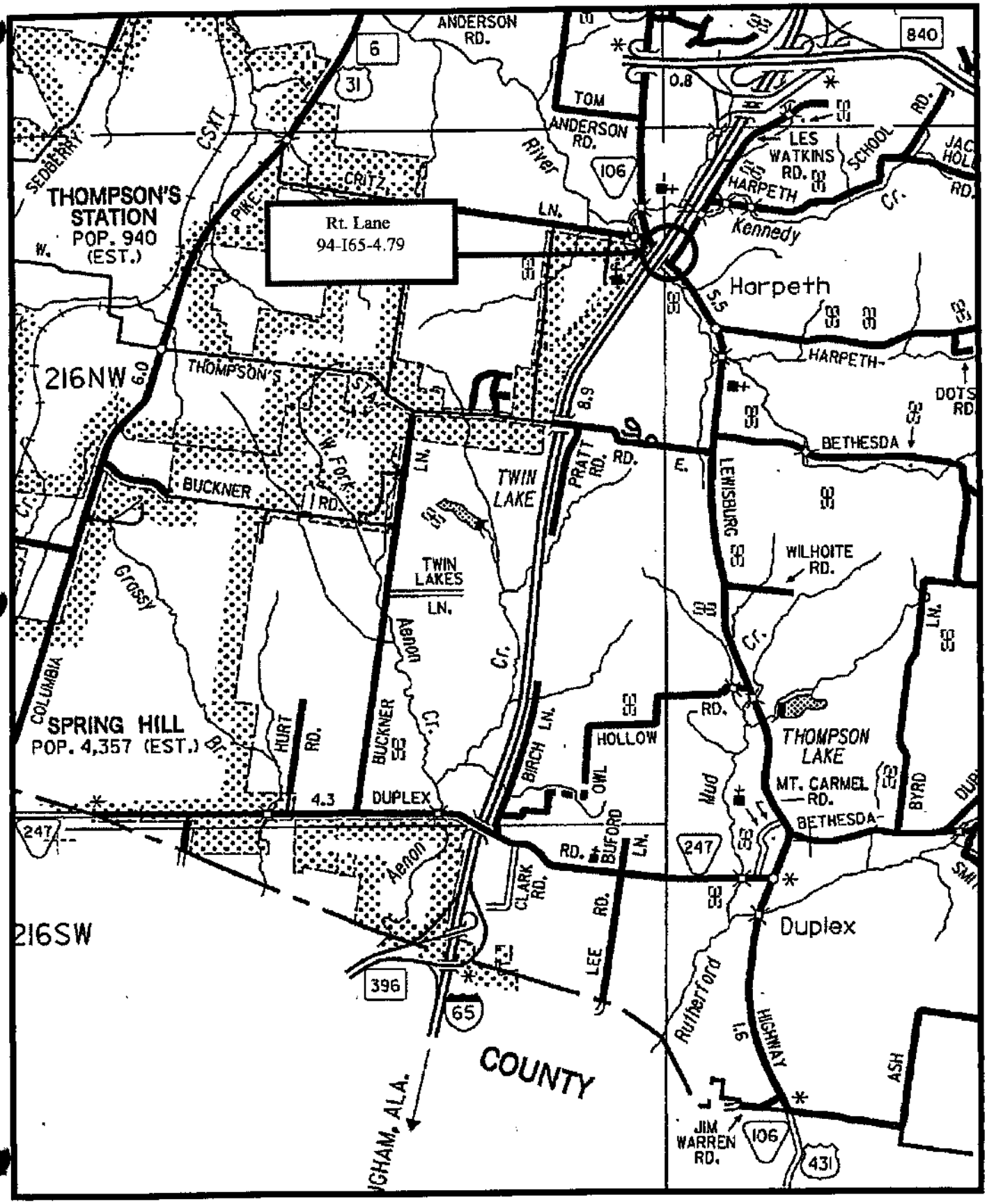
Date: 08/20/03

Williamson County



Bridge Maintenance Recommendations

Bridge Location No.: 94 - I0065 - 4.79 R
Co. Route Log Mile

Crossing: SR. 106 &HARPETH RIVER

Bridge Rating: FAIR

Inspection Cycle: 16

Inspection Date: 8/20/2003

Comments: -0-

Bridge Number: 94I00650005
County: WILLIAMSON
Region: 03
District: 31
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Level of Service:	1	Number Main Spans:	004
Owner:	01	Number Appr Spans:	0000
Appr Rdwy (xxx ft):	038	Bridge Length (xxxxxx ft)	000194
Skew:	70	Curb-to-Curb (xxx.x ft):	0405
Type of Service:	16	Out-to-Out (xxx.x ft):	0440
Main Structure Type:	502	Item 500:	01
Appr Structure Type:	000	Facility Carried By:	I65

Maintenance Recommendations:

Maintenance Completed By / Date

204 **CUT VEGETATION**

Bridge Maintenance Recommendations

Bridge Location No.: 94 - I0065 - 4.79 R
Co. Route Log Mile

Crossing: SR. 106 &HARPETH RIVER

Bridge Rating: FAIR

Inspection Cycle: 15

Inspection Date: 8/16/01

Comments: -0-

Bridge Number: 94I00650005
County: WILLIAMSON
Region: 03
District: 31
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Level of Service:	1	Number Main Spans:	004
Owner:	01	Number Appr Spans:	0000
Appr Rdwy (xxx ft):	038	Bridge Length (xxxxxx ft)	000194
Skew:	70	Curb-to-Curb (xxx.x ft):	0405
Type of Service:	16	Out-to-Out (xxx.x ft):	0440
Main Structure Type:	502	Item 500:	01
Appr Structure Type:	000	Facility Carried By:	165

Maintenance Recommendations:

Maintenance Completed By / Date

-0-	**REPAIR COLUMN "B" OF BENT NO. 3**

BRIDGE MAINTENANCE RECOMMENDATIONS

BRIDGE SEQ. NO. : 94I00650005

BRIDGE NO. : 94 - I0065 - 0479 - R
OVER : I65/SR 106&HARPETH RIVER*

DATE : 09/07/99
CO. SEQ. : 01
SPEC. CASE : 0

BRIDGE RATING : FAIR
INSPECTION CYCLE : 14
INSPECTION DATE : 08/23/99

COUNTY : Williamson
MAINT DIST : 31
REGION : 03

007 - FACILITY CARRIED BY STRUCT : I65
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF SERVICE : 16
043 - STRUCTURE TYPE, MAIN : 502
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 004
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000194
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 70
051 - BRDG RDWY WID, CRB-TO-CRB : 0405
052 - DECK WIDTH, OUT-TO-OUT : 0440
500 - HWY OF THE INVENTORY ROUTE : 01

: ROUTINE RECOMMENDATIONS :

1 REPAIR COLUMN "B" OF BENT NO. 3 1BY__ DATE ___

COMMENTS FOR BRIDGE SEQ. NO. : 94I00650005 :

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE
--- COMPLETED (DATE) --------
--- PARTIALLY COMPLETE (DATE) --------
--- INCOMPLETE SCHEDULED FOR (DATE) --------

EXPLANATIONS AND COMMENTS:

DATE ADDED: 02/11/99 BRIDGE REPAIR RECOMMENDATIONS
REVISED: 03/09/99 BRIDGE NO. 94-I0065-0479-L FED. BRIDGE NO. 94I00650006
OVER: I65 / SR 106

ROUTE CARRIED: I65 COUNTY: WILLIAMSON
SKEW: HIGHWAY SYSTEM: 03
NUMBER OF MAIN SPANS: TOTAL BRIDGE LENGTH: 000194
BRIDGE WIDTH (CURB-CURB): 000 MAXIMUM SPAN LENGTH: 0052
BRIDGE WIDTH (OUT-OUT): APPROACH ROADWAY WIDTH: 038

NSD

94.2

TYPE STRUCTURE (MAIN SPANS): Precast Concrete I-Beam (continuous spans)
TYPE STRUCTURE (APPROACHES):

INSPECTION DATE: 09/16/97 BRIDGE RATING: FAIR
H TRUCK @ INV. EVALUATION DATE: 06/03/98
H TRUCK @ INV. AFTER REPAIRS: 20

1-10-01
Spoke to Ray McClelland about the spalling. His repair team has been working on the repair of all of the bents.
WJS.

**** RECOMMENDED MINIMUM REPAIRS BY: EVALUATION SECTION ****

1. REPAIR SPALLED CONCRETE COLUMNS AT BENTS 1, 2 & 3.
2. REPAIR SPALLED & CRACKED CONCRETE DIAPHRAMS AT ABUTMENTS & BENTS.
3. REPAIR SPALLED & CRACKED CONCRETE CAPBEAMS AT BOTH ABUTMENTS & BENTS.

COMMENTS:

**** PROPOSED REPAIRS BY: REPAIR SECTION ****

1.

REPAIR LIST NUMBER: 1 REPAIR CONTRACT PLANS TO BE PREPARED BY:
TENTATIVE LETTING SCHEDULE: REPAIR DRAWING LAYOUT SHEET:
ESTIMATED COST: FED. BRIDGE NO. 94I00650005

82-0664

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Federal Bldg. - U.S. Courthouse
801 Broadway, Room A926
Nashville, Tennessee 37203
February 16, 1978

In Reply Refer To:

Mr. Lewis Evans, Director
Bureau of Highways
Department of Transportation
State of Tennessee
Nashville, Tennessee

94-I65-57.72
94-I-65-4.79R

Subject: Tennessee Projects I-65-1( ) and IR-65-1( ), Maury County; I-65-2( ) and IR-65-2( ), Williamson County

Dear Mr. Evans:

Please refer to Mr. Derthick's letter of February 10, 1978, which submitted for our review the preliminary bridge layouts and bridge deck evaluation surveys for the following bridges which are proposed to be widened:

County	Bridge
Maury	I-65/SR-99 (LM 46.15)
Maury	I-65/Rutherford Creek (LM 51.74)
Williamson	I-65/West Harpeth River and SR-106 (LM 57.72)
Williamson	I-65/Harpeth River (LM 63.93)

FHWA approval to widen these bridges as a part of a major safety upgrading and resurfacing project along a substantial section of highway was previously given in our letter of August 30, 1977.

We note from Mr. Derthick's letter that two of these bridges (i.e. I-65/SR-99 and I-65/Harpeth River) have previously been sealed using the Chevron system and the System A Protecto-wrap system respectively under previous experimental projects and that both of the seals have failed. We further note that TDOT proposes the following deck repair procedures on the existing decks:

1. Removal of existing overlays and/or seals.
2. Removal of all delaminated areas.

-more-

82-0664

3. In areas of high potential readings (over 0.35V), remove the concrete to 3/4" below the level of the top mat of reinforcing steel and blast clean the steel.
4. Scarification of the top 1/4" of the remaining deck surface.
5. Sealing the deck with either LSDC or PMC overlay, as an experimental project.

At this time we wish to stress that items 2 and 3 of the proposed deck repair procedures are considered reconstruction work and are therefore eligible for Federal-aid participation from appropriate funds whereas items 1, 4 and 5 are considered as a part of an additional stage of construction and are eligible for Federal-aid participation with regular Interstate funds. Therefore, the plans quantities and work items should be appropriately separated.

We have reviewed the bridge deck evaluation surveys and note they have been prepared from data collected prior to the previous sealing and/or overlaying of the above structures. We concur in your proposal that new deck surveys for these bridges be made after the contract is underway and the decks have been stripped. We further agree that quantities for bidding will be based on judicious increases of known deteriorated areas as indicated from the previous deck surveys.

Subject to your consideration of the above comments, you may proceed to develop plans for the widening of the above noted bridges.

Very truly yours,

Clarence E. Oakley

for E. G. Oakley
Division Administrator

February 10, 1978

Mr. E. G. Oakley
Division Administrator
FHWA

Projects:
I-65-1 ( ) and IR-65-1 ( )
Maury County

I-65-2 ( ) and IR-65-2 ( )
Williamson County

Dear Mr. Oakley:

Enclosed is one (1) print each of the proposed widening layouts for the subject projects:

Maury County

I-65/SR 99, Station 583 +31.61
I-65/Rutherford Creek, Station 877 +54.00

Williamson County (94)

I-65/SR-106 and West Harpeth River, Station 248 +14.00 @ L.M. 57.72
I-65/Big Harpeth River, Station 566 + 04.25

I-65/SR 99 has previously been sealed with the Chevron system under experimental project I-65-2 (38) 45 and I-65/Big Harpeth River sealed with the Protecto-wrap system under experimental project I-65-2 (37) 61. These seals have failed. I-65/Rutherford Creek and I-65/SR 106 and West Harpeth River have both been overlayed, but not sealed.

Accordingly, we offer the following:

1. Removal of existing overlays and seals.

2. Removal of all delaminated areas.

3. In areas of high potential readings, removal of the concrete to a level 3/4" below the top mat of reinforcing and the blast cleaning of the bars.

HWL	CLL	JPW	ERB	LEM	WPS	HMD	CMM	GPM	JHG	HMB	JMB	WF	CFM	JLB	GJM	WCB		
	✓			✓	✓													

4. Scarification of the top 1/4" of the remaining deck surface.

5. Sealing the deck with either LMDC or PMC overlay, as an experimental project.

We are also enclosing bridge deck surveys made prior to sealing and/or overlaying the structures, as an indication of expected conditions. Since overlays are in place, additional survey data taken would prove useless at this time. Therefore we further propose that a new deck evaluation be made after the contract is underway and the decks have been stripped. Estimated quantities for bidding would be based on judicious increases of known deteriorated areas indicated in existing surveys.

Please give us your comments and/or approval at your earliest convenience.

Yours very truly,

Original Signed By
EDWARD P. WASSERMAN

Henry W. Berthick
Engineer of Structures

EPW:rmr

Enclosures

cc: Mr. J. L. Jett

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 94I00650005 *LOCATION NO:* 94 - I0065 - 4.79 R

(6A) CROSSING: I65 / SR106 & HARPETH RV

(505) METHOD OF ANALYSIS: LOAD FACTOR METHOD *(548) RATING BASED ON:* VIRTIS ANALYSIS - 11" ASPHALT

LOAD RATINGS IN TONS

INVENTORY (503) H	18	*(518B) HS*	28
OPERATING (504) H	30	*(519) HS*	46

(549) EVALUATOR: MRJ
(522) EVAL. DATE: 4/18/2017
LAST UPDATED BY: JOHNSON
(29) ADT: 74,700 *(30) ADT YR:* 2018
(100) STRAHNET ROUTE: YES
(19) DETOUR LENGTH: 2 *KM*
(520) VC OVER RDWY: 99.99 *METERS*

CONDITION RATINGS

(58) DECK RATING:	5
(59) SUPERSTRUCTURE RATING:	7
(60) SUBSTRUCTURE RATING:	5
(61) CHANNEL PROTECTION:	7
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	8
(113B) TDOT SCOUR CODE:	R

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	5
(68) DECK GEOMETRY:	8
(69) UNDER CLEARANCE:	6
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	6
(72) APPROACH RDWY ALIGNMENT:	8

CODE VALUES

N - NOT APPLICABLE
9 - EXCELLENT CONDITION
8 - VERY GOOD CONDITION
7 - GOOD CONDITION
6 - SATISFACTORY
5 - FAIR CONDITION
4 - POOR CONDITION
3 - SERIOUS CONDITION
2 - CRITICAL CONDITION
1 - FAILURE IS IMMINENT
0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:	F		
(513) TEXTURE COAT RATING:	G	06	
(514) PAINT CONDITION RATING:	N		
(41) WEIGHT POSTING CODE:	A		

(36) TRAFFIC SAFETY FEATURES: 0 0 0 0
(525) REPAIR LIST NO: 3

COMMENTS

NO COMMENTS AT THIS TIME.

(502) SUFF. RATING:	67.8
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	NO

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Thursday, August 30, 2018 09:25:23
Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Thursday, August 30, 2018 09:27:33

Structure Definition Name: SPAN 4
Member Name: G5
Member Alternative Name: G5

Load Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.215	Design Flexure - Concrete	18.22	1	17.26	50.0	As Requested	As Requested
H 15-44	Operating	2.029	Design Flexure - Concrete	30.43	1	17.26	50.0	As Requested	As Requested
HS 20-44	Inventory	0.772	Design Flexure - Concrete	27.79	1	17.26	50.0	As Requested	As Requested
HS 20-44	Operating	1.289	Design Flexure - Concrete	46.41	1	17.26	50.0	As Requested	As Requested
Type 3S2	Inventory	0.984	Design Flexure - Concrete	35.42	1	17.26	50.0	As Requested	As Requested
Type 3S2	Operating	1.643	Design Flexure - Concrete	59.15	1	17.26	50.0	As Requested	As Requested
Annual Permit 1	Inventory	0.609	Design Flexure - Concrete	50.24	1	17.26	50.0	As Requested	As Requested
Annual Permit 1	Operating	1.017	Design Flexure - Concrete	83.90	1	17.26	50.0	As Requested	As Requested
Annual Permit 2	Inventory	0.609	Design Flexure - Concrete	50.24	1	17.26	50.0	As Requested	As Requested
Annual Permit 2	Operating	1.017	Design Flexure - Concrete	83.90	1	17.26	50.0	As Requested	As Requested
Gravel Truck	Inventory	0.632	Design Flexure - Concrete	23.37	1	17.26	50.0	As Requested	As Requested
Gravel Truck	Operating	1.055	Design Flexure - Concrete	39.03	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Inventory	0.569	Design Flexure - Concrete	72.57	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Operating	0.950	Design Flexure - Concrete	121.19	1	17.26	50.0	As Requested	As Requested
EV2	Operating	1.380	Design Flexure - Concrete	39.68	1	13.81	40.0	As Requested	As Requested
EV3	Operating	0.840	Design Flexure - Concrete	36.10	1	17.26	50.0	As Requested	As Requested
SU6 LFR	Operating	1.138	Design Flexure - Concrete	39.56	1	17.26	50.0	As Requested	As Requested
SU7 LFR	Operating	1.080	Design Flexure - Concrete	41.84	1	17.26	50.0	As Requested	As Requested

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPAN 4
Member Name: G5
Member Alternative Name: G5

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.348	PS Tensile Stress - Concrete	20.22	1	17.26	50.0	As Requested	As Requested
	Operating	2.259	Design Flexure - Concrete	33.88	1	17.26	50.0	As Requested	As Requested
HS 20-44	Inventory	0.857	PS Tensile Stress - Concrete	30.84	1	17.26	50.0	As Requested	As Requested
	Operating	1.435	Design Flexure - Concrete	51.67	1	17.26	50.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	0.701	PS Tensile Stress - Concrete	25.93	1	17.26	50.0	As Requested	As Requested
	Operating	1.174	Design Flexure - Concrete	43.45	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Inventory	0.632	PS Tensile Stress - Concrete	80.52	1	17.26	50.0	As Requested	As Requested
	Operating	1.058	Design Flexure - Concrete	134.93	1	17.26	50.0	As Requested	As Requested
SU4 LFR	Inventory	0.881	PS Tensile Stress - Concrete	23.78	1	17.26	50.0	As Requested	As Requested
	Operating	1.476	Design Flexure - Concrete	39.85	1	17.26	50.0	As Requested	As Requested
SU5 LFR	Inventory	0.837	PS Tensile Stress - Concrete	25.94	1	17.26	50.0	As Requested	As Requested
	Operating	1.402	Design Flexure - Concrete	43.46	1	17.26	50.0	As Requested	As Requested
SU6 LFR	Inventory	0.756	PS Tensile Stress - Concrete	26.29	1	17.26	50.0	As Requested	As Requested
	Operating	1.268	Design Flexure - Concrete	44.05	1	17.26	50.0	As Requested	As Requested
SU7 LFR	Inventory	0.717	PS Tensile Stress - Concrete	27.80	1	17.26	50.0	As Requested	As Requested
	Operating	1.202	Design Flexure - Concrete	46.58	1	17.26	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPANS 1,2,3
Member Name: G1
Member Alternative Name: G1

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.587	Design Shear - Concrete	38.81	3	10.27	20.0	As Requested	As Requested
	Operating	4.321	Design Shear - Concrete	64.81	3	10.27	20.0	As Requested	As Requested
HS 20-44	Inventory	1.412	Design Shear - Concrete	50.84	3	10.27	20.0	As Requested	As Requested
	Operating	2.358	Design Shear - Concrete	84.90	3	10.27	20.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	1.319	Design Shear - Concrete	48.80	3	10.27	20.0	As Requested	As Requested
	Operating	2.202	Design Shear - Concrete	81.49	3	10.27	20.0	As Requested	As Requested
Overweight Permit	Inventory	0.931	Design Shear - Concrete	118.71	3	10.27	20.0	As Requested	As Requested
	Operating	1.555	Design Shear - Concrete	198.24	3	10.27	20.0	As Requested	As Requested
SU4 LFR	Inventory	1.737	Design Shear - Concrete	46.91	3	10.27	20.0	As Requested	As Requested
	Operating	2.901	Design Shear - Concrete	78.34	3	10.27	20.0	As Requested	As Requested
SU5 LFR	Inventory	1.574	Design Shear - Concrete	48.78	3	10.27	20.0	As Requested	As Requested
	Operating	2.628	Design Shear - Concrete	81.46	3	10.27	20.0	As Requested	As Requested
SU6 LFR	Inventory	1.500	Design Shear - Concrete	52.14	3	10.27	20.0	As Requested	As Requested
	Operating	2.506	Design Shear - Concrete	87.08	3	10.27	20.0	As Requested	As Requested
SU7 LFR	Inventory	1.452	Design Shear - Concrete	56.25	3	10.27	20.0	As Requested	As Requested
	Operating	2.424	Design Shear - Concrete	93.93	3	10.27	20.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPANS 1,2,3
Member Name: G2
Member Alternative Name: G2

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.172	Design Shear - Concrete	32.58	3	10.27	20.0	As Requested	As Requested
	Operating	3.627	Design Shear - Concrete	54.41	3	10.27	20.0	As Requested	As Requested
HS 20-44	Inventory	1.186	Design Shear - Concrete	42.68	3	10.27	20.0	As Requested	As Requested
	Operating	1.980	Design Shear - Concrete	71.27	3	10.27	20.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	1.107	Design Shear - Concrete	40.96	3	10.27	20.0	As Requested	As Requested
	Operating	1.849	Design Shear - Concrete	68.41	3	10.27	20.0	As Requested	As Requested
Overweight Permit	Inventory	0.782	Design Shear - Concrete	99.65	3	10.27	20.0	As Requested	As Requested
	Operating	1.305	Design Shear - Concrete	166.42	3	10.27	20.0	As Requested	As Requested
SU4 LFR	Inventory	1.458	Design Shear - Concrete	39.38	3	10.27	20.0	As Requested	As Requested
	Operating	2.436	Design Shear - Concrete	65.76	3	10.27	20.0	As Requested	As Requested
SU5 LFR	Inventory	1.321	Design Shear - Concrete	40.95	3	10.27	20.0	As Requested	As Requested
	Operating	2.206	Design Shear - Concrete	68.38	3	10.27	20.0	As Requested	As Requested
SU6 LFR	Inventory	1.260	Design Shear - Concrete	43.77	3	10.27	20.0	As Requested	As Requested
	Operating	2.104	Design Shear - Concrete	73.10	3	10.27	20.0	As Requested	As Requested
SU7 LFR	Inventory	1.218	Design Shear - Concrete	47.22	3	10.27	20.0	As Requested	As Requested
	Operating	2.035	Design Shear - Concrete	78.85	3	10.27	20.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPANS 1,2,3
Member Name: G3
Member Alternative Name: G3

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.459	Design Shear - Concrete	36.89	3	10.27	20.0	As Requested	As Requested
	Operating	4.107	Design Shear - Concrete	61.60	3	10.27	20.0	As Requested	As Requested
HS 20-44	Inventory	1.342	Design Shear - Concrete	48.32	3	10.27	20.0	As Requested	As Requested
	Operating	2.242	Design Shear - Concrete	80.70	3	10.27	20.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	1.253	Design Shear - Concrete	46.38	3	10.27	20.0	As Requested	As Requested
	Operating	2.093	Design Shear - Concrete	77.45	3	10.27	20.0	As Requested	As Requested
Overweight Permit	Inventory	0.885	Design Shear - Concrete	112.83	3	10.27	20.0	As Requested	As Requested
	Operating	1.478	Design Shear - Concrete	188.42	3	10.27	20.0	As Requested	As Requested
SU4 LFR	Inventory	1.651	Design Shear - Concrete	44.58	3	10.27	20.0	As Requested	As Requested
	Operating	2.758	Design Shear - Concrete	74.46	3	10.27	20.0	As Requested	As Requested
SU5 LFR	Inventory	1.496	Design Shear - Concrete	46.36	3	10.27	20.0	As Requested	As Requested
	Operating	2.498	Design Shear - Concrete	77.43	3	10.27	20.0	As Requested	As Requested
SU6 LFR	Inventory	1.426	Design Shear - Concrete	49.56	3	10.27	20.0	As Requested	As Requested
	Operating	2.382	Design Shear - Concrete	82.76	3	10.27	20.0	As Requested	As Requested
SU7 LFR	Inventory	1.380	Design Shear - Concrete	53.46	3	10.27	20.0	As Requested	As Requested
	Operating	2.304	Design Shear - Concrete	89.28	3	10.27	20.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPANS 1,2,3
Member Name: G6
Member Alternative Name: G6

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.985	Design Shear - Concrete	29.78	3	10.27	20.0	As Requested	As Requested
	Operating	3.316	Design Shear - Concrete	49.73	3	10.27	20.0	As Requested	As Requested
HS 20-44	Inventory	1.084	Design Shear - Concrete	39.01	3	10.27	20.0	As Requested	As Requested
	Operating	1.810	Design Shear - Concrete	65.15	3	10.27	20.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	0.988	PS Tensile Stress - Concrete	36.57	3	25.67	50.0	As Requested	As Requested
	Operating	1.690	Design Shear - Concrete	62.53	3	10.27	20.0	As Requested	As Requested
Overweight Permit	Inventory	0.714	Design Shear - Concrete	91.09	3	10.27	20.0	As Requested	As Requested
	Operating	1.193	Design Shear - Concrete	152.12	3	10.27	20.0	As Requested	As Requested
SU4 LFR	Inventory	1.283	PS Tensile Stress - Concrete	34.64	3	25.67	50.0	As Requested	As Requested
	Operating	2.226	Design Shear - Concrete	60.11	3	10.27	20.0	As Requested	As Requested
SU5 LFR	Inventory	1.185	PS Tensile Stress - Concrete	36.74	3	25.67	50.0	As Requested	As Requested
	Operating	2.016	Design Shear - Concrete	62.51	3	10.27	20.0	As Requested	As Requested
SU6 LFR	Inventory	1.073	PS Tensile Stress - Concrete	37.29	3	25.67	50.0	As Requested	As Requested
	Operating	1.923	Design Shear - Concrete	66.82	3	10.27	20.0	As Requested	As Requested
SU7 LFR	Inventory	1.002	PS Tensile Stress - Concrete	38.82	3	25.67	50.0	As Requested	As Requested
	Operating	1.860	Design Shear - Concrete	72.08	3	10.27	20.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPAN 4
Member Name: G1
Member Alternative Name: G1

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	2.143	Design Flexure - Concrete	32.15	1	17.26	50.0	As Requested	As Requested
	Operating	3.579	Design Flexure - Concrete	53.68	1	17.26	50.0	As Requested	As Requested
HS 20-44	Inventory	1.362	Design Flexure - Concrete	49.02	1	17.26	50.0	As Requested	As Requested
	Operating	2.274	Design Flexure - Concrete	81.87	1	17.26	50.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	1.114	Design Flexure - Concrete	41.22	1	17.26	50.0	As Requested	As Requested
	Operating	1.861	Design Flexure - Concrete	68.84	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Inventory	1.004	Design Flexure - Concrete	128.00	1	17.26	50.0	As Requested	As Requested
	Operating	1.677	Design Flexure - Concrete	213.77	1	17.26	50.0	As Requested	As Requested
SU4 LFR	Inventory	1.400	Design Flexure - Concrete	37.80	1	17.26	50.0	As Requested	As Requested
	Operating	2.338	Design Flexure - Concrete	63.13	1	17.26	50.0	As Requested	As Requested
SU5 LFR	Inventory	1.330	Design Flexure - Concrete	41.23	1	17.26	50.0	As Requested	As Requested
	Operating	2.221	Design Flexure - Concrete	68.85	1	17.26	50.0	As Requested	As Requested
SU6 LFR	Inventory	1.203	Design Flexure - Concrete	41.79	1	17.26	50.0	As Requested	As Requested
	Operating	2.008	Design Flexure - Concrete	69.79	1	17.26	50.0	As Requested	As Requested
SU7 LFR	Inventory	1.140	Design Flexure - Concrete	44.19	1	17.26	50.0	As Requested	As Requested
	Operating	1.905	Design Flexure - Concrete	73.80	1	17.26	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPAN 4
Member Name: G2
Member Alternative Name: G2

Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.609	Design Flexure - Concrete	24.14	1	17.26	50.0	As Requested	As Requested
	Operating	2.687	Design Flexure - Concrete	40.31	1	17.26	50.0	As Requested	As Requested
HS 20-44	Inventory	1.020	Design Flexure - Concrete	36.73	1	13.81	40.0	As Requested	As Requested
	Operating	1.704	Design Flexure - Concrete	61.33	1	13.81	40.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	0.837	Design Flexure - Concrete	30.96	1	17.26	50.0	As Requested	As Requested
	Operating	1.397	Design Flexure - Concrete	51.70	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Inventory	0.754	Design Flexure - Concrete	96.12	1	17.26	50.0	As Requested	As Requested
	Operating	1.259	Design Flexure - Concrete	160.52	1	17.26	50.0	As Requested	As Requested
SU4 LFR	Inventory	1.051	Design Flexure - Concrete	28.38	1	17.26	50.0	As Requested	As Requested
	Operating	1.756	Design Flexure - Concrete	47.40	1	17.26	50.0	As Requested	As Requested
SU5 LFR	Inventory	0.999	Design Flexure - Concrete	30.96	1	17.26	50.0	As Requested	As Requested
	Operating	1.668	Design Flexure - Concrete	51.70	1	17.26	50.0	As Requested	As Requested
SU6 LFR	Inventory	0.903	Design Flexure - Concrete	31.38	1	17.26	50.0	As Requested	As Requested
	Operating	1.508	Design Flexure - Concrete	52.40	1	17.26	50.0	As Requested	As Requested
SU7 LFR	Inventory	0.856	Design Flexure - Concrete	33.18	1	17.26	50.0	As Requested	As Requested
	Operating	1.430	Design Flexure - Concrete	55.42	1	17.26	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge Name: I 65 / SR106 & Harpeth River
NBI Structure ID: 94I00650005
Bridge ID: 94I00650005

Analyzed By: bridgeware
Analyze Date: Wednesday, July 16, 2014 08:32:48
Analysis Engine: AASHTO LFR Engine Version 6.4.0.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, July 16, 2014 08:35:01

Structure Definition Name: SPAN 4
Member Name: G3
Member Alternative Name: G3

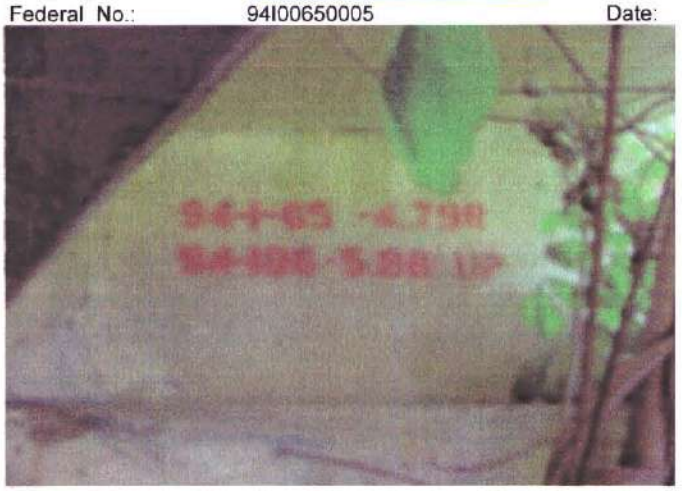
Load Factor Rating Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.549	Design Flexure - Concrete	23.24	1	17.26	50.0	As Requested	As Requested
	Operating	2.587	Design Flexure - Concrete	38.81	1	17.26	50.0	As Requested	As Requested
HS 20-44	Inventory	0.982	Design Flexure - Concrete	35.37	1	13.81	40.0	As Requested	As Requested
	Operating	1.641	Design Flexure - Concrete	59.06	1	13.81	40.0	As Requested	As Requested
Gravel - Concrete Truck	Inventory	0.805	Design Flexure - Concrete	29.80	1	17.26	50.0	As Requested	As Requested
	Operating	1.345	Design Flexure - Concrete	49.76	1	17.26	50.0	As Requested	As Requested
Overweight Permit	Inventory	0.726	Design Flexure - Concrete	92.53	1	17.26	50.0	As Requested	As Requested
	Operating	1.212	Design Flexure - Concrete	154.52	1	17.26	50.0	As Requested	As Requested
SU4 LFR	Inventory	1.012	Design Flexure - Concrete	27.32	1	17.26	50.0	As Requested	As Requested
	Operating	1.690	Design Flexure - Concrete	45.63	1	17.26	50.0	As Requested	As Requested
SU5 LFR	Inventory	0.961	Design Flexure - Concrete	29.80	1	17.26	50.0	As Requested	As Requested
	Operating	1.606	Design Flexure - Concrete	49.77	1	17.26	50.0	As Requested	As Requested
SU6 LFR	Inventory	0.869	Design Flexure - Concrete	30.21	1	17.26	50.0	As Requested	As Requested
	Operating	1.452	Design Flexure - Concrete	50.45	1	17.26	50.0	As Requested	As Requested
SU7 LFR	Inventory	0.824	Design Flexure - Concrete	31.95	1	17.26	50.0	As Requested	As Requested
	Operating	1.377	Design Flexure - Concrete	53.35	1	17.26	50.0	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

Bridge No.: 94 — I65 —4.79 Rt. Ln
Crossing:: I65 /SR 106 & - Harpeth River
Federal No.: 94I00650005 Date: August 20, 2003

PIC1



Br. No. Abutment No. 1

Bridge No.: 94 — I65 4.79 Rt. Ln
Crossing:: I65 /SR 106 & - Harpeth River
Federal No 94I00650005 Date: August 20, 2003

PIC2

Elev. View, Rt. Side

PIC3

Looking Ahead on Route (94-106-5.88)

Bridge No.: 94 I65 4.79 Rt. Ln
Crossing:: I65 /SR 106 & - Harpeth River
Federal No.: 94I00650005 Date: August 20, 2003

PIC4

Looking Back on Route (94-106-5.88)

PIC5

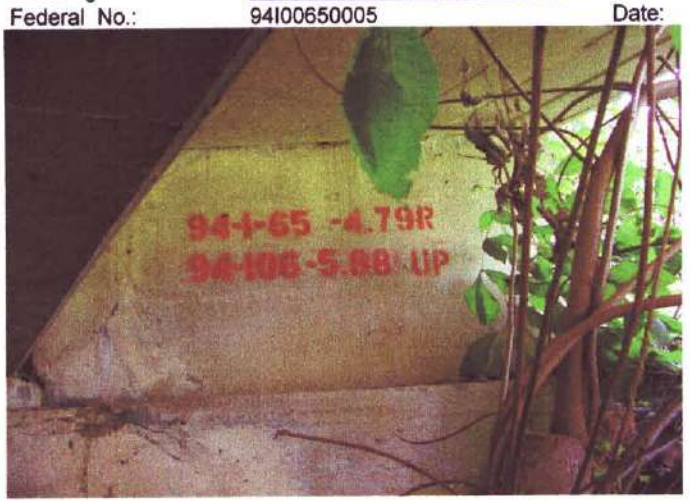
Across Top of Deck

Bridge No.: 94 — I0065 — 0479 RIGHT LANE

Crossing:: I65/SR 106&HARPETH RIVER*

Federal No.: 94I00650005 Date: August 16, 2001

PIC1



BR. NO. ABUTMENT NO. 1

Bridge No.: 94 — I0065 — 0479 RIGHT LANE
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No 94I00650005 Date: August 16, 2001

PIC2

ACROSS TOP, OF DECK

PIC3

ELEV. VIEW, RT. SIDE

Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No.: 94I00650005 Date: August 16, 2001

PIC4

SPALL & REBAR IN COLUM "B", BENT NO. 3- REPAIRED

PIC5

LOOKING AHEAD ON ROUTE

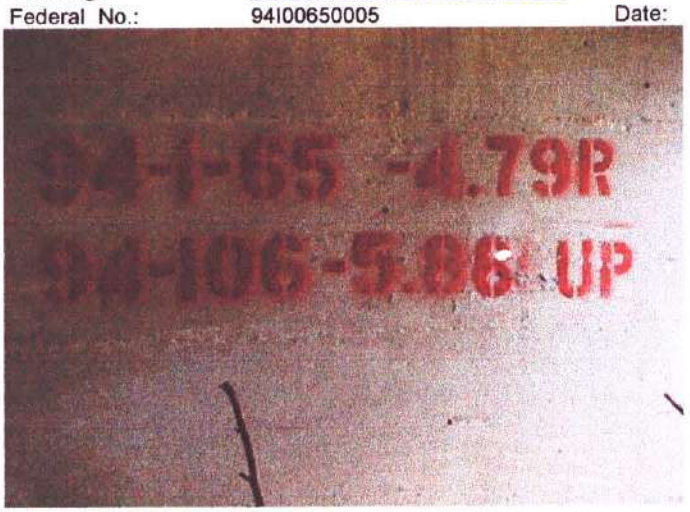
Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No.: 94I00650005 Date: August 16, 2001

PIC6

LOOKING BACK ON ROUTE

Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No.: 94I00650005 Date: August 23, 1999

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No 94I00650005 Date: August 23, 1999

PIC2

ACROSS TOP OF DECK

PIC3

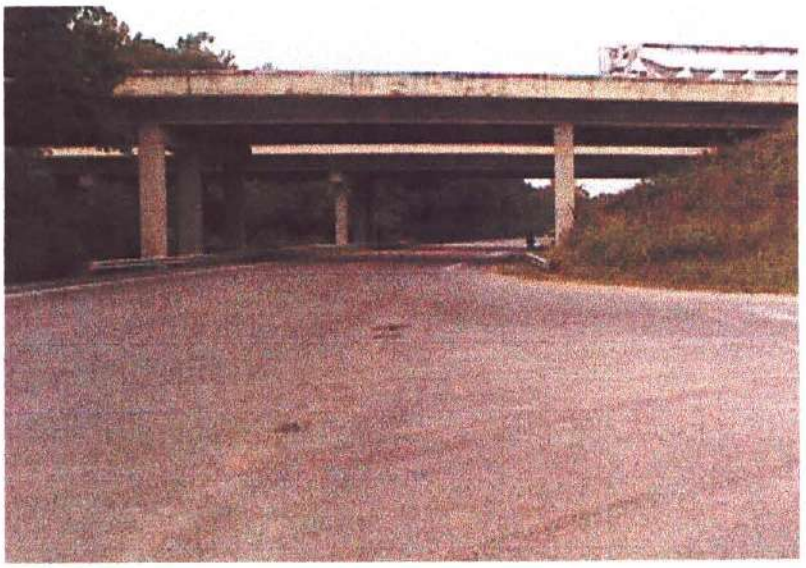
ELEV. VIEW, RT. SIDE

Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No.: 94I00650005 Date: August 23, 1999

PIC4

SPALL/REBAR IN COLUMN "B", BENT #3

PIC5



LOOKING AHEAD ON ROUTE (94-106-5.86U.P.)

Bridge No.: 94 — I0065 — 0479
Crossing:: I65/SR 106&HARPETH RIVER*
Federal No.: 94I00650005 Date: August 23, 1999

PIC6

LOOKING BACK ON ROUTE (94-106-5.86U.P.)

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 16 Date 8/20/2003
Previous Report No. 14 Date 8/23/1999
Plans: YES

Bridge No. 94I00650005 (Eleven Digit No.)

Bridge Location No. 94 - I0065 - 4.79 R (Co. Route Log Mile)

INTERSTATE 65 (Road Name) over SR. 106 &HARPETH RIVER (Crossing)

Indepth Insp. Req'd: NO (If yes itemize limits under comment)

Structure Type PPCIB

FRACTURE CRITICAL: NO

FEATURE CHANGES: No

Wearing Surface NO Type ASPHALT Depth +-2 (in.)

Bridge Rail NO Describe changes:

Approach Rail NO

CLEARANCE CHANGES: NO (If yes make changes below)

Vertical Clearance over deck		(ft.-in.)
Vertical Under Clearance	19'-2"	(ft.-in.)
Horizontal Under Clearance	46'-4"	(*.* ft.)
Deck Width Curb/Curb		(*.* ft.)
Deck Width Rail/Rail		(*.* ft.)
Sidewalk Width Rt.		Lt.

INSPECTORS

CHOATE
FINCH
WILLIAMS

Condition: **FAIR** (If change describe in comments)

		Comments
Approaches	GOOD	
Deck Condition (Item 58)	G	
Superstructure (Item 59)		
a. Beams	GOOD	*A FEW COLLISION SCRAPES*
b. Bearings	GOOD	
c. Diaphragms	FAIR	*EXPOSED REBARS, CRACKS & SPALLS*
Substructure (Item 60)		
a. Caps/Bridge Seats	FAIR	*LIGHT TO MODERATE CRACKS & SCALING*
b. Columns/Piles	FAIR	*MODERATE TO HEAVY CRACKS & LIGHT SCALING*
c. Footings	N/V	
d. Wing W./Breast W.	GOOD	
Scour/Erosion	GOOD	
Channel (Item 61)	G	

UNDERWATER INSPECTION

To Be Performed By: DOT FIELD TEAM

Date Underwater Insp. 09/30/03

BRIDGE is: OPEN

Weight Limit Posted NO

Gross..... ____ Tons

2 Axle..... ____ Tons

3 or more Axles.. ____ Tons

COMMENTS:

Supervising Bridge Inspector: _____

BRIDGE RATING: **FAIR**

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-I65-4.79 (RIGHT LANE)
I-65 OVER SR-106 & HARPETH RIVER

AUGUST 20, 2003

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 70° skew to the left. The bridge has a cross-section of 6 I-beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 40'-6" and a total length of 193'-10"

The approach alignment and embankment are rated good. Approach pavement is fair with cracks and light spall at the bridge ends.

The approach guardrailing and bridge railing is present and all is standard.

The parapets are good with a few light cracks. The deck structural is good with a few light cracks. The diaphragms are fair with a few cracks, spalls, and rebar popouts.

Abutment No. 1 cap is fair with moderate to heavy cracks, chips, and light scaling. The bent caps, are fair with moderate to heavy cracks, chips, and light scaling. The bent columns are fair with moderate to heavy cracks and light scaling.

The channel opening appears to be adequate, but there is very heavy vegetation growing underneath this bridge.

INSPECTION REPORT FOR UNDERPASS ROUTE

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. 16 Date 8/20/2003
Previous Report No. 14 Date 8/23/1999

Bridge No. 94I00650005 (Eleven Digit No.)

Underpass Location No. 94 - SR106 - 5.86 (Co. Route Log Mile)

~ (Railroad/Walkway) or 94 - I0065 - 0479 R (Co. Route Log Mile) over 94 - SR106 - 5.86 (Co. Route Log Mile)

County WILLIAMSON

Structure Name (If Named) ~

Year Constructed 1963 ACTUAL

Year Widened ~ Year Rehabilitated ~

GEOMETRIC FEATURES UNDER BRIDGE

(.* ft. unless otherwise noted)*

Divided Highway N.A. Type of Wearing Surface ASPHALT

Width of Approach Traveled Roadway 21'-4" ft. (Does Not Include Shoulders)

Width of Median if Divided Highway ~ ft.

Approach Shoulder Width 6 ft. Right 7 ft. Left

*Horizontal Clearance Under Bridge 46'-4" ft.

*Distance Between Pier Protection Guardrail and Substructure 3 ft. Right 2 ft. Left

*Width of Sidewalk Under Bridge ~ ft. Right ~ ft. Left

*Minimum Vertical Clearance: 19 ft. 2 in. (ft.-in.)

