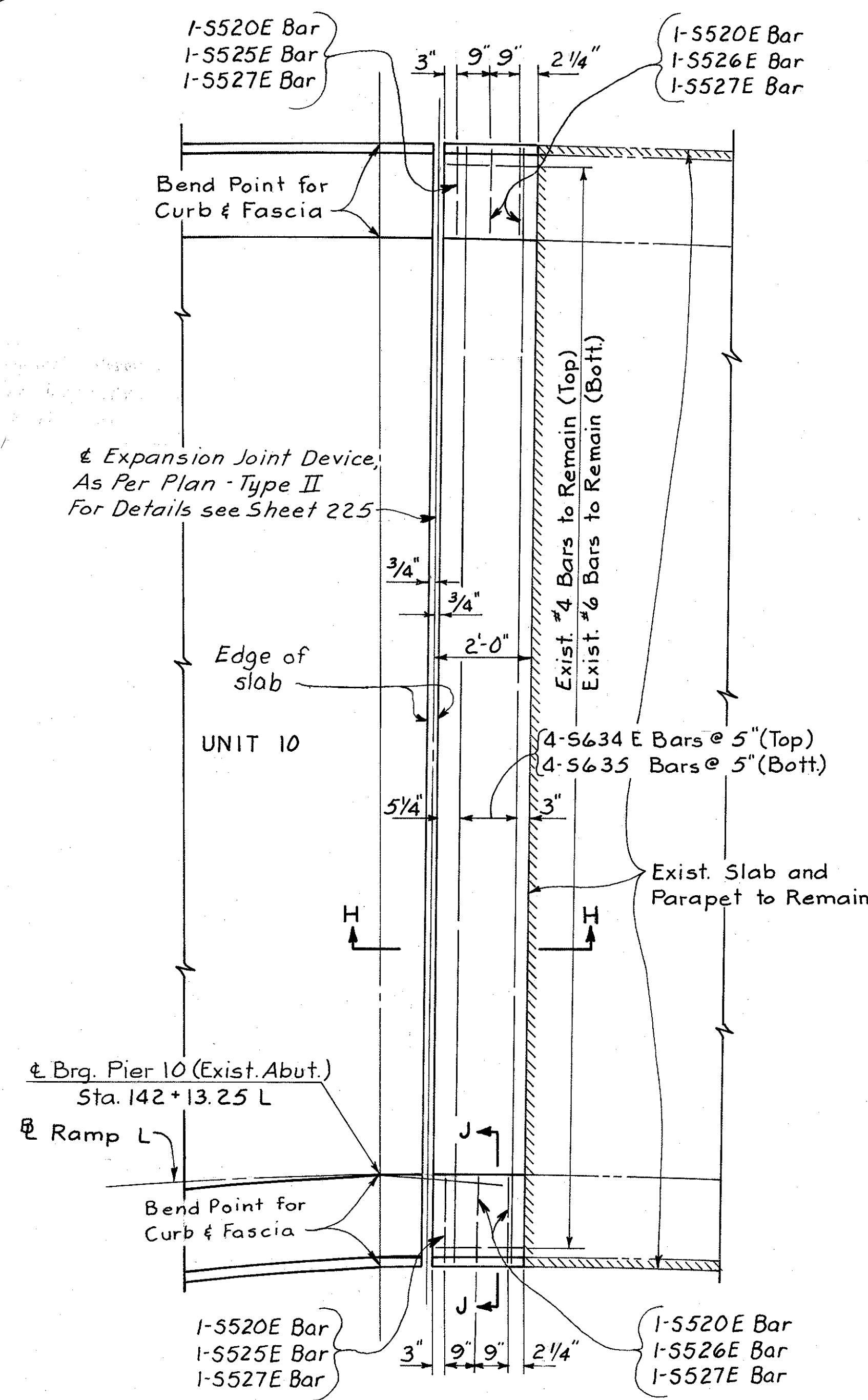
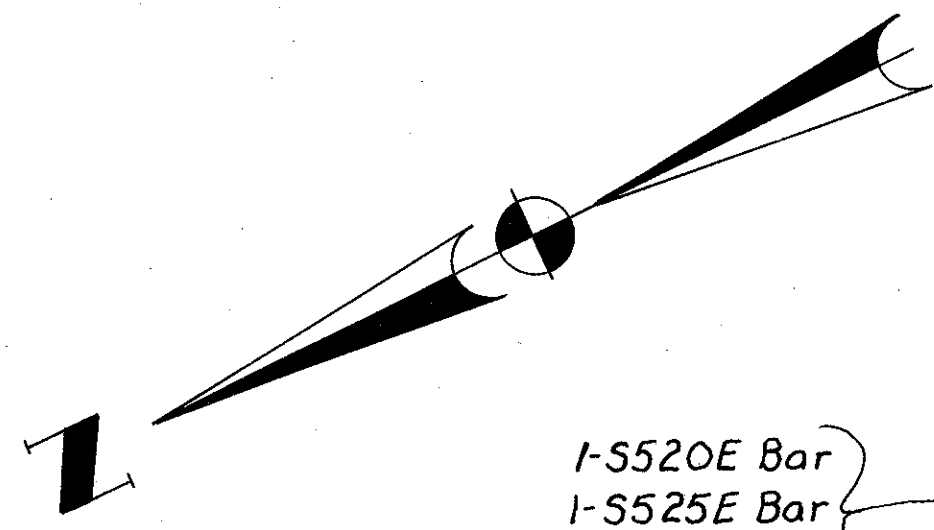
* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED JHO	DRAWN ALT	TRACED	CHECKED JL	REVIEWED DATE JHO 3-23-82	REVISED

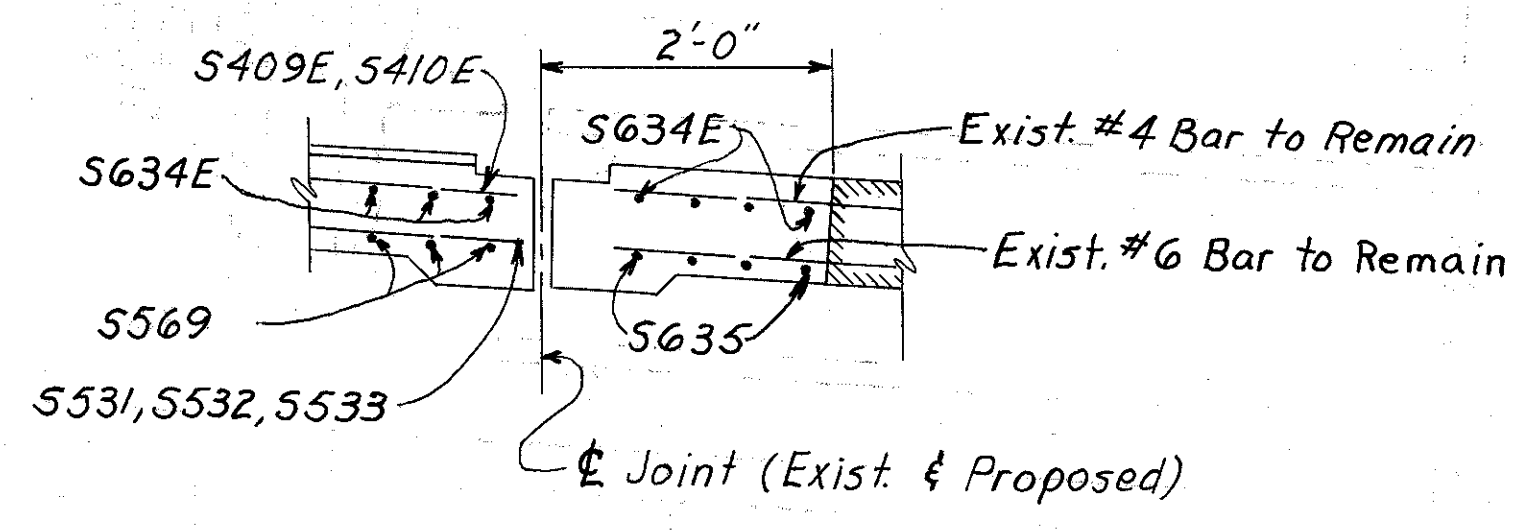
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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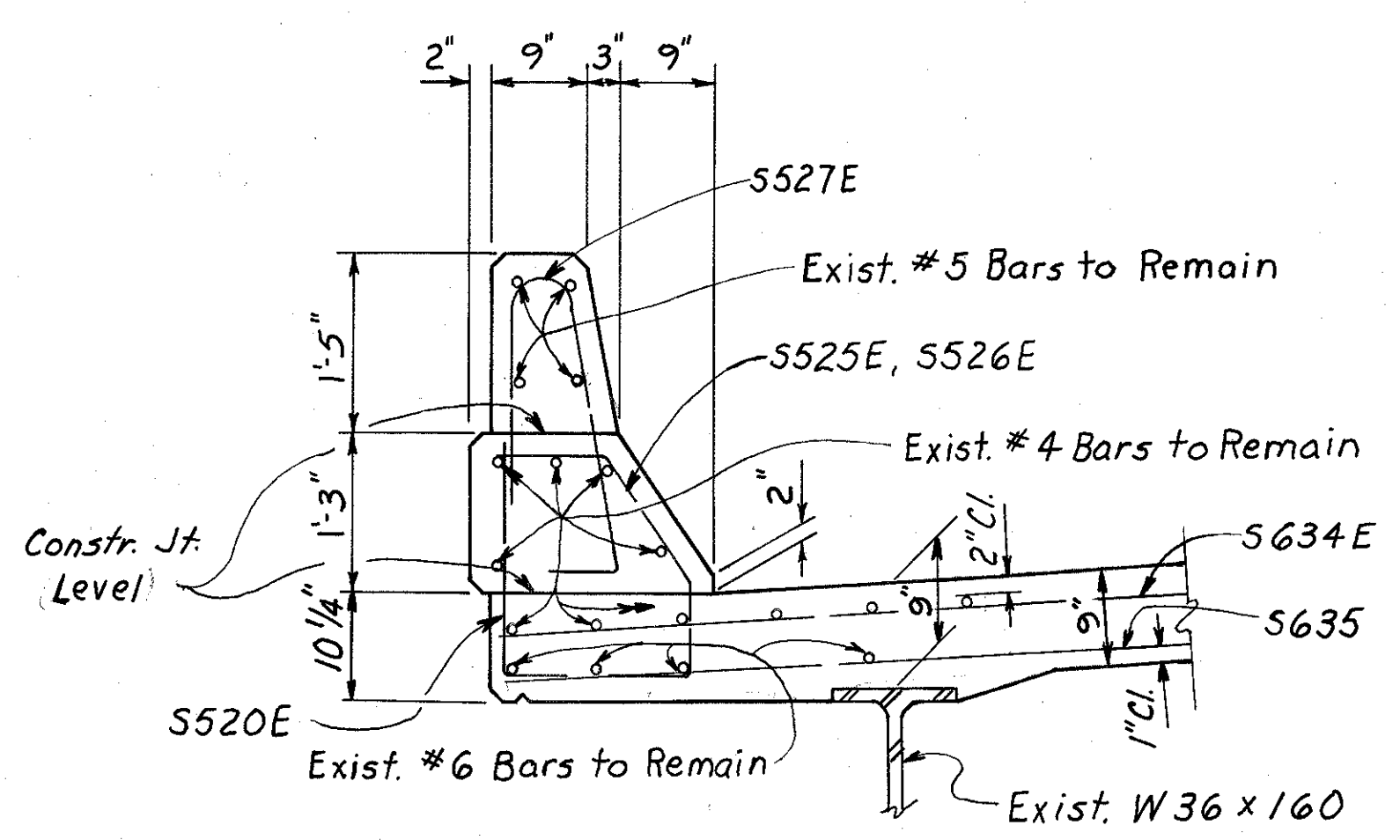
HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN



SECTION H-H
(Exp. Joint Device Not Shown
For Details see Section M-M Sh. 225)



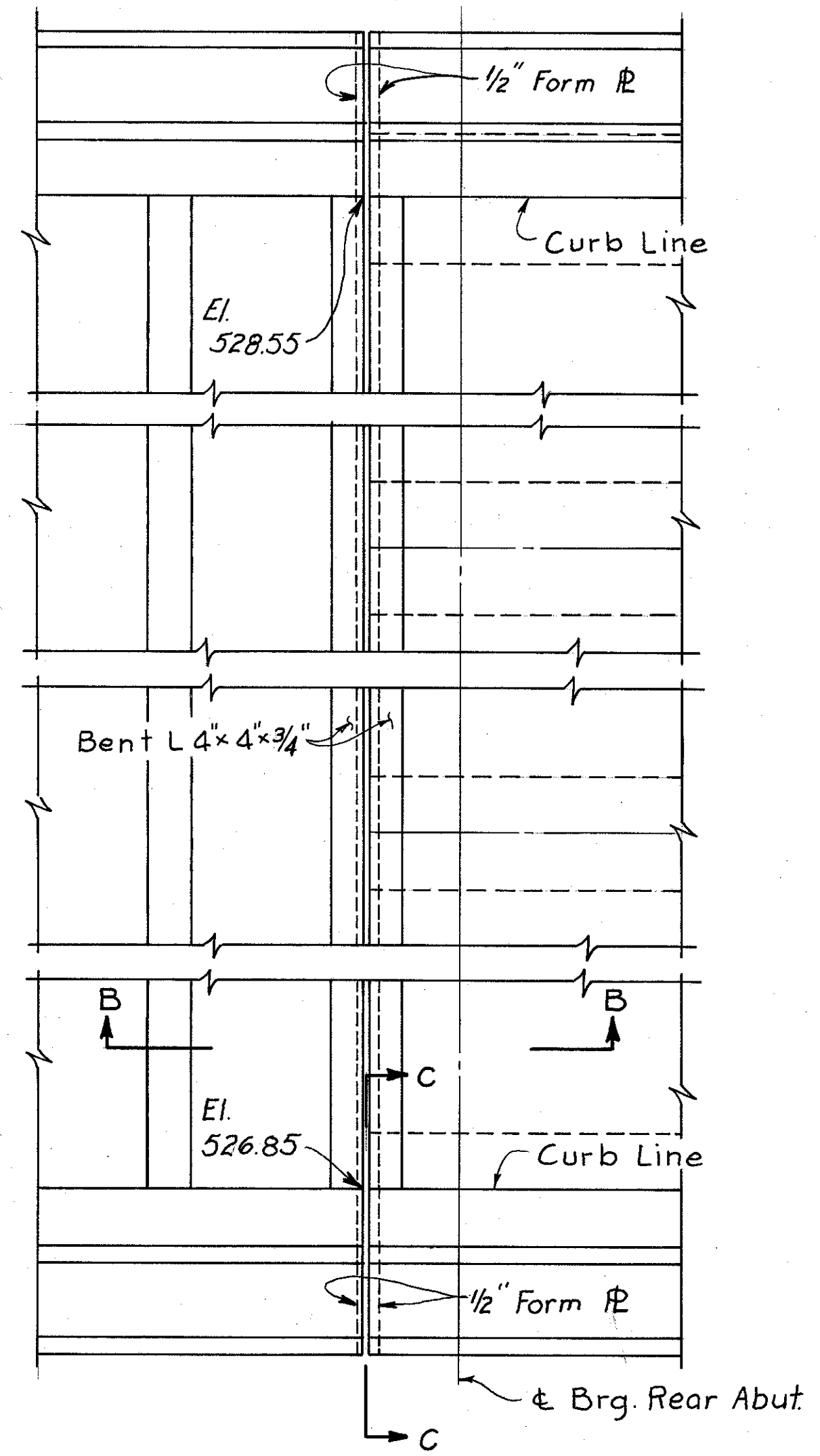
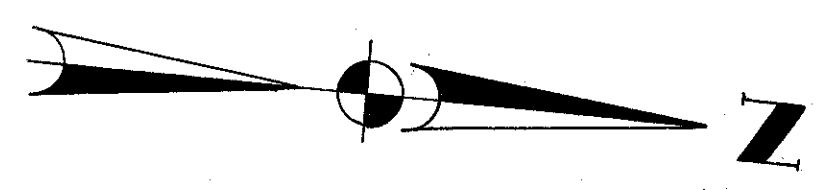
SECTION J-J

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED JHO	DRAWN ALT	TRACED	CHECKED ML	REVIEWED DATE JHO 3-23-82	REVISED

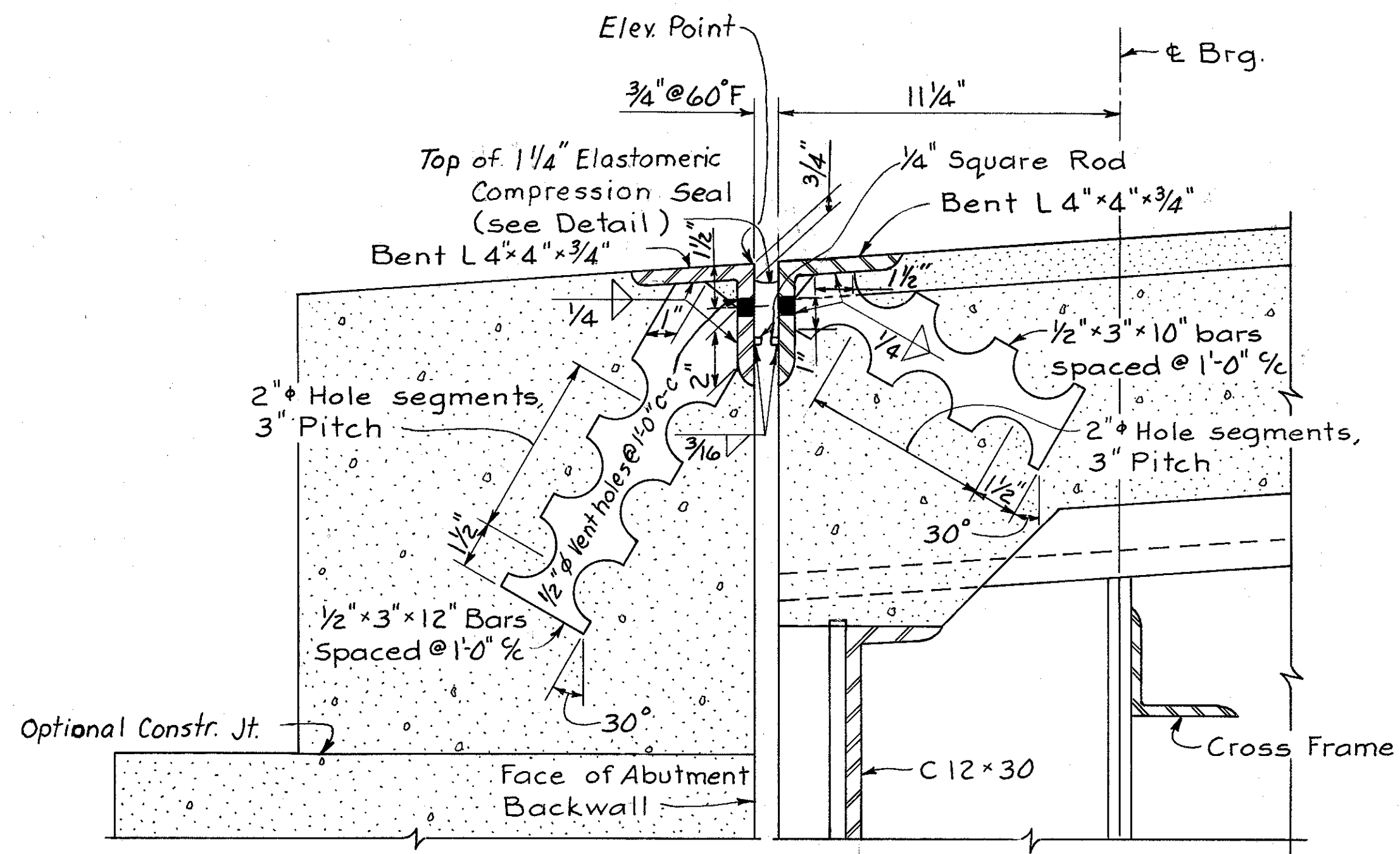
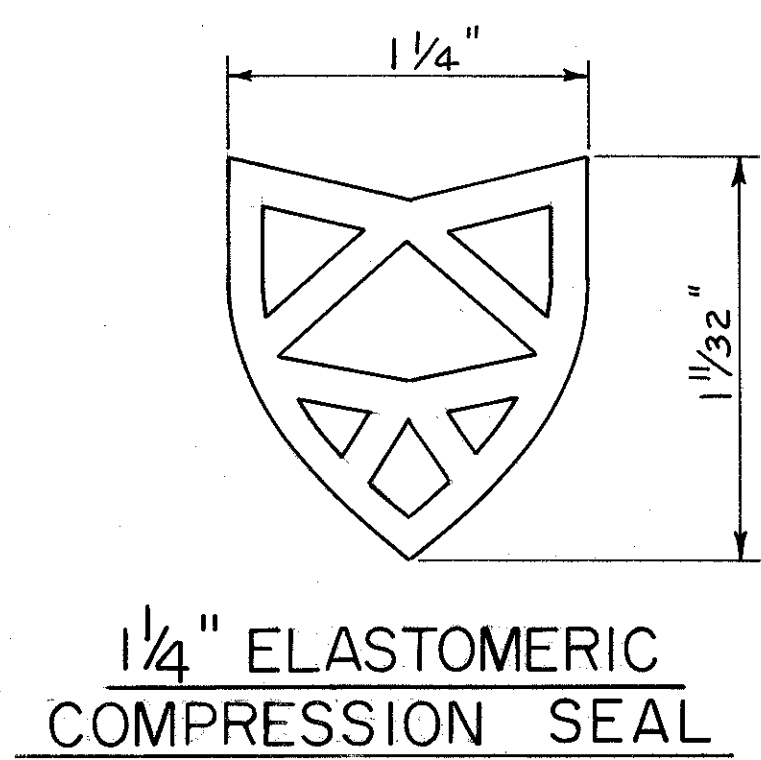
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

224
346

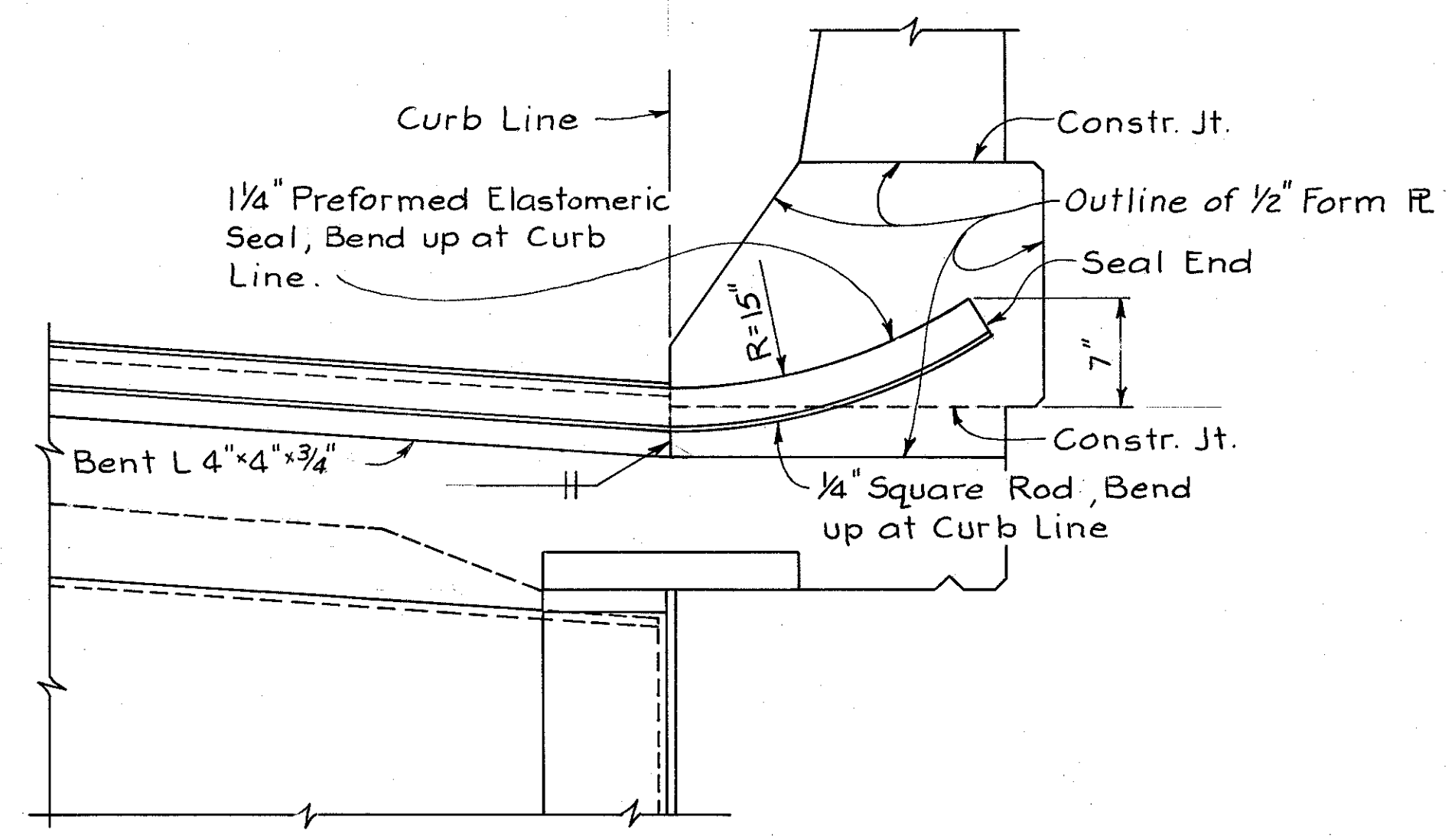
HAMILTON COUNTY
HAM-471-0.24
PART TWO



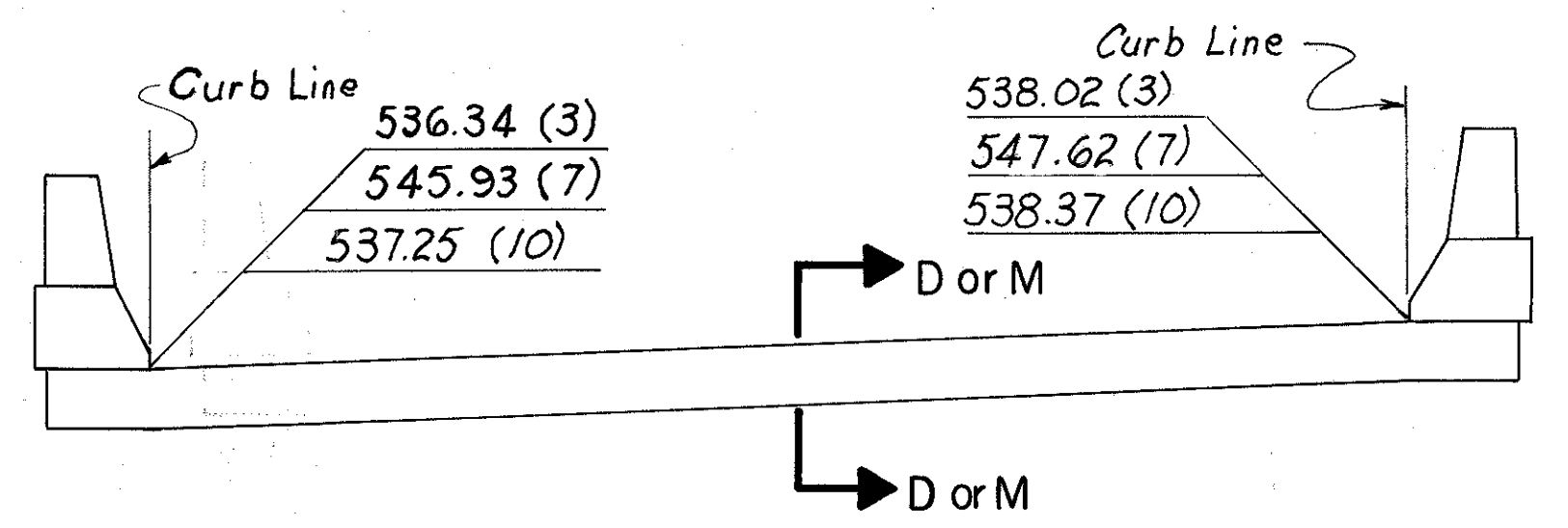
PLAN
Elastomeric Compression Seals for Structural Steel Joints, 1/4-inch width



SECTION B-B



SECTION C-C



SECTION F-F
Elevations at & of Joint. (3) Denotes & Pier 3, (7) Denotes & Pier 7, (10) Denotes & Joint Pier 10 (Exist. Abut.)

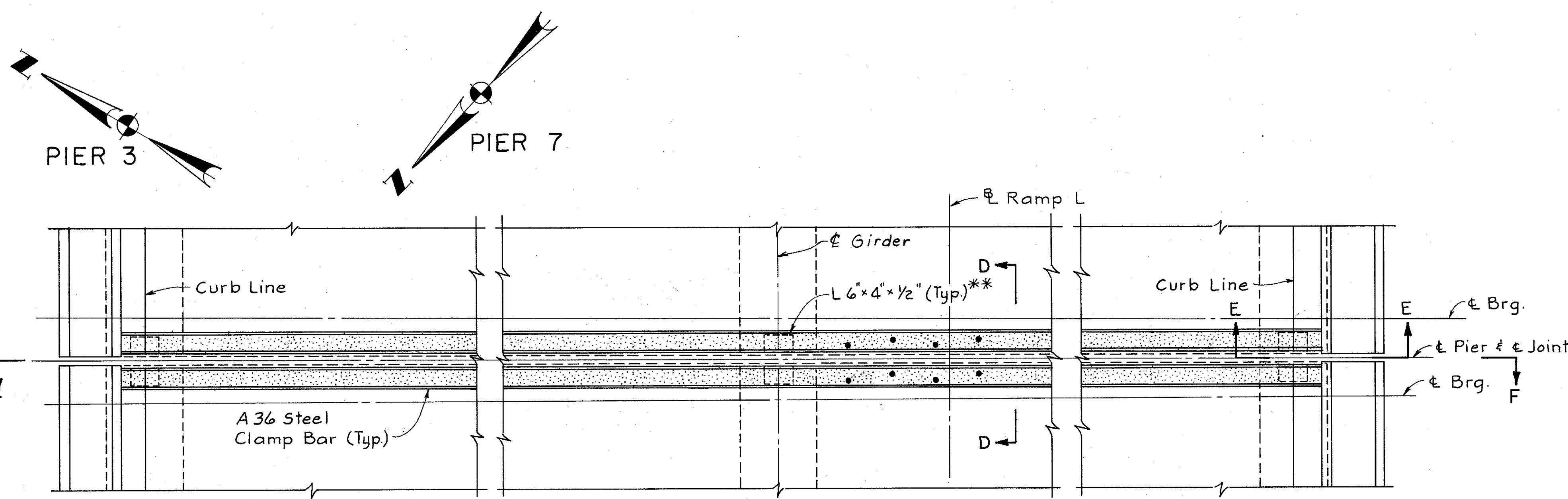
Notes:
The expansion joint shall be bent in the shop to conform to the roadway surface profile.
All structural steel items shall be included with 513 for payment.
All other items shall be included with 849 for payment.
The joint width dimension is for a setting temperature of 60°F. For each 20° increase (decrease) in setting temperature, the dimension shall be reduced (increased) by 1/16".

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SUPERSTRUCTURE					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	ALT		WJ	JAO 3-23-82	

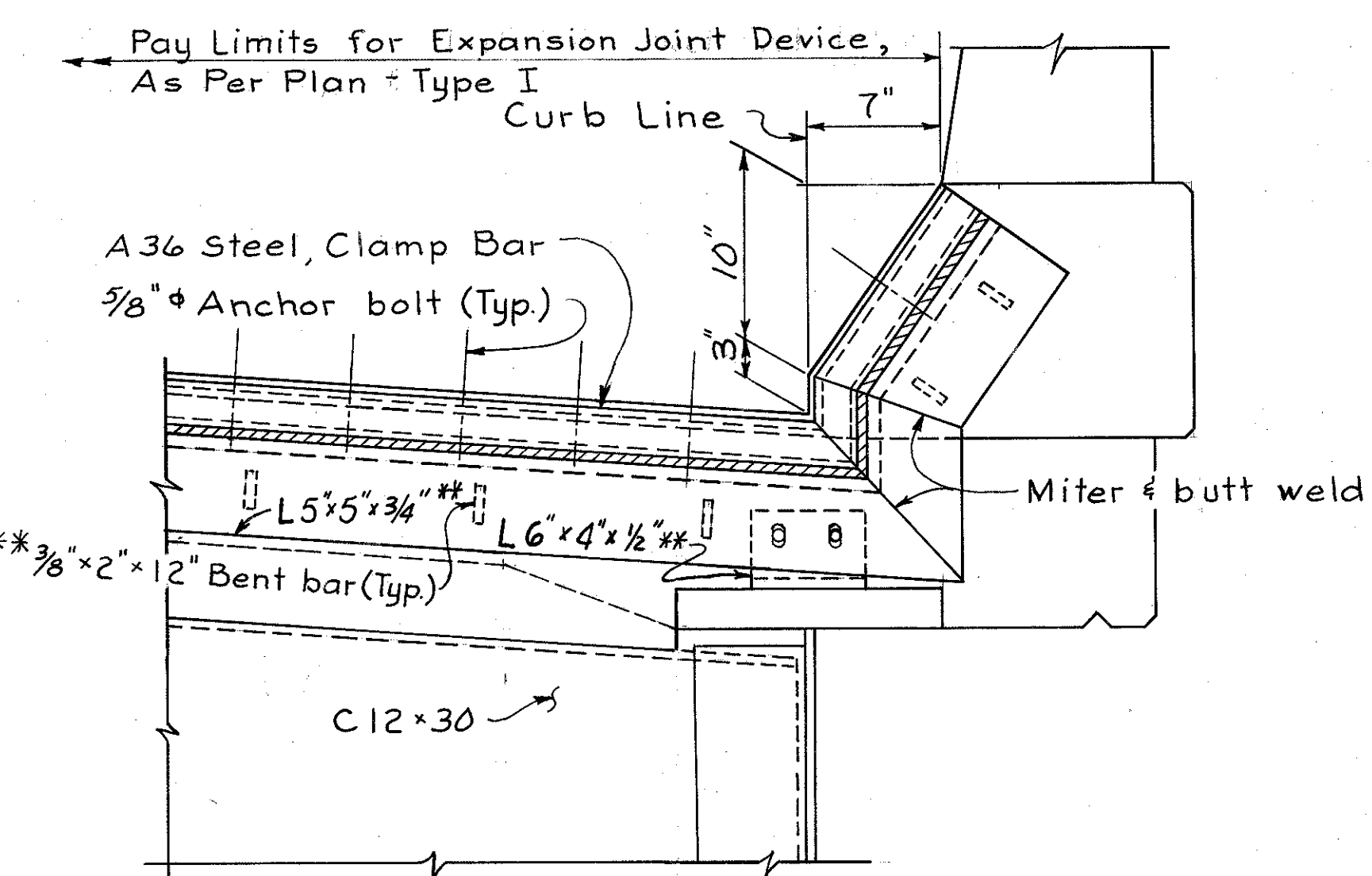
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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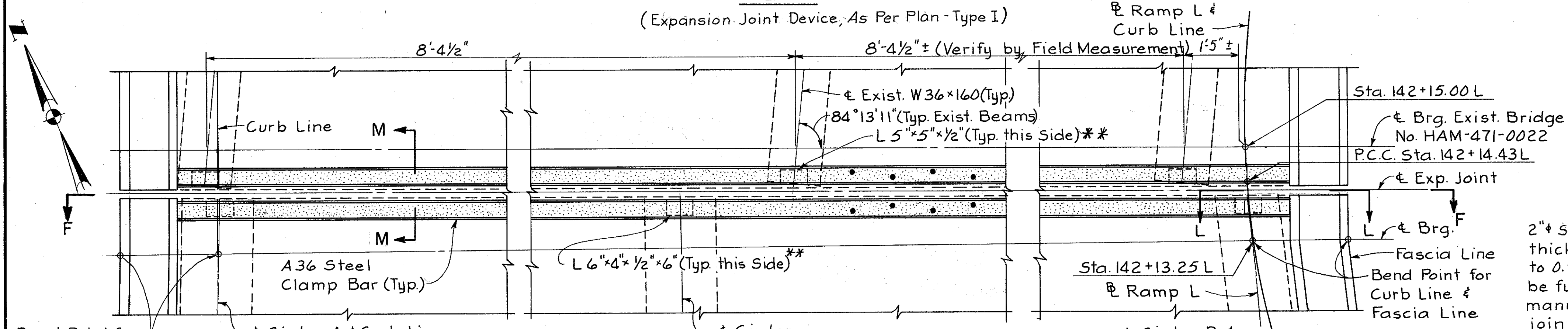
HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN
(Expansion Joint Device, As Per Plan - Type I)



SECTION E-E



PLAN
(Expansion Joint Device, As Per Plan - Type II)

If concrete is placed before clamp bars are installed, the space between the clamp bar and the concrete shall be filled with Magnesium Phosphate Mortar.

2" Steel washer, thickness equal to 0.9T to 0.95T. Washers to be furnished by seal manufacturer for each joint seal. T is the uncompressed thickness of the seal.

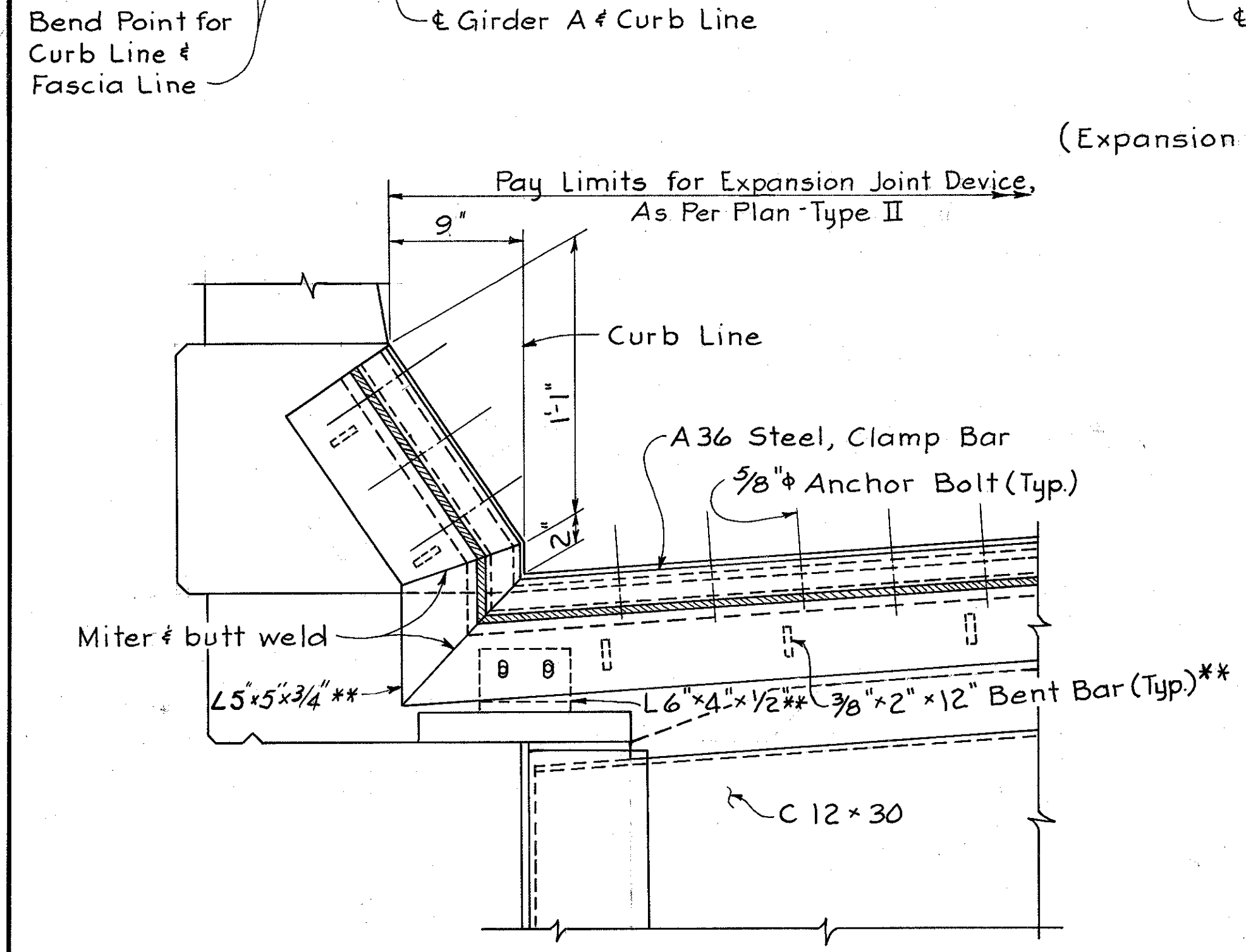
5/8" x 2" High strength bolts @ 9" staggered, with heavy hex heads, hex nuts, 2" washer and 1 3/8" hardened washer

Magnesium Phosphate Concrete (Flush or Higher than Clamp Bar) Finished surface slightly above joint (Typ.)

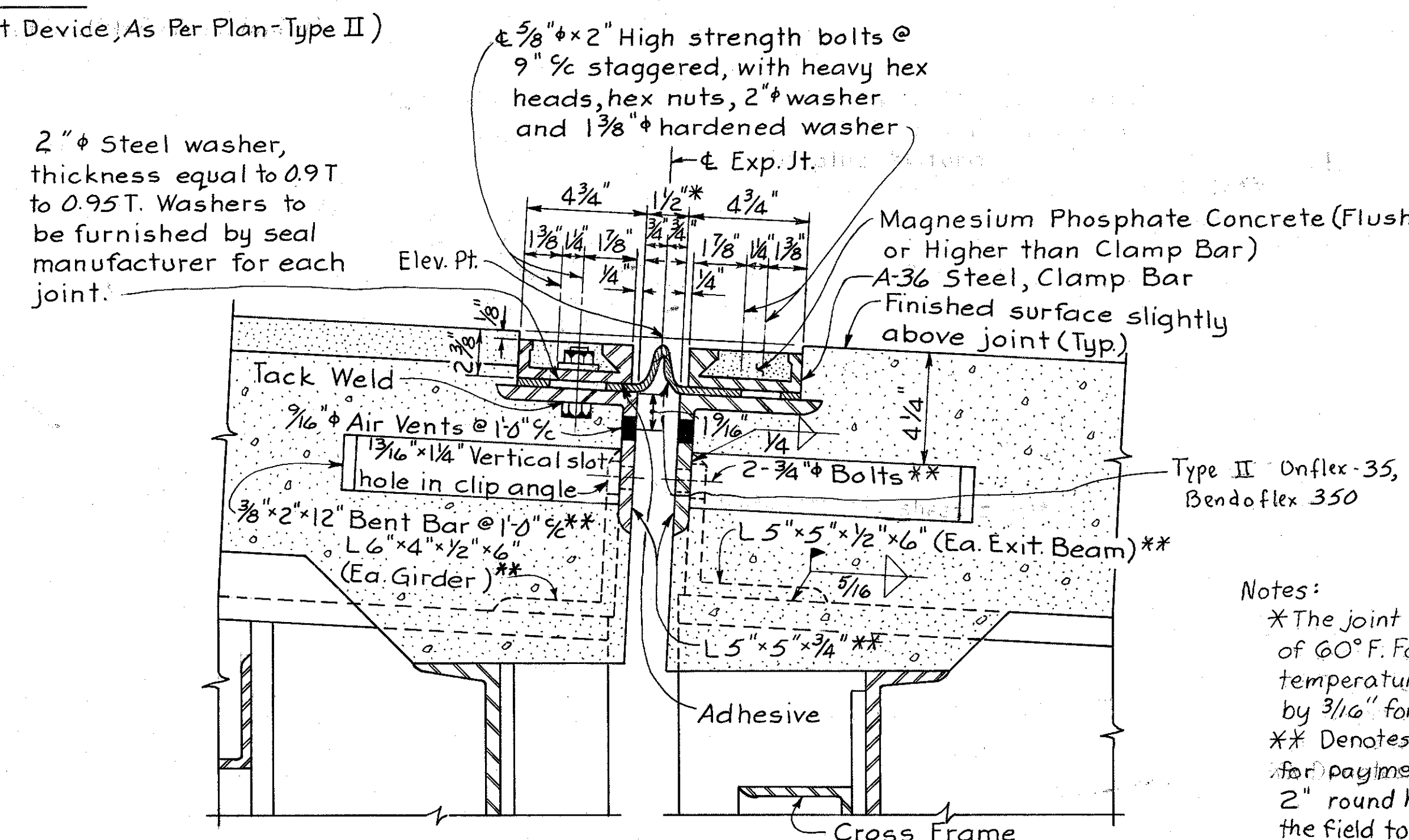
A 36 Steel, Clamp Bar (Typ.)

Type I Onflex-35, Bendoflex 350

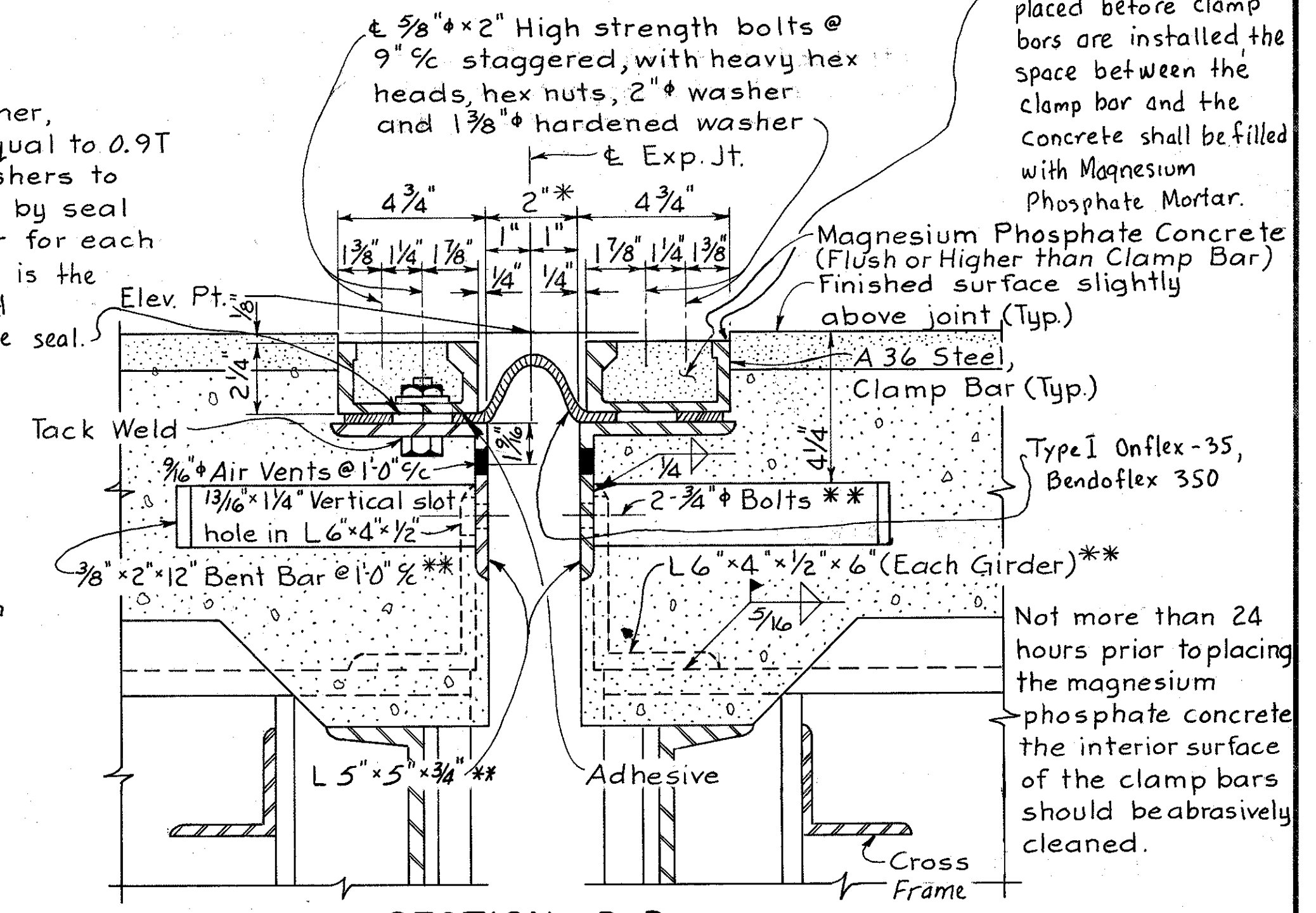
Not more than 24 hours prior to placing the magnesium phosphate concrete the interior surface of the clamp bars should be abrasively cleaned.



SECTION L-L



SECTION M-M



SECTION D-D
(Drawn for Pier 7 - Pier 3 Similar)

Notes:

* The joint width dimension is for a setting temperature of 60° F. For each 10° increase (decrease) in the setting temperature, the dimension shall be reduced (increased) by 3/16" for Type I and 1/8" for Type II.

** Denotes items included with 513, Structural Steel for payment, as per plan.

2" round holes in the elastomeric sheet seal to be cut in the field to match the predrilled hole spacing in the steel portions of the joint.

For Section F-F see sheet 224

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CONSULTING ENGINEERS
CINCINNATI, OHIO

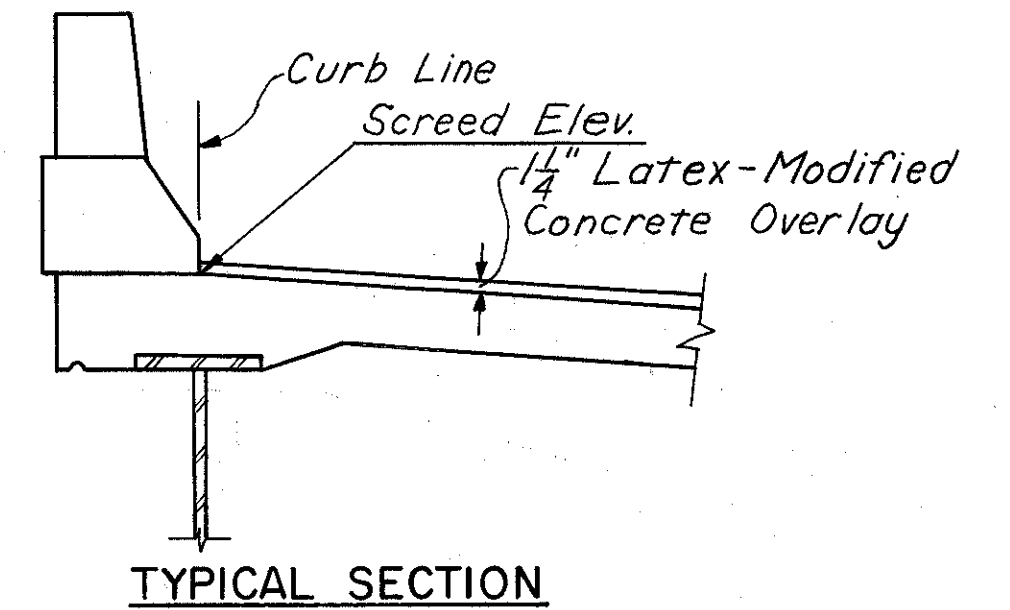
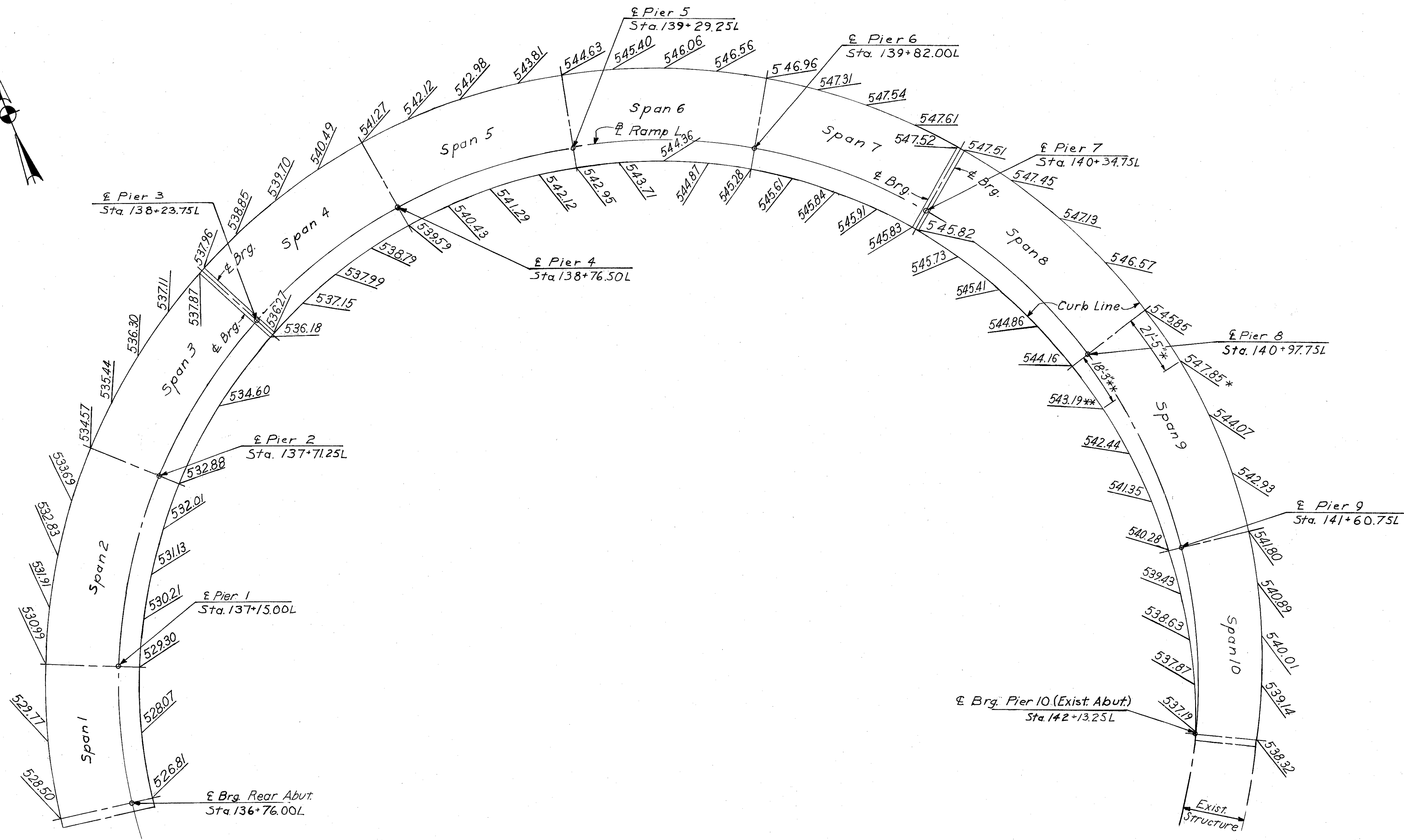
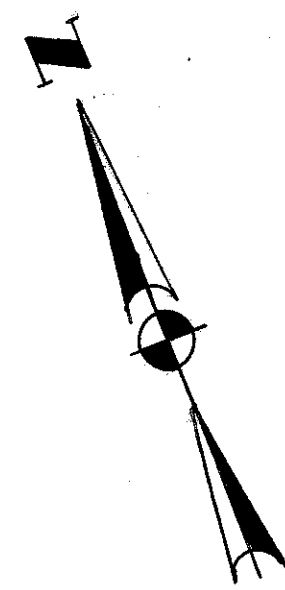
SUPERSTRUCTURE
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	ALT		WJL	JL-0 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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HAMILTON COUNTY
HAM-471-0.24
PART TWO

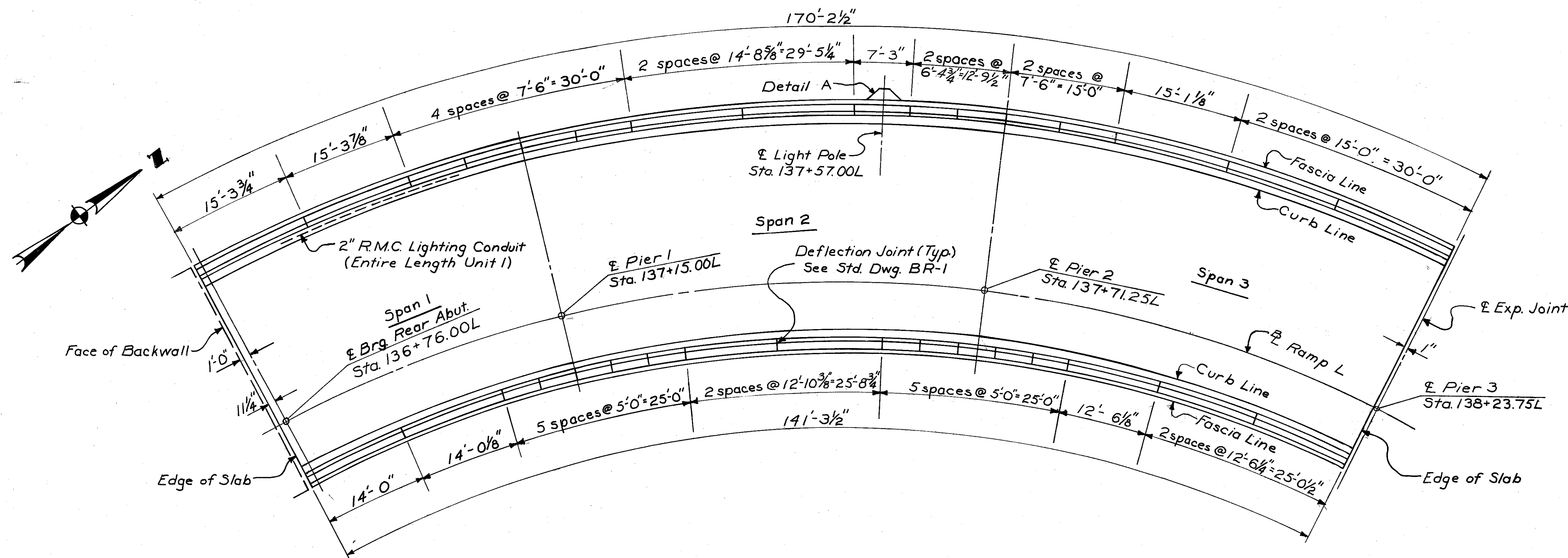


NOTES:
Screed Elevations shown equal final top of P.C. concrete elevations plus anticipated dead load deflection due to weight of deck concrete plus 50% of heat-curving camber. All elevations shown are at 1/4 points of span (measured along curb lines) and at E of bearings unless noted otherwise. If the Girders are not fabricated by the heat curving method the screed elevations shown shall be lowered by 50% of the Heat Curved Camber loss values as tabulated in Deflection and Camber box on Sheet 215.

SCREED ELEVATIONS
(AT CURB LINE)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SCREED ELEVATIONS					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RMC		JL	JHO 3-23-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO



Notes:
Parapet Deflection Joint Spaces are measured along Fascia Lines.
For conduit expansion detail at Rear Abut. see Std. Dwg. HL-5 (use similar detail at expansion joints at Pier 3 & Pier 7)

For Typical Lighting Details, see sheet 130

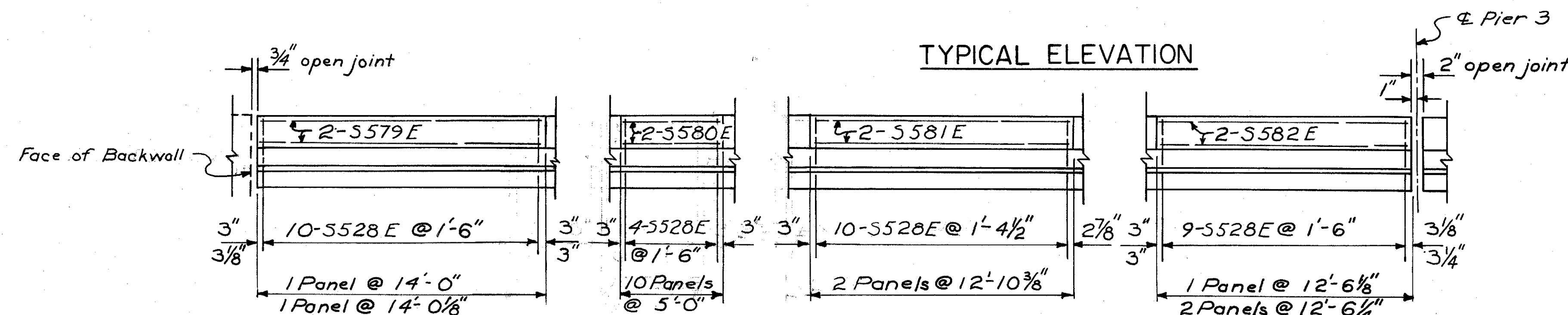
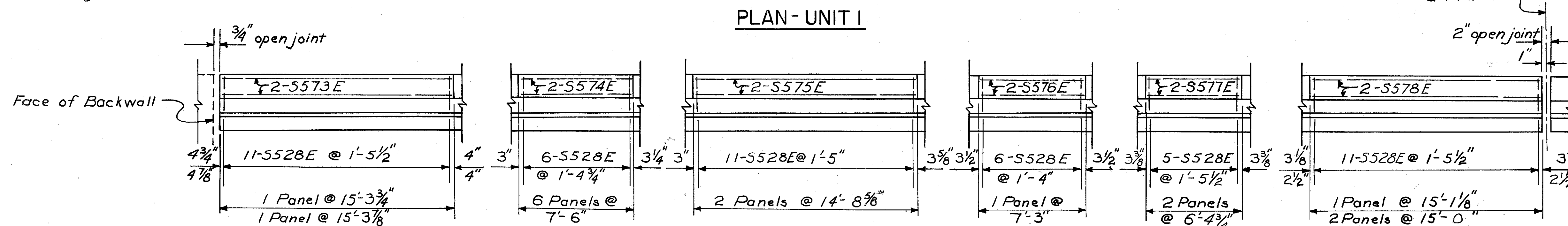
For Lighting Plan, see sheet 124

For Junction Box Details, see Std. Dwg. HL-4

For Detail A, see sheet 218

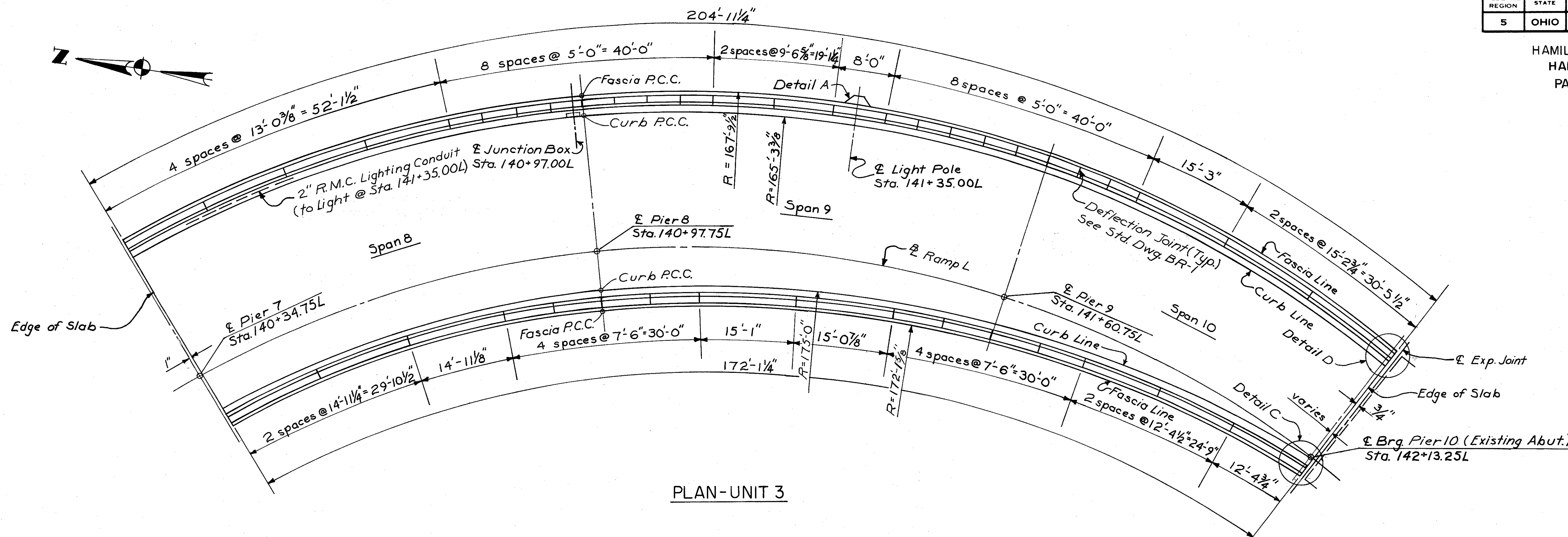
For Parapet dimensions, see Detail B sheet 222

Longitudinal S5 bars in railing are to be field bent to fit curvature. Field bending included with 509 for payment.

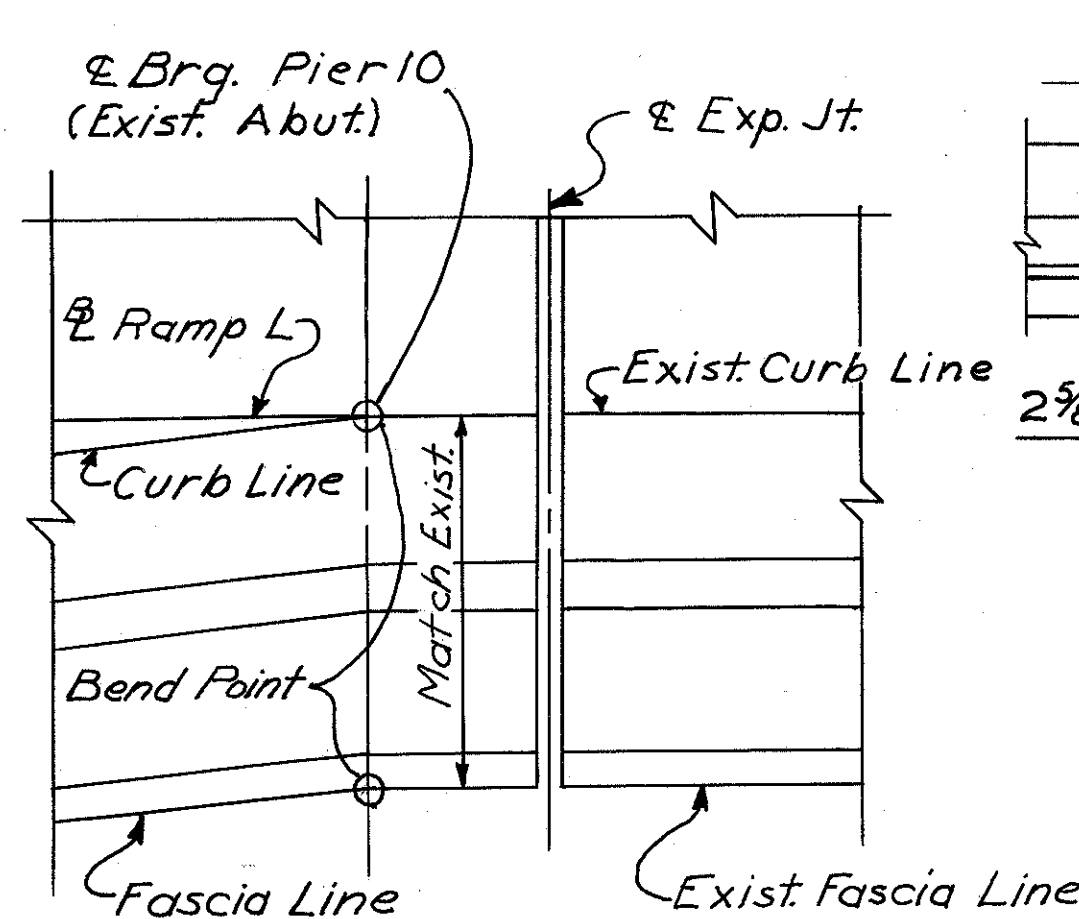


TYPICAL ELEVATION

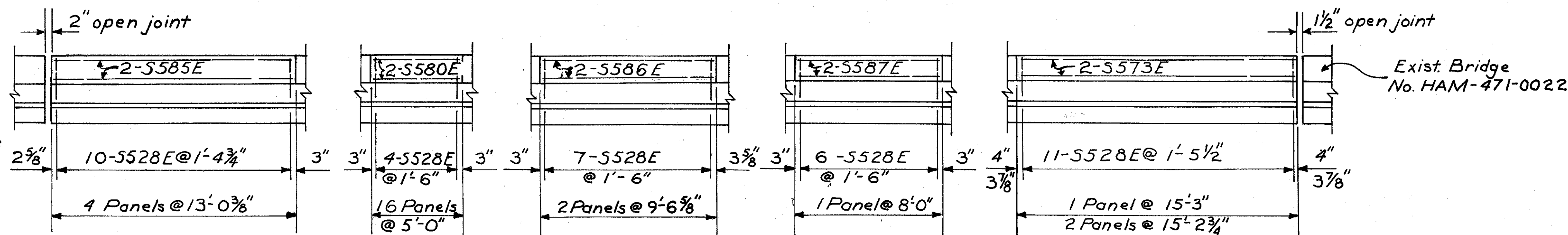
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PARAPET & LIGHTING					
BRIDGE NO. HAM-471-RAMPL OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RMC		ML	3/4/82	



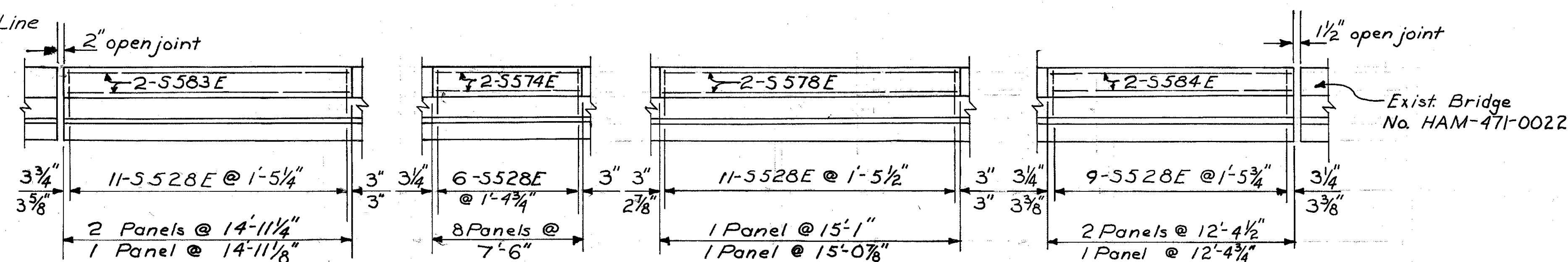
PLAN-UNIT 3



DETAIL C
(Detail D similar)



TYPICAL ELEVATION



TYPICAL ELEVATION

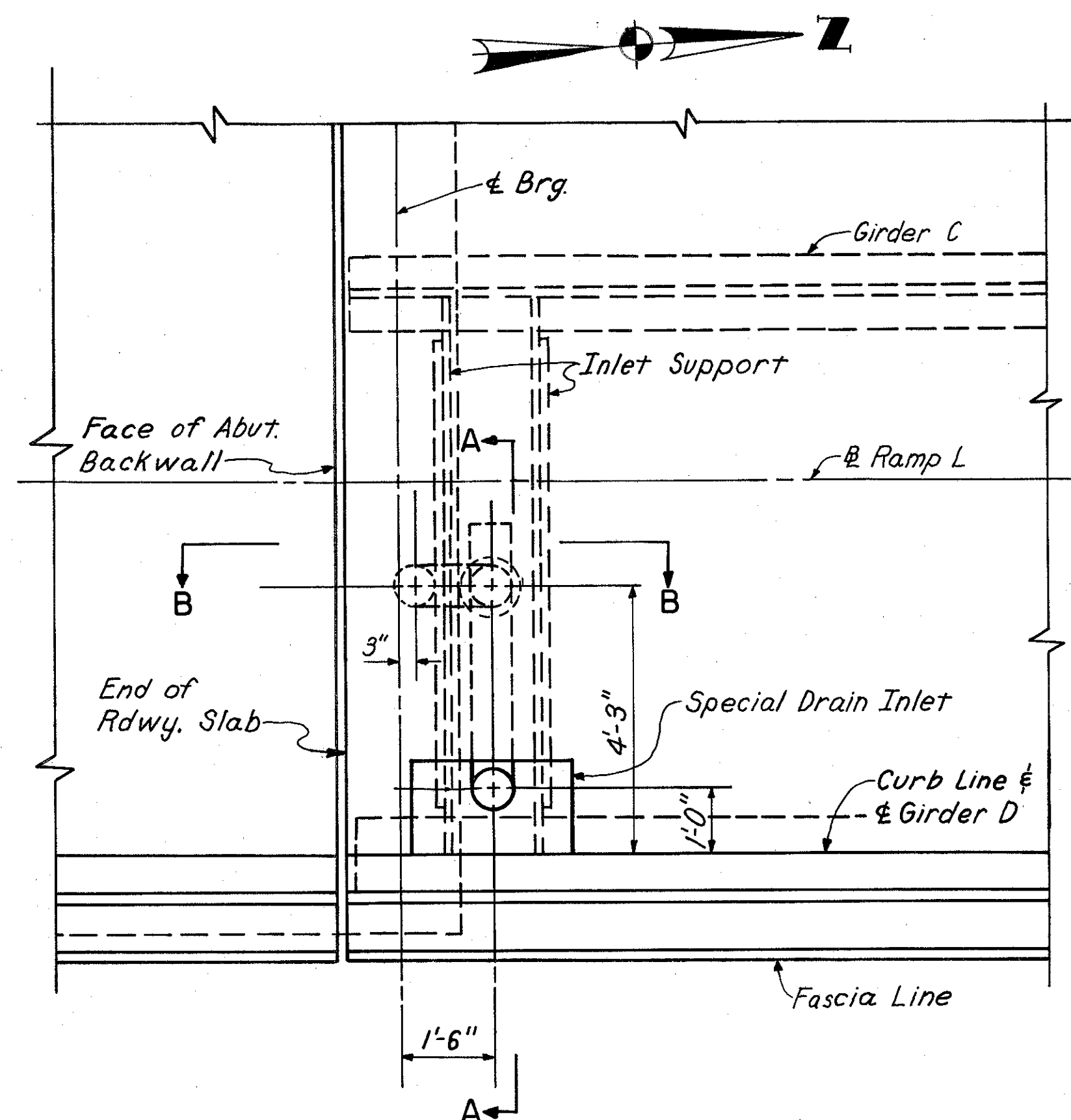
Notes:
Parapets transition in Span 9 and Span 10
For Detail A, see sheet 218
For parapet dimensions, see Detail B sheet 222
For other notes, see sheet 228

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
PARAPET & LIGHTING BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RMC		JH	JH 3-23-82	

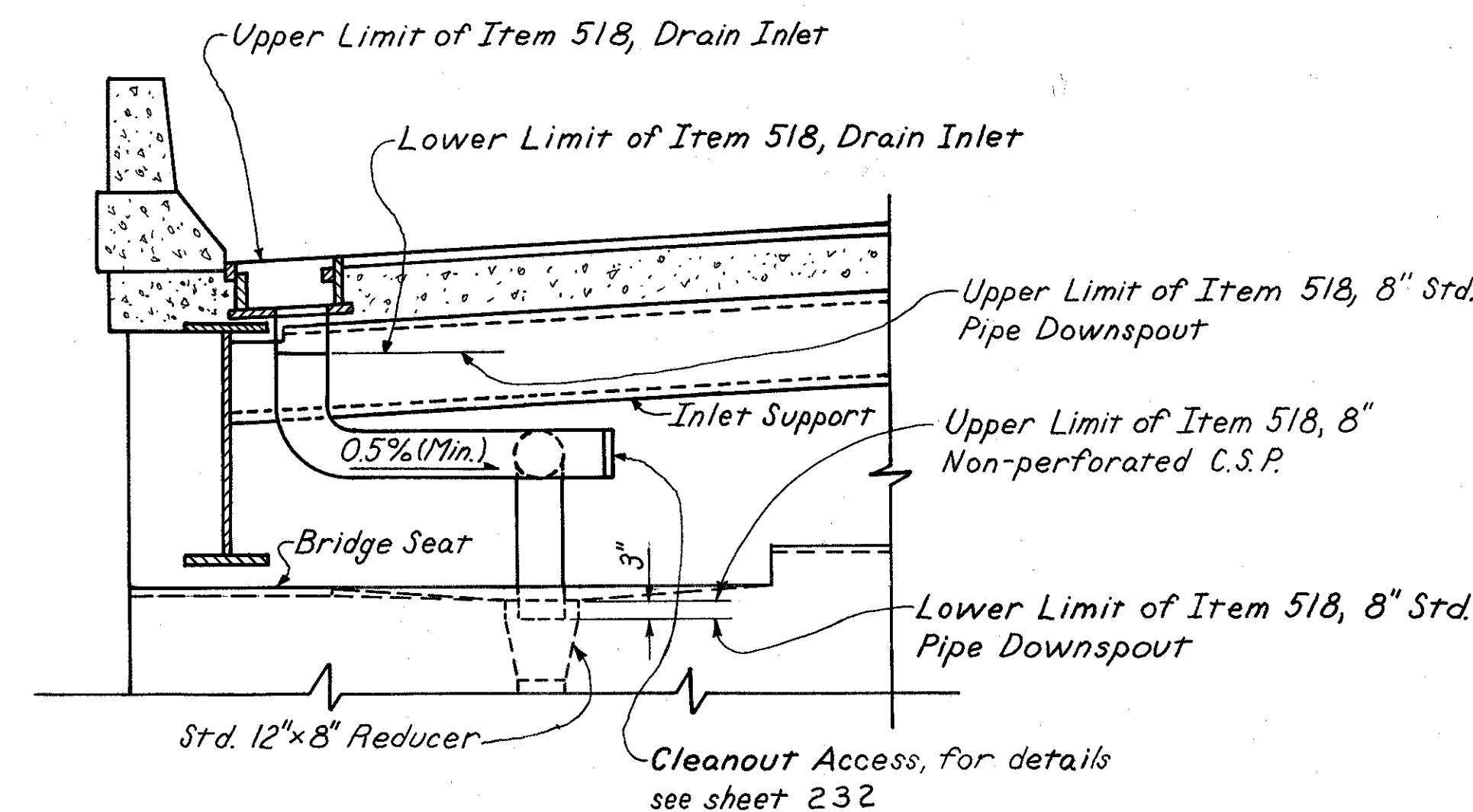
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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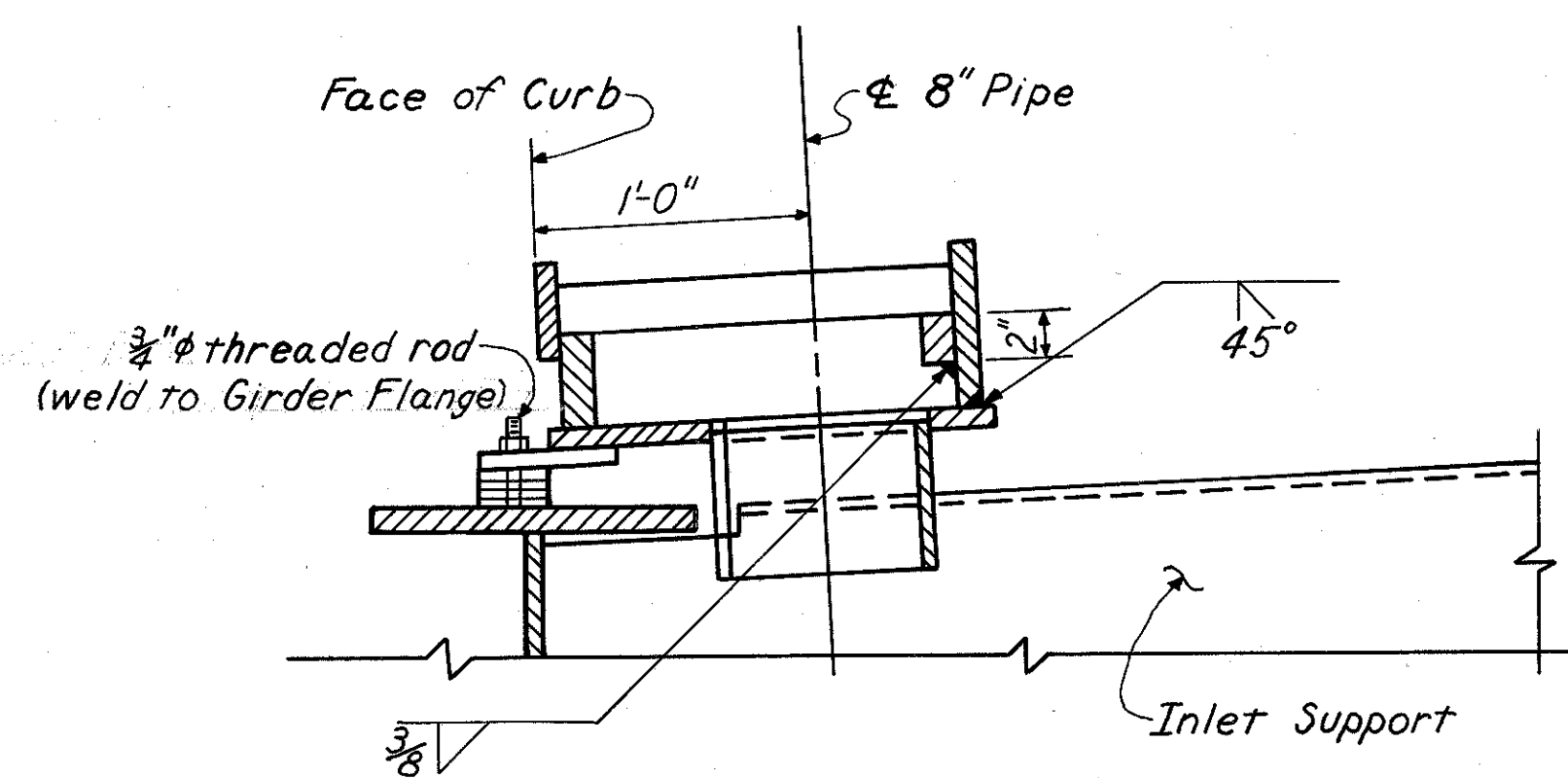
HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN AT REAR ABUTMENT

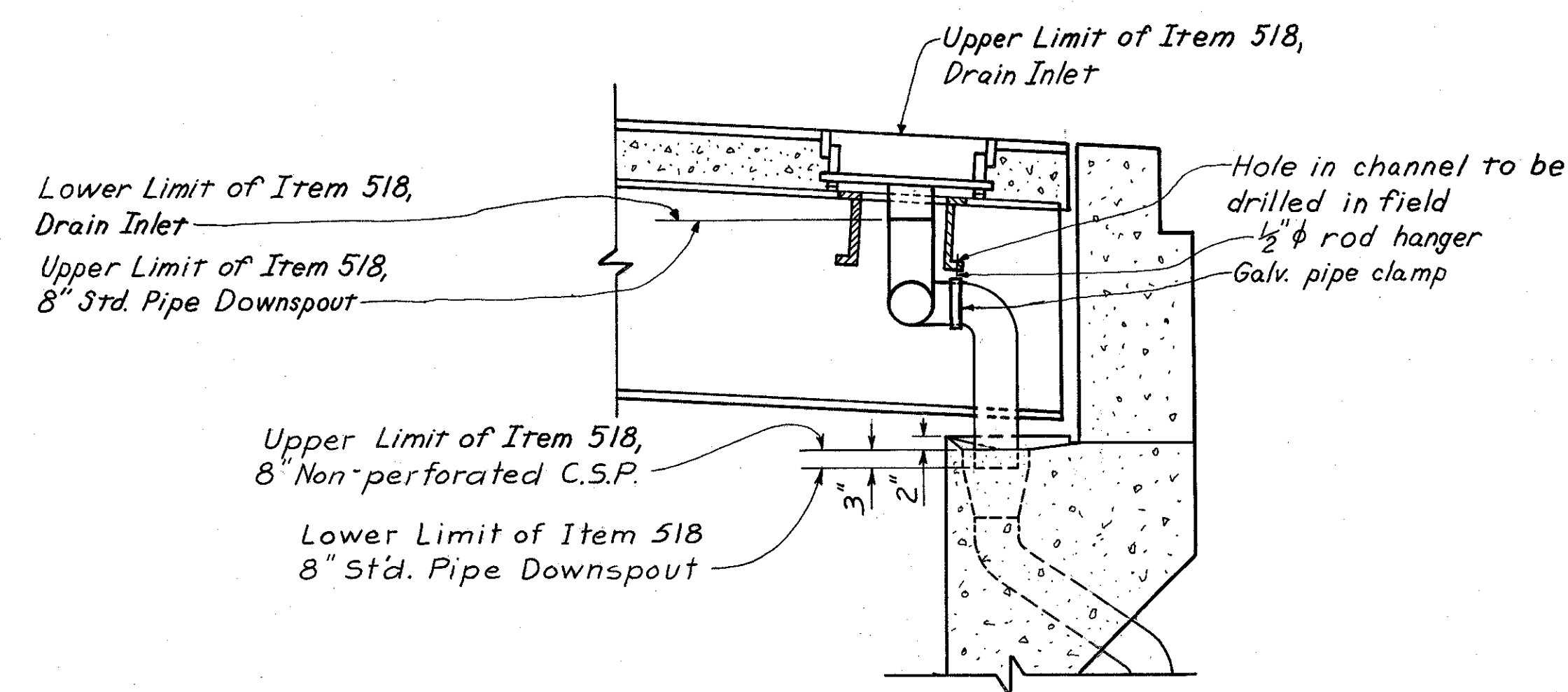


SECTION A-A



SPECIAL DRAIN INLET

(For details not shown see Inlet Frame sheet 345)



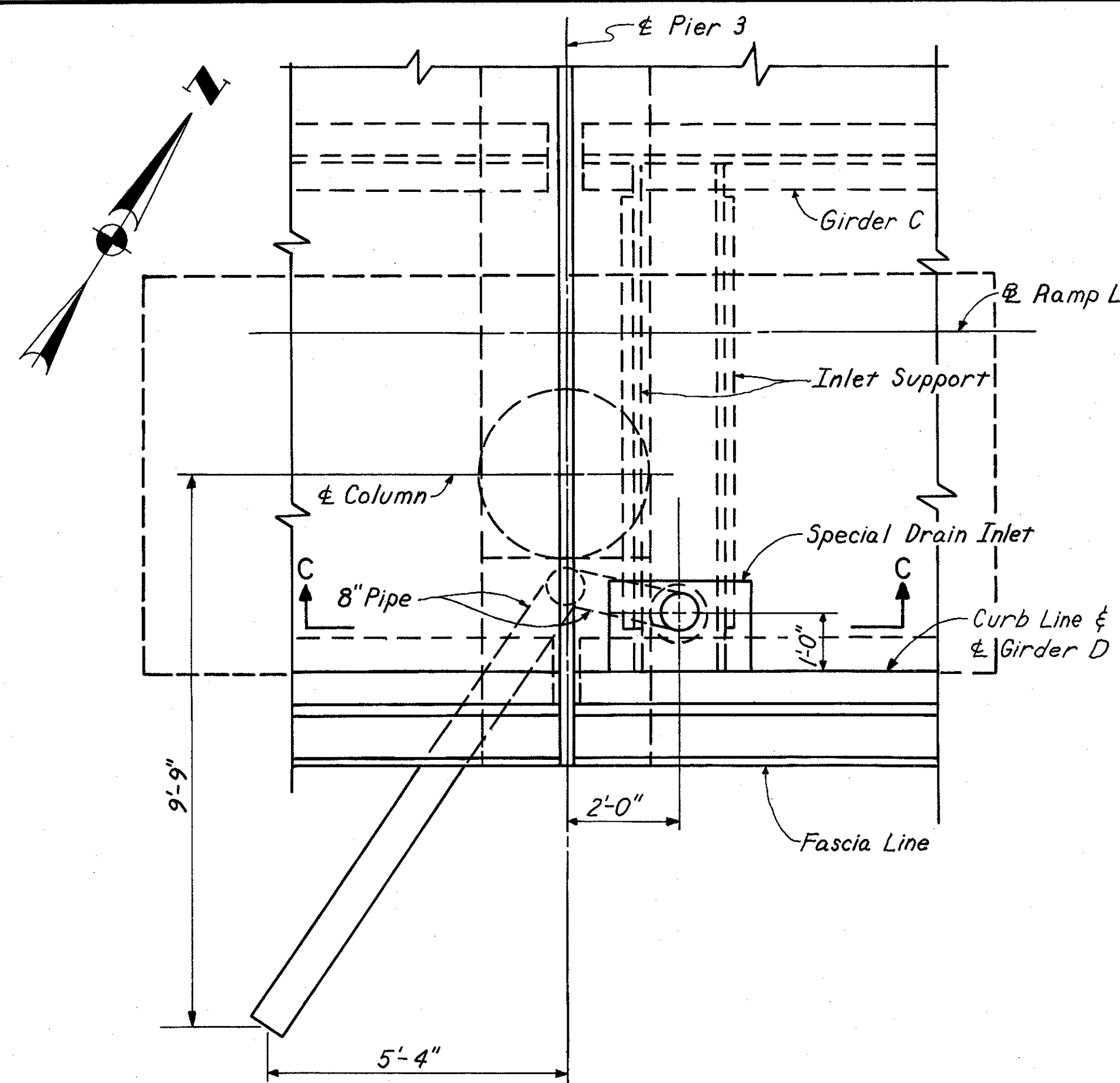
SECTION B-B

Notes:
Work this sheet with
Drainage Details
sheet 232
Total depth of Inlet
frame box = 7 1/2"
Use Type I Inlet
grating.

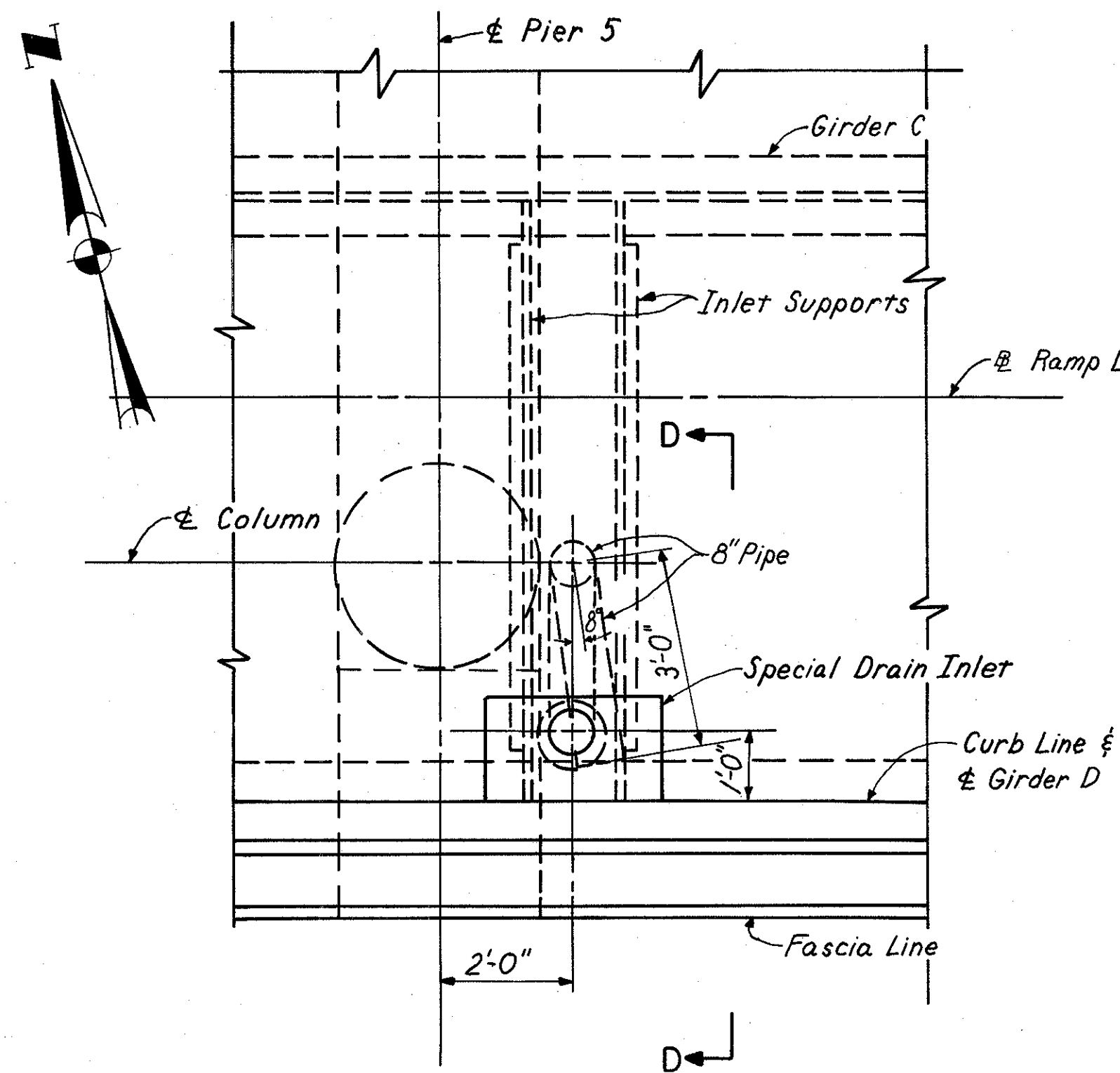
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
DRAINAGE DETAILS					
BRIDGE NO. HAM-471-RAMP L OVER MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MED		Wd	J140 3-23-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR	232 346
5	OHIO			

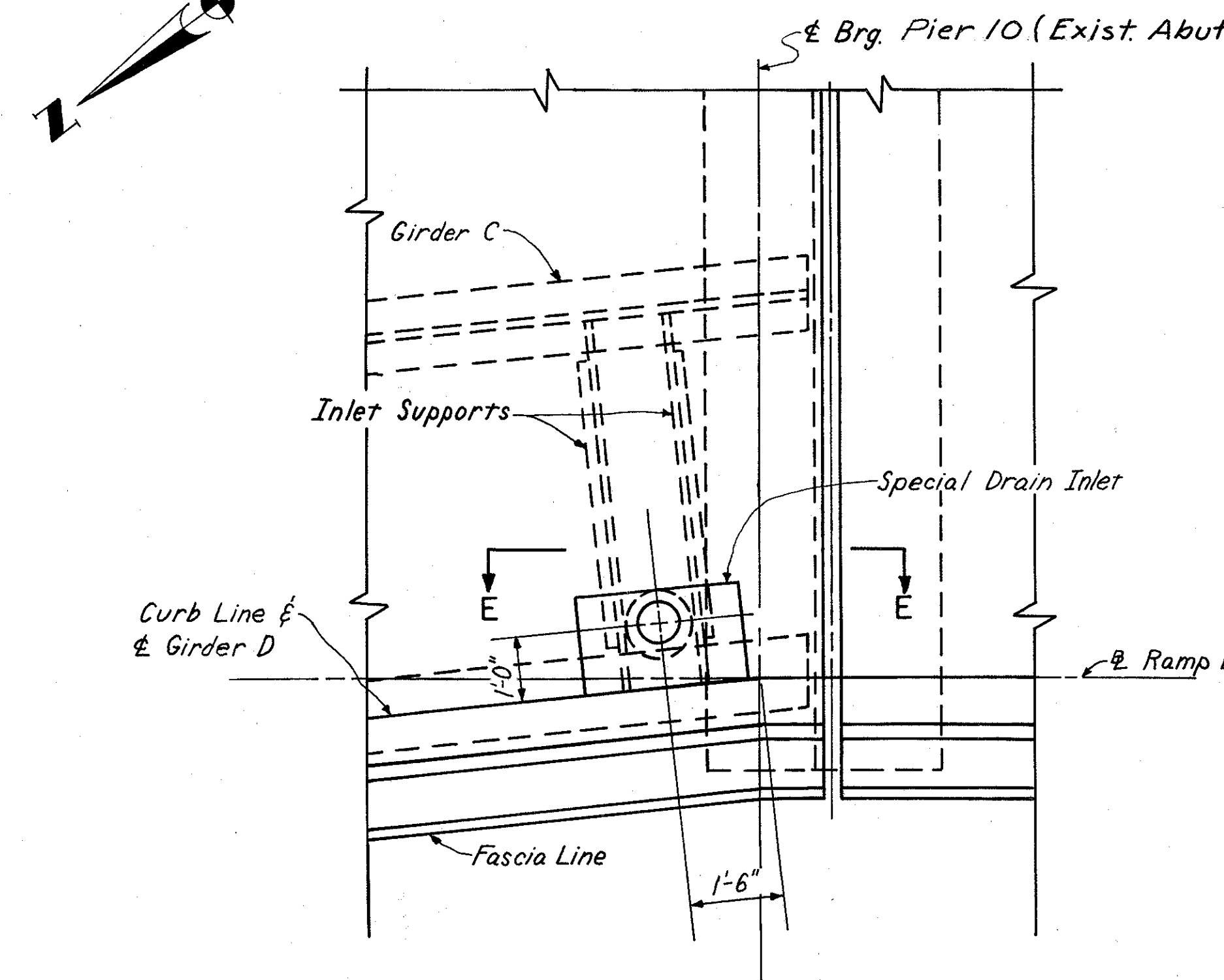
HAMILTON COUNTY
HAM-471-0.24
PART TWO



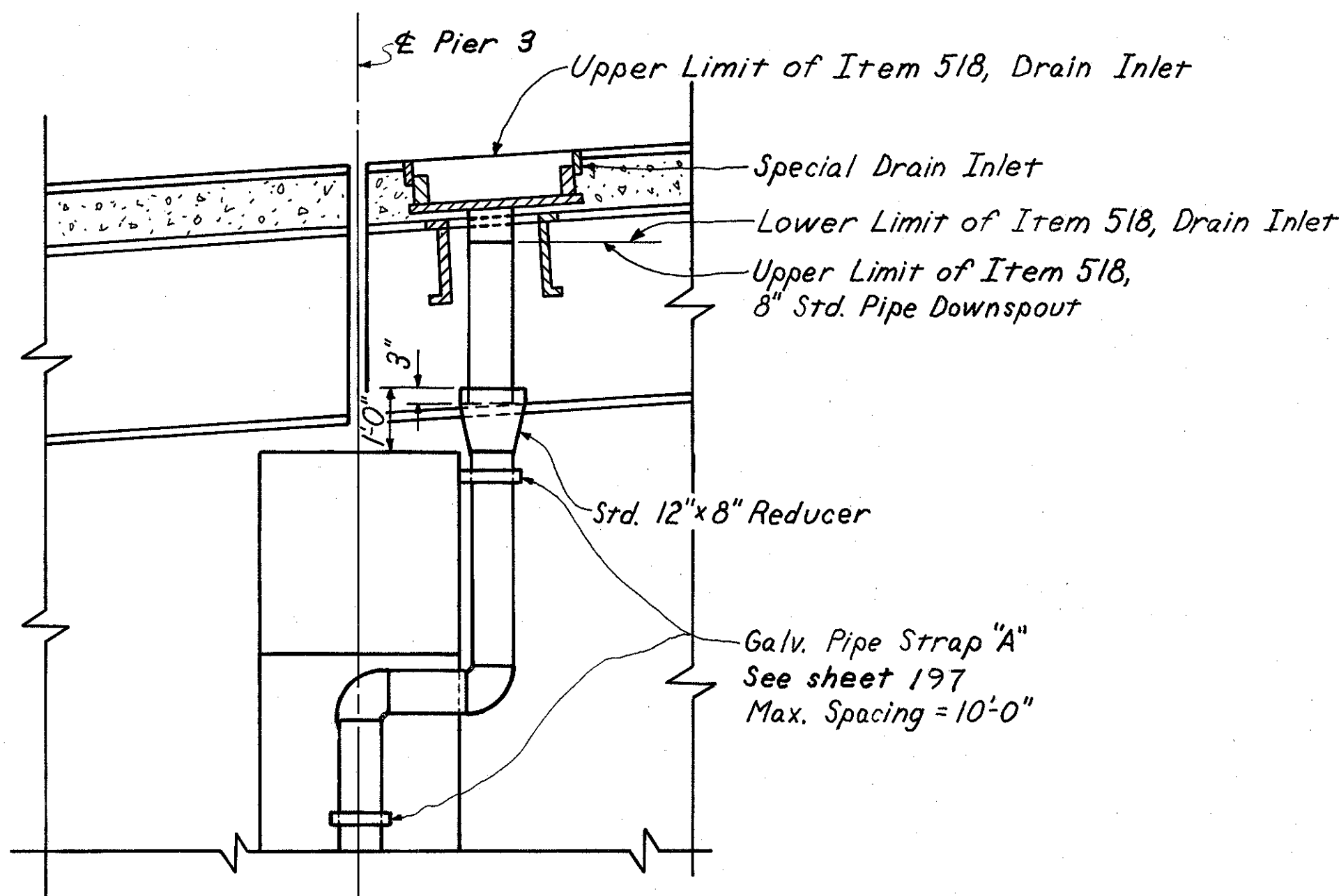
PLAN AT PIER 3



PLAN AT PIER 5

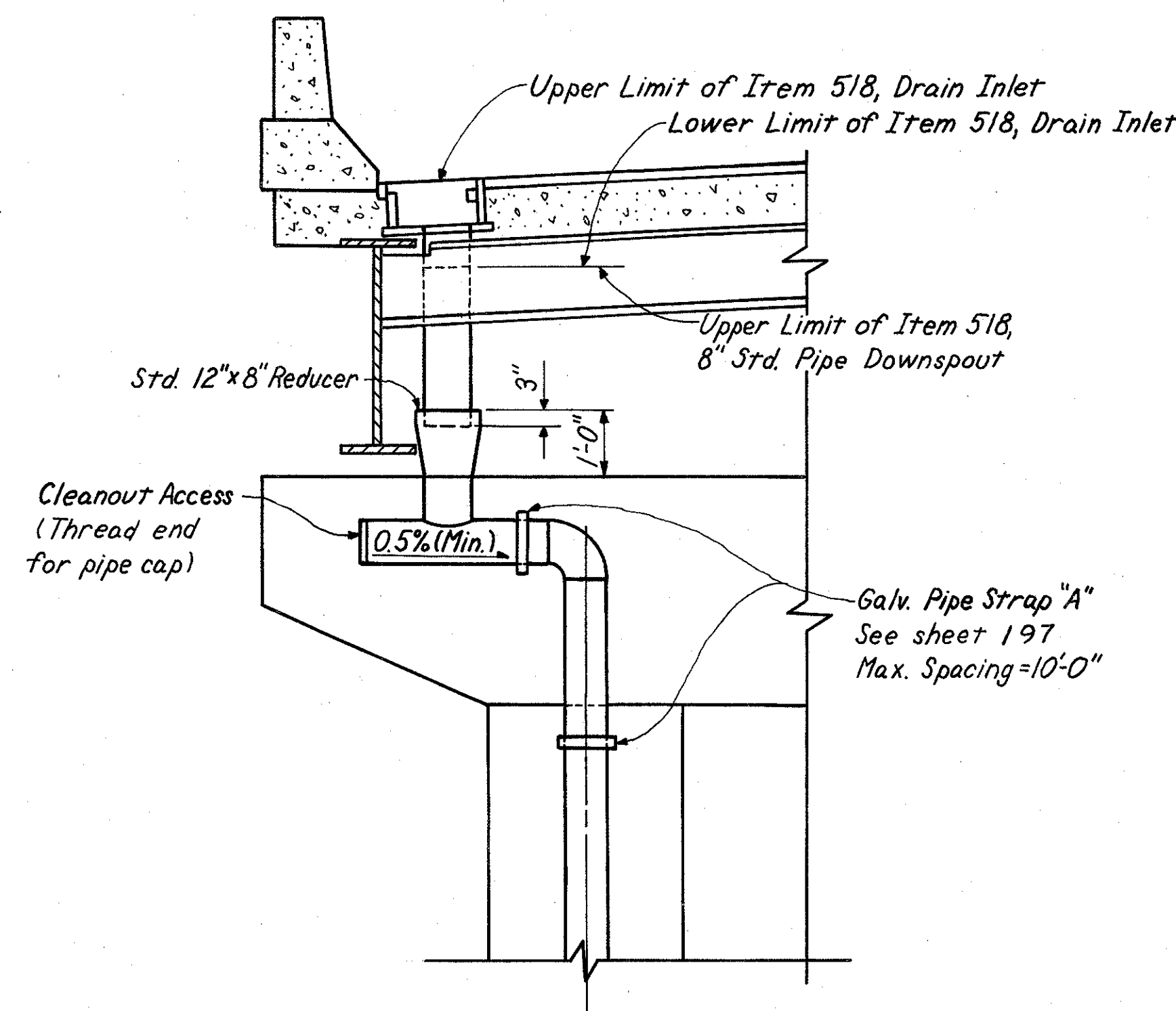


PLAN AT PIER 10 (EXIST. ABUTMENT)



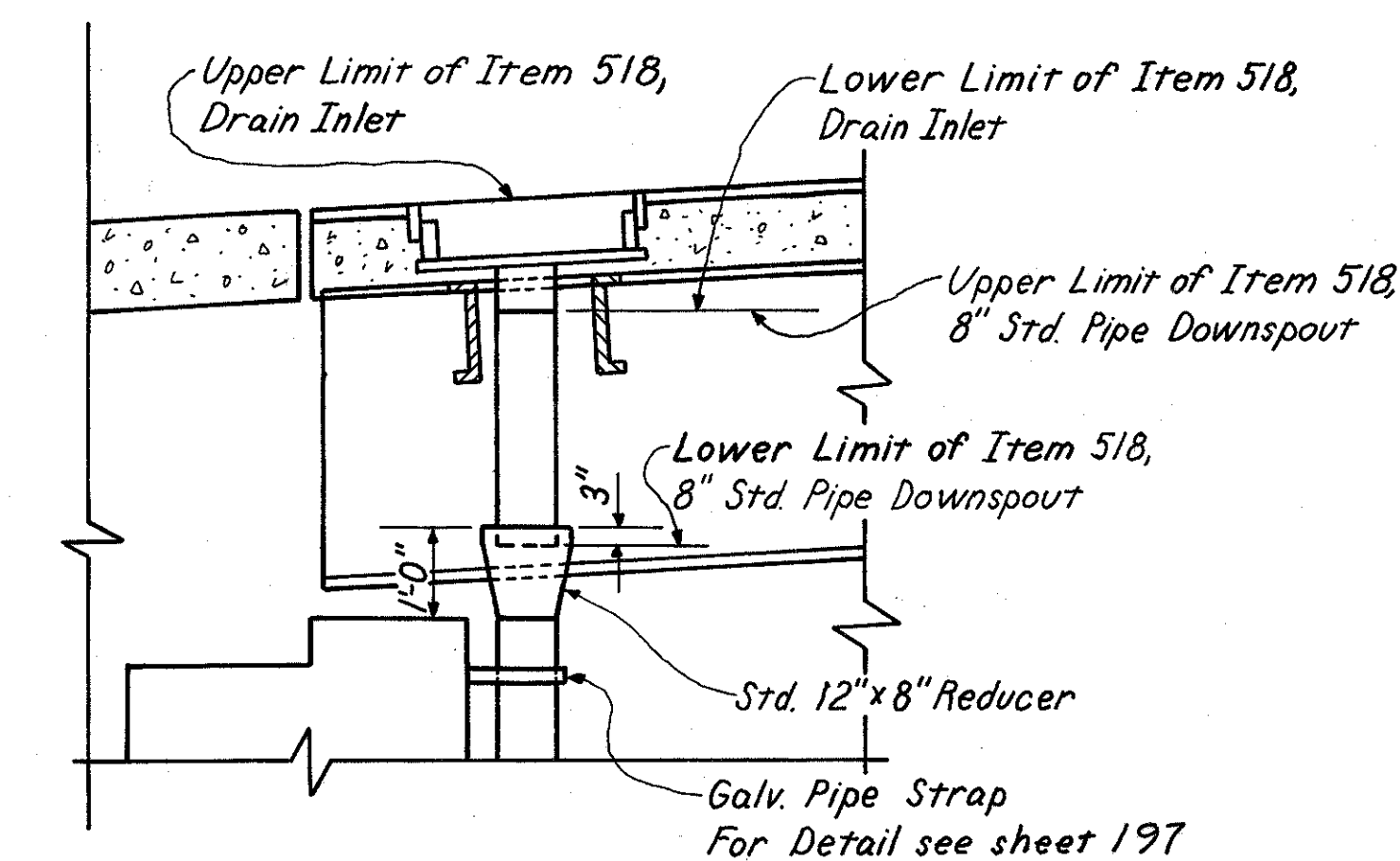
SECTION C-C

For details not shown see Typical Section (for piers) sheet 345



SECTION D-D

For details not shown see Typical Section (for piers) sheet 345



SECTION E-E

For Details not shown see sheet 207

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

DRAINAGE DETAILS
BRIDGE NO. HAM-471-RAMP L OVER
MONASTERY ST. AND RAMP P

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MED		WZ	JHO 3-23-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

MARK	TYPE	LENGTH	WEIGHT	PIER									TOTAL NO. OF BARS	DIMENSION						
				1	2	3	4	5	6	7	8	9		A	B	C	D	E	F	G
P401	37	12'-1"	944	14	17	24	17	4	4	20	13	117	3'-2"	2'-8"						
P402	37	9'-4"	56	1	1	1	1	1	1	1	1	9	1'-9 1/2"	2'-8"						
P403	37	10'-2"	61	1	1	1	1	1	1	1	1	9	2'-2 1/2"	2'-8"						
P404	37	11'-0"	66	1	1	1	1	1	1	1	1	9	2'-7 1/2"	2'-8"						
P405	37	11'-10"	95	2	1	2	1	1	1	1	2	12	3'-0 1/2"	2'-8"						
P406	37	10'-10"	58	1	1	1	1	1	1	1	1	8	2'-6 1/2"	2'-8"						
P407	37	11'-4"	30	1	1	1	1	1	1	1	1	4	2'-9 1/2"	2'-8"						
P408	37	12'-5"	75	1	1	1	1	1	1	1	1	9	3'-4"	2'-8"						
P409	37	11'-2"	37	1	1	1	1	1	1	1	1	5	2'-8 1/2"	2'-8"						
P410	37	11'-7"	39	1	1	1	1	1	1	1	1	5	2'-11"	2'-8"						
P411	37	12'-0"	40	1	1	1	1	1	1	1	1	5	3'-1 1/2"	2'-8"						
P412	37	10'-11"	7	1	1	1	1	1	1	1	1	1	2'-7"	2'-8"						
P413	37	11'-9"	8	1	1	1	1	1	1	1	1	1	3'-0"	2'-8"						
P414	37	10'-8"	983	1	1	1	1	1	1	1	1	138	3'-2"	1'-11 1/2"						
P415	37	10'-9"	747	20	20	20	20	46	46	46	26	18	104	3'-2"	2'-0"					
P501	Str.	29'-8"	495	2	2	2	2	2	2	2	2	16								
P502	Str.	28'-6"	476	2	2	2	2	2	2	2	2	16								
P503	1	6'-3"	1173	20	20	20	20	20	20	20	20	180	1'-11"	2'-8"						
P504	Str.	27'-1"	56	2	2	2	2	2	2	2	2	2								
P505	Str.	25'-10"	54	2	2	2	2	2	2	2	2	2								
P601	26	8'-0"	1586	22	22	22	22	8	8	8	22	22	132	6'-8"						
P602	16	5'-0"	541	8	8	8	8	8	8	8	8	8	72	5 3/4"	3'-6"	1'-6"	1'-5"			
P801	26	16'-6"	5287	20	22	16	20				22	20	120	14'-8"						
P901	17	8'-3"	3366	24	24	24	24				24		120	1'-7"	6'-11"					
P902	Str.	17'-5"	711	12									12							
P903	Str.	13'-7"	554	12									12							
P904	Str.	22'-8"	4085	4	5	4	5	10	10	10	5		53							
P905	Str.	11'-10"	3219	6	6	4	4	16	16	16	6	6	80							
P906	63	33'-0"	3590	4	4	4	4	4	4	4	4		32	29'-8"	1 3/4"	2'-3"	2'-3"	1 3/4"	1'-7"	1'-7"
P907	Str.	18'-8"	762		12								12							
P908	Str.	20'-6"	836		12								12							
P909	Str.	16'-11"	690			12							12							
P910	Str.	18'-9"	765			12							12							
P911	Str.	15'-11"	649				12						12							
P912	Str.	18'-3"	745				12						12							
P913	Str.	13'-5"	547								12		12							
P914	Str.	15'-3"	622								12		12							
P915	63	30'-5"	414									4	4	27'-1"	1 3/4"	2'-3"	2'-3"	1 3/4"	1'-7"	1'-7"
P916	Str.	20'-1"	273									4	4							
P917	17	10'-10"	884									24	24	1'-7"	9'-6"					
P1101	Str.	13'-3"	8448					40	40	40			120							
P1102	Str.	18'-0"	1913					20					20							
P1103	Str.	19'-11"	2116					20					20							
P1104	Str.	22'-10"	2426					20					20							
P1105	Str.	27'-4"	2904					20					20							
P1106	Str.	20'-4"	2161						20				20							
P1107	Str.	22'-3"	2364						20				20							
P1108	Str.	19'-10"	2107						20				20							
P1109	Str.	24'-10"	2639						20				20							
P1110	Str.	18'-9"	1992							20			20							
P1111	Str.	19'-7"	2081							20			20							
P1112	Str.	25'-4"	2692							20			20							
P1113	Str.	30'-4"	3223							20			20							

MARK	TYPE	LENGTH	PIER									TOTAL NO. OF BARS	WEIGHT
			1	2	3	4	5	6	7	8	9		
SP401	39	10'-6"	1									1	282
SP402	39	14'-1"	1									1	372
SP403	39	15'-7"		1								1	410
SP404	39	17'-1"		1								1	448
SP405	39	13'-10"			1							1	366
SP406	39	15'-4"			1							1	404
SP407	39	12'-10"				1						1	340
SP408	39	14'-10"				1						1	391
SP409	39	10'-5"								1		1	279
SP410	39	11'-11"								1		1	317
SP411	39	3'-11"									1	1	115
SP412	39	3'-6"									1	1	105
SP413	39	15'-2"									1	1	399
SP414	39	17'-2"									1	1	450
SP415	39	17'-6"									1	1	458
SP416	39	19'-6"									1	1	509
SP417	39	15'-11"								1		1	418
SP418	39	16'-11"								1		1	444
SP419	39	22'-10"									1	1	1089
SP420	39	27'-4"									1	1	1300
SP421	39	19'-10"									1	1	949
SP422	39	24'-10"									1	1	1183
SP423	39	25'-4"									1	1	1206
SP424	39	30'-4"									1	1	1440

Spirals -SP401 to SP418 Core Diameter 32" %
 SP419 to SP424 Core Diameter 42" %
 - SP401 to SP418 Pitch 3"
 SP419 to SP424 Pitch 2"
 -Other details in accordance with CRSI Standard Practice

Total Weight Pier Reinforcing Steel, Grade 60 = 86,366Lbs.

For notes see sheet 235

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
REINFORCING STEEL LIST				
BRIDGE NO. HAM-471-RAMPL OVER				
MONASTERY ST. AND RAMP P				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
MRT		FVB	MRT	JHO 3-23-82

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
S401E	Str.	30'-0"	696	13,948							
S402E	Str.	27'-0" to 36'-0"	1 Series of 14	295							
S403E	Str.	8'-0" to 26'-4"	1 Series of 27	310							
S404E	Str.	25'-6"	80	1,363							
S405E	Str.	29'-0" to 41'-11"	1 Series of 14	332							
S406E	Str.	14'-3" to 40'-6"	1 Series of 27	494							
S407E	Str.	24'-0"	120	1,924							
S408E	Str.	28'-8"	80	1,532							
S409E	Str.	29'-5" to 39'-8"	1 Series of 14	323							
S410E	Str.	11'-8" to 32'-8"	1 Series of 27	400							
S501	Str.	30'-0"	474	14,831							
S502	Str.	28'-5"	1	30							
S503	Str.	28'-10"	1	30							
S504	Str.	30'-5" to 37'-6"	1 Series of 8	283							
S505	Str.	10'-10" to 17'-10"	1 Series of 8	120							
S506	Str.	19'-6" to 26'-6"	1 Series of 8	192							
S507	Str.	28'-0"	1	29							
S508	Str.	28'-6"	1	30							
S509	Str.	29'-8"	851	26,332							
S510	Str.	26'-8"	15	417							
S511	Str.	31'-5"	1	33							
S512	Str.	32'-0"	1	33							
S513	Str.	34'-3" to 44'-3"	1 Series of 8	328							
S514	Str.	18'-4" to 28'-4"	1 Series of 8	195							
S515	Str.	30'-6" to 40'-6"	1 Series of 8	296							
S516	Str.	42'-9"	1	45							
S517	Str.	43'-4"	1	45							
S518E	Str.	30'-0"	185	5,789							
S519E	Str.	29'-1"	5	152							
S520E	Str.	2'-6"	765	1,995	10 1/2"	1'-9"					
S521E	Str.	3'-7"	749	2,799	1'-7"	11"	8 1/2"	6 1/4"	10"	10 1/2"	
S522E	Str.	3'-3"	8	27	11 1/2"	10 1/2"	9"	6 1/2"	8"	11"	
S523E	Str.	5'-4"	5	28							
S524E	Str.	16'-0"	5	83							
S525E	Str.	3'-9"	4	16	1'-2"	9"	1'-0"	8 1/4"	9"	1'-2 1/2"	
S526E	Str.	3'-11"	4	16	1'-4"	9 1/2"	11 1/2"	8"	11"	1'-2"	
S527E	Str.	5'-4"	6	33	2'-2"	2'-5"	7 1/2"	2 1/8"			2 1/4"
S528E	Str.	5'-3"	856	4,687	2'-2"	2'-5"	7 1/2"	1 1/4"			2 1/8"
S529	Str.	31'-0"	1	32							
S530	Str.	31'-9"	1	33							
S531	Str.	33'-6" to 41'-1"	1 Series of 8	311							
S532	Str.	15'-0" to 22'-8"	1 Series of 8	157							
S533	Str.	24'-9" to 32'-4"	1 Series of 8	238							
S534	Str.	33'-10"	1	35							
S535	Str.	34'-7"	1	36							
S536E	Str.	33'-4"	5	174							
S537E	Str.	7'-9"	5	40							
S538	Str.	29'-6"	7	215							
S539	Str.	29'-5"	7	215							
S540	Str.	29'-4"	7	214							
S541	Str.	29'-2"	7	213							
S542	Str.	29'-0"	7	212							
S543	Str.	28'-10"	7	211							
S544	Str.	28'-9"	7	210							
S545	Str.	28'-8"	7	209							
S546	Str.	28'-6"	7	208							
S547	Str.	28'-4"	7	207							
S548	Str.	28'-1"	7	205							
S549	Str.	27'-10"	7	203							
S550	Str.	27'-7"	7	201							
S551	Str.	27'-3"	7	199							
S552	Str.	26'-11"	7	197							
S553	Str.	26'-9"	7	195							
S554	Str.	26'-6"	7	193							
S555	Str.	26'-2"	7	191							
S556	Str.	25'-10"	7	189							
S557	Str.	25'-6"	7	186							
S558	Str.	25'-1"	7	183							
S559	Str.	24'-8"	7	180							
S560	Str.	24'-3"	7	177							
S561	Str.	23'-11"	7	175							

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
S562	Str.	23'-6"	7	172							
S563	Str.	23'-1"	7	169							
S564	Str.	22'-8"	7	165							
S565	Str.	22'-2"	7	162							
S566	Str.	21'-8"	7	158							
S567	Str.	21'-7"	1	23							
S568	Str.	17'-11"	5	93							
S569	Str.	21'-1"	3	66							
S570E	Str.	2'-11"	16	49							
S571E	Str.	8'-1"	16	135	2'-10"	2'-6"	2'-10"	7"	2'-11"		
S572E	Str.	4'-7"	16	76	1'-5"	1'-11"	1'-5 1/2"	3 1/2"	1'-5"		
S573E	Str.	14'-9"	20	308							
S574E	Str.	7'-0"	80	584							
S575E	Str.	14'-2"	8	118							
S576E	Str.	6'-9"	4	28							
S577E	Str.	5'-11"	8	49							
S578E	Str.	14'-7"	44	669							
S579E	Str.	13'-7"	8	113							
S580E	Str.	4'-6"	164	770							
S581E	Str.	12'-5"	8	104							
S582E	Str.	12'-1"	52	655							
S583E	Str.	14'-5"	12	180							
S584E	Str.	11'-11"	12	149							
S585E	Str.	12'-6"	16	209							
S586E	Str.	9'-0"	8	75							
S587E	Str.	7'-6"	4	31							
S588E	Str.	14'-8"	8	122							
S589E	Str.	6'-0"	4	25							
S590E	Str.	3'-6"	56	204							
S591E	Str.	3'-10"	12	48							
S601E	Str.	29'-8"	851	37,920							
S602E	Str.	26'-8"	15	601							
S603E	Str.	29'-6"	7	310							
S604E	Str.	29'-5"	7	309							
S605E	Str.	29'-4"	7	308							
S606E	Str.	29'-2"	7	307							
S607E	Str.	29'-0"	7	305							
S608E	Str.	28'-10"	7	303							
S609E	Str.	28'-9"	7	302							
S610E	Str.	28'-8"	7	301							
S611E	Str.	28'-6"	7	300							
S612E	Str.	28'-4"	7	298							
S613E	Str.	28'-1"	7	295							
S614E	Str.	27'-10"	7	293							
S615E	Str.	27'-7"	7	290							
S616E	Str.	27'-3"	7	287							
S617E	Str.	26'-11"	7	283							
S618E	Str.	26'-9"	7	281							
S619E	Str.	26'-6"	7	279							
S620E	Str.	26'-2"	7	275							
S621E	Str.	25'-10"	7	272							
S622E	Str.	25'-6"	7	268							
S623E	Str.	25'-1"	7	264							
S624E	Str.	24'-8"	7	259							
S625E	Str.	24'-3"	7	255							
S626E	Str.	23'-11"	7	251							
S627E	Str.	23'-6"	7	247							
S628E	Str.	23'-1"	7	243							
S629E	Str.	22'-8"	7	238							
S630E	Str.	22'-2"	7	233							
S631E	Str.	21'-8"	7	228							
S632E	Str.	21'-7"	1	32							
S633E	Str.	17'-11"	5	135							
S634E	Str.	21'-1"	7	222							
S635	Str.	21'-1"	4	127							
S636E	Str.	8'-6"	24	306	1'-4"	1'-9"	2'-7"	2'-0"	1'-0"		
				Total Weight Superstructure Reinforcing Steel, Grade 60	= 50,034 Lbs.						
				Total Weight Superstructure Epoxy Coated Reinforcing Steel, Grade 60	= 88,761 Lbs.						

SERIES BARS INCREMENT

MARK	TOTAL LENGTH INCREMENT
S402E	8 1/4" +
S403E	8 1/2" -
S405E	12" -
S406E	12" +
S409E	9 1/2" -
S410E	9 3/4" -
S504	12 1/8" +
S505	12" -
S506	12" -
S513	17 1/8" +
S514	17 1/8" +
S515	17 1/8" +
S531	13" -
S532	13 1/8" +
S533	13" -

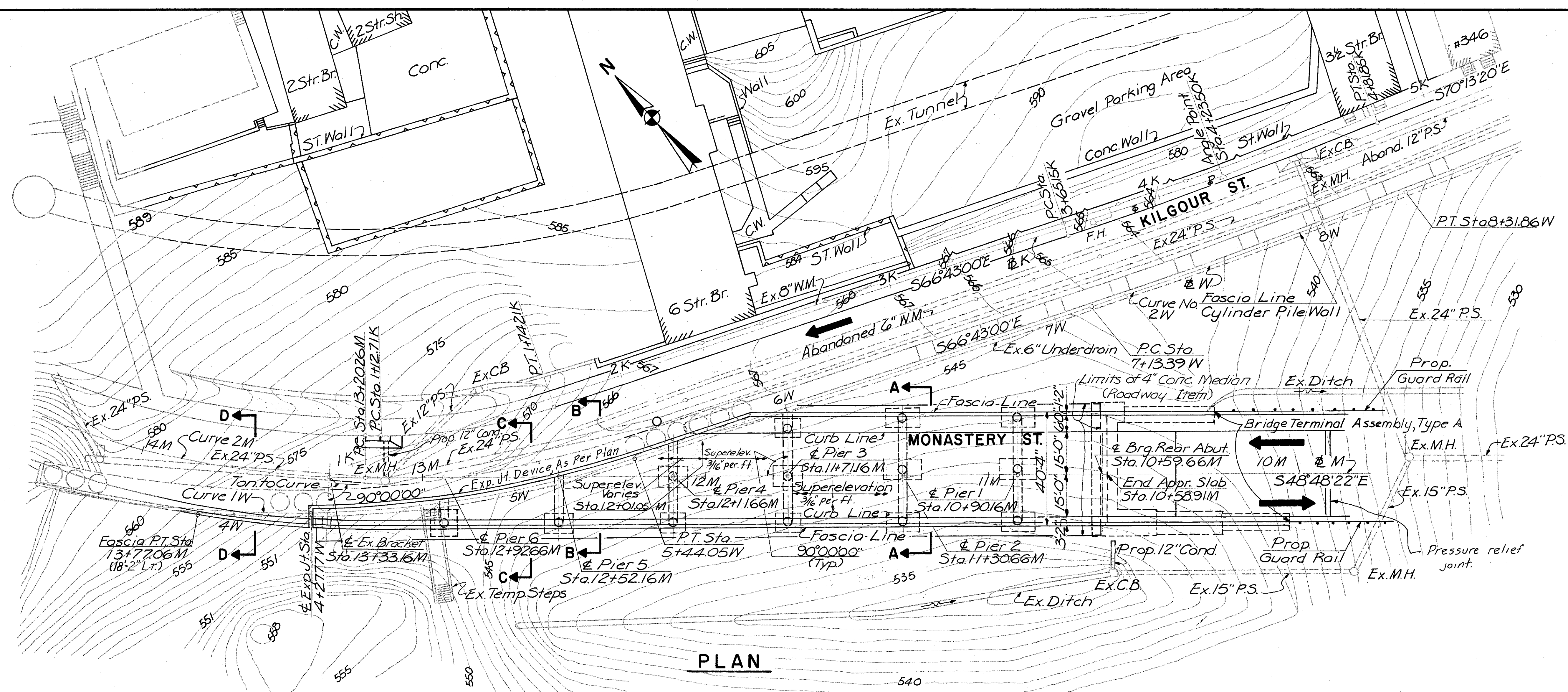
Notes:
For Bar Bending Schedule see Sheet 346

Bar marks ending with an E denote epoxy coated reinforcing, for example S401E.

REINFORCING STEEL SAMPLES
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.

All longitudinal S4 and S5 bars are to be field bent to fit curvature. Field bending included with 509 for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
REINFORCING STEEL LIST					
BRIDGE NO. HAM-471-RAMP L OVER					
MONASTERY ST. AND RAMP P					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		JH	JHD 3-23-82	

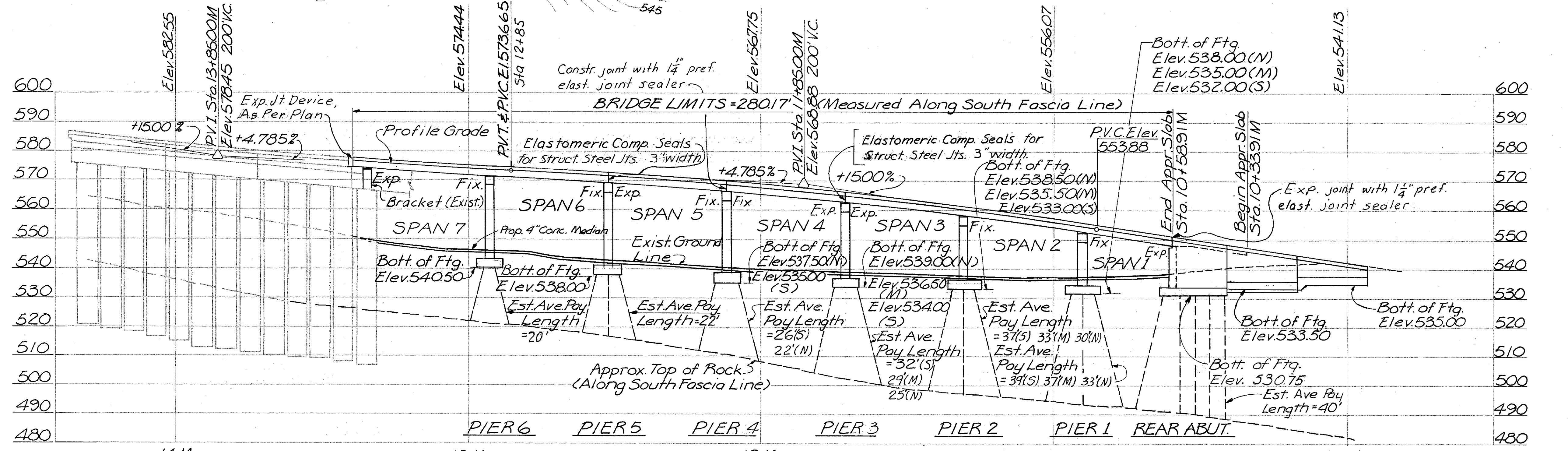


PLAN

Note:
For Bench Marks See Sheet 33
Piers 1 thru 6 and Rear Abutment
are parallel
All piles are HP10x42 Steel H Piles

CURVE DATA

Curve No. 1 W	Curve No. 2 M
P.I. Sta. 4+42.88W	P.I. Sta. 13+97.79M
P.C. Sta. 3+36.44W	P.C. Sta. 13+20.26M
P.T. Sta. 5+44.05W	P.T. Sta. 14+72.00M
$\Delta = 31^{\circ}08'30''$	$\Delta = 28^{\circ}58'52''$
$D = 15^{\circ}00'00''$	$D = 19^{\circ}05'54.96''$
$R = 381.97'$	$R = 300'$
$T = 106.44'$	$T = 77.53'$
$L = 207.61$	$L = 151.74$



PROFILE

Note:
(N) denotes North Footing
(M) denotes Middle Footing
(S) denotes South Footing

PROPOSED STRUCTURE

TYPE: 2 Continuous Spans, 2 Simple Spans and 3 Continuous Spans Reinf. Conc. Slab & Substructure

SPANS: Span 1=30'-6", Spans 2 thru 7=40'-6" (Measured along Monastery St.)

ROADWAY: 30'-0" of curbs with a 6'-0" Sidewalk on the North side and a 2'-0" curb on the South Side

LIVE LOADING: HS20-44 and the Alternate Military Loading

SKIEW: None

WEARING SURFACE: Monolithic Concrete

ALIGNMENT: Tangent

SUPERELEVATION: See Plan

APPROACH SLAB: AS-1-72 25' Long (See Details, Sh. 156) (Rear Abut. Only)

Work with sheet 237

HAZLET & ERDAL
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CINCINNATI, OHIO

SITE PLAN

BRIDGE NO. HAM-471-

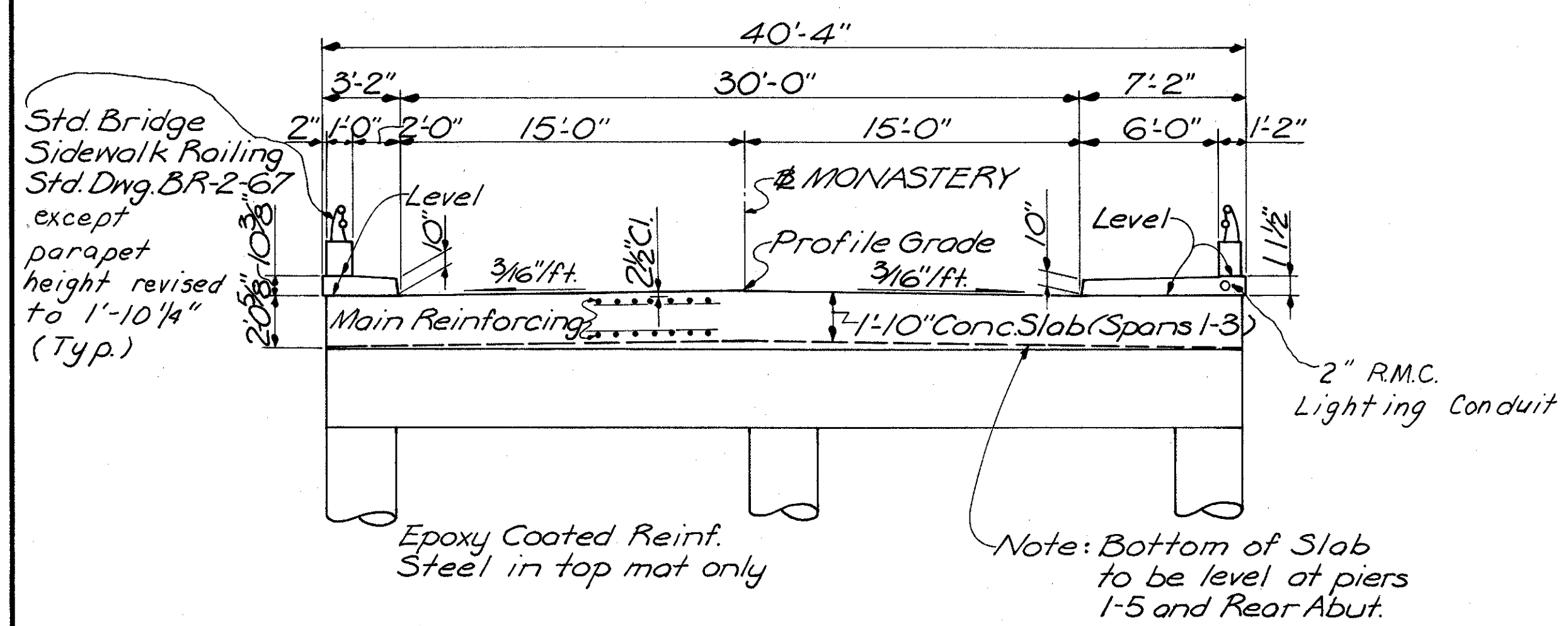
MONASTERY STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	YK		WJL	3-23-82	

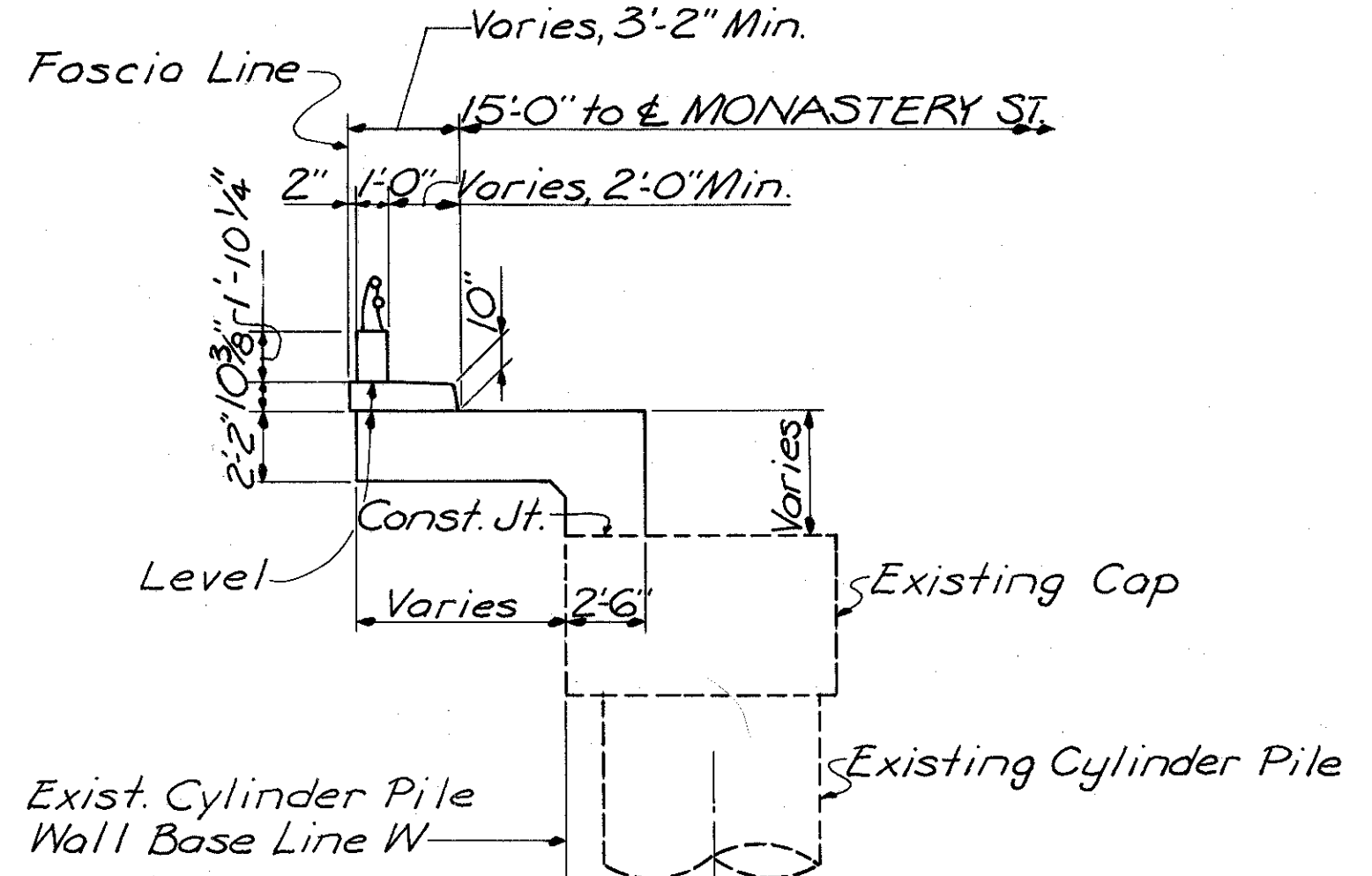
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

237
346

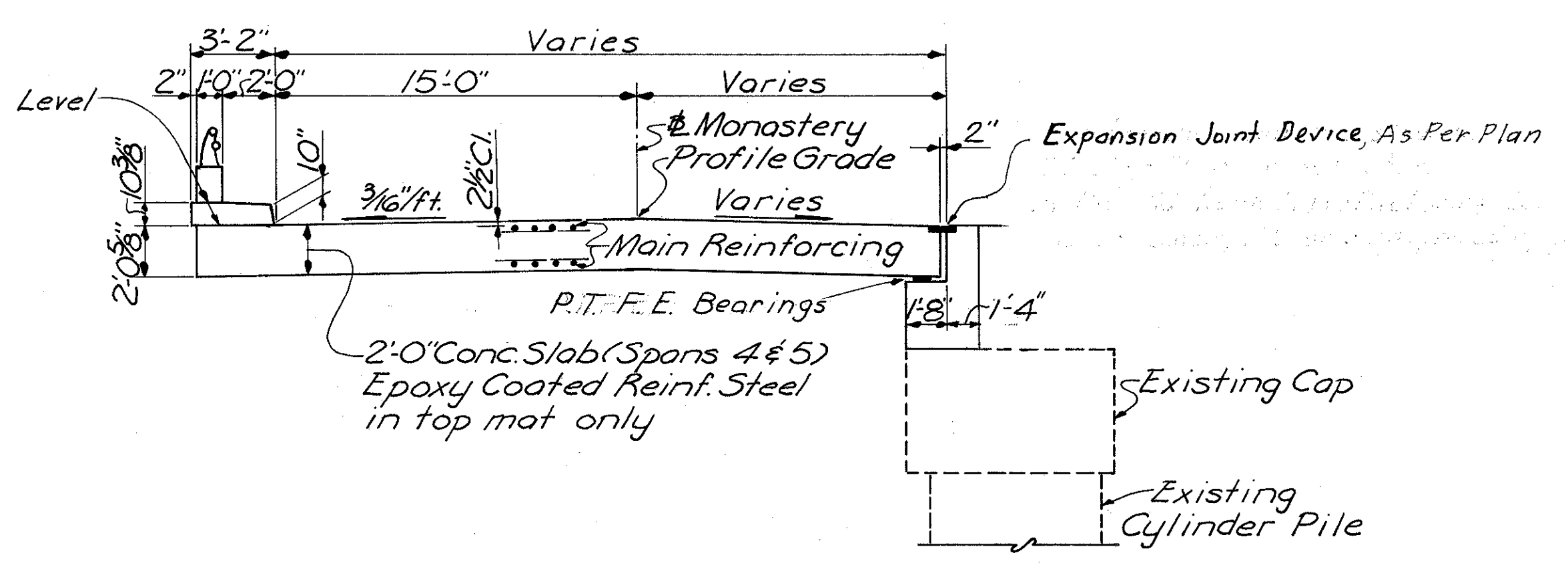
HAMILTON COUNTY
HAM - 471-0.24
PART TWO



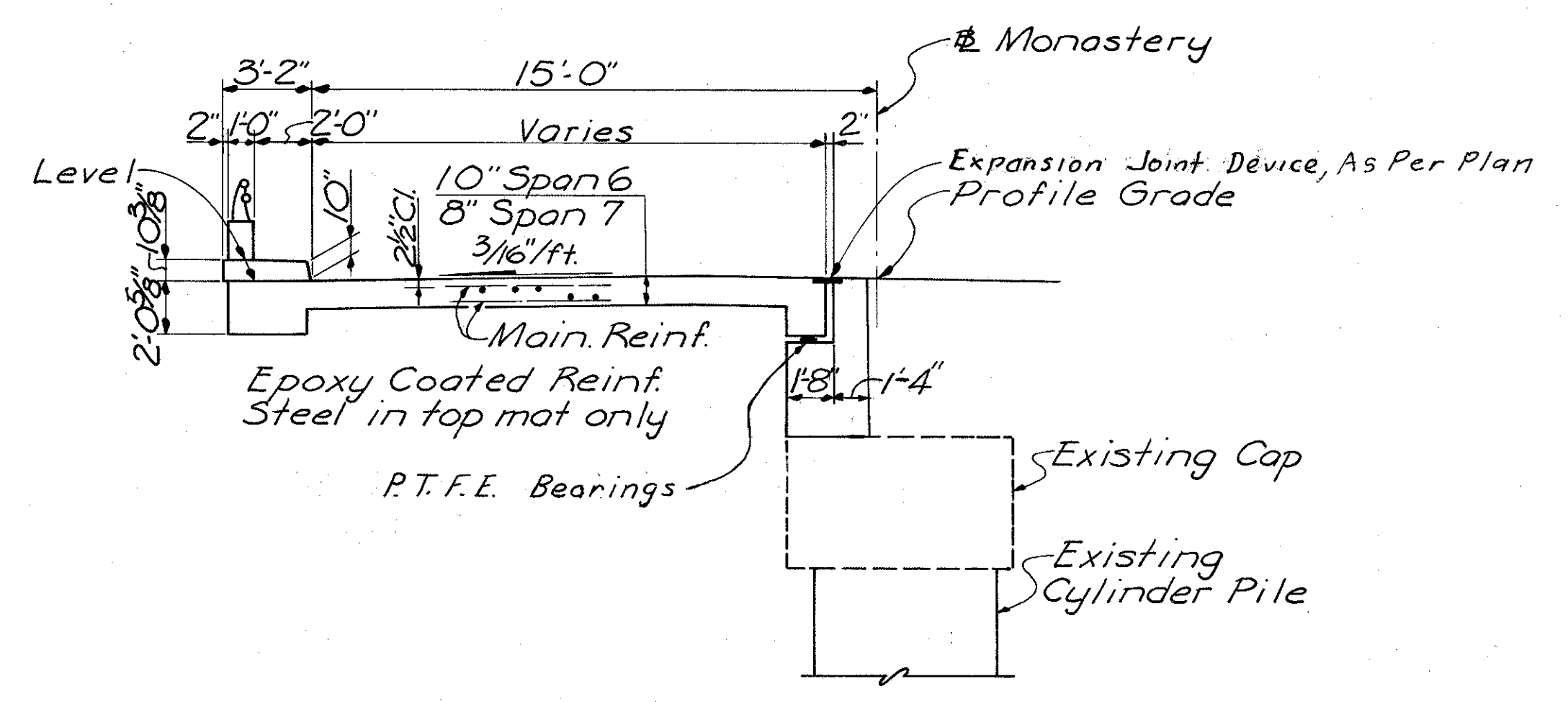
SECTION A-A



SECTION D-D



SECTION B B



SECTION C-C

Work with sheet 236

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	YK		YK	JHO 3-23-82	

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CINCINNATI, OHIO

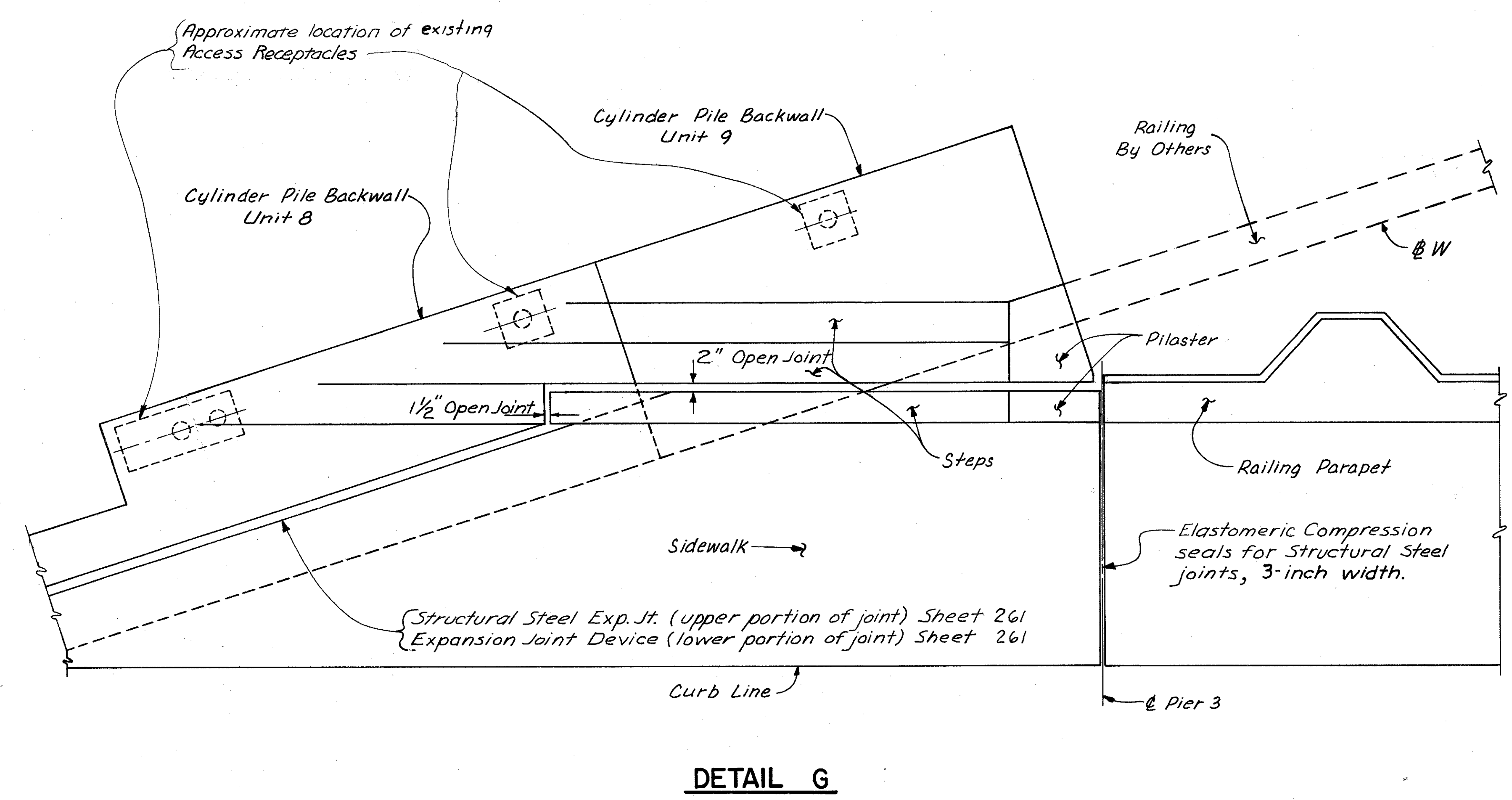
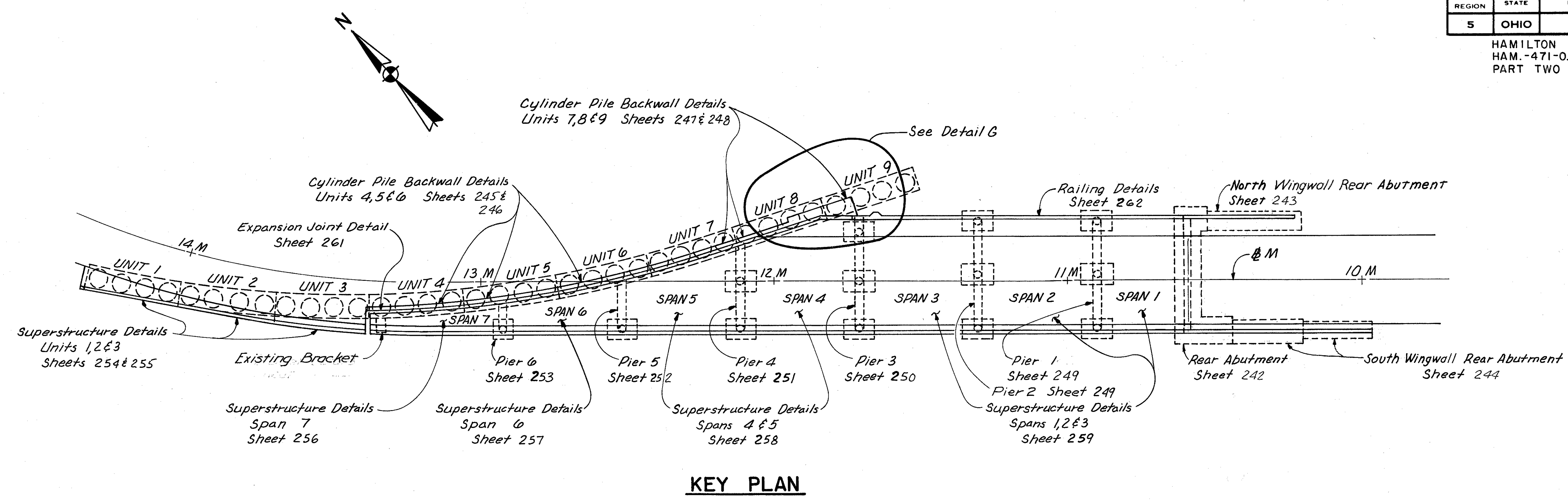
SITE PLAN
BRIDGE NO. HAM-471-
MONASTERY STREET

2/30

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

238
346

HAMILTON COUNTY
HAM.-471-0.24
PART TWO



HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						3/30
KEY PLAN						
BRIDGE NO. HAM.-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	MRT		HLL	JHO 3-23-82		

HAMILTON COUNTY
HAM-471-0.24
PART TWO

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	ABUTMENT	PIERS	GENERAL		
503	Lump	Lump Sum	Cofferdams, cribs and sheeting			Lump			
503	329	Cubic Yard	Unclassified excavation		34	295			
504	171	Sq. Foot	Steel sheet piling left in place (minimum section modulus of 7 in. ³ per foot of wall)		171				
505	Lump	Lump Sum	Test Pile			Lump			
507	3,000	Lin. Foot	Steel piles, HP10x42		760	2,240			
509	131,256	Pound	Reinforcing Steel, grade 60	77,989	12,314	40,953			
511	603	Cubic Yard	Class S concrete, superstructure (see proposal note)	603					
511	217	Cubic Yard	Class C concrete, footings		102	115			
511	120	Cubic Yard	Class C concrete, pier caps and columns			120			
511	101	Cubic Yard	Class C concrete, abutment above footing		101				
511	123	Cubic Yard	Class C concrete, cylinder pile backwall	123					
512	14	Sq. Yard	Type B waterproofing		14				
516	39	Sq. Foot	1" preformed expansion joint filler		39				
516	27	Lin. Foot	1-1/4 inch preformed elastomeric joint sealer	27					
516	176	Sq. Foot	1/2 inch preformed expansion joint filler, as per plan		43	133			
516	17	Lin. Foot	Structural steel expansion joint, as per plan	17					
516	148	Lin. Foot	Expansion joint device, as per plan	148					
516	13	Each	PTFE Bearing, Type 1	13					
516	2	Each	PTFE Bearing, Type 2	2					
516	1	Each	PTFE Bearing, Type 3	1					
516	1	Each	PTFE Bearing, Type 4	1					
517	599	Lin. Foot	Railing (concrete parapet with double pipe rail.)	493	106				
518	137	Lin. Foot	6" perforated, helical corrugated steel pipe including specials, 707.01		137				
518	10	Lin. Foot	6" non-perforated helical corrugated steel pipe including specials, 707.01		10				
523	9	Hour	Dynamic pile tests				9		
625			See sheet 121 for lighting summary						
849	61	Lin. Foot	Elastomeric Compression Seals for Structural Steel Joints, 3 inch width	61					
Special	43,789	Pound	Epoxy coated reinforcing steel, grade 60 (see proposal note)	43,359	430				
Special	Lump	Lump Sum	First Pile Restrike		Lump				
Special	92	Each	Subsequent Pile Restrike		18	74			
Special	694	Sq. Yard	Silane treatment, application 125 (see proposal note)	694					
Special	45	Sq. Yard	Silane treatment, application 150 (see proposal note)	45					
Special	436	Sq. Yard	Silane treatment, application 175 (see proposal note)	281	34	121			

GENERAL NOTES

REFERENCE:

Shall be made to Standard Drawings AS-1-72 sheets 1 and 2 dated 6-30-72, BR-2-67 revised 10-15-71 and to Supplemental Specifications 836 dated 3-12-75, 849 dated 10-19-81, 853 dated 6-26-78 and 956 dated 6-26-78.

DESIGN SPECIFICATIONS:

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

DESIGN DATA:

Design loading - HS 20-44 and the Alternate Military Loading.

Concrete, Class S - Compressive Strength 4500 psi for superstructure

Concrete, Class C - Compressive Strength 4000 psi for substructure

Structural Steel - ASTM A36 - unit stress
20,000 psi

Reinforcing Steel - ASTM A615, A616 or A617, Grade 60, Minimum Yield Strength 60,000 psi
Spiral reinforcement may be plain bars ASTM A82 or A615

Deck Protective Method - Epoxy coated reinforcing steel, top mat only.
Monolithic wearing surface is assumed for design purposes to be 1-inch.

EMBANKMENT CONSTRUCTION:

The approach embankment shall be constructed to the level of the Rear Abutment and wingwall footings, minimum, and paid for under Item 203, Embankment. No payment will be made for Unclassified Excavation for the Rear Abutment and Wingwalls.

PILES:

Shall be driven to bedrock. The bearing capacity shall be considered obtained by refusal on hard bedrock or by penetrating soft bedrock for several inches with a minimum resistance of 20 blows per inch. The design load is 55 tons per pile. The piles shall be driven by a pile hammer having a State's energy rating that is within the range of 20,000 to 30,000 foot-pounds.

FOUNDATION BEARING PRESSURE:

Wingwall footings at Rear Abutment are designed for a maximum bearing pressure of 2.5 tons per square foot.

GENERAL NOTES Continued on sheet 240

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

ESTIMATED QUANTITIES
& GENERAL NOTES
BRIDGE NO. HAM-471-
MONASTERY STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	FVB		WJL	JHO 3-23-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

GENERAL NOTES CONTINUED FROM SHEET NO. 239

1/2-INCH PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

DESCRIPTION: This item shall include the furnishing of all material and the necessary labor to fabricate, assemble, construct and install the preformed cork pads in accordance with the plans and Item 516 of the Construction and Material Specifications, except as modified and augmented herein.

MATERIAL: Preformed cork pads shall conform to AASHTO M153 for Type II (cork) as specified.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
516	Square Foot	1/2-inch preformed expansion joint filler, as per plan

STRUCTURAL STEEL EXPANSION JOINT:

DESCRIPTION: This item shall include the furnishing of all material and the necessary labor to fabricate, assemble, construct, paint and install the structural steel expansion joint in accordance with the plans and Item 516 of the Construction and Material Specifications, except as modified and augmented herein.

METHOD OF MEASUREMENT: The quantity shall be measured in linear feet. Length for payment shall be measured within the limits shown of Drawing No. 259.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
516	Linear Foot	Structural Steel Expansion Joint, As Per Plan

Payment shall include items shown by *** on Drawing No. 259.

PREFORMED ELASTOMERIC JOINT SEALER:

DESCRIPTION: This item shall include the furnishing of all material and the necessary labor to fabricate, assemble, construct and install the Preformed Elastomeric Joint Sealer in accordance with the plans and Item 516 of the Construction and Material Specifications except as modified and augmented herein.

METHOD OF MEASUREMENT: The quantity shall be the actual horizontal linear feet as installed.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
516	Linear Foot	1-1/4 inch Preformed Elastomeric Joint Sealer

PTFE BEARINGS:

DESCRIPTION: This item shall include the furnishing of all material and the necessary labor to fabricate, assemble, construct and install the PTFE Bearings in accordance with the plans and Item 516 of the Construction and Material Specifications and Section 2.27 of AASHTO Construction Specifications, except as modified and augmented herein.

GENERAL: The bearings shall consist of an upper unit, consisting of a sole plate with a mirror finish, stainless steel facing mechanically bonded (details to be submitted to the Engineer for approval before fabrication) to the bottom surface and a lower unit comprised of a bearing pad surfaced with TFE sheets, bonded to each other by an adhesive bonding or by mechanical method (details to be submitted to the Engineer for approval before fabrication).

MATERIAL: Unfilled TFE Sheet shall comply with the AASHTO Specification 2.27.2(E)
Stainless Steel shall comply with the AASHTO Specification 2.27.2(K)
Epoxy Resin shall comply with the AASHTO Specification 2.27.2(D)

FABRICATION: The bearings shall be fabricated so that the lower units have even and complete bearing contact with the upper units, except at the 3" hole at the Type 4 Bearing.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
516	Each	PTFE Bearing, Type 1
516	Each	PTFE Bearing, Type 2
516	Each	PTFE Bearing, Type 3
516	Each	PTFE Bearing, Type 4

PILE RESTRIKE:

DESCRIPTION: This item shall consist of returning the pile driving equipment to service pile that has been allowed to set a minimum of seven days after it had been driven to the required capacity, and then restriking the pile to determine its present capacity.

GENERAL: To perform this item it will be necessary to delay cutting off driven service piles at plan footing embedment elevation until after the restrike has been completed. A Dynamic Pile Test may be required to establish if the pile being restruck is maintaining adequate capacity when bearing in the clay shale bedrock. If necessary, the pile penetration shall be increased by driving the pile until the required capacity has been reestablished.

The use of the first pile restrike and its location shall be determined by the Director. One or more subsequent pile restrikes, if provided in the proposal, shall be applied if and where directed by the Engineer.

METHOD OF MEASUREMENT: Pile restrike will be measured as a unit and shall apply to the first pile per structure where a restrike is performed. Subsequent pile restrike will be measured as a unit and shall apply to all piles where a restrike is performed, excluding the first pile restrike.

Subsequent pile restrike will be nonperformed if determined by the Director to be unnecessary.

Dynamic pile tests, if required, will be measured and paid for under 523. Measurement and payment for all driven piles will be as provided in 507.

BASIS OF PAYMENT:

Payment will be made at contract price for:

Item	Unit	Description
Special	Lump Sum	Pile Restrike
Special	Each	Subsequent Pile Restrike

General Notes Continued on Sheet 241

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

GENERAL NOTES
BRIDGE NO. HAM-471-
MONASTERY STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FVB		HLL	JHO 3-23-82	

GENERAL NOTES CONTINUED FROM SHEET NO.240

EXPANSION JOINT DEVICE,
AS PER PLAN:

DESCRIPTION: This item shall include the furnishing of elastomeric seals, adhesive, bolts, nuts, washers, extruded steel clamp bars, mortar, paint and all other incidentals and labor to fabricate, assemble, construct and install the Expansion Joint Device in accordance with the Plans and Item 516 of the Construction and Material Specifications, except as modified and augmented herein.

MATERIAL: Extruded clamp bars shall be A 36 Steel. Exposed surfaces shall be painted in the field with two prime coats and one finish coat of System B paint, 514. Clamp bars shall be furnished in segments not less than 12 feet in length, with joints located at lane edges.

Elastomeric joint seal shall be ONFLEX as manufactured by the Old North Manufacturing Co., Inc. of Lenoir, N.C. or BENDOFLEX or approved alternate. ONFLEX or BENDOFLEX seals shall be reinforced neoprene or EPDM conforming to the physical requirements shown in the manufacturer's latest brochure. Certified test data shall be submitted for approval prior to incorporation of the seals into the joints. The elastomeric seal for one joint shall be furnished in one continuous piece.

Adhesive (PRIMA LUBE, BON LASTIC or as recommended by the seal manufacturer) shall be applied to the upper surface of the elastomeric sheet or on the bottom surface of the clamp bar. It should be spread thinly using a serrated spatula or a doctor blade to obtain a complete and uniform coating on the clamping surface immediately prior to final joint assembly.

Magnesium Phosphate Mortar concrete shall be made using a blend of magnesia and selected aggregates with an activator. These materials shall be mixed and placed as per manufacturer's recommendations. Coarse aggregate may be added in accordance with the manufacturer's instructions. The material may be STEELCOTE FC-100, by Steelcote Manufacturing Company, BOSTIK 276 by the Upco Company, MAGNA-CRETE by Republic Steel, HORN 240 by A.C. Horn, Inc., SET 45 by Set Products, Inc. or an approved alternate. Concrete shall be cured as per manufacturer's recommendations.

Bolts, nuts and hardened washers - ASTM A325.

Special 2" round washers - steel.

SHOP ASSEMBLY: The metal parts of the joints including clamp bars, bolts and washers shall be assembled in the shop to verify proper fit and fabrication. Joint armor and clamp bars shall be shaped to conform to the roadway surface profile and when assembled there shall be metal to metal bearing at the bolts.

INSTALLATION: The Contractor shall install the joints in accordance with the plans and the recommendations of the manufacturer. The structural surface of the roadway joint seal shall be parallel to the roadway surface. The special 2" round washers may be spot welded or structurally bonded to the joint armor in the shop.

METHOD OF MEASUREMENT: The quantity shall be the actual horizontal linear feet as installed.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
516	Linear Foot	Expansion Joint Device, As Per Plan

ACCESS RECEPTACLES:

DESCRIPTION: This item shall consist of furnishing and installing the access receptacles at the location shown on the plans. This item shall be in accordance with 518 of the Construction Material Specifications, except as modified and augmented herein.

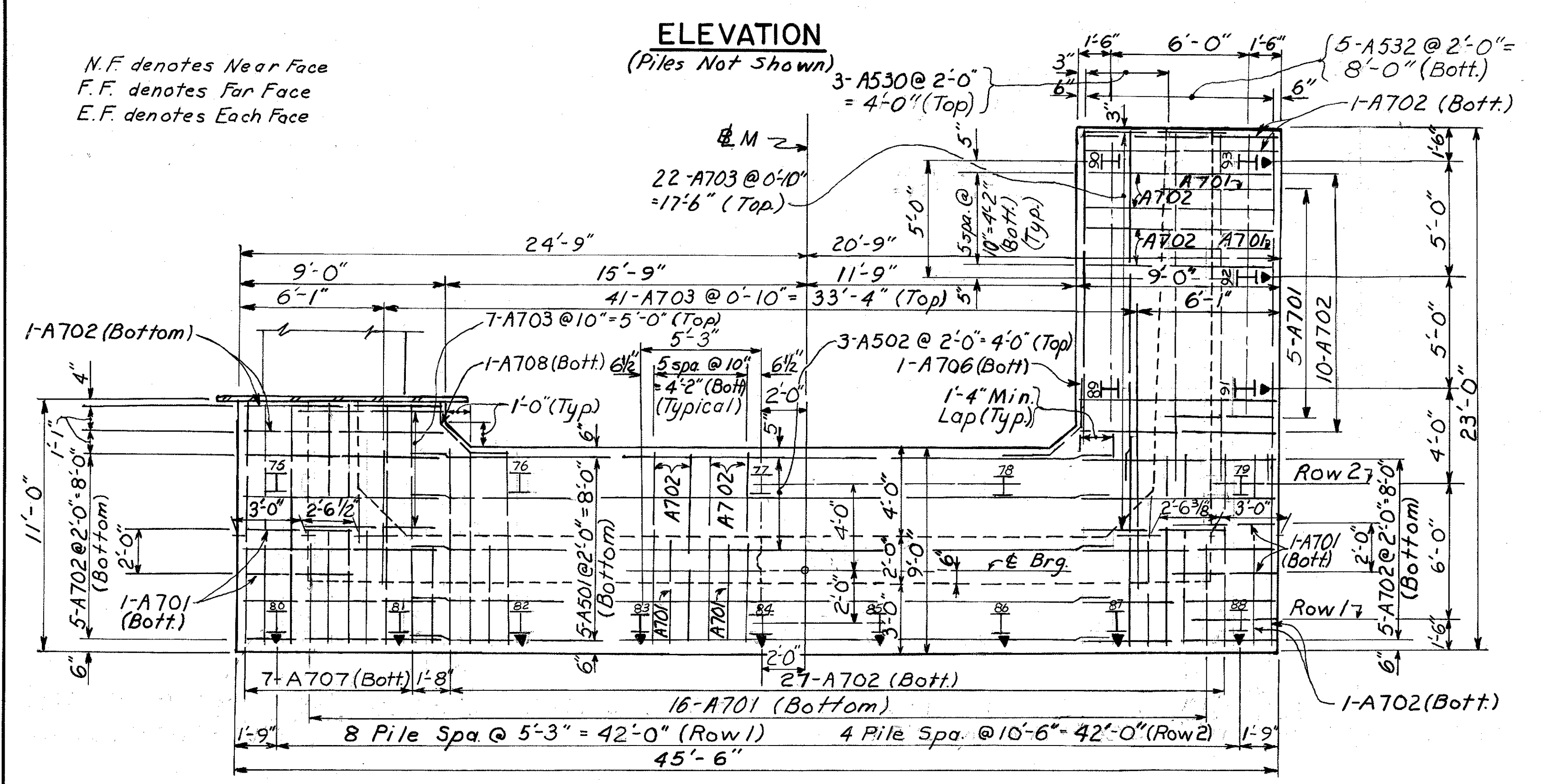
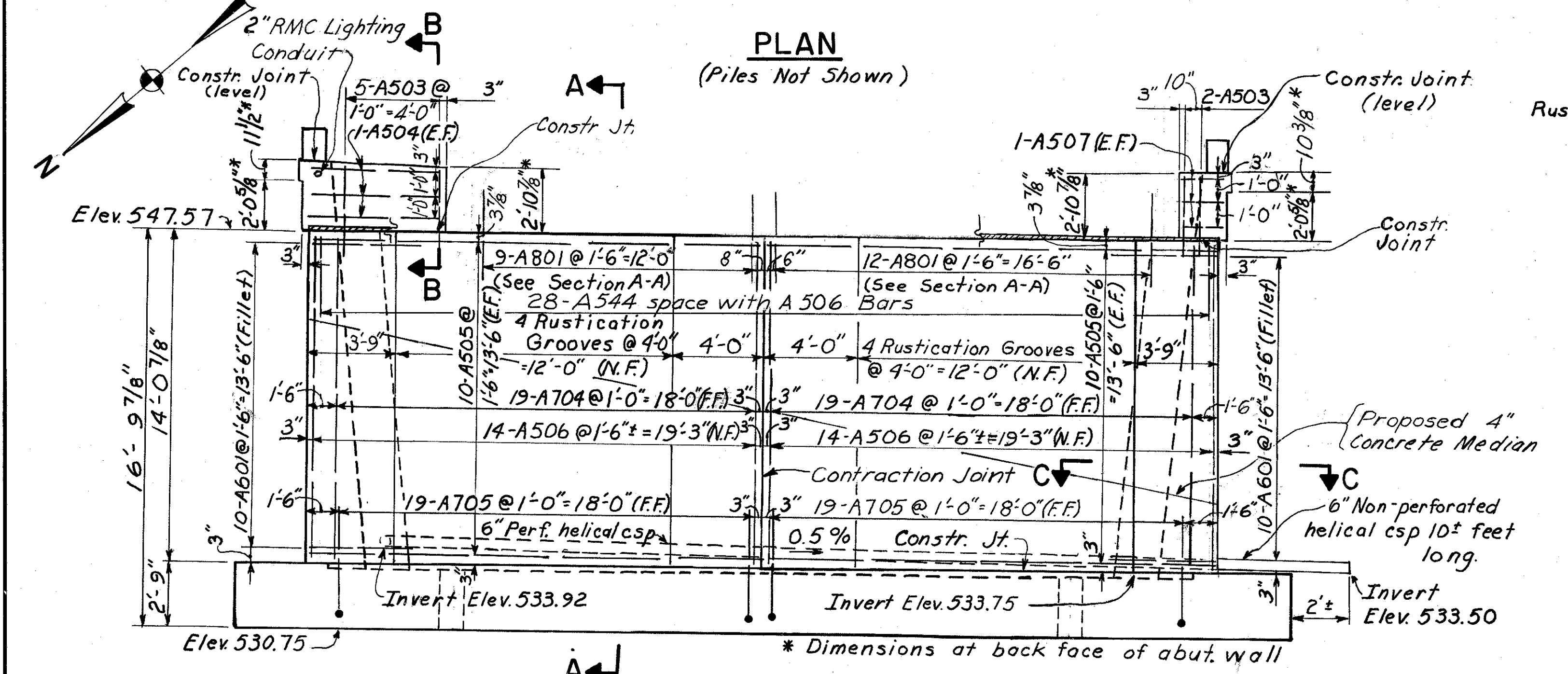
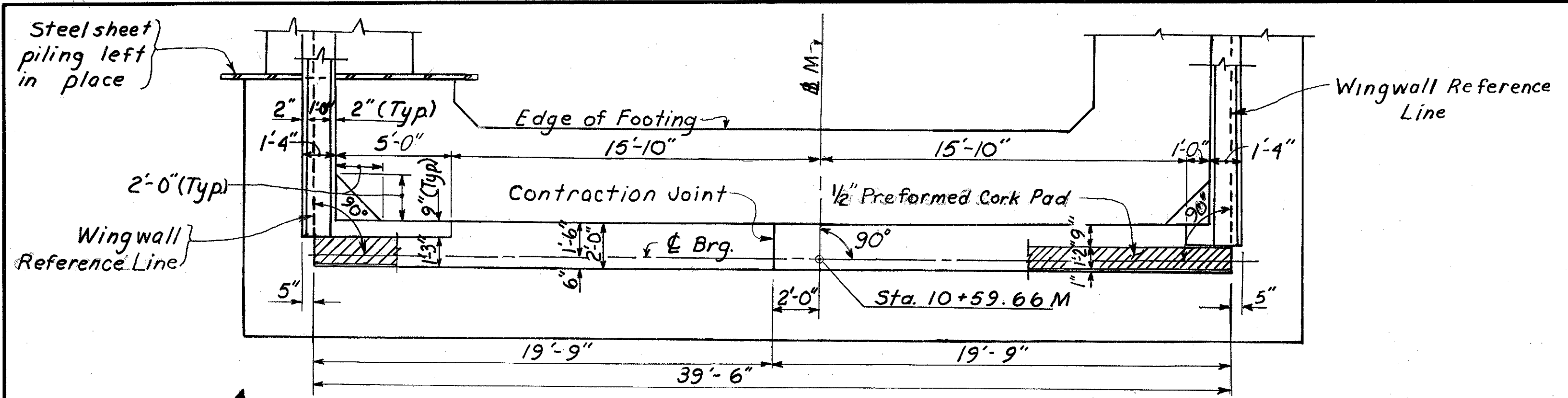
GENERAL: The access receptacle shall be Wade W-7112-X Cast Iron heavy duty adjustable floor cleanout or approved equal.

TWO INCH (2") PERFORATED
POLYVINYL CHLORIDE PIPE

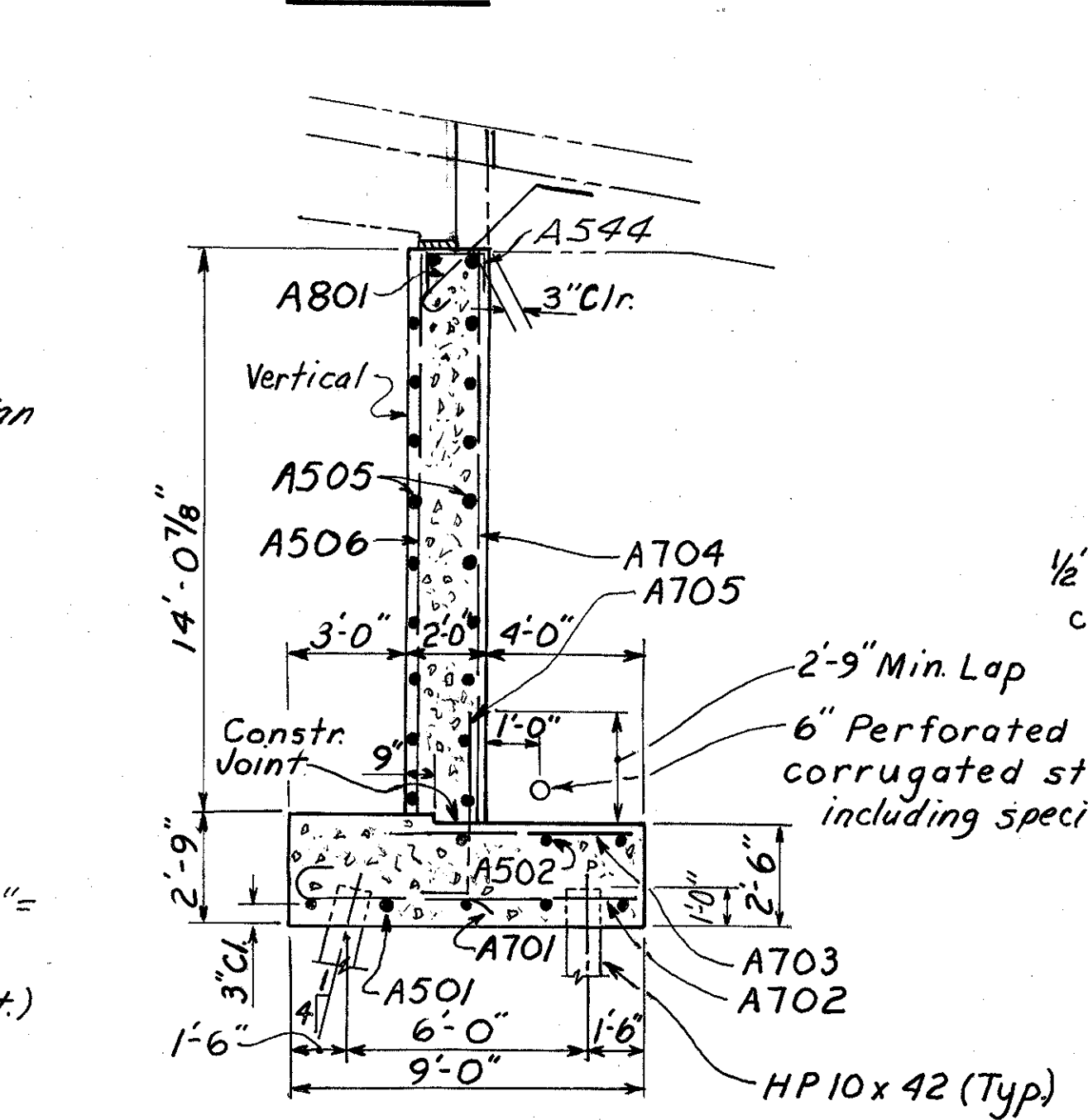
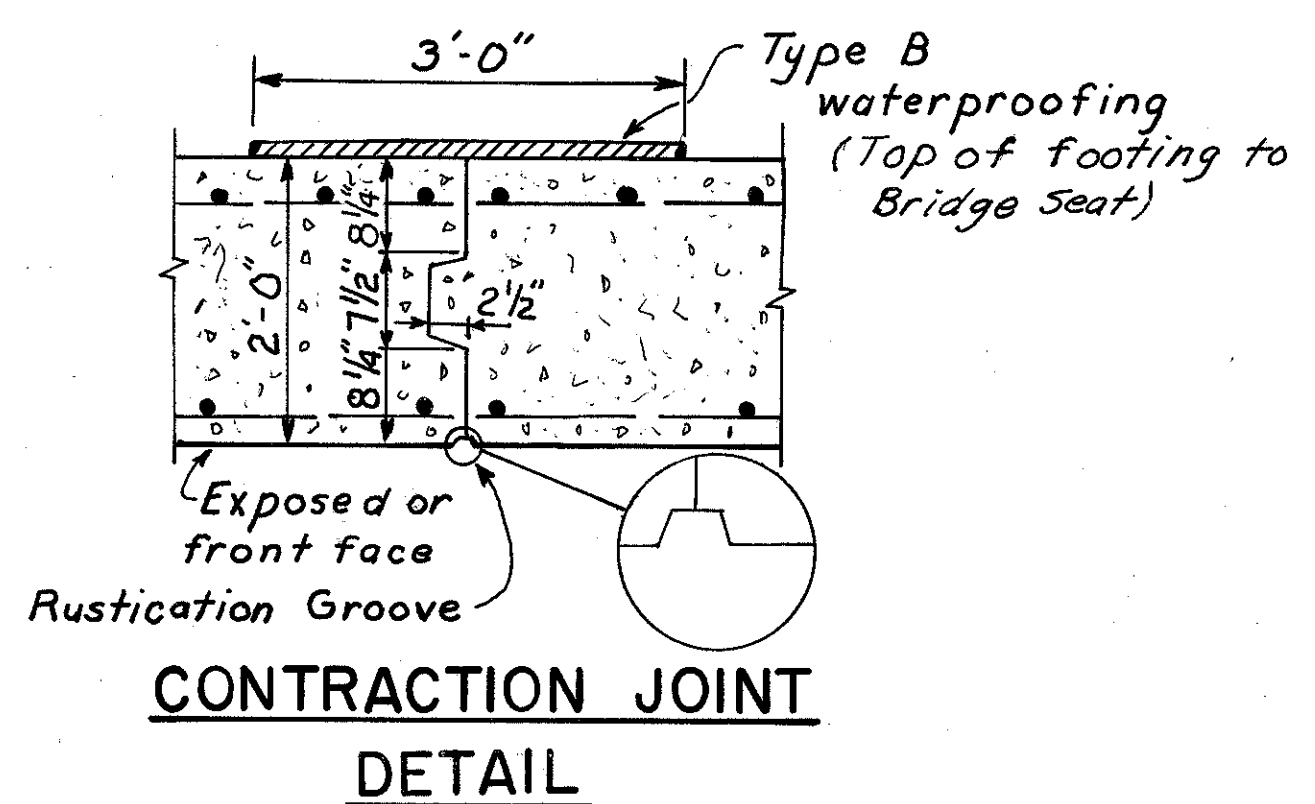
DESCRIPTION: This item shall consist of furnishing and placing the 2" Perforated PVC Pipe at the locations shown on the plans. This item shall be in accordance with 518 of the Construction and Material Specifications, except as modified and augmented herein.

MATERIAL: 2" minimum Polyvinyl Chloride Pipe, Schedule 40, ASTM 1785, TYPE II PVC. Pipe shall be perforated with three rows of transverse slots, slot width of 0.020-inch, 46 slots per foot, 1 1/2" long slots. PVC pipe meeting these requirements are available from Hydrophilic Industries, Inc., Puyallup, Michigan.

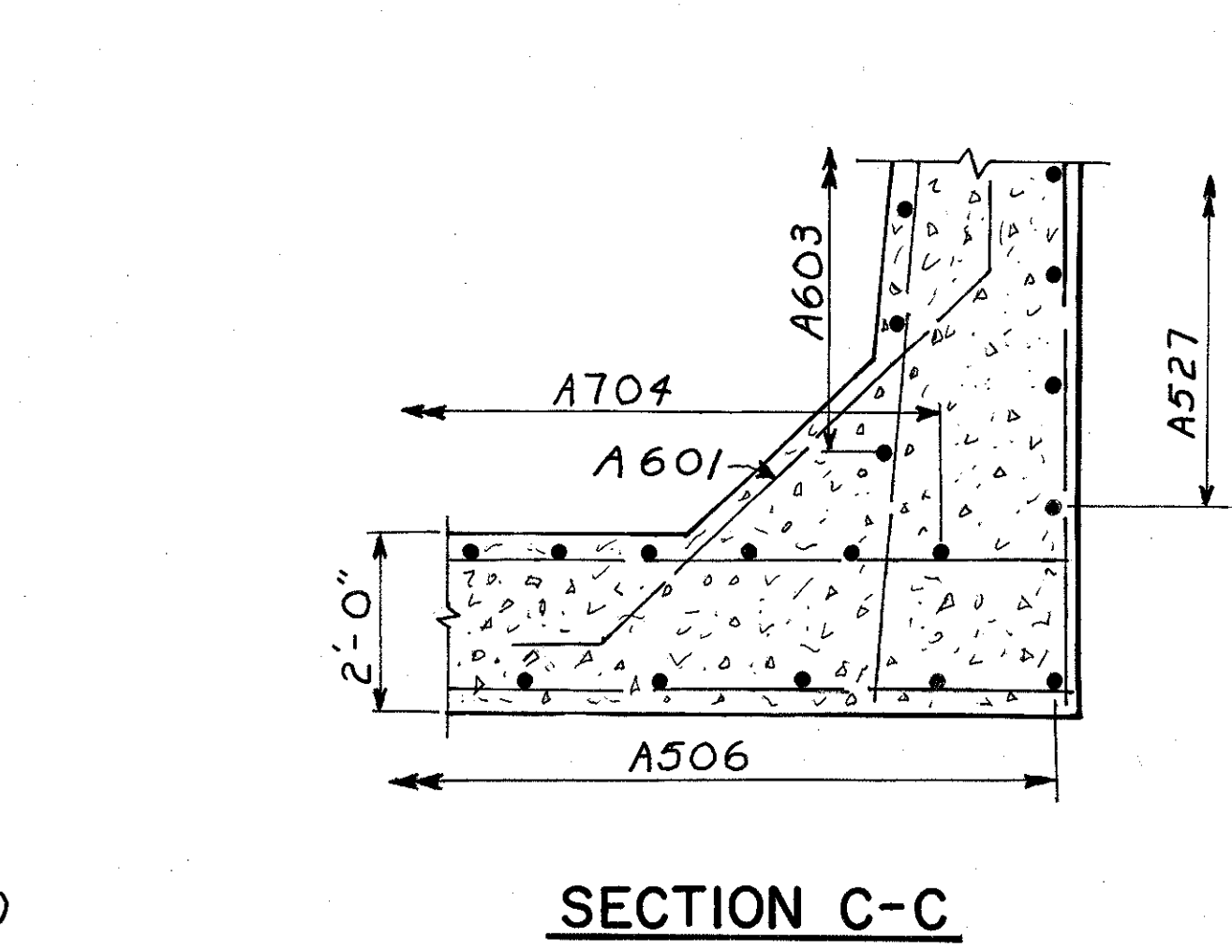
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL NOTES BRIDGE NO. HAM-471- MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FVB		HLL	JH0 3-23-82	2-2-84



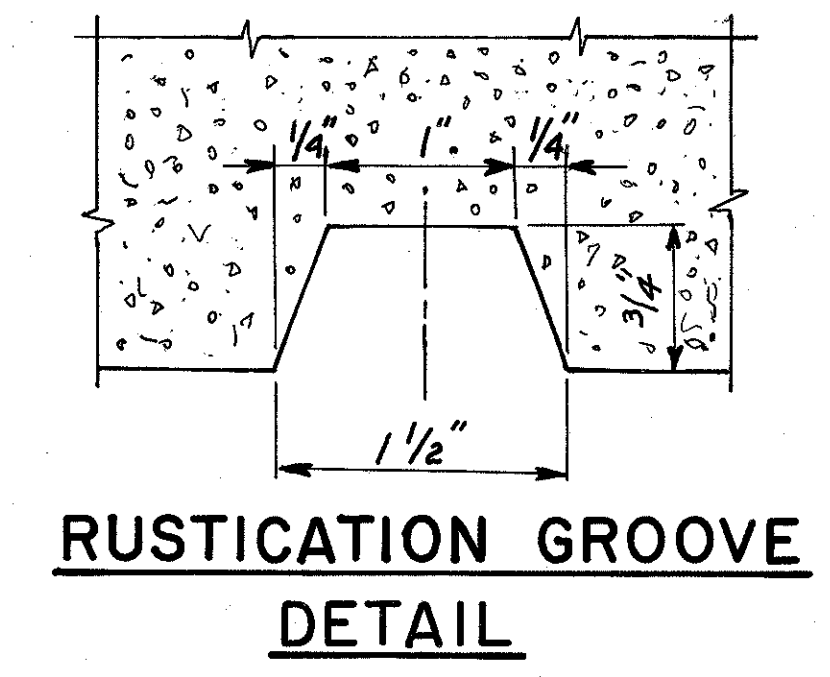
FOOTING PLAN



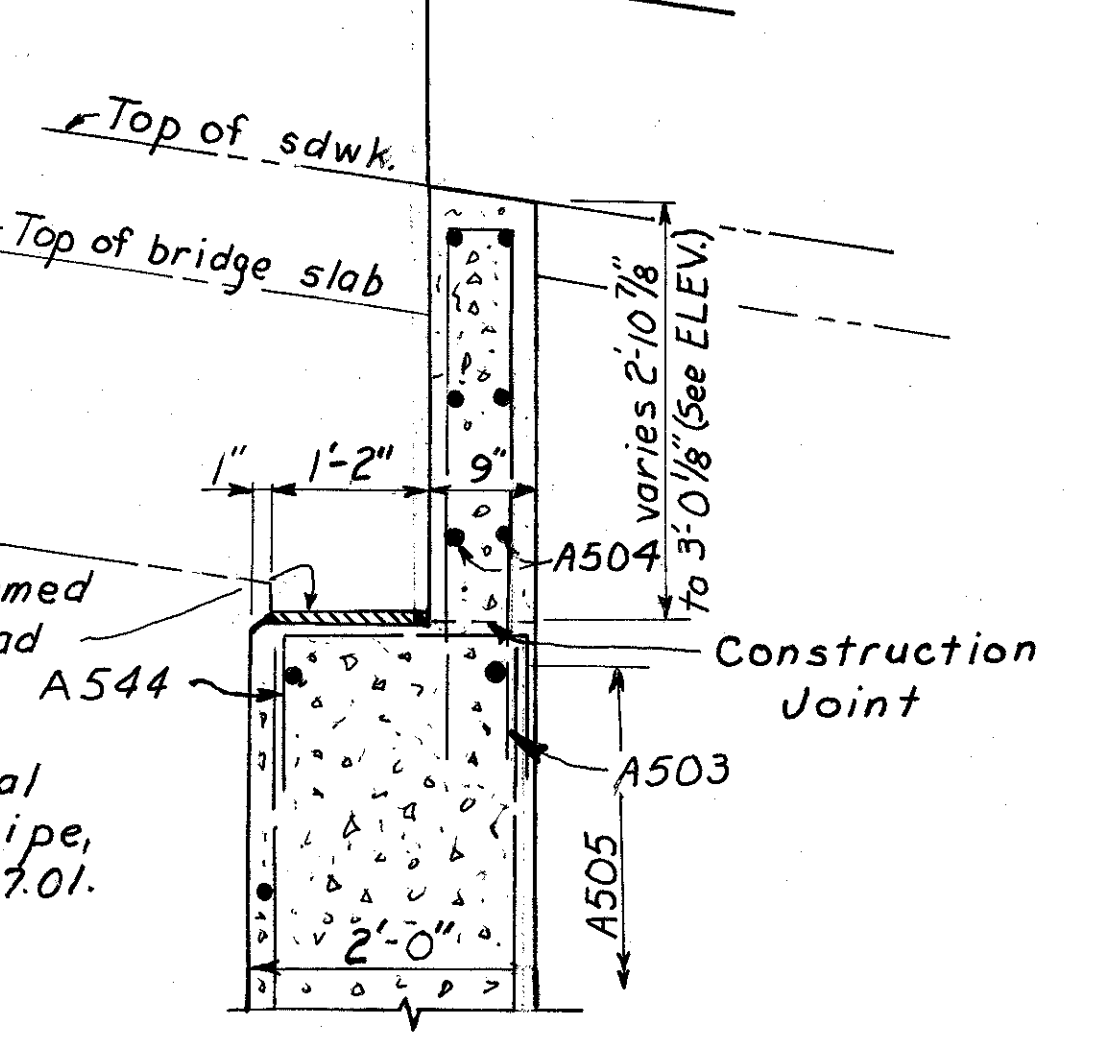
SECTION A-A



SECTION C-C



RUSTICATION GROOVE DETAIL



SECTION B-B

Notes:
For wingwall details, see sheets 243 & 244
↓ indicates battered pile.

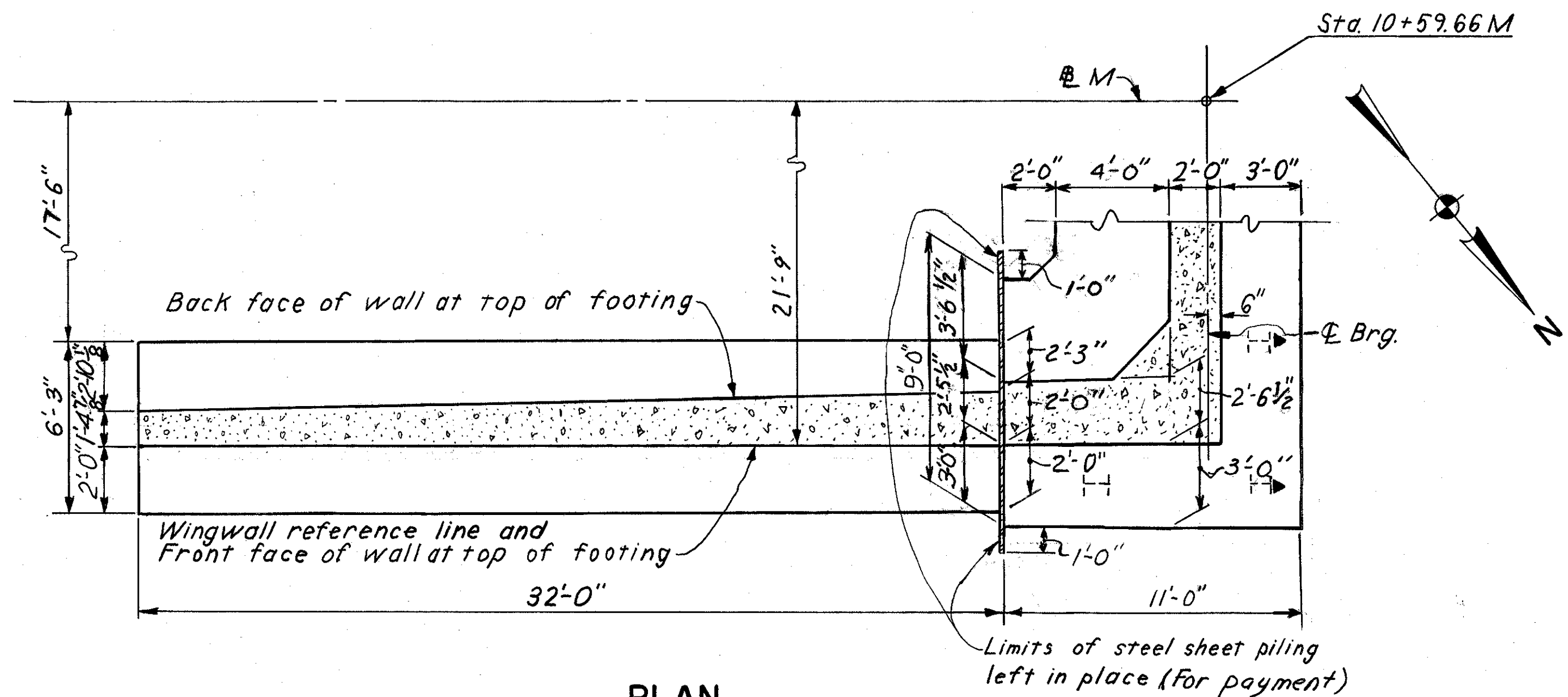
Embankment B underneath Rear Abutment shall be compacted to a minimum of 8" above bottom of footing elevation before proceeding with structure excavation (Item 503, Unclassified Excavation).

