BRIDGE CONTRACT No. B-10641

BRIDGES OVER 20' SPAN					
PUBLIC ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	BRS-3086(I) BRS-4823(I)	197	1	105

STATE OF INDIANA

INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET
ON
US ROAD NO 136 AT COVINGTON

BRS – PROJECT NO. 3086 (I)
BRS – PROJECT NO. 4823 (I)

BEGINNING AT A POINT ON EXISTING U.S. 136 APPROXIMATELY 605' EAST OF THE WEST LINE AND APPROXIMATELY 104' SOUTH OF THE NORTH LINE OF SECTION 35, T.20N, R.9W, THENCE RUNNING IN AN EASTERLY DIRECTION 2050' TO THE END OF PROJECT BRS-3086(I) AND CONTINUING EASTERLY 1,931' TO THE END OF PROJECT BRS-4823(I) SAID POINT BEING ON PEARL AND THIRD STREETS AND EXISTING U.S. 136, SAID POINT ALSO BEING APPROX. ON THE NORTH LINE AND APPROXIMATELY 1010' WEST OF THE EAST LINE OF SECTION 35, T.20N, R.9W. ALL IN MOUND TOWNSHIP, WARREN COUNTY AND TROY TOWNSHIP, FOUNTAIN COUNTY INDIANA.

PROJECT BRS-3086(I)		TOTAL		PROJECT BRS-4823(I)
0.071	BRIDGE LENGTH =	0.179	MI.	0.108
0.307	APPROACH LENGTH =	0.575	MI.	0.258
0.388	TOTAL PROJECT LENGTH =	0.754	MI.	0.366
3.00	MAXIMUM GRADE =	3.00	%	3.00

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
BRS-3086(I) BRS-4823(I)	No 136-23-6080	SEGMENTAL BOX GIRDER	6-SPANS 1@93'-0", 4@187'-0" 1@93'-0"	WABASH RIVER	℄ STRUCTURE STA. 366+47.30	B-10641

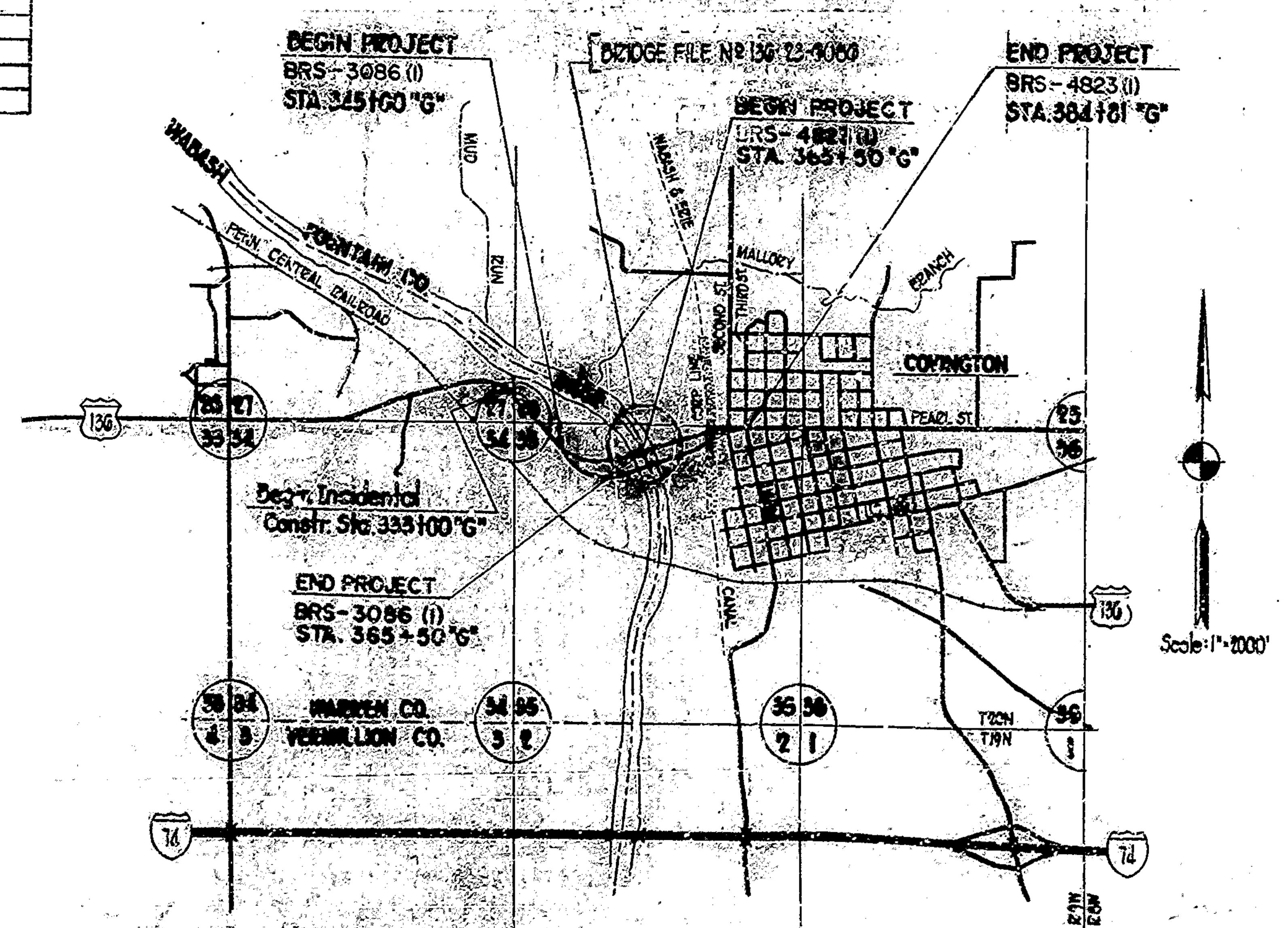
SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL
1A		SUPERSTRUCTURE INDEX AND TITLE SHEET	
1		INDEX AND TITLE SHEET	
2-3		TYPICAL CROSS SECTIONS	
4		PLAT No 1	
5-8		PLAN AND PROFILE LINE "G"	
9		PLAN AND PROFILE LINE "T-1-G"	
10		DETAILS LINE "G"	
11		APPROACH TABLE OF QUANTITIES	
12		APPROACH SUMMARY	
13		SOIL BORINGS	
14		CHANNEL CLEARANCE	
15		CHANNEL CLEARING AND SPUR DIKE DETAILS	
16-17	C1 - C2	LAYOUT	
18-19	C3 - C4	GENERAL PLAN	
20	C5	ABUTMENT No 1 AND No 7 DETAILS AND BILL OF MATERIALS	
21	C6	PIER No 2 DETAILS AND BILL OF MATERIALS	
22	C7	PIER No 3 DETAILS AND BILL OF MATERIALS	
23	C8	PIER No 4 DETAILS AND BILL OF MATERIALS — SHEET VOID	
24	C9	PIERS No 5 AND No 6 DETAILS AND BILL OF MATERIALS — SHEET VOID	
25	C10	SEGMENTS [illegible] AND No 1A DETAILS — SHEETS VOID	
26	C11	INTERIOR SEGMENT DETAILS TYPICAL — SHEETS VOID	
27	C12	PIER SEGMENT DETAILS — SHEETS VOID	
28	C13	CAST IN PLACE SPLICE AT MIDSPAN — SHEETS VOID	
29	C14	TENDON LAYOUTS (SPANS A AND F) — SHEETS VOID	
30	C15	TENDON LAYOUTS (SPANS B,C,D AND E) — SHEETS VOID	
31	C16	SEGMENT QUANTITIES AND BENDING DIAGRAMS — SHEETS VOID	
32	C17	FRAME DETAILS — SHEETS VOID	
33	C18	[illegible] — SHEETS VOID	
34	C19	BEARING DETAILS	
35	C20	MISCELLANEOUS SUPERSTRUCTURE DETAILS	
36	C21	TYPED EXPANSION JOINT DETAILS	
37		BRIDGE SUMMARY	
38		ESTIMATE OF QUANTITIES	
39-64	TWENTY SIX SHEETS	CROSS-SECTIONS LINE "G"	
65-68	FOUR SHEETS	CROSS-SECTIONS LINE "T-1-G"	
24A	C9A	PIER No 5 DETAILS AND BILL OF MATERIALS	
24B	C9B	PIER No 6 DETAILS AND BILL OF MATERIALS	
23A	C8A	PIER No 4 DETAILS AND BILL OF MATERIALS	
20A	C5A	Revised Pier Cap and Abutment Details	
25A-25M		SEE SHEET 1A FOR INDEX	

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL	ADOPTED "A" REVISION "R"
69	BRIDGE STD. C1	STANDARD MISCELLANEOUS DETAILS		
70	BRIDGE STD. C3	STANDARD MISCELLANEOUS DETAILS		R-6-1-72
	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS		R-12-17-74
	BRIDGE STD. F	ROADWAY DRAIN OUTLET DETAILS		
	BRIDGE STD.			
	BRIDGE STD. J	EXPANSION JOINT		
	BRIDGE STD. M	MISCELLANEOUS APPROACH DETAILS		
	BRIDGE STD. M4	R.C. BRIDGE APPROACH TURNOUT DETAILS-12'-6" SHOULDERS		
	BRIDGE STD. M5	SLOPEWALL AND DRAINAGE DETAILS		
	BRIDGE STD.			
	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB6	PRESTRESSED BOX BEAMS		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS		
71	BRIDGE STD. [illegible]	ALUMINUM BRIDGE RAILING	10-11-73	R-9-1-73
72	BRIDGE STD. [illegible]	ALUMINUM BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
73	BRIDGE STD. [illegible]	STEEL BRIDGE RAILING	10-11-73	R-9-1-73
74	BRIDGE STD. [illegible]	STEEL BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
75	BRIDGE STD. S1	TYPICAL DETAILS FOR PLACING GRADE "B" SPECIAL BORROW	1-17-72	R-8-2-71
	BRIDGE STD. S2	TYPICAL DETAILS FOR PLACING GRADE "B" SPECIAL BORROW		
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
76	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
77	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	[illegible]	[illegible]
78	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS	9-29-71	R-1-4-71
79	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS	3-24-75	R-2-3-75
80	ROAD STD. SHEET MC1	MISCELLANEOUS STANDARDS	[illegible]	[illegible]
81	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS	[illegible]	[illegible]
82	ROAD STD. SHEET MD1	MISCELLANEOUS STANDARDS	6-14-74	R-1-2-74
83	ROAD STD. SHEET MD3	MISCELLANEOUS STANDARDS	6-14-74	R-1-2-74
84	ROAD STD. SHEET ME1	MISCELLANEOUS STANDARDS	[illegible]	R-1-2-74
85	ROAD STD. SHEET ME2	MISCELLANEOUS STRUCTURE STANDARDS	[illegible]	[illegible]
86	ROAD STD. SHEET MH	MISCELLANEOUS STRUCTURE STANDARDS	6-14-74	R-1-2-74
87	ROAD STD. SHEET MH1	MISCELLANEOUS STANDARDS	[illegible]	R-10-18-65
88	ROAD STD. SHEET MI	MISCELLANEOUS STANDARDS	3-24-75	R-2-3-75
89	ROAD STD. SHEET MJ	MISCELLANEOUS STANDARDS	10-23-74	R-10-1-74
90	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS	5-14-73	R-10-2-72
91	ROAD STD. SHEET MN1	MISCELLANEOUS STANDARDS		[illegible]
92	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS	3-10-72	R-1-3-72
	ROAD STD. SHEET MP1	MISCELLANEOUS STANDARDS		[illegible]
	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MR1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET S	MISCELLANEOUS STANDARDS CENTER DITCH INLETS		
	ROAD STD. SHEET S1	MISCELLANEOUS STANDARDS CENTER DITCH INLETS		
	ROAD STD. SHEET MT	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD.	STANDARD STRUCTURE CONNECTIONS FOR EXTENSION		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS—SK. END & WING DETAILS		
	ROAD STD.	STANDARD REINF. CONC. CULVERTS—SLAB TOP TYPE (W.F.)		
93	ROAD STD. SHEET GR1	GUARD RAIL		
94	ROAD STD. SHEET GR2	GUARD RAIL	6-14-74	R-1-2-74
95	ROAD STD. SHEET GR3	GUARD RAIL	7-19-74	[illegible]
96	ROAD STD. SHEET GR4	GUARD RAIL		[illegible]
97	ROAD STD. SHEET GR5	GUARD RAIL	7-30-74	[illegible]
98	ROAD STD. SHEET GR6	GUARD RAIL	2-2-72	[illegible]
99	ROAD STD. SHEET GR10	GUARD RAIL	7-30-74	[illegible]
100	ROAD STD. SHEET R	STANDARDS FOR SUPER-ELEVATION	7-12-74	[illegible]
101	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS	11-5-69	[illegible]
102	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		[illegible]
103	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS		[illegible]
104	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS		[illegible]
105	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		[illegible]

TRAFFIC DATA			
A.D.T. (1972)		4560	V.P.D.
A.D.T. (1992)PROJECTED)		6020	V.P.D.
D.H.V. (1992)PROJECTED)		880	V.P.D.
TRUCKS			7 %
DESIGN SPEED		50	M.P.H.
ACCESS CONTROL		PARTIAL	

NOTE:–
WHENEVER F-94(13) APPEARS IN THESE PLANS OR SPECIAL PROVISIONS IT SHALL BE INTERPRETED AS BRS-3086 (I) * STA. 345+00 "G" TO STA. 365+50 "G" AND BRS-4823(I) FROM STA. 365+50 "G" TO STA. 384+81 "G".



NOTE:–
* WHENEVER BRS-3086(1) APPEARS IN THESE PLANS OR SPECIAL PROVISIONS IT SHALL BE INTERPRETED AS TQS-3086 (1).

CERTIFIED BY: John S. Spencer DATE: 7/24/75

AMERICAN CONSULTING ENGINEERS INC.
INDIANAPOLIS, INDIANA

JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

APPROVED 9-18-75
G.K. Hallock
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION

RECOMMENDED FOR APPROVAL 9-11-75
E. W. Walker
ENGINEER OF ROAD PLANS AND SPECIFICATIONS—INDIANA STATE HIGHWAY COMMISSION

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED:
DIVISION ENGINEER DATE

INDIANA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS DATED 1974 TO BE USED WITH THESE PLANS.

REVISIONS					
DATE	SHEET NO.	DATE	SHEET NO.	DATE	SHEET NO.
1-30-77	Rev. 1, 20, 21, 22, 23A, 24A, 24B,	8-26-75	1, 32	10-14-75	33
	Add 20A	9-8-75	1, 32	[illegible]	4, 5, 7, 8, 9, 10, 15 & 16
6-10-77	Rev. 1, 2, 7, 16-19, 24, 25; Add 1A,	10-23-76	2, 7, 16, 16	[illegible]	18, 31, 19
	25A-25M; Delete 25-32	11-24-76	2, 18	[illegible]	[illegible]
5-23-77	Rev. 25J, 25M	12-10-76	1, 17, 19, 24, 24A Added	8-7-76	12, 18, 76, 78, 80, 87, 90, 92, 101, 102, 104, 105
***	See sheet 1A for later	12-27-76	1, 17, 18, 19, 24B, 23A, 24A Added, [illegible]	[illegible]	[illegible]
	revisions to plans.		[illegible]	7-30-76	1, 37, 38

BRIDGE FILE: 136-23-6080

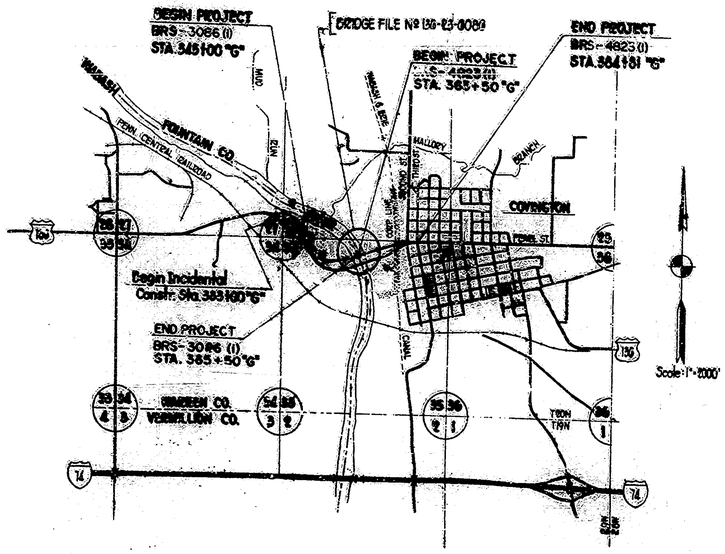
STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE SUPER-STRUCTURE PLANS
USING THE
"INCREMENTALLY LAUNCHED CONSTRUCTION METHOD"

WABASH RIVER BRIDGE

U.S. ROUTE 136 OVER WABASH RIVER
AT
COVINGTON, INDIANA

INDEX



REVISIONS	
DATE	SHEET NO.
7-20-77	Rev. 1, 1A, 25B. Add 25G1, Delete 25G

CERTIFIED BY: Richard A. Dokken P.E.

DATE: May 6, 1977

ECC ENGINEERING COMPUTER CORPORATION
- SEISMIC DESIGN
- COMPUTER ANALYSIS
- STRUCTURAL DESIGN
- PRESTRESSED CONCRETE

555 UNIVERSITY AVENUE, SUITE 175 SACRAMENTO, CA 95825 (916) 922-8316

RICHARD A. DOKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL BY: [signature]

DATE: May 5, 1977

[illegible] Corporation

REGISTERED PROFESSIONAL ENGINEER PIERRE DUMUSQUE No. 25838 Civil STATE of CALIFORNIA

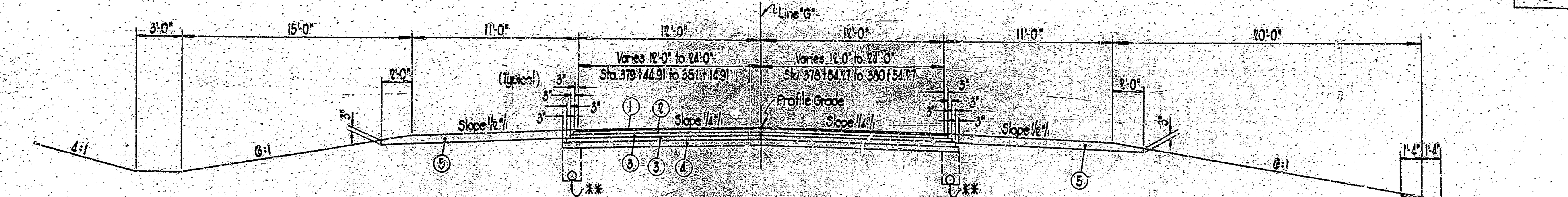
APPROVED 5-13-77
[signature]
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION

RECOMMENDED FOR APPROVAL 5-11-77
E.W. Walters
ENGINEER OF BRIDGE DESIGN, INDIANA STATE HIGHWAY COMMISSION

E.W. WALTERS REGISTERED No. 7059 STATE OF INDIANA PROFESSIONAL ENGINEER

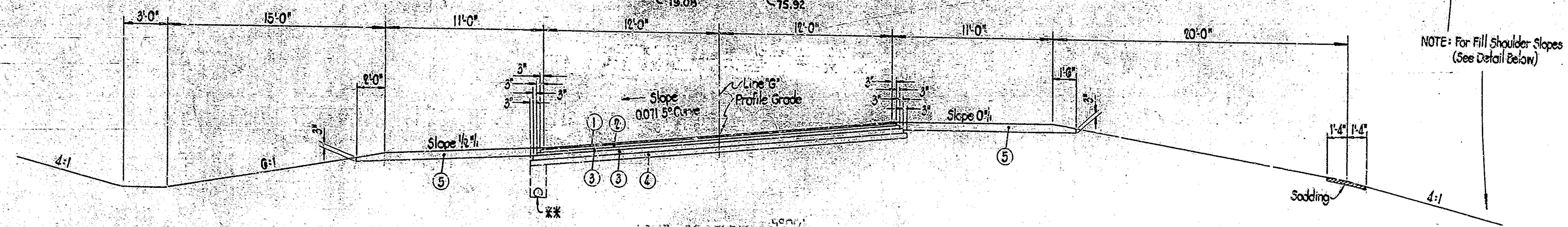
SHEET 1A OF 105
PROJECT BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE: 136-23-6086

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-94 (13)		2	105



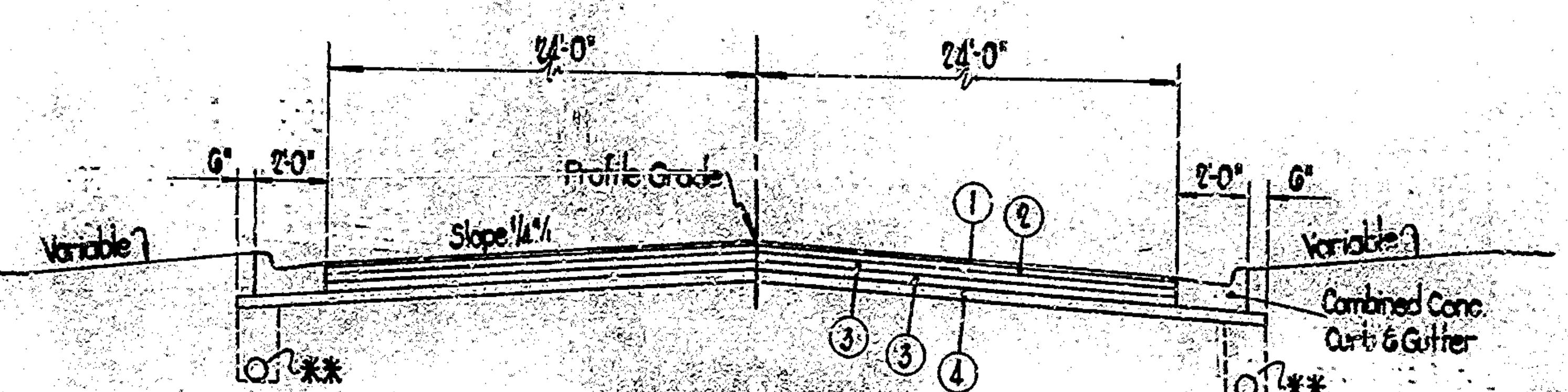
NORMAL SECTION

Sta. 345+00.0 to Sta. 346+73.00 Line "G"
Sta. 359+88.17 to Sta. 361+75.47 Line "G"
Sta. 371+21.25 to Sta. 381+05.00 Line "G"
19.08 75.92



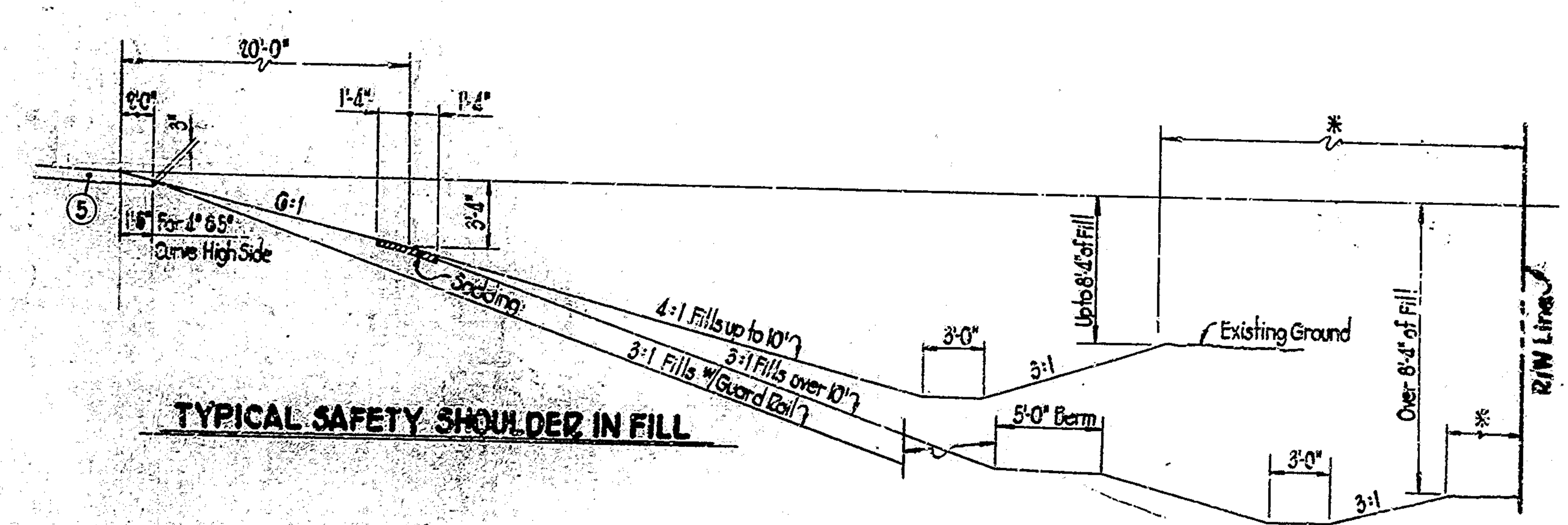
CURVE SECTION

Sta. 346+73.00 to Sta. 359+88.17 Line "G"



CURB SECTION

Sta. 381+05.0 to Sta. 384+81.0 Line "G"



TYPICAL SAFETY SHOULDER IN FILL

LEGEND

① 110#/Sq. Yd. Hot A.C. Surface Type "B" on
② 220#/Sq. Yd. Hot A.C. Binder on
③ 412.5#/Sq. Yd. Hot A.C. Base (2-Courses)
or
① 110#/Sq. Yd. Hot A.E. Surface Type III on
② 220#/Sq. Yd. Hot A.E. Binder on
③ 412.5#/Sq. Yd. Hot A.E. Base (2-Courses)

④ 440#/Sq. Yd. Bituminous Stabilized Subbase
⑤ 6" Bituminous Base (Size #53B)

* Minimum Desirable Distance 15' (Min. R/W 160')
** For Details of Underdrains See Miscellaneous Standards Sheet "M-N"

"MAIN LINE"

TYPICAL CROSS SECTIONS

SCALE- 1/4" = 1'-0"

RECOMMENDED FOR APPROVAL

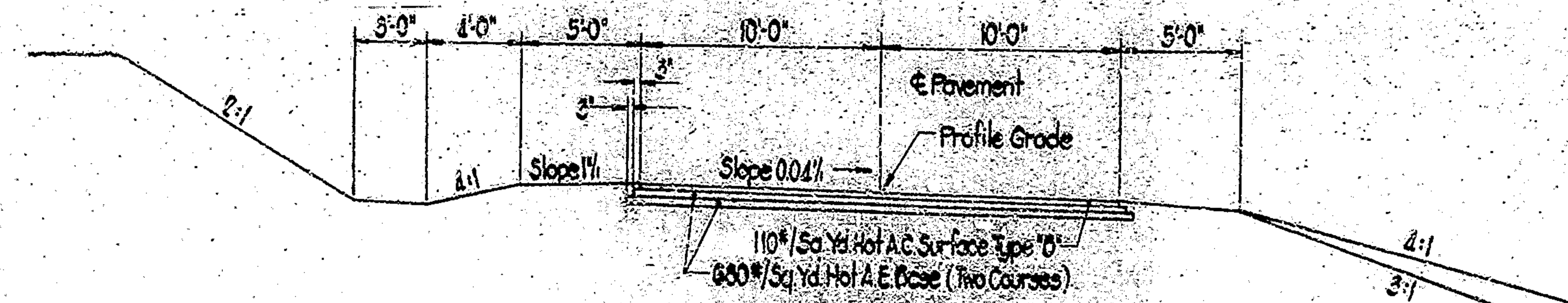
Rev. 5-10-77 To accomodate incremental superstructure launching.

136-23-6086
B-1064

DECEMBER 1960

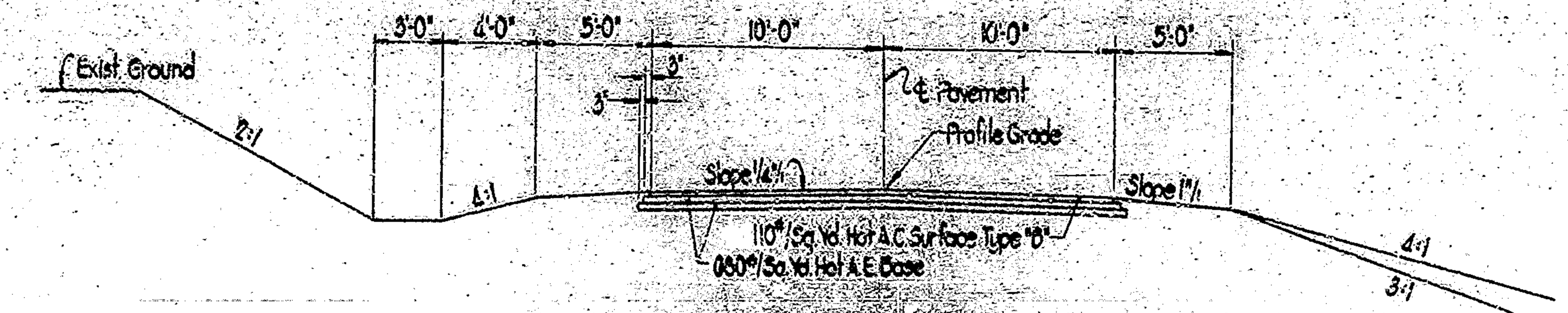
F-94 (13)	"G"	2	

5	IND.	F-94(13)		3	105



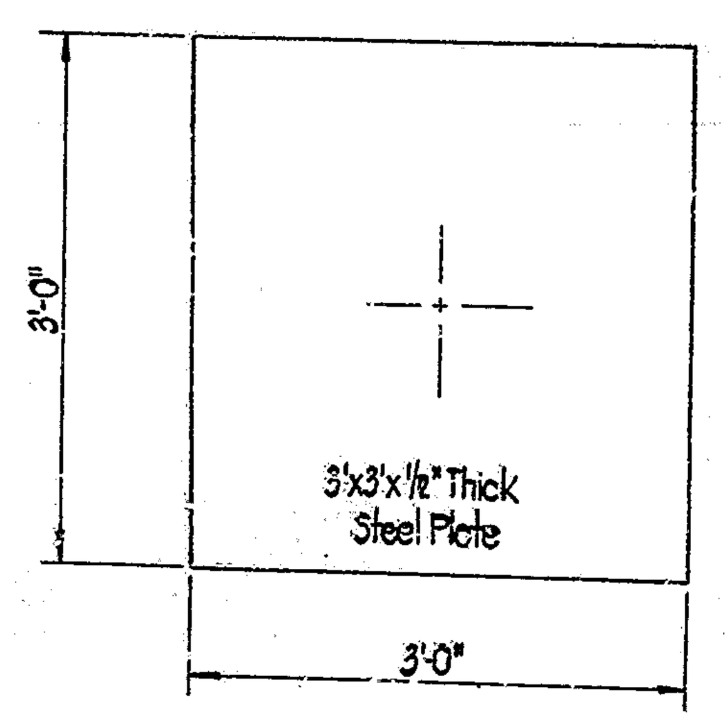
CURVE SECTION

Sta. 43+34.60 to Sta. 45+48.29 "T-1-G" PR (Reversed)
Sta. 10+27.52 to Sta. 12+44.92 "PR" Connector (Reversed)

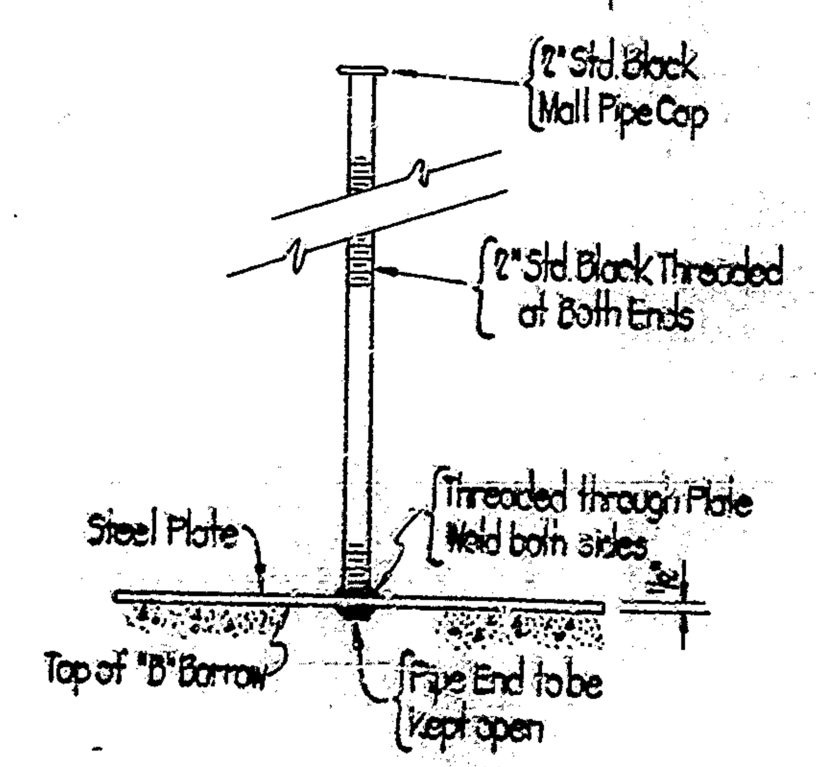


NORMAL SECTION

Sta. 45+85.0 to Sta. 47+34.00 "T-1-G"
Sta. 48+70.10 to Sta. 49+86.0 "T-1-G"
Sta. 10+12.0 to Sta. 10+27.52 "PR" Connector
Sta. 6+78.0 to Sta. 7+58.0 (Access Road) Resurface Only
Sta. 7+58.0 to Sta. 9+83.0 (Access Road)



NOTE: Contractor to furnish Materials and Labor to Extend Pipe up through entire fill. "B" Borrow to be used around pipe as embankment is being Constructed.



LOCATION: Sta. 355+00
Sta. 359+00

DETAILS OF SETTLEMENT PLATES

Scale: 1" = 1'-0"

LOCATION OF SETTLEMENT STAKES

Stationing	Shoulder Stakes	Toe Stakes
349+00	✓	✓
351+00	✓	✓
353+00	✓	✓
355+00	✓	✓
357+00	✓	✓
359+00	✓	✓
361+00	✓	✓
372+00	✓	✓
374+00	✓	✓
[illegible]	✓	✓
378+00	✓	✓

"SIDE ROADS"

TYPICAL CROSS SECTIONS

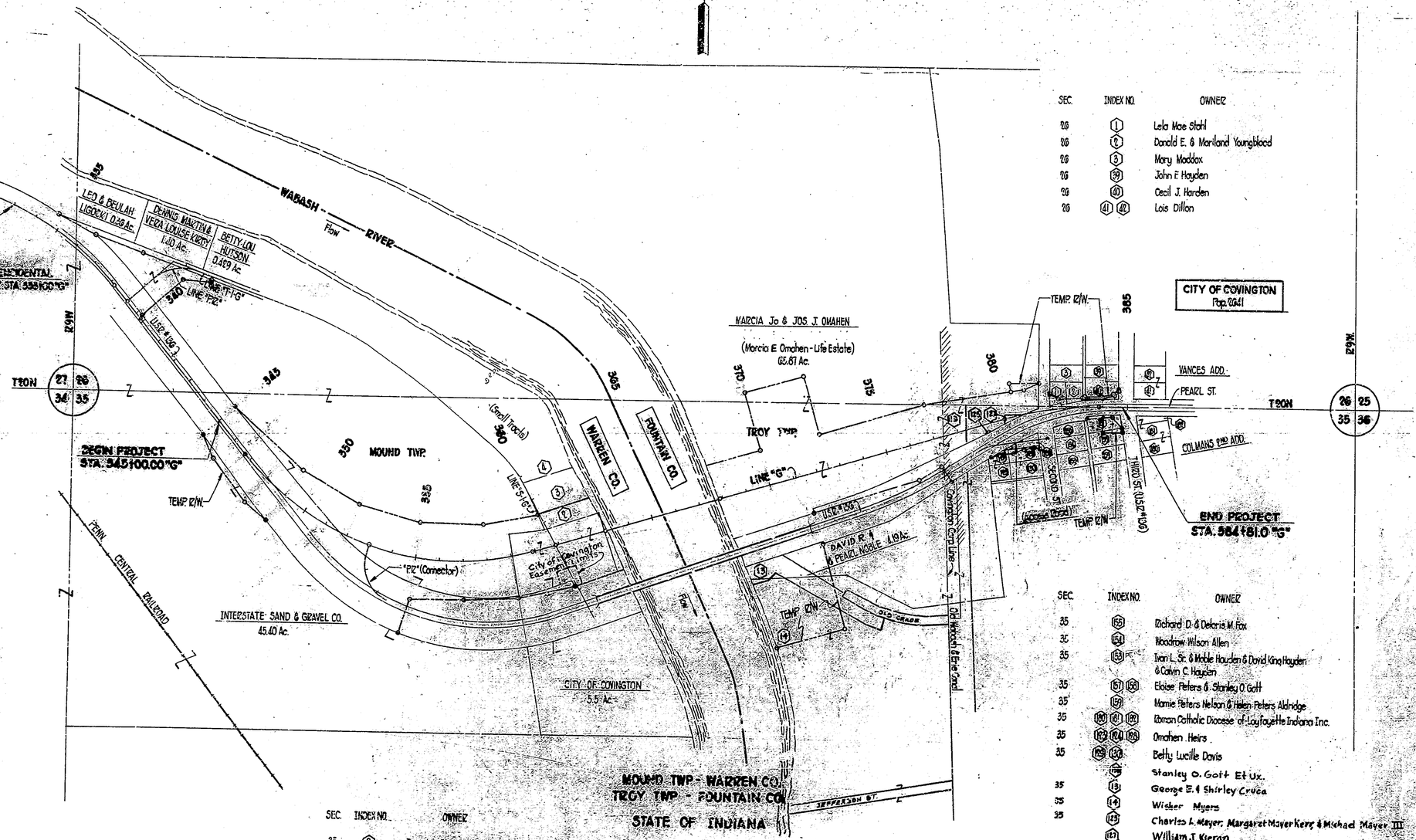
SCALE: 1" = 5'-0"

RECOMMENDED FOR APPROVAL

136-23-6086
B-10641

DECEMBER 1968

FEDERAL ROAD DESIGN NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
35	IND.	F-94(15)		4	105



SEC.	INDEX NO.	OWNER
26	1	Lela Mae Stahl
26	2	Donald E. & Mariland Youngblood
26	3	Mary Maddox
26	39	John F. Hayden
26	40	Cecil J. Harden
26	41 42	Lois Dillon

SEC.	INDEX NO.	OWNER
35	155	Richard D. & Delaris M. Fox
35	154	Woodrow Wilson Allen
35	153	Ivan L. Sr. & Mable Hayden & David King Hayden & Calvin C. Hayden
35	157 158	Eloise Peters & Stanley O. Goff
35	159	Mamie Peters Nelson & Helen Peters Aldridge
35	160 161 162	Roman Catholic Diocese of Lafayette Indiana Inc.
35	172 174 176	Omahen Heirs
35	175 177	Betty Lucille Davis
	178	Stanley O. Goff Et Ux.
35	131	George E. & Shirley Cruea
35	4	Wisher Myers
35	125	Charles L. Mayer, Margaret Mayer Kerr & Michael Mayer III
	167	William J. Kieran

SEC.	INDEX NO.	OWNER
35	2	Tony Lee Rose 0.257 Ac.
35	3	Ralph E. Turner 0.4 Ac.
35	4	Carl E. Davis 3.2 Ac.

PLAT NO. 1
FOR DESIGN DEPT.
SHEET 1 OF 1
Scale: 1" = 200'

REV. 10/25/76 R/W CHANGE CITY OF COVINGTON EASEMENT LIMITS
REV. 1/20/76 PROPERTY LINES, PROPERTY OWNERS

136-23-6086
B-10641

DECEMBER 1968

STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IND.	F-94 (B)		5	105

GENERAL NOTES

All Ditches of 1% grade and over shall be sodded except where ditch is in rock cut or where Paved Side Ditch is to be constructed.

Sodding shall be placed as shown on Standard and Typical Cross-Sections and on Miscellaneous Standard Sheet "MB".

All Earth Shoulders, Cut, and Fill slopes shall be plain or mulched seeded except where sodding is specified.

Excavation Quantities as shown include estimated excavation for Public and Private Approaches. See Table on Sheet No. 11.

Where existing surface is located outside the Limits of new construction between Sta. 371 + 75 and Sta. 378 + 00 Rt., the contractor will be required to remove the present roadway surface and base as directed by the Engineer.

For "Kinds of Pipe" permitted for each size and classification as shown on the Structure Data Sheet, see Miscellaneous Standard Sheet "MP".

The minimum grade for Underdrains shall be 0.20%. Where the profile grade is less than 0.20%, special grades for Underdrains shall be established by the Engineer.

Curves shall be Superelevated according to "Standards for Superelevation", on Sheet No. 100.

When Guard Rail Type "A" is called for on this project the Contractor shall use the Steel Beam section only.

When Guard Rail Type "B" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.

When Guard Rail Type "G" is called for on this project the Contractor shall have the option of using either the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.