*Show on Sketch

INSPECTORS

1. HOWELL
2. CHOATE
3. FINCH
4. WILLIAMS
5. ____
6. ____

TRAFFIC SAFETY FEATURES

	Rating	Standard/ SubStandard Non Exist
Pier Protection Railing or Parapet	GOOD	STANDARD
Approach Guardrail Terminals	GOOD	STANDARD
Approach Guardrail	GOOD	STANDARD
Approach Guardrail Terminal	GOOD	STANDARD

SIGNING

	Yes/ No/ Needed
Paddleboards	YES
Vertical Clearance (<14'-6")	NO
Narrow Passage	NO
One Lane Passage	NO

Other Underpass Signs Needed NO

Page No.____

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Date 8/20/2003

Underpass Location No. 94 - SR106 - 5.86
Co. Route Log Mile

Other Signs or Plaques: NONE

Comments Regarding any
Problems with Signing: NONE

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 70 °

Number of Lanes/Tracks on Bridge 2

Structure Type (Main Span) PPCIB

No. Main Spans 4

Structure Type (Appr.Spans) N.A.

No. Appr. Spans 0

Maximum Span Length 52'-1" (ft.)

Total Length 193'-10" (ft.)

Width of Bridge Out-to-Out 43'-4" (ft.) Right Angle to Centerline of Bridge)

Width of Bridge Along Skew — (ft.) (If Unable to Measure at Right Angle to Centerline of Bridge)

BRIDGE CONDITION: **FAIR**

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? NO

Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? NO

Comment on any Conditions of Bridge that would Effect Roadway Beneath:
NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 15 Date 8/16/01
Previous Report No. 14 Date 8/23/99
Plans: YES

Bridge No. 94I00650005 (Eleven Digit No.)

Bridge Location No. 94 - I0065 - 4.79 R (Co. - Route - Log Mile)

INTERSTATE 65 (Road Name) over SR. 106 &HARPETH RIVER (Crossing)

Indepth Insp. Req'd: NO (If yes itemize limits under comment)

Structure Type PPCIB

FRACTURE CRITICAL: NO

FEATURE CHANGES: Yes

Wearing Surface YES Type ASPHALT Depth +-2 (in.)

Bridge Rail NO Describe changes:

Approach Rail NO

CLEARANCE CHANGES: NO (If yes make changes below)

Vertical Clearance over deck		(ft.-in.)
Vertical Under Clearance	19'-2"	(ft.-in.)
Horizontal Under Clearance	46'-3"	(*.* ft.)
Deck Width Curb/Curb		(*.* ft.)
Deck Width Rail/Rail		(*.* ft.)
Sidewalk Width	Rt.	Lt.

INSPECTORS

HOWELL
CHOATE
FINCH
WILLIAMS

Condition: FAIR (If change describe in comments)

		Comments
Approaches	GOOD	*NEW ASPHALT*
Deck Condition (Item 58)	G	
Superstructure (Item 59)		
a. Beams	GOOD	*A FEW COLLISION SCRAPES*
b. Bearings	GOOD	
c. Diaphragms	FAIR	*EXPOSED REBARS, CRACKS & SPALLS*
Substructure (Item 60)		
a. Caps/Bridge Seats	FAIR	*LIGHT TO MODERATE CRACKS & SCALING*
b. Columns/Piles	FAIR	*MODERATE TO HEAVY CRACKS & LIGHT SCALING*
c. Footings	N/V	
d. Wing W./Breast W.	GOOD	
Scour/Erosion	GOOD	
Channel (Item 61)	G	

UNDERWATER INSPECTION

To Be Performed By: DOT FIELD TEAM

Date Underwater Insp.___

BRIDGE is: OPEN

Weight Limit Posted NO

Gross..... ___ Tons

2 Axle..... ___ Tons

3 or more Axles.. ___ Tons

COMMENTS:

Supervising Bridge Inspector: [signature]

BRIDGE RATING: FAIR

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-I65-4.79 (RIGHT LANE)
I-65 OVER SR-106 & HARPETH RIVER

AUGUST 16, 2001

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 70° skew to the left. The bridge has a cross-section of 6 I-beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 40'-6" and a total length of 193'-10"

The approach alignment and embankment are rated good. Approach pavement is fair with cracks and light spall at the bridge ends.

The approach guardrailing and bridge railing is present and all is standard.

The parapets are good with a few light cracks. The deck structural is good with a few light cracks. The diaphragms are fair with a few cracks, spalls, and rebar popouts.

Abutment No. 1 cap is fair with moderate to heavy cracks, chips, and light scaling. The bent caps, are fair with moderate to heavy cracks, chips, and light scaling. The bent columns are fair with moderate to heavy cracks and light scaling. Bent No. 3 cap and columns have repairs made since last inspection.

The channel opening is clean and appears to be adequate.

INSPECTION REPORT FOR UNDERPASS ROUTE

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. 15 Date 8/16/01
Previous Report No. 14 Date 8/23/99

Bridge No. 94I00650005 (Eleven Digit No.)

Underpass Location No. 94 - SR106 - 5.86 (Co. - Route - Log Mile)

_____ (Railroad/Walkway) or 94 - I0065 - 0479 R (Co. - Route - Log Mile) over 94 - SR106 - 5.86 (Co. - Route - Log Mile)

County WILLIAMSON

Structure Name (If Named) _____

Year Constructed 1963 ACTUAL

Year Widened _____ Year Rehabilitated _____

GEOMETRIC FEATURES UNDER BRIDGE

(.* ft. unless otherwise noted)*

Divided Highway N.A. Type of Wearing Surface ASPHALT

Width of Approach Traveled Roadway 21'-4" ft. (Does Not Include Shoulders)

Width of Median if Divided Highway — ft.

Approach Shoulder Width 8'-1" ft. Right — ft. Left

*Horizontal Clearance Under Bridge 46'-4" ft.

*Distance Between Pier Protection Guardrail and Substructure 3 ft. Right 2 ft. Left

*Width of Sidewalk Under Bridge — ft. Right — ft. Left

*Minimum Vertical Clearance: 19 ft. 2 in. (ft.-in.)

*Show on Sketch

TRAFFIC SAFETY FEATURES

	Rating	Standard/ SubStandard Non Exist
Pier Protection Railing or Parapet	GOOD	STANDARD
Approach Guardrail Terminals	GOOD	STANDARD
Approach Guardrail	GOOD	STANDARD
Approach Guardrail Terminal	GOOD	STANDARD

INSPECTORS

1. HOWELL
2. CHOATE
3. FINCH
4. WILLIAMS
5. _____
6. _____

SIGNING

	Yes/ No/ Needed
Paddleboards	YES
Vertical Clearance (<14'-6")	NO
Narrow Passage	NO
One Lane Passage	NO

Other Underpass Signs Needed NO

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Page No. ____
Date 09/16/01

Underpass Location No. 94 - SR106 - 5.86
Co. Route Log Mile

Other Signs or Plaques: None

Comments Regarding any Problems with Signing: None

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 70°
Number of Lanes/Tracks on Bridge 2
Structure Type (Main Span) P.R.C.I.B. No. Main Spans 4
Structure Type (Appr.Spans) N.A. No. Appr. Spans 0
Maximum Span Length 52'-1" (ft.) Total Length 193'-10" (ft.)
Width of Bridge Out-to-Out 43'-4" (ft.) Right Angle to Centerline of Bridge)
Width of Bridge Along Skew — (ft.) (If Unable to Measure at Right Angle to Centerline of Bridge)

BRIDGE CONDITION: Fair

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? No
Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? No

Comment on any Conditions of Bridge that would Effect Roadway Beneath: NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

BRIDGE INSPECTION REPORT

FORM BIR 3.0
REV. 6-9-92
DT-0069

FIELD REPORT NO.: 14 DATE: 09/16/99
PREVIOUS REPORT NO.: 13 DATE: 09/16/97
PLANS----- YES [X] NO [ ]

BRIDGE NO.: 94I00650005 (ELEVEN DIGIT NO.) BRIDGE LOC. NO.: 94 - I65 - -4.79R (CO. RTE. L.M.)

94 - I65 -4.79R (CO. RTE. L.M.) OVER SR106 &HARPETH RIV (STRUCTURE NAME (IF NAMED))

YEAR CONSTRUCTED 1963 COUNTY WILLIAMSON MAINTENANCE DISTRICT NO. 31
(ESTIMATED OR ACTUAL)
[ ] [X]
YEAR WIDENED 1979 YEAR REHABILITATED
ESTIMATED OR ACTUAL ESTIMATED OR ACTUAL
[ ] [X] [ ] [ ]

FEATURES

WEARING SURFACE---CONCRETE [ ] TIMBER [ ] ASPHALT [✓] (DEPTH= ")
FLARED WIDTH----------YES [ ] NO [X]
NAVIGATIONAL CONTROL---YES [ ] NO [X]
MEDIAN TYPE----------OPEN [ ] NONE [X] CLOSED [ ]

BRIDGE SKEW 70.33

STRUCTURE TYPEPPCIB (MAIN SPAN) NO. SPANS MAIN SPAN 4

STRUCTURE TYPE N.L. (APPROACH SPANS) NO. SPANS APPROACH SPANS 0

MAXIMUM SPAN LENGTH 52.08 TOTAL LENGTH 193.87

INSPECTORS
1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5.
6.
7.
8.
9.

WIDTHS		CLEARANCES	
DECK OUT-TO-OUT	44.	MIN. VERT. OVER DECK	-
ROADWAY CURB-TO-CURB	40.5	MIN. VERT. UNDER CL.	17'-3"
SIDEWALK — RT — LT		MIN. LAT. UNDER CL.	12'-6" RT — LT
*APPROACH ROADWAY	23.3		
APPR.SHOULDER	10.RT 4.LT		

*DOES NOT INCLUDE SHOULDERS

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:
DOT FIELD TEAM [ ] DATE
CONTRACT DIVERS [ ] DATE
NONE REQUIRED [✓]

(< 25FT.)
NBIS BRIDGE
LENGTH [ ] [ ]
(FT.) (INCHES)

FRACTURE CRITICAL
DETAILS: YES [ ] NO [✓]
IF YES, INCLUDE BIR. 3.9

CHANGE IN STRUCTURAL CONDITION YES [ ] NO [✓]
MAJOR REPAIRS MADE YES [ ] NO [✓]

COMMENTS:

BRIDGE RATING [ ] GOOD [✓] FAIR [ ] POOR [ ] CRIT.

SUPERVISING BRIDGE INSPECTOR

FORM BIR 3.1
Rev. 3-1-97
DT-0080

BRIDGE LOC. NO. 94- I65 - 4.79 R (CO. ROUTE L.M.) DATE: 05/23/99

PERFORMANCE EVALUATION

Time of day inspected 11:30 Weather conditions [illegible]

Vehicles observed [illegible]

LIVE LOAD BEHAVIOR	YES	NO	COMMENTS
Substructure			
Horiz. & Vert. Defl. - - -	[ ]	[✓]	
Vibration - - - - - - - - -	[ ]	[✓]	
Superstructure			
Horiz. & Vert. Defl. - - -	[ ]	[✓]	
Vibration - - - - - - - - -	[ ]	[✓]	

APPROACH

Alignment	(G)	F	P	C	
Slab	G	F	P	C	
Joints	G	F	P	C	
Pavement	G	(F)	P	C	Cracks & Spalls @ Ex. Joints
Embankment	(G)	F	P	C	
Drains	(G)	F	P	C	

TRAFFIC SAFETY FEATURES

					STANDARD	SUB-STANDARD	
Bridgerailing	G	(F)	P	C	[✓]	[ ]	
Transitions	G	F	P	C	[✓]	[ ]	
Guardrail	G	F	P	C	[✓]	[ ]	
Guardrail Terminal	G	F	P	C	[✓]	[ ]	

SIGNING

	YES	NO	NEEDED	
Paddleboard - - - - - - - - - - - -	[✓]	[ ]	[ ]	WEIGHT LIMIT POSTED YES [ ] NO [✓]
Vertical Clearance (< 14'-6") - - -	[ ]	[✓]	[ ]	GROSS-- _____ TONS
Narrow [ ] One Lane Bridge [ ] -	[ ]	[✓]	[ ]	2 AXLE - _____ TONS
				3 OR MORE AXLES- _____ TONS

Other Signs or Plaques _____

Comments Regarding Any Problems With Signing _____

RECOMMENDATIONS

Bridgerail Is Substandard [ ]
Approach Rail Is Substandard [ ]
Install Paddleboard Signs [ ]
Install Post Load Limit Signs [ ]
Level Approach [ ]

Other Recommendations _____

FORM BIR 3.2
Rev. 3-1-97
DT-0081

BRIDGE LOC. NO. 94- I65 - 4.79 R
CO. ROUTE L.M.

DATE: 08/23/09

DECK

					COMMENTS
WEARING SURFACE	(G)	F	P	C	
DECK - STRUCTURAL CONDITION	(G)	F	P	C	
CURBS	G	F	P	C	-
MEDIAN	G	F	P	C	-
SIDEWALKS	G	F	P	C	-
PARAPET	(G)	F	P	C	Light Cracks & Debris from Cov. Damage
RAILING	G	F	P	C	-
PAINT	G	F	P	C	-
DRAINS	G	F	P	C	-
LIGHTING STD'S	G	F	P	C	-
UTILITIES	G	F	P	C	-
JOINT LEAKAGE	G	F	P	C	-
EXPANSION JOINTS	G	F	P	C	-

SUPERSTRUCTURE

					COMMENTS
BEARING DEVICES	(G)	F	P	C	
GIRDERS OR BEAMS	(G)	F	P	C	Corrosion Spalls
FLOOR BEAMS	G	F	P	C	-
STRINGERS	G	F	P	C	-
DIAPHRAGMS	G	(F)	P	C	Cracks, Spalls & Exposed Rebar
BRACING	G	F	P	C	-
TRUSSES - GENERAL	G	F	P	C	-
- PORTALS	G	F	P	C	-
- BRACING	G	F	P	C	-
PAINT	G	F	P	C	-
ALIGNMENT OF MEMBERS	(G)	F	P	C	

TEXTURE COAT

CONDITION RATING	G	(F)	P	C
OVERALL APPEARANCE	G	(F)	P	C
STAINING	G	(F)	P	C

FADING (G) F P C

NEEDS SPOT PAINTING? YES [ ] NO [✓]

NEEDS REPAINTING? YES [ ] NO [✓]

COMMENTS: _____

SCALING G (F) P C

RECOMMENDATIONS _____

CLEAN & SEAL JOINTS [ ]

CLEAN DRAINS [ ]

FORM BIR 3.3
Rev. 3-1-97
DT-0082

BRIDGE LOC. NO. 94- I65 - 4.79 R
CO. ROUTE L.M.

DATE: 08/22/00

SUBSTRUCTURE

ABUTMENTS

					COMMENTS	PILES TO BE REPLACED PILE(S)	BENT
CAPS	G	(F)	P	C	Loss to Mat. Cracks & Spalls		
BREASTWALL	G	F	P	C	–		
WINGS	(G)	F	P	C			
BACKWALL	G	F	P	C	–		
PLUMB	(G)	F	P	C			
FOOTING	G	F	P	C	–		
PILES	G	F	P	C	N/V		
EMBANKMENT	G	(F)	P	C	Light Erosion & Scattered @ Bent #1		
BEARINGS	(G)	F	P	C			
SLOPE PAVING	(G)	F	P	C	Light Erosion		

PIERS

					COMMENTS	PILES TO BE REPLACED PILE(S)	BENT
CAPS	G	F	P	C			
COLUMNS	G	F	P	C			
PLUMB	G	F	P	C			
FOOTINGS	G	F	P	C	N/A		
PILES	G	F	P	C			
BEARINGS	G	F	P	C			

BENTS

					COMMENTS	PILES TO BE REPLACED PILE(S)	BENT
CAPS	G	(F)	P	C	Mat. To Incl. Cracks, Chips, & Rock Scaling		
COLUMNS	G	(F)	P	C	Mat. To Incl. Cracks & Rock Scaling		
PLUMB	(G)	F	P	C			
FOOTINGS	G	F	P	C	N/A		
PILES	G	F	P	C	–		
BEARINGS	(G)	F	P	C			

PILES NEED REPLACEMENT NO [✓] YES [ ]

CUT VEGETATION NO [✓] YES [ ]

CLEAR DRIFT NO [✓] YES [ ]

RECOMMENDATIONS: _____

FORM BIR 3.8
Rev. 3-1-97
DT-1508

BRIDGE LOC. NO. 94- I65- 4.79 R (CO. ROUTE L.M.) DATE: 08/22/97

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: SR 106 & HARPETH RIVER

I. 1. Type of bed material? Bedrock
2. Has the channel shifted? YES [ ] NO [✓] NOT APPARENT [ ]
3. Condition of rip-rap? G F P C Est. % failed ____ N/A [✓]
4. Overall condition of channel? (G) F P C
5. Item 61 - Code values 0 thru 9 according to the recording and coding guide currently in effect: 8
6. Underwater diver inspection recommended? YES [ ] NO [✓]
If yes, why? _____

II. Channel and bank stability conditions: (check if applicable)
1. Steep bank - Failures upstream [ ] downstream [ ] conditions
2. Moderate bank erosion [ ]
3. Bank Vegetation (a) low growth [✓] (b) large timber [ ] (c) dead trees [ ] (d) clear banks [ ]
4. Sediment or gravel accumulation: YES [ ] NO [✓] UNKNOWN [ ]
5. Channel altered or straightened: YES [ ] NO [✓] UNKNOWN [ ]
6. Stable conditions: (a) live growth [✓] (b) bedrock [✓] (c) boulders [ ] (d) flat slopes (<=2:1) [ ]

III. Waterway adequacy and debris characteristics: (check if applicable)
1. Bridge deck elevations:
(a) level with approach roadway . . . . . [✓]
(b) higher than approach roadway. . . . . [ ]
(c) roadway approach >=2' above natural ground line. . . . [ ]
2. Abutment encroaches into channel . . . . . [ ]
3. Large scour (blowhole) under bridge. . . . . [ ]
4. Indications that flood waters overtop bridge:
NO [✓] YES [ ] OCCASIONALLY [ ] FREQUENTLY [ ] UNKNOWN [ ]
5. Debris characteristics:
(a) debris present YES [ ] NO [✓]
(b) debris likely to accumulate: YES [ ] NO [✓]
(c) dead trees upstream: [ ] or downstream: [ ]

IV. Comments: _____

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

I. Does this bridge need a special inspection? YES [ ] NO [✓]
II. Reason for special inspection

FORM BIR 3.0A
Rev. 3-1-97
DT-1443

CURRENT FIELD REPORT NO. 14 DATE 08/25/97
PREVIOUS FIELD REPORT NO. 13 DATE 09/16/97

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 94I00650005 (ELEVEN DIGIT NO.) UNDERPASS LOC. NO. 94- I65 - 5.86 (CO. ROUTE L.M.)

94-I65- 4.79R (CO. RTE. L.M.) OVER 94- SR106- 5.86 (CO. RTE. L.M.)

STRUCTURE NAME: ~

COUNTY WILLIAMSON

YEAR CONSTRUCTED 1963 YEAR WIDENED ~ YEAR REHABILITATED ~
ESTIMATED [ ] ACTUAL [X]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [ ] RIGHT RDWY [ ] N.A. [X]
TYPE OF WEARING SURFACE - - - - CONCRETE [ ] ASPHALT [X] GRAVEL [ ]
WIDTH OF APPROACH TRAVELED ROADWAY 21'-3" ft (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY ft
APPROACH SHOULDER WIDTH 6 ft (RT.) 7 ft (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 46 ft 3 in.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND SUBSTRUCTURE 2 ft (RT.) 3 ft (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE — ft (RT.) — ft (LT.)
*MINIMUM VERTICAL CLEARANCE 19 ft 2 in

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	
PIER PROTECTION RAILING OR PARAPET	G F P C	[N]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TRANSITIONS	G F P C	[N]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL	G F P C	[N]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TERMINAL	G F P C	[N]	[ ]	NON EXIST [ ]

SIGNING FOR UNDERPASS ROUTE

PADDLEBOARD	YES [N]	NO [ ]	NEEDED [ ]
VERTICAL CLEARANCE (< 14'-6")	YES [ ]	NO [N]	NEEDED [ ]
NARROW PASSAGE	YES [ ]	NO [N]	NEEDED [ ]
ONE LANE PASSAGE	YES [ ]	NO [N]	NEEDED [ ]

INSPECTORS
1. Howell
2. Choate
3. Fiehe
4. Williams
5.
6.

NOTE:

Date: 8/23/99

FORM BIR 3.0A (CONTINUED)
Rev. 3-1-97
DT-1443

UNDERPASS LOC. NO. 94 - SR106 - 5.86
CO. ROUTE L.M.

OTHER SIGNS OR PLAQUES NONE

COMMENTS REGARDING ANY PROBLEM WITH SIGNING NONE

BRIDGE FEATURES

BRIDGE SKEW 70 °20'
STRUCTURE TYPE PPCIB — NO. SPANS 4
MAIN SPAN — MAIN TYPE
STRUCTURE TYPE N.A. — NO. SPANS 0
APPROACH SPAN — APPROACH TYPE
MAXIMUM SPAN LENGTH 52'-1" ft TOTAL LENGTH 193'-10"ft
WIDTH OF BRIDGE OUT-TO-OUT 43'-4"ft (RIGHT ANGLE TO CENTERLINE OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW ft (IF UNABLE TO MEASURE AT RIGHT ANGLE TO CENTERLINE OF BRIDGE)

NUMBER OF LANES/TRACKS ON BRIDGE 2

BRIDGE CONDITION G (F) P C

DOES POTENTIAL EXIST FOR ELEMENTS FROM BRIDGE FALLING ON ROADWAY BENEATH? YES [ ] NO [X]

DOES POTENTIAL EXIST BECAUSE OF DETERIORATED CONDITION OR FAILURE OF MAJOR MEMBERS? YES [ ] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) OF THESE FORMS, ONE FOR EACH ROADWAY.

MINIMUM PICTURES REQUIRED

1. ELEVATION VIEW OF BRIDGE ON BOTH SIDES SHOWING UNDERPASS
2. VIEW SHOWING BOTH APPROACHES TO BRIDGE
3. VIEW SHOWING SAFETY FEATURES
4. VIEW SHOWING ANY PROBLEMS

INSPECTION TEAM'S SUMMARY
BRIDGE NUMBER 94-I65-4.79 (RIGHT LANE)
I-65 OVER SR-106 & HARPETH RIVER

AUGUST 23, 1999

The subject bridge was inspected, on the above date, and found to be in fair condition.

This structure is a 4 span precast, prestressed, concrete I-beam bridge on a 70° skew to the left. The bridge has a cross-section of 6 I-beams. All substructure members are cast-in-place concrete. The bridge has a roadway width of 40'-6" and a total length of 193'-10".

The approach alignment and embankment are rated good. Approach pavement is fair with cracks and light spall at the bridge ends.

The approach guardrailing and bridge railing is present and all is standard.

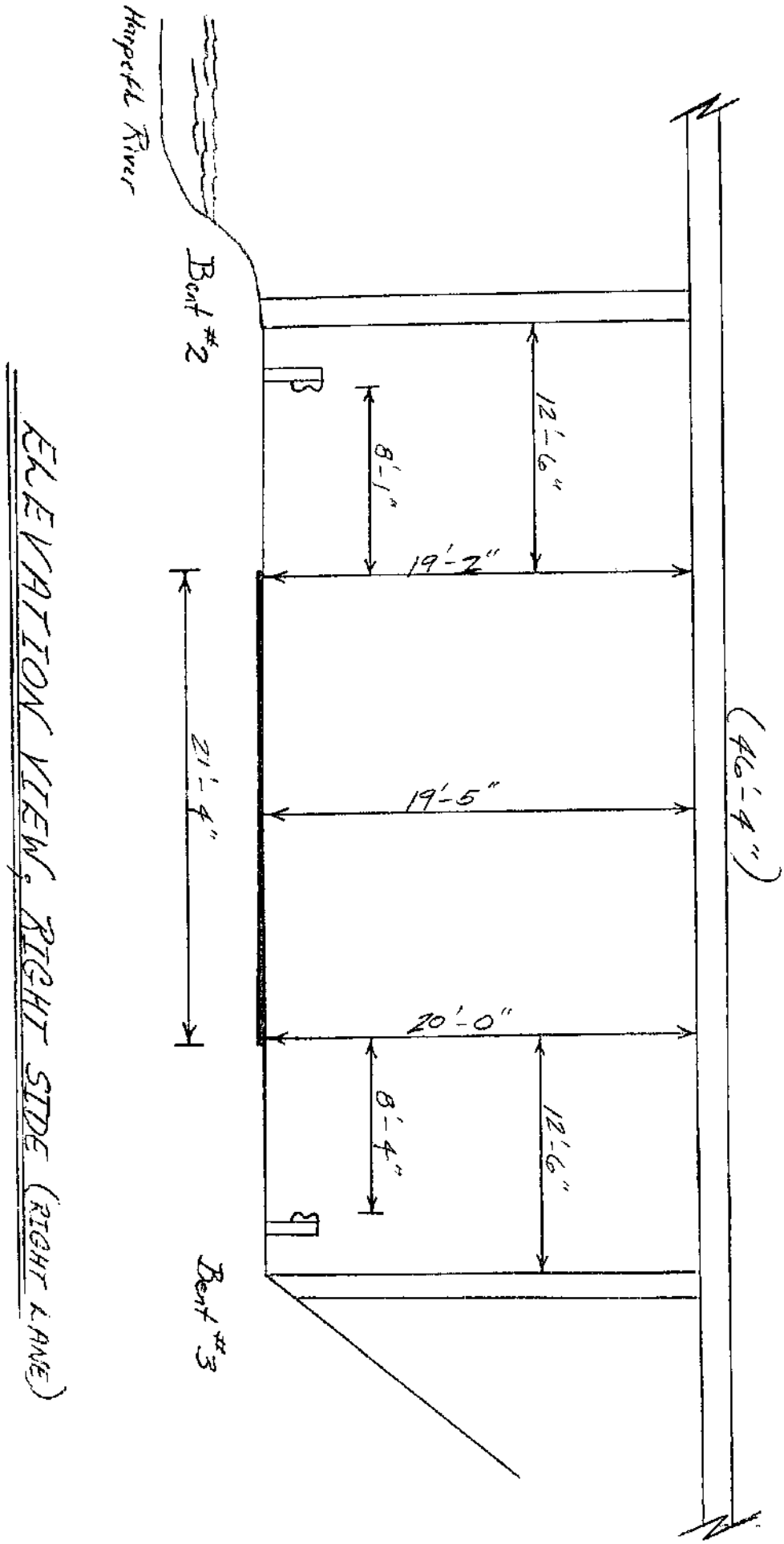
The parapets are good with a few light cracks. The deck structural is good with few light cracks. The diaphragms are fair with a few cracks, spalls, and rebar popouts.

Abutment No. 1 cap is fair with moderate to heavy cracks, chips, and light scaling. The bent caps are fair with moderate to heavy cracks, chips, and light scaling. The bent columns are fair with moderate to heavy cracks and light scaling.

The channel opening is clean and appears to be adequate.

Br. No. 94-I65-4.79 Rt. Lane DATE: 8/20/03

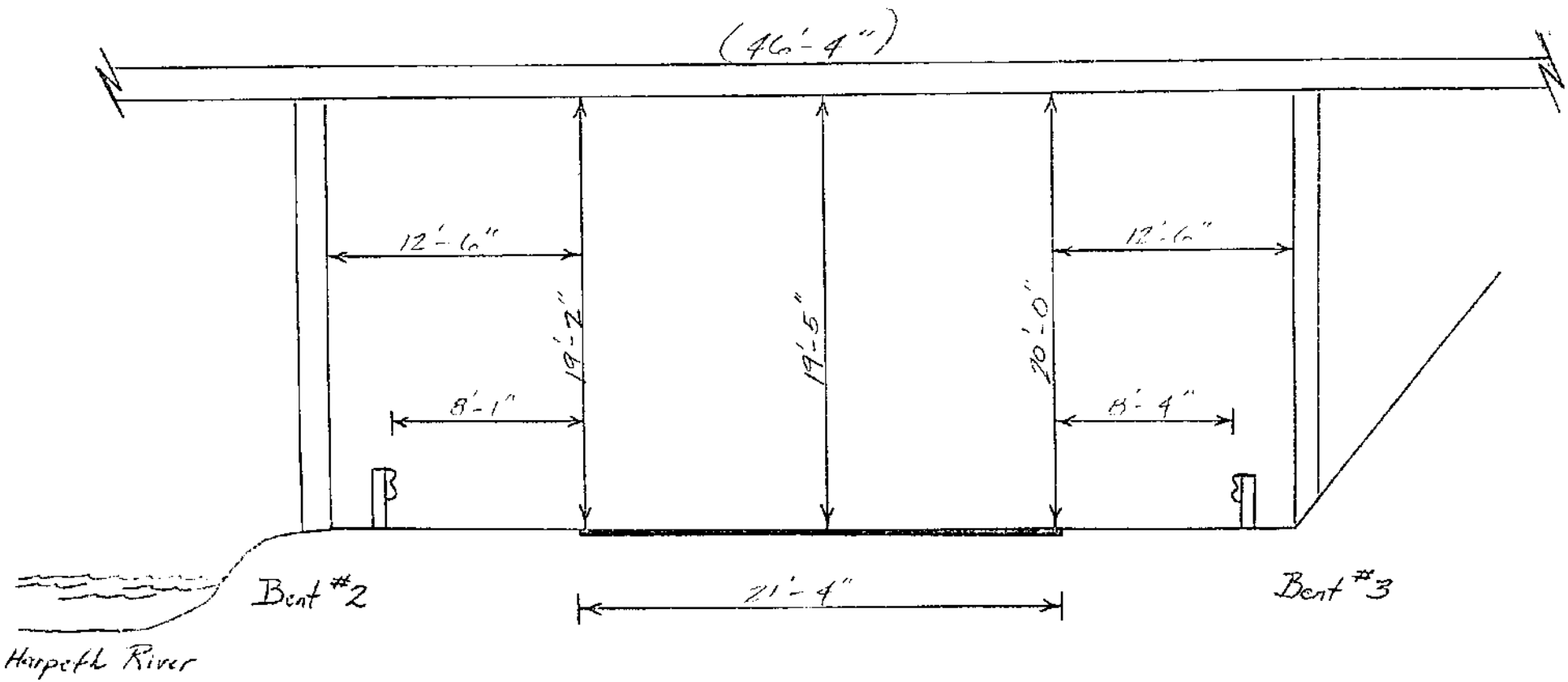
Underpass Clearance



ELEVATION VIEW, RIGHT SIDE (RIGHT LANE)

16.

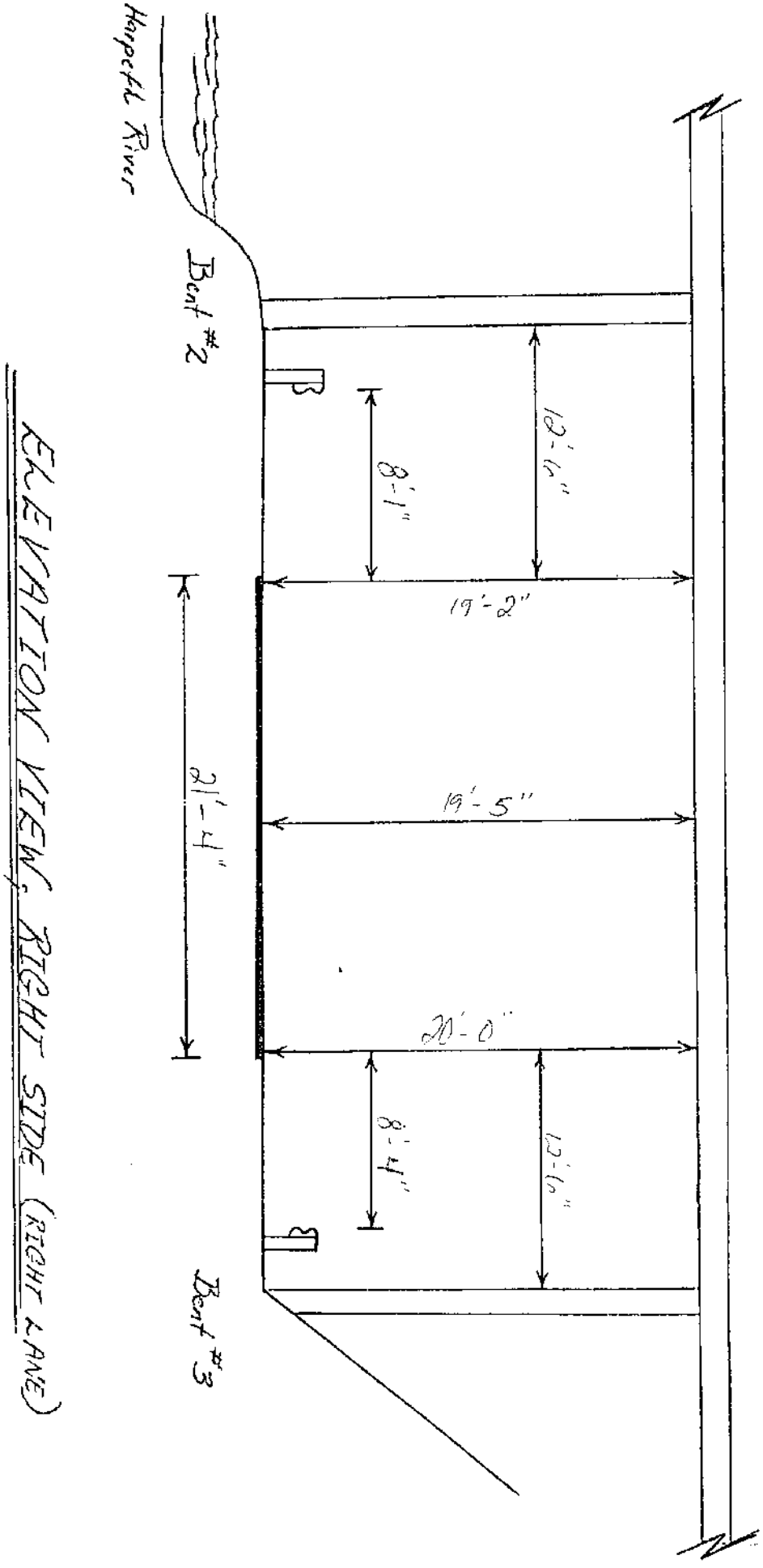
Br. No. 94-165-4.79 Rt. Lane DATE: 8/16/01
Underpass Clearance



ELEVATION VIEW, RIGHT SIDE (RIGHT LANE)

Br. No. 94-I65-4.79 Rt. Lane DATE: 09/23/99

Underpass Clearance

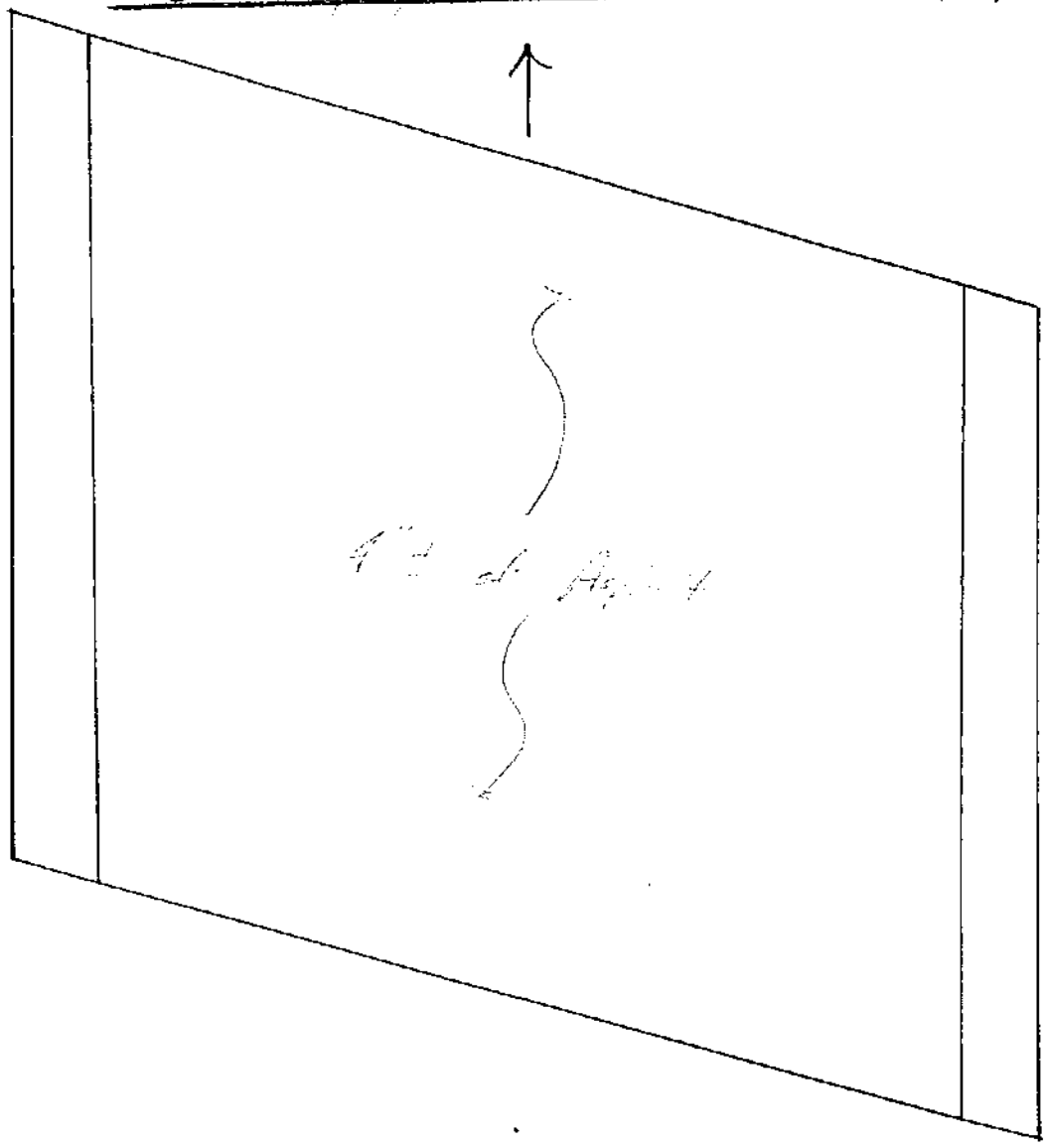


ELEVATION VIEW, RIGHT SIDE (RIGHT LANE)

