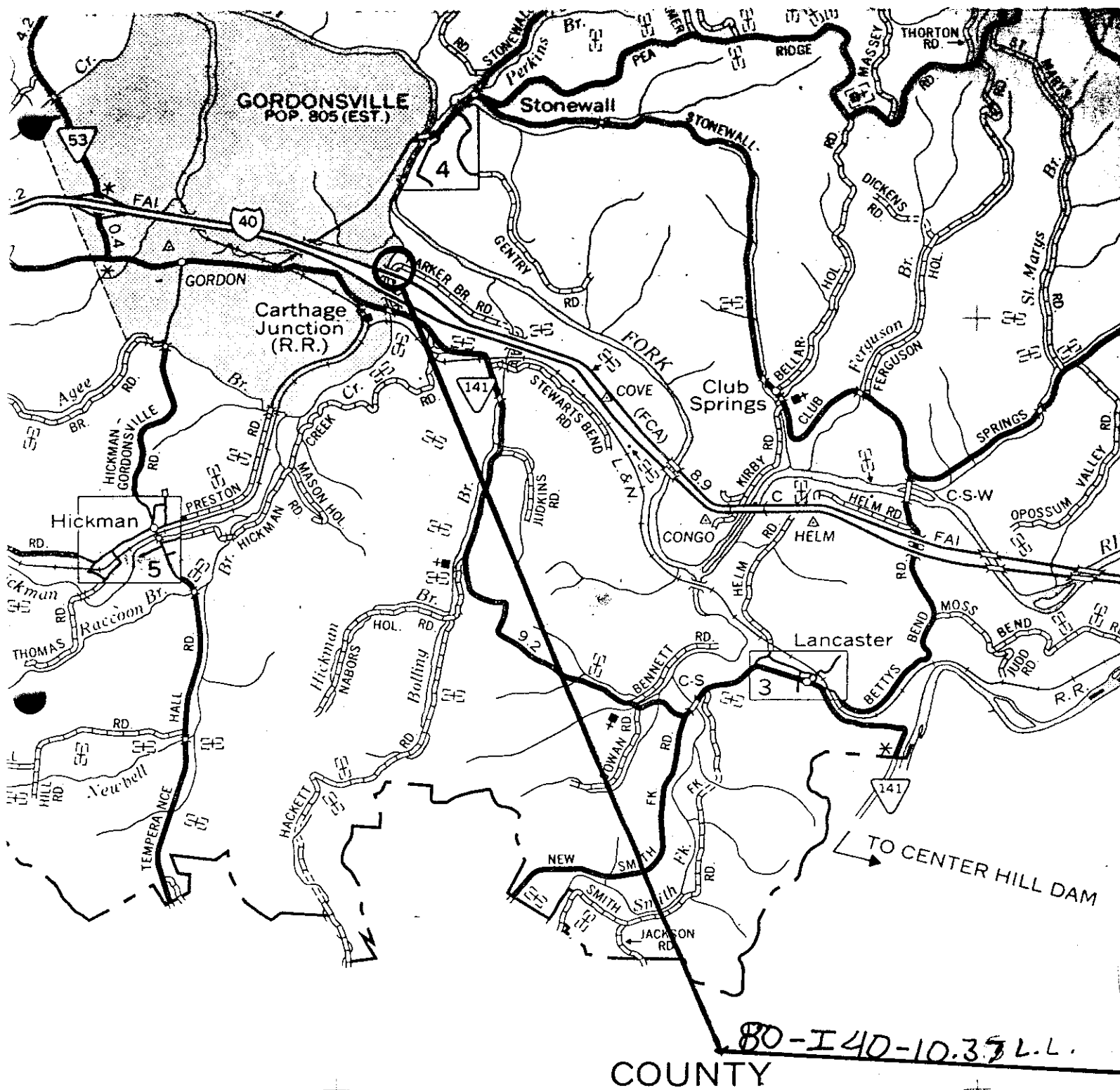




BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department
of Transportation

COUNTY: SMITH

LOCATION: 80-I0040-10.37-L

CO. SEQ.: 1

SPEC. CASE: 0

CROSSING: HICKMAN CREEK & NFA A156

FED. BRIDGE NO.: 80I00400022

MAINT. DIST.: 80

REPAIR LIST NO.: 3

DATE ADDED: 11/12/1997

REVISED:

FACILITY CARRIED:	I40	NUMBER OF MAIN SPANS:	3
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	41 FT 11 IN	BRIDGE LENGTH (FT):	242
BRIDGE WIDTH (OUT TO OUT):	43 FT 11 IN	MAXIMUM SPAN LENGTH (FT):	93
APPROACH ROADWAY (W/SHOULDERS):	41 FT 11 IN	SKEW ANGLE (DEGREES):	90

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
MAIN SPAN DESIGN TYPE:	STRINGER/MULTI-BEAM OR GIRDER
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE: 04/23/2003

EVALUATION DATE: 08/04/2003

PROPOSED REPLACEMENT:

H TRUCK RATING @ INV.: 20 TONS

GENERAL CONDITION: GOOD

STRUCTURALLY DEFICIENT: NO

SUFFICIENCY RATING: 92.5

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR BREAKOUT IN BOTTOM OF DECK		

COMMENTS:

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 10.37 L

Co. Route Log Mile

Crossing: HICKMAN CREEK & NFA A156*

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/23/2003

Comments:

Bridge Number: 80I00400022

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed
By / Date

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

MR. RAY MCCLELLAND
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

MR. DON GREER
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 10.37 L

Co. Route Log Mile

Crossing: HICKMAN CREEK & NFA A156*

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/11/01

Comments:

Bridge Number: 80I00400022

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed

By / Date

XXXXXXXXXX

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

MR. RAY MCCLELLAND
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

MR. DON GREER
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

BRIDGE MAINTENANCE RECOMMENDATIONS

BRIDGE SEQ. NO. : 80I00400022

BRIDGE NO. : 80 - I0040 - 1037 - L
OVER : HICKMAN CREEK & NFA A156*

DATE : 06/16/99 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/16/99 REGION : 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 16
043 - STRUCTURE TYPE, MAIN : 502
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 003
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000242
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 90
051 - BRDG RDWY WID, CRB-TO-CRB : 0420
052 - DECK WIDTH, OUT-TO-OUT : 0440
500 - HWY OF THE INVENTORY ROUTE : 01

: MAINTENANCE & REPAIR RECOMMENDATIONS :

: MAINTENANCE COMPLETED :

1 XXXXXXXXX

1 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400022 :

REPAIR BRIDGE RAIL LEFT SIDE 'B' END.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE

--- COMPLETED (DATE) -----
--- PARTIALLY COMPLETE (DATE) -----
--- INCOMPLETE SCHEDULED FOR (DATE) -----

EXPLANATIONS AND COMMENTS:



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37219

January 12, 1989

Mr. John H. Burke
Regional Engineering Director
2200 Charlotte Avenue
Nashville, TN 37203

Bridge Inspection Program
Left Lane of I-40 over
Hickman Creek
Bridge No. 80-I40-10.37
Smith County

Dear Mr. Burke:

We are enclosing one (1) copy of our Bridge Evaluation Report for the subject bridge.

Please see that our comments and recommendations are sent to the appropriate officials. Should you need additional information, please advise.

Yours very truly,

A handwritten signature in cursive script, which appears to read "Charles E. Hunter", is written over the typed name of Edward P. Wasserman.

Edward P. Wasserman
Civil Engineering Director, Structures

CEH:gap

Enclosure

cc: Mr. Ben Teague
Mr. Larry Ahlheit
Mr. Donald Greer

BRIDGE EVALUATION REPORT

LOCATION: Smith County
ROUTE: I40 over Hickman Creek
BRIDGE NO.: 80-I40-10.37 (Left Lane)

DATE: 1-12-89

BRIDGE DESCRIPTION:

Length - 242'-0"
Roadway Width - 24'-0
Span Length - 1 @ 77', 1 @ 93', and 1 @ 72'
Type of Construction - This bridge consists of three (3) prestressed concrete I-beam spans. The substructure consists of two (2) concrete abutments and two (2) concrete bents. The riding surface is asphalt.

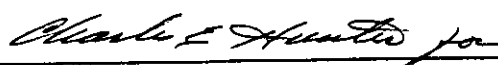
COMMENTARY: During the inspection and evaluation of this structure we have determined it to be in fair condition and have noted the following deficiencies:

1. There is an erosion problem at both abutments leaving the steel piles exposed. There is heavy corrosion on these piles due to the lack of paint protection.
2. The caps of pier 2 and abutment 2 are scaled and spalled up to 4" deep.
3. The bearings are heavily corroded due to lack of paint protection.
4. The roadway expansion joints are paved over.

RECOMMENDATIONS:

Maintenance

1. Blast clean and paint all steel piles and then repair the erosion at both abutments and protect against future erosion.
2. Repair the scaled and spalled concrete on pier 2 and abutment 2.
3. Blast clean and paint all bearings.
4. Clean and re-seal the roadway expansion joints.



Edward P. Wasserman
Civil Engineering Director, Structures



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000221
(Includes Item 5A)

Feature Intersected: HICKMAN CREEK & NFA A156

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 10.37

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/11/2001</u> <u>4 123 1 03</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 1 1 1		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
58	DECK	8	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
59	SUPERSTRUCTURE	8	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
60	SUBSTRUCTURE	8	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
61	CHANL/CHANL PROTECTION	6	
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	<u>GOOD</u> FAIR POOR CRITICAL		

Martin Daniel
TEAM LEADER SIGNATURE

4 123 103
REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 06/15/2000

Bridge Number: 801004000222
(Includes Item 5A)

Feature Intersected: I40/HICKMAN CR & NFA A15

County: 80
Route: 0A156
Special Case: 0
County Sequence: 01
Log Mile: 0.29

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	<u>06/11/2001</u> <u>4 123 1 03</u>	515 (A) TYPE UNDERPASS BARRIER None Exists but Needed
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	<u>24</u> FT. <u>1</u> IN. ____ FT. ____ IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	<u>24</u> FT. <u>2</u> IN. ____ FT. ____ IN.	(B) ADEQUACY OF BARRIER OR RAIL <u>0</u>
47	TOTAL HORIZONTAL UNDERCLEARANCE	<u>33</u> FT. <u>9</u> IN. ____ FT. ____ IN.	(C) ADEQUACY OF TRANSITIONS <u>0</u>
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: H R <u>24</u> FT. <u>1</u> IN.		(D) ADEQUACY OF TERMINALS <u>0</u>
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: H R <u>7</u> FT. <u>0</u> IN.		554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING <u>99</u> FT. <u>99</u> IN. ____ FT. ____ IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE <u>0</u> FT. <u>0</u> IN.		
521	OVERALL CONDITION (Circle One) <u>GOOD</u> FAIR POOR CRITICAL		HEIGHT POSTED AT BOTH APPROACHES? YES [] NO [<u>X</u>] N/A []

555 COMMENTS

Martin Daniel

TEAM LEADER SIGNATURE

4 123 1 03

REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000221
(Includes Item 5A)

Feature Intersected: HICKMAN CREEK & NFA A156

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 10.37

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/16/1999</u> <u>6/11/01</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	<u>1</u> <u>1</u> <u>1</u> <u>1</u>		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED A K P	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
58	DECK	8	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	8	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
60	SUBSTRUCTURE	8	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
61	CHANL/CHANL PROTECTION	6	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	<u>GOOD</u> FAIR POOR CRITICAL		
	<u>Martin Daniel</u>	<u>6/11/01</u>	
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 06/15/2000

County: 80

Route: 0A156

Special Case: 0

County Sequence: 01

Log Mile: 0.29

Bridge Number: 80I004000222
(Includes Item 5A)

Feature Intersected: 140/HICKMAN CR & NFA A15

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM # DESCRIPTION VALUE UNDERPASS SAFETY FEATURES

90 INSPECTION DATE 06/16/1999 515 (A) TYPE UNDERPASS BARRIER

6/11/01 None Exists but Needed

10 MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS) 24 FT. 1 IN.

____ FT. ____ IN.

Revised Barrier Type

520 MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS) 24 FT. 2 IN.

____ FT. ____ IN.

(B) ADEQUACY OF BARRIER OR RAIL 0

47 TOTAL HORIZONTAL UNDERCLEARANCE 33 FT. 9 IN.

____ FT. ____ IN.

(C) ADEQUACY OF TRANSITIONS 0

54 MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)

Circle One: (H) R ____ FT. ____ IN.

(D) ADEQUACY OF TERMINALS 0

55 MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE

Circle One: (H) R 0 FT. 0 IN.

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING

99 FT. 99 IN.

56 MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE 0 FT. 0 IN.

____ FT. ____ IN.

521 OVERALL CONDITION (Circle One)

GOOD FAIR POOR CRITICAL

HEIGHT POSTED AT BOTH APPROACHES? YES [] NO []

N/A [X]

555 COMMENTS

Martin Daniel

TEAM LEADER SIGNATURE

6/11/01

REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County: 80

Route: 10040

Bridge Number:
(Includes Item 5A)

80I004000221

Special Case: 0

County Sequence: 1

Feature Intersected:

HICKMAN CREEK & NFA A156

Log Mile: 10.37

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	5/1/97 <u>6/1/99</u>	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	24 FT. 1 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Circle One: H R N	24 FT. 4 IN.	6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
36	TRAFFIC SAFETY FEATURES		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	1 1 1 1		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
41	STRC OPEN/CLOSED/POSTED	A	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
	A K P		1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
58	DECK	8	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
59	SUPERSTRUCTURE	8	
60	SUBSTRUCTURE	8	
61	CHANL/CHANL PROTECTION	6	
62	CULVERT AND RETAIN WALL	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
OVERALL CONDITION (Circle One)			
GOOD FAIR POOR CRITICAL			
SIGNATURE		DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County: 80

Route: 0A156

Special Case: 0

County Sequence: 1

Log Mile: 0.29

Bridge Number:
(Includes Item 5A) 80I004000222

Feature Intersected: I40/HICKMAN CR & NFA A156

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	5/1/97 6/16/99	(A) TYPE UNDERPASS BARRIER None Exists but Needed
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	24 FT. 1 IN. 24 FT. 4 IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	24 FT. 2 IN. 24 FT. 4 IN.	(B) ADEQUACY OF BARRIER OR RAIL 0
47	TOTAL HORIZONTAL UNDERCLEARANCE	33 FT. 9 IN. ____ FT. ____ IN.	(C) ADEQUACY OF TRANSITIONS 0
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE ☒ H	3 FT. 11 IN.	(D) ADEQUACY OF TERMINALS 0
	Circle One: ☒ H ☐ R ☐ N	____ FT. ____ IN.	
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	0 FT. 0 IN. ____ FT. ____ IN.	VERTICAL CLEARANCE LISTED ON HEIGHT POSTING SIGNS 99 FT. 99 IN. ____ FT. ____ IN.
OVERALL CONDITION (Circle One)			
☒ GOOD ☐ FAIR ☐ POOR ☐ CRITICAL			
HEIGHT POSTED AT BOTH APPROACHES? YES ☐ NO ☐ N/A ☒			

NOTE: DESCRIBE ANY PROBLEMS ON BRIDGES THAT THE STATE DOES NOT INSPECT (SUCH AS RAILROAD OR PRIVATE BRIDGES) THAT WOULD AFFECT THE ROADWAY SUCH AS LOOSE MEMBERS, SEVERELY SPALLED OR CRACKED CONCRETE, EXCESSIVE SECTION LOSS ON STEEL, EXCESSIVE TIMBER DECAY, ETC. ALSO, DESCRIBE ANY UNSAFE ITEMS.