R/W INDEX

SHEET NO.	DESIGNATION
1	TITLE SHEET
2-3	TYPICAL CROSS SECTIONS
4	PLAT NO. 1
5-8	PLAN AND PROFILE SHEETS, LINE "G"
9	PLAN AND PROFILE SHEETS, LINE "T-1-G"
10	APPROACH DETAILS, LINE "G"
11-12	LAYOUT
13-14	GENERAL PLAN
15	CHANNEL CLEARING
16	APPROACH TABLE
17	PLAT NO. 3

UTILITY OWNERS

SEWER: City Of Covington
413 Washington St.
Covington, Indiana 47932

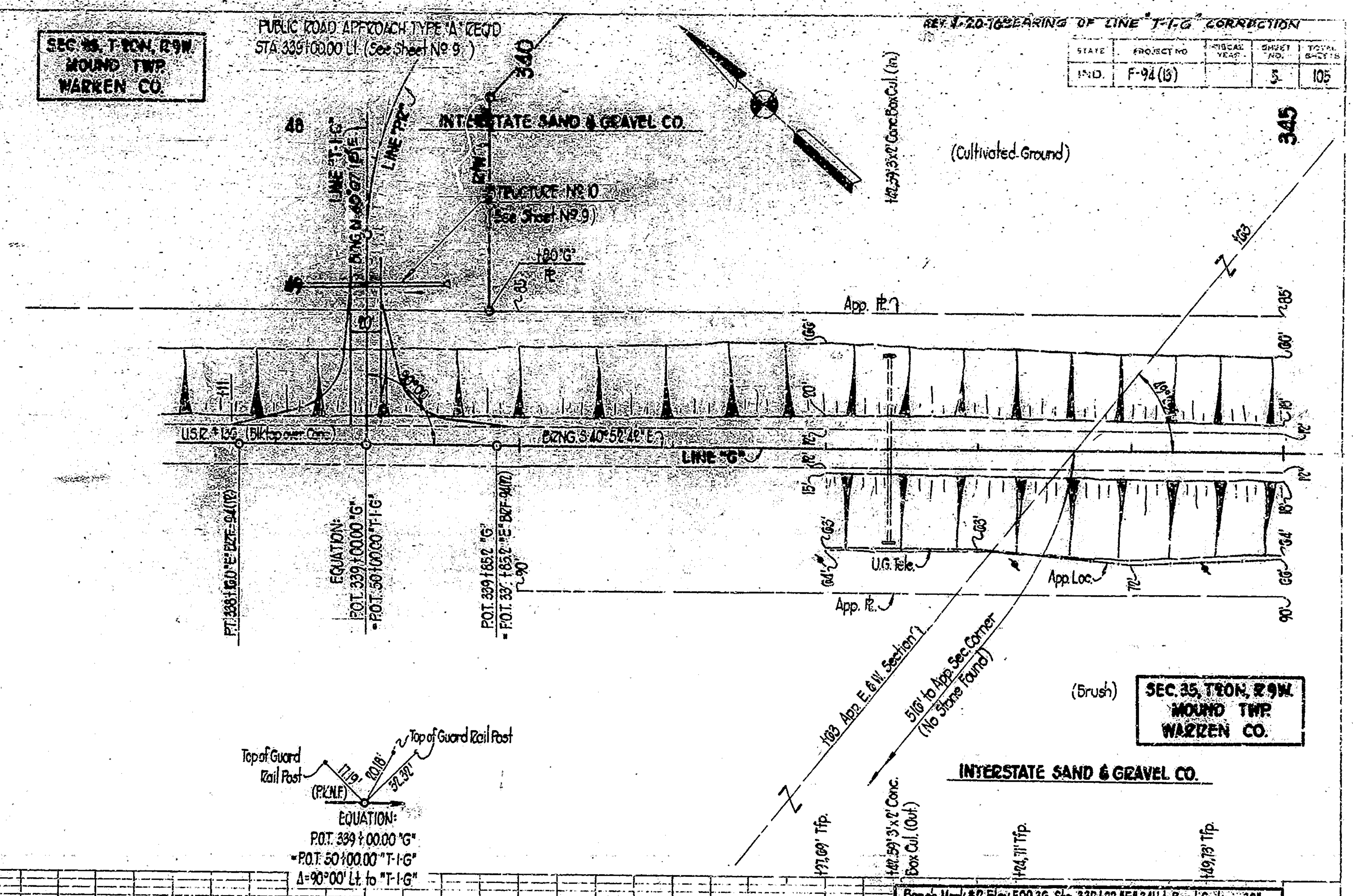
TELEPHONE: Indiana Bell Telephone Co.
3859 Meadows Drive, Room 202
Indianapolis, Indiana 46205

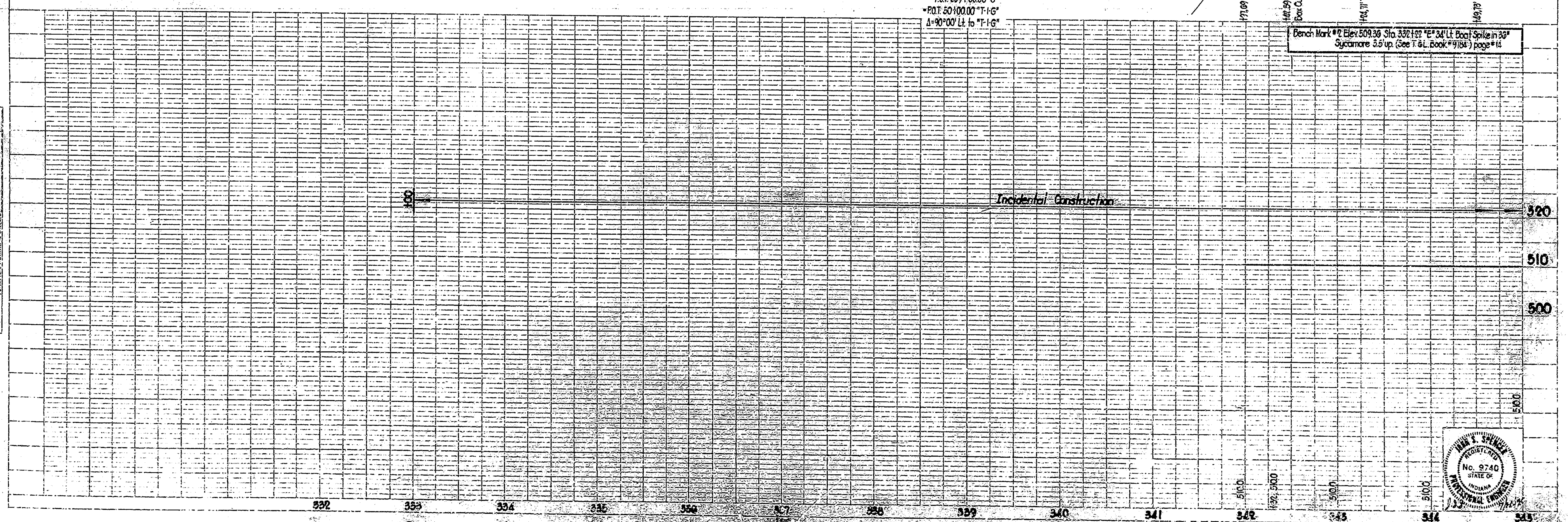
POWER: Northern Indiana Public Service Co.
5265 Hohman Ave.
Hammond, Indiana 46325

Covington Water & Light Co.
413 Washington St.
Covington, Indiana 47932

GAS: Indiana Gas Company, Inc.
1630 North Meridian St.
Indianapolis, Indiana 46202

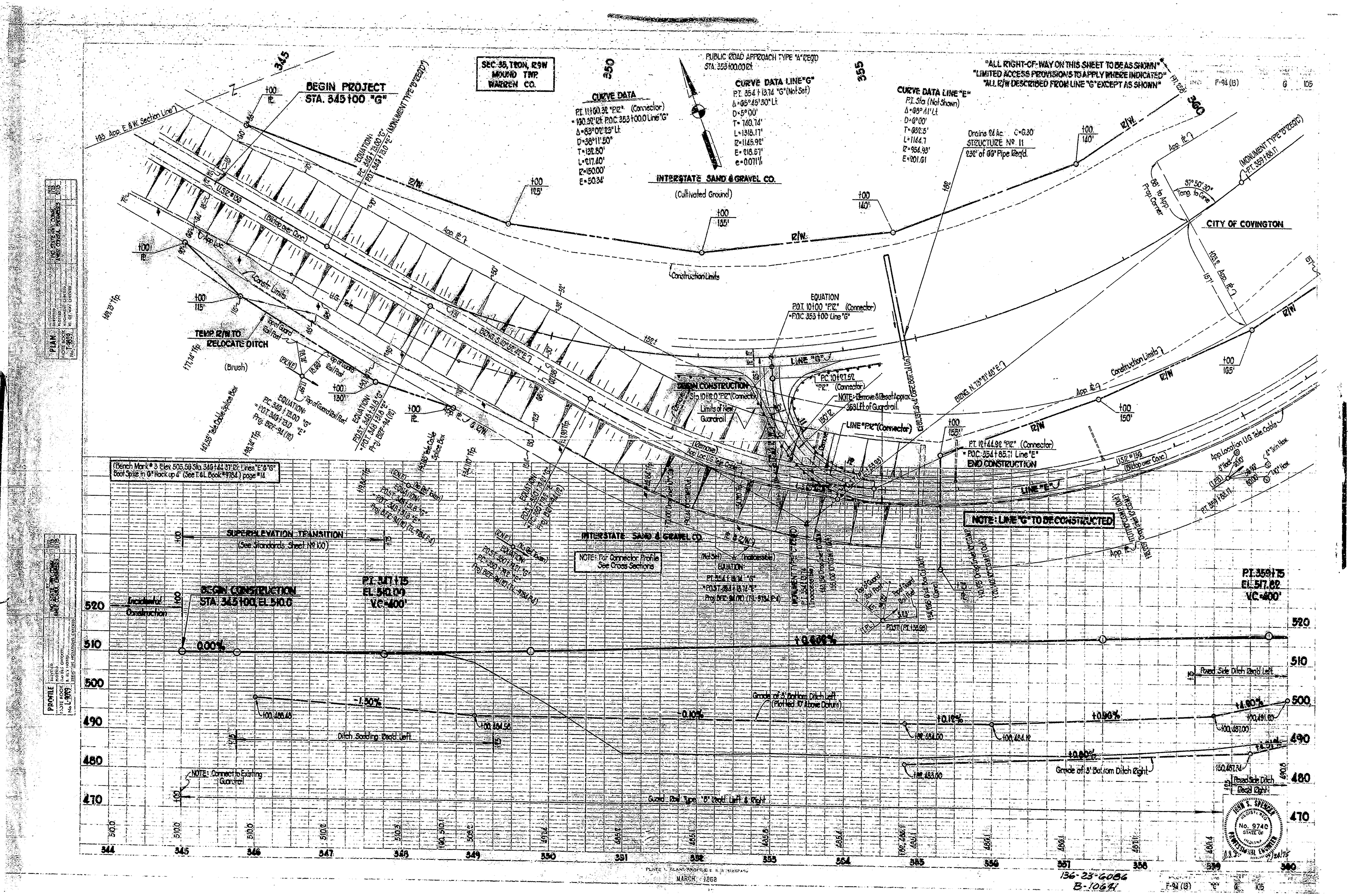
WATER: Covington Water & Light Co.
Address Same As Above

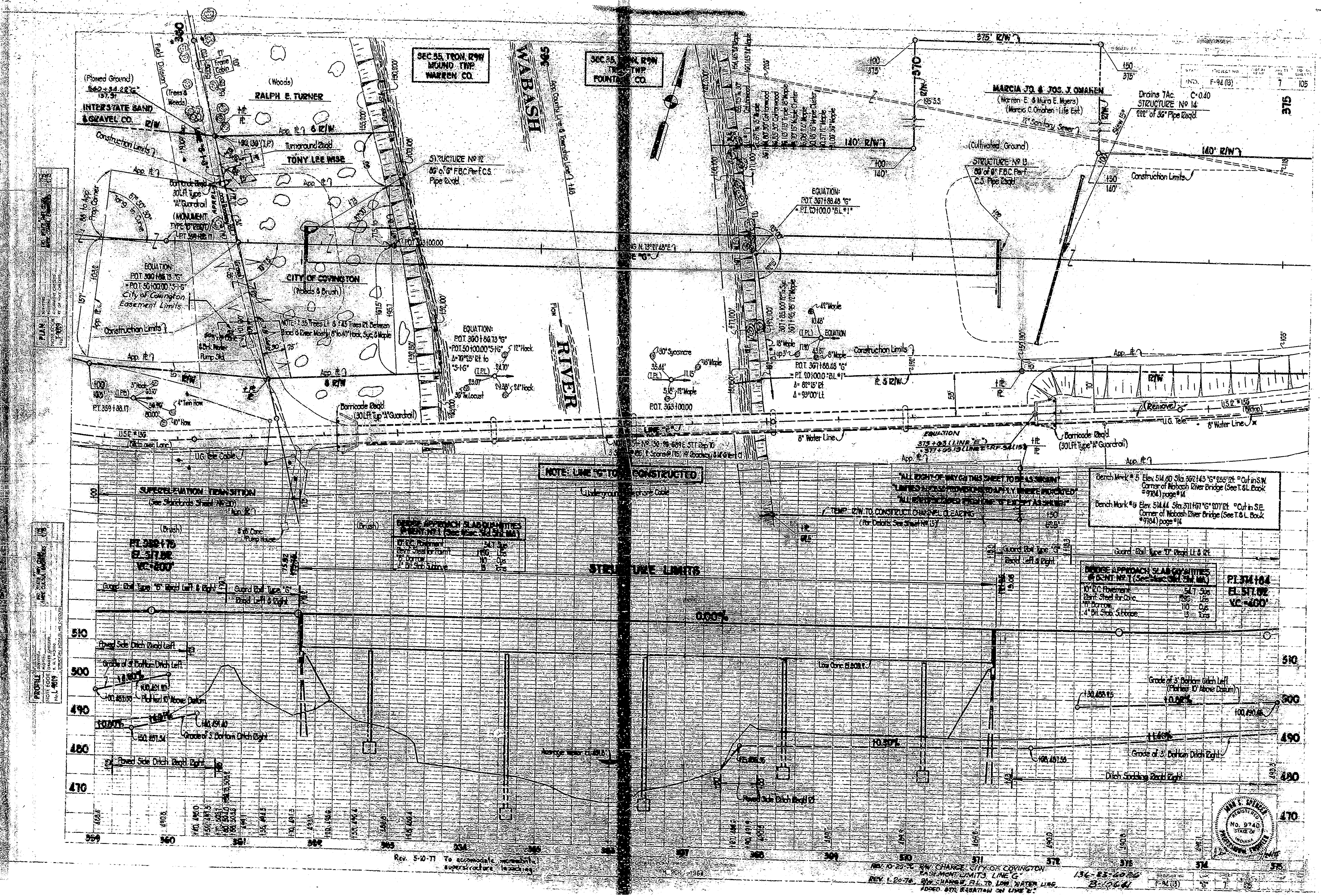




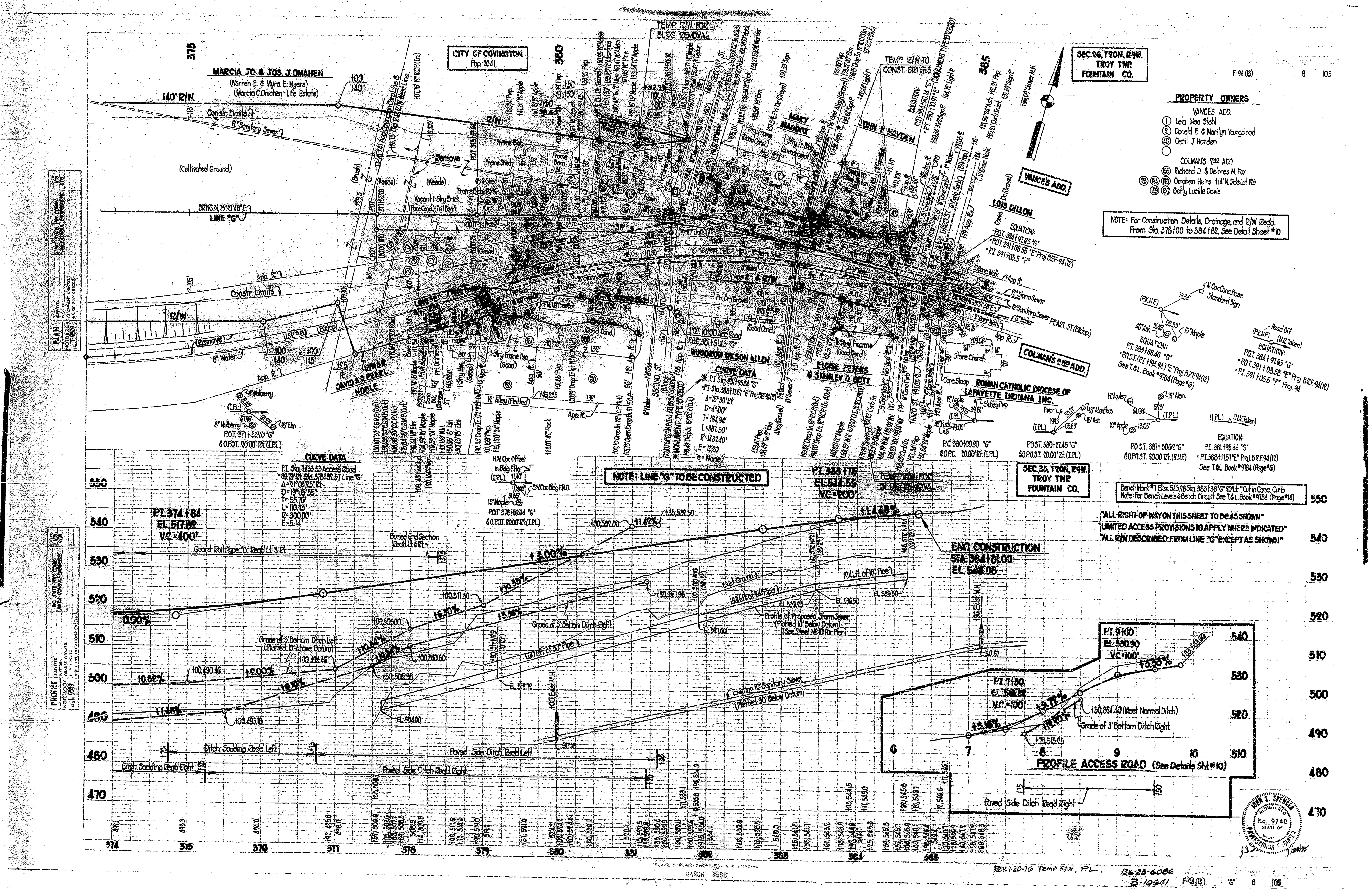
136-23-6086
B-10641

PROJECT NO.	SHEET NO.	TOTAL SHEETS
F-94 (B)	5	105

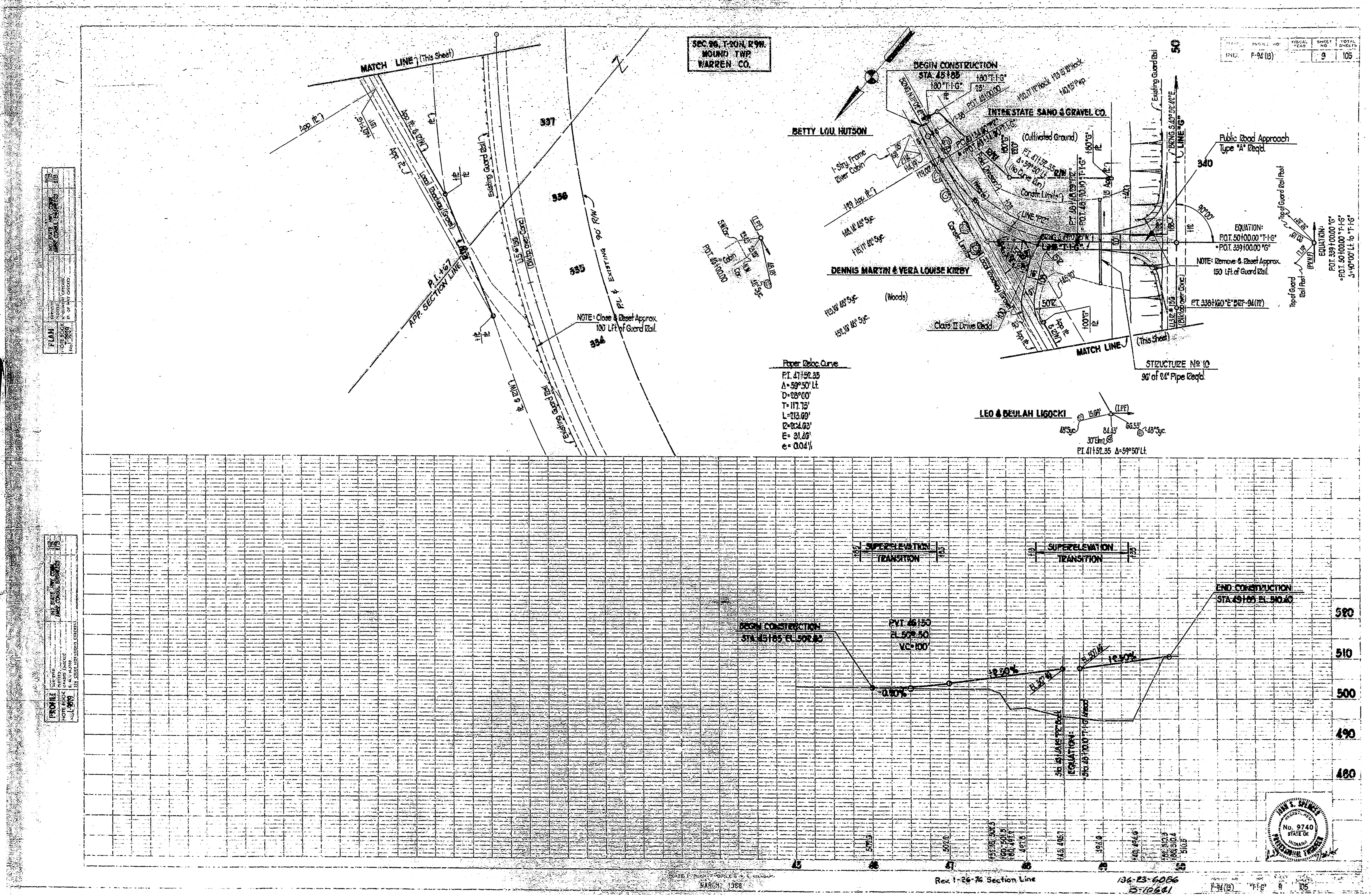

IND F-94 (13) 6 105
"ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN"
"LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED"
"ALL R/W DESCRIBED FROM LINE "G" EXCEPT AS SHOWN"
SEC. 35, T20N, R9W
MOUND TWP.
WARREN CO.
BEGIN PROJECT
STA. 345+00 "G"
CURVE DATA
P.I. 11+60.32 "P.R." (Connector)
= 100.32' Rt. P.O.C. 353+00.0 Line "G"
Δ=83°02'23" Lt.
D=38°11'50"
T=132.80'
L=217.40'
R=150.00'
E=50.34'
PUBLIC ROAD APPROACH TYPE "A" REQ'D
STA. 353+00.00 Rt.
CURVE DATA LINE "G"
P.I. 354+13.74 "G" (Not Set)
Δ=65°45'30" Lt.
D=5°00'
T=740.74'
L=1315.17'
R=1145.92'
E=218.57'
e=0.071'/'
CURVE DATA LINE "E"
P.I. Sta. (Not Shown)
Δ=68°41' Lt.
D=6°00'
T=652.5'
L=1144.7
R=954.93'
E=201.61
Drains 24 Ac. C=0.30
STRUCTURE No. 11
232' of 60" Pipe Req'd.
INTERSTATE SAND & GRAVEL CO.
(Cultivated Ground)
CITY OF COVINGTON
(MONUMENT TYPE "B" REQ'D)
P.T. 359+88.17
37°50'30" Tang. to Curve
88' to App. Prop. Corner
EQUATION:
P.C. 346+73.00 "G"
= P.O.T. 346+73.0 "E" (MONUMENT TYPE "B" REQ'D)
U.S.R. #136
(Blktop over Conc.)
TEMP. R/W TO RELOCATE DITCH
(Brush)
EQUATION:
P.C. 346+73.00 "G"
= P.O.T. 346+73.0 "E"
Proj. BRF-94(12)
EQUATION:
P.O.S.T. 348+31.8 "G"
= P.O.T. 348+31.8 "E"
Proj. BRF-94(12)
BRNG. S 40°52'42" E
EQUATION
P.O.T. 10+00 "P.R." (Connector)
= P.O.C. 353+00 Line "G"
LINE "G"
BEGIN CONSTRUCTION
Sta. 10+12.0 "P.R." (Connector)
Limits of New Guardrail
P.C. 10+27.52 "P.R." (Connector)
NOTE: Remove & Reset Approx. 353 Lft. of Guardrail.
LINE "P.R." (Connector)
BRNG. N 73°21'48" E
P.T. 12+44.92 "P.R." (Connector)
= P.O.C. 354+85.71 Line "E"
END CONSTRUCTION
LINE "E"
NOTE: LINE "G" TO BE CONSTRUCTED
App. Location U.G. Tele. Cable
(Bench Mark #3 Elev. 505.56 Sta. 346+44.37 Rt. Lines "E" & "G" Boat Spike in 6" Hack up 4' (See T.&L. Book #9784) page #14
SUPERELEVATION TRANSITION
(See Standards Sheet No. 100)
INTERSTATE SAND & GRAVEL CO.
NOTE: For Connector Profile See Cross Sections
EQUATION:
P.O.S.T. 350+19.21 "G"
= P.C. 350+19.2 "E"
Proj. BRF-94(12) (T.L. 9784 P.4)
EQUATION
P.I. 354+13.74 "G"
= P.O.S.T. 354+13.74 "E"
Proj. BRF-94(12) (T.L. 9784 P.4)
P.I. 347+75
EL. 510.00
V.C.=400'
P.I. 359+75
EL. 517.82
V.C.=400'
Incidental Construction
BEGIN CONSTRUCTION
STA. 345+00, EL. 510.0
0.00%
+0.638%
-1.30%
+00, 488.48
+00, 484.56
-0.10%
Grade of 3' Bottom Ditch Left (Plotted 10' Above Datum)
+0.12%
+00, 484.12
+0.96%
+00, 487.00
+4.80%
+00, 491.80
Ditch Sodding Req'd Left
Paved Side Ditch Req'd Left
+0.80%
Grade of 3' Bottom Ditch Right
+50, 487.34
Paved Side Ditch Req'd Right
NOTE: Connect to Existing Guardrail
Guard Rail Type "B" Req'd Left & Right
520 510 500 490 480 470
344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360
JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER
PLATE 1. PLAN-PROFILE
MARCH, 1968
136-23-6086
B-10641
F-94 (13) "G" 6 105



STATE IND. PROJECT NO. F-94 (13) SHEET NO. 7 TOTAL SHEETS 105
SEC. 35, T20N, R9W MOUND TWP. WARREN CO.
SEC. 35, T20N, R9W FOUNTAIN CO.
WABASH RIVER
Flow
(Plowed Ground)
360+34.22 "G" 137.31'
INTERSTATE SAND & GRAVEL CO.
(Woods)
RALPH E. TURNER
Field Division
Frame Cabin
(Trees & Weeds)
Construction Limits
Turnaround Req'd.
TONY LEE WISE
STRUCTURE Nº 12
86' of 6" F.B.C. Perf. C.S. Pipe Req'd.
Barricade Req'd. 30 Lft. Type "A" Guardrail
(MONUMENT TYPE "B" REQ'D)
P.T. 359+88.17
Tang. to Curve 67°30'30"
86 to App. Prop. Corner
EQUATION: P.O.T. 360+86.73 "G" = P.O.T. 50+00.00 "S-1-G"
City of Covington Easement Limits
CITY OF COVINGTON
(Woods & Brush)
NOTE: ±35 Trees Lt. & ±45 Trees Rt. Between Road & River. Mostly 8" to 40" Hack, Syc. & Maple
6' x 6' Conc. & Brk. Water Pump Std.
EQUATION: P.O.T. 360+86.73 "G" = P.O.T. 50+00.00 "S-1-G" Δ = 10°25' Rt. to "S-1-G"
P.O.T. 363+00.00
LINE "G"
LINE "E"
App. County Line & Township Line
EQUATION: P.O.T. 367+88.48 "G" = P.I. 20+00.0 "B.L.#1"
P.O.T. 367+88.48 "G" = P.I. 20+00.0 "B.L.#1" Δ = 82°15' Rt. Δ = 93°00' Lt.
140' R/W
375' R/W
MARCIA JO. & JOS. J. OMAHEN
(Warren E. & Myra E. Myers)
(Marcia C. Omahen - Life Est.)
12" Sanitary Sewer
(Cultivated Ground)
STRUCTURE Nº 13
80' of 6" F.B.C. Perf. C.S. Pipe Req'd.
Drains 7Ac. C=0.40
STRUCTURE Nº 14
222' of 36" Pipe Req'd.
Skew 15°
Construction Limits
U.S.R. #136 (Blktop)
(Remove)
U.G. Tele.
8" Water Line
U.G. Tele Cable
EQUATION 375+03 (LINE "E") = 377+95.19 (LINE "E" RF-94(15))
Barricade Req'd. (30 Lft. Type "A" Guardrail)
NOTE: Str. Nº 130-90-6895 STT Rep. 10
NOTE: LINE "G" TO BE CONSTRUCTED
Underground Telephone Cable
"ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN"
"LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED"
TEMP. R/W TO CONSTRUCT CHANNEL CLEARING (For Details See Sheet Nº 15)
Bench Mark #5 Elev. 514.60 Sta. 362+43 "G" 255' Rt. "Cut in S.W. Corner of Wabash River Bridge (See T. & L. Book #9784) page #14
Bench Mark #6 Elev. 514.44 Sta. 371+07 "G" 207' Rt. "Cut in S.E. Corner of Wabash River Bridge (See T. & L. Book #9784) page #14
SUPERELEVATION TRANSITION (See Standards Sheet Nº 30)
(Brush)
8' x 8' Conc. Pump House
P.I. 359+75 EL. 517.88 V.C. = 200'
BRIDGE APPROACH SLAB QUANTITIES @ BENT Nº 1 (See Misc. Std. Sht. MA)
10" R.C. Pavement 54.7 Sys.
Reinf. Steel for Pavmt. 1190 Lbs.
"B" Borrow 110 Cys.
4" Bit. Stab. Subbase 13 Tons
STRUCTURE LIMITS
Guard Rail Type "B" Req'd Left & Right
Guard Rail Type "G" Req'd Left & Right
Guard Rail Type "D" Req'd Lt. & Rt.
0.00%
BRIDGE APPROACH SLAB QUANTITIES @ BENT Nº 7 (See Misc. Std. Sht. MA)
10" R.C. Pavement 54.7 Sys.
Reinf. Steel for Conc. 1190 Lbs.
"B" Borrow 110 Cys.
4" Bit. Stab. Subbase 13 Tons
P.I. 374+84 EL. 517.82 V.C. = 400'
Paved Side Ditch Req'd Left
Grade of 3' Bottom Ditch Left
Plotted 10' Above Datum
Grade of 3' Bottom Ditch Right
Paved Side Ditch Req'd Right
Average Water El. 491.8
Low Conc. El. 509.8
Paved Side Ditch Req'd Rt.
Ditch Sodding Req'd Right
510 500 490 480 470
359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375
PLAN
PROFILE
Rev. 5-10-77 To accommodate incremental superstructure launching
REV. 10-25-76 R/W CHANGE CITY OF COVINGTON EASEMENT LIMITS LINE "G"
REV. 1-20-78 R/W CHANGE, R.L. TO LOW WATER LINE, ADDED 8TH EQUATION ON LINE "E"
136-83-6086
B-10641
JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER



F-94 (13) 8 105
CITY OF COVINGTON
Pop. 2641
MARCIA JO & JOS. J. OMAHEN
(Warren E. & Myra E. Myers)
(Marcia C. Omahen - Life Estate)
140' R/W
(Cultivated Ground)
LINE "G"
SEC. 26, T20N, R9W.
TROY TWP.
FOUNTAIN CO.
TEMP R/W FOR BLDG REMOVAL
TEMP R/W TO CONST. DRIVES
MARY MADDOX
JOHN F. HAYDEN
VANCE'S ADD.
LOIS DILLON
PROPERTY OWNERS
VANCE'S ADD.
Lela Mae Stahl
Donald E. & Marilyn Youngblood
Cecil J. Harden
COLMAN'S 2ND ADD.
Richard D. & Delores M. Fox
Omahen Heirs
Betty Lucille Davis
NOTE: For Construction Details, Drainage, and R/W Req'd. From Sta 378+00 to 384+82, See Detail Sheet #10
DAVID A. & PEARL NOBLE
WOODROW WILSON ALLEN
CURVE DATA
ELOISE PETERS & STANLEY O. GOTT
Stone Church
COLMAN'S 2ND ADD.
ROMAN CATHOLIC DIOCESE OF LAFAYETTE INDIANA INC.
PEARL ST.
CURVE DATA
NOTE: LINE "G" TO BE CONSTRUCTED
SEC. 35, T20N, R9W.
TROY TWP.
FOUNTAIN CO.
P.I. 374+84
EL. 517.82
V.C. = 400'
P.I. 383+75
EL. 544.55
V.C. = 200'
END CONSTRUCTION
STA. 384+81.00
EL. 548.00
"ALL RIGHT-OF-WAY ON THIS SHEET TO BE AS SHOWN"
"LIMITED ACCESS PROVISIONS TO APPLY WHERE INDICATED"
"ALL R/W DESCRIBED FROM LINE "G" EXCEPT AS SHOWN"
Guard Rail Type "D" Req'd Lt. & Rt.
Grade of 3' Bottom Ditch Left
Grade of 3' Bottom Ditch Right
Profile of Proposed Storm Sewer
Existing 12" Sanitary Sewer
Ditch Sodding Req'd Left
Ditch Sodding Req'd Right
Paved Side Ditch Req'd Left
Paved Side Ditch Req'd Right
P.I. 9+00
EL. 530.30
V.C. = 100'
P.I. 7+30
V.C. = 100'
PROFILE ACCESS ROAD (See Details Sht. #10)
Paved Side Ditch Req'd Right
PLAN
PROFILE
374 375 376 377 378 379 380 381 382 383 384 385
550 540 530 520 510 500 490 480 470
No. 9740
STATE OF
REV. 1-20-76 TEMP R/W, P.L.
MARCH 1958
F-94 (12) "G" 8 105



SEC. 26, T-20N, R9W.
MOUND TWP.
WARREN CO.
F-94(13) 9 105
MATCH LINE (This Sheet)
APP. SECTION LINE
P.I. 467
NOTE: Close & Reset Approx. 100' Lft. of Guard Rail.
EXISTING 90' R/W
BEGIN CONSTRUCTION
STA. 45+85
BETTY LOU HUTSON
INTERSTATE SAND & GRAVEL CO.
(Cultivated Ground)
1-Stry. Frame River Cabin
DENNIS MARTIN & VERA LOUISE KIRBY
(Woods)
Public Road Approach Type "A" Req'd.
EQUATION:
P.O.T. 50+00.00 "T-1-G" = P.O.T. 339+00.00 "G"
NOTE: Remove & Reset Approx. 150 Lft. of Guard Rail.
P.T. 338+60 "E" BRF-94(17)
Class II Drive Req'd.
MATCH LINE (This Sheet)
STRUCTURE No 10
90' of 24" Pipe Req'd.
Paper Reloc. Curve
P.I. 47+52.35
Δ = 59°50' Lt.
D = 28°00'
T = 117.75'
L = 213.69'
R = 204.63'
E = 31.46'
e = 0.04'/'
LEO & BEULAH LIGOCKI
P.I. 47+52.35 Δ = 59°50' Lt.
SUPERELEVATION TRANSITION
SUPERELEVATION TRANSITION
END CONSTRUCTION
STA. 49+85 EL. 510.40
BEGIN CONSTRUCTION
STA. 45+85 EL. 502.80
P.V.I. 46+50
EL. 502.50
V.C. = 100'
0.50%
+2.50%
+2.50%
EQUATION
520
510
500
490
480
45
46
47
48
49
50
No. 9740
STATE OF INDIANA
Rev. 1-26-76 Section Line
136-23-6086
MARCH 1968
F-94(13) "T-1-G" 9 105

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-94 (13)		10	105

SANITARY SEWER

STRUCTURE Nº 28
488' of 12" Pipe Group "L" Req'd.
Remove Pipe in Place.
Connect to Struct. Nº 29

STRUCTURE Nº 29
10' of 12" Pipe Group "L" Req'd.
Reconstruct 5' of Manhole and Adjust Casting to Grade.

STORM SEWER

STRUCTURE Nº 15
160' of 30" Pipe Group "L" and "A-4" Manhole Req'd.

STRUCTURE Nº 16
260' of 30" Pipe Group "L" and "A-4" Manhole Req'd. Connect to Struct. Nº 15

STRUCTURE Nº 18
18' of 15" Pipe Group "A" and "E-7" Catch Basin Req'd. Connect to Struct. Nº 16

STRUCTURE Nº 19
14' of 15" Pipe Group "A" and "K-10" Catch Basin Req'd. Connect to Struct. Nº 16

STRUCTURE Nº 20
80' of 12" Pipe Group "A" and "J-10" Inlet Req'd. Connect to Struct. Nº 19

STRUCTURE Nº 21
150' of 24" Pipe Group "L" and "A-4" Manhole Req'd. Connect to Struct. Nº 16

STRUCTURE Nº 22
12' of 15" Pipe Group "A" and "K-10" Catch Basin Req'd. Connect to Struct. Nº 21

STRUCTURE Nº 23
40' of 12" Pipe Group "A" and "J-10" Inlet Req'd. Connect to Struct. Nº 22

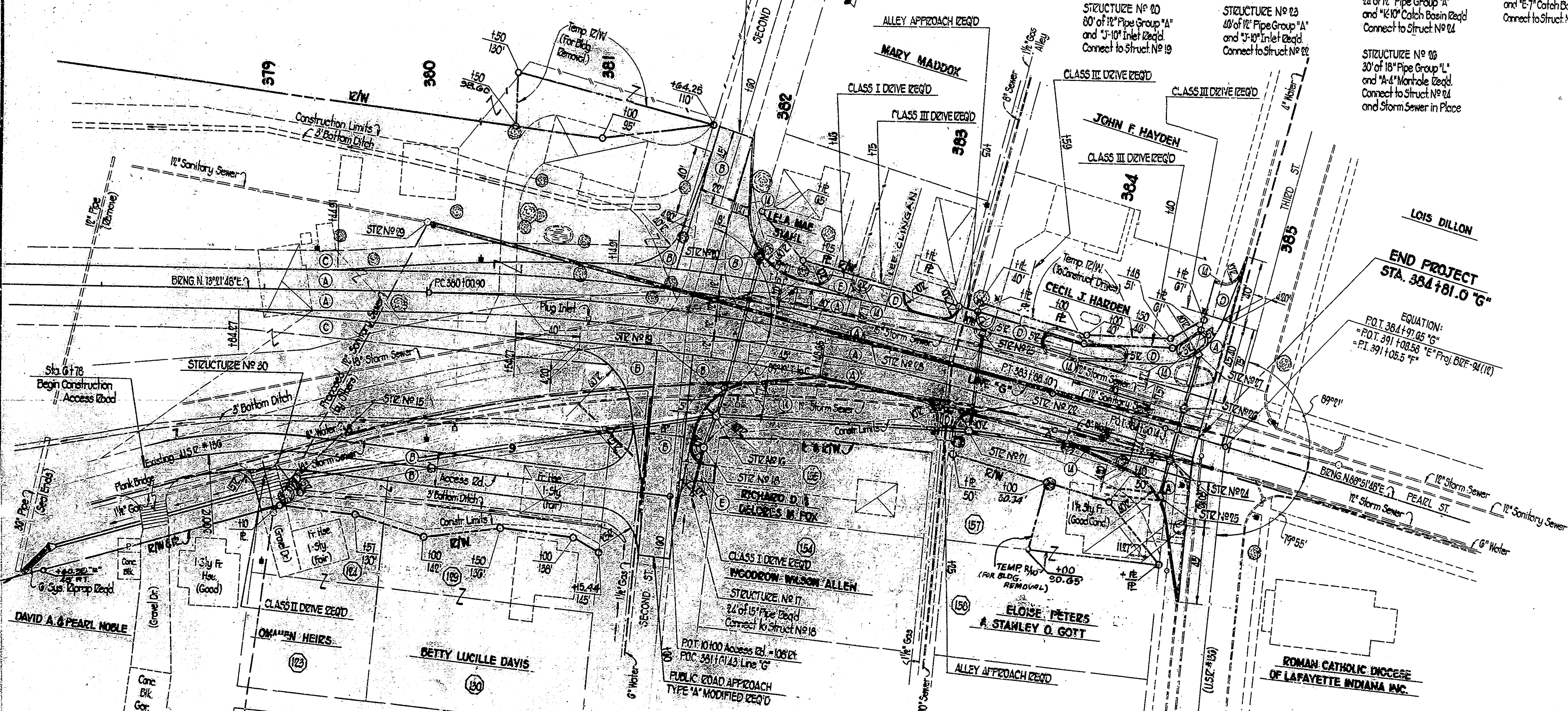
STRUCTURE Nº 24
124' of 18" Pipe Group "L" and "A-4" Manhole Req'd. Connect to Struct. Nº 21 and Storm Sewer in Place

STRUCTURE Nº 25
24' of 12" Pipe Group "A" and "K-10" Catch Basin Req'd Connect to Struct. Nº 24

STRUCTURE Nº 26
30' of 18" Pipe Group "L" and "A-4" Manhole Req'd. Connect to Struct. Nº 24 and Storm Sewer in Place

STRUCTURE Nº 27
32' of 12" Pipe Group "A" and "K-10" Catch Basin Req'd. Connect to Struct. Nº 26

STRUCTURE Nº 30
12' of 15" Pipe Group "A" and "E-7" Catch Basin Req'd. Connect to Struct. Nº 15



LEGEND

- (A) 10½" Bituminous Paving on 4" Bitum. Subbase
- (B) 7" Full Depth Bituminous Paving
- (C) 6" Bituminous Base Shoulders
- (D) 3" Bitum. Mixture for Approaches on 5" Type "P" Comp. Aggr. Base.
- (E) 3" Bitum. Mixture for Approaches on 3" Type "P" Comp. Aggr. Base.
- (14) Combined Conc. Curb & Gutter

LINE "G" APPROACH

DETAILS

Scale: 1" = 30'

136-23-6086
B-10641

JOHN S. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

REV. 1-20-76 TEMP. R/W, R/W.

DECEMBER 1968

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	F-94(13)		11	105

TABLE OF QUANTITIES (FOR APPROACHES)

DETAIL	DESCRIPTION	LINE	STATIONS	LENGTH (FT.)	WIDTH (FT.)	RADII (FT.)	BREAKING PAVEMENT (SYS)	REMOVAL OF PAVEMENT (SYS)	FILL +20% (CYS)	EXCAVATION (CYS)	BORROW (CYS)	"B" BORROW (CYS)	TYPE "P" COMPACTED AGGREGATE FOR BASE #53 3" (SYS)	TYPE "P" COMPACTED AGGREGATE FOR BASE #53 5" (SYS)	BITUMINOUS BASE 660# (SYS)	BITUMINOUS BASE 825# (SYS)	BITUMINOUS BASE (MS?) (TONS)	BITUMINOUS BINDER 220# (SYS)	BITUMINOUS SURFACE 110# (SYS)	BITUMINOUS MIXTURE FOR APPROACHES 330# (SYS)	BITUMINOUS MATERIAL FOR PRIME COAT (TONS)	BITUMINOUS MATERIAL FOR TACK COAT (TONS)	BITUMINOUS MATERIAL FOR SEAL COAT (TONS)	COVER AGGREGATE NO 12 (TONS)	BITUMINOUS STABILIZED SUBBASE 440# (SYS)
	Mainline	"G"	333+00.0 to 381+81.0	5181				2029	320935	10851		220				9893.39	1207.30	9656.03	9497.79		25.74	2.14	9.32	63.07	10168.20
	P.R.A. Type "A"	"G"	339+00 Lt.	403	20	2@40			8076	21					1119.12				1082.94		1.65				
	Class II Drive Modified	"T-I-G" P.R.	48+00 Rt.	105	16	15&25			425	0			206.9							206.9					
	P.R.A. Type "A"	"G"	353+00 Rt.	233	20	2@40			4350	0					694.64				715.50		1.18				
	Turnaround	"G"	360+60± Lt.	25	12	2@15			4	3				44.1						44.1					
	P.R.A. Type "A" Modified	"G"	381+60 Lt.	86	22	2@40			147	10															
	P.R.A. Type "A" Modified	"G"	381+60 Rt.	119	22	2@40			535	5															
	Access Road	"P.R.#2"	6+78 to 9+83	305	20	2@25			275	1103					561.42				720.45		1.10				
	Class II Drive	"P.R.#2"	7+48 Rt.	22	16	2@15			18	4			52.0							52.0					
	Class I Drive	"G"	381+70± Rt.	18	10	2@10			4	4			24.8							24.8					
	Class I Drive	"G"	382+46 Lt.	10	12	10&6			3	2			16.7							16.7					
	Class III Drive	"G"	382+75 Lt.	10	20	10&6				2				25.5						25.5					
	Alley Approach	"G"	383+25 Lt.	10	10	2@10				3				15.9						15.9					
	Alley Approach	"G"	383+25 Rt.	20	10	2@10			7	2				27.0						27.0					
	Class III Drive	"G"	383+59 Lt.	10	30	2@5'				6				35.1						35.1					
	Class III Drive	"G"	384+40 Lt.	10	30	2@5'				6				35.8						35.8					
	Class III Drive	"G"	384+70± Lt.	12	30	5'&10'				7				43.0						43.0					
	TOTAL							2029	334185	12029	31650	220	300.4	226.4	2375.18	9893.39	1207.30	9656.03	12076.90	526.8	29.67	2.14	9.32	63.07	10168.20

DESCRIPTION	LINE	STATIONS	GUARD RAIL TYPE "B" (LFT)	GUARD RAIL TYPE "G" (LFT)	CURB AND GUTTER COMBINED (LFT)	CURB REMOVAL (LFT)	RIGHT OF WAY MARKER (EA)	MONUMENT, TYPE "B" (EA)	MONUMENT, TYPE "C" (EA)	BENCH-MARK POST (EA)	AGRICULTURAL LIMESTONE (TONS)	FERTILIZER (TONS)	MULCHING MATERIAL (TONS)	SEED MIXTURES CLASS "R" (LBS)	SEED MIXTURES CLASS "T" (LBS)	WATER (M.G.)	STANDARD BARRICADE TYPE III (EA)	CONSTRUCTION SIGN TYPE "A" (EA)	RESET GUARD RAIL (LFT)	SETTLEMENT PLATES (EA)	BITUMINOUS MIXTURE FOR APPROACHES 770# (SYS)	10" REINF. CONC. PAVEMENT (SYS)	REINFORCING STEEL FOR PAVEMENT (LBS)	GUARD RAIL TYPE "A" (LFT)
Mainline	"G"	333+00.0 to 381+81.0	4392	400	337	267	40	4	1	1	20.21	10.16	80.83	2468	1979	270	2	8		2		109.4	2592	90
P.R.A. Type "A"	"G"	339+00 Lt.					7				0.84	0.66	3.32	92	92	13			250					
Class II Drive Modified	"T-I-G" P.R.	48+00 Rt.																						
P.R.A. Type "A"	"G"	353+00 Rt.																	358					
Turnaround	"G"	360+60± Lt.																						
P.R.A. Type "A" Modified	"G"	381+60 Lt.			105																373.0			
P.R.A. Type "A" Modified	"G"	381+60 Rt.			97																586.0			
Access Road	"P.R.#2"	6+78 to 9+83																						
Class II Drive	"P.R.#2"	7+48 Rt.																						
Class I Drive	"G"	381+70± Rt.																						
Class I Drive	"G"	382+46 Lt.			25																			
Class III Drive	"G"	382+75 Lt.			25																			
Alley Approach	"G"	383+25 Lt.			26																			
Alley Approach	"G"	383+25 Rt.			32																			
Class III Drive	"G"	383+59 Lt.			47																			
Class III Drive	"G"	384+40 Lt.			59																			
Class III Drive	"G"	384+70± Lt.			40																			
TOTAL			4392	400	793	267	47	4	1	1	21.05	10.82	84.15	2560	2071	283	2	8	608	2	959.0	109.4	2592	90

TYPE "P" COMPACTED AGGREGATE FOR BASE #53
300.4 Sys. x 3/36 x 2T/Cy. = 50.07 Tons
226.4 Sys. x 5/36 x 2T/Cy. = 62.89 Tons
112.96 Tons

BITUMINOUS BASE
2375.18 Sys. x 680#/sy. x 1/2000 = 807.56 Tons
9893.39 Sys. x 825#/sy. x 1/2000 = 4081.02 Tons
4888.58 Tons

BITUMINOUS BINDER
9656.03 Sys. x 220#/sy. x 1/2000 = 1062.16 Tons

BITUMINOUS SURFACE
12076.90 Sys. x 110#/sy. x 1/2000 = 664.22 Tons

BITUMINOUS MIXTURE FOR APPROACHES
520.8 Sys. x 330#/sy. x 1/2000 = 86.92 Tons
959.0 Sys. x 770#/sy. x 1/2000 = 369.22 Tons
456.14 Tons

BITUMINOUS STABILIZED SUBBASE
10168.20 Sys. x 440#/sy. x 1/2000 = 2237.00 Tons
(Under Approach Slabs) 26.00 Tons
2263.00 Tons

136-23-6086
B-10641

[Seal:] REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

BRIDGES OVER 20' SPAN

PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND	F-94(13)		12	105

STRUCTURE QUANTITIES

ITEM	CONCRETE CLASS A SUPERSTR CU. YDS.	CONCRETE CLASS A SUBSTR CU. YDS.	CONCRETE CLASS B ABOVE FTG CU. YDS.	CONCRETE CLASS B IN FTG. CU. YDS.	CONCRETE RAILING CLASS A CU. YDS.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL *** LBS.	ANCHOR RODS MC-AR EACH	ANCHOR PLATES MC-AP EACH	PILES UNTREATED TIMBER NO.	PILES UNTREATED TIMBER LIN. FT.	PILES TREATED TIMBER NO.	PILES TREATED TIMBER LIN. FT.	PILES STEEL ENCASED CONC. NO.	PILES STEEL ENCASED CONC. LIN. FT.	PILES STEEL H BEARING NO.	PILES STEEL H BEARING LIN. FT.	CAST IRON DRAIN PIPE LBS.	CAST IRON, GRATES, BASINS, & FITTINGS LBS.	RAILING TYPE OR LIN. FT.
Reinf. Steel for Approach Structures																				
Reinf. Steel for R.C. Bridge Approaches																				
Reinf. Steel for Lip Gutter, Panel, Tapers, etc.																				
TOTALS																				

SEE BRIDGE SUMMARY SHEET NO 37

APPROACH TABLE

LOCATION LT/RT	LOCATION STATION	DESCRIPTION	WIDTH FT.	RADII FT.	GRADE %	LENGTH FT.	DIST. BEYOND R/W FT.	EXCAVATION(CYS) CUT	EXCAVATION(CYS) FILL	BITUM. SURFACE #/SQ.YD.	BITUM. BASE TONS	BITUM. BASE #/SQ.YD.	COMP. AGG. BASE TONS	COMP. AGG. BASE Depth(in)	COMP. AGG. BASE TONS

PAVED SIDE DITCH & SODDING SUMMARY

LT. OR RT.	STATION TO STATION (LINE "G")	PAVED SIDE DITCH (LIN. FT.) TYPE	PAY LENGTH	NO. OF LUGS	PAY LENGTH	CUT OFF WALLS	PAY LENGTH	TOTAL PAY LENGTH	SODDING (SQ. YD.) FOR PSD	FOR DITCHES	SHOULDERS	OTHER	TOTAL SOD
Lt.	345+75 to 346+75									363			363
Lt.	356+75 to 360+25	A	150	2	8	2	10	168	45				45
Rt.	359+25 to 360+25	A	140	2	8	2	10	158	42				42
Rt.	367+50 to 368+00	G	50	1	4	2	10	64	15				15
Rt.	371+43 to 375+25												
Lt.	374+75 to 376+75									336			336
Rt.	375+25 to 381+20	G	595	9	24	2	10	629	170	207			207
Lt.	376+75 to 378+25	G	150	3	12	2	10	178	45				178
Lt.	378+25 to 381+35	A	310	5	20	2	10	340	90				45
Rt.	378+00 to 381+80												90
Lt.	378+00 to 380+50										95		95
	(From Underdrain Table)										74		74
												12	12
	(Access Road)												
Rt.	0+85 to 7+20	A	56			2	10	66	17				17
Rt.	7+75 to 9+50	A	175	3	12	2	10	197	53				53
	TOTAL	TYPE "A" - 928				TYPE "G" - 825							1632

APPROACH STRUCTURES

STRUCT. NO.	LOCATION	LINE	DESCRIPTION SIZE	DESCRIPTION KIND	LENGTH LIN. FT.	FLOW LINE UP STREAM	FLOW LINE DOWN STREAM	"B" BORROW CYS	METHOD OF BACKFILL	REMARKS
10	49+00	"F-16"	24"	Group "A" Pipe	96	494.70	494.50	41	A	2-Pipe End Sections Reqd.
11	354+82	"G"	60"	Group "B" Pipe	232	464.00	463.60	434	A	Pipe Anchors Reqd. (3.9% Dia. Class "A" Conc)
12	361+73	"G"	6"	F.B.C. Perf. C.S. Pipe	66					
13	371+02	"G"	6"	F.B.C. Perf. C.S. Pipe	86					
14	372+00	"G"	30"	Group "B" Pipe	206	486.25	481.53	155	A	Skew 15° 2-Pipe End Sections Reqd.
15	379+20	"G"	30"	Group "L" Pipe and Type A-4 Manhole	160	512.72	504.00	109		1-Pipe End Section & 6 Sys. Riprap Reqd.
16	381+90 Rt.	"G"	30"	Group "L" Pipe and Type "A-4" Manhole	260	527.60	512.72	209		Connect to Struct. No 15.
17	381+80 Rt.	"G"	15"	Group "A" Pipe	20			1	A	Connect to Structure No 16. 1-Pipe End Section Reqd.
18	381+60 Rt.	"G"	15"	Group "A" Pipe and Type "E-7" Catch Basin	16	530.40	528.75	4	A	Connect to Structure No 16
19	381+90 Rt.	"G"	15"	Group "A" Pipe and Type "K-10" Catch Basin	14	534.75	532.00	4	A	Connect to Structure No 16
20	382+00 Lt.	"G"	12"	Group "A" Pipe and Type "J-10" Inlet	60	535.00	534.50	16	A	Connect to Structure No 19
21	383+47 Rt.	"G"	24"	Group "L" Pipe and Type "A-4" Manhole	156	538.75	527.60	108		Connect to Structure No 16
22	383+47 Rt.	"G"	15"	Group "A" Pipe and Type "K-10" Catch Basin	12	538.85	538.00	3	A	Connect to Structure No 21
23	383+35 Lt.	"G"	12"	Group "A" Pipe and Type "J-10" Inlet	46	539.35	538.10	9	A	Connect to Structure No 22
24	384+08 Rt.	"G"	18"	Group "L" Pipe and Type "A-4" Manhole	104	539.50	539.50	69		Connect to Structure No 21 and Existing 12" Sewer.
25	384+08 Rt.	"G"	12"	Group "A" Pipe and Type "K-10" Catch Basin	24	541.60	539.75	5	A	Connect to Structure No 24
† 30	7+15 Rt.	Ac Rd	15"	Group "A" Pipe & Type E-7 Catch Basin	12	515.42	515.00	3	A	Connect to Structure No 15
26	384+08 Lt.	"G"	30"	Group "L" Pipe and Type "A-4" Manhole	30	540.00	539.75	16		Connect to Structure No 24 and Existing 12" Sewer
27	384+69 Lt.	"G"	12"	Group "A" Pipe and Type "K-10" Catch Basin	32	541.70	539.85	7	A	Connect to Structure No 26
28	384+81 Lt.	"G"	12"	Group "L" Pipe	485			210		Connect to Existing 12" Sewer and Struct No 26. Remove Pipe in Place
29	380+02 Lt.	"G"	12"	Group "L" Pipe and Reconstruct 5 Lft. of Manhole	10			5		Adjust Casting to Grade. Connect to Existing 12" Sewer.
					TOTALS			1192		

† Out of Sequence

CONSTRUCTION IDENTIFICATION SIGNS EACH		
	* Signs	XM-6
	* Signs	XM-7
	* Signs	XM-8

* Not a pay item. Place as directed by the engineer.

