

7-13-81

STATE	OHIO	1 10
	FHWA REGION 5	
FEDERAL PROJECT		

CL1-730-4.91

ALL 8 866

RECEIVED
JUL 5 1985

CONVENTIONAL SIGNS

County Line _____
 Township Line _____
 Section Line _____
 Corporation Line _____ or _____
 Fence Line (existing) — x — (proposed) — x —
 Center Line _____ 352 _____ 353 _____
 Trees , Stumps  (to be removed)  
 Utility Poles: Telephone , Power , Light .

Limited Access (only) _____ LA _____
 Right of Way (only) _____ RW _____
 Limited Access & Right of Way _____ LA & RW _____
 Existing Right of Way _____
 Property Line  (in existing fence) — x —  — x —
 Railroad  or + + + + +
 Guardrail (existing)    (proposed)   

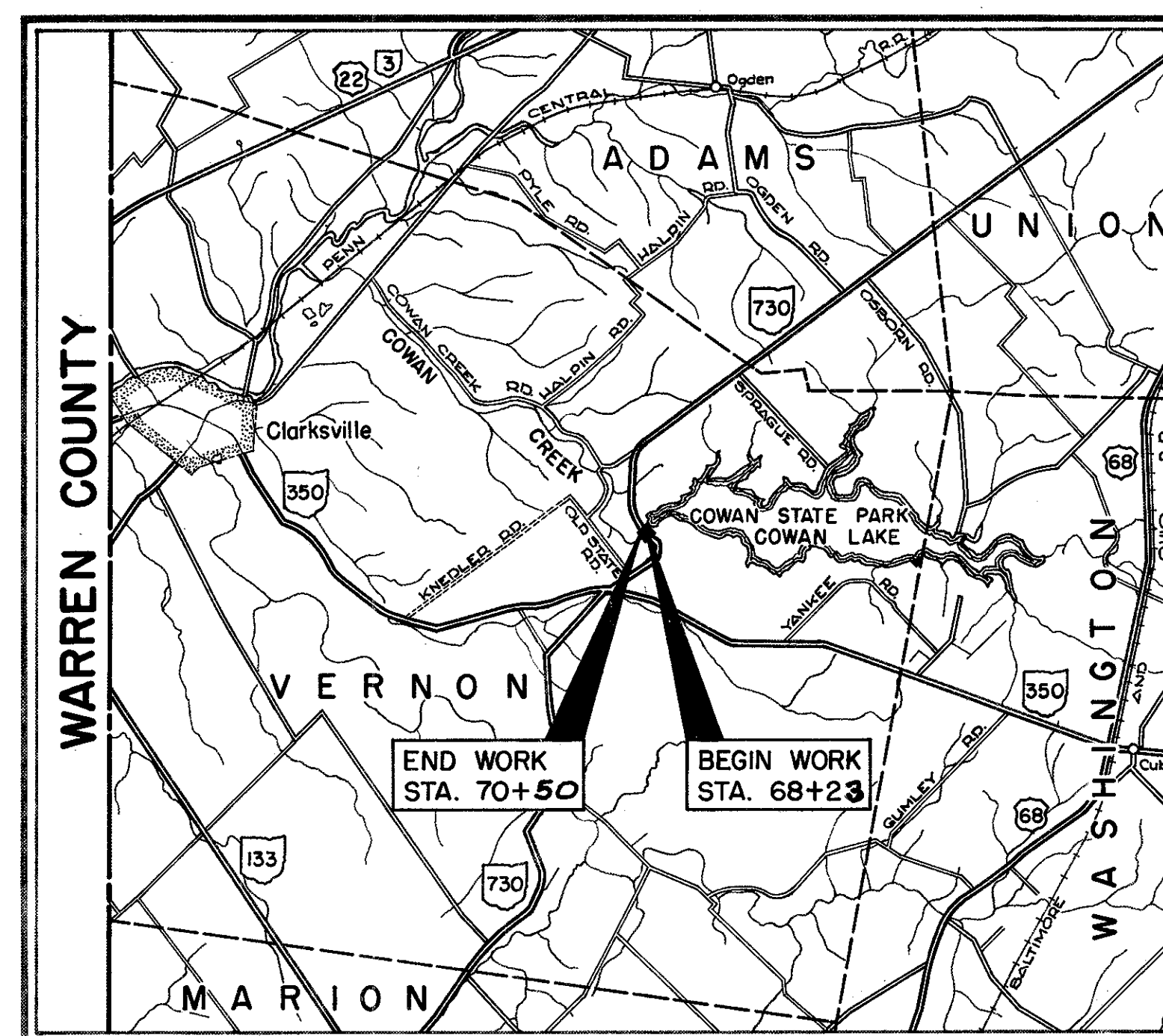
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Sht. No. 3 revised 10-17-75 S.M.K.
Shts. No. 3, 6 and 10, Revised 11-25-75 WJJ

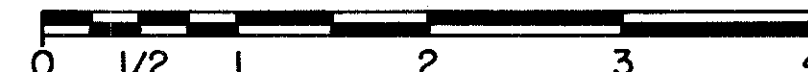
LINE DATA

Length of Work (Sta. 68+23 to 70+50) _____ 227 Lin. Ft. or 0.042 Miles
Length of Project _____ 0.00 Lin. Ft. or 0.000 Miles



LOCATION MAP

SCALE IN MILES



Portion to be improved _____

State & Federal Routes _____

Other Roads _____

SCALES

Plan: _____

Profile: _____ Horizontal _____, Vertical _____

Cross Section: Horizontal _____, Vertical _____

[illegible]

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

[illegible]

Plan Prepared By:

SEAL

Project: _____
Date of Letting _____ 19____, Contract No. _____
LD0300 Rev. 11-21-73

1975 SPECIFICATIONS

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

The right of way for this improvement will be provided by the State of Ohio.

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

Approved Charles A. Witte
Date 6/10/75 District Deputy Director of Transportation

Approved Robert B. Pfeiffer
Date 8-21-75 Engineer, Bureau of Bridges

Approved E. J. Schaefer
Date 8-29-75 Engineer, Bureau of Roadway Design

Approved John B. Ellis
Date 8-29-75 Assistant Deputy Director for Highway Design

Approved D. W. Billingsley
Date 8-29-75 Assistant Deputy Director for Real Estate

Approved Howard E. Nolan
Date 8-29-75 Assist. Dep. Director for Program Development

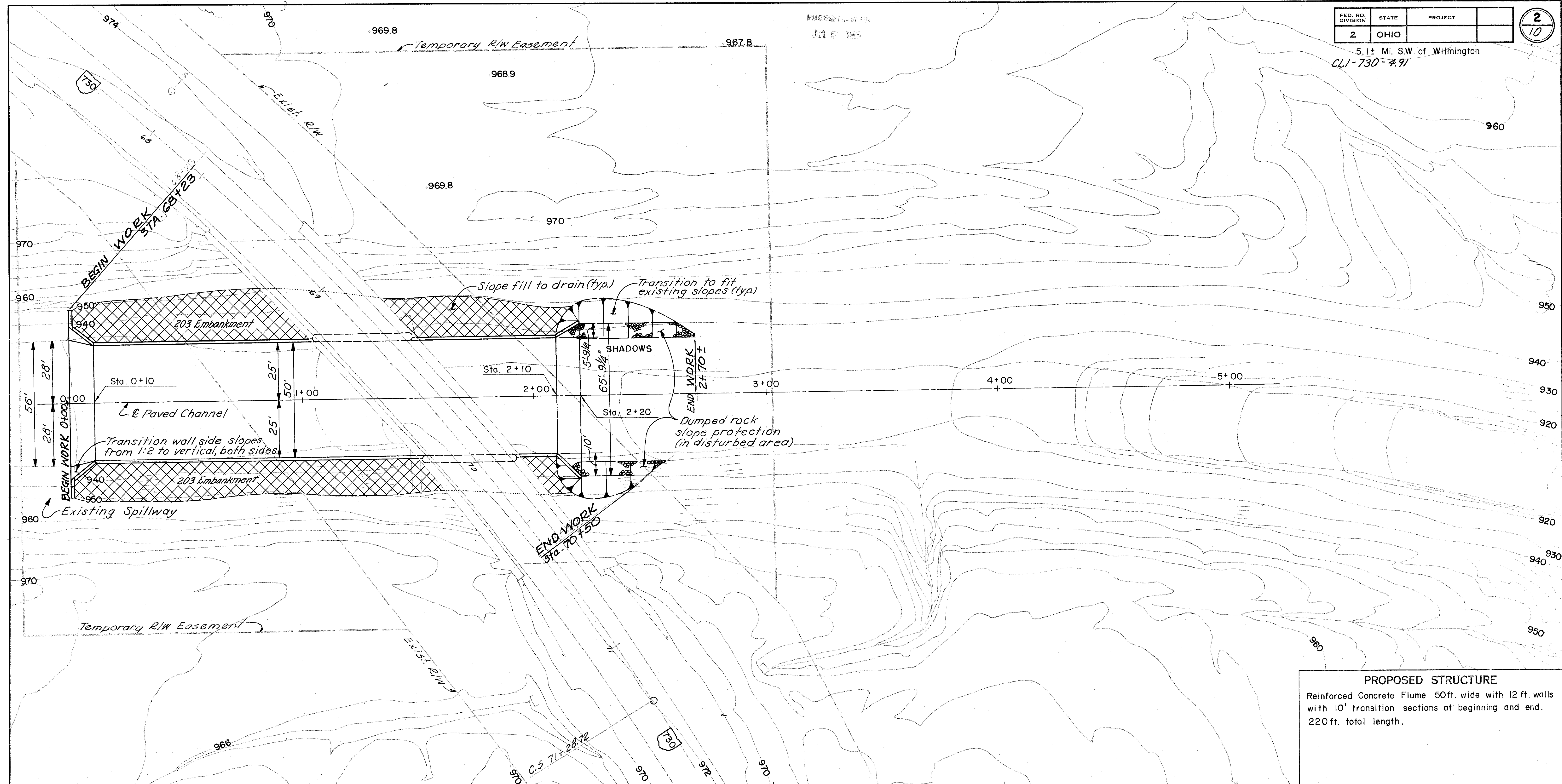
Approved R. E. Bathin
Date 8-29-75 Chief Engineer, Design

Approved David L. Allen
Date 8-29-75 Assist. Director, Department of Transportation

Approved *Richard D. ...*
Date 8-27-15 Director, Department of Transportation

Approved *James A. Smith*
Date 8-15-25 Department of Natural Resources

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PROPOSED STRUCTURE

Reinforced Concrete Flume 50ft. wide with 12 ft. walls with 10' transition sections at beginning and end. 220 ft. total length.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. OVER COWAN LAKE SPILLWAY
CLINTON COUNTY SR-730

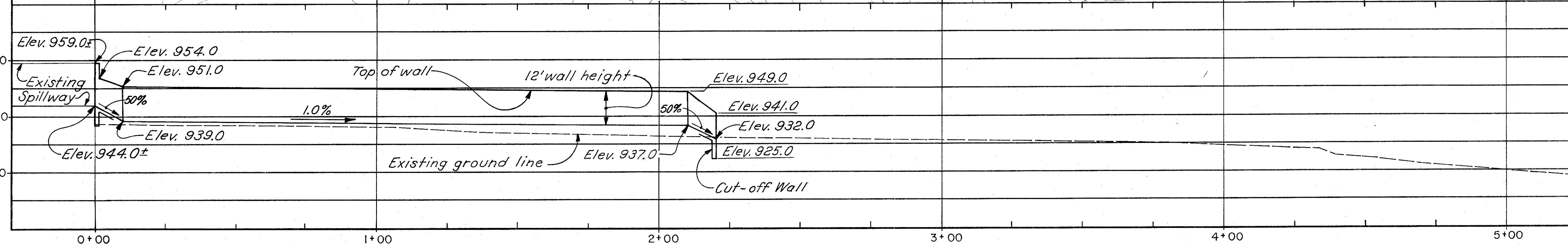
SEC. STA.

SCALE 1" = 20'

PRESENT TOPOGRAPHY PROPOSED WORK

SURVEYED AERIAL SURVEY	DRAWN AERIAL SURVEY	DESIGNED BDH	DRAWN BDH	CHECKED	REVIEWED D.H.S.
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BFG 8-14-75



GENERAL NOTES

REFERENCE shall be made to Supplemental Specification 808 dated 1-1-71.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1973, including the Ohio "Supplement" to these specifications.

DESIGN DATA:
Concrete Class C - unit stress 1333 psi
Reinforcing steel ASTM A615, A616 or A617
unit stress 20,000 psi.

REMOVAL OF PORTIONS OF EXISTING STRUCTURE: The channel side of bridge pier footings are faced with concrete which was added to protect them from short term erosion. This concrete is to be removed to the original footing lines.

FOUNDATION BEARING PRESSURE: All footings are designed for a minimum bearing pressure of four (4) tons per square foot.

FILL UNDER STRUCTURE: Where fill is required under the structure, to maintain plan elevations, crushed aggregate shall be used as per Item 304, State of Ohio Construction and Material Specifications. No fill may be placed above bottom of footing elevations until footings are in place.

PRESSURE JOINTS: All joints other than Construction jts. shall be sealed by use of the IGAS Joint System, Type B, pressure joint or an approved equal, installed in formed slots.