BR # 94-I65-4.79 Rt. Lane

Date: 8/25/00

Top Span 1

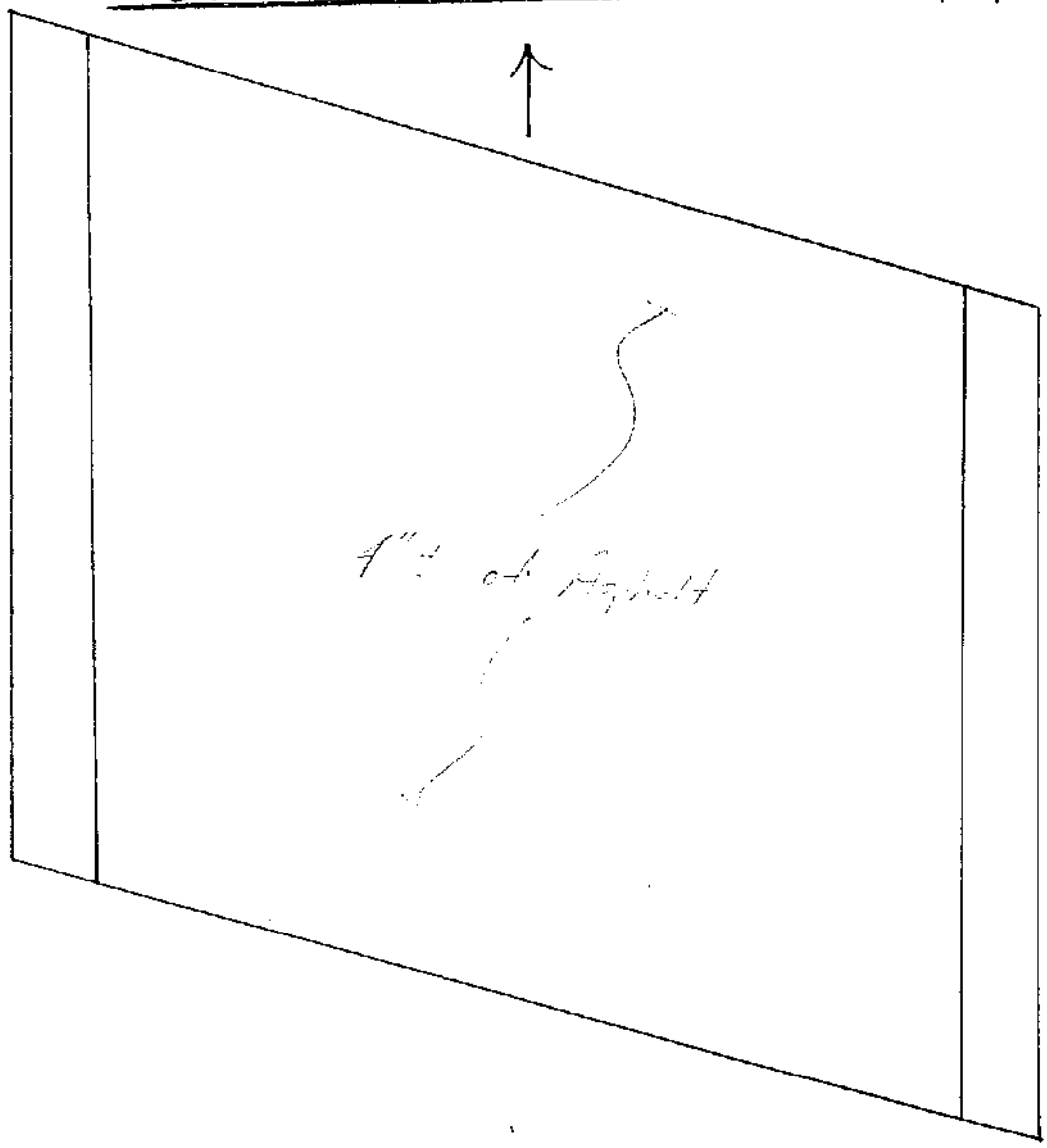


DECK	Good	
DRAINS	N/A	
HANDRAILS	N/A	
JOINTS	N/A	
PARAPET	Good	

Br # 94-I65-4.79 Rt. Lane

Date: 8/30/99

Top Span 2

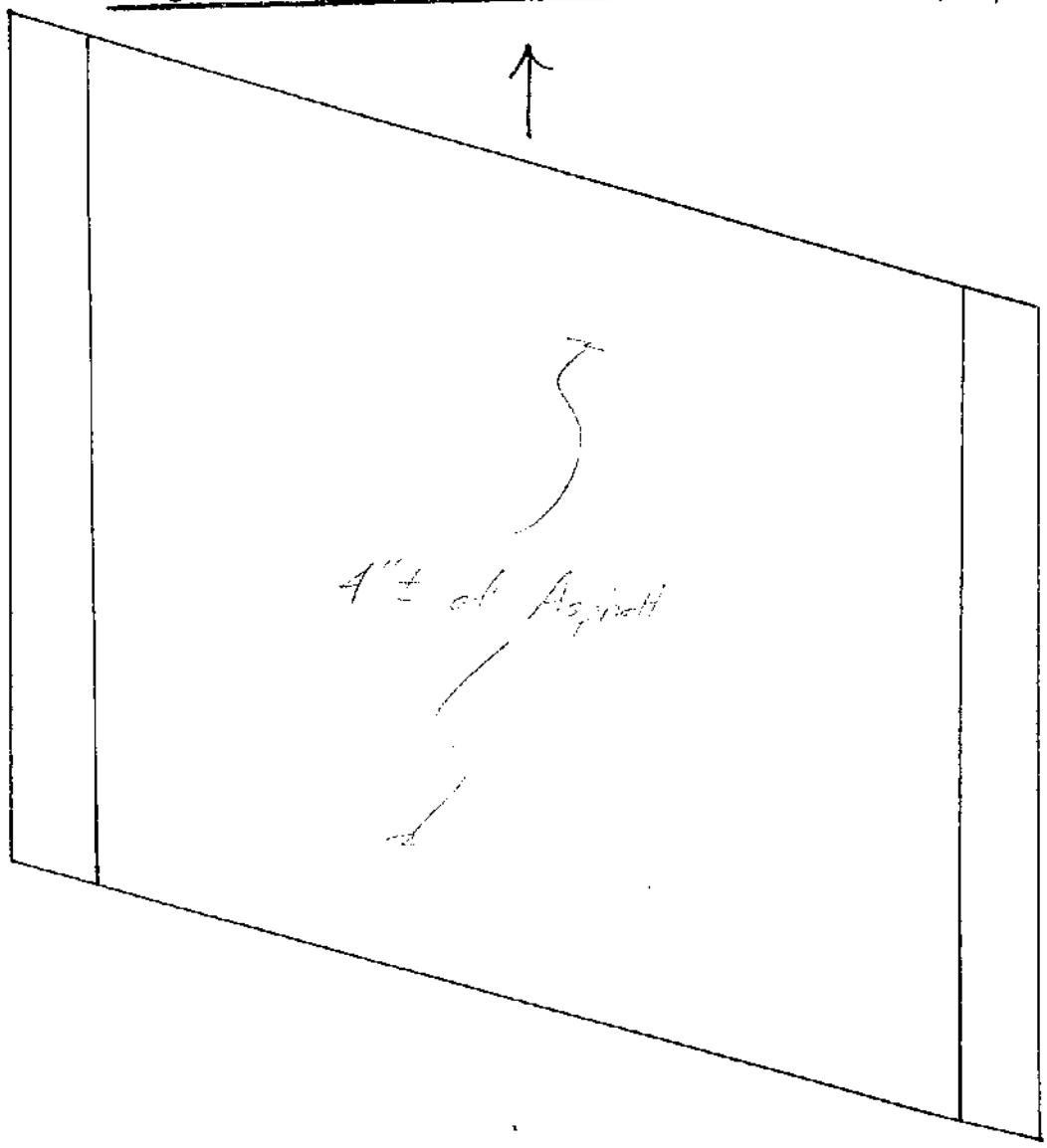


DECK	Good	
DRAINS	N/A	
HANDRAILS	N/A	
JOINTS	N/A	
PARAPET		

BR # 94-I65-4.79 Rt. Lane

Date: 9/23/99

Top Span 3

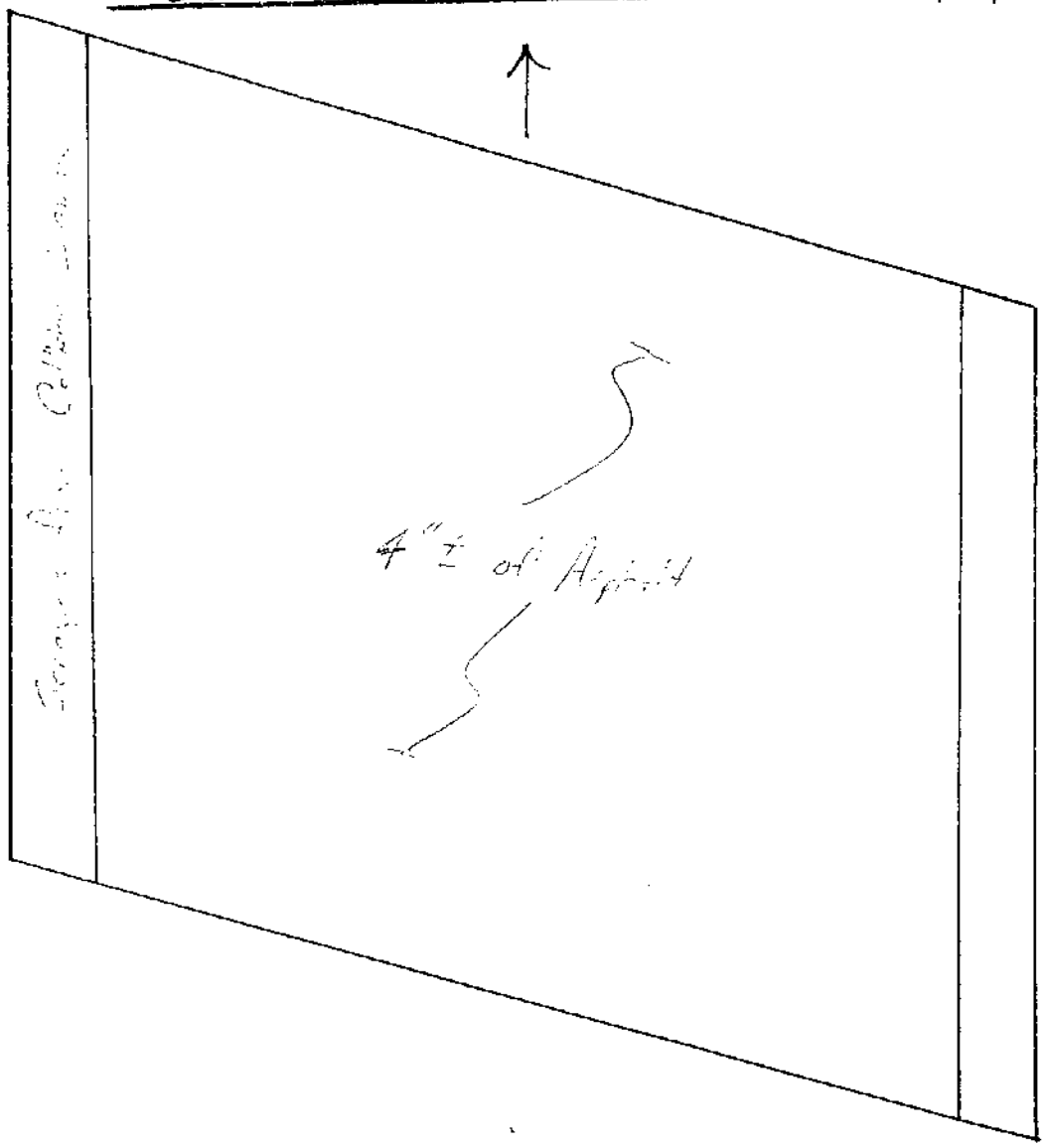


DECK		
DRAINS		
HANDRAILS		
JOINTS		
PARAPET		

BR # 94-I65-4.79 Rt. Lane

Date: 8/23/99

Top Span 4



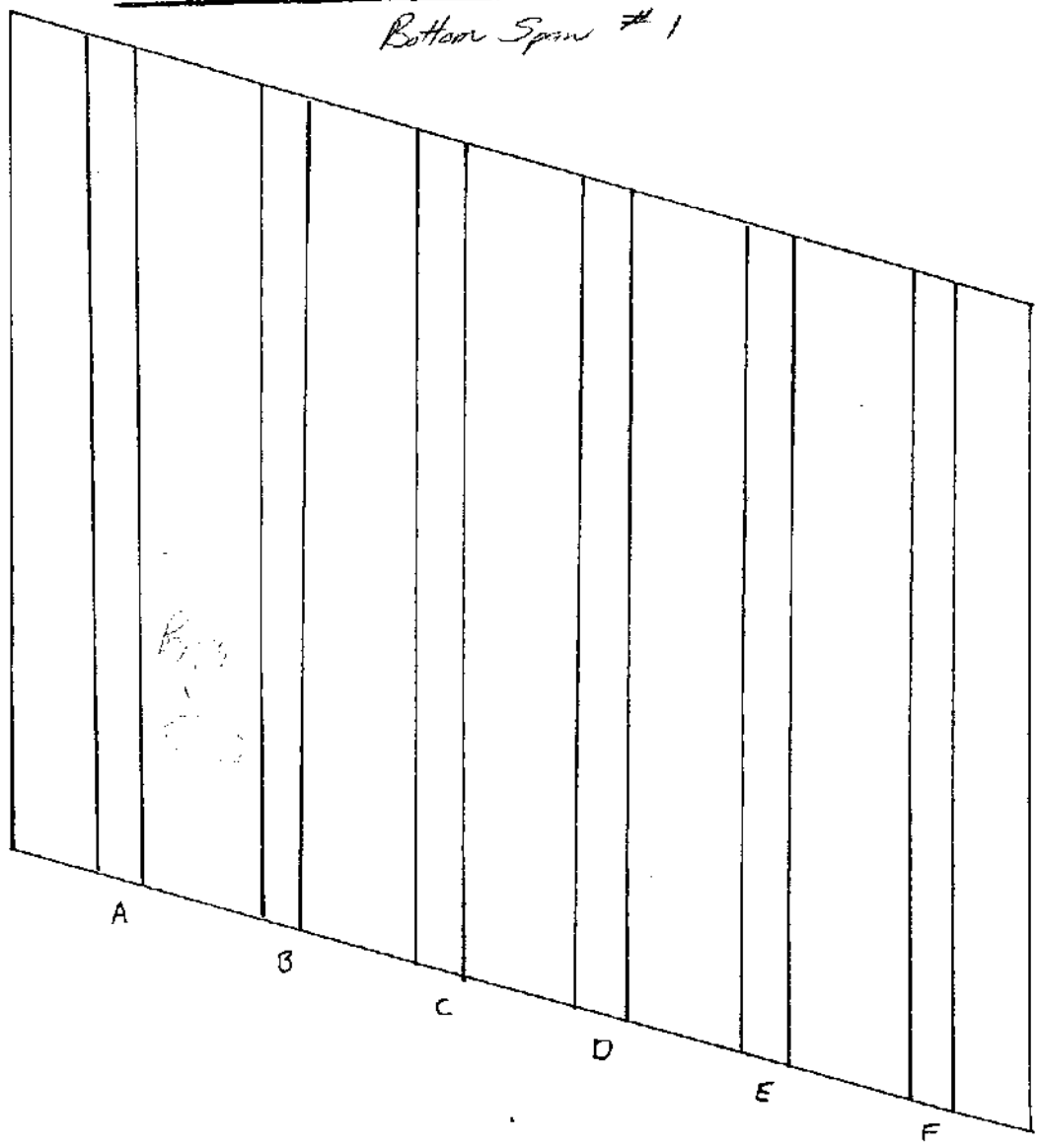
DECK	Good	
DRAINS	N/A	
HANDRAILS	N/A	
JOINTS	N/A	
PARAPET	Good	Some [illegible]

BR # 94-I65-4.79

DATE:

Rt. Lane

Bottom Span # 1



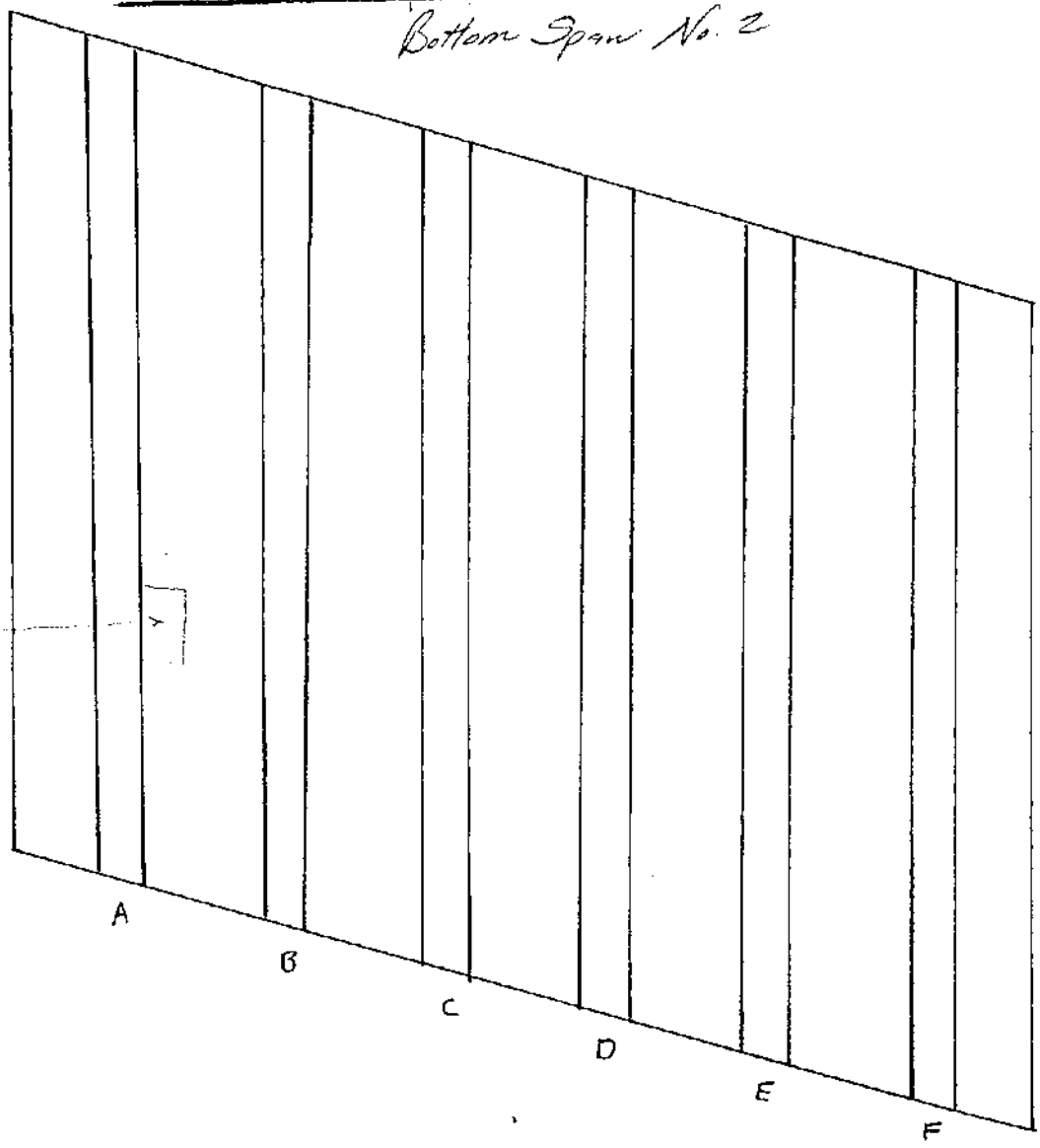
DECK		
BEAM A		
B		
C		
D		
E		
F		
DRAINS		
DIAPH - BACK		
INT		
AHEAD		

BR # 94-I65-4.79

DATE:

Rt. Lane

Bottom Span No. 2



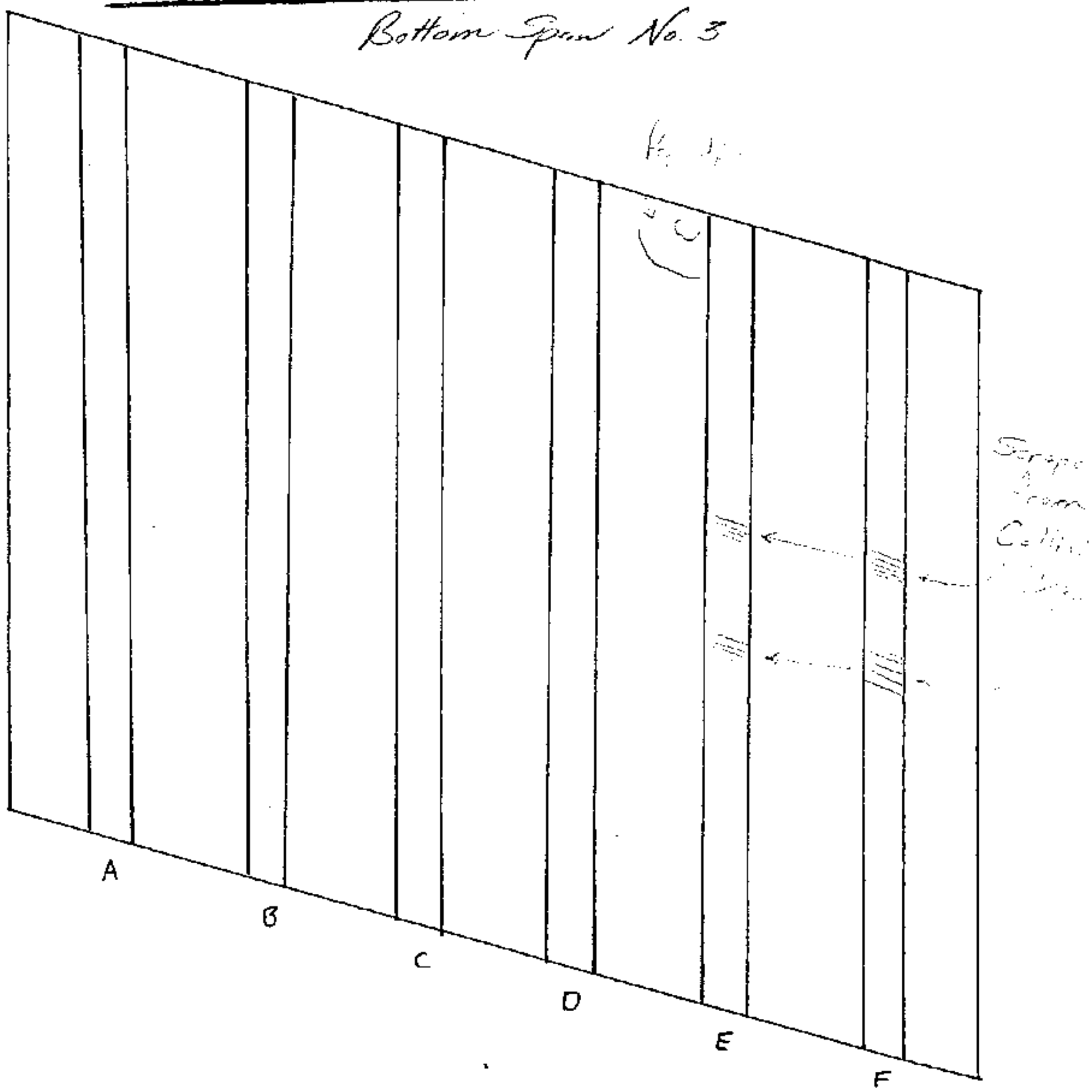
DECK		
BEAM A		
B		
C		
D		
E		
F		
DRAINS		
DIAPH - BACK		
INT	Good	
AHEAD	Fair	

BR # 94-I65-4.79

DATE:

Rt. Lane

Bottom Span No. 3

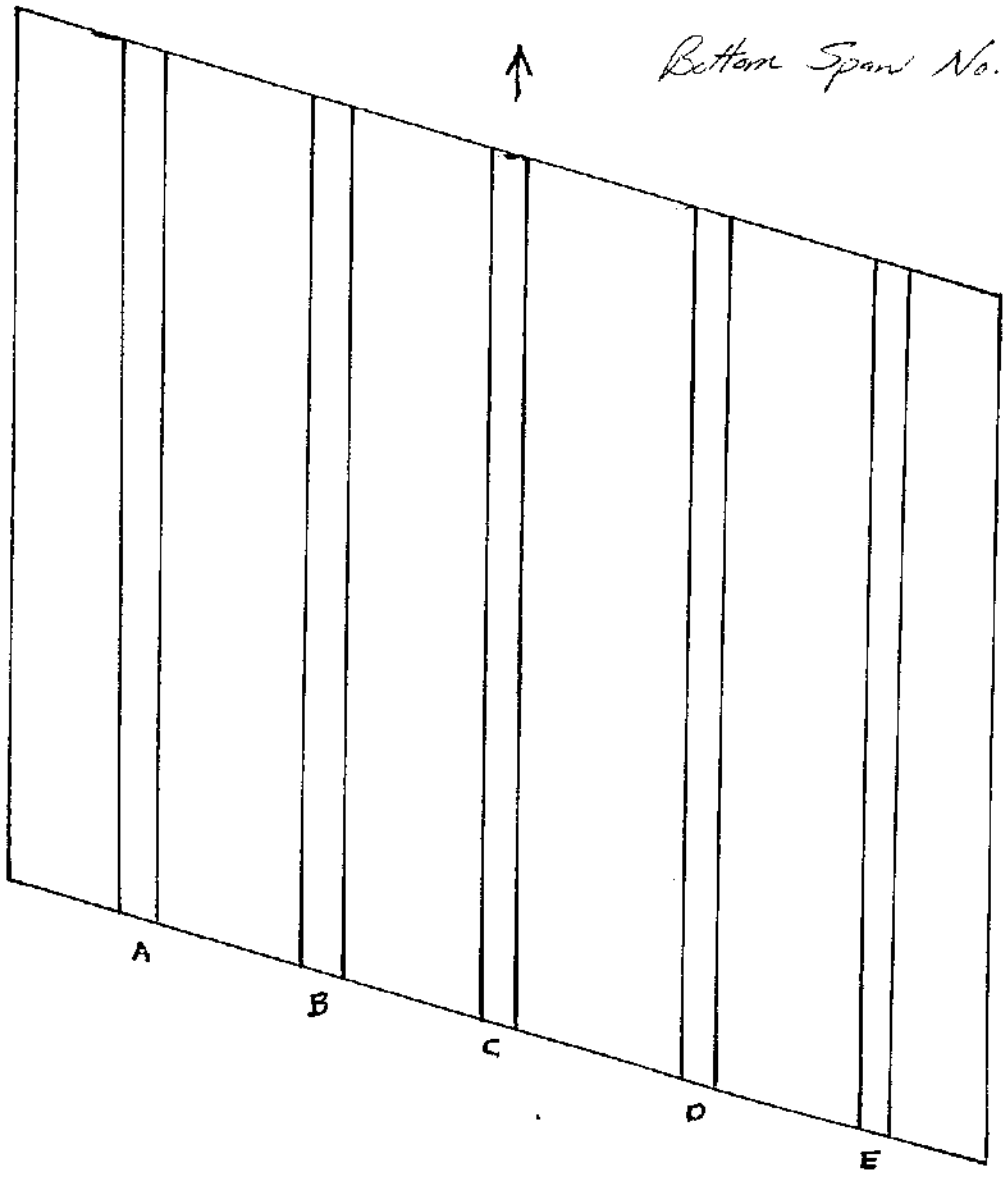


DECK	[illegible]	
BEAM A	"	
B	"	
C	"	
D	"	
E	"	[illegible]
F	"	Same
DRAINS		
DIAPH-BACK	Fa[illegible]	[illegible]
INT	Good	
AHEAD	Fair	Heavy Crack[illegible]

94-I65-4.79

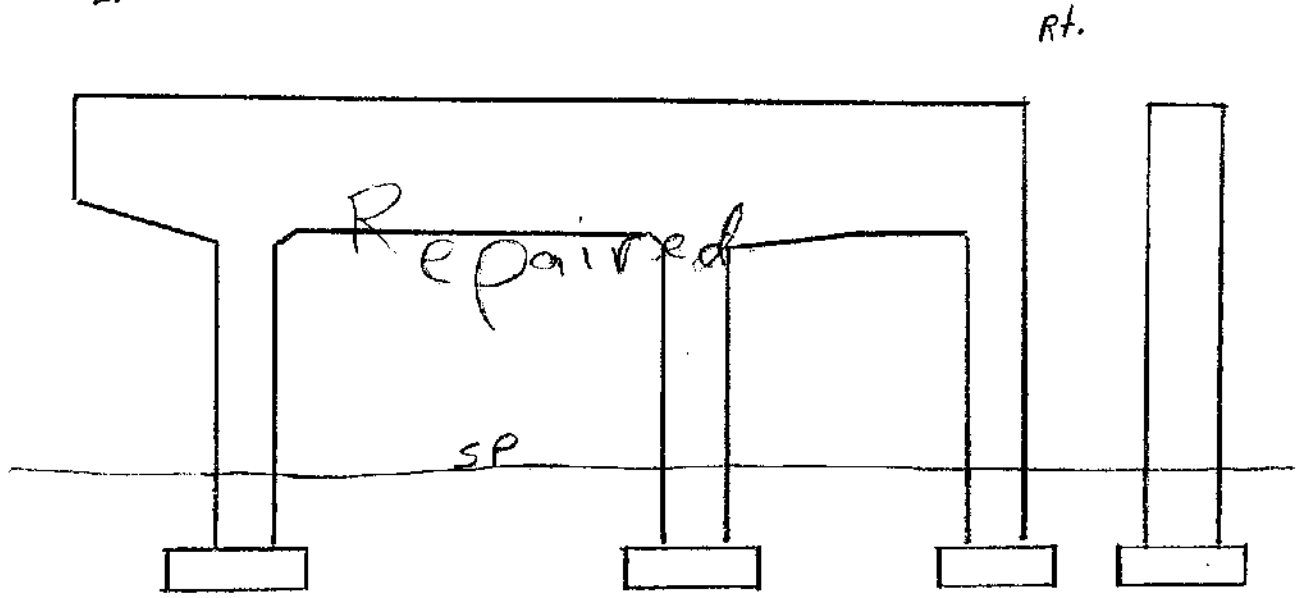
Date:

Rt. Lane

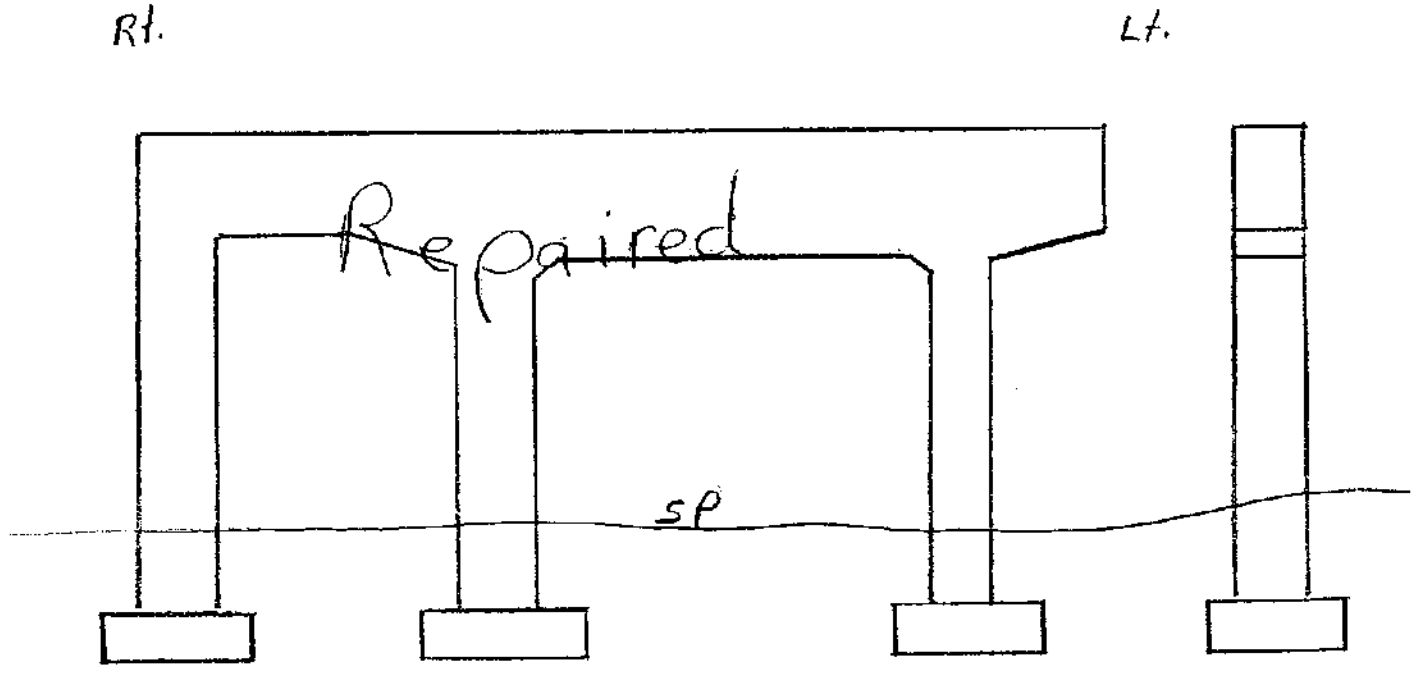


DECK	Inv	
BEAM A		
B		
C		
D		
E		
DRAINS		
DIAPH. - Back	F - P	Heavy Crack
AHEAD	Good	
INT.	"	

BR. No. 94-I65-4.79
Rt. LANE S
DATE: 8/16/01



FRONT VIEW BENT No. 3 Rt. End VIEW



BACK VIEW BENT No. 3 Lt. End VIEW

BR. # 94-I65-4.79 Rt LANE

BENT # 3 DATE: 8/16/01

BEARINGS	Good
CAP	"
COLUMN 'A'	"
COL. 'B'	"
COL. 'C'	"
FOOTING	N/V

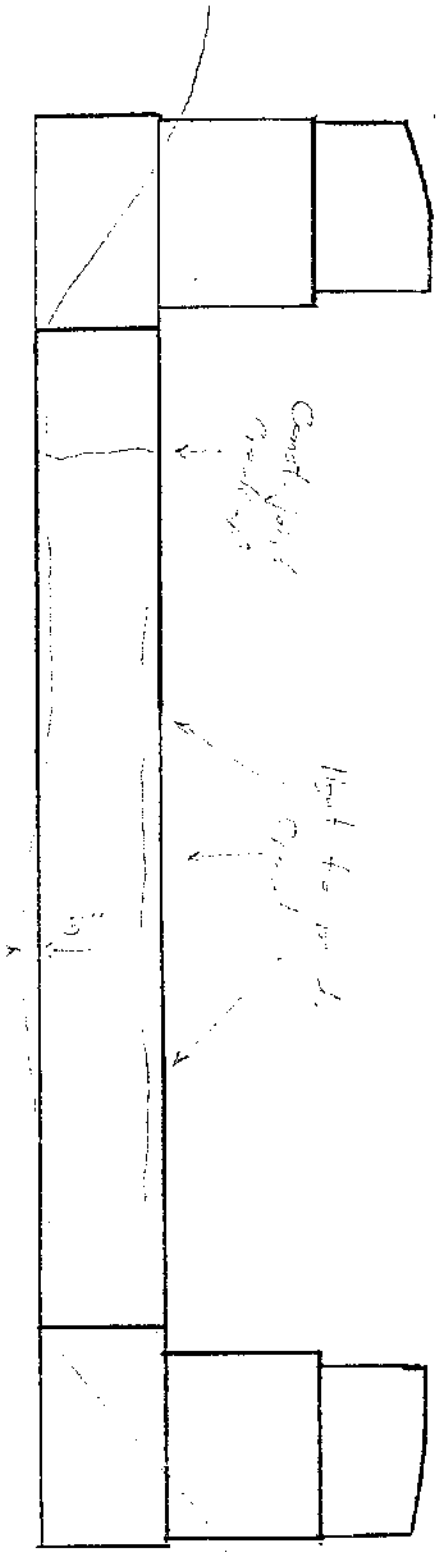
Ref aired

BR. No. 94-I65-4.79

Rt. LANE

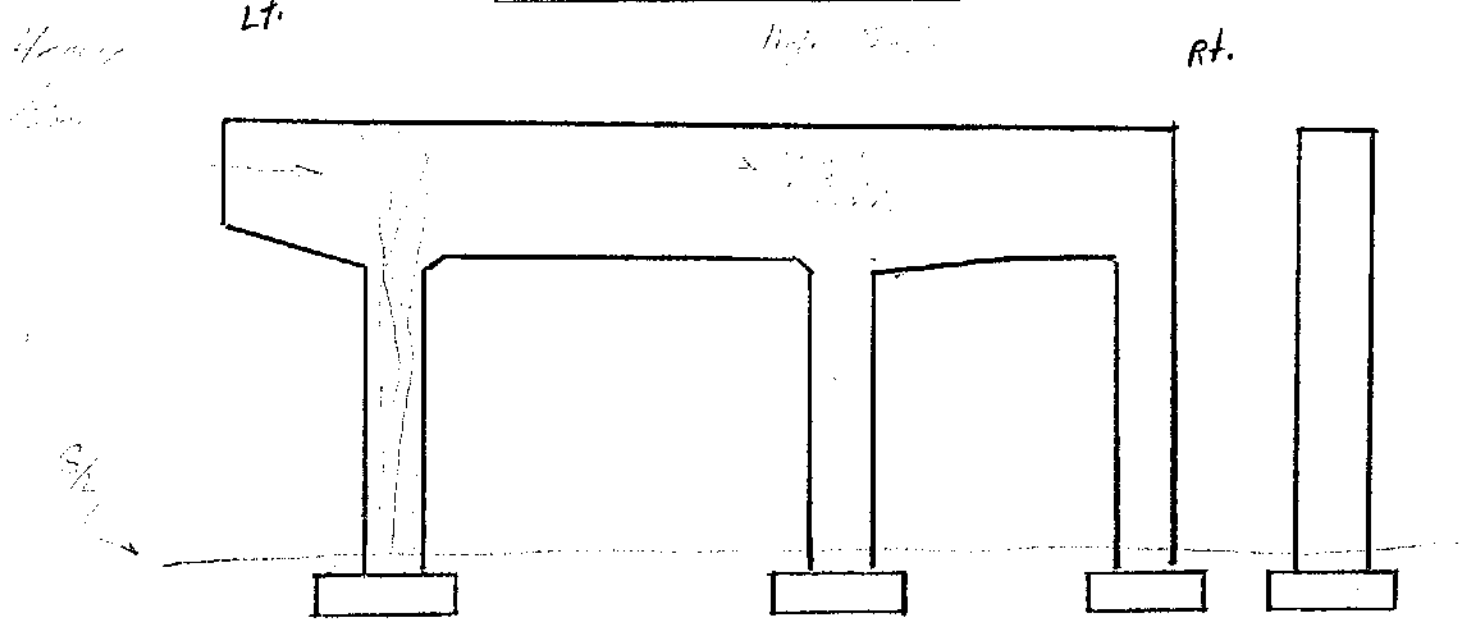
DATE:

BEARINGS	
BR. SEAT	—
CAP	
Lt. WING	
Rt. WING	
SLOPE PAVING	N/A

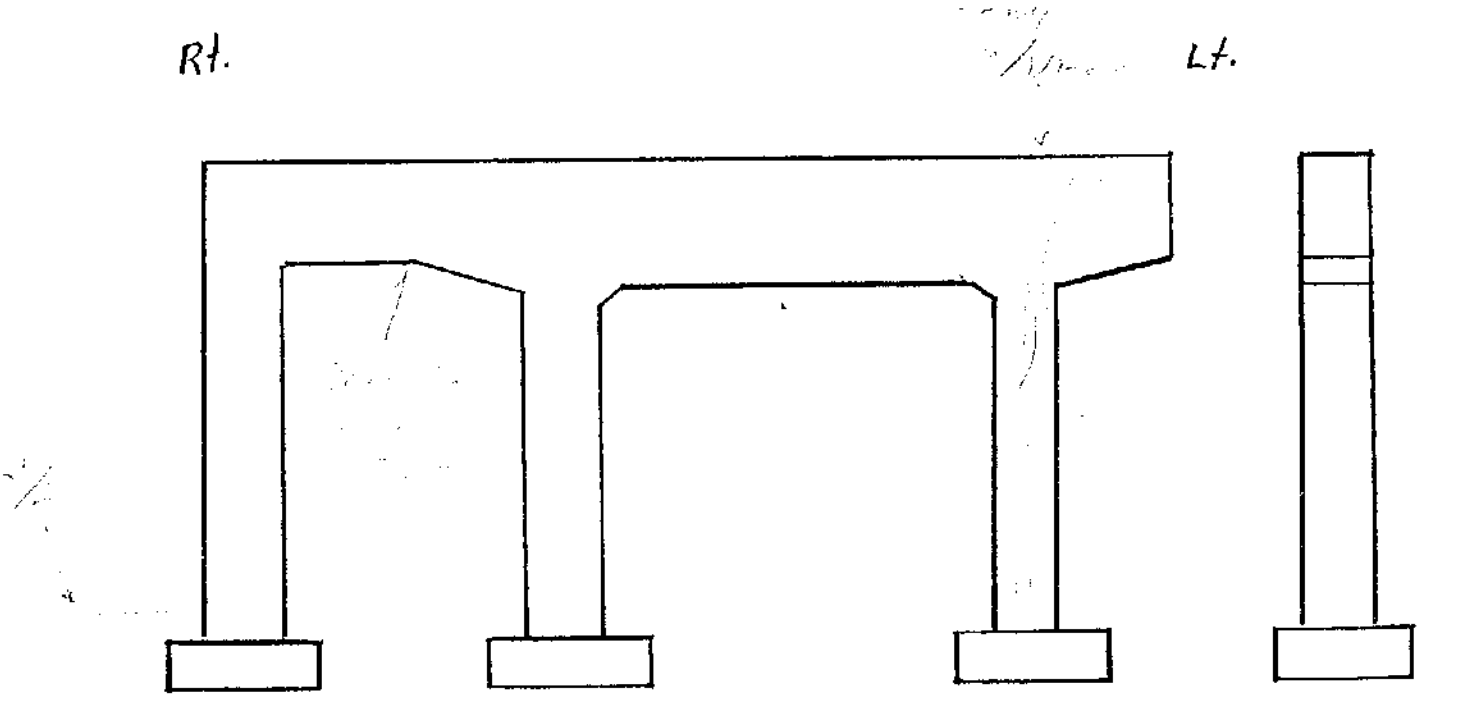


ABUTMENT No. 1

BR. No. 94-I65-4.79
Rt. LANE
DATE:



FRONT VIEW BENT No. 1 Rt. END VIEW



BACK VIEW BENT No. 1 Lt. END VIEW

BR. # 94-I65-4.79 Rt LANE

BENT # 1 DATE:

BEARINGS

CAP

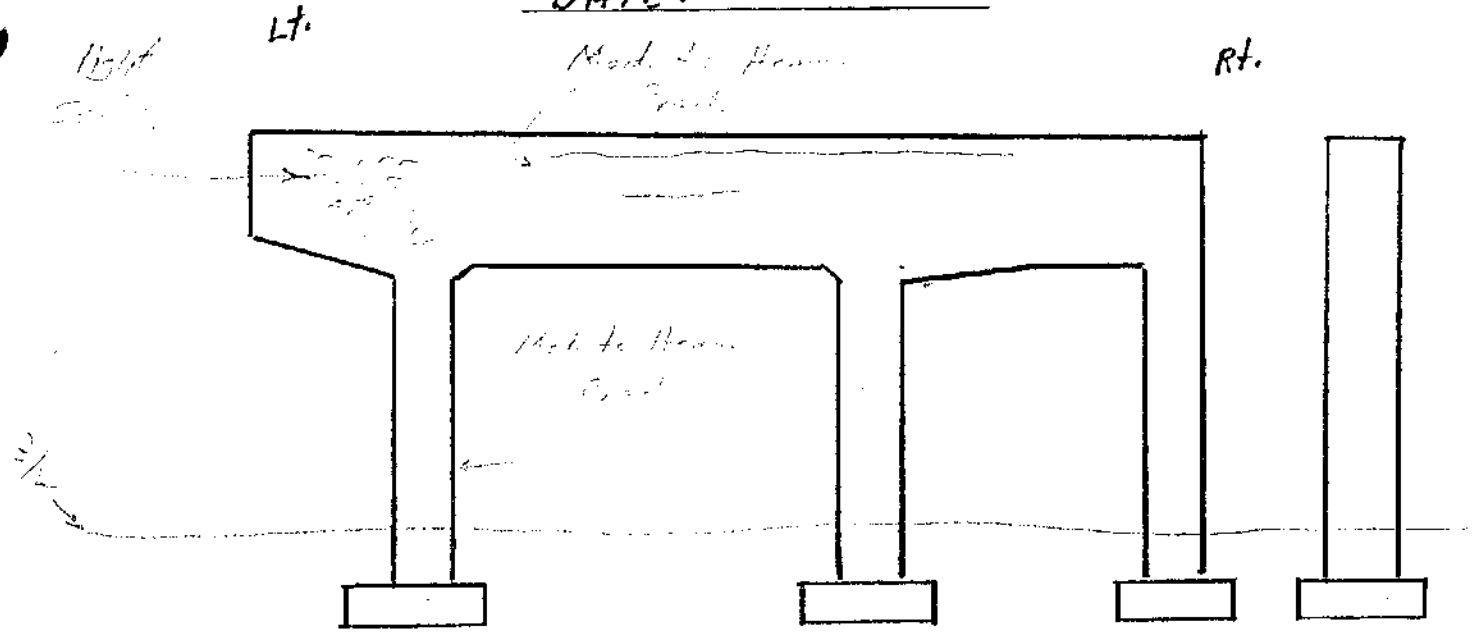
COLUMN 'A'

COL. 'B'

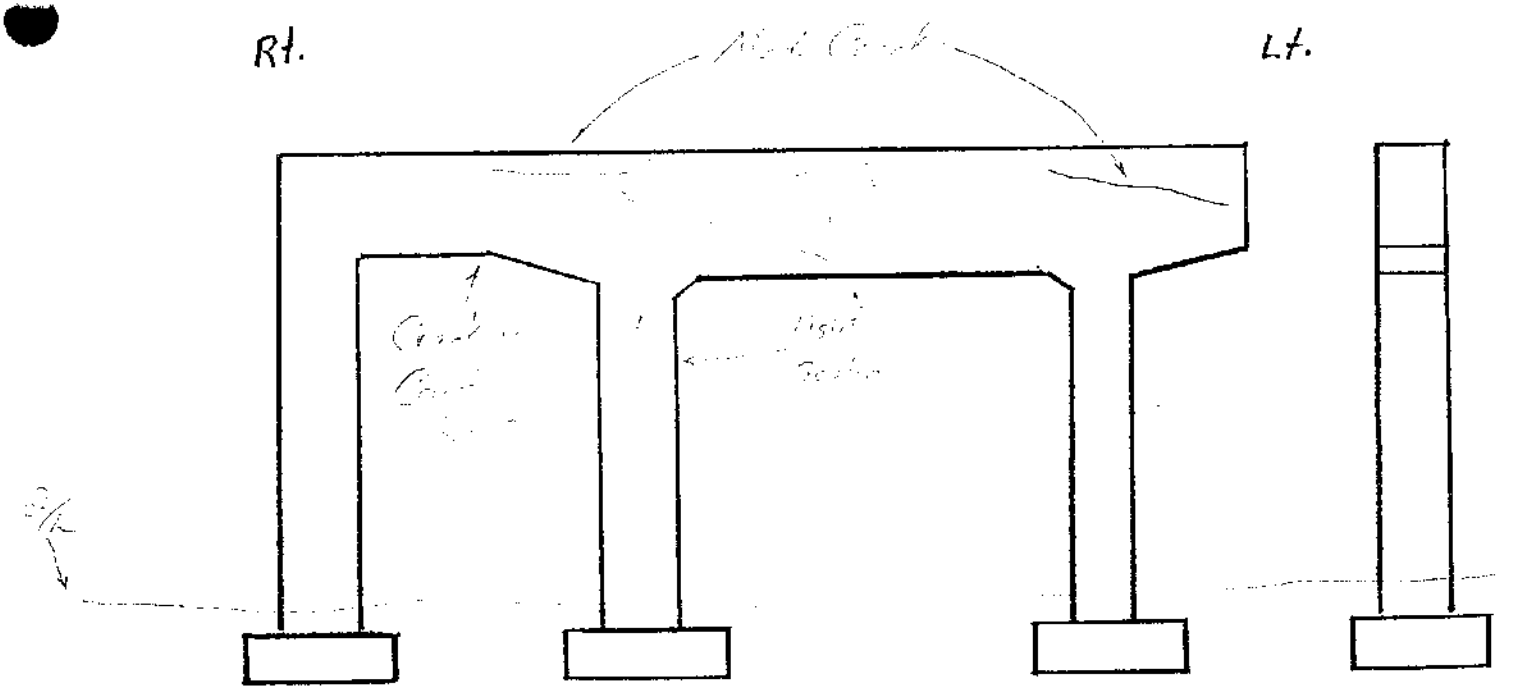
COL. 'C'

FOOTING

BR. No. 94-I65-4.79
Rt. LANE
DATE:



FRONT VIEW BENT No. 2 Rt. END VIEW



BACK VIEW BENT No. 2 Lt. END VIEW

BR. # 94-I65-4.79 Rt LANE

BENT # 2 DATE:

BEARINGS

CAP

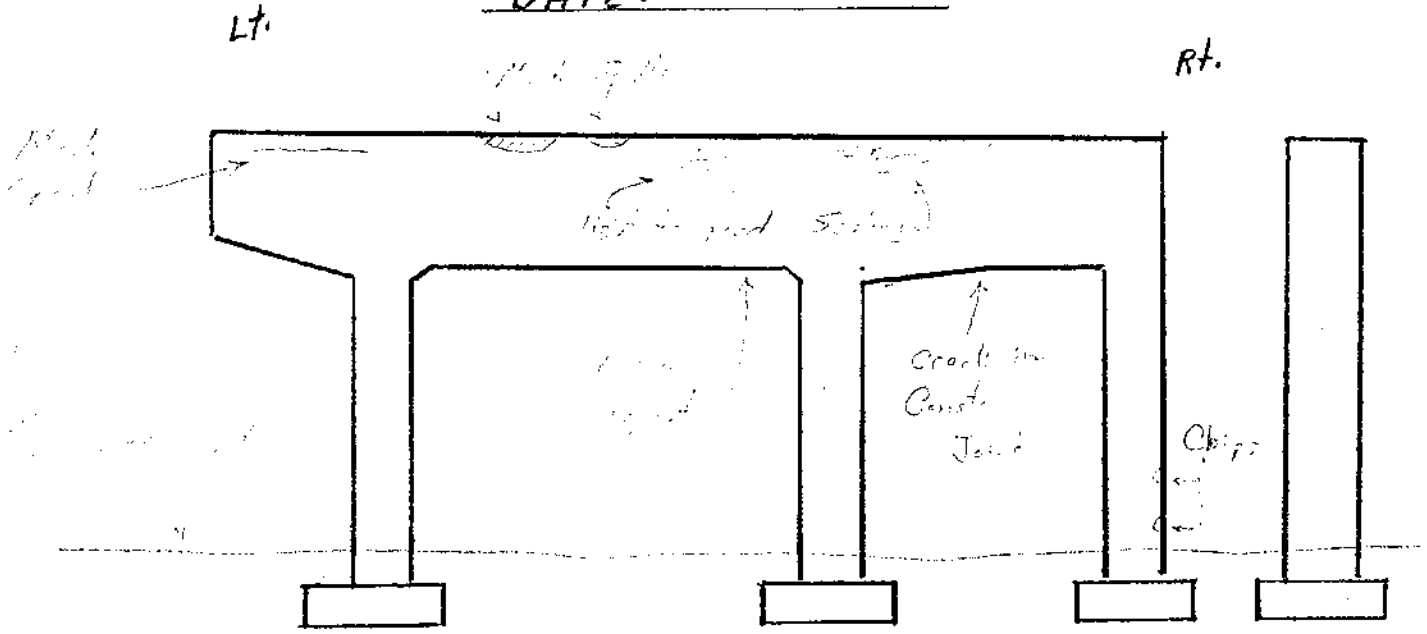
COLUMN 'A'

COL. 'B'

COL. 'C'

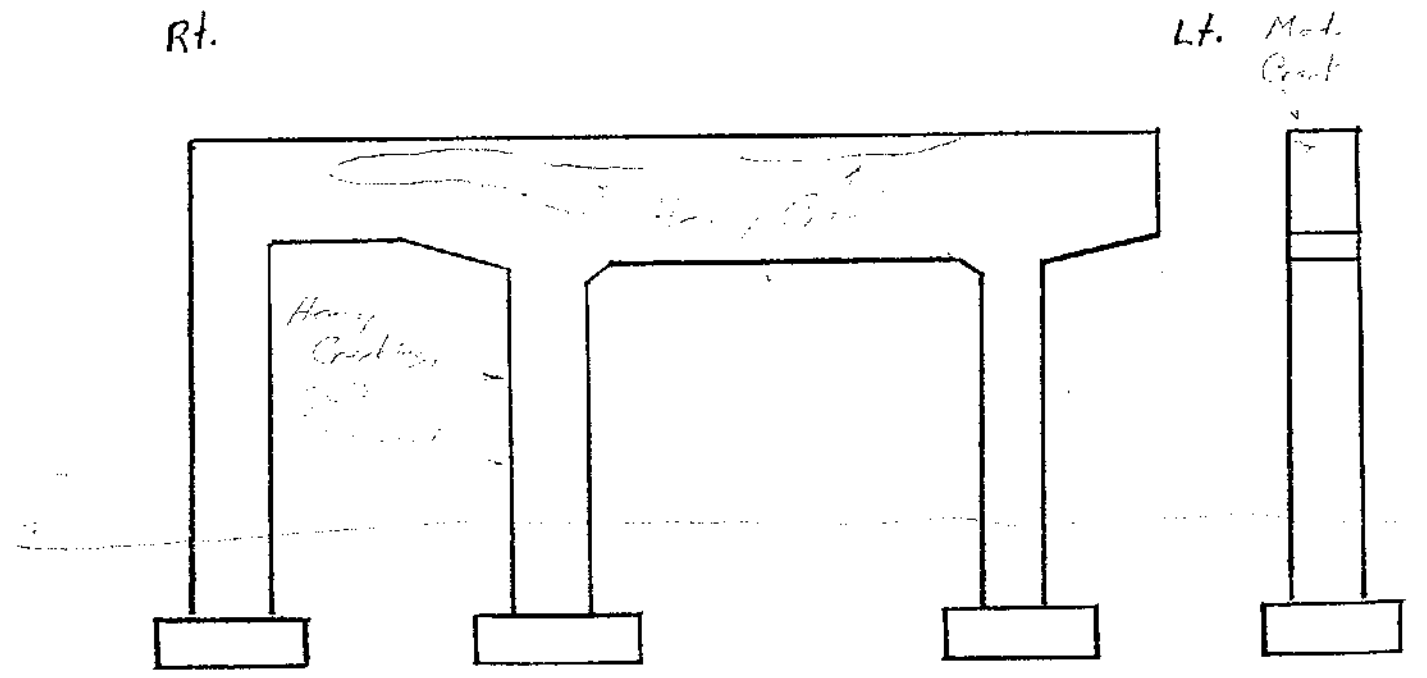
FOOTING

BR. No. 94-I65-4.79
Rt. LANE
DATE:



FRONT VIEW BENT No. 3

Rt. End View



BACK VIEW BENT No. 3

Lt. End View

BR # 94-I65-4.79 Rt LANE

BENT # 3 DATE:

BEARINGS	Good
CAP	Fair
COLUMN 'A'	Good
COL. 'B'	Fair
Col. 'C'	Fair
FOOTING	N/A

BR. No. 94-I65-4.79

Rt. LANE

DATE:

LT.