NOTE: The Above "B" Borrow Quantities Include 730 Cys. for Group "L" Pipe. The Remaining 462 Cys. for Groups "A" & "B" Pipe Shall be Included in the unit Cost of Pipe.

NOTES: Weight of Spirals includes weight of 1½ extra turns top and bottom. Spirals and 1½ turns at tops included in cost of Spiral.
*** The weight of structural steel is approximate only, and it shall be the Contractor's responsibility to determine the weight on which he bases his bid.
For Test Bor Samples See Bridge Standard C1.

UNDERDRAIN TABLE

LINE	STATION FROM	STATION TO	SIDE	6" GROUP "K" PIPE LFT.	OUTLET STA.	OUTLET LOCATION	6" TEES	ELBOW 45°	ELBOW 90°	PERF. PIPE LFT.	PERF. PIPE CYS.	AGGREGATE FOR UNDERDRAINS	DELINEATOR POST	SODDING	REMARKS
"G"	345+00	354+00	Lt.	900	345+00	Outlet Thru Shoulder Lt.		1		38	85		1	2	
"G"	354+00	361+10	Lt.	710	354+00	Outlet Thru Shoulder Lt.		1		38	73		1	2	
"G"	371+25	378+00	Lt.	G15	377+00	Outlet Thru Shoulder Lt.	1			38	78		1	2	
"G"	371+25	378+00	Rt.	G15	377+00	Outlet Thru Shoulder Rt.	1			38	78		1	2	
"G"	378+00	384+81	Rt.	G81	378+00	Outlet Thru Shoulder Rt.		1		38	65		1	2	
"G"	378+00	384+81	Lt.	G81	378+00	Outlet Thru Shoulder Lt.		1		38	65		1	2	
	TOTAL			4362			2	4		*1252	416	6	12		* Includes 3 Lft. for 4 Elbows & 10 Lft. for 2 Tees

APPROACH SUMMARY

INDIANA STATE HIGHWAY COMMISSION

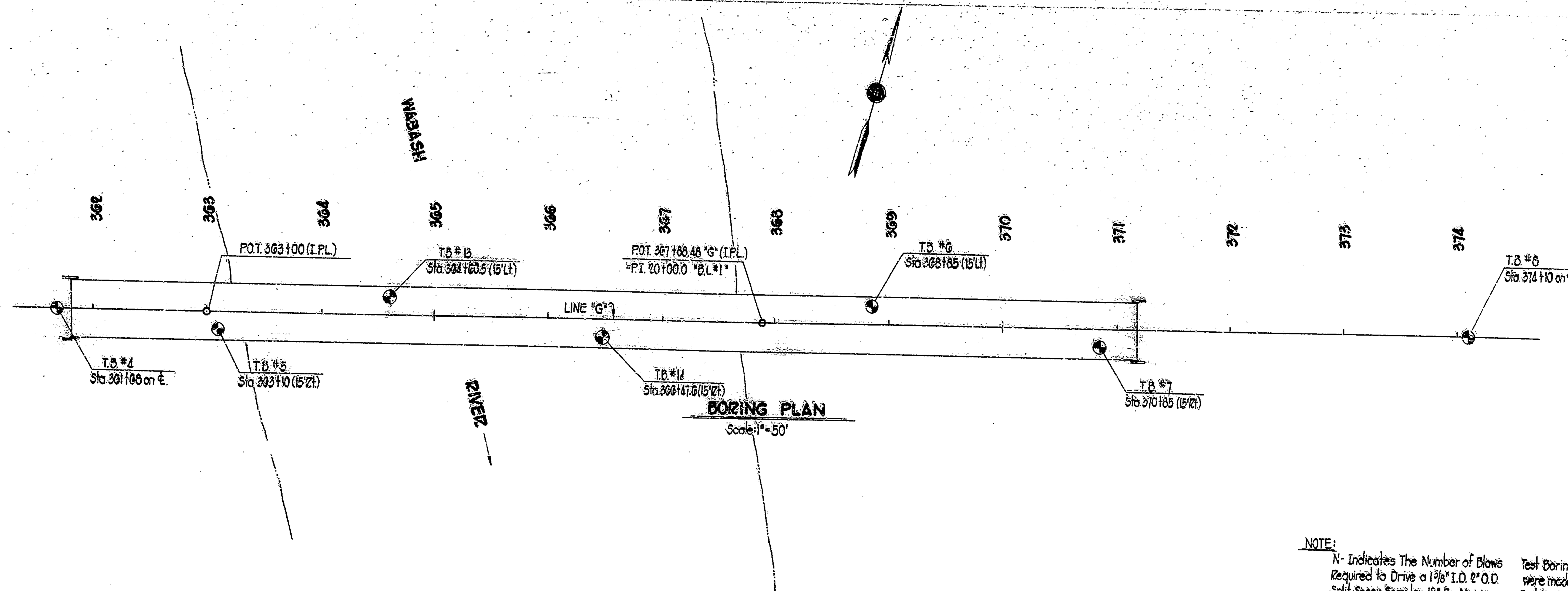
DATE JULY 24, 1975

SUBMITTED FOR APPROVAL

PROJECT: F-94(13)
CONTRACT NO: B-10641
BRIDGE FILE: 150-23-0086

JOHN E. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER 7/24/75

SUMMARIZED W.E.H. C'K'D J.S.S.
TRACED G.K. C'K'D W.E.H.



BORING PLAN

Scale: 1" = 50'

NOTE:
N- Indicates The Number of Blows Required to Drive a 1 3/8" I.D. 2" O.D. Split Spoon Sampler 12" By Means of a 140# Weight Falling 30"

Test Borings Number 4, 5, 6, 7, & 8 were made in August 1973
Test Borings Number 13 & 14 were made in July 1974

T.B. #4 STA. 361+68 ℄

Nº	ELEV.	N	DESCRIPTION
	491.2		SURFACE
1	490.2	10	Dark Brown Moist Medium Stiff SILTY CLAY
			488.2
2	487.7	7	
3	485.2	3	Tan Moist Loose SILTY SAND
4	482.7	3	Brown Moist Very Soft to Medium Stiff SILTY CLAY
			478.2
5	477.7	12	
6	472.7	12	Tan Wet Medium Dense SILTY Well Graded SAND
			468.2
7	467.7	30	
8	462.7	27	Brown Wet Medium Dense Well Graded SAND & GRAVEL
	458.2		BOT. T.B. #4 33'
			Hit Bedrock at 33' Auger Refusal

Ground Water
▼ After 24 Hrs. Elev. 483.2

T.B. #5 STA. 363+10 15' RT.

Nº	ELEV.	N	DESCRIPTION
	488.2		SURFACE
1	487.2	16	
2	484.7	11	Brown Moist Stiff to Soft SANDY SILTY CLAY
3	482.2	5	
4	479.7	7	480.2
			Brown Moist Loose SILTY SAND
			475.2
5	474.7	3	
			Gray Moist Very Loose SILTY SAND & GRAVEL
6	469.7	16	468.2
7	464.7	12	Brown Moist Medium Dense Well Graded SAND & GRAVEL
	461.2	Rock Coring	Light Gray Solid SANDSTONE With Thin Shale Seams Below 28.0'
	456.2		BOT. T.B. #5 32'

Ground Water
▼ After 24 Hrs. Elev. 482.2

T.B. #6 STA. 368+85 15' LT.

Nº	ELEV.	N	DESCRIPTION
	489.7		SURFACE
1	488.7	2	Dark Brown Moist Medium Stiff to Very Stiff SILTY CLAY
2	486.2	8	Dark Brown Moist Medium Stiff to Very Stiff SILTY CLAY
3	483.7	34	
			481.2
4	481.2	50/3"	Gray Weathered CLAYEY SHALE
	479.7		479.2
		Rock Coring	Gray Hard SHALE
	474.7		BOT. T.B. #6 15'

Ground Water
▼ After 24 Hrs. Elev. 486.7

T.B. #7 STA. 370+85 15' RT.

Nº	ELEV.	N	DESCRIPTION
	489.1		SURFACE
1	[illegible]	[illegible]	Black Topsoil
2	486.6	8	Dark Gray Moist Medium Stiff SILTY CLAY
3	[illegible]	35	
4	[illegible]	[illegible]	Gray Weathered SHALY CLAY
	480.1		Gray Weathered CLAYEY SHALE
	477.1	Rock Coring	Gray Slightly Weathered SHALE
			Gray Hard SHALE (Not Solid)
	474.1		BOT. T.B. #7 15'

Ground Water
▼ After 24 Hrs. Elev. 487.1

T.B. #8 STA. 374+10 ℄

Nº	ELEV.	N	DESCRIPTION
	492.1		SURFACE
1	[illegible]	[illegible]	Black Topsoil
2	[illegible]	[illegible]	Brown Gray Moist Stiff SILTY CLAY with Trace Shale Fragments
3	[illegible]	[illegible]	Brown and Gray Highly Weathered CLAYEY SHALE
4	[illegible]	[illegible]	Gray Slightly Weathered SHALE
	[illegible]	Rock Coring	Gray Hard SHALE (Solid)
	[illegible]		BOT. T.B. #8 18.5'

Ground Water
▼ After 24 Hrs. Elev. 488.8

T.B. #13 STA. 364+60.5 15' Lt

Nº	ELEV.	N	DESCRIPTION
			(BARGE BORING)
			River Level 481.3
	478.0		SURFACE
1	476.5	7	Brown Wet Loose Fine to Coarse SAND (SW)
2	472.0	[illegible]	
		Rock Coring	Light Gray Intact SAND STONE
	[illegible]		BOT. T.B. #13 10.[illegible]'

T.B. #14 STA. 366+47.8 15' Rt.

Nº	ELEV.	N	DESCRIPTION
			(BARGE BORING)
			River Level 481.3
	473.0		SURFACE
1	472.0	30	Gray Moist Hard SHALEY CLAY with Sandstone Fragments
2	469.5	[illegible]	
			Gray CLAYEY weathered SHALE
	465.3	Rock Coring	Light Gray Intact SANDSTONE
	460.3		BOT. T.B. #14 12.7'

Elevations: 490, 485, 480, 475, 470, 465, 460, 455

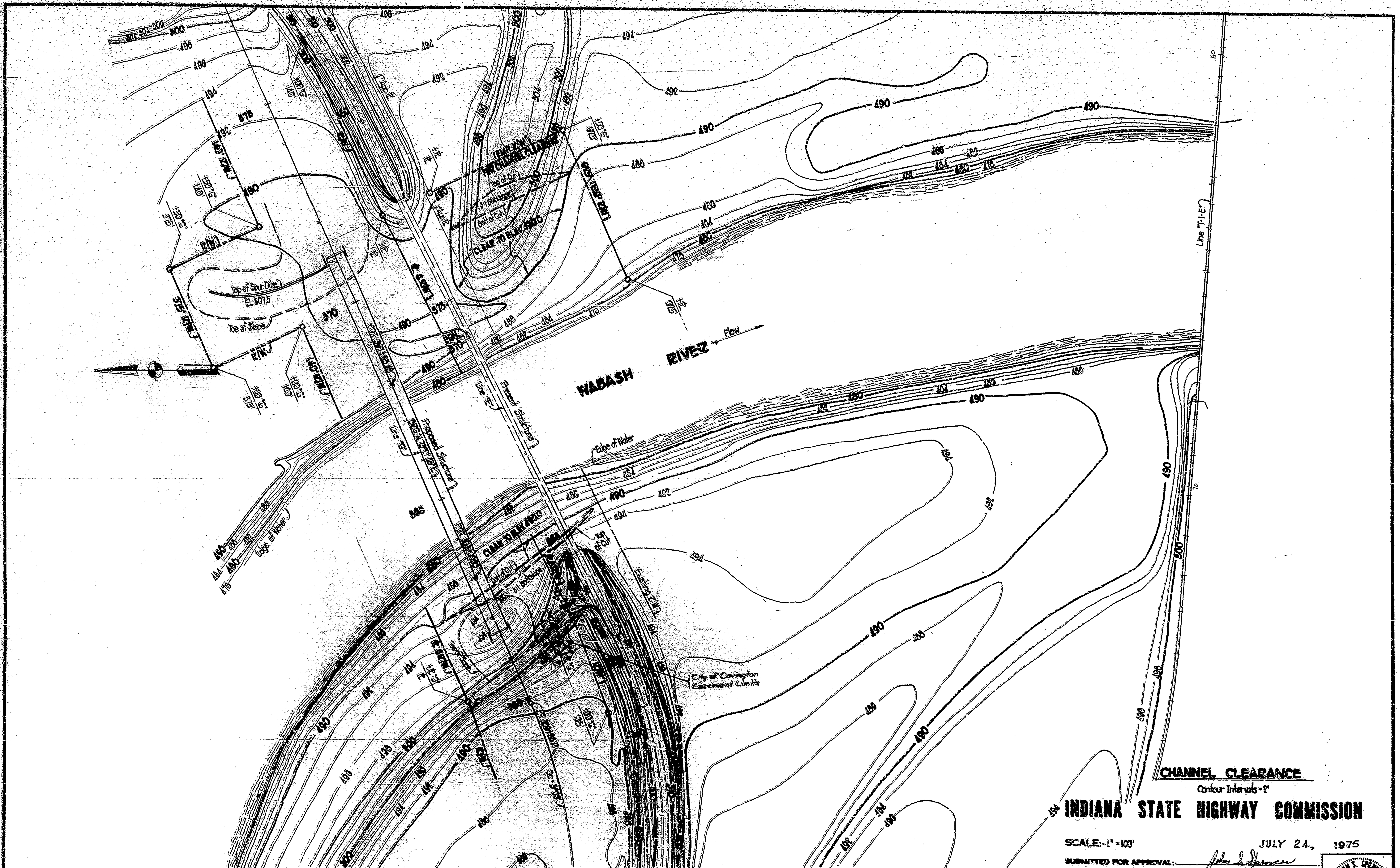
SOIL BORINGS

SCALE: As Noted
SHEET Nº 13 of 105
PROJECT Nº BRF 34 (12)
CONTRACT Nº B-10641
BRIDGE FILE Nº 136-25-3088

No. 9740 STATE OF INDIANA
JULY 24, 1975

Plotted By: GK | Checked By: J.S.S. | Date: 7-15-74

PLAN — NOTE BOOK No.
PROFILE — NOTE BOOK No.



CHANNEL CLEARANCE
Contour Intervals = 2'

INDIANA STATE HIGHWAY COMMISSION

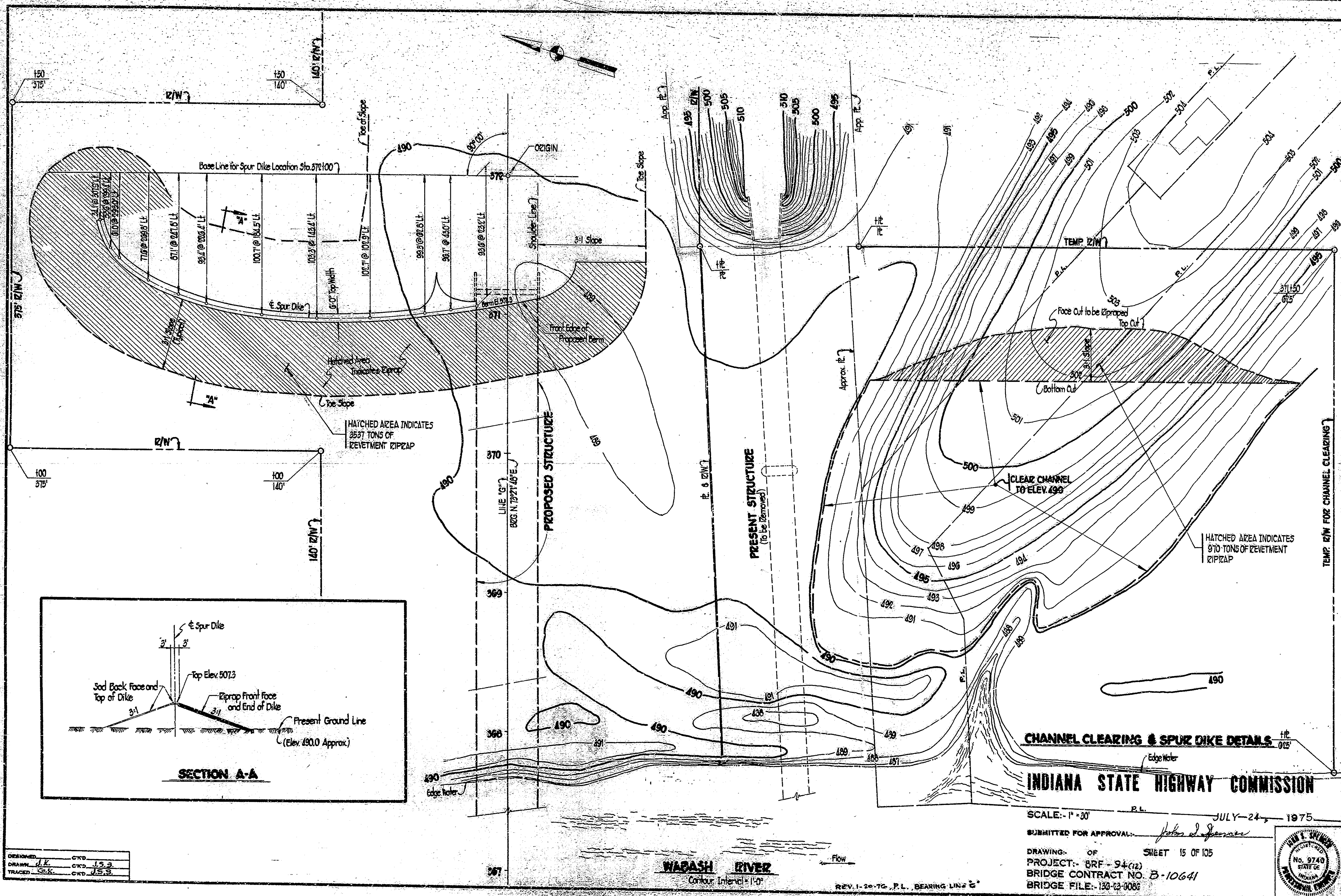
SCALE:- 1" = 100' JULY 24, 1975

SUBMITTED FOR APPROVAL: John S. Spencer

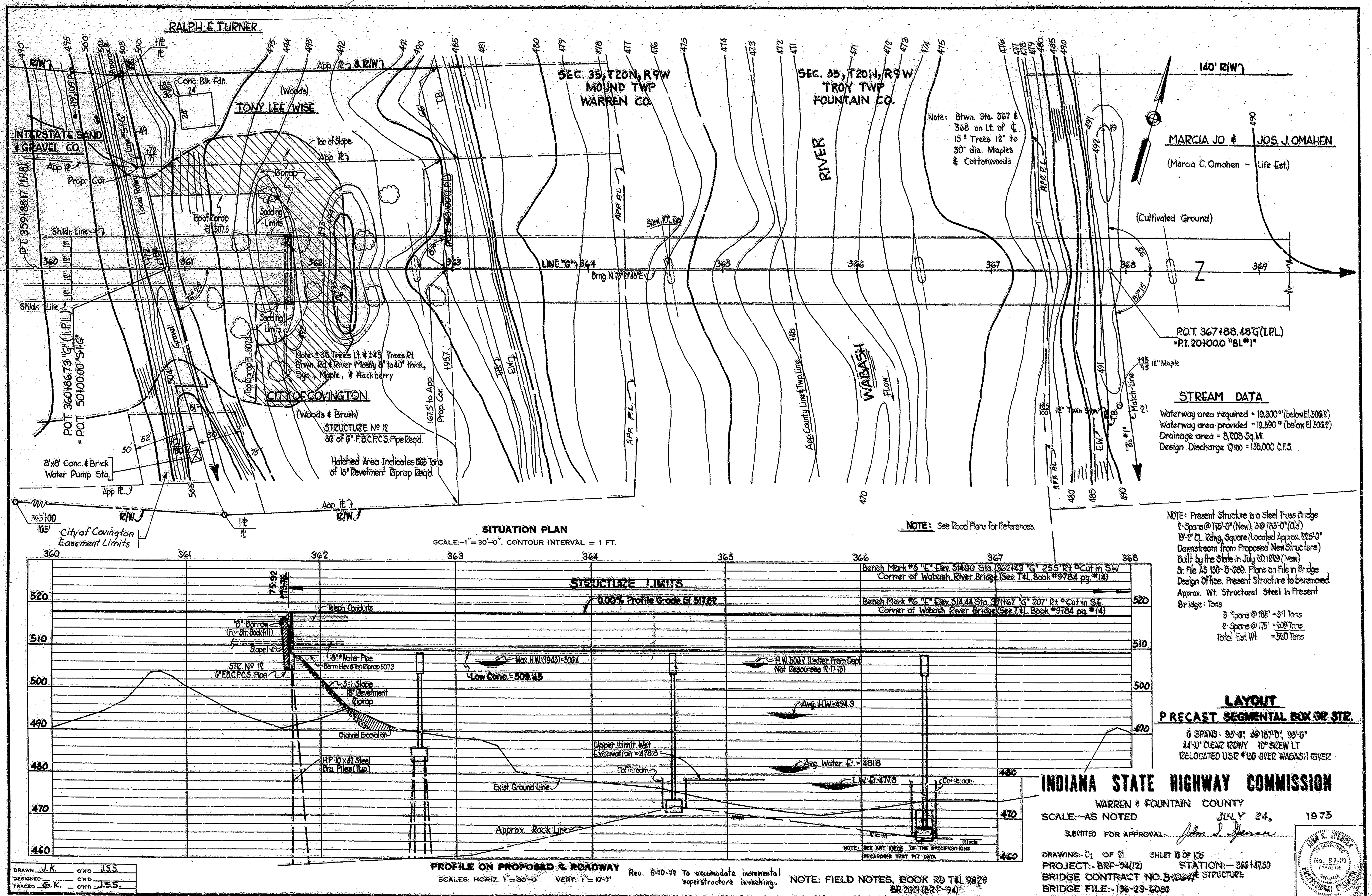
DRAWING:- OF SHEET 14 OF 105
PROJECT:- BRF-94(12)
BRIDGE CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-8086

DESIGNED ____ CK'D ____
DRAWN ____ CK'D J.S.S.
TRACED G.K. CK'D J.S.S.

REV: 10-25-76, R/W CHANGE CITY OF COVINGTON EASEMENT LIMITS LINE "G"



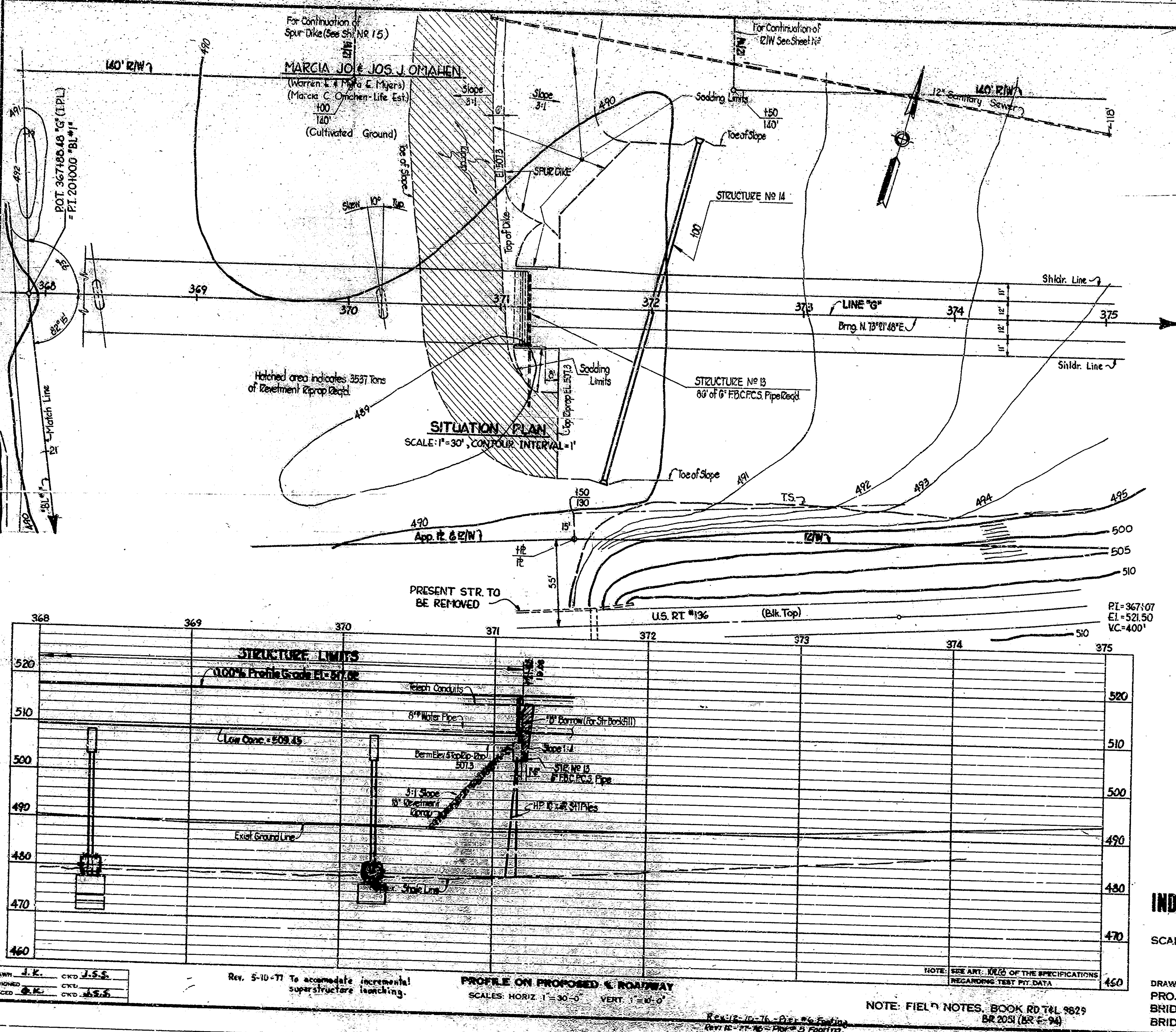
CHANNEL CLEARING & SPUR DIKE DETAILS
INDIANA STATE HIGHWAY COMMISSION
SCALE:- 1" = 30'
JULY - 24, 1975
SUBMITTED FOR APPROVAL:-
DRAWING:- OF SHEET 15 OF 105
PROJECT:- BRF - 94 (12)
BRIDGE CONTRACT NO. B-10641
BRIDGE FILE:- 133-03-0086
REV. 1-20-76 P.L. BEARING LINE "G"
WABASH RIVER
Contour Interval = 1'-0"
Flow
DESIGNED
DRAWN J.K. CK'D J.S.S.
TRACED G.K. CK'D J.S.S.
SECTION A-A
℄ Spur Dike
Top Elev. 507.3
Sod Back Face and Top of Dike
Riprap Front Face and End of Dike
Present Ground Line
(Elev. 490.0 Approx.)
3:1
Base Line for Spur Dike Location Sta. 372+00
ORIGIN
Toe of Slope
Toe Slope
3:1 Slope
Shoulder Line
℄ Spur Dike
6'-0" Top Width
Front Edge of Proposed Berm
Hatched Area Indicates Riprap
HATCHED AREA INDICATES 3537 TONS OF REVETMENT RIPRAP
R/W
+50 375'
+50 140'
+00 375'
+00 140'
140' R/W
375' R/W
"A"
PROPOSED STRUCTURE
LINE "G"
BRG. N. 73°21'45" E.
PRESENT STRUCTURE (To be Removed)
℄ & R/W
App. ℄
TEMP. R/W
TEMP. R/W FOR CHANNEL CLEARING
Face Cut to be Riprapped
Top Cut
Bottom Cut
3:1 Slope
CLEAR CHANNEL TO ELEV. 490
HATCHED AREA INDICATES 970 TONS OF REVETMENT RIPRAP
371+50 625'
+ ℄ 625'
P.L.
Edge Water
372
371
370
369
368
367



Rev. 12-27-76 Pier #4 Footing

REV. 1-20-78 R.L., Property Owner.

REV. 10-25-96, R/W, CHANGE CITY OF COVINGTON EASEMENT LIMITS, LINE "G"



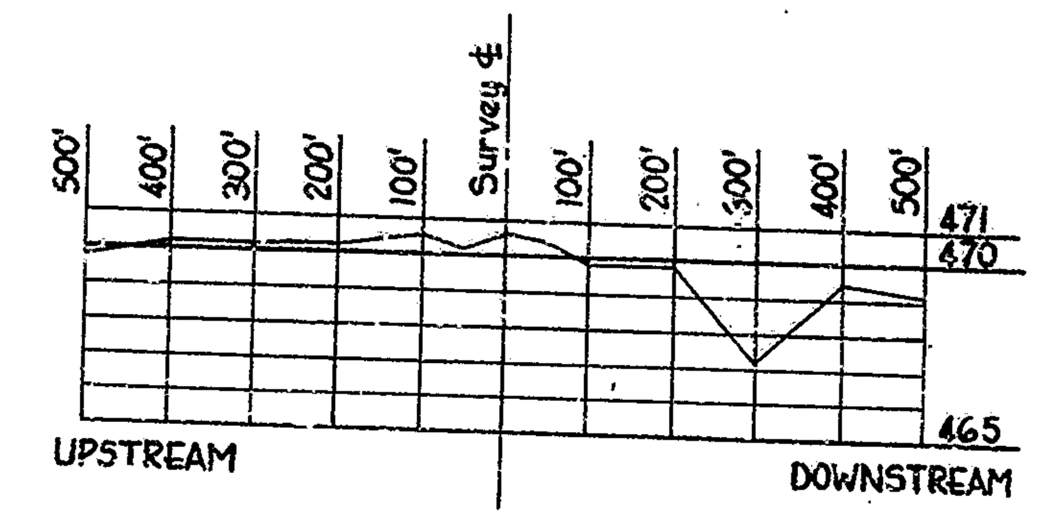
UTILITY OWNERS

Public Service Co. of Ind.
1000 E. Main St.
Plainfield, Indiana

Ind. Bell Telephone Co., Inc.
240 N. Meridian St.
Indianapolis, Ind.

Sewer & Water Lines owned by
City of Covington
c/o Covington City Bldg.

Gas Lines owned by
Indiana Gas Co. Inc.
1630 N. Meridian St.
Indianapolis, Ind.



STREAM PROFILE
SCALE: HORIZ 1"=200', VERT. 1"=5'

NOTE: See Road Plans for References

EARTHWORK BALANCE

	WEST APPROACH	EAST APPROACH
FILL + 20%	203,626 Cys	131,160 Cys
SURPLUS EXCAVATION	418 Cys	5,804 Cys
COMMON EXCAVATION	14,058 Cys	3,371 Cys
SPECIAL BORROW	88,550 Cys	121,958 Cys

LAYOUT
PRECAST SEGMENTAL BOX GR. STR.

6-SPANS: 93'-6", 4@187'-0", 93'-6"
44'-0" CLEAR RDWY. 10° SKEW LT.
RELOCATED U.S.R. #136 OVER WABASH RIVER

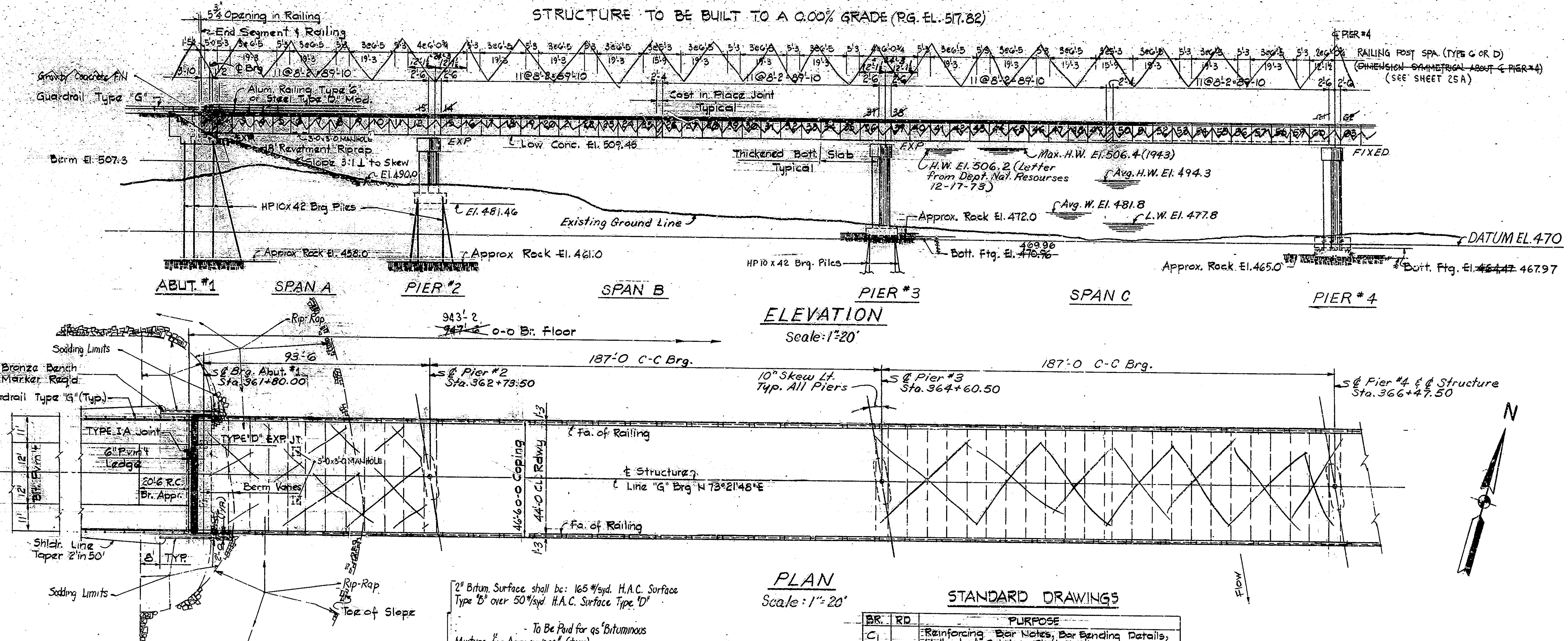
INDIANA STATE HIGHWAY COMMISSION

WARREN & FOUNTAIN COUNTY
SCALE: AS NOTED — JULY 24 1975
SUBMITTED FOR APPROVAL: John S. Spencer

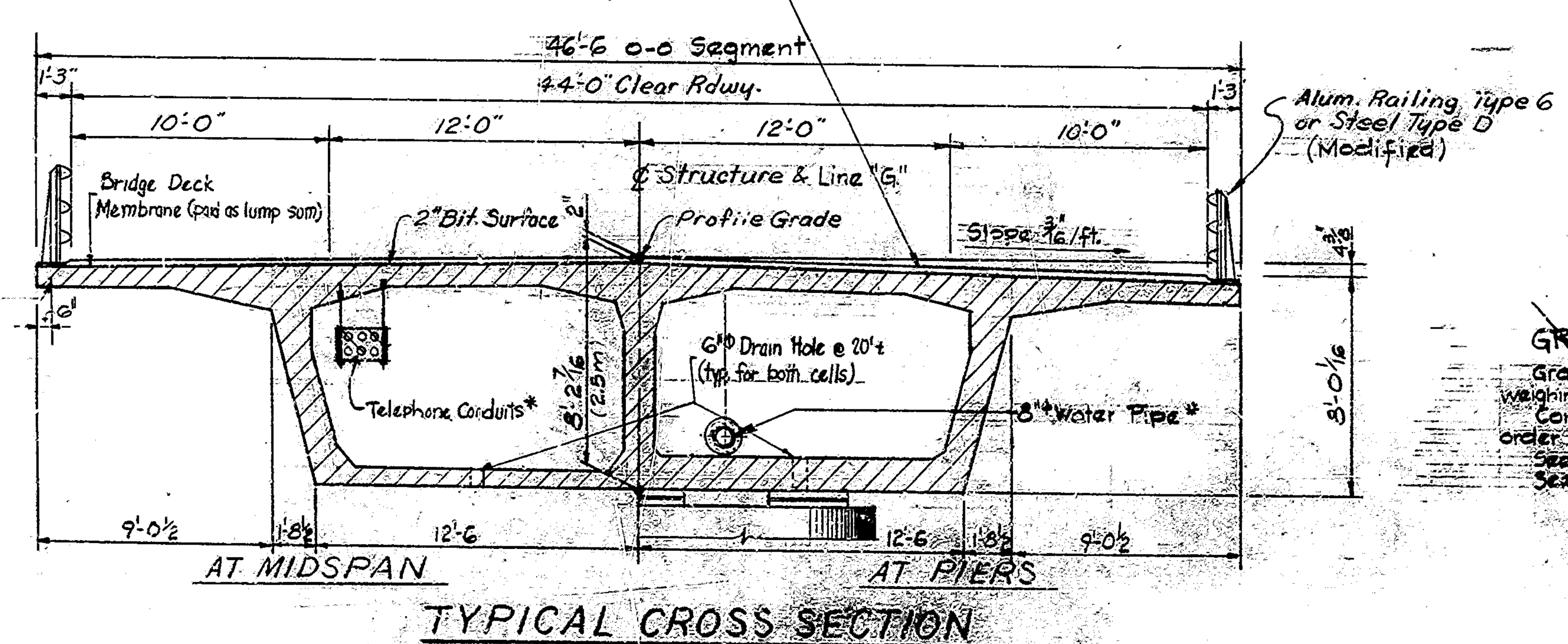
DRAWING: C2 OF 21 — SHEET 17 OF 105
PROJECT: BRF-94(12) — STATION: 366+67.50
BRIDGE CONTRACT NO. B-10024 STRUCTURE
BRIDGE FILE: 136-23-6088

DRAWN J.K. CKD. J.S.S.
DESIGNED CKD.
TRACED G.K. CKD. J.S.S.

STRUCTURE TO BE BUILT TO A 0.00% GRADE (P.G. EL. 517.82)



2" Bitum. Surface shall be: 165 #/syd. H.A.C. Surface Type "B" over 50 #/syd. H.A.C. Surface Type "D"
- To Be Paid for as "Bituminous Mixture for Approaches." (tons)



~~GRAVITY FILL DETAILS (Segments 1, 2, 121 & 122)~~
~~Gravity concrete is a 2,500 p.s.i. (28 day strength) concrete weighing 143 lbs per cu. ft. minimum (air entrainment not required). Concreting to be done slowly with little or no vibrating in order not to exceed assumed concrete hydrostatic pressure. See Erection Procedure (Drwg. C16) for time of placing gravity conc. See Drwg. C25 for Manhole Details.~~

* ~~The cost of installing these items shall be negotiated between the Contractor and the Utility and is not included in this contract.~~

STANDARD DRAWINGS

BR.	RD.	PURPOSE
C1		Reinforcing Bar Notes, Bar Bending Details, Method of Splicing Steel H Piles
C3		Constr. Jt. Type "A", Type I A formed or sawed joint
BR1		Aluminum Railing Type 6 Mod.
BR2		" " " Details
BR3		Steel Railing Type D Mod.
BR4		" " " " Details
S1		Placing "B" Borrow Behind Abutments

Rev. 5-10-77 To accomodate incremental superstructure launching.
Rev. 12-27-76 - Bott. Ftg. El. Pier #4
Rev. 11-2-76 - Bott. Ftg. El. Pier #3
Rev. 5-7-76 - 2" Bitum. Surface

GENERAL PLAN

PRECAST SEGMENTAL BOX GIRDER STRUCTURE
6 SPANS: 93'-6", 4 @ 187'-0", 93'-6"
44'-0" CLEAR ROADWAY PIERS SKEWED 10° LT. ABUT. SQUARE
RELOCATED U.S.R. #136 OVER WABASH RIVER

INDIANA STATE HIGHWAY COMMISSION

WARREN & FOUNTAIN COUNTY

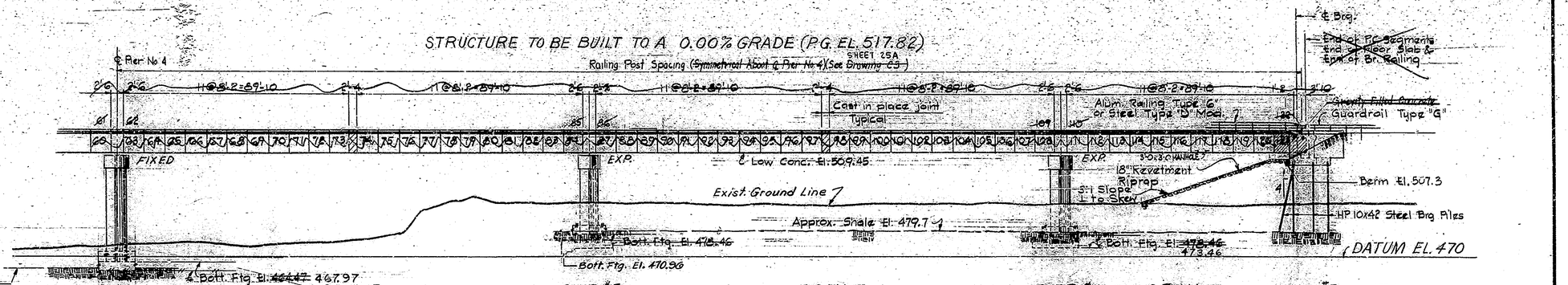
SCALE: AS NOTED DATE: JULY 24, 1975

SUBMITTED FOR APPROVAL: John L. Spencer

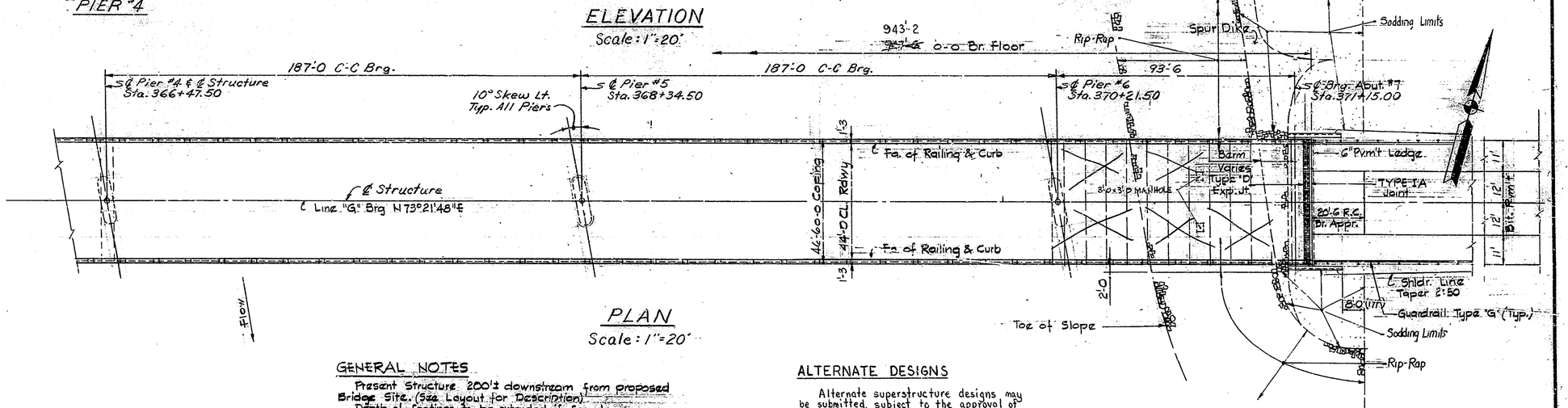
DRAWING: C3 OF 21 SHEET 18 OF 105
PROJECT: BRF-94 (12)
CONTRACT NO. B-10641
BRIDGE FILE: 136-23-6086

DESIGNED ___ CK'D ___
DRAWN WJS CK'D JSS
TRACED ___ CK'D ___

STRUCTURE TO BE BUILT TO A 0.00% GRADE (P.G. EL. 517.82)



ELEVATION
Scale: 1"=20'



PLAN
Scale: 1"=20'

GENERAL NOTES

Present Structure 200'± downstream from proposed Bridge Site. (See Layout for Description)

Depth of footings to be extended if found necessary See Art. 206.11(c) Specifications

Footings shall extend a minimum of 6" into solid rock. or 1'-0 into into hard shale. (Except Pier No. 2)

Reinforcing steel not to be ordered until rock or shale is uncovered.

Piles shall be driven to approximate refusal (@Abut's & Pier No. 2)

Reinforcing steel covering shall be 3" in footings except bottom steel which shall be 4", and 2" all other parts, unless noted otherwise.

Concrete in footings and Pier Stems to be class 'B'.

Concrete in pier caps, abutment stem and wingwalls to be class 'A'.

~~Concrete in cast in place splice & superstructure to be Special Class 'C'.~~

Continuous concrete pours shall be required between construction joints as shown on detail plans.

Waterproof abutments and wingwalls in accordance with Art. 702.22 of the Specifications.

Bevel forms 4" under copings, and chamfer exposed edges 1" unless noted.

Construct revetment riprap at locations shown on Layout and Channel Clearing Sheets.

Tolerance in position of pile head, maximum 2 inches.

All railing posts to be constructed perpendicular to grade.

Only the exposed top of pier caps, abutment caps, front face of abutment stem and outside face of seawalls No 1 & 122 to be sealed in accordance with Art. 702.20 of the specifications.

See Special Provisions for Items included in this Contract.

ALTERNATE DESIGNS

Alternate superstructure designs may be submitted, subject to the approval of the Engineer, to facilitate fabrication, transportation and erection.

No deviation from the segment cross section as detailed in these plans will be permitted.

Rev. 5-10-77 To accomodate incremental superstructure launching.
Revised. 2-3-76 - Alternate designs
~~Rev. 3-26-76 Alternate Designs~~
Rev.: 12-10-76 ~ Pier # 6 Footing Elev.
Rev.: 12-27-76 ~ Pier # 4 and # 5 Footing Elev.