PRESSURE JOINTS (Cont.) Form joint slots by fastening wood strips on form work or abutting hardened concrete. Place concrete, remove strips and patch any imperfections with mortar.
Installation of joint material is to be made as per manufacturers specifications. See sheet 4 & 9.

ANCHOR PILES: Drill anchor pile holes six (6) feet into firm shale. Finished hole can vary (±) 2 inches in diameter and (±) 3 inches in depth. Before placing concrete, holes are to be air blown to force loose material from sidewalls. Loose material not to exceed ½ the hole diameter can remain in the bottom. No forming is permitted, steel is to be lowered into holes and concrete placed.

REPAIR WORK: Prior to pouring pier grade beams (and after placing self-drilling anchors and dowels) all imperfections in the pier footings and lower 12 feet of stem are to be repaired as per Item 519, State of Ohio, Construction and Material Specifications.

PLAN DIMENSIONS: The Contractor shall verify in the field the exact location of the pier footings with respect to the end of the existing spillway. It will be noted that the contract plans have provided for an adjustment in the length of panel no. 4, in the event an adjustment is required.

THREADED SELF-DRILLING ANCHORS: Anchors may be of the snap-off chuck-end type or of the flushed-end type conforming to Federal Specification No. FF-S-325, Group III Type I (a) or (c). Threaded steel rods, length as shown on plans, are included with anchors for payment.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Structure	Rdwy				
202	16	Cu. Yd.	Portions of structure removed	16					
304	574	Cu. Yd.	Aggregate base	574					
203	1020	Cu. Yd.	Embankment, As Per Plan		1020				
503	455	Cu. Yd.	Shale excavation	455					
659	770	Sq. Yd.	Seeding and Mulching		770				
* 507	584	Lin. Ft.	12" Reinforced concrete anchor piles (see note)	584					
507	552	Lin. Ft.	Prebored holes	552					
659	0.07	Tons	Commercial Fertilizer (12-12-12)		0.07				
509	112,198	Lbs.	Reinforcing steel	112,477	112,198				
510	72	Lin. Ft.	Dowel holes	72					
511	957	Cu. Yd.	Class "C" concrete	957					
Special	95	Each	½" threaded self-drilling anchor	95					
Special	113	Each	¾" threaded self-drilling anchor	113					
512	160	Sq. Yd.	Type B waterproofing	160					
516	1473	Sq. Ft.	½" preformed expansion joint filler	1473					
518	259	Cu. Yd.	Porous backfill	259					
518	434	Lin. Ft.	8" Non-Perf. CMP incl. spec., 707.01, bituminous coated as per 707.04	434	10				
518	10434	Lin. Ft.	8" Perf. CMP incl. spec., 707.01, bituminous coated as per 707.04	10	434				
518	59	Lin. Ft.	6" Non-Perforated CMP	59					
519	321	Sq. Ft.	Patching concrete structures	321					
601	128	Cu. Yds	Dumped rock fill, Type A, 4 feet thick	128					
Special	901	Lin. Ft.	Joints, Type A	901					
Special	98	Lin. Ft.	Joints, Type B	98					
808	957	Units	Chemical admixture for concrete, Type A, B or D	957					
619	Lump	Lump	Field Office		Lump				
623	Lump	Lump	Construction layout stakes	Lump	Lump				
614	Lump	Lump	Maintaining Traffic		Lump				

FIELD OFFICE: The Contractor shall provide a suitable field office having a minimum of 300 sq. ft. of floor space and in addition to the requirements of Item 619, he shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Item 619, Field Office.

WORK AREAS: The Contractor shall construct the project using the existing right-of-way for S.R. 730 and the temporary easements as shown in the plans as work areas. Upon completion of the project the Contractor shall immediately restore all disturbed areas to their original condition. All restoration shall be performed according to State Specifications and shall meet the approval of the Project Engineer. All trees within the work areas, 3 inches or larger in diameter, shall not be disturbed unless given written permission by the Engineer.

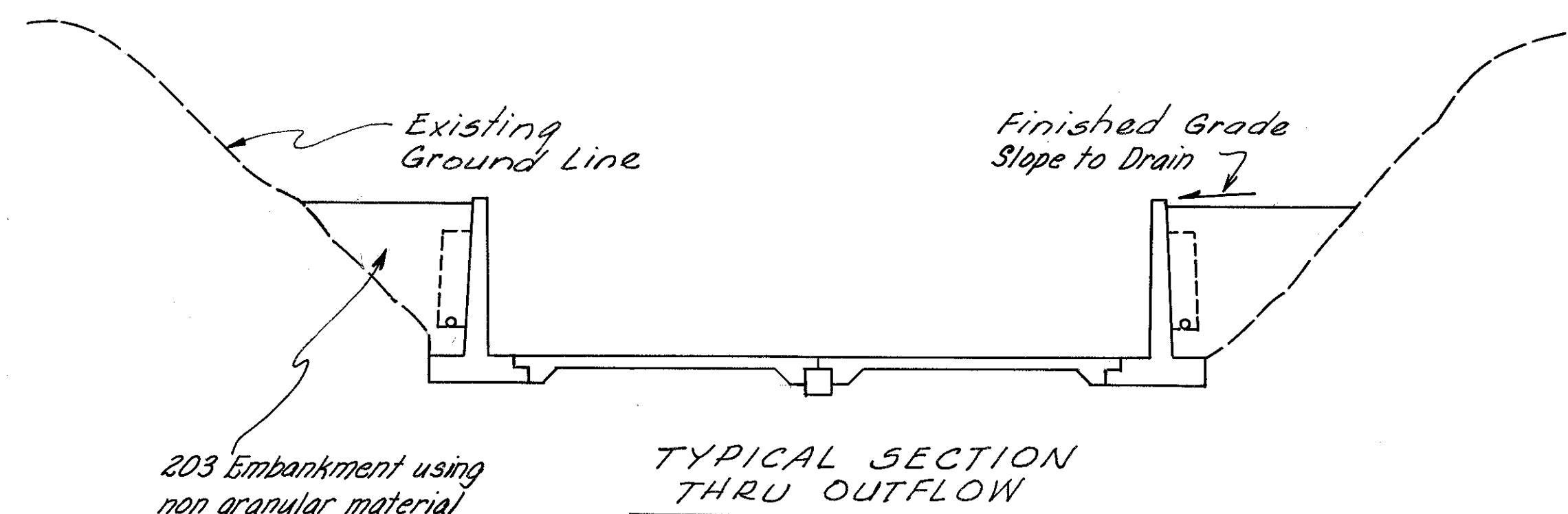
Payment for all the above shall be included in the unit prices bid for Item 203 Embankment, As Per Plan. If additional work area outside the temporary easements is required by the Contractor for his particular construction operations, it will be the Contractor's responsibility to negotiate directly with the Department of Natural Resources for the additional work area needed.

MAINTENANCE OF TRAFFIC: Two-way traffic shall be maintained at all times on existing S.R. 730.

LAKE INFORMATION: Drawdown for construction of outflow to be completed by November 15, 1975. Drainage area is 51 sq. mi. Surface area of spillway crest is 700 acres.

SEEDING: Quantities for seeding are calculated for the 203 Embankment areas.

SOIL INFORMATION: All available soil and bedrock information which can be conveniently shown has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of this data, if any, may be inspected in the District Deputy Director's office, The Bureau of Tests at 1600 W. Broad Street, the Pavement and Soils Section of the Bureau of Roadway Design, or in the Bridge Bureau at 25 S. Front St., Columbus, Ohio 43216.

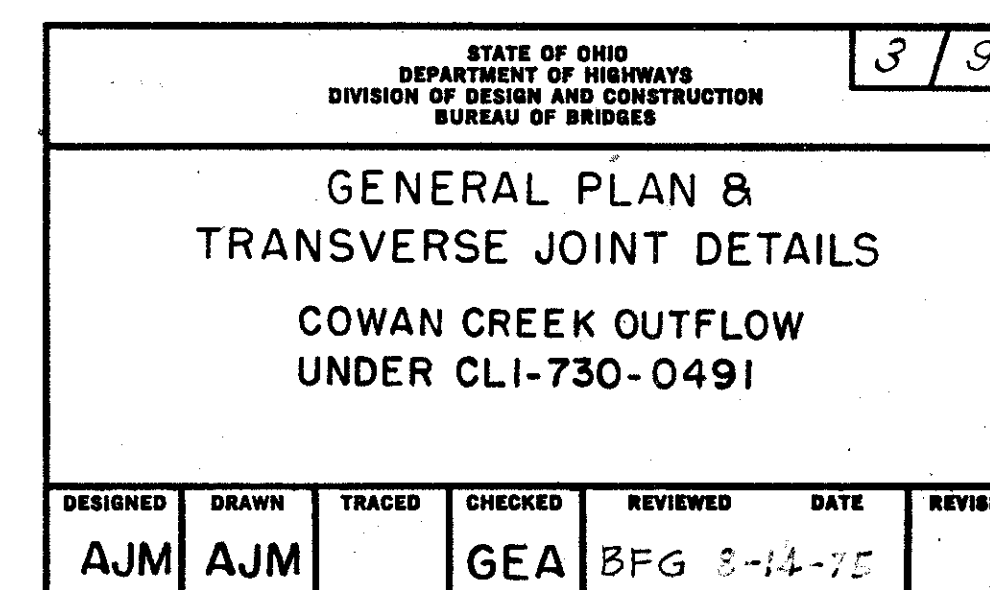


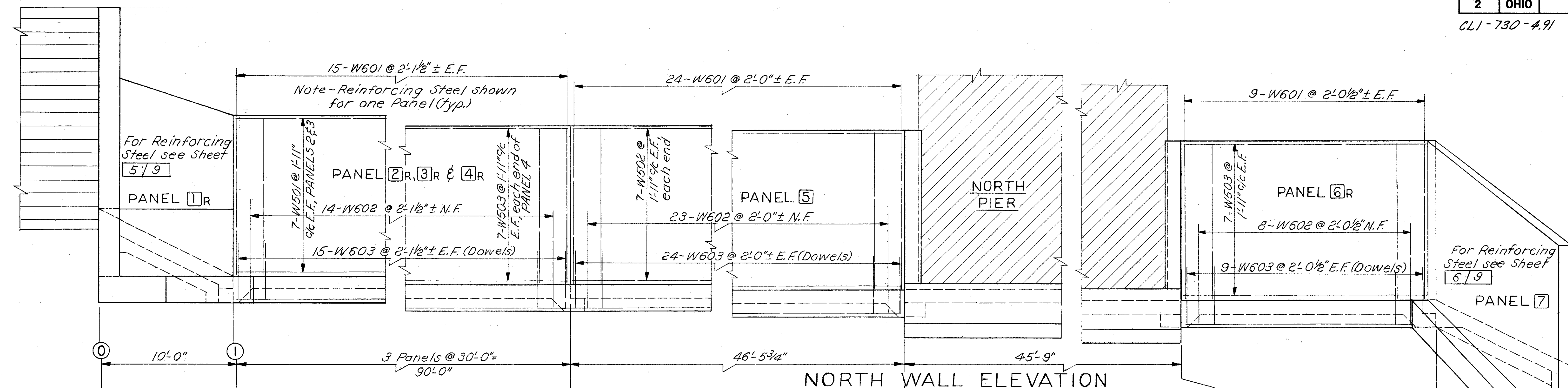
* No separate payment will be made for Item 505 under this contract. Instead, all expenses for moving necessary equipment to and from the site will be included in the unit prices bid for the pertinent Item 507.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES					
GENERAL NOTES & ESTIMATED QUANTITIES COWAN CREEK OUTFLOW UNDER CL1-730-0491					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
AJM	AJM	BDB	BFB	BFG	8-14-75

