

UPDATE DATE 4/27/84
 LETTING DATE

PLANS PREPARED BY
 HAWORTH, MEYER & BOLEYN
 CONSULTING ENGINEERING
 FRANKFORT, KENTUCKY

REVISIONS
 NO. DATE
 1 3/12
 2 3/12
 3 3/12
 4 3/12
 5 3/12
 6 3/12
 7 3/12
 8 3/12
 9 3/12
 10 3/12

DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

GREENUP COUNTY
 HOODS - GREENUP ROAD
 KY. 2 OVER LITTLE SANDY RIVER

REFERENCE AND ESTIMATE OF QUANTITIES

ITEM	SHEET NO.	CONCRETE, CLASS A	CONCRETE, CLASS AA	STEEL REINFORCEMENT	STRUCTURE EXCAV. COMMON	EPOXY COATED STEEL REINF.	STRUCTURAL STEEL	SHEAR CONNECTORS	STRUCTURE EXCAV. SOLID ROCK	FOUNDATION SEAL, CLASS A CONCRETE	6" DRAIN PIPE	CYCLOPEAN STONE RIP RAP	TEST PILES	STEEL PILES, HP12 X 53	COFFERDAM PIER 1	COFFERDAM PIER 2
		C.Y.	C.Y.	LBS.	C.Y.	LBS.	L.S.	L.S.	C.Y.	C.Y.	L.F.	TONS	L.F.	L.F.	E.A.	E.A.
TITLE SHEET	1															
GENERAL NOTE	2															
LAYOUT SHEET	4															
SOUNDINGS	15, 16, 17															
SUBSTRUCTURE																
INTEGRAL END BENT 1	8, 9, & 10	17.7	ⓐ	ⓐ	14450	273			21	156.4		481	33	242		
PIER 1	5	73.4			10493	169				40.0			27	408		
PIER 2	6	84.8										568	59	445		
INTEGRAL END BENT 2	8, 9, & 10	17.7	ⓐ	ⓐ												
PILE LAYOUT	7															
SUBSTRUCTURE TOTALS		193.6			24943	442			21	196.4		1049	119	1095	1	1
SUPERSTRUCTURE																
SUPERSTRUCTURE	8, 9, & 10	418.4		31397		55158	ⓐ	ⓐ			50					
STRUCTURAL STEEL	11&12															
CONSTRUCTION ELEVATIONS	14															
SHOES	13															
SUPERSTRUCTURE TOTALS		418.4		31397		55158	ⓐ	ⓐ			50					
BRIDGE TOTALS		193.6	418.4	56340	442	55158	ⓐ	ⓐ	21	196.4	50	1049	119	1095	1	1

BILL OF INCIDENTAL MATERIAL

ITEM	NO.	DESCRIPTION	LOCATION
PLASTIC PIPE	16	1" I.D. X 1'-1" LONG	BARRIER

- Ⓐ Approximate weight of structural steel is 292304 lbs.
- Ⓑ Approximate weight of shear connectors is 1886 lbs.
- Ⓒ These included in superstructure quantities.

REFERENCES

SPECIAL PROVISIONS

(THE SPECIAL PROVISIONS AND STANDARD DRAWINGS LISTED BELOW ARE CURRENT EDITIONS AND ARE TO BE USED WITH THESE PLANS.)

- 4E(79) WELDING STEEL BRIDGES


STANDARD DRAWINGS

- BGX-006-03 STENCIL CONSTRUCTION DATE FOR BRIDGES
- BJE-001-04 ARMORED EDGE FOR CONCRETE
- BPS-003-02 12" STRUCTURAL STEEL BEARING PILE AT 53 LBS.

SPECIAL NOTES

- SPECIAL NOTE FOR DIRECT TENSIONING INDICATORS
- SPECIAL NOTE FOR HIGH STRENGTH BOLT INSTALLATION

KY. 2 over LITTLE SANDY RIVER SHEET 1 OF 17

Plans Prepared By HAWORTH, MEYER, & BOLEYN Consulting Engineers  <i>Bryan G. Stopper</i> BRYAN G. STOPPER P.E. KY. No. 12,531	COMMONWEALTH OF KENTUCKY BUREAU OF HIGHWAYS FRANKFORT COUNTY OF GREENUP HOODS - GREENUP ROAD SSP 045 0002 013-014 005D STATION 17+15 CONSTRUCTION PROJECT NO. BRS 5239 (10) P. E. PROJECT NO. BRS 5239 MAINTENANCE PROJECT NO. DRAWING NO. 20783
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GENERAL NOTE

SPECIFICATIONS

THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION SHALL APPLY TO THIS PROJECT.

DESIGN LOAD

THIS BRIDGE IS DESIGNED FOR HS20-44 LIVE LOAD, AS SPECIFIED IN 1977 AASHTO SPECIFICATIONS. THIS BRIDGE IS DESIGNED FOR A WIND LOAD BASED ON A WIND VELOCITY OF 84 MPH.

DESIGN METHOD

ALL LOAD CARRYING MEMBERS HAVE BEEN DESIGNED USING THE LOAD FACTOR METHOD AS SPECIFIED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, CURR. ED.

MATERIALS DESIGN SPECIFICATIONS

FOR CLASS 'A' CONCRETE
F'c = 3500 psi

FOR CLASS 'AA' CONCRETE
F'c = 4000 psi

FOR STEEL REINFORCEMENT
Fy = 60000 psi

FOR STRUCTURAL STEEL, ASTM A36
Fy = 36000 psi

FOUNDATION PRESSURE

FOOTINGS ARE DESIGNED FOR A MAXIMUM OF 8970 PSF. PIER PILES ARE DESIGNED FOR A MAXIMUM AXIAL LOAD OF 62 TONS PER PILE AND A MAXIMUM HORIZONTAL SHEAR OF 1 TON PER PILE. END BENT PILES ARE DESIGNED FOR A MAXIMUM AXIAL LOAD OF 62 TONS PER PILE.

CONCRETE

CLASS "AA" CONCRETE IS TO BE USED THROUGHOUT THE SUPERSTRUCTURE AND IN THE PORTIONS OF THE SUBSTRUCTURE ABOVE THE BEARING SEATS. CLASS "A" CONCRETE IS TO BE USED IN THE SUBSTRUCTURE BELOW THE BEARING SEATS.

TEXTURING

THE BRIDGE DECK SHALL BE TEXTURED IN ACCORDANCE WITH SECTION 609.13 OF THE STANDARD SPECIFICATIONS.

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS.

EPOXY COATED REINFORCING STEEL

ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

BILL OF INCIDENTAL MATERIAL

THE QUANTITIES SHOWN IN THE BILL OF INCIDENTAL MATERIALS ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ENOUGH MATERIAL TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE COST OF THESE ITEMS IS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "AA" CONCRETE.

PAYMENT FOR STRUCTURAL STEEL

THE LUMP SUM BID FOR STRUCTURAL STEEL SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, BOLTS, WASHERS, CAST IRON, LEAD PLATES, MOLTEN LEAD, WELDING AND WELDING MATERIALS, FLOOR DRAINS, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO ERECT THE STEEL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE APPROXIMATE WEIGHT OF STRUCTURAL STEEL SHOWN IN THE ESTIMATE OF QUANTITIES DOES NOT INCLUDE OVERRUN OR WELD MATERIAL.

PILING

PILING SHALL BE DRIVEN TO REFUSAL OR TO SOLID ROCK.

TEST PILES SHALL BE DRIVEN WHERE DESIGNATED ON THE PLANS TO DETERMINE THE LENGTH OF PILE REQUIRED.

ALL TEST PILES SHALL BE ACCURATELY LOCATED SO THAT THEY MAY BE USED IN THE FINISHED STRUCTURE.

PLAN ELEVATION FOR FOOTINGS

WHEN SUITABLE ROCK IS ENCOUNTERED AT A DATUM ELEVATION HIGHER THAN THE PLAN ELEVATION, THE HIGHER ELEVATION MAY BE UTILIZED FOR BEARING AS OUTLINED IN THE SPECIFICATIONS (PIER 1 ONLY).

SPIRAL COLUMN TIES

SPLICED SPIRALS WHERE DESIRED BY THE CONTRACTOR SHALL BE MADE WITH A MINIMUM OF ONE AND ONE-HALF TURNS OF SPIRAL. NO ADDITIONAL PAYMENT WILL BE MADE FOR THESE SPLICES, AND THE COST WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE DEVELOPED LENGTH OF SPIRAL SHOWN ON THE PLANS. SPIRAL REINFORCEMENT SHALL MEET THE REQUIREMENTS OF SUB-SECTION 811.02.01 OF THE SPECIFICATIONS.

CONSTRUCTION IDENTIFICATION

THE NAMES OF THE PRIME CONTRACTOR AND THE SUB-CONTRACTOR SHALL BE IMPRINTED IN THE CONCRETE WITH ONE INCH LETTERS AT A LOCATION DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

COFFERDAMS

COFFERDAMS SHALL BE REQUIRED FOR PIERS 1 AND 2 AND ALL PROVISIONS OF THE SPECIFICATIONS SHALL APPLY EXCEPT AS HEREIN MODIFIED. THE CONTRACTOR SHALL SUBMIT DRAWINGS TO THE ENGINEER FOR REVIEW WHICH SHOW HIS PROPOSED METHOD OF COFFERDAM CONSTRUCTION. COFFERDAM CONSTRUCTION SHALL NOT BEGIN BEFORE THESE DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

COFFERDAMS WHICH ARE TILTED OR MOVED LATERALLY DURING CONSTRUCTION SHALL BE RIGHTED, RESET, OR ENLARGED AT THE SOLE EXPENSE OF THE CONTRACTOR SO AS TO PROVIDE THE CLEARANCES NECESSARY FOR THE CONSTRUCTION OF THE SUBSTRUCTURE. ALL SHEETING SHALL BE REMOVED ENTIRE OR SHALL BE CUT-OFF TWO FEET BELOW GROUND LINE.

COFFERDAMS FOR PIERS WILL BE PAID FOR AT THE LUMP SUM BID FOR 'COFFERDAM, PIER 1' AND 'COFFERDAM, PIER 2' RESPECTIVELY. PAYMENT SHALL INCLUDE AND BE FULL COMPENSATION FOR ALL REQUIRED DRAWINGS AND ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO CONSTRUCT, MAINTAIN, AND REMOVE SAID COFFERDAMS.

POURING SEQUENCE

THE POURING SEQUENCE OF THE SLAB MAY BE CHANGED WITH THE WRITTEN APPROVAL OF THE ENGINEER. SEE SHEET 10.

FOUNDATION SEAL

THE VOLUME OF "FOUNDATION SEAL, CLASS 'A' CONCRETE" TO BE PAID FOR, SHALL BE THAT VOLUME OUTLINED BY THE PLAN DIMENSIONS AND LIMITS OF THE SEAL OR THAT VOLUME AS ORDERED IN WRITING BY THE ENGINEER.

ANCHOR BOLT HOLES

HOLES OF DEPTH AND DIMENSIONS SHOWN SHALL BE DRILLED FOR ANCHOR BOLTS OR DOWELS. AFTER BASE PLATES ARE PROPERLY SET, BY THE SUPERSTRUCTURE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR KEEPING HOLES DRY IN FREEZING WEATHER. AFTER BASE PLATES ARE PROPERLY SET, ANCHOR BOLT HOLES DRILLED, AND ANCHOR BOLTS HEATED TO A BLUE HEAT ARE PLACED IN DRILLED HOLES. MOLTEN LEAD SHALL BE POURED IN HOLES AND PACKED UNTIL HOLES ARE COMPLETELY FILLED FLUSH TO TOP OF BASE PLATES. THE COST OF DRILLING ANCHOR BOLT HOLES, HEATING ANCHOR BOLTS, FURNISHING LEAD, AND FILLING HOLES WITH MOLTEN LEAD SHALL BE INCIDENTAL TO AND INCLUDED IN THE LUMP SUM BID FOR STRUCTURAL STEEL.

MEMBRANE CURING COMPOUND

WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO THE BRIDGE DECK IN ACCORDANCE WITH SECTION 609.15 OF THE SPECIFICATIONS.

SLOPE PROTECTION

SLOPE PROTECTION SHALL BE DRY CYCLOPEAN STONE SLOPE PROTECTION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

PAINT

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 607.25 OF THE STANDARD SPECIFICATIONS.

CLEANING AND PAINTING

SECTION 607.25 OF THE SPECIFICATIONS APPLIES TO THIS PROJECT AND CONTRACTORS ARE HEREBY REMINDED THAT IN ACCORDANCE WITH THAT SECTION ALL STEEL SURFACES TO BE PAINTED, INCLUDING EXPOSED SURFACES OF SPLICE PLATES, SHALL BE BLAST CLEANED TO A NEAR-WHITE CONDITION IN ACCORDANCE WITH SSPC-SP10 IMMEDIATELY PRIOR TO BEING PAINTED WITH THE FIRST COAT OF PAINT, REGARDLESS OF WHETHER THE FIRST COAT IS APPLIED IN THE SHOP OR IN THE FIELD.

PAYMENT FOR SHEAR CONNECTORS

THE "LUMP SUM BID" FOR SHEAR CONNECTORS SHALL BE FULL PAYMENT FOR ALL SHEAR CONNECTORS, WELDING AND WELDING MATERIAL, AND MATERIALS NECESSARY TO FIELD WELD OR SHOP WELD THE SHEAR CONNECTORS IN PLACE ACCORDING TO THE PLANS AND SPECIFICATIONS.

STUD WELDING

STUDS SHALL BE WELDED WITH APPROVED WELDING EQUIPMENT.

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GENERAL NOTE

KY 2 OVER LITTLE SANDY RIVER SHEET 2

COMMONWEALTH OF KENTUCKY

BUREAU OF HIGHWAYS

FRANKFORT

COUNTY OF

GREENUP

HOODS-GREENUP

ROAD

STATION 17+15 P.E. PROJECT NO.

CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.

20783

GENERAL NOTE

OPTIONAL TYPES OF SHEAR CONNECTORS

THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING OPTIONS THROUGHOUT THIS STRUCTURE:

- OPTION 1 - 3/4" STUDS
- OPTION 2 - 5" CHANNEL • 6.7#

THE MINIMUM LENGTH OF STUDS IS 5". PROVIDE THE NECESSARY LENGTH TO PENETRATE AT LEAST 2" ABOVE BOTTOM OF SLAB.

IF THE CONTRACTOR WISHES TO USE OTHER THAN 3/4" STUD SHEAR CONNECTORS SHOWN ON THE PLANS, THE PROPOSED ARRANGEMENT SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP PLANS.

TEMPORARY SUPPORTS

TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE GIRDERS WHEN POURING THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM" ELEVATIONS.

CONNECTIONS

UNLESS OTHERWISE PROVIDED ON THE PLANS, ALL FIELD CONNECTIONS SHALL BE 7/8" DIAMETER HIGH STRENGTH BOLTS. OPEN HOLES SHALL BE 15/16" DIAMETER. ALL JOINTS ARE DESIGNED AS FRICTION TYPE CONNECTIONS.

DIMENSIONS

DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60 DEGREES FAHRENHEIT. LAYOUT DIMENSIONS ARE HORIZONTAL MEASUREMENTS.

MATERIALS

ASTM SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOVERN THE MATERIALS FURNISHED.

MATERIAL	A.S.T.M. DESIGNATION
STRUCTURAL STEEL	A36-81A
PINTLES AND STUD SHEAR CONNECTORS, UNS G 1015	A108-81
HIGH STRENGTH BOLTS, NUTS, AND WASHERS	A325-82
SHEET LEAD AND PIG LEAD	B29-79

(SEE OTHER LISTINGS UNDER DRAIN DETAILS NOTE.)

ALL FLANGE AND WEB MATERIAL, INCLUDING SPLICE PLATES, IN LONGITUDINAL PLATE GIRDERS SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TOUGHNESS TEST APPLICABLE TO GROUP 2 MINIMUM SERVICE TEMPERATURE FROM -1 DEG. F. TO -30 DEG. F. IN ACCORDANCE FOR A36 STEEL (UP TO 4" THICKNESS INCLUSIVE) OF 15 FT. LB. AT 40 DEG. F. SAMPLING AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM A673 CURRENT EDITION, UTILIZING (H) FREQUENCY TESTING.

PROHIBITED FIELD WELDING

EXCEPT AS SHOWN ON THE PLANS, NO WELDING OF ANY NATURE SHALL BE PERFORMED ON THE LOAD CARRYING MEMBERS OF THE BRIDGE WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR, DIVISION OF BRIDGES, OR HIS AUTHORIZED REPRESENTATIVE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

WELDING SPECIFICATIONS

ALL WELDING AND WELDING MATERIALS EXCEPT FOR REINFORCEMENT, SHALL CONFORM TO AWS D.1.1-80 "STRUCTURAL WELDING CODE". MODIFICATION AND ADDITIONS AS STATED ON THE PLANS, AASHTO 1981 STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES, AND SPECIAL PROVISION 4(83), CURRENT EDITION, SHALL SUPERSEDE THE AWS SPECIFICATIONS.

WELDING PROCEDURE

QUALIFICATION TESTS OF ALL WELDING PROCEDURES SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL APPROVAL OF THE SHOP DRAWINGS AND WELDING PROCEDURE AND THE START OF THE FABRICATION.

CAMBER

WEB PLATES SHALL BE CUT TO PROVIDE FOR THE CAMBER OF THE GIRDER. PROVIDE FOR POSSIBLE WARPAGE DUE TO EXTRA HEAT IN TOP FLANGE BY VIRTUE OF SHEAR CONNECTORS. GIRDERS WHICH DO NOT CONFORM TO PLAN CAMBER AND GRADE IN THE ERECTED POSITION SHALL BE CONSIDERED AS REQUIRING, AT NO ADDITIONAL COST TO THE STATE, EITHER AN ADJUSTMENT IN DEPTH OF THE CONCRETE SLAB HAUNCH OVER THE STEEL SUPPORTING MEMBERS OR A REMARKING OF THE GIRDER CAMBER TO MEET THE PLAN GRADE AND SLAB THICKNESS. HOWEVER, IN NO CASE SHALL THE SHEAR CONNECTORS BE ALLOWED TO PENETRATE THE SLAB LESS THAN TWO INCHES.

DRAIN DETAILS

FOUNDRY NOTE - ALL DRAINS SHALL BE GRAY IRON CASTINGS, ASTM A48, CURRENT EDITION, CLASS 30A. FOUNDRIES SHALL CAST AT LEAST TWO TEST BARS FROM EACH DAY'S PRODUCTION. THESE TEST BARS SHALL BE TESTED EITHER BY THE DIVISION OF MATERIALS OR BY THE FOUNDRIES' QUALITY CONTROL UNIT WHO SHALL FURNISH ACTUAL TEST RESULTS FOR EACH DATE OF MANUFACTURE OR LOT NUMBER.

THE DRAIN PIPE SHALL BE 6" ROUND STANDARD WEIGHT IN ACCORDANCE WITH ASTM-A53, A500, OR A501. PIPE, FITTINGS, AND CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE PER LINEAR FOOT OF 6" DRAIN PIPE COMPLETE IN PLACE. PIPE AND ALL FITTINGS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 607.25 OF THE KBR SPECIFICATIONS.

ELASTOMERIC BEARING PADS

THE MATERIAL SPECIFICATIONS FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES EXCEPT THAT THE REQUIREMENT OF THE LOW TEMPERATURE TEST IS WAIVED AND A DUROMETER HARDNESS OF 50 OR 60 IS REQUIRED. THE COST OF THIS ITEM IS TO BE INCLUDED IN THE LUMP SUM BID FOR STRUCTURAL STEEL.