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						5/30
REAR ABUTMENT						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
VDG	MED	DSD	JDC	JHO 3-24-82		

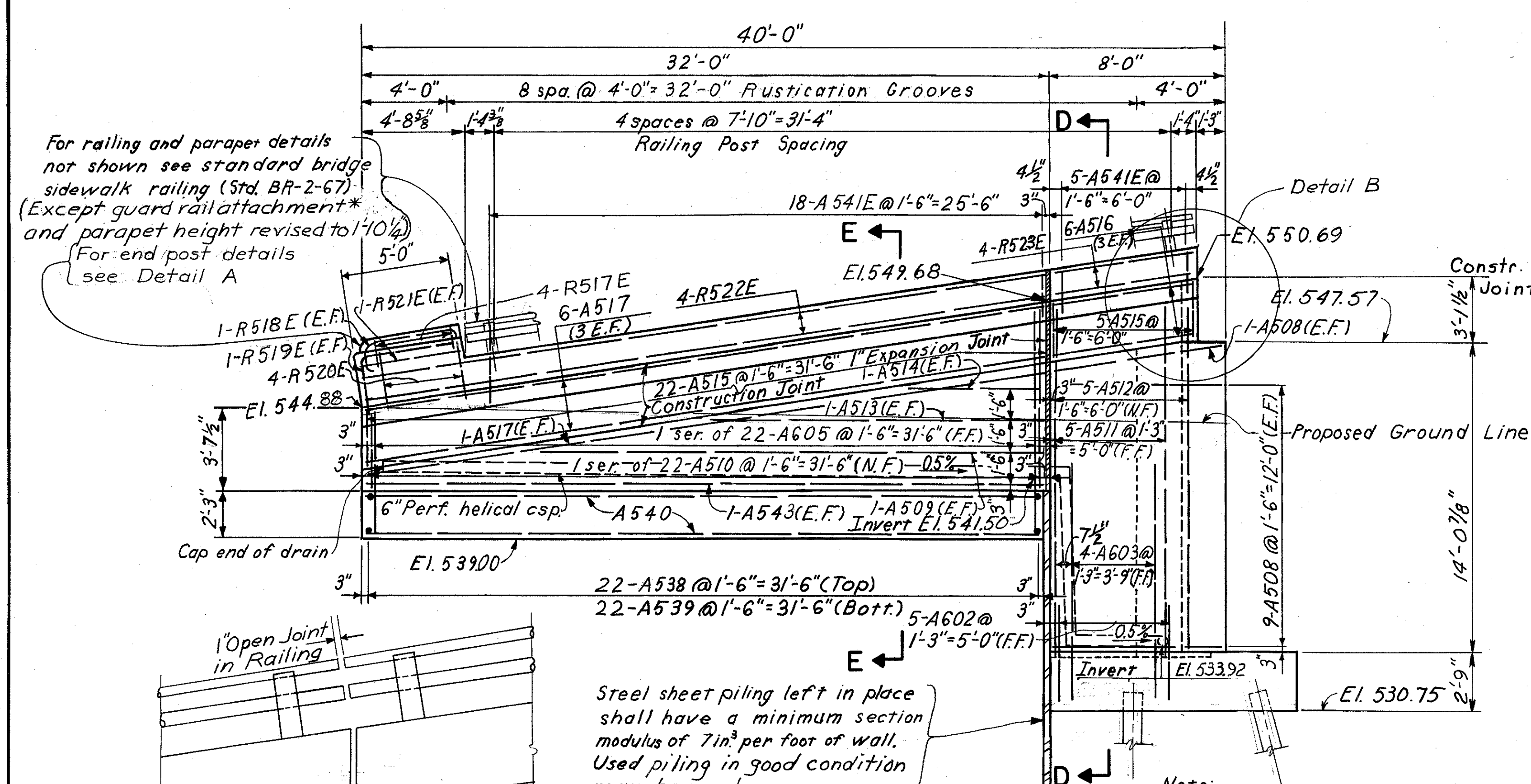
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

243
346

HAMILTON COUNTY
HAM-471-024
PART TWO



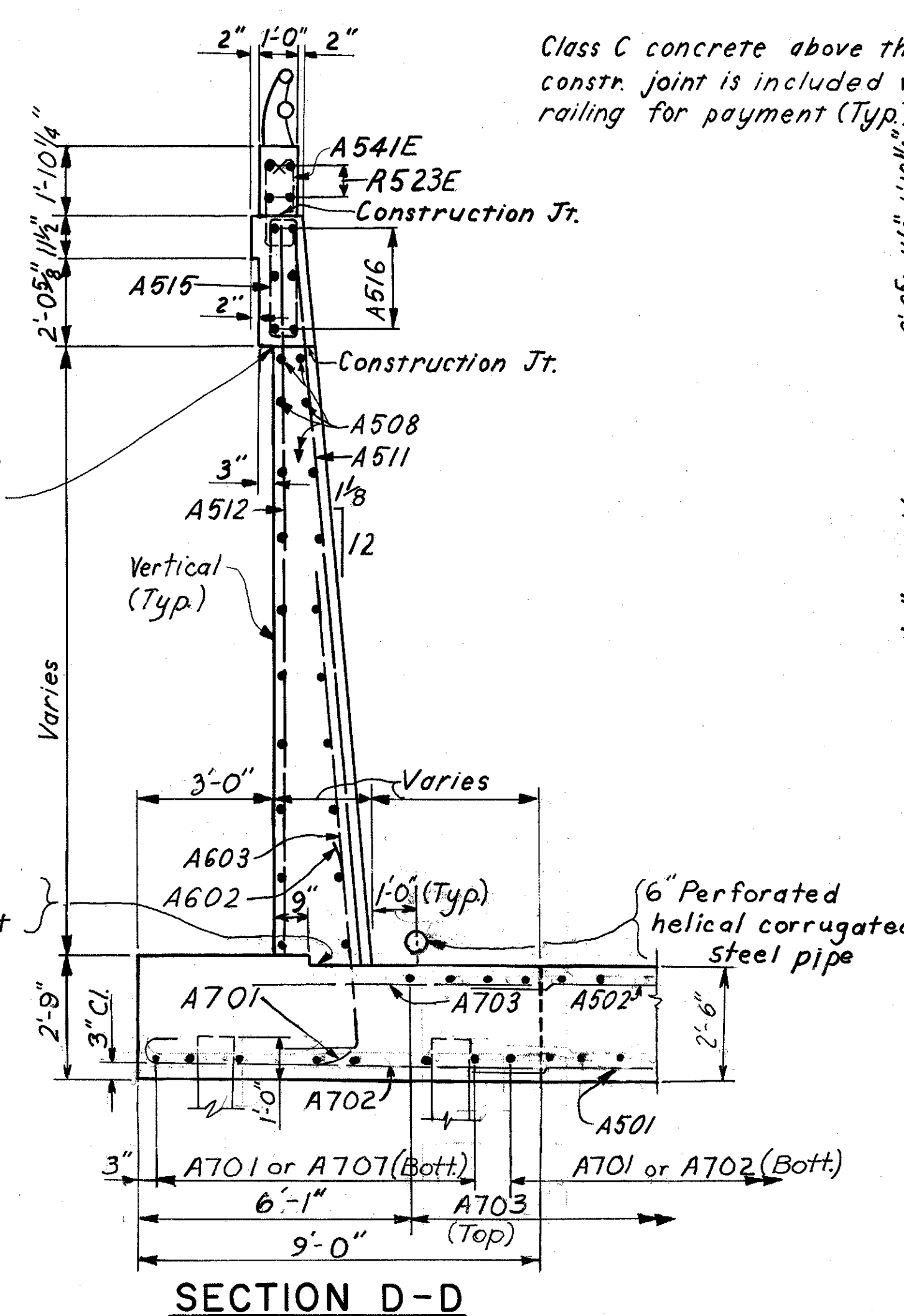
PLAN



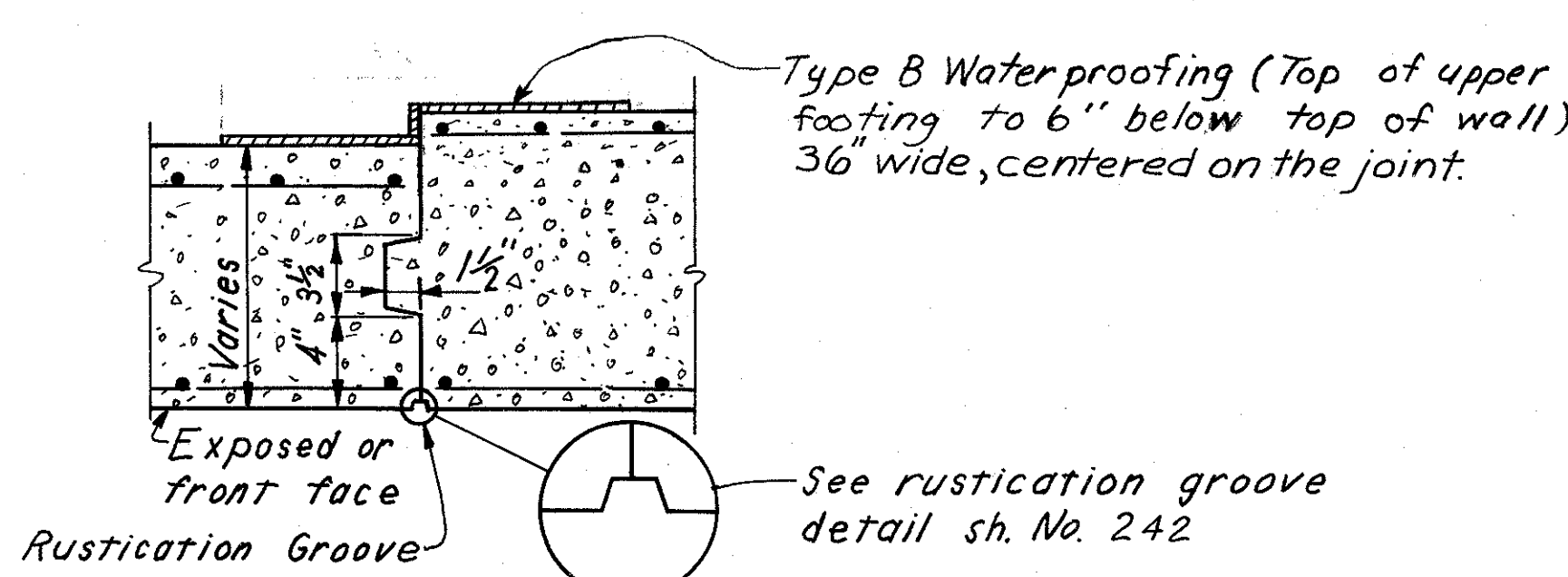
ELEVATION

Note:
M.F. denotes Near Face
F.F. denotes Far Face
E.F. denotes Each Face
* Use Bridge Terminal Assembly, Type A

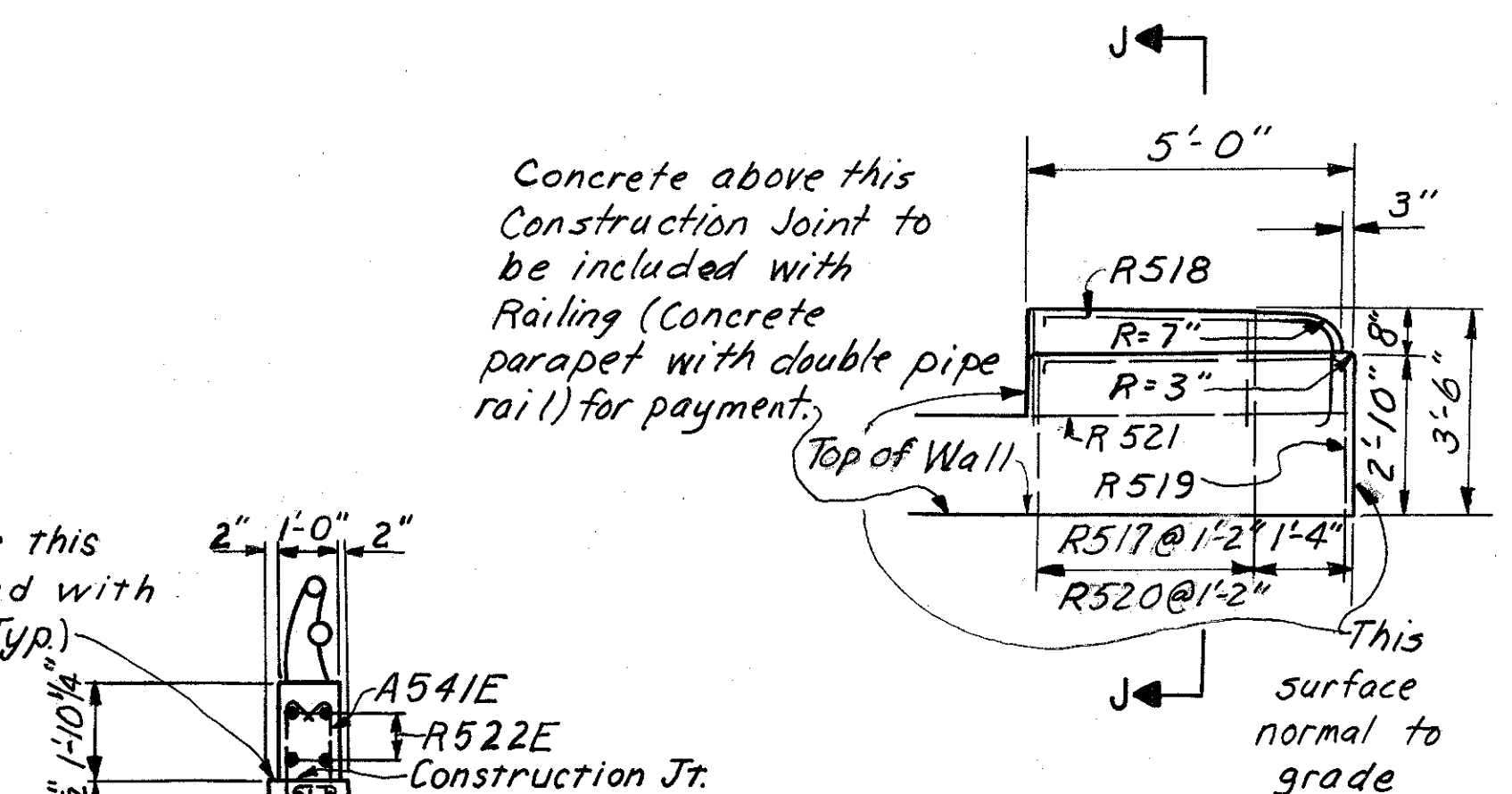
For railing and parapet details not shown see standard bridge sidewalk railing (Std. BR-2-67) (Except guard rail attachment* and parapet height revised to 10 1/4")
For end post details see Detail A



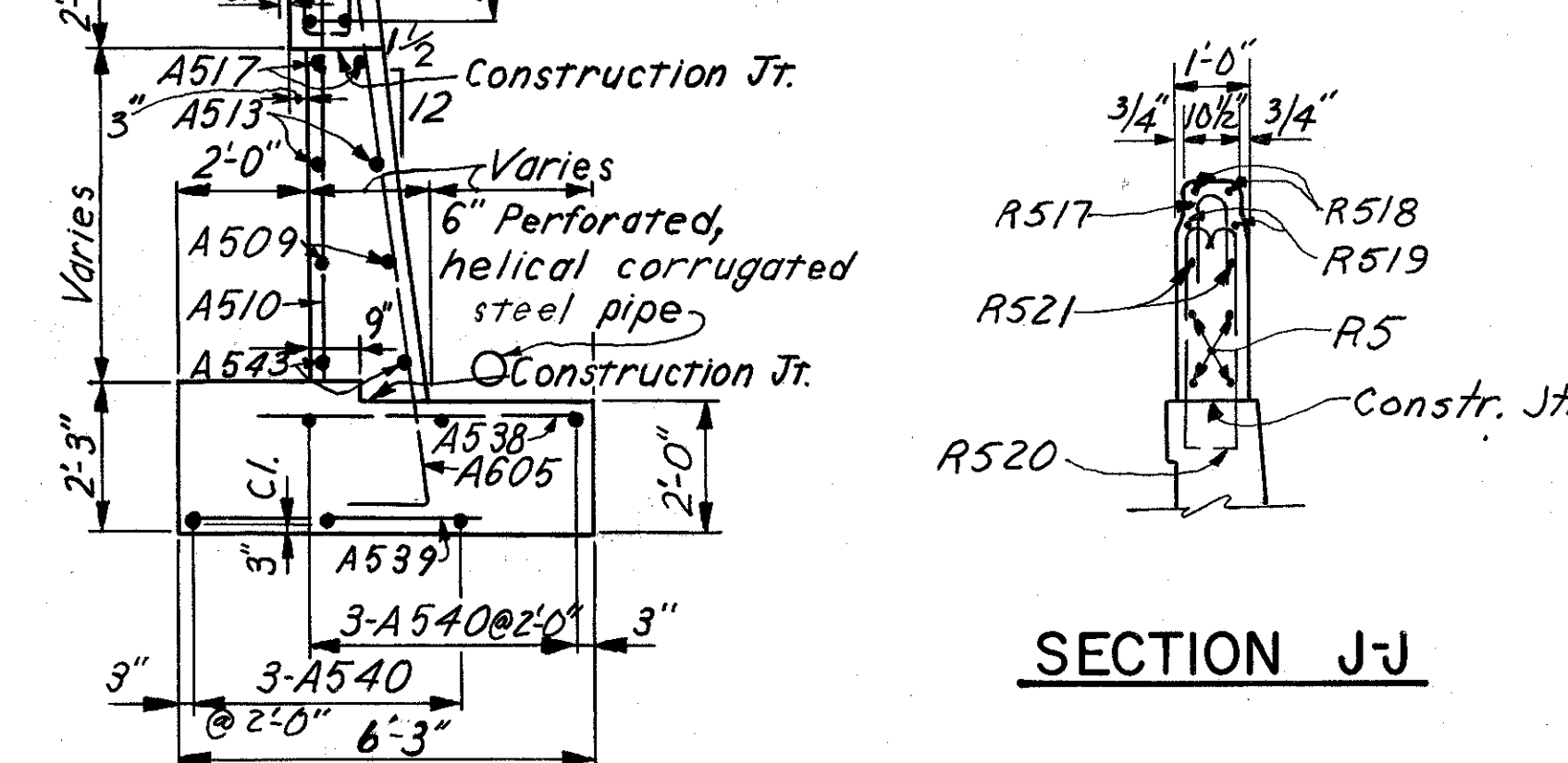
SECTION D-D



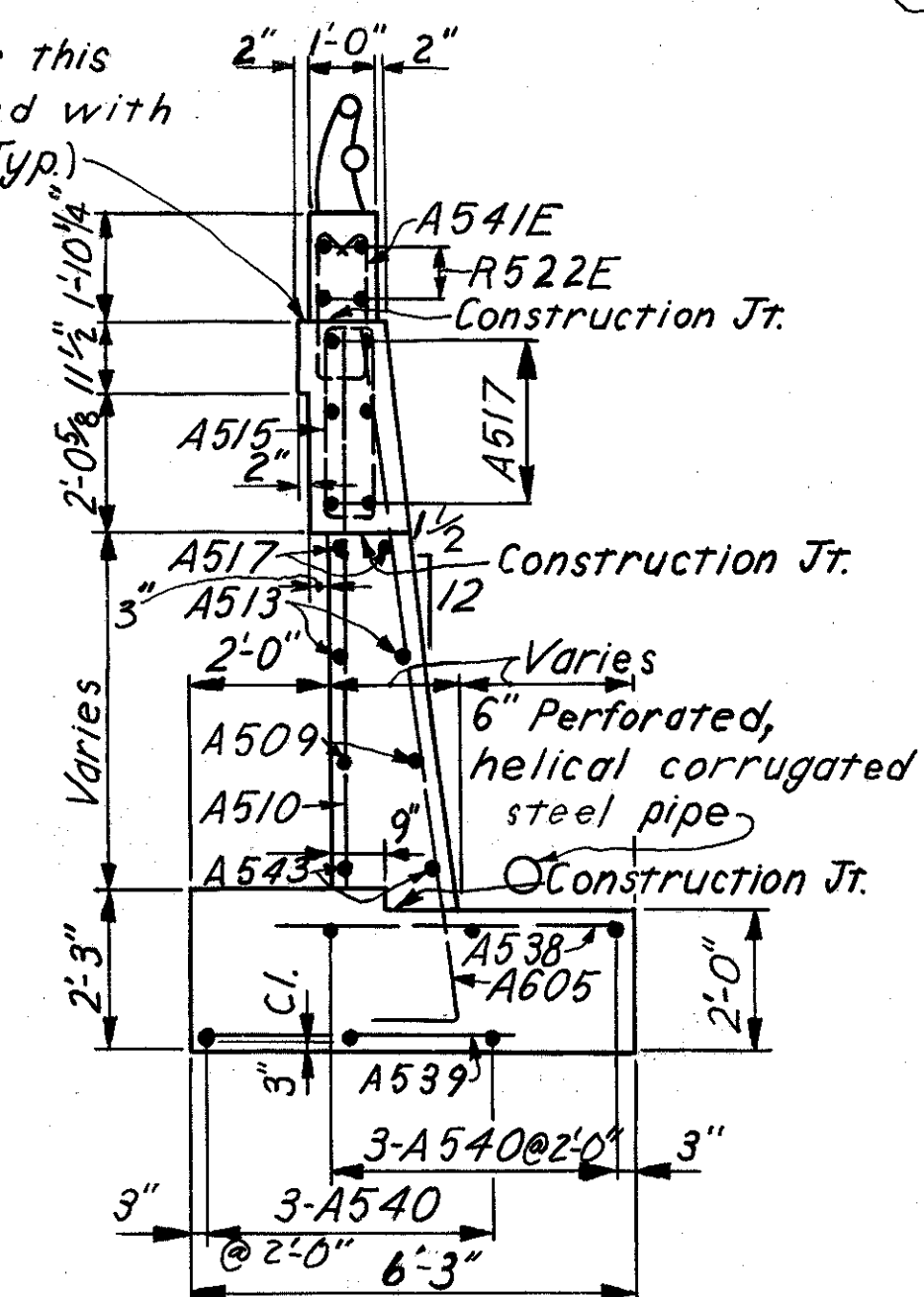
CONTRACTION JOINT DETAIL



DETAIL A



SECTION J-J



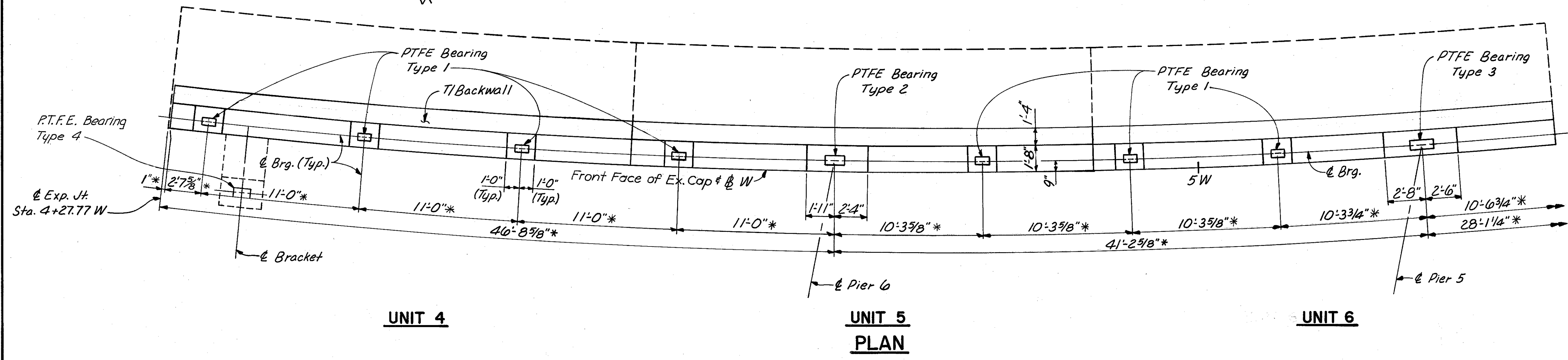
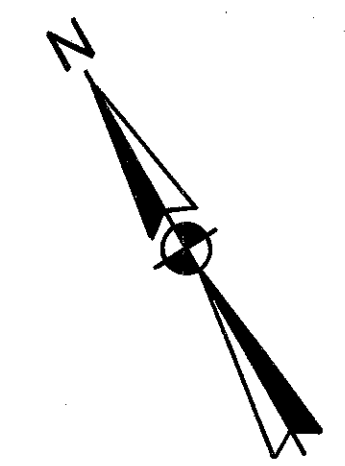
SECTION E-E

Note:
Concrete Insert Anchor Assembly as shown on Std. Dwgs. GR-1 and GR-3 shall be provided for the attachment of guard rail terminal connectors (Bridge Terminal Assembly Type A). Include with Class C Concrete, abutment above footing for payment.

For expansion joint detail see sh. no. 244
For notes see sh. no. 242

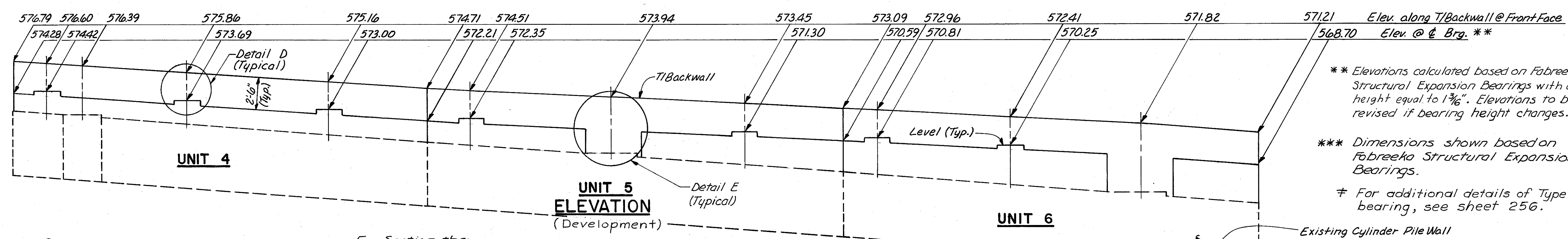
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					6/30
NORTH WINGWALL REAR ABUTMENT BRIDGE NO. HAM-471- MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	MED	MED	JDC	JHO 3-27-82	

DETAIL B
(Detail C opposite hand)



NOTE "A"
Dimensions given from W are based upon mathematical calculations. Due to variable deflection of the existing cylinder pile wall, the face of the cap beam and W may not coincide. The Contractor shall make necessary adjustments to provide proper alignment and fit-up.

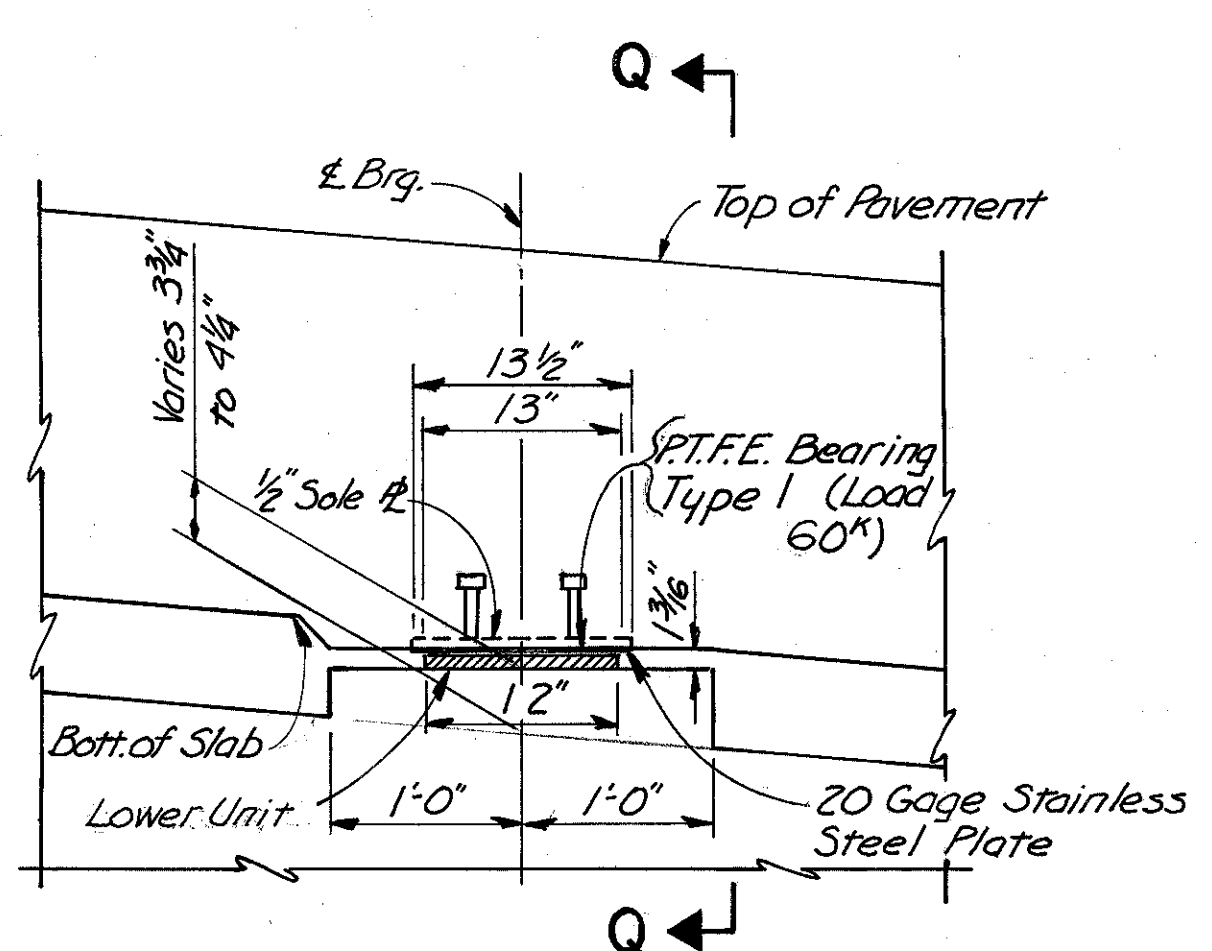
* Measured along Brg .



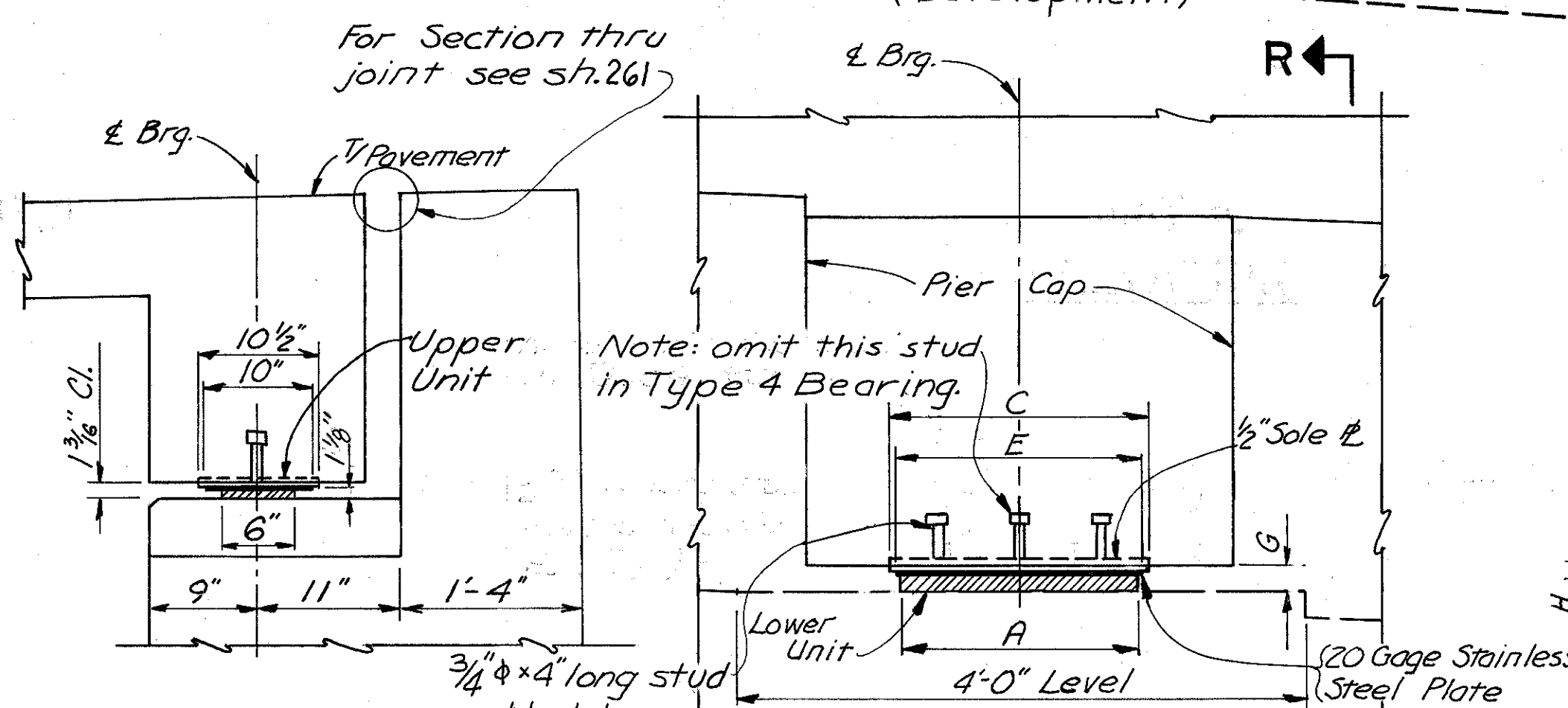
** Elevations calculated based on Fabreeka Structural Expansion Bearings with a height equal to $1\frac{3}{16}$ ". Elevations to be revised if bearing height changes.

*** Dimensions shown based on Fabreeka Structural Expansion Bearings.

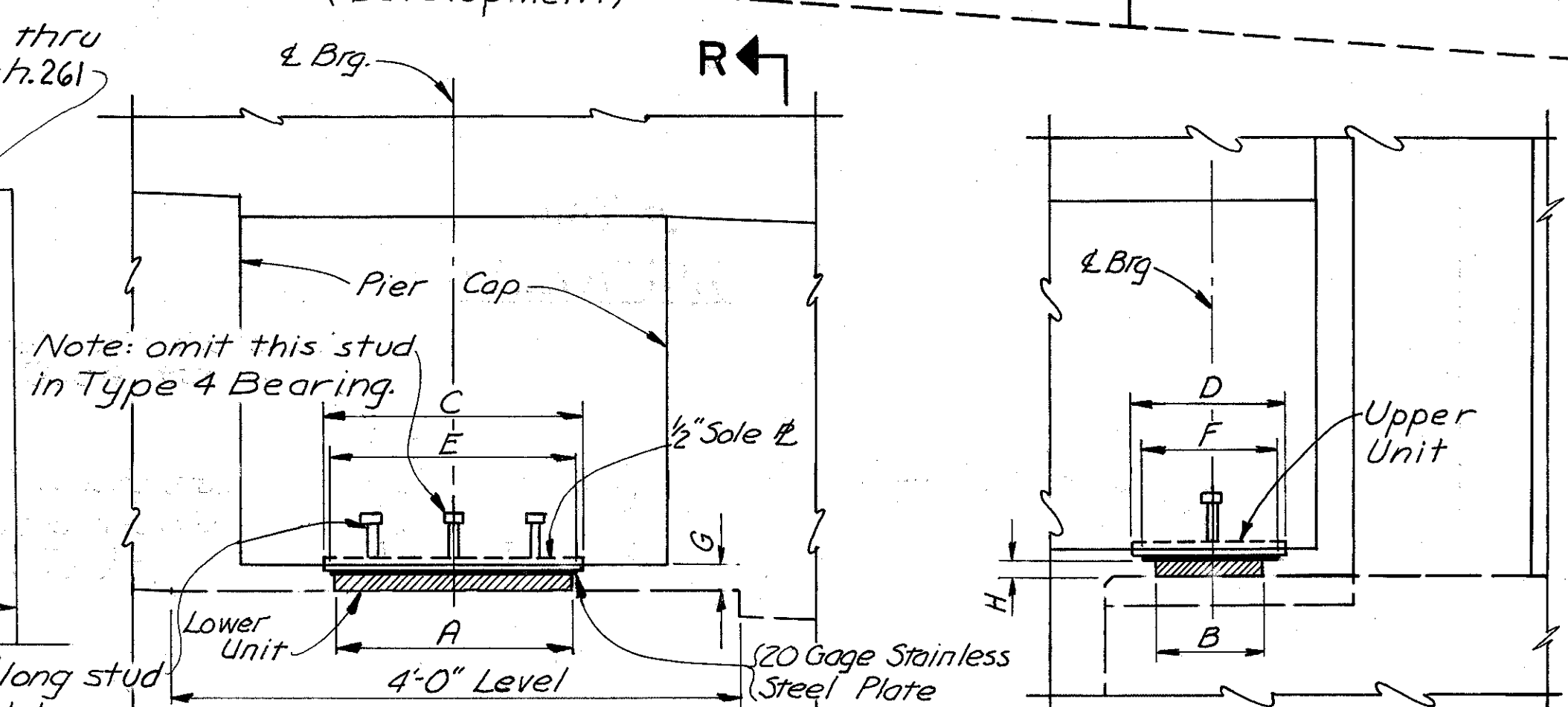
† For additional details of Type 4 bearing, see sheet 256.



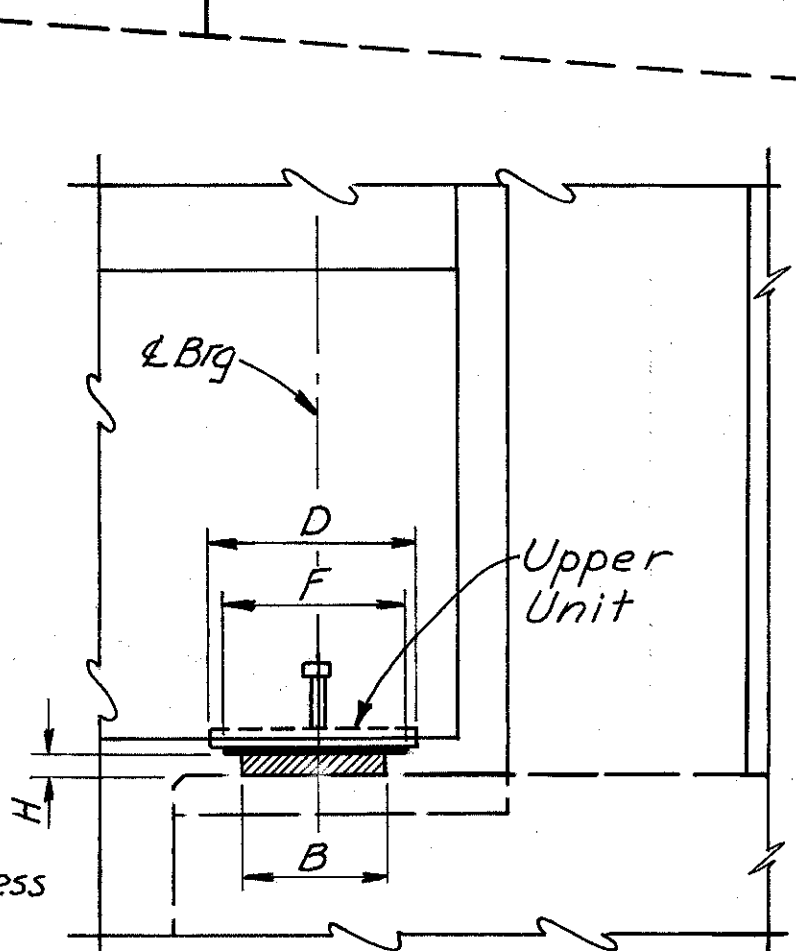
DETAIL D
(Reinforcing steel not shown)



SECTION Q-Q



DETAIL E
(Reinforcing steel not shown)



SECTION R-R

Note:
Unit price bid for each bearing includes furnishing and installing: the sole plate with stainless steel plate permanently bonded to it; studs welded to sole plate as shown; and a lower unit of T.F.E. sliding surface permanently bonded to a bearing pad, then attached to the concrete surface below the bearing with suitable adhesive.

	TYPE	BEARING DIMENSIONS ***								LOAD
		A	B	C	D	E	F	G	H	
PIER 4	2	16"	8"	17 1/2"	12 1/2"	17"	12"	1 1/8"	1 1/2"	100 ^K
PIER 5	3	20"	9"	21 1/2"	13 1/2"	21"	13"	1 1/8"	1 1/2"	140 ^K
PIER 6	2	16"	8"	17 1/2"	12 1/2"	17"	12"	1 1/8"	1 1/2"	100 ^K
BRACKET 7	4	† 14"	7"	15 1/2"	11 1/2"	15"	11"	1 1/8"	1 1/2"	80 ^K

PTFE Bearings are manufactured by Fabreeka Products Company, 1190 Adams Street, Boston, Mass. 02124, Factory Products, 4477 1/2 North Elston Ave., Chicago, Ill. 60630 or Beeco Products Company, Fort Washington, Pa. 19034. Maximum average compressive stress, 800 psi. Beam rotation provided for shall be not less than .015 radians.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO

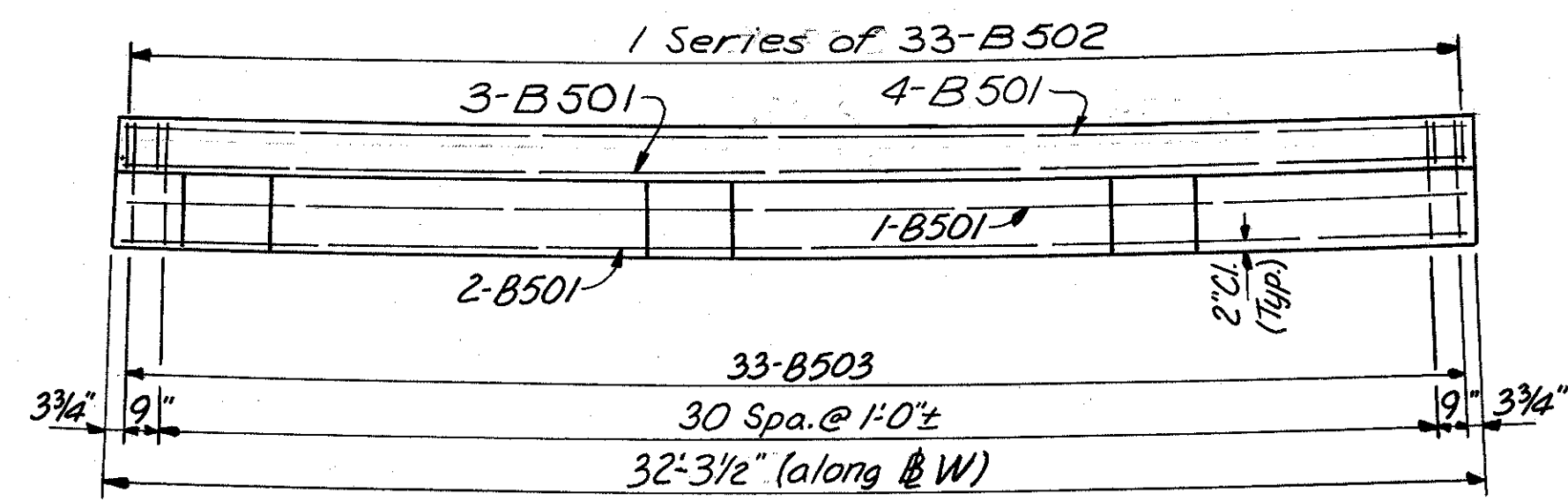
CYLINDER PILE BACKWALL DETAILS
UNITS 4, 5 & 6
BRIDGE NO. HAM.-471-
MONASTERY STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRT	MRT		HLL	JHO 3-24-82	

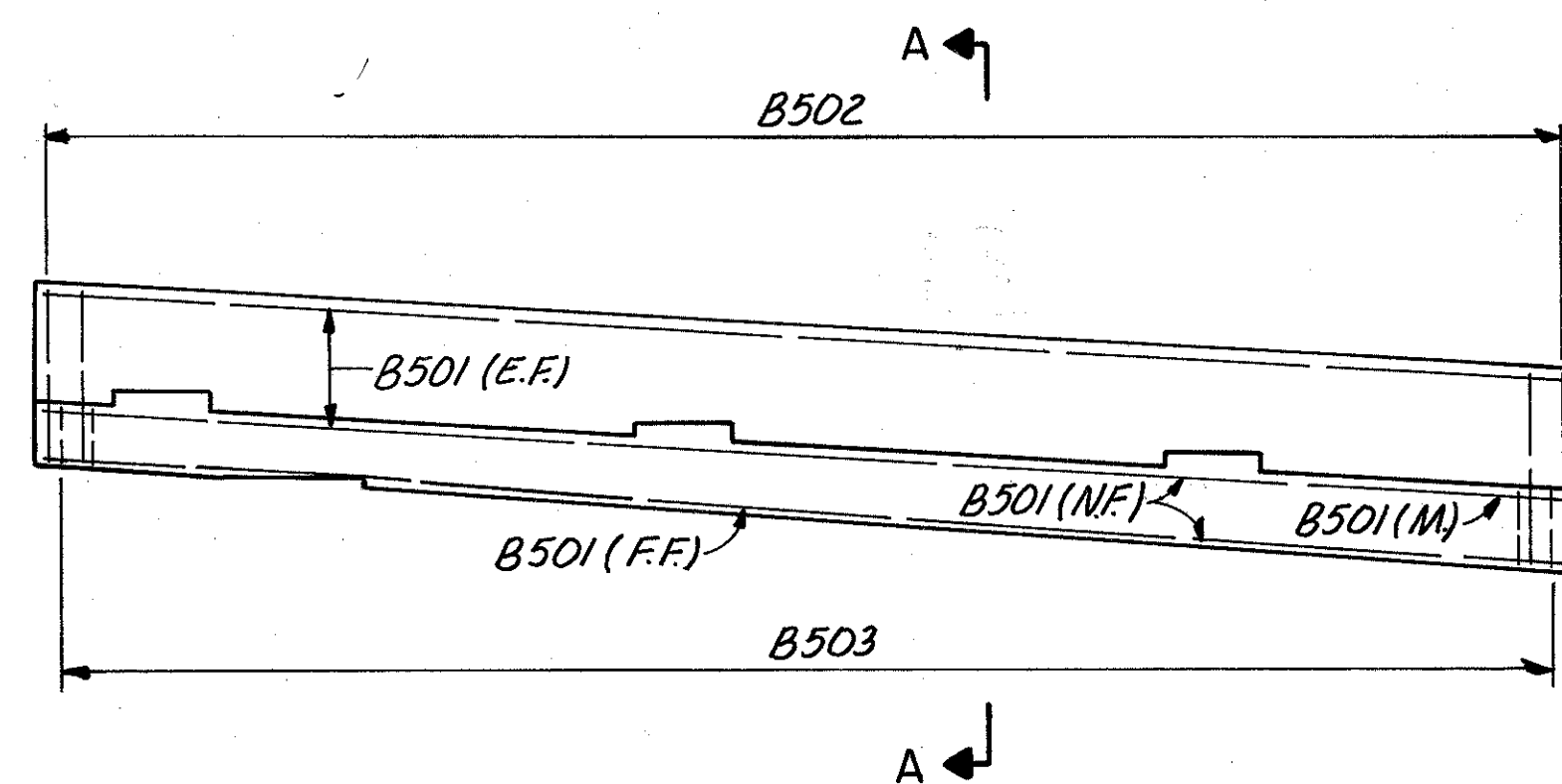
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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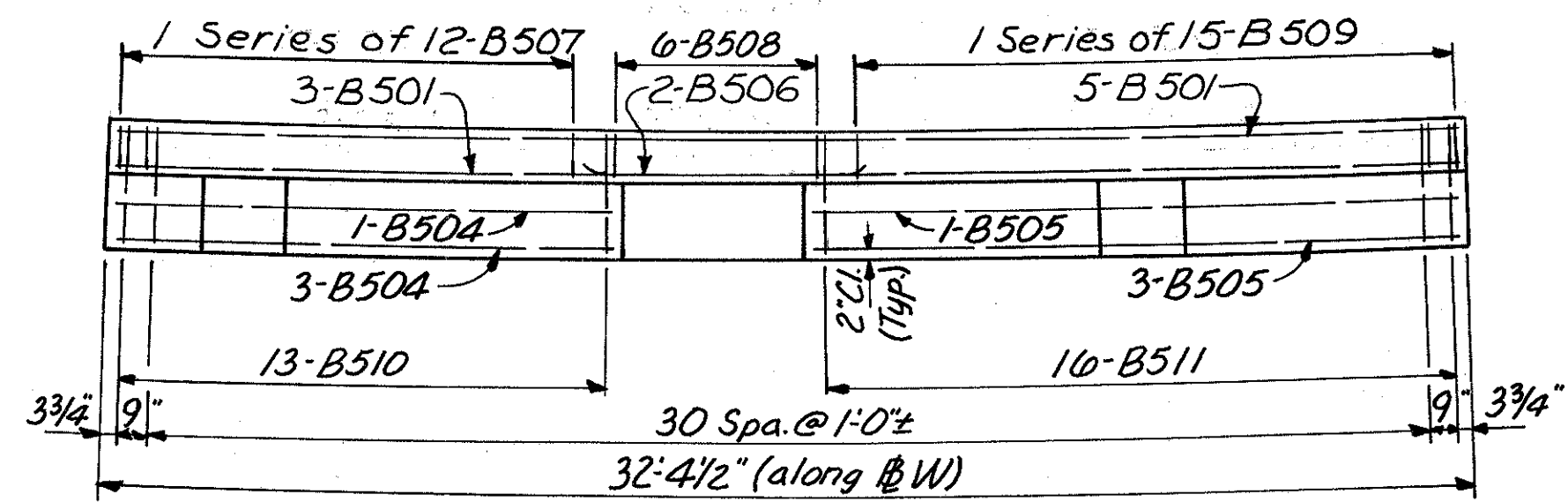
HAMILTON COUNTY
HAM.-471-0.24
PART TWO



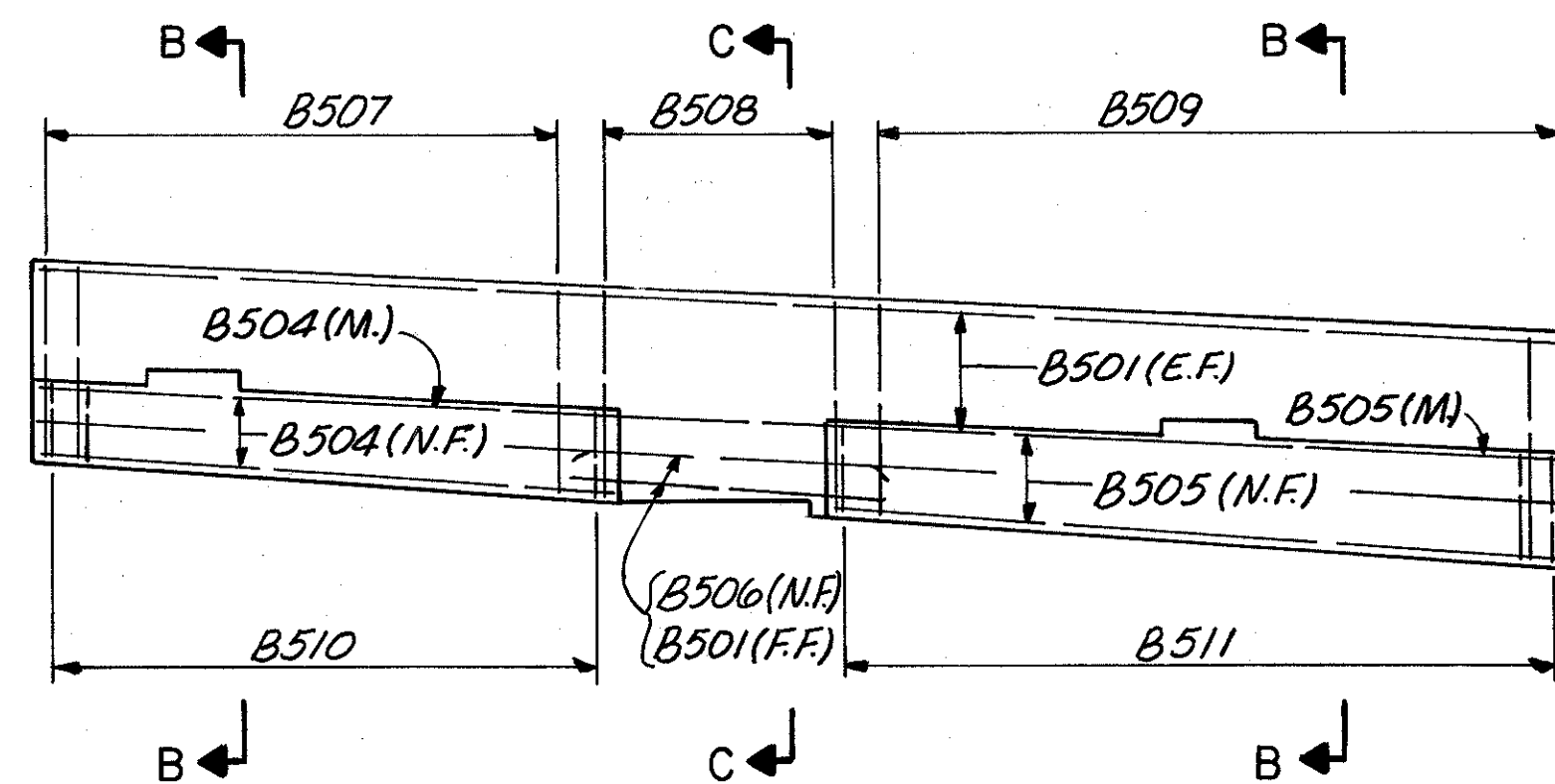
PLAN



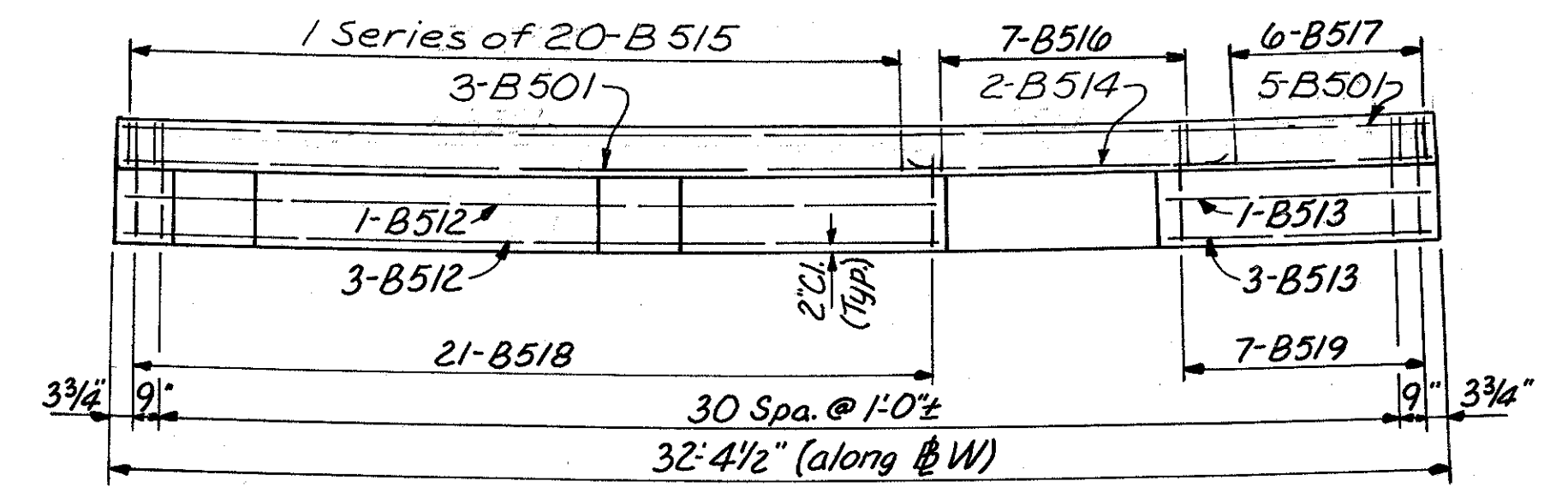
ELEVATION
UNIT 4



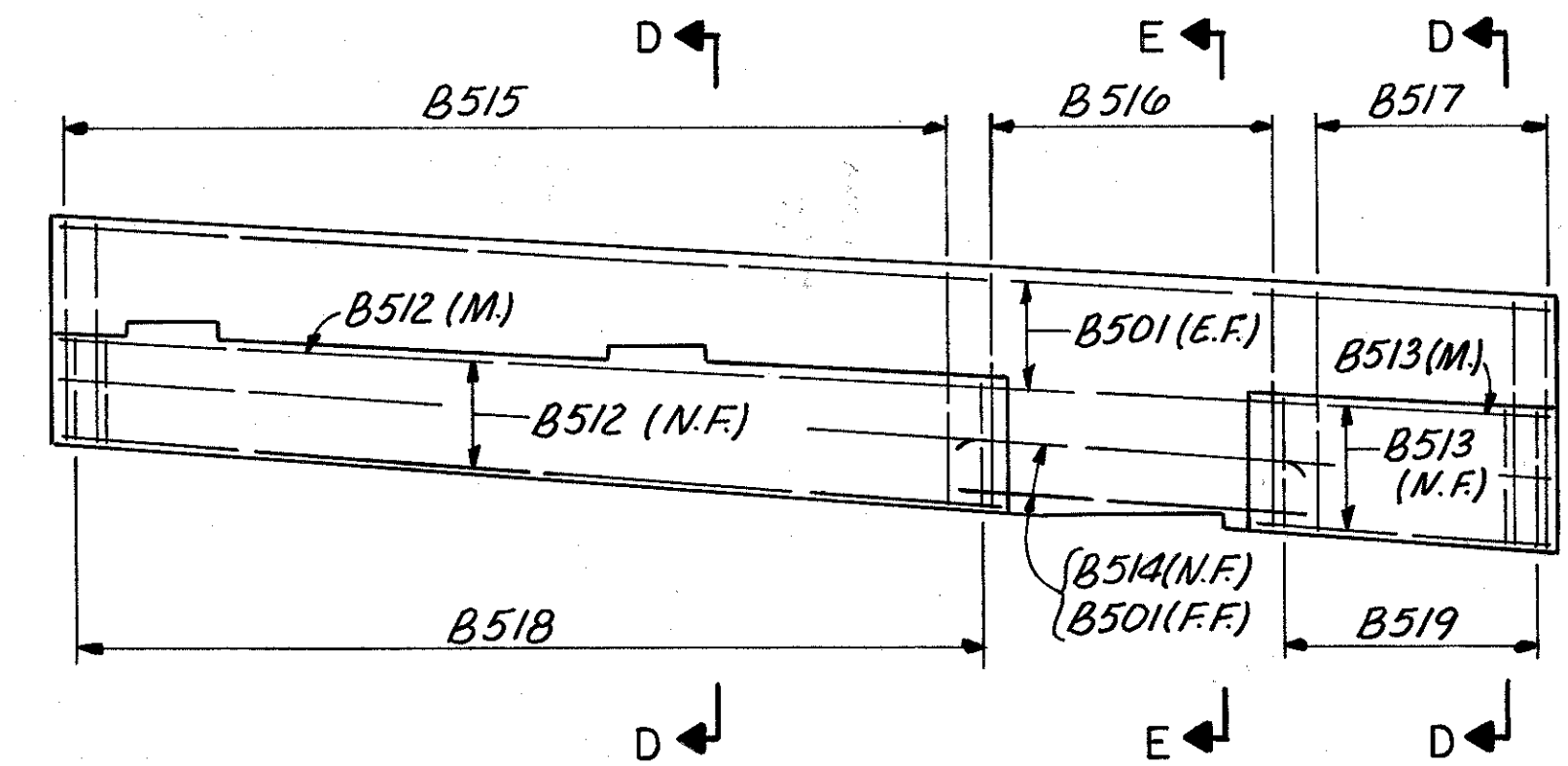
PLAN



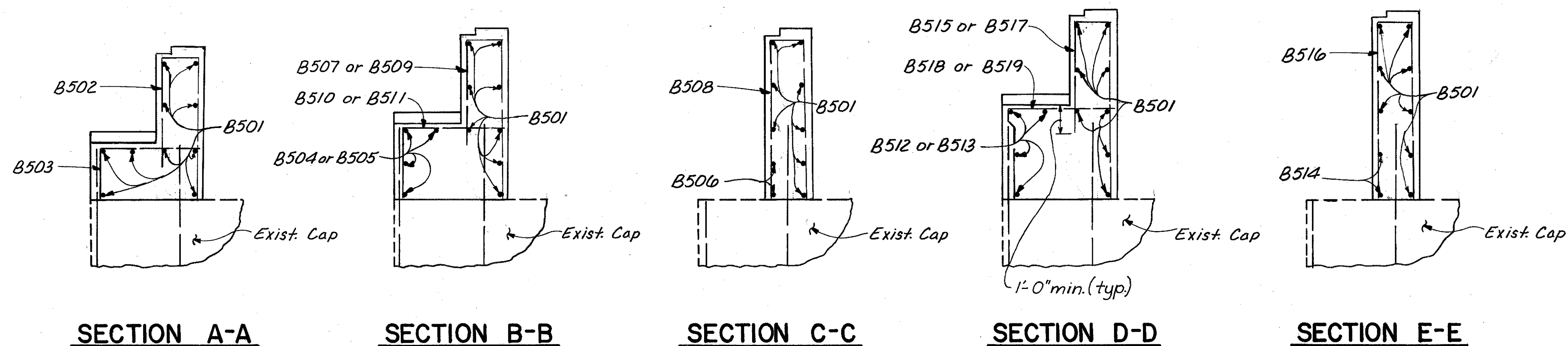
ELEVATION
UNIT 5



PLAN



ELEVATION
UNIT 6



Notes:

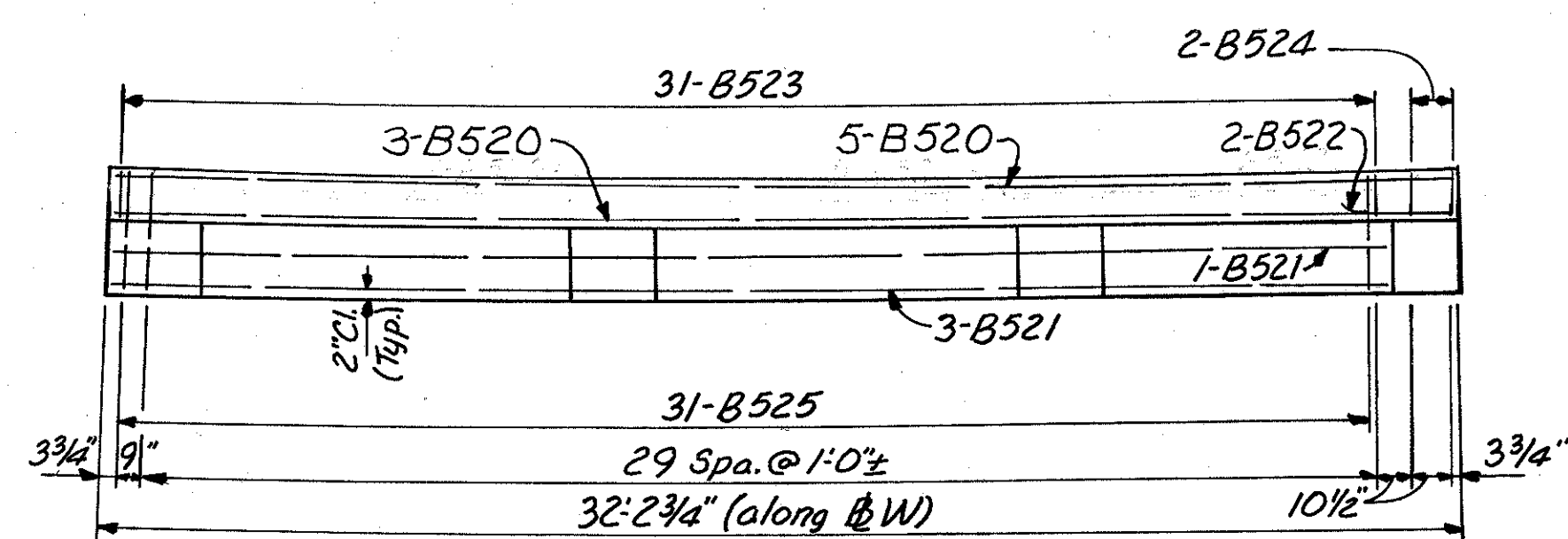
N.F. denotes Near Face
F.F. denotes Far Face
E.F. denotes Each Face
M. denotes Middle
Some adjustment in length and location of reinforcing steel may be required to clear expansion joint device at top of backwall. The exposed portion of existing bars projecting above cap beam, Units 4-9, shall have the double layer of plastic film removed and shall be cleaned. This work shall be incidental to the superstructure concrete work.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
CYLINDER PILE BACKWALL DETAILS					
UNITS 4, 5 & 6					
BRIDGE NO. HAM.-471-					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRT	MRT		HLL	JHO 3-24-82	

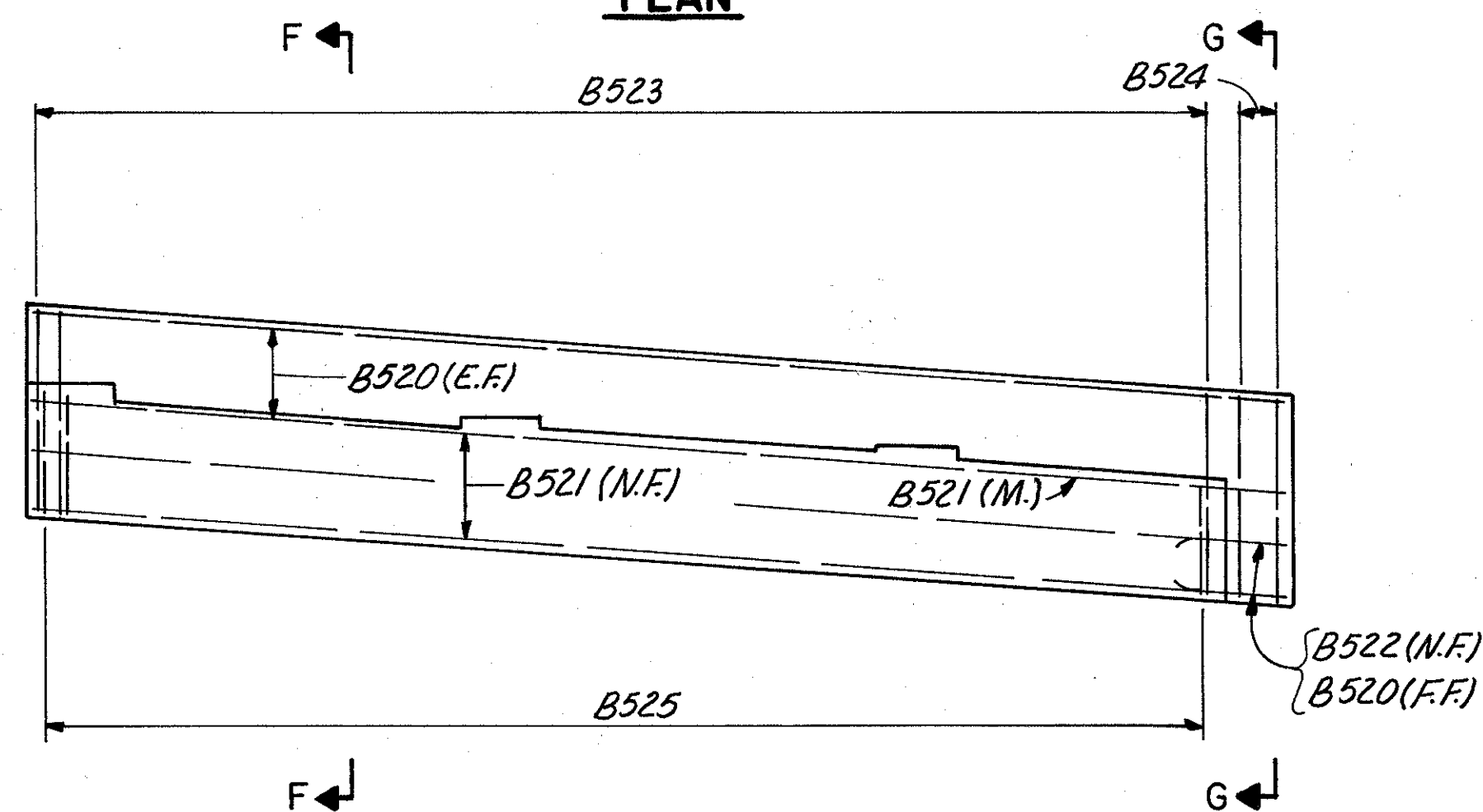
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

248
346

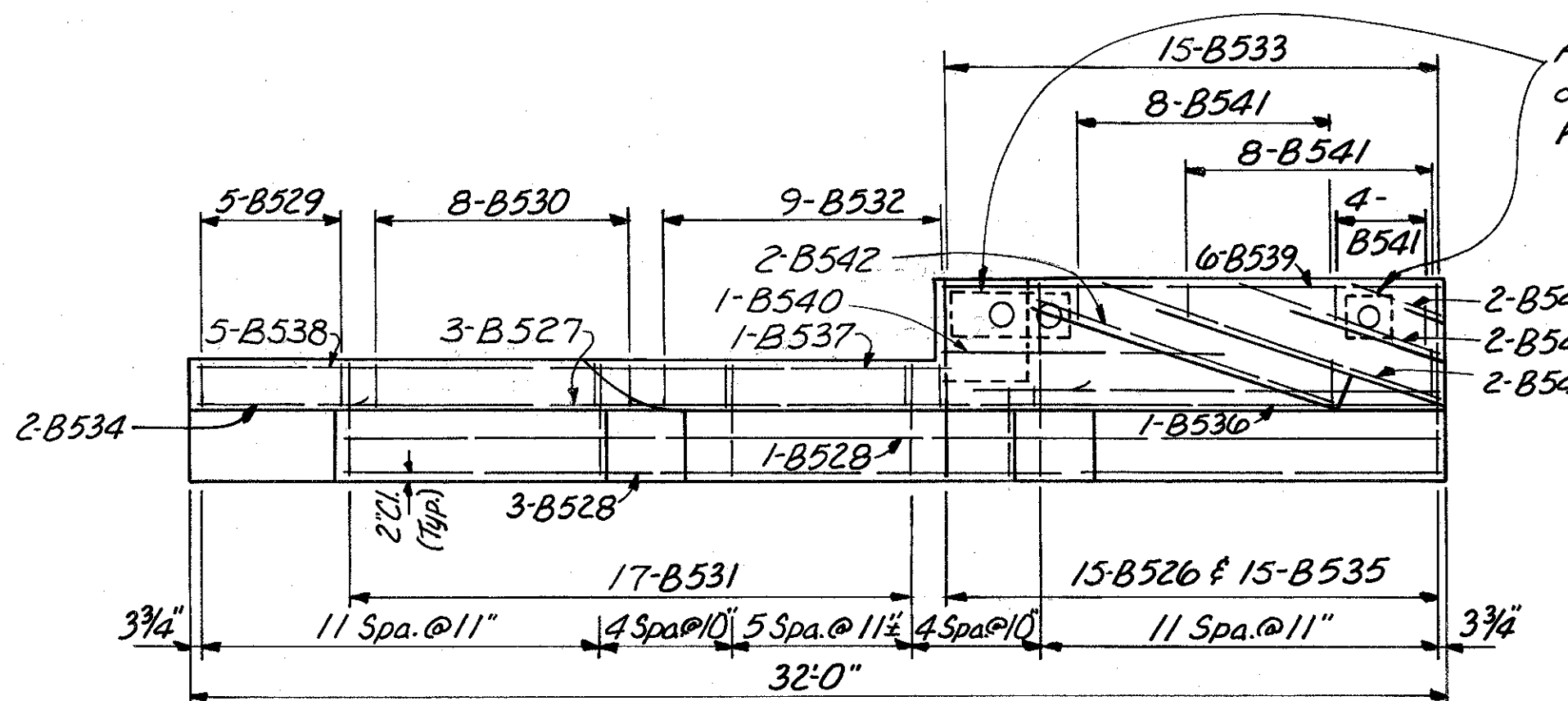
HAMILTON COUNTY
HAM.-471-0.24
PART TWO



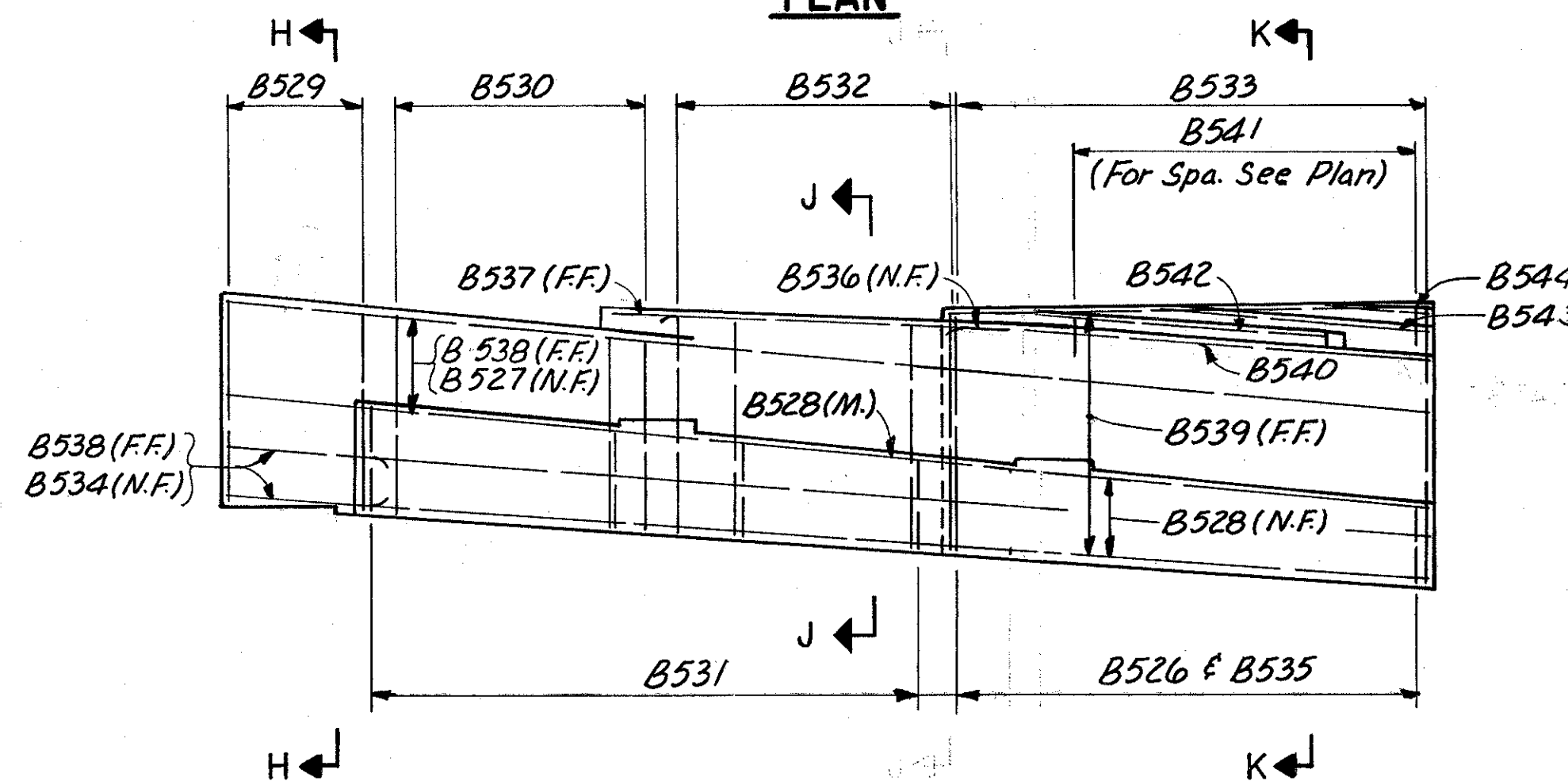
PLAN



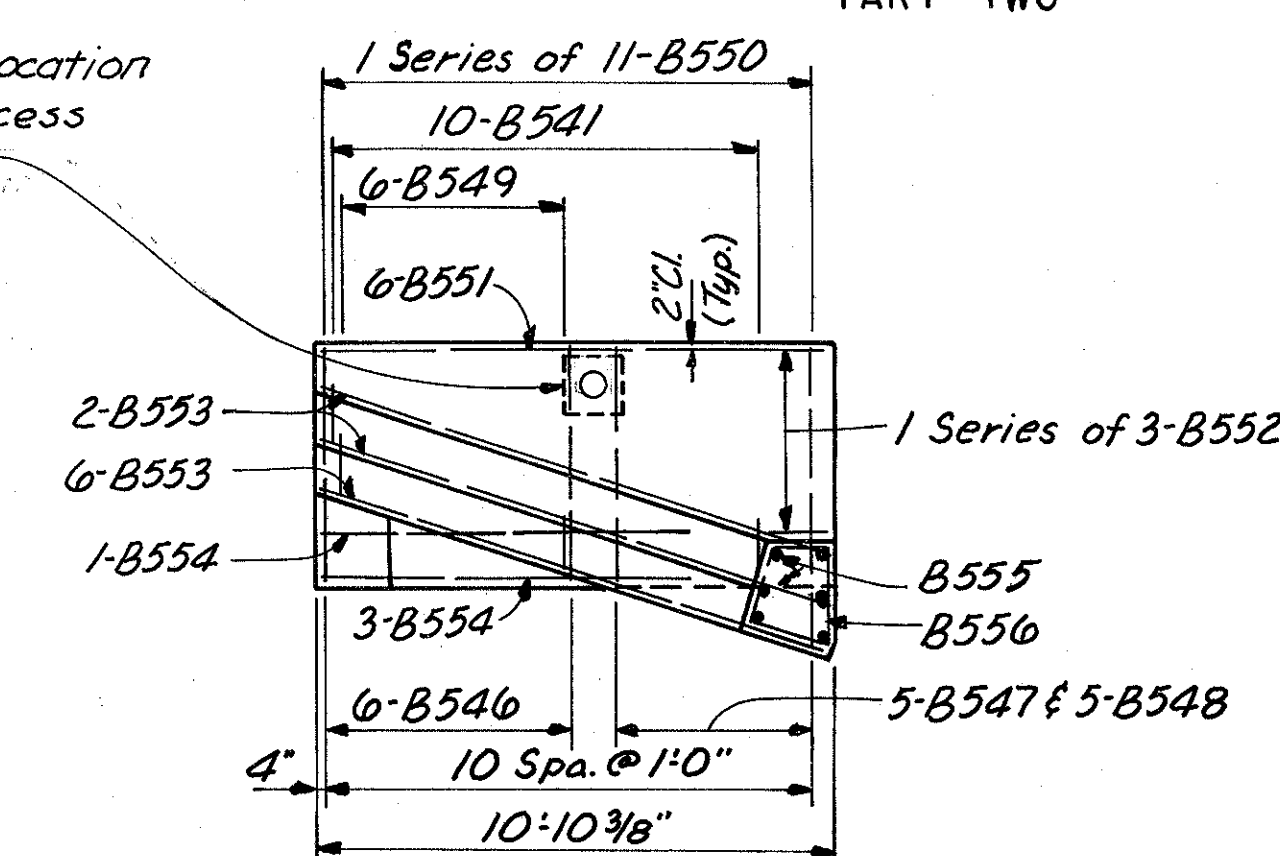
ELEVATION
UNIT 7



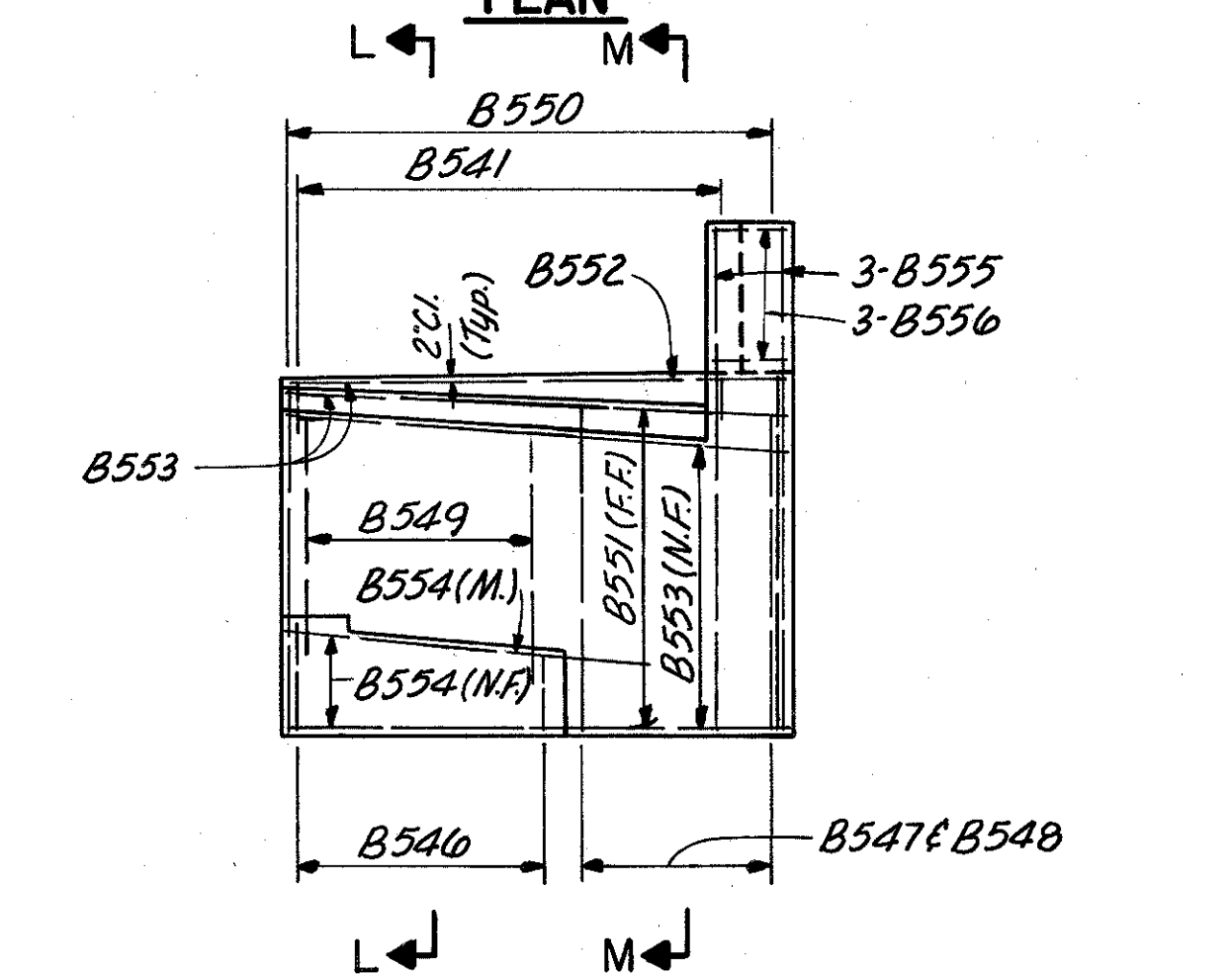
PLAN



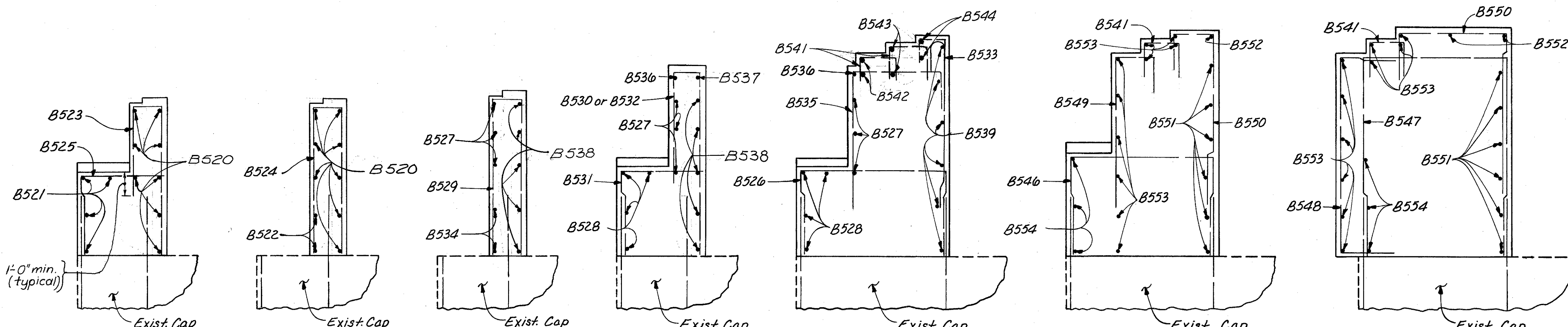
ELEVATION
UNIT 8



PLAN



ELEVATION
UNIT 9



SECTION F-F

SECTION G-G

SECTION H-H

SECTION J-J

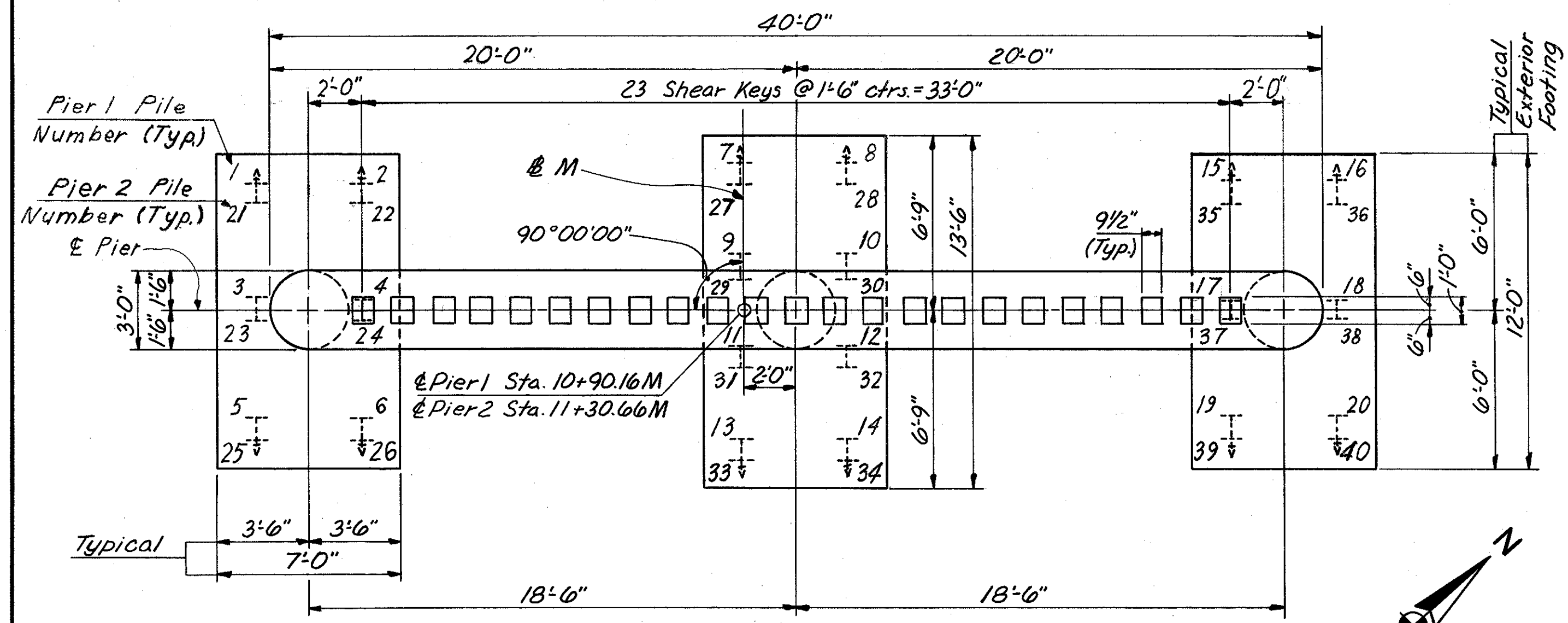
SECTION K-K

SECTION L-L

SECTION M-M

Notes:
N.F. denotes Near Face
F.F. denotes Far Face
E.F. denotes Each Face
M. denotes Middle
Some adjustment in length and location of reinforcing steel may be required to clear expansion joint device at top of backwall and three existing access receptacles (to be adjusted to grade in median-nose area)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					11/30
CYLINDER PILE BACKWALL DETAILS					
UNITS 7, 8 & 9					
BRIDGE NO. HAM.-471-					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MRT	MRT		H.L.L.	JH 3-24-82	

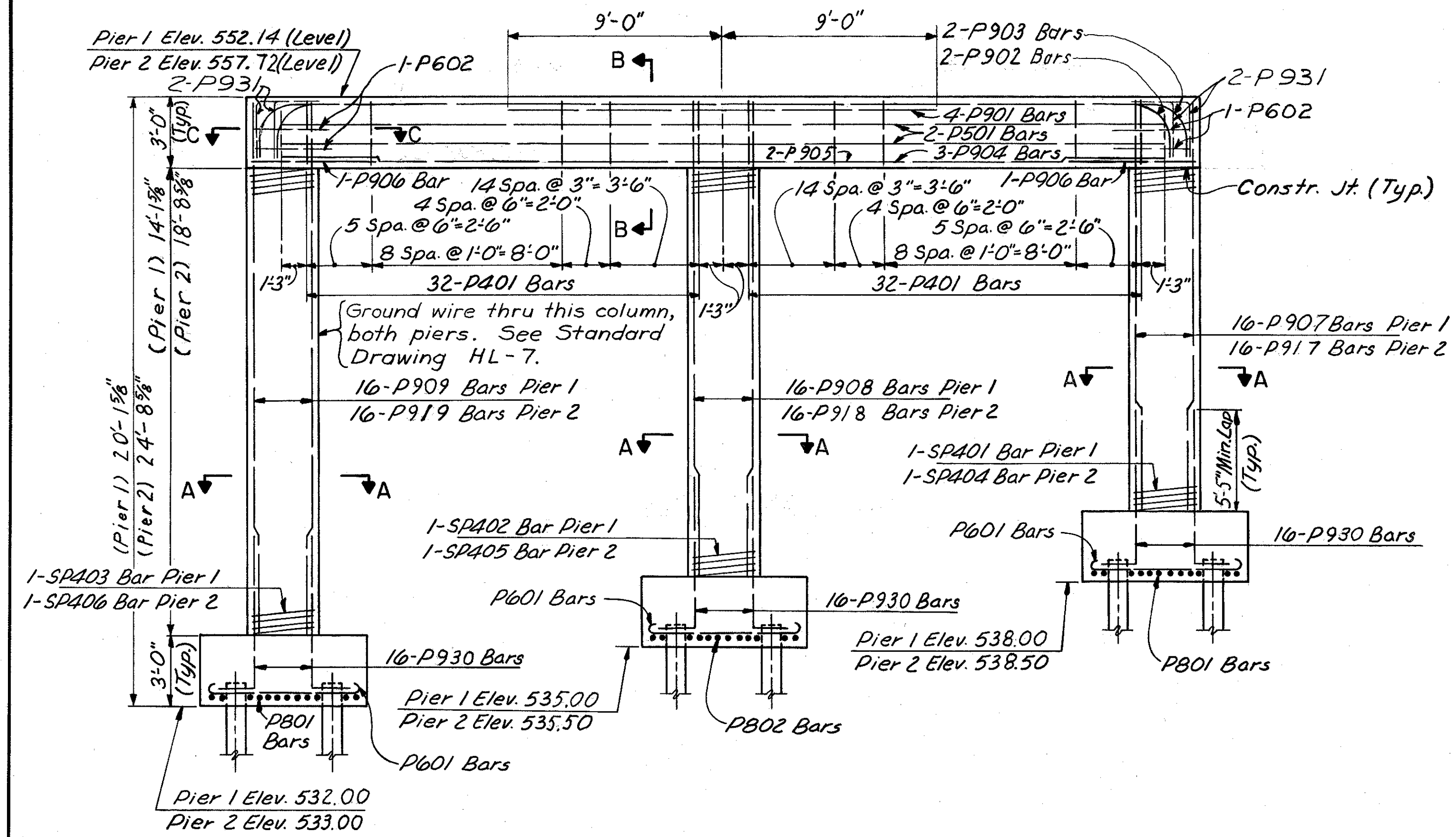
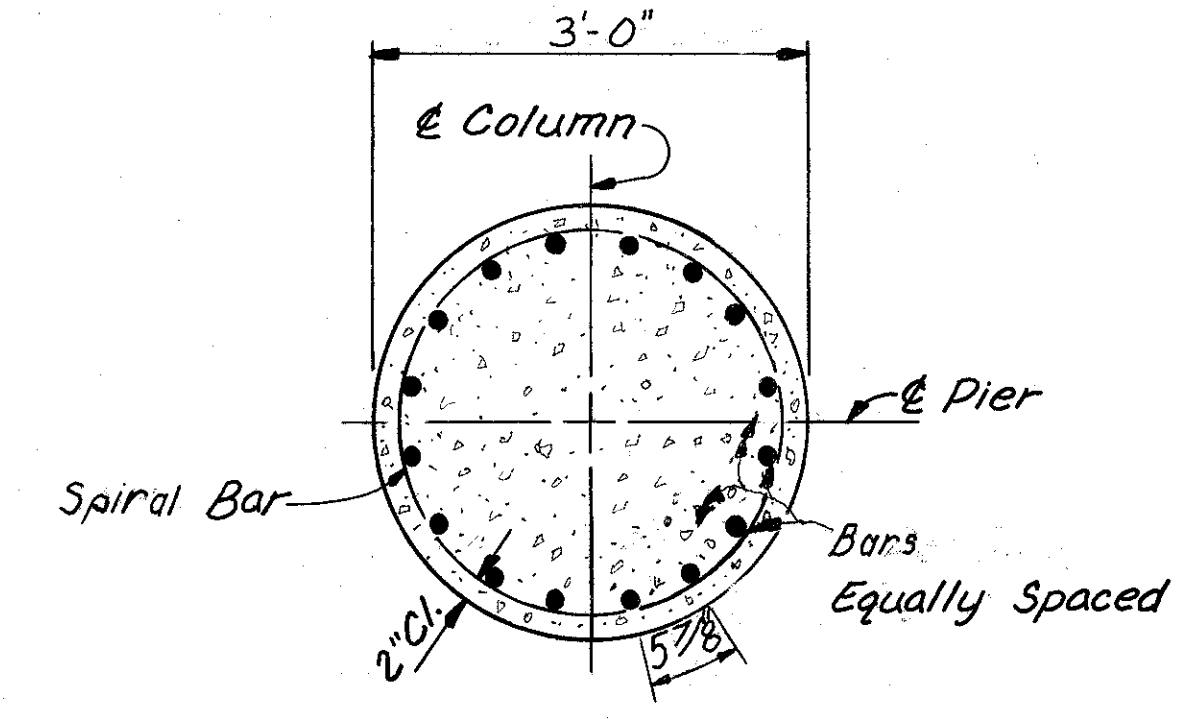
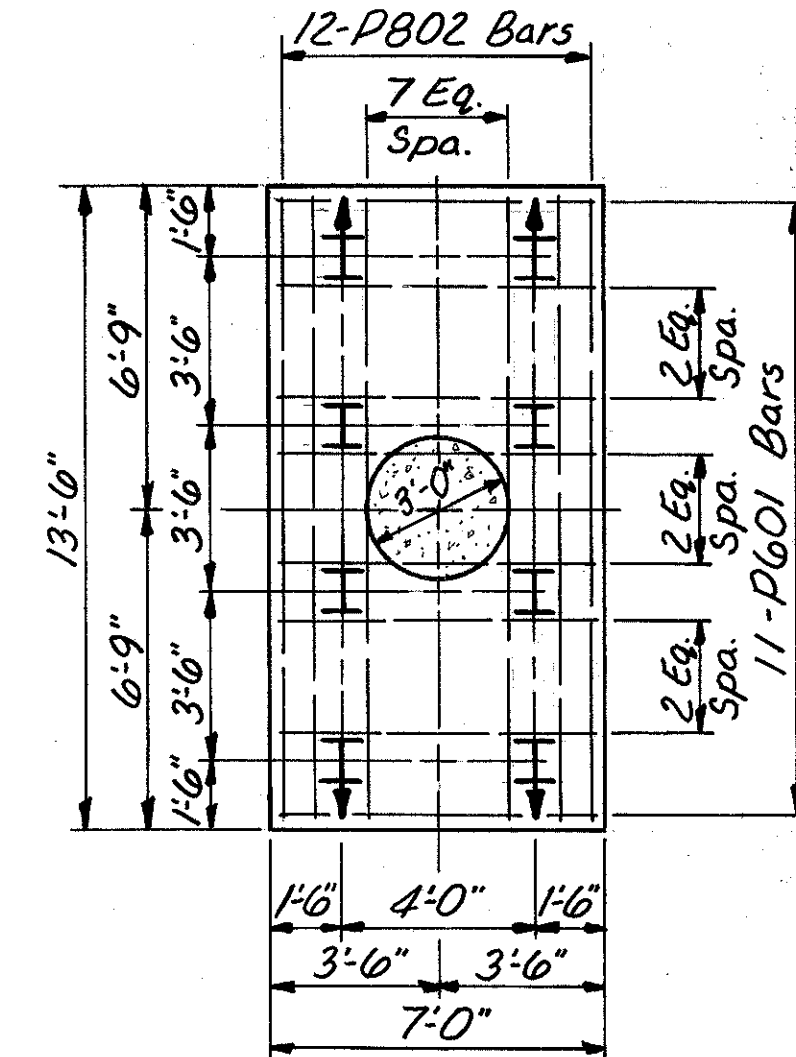
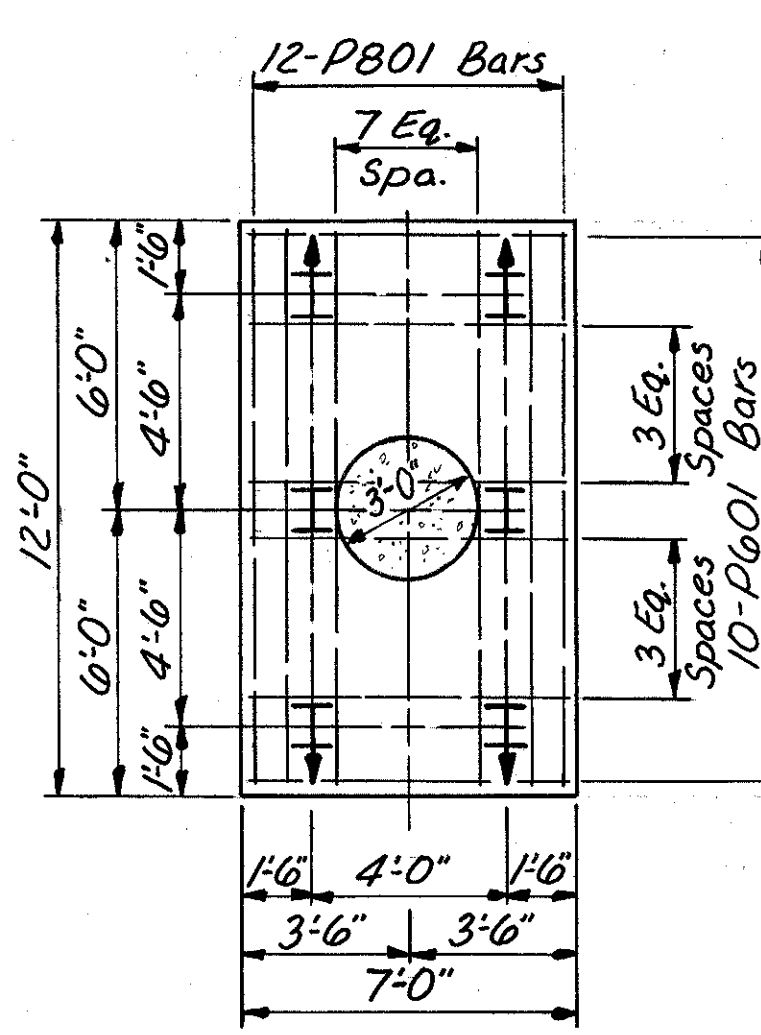


PLAN

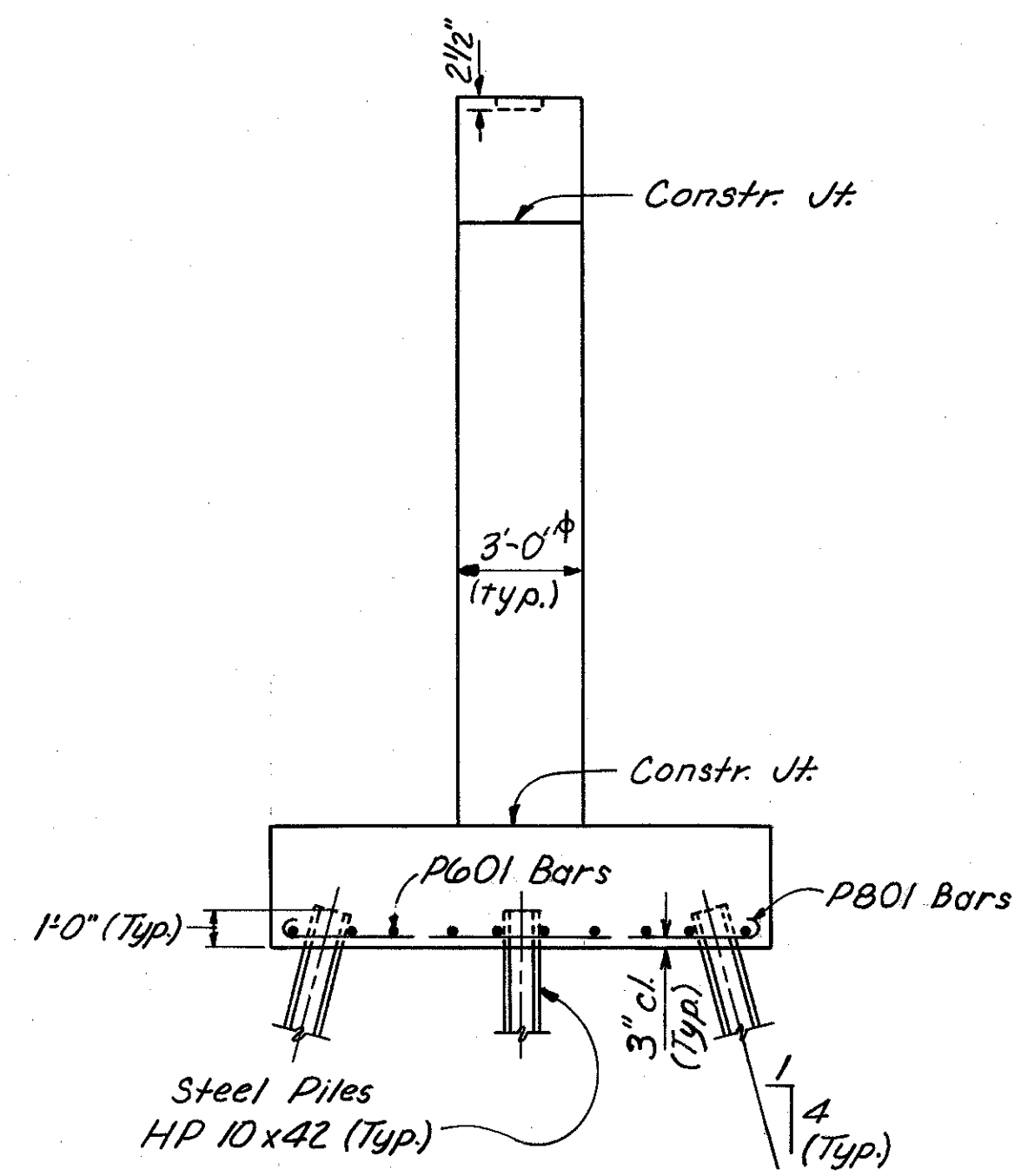
TYPICAL EXTERIOR FOOTING

INTERIOR FOOTING

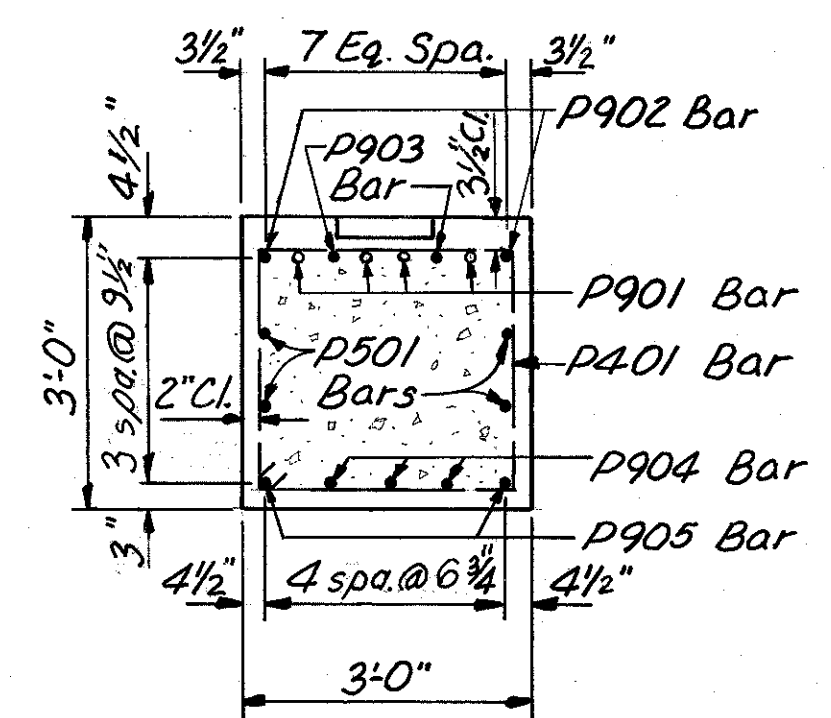
SECTION A-A



ELEVATION
(Shear Keys not shown)

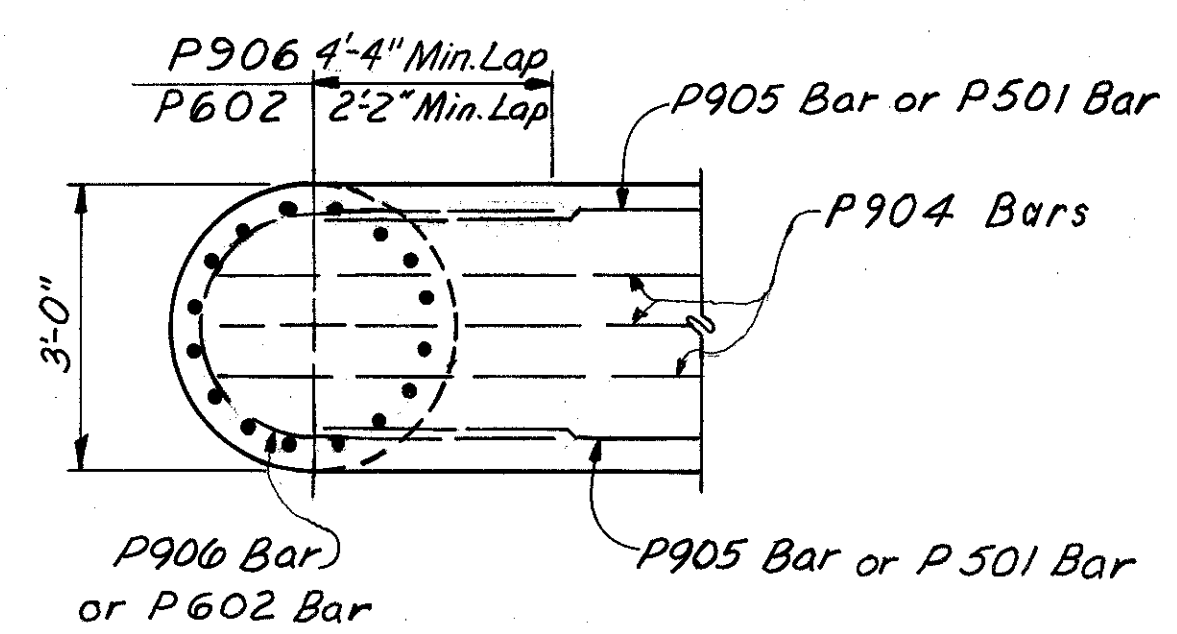


END ELEVATION
(Exterior Footing Shown)



SECTION B-B

Note: Hooked corners of stirrups within 6' of Φ columns shall be down; other hooks up.



SECTION C-C

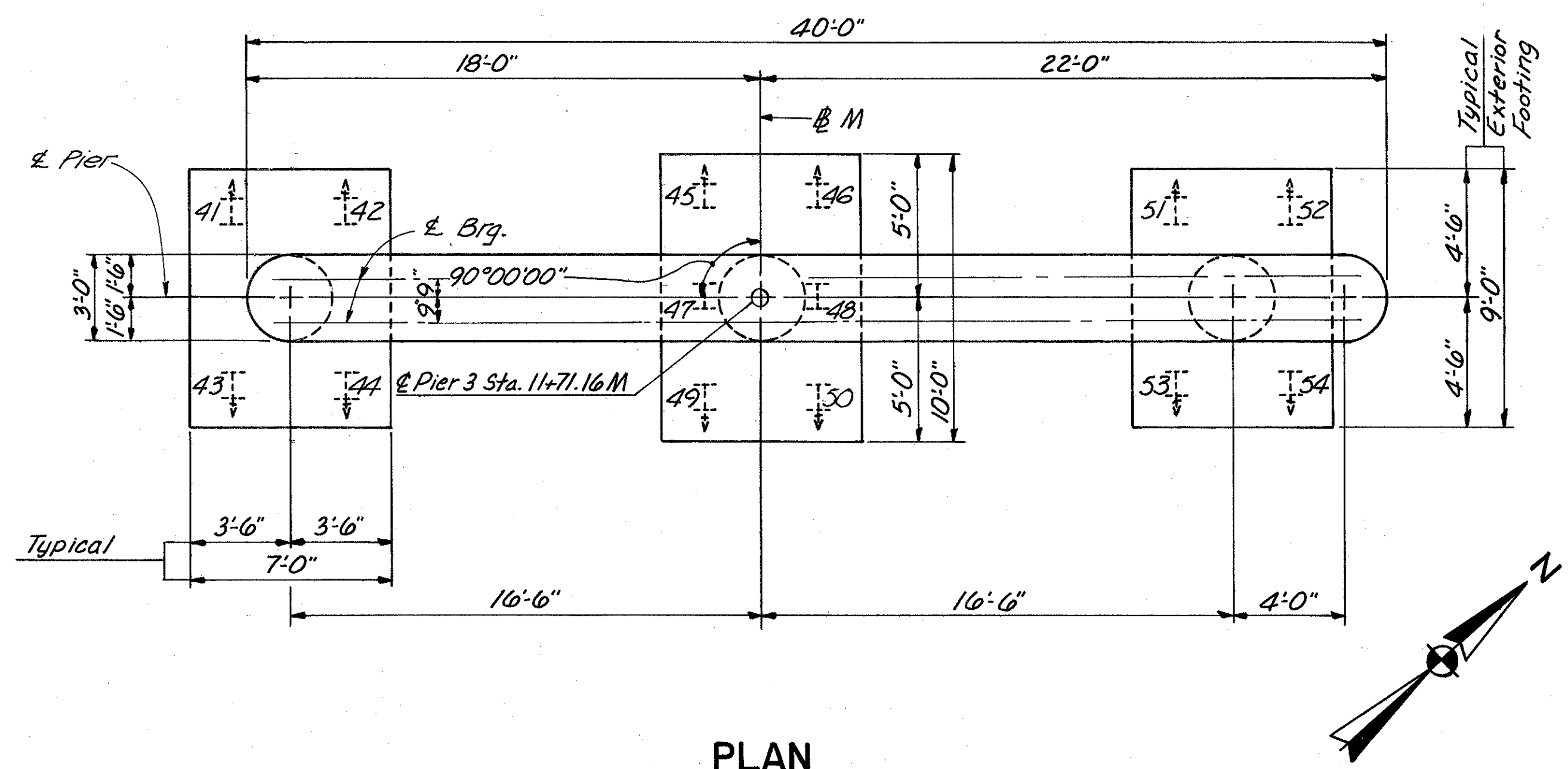
Note:
⊥ Denotes battered pile.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						12/30
PIER NO. 1 & 2						
BRIDGE NO. HAM.-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
VDG	MRT		VDG	JHO 3-24-82		

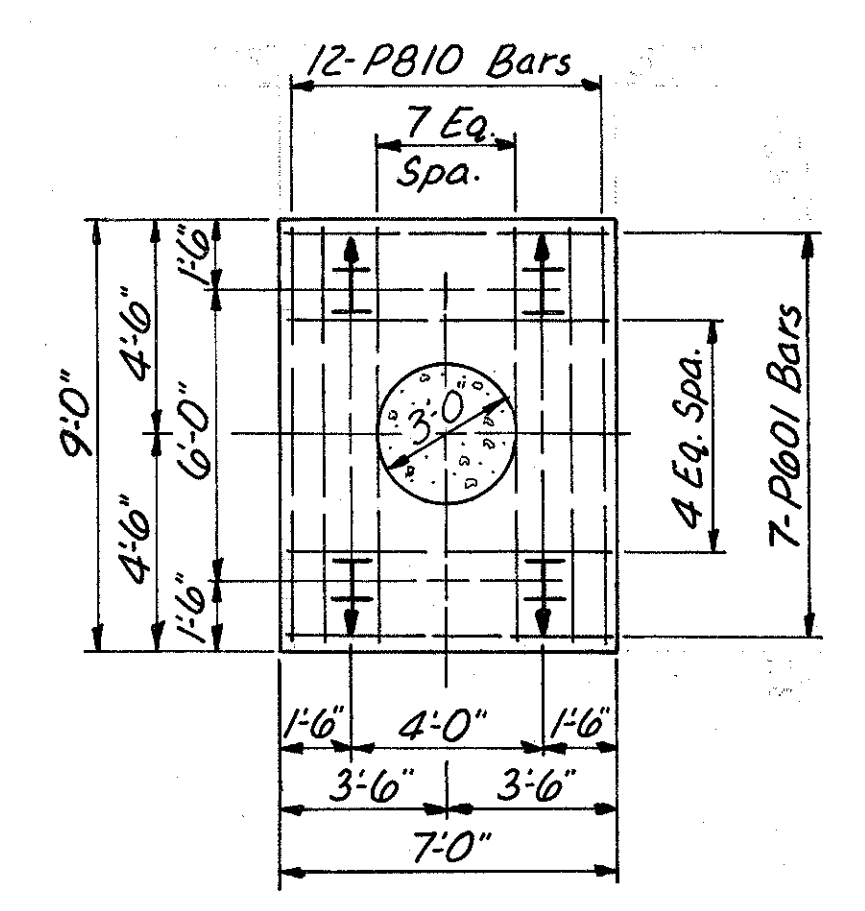
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

250
346

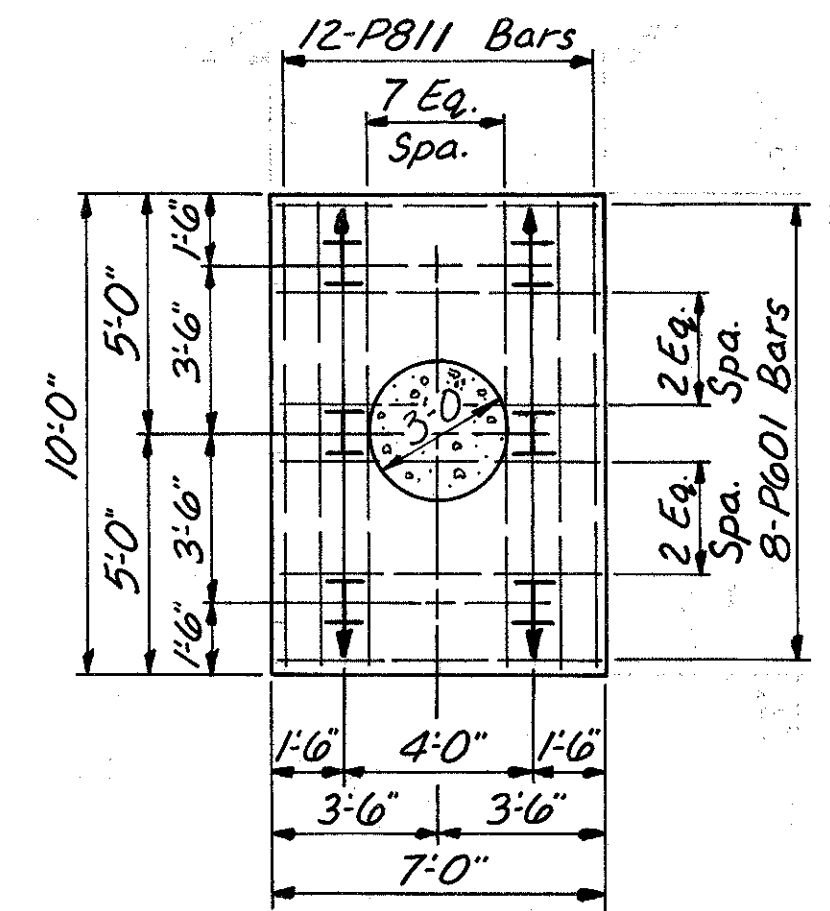
HAMILTON COUNTY
HAM-471-0.24
PART TWO



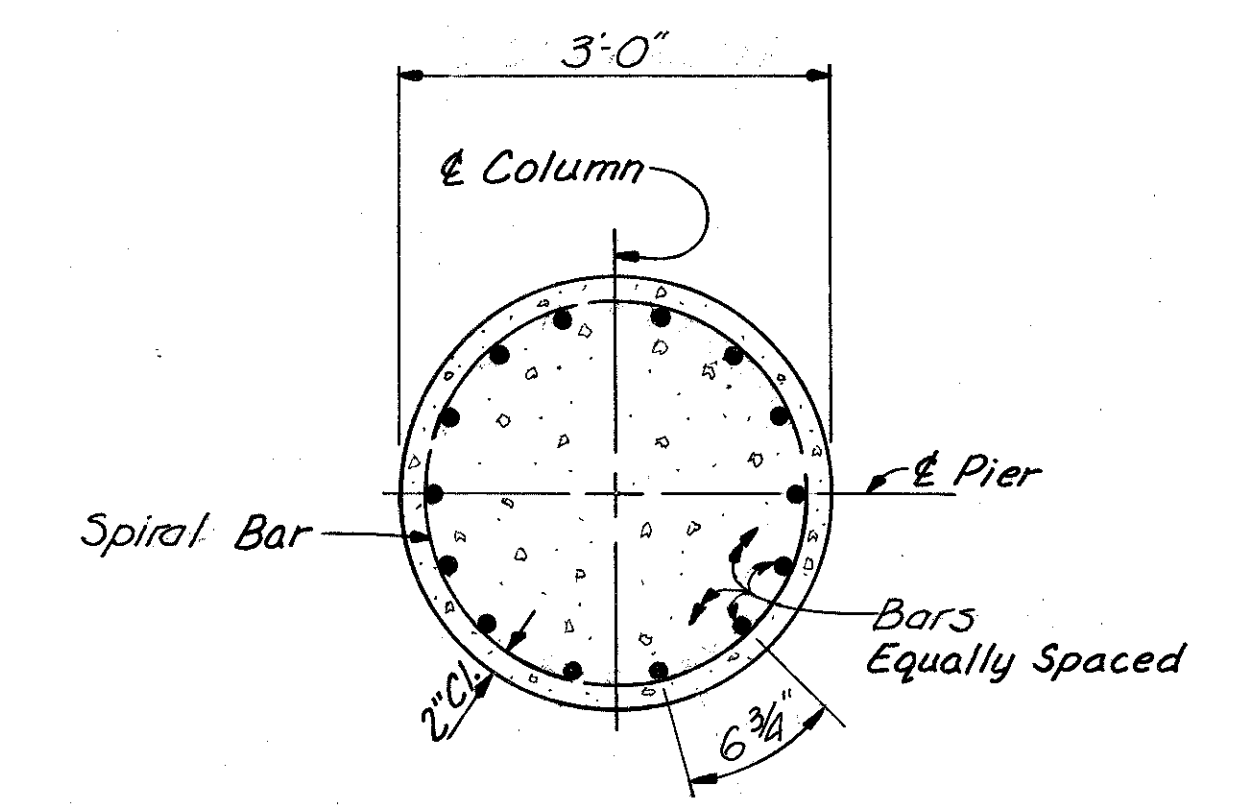
PLAN



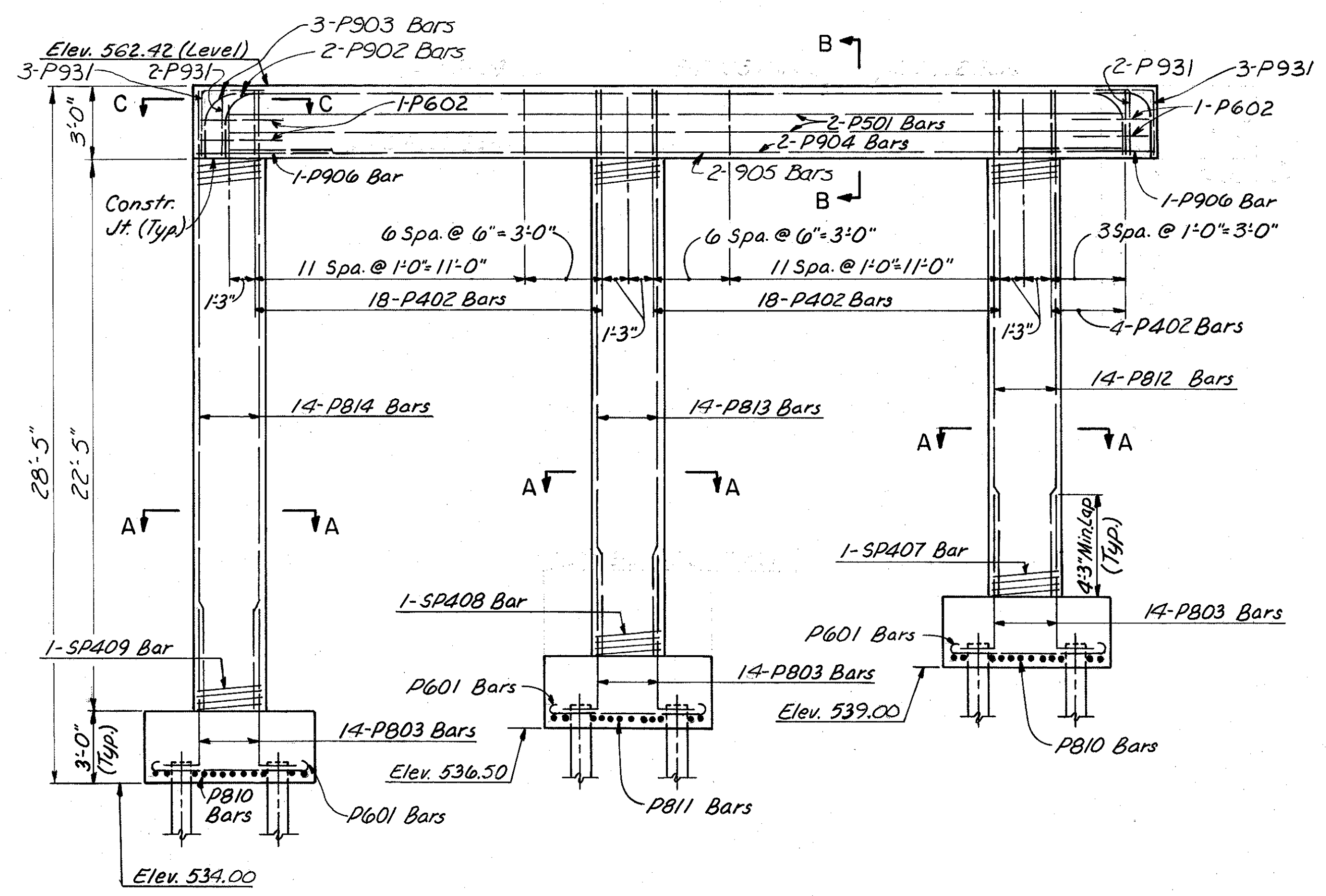
TYPICAL EXTERIOR FOOTING



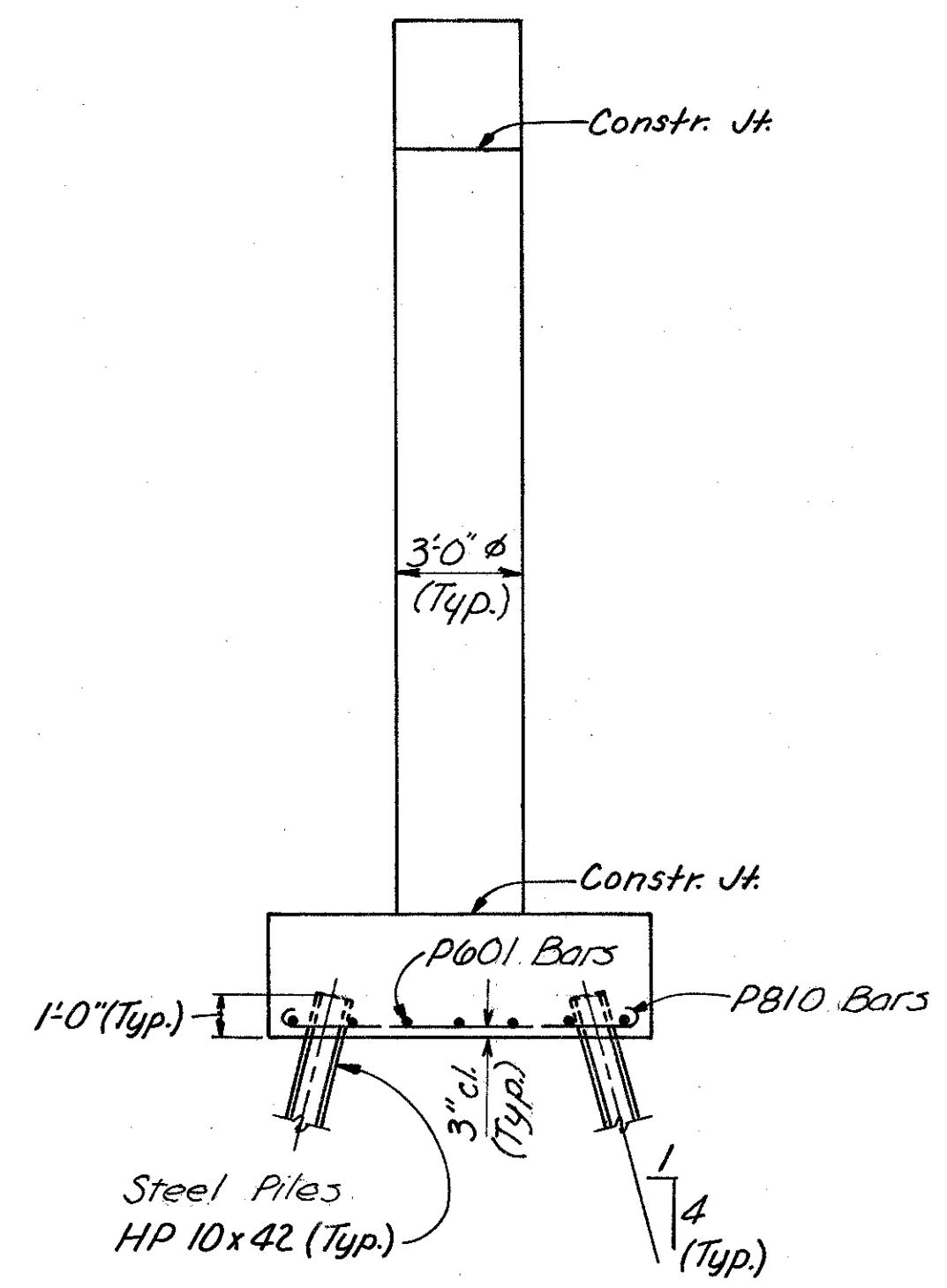
INTERIOR FOOTING



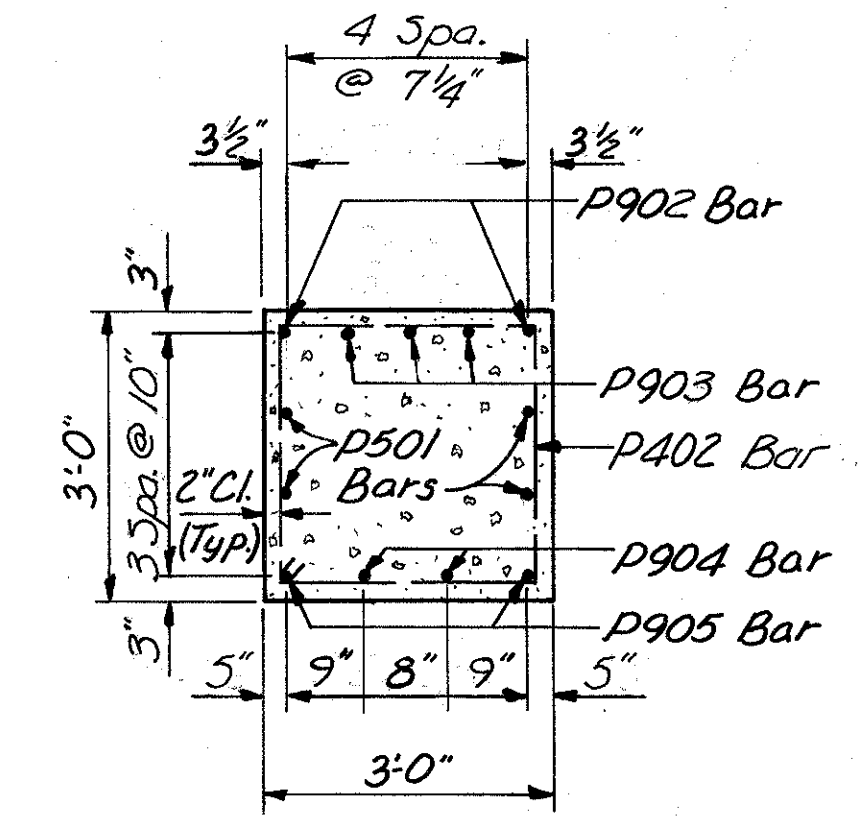
SECTION A-A



ELEVATION

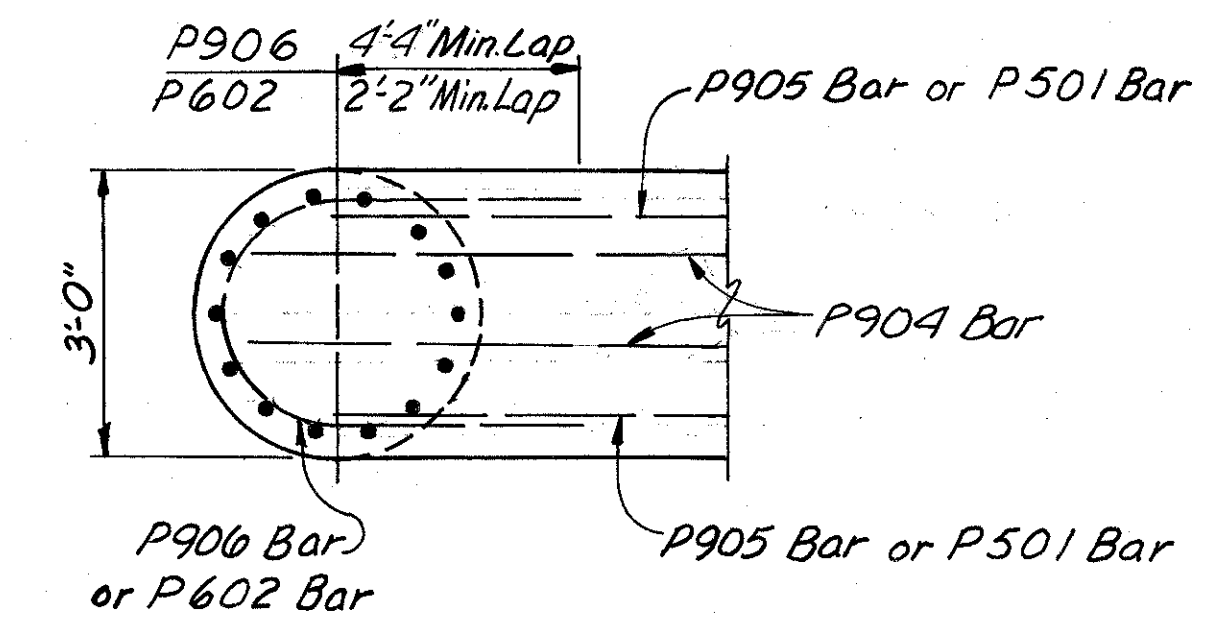


END ELEVATION
(Exterior Footing Shown)



SECTION B-B

Note: Hooked corners of stirrups within 5' of & columns shall be down, other hooks up.



SECTION C-C

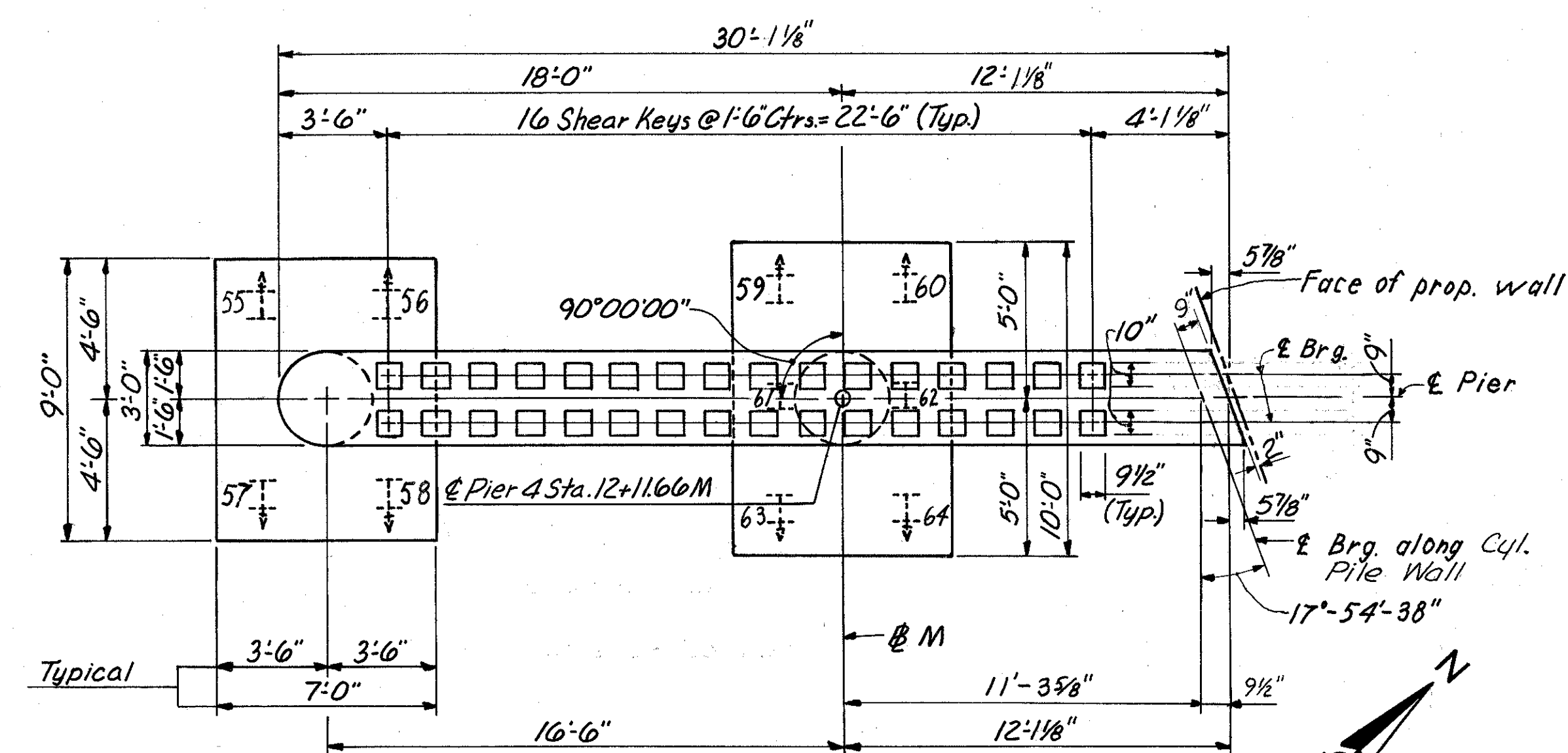
Notes:
⊥ Denotes battered pile.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						13/30
PIER NO. 3						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED VDG	DRAWN MRT	TRACED	CHECKED VDG	REVIEWED DATE JHO 3-24-82	REVISIONS	

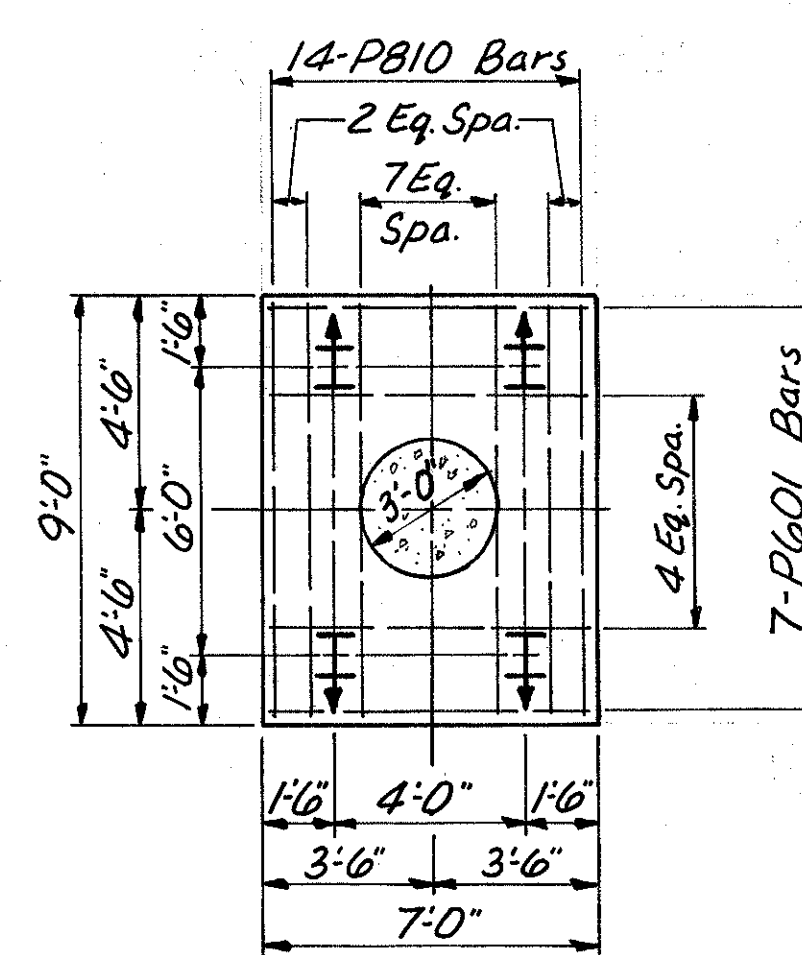
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

251
346

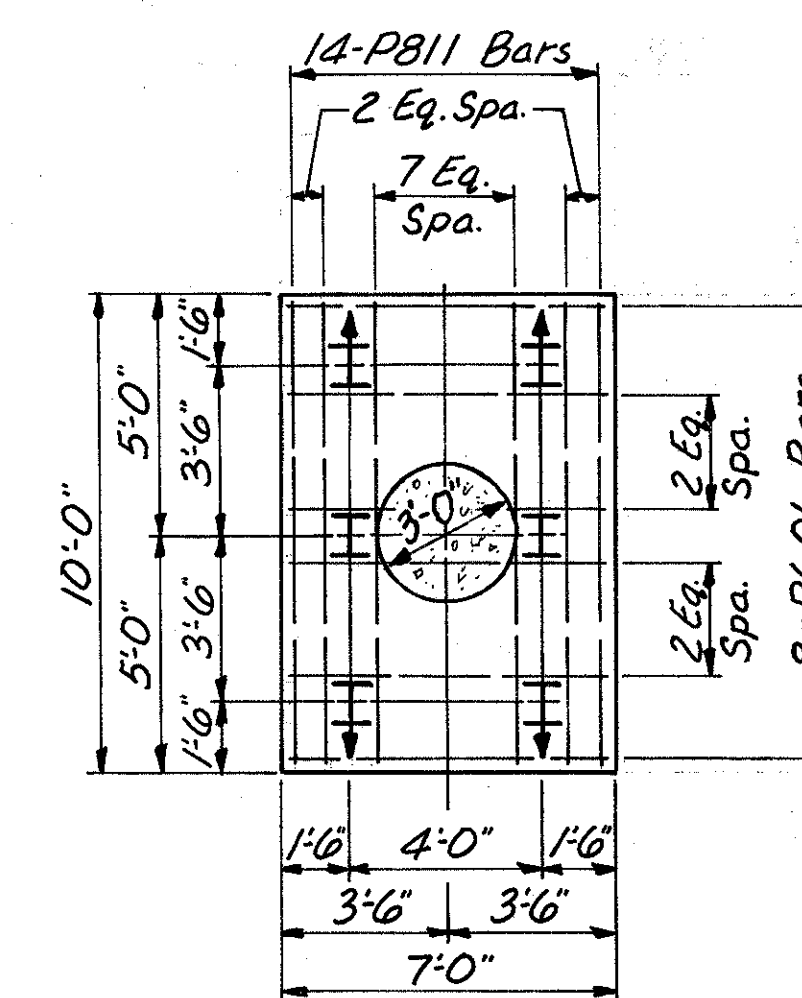
HAMILTON COUNTY
HAM.-471-024
PART TWO



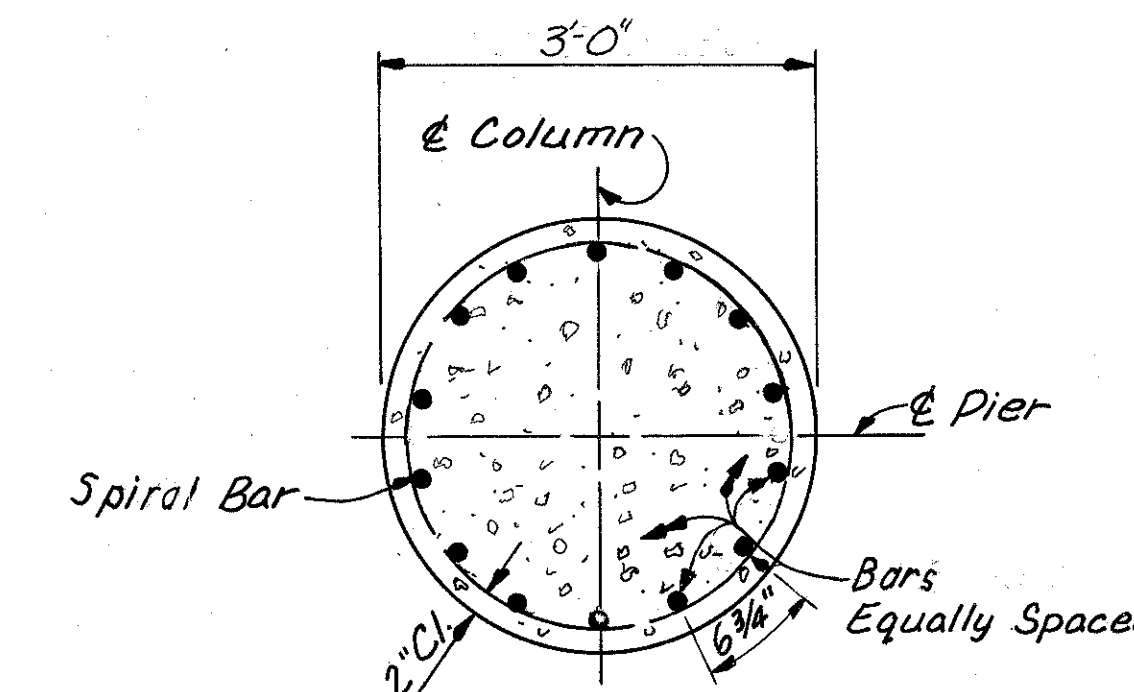
PLAN



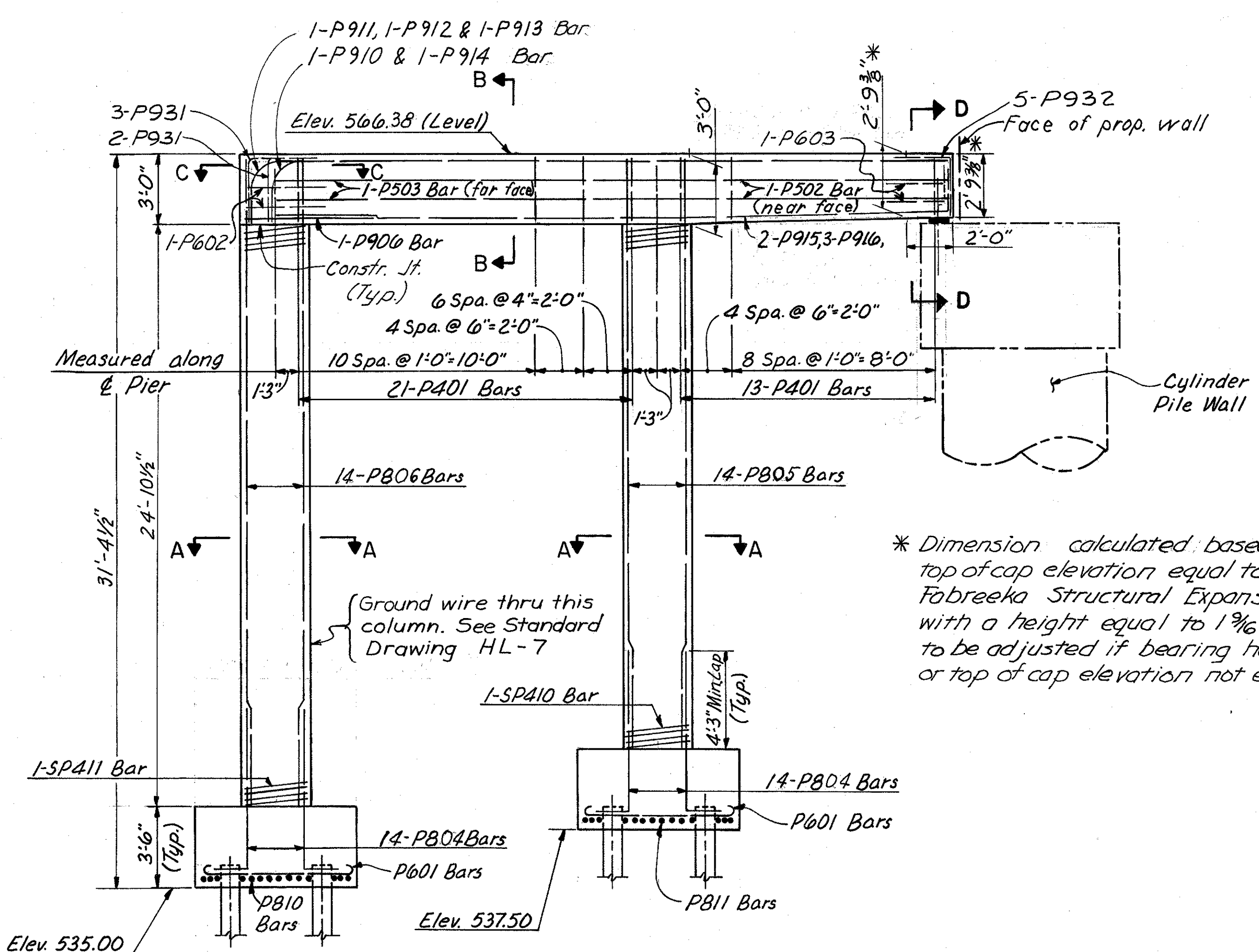
SOUTH FOOTING



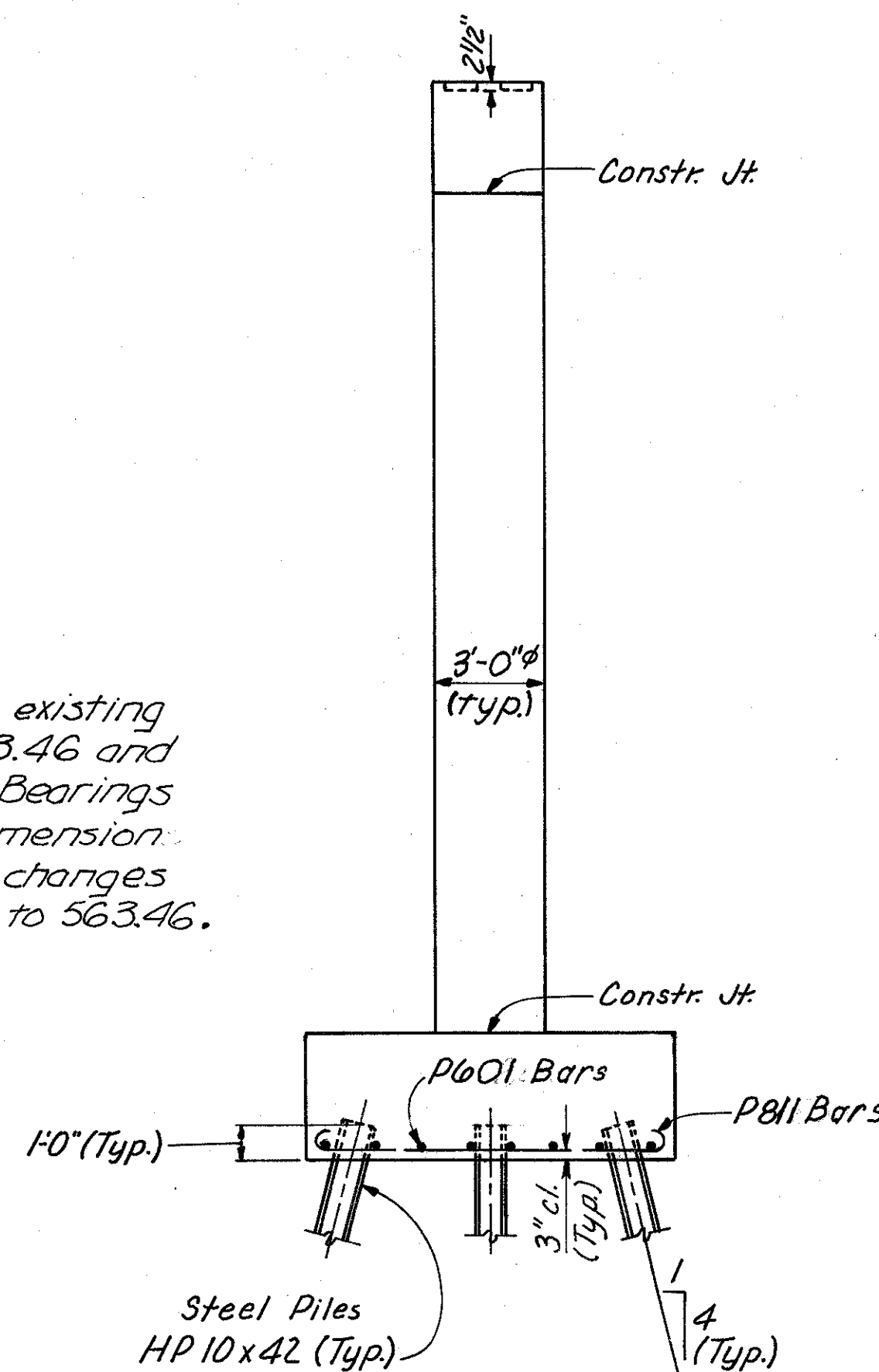
NORTH FOOTING



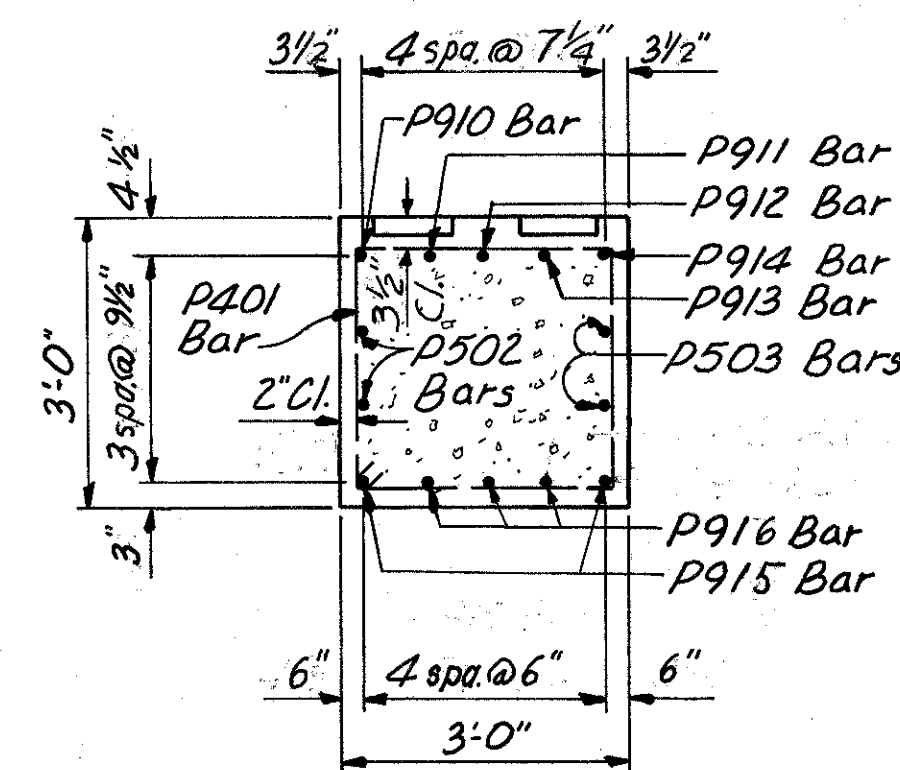
SECTION A-A



ELEVATION
(Shear Keys not shown)

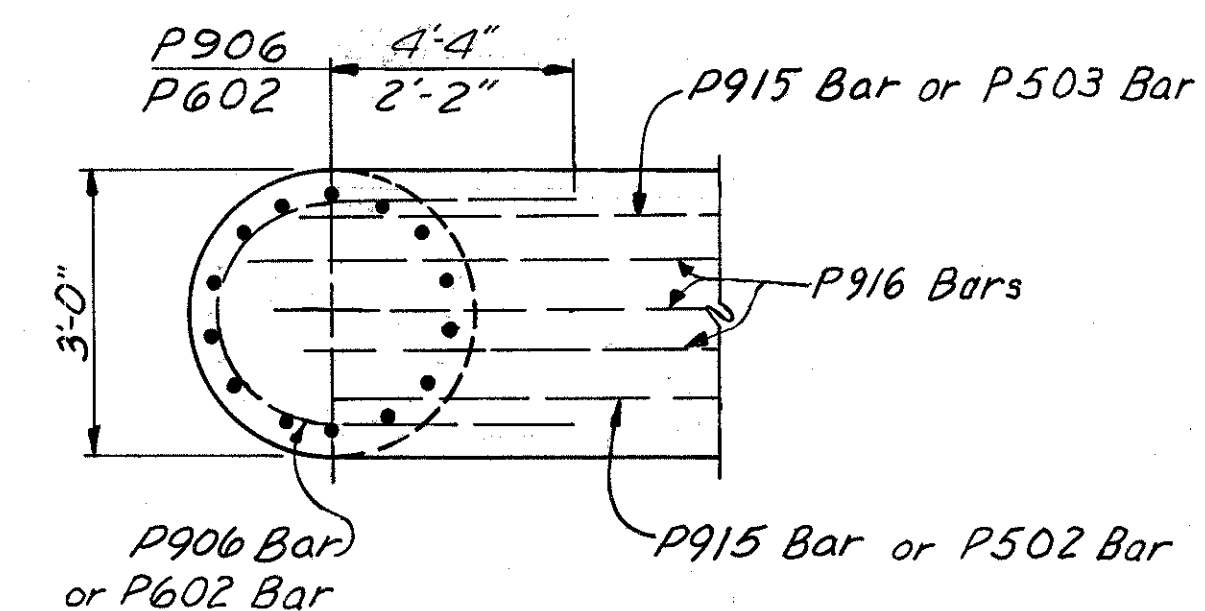


END ELEVATION
(North Footing Shown)

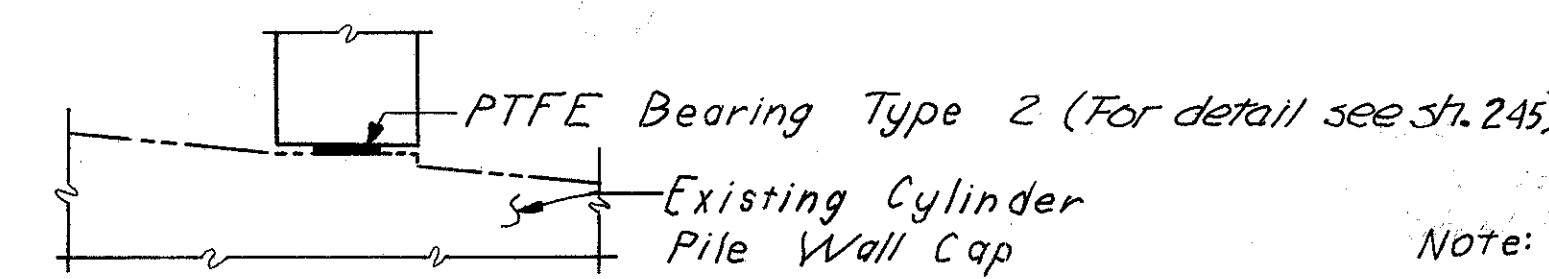


SECTION B-B

Note: Hooked corners of stirrups within 5' of \pm columns shall be down, other hooks up.



SECTION C-C



SECTION D-D

Note: ∇ Denotes battered pile.

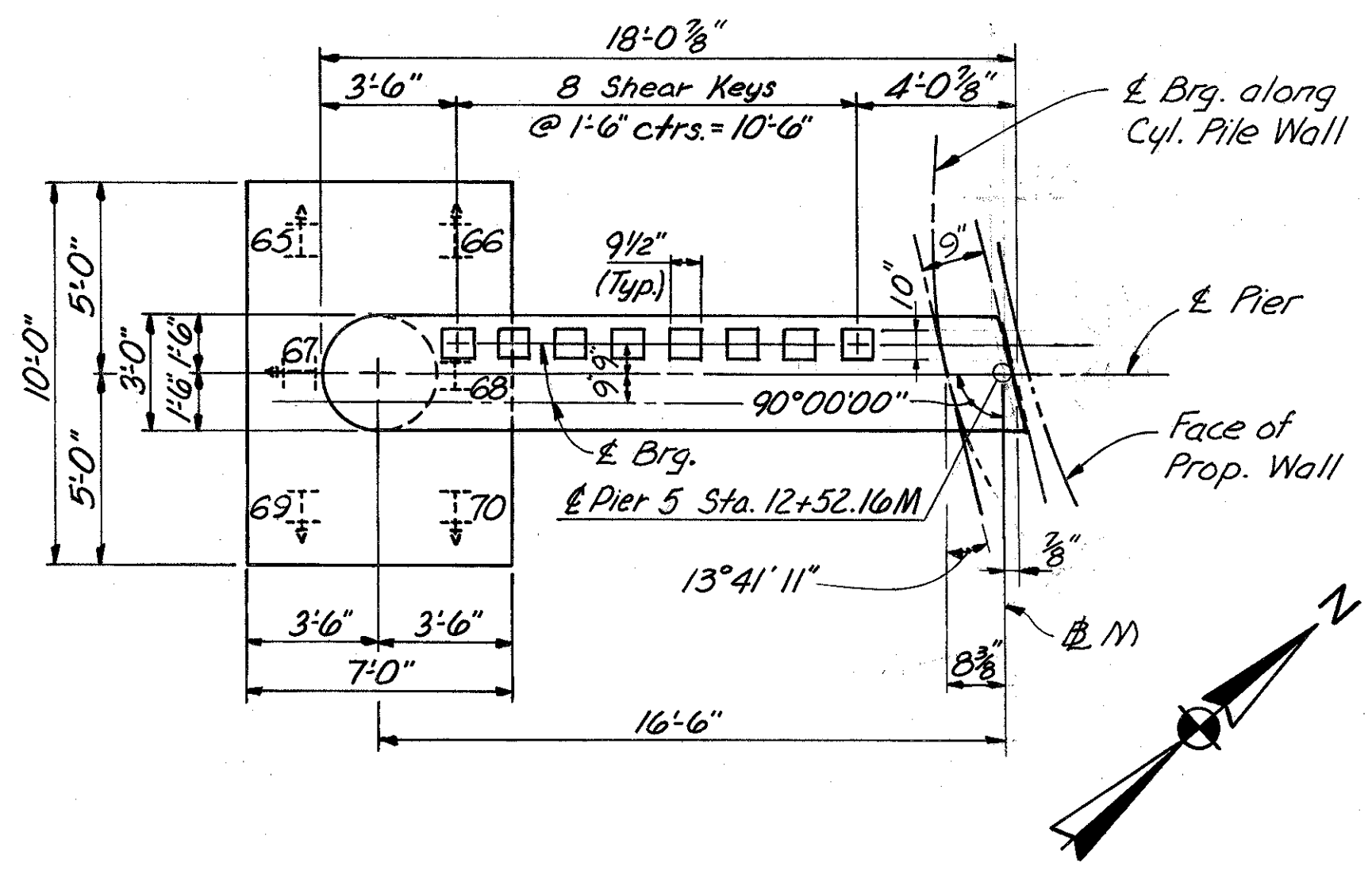
* Dimension calculated based on existing top of cap elevation equal to 563.46 and Fabreeka Structural Expansion Bearings with a height equal to 1 1/16". Dimension to be adjusted if bearing height changes or top of cap elevation not equal to 563.46.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/30
PIER NO. 4					
BRIDGE NO. HAM.-471-					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VDG	MRT		VDG	JHO 3-24-82	

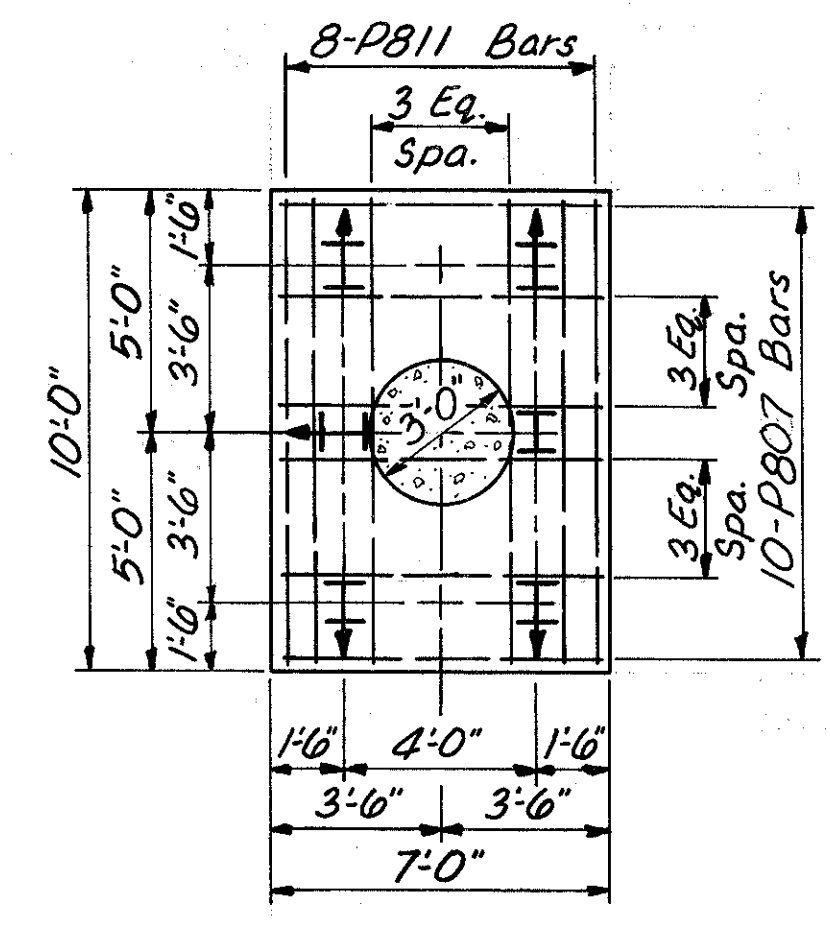
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

252
346

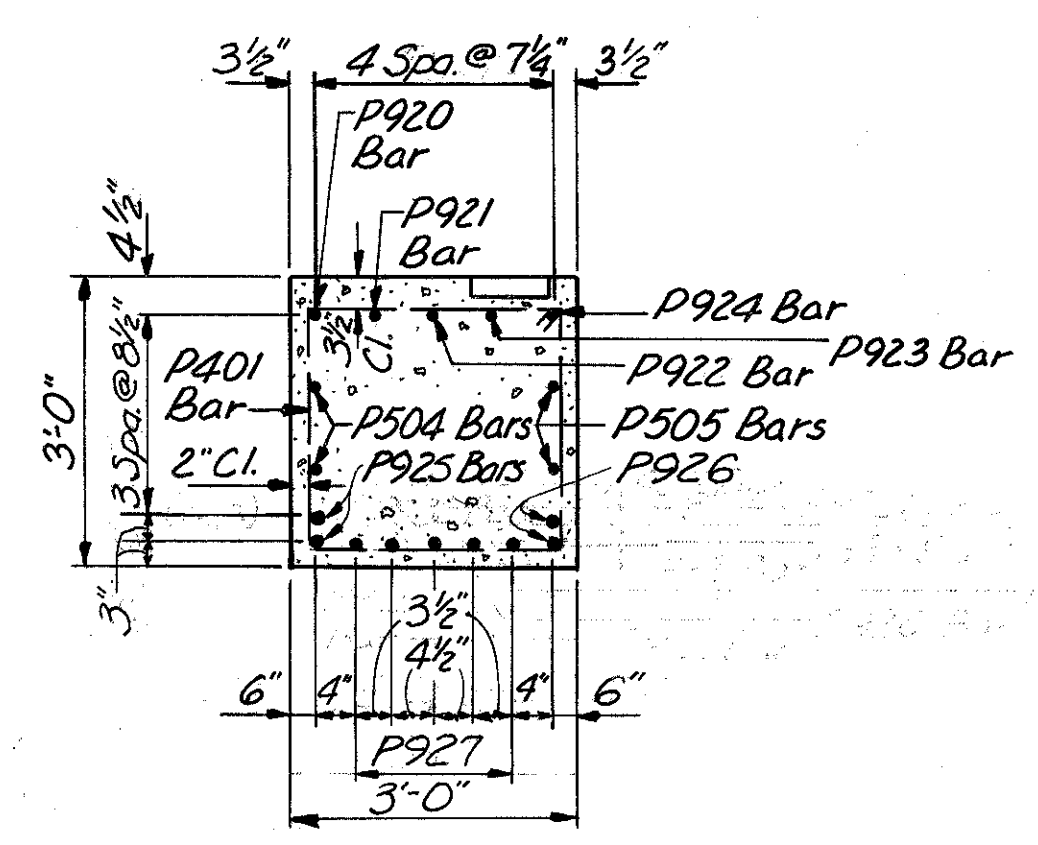
HAMILTON COUNTY
HAM.-471-024
PART TWO



PLAN

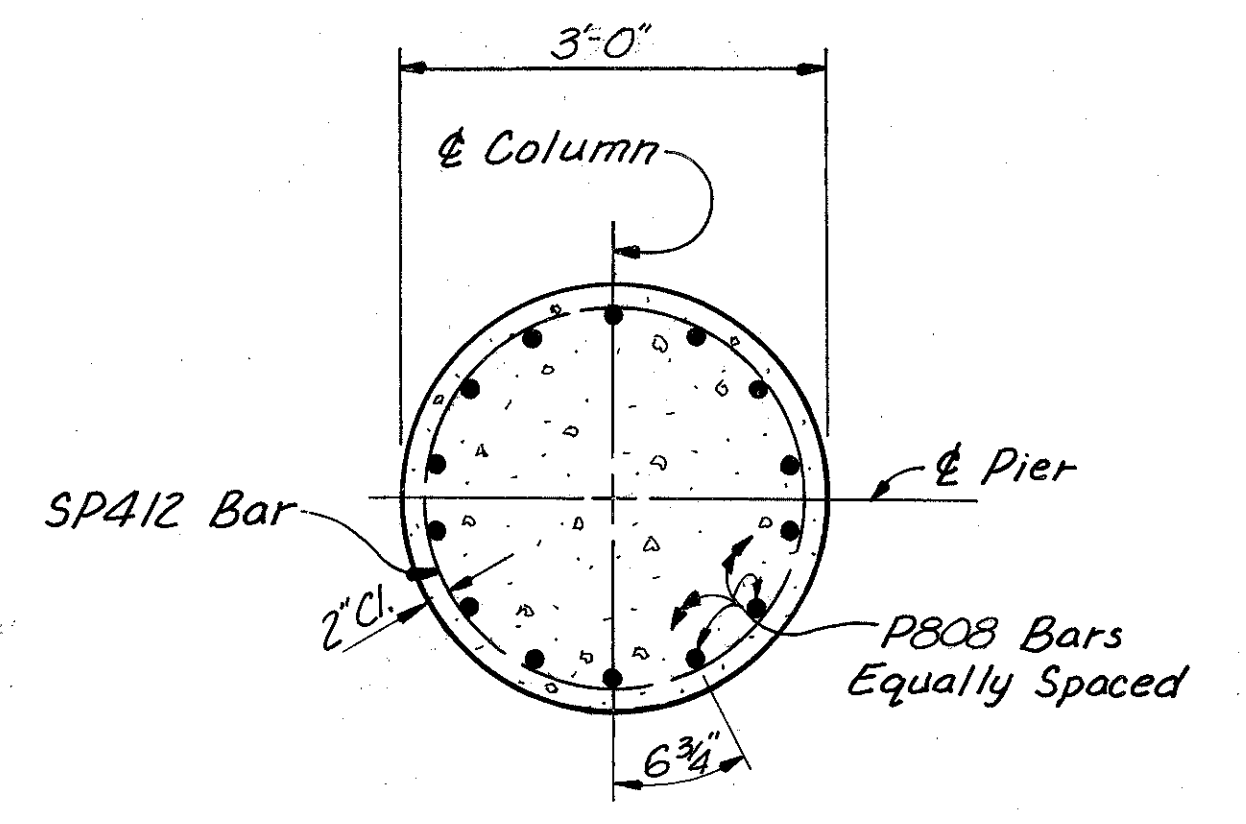


FOOTING

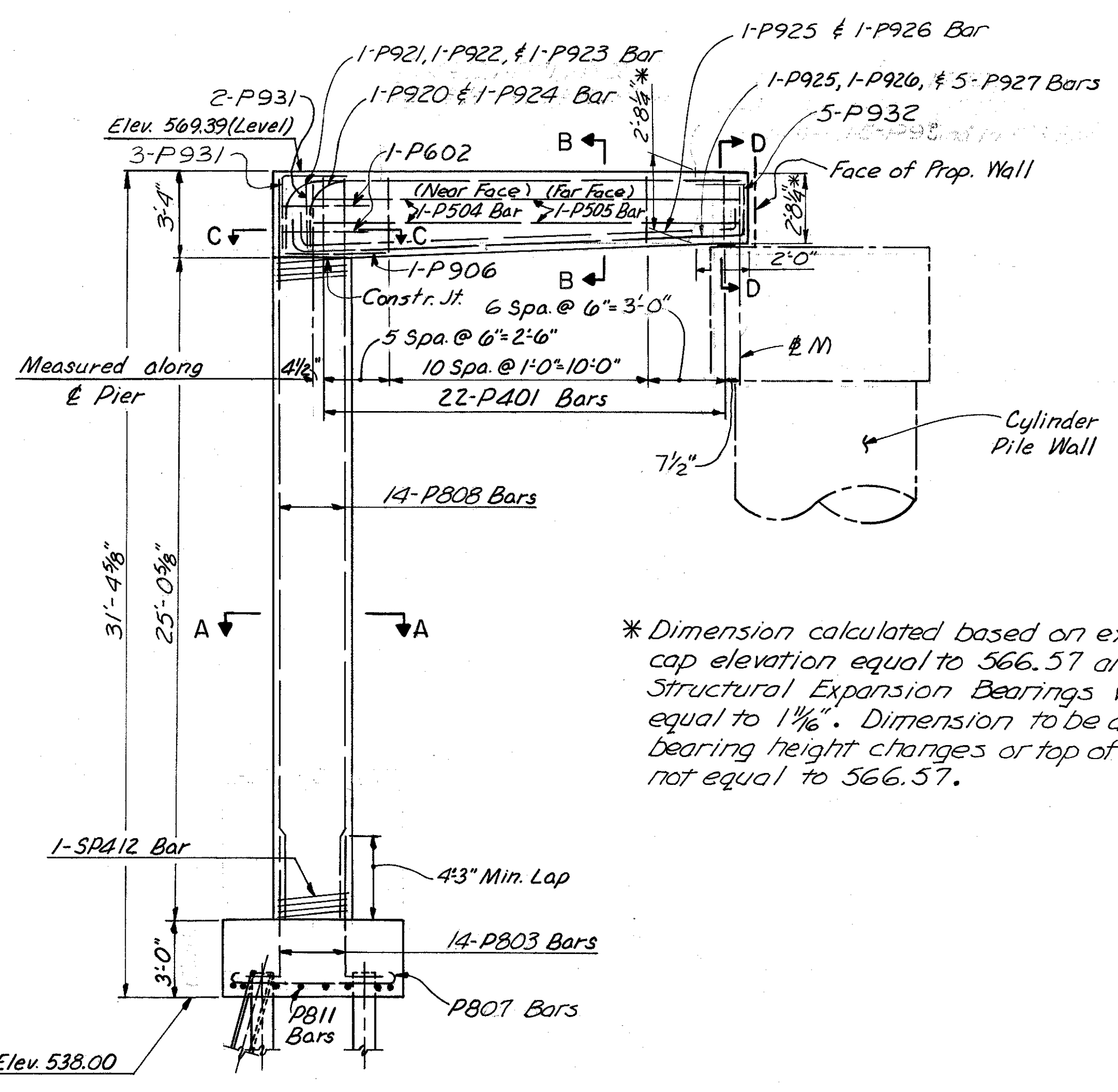


SECTION B-B

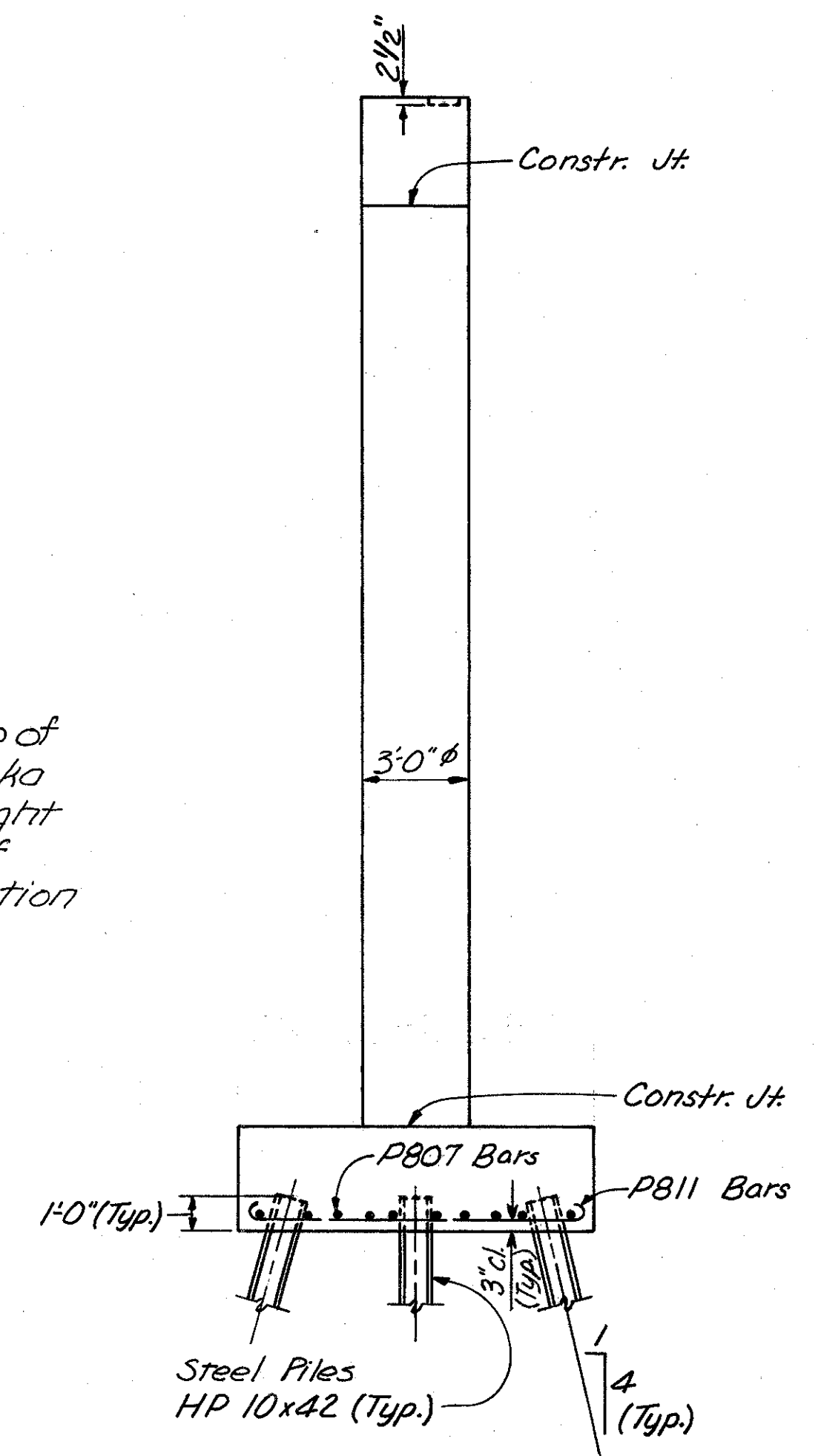
Note: Hooked corners of stirrups within 5' of centerline shall be down, other hooks up.



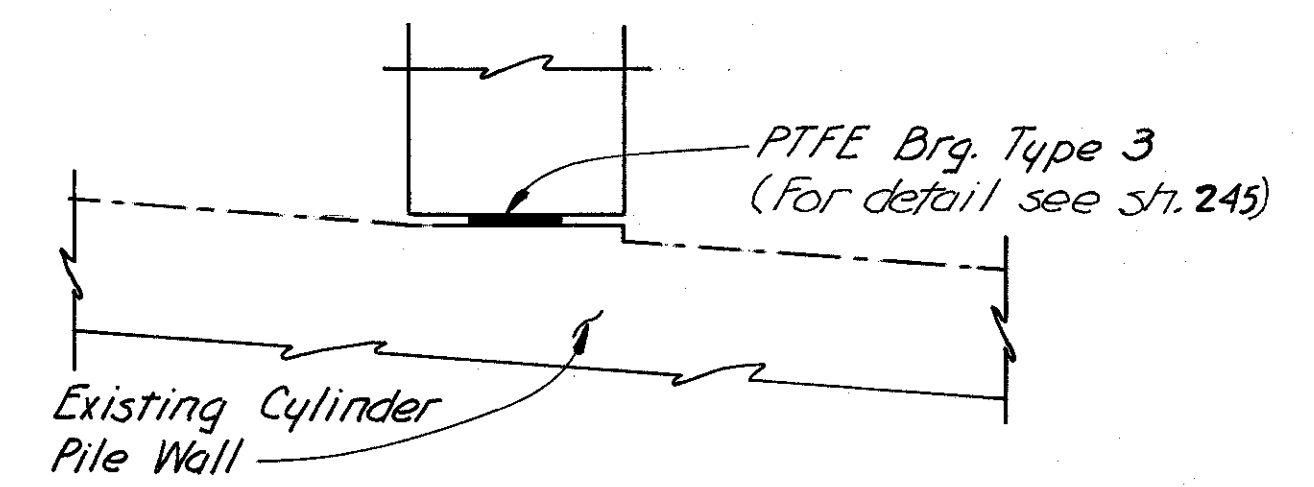
SECTION A-A



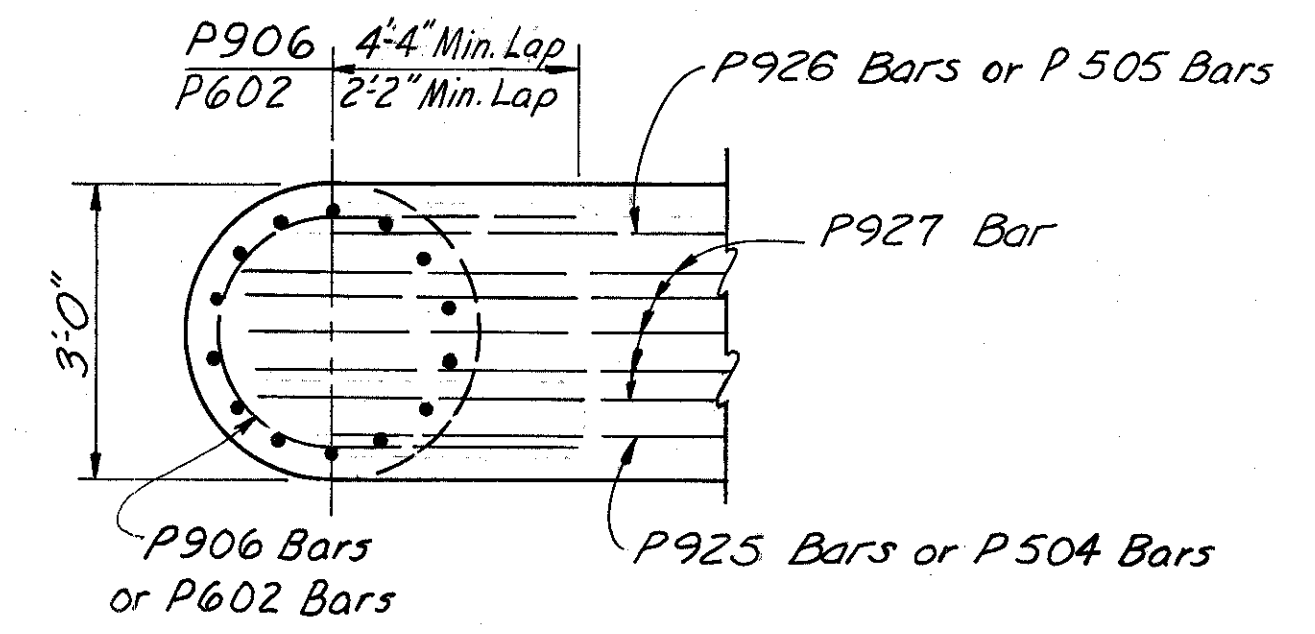
ELEVATION
(Shear Keys not shown)



END ELEVATION
(Looking West)



SECTION D-D



SECTION C-C

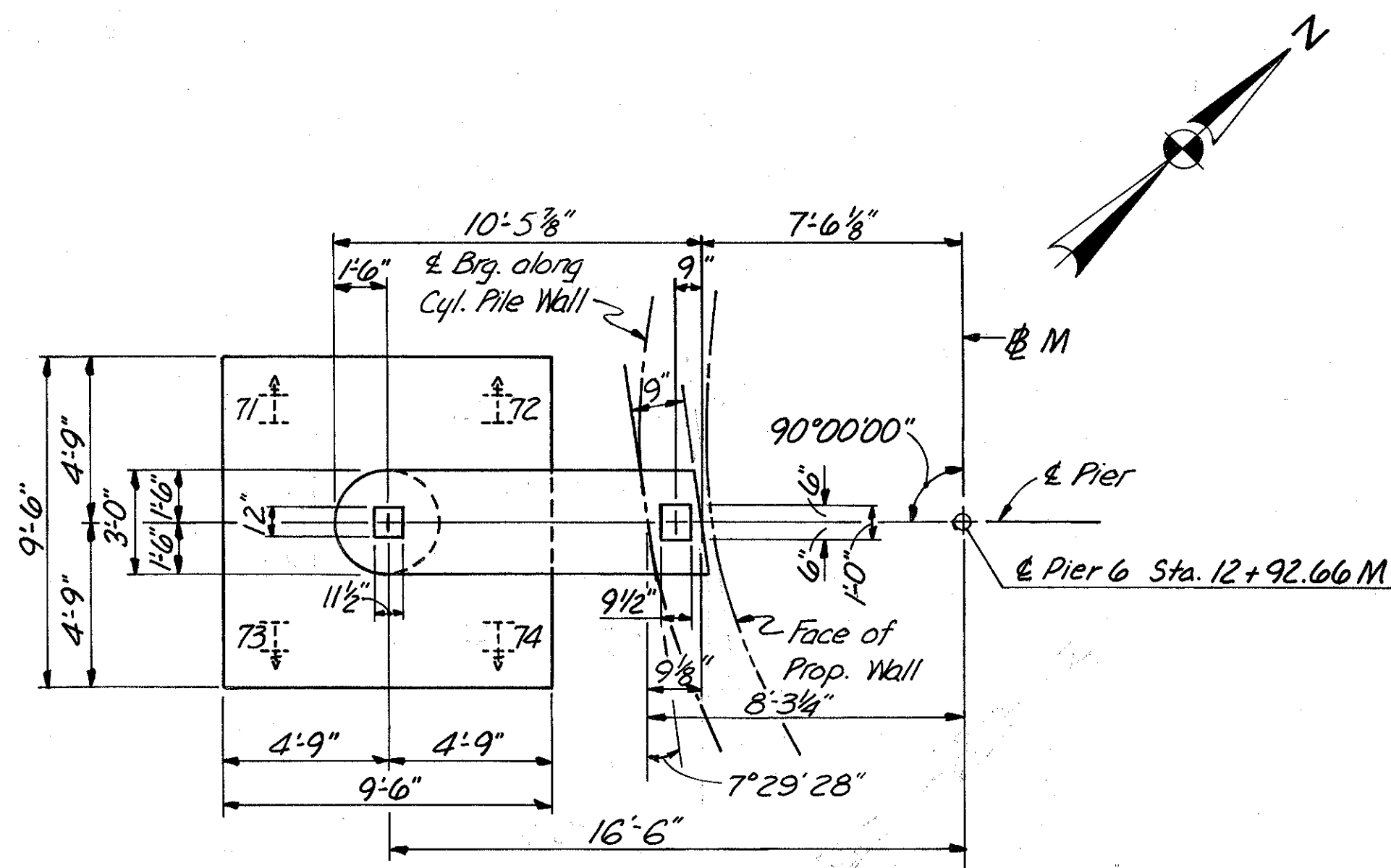
Notes:
⊥ Denotes battered pile.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						15/30
PIER NO. 5						
BRIDGE NO. HAM.-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
VDG	MRT		VDG	JHO 3-24-82		

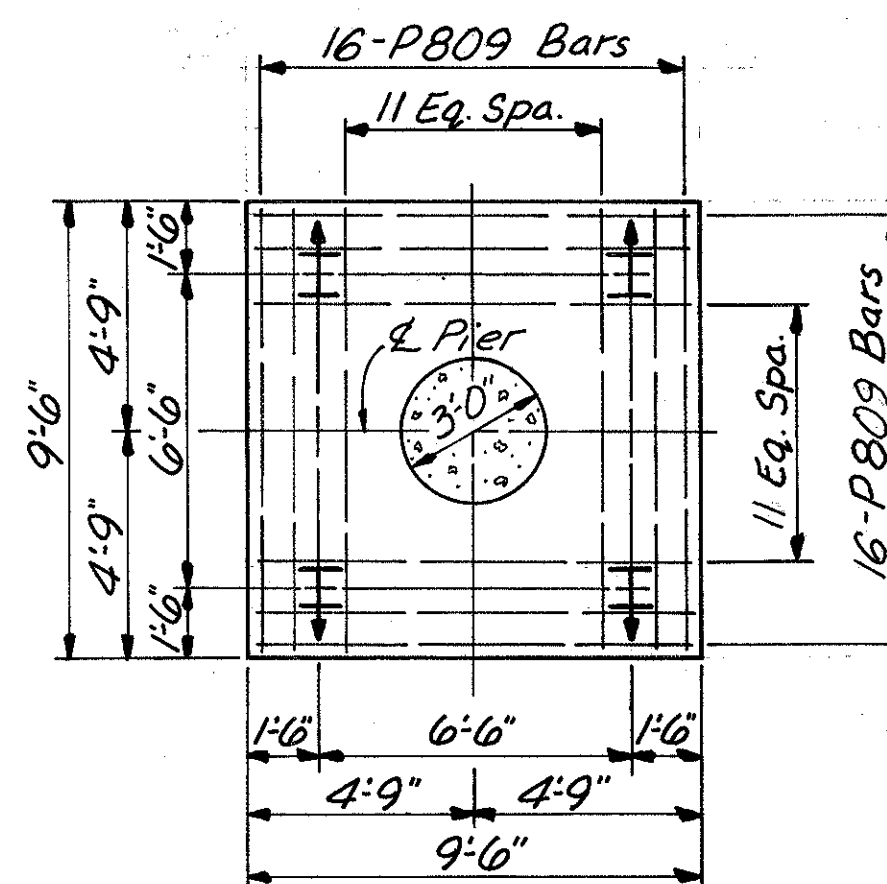
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

253
346

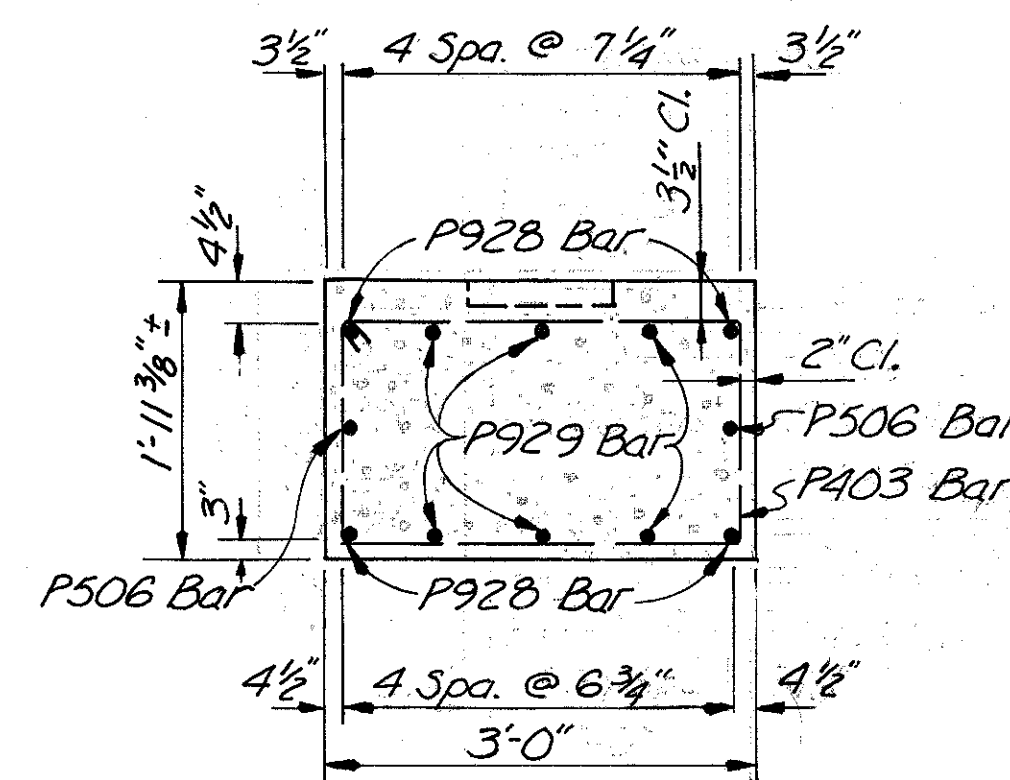
HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN

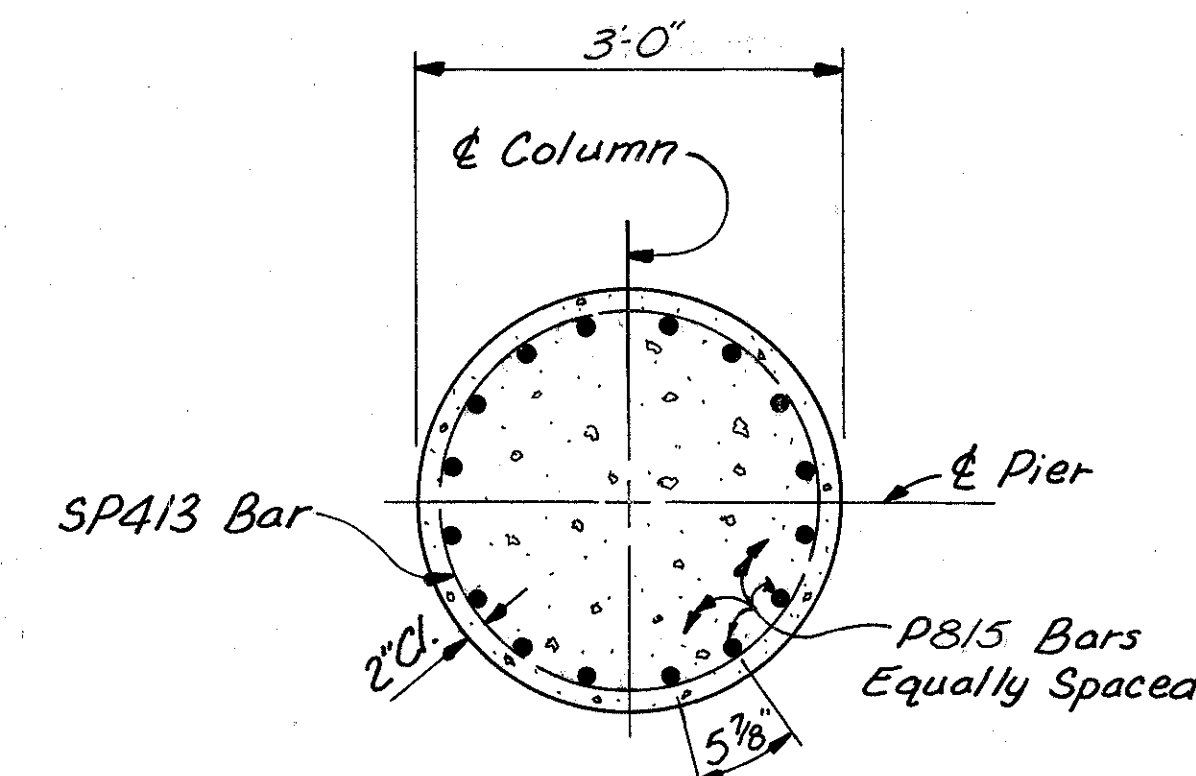


FOOTING

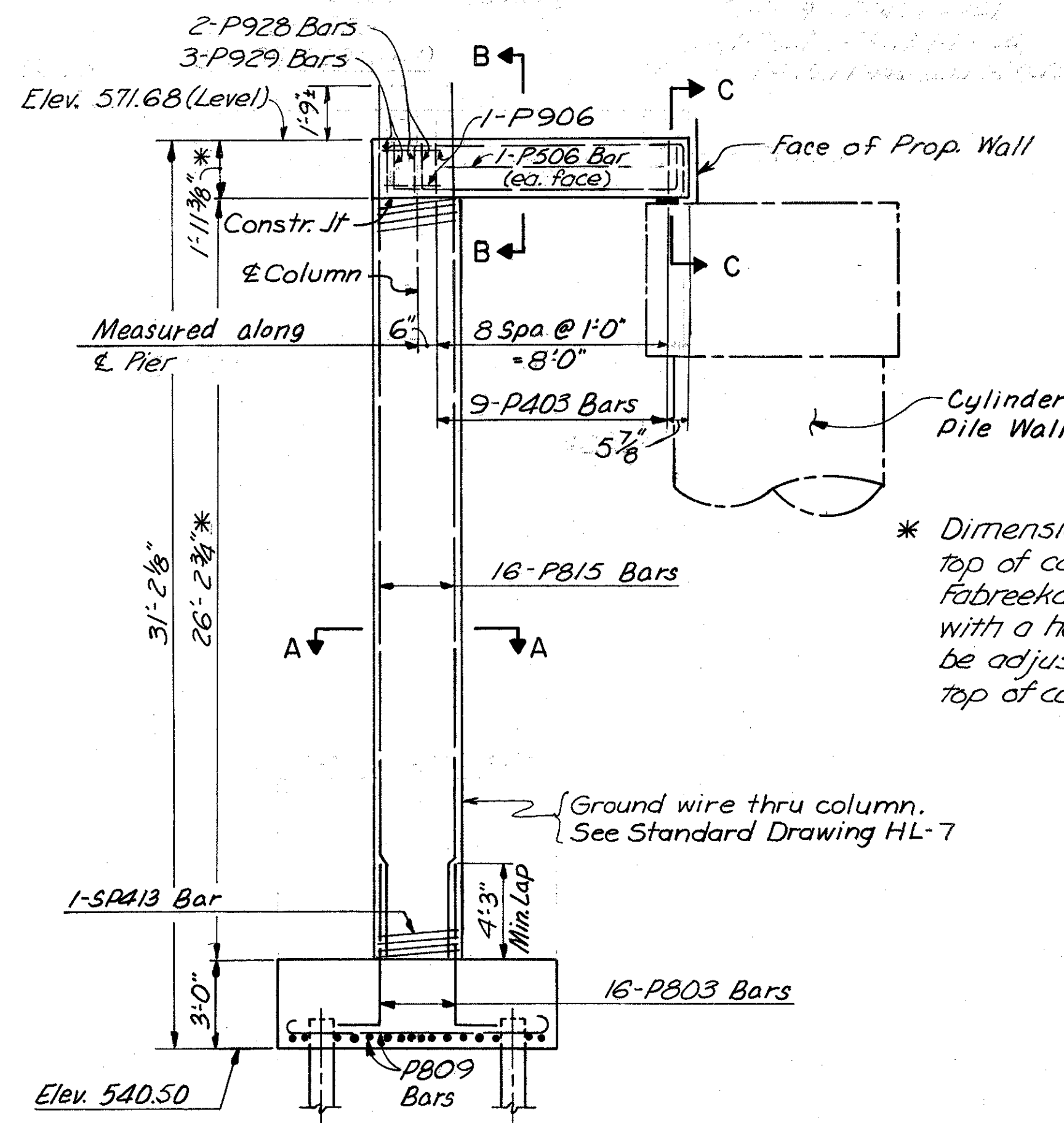


SECTION B-B

Note: Hooked corners of stirrups up.