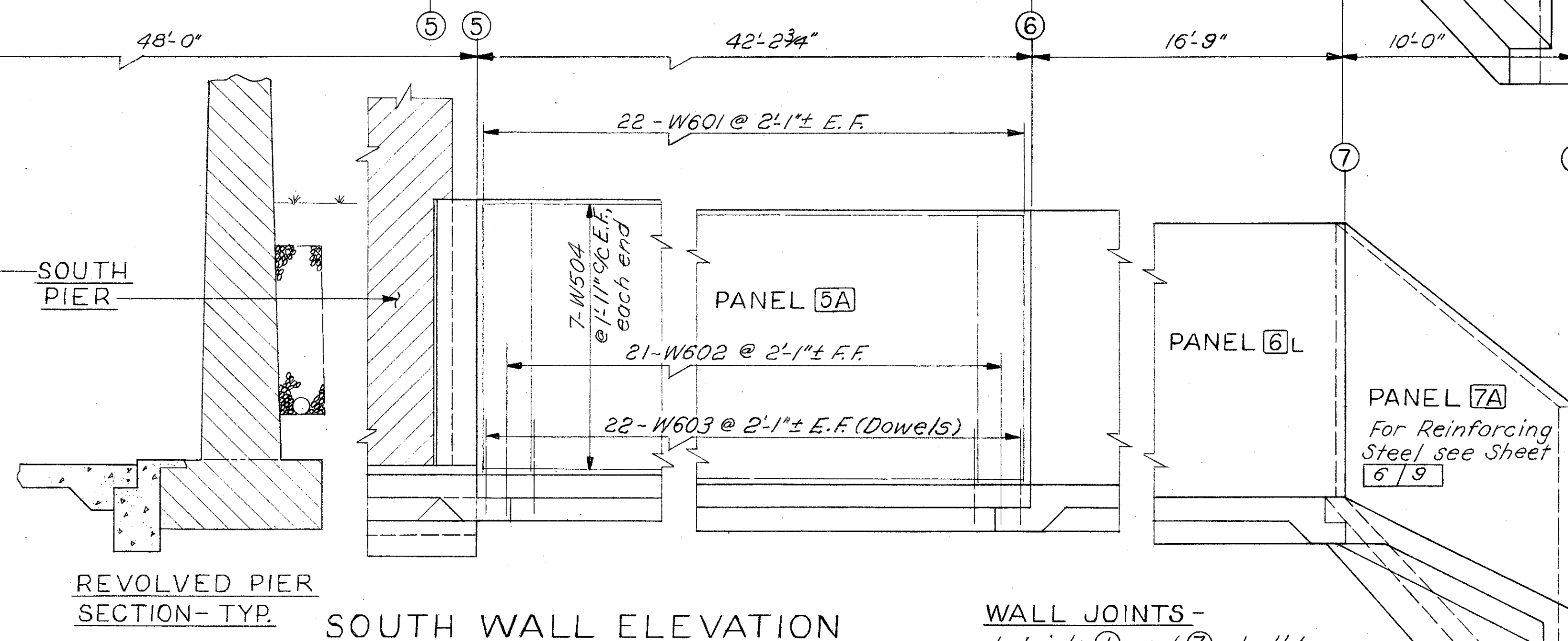
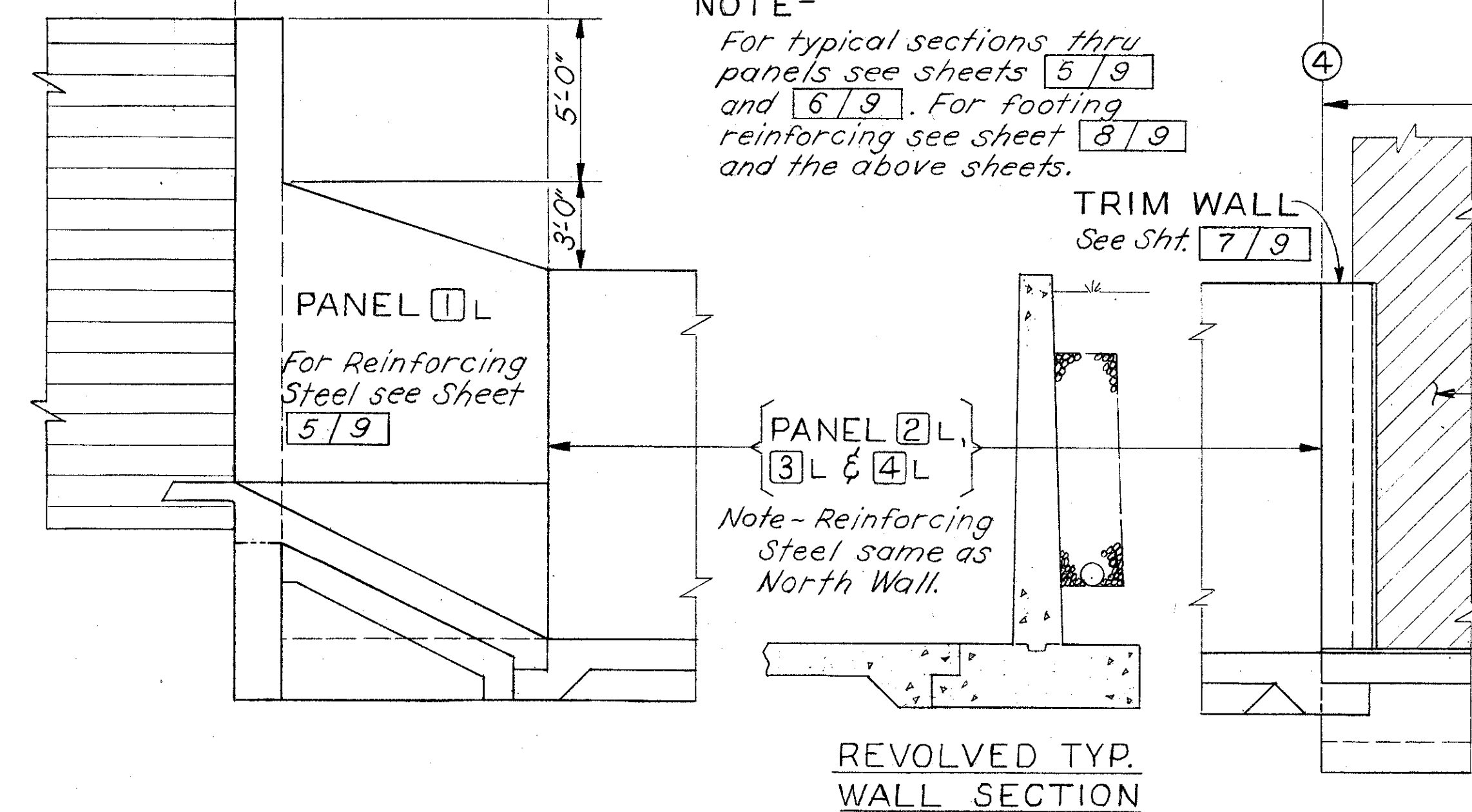
Rev. 10-17-75 S.M.K.

Revised 11-25-75 WJJ



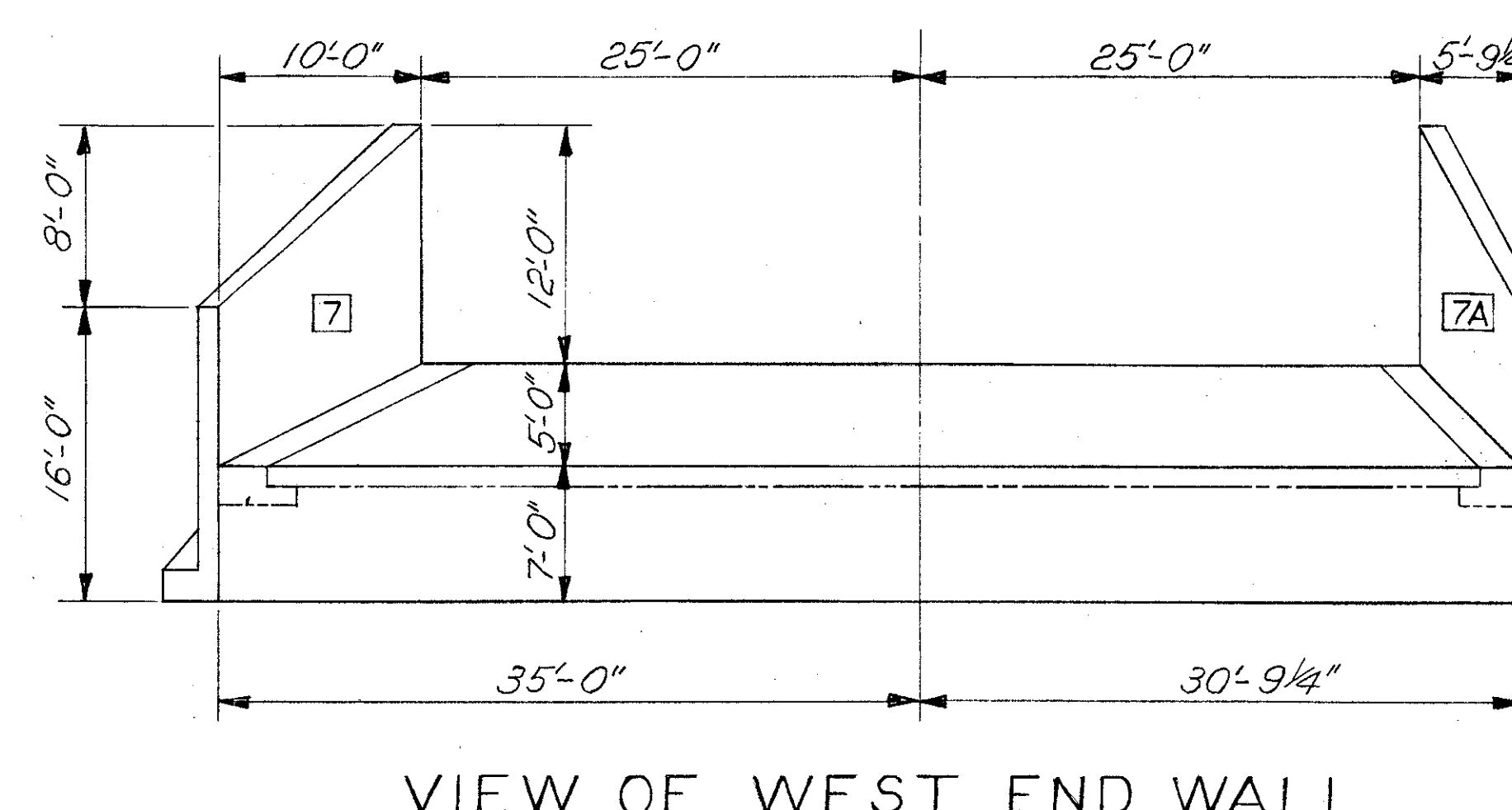
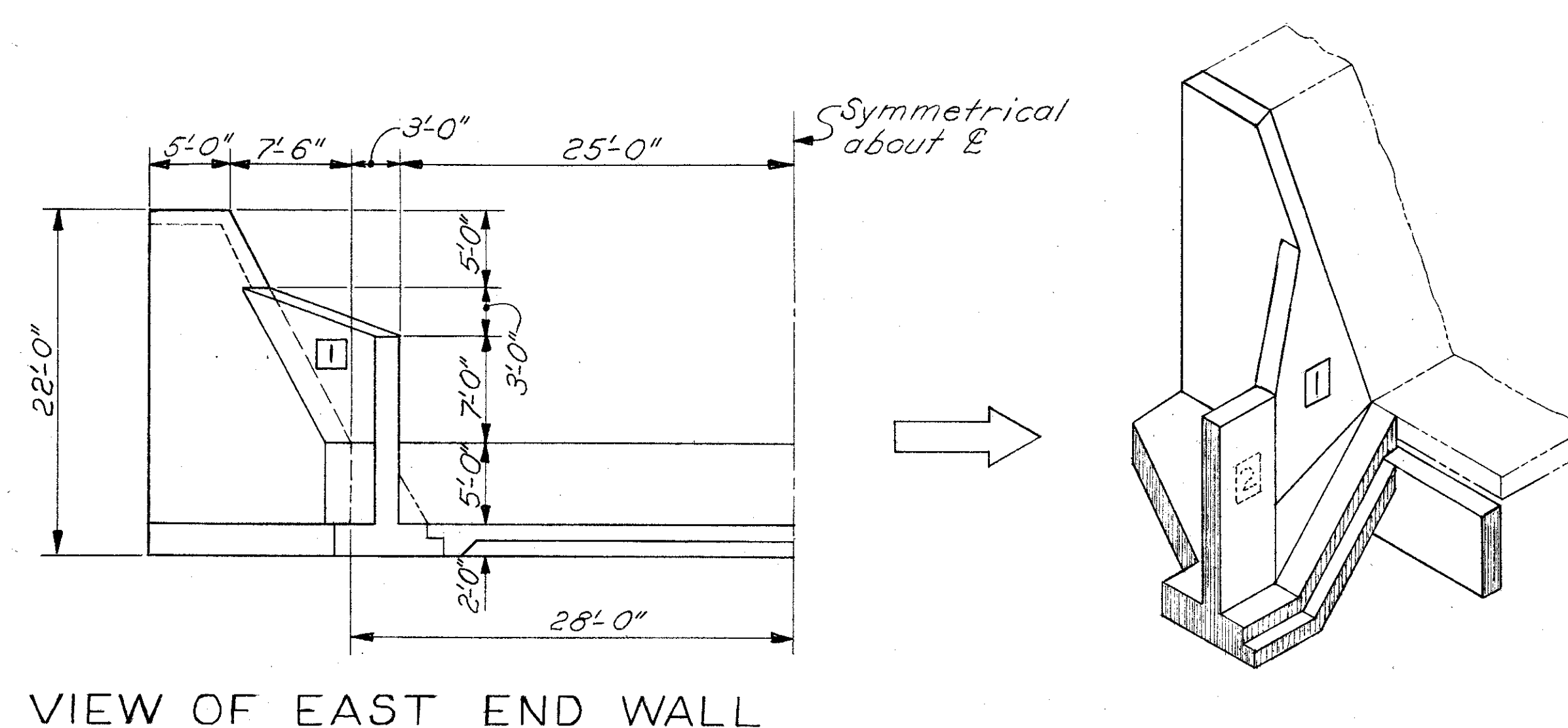