COMMENTS

Albert Wayne Kuntz
SIGNATURE

6/16/99
DATE

TENNESSEE BRIDGE INSPECTION PROGRAM

SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 80I00400022

LOCATION NO: 80 - I0040 - 10.37 L

(6A) CROSSING: HICKMAN CREEK & NFA A156

(505) METHOD OF ANALYSIS: LOAD FACTOR
METHOD

(548) RATING BASED ON: AASHTOWARE BRIDGE
RATING (4" OF ASPHALT)

LOAD RATINGS IN TONS

INVENTORY (503) H 20	(518B) HS 36
OPERATING (504) H 34	(519) HS 61

(549) EVALUATOR: DCD

(522) EVAL. DATE: 6/2/2017

LAST UPDATED BY: DOMM

(29) ADT: 39,420 **(30) ADT YR:** 2017

(100) STRAHNET ROUTE: YES

(19) DETOUR LENGTH: 2 **KM**

(520) VC OVER RDWY: 99.99 **METERS**

CONDITION RATINGS

(58) DECK RATING: 8

(59) SUPERSTRUCTURE RATING: 8

(60) SUBSTRUCTURE RATING: 8

(61) CHANNEL PROTECTION: 6

(62) CULVERT RATING: N

(113A) NBIS SCOUR CODE: 8

(113B) TDOT SCOUR CODE: R

OTHER RATING ITEMS

(521) OVERALL CONDITION: G

(513) TEXTURE COAT RATING: G 10

(514) PAINT CONDITION RATING: N

(41) WEIGHT POSTING CODE: A

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION: 8

(68) DECK GEOMETRY: 8

(69) UNDER CLEARANCE: 4

(70) BRIDGE POSTING: 5

(71) WATERWAY ADEQUACY: 6

(72) APPROACH RDWY ALIGNMENT: 8

TRAFFIC SAFETY

FEATURES: 1 0 0 N

(525) REPAIR LIST NO: 3

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

COMMENTS

(502) SUFF. RATING:	91.2
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	NO

Bridge Name: I-40 OVER A156 and Hicman Creek

NBI Structure ID: 80I00400022

Bridge ID: 80I00400022

Analyzed By: bridgeware

Analyze Date: Thursday, October 18, 2018 13:04:18

Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001

Analysis Preference Setting: None

Report By: bridgeware

Report Date: Thursday, October 18, 2018 13:06:02

Structure Definition Name: GSS

Member Name: G7

Member Alternative Name: NEW EXT

Load Factor Rating Summary

			Girder Summary					
Live Load		Rating	Controls	Capacity	Span	Location	Percent	Impact
		Factor		(Ton)		(ft)		Lane
H 15-44	Inventory	1.346	Design Flexure - Concrete	20.20	2	93.83	100.0	As Requested
H 15-44	Operating	2.248	Design Flexure - Concrete	33.73	2	93.83	100.0	As Requested
HS 20-44	Inventory	1.010	Design Flexure - Concrete	36.35	2	93.83	100.0	As Requested
HS 20-44	Operating	1.686	Design Flexure - Concrete	60.71	2	93.83	100.0	As Requested
Type 3S2	Inventory	1.264	Design Shear - Concrete	45.51	1	90.25	99.2	As Requested
Type 3S2	Operating	2.111	Design Shear - Concrete	76.00	1	90.25	99.2	As Requested
Annual Permit 1	Inventory	0.687	Design Shear - Concrete	56.69	1	90.25	99.2	As Requested

Annual Permit 1	Operating	1.147	Design Shear - Concrete	94.66	1	90.25	99.2	As Requested	As Requested
Annual Permit 2	Inventory	0.611	Design Shear - Concrete	50.41	1	90.25	99.2	As Requested	As Requested
Annual Permit 2	Operating	1.020	Design Shear - Concrete	84.18	1	90.25	99.2	As Requested	As Requested
Gravel Truck	Inventory	1.101	Design Shear - Concrete	40.74	1	90.25	99.2	As Requested	As Requested
Gravel Truck	Operating	1.839	Design Shear - Concrete	68.04	1	90.25	99.2	As Requested	As Requested
Overweight Permit	Inventory	0.479	Design Flexure - Concrete	61.10	2	93.83	100.0	As Requested	As Requested
Overweight Permit	Operating	0.800	Design Flexure - Concrete	102.04	2	93.83	100.0	As Requested	As Requested
EV2	Operating	2.334	Design Shear - Concrete	67.12	1	90.25	99.2	As Requested	As Requested
EV3	Operating	1.560	Design Shear - Concrete	67.06	1	90.25	99.2	As Requested	As Requested
SU6 LFR	Operating	1.999	Design Shear - Concrete	69.46	1	90.25	99.2	As Requested	As Requested
SU7 LFR	Operating	1.834	Design Shear - Concrete	71.06	1	90.25	99.2	As Requested	As Requested

Note:

"N/A" indicates not applicable

*** indicates not available

BARS UPDATE RATING FOR ADDITIONAL DEAD LOAD

BRIDGE NUMBER: 80-I40-10.37 WBL

NAME: ANDY McNABB

DATE: 01-25-1999

INPUT DATA

CHECK POINT BEING RATED : 1.5

RATING BASED ON : IF 3.25" A/C IS ADDED.

THIS IS A LOAD FACTOR ANALYSIS.....

EFFECTIVE BEAM SPACING.....(FEET)...	6.5
SPAN LENGTH.....(FEET)...	75.75
THICKNESS OF ADDITIONAL ASPHALT.....(INCHES)...	3.25
MOMENT CAPACITY AVAILABLE AT INVENTORY LEVEL.....(K-FT)...	1112.3
MOMENT CAPACITY AVAILABLE AT OPERATING LEVEL.....(K-FT)...	1644.4
H LIVELOAD MOMENT.....(K-FT)...	491.6
HS LIVELOAD MOMENT.....(K-FT)...	887.8

OUTPUT DATA - DUE TO MOMENT

DLW/FT	MCAP-INV	MCAP-OPER	DEAD LOAD MOMENT
.253	1112.3	1644.4	236.37
MOMENT AVAIL - INV		MOMENT AVAIL - OPER	
875.93		1408.03	
H-LLM+I	HS-LLM+I		
491.6	887.8		

H AND HS RATINGS - DUE TO MOMENT

H@ INV	H @ OPER	HS @ INV	HS @ OPER
26.73	42.96	35.52	57.1

BARS INPUT FILE DATA REPORT

=====

- General Data -

FILE NAME: 80- 81.DAT

REGION: 3

ROUTE: I0040

LOGMILE: 1037

SYSTEM BRIDGE?: YES

LANE (R/L): L

CROSSING: HICKMAN CREEK

LEFT LANE

- Specific Data -

STD. OVERLOAD BRIDGE?: YES

TIMBER SUBSTRUCTURE?: NO

STRUCTURE TYPE - I43: 502

ASPHALT DEPTH ON DECK: 0.

LAST REVISION DATE: 07/10/96

TYPE OF RATING ANALYSIS: LF

OVERALL CONDITION: G

TOTAL NUMBER OF SPANS: 3

IS BRIDGE POSTED?: NO

MAXIMUM SPAN LENGTH - I48: 93

YEAR BRIDGE WAS BUILT: 1959

[illegible]

BRIDGE ANALYSIS AND RATING SYSTEM

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444 NORTH CAPITOL STREET, N.W., SUITE 249
WASHINGTON, D.C. 20001 U.S.A.
(202) 624-5800

RELEASE 5.5 - MOD 3.2

JANUARY 15, 1996

AASHTO

RECORD										REC.NO.
01	071096 A. McNABB	H15 HS20	PCIB 59	241 912	*LF*					100
02	ARM081 A. McNABB									100
03	ARM081LM 10.373 80 I-40									200
04	ARM081 I-40/HICKMAN CREEK WBL--G01 SPAN 1 --502 SPAN 2 --503 SPAN 3									300
05	ARM081 6000C 4500									400
06	ARM081G01 1 75 9 0									500
07	ARM081G02 1 92 8 8									600
08	ARM081G03 1 7011 0									700
09	ARM081G01 01									800
10	ARM081G01 01									900
11	ARM081G02 01									1000
12	ARM081G02 01									1100
13	ARM081G03 01									1200
14	ARM081G03 01									1300
15	ARM081G01 01									1400
16	ARM081G01 01									1500
17	ARM081G02 01									1600
18	ARM081G03 01									1700
19	ARM081G02 01									1800
20	ARM081G03 01									1900
21	ARM081G01 01									2000
22	ARM081G01 01									2100
23	ARM081G02 01									2200
24	ARM081G02 01									2300
25	ARM081G02 01									2400
26	ARM081G02 01									2500
27	ARM081G03 01									2600
28	ARM081G03 01									2700
29	ARM081G03 01									2800
30	ARM081G03 01									2900

THE FOLLOWING STRUCTURES WERE SELECTED

ARM081

STRUCTURE I.D. = ARM-081

 *
 * STRUCTURE HEADER AND DESCRIPTION
 *

100-- 2 A. MCNABB SA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
 TYPE = PCIB YEAR = 59 LEN = 341.81 FT. WIDTH = 42.00 FT. 3 SPANS SP.LOAD =
 INV.LL.TRK.= 3P.LL.TRK.=

 *
 * STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS
 *

200-- 5 BRIDGE=LM 10.37 DIST./GO.= 3 80 CONST. ROUTE = I-40 CONST. STA. = 0+
 MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=
 ROUTE I.D.= MARKED ROUTE =

 *
 * COMMENTS
 *

300-- 6 0 I-40/HICKMAN CREEK WBL--G01 SPAN 1 --G02 SPAN 2 --G03 SPAN 3

 *
 * SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS
 *

STRUCT STEEL	REINFC CONCRETE	COMPOSITE STEEL/CONC	PRESTRESSED CONCRETE	IMPACT FACTOR		TIMBER
				INV	OP POST SPEC	
400-- 7	FY= 0. F _u C= 4500.	FY = 0. F _u C= 0.	LOSS = 0. EG/ES= .000	F _u S = 0. F _u C= 0.	MAX =.00 .00 .00 MIN =.00 .00 .00	FY = 0. FV = 0.

 *
 * MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER, STRINGER AND FLOOR BEAM
 *

MEMBER ID	SPANS SYMM CODE	STIFF. SPAN 1 (SPAN 4)	SPAN 2 (SPAN 5)	SPAN 3 (SPAN 6)	MATL CODE	ALLOWABLE STRESS		LL DIST. FL.BM	END THRU DECK INV	MAX INV	IMPACT OP.	FACTOR FC**	POST SPEC
						FY	FB						
500-- 8	G 1	1	75.750	.000	CPS	270.00	.00	1.312	.00	.00	.00	.00	.00
600-- 8	G 2	1	92.708	.000	CPS	270.00	.00	1.312	.00	.00	.00	.00	.00
700-- 8	G 3	1	70.917	.000	CPS	270.00	.00	1.312	.00	.00	.00	.00	.00

MEMBER SYMM.	SPAN	DISTANCE FR. LOAD	LOAD	LENGTH
ID	NO.	LEFT SUPP. TYPE	P OR W(L)	W(R)

1	800--10	G 1	1	.000FT.	W	500.0	.0	75.750FT.
1	900--10	G 1	1	37.625FT.	P	1.6	.0	.000FT.
1	1000--10	G 2	1	.000FT.	W	500.0	.0	92.708FT.
1	1100--10	G 2	1	46.354FT.	P	1.6	.0	.000FT.
1	1200--10	G 3	1	.000FT.	W	500.0	.0	70.917FT.
1	1300--10	G 3	1	35.458FT.	P	1.6	.0	.000FT.

MEMBER	SNMM.	SPAN	RANGE	RANGE	SECTION NO.	SEC. VAR.	HINGE 1	HINGE 2	HYBRID GIRDER
ID	NO.	NO.	LENGTH	LEFT	RIGHT	CODE	DIST.	DIST.	CODE FY

1430--11	G 1	1	75.750FT.	1	0	.000FT.
1430--11	G 2	1	92.708FT.	1	0	.000FT.
1460--11	G 3	1	70.979FT.	1	0	.000FT.
1460--11	G 3	1				.000FT.