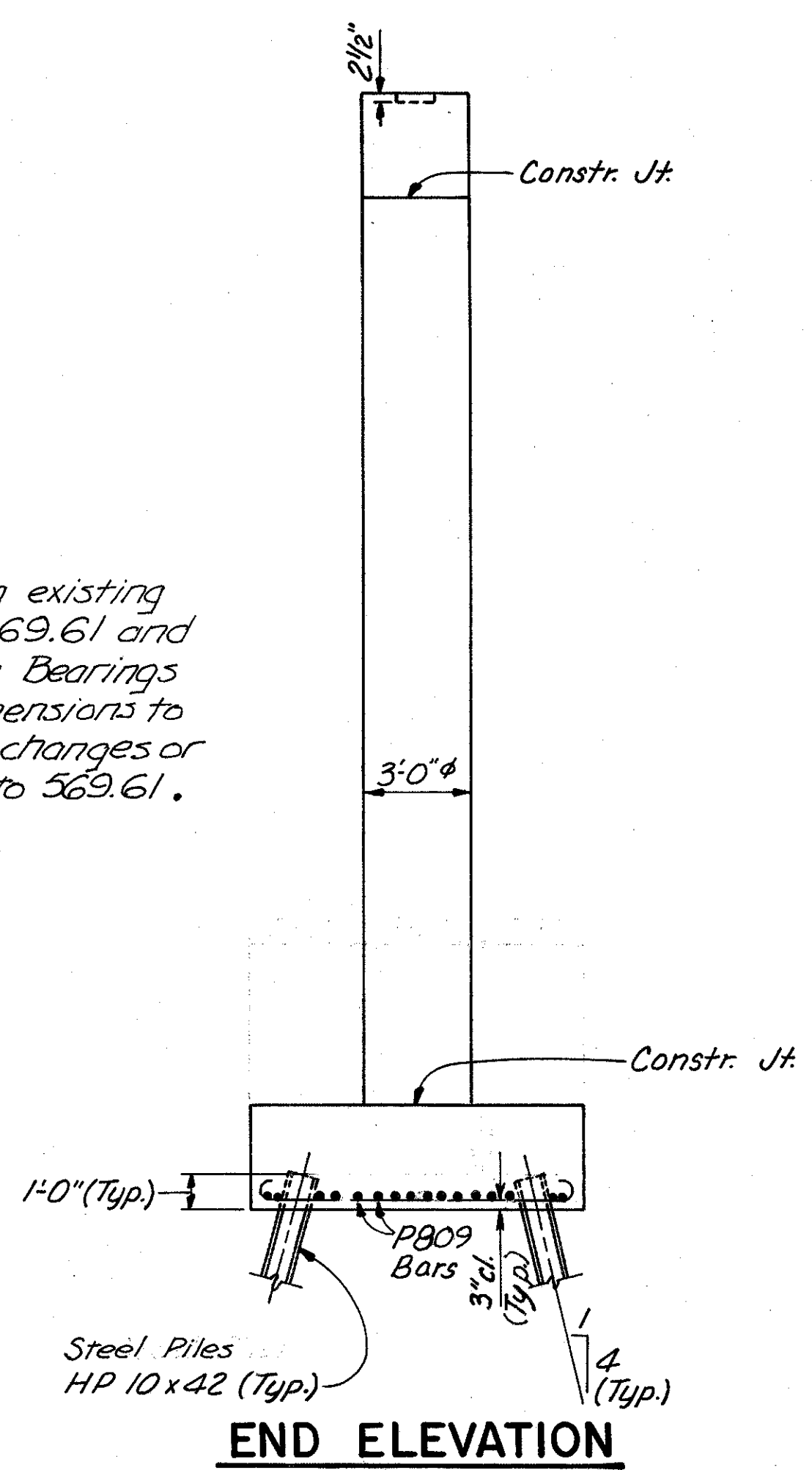


SECTION A-A

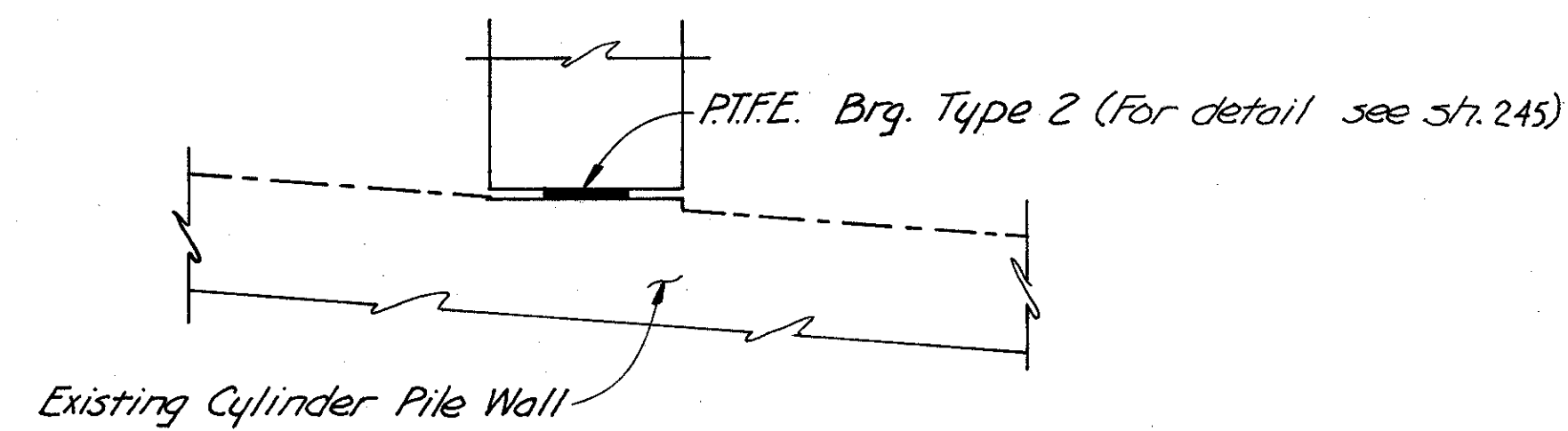


ELEVATION
(Shear Keys not shown)

* Dimensions calculated based on existing top of cap elevation equal to 569.61 and fabreeka Structural Expansion Bearings with a height equal to 1 3/8". Dimensions to be adjusted if bearing height changes or top of cap elevation not equal to 569.61.



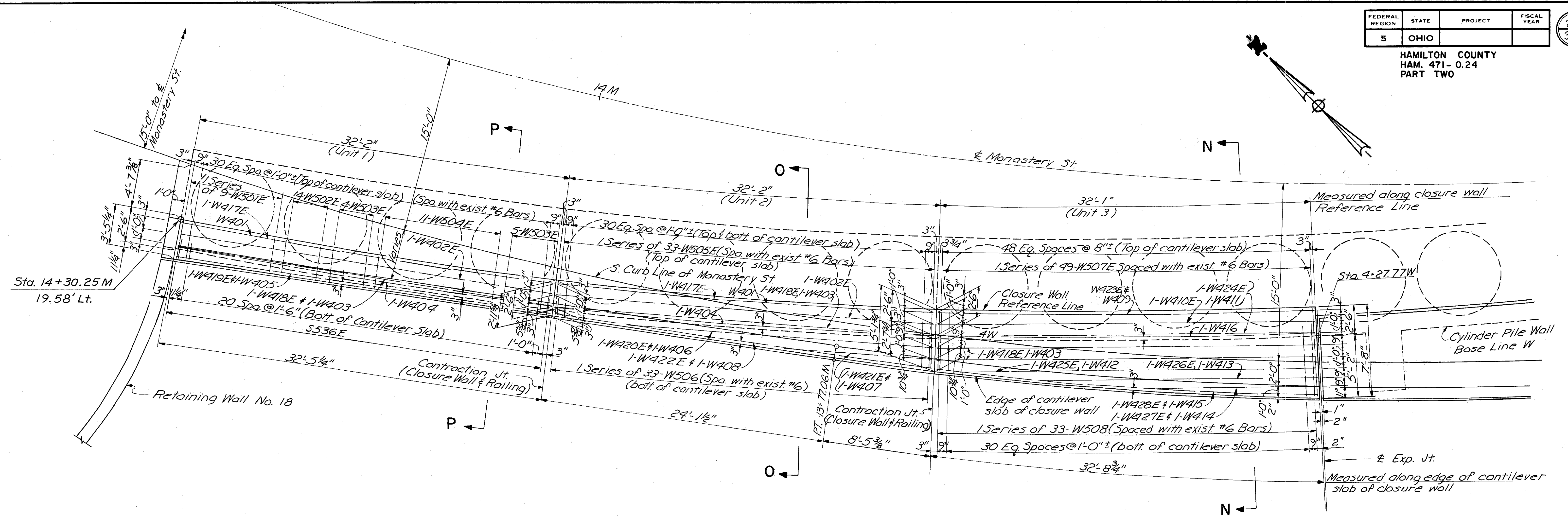
END ELEVATION



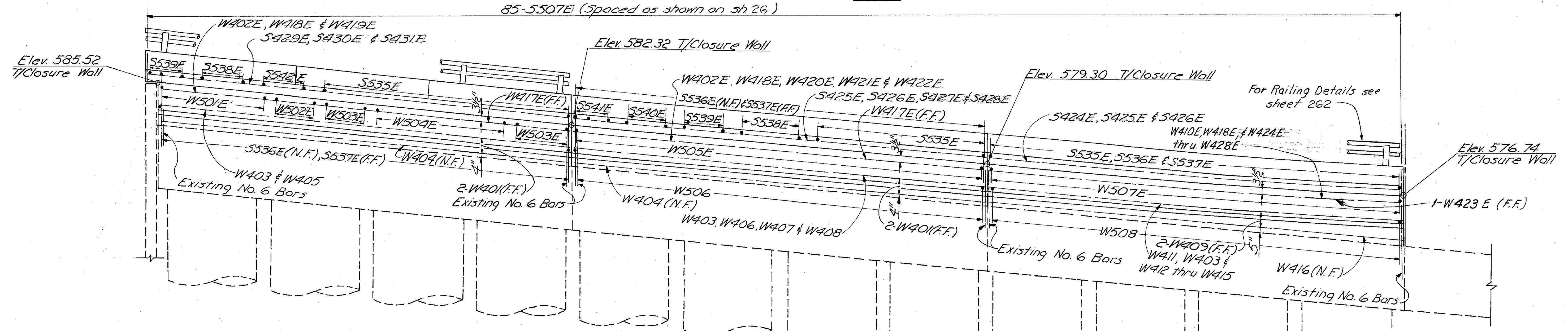
SECTION C-C

Notes:
⊥ Denotes battered pile.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						16/30
PIER NO. 6						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
VDG	MRT		VDG	Jho 3-24-82		



PLAN



PROFILE

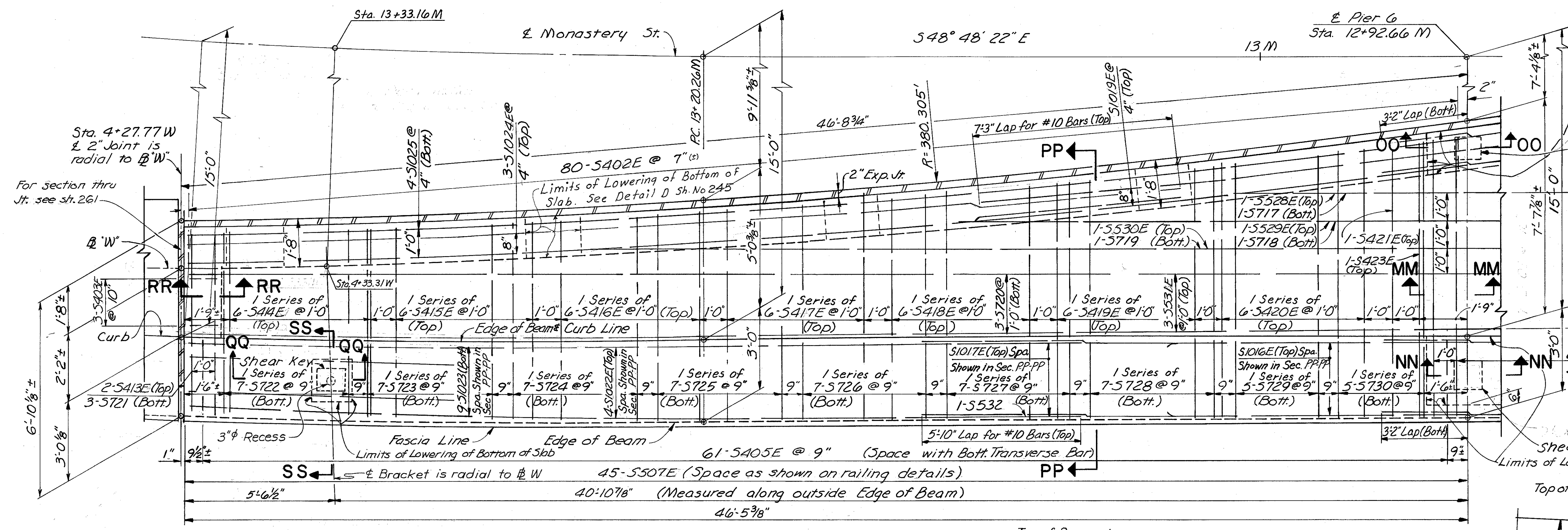
(Along edge of cantilever slab of closure wall)

Notes:
N.F. denotes near face
F.F. denotes far face
For Sections N-N, O-O & P-P
See Sh. 255.

Notes:
It shall be the contractor's responsibility to verify the existing top of cap beam elevations and make the necessary adjustments, if required, to the proposed top of closure wall elevations.
The plastic film on existing No. 6 bars shall be removed, the bars shall be cleaned and cut to length, where required, to provide proper clearance to concrete surface before the construction of closure wall. This work shall be incidental to concrete work.

For Railing Details see sheet 262

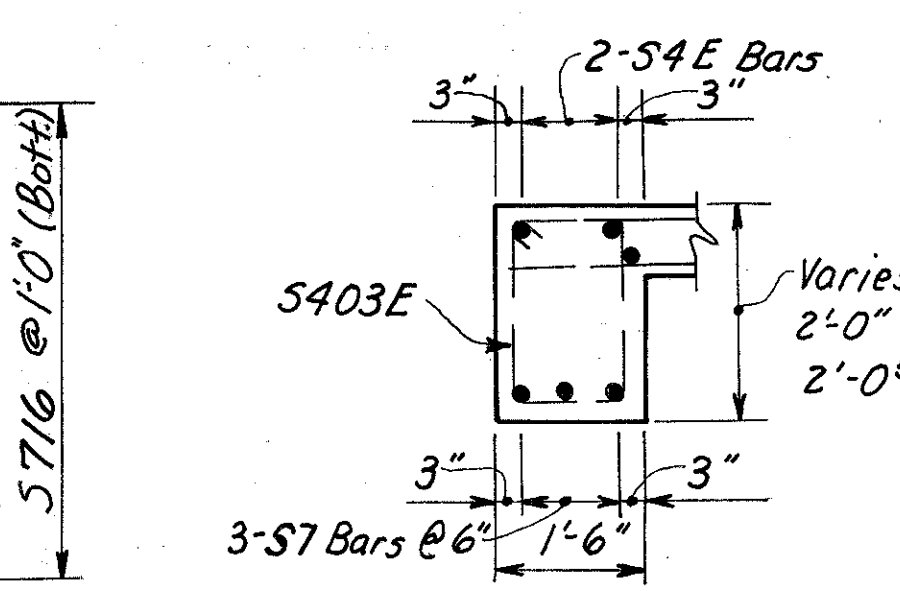
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
17/30					
SUPERSTRUCTURE DETAILS					
UNITS 1,2&3					
BRIDGE NO. HAM-471-					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JDC	MAM		HLL	JH 3-24-82	



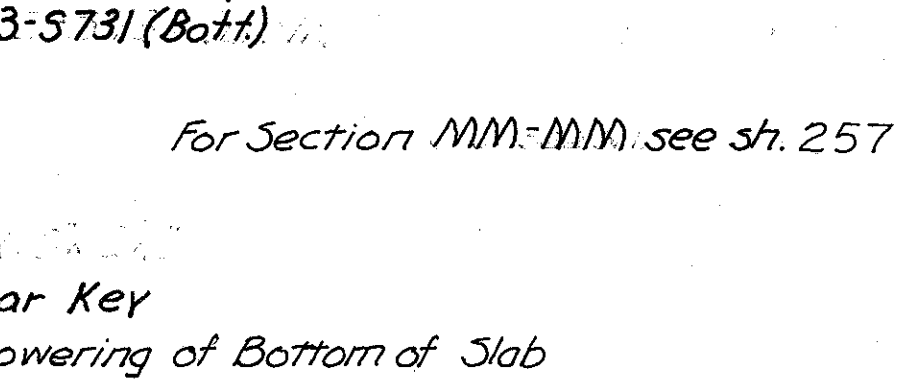
**SPAN 7
PLAN**
(Parapet not shown)

See Note "A", Sheet No. 245

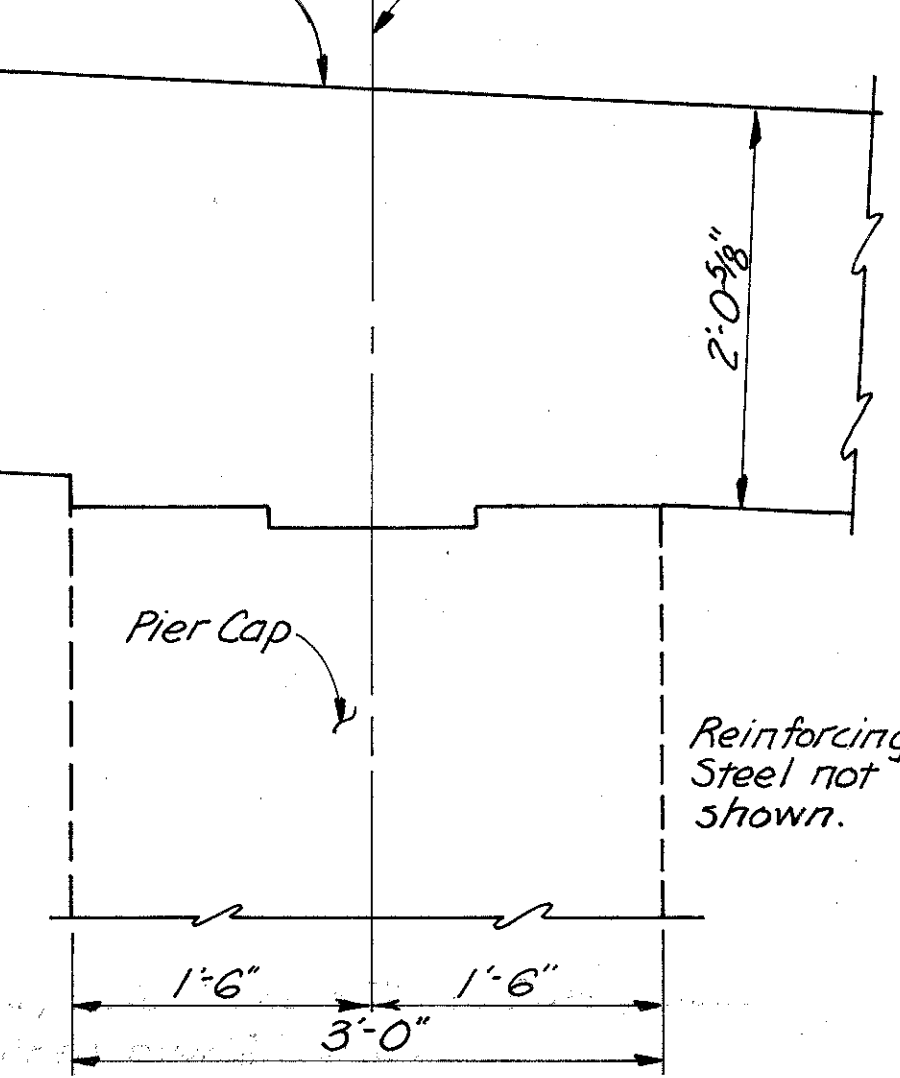
SECTION RR-RR



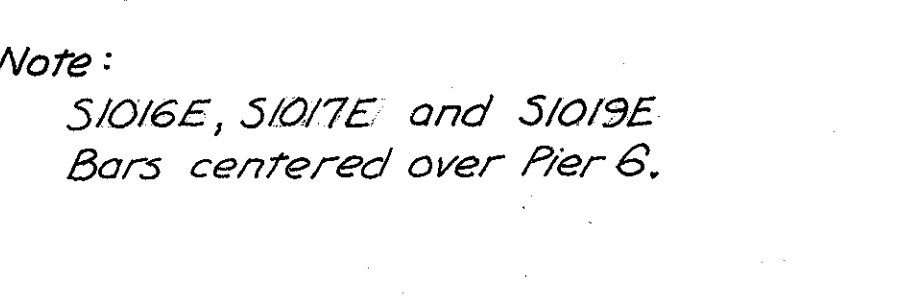
SECTION NN-NN
(Shown)



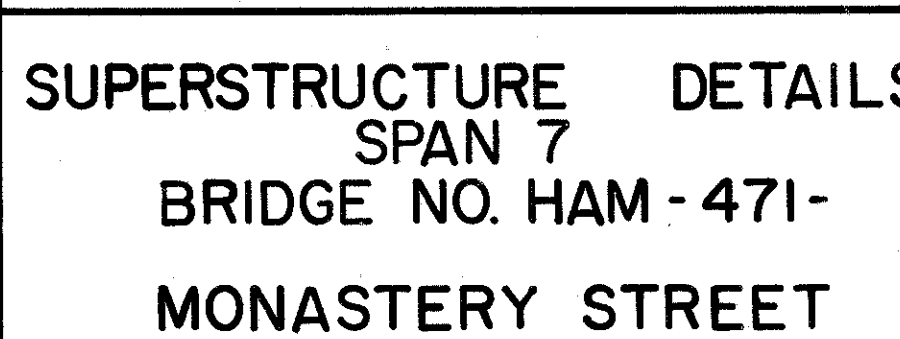
SECTION OO-OO
(Similar)



SECTION PP-PP



SECTION QQ-QQ



SECTION SS-SS



HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS
SPAN 7
BRIDGE NO. HAM-471-
MONASTERY STREET**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
JDC	FVB		HLL	JH 3-24-82	

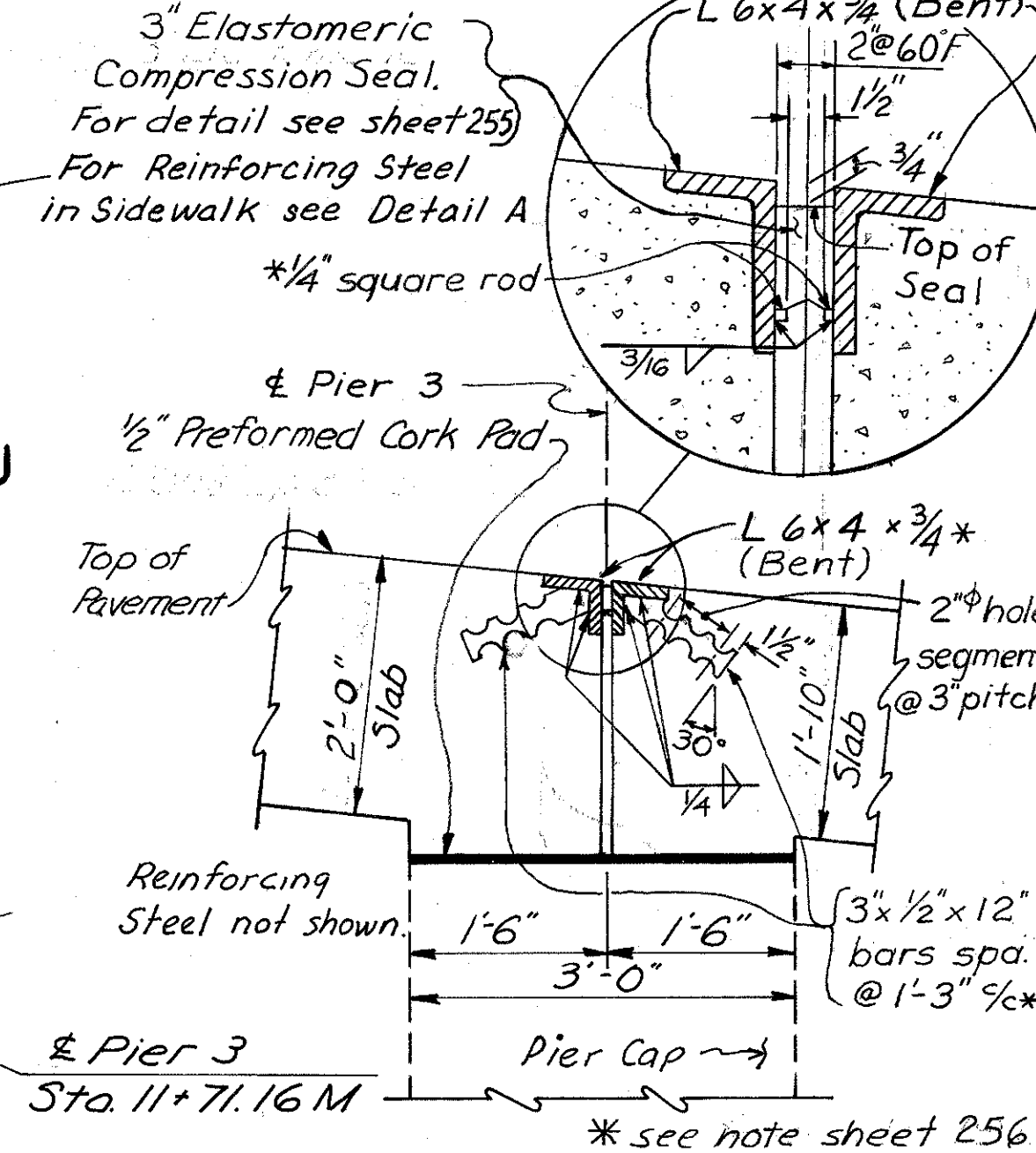
* Included with Item 849
Elastomeric Compression Seals
for structural steel joints,
3-inch width.

** Elevation calculated based on
Fabreka Structural Expansion
Bearing with a height equal to
1 5/8\"/>

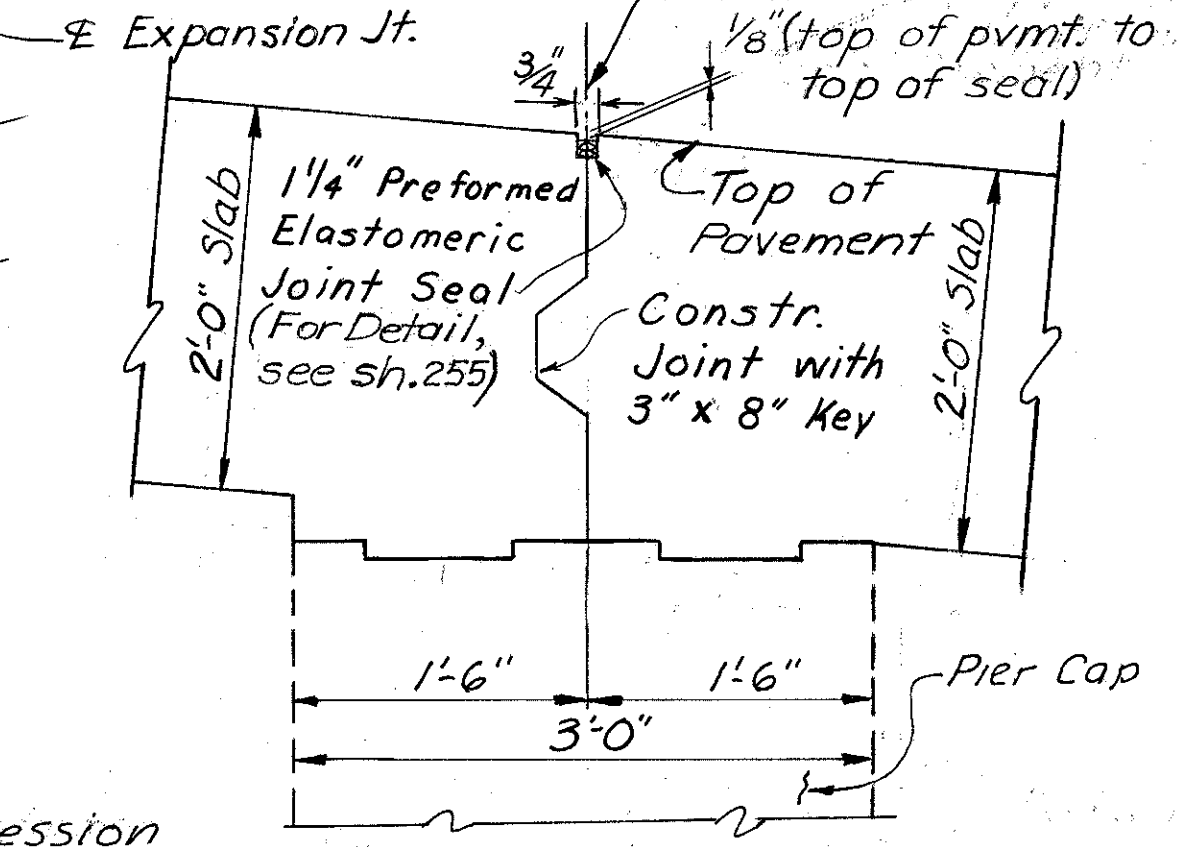
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

258
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



SECTION DD-DD
Note: The joint width dimension is for a setting temperature of 60°F. For each 10° increase (decrease) in setting temperature, the dimension shall be reduced (increased) by 1/16".

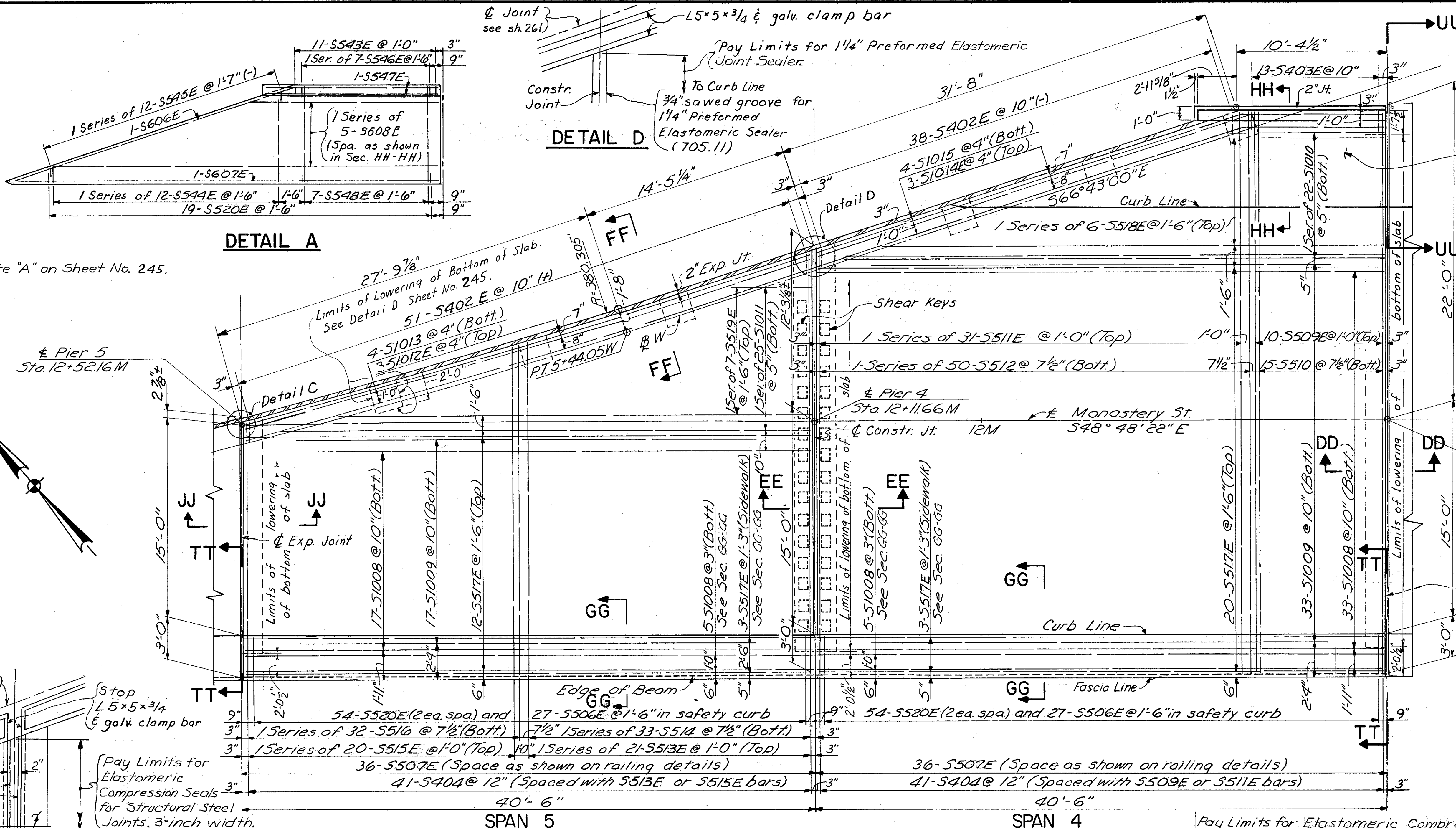


SECTION EE-EE
Reinforcing Steel not shown

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS
SPAN 4 & 5
BRIDGE NO. HAM-471-
MONASTERY STREET**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JDC	MAME		HLL	JH 3-24-82	



DETAIL A

See Note "A" on Sheet No. 245.

DETAIL D

DETAIL C

DETAIL C

For Section JJ-JJ
see sheet 256.

PLAN

SECTION VV-VV

SECTION HH-HH

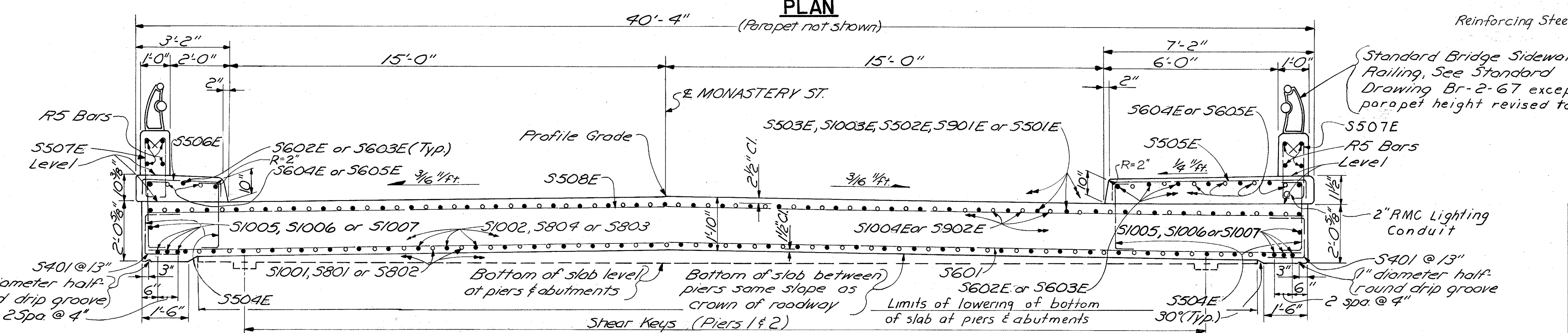
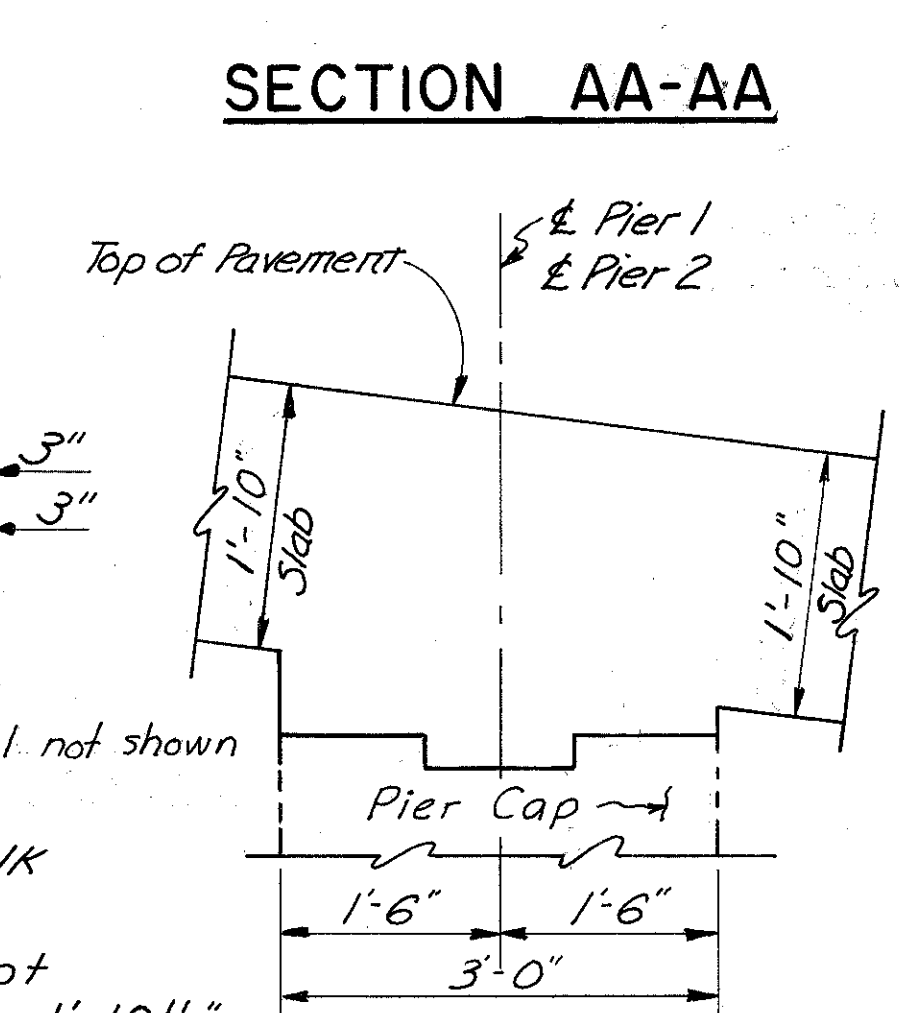
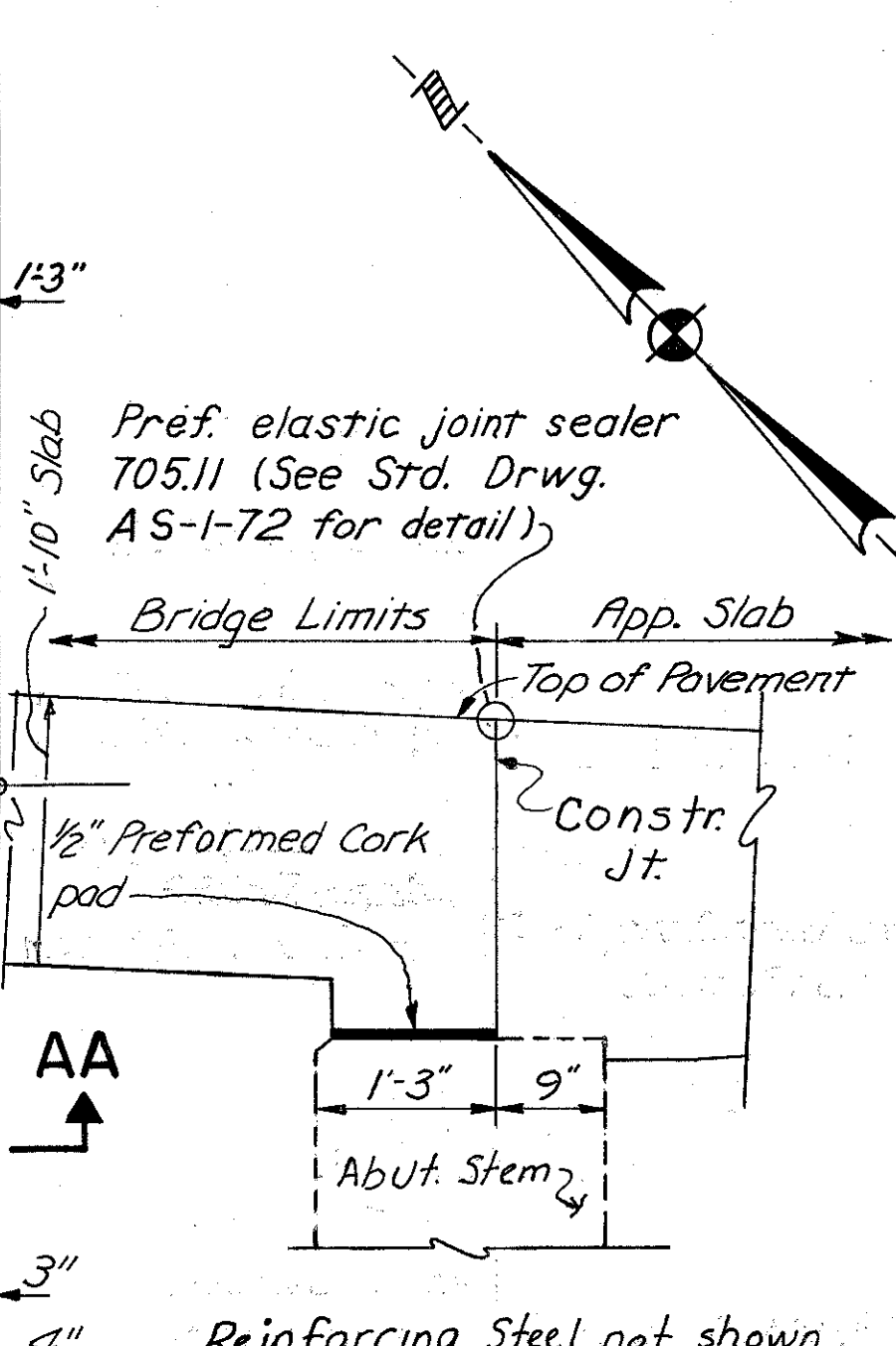
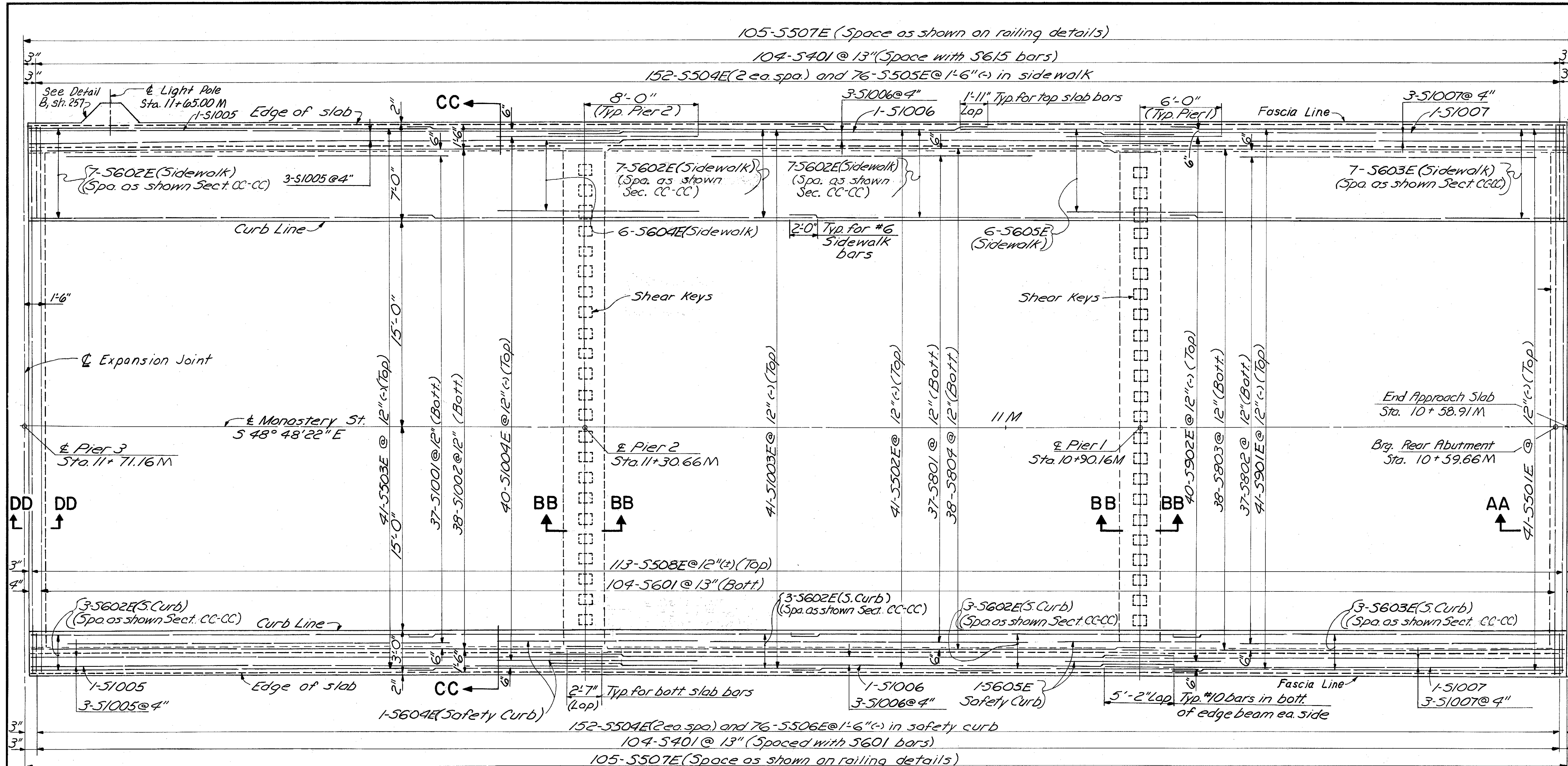
SECTION TT-TT

(Section UU-UU identical except sidewalk instead of Safety Curb.)

SECTION FF-FF

SECTION GG-GG

1" diameter half round drip groove



For Section DD-DD, See Sh. 258.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JDC	MAM		H.L.L.	JHO 3-24-82	

HAZLET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

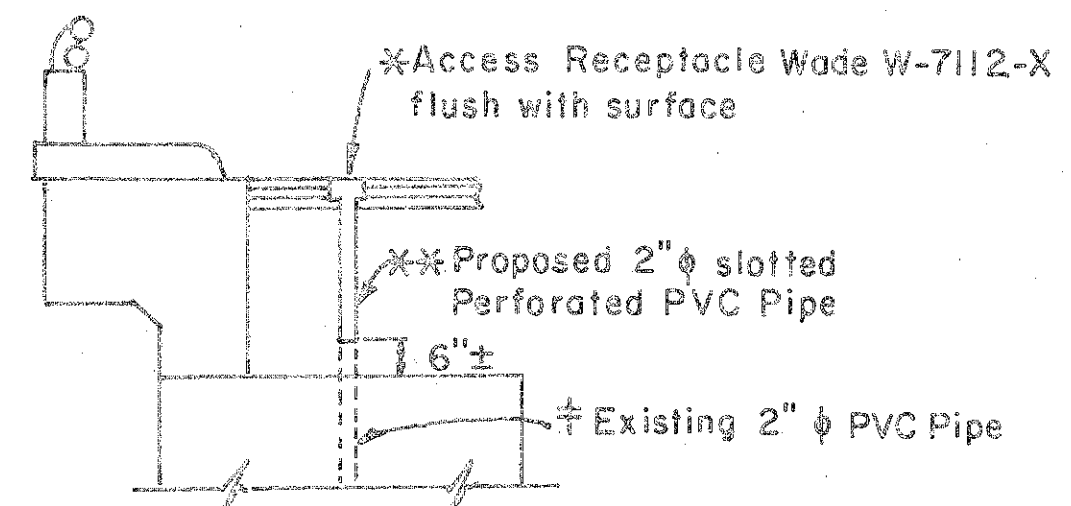
22/30

SUPERSTRUCTURE DETAILS
SPANS 1, 2 & 3
BRIDGE NO. HAM-471-
MONASTERY STREET

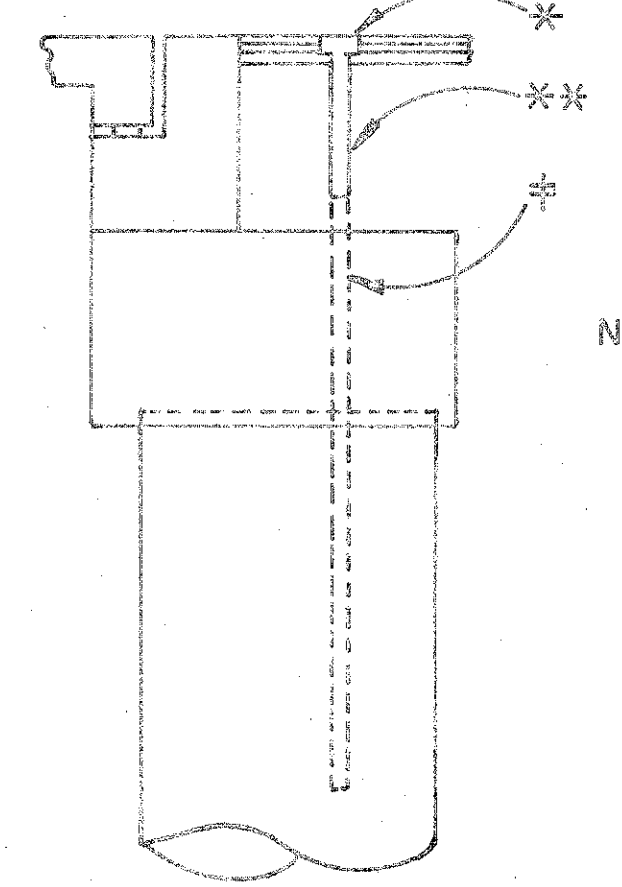
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

260
340

HAMILTON COUNTY
HAM-471- 0.24
PART TWO

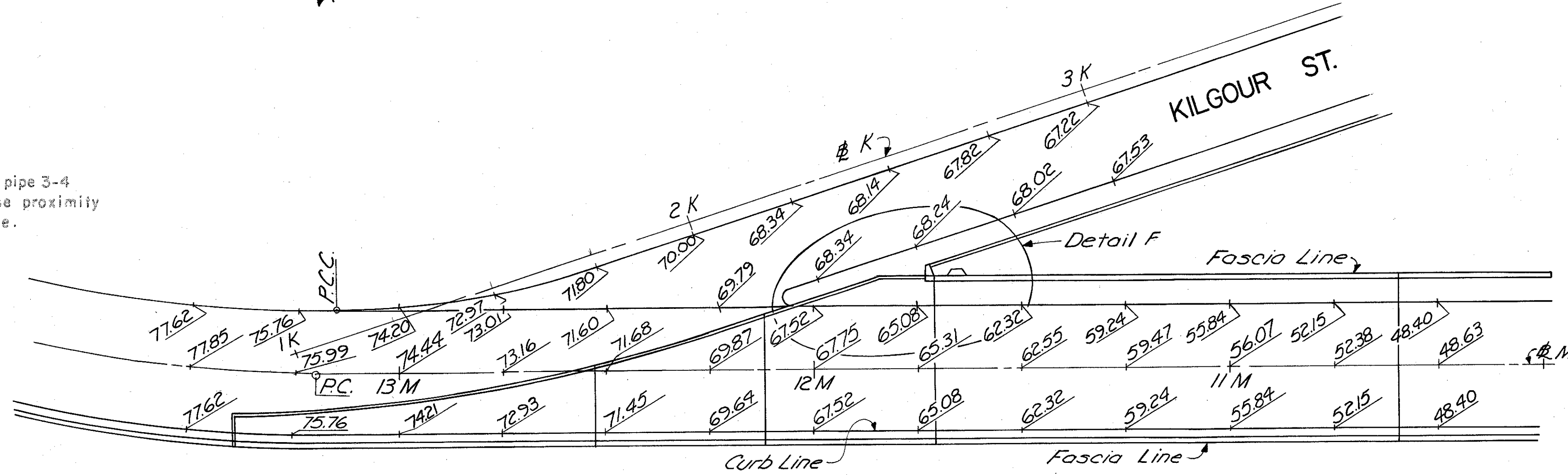


Typical Pipes ; 3-4, 6-7 8 9-10



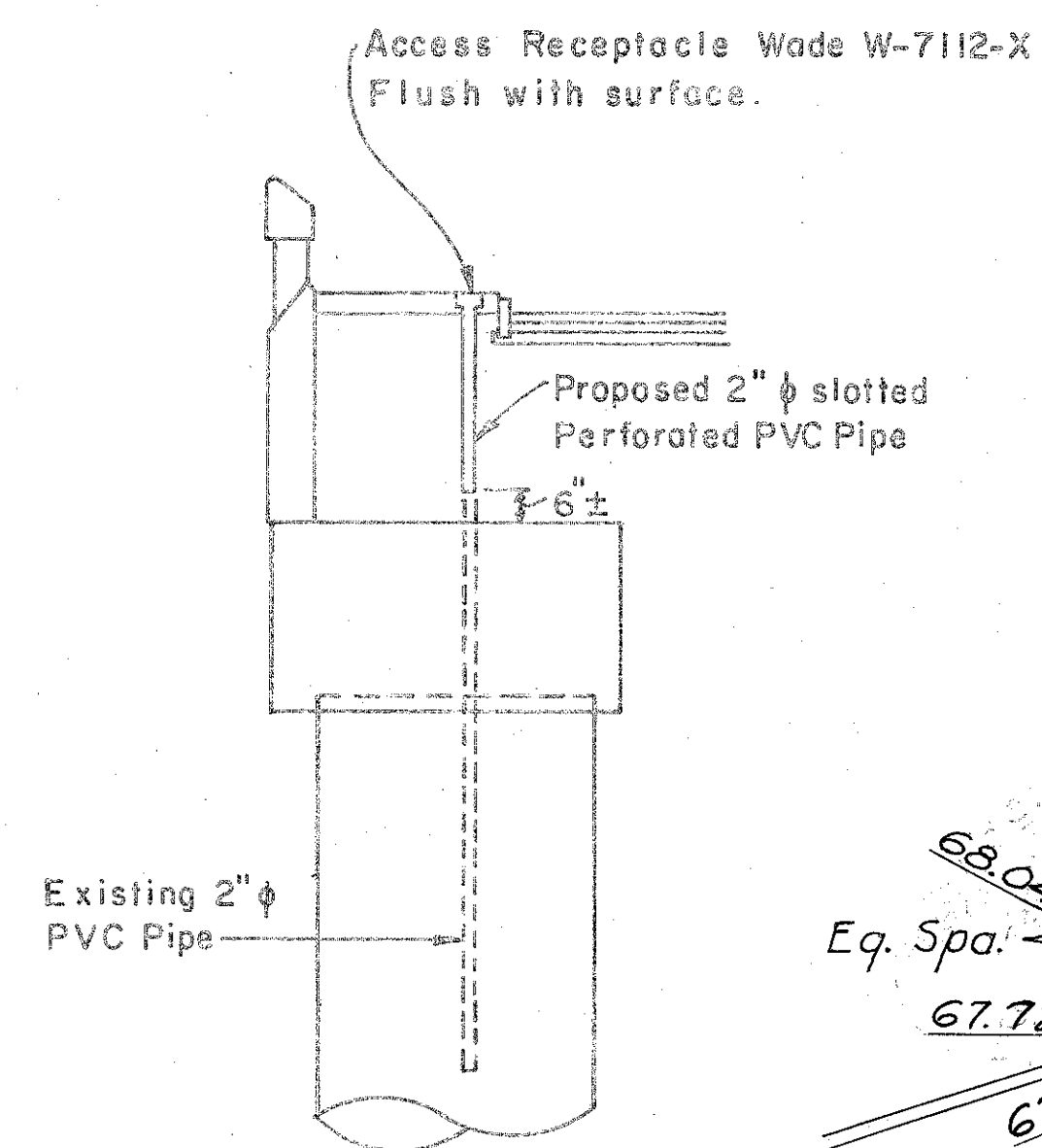
Typical Pipes ; 13-14, 15-16, 18-19, 21-22, 25-26 & 27-28.

Note: Receptacle for pipe 3-4 may be in close proximity to the curb line.



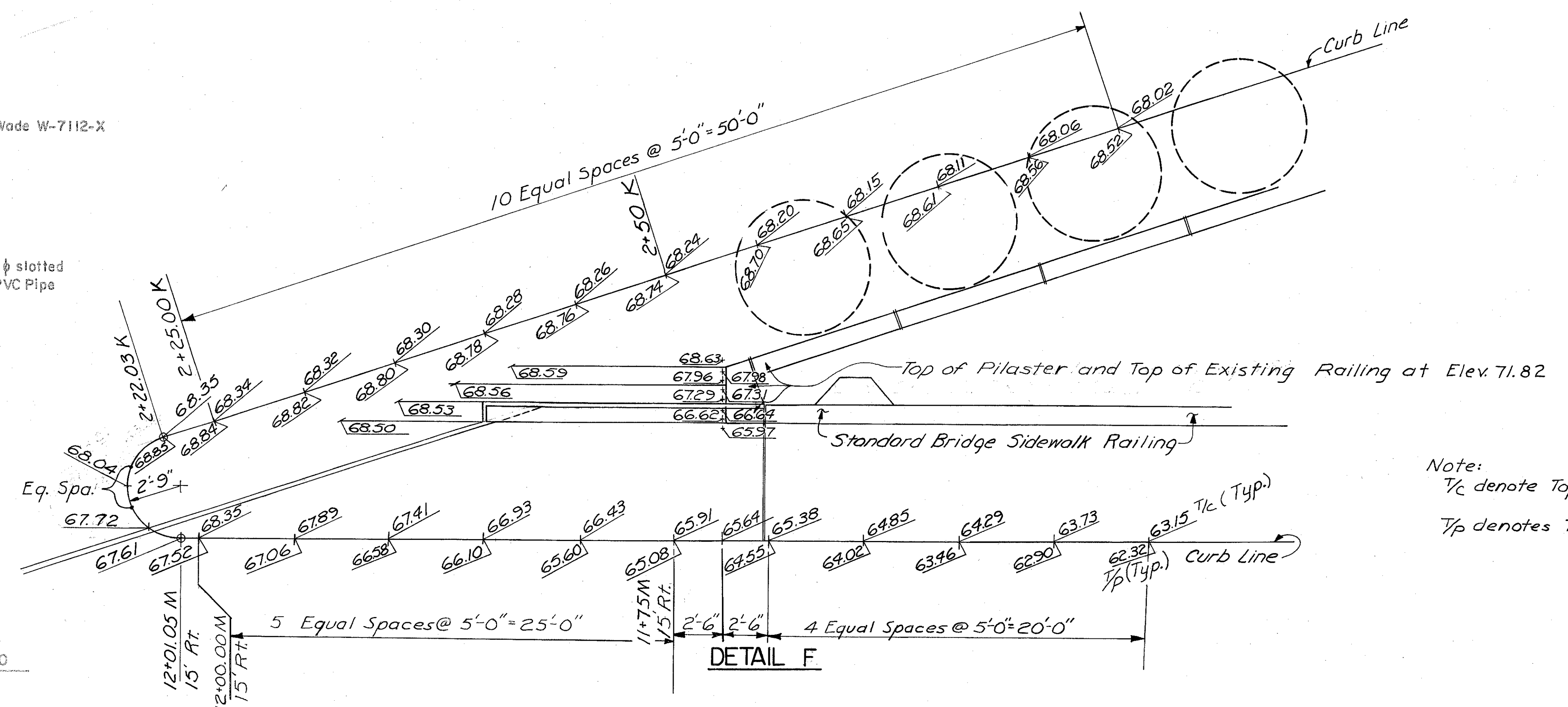
ROADWAY SURFACE ELEVATION

SECTION UNITS 1-7



Typical Pipes ; 30-31, 33-34, 37-38 & 39-40.

SECTION UNITS 8-10



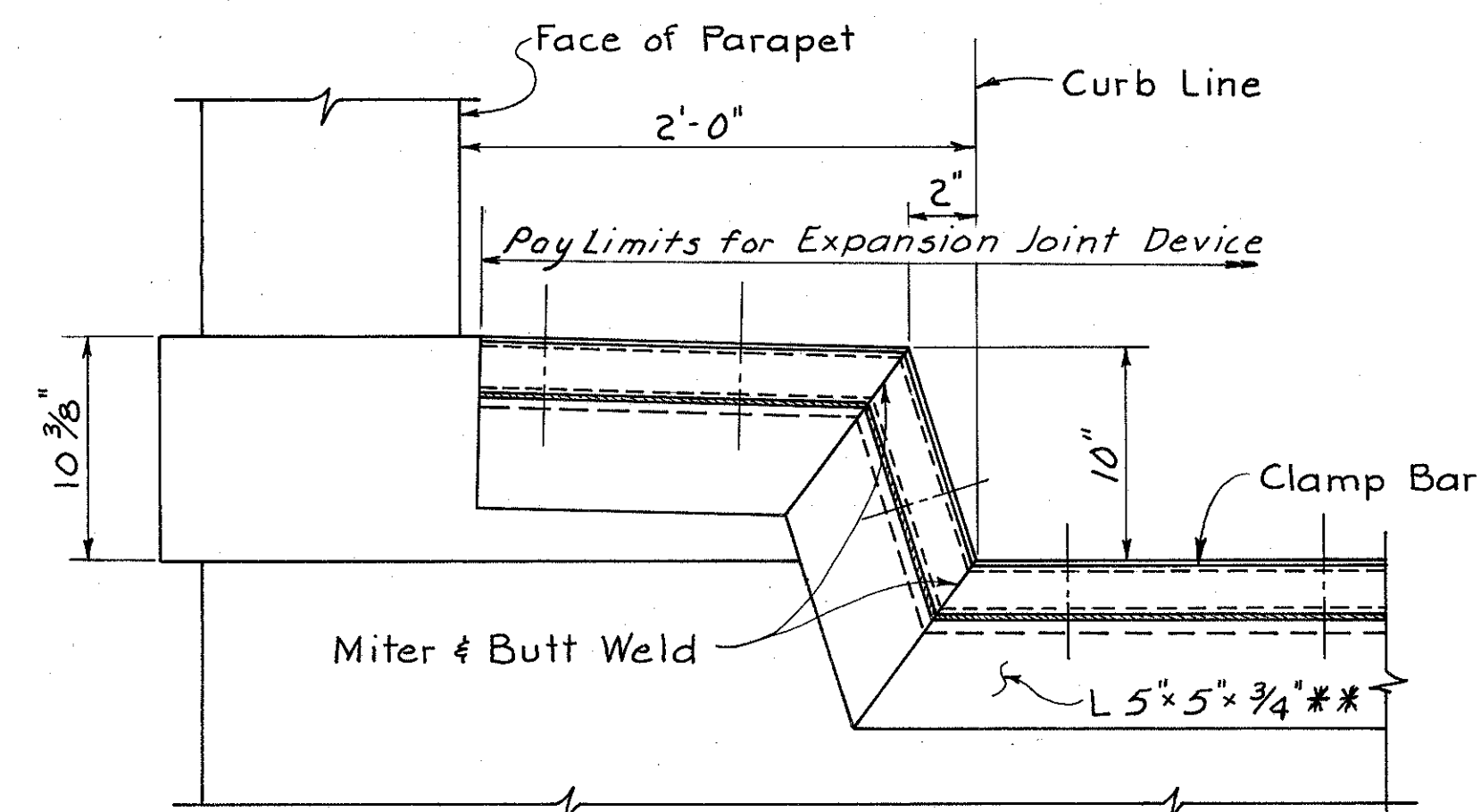
Note:
T_c denote Top of Curb
T_p denotes Top of Pavement

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						23/30
ROADWAY SURFACE ELEVATIONS						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	MAM		H.L.L.	JHO 3-24-82	2-2-84	

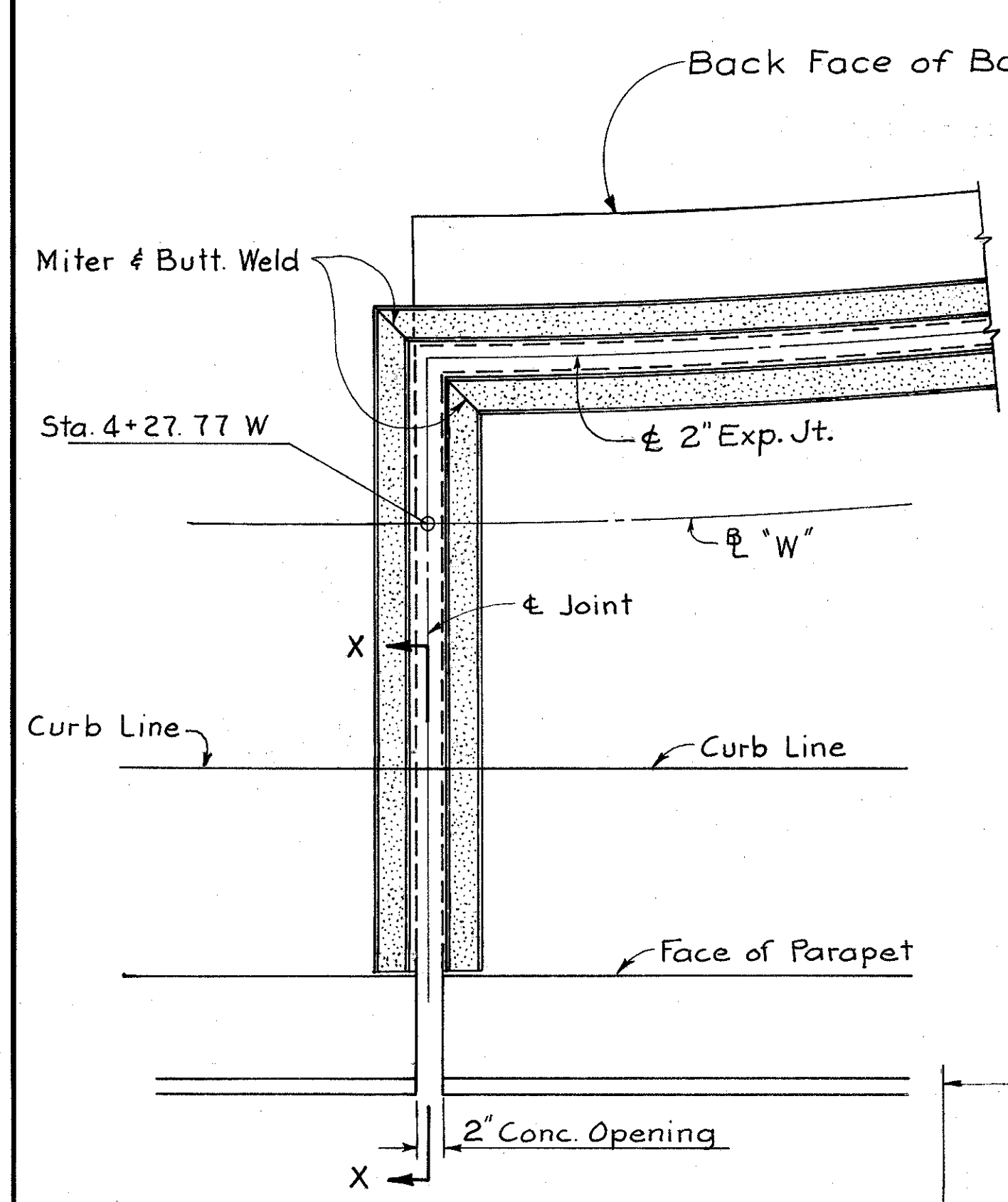
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

261
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

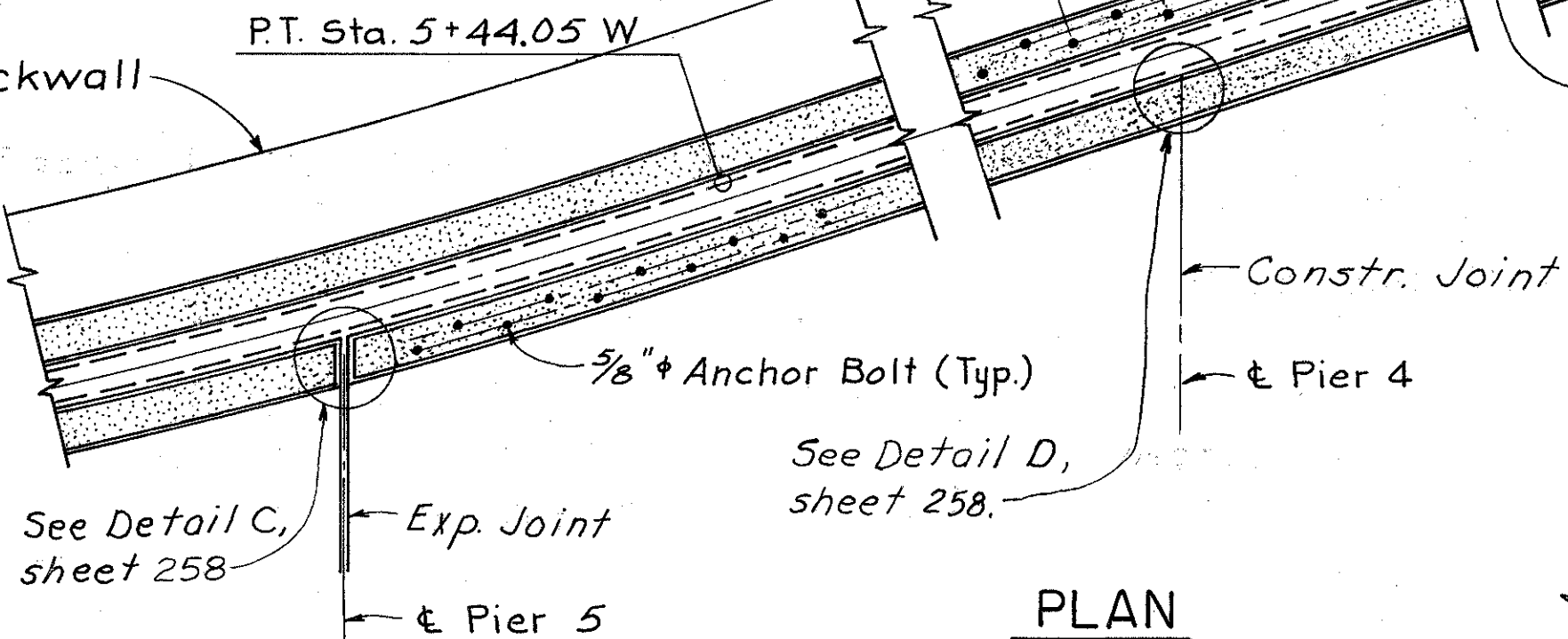


SECTION X-X



SECTION W-W

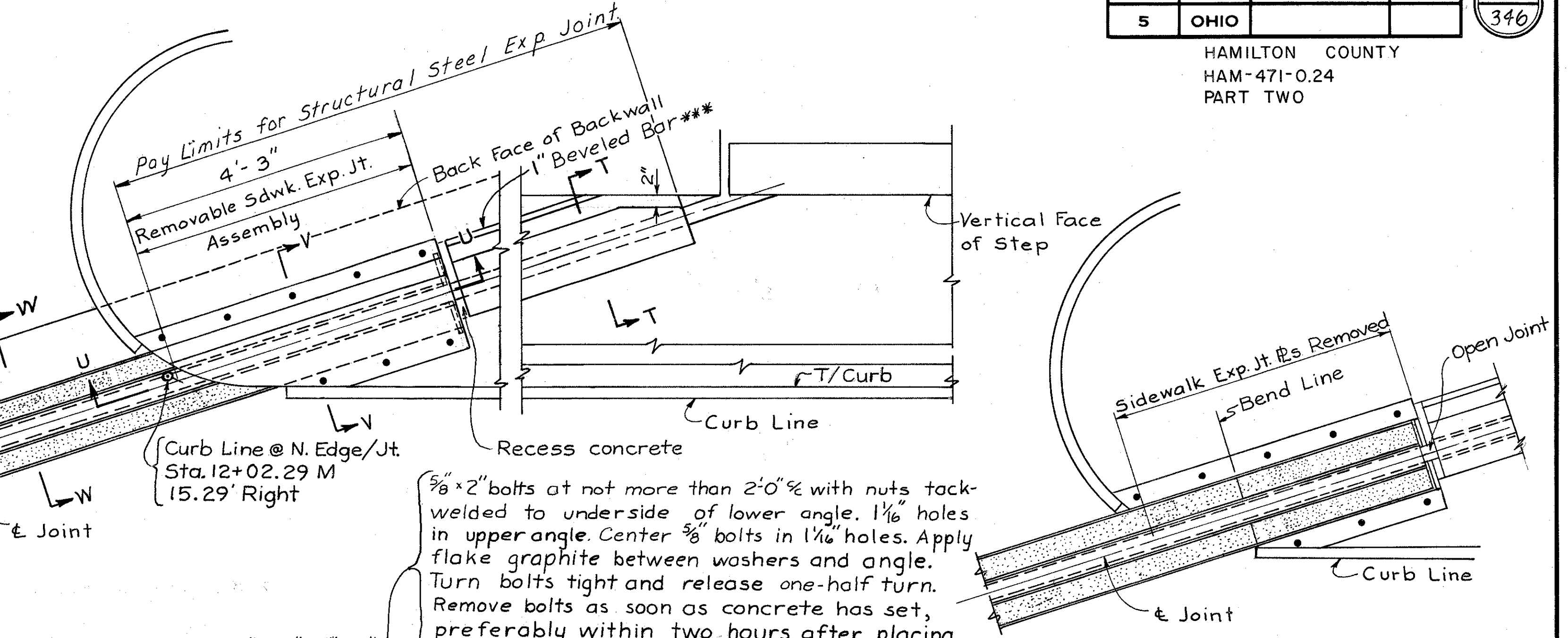
Note: Holes in elastomeric seal shall be drilled in the field @ 2" in diameter.
Finished surface of Magnesium Phosphate Mortar shall be flush with or higher than clamp bar.



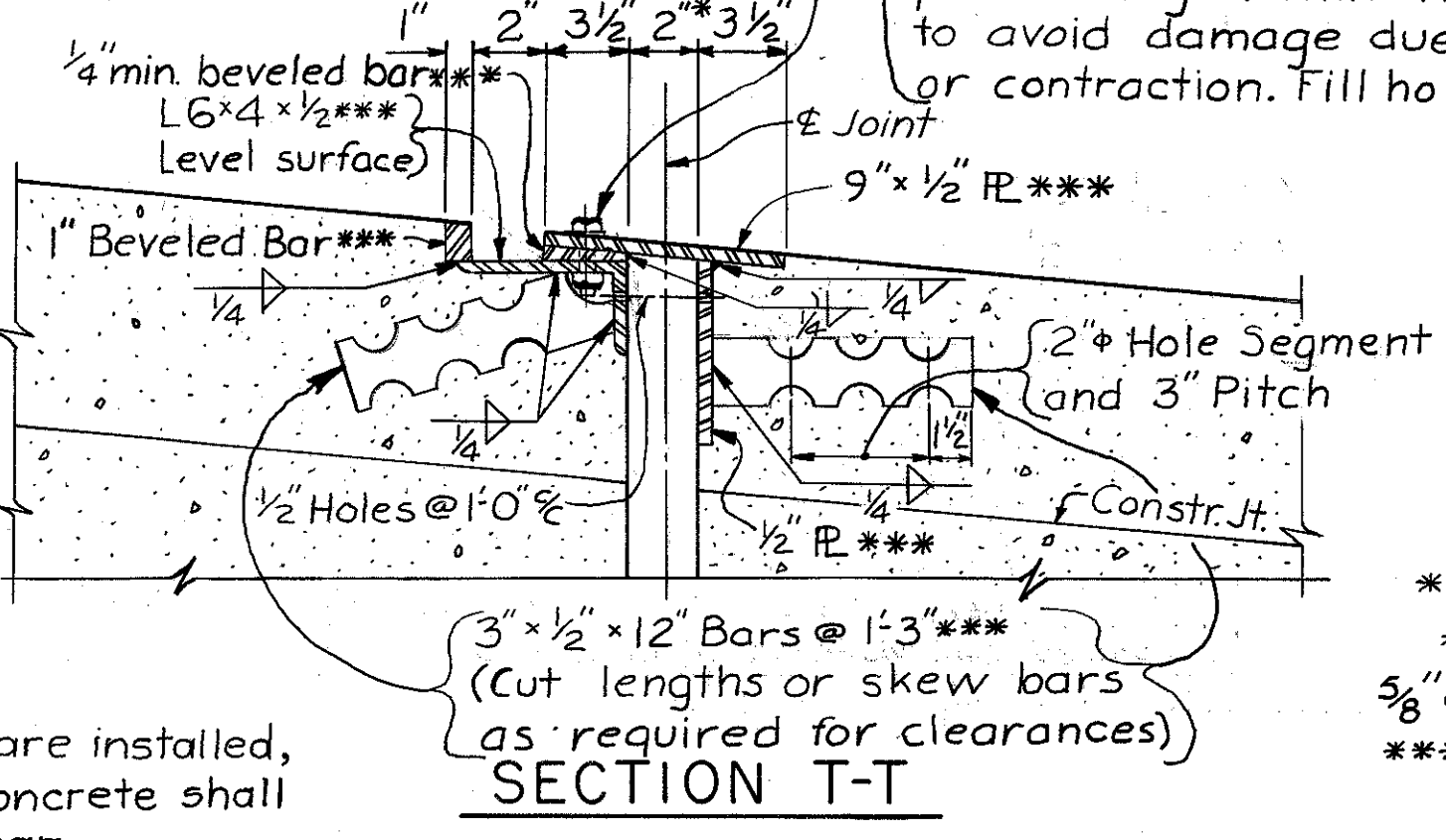
PLAN

Note: Not more than 24 hours prior to placing the Magnesium Phosphate mortar, the interior surface of the clamp bars should be abrasively cleaned.

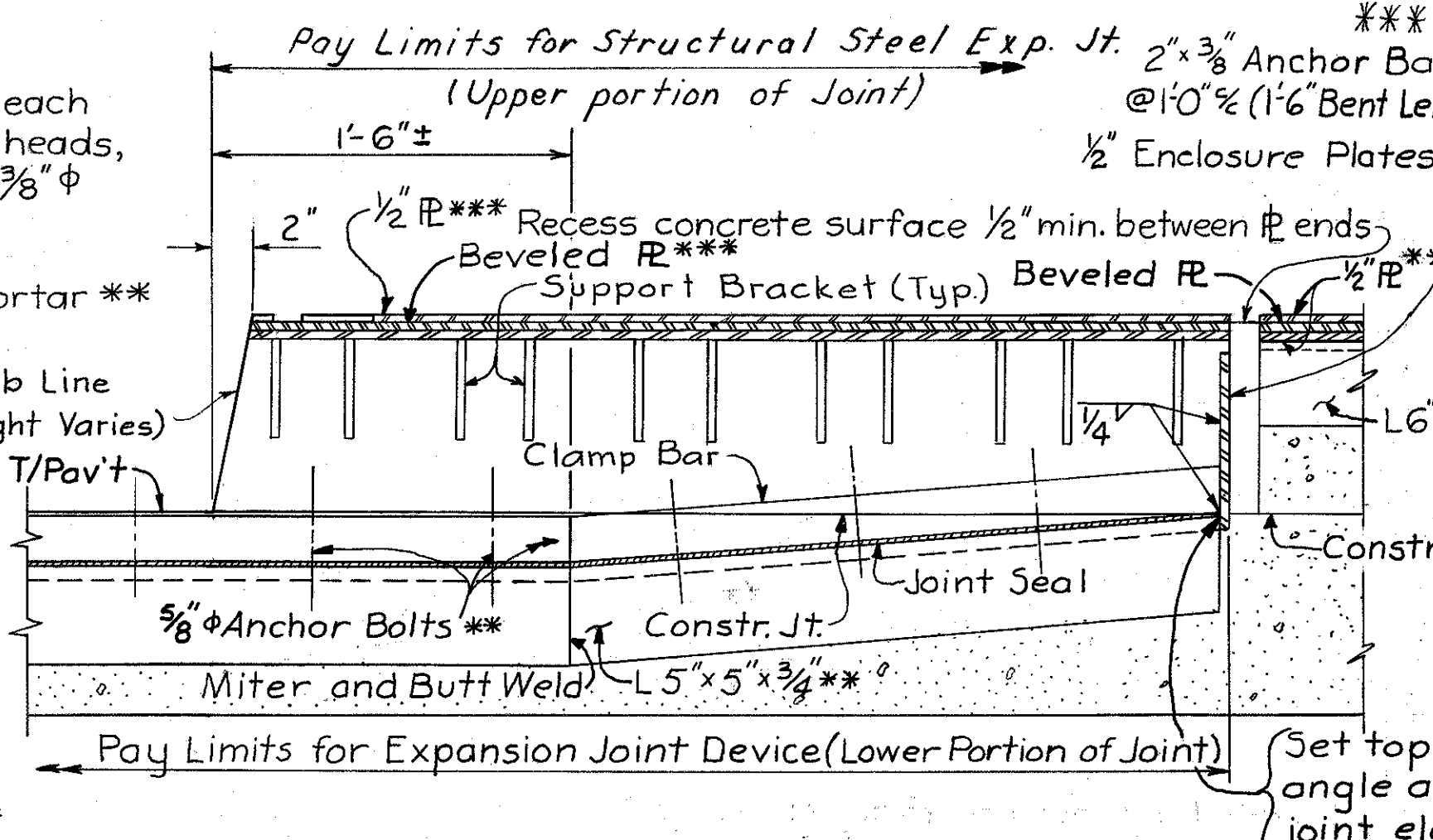
If concrete is placed before clamp bars are installed, the space between the clamp bar and the concrete shall be filled with Magnesium Phosphate mortar.



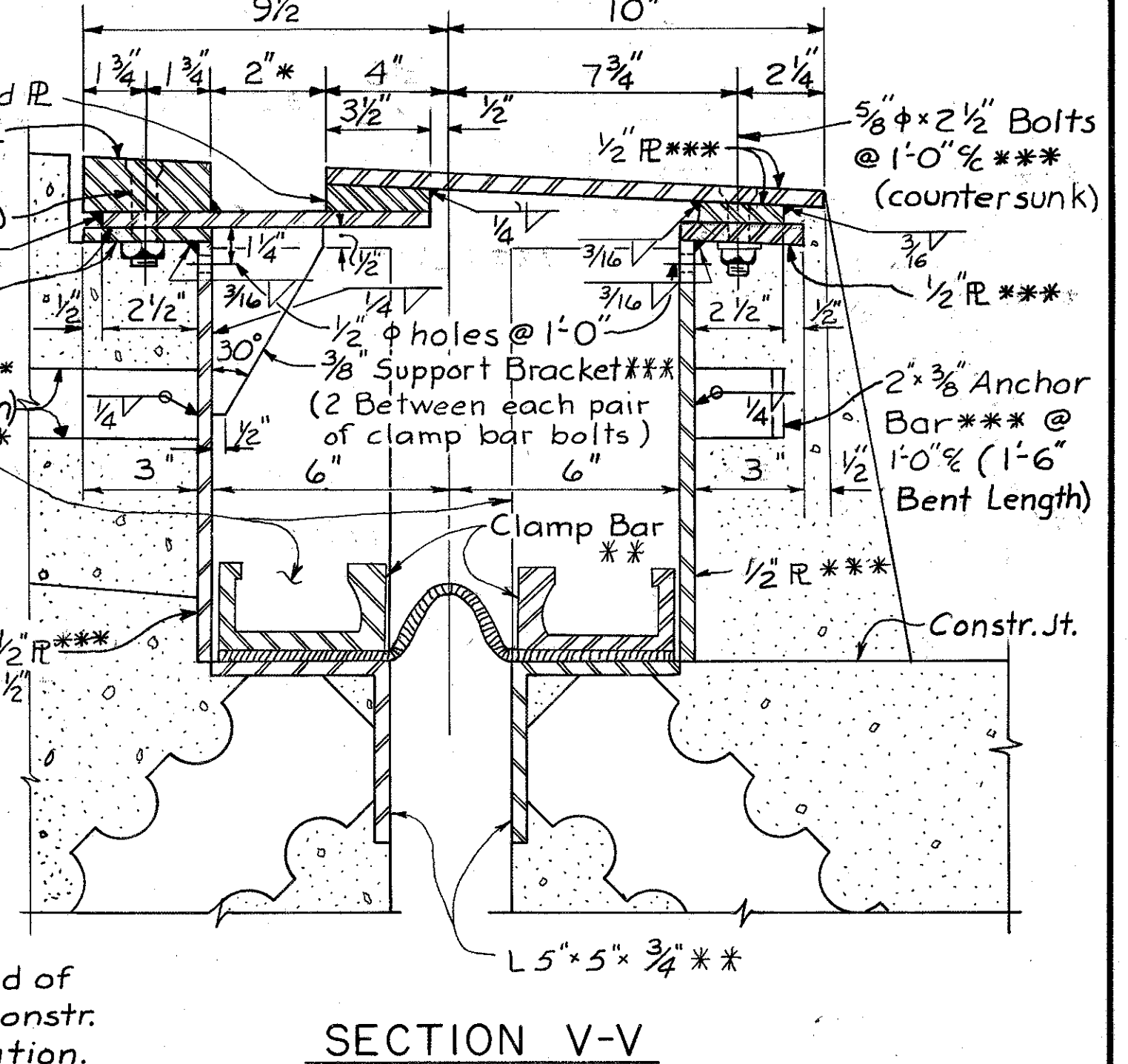
PART PLAN



SECTION T-T



SECTION U-U



SECTION V-V

Note:
* The joint width dimension is for a setting temperature of 60°F. For each 10° increase (decrease) in setting temperature the dimension shall be reduced (increased) by 1/16".
** denotes items included with Item 516, Expansion Joint Device for payment, as per plan.
*** denotes items included with Item 516, Structural Steel Expansion Joint for payment.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
EXPANSION JOINT DETAILS					
BRIDGE NO. HAM-471-					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	A.L.T.		H.L.L.	J.H. 3-24-82	

SUPERSTRUCTURE

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
S401	1	3'-8"	208	509	1'-2"	1'-5"					
S402E	37	6'-0"	239	958	1'-6 1/2"	1'-3"					
S403E	37	6'-1"	32	130	1'-8"	1'-2"					
S404	1	3'-8"	82	201	1'-2"	1'-7"					
S405E	37	10'-7"	115	813	2'-6"	2'-7"					
S406E	Str.	9'-11"	2	14							
S407E	Str.	10'-1" to 11'-0"	1 Series of 8	56							
S408E	Str.	11'-2" to 12'-11"	1 Series of 11	89							
S409E	Str.	13'-1" to 15'-2"	1 Series of 11	104							
S410E	Str.	15'-4" to 17'-0"	1 Series of 8	86							
S411E	Str.	17'-2"	1	12							
S412E	Str.	17'-4"	1	12							
S413E	Str.	6'-0"	2	8							
S414E	Str.	6'-2" to 6'-5"	1 Series of 6	25							
S415E	Str.	6'-7" to 6'-9"	1 Series of 6	27							
S416E	Str.	6'-11" to 7'-2"	1 Series of 6	29							
S417E	Str.	7'-3" to 7'-5"	1 Series of 6	30							
S418E	Str.	7'-6" to 8'-1"	1 Series of 6	31							
S419E	Str.	8'-2" to 8'-9"	1 Series of 6	34							
S420E	Str.	8'-10" to 9'-5"	1 Series of 6	37							
S421E	Str.	9'-7"	1	7							
S422E	Str.	9'-9"	2	13							
S423E	Str.	9'-8"	1	7							
S424E	Str.	32'-3"	1	22							
S425E	Str.	32'-2"	2	43							
S426E	Str.	32'-1"	2	43							
S427E	Str.	32'-0"	1	21							
S428E	Str.	20'-0"	1	13							
S429E	Str.	33'-0"	1	22							
S430E	Str.	32'-11"	1	22							
S431E	Str.	32'-10"	1	22							
S501E	Str.	19'-6"	41	834							
S502E	Str.	14'-4"	41	613							
S503E	Str.	28'-9"	41	1,229							
S504E	1	3'-5"	304	1,083	7 1/2"	2'-4"					
S505E	1	7'-7"	76	601	7 1/2"	6'-6"					
S506E	1	3'-7"	130	486	7 1/2"	2'-6"					
S507E	14	6'-3"	459	2,992	2'-6"	8"					
S508E	Str.	39'-8"	113	4,675							
S509E	Str.	39'-5"	10	411							
S510	Str.	39'-5"	15	617							
S511E	Str.	29'-5" to 39'-1"	1 Series of 31	1,107							
S512	Str.	29'-9" to 39'-5"	1 Series of 50	1,804							
S513E	Str.	22'-10" to 29'-4"	1 Series of 21	572							
S514	Str.	23'-2" to 29'-8"	1 Series of 33	909							
S515E	Str.	17'-4" to 22'-8"	1 Series of 20	417							
S516	Str.	17'-8" to 23'-0"	1 Series of 32	679							
S517E	Str.	40'-2"	38	1,592							
S518E	Str.	11'-11" to 35'-6"	1 Series of 6	148							
S519E	Str.	3'-6" to 33'-4"	1 Series of 7	134							
S520E	1	3'-8"	127	486	7 1/2"	2'-7"					
S521E	Str.	7'-2"	1	7							
S522E	Str.	12'-2"	1	13							
S523E	Str.	16'-8"	1	17							
S524E	Str.	22'-2"	1	23							
S525E	Str.	27'-11"	1	29							
S526E	Str.	34'-2"	1	36							
S527E	Str.	41'-10"	7	305							
S528E	Str.	8'-4"	1	9							
S529E	Str.	18'-4"	1	19							
S530E	Str.	31'-10"	1	33							
S531E	Str.	46'-1"	3	144							
S532	Str.	46'-1"	1	48							
S533	Str.	40'-2"	1	42							
S534E	Str.	6'-10"	6	43							
S535E	1	3'-5"	48	171	6"	2'-8"					
S536E	1	4'-10"	69	348	1'-2"	2'-9"					
S537E	17	2'-11"	69	210	2'-0"	1'-0"					
S538E	1	3'-8"	7	27	6"	2'-11"					
S539E	1	3'-10"	6	24	6"	3'-1"					
S540E	1	4'-1"	3	13	6"	3'-4"					

SUPERSTRUCTURE

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
S541E	1	4'-5"	3	14	6"	3'-8"					
S542E	1	3'-7"	3	11	6"	2'-10"					
S543E	24	3'-6"	11	40	2'-11"						
S544E	1	1'-0" to 7'-0"	1 Series of 12	55	7 1/2"	0'-10" to 6'-0"					
S545E	1	3'-4" to 3'-10"	1 Series of 12	45	7 1/2"	2'-4" to 2'-10"					
S546E	1	3'-7" to 3'-10"	1 Series of 7	26	7 1/2"	2'-7" to 2'-10"					
S547E	Str.	13'-3"	2	28							
S548E	1	7'-3"	7	53	7 1/2"	6'-3"					
S549E	Str.	4'-0"	4	17							
S550E	1	3'-0"	4	13	7"	2'-1"					
S551E	1	10'-2"	4	42	4'-2"	2'-1"					
S552E	44	7'-6"	6	47	1'-4"	1'-8 3/4"	2'-7"	1'-11"	6"		
S601	Str.	39'-8"	104	6,196							
S602E	Str.	30'-0"	30	1,352							
S603E	Str.	27'-11"	10	419							
S604E	Str.	14'-6"	8	174							
S605E	Str.	11'-6"	8	138							
S606E	16	31'-0"	1	47	6'-4"	10'-5"	20'-7"	19'-7"			
S607E	17	30'-6"	1	46	30'-0"	8"					
S608E	Str.	13'-7" to 26'-9"	1 Series of 5	151							
S609	1	5'-1"	3	23	1'-4"	2'-8"					
S701	Str.	7'-2"	1	15							
S702	Str.	12'-2"	1	25							
S703	Str.	16'-8"	1	34							
S704	Str.	22'-2"	1	45							
S705	Str.	27'-11"	1	57							
S706	Str.	34'-2"	1	70							
S707	Str.	40'-2"	7	575							
S708	24	11'-1"	3	68	10'-3"						
S709	24	11'-3" to 12'-2"	1 Series of 15	359	10'-5" to 11'-4"						
S710	24	12'-3" to 14'-2"	1 Series of 23	621	11'-5" to 13'-4"						
S711	24	14'-3" to 16'-6"	1 Series of 23	723	13'-5" to 15'-8"						
S712	24	16'-7" to 18'-2"	1 Series of 14	497	15'-9" to 17'-4"						
S713	24	18'-4"	1	37	17'-6"						
S714	24	18'-5"	1	38	17'-7"						
S715	24	18'-6"	1	38	17'-8"						
S716	30	4'-4"	6	53	2'-0"	3 1/2"	2'-0"	4"	2"		
S717	Str.	10'-0"	1	20							
S718	Str.	20'-0"	1	41							
S719	Str.	33'-6"	1	68							
S720	Str.	47'-9"	3	293							
S721	24	7'-2"	3	44	6'-4"						
S722	24	7'-4" to 7'-7"	1 Series of 7	107	6'-6" to 6'-9"						
S723	24	7'-8" to 7'-11"	1 Series of 7	112	6'-10" to 7'-1"						
S724	24	8'-0" to 8'-3"	1 Series of 7	116	7'-2" to 7'-5"						
S725	24	8'-3" to 8'-6"	1 Series of 7	120	7'-5" to 7'-8"						
S726	24	8'-7" to 8'-11"	1 Series of 7	125	7'-9" to 8'-1"						
S727	24	9'-0" to 9'-5"	1 Series of 7	132	8'-2" to 8'-7"						
S728	24	9'-6" to 10'-0"	1 Series of 7	140	8'-8" to 9'-2"						
S729	24	10'-1" to 10'-5"	1 Series of 5	105	9'-3" to 9'-7"						
S730	24	10'-6" to 10'-11"	1 Series of 5	109	9'-8" to 10'-1"						
S731	24	11'-0"	3	67	10'-2"						
S801	Str.	23'-6"	37	2,322							
S802	Str.	21'-6"	37	2,124							
S803	Str.	32'-5"	38	3,289							
S804	Str.	43'-1"	38	4,371							
S901E	Str.	26'-6"	41	3,694							
S902E	Str.	11'-6"	40	1,564							

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

263
340

HAMILTON COUNTY
HAM-471-024
PART TWO

SERIES BARS INCREMENT

MARK	TOTAL LENGTH INCREMENT	DIMENSION INCREMENT	
		A	B
S407E	1 5/8"		
S408E	2 1/8"		
S409E	2 1/2"		
S410E	2 7/8"		
S414E	5/8"		
S415E	3/8"		
S416E	5/8"		
S417E	3/8"		
S418E	1 3/8"		
S419E	1 3/8"		
S420E	1 3/8"		
S511E	3 7/8"		
S512	2 3/8"		
S513E	3 7/8"		
S514	2 1/2"		
S515E	3 3/8"		
S516	2"		
S518E	4'-8 5/8"		
S519E	4'-11 5/8"		
S544E	5 5/8"		5 5/8"
S545E	1/2"		1/2"
S546E	1/2"		1/2"
S608E	3'-3 1/2"		
S709	3/4"	3/4"	
S710	1"	1"	
S711	1 1/4"	1 1/4"	
S712	1 1/2"	1 1/2"	
S722	1/2"	1/2"	
S723	1/2"	1/2"	
S724	1/2"	1/2"	
S725	1/2"	1/2"	
S726	5/8"	5/8"	
S727	1/8"	1/8"	
S728	1"	1"	
S729	1"	1"	
S730	1 1/4"	1 1/4"	

For Notes see str. 264.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						27/30
REINFORCING STEEL LIST						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
	YK		HLL	1/10 3-24-82		

HAMILTON COUNTY
HAM-471-024
PART TWO

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS							
					A	B	C	D	E	F	RADIUS	
S1001	Str.	28'-0"	42	5060								
S1002	Str.	41'-8"	38	6813								
S1003E	Str.	30'-6"	41	5381								
S1004E	Str.	14'-6"	40	2496								
S1005	Str.	42'-11"	8	1477								
S1006	Str.	45'-8"	8	1572								
S1007	Str.	33'-8"	8	1,159								
S1008	Str.	40'-1"	60	10,349								
S1009	Str.	32'-6"	50	6,992								
S1010	Str.	10'-10" to 38'-1"	1 Series of 22	2,315								
S1011	Str.	3'-6" to 37'-6"	1 Series of 25	2,205								
S1012E	Str.	41'-10"	3	540								
S1013	Str.	41'-10"	4	720								
S1014E	1/6	41'-6"	3	536	2'-9 1/2"	32'-5"	9'-1"	8'-7 3/4"				
S1015	1/6	41'-6"	4	714	3'-1 1/2"	31'-4"	10'-2"	9'-8 1/8"				
S1016E	Str.	22'-0"	7	663								
S1017E	Str.	40'-0"	4	688								
S1018E	Str.	26'-2"	4	450								
S1019E	Str.	35'-10"	3	463								
S1020E	Str.	30'-4"	3	392								
S1021	Str.	44'-3"	4	762								
S1022E	Str.	32'-0"	4	551								
S1023	Str.	46'-2"	9	1,788								
S1024E	Str.	35'-9"	3	461								
S1025	Str.	46'-4"	4	797								
S1026	Str.	43'-6"	7	1,310								
	Sub	Total Reinforcing Steel Grade 60 =			72,021 Lbs.							
	Sub	Total Epoxy Coated Reinforcing Steel Grade 60 =			42,178 Lbs.							
W401	22	31'-10"	4	85	31'-10"						379'-9"	
W402E	Str.	31'-9"	2	42								
W403	Str.	31'-10"	4	85								
W404	22	32'-0"	2	43	32'-0"						381'-9"	
W405	Str.	32'-0"	1	21								
W406	Str.	25'-9"	1	17								
W407	Str.	12'-6"	1	8								
W408	23	32'-11"	1	21	23'-11"	8'-2"	1/4"				317'-9"	
W409	22	31'-8"	2	42	31'-8"						379'-9"	
W410E	Str.	31'-7"	1	21								
W411	Str.	31'-8"	1	21								
W412	Str.	30'-6"	1	20								
W413	Str.	23'-6"	1	16								
W414	Str.	14'-8"	1	10								
W415	22	32'-4"	1	22	32'-4"						317'-9"	
W416	22	31'-10"	1	21	31'-10"						382'-0"	
W417E	22	31'-10"	2	43	31'-10"						379'-9"	
W418E	Str.	31'-10"	4	85								
W419E	Str.	32'-0"	1	21								
W420E	Str.	25'-9"	1	17								
W421E	Str.	12'-6"	1	8								
W422E	23	32'-11"	1	21	23'-11"	8'-2"	1/4"				317'-9"	
W423E	22	31'-8"	1	21	31'-8"						379'-9"	
W424E	Str.	31'-8"	1	21								
W425E	Str.	30'-6"	1	20								
W426E	Str.	23'-6"	1	16								
W427E	Str.	14'-8"	1	10								
W428E	22	32'-4"	1	22	32'-4"						317'-9"	
W501E	17	5'-2" to 5'-5"	1 Series of 9	50	2'-5"	2'-10" to 3'-1"						
W502E	17	5'-1"	4	21	2'-5"	2'-9"						
W503E	17	5'-0"	9	47	2'-5"	2'-8"						
W504E	17	4'-11"	11	56	2'-5"	2'-7"						
W505E	17	5'-0" to 7'-2"	1 Series of 33	209	2'-5"	2'-8" to 4'-10"						
W506	Str.	2'-0" to 3'-5"	1 Series of 33	93								
W507E	17	6'-11" to 9'-11"	1 Series of 49	430	2'-3" to 2'-9"	4'-9" to 7'-3"						
W508	Str.	3'-8" to 6'-2"	1 Series of 33	169								
	Sub	Total Reinforcing Steel Grade 60 =			694 Lbs.							
	Sub	Total Epoxy Coated Reinforcing Steel Grade 60 =			1,181 Lbs.							

SUPERSTRUCTURE

CLOSURE WALL

REINFORCING STEEL LIST (CONT.)

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS							
					A	B	C	D	E	F	RADIUS	
B501	Str.	31'-10"	26	864								
B502	2	7'-5" to 7'-9"	1 Series of 33	261	3'-6" to 3'-10"	11"	3'-3"					
B503	17	3'-9"	33	129	1'-2"	2'-8"						
B504	Str.	12'-1"	4	50								
B505	Str.	15'-2"	4	64								
B506	Str.	6'-4"	2	13								
B507	2	7'-9" to 8'-0"	1 Series of 12	99	3'-10" to 4'-1"	11"	3'-3"					
B508	1	8'-10"	6	55	4'-1"	11"						
B509	2	8'-2" to 8'-6"	1 Series of 15	131	4'-3" to 4'-7"	11"	3'-3"					
B510	17	4'-1"	13	56	1'-6"	2'-8"						
B511	17	4'-5"	16	74	1'-10"	2'-8"						
B512	Str.	20'-3"	4	85								
B513	Str.	6'-2"	4	26								
B514	Str.	7'-2"	2	15								
B515	2	8'-6" to 8'-10"	1 Series of 20	181	4'-7" to 4'-11"	11"	3'-3"					
B516	1	10'-6"	7	76	4'-11"	11"						
B517	2	8'-11"	6	56	5'-0"	11"	3'-3"					
B518	17	4'-10"	21	106	2'-3"	2'-8"						
B519	17	5'-3"	7	38	2'-8"	2'-8"						
B520	Str.	31'-10"	8	266								
B521	Str.	30'-3"	4	126								
B522	Str.	2'-10"	2	6								
B523	2	8'-11"	31	289	5'-0"	11"	3'-3"					
B524	1	10'-8"	2	23	5'-0"	11"						
B525	17	5'-3"	31	169	2'-8"	2'-8"						
B526	1	8'-10"	15	138	2'-2"	4'-9"						
B527	Str.	31'-8"	3	99								
B528	Str.	27'-11"	4	116								
B529	1	11'-0"	5	58	5'-2"	11"						
B530	2	8'-10"	8	73	4'-11"	11"	3'-3"					
B531	17	4'-11"	17	87	2'-4"	2'-8"						
B532	2	10'-2"	9	96	5'-9"	11"	3'-9"					
B533	2	7'-10"	15	123	6'-6"	5"	1'-2"					
B534	Str.	4'-8"	2	10								
B535	2	8'-9"	15	137	4'-10"	3'-0"	1'-2"					
B536	Str.	21'-8"	1	23								
B537	Str.	23'-1"	1	24								
B538	Str.	22'-3"	5	116								
B539	Str.	12'-8"	6	79								
B540	Str.	6'-11"	1	7								
B541	1	3'-2"	30	99	1'-2"	1'-1"						
B542	Str.	8'-1"	2	17								
B543	Str.	9'-2"	2	19								
B544	Str.	5'-8"	2	12								
B545	Str.	2'-8"	2	6								
B546	1	8'-2"	6	51	1'-10"	4'-9"						
B547	1	16'-8"	5	87	6'-1"	4'-9"						
B548	1	10'-4"	5	54	2'-4"	5'-11"						
B549	2	7'-3"	6	45	5'-3"	1'-1"	1'-2"					
B550	2	9'-2" to 12'-1"	1 Series of 11	122	7'-5"	10" to 3'-9"	1'-2"					
B551	Str.	10'-6"	6	66								
B552	Str.	1'-3" to 10'-6"	1 Series of 3	18								
B553	Str.	11'-2"	10	116								
B554	Str.	6'-8"	4	28								
B555	Str.	10'-5"	6	65								
B556	62	7'-10"	3	25	1'-7 1/4"	1'-8 1/2"	1'-0"	2'-1 1/4"	11 1/2"	3 3/4"		
						G= 7 3/4"	H= 2'-0"	I= 1'-0"				
	Sub	Total Reinforcing Steel Grade 60 =			5,274 Lbs.							
		Total Weight Superstructure Reinforcing Steel, Grade 60 =			77,989 Lbs.							
		Total Weight Superstructure Epoxy Coated Reinforcing Steel, Grade 60 =			43,359 Lbs.							
R501E	Str.	10'-9"	12	*								
R502E	37	4'-8"	8	*	1'-8"	5"						
R503E	Str.	10'-6"	8	*								
R504E	23	10'-7"	4	*	2'-4"	8'-3"	1 1/4"				317'-6"	
R505E	Str.	13'-2"	48	*								
R506E	22	10'-7"	12	*	10'-7"						317'-6"	
R507E	22	12'-9"	4	*	12'-9"						317'-8"	
R508E	23	12'-9"	4	*	7'-2 1/4"	5'-6 3/4"	1 1/8"				317'-8"	
R509E	Str.	10'-8"	8	*								
R510E					Not Used							
R511E	Str.	6'-5"	60	*								
R512E					Not Used							
R513E					Not Used							
R514E					Not Used							
R515E	Str.	11'-5"	8	*								
R516E	Str.	14'-0"	16	*								

BACK WALL

SUPERSTRUCTURE RAILING

SERIES BAR INCREMENT

**ABUTMENT & WINGWALLS
REINFORCING STEEL LIST**

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
A501	Str.	30'-8"	5	160							
A502	Str.	33'-6"	3	105							
A503	I	7'-10"	7	57	3'-10"	5"					
A504	Str.	5'-10"	6	37							
A505	Str.	19'-5"	40	810							
A506	Str.	13'-10"	28	404							
A507	Str.	1'-10"	6	11							
A508	Str.	7'-8"	20	160							
A509	Str.	24'-0"	2	50							
A510	Str.	3'-6" to 8'-2"	1 Ser. of 22	134							
A511	Str.	16'-3"	5	85							
A512	Str.	16'-0"	5	83							
A513	Str.	14'-0"	2	29							
A514	Str.	4'-0"	2	8							
A515	37	7'-4"	74	566	2'-7"	10"					
A516	Str.	6'-5"	6	40							
A517	Str.	32'-0"	8	267							
A518	Str.	19'-8"	16	328							
A519	Str.	19'-10"	2	41							
A520	Str.	23'-8"	22	543							
A521	Str.	6'-10"	2	14							
A522	Str.	17'-0" to 14'-5"	1 Ser. of 15	246							
A523	Str.	13'-7"	2	28							
A524	Str.	11'-10" to 8'-3"	1 Ser. of 9	94							
A525	Str.	8'-6" to 5'-5"	1 Ser. of 8	58							
A526	Str.	16'-10"	2	35							
A527	Str.	16'-9" to 14'-2"	1 Ser. of 15	242							
A528	Str.	11'-7" to 8'-0"	1 Ser. of 17	174							
A529	Str.	6'-8" to 3'-2"	1 Ser. of 17	87							
A530	Str.	15'-0"	3	47							
A531	Str.	14'-6"	2	30							
A532	Str.	15'-4"	5	80							
A533	Str.	18'-7"	6	116							
A534	Str.	4'-10"	17	86							
A535	Str.	5'-0"	17	89							
A536	Str.	4'-6"	2	9							
A537	Str.	23'-11"	16	399							
A538	Str.	4'-0"	39	163							
A539	Str.	3'-10"	39	156							
A540	Str.	31'-6"	6	197							
A541E	14	6'-3"	66	430	2'-6"	8"					
A542	16	10'-0"	8	83	2'-5 3/4"	6'-6"	3'-6"	2'-5 3/4"			
A543	Str.	31'-8"	2	66							
A544	I	4'-3"	28	124	1'-5"	1'-8"					
A601	28	8'-0"	20	240	4'-3"	1'-0"	6'-0"	1'-0"	4'-3"		
A602	19	6'-3"	20	188	1'-11"	4'-6"	4'-6 1/4"	5"			
A603	19	12'-9"	18	345	1'-11"	11'-0"	11'-0 1/2"	1'-0 1/4"			
A604	19	10'-5" to 6'-11"	1 Ser. of 17	221	1'-11"	8'-8" to 5'-2 3/4"	8'-7 1/4" to 5'-2 3/4"	1'-0 1/2" to 9 3/8"			
A605	19	7'-3" to 12'-0"	1 Ser. of 22	318	1'-11"	5'-6" to 10'-2 5/8"	5'-6 1/2" to 10'-3"	8 1/4" to 1'-3 1/4"			
A606	19	5'-9"	9	78	1'-11"	4'-0"	4'-0 1/2"	5 1/2"			
A607	19	8'-6"	8	102	1'-11"	6'-9"	6'-9 1/2"	9 1/4"			
A701	24	5'-4"	25	273	4'-6"						
A702	24	9'-4"	53	1011	8'-6"						
A703	Str.	6'-3"	70	894							
A704	Str.	14'-1"	38	1094							
A705	17	6'-0"	38	466	1'-2"	5'-0"					
A706	28	5'-9"	1	12	1'-3"	2'-0"	1'-9"	2'-0"	1'-3"		
A707	24	11'-4"	7	162	10'-6"						
A708	28	4'-6"	1	9	1'-3"	2'-0"	1'-9"	9"	1'-3"		
A801	25	6'-5"	21	360	4'-0"	1'-6"	1'-1"	1'-1"			
Total Weight Abutment & Wingwall Reinforcing Steel, Grade 60 =					12,314 Lbs.						
Total Weight Abutment & Wingwall Epoxy Coated Reinforcing Steel, Grade 60 =					430 Lbs.						

**WINGWALL RAILING
REINFORCING STEEL LIST**

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
R517E	33	3'-3"	8	*	9"	1'-3"					2 5/8"
R518E	27	6'-7"	4	*	7 1/2"	1'-0"	5"	1"	5"	4'-0"	4 3/8"
R519E	2	8'-7"	4	*	3'-6"	4'-8"	8"				
R520E	14	8'-3"	8	*	3'-6"	8"					
R521E	Str.	4'-8"	4	*							
R522E	Str.	32'-0"	4	*							
R523E	Str.	6'-5"	4	*							
R524E	Str.	18'-7"	4	*							
R525E	Str.	23'-11"	8	*							

*Reinforcing bars marked R are included with Railing for payment.
For Notes see sheet 264

SERIES BARS INCREMENT

MARK	TOTAL LENGTH INCREMENT	DIMENSION INCREMENT		
		B	C	D
A 510	2 5/8" +			
A 522	2 1/4" -			
A 524	5 3/8" -			
A 525	5 1/4" +			
A 527	2 1/4" -			
A 528	2 3/4" -			
A 529	2 5/8" -			
A 604	2 3/8" -	2 3/8" -	2 3/8" +	3/8" +
A 605	2 3/8" +	2 3/8" +	2 3/8" +	3/8" -

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

265
346

HAMILTON COUNTY
HAM.-471-0.24
PART TWO

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						29/30
REINFORCING STEEL LIST						
BRIDGE NO. HAM-471-						
MONASTERY STREET						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	DSD		JDC	JHO 3-24-82		

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

266
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

PIERS

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
P401	37	10'-10"	184	1332	2'-6 1/2"	2'-8"					
P402	37	11'-1"	40	296	2'-8"	2'-8"					
P403	37	8'-8"	9	52	1'-6"	2'-8"					
P501	Str.	37'-0"	12	463							
P502	Str.	28'-9"	2	60							
P503	Str.	28'-1"	2	59							
P504	Str.	16'-8"	2	35							
P505	Str.	16'-0"	2	33							
P506	Str.	8'-10"	2	18							
P601	26	7'-10"	99	1165	6'-6"						
P602	33	8'-0"	16	192	3'-8"	2'-2"					1'-1/2"
P603	7	6'-9"	2	20	2'-2"	2'-7"	2'-8 1/2"	10'	2'-2"		
P801	26	13'-4"	48	1709	11'-6"						
P802	26	14'-10"	24	951	13'-0"						
P803	17	8'-1"	72	1554	1'-4"	6'-11"					
P804	17	8'-7"	28	642	1'-4"	7'-5"					
P805	Str.	24'-11"	14	931							
P806	Str.	27'-5"	14	1025							
P807	26	8'-4"	10	222	6'-6"						
P808	Str.	27'-11"	14	1044							
P809	26	10'-10"	32	926	9'-0"						
P810	26	10'-4"	38	1048	8'-6"						
P811	26	11'-4"	34	1029	9'-6"						
P812	Str.	19'-11"	14	744							
P813	Str.	22'-5"	14	838							
P814	Str.	24'-11"	14	931							
P815	Str.	29'-11"	16	1278							
P901	Str.	18'-0"	8	490							
P902	57	40'-9"	6	831	34'-0"	2'-3 1/2"	1'-1"	2'-3 1/2"	1'-1"		1'-5"
P903	57	43'-0"	7	1023	36'-3"	2'-3 1/2"	1'-1"	2'-3 1/2"	1'-1"		1'-5"
P904	Str.	39'-2"	8	1065							
P905	Str.	37'-0"	6	755							
P906	33	12'-3"	10	417	3'-6 1/2"	4'-4"					1'-1"
P907	Str.	10'-9"	16	585							
P908	Str.	13'-9"	16	748							
P909	Str.	16'-9"	16	911							
P910	31	30'-10"	1	105	1'-1"	28'-11"	27'-5"	2'-3 1/2"			1'-5"
P911	31	31'-7"	1	107	1'-1"	29'-8"	28'-2"	2'-3 1/2"			1'-5"
P912	31	31'-6"	1	107	1'-1"	29'-7"	28'-1"	2'-3 1/2"			1'-5"
P913	31	31'-3"	1	106	1'-1"	29'-4"	27'-10"	2'-3 1/2"			1'-5"
P914	31	30'-2"	1	103	1'-1"	28'-3"	26'-9"	2'-3 1/2"			1'-5"
P915	17	30'-9"	2	209	28'-9"	2'-3"					
P916	17	30'-7"	3	312	28'-7"	2'-3"					
P917	Str.	15'-10"	16	861							
P918	Str.	18'-10"	16	1025							
P919	Str.	21'-4"	16	1161							
P920	31	18'-8"	1	63	1'-1"	16'-9"	15'-3"	2'-3 1/2"			1'-5"
P921	31	19'-7"	1	67	1'-1"	17'-8"	16'-2"	2'-3 1/2"			1'-5"
P922	31	19'-6"	1	66	1'-1"	17'-7"	16'-1"	2'-3 1/2"			1'-5"
P923	31	19'-4"	1	66	1'-1"	17'-5"	15'-11"	2'-3 1/2"			1'-5"
P924	31	18'-1"	1	61	1'-1"	16'-2"	14'-8"	2'-3 1/2"			1'-5"
P925	1	20'-0"	2	136	1'-7"	17'-4"					
P926	1	19'-6"	2	133	1'-7"	16'-10"					
P927	1	20'-1"	5	341	1'-7"	17'-5"					
P928	1	11'-4"	4	154	1'-6"	8'-10"					
P929	1	12'-4"	6	252	1'-6"	9'-10"					
P930	17	9'-6"	96	3101	1'-7"	8'-2"					
P931	17	4'-9"	36	581	2'-6"	2'-6"					
P932	17	4'-5"	10	150	2'-6"	2'-2"					

PIERS

REINFORCING STEEL LIST

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS	
					CORE DIA.	PITCH
SP401	39	8'-1"	1	221	2'-8"	3"
SP402	39	11'-1"	1	296	2'-8"	3"
SP403	39	14'-1"	1	372	2'-8"	3"
SP404	39	13'-2"	1	349	2'-8"	3"
SP405	39	16'-2"	1	425	2'-8"	3"
SP406	39	18'-8"	1	488	2'-8"	3"
SP407	39	17'-5"	1	456	2'-8"	3"
SP408	39	19'-11"	1	519	2'-8"	3"
SP409	39	22'-5"	1	582	2'-8"	3"
SP410	39	22'-4"	1	580	2'-8"	3"
SP411	39	24'-10"	1	643	2'-8"	3"
SP412	39	25'-4"	1	656	2'-8"	3"
SP413	39	26'-2"	1	677	2'-8"	3"

Other details in accordance with CRSI standard practice

Total Weight Piers = 40,953 Lbs.

For Notes see sh. 264.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					30/30
REINFORCING STEEL LIST					
BRIDGE NO. HAM - 471 -					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		H.L.L.	JHD 3-24-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	REAR ABUTMENT	PIERS				GENERAL
						1	2	3	4	
202	Lump	Lump Sum	Portions of Structures Removed							Lump
503	Lump	Lump Sum	Cofferdams, Cribs and Sheeting							Lump
503	457	Cubic Yard	Unclassified Excavation		13	50	146	158	90	
504	266	Square Foot	Steel sheet piling left in place (minimum section modulus of 7 in. ³ per foot of wall)		266					
505	Lump	Lump Sum	Test Pile							Lump
506	Lump	Lump Sum	Pile Test Load							Lump
506	1	Each	Subsequent Pile Test Load		1083	900	1456			1
507	3,900	Linear Foot	Steel Piles, HP 12x53		400	375	520	1400	1205	
509	157,981	Pound	Reinforcing Steel, Grade 60	45694	49,501	13,914	13,875	24,335	33,927	22,429
511	475	Cubic Yard	Class S Concrete, Superstructure	472	3					
511	369	Cubic Yard	Class C Concrete, Piers Above Footings	474		51	85	132	101	
511	79	Cubic Yard	Class C Concrete, Abutment above Footing		79					
511	209	Cubic Yard	Class C Concrete, Footings		41	24	45	61	38	
512	13	Square Yard	Type B Waterproofing		13					
513	Lump	Lump Sum	Expansion Joint at Existing Pier 12, Install	Lump						
513	6,000	Pound	Structural Steel, As Per Plan (AISC Category 1)	6,000						
513	Lump	Lump Sum	Structural Steel, Erection, As Per Plan	Lump						
513	10,000	Pound	Replacement Structural Steel, As Per Plan (AISC Category 1)	10,000						
514	Lump	Lump Sum	Field Painting of Existing Structural Steel, Columbia Viaduct, System B, as per plan	Lump						
514	Lump	Lump Sum	Field Painting of Structural Steel, System A, As Per Plan	Lump						
517	142	Linear Foot	Railing (Concrete Posts and Beams) As Per Plan	142						
518	171	Linear Foot	6" Standard Pipe Downspout, Galvanized Steel, 707.08, including specials		27	51		74		19*
518	36	Linear Foot	8" Perforated Corrugated Steel Pipe, including specials, 707.01		36					
518	9	Linear Foot	8" Non-Perforated Corrugated Steel Pipe, 707.01		9					
518	5	Each	Drain Inlets, Clean and Install	5						
518	5	Each	Drain Inlet Gratings	5						
518	4	Linear Foot	12" Reinforced Concrete Pipe, 706.02 2500 D-Load		4					
523	3	Hour	Dynamic Pile Tests							3
625			See Sheet 121 for Lighting Summary							
849	28	Linear Foot	Elastomeric Compression Seals for Structural Steel Joint, 4-inch width	28						
849	107	Linear Foot	Elastomeric Compression Seals for Structural Steel Joint, 1-3/4 inch width	107						
Special	61,930	Pound	Epoxy Coated Reinforcing Steel, Grade 60 (see Proposal Note)	61,526	404					

*Required at Existing Piers 12 and 13, Columbia Viaduct

GENERAL NOTES

REFERENCE: Shall be made to Standard Drawings AS-1-72 sheets 1 and 2 dated 6-30-72, SD-1-69 sheets 1 and 2 dated 6-12-69, BR-1 dated 5-29-79, RB-1-55 revised 2-2-59 and Supplemental Specifications 836 dated 3-12-75 and 849 dated 10-19-81.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, and the Ohio "Supplement" to these specifications.

DESIGN DATA: Design Loading-HS20-44, case II, and the Alternate Military Loading.

Concrete Class S, Compressive Strength 4500 psi for Superstructure.

Concrete Class C, Compressive Strength 4000 psi for Substructure.

Structural Steel-ASTM A36 - Unit Stress 20,000 psi.

Reinforcing Steel-ASTM A615, A616 or A617, Grade 60, Minimum Yield Strength 60,000 psi.

DECK PROTECTIVE METHOD: Epoxy Coated Reinforcing Steel, Top Mat Only. Monolithic wearing surface thickness is assumed to be 1-inch.

PILES: Shall be driven to bedrock. The bearing capacity shall be considered obtained by refusal on hard bedrock or by penetrating soft bedrock for several inches with a minimum resistance of 20 blows per inch. The design load is 50 tons per pile.

UTILITY LINES: All expense involved in relocating (installing) the affected utility shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

EXPANSION JOINT AT EXISTING PIER 12, INSTALL:

DESCRIPTION: This item shall consist of furnishing all labor, material and equipment required to clean and install the expansion joint at existing Pier 12 in accordance with the Plans and Item 513 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: The expansion joint material has been purchased under a previous contract, State Project 389(73), and is stored at the same location as the structural steel. The expansion joint shall be cleaned of all dirt, grease, oil, rust and other foreign material before being installed.

If this expansion joint is either missing from the storage site or found to be unsuitable for use by the Engineer, it shall be replaced in accordance with Item 513 and be paid for under Item 513 "Structural Steel, As Per Plan (AISC Category 1)", and this item shall be non-performed.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
513	Lump Sum	Expansion joint at Existing Pier 12, Install

GENERAL NOTES Continued on sheet 269

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

ESTIMATED QUANTITIES
AND GENERAL NOTES
BRIDGE NO. HAM-471-
RELOCATED SIXTH STREET
OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 7

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REV. NO.
	DSD		2/2	JH0 3-24-82	3-24-82

Rev. 9-9-82

GENERAL NOTES CONTINUED FROM SHEET NO. 268

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure. 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.

PLANS FOR EXISTING COLUMBIA VIADUCT BRIDGE: Prints of the plans of the design and shop drawings are available for inspection by the prospective bidders at the Engineering Division, Room 314, City Hall, City of Cincinnati.

REINFORCING STEEL: Bar laps, splices and embedment shall be as shown on the plans.

PORTIONS OF EXISTING STRUCTURES REMOVED: In order to attach new structure onto existing structure portions of the existing structure shall be removed. Cost of all removals of the existing structure shall be included in the contract lump sum price bid for Item 202, "PORTIONS OF STRUCTURES REMOVED"

ELASTOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL JOINTS: DESCRIPTION: This item shall conform to Supplemental Specification 849.

DRAIN INLETS, CLEAN AND INSTALL: DESCRIPTION: This item shall consist of furnishing all labor, material, and equipment required to clean and install the drain inlets in accordance with the plans and Item 518 of the Construction and Material Specifications, except as modified and augmented herein.
GENERAL: The drain inlets have been purchased under a previous contract, State Project 389(73), and are stored at the same location as the structural steel. The drain inlets shall be cleaned of all dirt, grease, oil, rust and other foreign material before being installed.
METHOD OF MEASUREMENT: The quantity shall be the actual number of drain inlets installed.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
518	Each	Drain Inlets, Clean and Install

DRAIN INLET GRATINGS: DESCRIPTION: This item shall consist of furnishing and installing the drain inlet gratings according to the details shown on Drawing No. 345 of the plans and in accordance with Item 518 of the Construction and Material Specifications, except as modified and augmented herein.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
518	Each	Drain Inlet Gratings

STRUCTURAL STEEL ERECTION, As Per Plan: DESCRIPTION: This item shall consist of erecting all the existing structural steel (and Replacement Structural Steel) as specified and as shown on the plans and in accordance with Item 513 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: The structural steel has been purchased under a previous contract, State Project 389(73) and is stored at the State of Ohio, Department of Transportation Rental Storage Area in Cincinnati, Ohio under the Brent Spence Bridge at Front and Rose Streets. Access to the storage site may be obtained by contacting the Engineering Division, Room 314, City Hall, City of Cincinnati.

SHOP DRAWINGS: Shop drawings and erection drawings that were part of the previously terminated contract are available for inspection by the Prospective Bidders at the Engineering Division, Room 314, City Hall, City of Cincinnati.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
513	Lump Sum	Structural Steel, Erection As Per Plan

* This item shall also include all work necessary to move existing structural steel to the plan location, to make necessary repairs and alterations and to connect or join new with old construction.

STRUCTURAL STEEL, AS PER PLAN: (AISC CATEGORY 1) DESCRIPTION: This item shall consist of preparing shop drawings and furnishing, fabricating, non destructive testing, cleaning, shop painting, and erecting structural steel as follows:

- (1) Rear Abutment Expansion Joint
- (2) High Strength Bolts, Washers and Nuts
- (3) Expansion Joint at Pier 12 - if missing or found unsuitable

The structural steel shall be as shown on the plans and in accordance with Item 513 of the Construction and Material Specifications, except as modified and augmented herein.

STRUCTURAL STEEL, AS PER PLAN: (AISC CATEGORY 1) CONTINUED

GENERAL: The existing expansion joint material for use at the Rear Abutment shall be scrapped and removed from the storage area by the Contractor and a new expansion joint provided.

New high strength bolts, nuts and washers will be required for the erection of all the structural steel.

Before any shop drawing for fabrication of the new structural steel begins, the Contractor and Engineer shall inspect the existing stored structural steel and verify whether the existing expansion joint at pier 12 is either missing from the storage site or found (by the Engineer) to be unsuitable for use.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
513	Pound	Structural Steel, As Per Plan (AISC CATEGORY 1)

FIELD PAINTING OF STRUCTURAL STEEL, SYSTEM A; AS PER PLAN

DESCRIPTION: This item shall consist of furnishing all paint and incidental material, cleaning the surfaces, applying the Shop paint to the existing stored structural steel and applying in the field the paint to the new and existing stored structural steel (erected by the Contractor) in accordance with Item 514 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: This item shall include the surface preparation of the existing stored structural steel that was purchased under a previous contract and stored as noted under "Structural Steel Erection". Before the existing stored structural steel is shop painted, all of its surfaces shall be prepared in conformance to ASTM D 2200 by blast cleaning to grade Sa 2-1/2.

The existing stored structural steel, which is to be used in the bridge, shall be given one complete field coat of prime paint, 708.17 in accordance with 514.04.

The new and existing stored structural steel shall be given one complete field coat of top coat, 708.18 in accordance with 514.05.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
514	Lump Sum	Field Painting of Structural Steel, System A, As Per Plan

FIELD PAINTING OF EXISTING STRUCTURAL STEEL, COLUMBIA VIADUCT, SYSTEM B; AS PER PLAN

DESCRIPTION: This item shall consist of furnishing all paint and incidental material, cleaning the surfaces, and applying the paint to any portions of the existing structural steel of the Columbia Viaduct Structure in accordance with Item 514 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: Existing paint on the Columbia Viaduct Structure that is damaged by the contractor during modification to that structure shall be repainted in accordance with 514.06

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
514	Lump Sum	Field Painting of Existing Structural Steel, Columbia Viaduct, System B, As Per Plan

REPLACEMENT STRUCTURAL STEEL, AS PER PLAN, (AISC CATEGORY 1)

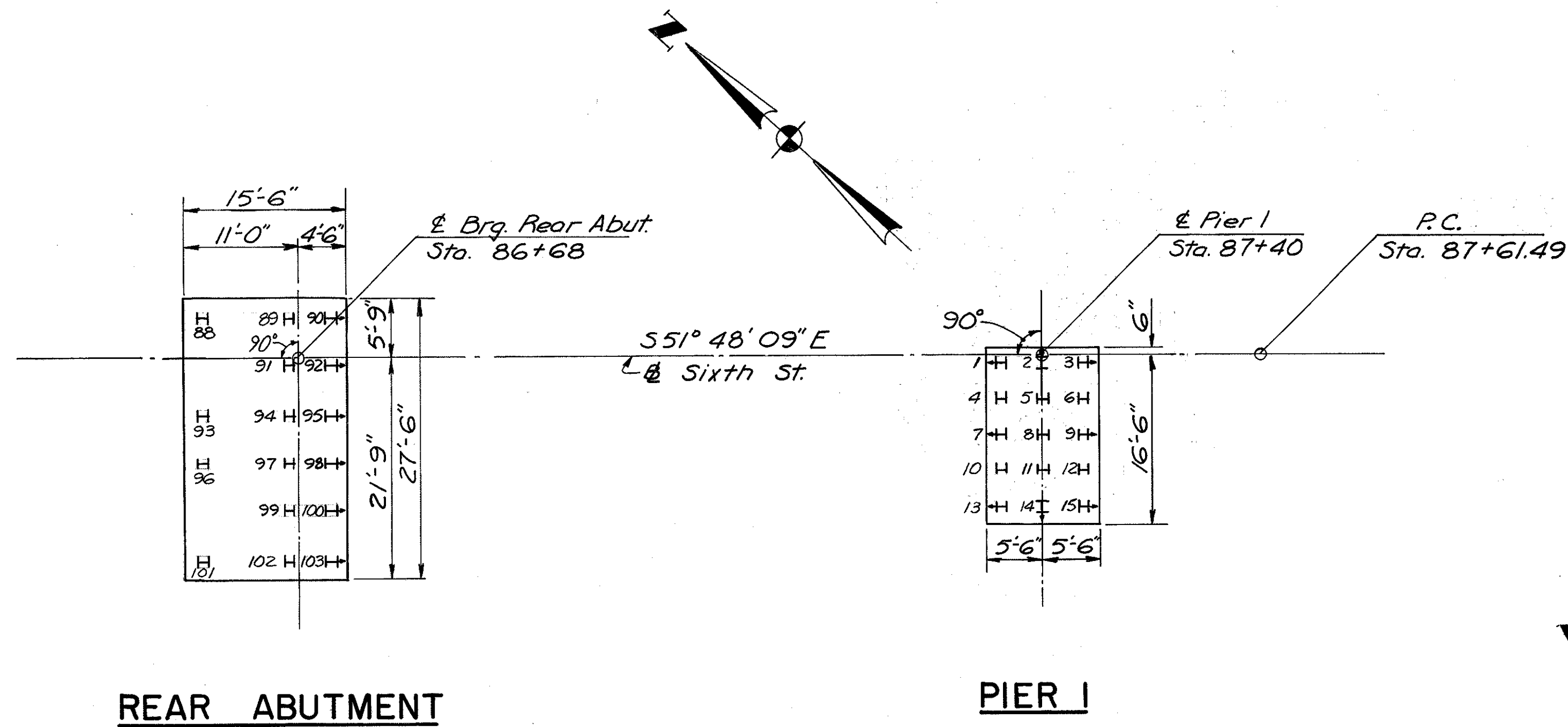
DESCRIPTION: This item shall consist of furnishing, fabricating, cleaning and shop painting the Structural Steel required as replacement material for that which is either missing from the storage site or found (by the Engineer) to be unsuitable for use, and is not included in any other pay item.

Before any shop drawing for fabrication of the new structural steel begins, the Contractor and Engineer shall inspect the existing stored structural steel and verify the amount of structural steel that is either missing from the storage site or found (by the Engineer) to be unsuitable for use.

BASIS OF PAYMENT: Payment will be made at the contract price for: Item 513, Pound, Replacement Structural Steel, As Per Plan, (AISC Category 1)

* This item shall also include inspecting, sorting and itemizing the Existing Structural Steel, and marking all members (steel stamps), prior to blast cleaning, with erection marks from shop drawings, at the same location as the present marks. The Contractor and Engineer shall inspect the stored steel and verify the amount of structural steel that is either missing from the storage site or found (by the Engineer) to be unsuitable for use.

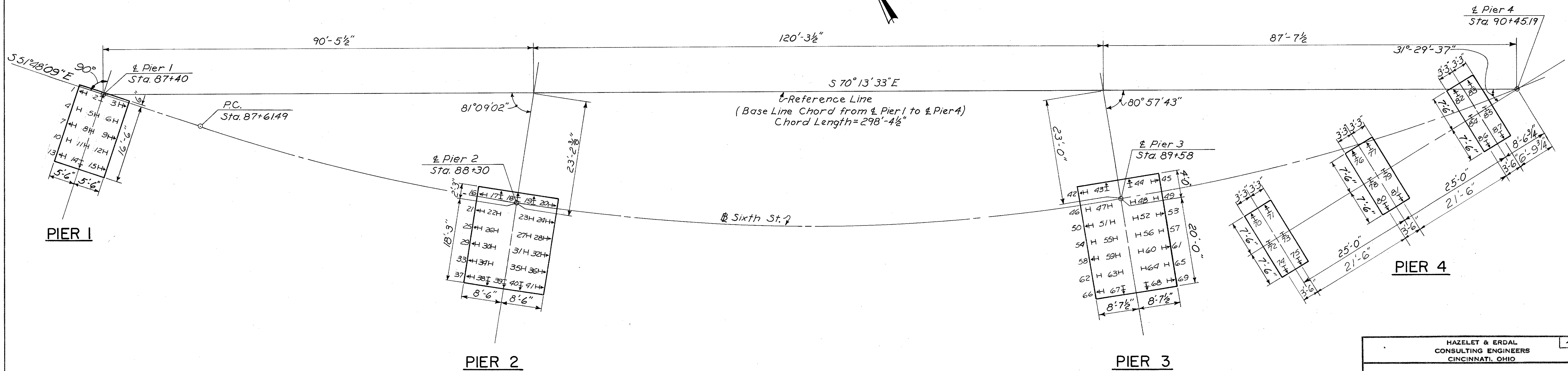
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
GENERAL NOTES				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H&E BRIDGE NO.7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DSD		HL	JHs 3-25-82
Rev. 9-9-82				



REAR ABUTMENT

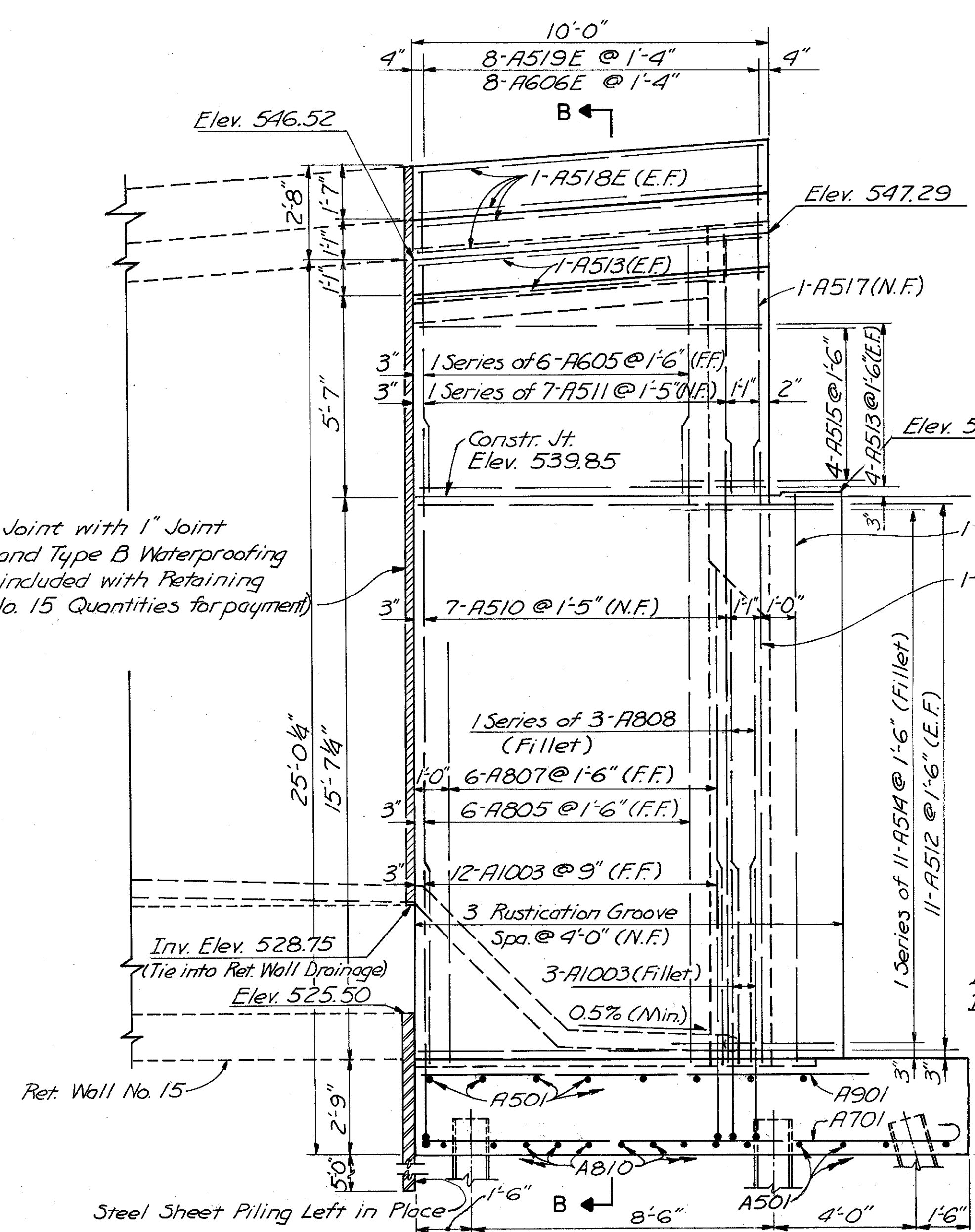
PIER 1

Notes: For locations of Piling see Sh. No. 271 and 273 thru 276.
 ‡ denotes battered piles; 1:4 for Piers and 1:3 for Rear Abut.
 I denotes vertical piles
 For Alignment and Witness Plan see Sh. No. 28

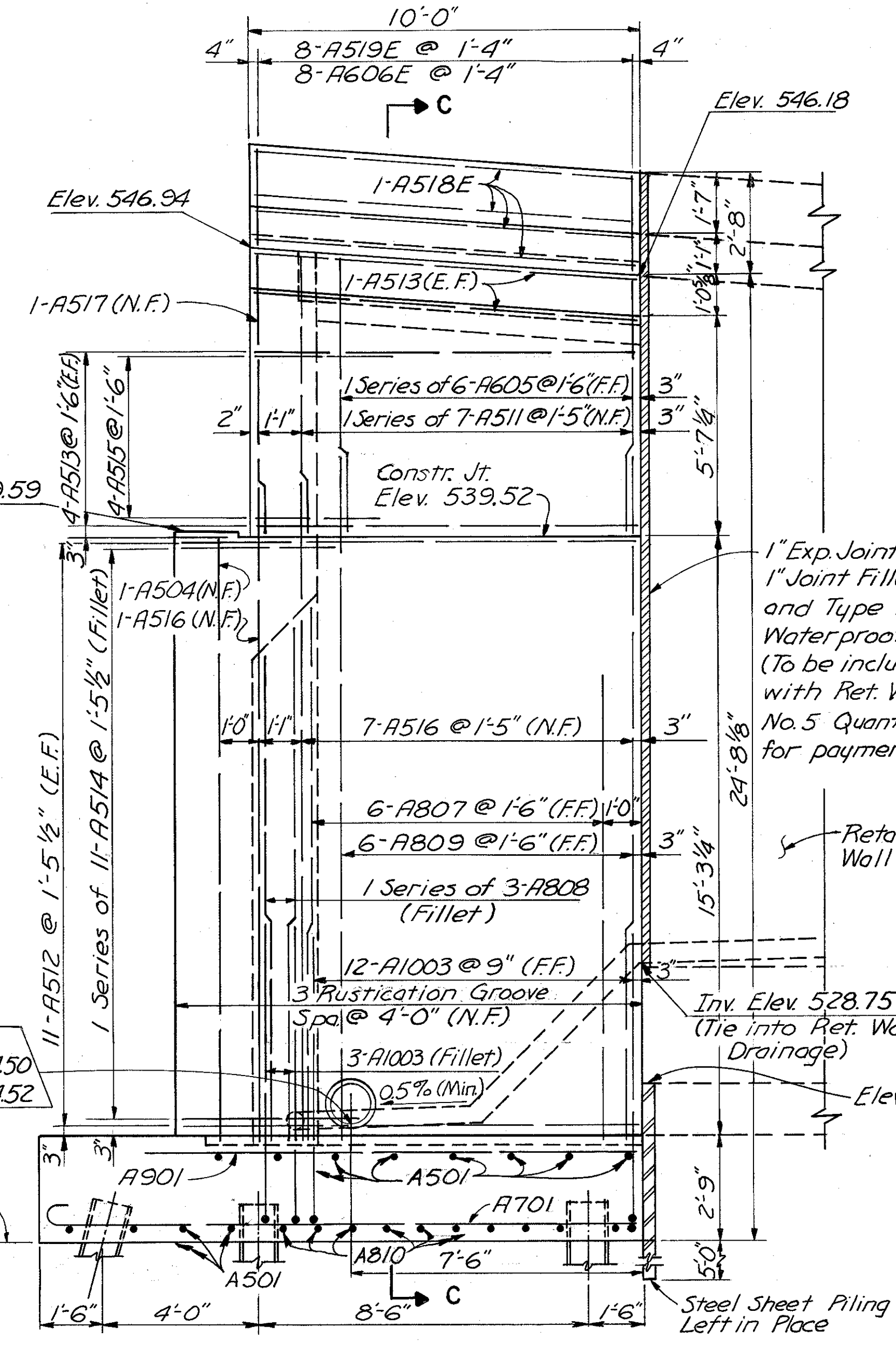


STAKE OUT PLAN

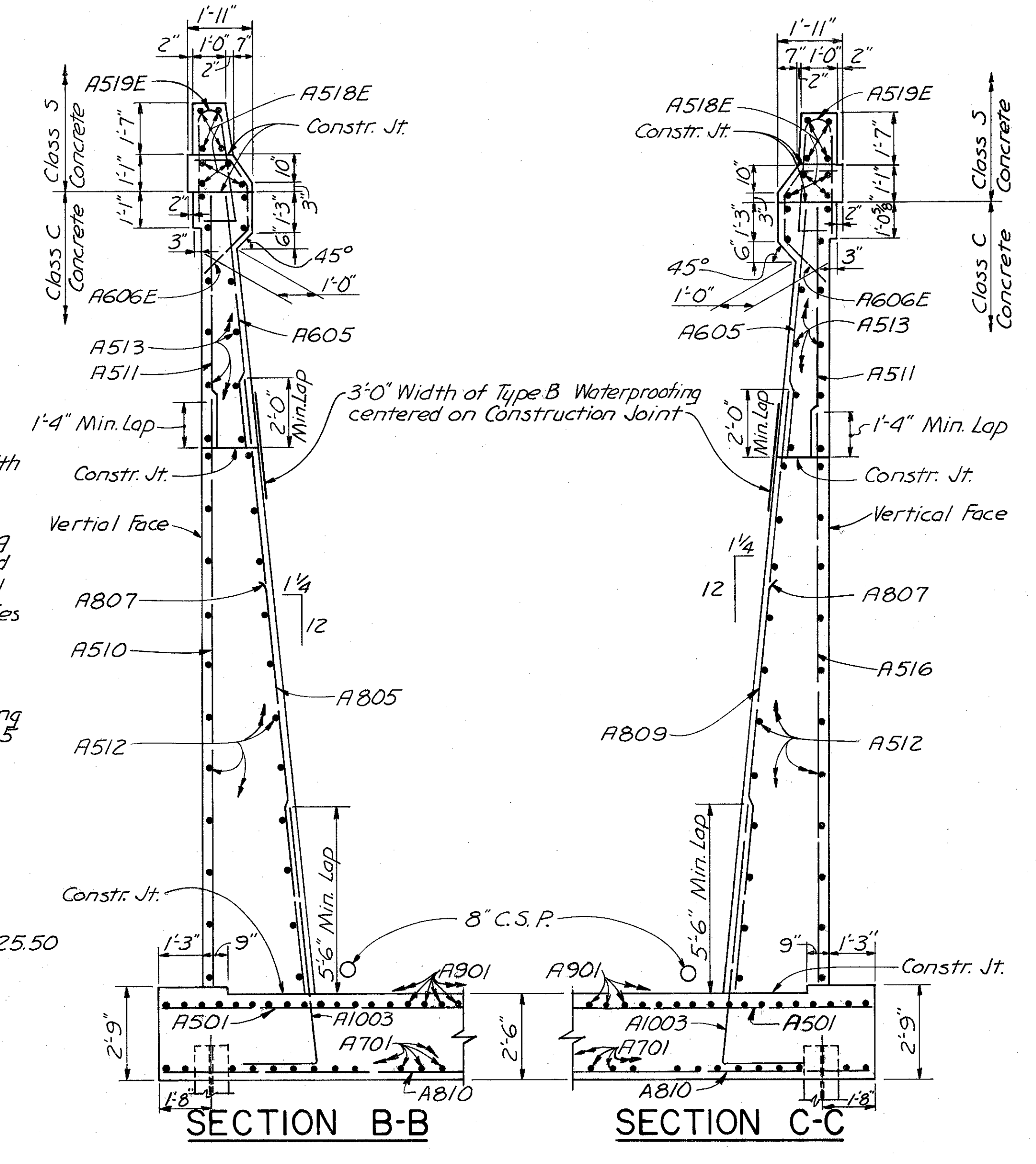
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				4 / A1
STAKE OUT PLAN				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H & E BRIDGE No. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
R.J.F.	R.J.F.	ROH	RFD	JHO 3-24-82



SOUTH WINGWALL ELEVATION

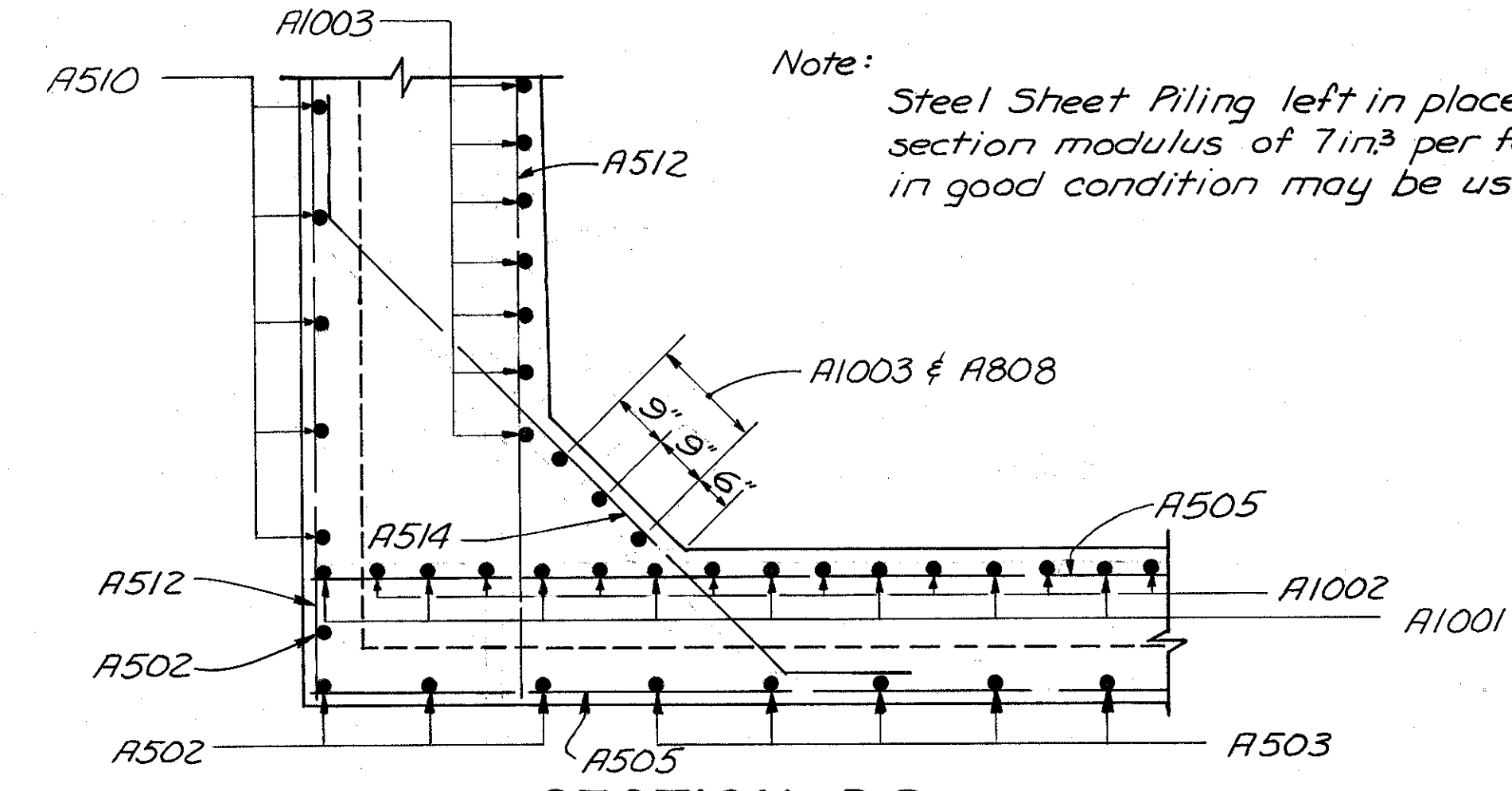


NORTH WINGWALL ELEVATION



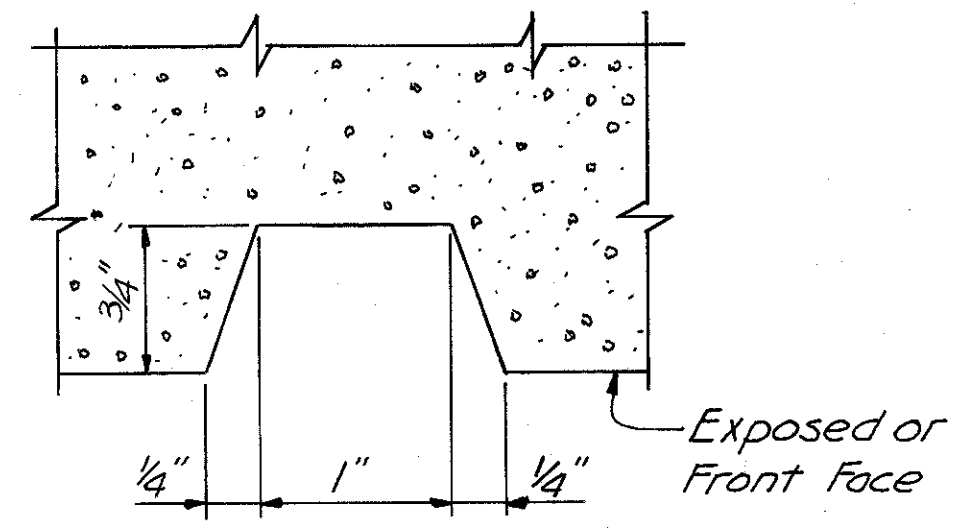
SECTION B-B

SECTION C-C

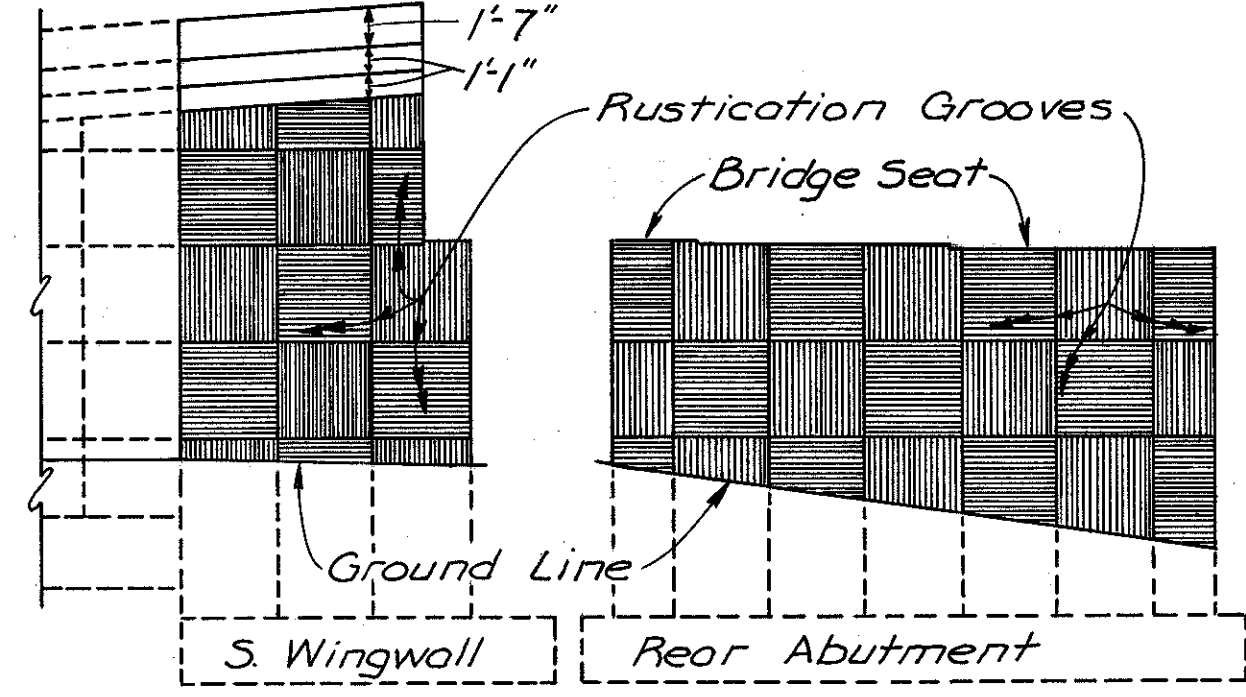


SECTION D-D

Note: Steel Sheet Piling left in place shall have a minimum section modulus of 7 in³ per foot of wall. Used piling in good condition may be used.



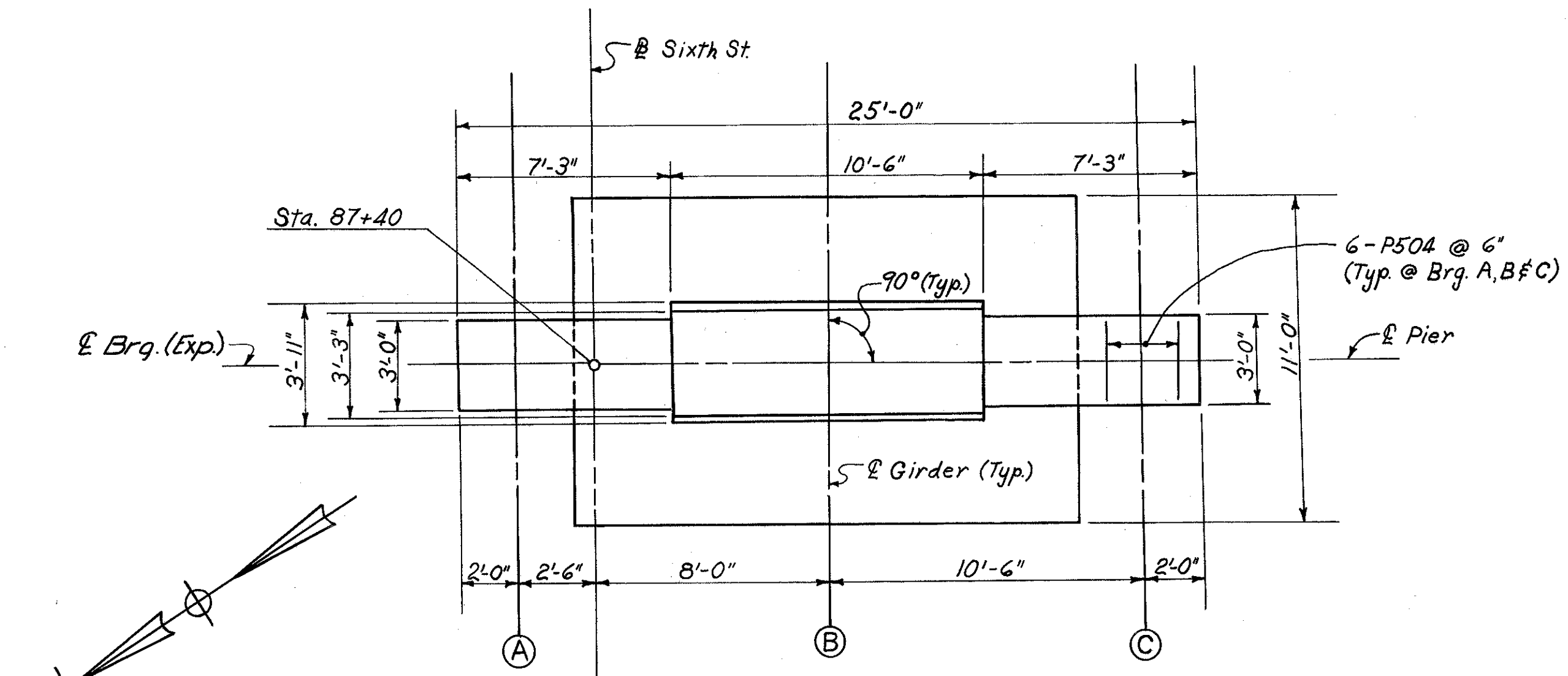
RUSTICATION GROOVE



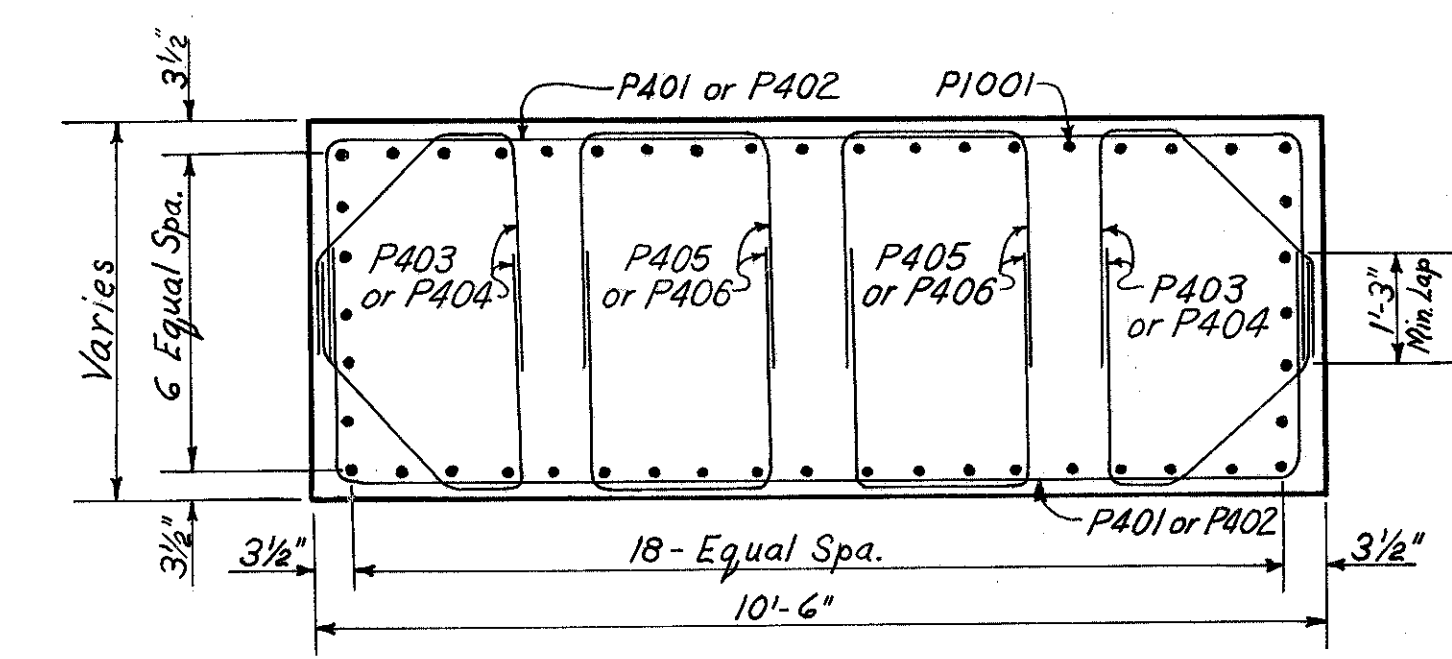
ARCHITECTURAL TREATMENT

Notes:
The front face of the Abutment and South Wingwall shall have a textured finish as produced by striated plywood forms. The texture finish shall be uniform and extend to the vertical limits shown.
Four feet by four feet form panels shall be used where possible. The panels shall be placed with the striations of the forms alternating horizontally and vertically. Payment for the noted architectural treatment is included in Item 511.

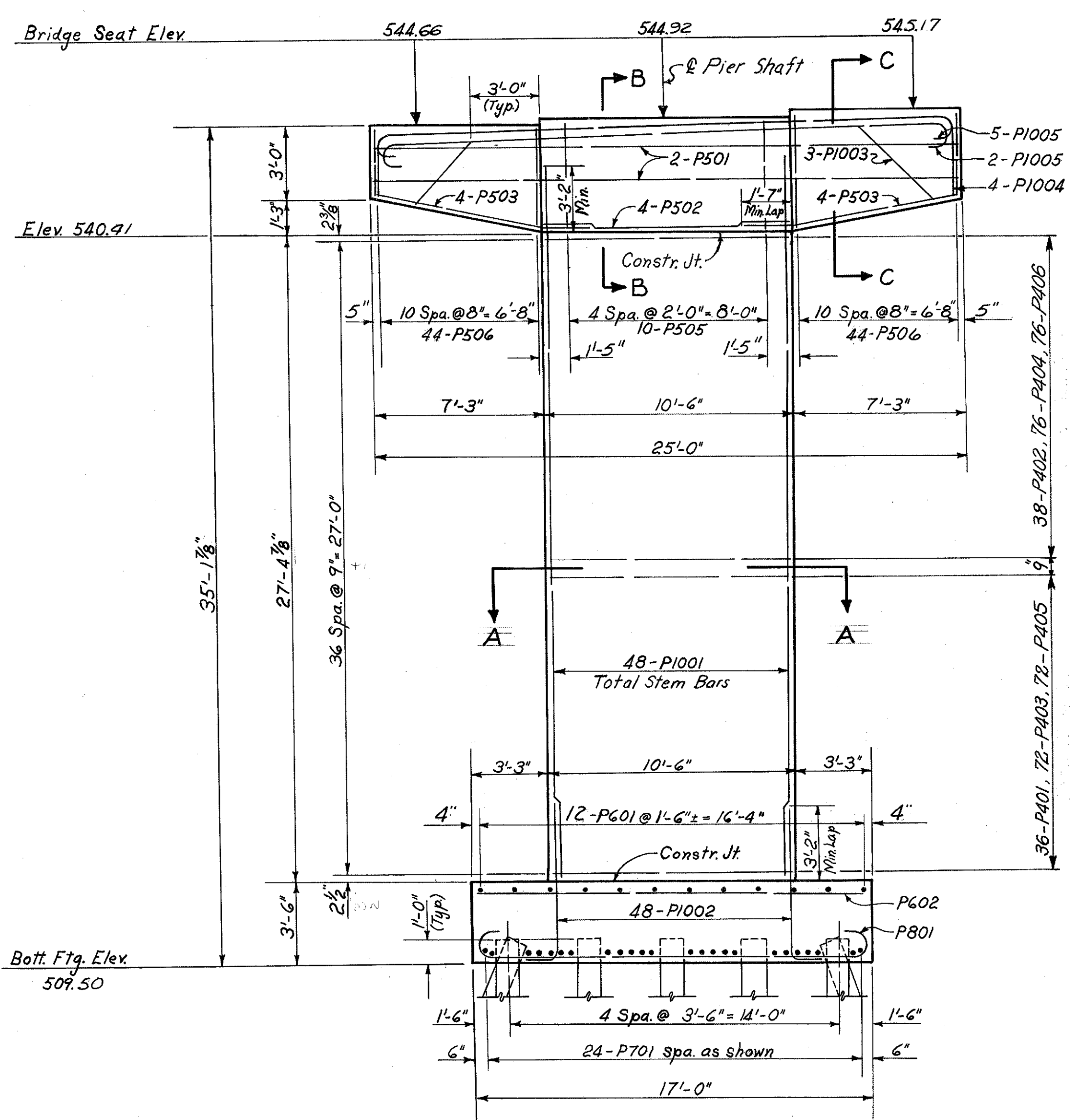
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
REAR ABUTMENT BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
W.L.	F.V.B.		JLS	3-24-82
				REVISED



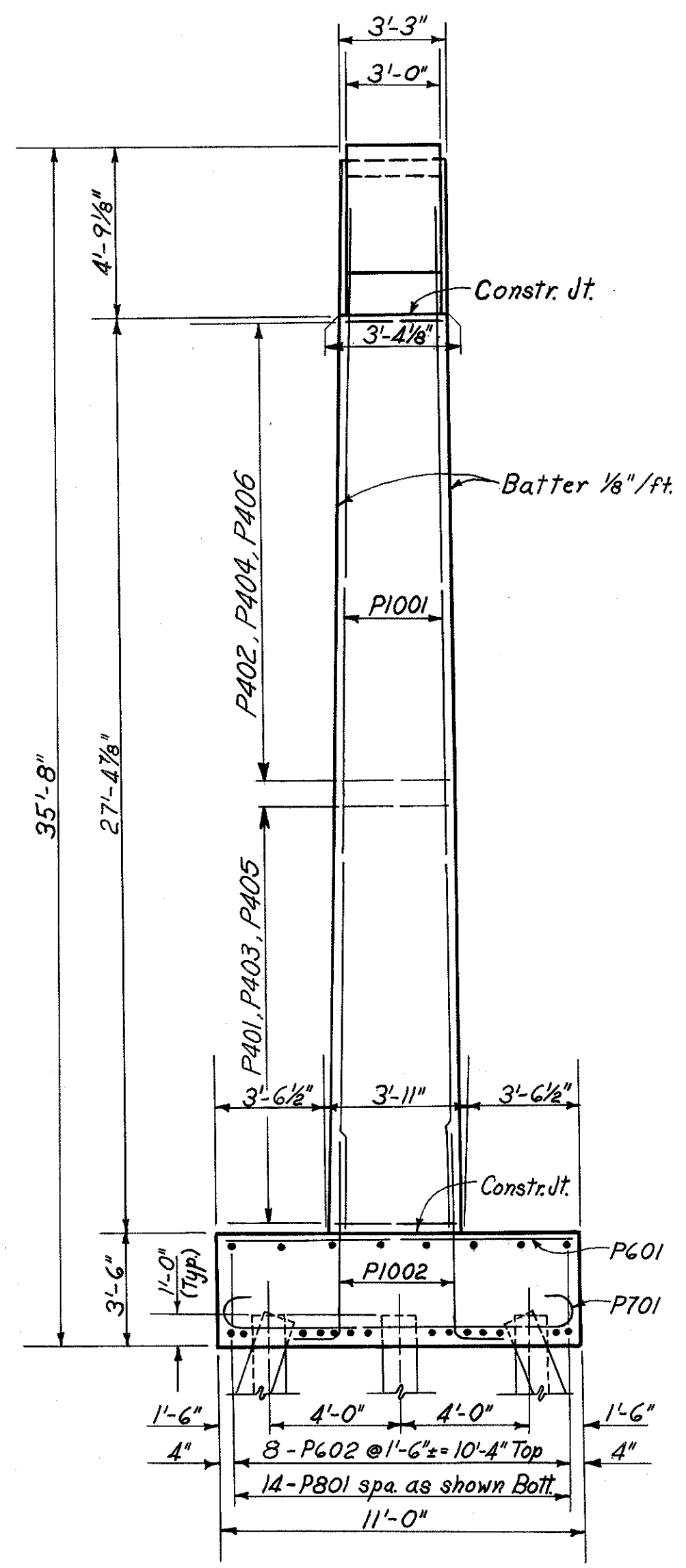
PLAN



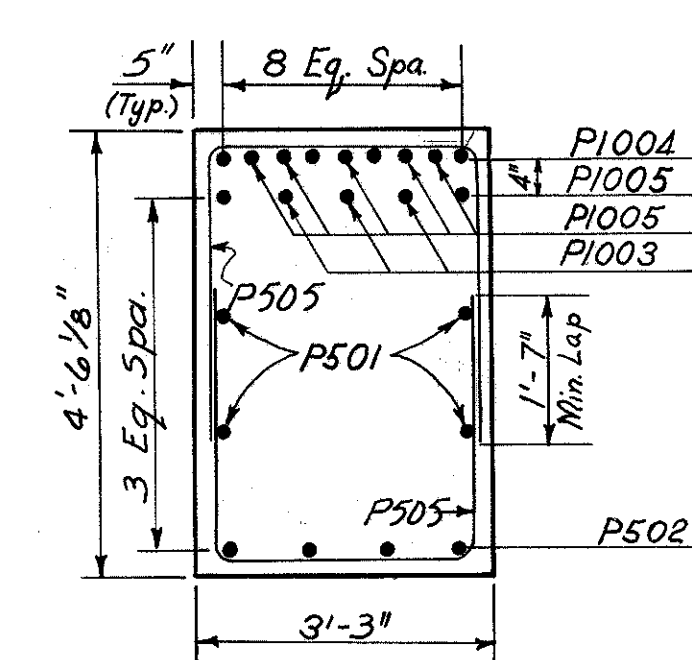
SECTION A-A



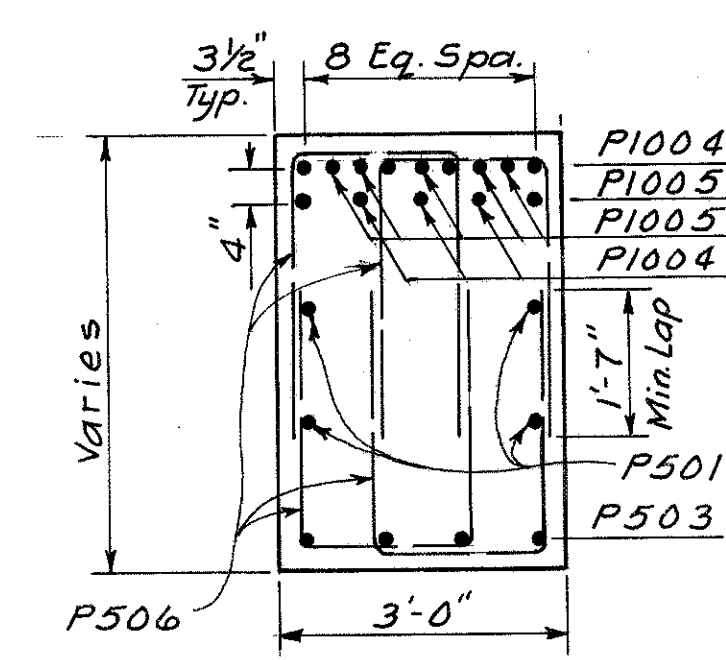
ELEVATION



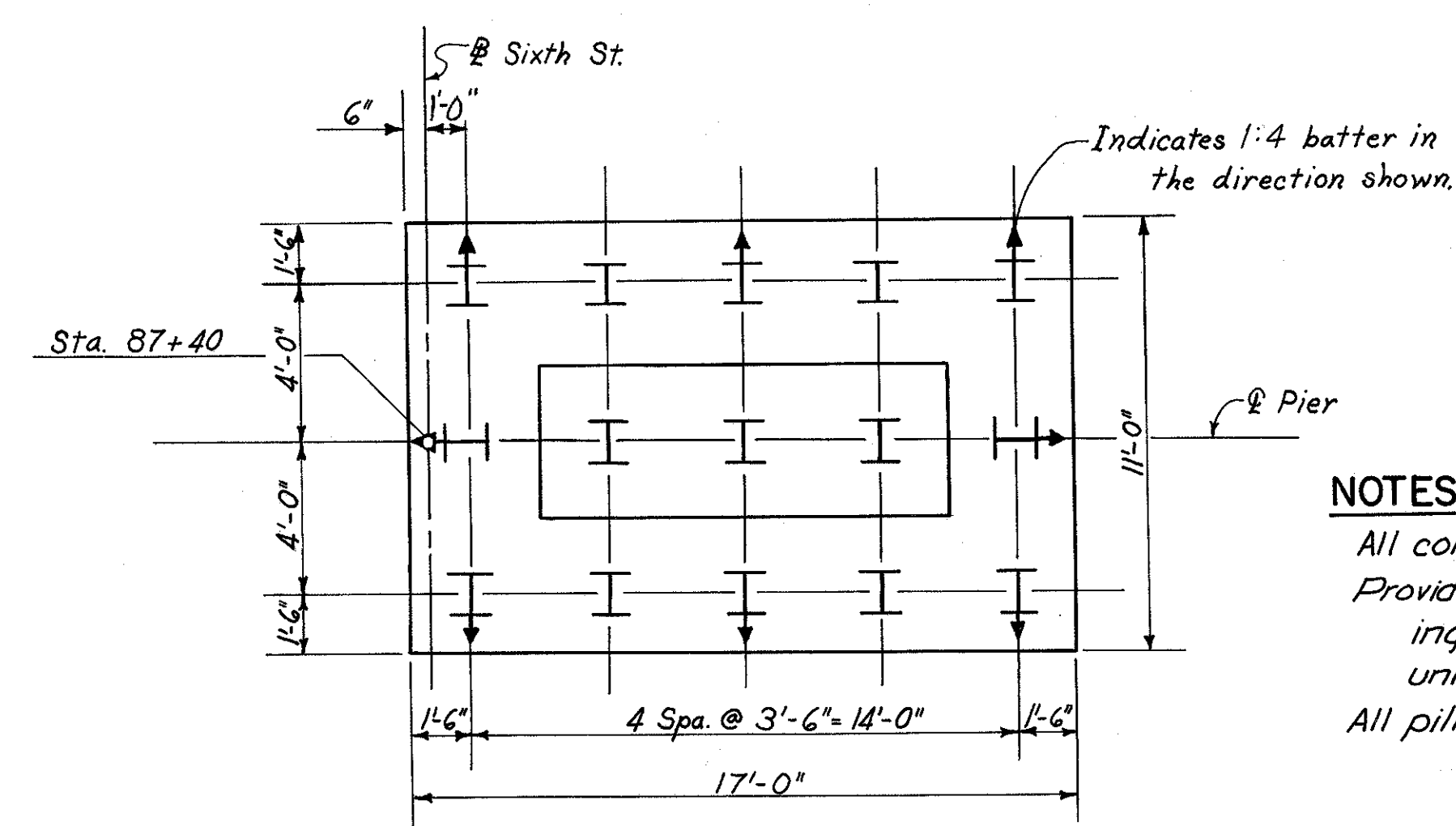
END VIEW



SECTION B-B



SECTION C-C

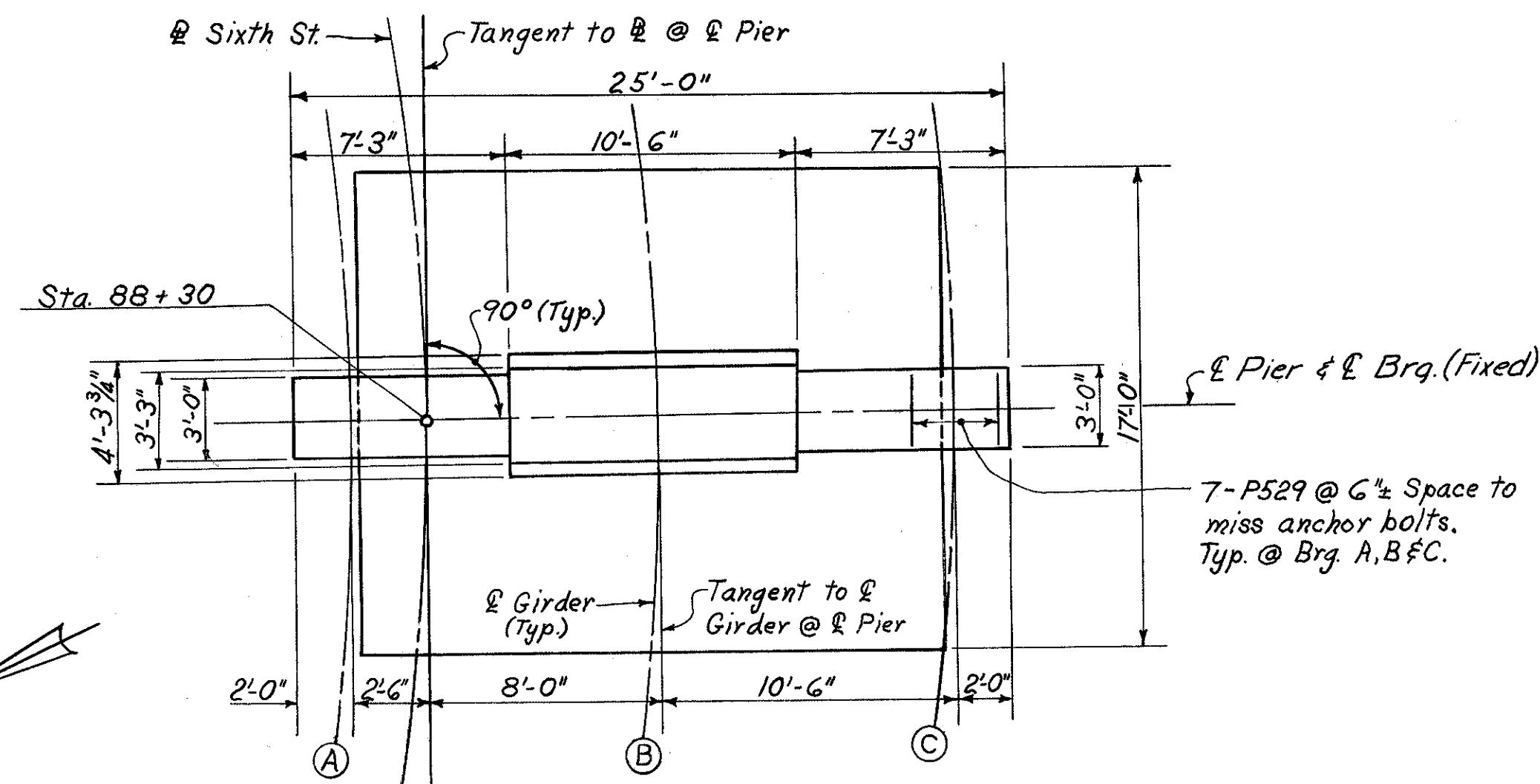


FOOTING PLAN

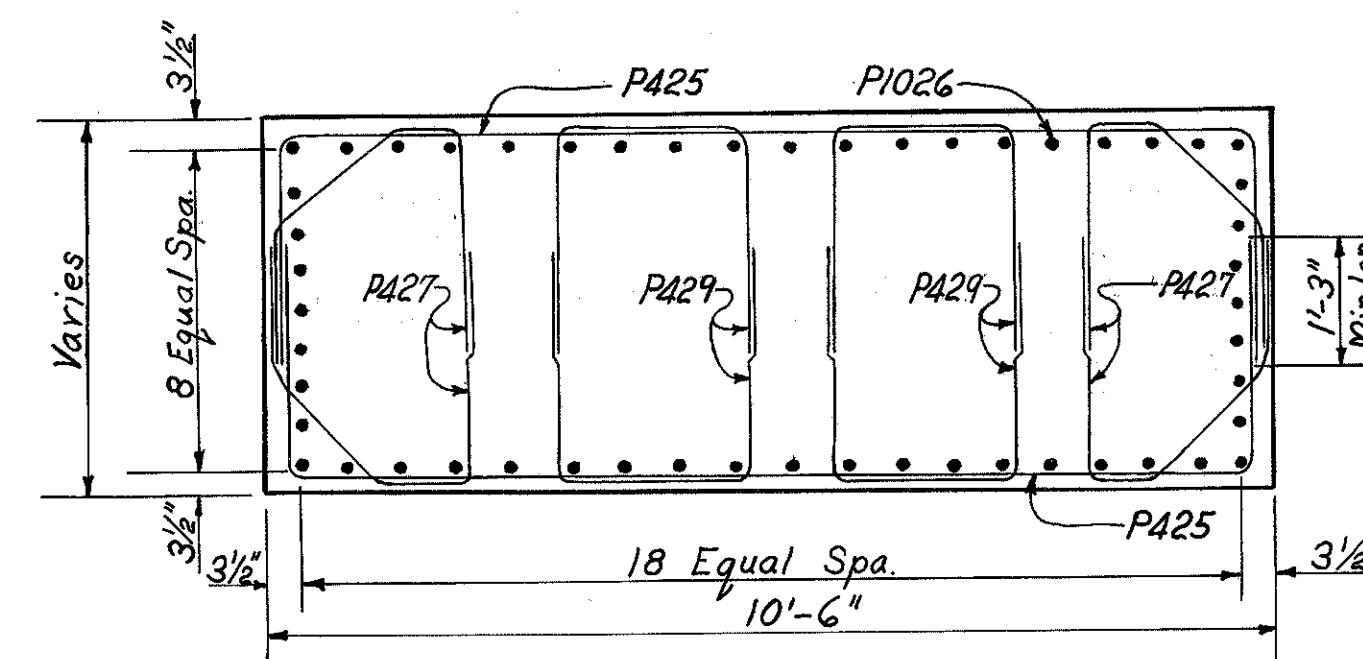
NOTES
All concrete shall be Class "C" concrete.
Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.
All piling to be HP12x53.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				7/41
PIER No. 1 BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED CYW	DRAWN MDP	TRACED MDP	CHECKED HLL RFD	REVIEWED DATE JH 3-24-82

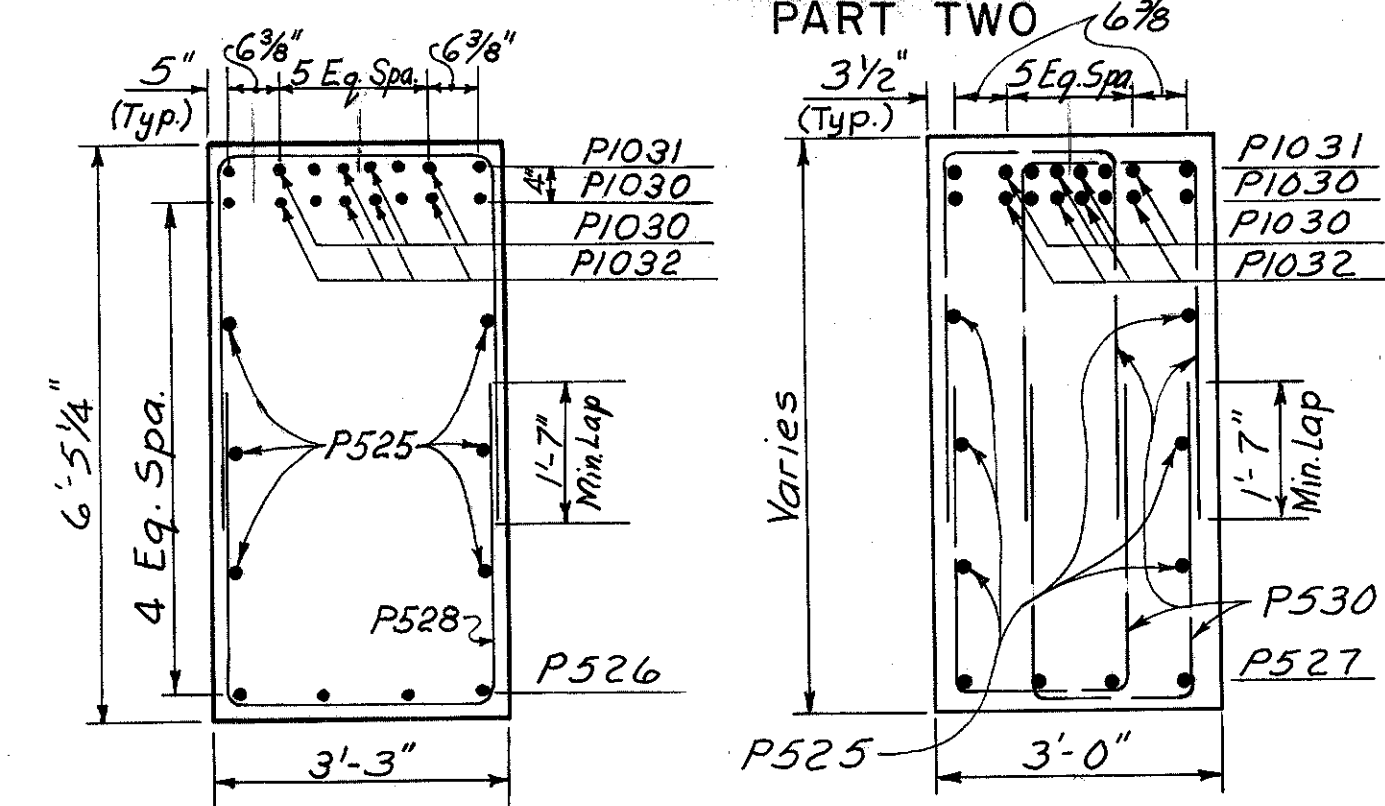
HAMILTON COUNTY
HAM-471-024
PART TWO



PLAN

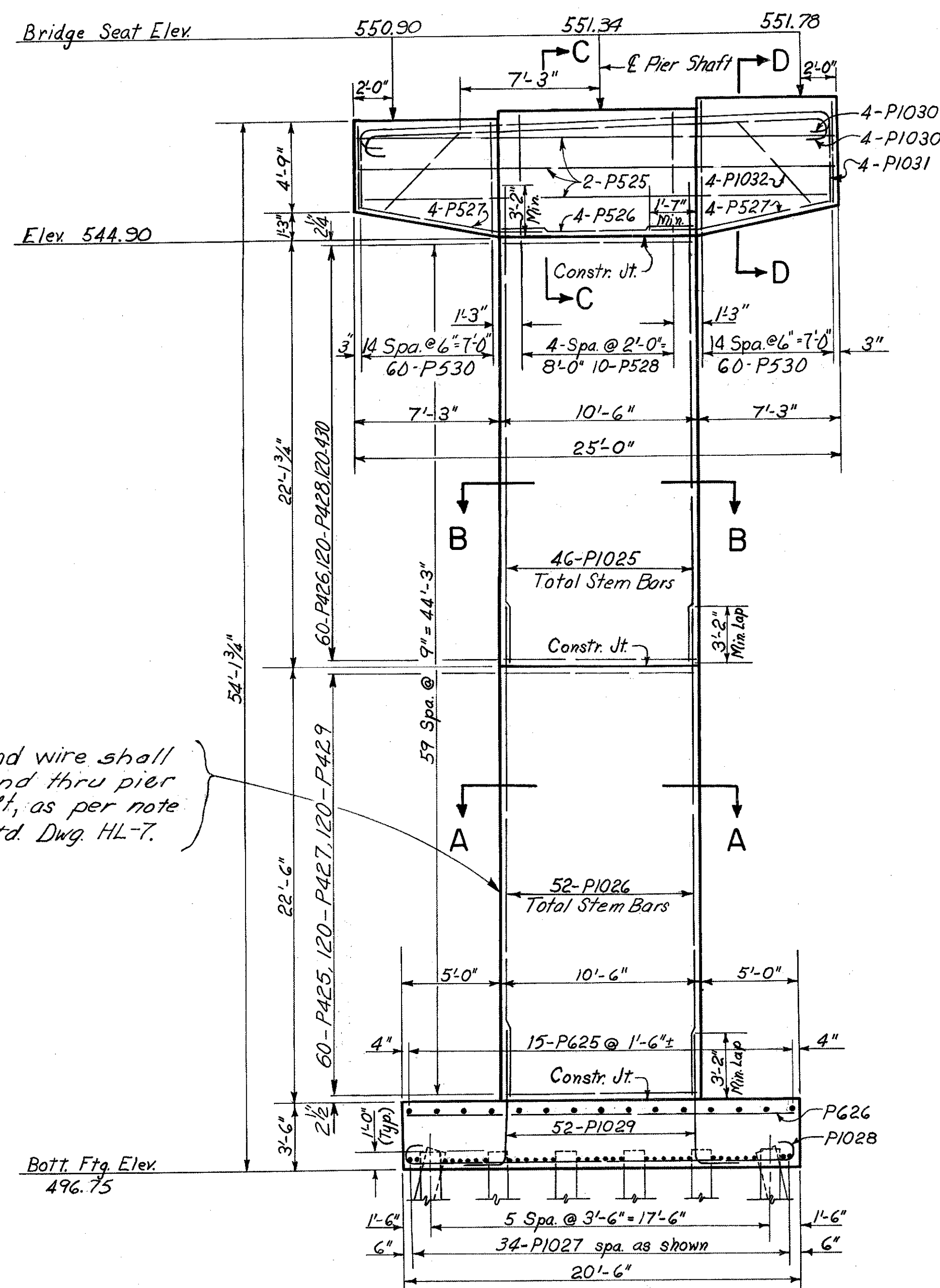


SECTION A-A

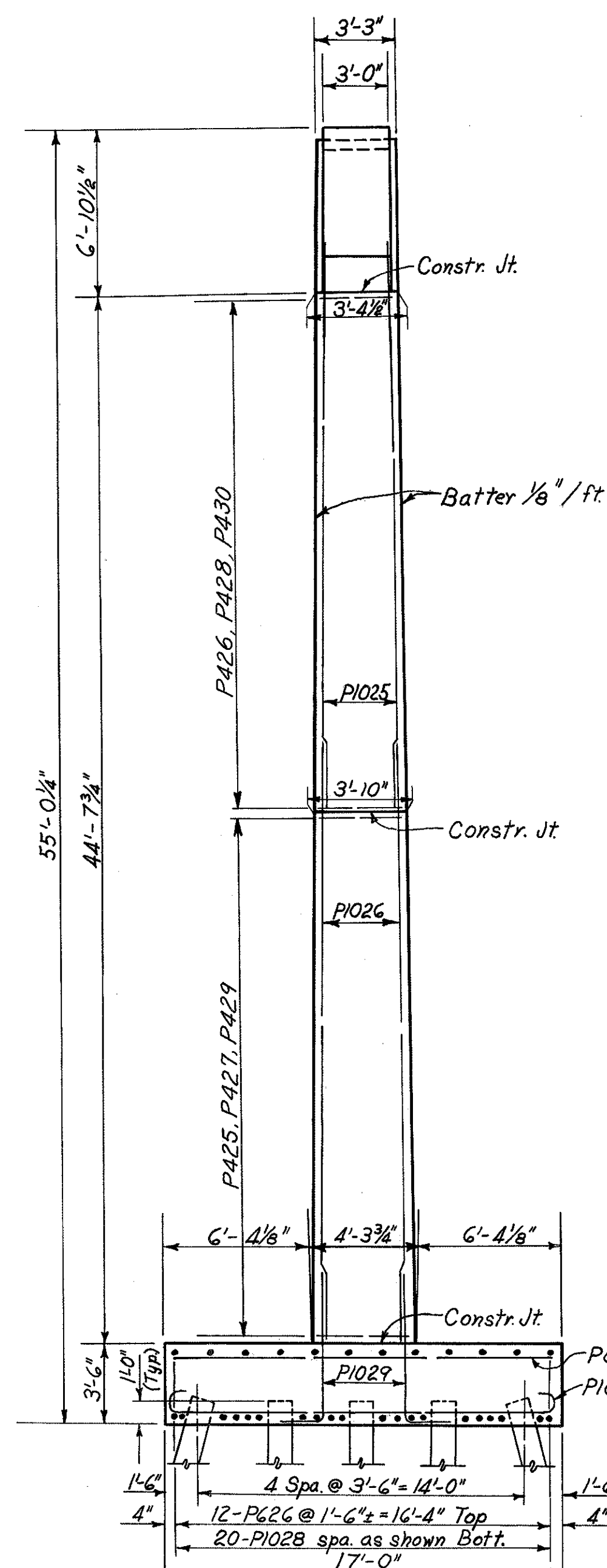


SECTION C-C

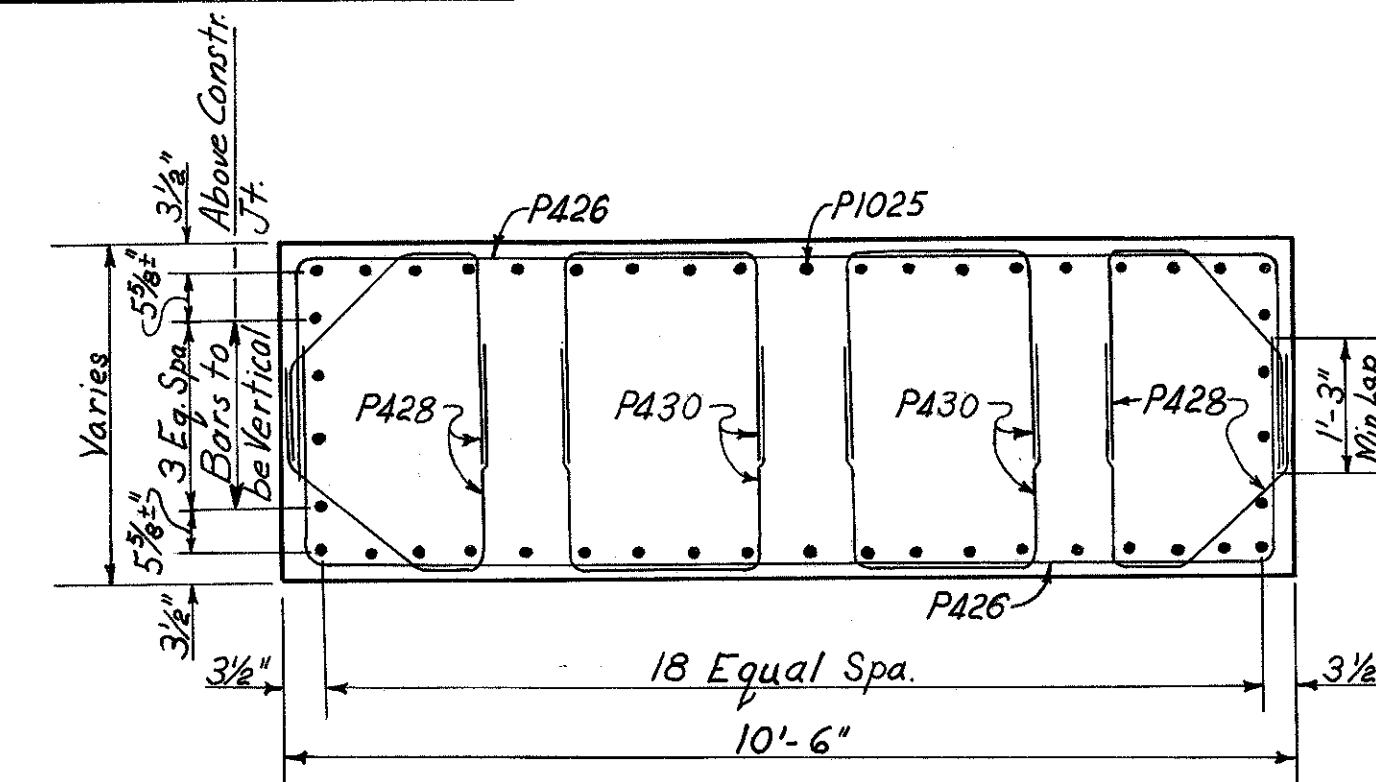
SECTION D-D



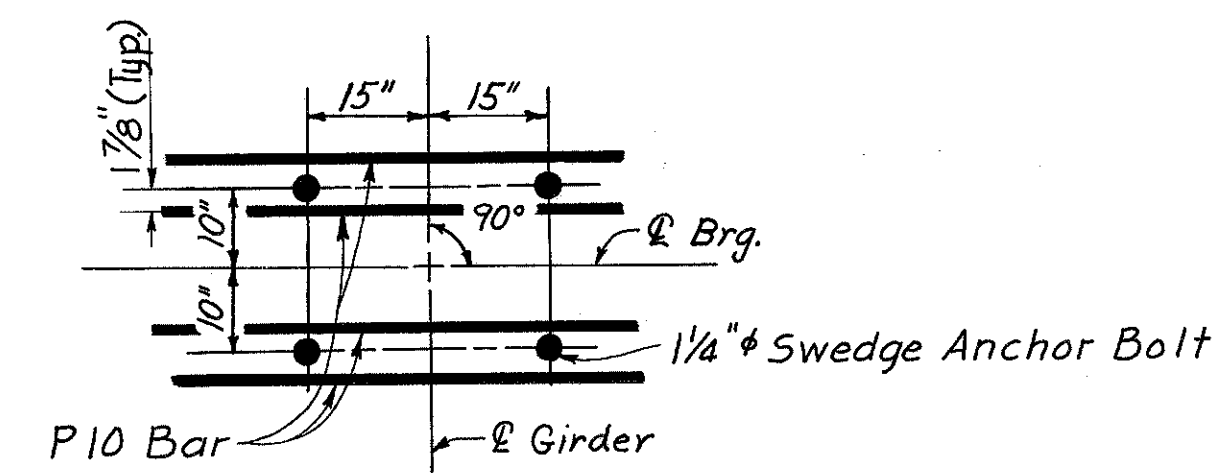
ELEVATION



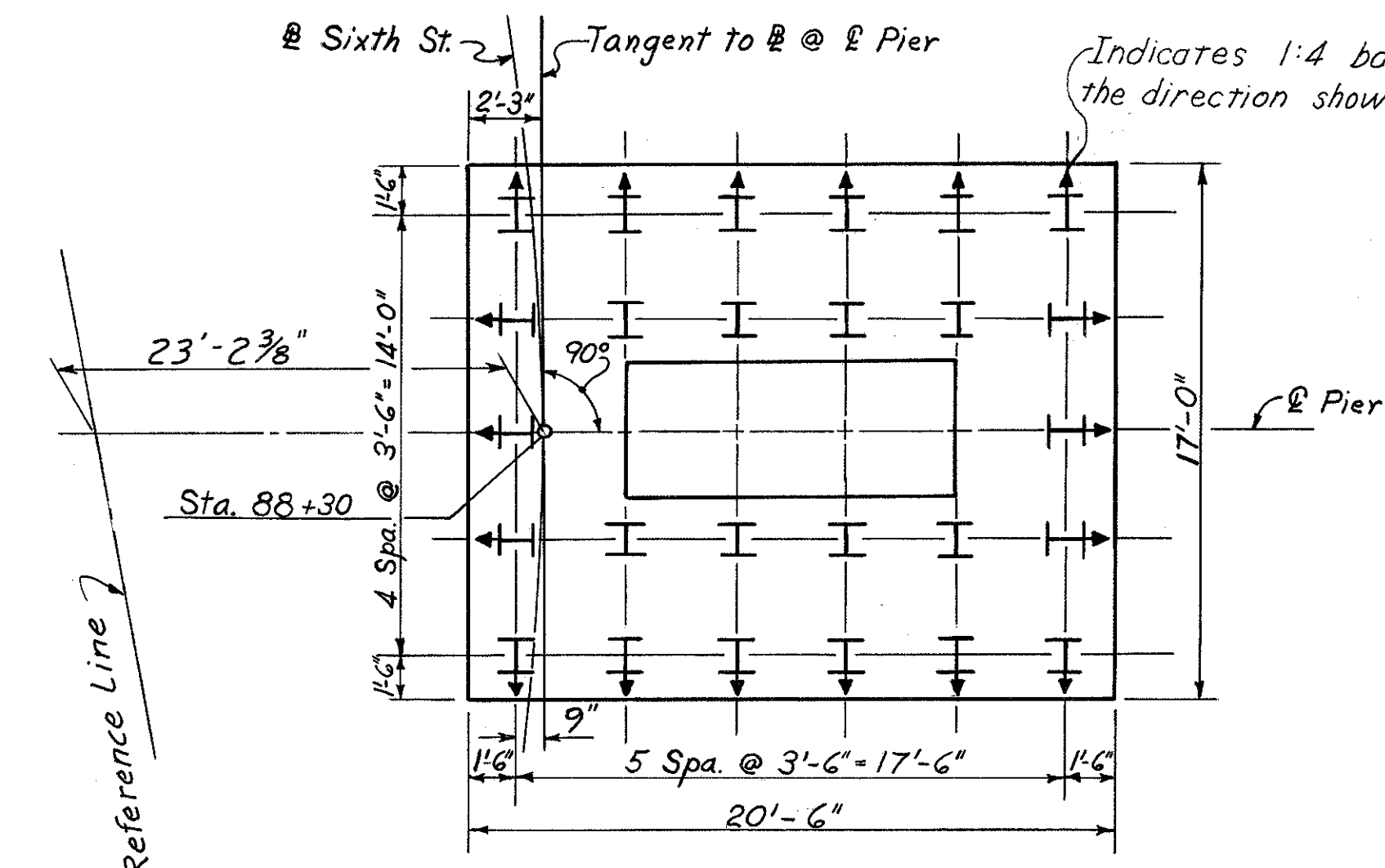
END VIEW



SECTION B-B



SWEDGE ANCHOR BOLT
SPACING



FOOTING PLAN

NOTES

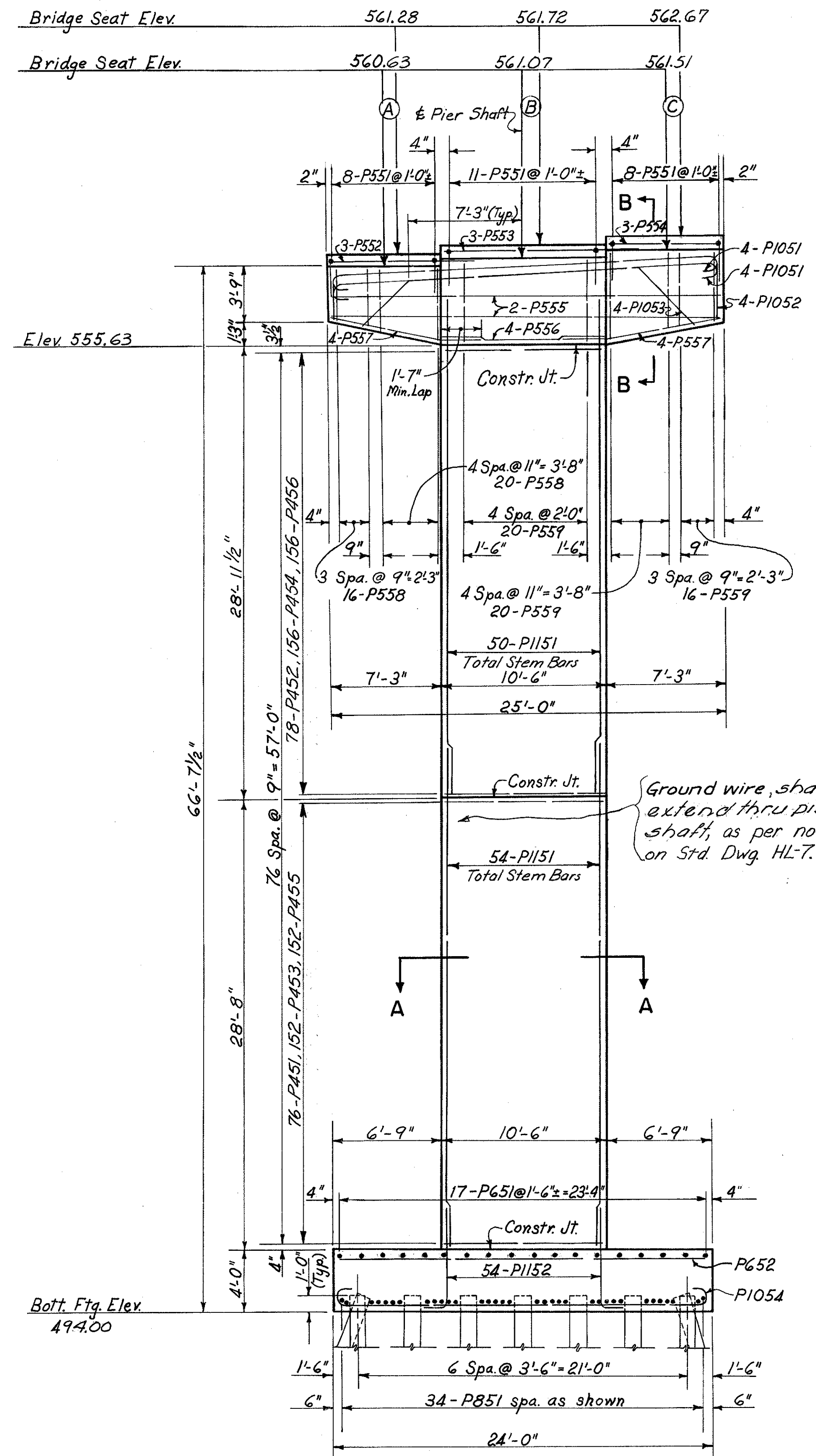
BEARING ANCHORS: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates may be cast in place. All concrete shall be Class "C" concrete. Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

All piling to be HP12x53.