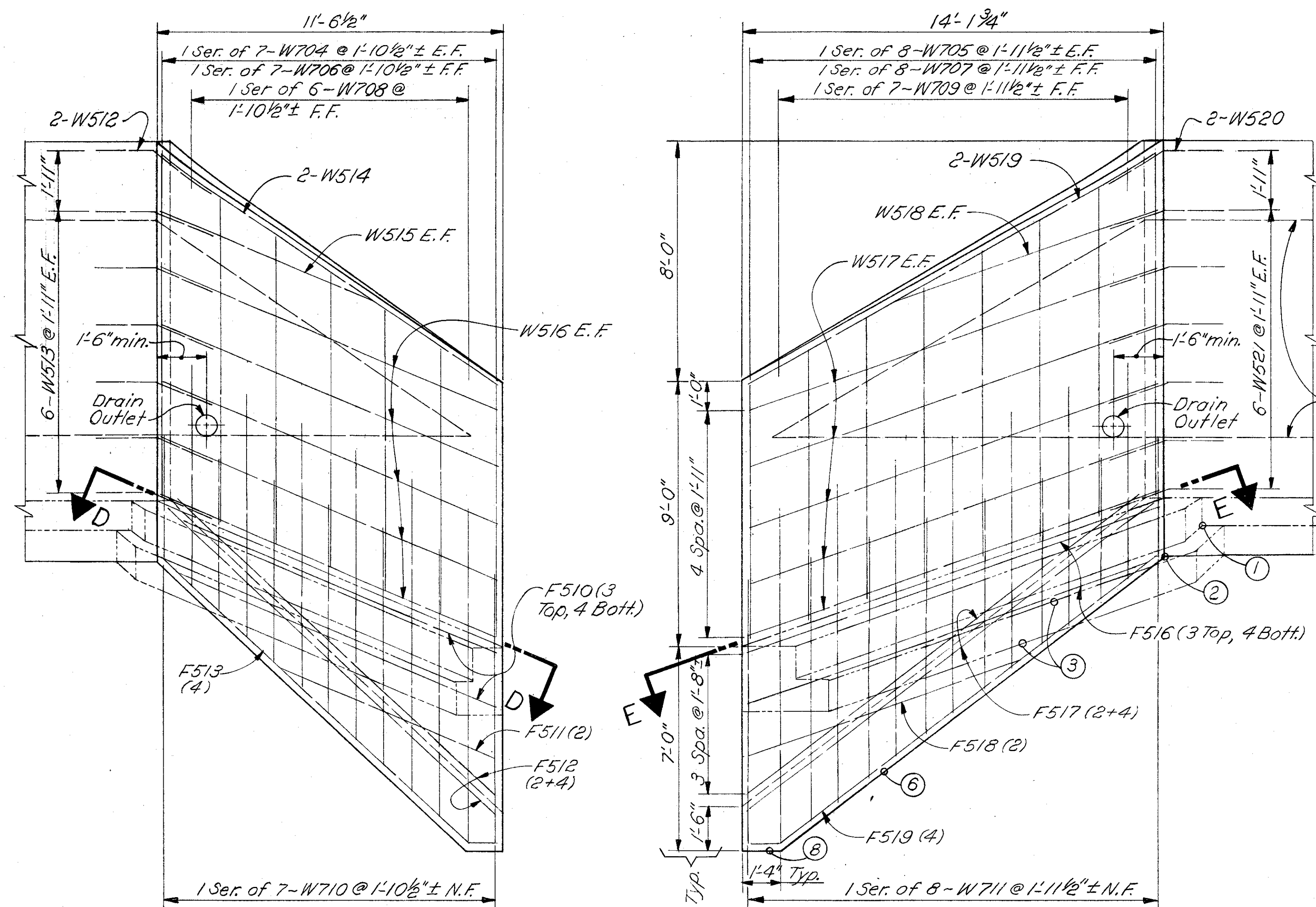
NOTE-
For typical sections thru panels see sheets 5/9 and 6/9. For footing reinforcing see sheet 8/9 and the above sheets.

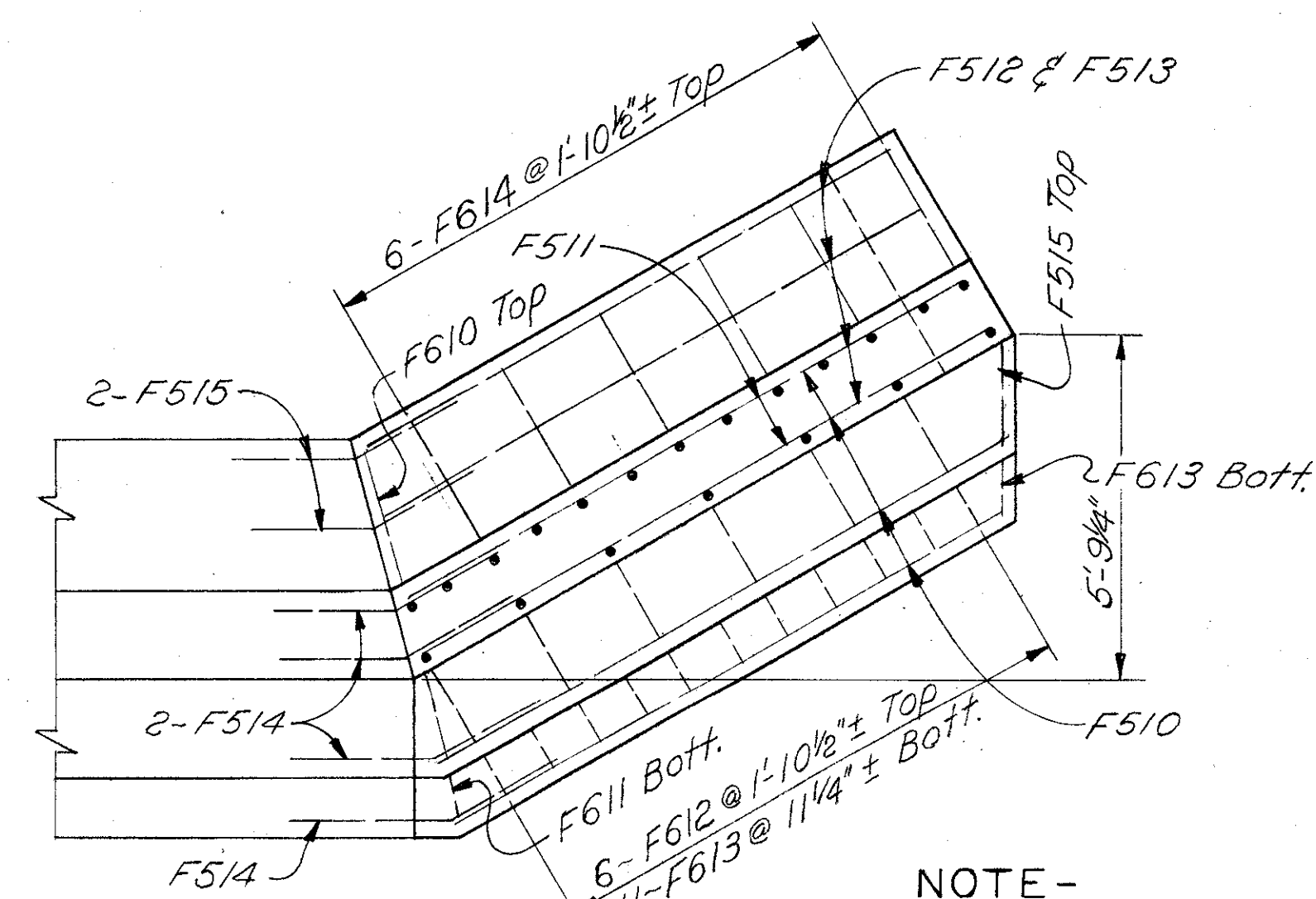


WALL JOINTS-
1. Joints ① and ⑦ shall be construction joints.
2. Joints ② thru ⑥ shall be Type A joints as shown on Sheet 8/9.

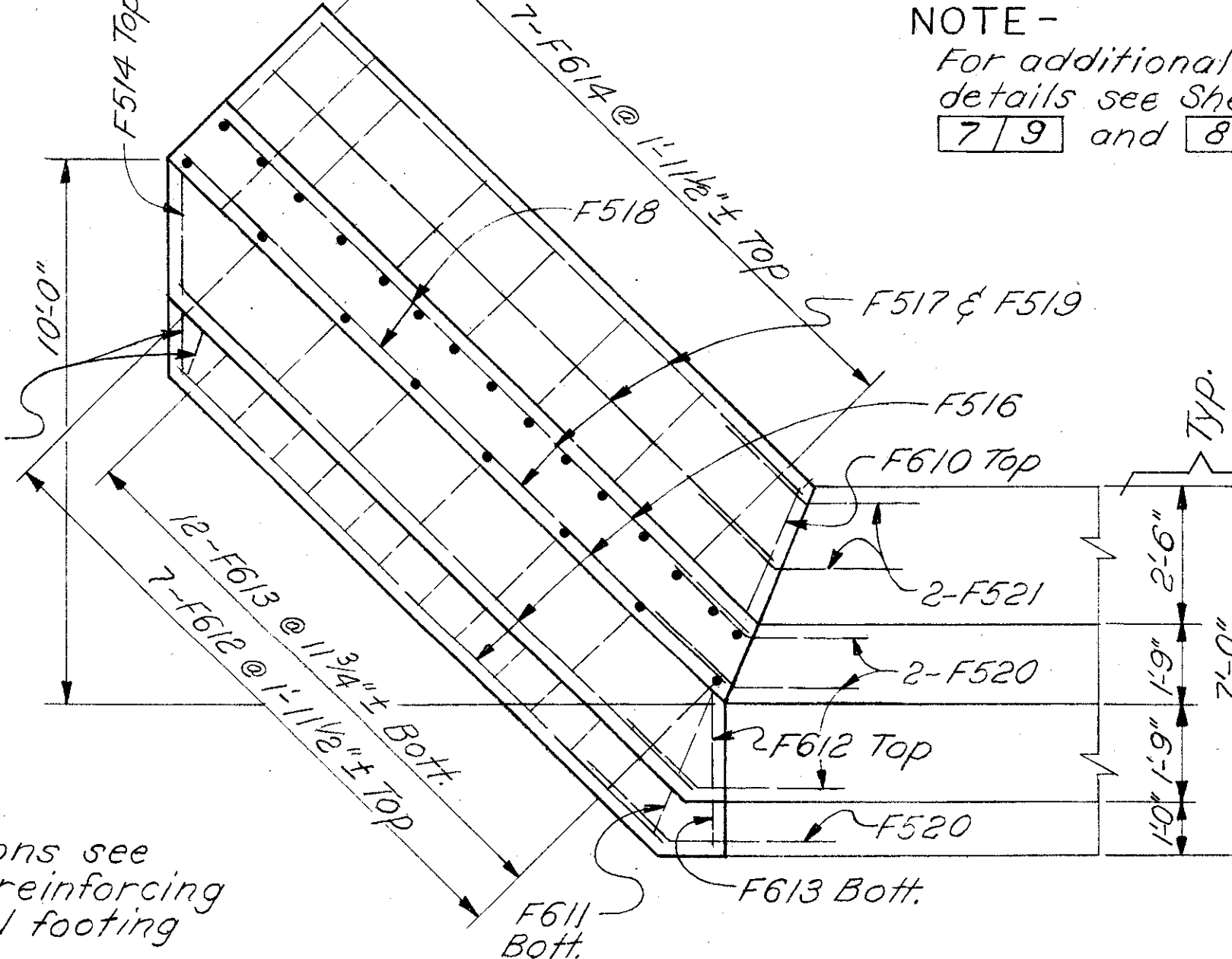
LEGEND
E.F.- EACH FACE
N.F.- NEAR FACE
F.F.- FAR FACE
④- WALL PANEL MARK
②- JOINT OR BREAK IN GRADE MARK




SECTION A-A
(PANEL 7A)

SECTION B-B
(PANEL 7)