BEARINGS	
BR. SEAT	—
CAP	
Lt. WING	
Rt. WING	
SLOPE PAVING	

ABUTMENT No. 2

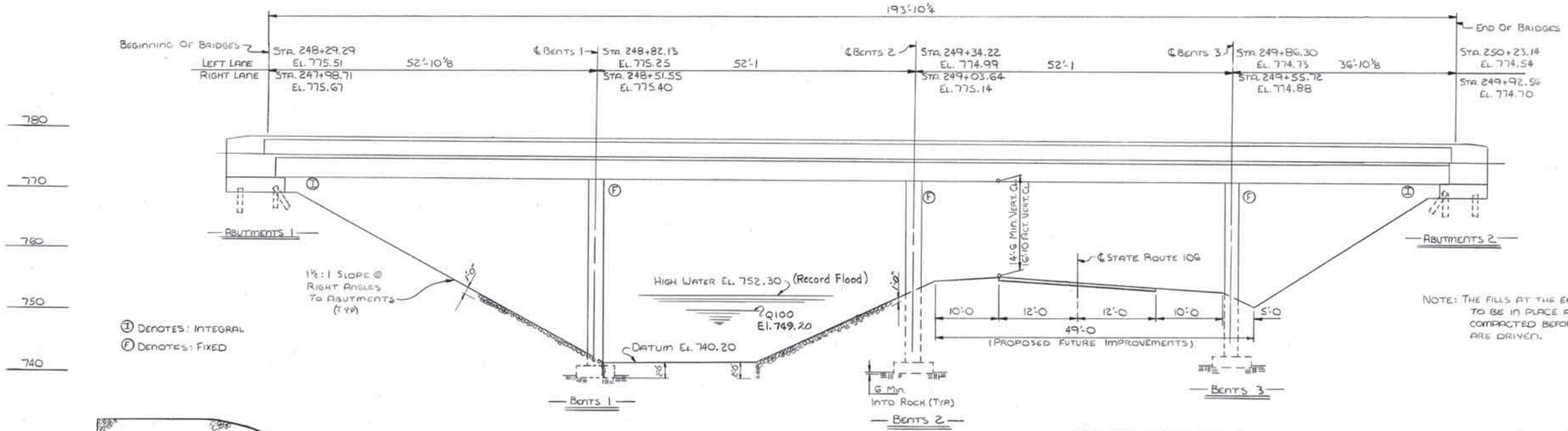
RT.

Const. No. 94002-3133-44 + 94002-3134-44

PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)46 F-65-2(48)46	1978	22

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

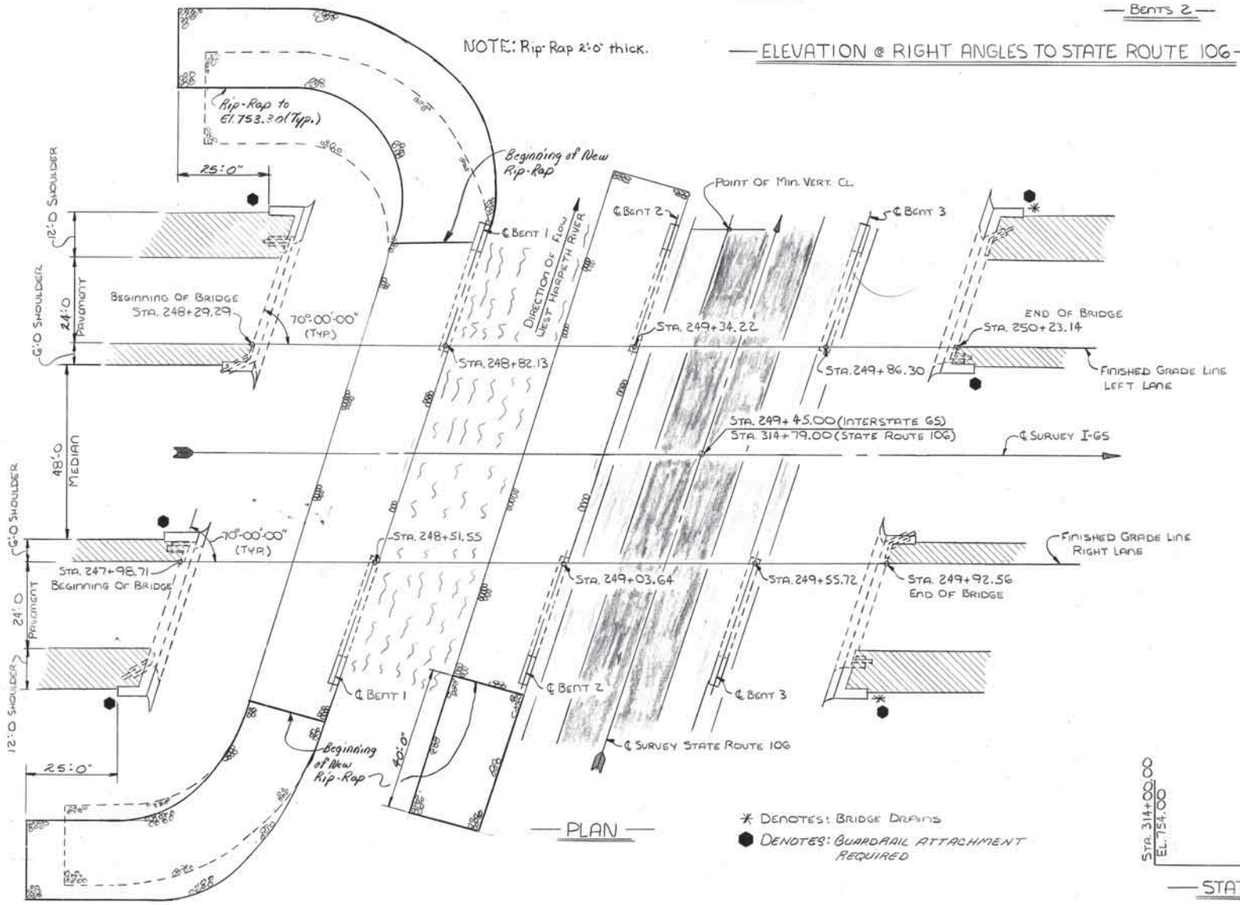


NOTE: The fills at the ends of the bridges to be in place and thoroughly compacted before abutment piles are driven.

NOTE: Rip-Rap 2'-0" thick.

ELEVATION @ RIGHT ANGLES TO STATE ROUTE 106

SPECIAL NOTE: FOR SEQUENCE OF CONSTRUCTION, SEE ROADWAY PLANS, SHEET NO. ____



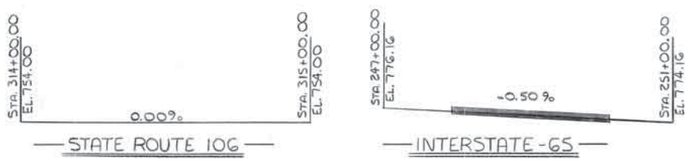
PLAN

✱ Denotes: Bridge Drains
● Denotes: Guardrail Attachment Required

HYDRAULIC DATA

Drainage Area: 5.5 Square Miles
Area Provided: 349 ft²
Discharge Q100: 3800 C.F.S.
Discharge Q50: 3300 C.F.S.
Velocity: 10.9 ft./second

SPECIAL NOTE: For sequence of construction, see Roadway Plans, sheet no. 2



State Route 106 — Interstate-65

GRADE SKETCHES

NOTE: Elevations shown represent elevations at top of existing concrete deck.

LIST OF DWGS.

STANDARD DWGS.

Standard Pile Details	Feb. 24, '66	H-S-111
Std. Reinf. Bar Support Details	Jan. 14, '75	K-80-14
Misc. Abut. & Drainage Details	Jan. 9, '75	K-85-150
Bridge Railing - Concrete Parapet	Jan. 28, '76	M-28-1
Precast Prestressed Concrete Deck Panels	Jan. 15, '77	K-80-15

EXISTING DWGS.

Layout Of Bridges	K-8-93
Prestressed Beam Details	K-8-94
Superstructure Details	K-8-95
Abutment No. 1	K-8-96
Abutment No. 2	K-8-97
Bents No. 1, 2, & 3	K-8-98
Bill Of Steel	K-8-99

SPECIAL PROVISIONS

130 - Regarding Section 604 - Concrete Structures	10-1-77
420 - Regarding Approval Of Shop Drawings	9-20-76
450 - Regarding Permanent Steel Bridge Deck Forms	9-19-77
480 - Low Slump Dense & Polymer Modified Concrete Bridge Deck Overlay	2-13-78
481 - Low Slump Dense & Polymer Modified Concrete Bridge Deck Overlay For Existing Bridge Decks	2-13-78
555 - Regarding Section 615 - Precast Prestressed Concrete Bridge Members	7-1-77
570 - Regarding Hauling Over Structures	7-10-68
210 - Regarding Subsection 908.13 - Elastomeric Brg. Pads	12-2-76

TWO 42'0" ROADWAYS w/ PARAPET

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING
LEFT & RIGHT LANES
I-65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY

CORRECT _____ 1978
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-60-109

DESIGNED BY R Woods DATE Dec. '77
DRAWN BY GA Swindle DATE Mar. '78
SUPERVISED BY Fields & Jett DATE Mar. '78
CHECKED BY _____ DATE _____

Class "A" Grading "D" 5 C.Y. Bridge Deck Sealant 1,780 S.Y.

MICROFILMED

CONS'T. NO. 94002-3133-44 + 94002-3134-44

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of The Tennessee Department of Highways. (1968 Edition)

CONCRETE: To be class "A" (cast in place). f'c 3000 psi. See Special Provision No. 130.

PRECAST PRESTRESSED BRIDGE DECK PANELS: A portion of the concrete deck may be constructed of Precast Prestressed Bridge Deck Panels fabricated and used in accordance with Standard Drawing K-80-15.

BRIDGE RAIL SYSTEM: Build parapets according to Standard Drawing M-28-1.

PILES: To be HP10 x 42 driven to refusal on rock or a minimum bearing of 55 tons for the abutments.

PRECAST, PRESTRESSED BRIDGE MEMBERS: See Special Provision No. 555.

EPOXY: The binder mix, sand aggregate batch, placing method, temperature AND HUMIDITY LIMITATIONS AND CURING TIMES shall be as recommended by the manufacturer. Acceptable brands of epoxy are: EPI-Top 100 - Calanese Coating Co., Colma DUR-Sika Chemical Corp., Sinmast Mortar Mix Resin #4 Sinmast Corp., & Sikastix 370 - Sika Chemical Corp. AND FEL-POXY 102, FEL-PRO BUILDING PRODUCTS INC. COST OF JOINT PREPARATION + EPOXY IN PLACE TO BE INCLUDED IN ITEMS BID ON.

ELASTOMETRIC BEARING PAD: See Special Provision No. 210

LOADING: HS20-44 WITH ALTERNATE MILITARY

DESIGN SPECIFICATIONS: AASHO 1973 Edition with addenda.

BRIDGE DECK FORMS: Bridge Deck Forms for concrete decks shall be constructed using either removable forms or permanent forms. In either case, forms shall be attached by means other than welding to support members. See Special Provision No. 450.

REINFORCING STEEL: To be ASTM A615 Grade 60. Standard CRSI hook details apply unless otherwise noted on bill of steel. Bending dimensions shown are based on grade 60. Spacing dimensions are center to center unless otherwise noted on detail drawings.

BRIDGE DECK SEALANT: The bridge deck shall be sealed in accordance with Special Provision No. 480 or No. 481. These bridge deck sealant systems shall be paid for under bridge Items; 604-03.16 for LSDC or 604-03.17 for PMC. (4780 sq. required).

WIDENINGS: The contractor shall check the location of all existing substructures and verify span lengths before fabricating girders.

SPECIAL NOTE — Footing For Bents: After excavation to rock for footing has been completed, holes 6' deep shall be drilled at points designated by the Engineer. From the results obtained, the Engineer shall determine the final footing elevations. No reinforcing steel for bent columns shall be ordered until final footing elevations have been determined.

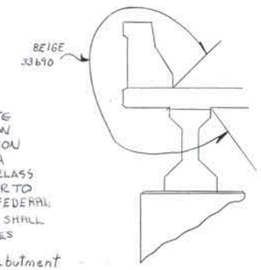
RIP-RAP Rip-rap shall consist of furnishing and placing by hand, rubble stones, or sacked sand cement.

Rubble stone shall meet the requirements of Section 709 and shall be clean (free from organic matter) durable, angular with fractured faces, nearly rectangular in shape with a breadth or thickness at least one-third it's length.

PROJECT NO.	YEAR	SHEET NO.
I-65-2(97)-96 FA-65-2(98)-96	1978	23

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6-25-78	J.L.J.	Portable Barrier Rail quantity.
2	8-21-79	J.L.J.	Textured Coated Finish quantity
3	3-12-80	J.L.J.	Textured Coated Finish



FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF THE TENNESSEE STANDARD SPECIFICATION EXCEPT AS MODIFIED BY SPECIAL PROVISION NO. 130. A TEXTURED COATED FINISH SHALL BE USED IN LIEU OF A CLASS 2 FINISH. THE COLOR OF THE FINISH SHALL BE SIMILAR TO BEIGE, FEDERAL SPECIFICATION NO. 33690, FEDERAL COLOR STANDARD NO. 595a, AND A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.

All exposed existing and new bent and abutment surfaces to be Texture-coated.

ESTIMATED QUANTITIES

	ITEM NUMBER	709-01	204-08.01	204-03.01	ALTERNATE LSDC 604-03.01	604-03.16	ALTERNATE PMC 604-03.01	604-03.17	604-09.02	604-85.03	604-85.04	615-01.02	616-08	616-12	604-10.51	710-10	710-11	604-10.50	204-04.01	204-05	606-02.03
	ITEM	Rubble Stone Rip-Rap (plain) or Sacked Sand-Cement Rip-Rap (Optional)	Dry Excavation (Bridges) ⑦	Wet Excavation (Bridges) ⑦	Class "A" Concrete (Bridges) ④	Bridge Deck Sealant LSDC ④	Class "A" Concrete (Bridges ④	Bridge Deck Sealant PMC ④	Steel Bar Reinforcement (Bridges	Textured Coating (Existing Structure) ③ ②	Textured Coating (New Structure) ③ ②	Prestressed Concrete I Beam (Type II)	Concrete Parapet (M-28-1)	Portable Barrier Rail (K-38-158)	Scarifying	6"ϕ Perforated C.M. pipe (18ga.) with porous backfill ⑨	6"ϕ C.M. pipe (18ga.) underdrains ⑨	Bridge Deck Repairs ⑥	ROCK Excavation	ROCK Drilling	STEEL PILES (10 INCH)
		C.Y.	C.Y.	C.Y.	(CY)	S.Y.	(CY)	S.Y.	lb.	S.Y.	S.Y.	L.F. ③	L.F.	L.F. ⑤	S.Y.	L.F.	L.F.	S.Y. ⑥	C.Y.	L.F.	L.F.
LEFT LANE	SUPERSTRUCTURE				106.6	890	97.6	890	29085				412					200			
	Abutment #1		10		11.1		11.1		1851							16	11				84
	Bent #1			5	11.2		11.2		2056										2	6	
	Bent #2		41		11.1		11.1		2038										2	6	
	Bent #3		37		10.6		10.6		1948										2	6	
	Abutment #2		10		11.1		11.1		1816							14	11				90
	TOTALS	188	98	5	161.7	890	152.7	890	38,794	1208	915	189	412		528	30	22	200	6	18	174
RIGHT LANE	Superstructure				106.6		97.6		29085				412					200			
	Abutment #1		10		11.1		11.1		1851							14	11				75
	Bent #1	218		3	11.1		11.1		2038										2	6	
	Bent #2		41		10.8		10.8		1985										2	6	
	Bent #3		37		10.6		10.6		1948										2	6	
	Abutment #2	188	10		11.1		11.1		1816							16	11				84
	TOTALS		98	3	161.3	890	152.3	890	38,723	1208	915	189	412		528	30	22	200	6	18	159
	GRAND TOTALS	594	196	8	323.0	1780	305.0	1780	77,517	2416	1830	378	824	564 ①	1056	60	44	400	12	36	333

① The cost of removing the exterior portion of the existing slab, portions of the existing abutments, and the bridge rail, shall be included in the unit prices of Items bid on. All salvable material shall become property of the contractor.

② The cost of bituminous fiberboard, epoxy joints, & all miscellaneous joint material to be included in bridge items bid on.

③ Cost of elastomeric pads, rubber bonding cement, and dowel bars or anchor bolts to be included in the cost of prestressed beams.

④ The Contractor shall bid either Alternate LSDC or Alternate PMC. The variation in the superstructure quantity of Class "A" Concrete for Alternates LSDC and PMC is due to the difference in depth of the LSDC and PMC systems.

⑤ Quantity of 564 L.F. of Portable Barrier Rail includes 244 Ft. for traffic control on the structure & 156 L.F. for traffic control under the Structure (on State Route 106).

⑥ Quantities shown are estimated. The actual quantity will be determined by the Division of Structures, after the Contractor has removed the existing asphalt from the structure. Cost of removal of existing asphalt to be included in cost of scarifying.

⑦ Excavation based on lower road profile.

⑧ Cost of 24 threaded steel inserts and 24 7/8"ϕ x 4" hex head bolts (A307) to be included in bridge items bid on.

⑨ Cost of polyethylene sheeting and all miscellaneous items necessary for installation to be included in cost of perforated C.M. Pipe.

DESIGNED BY Ramsey Woods DATE 2-78
DRAWN BY Scotty Lukeman DATE 3-78
SUPERVISED BY Willis H. Scott DATE 4-78
CHECKED BY Jeff F. Ramsey DATE 6-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES AND ESTIMATED QUANTITIES
I-65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

CORRECT H.W. McNish ENGINEER OF STRUCTURES
APPROVED Lewis Evans DIRECTOR OF HIGHWAYS

M-60-110

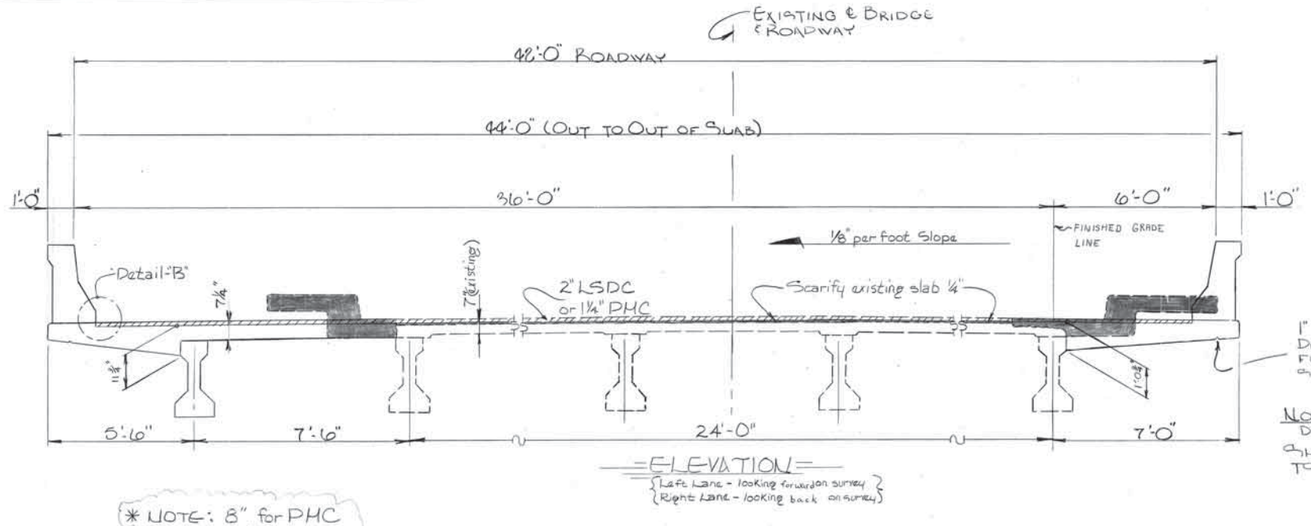
MICROFILMED

CONST. NO. 94002-3133-44 + 94002-3134-44

PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)96 F.I.-65-2(48)96	1978	24

REVISIONS

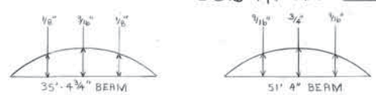
NO.	DATE	BY	BRIEF DESCRIPTION



ELEVATION

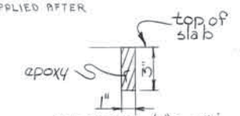
{Left Lane - looking forward on survey
{Right Lane - looking back on survey

* NOTE: 8" for PHC
8¾" for LSDC

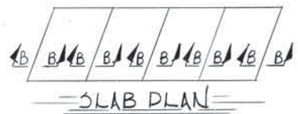


DEAD LOAD CORRECTION CURVES

NOTE: THIS CURVE IS FOR DEAD LOAD SLAB + ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE.



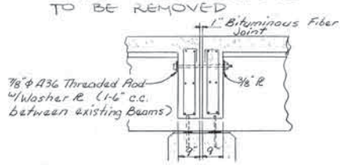
SECTION-"BB"



SLAB PLAN

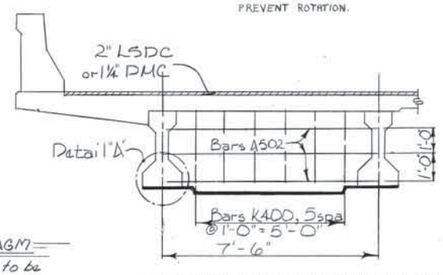
NOTE: GIRDERS TO BE SUPPORTED DURING CONSTRUCTION OF SLAB TO PREVENT ROTATION.

NOTE: DASHED LINES DENOTES EXISTING BRIDGE
SHADED AREA OF BRIDGE TO BE REMOVED

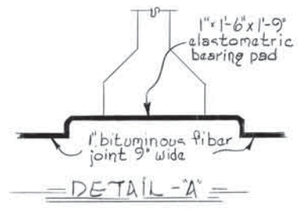


TYPICAL SECTION @ EXISTING DIAPHRAGM

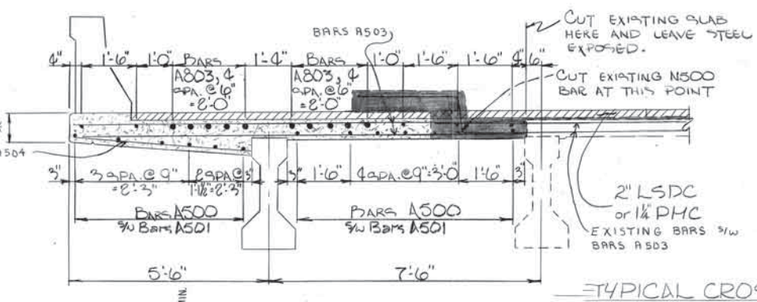
Note: Cost of threaded rods and Rs to be included in items bid on.



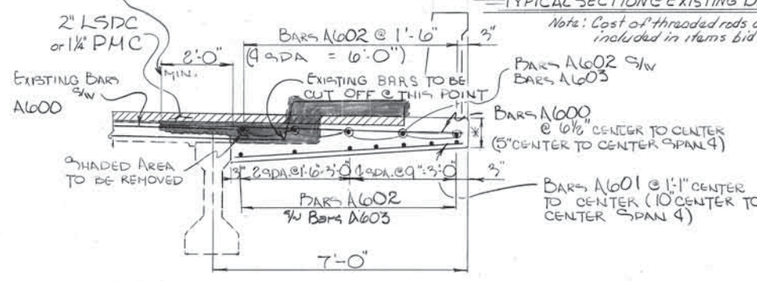
ELEVATION OF DIAPHRAGM
(Typ. @ Each Bent)

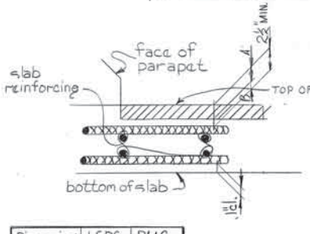


DETAIL - "A"



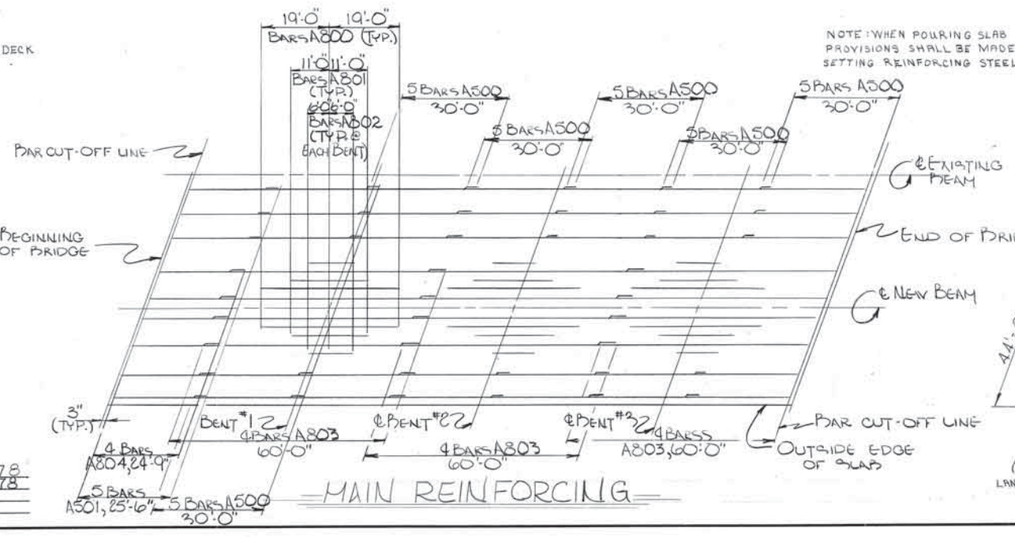
TYPICAL CROSS-SECTION





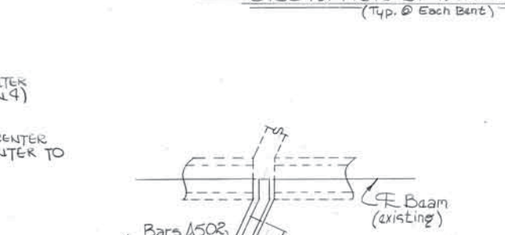
Dimension	LSDC	PHC
A	2"	1¼"
B	½" MIN	1¼" MIN

DETAIL - "B"
(LSDC & PHC OVERLAY)

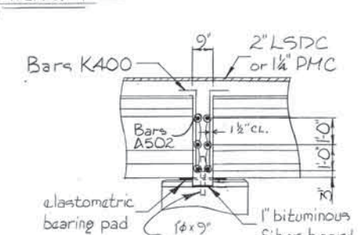


MAIN REINFORCING

NOTE: WHEN POURING SLAB PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET.



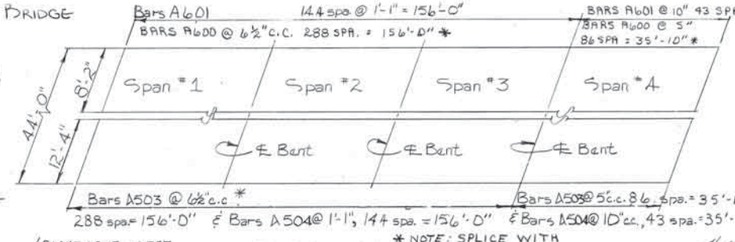
PLAN OF SUPPORT DIAPHRAGM



SECTION - "AA"

ESTIMATED QUANTITIES

CLASS "A" CONCRETE (C.Y.)				REINFORCING STEEL (LBS.)
LSDC	106.6	PHC	97.6	29,085.



(RIGHT LANE & LEFT LANE SIMILAR)

SLAB PLAN

* NOTE: SPLICE WITH EXISTING STEEL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE
I-65 OVER STATE ROUTE 106
AND WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

DESIGNED BY W.R. Woods DATE 1-78
DRAWN BY DOTTY LAYNE DATE 3-78
SUPERVISED BY Jett and Fields DATE
CHECKED BY W.R. Woods DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-111

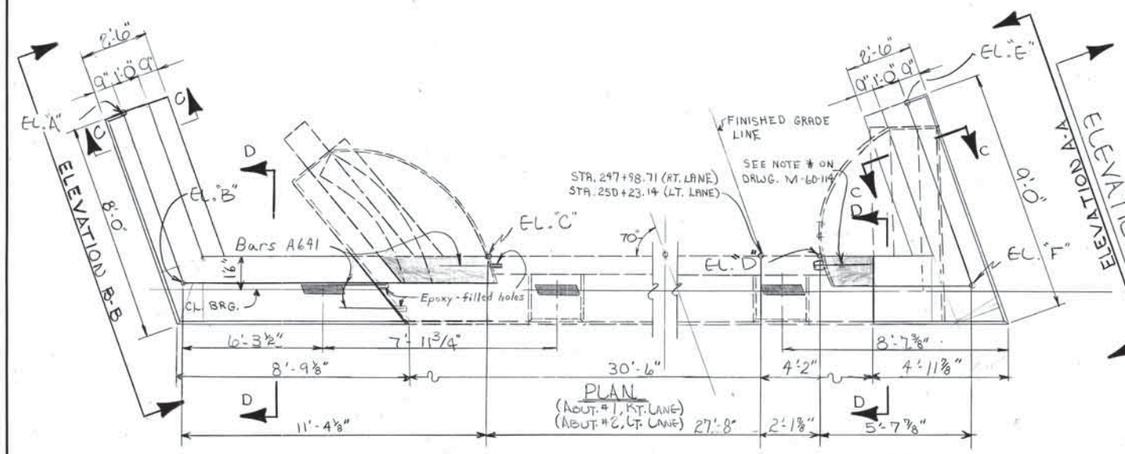
MICROFILMED

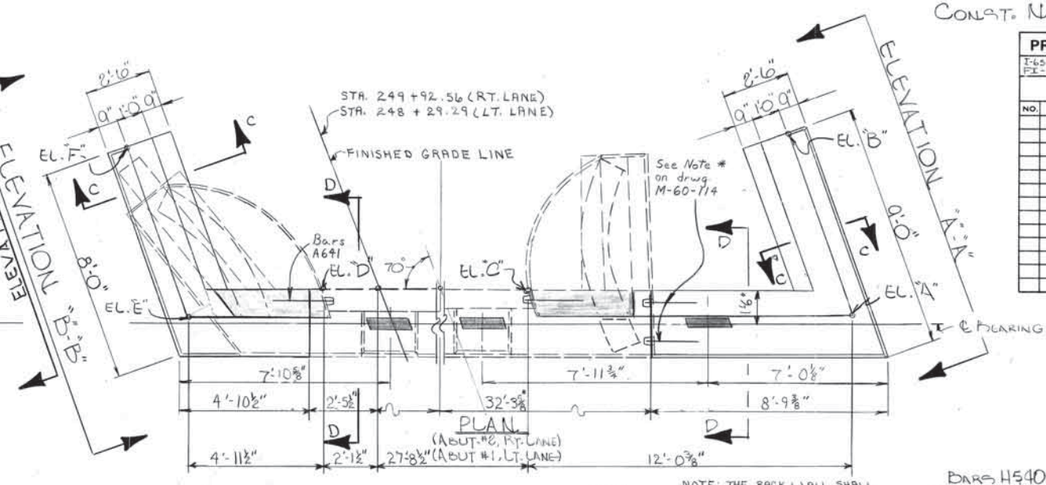
CONST. NO. 94002-3133-44 & 94002-3134-44

PROJECT NO.	YEAR	SHEET NO.
I-65-2(49)-46 FI-65-2(48)-46	1978	25

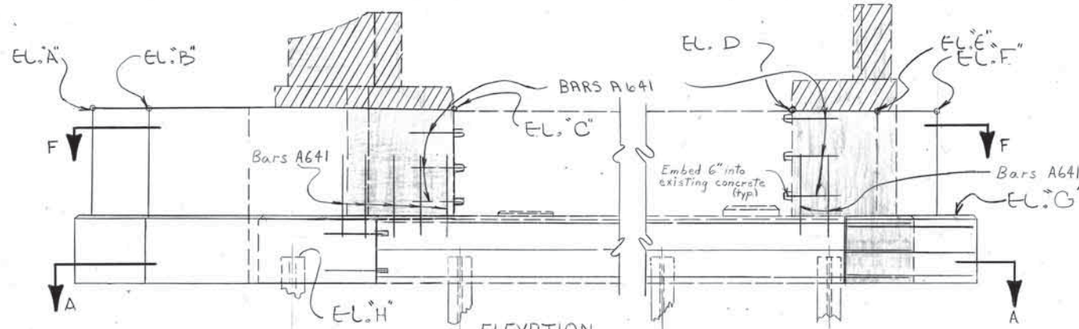
REVISIONS

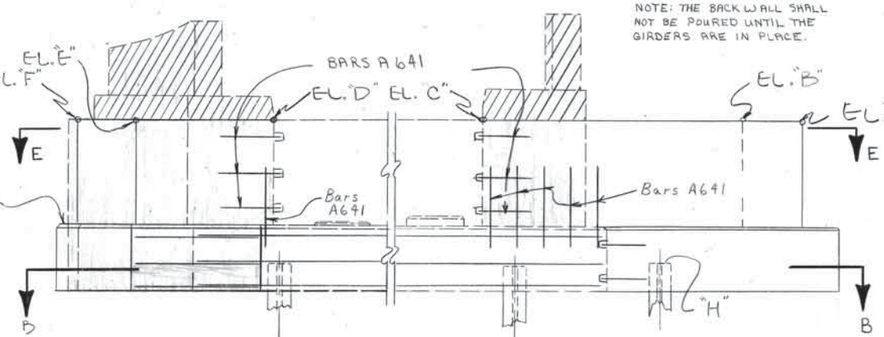
NO.	DATE	BY	BRIEF DESCRIPTION

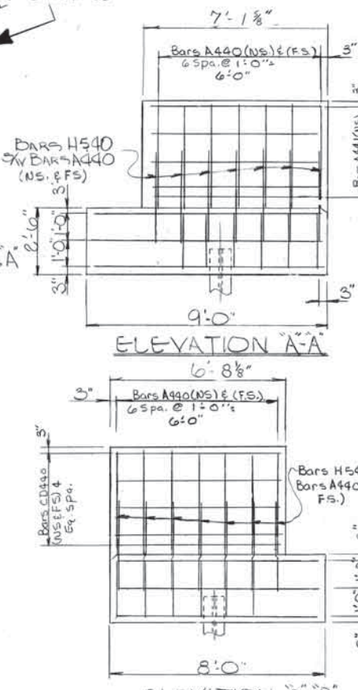




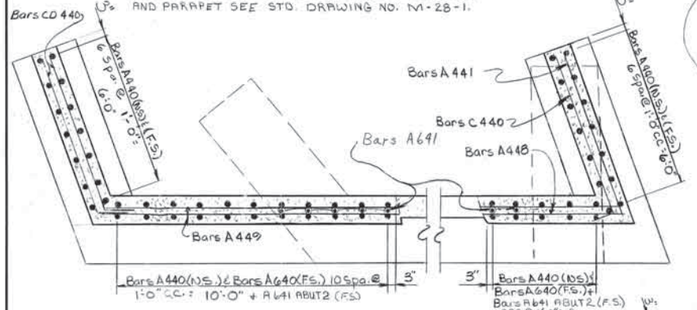
NOTE: THE BACK WALL SHALL NOT BE POURED UNTIL THE GIRDERS ARE IN PLACE.

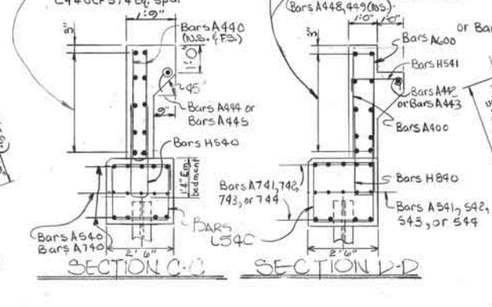


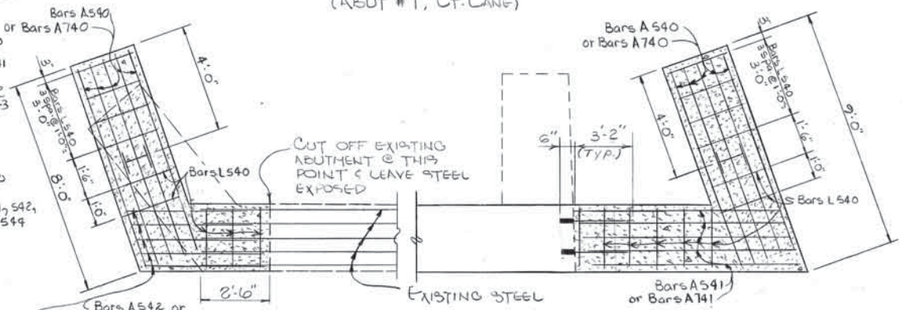




NOTE: WHEN POURING WING-WALLS PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. FOR DETAILS OF WING POST AND PARAPET SEE STD. DRAWING NO. M-28-1.







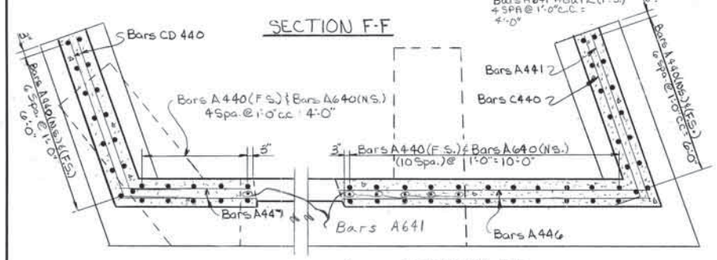
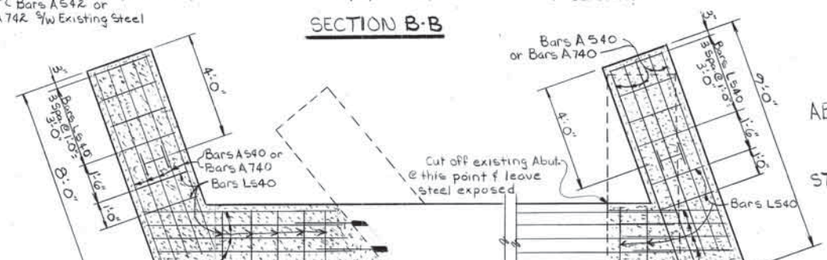


TABLE OF ELEVATIONS

ITEMS	Abut. 1 Lt. Lane	Abut. 2 Lt. Lane	Abut. 1 Rt. Lane	Abut. 2 Rt. Lane
A	775.06	774.06	775.38	774.39
B	775.09	774.10	775.34	774.35
C	775.20	774.23	775.44	774.47
D	775.54	774.57	775.68	774.72
E	775.59	774.60	775.76	774.76
F	775.63	774.64	775.72	774.73
G	771.39	770.44	771.66	770.71
H	769.89	768.94	770.16	769.21

NOTE: ELEVATIONS SHOWN ARE BASED ON ASSUMING FINISHED GRADE TO BE TOP OF EXISTING CONCRETE DECK.