DESIGN DATA

Designed for HS 20-44 loading in accordance with 1973 A.A.S.H.T.O. Specifications.

GENERAL PLAN

PRECAST SEGMENTAL BOX GIRDER STRUCTURE
6 SPANS: 93'-6", 4 @ 187'-0", 93'-6"
44'-0" CLEAR ROADWAY PIERS SKEWED 10° LT. ABUT. SQUARE
RELOCATED U.S.R. 136 OVER WABASH RIVER

INDIANA STATE HIGHWAY COMMISSION

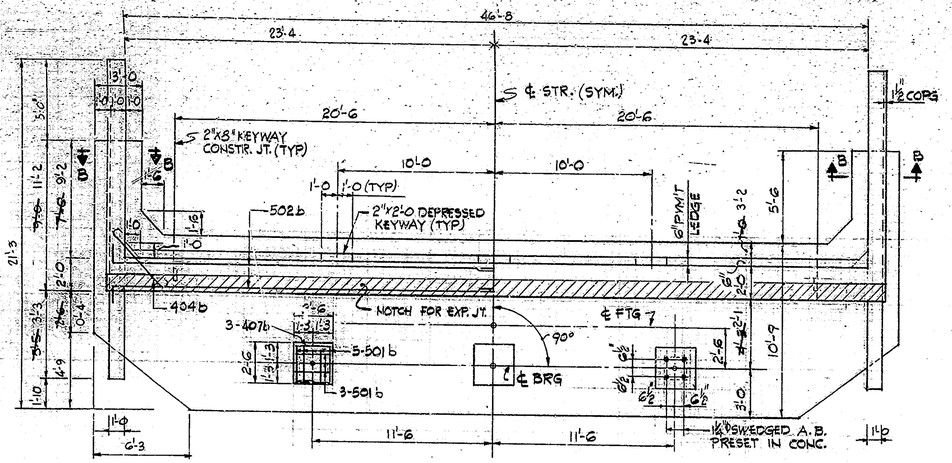
SCALE:- AS NOTED DATE:- JULY 24, 1975

SUBMITTED FOR APPROVAL:- John L. Spencer

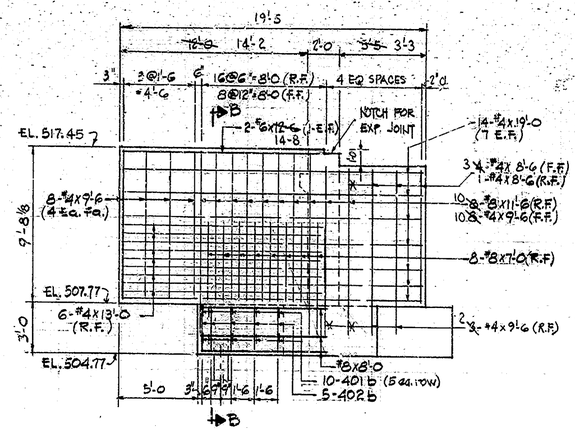
DRAWING:- C4 OF SHEET 19 OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

JOHN L. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

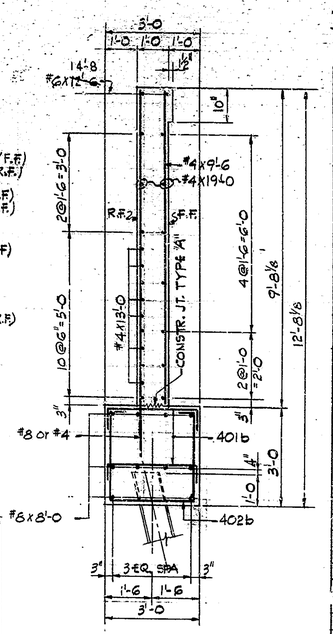
DESIGNED		C'K'D	
DRAWN	WJS	C'K'D	J.S.S.
TRACED		C'K'D	



Note : See Sheet 20A for additional reinf. in pedestals and abutment #1 footing.



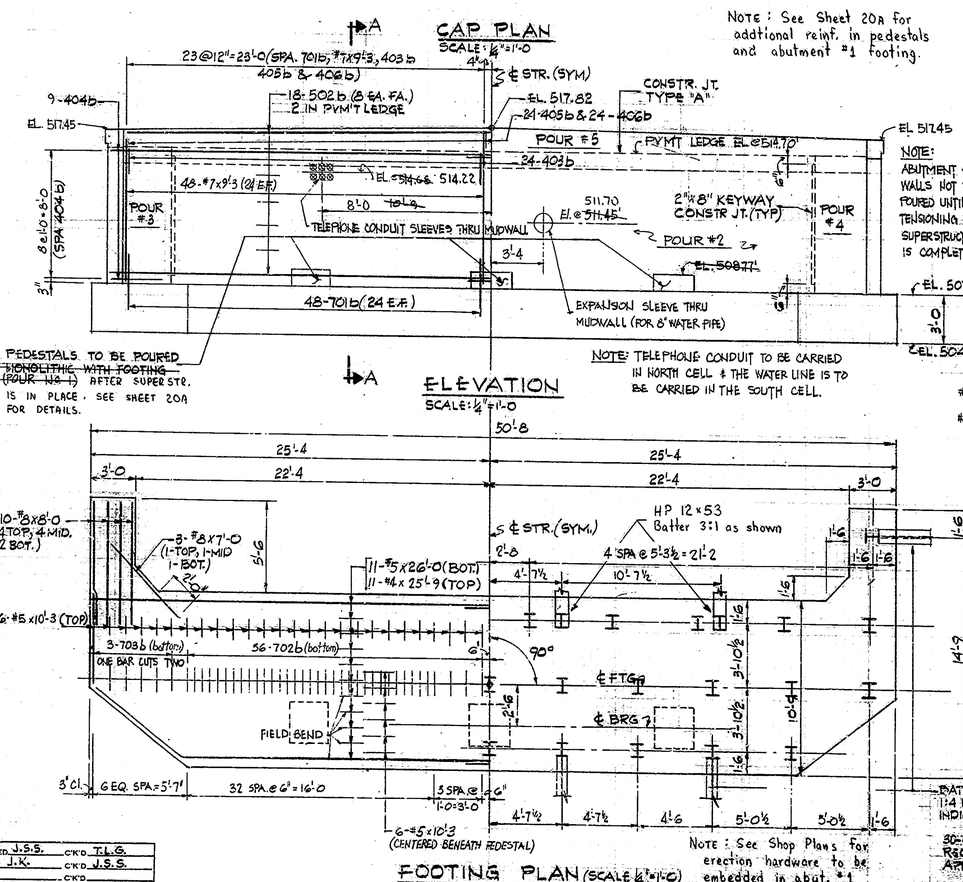
TYP. WING ELEVATION (SCALE: ½"=1'-0)



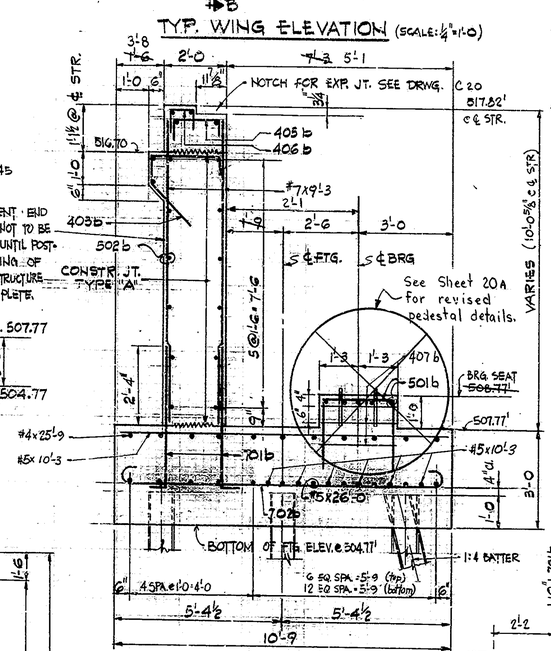
BILL OF MATERIALS ABUT. #1

ABUT. #7 SAME EXCEPT AS NOTED

REINFORCING STEEL			
MARK & SIZE	NO. OF BARS	LENGTH	WEIGHT (LBS)
#8	16, 20	11'-6	
#8	22	7'-0	
#8	20	8'-0	
TOTAL #8			1330
701b	96	11'-10	
702b	72	11'-11	
703b	6	18'-7	
#7	96	9'-3	
TOTAL #7			4745
#6	4	14'-8	72
TOTAL #6			72
501b	16	6'-7	
502b	36	25'-11	
#5	64	10'-3	
#5	22	26'-0	
TOTAL #5			2364
401b	20	3'-8	
402b	10	9'-0	
403b	48	5'-1	
404b	18	6'-0	
405b	48	2'-8	
406b	48	1'-8	
407b	6	9'-8	
#4	28	19'-0	
#4	36, 8	8'-6	
#4	38, 40	9'-6	
#4	12	13'-0	
#4	22	25'-9	
TOTAL #4			1668
TOTAL REINF. STEEL			10172
CONCRETE			
CLASS "A" IN SUBSTR:			
POUR #1 - 2@2 cys =			0.4 cys
#2			28.1 cys
#3			9.0 cys
#4			9.0 cys
#5			2.9 cys
TOTAL CLASS "A" IN SUBSTR.			49.4 cys
CLASS "B" IN FOOTING:			61.1
MISCELLANEOUS			
ABUT. #1			
30-HP10x42 BRG. PILES			
x 48'-0 (APPROX) =			1440 LFT
ABUT #7			
30-HP10x42 BRG PILES			
x 27'-0 (APPROX) =			810 LFT



Note : See Sheet 20A for revised pedestal details.



Note : See Shop Plans for erection hardware to be embedded in abut. #1.

NOTE:
FOR "REINF BAR NOTES" SEE BR. STD. C1.
FOR TYPE 'A' CONSTRUCTION JOINT - SEE BR STD C5.

Rev. 3-30-77 Abut. wall location, pedestals, notes, add'l. piles, utility opening locations, wing details. There will be no payment for additional labor or materials req'd. by these revisions.

ABUTMENT #1 & #7 - DETAILS & BILL OF MATERIALS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

DATE:- JULY 24, 1975

SUBMITTED FOR APPROVAL:- John D. Spencer

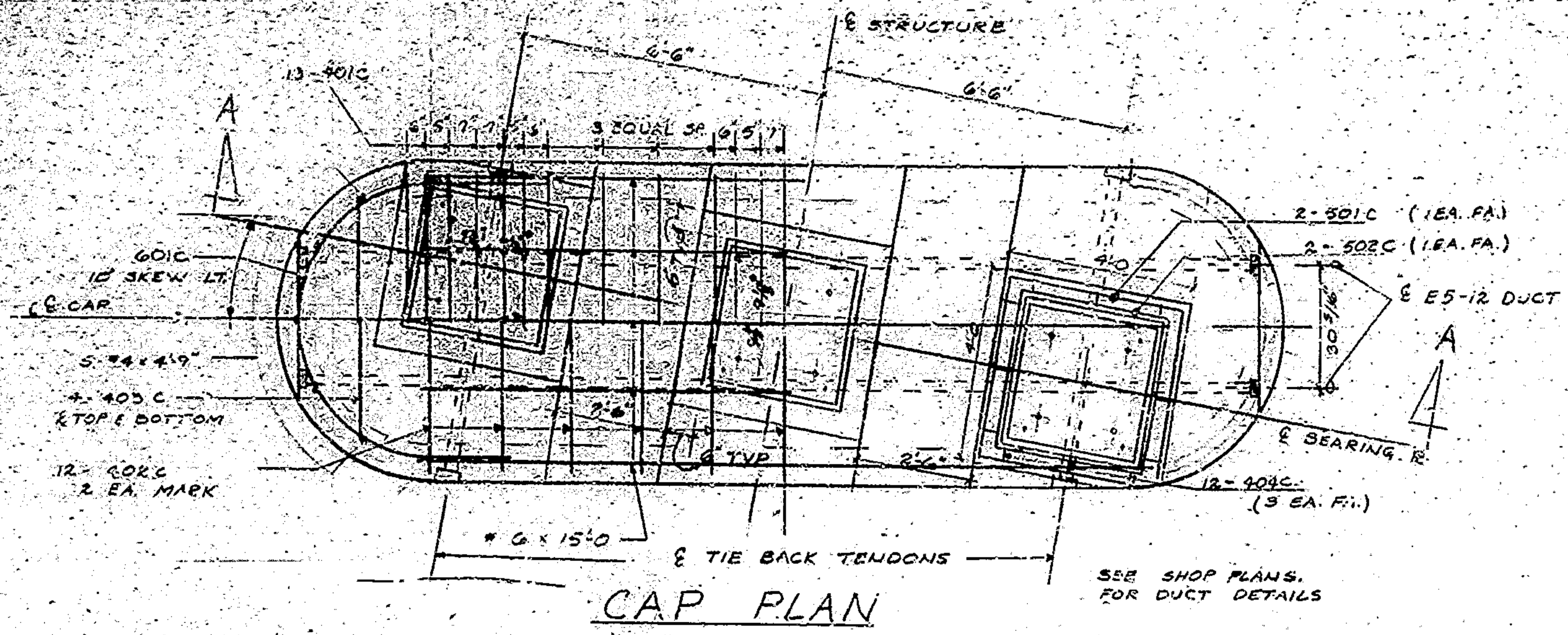
DRAWING:- C5 OF 21 SHEET 20 OF 105

PROJECT:- BRF-94(12)

CONTRACT NO. B-10641

BRIDGE FILE:- 13C-23-6086

DESIGNED J.S.S. CK'D T.L.G.
DRAWN J.K. CK'D J.S.S.
TRACED CK'D



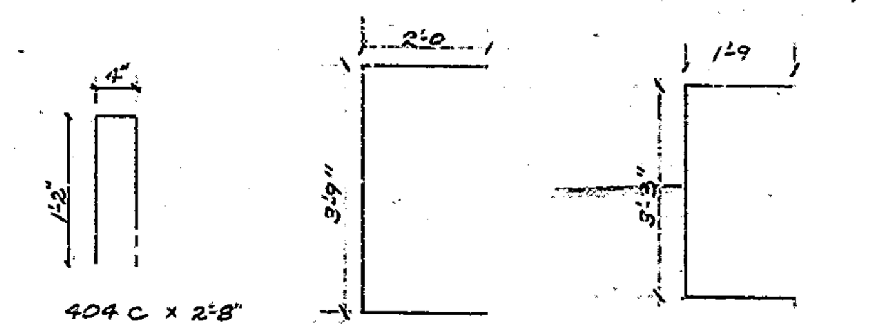
CAP PLAN

3/16" = 1'-0"

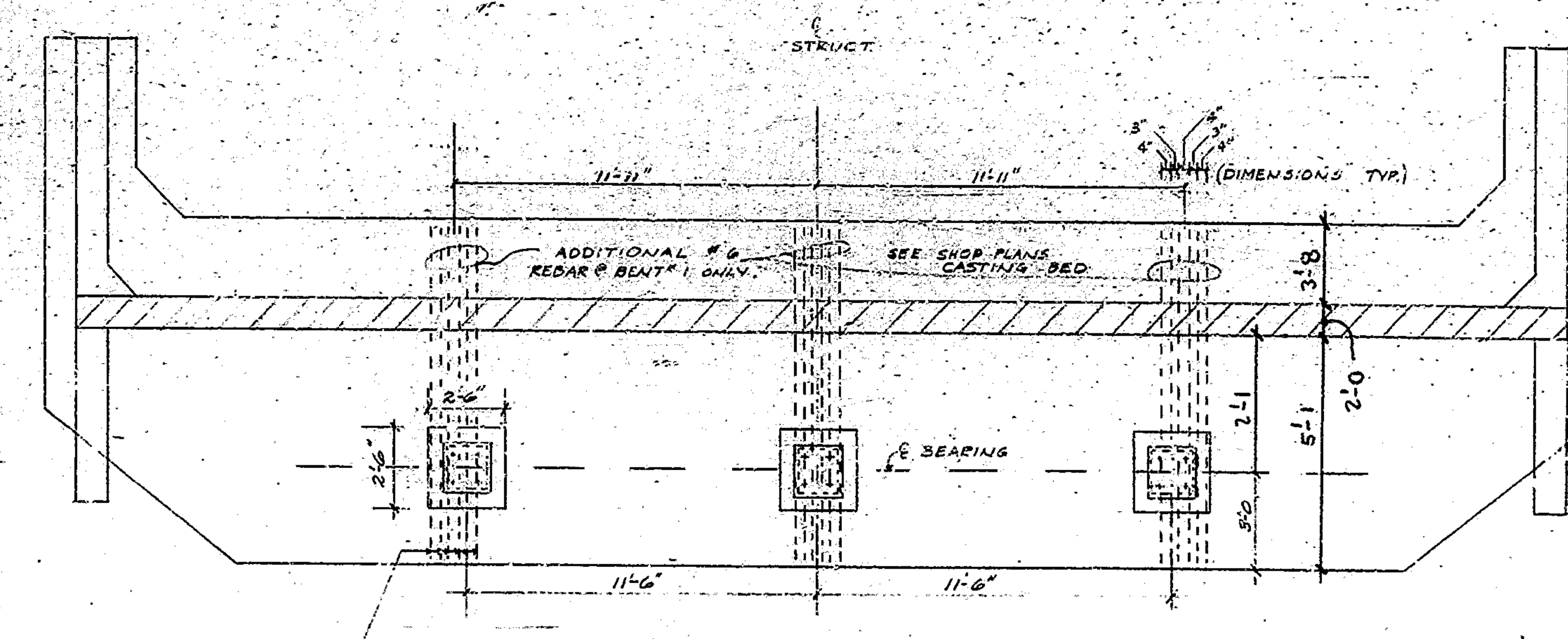
NOTE: BAR DESIGNATIONS SHOWN ARE FOR PIER 2. OTHERS SIMILAR. SEE SHTS. R1-R4 FOR DETAILS & BILLS OF MATERIALS NOT SHOWN HERE.

REINFORCING STEEL IN CAP			
MARK OR SIZE	Nº OF BARS	LENGTH IN FT.	WEIGHT LBS
601C	8	15'-?	163
#6	19	18'-0	293
* #6	4	3'-6"	47
#6 TOTAL IN CAP			503
* 501C	6	7'-9"	48
* 502C	6	6'-9"	42
#5 TOTAL IN CAP			90
401C	25	7'-2"	120
402C	22	14'-10"	218
403C	8	3'-10"	20
#4	10	4'-9"	32
* 404C	36	2'-8"	64
#4 TOTAL IN CAP			454
TOTAL STEEL IN CAP			1047 LBS
CLASS "A" CONC. IN CAP			23.1 C.Y.

* DENOTES ADDED TO ORIGINAL QUANTITY



404 C × 2'-8" 501C × 7'-9" 502 C × 6'-9"



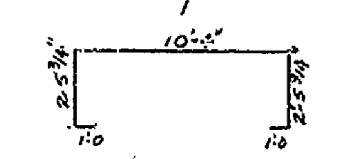
FOOTING PLAN

1/4" = 1'-0"

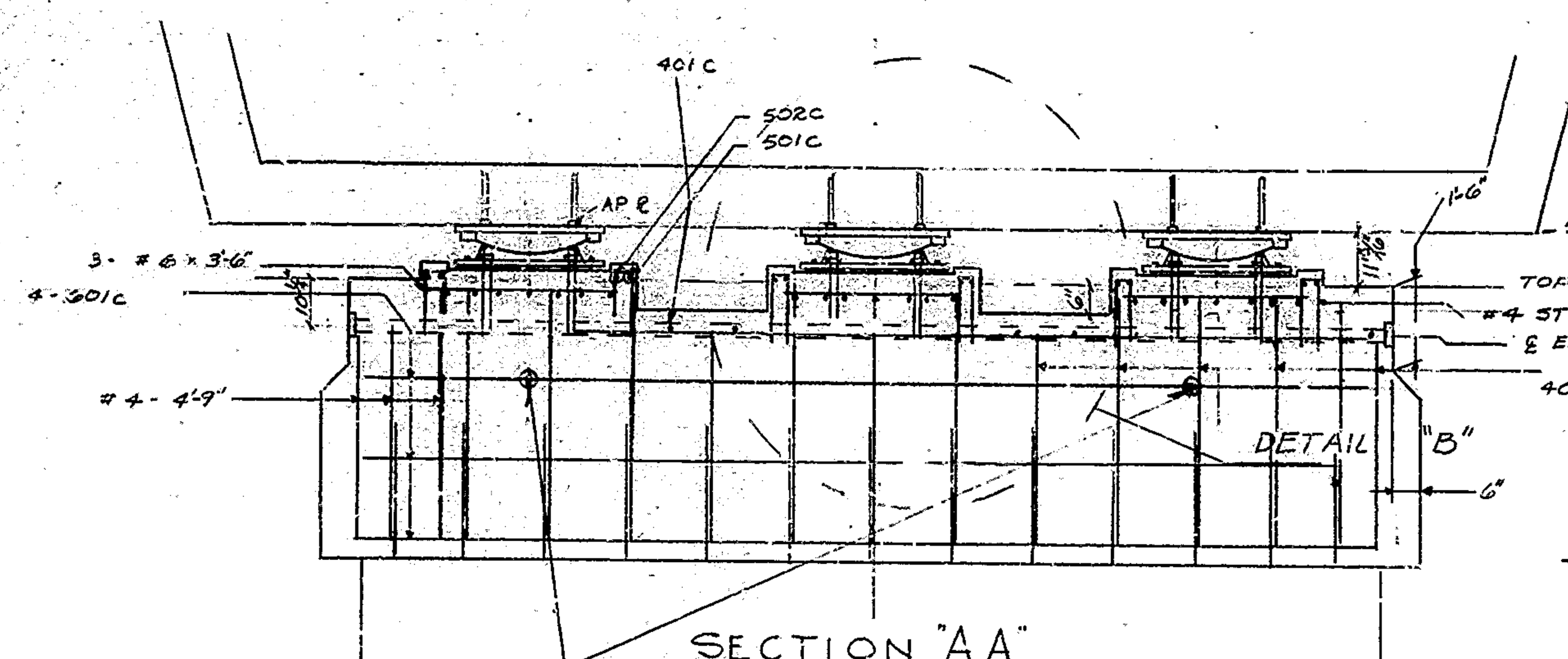
ABUTMENTS 1 & 7

NOTE: THERE WILL BE NO PAYMENT FOR ADDITIONAL LABOR & MATERIALS REQUIRED TO CONSTRUCT PIER CAPS AND PEDESTALS SHOWN ON THIS SHEET.

See shop plans for location of PT ducts and erection hardware in Abut. #1 Footing.

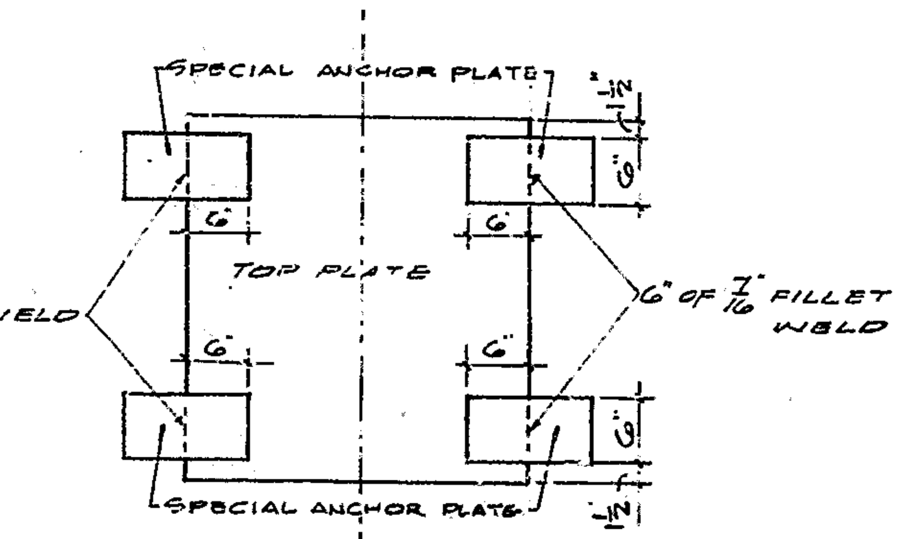


#6 STIRRUP 6 @ EACH PEDESTAL (18 REQ'D)



SECTION "AA"

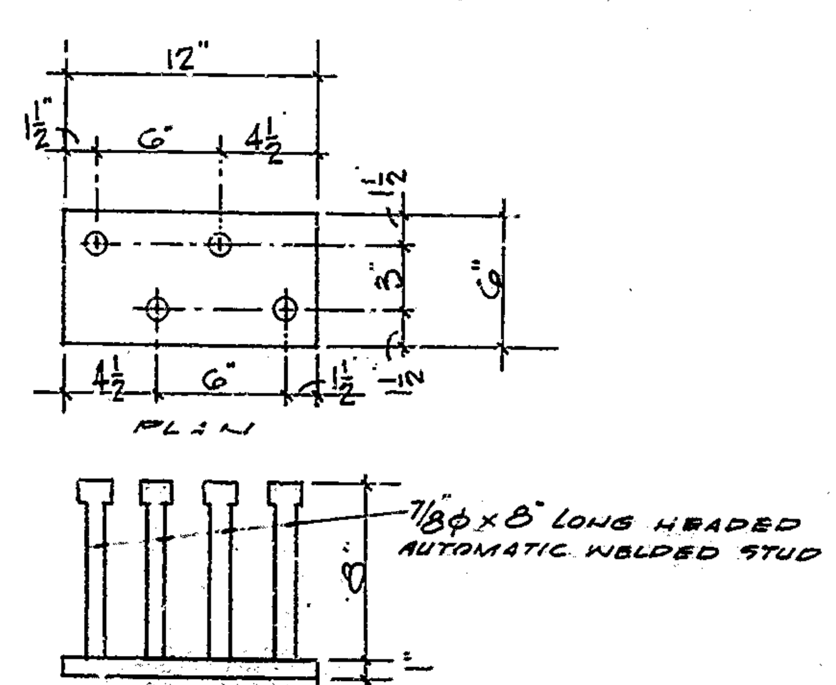
3/16" = 1'-0"



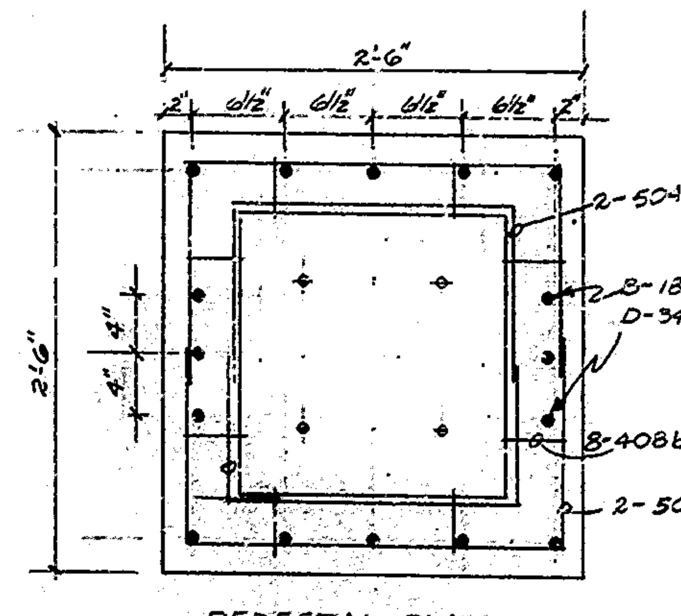
PLAN OF SPECIAL ANCHOR PLATE LOCATION @ PIER CAPS

PROCEDURE:

1. POUR BEARING CONCRETE WITH PIER CAP EXCEPT AT BENT Nº 1 & 7 (SEE NOTE).
2. INSTALL AP P. AS SEGMENTS ARE CAST.
3. SET PERMANENT BEARING IN PLACE WITHOUT GROUT BEFORE SEGMENTS ARE MOVED INTO POSITION.
4. AFTER SEGMENTS ARE IN PLACE, POSITION BEARING ASSEMBLY IN PLACE UNDER SEGMENT BY LEVELING SET SCREWS.
5. ALIGN AND WELD TOP PLATE OF ASSEMBLY TO AP P's.
6. ALIGN BOTTOM LEVELING PLATE OF ASSEMBLY.
7. POUR LOAD BEARING EPOXY GROUT UNDER BOTTOM P.

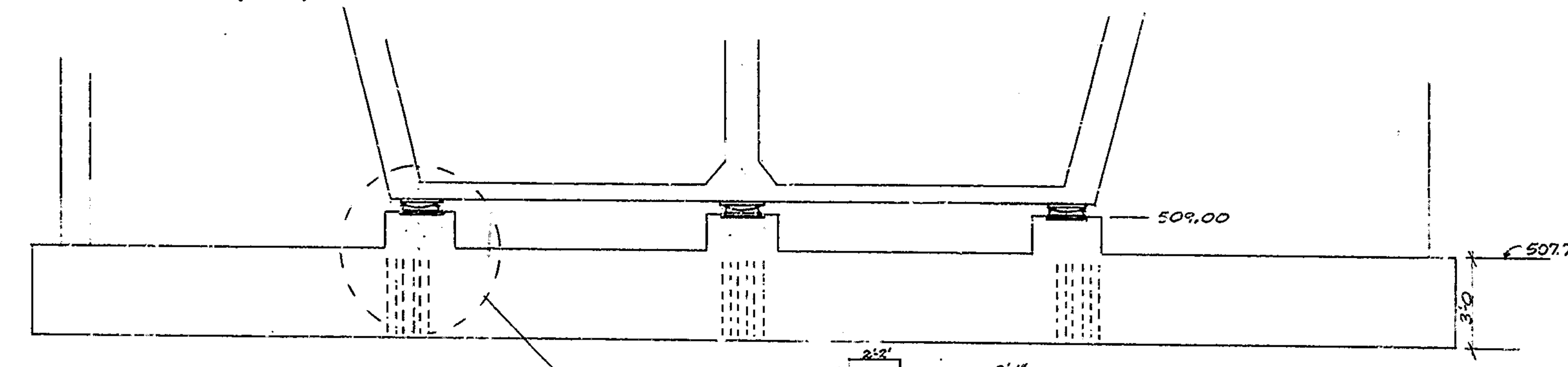


SPECIAL ANCHOR PLATE (60 REQ'D)



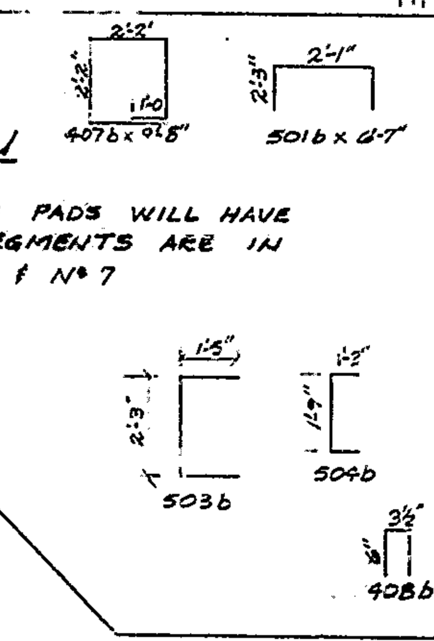
PEDESTAL PLAN

1" = 1'-0"



ELEVATION

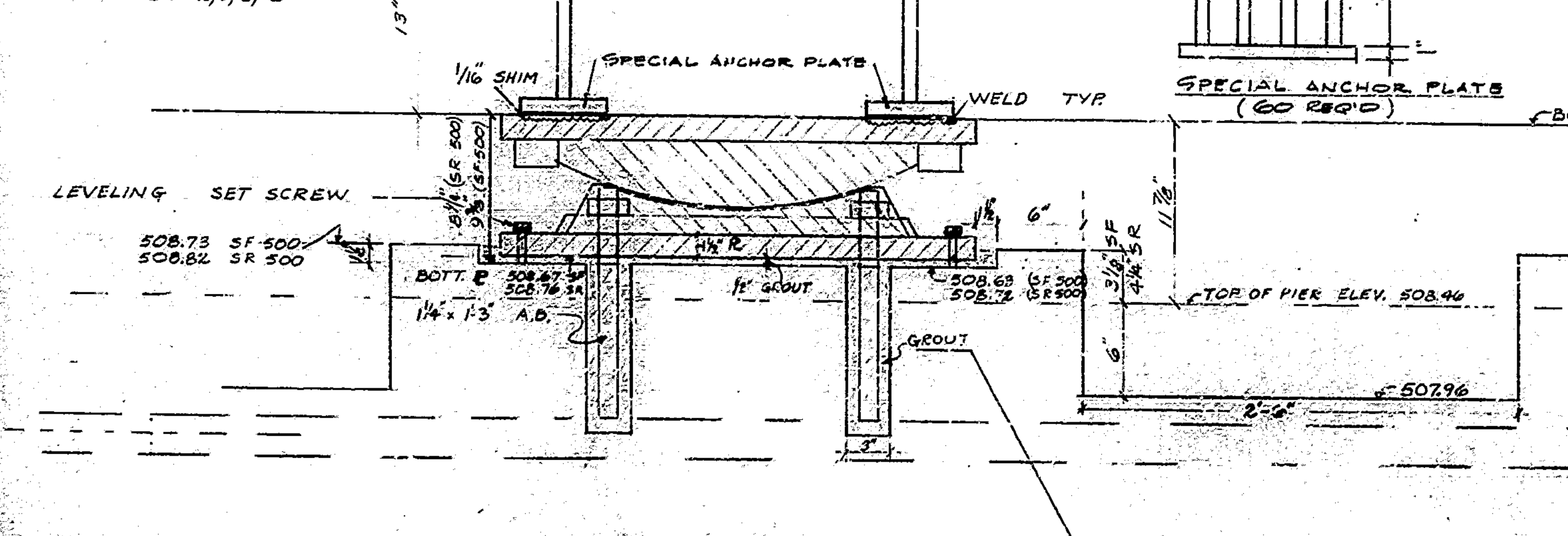
NOTE: BEARING SUPPORTS AND BEARING PADS WILL HAVE TO BE INSTALLED AFTER SEGMENTS ARE IN PLACE AT ABUTMENT Nº 1 & Nº 7



REINFORCING STEEL IN PEDESTAL			
MARK OR SIZE	Nº OF BARS	LENGTH IN FT.	WEIGHT LBS
501b	8	6'-7"	55
* 503b	2	5'-1"	11
* 504b	2	4'-1"	9
* 408b	8	1'-3½"	7
407b	3	9'-8"	19
TOTAL REBAR IN PEDESTAL			101 LBS
CONC. IN PEDESTAL			0.3 C.Y.
D-34 CRIMPED ANCHORS (1'-4 long)			16 EA.
B-18 INSERTS IN PEDESTAL			16 EA.
6 PEDESTALS REQUIRED			

* DENOTES ADDED TO ORIGINAL QUANTITY

NOTE: SR 500 PIER 4, SF 500 PIER 2, 3, 5, 6



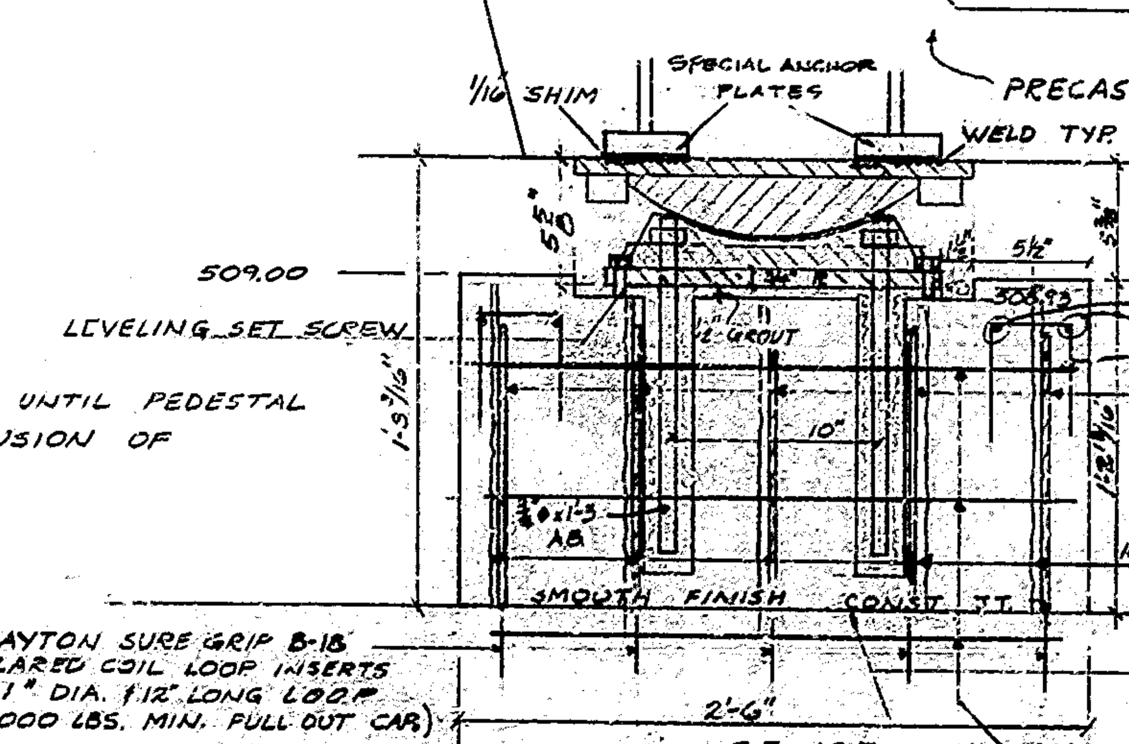
DETAIL "B"

1½" = 1'-0"

SR 500 & SF 500

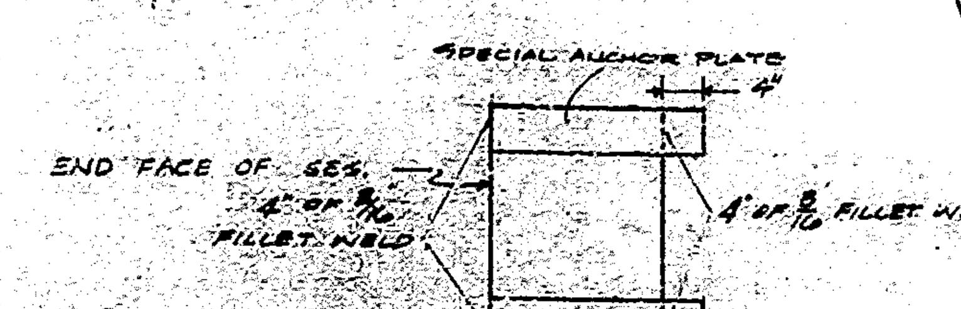
NOTE: GROUT IS SIKADUR HI-MOD LV AS MFD BY SIKA CHEMICAL / LYNDHURST, N.J.

NOTE: INSERTS TO BE CAPPED UNTIL PEDESTAL IS POURED, TO PREVENT INTRUSION OF FOREIGN MATERIAL.

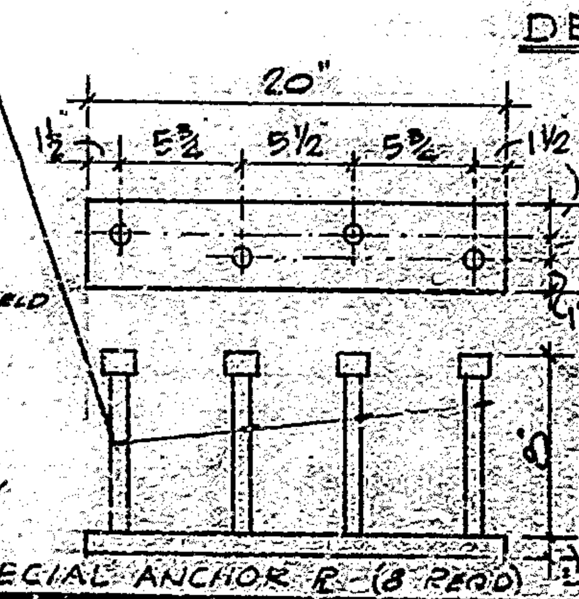


DETAIL "C"

1½" = 1'-0"



PLAN OF SPECIAL ANCHOR PLATE LOCATION @ ABUTMENT BEARINGS



SPECIAL ANCHOR P. (8 REQ'D)

NOTE: SEE BR. STD. G FOR REINF. BAR NOTES.

REVISED PIER CAP AND ABUTMENT DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: MARCH 30, 1977

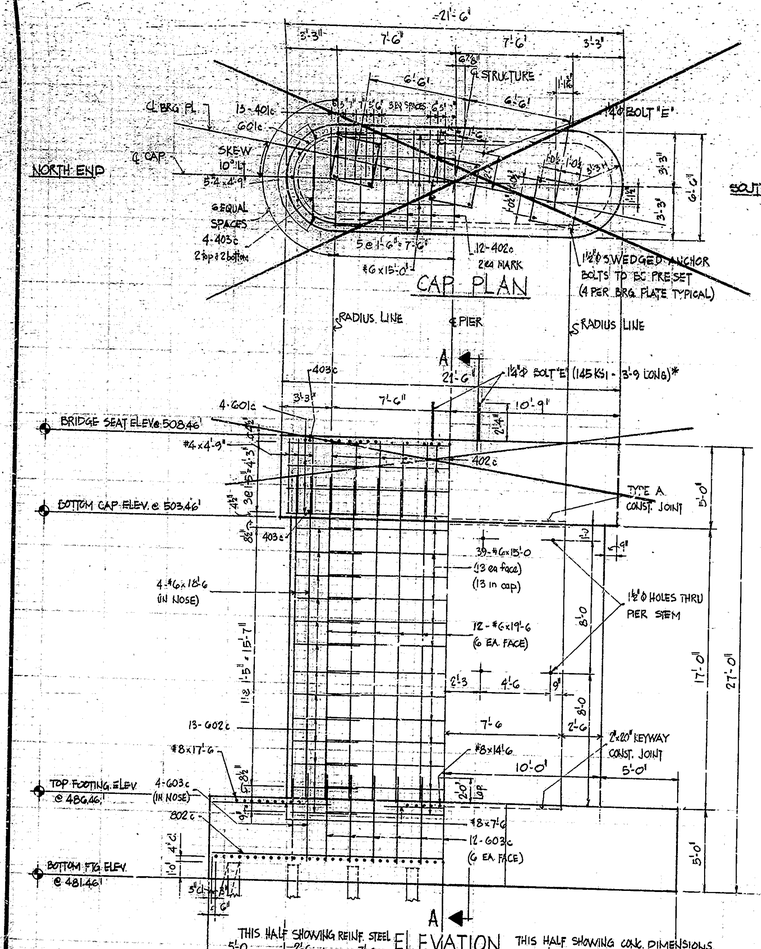
RECOMMENDED FOR APPROVAL

DRAWING C5A OF 21 SHEET 20A OF 105

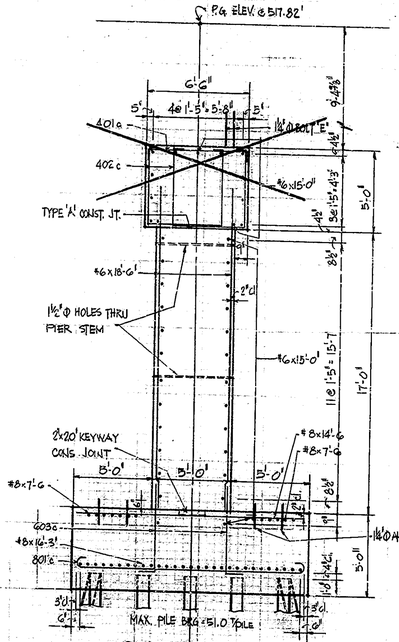
PROJECT BKF-94(12)

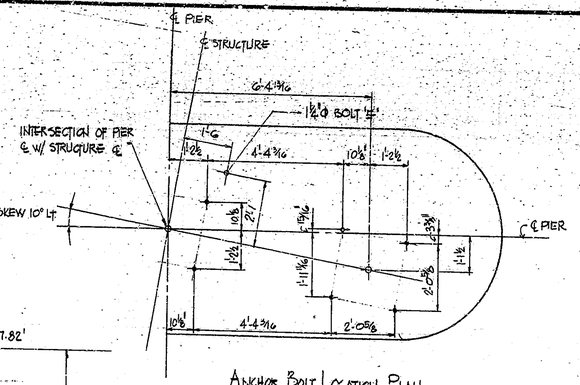
CONTRACT NO. B-10641

RICHARD A. DOKKEN REGISTERED No. 16575 STATE OF INDIANA PROFESSIONAL

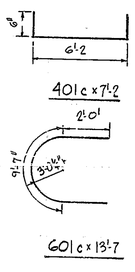


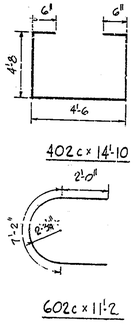
Note : Pier Cap details voided.
See sheet 20A for revised details.

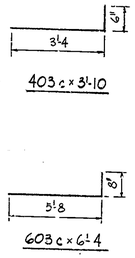




ANCHOR BOLT LOCATION PLAN
SCALE: ½"=1'-0"







Bill of Materials

REINFORCING STEEL			
MARK or SIZE	NO. of BARS	LENGTH (FT)	WEIGHT (lbs)
801c	17	16'-8	
802c	42	19'-8	
#8	20	17'-6	
#8	58	16'-3	
#8	10	14'-6	
#8	12	10'-6	
#8	42	7'-6	
TOTAL #8			7978
601c	8	13'-7	
602c	26	11'-2	
603c	30	6'-4	
#6	39	15'-0	
#6	30	18'-6	
TOTAL #6			2597
401c	25	7'-2	
402c	22	14'-10	
403c	8	3'-10	
#4	10	4'-9	
TOTAL #4			390
TOTAL STEEL			10965

CONCRETE
CLASS "B" CONCRETE IN FOOTING = 356 cys
CLASS "B" CONCRETE ABOVE FTG = 59.6 cys
CLASS "A" CONCRETE IN CAP = 24.2 cys

MISCELLANEOUS
46-HP 12x53 STEEL BEARING PILES @ 22' ea. = 1012 lin. ft.

NOTE :
FOR REINFORCING BAR NOTES - SEE BRIDGE STANDARD C1
FOR TYPE A CONSTRUCTION JOINT - SEE BRIDGE STANDARD C3
1½"Ø HOLES IN STEM TO BE GROUTED AFTER FRAME IS REMOVED.
* THE COST OF BOLTS "E" AND 1¼"Ø ANCHOR BOLTS IN FOOTING TO BE INCLUDED IN COST OF "ERECTION & POST-TENSIONING".

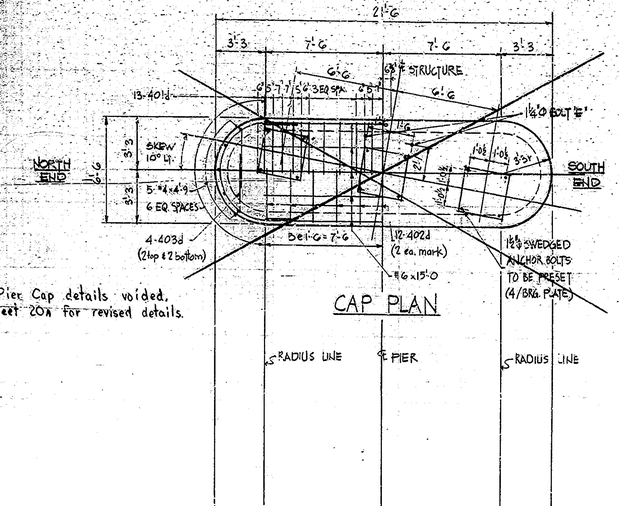
NOTE:
46-HP12x53 BEARING PILES REQ'D TO BE DRIVEN TO APPROX REFUSAL IN ROCK.

Rev. 3-30-77 Pier cap details voided.