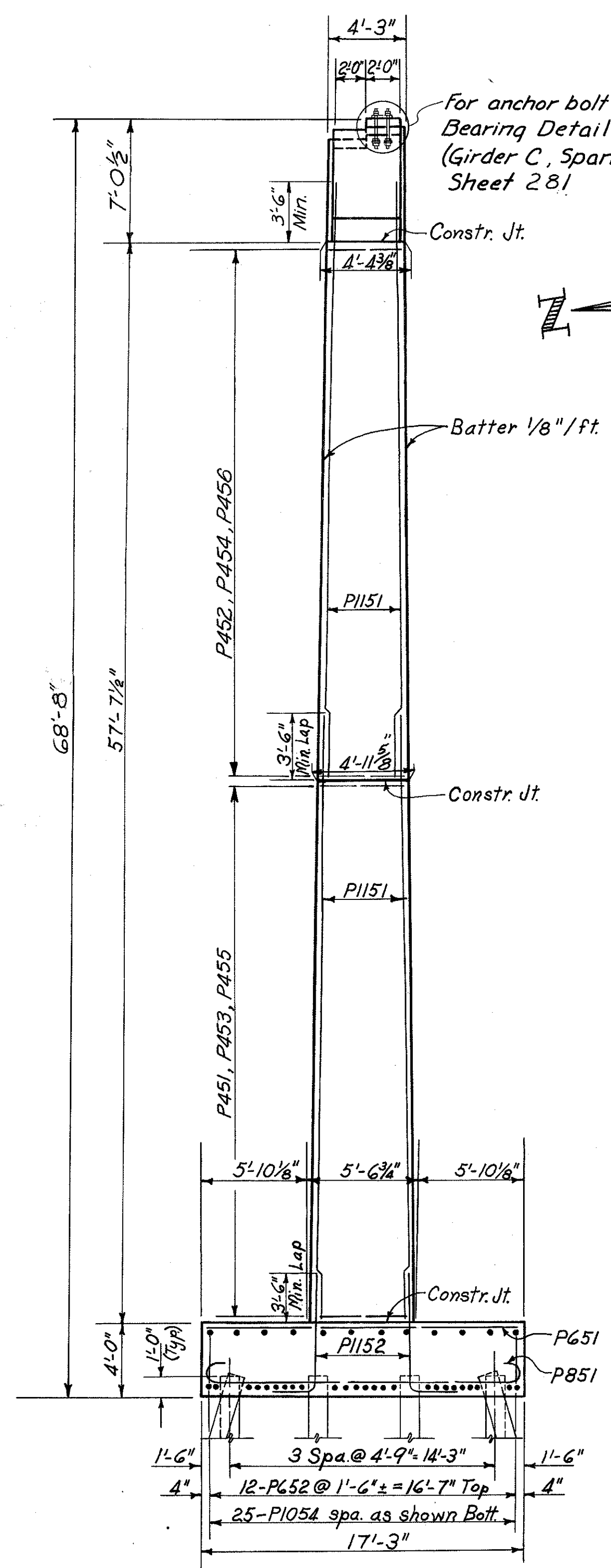
BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seats shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of swedge anchor bolts.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				8/41
PIER No. 2 BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
CYW	MDP	MDP	HLL	JHD
			RFD	3-14-82
				REVISION 2-78-83

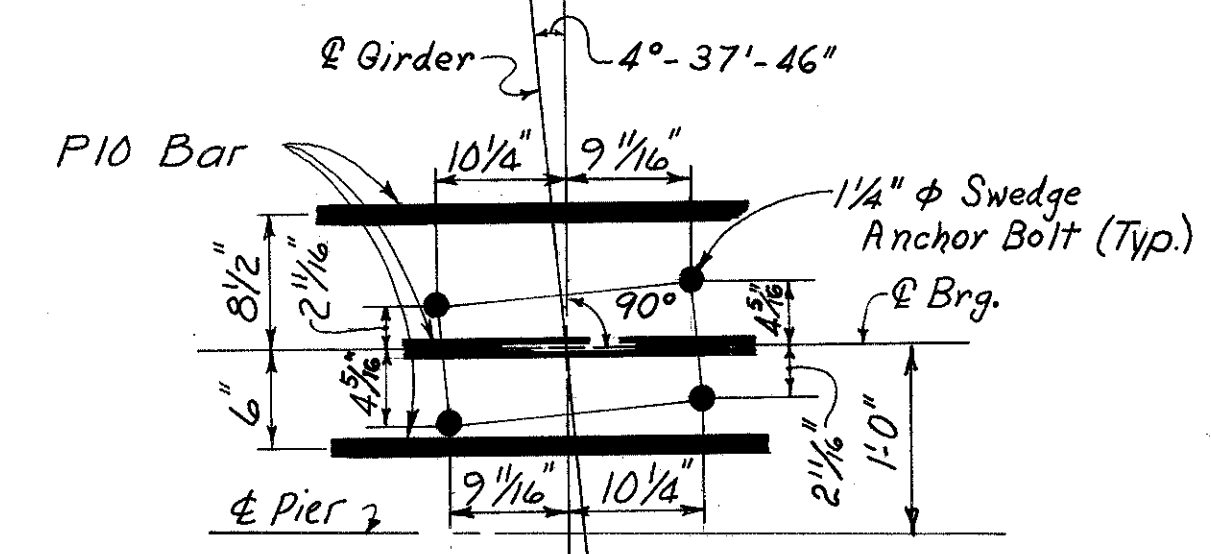
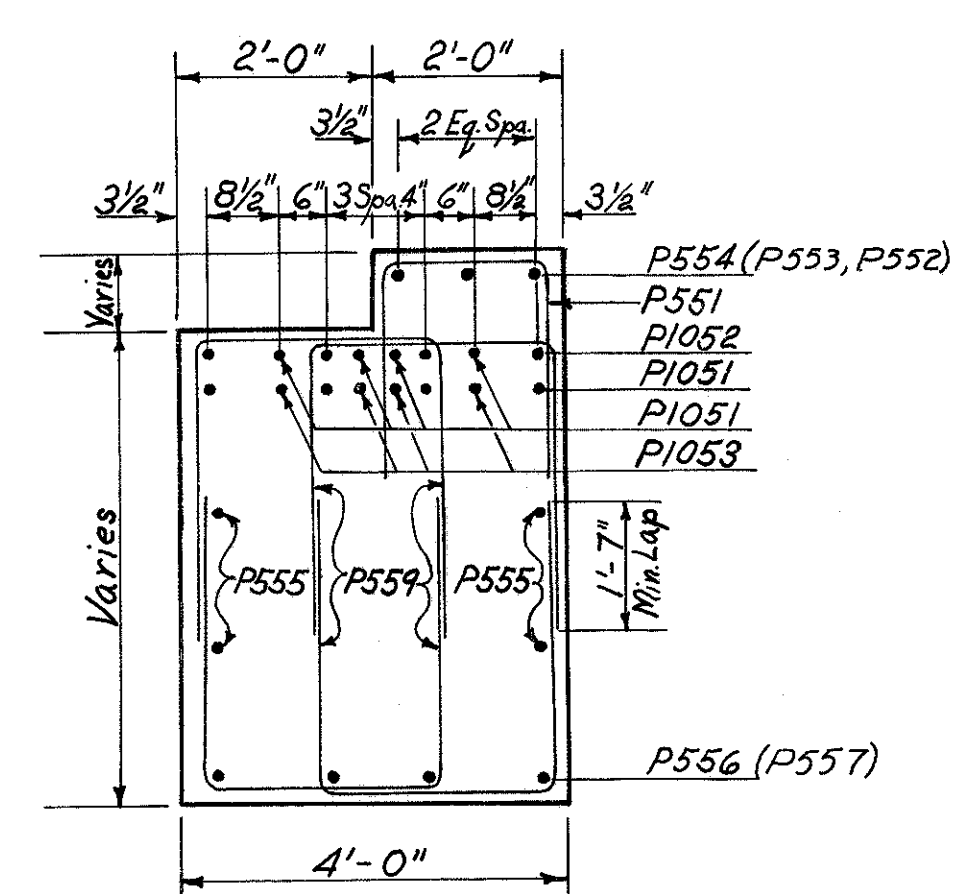
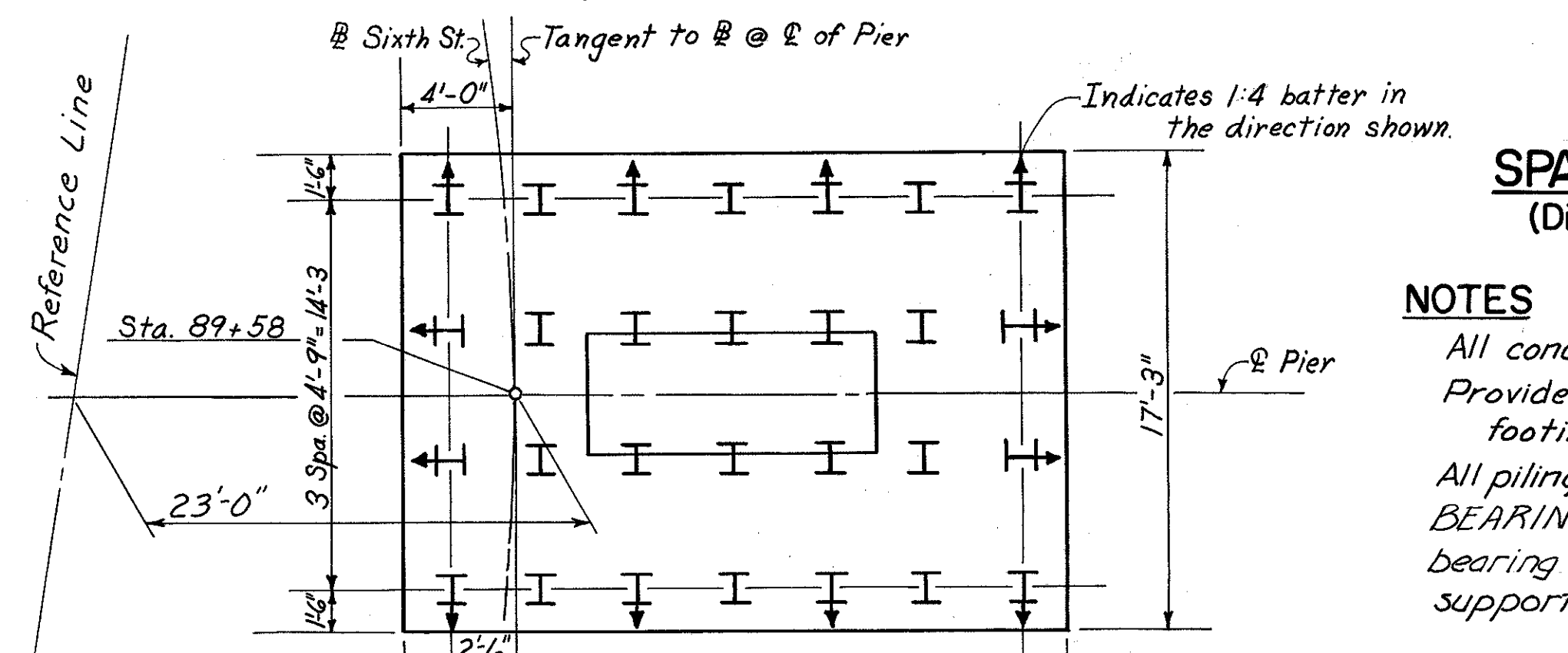
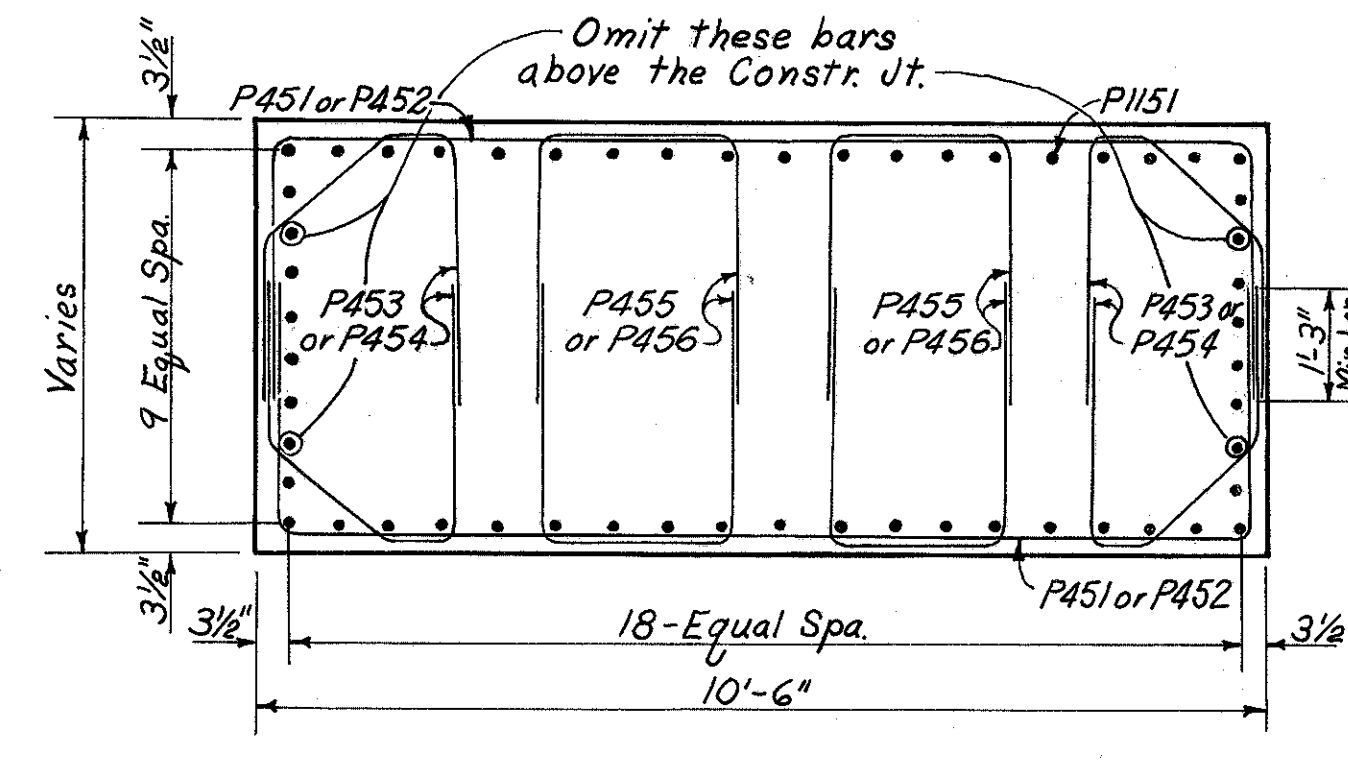
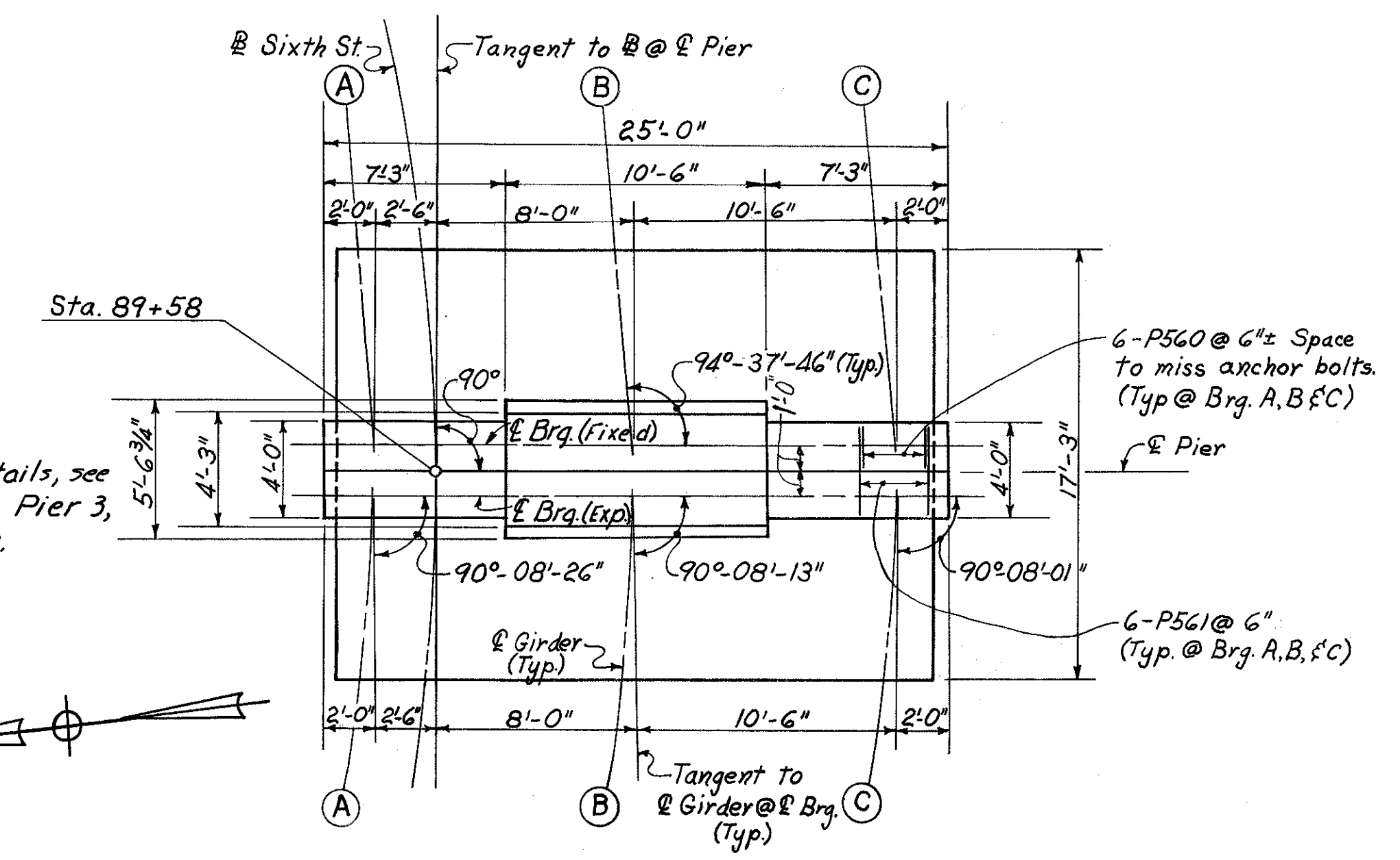
HAMILTON COUNTY
HAM-471-O.24
PART TWO



ELEVATION



END VIEW



NOTES

All concrete shall be Class "C" concrete. Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise. All piling to be HP 12x53. BEARING ANCHORS: At the option of the Contractor bearing anchors (or formed holes), located and supported by templates may be cast in place.

BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of bearing anchor holes or the pre-setting of swedge anchor bolts.

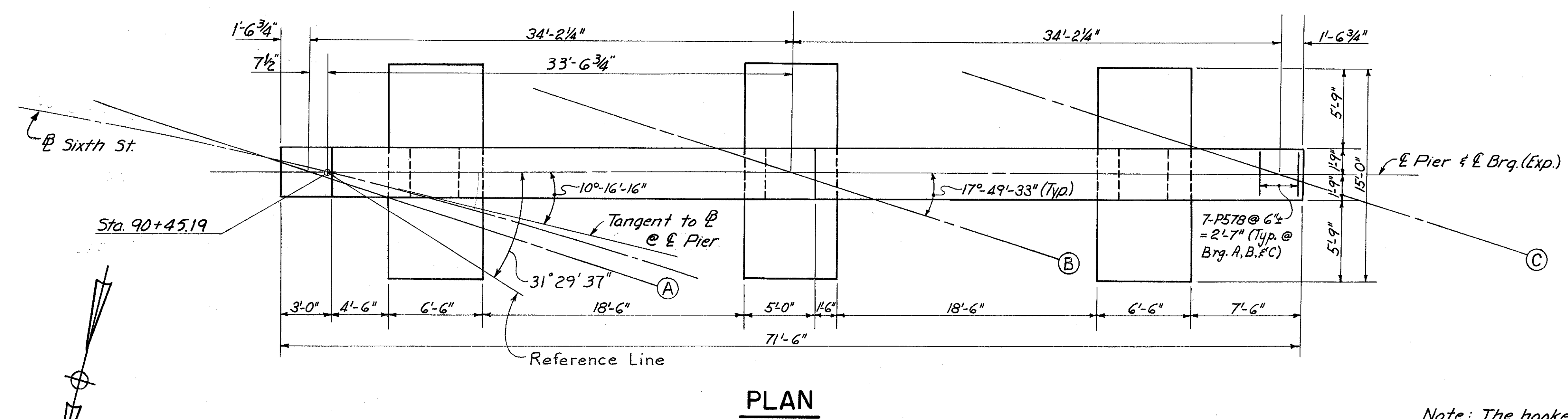
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO

PIER No. 3 BRIDGE NO. HAM-471-RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT

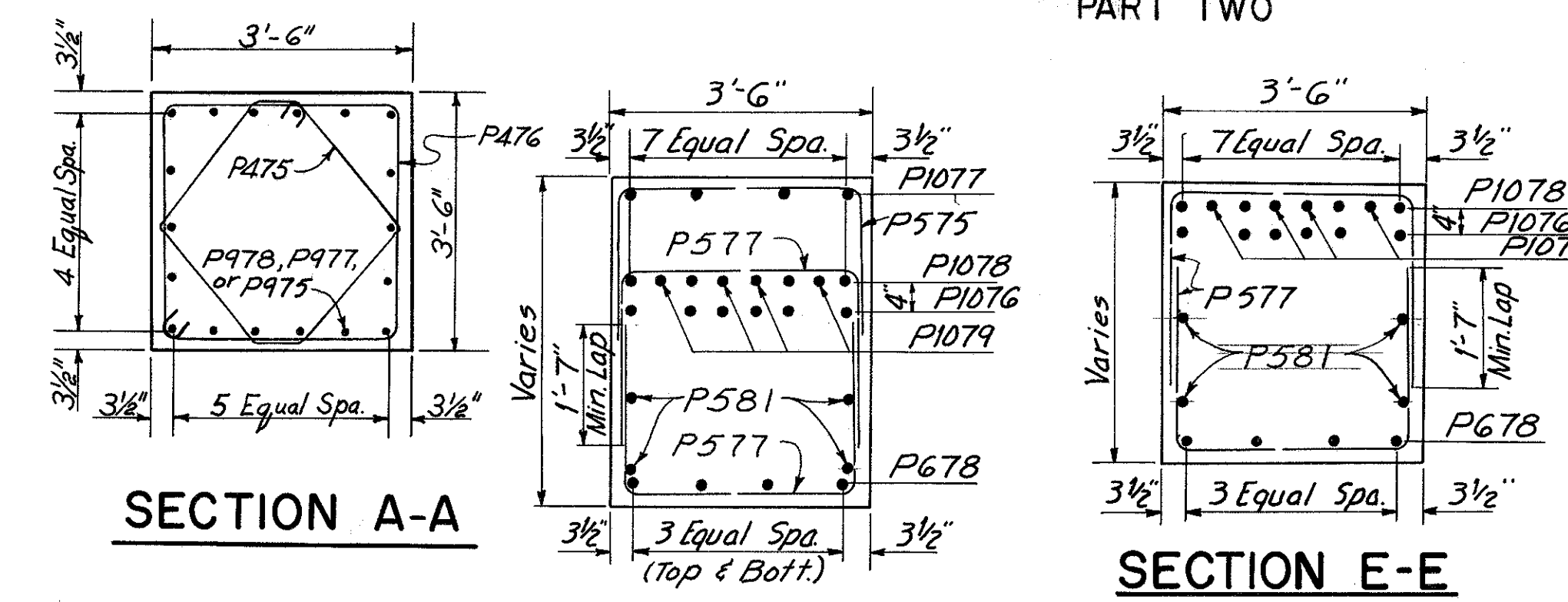
H&E BRIDGE NO. 7

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
CYW	MDP	MDP	HLL RFD	JH0 3-24-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN

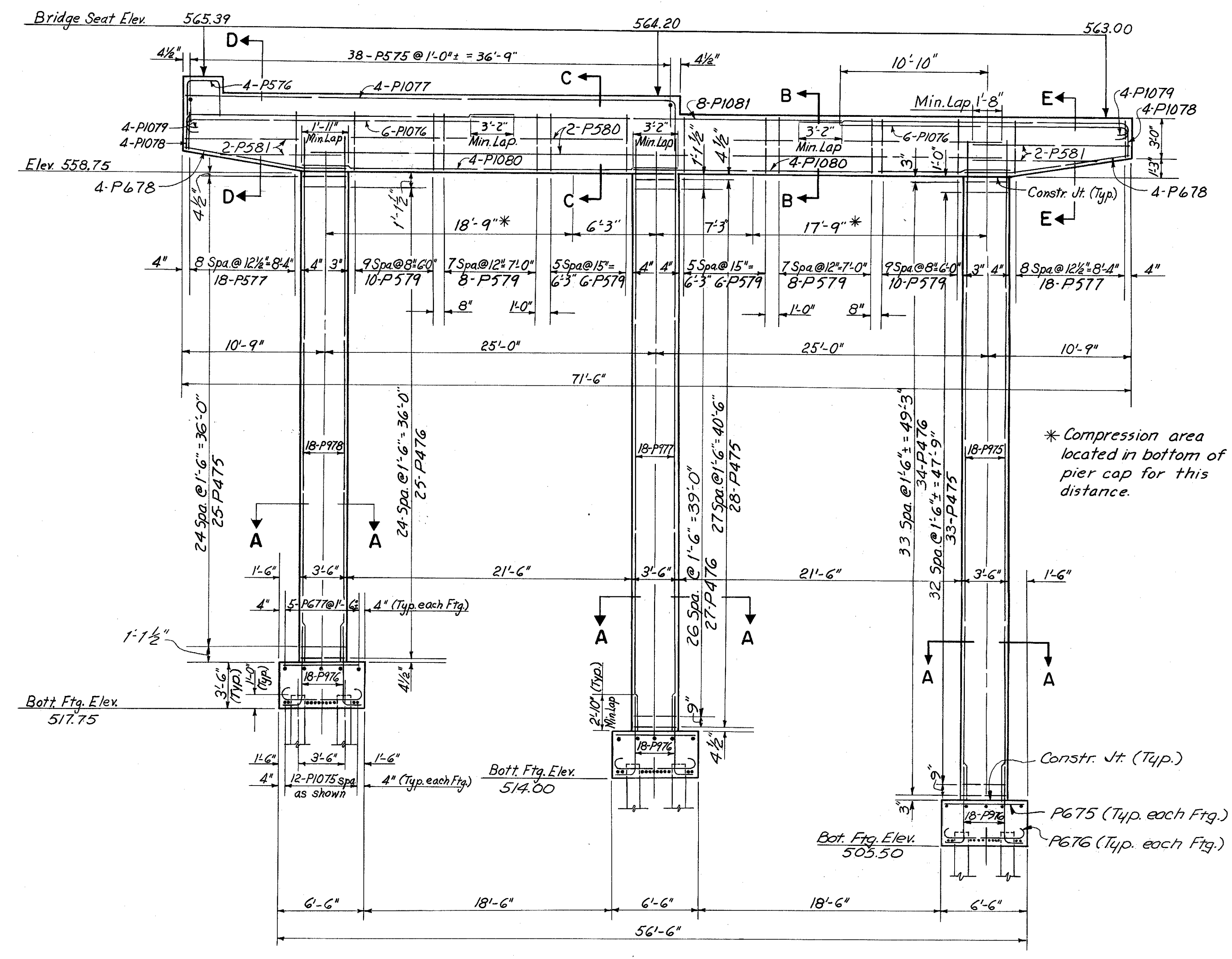


SECTION A-A

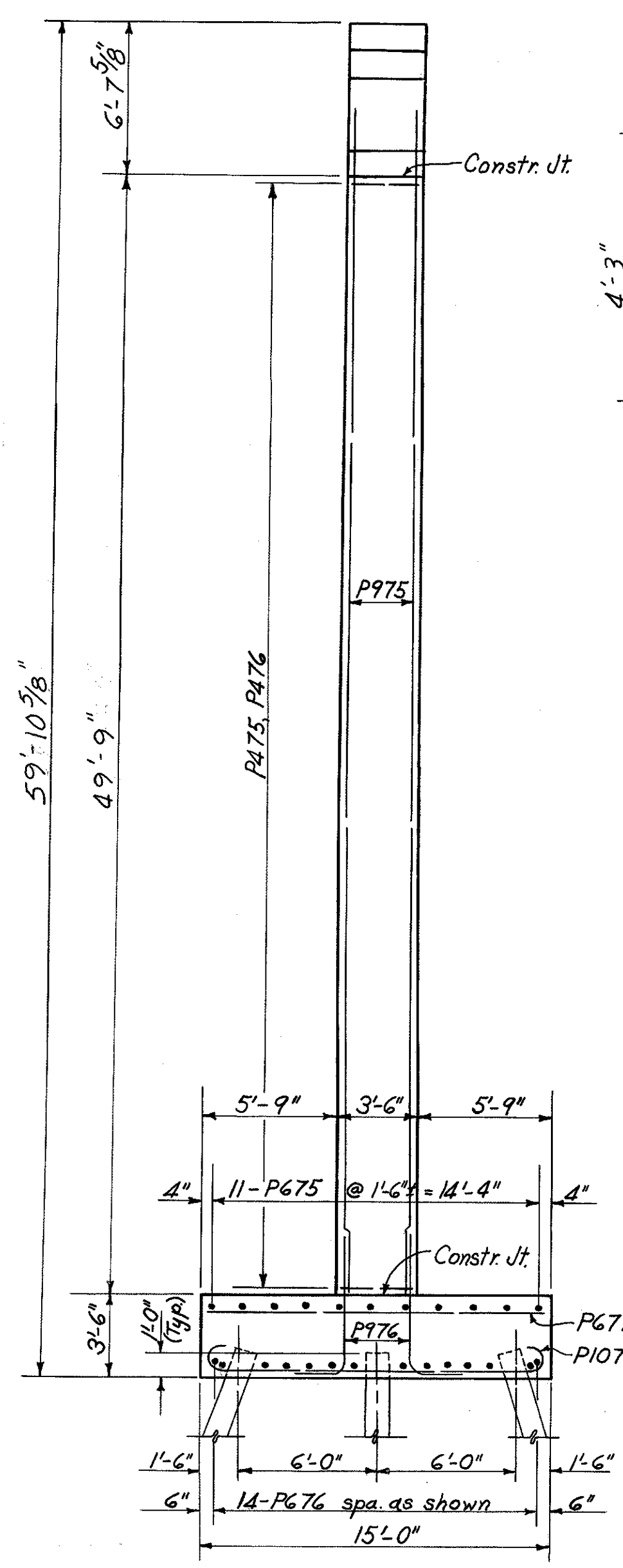
SECTION D-D

SECTION E-E

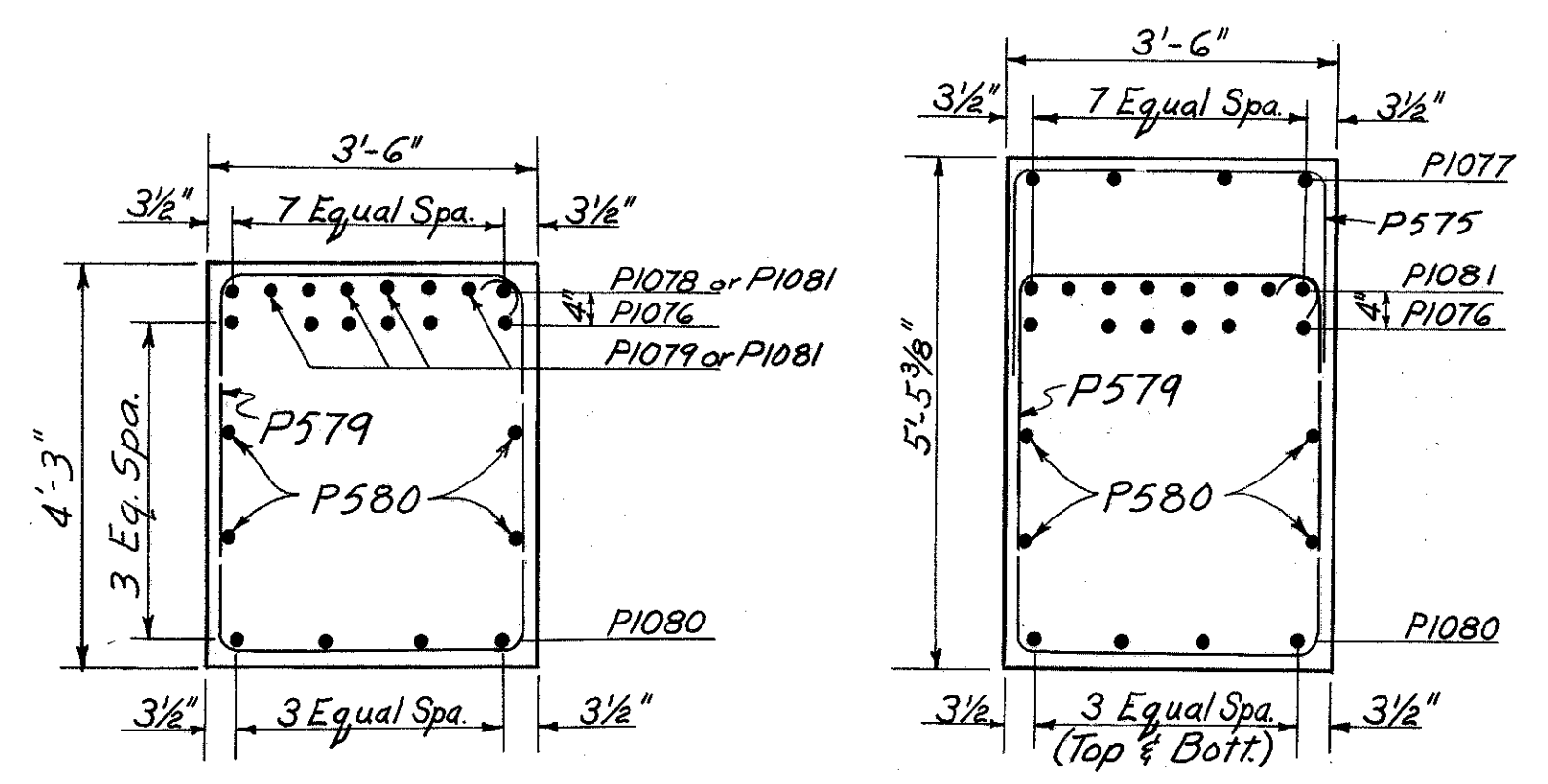
Note: The hooked corner of Stirrup P579 shall be placed in the compression area of the pier cap.



ELEVATION

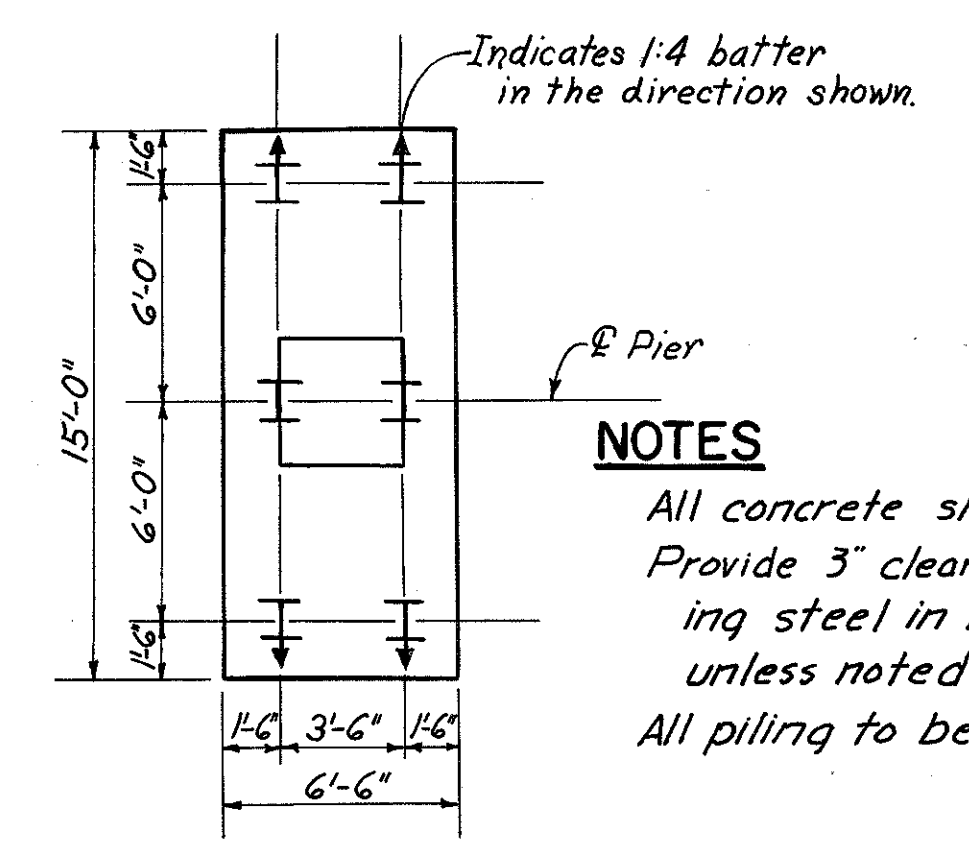


END VIEW



SECTION B-B

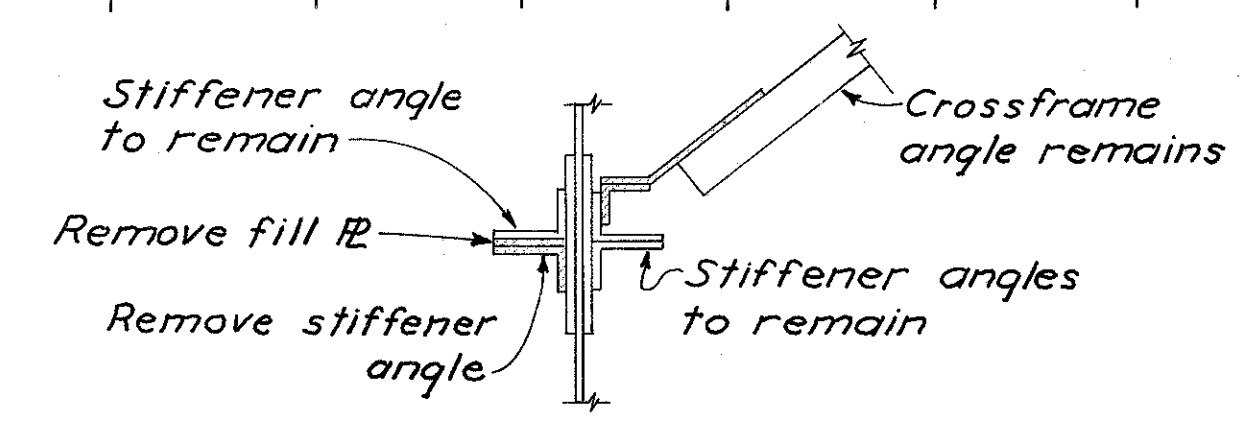
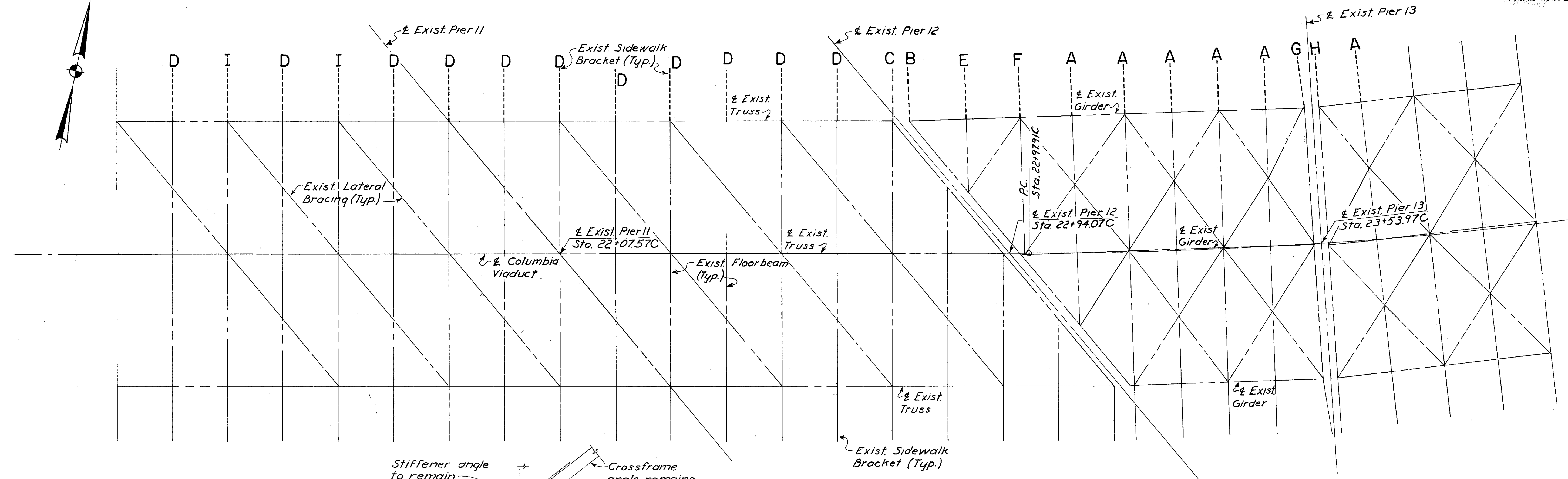
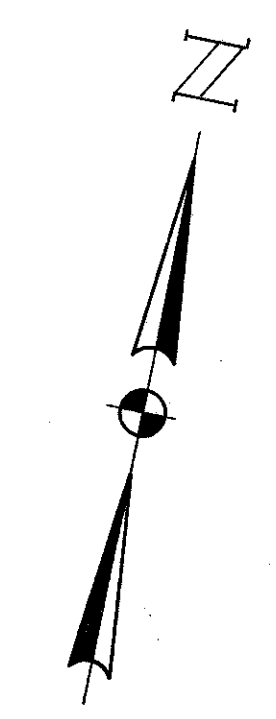
SECTION C-C



FOOTING PLAN

NOTES
All concrete shall be Class "C" concrete.
Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.
All piling to be HPI2x53.

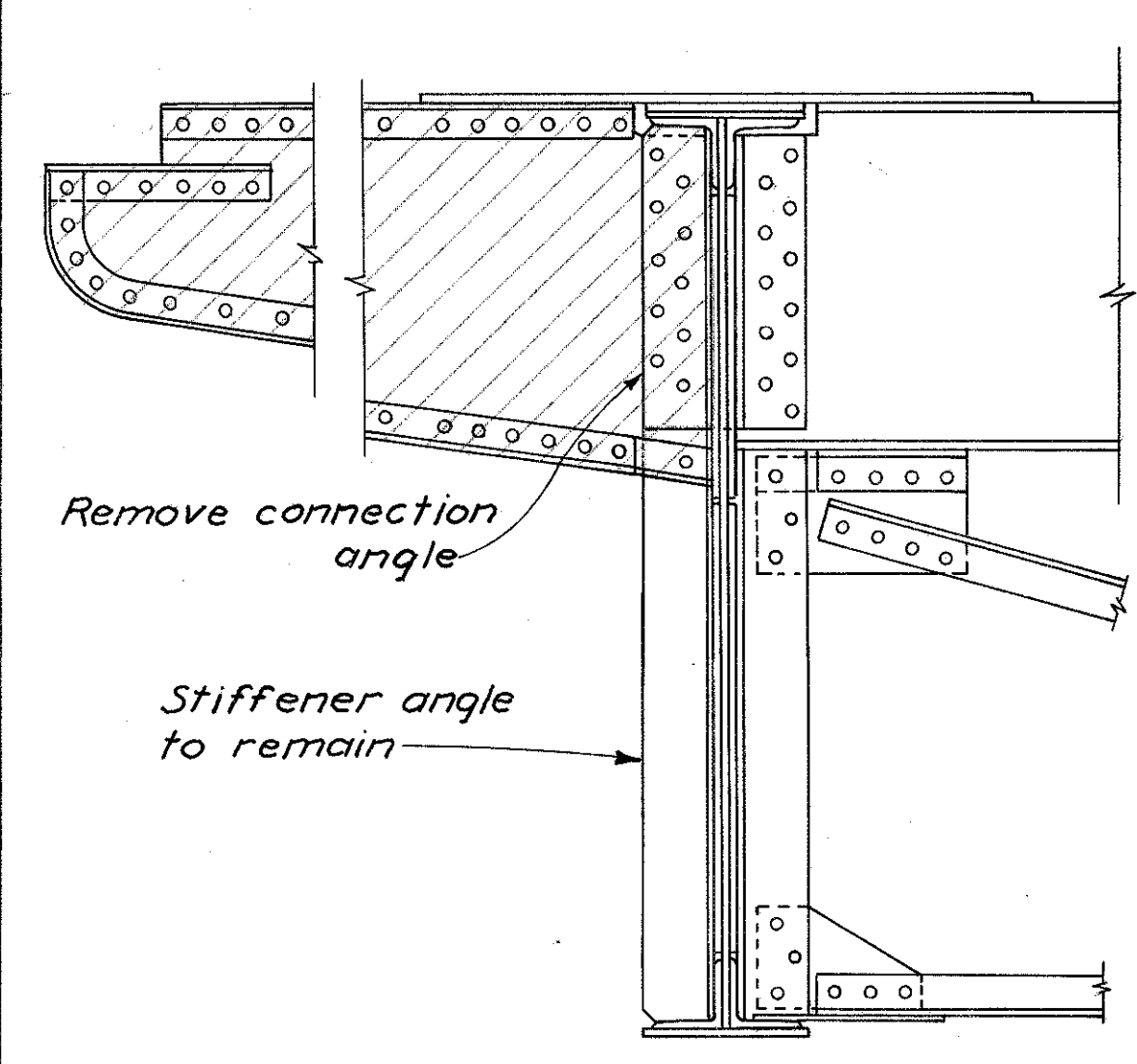
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					10/41
PIER No. 4 BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H&E BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CYW	MDP	MDP	HLL	JRO 3-24-82	



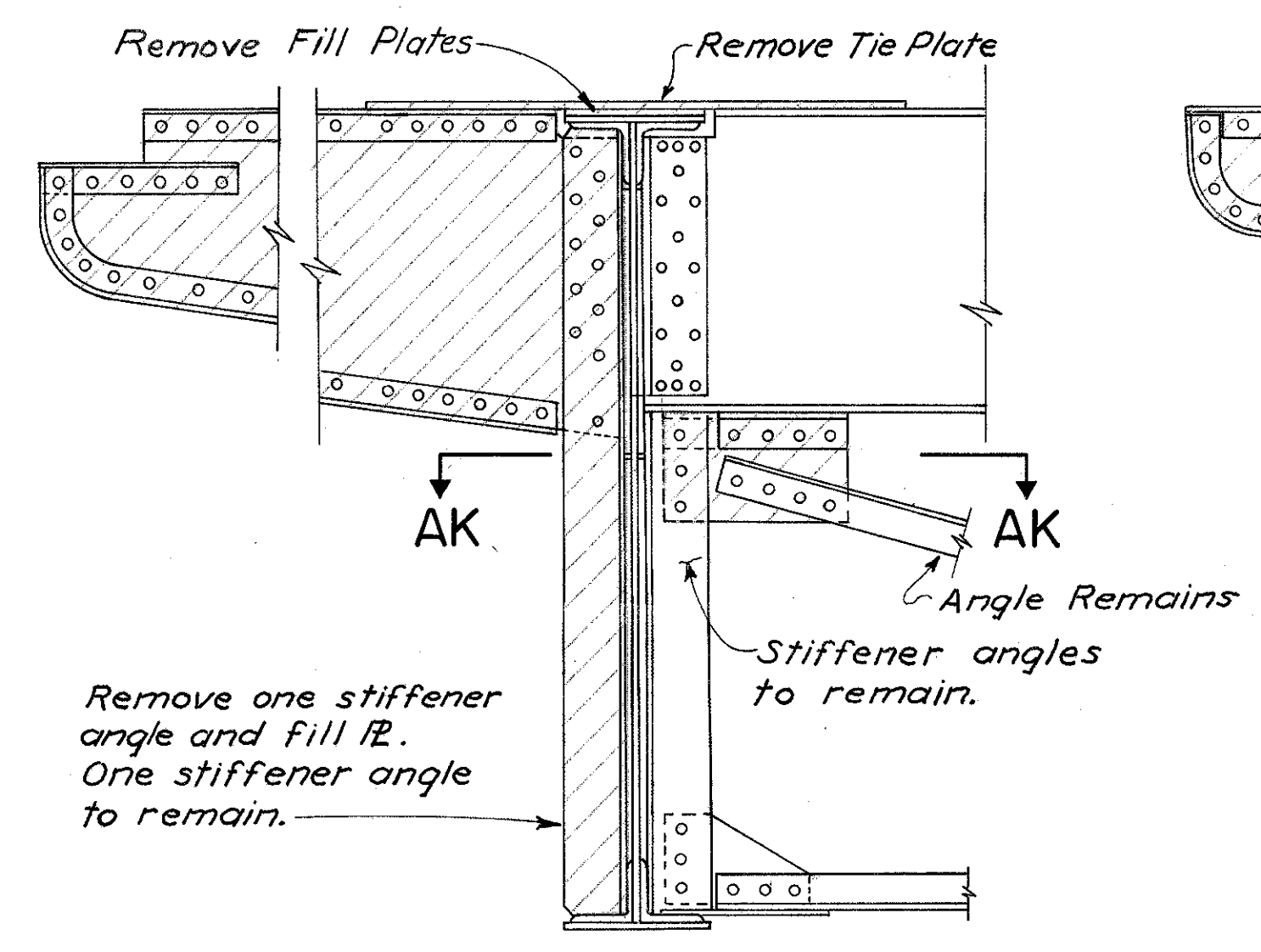
**EXISTING STRUCTURE
FRAMING PLAN**

Note: ----- denotes existing members to be removed.
 - - - - - denotes existing members to be left in place.
 For details of Removals E, F, G, H, and I see Sh. No. 278

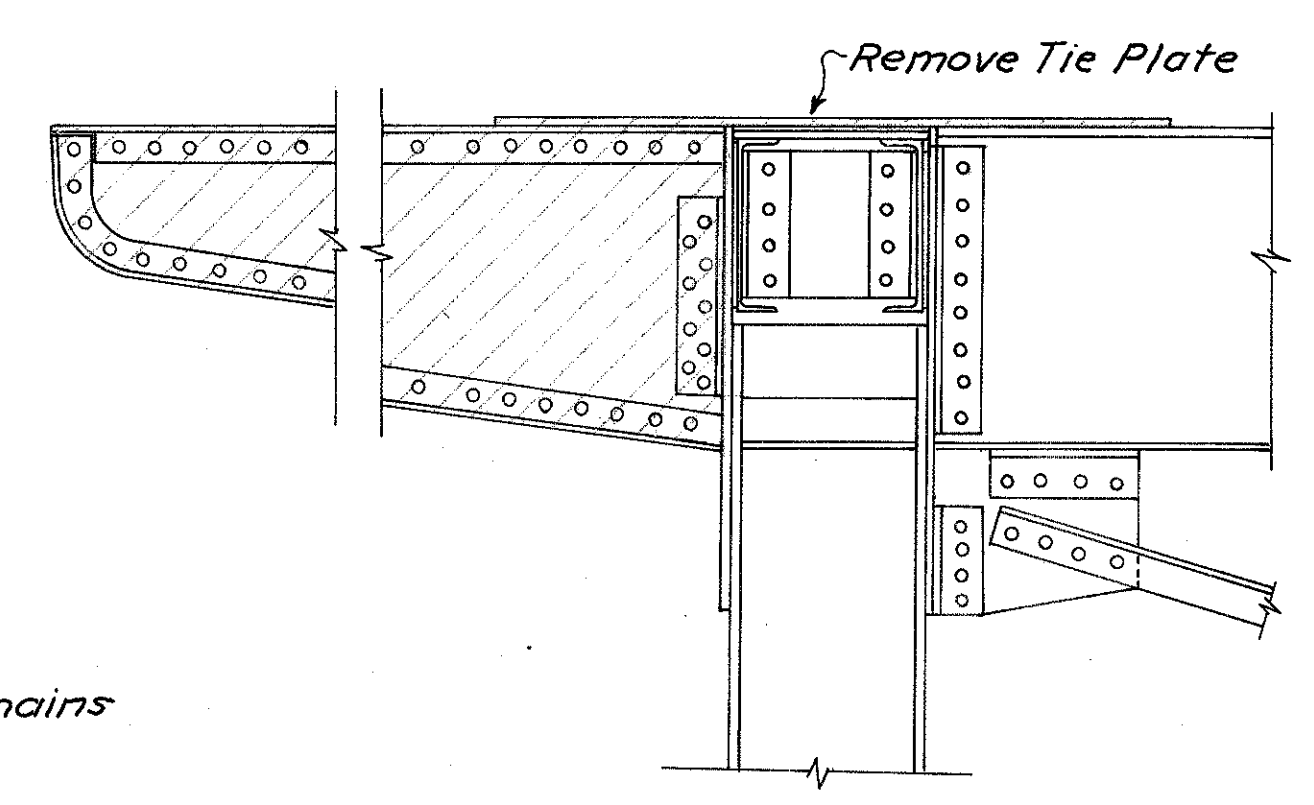
SECTION AK-AK



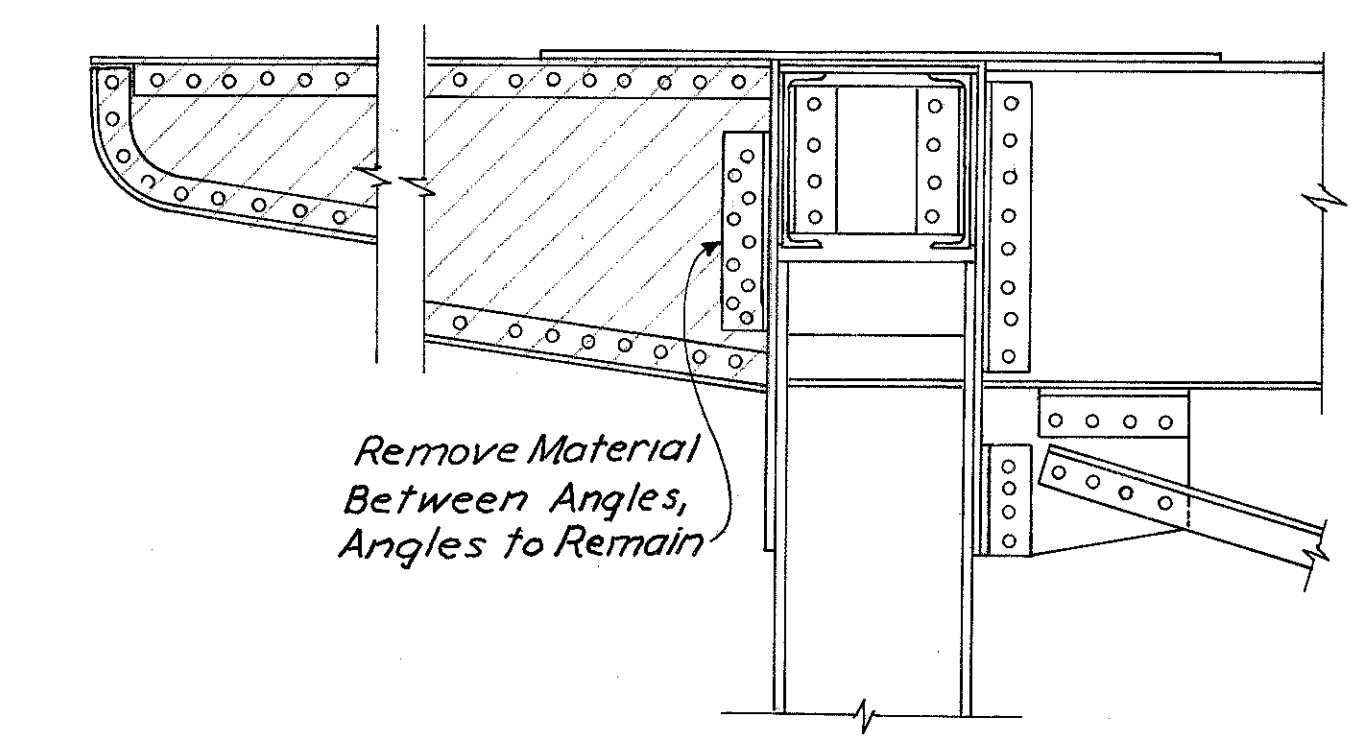
REMOVAL A



REMOVAL B



REMOVAL C



REMOVAL D

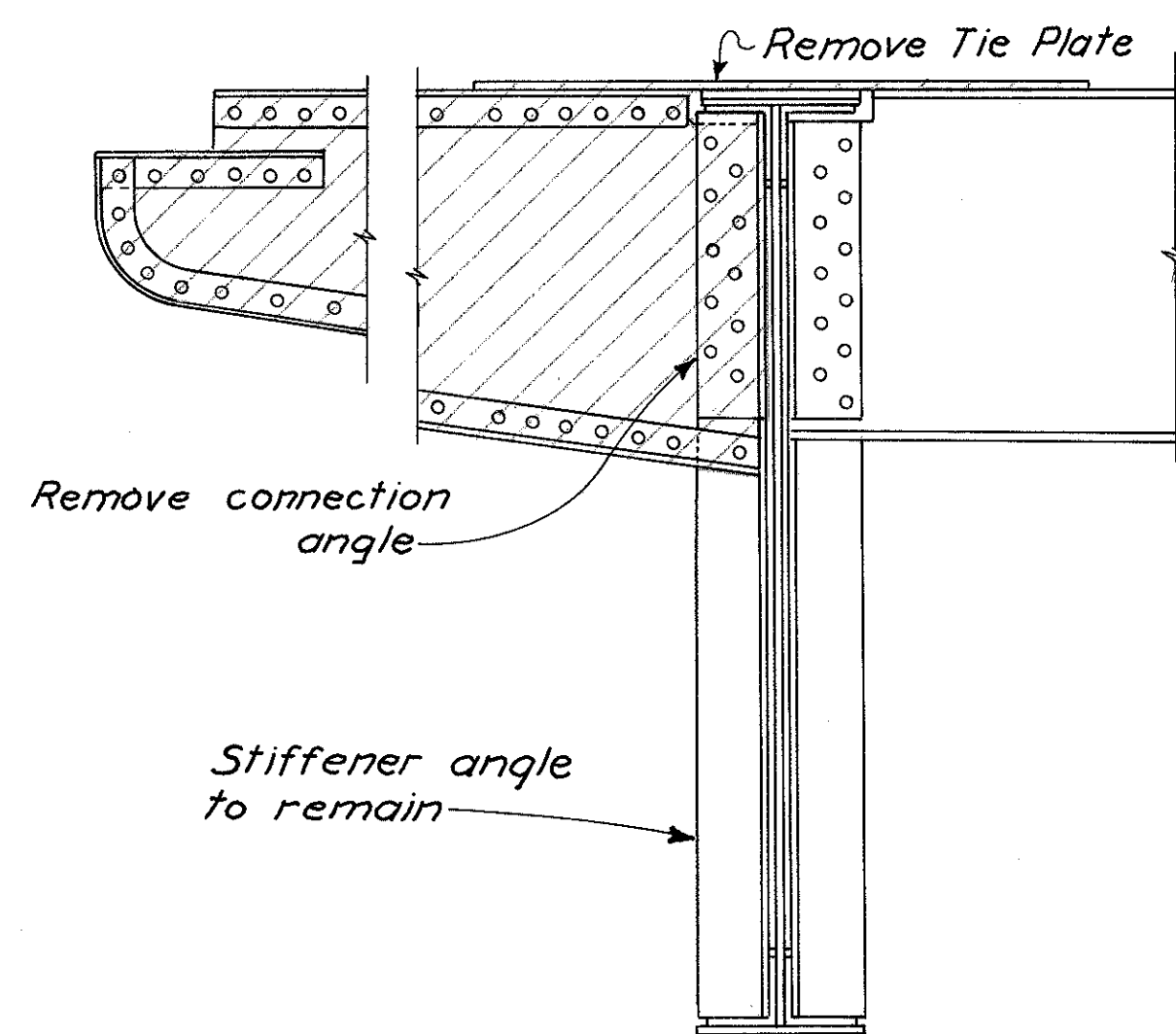
Note: Steel to be removed is indicated by cross-hatching

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT					
H&E BRIDGE NO.7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ROH	RJF	RJF	ROH	JH0 3-24-82	

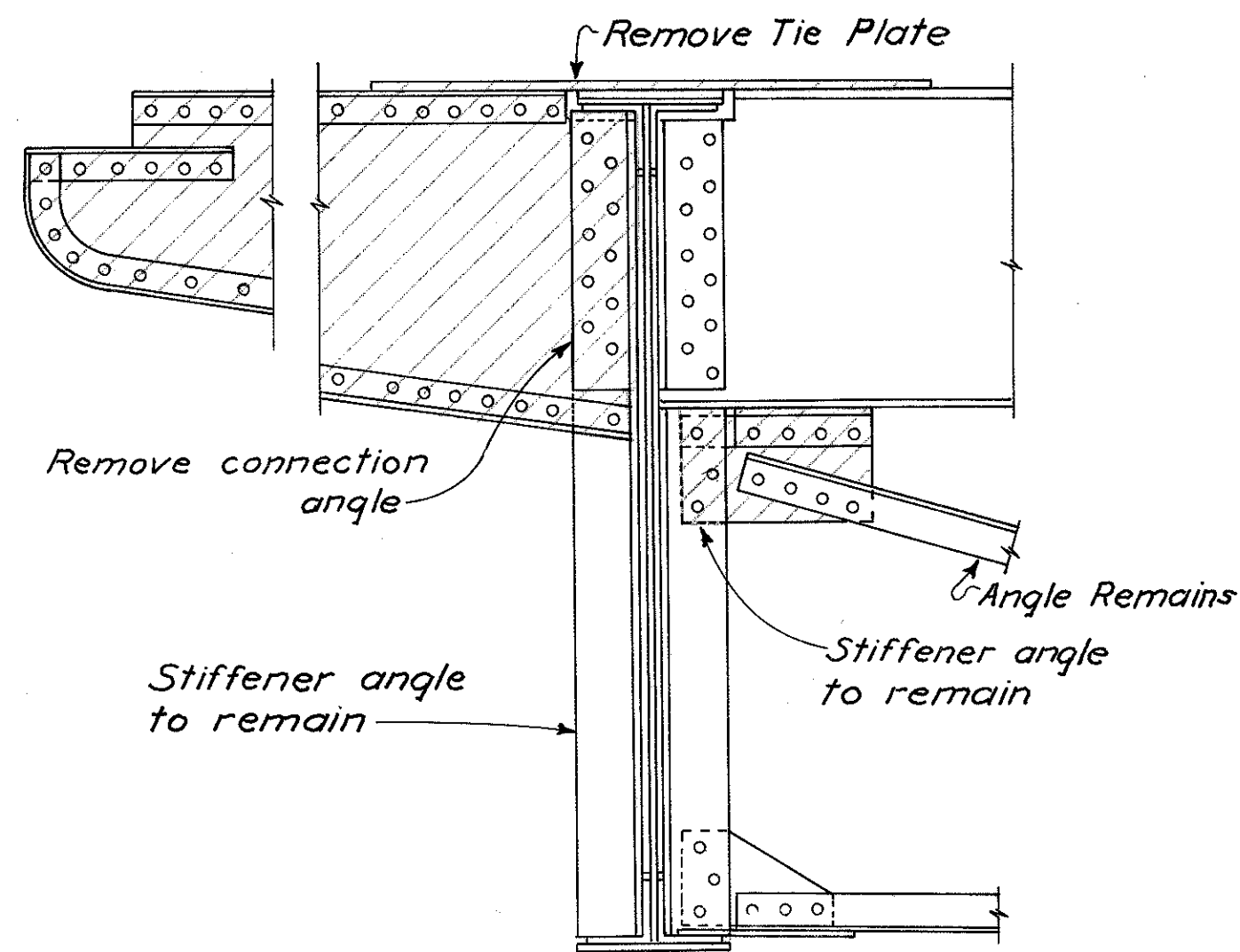
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

278
346

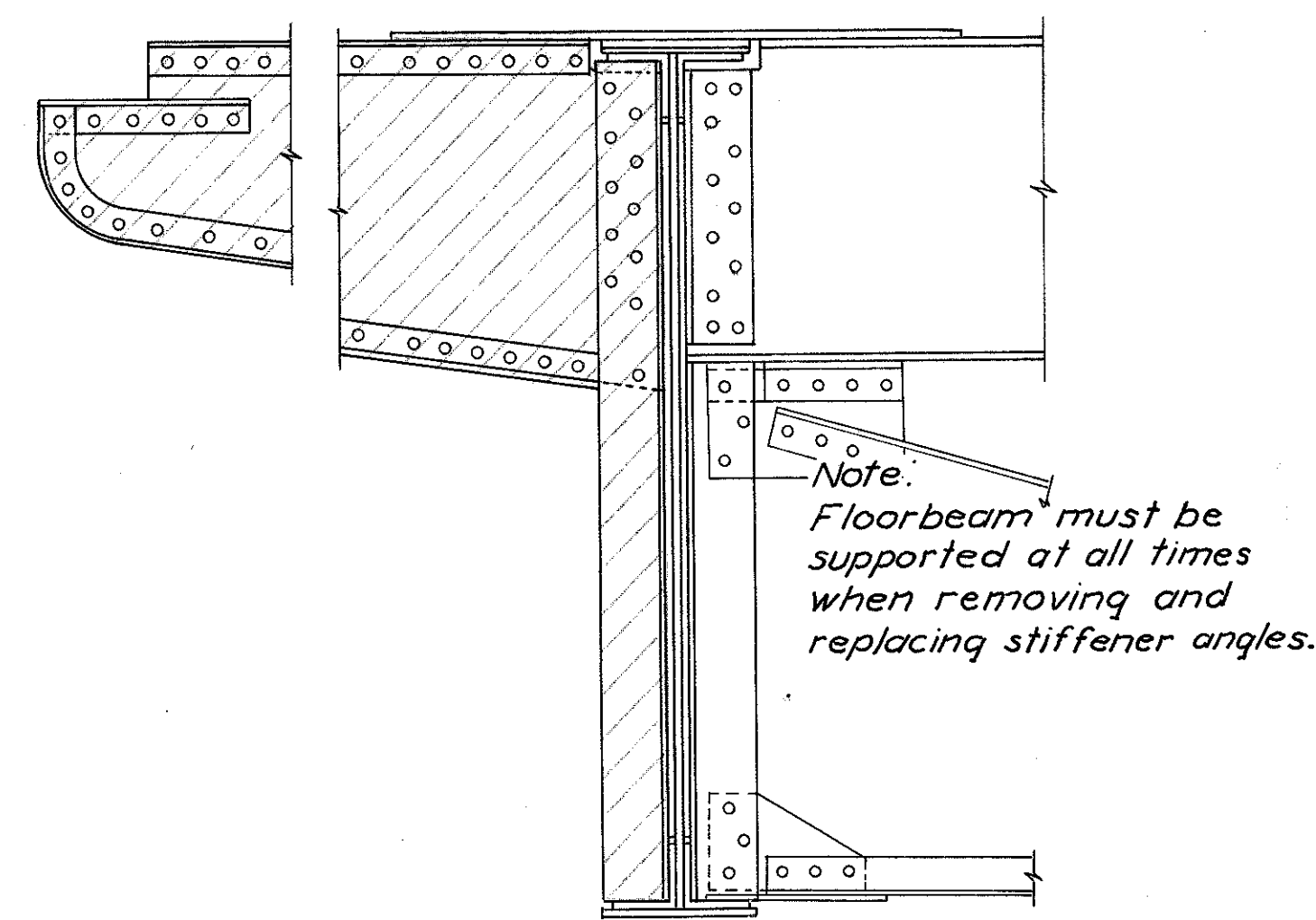
HAMILTON COUNTY
HAM-471-024
PART TWO



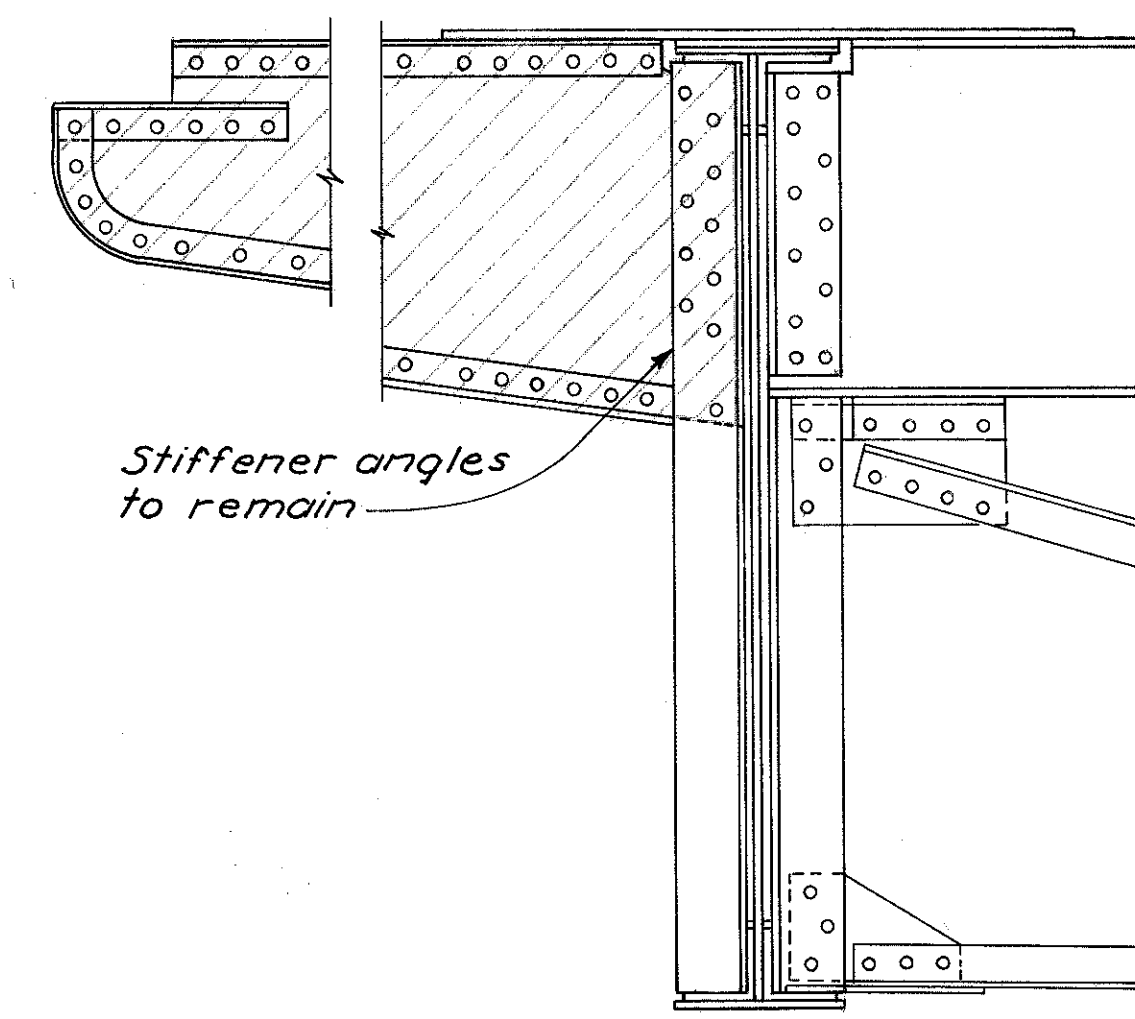
REMOVAL E



REMOVAL F

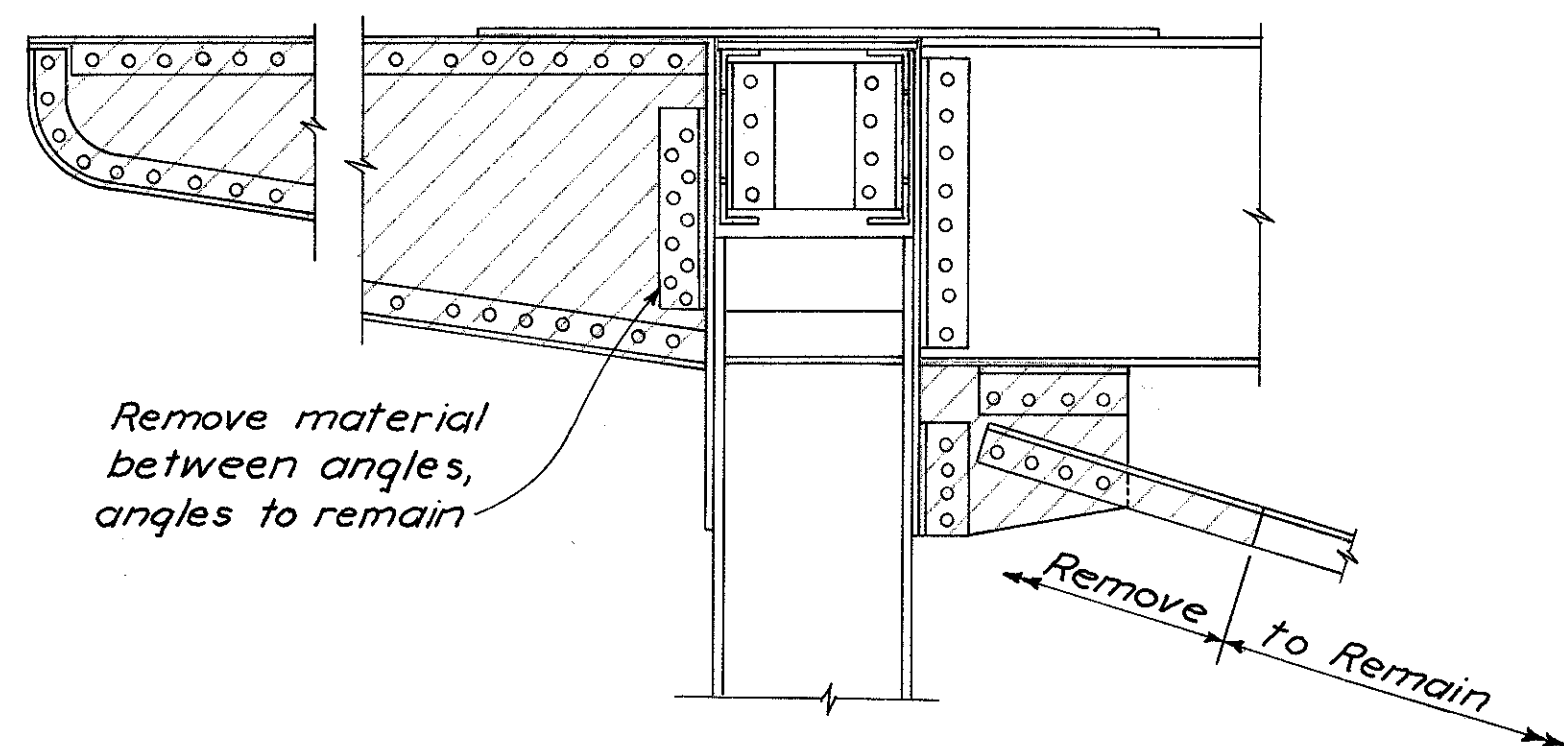


REMOVAL G



REMOVAL H

Note: Steel to be removed is indicated by crosshatching.



REMOVAL I

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						12/41
STRUCTURAL STEEL DETAIL						
BRIDGE NO. HAM-471-						
RELOCATED SIXTH STREET						
OFF COLUMBIA VIADUCT						
H&E BRIDGE NO.7						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
ROH	RJF	RJF	ROH	JH0 3-24-82		

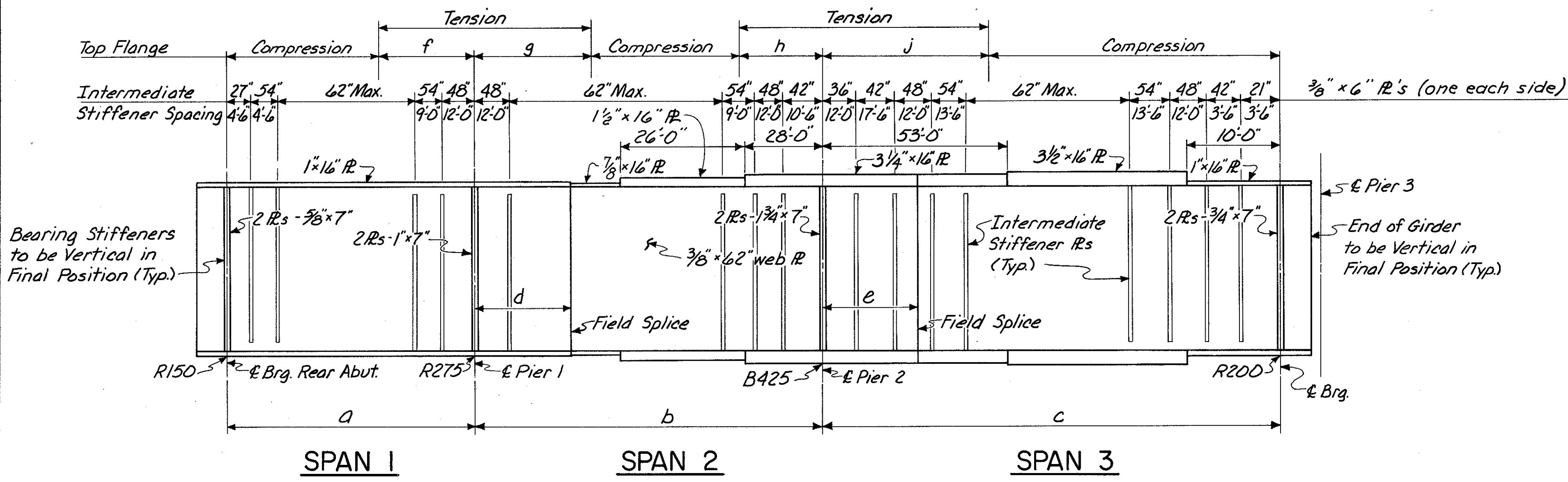
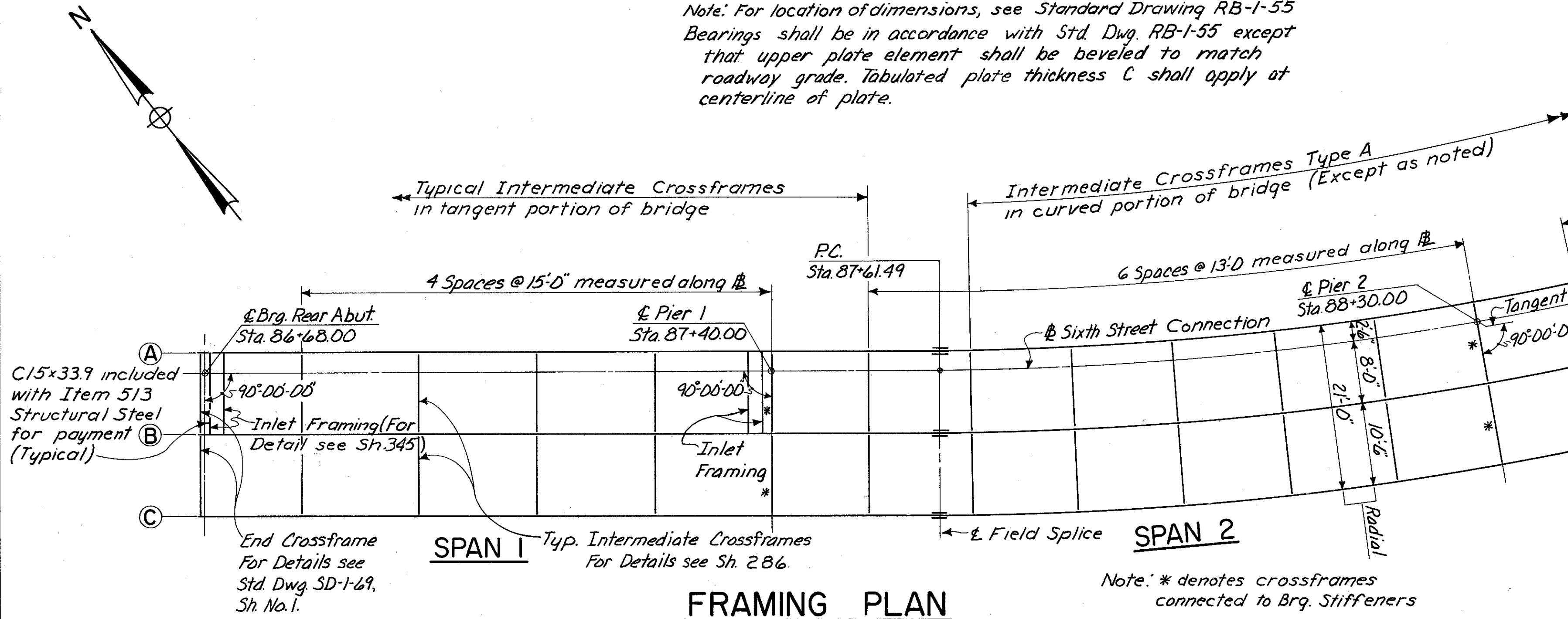
HAMILTON COUNTY
HAM-471-024
PART TWO

BOLSTER NO.	BEARING DIMENSIONS (INCHES)												
	A	B	C	D	F	G	H	K	L	M	R	T	Y
B-425	4 1/2	24	4 1/2		7/8		23 3/8	17	34		15	3 3/4	2 3/16
B-125								15	24				

Note: For location of dimensions, see Standard Drawing RB-1-55. Bearings shall be in accordance with Std. Dwg. RB-1-55 except that upper plate element shall be beveled to match roadway grade. Tabulated plate thickness C shall apply at centerline of plate.

Plate Thickness	Fillet Weld Size
Up to 3/4"	1/4"
Over 3/4" to 1 1/2"	5/16"
Over 1 1/2" to 2 1/2"	3/8"
Over 2 1/2" to 6"	1/2"

Plate Thickness refers to the thickness of the thicker part joined. However weld size need not exceed the thickness of the thinner part joined.



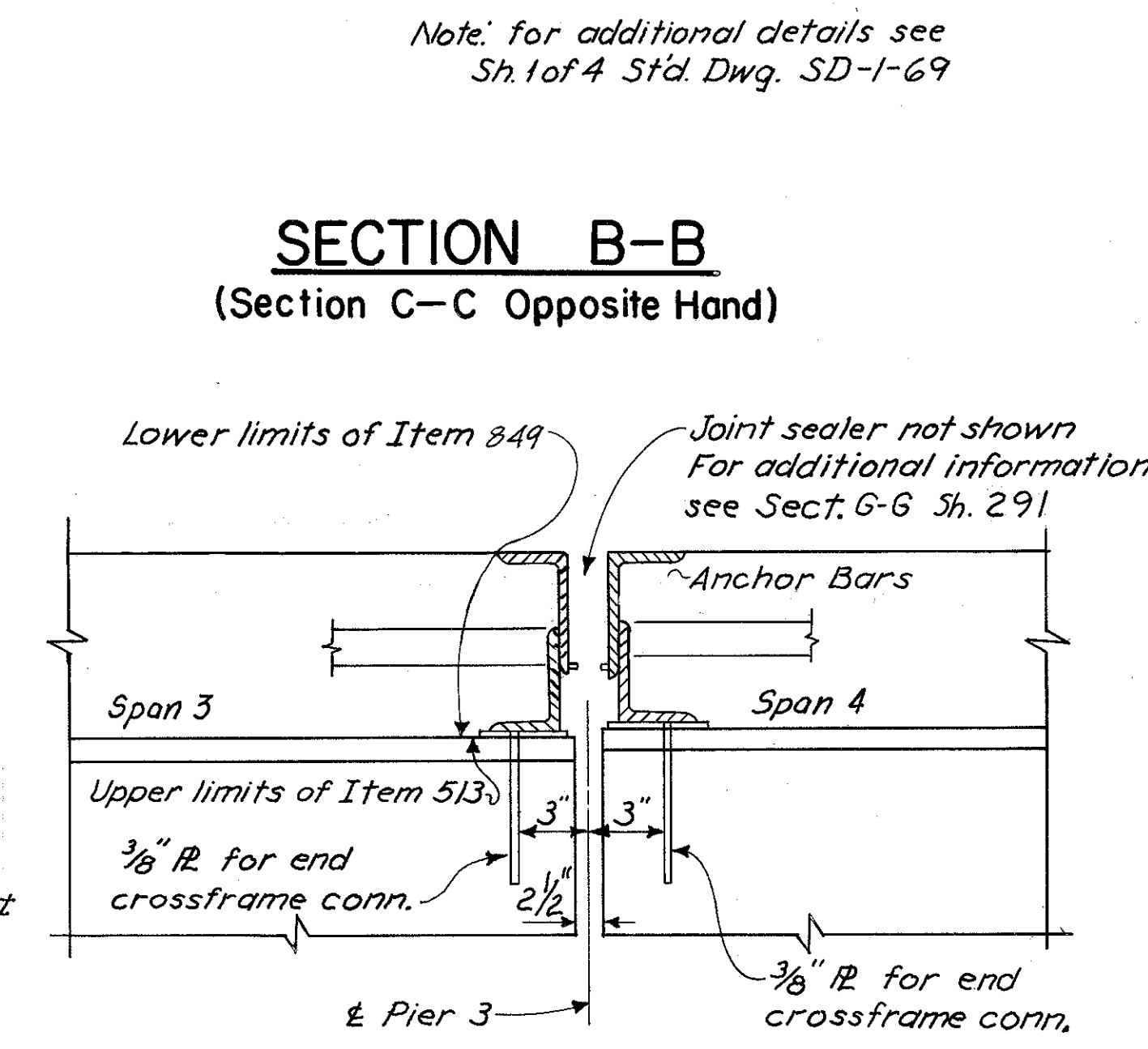
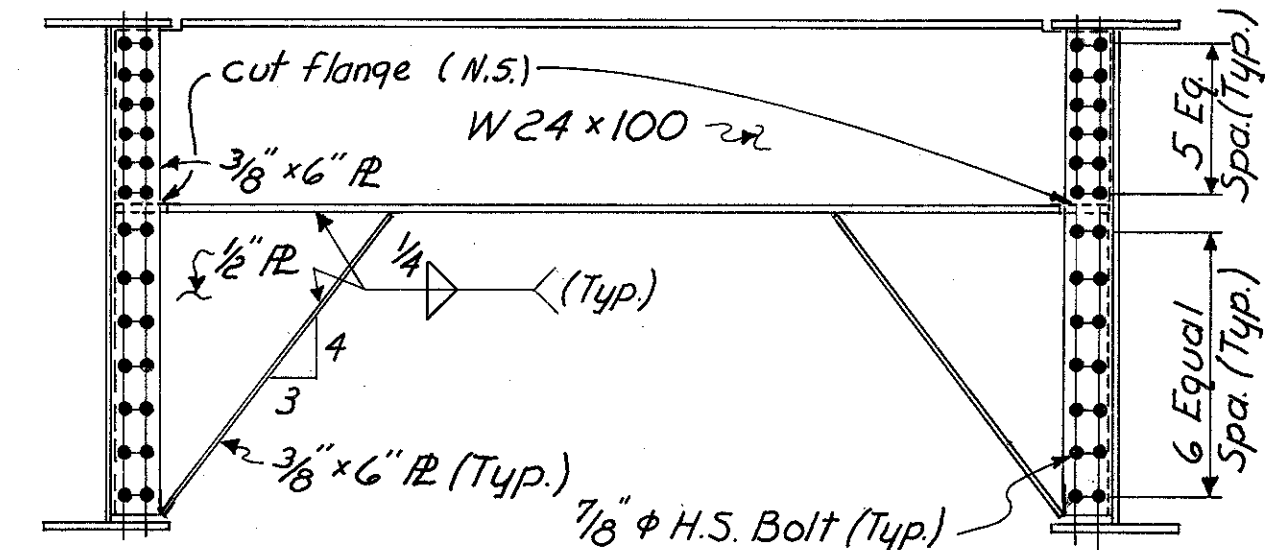
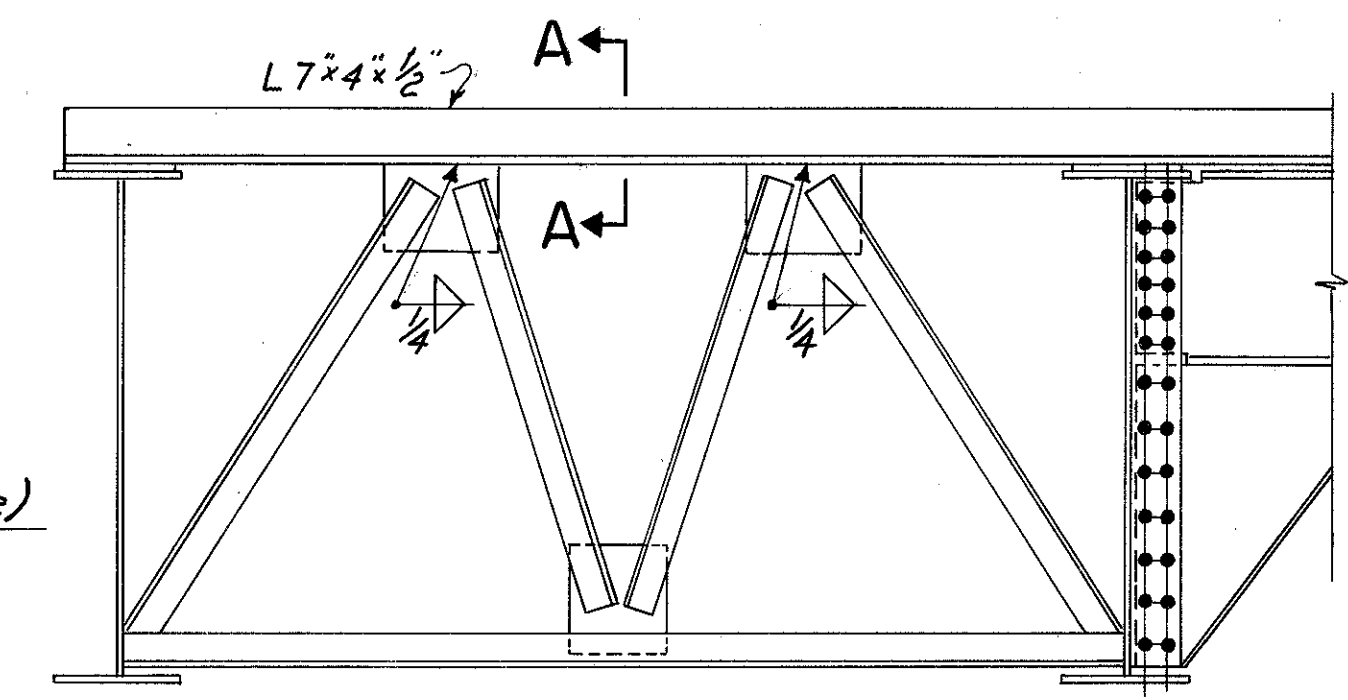
Girder	GIRDER LENGTH DATA				
	a	b	c	d	e
A	72'-0"	89'-7"	126'-2 7/8"	21'-6"	23'-0"
B	72'-0"	91'-4 1/16"	129'-6"	21'-6"	23'-0"
C	72'-0"	93'-1 1/8"	132'-9 5/16"	21'-6"	23'-0"

Note: The dimensions are measured horizontally along & of girders

Girder	TENSION LENGTH			
	f	g	h	j
A	12'-6"	20'-6"	45'-0"	22'-6"
B	12'-6"	20'-6"	45'-0"	22'-6"
C	12'-6"	20'-6"	45'-0"	22'-6"

Erection Note: Girders to be plumb and in correct horizontal position before crossframes are welded. Complete all welding before placing concrete deck.

The structural steel for this contract has been previously fabricated in accordance with CMS dated 1-1-73. Therefore, the (CVN) notation has not been designated on these plans and Section 711.01 of CMS dated 1-1-79 will not apply.

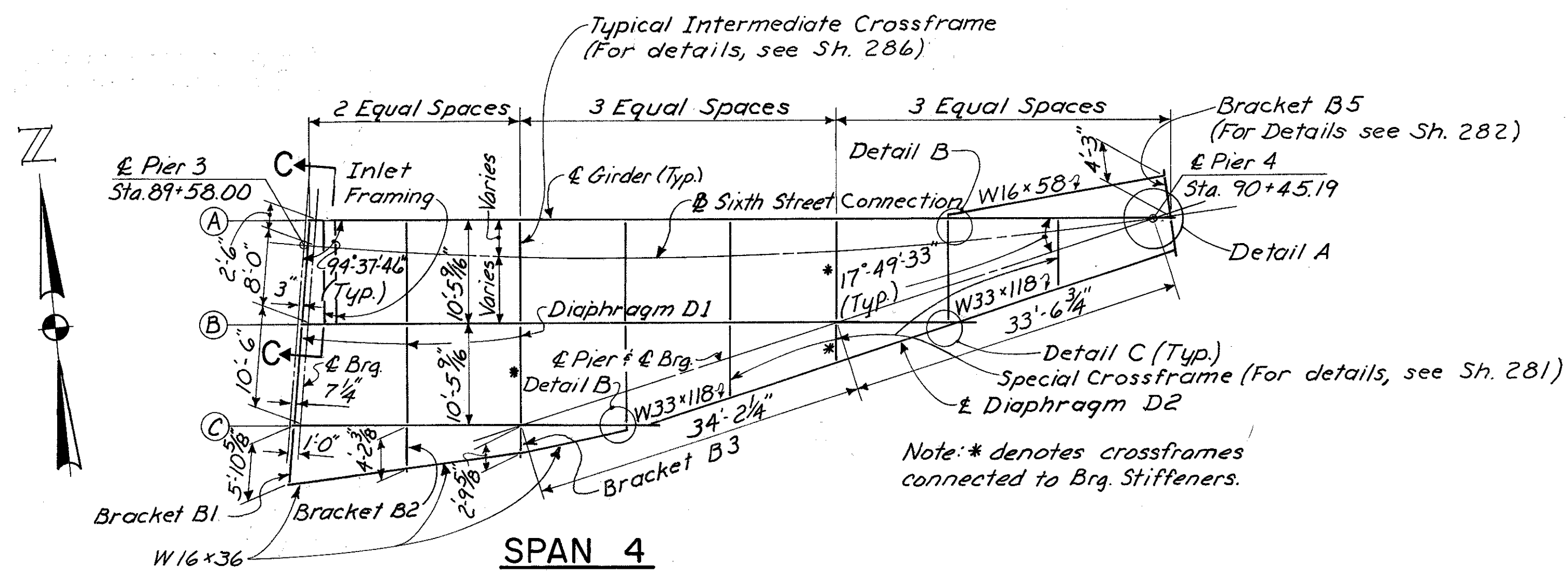


HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

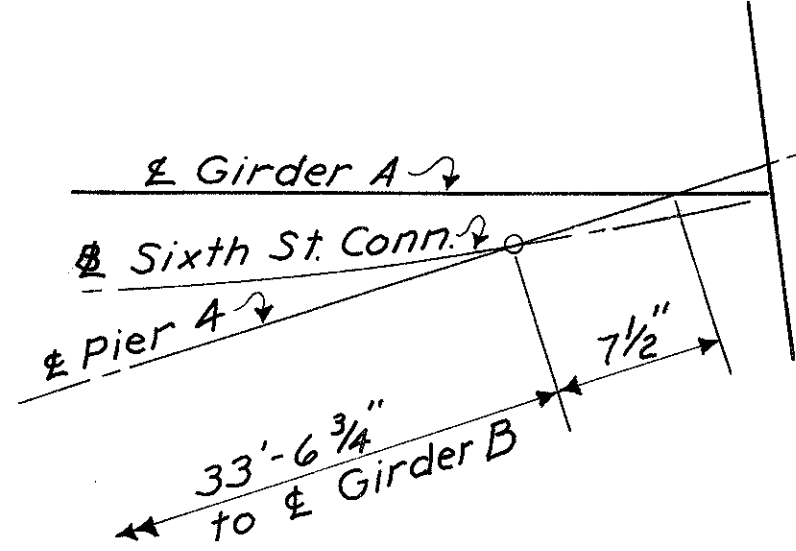
13/41

STRUCTURAL STEEL DETAIL
BRIDGE NO. HAM-471-
RELOCATED SIXTH STREET
OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 7

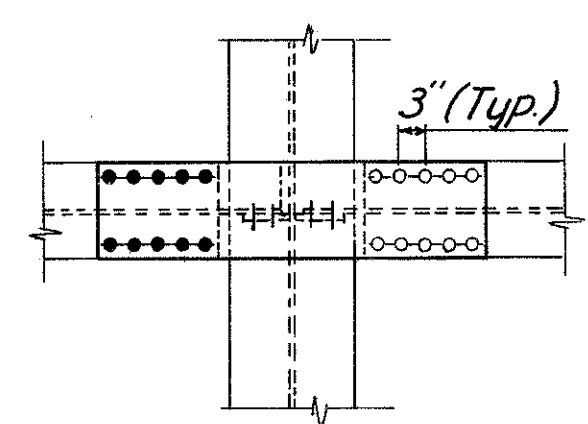
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
ROH	G.C.K.	R.J.F.	R.A.H.	J40 3-24-82	



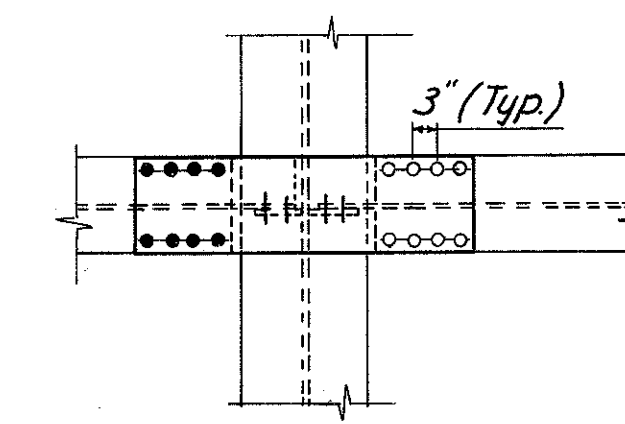
**SPAN 4
FRAMING PLAN**



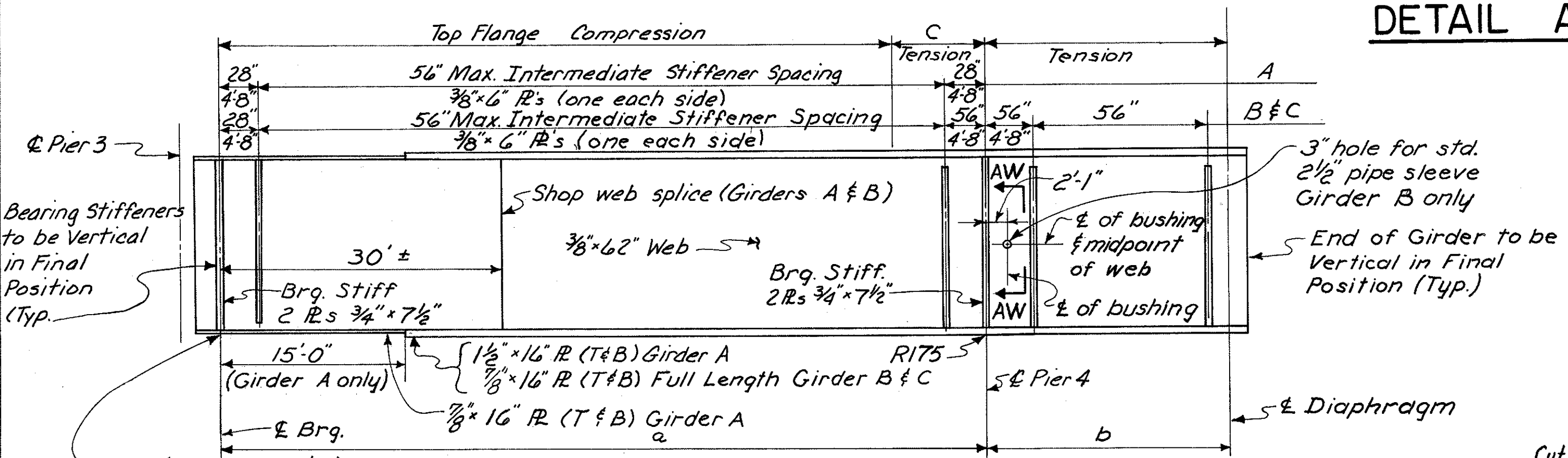
DETAIL A



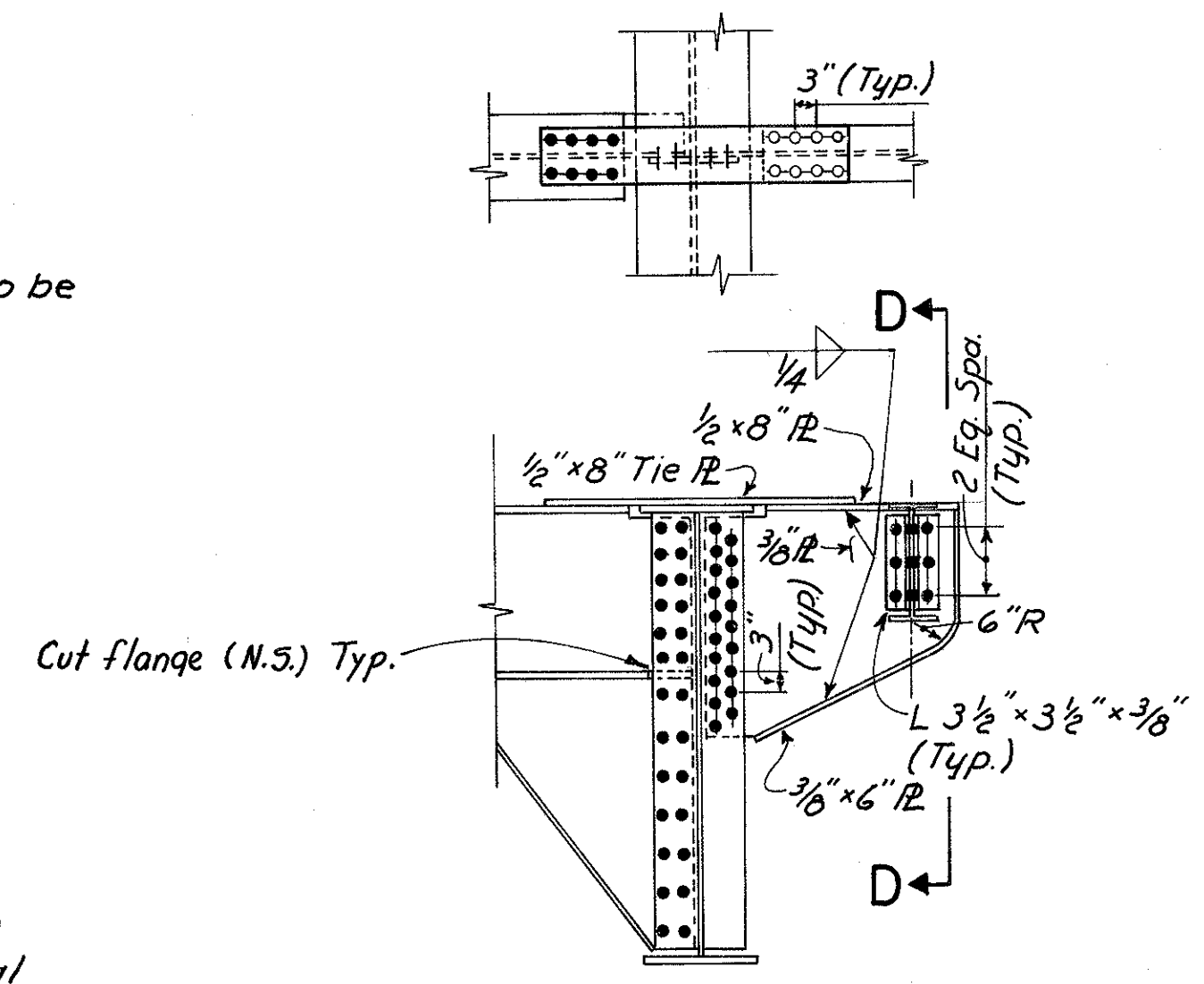
BRACKET B1



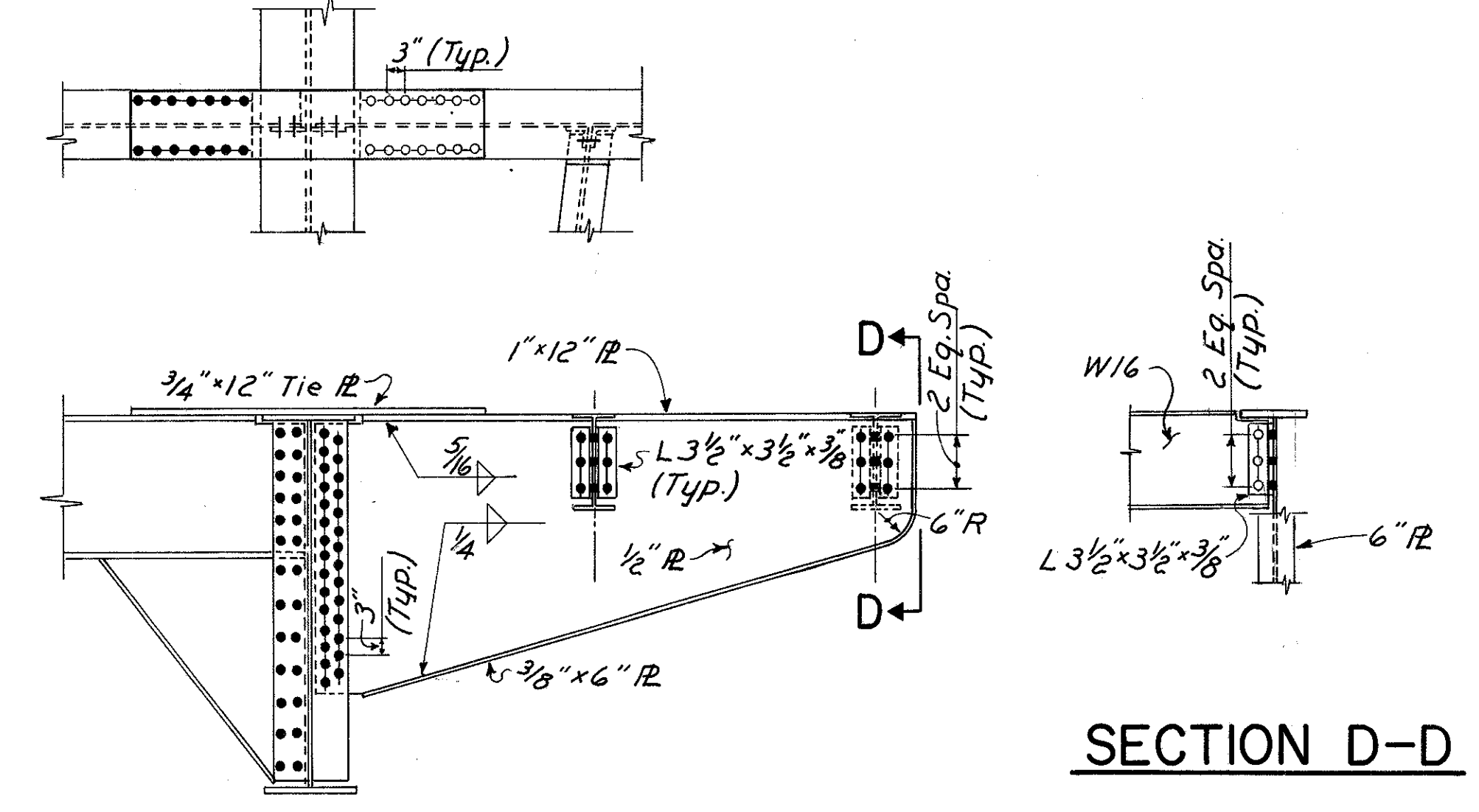
BRACKET B2



**SPAN 4
GIRDER ELEVATION**



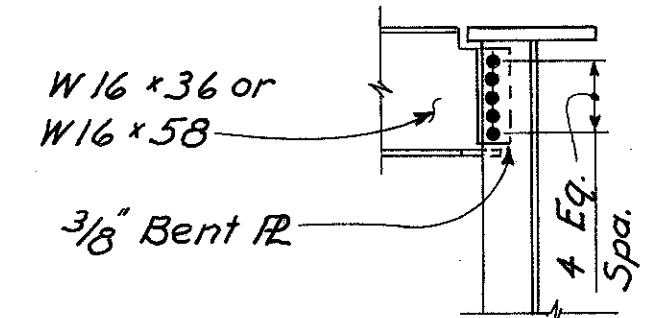
BRACKET B3



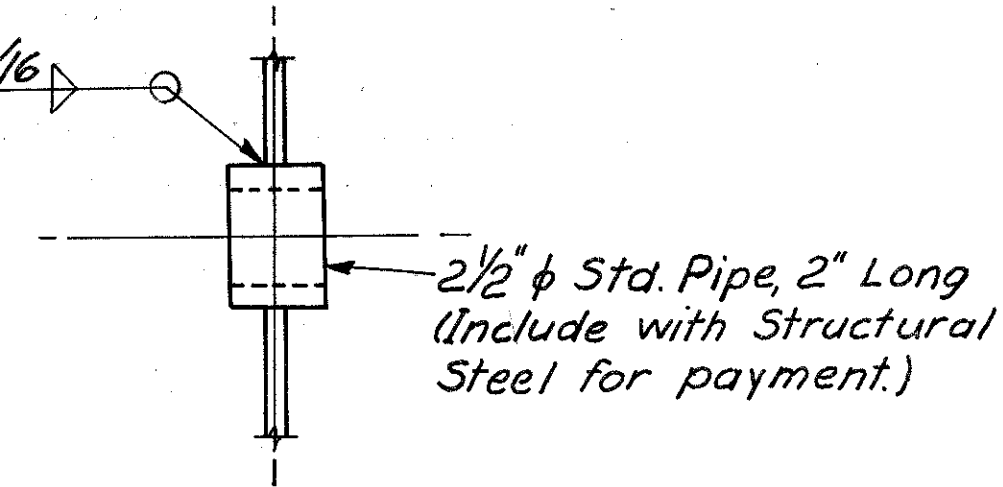
BRACKET B4

SECTION D-D

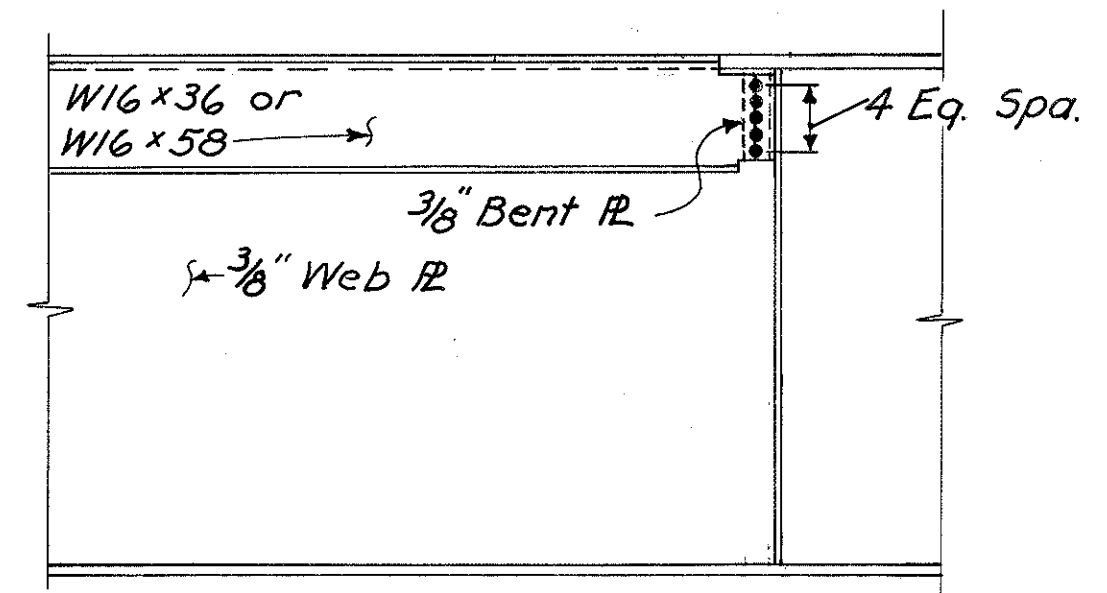
GIRDER DIMENSION			
DIMEN.	a	b	c
A	86'-4 3/4"	2'-4 1/16"	-
B	54'-8 3/8"	12'-0"	6'-0"
C	23'-0"	12'-0"	10'-6"



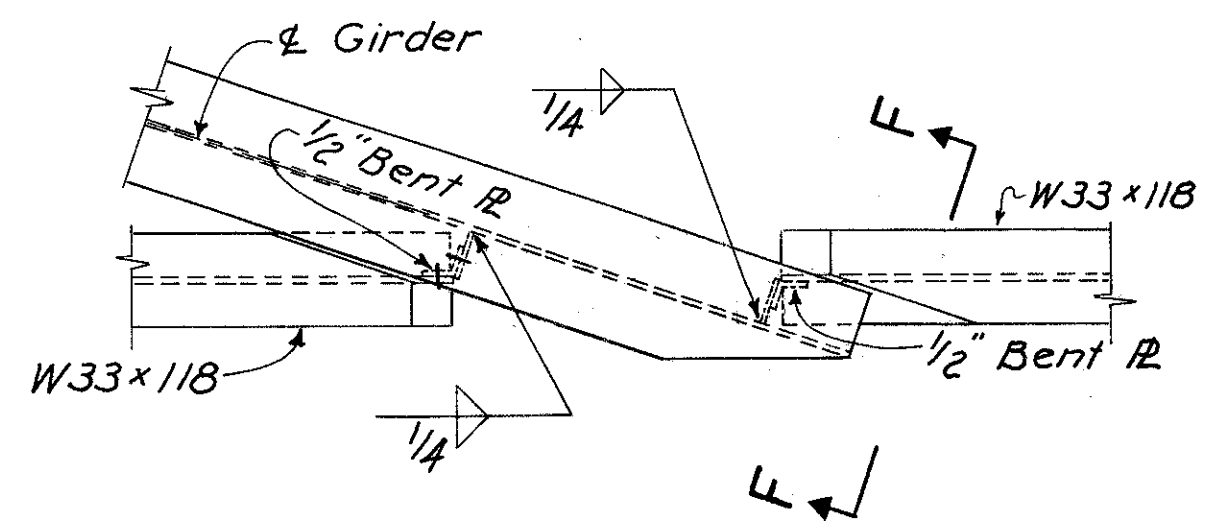
SECTION AM-AM



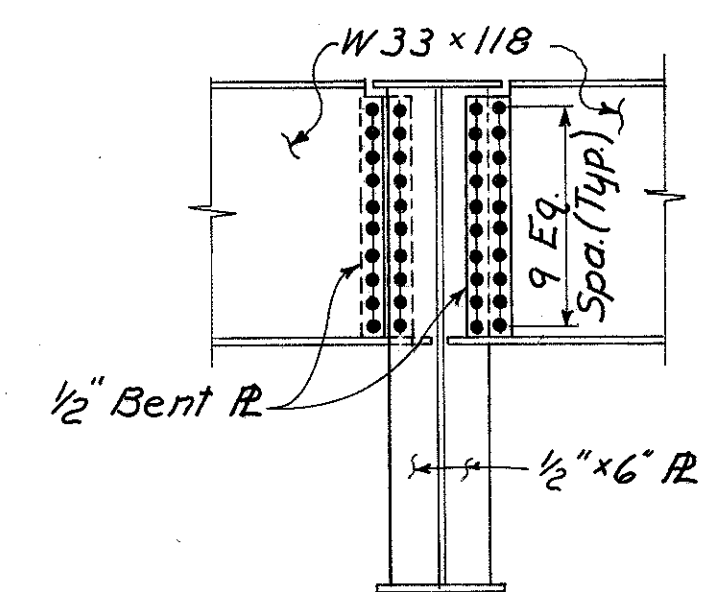
SECTION AW-AW



SECTION E-E



DETAIL C



SECTION F-F

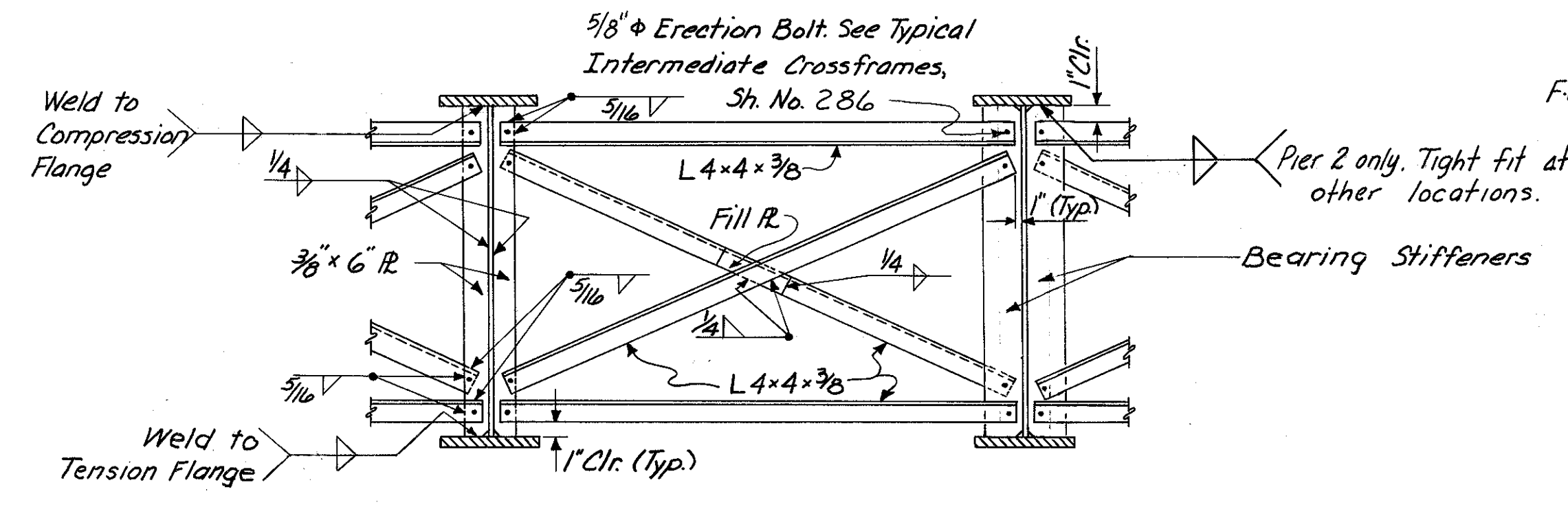
Notes:
All bolts 7/8" H.S. bolts
For Section C-C, see Sh. 279
For details of Diaphragm D1 see Sh. 279
For brg. details see Std. Drawg. RB-1-55 and Sh. 279

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/41
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-					
RELOCATED SIXTH STREET					
OFF COLUMBIA VIADUCT					
H&E BRIDGE NO.7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ROH	GCK	R.J.F.	R.A.H.	J40 3-24-82	

DEFLECTION and CAMBER (inches)		SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
		1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4
Girder A	Def. due to weight of steel	1/16	1/16	1/16	0	0	-1/16	-1/8	-1/8	1/16	1/8	1/16	1/8	3/16	1/8	1/8	0	0
	Def. due to remaining D.L.	1/4	3/8	3/16	-1/16	-1/8	-1/8	1/16	1/8	1/16	1/8	1/16	1/8	3/16	1/8	1/8	0	0
	Adjustment reqd. for V.C.	1/16	1/8	1/16	-1/16	-1/8	-1/8	1/16	1/8	1/16	1/8	1/16	1/8	3/16	1/8	1/8	0	0
Girder B	Required Shop Camber	3/8	3/16	3/16	-3/16	-3/16	-1/4	2 3/16	3/8	5 3/16	3/2	1 1/2	3 1/16	3/4	1/8	1/8	0	0
	Def. due to weight of steel	1/16	1/16	1/16	0	-1/16	-1/16	3/16	1/4	1/16	1/8	1/16	1/8	3/8	0	0	0	0
	Def. due to remaining D.L.	3/8	1/16	1/4	-1/8	-1/8	-3/16	1/16	1/8	1 1/16	2 1/4	3 1/16	2 3/16	3/8	2 3/8	2 1/2	-1/4	-1/4
Girder C	Adjustment reqd. for V.C.	-3/16	-3/16	-3/16	5/16	1/4	3/16	1 9/16	2 1/4	3 1/16	5 1/2	4 3/8	3 1/16	1/4	3/8	0	1/4	-1 3/8
	Required Shop Camber	1/4	3/16	1/8	3/16	1/16	-1/16	2 3/16	3 3/16	5 1/2	4 3/8	3 1/16	1/4	3/8	0	0	0	0
	Def. due to weight of steel	1/16	1/16	1/16	0	0	-1/16	3/16	1/4	1/16	1/8	1/16	1/8	3/8	0	0	0	0
Girder C	Def. due to remaining D.L.	1/4	3/8	3/16	-1/16	-1/8	-1/8	1/16	1/8	1 1/16	2 1/4	3 1/16	2 3/16	3/8	2 3/8	2 1/2	-1/4	-1/4
	Adjustment reqd. for V.C.	-1/16	-3/16	-3/16	3/4	1/16	3/8	1 5/8	2 1/4	3 1/16	5 1/2	4 3/8	3 1/16	1/4	3/8	0	1/4	-1 3/8
	Required Shop Camber	-1/8	-3/16	-1/8	1 1/16	1/16	3/16	2 1/4	3 1/8	5 3/16	4 1/8	3 1/8	1/8	3/8	0	0	0	0

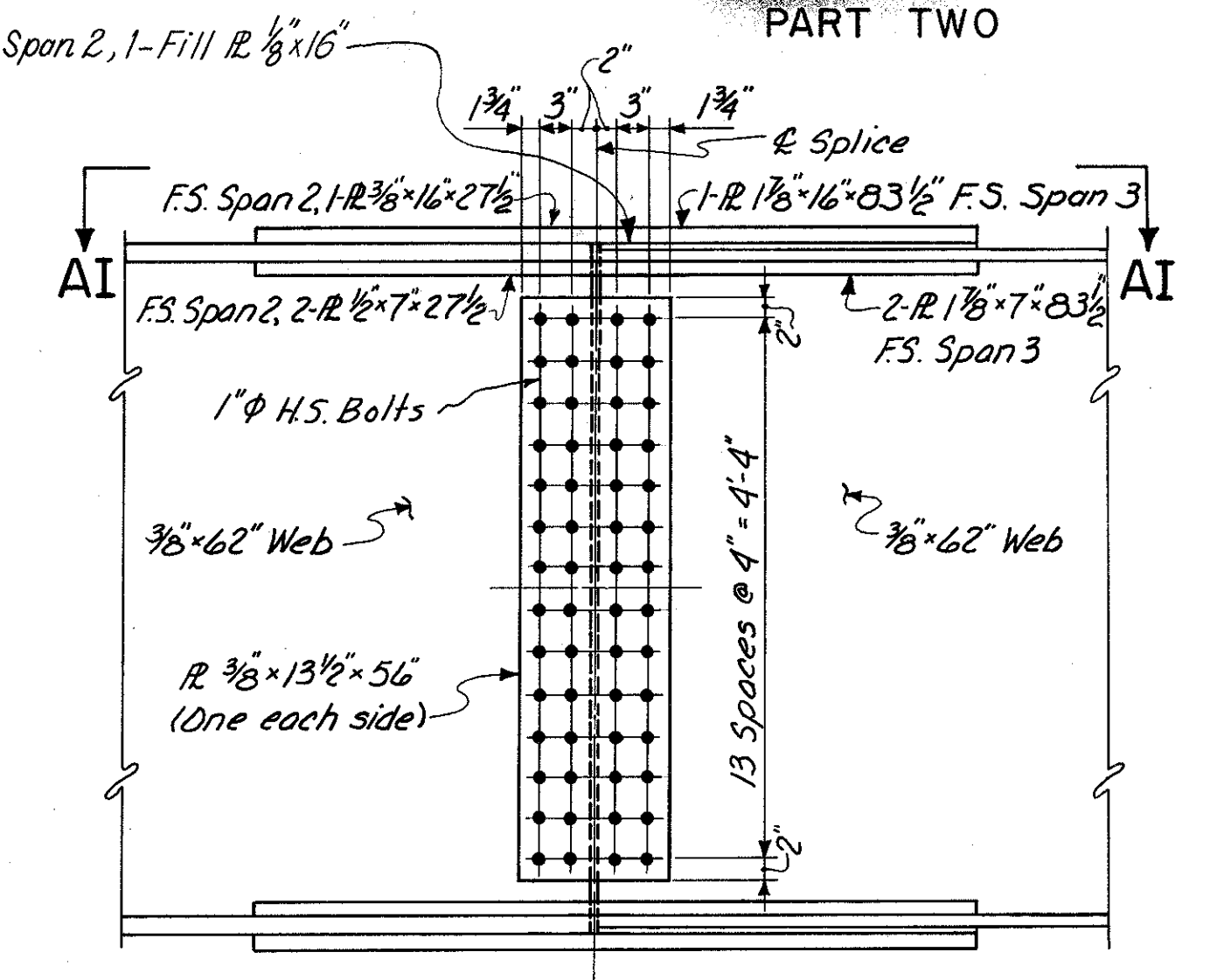
Note: Negative values are measured downward.

Y DIMENSIONS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Girder A					1 5/16					4 3/16							
Girder B					3 5/16					6 15/16							
Girder C					4 5/8					9 1/4							

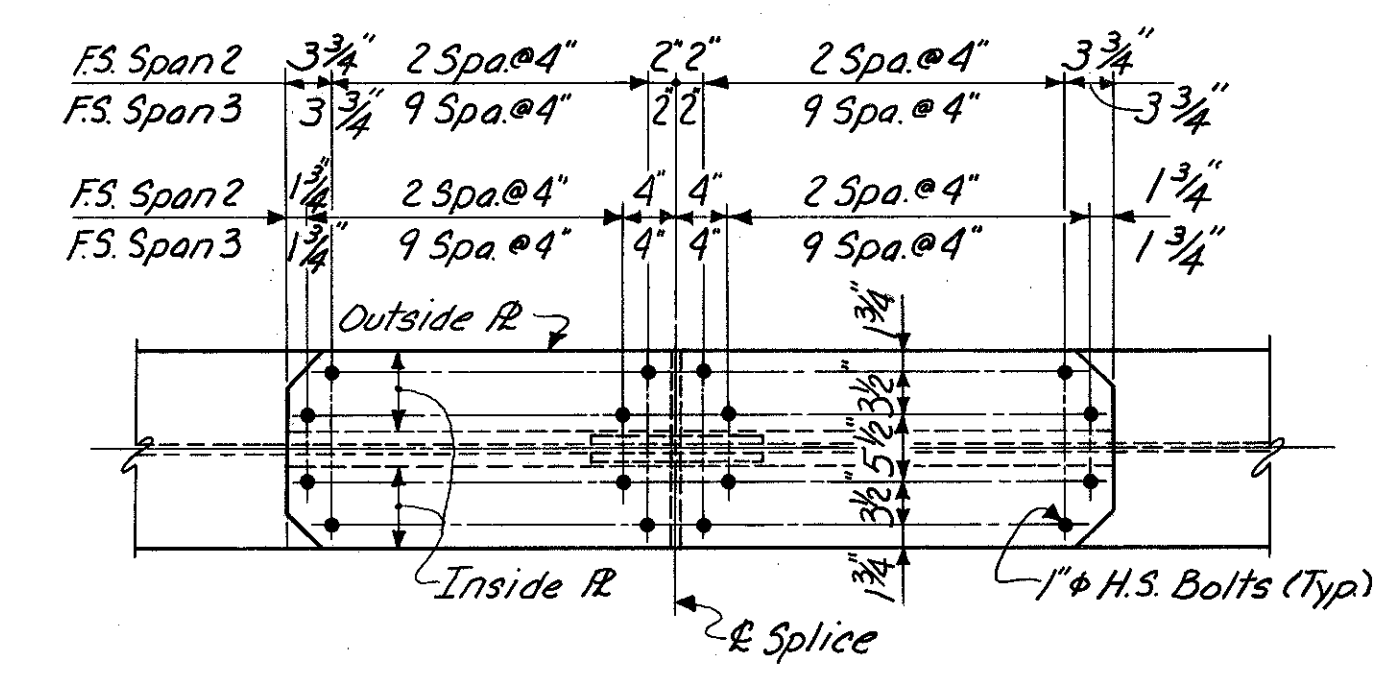


INTERMEDIATE CROSSFRAME, TYPE A

Note: Treatment of 3/8" x 6" R at Intermediate Crossframe, Type A connections only.

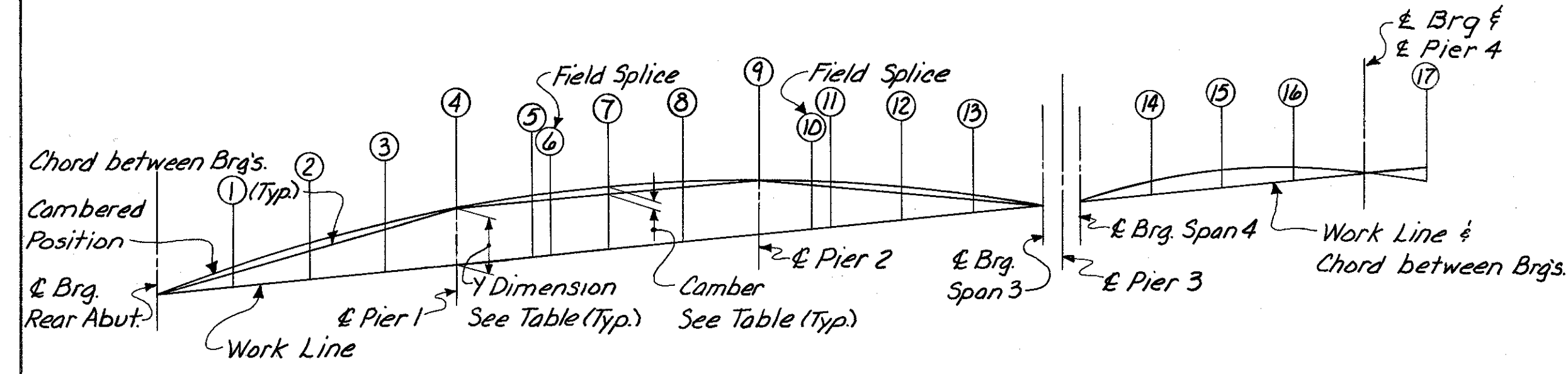


FIELD SPLICE

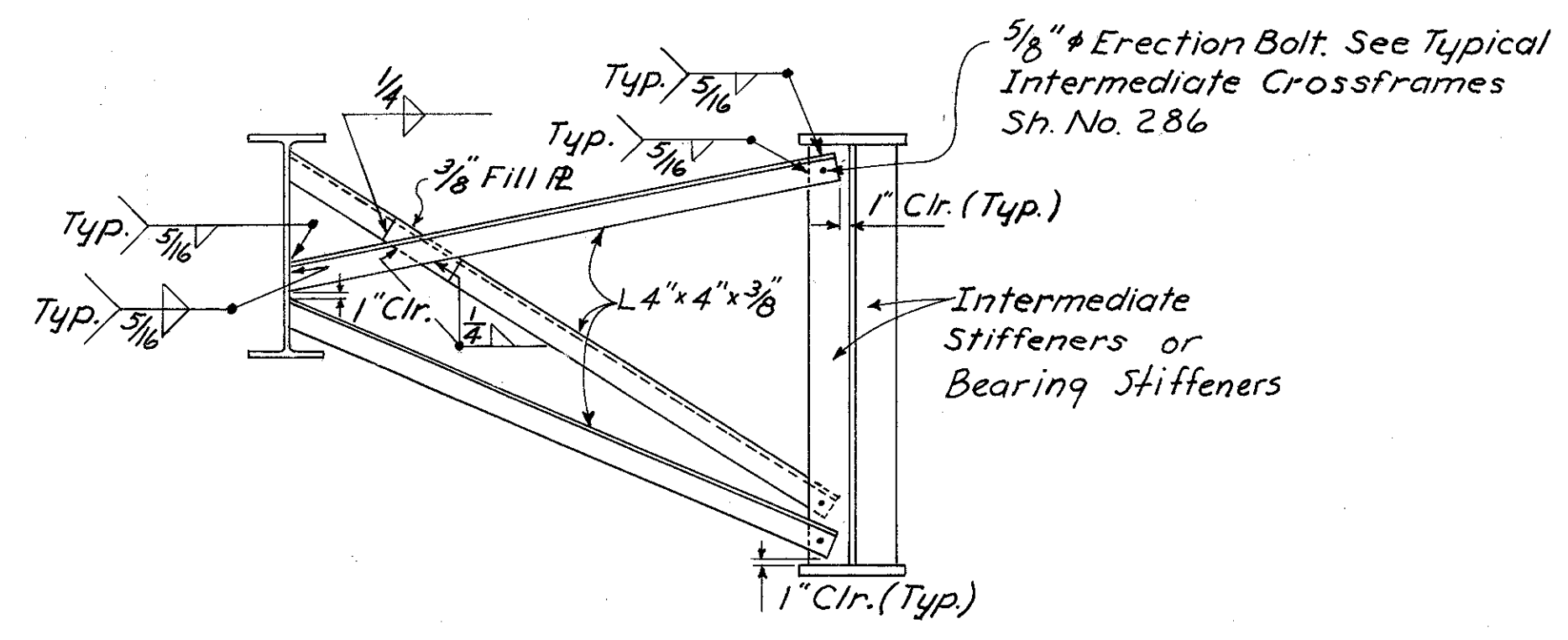


SECTION AI-AI

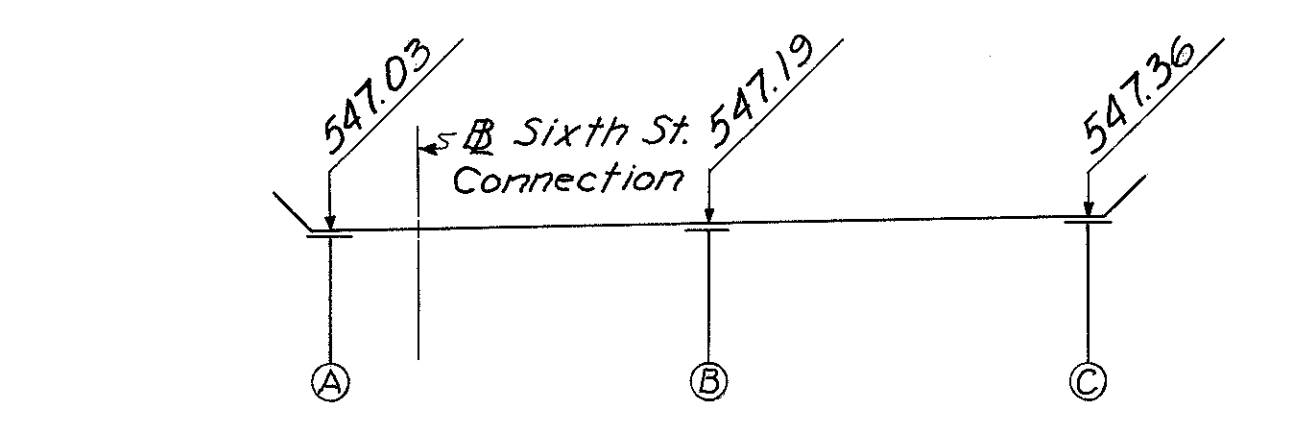
Note: Top & Bottom Splice Material is identical. Contact surface of splice shall be free from all oil and/or paint



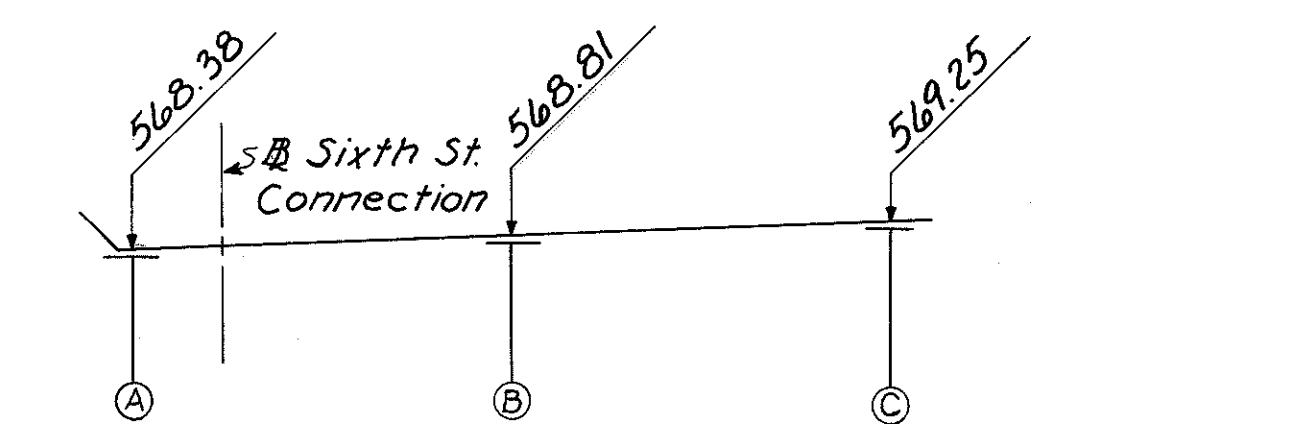
CAMBER DIAGRAM



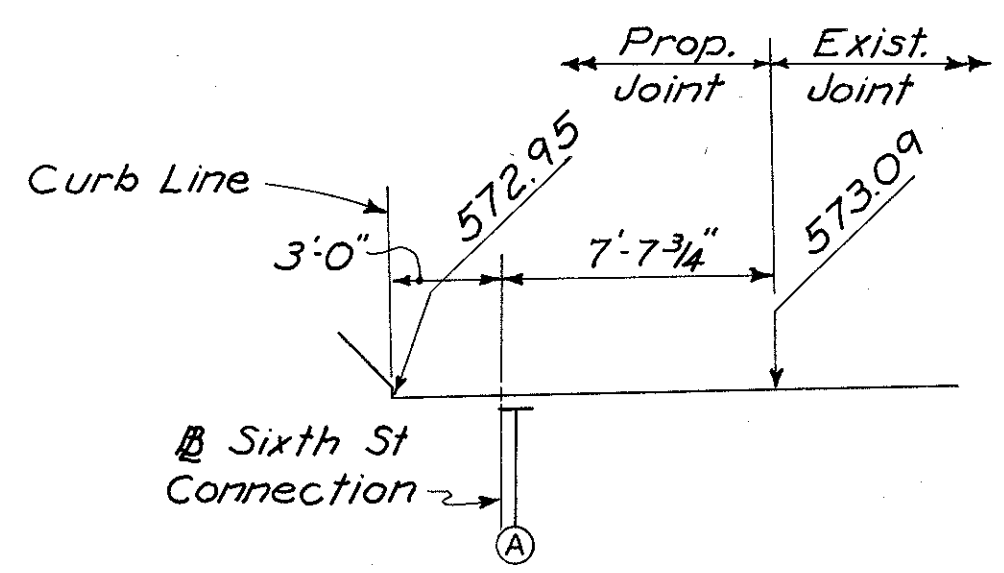
SPECIAL CROSSFRAME



EXPANSION JOINT CROSS SECTION (Rear Abutment)



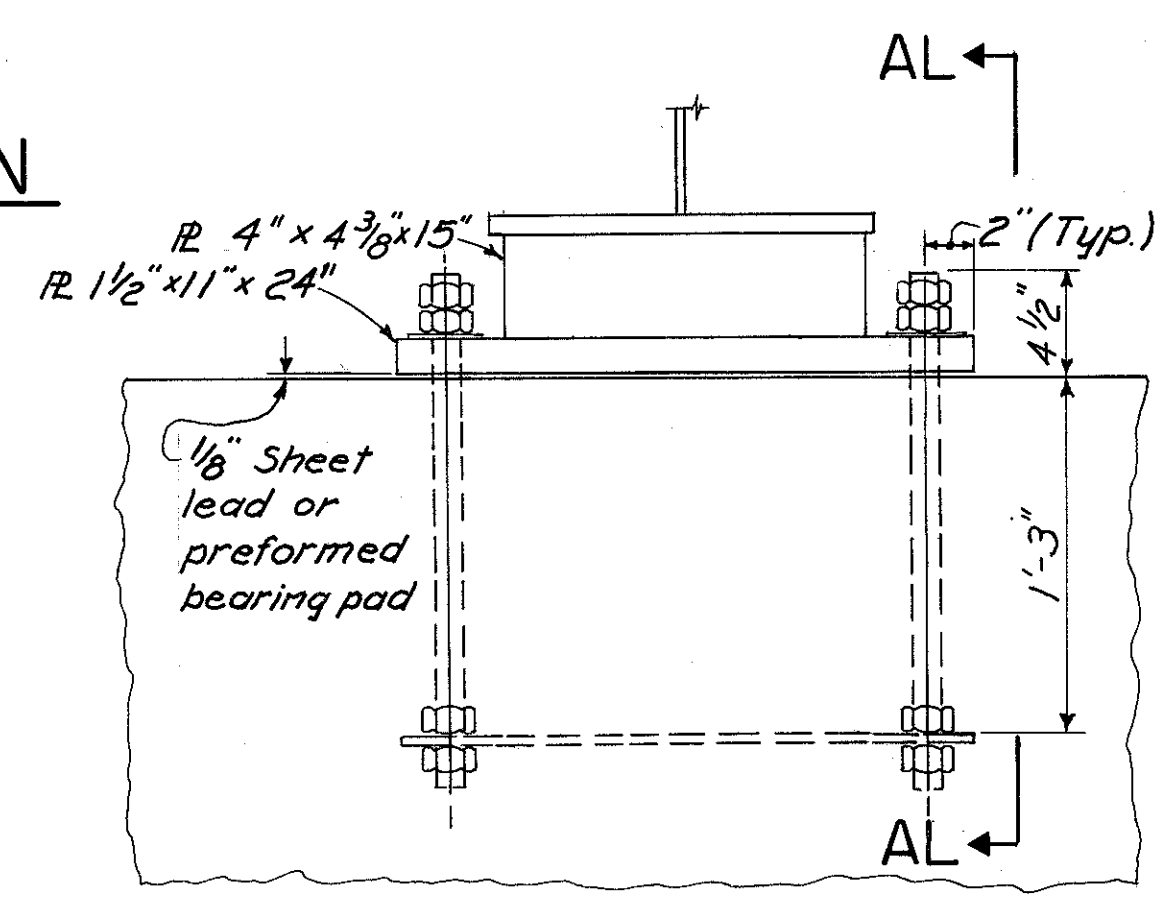
EXPANSION JOINT CROSS SECTION (Pier 3)



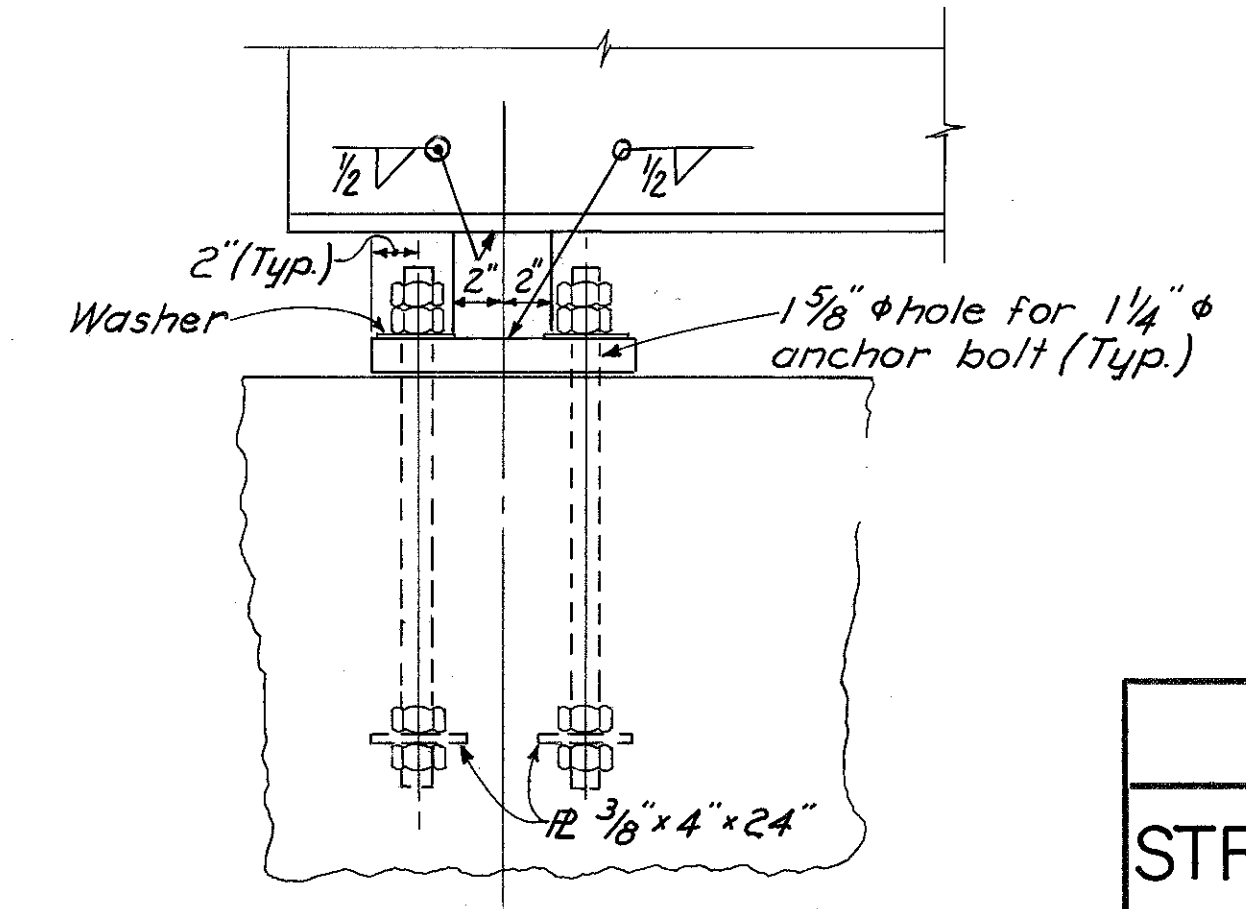
EXPANSION JOINT CROSS SECTION (Pier 12, Columbia Ave. Viaduct.)

Notes: Elevations of Expansion Joint at Rear Abutment are given at the intersection of the centerline of girder and front face of backwall.
Elevations of Expansion Joint at Pier 3 are given at the intersection of the centerline of girder and the centerline of pier.
For typical sections through end dam at Rear Abutment and other details, see Std. Dwg. SD-1-69, Sh. 1 of 4.

Elevations of Expansion Joint at Pier 12, Columbia Ave. Viaduct are given on the centerline of the joint. For details, see Sh. 287.
Revise location of 1/2" x 2" x 18" anchor bars as shown on Std. Dwg. SD-1-69, Section A-A Sh. 1 from 3" as shown to 3 3/8" clear.

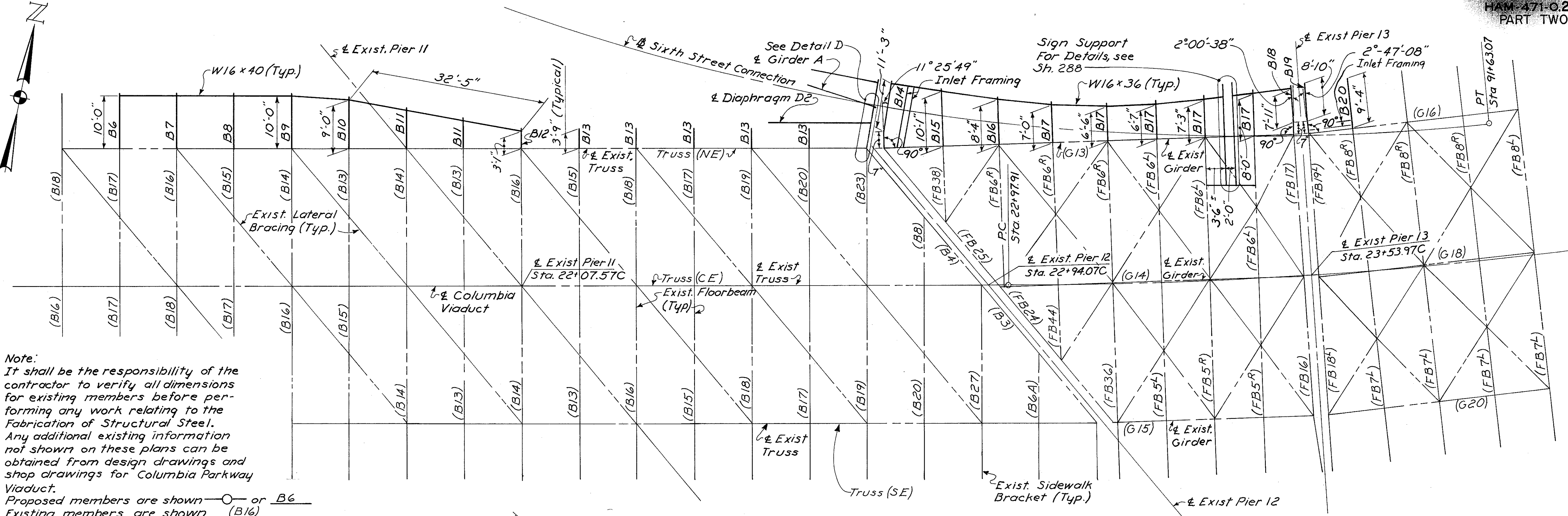


BEARING DETAIL AT PIER 3 (Girder C, Span 4)

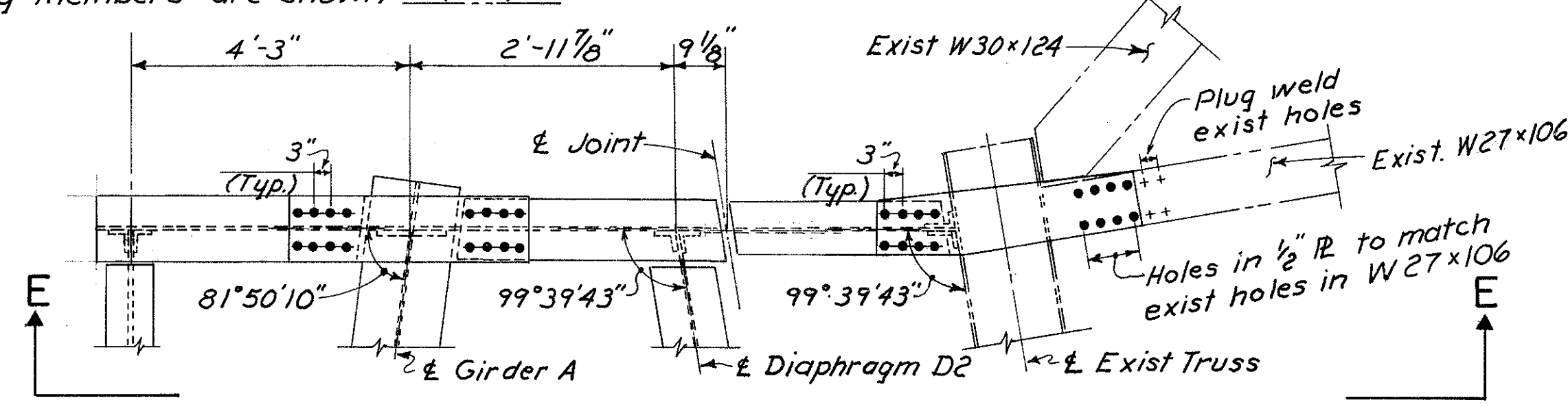


SECTION AL-AL

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					15/41
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-					
RELOCATED SIXTH STREET					
OFF COLUMBIA VIADUCT					
H&E BRIDGE NO.7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ROH	GCK	RJF	ROH	JHO 3-24-82	

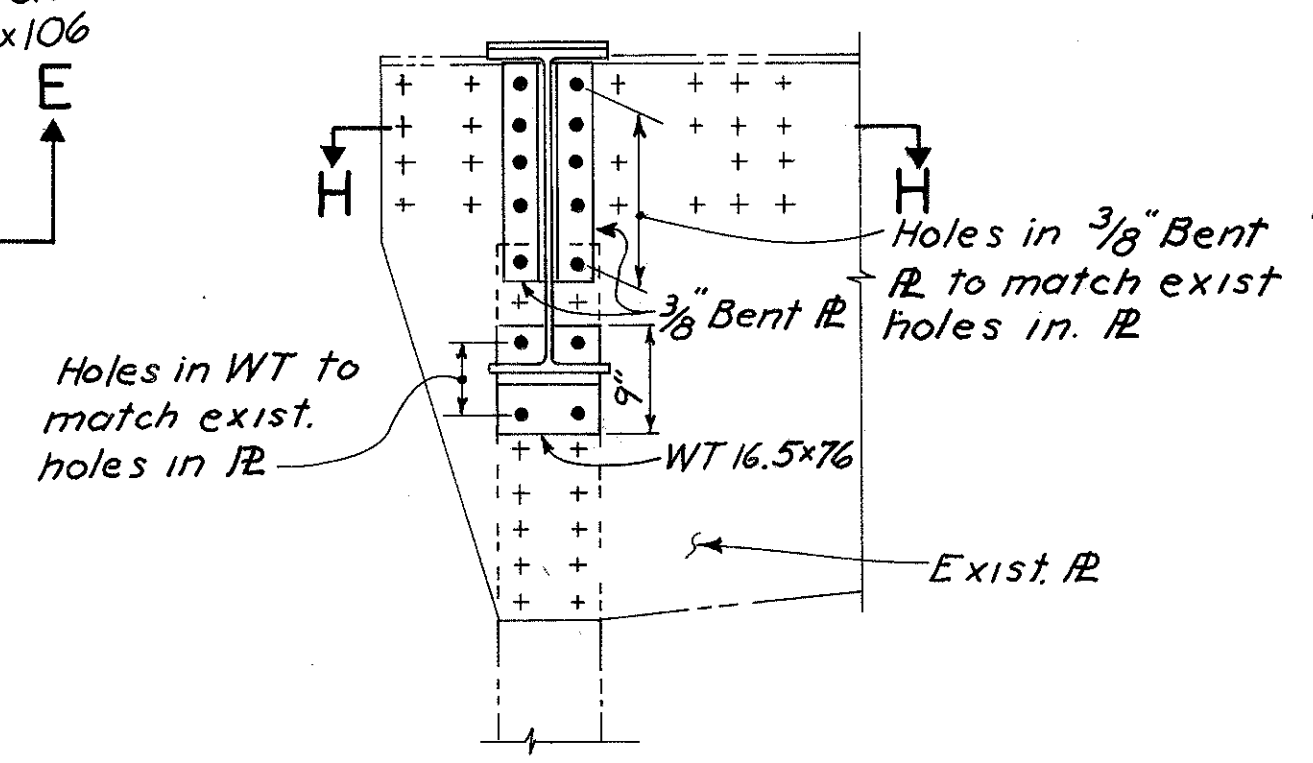


Note:
It shall be the responsibility of the contractor to verify all dimensions for existing members before performing any work relating to the fabrication of Structural Steel. Any additional existing information not shown on these plans can be obtained from design drawings and shop drawings for Columbia Parkway Viaduct.
Proposed members are shown \bigcirc or B6
Existing members are shown (B16)

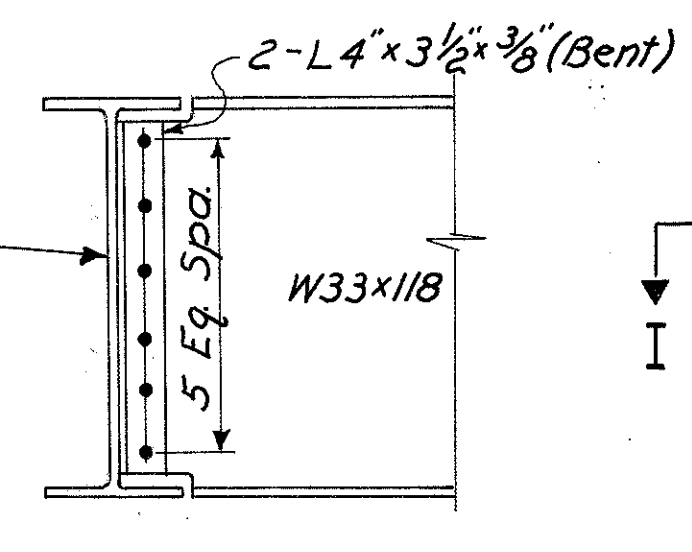


DETAIL D

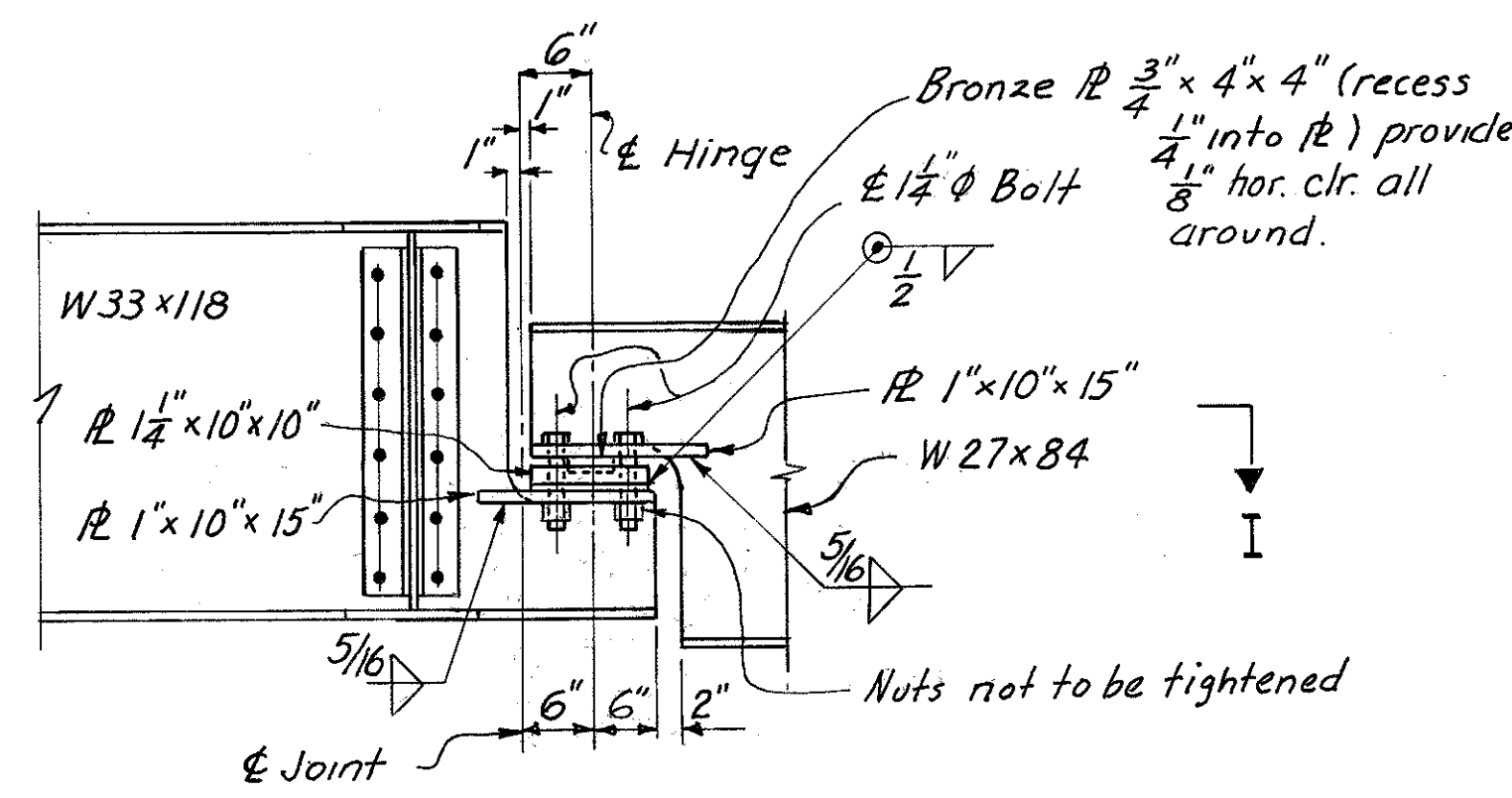
FRAMING PLAN



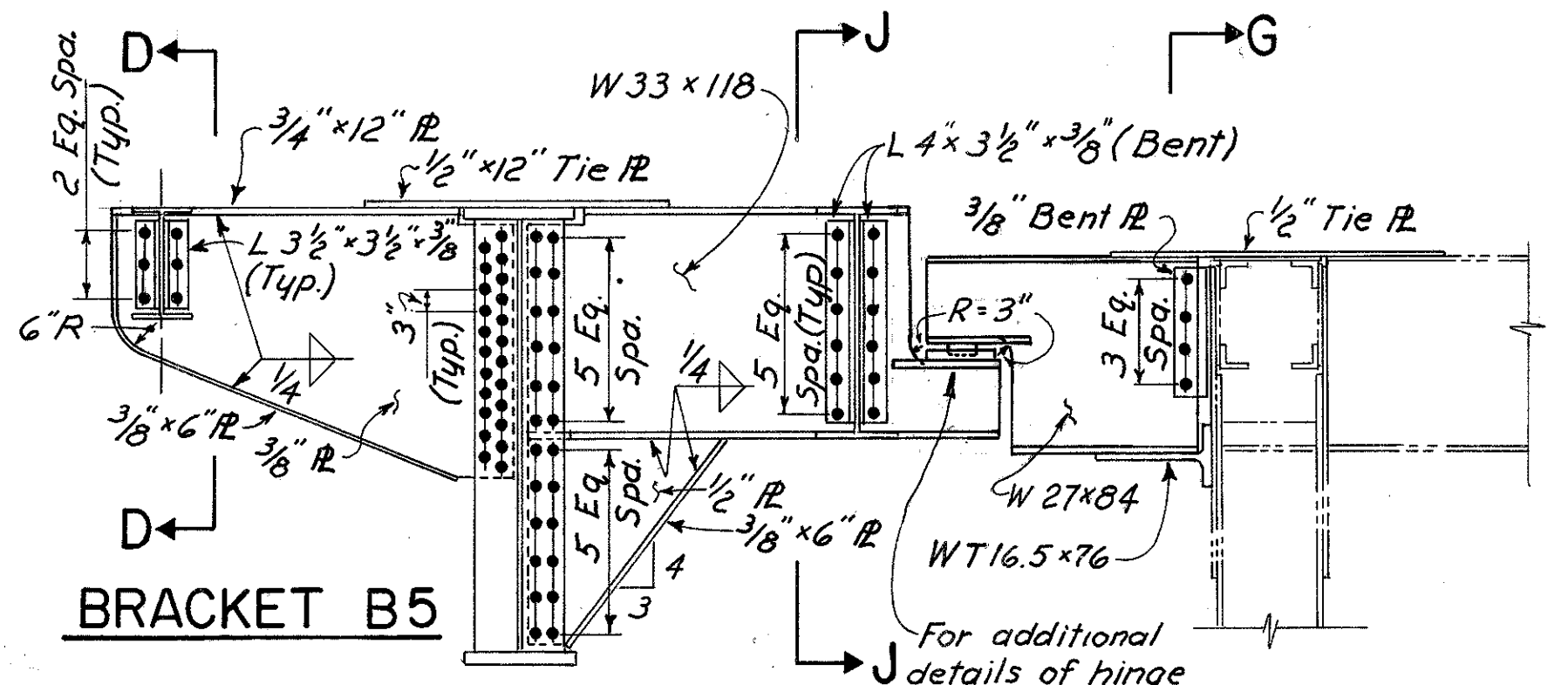
SECTION G-G



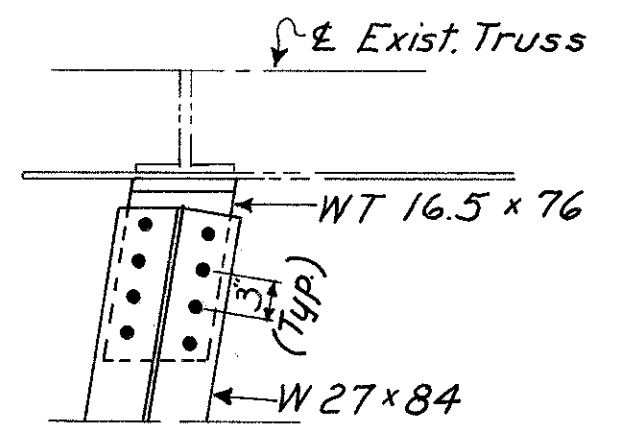
SECTION J-J



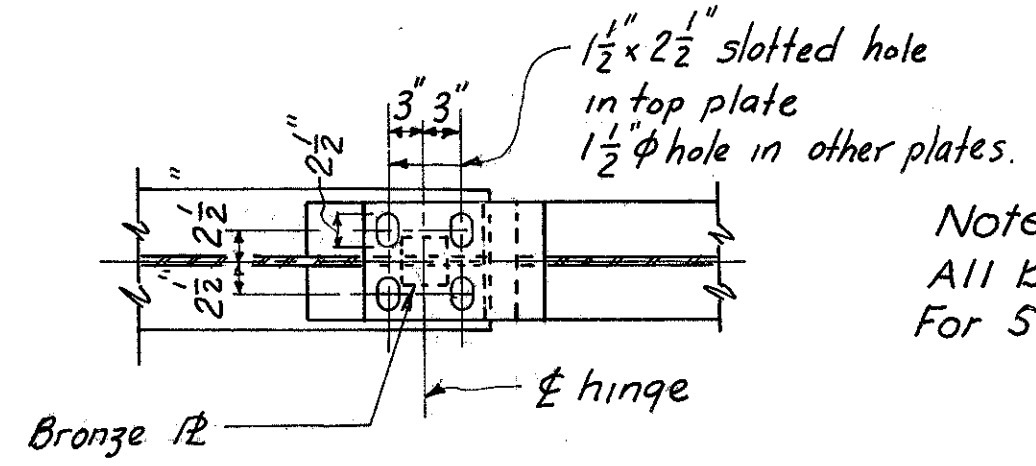
HINGE DETAIL



SECTION E-E



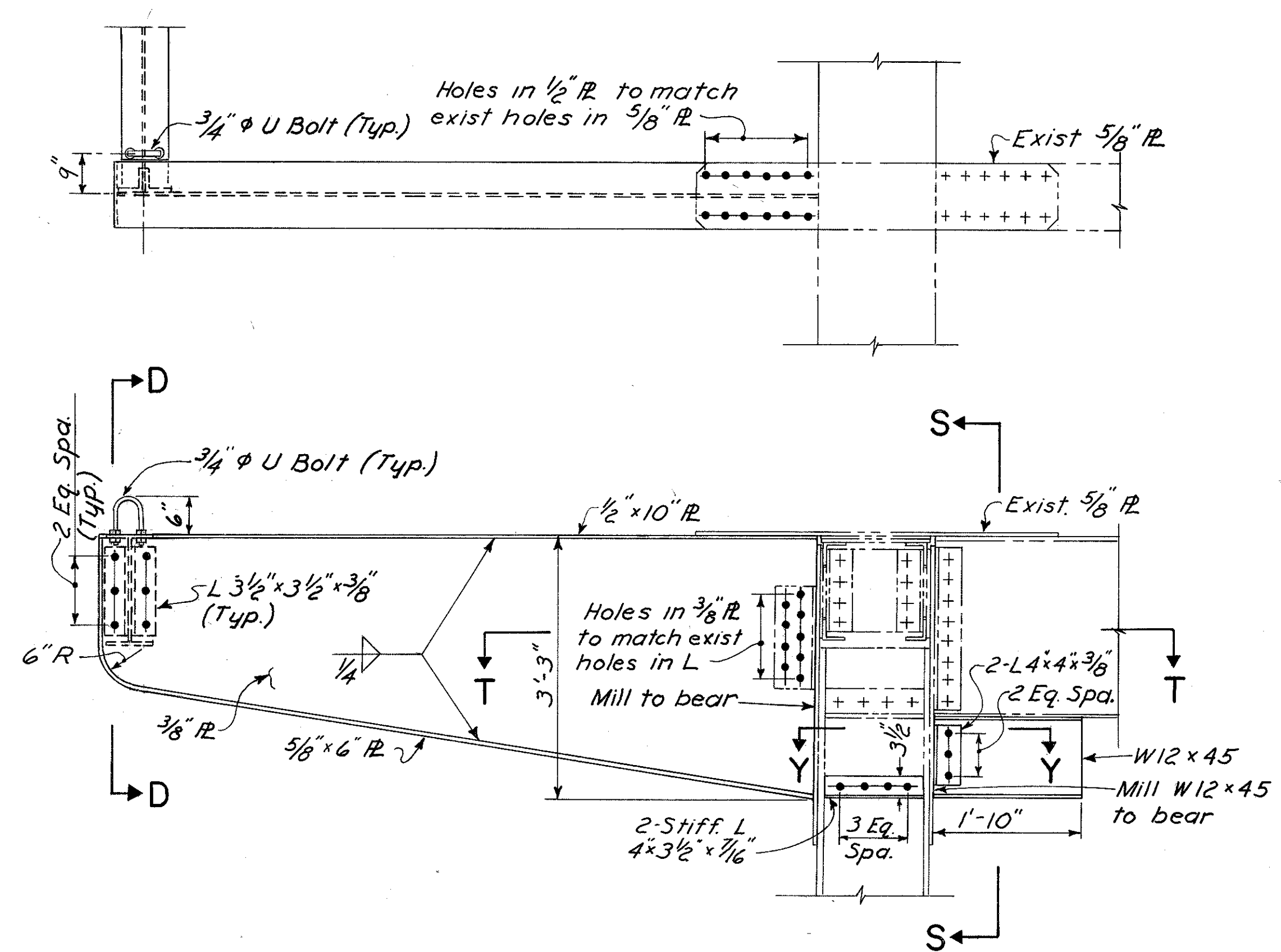
SECTION H-H



SECTION I-I

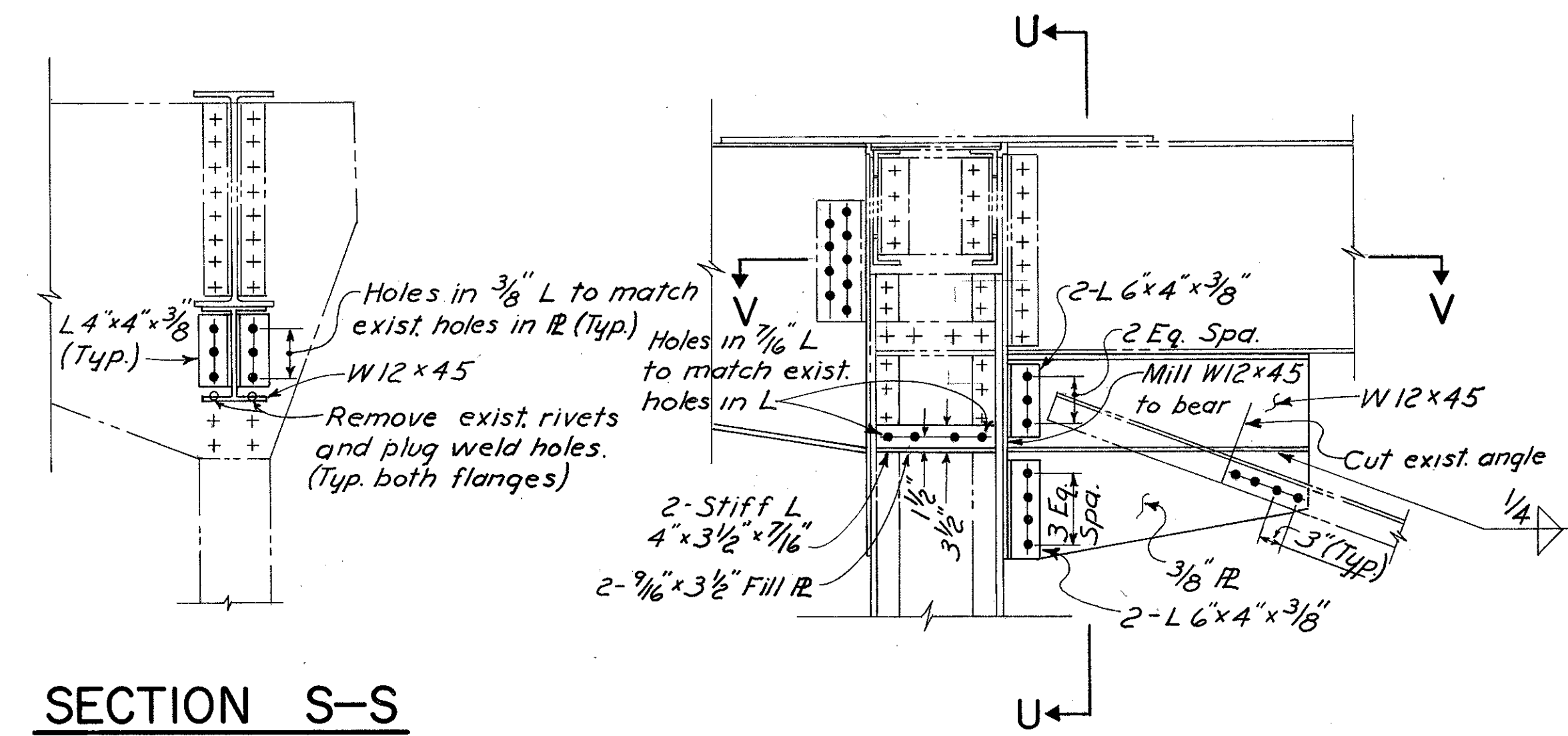
Notes:
All bolts are 7/8" H.S. Bolts.
For Section D-D see Sh. No. 280.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				16/41
STRUCTURAL STEEL DETAIL				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
H.L.L.	R.J.F.	R.J.F.	ROH	JH 3-24-32



BRACKET B6

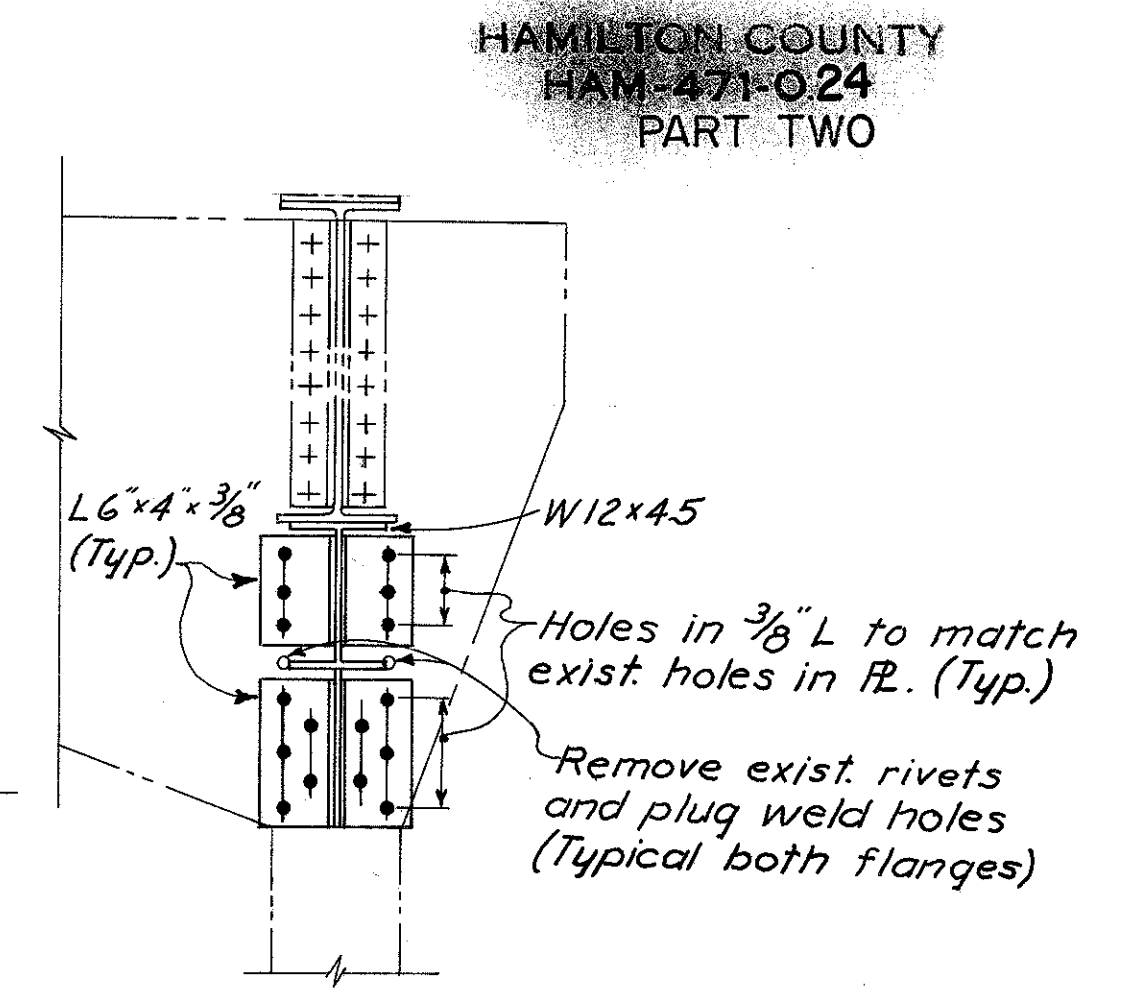
Note
For Section D-D see Sh. No. 280



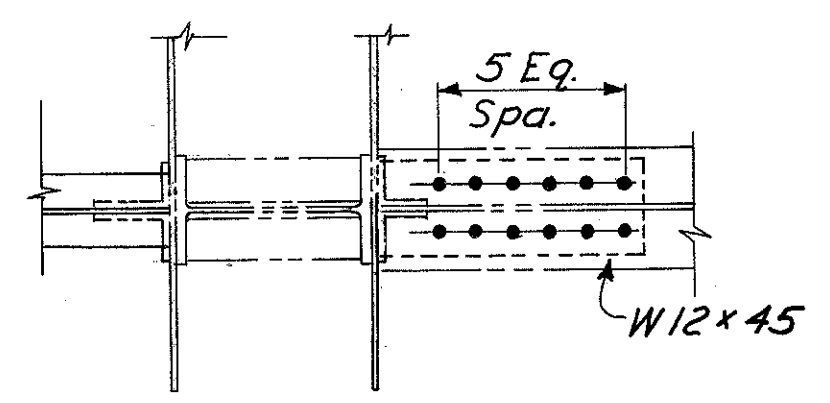
SECTION S-S

For details not shown see Bracket B6

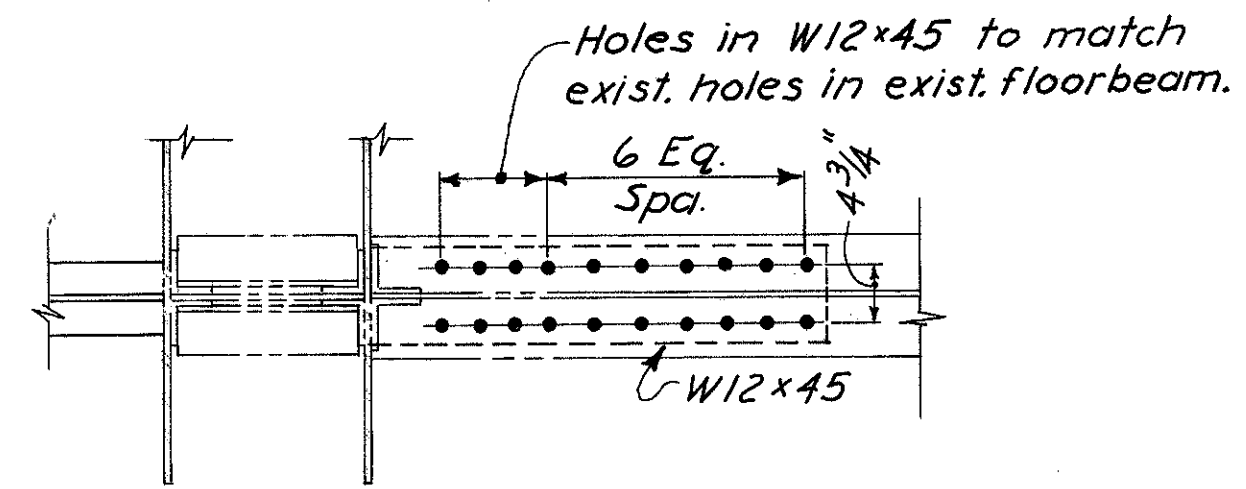
BRACKET B7



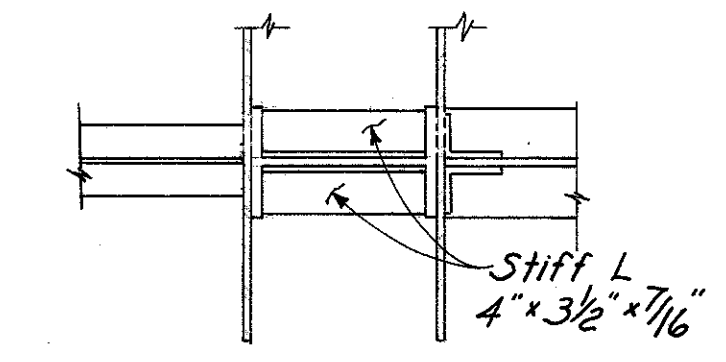
SECTION U-U



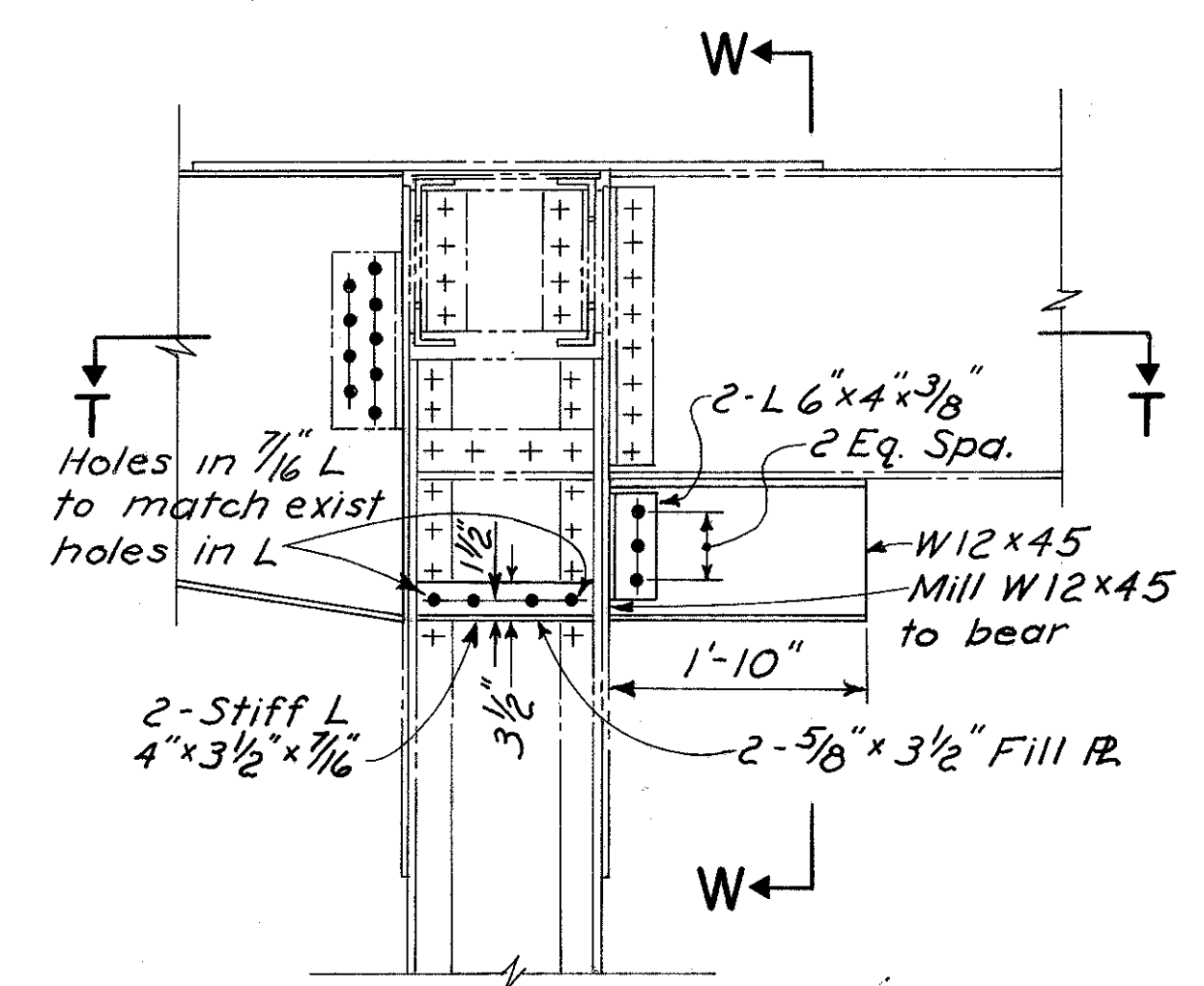
SECTION T-T



SECTION V-V

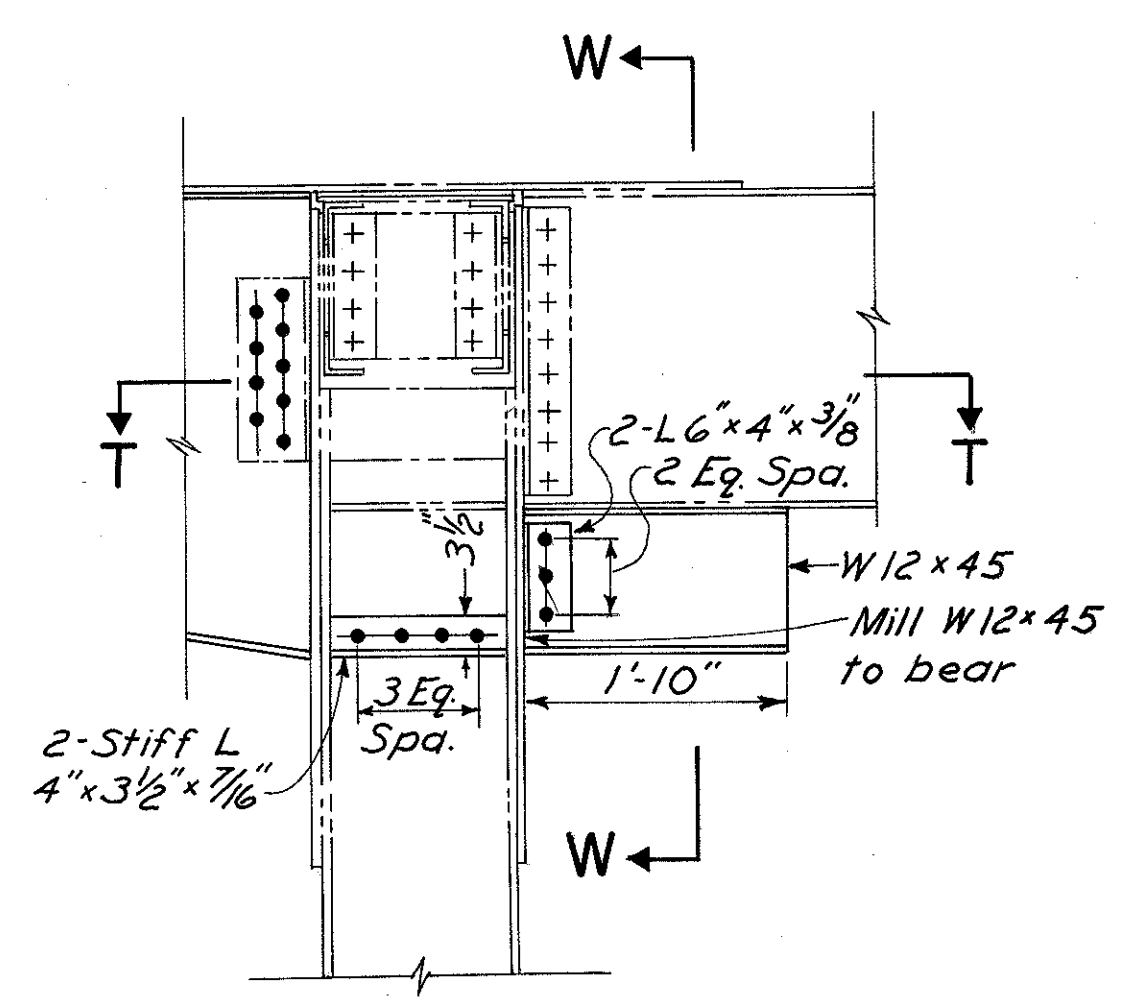


SECTION Y-Y
(Typical)



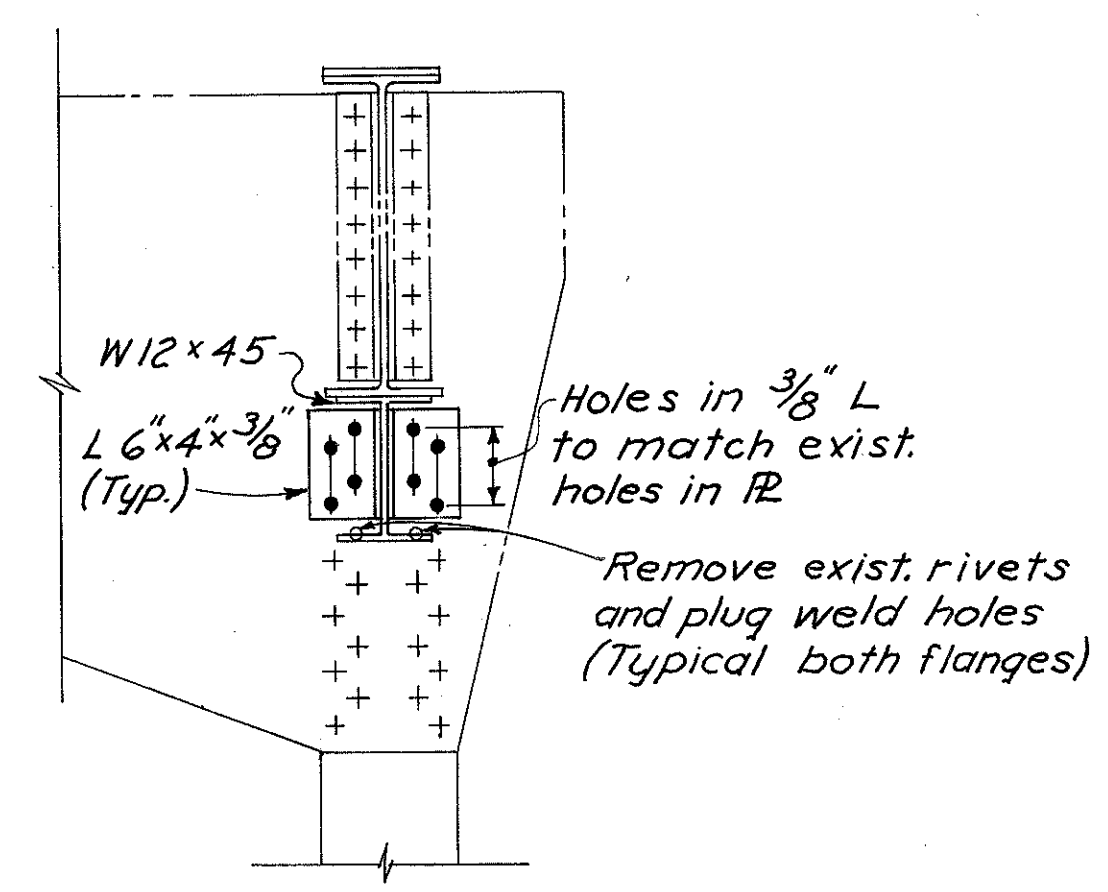
For details not shown see Bracket B6

BRACKET B10

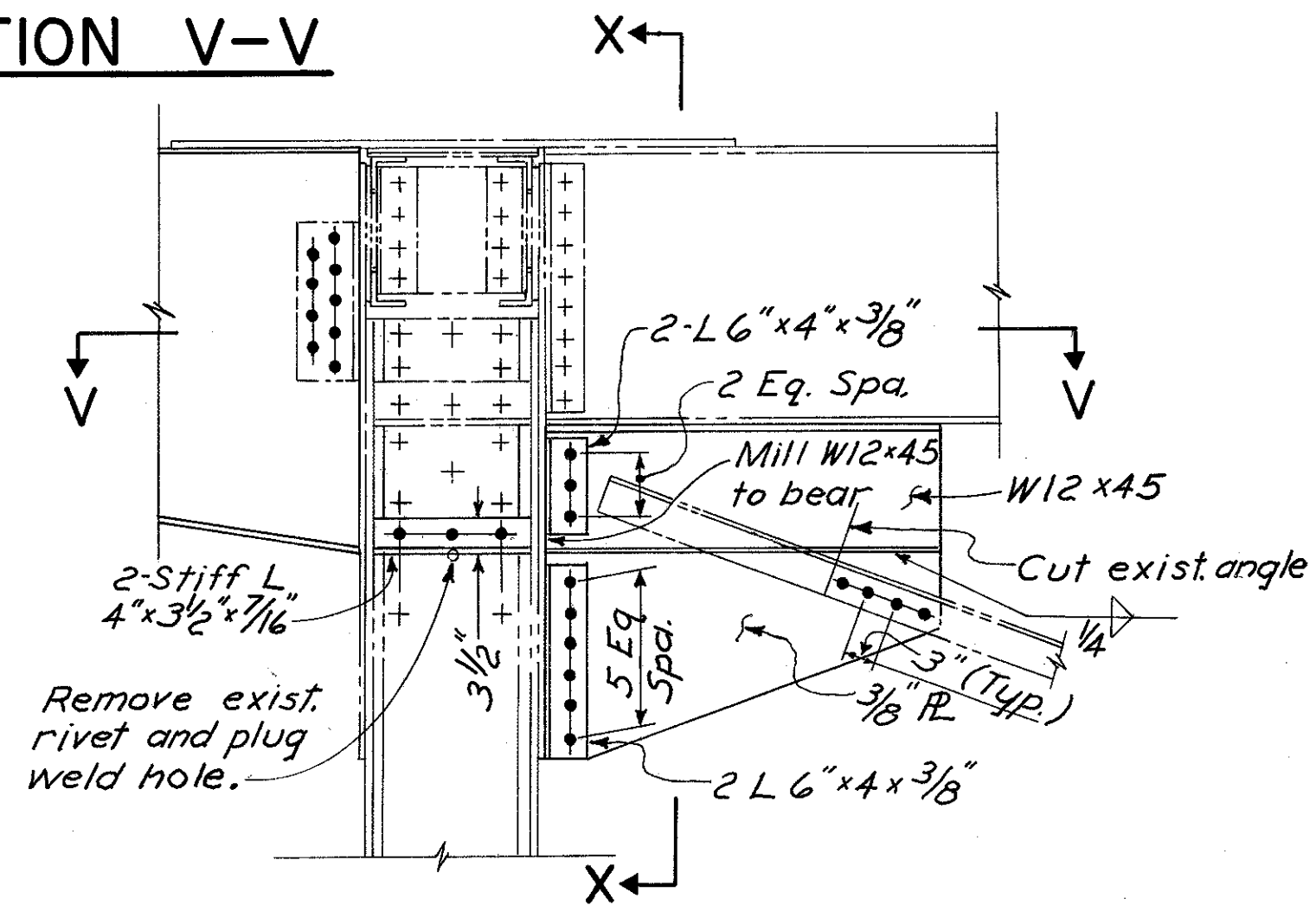


For details not shown see Bracket B6

BRACKET B8

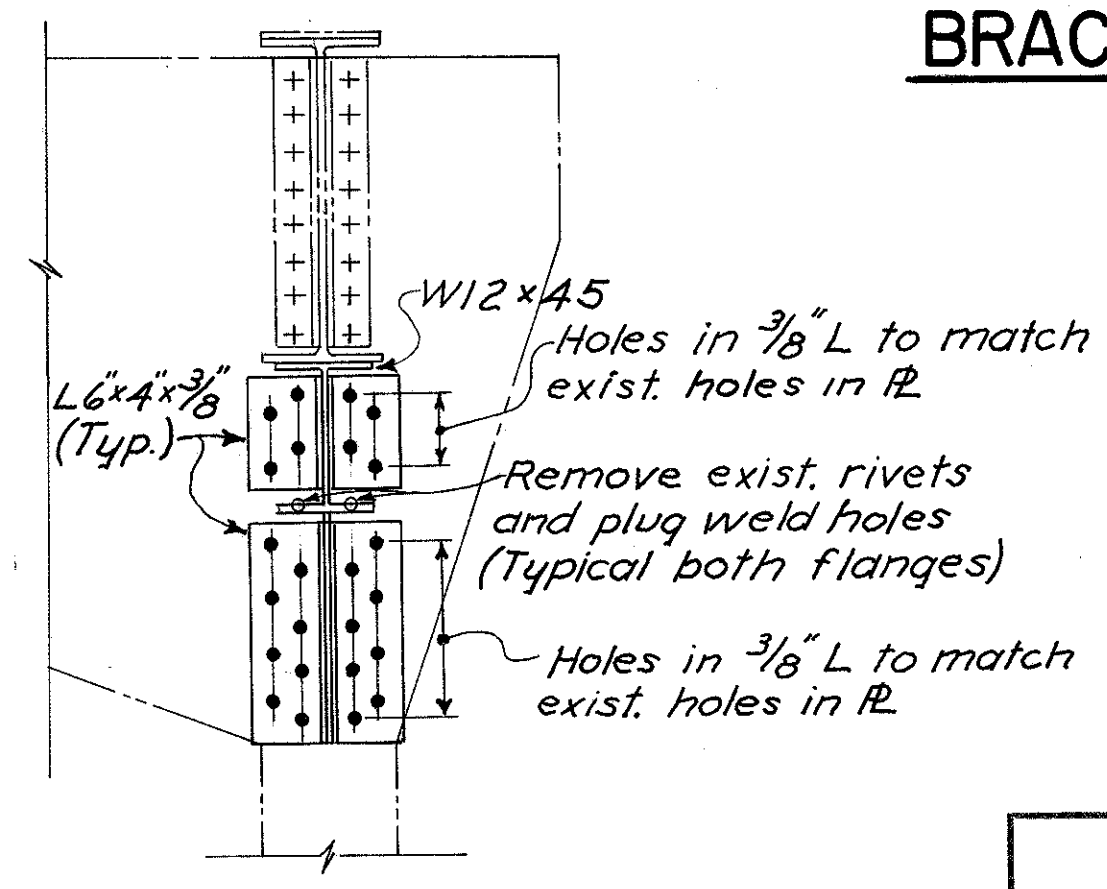


SECTION W-W



For details not shown see Bracket B6

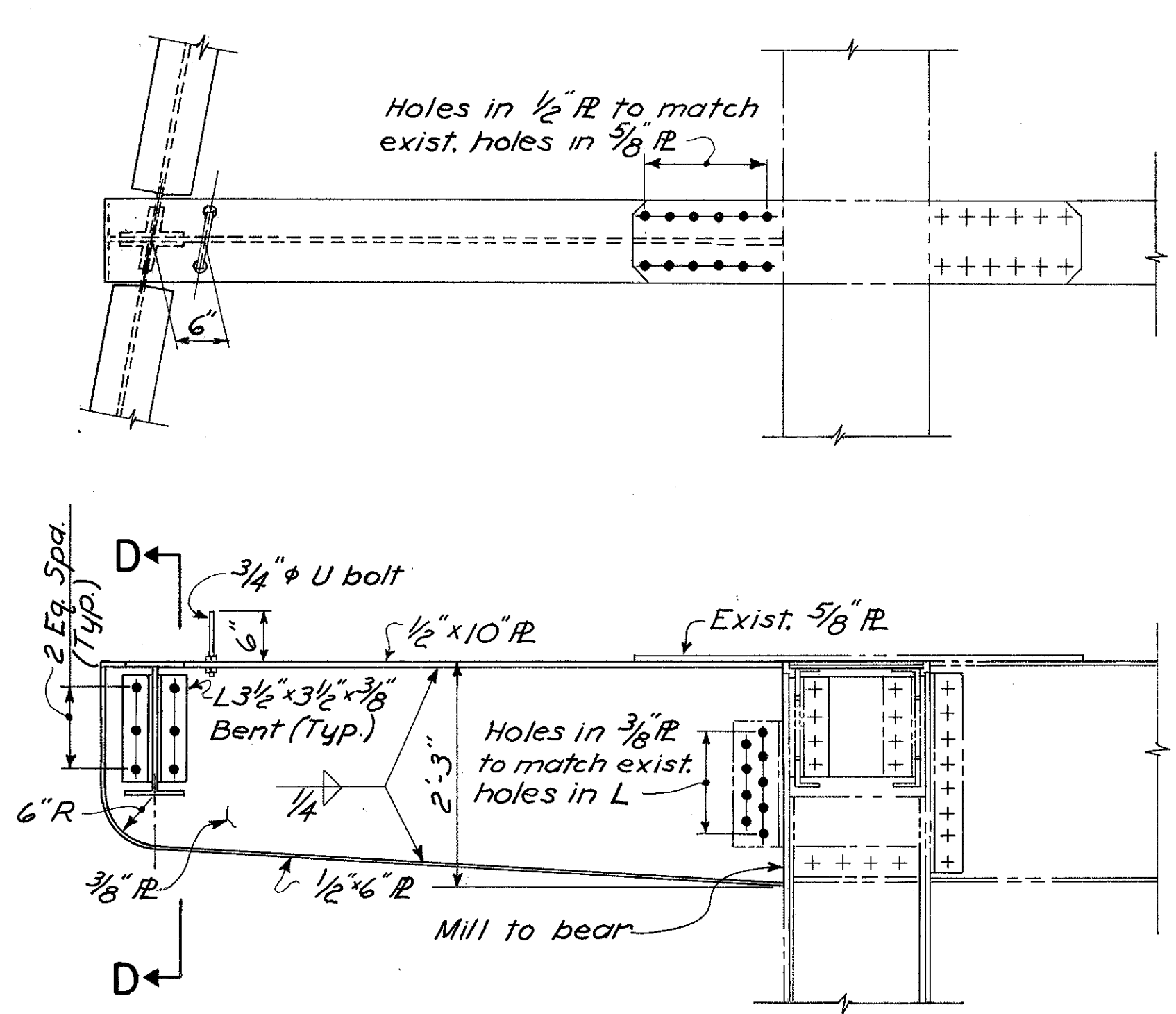
BRACKET B9



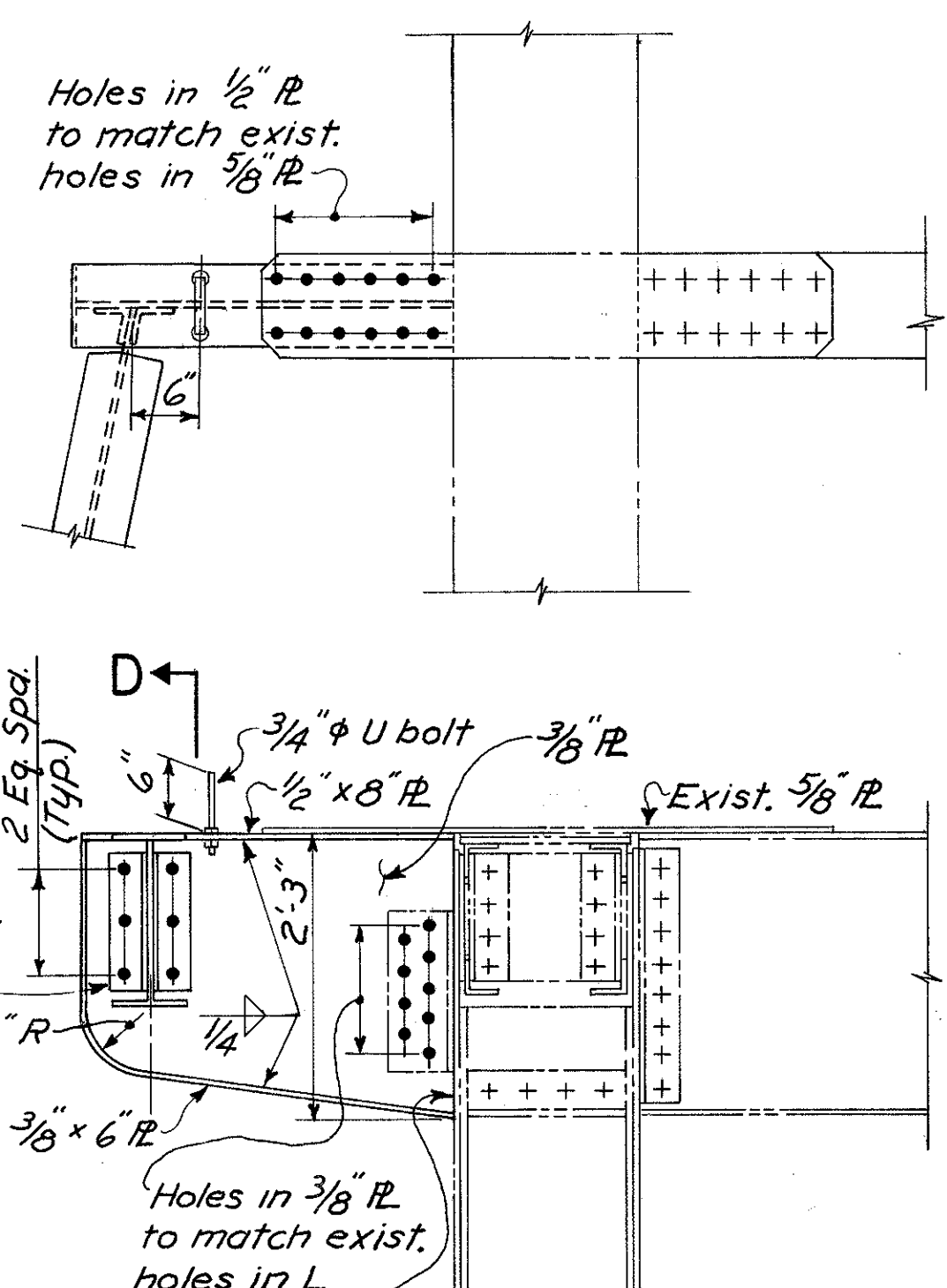
SECTION X-X

Note:
All bolts are $\frac{7}{8}$ " ϕ H.S. bolts.
All holes must be drilled undersize in shop in new material used to reinforce or otherwise attach to existing holes. Holes will be reamed or drilled in field to full size.