ESTIMATED QUANTITIES

ITEMS	Concrete Class A (Cu. Yds.)	Reinforcing Steel Lbs.
Abut. 1 Lt. Lane	11.1	1851
Abut. 2 Lt. Lane	11.1	1816
Abut. 1 Rt. Lane	11.1	1851
Abut. 2 Rt. Lane	11.1	1816

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENTS FOR LEFT & RIGHT LANES WIDENING OF INTERSTATE 65 OVER STATE ROUTE 106 & WEST HARPETH RIVER STATION 248+14.00 WILLIAMSON COUNTY 1978

DESIGNED BY Ramsey Woods DATE 3-78
DRAWN BY Scott Keene/Mymie DATE 4-78
SUPERVISED BY J. Fields & J.C. Teat DATE 4-78
CHECKED BY _____ DATE _____

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-112

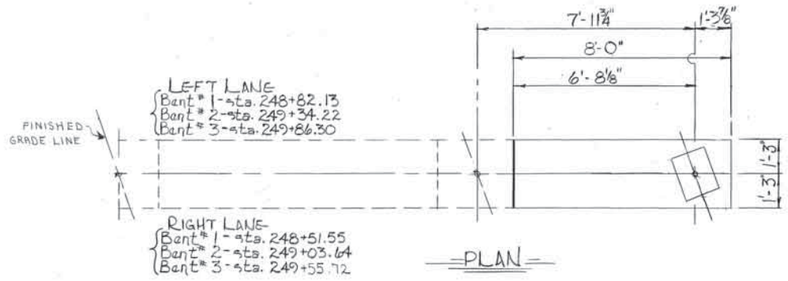
MICROFILMED

CONST. NO. 94002-3133-44 & 94002-3134-44

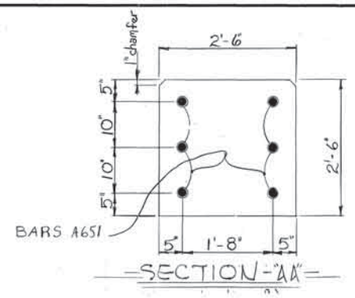
PROJECT NO.	YEAR	SHEET NO.
I-65-2(97)-46 FE-65-2(98)-46		26

REVISIONS

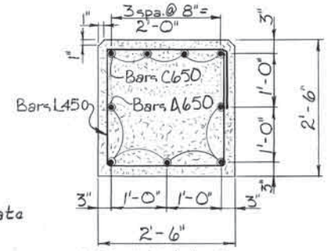
NO.	DATE	BY	BRIEF DESCRIPTION



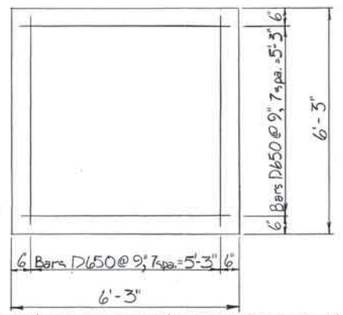
PLAN



SECTION - "AA"

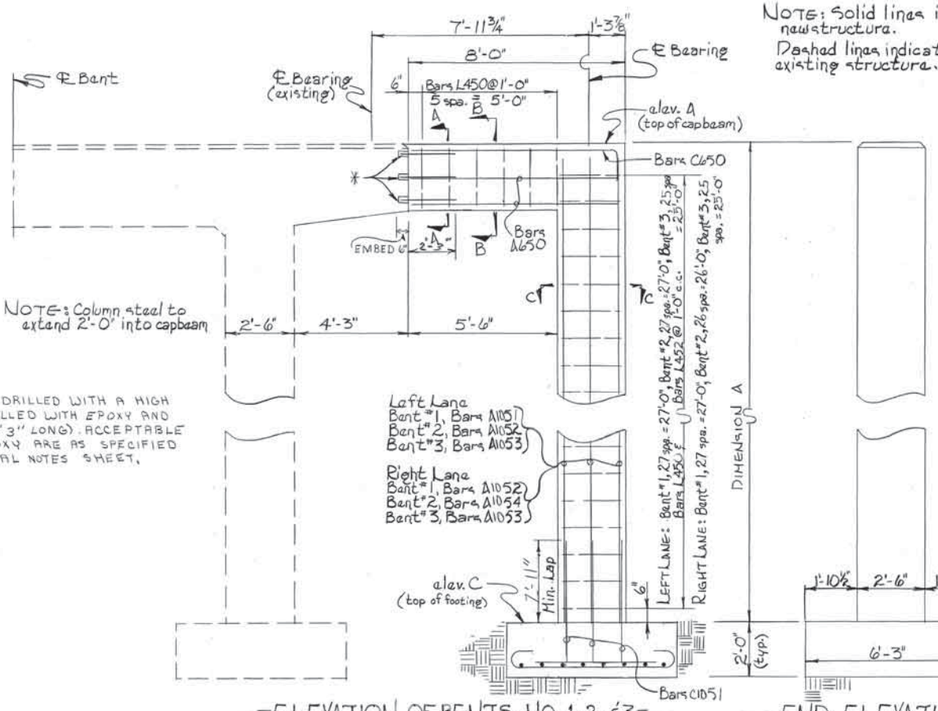


SECTION - "BB"
(cap beam extention)



PLAN OF FOOTING RE-INFORCEMENT

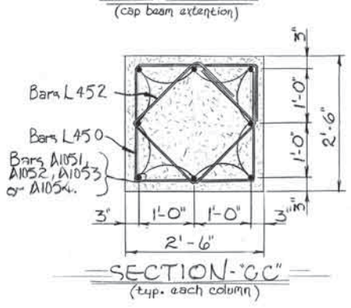
NOTE: Solid lines indicate new structura.
Dashed lines indicate existing structure.



ELEVATION OF BENTS NO. 1, 2, & 3

RIGHT LANE LOOKING FORWARD ON SURVEY
LEFT LANE LOOKING BACK ON SURVEY

END ELEVATION



SECTION - "CC"
(typ. each column)

* : 1" Φ, 6" HOLE DRILLED WITH A HIGH SPEED DRILL FILLED WITH EPOXY AND BARS A651 (3'3" LONG). ACCEPTABLE BRANDS OF EPOXY ARE AS SPECIFIED ON THE GENERAL NOTES SHEET.

NOTES

When pouring cap beam, provisions shall be made for setting dowel bars. If the Contractor elects to drill holes for the dowel bars, the reinforcing steel shall be placed so as not to interfere with the drilling. Dowel bar projection 0".

Column steel to extend 2'-0" into cap beam.

Elastomatric pads shall be in place a minimum of one day before being disturbed by placing superstructure forms on concrete. Place Rubber Bonding Cement in such a way that column surfaces will not be stained.

ESTIMATED QUANTITIES

	ITEM	CLASS "A" CONCRETE		STEEL BAR REINFORCEMENT	
Left Lane	Bent # 1	11.1	(CY)	2056	(lbs)
	Bent # 2	11.3	(CY)	2038	(lbs)
	Bent # 3	10.9	(CY)	1948	(lbs)
Right Lane	Bent # 1	11.3	(CY)	2038	(lbs)
	Bent # 2	11.0	(CY)	1985	(lbs)
	Bent # 3	10.9	(CY)	1948	(lbs)

	ITEM	ELEVATIONS A		C	DIMENSIONS A
Left Lane	Bent # 1	771.06		740.56	30'-6"
	Bent # 2	770.80		740.80	30'-0"
	Bent # 3	770.54		742.54	28'-0"
Right Lane	Bent # 1	771.34		741.34	30'-0"
	Bent # 2	771.08		742.33	28'-9"
	Bent # 3	770.82		742.82	28'-0"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BENTS NO. 1, 2, & 3, (LEFT & RIGHT LANES)
INTERSTATE 65 OVER STATE ROUTE 106
& WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

DESIGNED BY Ramsay Woods DATE
DRAWN BY S.D. Bilbrey DATE 4-78
SUPERVISED BY Fields & Jatt DATE 4-78
CHECKED BY DATE

CORRECT H.W. Derrick
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-60-113

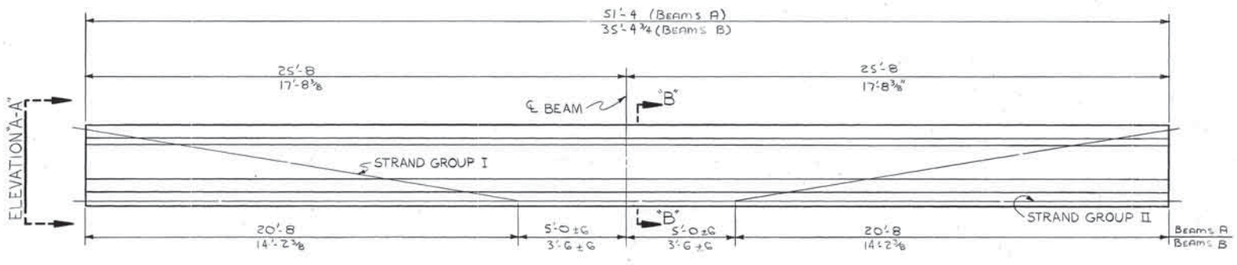
MICROFILMED

Const. No. 94002-3133-44 & 94002-3134-54

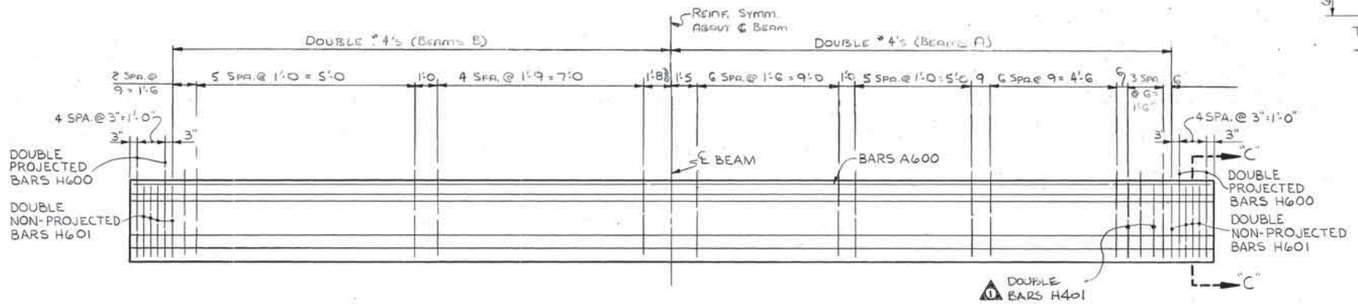
PROJECT NO.	YEAR	SHEET NO.
I-65-2(49)-46 F-65-2(49)-46	1978	27

REVISIONS

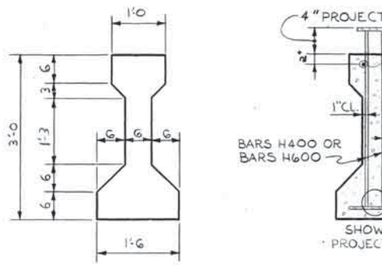
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-22-78	J.L.J.	Bars H401 location designated.



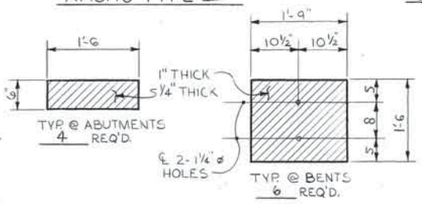
—ELEVATION—
(SHOWING STRAND DEFLECTION ARRANGEMENT)



—ELEVATION—
(SHOWING STIRRUP BAR ARRANGEMENT)



—AASHO TYPE II—

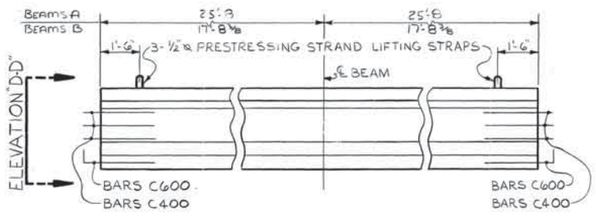


—DETAILS OF ELASTOMERIC PADS—

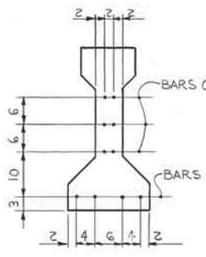
—SECTION "C-C"—

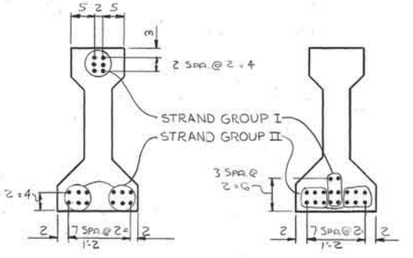
—GENERAL NOTES—

1. THE TOPS OF ALL BEAMS ARE TO BE ROUGH FLOATED AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOPS OF THE BEAMS WILL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE.
2. MILD STEEL REINFORCING TO BE ASTM A615, GRADE 60.
3. ALL PRESTRESSING STRANDS TO BE ½" ø HIGH STRENGTH TYPE 270K 7 WIRE UNCOATED STRESS-RELIEVED PRESTRESSING STRANDS.
4. THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3"± FROM THE ENDS OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
5. AN INTIAL FORCE OF 28,910 LBS. SHALL BE APPLIED TO ***EACH*** STRAND IN ALL BEAMS.
6. ALL BEAMS ARE AASHO-PCI STANDARD TYPE II.
7. AFTER THE BEAM IS REMOVED FROM THE PRESTRESSING BED, BARS C600 AND BARS C400 SHALL BE BENT A SUFFICIENT AMOUNT SO AS TO PERMIT THE "C" BARS OF ADJOINING BEAM TO MESH WHEN IN THE ERECTED POSITION.
8. THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 + PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 4,200 + PSI. SEE LAYOUT SHEET FOR CONCRETE FINISHING NOTE.
9. ANCHORAGE AT BENTS ACCOMPLISHED BY DOWELS 1" ø x 1'-9"
10. ELASTOMERIC PADS TO BE ¼" x 6" x 1'-6 AT ABUTMENT ENDS AND 1" x 1'-9" x 1'-6 WITH 1¼" ø HOLES AT BENTS.

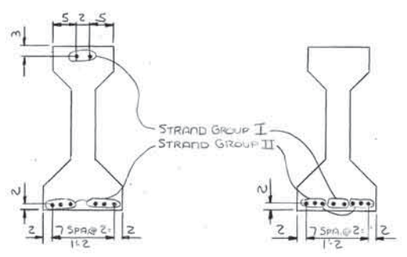


—PART-ELEVATION—





—BEAMS A—

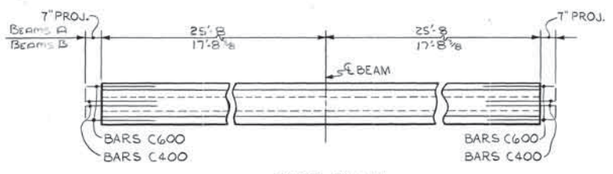


—BEAMS B—

—ESTIMATED QUANTITIES ~ PER BEAM—

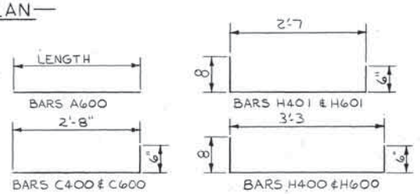
BEAM	NO. OF BEAMS REQUIRED	CONCRETE CLASS "A" C.Y.	REINFORCING STEEL LBS.	½ø TYPE 270 K PREST. STRANDS LBS.
BEAMS "A"	6	4.9	629	490
BEAMS "B"	2	3.4	446	151

NOTE: THE COST OF ELASTOMERIC PADS AND 12 DOWEL BARS TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.



—PART-PLAN—

—DETAIL "X"—



—BILL OF STEEL-PER BEAM—

BEAMS "A"

BAR	SIZE	NO. REQ'D	LENGTH
A600	6	2	51'-0
C400	4	12	3'-1"
C600	6	8	3'-1"
H400	4	88	4'-4
H401	4	8	3'-8
H600	6	8	4'-4
H601	6	16	3'-8

—BILL OF STEEL - PER BEAM—

Beam "B"

BAR	SIZE	No. Req'd	LENGTH
A600	6	2	35'-1
C400	4	12	3'-1
C600	6	8	3'-1
H400	4	48	4'-4
H401	4		
H600	6	8	4'-4
H601	6	16	3'-8

DESIGNED BY R. WOODS DATE 3-78
DRAWN BY DARRELL JAMES DATE 10-76
SUPERVISED BY FIELD & JETT DATE 3-78
CHECKED BY KEENE & WOODS DATE 3-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BEAM DETAILS
WIDENING OF LEFT & RIGHT LANES
I-65 OVER STATE ROUTE 106 &
WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY

CORRECT _____ ENGINEER OF STRUCTURES 1978
APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-114

MICROFILMED

BILL OF STEEL

Const. No. 94002-3133-44 & 94002-3134-44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-65-2(47)-46 F1-65-2(48)-96	19 78	28	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

LEFT LANE

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A500	SLAB	5	108					30'-0"
A501	SLAB	5	18					85'-6"
A502	DIAPHRAGM	5	18					8'-0"
A503	SLAB	5	752					12'-4"
A504	SLAB	5	378					4'-10"
A600	SLAB	6	376					8'-8"
A601	SLAB	6	189					6'-8"
A602	SLAB	6	78					30'-0"
A603	SLAB	6	18					85'-6"
A800	SLAB	8	6					38'-0"
A801	SLAB	8	6					22'-0"
A802	SLAB	8	6					12'-0"
A803	SLAB	8	12					60'-0"
A804	SLAB	8	4					84'-9"
K400	DIAPHRAGM	4	18	10"	6"	3'-0"		7'-7"

ABUTMENT #1

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	WINGWALL	4	44					3'-8"
A441	WINGWALL	4	5					6'-6"
A442	RDWY. BRKT	4	1					10'-9"
A443	RDWY. BRKT	4	1					4'-9"
A444	SUPPORT	4	1					5'-4
A445	SUPPORT	4	1					5'-9"
A446	ENDWALL	4	10					11'-6"
A447	ENDWALL	4	10					5'-0"
A540	ABUT. WING	5	10					7'-9"
A541	ABUT. BEAM	5	5					7'-10"
A542	ABUT. BEAM	5	5					4'-6"
A740	ABUT. WINGS	7	18					7'-9"
A741	ABUT. BEAM	7	9					7'-10"
A742	ABUT. BEAM	7	9					4'-6"
*A641	DOWEL	6	16					3'-3"
→C440	WINGWALL	4	5	6'-2"	1'-0"			7'-2"
CD440	WINGWALL	4	10	6'-2"	2'-0"			8'-2"
H540	ABUT. WINGS	5	14	8"	3'-7"			7'-9"
→H541	RDWY BRKT.	5	16	1'-8"	6"			2'-7"
H840	ABUT. BEAMS	8	16	8"	3'-7"			7'-8"
→L540	ABUT. WINGS	5	21	2'-2"	1'-0"	2'-2"		9'-6"
*A640	ENDWALL	6	16					3'-8"

ABUTMENT #2

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	WINGWALL	4	44					3'-8"
A441	WINGWALL	4	5					6'-6"
A442	RDWY. BRKT	4	1					10'-9"
A443	RDWY. BRKT	4	1					4'-9"
A444	PAR. SUPPORT	4	1					5'-4"
A445	PAR. SUPPORT	4	1					5'-9"
A448	ENDWALL	4	10					5'-3"
A449	ENDWALL	4	10					11'-3"
A540	ABUT. WINGS	5	10					7'-9"
A543	ABUT. BEAM	5	5					4'-3"
A544	ABUT. BEAM	5	5					7'-3"
A640	ENDWALL	6	16					3'-8"
A641	DOWEL	6	17					3'-3"
A740	ABUT. WINGS	7	18					7'-9"
A743	ABUT. BEAM	7	9					4'-3"
A744	ABUT. BEAM	7	9					7'-3"
C440	WINGWALL	4	5	6'-2"	1'-0"			7'-2"
L540	WINGS	5	19	2'-2"	1'-0"	2'-2"		9'-6"
CD440	WINGWALL	4	10	6'-2"	2'-0"			8'-2"
H540	WINGWALL	5	14	8"	3'-7"			7'-9"
H541	RDWY BRKT	5	16	1'-8"	6"			2'-7"
H840	ABUT. BEAMS	8	16	8"	3'-7"			7'-8"

BENTS 1, 2, & 3

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A650	CAP	6	15					7'-8"
A1051	COLUMN	10	8					30'-0"
A1052	COLUMN	10	8					29'-6"
A1053	COLUMN	10	8					27'-6"
L450	COLUMN & CAP	4	100	2'-0"	1'-0"	2'-0"		9'-1"
L452	COLUMNS	4	82	1'-5"	1'-0"	1'-5"		6'-10"
C650	CAP	6	12	7'-8"				8'-4"
C1051	FOOTING	10	24	9'-8"				11'-1"
D650	FOOTING	6	48	5'-9"				7'-1"
A651	DOWEL-CAP	6	18					3'-3"

RIGHT LANE

SUPERSTRUCTURE

(SAME AS LEFT LANE)

ABUTMENT #1

(SAME AS #2 LEFT LANE)

ABUTMENT #2

(SAME AS #1 LEFT LANE)

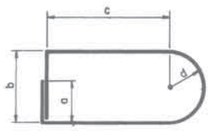
BENTS 1, 2, 3

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A650	CAP	6	15					7'-8"
A1052	COLUMN	10	8					29'-6"
A1053	COLUMN	10	8					27'-6"
A1054	COLUMN	10	8					28'-3"
L450	COLUMN & CAP	4	99	2'-0"	1'-0"	2'-0"		9'-1"
L452	COLUMNS	4	81	1'-5"	1'-0"	1'-5"		6'-10"
C650	CAP	6	12	7'-8"				8'-4"
C1051	FOOTING	10	24	9'-8"				11'-1"
D650	FOOTING	6	48	5'-9"				7'-1"
A651	DOWEL-CAP	6	18					3'-3"

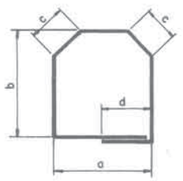
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06

NOTE Dimensions shown on this sheet are outside to outside of bar Standard C R S. I. Hook Details Shall Apply, Except As Noted.

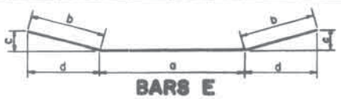


BARS X

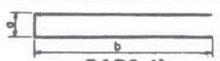


BARS M

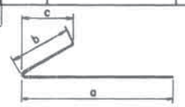
BARS A



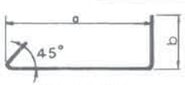
BARS E



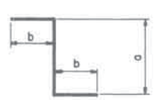
BARS H



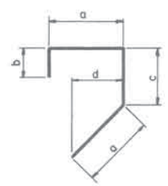
BARS CB



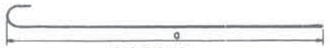
BARS YB



BARS Z



BARS J

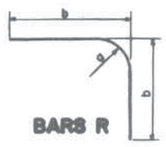


BARS B

BARS F

BARS K

BARS L

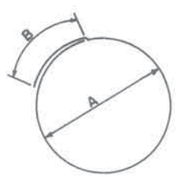


BARS R

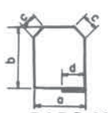
BARS YA

BARS C

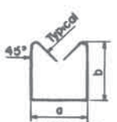
BARS D



BARS T

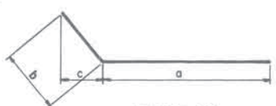


BARS M

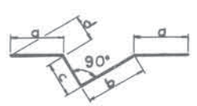


BARS S

BARS V



BARS CD



BARS JX

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL
LEFT AND RIGHT LANES
WIDENING OF INTERSTATE 65
OVER STATE ROUTE 106 AND
WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

DESIGNED BY
DRAWN BY SCOTTY DATE 4-78
SUPERVISED BY DATE
CHECKED BY DATE

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

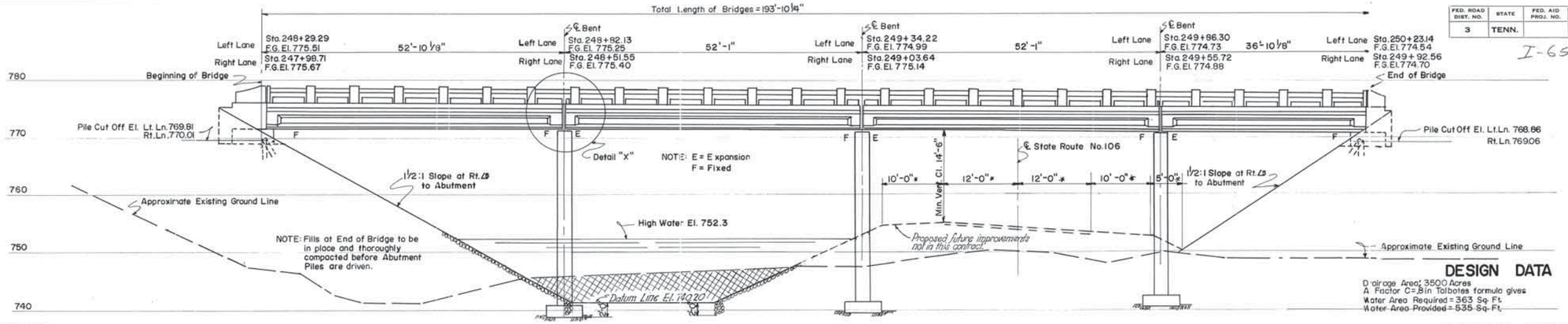
M-60-115

5-0-2

MICROFILMED

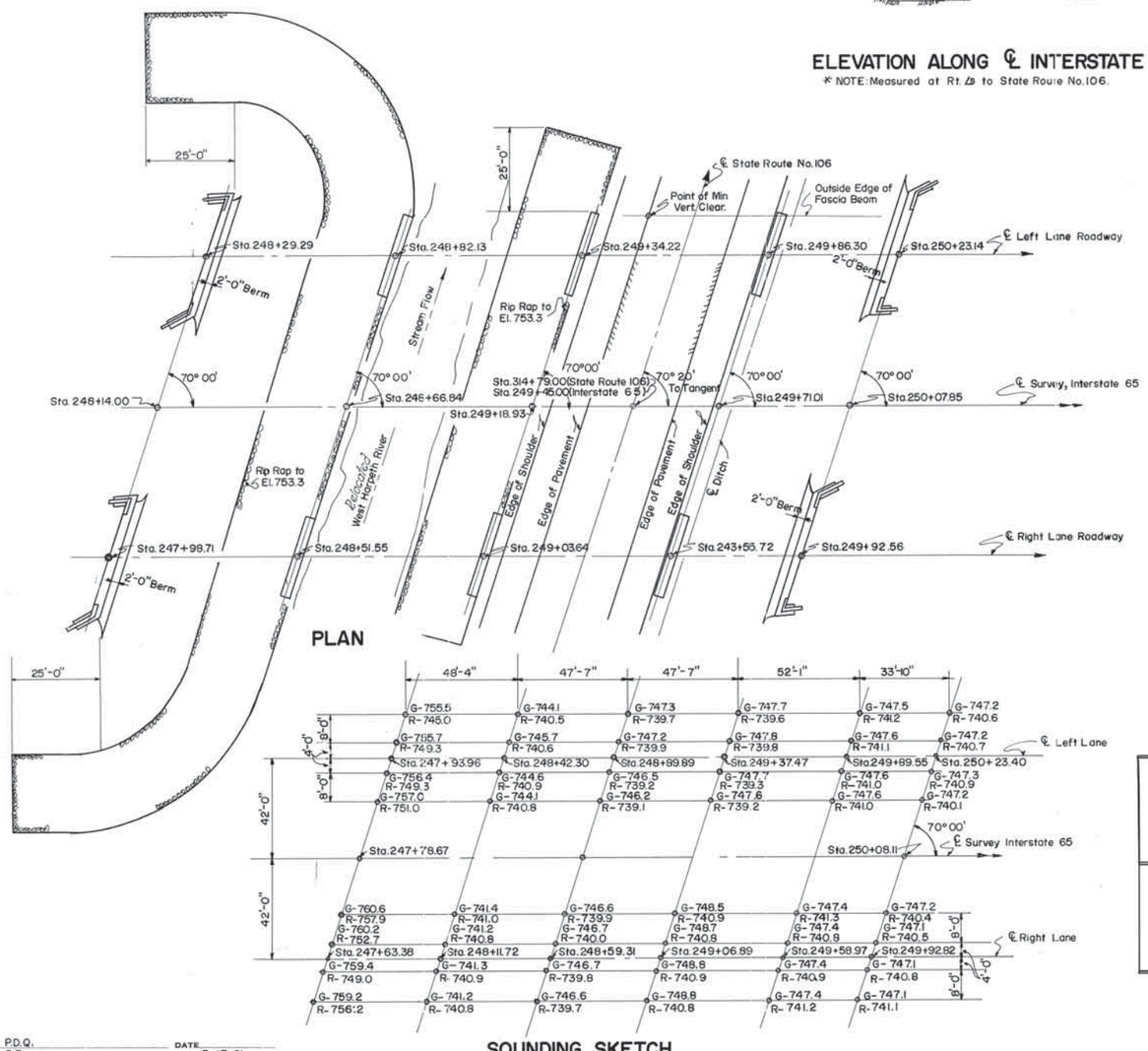
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	30	240

I-65-2(10)57



ELEVATION ALONG ℄ INTERSTATE 65

* NOTE: Measured at Rt. ℄ to State Route No. 106.

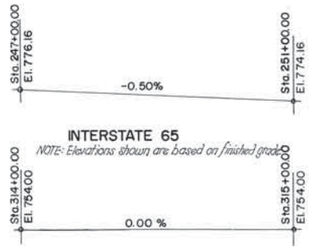


PLAN

SOUNDING SKETCH

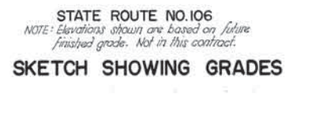
G = Ground Elevation
R = Rock Elevation

NOTE: Road Contractor to make changes/ change as indicated on roadway plans and by cross-hatched area this sheet.



INTERSTATE 65

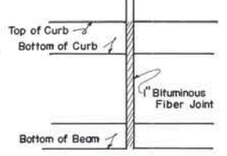
NOTE: Elevations shown are based on finished grade.



STATE ROUTE NO. 106

NOTE: Elevations shown are based on future finished grade. Not in this contract.

SKETCH SHOWING GRADES



DETAIL "X"

NOTE: Typical

DESIGN DATA

Drainage Area: 3500 Acres
A Factor C = .8 in Talbotes formula gives
Water Area Required = 363 Sq. Ft.
Water Area Provided = 535 Sq. Ft.

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways.
LOADING: H20 - S16-44 & Alternate Military Loading.
CONCRETE: To be Class "A". (Cast in place)
REINFORCING STEEL: To be intermediate or hard grade. Standard CRSI Hook Details shall apply.

NEOPRENE MASONRY PADS: See Special Provisions.
PILES: 10" BP 42 lbs. for Abutments
JOINT FILLER: See Special Provisions.

SPECIAL NOTE-BENTS

When foundations for Bents have been uncovered holes 6 feet deep shall be drilled into the rock at points designated by the Engineer.

HANDRAIL NOTE

Build Handrail according to Standard Dwg. No. H-5-110; X = 1'3" (-), Q = 19'-6 5/8" (+)
Except use End Post as shown on Drawing No. K-8-96 L = 6'-1 3/8" (+)

SPECIAL NOTE-ABUTMENTS

All Piles shall be driven to rock or minimum bearing of 36 tons for Abutments.

LIST OF DRAWINGS

	DWG. NO.
PRESTRESSED BEAM DETAILS	K-8-94
SUPERSTRUCTURE	K-8-95
ABUTMENTS NO. 1 - BOTH LANES	K-8-96
ABUTMENTS NO. 2 - BOTH LANES	K-8-97
BENTS NO. 1, 2 & 3 - BOTH LANES	K-8-98
BILL OF STEEL	K-8-99
PILE SPLICE DETAILS	G-10-42
CONCRETE HANDRAIL DETAILS	H-5-110

PARAPET REPLACEMENT ADDED 6-26-75
SEE SHEET K-4-145A

ESTIMATED QUANTITIES

	ITEM	Excavation - Cu. Yds. WET	DRY	Rock	Concrete Class A Cu. Yds.	Reinf. Steel Lbs.	Prestressed Beam-Type II 52'-0"	36'-0"	Concrete Handrail Lin. Ft.	Rip Rap Cu. Yds.	10BP42 lbs. Lin. Ft.	Rock Drilling Lin. Ft.
RIGHT LANE	Superstructure				181.3	33,064	15	4	384			
	Abutment No. 1				17.2	1936				155		
	Abutment No. 2				17.2	1936				85		
	Bent No. 1		17	4	26.2	6074						
	Bent No. 2		48	4	25.6	5975						
	Bent No. 3		60	4	25.2	5910						
LEFT LANE	Superstructure				181.3	33,064	15	4	384			
	Abutment No. 1				17.2	1936				155		
	Abutment No. 2				17.2	1936				85		
	Bent No. 1		17	4	26.4	6108						
	Bent No. 2		48	4	26.2	6074						
	Bent No. 3		60	4	25.2	5910						
	Total - Both Lanes	10	250	24	586.2	109,923	30	8	768	480	920	36

NOTE: Cost of all Joint material and 36 - 3" ø x 0'-9" Transite Drains to be included in the Unit Price Bid for Class "A" Concrete.

ALTERNATE "P1"

TWO-28'-0" ROADWAYS WITH SAFTY CURBS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGES LEFT AND RIGHT LANES INTERSTATE 65 OVER STATE ROUTE NO. 106 AND WEST HARPETH RIVER STATION 248+14.00 WILLIAMSON COUNTY 1961

DESIGNED BY P.D.Q. DATE
DRAWN BY D.Brewer DATE 3-17-61
TRACED BY K.Gunter & R.Hagar DATE 3-29-61
CHECKED BY P.D.Q., D.E.S. DATE 3-22-61

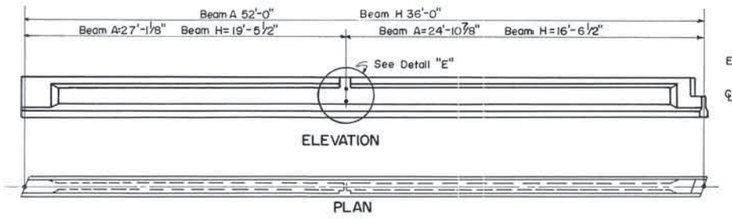
CORRECT: Fred Greene, BRIDGE ENGINEER
APPROVED: Cecil D. Long, STATE HIGHWAY ENGINEER

K-8-93

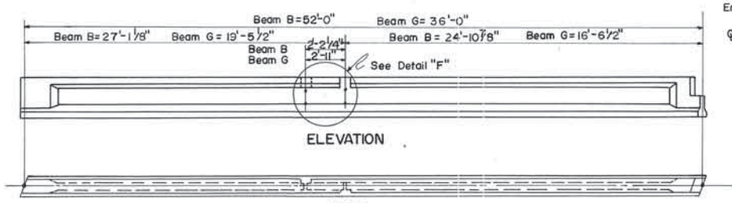
MICROFILMED
Revised - 5-15-63 - Steel Quantities
Date 7/12/63

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	45	240

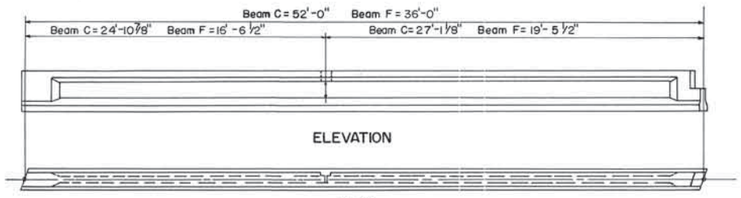
I-65-2(10)57



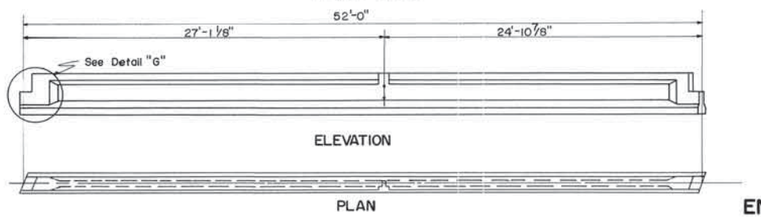
BEAM A & H



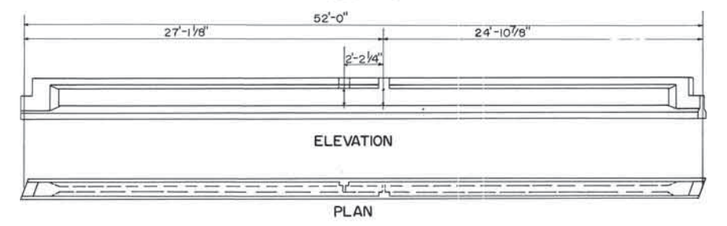
BEAM B & G



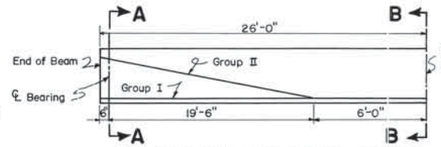
BEAM C & F



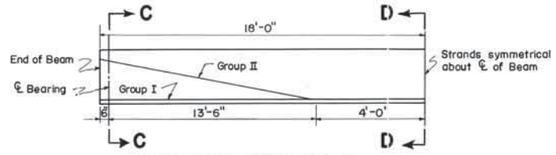
BEAM D



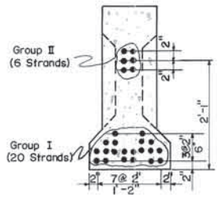
BEAM E



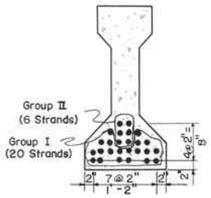
ELEVATION SPANS NO. 1, 2 & 3



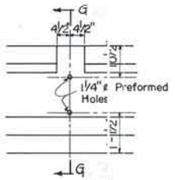
ELEVATION SPAN NO. 4



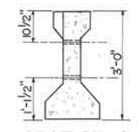
SECTION A-A



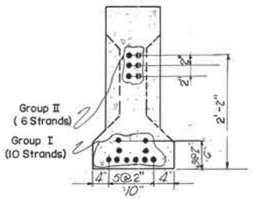
SECTION B-B



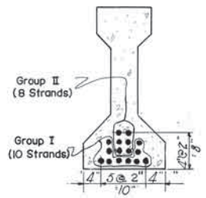
DETAIL "E"



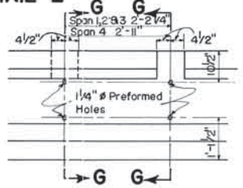
SECTION G-G



SECTION C-C

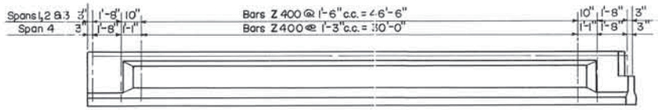


SECTION D-D



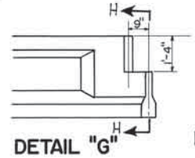
DETAIL "F"

DETAILS SHOWING STRAND DEFLECTION PATTERN

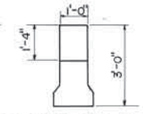


TYPICAL ELEVATION OF BEAM SHOWING REINFORCEMENT

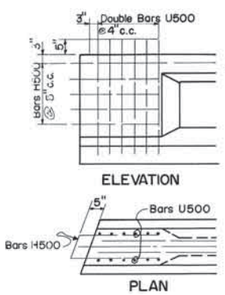
NOTE: Dimensions are measured along ℄ Beam.



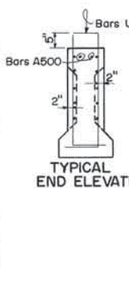
DETAIL "G"



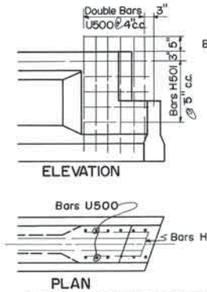
ELEVATION H



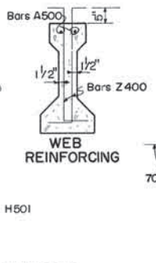
ELEVATION



TYPICAL END ELEVATION



ELEVATION



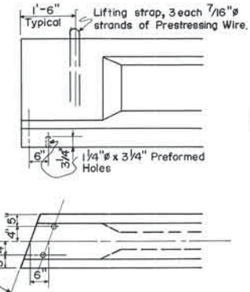
WEB REINFORCING

PLAN

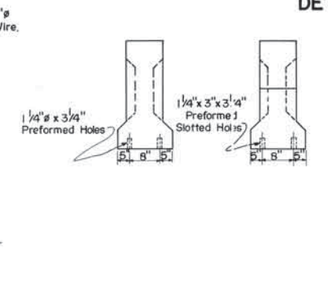
PLAN

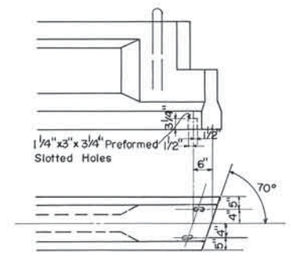
END BLOCK REINFORCING AT ABUTMENTS

END BLOCK REINFORCING AT BENTS

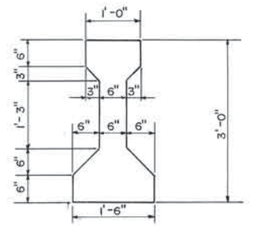


TYPICAL DETAILS AT FIXED END OF BEAMS





TYPICAL DETAILS AT EXPANSION END OF BEAMS



TYPE II AASHO BEAM

GENERAL NOTES

1. All Prestressing Strands to be 7/16" ø 7 wire uncoated stress relieved Prestressed Concrete Strands.
2. A force of 18,900 # shall be applied to each Strand in all Beams.
3. Top of Beam to be rough floated. At approximately the time of initial set, the top of the Beam shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a rough surface.
4. All Beams are AASHO-PCI Standard Type II.