PIER #2 - DETAILS AND BILL OF MATERIALS

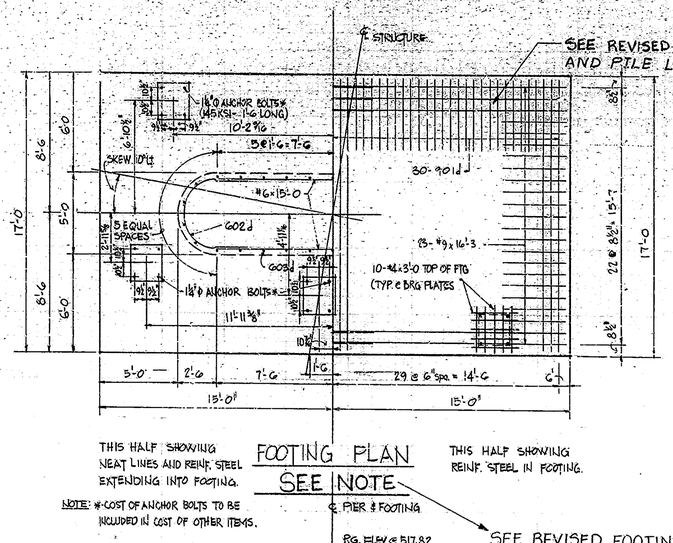
INDIANA STATE HIGHWAY COMMISSION

SCALE:- ¼": 1'-0", UNLESS NOTED
DATE:- JULY 24, 1975
SUBMITTED FOR APPROVAL:- John L. Spencer
DRAWING:- C6 OF 21
SHEET:- 21 OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 130-23-6086



Note: Pier Cap details voided. See Sheet 20A for revised details.

CAP PLAN



THIS HALF SHOWING NEAT LINES AND REINF. STEEL EXTENDING INTO FOOTING.

NOTE: *-COST OF ANCHOR BOLTS TO BE INCLUDED IN COST OF OTHER ITEMS.

FOOTING PLAN

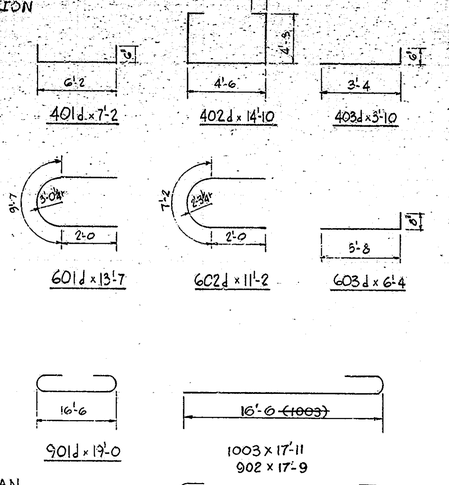
SEE NOTE

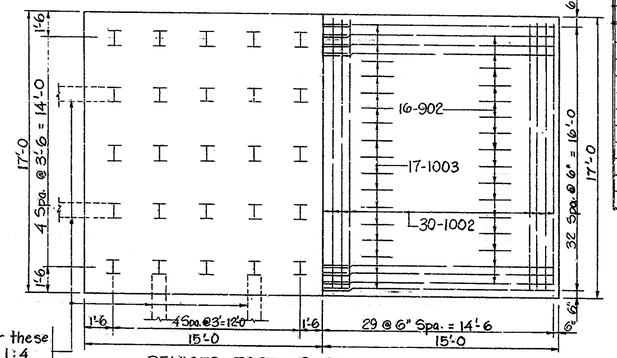
THIS HALF SHOWING REINF. STEEL IN FOOTING.

℄ PIER & FOOTING

RG. ELEV @ 517.82

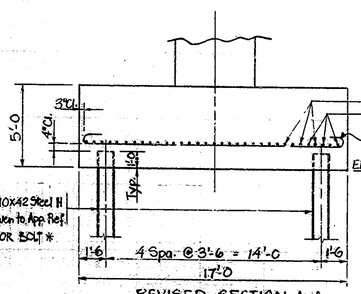
SEE REVISED FOOTING PLAN FOR REINF. STEEL, PILE SPA. AND NEW FOOTING THICKNESS.





REVISED FOOTING PLAN

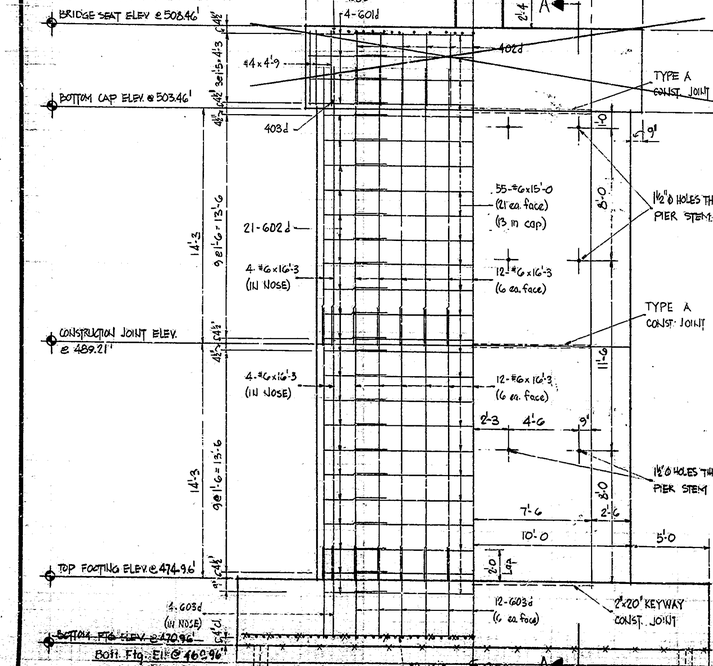
Batter these Piles 1:4 Typ. opp. side



REVISED SECTION A-A

NOTE:
FOR REINFORCING BAR NOTES - SEE BRIDGE STANDARD C1
FOR TYPE A CONSTRUCTION JOINT - SEE BRIDGE STANDARD C3
FOR ANCHOR BOLT LOCATION PLAN - SEE DRAWING C6.
1 1/2"ø HOLES IN STEM TO BE GROUTED AFTER FRAME IS REMOVED.
* THE COST OF BOLTS 'E' AND 1 1/4"ø ANCHOR BOLTS IN FOOTING TO BE INCLUDED IN COST OF 'ERECTION & POST-TENSIONING'

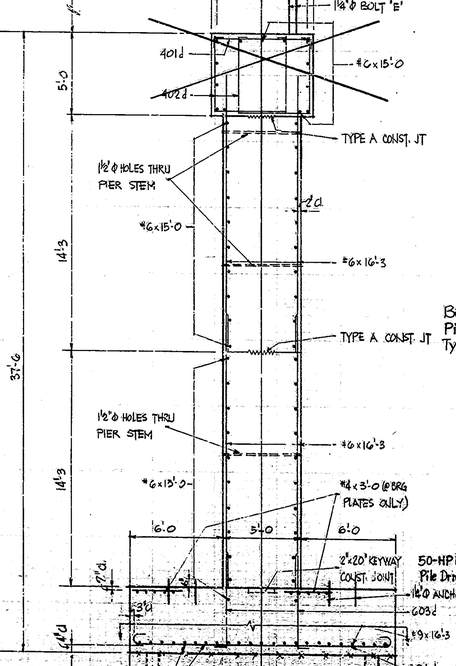
PIER # 3 - DETAILS AND BILL OF MATERIALS



THIS HALF SHOWING REINF. STEEL

ELEVATION

THIS HALF SHOWING CONC. DIMENSIONS



FOR REVISED FTG. SIZE, STEEL & PILING SEE REVISED SECTIONS

SECTION A-A

SEE REVISED SEC. A-A

Rev. 3-30-77 Pier Cap details voided.
Rev. 11-24-76: Footing and Bill of Materials.

BILL OF MATERIALS

REINFORCING STEEL			
MARK SIZE	NO. of BARS	LENGTH (ft)	WEIGHT (lbs)
902	32	17'-9	
~~901d~~	~~59~~	~~19'-0~~	
~~#9~~	~~46~~	~~16'-3~~	
			1931
TOTAL # 9			~~6393~~
601d	8	13'-7	
602d	42	11'-2	
603d	30	6'-4	
#6	55	15'-0	
#6	60	16'-3	
TOTAL # 6			3857
401d	25	7'-2	
402d	22	14'-10	
403d	8	3'-10	
#4	10	4'-9	
#4	60	3'-0	
TOTAL # 4			510
~~TOTAL STEEL~~			~~10729~~
CONCRETE			
			94.5
CLASS 'B' CONCRETE IN FOOTING =			~~75.6~~ cys
CLASS 'B' CONCRETE ABOVE FTG			
2 POURS @ 49.9 cys		=	99.8 cys
CLASS 'A' CONCRETE IN CAP		=	24.2 cys
REINFORCING STEEL			
1002	59	19'-4	
1003	34	17'-11	
TOTAL # 10			7529
TOTAL STEEL			13827
MISCELLANEOUS			
50-HP10x42 STEEL H PILES @ 13'		=	650 Lin. Ft.

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/4"=1'-0

DATE:- JULY 24, 1975

SUBMITTED FOR APPROVAL:- John D. Spencer

DRAWING:- 21 OF 21

SHEET:- 22 OF 105

PROJECT:- BRF-94(12)

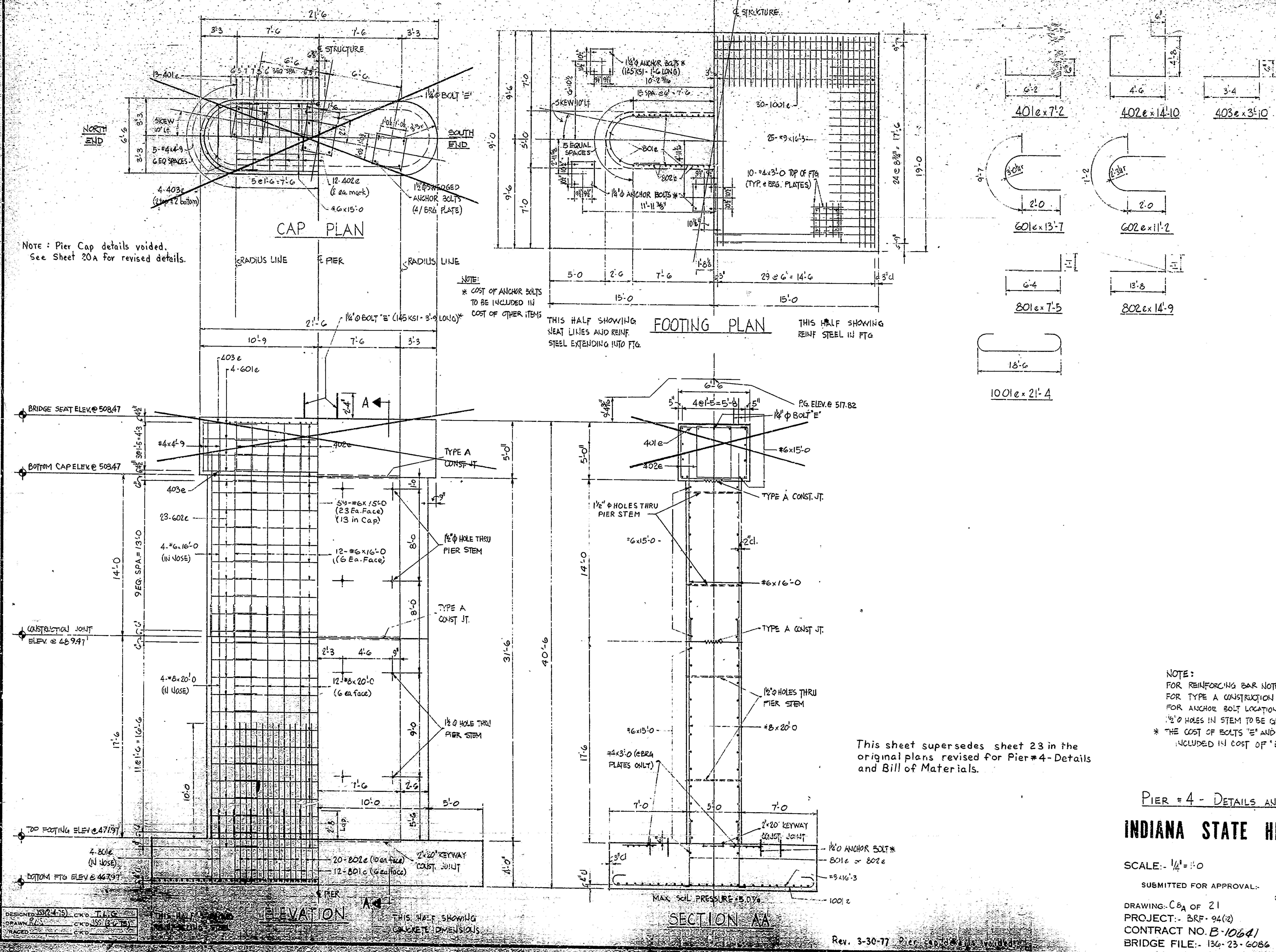
CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

DESIGNED JSS (3-19-76) CK'D JLG

DRAWN RGS CK'D JSS (3-26-76)

TRACED CK'D



Note: Pier Cap details voided. See Sheet 20A for revised details.

Bill of Materials

Reinforcing Steel			
Mark or Size	No. of Bars	Length (Ft)	Weight (lbs)
1001e	60	21'-4	
Total #10			5508
#9	50	16'-3	
Total #9			2763
801e	30	7'-5	
802e	40	14'-9	
#8	30	20'-0	
Total #8			3771
601e	8	13'-7	
602e	46	11'-2	
#6	59	15'-0	
#6	30	16'-0	
Total #6			2985
401e	25	7'-2	
402e	22	14'-10	
403e	8	3'-10	
#4	10	4'-9	
#4	60	3'-0	
Total #4			510
Total Steel			15537

Concrete	
Class 'B' concrete in footing =	84.4 cys
Class 'B' concrete above ftg.	
Below const. jt. =	61.3 cys.
Above const. jt.	49.1 cys.
Total Class "B" above ftg. =	110.4 cys.
Class "A" concrete in cap =	24.2 cys.

This sheet supersedes sheet 23 in the original plans revised for Pier #4 - Details and Bill of Materials.

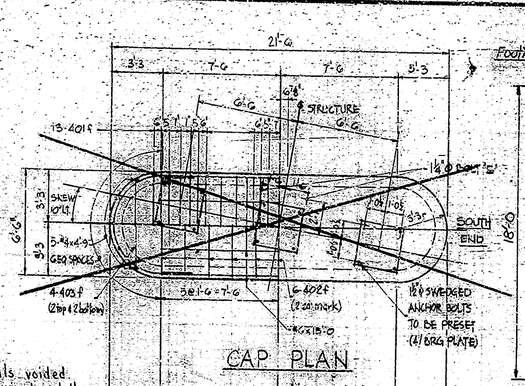
NOTE:
FOR REINFORCING BAR NOTES - SEE BRIDGE STANDARD C1
FOR TYPE A CONSTRUCTION JOINT - SEE BRIDGE STANDARD C3
FOR ANCHOR BOLT LOCATION PLAN - SEE DRAWING C6
1½"Φ HOLES IN STEM TO BE GROUTED AFTER FRAME IS REMOVED.
* THE COST OF BOLTS "E" AND 1¼"Φ ANCHOR BOLTS IN FOOTING TO BE INCLUDED IN COST OF "ERECTION & POST-TENSIONING."

Pier #4 - Details and Bill of Materials

INDIANA STATE HIGHWAY COMMISSION

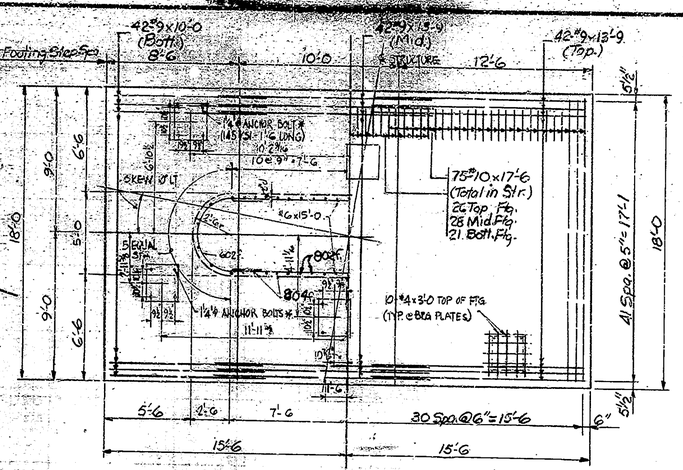
SCALE:- ¼" = 1'-0
DATE:- JULY 24, 1975
SUBMITTED FOR APPROVAL:- John S. Spencer
DRAWING:- C8A OF 21
SHEET:- 23A OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

Rev. 3-30-77 Pier cap details voided.



CAP PLAN

Note : Pier Cap details voided.
See Sheet 20A for revised details.



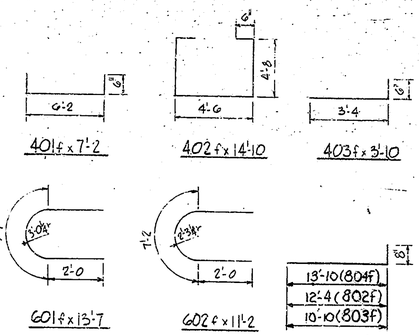
THIS HALF SHOWING NEAT LINES & REINF. STEEL EXTENDING INTO FOOTING

FOOTING PLAN

THIS HALF SHOWING REINF. STEEL IN FOOTING

AND BOTT. LONG. FOOTING BAR

NOTE: * COST OF ANCHOR BOLTS TO BE INCLUDED IN COST OF OTHER ITEMS.

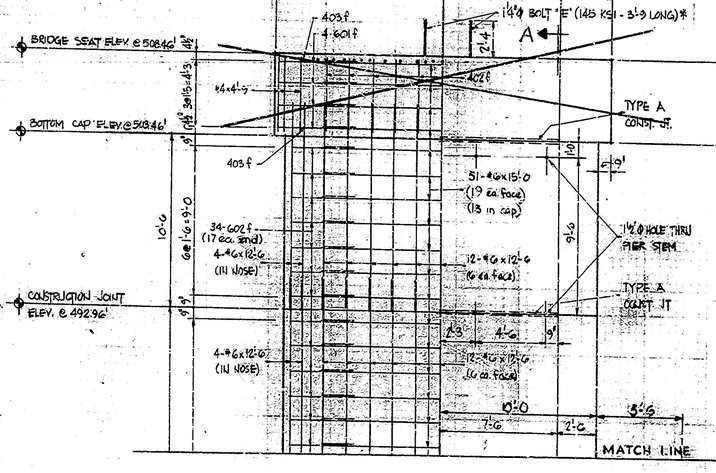


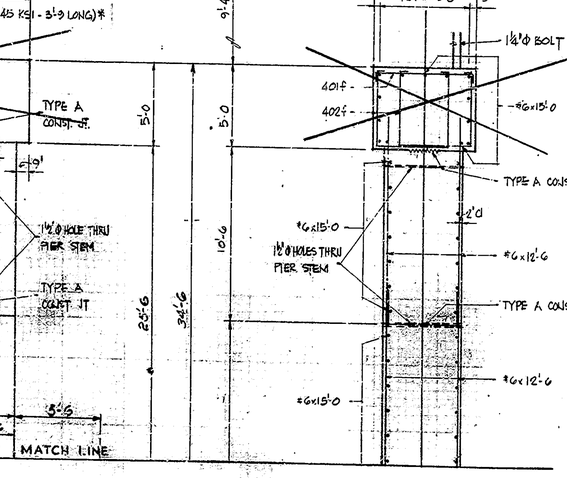
PIER #5

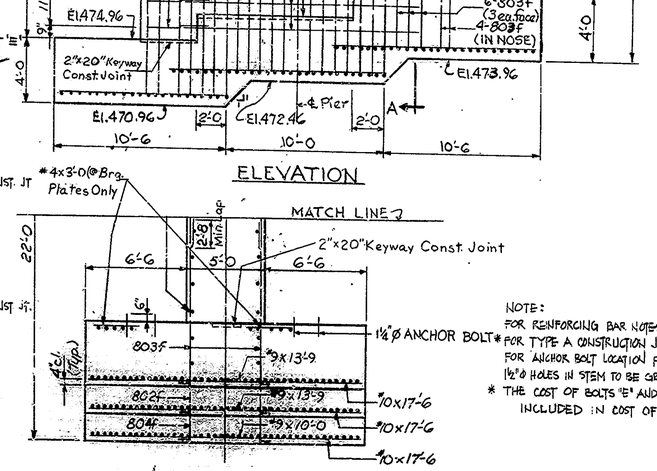
BILL OF MATERIALS

REINFORCING STEEL			
MARK SIZE	NO. OF BARS	LENGTH (ft)	WEIGHT (lb)
#10	75	17'-6	5648
#9	84	13'-9	
#9	42	10'-0	
Total #9			5355
804f	14	14'-6	
802f	26	13'-0	
803f	10	11'-6	
Total #8			1752
601f	8	13'-7	
602f	36	11'-2	
#6	51	15'-0	
#6	38	12'-6	
Total #6			2630
401f	25	7'-2	
402f	22	14'-10	
403f	8	3'-10	
#4	10	4'-9	
#4	60	3'-0	
Total #4			510
TOTAL STEEL			15895

CONCRETE	
Class "A" Conc. in Cap	= 24.2 Cu.Yds.
Class "B" Above Ftg., Below Constr. Jt.	= 58.8 Cu.Yds.
Above Constr. Jt.	= 36.8 Cu.Yds.
TOTAL	= 95.6 Cu.Yds.
Class "B" in Ftg.	= 88.8 Cu.Yds.







ELEVATION

SECTION A-A

NOTE:
FOR REINFORCING BAR NOTES - SEE BRIDGE STANDARD C1
FOR TYPE A CONSTRUCTION JOINT - SEE BRIDGE STANDARD C3
FOR ANCHOR BOLT LOCATION DIAG. - SEE DRAWING C6
1½ø HOLES IN STEM TO BE GROUTED AFTER FRAME REMOVED.
* THE COST OF BOLTS 'E' AND 1¼ø ANCHOR BOLTS IN FOOTING TO BE INCLUDED IN COST OF 'ERECTION & POST-TENSIONING'

NOTE:- This sheet supersedes sheet 24 in the Original plans revised for pier No. 5 Details & Bill of Materials.

Rev. 3-30-77 Pier cap details voided.

PIERS #5 - DETAILS AND BILL OF MATERIALS

INDIANA, STATE HIGHWAY COMMISSION

SCALE:- 1/4"=1'-0

DATE:- JULY 24, 1975

SUBMITTED FOR APPROVAL:- John D. Spencer

SHEET:- 24A OF 105

DRAWING:- C9A OF 21

PROJECT:- BRF-94(12)

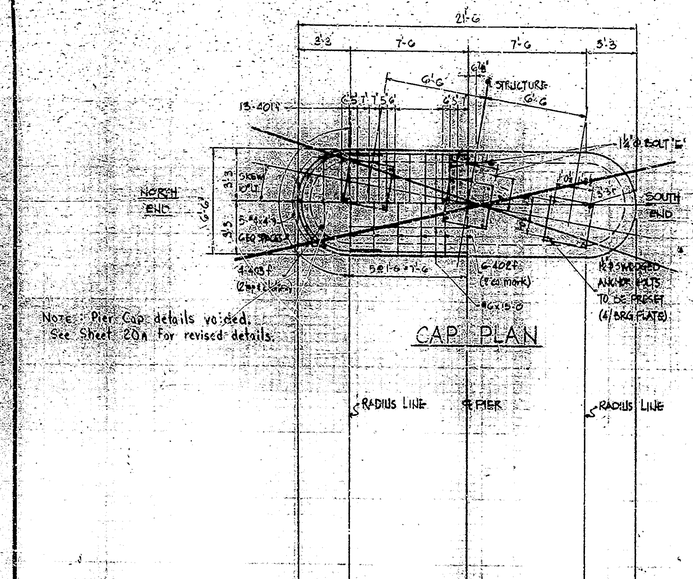
CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

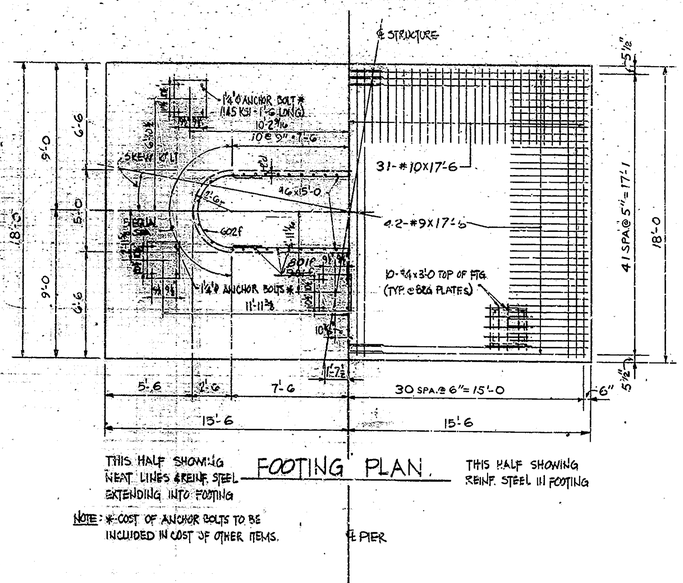
DESIGNED JSS (3-3-75) CK'D T.L.G.

DRAWN R.C.S. CK'D JSS (3-6-75)

TRACED CK'D



Note: Pier Cap details voided. See Sheet 20A for revised details.

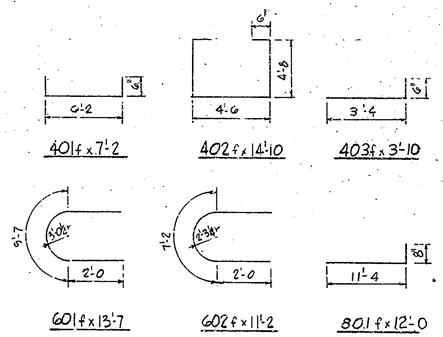


THIS HALF SHOWING NEAT LINES & REINF. STEEL EXTENDING INTO FOOTING

FOOTING PLAN.

THIS HALF SHOWING REINF. STEEL IN FOOTING

NOTE: * COST OF ANCHOR BOLTS TO BE INCLUDED IN COST OF OTHER ITEMS.

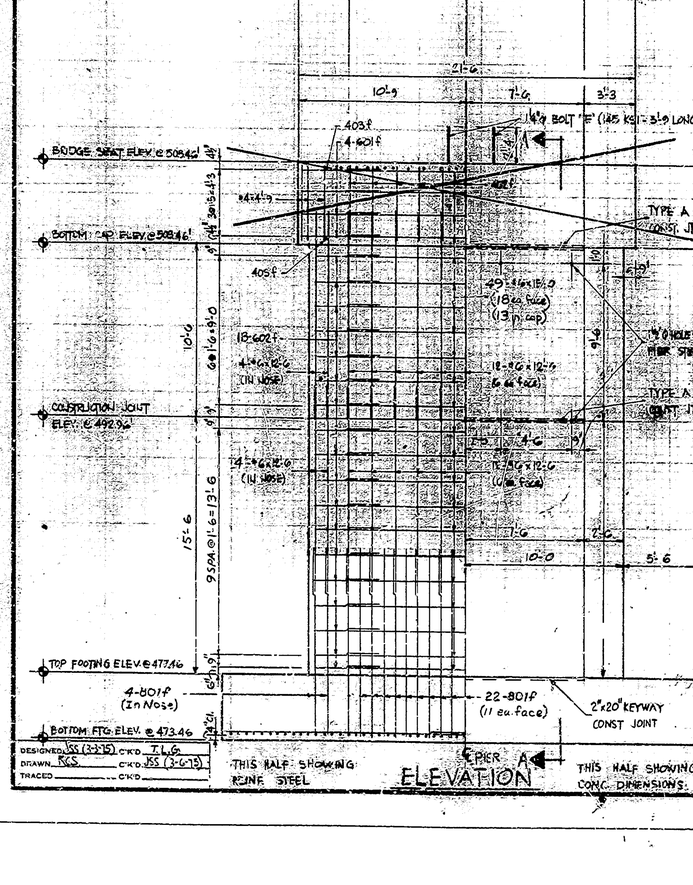


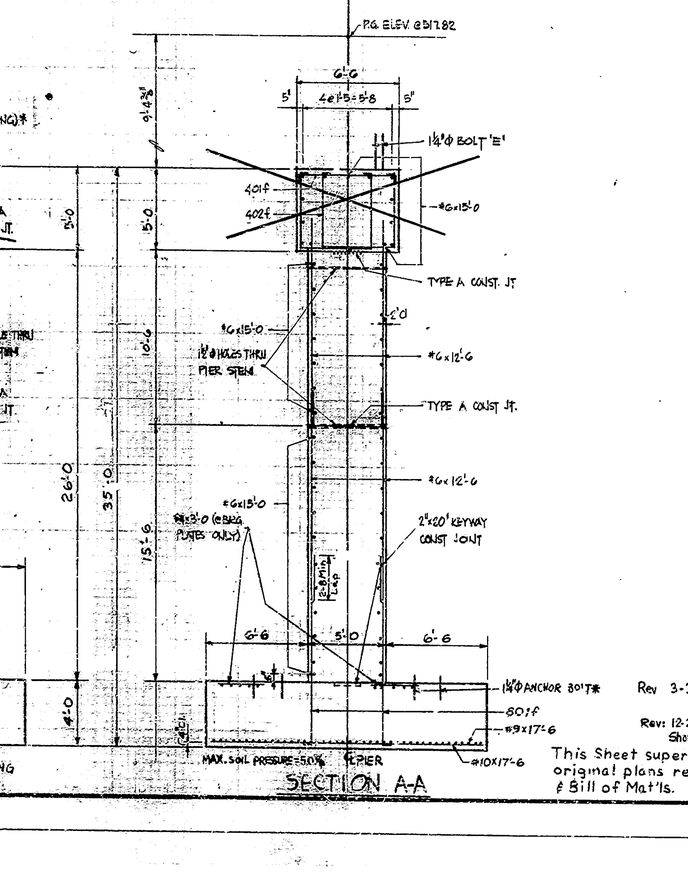
PIER #6

BILL OF MATERIALS

REINFORCING STEEL			
MARK SIZE	NO. OF BARS	LENGTH (ea)	WEIGHT (lb)
#10	61	17'-6	4,593
#9	84	17'-6	4,998
801f	56	12'-0	1,602
601f	8	13'-7	
602f	36	11'-2	
#6	60	12'-6	
#6	49	15'-0	
TOTAL #6			2,997
401f	25	7'-2	
402f	22	14'-10	
403f	8	3'-10	
#4	10	4'-9	
#4	60	3'-0	
TOTAL #4			510
TOTAL STEEL			14,700

CONCRETE	
CLASS 'B' CONCRETE IN FOOTING =	82.5 cy
CLASS 'B' CONCRETE ABOVE FTG:	
BELOW CONSTR. JT. =	54.3 cy
ABOVE CONSTR. JT. =	36.8 cy
TOTAL =	91.1 cy
CLASS "A" CONCRETE IN CAP =	24.2 cy





NOTE:
FOR REINFORCING BAR NOTES - SEE BRIDGE STANDARD C1
FOR TYPE A CONSTRUCTION JOINT - SEE BRIDGE STANDARD C3
FOR ANCHOR BOLT LOCATION PLAN - SEE DRAWING CG
1¾'ø HOLES IN STEM TO BE GROUTED AFTER FRAME REMOVED.
* THE COST OF BOLTS 'E' AND 1¼'ø ANCHOR BOLTS IN FOOTING TO BE INCLUDED IN COST OF 'ERECTION & POST-TENSIONING'

Rev 3-30-77 Pier Cap details voided.

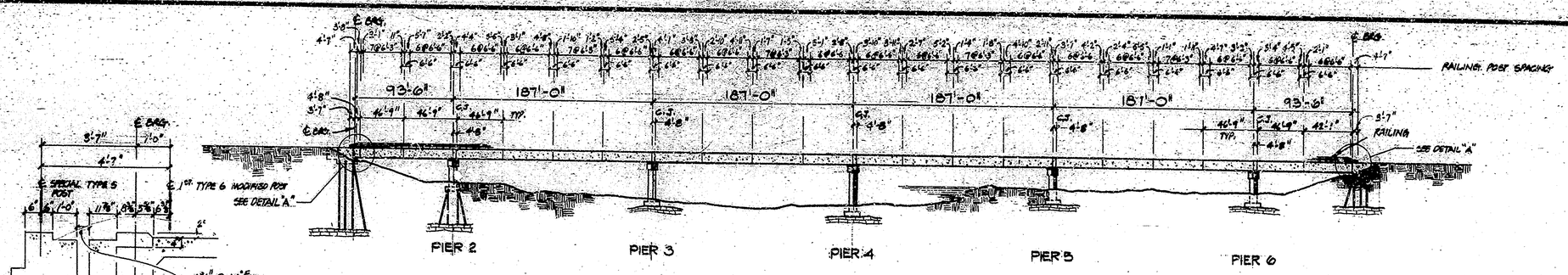
Rev: 12-27-76, Footing Plan Bar 901f Should read 801f, Sheet And Drwg. Nos.

This Sheet supersedes Sheet 24 in the original plans revised for Pier #6 Details & Bill of Mat'ls.

PIERS # 6 - DETAILS AND BILL OF MATERIALS

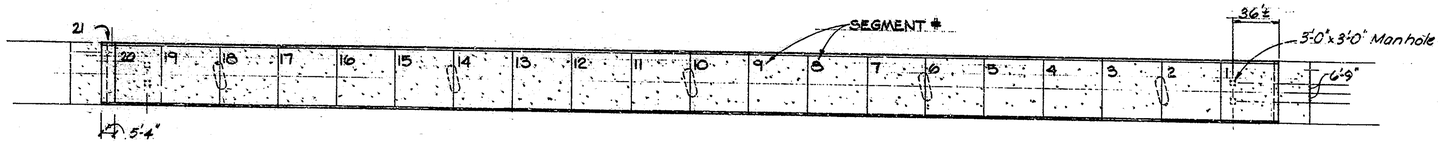
INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/4"=1'-0
DATE:- JULY 24, 1975
SUBMITTED FOR APPROVAL:- John D. Spencer
DRAWING:- C6 SHEET OF 21
SHEET:- 24 OF 105
PROJECT:- BRF-9402)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6056

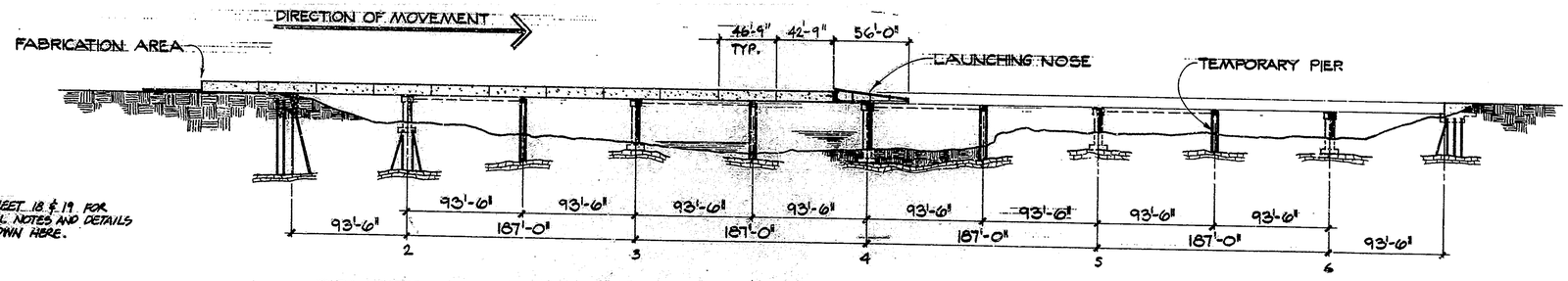


ELEVATION

DETAIL "A"

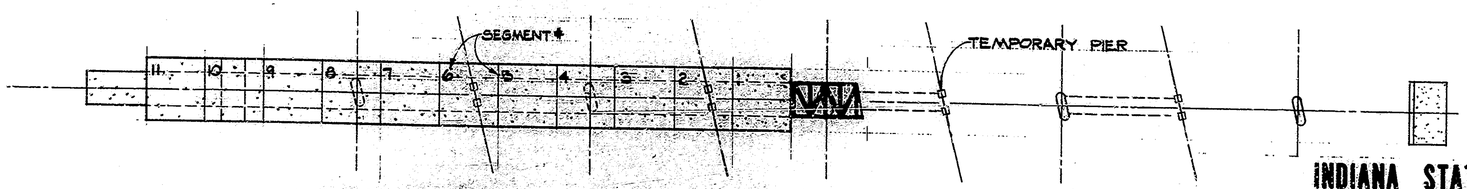


PLAN



NOTE : SEE SHEET 18 & 19 FOR GENERAL NOTES AND DETAILS NOT SHOWN HERE.

CONSTRUCTION ELEVATION



CONSTRUCTION PLAN

GENERAL PLAN

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1" = 50'

DATE:- May 6, 1977

Richard A. Dukken PE

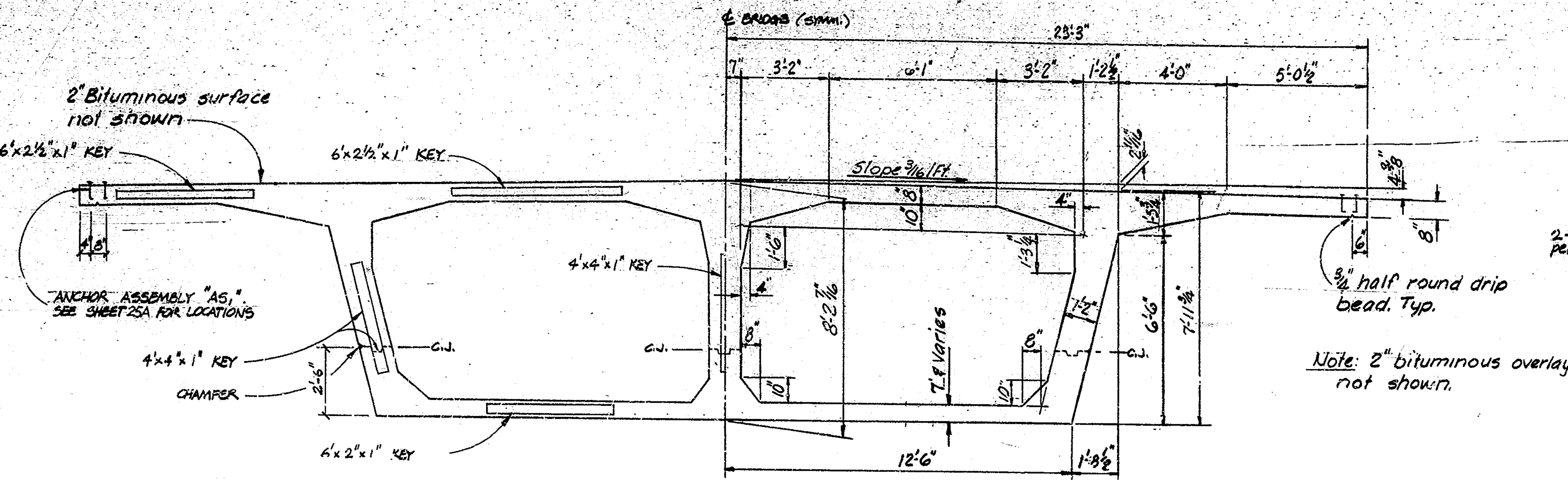
DRAWING:- D1 OF 13 SHEET:- 25A OF 105

PROJECT:- BRF-94(12)

CONTRACT NO. 8-10641

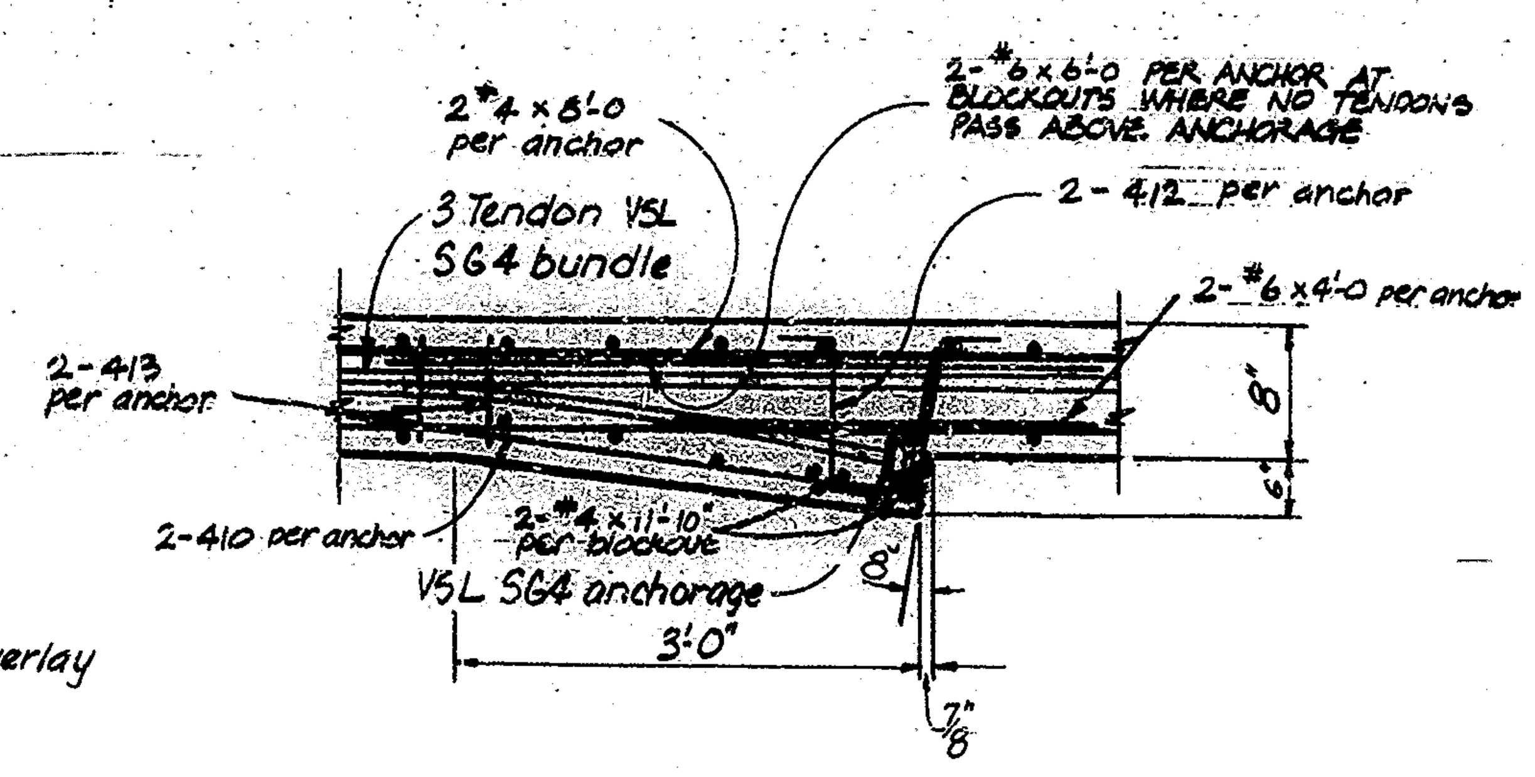
BRIDGE FILE:- 136-23-6086

RICHARD A. DUKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER

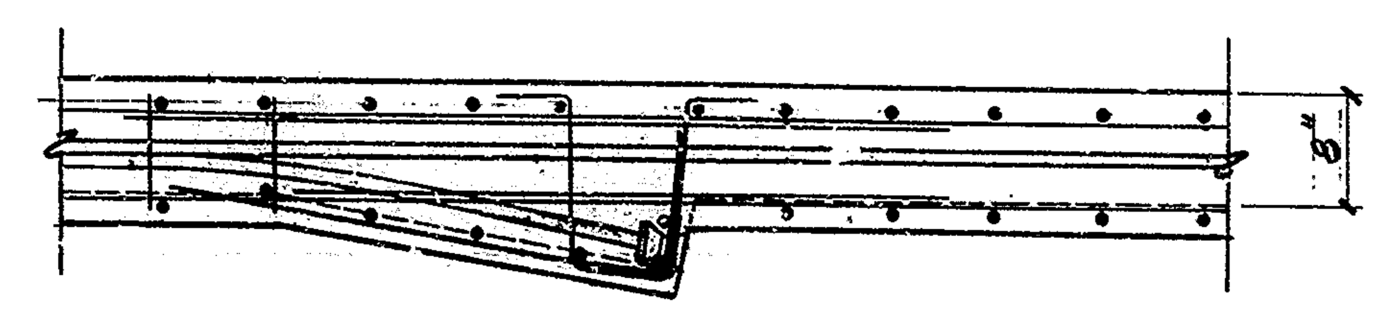


TYPICAL SECTION
3/8" = 1'-0"

NOTE:- FOR REINFORCING STEEL DETAILS NOT SHOWN HERE, SEE SHEETS 25J, 25K, 25L & 25M
- ADJUST LONGIT. #4 REBAR SPACING IN TOP & BOTTOM DECKS TO CLEAR PT DUCTS.