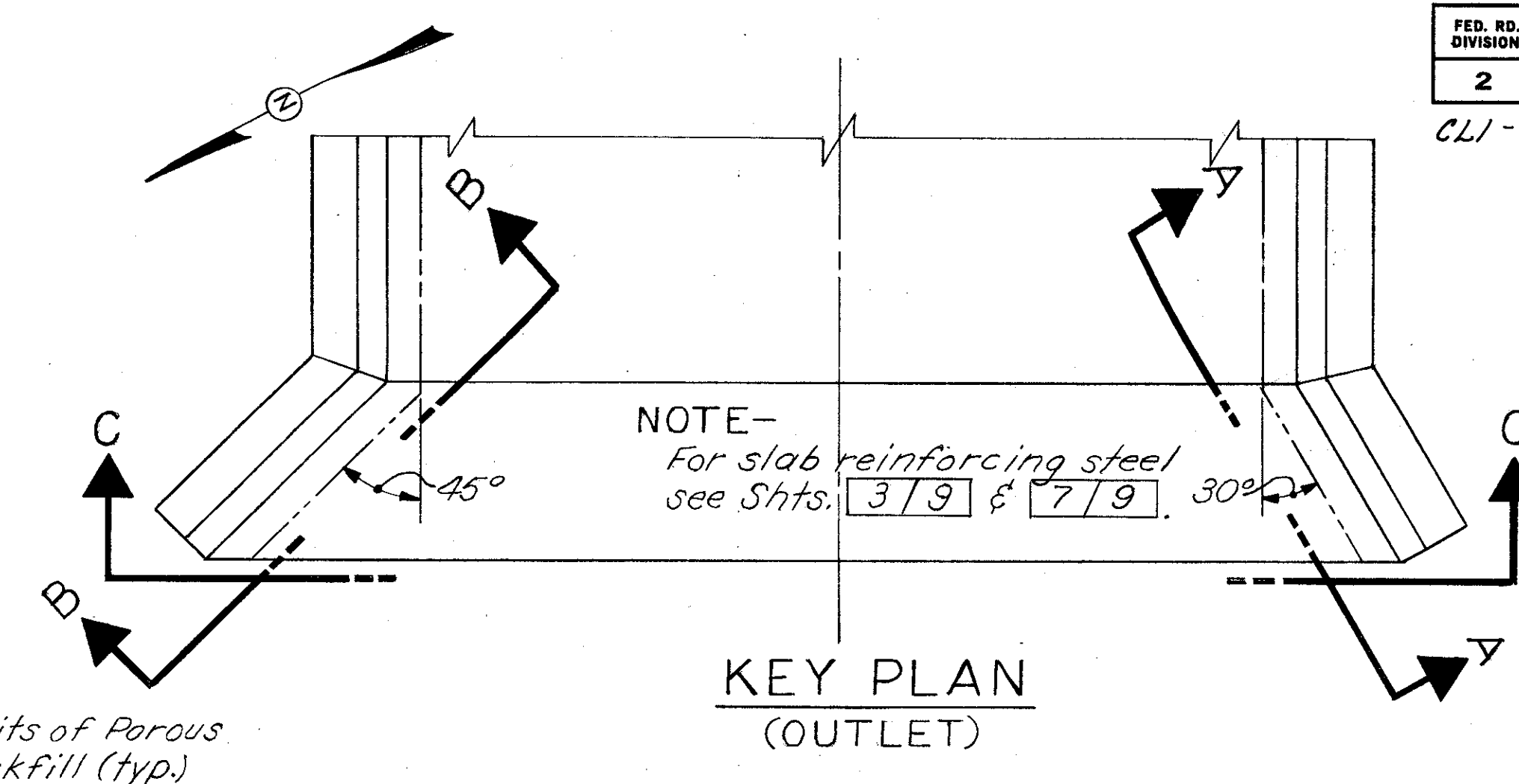
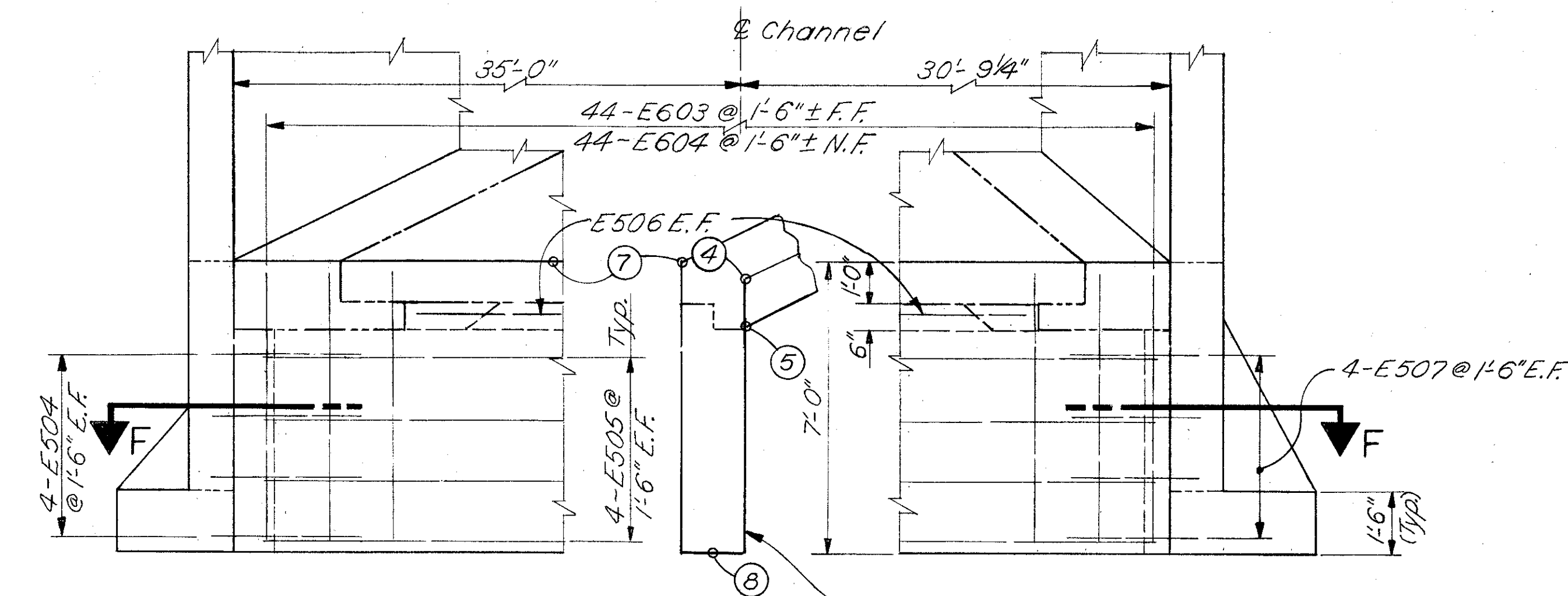
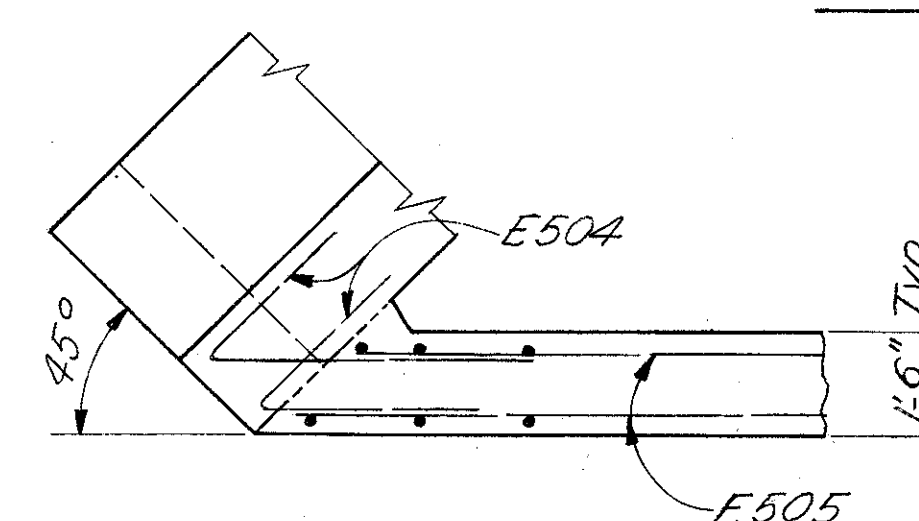
SECTION D-D



SECTION E-E

NOTE -
For Panel sections see
Sht. 5/9. For reinforcing
steel in normal footing
see Sht. 8/9.

NOTE -
For additional drainage
details see Sheets 5/9
7/9 and 8/9


KEY PLAN
(OUTLET)

SECTION C-C
For section thru cut-off wall
showing reinforcing steel see
Sht. 3/9.


SECTION F-F

ELEVATION	
①	936.00
②	935.00
③	VARIES
④	931.63
⑤	930.50
⑥	VARIES
⑦	932.00
⑧	925.00

LEGEND
E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE

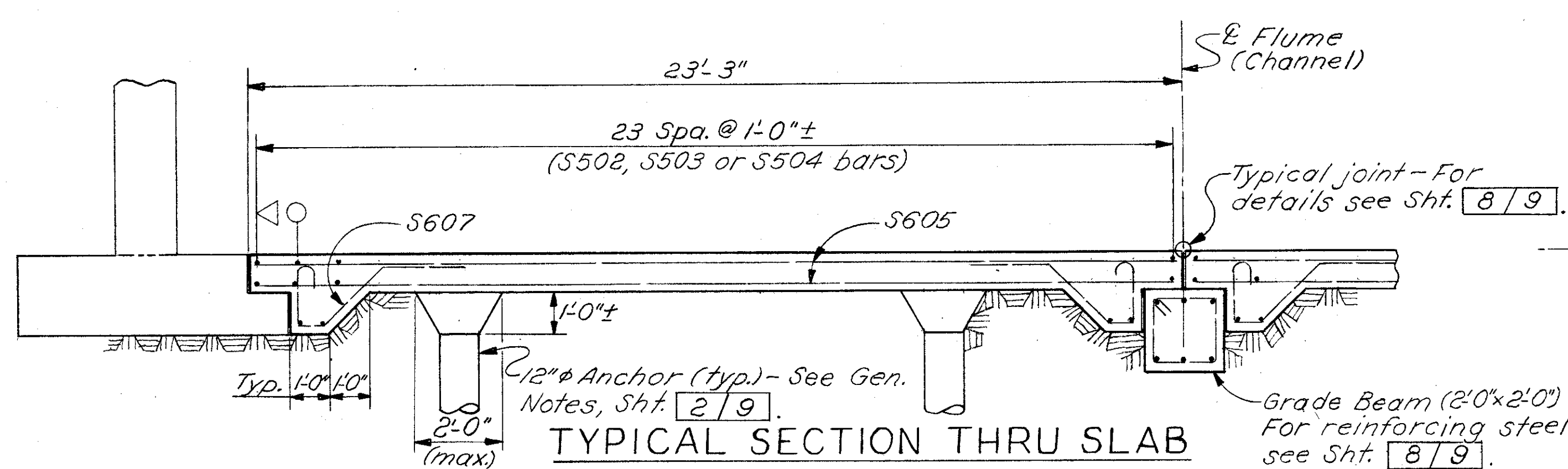
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

OUTLET DETAILS
COWAN CREEK OUTFLOW
UNDER CL1-730-0491

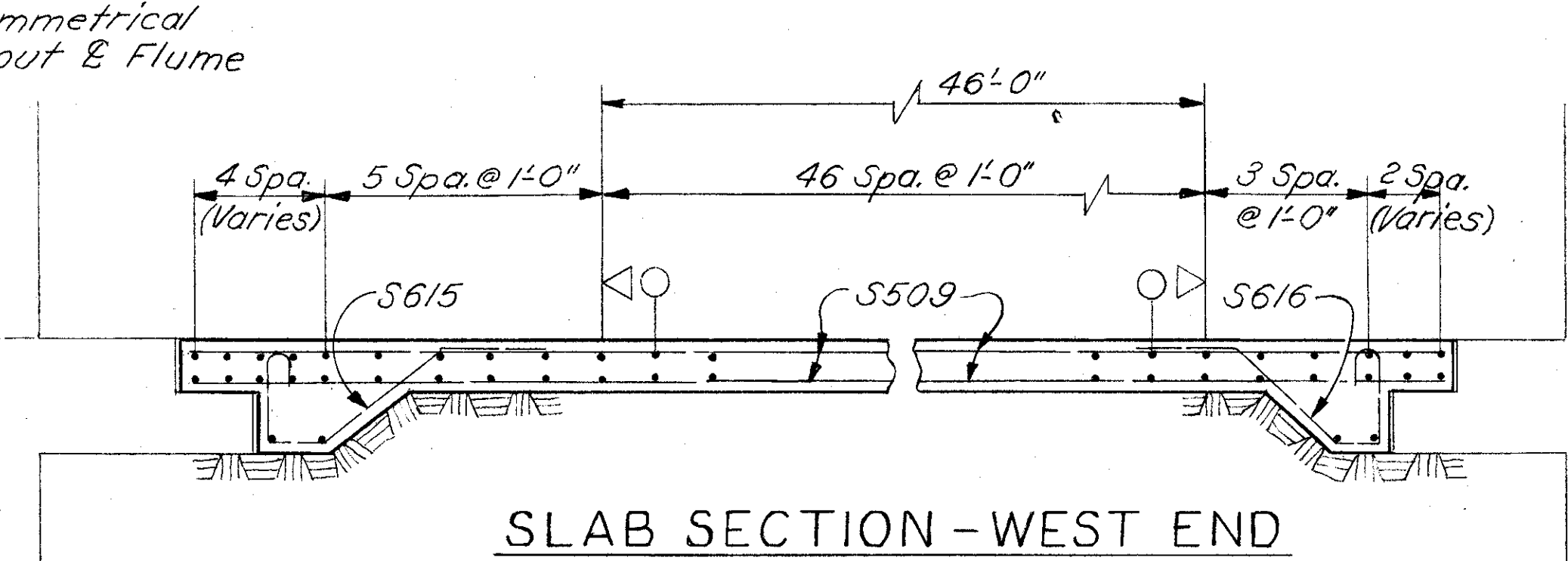
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AJM	AJM		GEA	BFG	8-14-75	

NOTE -
Pour End Wall against
undisturbed shale. Avoid
forming inside face of lower
side walls.