[illegible]

	1	0	96.00	8.50	20.00	1.00	96.00	8.50	5.25
G 1	1	1	75.750FT.	C	0	1	0	96.00	8.50
1700--14	G 2	1	92.708FT.	C	0	1	0	96.00	8.50
1800--14	G 3	1	70.917FT.	C	0	1	0	96.00	8.50
1900--14	G 3	1	70.917FT.	C	0	1	0	96.00	8.50

***** STRANDS *****					
ID.	SPECT	ADR	DEPTH	WIDTH	DIST.
					** VOIDS DESCRIPTION **
					***** BEAM DESCRIPTION *****
					CODE DEPTH TFSW TELT TWT WEST BFIT BELT BFW I ASZ DI

[illegible]

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 1 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING -- STRUCTURE LM 10.37 D/P STR. I.D.-- ARM-091

DATE 7/10/96
BY A. McNabb
INVENTORY
LIVE LOAD RATING OPERATING
LIVE LOAD RATING
H15 H 33.94 HS20 HS 37.04

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --
IDENTIFICATION LM 10.37 DISTRICT 3 DESIGN PLANS
TYPE PC18 COUNTY 80 COMPUTATIONS
YEAR OF CONSTR. 1959 CONSTR. RTE. I-40 CORRESPONDENCE
LENGTH 241.81 FEET CONSTR. SEC. 0+ .
ROADWAY WIDTH 42.00 FEET CONSTR. STA. 0+ .
NUMBER OF SPANS 3 KEY RTE.
MARKED RTE.

ANALYST REMARKS --

I-40/HICKMAN CREEK WBL--G01 SPAN 1 --G02 SPAN 2 --G03 SPAN 3

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --
MEMBER ID. G 1 MEMBER ID. G 1
SPAN 1 SPAN 1
CRITICAL C.P. DIST. 37.9 FEET CRITICAL C.P. DIST. 37.9 FEET
LIVE LOAD DESIGNATION H15 LIVE LOAD DESIGNATION HS20

MOMENT (FT. KIPS) MOMENT (FT. KIPS)
MEMBER CAPACITY 2714.8 MEMBER CAPACITY 3246.8
DL EFFECT 1602.5 DL EFFECT 1602.5

CAPACITY FOR (LL+I) 1112.3 CAPACITY FOR (LL+I) 1644.4
ACTUAL (LL+I) 491.6 ACTUAL (LL+I) 887.8

INVENTORY RATING H 33.94 OPERATING RATING HS 37.04

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 2 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING -- STRUCTURE LM 10.37 D/P STR. I.D.-- ARM-081

DATE 7/10/96
BY A. McNABB

INVENTORY		OPERATING	
LIVE LOAD	RATING	LIVE LOAD	RATING
H15	H 33.87	HS20	HS 37.72

STRUCTURE DESCRIPTION --		LOCATION --		MICROFILM REEL NUMBERS --	
IDENTIFICATION	LM 10.37	DISTRICT	3	DESIGN PLANS	
TYPE	PCIB	COUNTY	80	COMPUTATIONS	
YEAR OF CONSTR.	1959	CONSTR. RTE.	I-40	CORRESPONDENCE	
LENGTH	241.81 FEET	CONSTR. SEC.			
ROADWAY WIDTH	42.00 FEET	CONSTR. STA.	0+ .		
NUMBER OF SPANS	3	KEY RTE.			
		MARKED RTE.			

ANALYST REMARKS --

I-40/HICKMAN CREEK WBL--G01 SPAN 1 --G02 SPAN 2 --G03 SPAN 3

INVENTORY RATING SUMMARY --		OPERATING RATING SUMMARY --	
MEMBER ID.	G 2	MEMBER ID.	G 2
SPAN	1	SPAN	1
CRITICAL C.P. DIST.	46.4 FEET	CRITICAL C.P. DIST.	46.4 FEET
LIVE LOAD DESIGNATION	H15	LIVE LOAD DESIGNATION	HS20
MOMENT (FT. KIPS)		MOMENT (FT. KIPS)	
MEMBER CAPACITY	3901.5	MEMBER CAPACITY	4505.1
DL EFFECT	2392.4	DL EFFECT	2392.4
CAPACITY FOR (LL+I)	1509.1	CAPACITY FOR (LL+I)	2112.7
ACTUAL (LL+I)	668.4	ACTUAL (LL+I)	1120.2
INVENTORY RATING	H 33.87	OPERATING RATING	HS 37.72

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 3 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING --
DATE 7/13/96
BY A. MCNABB
STRUCTURE LM 10.37
D/P STR. I.D.-- ARM-081
INVENTORY
LIVE LOAD RATING
H15 H 35.30 HS20 HS 38.34
OPERATING
LIVE LOAD RATING

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --
IDENTIFICATION LM 10.37 DISTRICT 3 DESIGN PLANS
TYPE PCIB COUNTY 80 COMPUTATIONS
YEAR OF CONSTR. 1969 CONSTR. RTE. I-40 CORRESPONDENCE
LENGTH 241.81 FEET CONSTR. SEC. 3+ .
ROADWAY WIDTH 42.00 FEET CONSTR. STA. 3+ .
NUMBER OF SPANS 3 KEY RTE.
MARKED RTE.

ANALYST REMARKS --

I-40/HICKMAN CREEK WBL--G01 SPAN 1 --G02 SPAN 2 --G03 SPAN 3

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --
MEMBER ID. G 3
SPAN 1
CRITICAL C.P. DIST. 35.5 FEET
LIVE LOAD DESIGNATION H15
MEMBER CAPACITY
DL EFFECT 1406.5
CAPACITY FOR (LL+I) 1048.5
ACTUAL (LL+I) 445.5
INVENTORY RATING H 35.30
MEMBER ID. G 3
SPAN 1
CRITICAL C.P. DIST. 35.5 FEET
LIVE LOAD DESIGNATION HS20
MEMBER CAPACITY
DL EFFECT 1406.5
CAPACITY FOR (LL-I) 1573.0
ACTUAL (LL-I) 820.5
OPERATING RATING HS 38.34

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. ARM-081 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

D/P STR. ID-- ARM-081

STRUCTURE LM 10.37

INPUT CODING--

DATE 7/10/96
BY A. McNABB

INVENTORY
LIVE LOAD RATING
H15 H 33.9
OPERATING
LIVE LOAD RATING
HS20 HS 37.0

STRUCTURE DESCRIPTION--

IDENTIFICATION LM 10.37
TYPE PCIB
YEAR OF CONSTR. 1959
LENGTH 241.81 FEET
ROADWAY WIDTH 42.00 FEET
NUMBER OF SPANS 3

LOCATION--

DISTRICT 3
COUNTY 80
CONSTR. RTE. I-40
CONSTR. SEC.
CONSTR. STA. 0+
KEY RTE.
MARKED RTE.

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

I-40/HICKMAN CREEK WBL--G01 SPAN 1 --G02 SPAN 2 --G03 SPAN 3

INVENTORY RATING SUMMARY

MEMBER I.D. G 2
SPAN 1
CRITICAL C.P. DIST. 46.4 FEET
LIVE LOAD DESIGNATION H15

MOMENT
(FOOT-KIPS)
MEMBER CAPACITY 3901.5
DL EFFECT 2381.4

CAPACITY FOR (LL+I) 1509.1
ACTUAL (LL+I) 668.4

INVENTORY RATING H 33.87

OPERATING RATING SUMMARY

MEMBER I.D. G 1
SPAN 1
CRITICAL C.P. DIST. 37.9 FEET
LIVE LOAD DESIGNATION HS20

MOMENT
(FOOT-KIPS)
MEMBER CAPACITY 3246.8
DL EFFECT 1602.5

CAPACITY FOR (LL+I) 1644.4
ACTUAL (LL+I) 887.8

OPERATING RATING HS 37.04

DETAIL DATA FOR FLEXURAL MEMBER

DATE 07/10/96
 NO. SPANS = 1
 NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-081
 MEMBER I.D.--G01
 MATERIAL--CPS
 LL DIST. FACT. = 1.312
 SUPERIMPOSED CONCENTRATED DL(S)
 DIST. FROM LT SUPPORT***

VAR	DL DUE TO	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	
CODE	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
S	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
T	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
P	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
B	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
01	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.
01	MEM. WEIGHT	W(LT)	W(RT)	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.	NO.	FT.

CHECK POINTS RATED--

SPAN DIS	FRM	FUNC	SPAN DIS	FRM	FUNC				
NO. LT	SPT	M	VE	VR	NO. LT	SPT	M	VE	VR
FT.					FT.				

1	.000	X
1	37.975	X
1	75.750	X

```

DATE 07/13/96              NO. SPANS = 1
                              NOT SYMMETRICAL
D/P STRUCTURE I.D.   ARM-081
MEMBER I.D.--G02
MATERIAL--CPS
      LL D-ST. FACT. = 1.312
SUPERIMPOSED DL(S)
LENGTH DISTRIBUTED*****
DIST. FROM LT SUPPORT***
S CODE          VAR          DL DUE TO
S CODE          T T W(JT) W(RT) SPAN W(LI) W(RI) STIFF SPAN P
LT RT P B      FT. NO.    LBS/FT LBS/FT FT.    NO.    LBS/FT LONG. NO. KIPS ET.
1  92.708 1  92.708 1  821.9 821.9 1  500.0 500.0 .000 92.708 1  1.6 46.354

```

DATE 07/19/96

NO. SPANS = 1
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-081
MEMBER I.D.--GC2
MATERIAL--CPS
LL DIST. FACT. = 1.312
PREIMPOSED CONCENTRATED DL(S)
DIST. FROM LT SUPPORT***
I/E SPAN P
. LONG. NO. KIPS FT.
1 1.6 46.354

NOT SYMBOLICAL										SUPERIMPOSED DISTRIBUTED DL(S)										SUPERIMPOSED CONCENTRATED DL(S)									
VAR		DL DUE TO		SPAN W(LT)		W(RT)		SPAN W(LT)		W(RT)		DIST. FROM LT SUPPORT**		DIST. FROM LT SUPPORT**		DIST. FROM LT SUPPORT**													
CODE	S	MEM.	WEIGHT	SEC. NO.	T	T	W(LT)	W(RT)	LT	RT	P	LB/FT	LB/FT	NO.	LB/FT	LB/FT	FT.												
1	92.708	01	1	92.708	01	1	821.9	821.9	1	500.0	500.0	1	500.0	500.0	1	92.708	1	1.6											
2	46.354	01	1	46.354	01	1	410.9	410.9	1	500.0	500.0	1	500.0	500.0	1	46.354	1	1.6											

CHECK POINTS RATED--

[illegible]

DETAIL DATA FOR FLEXURAL MEMBER

DATE 07/10/96

NO. SPANS = 1
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-081
MEMBER I.D.--G03

MATERIAL--CPS

CL. DIST. FACT. = 1.312

SUPERIMPOSED CONCENTRATED DL(S)
DIST. FROM LT SUPPORT***

SUPERIMPOSED DISTRIBUTED DL(S)
LENGTH DISTRIBUTED*****

VAR DL DUE TO
CODE MEM. WEIGHT
S W(LT) W(RT)
SPAN LENGTH RING. LENGTH SEC. NO. T T
NO. FT. NO. FT. LT. RT. P B
1 70.917 1 70.917 01 01
821.9 821.9

STIFF SPAN P
FT. TRANS. LONG. NO. KIPS FT.
1 1.6 35.458

NO. LBS/FT LBS/FT FT.
1 500.0 500.0 .000 70.917

CHECK POINTS RATED--

SPAN DIS FRM FUNC SPAN DIS FRM FUNC
NO. LT SECT M VL VR NO. LT SECT M VL VR
FT. FT.

1 .000 X
1 35.458 X
1 70.917 X

DATE 07/10/96

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE PRESTRESSED CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

D/P STRUCTURE I.D. ARM-081
MEMBER I.D.--G01
C.P. LOCATION 1.50

***** SECTION PROPERTIES IN COMPOSITE RANGE 10% SPAN 1

	H	AREA	AS	CT	DA	ECC	FI	IX	IX	C	SECTION MODULUS			
											TOP	BOTTOM	TOP	BOTTOM
IN. SQ.IN.	54.00	789.00	3.37	29.72	2.03	21.37	681.6	268589.7	IN+4	IN+4	IN+3	IN+3	IN+3	IN+3
NON-COM	54.00	789.00	3.37	29.72	2.03	21.37	681.6	268589.7	IN+4	IN+4	IN+3	IN+3	IN+3	IN+3
SLAB RESTEEL	3.10	60.69	3.10	60.69	3.10	60.69	3.10	60.69	3.10	60.69	3.10	60.69	3.10	60.69
NON-COM: D =	51.09	KD =	11.72	JD =	47.82	FF =	577.7	479819.1	D=	60.59	KD =	58.37	JD =	58.37

***** INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.000	37.875	75.750	POS AREA =	717.3
Y-ORDINATE	.000	19.938	.000		

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN	SPAN	SPAN	SPAN	SPAN
T C	717.3	.0	.0	.0	.0
E 1	.0	.0	.0	.0	.0
N 2	.0	.0	.0	.0	.0
T 3	.0	.0	.0	.0	.0
H 4	.0	.0	.0	.0	.0
5	.0	.0	.0	.0	.0
P 6	.0	.0	.0	.0	.0
O 7	.0	.0	.0	.0	.0
I 8	.0	.0	.0	.0	.0
N 9	.0	.0	.0	.0	.0
I 0	.0	.0	.0	.0	.0

POS AREA	717.3	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .249 FOR +BEND AND = .249 FOR -BEND)

***** TRUCK LOAD

***** LANE LOAD

***** AREA

***** TOTALS

***** POS

***** NEG

***** SPECIAL

***** RATING

***** FACT.

***** TONS

***** H

***** HS

***** 37.0

***** .000

***** .000

***** .000

***** .000

***** .000

D/P STRUCTURE I.D. ARM-081
MEMBER I.D.--G02
C.P. LOCATION

U	O	N	P	N	3N
			8	0	0
					19

OM
ND
PS
.3
.2
.0
.0
.0
.0

BOT
 -BEND
 F-KPS
 862.8
 104.6
 .0
 .0
 .0
 .0

DATE 07/10/95

D/P STRUCTURE I.D. ARM-081
MEMBER I.D.--G03
C.P. LOCATION

+++++ SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 1

[illegible]

***** INFLUENCE LINE (SIMPLE SPAN)					
X-DIST (FT.)	.000	35.459	72.97	POS AREA =	628.6
Y-ORDINATE	.000	17.729	.000		
***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN) *****					
I	0	SPAN	SPAN	SPAN	SPAN
E	1	SPAN	SPAN	SPAN	SPAN
N	2	SPAN	SPAN	SPAN	SPAN
***** ULTIMATE STRENGTH ***** MOMENT CAPACITY *****					
PRESSURE	STEEL /	CONC	PSI	+ BEND	- BEND
SLAB	++FY	60000.	*	4500.0	FT-KIPS
OPERATING	270500.0			5000.0	1892.4
POST VEH1				5000.0	3154.0
POST VEH2				0.0	0.0
POST VEH3				0.0	0.0
POST SPEC				0.0	0.0