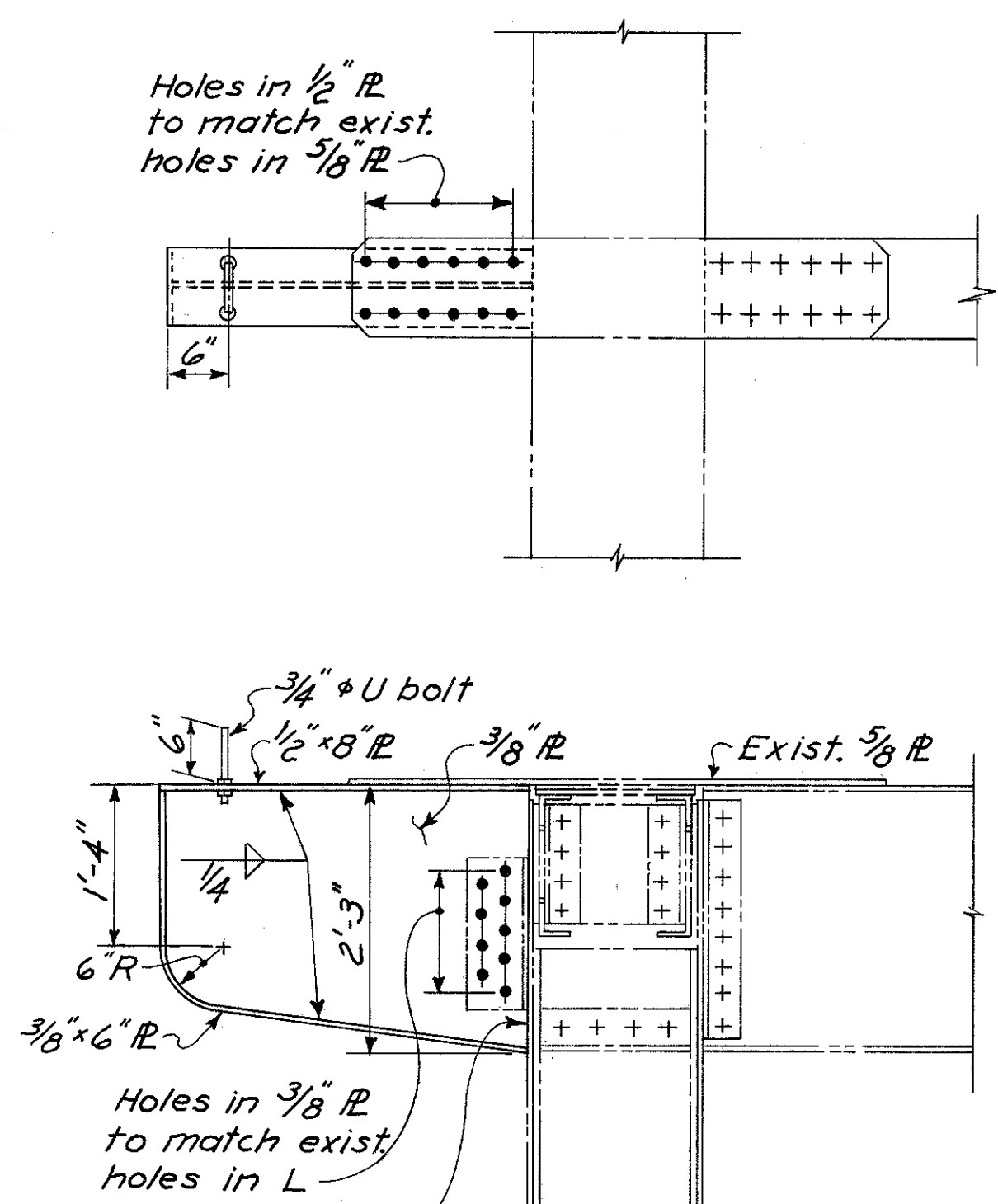
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					17/41
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT					
H&E BRIDGE NO.7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.L.L.	R.J.F.	R.J.F.	ROH	JH0 3-24-82	



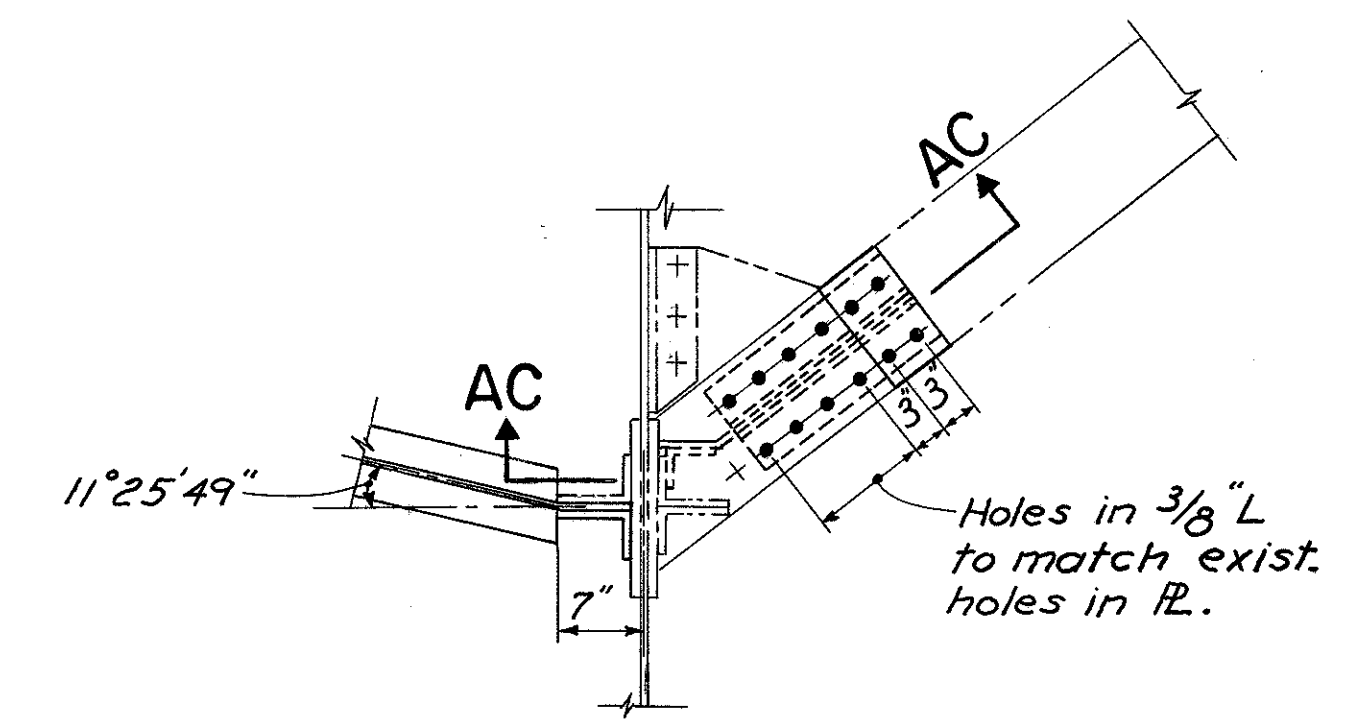
BRACKET B11



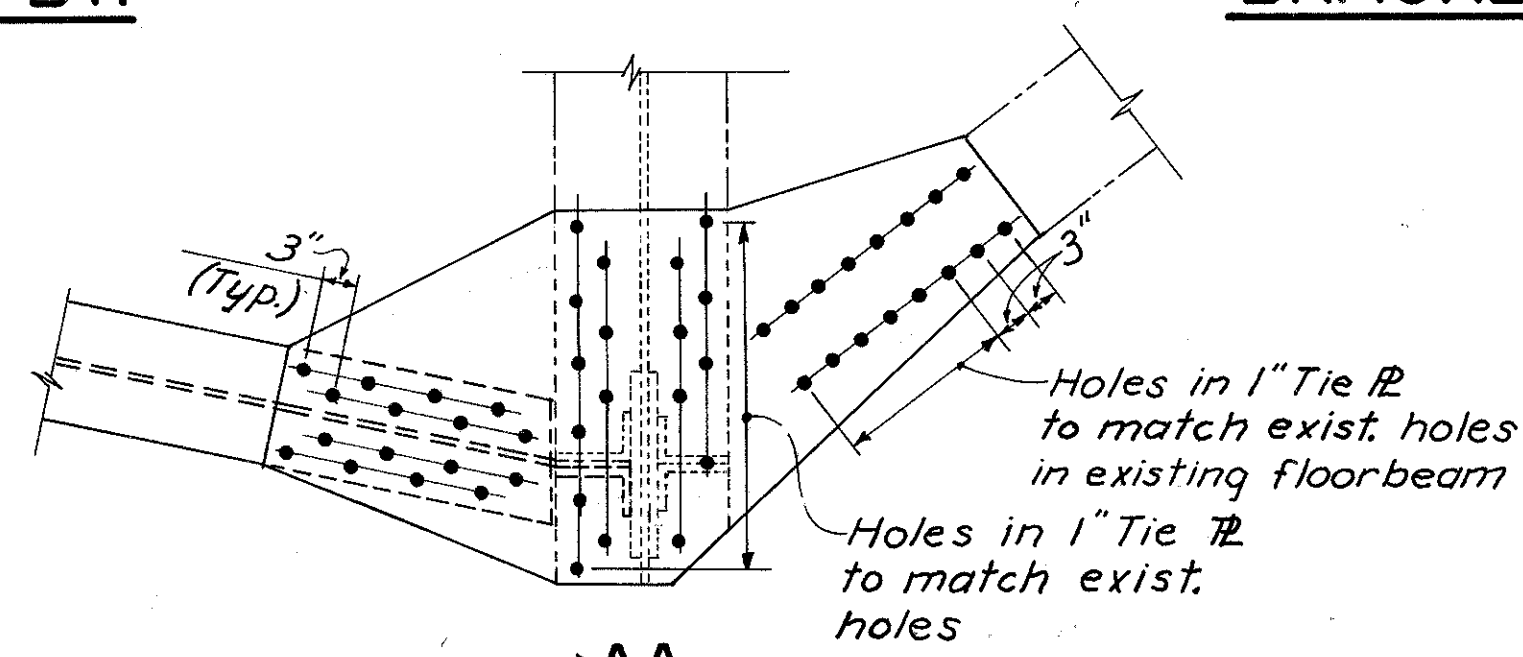
BRACKET B12



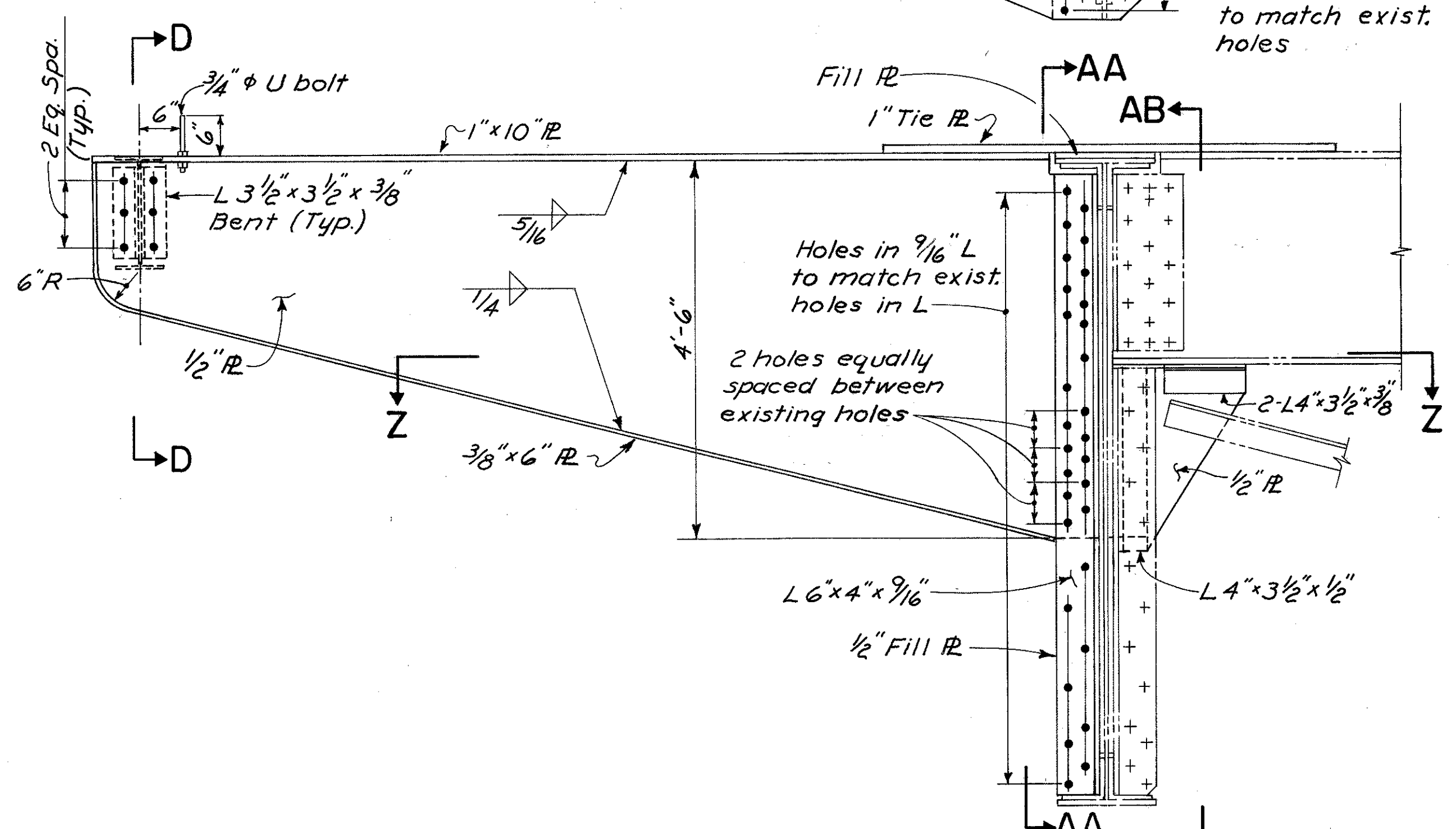
BRACKET B13



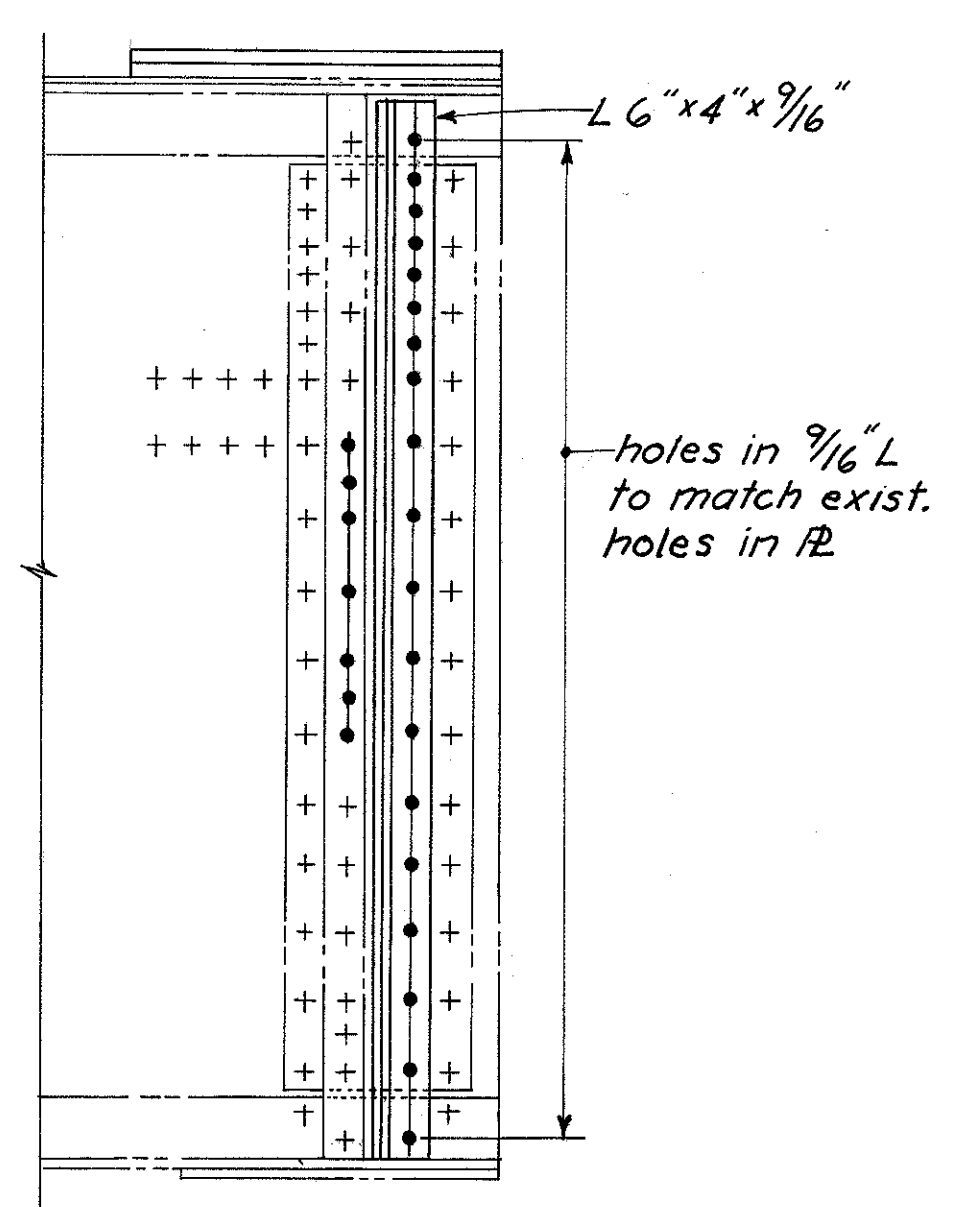
SECTION Z-Z



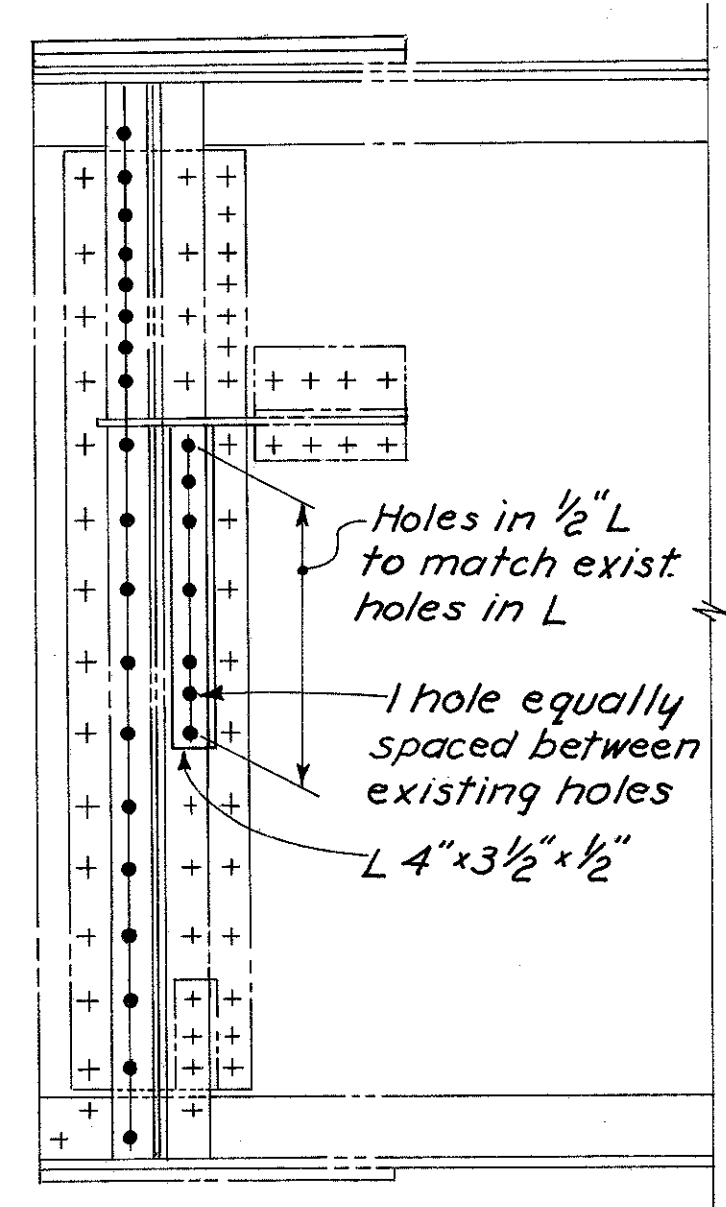
Note:
For Section D-D see Sh.No. 280



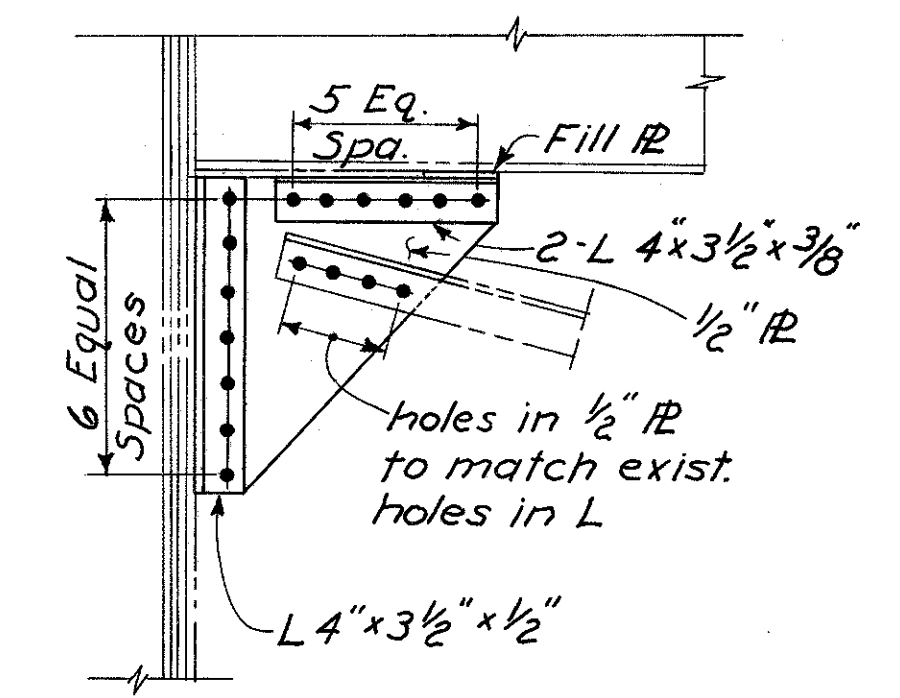
BRACKET B14



SECTION AA-AA



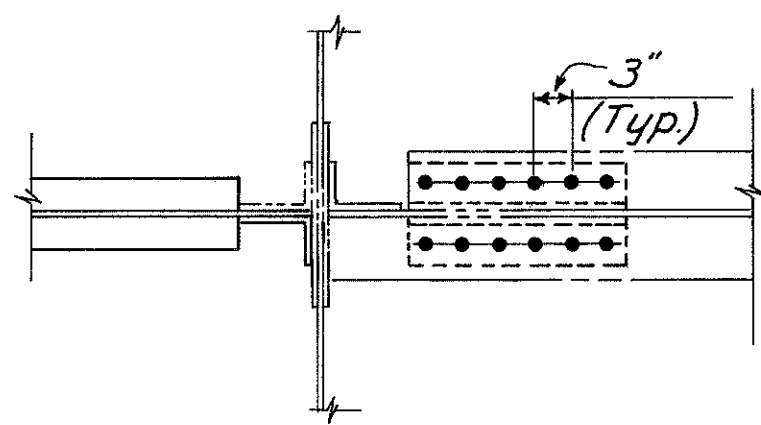
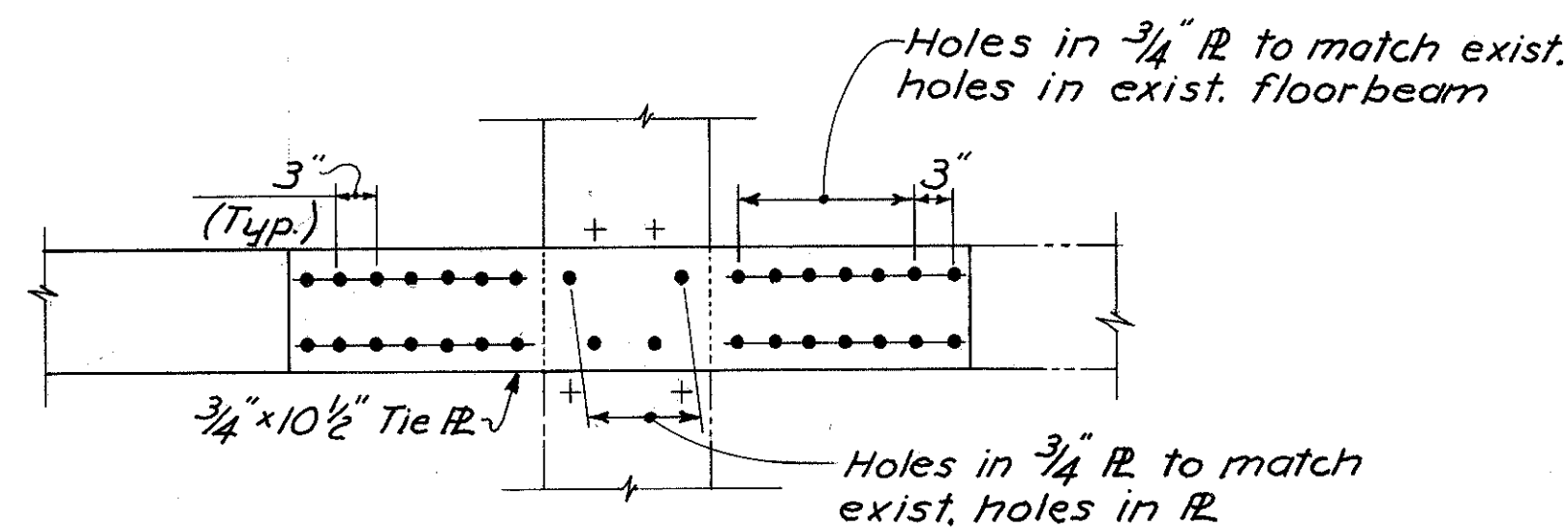
SECTION AB-AB



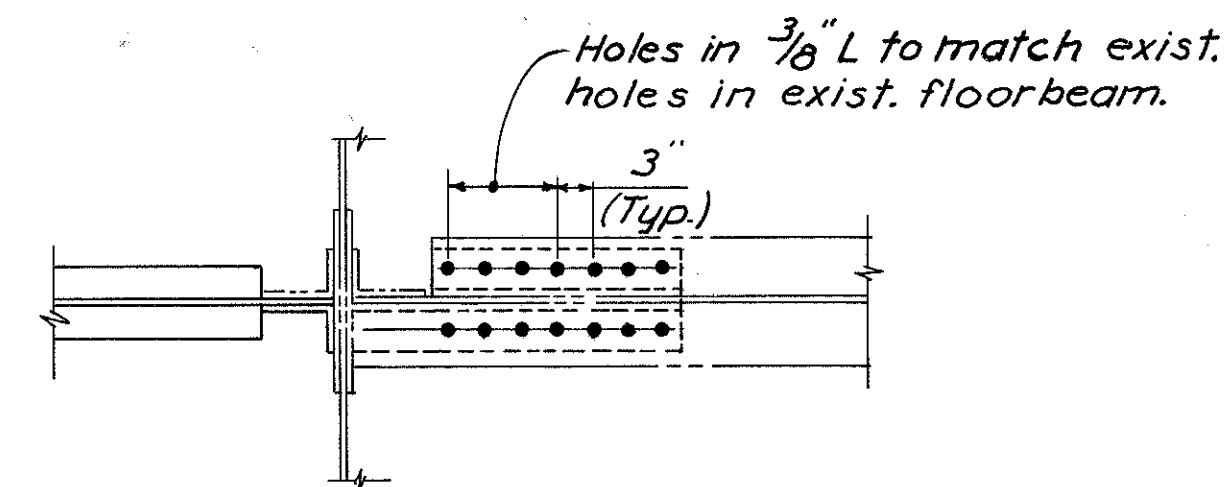
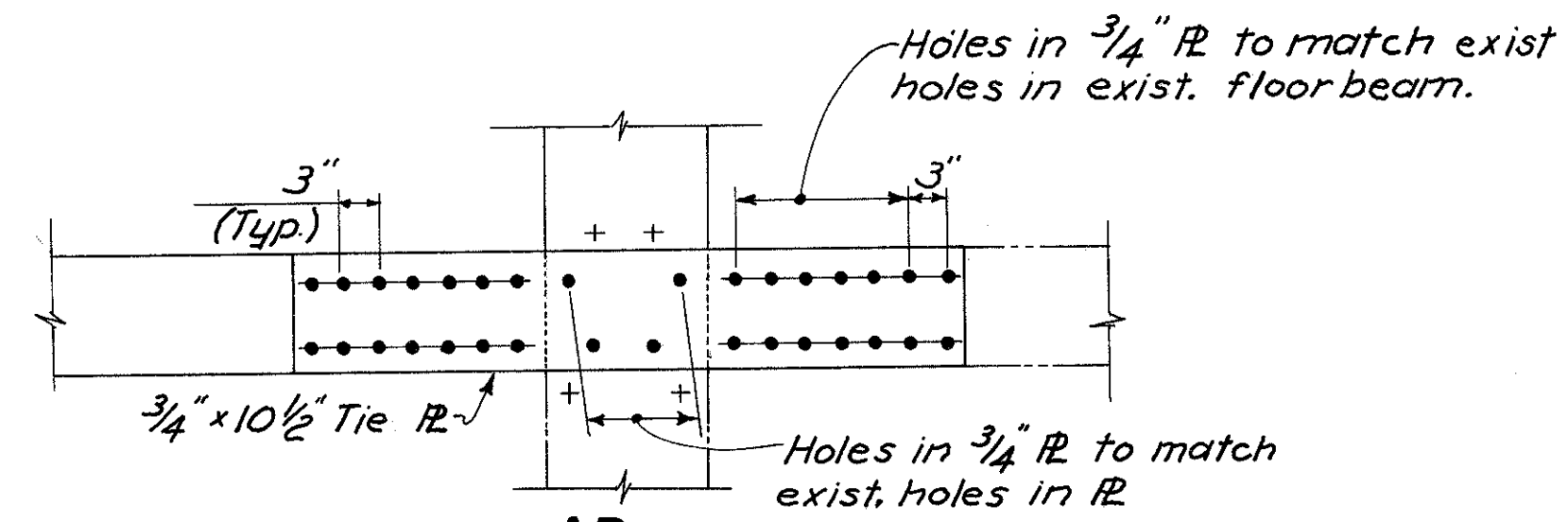
SECTION AC-AC

Note:
All bolts are 7/8" H.S. Bolts.
All holes must be drilled undersize in shop in new material used to reinforce or otherwise attach to existing holes. Holes will be reamed or drilled in field to full size.

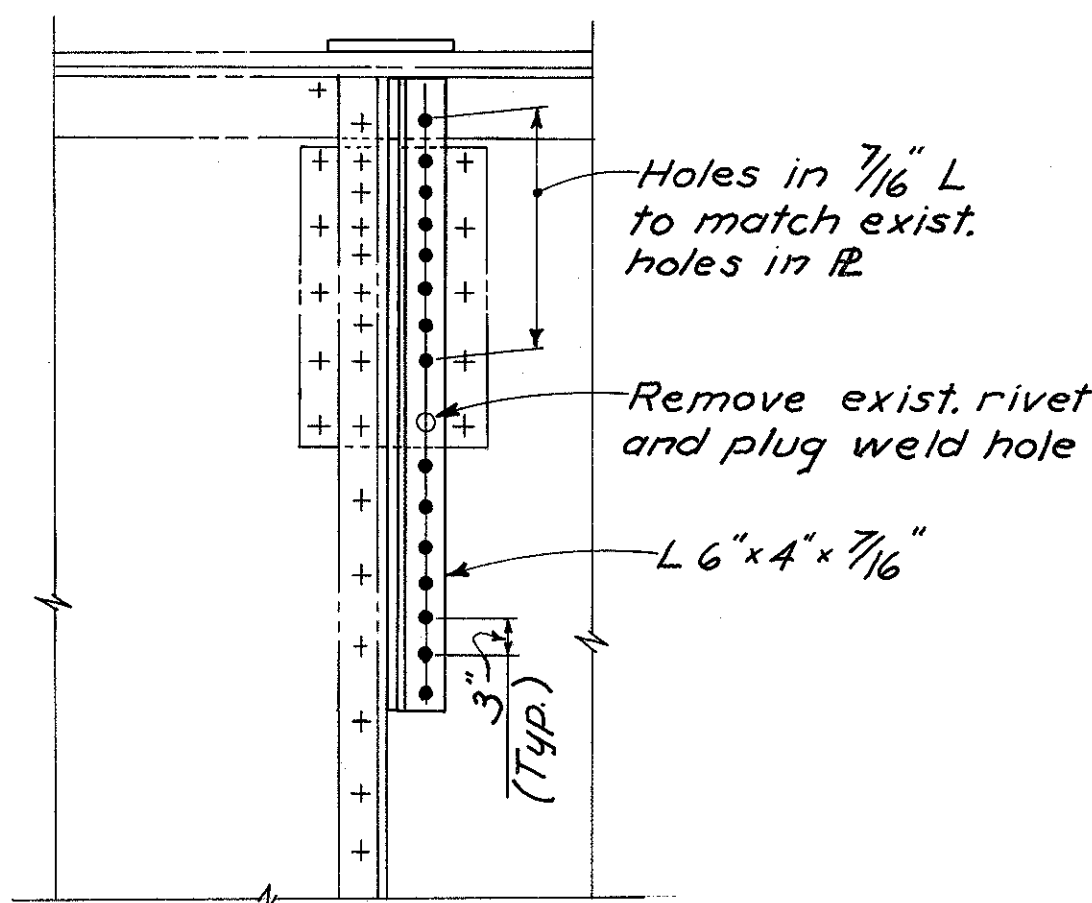
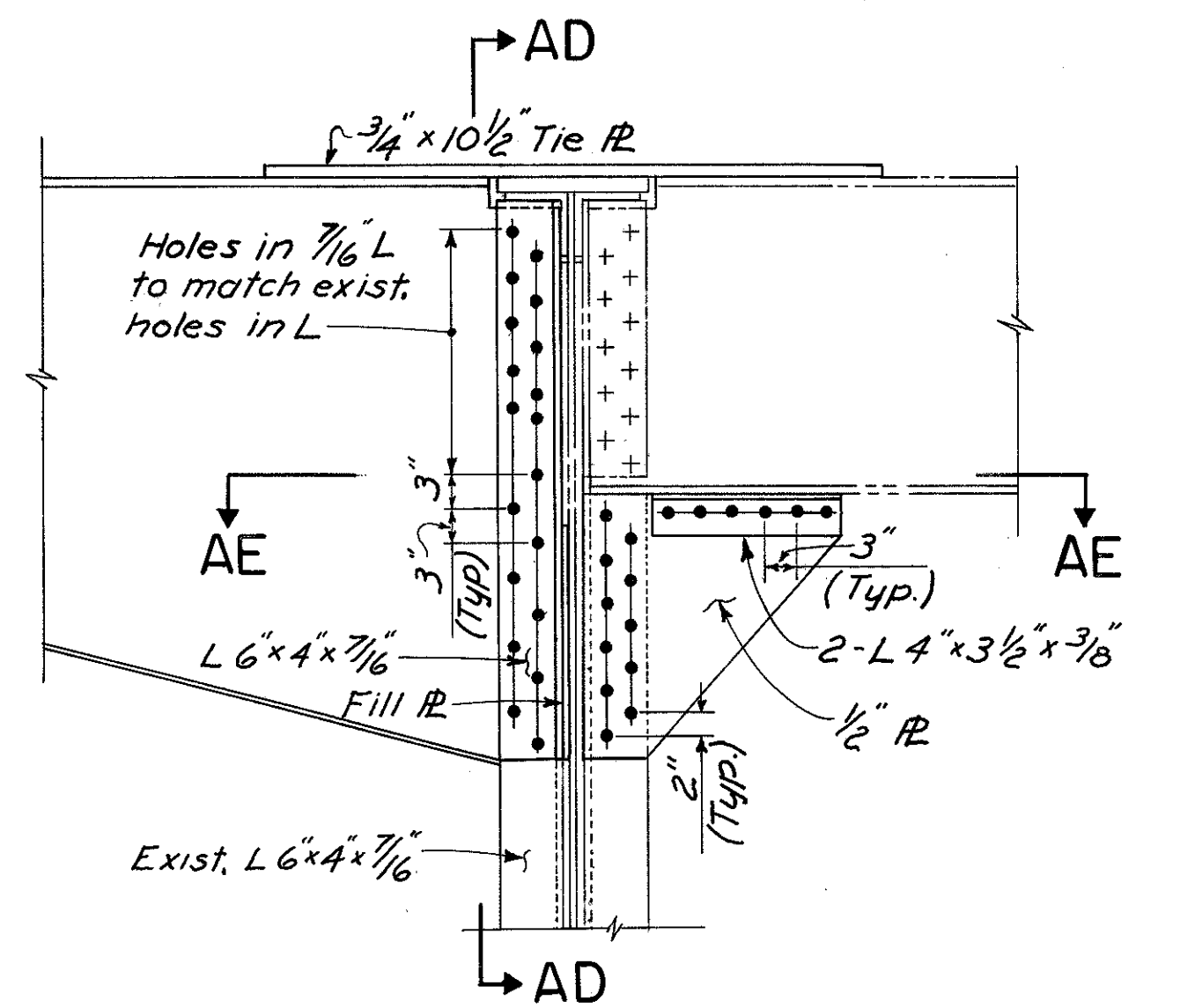
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					18/41
STRUCTURAL STEEL DETAIL					
BRIDGE NO. HAM-471-RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT					
H&E. BRIDGE NO.7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.L.L.	R.J.F.	R.J.F.	ROH	JHO 3-24-82	



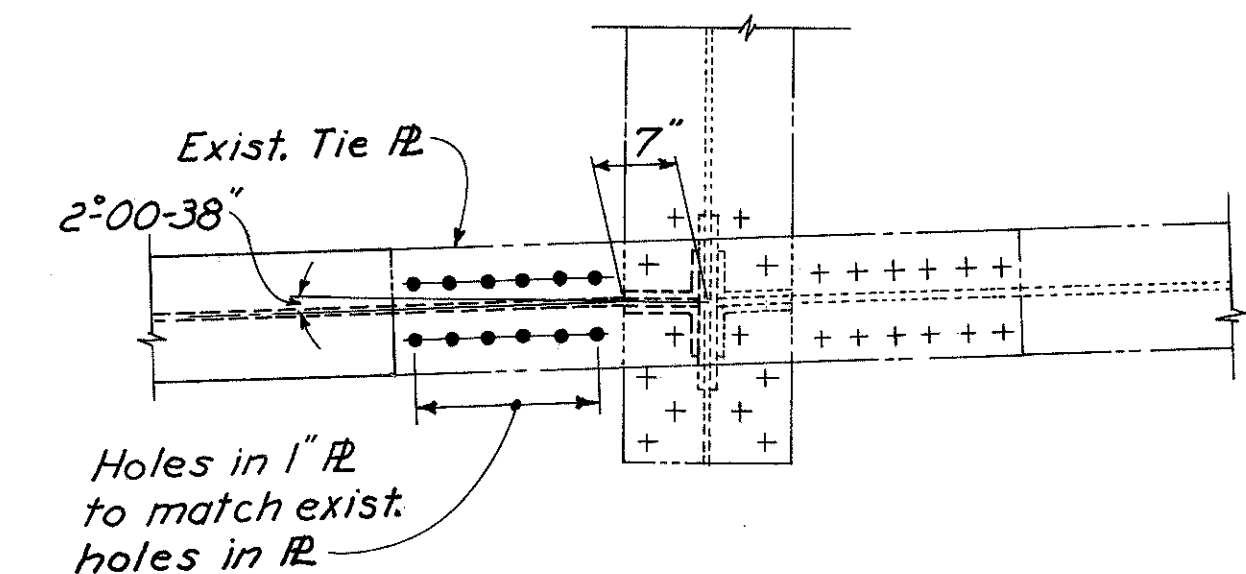
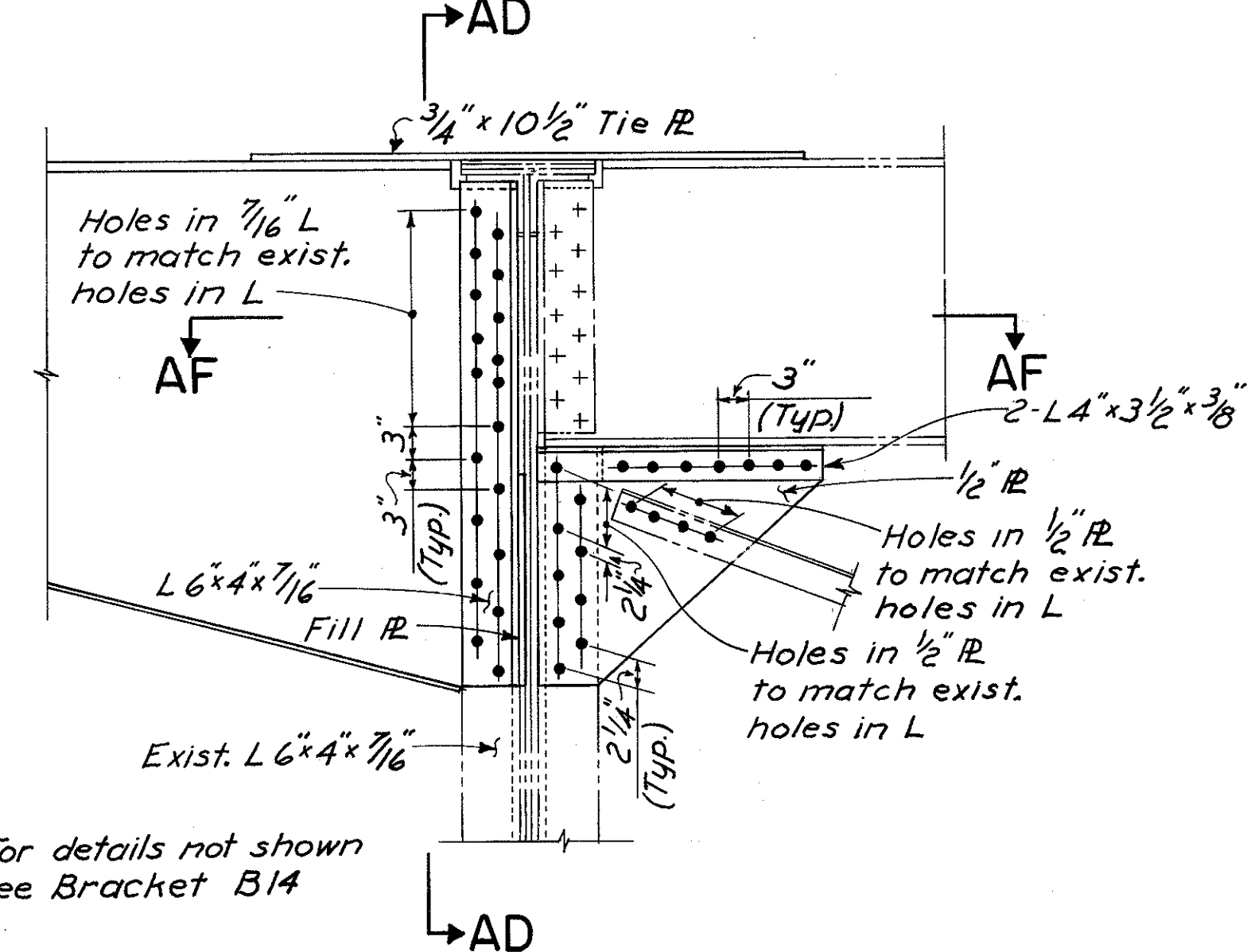
SECTION AE-AE



SECTION AF-AF



SECTION AD-AD

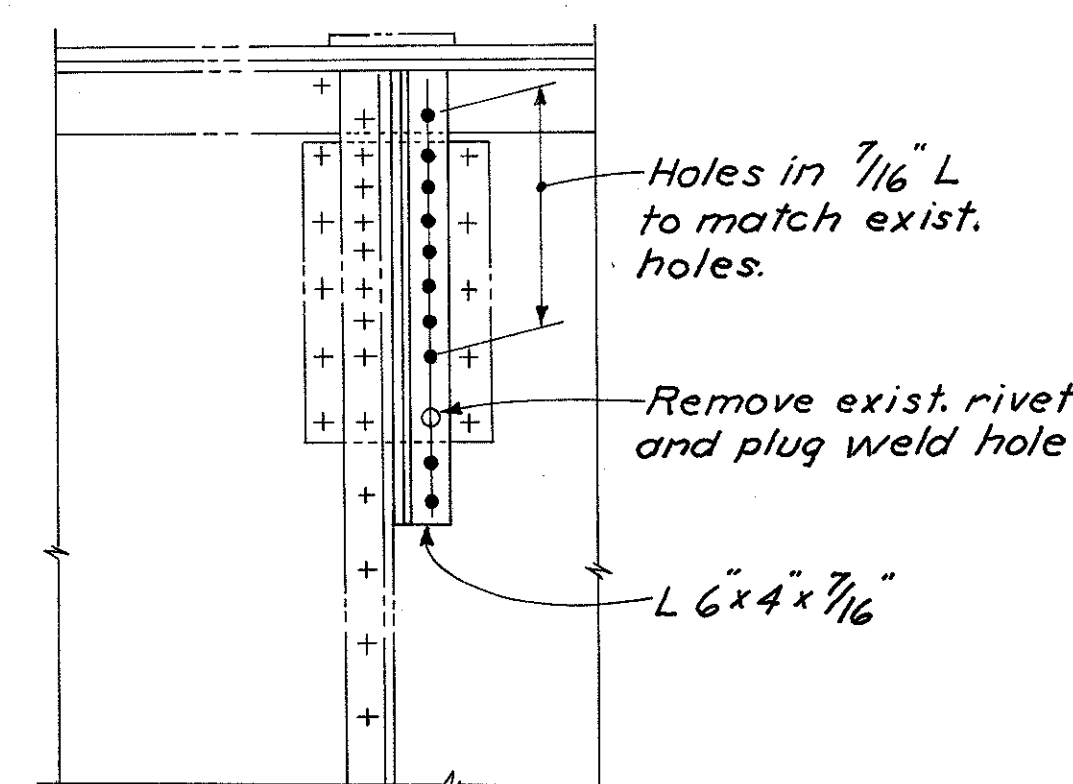
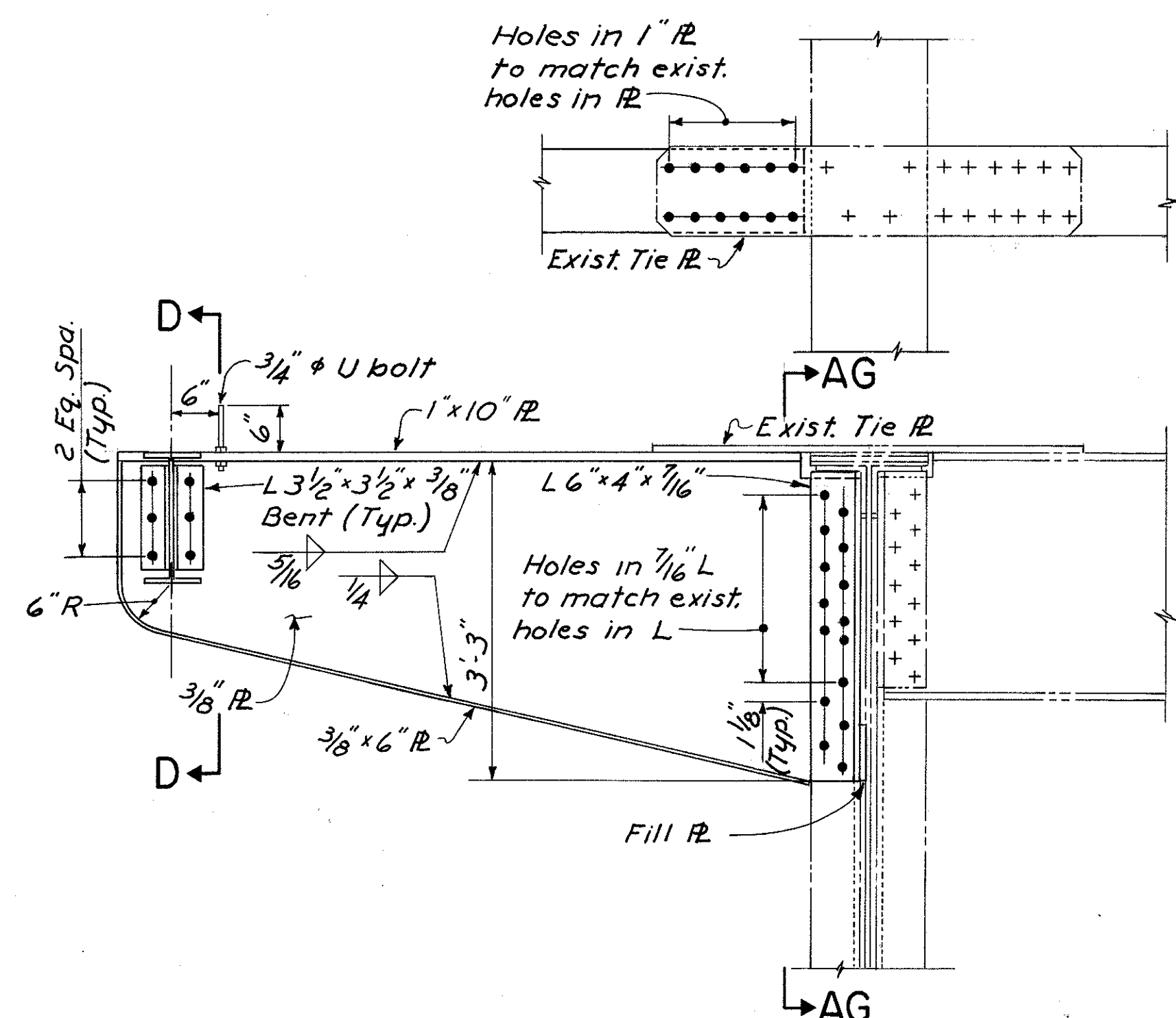


BRACKET B16

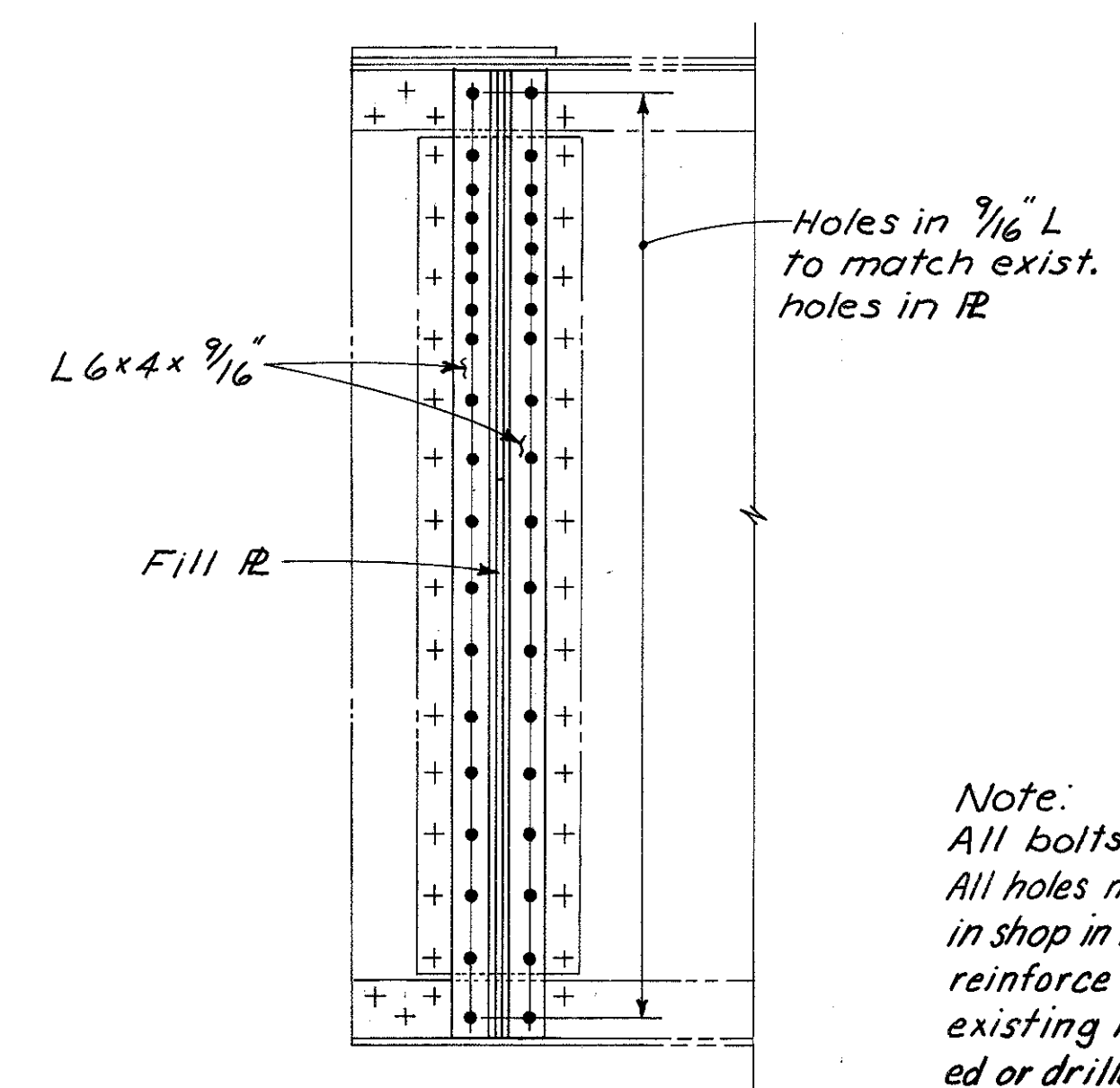
For details not shown see Bracket B14

BRACKET B15

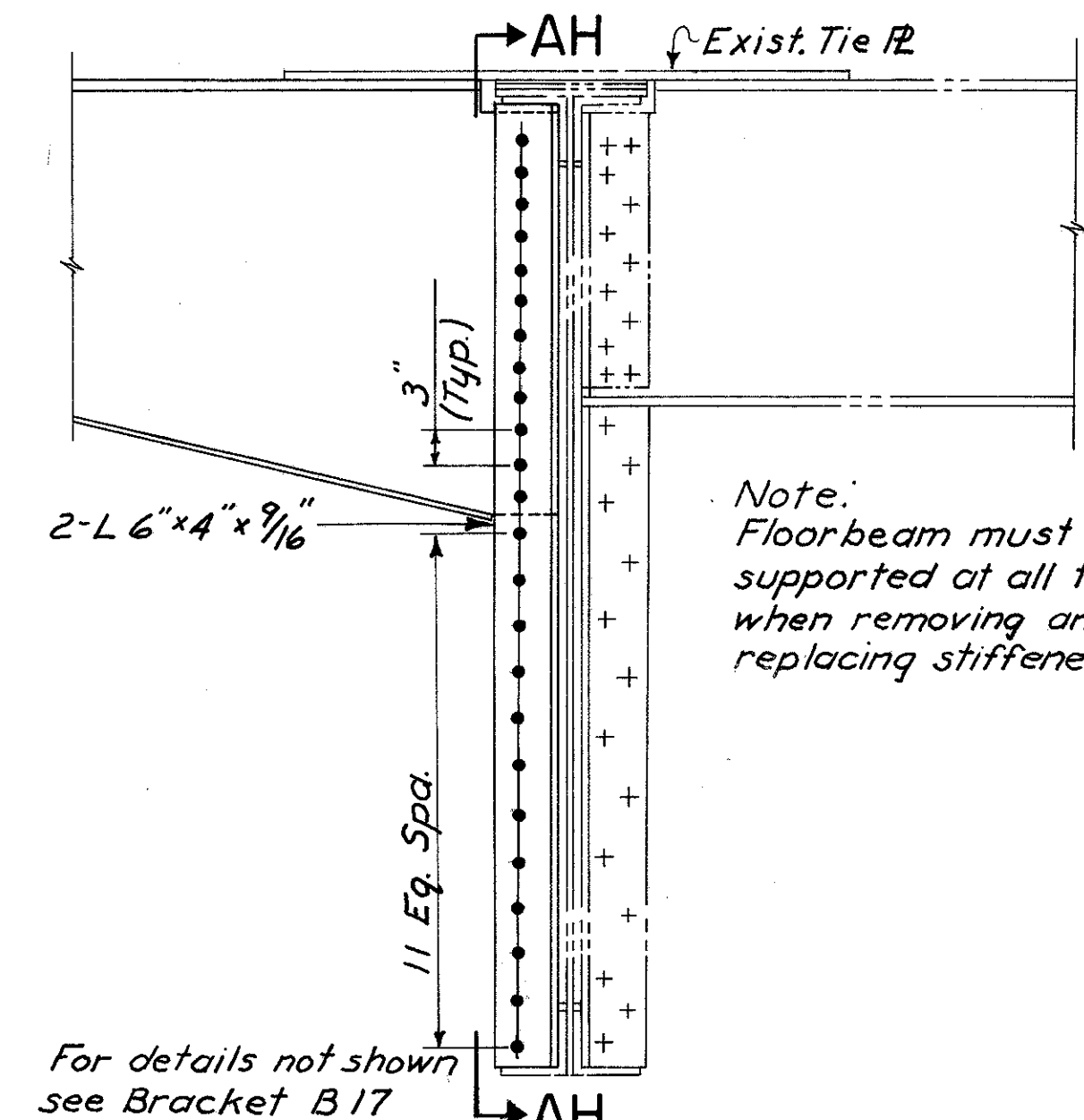
Note:
For Section D-D see Sh. No. 280



SECTION AG-AG



SECTION AH-AH

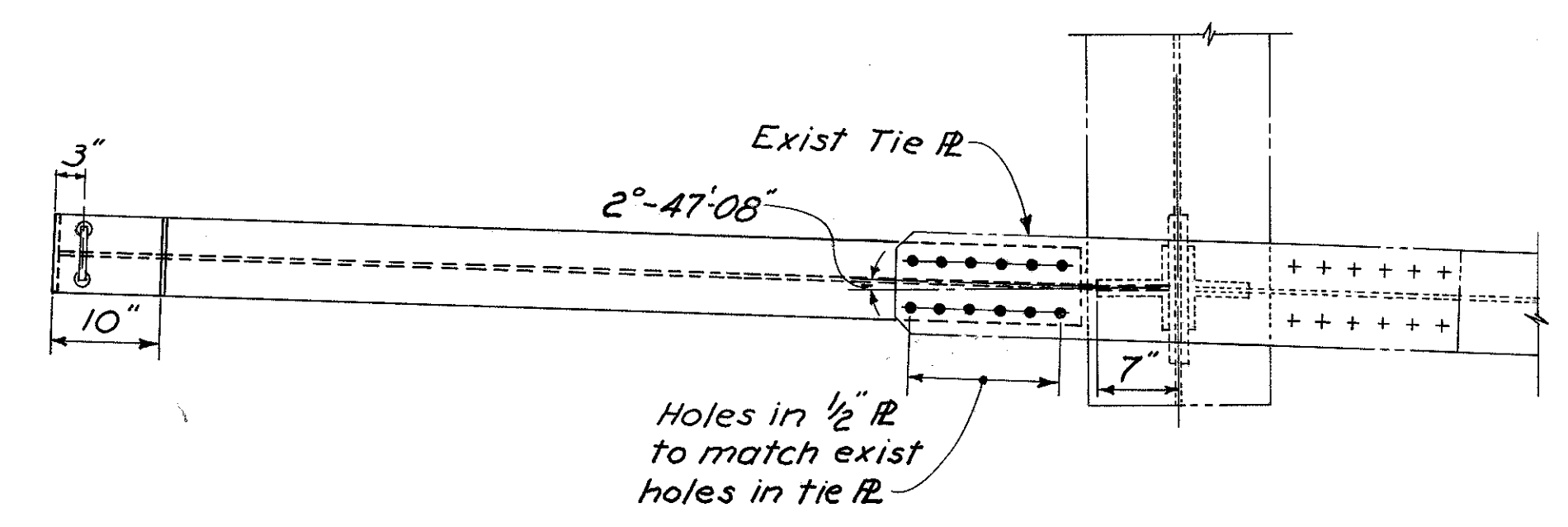


Note:
Floorbeam must be supported at all times when removing and replacing stiffener angles.

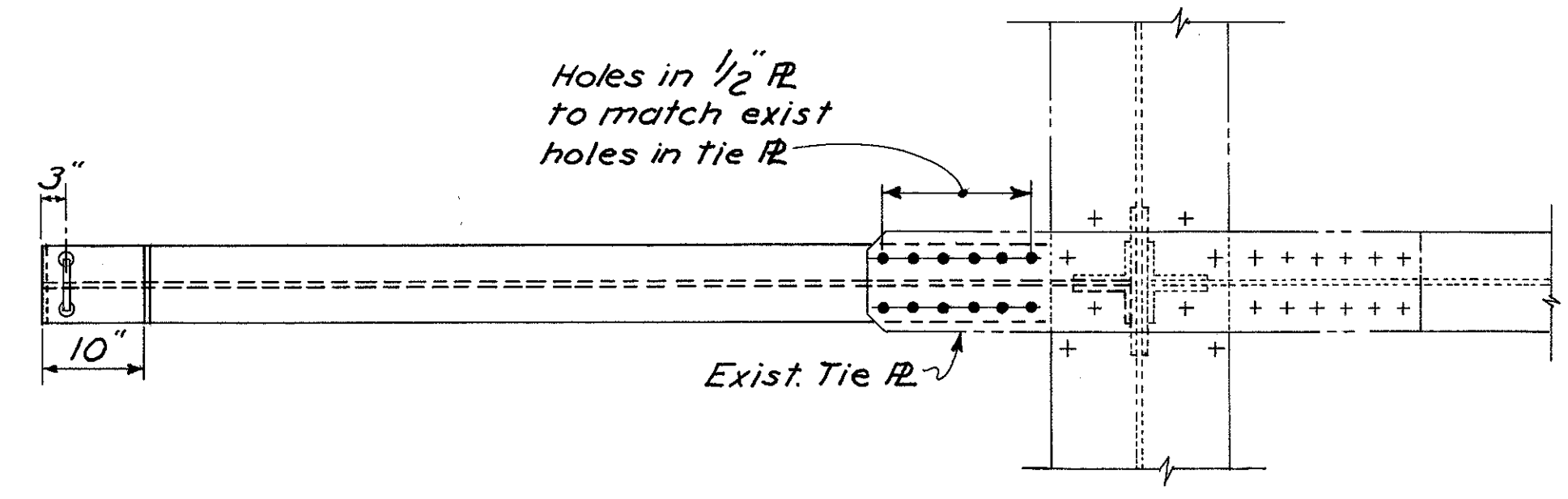
BRACKET B18

Note:
All bolts are 7/8 phi H.S. Bolts.
All holes must be drilled undersize in shop in new material used to reinforce or otherwise attach to existing holes. Holes will be reamed or drilled in field to full size.

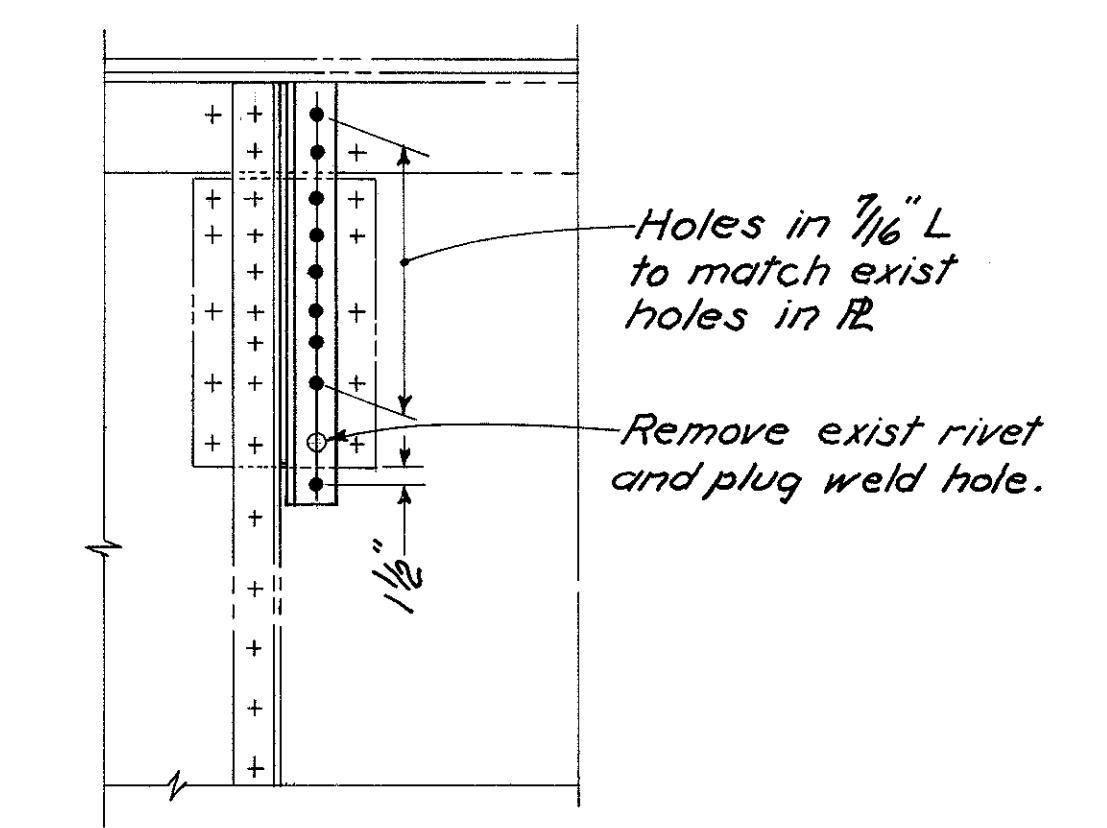
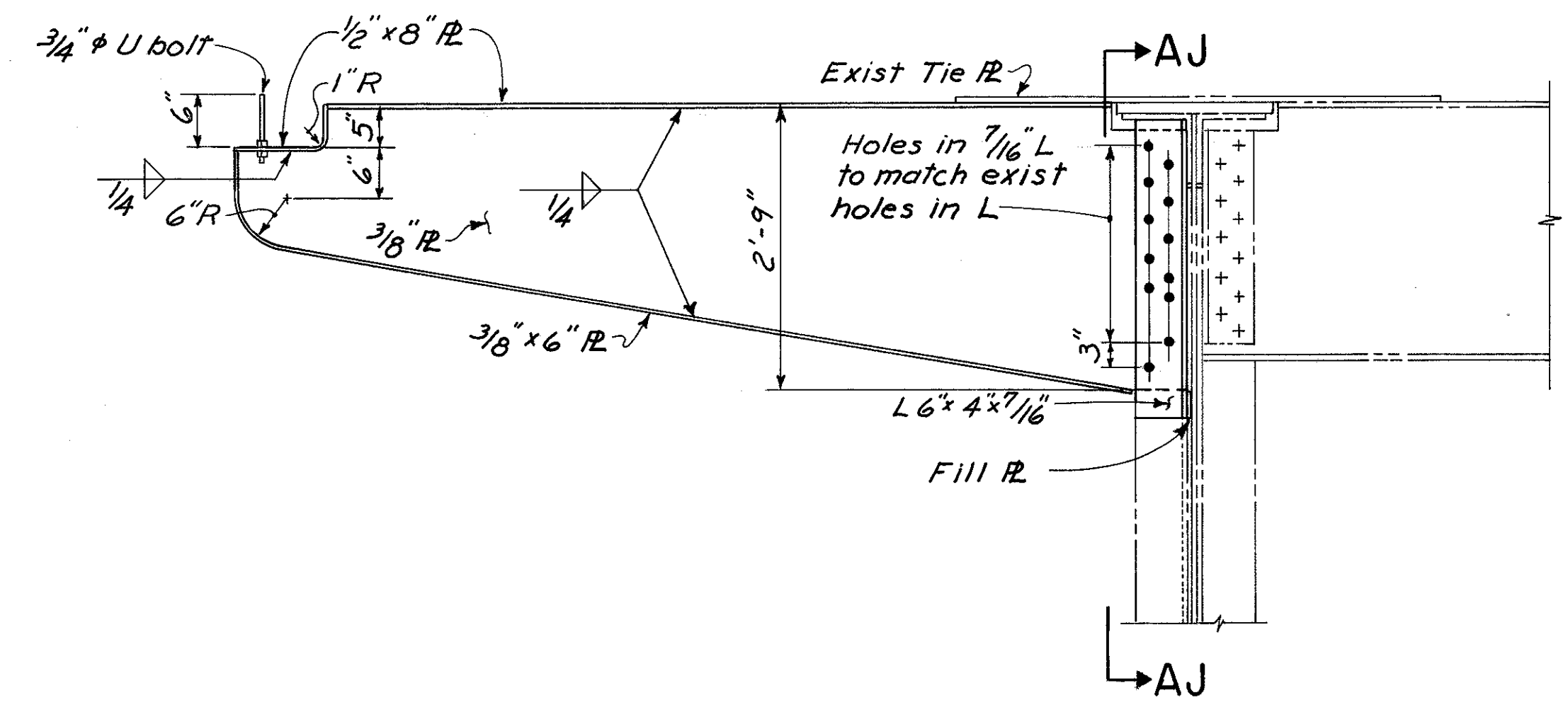
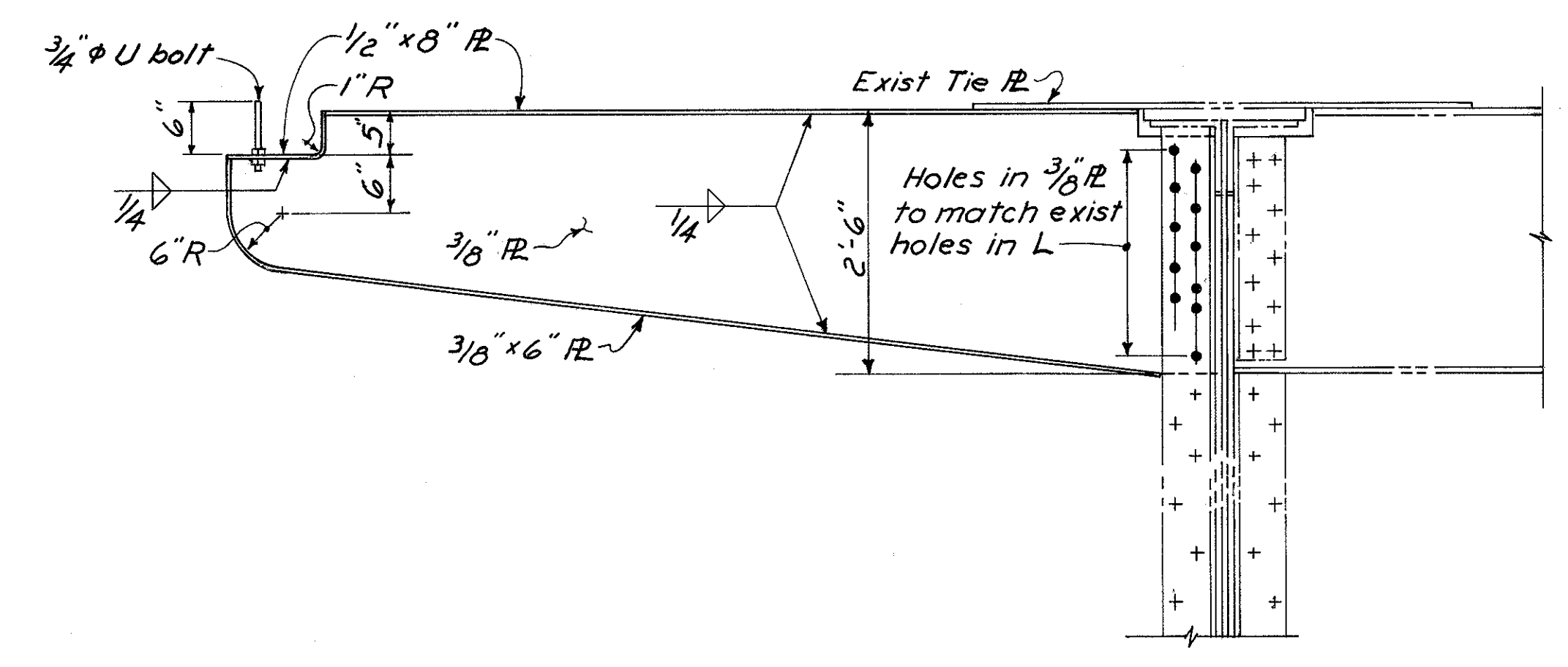
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				1941
STRUCTURAL STEEL DETAIL				
BRIDGE NO. HAM-471-RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H. & E. BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
H.L.L.	R.J.F.	R.J.F.	ROH	J.H.P. 3-24-22



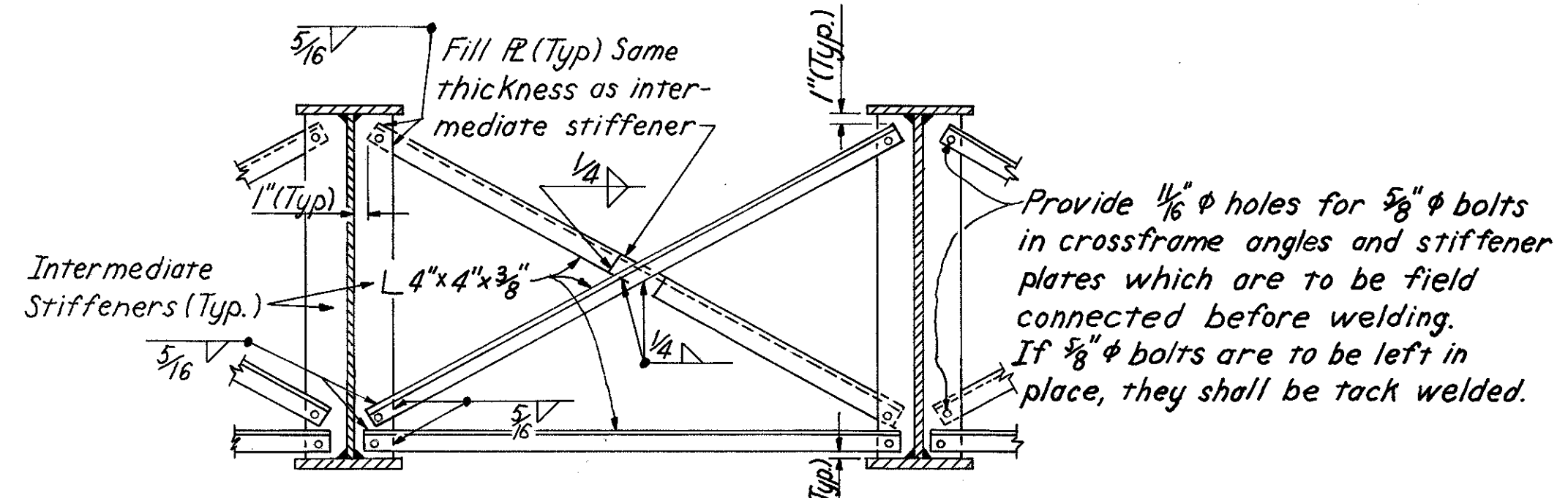
BRACKET B19



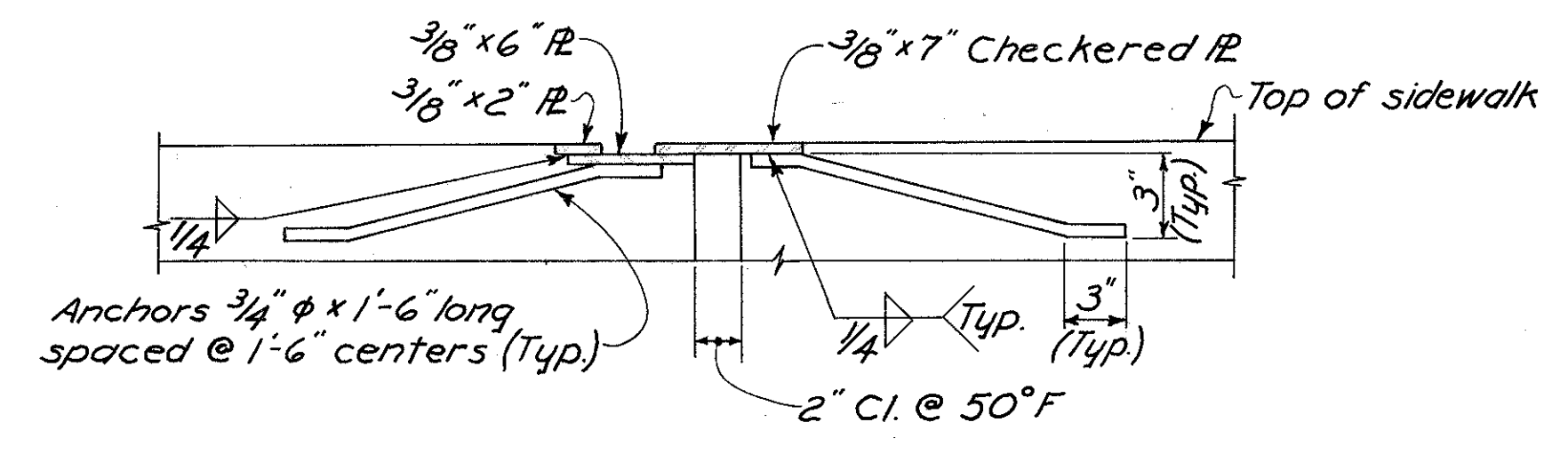
BRACKET B20



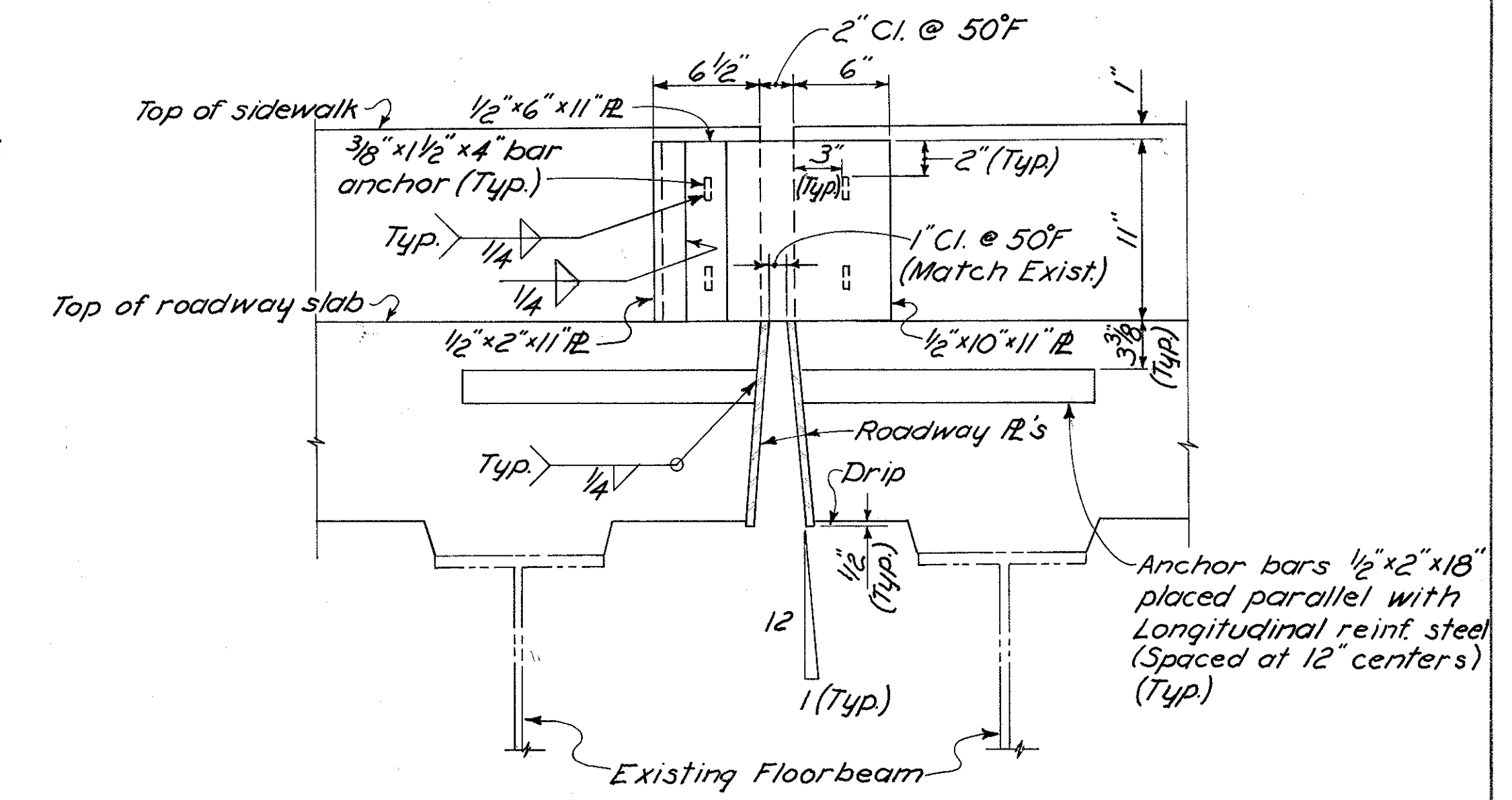
SECTION AJ-AJ



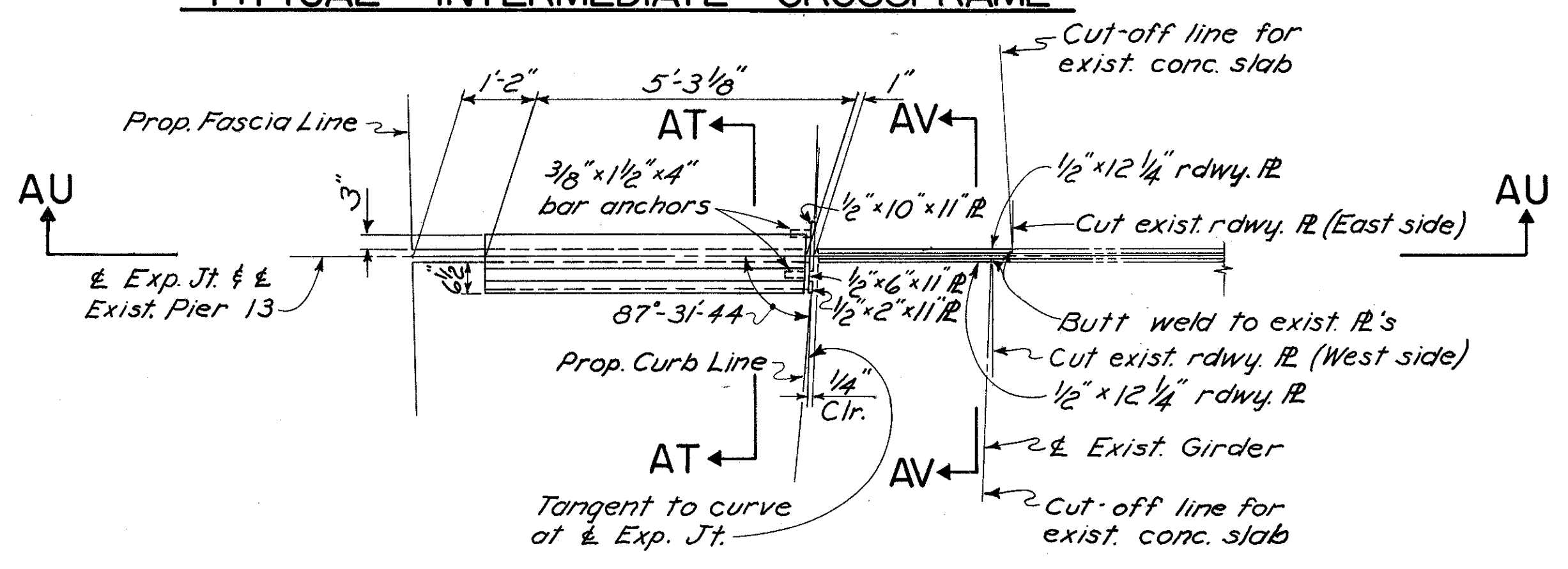
TYPICAL INTERMEDIATE CROSSFRAME



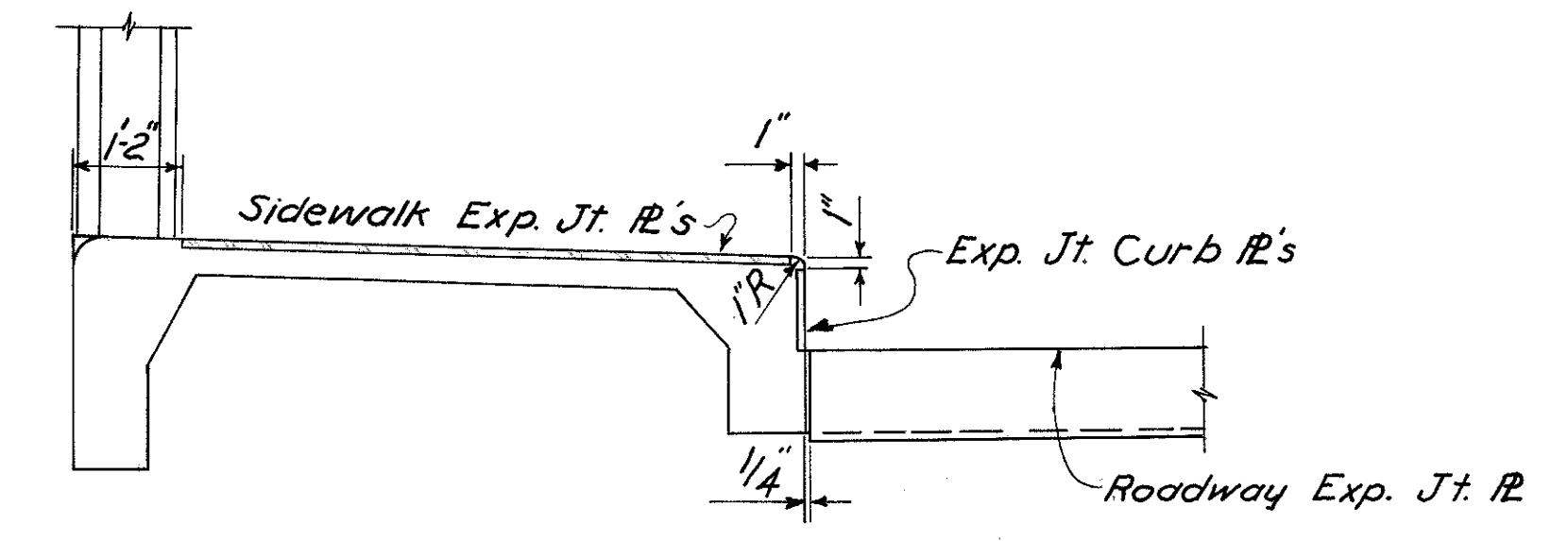
SECTION AT-AT



SECTION AV-AV



PLAN
(Expansion Joint at Exist Pier 13)



SECTION AU-AU

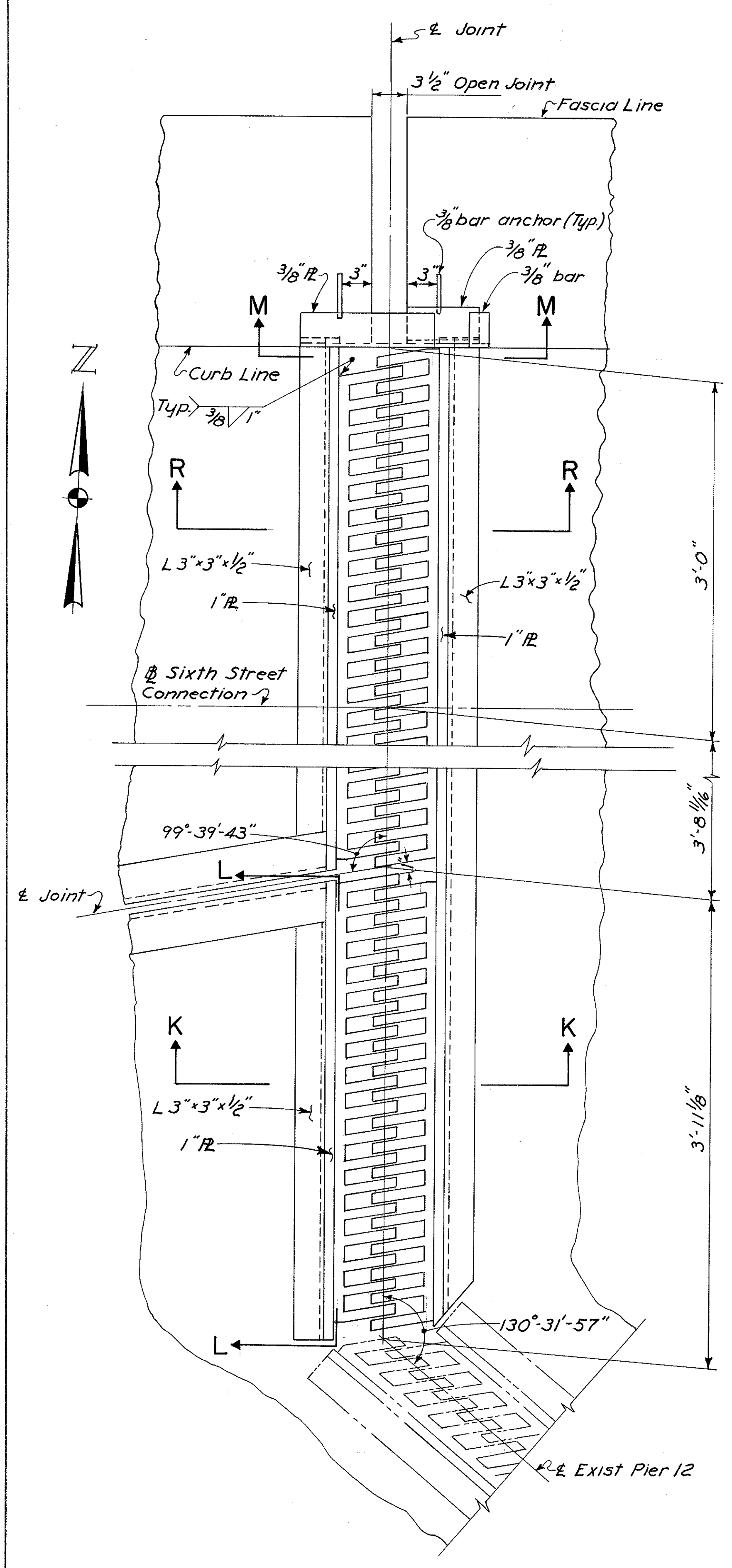
Note:
All bolt are 1/2" H.S. Bolts
All holes must be drilled undersize in shop in new material used to reinforce or otherwise attach to existing holes. Holes will be reamed or drilled in field to full size.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

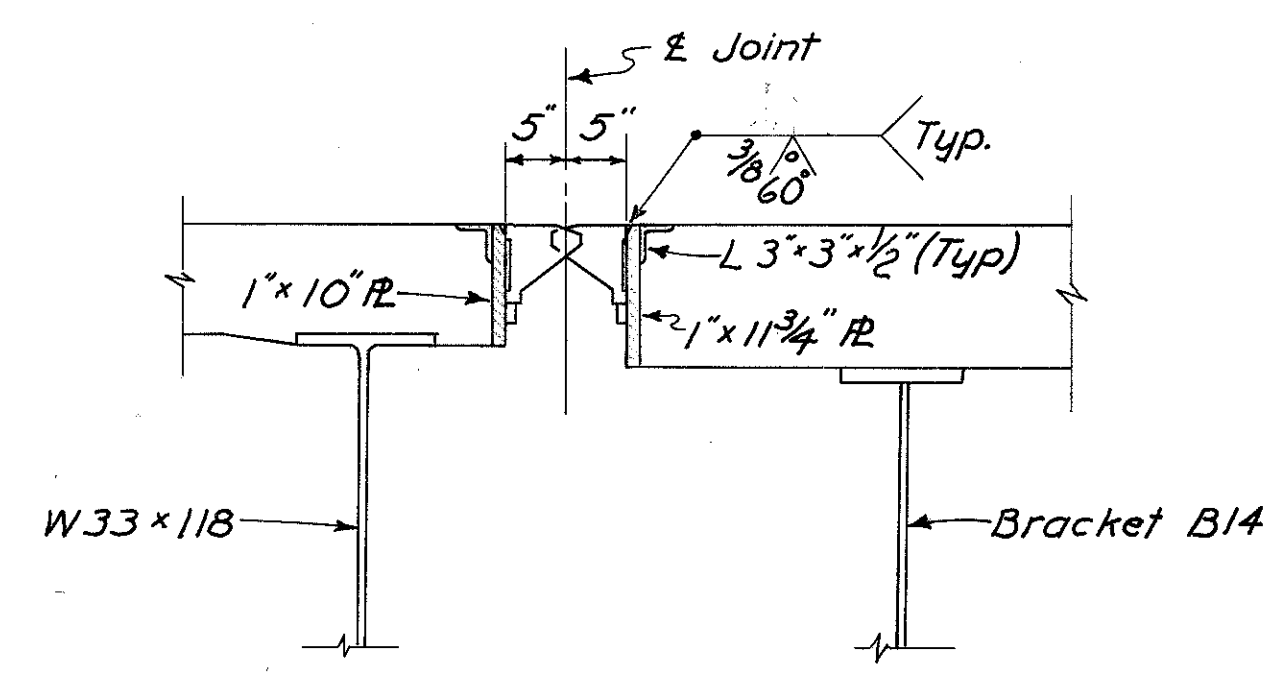
STRUCTURAL STEEL DETAIL
BRIDGE NO. HAM-471-
RELOCATED SIXTH STREET
OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 7

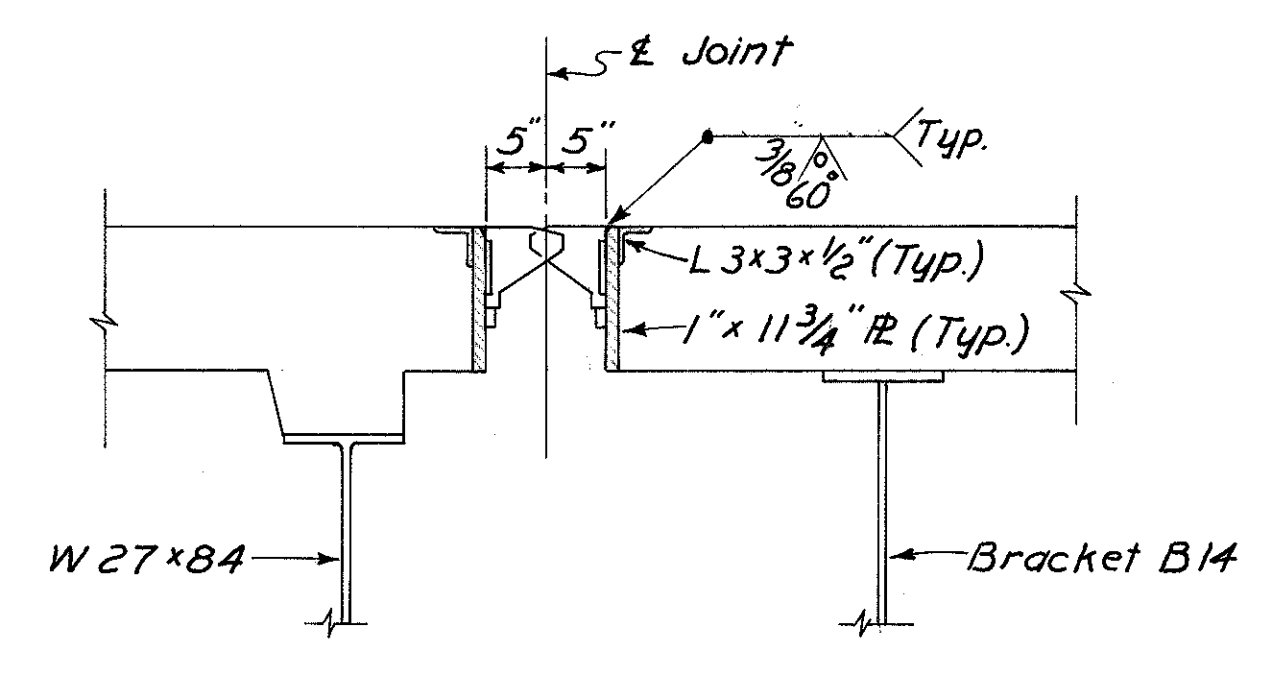
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ROH	R.J.F.	R.J.F.	ROH	JH 3-24-82	



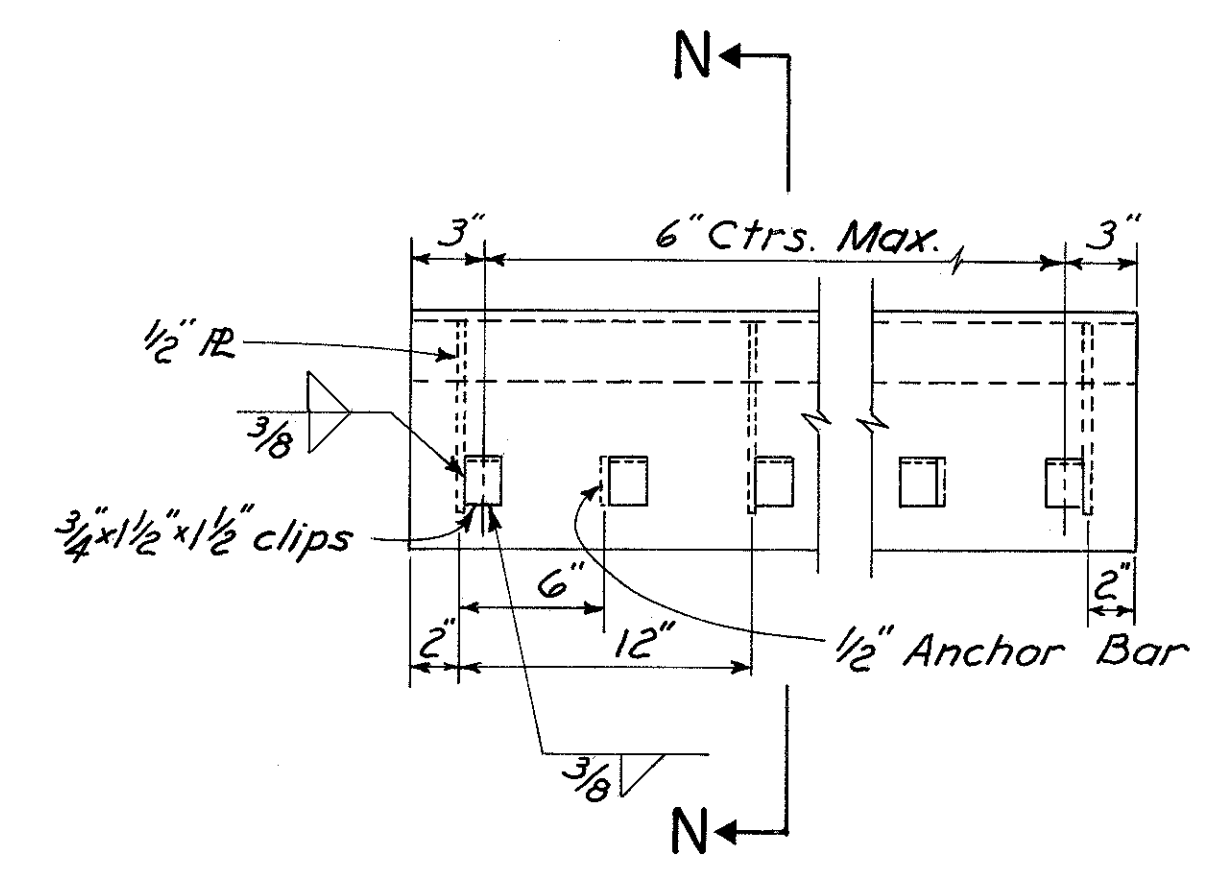
PLAN
(Expansion Joint at Exist. Pier 12)



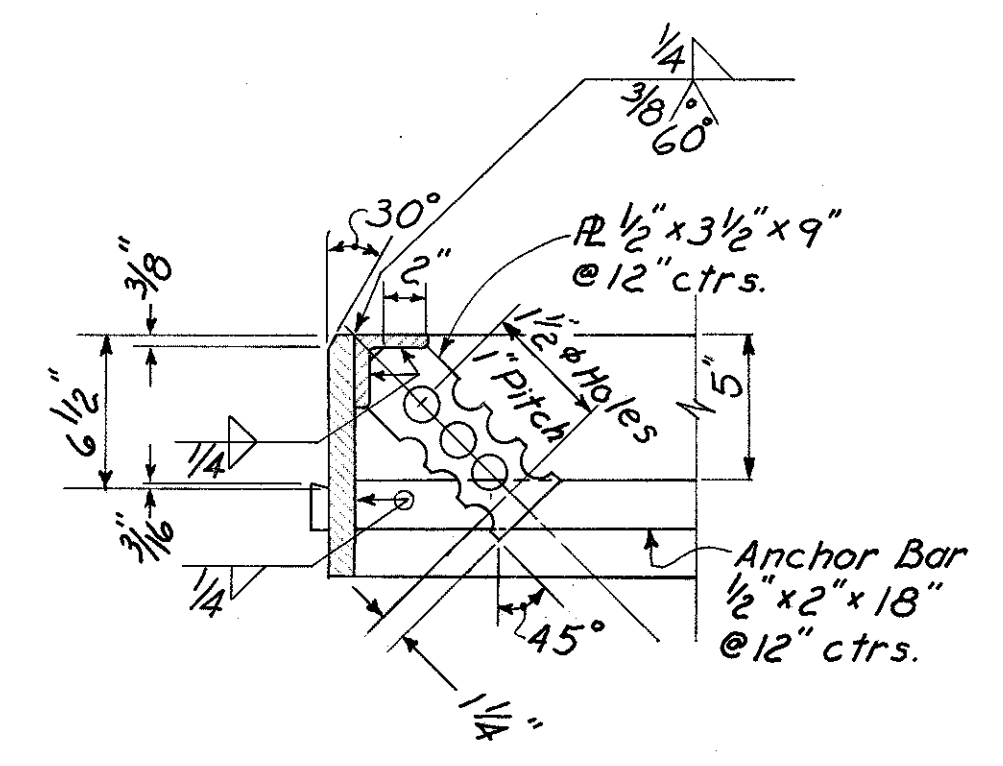
SECTION R-R



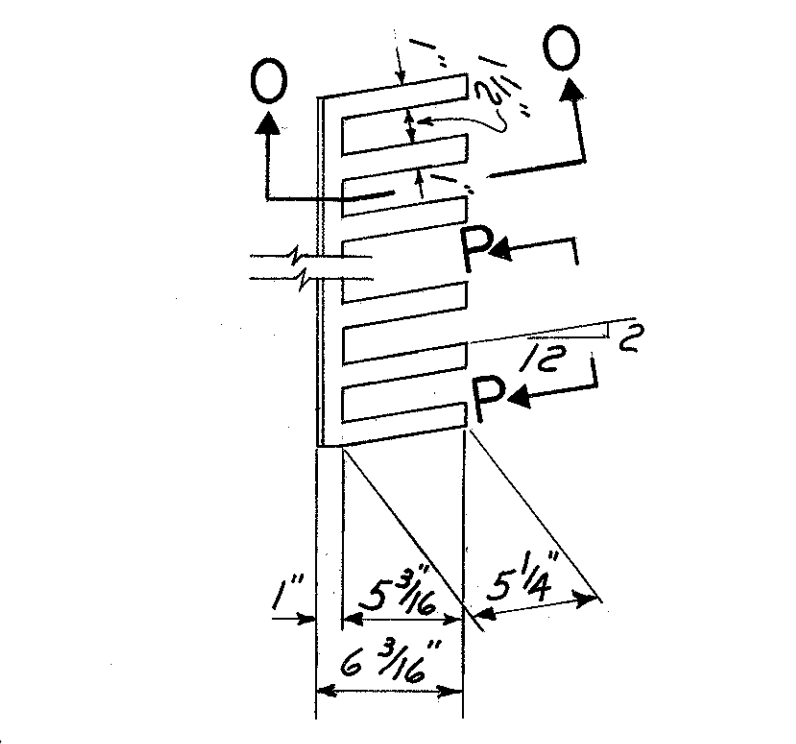
SECTION K-K



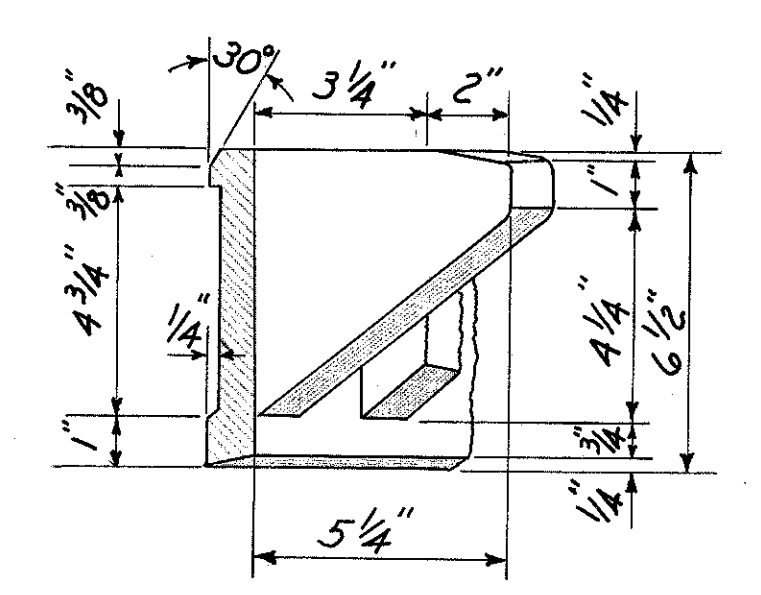
SECTION L-L
(Typical) (Teeth not shown)



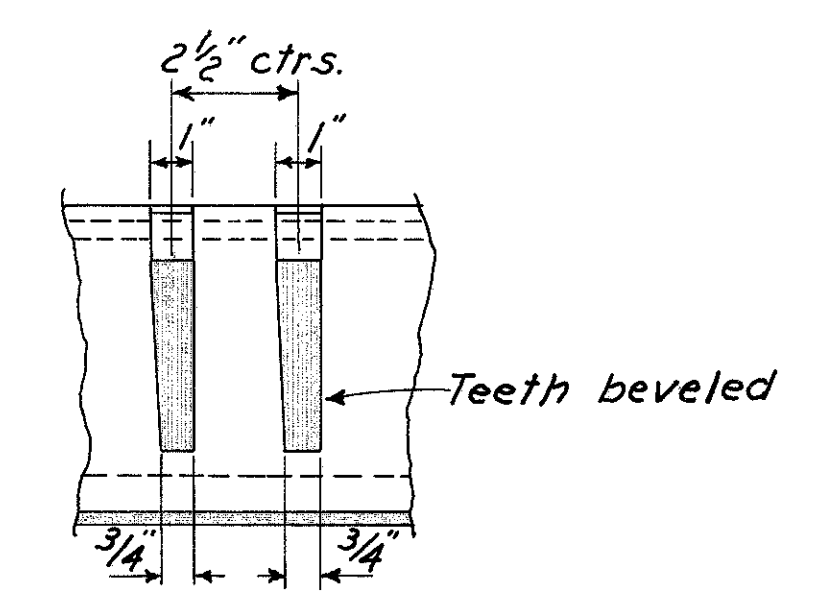
SECTION N-N



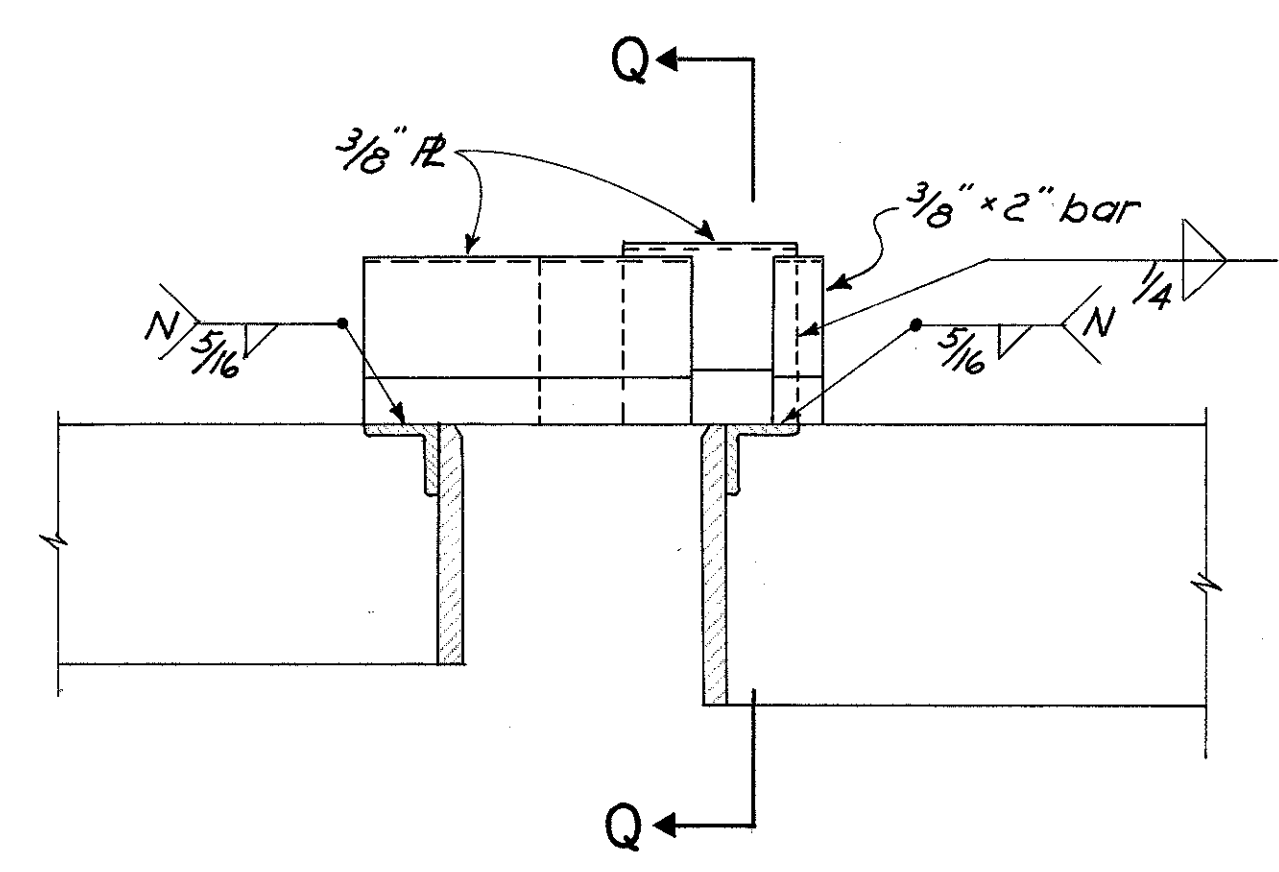
DETAIL OF TEETH



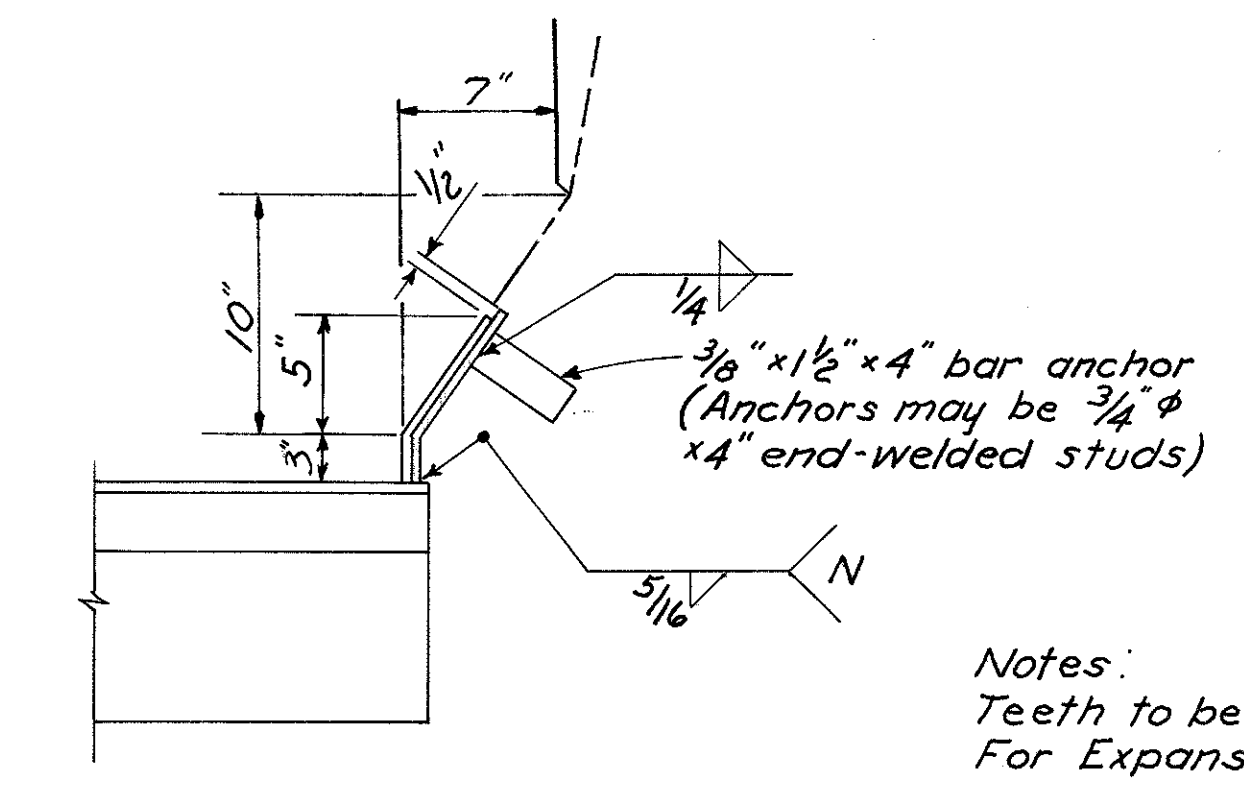
SECTION O-O



SECTION P-P



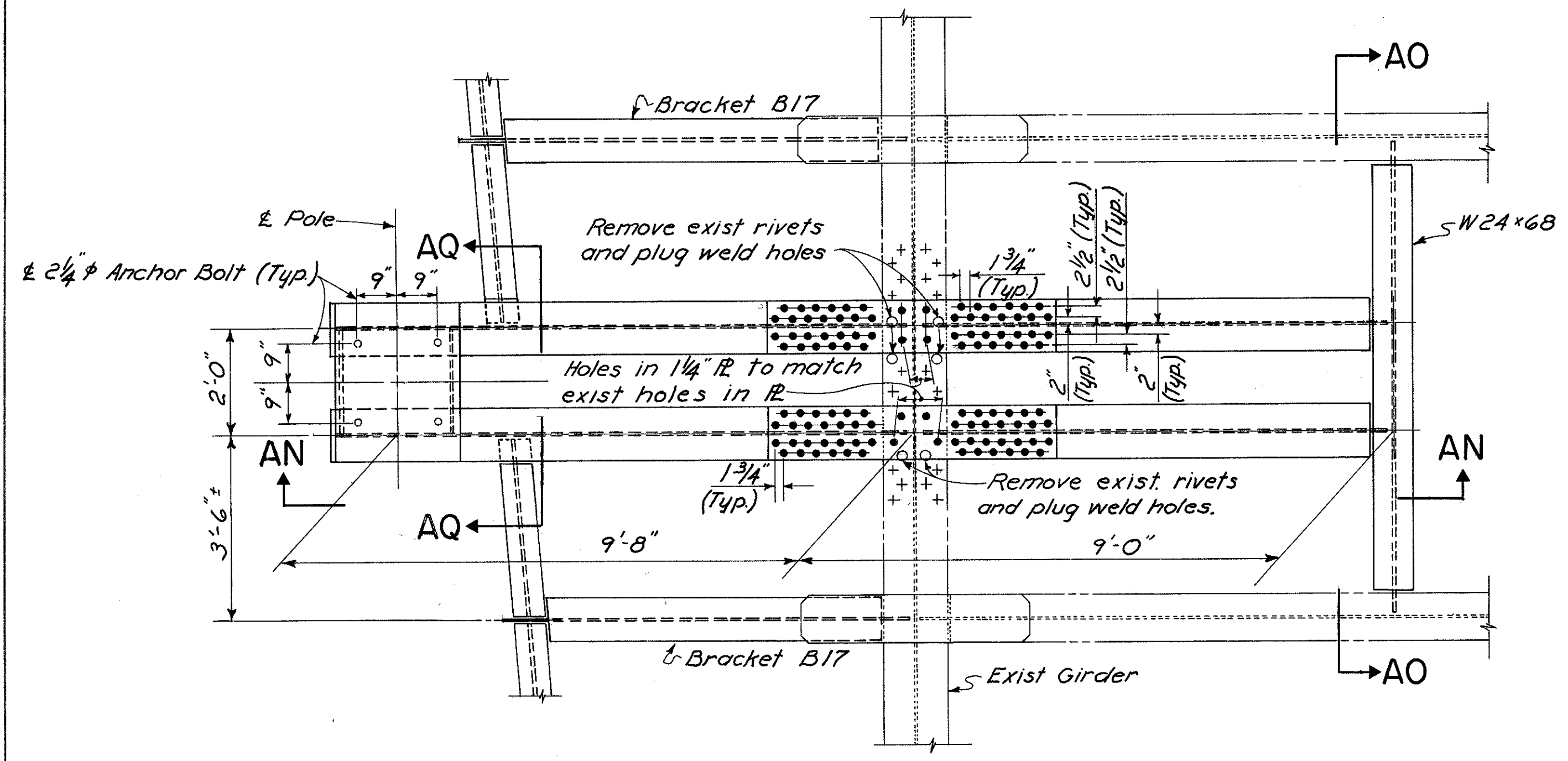
SECTION M-M



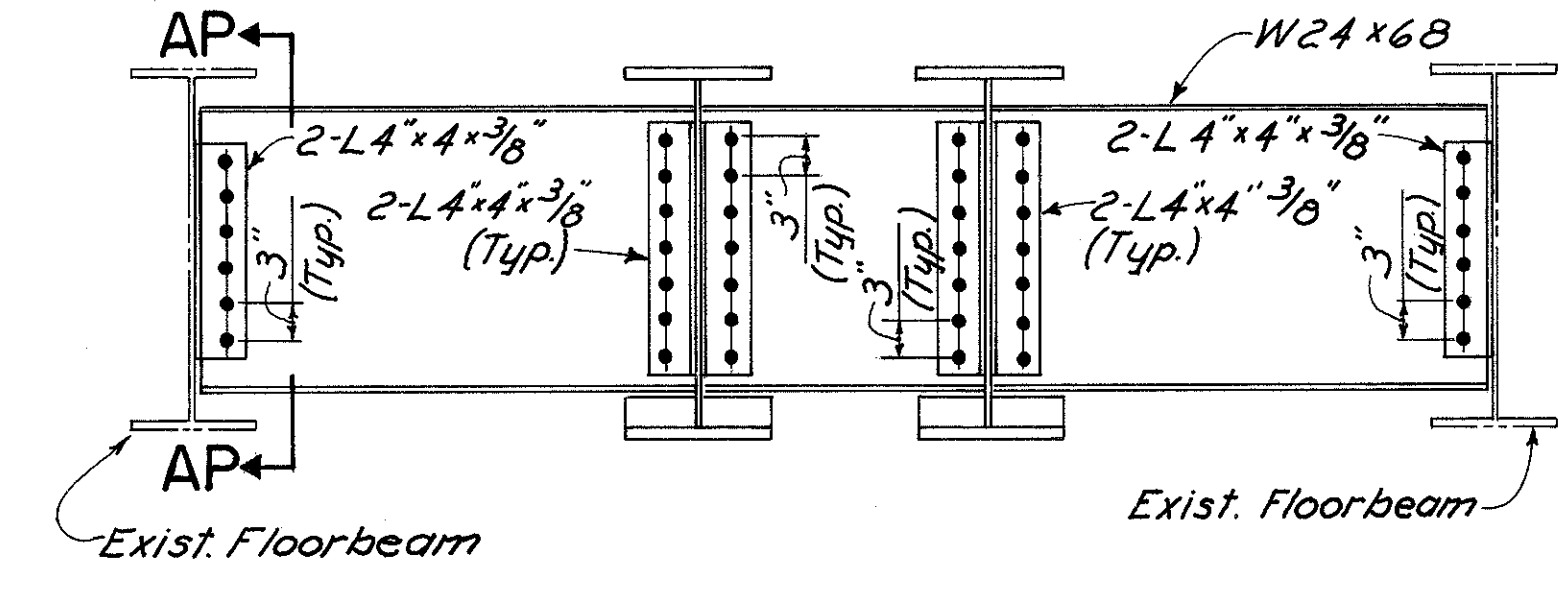
SECTION Q-Q

Notes:
Teeth to be Cast Steel, 711.07
For Expansion Joint Cross
Section, see Sh. 281.
Welds on non-stress carrying
members are shown thus:
N 5/16

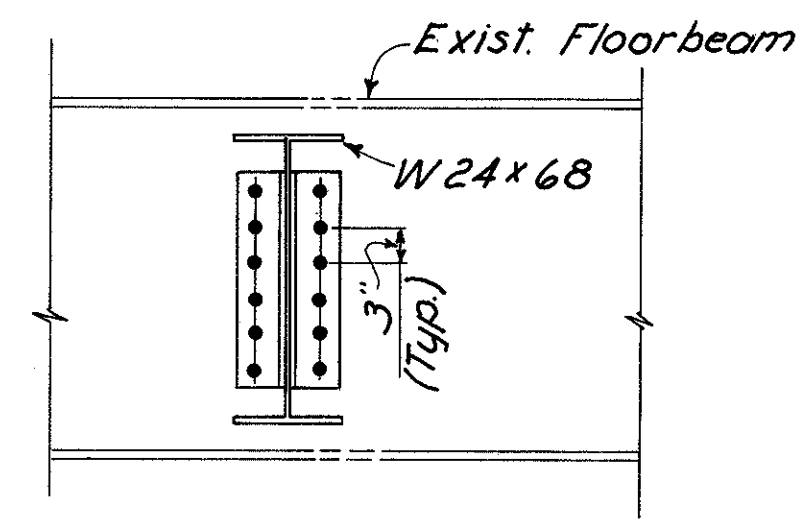
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				21/41
STRUCTURAL STEEL DETAIL				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E. BRIDGE NO.7				
DESIGNED ROH	DRAWN R/JF	TRACED R/JF	CHECKED ROH	REVIEWED DATE 3-24-82



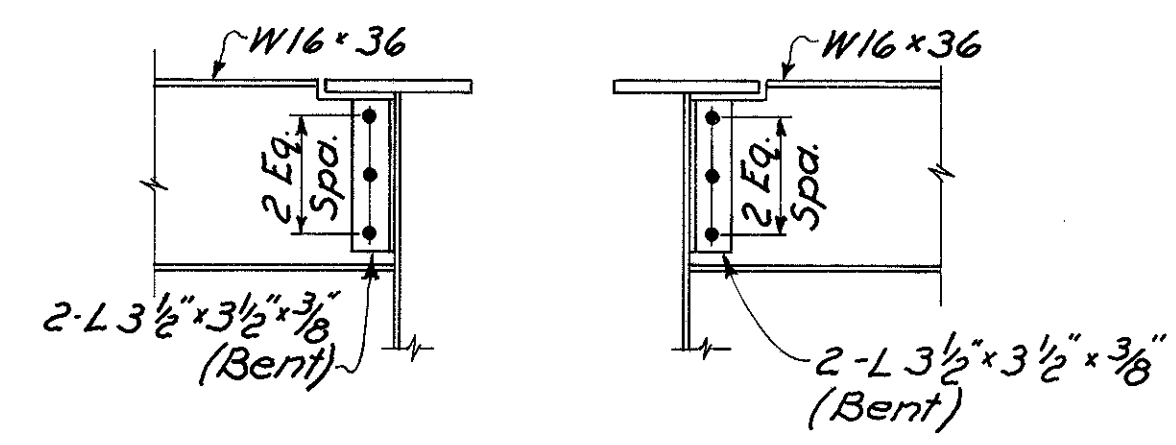
SIGN SUPPORT DETAIL



SECTION AO-AO

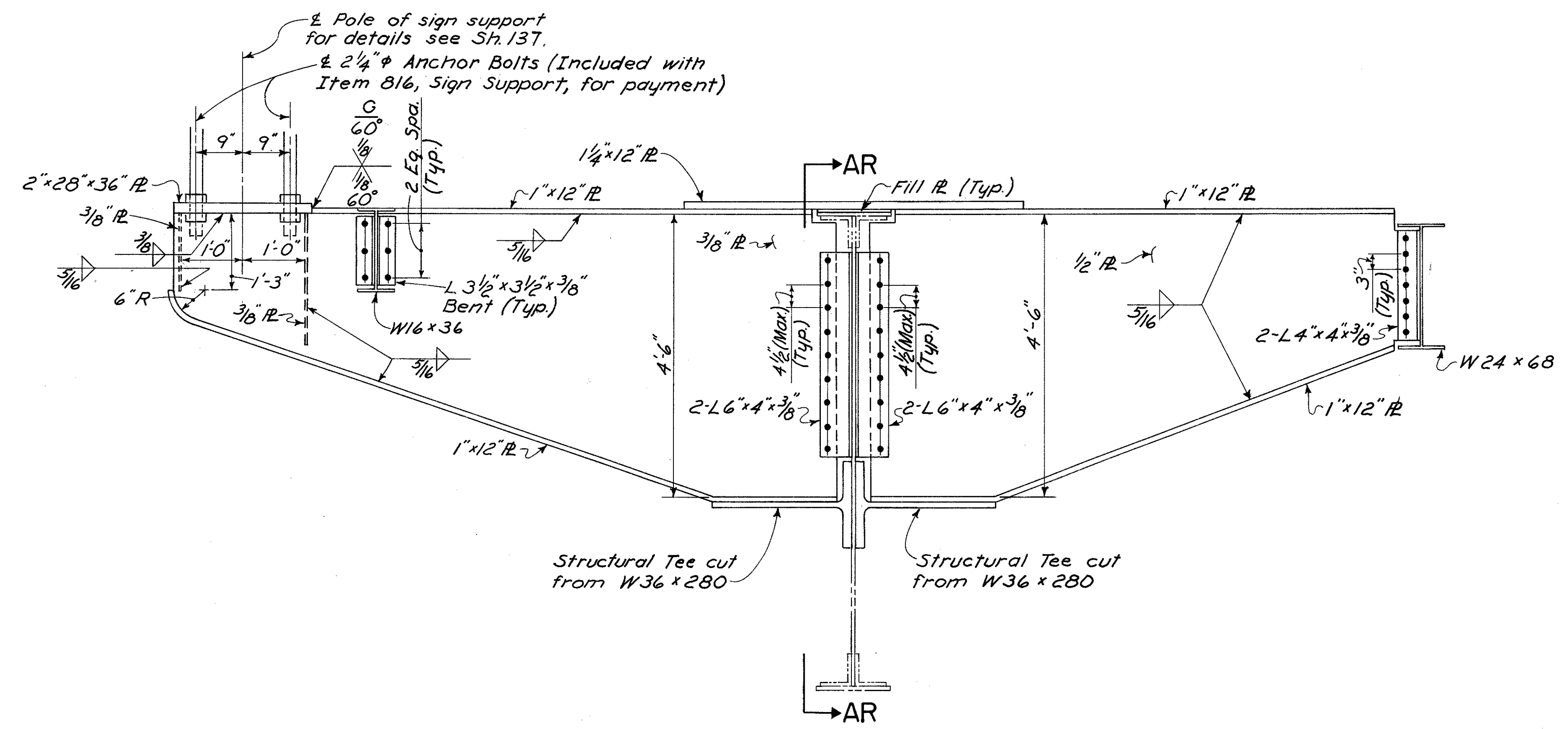


SECTION AP-AP

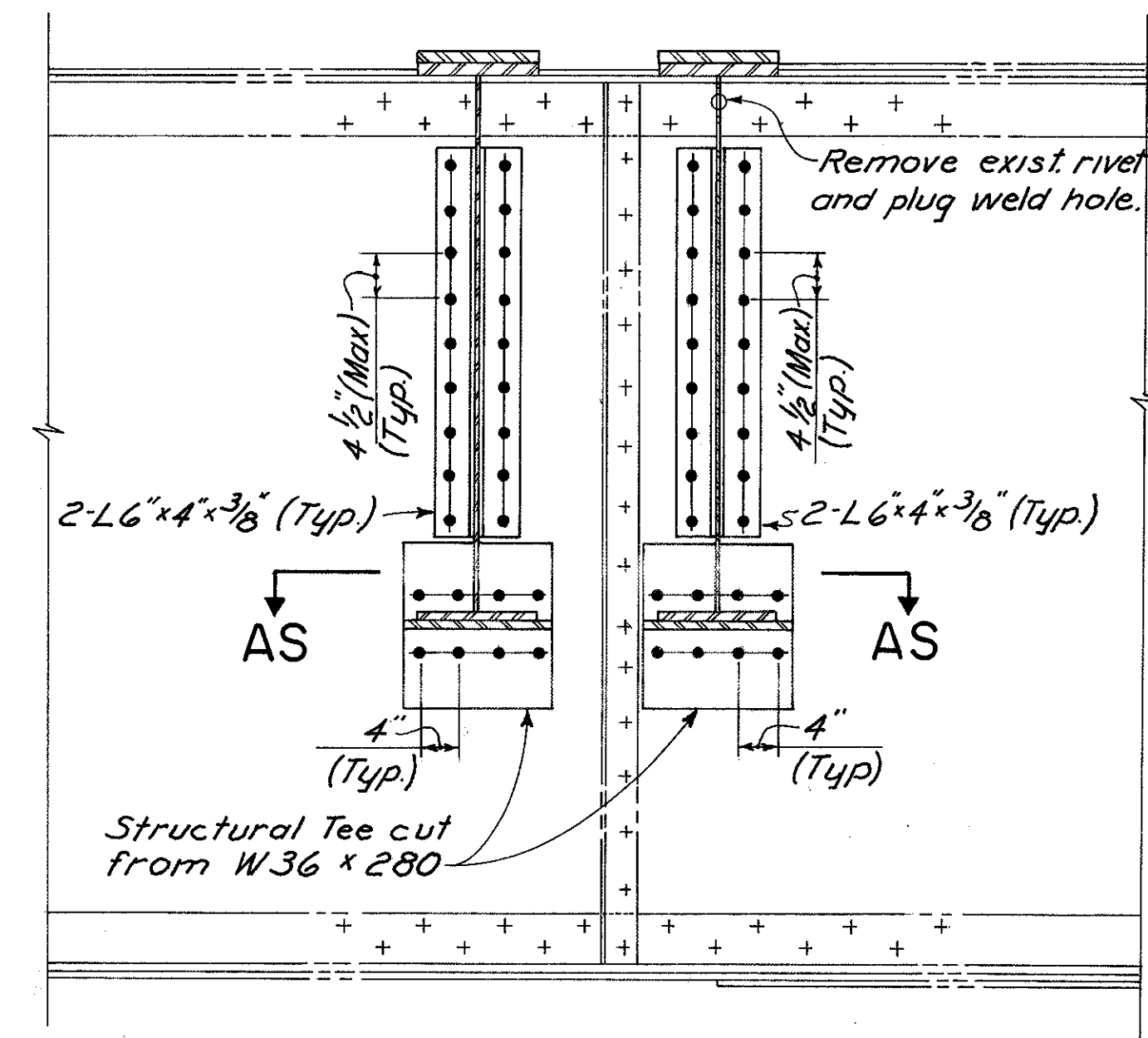


SECTION AQ-AQ

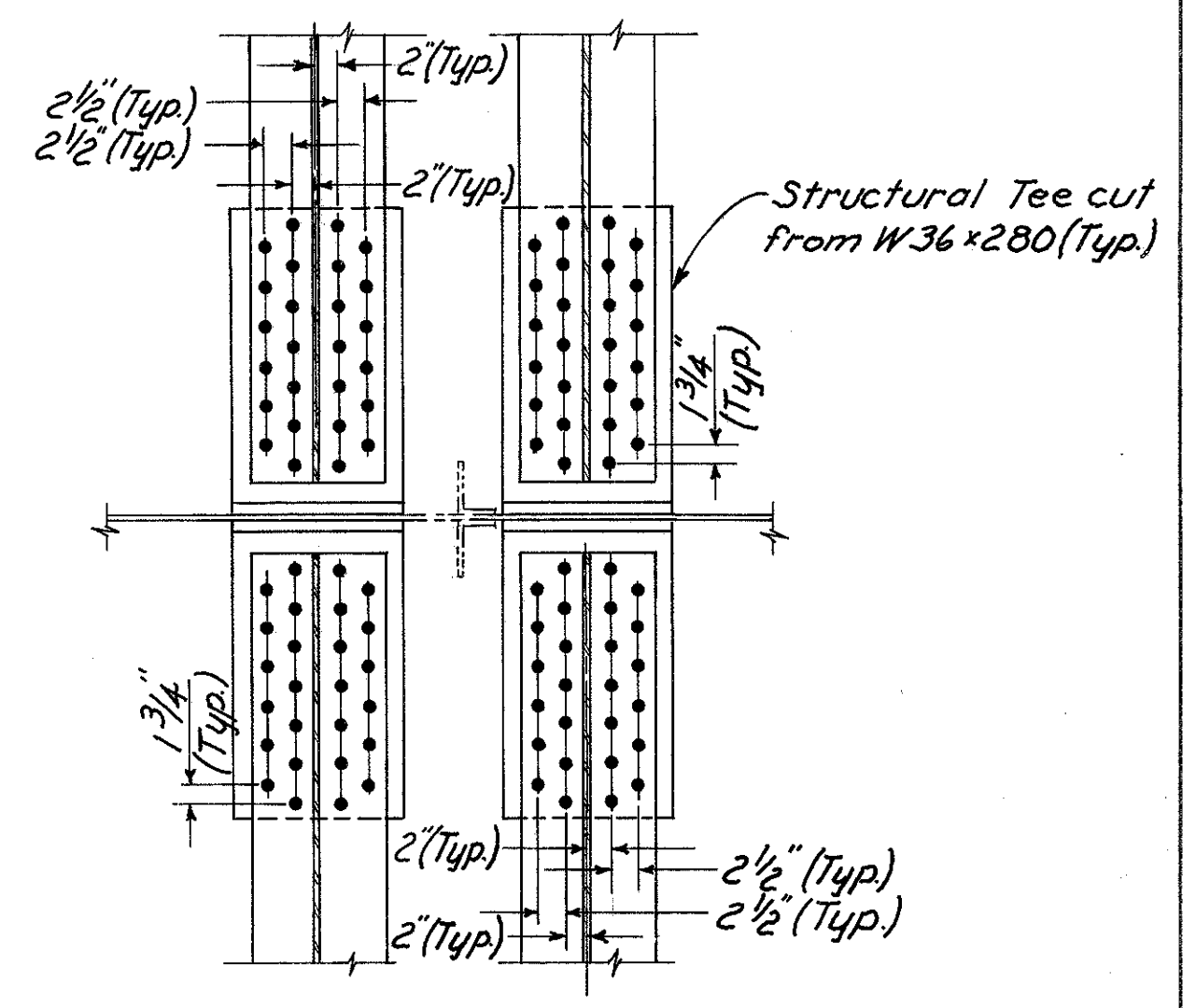
Note:
All bolts are 7/8" φ H.S. bolts.
All holes must be drilled undersize in shop in new material used to reinforce or otherwise attach to existing holes. Holes will be reamed or drilled in field to full size.



SECTION AN-AN



SECTION AR-AR



SECTION AS-AS

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				22/A
STRUCTURAL STEEL DETAIL				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H&E BRIDGE NO.7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
ROH	RJF	RJF	ROH	JH 3-24-82

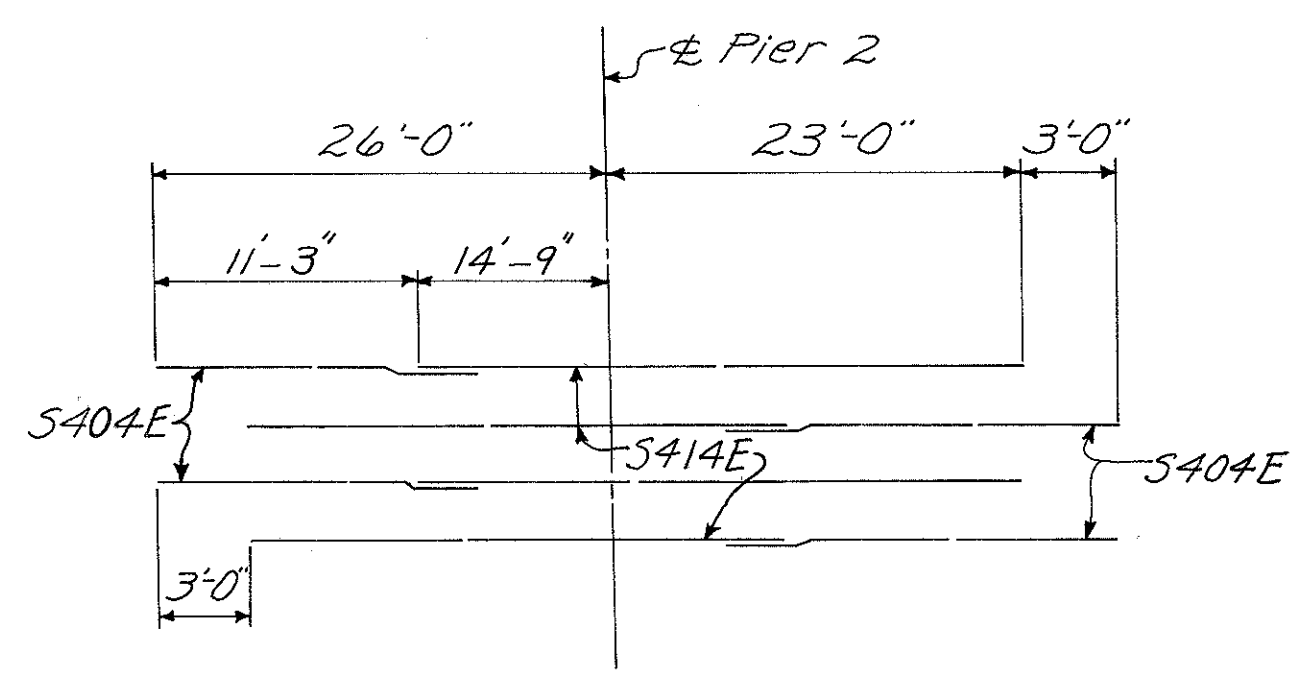
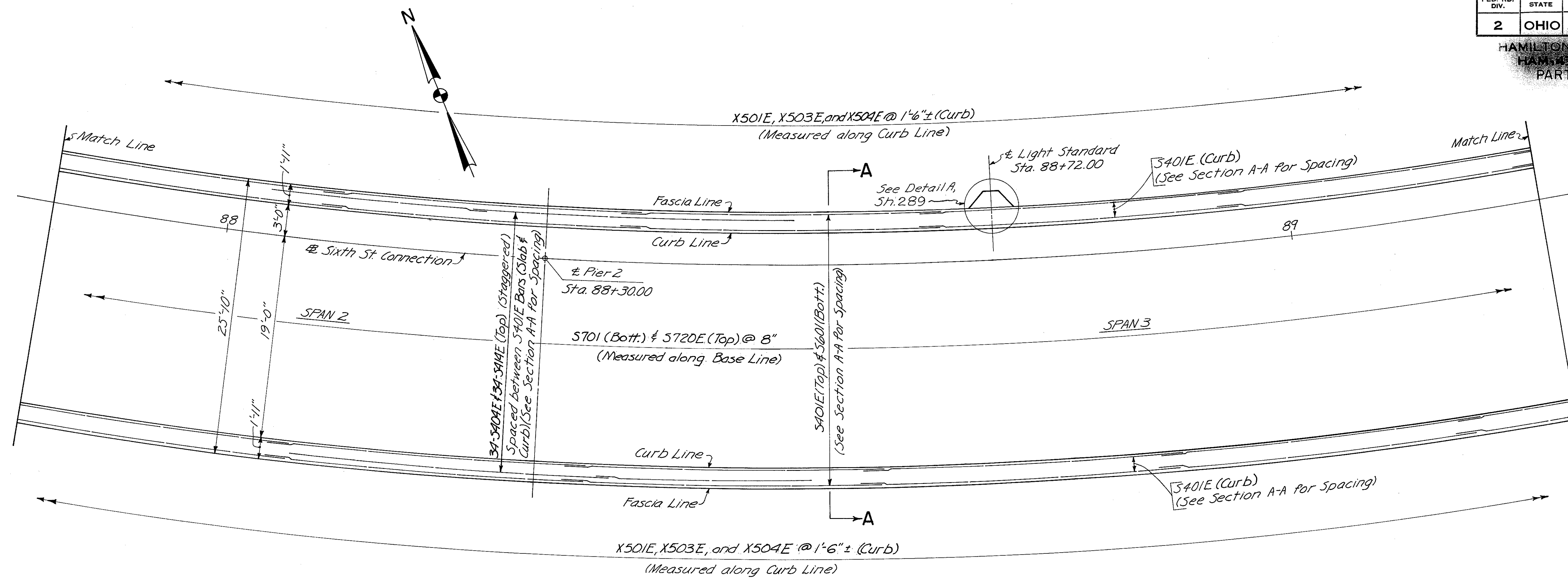
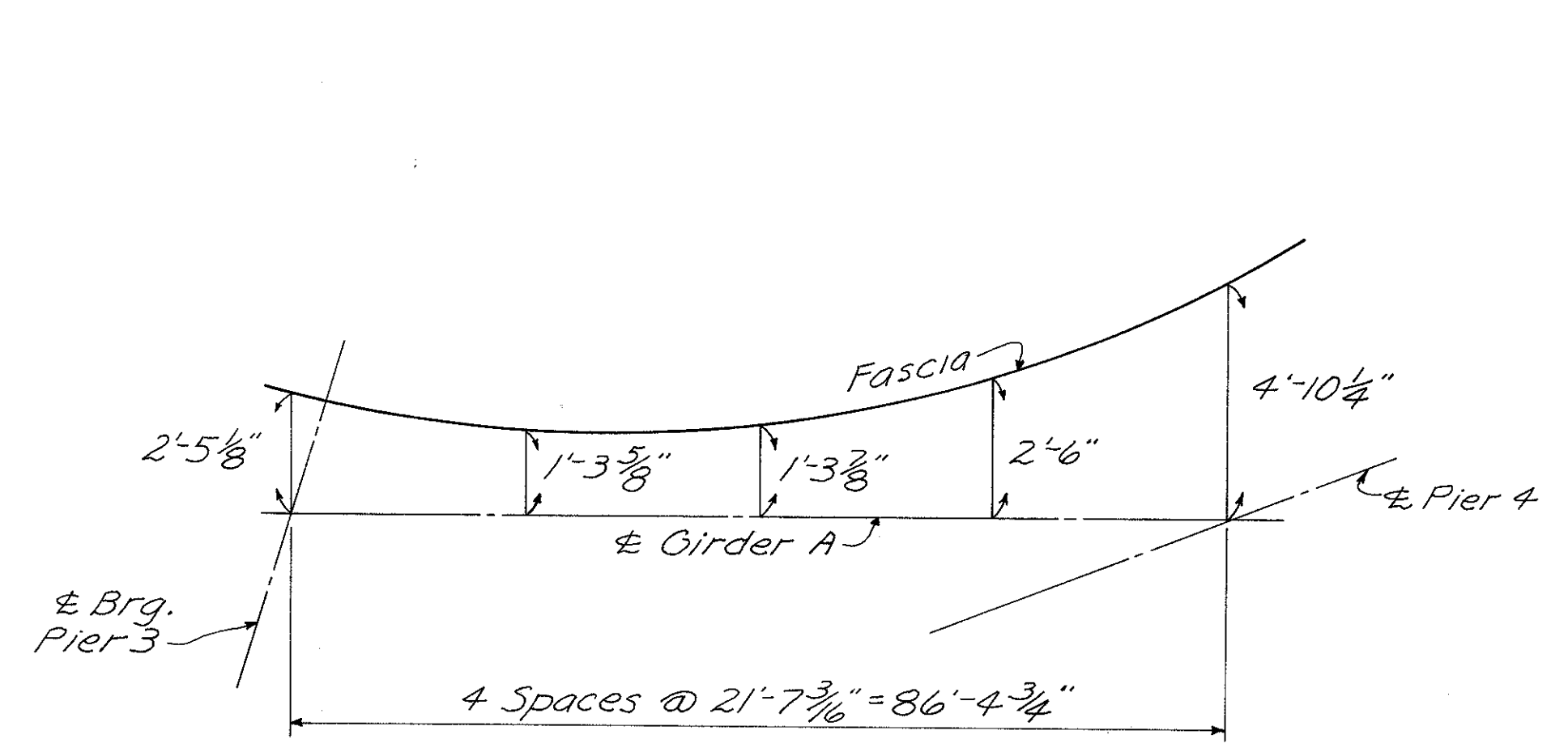
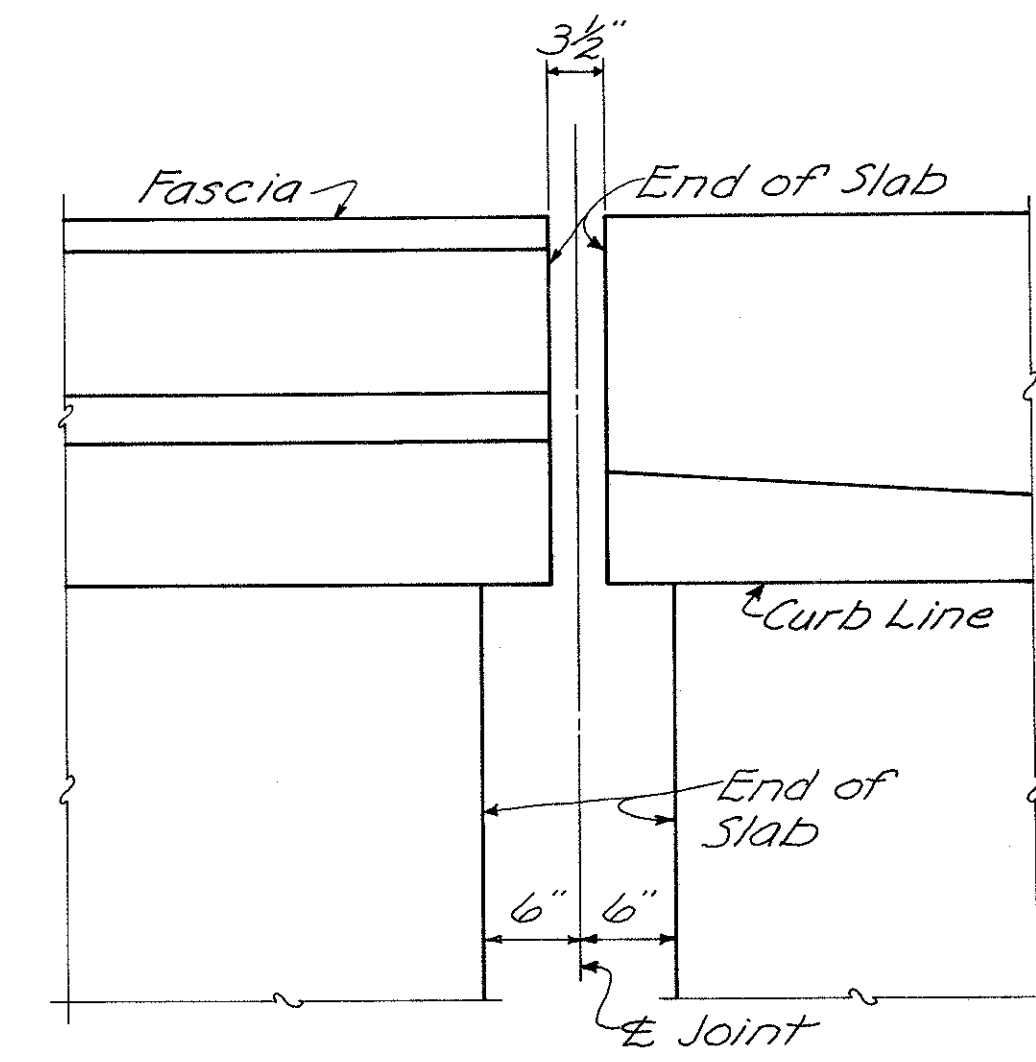


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIER 2



NORTH FASCIA OFFSETS
(Span 4)

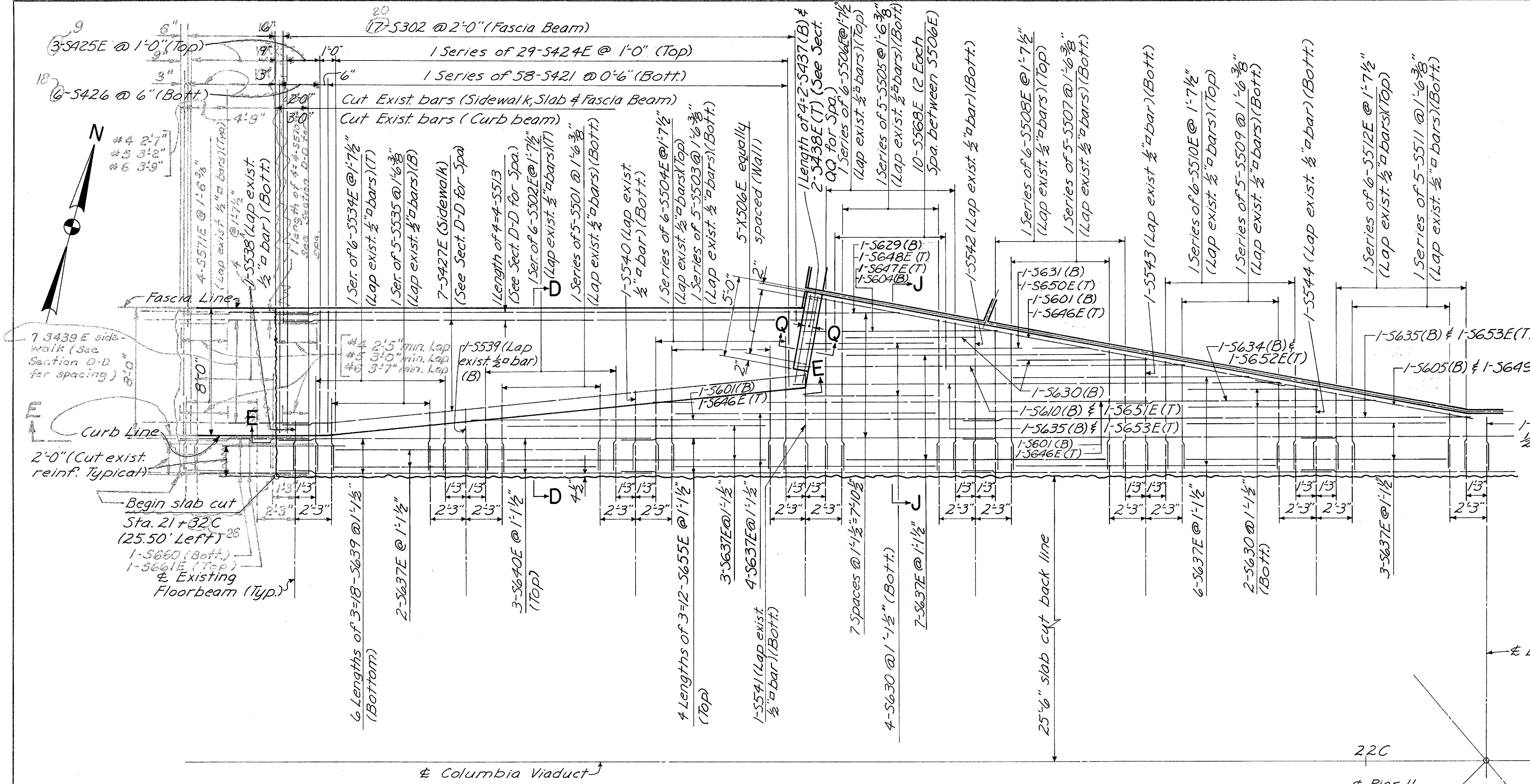


DETAIL C

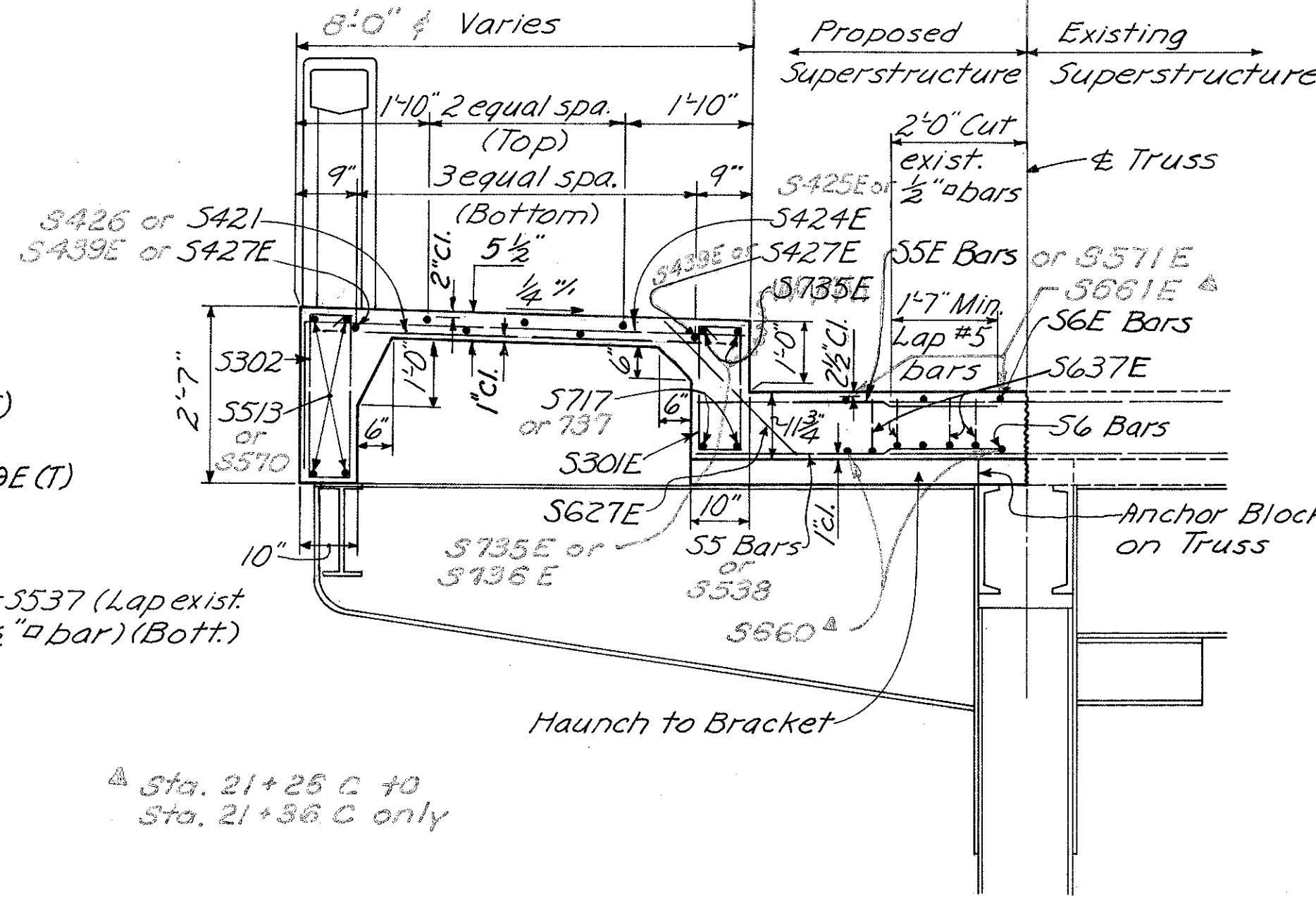
For Notes, see Sh. 289.
For Section A-A, see Sh. 289.
For location of Detail C, see Sh. 291.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					24/A1
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-					
RELOCATED SIXTH STREET					
OFF COLUMBIA VIADUCT					
H & E BRIDGE No. 7					
DESIGNED	DRAWN	CHECKED	TRACED	REVIEWED DATE	REVISED
	CE5	ROH		JH0 3-24-82	

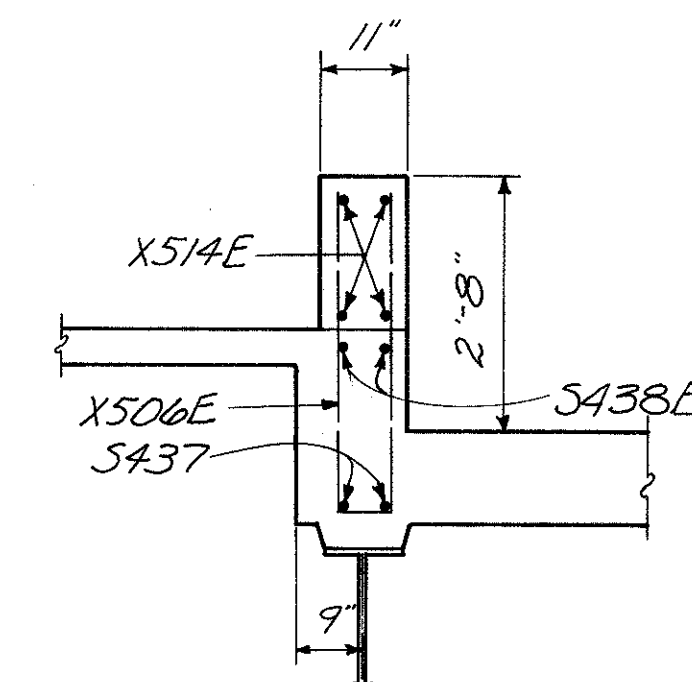
HAMILTON COUNTY
HAM-471-024
PART TWO



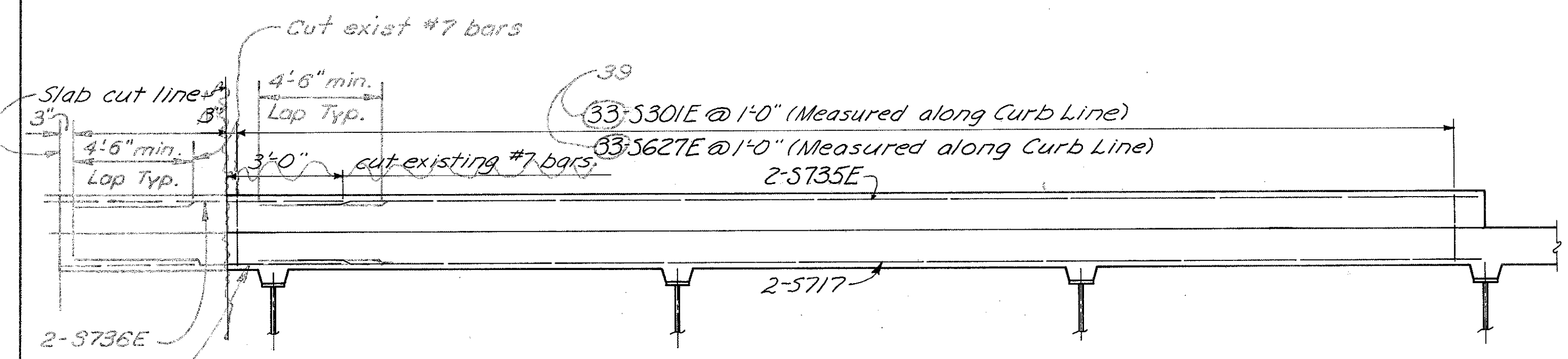
PLAN
(Railings not shown)



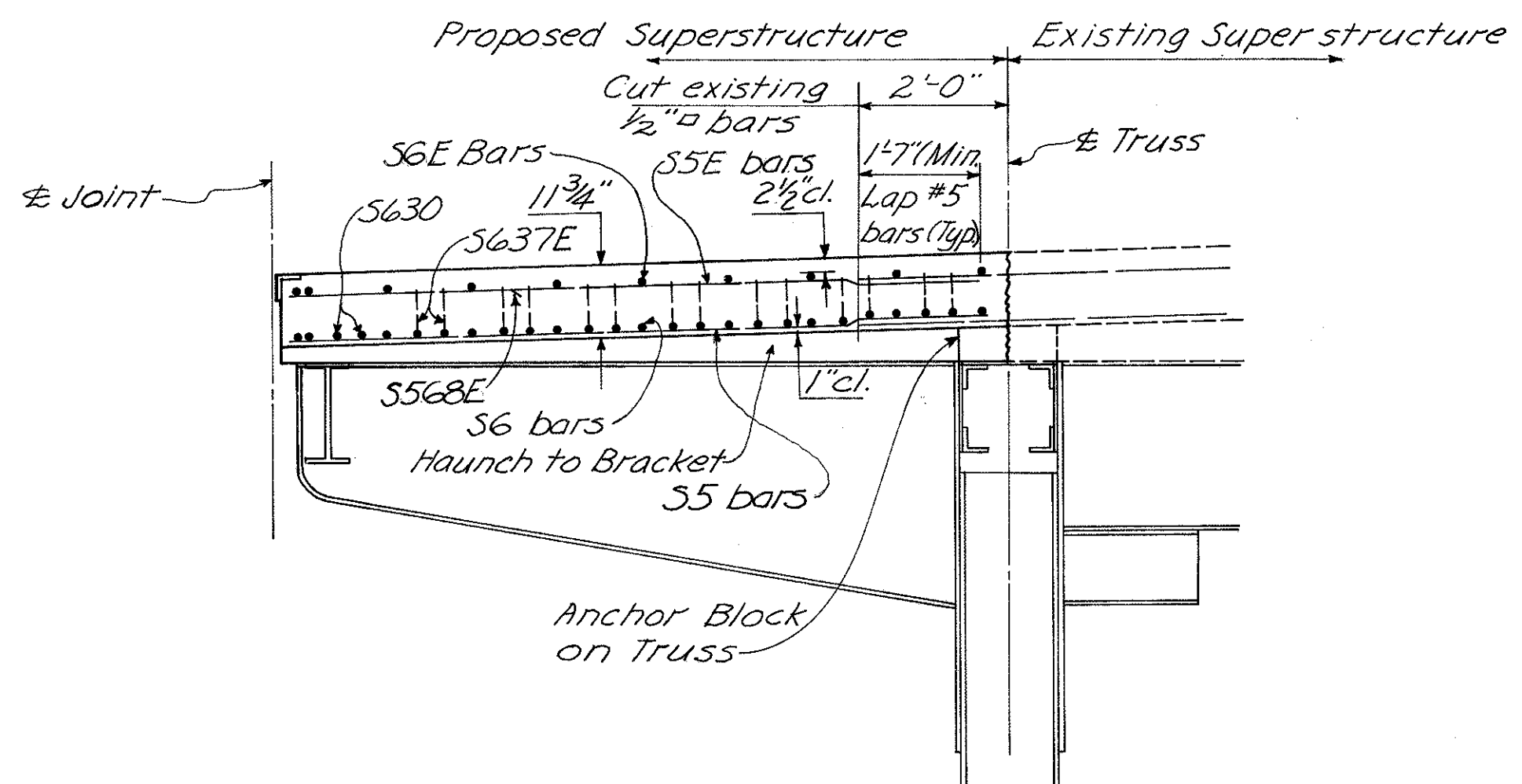
SECTION D-D



SECTION Q-Q



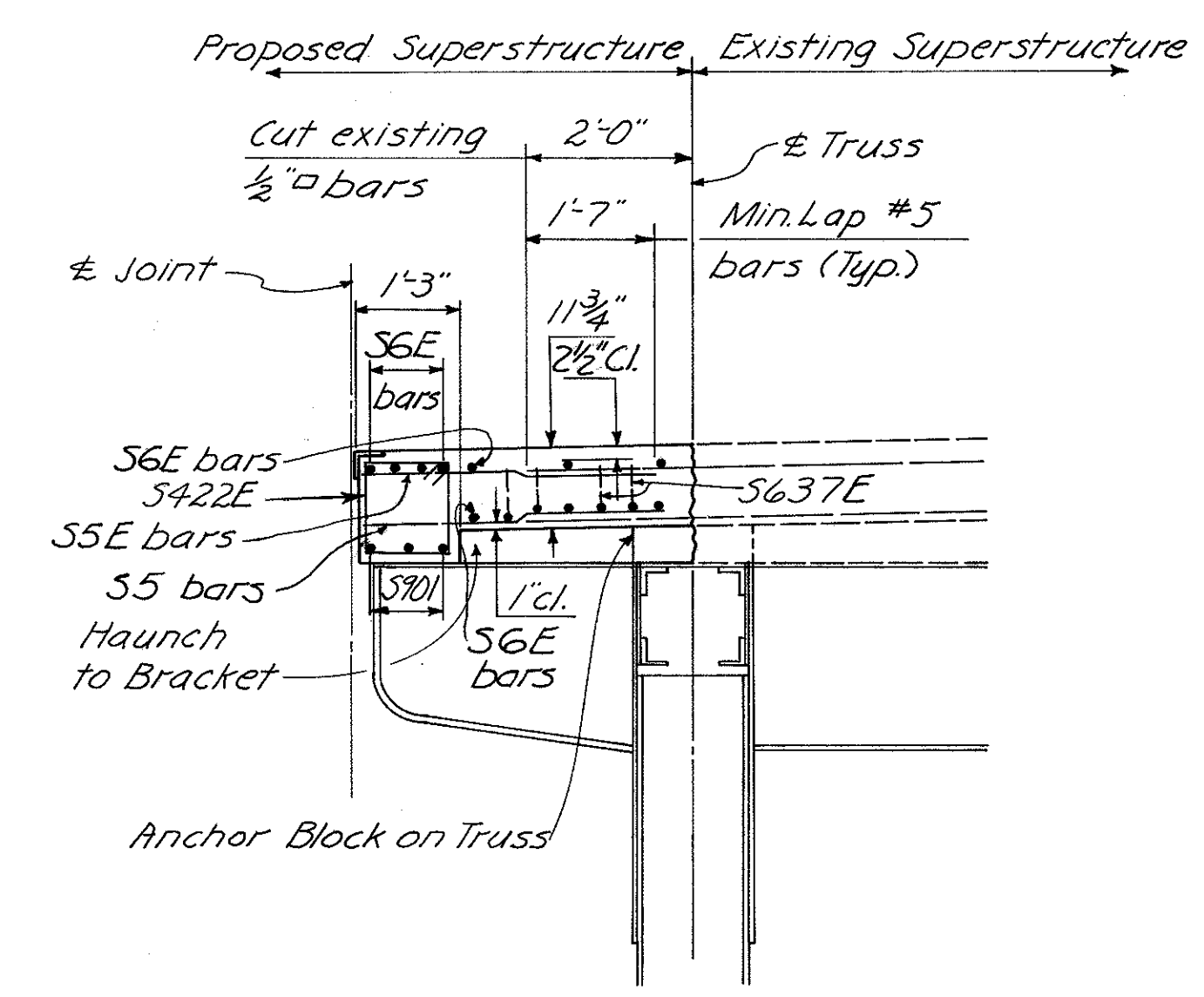
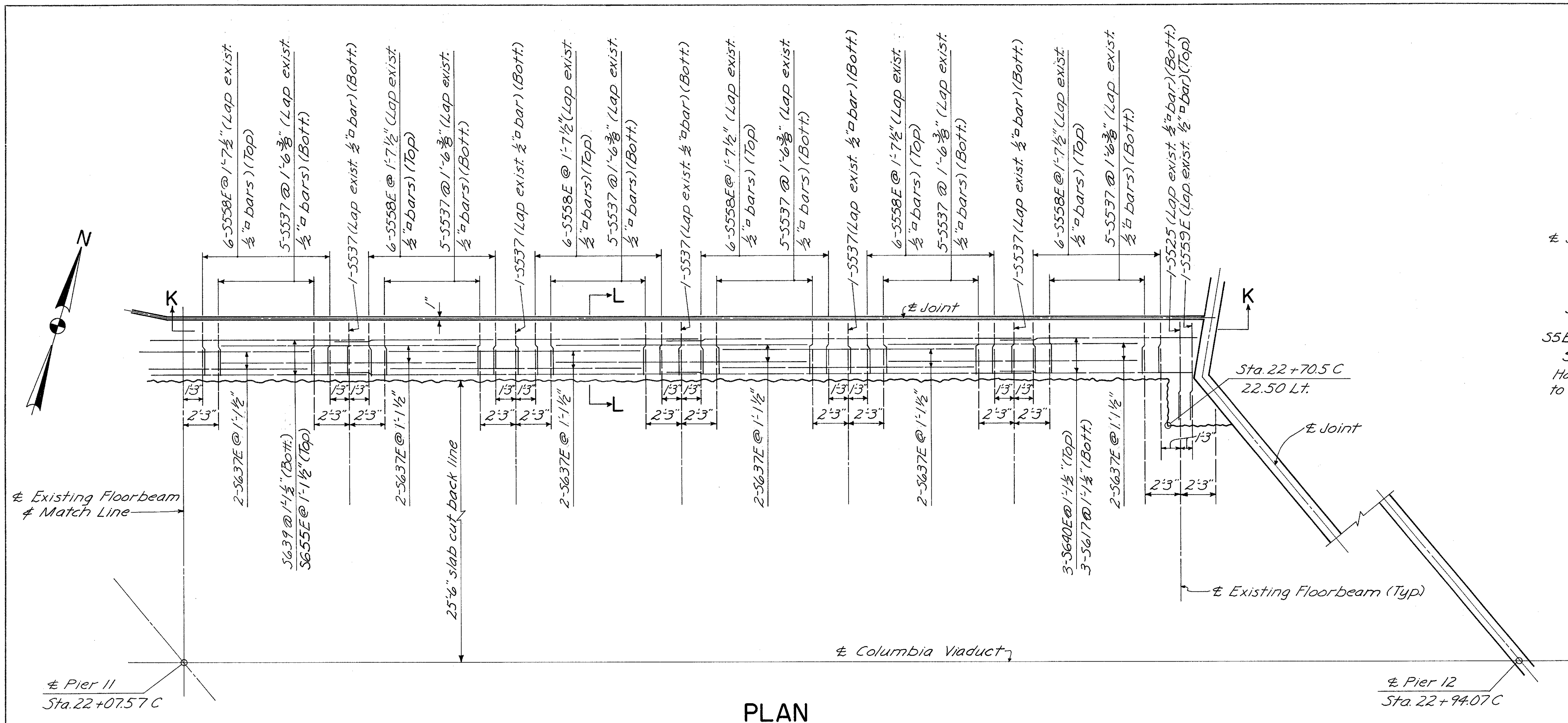
SECTION E-E
(Curb Beam)



SECTION J-J

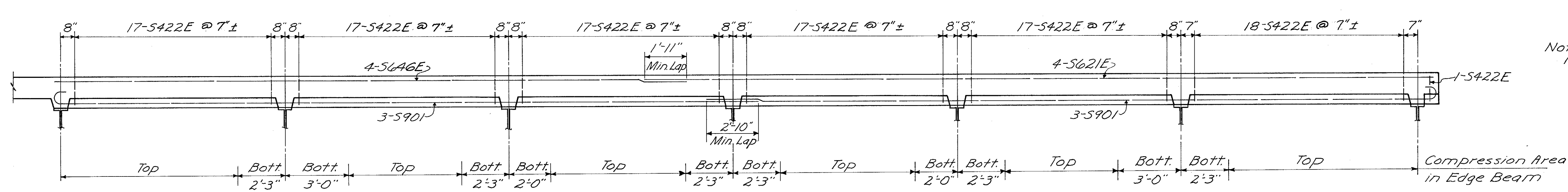
Notes:
T denotes Top
B denotes Bottom
For other notes, see Sh. 289.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				26/41
SUPERSTRUCTURE DETAILS				
BRIDGE NO. HAM-471-				
RELOCATED SIXTH STREET				
OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
CES	CES	ROH	JH	3-24-82
				REVISED
				3-23-88



PLAN

SECTION L-L



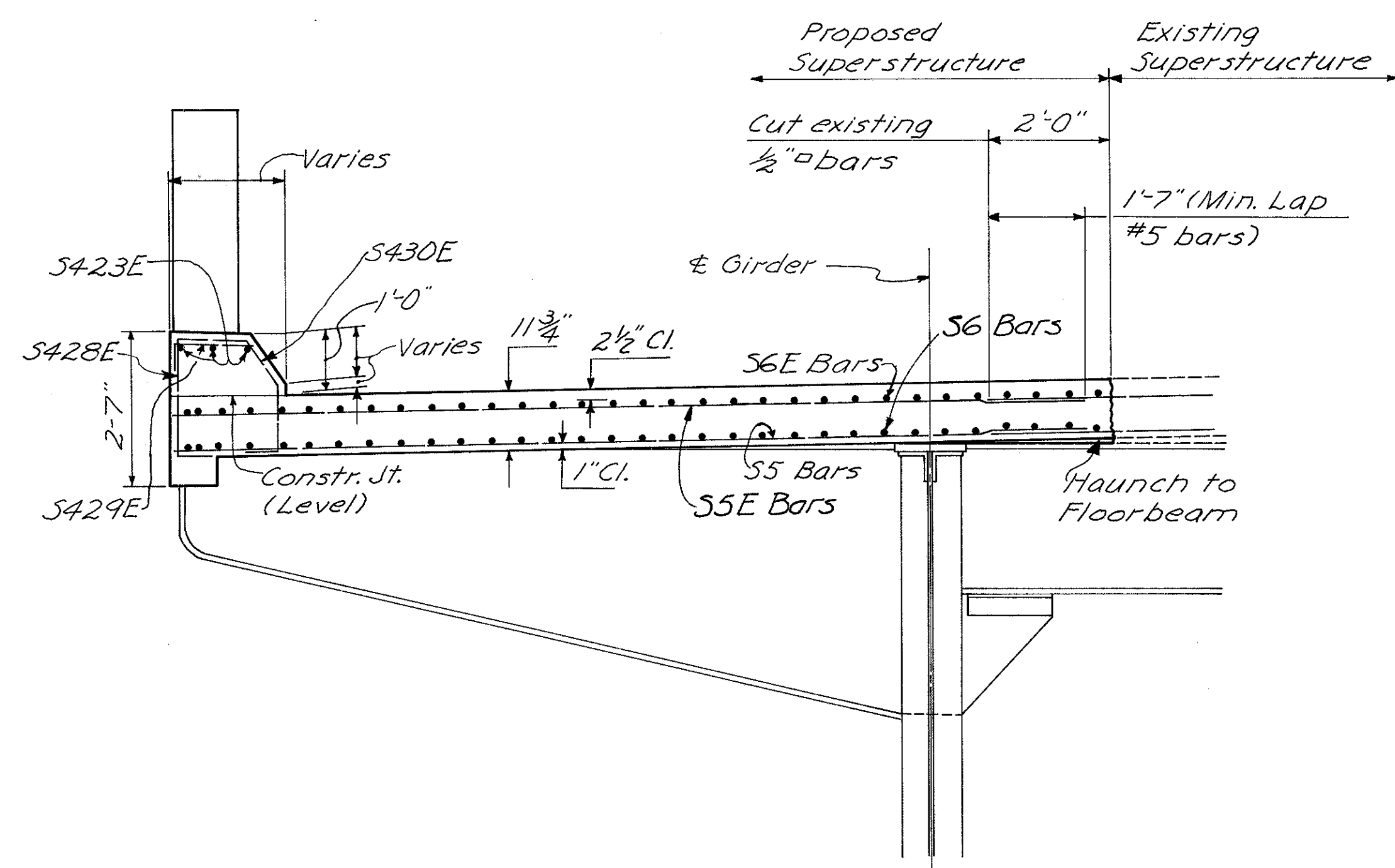
SECTION K-K

Notes:
For other notes, see Sh. 289.