FOOTING ELEVATIONS - OUTLET

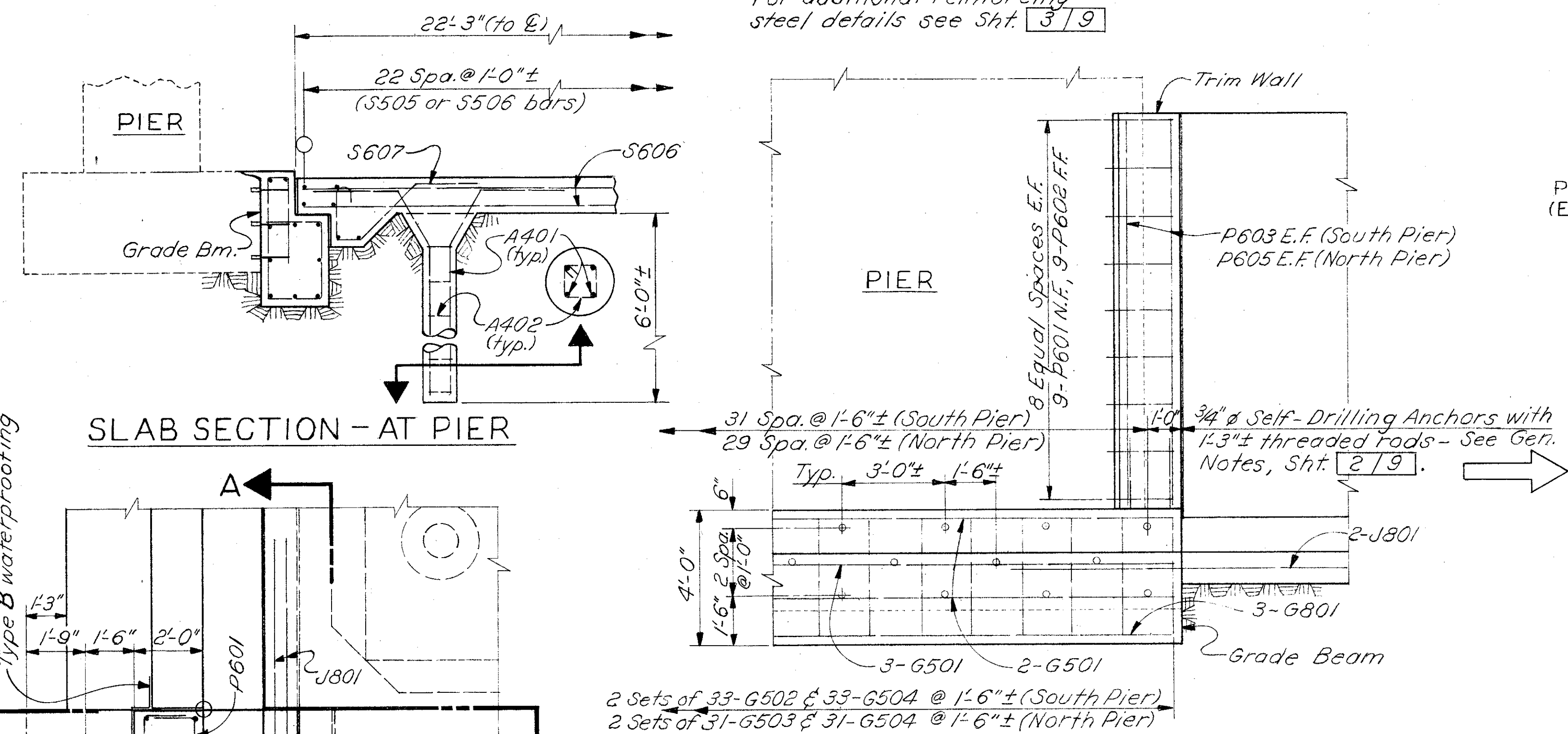


SLAB SECTION - EAST END



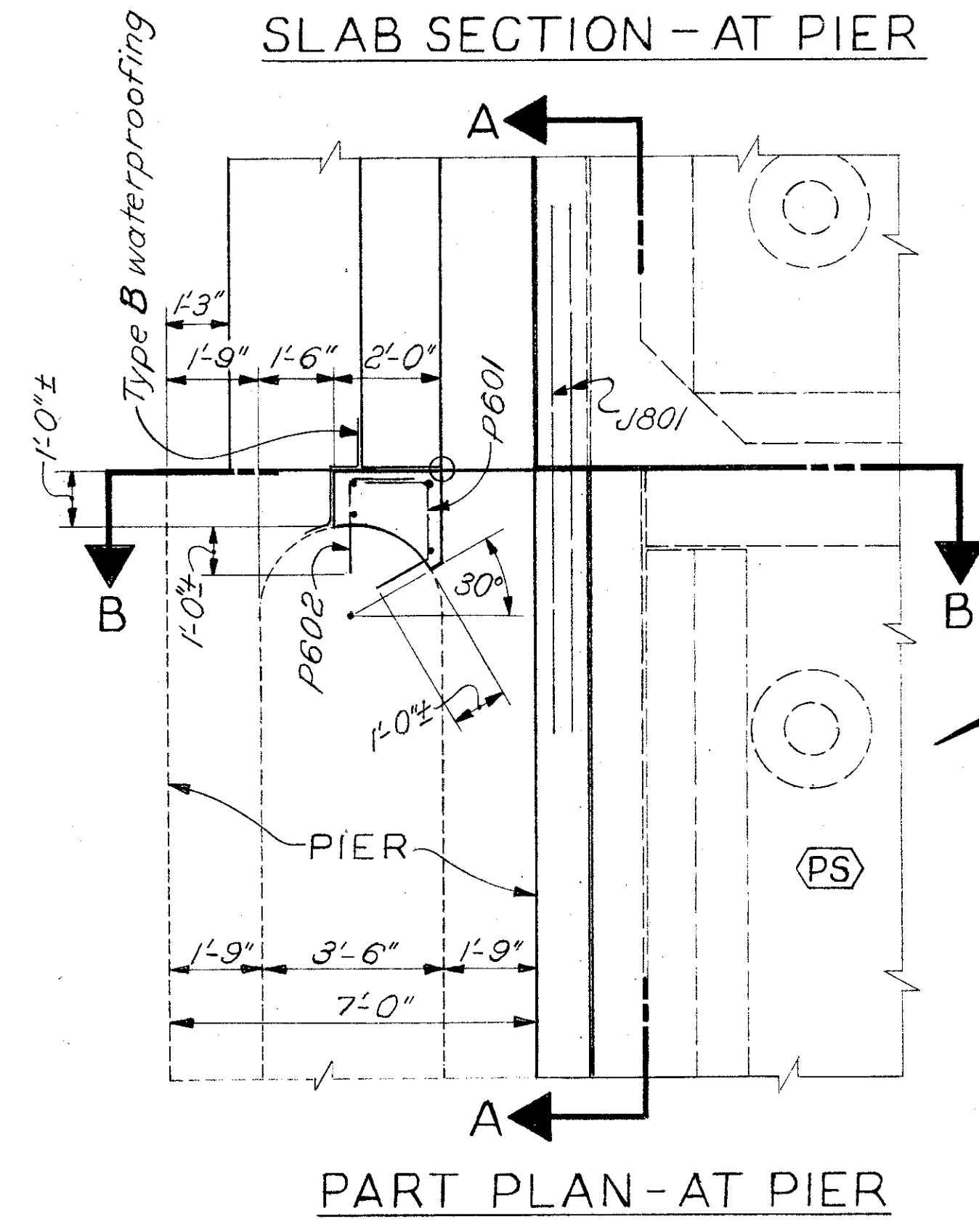
SLAB SECTION - WEST END

NOTE -
For additional reinforcing steel details see Sht. 3/9

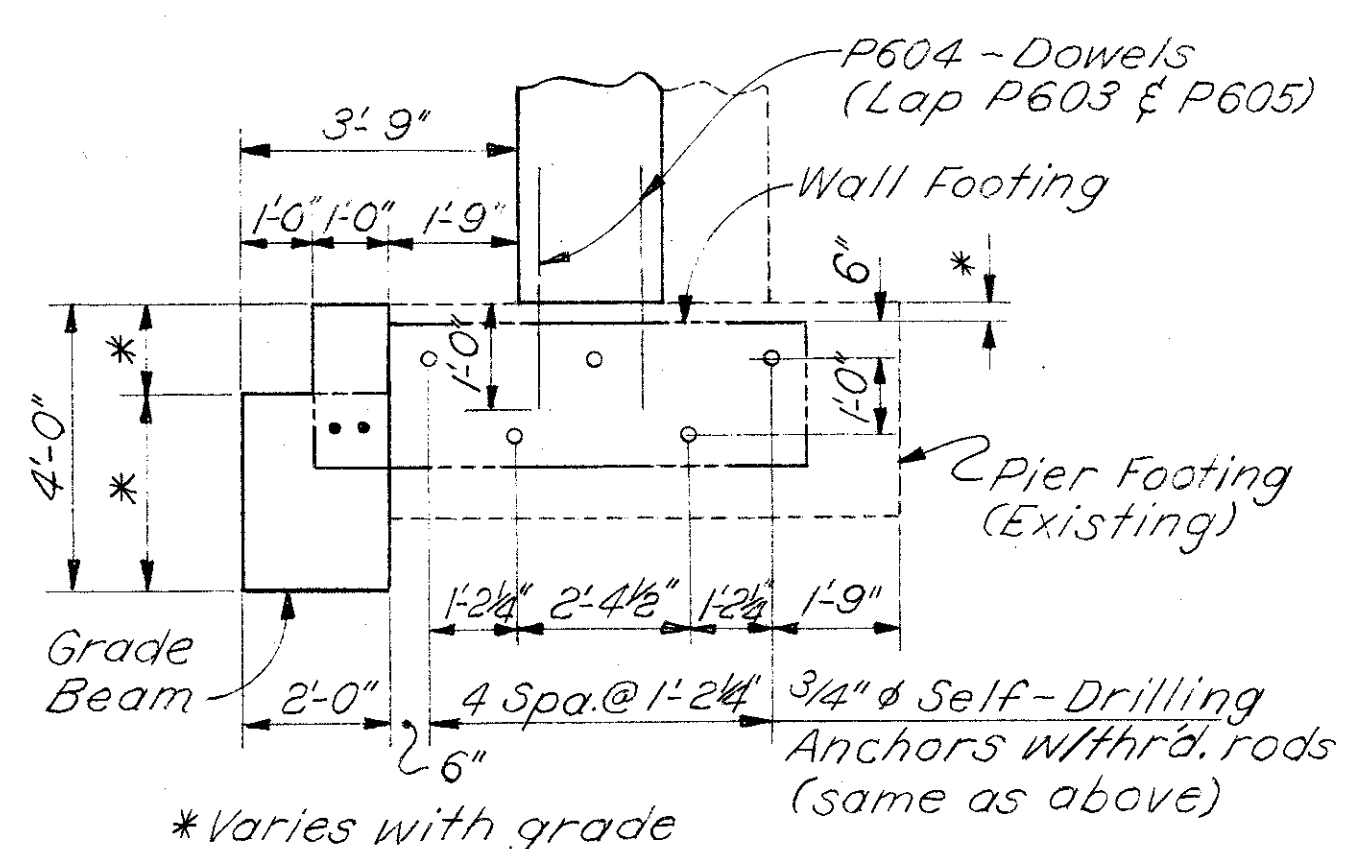


SLAB SECTION - AT PIER

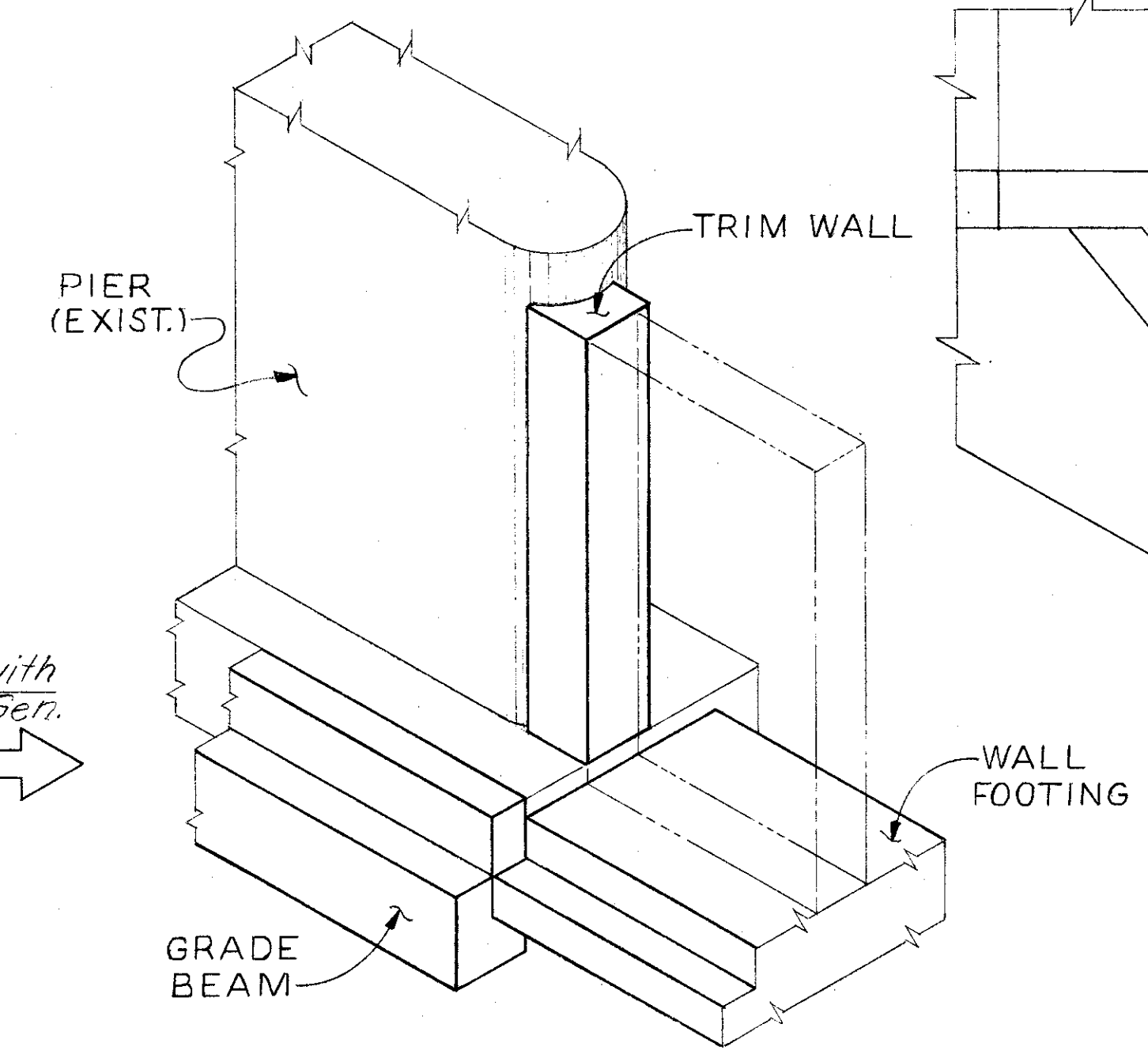
SECTION A-A



PART PLAN - AT PIER

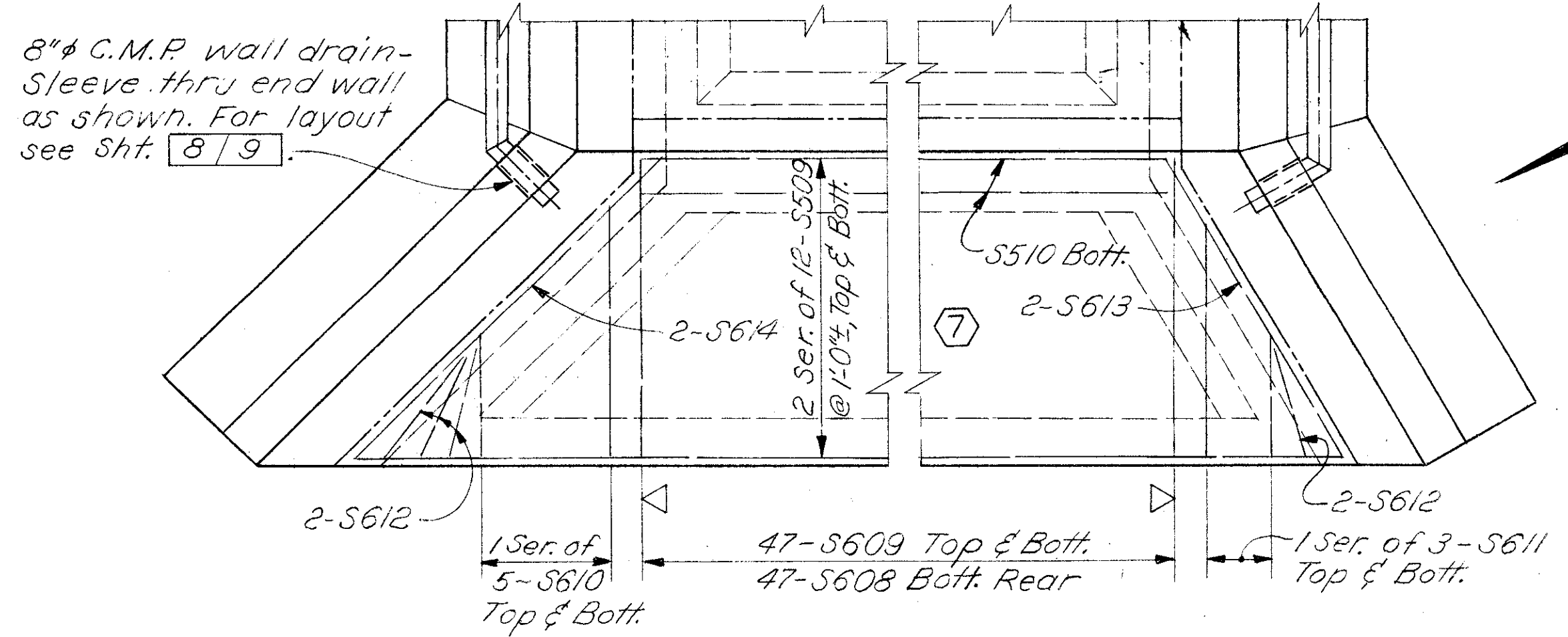


SECTION B-B



NOTE -
Remove concrete at the end of existing spillway in a 2'-0"± wide strip, 6"± deep around the full perimeter. Insert self-drilling anchors and threaded rods. Weld no. 4 bars to threaded rods and