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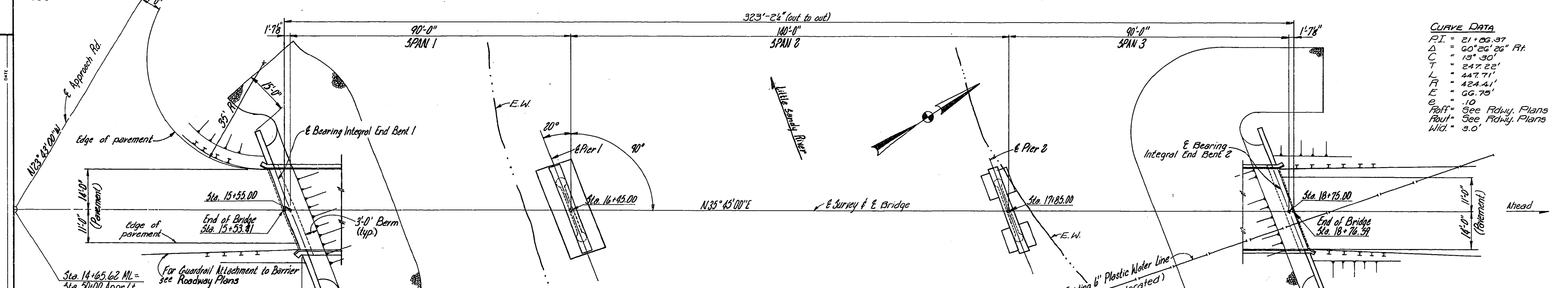
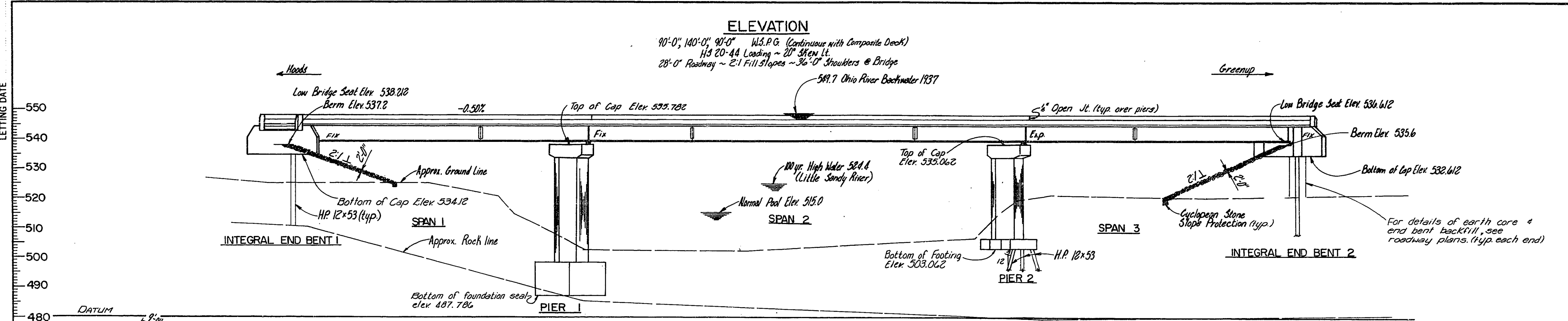
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KY 2 OVER LITTLE SANDY RIVER		SHEET 3
COMMONWEALTH OF KENTUCKY		
BUREAU OF HIGHWAYS FRANKFORT COUNTY OF		
GREENUP		
HOODS-GREENUP ROAD		
STATION 17+15	P.E. PROJECT NO.	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO. 20783

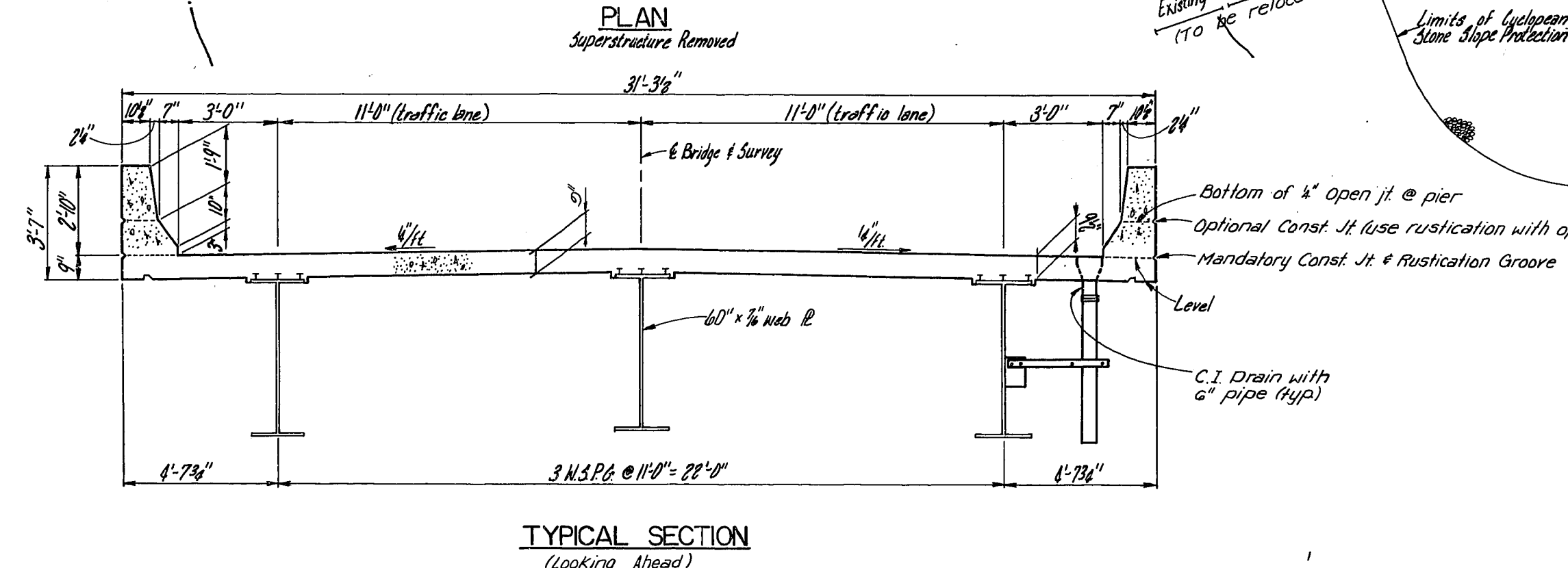
GENERAL NOTE

UPDATE DATE
LETTING DATE



CURVE DATA

PI	= 21° 22' 37"
Δ	= 60° 02' 26" Rt.
C	= 13' 30"
T	= 247.22'
L	= 447.71'
M	= 424.41'
E	= 66.75'
e	= 10'
Prof.	See Rdwy. Plans
Rout.	See Rdwy. Plans
Wid.	= 3.0'

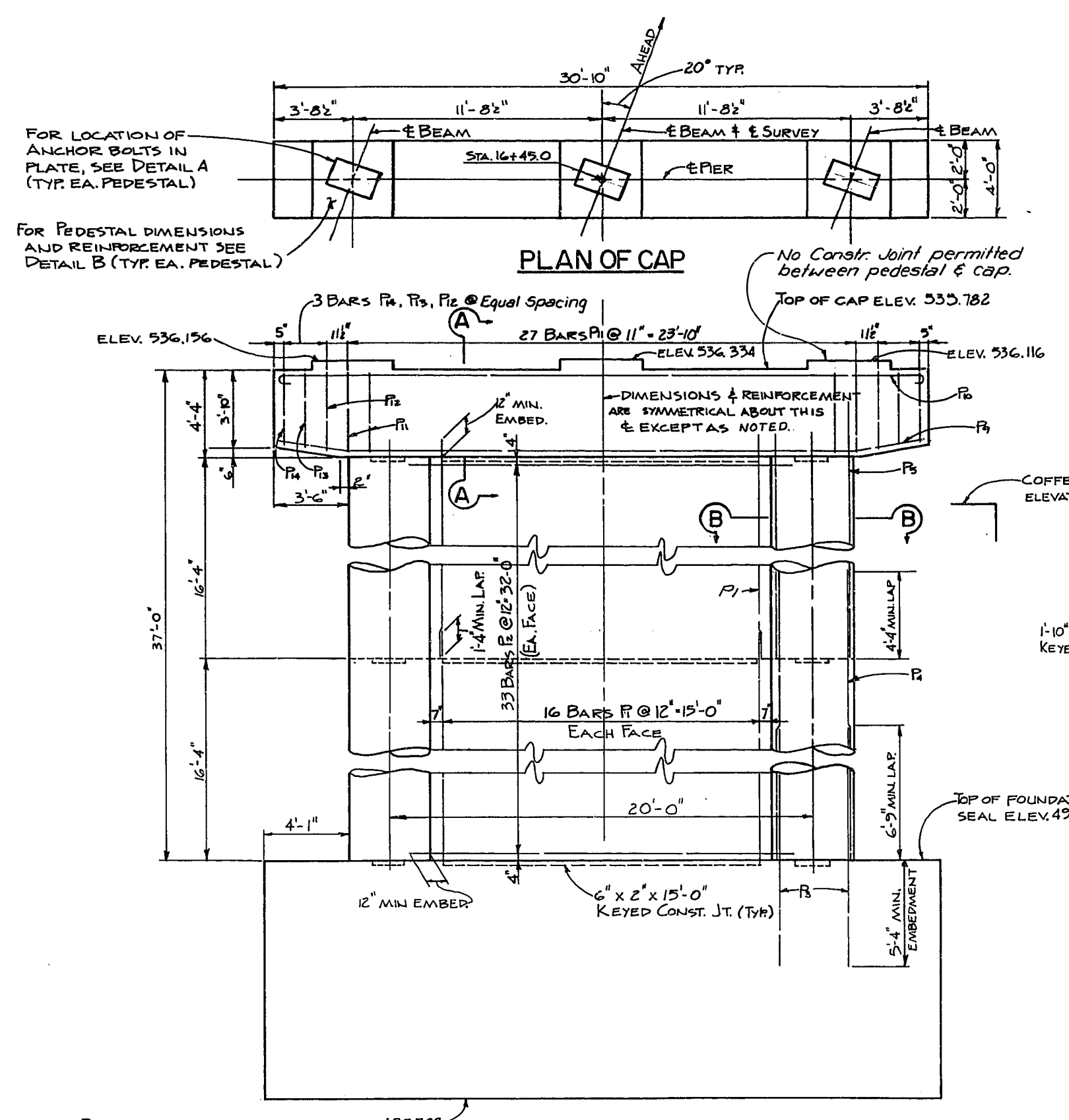


KY 2 over Little Sandy River SHEET 4

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
GREENUP
HOODS-GREENUP
ROAD
STATION 17+15 P. E. PROJECT NO.
CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO. 20783

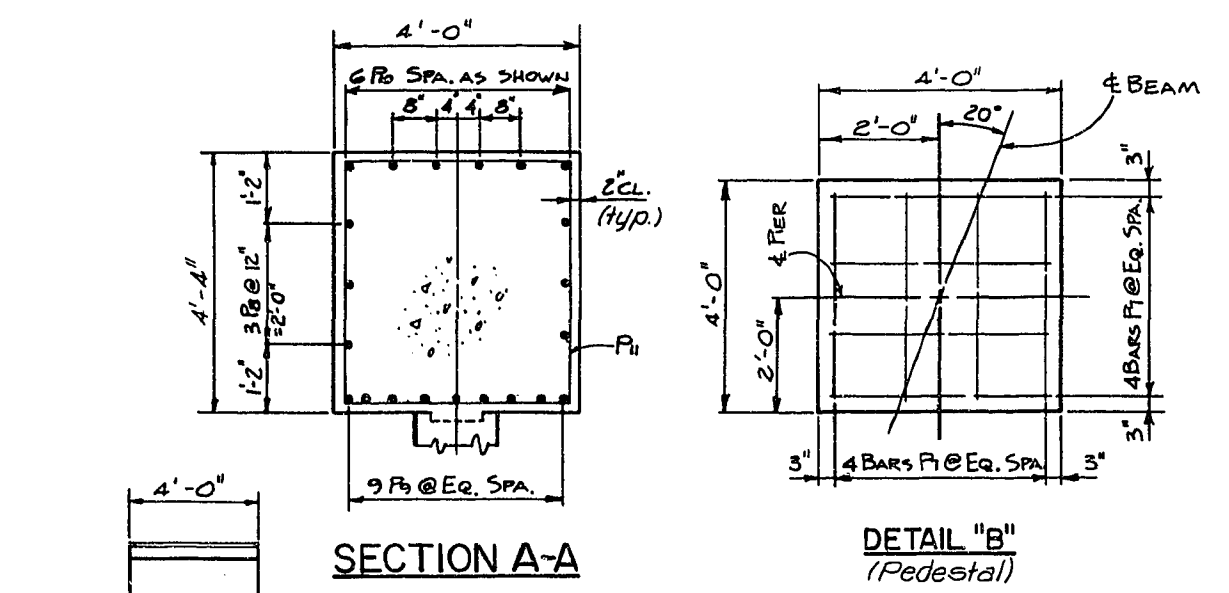
DESIGNED BY: J.E. Wood
CHECKED BY: B.C.S.
DATE: 9/83

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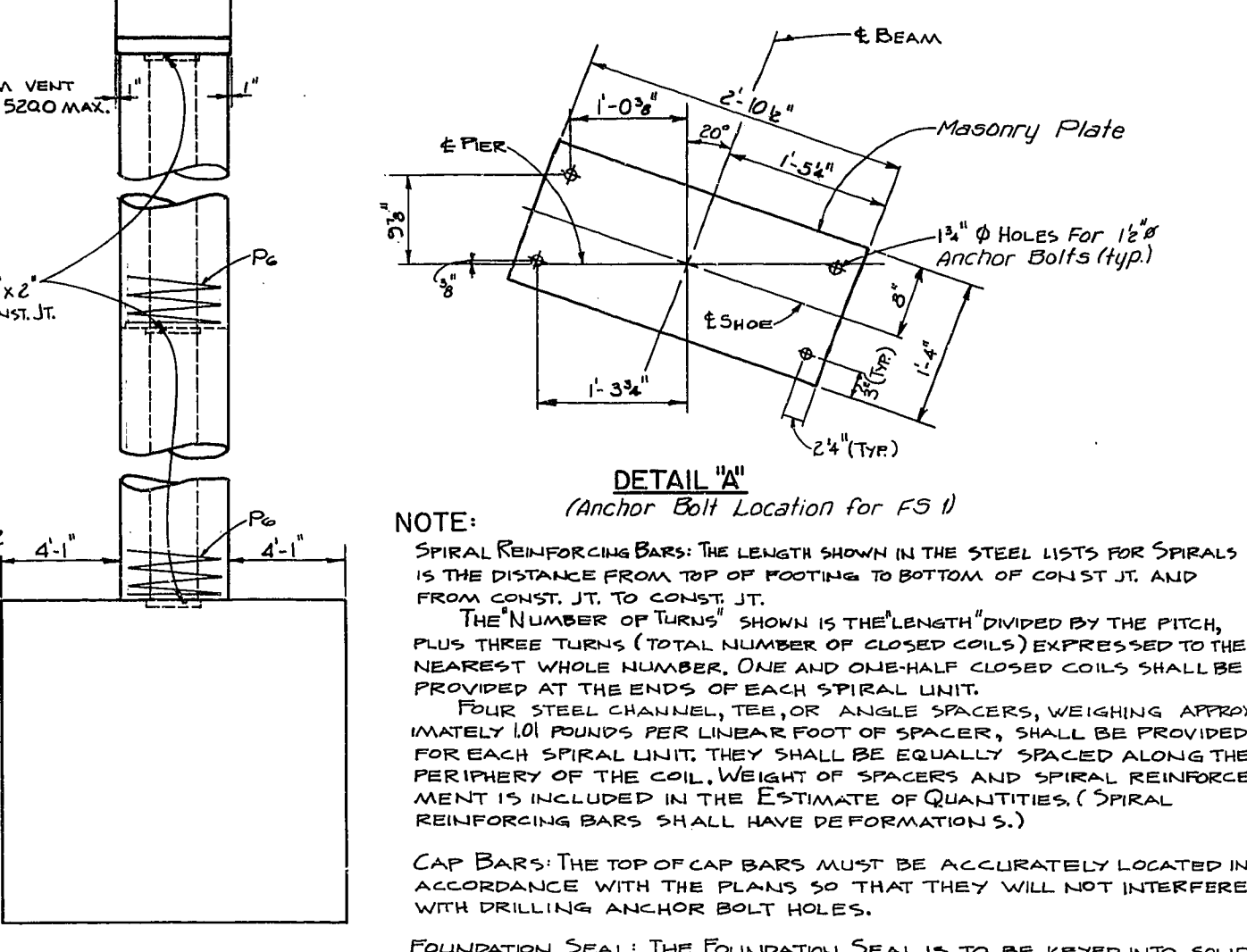
PLAN OF CAP

ELEVATION



SECTION A-A

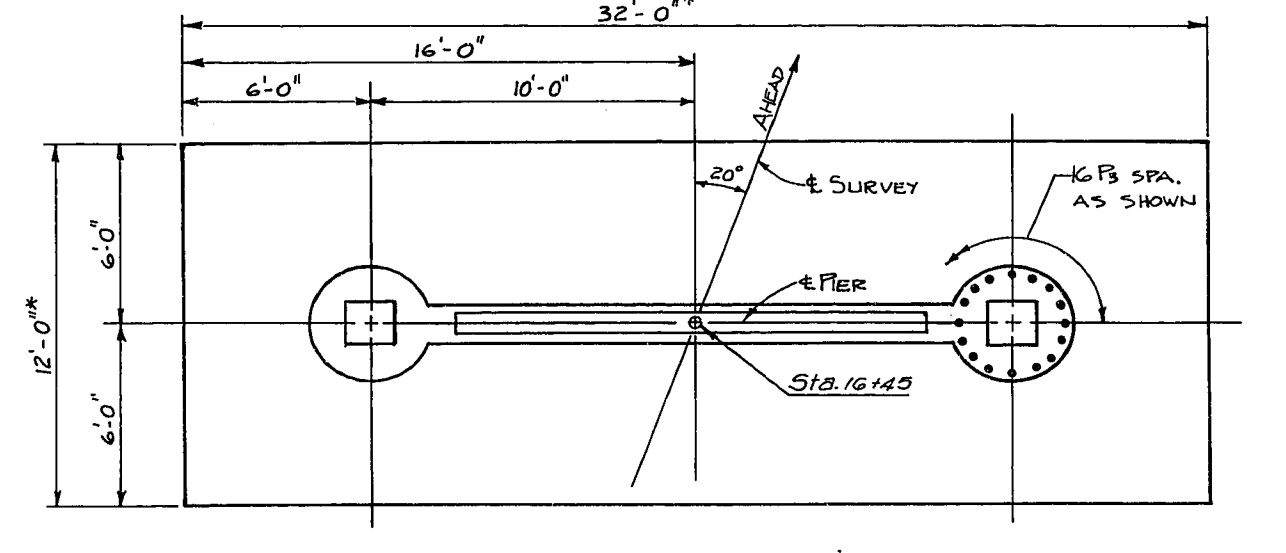
DETAIL "B"
(Pedestal)



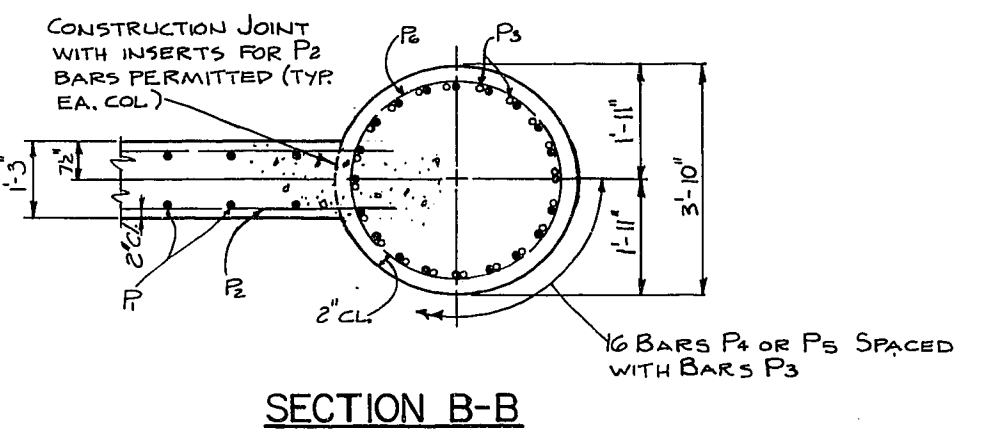
DETAIL "A"
(Anchor Bolt Location for F5)

NOTE:
 SPIRAL REINFORCING BARS: THE LENGTH SHOWN IN THE STEEL LISTS FOR SPIRALS IS THE DISTANCE FROM TOP OF FOOTING TO BOTTOM OF CONST. JT. AND FROM CONST. JT. TO CONST. JT.
 THE NUMBER OF TURNS SHOWN IS THE LENGTH DIVIDED BY THE PITCH, PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED TO THE NEAREST WHOLE NUMBER. ONE AND ONE-HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT.
 FOUR STEEL CHANNEL, TEE, OR ANGLE SPACERS, WEIGHING APPROXIMATELY 10 LBS PER LINEAR FOOT OF SPACER, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COIL. WEIGHT OF SPACERS AND SPIRAL REINFORCEMENT IS INCLUDED IN THE ESTIMATE OF QUANTITIES. (SPIRAL REINFORCING BARS SHALL HAVE DEFORMATION S.)
 CAP BARS: THE TOP OF CAP BARS MUST BE ACCURATELY LOCATED IN ACCORDANCE WITH THE PLANS SO THAT THEY WILL NOT INTERFERE WITH DRILLING ANCHOR BOLT HOLES.
 FOUNDATION SEAL: THE FOUNDATION SEAL IS TO BE KEYPED INTO SOLID ROCK. TOP OF SEAL ELEVATION IS TO BE MAINTAINED AS SHOWN ON THE PLANS. BOTTOM OF FOUNDATION SEAL ELEVATION MAY BE VARIED TO MATCH FIELD CONDITIONS AT THE DIRECTION OF THE ENGINEER, WITH THE PAY QUANTITY FOUNDATION SEAL, CL. A CONCRETE, ADJUSTED ACCORDINGLY.