[illegible][illegible]

DATE 07/10/96

SUMMARY OF SHEAR ANALYSIS

D/P STRUCTURE I.D. ARM-C81

MEMB. ID	SPAN NO.	DIS ET.	FRM R	DL SHEAR	SDL SHEAR	---INVENTORY---		---OPERATING---		--VEH. 1--		--VEH. 2--		--VEH. 3--		--SPECIAL--	
						LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T	LL+I T
				KIPS	KIPS	MAX.V L	MIN.V L	MAX.V L	MIN.V L	MAX.V L	MIN.V L	MAX.V L	MIN.V L	MAX.V L	MIN.V L	MAX.V L	MIN.V L
						KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS
G01	CPS	1	.000 L	64.1	19.7	30.9 L	.0 T	51.7 T	.0 T								
		1	37.875 L	.0	.0	11.8 T	11.8 T	23.1 T	23.1 T								
		1	75.750 L	64.1	19.7	.0 T	32.1 L	.0 T	53.8 T								
G02	CPS	1	.000 L	78.5	24.0	33.7 L	.0 T	52.2 T	.0 T								
		1	46.334 L	.0	.0	11.9 T	11.9 T	24.4 T	24.4 T								
		1	92.738 L	78.5	24.0	.0 T	35.6 L	.0 T	55.2 T								
G03	CPS	1	.000 L	60.0	13.5	30.1 L	.0 T	51.5 T	.0 T								
		1	35.458 L	.0	.0	11.8 T	11.8 T	22.6 T	22.6 T								
		1	70.917 L	60.0	13.5	.0 T	31.1 L	.0 T	53.3 T								

Bridge No.: 80 — 10040 — 1037

Crossing:: HICKMAN CREEK & NFA A156*

Federal No.: 80100400022

Date:

April 23, 2003

PIC1



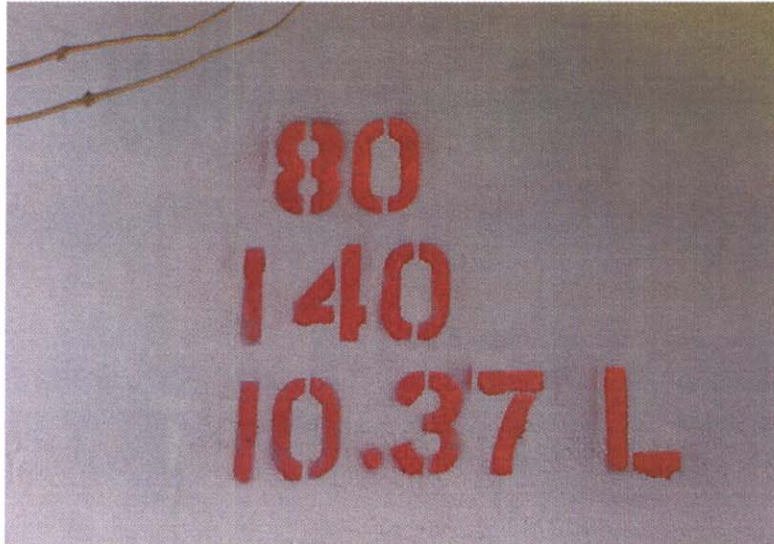
VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — I0040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No 80I00400022

Date:

April 23, 2003

PIC2



BRIDGE NO. AT ABUTMENT # 1

PIC3



INLET-ELEV

Bridge No.: 80 — 10040 — 1037

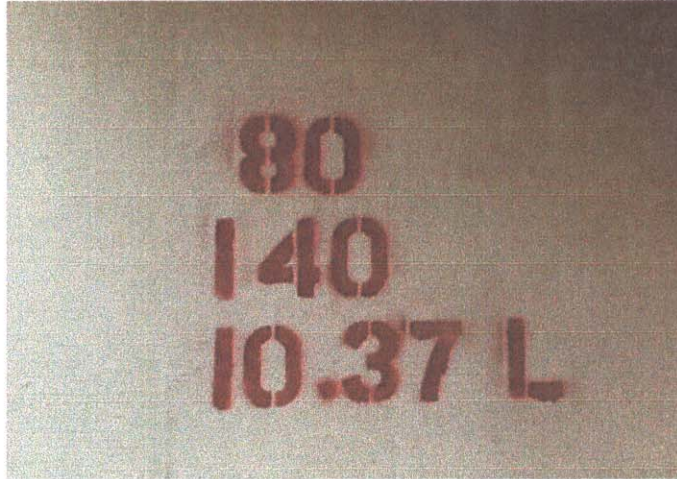
Crossing:: HICKMAN CREEK & NFA A156*

Federal No.: 80100400022

Date:

June 11, 2001

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No 80I00400022

Date:

June 11, 2001

PIC2



LEFT SIDE VIEW

PIC3



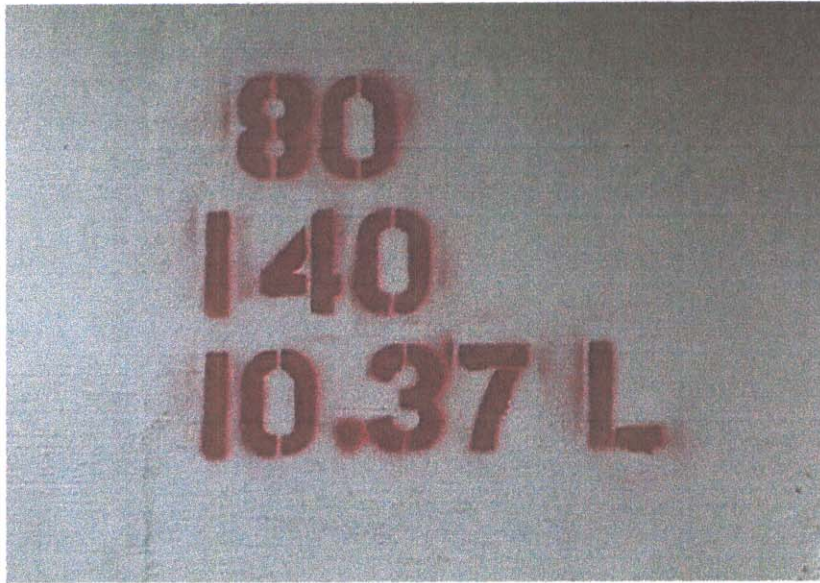
VIEW ACROSS DECK

Bridge No.: 80 — 10040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No.: 80100400022

Date:

June 15, 1999

PIC6



BRIDGE NO. AT ABUTMENT # 1

PIC7



PLYWOOD IN PLACE AT PIER 'A'

Bridge No.: 80 — 10040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

Date:

June 15, 1999

PIC1



ACROSS TOP OF DECK

Bridge No.: 80 — I0040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No 80I00400022

Date:

June 15, 1999

PIC2



APPROACH #1

PIC3



APPROACH #2

Bridge No.: 80 — 10040 — 1037
Crossing: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

Date:

June 15, 1999

PIC4



DOWNSTREAM

PIC5



ABUTMENT TYPICAL

Bridge No.: 80 — I0040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

Date:

June 15, 1999

PIC8



UPSTREAM

PIC9



ELEVATION INLET

Bridge No.: 80 — 10040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

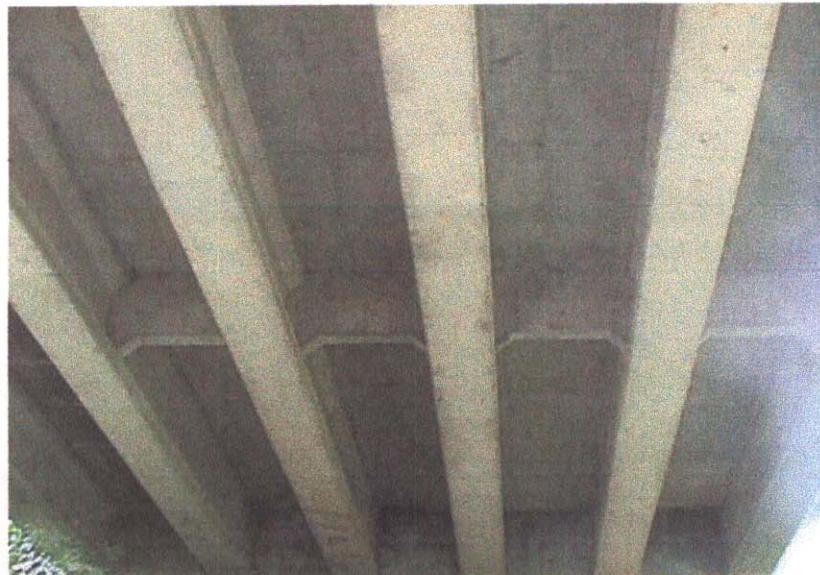
Date: June 15, 1999

PIC10



PIER TYPICAL

PIC11



BOTTOM OF DECK

Bridge No.: 80 — I0040 — 1037
Crossing: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

Date: June 15, 1999

PIC12



RIGHT SIDE ELEVATION

PIC13



LEFT SIDE ELEVATION

Bridge No.: 80 — I0040 — 1037
Crossing:: HICKMAN CREEK & NFA A156*
Federal No.: 80I00400022

Date: June 15, 1999

PIC14



COLLISION DAMAGE APPROACH #2 LEFT SIDE WITH EXPOSED REBAR

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 16 Date 4-23-03
Previous Report No. 15 Date 6/11/2003
Plans: yes

Bridge No. 80I00400022
Eleven Digit No.

Bridge Location No. 80 - I0040 - 10.37 L
Co. Route Log Mile

I 40 over HICKMAN CREEK & NFA A156* Indepth Insp. Req'd: no
Road Name Crossing (If yes itemize limits under comment)

Structure Type PPCIB FRACTURE CRITICAL: no

FEATURE CHANGES:

Wearing Surface Type _____ Depth _____ (in.)

Bridge Rail _____ Describe changes:

Approach Rail _____

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck _____ (ft.-in.)

Vertical Under Clearance _____ (ft.-in.)

Horizontal Under Clearance _____ (*. ft.)

Deck Width Curb/Curb _____ (*. ft.)

Deck Width Rail/Rail _____ (*. ft.)

Sidewalk Width Rt. _____ Lt. _____

INSPECTORS

Daniel

Crutcher

Waller

Thompson

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

Comments

Approaches

Deck Condition (Item 58)

Superstructure (Item 59)

a. Beams

b. Bearings

c. Diaphragms

Substructure (Item 60)

a. Caps/Bridge Seats

b. Columns/Piles

c. Footings

d. Wing W./Breast W.

Scour/Erosion

Channel (Item 61)

G	
G	
G	
G	
G	
G	
G	
G	
G	
G	
G	
N/V	
G	
G	

UNDERWATER INSPECTION

To Be Performed By: n/a

Date Underwater Insp. _____

BRIDGE is: open

COMMENTS:

Weight Limit Posted no

Gross..... 5 Tons

2 Axle..... 5 Tons

3 or more Axles.. 5 Tons

Supervising Bridge Inspector: Martin Daniel

BRIDGE RATING: **GOOD**

SUMMARY
80-I40-10.37 LT
4/23/2003

I40/Hickman Creek & County Rd.
3 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. Approach alignment is good. Repairs have been made at 'A' end to correct erosion. Overlay has took care of settlement. The approach guardrails are standard type and in good condition. There are no paddleboards.

The wearing surface is new A.C. overlay. There are no expansion joints. Bottom deck is good with some transverse hair cracks with leaching and a 2" deep breakout with exposed steel. The bearings, beams, diaphragms and alignment of beams are good. There was a 1 ¾" deep breakout in beam "D" span #1.

The abutments are good. There was some settlement at abutment #1 up to 1" in depth. The piers are good. There is no problem with debris build-up or scour at this time.

Martin Daniel

ROUTINE BRIDGE INSPECTION REPORT

Page No.

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

Field Report No. 14 Date 6/16/99
Previous Report No. 15 Date 6-11-01
Plans: yes

Bridge No. 80I00400022
Eleven Digit No.

Bridge Location No. 80 - I0040 - 10.37 L
Co. Route Log Mile

I40

over HICKMAN CREEK & NFA A156*

Indepth Insp. Req'd: no

Road Name

Crossing

(If yes itemize limits under comment)

Structure Type PPCIE

FRACTURE CRITICAL: no

FEATURE CHANGES:

Wearing Surface Type Depth (in.)

Bridge Rail Describe changes:

Approach Rail

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck (ft.-in.)

Vertical Under Clearance (ft.-in.)

Horizontal Under Clearance (*. ft.)

Deck Width Curb/Curb (*. ft.)

Deck Width Rail/Rail (*. ft.)

Sidewalk Width Rt. Lt.

INSPECTORS

Daniel

Crutcher

Waller

Thompson

Condition: GOOD (If change describe in comments)

Comments

Approaches

Deck Condition (Item 58)

Superstructure (Item 59)

a. Beams

b. Bearings

c. Diaphragms

Substructure (Item 60)

a. Caps/Bridge Seats

b. Columns/Piles

c. Footings

d. Wing W./Breast W.

Scour/Erosion

Channel (Item 61)

G	
F	bottom deck has h.c.'s w/ efflor. & 2" dp B.O. w/ steel
G	
G	13/4" dp B.O. in Bm. 'D' span #1
G	
G	
G	
G	
G	
G	
G	
G	
G	

UNDERWATER INSPECTION

To Be Performed By: n/a

Date Underwater Insp.

BRIDGE is: open

COMMENTS:

Weight Limit Posted no

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector:

Martin Daniel

BRIDGE RATING: GOOD

SUMMARY
80-I40-10.37 LT
6-11-01

I40/Hickman Creek & County Rd.
3 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. Approach alignment is good. Repairs have been made at 'A' end to correct erosion. Overlay has took care of settlement. The approach guardrails are standard type and in good condition. There are no paddleboards.

The wearing surface is new A.C. overlay. There are no expansion joints. Bottom deck is fair with some transverse hair cracks with leaching and a 2" deep breakout with exposed steel. The bearings, beams, diaphragms and alignment of beams are good. There was a 1 ¾" deep breakout in beam "D" span #1.