place the remaining reinforcing steel. Before pouring class C concrete, prepare surface as per 519.04 of the Ohio Specifications.

PART PLAN - EAST END



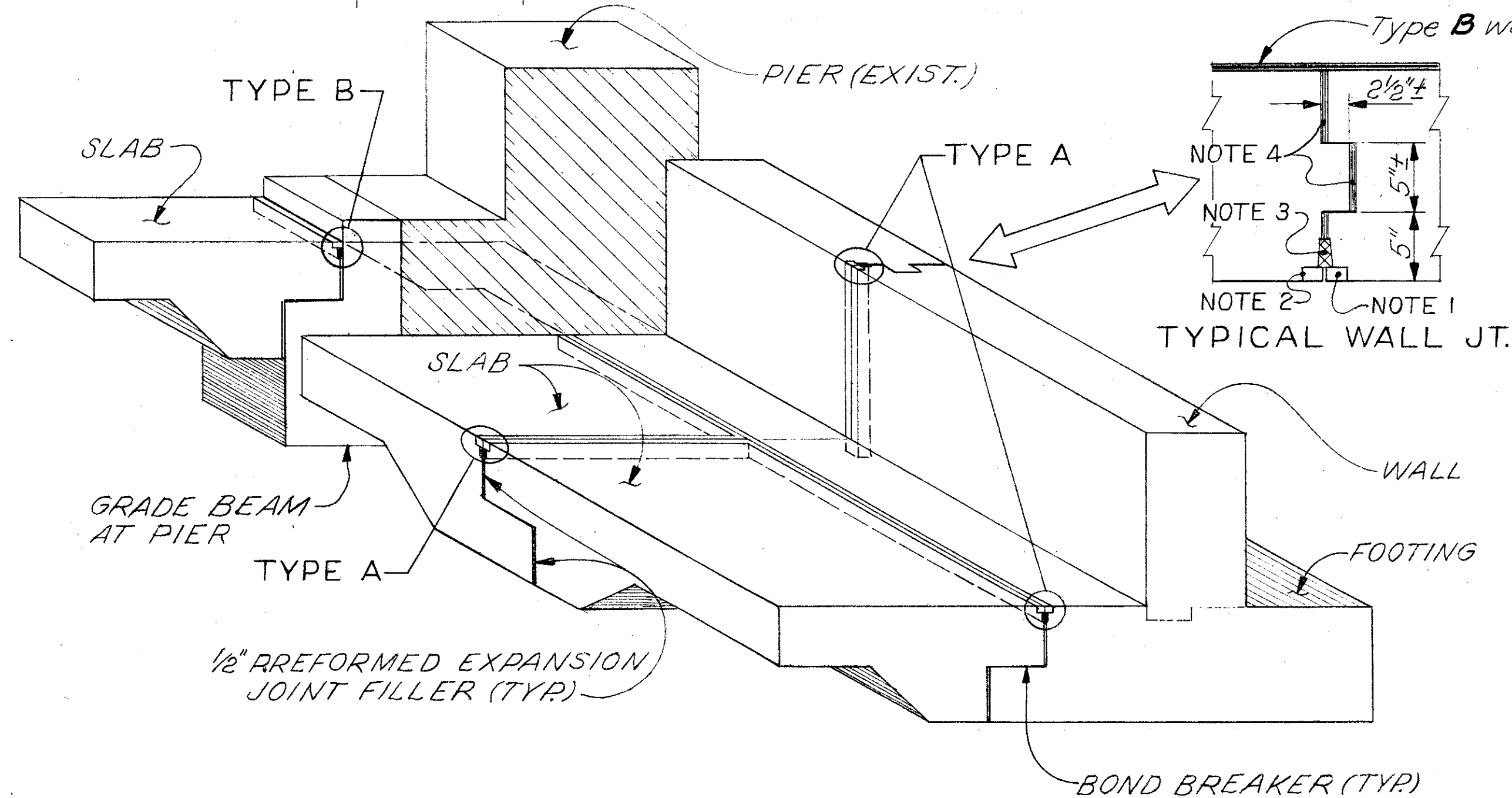
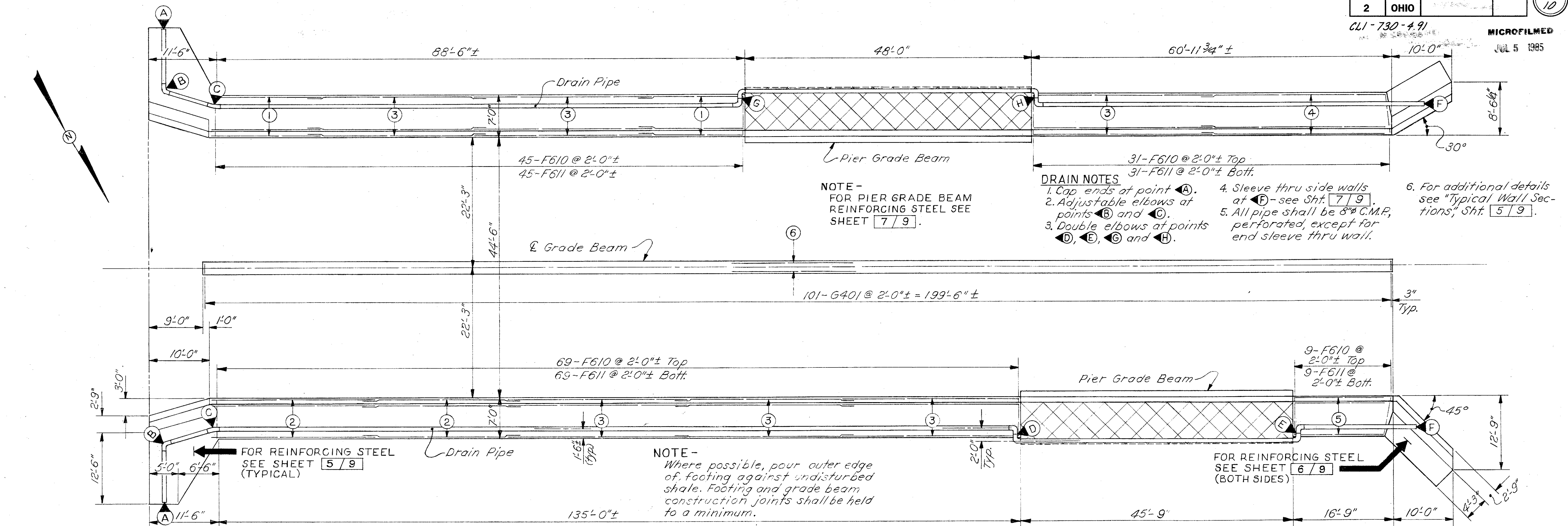
PART PLAN - WEST END

LEGEND

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE

STEEL MARK 1 - FOOTING ROW } NORMAL SECTION
MARK 2 - GRADE BM. ROW }
MARK 7 - SLAB MARK

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
SLAB AND PIER CONNECTION DETAILS						
COWAN CREEK OUTFLOW UNDER CL1-730-0491						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AJM	AJM		GEA	BFG	9-14-75	