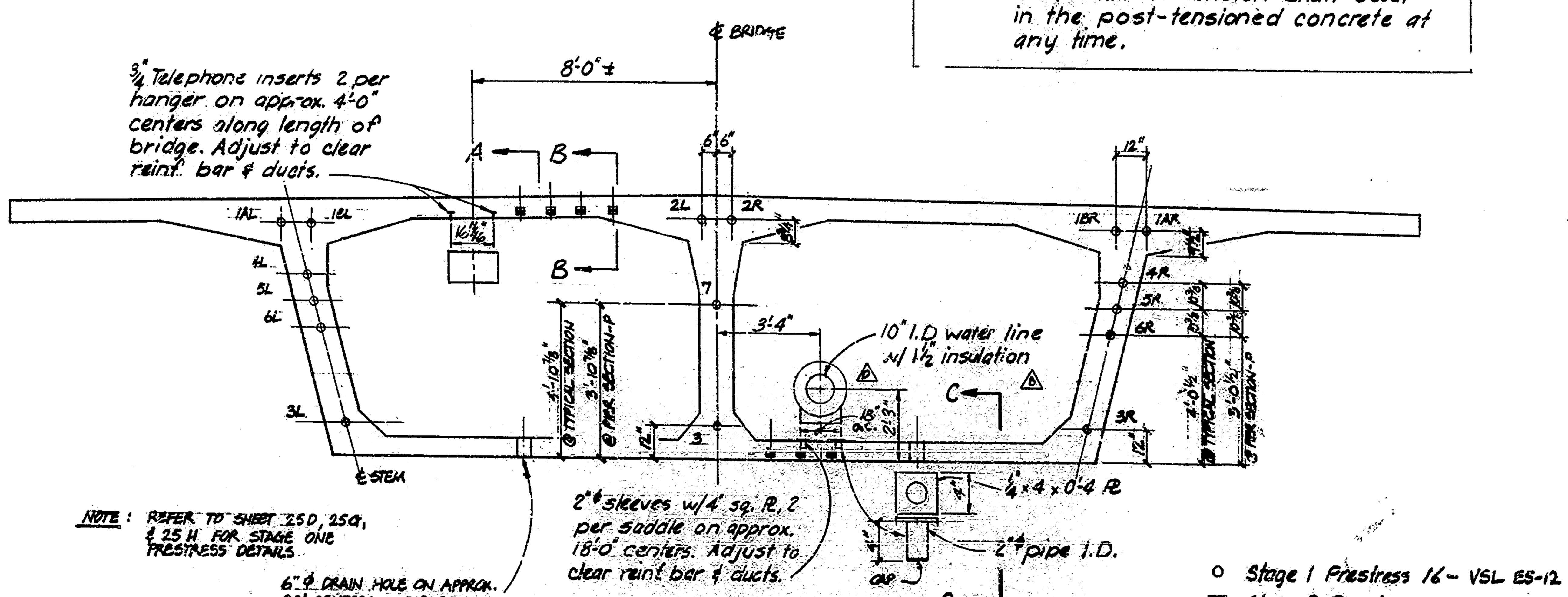


SECTION A-A
¾" = 1'-0"



SECTION B-B
¾" = 1'-0"
Note: Details similar to SECTION A-A

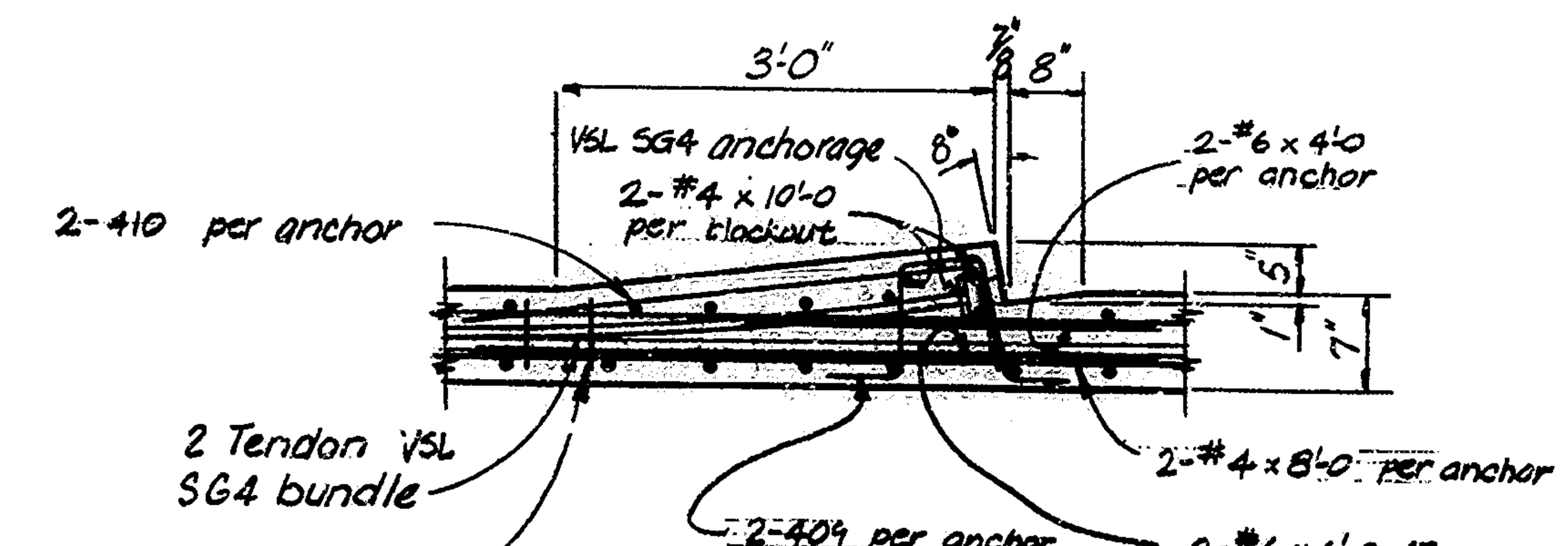
Notes:
Required Concrete Strength
@ Ultimate f'c = 4800 PSI
@ Stage I stressing f'c = 3500 PSI
Reinforcing Steel fs = 60,000 PSI
Design Specifications
AASHTO 1973 & interims as applicable except that no tension shall occur in the post-tensioned concrete at any time.



NOTE: REFER TO SHEET 25D, 25G, & 25H FOR STAGE ONE PRESTRESS DETAILS

○ Stage 1 Prestress 16 - VSL ES-12
▤ Stage 2 Prestress - VSL SG4

TYPICAL SECTION
3/8" = 1'-0"



SECTION C-C
¾" = 1'-0"

TYPICAL SECTION

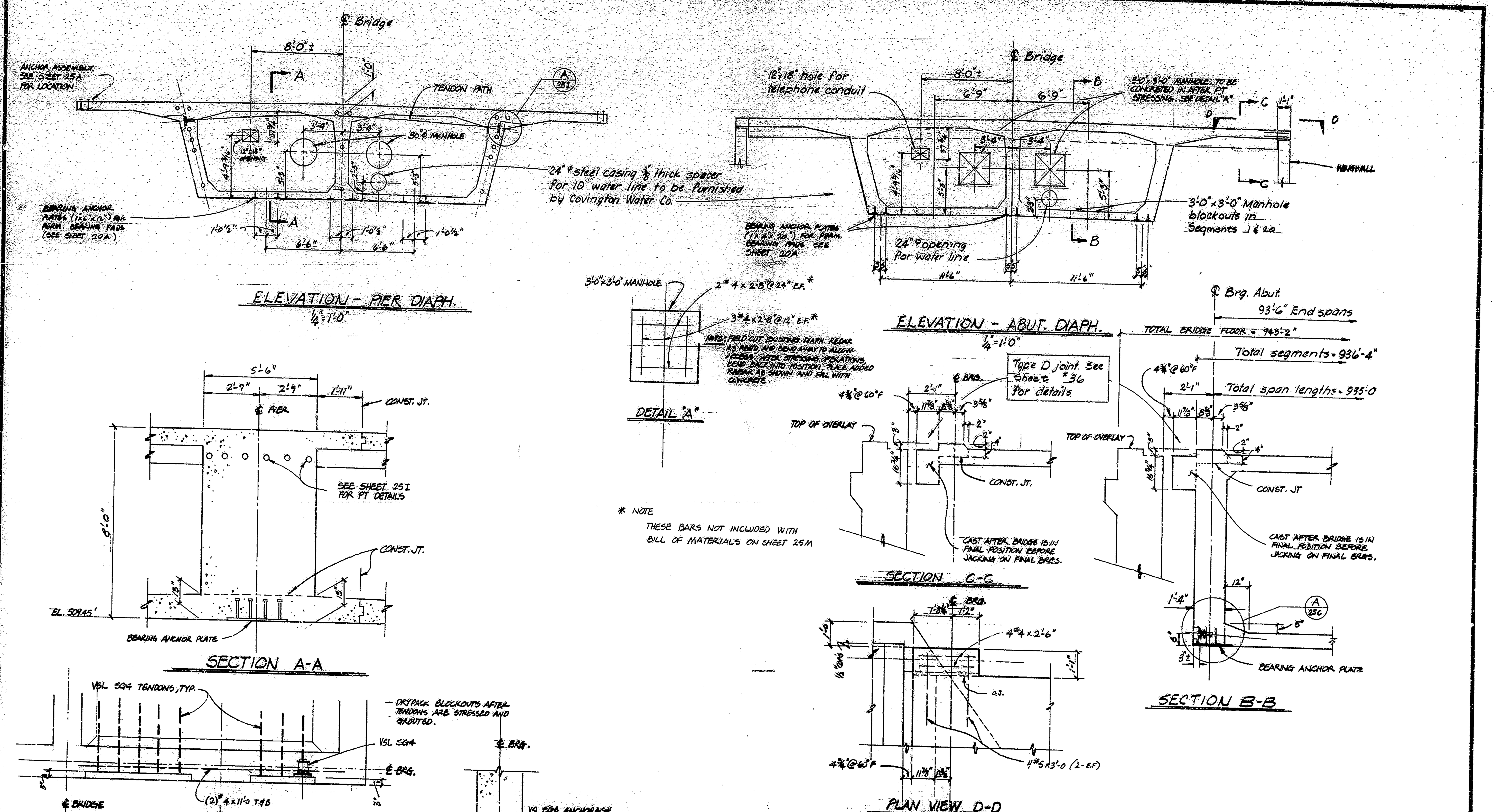
INDIANA STATE HIGHWAY COMMISSION

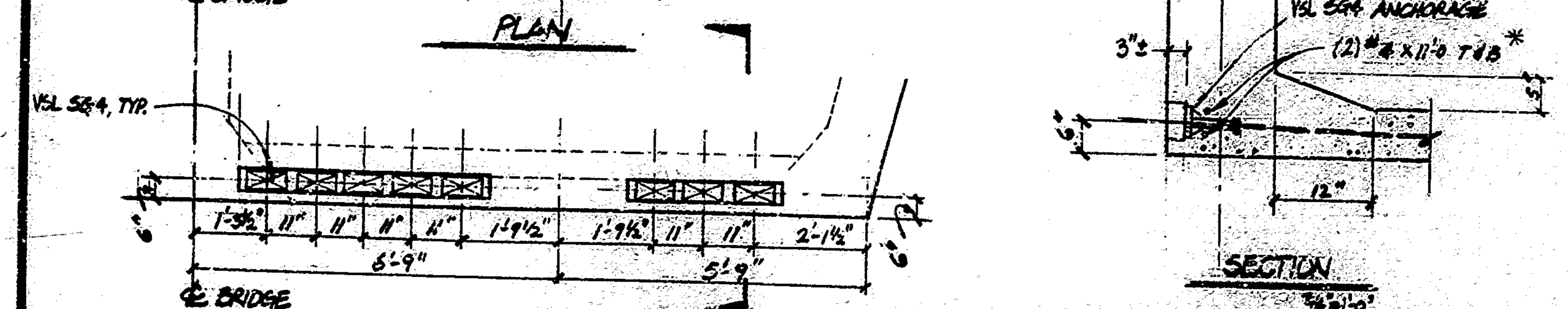
SCALE:- AS SHOWN
DATE:- May 6, 1977
Richard A. Dokken PE

DRAWING:- D2 OF 13 SHEET:- 25B OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

RICHARD A. DOKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER

Rev 7-20-77 Ref. to sheet 25G.





TENDON BLOCKOUT DETAIL @ ABUT 1 & 7

ABUTMENT & PIER DIAPHRAMS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS SHOWN

DATE:- May 6, 1977

Richard A. Dokken AE

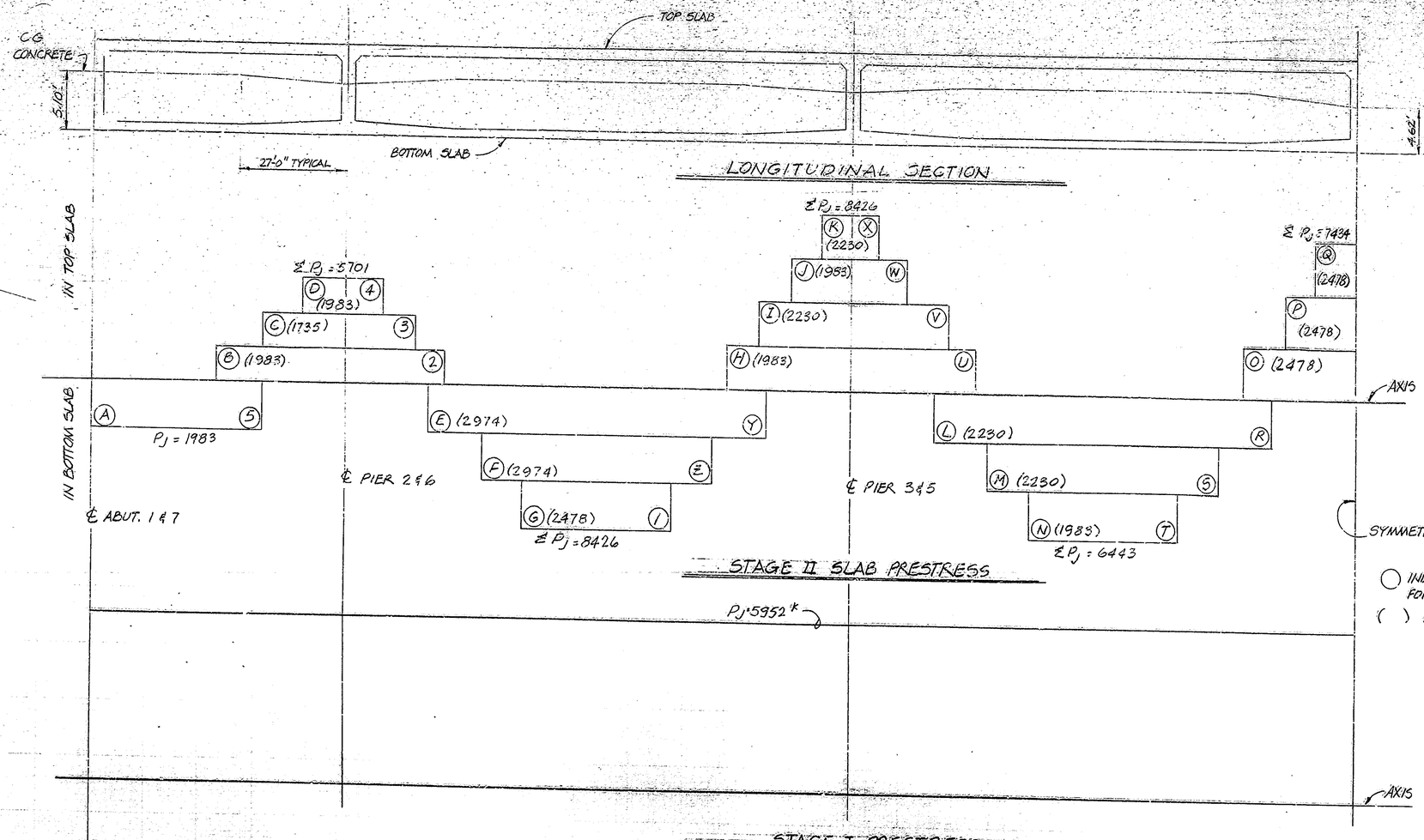
DRAWING:- D3 OF 13 SHEET:- 25C OF 105

PROJECT:- BRF-94(12)

CONTRACT NO. B-10647

BRIDGE FILE:- 136-23-6036

RICHARD A. DOKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER



NOTES:

STAGE I PRESTRESS

(1.) C.G. PRESTRESS = C.G. CONCRETE
(2.) PLACE IN SEGMENTALLY DURING STAGE CONSTRUCTION. EFFECTIVE IN FINAL STRUCTURE. "SEE ERECTION STAGE DIAGRAM" SHEET.
(3.) (4.) = VSL EB 12

STAGE II SLAB PRESTRESS

(1.) VSL SG4 UNITS
(2.) STRESS FROM INSIDE BOX
(3.) PLACE & STRESS IN FINAL POSITION

A. LONGTERM LOSSES = 32 ksi

EFFECTIVE PRESTRESS FORCES

EFFECTIVE PRESTRESS FORCES

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

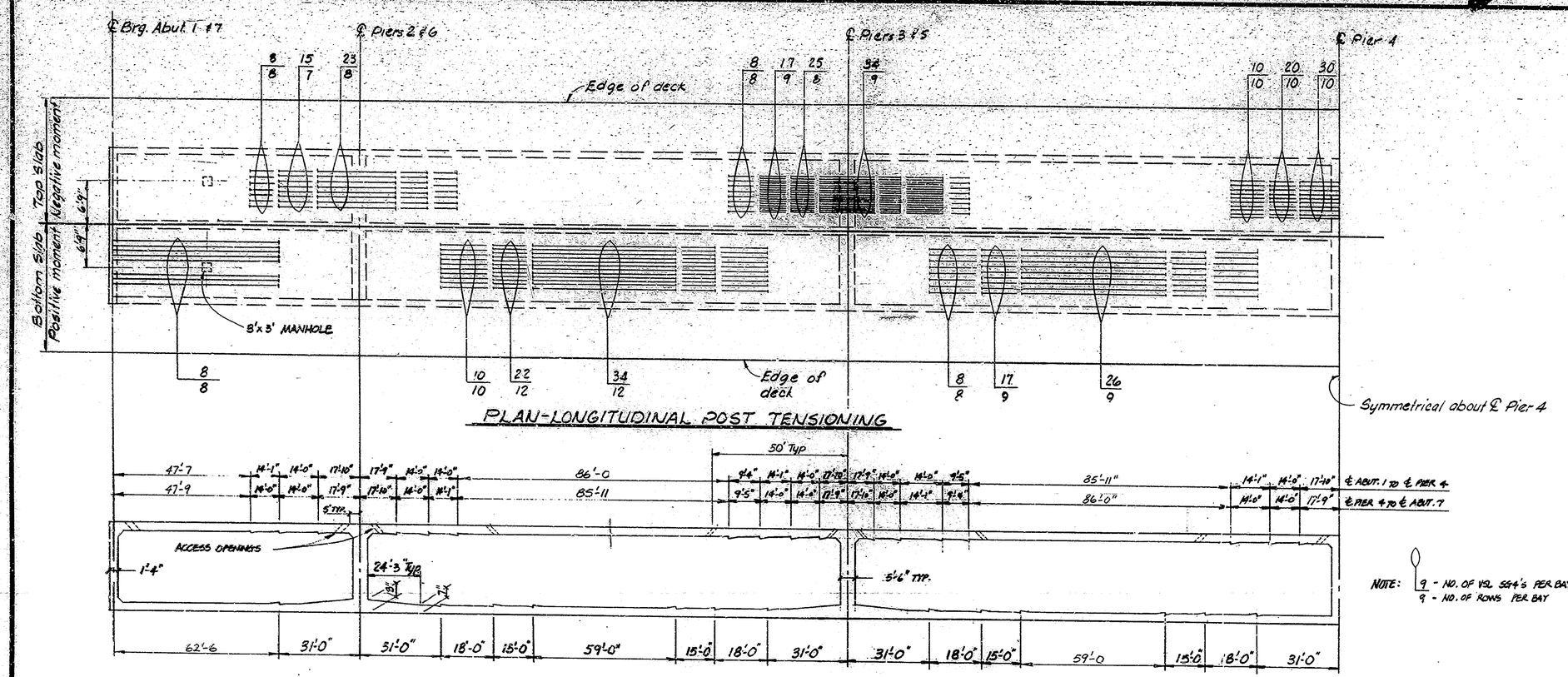
DATE:- May 6, 1977

Richard A. Miller PE

DESIGNED _____ C'K'D _____
DRAWN _____ C'K'D _____
TRACED _____ C'K'D _____

DRAWING:- D4 OF 13 SHEET:- 250 OF 105
PROJECT:- BRF-9402)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6036

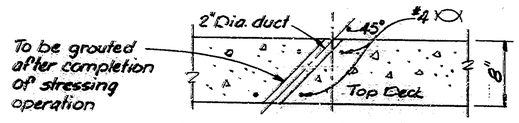
RICHARD A. MILLER — REGISTERED PROFESSIONAL ENGINEER



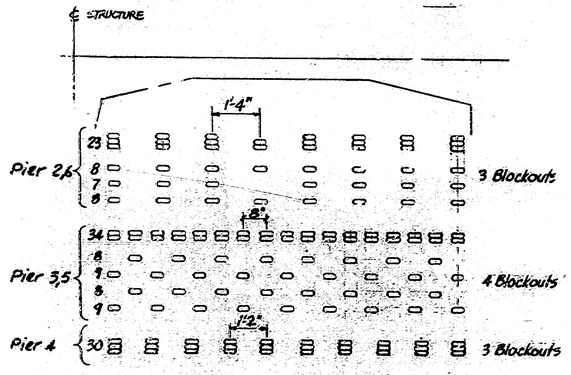
PLAN-LONGITUDINAL POST TENSIONING

NOTE: 9 - NO. OF VSL SS4's PER BAY
9 - NO. OF ROWS PER BAY

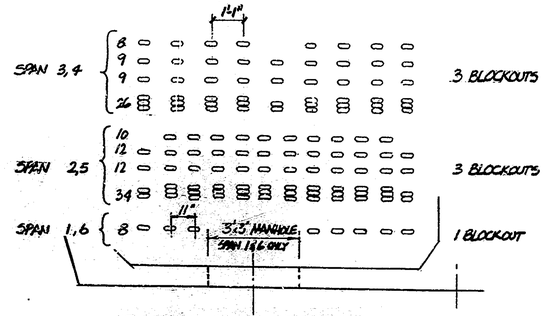
SECTION-LONGITUDINAL POST TENSIONING



TYPICAL PLACEMENT OF ACCESS OPENING



TOP SLAB PRESTRESS



BOTTOM SLAB PRESTRESS

STAGE II PRESTRESS & GIRDER LAYOUT

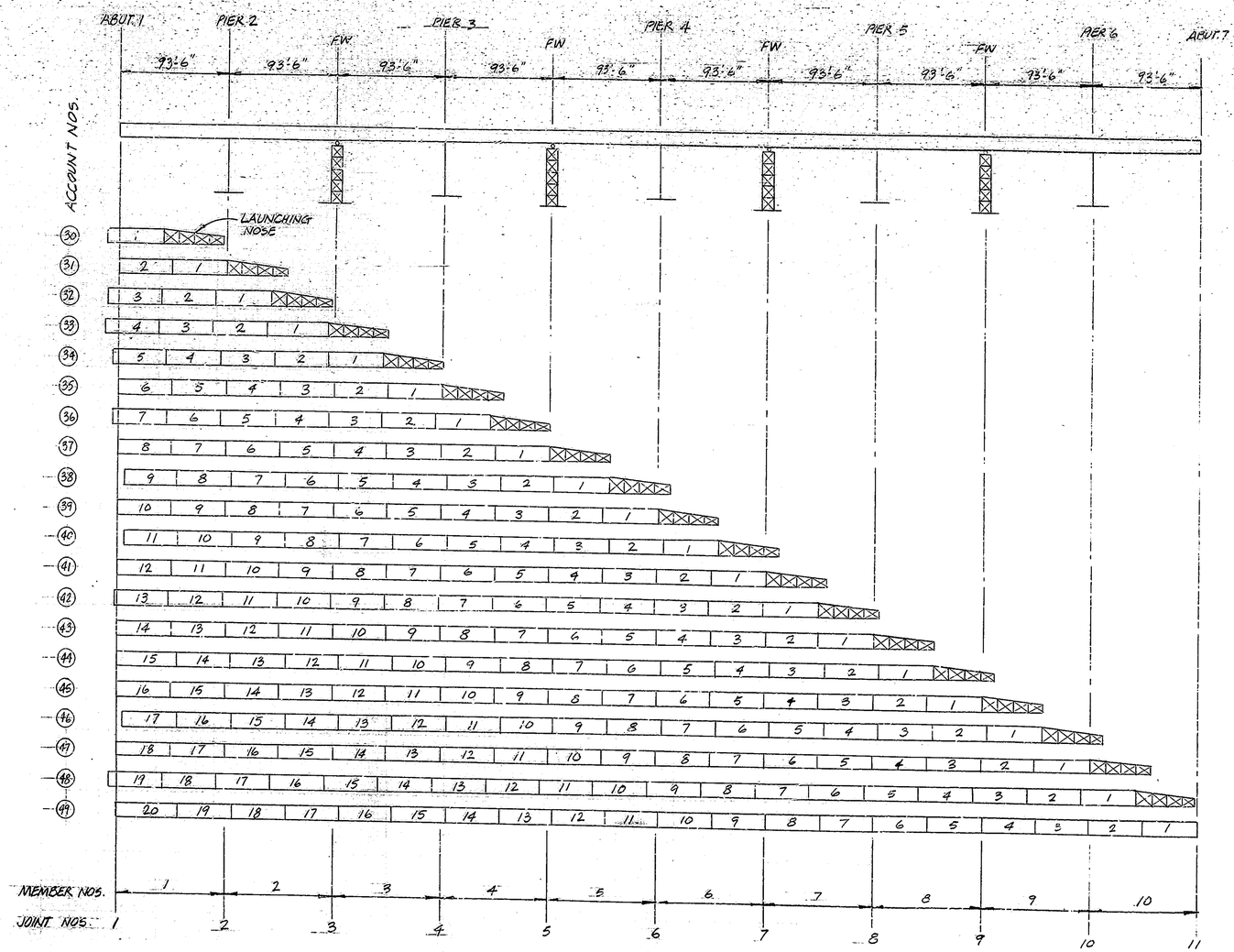
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS SHOWN

DATE:- May 6, 1977
Richard A. Dokker

DRAWING:- D5 OF 13 SHEET:- 25E OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

RICHARD A. DOKKER REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER



LAUNCHING DIAGRAM

NOTE: MEMBER NOS., JOINT NOS. AND ACCOUNT NOS. REFER TO "BRIDGE DESIGN SYSTEM" RESULTS.

LAUNCHING CONDITIONS CHECKED FOR 0 psf LOAD ON TOP SLAB TO ACCOUNT FOR SCATTERED WEIGHT OF MEN, MATERIALS, EQUIPMENT, ETC.
- NOTE: 1 psf FOR STAGE 49 ONLY. (BRIDGE IN FINAL POSITION.)

DESIGNED ____ CK'D ____
DRAWN ____ CK'D ____
TRACED ____ CK'D ____

LAUNCHING DIAGRAM

INDIANA STATE HIGHWAY COMMISSION

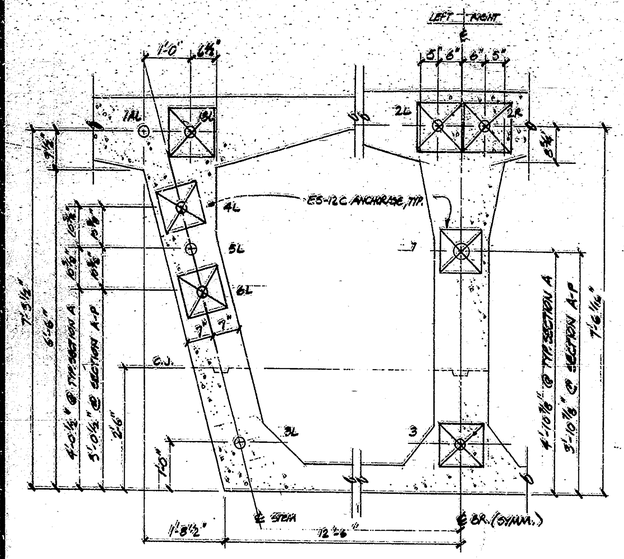
SCALE:- NONE

DATE:- May 6 1977
Richard A Dokken PE

DRAWING:- D_6 OF 13 SHEET:- 25F OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

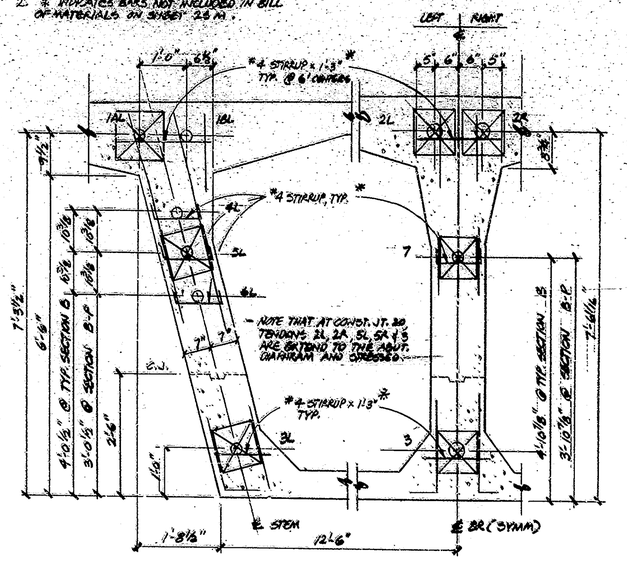
RICHARD A. DOKKEN REGISTERED No. 15075 STATE OF INDIANA PROFESSIONAL ENGINEER

NOTES: 1. INTERMEDIATE PT. DUCT SUPPORTS @ 3'-0" CENTERS MAX. UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER.
2. * INDICATES BARS NOT INCLUDED IN BILL OF MATERIALS ON SHEET 28 H.



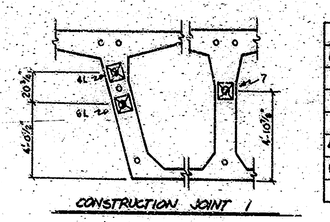
A 25G CONSTRUCTION JOINT - TYPE A

3/4"=1'-0"

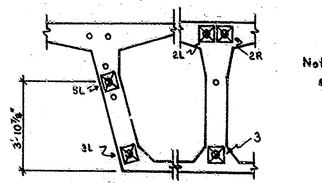


B 25G CONSTRUCTION JOINT - TYPE B

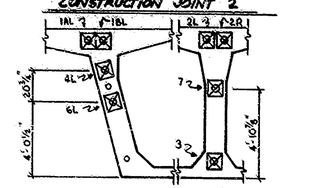
3/4"=1'-0"



CONSTRUCTION JOINT 1



CONSTRUCTION JOINT 2

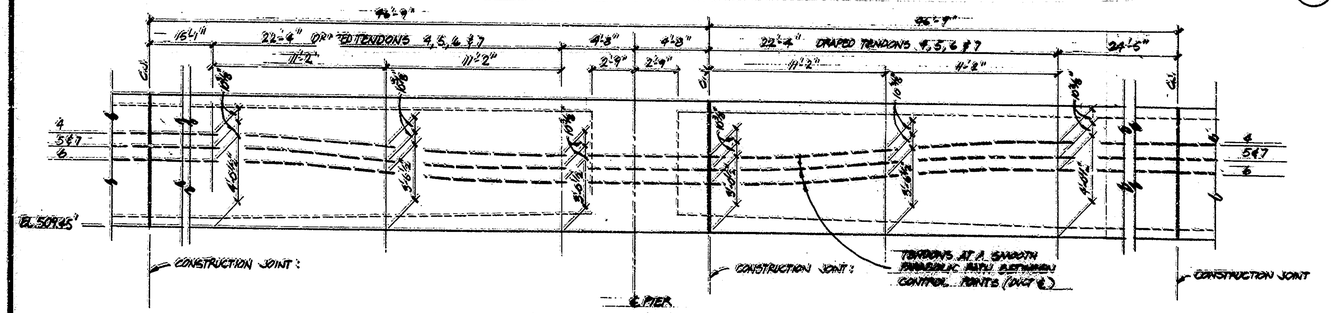


CONSTRUCTION JOINT 3

C 25G

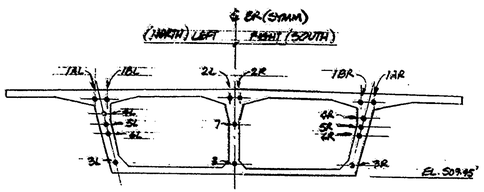
TENDON SUMMARY		
CONST. JT. NOS.	TYPE	TENDONS ANCHORED & STREASED
1	1	4L, 4R, 6L, 6R, 7
2	2	2L, 2R, 3L, 3R, 5L, 5R
3	3	1AL, 1AR, 1BL, 1BR, 2L, 2R, 3, 4L, 4R, 6L, 6R, 7
4, 6, 8, 10, 12, 14, 16, 18	B	1AL, 1AR, 2L, 2R, 3L, 3R, 5L, 5R, 7
5, 7, 9, 11, 13, 15, 17, 19	A	1BL, 1BR, 2L, 2R, 3, 4L, 4R, 6L, 6R, 7
20A (Abut. 1)		ALL TENDONS

Note: For dimensions and features not shown in detail C, see detail A & B.



D 25G DRAPED TENDON ELEVATIONS @ PIER DIAPHRAMS

1/4"=1'-0"

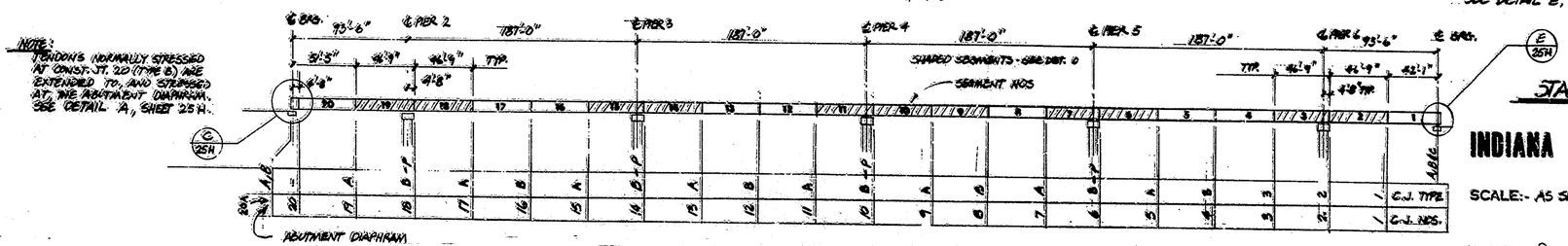


TENDON IDENTIFICATION

NTS.

F 25G

NOTE: IN SEGMENT 1, ALL STAGE I TENDONS HAVE DEAD END ANCHORAGES (HS-12A) ANCHORED IN SEGMENT 1 DIAPHRAM. SEE DETAIL E, SHEET 26 H



E 25H

STAGE I PRESTRESS

E 25G CONST. JT. LOCATION & TYPE

Sheet added 7-20-77

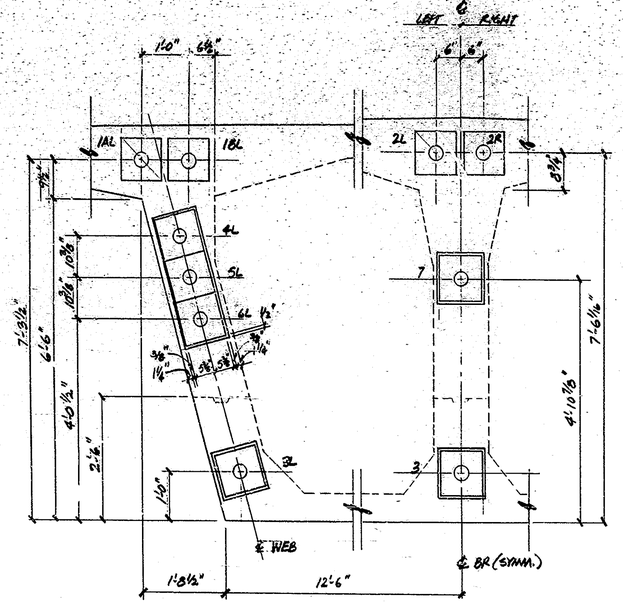
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS SHOWN

DATE:- May 6, 1977
Richard A. Miller

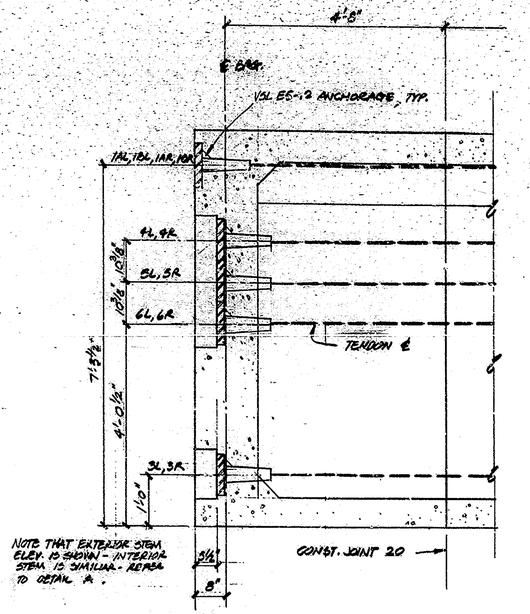
DRAWING:- D7a OF 13 SHEET:- 25G1 OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

© INDIANA DEPARTMENT OF HIGHWAYS 1977



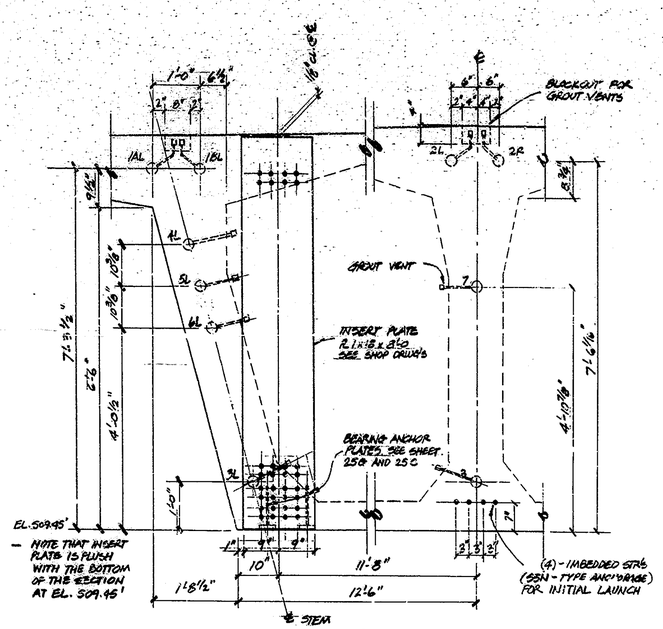
A 25H ABUTMENT 1 DIAPHRAM ELEVATION

3/4"=1'-0"



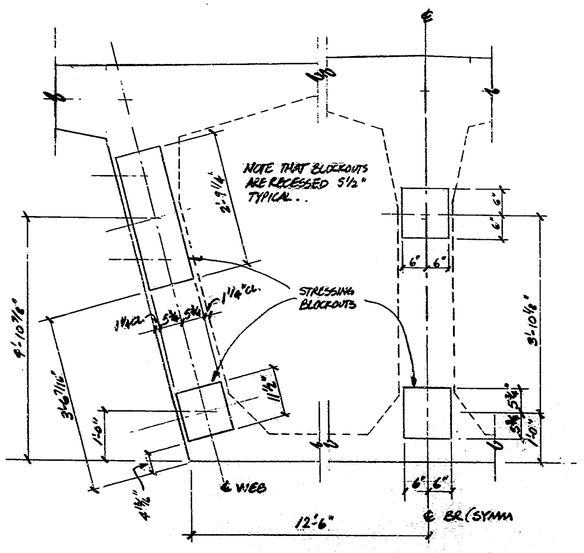
C 25H ABUT. 1 DIAPHRAM - STEM ELEVATION

3/4"=1'-0"



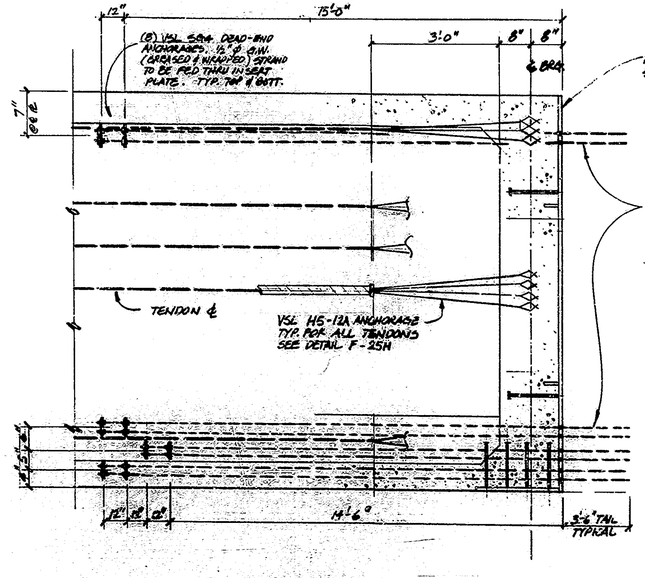
C 22H ABUTMENT 7 DIAPHRAM ELEVATION

3/4"=1'-0"



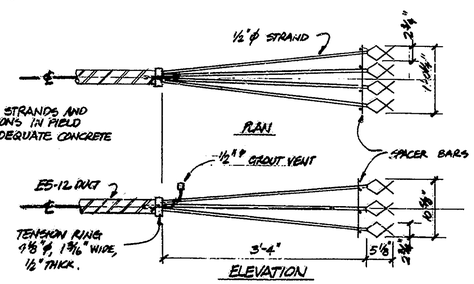
D 25H ABUT. 1 DIAPHRAM ELEV. - BLOCKOUTS

3/4"=1'-0"



E 25H ABUT. 7 DIAPHRAM - STEM ELEVATION

3/4"=1'-0"



F 25H VSL H5-12A ANCHORAGE

3/4"=1'-0"

STAGE I PRESTRESS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS SHOWN

DATE:- May 6, 1977

Richard A. Dunken AE

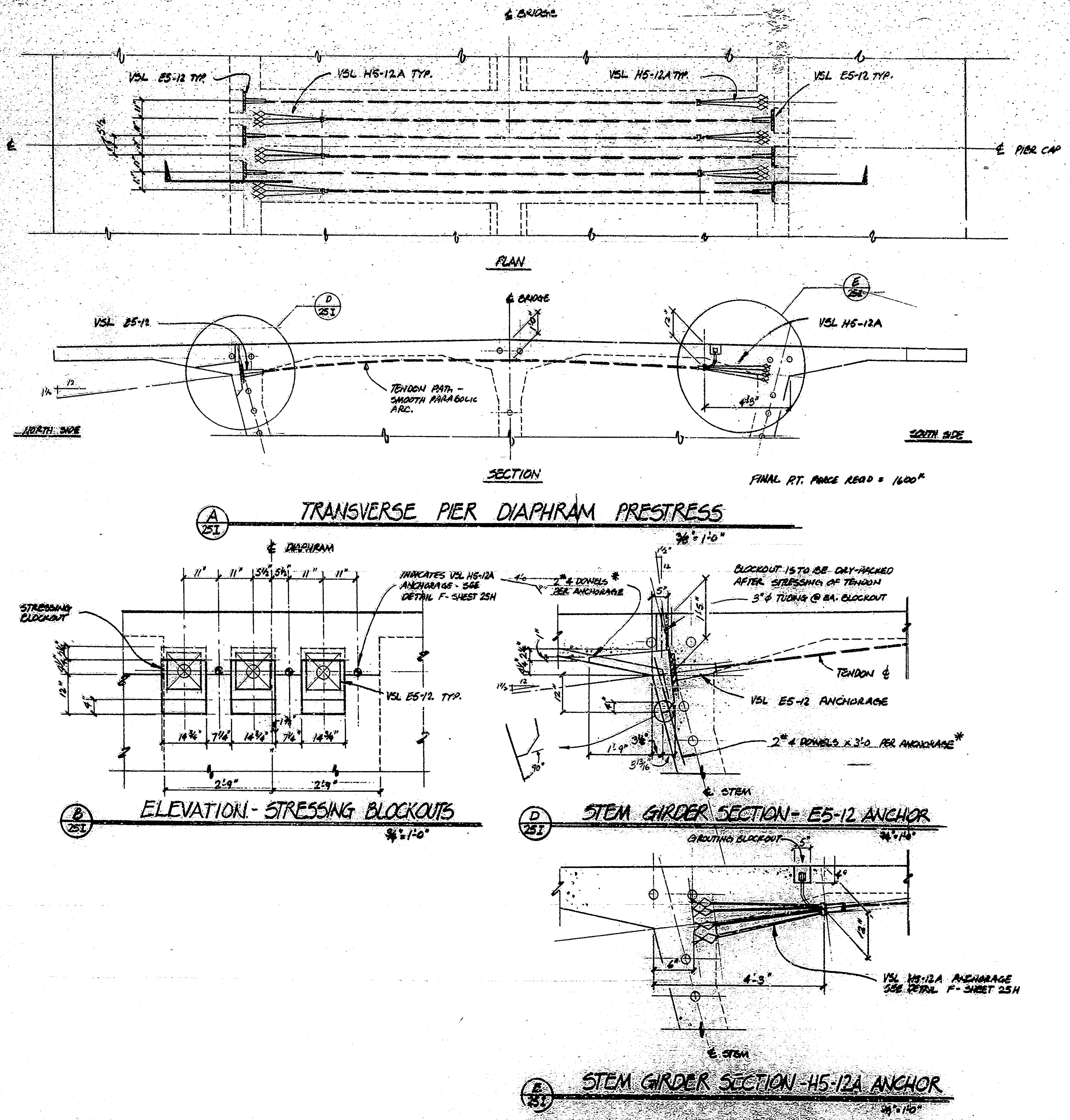
DRAWING:- D8 OF 13 SHEET:- 25H OF 105

PROJECT:- BRF-94(12)

CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

RICHARD A. DUNKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER



NOTES: - INTERMEDIATE DUCT SUPPORTS* REQ'D @ 3'-0" CENTERS MAX. UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER.
- * INDICATES BARS NOT INCLUDED IN BILL OF MATERIALS ON SHEET 25M.

TRANSVERSE DIAPHRAM PRESTRESS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS SHOWN

DATE:- May 6, 1977

DRAWING:- D9 OF 13 SHEET:- 25I OF 105

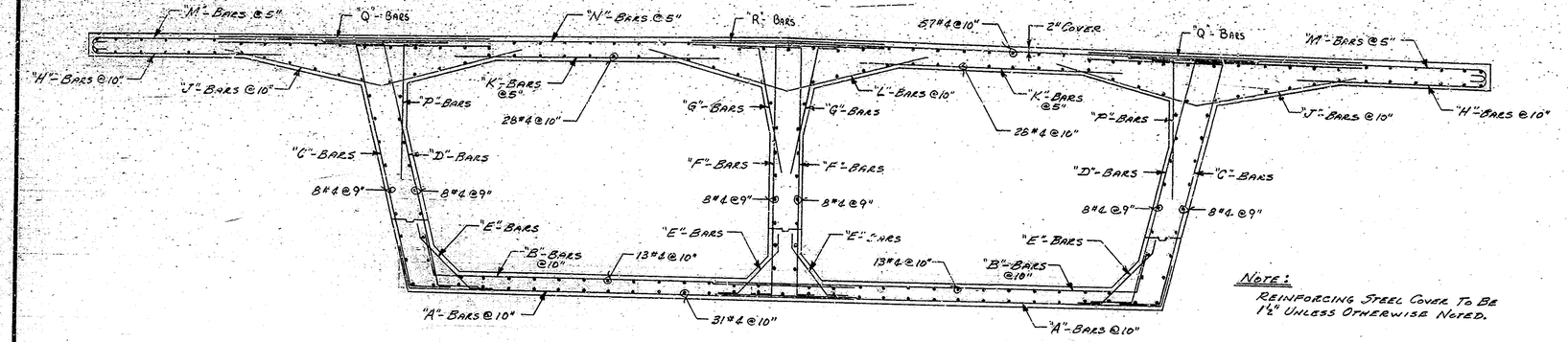
PROJECT:- BRF-94(12)

CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

REGISTERED No. 16275 STATE OF INDIANA PROFESSIONAL ENGINEER

Note : Top leg of Bars C, D, E, F revised to 12" and not shown to scale in Typical Section.



"TYPICAL" SECTION

NOTE:
REINFORCING STEEL COVER TO BE 1½" UNLESS OTHERWISE NOTED.