The abutments are good. There was some settlement at abutment #1 up to 1" in depth. The piers are good. There is no problem with debris build-up or scour at this time.

Martin Daniel

BRIDGE INSPECTION REPORT

FORM BIR 3.0
Rev. 09/24/98
DT-0069

FIELD REPORT NO. 14 DATE 6-16-99
 REVIOUS REPORT NO. 13 DATE 5-12-97
 PLANS ---- YES ☒ NO ☐

BRIDGE NO. 80I00400022
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80 - I40 - 10.37 Lt.
CO. ROUTE LOG MILE

I40 OVER Hickman Cr. # MFA 156
ROAD NAME FEATURE INTERSECTED

STRUCTURE NAME (IF NAMED)

YEAR CONSTRUCTED 1959 COUNTY Smith MAINTENANCE DISTRICT NO. 32
(ESTIMATED OR ACTUAL)

[]	[X]	1991
YEAR WIDENED	ESTIMATED OR ACTUAL	
[]	[]	[X]

YEAR REHABILITATED	ESTIMATED OR ACTUAL
	[] [X]

FEATURES

WEARING SURFACE-- CONCRETE [] TIMBER [] ASPHALT [X] (DEPTH=3 1/4)
FLARED WIDTH ----- YES [] NO [X]
NAVIGATIONAL CONTROL-- YES [] NO [X]
MEDIAN WIDTH ----- OPEN [X] NONE [] CLOSED []

BRIDGE SKEW 90°. LT [] RT []

STRUCTURE TYPE PPCIB NO. SPANS 3
Main Span Main Span

STRUCTURE TYPE Approach Spans NO. SPANS Approach Spans

MAXIMUM SPAN LENGTH 93' TOTAL LENGTH 242'

WIDTHS

DECK OUT-TO-OUT 44
ROADWAY CURB/CURB 42'
SIDEWALK - RT - LT
*APPROACH ROADWAY 24'
APPR. SHLD. 10 RT 4 L

CLEARANCES

MIN. VERTICAL OVER DECK -
MIN. VERTICAL UNDER CL 24'4"
MIN. LATERAL UNDER CL 4 RT
- LT

*DOES NOT INCLUDE SHOULDER

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:

DOT FIELD TEAM [] DATE

CONTRACT DIVERS [] DATE

NONE REQUIRED [X]

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

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

COMMENTS:

BRIDGE RATING ☒ ☐ ☐ ☐

SUPERVISING BRIDGE INSPECTOR

GOOD FAIR POOR CRITICAL

FORM BIR 3.1
Rev. 09/24/98
DT-0080

BRIDGE LOC. NO. 80-I40-10.37 LT
CO. ROUTE L.M.

DATE: 6-16-97

PERFORMANCE EVALUATION

Time of day inspected 1:30 Weather conditions 75° partly cloudy

Vehicles observed Tractor Trailer & passenger type

<u>LIVE LOAD BEHAVIOR</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Substructure			
Horiz. & Vert. Defl. - - -	[]	[X]	
Vibration - - - - -	[]	[X]	
Superstructure			
Horiz. & Vert. Defl. - - -	[]	[X]	
Vibration - - - - -	[X]	[]	

APPROACH

Alignment	(G) F P C	<u>NV</u>
Slab	G F P C	<u>NA</u>
Joints	G F P C	<u>NA</u>
Pavement	(G) F P C	<u>New AC Overlay</u>
Embankment	(G) F P C	
Drains	G F P C	<u>NA</u>

TRAFFIC SAFETY FEATURES

					STANDARD	SUB-STANDARD	
Bridgerailing	G	(F)	P	C	[X]	[]	<u>Col damage LT side "Hand 3-4"</u>
Transitions	(G)	F	P	C	[X]	[]	<u>unexposed road</u>
Guardrail	(G)	F	P	C	[X]	[]	
Guardrail Terminal	(G)	F	P	C	[X]	[]	

SIGNING

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

Other Signs or Plaques _____

Comments Regarding Any Problems With Signing _____

Other Recommendations _____

FORM BIR 3.2
Rev. 09/24/98
DT-0081

BRIDGE LOC. NO. 80 - I40 - 10.37 4.
CO. ROUTE L.M.

DATE: 6-16-99

DECK

COMMENTS

WEARING SURFACE	(G)	F	P	C	<u>New AC. Overlay</u>
DECK - STRUCTURAL	(G)	F	P	C	
CONDITION					
CURBS	G	F	P	C	<u>NA</u>
MEDIAN	G	F	P	C	<u>NA</u>
SIDEWALKS	G	F	P	C	<u>NA</u>
PARAPET	G	(F)	P	C	<u>2' long of south side of 'B' end</u>
RAILING	G	F	P	C	<u>NA</u>
PAINT	G	F	P	C	<u>NA</u>
DRAINS	G	F	P	C	<u>NA</u>
LIGHTING STD'S	G	F	P	C	<u>NA</u>
UTILITIES	G	F	P	C	<u>NA</u>
JOINT LEAKAGE	(G)	F	P	C	
EXPANSION JOINTS	G	F	P	C	<u>NA</u>

SUPERSTRUCTURE

COMMENTS

BEARING DEVICES	(G)	F	P	C	
GIRDERS OR BEAMS	(G)	F	P	C	
FLOOR BEAMS	G	F	P	C	<u>NA</u>
STRINGERS	G	F	P	C	<u>NA</u>
DIAPHRAGMS	(G)	F	P	C	
BRACING	G	F	P	C	<u>NA</u>
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	F	P	C	<u>NA</u>
ALIGNMENT OF MEMBERS	(G)	F	P	C	

TEXTURE COAT

CONDITION RATING	(G)	F	P	C	
OVERALL APPEARANCE	(G)	F	P	C	NEEDS SPOT PAINTING? YES [] NO [X]
STAINING	(G)	F	P	C	NEEDS REPAINTING? YES [] NO [X]
SCALING	(G)	F	P	C	
FADING	(G)	F	P	C	

COMMENTS: _____

COMMENDATIONS _____

FORM BIR 3.3
Rev. 09/24/98
DT-0082

BRIDGE LOC. NO. 80 - I40 - 10.37 Lt.
CO. ROUTE L.M.

DATE: 6-16-99

SUBSTRUCTURE

ABUTMENTS

COMMENTS

CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	<u>NA</u>
WINGS	(G)	F	P	C	
BACKWALL	G	F	P	C	<u>NA</u>
PLUMB	(G)	F	P	C	
FOOTING	G	F	P	C	<u>NA</u>
PILES	G	F	P	C	<u>NA</u>
EMBANKMENT	(G)	F	P	C	
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	
SLOPE PAVING	G	F	P	C	<u>NA</u>

PIERS

CAPS	G	F	P	C	
COLUMNS	G	F	P	C	
PLUMB	G	F	P	C	
FOOTINGS	G	F	P	C	
PILES	G	F	P	C	
BEARING SURFACE	G	F	P	C	
BEARINGS	G	F	P	C	
BENTS					

CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	<u>NA</u>
PILES	G	F	P	C	<u>NA</u>
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

SCOUR CONDITION NONE ☒ _____

RECOMMENDATIONS: _____

STREAM CROSSING: Hickman Creek

- I. 1. Type of bed material? Bedrock & boulders
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: 7
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 (a) low growth [] (b) large timber [✓]
Vegetation (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 ≥ 0.6 m 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: _____
- _____
- _____

NOTE: UNLESS OTHERWISE NOTED, MEASUREMENTS ARE TO BE TAKEN TO TWO (2) DECIMAL PLACES IN METERS.

SUMMARY
80-I40-10.37 LT
6-16-99

I40/Hickman Creek & County Rd.
3 Span/P.P.C.I.B.

This bridge was inspected and found to be in good condition. Approach alignment is good. Repairs have been made at 'A' end to correct erosion. Overlay has took care of settlement. The approach guardrails are standard type and in good condition. There are no paddleboards.

The wearing surface is new A.C. overlay. The parapet has a 3' loss of section on abutment #2 left side with exposed rebar. There are no expansion joints. Bottom deck is fair with some transverse hair cracks with leaching and a 2" deep breakout with exposed steel. The bearings, beams, diaphragms and alignment of beams are good. There was a 1 3/4" deep breakout in beam "D" span #1.

The abutments are good. There was some settlement at abutment #1 up to 0.9m in depth. The piers are good. There is no problem with debris build-up or scour at this time.

Gilbert Hunter

FORM BIR 3.0A
Rev. 6-9-92
DT-1443

CURRENT FIELD REPORT NO. 14
PREVIOUS FIELD REPORT NO. 13

DATE 6-16-99
DATE 5-12-97

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 80I00400022 UNDERPASS LOC. NO. 80 - A156 - 0.29
ELEVEN DIGIT NUMBER CO. RTE. L.M.
80 - I40 - 10.37^L OVER 80 - A156 - 0.29
CO. RTE. L.M. CO. RTE. L.M. STRUCTURE NAME (IF NAMED)
COUNTY Smith
YEAR CONSTRUCTED 1959 YEAR WIDENED 1991 YEAR REHABILITATED 91
ESTIMATED [] ACTUAL [X]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [] RIGHT RDWY [] N.A. [X]
TYPE OF WEARING SURFACE - - - - CONCRETE [] ASPHALT [] GRAVEL [X]
WIDTH OF APPROACH TRAVELED ROADWAY 15' FT. (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY FT.
APPROACH SHOULDER WIDTH 7 FT. (RT.) 0 FT. (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE FT. IN.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND
SUBSTRUCTURE FT. (RT.) FT. (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE FT. (RT.) FT. (LT.)
*MINIMUM VERTICAL CLEARANCE 24' FT. 4 IN.

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

STANDARD SUB-STANDARD

PIER PROTECTION RAILING OR PARAPET	G	F	P	C	[]	[]	NON EXIST [X]
APPROACH GUARDRAIL TRANSITIONS	G	F	P	C	[]	[]	NON EXIST [X]
APPROACH GUARDRAIL	G	F	P	C	[]	[]	NON EXIST [X]
APPROACH GUARDRAIL TERMINAL	G	F	P	C	[]	[]	NON EXIST [X]

SIGNING FOR UNDERPASS ROUTE

INSPECTORS

PADDLEBOARD	YES []	NO [X]	NEEDED []
VERTICAL CLEARANCE (< 14'6")	YES []	NO [X]	NEEDED []
NARROW PASSAGE	YES []	NO [X]	NEEDED []
ONE LANE PASSAGE	YES []	NO [X]	NEEDED []
CURVE	YES []	NO [X]	NEEDED []
SPEED LIMIT	YES []	NO [X]	NEEDED []

1. Hunter
2. Daniel
3. Crutcher
4. Waller
5.
6.

FORM BIR 3.0A (CONTINUED)
Rev. 6-9-92
DT-1443 UND

UNDERPASS LOC. NO. 80 - A156 - 0.29
CO. RTE. L.M.

OTHER SIGNS OR PLAQUES

COMMENTS REGARDING ANY PROBLEM WITH SIGNING

BRIDGE- FEATURES

BRIDGE SKEW _____
STRUCTURE TYPE _____

MAIN SPAN

NO. SPANS

MAIN TYPE

STRUCTURE TYPE

APPROACH SPAN

NO. SPANS

APPROACH TYPE

MAXIMUM SPAN LENGTH _____ FT.

TOTAL LENGTH FT.

WIDTH OF BRIDGE OUT-TO-OUT _____ FT. (RT. < TO L OF BRIDGE)

WIDTH OF BRIDGE OUT-TO-OUT _____ FT. (RT. TO E. OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW _____ FT. (IF UNABLE TO MEASURE AT RT.) TO
L 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 FOR 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.

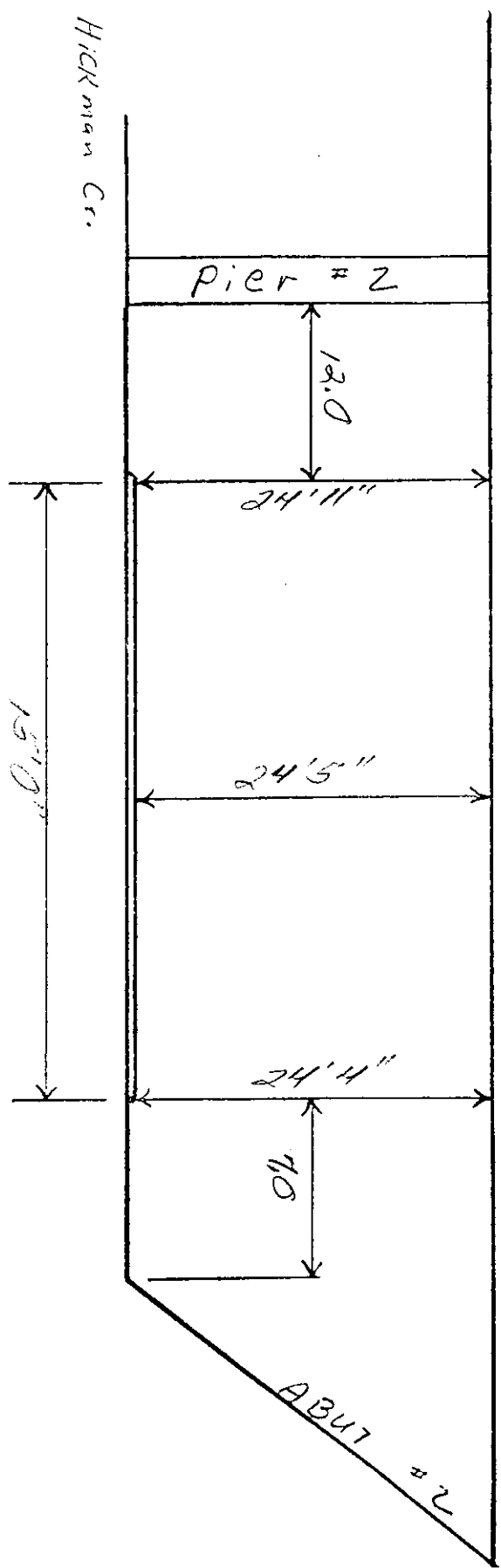
MINIMUM PICTURES REQUIRED

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

6-16-91 (10)