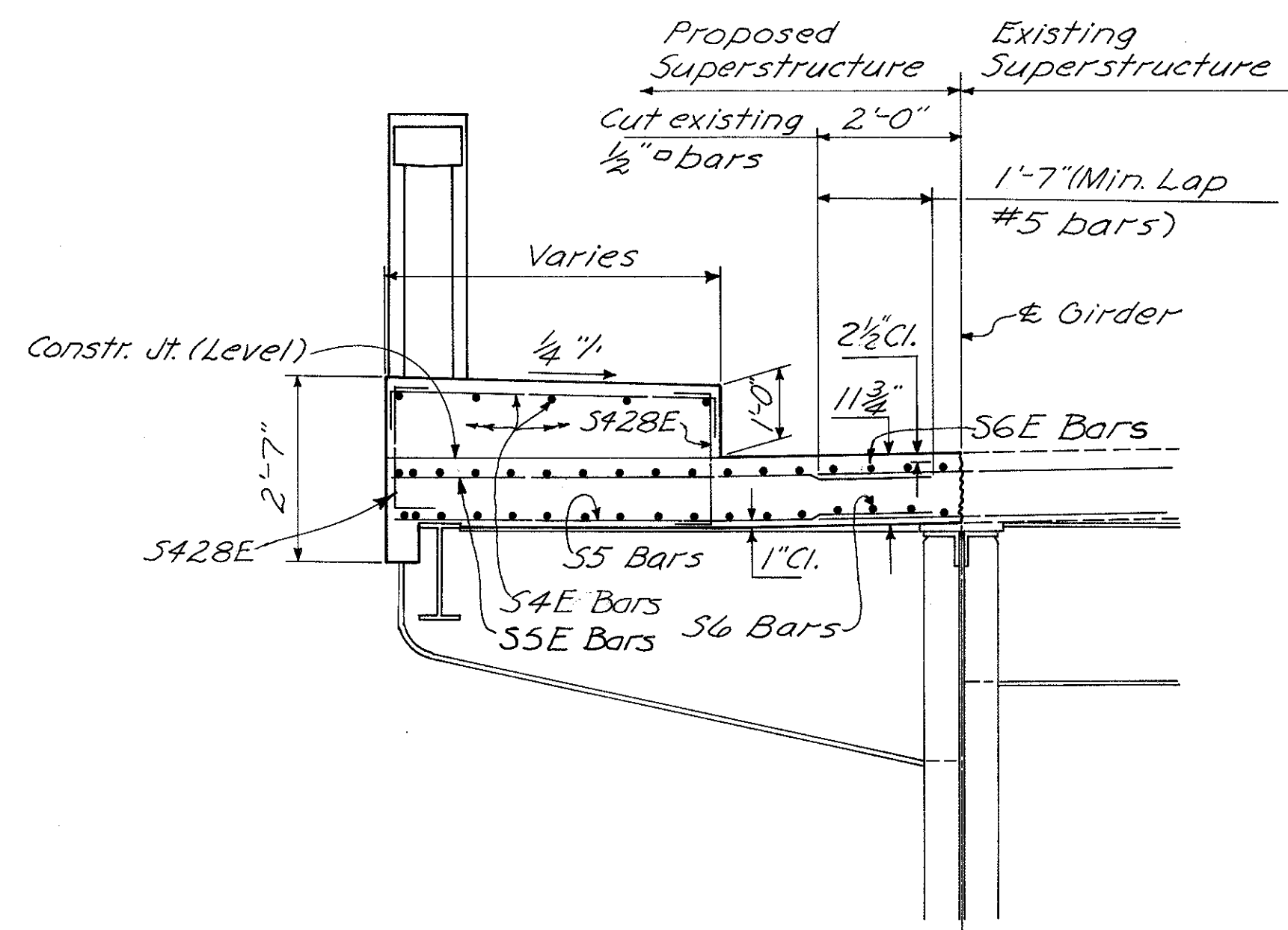
Note: Hooked corner of Stirrup S422E to be placed in compression area of beam.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				27/AL
SUPERSTRUCTURE DETAILS BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
CE5	CE5	ROH	JH0	3-24-82

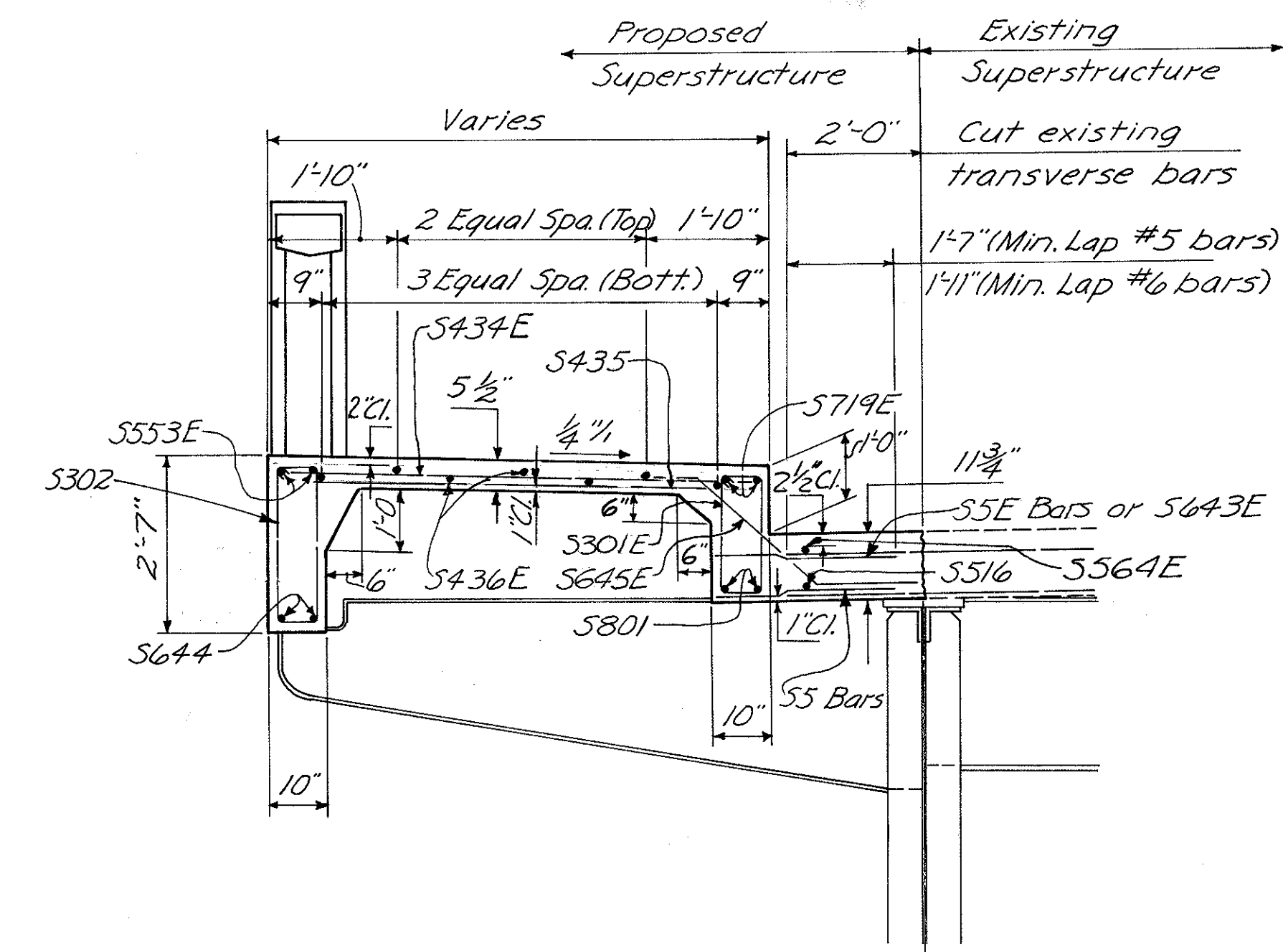
HAMILTON COUNTY
HAM-471-0.24
PART TWO



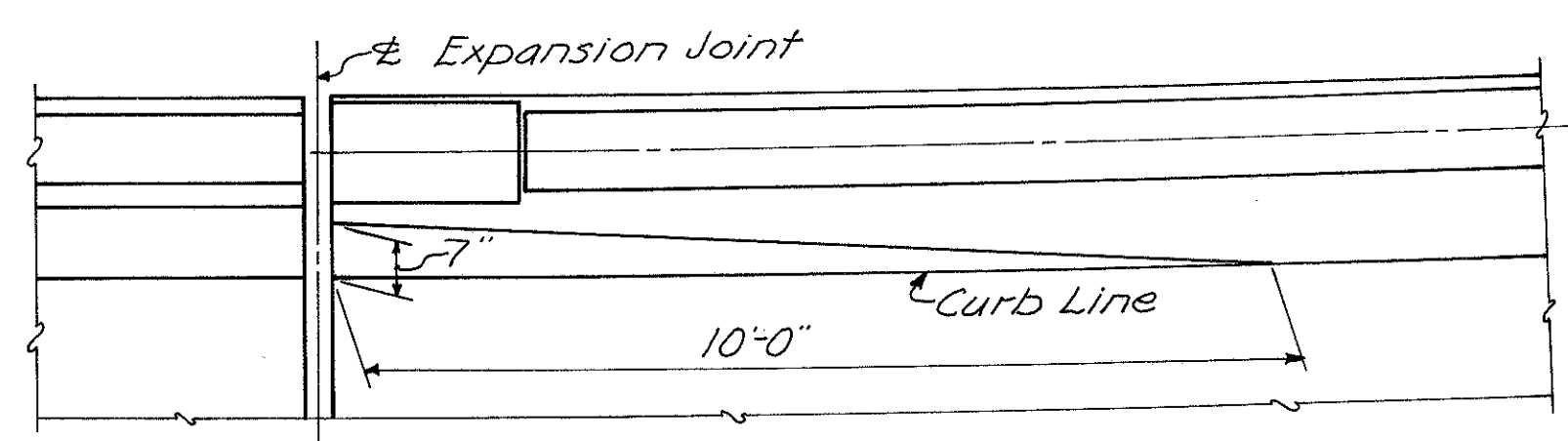
SECTION M-M



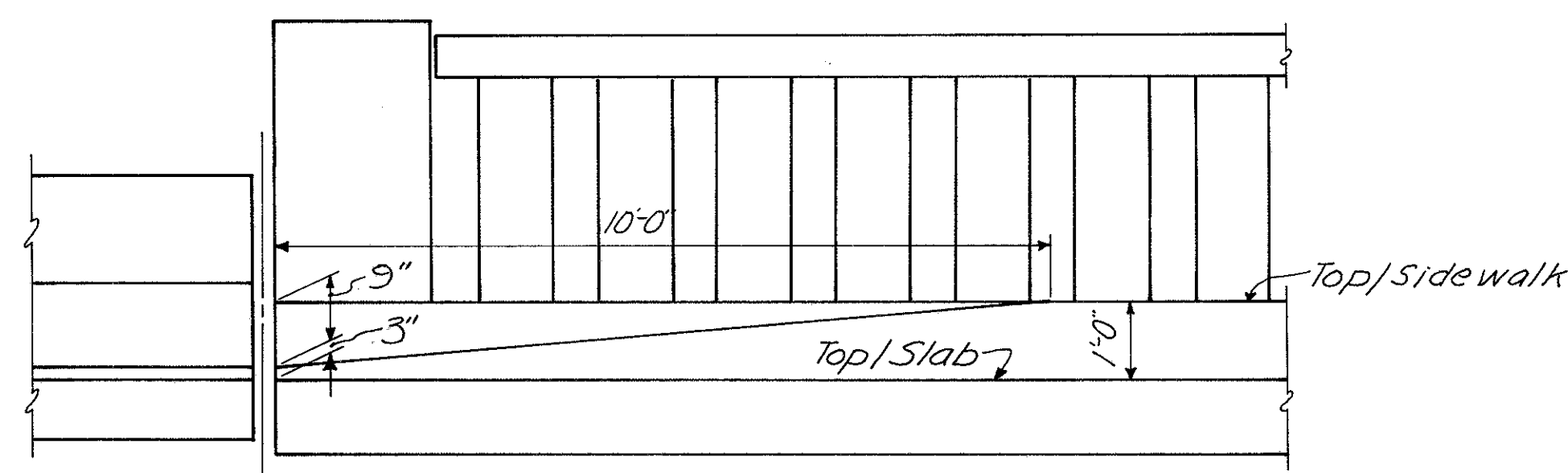
SECTION N-N



SECTION P-P



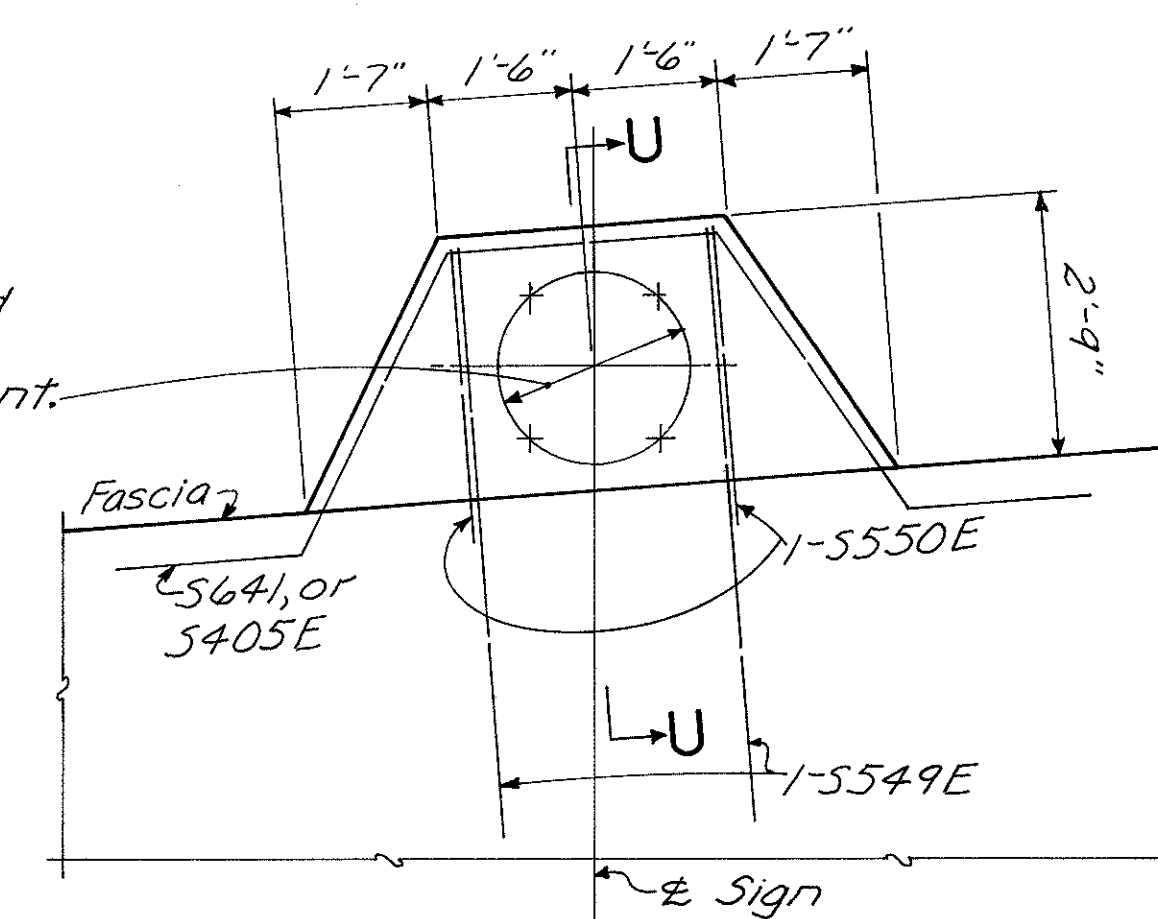
PLAN



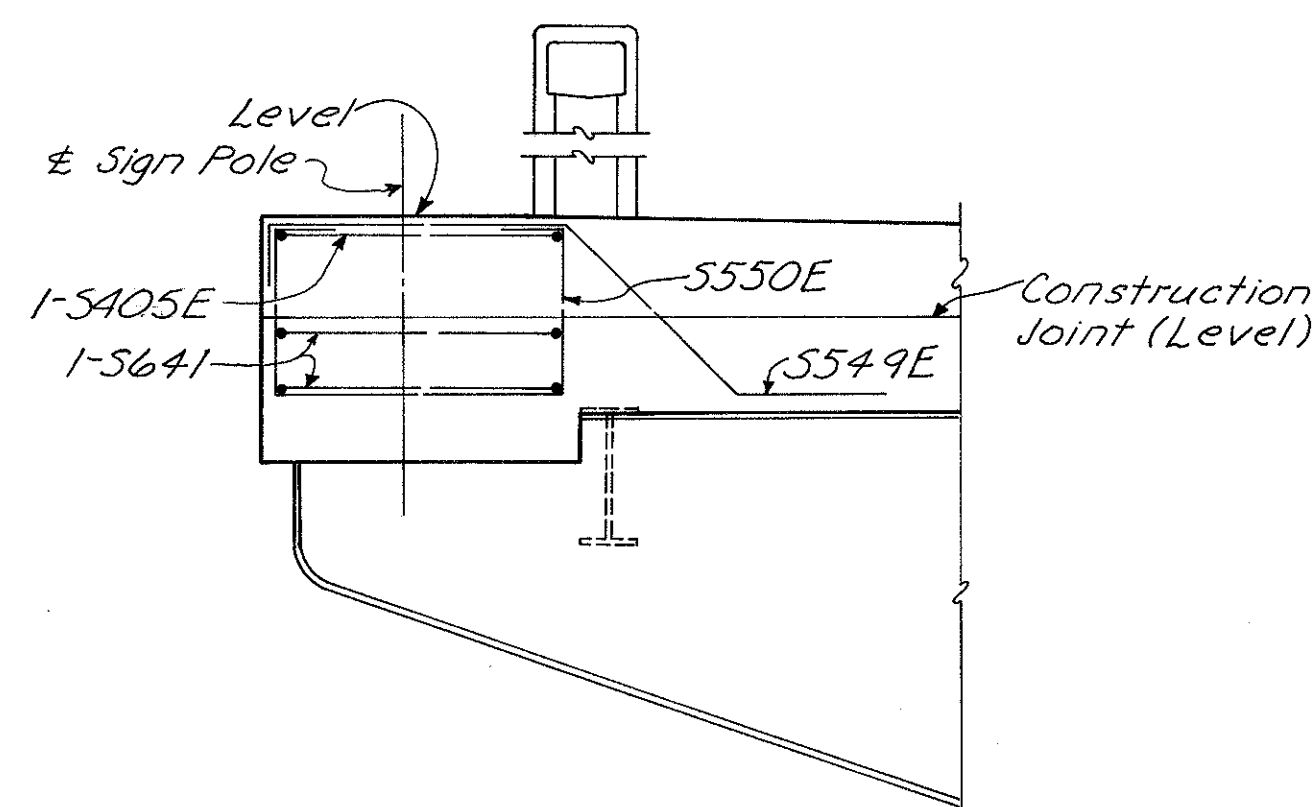
ELEVATION

DETAIL OF CURB TRANSITION

25 1/2" Bolt Circle, 2 1/4" φ Anchor Bolts, Included with Item 816, Sign Support, for payment.



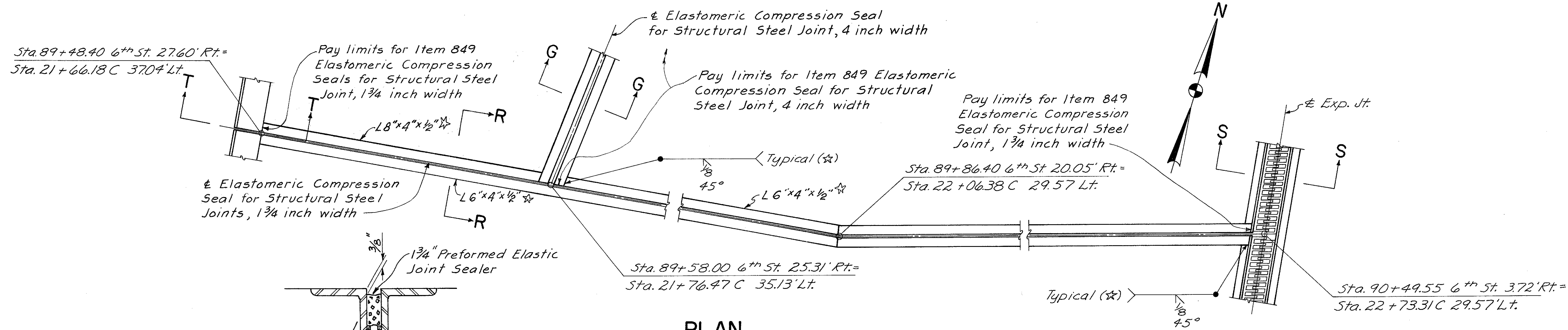
DETAIL E



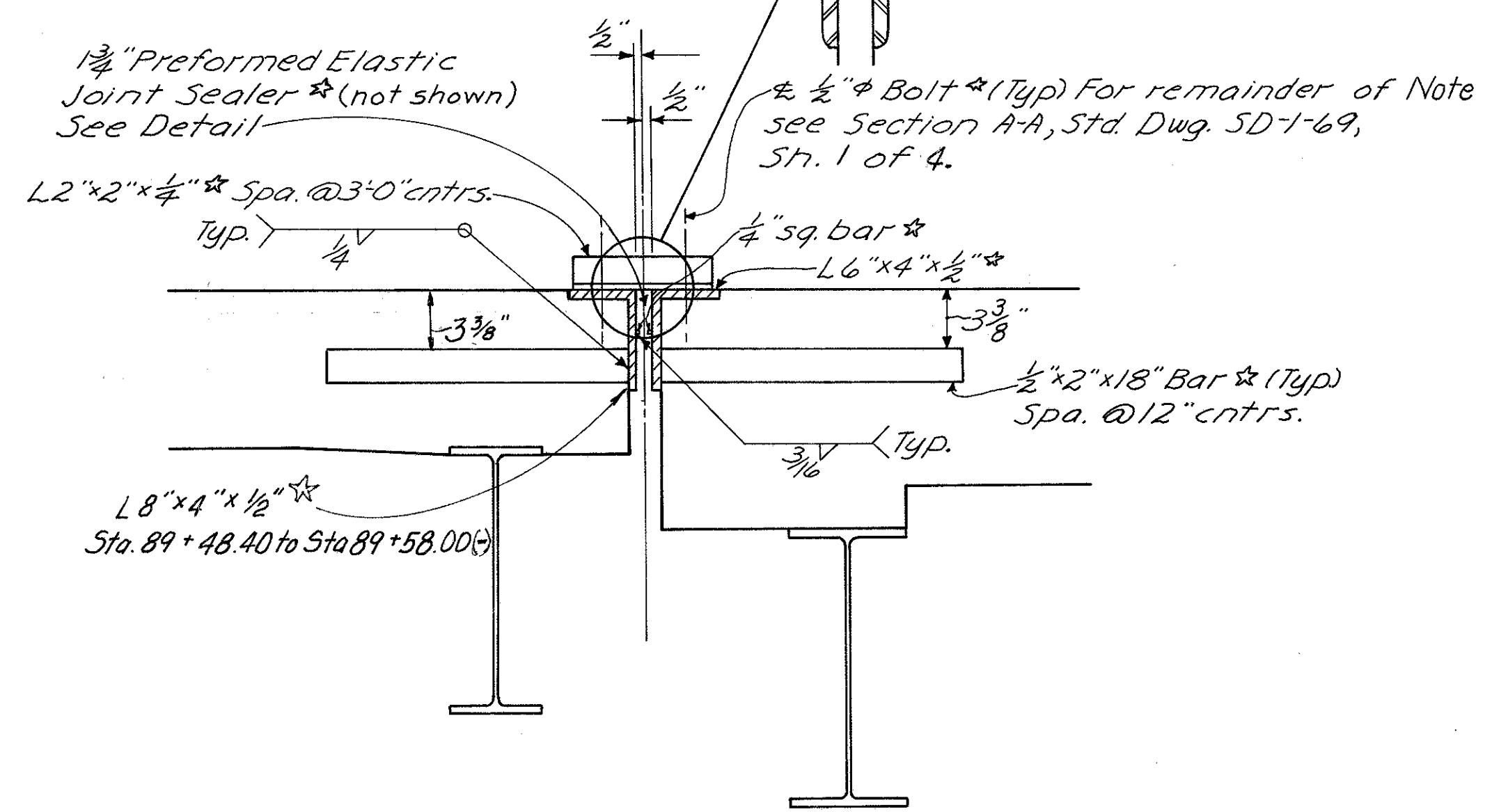
SECTION U-U

Notes:
For other notes, see Sh. 289.

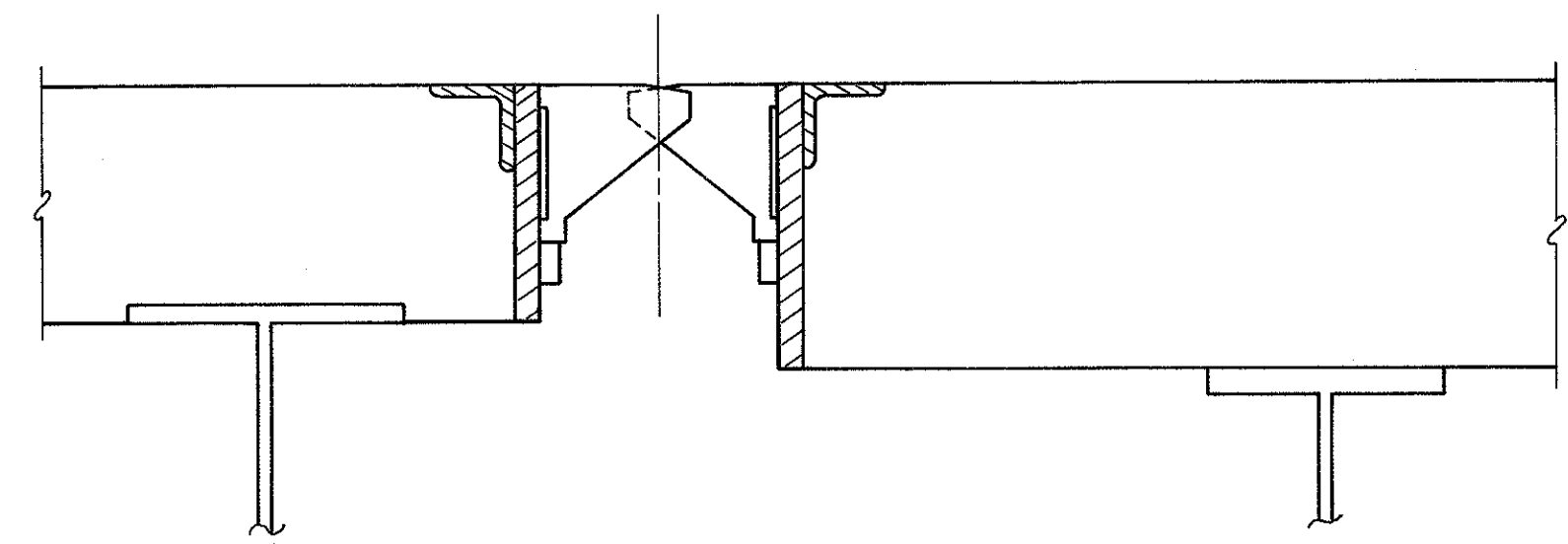
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					29/A
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-					
RELOCATED SIXTH STREET					
OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES	CES	ROH	JH0 3-24-82	



PLAN

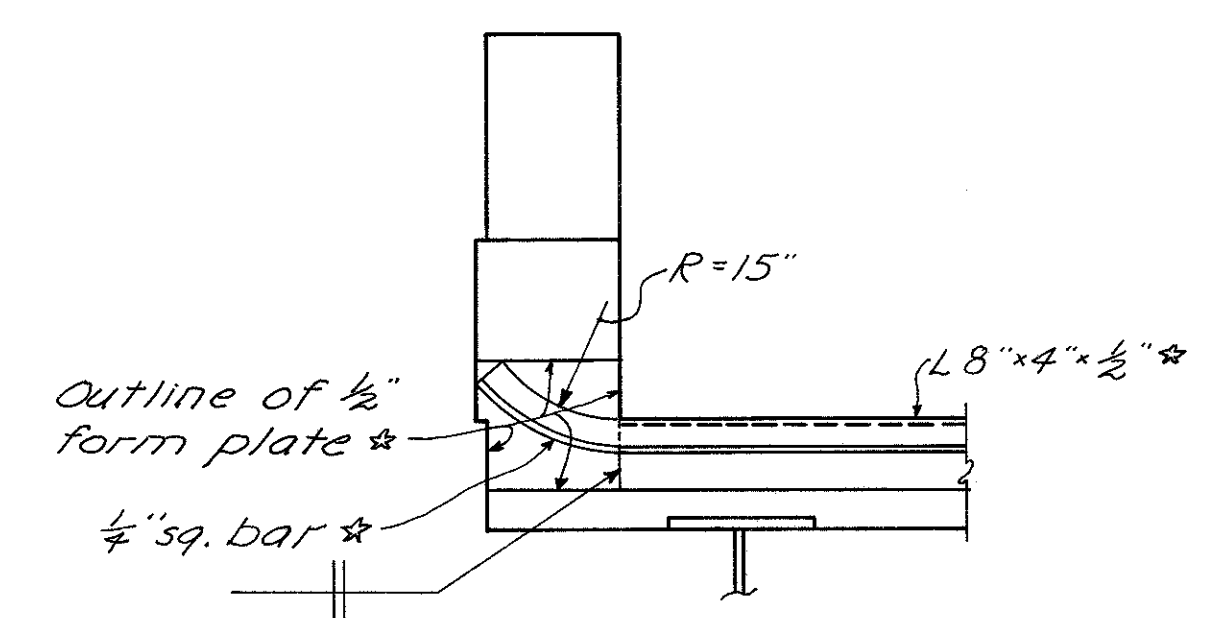


SECTION R-R

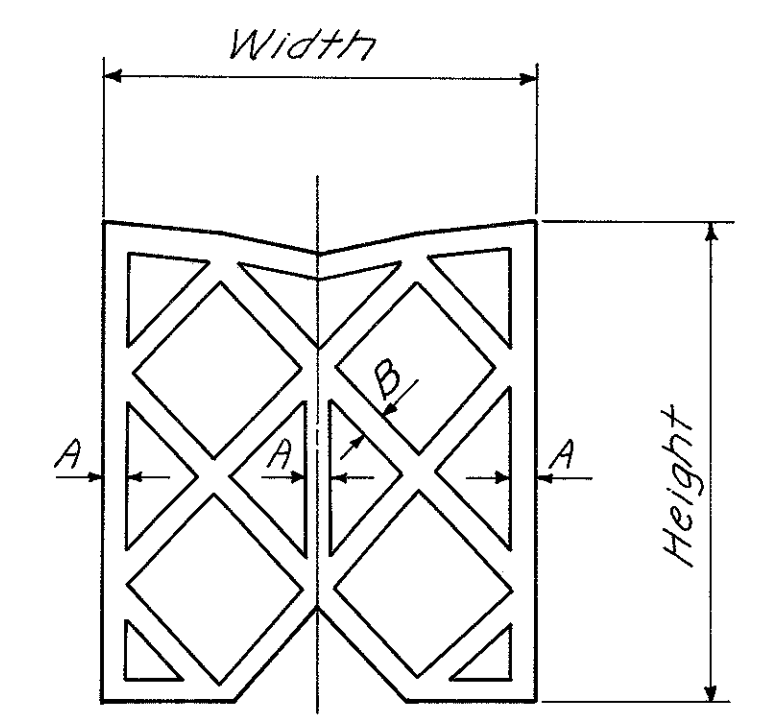


SECTION S-S

All items in above section are in storage. Erection is to be included with Item 513, Expansion Joint at Existing Pier 12 Installed for payment. For Details see sheet 287.



SECTION T-T



DETAIL OF PREFORMED ELASTIC JOINT SEALER

SEAL TOLERANCES			
Width	Height	Thickness	
		A	B
1 3/4" +3/16 -0	2" ± 1/8"	1/8" +1/32 -1/64	3/16" +1/32 -1/64
4" +3/16 -0	4 3/32" ± 1/4"	1/4" +3/64 -1/64	3/16" +3/64 -1/64

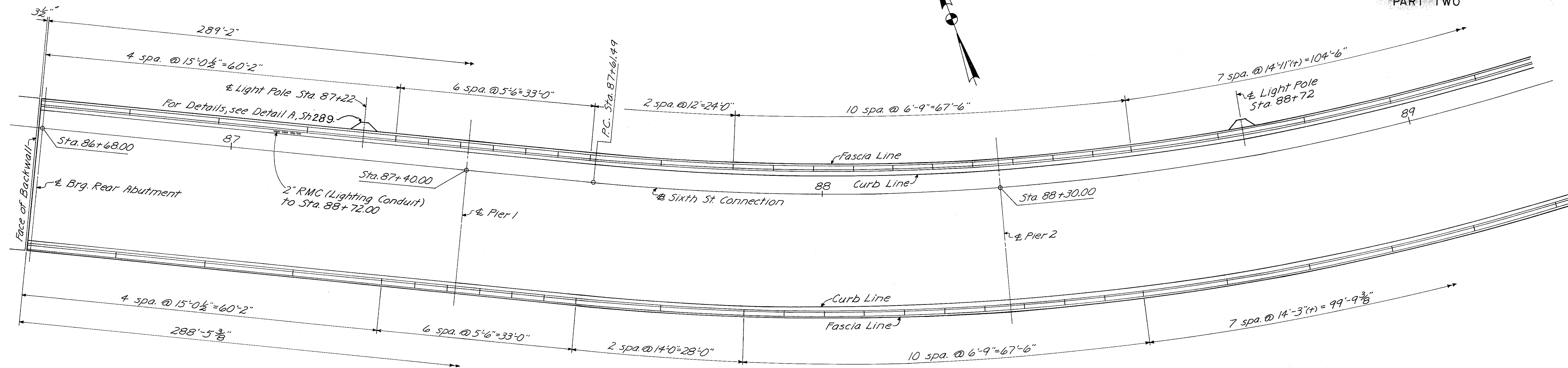
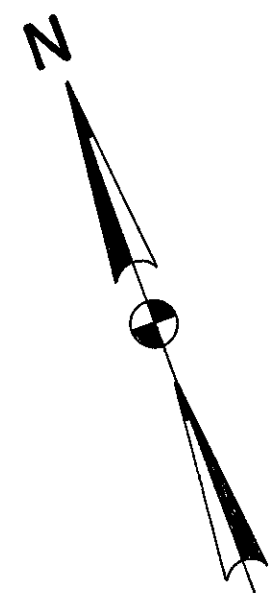
Notes: For Section G-G, see Sheet 291
All items shown with a star (☆) are to be included with Item 849, Elastomeric Compression Seals for Structural Steel Joint, 1 3/4 inch width, for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				30/41
SUPERSTRUCTURE DETAILS				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H & E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	CE5	CE5	ROH	JH0 3-24-82

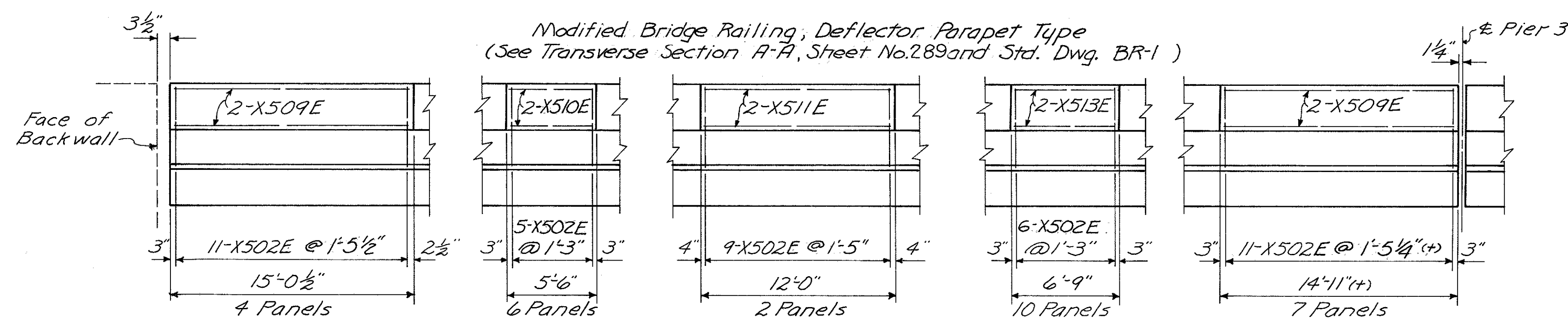
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

297
346

HAMILTON COUNTY
HAM-471-024
PART TWO

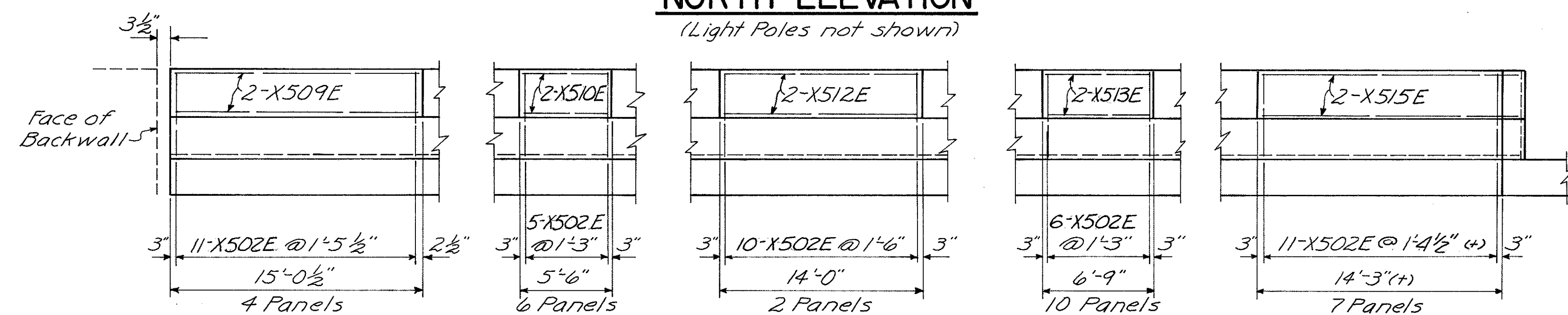


PLAN



NORTH ELEVATION

(Light Poles not shown)



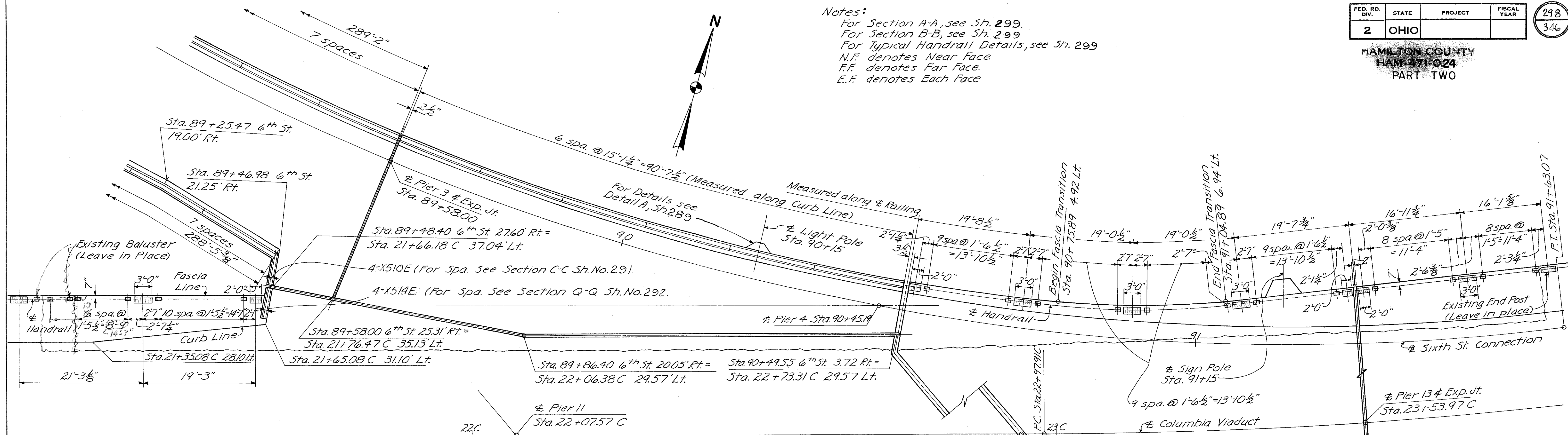
SOUTH ELEVATION

Notes: Parapet deflection joint spacing measured along Curb Line.
Field bend longitudinal X5E bars as required.

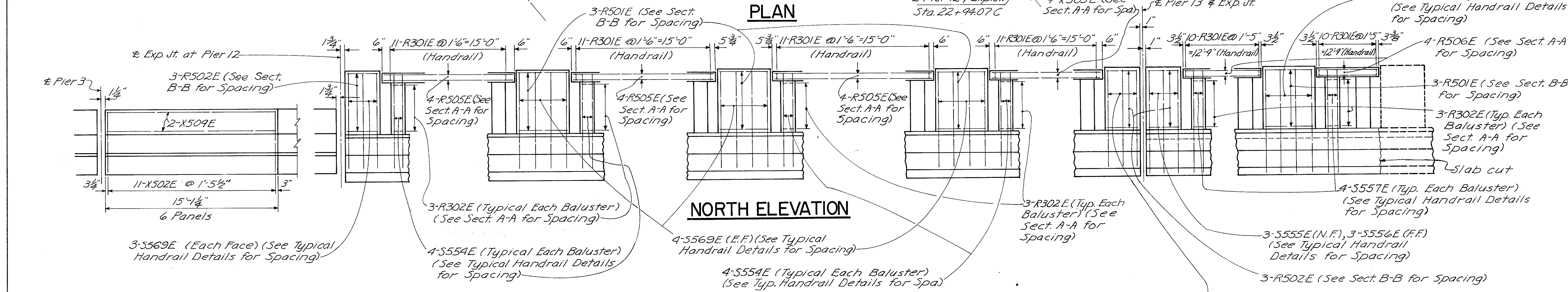
For Conduit Expansion at abutment, see Std. Dwg. HL-5.
For Lighting Plan, see Sh. No. 124.
For Structure Lighting Details see Std. Dwg. HL-4.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					31/41
RAILING & LIGHTING DETAILS					
BRIDGE NO. HAM-471-					
RELOCATED SIXTH STREET					
OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES	CES	ROH	JH 3-24-82	

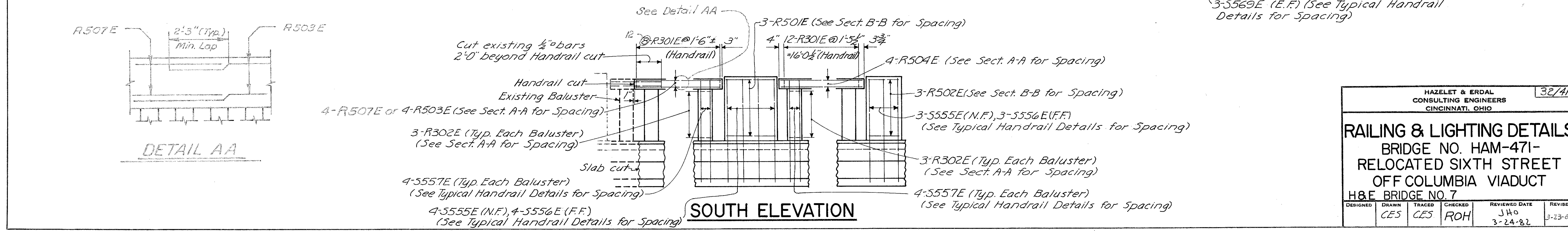
Notes:
For Section A-A, see Sh. 299.
For Section B-B, see Sh. 299.
For Typical Handrail Details, see Sh. 299.
N.F. denotes Near Face.
F.F. denotes Far Face.
E.F. denotes Each Face.



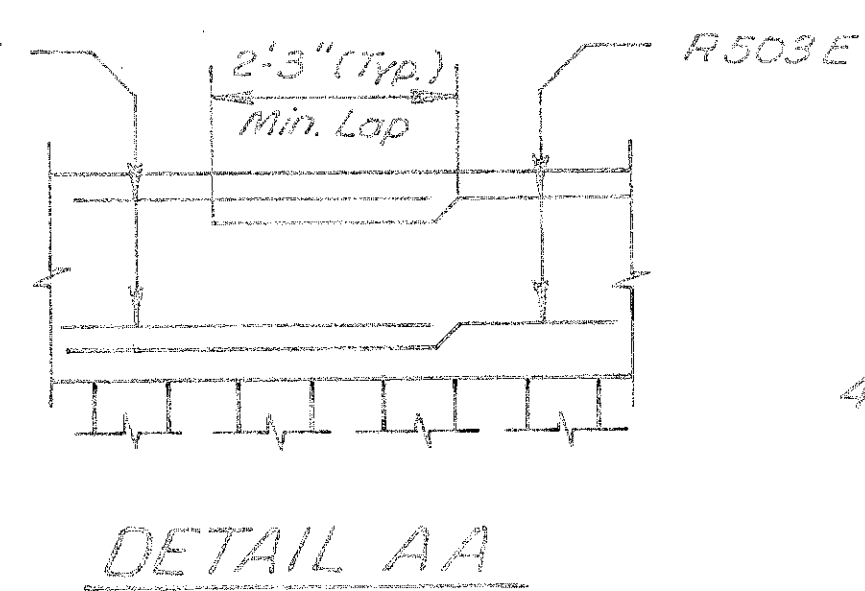
PLAN



NORTH ELEVATION



SOUTH ELEVATION



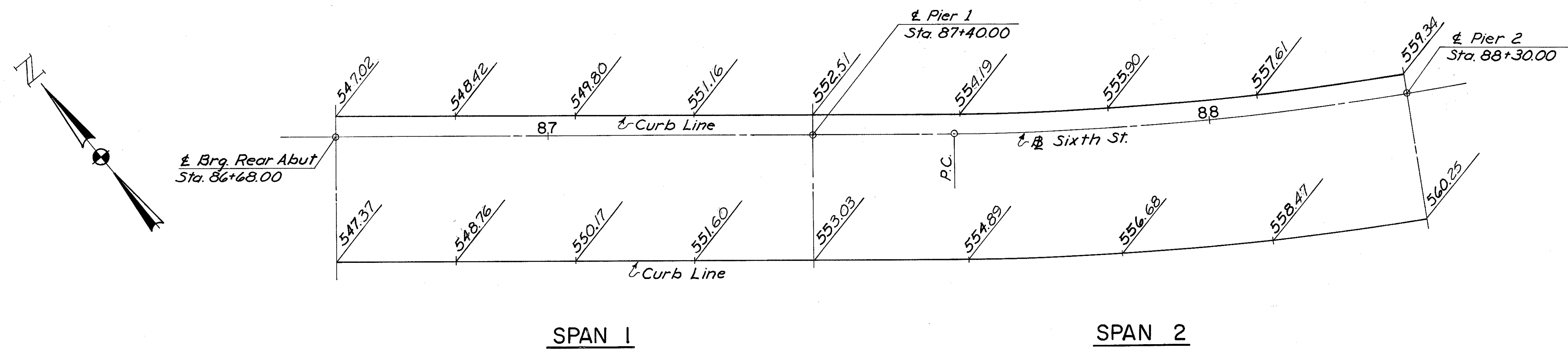
DETAIL AA

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				32/41
RAILING & LIGHTING DETAILS				
BRIDGE NO. HAM-471-				
RELOCATED SIXTH STREET				
OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
CES	CES	ROH	JH0	3-24-82
				REVISED
				3-23-84

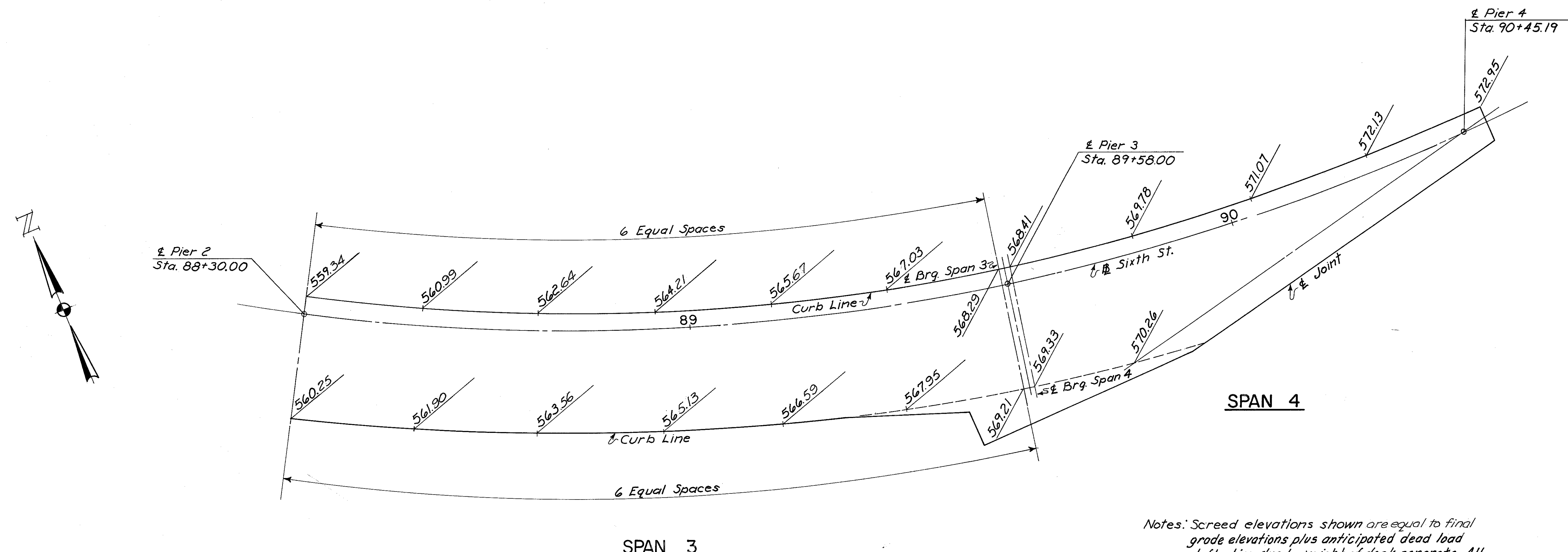
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

300
346

HAMILTON COUNTY
HAM-471-024
PART TWO



PLAN



PLAN

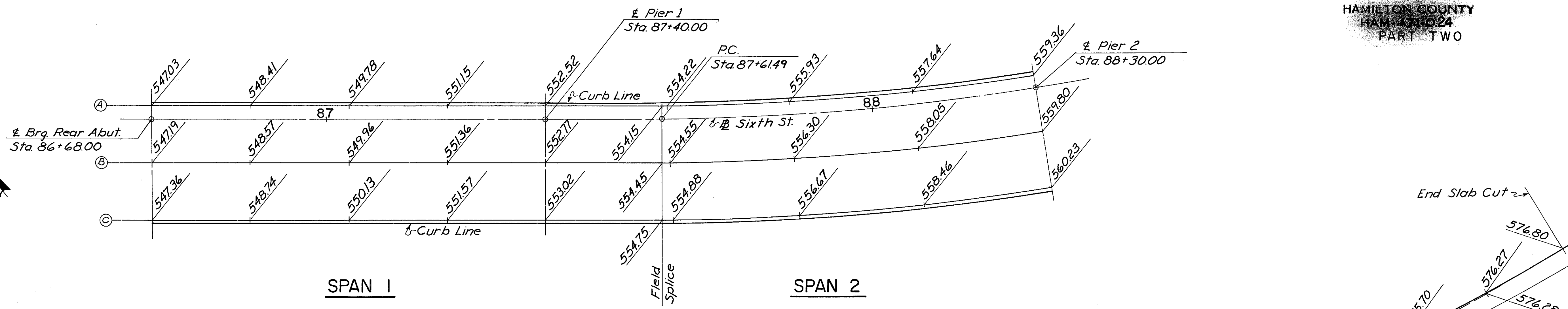
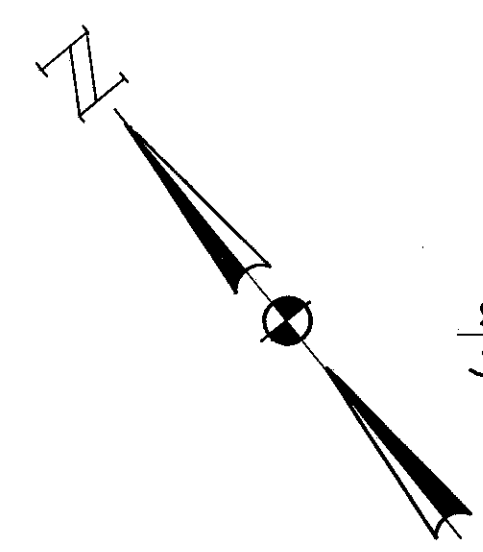
Notes: Screed elevations shown are equal to final grade elevations plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at 1/4 point of spans (measured along their own curb lines) and at bearings unless noted otherwise.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					3-4/41
SCREED ELEVATIONS					
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT					
H. & E. BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	DBS	RJF	ROH	JHO 3-24-82	

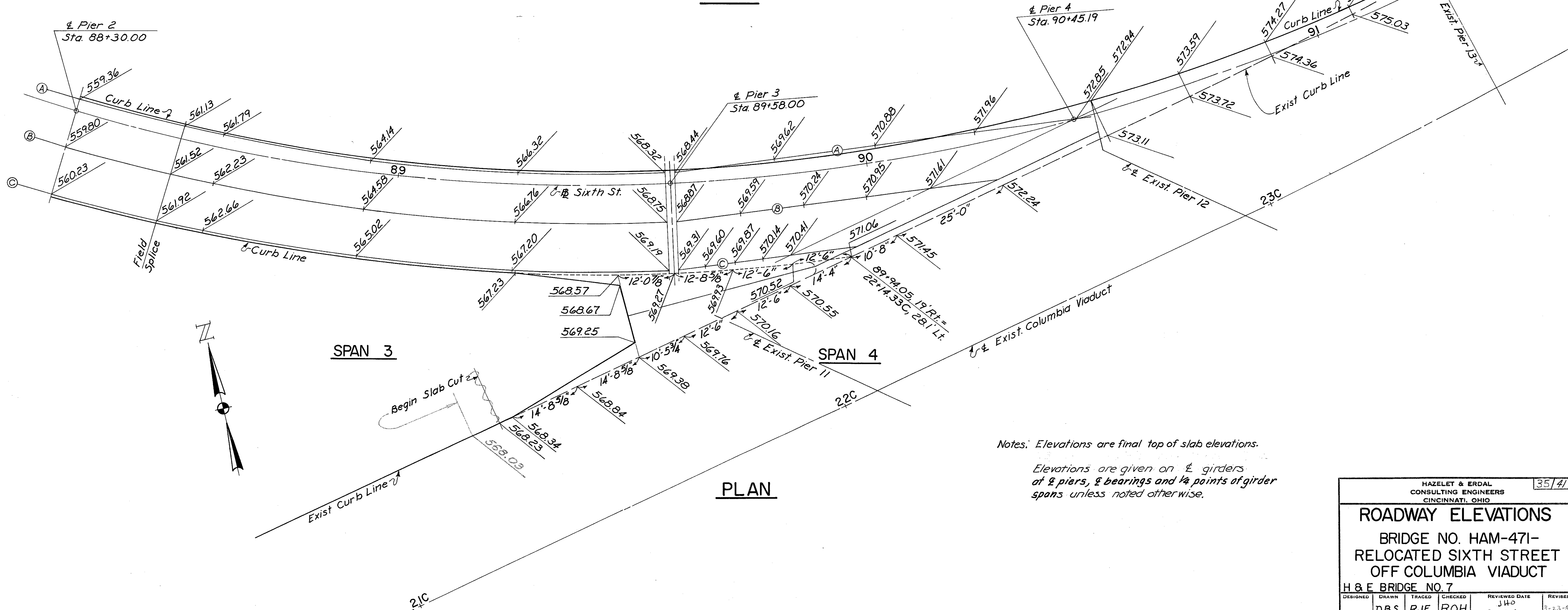
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

301
346

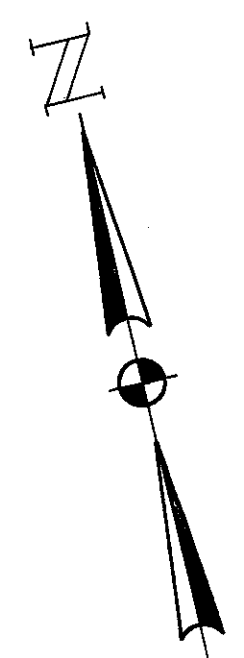
HAMILTON COUNTY
HAM-471-024
PART TWO



PLAN



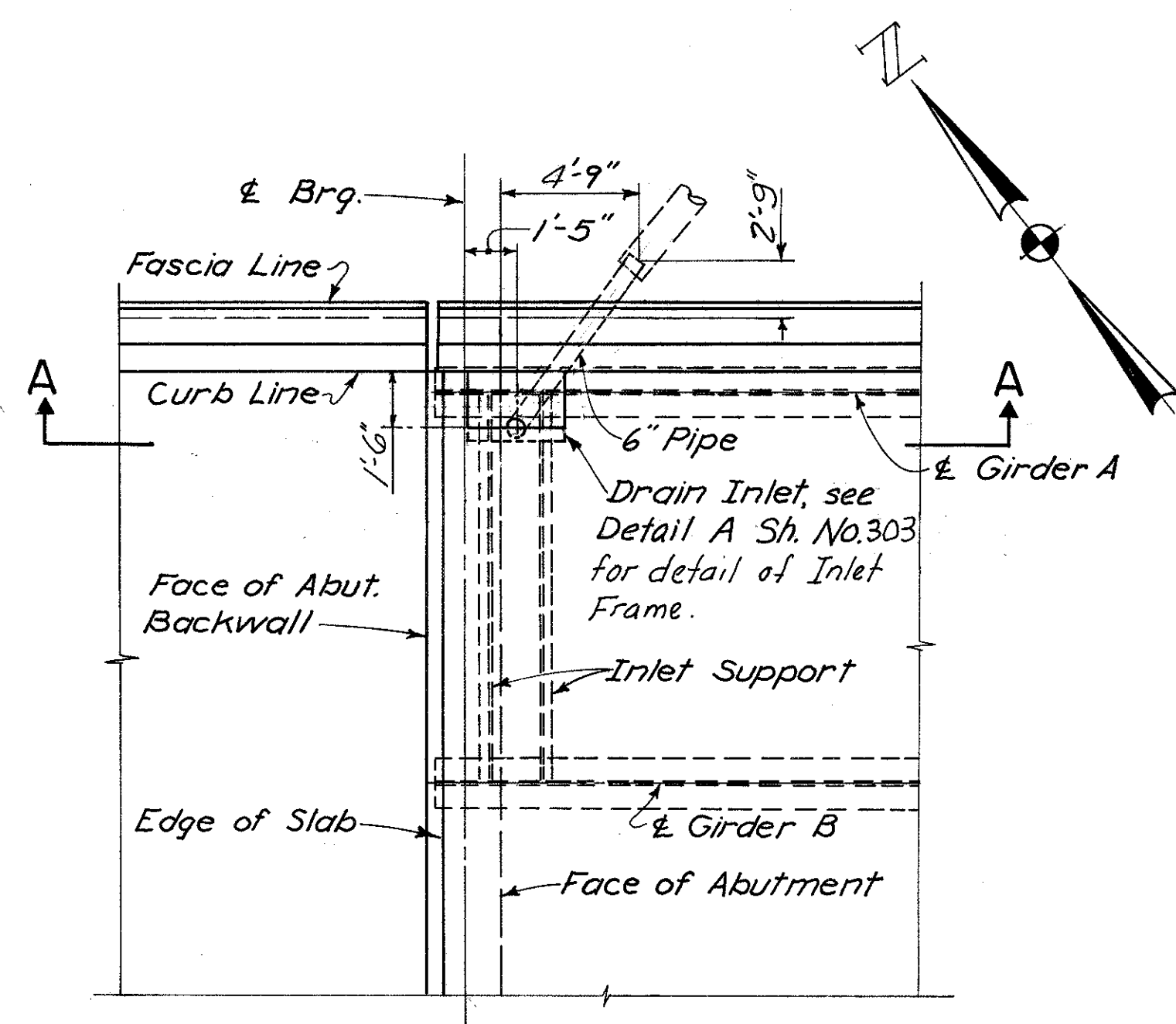
PLAN



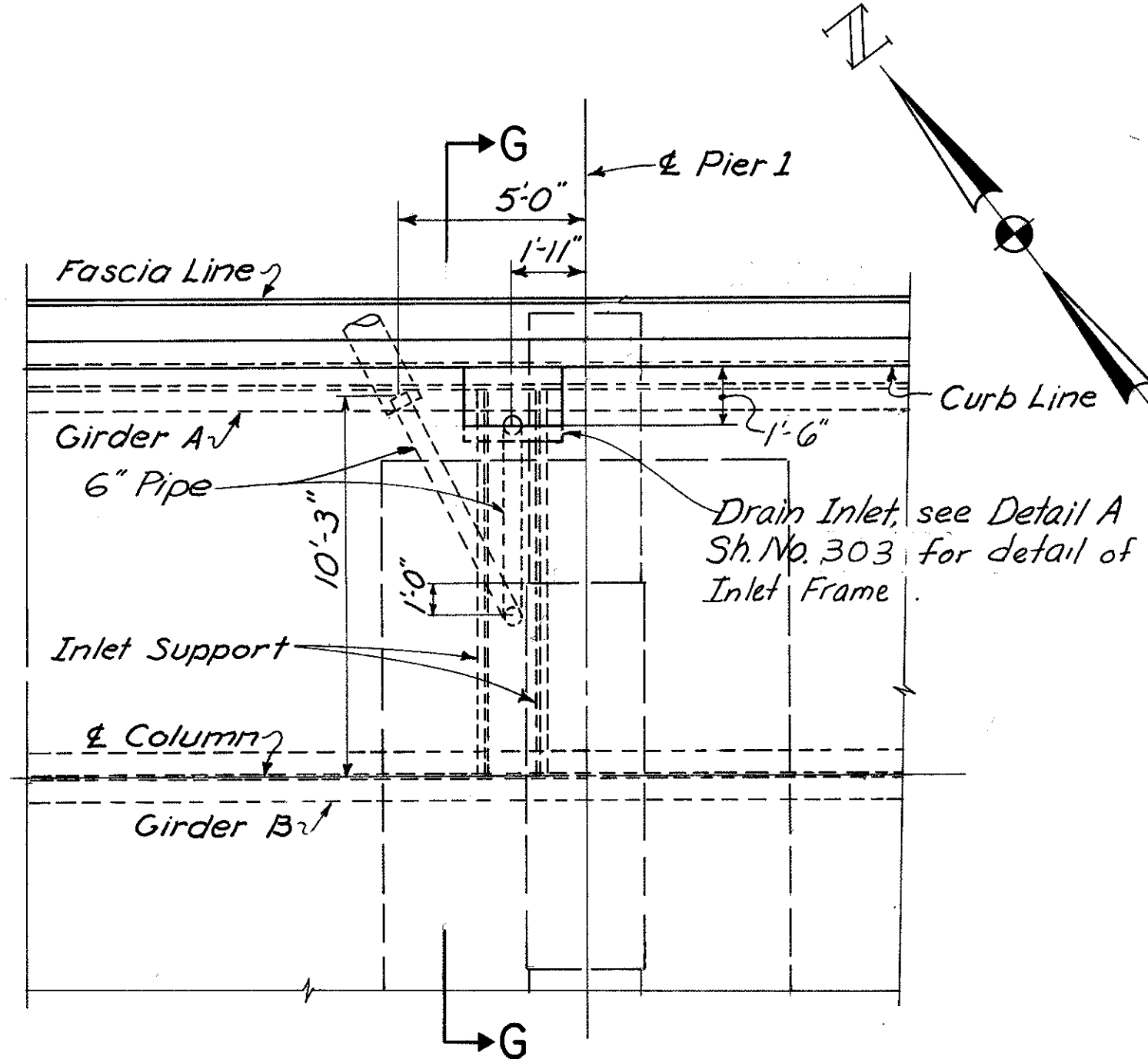
Notes: Elevations are final top of slab elevations.

Elevations are given on \pm girders at \pm piers, \pm bearings and $\frac{1}{4}$ points of girder spans unless noted otherwise.

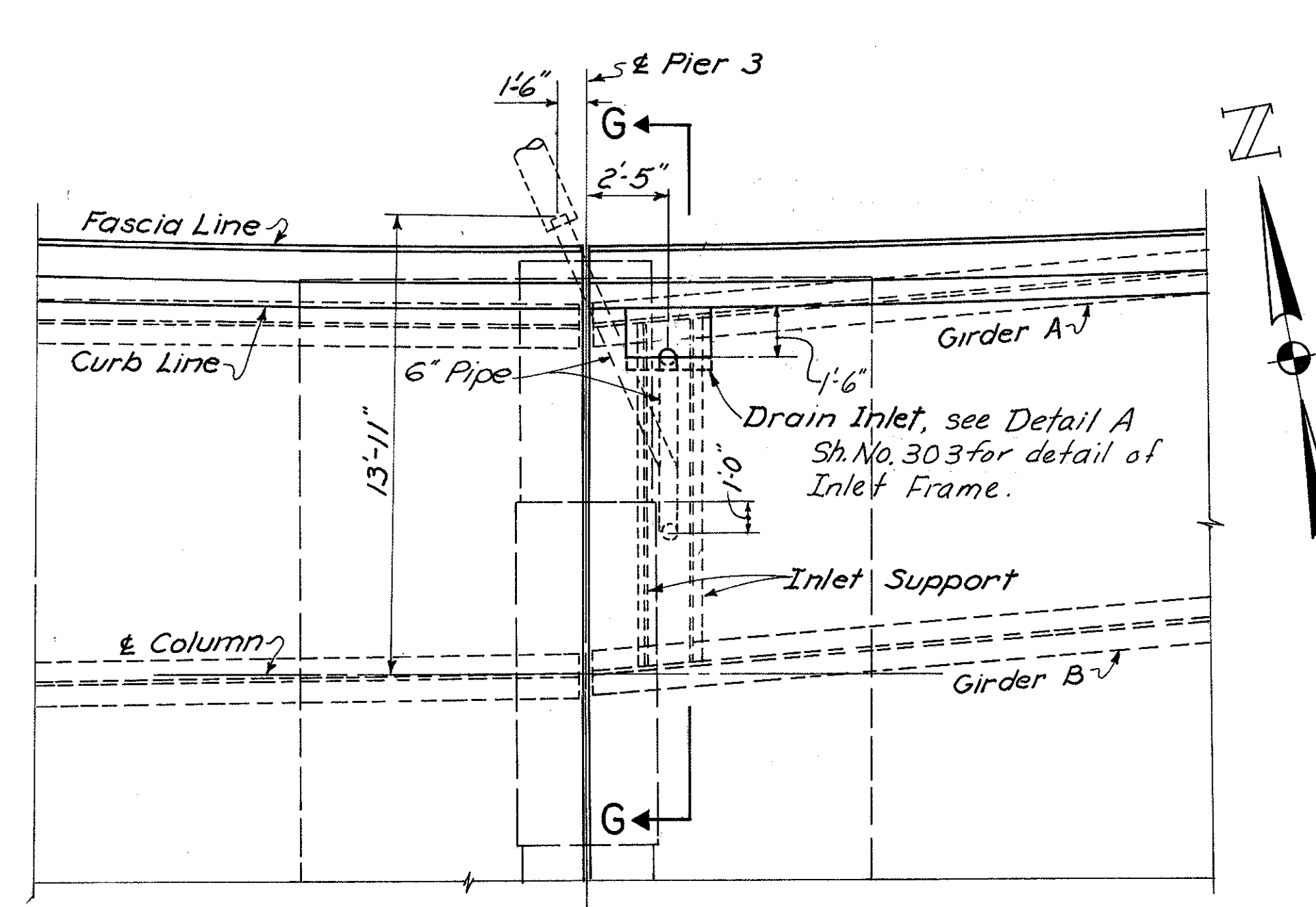
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				35/41
ROADWAY ELEVATIONS				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT				
H & E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
DBS	RJF	ROH		3-24-82
				3-23-82



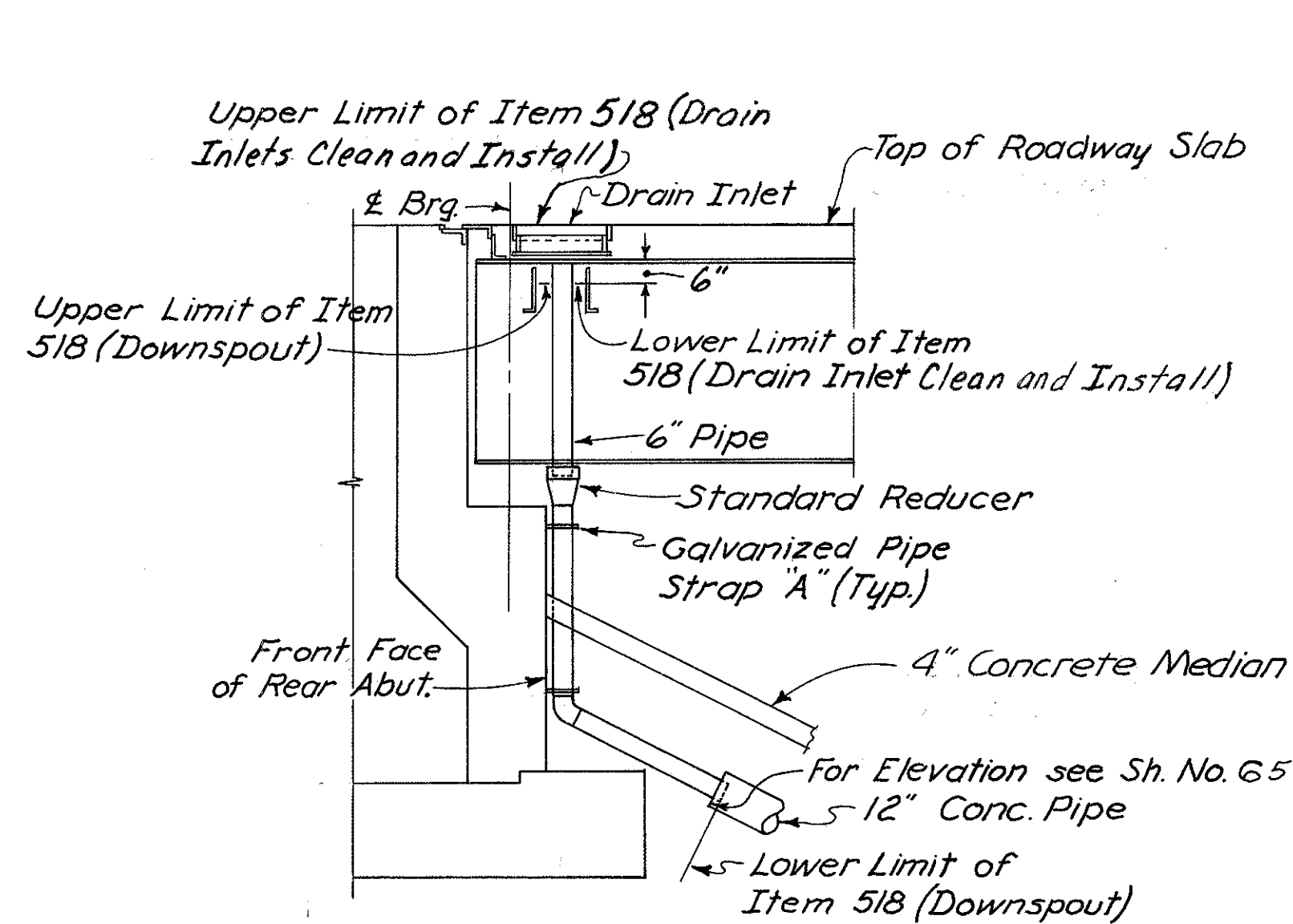
REAR ABUTMENT



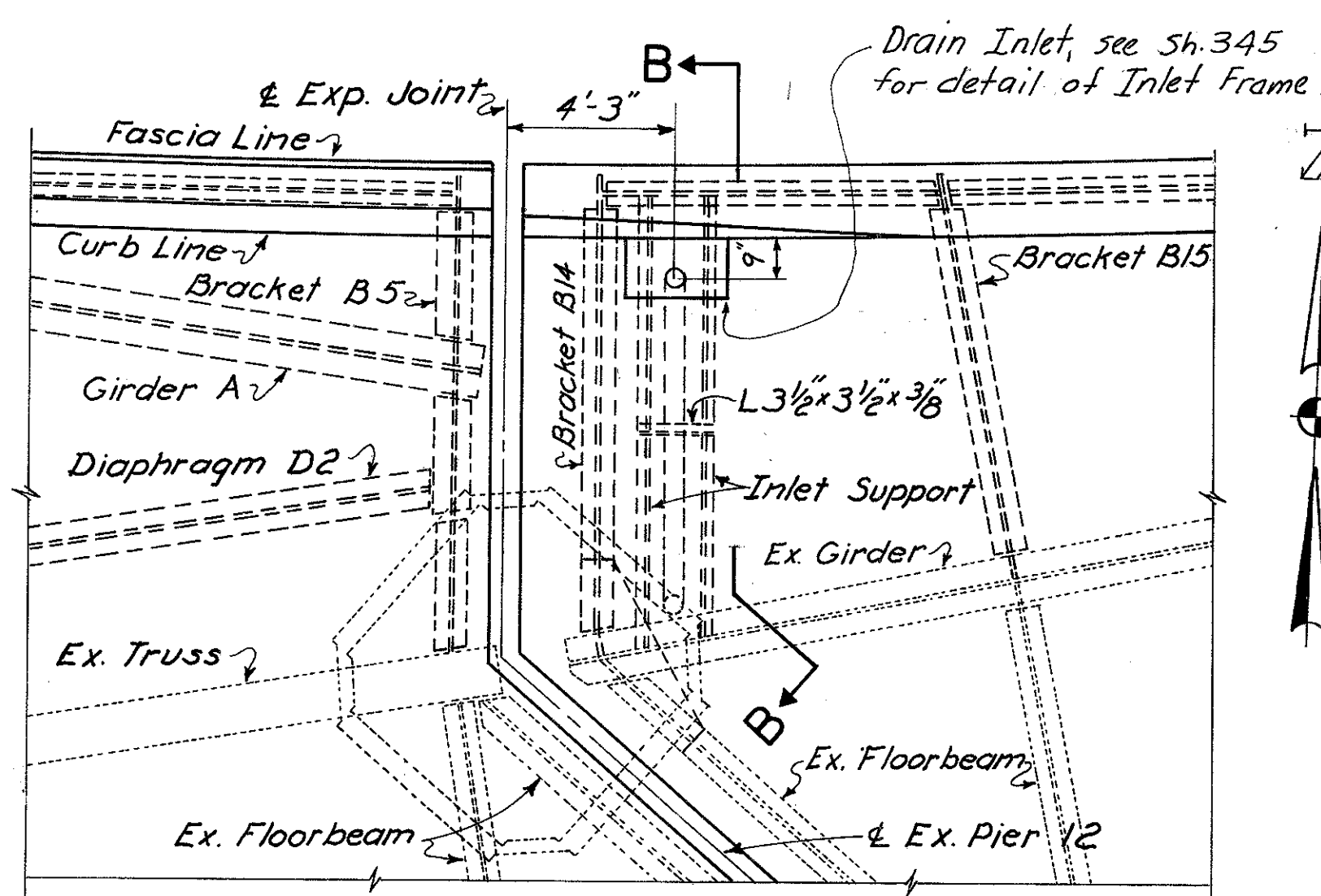
PIER 1



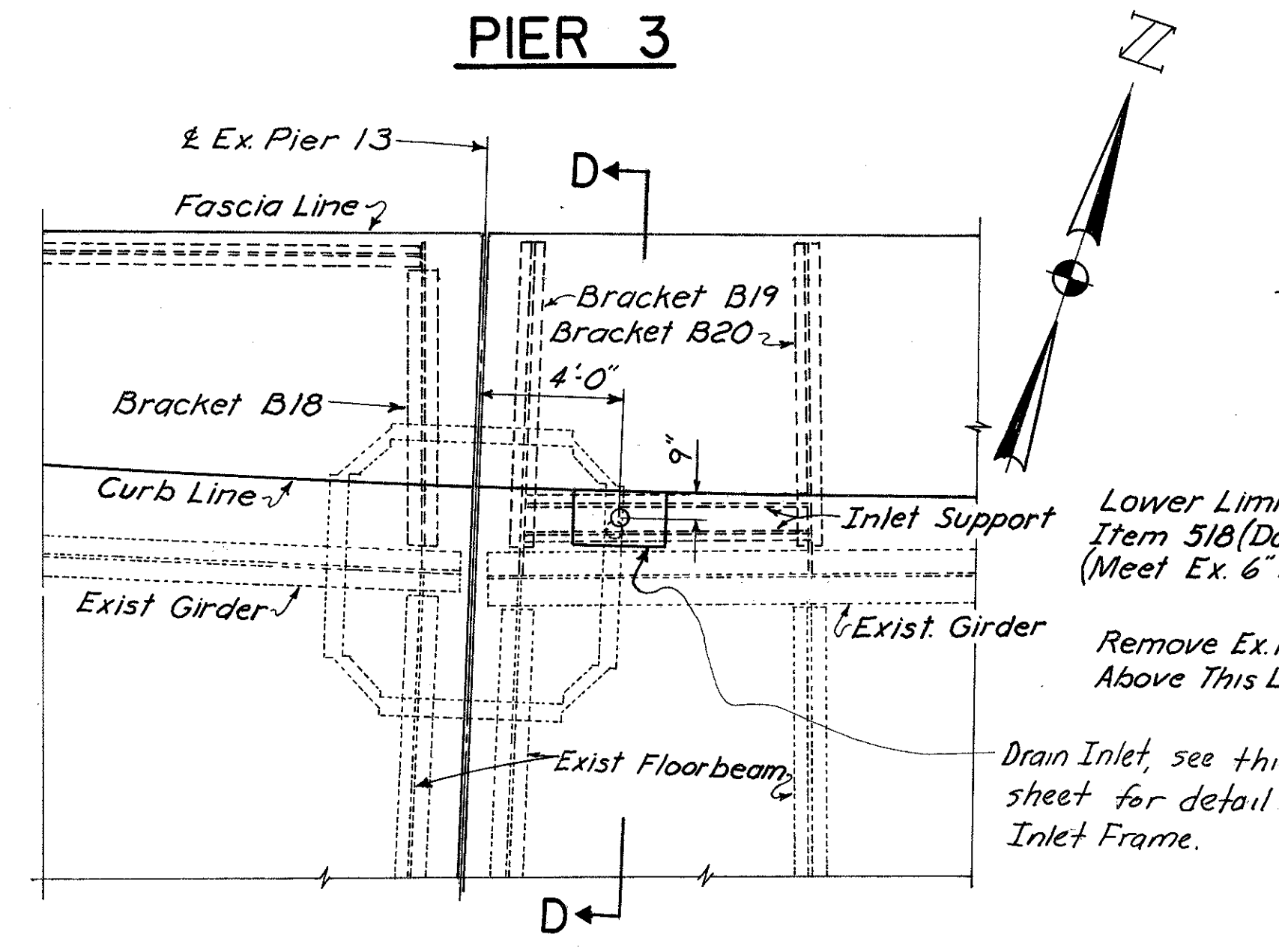
PIER 3



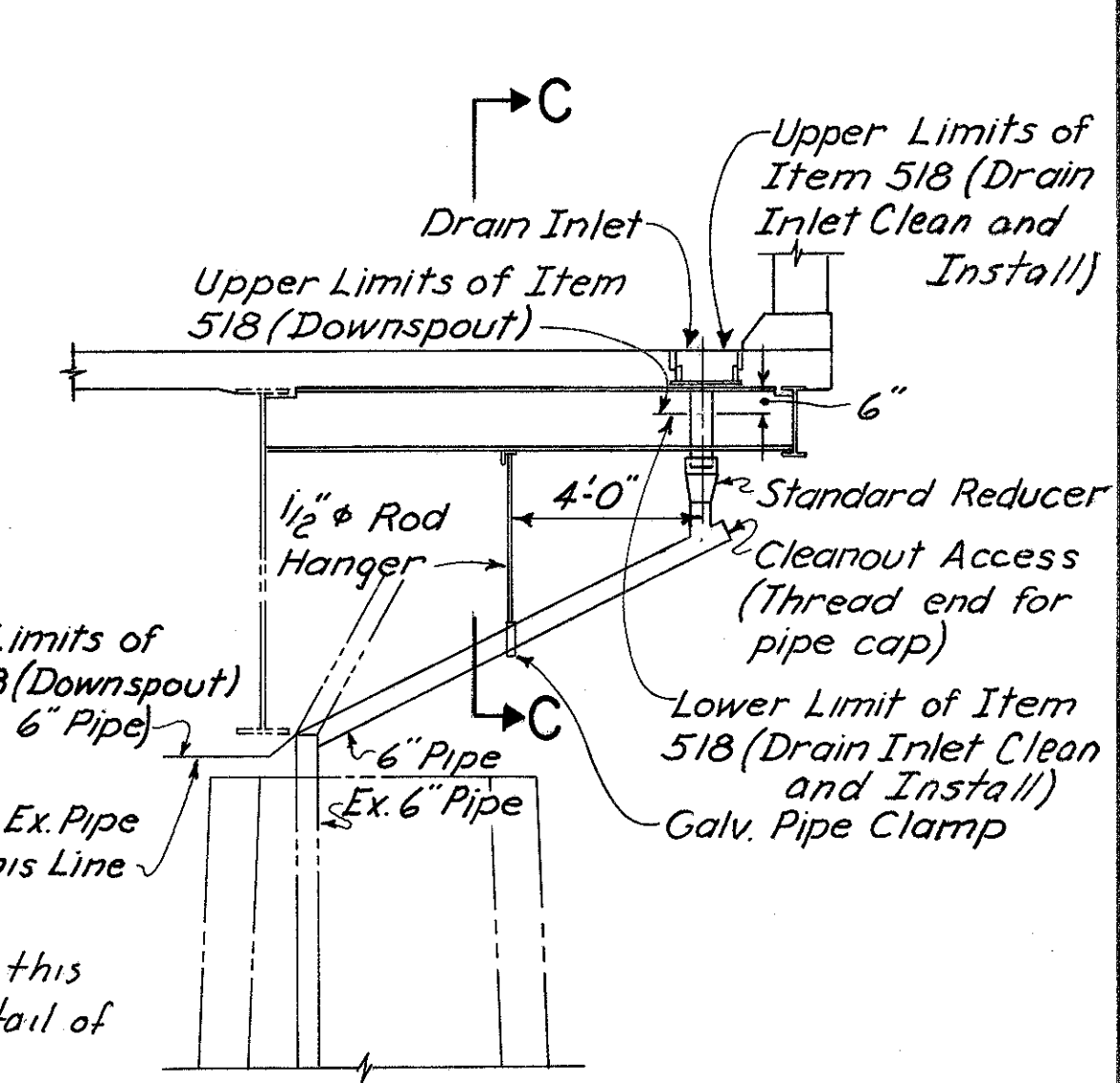
SECTION A-A



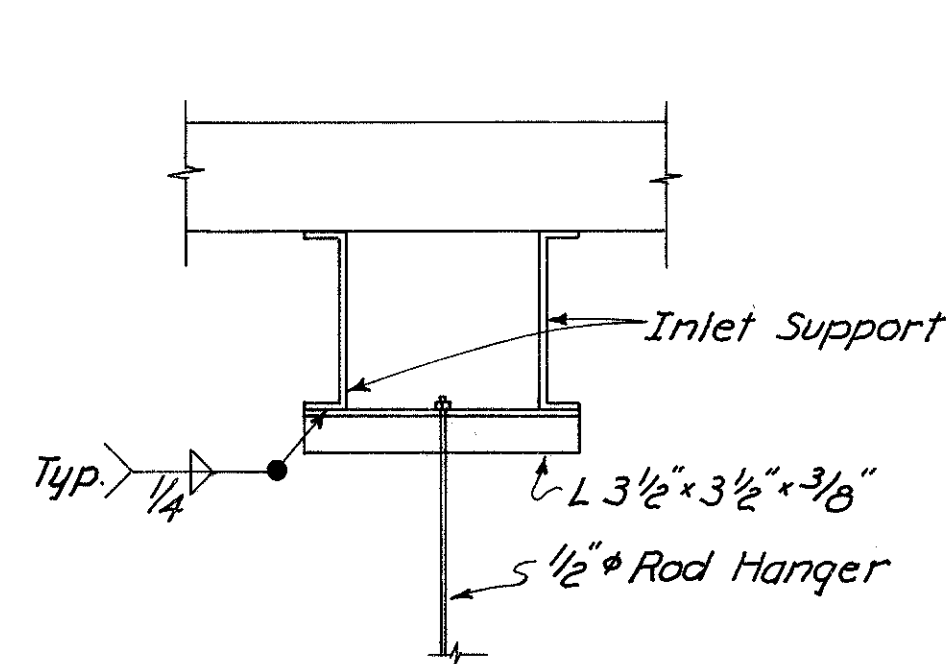
EXIST. PIER 12



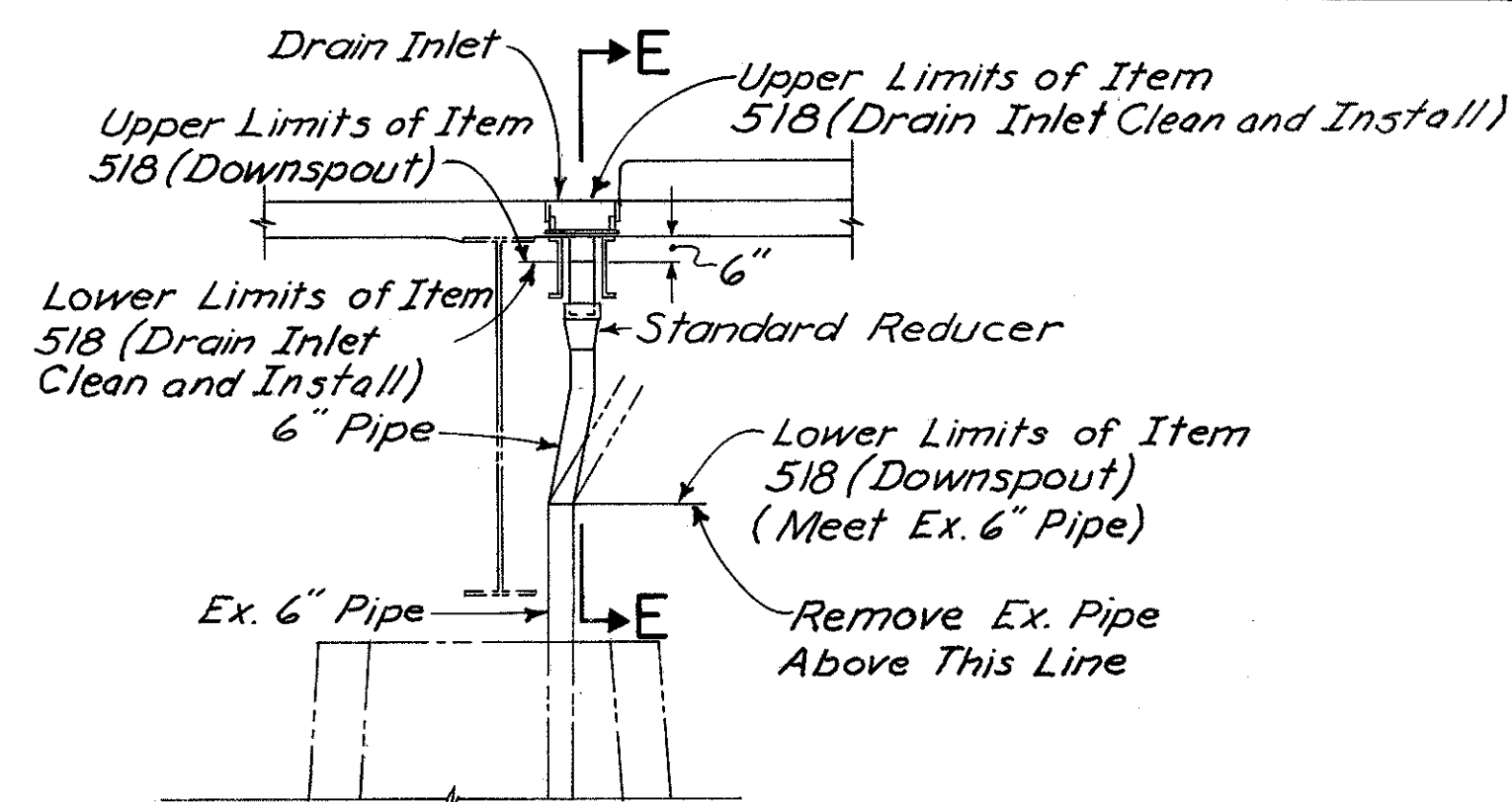
EXIST. PIER 13



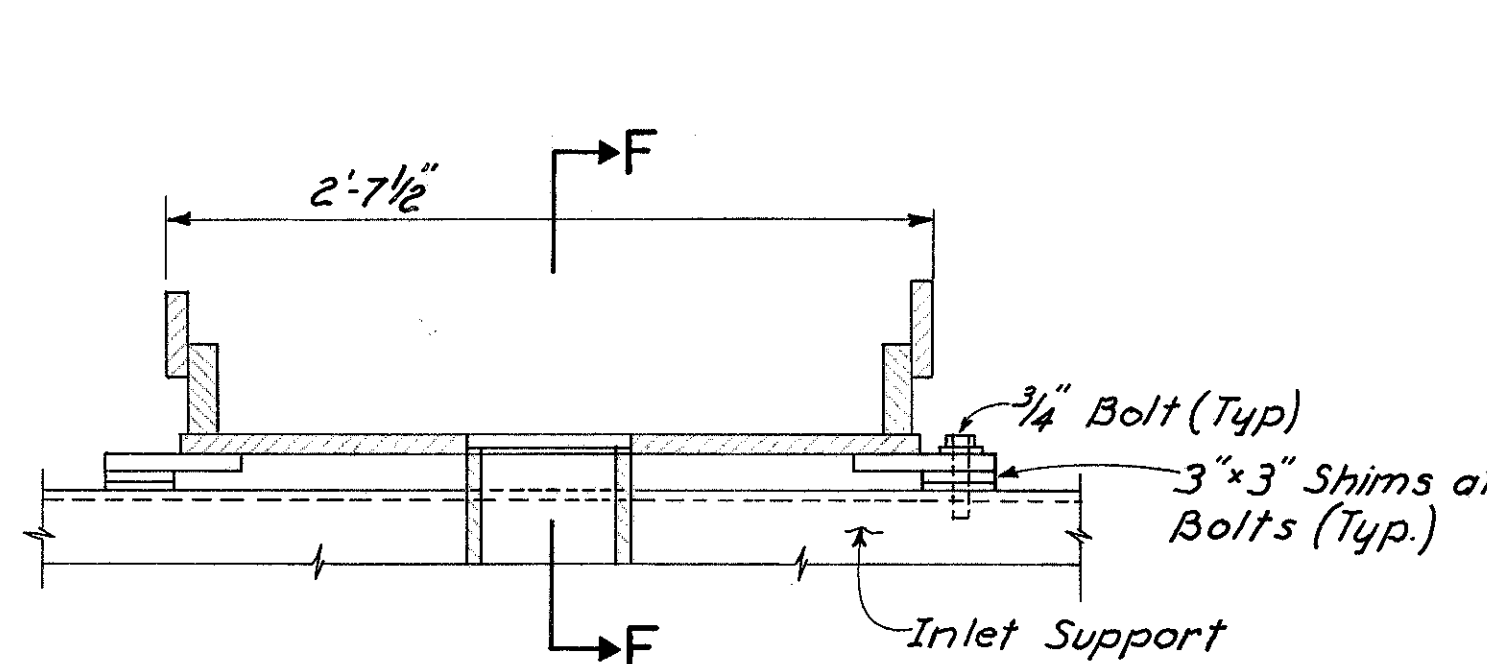
SECTION B-B



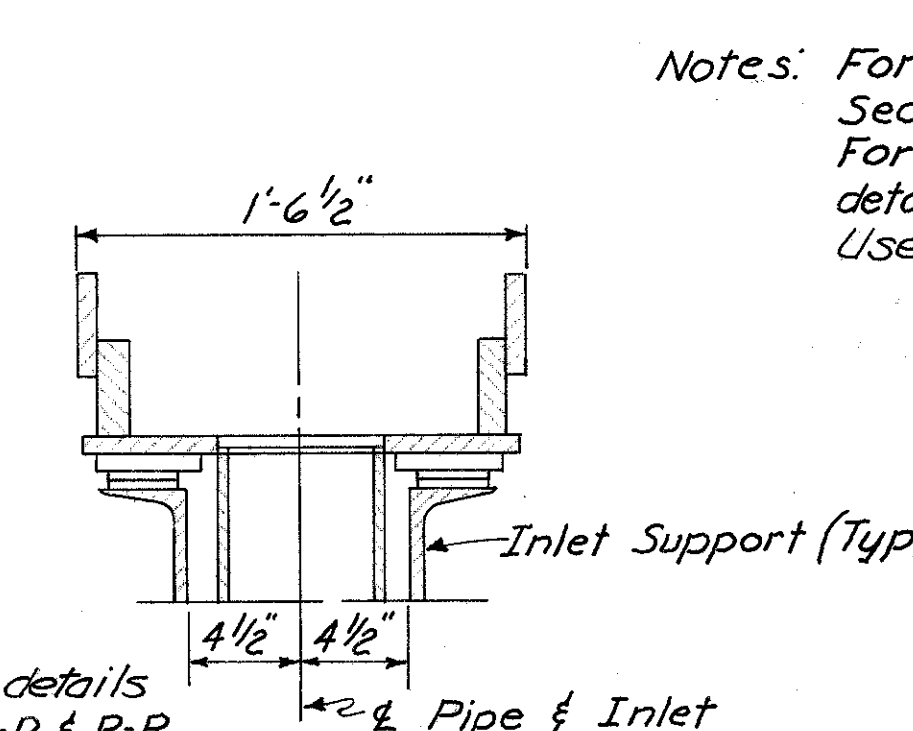
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

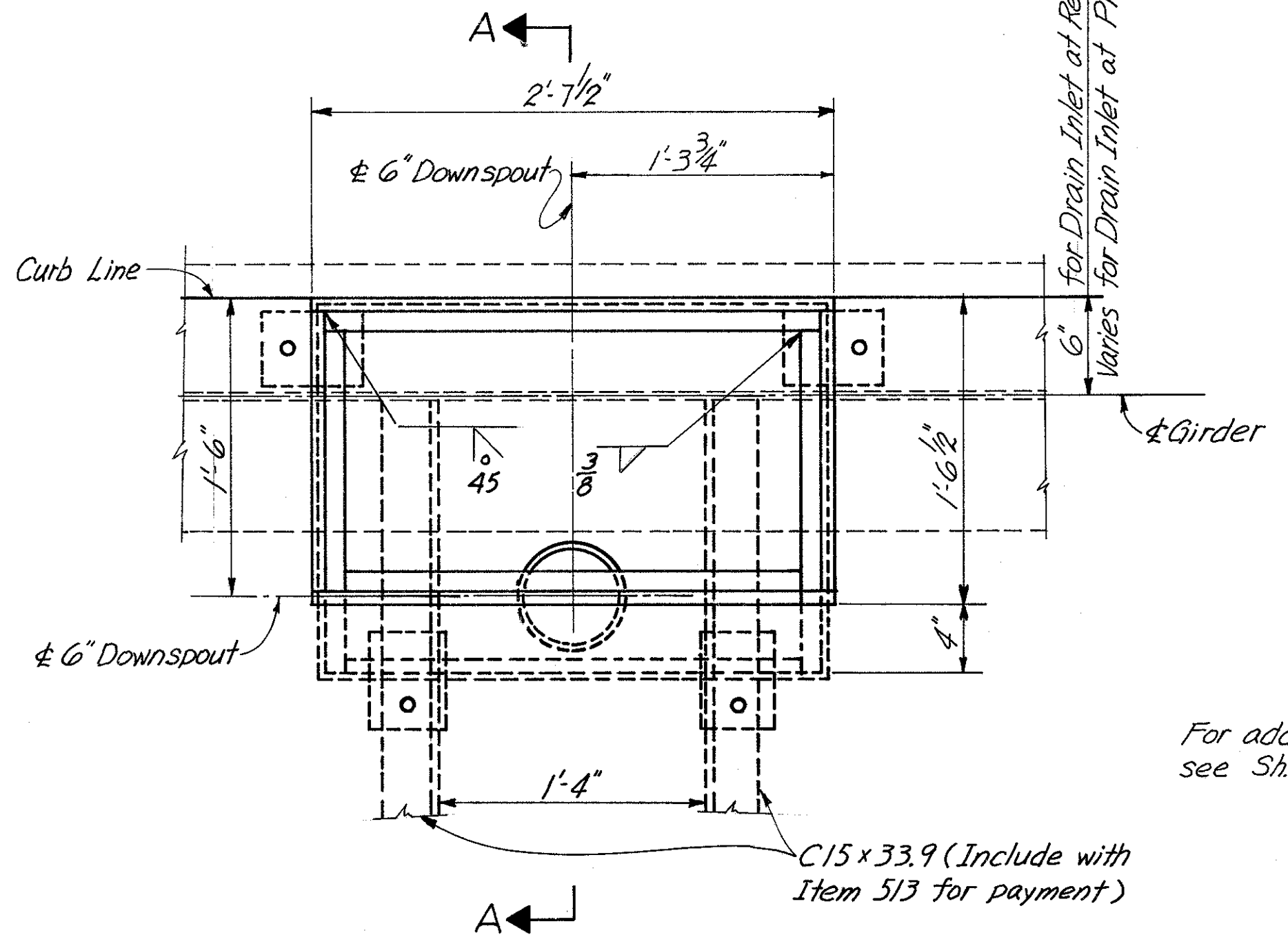
Notes: For Section G-G see Typical Section (for Piers) Sh. No. 345.
For Inlet Framing and additional details Sh. No. 345.
Use Type 2 Inlet Grating

Note: For additional details see Sections P-P & R-R Sh. No. 345.

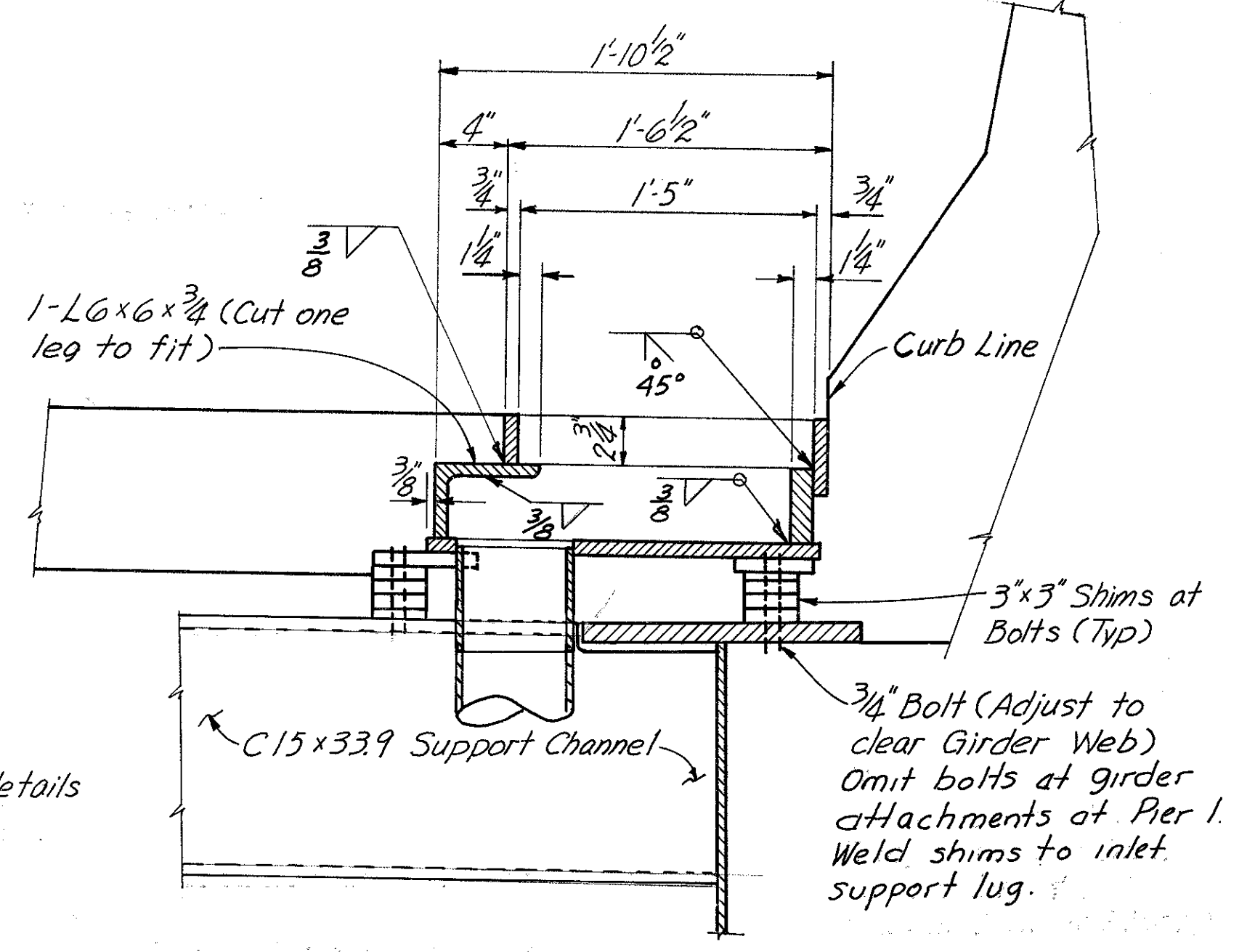
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

303
346

HAMILTON COUNTY
HAM-471-024
PART TWO



DETAIL A



SECTION A-A

For additional details see Sh. No. 345.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						37/41
DRAINAGE DETAILS						
BRIDGE NO. HAM-471-RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT						
H & E BRIDGE NO. 7						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
RJF	RJF	ROH		JH0 3-24-82		

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	REAR ABUTMENT DIMENSIONS								
					A	B	C	D	E	F	G	R	
A501	Str.	27'-0"	12	338									
A502	Str.	15'-6"	4	65									
A503	Str.	15'-4"	7	112									
A504	Str.	15'-2"	9	142									
A505	Str.	24'-8"	33	849									
A506	Str.	11'-0"	4	46									
A507	Str.	13'-8"	4	57									
A508	Str.	25'-2"	1	26									
A509	1	5'-11"	32	198	1'-5"	3'-4"							
A510	Str.	17'-0"	8	142									
A511	Str.	6'-6" to 7'-2"	2 Series of 7	100									
A512	Str.	11'-8"	44	535									
A513	Str.	9'-8"	24	242									
A514	28	9'-2" to 11'-8"	2 Series of 11	239	4'3" to 6'10"	1'-7"	6'10" to 8'6"	1'-7"	4'3" to 6'10"				
A515	28	8'-6"	8	71	3'-9 1/4"	1'-7"	5'-4"	1'-7"	3'-9 1/4"				
A516	Str.	16'-8"	8	139									
A517	Str.	7'-3"	2	15									
A518E	Str.	9'-8"	16	161									
A519E	46	7'-10"	16	131	3'-4"	3'-4"	11 1/2"	1 1/4"				3 5/8"	
A601	16	6'-3"	22	207	3'-4"	1'-6"	4'-9"	3'-4"					
A602	1	11'-1"	44	733	5'-0"	1'-5"							
A603	1	6'-1"	22	201	2'-9"	11"							
A604	Str.	8'-8"	2	26									
A605	Str.	6'-6" to 7'-1"	2 Series of 6	122									
A606E	61	4'-8"	16	112	1'-0"	1'-4 1/2"	9"	6 1/4"	11 1/2"	11"	1'-5"		
A701	24	15'-10"	39	1,262	15'-0"								
A801	Str.	15'-5"	8	329									
A802	Str.	15'-8"	2	84									
A803	Str.	15'-3"	7	285									
A804	Str.	15'-1"	1	40									
A805	Str.	17'-11"	6	287									
A806	28	4'-10"	16	207	1'-10"	8 1/2"	2'-7"	1'-6 1/2"	1'-10"				
A807	Str.	12'-0"	12	385									
A808	Str.	12'-2" to 13'-3"	2 Series of 3	204									
A809	Str.	17'-7"	6	282									
A810	Str.	27'-0"	11	793									
A901	Str.	12'-9"	55	2,384									
A1001	17	8'-2"	18	633	2'-0"	6'-5 1/2"							
A1002	17	9'-11"	17	725	2'-0"	8'-2 1/2"							
A1003	19	10'-11"	30	1,409	3'-3"	7'-7 1/2"	7'-8"	9 1/2"					

TOTAL WEIGHT (REAR ABUTMENT) = 14,318 LBS. (INCLUDES EPOXY COATED STEEL)
EPOXY COATED WEIGHT (REAR ABUTMENT) = 404 LBS.

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	PIER 1 DIMENSIONS							
					A	B	C	D	E	F	G	
P401	1	14'-9"	36	355	2'-5"	10'-2"						
P402	1	14'-6"	38	368	2'-3 1/2"	10'-2"						
P403	45	6'-0"	72	289	2'-5"	10 1/2"	1'-0 1/4"	1'-0 1/4"	1'-5"	1'-5 1/2"		
P404	45	5'-9"	76	292	2'-3 1/2"	10 1/2"	1'-0 1/4"	1'-0 1/4"	1'-3"	1'-5 1/2"		
P405	1	6'-5"	72	309	2'-5"	1'-10"						
P406	1	6'-2"	76	313	2'-3 1/2"	1'-10"						
P501	Str.	24'-8"	4	102								
P502	Str.	10'-6"	4	44								
P503	16	8'-9"	8	73	1'-3"	1'-7"	7'-2 1/4"	7'-1"				
P504	1	5'-7"	18	105	1'-7"	2'-8"						
P505	1	8'-5"	10	88	3'-0"	2'-8"						
P506	1	7'-5"	88	680	3'-0"	1'-8"						
P601	Str.	10'-6"	12	189								
P602	Str.	16'-6"	8	198								
P701	26	12'-2"	24	597	10'-6"							
P801	26	18'-8"	14	698	16'-6"							
P1001	Str.	30'-7"	48	6,317								
P1002	17	7'-6"	48	1,549	1'-4 1/2"	6'-5"						
P1003	18	24'-0"	3	310	2'-5 1/2"	2'-5 1/2"	3'-6"	16'-6"	4'-0"	2'-10"	2'-10"	
P1004	2	29'-8"	4	511	3'-2"	24'-7"	2'-6"					
P1005	26	27'-6"	7	828	24'-8"							

TOTAL WEIGHT (PIER 1) = 13,875 LBS.

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	PIER 2 DIMENSIONS							
					A	B	C	D	E	F	G	
P425	1	15'-2"	60	608	2'-7 1/2"	10'-2"						
P426	1	14'-8"	60	588	2'-4 1/2"	10'-2"						
P427	45	6'-6"	120	521	2'-7 1/2"	11 1/2"	11 1/4"	11 1/4"	1'-8 1/4"	1'-4"		
P428	45	6'-0"	120	481	2'-4 1/2"	11 1/2"	11 1/4"	11 1/4"	1'-5 1/4"	1'-4"		
P429	1	6'-10"	120	548	2'-7 1/2"	1'-10"						
P430	1	6'-4"	120	508	2'-4 1/2"	1'-10"						
P525	Str.	24'-8"	6	154								
P526	Str.	10'-6"	4	44								
P527	16	8'-9"	8	73	1'-3"	1'-7"	7'-2 1/4"	7'-1"				
P528	1	10'-7"	10	110	4'-1"	2'-8"						
P529	1	5'-7"	21	122	1'-7"	2'-8"						
P530	1	10'-1"	120	1262	4'-1"	2'-2"						
P625	Str.	16'-6"	15	372								
P626	Str.	20'-0"	12	360								
P1025	Str.	25'-4"	46	5,014								
P1026	Str.	25'-8"	52	5,743								
P1027	26	19'-4"	34	2,829	16'-6"							
P1028	26	22'-10"	20	1,965	20'-0"							
P1029	17	7'-6"	52	1,678	1'-4 1/2"	6'-5"						
P1030	26	27'-6"	8	947	24'-8"							
P1031	2	33'-4"	4	574	5'-3"	24'-6"	4'-2"					
P1032	18	27'-0"	4	465	4'-0"	4'-0"	5'-8"	14'-6"	6'-10"	4'-10"	4'-10"	

TOTAL WEIGHT (PIER 2) = 24,335 LBS.

24,966

FOR NOTES SEE SHEET 307

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					38/41
REINFORCING STEEL LIST					
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H&E BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	T.L.B.		9/2	3-24-82	2-18-83 3-23-84

COUNTY
471-0.24
PART TWO

PIER 3											
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	G
P451	1	16'-5"	76	833	3'-3"	10'-2"					
P452	1	15'-10"	78	825	2'-11 1/2"	10'-2"					
P453	45	7'-8"	152	778	3'-3"	10 1/2"	1'-0 1/4"	1'-0 1/4"	2'-2 3/4"	1'-5 1/2"	
P454	45	7'-1"	156	738	2'-11 1/2"	10 1/2"	1'-0 1/4"	1'-0 1/4"	1'-11"	1'-5 1/2"	
P455	1	8'-1"	152	821	3'-3"	1'-10"					
P456	1	7'-6"	156	782	2'-11 1/2"	1'-10"					
P551	1	6'-7"	27	185	2'-7"	1'-8"					
P552	Str.	8'-8"	3	27							
P553	Str.	11'-11"	3	37							
P554	Str.	6'-11"	3	22							
P555	Str.	24'-8"	4	103							
P556	Str.	10'-6"	4	44							
P557	16	8'-9"	8	73	1'-3"	1'-7"	7'-2 1/4"	7'-1"			
P558	1	8'-5"	36	316	3'-1 1/2"	2'-5"					
P559	1	9'-4"	56	545	3'-7"	2'-5"					
P560	1	4'-7"	18	86	1'-7"	1'-8"					
P561	1	6'-7"	18	124	1'-7"	3'-8"					
P651	Str.	16'-9"	17	428							
P652	Str.	23'-6"	12	424							
P851	26	18'-11"	34	1,717	16'-9"						
P1051	26	27'-6"	8	947	24'-8"						
P1052	2	31'-2"	4	536	4'-2"	24'-6"	3'-1"				
P1053	18	24'-6"	4	422	3'-2 1/2"	3'-2 1/2"	4'-6 1/2"	14'-6"	5'-6"	3'-10 1/2"	3'-10 1/2"
P1054	26	26'-4"	25	2,833	23'-6"						
P1151	Str.	32'-4"	104	17,866							
P1152	17	8'-5"	54	2,415	1'-5 1/2"	7'-3"					

TOTAL WEIGHT (PIER 3) = 33,927 Lbs.

PIER 4											
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	G
P475	40	10'-1"	86	579	1'-2"	9"	1'-7"	1'-11 1/2"			
P476	37	13'-1"	86	752	3'-2"	3'-2"					
P575	1	8'-3"	38	327	2'-8"	3'-2"					
P576	1	7'-7"	4	32	2'-7"	2'-8"					
P577	1	8'-5"	36	316	2'-9"	3'-2"					
P578	1	6'-1"	21	133	1'-7"	3'-2"					
P579	37	14'-8"	48	734	3'-11"	3'-2"					
P580	Str.	51'-8"	4	214							
P581	Str.	11'-5"	8	95							
P675	Str.	6'-0"	33	297							
P676	26	7'-4"	42	463	6'-0"						
P677	Str.	14'-6"	15	327							
P678	16	10'-10"	8	130	1'-3"	1'-11"	8'-11"	8'-10"			
P975	Str.	52'-7"	18	3,218							
P976	17	7'-1"	54	1,300	1'-3"	6'-1"					
P977	Str.	44'-1"	18	2,698							
P978	Str.	40'-4"	18	2,468							
P1075	26	17'-4"	36	2,685	14'-6"						
P1076	24	22'-10"	12	1,179	21'-5"						
P1077	17	41'-1"	4	707	4'-2 1/2"	37'-2"					
P1078	17	27'-1"	8	932	2'-8"	24'-8"					
P1079	24	26'-1"	8	898	24'-8"						
P1080	Str.	28'-4"	8	975							
P1081	Str.	28'-2"	8	970							

TOTAL WEIGHT (PIER 4) = 22,429 Lbs.

SUPERSTRUCTURE											
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	
S301E	37	5'-2"	65-71	126-133	1'-9"						
S302	37	6'-4"	33-36	79	2'-4"	7"					
S401E	Str.	30'-0"	575	11,523							
S402E	Str.	29'-0"	2	39							
S403E	1	4'-6" to 7'-1"	1 Ser. of 24	93	6 1/2"	3'-8" to 6'-3"					
S404E	Str.	12'-6"	36	301							
S405E	44	12'-10"	1	9	2'-9"	1'-9"	3'-5 3/4"	3'-0"	1'-7"		
S406E	Str.	1'-6" to 11'-6"	1 Ser. of 31	135							
S407E	Str.	6'-9"	4	16							
S408E	Str.	24'-11"	1	17							
S409E	Str.	16'-2"	1	11							
S410E	Str.	11'-1" to 11'-7"	1 Ser. of 4	30							
S411E	Str.	8'-11"	1	6							
S412E	Str.	5'-1"	1	3							
S413E	Str.	8'-3"	34	187							
S414E	Str.	37'-9"	34	857							
S415E	Str.	10'-9"	2	14							
S416E	Str.	5'-6" to 30'-0"	1 Ser. of 7	83							
S417E	Str.	3'-6" to 28'-3"	1 Ser. of 12	127							
S418E	Str.	3'-0" to 33'-6"	1 Ser. of 11	134							
S419E	Str.	4'-5" to 5'-10"	1 Ser. of 9	31							
S420E	Str.	4'-0"	7	19							
S421	Str.	4'-10" to 7'-7"	1 Ser. of 58	241							
S422E	37	4'-8"	104	324	1'-1 1/2"	1'-0"					
S423E	Str.	19'-10"	3	40							
S424E	2	8'-7" to 11'-4"	1 Ser. of 29	193	2'-3"	4'-10" to 7'-7"	1'-8"				
S425E	2	11'-5"	3-9	23-63	2'-3"	7'-8"	1'-8"				
S426	Str.	7'-8"	6-18	31-92							
S427E	Str.	32'-9"	7	153							
S428E	1	2'-7"	149	257	6 1/2"	1'-9"					
S429E	17	1'-7" to 1'-11"	1 Ser. of 7	8	6 1/2"	1'-2" to 1'-6"					
S430E	45	2'-9" to 2'-10"	1 Ser. of 7	13	6 1/2"	1'-0 1/2" to 1'-6 1/2"	8 3/4" to 2 3/4"	6" to 2"	6 1/2"	10 1/2" to 3 1/2"	
S431E	1	2'-6"	25	42	6 1/2"	1'-8"					
S432E	1	2'-7" to 3'-1"	1 Ser. of 11	21	6 1/2"	1'-9" to 2'-3"					
S433E	1	3'-2" to 4'-4"	1 Ser. of 11	28	6 1/2"	2'-4" to 3'-6"					
S434E	2	10'-1" to 11'-6"	1 Ser. of 32	231	2'-3"	6'-5" to 7'-10"	1'-8"				
S435	Str.	6'-5" to 7'-10"	1 Ser. of 63	300							
S436E	Str.	30'-7"	7	143							
S437	Str.	5'-7"	2	7							
S438E	Str.	5'-7"	2	7							
S439E	Str.	8'-9"	7	31							
S501	Str.	4'-0" to 4'-8"	1 Ser. of 5	23							
S502E	Str.	3'-11" to 4'-9"	1 Ser. of 6	27							
S503	Str.	5'-0" to 5'-8"	1 Ser. of 5	28							
S504E	Str.	4'-11" to 5'-11"	1 Ser. of 6	34							
S505	Str.	9'-6" to 10'-8"	1 Ser. of 5	53							
S506E	Str.	9'-4" to 10'-10"	1 Ser. of 6	63							
S507	Str.	7'-8" to 8'-7"	1 Ser. of 5	42							
S508E	Str.	7'-5" to 8'-10"	1 Ser. of 6	51							
S509	Str.	5'-7" to 6'-8"	1 Ser. of 5	32							
S510E	Str.	5'-5" to 6'-10"	1 Ser. of 6	38							
S511	Str.	3'-7" to 4'-9"	1 Ser. of 5	22							
S512E	Str.	3'-5" to 4'-11"	1 Ser. of 6	26							
S513	Str.	33'-3"	4	139							
S514	Str.	12'-1"	1	13							
S515	Str.	14'-3"	1	15							
S516	Str.	31'-5"	1	33							
S517	Str.	13'-8" to 14'-4"	1 Ser. of 3	44							
S518E	Str.	13'-7" to 14'-2"	1 Ser. of 3	43							
S519	Str.	11'-11" to 12'-11"	1 Ser. of 5	65							
S520E	Str.	11'-9" to 13'-1"	1 Ser. of 6	78							
S521	Str.	7'-7" to 8'-4"	1 Ser. of 5	41							
S522E	Str.	7'-6" to 8'-6"	1 Ser. of 6	50							
S523	Str.	6'-10" to 7'-1"	1 Ser. of 5	36							
S524E	Str.	6'-9" to 7'-3"	1 Ser. of 6	44							
S525	Str.	6'-5"	1	7							
S526	Str.	6'-9"	6	42							
S527	Str.	7'-0" to 7'-4"	1 Ser. of 4	30							

For notes see Sheet 307

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				39/41
REINFORCING STEEL LIST				
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT H&E BRIDGE NO. 7				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
ARR			HLL ROH	JHO 3-24-82
				3-25-84

HAMILTON COUNTY
HAM - 471 - 0.24
PART TWO

SUPERSTRUCTURE (CONTINUED)										
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS					
					A	B	C	D	E	F
S528E	Str.	6'-11" to 7'-5"	1 Series of 5	37						
S529	Str.	10'-7" to 10'-11"	1 Series of 4	45						
S530E	Str.	10'-5" to 11'-0"	1 Series of 5	56						
S531	Str.	8'-4" to 8'-7"	1 Series of 4	35						
S532E	Str.	8'-3" to 8'-8"	1 Series of 5	44						
S533	Str.	8'-2"	1	9						
S534E	Str.	2'-9" to 3'-7"	1 Series of 6	20						
S535	Str.	2'-11" to 3'-6"	1 Series of 5	17						
S536	Str.	3'-0"	5	16						
S537	Str.	3'-5"	36	128						
S538	Str.	2'-10"	(2)-6	(6)-18						
S539	Str.	3'-9"	1	4						
S540	Str.	4'-9"	1	5						
S541	Str.	5'-9"	1	6						
S542	Str.	9'-1"	1	9						
S543	Str.	7'-1"	2	15						
S544	Str.	5'-1"	1	5						
S545	Str.	13'-4"	1	14						
S546	Str.	11'-7"	2	24						
S547	Str.	7'-7"	1	8						
S548	Str.	8'-9"	2	18						
S549E	21	7'-6"	2	16	3'-0"	2'-5 3/4"	1'-9"	1'-9"	1'-7"	7 1/2"
S550E	11	7'-3"	2	15	1'-9"	3'-0"	7 1/2"			
S551	Str.	15'-2"	1	16						
S552	Str.	2'-6"	5	13						
S553E	Str.	30'-11"	2	64						
S554E	Str.	4'-11"	160	821						
S555E	16	5'-6"	14	80	7"	3'-11"	1'-7"	1'-5 1/2"		
S556E	Str.	5'-6"	14	80						
S557E	Str.	5'-4"	(144)-160	(80)-390						
S558E	Str.	3'-5"	36	128						
S559E	Str.	6'-5"	1	7						
S560E	Str.	12'-1"	1	13						
S561E	Str.	14'-3"	1	15						
S562E	Str.	15'-2"	1	16						
S563E	Str.	11'-7"	2	24						
S564E	Str.	31'-5"	1	33						
S565E	Str.	6'-9"	5	35						
S566E	Str.	8'-9"	1	9						
S567E	Str.	2'-6"	6	16						
S568E	Str.	3'-0"	15	47						
S569E	Str.	5'-1"	36	191						
S570	Str.	9'-4"	4	39						
S571E	Str.	2'-10"	4	12						
S601	Str.	30'-0"	313	14,104						
S602	Str.	6'-11"	2	21						
S603	Str.	8'-6"	1	13						
S604	Str.	12'-6"	2	38						
S605	Str.	13'-10"	2	42						
S606	Str.	17'-8"	1	27						
S607	Str.	9'-5" to 11'-11"	1 Series of 8	128						
S608	Str.	14'-6" to 16'-11"	1 Series of 8	189						
S609	Str.	19'-4"	2	58						
S610	Str.	24'-11"	2	75						
S611	Str.	16'-2"	1	24						
S612	Str.	11'-1" to 11'-7"	1 Series of 4	68						
S613	Str.	8'-11"	1	13						
S614	Str.	5'-1"	1	8						
S615	Str.	4'-9" to 35'-0"	1 Series of 10	299						
S616	Str.	6'-3" to 7'-9"	1 Series of 11	116						
S617	Str.	12'-9"	4	77						
S618	Str.	3'-0" to 30'-0"	1 Series of 12	297						
S619	Str.	10'-8"	1	16						
S620	Str.	6'-0" to 28'-0"	1 Series of 6	153						
S621E	Str.	37'-6"	4	225						
S622E	Str.	22'-9"	15	513						
S623	Str.	27'-3"	15	614						
S624	Str.	31'-0"	15	698						
S625E	Str.	28'-6" to 29'-9"	1 Series of 15	656						
S626	Str.	23'-0" to 24'-3"	1 Series of 15	532						

SUPERSTRUCTURE (CONTINUED)											
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	R
S627E	30	5'-0"	(33)-39	(248)	293	1'-10"	1'-6"	1'-1"	2'-1 1/2"	1'-7"	
S628	Str.	2'-6" to 32'-6"	1 Series of 10	263							
S629	Str.	6'-0"	1	9							
S630	Str.	8'-0"	8	96							
S631	Str.	19'-0"	1	29							
S632	Str.	21'-6" to 23'-6"	1 Series of 6	203							
S633	Str.	7'-3" to 20'-3"	1 Series of 3	62							
S634	Str.	16'-0"	1	24							
S635	Str.	31'-6"	2	95							
S636	Str.	7'-10"	2	24							
S637E	44	16'-5"	37	912	2'-6"	1'-0"	1'-1 3/4"	7 1/2"	5'-10"		
S638E	30	6'-6"	2	20	4'-9"	1'-0"	6"	1'-2 1/2"	8 1/4"		
S639	Str.	23'-3"	18	629							
S640E	Str.	28'-6"	6	257							
S641	44	13'-6"	2	41	2'-9"	1'-9"	3'-5 3/4"	3'-0"	1'-11"		
S642	Str.	20'-6"	1	31							
S643E	Str.	2'-3" to 3'-7"	1 Series of 10	44							
S644	Str.	31'-3"	2	94							
S645E	30	3'-10" to 5'-9"	1 Series of 32	230	7" to 2'-6"	1'-6"	1'-1"	2'-2"	1'-7"		
S646E	Str.	30'-0"	24	1,081							
S647E	Str.	12'-6"	1	19							
S648E	Str.	6'-0"	1	9							
S649E	Str.	13'-10"	1	21							
S650E	Str.	19'-0"	1	29							
S651E	Str.	24'-11"	1	37							
S652E	Str.	16'-0"	1	24							
S653E	Str.	31'-6"	2	95							
S654E	Str.	20'-6"	1	31							
S655E	Str.	23'-3"	12	419							
S656E	Str.	7'-3" to 20'-3"	1 Series of 3	62							
S657E	Str.	2'-6" to 32'-6"	1 Series of 10	263							
S658E	Str.	21'-6" to 23'-6"	1 Series of 6	203							
S659E	Str.	7'-10"	2	24							
S660	Str.	9'-11"	2	30							
S661E	Str.	9'-11"	2	30							
S701	Str.	25'-2"	373	19,187							
S702	Str.	21'-9"	8	356							
S703	Str.	25'-0" to 27'-3"	1 Series of 31	1,655							
S704	Str.	29'-7"	1	60							
S705	Str.	32'-0"	1	65							
S706	Str.	29'-9" to 32'-1"	1 Series of 16	1,011							
S707	Str.	29'-8"	2	121							
S708	Str.	25'-3" to 25'-8"	1 Series of 3	156							
S709	Str.	26'-4" to 29'-0"	1 Series of 19	1,074							
S710	Str.	24'-3" to 26'-2"	1 Series of 19	979							
S711	Str.	20'-0" to 24'-0"	1 Series of 19	854							
S712	Str.	16'-6" to 19'-9"	1 Series of 19	704							
S713	Str.	13'-0" to 16'-0"	1 Series of 19	563							
S714	Str.	10'-3" to 12'-6"	1 Series of 19	442							
S715E	44	10'-10"	6	133	1'-5"	2'-9"	3'-10 1/2"	2'-9"	1'-0"		
S716E	21	5'-6"	6	67	2'-4"	1'-9"	10"	1'-6 1/2"	1'-0"	9"	
S717	16	32'-3"	2	132	2 3/4"	30'-0"	2'-3"	2'-3"			
S718	Str.	8'-0" to 10'-0"	1 Series of 18	331							
S719E	Str.	30'-10"	2	126							
S720E	Str.	25'-2"	373	19,187							
S721E	Str.	21'-9"	8	356							
S722E	Str.	25'-0" to 27'-3"	1 Series of 31	1,655							
S723E	Str.	29'-7"	1	60							
S724E	Str.	32'-0"	1	65							
S725E	Str.	29'-9" to 32'-1"	1 Series of 16	1,011							
S726E	Str.	29'-8"	2	121							
S727E	Str.	25'-3" to 25'-8"	1 Series of 3	156							
S728E	Str.	26'-4" to 29'-0"	1 Series of 19	1,074							
S729E	Str.	24'-3" to 26'-2"	1 Series of 19	979							
S730E	Str.	20'-0" to 24'-0"	1 Series of 19	854							
S731E	Str.	16'-6" to 19'-9"	1 Series of 19	704							
S732E	Str.	13'-0" to 16'-0"	1 Series of 19	563							
S733E	Str.	10'-3" to 12'-6"	1 Series of 19	442							
S734E	Str.	8'-0" to 10'-0"	1 Series of 18	331							
S735E	16	32'-3"	2	132	2 3/4"	30'-0"	2'-3"	2'-3"			
S736E	Str.	10'-10"	2	44							
S737	Str.	10'-10"	2	44							

For notes see sheet 307

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					40/41
REINFORCING STEEL LIST					
BRIDGE NO. HAM-471- RELOCATED SIXTH STREET OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 7					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
T.L.B.			J.H.O.	3-24-84	5-23-84

SUPERSTRUCTURE (CONTINUED)											
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	R
S801	Str.	31'- 2"	2	166							
S901	24	35'- 3"	6	719	34'- 0"						
X501E	1	2'- 3"	447	1,049	10 1/2"	9"					
X502E	46	5'- 6"	526	3,017	2'- 2"	2'- 5"	8"	1 1/4"			3 5/8"
X503E	17	2'- 6"	447	1,166	10 1/2"	1'- 9"					
X504E	45	3'- 4"	447	1,554	10 1/2"	10"	9"	6 1/4"	11 1/2"	11"	
X505E	1	6'- 7"	5	34	3'- 1"	7"					
X506E	1	7'- 1"	5	37	3'- 4"	7"					
X507E	37	9'- 3"	6	58	2'- 4"	2'- 1"					
X508E	44	7'- 1"	12	89	1'- 4"	1'- 5"	2'- 0"	1'- 5"	1'- 0"		
X509E	Str.	14'- 6"	84	1,270							
X510E	Str.	5'- 0"	52	271							
X511E	Str.	11'- 6"	8	96							
X512E	Str.	13'- 6"	8	113							
X513E	Str.	6'- 3"	80	522							
X514E	Str.	4'- 6"	4	19							
X515E	Str.	13'- 9"	28	402							
X701E	45	6'- 6"	6	80	2'- 9"	8"	11 1/2"	6"	2'- 4"	1'- 1"	
X702E	1	3'- 8"	6	45	1'- 2"	1'- 8"					
R301E	37	2'- 2"	(84)~88	*	7"	3 1/2"					
R302E	37	2'- 3"	(228)~240	*	7"	4"					
R501E	37	7'- 5"	15	*	2'- 8 1/2"	9 1/2"					
R502E	37	5'- 5"	12	*	1'- 8 1/2"	9 1/2"					
R503E	Str.	10'- 1"	4	*							
R504E	Str.	16'- 2"	4	*							
R505E	Str.	15'- 8"	16	*							
R506E	Str.	13'- 0"	8	*							
R507E	Str.	8'- 1"	4	*							

NOTES: REINFORCING STEEL SAMPLES:
REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.
FOR BAR BENDING SCHEDULE, SEE SHEET NO. 346
BAR MARKS ENDING WITH E SHALL BE EPOXY COATED.
TOTAL WEIGHT OF EPOXY COATED REINFORCING STEEL = 61,930 LBS.
TOTAL WEIGHT OF REINFORCING STEEL = 219,911 LBS.
(INCLUDES WEIGHT OF EPOXY COATED REINFORCING STEEL)
* REINFORCING BARS MARKED "R" ARE INCLUDED IN RAILING FOR PAYMENT.

TOTAL WEIGHT (SUPERSTRUCTURE) = 111,027 LBS. (Includes Epoxy Coated Steel)
EPOXY COATED WEIGHT (SUPERSTRUCTURE) = 61,526 LBS.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO 41/41

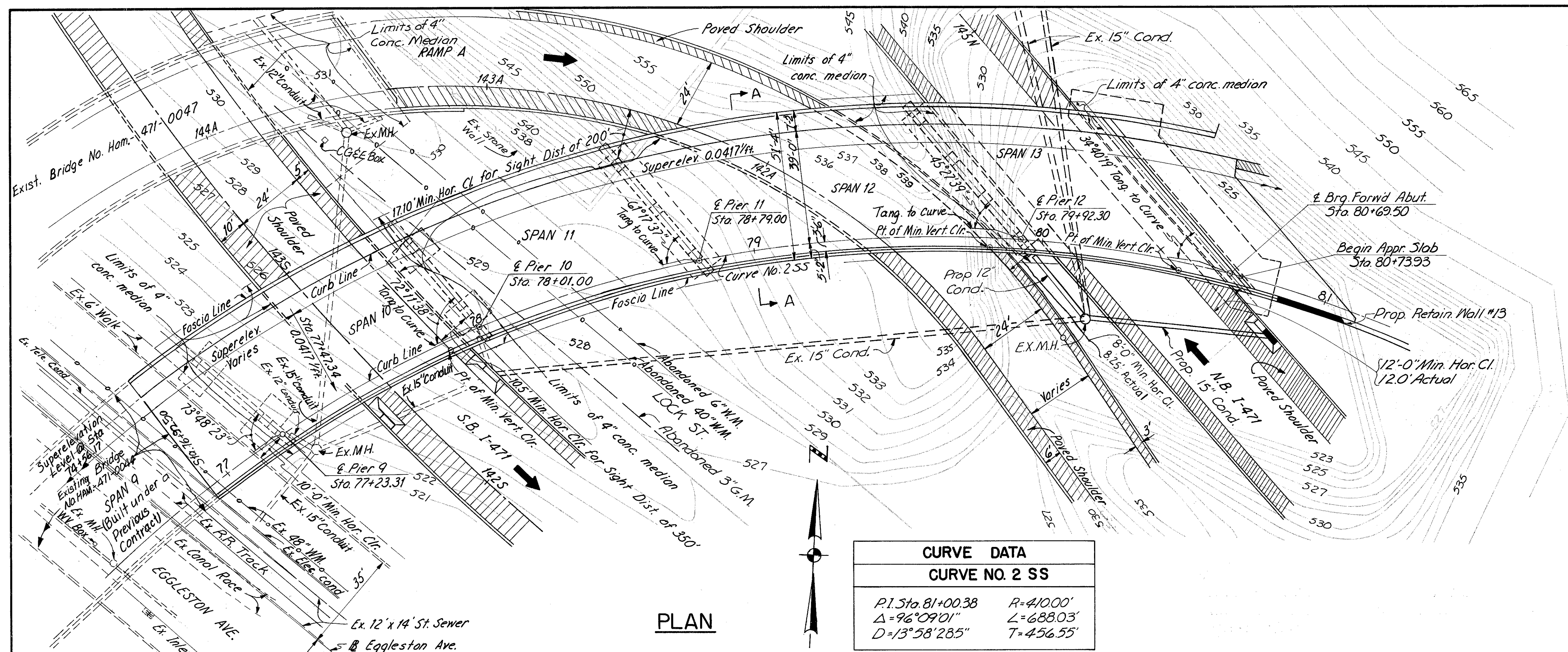
REINFORCING STEEL LIST
BRIDGE NO. HAM-471-
RELOCATED SIXTH STREET
OFF COLUMBIA VIADUCT

H & E BRIDGE NO. 7

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	T.L.B.			3-24-82	

HAMILTON COUNTY
HAM.-471-0.24
PART TWO

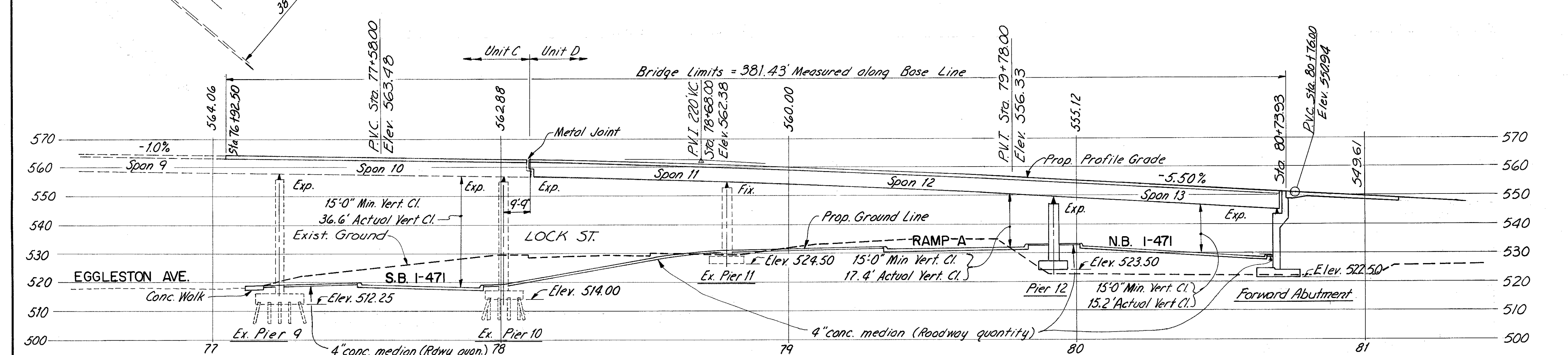
TABLE OF SPAN LENGTHS	
SPAN	LENGTH
10	77.69
11	78.00
12	113.30
13	77.20



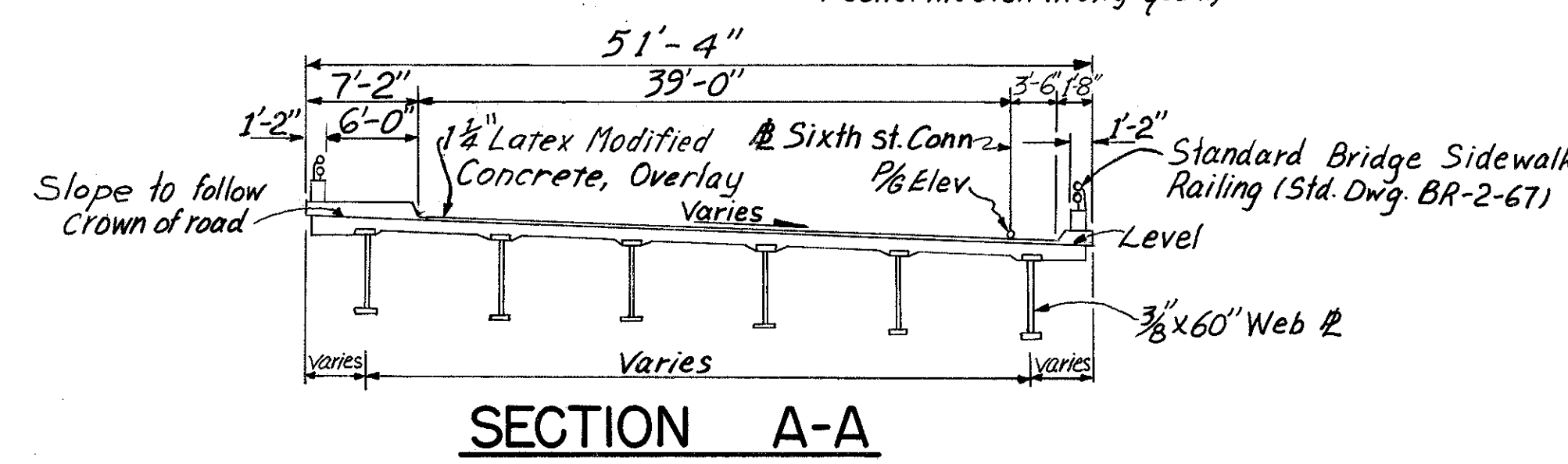
CURVE DATA	
CURVE NO. 2 SS	
P.I. Sta. 81+00.38	R=41000'
Δ=96°09'01"	L=688.03'
D=13°58'28.5"	T=456.55'

PLAN

PROPOSED STRUCTURE
 TYPE: Continuous Welded Plate Girder with reinforced concrete deck and substructure.
 SPANS: Lengths Vary, see tabulation.
 ROADWAY: 42'-6" 1/4 Curbs with a 6" Curb on the South Side and a 6'-0" Sidewalk on the North Side.
 LIVE LOADING: HS 20-44 Case II and the Alternate Military Loading
 SKEW: Varies, see Plan.
 WEARING SURFACE: Latex Modified Concrete, Overlay
 ALIGNMENT: Varies, see Plan.
 SUPERELEVATION: Varies, see Plan.
 APPROACH SLAB: AS-1-72 Modified 40' Long. Forward Abut. only and sheet 154



PROFILE ON BASE LINE



SECTION A-A

Note: Piers 10, 11, and 12 are parallel to E. Brq. Forward Abut. For Bench Marks see Sheet 33. Piers 9, 10 and 11; Structural Steel up to Hinge in Span 10; and Superstructure up to sta. 76+92.50 has been built under a previous contract. The remaining substructure units and superstructure shall be constructed under this contract.

1984 TRAFFIC COUNT	ADT = 18,400
ADTT = 920	DHV = 1,920
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO	
1/23	
SITE PLAN	
BRIDGE NO. HAM.-471-0044	
SIXTH STREET CONNECTION	
OVER SOUTHBOUND I-471	
H&E BRIDGE NO. 9	
DESIGNED	DRAWN
TRACED	CHECKED
REVIEWED DATE	REVISED
G.D.	YK
JHO	
3-24-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

ESTIMATED QUANTITIES

ITEM	UNIT	TOTAL	DESCRIPTION	SUPER-STRUCTURE	FORWARD ABUTMENT	PIER	GENERAL
503	Lump Sum	Lump	Cofferdams, Cribs, and Sheeting				Lump
503	Cu. Yard	297	Unclassified Excavation		52	245	
509	Pound	81,360	Reinforcing Steel, Substructure, As Per Plan		55,176	26,184	
509	Pound	86,147	Reinforcing Steel, Superstructure, Grade 60	86,147			
511	Cu. Yard	272	Class C Concrete, Footings		206	66	
511	Cu. Yard	298	Class C Concrete, Abutment above Footing		298		
511	Cu. Yard	74	Class C Concrete, Pier Cap and Columns			74	
511	Cu. Yard	641	Class S Concrete, Superstructure	641			
512	Sq. Yard	57	Type B Waterproofing		57		
513	Lump Sum	Lump	Structural Steel, Erection, As Per Plan	Lump			
513	Pound	19,700	Structural Steel, As Per Plan (AISC Category I)	19,700			
513	Pound	10,000	Replacement Structural Steel, As Per Plan (AISC Category I)	10,000			
514	Lump Sum	Lump	Field Painting of Structural Steel, System B, As Per Plan	Lump			
514	Lump Sum	Lump	Field Painting of Existing Structural Steel, Sixth Street Structure, System B; As Per Plan	Lump			
516	Sq. Foot	17	1" Preformed Expansion Joint Filler		17		
517	Lin. Foot	707	Railing (Concrete Parapet with Double Pipe Rail)	656	51		
518	Each	5	Drain Inlet Gratings	5			
518	Each	5	Drain Inlets, Clean and Install	5			
518	Lin. Foot	8	12" Reinforced Concrete Pipe, 706.02, 2500D-Load		8		
518	Lin. Foot	122	8" Perforated Corrugated Steel Pipe Including Specials, 707.01		122		
518	Lin. Foot	61	8" Non-Perforated Corrugated Steel Pipe Including Specials, 707.01		61		
518	Lump Sum	Lump	8" Standard Pipe Downspout, Galvanized Steel 707.08, Including Specials, Installed				Lump
625			See Sheet 121 for Lighting Summary				
845	Sq. Yard	1,747	Latex Modified Concrete Overlay (1-1/4 inches thick) (See Proposal Note)	1,747			
Special	Pound	88,905	Epoxy Coated Reinforcing Steel, Grade 60 (See Proposal Note)	88,905			

GENERAL NOTES

REFERENCE: Shall be made to Standard Drawings SD-1-69 sheets 1 and 2 dated 6-12-69, BR-2-67 revised 10-15-71, RB-1-55 revised 2-2-59, FSB-1-62 revised 1-15-63 and to Supplemental Specifications 836 dated 3-12-75, 845 dated 3-2-81, 927 dated 10-19-81 and 953 dated 8-21-80.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, and the Ohio "Supplement" to these specifications.

DESIGN DATA: Deck Protective Method - Latex Modified Concrete Overlay with Epoxy Coated Reinforcing Steel (Top Mat Only)
Design Loading - HS20-44 Case II and the Alternate Military Loading
Concrete Class C - Compressive Strength 4,000 psi for substructure
Concrete Class S - Compressive strength 4,500 psi for superstructure
Structural Steel - ASTM A36 - unit stress 20,000 psi
Reinforcing Steel - ASTM A615, A616 or A617, Grade 60, Minimum Yield Strength 60,000 psi
Monolithic Wearing Surface Thickness is assumed to be 1".

EMBANKMENT CONSTRUCTION: Before the backwall is constructed, the embankment shall be constructed up to the level of the subgrade with a 1:1 slope from the bridge seat to the subgrade for a minimum distance of 200 feet.

FOUNDATION BEARING PRESSURE: Abutment and Pier Footings are designed for a maximum bearing pressure of 2-1/2 tons per square foot.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

MAINTENANCE OF TRAFFIC: Refer to Sheets 13 and 14.

REINFORCING STEEL: Bar laps, splices, and embedment shall be as shown on the plans.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure. 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.

PLANS FOR EXISTING STRUCTURE: Prints of the plans of the design and shop drawings are available for inspection by the prospective bidders at the Engineering Division, Room 314, City Hall, City of Cincinnati.

DRAIN INLETS, CLEAN AND INSTALL:
DESCRIPTION: This item shall consist of furnishing all labor, material and equipment required to clean and install the drain inlets in accordance with the plans and Item 518 of the Construction and Material Specifications, except as modified and augmented herein.
GENERAL: The drain inlets have been purchased under a previous contract, State Project 550(73), and are stored at the same location as the structural steel. The drain inlets shall be cleaned of all dirt, grease, oil, rust and other foreign material before being installed.
METHOD OF MEASUREMENT: The quantity shall be the actual number of drain inlets installed.
BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
518	Each	Drain Inlets, Clean and Install

GENERAL NOTES Continued on sheet 310

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

ESTIMATED QUANTITIES
AND GENERAL NOTES
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	FVB		HL	JHO 3-25-82	

Rev. 9-9-82

HAMILTON COUNTY
HAM-471-0.24
PART TWO

GENERAL NOTES CONTINUED FROM SHEET NO.309

DRAIN INLET GRATINGS: DESCRIPTION: This item shall consist of furnishing and installing the drain inlet gratings according to the details shown on Drawing No. 345 of the plans and in accordance with Item 518 of the Construction and Material Specifications, except as modified and augmented herein.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
518	Each	Drain Inlet Gratings

STRUCTURAL STEEL ERECTION AS PER PLAN: DESCRIPTION: This item shall consist of erecting all the existing structural steel, as specified, (and replacement structural steel), and as shown on the plans and in accordance with Item 513 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: The structural steel has been purchased under a previous contract, State Project 550(73) and is stored at the State of Ohio, Department of Transportation Rental Storage Area in Cincinnati, Ohio under the Brent Spence Bridge at Front and Rose Streets. Access to the storage site may be obtained by contacting the Engineering Division, Room 314, City Hall, City of Cincinnati.

SHOP DRAWINGS: Shop drawings and erection drawings that were part of the previously terminated contract are available for inspection by the Prospective Bidders at the Engineering Division, Room 314, City Hall, City of Cincinnati.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
513	Lump Sum	Structural Steel, Erection, As Per Plan

★ This item shall also include all work necessary to move existing structural steel to the plan location, to make necessary repairs and alterations and to connect or join new with old construction.

STRUCTURAL STEEL, AS PER PLAN (AISC CATEGORY I) DESCRIPTION: This item shall consist of preparing shop drawings and furnishing, fabricating, non destructive testing, cleaning, shop painting, and erecting structural steel as follows:

- (1) Expansion Joints for the hinge at Pier No. 10 and the Forward Abutment
- (2) High Strength Bolts, Washers and Nuts

The structural steel shall be as shown on the plans and in accordance with Item 513 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: The existing expansion joint material for use at the hinge at Pier No. 10 and the Forward Abutment shall be scrapped and removed from the storage area by the Contractor and new expansion joints provided.

New high strength bolts, nuts and washers will be required for the erection of all the structural steel.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
513	Pound	Structural Steel, As Per Plan (AISC Category I)

FIELD PAINTING OF STRUCTURAL STEEL, SYSTEM B, AS PER PLAN: DESCRIPTION: This item shall consist of furnishing all paint and incidental material, cleaning the surfaces, applying the Shop paint to the existing stored structural steel and applying in the field the paint to the new and existing stored structural steel (erected by the Contractor) in accordance with Item 514 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: This item shall include the surface preparation of the existing stored structural steel that was purchased under a previous contract and stored as noted under "Structural Steel Erection". Before the existing stored structural steel is shop painted, all of its surface shall be prepared in conformance to ASTM D 2200 by blast cleaning to grade Sa 2-1/2.

The existing stored structural steel, which is to be used in the bridge, shall be given one complete field coat of prime paint, System B in accordance with 514.04.

The new and existing stored structural steel shall receive a second coat of the same type of paint used for the prime coat except tinted for contrast and one coat of finish paint in accordance with 514.05 for System B. The color of the final field coat shall match the color of the existing structure.

FIELD PAINTING OF STRUCTURAL STEEL, SYSTEM B: (CONTINUED) BASIS OF PAYMENT:

Payment will be made at contract price for:

Item	Unit	Description
514	Lump Sum	Field Painting of Structural Steel, System B; As Per Plan

FIELD PAINTING OF EXISTING STRUCTURAL STEEL, SIXTH STREET STRUCTURE, SYSTEM B; AS PER PLAN: DESCRIPTION:

This item shall consist of furnishing all paint and incidental material, cleaning the surfaces, and applying the paint to any portions of the existing structural steel of the Sixth Street Structure in accordance with Item 514 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: Paint on the Sixth Street Structure that is damaged by the Contractor during modification to the existing structure shall be repainted in accordance with 514.06.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
514	Lump Sum	Field Painting of Existing Structural Steel, Sixth Street Structure, System B; As Per Plan

REINFORCING STEEL, SUBSTRUCTURE, AS PER PLAN: DESCRIPTION:

This item shall consist of furnishing and placing in the substructure concrete at Pier 12 and Forward Abutment, reinforcing steel (either new or existing) of the quality, type, size and quantity designated in accordance with Item 509 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: Part of reinforcing steel at Pier 12 and Forward Abutment has been purchased under a previous contract, State Project 550(73) and is stored at the same location as the structural steel.

In lieu of new reinforcing steel bars, the Contractor may use any of the reinforcing steel in storage, which is determined by the Engineer to be in good condition. (See Reinforcing Steel List, Sheet 329). If the reinforcing steel in storage is used, it shall be abrasively cleaned to grade Sa 1 according to ASTM D 2200 and tagged, the payment for which shall be included with Item 509, Reinforcing Steel, Substructure, As Per Plan.

All of the stored reinforcing steel not used on the project will become the property of the Contractor and shall be disposed of by him.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
509	Pounds	Reinforcing Steel, Substructure, As Per Plan

8" STANDARD PIPE DOWNSPOUT, GALVANIZED STEEL 707.08 INCLUDING SPECIALS, INSTALLED: DESCRIPTION:

This item shall consist of furnishing (if necessary), cleaning and installing a portion of the drainage system at Piers 9 and 10 and all of the drainage system at Pier 12 and the Forward Abutment in accordance with the plans and Item 518 of the Construction and Material Specifications, except as modified and augmented herein.

GENERAL: The drainage system has been purchased under a previous contract, State Project, 550(73) and is stored at the same location as the structural steel. The drainage system shall be cleaned of all dirt, grease, oil, rust and other foreign material before being installed.

If any parts of the drainage system is either missing from the storage site or found to be unsuitable for use by the Project Engineer, it shall be replaced by the Contractor and included for payment under this item.

All items such as hangers, brackets, couplings, caps, etc., if found either missing or unsuitable for use by the Project Engineer, shall be replaced by the Contractor and included for payment under this item.

PAINTING: All exposed surfaces shall be painted according to 514. The color of coats shall be such as to match the color of the existing downspout. Existing paint on the existing downspouts that is damaged by the Contractor during attachment to the existing downspout shall be repainted in accordance with 514.

GENERAL NOTES Continued on sheet 310A

★ This item shall also include inspecting, sorting and itemizing the Existing Structural Steel, and marking all members (steel stamps), prior to blast cleaning, with erection marks from shop drawings, at the same location as the present marks. The Contractor and Engineer shall inspect the stored steel and verify the amount of structural steel that is either missing from the storage site or found (by the Engineer) to be unsuitable for use.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
GENERAL NOTES					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER					
SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	FVB		JH	3-25-82	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

310A
346

HAMILTON COUNTY
HAM-471-024
PART TWO

GENERAL NOTES CONTINUED FROM SHEET NO. 310

8" STANDARD PIPE DOWNSPOUT,
GALVANIZED STEEL 707.08, INCLUDING
SPECIALS, INSTALLED: (CONTINUED)

SHOP DRAWINGS: Drainage shop drawings that were part of the previously terminated contract are available for inspection by the prospective bidders at the Engineering Division, Room 314, City Hall, City of Cincinnati.

It shall be the responsibility of the Contractor to verify that all of the material required for the drainage system is accounted for and is in usable condition, as determined by the Project Engineer.

BASIS OF PAYMENT: Payment will be made at contract price for:

Item	Unit	Description
518	Lump Sum	8" Standard Pipe Downspout, Galvanized Steel 707.08, Including Specials, Installed

REPLACEMENT STRUCTURAL STEEL, AS
PER PLAN, (AISC CATEGORY I)

DESCRIPTION: This item shall consist of furnishing, fabricating, cleaning and shop painting the structural steel required as replacement material for that which is either missing from the storage site or found (by the Engineer) to be unsuitable for use, and is not included in any other pay item.

Before any shop drawing for fabrication of the new structural steel begins, the Contractor and Engineer shall inspect the existing stored structural steel and verify the amount of structural steel that is either missing from the storage site or found (by the Engineer) to be unsuitable for use.

BASIS OF PAYMENT: Payment will be made at the contract price for:
Item 513, Pound, Replacement Structural Steel, As Per Plan (AISC Category I)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

GENERAL NOTES
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

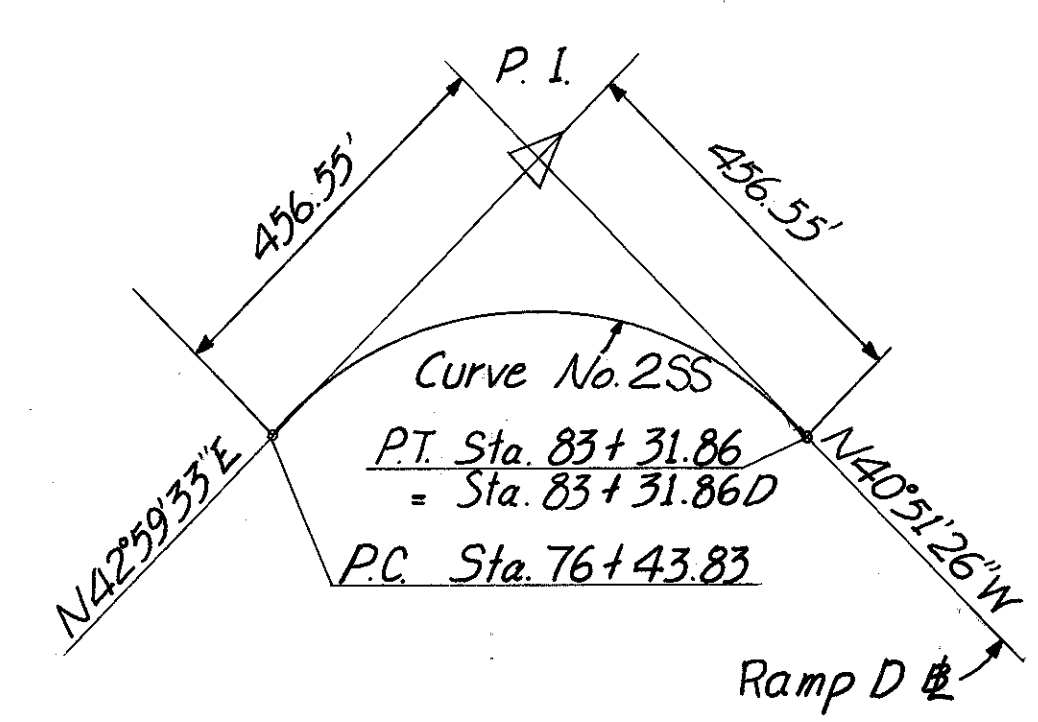
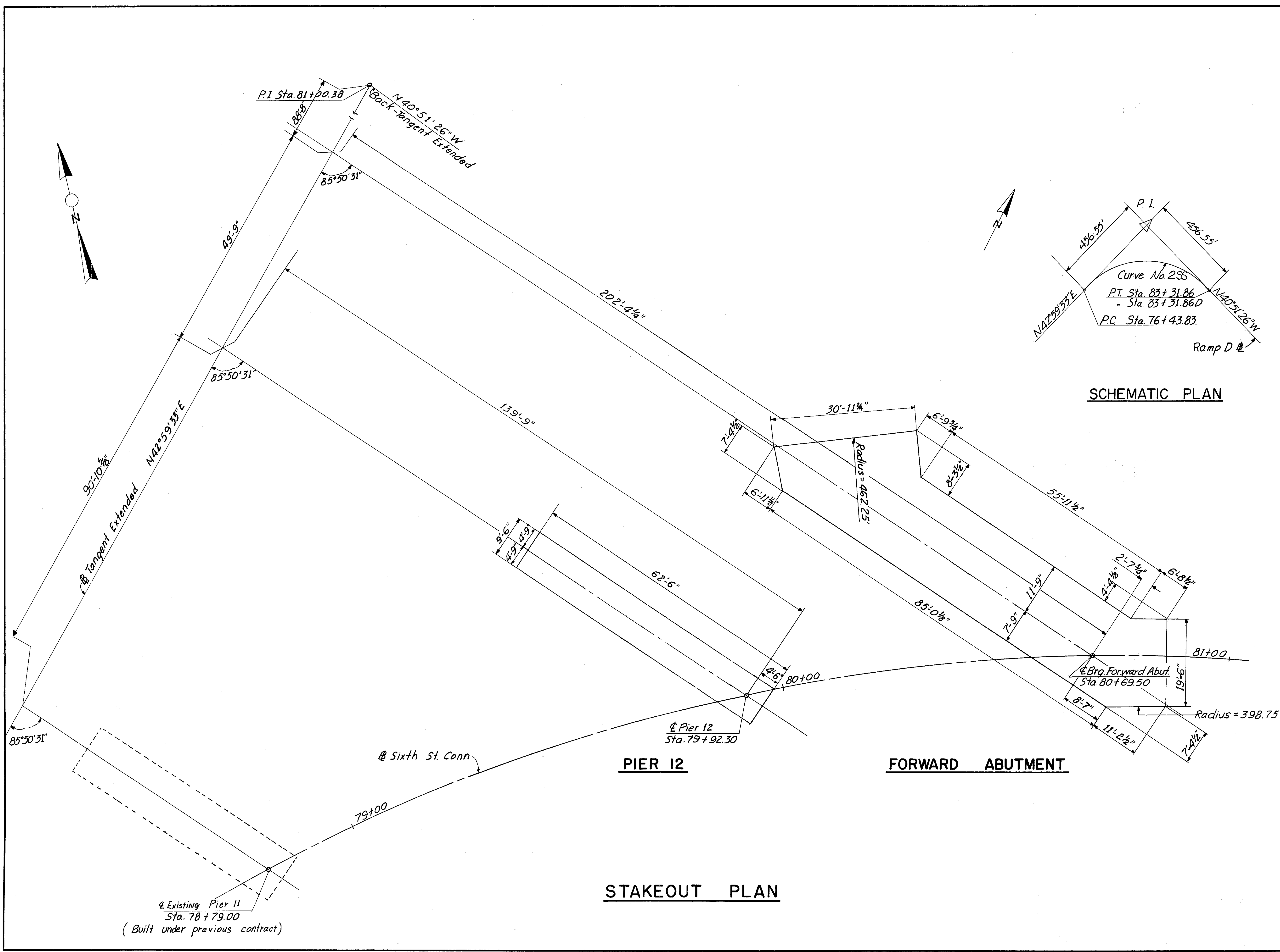
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	YK		HLL	JHO 3-24-82	

Rev. 9-9-82

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

311
346

HAMILTON COUNTY
HAM.-471-0.24
PART TWO

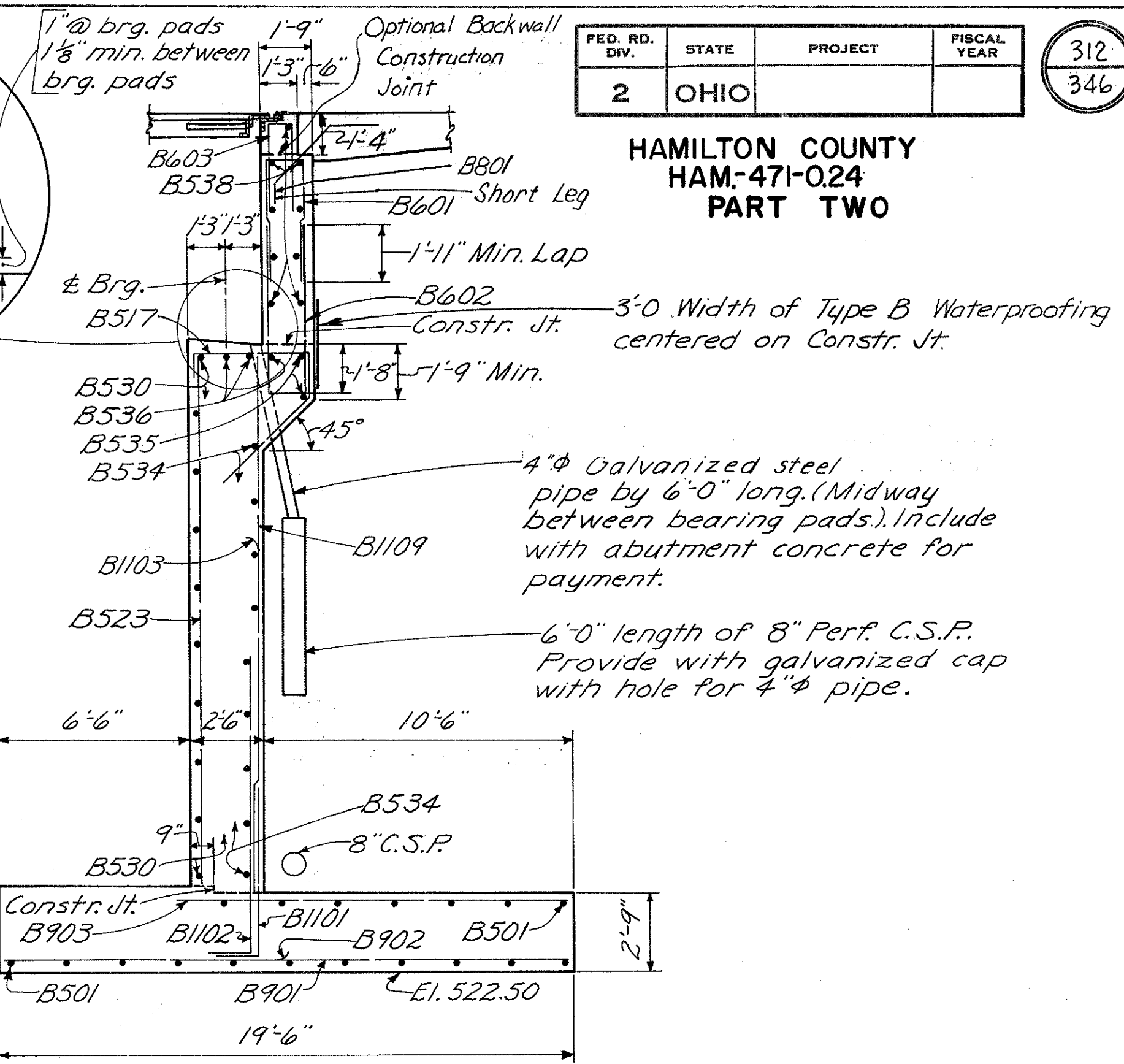
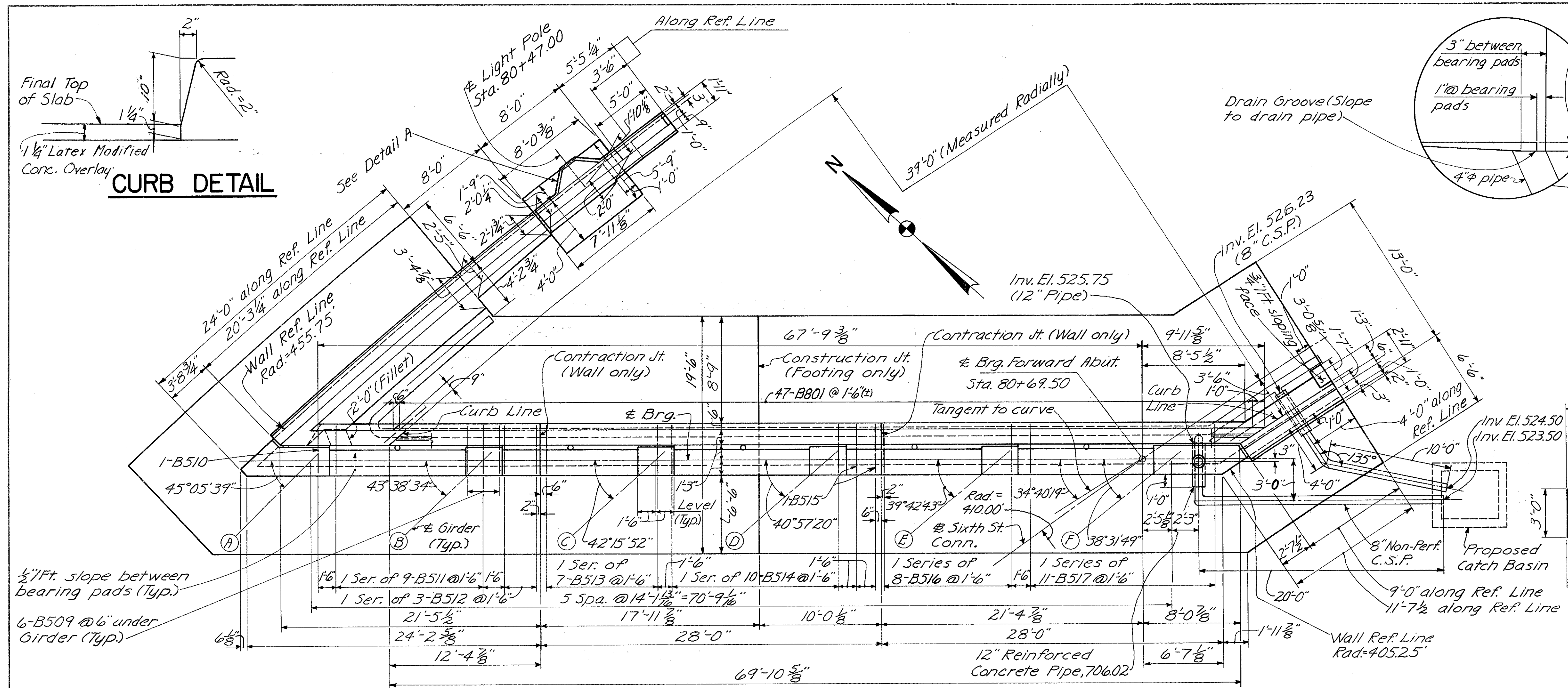


SCHEMATIC PLAN

STAKEOUT PLAN

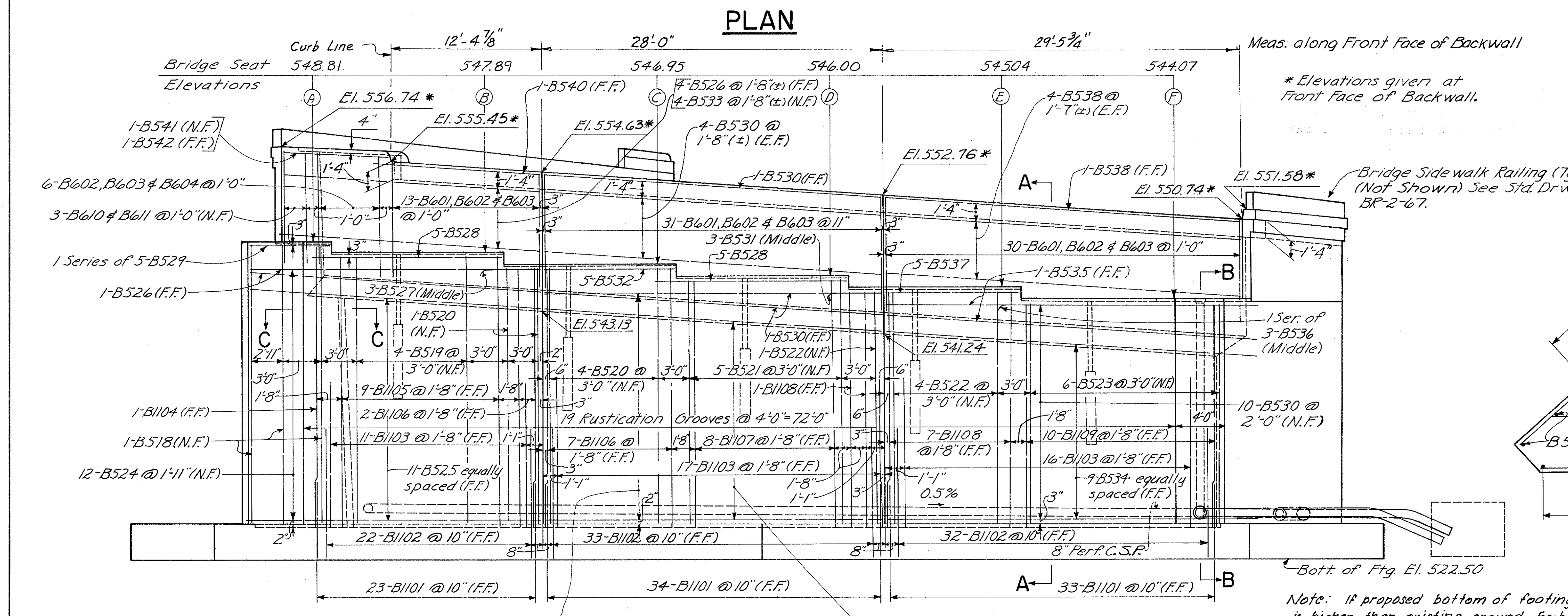
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					4/23
STAKEOUT PLAN					
BRIDGE NO. HAM.-471- 0044					
SIXTH STREET CONNECTION OVER					
SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	YK		M.d.	JH 3-24-82	

**HAMILTON COUNTY
HAM-471-024
PART TWO**

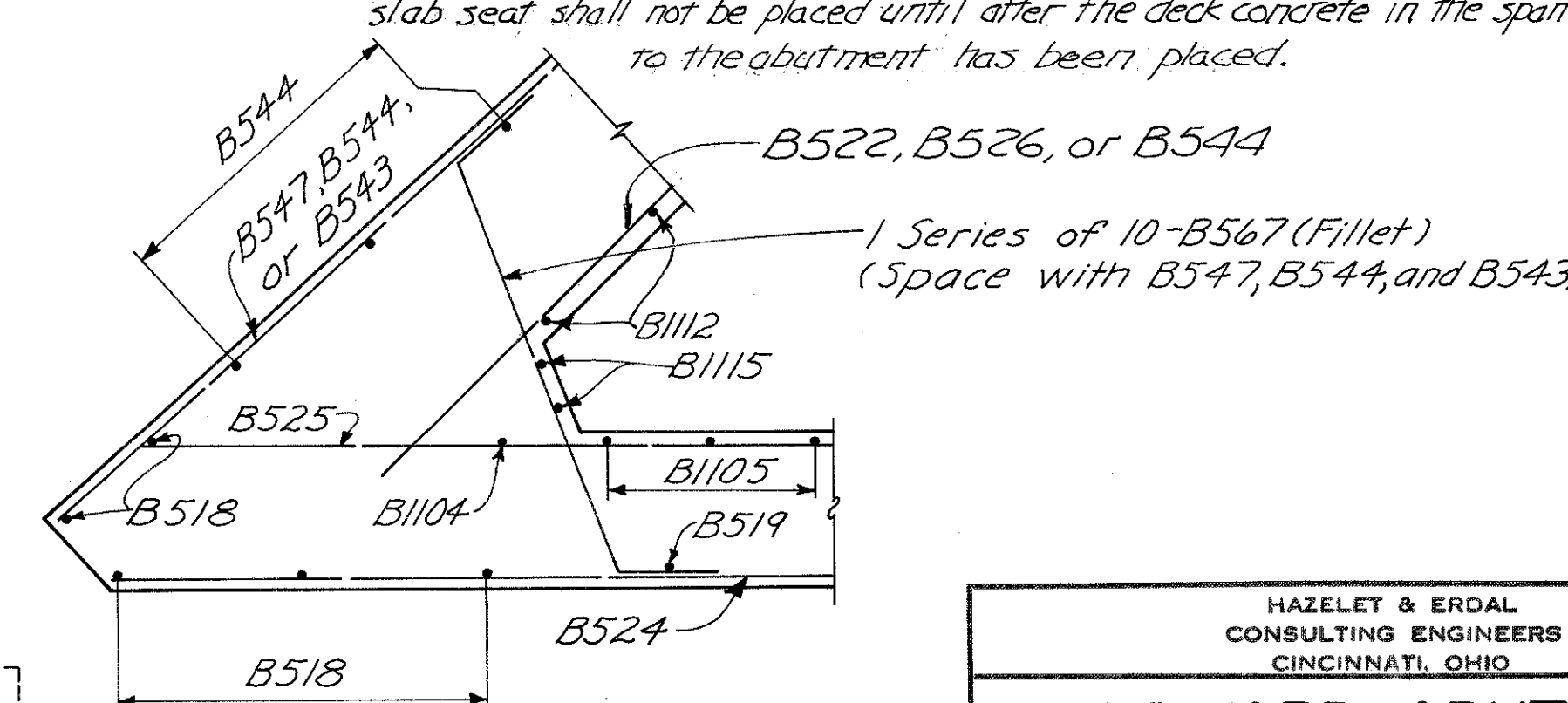


SECTION A-A

Notes:
 For Architectural Treatment of Abutment Front Face, see Sh. 313
 All Concrete shall be Class C concrete.
 N.F. denotes Near Face, F.F. denotes Far Face, E.F. denotes Each Face.
 Provide 3" clearance to reinforcing steel in footing, minimum.
 For Detail A, see Sh. 313
 For Wingwall Details, see Sh. 313 & 314
 For Section B-B, see Sh. 314
 For Contraction Joint Detail, Expansion Joint Detail, and Rustication Groove Detail, see Sh. 314
 For Footing Plan, see Sh. 313
 For Roadway and Curb End Finish Details, see Std. Drwg. SD-1-69, Sh. No. 142, and Section K-K on sheet 318
 For Light Pole Details, see Sh. No. 313
 For Typical Lighting Details, see Sh. 130
 Work this Drwg. with Lighting Plan, Sh. No. 127
 Backwall Concrete: In addition to the provisions of 511.08, backwall concrete above the bridge seat or backwall concrete above the optional const. jr. at the approach slab seat shall not be placed until after the deck concrete in the span adjacent to the abutment has been placed.



SECTION C-C



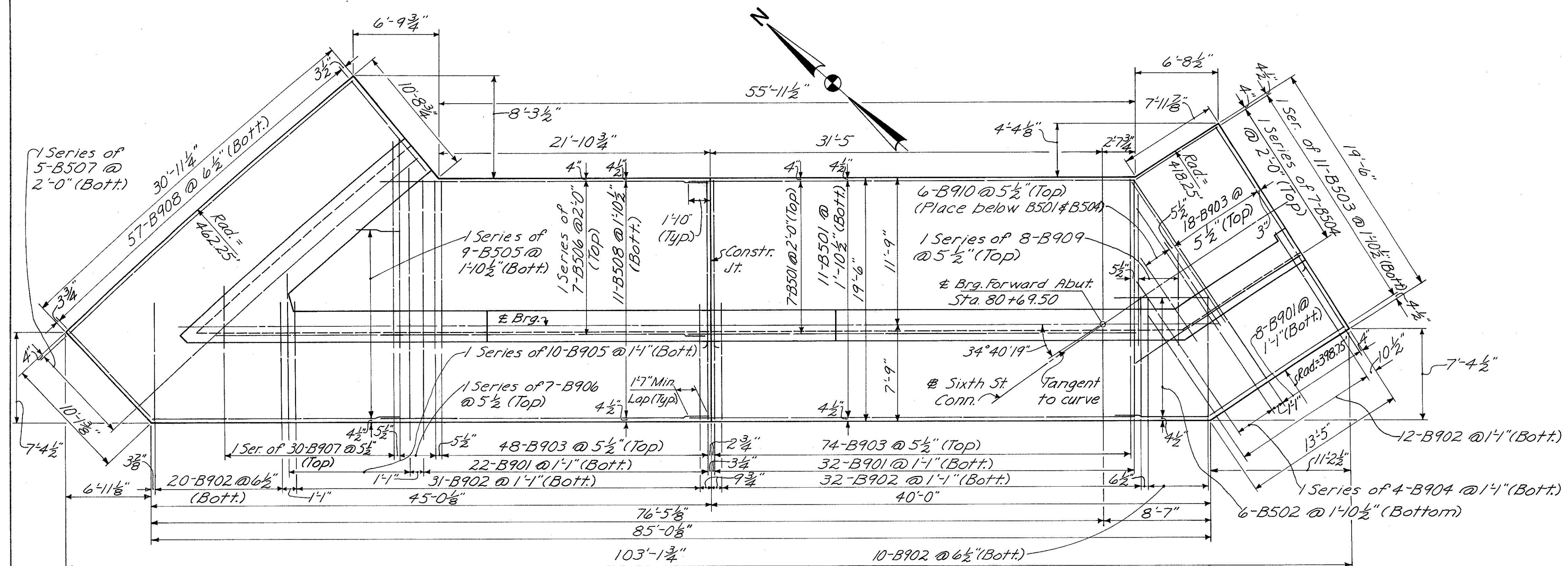
Note: If proposed bottom of footing elevation for Forward Abutment is higher than existing ground, Embankment B shall be compacted to a minimum of 8" above bottom of footing elevation before proceeding with structure excavation (Item 503, Unclassified Excavation).

HAZELET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

FORWARD ABUTMENT
 BRIDGE NO. HAM-471-0044
 SIXTH STREET CONNECTION OVER
 SOUTHBOUND I-471 H&E BRIDGE NO.9

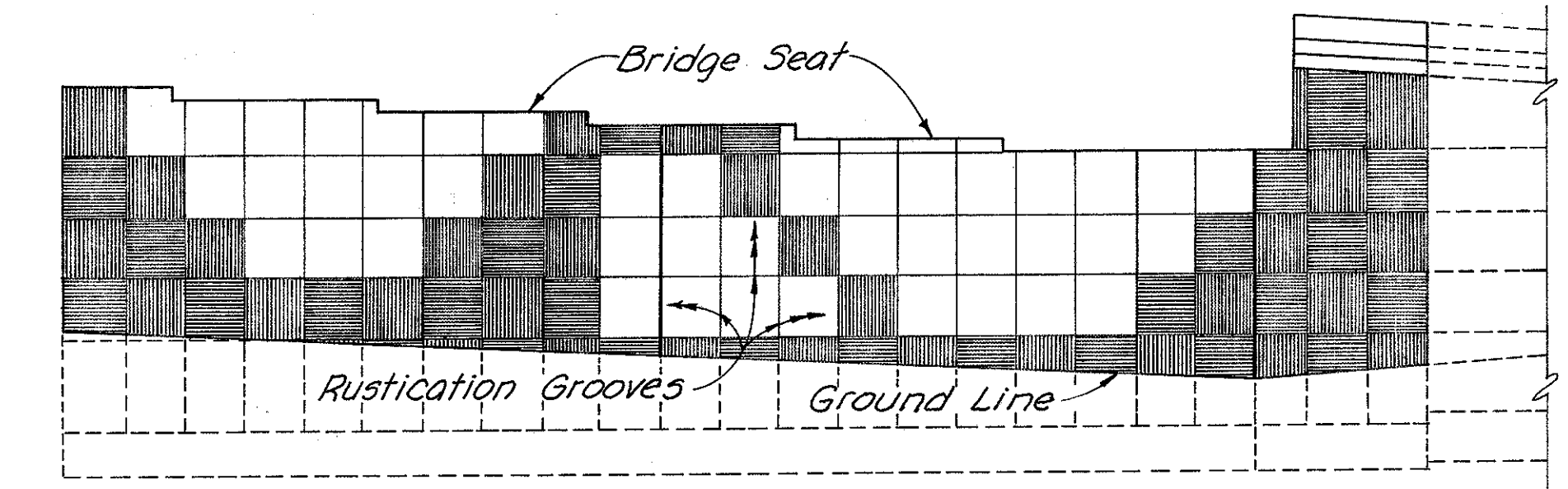
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
WL	CES		JH	3-24-82	

HAMILTON COUNTY
HAM-471-024
PART TWO

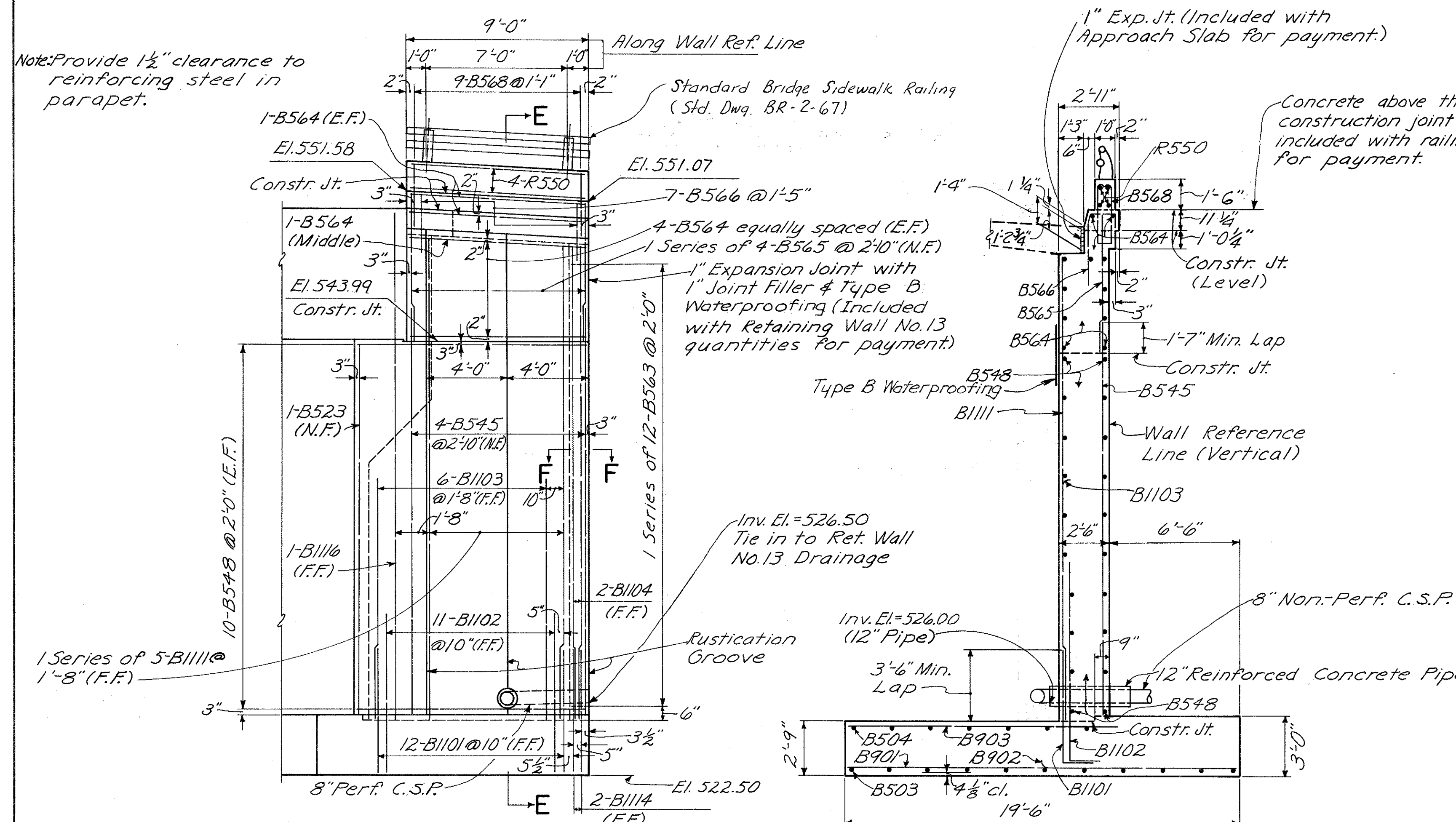


FOOTING PLAN

Notes:
The front face of the Abutment and South Wingwall shall have a textured finish as produced by striated plywood forms. The texture finish shall be uniform and extend to the vertical limits shown.
Four feet by four feet form panels shall be used where possible. The panels shall be placed with the striations of the forms alternating horizontally and vertically. Payment for the noted architectural treatment is included in Item 511.