*LIMITS OF PAYMENT FOR FOUNDATION SEAL



FOUNDATION SEAL PLAN

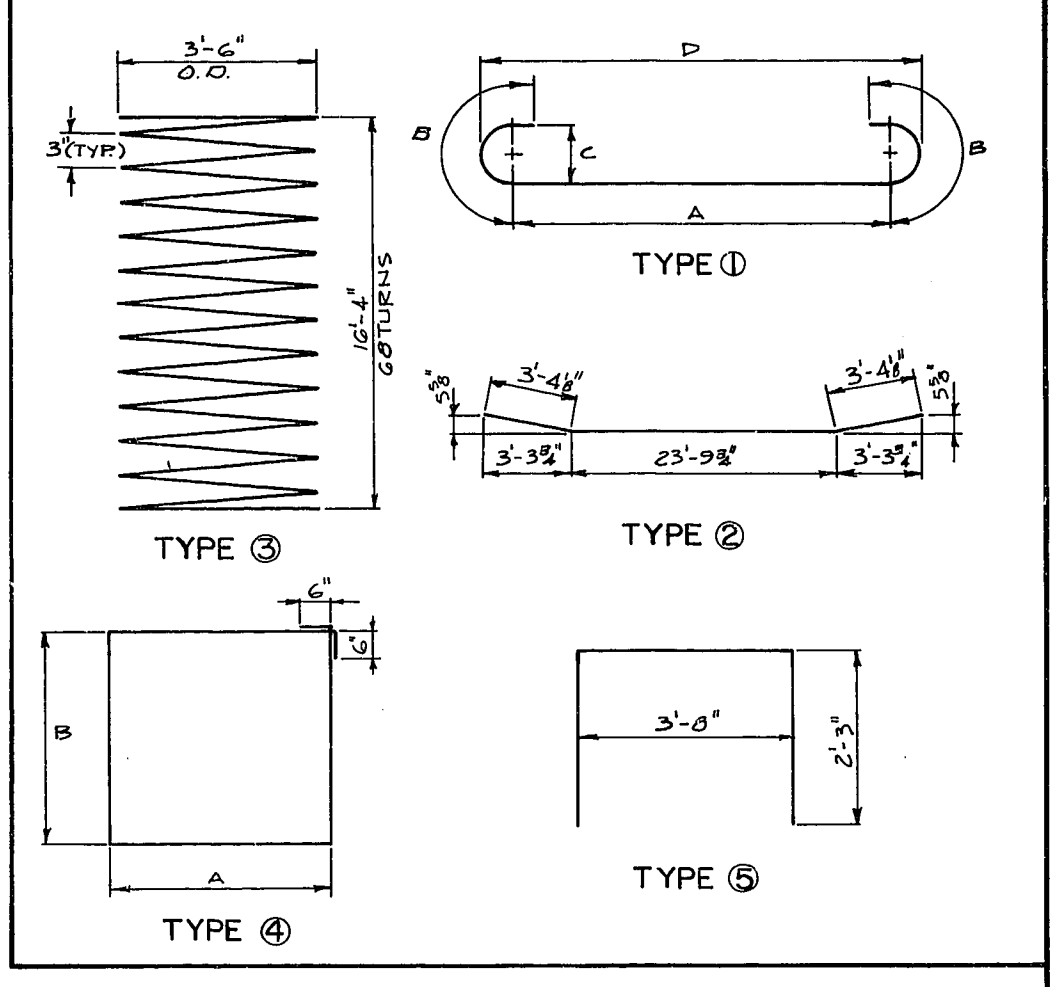


SECTION B-B

ESTIMATE OF QUANTITIES		
ITEM	QUANTITY	UNITS
CONCRETE CLASS "A"	73.4	C.Y.
STEEL REINFORCEMENT	144.50	LBS.
FOUNDATION SEAL, CL. A CONG.	156.4	C.Y.
STRUCTURE EXCAV. COMM.	27.9	C.Y.
STRUCTURE EXCAV. S.R.	21	C.Y.

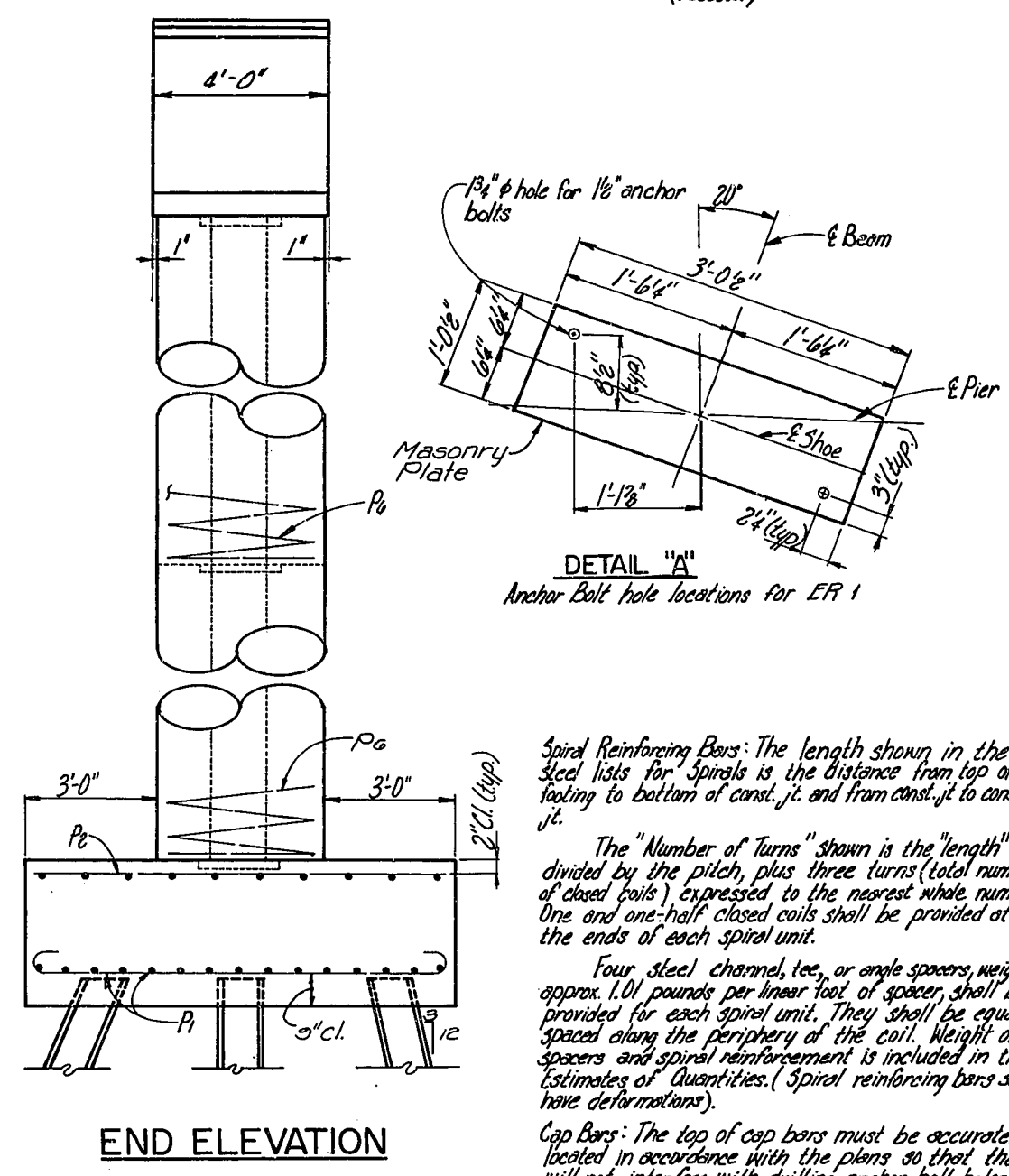
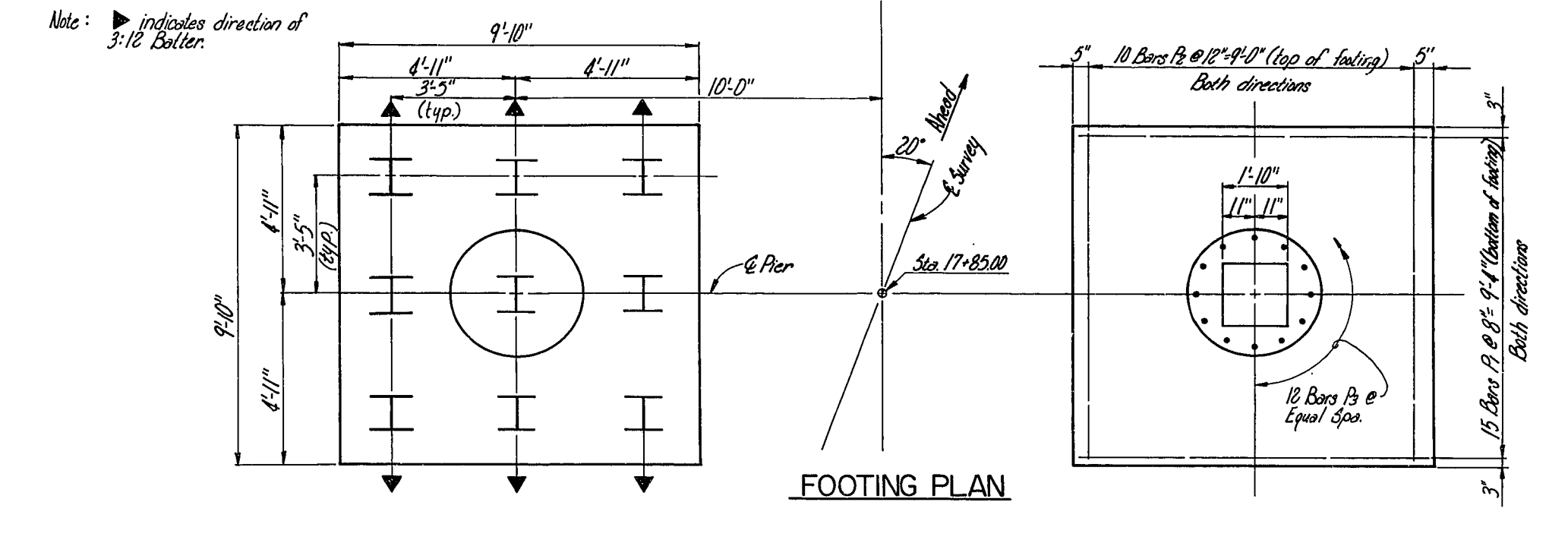
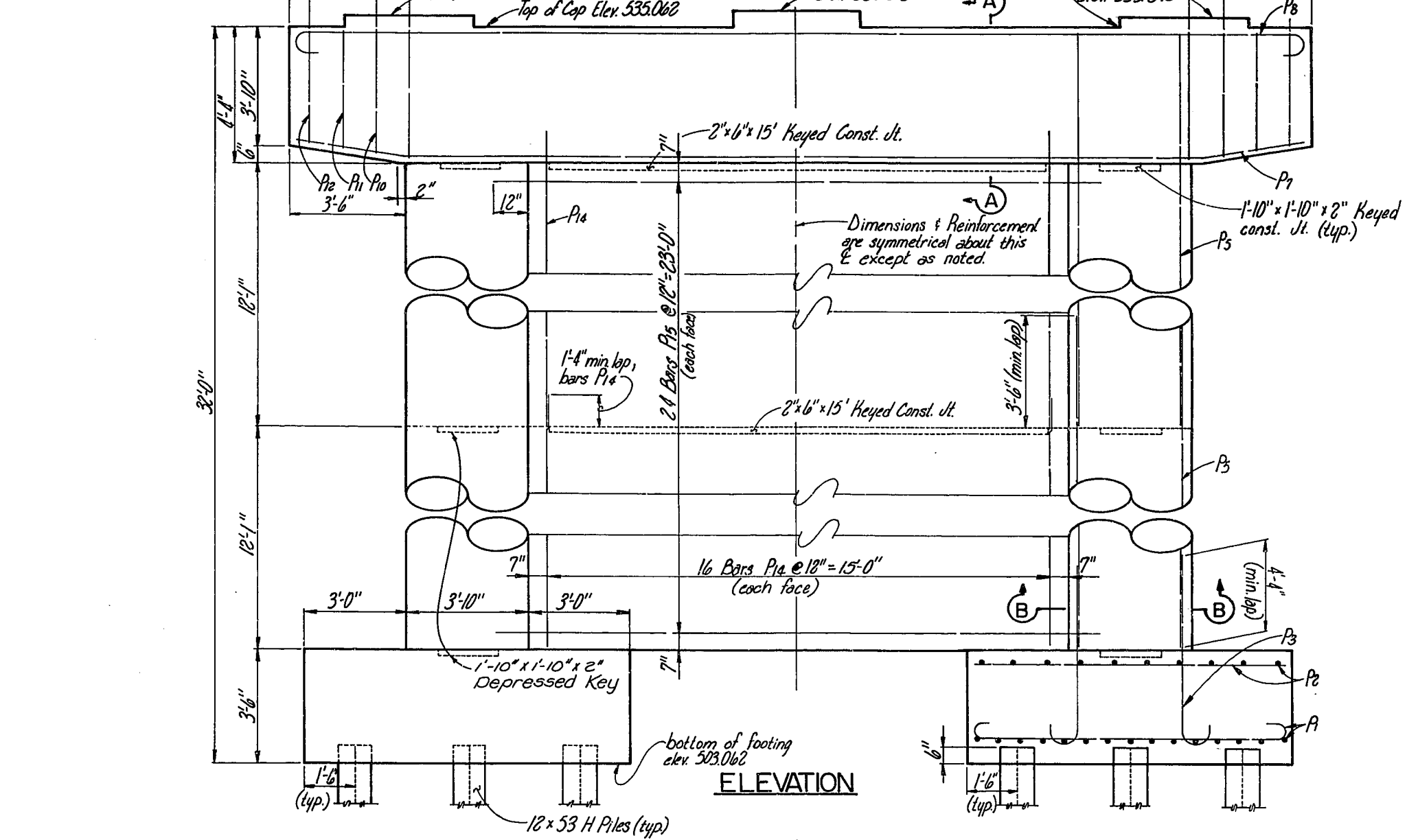
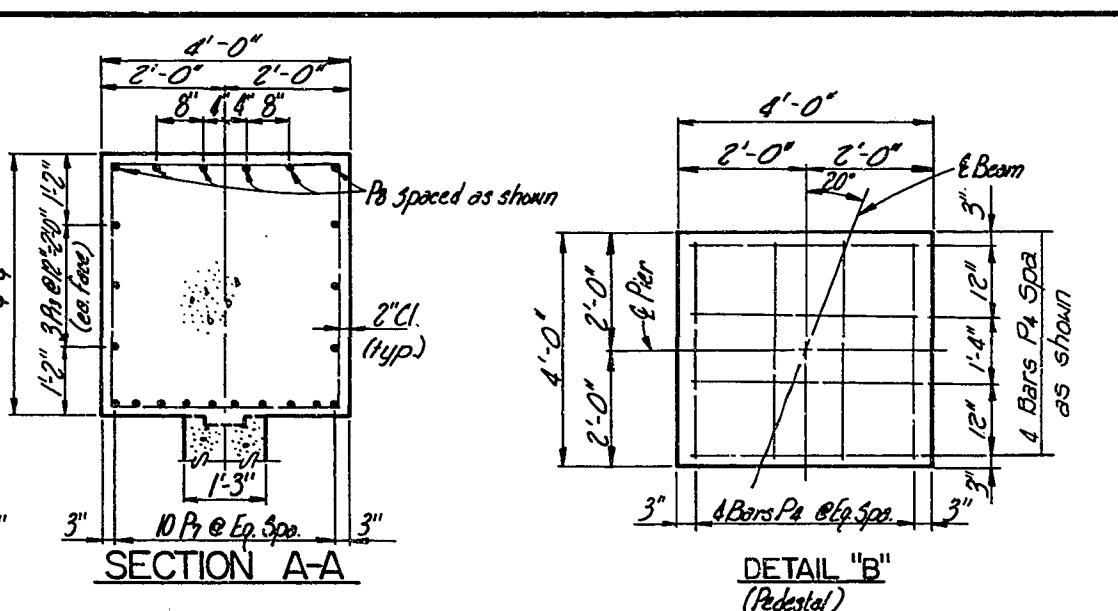
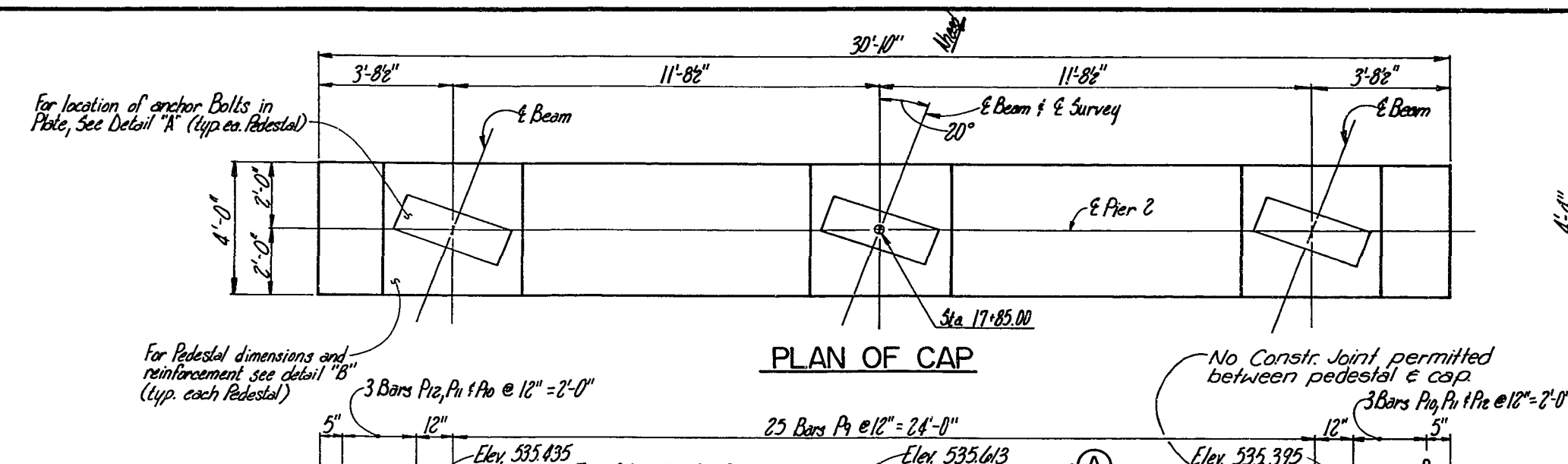
PIER I

BILL OF REINFORCEMENT														
M. No.	T. No.	No.	S. No.	Length		LOCATION	A							
				ft.	in.		ft.	in.	ft.	in.	ft.	in.		
F	STR	64	#2	17	0	WEBWALL								
F	STR	66	#4	18	2	WEBWALL								
F	STR	32	#11	12	1	FOOTING Dowels								
F	STR	32	#9	20	0	COLUMN								
F	STR	32	#9	17	6	COLUMN								
F	STR	4	#4	16	4	COLUMN								
F	STR	24	#4	0	1	PEDESTAL								
F	STR	6	#5	30	0	CAP								
F	STR	9	#10	30	0	CAP								
F	STR	6	#10	33	1	CAP	29	5	1	10	1	0	30	6
F	STR	27	#5	15	11	CAP	3	0	4	0				
F	STR	2	#5	15	0	CAP	3	0	3	10				
F	STR	2	#5	15	4	CAP	3	0	3	0				
F	STR	2	#5	15	1	CAP	3	0	3	0				



KY 2 over LITTLE SANDY RIVER SHEET 5
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS - GREENUP
 ROAD
 P.E. PROJECT NO.
 STATION 17 + 15
 CONSTRUCTION PROJECT NO. _____ MAINTENANCE PROJECT NO. _____ DRAWING NO. 20783

UPDATE DATE
LETTING DATE



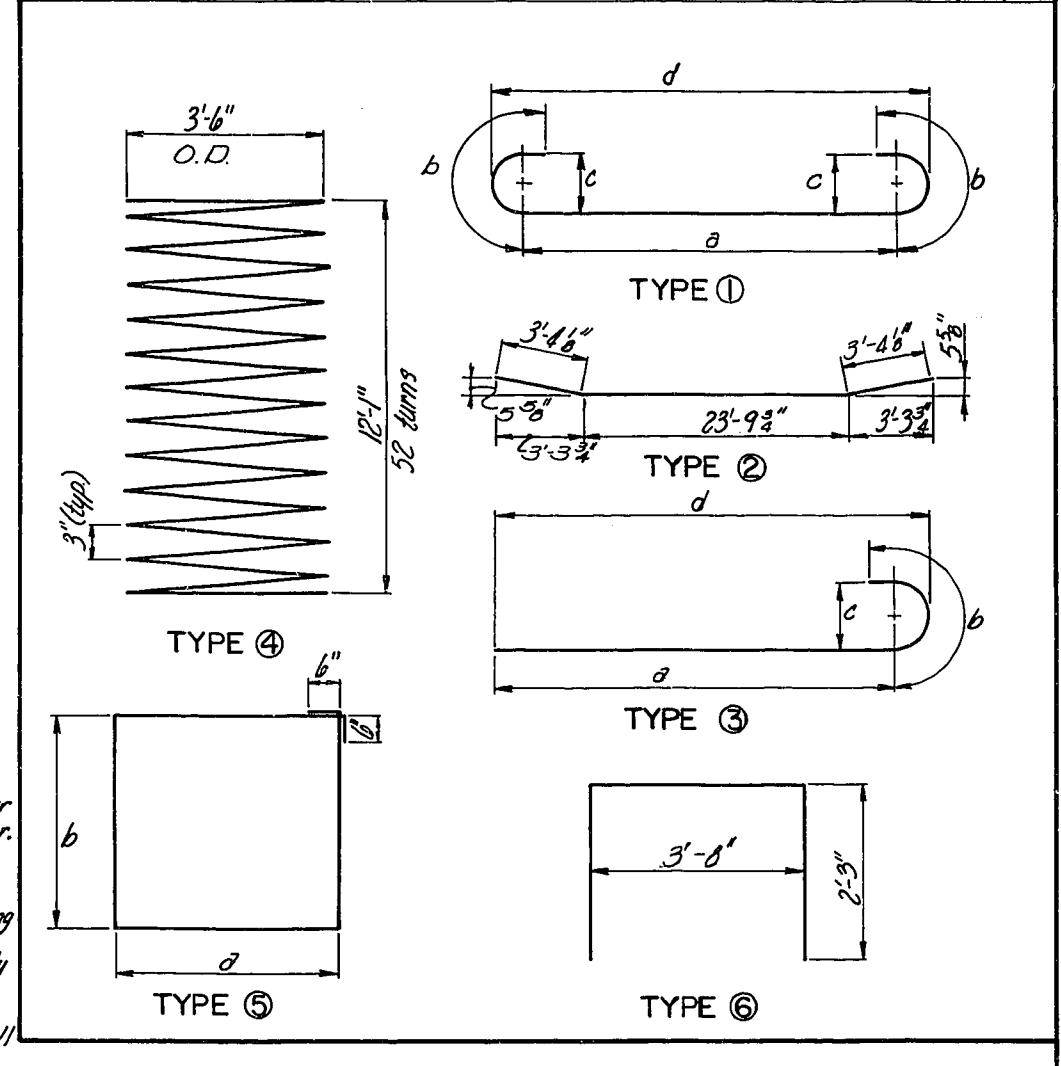
Spiral Reinforcing Bars: The length shown in the steel lists for spirals is the distance from top of footing to bottom of const. jt. and from const. jt. to const. jt.