Clearance Sketch

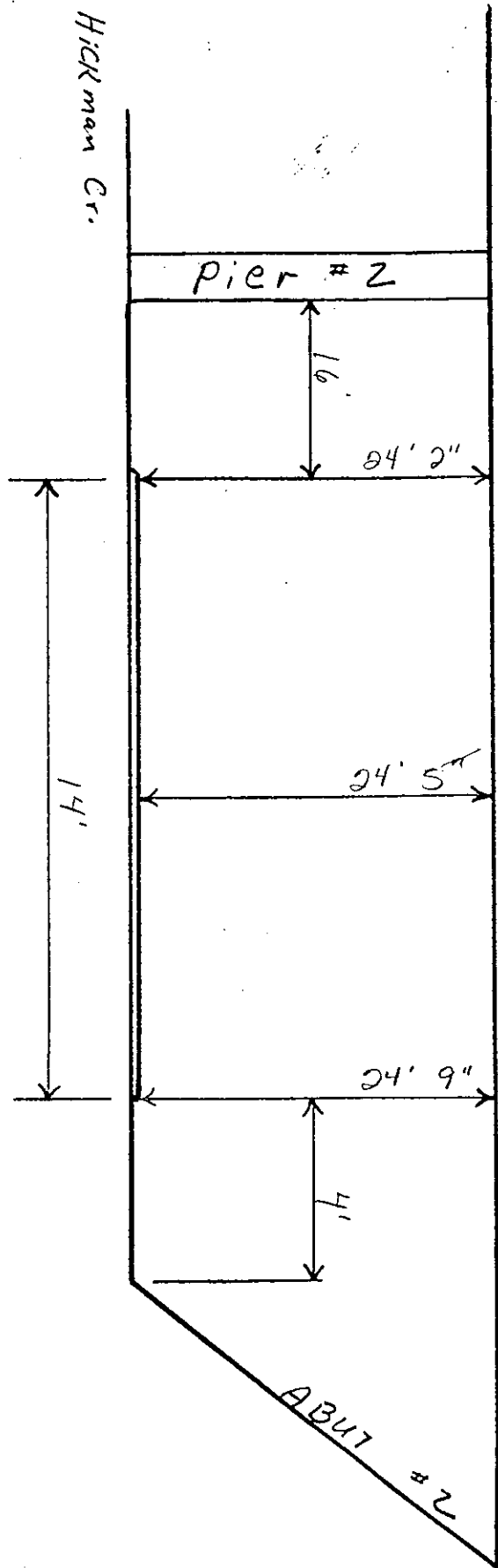
80 - I40 - 10.37 L.L. →



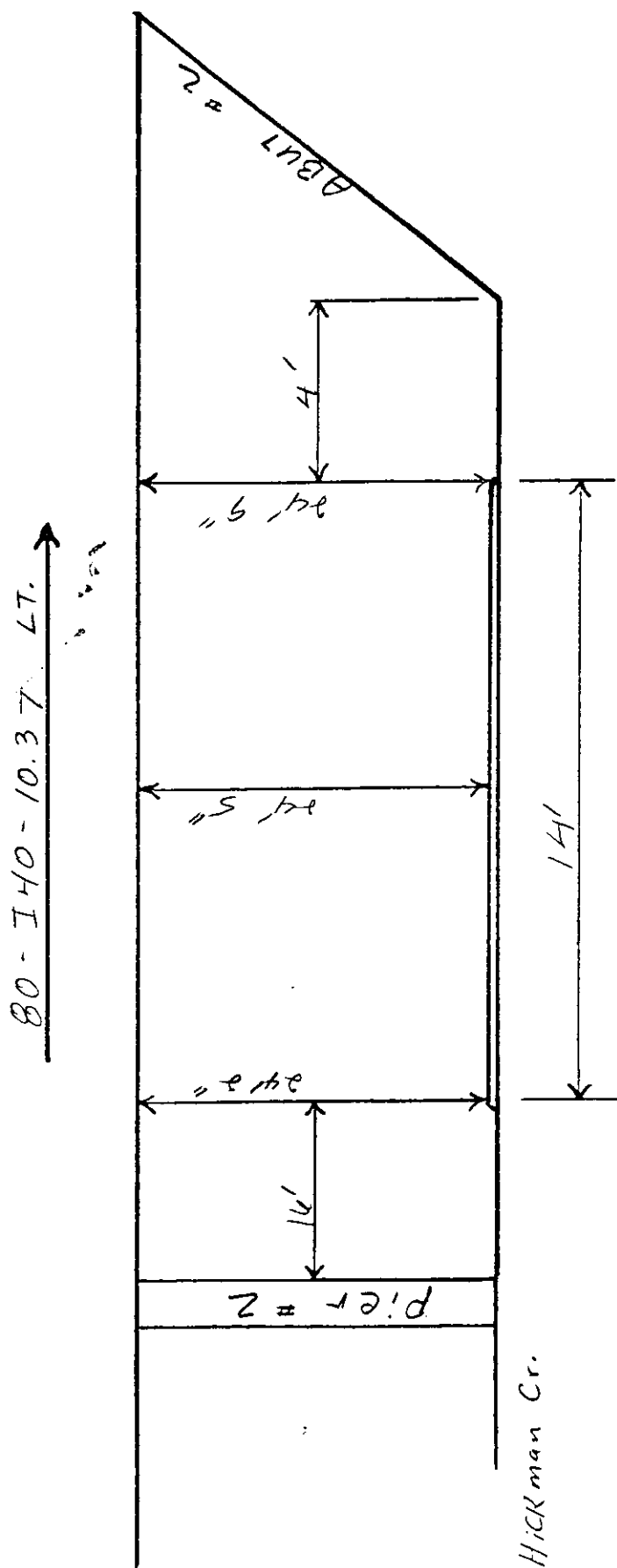
80 - A150 - 0.29
Parker Br. Rd.

MAR 23 1992

80-140-10.37 L.L. →

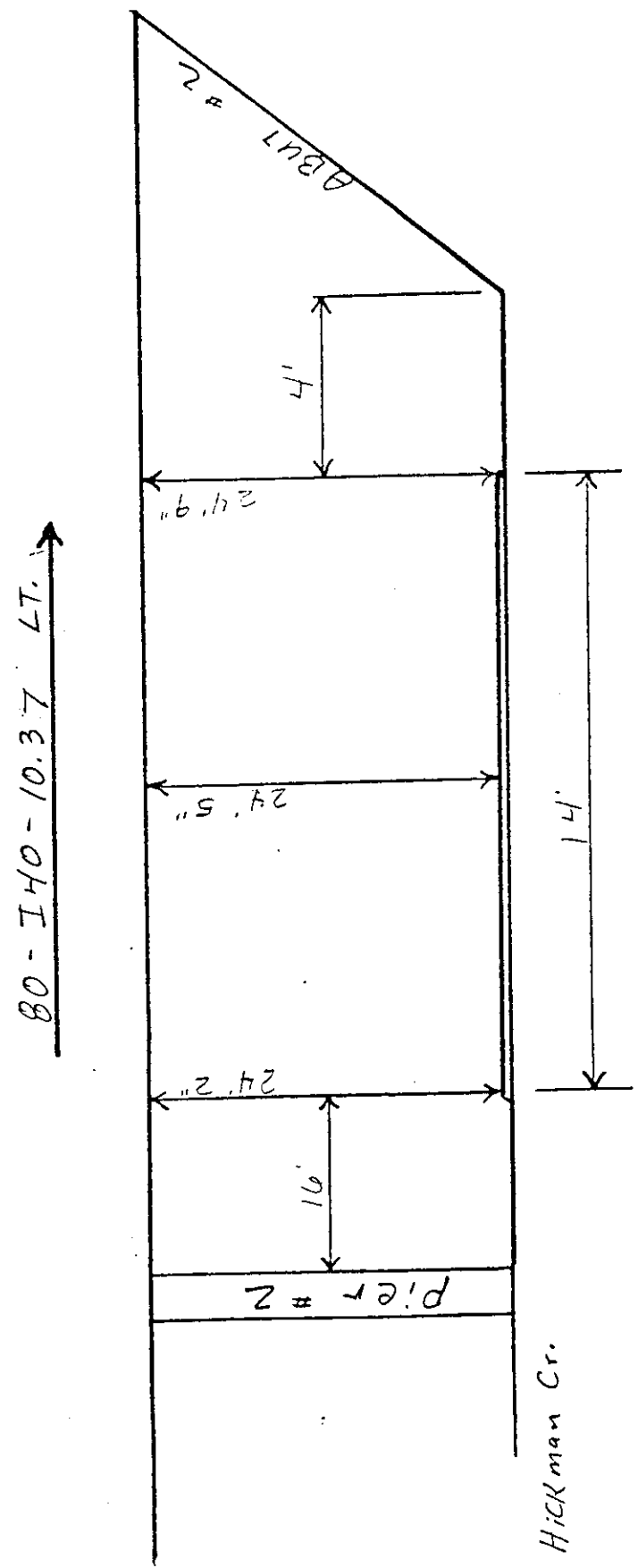


80-4156-0.29
Parker Br. Rd.



80-A156-0.29
Parker Br. Rd.

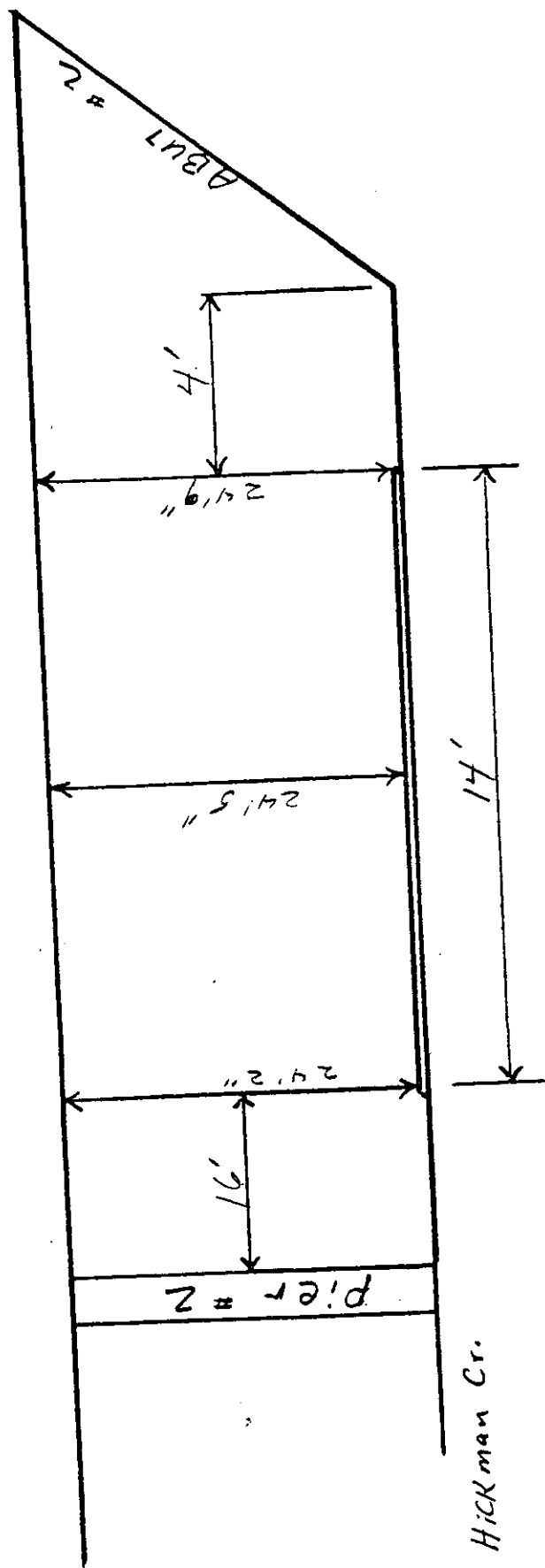
FEB 01 1988



80 - A156 - 0.29
Parker Br. Rd.

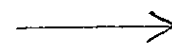
JUL 29 1986

³⁷
80 - I40 - 10.30 LT. →



80 -
Parker Br. Rd.

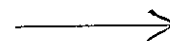
--



Br. # 80-140-10.37 L.L.

Deck	NU	New AC overlay
Parapet	G	H.L. CRACKS
Drains	NA	
Joints	NA	

Lutz

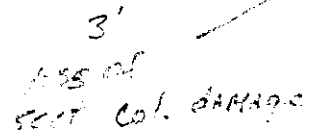


TOP Slab $\equiv 2$

Br. # 80- I 40- 10.37 L.L.

DECK	NV	New AC overlay
Parapet	G	
Drains	NA	
Joints	NA	

Clark



TOP Slab # 3

Br. # 80-140-10.37 L.L.

DECK	NV	New AC. Overlay
Parapet	F	3' loss of curb LT side "B" end
Drains	NA	
Joints	NA	

A	1.1
B	
C	
D	
E	
F	
G	

Br. 80-140-10.37 L.L.

DECK	Good	areas of full depth deck repair / break-outs up to 2" dp w/ exp. steel from partial depth repair @ transverse hair cracks
------	------	--

Diaph.	Good
--------	------

Beams	Good
-------	------

A	
B	
C	
D	
E	
F	

Bottom Slab = Z

Br. = 80 - I 40 - 10.37 L.L.

Deck Good random transverse hair cracks

Diaph. Good

Beams Good

A	
B	
C	
D	
E	
F	

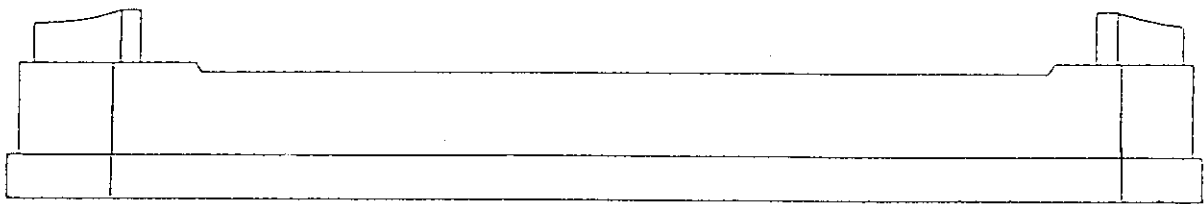
Bottom Slab = 3

Br. = 80-I40-10.37 L.L.