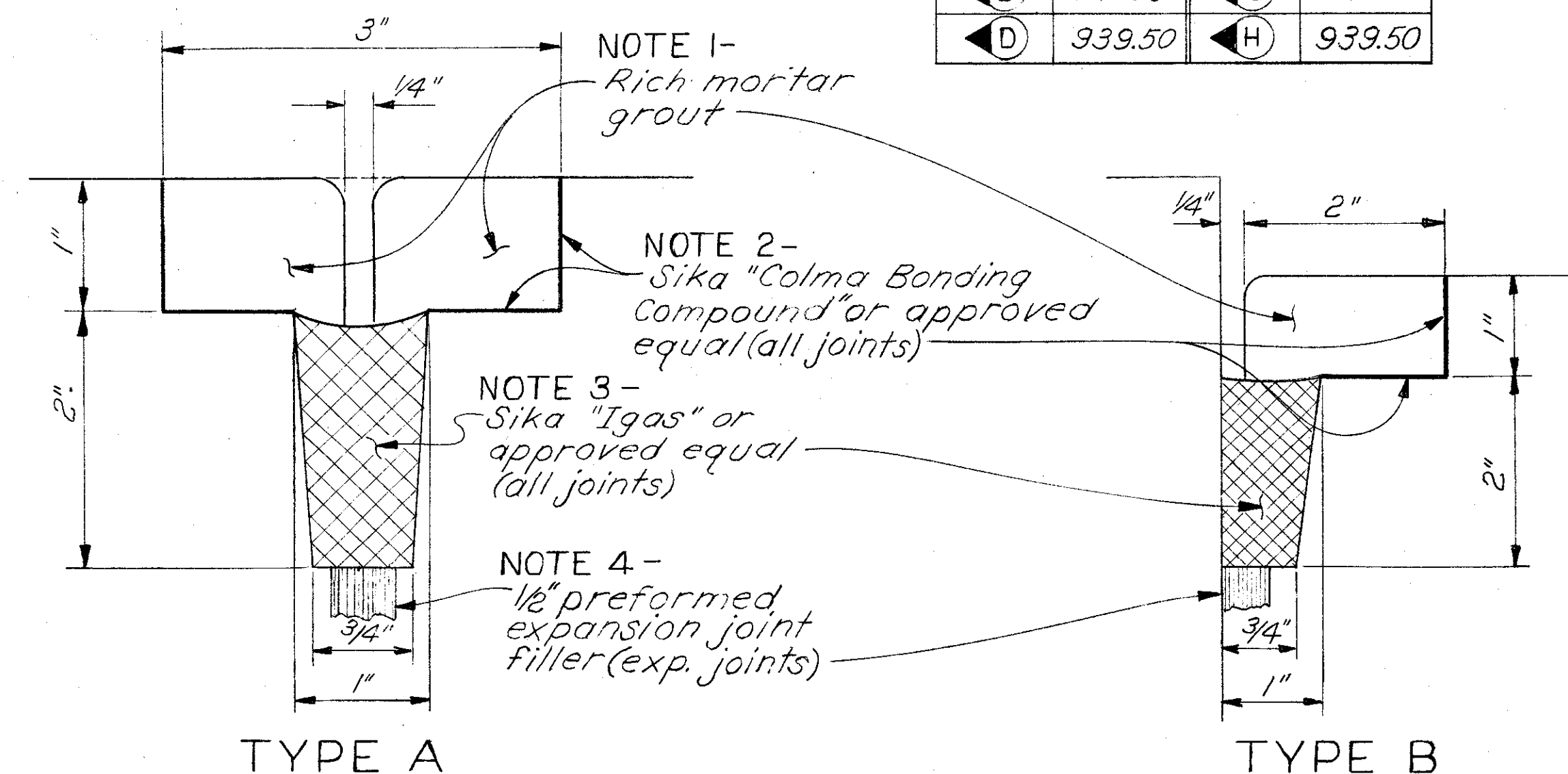
TYPICAL JOINT TREATMENT DETAILS

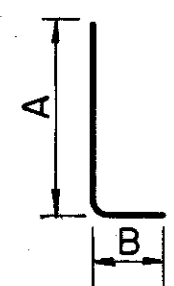
FOOTING AND DRAIN PLAN

BACKFILL DRAIN			
POINT	ELEV.	POINT	ELEV.
◀A	941.20	◀E	939.10
◀B	941.10	◀F	938.90
◀C	941.00	◀G	940.00
◀D	939.50	◀H	939.50

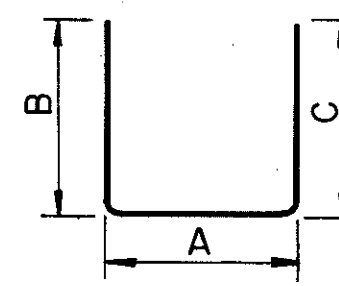
FOOTING REINFORCING *						
MARK	①	②	③	④	⑤	⑥
BAR	F502	F503	F504	F505	F506	G505
NO. TOP	5	5	5	5	5	3
NO. BOT.	6	6	6	6	6	3
TOTAL	22	22	66	11	11	42

* Longitudinal - in normal footing and E Grade Beam.

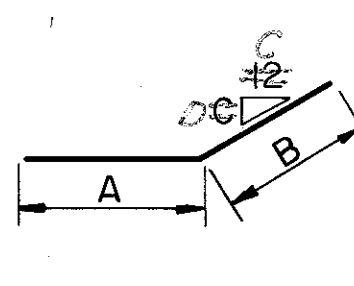




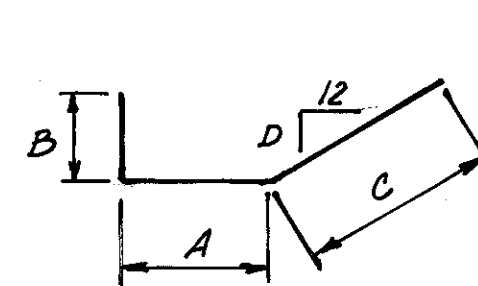
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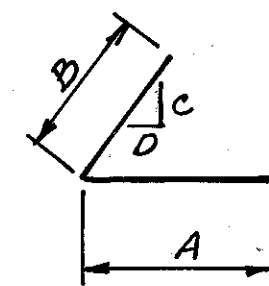
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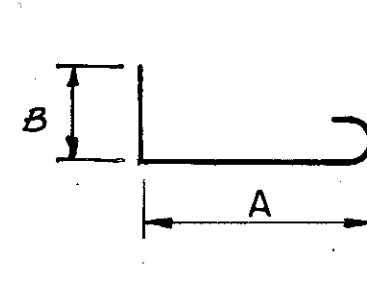
TYPE 3



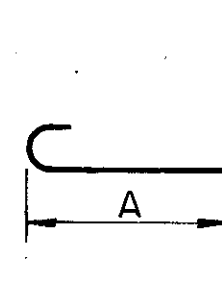
TYPE 4



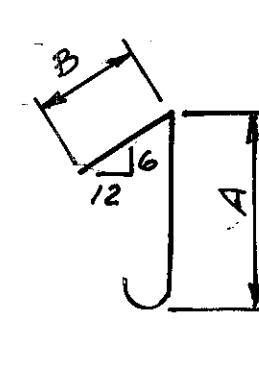
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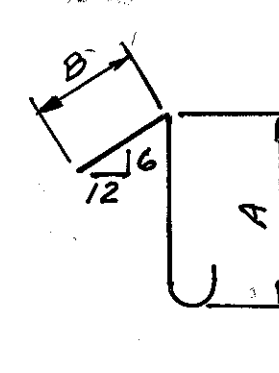
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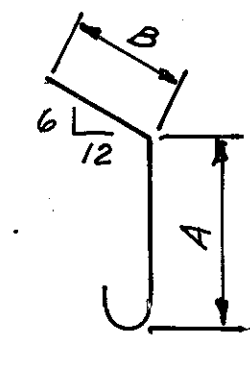
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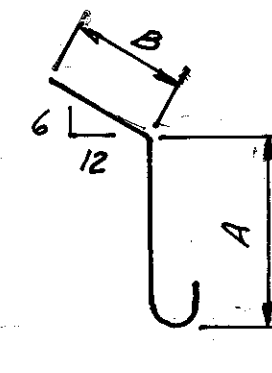
TYPE 8



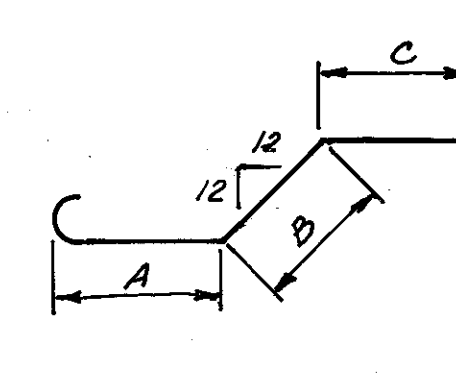
TYPE 9



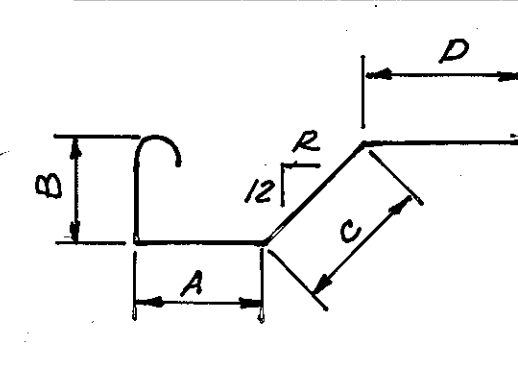
TYPE 10



TYPE 11



TYPE 12



TYPE 13

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

CL-730-4.91

MICROFILMED

JUL 5 1985

10
10

MARK	SERIES BARS	SERIES INC.			TOTAL NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	R	MARK	SERIES BARS	SERIES INC.			TOTAL NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	R	MARK	SERIES BARS	SERIES INC.			TOTAL NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	R		
F601	ser.	3 1/2"			20	12'-2	383							W801					44	13'-1	1537	1	10'-9	2'-6				E601					38	8'-3	471	8	5'-10	1'-11					
	5					13'-4								W802					4	11'-1	118	1	8'-9	2'-6				E602					38	8'-4	476	9	5'-11	1'-11					
F602	ser.	5 1/4"			20	7'-2	302							W701					12	13'-0	319							E603					44	8'-11	589	11	6'-6	1'-11					
	5					12'-11								W702					4	10'-2	83							E604					44	9'-0	595	10	6'-7	1'-11					
F603	ser.	6 3/4"			52	4'-8	628							W703					4	6'-2	50							E501					24	28'-8	718								
	13					11'-5								W704	2		6"		14	7'-0	291							E502					6	3'-2	20	5	1'-7	1'-9	12	6			
F604					4	8'-1	49								2					7	11'-8							E503					6	4'-9	30	4	1'-10	1'-7	1'-7	6			
F605					4	4'-9	29							W705	2		5 1/8"		16	7'-0	332							E504					8	5'-2	43	5	3'-9	1'-7	12	12			
F606					4	10'-3	62								8					1	11'-8							E505					16	33'-6	559								
F607					4	13'-3	80								1						6'-0			4'-0				E506					4	29'-10	124								
F608					2	9'-3	28	1	7'-6	1'-11				W706	ser.	1'-0"			7	7'-0	129	1	7'-0	2'-2				E507					8	4'-9	40	5	3'-4	1'-7	12	7			
F609					2	9'-2	28	7	8'-6						7						12'-0			10'-0				S601					4	9'-4	56	3	7'-4	2'-0	12	6			
F610					156	6'-10	1601	1	5'-5	1'-7					1						6'-0			4'-0				S602					4	5'-8	34	3	3'-8	2'-0	12	6			
F611					156	7'-1	1660	2	6'-5					W707	ser.	10 1/4"			8	7'-0	147	1	7'-0	2'-2				S603					4	11'-2	67								
F612					24	5'-7	109	2	2'-10	1'-6	1'-6				8						12'-0			10'-0				S604					624	22'-10	21,400								
F613					45	5'-8	196	6	3'-10	1'-6					1						9'-0			7'-0				S605					192	21'-10	6296								
F614					13	3'-9	73	383						W708	ser.	1'-0			6	7'-0	141	1	7'-0	2'-2				S606					816	6'-7	8069	13	8"	1'-6	2'-1/2	1'-11	12		
															6						14'-0			12'-0				S607					47	4'-1	288	1	1'-6	2'-9					
F501					8	4'-0	33							W709	ser.	10"			7	7'-0	165	1	7'-0	2'-2				S608					94	11'-10	1671	3	10'-10	1'-0	12	6			
F502					22	17'-5	400								7						14'-0			12'-0				S609					4	6									
F503					22	26'-5	606								1						7'-6			4'-0				S610	ser.	1'-1/2			10	7'-0	101								
F504					66	30'-0	2065							W710	ser.	1'-0			7	7'-0	150	1	7'-0	3'-8					5				9'-0										
F505					11	30'-9	353								7						13'-6			10'-0				S611	ser.	1'-11			6	7'-0	60								
F506					11	15'-9	181								1						7'-6			4'-0				3					8	8'-7									
F507					4	11'-10	49	3	10'-10	1'-0	12	6		W711	ser.	10 1/4"			8	7'-0	172	1	7'-0	3'-8				S612					8	4'-0	48								
F508					4	9'-9	41								8						13'-6			10'-0				S613					2	12'-6	38								
F509					8	3'-6	29	3	2'-0	1'-7	12	7																S614					2	15'-5	46								
F510					7	11'-5	83																					S615					12	7'-3	131	13	1'-1	1'-6	2'-7	1'-11	17		
F511					2	7'-6	16							W601							308	11'-9	5436					S616					12	6'-9	122	13	10"	1'-6	2'-3 1/2	1'-11	13 1/2		
F512					6	13'-10	87							W602							144	8'-6	1838	1	6'-8	1'-11		S617					42	20'-10	1314								
F513					4	12'-11	54	3	12'-0	1'-0	12	11 1/2		W603							308	5'-6	2544	1	3'-8	1'-11		S618					15	19'-10	447								
F514					8	5'-0	42	3	2'-7	2'-6	11 1/2	12		W604							4	16'-4	98							4				23'-6									
F515					5	5'-0	26	3	2'-7"	2'-6"	8	12		W605							4	10'-7	64	4	6'-9	1'-11	2'-3	6	S501	ser	3 1/4"			48	7'-0	1252							
F516					7	13'-0	95								4						10'-4							12					26'-6										
F517					6	15'-3	95							W606	ser.	3 1/2"					20	7'-0	328					S502					208	29'-7	6418								
F518					2	9'-6	20								5						11'-6							S503					208	16'-8	3616								
F519					4	14'-6	60	3	13'-7	1'-0	12	9 1/2			4						5'-9			4'-0				S504					104	23'-11	2594								
F520					7	5'-0	37	3	2'-7	2'-6	9	12		W607	ser.	11 1/2"					20	7'-0	230	1	7'-0	1'-11		S505					100	24'-8	2573								
F521					4	5'-0	21	3	2'-7	2'-6	7	12			5						9'-7			7'-10				S506															