The "Number of Turns" shown is the length divided by the pitch, plus three turns (total number of closed coils) expressed to the nearest whole number. One and one-half closed coils shall be provided at the ends of each spiral unit.

Four steel channels, tee, or angle spacers, weighing approx. 1.0 lb. pounds per linear foot of spacing shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. Weight of spacers and spiral reinforcement is included in the "Estimate of Quantities." (Spiral reinforcing bars shall have deformation).

Cap Bars: The top of cap bars must be accurately located in accordance with the plans so that they will not interfere with drilling anchor bolt holes.

BILL OF REINFORCEMENT													
No.	Type	No.	S _c	Length		LOCATION	a	b	c	d	e		
				ft.	in.							ft.	in.
P ₁	①	60	#6	11	0	Footing	9	0	1	0	6	9	6
P ₂	slr	40	#5	9	6	Footing							
P ₃	②	24	#4	8	4	Footing dowel	6	6	1	0	0	14	7
P ₄	③	24	#4	8	1	Pedestal							
P ₅	slr	48	#4	13	7	Column							
P ₆	④	4	#4	12	1	Column							
P ₇	⑤	10	#10	30	6	Cap							
P ₈	⑥	6	#10	33	1	Cap	29	5	1	10	1	0	30
P ₉	⑦	25	#5	15	11	Cap	3	4	4	0			
P ₁₀	⑧	2	#5	15	7	Cap	3	0	3	10			
P ₁₁	⑨	2	#5	15	4	Cap	3	0	3	8			
P ₁₂	⑩	2	#5	15	1	Cap	3	0	3	6			
P ₁₃	slr	6	#5	30	4	Cap							
P ₁₄	slr	6	#4	15	5	Keelwall							
P ₁₅	slr	48	#4	18	2	Keelwall							



ESTIMATE OF QUANTITIES	
CLASS 'A' CONCRETE	24.8 CU YDS.
STEEL REINFORCEMENT	1049.9 LBS.
STRUC. EXCAV. COMMON	160 CU YDS.

KY.2 over Little Sandy River SHEET 6

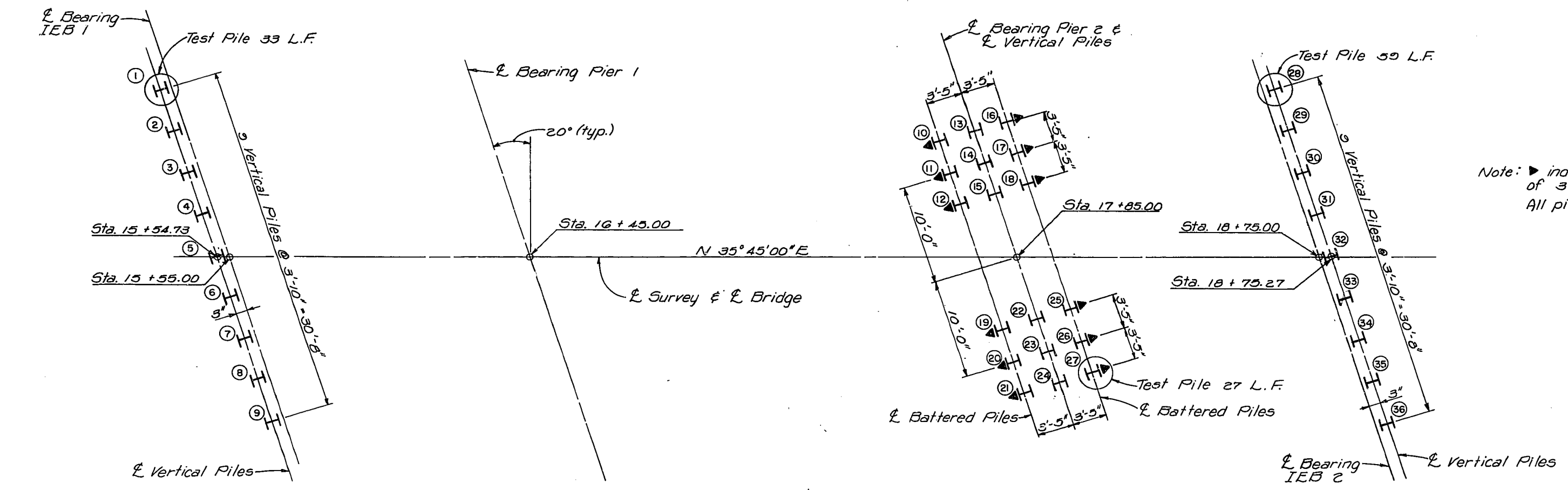
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
GREENUP
HOODS - GREENUP ROAD
STATION 17+15 P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
20783

PIER 2

DESIGNED BY: J.C.P. CHECKED BY: J.C.P.
DRAWN BY: J.E.H. CHECKED BY: J.E.H.

UPDATE DATE
 LETTING DATE

DESIGNED BY: S.M.O. DATE: 5/18/33
 CHECKED BY: J.C.P. DATE:
 DRAWN BY: DATE:
 REVISIONS:
 REVISIONS:
 REVISIONS:



Note: ▸ indicates direction of 3:12 batter.
 All piles HP 12 x 53

Note:
 After all piles have been driven, the Resident Engineer shall record for each pile: the tip of pile elevation as driven, the length of pile in place, and the calculated bearing capacity and shall return one blue print copy of the sheet with this data to the Director of the Division of Bridges so that the data may be recorded on the original plans. Length of piles shown hereon are the actual length of piles in the finished structure below cut-off elevation and are not necessarily pay items. This pile record does not replace other records of piles required to be kept and submitted by the Resident Engineer.

PILE RECORD				
PILE NO.	PILE CUTOFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (Linear Feet)	CALCULATED BEARING CAPACITY (Tons)
1	537.212			
2				
3				
4				
5				
6				
7				
8				
9	537.212			
10	535.562			
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27	535.562			
28	535.612			
29				
30				
31				
32				
33				
34				
35				
36	535.612			

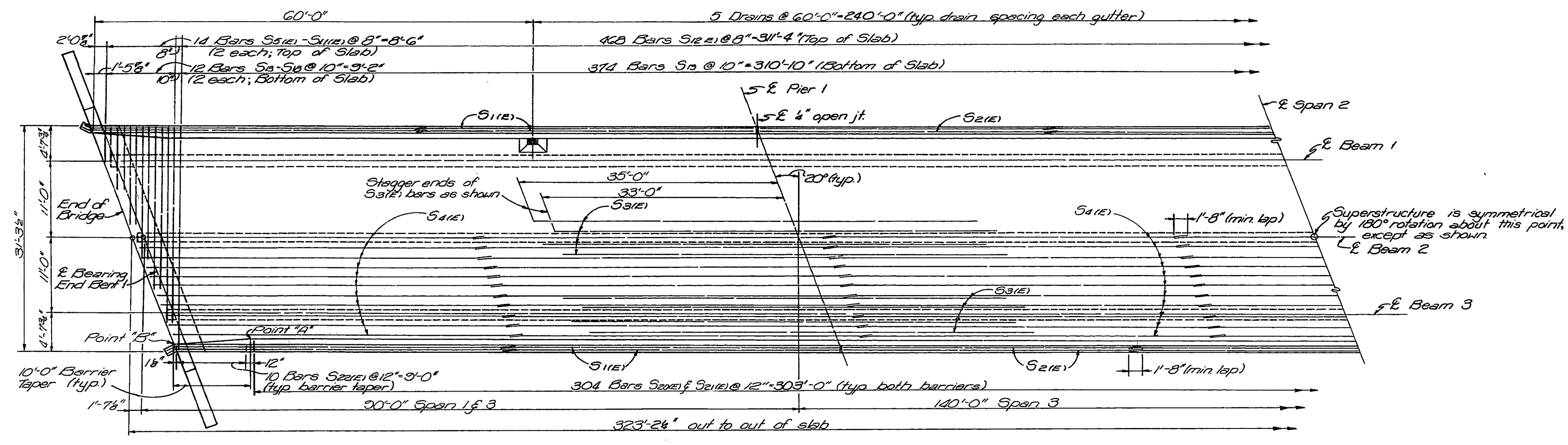
PILE LAYOUT

KY. 2 OVER LITTLE SANDY RIVER SHEET 7

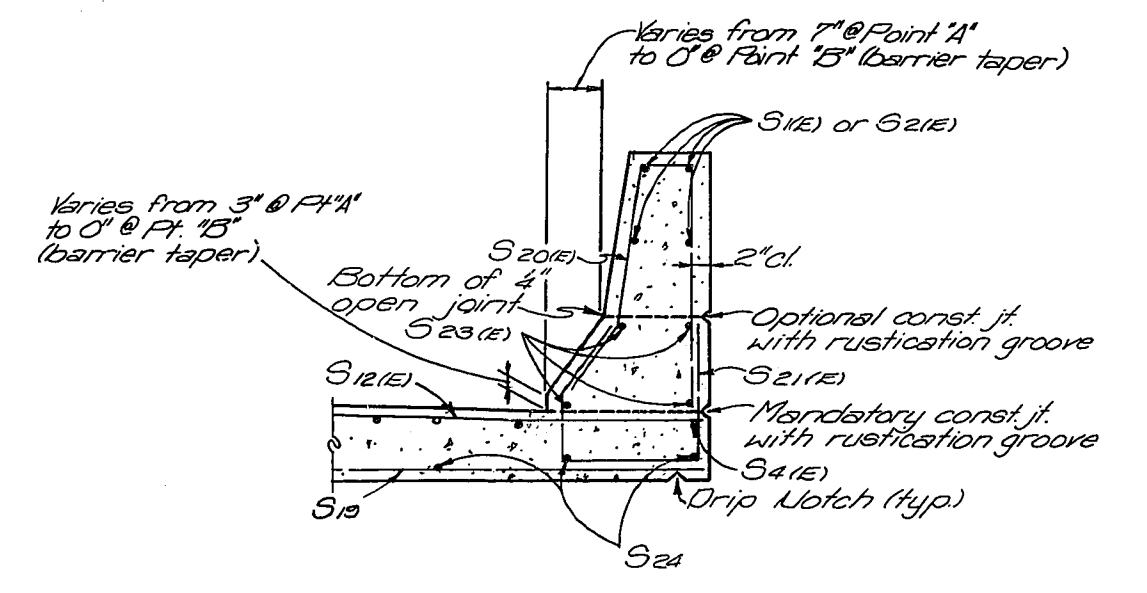
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS - GREENUP
 ROAD

STATION 17+15 P.E. PROJECT NO.
 CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO. 20783

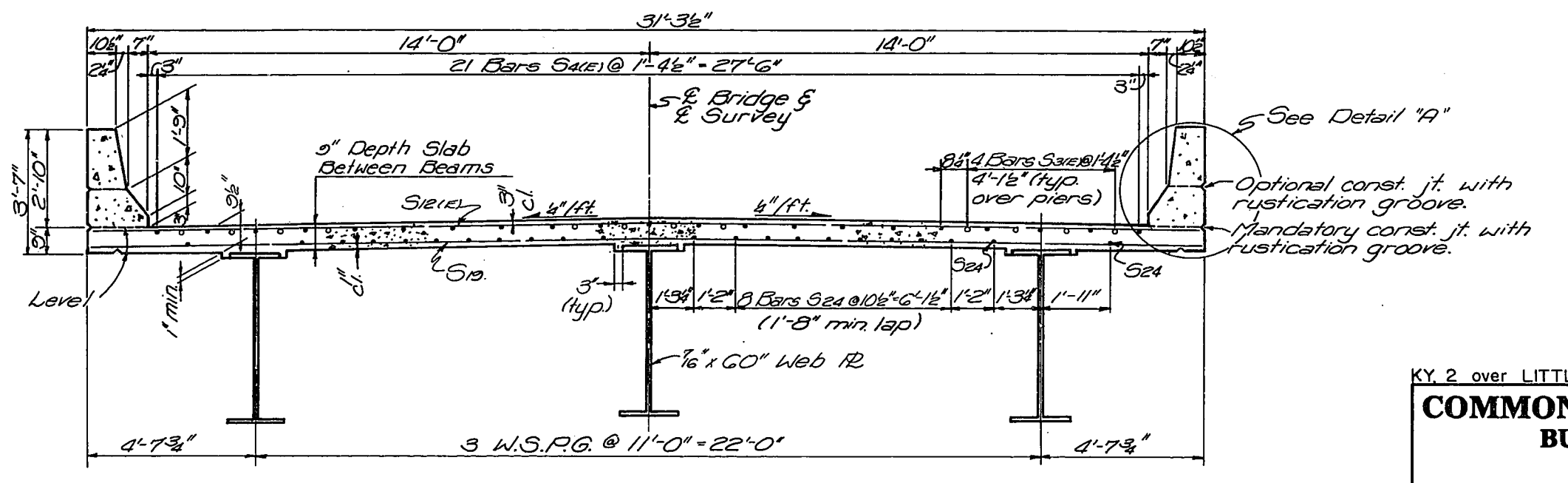
UPDATE DATE
LETTING DATE



PLAN



DETAIL "A"



TYPICAL SECTION
(Looking Ahead)

SUPERSTRUCTURE

DESIGNED BY: JCP
CHECKED BY: BGD
DATE: 9/83

REVISIONS:
DATE: DATE: DATE:
BY: BY: BY:

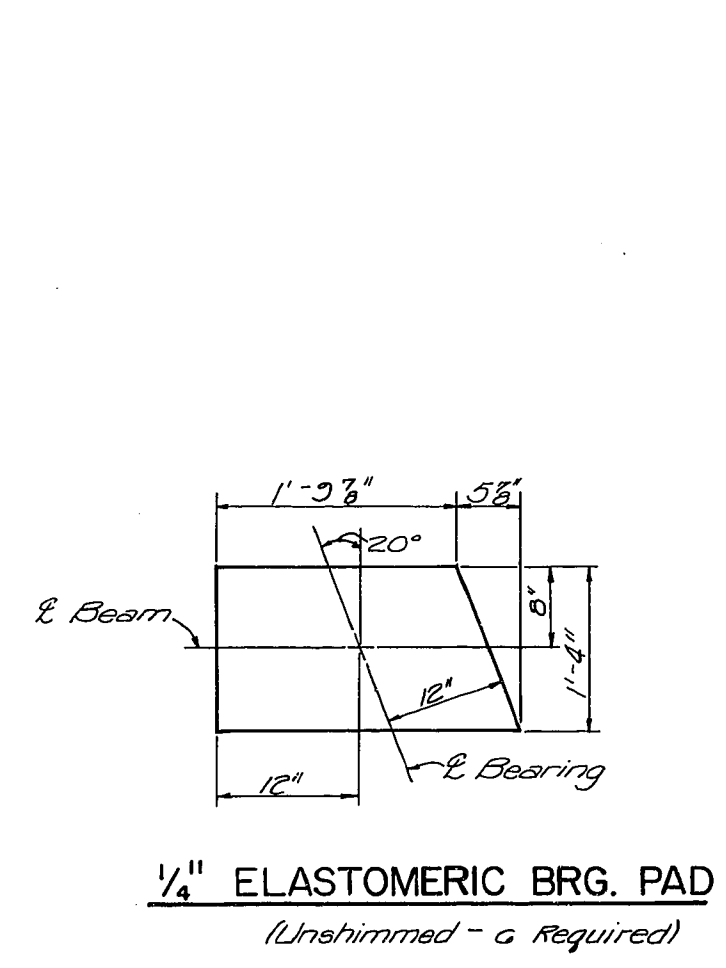
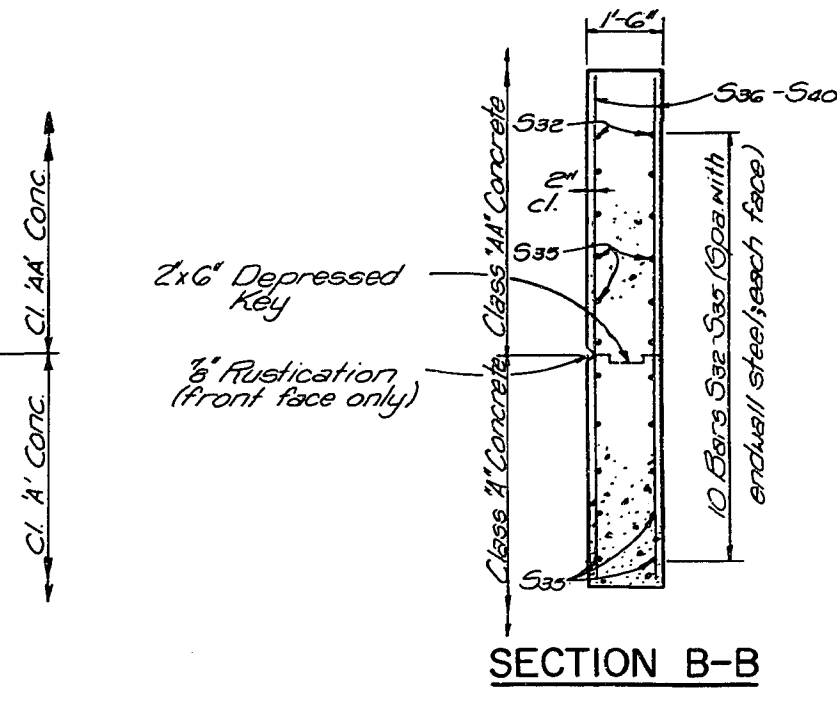
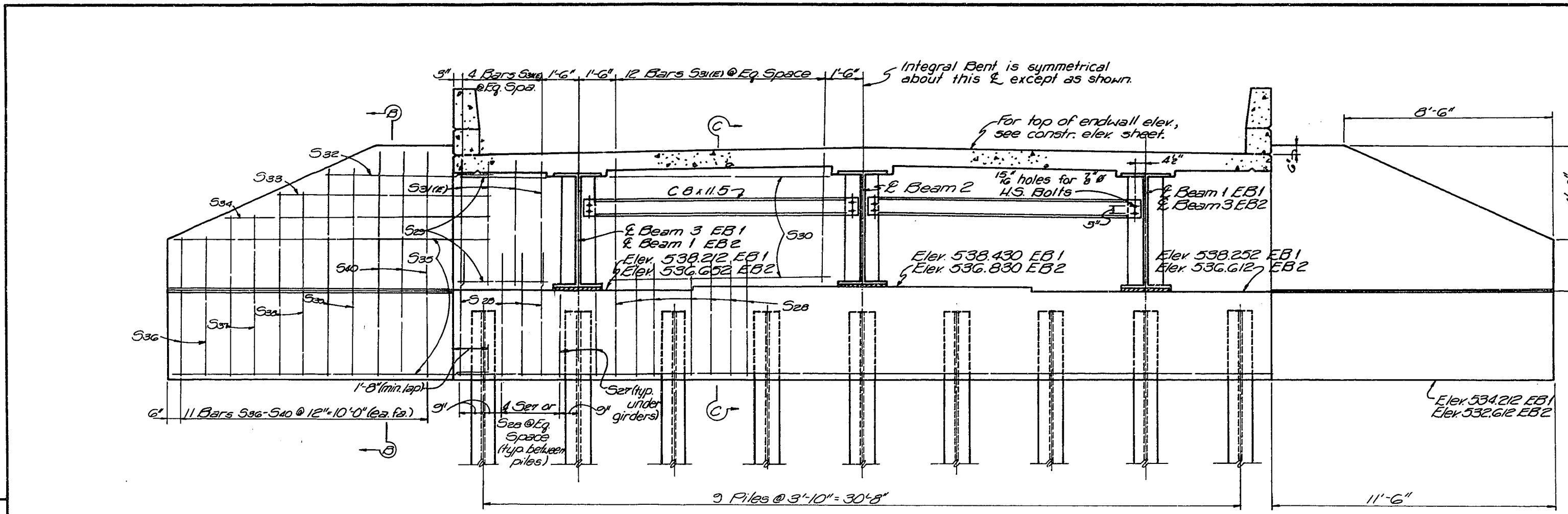
KY 2 over LITTLE SANDY RIVER SHEET 8

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
GREENUP
HOODS-GREENUP
ROAD
STATION 17 + 15 P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
20783