Deck Good

Diaph. Good

Beams Good



ABUT # 1

Br. # 80-I40-10.37 L.L.

BACK

Wall NV

CAP G

WINGS G

Bearings NV

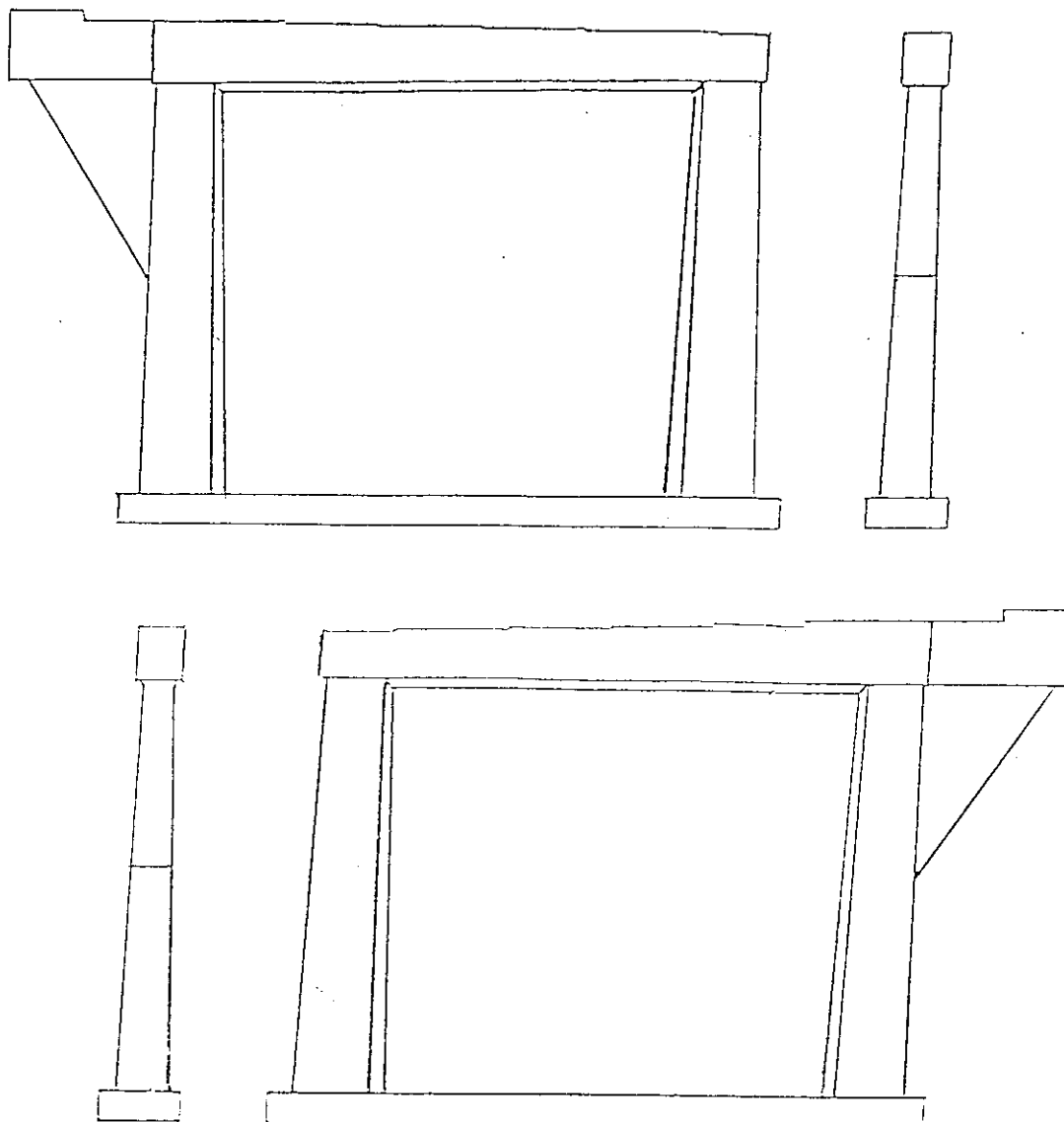
The image displays four orthographic views of a mechanical component, arranged in a 2x2 grid. The views are:

- Top View (Top Left):** Shows the component from above. It features a rectangular base with a central rectangular cutout. The cutout is defined by two parallel vertical lines and two parallel horizontal lines. The base has a small rectangular protrusion on the left side.
- Front View (Top Right):** Shows the component from the front. It is a rectangular shape with a central rectangular cutout. The cutout is defined by two parallel vertical lines and two parallel horizontal lines. The base has a small rectangular protrusion on the left side.
- Left Side View (Bottom Left):** Shows the component from the left. It is a rectangular shape with a central rectangular cutout. The cutout is defined by two parallel vertical lines and two parallel horizontal lines. The base has a small rectangular protrusion on the left side.
- Right Side View (Bottom Right):** Shows the component from the right. It is a rectangular shape with a central rectangular cutout. The cutout is defined by two parallel vertical lines and two parallel horizontal lines. The base has a small rectangular protrusion on the left side.

Br. # 80-I40-10.37 L.L.

CAP	G
Wall	G
FTG.	NV
Bearings	G

6-18-71
D

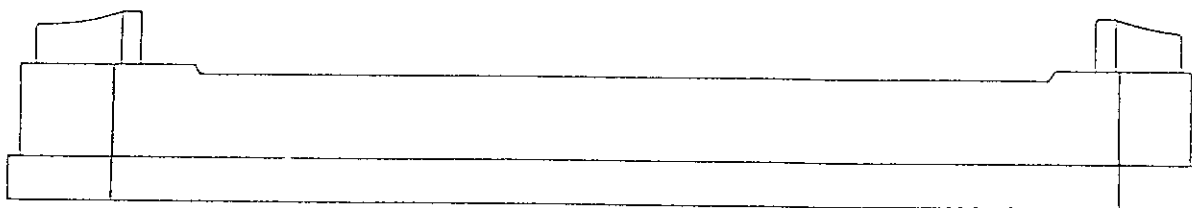


Pier #2

Br. # 80-I40-10.37 L.L.

CAP	G	
Wall	G	
FTG.	ND	
Bearings	G	

6-16-99
R



ABUT # 2

Br. # 80-I40-10.37 L.L.

BACK

Wall

NV

CAP

G

WINGS

G

Bearings

NV

80-I40-10.37 Lt.

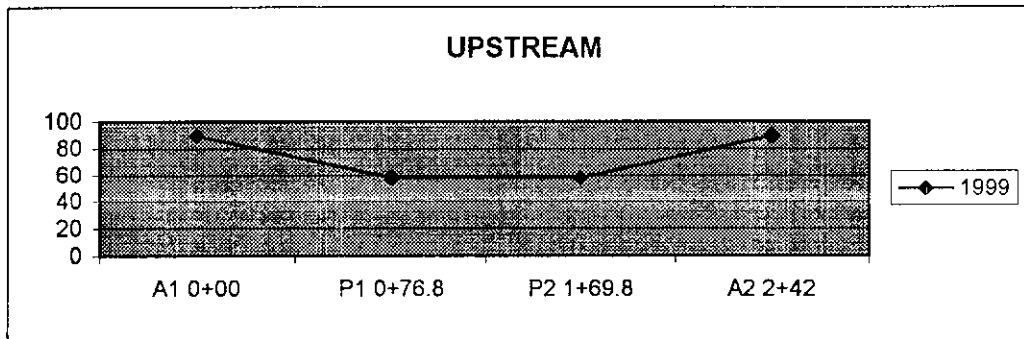
6/16/99

ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET

STATION ELEV.

1999

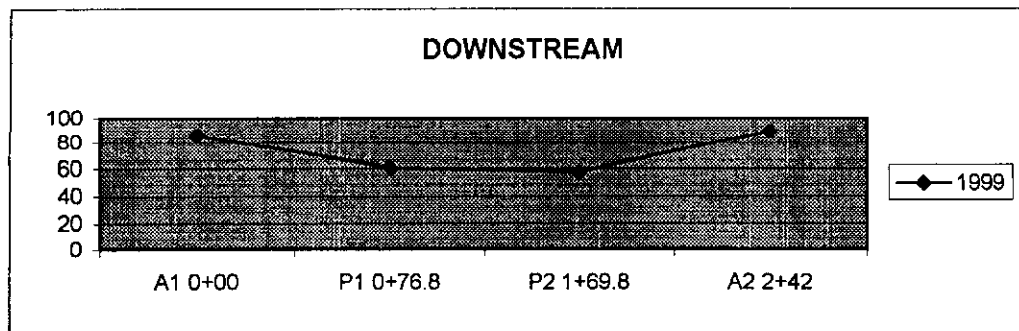
A1 0+00	89.4
P1 0+76.8	57.8
P2 1+69.8	58.1
A2 2+42	89.3



STATION ELEV.

1999

A1 0+00	85.8
P1 0+76.8	60.3
P2 1+69.8	57.5
A2 2+42	89.2



LIST OF DRAWINGS

DRAWING NO.	LAST REV. DATE	DRAWING
BR-32-89	9-16-98	LAYOUT OF BRIDGE TO BE REPAIRED
BR-32-90	9-29-98	ESTIMATED QUANTITIES AND GENERAL NOTES
BR-32-91		BRIDGE REPAIR DETAILS
BR-32-92		BRIDGE REPAIR DETAILS

PROJECT NO.	YEAR	SHEET NO.	
80001-4160-04	1998		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-16-98	TDM	REVISED LAST REV. DATES
2	9-29-98	TDM	REVISED LAST REV. DATES

LIST OF STANDARD DRAWINGS

DRAWING NO.	LAST REV. DATE	DRAWING
STD-9-1	12-19-94	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF SPECIAL PROVISIONS

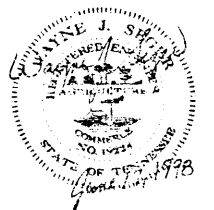
** DENOTES: CURRENT REVISION DATE, AS PER CONTRACT DOCUMENTS.

NO.	LAST REV. DATE	REGARDING
105A	**	APPROVAL OF SHOP DRAWINGS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DRAWING NO.	DRAWING
M-214-34, M-214-36 THRU 38, M-214-41, M-214-43 AND 44, M-214-47 AND 48, M-214-50, M-214-52A, M-214-53 AND 53A, M-214-55 THRU 58 AND M-214-59A	EXISTING BRIDGE DRAWINGS

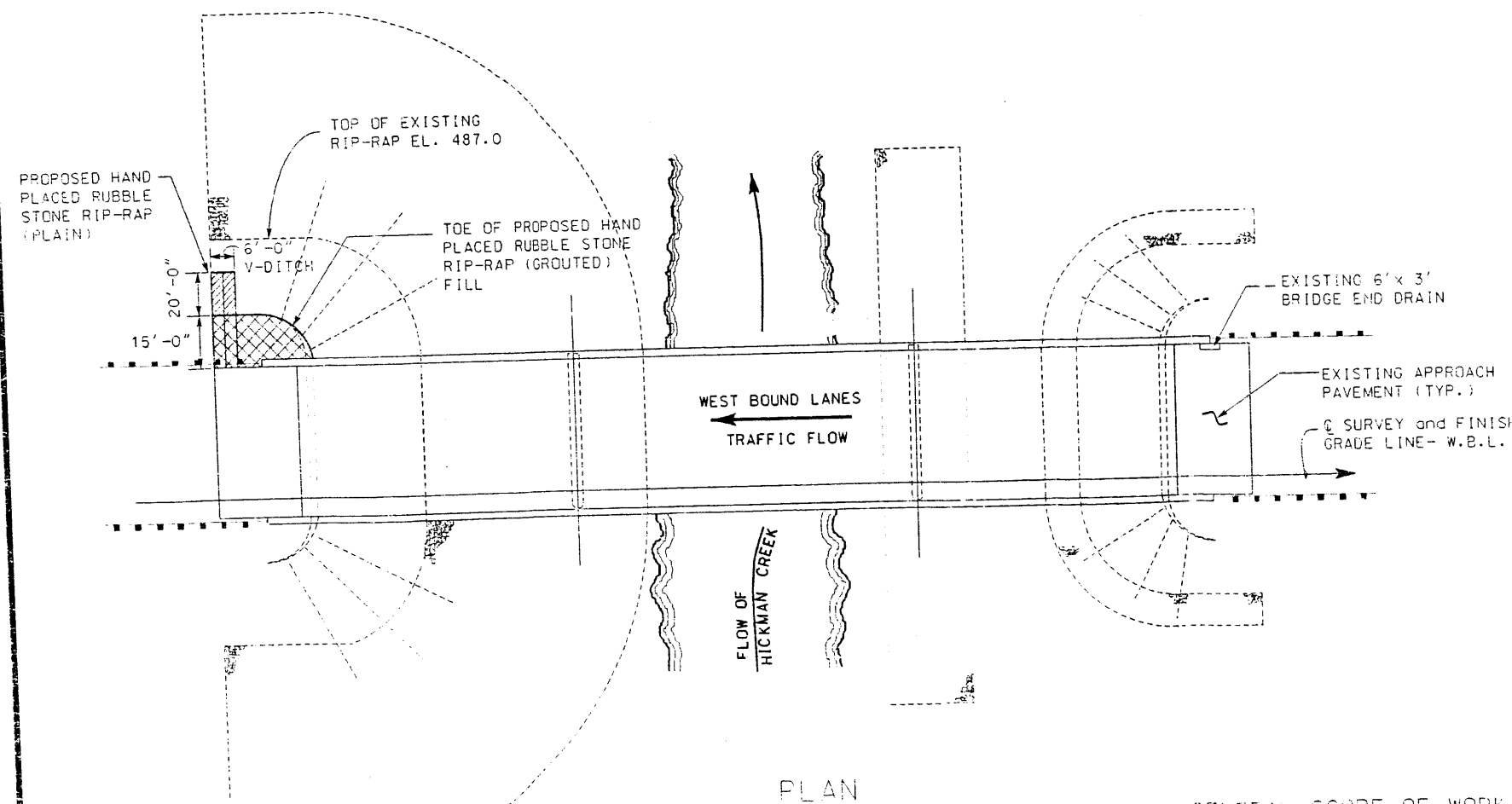
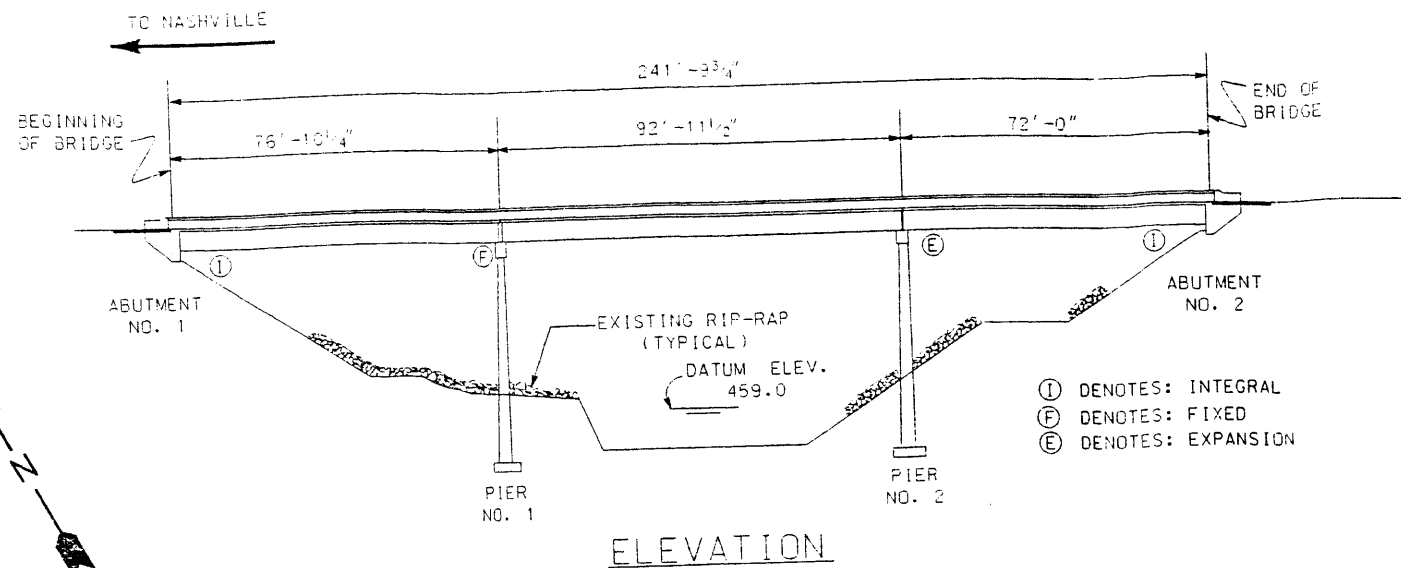