SEGMENT	"A"-Bars @10" O.C.	"B"-Bars @10" O.C.	"C"-Bars "Q"-Bars	"D"-Bars	"E"-Bars	"F"-Bars "R"-Bars	"G"-Bars "P"-Bars	Spacing for "C", "D", "E", "F", "G" & "P"-Bars	"H"-Bars @10" O.C.	"J"-Bars @10" O.C.	"K"-Bars @5" O.C.	"L"-Bars @10" O.C.	"M"-Bars @5" C.C.	"N"-Bars @5" O.C.	LONGITUDINAL EDGE BOTTOM SLAB Bot. @10"	LONGITUDINAL EDGE BOTTOM SLAB Top @10"	LONGITUDINAL EDGE WALLS @9" (B.E.F.)	LONGITUDINAL EDGE DECK Bot. @10"	LONGITUDINAL EDGE DECK Top @10"	REMARKS
#1	2x50-401	2x50-402	2x42-501 2x42-#5x9'-0	2x42-502	4x42-403	2x42-503 42-#5x6'-6	2x42-404 2x42-415	18@18", 21@12", 18@6"-East End to West End	2x50-405	2x50-406	2x99#5x8-9	50-407	2x99-502	99#5x31-0	31"#x45-1	26"#x45-1	48"#x45-1	56"#x45-1	57"#x45-1	Ext. Longit. Bars 2-6 Beyond West End
#2, #4, #5, #8, #9, #12, #13, #14, & #17	2x56-401	2x56-402	2x47-501 2x47-#5x9'-0	2x47-502	4x47-403	2x47-503 47-#5x6'-6	2x47-404 2x47-415	18@6", 66@12", 18@4½"-East End to West End	2x56-405	2x56-406	2x112#5x8-9	56-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do
#3	2x56-401	2x 3-402 2x47-402	2x56-501 2x56-#5x9'-0	2x56-502	4x56-403	2x56-503 56-#5x6'-6	2x56-404 2x56-415	18@5", 18@12", 18@3", 18@72", 18@3", 20@6", 10@9", 21@12", 18@4"-East End to West End	2x56-405	2x56-406	2x5#5x8-9 2x94#5x8-9	3-407 47-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do
#6, #10, #16 & #18	2x56-401	2x56-402	2x58-501 2x58-#5x9'-0	2x58-502	4x58-403	2x58-503 58-#5x6'-6	2x58-404 2x58-415	18@7", 30@12", 10@9", 17@6", 1@2" East End to West End	2x56-405	2x56-406	2x112#5x8-9	56-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do
#7, #11 & #15	2x56-401	2x 3-402 2x47-402	2x57-501 2x57-#5x9'-0	2x57-502	4x57-403	2x57-503 57-#5x6'-6	2x57-404 2x57-415	18@5", 28@6", 18@3", 18@72", 18@3", 20@6", 10@9", 21@12", 18@4"-East End to West End	2x56-405	2x56-406	2x5#5x8-9 2x94#5x8-9	3-407 47-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do
#19	2x56-401	2x 3-402 2x47-402	2x44-501 2x44-#5x9'-0	2x44-502	4x44-403	2x44-503 44-#5x6'-6	2x44-404 2x44-415	18@5", 28@6", 18@3", 18@72", 18@3", 38@12", 18@10"-East End to West End	2x56-405	2x56-406	2x5#5x8-9 2x94#5x8-9	3-407 47-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do
#20	2x56-401	2x56-402	2x47-501 2x47-#5x9'-0	2x47-502	4x47-403	2x47-503 47-#5x6'-6	2x47-404 2x47-415	18@2", 66@12", 18@7"-East End to West End	2x56-405	2x56-406	2x112#5x8-9	56-407	2x112-502	112#5x31-0	31"#x49-1	26"#x49-1	48"#x49-1	56"#x49-1	57"#x49-1	do.
#21	2x5-401	2x5-402	2x4-501 2x4-#5x9'-0	2x4-502	4x4-403	2x4-503 4-#5x6'-6	2x4-404 2x4-415	18@5", 36@12", 18@23"-East End to West End	2x5-405	2x5-406	2x9#5x8-9	5-407	2x9-502	9#5x31-0	See Seg. #20	See Seg. #20	See Seg. #20	See Seg. #20	See Seg. #20	Ext. Longit. Bars 5-2 Beyond West End

NOTE: BAR LOCATIONS MAY BE ADJUSTED SLIGHTLY IN FIELD TO CLEAR CONST. JTS. AND PT DUCTS.

DESIGNED ____ CK'D ____
DRAWN ____ CK'D ____
TRACED ____ CK'D ____

Rev 5-23-77 Bars C, D, F, Q & R

TYPICAL SEGMENT DETAILS

INDIANA STATE HIGHWAY COMMISSION

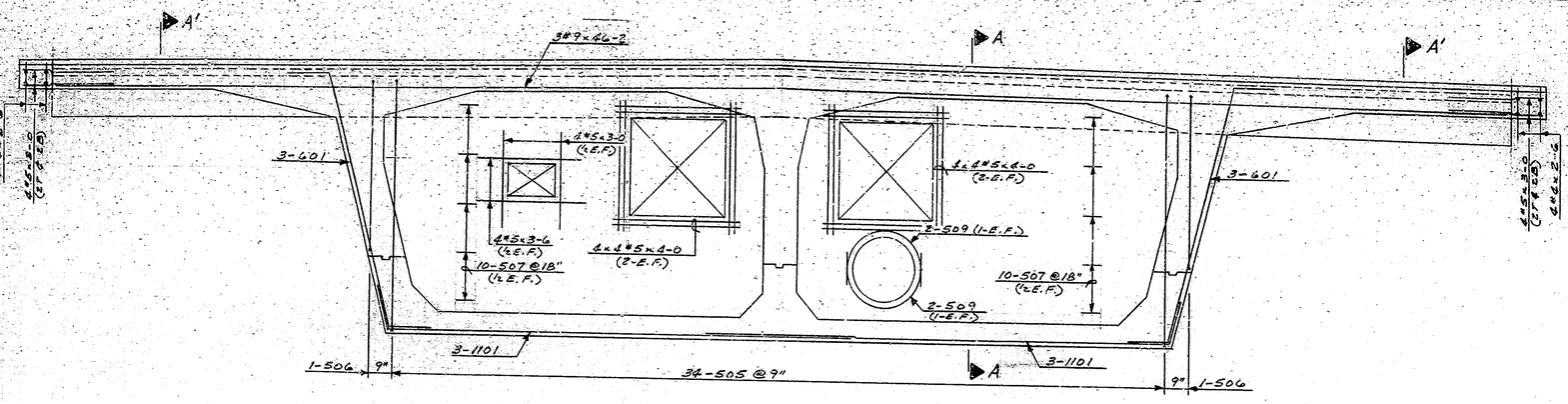
SCALE:- ½" = 1'-0

DATE:- May 6, 1977

Richard A. Dokken PE

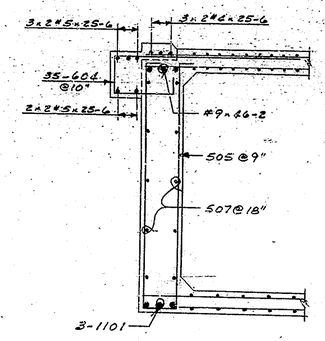
DRAWING:- D10 OF 13 SHEET:- 257 OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

RICHARD A. DOKKEN REGISTERED No. 15875 STATE OF INDIANA PROFESSIONAL ENGINEER

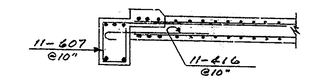


ELEVATION — ABUT. DIAPH.
1—REQUIRED—"EACH" SEGMENTS #1 & #21

NOTE: SEE DRWG. D3 FOR SIZE AND LOCATIONS OF OPENINGS.

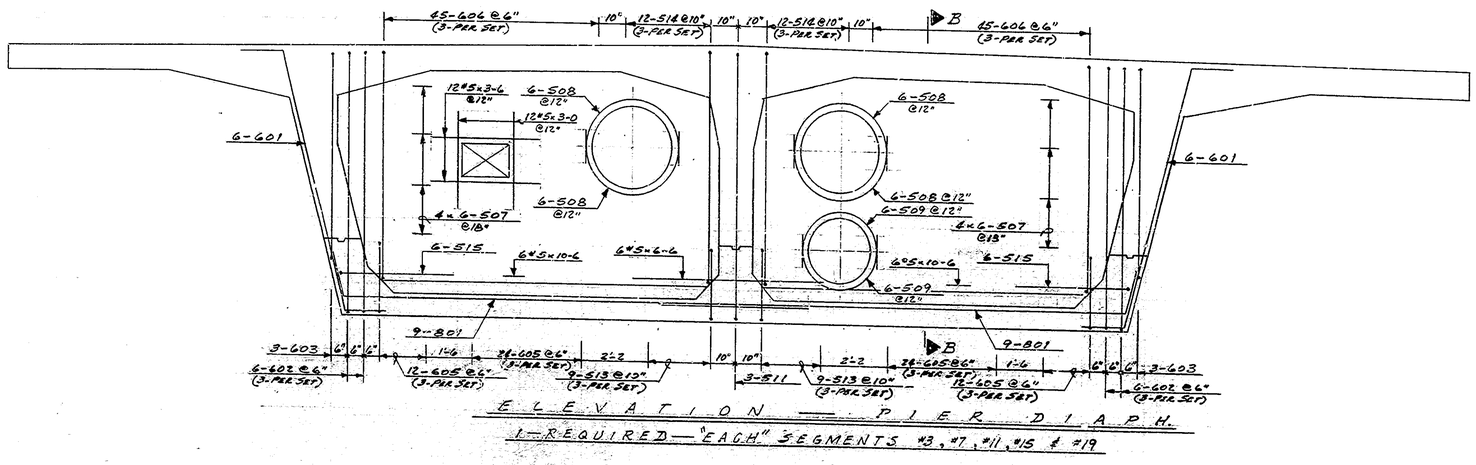


SECTION A—A

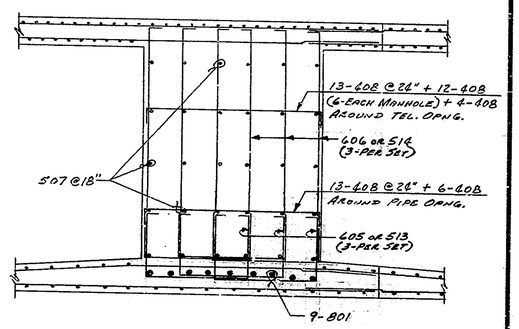


NOTE: SEE SECT. A-A FOR BAL. OF REINF.

SECTION A'
2—REQ'D.



ELEVATION — PIER DIAPH.
1—REQUIRED—"EACH" SEGMENTS #3, #7, #11, #15 & #19



SECTION B—B

ABUT. & PIER DIAPH. DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 1/2"=1'-0

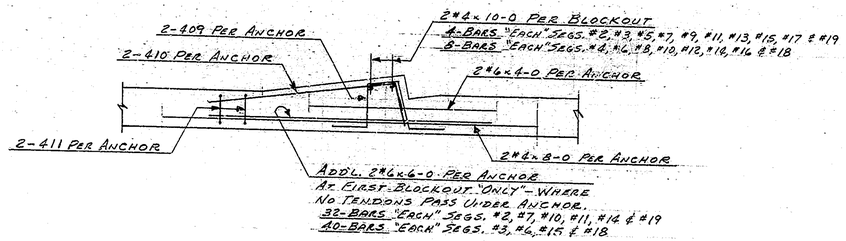
DATE:- May 6, 1977

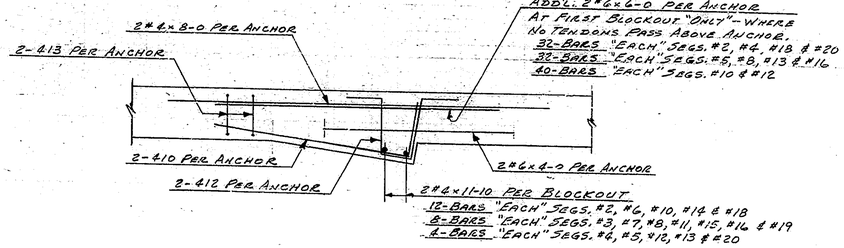
Richard A. Dokken

DRAWING:- D11 OF 13 SHEET:- 25K OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

DESIGNED _____ C'K'D _____
DRAWN _____ C'K'D _____
TRACED _____ C'K'D _____

RICHARD A. DOKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER



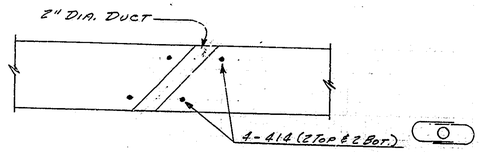


TENDON ANCHORAGE — BOTT. SLAB

16 ANCHORS REQ'D. "EACH" SEGS. #2, #7, #11 & #19
20 ANCHORS REQ'D. "EACH" SEGS. #3 & #15
48 ANCHORS REQ'D. "EACH" SEGS. #4 & #16
24 ANCHORS REQ'D. "EACH" SEGS. #5 & #17
44 ANCHORS REQ'D. "EACH" SEGS. #6 & #18
36 ANCHORS REQ'D. "EACH" SEGS. #8 & #12
18 ANCHORS REQ'D. "EACH" SEGS. #9 & #13
34 ANCHORS REQ'D. "EACH" SEGS. #10 & #14

TENDON ANCHORAGE — TOP DECK

46 ANCHORS REQ'D. "EACH" SEGS. #2 & #18
30 ANCHORS REQ'D. "EACH" SEGS. #3 & #19
16 ANCHORS REQ'D. "EACH" SEGS. #4 & #20
16 ANCHORS REQ'D. "EACH" SEGS. #5 & #13
52 ANCHORS REQ'D. "EACH" SEGS. #6 & #14
34 ANCHORS REQ'D. "EACH" SEGS. #7, #8, #15 & #16
40 ANCHORS REQ'D. SEG. #11
40 ANCHORS REQ'D. SEG. #10
20 ANCHORS REQ'D. SEG. #12



TENDON ACCESS OPENING — TOP DECK

2 OPENINGS REQ'D. "EACH" SEGS. #1, #2, #3, #4, #7, #8, #11, #12, #15, #16, #19 & #20
4 OPENINGS REQ'D. "EACH" SEGS. #6, #10, #14 & #18

DESIGNED _____ C'K'D. _____
DRAWN _____ C'K'D. _____
TRACED _____ C'K'D. _____

TENDON ANCHORAGE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- 3/4" = 1'-0"

DATE:- May 6, 1977

Richard A. Dokken PE

DRAWING:- D12 OF 13 SHEET:- 25 L OF 105
PROJECT:- BRF-94(12)
CONTRACT NO. B-10641
BRIDGE FILE:- 136-23-6086

RICHARD A. DOKKEN REGISTERED No. 16875 STATE OF INDIANA PROFESSIONAL ENGINEER

"BILL OF MATERIAL"

SEGMENT #1

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
1101	6	16-2	515
#9	3	86-2	671
601	6	10-8	
604	35	7-2½	
607	22	6-3½	
Total #6			686
501	88	73-10	10-4"
502	88	74-10	10-4"
503	84	72-3	9-7"
504	198	12-5	
505	34	16-11	
506	2	12-9	
507	20	17-1	
509	4	4-11	
#5	10	25-6	
#5	99	31-0	
	32	4-0	
	198	8-9	
	4	3-6	
#5	12	3-0	12752
Total #5			78619
601	100	16-2	
602	100	15-6	
603	168	3-1	
604	84	5-0	
605	100	6-9	
606	100	10-7	
607	50	9-8	
#4	218	49-1	
#4	8	12-6	
#4	6	25-6	
615	84	5-0	
616	22	4-0	
Total #4			11242
Total Reinf. Steel			25527
			25666

CONCRETE

Lower	Upper	Total
* 36.2 Cy	121.9 Cy	158.1 Cy

* Above Quantities Include 3.5 Cy In Segment Haunch Shown On Sheet 45-03

84 - #5 x 9'-0
42 - #5 x 6'-6

SEGMENTS #2, #4, #5, #8, #9, #12, #13, #16 & #17

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
501	96	73-10	10-4"
502	96	74-10	10-4"
503	96	72-3	9-7"
504	224	12-5	
#5	112	31-0	
#5	224	8-9	12733
Total #5			78423
601	112	16-2	
602	112	15-6	
603	188	3-1	
604	96	5-0	
605	112	6-9	
606	112	10-7	
607	56	9-8	
#4	218	49-1	
615	96	5-0	
Total #4			12190
Total Reinf. Steel			24748
			24923

CONCRETE

Seg.	Lower	Upper	Total
2	42.6 Cy	101.3 Cy	143.9 Cy
4	40.0	100.6	140.6
5	39.6	100.6	140.2
8	40.0	101.0	141.0
9	39.6	100.2	139.8
12	40.0	100.6	140.4
13	39.6	100.6	140.2
16	40.0	101.0	141.0
17	39.4 Cy	100.2 Cy	139.8 Cy

94 - #5 x 9'-0
47 - #5 x 6'-6

112 - #5 x 9'-0
56 - #5 x 6'-6

SEGMENT #3

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
801	18	16-4	785
601	12	10-8	
602	12	19-4	
603	6	17-6	
Total #6			698
501	112	73-10	10-4"
502	112	74-10	10-4"
503	112	72-3	9-7"
504	224	12-5	
507	48	17-1	
508	24	5-9	
509	12	4-11	
511	3	19-0	
#5	112	31-0	
	198	8-9	
	12	3-6	
#5	12	3-0	14495
Total #5			78210
601	112	16-2	
602	100	15-6	
603	224	3-1	
604	112	5-0	
605	112	6-9	
606	112	10-7	
607	50	9-8	
608	48	6-3	
#4	218	49-1	
615	112	5-0	
Total #4			12421
605	72	8-7	
606	90	17-10	
Total #6			3338
513	18	8-3	
514	24	17-6	
515	12	4-7	
#5	12	10-6	
#5	6	6-6	
Total #5			822
Total Reinf. Steel			32374
			32559

CONCRETE

Lower	Upper	Total
46.0 Cy	127.8 Cy	173.8 Cy

112 - #5 x 9'-0
56 - #5 x 6'-6

SEGMENTS #6, #10, #14 & #18

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
501	112	73-10	10-4"
502	112	74-10	10-4"
503	112	72-3	9-7"
504	224	12-5	
#5	112	31-0	
#5	224	8-9	13709
Total #5			73617
601	112	16-2	
602	112	15-6	
603	232	3-1	
604	116	5-0	
605	112	6-9	
606	112	10-7	
607	56	9-8	
#4	218	49-1	
615	114	5-0	
Total #4			12473
Total Reinf. Steel			25990
			26182

CONCRETE

Seg.	Lower	Upper	Total
6	42.9 Cy	101.4 Cy	144.3 Cy
10	39.9	101.4	141.3
14	42.9	101.4	144.3
18	42.5 Cy	101.4 Cy	143.9 Cy

116 - #5 x 9'-0
58 - #5 x 6'-6

114 - #5 x 9'-0
57 - #5 x 6'-6

SEGMENTS #7, #11 & #15

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
801	18	16-4	785
601	12	10-8	
602	12	19-4	
603	6	17-6	
Total #6			698
501	114	73-10	10-4"
502	114	74-10	10-4"
503	114	72-3	9-7"
504	224	12-5	
507	48	17-1	
508	24	5-9	
509	12	4-11	
511	3	19-0	
#5	112	31-0	
	198	8-9	
	12	3-6	
#5	12	3-0	14584
Total #5			78396
601	112	16-2	
602	100	15-6	
603	228	3-1	
604	114	5-0	
605	112	6-9	
606	112	10-7	
607	50	9-8	
608	48	6-3	
#4	218	49-1	
615	114	5-0	
Total #4			12443
605	72	8-7	
606	90	17-10	
Total #6			3338
513	18	8-3	
514	24	17-6	
515	12	4-7	
#5	12	10-6	
#5	6	6-6	
Total #5			822
Total Reinf. Steel			32482
			32610

CONCRETE

Seg.	Lower	Upper	Total
7	46.0 Cy	127.8 Cy	173.8 Cy
11	39.5 Cy	128.4 Cy	167.9 Cy
15	46.0 Cy	127.8 Cy	173.8 Cy

88 - #5 x 9'-0
44 - #5 x 6'-6

SEGMENT #19

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
801	18	16-4	785
601	12	10-8	
602	12	19-4	
603	6	17-6	
Total #6			698
501	88	73-10	10-4"
502	88	74-10	10-4"
503	88	72-3	9-7"
504	224	12-5	
507	48	17-1	
508	24	5-9	
509	12	4-11	
511	3	19-0	
#5	112	31-0	
	198	8-9	
	12	3-6	
#5	12	3-0	13431
Total #5			72284
601	112	16-2	
602	100	15-6	
603	176	3-1	
604	88	5-0	
605	112	6-9	
606	112	10-7	
607	50	9-8	
608	48	6-3	
#4	218	49-1	
615	88	5-0	
Total #4			12162
605	72	8-7	
606	90	17-10	3338
Total #6			
513	18	8-3	
514	24	17-6	
515	12	4-7	
#5	12	10-6	
#5	6	6-6	
Total #5			822
Total Reinf. Steel			31491
			31236

CONCRETE

Lower	Upper	Total
46.0 Cy	127.8 Cy	173.8 Cy

94 - #5 x 9'-0
47 - #5 x 6'-6

8 - #5 x 9'-0
4 - #5 x 6'-6

SEGMENT #20

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
501	96	73-10	10-4"
502	96	74-10	10-4"
503	96	72-3	9-7"
504	224	12-5	
#5	112	31-0	
#5	224	8-9	12733
Total #5			78578
601	112	16-2	
602	112	15-6	
603	188	3-1	
604	96	5-0	
605	112	6-9	
606	112	10-7	
607	56	9-8	
#4	218	51-9	
615	96	5-0	
Total #4			12578
Total Reinf. Steel			25156
			25311

CONCRETE

Lower	Upper	Total
38.7 Cy	100.6 Cy	139.3 Cy

SEGMENT #21

REINFORCING

Size & Mark	No. of Bars	Length	Weight (Lbs.)
1101	6	16-2	515
#9	3	86-2	671
601	6	10-8	
604	35	7-2½	
607	22	6-3½	
Total #6			686
501	8	73-10	10-4"
502	8	74-10	10-4"
503	8	72-3	9-7"
504	18	12-5	
505	34	16-11	
506	2	12-9	
507	20	17-1	
509	4	4-11	
#5	10	25-6	
#5	9	31-0	
	32	4-0	
	18	8-9	
	4	3-6	
#5	12	3-0	2499
Total #5			2486
601	10	16-2	
602	10	15-6	
603	16	3-1	
604	8	5-0	
605	10	6-9	
606	10	10-7	
607	5	9-8	
#4	8	2-6	
#4	6	25-6	
615	8	5-0	
616	22	4-0	
Total #4			611
Total Reinf. Steel			4778
			4791

CONCRETE

Lower	Upper	Total
5.4 Cy	42.2 Cy	47.6 Cy

* Above Quantities Include 3.5 Cy In Segment Haunch Shown On Sheet 45-03

"BILL OF MATERIAL"

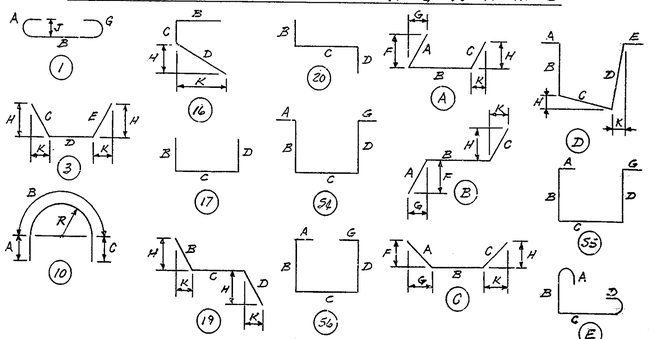
TENDON ANCHORAGE

Segmt. No.	No. of #6 x 6-0	No. of #6 x 6-0	Tot. Wt. #6	No. of #4 x 3-8½ Mk. 609	No. of #8 x 4-10 Mk. 610	No. of #4 x 2-3 Mk. 611	No. of #4 x 8-11½ Mk. 612	No. of #4 x 2-4 Mk. 613	No. of #4 x 2-11 Mk. 614	No. of #8 x 11-10	No. of #8 x 10-0	No. of #4 x 8-0	Tot. Wt. #4	Total Reinf. Steel
#1									B				16	16
#2	64	124	1322	32	124	32	92	92	B	12	4	124	1714	3036
#3	40	100	961	40	100	40	60	60	B	B	4	100	1374	2335
#4	32	128	1057	96	128	96	32	32	B	4	B	128	1714	2771
#5	32	80	749	48	80	48	32	32		4	4	80	1070	1839
#6	40	192	1514	88	192	88	104	104	16	12	B	192	2612	4126
#7	32	100	889	32	100	32	68	68	B	B	4	100	1374	2263
#8	32	140	1130	72	140	72	68	68	B	B	4	120	1904	3034
#9		36	216	36	36	36				4	4	36	479	695
#10	72	188	1778	68	188	68	120	120	16	12	B	188	2846	4624
#11	32	112	961	32	112	32	80	80	B	B	4	112	1529	2490
#12	40	112	1033	72	112	72	40	40	B	4	B	112	1515	2548
#13	32	68	697	36	68	36	32	32		4	4	68	920	1617
#14	32	172	1321	68	172	68	104	104	16	12	B	172	2361	3683
#15	40	108	1009	40	108	40	68	68	B	B	4	108	1474	2483
#16	32	164	1274	96	164	96	68	68	B	B	B	164	2206	3480
#17		48	288	48	48	48					4	48	629	917
#18	72	180	1730	88	180	88	92	92	16	12	B	180	2459	4189
#19	32	92	841	32	92	32	60	60	B	B	4	92	1274	2115
#20	32	32	481		32		32	32	B	4		32	456	937

"BENT BAR DETAILS"

Size	Length	Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
11	16-2	1101	3			1-6	14-10	—			1-3½		6½		
9	7-0	901	17		1-0	6-0	—								
8	16-4	801	3			1-4	15-0	—			1-3½		6½		
6	10-8	601	19		1-4	8-0	1-4				1-3½		6½		
6	19-4	602	56	B	7-5	3-2	7-5			B					
6	17-6	603	56	B	6-6	3-2	6-6			B					
5	73-10	501	A	6-6	8-0	1-4			7-05		1-3½		6½		
	74-10	502	B	6-6	8-0	1-4			7-05		1-3½		6½		
	72-3	503	20	6-6	8-0	1-4	7		7-05						
	12-5	504	1	7	11-10					—					
	16-11	505	55	6	7-5	1-1	7-5			6		5			
	12-9	506	55	6	5-4	1-1	5-4			6					
	17-1	507	17		7	16-6	—								
	5-9	508	10	6	4-9	6								1-6	3-0
	4-11	509	10	6	3-11	6								1-3	2-6
5	19-0	511	56	6	7-5	3-2	7-5			6					
4	16-2	601	3			1-6	14-10	—			1-3½		4		
	15-6	602	3			1-6	16-2	—			1-3½		4		
	3-1	603	C	8	1-9	B			5	6	6		5		
	5-0	604	3			B	8-6	—			7½		2		
	6-9	605	1	6	6-3					—		4			
	10-7	606	3			8-10	5-9	—			2-2		8-4		
	9-8	607	3			8-10	8-10	—			2-4½		8-2½		
	6-3	608	17		6	5-3	6								
	3-8½	609	D	9	9	7½	10	9			1		1½		
	4-10	610	17		10	8-0	—								
	2-3	611	56	6½	6	10	6			6½					
	3-11½	612	D	9	10½	7½	11½	9			1		1½		
	2-4	613	56	6½	6½	10	6½			6½					
	2-11	614	10	1-0	11	1-0								3½	7
	5-0	615	17		8	8-8	—								
4	8-0	616	1	6	3-2					—		4			
4	7-2½	608	56	3-6	1-1½	2-1	6			—					
6	8-7	605	56	8	2-01	3-2	2-01			B					
6	17-10	606	56	8	6-8	3-2	6-8			B					
6	6-3½	607	56	3-6	1-1½	9	11			—					
5	8-3	513	56	6	2-01	3-2	2-01	—		6					
5	17-6	514	56	6	6-8	3-2	6-8			6					
5	6-7	515	17		7	8-0	—								

"BENDING DIAGRAMS"



SEGMENT QUANTITIES & BENDING DIAGRAMS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- NONE

DATE:- May 6, 1977

Richard A. Miller PE

DRAWING:- D/3 OF 13 SHEET:- 25M OF 105

PROJECT:- BRF-92(12)

CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

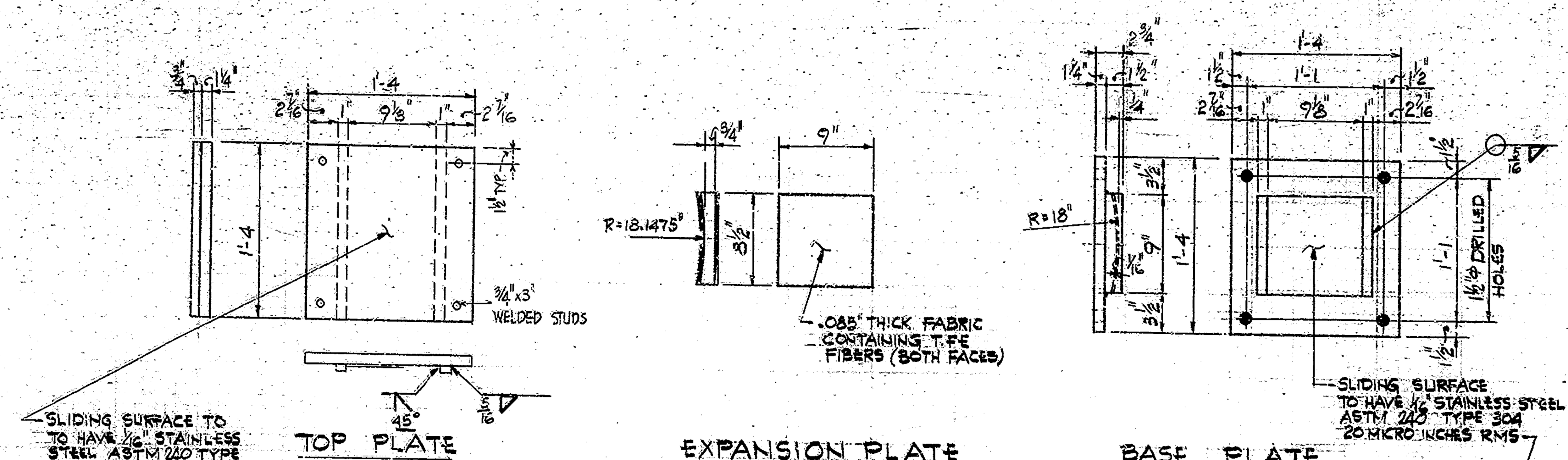
Rev. 5-23-77 501, 502, 503, #5 x 9'-0 & #5 x 6'-6

DESIGNED _____ CK'D _____

DRAWN _____ CK'D _____

TRACED _____ CK'D _____

RICHARD A. MILLER REGISTERED No. 14875 STATE OF INDIANA PROFESSIONAL ENGINEER

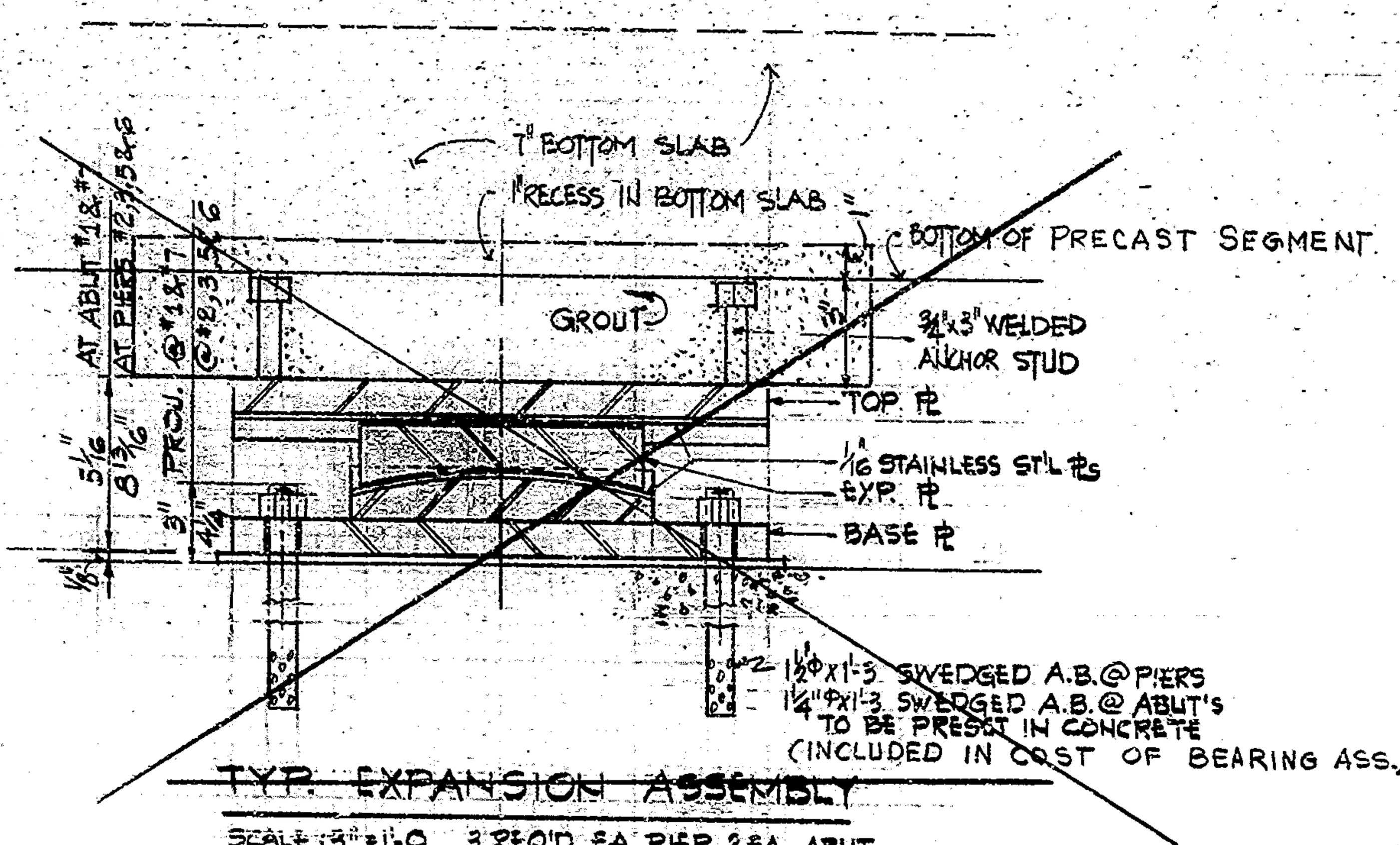


TOP PLATE (4 REQ'D)

EXPANSION PLATE (4-REQ'D)

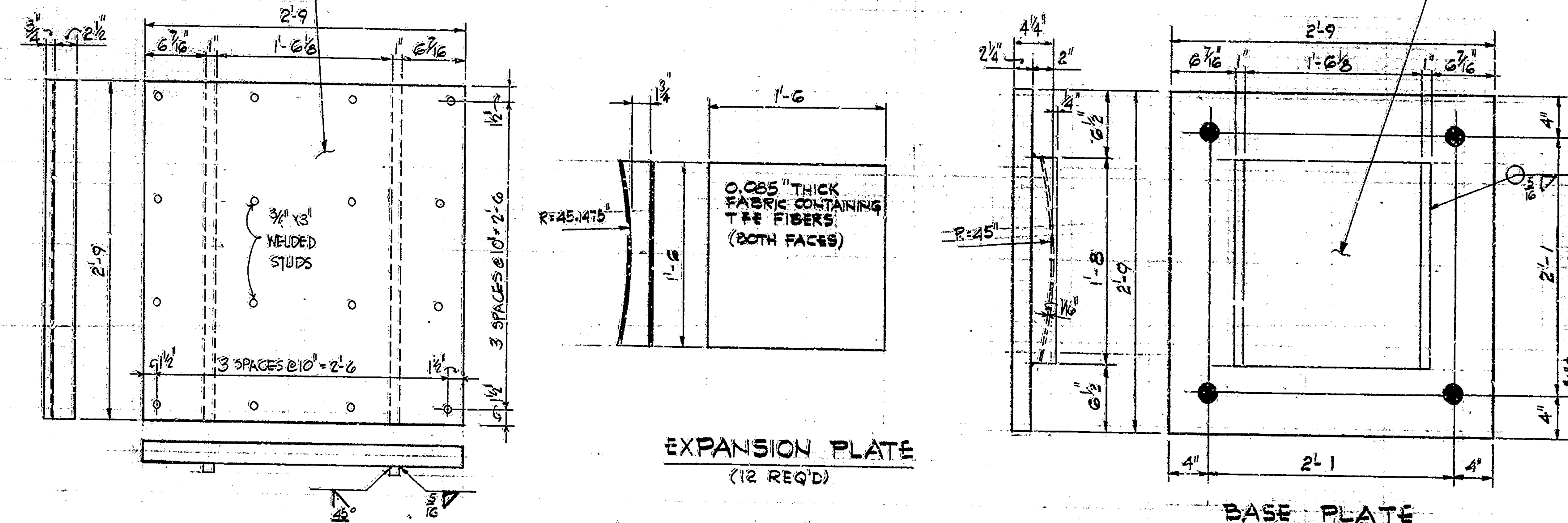
BASE PLATE (4 REQ'D)

AT ABUTMENTS #1 & #7



TYP. EXPANSION ASSEMBLY

SCALE: 3"=1'-0 3 REQ'D EA. PIER, 2 EA. ABUT.

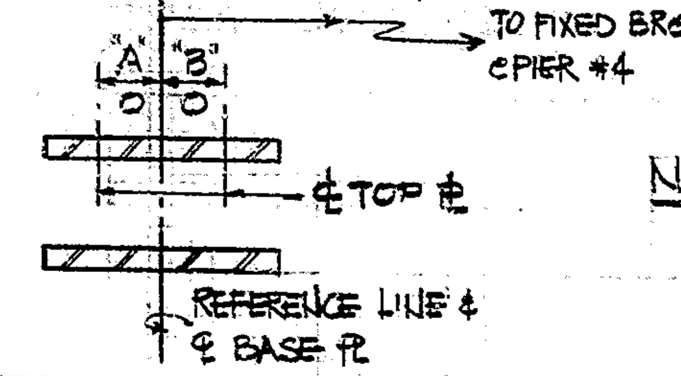


TOP PLATE (12 REQ'D)

EXPANSION PLATE (12 REQ'D)

BASE PLATE (12 REQ'D)

AT PIERS #2, #3, #5 & #6



TEMP.	ABUT #1 & #7		PIER #2 & #6		PIER #3 & #5	
°F	A	B	A	B	A	B
0		2"		1 5/8		13/16
20		1 3/8		1 1/16		9/16
40		11/16		9/16		1/4
60	0		0		0	
80	11/16		9/16		1/4	
100	1 3/8		1 1/16		9/16	
120	2		1 5/8		13/16	

NOTE: DIM. 'A' IS ALWAYS IN A DIRECTION AWAY FROM FIXED PIER #4.

SETTING OF TOP PLATE

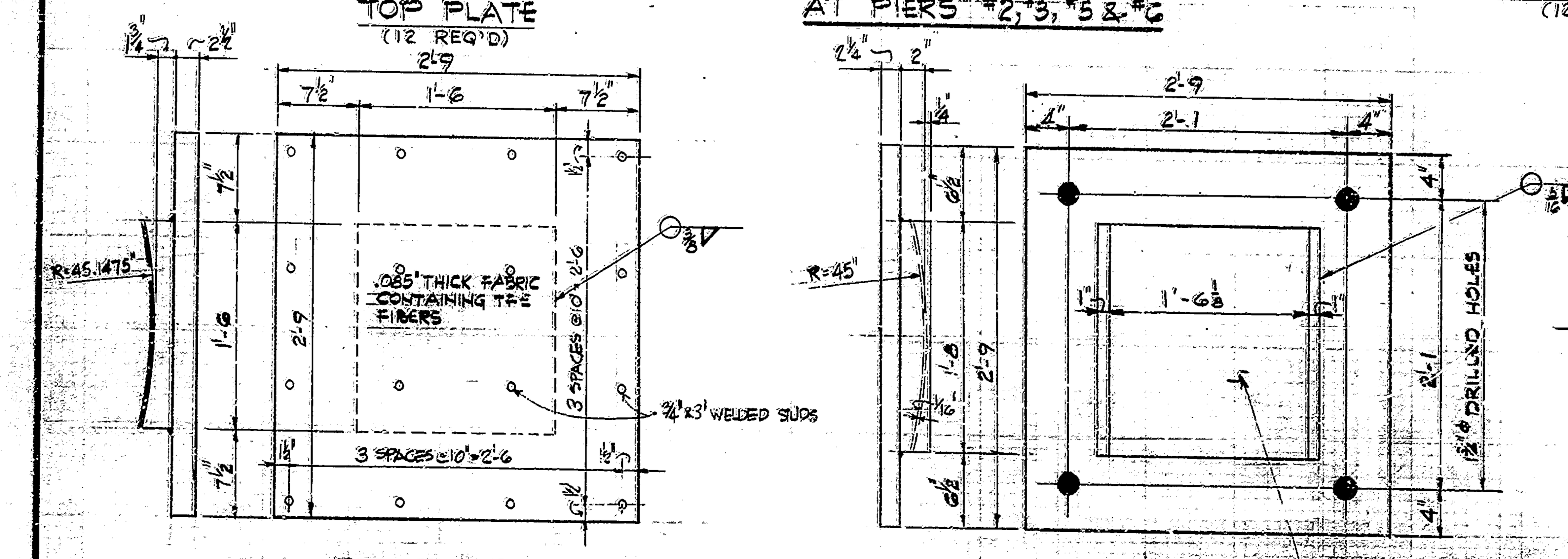
NOTE:

ALLOWABLE BEARING ON CONCRETE - 1000 P.S.I.
ALLOWABLE BEARING ON TFE - 3500 P.S.I.
MAX. COEFFICIENT OF FRICTION = 0.04 (@ 2000 P.S.I.)
ALL STEEL IN BEARINGS TO BE ASTM A-588
PROPRIETARY MAKES OF TEFLON BEARINGS MAY BE USED. SEE THE SPECIAL PROVISIONS.
BEARINGS TO BE PAID FOR AS "TEFLON BEARING ASSEMBLIES" - LUMP SUM.

BEARING DESIGN LOADS

LOCATION	MAX. REACTION KIPS/BRG.	MIN. REACTION KIPS/BRG.	LONG. FORCE KIPS/BRG.	LONG. MOVEMENT EXP. & CONT. (INS)
ABUT #1	220	50	9	± 2'
PIER #2	1068	933	43	± 1 5/8'
PIER #3	1111	983	45	[illegible]
PIER #4	1111	983	45	0
PIER #5	1111	983	45	± 13/16'
PIER #6	1068	933	43	± 1 5/8'
ABUT #7	220	50	9	± 2'

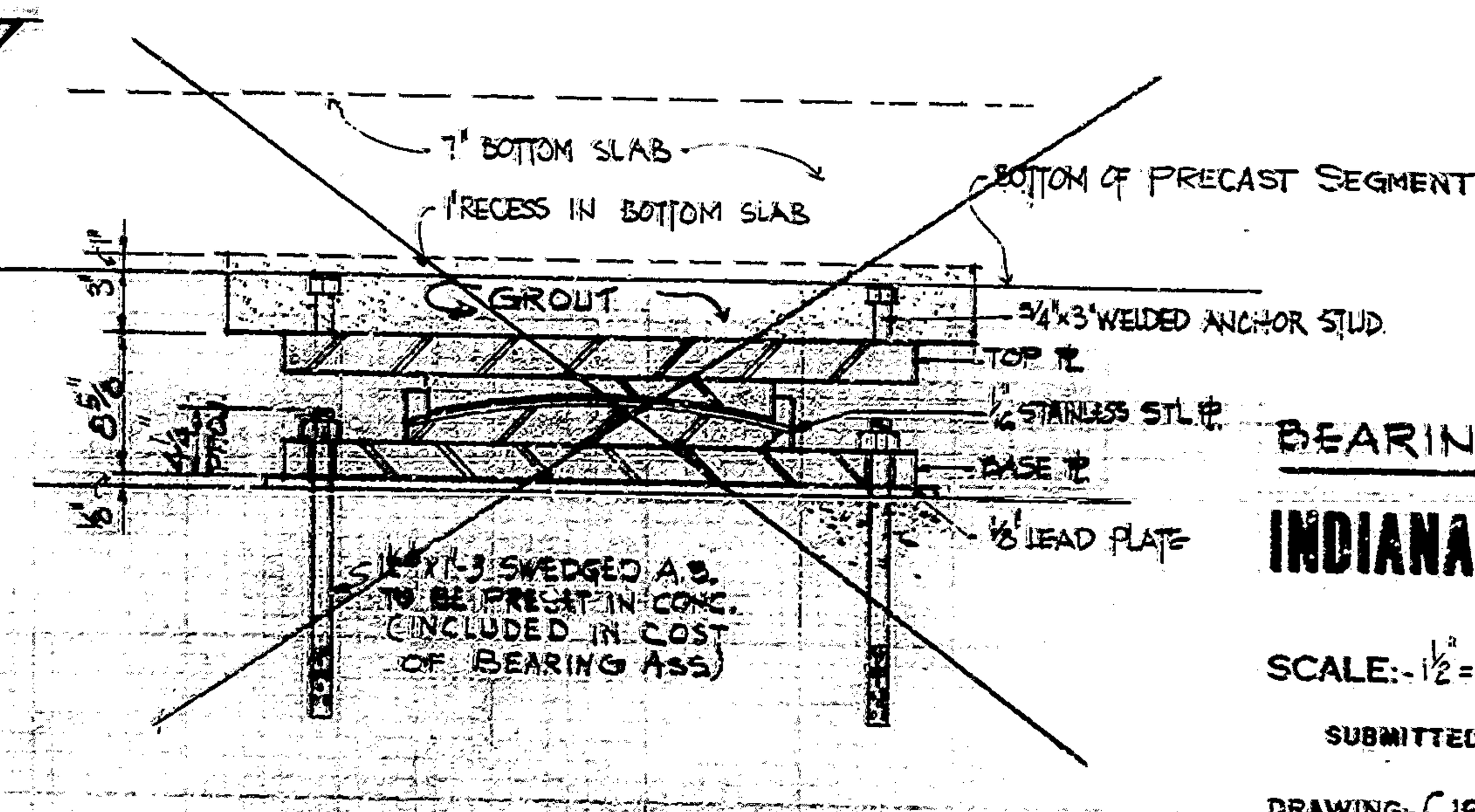
Note: See Sheet 20A for bearing installation details



TOP PLATE (3 REQ'D)

BASE PLATE (3 REQ'D)

AT PIER #4



TYP. FIXED BRG. ASSEMBLY

SCALE: 1 1/2"=1'-0" 3 REQ'D

Rev. 5-10-77 To accomodate incremental superstructure launching

DESIGNED JSS	C'KD T.L.G.		
DRAWN J.K.	C'KD JSS 8-6-75		
TRACED	C'KD		

BEARING DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1 1/2"=1'-0, UNLESS NOTED DATE: JULY 24, 1975

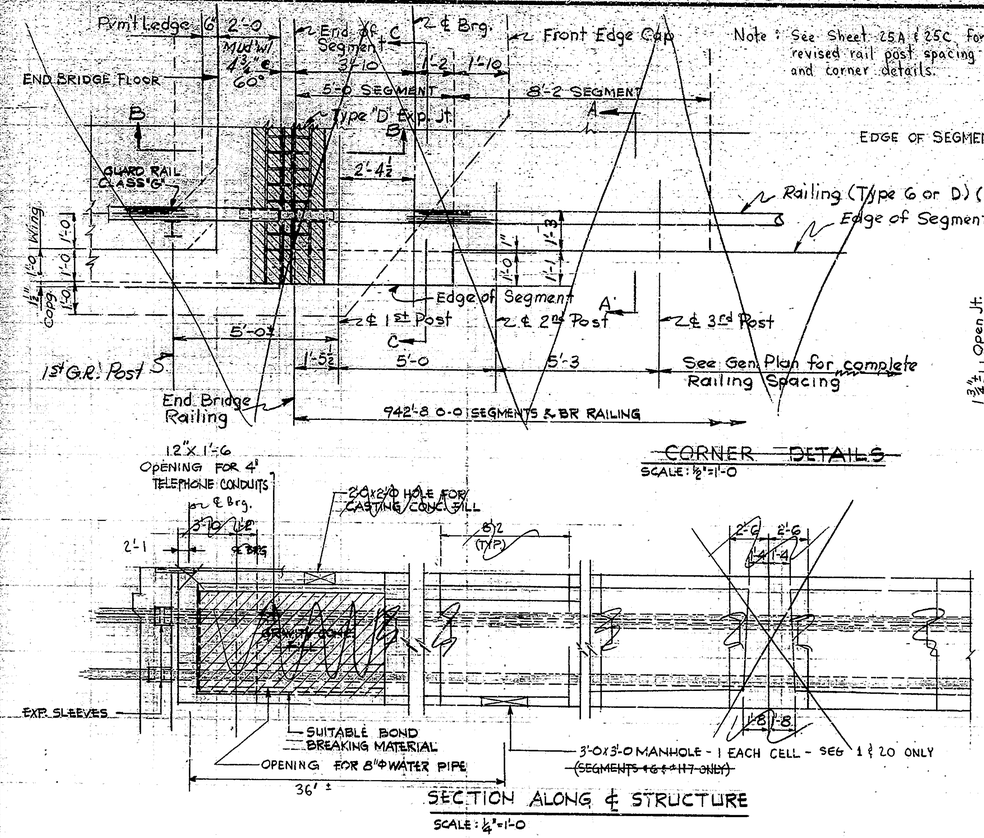
SUBMITTED FOR APPROVAL: John S. Spencer

DRAWING: C19 OF 21 SHEET: 34 OF 105

PROJECT: BRF-94 (12)

CONTRACT NO. B-10641

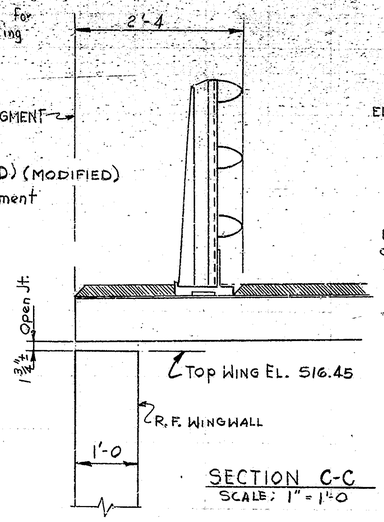
BRIDGE FILE: 136-23-6086



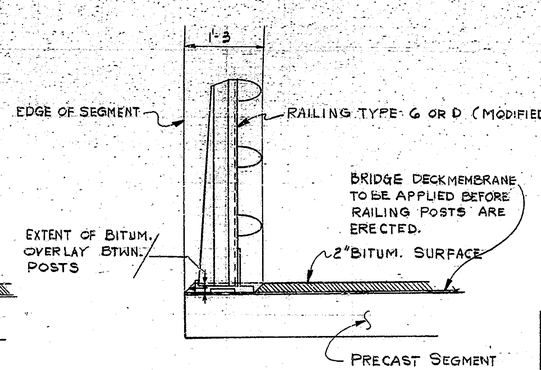
CORNER DETAILS
SCALE: ½"=1'-0

SECTION ALONG ℄ STRUCTURE
SCALE: ¼"=1'-0

Note: See Sheet 25A & 25C for revised rail post spacing and corner details.