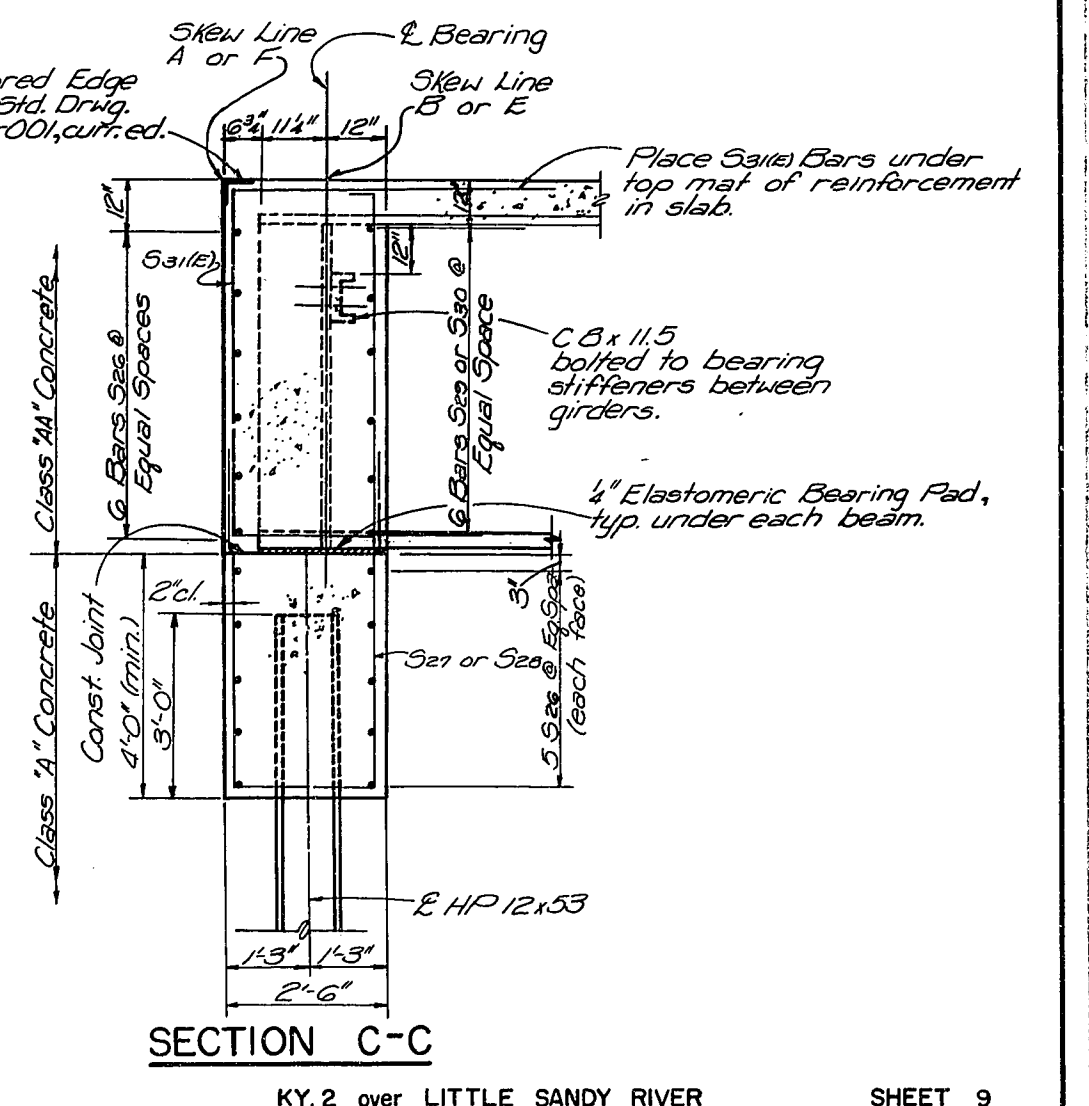
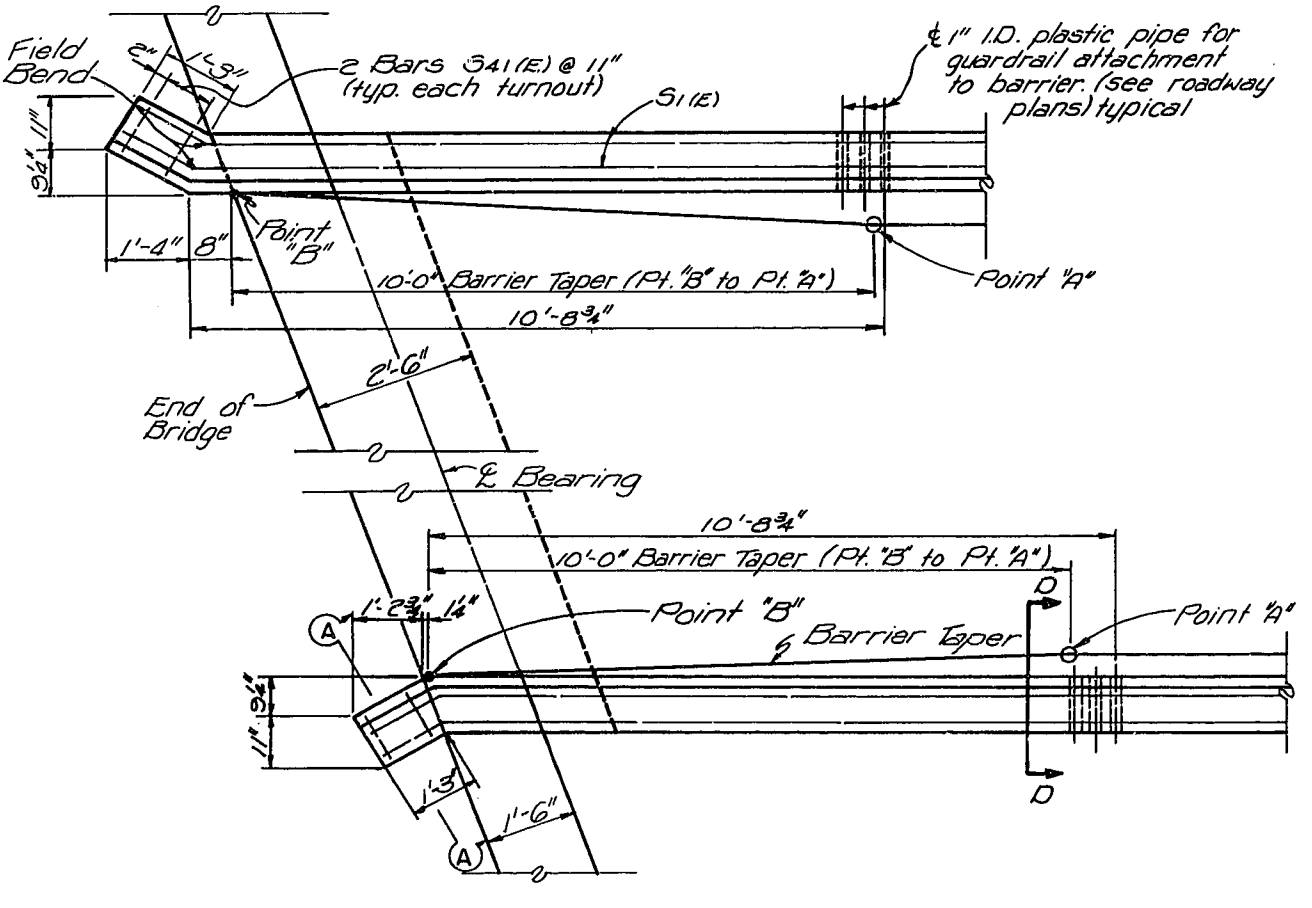
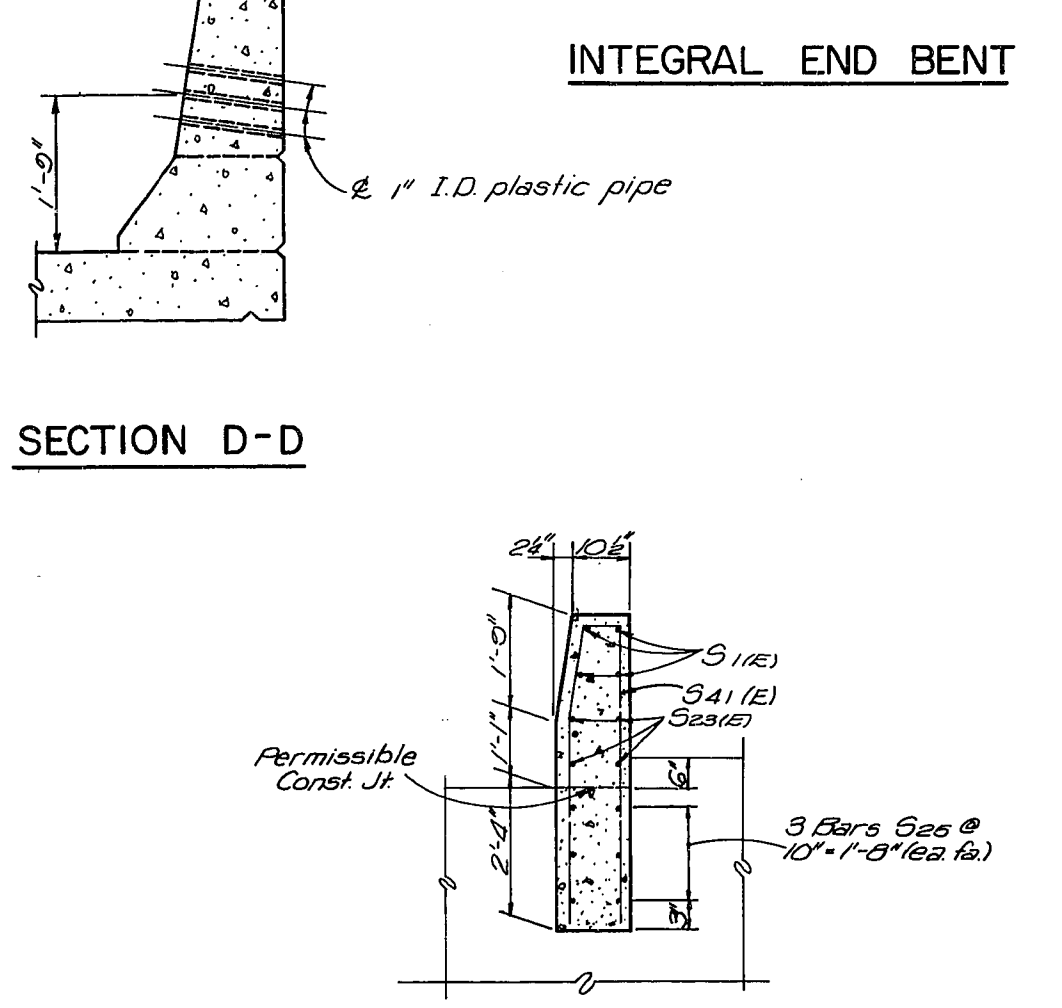
UPDATE DATE
 LETTING DATE

NO.	DATE	BY	REASON
1	10/10/83	SSB	REVISED
2	1/12/83	SSB	REVISED
3	1/12/83	SSB	REVISED
4	1/12/83	SSB	REVISED
5	1/12/83	SSB	REVISED

DESIGNED BY: SSB
 CHECKED BY: SSB



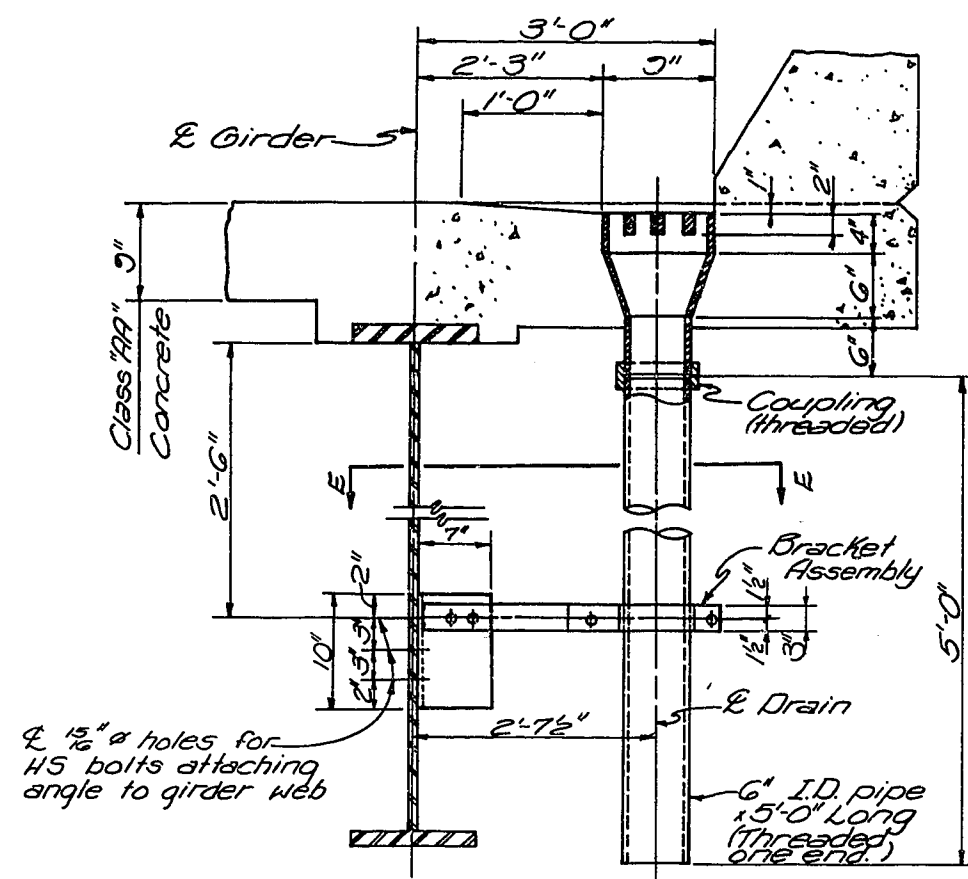
Note: Elastomeric Bearing pads are incidental to the Lump Sum Bid for Structural.



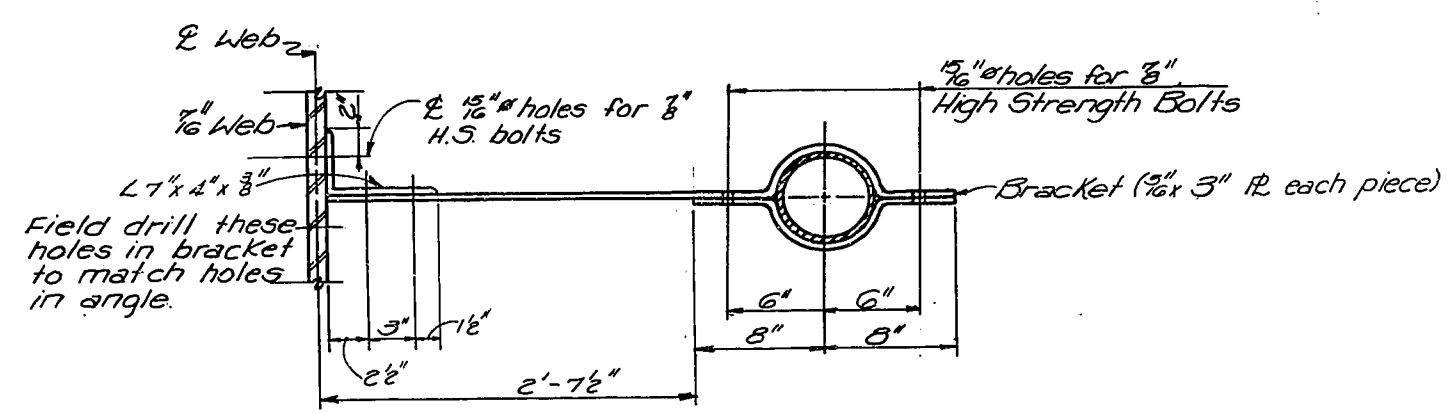
KY. 2 over LITTLE SANDY RIVER SHEET 9
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS-GREENUP
 ROAD
 STATION 17 + 15 P.E. PROJECT NO.
 CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
 20783

SUPERSTRUCTURE

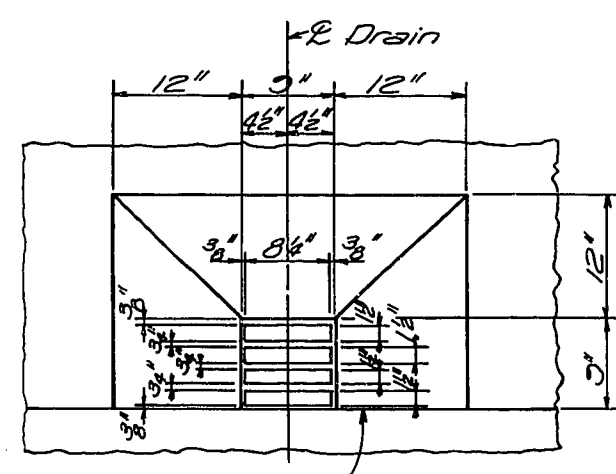
UPDATE DATE: _____
 LETTING DATE: _____



TYPICAL SECTION THRU DRAIN
 (10 Drains required - Weight belbs. each)
 (Including Brackets, Couplings, etc. but not including Drain Pipes)

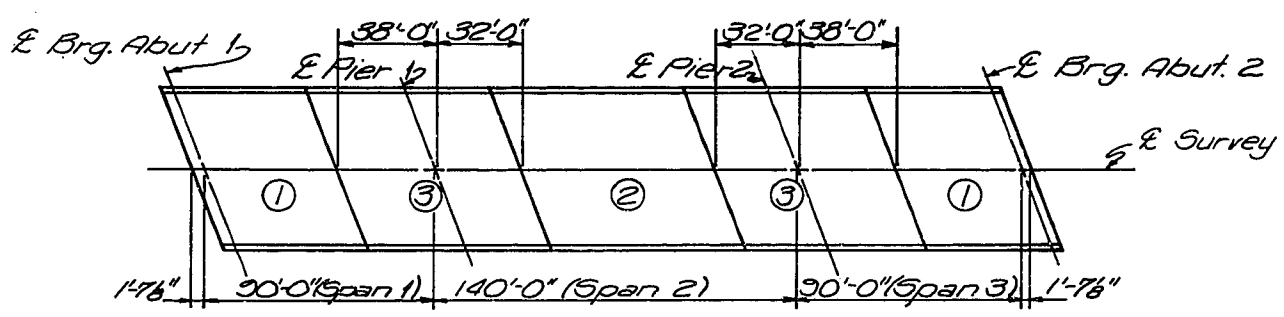
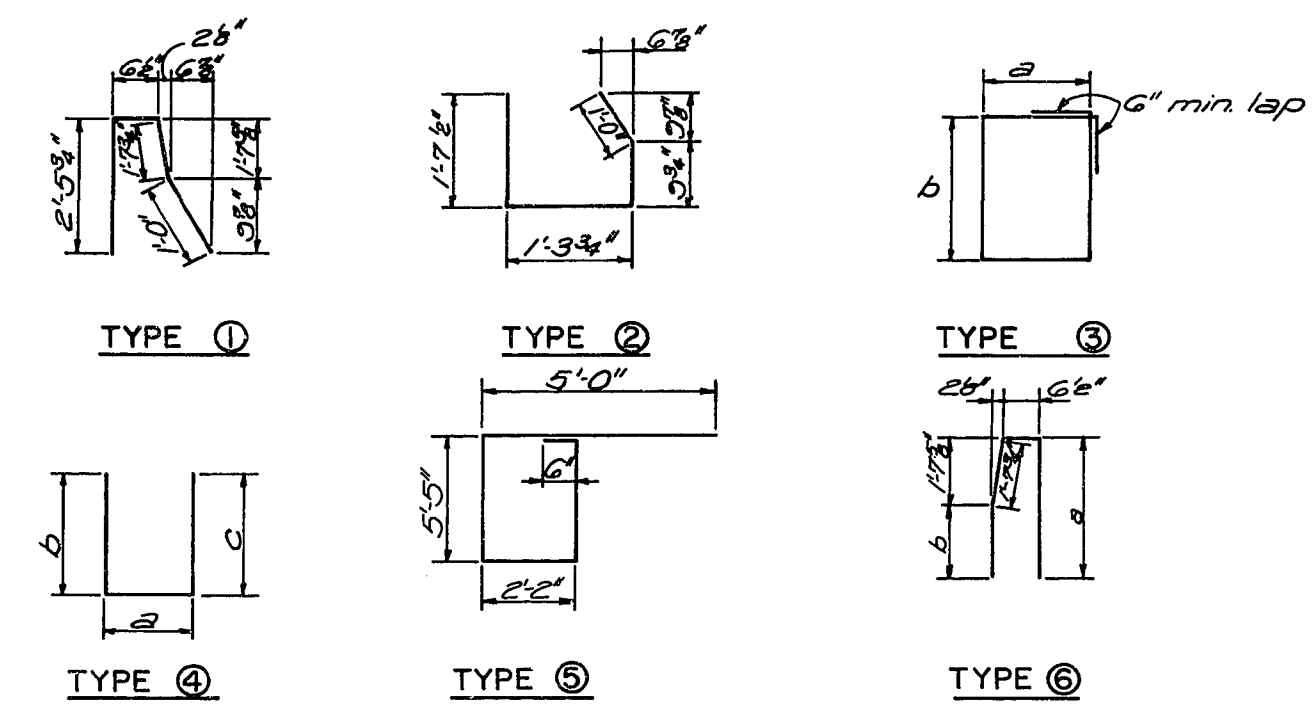


SECTION E-E
 (10 Brackets Required)



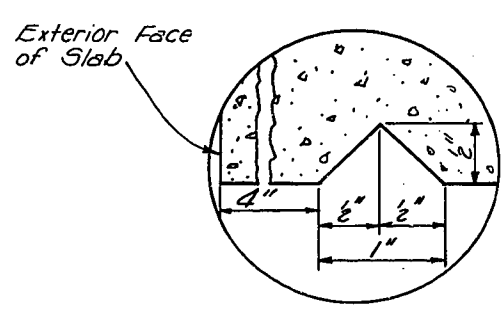
PLAN OF DRAIN

Note:
 The drain pipe and drain casting shall be joined and aligned before the deck is cast.