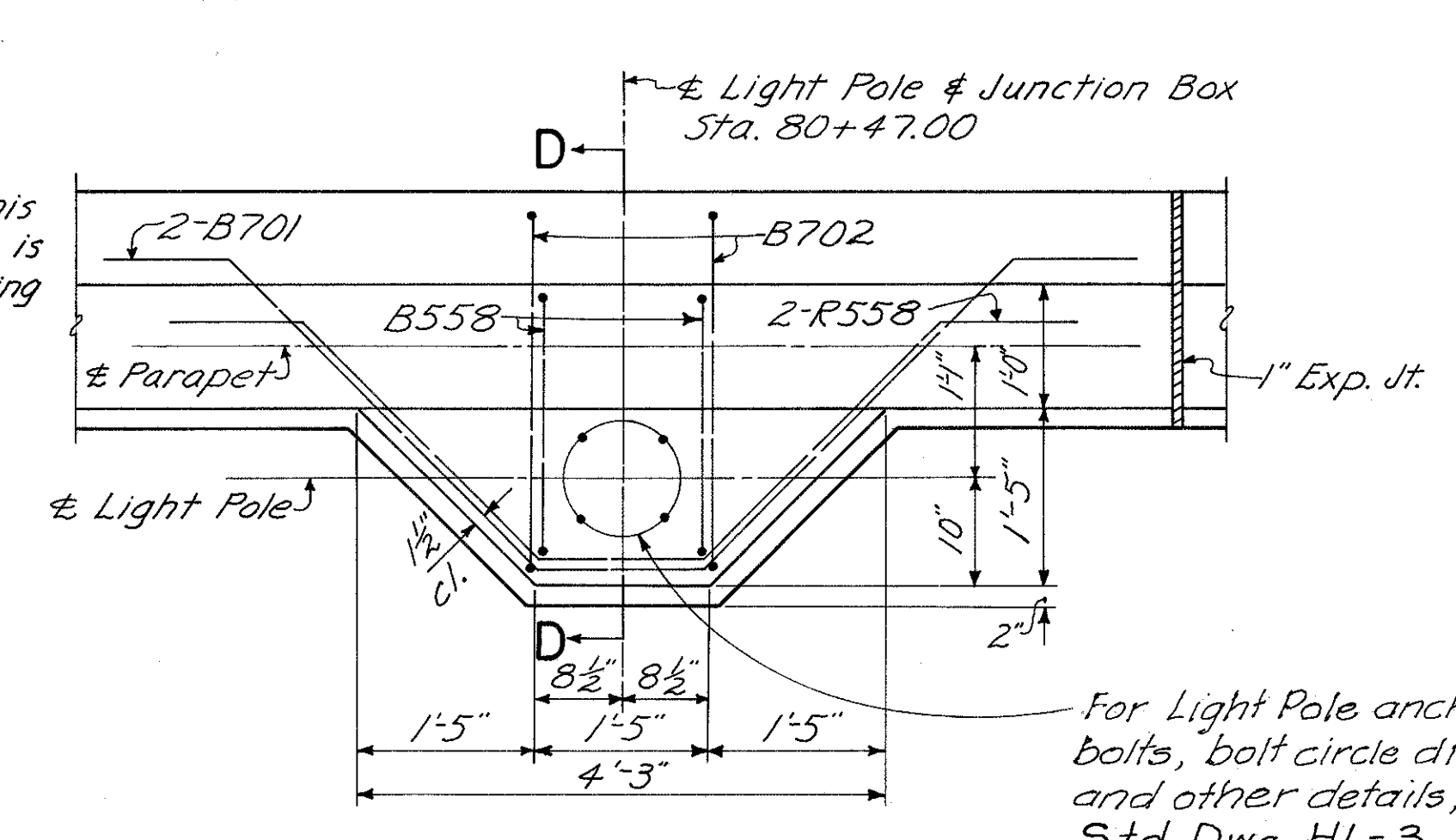


ARCHITECTURAL TREATMENT

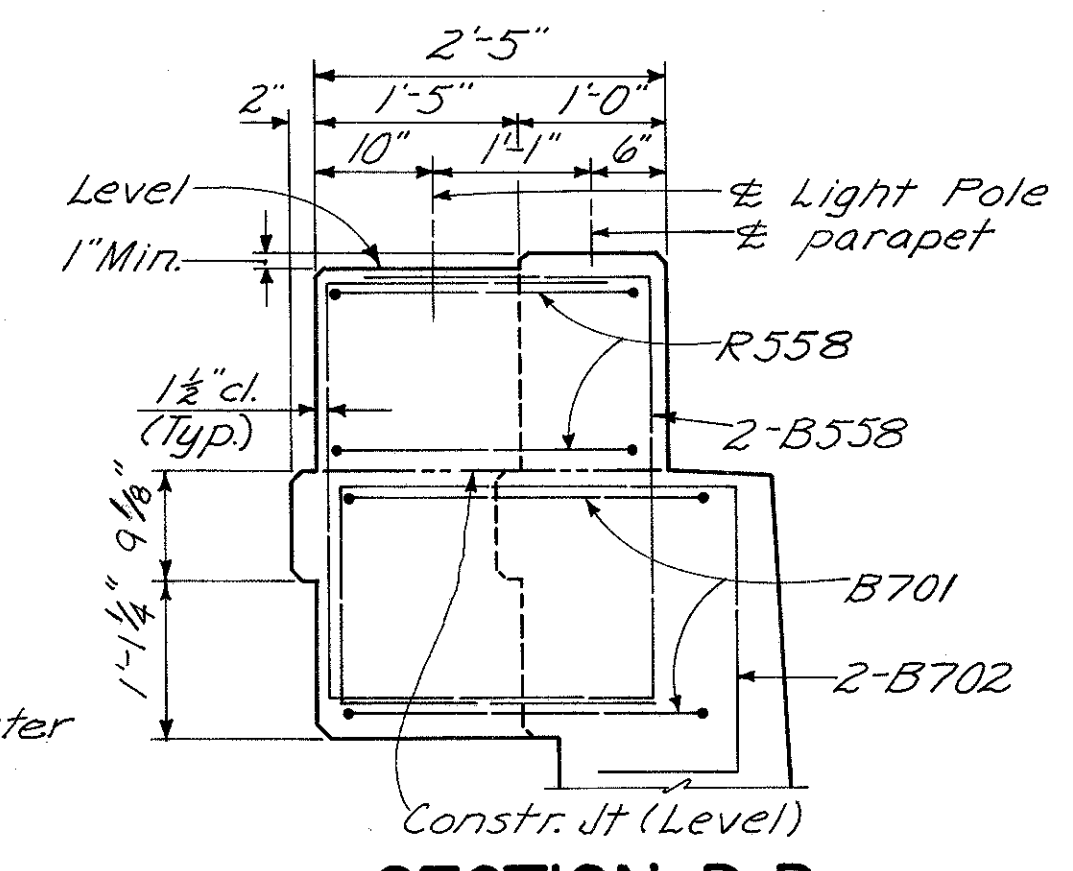


SOUTH WINGWALL ELEVATION

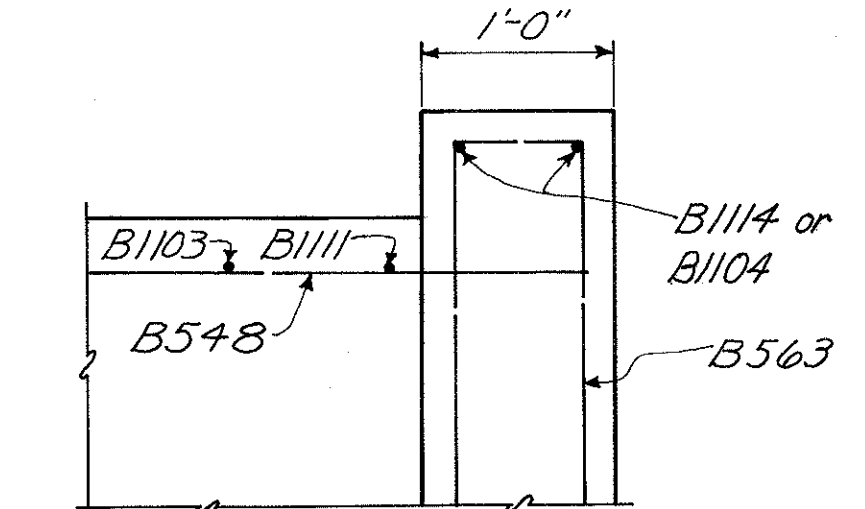
SECTION E-E



DETAIL A



SECTION D-D



SECTION F-F

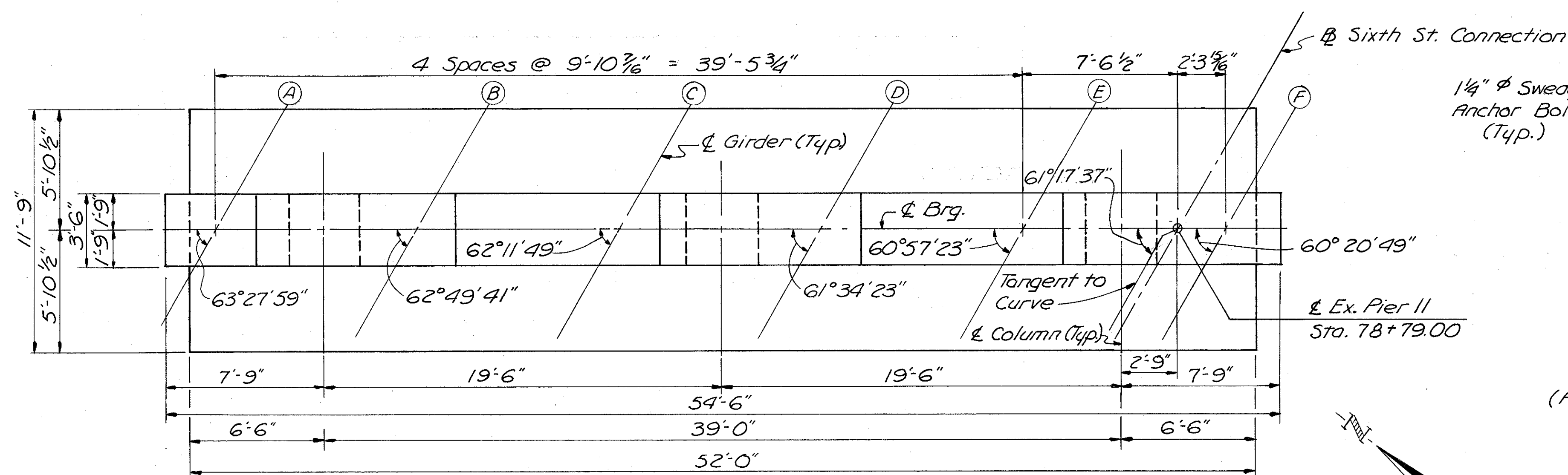
For Notes, see 511.312.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					6/23
FORWARD ABUTMENT					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED WL	DRAWN CES	TRACED	CHECKED ML	REVIEWED DATE JH 3-24-82	REVISION

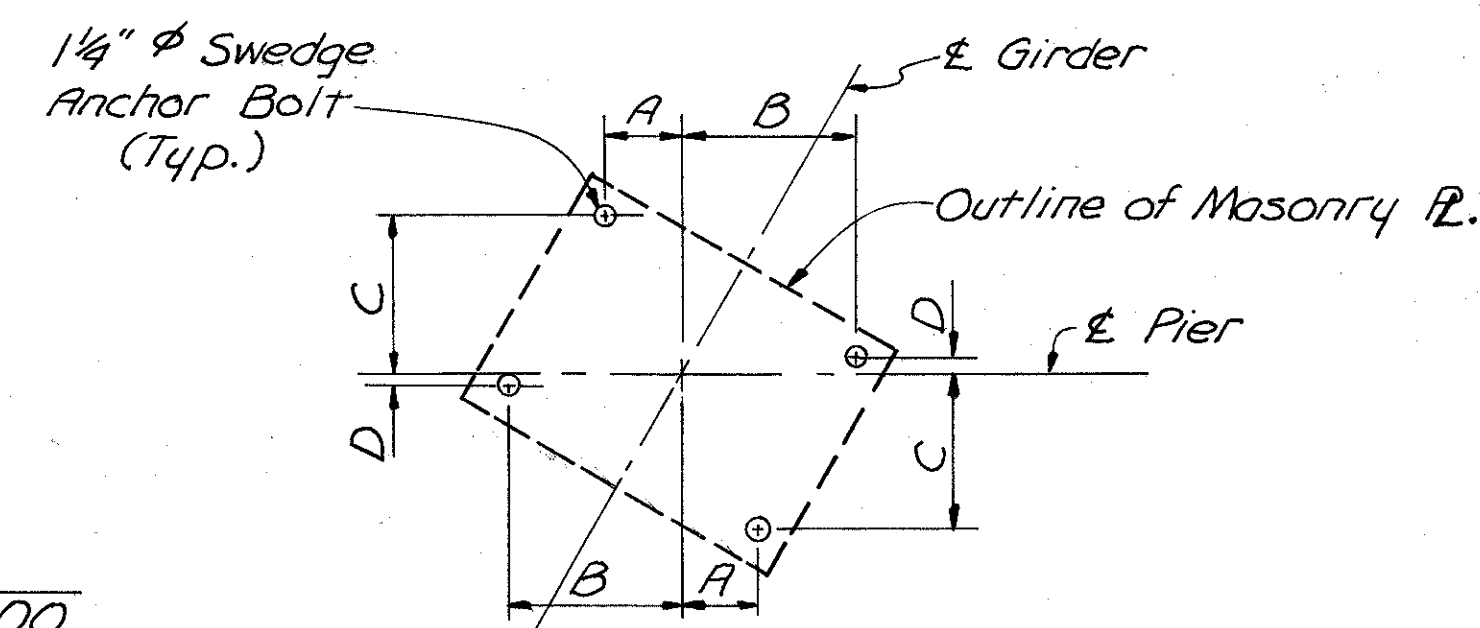
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

315
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

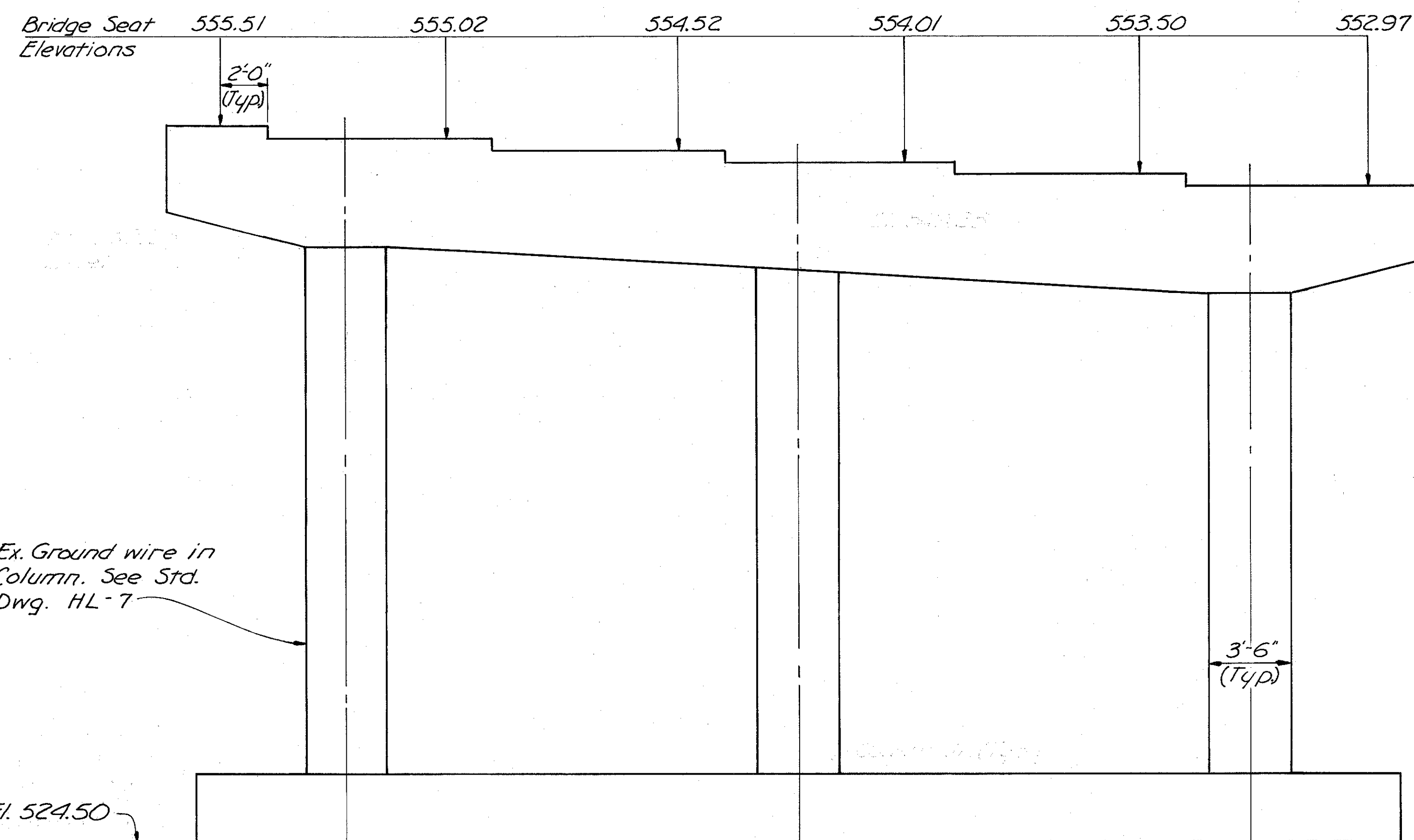


PLAN



ANCHOR BOLT LAYOUT
(Anchor Bolts to be set 1'-3" into concrete)

GIRDER	DIMENSION			
	A	B	C	D
A	7 3/16"	1'-2 5/16"	1'-0 1/2"	1 13/16"
B	7 1/16"	1'-2 5/16"	1'-0 5/8"	1 5/8"
C	6 7/8"	1'-2 3/8"	1'-0 1/4"	1 1/2"
D	6 3/4"	1'-2 3/8"	1'-0 3/4"	1 5/16"
E	6 5/8"	1'-2 3/8"	1'-0 13/16"	1 3/16"
F	6 1/2"	1'-2 3/8"	1'-0 7/8"	1"



ELEVATION

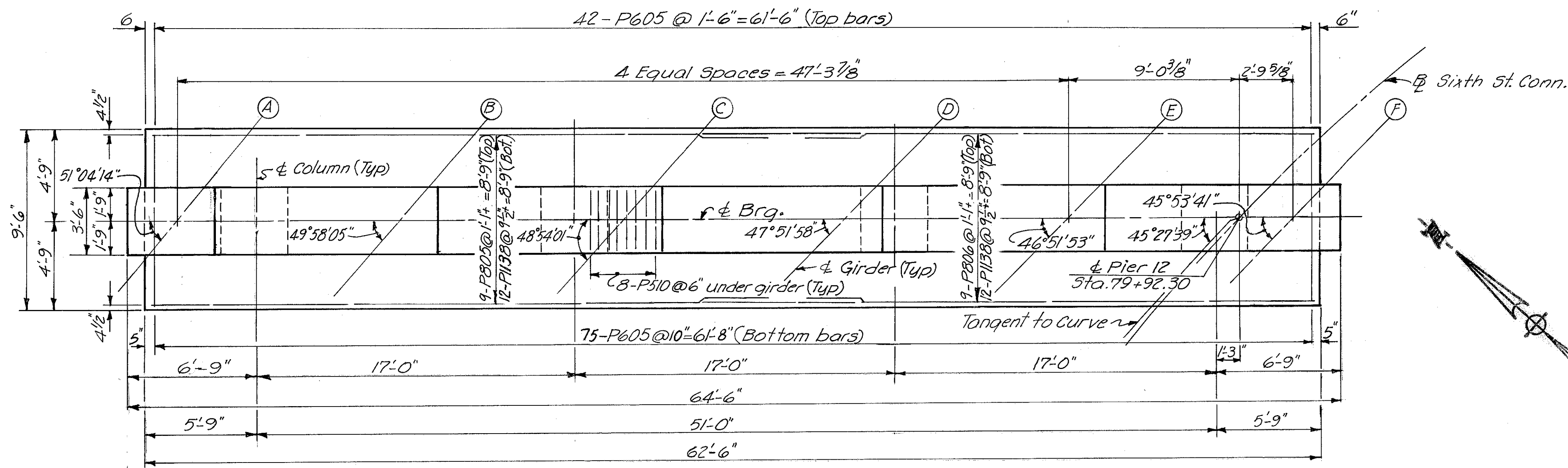
Note:
It shall be the responsibility of the Contractor to verify the pier cap location and elevations before erecting the structural steel girders.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				8/23
EXISTING PIER NO. II				
BRIDGE NO. HAM-471-0044				
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	FVB		WJL	JHO 3-24-82

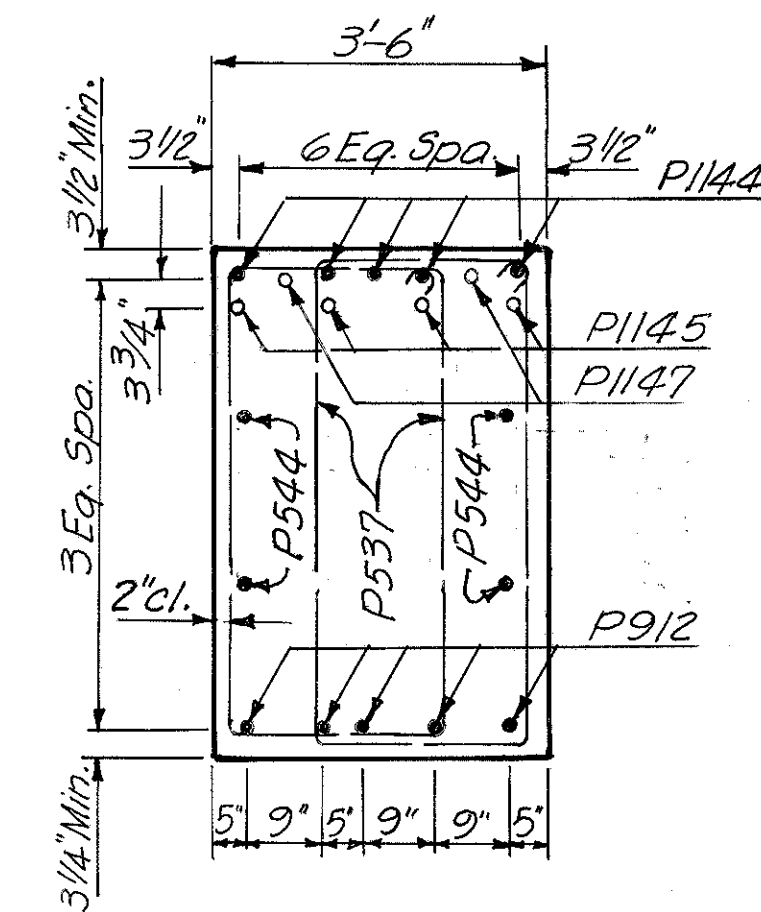
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

316
346

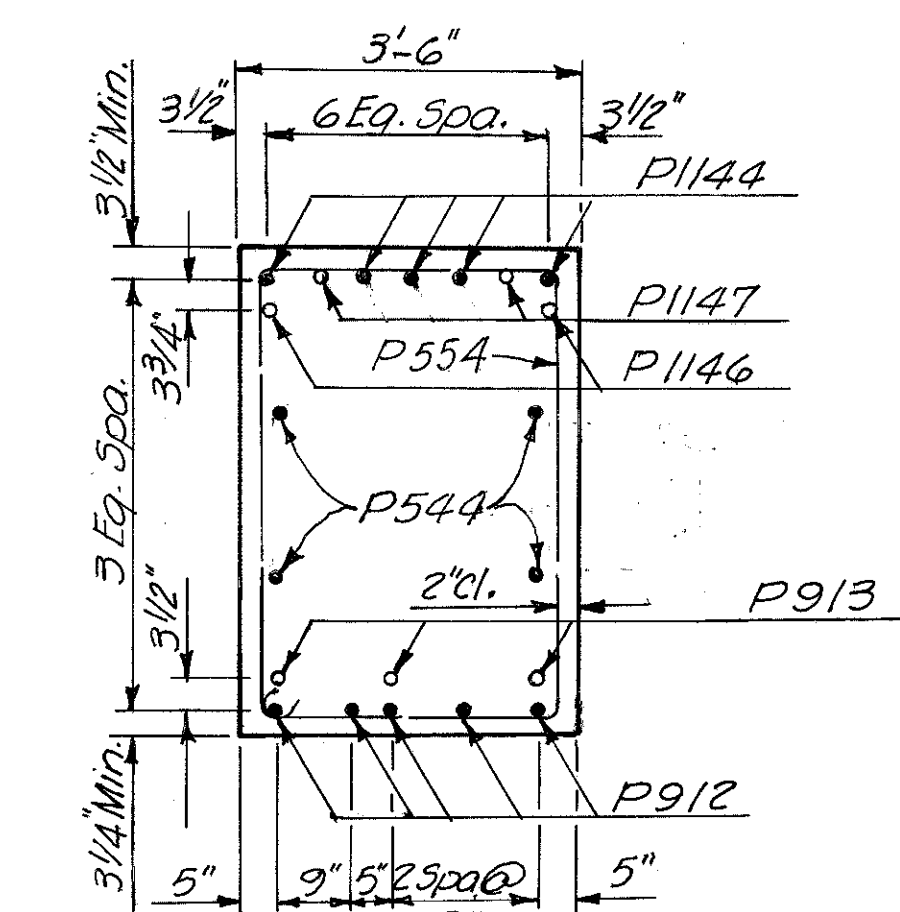
HAMILTON COUNTY
HAM-471-0.24
PART TWO



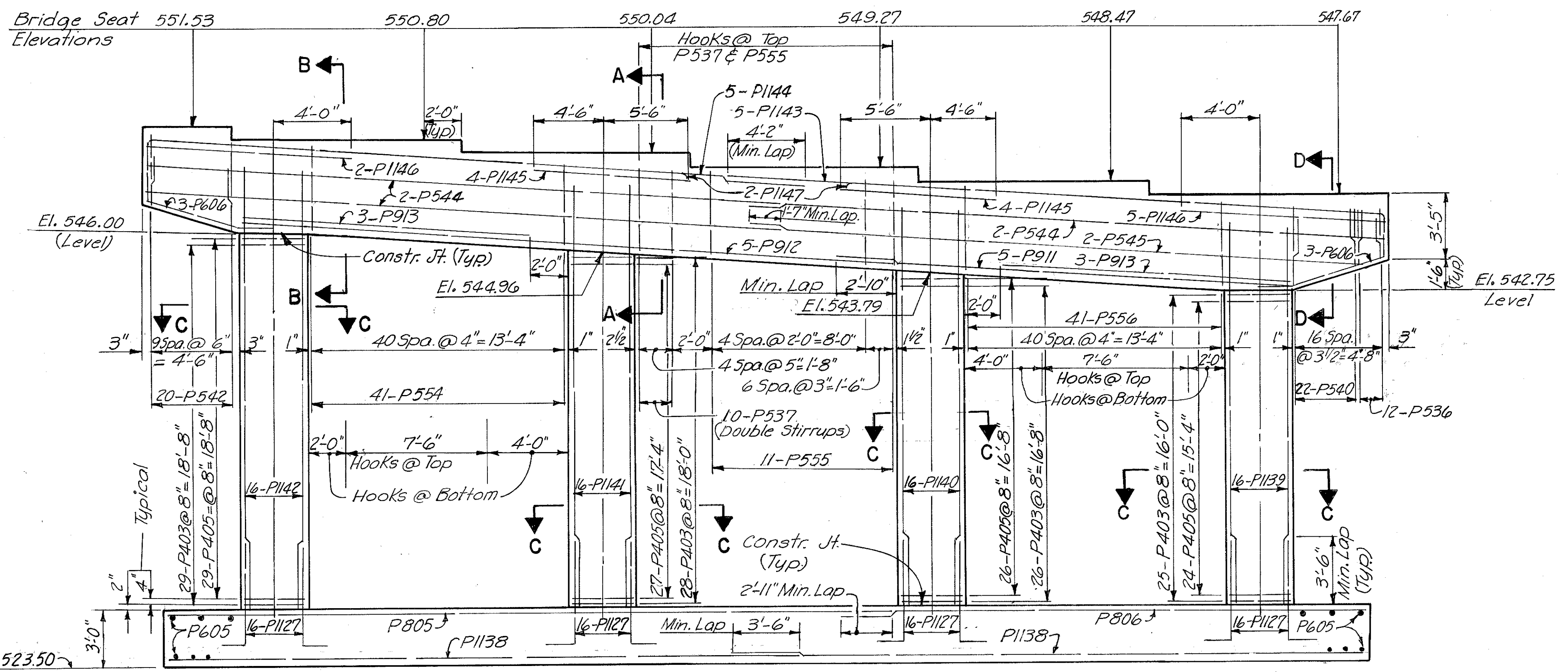
PLAN



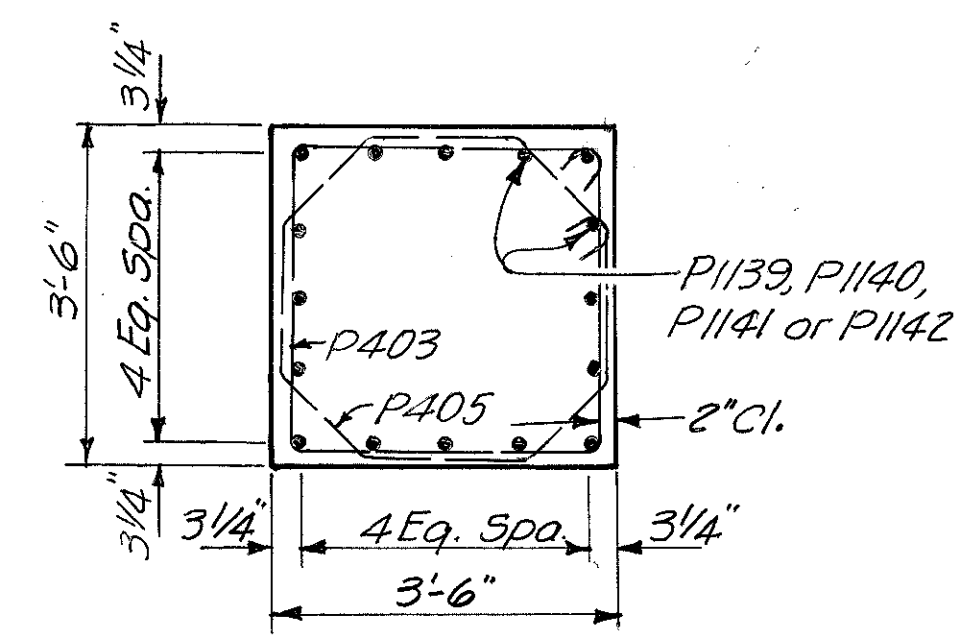
SECTION A-A



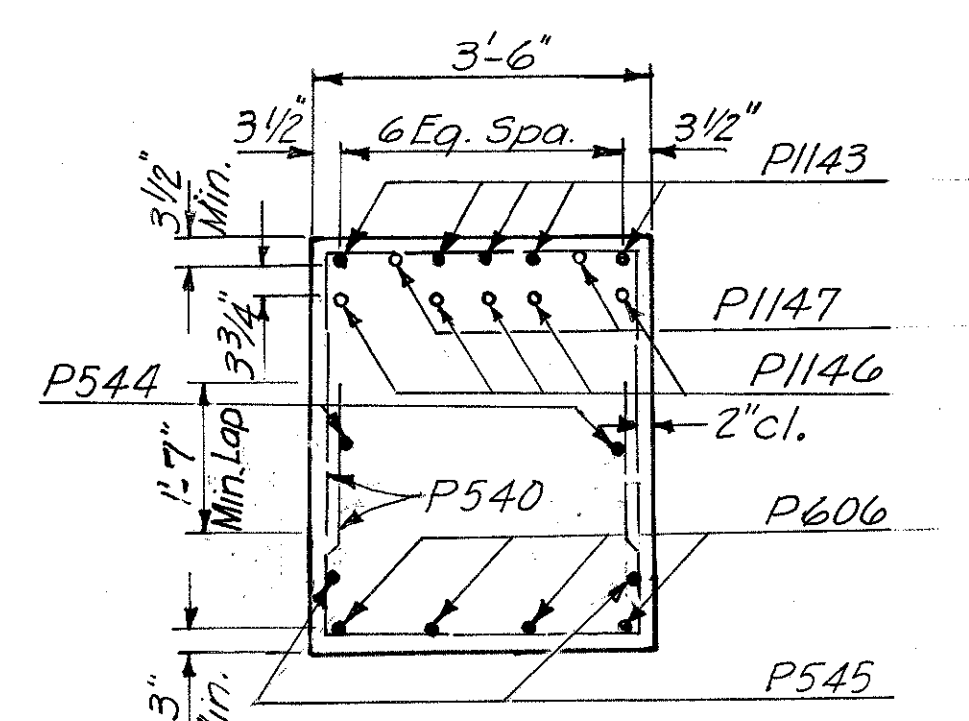
SECTION B-B



ELEVATION

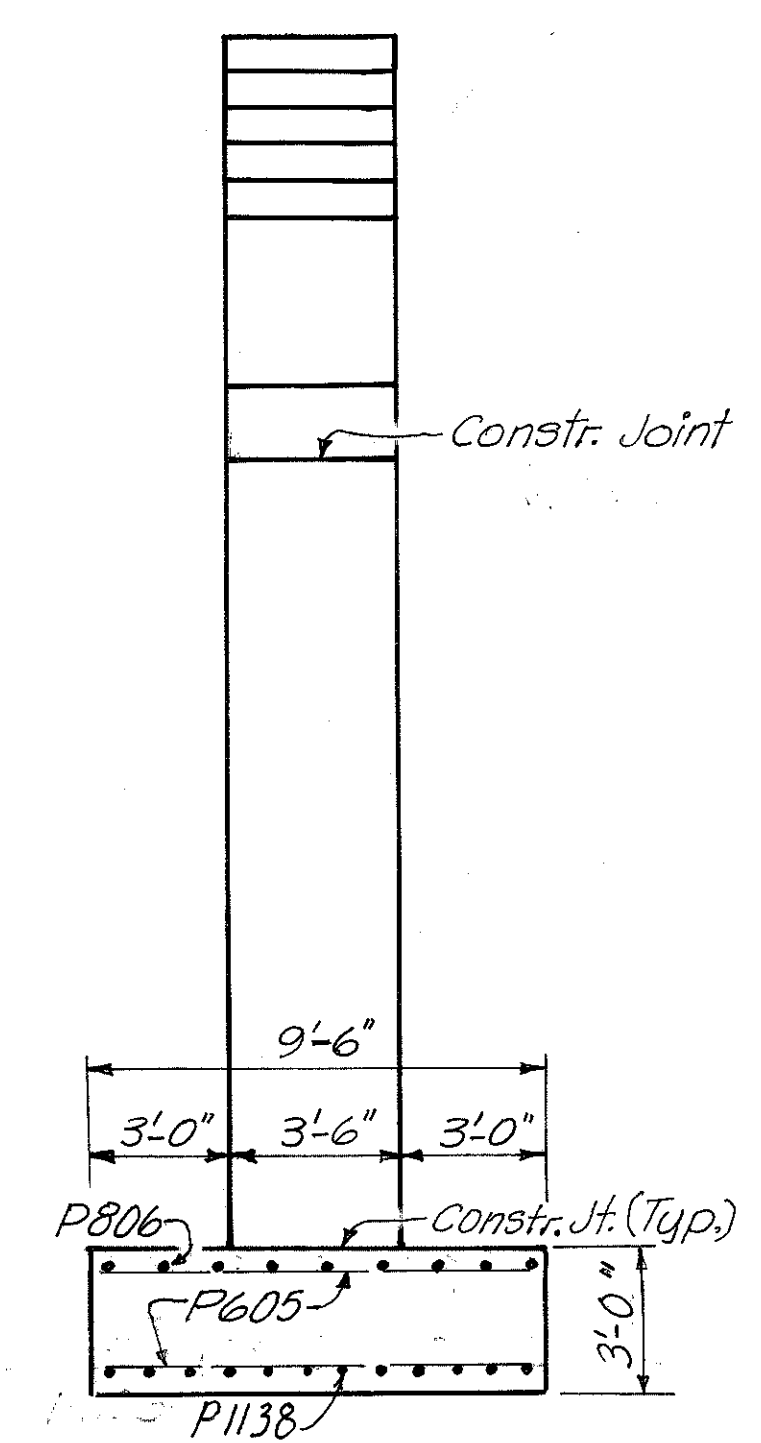


SECTION C-C



SECTION D-D

Note: Provide 3" clearance to reinforcing steel in footing, minimum.
All concrete shall be class C concrete.

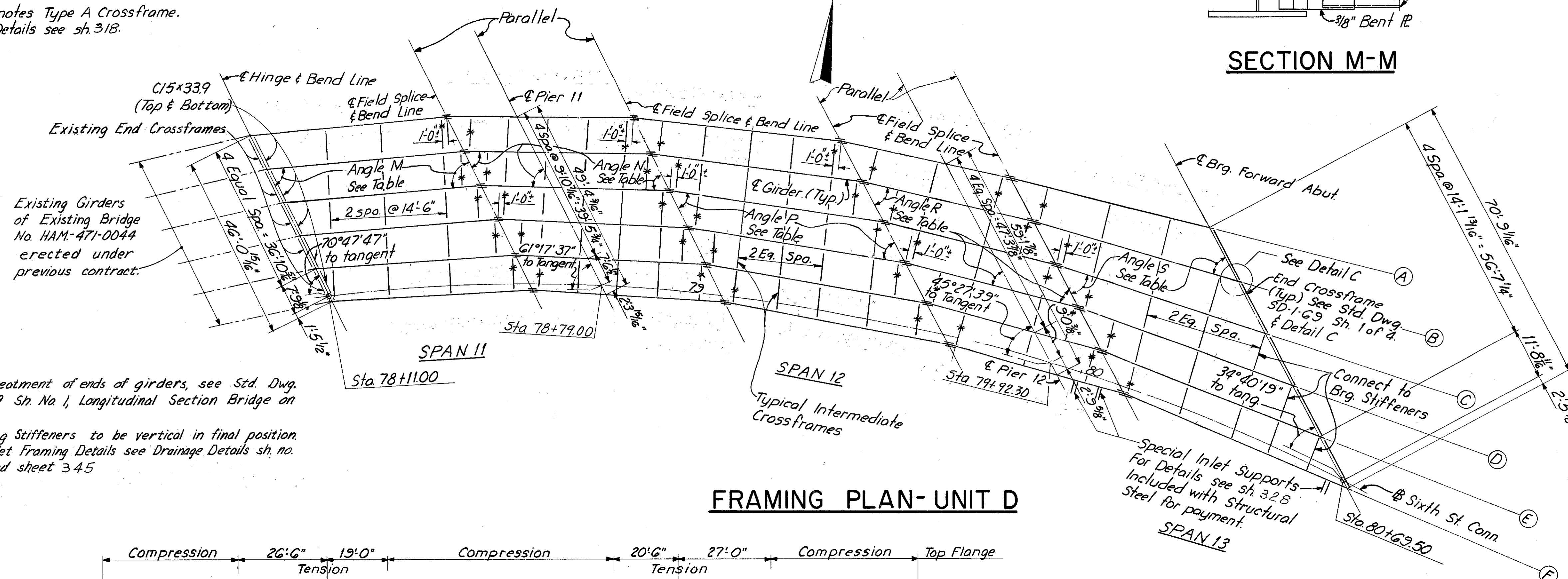


END ELEVATION

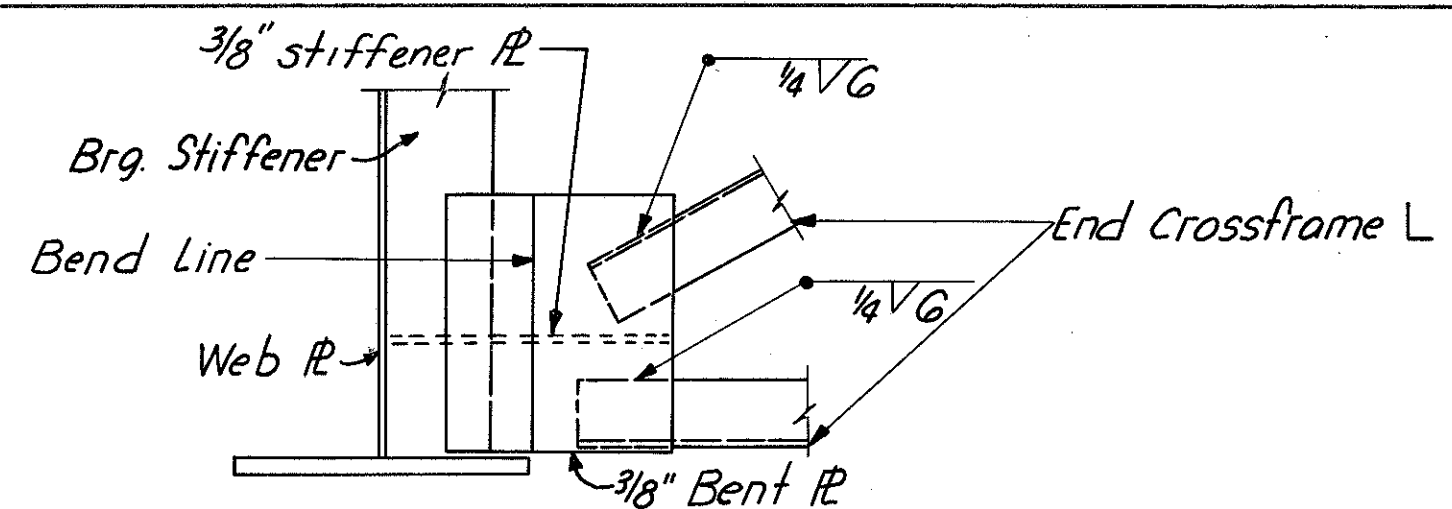
Note: For that portion of the footing where the bottom of footing elevation is higher than the existing ground, Embankment B shall be compacted to a minimum of 8" above bottom of footing elevation before proceeding with structure excavation (Item 503, Unc. Excav.).

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		9/23
PIER NO. 12		
BRIDGE NO. HAM-471-0044		
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9		
DESIGNED	DRAWN	CHECKED
W.L.	J.E.M.	V.W.S.
		12-17-71
TRACED	CHECKED	REVIEWED DATE
	J.H.O.	3-24-82
		REVISION

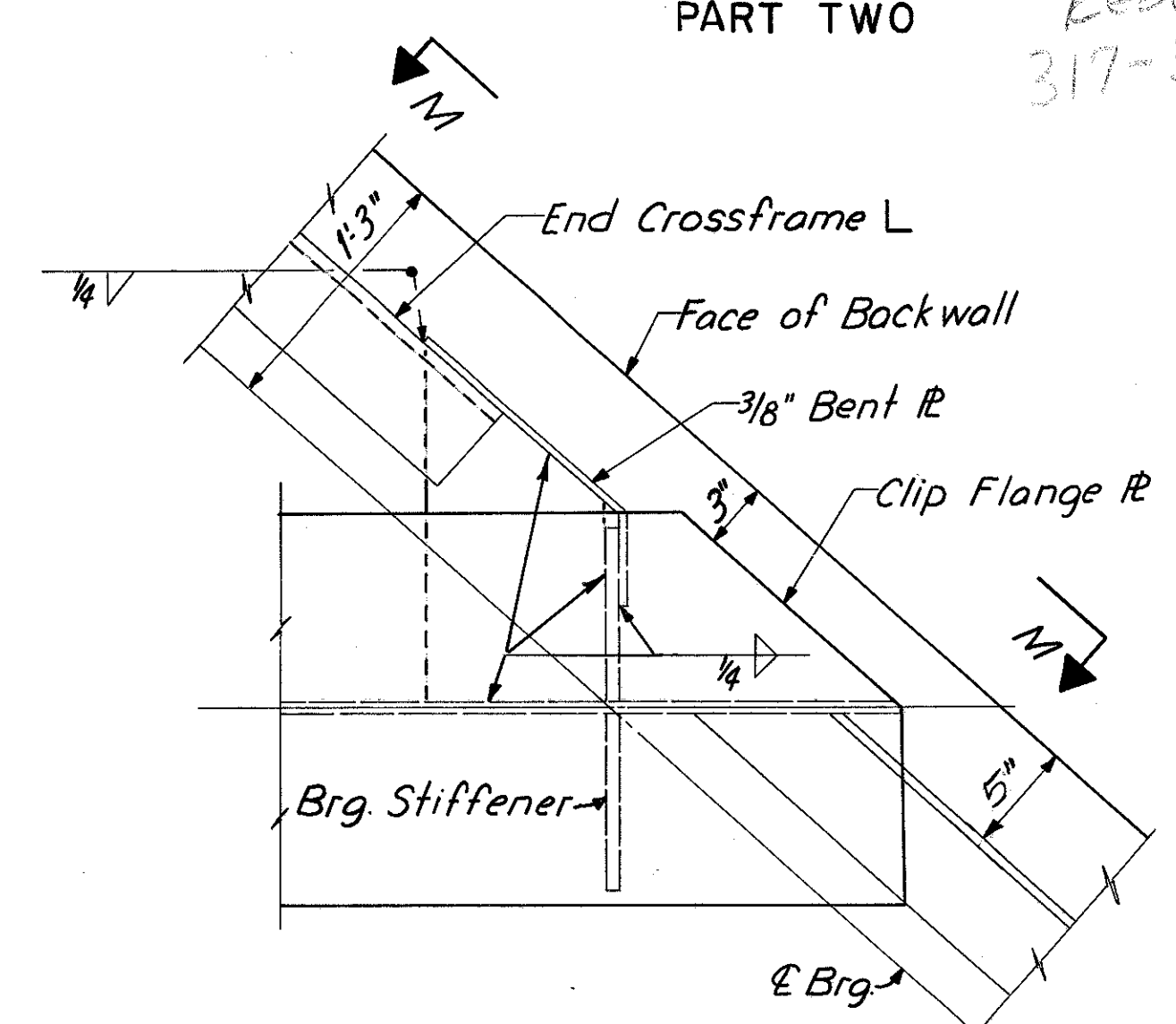
Note: * Denotes Type A Crossframe.
For Details see sh. 318.



Notes:
For treatment of ends of girders, see Std. Dwg. SD-1-69 Sh. No. 1, Longitudinal Section Bridge on Grade.
Bearing Stiffeners to be vertical in final position.
For Inlet Framing Details see Drainage Details sh. no. 327 and sheet 345.

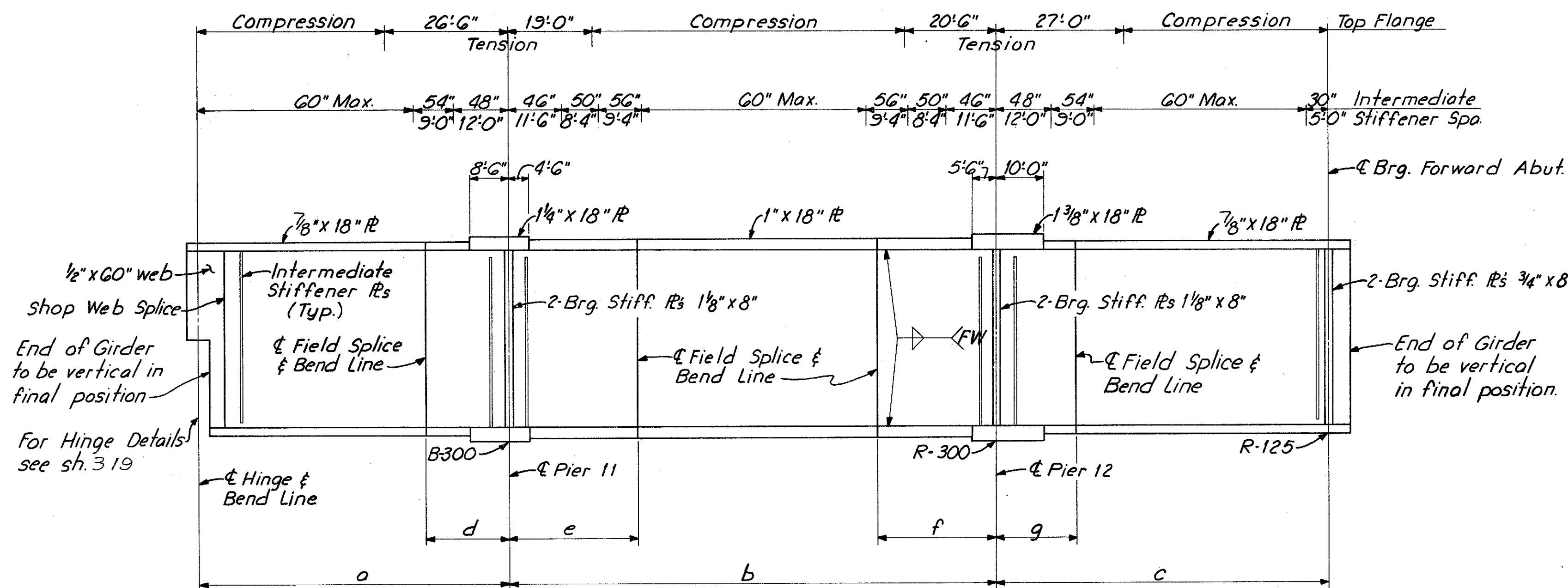


SECTION M-M



DETAIL C

FRAMING PLAN-UNIT D



GIRDER ELEVATION

Girder	Angle				
	M	N	P	R	S
A	69°32'17"	63°27'59"	57°08'11"	51°04'14"	45°05'39"
B	69°04'08"	62°49'41"	56°17'12"	49°58'05"	43°38'34"
C	68°36'09"	62°11'49"	55°27'12"	48°54'01"	42°15'52"
D	68°08'21"	61°34'23"	54°38'10"	47°51'58"	40°57'20"
E	67°40'44"	60°57'23"	53°50'08"	46°51'53"	39°42'43"
F	67°13'18"	60°20'49"	53°03'02"	45°53'41"	38°31'49"

Notes:
For Bearing Details see Std. Dwg. RB-1-55, FSB-1-62 and sheet 319. Revise "K" for R125-14".
The upper plate element of bearings in accordance with Std. Dwg. RB-1-55 shall be beveled to match roadway grade. Tabulated plate thickness C shall apply at centerline of plate.
Field flange splices shall miss crossframes and intermediate stiffeners by 1'-0" minimum, and shop flange splices shall miss shop web splices by 5'-0" minimum.

For End Dam Details at Forward Abutment see Std. Dwg. SD-1-69 sh. 1. Provide 3" beveled bar at Forward Abutment regardless of grade.
During the erection of end dams and crossframes care shall be taken to insure that girders, bearing parts and bridge seats remain in bearing contact.
For Curb Plate Details and Sidewalk End Dam Details at Forward Abutment see Std. Dwg. SD-1-69 sh. 2.

Notes:
Intermediate stiffeners are 3/8"x6" R's (one each side of web).
Girder web R is 3/8"x60" unless otherwise noted.
Top and bottom plates are identical.
Items are identical for each girder.
FW For sizes see Table of Fillet Weld sizes sh. 279

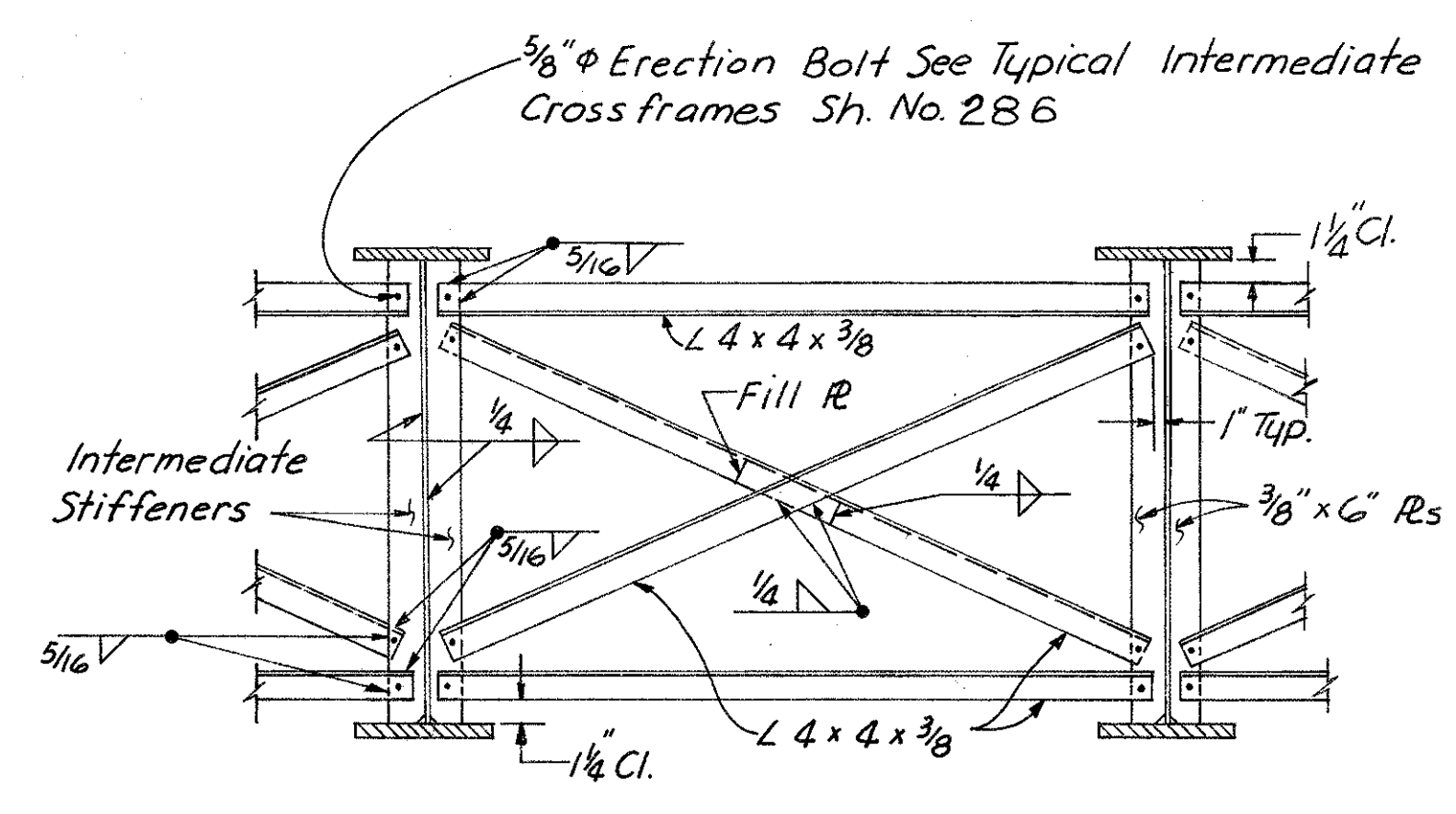
The structural steel for this contract has been previously fabricated in accordance with CMS Section 1-1-73. Therefore, the (CVN) notation has not been designated on these plans and Section 711.01 of CMS dated 1-1-79 will not apply.

Dim. Girder	a	b	c	d	e	f	g
A	67'-0 1/16"	107'-11 3/8"	68'-5 1/8"	17'-10 3/16"	28'-9 1/4"	25'-10 3/4"	16'-6 3/4"
B	67'-3 3/4"	109'-0 9/16"	70'-0 1/16"	17'-11 1/16"	28'-11 1/4"	26'-3 1/16"	16'-9 1/16"
C	67'-6 13/16"	110'-2 1/16"	71'-8 5/8"	18'-0 1/16"	29'-1 1/4"	26'-8 13/16"	17'-1 3/16"
D	67'-10"	111'-3 13/16"	73'-5"	18'-1 15/16"	29'-3 1/4"	27'-2"	17'-4 1/2"
E	68'-1 1/4"	112'-5 13/16"	75'-1 13/16"	18'-3 1/4"	29'-5 3/8"	27'-7 1/4"	17'-7 7/8"
F	68'-4 3/16"	113'-8 1/8"	76'-11"	18'-4 9/16"	29'-7 1/8"	28'-0 3/8"	17'-11 3/8"

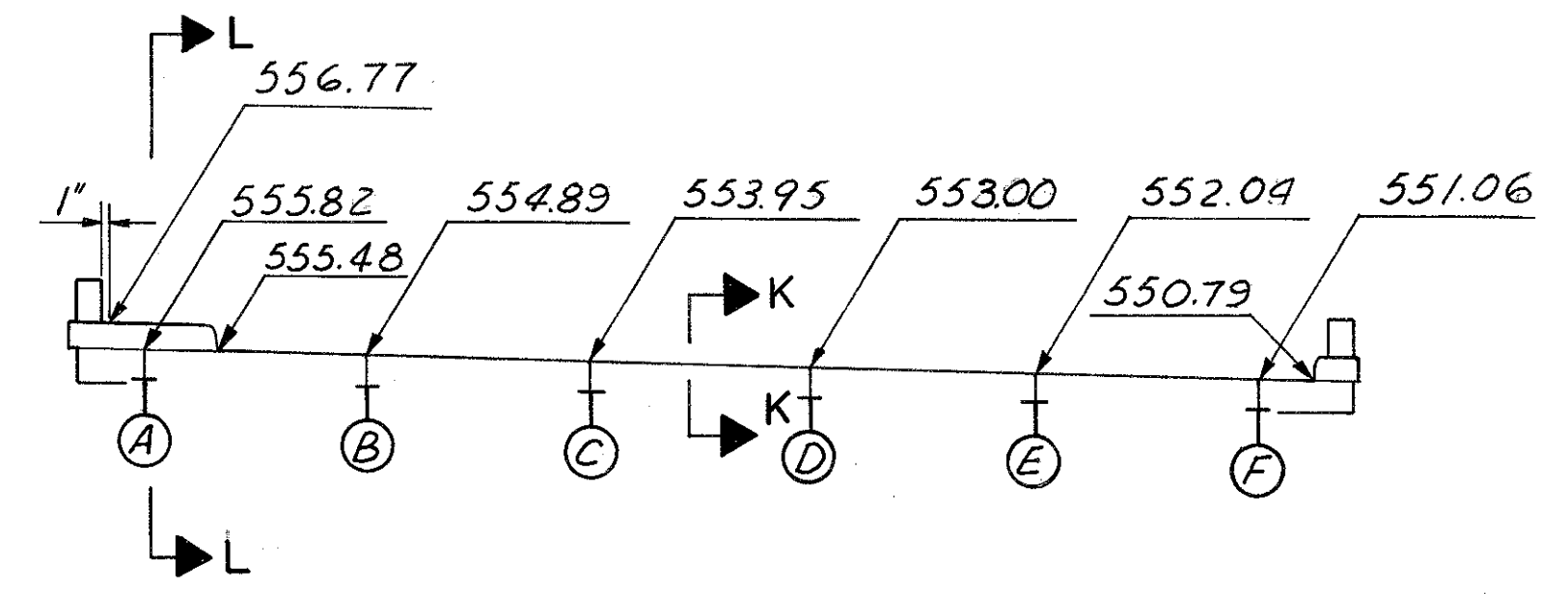
Dimensions are measured along Girders.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					10/23
STRUCTURAL STEEL DETAILS					
BRIDGE NO. HAM. 471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		JPL	JH0 3-24-82	

HAMILTON COUNTY
HAM-471-024
PART TWO

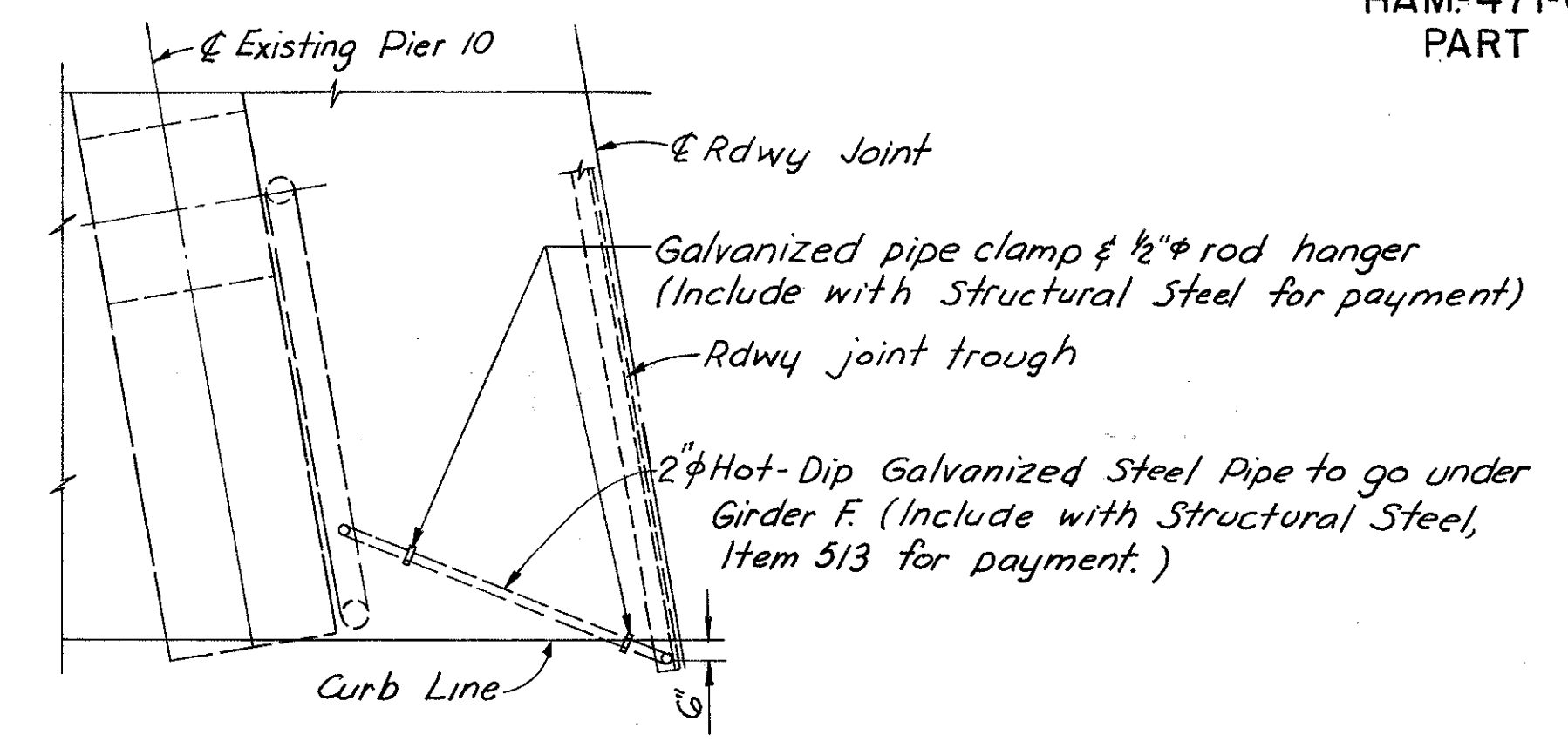


INTERMEDIATE CROSSFRAMES TYPE A



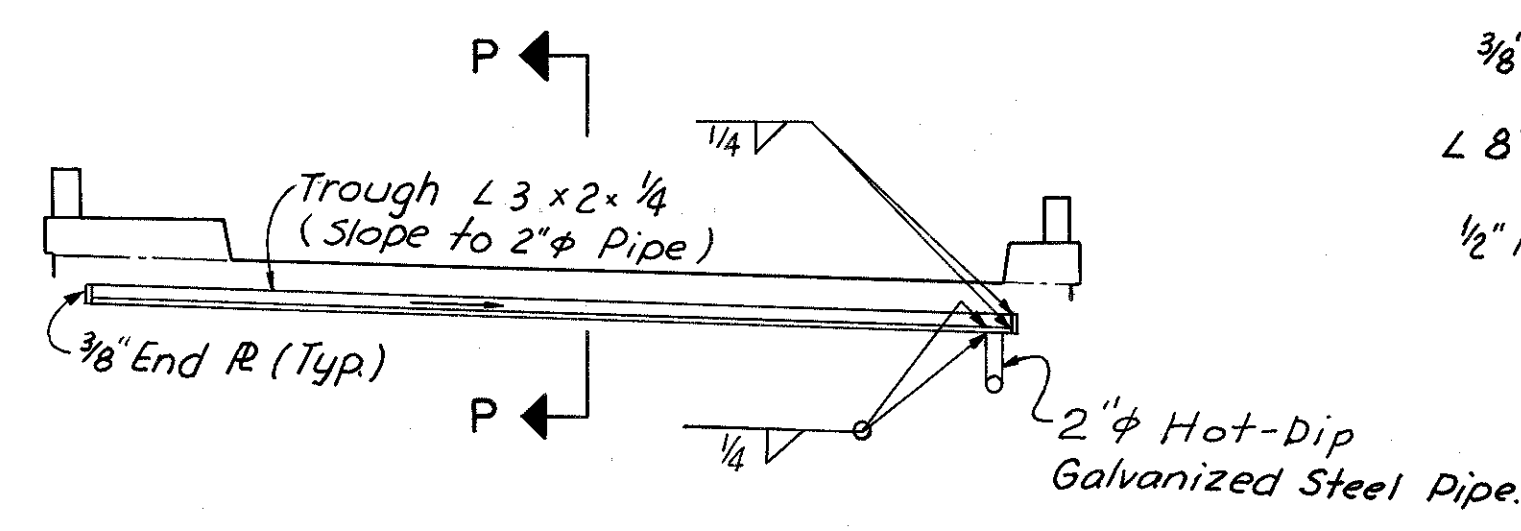
FORWARD ABUTMENT END DAM

Notes:
For Section L-L see Section D-D, Std. Dwg. SD-1-69 Sh. 2 of 4.
End Dams to be bent in shop to conform to contour of top of slab.
Elevs. given at back edge of 8" angle.



PLAN-ROADWAY JOINT DRAINAGE

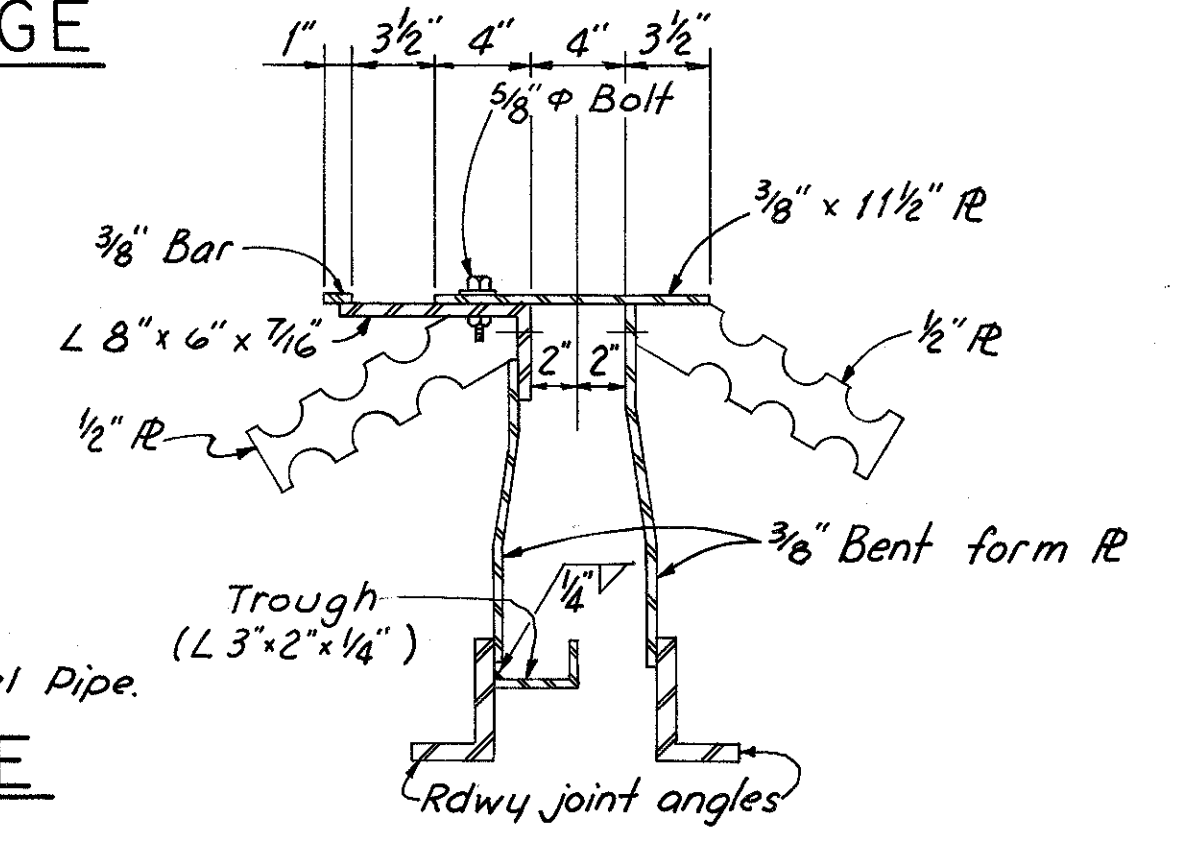
(At Pier 10)



ELEVATION-ROADWAY JOINT DRAINAGE

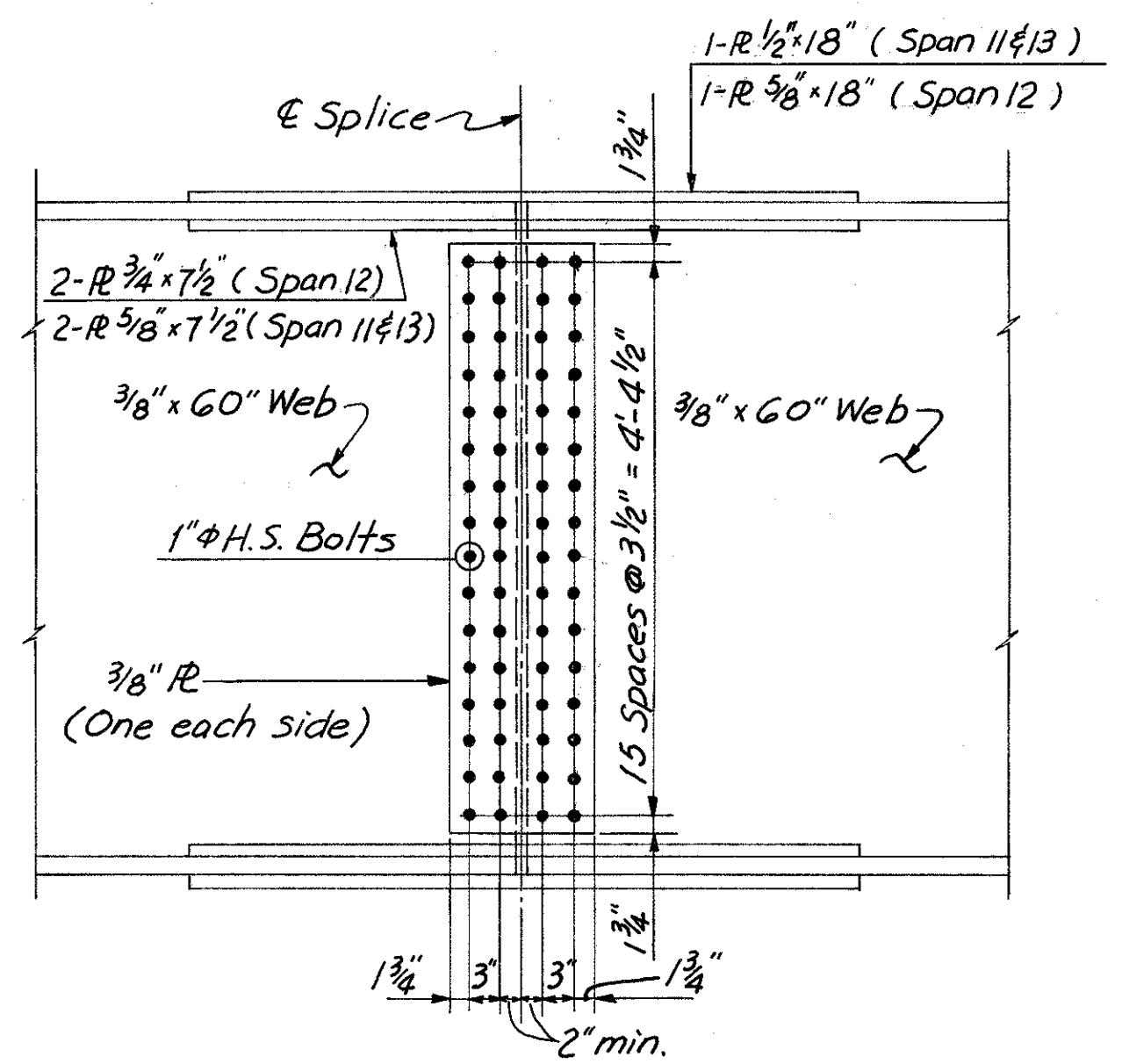
(At Pier 10)

For additional details, see Pier 10 Drainage Details Sh. No. 327



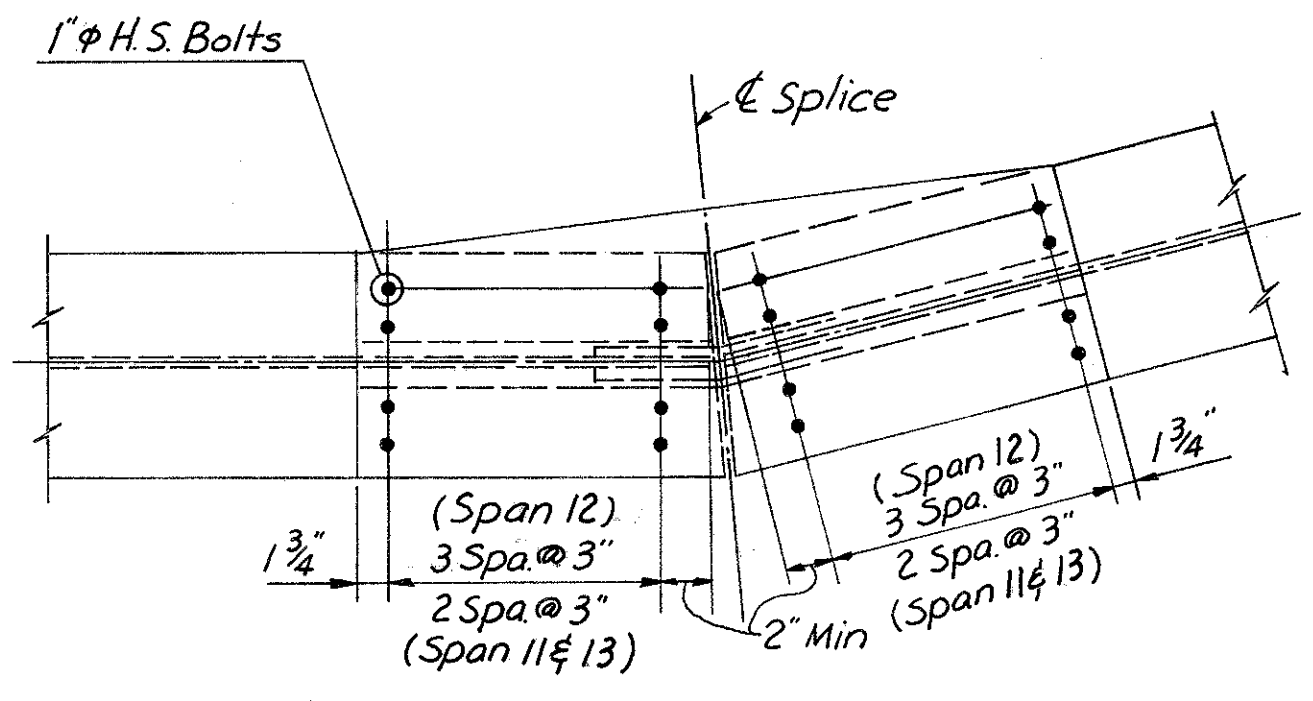
SECTION R-R

For additional details see Section D-D, Std. Dwg. SD-1-69 Sh. 2.

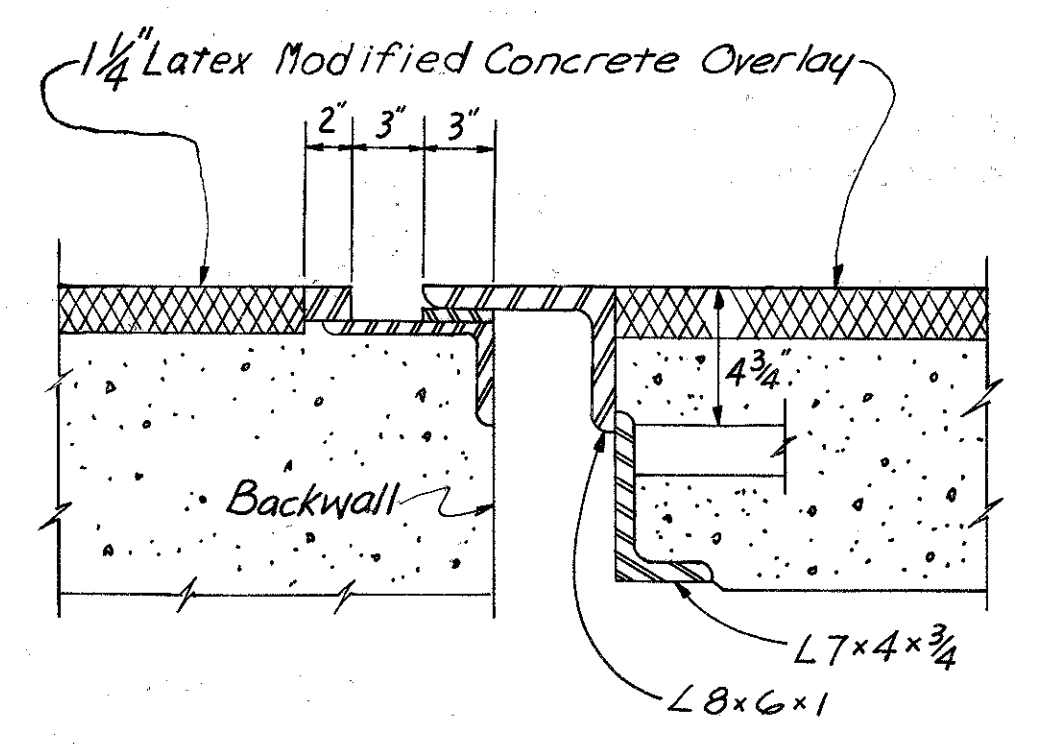


Note: Top & Bottom Splice Material is identical. Contact surface of splice shall be free from all oil or paint.

FIELD SPLICE

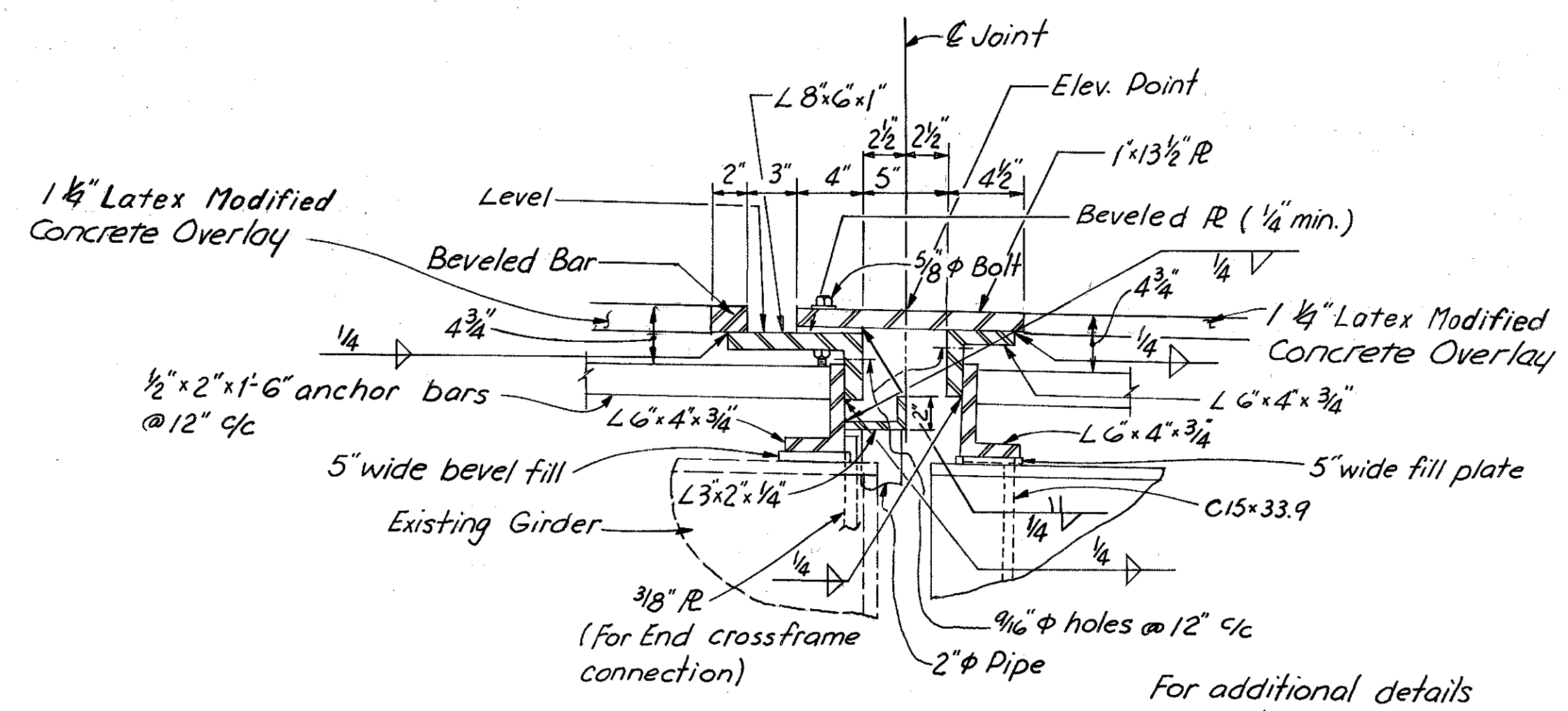


BOTTOM FLANGE



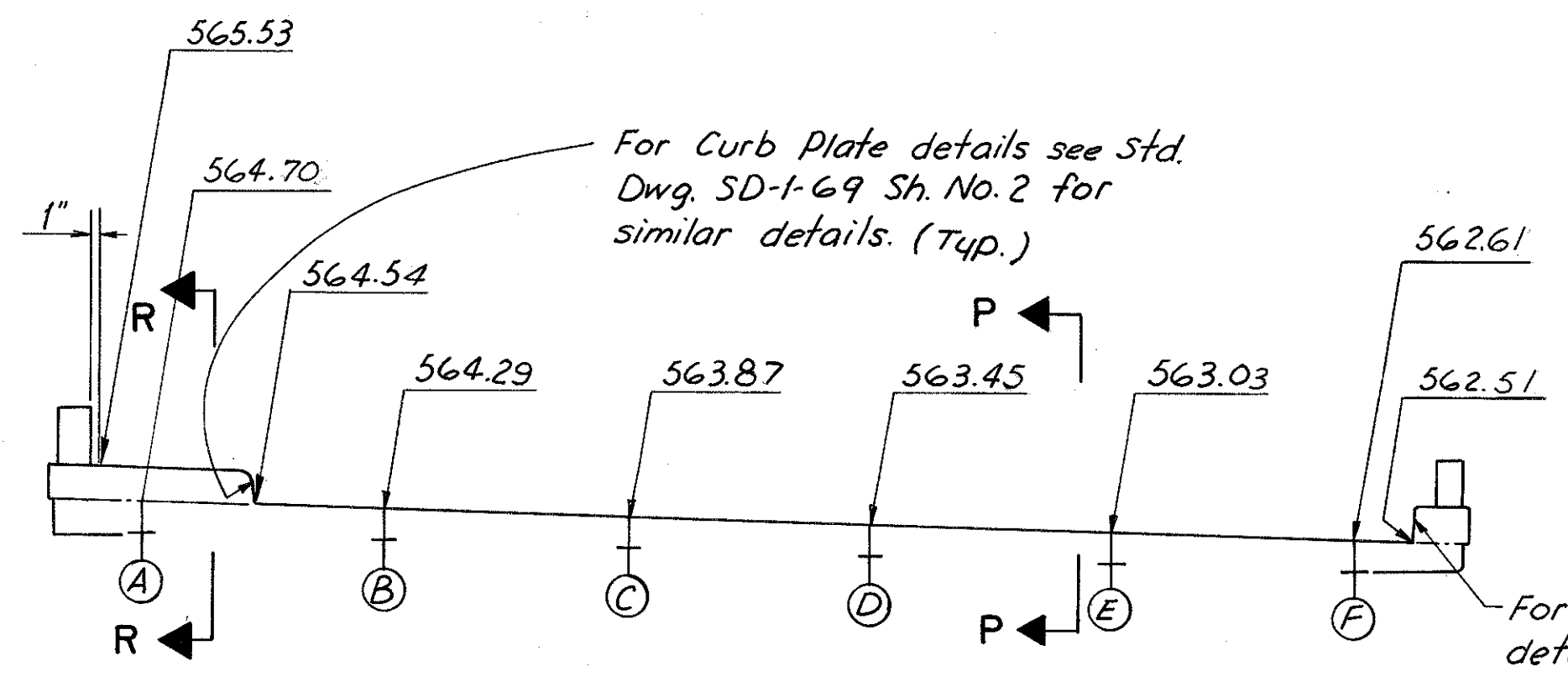
SECTION K-K

For additional details See Section A-A Std. Dwg. SD-1-69 Sh. 1.



SECTION P-P

For additional details see Section A-A, Std. Dwg. SD-1-69 Sh. 1.



ROADWAY JOINT AT PIER 10

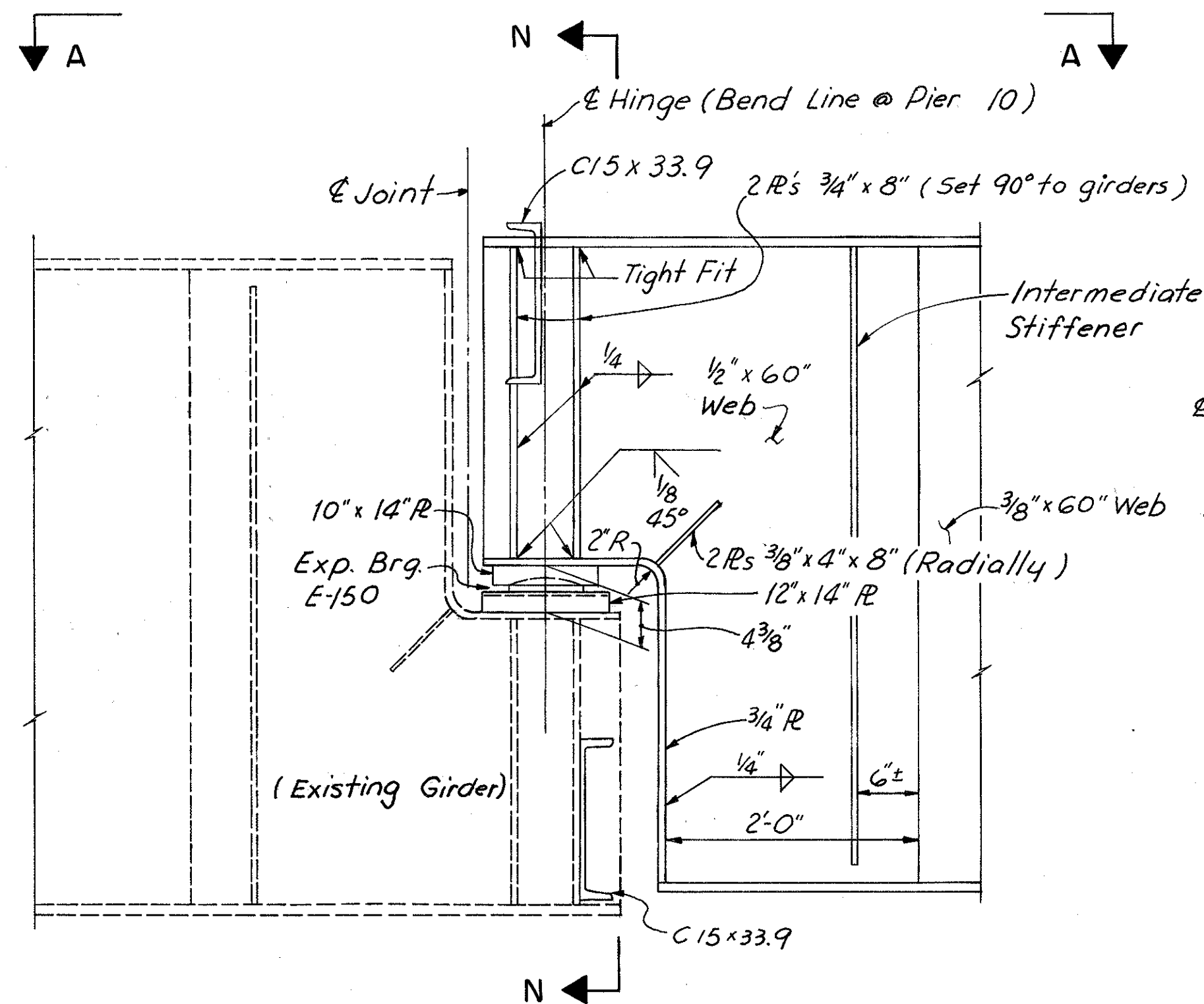
Note: Roadway joints to be bent in shop to conform to the contour of the top of slab.

For Curb Plate details see Std. Dwg. SD-1-69 Sh. No. 2 for similar details. (Typ.)

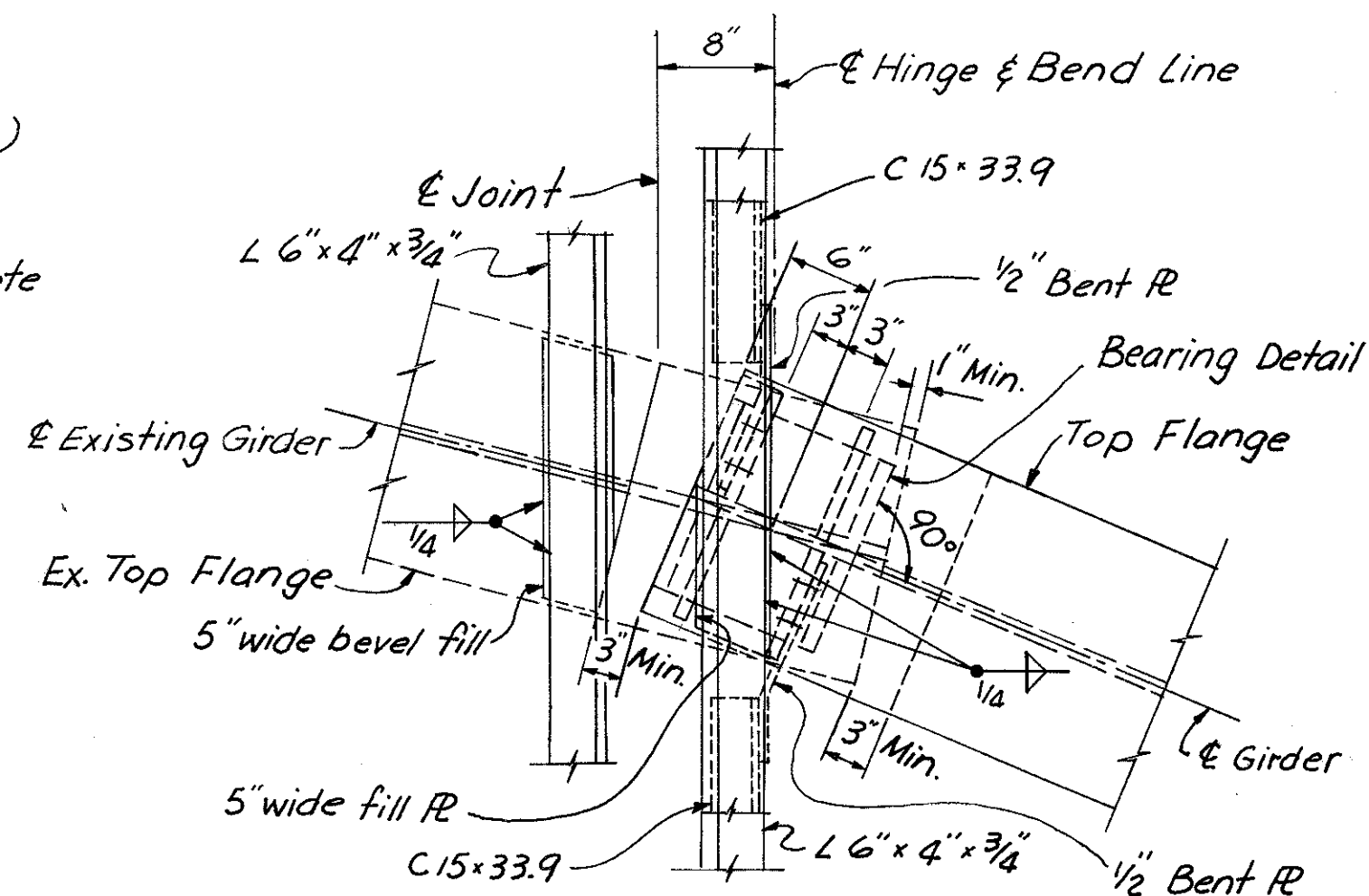
For Curb Plate details see Std. Dwg. SD-1-69 Sh. No. 2 for similar details. (Typ.)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					11/23
STRUCTURAL STEEL DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CCL		JH	3-24-82	

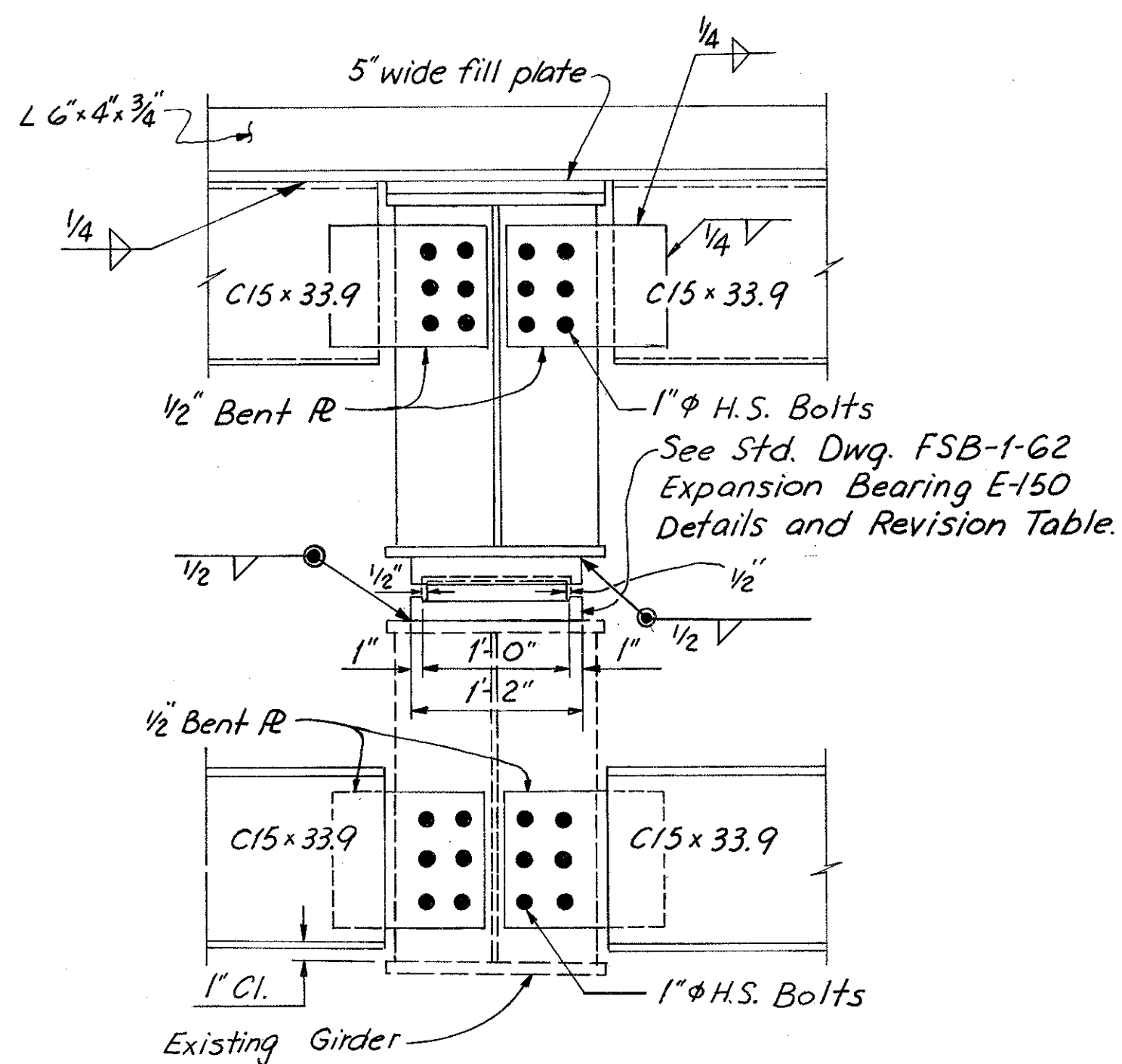
HAMILTON COUNTY
HAM-471-024
PART TWO



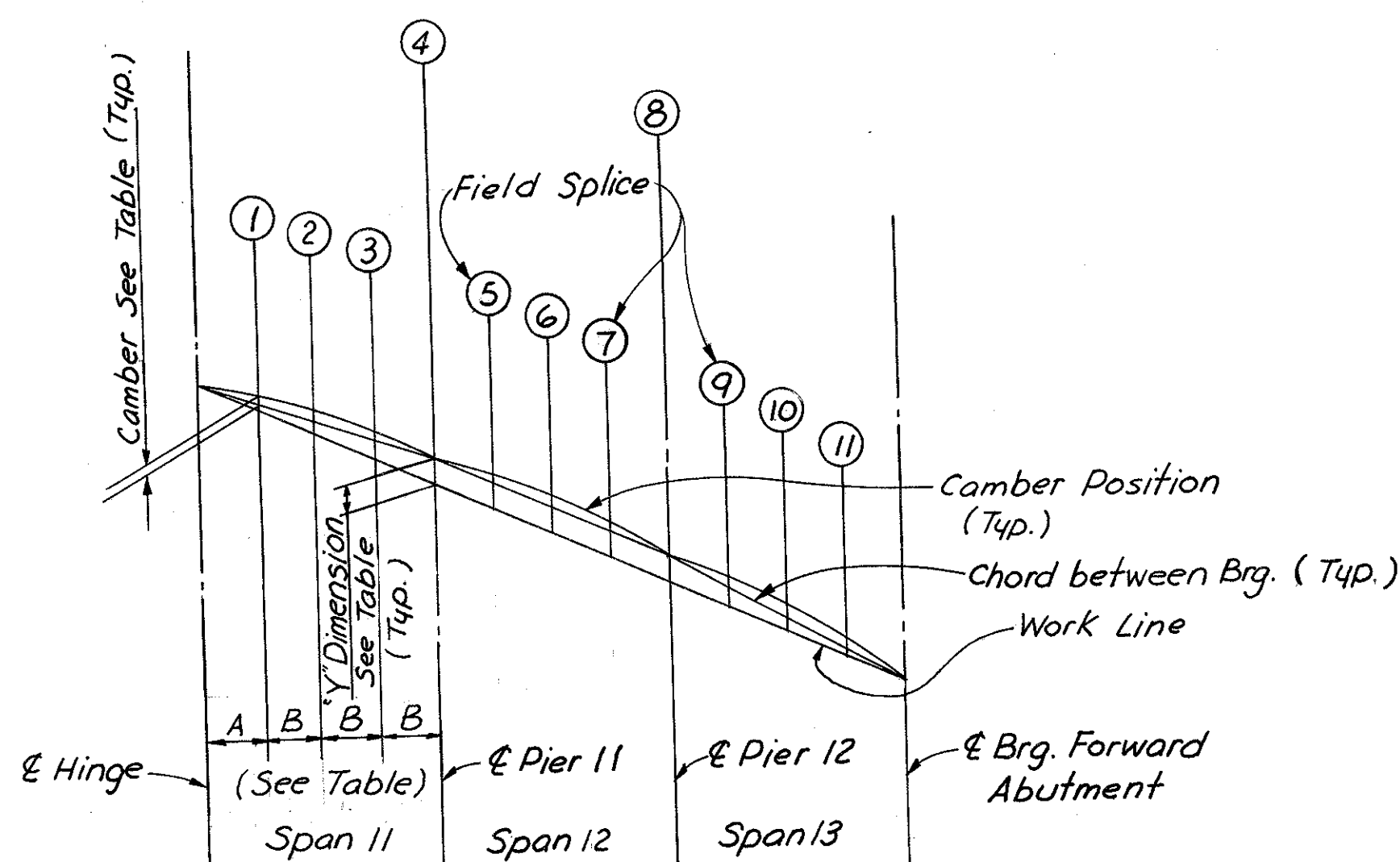
HINGE DETAILS



VIEW A-A



SECTION N-N



CAMBER DIAGRAM

	DEFLECTION AND CAMBER (inches)										
	Span 11			Span 12			Span 13				
	(1)	(2)	(3)	F.S. (5)	1/2 (6)	F.S. (7)	F.S. (9)	1/2 (10)	3/4 (11)		
Girder A	0	0	0	1/8	3/16	1/8	0	0	0	0	0
Def. due to weight of steel	0	0	0	5/8	7/8	9/16	-1/16	1/16	1/8		
Def. due to remaining D.L.	1/2	13/16	1 1/16	1 3/4	2 3/16	1 5/16	1 3/16	5/16	0		
Adjustment required for *	1/2	7/8	5/8	2 1/2	3 1/4	2 3/8	3/4	3/8	1/8		
Required shop camber	0	0	0	1/8	3/16	1/8	0	0	0		
Girder B	0	0	0	5/8	1 1/16	5/8	-1/16	1/16	1/8		
Def. due to weight of steel	0	1/16	-1/16	1 3/8	1 7/8	2 3/8	2 1/8	1 3/16	3/16	-1/8	
Def. due to remaining D.L.	1/2	13/16	1 3/16	1 7/8	2 3/8	2 3/8	2 3/8	3/4	1/4	0	
Adjustment required for *	1/2	7/8	3/4	2 3/8	3 1/2	2 3/8	3/4	3/4	1/4	0	
Required shop camber	0	0	0	1/8	3/16	1/8	0	0	0		
Girder C	0	0	0	5/8	1 1/16	9/16	-1/16	1/16	1/8		
Def. due to weight of steel	0	1/16	0	1 1/8	1 5/16	9/16	1 1/16	1 1/16	3/16	-1/8	
Def. due to remaining D.L.	1/2	13/16	1 1/16	2 1/16	2 3/8	2 3/16	1 3/16	3/16	1/4	0	
Adjustment required for *	1/2	7/8	7/8	2 3/8	3 3/4	3	3/4	1/4	0		
Required shop camber	0	0	0	1/8	3/16	1/8	0	0	0		
Girder D	0	0	0	5/8	1 1/16	9/16	-1/16	1/16	1/8		
Def. due to weight of steel	0	1/16	-1/16	1 1/8	1 5/16	9/16	1 1/16	1 1/16	3/16	-1/8	
Def. due to remaining D.L.	1/2	13/16	1 1/16	2 1/16	2 3/8	2 3/16	1 3/16	3/16	1/4	0	
Adjustment required for *	1/2	7/8	7/8	2 3/8	3 1/4	3	3/4	3/4	1/4	0	
Required shop camber	0	0	0	1/8	3/16	1/8	0	0	0		
Girder E	0	0	-1/16	1/2	1 1/16	9/16	0	1/8	1/8		
Def. due to weight of steel	0	0	-1/16	1 1/2	1 5/16	9/16	0	1/8	1/8		
Def. due to remaining D.L.	1/2	7/8	1 5/16	2 1/2	3	2 1/16	1	1/4	-1/8		
Adjustment required for *	1/2	7/8	7/8	3 1/8	4 1/8	3 3/8	1	3/8	0		
Required shop camber	0	0	0	1/8	3/16	1/8	0	0	0		
Girder F	0	0	-1/16	9/16	1 1/16	9/16	0	1/8	1/8		
Def. due to weight of steel	0	0	-1/16	1 1/16	1 1/16	9/16	0	1/8	1/8		
Def. due to remaining D.L.	1/2	1 1/16	1 5/16	2 1/16	3 1/4	2 3/16	1	1/4	-1/8		
Adjustment required for *	1/2	1 1/8	1 1/8	3 1/4	4 3/8	3 1/2	1	3/8	0		
Required shop camber											

Note: Negative values (-) are measured downward.
* Vertical and horizontal curves.

Pier	Girder A	Girder B	Girder C	Girder D	Girder E	Girder F
11	11 1/8"	11 1/16"	1'-0"	1'-0 3/8"	1'-0 1/16"	1'-0 5/16"
12	10 7/16"	10 1/16"	10 3/8"	10 7/16"	10 3/16"	9 13/16"

SPAN 11						
Dimen.	Girder A	Girder B	Girder C	Girder D	Girder E	Girder F
A	9'-5 1/16"	9'-6 5/16"	9'-6 1/16"	9'-7 5/8"	9'-8 3/16"	9'-8 13/16"
B	19'-2 5/16"	19'-3 1/8"	19'-3 5/16"	19'-4 13/16"	19'-5 5/8"	19'-6 1/2"

FIXED AND SLIDING BEARING REVISIONS		
LOCATION	SIZE	REMARKS
Hinge	E150	Omit Anchor Rods and sheet lead. Revise R's as shown.

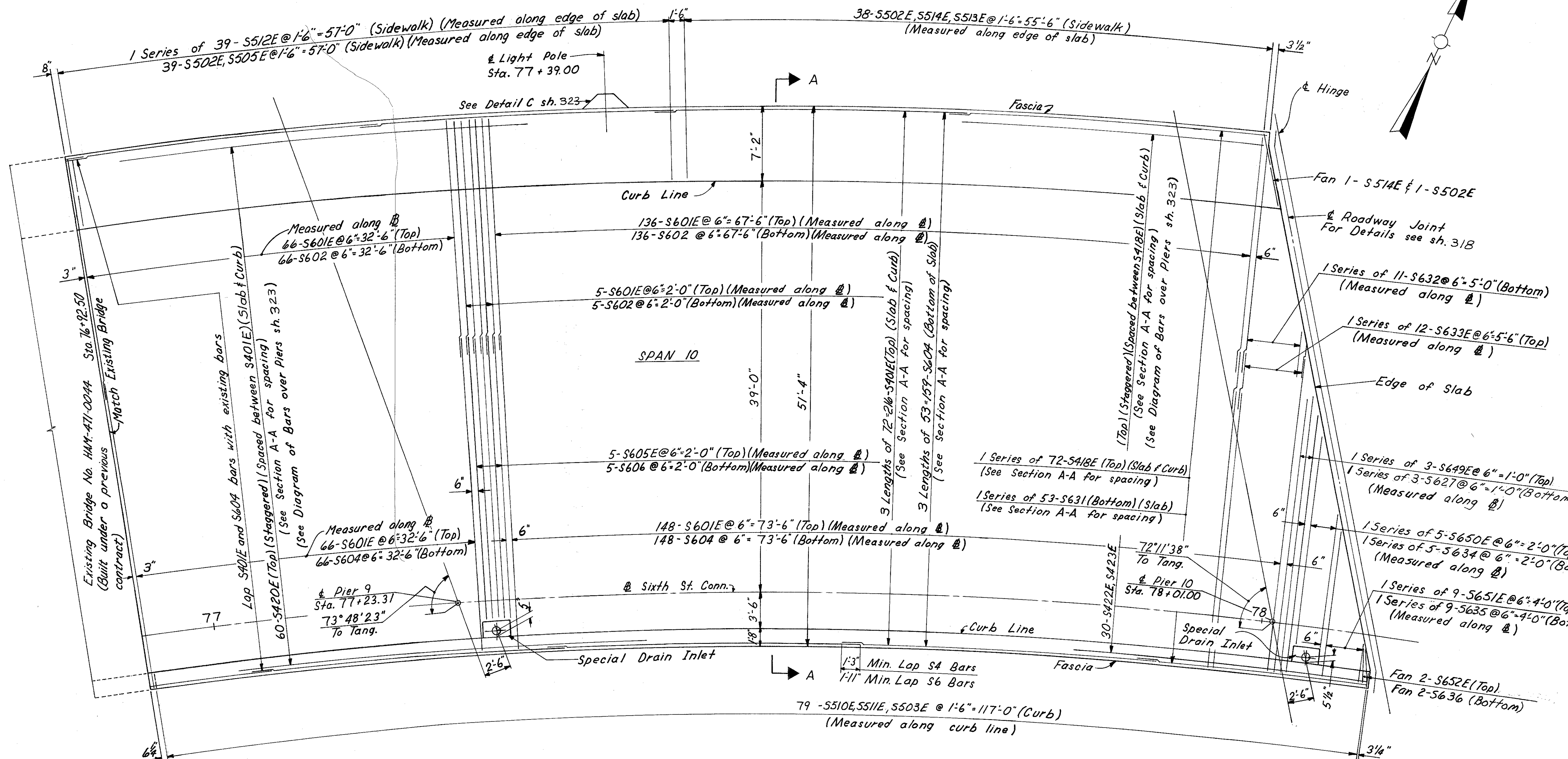
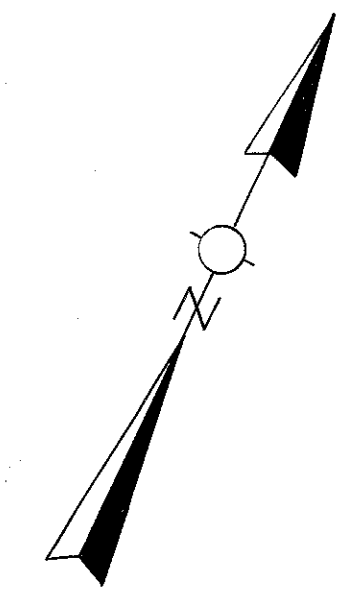
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

12/23

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CCL		JH	JH 3-24-82	

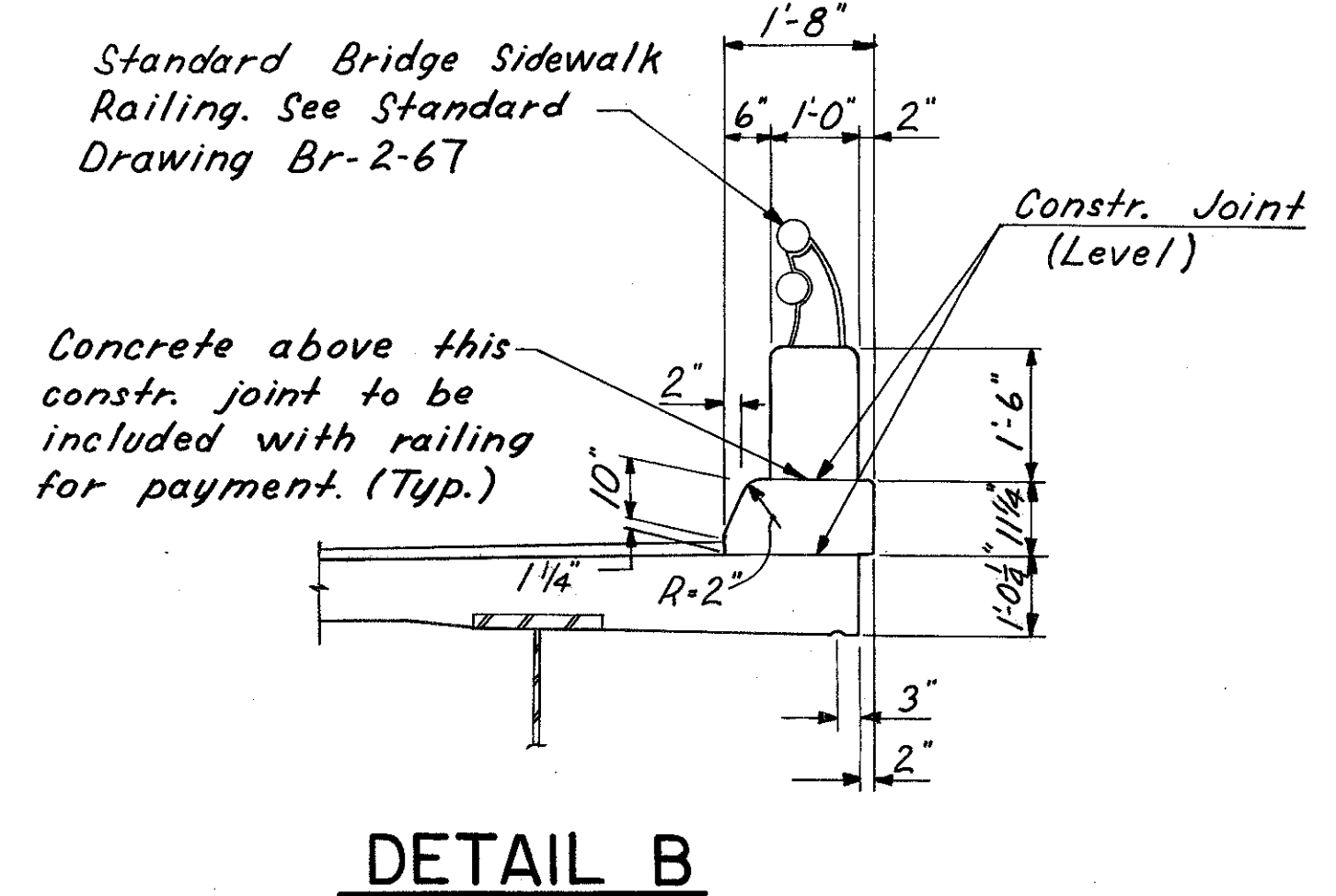
HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN-UNIT C
(Parapets not shown)

NOTES:

- For Drainage Details see sh. 327
- For Railing and Lighting Details see sh. 325
- For Roadway Elevations, Screed Elevations and Layout of Edge of Slab see sh. 324
- For end finish details see sh. 318, Section K-K.
- Field bend or cut longitudinal bars to miss drain inlets.
- Transverse bars are placed radially.
- For Section A-A see sh. 323
- For Location of Detail A and Detail B see sh. 323
- Superstructure concrete shall be Class S concrete.

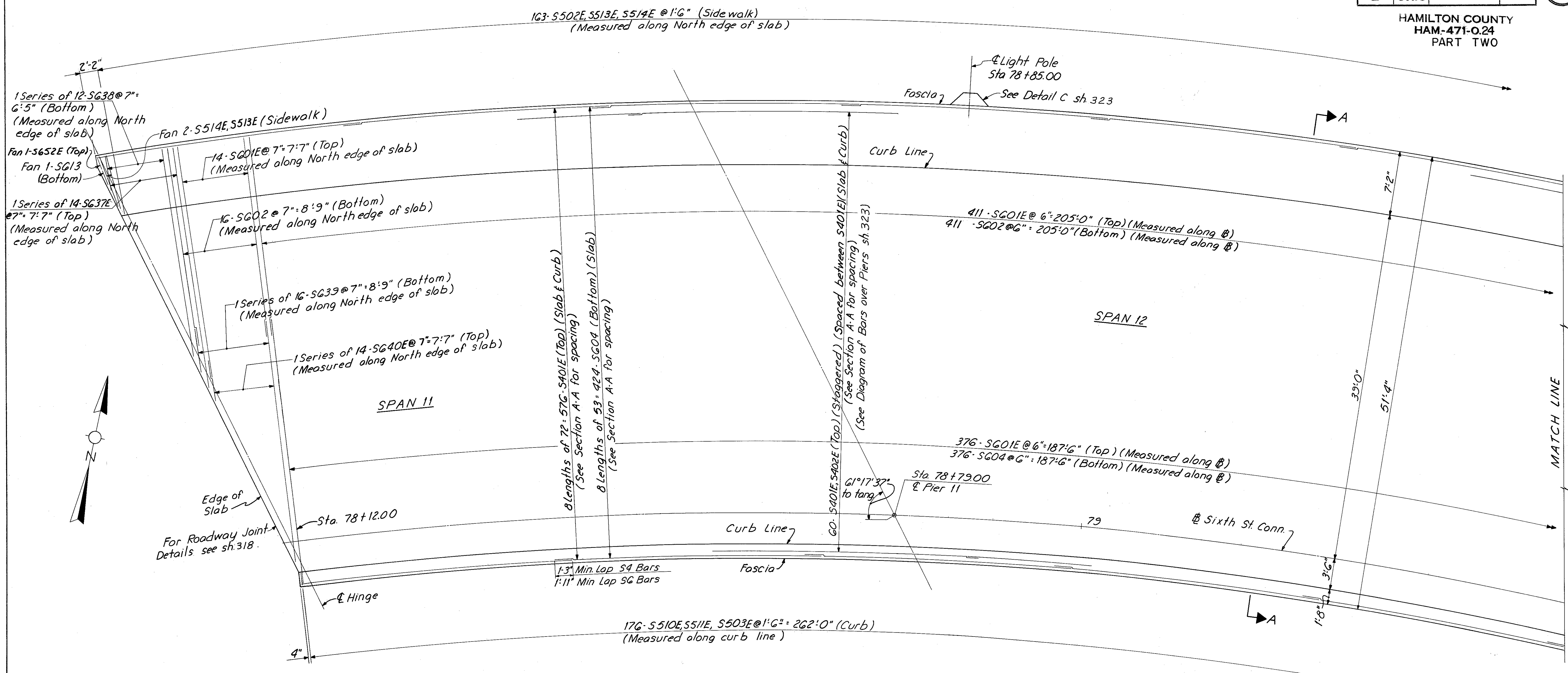


HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					13/23
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
JHO	MRT		J.H.L.	JHO 3-24-82	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

321
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO



PLAN - UNIT D
(Parapets not shown)

For Notes see sh. 320
For Section A-A see sh. 323
Transverse bars are placed radially.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/23
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		V.L.	JHO 3-25-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

323
346

HAMILTON COUNTY
HAM-471-0.24
PART TWO

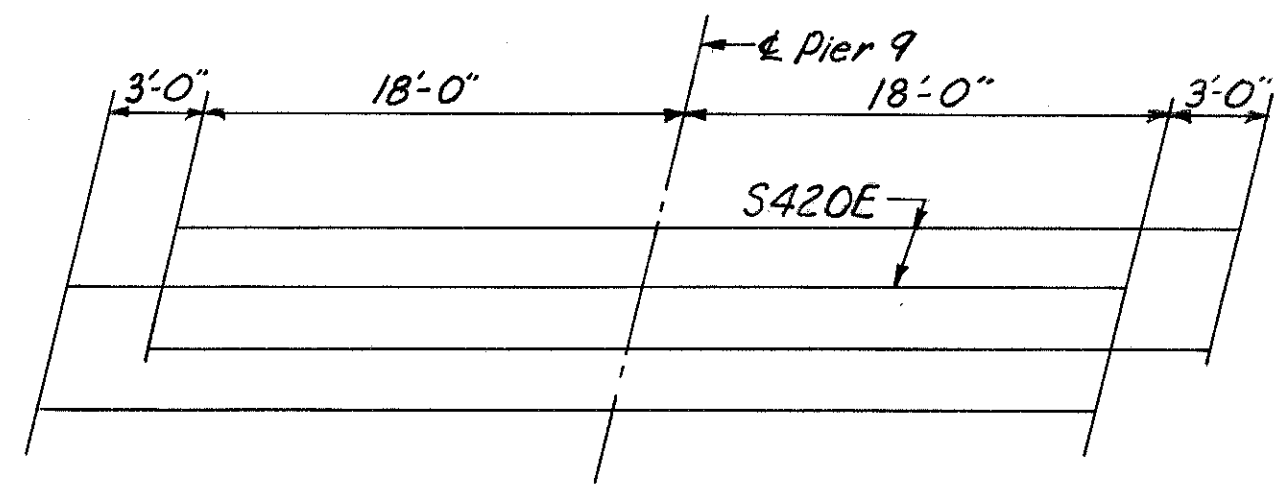


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIER 9

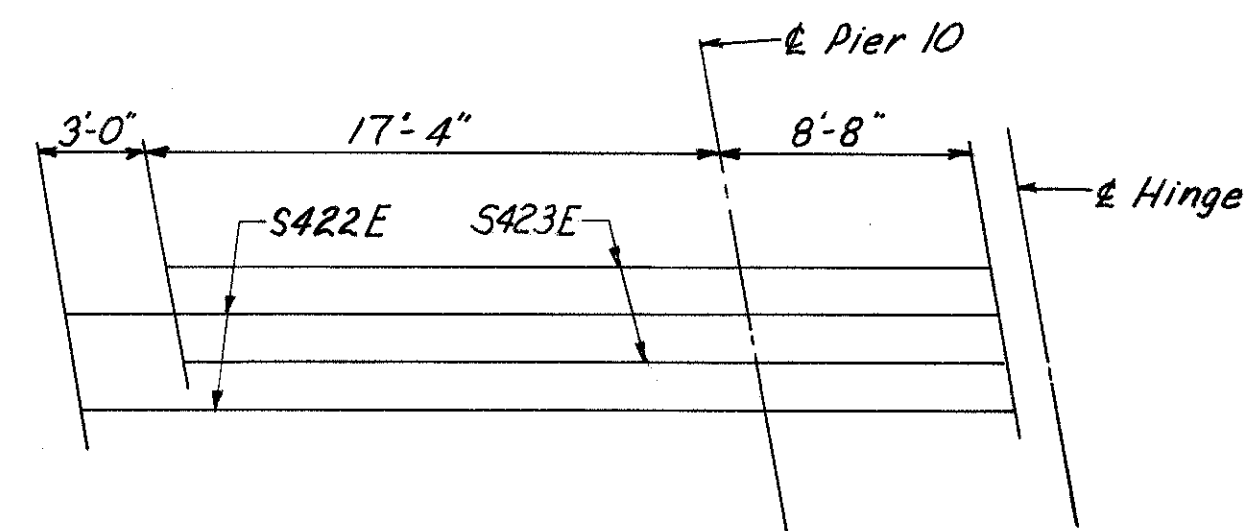


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIER 10

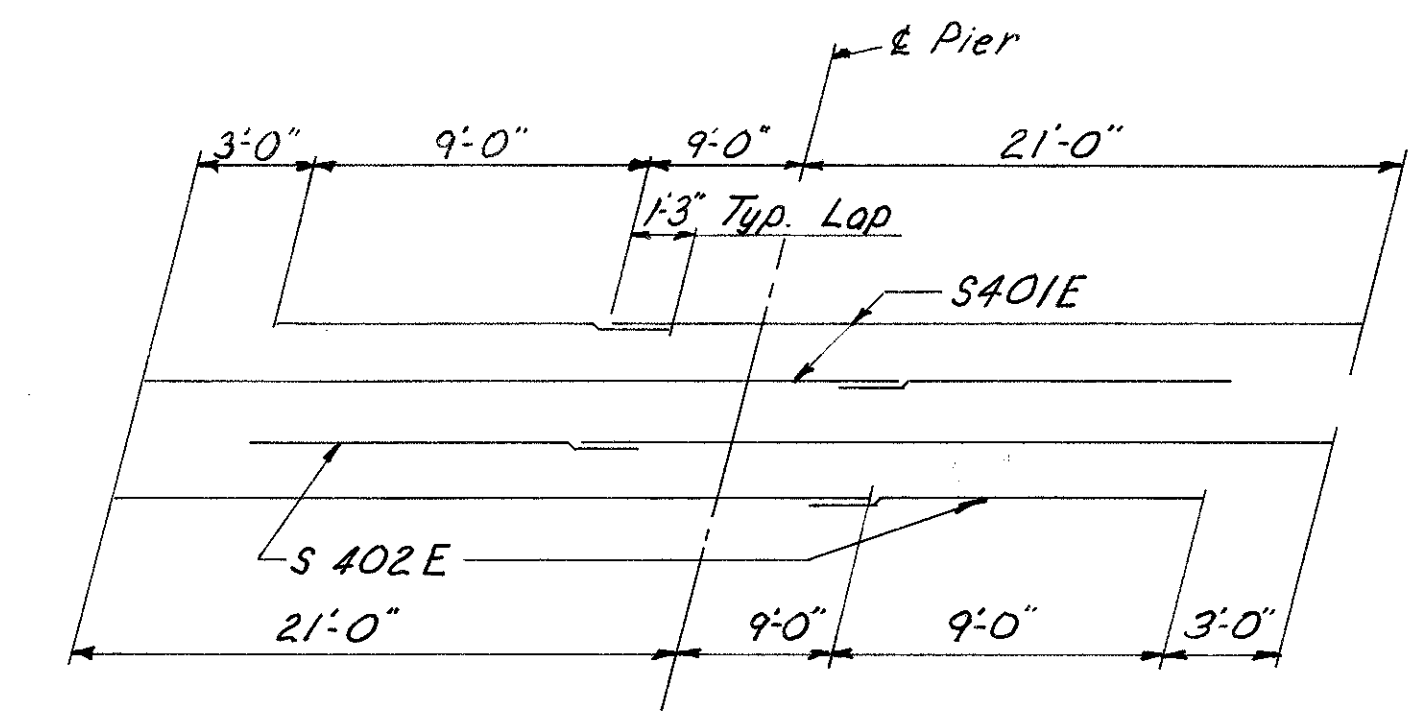
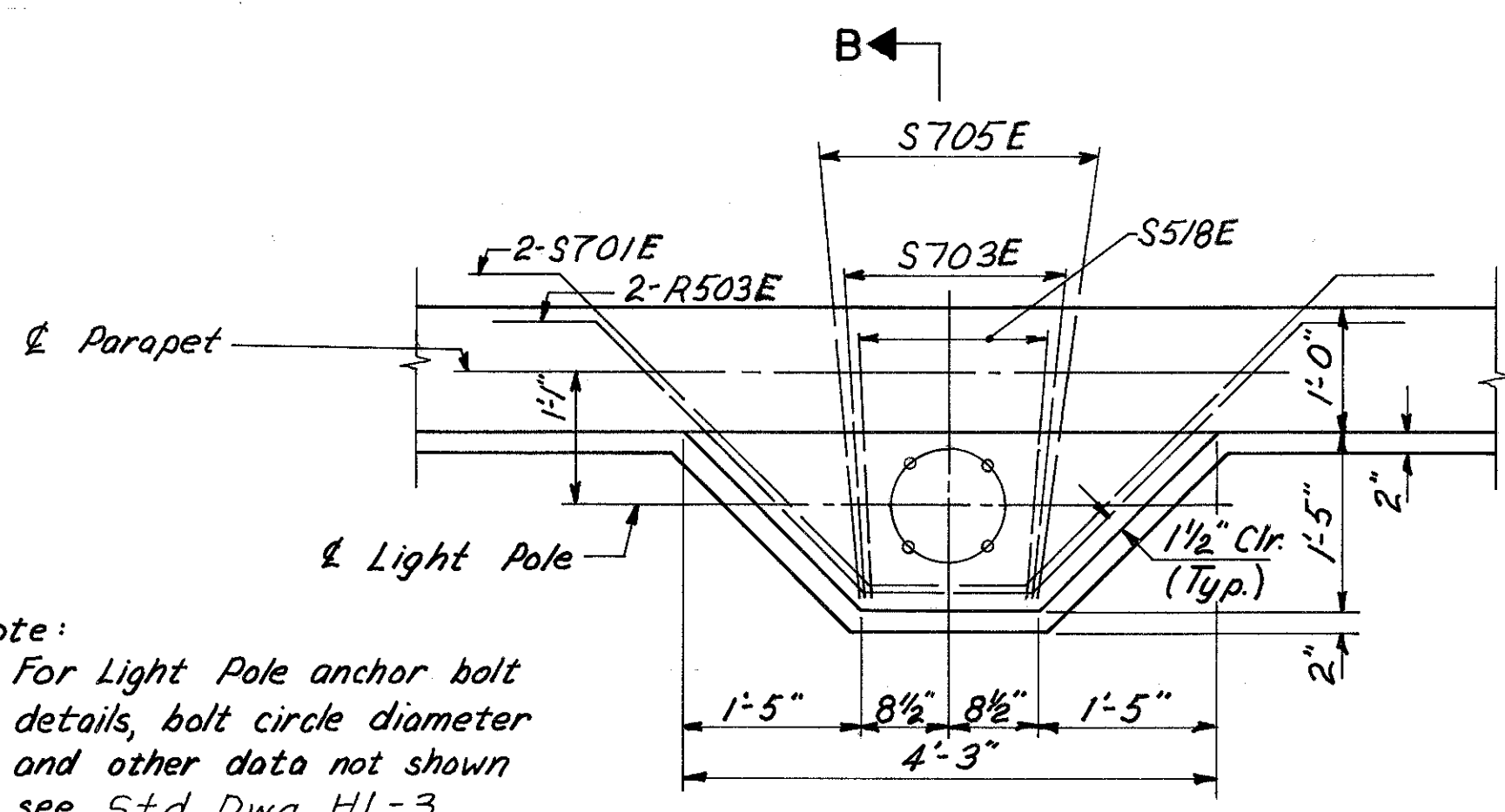
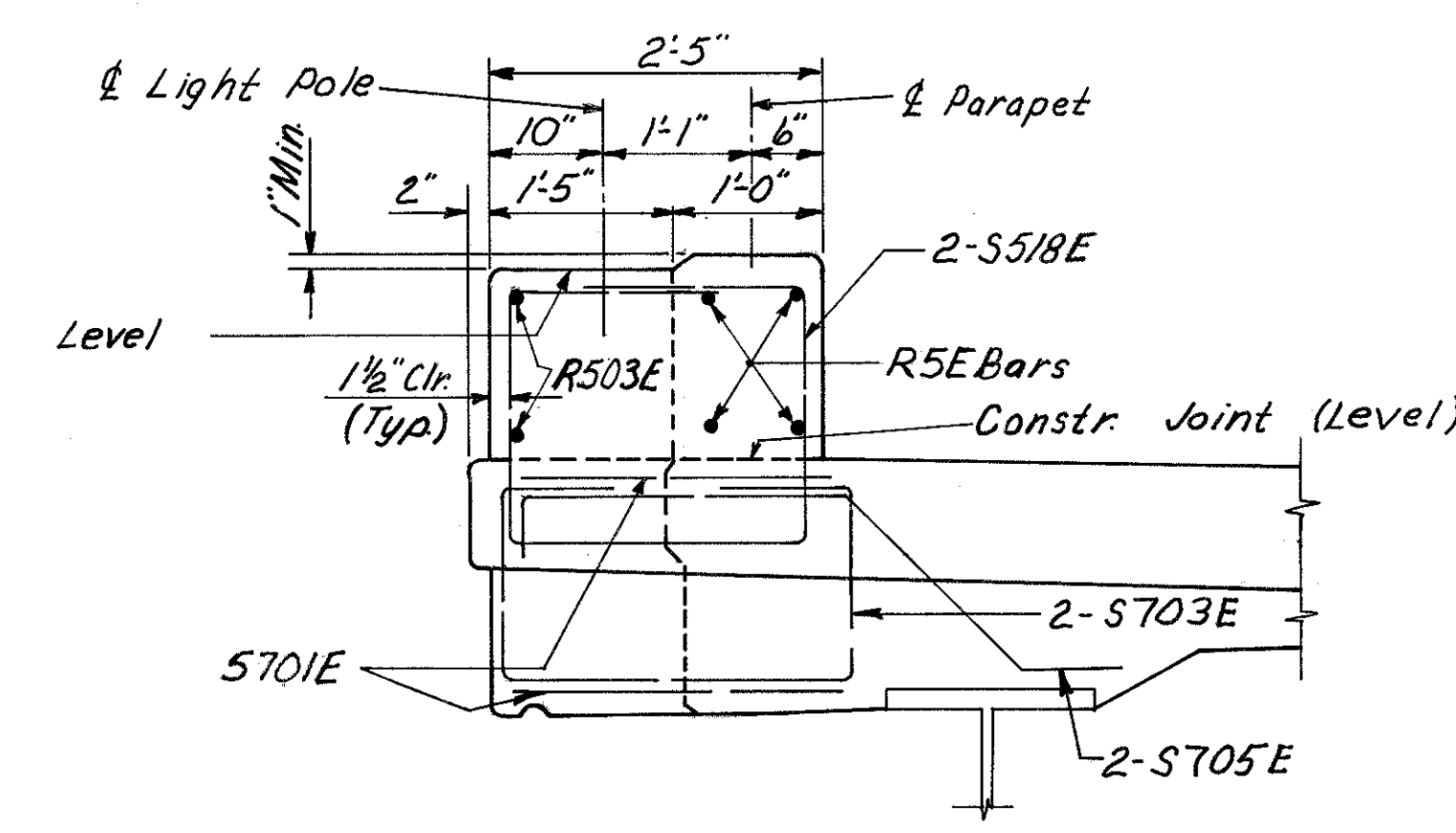


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 11 & 12

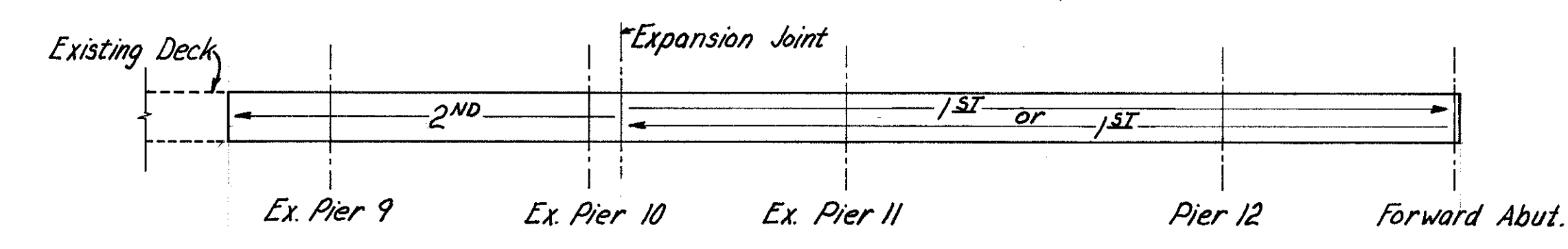


Note:
For Light Pole anchor bolt details, bolt circle diameter and other data not shown see S+d Dwg. HL-3.

DETAIL C

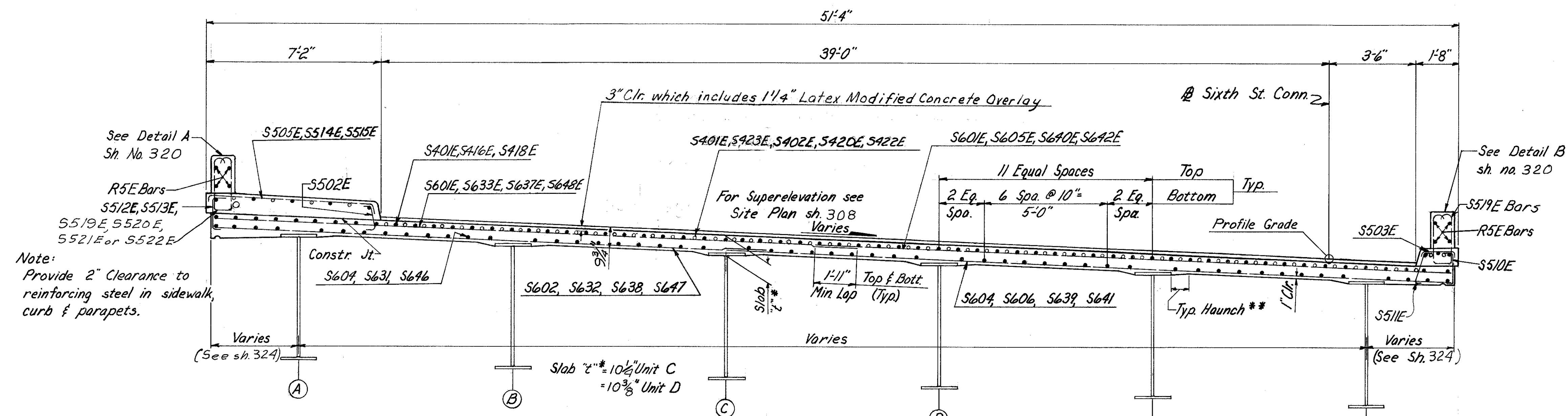


SECTION B-B



DECK POURING SEQUENCE

The Contractor shall have the option of using a different pouring sequence subject to the written approval of the Director.



SECTION A-A

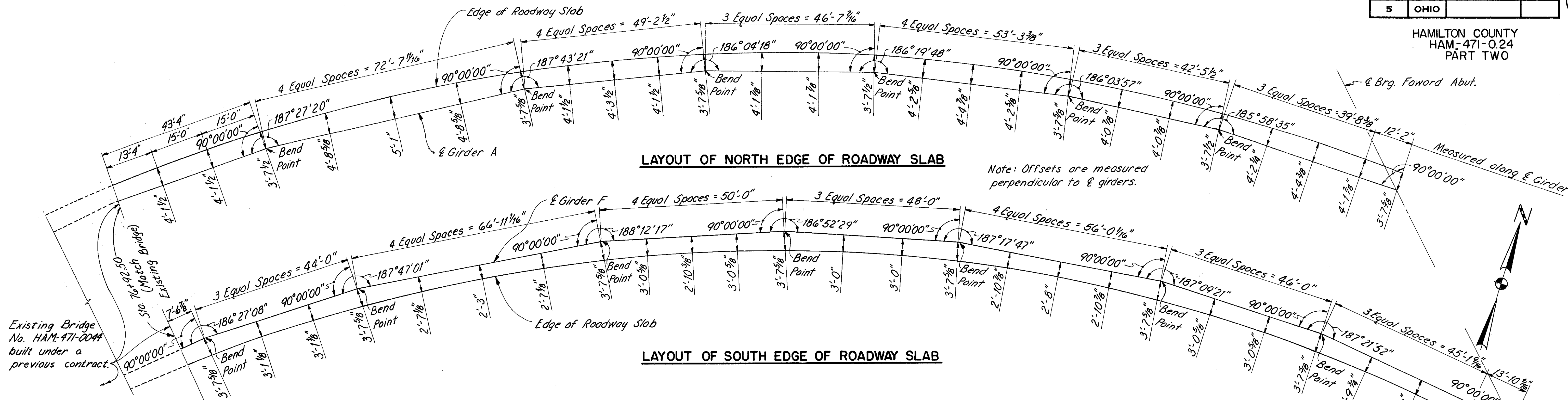
Note:
Provide 2" Clearance to reinforcing steel in sidewalk, curb & parapets.

* This is the design dimension. The quantity of Class S deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.8.

** A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

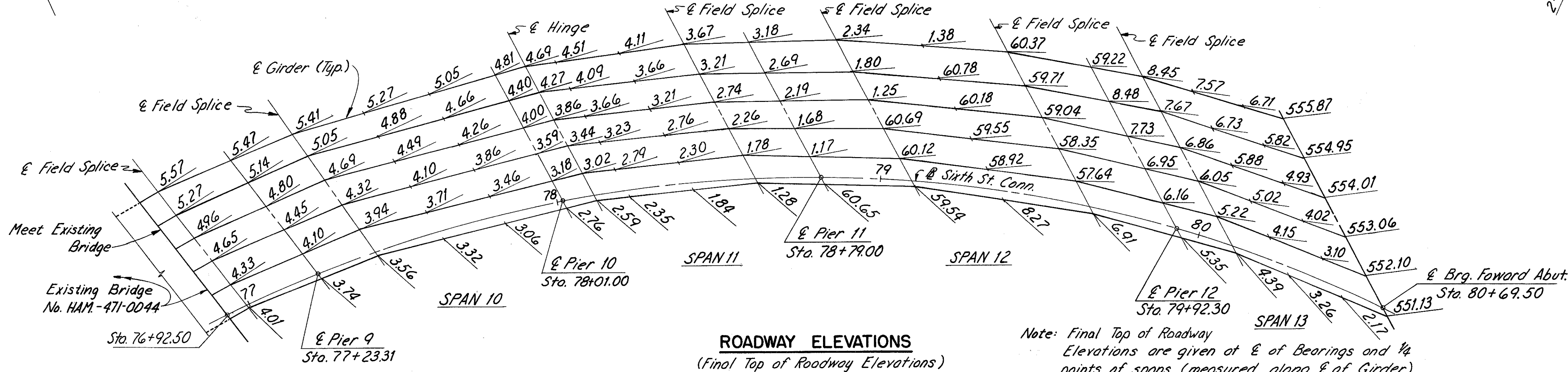
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					16/23
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H & E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	RFD		JHO	3-25-82	

HAMILTON COUNTY
HAM-471-024
PART TWO



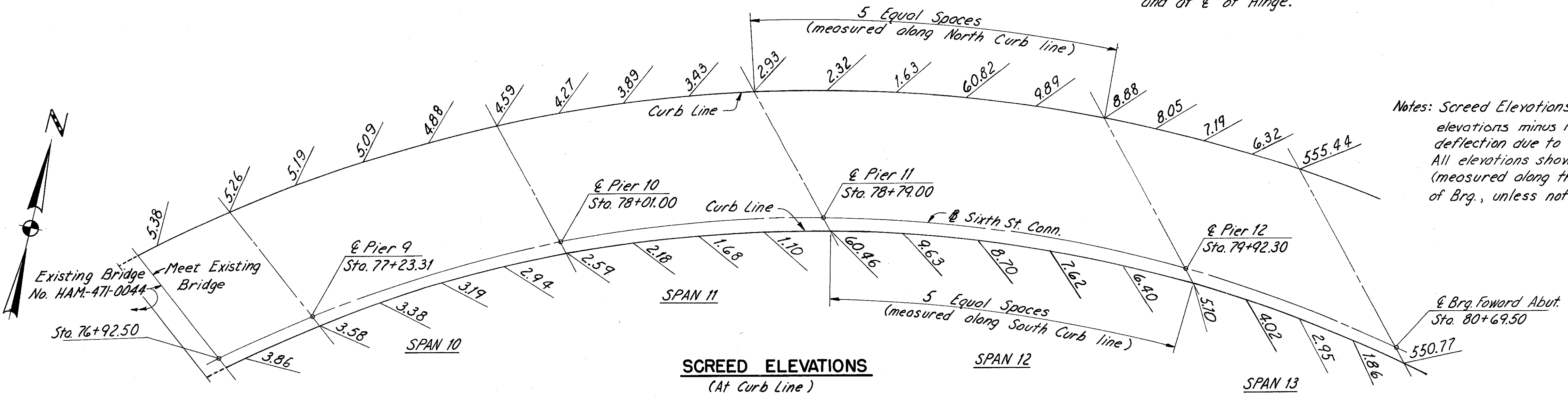
Note: Offsets are measured perpendicular to girders.

Existing Bridge No. HAM-471-0044 built under a previous contract.



ROADWAY ELEVATIONS
(Final Top of Roadway Elevations)

Note: Final Top of Roadway Elevations are given at E of Bearings and 1/4 points of spans (measured along E of Girder), and at E of Hinge.

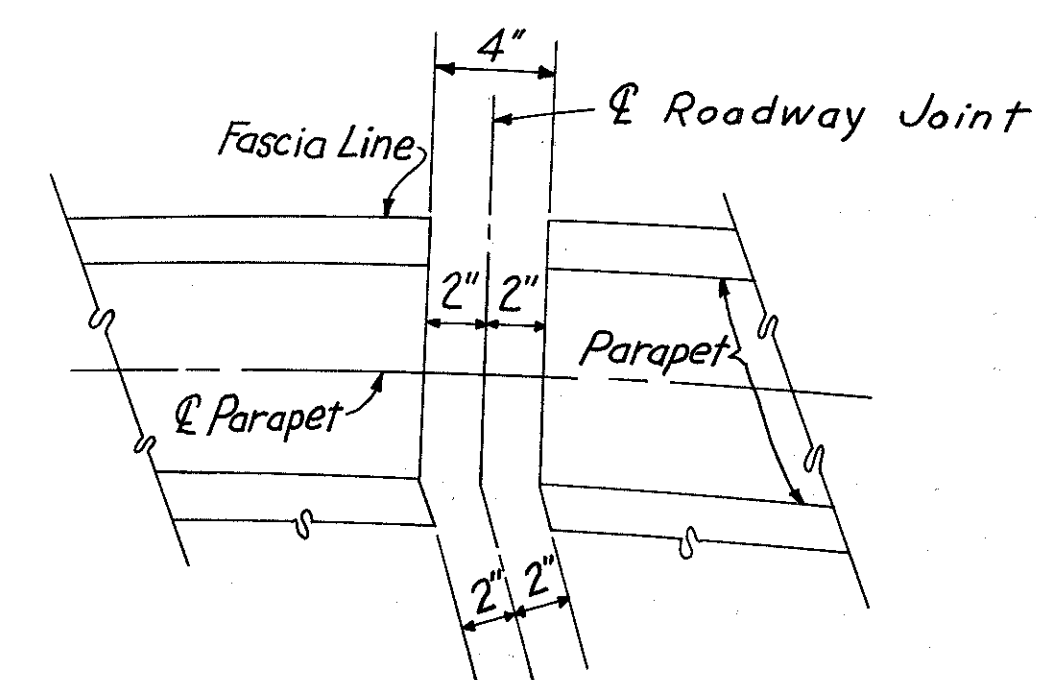


SCREED ELEVATIONS
(At Curb Line)

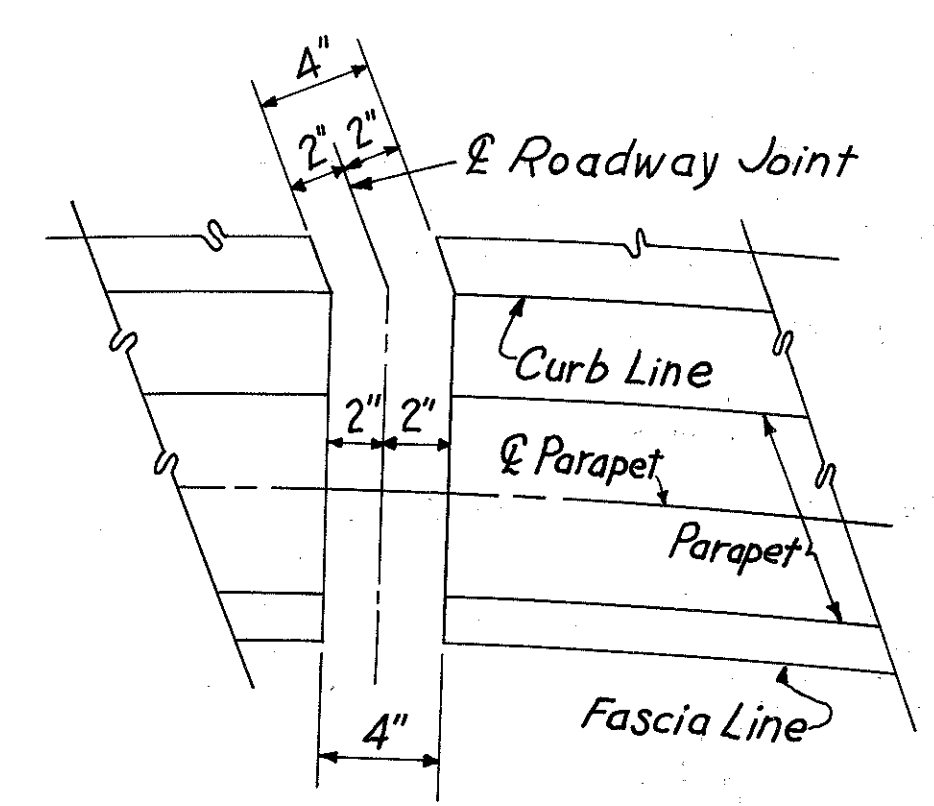
Notes: Screed Elevations shown equal final grade elevations minus 1 1/4" plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at 1/4 points of span (measured along their own curb line) and at E of Brg., unless noted.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					17/23
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H & E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	G.D.	J.R.L.	J.H.O.	3-25-82	

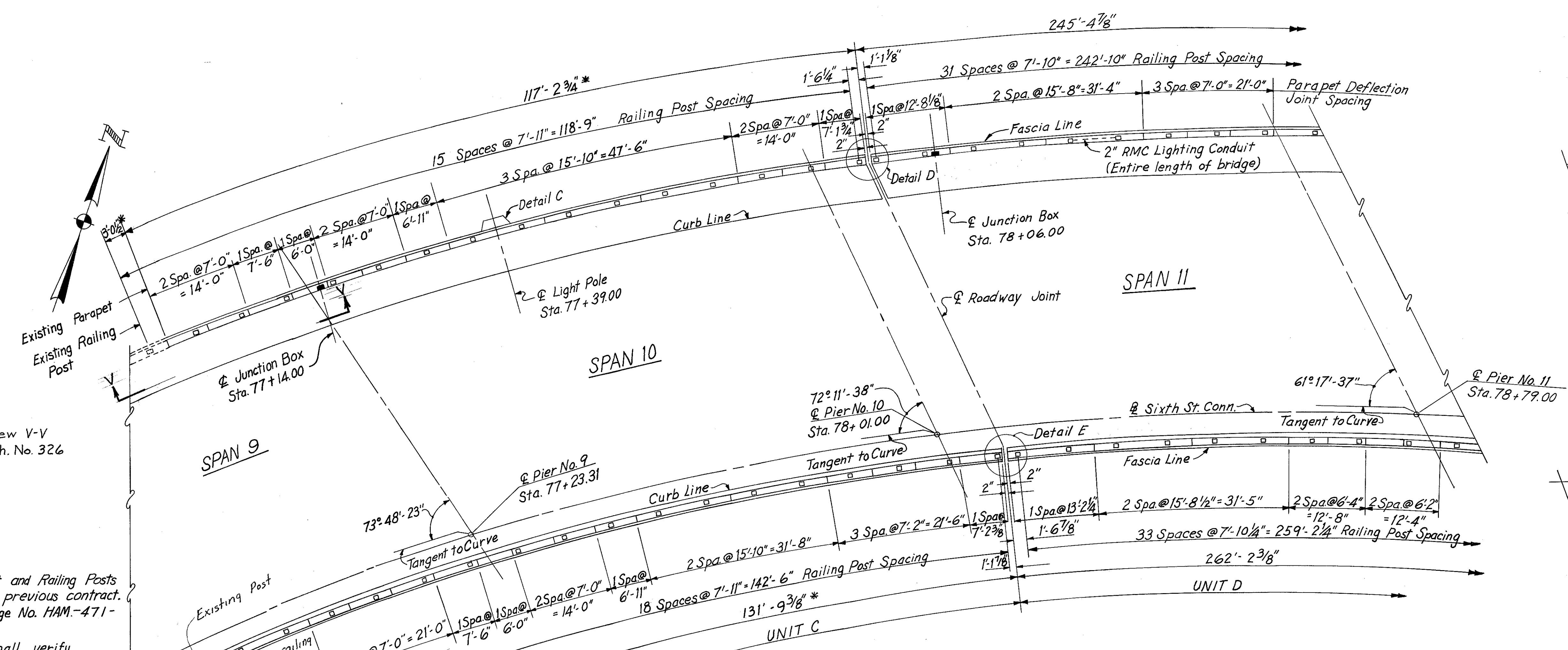
HAMILTON COUNTY
HAM-471-024
PART TWO



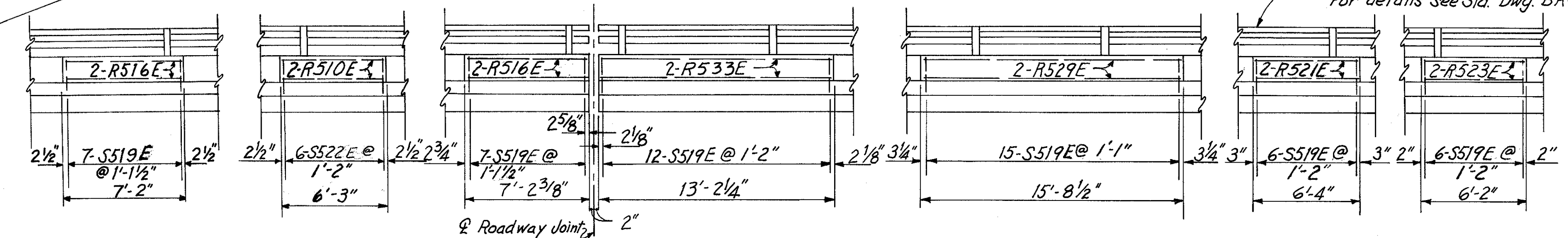
DETAIL D



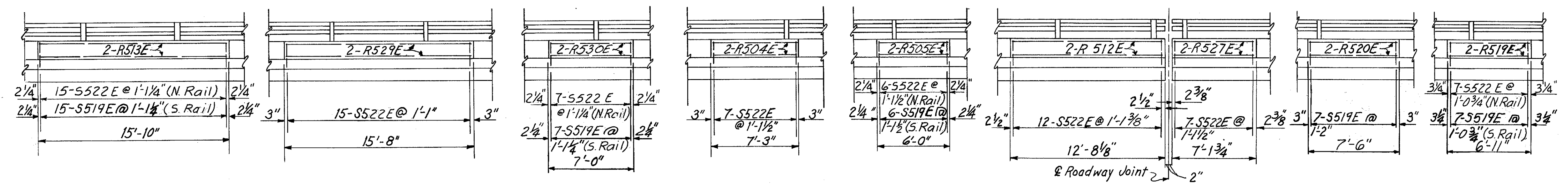
DETAIL E



PLAN



TYPICAL ELEVATION



TYPICAL ELEVATION

(Light Poles Not Shown)

Note:
Existing Parapet and Railing Posts built under a previous contract. (Existing Bridge No. HAM-471-0044)
* Contractor shall verify Dimension by field measurement.

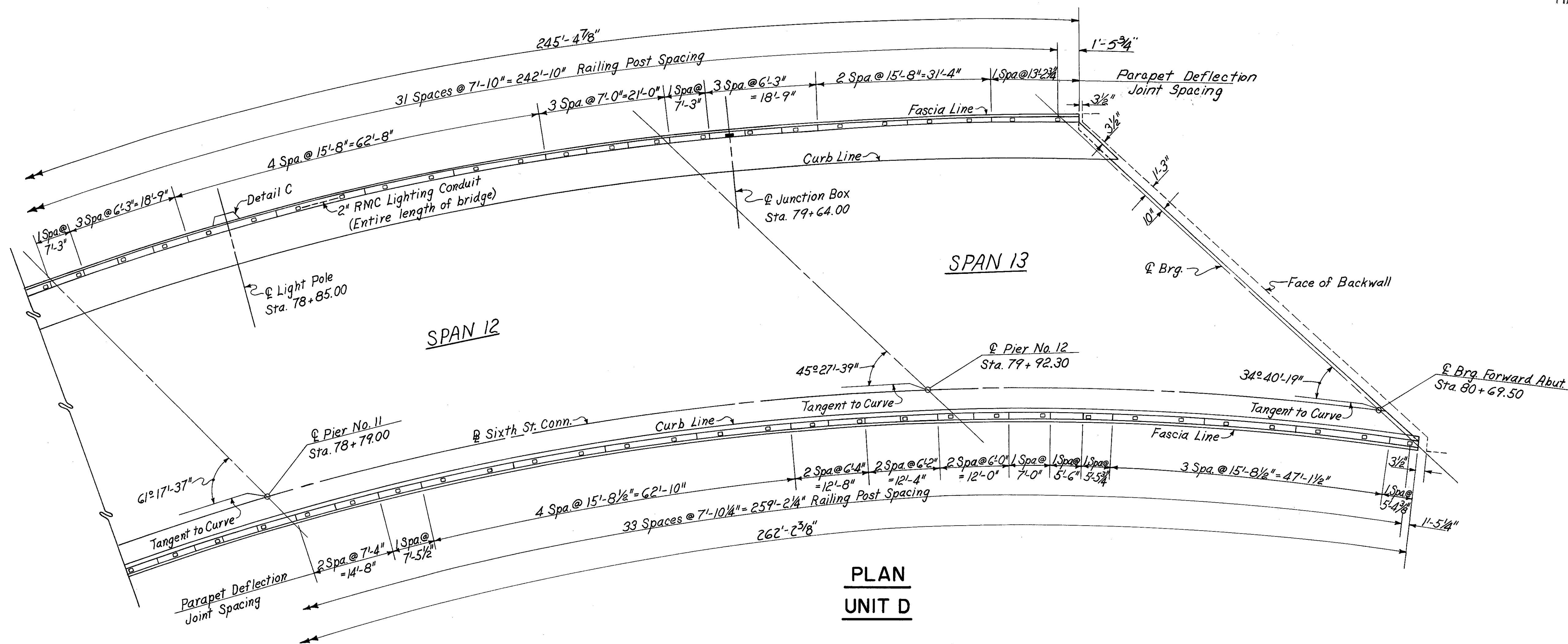
Notes:
Dimensions, Railing Joint Spacings and parapet Joint Spacings are measured along ϕ parapet.
For typical lighting details see sheet No. 130
For conduit expansion at abutment see Std. Dwg. HL-5 (Use at Roadway Joint also)
Work this drawing with Lighting Plan sheet No. 127
For Junction Box Details see sheet No. 130
For Detail C see sheet No. 323
N. Rail denotes North Rail
S. Rail denotes South Rail

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		18/23
RAILING & LIGHTING		
BRIDGE No. HAM-471-0044		
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9		
DESIGNED	TRACED	CHECKED
AYT		21.2
REVIEWED DATE	REVISION	
J140		
3-25-82		

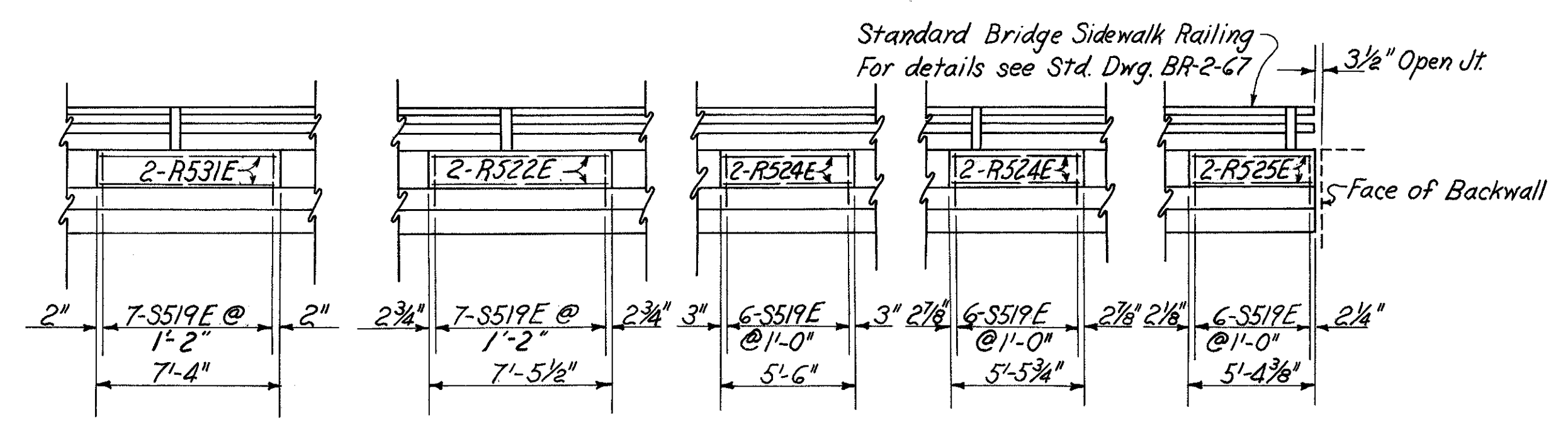
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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346

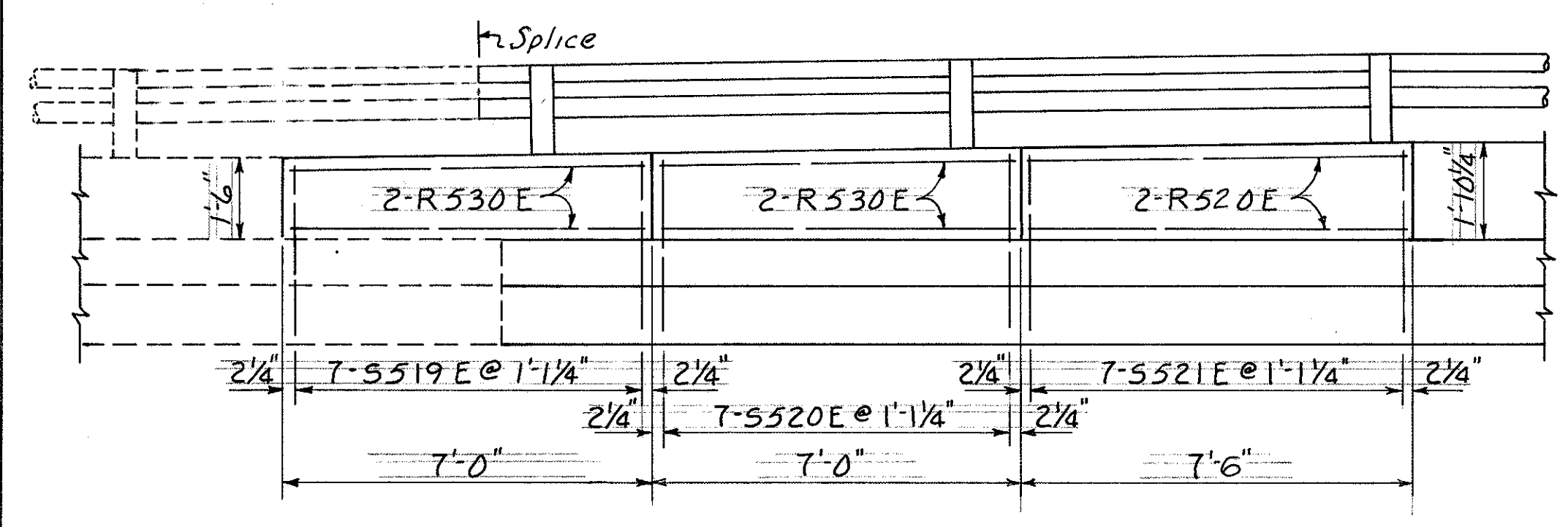
HAMILTON COUNTY
HAM-471-024
PART TWO



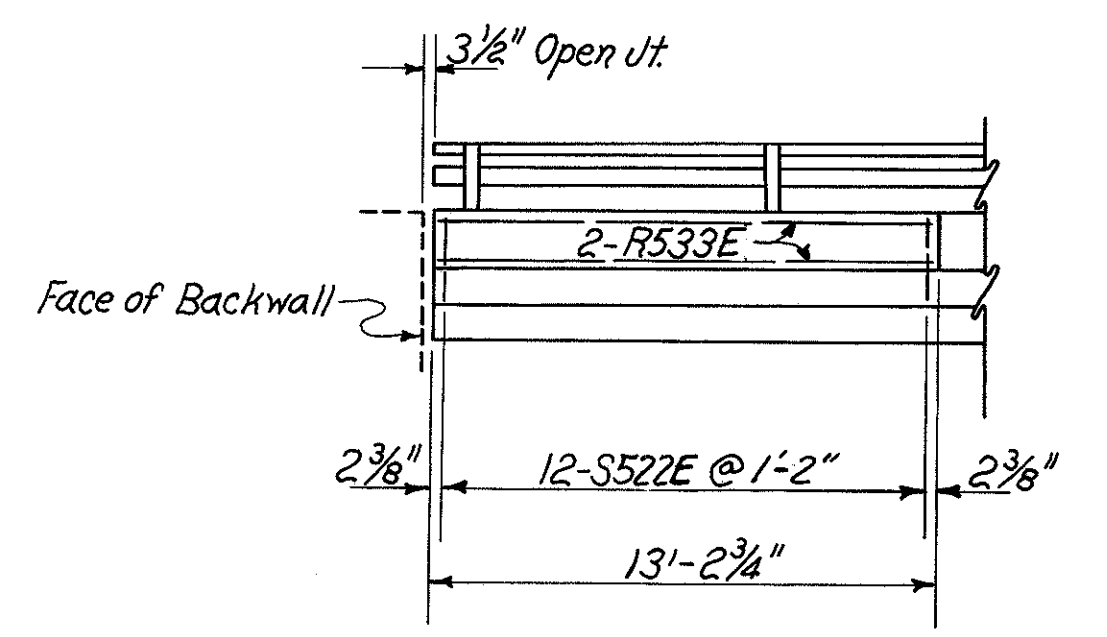
**PLAN
UNIT D**



TYPICAL ELEVATION



VIEW V-V



TYPICAL ELEVATION

(Light Poles Not Shown)

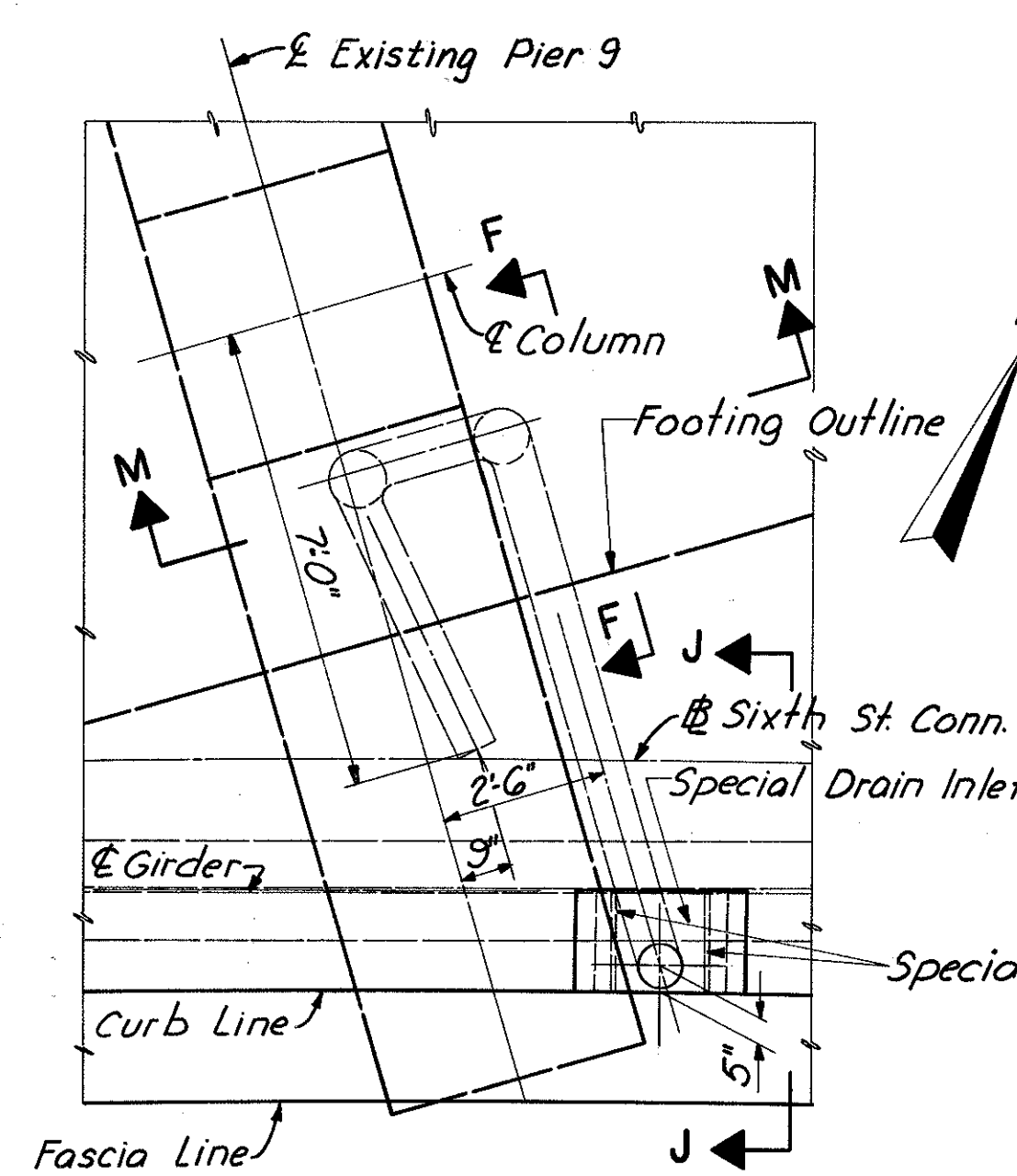
For Notes see sh. 325.
For details of deflection joint panels not shown see sh. 325.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						19/23
RAILING & LIGHTING						
BRIDGE No. HAM-471-0044						
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
JEM	MDP			JHO 3-25-82		

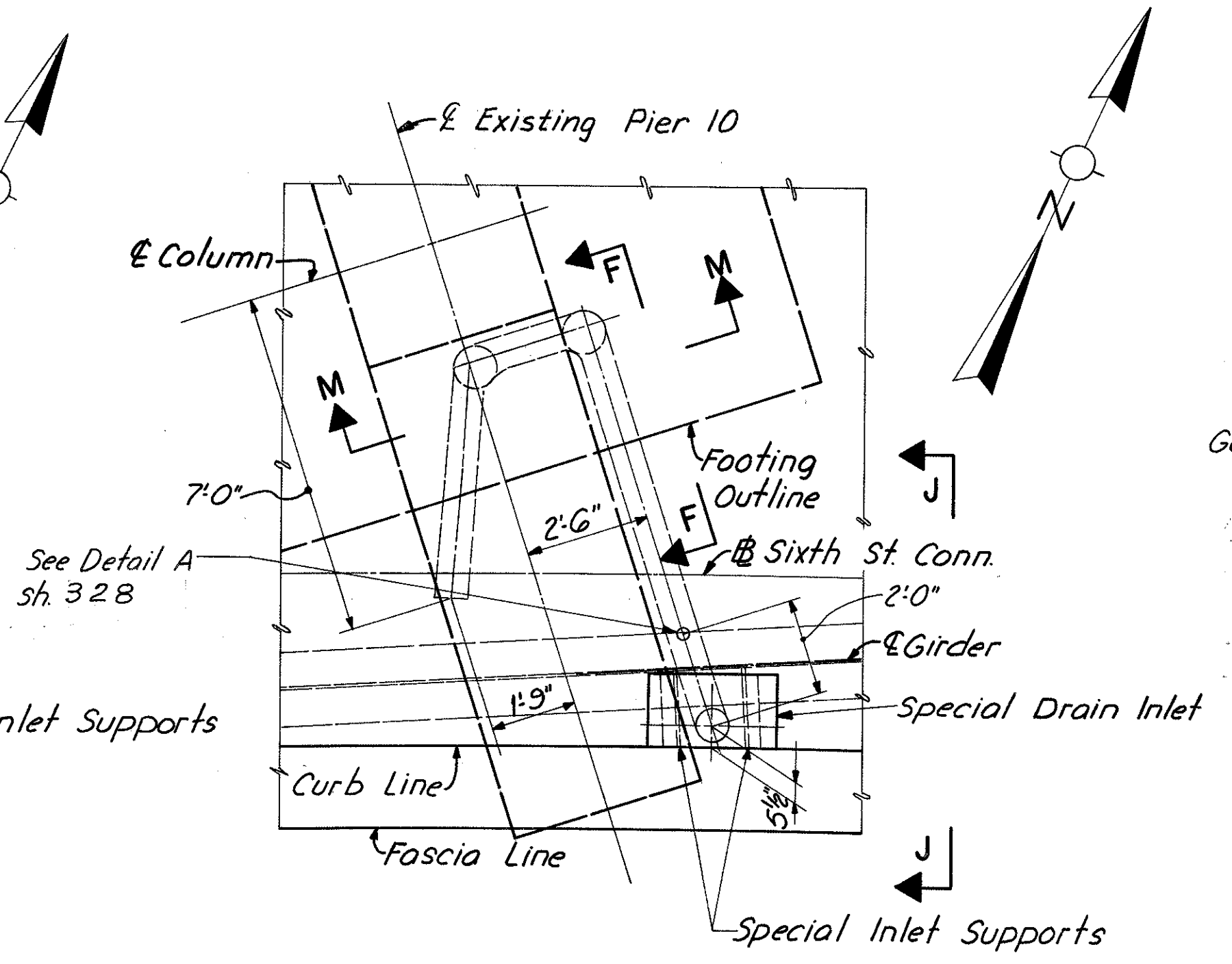
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

327
346

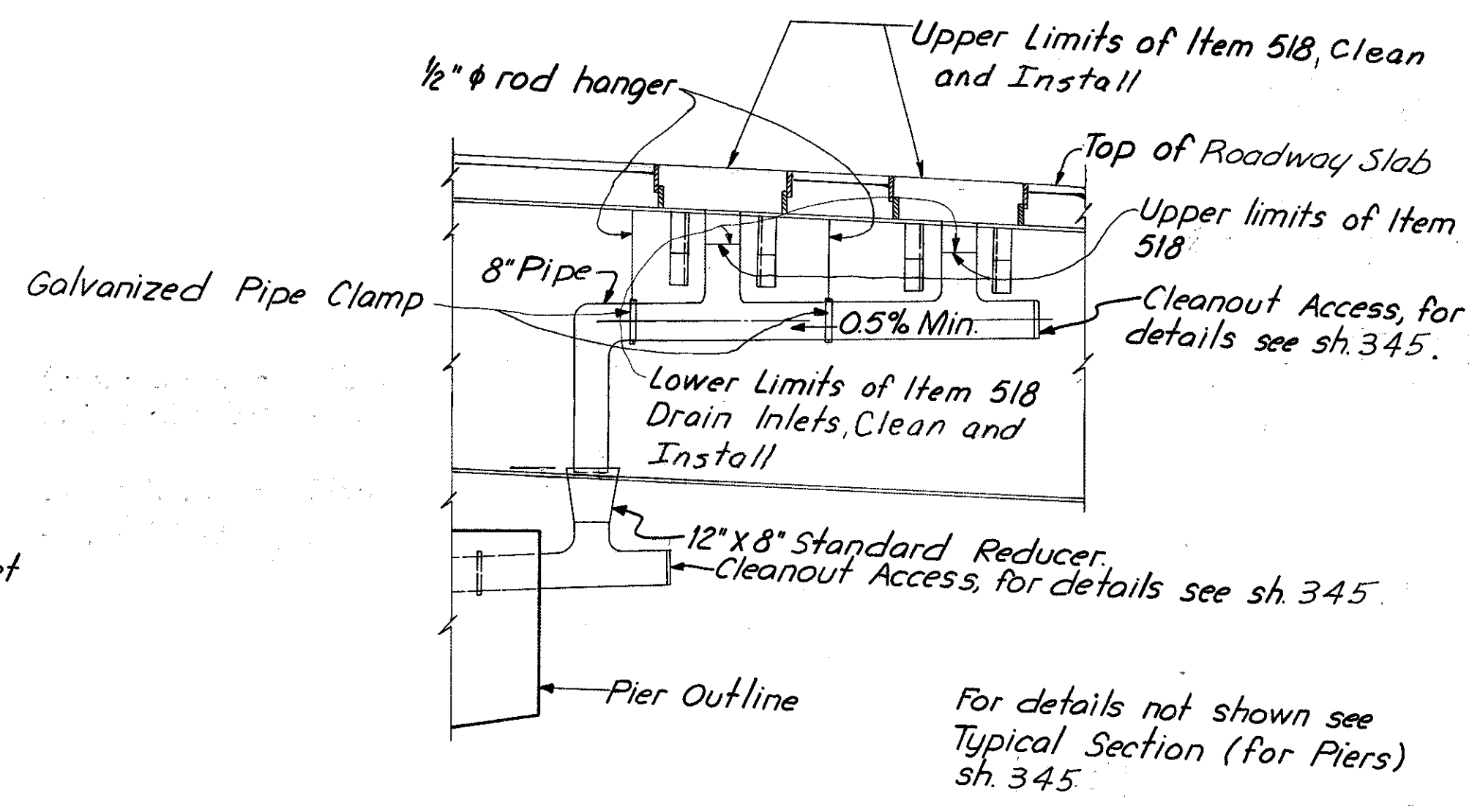
HAMILTON COUNTY
HAM-471-0.24
PART TWO



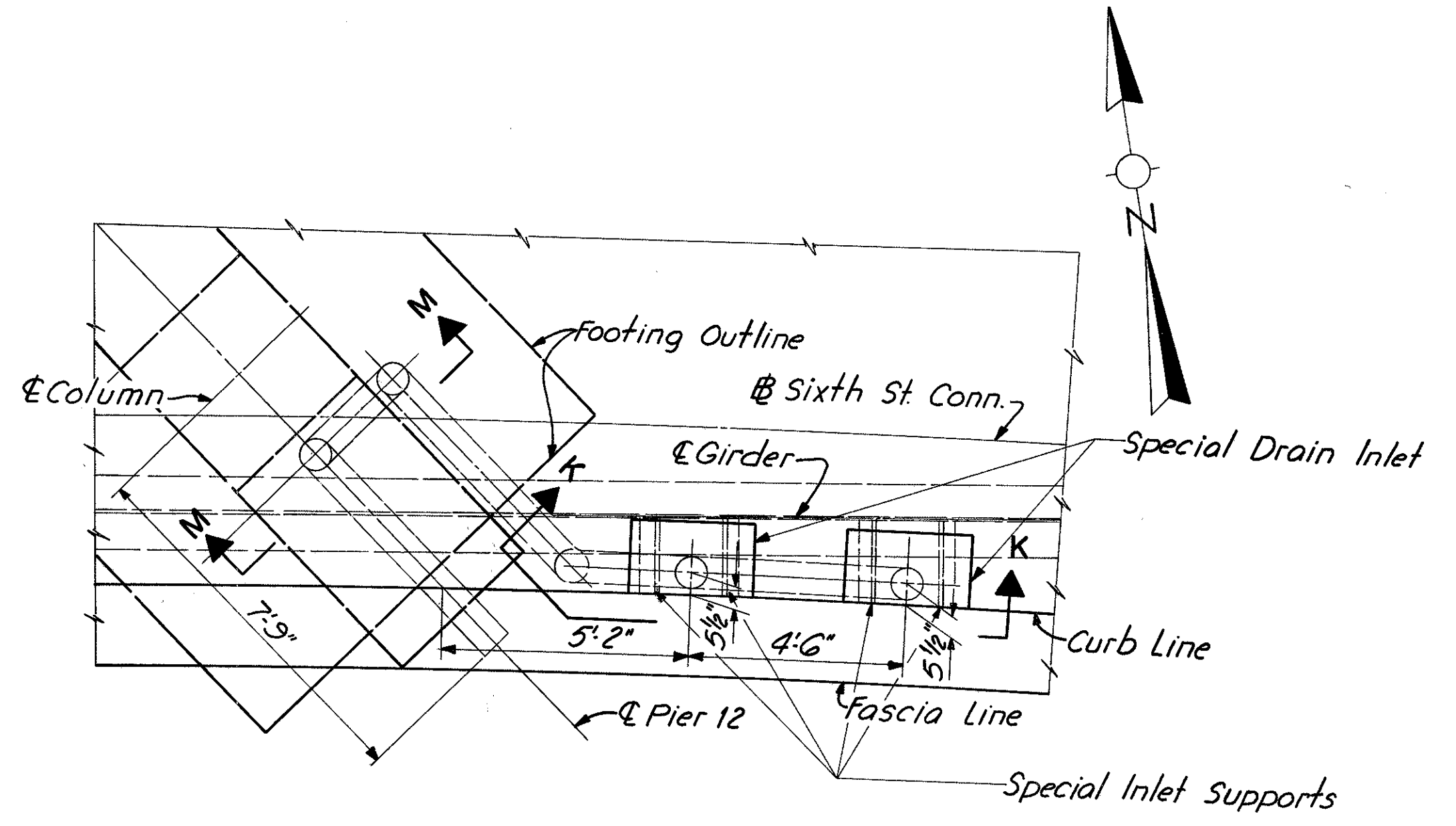
PIER 9 - PLAN



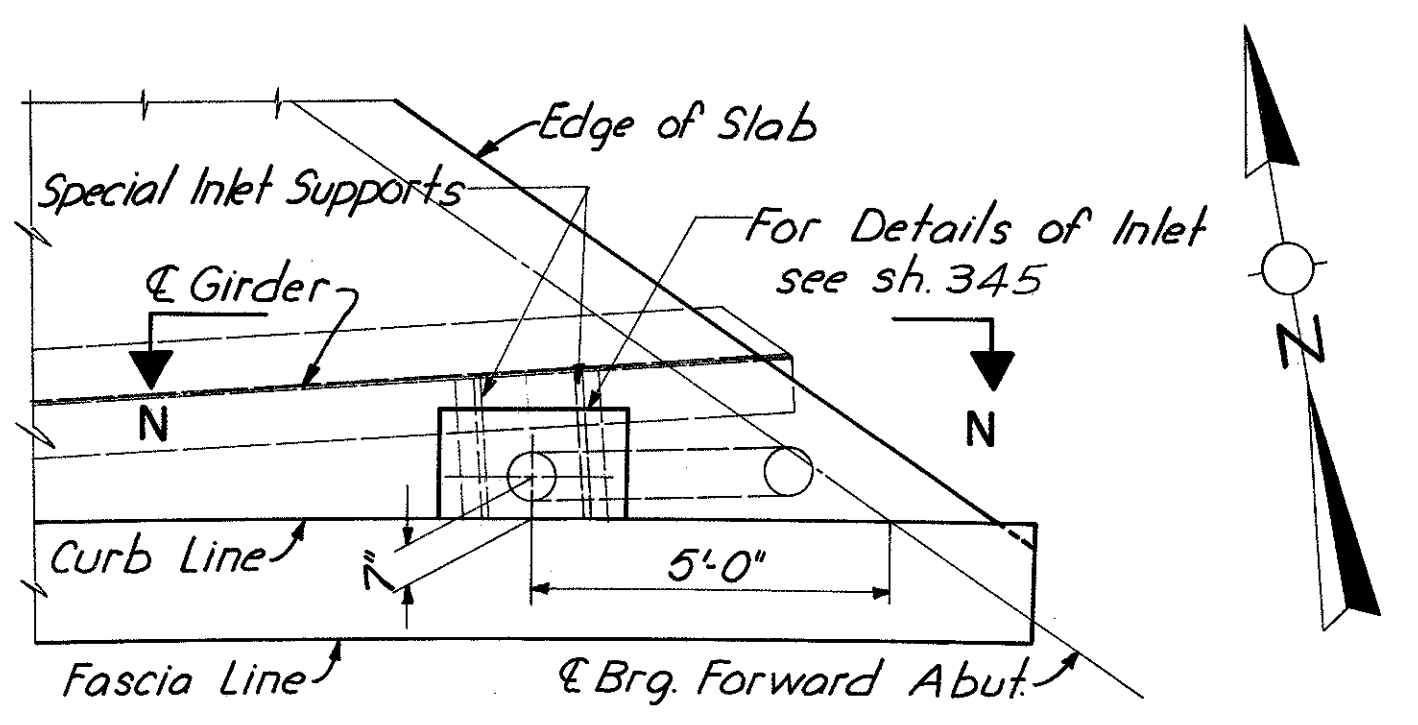
PIER 10 - PLAN



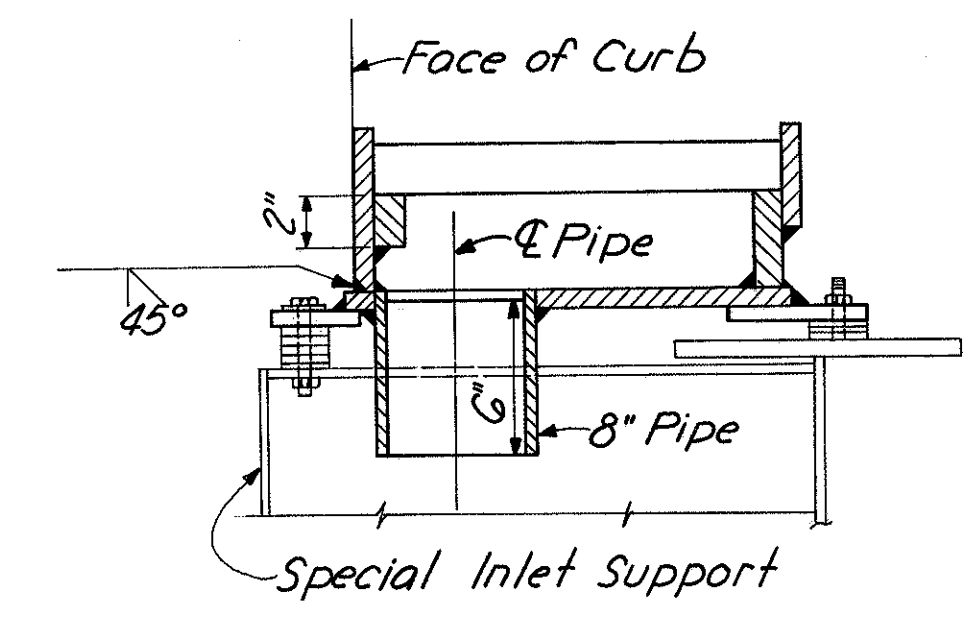
SECTION K-K



PIER 12 - PLAN



FORWARD ABUTMENT - PLAN

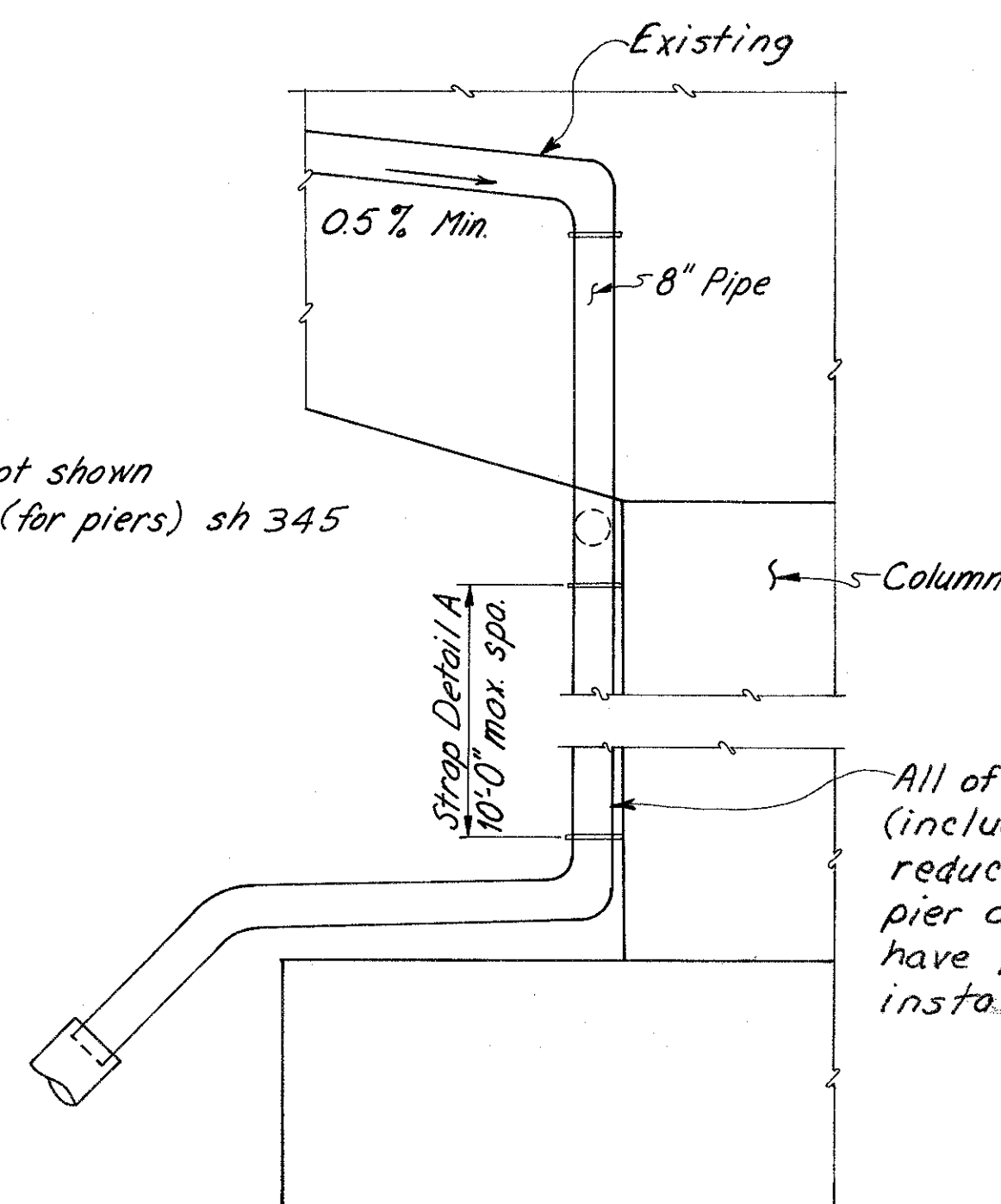


SPECIAL DRAIN INLET
For Details not shown see "Inlet Frame" sh. 345.

Notes:
Work this sheet with Drainage Details sh.328
For other Notes see sh.328
For Section J-J see sh.328
For Section M-M see sh.328
For Section F-F see sh.328
For Section N-N see sh.328
Use Inlet Grating Type 2

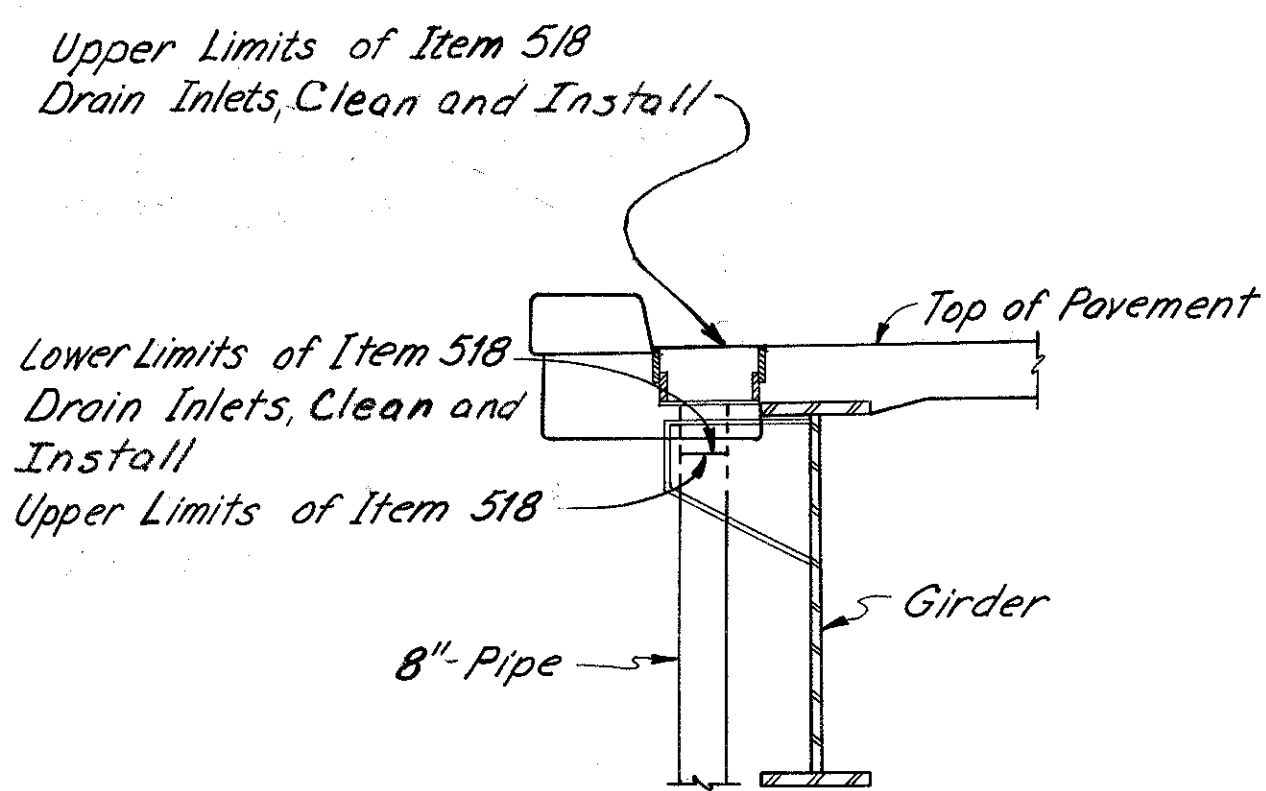
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						20/23
DRAINAGE DETAILS						
BRIDGE NO. HAM-471-0044						
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	JHD		J.L.	JHD 3-25-82		

HAMILTON COUNTY
HAM-471-024
PART TWO



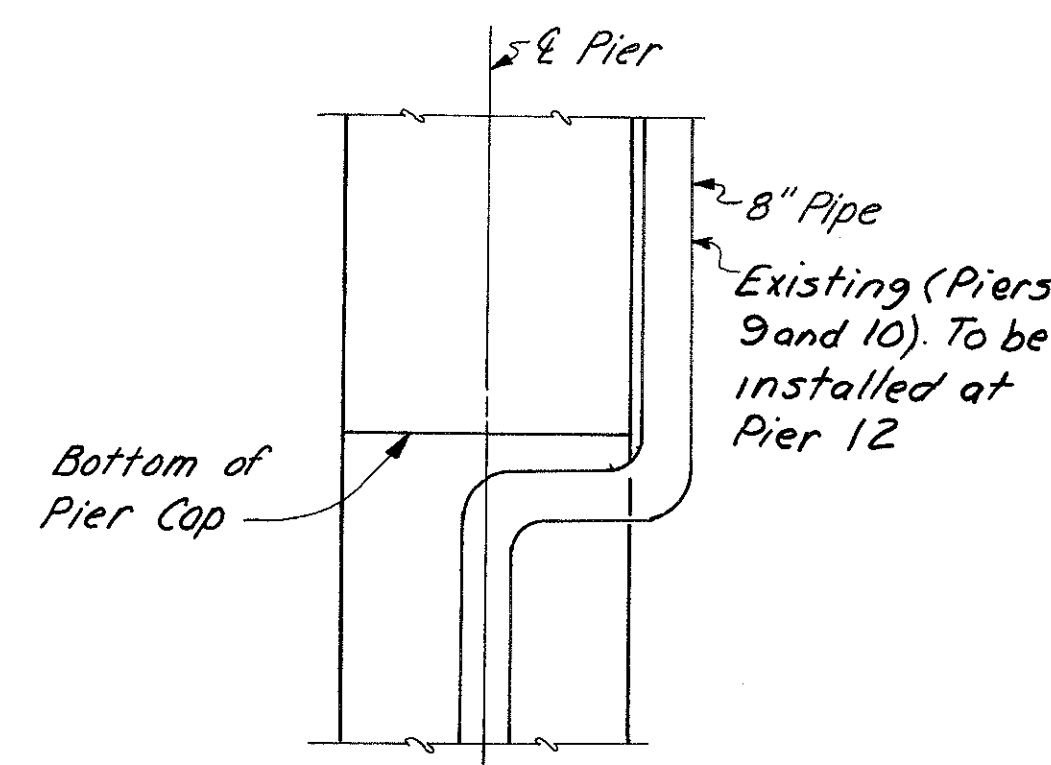
For details not shown see Typ. Sect. (for piers) sh 345

SECTION F-F

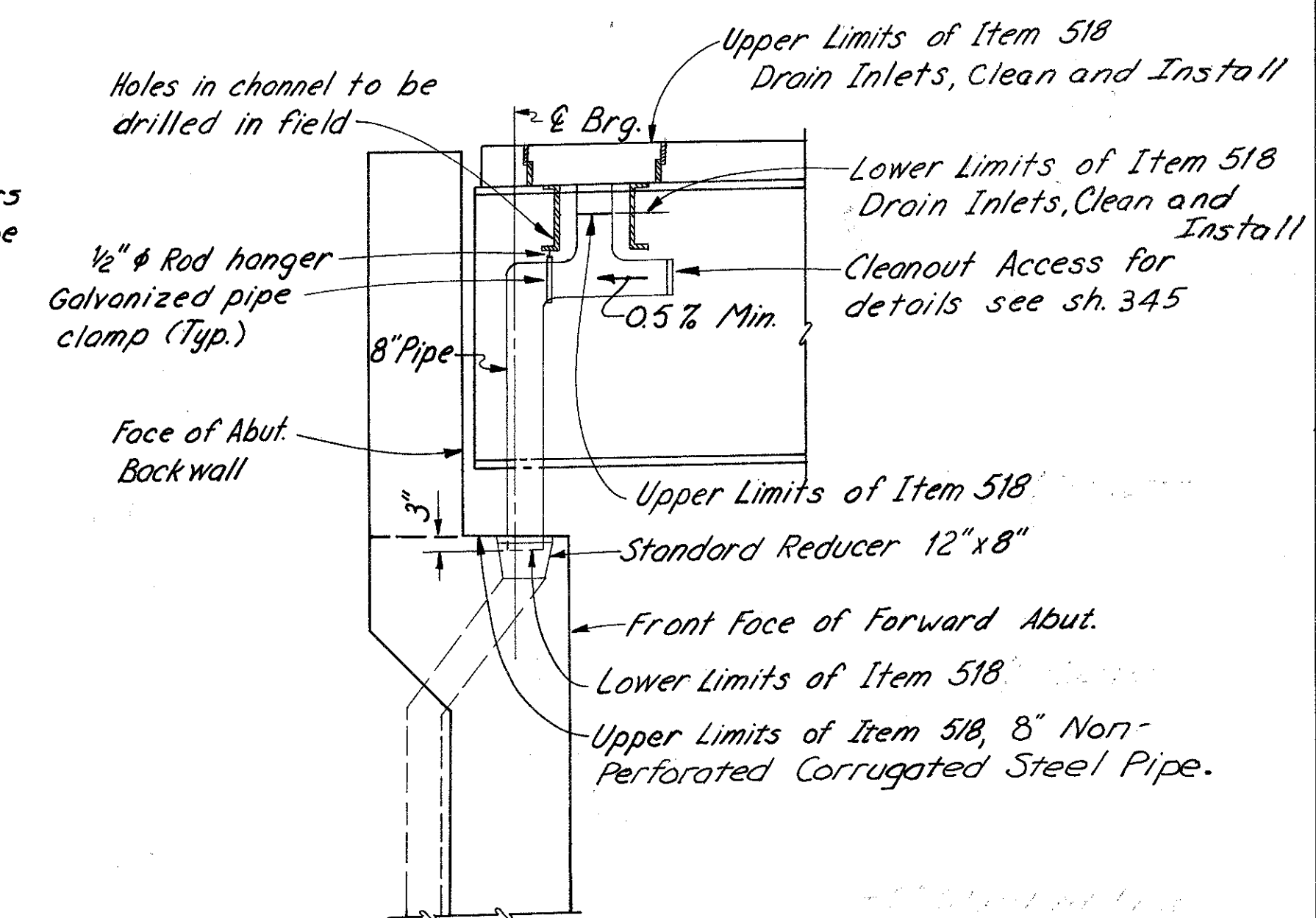


For Details not shown see Typical Section (for Piers) sh. 345

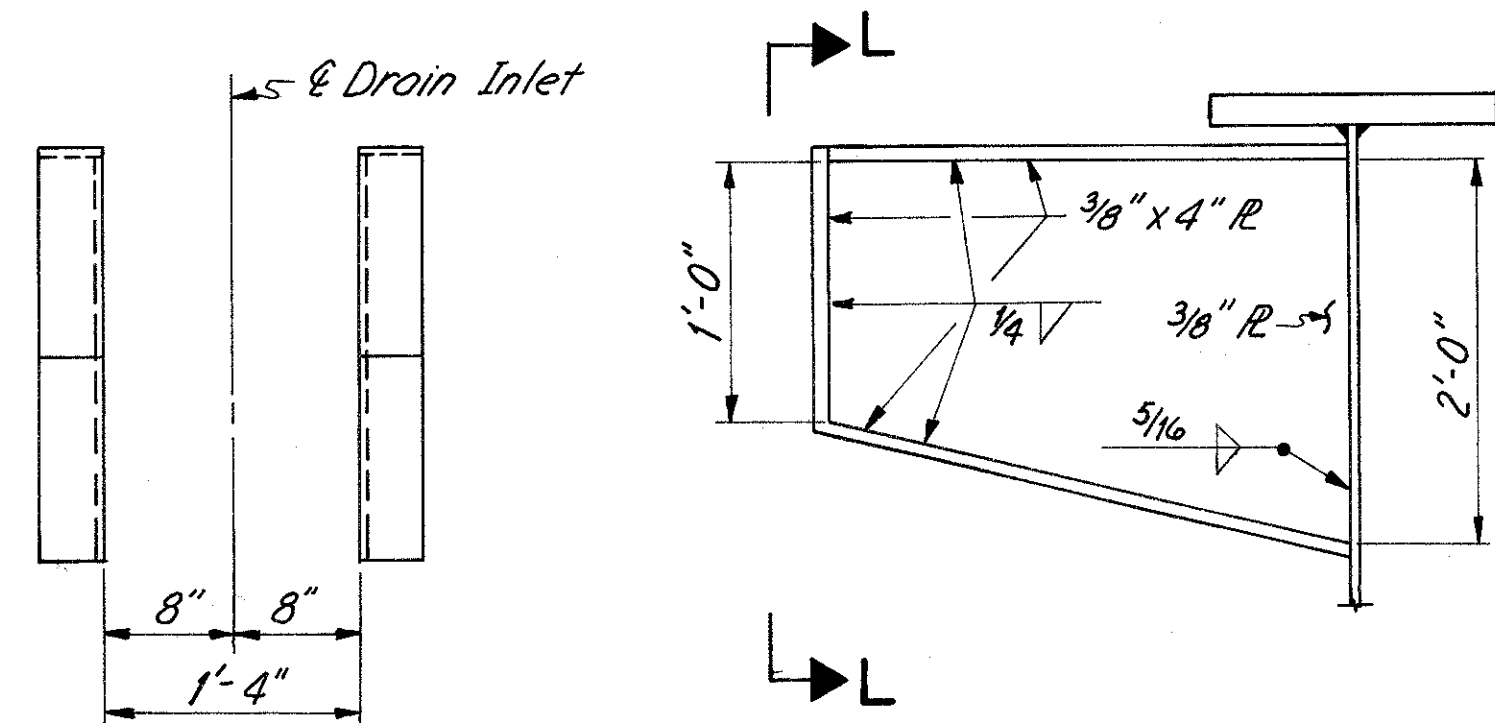
SECTION J-J



SECTION M-M



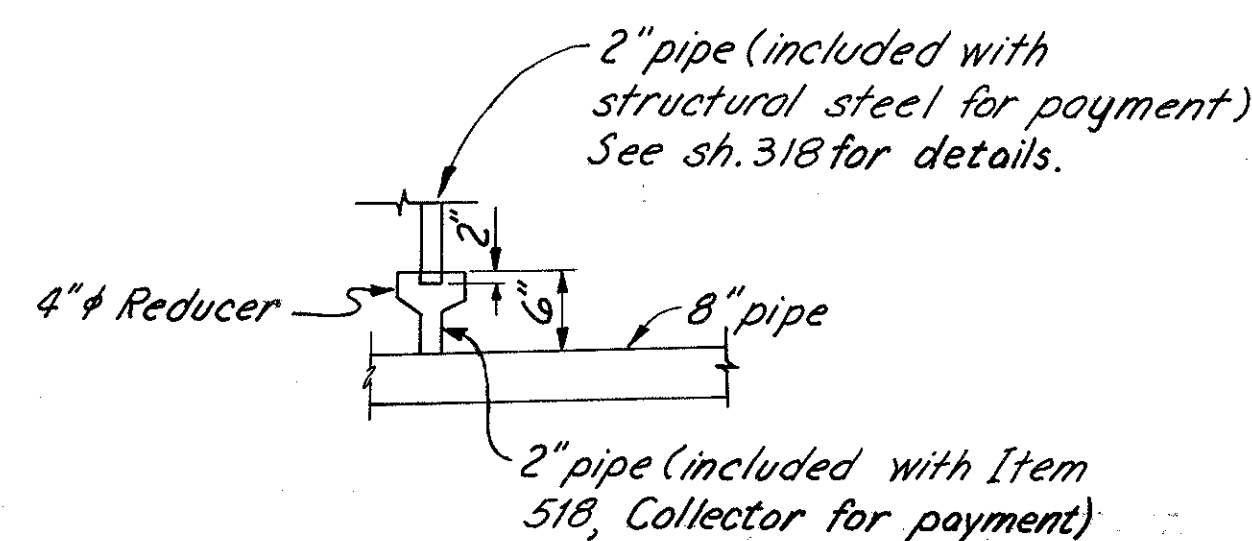
SECTION N-N



SECTION L-L

ELEVATION

SPECIAL INLET SUPPORT DETAILS
(Included with Item 513 for payment)



DETAIL A

Notes:
Work this sheet with Drainage Details sh. 327
Drain Inlets shall be galvanized in accordance with 711.02.
Total depth of inlet frame box equals 8 1/2"

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					21/23
DRAINAGE DETAILS					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	G.D.		J.L.	J40 3-25-82	

HAMILTON COUNTY
HAM-471-024
PART TWO

FORWARD ABUTMENT							
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	550 (73) PLANS (Σ)		REQUIRED	
				1 NUMBER 1	WEIGHT	NUMBER	WEIGHT
B501	Str.	35'-11"	18			18	674
B502	Str.	7'-6"	6			6	47
B503	Str.	8'-0" to 13'-0"	1 Series of 11			1 Series of 11	120
B504	Str.	8'-0" to 15'-6"	1 Series of 7	1 Series of 7	86		
B505	Str.	3'-6" to 20'-1"	1 Series of 9	1 Series of 9	111		
B506	Str.	26'-3" to 39'-3"	1 Series of 7			1 Series of 7	239
B507	Str.	29'-10" to 30'-5"	1 Series of 5			1 Series of 5	157
B508	Str.	26'-3"	11			11	301
B509	1	4'-11"	36	32	164	4	21
B510	3	10'-11"	1	1	11		
B511	3	10'-1" to 10'-11"	1 Series of 9	1 Series of 9	99		
B512	3	10'-1" to 10'-3"	1 Series of 3	1 Series of 3	32		
B513	3	10'-4" to 10'-11"	1 Series of 7	1 Series of 7	78		
B514	3	10'-1" to 11'-0"	1 Series of 10	1 Series of 10	110		
B515	3	10'-2"	2	2	21		
B516	3	10'-3" to 11'-0"	1 Series of 8	1 Series of 8	89		
B517	3	10'-2" to 11'-2"	1 Series of 11	1 Series of 11	122		
B518	Str.	23'-2"	5			5	121
B519	Str.	22'-2"	4			4	92
B520	Str.	21'-3"	6			6	133
B521	Str.	20'-4"	5			5	106
B522	Str.	19'-4"	13			13	262
B523	Str.	18'-5"	7			7	134
B524	Str.	23'-11"	12			12	299
B525	Str.	22'-5"	11			11	257
B526	Str.	20'-5"	7			7	149
B527	Str.	4'-8"	3			3	15
B528	Str.	15'-7"	10			10	163
B529	Str.	2'-4" to 6'-7"	1 Series of 5			1 Series of 5	23
B530	Str.	27'-3"	44			44	1,270
B531	Str.	4'-5"	3			3	14
B532	Str.	10'-6"	7			7	77
B533	Str.	21'-1"	4			4	88
B534	Str.	30'-10"	9			9	289
B535	Str.	33'-6"	2			2	70
B536	Str.	20'-0" to 22'-4"	1 Series of 3			1 Series of 3	66
B537	Str.	10'-10"	5			5	56
B538	Str.	31'-7"	9			9	296
B539	Str.	31'-8"	2			2	66
B540	Str.	13'-11"	1			1	15
B541	Str.	8'-6"	1			1	9
B542	Str.	8'-3"	1			1	9
B543	Str.	23'-8"	8			8	197
B544	Str.	24'-10"	10			10	259
B545	Str.	20'-1"	4			4	84
B546	Str.	6'-8" to 7'-8"	1 Series of 8			1 Series of 8	60
B547	Str.	28'-11"	1			1	30
B548	Str.	11'-3"	20	11	129	9	106
B549	Str.	9'-5"	11	11	108		
B550	Str.	3'-9" to 5'-9"	1 Series of 3	1 Series of 3	15		
B551	Str.	7'-9"	1			1	8
B552	Str.	9'-11" to 13'-8"	2 Series of 6			2 Series of 6	148
B553	Str.	4'-2"	8			8	35
B554	Str.	7'-5"	6			6	46
B555	Str.	7'-6" to 7'-9"	1 Series of 3	1 Series of 3	24		
B556	Str.	6'-7"	4			4	27
B557	Str.	13'-0"	6			6	81
B558	35	11'-0"	2			2	23
B559	Str.	3'-2"	1			1	3
B560	Str.	3'-3"	1			1	3
B561	Str.	3'-10"	1			1	4
B562	16	8'-4"	2			2	17
B563	1	2'-11" to 5'-9"	1 Series of 12			1 Series of 12	54
B564	Str.	8'-8"	14			14	127
B565	Str.	6'-9" to 7'-3"	1 Series of 4	1 Series of 4	29		
B566	45	5'-3"	7			7	38
B567	10	9'-1" to 10'-3"	1 Series of 10			1 Series of 10	101
B568	14	7'-4"	9			9	69
B569	Str.	27'-11"	5			5	146
B570	Str.	26'-6"	5			5	138
B571	14	7'-10"	32			32	261

FORWARD ABUTMENT							
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	550 (73) PLANS (Σ)		REQUIRED	
				NUMBER	WEIGHT	NUMBER	WEIGHT
B601	1	9'-1"	74	12	164	62	846
B602	1	12'-11"	80	41	795	39	757
B603	1	6'-9"	80			80	811
B604	1	13'-1"	6			6	118
B605	19	4'-4"	6			6	39
B606	Str.	7'-8" to 8'-0"	1 Series of 3	1 Series of 2	23	1⊕	12
B607	Str.	3'-2"	1	1	5		
B608	Str.	3'-3"	1	1	5		
B609	Str.	3'-10"	1	1	6		
B610	Str.	3'-7"	3	3	16		
B611	Str.	7'-8"	3	3	35		
B612	Str.	8'-0"	1			1	12
⊕ B606 Required Length = 8'-0"							
B701	44	10'-4"	2	2	42		
B702	34	8'-9"	2	2	36		
B801	18	5'-4"	47			47	669
B901	Str.	19'-0"	62	62	4,005		
B902	Str.	9'-6"	105	105	3,392		
B903	Str.	13'-3"	140	130	5,857	10	451
B904	Str.	12'-0" to 17'-0"	1 Series of 4	1 Series of 4	197		
B905	Str.	11'-6" to 20'-0"	1 Series of 10	1 Series of 10	536		
B906	Str.	13'-3" to 16'-9"	1 Series of 7	1 Series of 7	357		
B907	Str.	5'-0" to 16'-6"	1 Series of 30	1 Series of 30	1,097		
B908	Str.	9'-3"	57	56	1,761	1	31
B909	Str.	7'-6" to 12'-6"	1 Series of 8	1 Series of 8	272		
B910	Str.	8'-0"	6	6	163		
B1101	17	7'-2"	102	101	3,846	1	38
B1102	17	11'-8"	98	90	5,579	8	496
B1103	Str.	12'-0"	59	58	3,698	1	64
B1104	Str.	23'-3"	3	3	371		
B1105	Str.	22'-4"	9	9	1,068		
B1106	Str.	21'-5"	9	9	1,024		
B1107	Str.	20'-6"	8	8	871		
B1108	Str.	19'-6"	9	5	518	4	414
B1109	Str.	18'-7"	10	10	987		
B1110	Str.	6'-8" to 7'-5"	1 Series of 10	1 Series of 10	374		
B1111	Str.	23'-5" to 23'-9"	1 Series of 5	1 Series of 5	626		
B1112	Str.	27'-0"	10	10	1,435		
B1113	19	11'-8"	18	18	1,116		
B1114	19	7'-2"	23	21	800	2	76
B1115	Str.	18'-10"	2	2	200		
B1116	Str.	25'-2"	1	1	134		
R550	Str.	8'-9"	4			4	*
R551	Str.	27'-11"	4			4	*
R552	Str.	4'-8"	2			2	*
R553	14	8'-3"	4			4	*
R554	2	8'-7"	2	2	*		
R555	27	6'-7"	2	2	*		
R556	33	3'-3"	4			4	*
R557	Str.	13'-0"	4			4	*
R558	44	8'-11"	2	2	*		

FORWARD ABUTMENT BENT BARS										
MARK	TYPE	DIMENSIONS								
		A	B	C	D	E	F	G	R	
B509	1	7 1/2"	3'-11"							
B510	3	7 1/2"	3'-11"	2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B511	3	7 1/2"	3'-11"	1'-5 1/2" to 2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B512	3	7 1/2"	3'-11"	1'-5 1/2" to 1'-8"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B513	3	7 1/2"	3'-11"	1'-8 1/2" to 2'-4"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B514	3	7 1/2"	3'-11"	1'-5 1/2" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B515	3	7 1/2"	3'-11"	1'-6 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B516	3	7 1/2"	3'-11"	1'-8" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B517	3	7 1/2"	3'-11"	1'-6 1/2" to 2'-7"	3'-0 3/4"	3'-0 3/4"	4'-4"			
B558	35	2'-2"	2'-9"		1'-11"					
B562	16	2'-2 1/2"	3'-5"	4'-11"	4'-4 3/4"					
B563	1	1'-3" to 2'-8"	8"							
B566	45	7 1/2"	1'-2"	2"	8"	2'-11"	8 1/4"			
B567	10	1'-5 3/4"	7"	5'-11" to 7'-1"	1'-7"					
B568	14	3'-0"	9"							
B571	14	3'-3"	9"							
B601	1	4'-0"	1'-5"							
B602	1	5'-11"	1'-5"							
B603	1	3'-1"	11"							
B604	1	6'-0"	1'-5"							
B605	19	10"	3'-8"	3'-8"	2 3/4"					
B701	44	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"				
B702	34	2'-9"	2'-0"	2'-3"	1'-5"	1'-0"				
B801	18	1'-1"	1'-1"	1'-6 1/2"	3'-1"	8 1/2"	6"	6"		
B1101	17	1'-5 1/2"	6'-0"							
B1102	17	1'-5 1/2"	10'-6"							
B1113	19	1'-5 1/2"	10'-5 3/4"	10'-6"	7 3/4"					
B1114	19	1'-5 1/2"	5'-11 3/4"	6'-0"	4 1/2"					
R553	14	3'-6"	8"							
R554	2	3'-6"	4'-8"	8"						
R555	27	7 1/2"	1'-0"	5"	1"	5"	4'-0"		4 1/2"	
R556	33	9 1/4"	1'-3"						2 1/2"	
R558	44	1'-3 1/2"	2'-0"	2'-10"	2'-0"	1'-0"				

TOTAL WEIGHT FORWARD ABUTMENT 550 (73) PLANS , Reinforcing steel, As Per Plans =42,639 Lbs.
TOTAL WEIGHT FORWARD ABUTMENT (Required), Reinforcing steel, Grade 60 =12,537 Lbs.
TOTAL WEIGHT FORWARD ABUTMENT =55,176 Lbs.