BILL OF STEEL - EACH BEAM

BEAM A, B & C

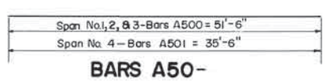
Bar	No.	Size	Length
A500	2	5	51'-6"
H500	5	5	5'-3"
H501	5	5	3'-11"
U500	24	5	4'-11"
Z400	64	4	4'-5"

BEAM D & E

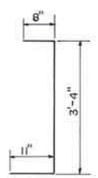
Bar	No.	Size	Length
A500	2	5	51'-6"
H501	10	5	3'-11"
U500	24	5	4'-11"
Z400	64	4	4'-5"

BEAM G, H & E

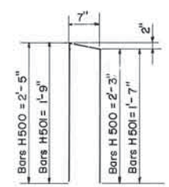
Bar	No.	Size	Length
A501	2	5	35'-6"
H500	5	5	5'-3"
H501	5	5	3'-11"
U500	24	5	4'-11"
Z400	50	4	4'-5"



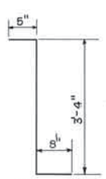
BARS A50-



BARS U500



BARS H500 & H501



BARS Z400

ESTIMATED QUANTITIES — PER BEAM

ITEM	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs	Prestressing Steel Lbs.
Beam A, B, C	5.0	467	504
Beam D, E	5.0	460	504
Beam G, H, F	3.5	413	242

DESIGNED BY P.D. Quarles DATE 3-3-61
DRAWN BY D.B. Miller DATE
TRACED BY R.C. Hagar DATE 3-28-61
CHECKED BY P.D.Q., D.E.S. DATE 3-23-61

Revised 7-1-61

MICROFILMED

ALTERNATE "PI"

STATE OF TENNESSEE

DEPARTMENT OF HIGHWAYS

NASHVILLE

PRESTRESSED BEAM DETAILS LEFT AND RIGHT LANES INTERSTATE 65 OVER STATE ROUTE 106 & WEST HARPETH RIVER STATION 248+14.00 WILLIAMSON COUNTY 1961

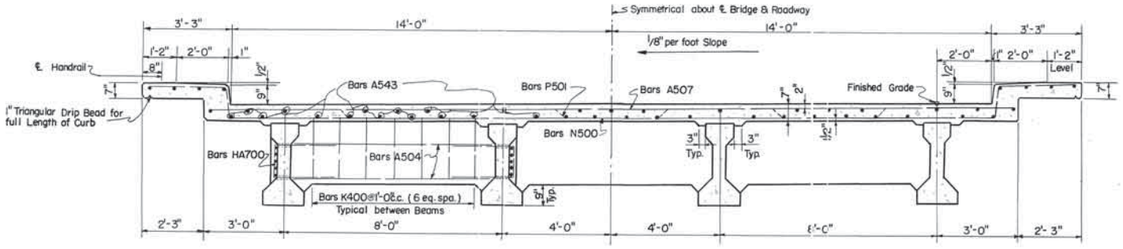
CORRECT. Fred Groves BRIDGE ENGINEER

APPROVED. Chas D. Long STATE HIGHWAY ENGINEER

K-8-94

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	46	240

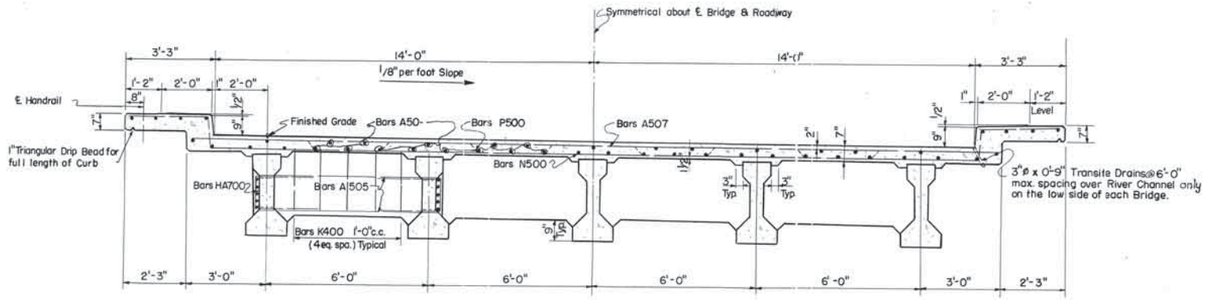
I-65-2(10)57



NOTE: For Beam Details See Sheet No. K-8-94

TYPICAL CROSS SECTION - SPANS NO.4

Left Lane Looking Forward on Survey— Right Lane Looking back on Survey

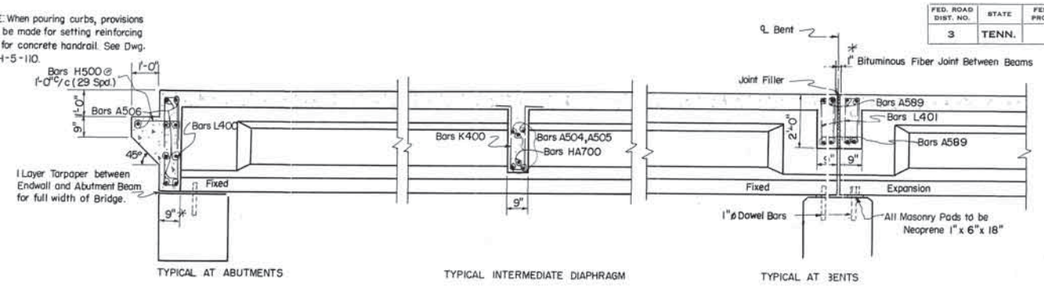


NOTE: For Beam Details See Sheet No. (K-8-94)

TYPICAL CROSS SECTION - SPAN NO. 1,2 & 3

Right Lane Looking Forward on Survey - Left Lane Looking Back on Survey

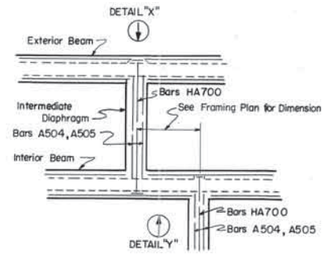
NOTE: When pouring curbs, provisions shall be made for setting reinforcing steel for concrete handrail. See Dwg. NO. H-5-110.



TYPICAL AT ABUTMENTS — TYPICAL INTERMEDIATE DIAPHRAGM — TYPICAL AT BENTS

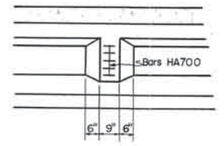
PARTIAL LONGITUDINAL SECTION

℄ Measured at Rt.∠s to ℄ Joint, Endwall or End Diaphragm



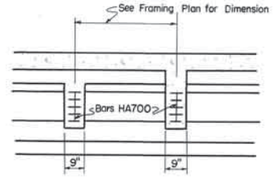
PLAN

Showing location of Bars HA700 in Beams and Diaphragms



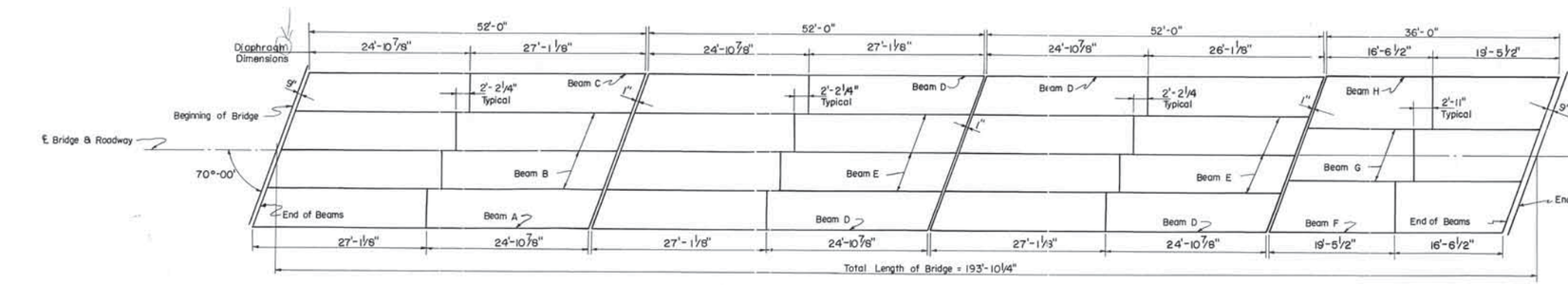
DETAIL "X"

For outside face of Exterior Beam only



DETAIL "Y"

Showing Details and relation between Intermediate Diaphragms

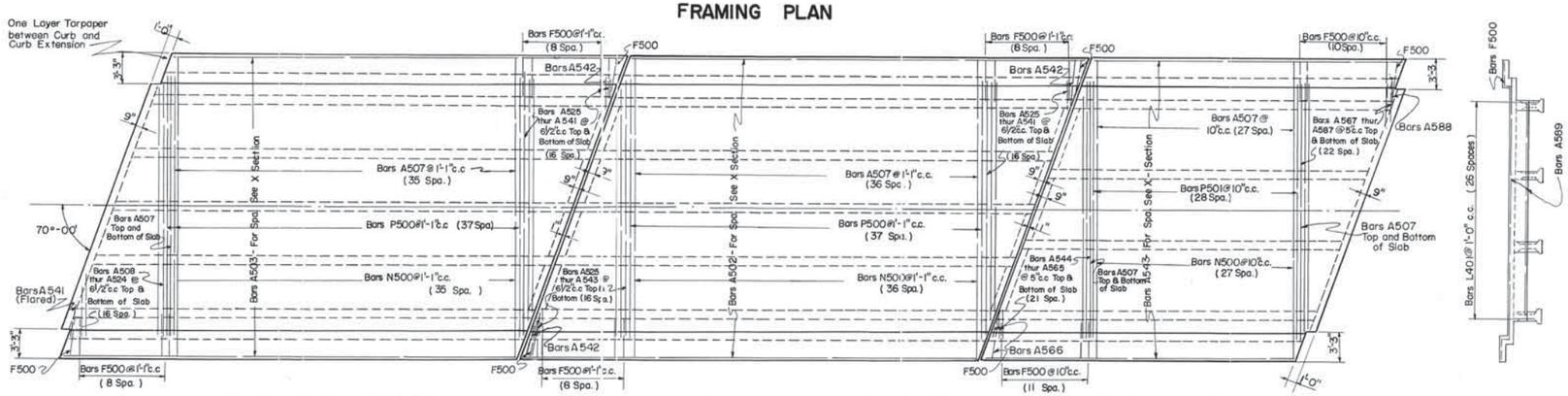


FRAMING PLAN

SPAN	A	B	C	L
1, 2, & 3	1/4"	3/8"	1/4"	51'-0"
4	0"	1/8"	0"	35'-0"

DEAD LOAD DEFLECTION DUE TO SLAB

ENDWALL ELEVATION



SLAB PLAN - SPAN NO. 1 — SLAB PLAN - SPANS NO. 2 & 3 — SLAB PLAN - SPAN NO. 4

ELEVATION OF DIAPHRAG OVER SUPPORT

ESTIMATED QUANTITIES*

Concrete - Class "A"	181.3	Cu. Yds
Reinforcing Steel	33,064	Lbs.

*Each Lane

ALTERNATE "PI"

STATE OF TENNESSEE

DEPARTMENT OF HIGHWAYS

NASHVILLE

SUPERSTRUCTURE DETAILS LEFT AND RIGHT LANES I-65 OVER STATE ROUTE NO.106 & WEST HAPETH RIVER

STATION 248+ 14.00

WILLIAMSON COUNTY

1961

CORRECT Fred Greene BRIDGE ENGINEER

APPROVED Chas D. Long STATE HIGHWAY ENGINEER

K-8-95

DESIGNED BY P.D.Q. DATE

DRAWN BY Brewer & Wilson DATE 3-20-61

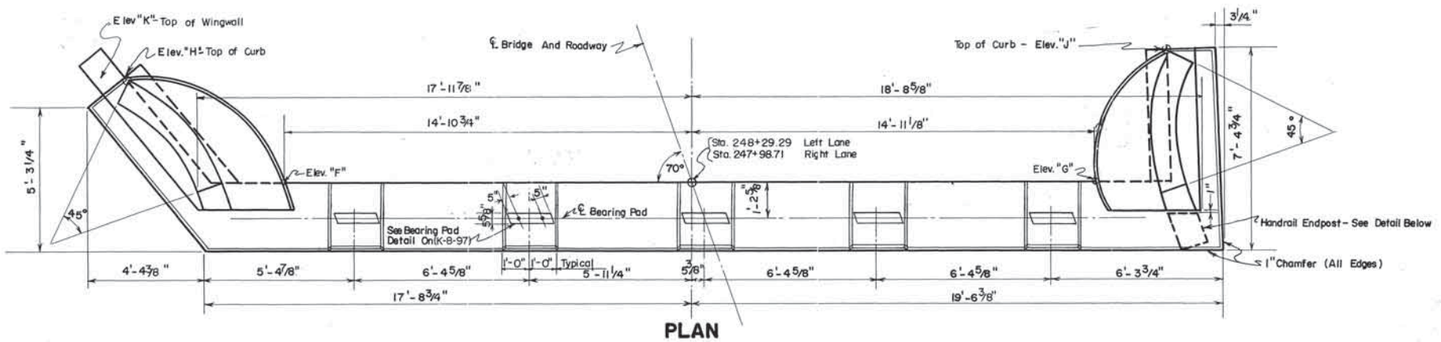
TRACED BY Kelley & Moore DATE 3-30-61

CHECKED BY P.D.Q. & D.E.S. DATE

MICROFILMED
Revised 5-15-63 - Steel Quantities
Revised 7-12-61

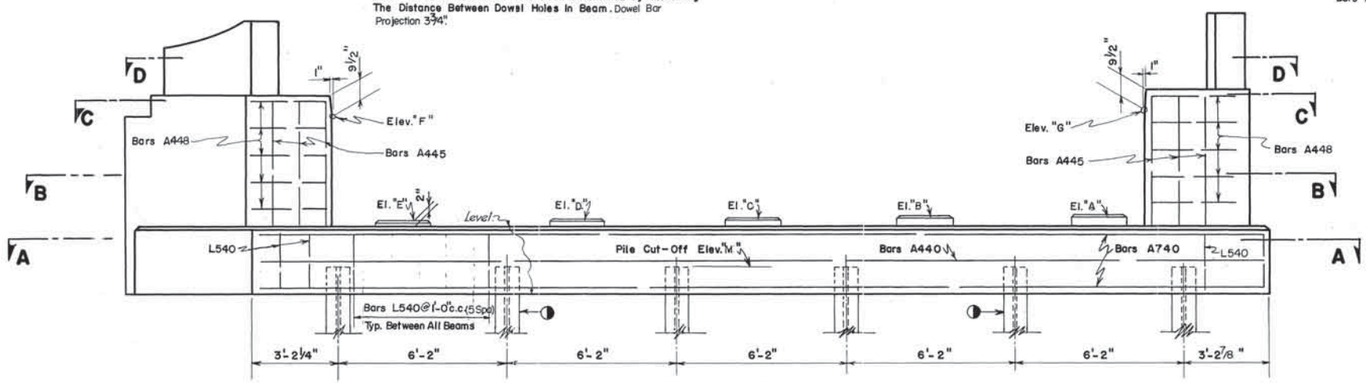
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	47	240

I-65-2(10)57



PLAN

NOTE: Dowel Bars For Abutment No. 1, Shall Be Drilled And Set After The Actual Location Has Been Determined By Measuring The Distance Between Dowel Holes In Beam. Dowel Bar Projection 3 3/4".



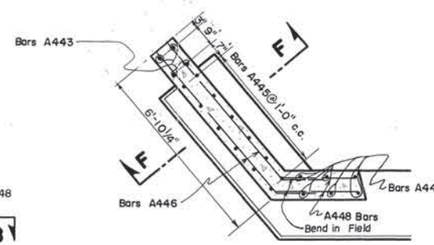
ELEVATION ABUTMENT NO. 1 - RIGHT LANE

Looking Back On Survey

NOTE: Same For Abutment No. 1 - Left Lane Except For Steps.

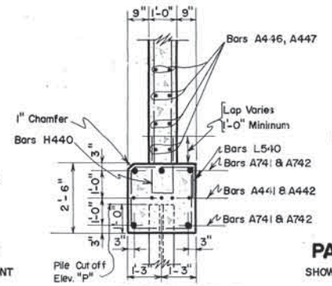
NOTE: For Sections not shown this sheet see Dwg. K-8-97.

◑ Batter These Piles Forward 2:12

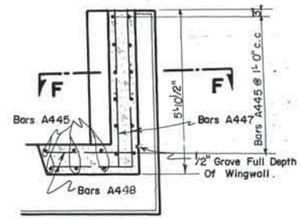


PART SECTION B-B

SHOWING WINGWALL REINFORCEMENT



SECTION F-F

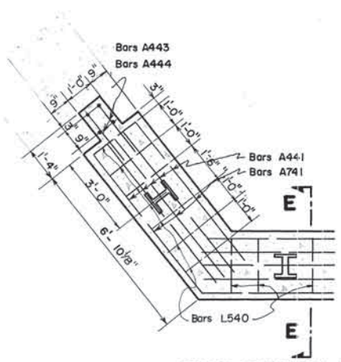


PART SECTION B-B

SHOWING WINGWALL REINFORCEMENT

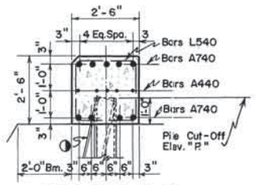
TABLE OF ELEVATIONS

Item	Location	Elevations A	B	C	D	E	P	F	G	H	J	K
Abutment No. 1	Right Lane	771.88	771.84	771.79	771.73	771.68	770.01	775.42	775.65	776.24	776.46	775.45
Abutment No. 1	Left Lane	771.48	771.55	771.63	771.70	771.78	769.91	775.56	775.21	776.38	776.02	775.59



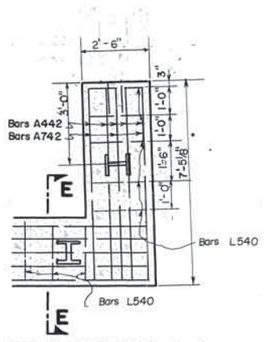
PART SECTION A-A

SHOWING ABUTMENT BEAM REINFORCEMENT



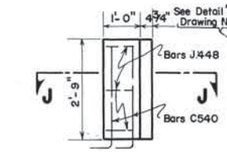
SECTION E-E

◑ Batter 2:12

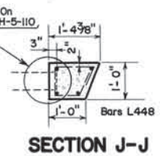


PART SECTION A-A

SHOWING ABUTMENT BEAM REINFORCEMENT

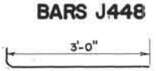


ELEVATION OF HANDRAIL END POST



SECTION J-J

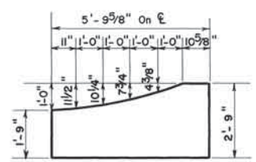
BARS J448



BARS C540

END POST - LIST OF MATERIALS - EACH

Bar	Size	No.	Length	Quantities Conc. Cu. Yds.	Steel Lbs.
C540	5	4	3'-4"	.12	21
J448	4	3	3'-9"		



WING POST DEVELOPED

ALTERNATE "PI"

STATE OF TENNESSEE

DEPARTMENT OF HIGHWAYS

NASHVILLE

ABUTMENT NO. 1
LEFT AND RIGHT LANE BRIDGES
INTERSTATE 65 OVER STATE ROUTE 106 AND WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1961

DESIGNED BY Paul D. Quarles DATE 3-6-61

DRAWN BY Jack B. Crockett DATE 3-20-61

TRACED BY Joe B. Cantrell Jr. DATE 4-3-61

CHECKED BY P.D.Q., D.E.S DATE 3-24-61

CORRECT Fred Greene BRIDGE ENGINEER

APPROVED [illegible] STATE HIGHWAY ENGINEER

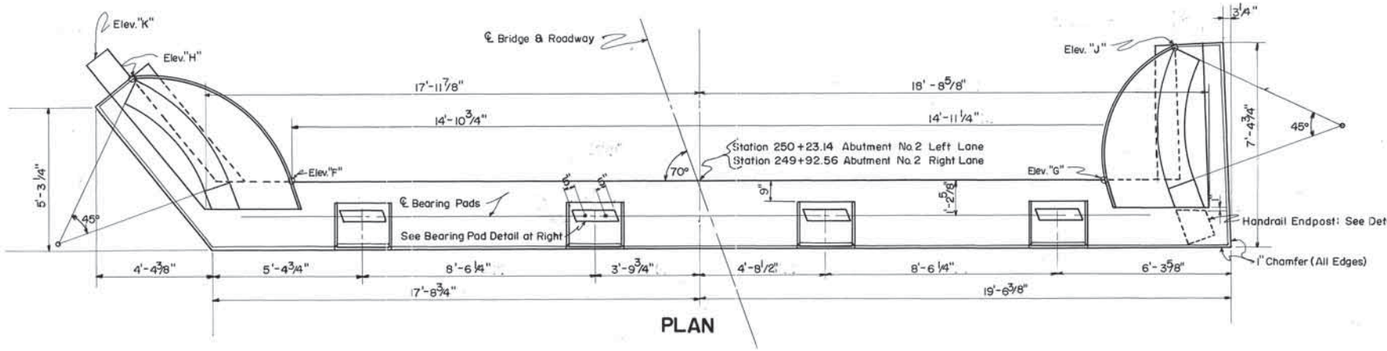
K-8-96

MICROFILMED

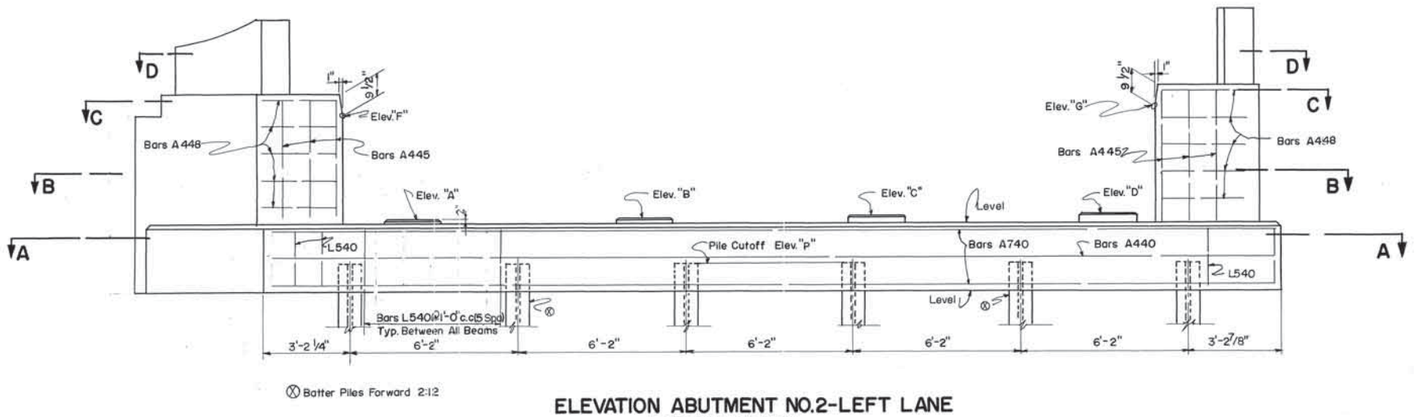
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	48	240

I-65-2(10)57

NOTE: When pouring Abutment Beam No.2 provisions shall be made for setting Dowel Bars for Bearing Pads. Dowel Bar projection 3¾".



PLAN

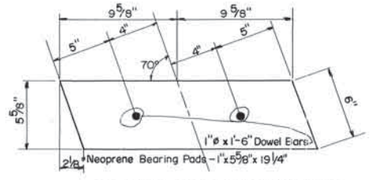


Ⓧ Batter Piles Forward 2:12

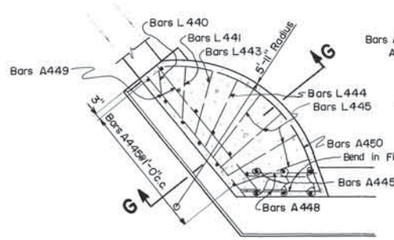
ELEVATION ABUTMENT NO.2-LEFT LANE

Looking Forward On Survey

NOTE: Same for Abutment No.2 Right Lane except for steps.

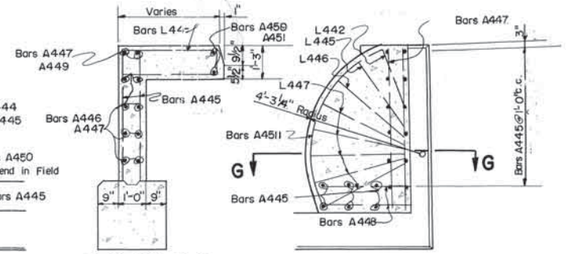


DETAIL OF BEARING PAD



PART SECTION C-C

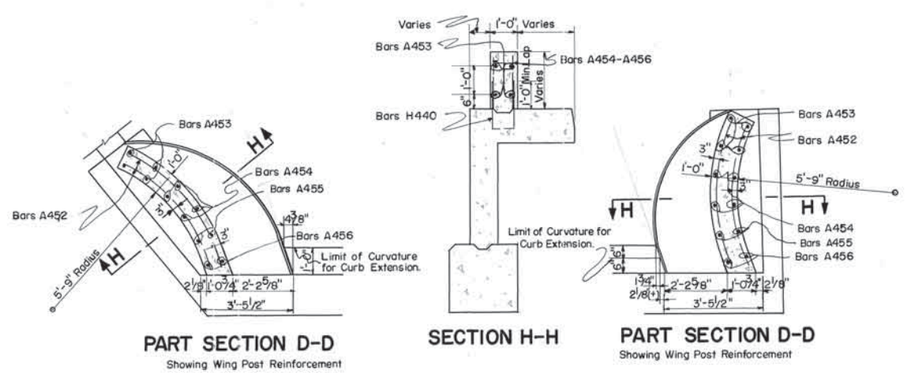
Showing Curb Reinforcement



SECTION G-G

PART SECTION C-C

Showing Curb Reinforcement



PART SECTION D-D

Showing Wing Post Reinforcement

SECTION H-H

PART SECTION D-D

Showing Wing Post Reinforcement

TABLE OF ELEVATIONS

ITEM	Locations	Elevations									
		A	B	C	D	P	F	G	H	J	K
Abutment No.2	Right Lane	770.93	770.87	770.79	770.73	769.06	774.59	774.46	775.45	775.23	774.66
Abutment No.2	Left Lane	770.53	770.63	770.73	770.83	768.86	774.26	774.60	775.01	775.36	774.22

ESTIMATED QUANTITIES

	ITEM	Concrete Class "A" Cu. Yds.	Reinforcing Steel Pounds
RIGHT LANE	Abutment No.1	17.2	1936
RIGHT LANE	Abutment No.2	17.2	1936
LEFT LANE	Abutment No.1	17.2	1936
LEFT LANE	Abutment No.2	17.2	1936

ALTERNATE "PI"

STATE OF TENNESSEE

DEPARTMENT OF HIGHWAYS

NASHVILLE

ABUTMENT NO. 2
LEFT AND RIGHT LANE BRIDGES
INTERSTATE 65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1961

DESIGNED BY Paul D. Quarles DATE 3-6-61

DRAWN BY Jack B. Crockett DATE 3-6-61

TRACED BY K. Gunter & R. Hagar DATE 4-3-61

CHECKED BY P.D.Q., D.E.S. DATE 3-24-61

CORRECT Fred Greene BRIDGE ENGINEER

APPROVED Ellis D. Long STATE HIGHWAY ENGINEER

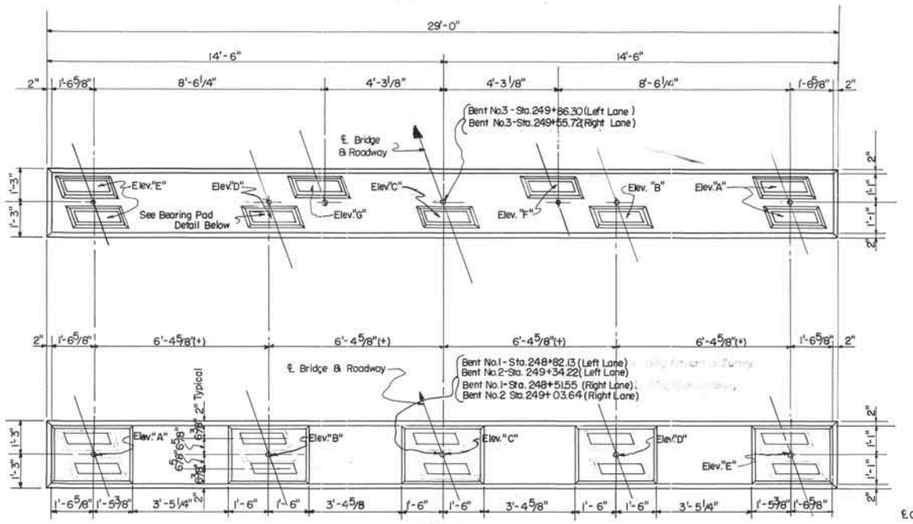
K-8-97

MICROFILMED

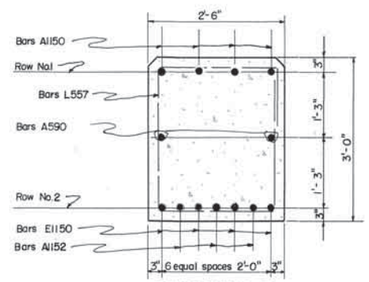
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	49	240

I-65-2(40)57

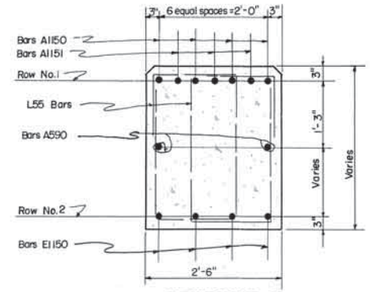
NOTE: When pouring Cap Beams provisions shall be made for setting Dowel Bars for Bearing Pads shown below. Bar projection 3-1/4"



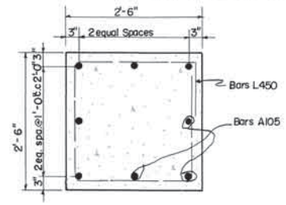
PLAN



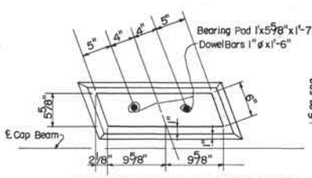
SECTION A-A



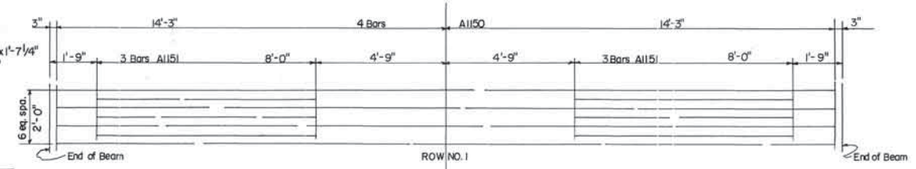
SECTION B-B

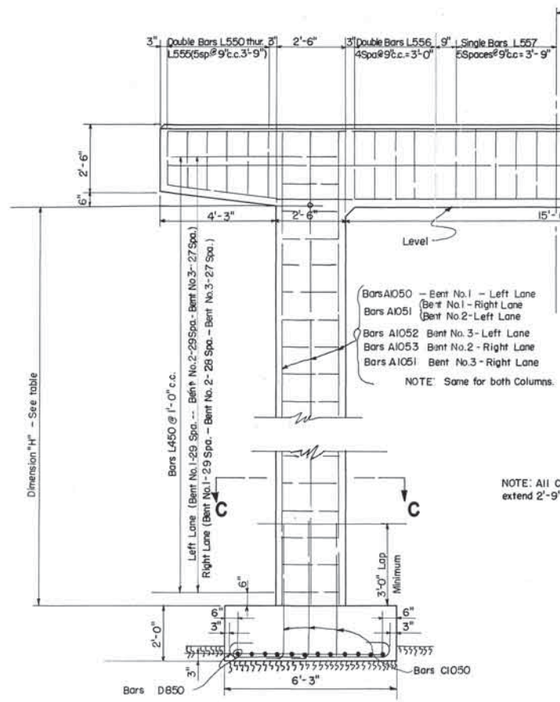


SECTION C-C



DETAIL OF BEARING PAD



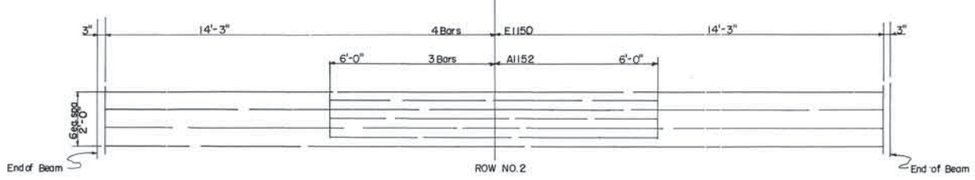


ELEVATION OF BENTS NO. 1, 2 & 3

Both Lanes Looking Forward on Survey

END ELEVATION

NOTE: Riser blocks not shown, see plan above for location and dimensions of these blocks.



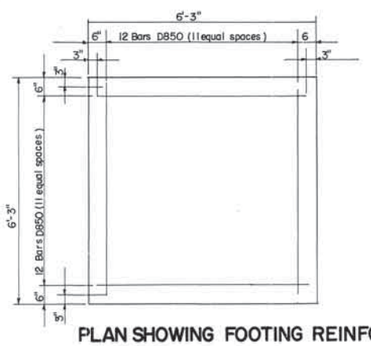
PLAN OF MAIN REINFORCING - CAP BEAM

TABLE OF DIMENSIONS AND ELEVATIONS

	ITEM	Dimension "H"	Dimension "L"	ELEVATIONS A	B	C	D	E	F	G	J
LEFT LANE	Bent No.1	27'-6"	27'-6"	771.23	771.30	771.38	771.45	771.53	—	—	771.06
	Bent No.2	27'-0"	27'-0"	770.97	771.04	771.12	771.19	771.27	—	—	770.80
	Bent No.3	25'-0"	25'-0"	771.00	770.93	770.86	770.78	770.71	770.91	770.80	770.54
RIGHT LANE	Bent No.1	27'-0"	27'-0"	771.63	771.60	771.53	771.48	771.43	—	—	771.26
	Bent No.2	26'-9"	25'-9"	771.37	771.33	771.27	771.22	771.17	—	—	771.00
	Bent No.3	25'-0"	25'-0"	770.91	770.96	771.01	771.08	771.11	770.95	771.06	770.74

ESTIMATED QUANTITIES

	ITEM	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
LEFT LANE	Bent No.1	26.4	6108
	Bent No.2	26.2	6074
	Bent No.3	25.2	5910
RIGHT LANE	Bent No.1	26.2	6074
	Bent No.2	25.6	5975
	Bent No.3	25.2	5910



PLAN SHOWING FOOTING REINFORCEMENT

ALTERNATE "P1"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BENTS NO. 1, 2 & 3
LEFT & RIGHT LANE BRIDGES
I-65 OVER STATE ROUTE 106 & W. HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1961

CORRECT — Fred Greene, BRIDGE ENGINEER

APPROVED — Lee O. Long, STATE HIGHWAY ENGINEER

K-8-98

DESIGNED BY P.D.Q. DATE 3-6-61
DRAWN BY J.B. Crockett DATE 3- -61
TRACED BY E. Moore DATE 4-14-61
CHECKED BY P.D.Q. & D.E.S. DATE 4-11-61

IMAGE PROFILE MED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	50	240

I-65-2(10)57

LEFT LANE

SUPERSTRUCTURE

Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length
A502	Curb & Slab	5	94					51'-6"
A503	Curb & Slab	5	94					27'-0"
A504	Intermediate Diaphragms	5	12					7'-0"
A505	Intermediate Diaphragms	5	48					5'-0"
A506	Endwalls	5	18					29'-3"
A507	Slab	5	144					29'-6"
A508	"	5	2					28'-3"
A509	"	5	2					27'-6"
A510	"	5	2					27'-3"
A511	"	5	2					25'-9"
A512	"	5	2					24'-3"
A513	"	5	2					22'-9"
A514	"	5	2					21'-3"
A515	"	5	2					19'-"
A516	"	5	2					8'-3"
A517	"	5	2					16'-9"
A518	"	5	2					15'-3"
A519	"	5	2					13'-9"
A520	"	5	2					12'-3"
A521	"	5	2					11'-0"
A522	"	5	2					9'-6"
A523	"	5	2					8'-0"
A524	"	5	2					6'-6"
A525	"	5	10					29'-0"
A526	"	5	10					27'-6"
A527	"	5	10					26'-0"
A528	"	5	10					24'-6"
A529	"	5	10					23'-0"
A530	"	5	10					21'-6"
A531	"	5	10					20'-0
A532	"	5	10					18'-6"
A533	"	5	10					17'-0"
A534	"	5	10					15'-6"
A535	"	5	10					14'-0"
A536	"	5	10					12'-6"
A537	"	5	10					11'-0"
A538	"	5	10					9'-6"
A539	"	5	10					8'-0"
A540	"	5	10					6'-6"
A541	"	5	12					5'-0"
A542	"	5	10					4'-0"
A543	"	5	94					19'-0"
A544	"	5	2					29'-3"
A545	"	5	2					28'-0"
A546	"	5	2					27'-0"
A547	"	5	2					25'-9"
A548	"	5	2					24'-6"
A549	"	5	2					23'-6"
A550	"	5	2					22'-6"
A551	"	5	2					21'-3"
A552	"	5	2					20'-0"
A553	"	5	2					19'-0"
A554	"	5	2					17'-9"
A555	"	5	2					16'-6"
A556	"	5	2					15'-6"
A557	"	5	2					14'-3"
A558	"	5	2					13'-3
A559	"	5	2					12'-0"
A560	"	5	2					11'-0"
A561	"	5	2					9'-9"
A562	"	5	2					8'-6"
A563	"	5	2					7'-6"
A564	"	5	2					6'-3"
A565	"	5	2					5'-3"
A566	"	5	2					4'-3"
A567	"	5	2					28'-3"
A568	"	5	2					27'-3"
A569	"	5	2					26'-0"
A570	"	5	2					25'-0"
A571	"	5	2					23'-9"
A572	"	5	2					22'-6"
A573	"	5	2					21'-6"
A574	"	5	2					20'-3"
A575	"	5	2					19'-3"
A576	"	5	2					18'-0"
A577	"	5	2					16'-9"
A578	"	5	2					15'-9"
A579	"	5	2					14'-6"
A580	"	5	2					13'-6"
A581	"	5	2					12'-3"
A582	Slab	5	2					11'-3"
A583	"	5	2					10'-0"
A584	"	5	2					8'-9"
A585	"	5	2					7'-9"
A586	"	5	2					6'-6"
A587	"	5	2					5'-6"
A588	"	5	2					5'-3"
A589	"	5	24					26'-0"
F500	Curb & Slab	5	90	1'-9"	1'2"	2'-9"	1'-1"	5'-7"
HA700	Intermediate Diaphragm	7	30	1'-0"	2'-8"			6'-4"
		3	150				6"	6"
K400	Intermediate Diaphragm	4	81	6"	5"	2'-4"		6'-1"
L400	Endwalls	5	60	5"	6"	3'-4"		8'-0"
L401	Diaphragms & Supports	5	162	5"	6"	1'-8"		4'-8"
N500	Curb & Slab	5	138	34'-0"	2'-9"	28'-3"	1'-1"	36'-1"
P500	Slab	5	114	29'-6"	4'-2½"	2'-6"	2'-11"	30'-6"
P501	Slab	5	29	29'-6"	4'-8½"	3'-6"	3'-11"	30'-3"
H500	Roadway Bracket	4	60	1'-8"	4"			2'-4"

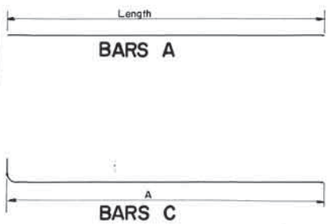
ABUTMENTS NO.1&2

Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length
A440	Abutment Beam	4	10					36'-9"
A441	Abutment Beam	4	10					6'-6"
A442	Abutment Beam	4	10					7'-0"
A443	Wingwalls	4	8					5'-9"
A444	Wingwalls	4	12					2'-3"
A445	Wingwalls & Curb	4	72					4'-3"
A446	Wingwalls	4	16					8'-0"
A447	Wingwalls & Curb	4	20					5'-3"
A448	Wingwalls & Curb	4	40					3'-0"
A449	Curb	4	4					8'-9"
A450	Curb	4	4					8'-0"
A451	Curb	4	4					7'-0"
A452	Handrail	4	16					5'-3"
A453	Handrail	4	16					1'-6"
A454	Handrail	4	16					1'-9"
A455	Handrail	4	8					2'-3"
A456	Handrail	4	8					2'-6"
A740	Abutment Beam	7	18					36'-9"
A741	Abutment Beam	7	10					6'-6"
A742	Abutment Beam	7	10					7'-0"
H440	Beam, Wingwall, Curb	4	60	8"	2'-0"			4'-8
L440	Curb	4	2	1'-0"	6"	11"		4'-4"
L441	"	4	2	2'-0"	6"	11"		6'-4"
L442	"	4	2	2'-3"	6"	11"		6'-10"
L443	"	4	2	2'-6"	6"	11"		7'-4"
L444	"	4	2	2'-9"	6"	11"		7'-10"
L445	"	4	10	3'-0"	6"	11"		8'-4"
L446	"	4	2	3'-3"	6"	11"		8'-10"
L447	Curb	4	10	3'-6"	6"	11"		9'-4"
L540	Beams & Wingwalls	5	88	2'-2"	1'-0"	2'-2"		9'-8"

BENTS NO.1,2 & 3

Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length
A590	Cap Beam	5	6					28'-6"
A1050	Columns - Bent No.1	10	16					30'-3"
A1051	Columns - Bent No.2	10	16					29'-9"
A1052	Columns - Bent No.3	10	16					27'-9"
A1150	Cap Beam	11	12					28'-6"
A1151	" "	11	18					8'-0"
A1152	Cap Beam	11	9					12'-0"
C1050	Columns - Footing	10	48	4'-9"				5'-5"
D850	Footings	8	144	5'-9"				7'-11"
E1150	Cap Beam	11	12	20'-6"	4'-0"	6"		28'-6"
L450	Columns	4	176	2'-2"	1'-0"	2'-2"		9'-8"
L550	Cap Beam	5	12	1'-6"	1'-0"	2'-2"		8'-4"
L551	" "	5	12	1'-6"	1'-0"	2'-3"		8'-6"
L552	" "	5	12	1'-6"	1'-0"	2'-4"		8'-8"
L553	" "	5	12	1'-6"	1'-0"	2'-5"		8'-10"
L554	" "	5	12	1'-6"	1'-0"	2'-6"		9'-0"
L555	" "	5	12	1'-6"	1'-0"	2'-7"		9'-2"
L556	" "	5	60	1'-6"	1'-0"	2'-8"		9'-4"
L557	Cap Beam	5	33	2'-2"	1'-0"	2'-8"		10'-8"

NOTE: 76 - 1" ø x 1'-6" Dowel Bars Required



RIGHT LANE

SUPERSTRUCTURE

Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length

NOTE: Steel same as for Lt. Lane Superstructure

ABUTMENTS NO.1&2

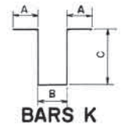
Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length

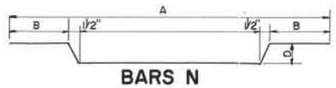
NOTE: Steel same as for Lt. Lane Abutments No. 1&2

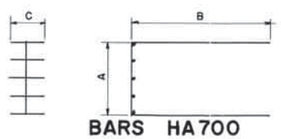
BENTS NO.1,2 & 3

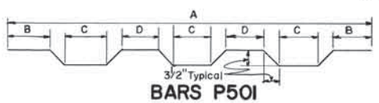
Bar	Location	Size	No. Reqd	Bending Dimensions A	B	C	D	Length
A590	Cap Beam	5	6					28'-6"
A1051	Columns - Bent No. 1	10	16					29'-9"
A1053	Columns - Bent No. 2	10	16					28'-6"
A1050	Columns - Bent No.3	10	16					27'-9"
A1150	Cap Beam	11	12					28'-6"
A1151	" "	11	18					8'-0"
A1152	Cap Beam	11	9					12'-0"
C1050	Columns - Footing	10	48	4'-9"				5'-5"
D850	Footings	8	144	5'-9"				7'-11"
E1150	Cap Beam	11	12	20'-6"	4'-0"	6"		28'-6"
L450	Columns	4	174	2'-2"	1'-0"	2'-2"		9'-8"
L550	Cap Beam	5	12	1'-6"	1'-0"	2'-2"		8'-4"
L551	" "	5	12	1'-6"	1'-0"	2'-3"		8'-6"
L552	" "	5	12	1'-6"	1'-0"	2'-4"		8'-8"
L553	" "	5	12	1'-6"	1'-0"	2'-5"		8'-10"
L554	" "	5	12	1'-6"	1'-0"	2'-6"		9'-0"
L555	" "	5	12	1'-6"	1'-0"	2'-7"		9'-2"
L556	" "	5	60	1'-6"	1'-0"	2'-8"		9'-4"
L557	Cap Beam	5	33	2'-2"	1'-0"	2'-8"		10'-8"

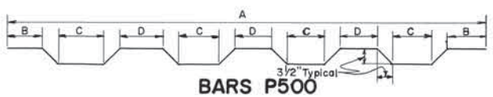
NOTE: 76 - 1" ø x 1'-6" Dowel Bars Required











REINFORCING STEEL CODE

Type	Size	Series
A	5	06

DESIGNED BY Paul Quarles DATE
DRAWN BY D.N.W., J.B.C. DATE
TRACED BY K. Gunter & T.A. Emsey DATE 3-30-61
CHECKED BY P.D.Q., D.E.S. DATE 4-11-61

Revised-5-15-63- Bars A502
Revised 7-12-61

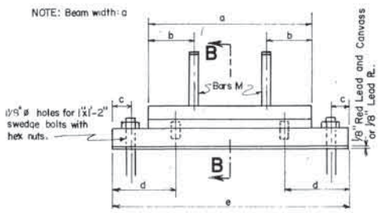
ALTERNATE "PI"
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BILL OF STEEL
LEFT & RIGHT LANES
I-65 OVER STATE ROUTE NO. 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1961

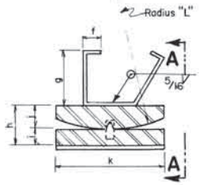
CORRECT Fred Greene BRIDGE ENGINEER
APPROVED Chas D. Long STATE HIGHWAY ENGINEER

K-8-99

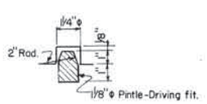
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19	7	11



ELEVATION A-A

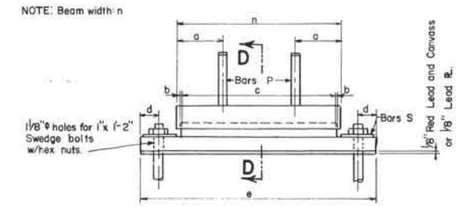


SECTION B-B

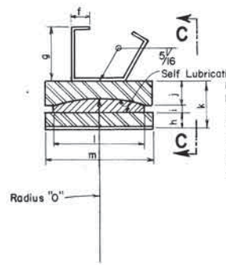


PINTLE DETAIL

STANDARD FIXED BEARINGS



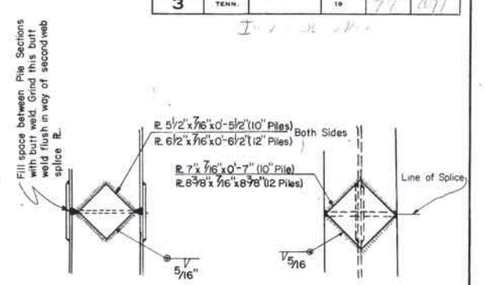
ELEVATION C-C



NOTE: Surfaces of Steel Rs opposing Self Lubricating Rs to be given a plain machined finish, approx. 125° microinch rms. No paint or grease shall be on these surfaces or on the surfaces of the Expansion Rs. At the time of assembly these surfaces of the steel Rs shall be coated with a lubricant furnished by the manufacturer of the Expansion Rs.