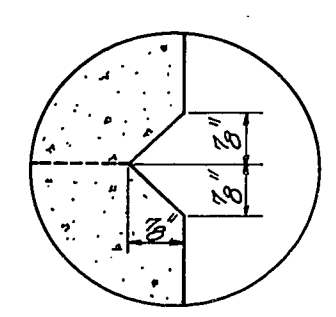


SLAB POURING ORDER

Note: With the written approval of the Engineer, the Contractor may change the slab pouring order.



DRIP NOTCH



RUSTICATION GROOVE

Foundary Note: All drains to be gray iron casting ASTM A48, Class 30A. Report of field inspection of castings is to be submitted to the Division of Materials.

BILL OF REINFORCEMENT

Mark	Type	No.	Size	Length	LOCATION	Quantity			
						ft.	in.	ft.	in.
S121	str	32	#5	47	Barrier				
S122	str	24	#5	47	Barrier				
S321	str	24	#7	60	Top of Slab				
S322	str	16	#5	47	Top of Slab				
S323	str	4	#7	5	Top of Slab				
S324	str	4	#7	9	Top of Slab				
S325	str	4	#7	13	Top of Slab				
S326	str	4	#7	16	Top of Slab				
S327	str	4	#7	20	Top of Slab				
S328	str	4	#7	24	Top of Slab				
S329	str	4	#7	27	Top of Slab				
S330	str	4	#7	30	Top of Slab				
S34	str	4	#6	4	Bottom of Slab				
S35	str	4	#6	9	Bottom of Slab				
S36	str	4	#6	13	Bottom of Slab				
S37	str	4	#6	18	Bottom of Slab				
S38	str	4	#6	22	Bottom of Slab				
S39	str	4	#6	27	Bottom of Slab				
S30	str	374	#6	30	Bottom of Slab				
S311	str	608	#5	5	Barrier				
S312	str	608	#5	4	Barrier				
S320	str	10	#5	7	Barrier	3	3 1/2	1	7 1/2
S321	str	56	#5	48	Barrier				
S322	str	182	#5	47	Barrier				
S323	str	24	#5	3	Barrier Turnout				
S324	str	32	#5	33	Integral End Bent				
S325	str	12	#5	11	Integral End Bent	2	2	6	2 3 2
S326	str	12	#5	14	Integral End Bent	2	2	6	2 6 2
S327	str	24	#5	4	Integral End Bent				
S328	str	24	#5	10	Integral End Bent				
S329	str	64	#5	13	Integral End Bent				
S330	str	8	#5	3	Wing				
S331	str	8	#5	10	Wing				
S332	str	8	#5	12	Wing				
S333	str	56	#6	13	Wing				
S334	str	16	#4	6	Wing				
S335	str	16	#4	7	Wing				
S336	str	16	#4	8	Wing				
S337	str	16	#4	9	Wing				
S338	str	24	#4	10	Wing				
S339	str	8	#5	10	Barrier Turnout	4	10	3	3

ESTIMATE OF QUANTITIES	
ITEM	QUANTITY UNIT
CONCRETE, CLASS "AA"	418.4 Cu. Yd.
STEEL REINFORCEMENT	31827 Lbs.
EPOXY COATED REINFORCEMENT	33150 Lbs.
CONCRETE, CLASS "A"	32.4 Cu. Yd.

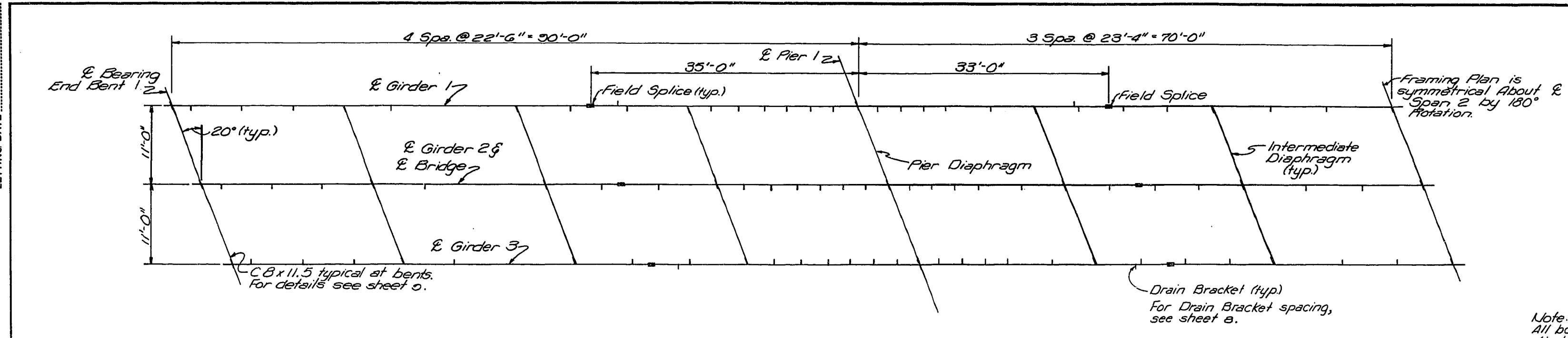
KY 2 over LITTLE SANDY RIVER SHEET 10

COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS - GREENUP
 ROAD
 STATION 17 + 15 P.E. PROJECT NO. _____

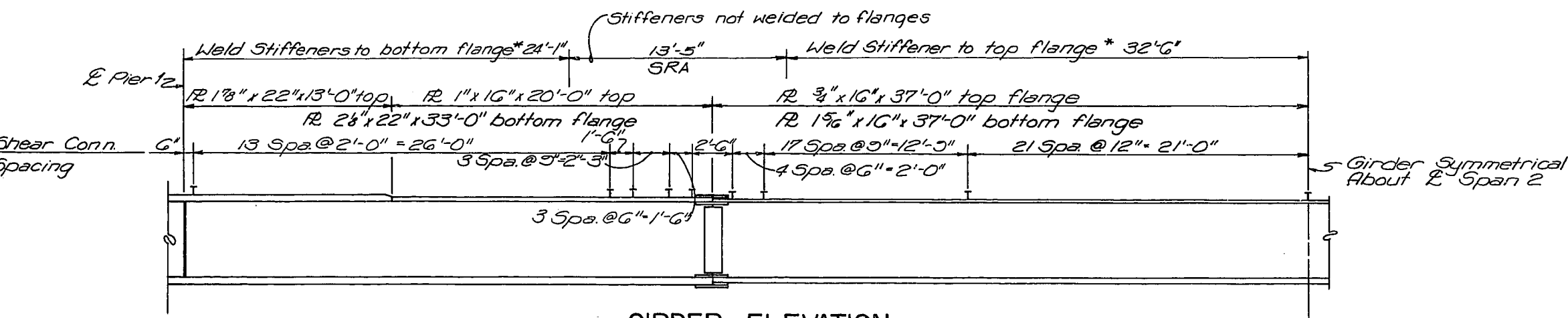
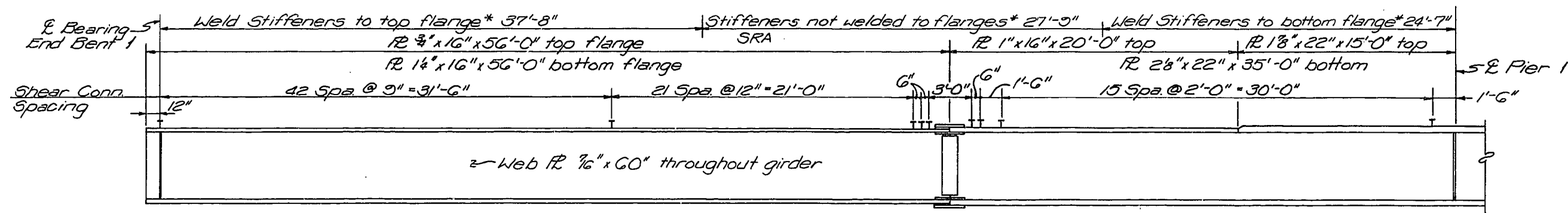
CONSTRUCTION PROJECT NO. _____ MAINTENANCE PROJECT NO. _____ DRAWING NO. **20783**

SUPERSTRUCTURE

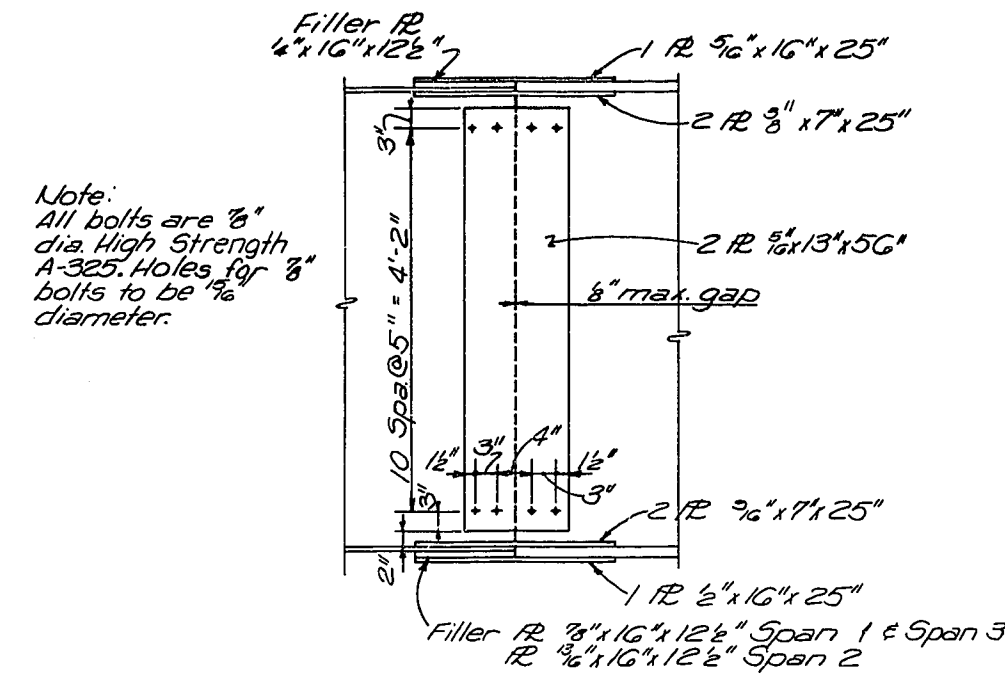
UPDATE DATE
LETTING DATE



FRAMING PLAN

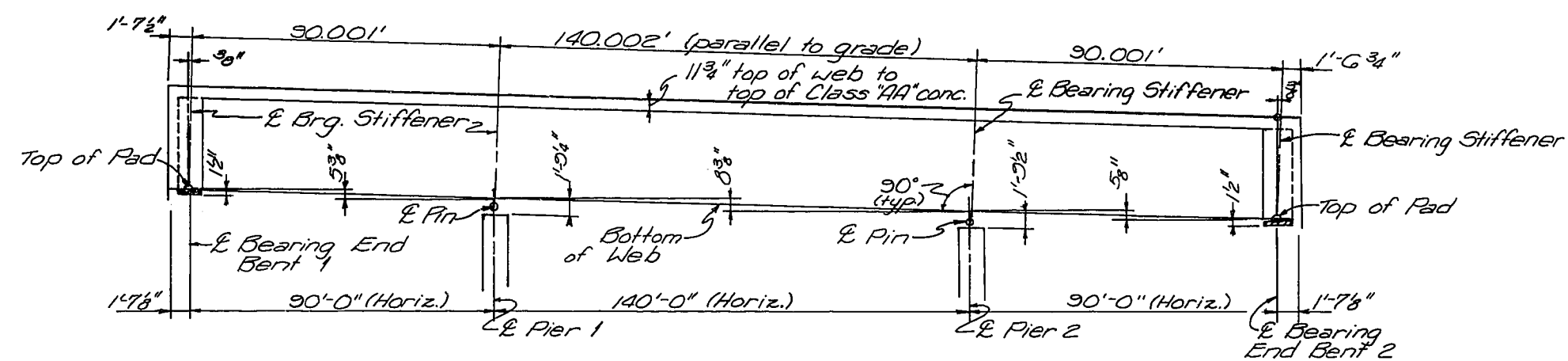


GIRDER ELEVATION



FIELD SPICE

STIFFENER SPACING - ALL GIRDERS
(L Brg.) 1 @ 2'-6", 4 @ 6'-8", 1 @ 15'-10"
3 @ 7'-6", 3 @ 5'-6", 3 @ 3'-0", (L Brg.)
1 @ 2'-0", 3 @ 3'-0", 6 @ 4'-0", 2 @ 6'-1", 1 @ 8'-1" (Span 2)



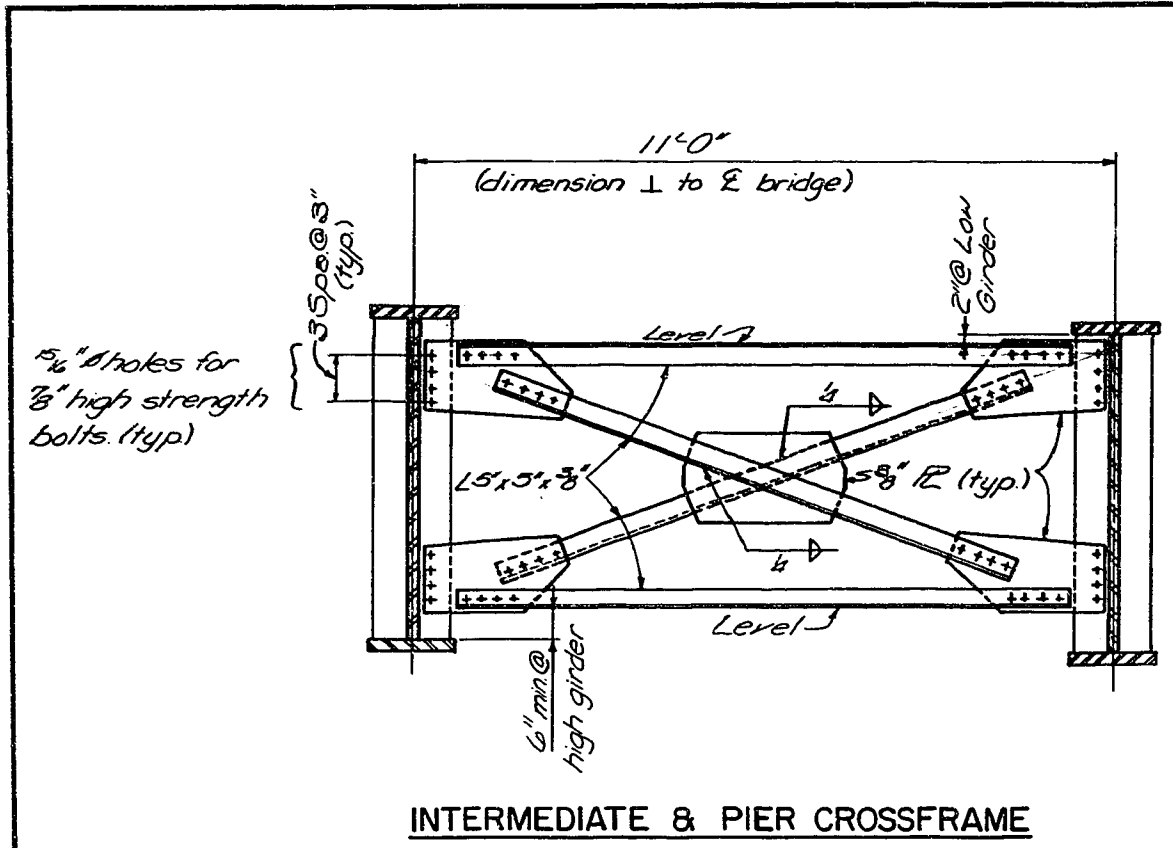
BLOCKING DIAGRAM

STRUCTURAL STEEL

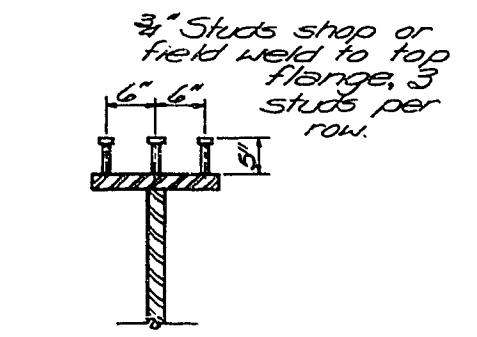
NO.	DATE	BY	CHKD.	APP'D.
1	5/18/83	JEP	JEP	JEP
2	5/18/83	JEP	JEP	JEP

KY. 2 over LITTLE SANDY RIVER SHEET II
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS - GREENUP
 ROAD
 P.E. PROJECT NO.
 STATION 17 + 15
 CONSTRUCTION PROJECT NO.
 MAINTENANCE PROJECT NO.
 DRAWING NO. 20783

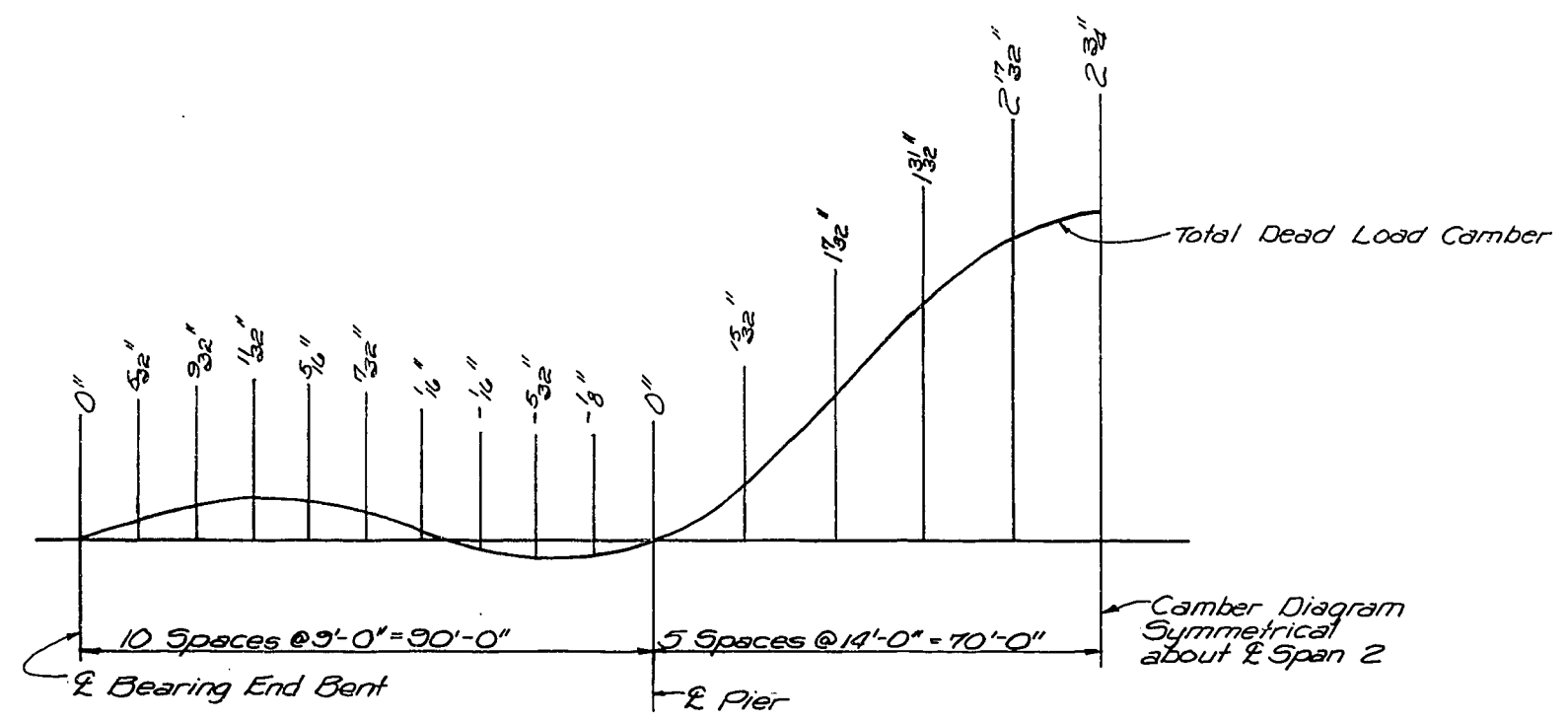
UPDATE DATE.....
 LETTING DATE.....