NOTES:

(Σ) The number listed under 550 (73) Plans is the number of the reinforcing steel bars of that particular mark that were not used in the completed portion of Bridge No. HAM-471-0044, State Project No. 550 (73). When the project was terminated, those bars were placed in storage; but at this time the actual condition of those bars and the number remaining in storage is unknown.

* Reinforcing bars marked "R" are included in Item 517, Railing for payment.

REINFORCING STEEL SAMPLES:

Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

See General Notes sheet 310 for Reinforcing steel, As Per Plans.

For Bar Bending Schedule see Sheet No. 346.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					22/23
REINFORCING STEEL LIST					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	TLB		JKB	3-25-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO

SUPERSTRUCTURE												
MARK	TYPE	LENGTH	NUMBER OF BARS		TOTAL NO. OF BARS	WEIGHT	DIMENSIONS					
			UNIT C	UNIT D			A	B	C	D	E	F
S401E	Str.	30'-0"	216	696	912	18,277						
S402E	Str.	10'-3"		120	120	822						
S416E	Str.	15'-9" to 32'-8"		1 Series of 72	1 Series of 72	1,164						
S418E	Str.	17'-9" to 25'-5"	1 Series of 72		1 Series of 72	1,038						
S420E	Str.	39'-0"	60		60	1,563						
S422E	Str.	29'-0"	30		30	581						
S423E	Str.	26'-0"	30		30	521						
S502E	7	2'-4"	78	167	245	596	7 1/2"	1'-4"	1'-4"	2"	7 1/2"	
S503E	1	2'-2"	79	176	255	576	7 1/2"	1'-2"				
S505E	1	7'-9"	39		39	315	7 1/2"	6'-9"				
S510E	1	2'-6"	79	176	255	665	7 1/2"	1'-6"				
S511E	7	2'-6"	79	176	255	665	7 1/2"	1'-6"	1'-6"	2"	7 1/2"	
S512E	1	2'-7" to 2'-5"	1 Series of 39		1 Series of 39	102	7 1/2"	1'-7" to 1'-5"				
S513E	1	2'-5"	38	165	203	512	7 1/2"	1'-5"				
S514E	2	7'-7"	39	165	204	1,614	7 1/2"	6'-9"	5 1/2"			
S515E	17	4'-9"		4	4	20	7 1/2"	4'-3"				
S518E	35	9'-2"	2	2	4	38	2'-2"	1'-10"	1'-11"	1'-10"	1'-11"	
S519E	14	5'-3"	119	253	372	2,036	2'-0"	8"				
S520E	14	5'-5"	7		7	40	2'-1"	8"				
S521E	14	5'-8"	7		7	41	2'-2 1/2"	8"				
S522E	14	5'-11"	93	236	329	2,030	2'-4"	8"				
S601E	Str.	26'-4"	421	875	1,296	51,260						
S602	Str.	22'-7"	207	427	634	21,505						
S604	Str.	30'-0"	373	864	1,237	55,739						
S605E	Str.	23'-3"	5	10	15	524						
S606	Str.	27'-0"	5	10	15	608						
S613	Str.	3'-0"		1	1	5						
S627	Str.	25'-2" to 28'-5"	1 Series of 3		1 Series of 3	120						
S631	Str.	23'-1" to 30'-9"	1 Series of 53		1 Series of 53	2,143						
S632	Str.	4'-0" to 21'-1"	1 Series of 11		1 Series of 11	207						
S633E	Str.	6'-1" to 24'-9"	1 Series of 12		1 Series of 12	278						
S634	Str.	14'-3" to 20'-6"	1 Series of 5		1 Series of 5	130						
S635	Str.	3'-11" to 15'-10"	1 Series of 9		1 Series of 9	133						
S636	Str.	3'-2"	2		2	10						
S637E	Str.	3'-0" to 25'-11"		1 Series of 14	1 Series of 14	304						
S638	Str.	3'-0" to 22'-6"		1 Series of 12	1 Series of 12	230						
S639	Str.	3'-11" to 27'-10"		1 Series of 16	1 Series of 16	382						
S640E	Str.	3'-8" to 24'-2"		1 Series of 14	1 Series of 14	293						
S641	Str.	6'-8" to 30'-10"		1 Series of 63	1 Series of 63	1,774						
S642E	Str.	6'-8" to 26'-6"		1 Series of 53	1 Series of 53	1,320						
S643	Str.	1'-11" to 3'-3"		1 Series of 5	1 Series of 5	20						
S644	Str.	3'-3" to 4'-7"		1 Series of 5	1 Series of 5	30						
S645	Str.	2'-10"		8	8	34						
S646	Str.	21'-1" to 38'-0"		1 Series of 53	1 Series of 53	2,352						
S647	Str.	3'-6" to 21'-3"		1 Series of 39	1 Series of 39	725						
S648E	Str.	3'-0" to 24'-11"		1 Series of 49	1 Series of 49	1,027						
S649E	Str.	25'-2" to 28'-5"	1 Series of 3		1 Series of 3	121						
S650E	Str.	14'-3" to 20'-6"	1 Series of 5		1 Series of 5	131						
S651E	Str.	3'-11" to 15'-10"	1 Series of 9		1 Series of 9	134						
S652E	Str.	3'-2"	3		3	15						
S653E	Str.	1'-11" to 3'-3"		1 Series of 5	1 Series of 5	20						
S654E	Str.	3'-3" to 4'-7"		1 Series of 5	1 Series of 5	30						
S655E	Str.	2'-10"		8	8	34						
S701E	44	10'-4"	2	2	4	85	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"	
S703E	11	7'-11"	2	2	4	65	1'-5"	3'-9"	1'-0"			
S705E	21	5'-10"	2	2	4	48	2'-3"	1'-9"	1'-3"	1'-3"	1'-3"	9"
R503E	44	9'-1"	2	2	4	*	1'-5"	2'-0"	2'-10"	2'-0"	1'-0"	
R504E	Str.	7'-0"		8	8	*						
R505E	Str.	5'-9"	8	8	16	*						
R510E	Str.	6'-0"		24	24	*						
R512E	Str.	12'-4"		4	4	*						

SUPERSTRUCTURE												
MARK	TYPE	LENGTH	NUMBER OF BARS		TOTAL NO. OF BARS	WEIGHT	DIMENSIONS					
			UNIT C	UNIT D			A	B	C	D	E	
R513E	Str.	15'-6"	24		24	*						
R516E	Str.	6'-11"	16		16	*						
R519E	Str.	6'-7"	8		8	*						
R520E	Str.	7'-3"	8		8	*						
R521E	Str.	6'-1"		16	16	*						
R522E	Str.	7'-2"		4	4	*						
R523E	Str.	5'-11"	16		16	*						
R524E	Str.	5'-2"	8		8	*						
R525E	Str.	5'-1"	4		4	*						
R527E	Str.	6'-10"	4		4	*						
R529E	Str.	15'-5"		68	68	*						
R530E	Str.	6'-9"	44	28	72	*						
R531E	Str.	7'-1"		8	8	*						
R533E	Str.	12'-11"		8	8	*						

TOTAL WEIGHT, Reinforcing Steel, Grade 60, SUPERSTRUCTURE =86,147 Lbs.
TOTAL WEIGHT, Epoxy Coated Reinforcing Steel, Grade 60, SUPERSTRUCTURE =88,905 Lbs.

PIER 12												
MARK	TYPE	LENGTH	NO. OF BARS	550 (73) PLANS (Σ)		REQUIRED		DIMENSIONS				
				NUMBER	WEIGHT	NUMBER	WEIGHT	A	B	C	D	E
P403	37	13'-1"	108	106	926	2	17	3'-2"	3'-2"			
P405	38	11'-7"	106	106	820			9 1/2"	1'-7"	9 1/2"	1'-7"	1'-1 1/2"
P510	1	6'-1"	48			48	305	1'-7"	3'-2"			
P536	1	7'-5"	12			12	93	2'-3"	3'-2"			
P537	37	13'-7"	10			10	142	4'-3"	2'-3 1/2"			
P540	1	8'-7"	22			22	197	2'-10"	3'-2"			
P542	1	8'-11"	20	20	186			3'-0"	3'-2"			
P544	Str.	32'-11"	6			6	206					
P545	Str.	31'-5"	2			2	66					
P554	37	15'-3"	41	41	652			4'-2 1/2"	3'-2"			
P555	37	15'-4"	11	11	176			4'-3"	3'-2"			
P556	37	15'-5"	41	41	659			4'-3 1/2"	3'-2"			
P605	Str.	9'-0"	117			117	1,582					
P606	16	7'-0"	6	6	63			1'-5 1/4"	2'-0"	5'-0"	4'-9 1/2"	
P805	Str.	37'-8"	9	5	503	4	402					
P806	Str.	27'-3"	9	4	291	5	364					
P911	Str.	23'-6"	5	5	400							
P912	Str.	33'-10"	5	4	460	1	115					
P913	Str.	15'-0"	6	6	306							
P1127	17	7'-2"	64	62	2,361	2	76	1'-9 1/2"	5'-8"			
P1138	Str.	32'-9"	24	20	3,480	4	696					
P1139	Str.	19'-9"	16	16	1,679							
P1140	Str.	20'-11"	16	16	1,778							
P1141	Str.	22'-1"	16	16	1,877							
P1142	Str.	23'-0"	16	16	1,955							
P1143	16	36'-1"	5	5	959							
P1144	19	37'-1"	5			5	985	34'-2"	3'-2"	3'-2"	2 3/4"	
P1145	Str.	10'-0"	8			8	425					
P1146	Str.	10'-5"	7			7	387					
P1147	Str.	28'-0"	4	4	595							

TOTAL WEIGHT, PIER 12, 550 (73) PLANS, Reinforcing Steel As Per Plans =20,126 Lbs.
TOTAL WEIGHT, PIER 12, (Required), Reinforcing Steel, Grade 60 = 6,058 Lbs.
TOTAL WEIGHT, PIER 12 =26,184 Lbs.

Bar Marks ending with an "E" are Epoxy Coated for example S401E.
For other notes, see sheet 329.

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CINCINNATI, OHIO

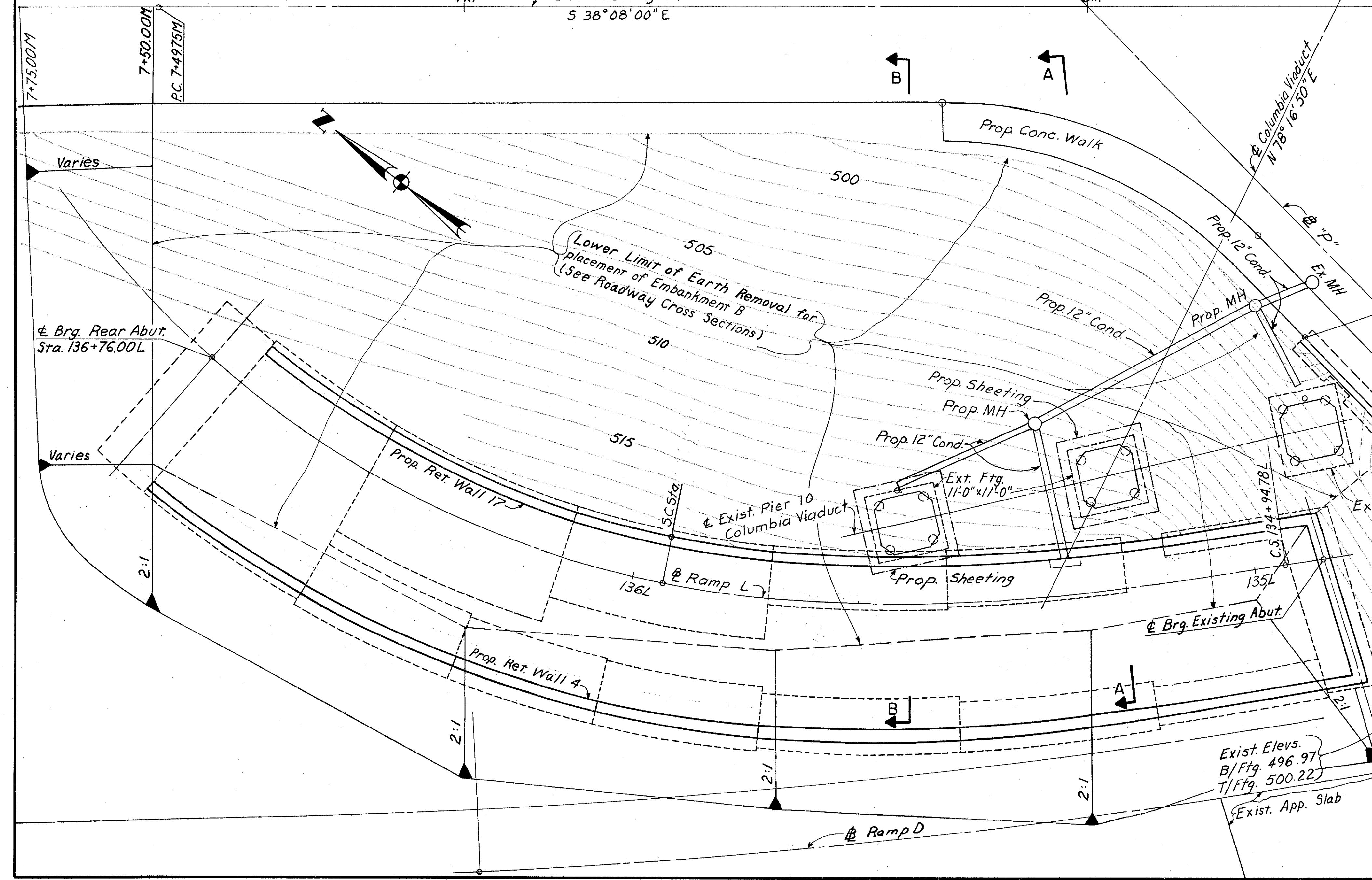
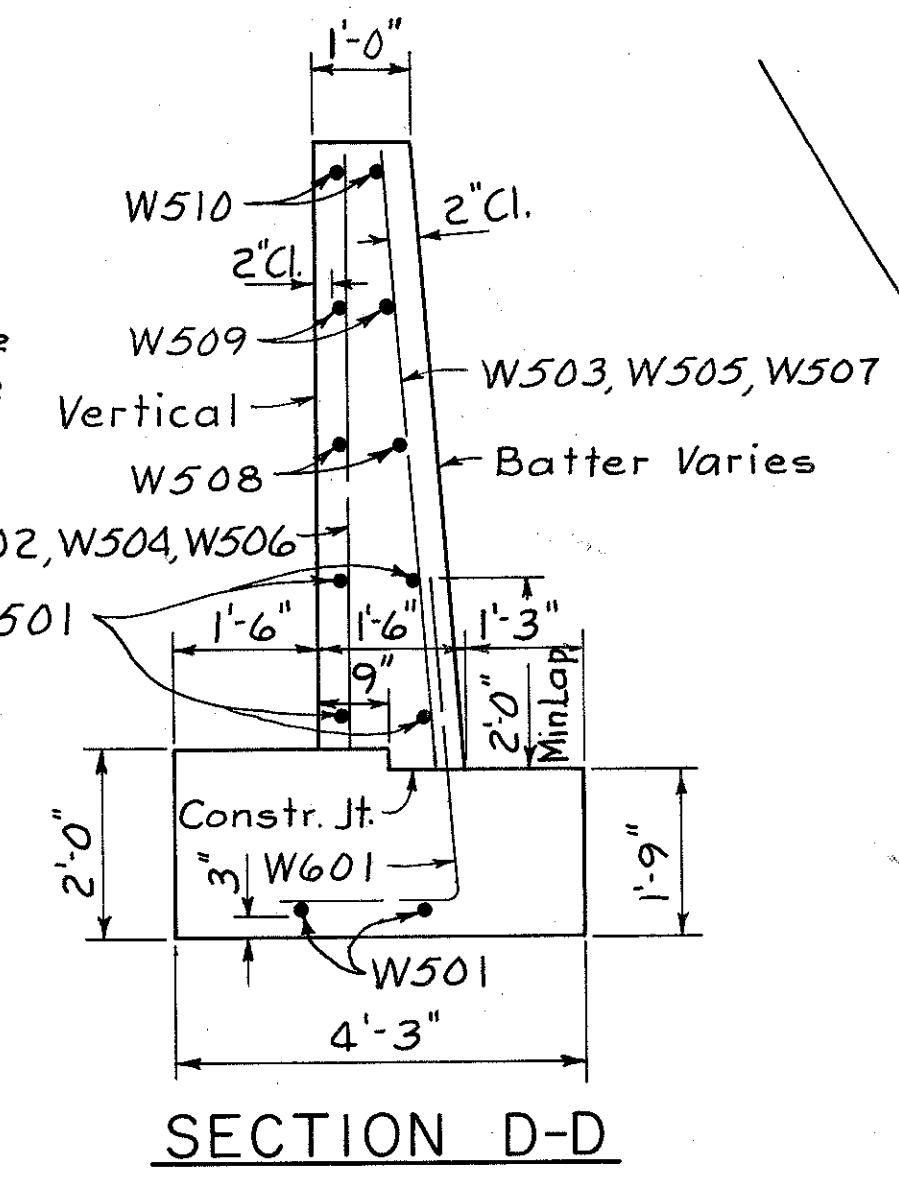
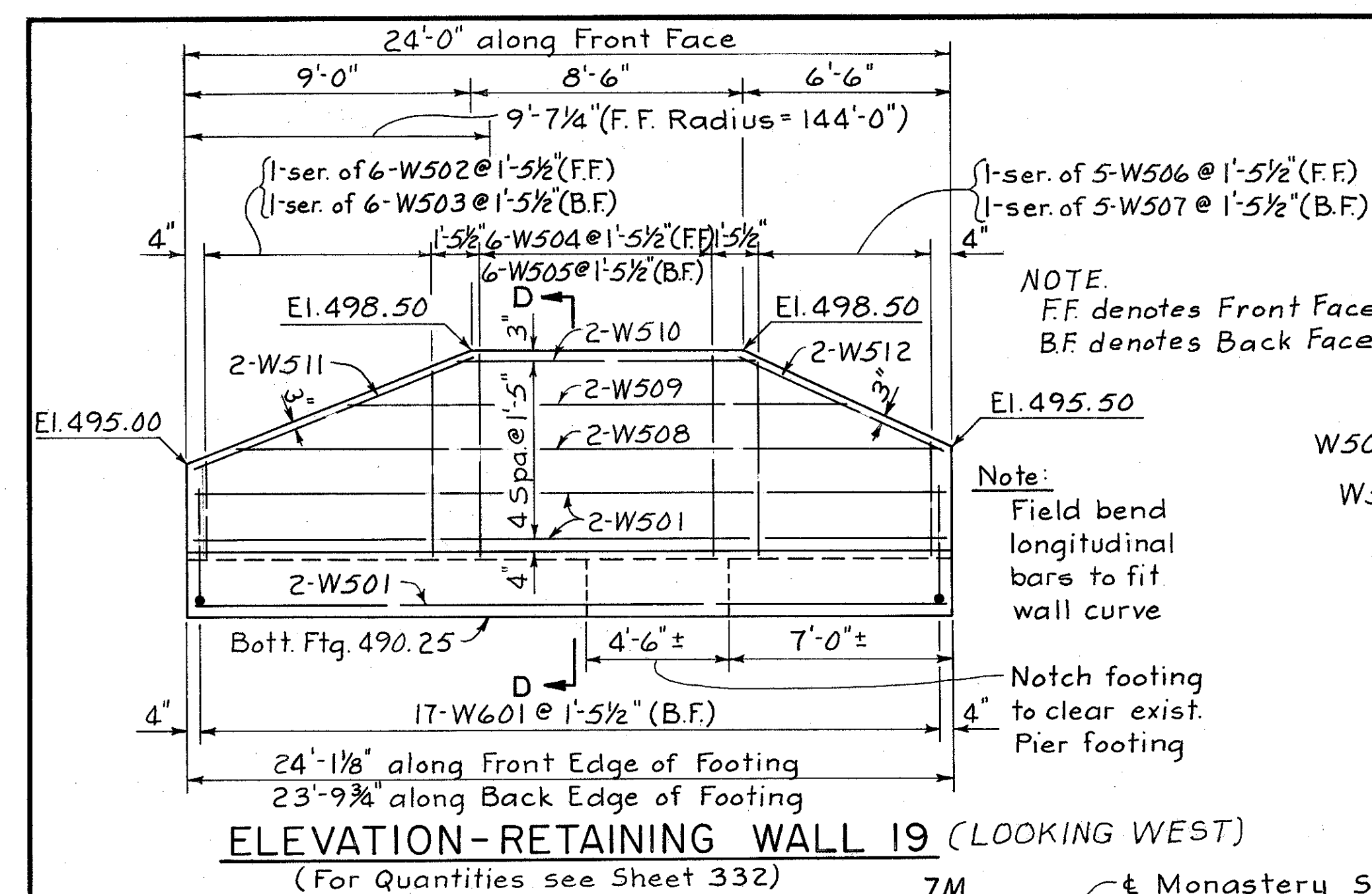
23/23

REINFORCING STEEL LIST

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		HLL WL	JH 3-25-82	



ITEM	TOTAL	UNIT	DESCRIPTION	FT. WASHINGTON WAY		COLUMBIA VIADUCT	
				PIER 13	PIER 13L	PIER 10	PIER 11
503	Lump	Lump Sum	Cofferdams, cribs and sheeting				
503	129	Cubic Yard	Unclassified excavation				129
509	4943	Pound	Reinforcing steel, Grade 60				4943
511	90	Cubic Yard	Class C concrete, footings				90
518	54	Linear Foot	6" standard pipe downspout, galvanized steel 707.08, including specials.			54	
518	33	Linear Foot	8" standard pipe downspout, galvanized steel 707.08, including specials.	19	14		
518	50	Linear Foot	8" standard pipe horizontal collector, galvanized steel 707.08, including specials.	50			

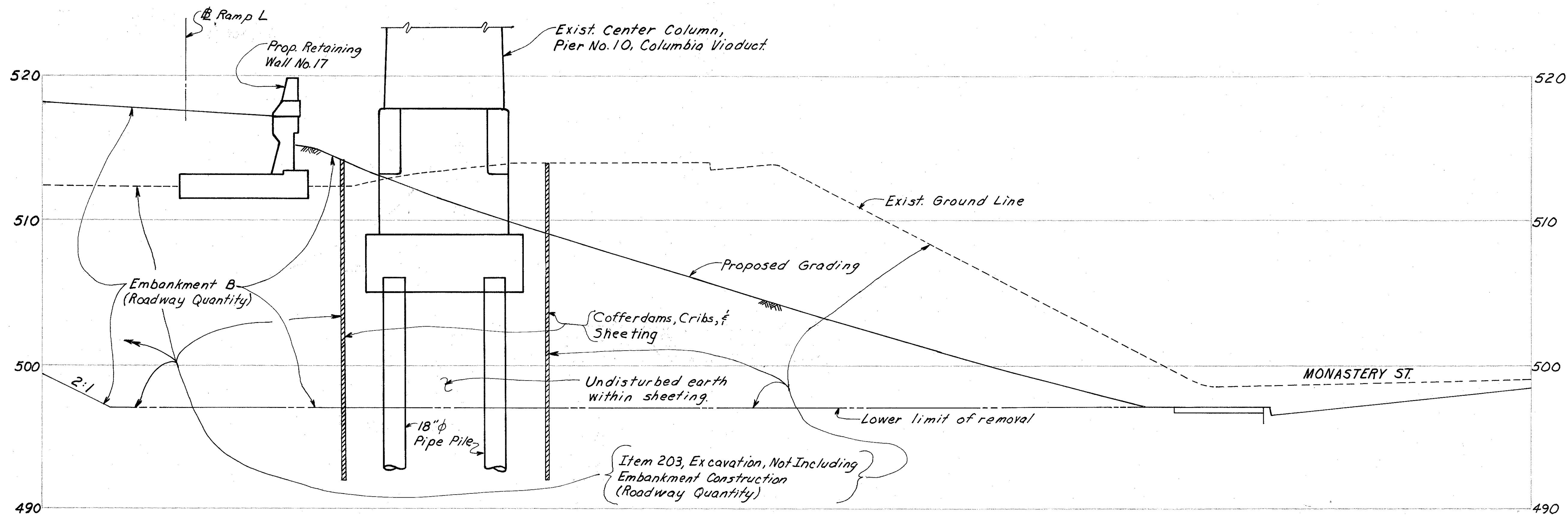
NOTE:
For Sections A-A & B-B, see sheet 332
South column footing for existing Pier 10 will not be disturbed
For Drainage Details Exist Pier 10 Columbia Viaduct and Exist Pier 13 & 13L Ft. Washington Way see sheet 334
For Detail of lowering of footings on Exist. Pier 11, Columbia Viaduct, see sheet 333

Mark	Type	Length	Total Bars	Total Weight	Increment	Dimensions			
						A	B	C	D
W601	19	5'-5"	17	138		1'-11"	3'-5 3/4"	3'-6"	3/4"
W501	Str.	23'-6"	6	147					
W502	Str.	2'-7" to 5'-6"	1 ser. of 6	25	7"				
W503	Str.	2'-10" to 5'-9"	1 ser. of 6	27	7"				
W504	Str.	6'-1"	6	38					
W505	Str.	6'-4"	6	40					
W506	Str.	3'-3" to 5'-11"	1 ser. of 5	24	8"				
W507	Str.	3'-6" to 6'-2"	1 ser. of 5	25	8"				
W508	Str.	21'-8"	2	45					
W509	Str.	15'-2"	2	32					
W510	Str.	8'-6"	2	18					
W511	Str.	9'-5"	2	20					
W512	Str.	6'-11"	2	14					
Total Weight (Wall) = 593 Pounds									

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CINCINNATI, OHIO

PLAN & ESTIMATED QUANTITIES EXISTING COLUMBIA VIADUCT AND FORT WASHINGTON WAY BRIDGES

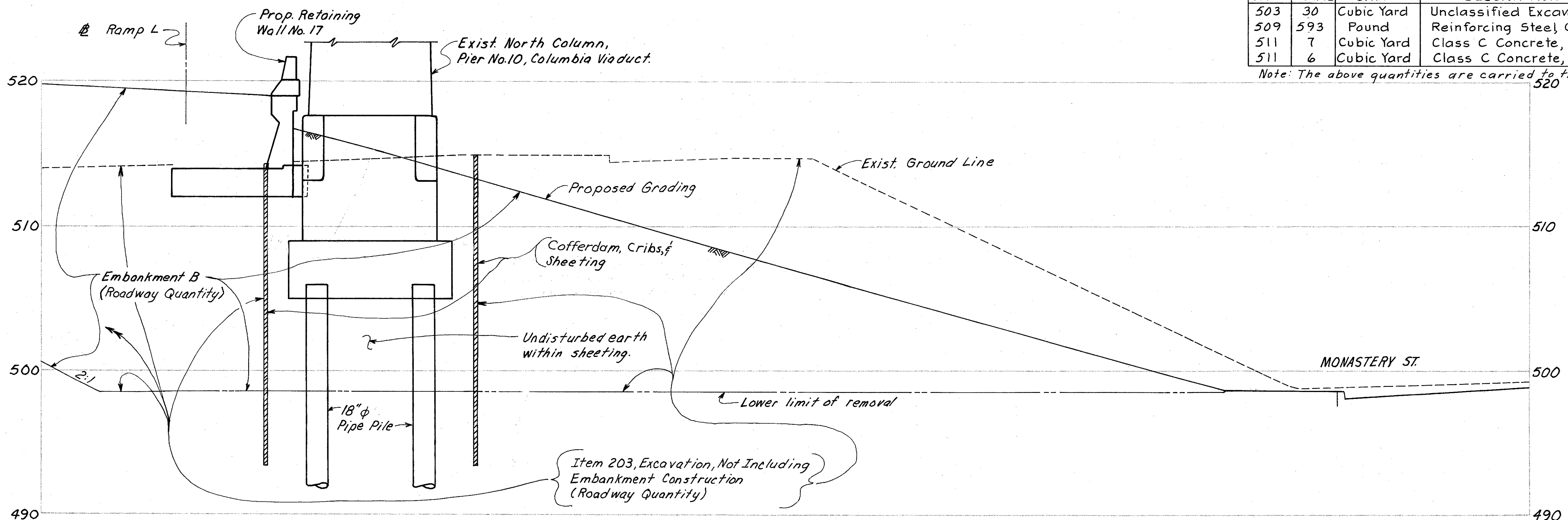
DESIGNED	DSD	DRAWN	TRACED	CHECKED	WJL	REVIEWED DATE	JHD 3-25-82	REVISED
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SECTION A-A

ESTIMATED QUANTITIES (RET. WALL 19)			
ITEM	TOTAL	UNIT	DESCRIPTION
503	30	Cubic Yard	Unclassified Excavation
509	593	Pound	Reinforcing Steel, Grade 60
511	7	Cubic Yard	Class C Concrete, Footing
511	6	Cubic Yard	Class C Concrete, Wall above Footings

Note: The above quantities are carried to the Summary of Quantities, sheet 186



SECTION B-B

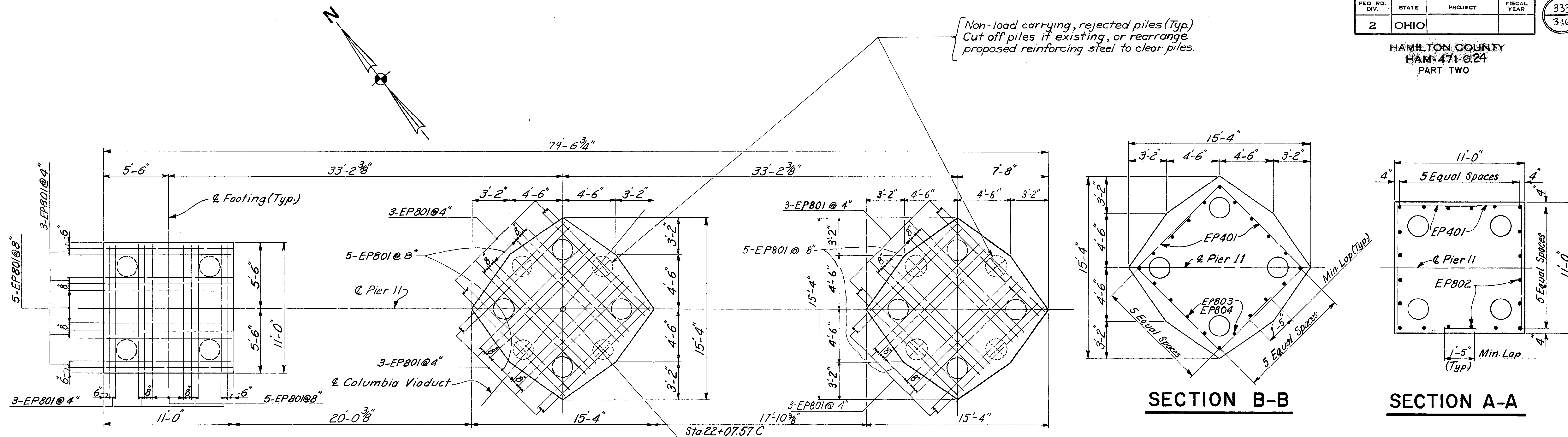
Work with sheet 331

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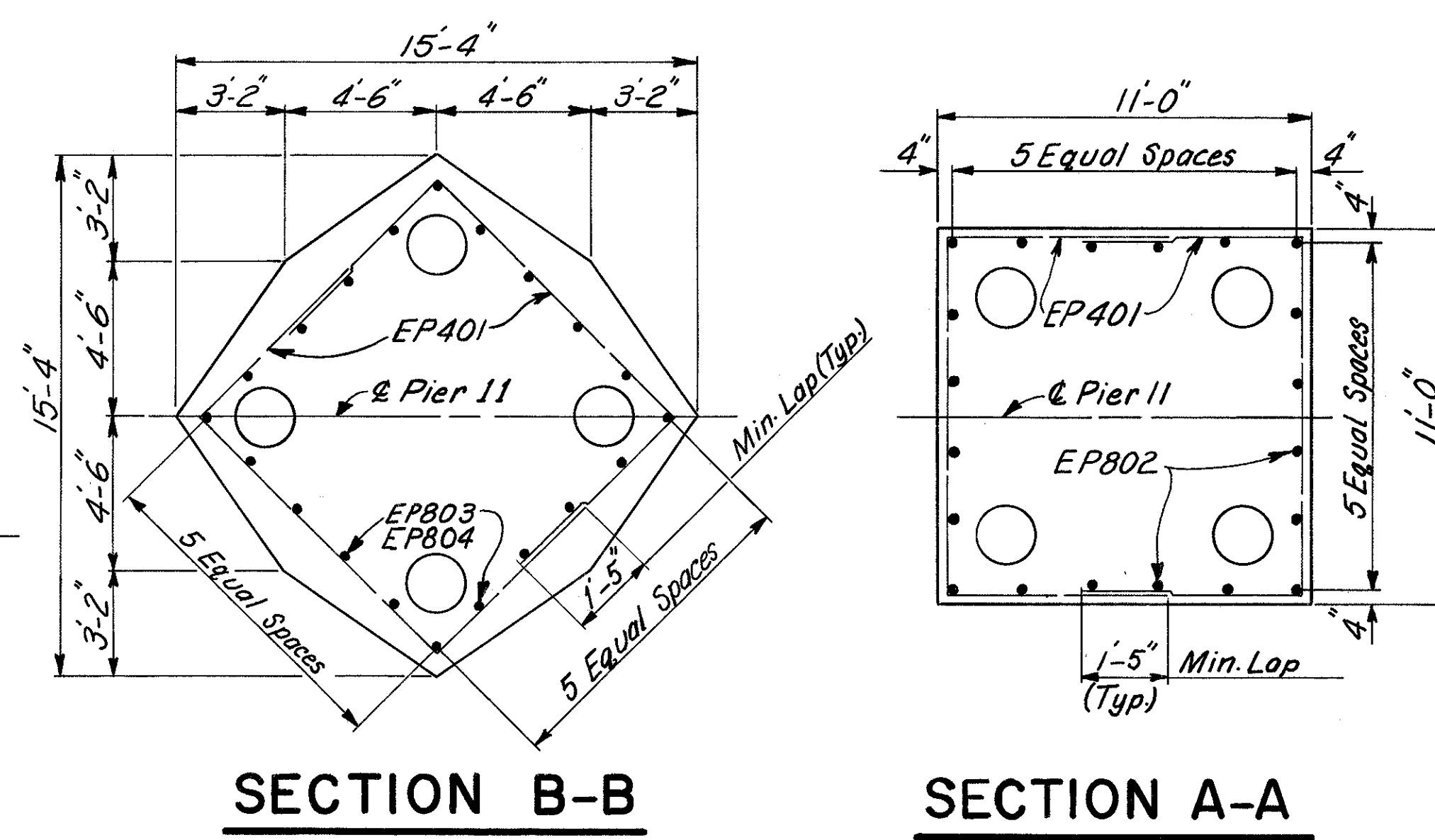
**SHEETING AND
EXCAVATION DETAILS**
EXISTING COLUMBIA VIADUCT
AND FORT WASHINGTON
WAY BRIDGES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		JLW	3-25-82	

Non-load carrying, rejected piles (Typ)
Cut off piles if existing, or rearrange
proposed reinforcing steel to clear piles.



FOOTING PLAN



SECTION B-B

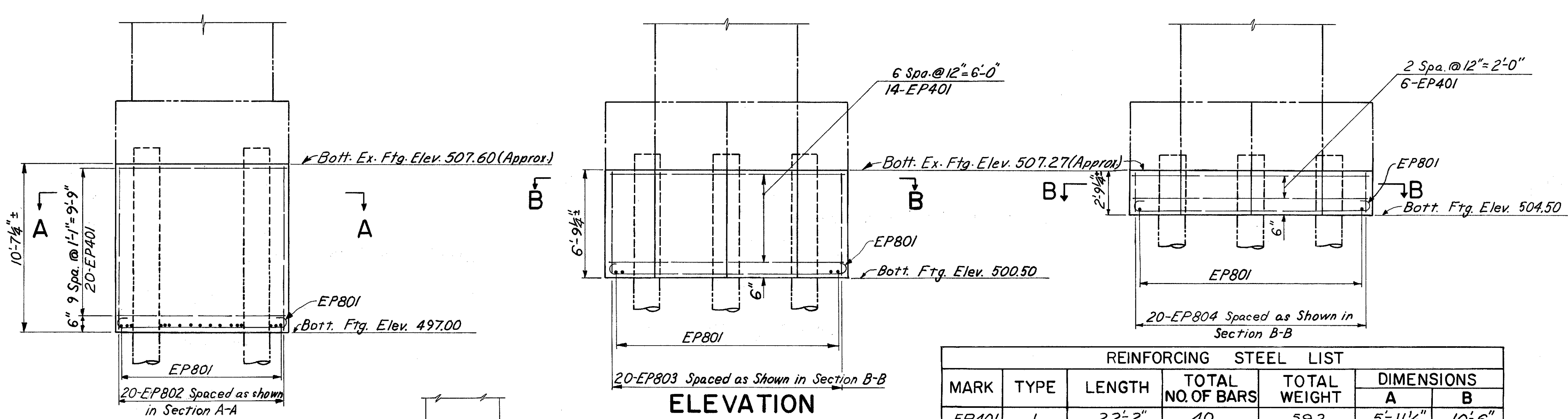
SECTION A-A

CONSTRUCTION PROCEDURE

- (1) Excavate for construction of new concrete
- (2) Clean the existing piles. Cost to be included in the cubic yard unit price bid for Item 511 "Class C Concrete, Footings."
- (3) Place new concrete to within 8" of bottom of existing footings.
- (4) Place the remaining volume, insuring a tight closure with the elimination of voids.
- (5) Place new concrete as soon as possible after excavation

NOTE

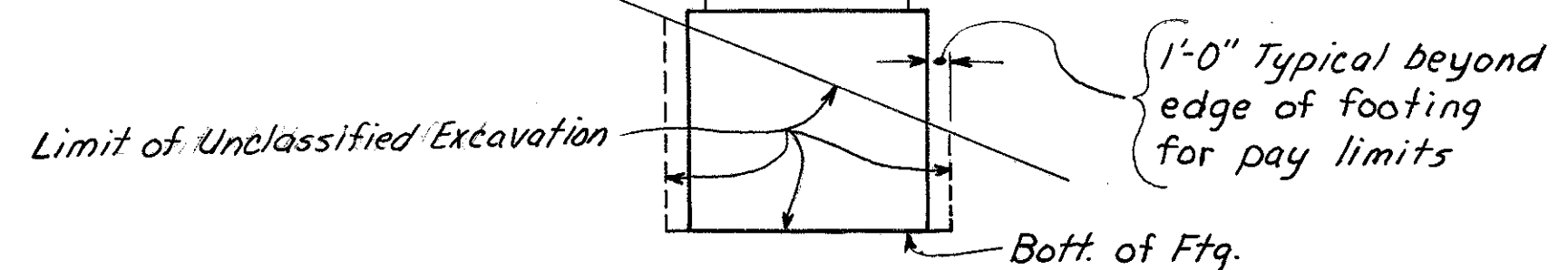
All concrete shall be Class "C" Concrete.
All piles are existing 1'-8" ϕ Pipe Piles.
Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.
For Table of Estimated Quantities, see sheet 331
For LOCATION PLAN, see ANCHOR BLOCKS sheet 335



ELEVATION

REINFORCING STEEL LIST						
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS	
					A	B
EP401	1	22'-2"	40	592	5'-11 1/2"	10'-6"
EP801	26	12'-4"	102	3359	10'-6"	
EP802	Str.	10'-1"	20	538		
EP803	Str.	6'-3"	20	334		
EP804	Str.	2'-3"	20	120		
				Total Weight (Existing Pier No. 11) = 4943 lbs.		

Note: For Bar Bending Schedule, see sheet 346



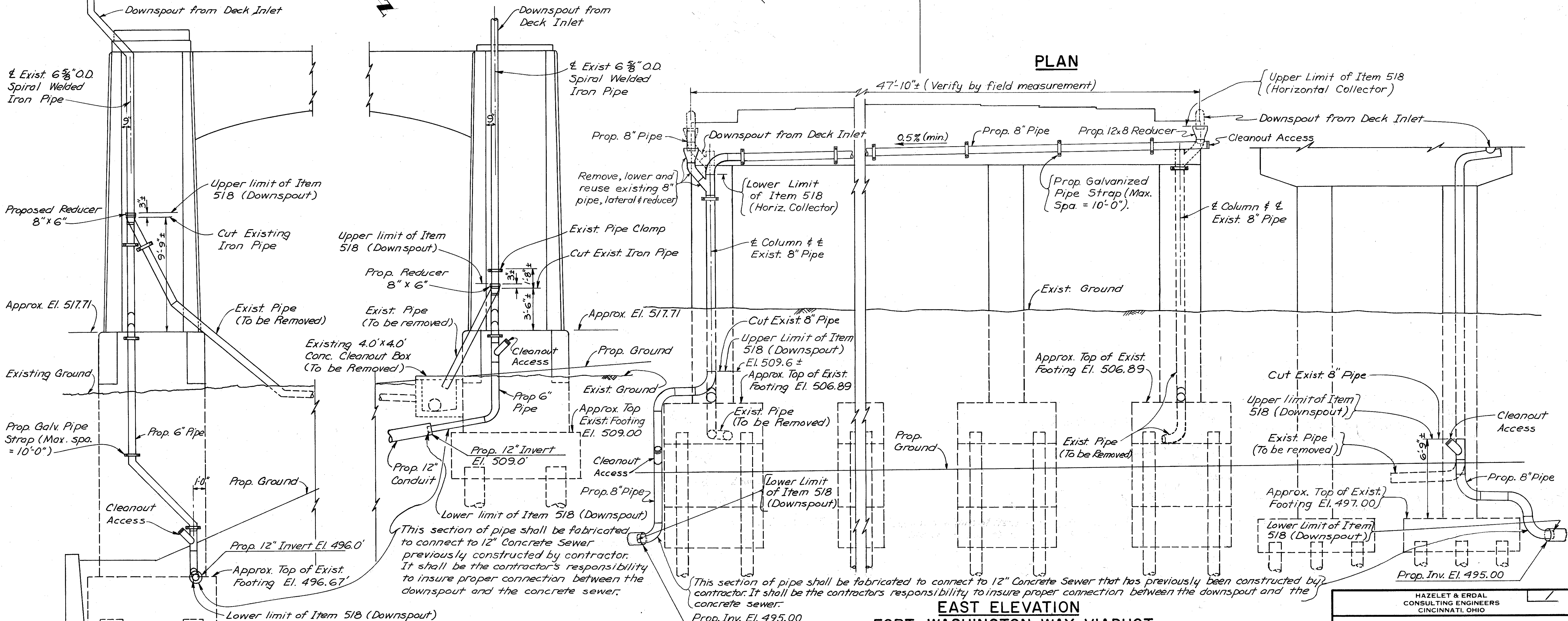
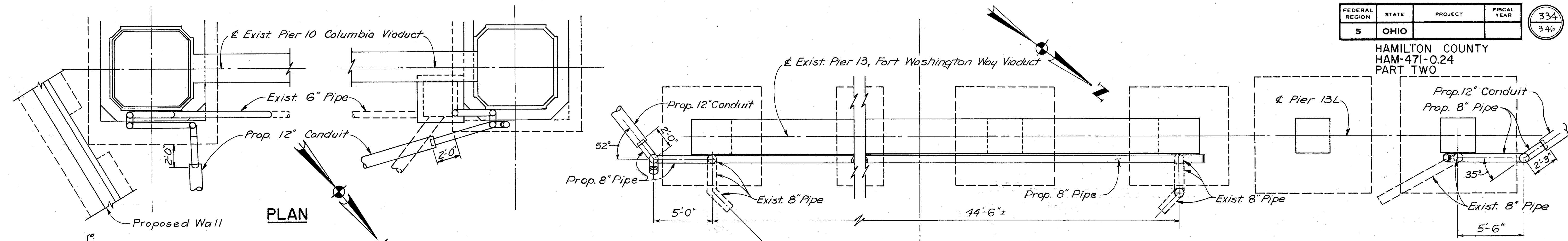
EXCAVATION SECTION

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CINCINNATI, OHIO

**EXISTING PIER NO. 11
FOOTING RECONSTRUCTION
EXISTING COLUMBIA VIADUCT
AND FORT WASHINGTON
WAY BRIDGES**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
VWG	FN	FN	ROH	JHO 3-25-82	

HAMILTON COUNTY
HAM-471-0.24
PART TWO



**EAST ELEVATION
COLUMBIA PARKWAY VIADUCT**

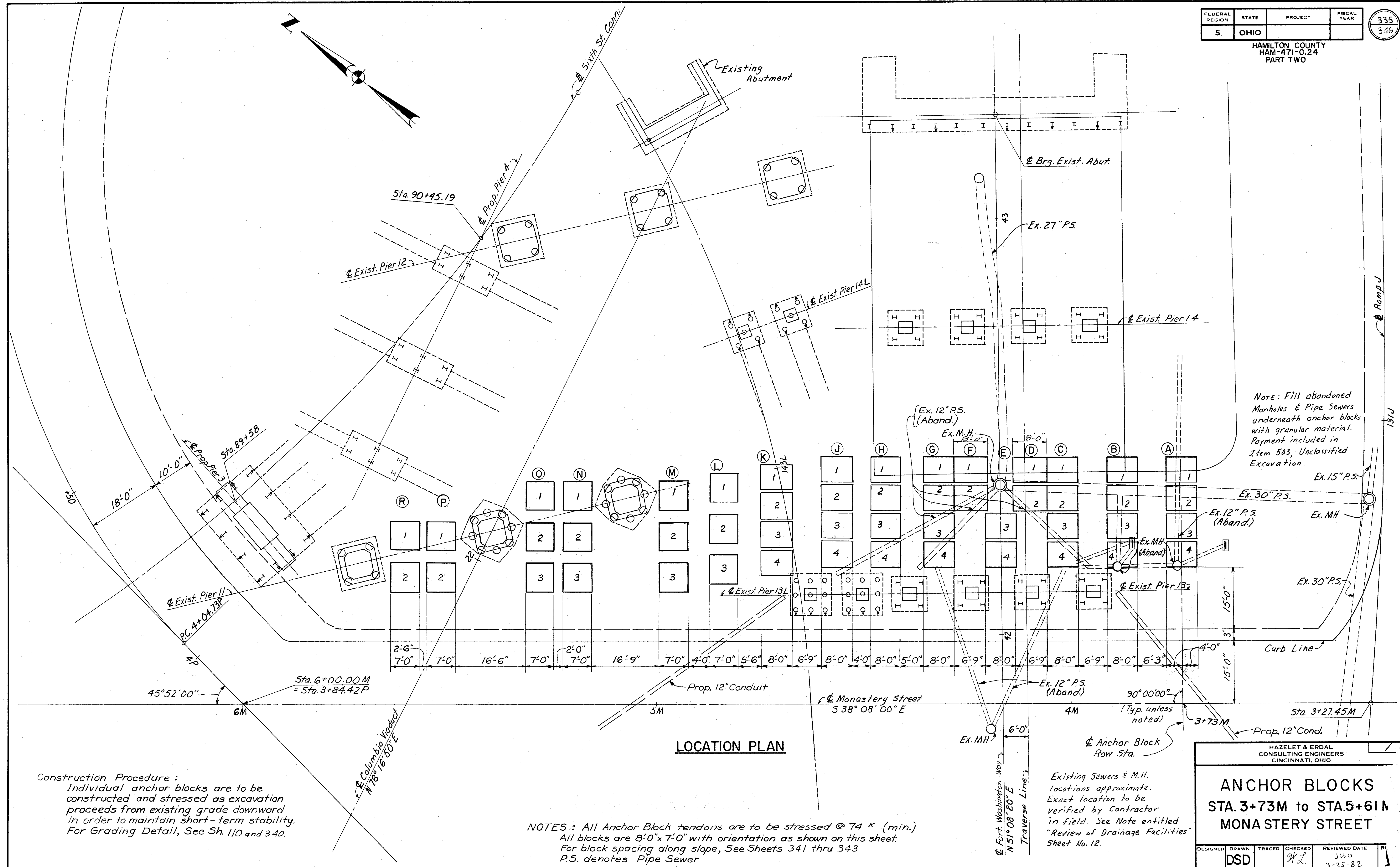
**EAST ELEVATION
FORT WASHINGTON WAY VIADUCT**

Notes:
 For Alternate cleanout detail see Drainage Details, sheet 345
 For Galv. Pipe Strap Detail see Drainage Details, sheet 345
 For Table of Estimated Quantities, see sheet 331
 For LOCATION PLAN, see ANCHOR BLOCKS sheet 335
 For Proposed Wall Detail, see sheet 331

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

**DRAINAGE DETAILS
EXISTING COLUMBIA VIADUCT
AND FORT WASHINGTON
WAY BRIDGES**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FVB			HLL	JHO 3-25-82	



Note: Fill abandoned Manholes & Pipe Sewers underneath anchor blocks with granular material. Payment included in Item 503, Unclassified Excavation.

LOCATION PLAN

Construction Procedure:
Individual anchor blocks are to be constructed and stressed as excavation proceeds from existing grade downward in order to maintain short-term stability. For Grading Detail, See Sh. 110 and 340.

NOTES: All Anchor Block tendons are to be stressed @ 74 K (min.)
All blocks are 8'-0" x 7'-0" with orientation as shown on this sheet.
For block spacing along slope, See Sheets 341 thru 343
P.S. denotes Pipe Sewer

Existing Sewers & M.H. locations approximate. Exact location to be verified by Contractor in field. See Note entitled "Review of Drainage Facilities" Sheet No. 12.

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**ANCHOR BLOCKS
STA. 3+73M to STA. 5+61M
MONASTERY STREET**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
DSD			W.L.	JH0 3-25-82

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NOTES:

CLASS C CONCRETE, ANCHORAGE BLOCKS: DESCRIPTION: This item shall consist of furnishing and placing portland cement concrete in accordance with 511 of the Construction and Material Specifications, except as modified and augmented herein. The concrete shall be placed in reasonably close conformity with the lines, grades and dimensions of the concrete anchorage blocks shown on the plans.

GENERAL: For the purpose of identification in the Construction and Material Specifications, concrete for the anchorage blocks shall be considered Structural Concrete (excluding Superstructure Concrete).
Concrete used in the anchorage blocks may be high-early-strength concrete.

CONSTRUCTION: Each of the concrete blocks may be constructed either before drilling its corresponding bore hole or after the installation and grouting of the tendon has been completed, at the option of the Contractor.

SURFACE FINISH: The bearing plate shall be bedded in a thin layer of grout. Anchor block surface shall be a smooth float finish. All corners and sides shall be straight and perpendicular to one another.

DEPOSITING CONCRETE: The method of depositing the concrete for the anchor blocks shall be such as to assure that all reinforcing steel is completely enveloped in concrete mortar, and that all voids are filled.

ALTERNATE: The contractor has the option of using precast concrete anchorage blocks. (See precast concrete specification.)

METHOD OF MEASUREMENT: The yardage shall be the number of cubic yards as determined by calculations from plan dimensions, in place, completed and accepted.
A deduction will be made for the volume of the hole in the concrete anchorage block.
Reinforcing steel will be paid for as specified under 509, "Reinforcing Steel, Grade 60".

BASIS OF PAYMENT: Payment will be made at the contract price for:

Item	Unit	Description
511	Cubic Yard	Class C Concrete, Anchorage Blocks

PRECAST CONCRETE SPECIFICATION: DESCRIPTION: This section includes specifications for precast anchorage blocks alternate.

GENERAL: Incidentals shall be in accordance with 515 of the Construction and Material Specifications, except as modified herein.

SUBMITTALS: The Contractor shall, at least 30 days prior to commencing work, submit for approval Shop Drawings showing unit dimensions and section details, finishes, reinforcement and connection details, lifting and erection inserts and layout diagrams identifying installation locations and member identification marks.
The Contractor shall submit reports of compressive strength tests on concrete.

DELIVERY HANDLING & STORAGE: The Contractor shall deliver, handle and store precast concrete units in accordance with 515 of the Construction and Material Specifications and as specified herein.
The Contractor shall:
(a) Lift and support units only at designated lifting and supporting points.
(b) Transport units using supporting systems which will result in the least amount of deflection or distortion during delivery, handling and storage of units.
(c) Place stored units so that identification marks are discernible.

MATERIALS: Concrete shall be in accordance with 515 of the Construction and Material Specifications and air entrained. Minimum cylinder strength shall be 5500 psi in 28 days.
Reinforcing steel shall be in accordance with 509 of the Construction and Material Specifications.
Formwork shall be in accordance with 515 of the Construction and Material Specifications. The Contractor shall use continuous material to produce units without visible joints.
Form release agent shall be synthetic resin or organic compounds containing no wax, oil, silicates, or varnish and shall be compatible with specified coatings, sealants and adhesives to be applied.

PRECAST CONCRETE SPECIFICATION:
(CONTINUED)

GROUTING SPECIFICATIONS:

FABRICATION OF TEST UNITS:

FABRICATION OF PRODUCTION UNITS:

ERECTION:

CLEANING:

DESCRIPTION:

GENERAL:

MATERIAL:

PRIMARY CEMENT GROUT:

The Contractor shall:

- Where indicated, cast two full size test units, using the forms and concrete mix proportions, admixtures, colors and methods proposed for production work.
- Cast test units to simulate a production run, incorporating reinforcing and embedded items as indicated.
- Maintain a complete record of proportions, mixing and consolidation and curing procedures during casting.
- Prepare a set of four test cylinders during the casting of each test unit for compressive tests as specified in 515.06 of the Construction and Material Specifications. The Contractor shall cure the test cylinders in the same environment and at the same time as the test units.
- Cure precast concrete elements by steam as indicated in 515.06 of the Construction and Material Specifications.
- If the strength, texture, finish or workmanship of the test units does not meet the requirements as determined by the Engineer, cast additional units until units meeting the approval of the Engineer are obtained.

After the test units have been approved, the Contractor shall proceed with the fabrication of production units using the forms, mix proportions and concrete ingredients, casting, consolidation and curing methods used in the preparation of the test units. Approved test units may be furnished for installation. The Contractor shall make patches of the same color and texture as the unit being patched.

Erection shall be as specified in 515.08 of the Construction and Material Specifications.

The Contractor shall clean precast units with fresh water and mild detergent or by steam cleaning. The use of commercial cleaners or acid shall be subject to the approval of the Engineer.

This section includes specifications for supplying and pumping primary cement grout into the anchor drill holes through a grout pipe system extending to the bottom of the hole, and filling the length of the anchor drill hole with grout after installation of an anchorage tendon assembly.

Grouting shall be in general accordance with "Recommended Practice for Grouting of Post-Tensioned Prestressed Concrete" published by The Prestressed Concrete Institute, Vol. 17, No. 6, November - December, 1972, except as revised and augmented herein.

Materials shown shall conform to the following:

- Portland cement shall be as specified in 701.04 of the Construction and Material Specifications. The cement shall be fresh and shall contain no lumps or other indication of hydration or warehouse set. Fresh cement shall be delivered to the site, stored undercover for no longer than one month on the site and must be kept below 100 degrees F. Cement shall be used in order of delivery.
- Water shall be clean and potable.
- Additives are considered generally undesirable and their use will be permitted only if properly justified. If the Contractor desires to use an additive of any type in the grout, details of the proposed additive and the justification for its use shall be submitted to the Engineer, at least 30 days prior to commencing work, for approval in writing.

Grout shall consist of a mixture of portland cement and water. Proportions of grouting materials shall be based on results of tests on fresh and hardened grout prior to beginning the work. The water content shall be the minimum necessary for proper placement but in no case shall the water-cement ratio (by weight) exceed 0.45.

NOTES CONTINUED ON SHEET 337

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
ANCHOR BLOCKS STA.3+73M to STA.5+61M MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MBO		W.L.	JHO 3-26-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
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NOTES CONTINUED FROM SHEET NO. 336

GROUTING SPECIFICATIONS;
(CONTINUED)

PRIMARY CEMENT
GROUT:
(CONTINUED)

The grout shall be proportioned to obtain the following properties:

- (a) Compressive Strength - The minimum compressive strength at 7 days shall be 4,000 psi. Grout samples shall be prepared, cured and tested in accordance with the requirements of ASTM C31, C39 and C192.
- (b) Consistency - The consistency of the grout shall be determined in accordance with U.S. Corps of Engineers Method CRD-C79-77. When tested by this method the efflux time of the grout sample immediately after mixing shall be not less than eleven seconds.
- (c) Expansion - The grout mix shall have an expansion of three plus or minus 2 percent when tested by U.S. Corps of Engineers, Method CRD-C81-74, Method of Test of Expansion of Grout Mixtures.
- (d) Bleeding - Bleeding of the grout mix shall be less than 2 percent of the grout volume three hours after mixing. The total bleed water shall not exceed 4 percent of the grout volume. In addition, all separated water shall be absorbed within twenty-four hours after mixing. Bleeding shall be measured by a suitable test such as ASTM C232, Method A, with procedures modified to obtain this data.

Test data for at least three laboratory samples of the grout proposed for use shall be submitted to the Engineer for approval at least 30 days prior to use in grouting anchors. All tests shall be performed by the State.

The brand of cement which is used for the approved laboratory samples shall be used for all on site grouting unless a change is approved in writing by the Engineer.

EQUIPMENT AND
MIXING:

Only approved mixing and pumping equipment shall be used in the preparation and handling of grout. All oil or other rust inhibitors shall be removed from the mixing equipment, stirring mechanisms and other portions of the equipment in contact with the grout before use. All equipment shall be maintained in first class operating condition at all times and shall include, but not be limited to, the following items.

- (a) A power operated grout mixer specifically designed for continuous mechanical mixing of a uniform grout which is free of lumps and undispersed solids, together with a mechanically agitated sump, if necessary, to maintain an uninterrupted, continuously agitated, grout supply. The mixer shall have a suitable water measuring device consisting of a water meter or a calibrated water batching tank.
- (b) A positive displacement type grout pump capable of operating at discharge pressures required by site conditions. The pump shall be equipped with a pressure gage capable of measuring pressures up to at least 900 psi.
- (c) Valves, pressure gages, pipe, pressure hose, supply lines, couplings, scales and small tools as may be necessary to provide a continuous supply of grout and suitable pressure control.
- (d) Standby water flushing equipment ready for use, if required by the Engineer. The standby water flushing equipment shall utilize a different power source than the grouting equipment, shall have sufficient capacity to flush out any partially grouted holes, if necessary, due to blockage or breakdown of grouting equipment and shall be capable of developing at least 200 psi as indicated on a 4-inch-diameter pressure gage permanently affixed to the equipment.
- (e) The grouting equipment shall be capable of pumping the grout in a manner which will maintain the grout in a uniform and properly mixed state without introduction of oil, air or other foreign substances into the grout. No loss of water from the grout due to poor seals, connections or other causes will be permitted. The grouting equipment shall contain a screen with 0.125-inch maximum clear opening to sieve the grout before it enters the grout pump. The screen shall be easily accessible for inspection and cleaning.

Precautions shall be taken to prevent the temperature of the primary cement grout from rising above 80 degrees F., or dropping below 40 degrees F., during mixing or placement. During cold weather a heated shelter shall be provided over the anchorage head and adjacent grout mixing equipment, if necessary, to maintain the grout temperature above 40 degrees F.

Check measurements of water-cement ratio of the mixed grout at the time of injection shall be made by the Engineer by measuring the specific gravity using a baroid mud balance.

Grout which does not meet the consistency requirements as stipulated herein and grout which is not used within forty-five minutes of the time mixing was initiated shall be wasted.

EQUIPMENT AND
MIXING:
(CONTINUED)

TEST SPECIMENS:

Details of the proposed grouting procedure, including the grout pipe layout, shall be submitted for the approval of the Engineer, at least 30 days prior to commencing work.

The Contractor shall make and cure a minimum of three test cylinders for the primary cement grout in accordance with the requirements of ASTM C31 for each anchor grouted. These cylinders will be tested by the State and test results will be furnished to the Contractor.

CURING AND
LOADING:

Stressing of tendons shall not be started until the primary cement grout has attained a minimum age of 7 days and a minimum compressive strength of 4000 psi as determined by cylinder tests

POST-TENSIONING PERMANENT
GROUND ANCHORS

DESCRIPTION:

This item shall consist of preparing working areas for the drill rig; aligning and drilling inclined holes from the ground surface through the overconsolidated slicken-sided clay and into the lake sediments for the purpose of installing the anchors as shown on sheet no. 340; furnishing and installing steel casing, if required, to support the hole; furnishing, fabricating, installing, performance testing, creep testing, proof testing, lift-off testing, and stressing the post-tensioning tendons to the load capacity specified including tendon and anchorage assemblies and all other anchorage system accessories; supplying and pumping grout into the drill holes as specified; and furnishing all labor, material and equipment necessary to complete the construction of the post-tensioning system.

Permanent ground anchors shall have a design working load capacity of 74 kips each. The soil-grout bond shall have an ultimate pull-out capacity of at least 150 kips. Ground anchors shall have a minimum unbonded length of 30 feet (stressing length) and a minimum bond length of 20 feet. Each ground anchor shall have a minimum total length of 50 feet. For this project, permanent ground anchors shall be the 'Bachy TMD', multiple stage, pressure-grouted-type. The Bachy TMD anchor is exclusively installed in the United States by the Schnabel Foundation Company.

The staff for this project shall include a supervising engineer with at least three (3) years of experience in the design and construction of permanently anchored walls. Drilling operators and foreman shall have a minimum of one (1) year experience installing permanent anchors with the Contractor organization. Thirty days prior to commencing work, the Contractor shall submit documentation that project personnel have appropriate qualifications. Inadequate proof of the qualifications of the aforementioned personnel, as judged by the Department shall be cause for withholding approval of the personnel. The substitution of unqualified personnel during construction shall be cause for the Engineer to terminate Contractor operations until personnel suitable to the Engineer are provided.

MATERIAL:

Prestressing steel used in the ground anchor tendons shall conform to one of the following systems:

- (1) SEVEN-WIRE STRAND. Seven-wire strand for ground anchor tendons shall conform to the requirements of ASTM A416-74, 'Uncoated Seven-Wire Stress-Relieved Strand for Prestressed Concrete'.
- (2) HIGH-STRENGTH STEEL BARS. High-strength steel bars used in solid deformed thread-bars for ground anchor tendons shall conform to the requirements of ASTM A722-75, 'Uncoated High-Strength Steel Bar for Prestressing Concrete'.

All tendons shall be so proportioned that at lock-off, the steel stress will not be higher than 60 percent of the ultimate at working load.

CORROSION
PROTECTION:

The unbonded length of the tendon assembly shall have the prestressing steel permanently protected against corrosion as shown on Section A-A on Sheet No. 340.

STRUCTURAL
STEEL BEARING
PLATES:

Bearing plates shall be fabricated from structural steel conforming to ASTM A-36. The bearing plates shall be provided with all appropriate appurtenances for the attachment of tensioning and all other equipment consistent with the system the Contractor proposes to use. The size of bearing plates resting on concrete bearing pads shall be proportioned to develop stresses not in excess of 2000 psi at lock-off load.

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ANCHOR BLOCKS					
STA. 3+73M to STA. 5+61M					
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Rev. 9-9-82

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NOTES CONTINUED FROM SHEET NO. 337

POST-TENSIONING PERMANENT
GROUND ANCHORS
(CONTINUED)

TENDONS:

Strand tendons shall be furnished in single, full lengths with no splicing or coupling permitted. Solid deformed steel threadbars shall be supplied in straight lengths and may be spliced by threaded couplers which develop the minimum guaranteed ultimate tensile strength of the bars. Tendons shall be capable of adjustment in the event field conditions generate unscheduled increases in this length. The Supplier shall specify the method and procedure for tendon cutting and cutting tolerances.

No kinks, bends, nicks, broken wires or other defects including scale or loose rust will be permitted in the strands or bars used for the ground anchor tendons.

Prestressing steel shall be protected from dirt, rust or deleterious substances. A light coating of rust on the steel will not affect its function. Heavy corrosion or pitting is cause for tendon rejection. Tendons shall be stored and handled in such a manner as to avoid damage or corrosion.

SHOP DRAWINGS:

Shop drawings shall be furnished in accordance with 501.05 of the Construction and Material Specifications and shall be submitted for approval at least thirty days prior to installation. Shop drawings shall include the following information.

- (1) Anchor design details
- (2) Anchor design capacity
- (3) Grade and properties of the tendon material
- (4) Percent of tendon ultimate load and working load
- (5) Calculated tendon elongation
- (6) Method and details of anchor fabrication, assembly and installation
- (7) Details of corrosion protection
- (8) Method and details of proposed pressure grouting
- (9) Grout details, cement type, strength, additives.
- (10) Anchor load 'bonded' length.
- (11) Anchor free stressing length and debonding details
- (12) Proposed drilling method
- (13) Proposed installation method
- (14) Proposed stressing method and equipment
- (15) Proposed provisions for stressing or restressing
- (16) Installation schedule

Once approved, no changes or deviations from shop drawings will be permitted without the prior approval of the Director. The Director's approval does not relieve the Contractor of any responsibility for the completeness and accuracy of all dimensions and details, nor adequacy of his design. Fabrication shall not begin until written approval of the submitted drawings has been received from the Director.

INSPECTION
AND TESTING:

Certified mill test reports and other verification documents showing the results of chemical analysis and physical tests required by the ASTM specification on the material to be used in the post-tensioning system shall be submitted to the Director for approval not later than thirty days prior to fabrication or commencement of installation work, whichever is applicable. All tests shall be performed in accordance with applicable ASTM specifications.

WELDING:

Welding procedures and welder's qualifications shall conform to 513.17 of the Construction and Material Specifications. The grounding of welding machines or the grounding of electrical circuits will not be permitted on or adjacent to any ground anchor or materials used in ground anchors, or any metal in contact with an anchorage assembly unless specifically approved by the Engineer.

DRILLING
EQUIPMENT:

Drilling equipment shall be capable of drilling inclined holes with limited overhead clearance. Approximately 40 percent of the anchor holes are located beneath an existing bridge structure with limited headroom.

All holes shall be drilled using rotary drilling techniques. Drill cuttings may be removed by water, compressed air, bentonite mud, a combination of drilling fluids, or augers. The drill hole may require casing if the hole will not remain open during the installation of the anchor.

DRILLED HOLES:

Anchor holes for tendon installation shall be drilled at the locations and in the directions and to the minimum depths shown on the Plans. Hole diameter shall be chosen by the Contractor.

The Contractor shall maintain at least three-foot minimum spacing between any two grouted anchors except for a replacement anchor adjacent to an unacceptable anchor. Anchor holes shall be drilled at the angles indicated with a tolerance of ± 3 degrees. The Contractor shall exercise careful control of drilling alignment to avoid interference with existing structure piling and existing 27-inch and 30-inch drainage systems.

Immediately after completion of drilling, the Contractor shall clean the hole by flushing with air or water to the satisfaction of the Engineer. The Engineer will check that the alignment of the hole is satisfactory, and verify its length.

BACKFILLING
ABANDONED ANCHOR
DRILL HOLES:

Any drill holes which are abandoned for any reason, shall be backfilled with grout to the ground surface. The Engineer may permit modification of the grout mix used in filling abandoned holes. Any temporary casing shall be removed as the hole is backfilled with grout. No payment will be made for backfilling with grout the holes that are abandoned for any reason, and all costs in connection therewith shall be at the Contractor's expense.

INSTALLATION:

Immediately prior to placing each ground anchor tendon in an anchor hole, the tendon shall be inspected by the Contractor and the Engineer for any damage, nicks, scars or other injurious deterioration. Any corroded or damaged tendon or other part of an anchor assembly which, in the opinion of the Contractor or Engineer, is unsuitable for use in the project shall be replaced by the Contractor at his expense. The bond length of each ground anchor tendon shall be thoroughly cleaned and degreased to assure effective bonding between the grout and the tendon. All equipment used for fabricating, assembling, handling and placing the ground anchor tendons shall be such that it does not damage or deteriorate the prestressing steel.

The ground anchor tendon shall be centered in the hole by means of centralizers spaced so that not less than 1.0-inch of grout cover is achieved along the length of the tendon.

Just before installing the ground anchor tendons, each drill hole shall be flushed with air and/or water to thoroughly clean it. The Contractor shall demonstrate to the Engineer that the hole is clean, properly formed, and of the required dimensions.

GROUTING:

Each ground anchor shall be primary grouted (see Sheet No. 336 for grout specification). The grout must be properly mixed, uncontaminated and be pumped in a controlled manner through a pipe system to the bottom of the drill hole. Test mixes shall be made to verify that the proposed cement grout is satisfactory and achieves the required minimum strength. The grout pump shall be equipped with a pressure gage and be capable of maintaining grout pressures in excess of 150 psi. The Contractor shall record and make available to the Engineer the quantity of grout pumped and the grout pressure for each stage of grouting for each ground anchor. The grouting procedure may be modified to suit the system selected by the Contractor. The Contractor shall exercise careful control of grout pressure and grout quantity to insure that injection pressures do not cause undue disturbance to the soil or cause heaving of the overburden.

The Contractor shall monitor the ground surface during pressure grouting of all the anchors to verify that grout pressures are not causing excessive surface heave. Elevation measurements shall be made at a maximum of six locations around the anchor being grouted. Measurements shall be accurate to within ± 0.2 inch and shall be made before grouting starts, twice during grouting and two hours after the final stage grouting is completed. If monitoring indicates that surface heaving of more than 1.0 inch occurs anywhere at anytime during grouting, the Contractor will be required to adjust his grouting procedure to reduce surface heave.

The Engineer will make provisions to inspect the adjacent sewer lines prior to beginning construction and during construction as needed, to verify that grout is not entering the sewer lines. If grout is found to be entering the sewer lines, the contractor shall immediately flush the lines and modify his procedures to prevent further occurrences.

TENDON
TENSIONING:

Hydraulic jacks shall be capable of stressing equally and simultaneously all stressed elements of the anchor. Each jack shall be equipped with a pressure gage for determining the jacking stress. The hydraulic jack and pressure gage system shall be capable of measuring the tendon load to an accuracy of plus or minus 3 percent of the tendon design load. Thirty days prior to beginning tensioning, the Contractor shall submit to the Engineer certified calibration data for the hydraulic jack and pressure gage system, and including at least one spare pressure gage. Jacks shall be calibrated and load vs. gage pressure curves provided for each pressure gage for the maximum and minimum expected jack extensions for two cycles of loading over the full range of expected load usage. Independent certified calibrations are required for each pressure gage. After the primary grout has attained a compressive strength of not less than 4,000 psi and a setting time of seven days, the Contractor shall tension the anchor. The tensioning process shall be so conducted that the applied load and the elongation of the anchor may be measured at any time. Elongation measurements shall be measured with a precision of 0.001-inch and jack system readings to plus or minus three percent of the jacking load.

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ANCHOR BLOCKS					
STA. 3+73M to STA. 5+61M					
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NOTES CONTINUED FROM SHEET NO. 338

POST-TENSIONING PERMANENT
GROUND ANCHORS
(CONTINUED)

TENDON
TENSIONING:
(CONTINUED)

During any loading cycle the applied loads, as measured by the elongations and the pressure gage readings, shall be within plus or minus 5 percent of agreement, up to the maximum load applied in the previous loading cycle, and if not, stressing operations may be suspended by the Engineer until cause for the differences is found and corrected. The maximum jacking stress shall never exceed 80 percent of the guaranteed ultimate strength of the steel. Safety precautions shall be taken to prevent workers from standing behind the jacks when anchors are stressed. The stressing anchorages shall be capable of lift-off in order to check the tendon load. The prestressing system shall be capable of stress adjustment.

TENDON
STRESSING:

All tendon stressing shall be done under the supervision of the Engineer. All test data shall be recorded and plotted by the Contractor and made available to the Engineer.

STRESSING
ACCEPTANCE
CRITERIA:

Load versus elongation data for the creep, performance and proof tests shall be plotted on a load-elongation graph. Two boundary lines defined as follows shall be plotted on the graph before the start of stressing. The upper boundary line will correspond to the theoretical elastic tendon extension equivalent to the free length plus 50 percent of the bond length. The lower boundary line shall correspond to the theoretical elastic tendon extension equivalent to 80 percent of the free tendon length. All tendon elongations shall be measured from a stable reference independent of the anchor block, jack, and stressing system. All tendon elongations shall be measured to the nearest 0.001-inch using a mechanical dial gage supplied by the Contractor, having a minimum face diameter of 3.5-inches. The Contractor shall provide all necessary support brackets and a spare dial gage.

Load during testing for creep, performance and proof shall be applied and released at a rate of not more than 20 kips per minute. At the end of each applied increment of loading, tendon elongation shall be measured to a precision of 0.001-inch. The load increment shall be maintained constant until the rate of tendon elongation is less than 0.01-inch in a 5-minute period before increasing to the next load increment. During each load holding period, the amount of tendon elongation shall be recorded at: 1, 2, 4, 6, 8, 10, 15, 20, 25, 30, 45, 60, 75, 90, 120, 150, 200, 250, and 300 minutes as applicable, depending on the length of the specified hold period.

STRESSING
CATEGORIES:

All tendons will be stressed for acceptance for Creep, Performance and Proof before being locked off at the working load. Once all tendons have been installed and locked off the Contractor shall conduct a minimum of six lift-off tests on anchors selected by the Engineer to determine the magnitude of any load losses that may have occurred. Four categories of testing are specified: Creep Testing, Performance Testing, Proof Testing and Lift-Off Testing. The Contractor shall perform two acceptable Creep tests and one acceptable Performance test before beginning the installation of the remaining anchors.

CREEP TESTING:

Creep testing shall be conducted on four ground anchors. Two of these anchors shall be included in the first three anchors installed. The other two anchors shall be tested as the job progresses at locations designated by the Engineer. Creep tests shall be conducted as cyclic load tests to a maximum load of 150 kips or two times the design lock-off load. Therefore, additional tendon steel will be required so that the maximum test load will be less than 80 percent of the guaranteed ultimate strength of the steel.

Creep testing shall be accomplished according to the following schedule (P = working load = lock-off load = 74 kips; AL = alignment load, 2 to 10 percent of P): 0, AL, 0.25 P (5-minute hold); AL, 0.25 P, 0.50 P (5-minute hold); AL, 0.25 P, 0.50 P, 0.75 P (10-minute hold); AL, 0.50 P, 0.75 P, 1.00 P (20-minute hold); AL, 0.25 P, 0.75 P, 1.25 P (30-minute hold); AL, 0.50 P, 1.00 P, 1.25 P, 1.50 P (45-minute hold); AL, 0.25 P, 0.75 P, 1.25 P, 1.50 P, 1.75 P (60-minute hold); AL, 0.50 P, 1.00 P, 1.50 P, 1.75 P, 2.00 P (300-minute hold); 1.00 P lock-off.

Tendon elongations shall be plotted as a function of applied load on prepared plots. In addition, tendon elongation during all the load holding periods shall be plotted as a function of the log of time.

PERFORMANCE
TESTING:

Performance testing shall be conducted on two ground anchors. One of these anchors shall be included in the first three anchors installed. The other anchor shall be tested as the job progresses at a location designated by the Engineer. Performance tests and creep tests shall not be carried out on the same anchor. Performance tests shall be conducted as cyclic load tests to a maximum load of 98 kips or 1.33 times the design lock-off load.

Performance testing shall be accomplished according to the following schedule: (P = working load = lock-off load = 74 kips; AL = alignment load, 2 to 10 percent of P): 0, AL, 0.25 P; AL, 0.25 P, 0.50 P; AL, 0.25 P, 0.50 P, 0.75 P; AL, 0.25 P, 0.50 P, 0.75 P, 1.00 P; AL, 0.25 P, 0.50 P, 1.00 P, 1.20 P; AL, 0.25 P, 0.50 P, 0.75 P, 1.00 P, 1.33 P (60-minute hold); 1.00 P lock-off.

Tendon elongations shall be plotted as a function of applied load on prepared plots. In addition, tendon elongation during the load holding period shall be plotted as a function of the log of time.

PROOF TESTING:

Proof testing shall be conducted on all anchors not creep or performance tested.

Proof testing shall be accomplished according to the following schedule: (P = working load = lock-off load = 74 kips; AL = Alignment load, 2 to 10 percent of P): 0, AL, 0.25 P, 0.50 P, 0.75 P, 1.00 P, 1.20 P, 1.33 P (5-minute hold); 1.00 P lock-off.

Tendon elongations shall be plotted as a function of applied load on prepared plots.

LIFT-OFF
TESTING:

In the sequence of work, the Contractor shall maintain the capability for performing lift-off tests on all tendons and restressing after initial tensioning. Prior to cutting off the surplus tendon and placing the seal over the stressing head, the Contractor shall perform lift-off tests on six tendons selected by the Engineer, at least thirty days after all the tendons have been installed and locked off, to determine that the magnitude of load loss is less than 15 percent of the design load. If 3 or more of the six lift-off tests show that the tendon loss is greater than 15 percent, then all of the remaining tendons shall be lift-off tested.

UNACCEPTABLE
ANCHORS:

Anchor will be considered unacceptable if one or more of the following conditions exist:

- (a) elongation - load plot for a tested tendon is outside the elastic boundaries prescribed by 80 percent of the unbonded length and unbonded length plus 50 percent of the bonded length.
- (b) slopes of the tendon elongation versus log of time plots for the 2.00 P load for the Creep Test and the 1.33 P load for the performance test are not on a straight line or have a slope greater than 0.08-inch per log cycle of time.
- (c) lift-off tests show that the tendon load loss is greater than 15 percent of the original lock-off load.

Unacceptable anchors shall either be regouted and successfully proof tested or replaced and successfully proof tested by the Contractor. This work will be performed as directed by the Engineer and will be at no extra cost to the Project.

Replacement anchor shall be installed within 12 inches of the unacceptable anchor or at locations designated by the Engineer.

METHOD OF
MEASUREMENT:

The quantity shall be the number of tendons successfully tested and locked-off at their prescribed load.

BASIS OF
PAYMENT:

Payment will be made at the contract price, which price shall be payment in full for all work and material hereinbefore described.

Item	Unit	Description
Special	Each	Post-Tensioning Permanent Ground Anchors

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
ANCHOR BLOCKS					
STA. 3+73M to STA. 5+61M					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MBD		JH	JHO 4-15-82	

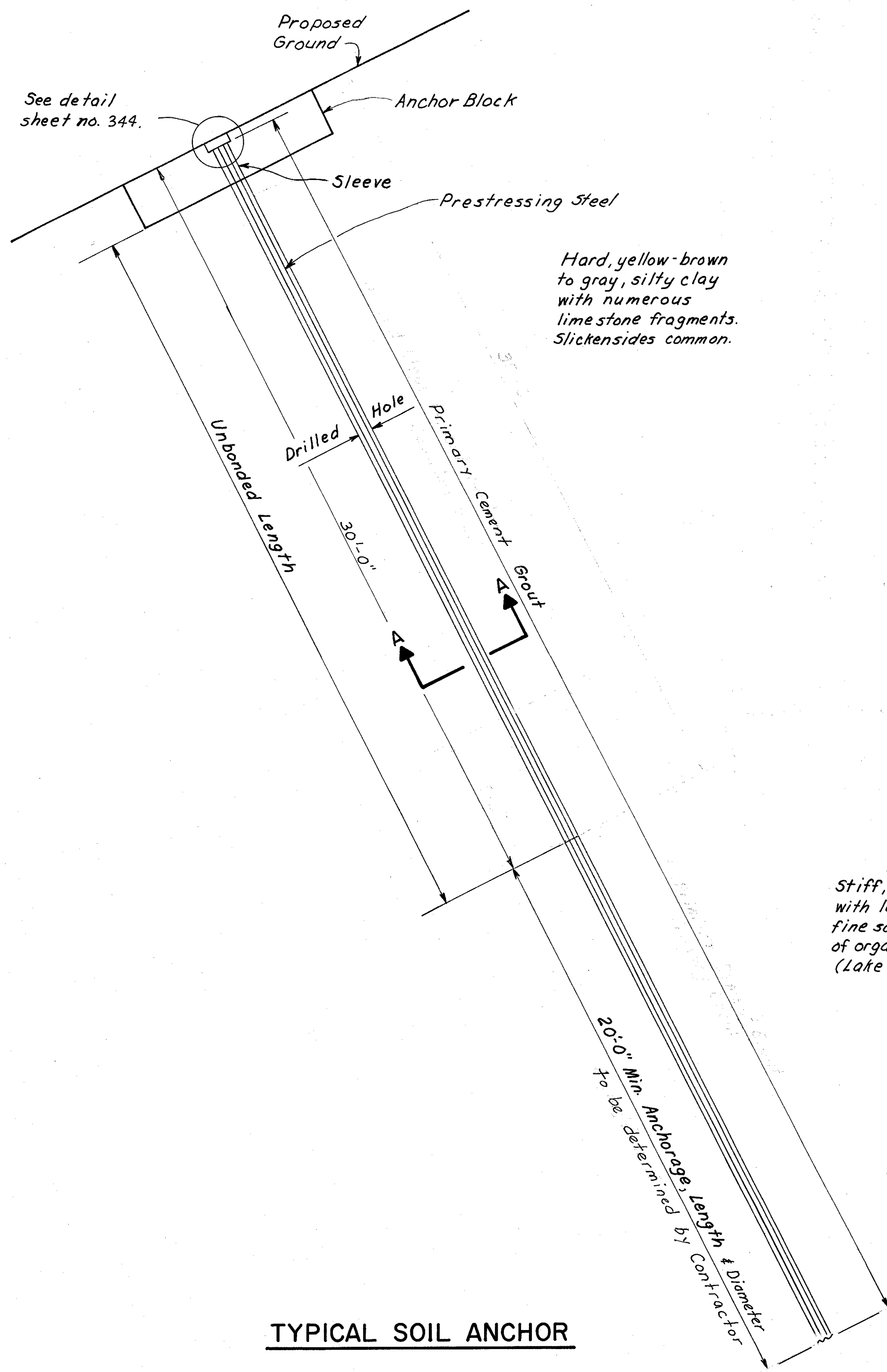
FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

340
346

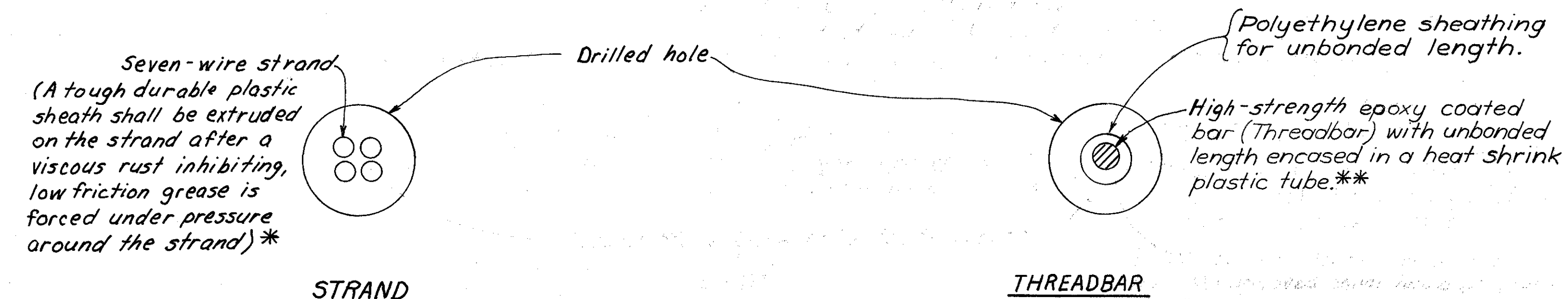
HAMILTON COUNTY
HAM-471-0.24
PART TWO

** Provide system by Schnabel Foundation Co., Bethesda, Maryland.

* Plastic sheath shall be Polystrand made by PIC, Inc., Landenberg, Pa., plastic sheath made by Concrete Construction Supply Inc., Garland, Texas, or an approved equal and shall cover the unbonded length only. At no time shall grease be applied to the bonded length of the tendon.

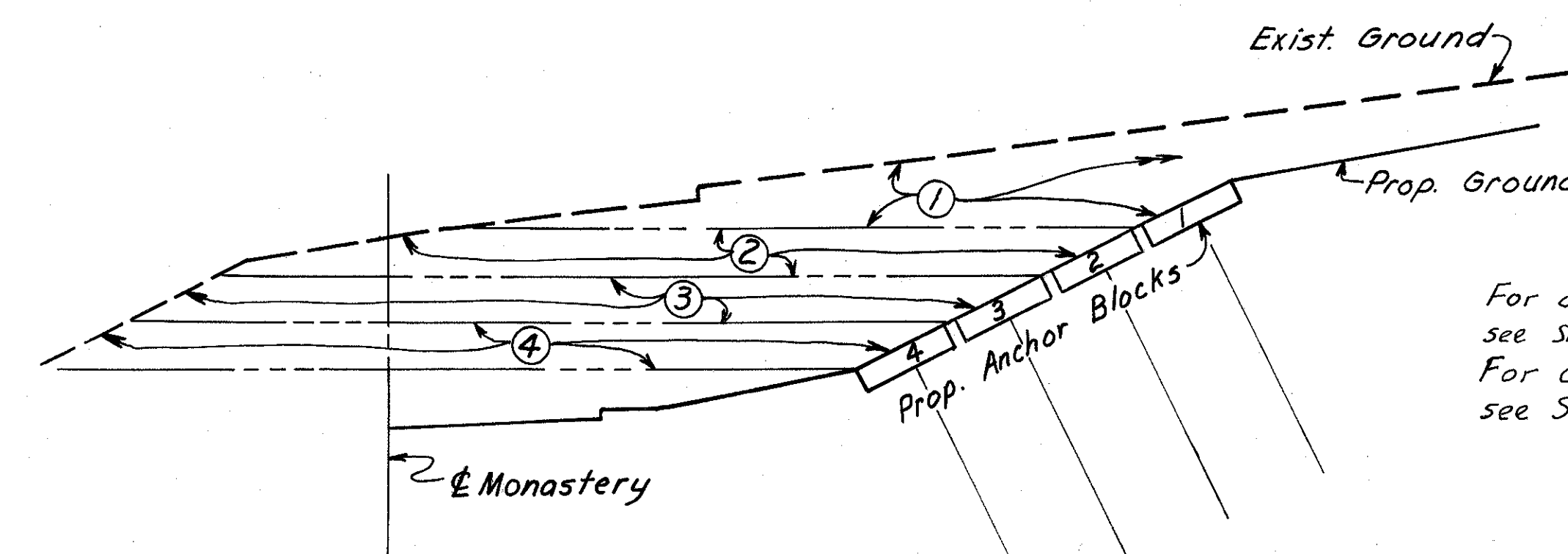


TYPICAL SOIL ANCHOR



SECTION A-A

(Typical for Unbonded Length)



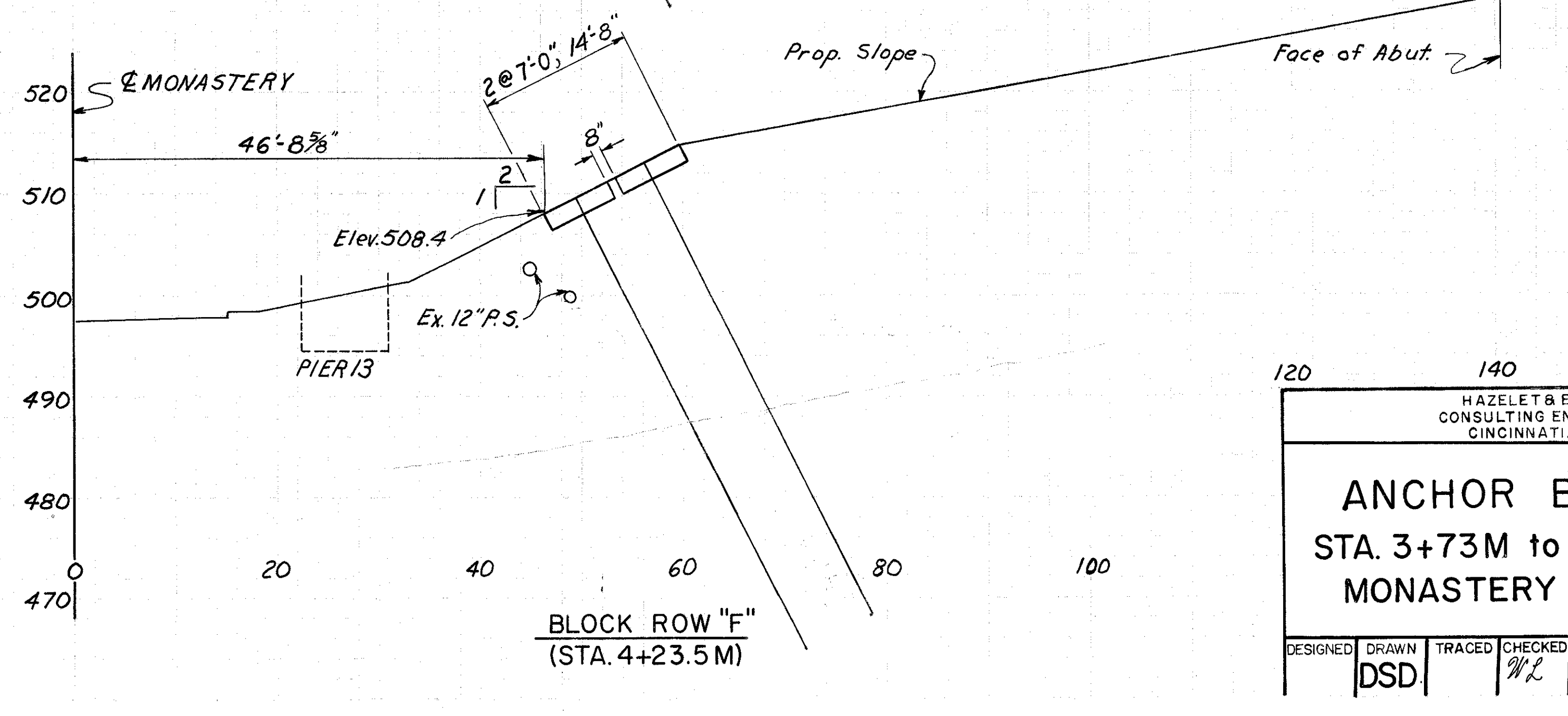
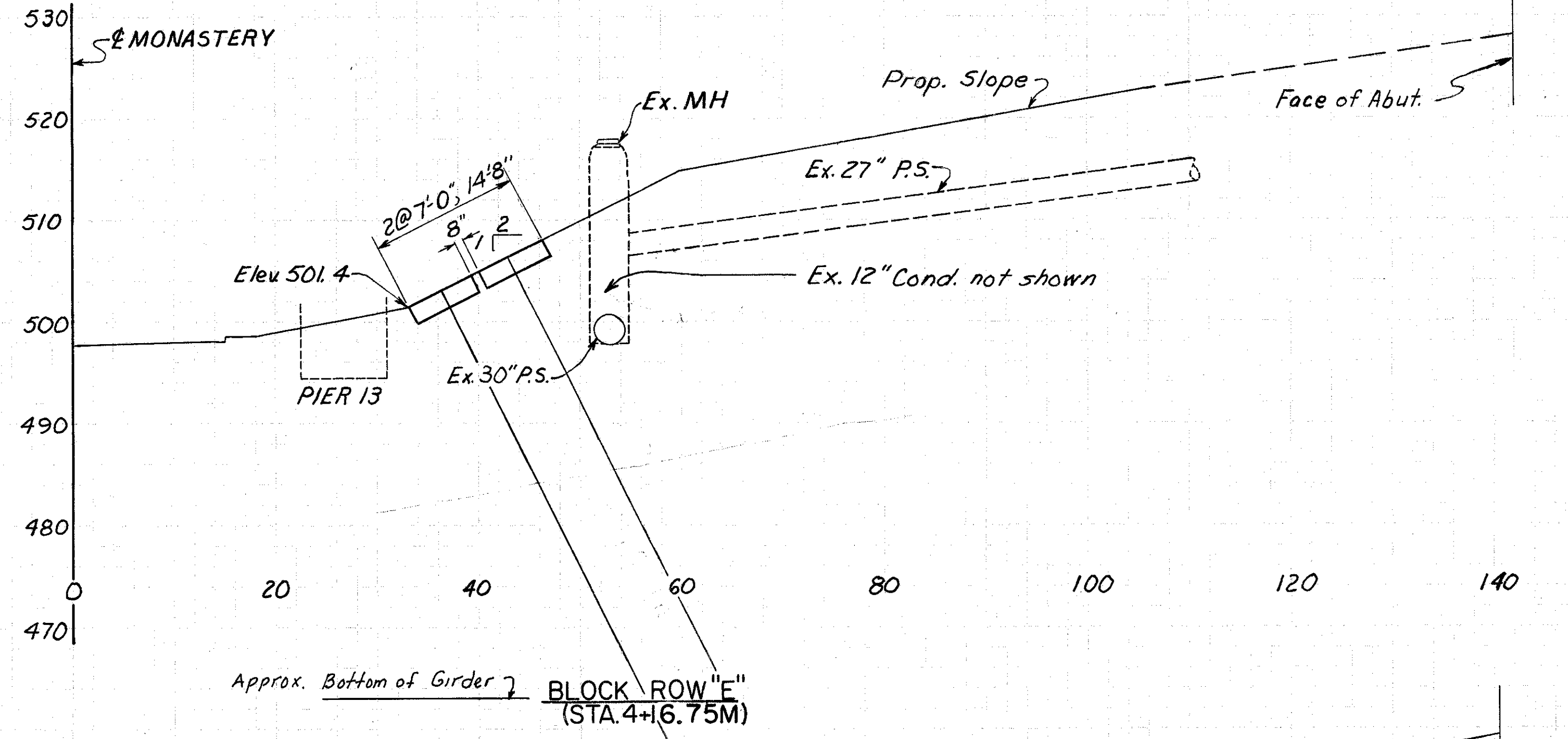
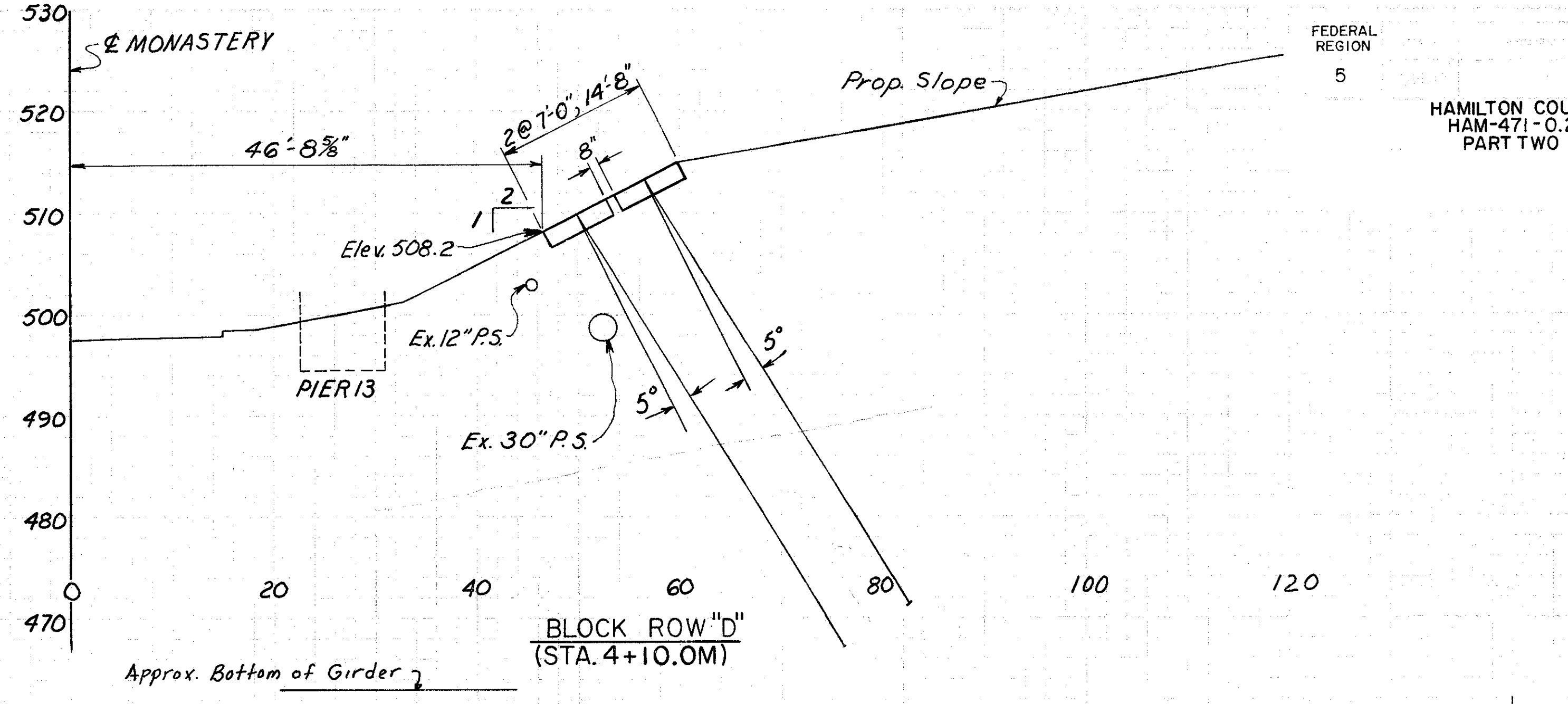
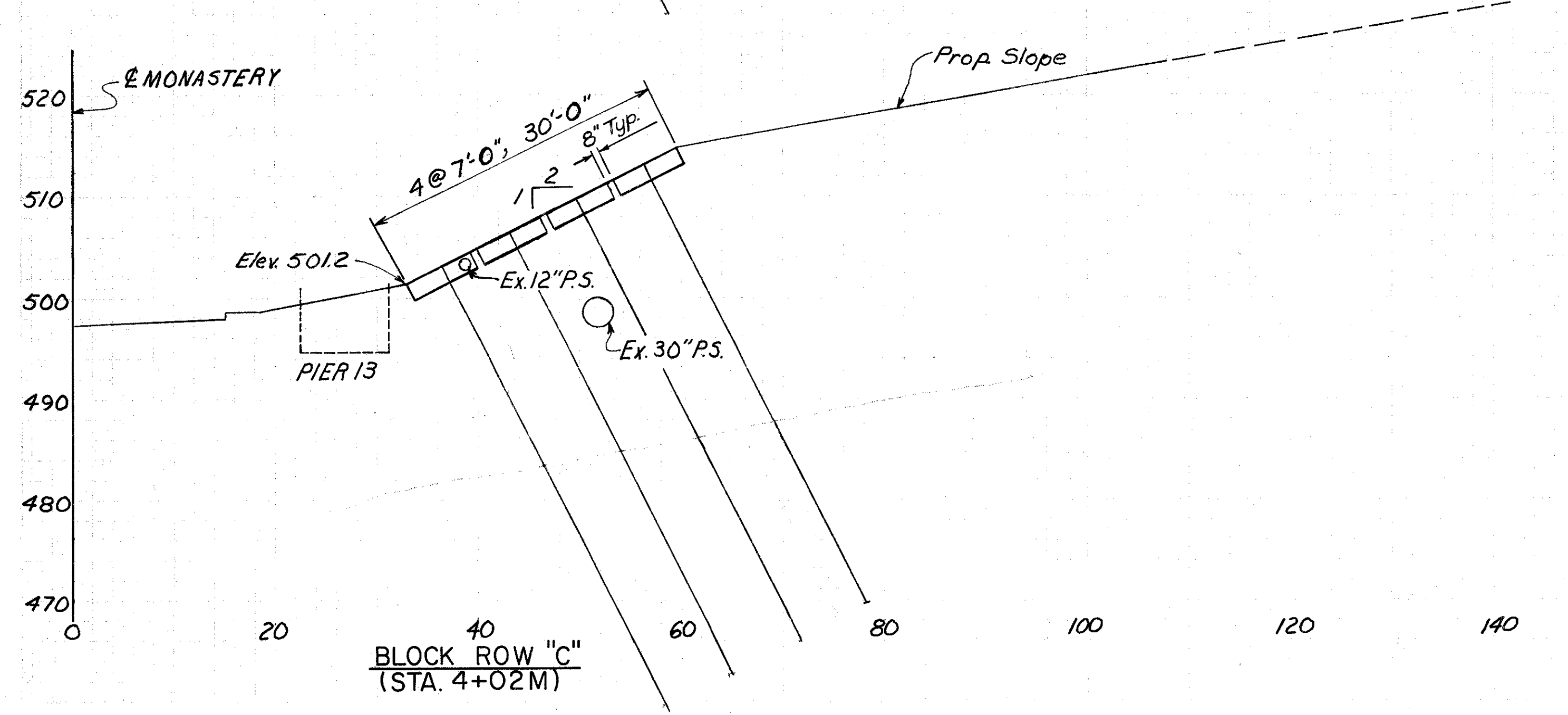
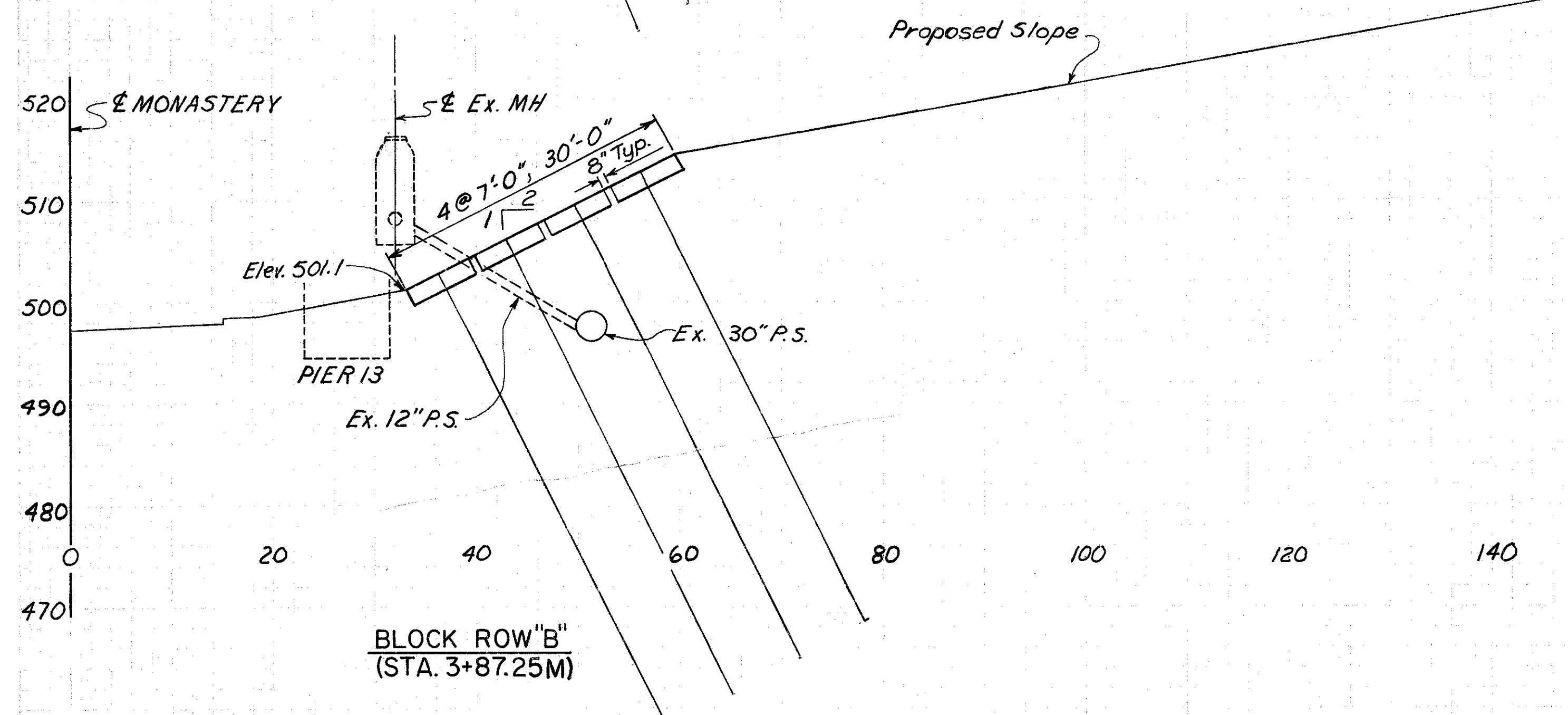
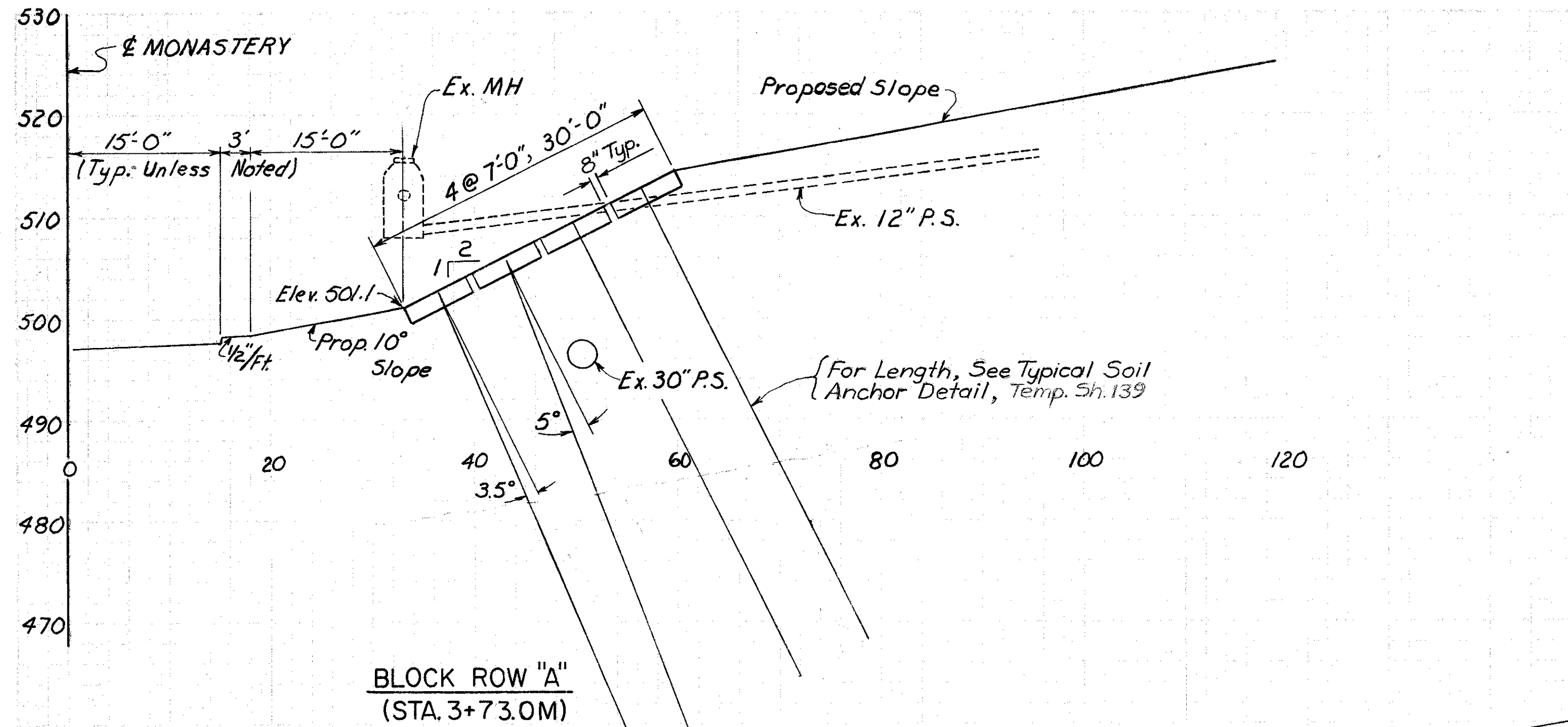
**TYPICAL SECTION
(Construction Procedure)**

Remove overburden to limits shown by ①.
Excavate for Anchor Block 1, construct Anchor Block, Soil Anchor and stress soil anchors.
Remove overburden to limits shown by ②.
Excavate for Anchor Block 2, construct Anchor Block, Soil Anchor and stress soil anchors.
Repeat procedure until all Anchor Blocks are completed.
At the option of the Contractor, he may drill and install the tendons before constructing the Anchor Blocks.

* Soil Anchors for Rows Pand R shall not be drilled until driving of piles for Piers 3 and 4 for Relocated Sixth St. off Columbia Viaduct has been completed.

For contours of proposed ground see Sheet No. 110.
For contours of existing ground see Sheet No. 188.

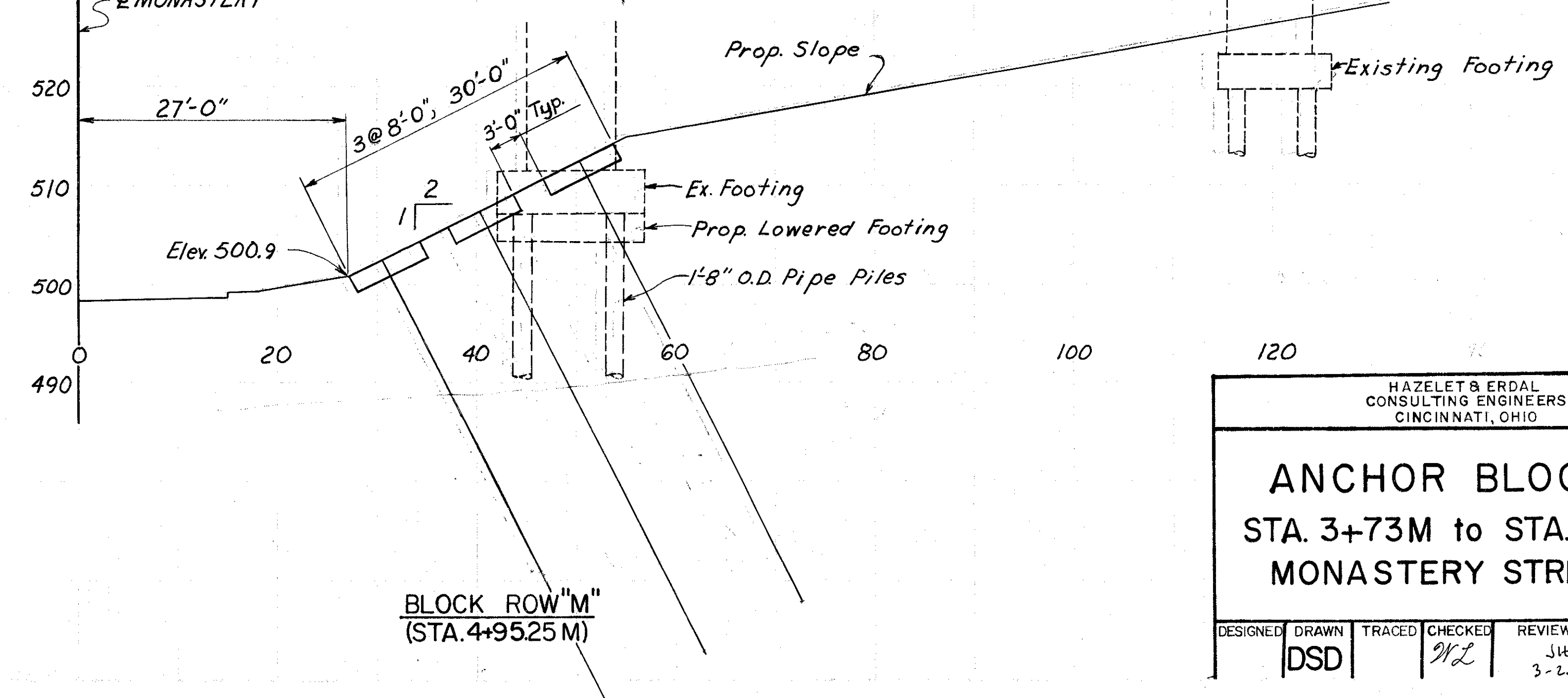
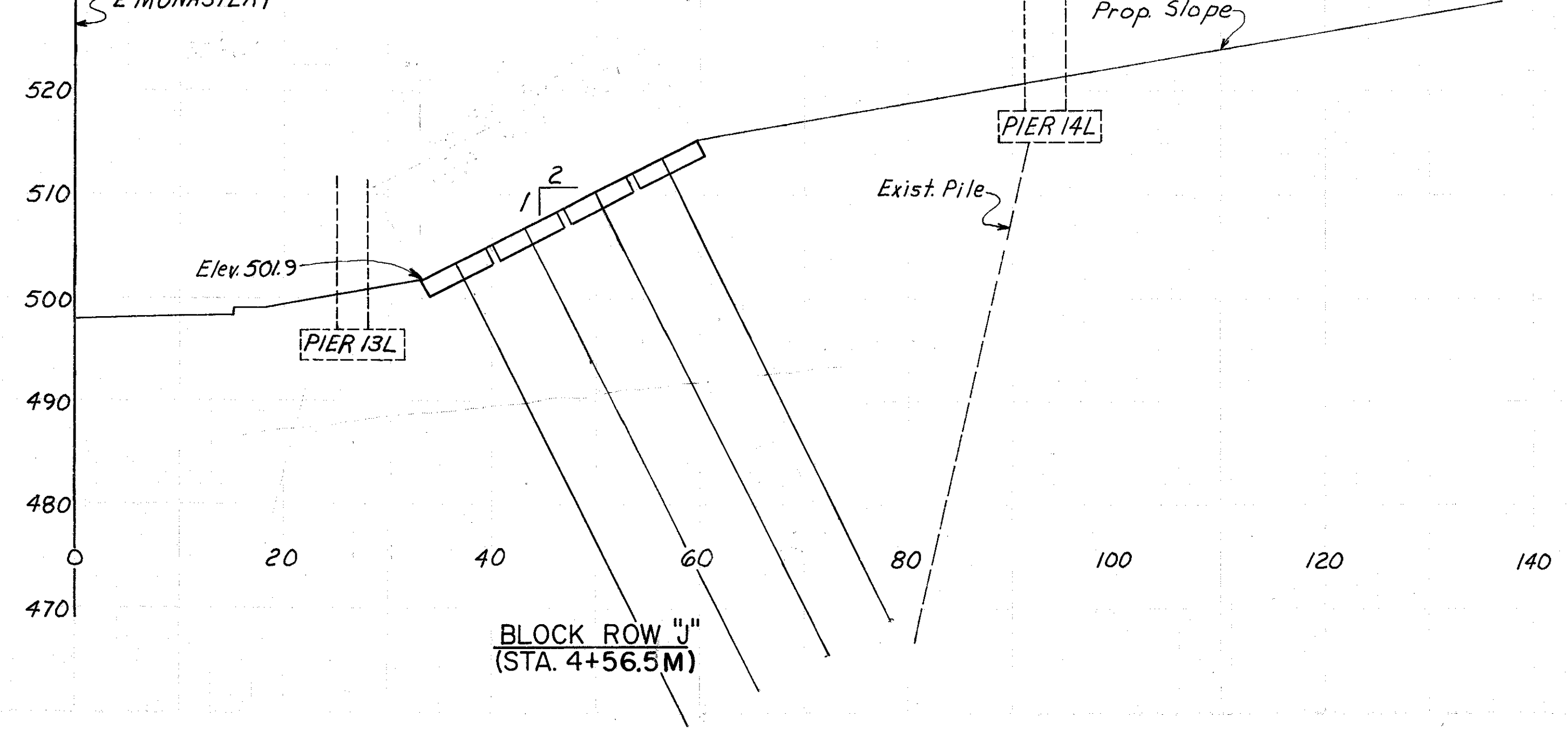
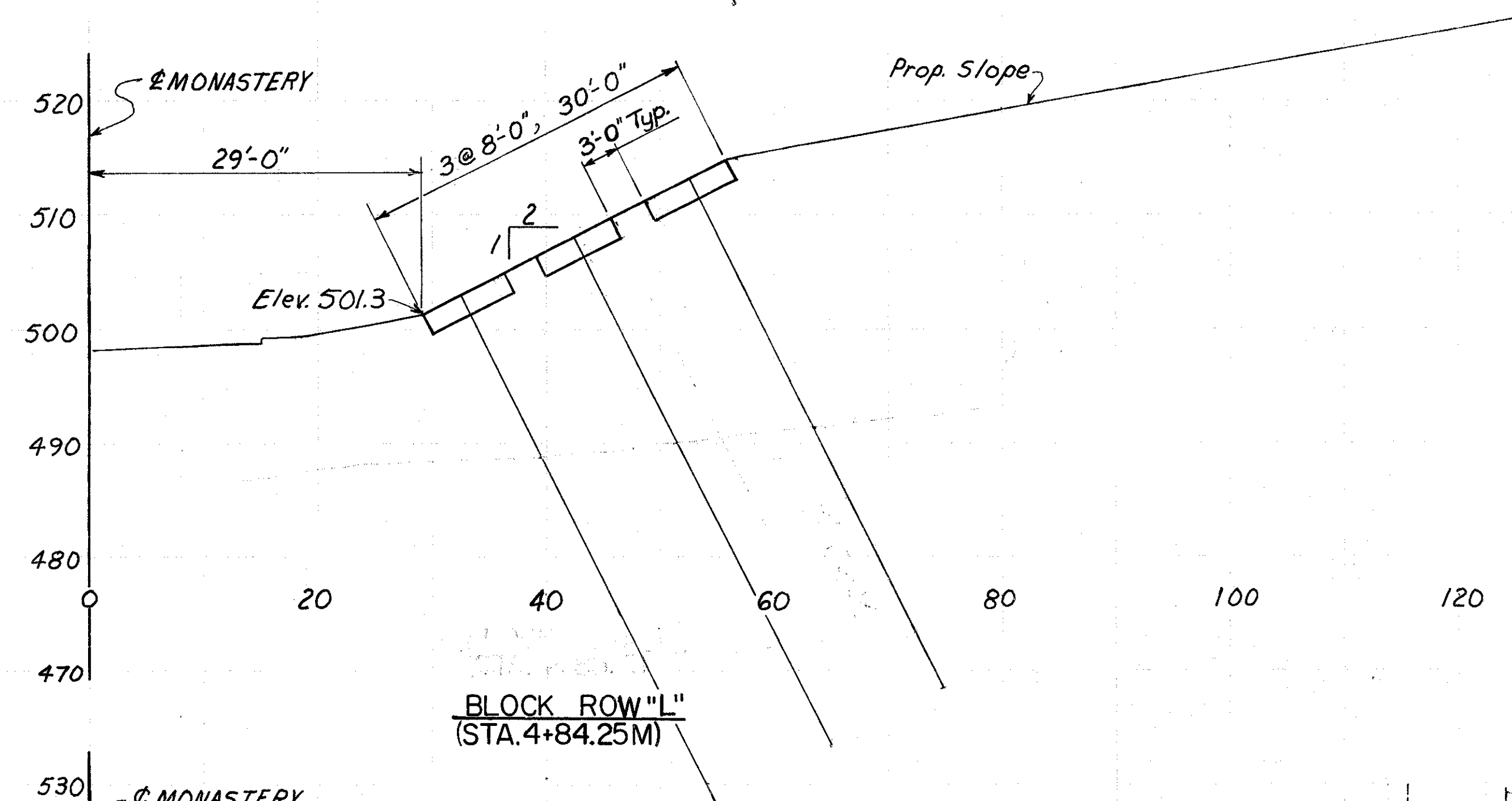
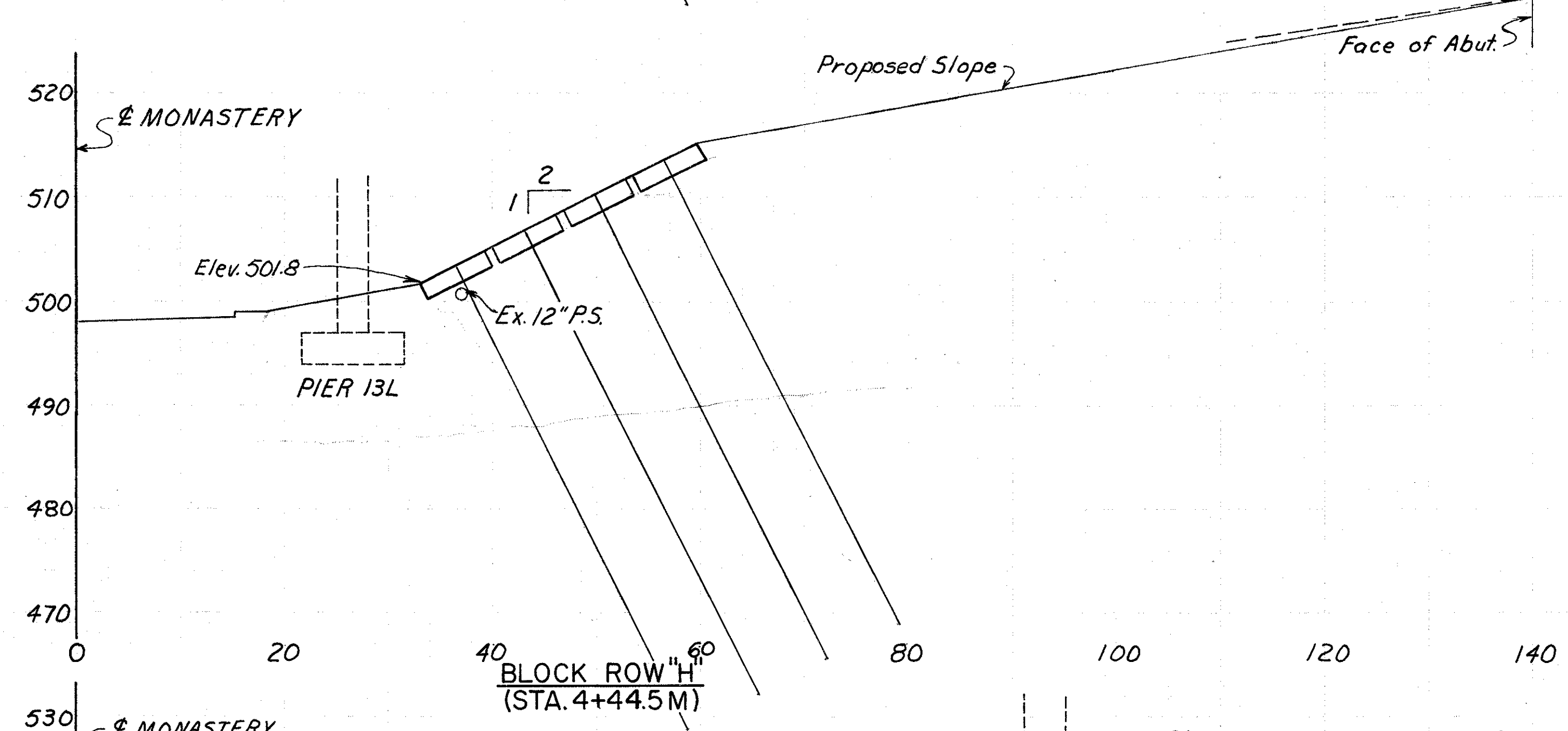
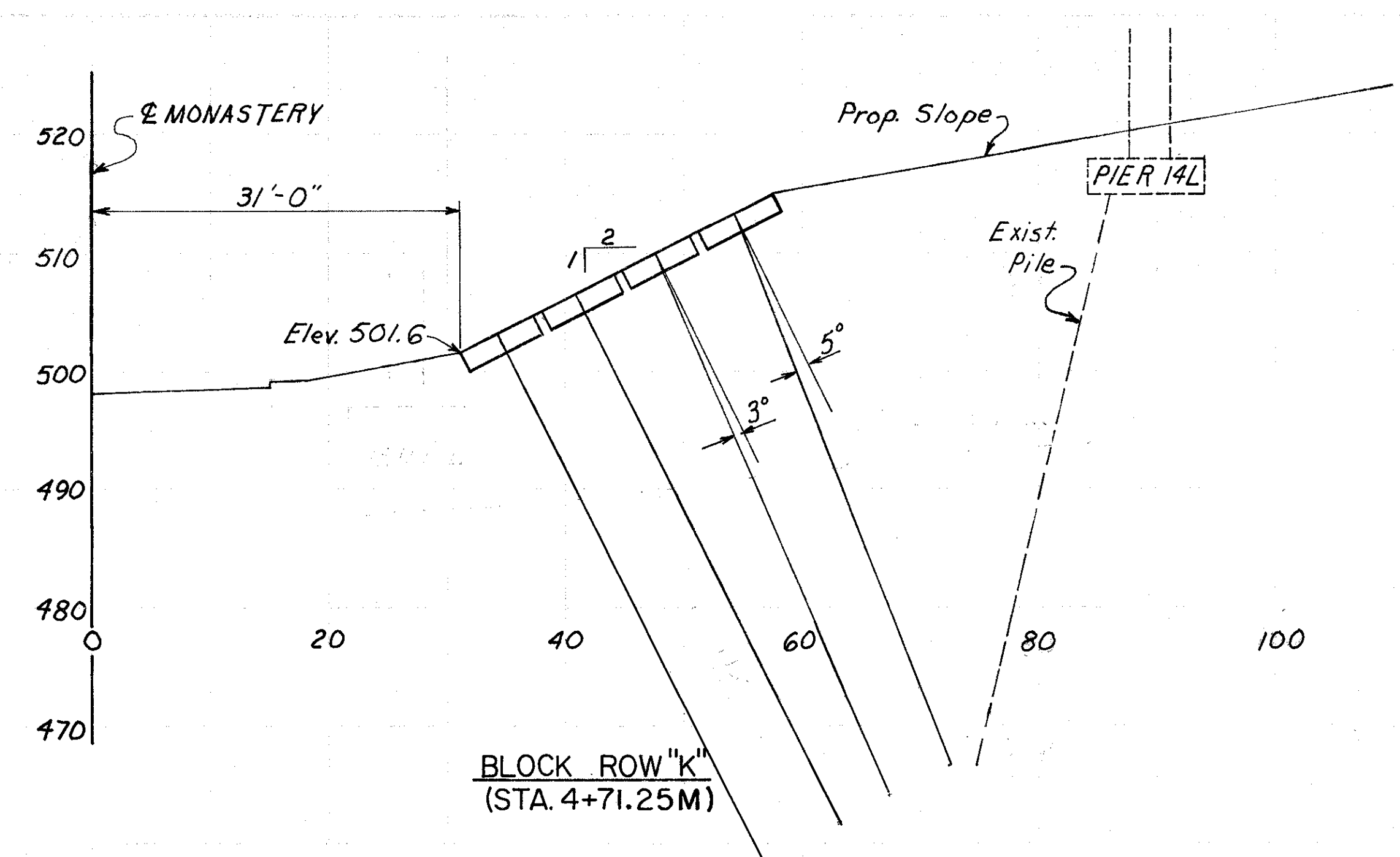
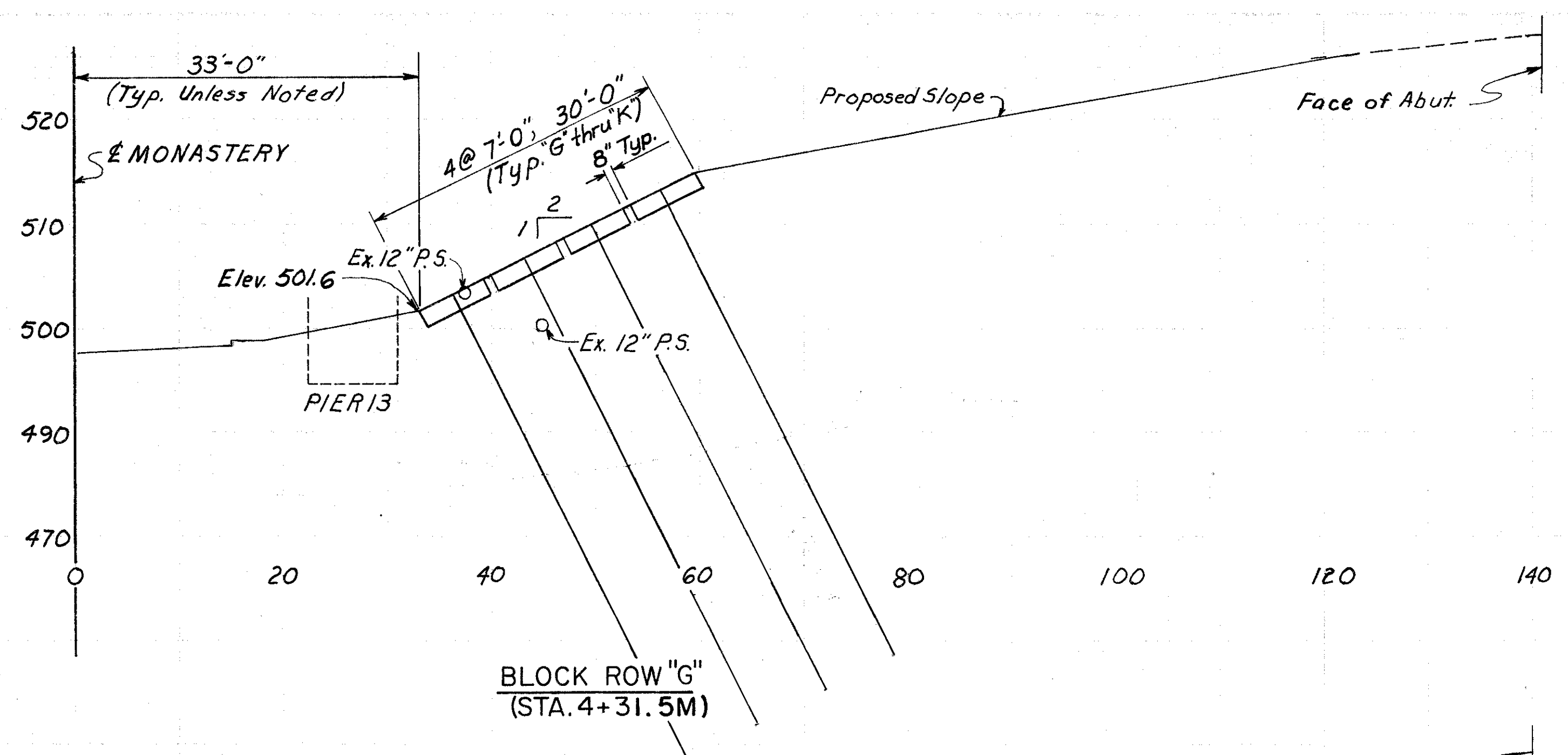
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
ANCHOR BLOCKS STA. 3+73M to STA. 5+61M MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		WZ	JH6 4-15-82	



HAZLET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

ANCHOR BLOCKS
 STA. 3+73M to STA. 5+61M
 MONASTERY STREET

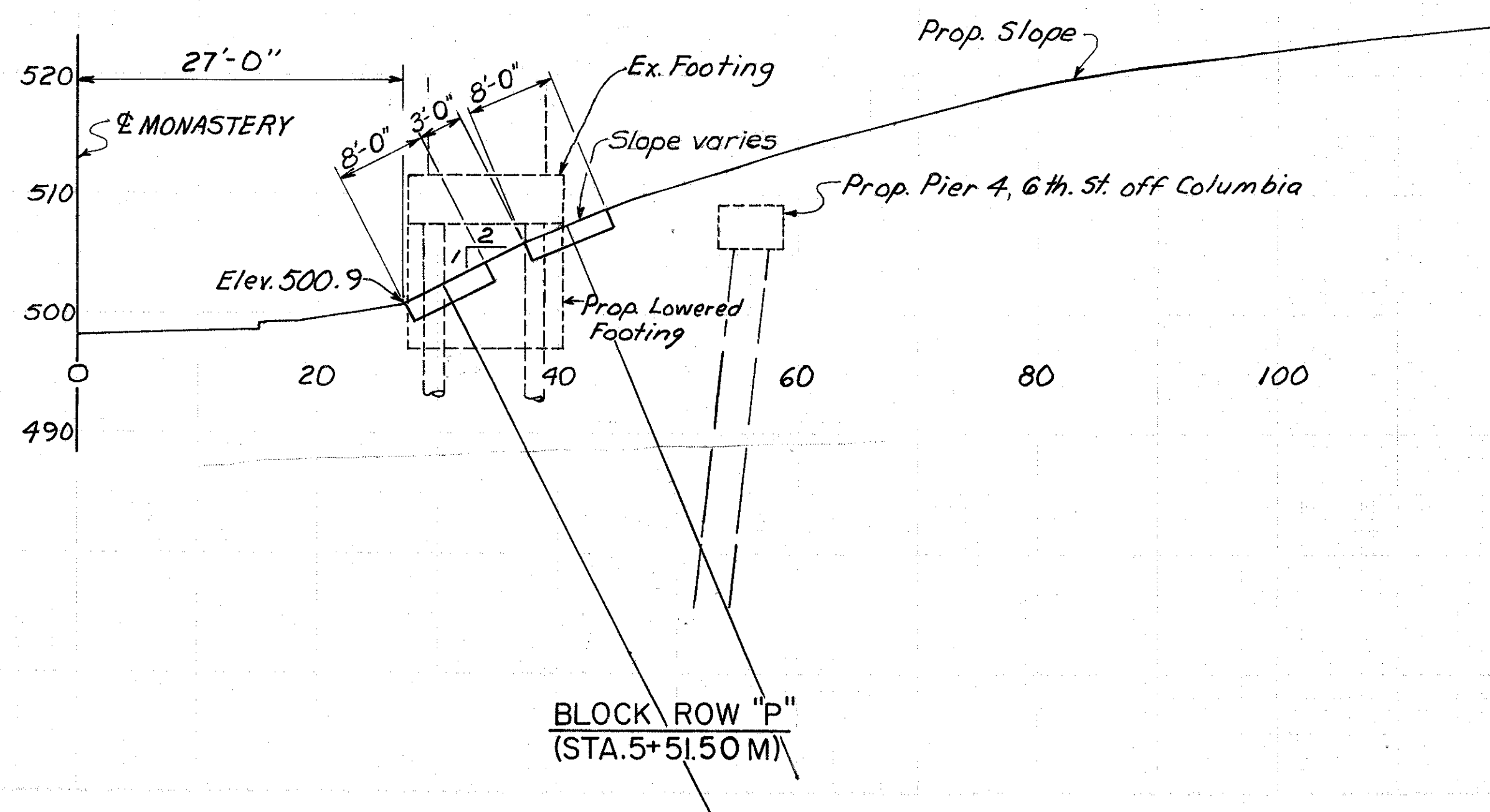
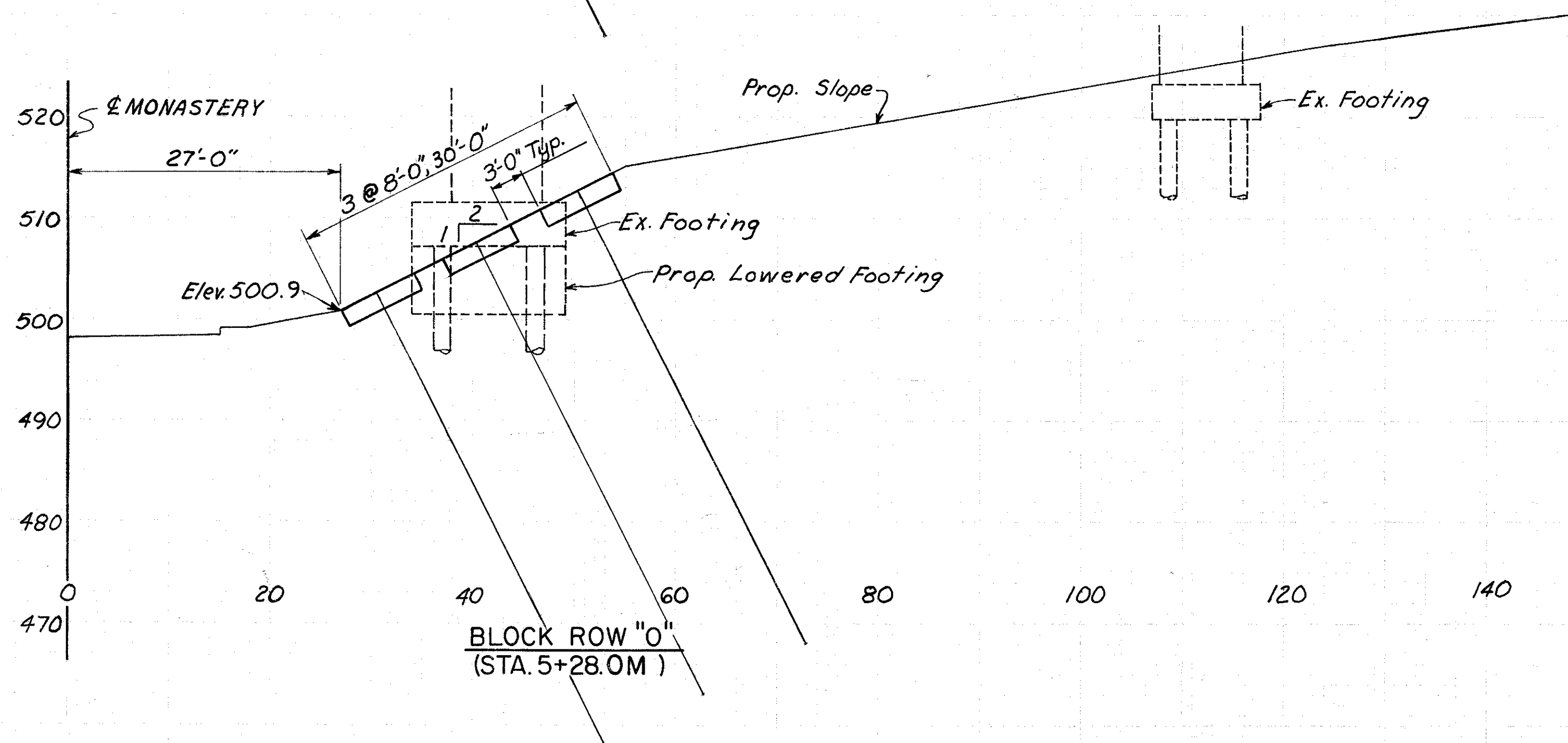
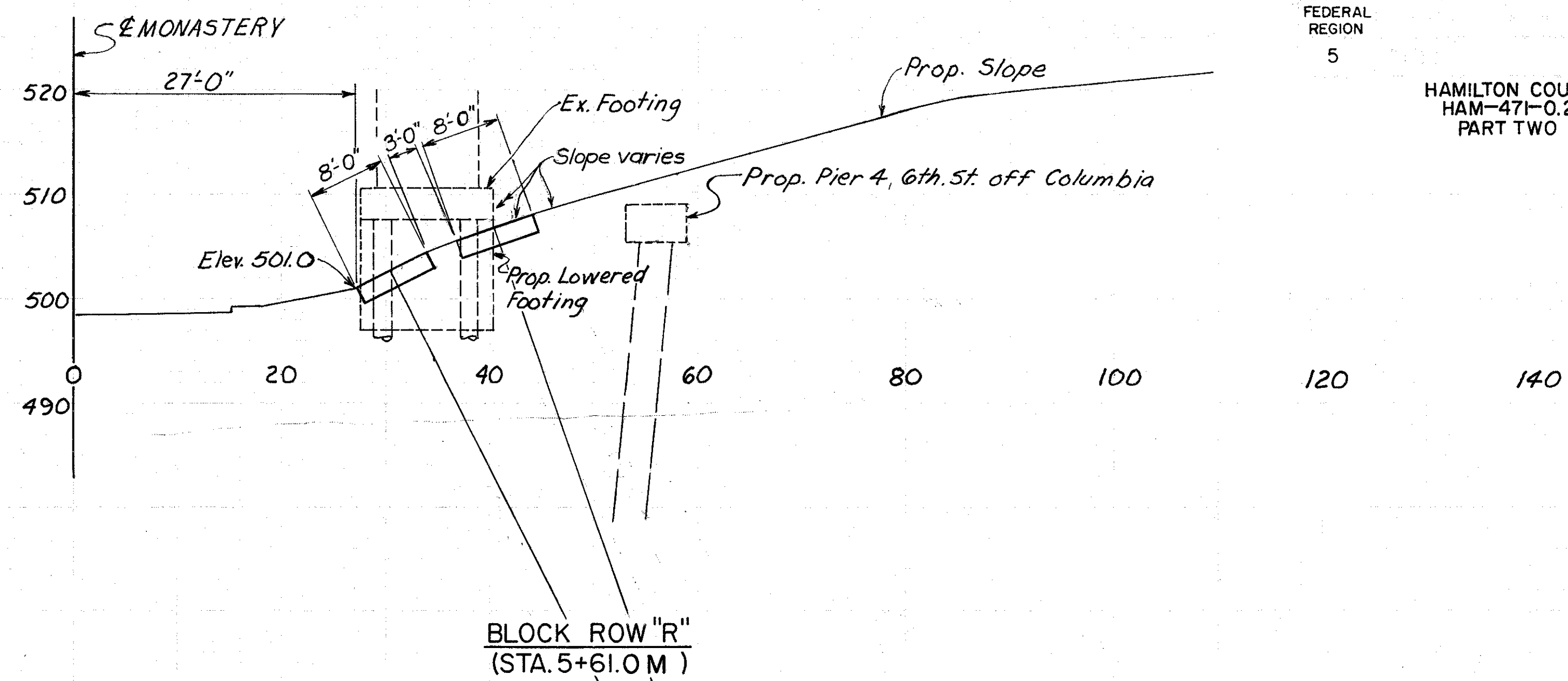
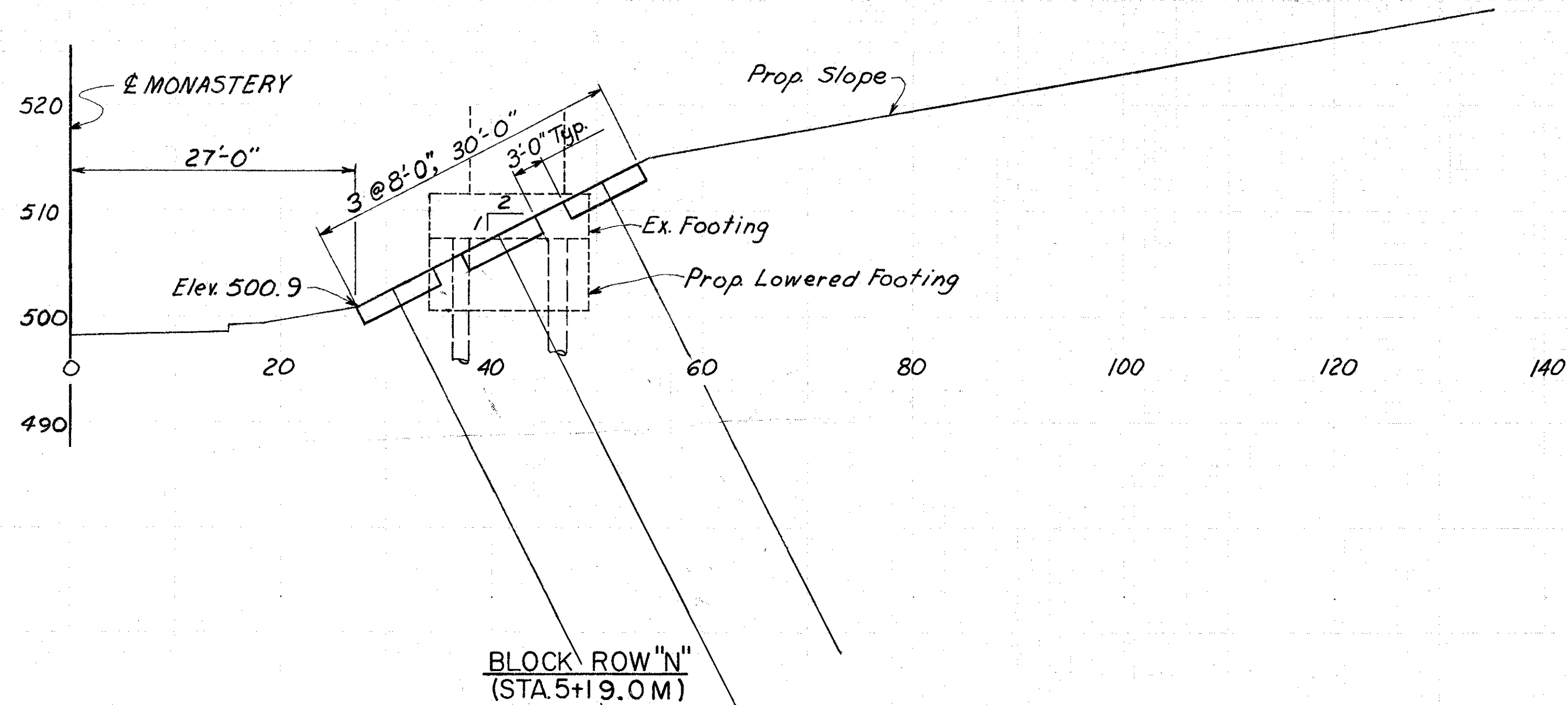
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DSD		W/L	J4e 3-25-82	



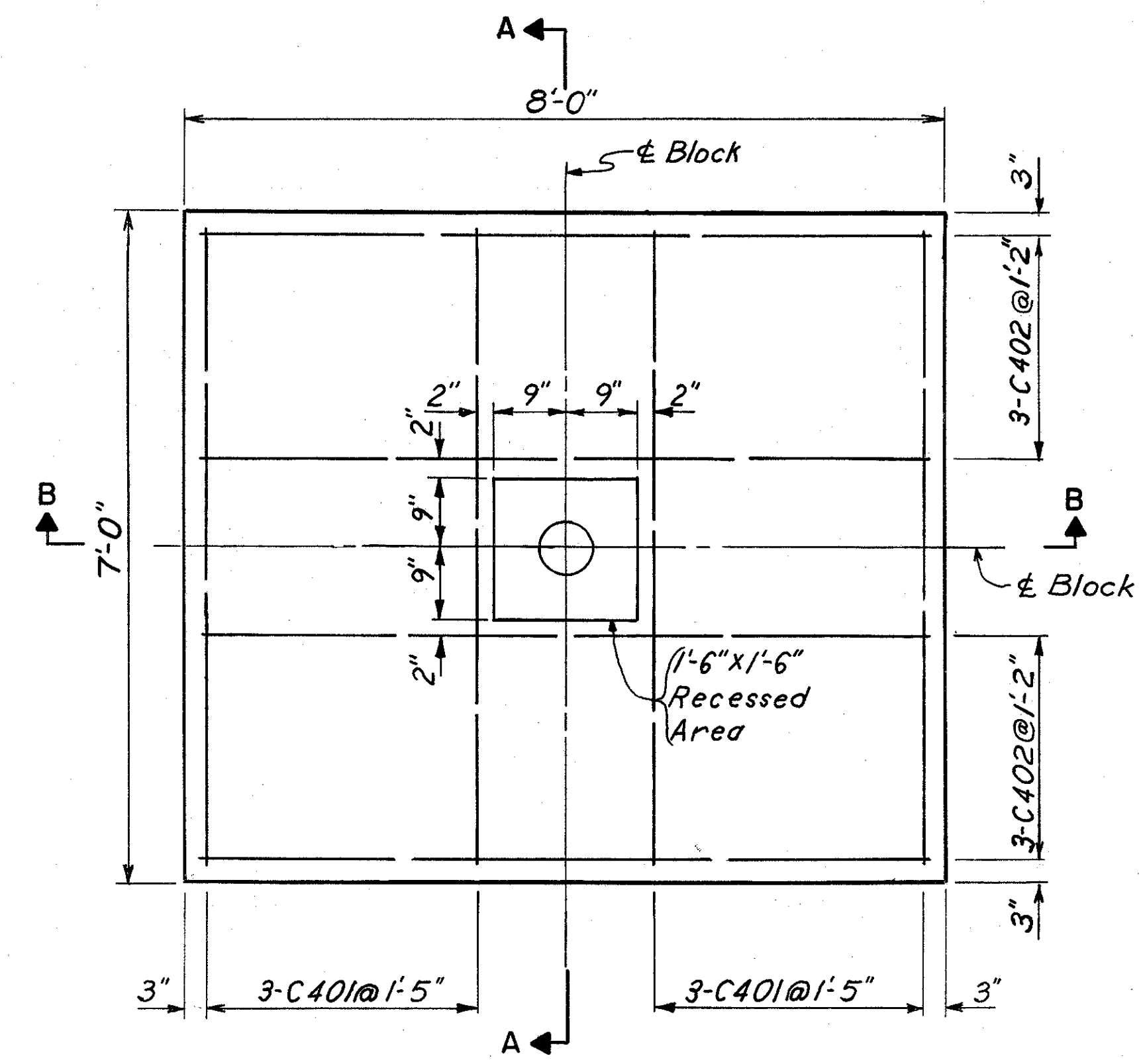
HAZELET & ERDAL
 CONSULTING ENGINEERS
 CINCINNATI, OHIO

ANCHOR BLOCKS
 STA. 3+73M to STA. 5+61M
 MONASTERY STREET

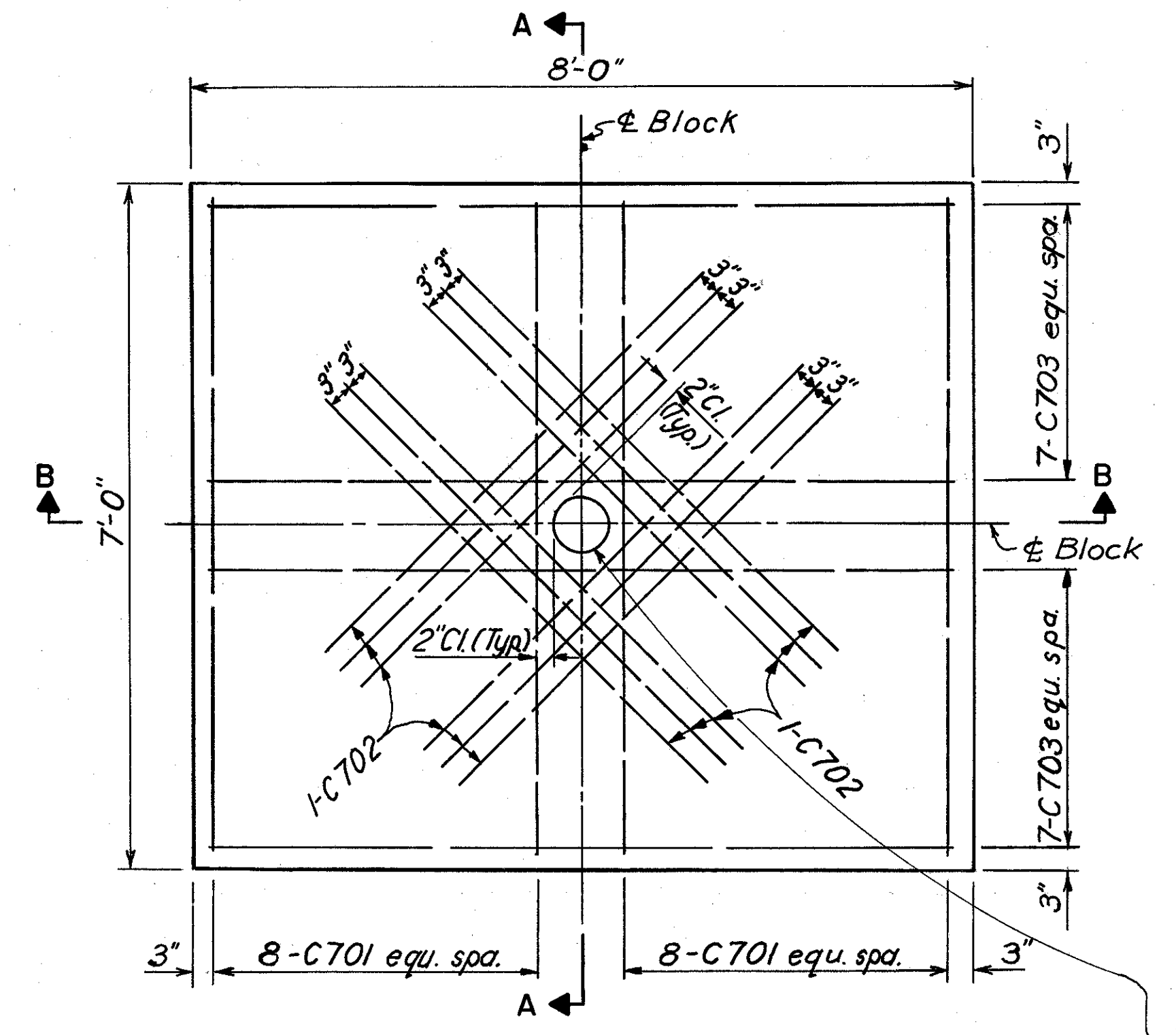
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DSD			WZ	3-25-82	



HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
ANCHOR BLOCKS					
STA. 3+73M to STA. 5+61M					
MONASTERY STREET					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DSD				Jtk 3-25-82	



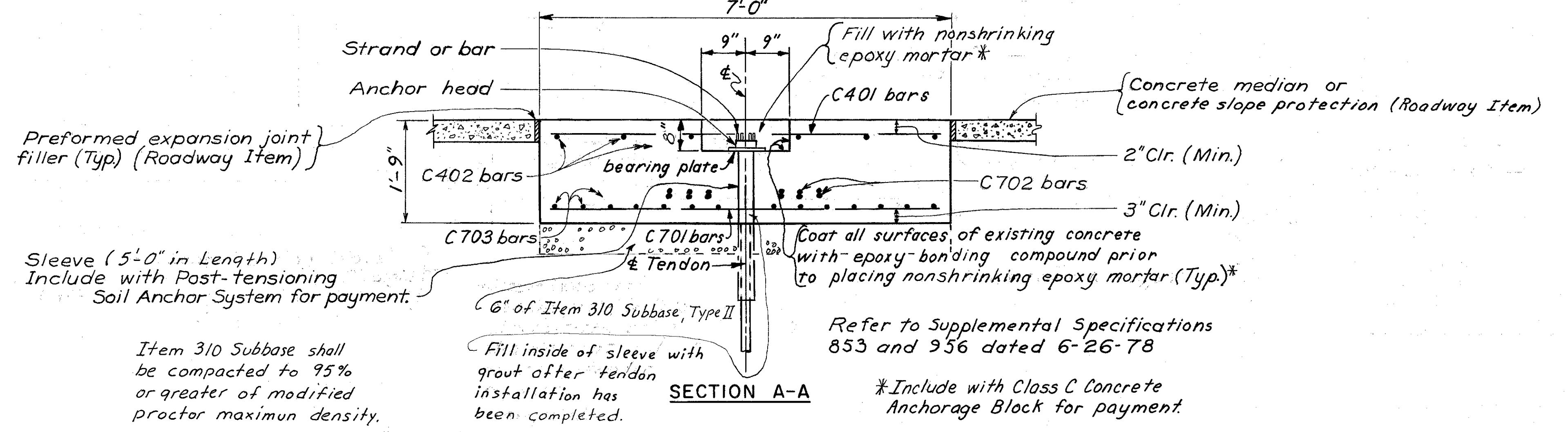
TOP OF BLOCK REINFORCING



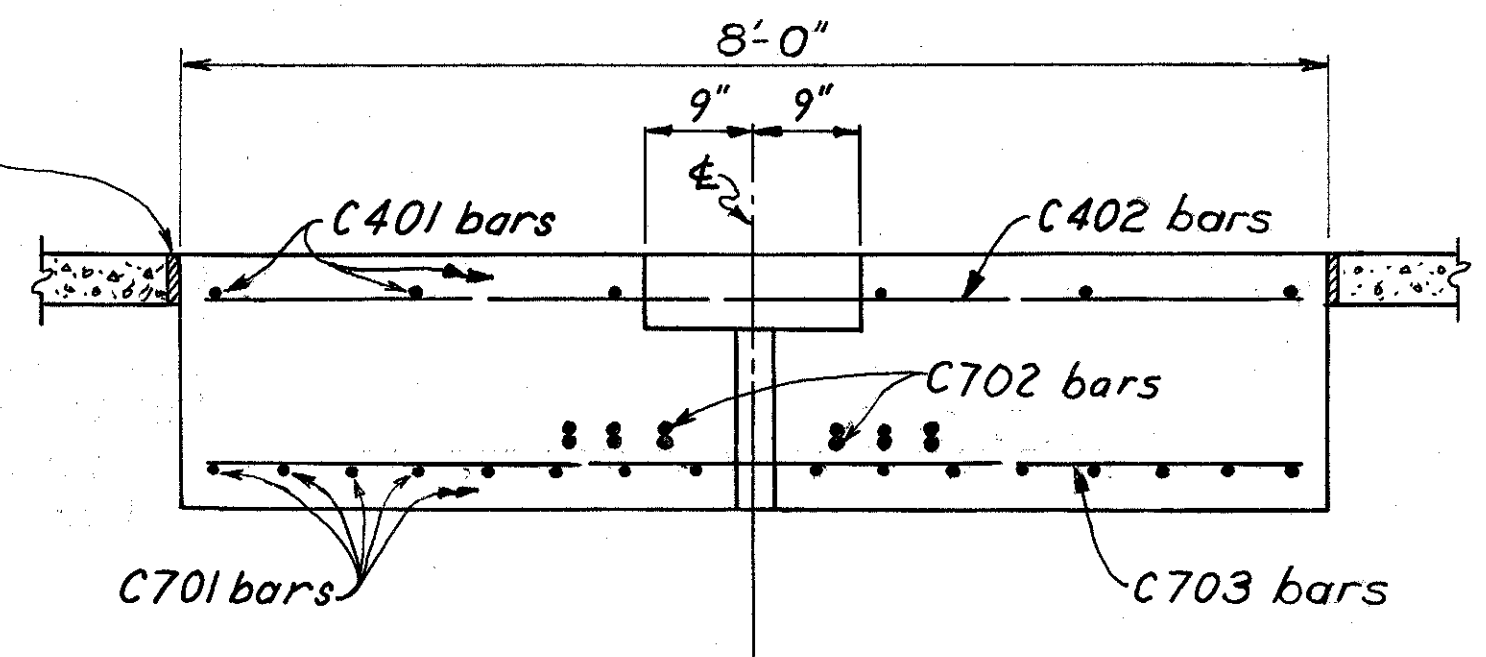
BOTTOM OF BLOCK REINFORCING

TYPICAL BLOCK

Formed hole for anchorage
Diameter of hole to be sized by Contractor and approved by Engineer

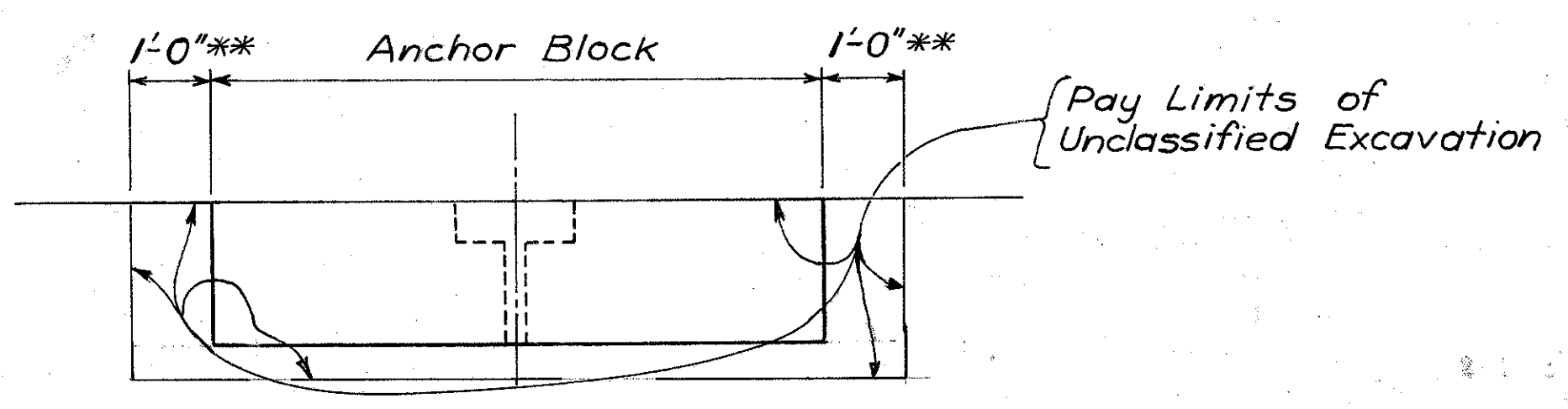


SECTION A-A



SECTION B-B

(For details not shown, see Sect. A-A)



EXCAVATION SECTION

** Maximum dimension shown
Actual dimension will be less when adjacent block is located within 2'-0" of edge shown.

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
503	343	Cubic Yard	Unclassified Excavation
509	30,911	Pound	Reinforcing steel, grade 60
511	180	Cubic Yard	Class C concrete, Anchorage Blocks
Special	50	Each	Post-tensioning Permanent Ground Anchors
310	52	Cubic Yard	Subbase, Type II

REINFORCING STEEL LIST				
MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT
C401	Str.	6'-6"	300	1303
C402	Str.	7'-6"	300	1503
C701	Str.	6'-6"	800	10,629
C702	Str.	5'-6"	600	6,745
C703	Str.	7'-6"	700	10,731

Total Weight of Reinforcing Steel, Grade 60 = 30,911 Lbs.

REINFORCING STEEL SAMPLES:
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

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CONSULTING ENGINEERS
CINCINNATI, OHIO

ANCHOR BLOCKS
STA. 3+73M TO STA. 5+61M
MONASTERY STREET

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
VDG	DSD		HL	JHO 4-15-82	

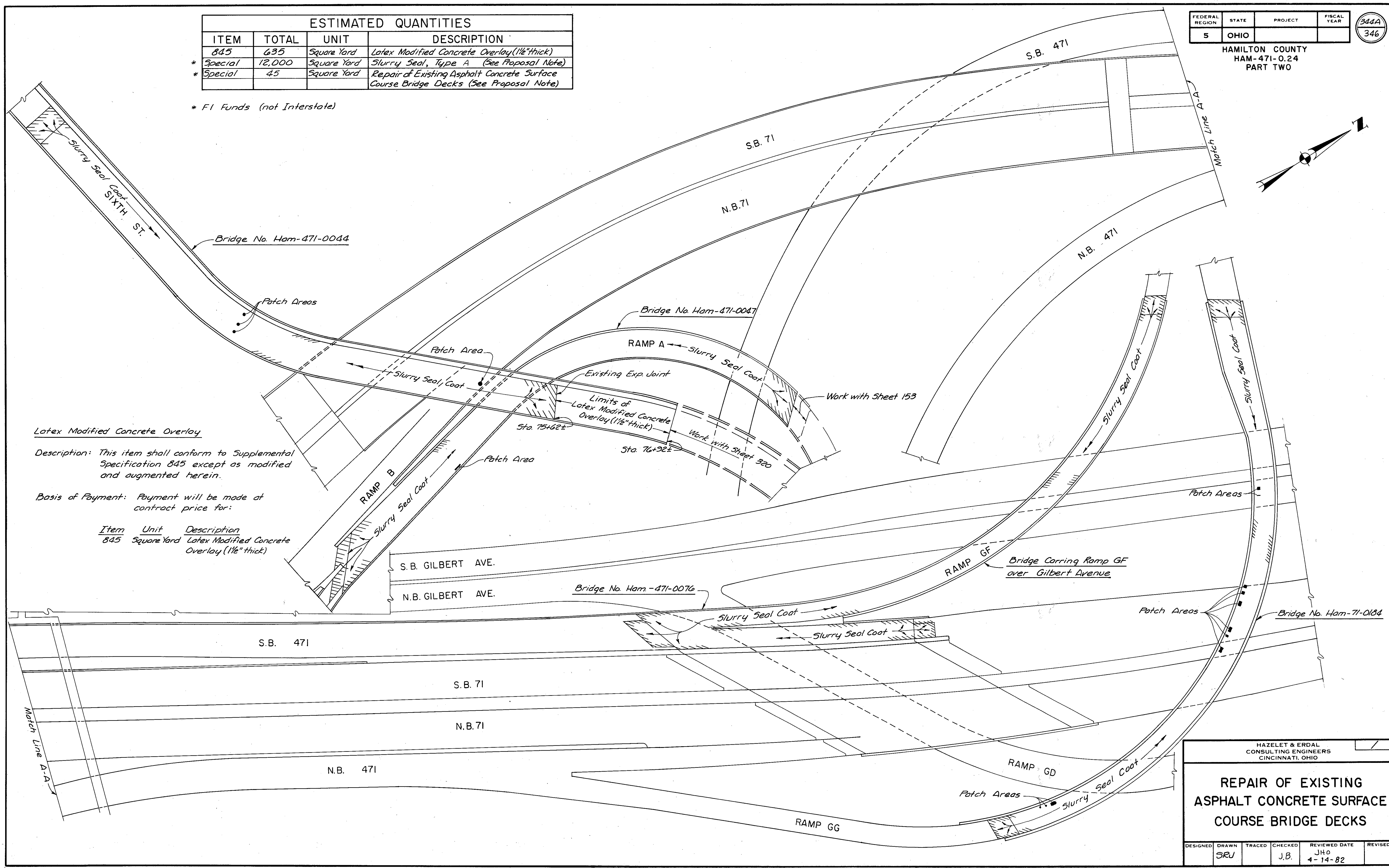
ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
845	635	Square Yard	Latex Modified Concrete Overlay (1 1/2" thick)
* Special	12,000	Square Yard	Slurry Seal, Type A (See Proposal Note)
* Special	45	Square Yard	Repair of Existing Asphalt Concrete Surface Course Bridge Decks (See Proposal Note)

* F1 Funds (not Interstate)

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

HAMILTON COUNTY
HAM-471-0.24
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344A
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Latex Modified Concrete Overlay
Description: This item shall conform to Supplemental Specification 845 except as modified and augmented herein.

Basis of Payment: Payment will be made at contract price for:

Item	Unit	Description
845	Square Yard	Latex Modified Concrete Overlay (1 1/2" thick)

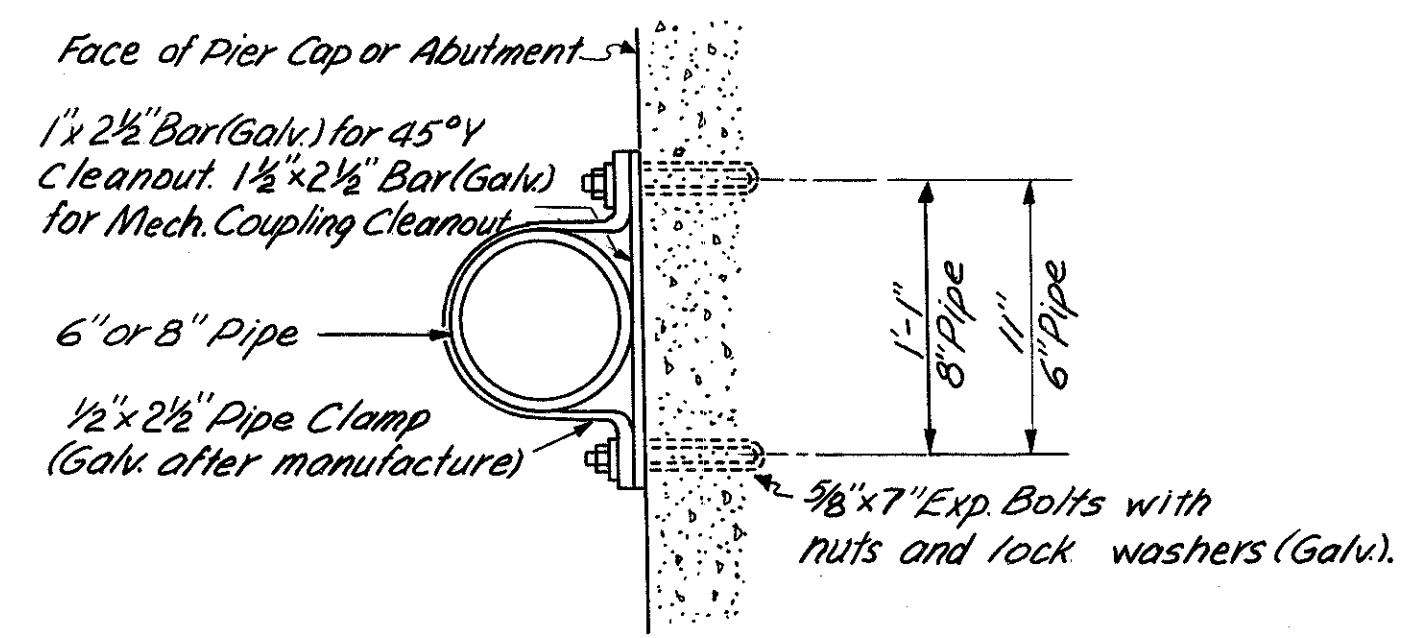
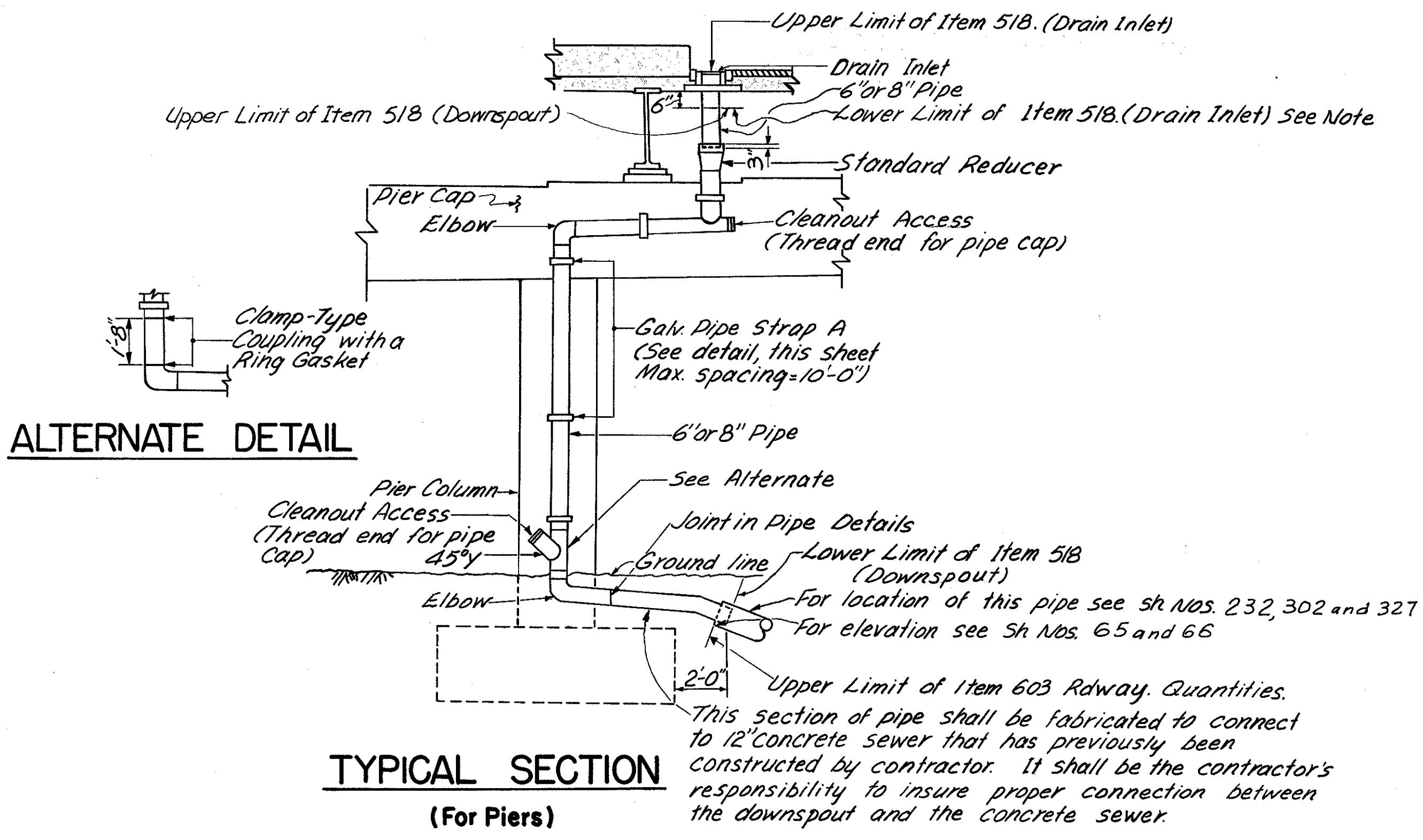
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

REPAIR OF EXISTING ASPHALT CONCRETE SURFACE COURSE BRIDGE DECKS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	SRJ		J.B.	JH0 4-14-82	

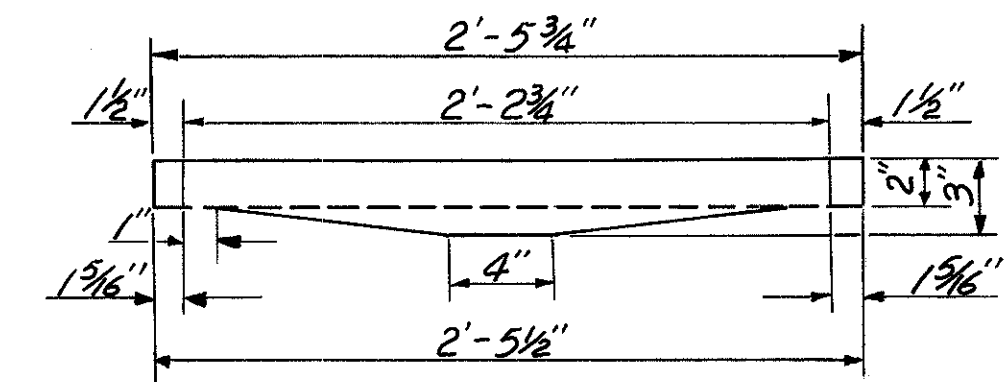
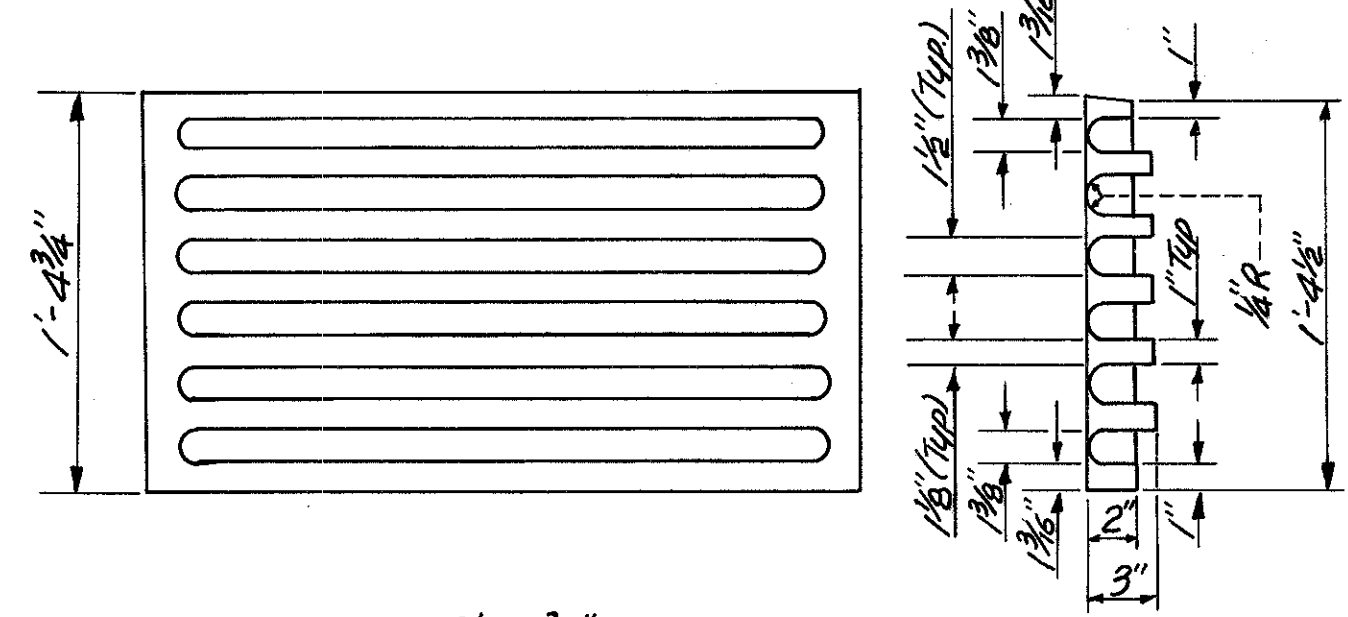
NOTES

- (1) Inlet grating castings shall meet the requirements of Sec. 711.12 of the Material Specifications of the State of Ohio.
- (2) Gratings and inlets shall be fitted to each other without rattling by grinding grating castings as necessary.
- (3) Inlet frame to be welded structural steel plates and standard steel pipe, galvanized after fabrication in accordance with 711.02.
- (4) Weld channels to beam with $\frac{5}{16}$ inch continuous fillet weld. Weld to beam webs only.
- (5) Space lugs on inlets to permit bolting to supporting channels and beams.
- (6) Cope channels so that top of channel is flush with top of flange plate.
- (7) Straps or clamps for attaching downspouts shall be alloy steel or Hot-Dip Galvanized steel. All welding shall be done before galvanizing. On bolts, galvanizing as called for in ASTM A-153 is acceptable.



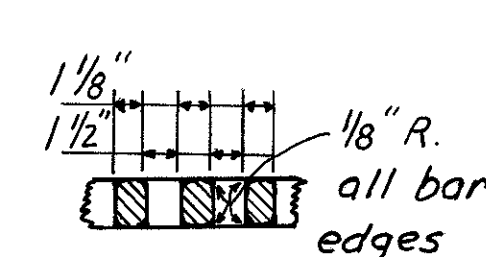
STRAP DETAIL "A"

For mounting on flat surface
(on round surfaces use strap bent to contour of surface)

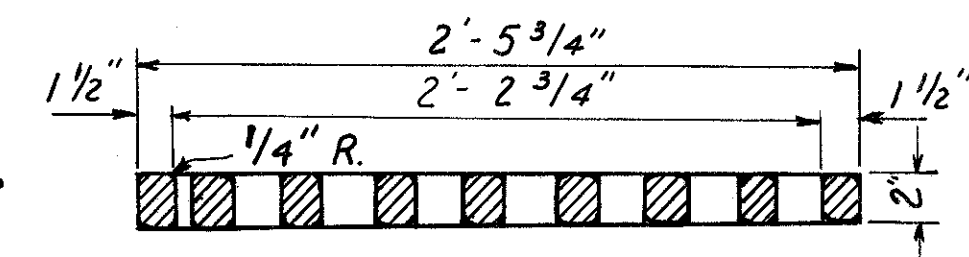


INLET GRATING

(City of Cincinnati Acc. No. 49012)
(Type 1)

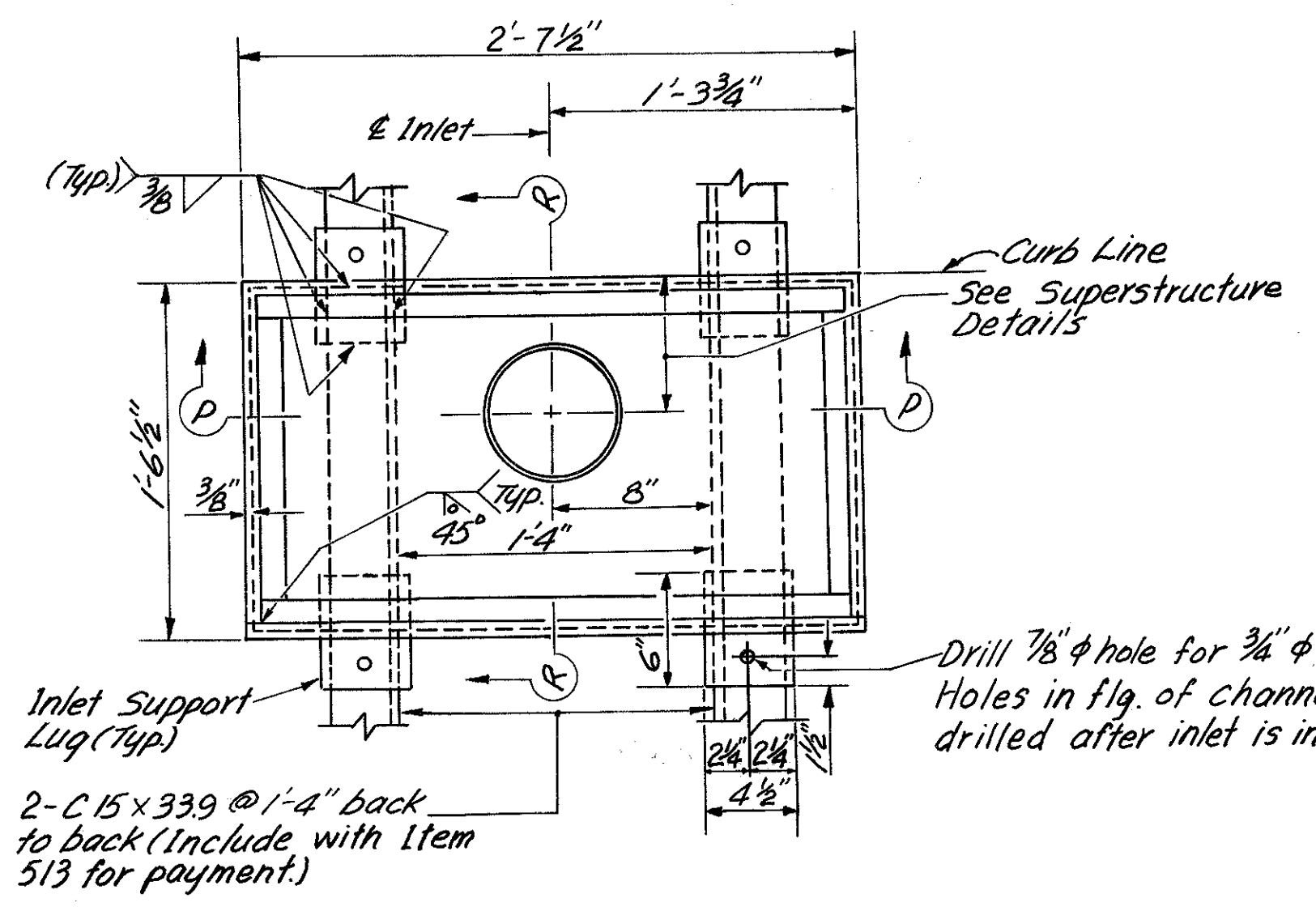


SECTION X-X



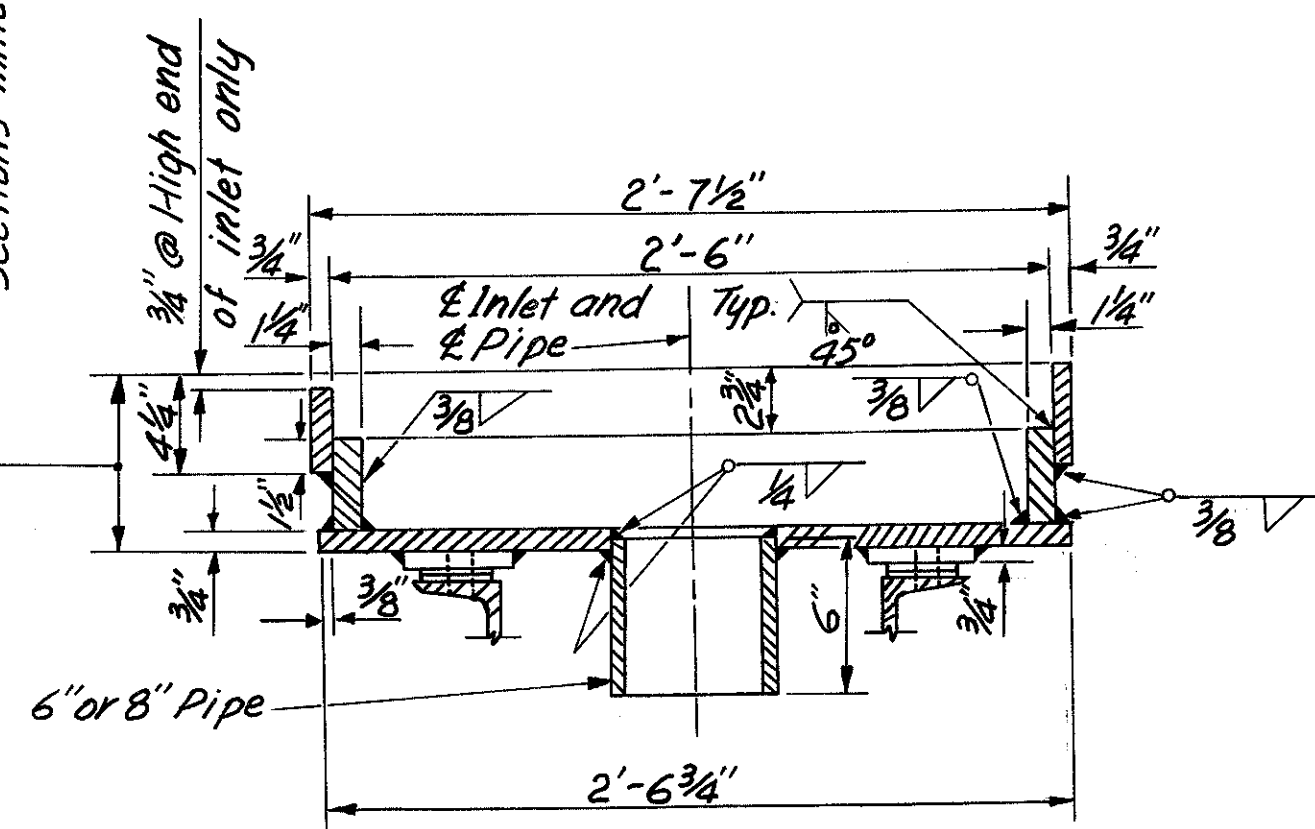
SECTION Y-Y

Note: "Drain Inlet" shall include inlet grating, $\frac{3}{4}$ " ϕ bolts, shims, inlet frame, lugs and 6 inches of standard pipe for payment, Item 51B, Each.



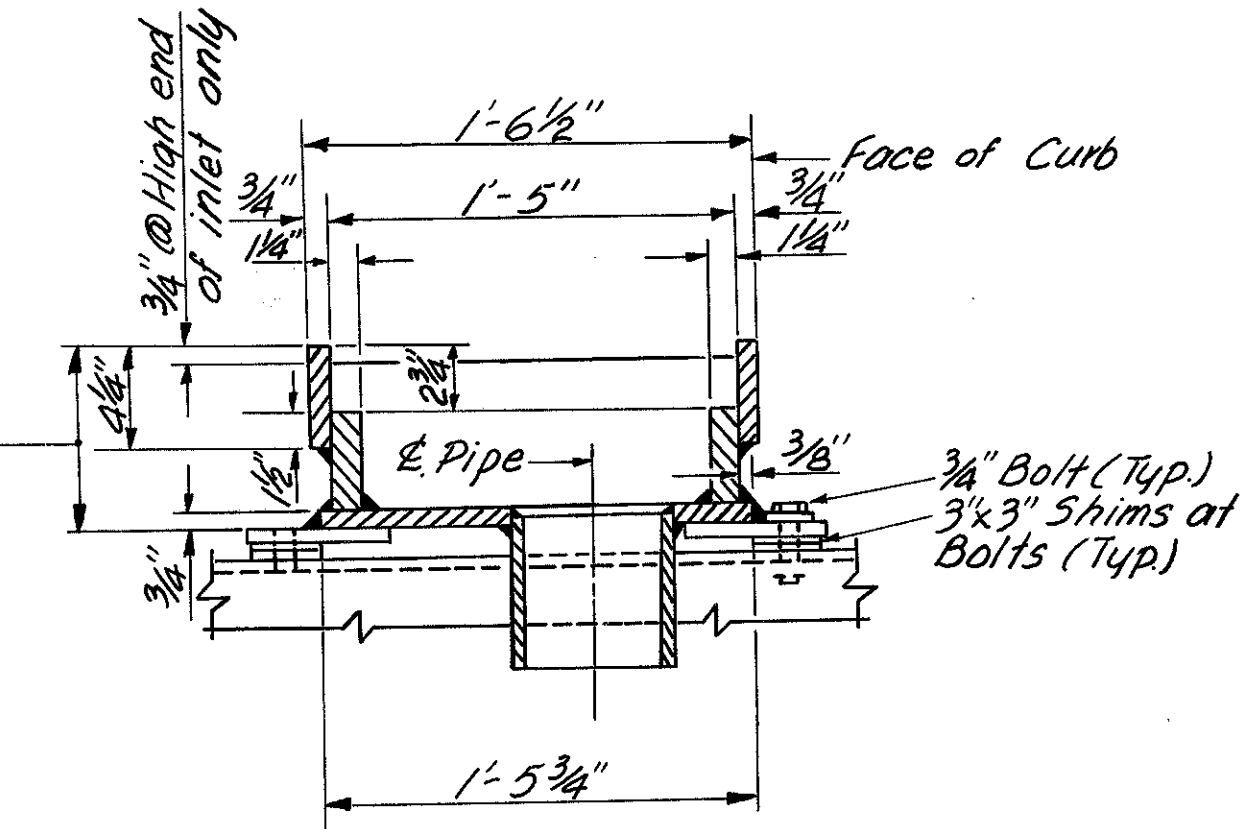
INLET FRAME

Equal to reinforced concrete slab thickness as called for on superstructure transverse sections minus $1\frac{1}{4}$ ".



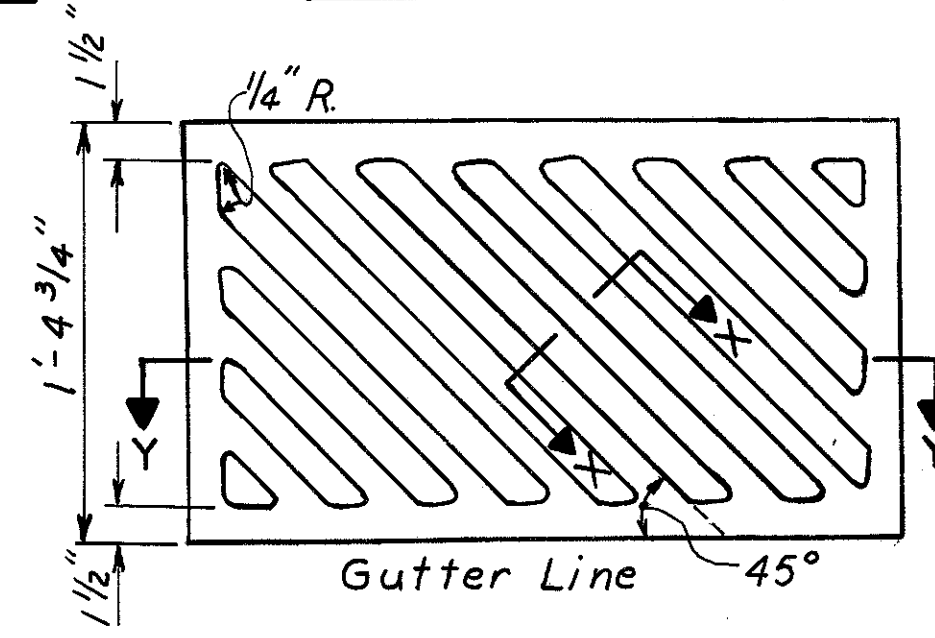
SECTION P-P

Equal to reinforced concrete slab thickness as called for on superstructure transverse sections minus $1\frac{1}{4}$ ".



SECTION R-R

Direction of Flow



INLET GRATING

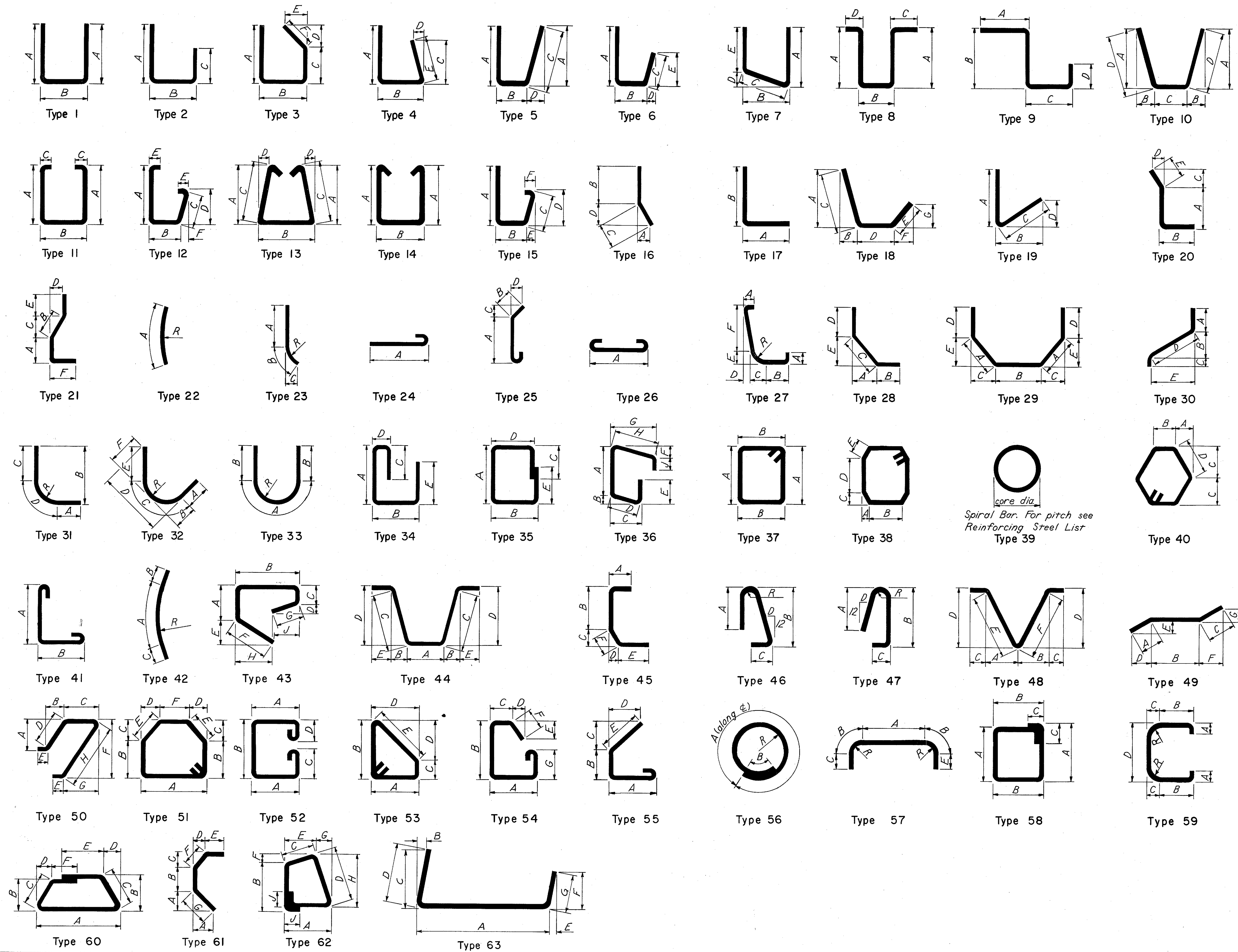
(City of Cincinnati Acc. No. 49014)
(Type 2)

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
DRAINAGE DETAILS					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	BY
	YK		JH	JH 3-25-82	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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Bars shall be carefully shaped to the pertinent dimensions shown in the table of Standard Bends, Section 509.05 of the State of Ohio Construction and Material Specifications.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
BAR BENDING SCHEDULE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MED		WJL	JH 3-25-82	