SECTION D-D

STANDARD EXPANSION BEARINGS



STANDARD PILE SPLICE DETAIL

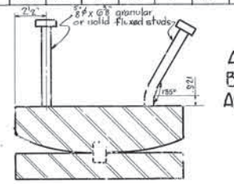
Welding Specifications - AWS for Bridges

TABLE OF DIMENSIONS & ESTIMATED QUANTITIES

Type	Dimensions													Structural Steel
	a	b	c	d	e	f	g	h	i	j	k	L	Bars M	Lbs.
Type F1	1'-6"	5"	2"	7"	2'-2"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x⅜"x2'-0"	322
Type F2	1'-2"	4"	2"	7"	1'-10"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x⅜"x2'-0"	265
Type F3	1'-6"	5"	1½"	6"	2'-0"	2"	6"	4½"	2"	2½"	1'-0"	1'-6"	1"x⅜"x 2'-0"	308

TABLE OF DIMENSIONS & ESTIMATED QUANTITIES

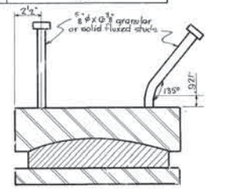
Type	Dimensions																Structural Steel	Bronze
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	Bars P	Bars S	Lbs.	Lbs.
Type E1	5"	1/16"	17"	2"	2'-2"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-6"	1'-6"	1"x⅜"x 2'-0"	2½"x4"x0'-11"	286	83
Type E2	4"	1/16"	13"	2	1'-10"	2"	6"	1½"	1"	2½"	5"	10"	1'-0"	1'-2"	1'-6"	1"x⅜"x 2'-0"	2½"x4"x0'-11"	238	62
Type E3	5"	1/16"	23"	2"	2'-8"	2"	6"	1½"	1"	2½"	5"	10"	1'-2"	2'-0"	1'-6"	1"x⅜"x2'-0"	2½"x4"x0'-11"	425	110



ALTERNATE BEARING ANCHORAGE DETAILS

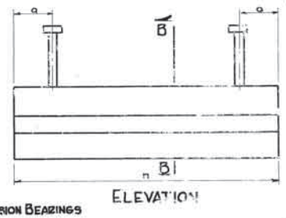
SECTION B-B

STANDARD FIXED BEARINGS

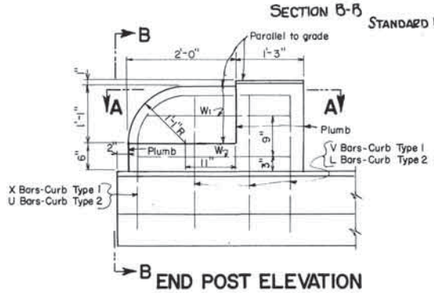


SECTION B-B

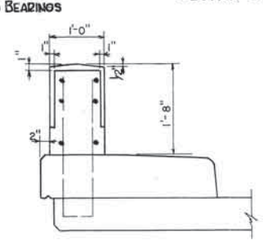
STANDARD EXPANSION BEARINGS



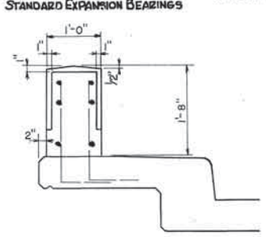
ELEVATION



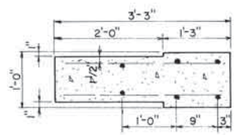
END POST ELEVATION



ELEVATION B-B
Curb Type 1



ELEVATION B-B
Curb Type 2



SECTION A-A

BILL OF STEEL
For One End Post

	Bar	No.	Size	Length
Curb Type 1	V	3	#4	5'-6"
	W	2	#4	2'-10"
	W1	2	#4	2'-9"
	X	2	#4	5'-0"

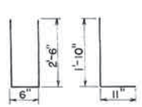
BILL OF STEEL
For One End Post

	Bar	No.	Size	Length
Curb Type 2	L	6	#4	2'-9"
	W	2	#4	2'-10"
	W1	2	#4	2'-9"
	U	2	#4	5'-0"

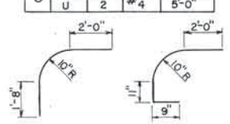
ESTIMATED QUANTITIES
For One End Post

Concrete Class "A"	0.17	Cu. Yds.
Reinforcing Steel	25	Lbs.

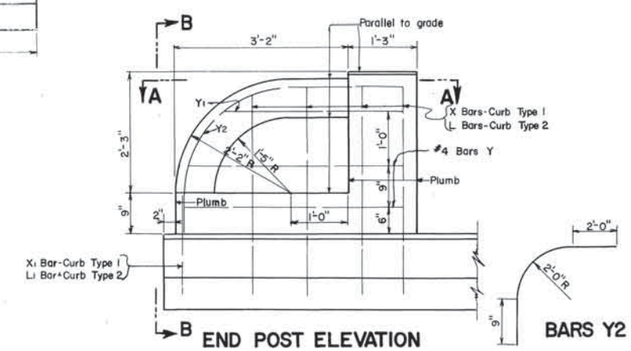
END POST DETAIL TYPE 1



BARS V BARS L

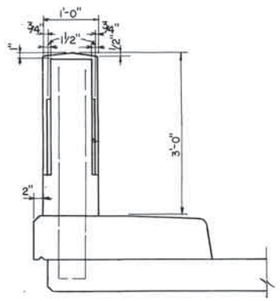


BARS X BARS U

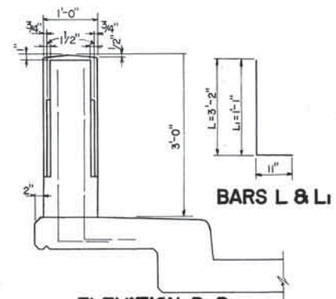


END POST ELEVATION

BARS Y2

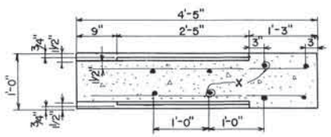


ELEVATION B-B
Curb Type 1

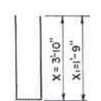


ELEVATION B-B
Curb Type 2

BARS L & L1



SECTION A-A



BARS X & X1

BILL OF STEEL
For One End Post

	Bar	No.	Size	Length
Curb Type 1	X	4	#4	8'-2"
	X1	1	#4	4'-0"
	Y	4	#4	4'-0"
	Y1	2	#4	3'-3"
	Y2	2	#4	6'-0"

ESTIMATED QUANTITIES
For One End Post

Concrete Class "A"	0.38	Cu. Yds.
Reinforcing Steel	48	Lbs.

BILL OF STEEL
For One End Post

	Bar	No.	Size	Length
Curb Type 2	L	8	#4	4'-1"
	L1	2	#4	2'-0"
	Y	4	#4	4'-0"
	Y1	2	#4	3'-3"
	Y2	2	#4	6'-0"

END POST DETAIL TYPE 2

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD BRIDGE DETAILS
BEARING DEVICES
PILE SPLICE
END POST
1958

DESIGNED BY _____ DATE _____
DRAWN BY G.P. Mullican DATE 12-16-58
RETRACED BY J. Towery & J.D. Woosley DATE 2-1-62
CHECKED BY _____ DATE _____

CORRECT Fred Green
BRIDGE ENGINEER

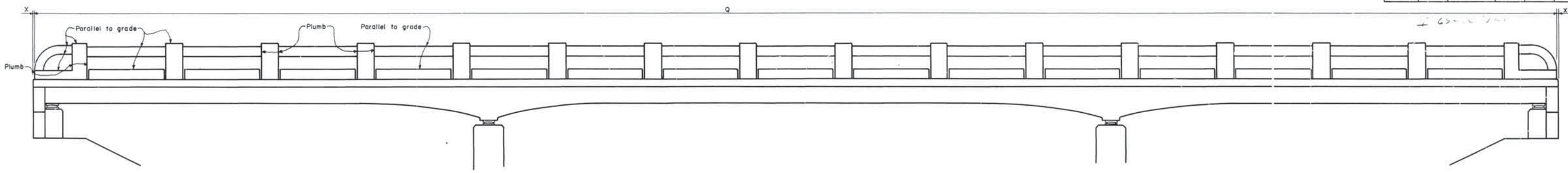
APPROVED Edw D Long
STATE HIGHWAY ENGINEER

G-10-42

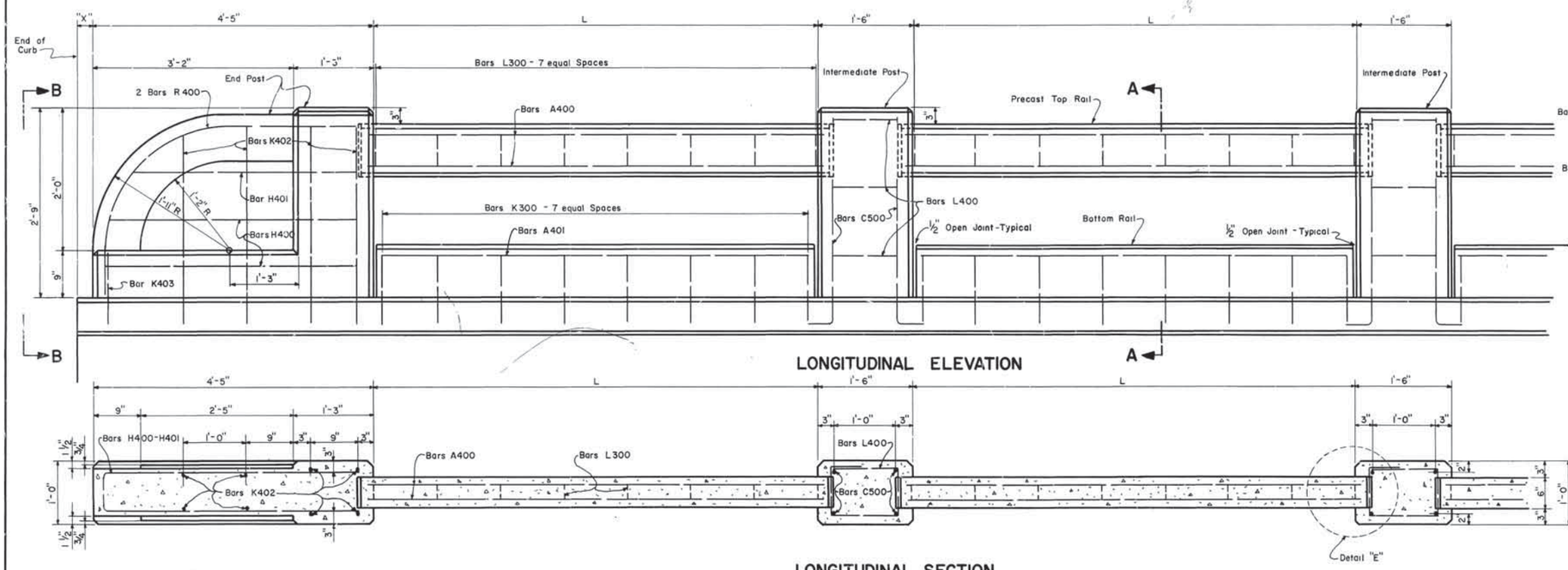
Copy 1 of 2

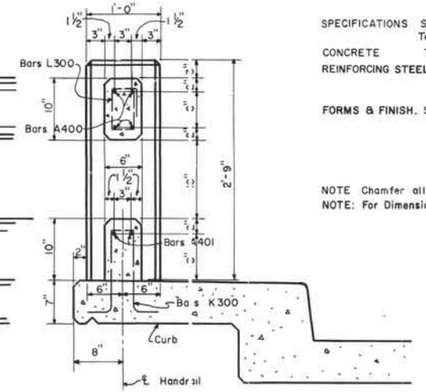
Revised 2-28-64 - Added Alternate Bearing Anchorage Details
Revised 12-18-62 Welding Specifications added
Revised 8-5-60 Add Type F3
Revised 7-28-60 Add Lead Rs
Revised 2-17-60 New Pile Splice Detail & Curb Type 1
Revised 7-1-59 End Post Type 2
Revised 2-17-59 Add Type E3
Revised 1-8-59 End Post Type 1

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN		19		

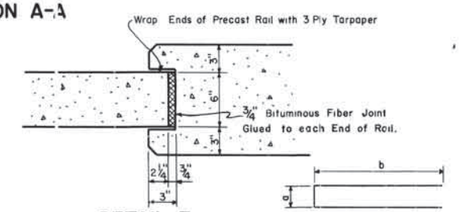


TYPICAL ELEVATION



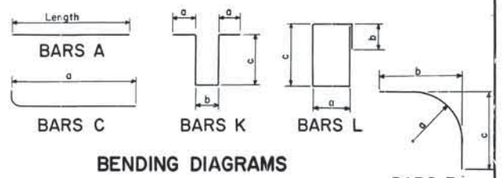


SECTION A-A



DETAIL E

BARS H



BENDING DIAGRAMS

GENERAL NOTES

SPECIFICATIONS Standard Road & Bridge Specifications of the Tennessee Department of Highways.

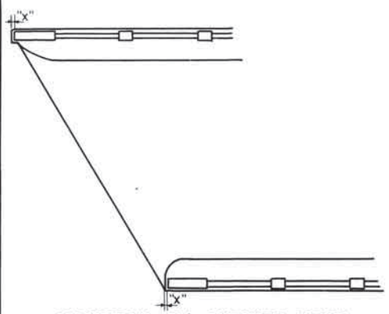
CONCRETE To be Class "A".

REINFORCING STEEL. See Specifications. To be intermediate or hard grade with Standard Hook Details as recommended by C R S I.

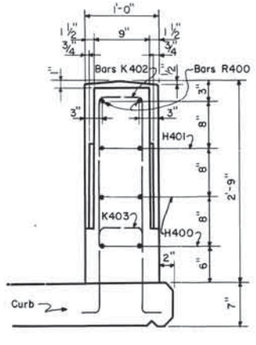
FORMS & FINISH. See Specifications

NOTE Chamfer all edges on Handrail Posts and Rails ½".

NOTE: For Dimensions X, Q, & L See Bridge Layout Sheet.



HANDRAIL ON SKEWED DECK



ELEV. B-B

END POST-LIST OF MATERIALS-EACH

Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu Yds
H400	4	2	0'-6"	4'-0"			8'-6"	45.0	0.37
H401	4	1	0'-6"	3'-7"			7'-8"		
K402	4	4	0'-3"	0'-7"	2'-11"		6'-11"		
K403	4	1	0'-3"	0'-7"	1'-2"		3'-5"		
R400	4	2	1'-9"	4'-0"	2'-6"		5'-9"		

INTERMEDIATE POST LIST OF MATERIALS - EACH

Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu Yds
C500	5	4	3'-0"				3'-4"	22.6	0.15
L400	4	3	0'-9"	0'-6"	1'-2"		4'-4"		

TOP RAIL-LIST OF MATERIALS-EACH

L	Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu Yds
6'-0" to 6'-1"	A400	4	4					6'-2"	23.6	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-1" to 6'-2"	A400	4	4					6'-3"	23.8	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-2" to 6'-3"	A400	4	4					6'-4"	24.1	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-3" to 6'-4"	A400	4	4					6'-5"	24.3	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-4" to 6'-5"	A400	4	4					6'-6"	24.5	0.10
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-5" to 6'-6"	A400	4	4					6'-7"	24.7	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-6" to 6'-7"	A400	4	4					6'-8"	25.0	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-7" to 6'-8"	A400	4	4					6'-9"	25.2	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-8" to 6'-9"	A400	4	4					6'-10"	25.4	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-9" to 6'-10"	A400	4	4					6'-11"	25.6	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-10" to 6'-11"	A400	4	4					7'-0"	25.9	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		
6'-11" to 7'-0"	A400	4	4					7'-1"	26.1	0.11
	L300	3	8	0'-4"	0'-6"	0'-7"		2'-4"		

BOTTOM RAIL-LIST OF MATERIALS-EACH

L	Bar	Size	No Req'd	Bending Dimensions a	b	c	d	Length	Quantities Steel Lbs.	Conc. Cu Yds
6'-0" to 6'-1"	A401	4	2					5'-8"	17.7	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-1" to 6'-2"	A401	4	2					5'-9"	17.8	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-2" to 6'-3"	A401	4	2					5'-10"	17.9	0.09
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-3" to 6'-4"	A401	4	2					5'-11"	18.1	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-4" to 6'-5"	A401	4	2					6'-0"	18.2	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-5" to 6'-6"	A401	4	2					6'-1"	18.3	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-6" to 6'-7"	A401	4	2					6'-2"	18.4	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-7" to 6'-8"	A401	4	2					6'-3"	18.5	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-8" to 6'-9"	A401	4	2					6'-4"	18.6	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-9" to 6'-10"	A401	4	2					6'-5"	18.7	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-10" to 6'-11"	A401	4	2					6'-6"	18.8	0.10
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		
6'-11" to 7'-0"	A401	4	2					6'-7"	19.0	0.11
	K300	3	8	0'-4"	0'-4"	1'-2"		3'-4"		

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD
CONCRETE HANDRAIL
1960

CORRECT Thad Greene
BRIDGE ENGINEER

APPROVED Cecil Young
STATE HIGHWAY ENGINEER

H-5-110

2 Copies

DESIGNED BY ____ DATE ____
DRAWN BY J.L. Parkes DATE ____
RETRACED BY R. Reagan DATE 4-4-63
CHECKED BY ____ DATE ____

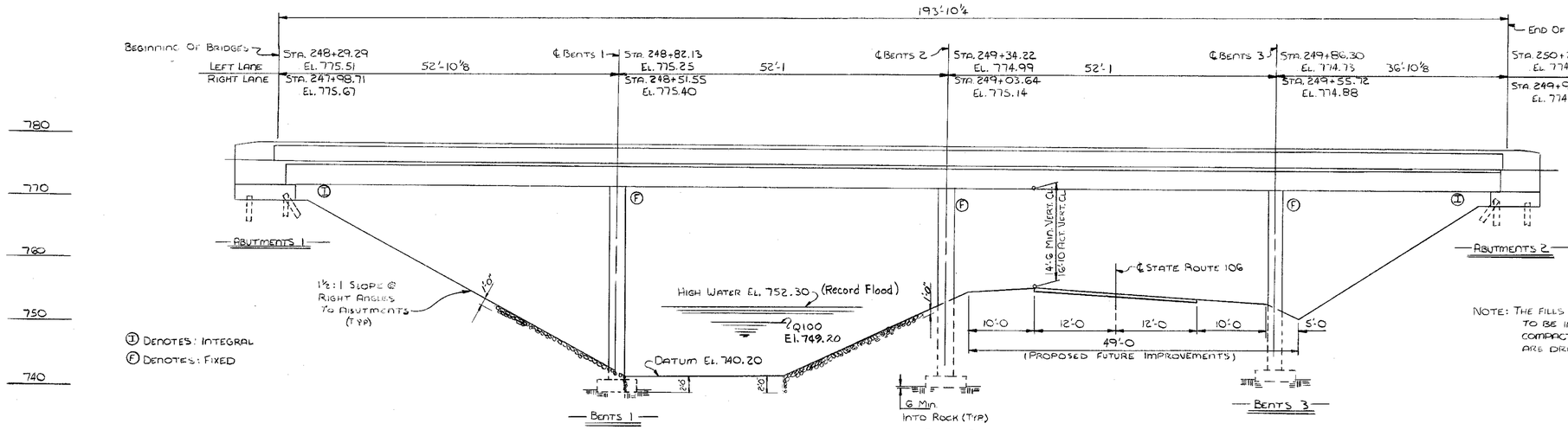
Revised: 1" June - 1962
Revised: 8" September - 1960

Const. No. 94002-3133-44 & 94002-3134-44

PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)46 F-65-3(48)46	1978	22

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

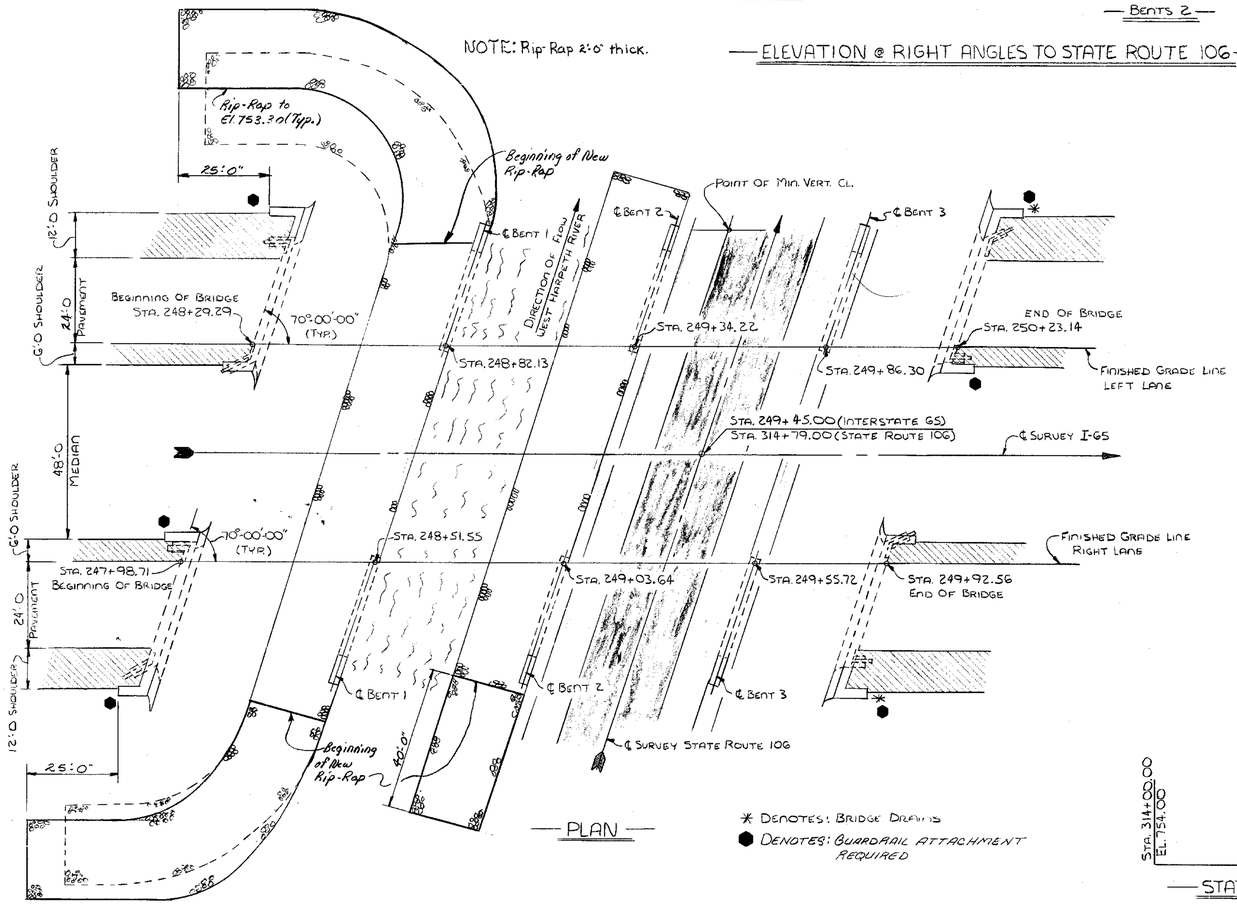


NOTE: The fills at the ends of the bridges to be in place and thoroughly compacted before abutment piles are driven.

NOTE: Rip-Rap 2'-0" thick.

—ELEVATION @ RIGHT ANGLES TO STATE ROUTE 106—

SPECIAL NOTE: FOR SEQUENCE OF CONSTRUCTION, SEE ROADWAY PLANS, SHEET NO. _____



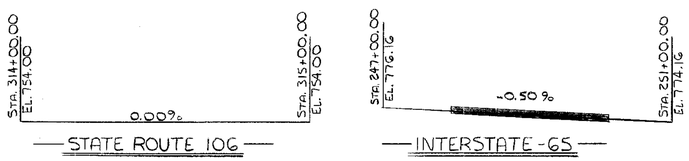
—PLAN—

✱ Denotes: Bridge Drains
● Denotes: Guardrail attachment required

—HYDRAULIC DATA—

Drainage Area: 5.5 Square Miles
Area Provided: 349 ft²
Discharge Q100: 3800 C.F.S.
Discharge Q50: 3300 C.F.S.
Velocity: 10.9 ft./second

SPECIAL NOTE: For sequence of construction, see Roadway Plans, sheet no. 2



—GRADE SKETCHES—

NOTE: Elevations shown represent elevations at top of existing concrete deck.

—LIST OF DWGS.—

Layout Of Bridges	M-60-109
General Notes & Estimated Quantities	M-60-110
Superstructure	M-60-111
Abutments 1&2	M-60-112
Bents 1,2,&3	M-60-113
Prestressed Beam Details	M-60-114
Bill Of Steel	M-60-115

—STANDARD DWGS.—

Standard Pile Details	Feb. 24,'66	H-5-111
Std. Reinf. Bar Support Details	Jan. 14,'75	K-80-14
Misc. Abut. & Drainage Details	Jan. 9, '75	K-85-150
Bridge Railing - Concrete Parapet	Jan. 28,'76	M-28-1
Precast Prestressed Concrete Deck Panels	Jan. 15,'77	K-80-15

—EXISTING DWGS.—

Layout Of Bridges	K-8-93
Prestressed Beam Details	K-8-94
Superstructure Details	K-8-95
Abutment No. 1	K-8-96
Abutment No. 2	K-8-97
Bents No. 1,2,&3	K-8-98
Bill Of Steel	K-8-99

—SPECIAL PROVISIONS—

130 - Regarding Section 604 - Concrete Structures	10-1-77
420 - Regarding Approval of Shop Drawings	9-20-76
450 - Regarding Permanent Steel Bridge Deck Forms	9-19-77
480 - Low Slump Dense & Polymer Modified Concrete Bridge Deck Overlay	2-13-78
481 - Low Slump Dense & Polymer Modified Concrete Bridge Deck Overlay For Existing Bridge Decks	2-13-78
555 - Regarding Section 615 - Precast Prestressed Concrete Bridge Members	7-1-77
570 - Regarding Hauling Over Structures	7-10-68
210 - Regarding Subsection 908.13 - Elastomeric Brg. Pads	12-2-76

TWO 42'0" ROADWAYS W/ PARAPET

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING
LEFT & RIGHT LANES
I-65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY

CORRECT _____ ENGINEER OF STRUCTURES 1978
APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-109

DESIGNED BY R Woods — DATE Dec. '77
DRAWN BY G.A Swindle — DATE Mar. '78
SUPERVISED BY Fields & Jett — DATE Mar. '78
CHECKED BY _____ — DATE _____

Class "A" Grading "D" 5 C.Y. Bridge Deck Sealant 4780 S.Y.

MICROFILMED

CONS'T. NO. 94002-3133-44 & 94002-3134-44

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of The Tennessee Department of Highways. (1968 Edition)

CONCRETE: To be class "A" (cast in place). f'c 3000 psi. See Special Provision No. 130.

PRE-CAST PRESTRESSED BRIDGE DECK PANELS: A portion of the concrete deck may be constructed of Precast Prestressed Bridge Deck Panels fabricated and used in accordance with Standard Drawing K-80-15.

BRIDGE RAIL SYSTEM: Build parapets according to Standard Drawing M-28-1.

PILES: To be HP 10 x 42 driven to refusal on rock or a minimum bearing of 55 tons for the abutments.

PRECAST, PRESTRESSED BRIDGE MEMBERS: See Special Provision No. 555.

EPOXY: The binder mix, sand aggregate batch, placing method, temperature AND HUMIDITY LIMITATIONS AND CURING TIMES shall be as recommended by the manufacturer. Acceptable brands of epoxy are: EPI-Top 100 - Calanese Coating Co., Colma, DUR-Sika Chemical Corp., Sinmast Mortar Mix Resin #4 Sinmast Corp., & Sikastix 370 - Sika Chemical Corp. AND FEL-POXY 102, FEL-PRO BUILDING PRODUCTS INC. COST OF JOINT PREPARATION & EPOXY IN PLACE TO BE INCLUDED IN ITEMS BID ON.

ELASTOMETRIC BEARING PADS: See Special Provision No. 210

LOADING: HS 20-44 WITH ALTERNATE MILITARY

DESIGN SPECIFICATIONS: AASHO 1973 Edition with addenda.

BRIDGE DECK FORMS: Bridge Deck Forms for concrete decks shall be constructed using either removable forms or permanent forms. In either case, forms shall be attached by means other than welding to support members. See Special Provision No. 450.

REINFORCING STEEL: To be ASTM A615 Grade 60. Standard CRSI hook details apply unless otherwise noted on bill of steel. Bending dimensions shown are based on grade 60. Spacing dimensions are center to center unless otherwise noted on detail drawings.

BRIDGE DECK SEALANT: The bridge deck shall be sealed in accordance with Special Provision No. 480 or No. 481. These bridge deck sealant systems shall be paid for under bridge Items; 604-03.16 for LSDC or 604-03.17 for PMC. (1,780 SY required).

WIDENINGS: The contractor shall check the location of all existing substructures and verify span lengths before fabricating girders.

SPECIAL NOTE - Footing For Bents: After excavation to rock for footing has been completed, holes 6' deep shall be drilled at points designated by the Engineer. From the results obtained, the Engineer shall determine the final footing elevations. No reinforcing steel for bent columns shall be ordered until final footing elevations have been determined.

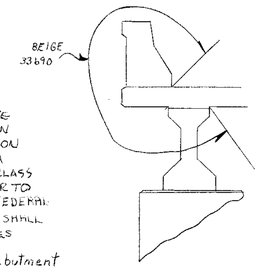
RIP-RAP Rip-rap shall consist of furnishing and placing by hand, rubble stones, or sacked sand cement.

Rubble stone shall meet the requirements of Section 709 and shall be clean (free from organic matter) durable, angular with fractured faces, nearly rectangular in shape with a breadth or thickness at least one-third it's length.

PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)-96 FSP-65-2(48)-96	1978	23

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6-25-78	J.L.J.	Portable Barrier Rail quantity.
2	8-21-79	J.L.J.	Textured Coated Finish quantity
3	3-12-80	J.L.J	Textured Coated Finish



FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF THE TENNESSEE STANDARD SPECIFICATION EXCEPT AS MODIFIED BY SPECIAL PROVISION NO. 130. A TEXTURED COATED FINISH SHALL BE USED IN LIEU OF A CLASS 2 FINISH. THE COLOR OF THE FINISH SHALL BE SIMILAR TO BEIGE FEDERAL SPECIFICATION NO. 33490, FEDERAL COLOR STANDARD NO. 595a, AND A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.

All exposed existing and new bent and abutment surfaces To be Texture-coated.

ESTIMATED QUANTITIES

	ITEM NUMBER	709-01	204-08-01	204-03.01	ALTERNATE LSDC 604-03.01	604-03.16	ALTERNATE PMC 604-03.01	604-03.17	604-04.08	604-85.03	604-85.04	615-01.02	616-08	616-12	604-10.51	710-10	710-11	604-10.50	204-04.01	204-05	606-02.03
	ITEM	Rubble Stone Rip-Rap (plain) or Sacked Sand-Cement Rip-Rap (Optional)	Dry Excavation (Bridges) (7)	Wet Excavation (Bridges) (7)	Class "A" Concrete (Bridges) (4)	Bridge Deck Sealant LSDC (4)	Class "A" Concrete (Bridges (4)	Bridge Deck Sealant PMC (4)	Steel Bar Reinforcement (Bridges	Textured Coating (Existing Structure) (3) (2)	Textured Coating (New Structure) (3) (2)	Prestressed Concrete I Beam (Type II) (3)	Concrete Parapet (M 28-1)	Portable Barrier Rail (K-38-158) (5)	Scarifying	6" ϕ Perforated C.M. pipe (18 ga.) with porous backfill (9)	6" ϕ C.M. pipe (18 ga.) underdrains (9)	Bridge Deck Repairs (6)	ROCK EXCAVATION	ROCK DRILLING	STEEL PILES (10 INCH)
		C.Y.	C.Y. (7)	C.Y. (7)	(CY)	S.Y. (4)	(CY)	S.Y.	lb.	S.Y. (2)	S.Y. (2)	L.F. (3)	L.F.	L.F. (5)	S.Y.	L.F.	L.F.	S.Y. (6)	C.Y.	L.F.	L.F.
LEFT LANE	SUPERSTRUCTURE				106.6	890	97.6	890	29085				412					200			
	Abutment #1		10		11.1		11.1		1851							16	11				84
	Bent #1			5	11.2		11.2		2056										2	6	
	Bent #2		41		11.1		11.1		2038										2	6	
	Bent #3		37		10.6		10.6		1948										2	6	
	Abutment #2		10		11.1		11.1		1816							14	11				90
	TOTALS	188	98	5	161.7	890	152.7	890	38,794	1208	915	189	412		528	30	22	200	6	18	174
RIGHT LANE	Superstructure				106.6		97.6		29085				412					200			
	Abutment #1		10		11.1		11.1		1851							14	11				75
	Bent #1	218		3	11.1		11.1		2038										2	6	
	Bent #2		41		10.8		10.8		1985										2	6	
	Bent #3		37		10.6		10.6		1948										2	6	
	Abutment #2	188	10		11.1		11.1		1816							16	11				84
	TOTALS		98	3	161.3	890	152.3	890	38,723	1208	915	189	412		528	30	22	200	6	18	159
	GRAND TOTALS	594	196	8	323.0	1780	305.0	1780	77,517	2416	1830	378	824	564 (1)	1056	60	44	400	12	36	333

(1) The cost of removing the exterior portion of the existing slab, portions of the existing abutments, and the bridge rail, shall be included in the unit prices of Items bid on. All salvable material shall become property of the contractor.

(2) The cost of bituminous fiberboard, epoxy joints, & all miscellaneous joint material to be included in bridge items bid on.

(3) Cost of elastomeric pads, rubber bonding cement, and dowel bars or anchor bolts to be included in the cost of prestressed beams.

(4) The Contractor shall bid either Alternate LSDC or Alternate PMC. The variation in the superstructure quantity of Class "A" Concrete for Alternates LSDC and PMC is due to the difference in depth of the LSDC and PMC systems.

(5) Quantity of 564 L.F. of Portable Barrier Rail includes 244 Ft for traffic control on the structure & 75 L.F. for traffic control under the Structure (on State Route 106).

(6) Quantities shown are estimated. The actual quantity will be determined by the Division of Structures, after the Contractor has removed the existing asphalt from the structure. Cost of removal of existing asphalt to be included in cost of scarifying.

(7) Excavation based on lower road profile.

(8) Cost of 24 threaded steel inserts and 24 7/8" ϕ x 4" hex head bolts (A307) to be included in bridge items bid on.

(9) Cost of polyethylene sheeting and all miscellaneous items necessary for installation to be included in cost of perforated C.M. Pipe.

DESIGNED BY Ramsey Wyatt DATE 2-78
DRAWN BY Scotty LaRoche DATE 3-78
SUPERVISED BY Charles H. Scott DATE 4-78
CHECKED BY Jeff F. Ramsey DATE 6-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES AND ESTIMATED QUANTITIES
I-65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-110

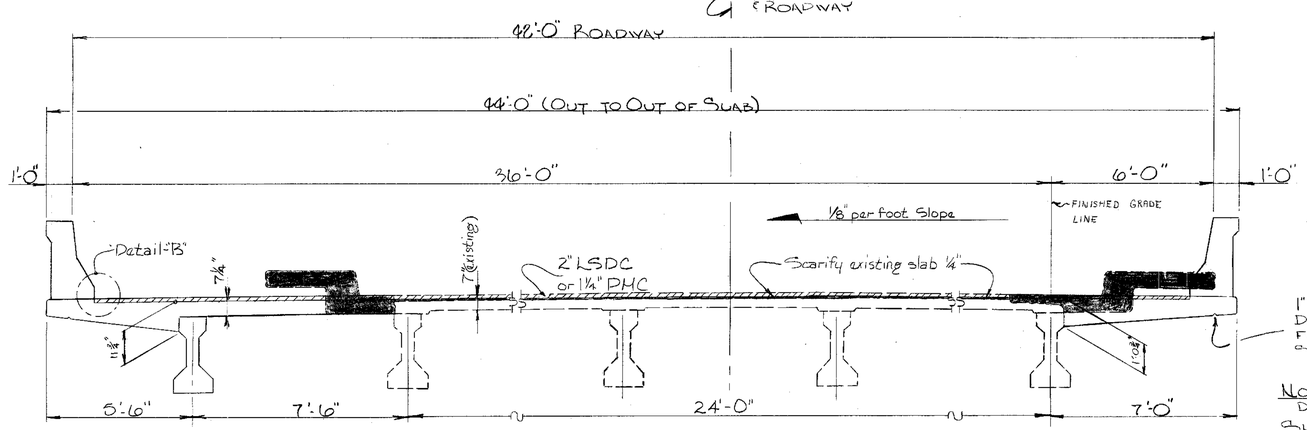
MICROFILMED

CONST. NO. 94002-3133-44 + 94002-3134-44

PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)96 FT-65-2(48)96	1978	24

REVISIONS

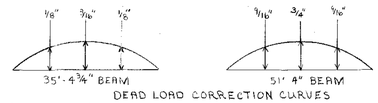
NO.	DATE	BY	BRIEF DESCRIPTION



ELEVATION

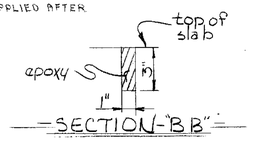
{Left Lane - looking forward on survey
Right Lane - looking back on survey}

* NOTE: 8" for PHC
8¾" for LSDC

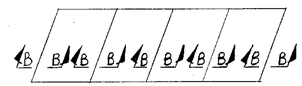


DEAD LOAD CORRECTION CURVES

NOTE: THIS CURVE IS FOR DEAD LOAD SLAB + ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE.



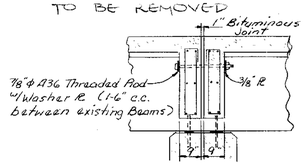
SECTION "B-B"



SLAB PLAN

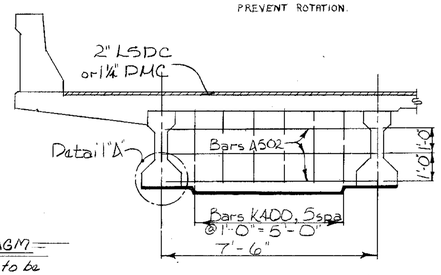
NOTE: GIRDERS TO BE SUPPORTED DURING CONSTRUCTION OF SLAB TO PREVENT ROTATION.

NOTE: DASHED LINES DENOTES EXISTING BRIDGE
SHADED AREA OF BRIDGE TO BE REMOVED

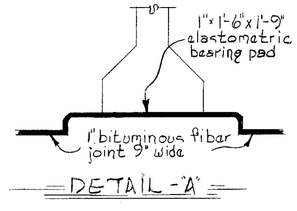


TYPICAL SECTION @ EXISTING DIAPHRAGM

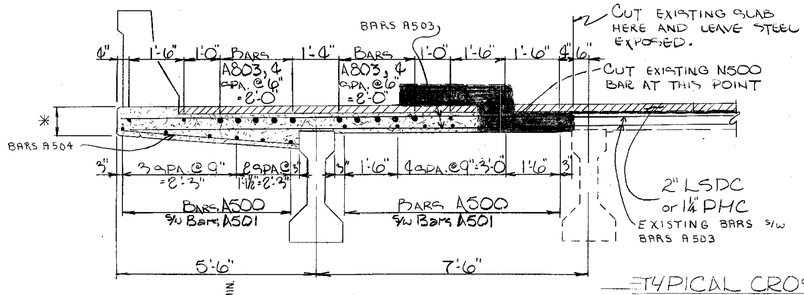
Note: Cost of threaded rods and Rs to be included in items bid on.



ELEVATION OF DIAPHRAGM
(Typ. @ Each Bent)

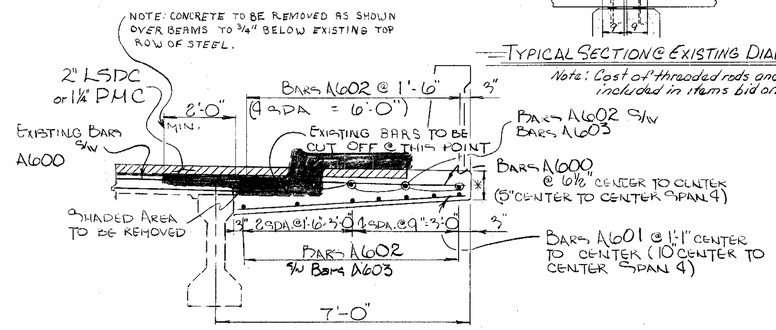


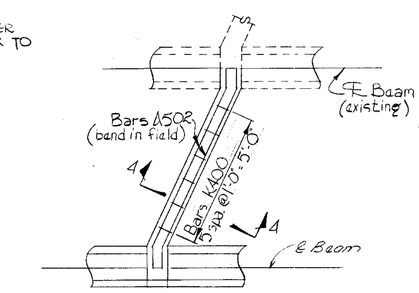
DETAIL "A"



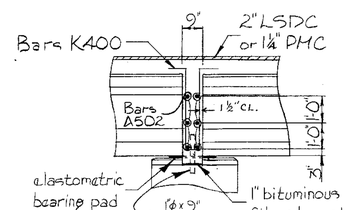
TYPICAL CROSS-SECTION

NOTE: CONCRETE TO BE REMOVED AS SHOWN OVER BEAMS TO ¾" BELOW EXISTING TOP ROW OF STEEL.