INTERMEDIATE & PIER CROSSFRAME

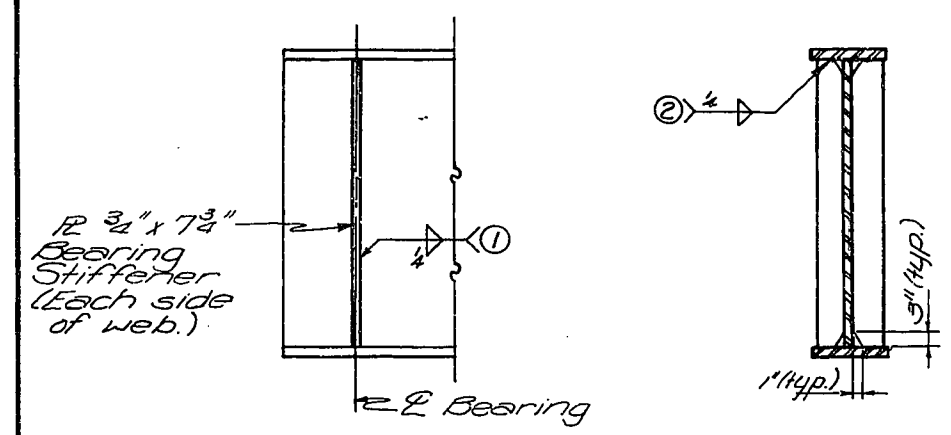


SHEAR CONNECTOR

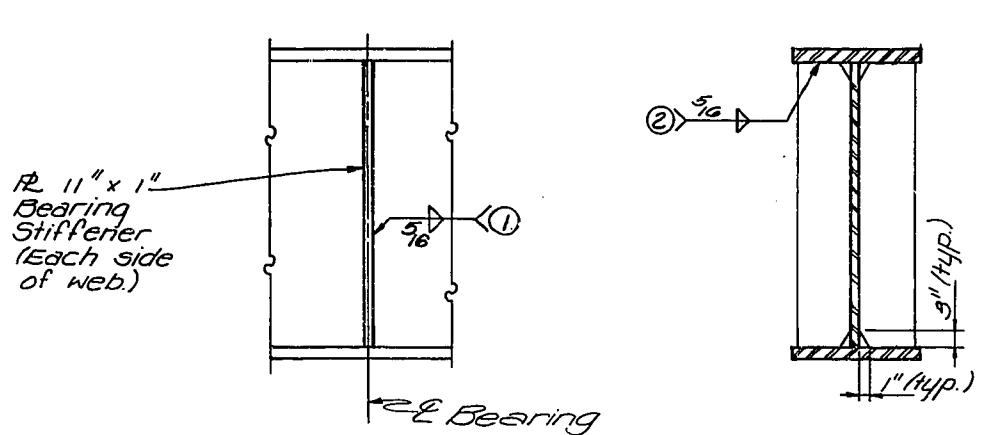


CAMBER DIAGRAM

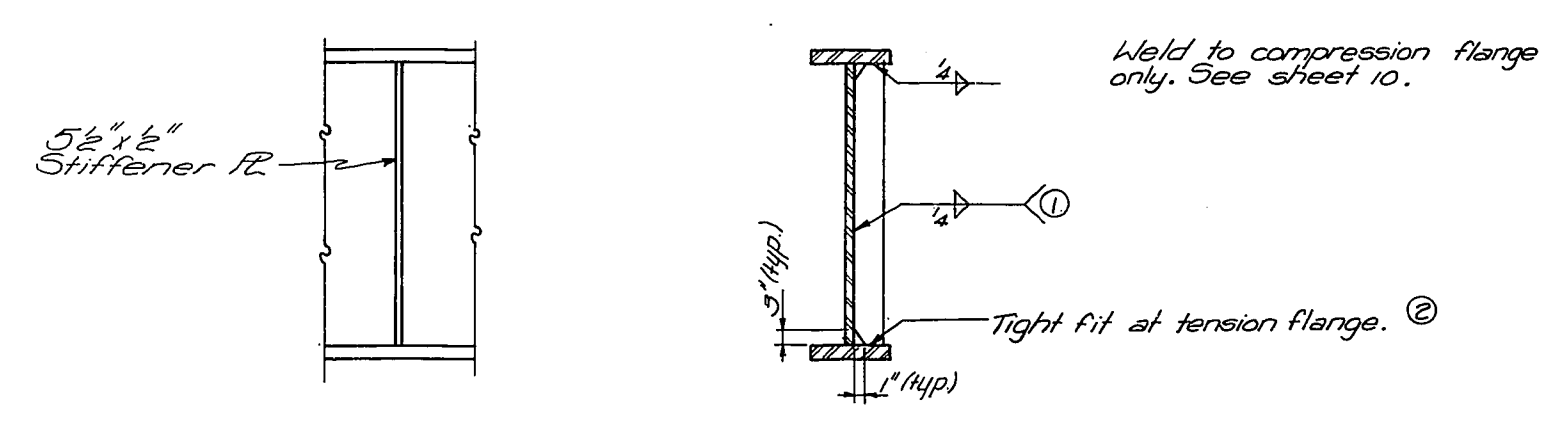
Total dead load camber shall be cut into the web of girders.



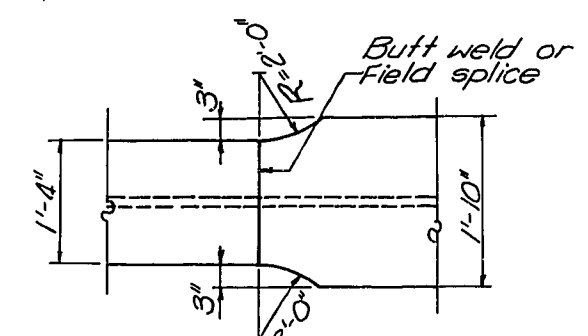
BEARING STIFFENER AT INTEGRAL END BENTS



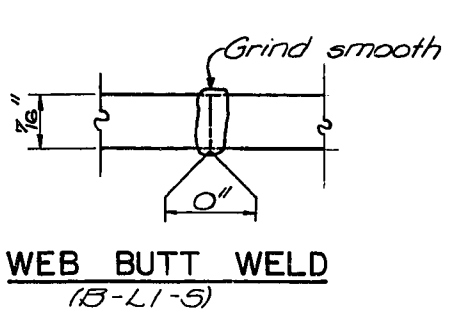
BEARING STIFFENER AT PIERS



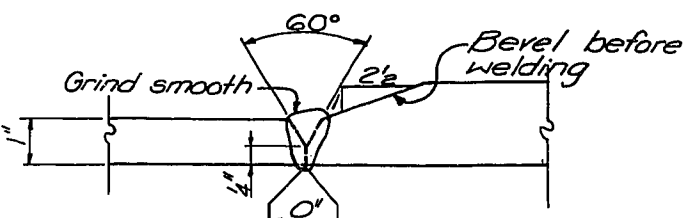
INTERMEDIATE STIFFENER



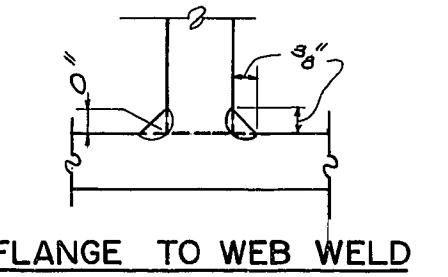
FLANGE WIDTH TRANSITION



WEB BUTT WELD (B-L1-5)



FLANGE BUTT WELD (B-L2b-5)



FLANGE TO WEB WELD

- Notes:
- 1) Terminate stiffener to web fillet weld 3" from flange.
 - 2) Stiffeners at diaphragms and all bearing stiffeners shall be skewed and welded to both flanges.
 - 3) Bearing stiffeners and girder ends to be vertical. Intermediate stiffeners shall be normal to flanges.

Note: See American Welding Society's Specifications for Welded Highway & Railway Bridges 1980 Edition with revisions for prequalified welds.

Flange to web welds to be single pass submerged arc fillet welds in the flat position. Parts are to be assembled with edge of web 1/2" tight against flange 1/2" before welding.

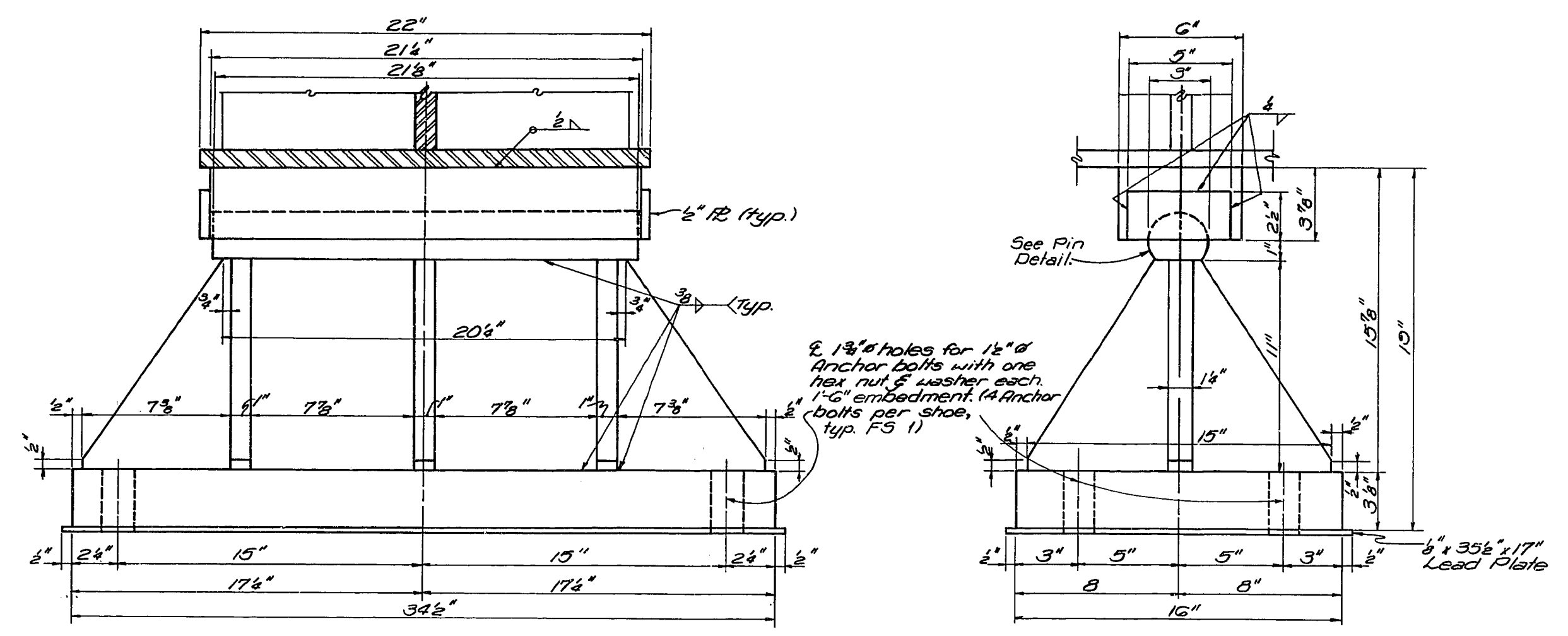
STRUCTURAL STEEL

DATE: 9/83
 DATE: 5/83
 CHECKED BY: JCP
 CHECKED BY: JED
 DRAWN BY: BGS
 DRAWN BY: SZZL

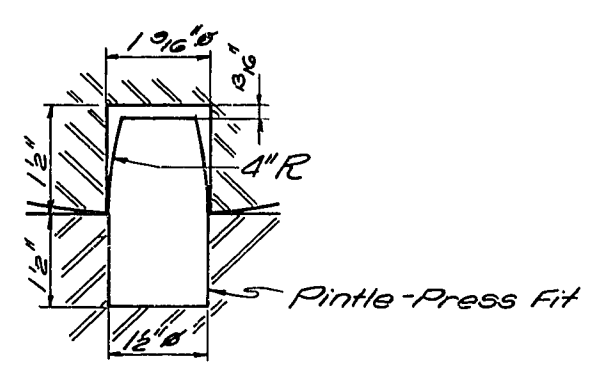
KY 2 over LITTLE SANDY RIVER SHEET 12
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS - GREENUP
 ROAD
 P.E. PROJECT NO.
 STATION 17+15
 CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
 20783

UPDATE DATE
LETTING DATE

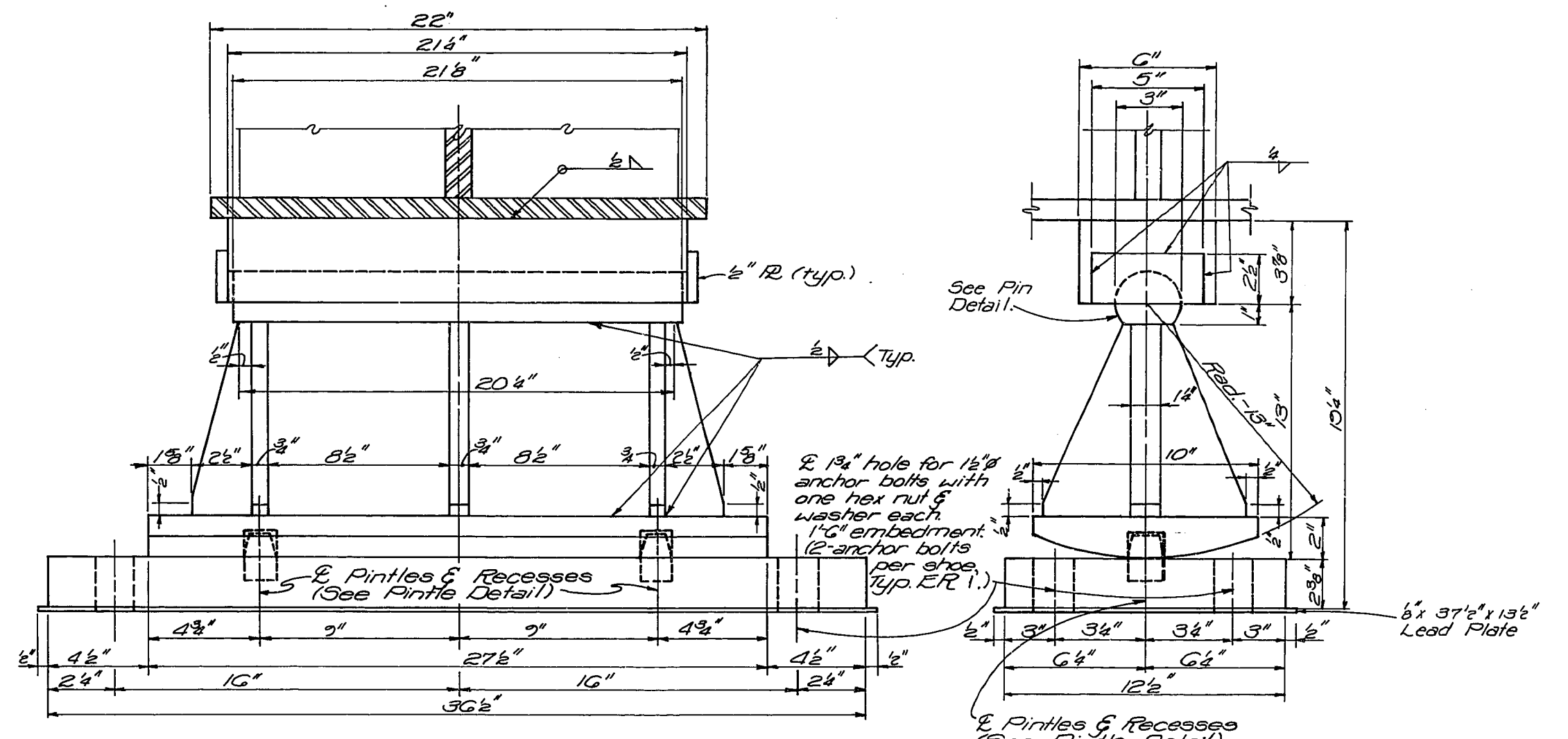
DESIGNED BY	DATE	REVISION	DATE
BY	9/83		
CHECKED BY	DATE	REVISION	DATE
BY	9/83		
APPROVED BY	DATE	REVISION	DATE
BY			



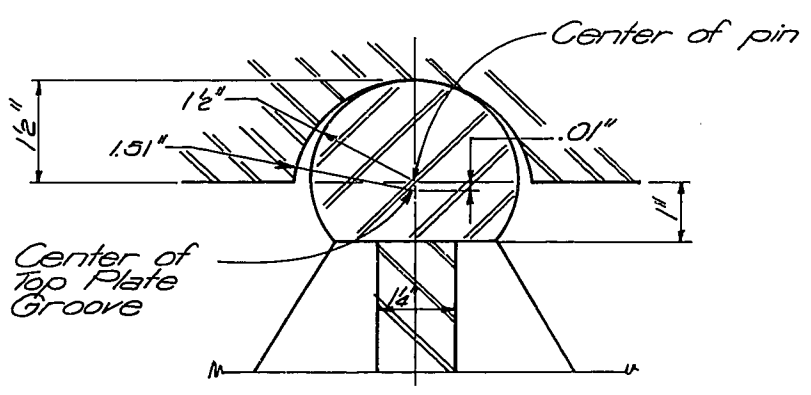
FIXED SHOE (FS I)
Allowable Capacity 420 Kips
(s Required for Pier 1)



PINTLE DETAIL



EXPANSION ROCKER (ER I)
Allowable Capacity 420 Kips
(s Required for Pier 2)



PIN DETAIL

SHOE DETAILS

KY 2 over LITTLE SANDY RIVER SHEET 13

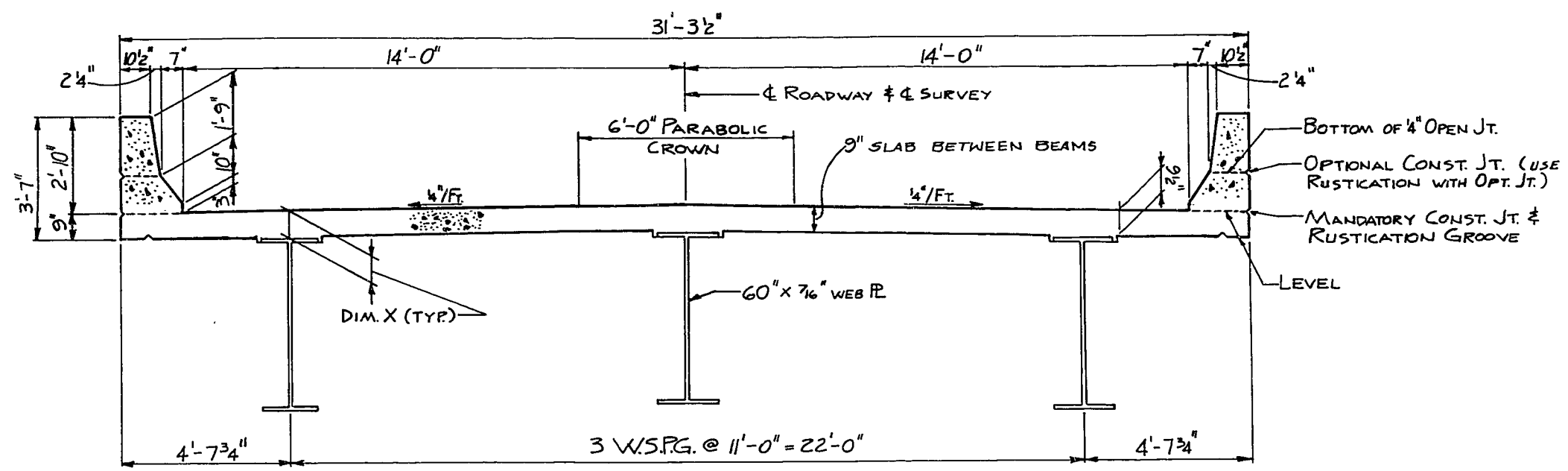
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
FRANKFORT
COUNTY OF
GREENUP
HOODS-GREENUP
ROAD

STATION 17+15 P.E. PROJECT NO.
CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO.