SECTION C-C
SCALE: 1" = 1'-0



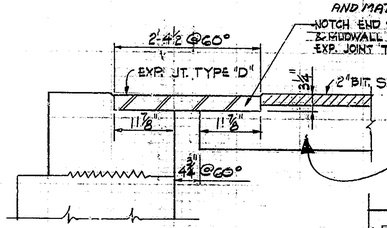
SECTION A-A
SCALE: 1" = 1'-0

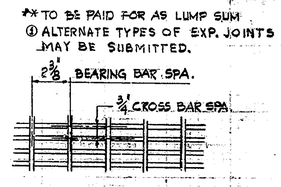
SUPERSTRUCTURE BILL OF MATERIALS

CONCRETE STRUCTURAL MEMBERS (LUMP SUM)	1
RAILING TYPE G OR D MODIFIED	885.3 LFt.
** BRIDGE DECK MEMBRANE	437553Ft.
BIT. MIXTURE FOR APPROACHES	523 Tons
EXP. JOINT TYPE "D" ① 2@48.7' =	97.4 Lft.

** TO BE PAID FOR AS LUMP SUM
① ALTERNATE TYPES OF EXP. JOINTS MAY BE SUBMITTED.

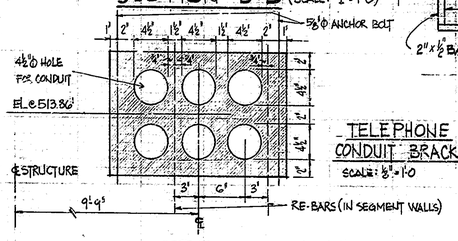
NOTE: THE D.S. BROWN DELASTIFLEX EXPANSION JOINT SYSTEM SL-600 MAY BE USED AS AN ALTERNATE. SHOP DRAWINGS WILL BE REQUIRED. THESE DRAWINGS MUST SHOW JOINT DETAILS AND MATERIALS AND INSTALLATION PROCEDURES.



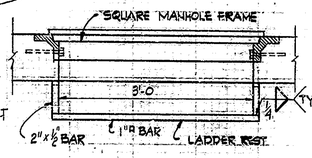


PARTIAL GRATING PLAN
SCALE: 3"=1'-0

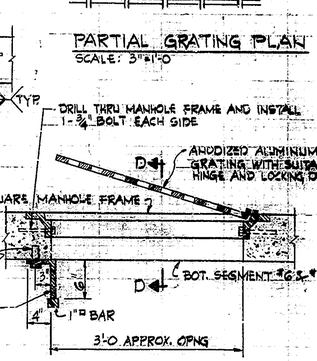
SECTION B-B (SCALE: 1'-0")



TELEPHONE CONDUIT BRACKET
SCALE: ½"=1'-0



SECTION D-D
SCALE: 1"=1'-0



Note: See Shop Drawings for Utility Support Locations

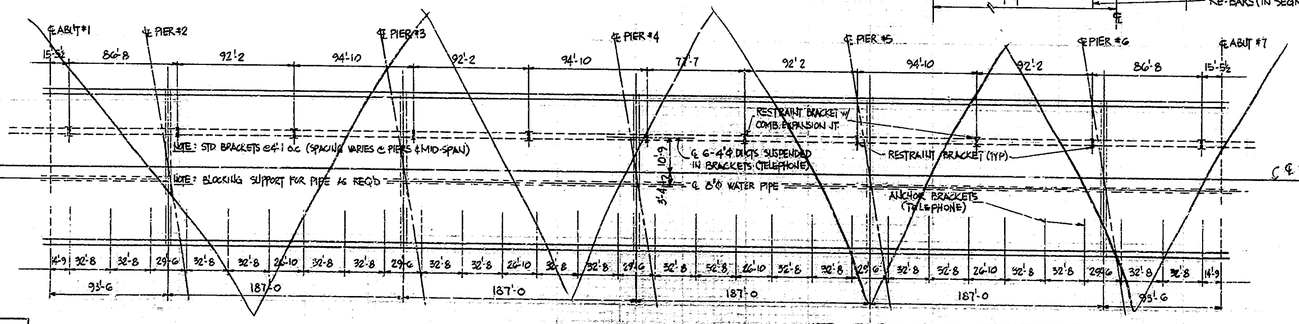
SECTION THRU MANHOLE
SCALE: 1"=1'-0

DATA USED IN DESIGN & DETAILS

LIVE LOAD: HS 20-44 with impact, with distribution of loads in accordance with 1973 A.A.S.H.T.O Specifications.

DEAD LOAD: Includes 35 #/ft' of roadway to provide for the weight of the overlay plus some additional future wearing surface.

UNIT STRESSES:
Substructure: f_s = 20,000 psi
f'_c = ~~1200 psi~~ 3000 psi
Superstructure: f'_c = ~~5500~~ psi 4800 psi
f_s = 24,000 psi (MILD REINFORCING)



UTILITIES FLOOR PLAN
SCALE: Horz. 1"=20'-0" Vert. 1"=10'-0"

NOTE: THE COST OF LABOR AND MATERIALS FOR INSTALLATION OF TELEPHONE CONDUITS AND WATER LINE WITHIN THE STRUCTURE WILL BE BORNE BY THE UTILITIES INVOLVED AND ARE NOT A PART OF THIS CONTRACT.

MISCELLANEOUS SUPERSTRUCTURE DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- JULY 24, 1975

SUBMITTED FOR APPROVAL:- John S. Spencer

DRAWING:- C20 OF 21 SHEET: 35 OF 105

PROJECT:- ~~BRF-94(12)~~

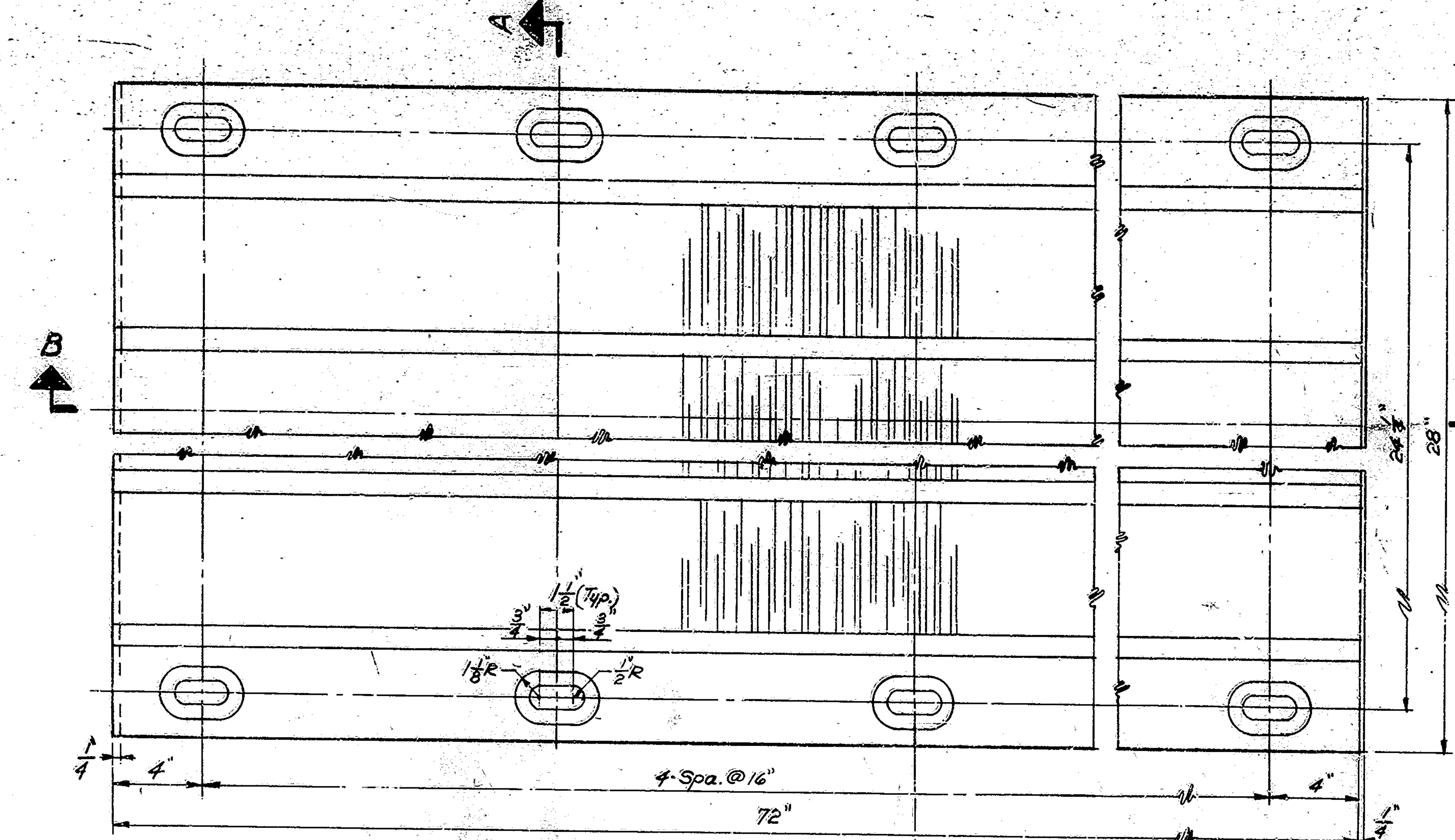
CONTRACT NO. B-10641

BRIDGE FILE:- 136-23-6086

DESIGNED J.S.S. CK'D J.K.
DRAWN J.K. CK'D J.S.S.
TRACED CK'D

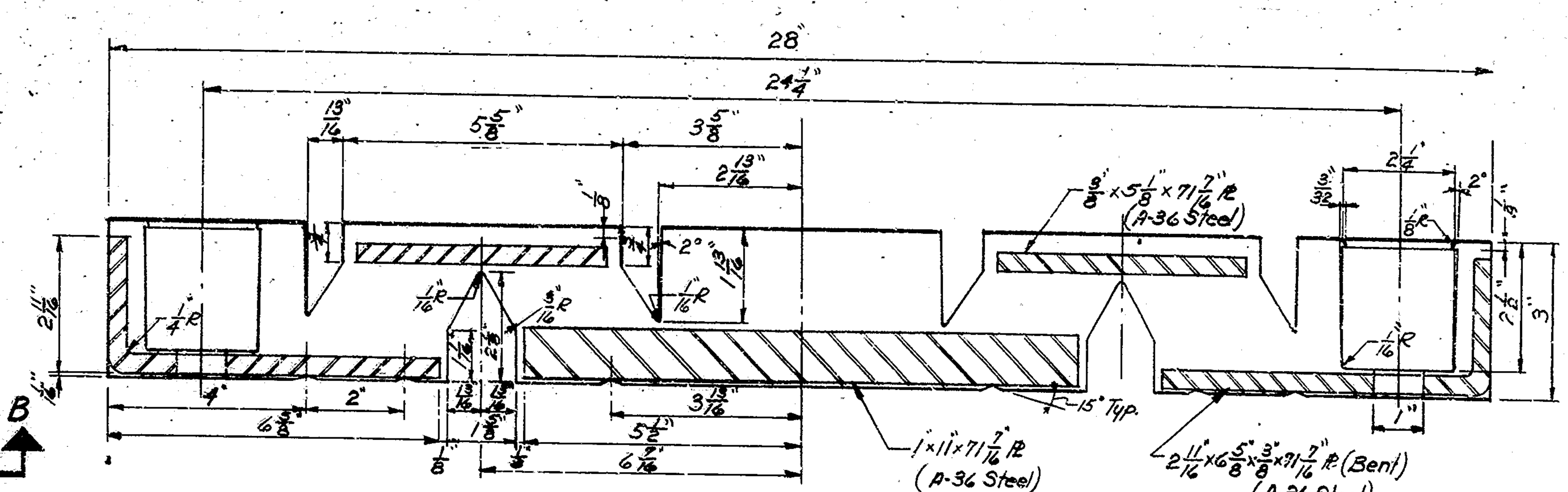
REV: 10-14-75, SL-600 EXPANSION JOINT

Rev. 5-10-77 To accomodate incremental superstructure launching.



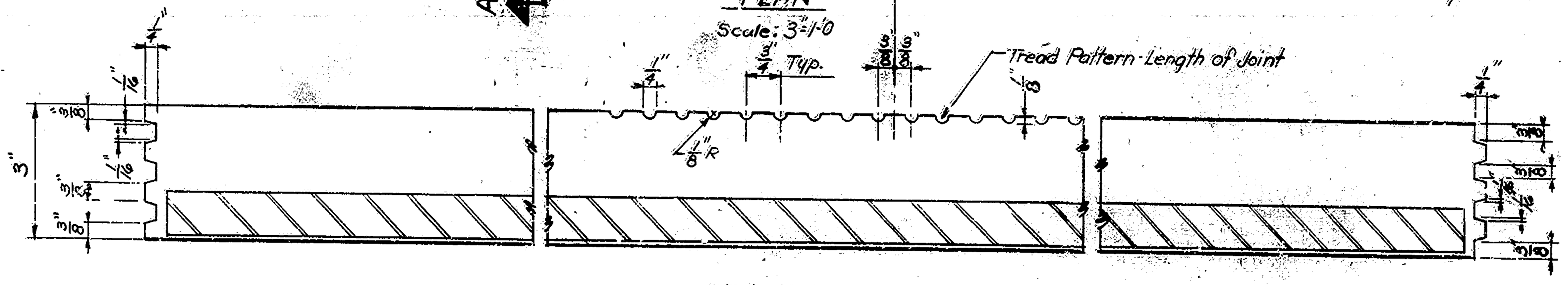
PLAN

Scale: 3"=1'-0



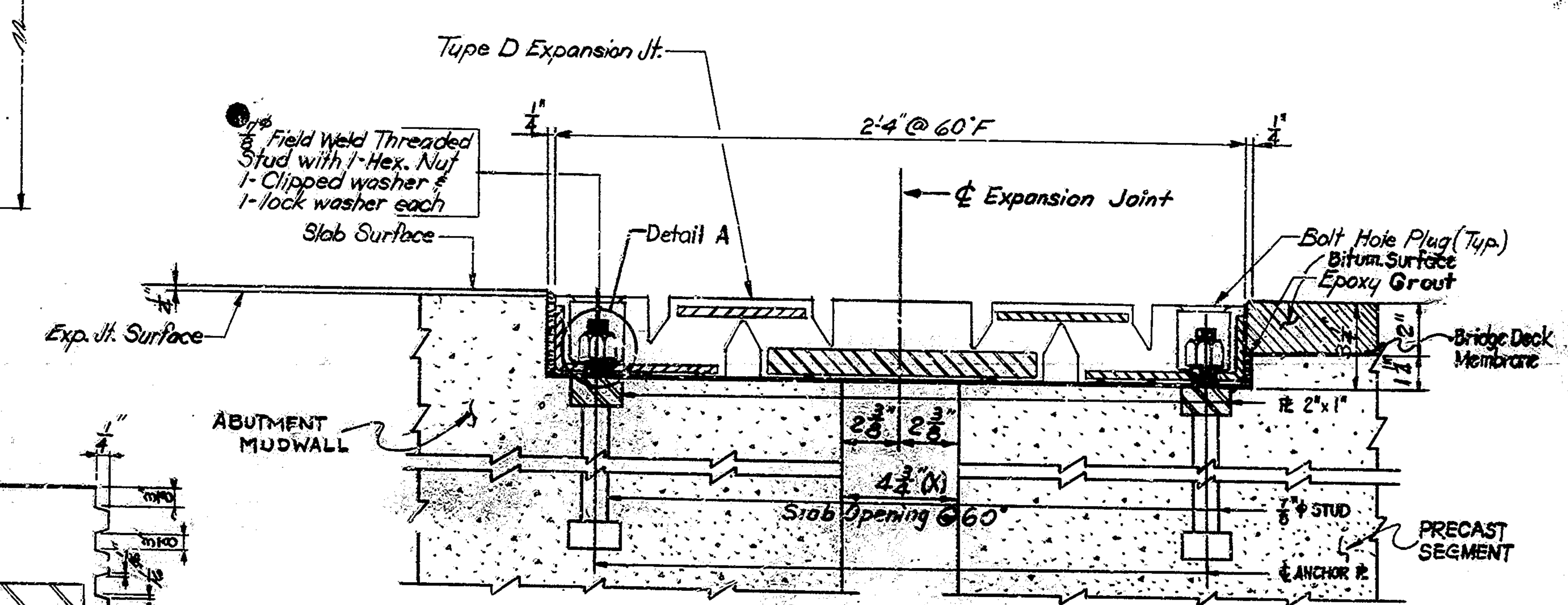
SECTION A-A

Scale: 6"=1'-0



SECTION B-B

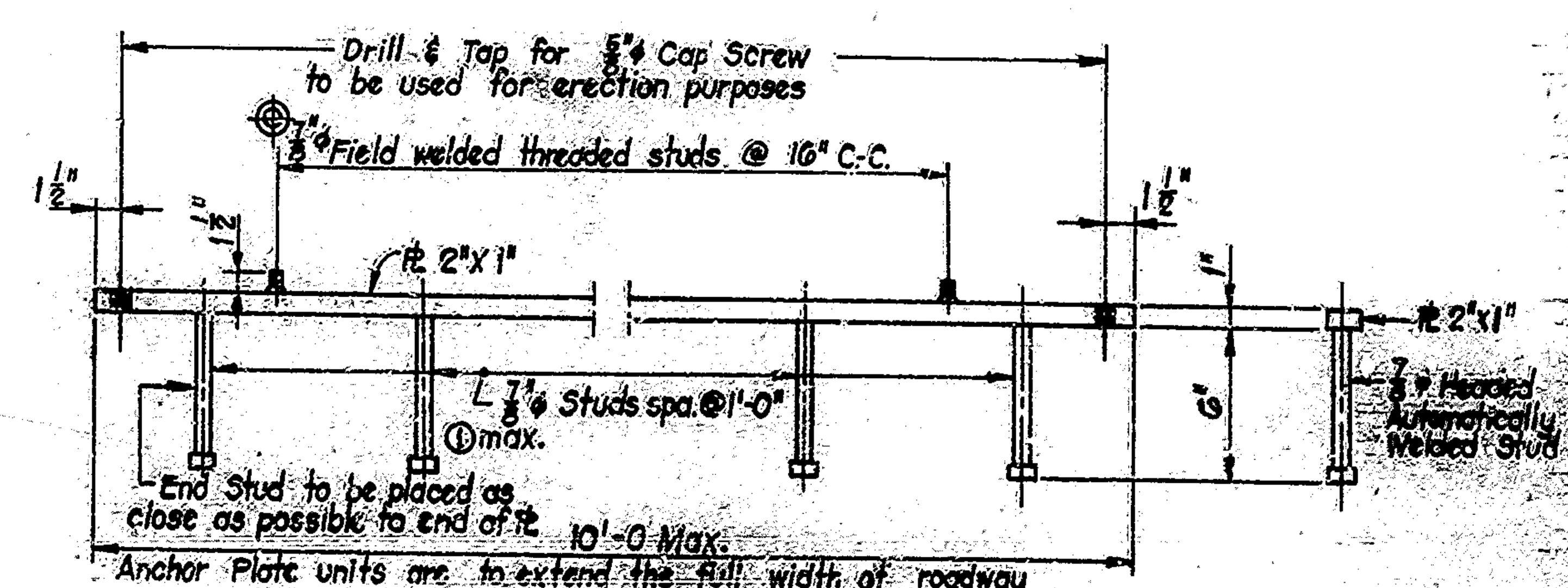
Scale: 6"=1'-0



SECTION THROUGH EXPANSION JOINT

Scale: 3" = 1'-0

For Dim "X" See Table of Expansion



ANCHOR PLATE DETAIL

Scale: 1½" = 1'-0"

◎ As an alternate, field drill and tap anchor plate for 7/8"φ bolts. Bolts must extend a minimum of 3/4" into anchor plate.

TABLE OF EXPANSION

°F	DIM "X"
0	6 11/16"
20	6 1/8"
40	5 1/16"
60	4 3/4"
80	4 1/16"
100	3 5/8"
120	2 13/16"

Steel for Anchor Pℓ's and Joint to be ASTM A36, A570 or Merchant Quality 1010, 1020.

(1) Maximum of 2-Studs in 10'-0 length may be cut off to length to clear tendon anchorages

An alternate anchor system may be used with the approval of the Engineer

Note:
The bed for the joint shall be formed as near to a true plane as possible. The bed shall then be smoothed to a true plane with a neat portland cement grout which shall be cured before the joint is set. The manufacturers recommendations for joint installation, proper bolt torque, sealant application, bolt protection etc. shall be followed.
● Flush with top of anchor plate when used.

NOTES:

Refer to Special Provisions for physical properties of materials and construction methods.

The cost of the Anchor plates, Threaded Studs Concrete Anchors, Bolt Hole Plugs and all materials needed to erect the expansion joint shall be included in the cost of the pay item Type D Expansion joint.

Tighten nuts on 7/8"φ threaded Studs to 100 ft/lbs torque.

All Bolt Holes to be plugged with proper Bolt Hole Plugs as supplied by the manufacturer.

TYPE D EXPANSION JOINT DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

DATE:- July 24, 1975

SUBMITTED FOR APPROVAL:- John S. Spencer

DRAWING:- C21 OF 21 SHEET: 36 OF 105

PROJECT:- BRF-94(12)

CONTRACT NO. B-10641

BRIDGE FILE 136-23-6086

DESIGNED____ CK'D____
DRAWN____ CK'D____
TRACED R.S. CK'D J.S.S.

Rev. 5-28-76 Epoxy Mortar

STRUCTURE QUANTITIES

BRS-3086(1) & BRS-4823(1)

ITEM	CONCRETE: CLASS C SUPERSTR CU. YDS.	CLASS A SUBSTR CU. YDS.	CLASS B ABOVE FTG. CU. YDS.	CLASS B IN FTG. CU. YDS.	SPECIAL CLASS "C" CU YDS	GRAVITY CONCRETE CU. YDS.	CONCRETE RAILING CLASS C CU. YDS.	CONCRETE RAILING CLASS C LIN. FT.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL *** LBS.	ANCHOR RODS MK-AR EACH	ANCHOR PLATES MK-AP EACH	PILES: UNTREATED TIMBER NO.	UNTREATED TIMBER LIN. FT.	TREATED TIMBER NO.	TREATED TIMBER LIN. FT.	STEEL H HP 12 x 53 NO.	STEEL H HP 12 x 53 LIN. FT.	STEEL H HP 10 x 42 NO.	STEEL H HP 10 x 42 LIN. FT.	CAST IRON DRAIN PIPE LBS.	CAST IRON GRATES, BASINS, & FITTINGS LBS.	RAILING TYPE C OR D LIN. FT.	EXP JOINT TYPE D LIN. FT.	EXP JOINT TYPE LIN. FT.	CONC. STR. MEMBERS: BOX BEAMS TYPE SQ. FT.	CONC. STR. MEMBERS: I BEAM TYPE LIN. FT.	BITUOUS DECK MEMBRANE: SHEET SQ. FT.	BITUOUS DECK MEMBRANE: LIQUID SQ. FT.	BITUM MIXTURE FOR APPROACHES TONS	MOD. P.C. CONCRETE OVERLAY CU. YDS	DECK DRAIN EACH	SURFACE SEAL SQ. FT.	MOD. PC. PATCHING CU. YDS.
ABUTMENT № 1		49.4		61.1					10172										30	1440														
PIER № 2		24.2	59.0	95.0					10965								46	1012																
PIER № 3		24.2	99.8	75.0					10770																									
TOTAL 3086		97.8	159.4	232.5					31857																									
PIER № 4		24.2	122.0	84.4					15852								46	1012	30	1440														
PIER № 5		24.2	73.0	75.0					9910																									
PIER № 6		24.2	73.0	75.0					9910																									
ABUTMENT № 7		49.4		61.1					10172										30	810														
TOTAL 4823		122.0	269.8	296.7					45844										30	810														
SUPERSTRUCTURE 3086					7.0	69.5																	748.5	48.7					17370		207.5			
SUPERSTRUCTURE 4823					21.0	69.5																	1136.8	46.7					26385		315.1			
Reinf. Steel for Approach Structures																																		
Reinf. Steel for R.C. Bridge Approaches																																		
Reinf. Steel for Lip Gutter, Pvmt., Tapers, etc.																																		
TOTALS		219.8	269.2	529.0	28.0	139.0			77701								46	1012	60	2250			1885.3	97.4					43755		522.6			

APPROACH STRUCTURES

STRUCT. NO.	LOCATION	DESCRIPTION: SIZE	DESCRIPTION: KIND	LENGTH LIN. FT.	CONCR. CL. A IN STRS. CU. YDS.	REINF STEEL LBS.	PIPE END SEC. EACH	REMARKS
			(SEE APPROACH SUMMARY)					
				TOTALS				Total of Reinforcing Steel Carried to "Structure Quantities"

PAVED SIDE DITCH & SODDING SUMMARY

LT. OR RT.	STATION TO STATION	PAVED SIDE DITCH (LIN. FT.): TYPE	PAY LENGTH	NO. OF LUGS	PAY LENGTH	CUT OFF WALLS: PAY LENGTH	TOTAL PAY LENGTH	SODDING (SQ. YD.): FOR PSD	FOR DITCHES	SHOULDERS	OTHER	TOTAL SOD
			(SEE APPROACH SUMMARY)									

APPROACH TABLE

LOCATION: LT/RT	LOCATION: STATION	DESCRIPTION	WIDTH FT.	RADII FT.	GRADE %	LENGTH FT.	DIST. BEYOND R/W FT.	EXCAVATION(CYS): CUT	EXCAVATION(CYS): FILL	BITUM. SURFACE #/SQ.YD.	BITUM. SURFACE TONS	BITUM. BINDER #/SQ.YD.	BITUM. BINDER TONS	BITUM. BASE #/SQ.YD.	BITUM. BASE TONS	COMP. AGG. BASE: Depth(in)	COMP. AGG. BASE: TONS
			(SEE TABLE OF QUANTITIES)														

OCTOBER, 1973

SUMMARIZED JSS 5/21/75 C'K'D. W.E.M. 6/12/75
TRACED GK 7/11/75 C'K'D. ESC 7/11/75

NOTES:
Weight of Spirals includes weight of 1½ extra turns top and bottom.
Spacers and 1½ turns at tops included in cost of Spiral.
*** The weight of structural steel is approximate only, and it shall be the Contractor's responsibility to determine the weight on which he bases his bid.
For Test Bar Samples See Bridge Standard C1.

REVISIONS

DATE	ITEM
7-30-76	ITEMS, BRS-3086(1), BRS-4823(1)

BRIDGE SUMMARY
INDIANA STATE HIGHWAY COMMISSION

DATE: JULY 24, 1975

John S. Spencer

SHEET 37 OF 105

PROJECT: BRF-94(12)
CONTRACT NO: B-10641
BRIDGE FILE: 136-03-3086

JOHN S. SPENCER — REGISTERED — No. 9740 — STATE OF — PROFESSIONAL ENGINEER

ESTIMATE OF QUANTITIES

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE BRS-3086(1)	STRUCTURE BRS-4823(1)	TOTAL QUANTITY
	MOBILIZATION	LSUM	1	1	1
51002	CONCRETE CLASS C IN SUPERSTRUCTURE	CYS.			
51001	CONCRETE, CLASS A IN SUPERSTRUCTURE	CYS.			
51005	CONCRETE, CLASS A IN SUBSTRUCTURE	CYS.	97.8	122.0	219.8
51010	CONCRETE, CLASS B ABOVE FOOTINGS	CYS.	159.4	269.8	429.2
51015	CONCRETE, CLASS B IN FOOTINGS	CYS.	232.3	296.7	529.0
51875	SPECIAL CLASS A CONCRETE	SF.			
	GRAVITY CONCRETE	CYS.	69.5	69.5	139.0
51045	CONCRETE STRUCTURAL MEMBERS	LSUM	1	1	1
51010	REINFORCING STEEL	LBS.	32144 *	48149 *	80293
51035	STRUCTURAL STEEL	LBS.			
51038	STRUCTURAL STEEL	LSUM			
51090	BRONZE PLATES	LBS.			
51050	ANCHOR RODS (MK-AR 1)	EACH			
51055	ANCHOR RODS (MK-AR 2)	EACH			
51060	ANCHOR RODS (MK-AR 3)	EACH			
51065	ANCHOR RODS (MK-AR 4)	EACH			
51070	ANCHOR PLATES (MK-AP 1)	EACH			
51075	ANCHOR PLATES (MK-AP 2)	EACH			
51080	ANCHOR PLATES (MK-AP 3)	EACH			
51085	ANCHOR PLATES (MK-AP 4)	EACH			
51112	ANCHOR BOLTS	EACH			
51068	TIE DOWN ASSEMBLY MK-TA	EACH			
	TEFLON BEARING ASSEMBLIES	LSUM	1	1	1
51085	CAST IRON, DRAIN PIPE, 6 INCH	LBS.			
51100	CAST IRON, DRAIN PIPE, 6 INCH	LBS.			
51105	CAST IRON, DRAIN PIPE, 8 INCH	LBS.			
51110	CAST IRON, GRATES, BASINS AND FITTINGS	LBS.			
51132	RAILING RESET	LFT.			
51115	RAILING (TYPE 5 OR C)	LFT.			
51120	RAILING (TYPE 5A OR C1)	LFT.			
51125	RAILING (TYPE 6 OR D) MODIFED	LFT.	748.2	1136.8	1885
51130	RAILING (TYPE 7 OR E)	LFT.			
51020	CLASS C, CONCRETE RAILING	CYS.			
51025	CLASS C, CONCRETE RAILING	LFT.			
51131	BARRIER RAILING TYPE X	LFT.			
51215	CLASS X EXCAVATION	CYS.	39	39	78
51220	WET EXCAVATION	CYS.	147	222	369
51223	WATERWAY EXCAVATION	CYS.	2720	8150	10870
51224	WATERWAY EXCAVATION	LSUM			
51225	DRY EXCAVATION	CYS.			
51230	FOUNDATION EXCAVATION (UNCLASSIFIED)	CYS.	292	436	728
51231	FOUNDATION EXCAVATION (UNCLASSIFIED)	LSUM			
	COFFERDAMS	LSUM	1	1	1
51813	PNEUMATICALLY PLACED MORTAR	SFT.			
51806	REPOINTING MASONRY IN STR'S.	SFT.			
51814	WELDED STEEL WIRE FABRIC	SFT.			
51859	PAINTING OLD STEEL BRIDGE	LSUM			
51881	EXPANSION JOINT, TYPE BS2	LFT.			
51882	EXPANSION JOINT, TYPE BS3	LFT.			
51885	EXPANSION JOINT, TYPE BS6	LFT.			
51887	EXPANSION JOINT, TYPE BS8	LFT.			
51888	EXPANSION JOINT, TYPE BS9	LFT.			
51900	EXPANSION JOINT, TYPE A	LFT.			
51901	EXPANSION JOINT, TYPE B	LFT.			
51902	EXPANSION JOINT, TYPE C	LFT.			
51903	EXPANSION JOINT, TYPE D	LFT.	48.5	48.5	97
51904	EXPANSION JOINT, TYPE E	LFT.			
51905	EXPANSION JOINT, TYPE H	LFT.			
51910	EXPANSION JOINT, TYPE SR2	LFT.			
51911	EXPANSION JOINT, TYPE SR2.5	LFT.			
51912	EXPANSION JOINT, TYPE SR4	LFT.			
51915	EXPANSION JOINT, TYPE SR200	LFT.			
51916	EXPANSION JOINT, TYPE SR300	LFT.			
51917	EXPANSION JOINT, TYPE SR400	LFT.			

* Includes 1296 Lbs. For R.C. Br. Approach

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE BRS-3086(1)	STRUCTURE BRS-4823(1)	TOTAL QUANTITY
51135	TIMBER PILES FURNISHED, UNTREATED	LFT.			
51140	TIMBER PILES DRIVEN, UNTREATED	LFT.			
51145	TIMBER PILES FURNISHED, TREATED	LFT.			
51150	TIMBER PILES DRIVEN, TREATED	LFT.			
51155	PILE SHELLS FURNISHED AND - - DRIVEN (12 INCH)	LFT.			
51160	PILE SHELLS FURNISHED AND DRIVEN (14 INCH)	LFT.			
51185	STEEL H PILES FURNISHED AND DRIVEN (8 BP 36)	LFT.			
51190	STEEL H PILES FURNISHED AND DRIVEN (10 BP 42)	LFT.	1410	810	2550
51195	STEEL H PILES FURNISHED AND DRIVEN (12 BP 53)	LFT.	1012		1012
51210	PILE ENCASEMENT (CONCRETE)	LFT.			
51328	REMOVAL OF PRESENT STRUCTURE (PORTIONS)	LSUM			
51330	REMOVAL OF PRESENT STRUCTURE	LSUM	1	1	1
51335	TEMPORARY BRIDGE AND APPROACHES	LSUM			
51366	CONCRETE SLOPEWALL 5 INCH	SYS.			
51365	SLOPEWALL	SYS.			
51370	RIPRAP	SYS.			
51375	REVETMENT RIPRAP	TON	1665	4507	6172
51371	HANDLAID RIPRAP 12 INCH	SYS.			
51372	DUMPED RIPRAP	TON			
51105	DECK DRAINS	EACH			
51395	STEEL DRAIN PIPE (6 INCH)	LSUM			
51400	STEEL DRAIN PIPE (8 INCH)	LSUM			
51092	STEEL PIPE CONDUIT (2 INCH)	LFT.			
51866	RIVETS REMOVED	EACH			
51864	FIELD DRILLED HOLES	EACH			
51867	STRUCTURAL STEEL CUTTING	SYM			
51826	SURFACE SEAL	SFT.			
51827	COAL TAR INTERLAYER PROTECTIVE COAT	LSUM			
	BRIDGE DECK MEMBRANE	LSUM	1	1	1
51830	SHEET APPLIED MEMBRANE	LSUM			
51828	LIQUID APPLIED MEMBRANE	LSUM			
51831	MODIFIED PORTLAND CEMENT CONCRETE OVERLAY	CYS.			
51832	MODIFIED PORTLAND CEMENT CONCRETE (PATCHING)	CYS.			
51833	CONCRETE SCARIFYING	SYS.			
51834	REMOVAL OF SCARIFYING DUST	LSUM			
51835	HANDCHIPPING AND CLEANING	SYS.			
51836	CONCRETE SAWING	LFT.			
51837	SANDBLASTING AND CLEANING	SYS.			
51838	FINISHING AND CURING	SYS.			

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE BRS-3086(1)	STRUCTURE BRS-4823(1)	TOTAL QUANTITY
02020	UNCLASSIFIED EXCAVATION	CYS.			
52240	COMMON EXCAVATION	CYS.	9956	8073	18029
52245	BORROW	CYS.	171415	139120	310535
52250	B BORROW	CYS.			
	B BORROW FOR STRUCT BACK-FILL	CYS.	475	475	950
52303	REMOVAL OF PAVEMENT	SYS.		2079	2079
02235	BREAKING PAVEMENT	SYS.			
	CURB REMOVAL	LFT.		287	287
52490	TERMINAL JOINT	LFT.			
52495	CONTRACTION JOINT, TYPE D-1	LFT.			
52280	CONCRETE PAVEMENT REINFORCED (7 INCH)	SYS.			
52285	CONCRETE PAVEMENT REINFORCED (8 INCH)	SYS.			
52290	CONCRETE PAVEMENT REINFORCED (9 INCH)	SYS.			
52300	CONCRETE PAVEMENT REINFORCED (10 INCH)	SYS.	54.7	54.7	109.4
06070	CONCRETE SIDEWALK	SYS.			
52305	TYPE P COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	50	63	113
52600	COVER AGGREGATE	TON			
52805	COVER AGGREGATE (SIZE NO. 12)	TON	35	29	64
52605	AGGREGATE FOR SHOULDER DRAINS	TON			
52616	AGGREGATE FOR UNDER DRAINS	CYS.			
52308	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON			
52310	SUBBASE	CYS.			
52315	BITUMINOUS STABILIZED SUBBASE TYPE I, II, OR III	TON			
52320	BITUMINOUS STABILIZED SUBBASE	TON	1250	1019	2269
52445	BITUMINOUS BASE	TON	2870	2019	4889
52446	BITUMINOUS BASE (SIZE NO. 5)	TON			
52451	BITUMINOUS BINDER	TON	624	459	1083
52450	BITUMINOUS SURFACE	TON	340	275	615
52455	BITUMINOUS MATERIAL FOR TACK COAT	TON	1.1	1.0	2.1
52460	BITUMINOUS MATERIAL FOR PRIME COAT	TON	16.4	15.3	29.7
52465	BITUMINOUS MATERIAL FOR SEAL COAT	TON	5.1	4.2	9.3
52470	BITUMINOUS MIXTURE FOR APPROACHES	TON	265**	716**	979
52475	BITUMINOUS MIXTURE FOR SHOULDER	TON			
52480	BITUMINOUS MATERIAL, APPLIED	TON			
52500	GUARD RAIL, TYPE A	LFT.	60	30	90
52505	GUARD RAIL, TYPE B	LFT.	3154	1238	4392
52510	GUARD RAIL, TYPE C	LFT.			
52515	GUARD RAIL, TYPE D	LFT.			
52520	GUARD RAIL, TYPE E	LFT.			
52525	GUARD RAIL, TYPE F	LFT.			
52530	GUARD RAIL, TYPE G	LFT.	200	200	400
52531	GUARD RAIL, TYPE H	LFT.			
06035	RESET GUARD RAIL	LFT.			
52535	REMOVAL OF GUARD RAIL	LFT.			
52380	SODDING	SYS.	1906	1546	3452
52385	MULCHED SEEDING	SYS.			
52390	SEED MIXTURES	LBS.			
52395	TEMPORARY SEED MIXTURES	LBS.			
1. 52400	MULCHING MATERIAL	TON	42	42	84
2. 52435	FERTILIZER	TON	8	9	17
52410	WATER	M.G.	141	142	283
3. 52415	AGRICULTURAL LIMESTONE	TON	11	10	21
06560	CREWN VETCH SEEDING	LBS.			
52401	MULCHING MATERIAL (WOOD CELLULOSE FIBER)	TON			
	Seed Mixture "CV"	LBS	46	44	90
52640	MAINTAINING TRAFFIC	LSUM			
52370	CLEARING RIGHT-OF-WAY	LSUM			
	BITUMINOUS BASE (N2330)	TON	1186	1121	2307

1. INCLUDES 379 TONS FOR TEMPORARY SEEDING
2. INCLUDES 15 TONS FOR TEMPORARY SEEDING
3. INCLUDES 84 TONS FOR TEMPORARY SEEDING

** Includes 207 Tons for Bridge Deck
*** " 316 " " " "

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE BRS-3086(1)	STRUCTURE BRS-4823(1)	TOTAL QUANTITY
07035	PIPE: GR. A (16 Ga. FBCCS) 12"	LFT.			
07075	PIPE: GR. A (16 Ga. FBCCS) 15"	LFT.			
07125	PIPE: GR. A (16 Ga. FBCCS) 18"	LFT.			
07175	PIPE: GR. A (16 Ga. FBCCS) 24"	LFT.			
07225	PIPE: GR. A (16 Ga. FBCCS) 30"	LFT.			
07275	PIPE: GR. A (16 Ga. FBCCS) 36"	LFT.			
07325	PIPE: GR. A (16 Ga. FBCCS) 42"	LFT.			
	PIPE: SEE K 6"	LFT.	1970	2712	4382
10000	PIPE: GR. D (16 Ga. CS) 12"	LFT.			
10025	PIPE: GR. D (16 Ga. CS) 15"	LFT.			
10050	PIPE: GR. D (16 Ga. CS) 18"	LFT.			
10075	PIPE: GR. D (16 Ga. CS) 24"	LFT.			
10100	PIPE: GR. D (16 Ga. CS) 30"	LFT.			
10125	PIPE: GR. D (16 Ga. CS) 36"	LFT.			
10150	PIPE: GR. D (16 Ga. CS) 42"	LFT.			
34000	PIPE: 18 Ga. FBC PERF. CS 6"	LFT.			
29000	PIPE: 16 Ga. FBCCS 12"	LFT.			
52375	CONCRETE CLASS A IN STRUCTURE	CYS.		3.9	3.9
52376	CONCRETE CLASS C IN STRUCTURE	CYS.			
46000	PIPE END SECTION 12"	EACH			
46005	PIPE END SECTION 15"	EACH		1	1
46010	PIPE END SECTION 18"	EACH			
46015	PIPE END SECTION 21"	EACH			
46020	PIPE END SECTION 24"	EACH	2		2
46025	PIPE END SECTION 27"	EACH			
46030	PIPE END SECTION 30"	EACH		1	1
46035	PIPE END SECTION 33"	EACH			
46040	PIPE END SECTION 36"	EACH		2	2
43000	INLET, TYPE A-1	EACH			
45025	INLET, TYPE D-6	EACH			
45030	INLET, TYPE E-7	EACH			
45070	INLET, TYPE P-12A	EACH			
06335	PAVED SIDE DITCH TYPE A	LFT.	326	602	928
06340	PAVED SIDE DITCH TYPE B	LFT.			
06345	PAVED SIDE DITCH TYPE C	LFT.			
06350	PAVED SIDE DITCH TYPE D	LFT.			
06355	PAVED SIDE DITCH TYPE E	LFT.			
06360	PAVED SIDE DITCH TYPE F	LFT.			
06365	PAVED SIDE DITCH TYPE G	LFT.		865	865
	CURB & GUTTER COMBINED	LFT.		793	793
	SEED MIXTURE (CL "E")	LBS	1413	1147	2560
	SEED MIXTURE (CL "E")	LBS	1143	928	2071
	PIPE: GR. B 30"	LFT.		206	206
	PIPE: GR. B 36"	LFT.	232		232
	PIPE: GR. L 12"	LFT.		498	498
	PIPE: GR. L 18"	LFT.		154	154
	PIPE: GR. L 24"	LFT.		156	156
	PIPE: GR. L 30"	LFT.		420	420
	ADJUST CASTING TO GRADE	EACH		1	1
	RECONSTRUCT MANHOLE	LFT.		5	5
	MANHOLE, TYPE A-4	EACH		5	5
	CATCH BASIN, TYPE E-7	EACH		2	2
	CATCH BASIN, TYPE K-10	EACH		4	4
	INLET, TYPE J-10	EACH		2	2
	PIPE: GR. A FBCCS .064 12"	LFT.		182	182
	PIPE: GR. A FBCCS .064 15"	LFT.		86	86
	PIPE: GR. A FBCCS .064 24"	LFT.	96		96
	PIPE: FBCCS .052 6"	LFT.	78	154	232
	PIPE: FBCPCS .052 6"	LFT	86	86	172

**INCLUDES _____ LFT. FOR YELLOW BARRIER LINE

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE BRS-3086(1)	STRUCTURE BRS-4823(1)	TOTAL QUANTITY
06040	47" FENCE, F. FIELD	LFT.			
06045	48" FENCE, CHAIN LINK	LFT.			
52340	CONSTRUCTION SIGNS (TYPE A)	EACH	4	4	8
52345	CONSTRUCTION SIGNS (TYPE B)	EACH			
52350	STANDARD BARRICADES (TYPE III)	EACH	1	1	2
06650	STOP SIGN, TYPE R-1A	EACH			
06652	DO NOT PASS SIGN, TYPE R-11-A	EACH			
06655	YIELD SIGN, TYPE R-301	EACH			
06657	PASS WITH CARE SIGN, TYPE R-12A	EACH			
06660	CURVE SIGN, TYPE W-2AR	EACH			
06665	CURVE SIGN, TYPE W-2AL	EACH			
06670	REVERSE CURVE SIGN, TYPE W-4AR	EACH			
06675	REVERSE CURVE SIGN, TYPE W-4AL	EACH			
06680	LARGE ARROW SIGN, TYPE W-11A	EACH			
06685	STOP AHEAD SIGN, TYPE W-13A	EACH			
06725	DELINEATOR WITH POST, TYPE D-1 3 INCH	EACH			
06740	DELINEATOR WITH POST, TYPE D-2 3 INCH	EACH			
06755	DELINEATOR WITH POST, TYPE D-3 3 INCH	EACH			
06770	DELINEATOR POST	EACH			
06720	TEMPORARY PAVEMENT MARKING TAPE	LFT.			
06715	TEMPORARY PAVEMENT MARKING PAINT	LFT.			
52360	RIGHT-OF-WAY MARKERS	EACH	16	31	47
52365	PAINTED LINE **	LFT.			
06500	MONUMENT, TYPE A	EACH			
06505	MONUMENT, TYPE B	EACH	2	2	4
06510	MONUMENT, TYPE C	EACH	1		1
06515	MONUMENT, TYPE D	EACH			
	BENCH MARK POST	EACH	1		1
	RESET GUARD RAIL	LFT.	608		608
	SETTLEMENT PLATES	EACH	1	1	2
	Concrete Class A for Guard Rail	Cyd		2	2
	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL NO. 4	L SUM		1	1
	REMOVAL OF HOUSES AND BUILDINGS FROM PARCEL NO. 11	L SUM		1	1

REVISIONS

DATE	ITEM
5-7-76	Co-Fertilizer, Mild Seed Mixture CV
5-28-76	Conc. Cl. A for G.R
7-30-76	ITEMS, PROJECT BRS-3086(1), BRS-4823(1)
8-26-76	BUILDING ITEM REMOVALS
9-9-76	BUILDING REMOVAL ITEMS, SPECIAL CLASS C CONCRETE DELETED

SUMMARIZED JSS 5/27/76 C'K'D WEM 6/12/76
TRACED GK 7/11/76 C'K'D RCS 7/11/76

OCTOBER, 1973

BRIDGE ESTIMATE OF QUANTITIES
INDIANA STATE HIGHWAY COMMISSION

DATE: JULY 24, 1975

John L. Spencer

SHEET 38 OF 105

PROJECT: BRF-94(12) (Bridge) & F-94(15) (Approaches)
CONTRACT NO: B-10641
BRIDGE FILE: 130-23-60BG

JOHN L. SPENCER REGISTERED No. 9740 STATE OF INDIANA PROFESSIONAL ENGINEER

END STR