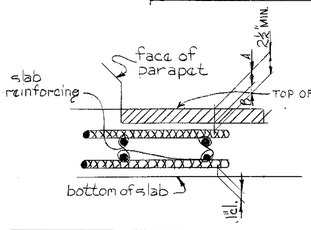
PLAN OF SUPPORT DIAPHRAGM



SECTION "A-A"

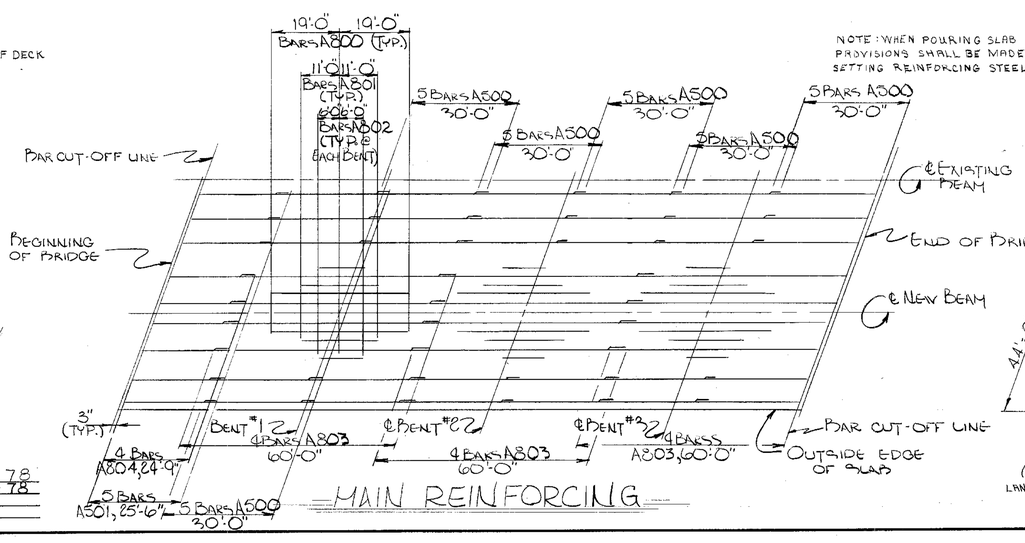
ESTIMATED QUANTITIES

CLASS "A" CONCRETE (C.Y.)				REINFORCING STEEL (LBS.)
LSDC	106.6	PMC	97.6	29,085.



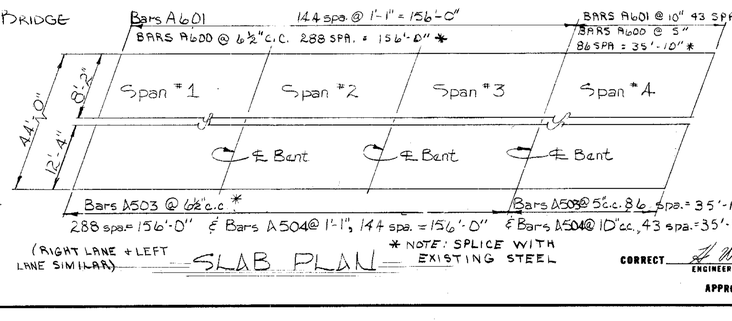
Dimension	LSDC	PMC
A	2"	1¼"
B	½" MIN	1¼" MIN

DETAIL - "B"
(LSDC & PMC OVERLAY)



MAIN REINFORCING

NOTE: WHEN POURING SLAB PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET.



(RIGHT LANE & LEFT LANE SIMILAR)

SLAB PLAN

* NOTE: SPLICE WITH EXISTING STEEL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE
I-65 OVER STATE ROUTE 106 AND WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

DESIGNED BY W.R. Woods DATE 1-78
DRAWN BY JOETTY LAYNE DATE 3-78
SUPERVISED BY Jeff and Fields DATE
CHECKED BY W.R. Woods DATE

CORRECT H.W. Herbrick
ENGINEER OF STRUCTURES

APPROVED Louis Burns
DIRECTOR OF HIGHWAYS

M-60-111

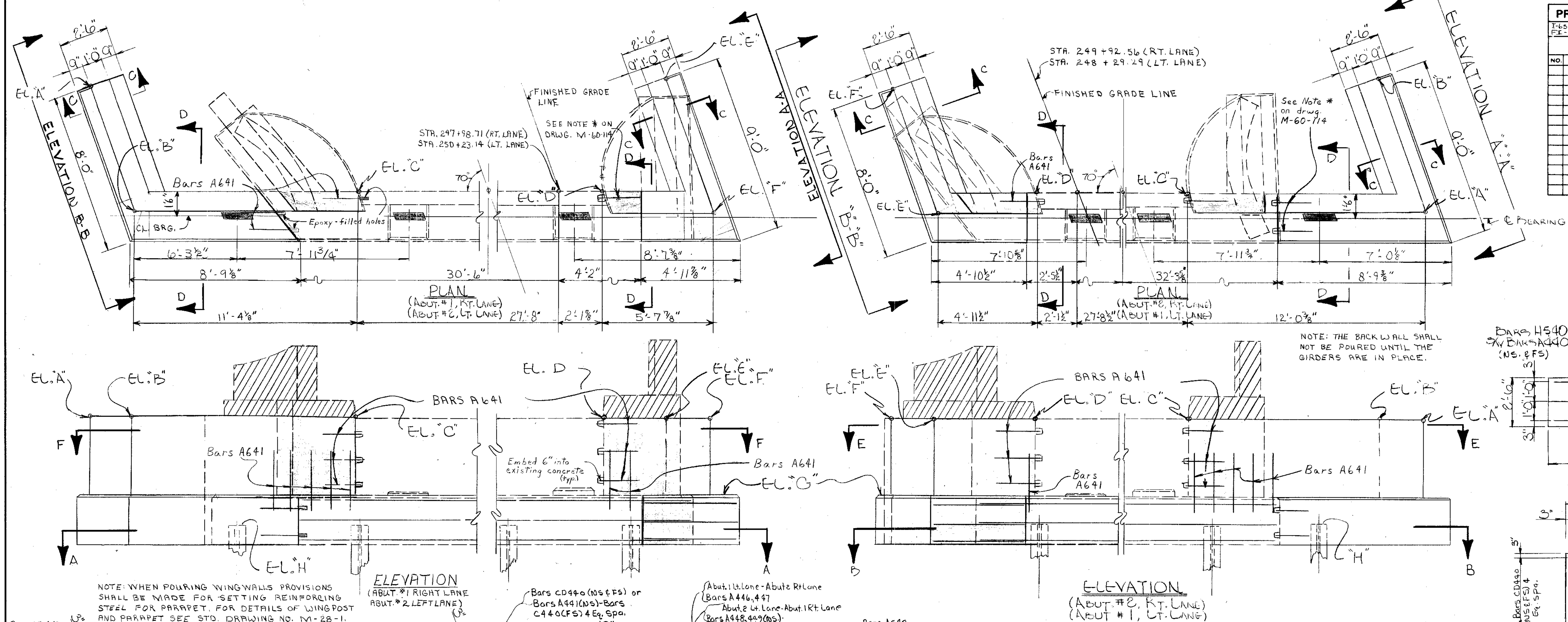
MICROFILMED

CONST. NO. 94002-3133-44 + 94002-3134-44

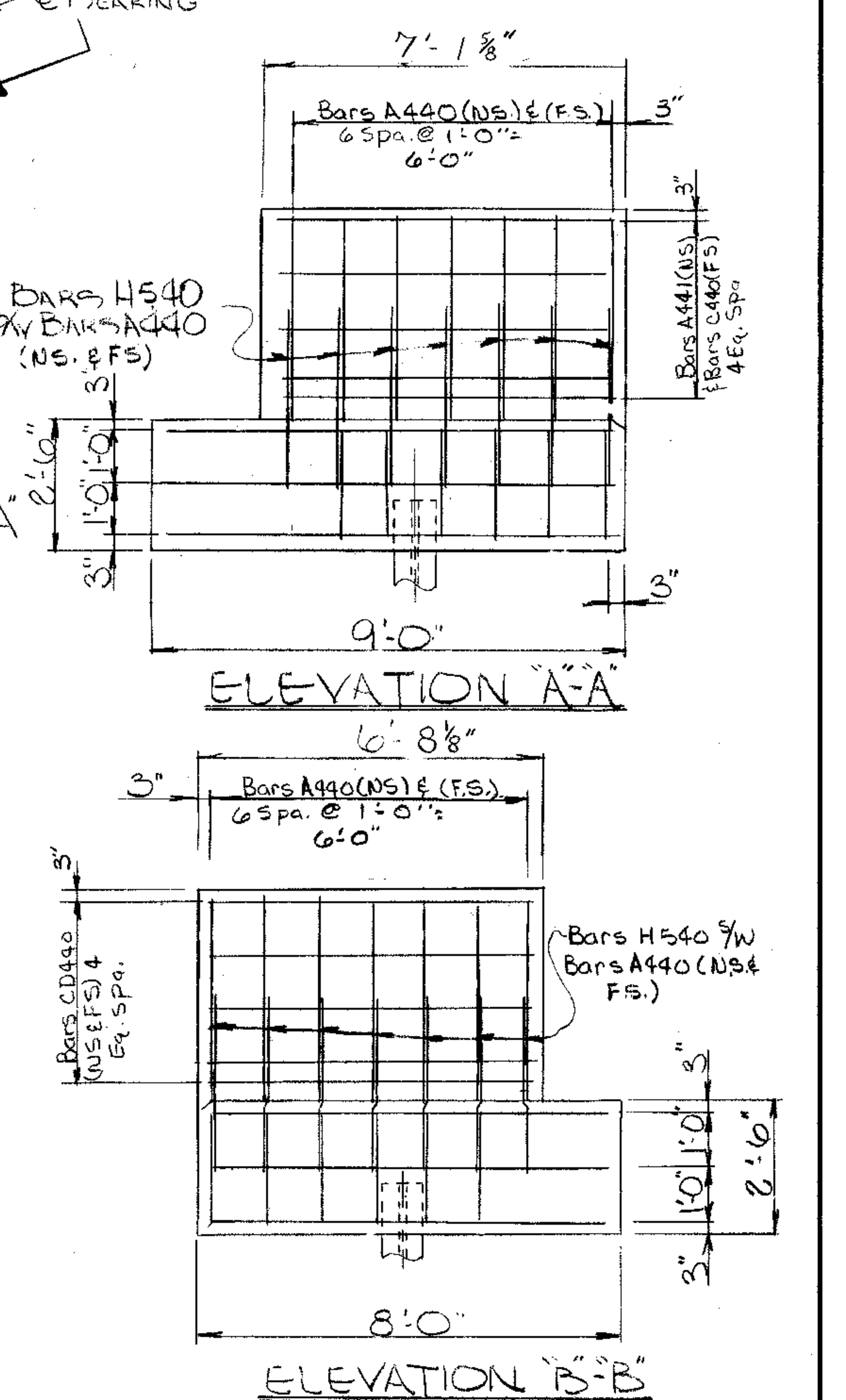
PROJECT NO.	YEAR	SHEET NO.
I-65-2(47)-46 FI-65-2(48)-46	1978	25

REVISIONS

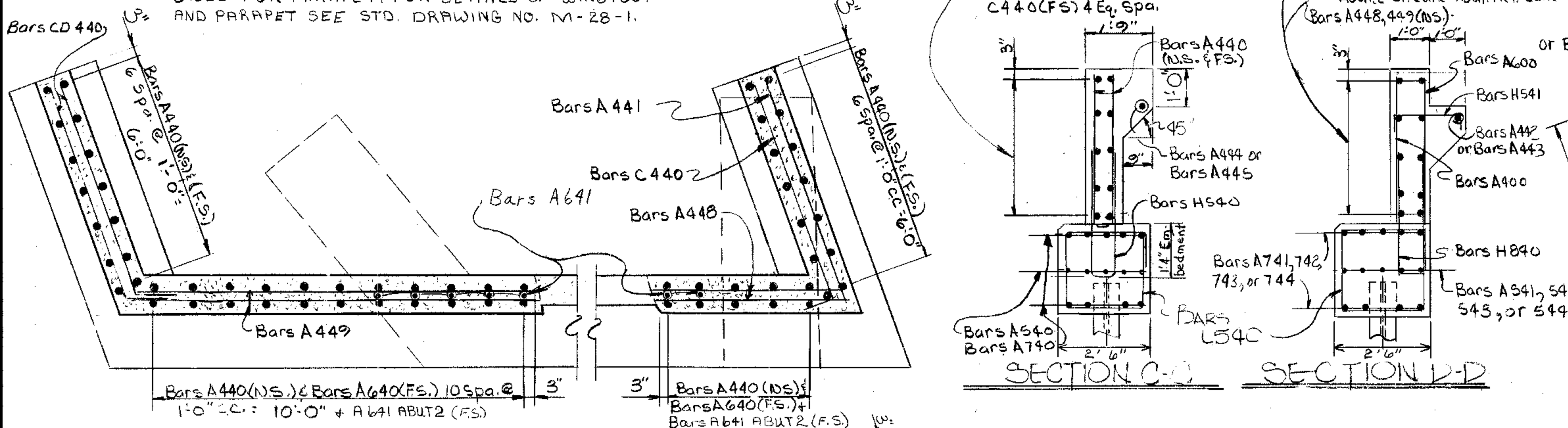
NO.	DATE	BY	BRIEF DESCRIPTION

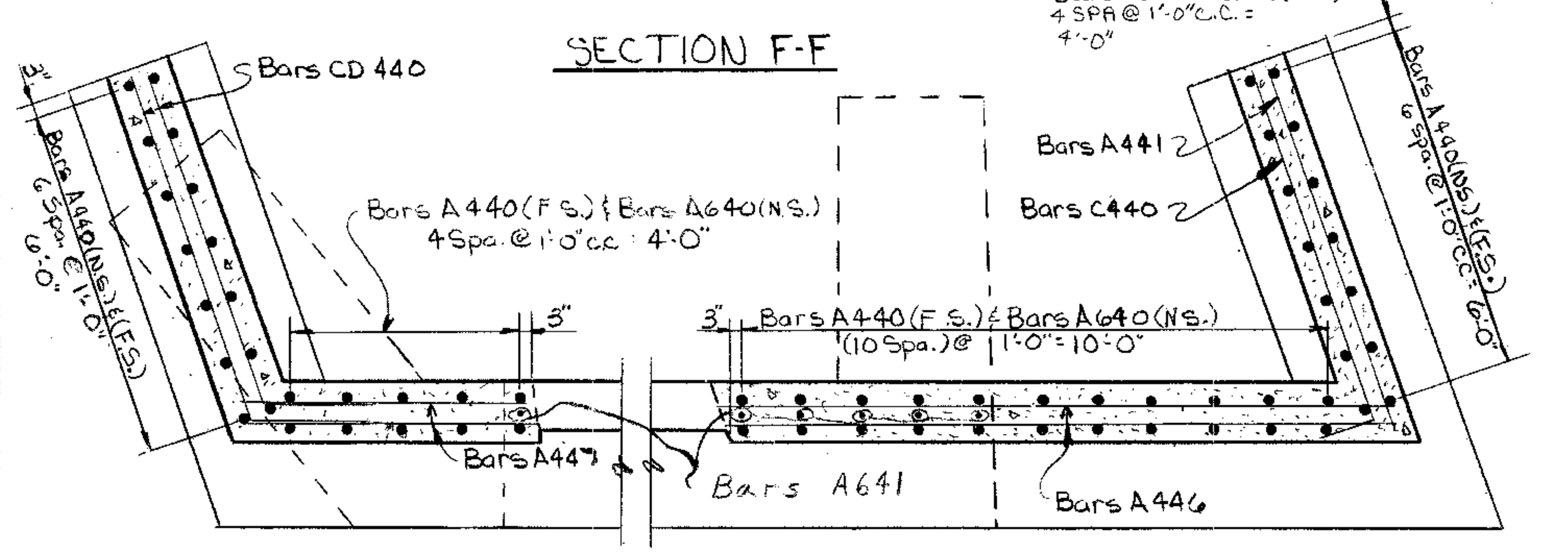


NOTE: THE BACK WALL SHALL NOT BE POURED UNTIL THE GIRDERS ARE IN PLACE.



NOTE: WHEN POURING WINGWALLS PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. FOR DETAILS OF WING POST AND PARAPET SEE STD. DRAWING NO. M-28-1.





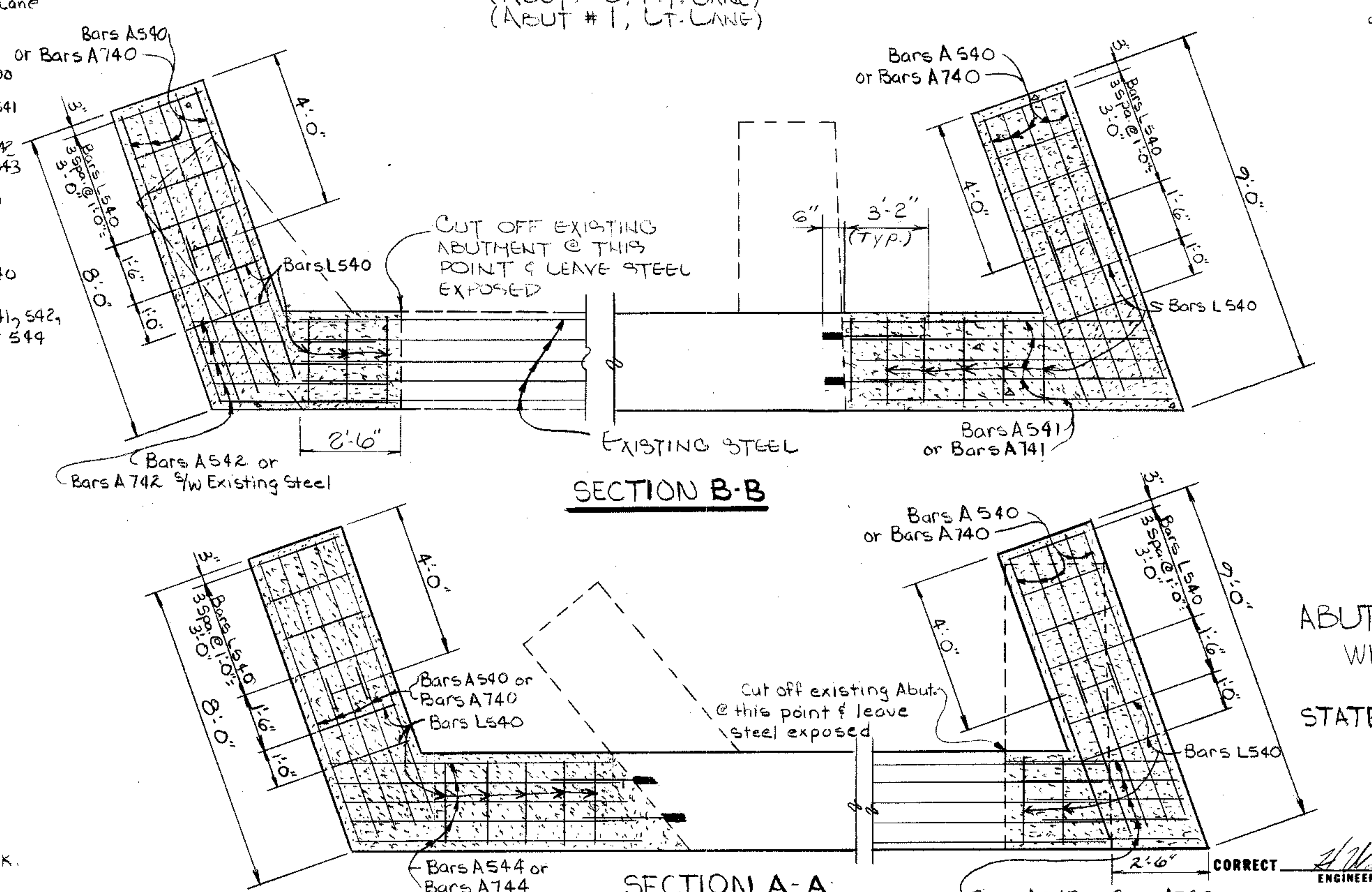


TABLE OF ELEVATIONS

ITEMS	Abut. 1 Lt. Lane	Abut. 2 Lt. Lane	Abut. 1 Rt. Lane	Abut. 2 Rt. Lane
A	775.06	774.06	775.38	774.39
B	775.09	774.10	775.34	774.35
C	775.20	774.23	775.44	774.47
D	775.54	774.57	775.68	774.72
E	775.59	774.60	775.76	774.76
F	775.63	774.64	775.72	774.73
G	771.39	770.44	771.66	770.71
H	769.89	768.94	770.16	769.21

NOTE: ELEVATIONS SHOWN ARE BASED ON ASSUMING FINISHED GRADE TO BE TOP OF EXISTING CONCRETE DECK.

ESTIMATED QUANTITIES

ITEMS	Concrete Class "A" (Cu.)	Reinforcing Steel Lbs.
Abut. 1 Lt. Lane	11.1	1851
Abut. 2 Lt. Lane	11.1	1816
Abut. 1 Rt. Lane	11.1	1851
Abut. 2 Rt. Lane	11.1	1816

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENTS 1 & 2 LEFT & RIGHT LANES
WIDENING OF INTERSTATE 65
OVER
STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

DESIGNED BY Ramsey Woods DATE 3-78
DRAWN BY Scott Keene Hymie DATE 4-78
SUPERVISED BY J. Fields & J.L. Jett DATE 4-78
CHECKED BY ____ DATE ____

CORRECT H. W. Derthick
ENGINEER OF STRUCTURES

APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-60-112

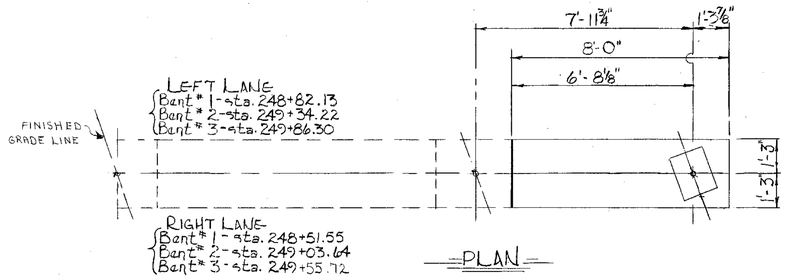
MICROFILMED

CONST. NO. 94002-3133-44 & 94002-3134-44

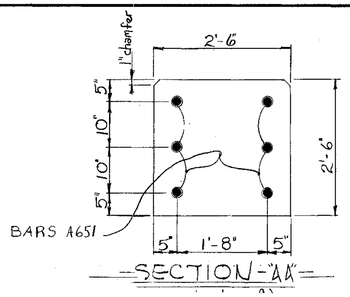
PROJECT NO.	YEAR	SHEET NO.
I-65-2(97)+46 FI-65-1(48)+46		26

REVISIONS

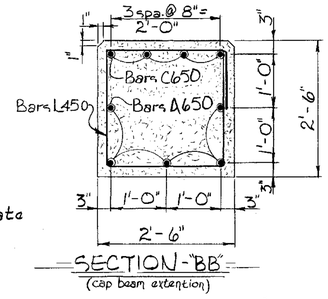
NO.	DATE	BY	BRIEF DESCRIPTION



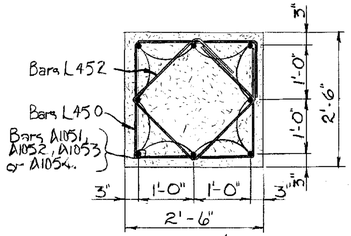
PLAN



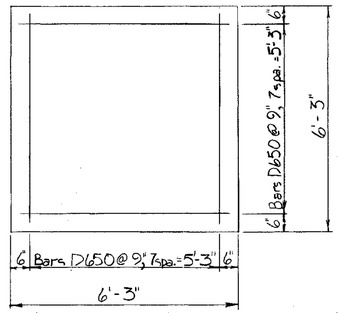
SECTION-"AA"



SECTION-"BB"
(cap beam extention)



SECTION-"CC"
(typ. each column)



PLAN OF FOOTING RE-INFORCEMENT

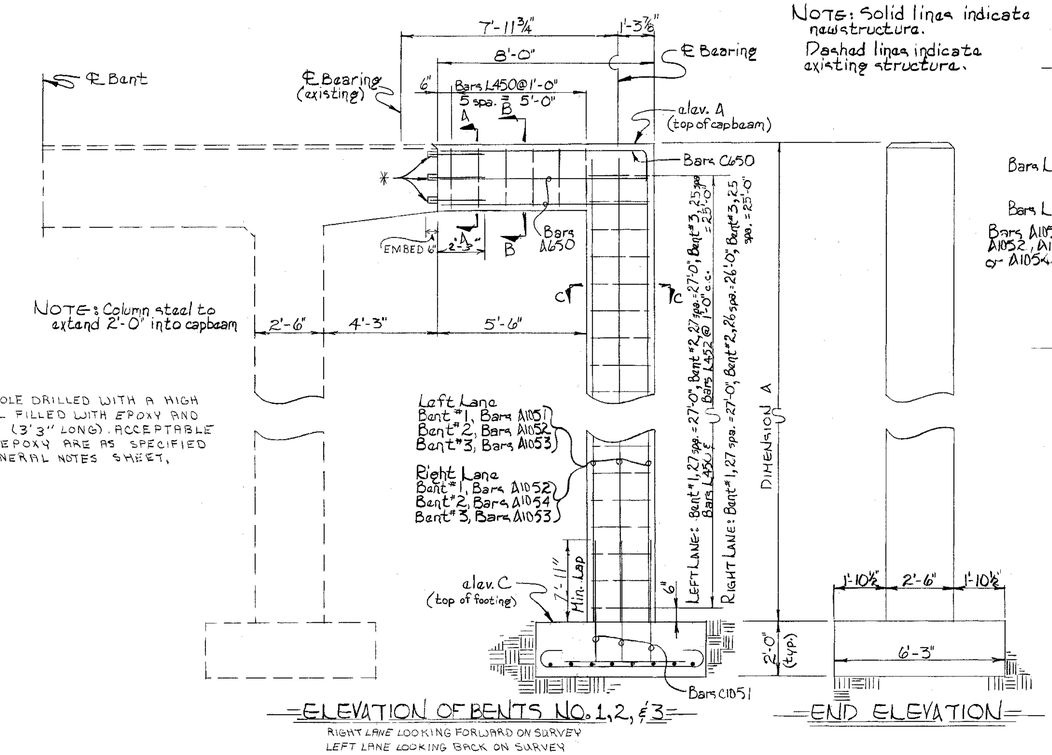
NOTES

When pouring cap beam, provisions shall be made for setting dowel bars. If the Contractor elects to drill holes for the dowel bars, the reinforcing steel shall be placed so as not to interfere with the drilling. Dowel bar projection 9".

Column steel to extend 2'-0" into cap beam.

Elastomeric pads shall be in place a minimum of one day before being disturbed by placing superstructure forms on concrete. Place Rubber Bonding Cement in such a way that column surfaces will not be stained.

NOTE: Solid lines indicate new structure.
Dashed lines indicate existing structure.



ELEVATION OF BENTS NO. 1, 2, & 3

RIGHT LANE LOOKING FORWARD ON SURVEY
LEFT LANE LOOKING BACK ON SURVEY

END ELEVATION

ESTIMATED QUANTITIES

	ITEM	CLASS "A" CONCRETE		STEEL BAR REINFORCEMENT	
Left Lane	Bent #1	11.1	(cy)	2056	(lbs)
	Bent #2	11.3	(cy)	2038	(lbs)
	Bent #3	10.9	(cy)	1948	(lbs)
Right Lane	Bent #1	11.3	(cy)	2038	(lbs)
	Bent #2	11.0	(cy)	1985	(lbs)
	Bent #3	10.9	(cy)	1948	(lbs)

	ELEVATIONS				DIMENSIONS
	ITEM	A		C	A
Left Lane	Bent #1	771.06		740.56	30'-6"
	Bent #2	770.80		740.80	30'-0"
	Bent #3	770.54		742.54	28'-0"
Right Lane	Bent #1	771.34		741.34	30'-0"
	Bent #2	771.08		742.33	28'-9"
	Bent #3	770.82		742.82	28'-0"

DESIGNED BY Ramsay Woods DATE
DRAWN BY S.D. Bilbray DATE 4-78
SUPERVISED BY Fields & Jatt DATE 4-78
CHECKED BY DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BENTS NO. 1, 2, & 3, (LEFT & RIGHT LANES)
INTERSTATE 65 OVER STATE ROUTE 106 & WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY
1978

CORRECT H W Durhick
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-60-113

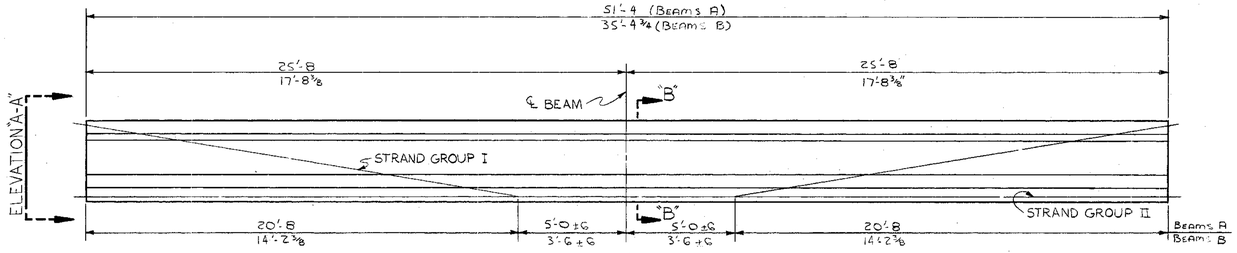
MICROFILMED

Const. No. 94002-3133-44 & 94002-3134-54.

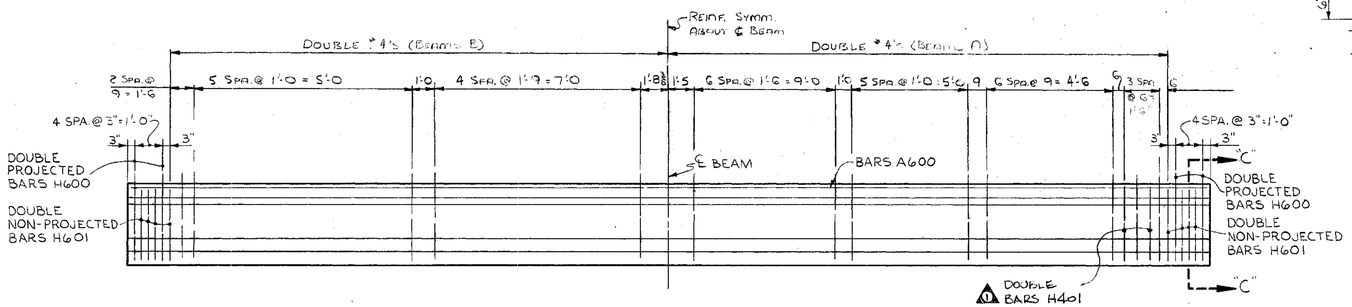
PROJECT NO.	YEAR	SHEET NO.
I-65-2(97)-96 F-65-2(93)-96	1978	27

REVISIONS

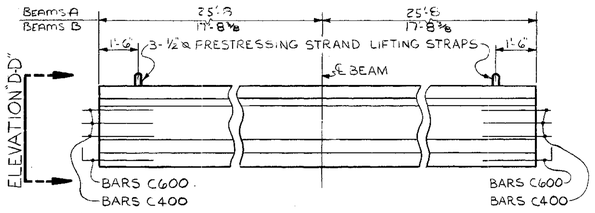
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-22-78	J.L.J.	Bars H401 location designated.



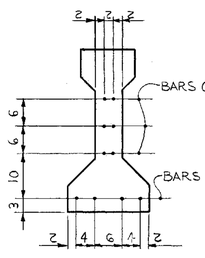
—ELEVATION—
(SHOWING STRAND DEFLECTION ARRANGEMENT)



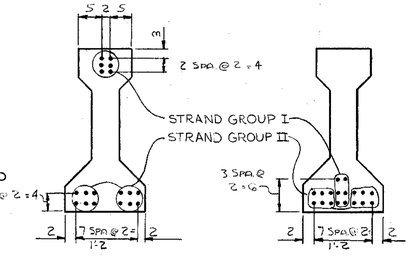
—ELEVATION—
(SHOWING STIRRUP BAR ARRANGEMENT)



—PART-ELEVATION—



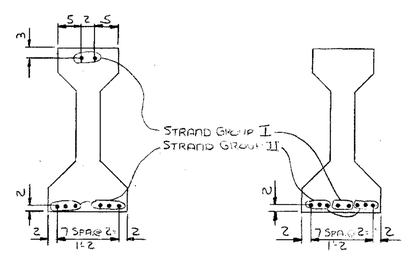
—ELEVATION "D-D"—
(TYP. ALL BEAMS)



—ELEVATION A-A—
(SHOWING ½" ø PRESTRESSED STRANDS)

—SECTION B-B—

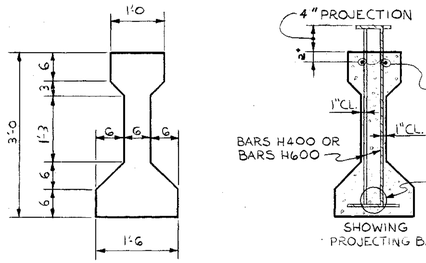
—BEAMS A—



—ELEVATION A-A—
(SHOWING ½ø PRESTRESSED STRANDS)

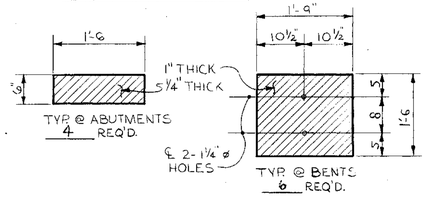
—SECTION B-B—

—BEAMS B—



—AASHO TYPE II—

—SECTION "C-C"—



—DETAILS OF ELASTOMERIC PADS—

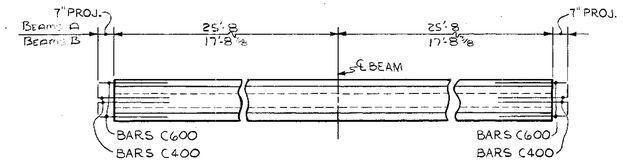
—GENERAL NOTES—

1. THE TOPS OF ALL BEAMS ARE TO BE ROUGH FLOATED AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOPS OF THE BEAMS WILL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE.
2. MILD STEEL REINFORCING TO BE ASTM A615, GRADE 60.
3. ALL PRESTRESSING STRANDS TO BE ½" ø HIGH STRENGTH TYPE 270K 7 WIRE UNCOATED STRESS-RELIEVED PRESTRESSING STRANDS.
4. THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE ENDS OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.
5. AN INTIAL FORCE OF 28,910 LBS. SHALL BE APPLIED TO ***EACH*** STRAND IN ALL BEAMS.
6. ALL BEAMS ARE AASHO-PCI STANDARD TYPE II.
7. AFTER THE BEAM IS REMOVED FROM THE PRESTRESSING BED, BARS C600 AND BARS C400 SHALL BE BENT A SUFFICIENT AMOUNT SO AS TO PERMIT THE "C" BARS OF ADJOINING BEAM TO MESH WHEN IN THE ERECTED POSITION.
8. THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 + PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 4,200 + PSI. SEE LAYOUT SHEET FOR CONCRETE FINISHING NOTE.
9. ANCHORAGE AT BENTS ACCOMPLISHED BY DOWELS 1"ø x 1'-9"
10. ELASTOMERIC PADS TO BE ¼" x 6" x 1'-6 AT ABUTMENT ENDS AND 1" x 1'-9" x 1'-6 WITH 1⅛" ø HOLES AT BENTS.

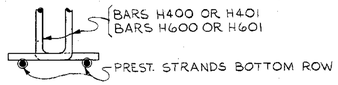
—ESTIMATED QUANTITIES ~ PER BEAM—

BEAM	NO. OF BEAMS REQUIRED	CONCRETE CLASS "A" C.Y.	REINFORCING STEEL LBS.	½ø TYPE 270 K PREST. STRANDS LBS.
BEAMS "A"	6	4.9	629	490
BEAMS "B"	2	3.4	446	151

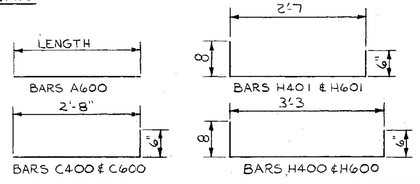
NOTE: THE COST OF ELASTOMERIC PADS AND 12 DOWEL BARS TO BE INCLUDED IN THE COST OF THE PRESTRESSED BEAM.



—PART-PLAN—



—DETAIL "X"—



—BILL OF STEEL-PER BEAM—

BEAMS "A"			
BAR	SIZE	NO. REQ'D	LENGTH
A600	6	2	51'-0
C400	4	12	3'-1"
C600	6	8	3'-1"
H400	4	88	4'-4
H401	4	8	3'-8
H600	6	8	4'-4
H601	6	16	3'-8

—BILL OF STEEL - PER BEAM—

Beam "B"			
BAR	SIZE	NO. REQ'D	LENGTH
A600	6	2	35'-1
C400	4	12	3'-1
C600	6	8	3'-1
H400	4	48	4'-4
H401	4		
H600	6	8	4'-4
H601	6	16	3'-8

DESIGNED BY R. WOODS DATE 3-78
DRAWN BY DARRELL JAMES DATE 10-76
SUPERVISED BY FIELD & JETT DATE 3-78
CHECKED BY KEENE & WOODS DATE 3-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BEAM DETAILS
WIDENING OF LEFT & RIGHT LANES
I-65 OVER STATE ROUTE 106 &
WEST HARPETH RIVER
STATION 248+14.00
WILLIAMSON COUNTY

CORRECT _____ ENGINEER OF STRUCTURES 1978
APPROVED _____ DIRECTOR OF HIGHWAYS

M-60-114

MICROFILMED

BILL OF STEEL

Const. No. 94002-3133-44 & 94002-3134-44

FED. ROAD DIST. NO.	STATE	FED. AND PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-65-2(47)-46 FI-65-2(48)-46	19 78	28	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

LEFT LANE

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A500	SLAB	5	108					30'-0"
A501	SLAB	5	18					25'-6"
A502	DIAPHRAGM	5	18					8'-0"
A503	SLAB	5	752					18'-4"
A504	SLAB	5	378					4'-10"
A600	SLAB	6	376					8'-8"
A601	SLAB	6	189					6'-6"
A602	SLAB	6	72					30'-0"
A603	SLAB	6	18					25'-6"
A800	SLAB	8	60					38'-0"
A801	SLAB	8	60					22'-0"
A802	SLAB	8	60					12'-0"
A803	SLAB	8	126					60'-0"
A804	SLAB	8	42					24'-9"
K400	DIAPHRAGM	4	18	10"	6"	3'-0"		7'-7"

ABUTMENT #1

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	WINGWALL	4	44					3'-8"
A441	WINGWALL	4	5					6'-6"
A442	RDWY. BRKT	4	1					10'-9"
A443	RDWY. BRKT	4	1					4'-9"
A444	SUPPORT	4	1					5'-4"
A445	SUPPORT	4	1					5'-9"
A446	ENDWALL	4	10					11'-6"
A447	ENDWALL	4	10					5'-0"
A540	ABUT. WING	5	10					7'-9"
A541	ABUT. BEAM	5	5					7'-10"
A542	ABUT. BEAM	5	5					4'-6"
A740	ABUT. WINGS	7	18					7'-9"
A741	ABUT. BEAM	7	9					7'-10"
A742	ABUT. BEAM	7	9					4'-6"
*A641	DOWEL	6	16					3'-3"
→C440	WINGWALL	4	5	6'-2"	1'-0"			7'-2"
→CD440	WINGWALL	4	10	6'-2"	2'-0"			8'-2"
H540	ABUT. WINGS	5	14	8"	3'-7"			7'-9"
→H541	RDWY BRKT.	5	16	1'-8"	6"			2'-7"
H840	ABUT. BEAMS	8	16	8"	3'-7"			7'-8"
→L540	ABUT. WINGS	5	21	2'-2"	1'-0"	2'-2"		9'-6"
*A640	ENDWALL	6	16					3'-8"

ABUTMENT #2

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	WINGWALL	4	44					3'-8"
A441	WINGWALL	4	5					6'-6"
A442	RDWY. BRKT	4	1					10'-9"
A443	RDWY. BRKT	4	1					4'-9"
A444	PAR. SUPPORT	4	1					5'-4"
A445	PAR. SUPPORT	4	1					5'-9"
A448	ENDWALL	4	10					5'-3"
A449	ENDWALL	4	10					14'-3"
A540	ABUT. WINGS	5	10					7'-9"
A543	ABUT. BEAM	5	5					4'-3"
A544	ABUT. BEAM	5	5					7'-3"
A640	ENDWALL	6	16					3'-8"
A641	DOWEL	6	17					3'-3"
A740	ABUT. WINGS	7	18					7'-9"
A743	ABUT. BEAM	7	9					4'-3"
A744	ABUT. BEAM	7	9					7'-3"
C440	WINGWALL	4	5	16'-2"	1'-0"			7'-2"
L540	WINGS	5	19	2'-2"	1'-0"	2'-2"		9'-6"
CD440	WINGWALL	4	10	16'-2"	2'-0"			8'-2"
H540	WINGWALL	5	14	8"	3'-7"			7'-9"
H541	RDWY. BRKT	5	16	1'-8"	6"			2'-7"
H840	ABUT. BEAMS	8	16	8"	3'-7"			7'-8"

BENTS 1, 2, & 3

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A650	CAP	6	15					7'-8"
A1051	COLUMN	10	8					30'-0"
A1052	COLUMN	10	8					29'-6"
A1053	COLUMN	10	8					27'-6"
L450	COLUMN & CAP	4	100	2'-0"	1'-0"	2'-0"		9'-1"
L452	COLUMNS	4	82	1'-5"	1'-0"	1'-5"		10'-10"
C650	CAP	6	12	7'-8"				8'4"
C1051	FOOTING	10	24	9'8"				11'-1"
D650	FOOTING	6	48	5'-9"				7'-1"
A651	DOWEL-CAP	6	18					3'-3"

RIGHT LANE

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH

(SAME AS LEFT LANE)

ABUTMENT #1

(SAME AS #2 LEFT LANE)

ABUTMENT #2

(SAME AS #1 LEFT LANE)

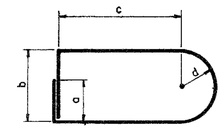
BENTS 1, 2, 3

BAR	LOCATION	SIZE	NO REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A1050	CAP	6	15					7'-8"
A1052	COLUMN	10	8					29'-6"
A1053	COLUMN	10	8					27'-6"
A1054	COLUMN	10	8					28'-3"
L450	COLUMN & CAP	4	99	2'-0"	1'-0"	2'-0"		9'-1"
L452	COLUMNS	4	81	1'-5"	1'-0"	1'-5"		10'-10"
C650	CAP	6	12	7'-8"				8'4"
C1051	FOOTING	10	24	9'8"				11'-1"
D650	FOOTING	6	48	5'-9"				7'-1"
A651	DOWEL-CAP	6	18					3'-3"

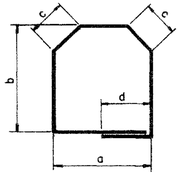
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06

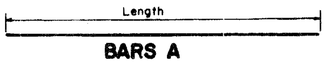
NOTE Dimensions shown on this sheet are outside to outside of bar
Standard C R S I. Hook Details Shall Apply, Except As Noted.



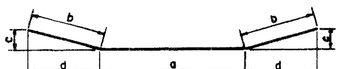
BARS X



BARS M



BARS A



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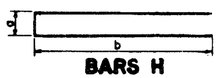
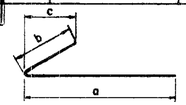
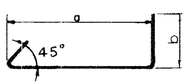


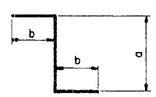
BARS H



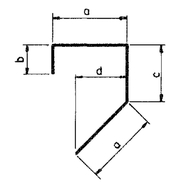
BARS CB



BARS YB



BARS Z



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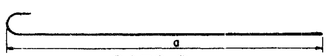
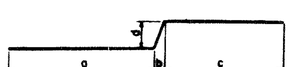


BARS B



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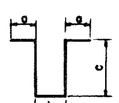

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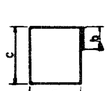

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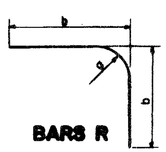

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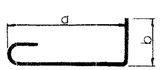
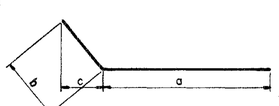


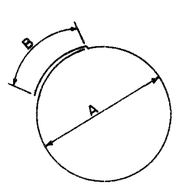
BARS YA

BARS C



BARS CD

BARS D



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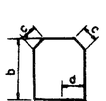
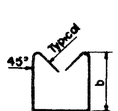
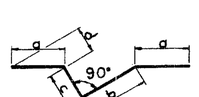


BARS M



BARS S

BARS V



BARS JX

STATE OF TENNESSEE
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5-0-2