DRAWING NO.
20783

UPDATE DATE
LETTING DATE

CONSTRUCTION ELEVATIONS											
LOCATION	LEFT GUTTER	GIRDER 1			GIRDER 2			GIRDER 3			RIGHT GUTTER
		CONSTR. ELEV.	TOP OF BEAM	DIM. X	CONSTR. ELEV.	TOP OF BEAM	DIM. X	CONSTR. ELEV.	TOP OF BEAM	DIM. X	
SKEW LN AA TOP	544.307	544.364		544.542			544.324			544.256	
SKEW LN BB TOP	544.298	544.356		544.534			544.316			544.248	
SKEW LN CC TOP	543.849	543.906		544.084			543.866			543.798	
SKEW LN DD TOP	543.149	543.206		543.384			543.166			543.098	
SKEW LN EE TOP	542.699	542.756		542.934			542.716			542.648	
SKEW LN FF TOP	542.691	542.748		542.926			542.708			542.640	
GRID LN 1 TOP	544.281	544.342		544.534							
GRID LN 2 TOP	544.247	544.308		544.502			544.298			544.235	
GRID LN 3 TOP	544.209	544.270		544.466			544.264			544.201	
GRID LN 4 TOP	544.164	544.226		544.425			544.226			544.163	
GRID LN 5 TOP	544.113	544.176		544.377			544.181			544.119	
GRID LN 6 TOP	544.059	544.122		544.325			544.130			544.069	
GRID LN 7 TOP	544.003	544.066		544.269			544.076			544.015	
GRID LN 8 TOP	543.950	544.013		544.214			544.020			543.959	
GRID LN 9 TOP	543.902	543.964		544.163			543.967			543.906	
GRID LN 10 TOP	543.864	543.924		544.119			543.919			543.857	
GRID LN 11 TOP	543.834	543.892		544.084			543.881			543.817	
GRID LN 12 TOP	543.817	543.876		544.061			543.852			543.786	
GRID LN 13 TOP	543.806	543.864		544.046			543.835			543.768	
GRID LN 14 TOP	543.800	543.857		544.038			543.824			543.757	
GRID LN 15 TOP	543.793	543.851		544.032			543.817			543.750	
GRID LN 16 TOP	543.781	543.840		544.023			543.811			543.743	
GRID LN 17 TOP	543.760	543.821		544.008			543.799			543.732	
GRID LN 18 TOP	543.728	543.790		543.983			543.778			543.714	
GRID LN 19 TOP	543.683	543.746		543.946			543.746			543.683	
GRID LN 20 TOP	543.626	543.691		543.895			543.703			543.640	
GRID LN 21 TOP	543.557	543.624		543.833			543.646			543.585	
GRID LN 22 TOP	543.481	543.548		543.761			543.577			543.519	
GRID LN 23 TOP	543.400	543.467		543.682			543.501			543.443	
GRID LN 24 TOP	543.319	543.387		543.600			543.420			543.362	
GRID LN 25 TOP	543.243	543.310		543.521			543.339			543.281	
GRID LN 26 TOP	543.174	543.239		543.449			543.263			543.205	
GRID LN 27 TOP	543.117	543.181		543.384			543.192			543.134	
GRID LN 28 TOP	543.067	543.129		543.329			543.134			543.074	
GRID LN 29 TOP	543.025	543.087		543.283			543.084			543.022	
GRID LN 30 TOP	542.989	543.050		543.244			543.043			542.980	
GRID LN 31 TOP	542.955	543.016		543.209			543.006			542.943	
GRID LN 32 TOP	542.919	542.980		543.175			542.972			542.909	
GRID LN 33 TOP	542.879	542.941		543.137			542.936			542.873	
GRID LN 34 TOP	542.833	542.896		543.095			542.896			542.834	
GRID LN 35 TOP	542.781	542.844		543.046			542.850			542.789	
GRID LN 36 TOP	542.725	542.788		542.992			542.798			542.737	
GRID LN 37 TOP							542.742			542.681	



TYPICAL SECTION

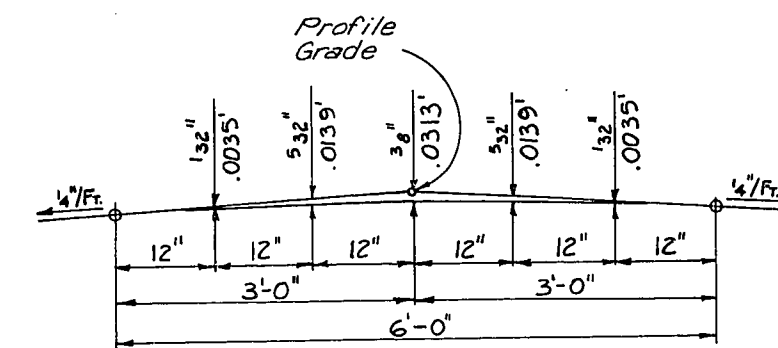
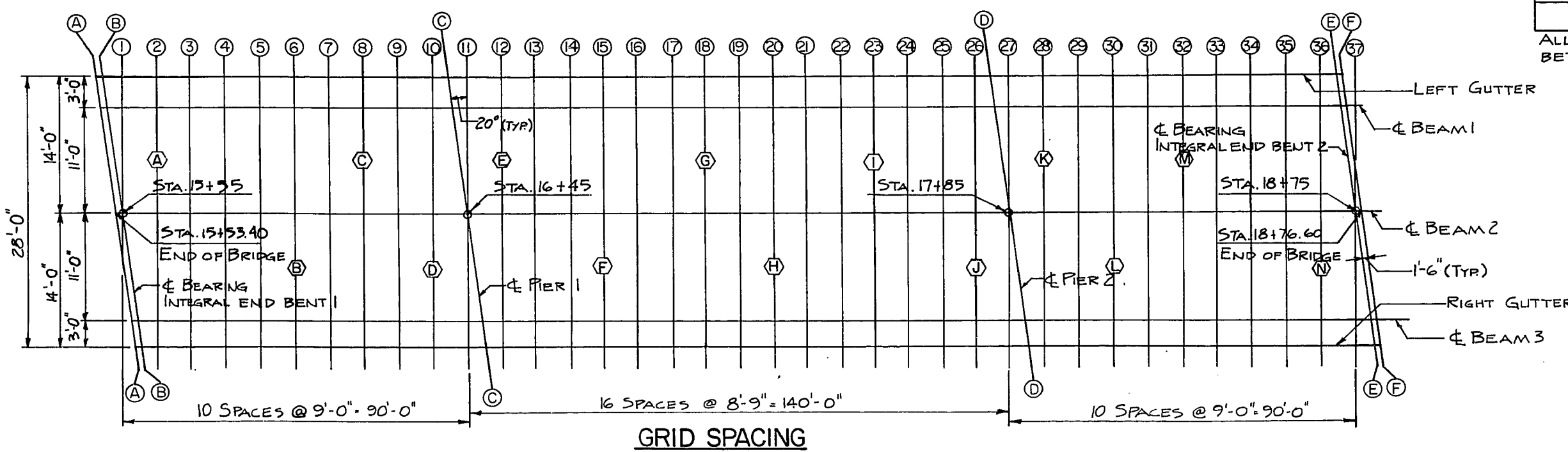
CHECK POINT ELEVATIONS FOR SLAB THICKNESS

CHECK POINT	TOP OF SLAB ELEVATIONS (PLAN)	BOTTOM OF SLAB ELEV. (FIELD)	COMPUTED SLAB THICKNESS
A	544.421		
B	544.243		
C	544.129		
D	544.035		
E	543.985		
F	543.940		
G	543.902		
H	543.815		
I	543.590		
J	543.372		
K	543.245		
L	543.159		
M	543.093		
N	542.911		

NOTE:

- TAKE ELEVATIONS ON TOP OF BEAM AT POINTS INDICATED AFTER INTERMEDIATE DIAPHRAGMS ARE IN PLACE. AFTER ALL FALSEWORK HAS BEEN REMOVED, AND AFTER FORMS FOR CONCRETE SLABS HAVE BEEN PUT IN PLACE. READ ELEVATIONS TO THREE DECIMALS USING A TARGET ROD AND ENTER READINGS IN TABLE UNDER BEAM ELEVATIONS.
- COMPUTE DIMENSION 'X' AS FOLLOWS: CONSTRUCTION ELEVATION MINUS BEAM ELEVATION EQUALS DIMENSION 'X'. CONSTRUCTION ELEVATIONS INCLUDE CAMBER DUE TO WEIGHT OF CONCRETE SLAB, FORMS, BARRIER, AND FUTURE SURFACING.
- FOR SETTING TEMPLATES, MEASURE DIMENSION 'X' ABOVE TOP OF BEAM FOR TOP OF TEMPLATE. DO NOT SET TEMPLATE BY ELEVATIONS.
- CONSTRUCT BARRIER TO GUTTER LINE GRADE. DO NOT ADD CAMBER TO BARRIER.
- SLAB THICKNESS CONTROL: AFTER THE SLAB FORMS ARE ERECTED AND BEFORE THE SLAB REINFORCEMENT IS PLACED, THE ENGINEER SHALL TAKE FIELD ELEVATIONS AT THE SLAB THICKNESS CHECK POINTS AND ENTER THEM IN THE TABLE IN THE SPACE PROVIDED. THE SLAB THICKNESS SHALL THEN BE COMPUTED. IF THE COMPUTED SLAB THICKNESS VARIES MORE THAN 1.4 INCH FROM THE PLAN THICKNESS, ALLOWING 1/360 OF THE SLAB SPAN FOR DEFLECTION OF THE FORMWORK, THE FORM SHALL BE ADJUSTED UNTIL THE COMPUTED SLAB THICKNESS IS WITHIN THE TOLERANCE ALLOWED.

ALL CHECK POINT ELEVATIONS LOCATED MIDWAY BETWEEN BEAMS



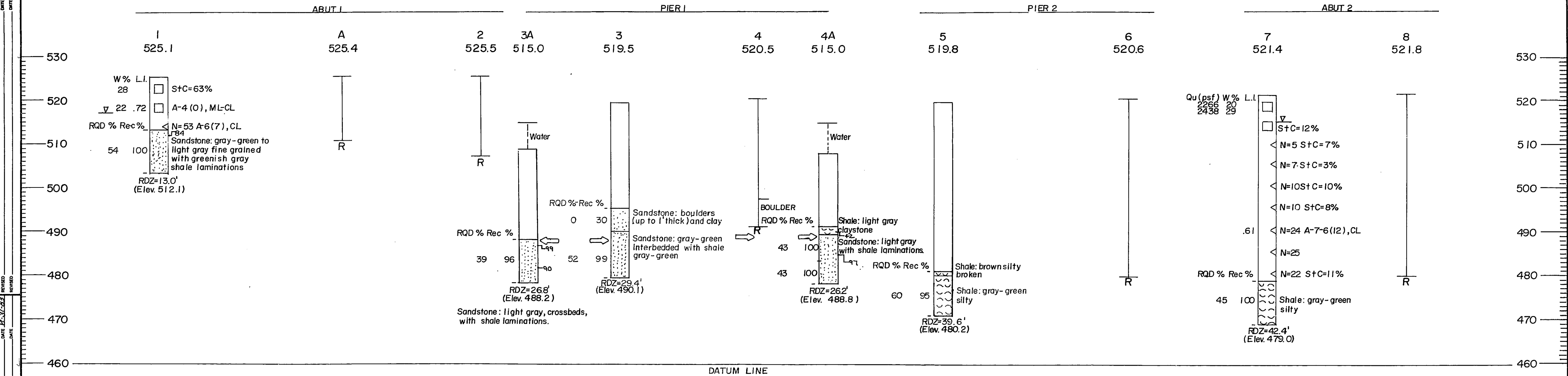
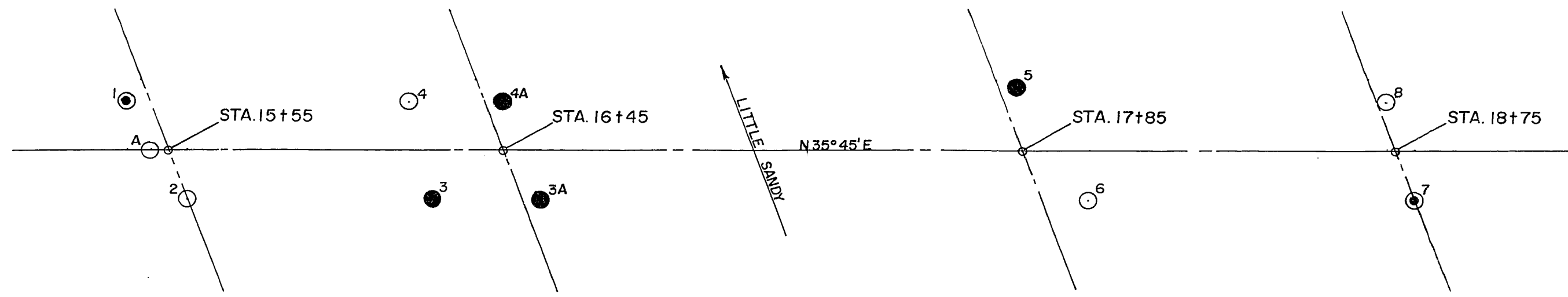
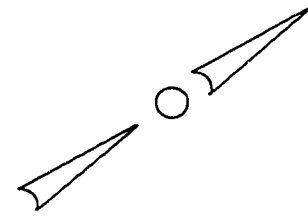
PARABOLIC CROWN

CONSTRUCTION ELEVATIONS

KY. 2 OVER LITTLE SANDY RIVER SHEET 14
COMMONWEALTH OF KENTUCKY
 BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 HOODS-GREENUP
 ROAD
 STATION 17+15 P.E. PROJECT NO.
 CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
 20783

DESIGNED BY: J.C.P. DATE: 3/22
 CHECKED BY: J.C.P. DATE: 3/22
 DRAWN BY: J.C.P. DATE: 3/22
 REVISIONS:

SUBSURFACE DATA



W% L.I.
 28
 22 .72
 RQD % Rec %
 54 100
 Sandstone: gray-green to light gray fine grained with greenish gray shale laminations
 RDZ=13.0' (Elev. 512.1)

RQD % Rec %
 39 96
 RDZ=26.8' (Elev. 488.2)
 Sandstone: light gray, crossbeds, with shale laminations.

RQD % Rec %
 0 30
 Sandstone: boulders (up to 1' thick) and clay
 Sandstone: gray-green interbedded with shale gray-green
 RDZ=29.4' (Elev. 490.1)

BOULDER
 RQD % Rec %
 43 100
 RDZ=26.2' (Elev. 488.8)
 Shale: light gray claystone
 Sandstone: light gray with shale laminations.

RQD % Rec %
 60 95
 RDZ=39.6' (Elev. 480.2)
 Shale: brown silty broken
 Shale: gray-green silty

Qu (psf) W% L.I.
 2865 20
 2438 29
 S+C=12%
 N=5 S+C=7%
 N=7 S+C=3%
 N=10 S+C=10%
 N=10 S+C=8%
 N=24 A-7-6 (12), CL
 N=25
 N=22 S+C=11%
 RQD % Rec %
 45 100
 RDZ=42.4' (Elev. 479.0)
 Shale: gray-green silty

TRIAxIAL TEST RESULTS
 Location 15+44 14.0' Lt.
 Depth 6.0'-8.0'
 C = 0 psf.
 φ = 35°

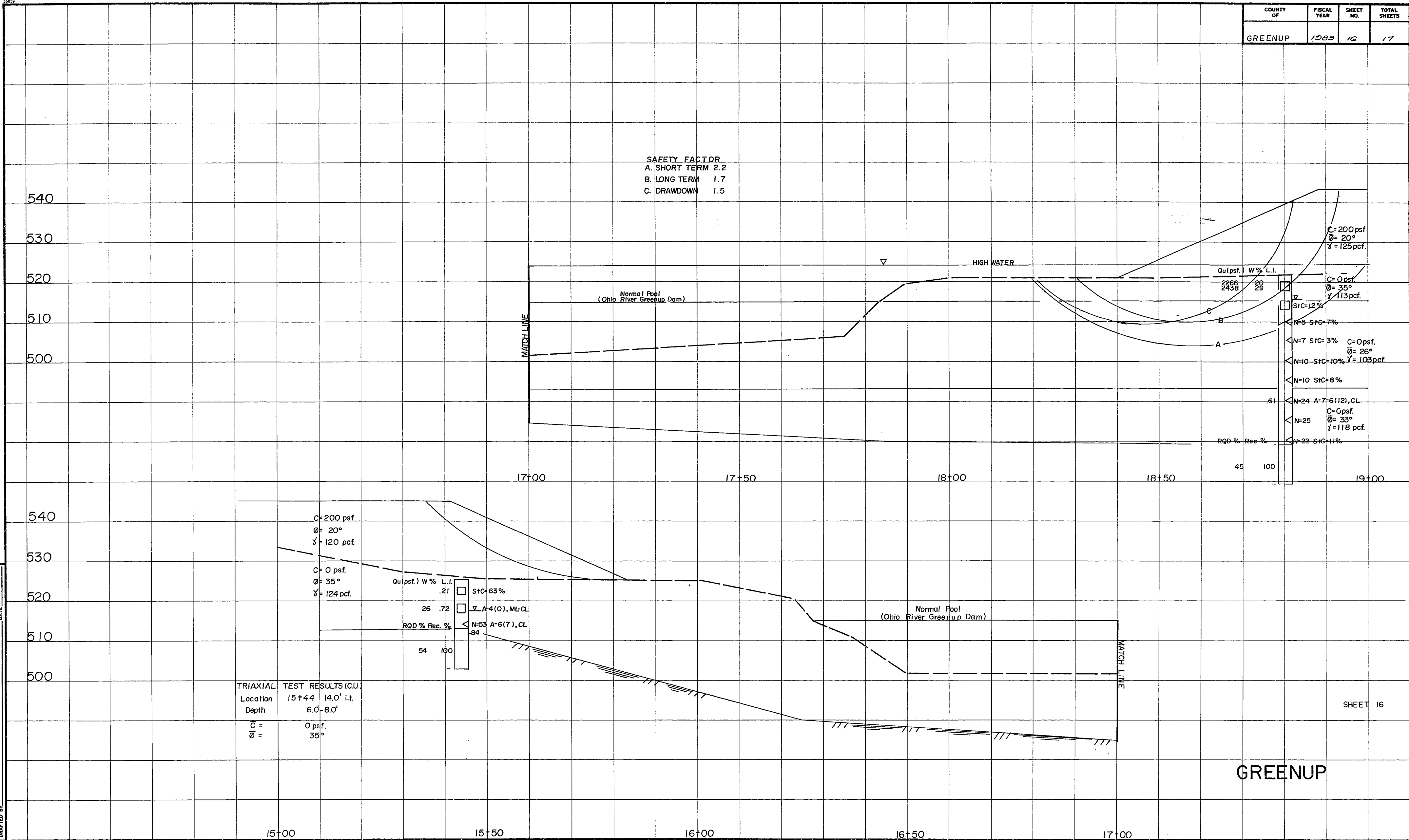
THE ALLOWABLE BEARING CAPACITY IS ESTIMATED TO BE 15 TSF.

KY. 2 OVER LITTLE SANDY RIVER SHEET 15
COMMONWEALTH OF KENTUCKY
BUREAU OF HIGHWAYS
 FRANKFORT
 COUNTY OF
GREENUP
 KY. 2
 ROAD
 STATION 17+15 P.E. PROJECT NO.
 CONSTRUCTION PROJECT NO. MAINTENANCE PROJECT NO. DRAWING NO.
20783

DIVISION OF HIGHWAYS
 Geotechnical Section
 Dr. Bill Crow Chief, Fr. Division
 Structures Report S-31288
 DATE: 12/1/82
 CHECKED BY: [Signature]
 DATE: 12/1/82
 DRAWN BY: [Signature]
 DATE: 12/1/82

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
GREENUP	1993	16	17

SAFETY FACTOR
 A. SHORT TERM 2.2
 B. LONG TERM 1.7
 C. DRAWDOWN 1.5



SHEET 16

GREENUP

EMBANKMENT STABILITY SECTION STA. 15+00-19+00

DIETZEN 11-76
 FORM NO. 9

DATE _____
 DRAFTED BY _____

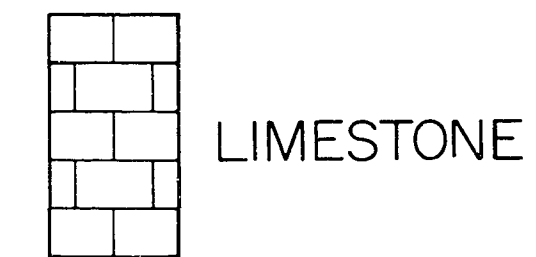
Description of Soil Compactness or Consistency

SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF PENETRATION RESISTANCE	RANGE OF UNCONFINED COMPRESSIVE STRENGTH
Coarse grained soils (More than half of material is larger than No. 200 sieve size.)	Very loose Loose Medium compact Compact Very compact	Less than 4 blows per foot. 4 to 10 10 to 30 30 to 50 Greater than 50	Not applicable.
Fine grained soils. (More than half of material is smaller than No. 200 sieve size.)	Very soft Soft Medium stiff Stiff Very stiff Hard	Not applicable	Less than 0.25 tsf 0.25 to 0.5 0.5 to 1.0 1.0 to 2.0 2.0 to 4.0 Greater than 4.0

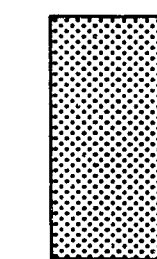
Unified Soil Classifications

MAJOR DIVISIONS	SYMBOL	NAME
COARSE-GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW Well-graded gravels or gravel-sand mixtures, little or no fines.
		GP Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GM Silty gravels, gravel-sand-silt mixtures.
		GC Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW Well-graded sands or gravelly sands, little or no fines.
		SP Poorly graded sands or gravelly sands, little or no fines.
		SM Silty sands, sand-silt mixture.
FINE-GRAINED SOILS	SILTS AND CLAYS LL IS LESS THAN 50	ML Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
	SILTS AND CLAYS LL IS GREATER THAN 50	MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH Inorganic clays of high plasticity, fat clays.
UNCLASSIFIED MATERIAL	NONE	Non-classified material (i.e. overburden, pavement, coal mine waste, slag, rubble, talus, etc.) include visual description.

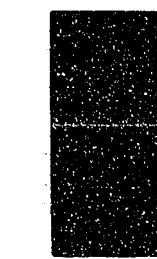
- AI Activity Index
- LI Liquidity Index
- N Penetration Resistance
- S+C(%) Material finer than No. 200 sieve
- Rockline Sounding
- ⊕ Disturbed Sample Boring
- ⊙ Undisturbed Sample Boring
- ⊙ Undisturbed Sample Boring and Rock Core
- Rock Core
- ⊙ Slope Incliner Installation
- typical applications: ○ ⊕ ⊙ ⊙ ●
- ▲ Approximate Footing Elevation
- ▽ Water Elevation
- Thin-walled Tube Sample
- < Standard Penetration Test Sample
- Q_u Unconfined Compressive Strength
- w(%) Moisture Content
- RQD(%) Rock Quality Designation
- SDI(%) Slake Durability Index
- Rec.(%) Core Recovery
- φ Angle of Internal Friction
- φ̄ Effective Angle of Internal Friction
- c Cohesion
- c̄ Effective Cohesion
- γ Total Unit Weight
- RDZ Rock Disintegration Zone
- OB Overburden Bench
- IB Intermediate Bench
- R Refusal
- NR Refusal Not Encountered



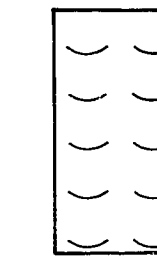
LIMESTONE



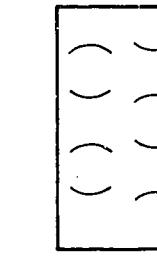
SANDSTONE



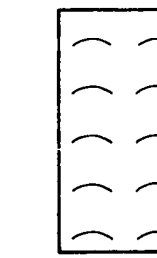
COAL



SHALE, SOIL-LIKE (SDI ≤ 50)



SHALE, INTERMEDIATE (50 < SDI < 95)



SHALE, ROCK-LIKE (SDI ≥ 95)

Relation of RQD and in situ Rock Quality

RQD(%)	Rock Quality
90-100	Excellent
75-90	Good
50-75	Fair
25-50	Poor
0-25	Very Poor

KY. 2 OVER LITTLE SANDY RIVER SHEET 17

COMMONWEALTH OF KENTUCKY
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