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE TO BE REPAIRED
INTERSTATE 40 (W.B.L.) OVER
HICKMAN CREEK
BRIDGE NO 80-140-10.27
SMITH COUNTY

1998

BR 32-89



	DENOTES: HAND PLACED RUBBLE STONE RIP-RAP (PLAIN)
	DENOTES: HAND PLACED RUBBLE STONE RIP-RAP (GROUTED)

GENERAL SCOPE OF WORK

- 1) TRANSITION THE APPROACH PAVEMENT (300'-0") AT ABUTMENT NO. 1 TO MATCH THE EXISTING CONCRETE PAVEMENT AT BRIDGE END.
- 2) POUR NEW SUB-BEAM AT ABUTMENT NO. 1 WHERE IT HAS BEEN UNDERMINED.
- 3) PLACE RIP-RAP AROUND WINGWALL TO RE-ESTABLISH PROPER SLOPE LINES.
- 4) EXCAVATE AND PLACE RIP-RAP FOR V-DITCH.
- 5) PLACE GROUT IN DESIGNATED RIP-RAP AREAS.
- 6) BACKFILL BEHIND THE ABUTMENT BACKWALL WITH A SUITABLE BACKFILL MATERIAL.
- 7) RESET GUARDRAIL POSTS AND R.O.W. FENCE AT ABUTMENT NO. 1.

DESIGNED BY: Terry Mackie DATE: April 1996
DRAWN BY: Don Simber DATE: April 1996
SUPERVISOR: M. Seger & J. Christensen DATE: April 1998
CHECKED BY: M. Seger & Terry Mackie DATE: May 1998

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	90-140-10.37	80-140-12.91	TOTAL
			HICKMAN CREEK	CANEY FORK RIVER	
303-01	ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	5		5
303-02	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	17		17
304-02.01	BACKFILL MATERIAL (FLOWABLE MORTAR)	C.Y.	11		11
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1		1
411-01.01	MINERAL AGGREGATE (ACS) GRADING D	TON	44		44
411-02.11	PERFORMANCE GRADE ASPHALT CEMENT (PG76-22) (GPMB-HM OR. D7)	TON	3		3
415-01.02	COLD PLANING OF BITUMINOUS PAVEMENT	S.F.	1350		1350
415-02.02	SALVAGE VALUE OF COLD PLANING	S.F.	1350		1350
604-03.01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	6		6
604-10.13	REINFORCING STEEL (REPAIRS)	LB.	253		253
604-10.31	RESETTING EXISTING EXPANSION JOINTS	L.F.		21	21
617-02	BRIDGE DECK REPAIRS (CRACK SEALING)	L.F.		54	54
617-05	SEALANT	QAL		1	1
706-02.01	GUARDRAIL REMOVED AND RESET	L.F.			35
707-02.04	REMOVE AND RESETTING EXISTING CHAIN-LINK FENCE (4')	L.S.	1		1
709-02	RUBBLE STONE RIP-RAP (GROUTED)	C.Y.	59		59
709-07	RUBBLE STONE RIP-RAP (PLAIN)	C.Y.	5		5
712-01	TRAFFIC CONTROL	L.S.	.5	.5	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	610	600	1,210
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	200		200
712-05.01	WARNING LIGHTS (TYPE "A")	EACH	12		12
712-05.03	WARNING LIGHTS (TYPE "C")	EACH	35		35
712-06.01	VERTICAL PANELS	S.F.	48		48
712-06.10	NEW SIGNS (CONSTRUCTION)	S.F.	488		488
712-06.15	NEW SIGNS (CONSTRUCTION) ("BEE" ALERT)	EACH	4		4
716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	0.23		0.23
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	1200		1200
717-01	MOBILIZATION	L.S.	.5	.5	1
801-01.00	SEEDING (WITH MULCH)	UNIT	6		6
801-03.00	WATER (SEEDING & SODDING)	M.G.	1		1
803-01.00	SODDING (NEW SOD)	S.Y.	20		20

1) INCLUDES ALL COST FOR REPLACING OR REWELDING EXISTING LOOSE OR BROKEN ANCHOR STRAPS TO EXPANSION JOINT AT PIER NO. 1, SECTIONS OF NEW STEEL EXTRUSIONS, NEW MEMBRANE AND RESETTING JOINT IN NEW CONCRETE POUR. SEE DRAWING NO. BR-32-94 FOR NOTES AND DETAILS.

2) INCLUDES ALL COSTS FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, SAND AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE BRIDGE DECK CRACKS ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURER'S SPECIFICATIONS. THIS ITEM DOES NOT INCLUDE THE COST OF FURNISHING THE BRIDGE DECK CRACK SEALER (HMWM). THE DEPARTMENT OF TRANSPORTATION, STATE OF TENNESSEE ENGINEER SHALL FIELD LOCATE ALL BRIDGE DECK CRACKS TO BE SEALED.

3) INCLUDES ALL COSTS FOR FURNISHING THE SEALER MATERIAL (HMWM) FOR SEALING CRACKS. THE SEALER (HMWM) SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 604CR.

4) INCLUDES APPROXIMATELY 20 L.F. OF 4' CHAIN-LINK FENCE AT NORTHWEST SIDE OF ABUTMENT NO. 1.

5) QUANTITY MAY BE ADJUSTED BY ENGINEER.

6) TO BE MOUNTED ON DRUM IN TRANSITION AREAS AS ENGINEER DEEMS NECESSARY.

7) INCLUDES 32 S.F. VP-IL AND 16 S.F. VP-IR.

8) INCLUDES THE INSTALLATION AND MAINTENANCE OF A NEW SIGN PANEL, SHEETING, AND SUPPORTS. SEE SPECIAL PROVISION NO. 712F.

UTILITY NOTES

THE LOCATION OF UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR, AND BY CONTACTING THE UTILITY COMPANIES INVOLVED. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID, IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Transportation. (March 1, 1995 edition)

DESIGN SPECIFICATIONS: AASHTO 1996 Edition with addenda.

SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A. EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.

WELDING: ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE and the Standard Specifications.

SPECIAL NOTE TO CONTRACTOR: Contractor shall use extreme care and take any measure necessary to insure that no debris is dropped into the stream. Any debris which is allowed to drop on the banks below the bridge shall not be allowed to enter the stream and shall be removed and disposed of by the contractor. Cost of removing and disposing of debris shall be included in items bid on.

CONCRETE (EXPANSION JOINT REPAIR): SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3000 psi AT 18 HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 lb/cy. A HIGH RANGE, WATER REDUCING ADMIXTURE (SUPERPLASTICIZER) SHALL BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. THE WATER CEMENT RATIO SHALL BE A MINIMUM OF 0.40, AND FLY ASH REPLACEMENT WILL BE PERMITTED AND THE CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi IN 18 HOURS. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 psi MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF 18 HOURS.

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

CRACK SEAL (HMWM): APPLY HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) CRACK SEAL IN JOINTS AROUND NEW BRIDGE END DRAIN AND AROUND NEW EXPANSION JOINT. SEALER SHALL BE APPLIED AFTER ALL CONCRETE HAS BEEN IN PLACE A MINIMUM OF TWO DAYS.

EXPANSION JOINTS: FOR ADDITIONAL GENERAL NOTES APPLICABLE TO STRIP SEAL EXPANSION JOINTS, SEE STANDARD DRAWING NO. SBR-2-110, SBR-2-116 AND CBR-2-120. ALSO SEE SPECIAL PROVISION NO. 604S.

HIGH EARLY STRENGTH CONCRETE (SUB-FOOTING REPAIRS): THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS., THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40, NO NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 P.S.I. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

RIP-RAP: RUBBLE STONE RIP-RAP SHALL BE HAND PLACED IN ACCORDANCE WITH SUBSECTION 709.06 AND 709.07 OF THE STANDARD SPECIFICATION AND SHALL BE MEASURED AND PAID FOR UNDER ITEM NOS. 709-07 AND 709-02.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

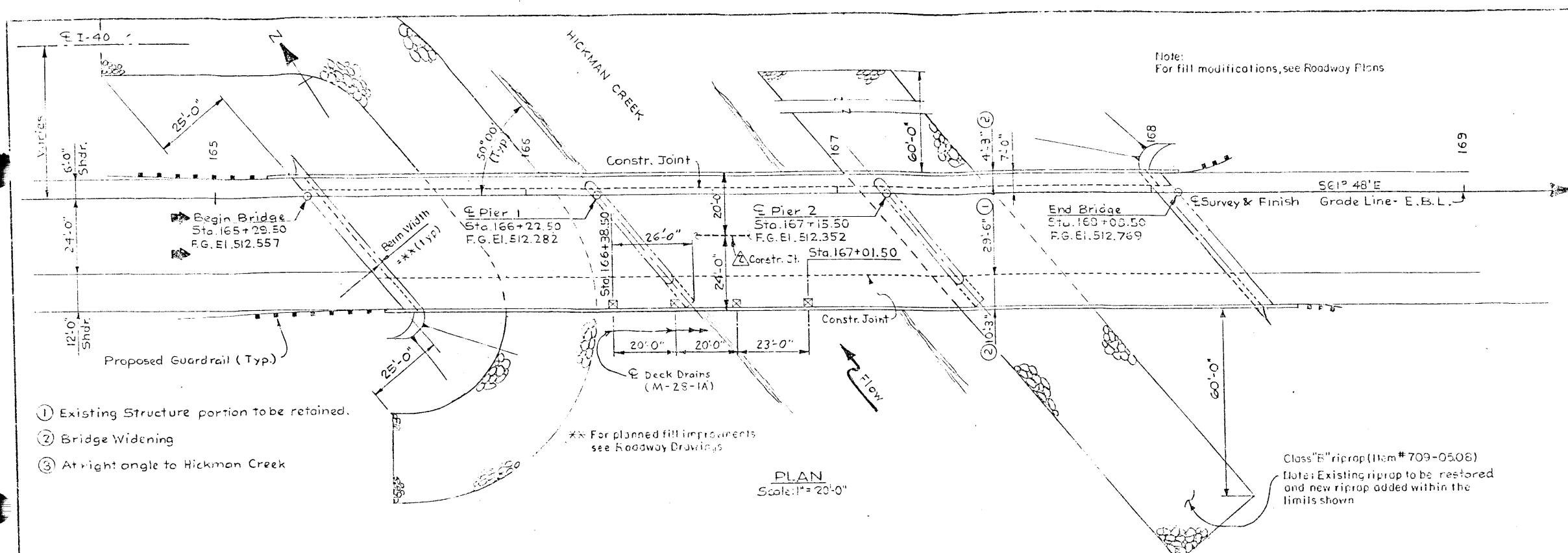
ESTIMATED QUANTITIES & GENERAL NOTES
INTERSTATE 40 (W.B.L.) OVER
HICKMAN CREEK AND CANEY FORK RIVER
BRIDGE NO. 80-140-10.37
BRIDGE NO. 80-140-12.91
SMITH COUNTY

1998

BR-32-90



DESIGNED BY TERRY MACKIE DATE 05/1998
DRAWN BY SCOTT C. NELSON DATE 05/1998
SUPERVISED BY T. QUINN & T. CHRISTIANSON DATE 05/1998
CHECKED BY TOM QUINN DATE 05/1998



PLAN
Scale: 1" = 20'-0"

- ① Existing Structure portion to be retained.
- ② Bridge Widening
- ③ At right angle to Hickman Creek

Bench Mark:
Top of left side of abutment
beam, Abutment 1-EBL.
Elev. = 506.84

CONSTR. NO. 80001-3152-44			
PROJECT NO.	YEAR	SHEET NO.	
IR-40-5(91)257	1989		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	DWT	ELIMINATED FROM PLAN
2	9/29/89	DWT	CONSTR. JT. ADDED

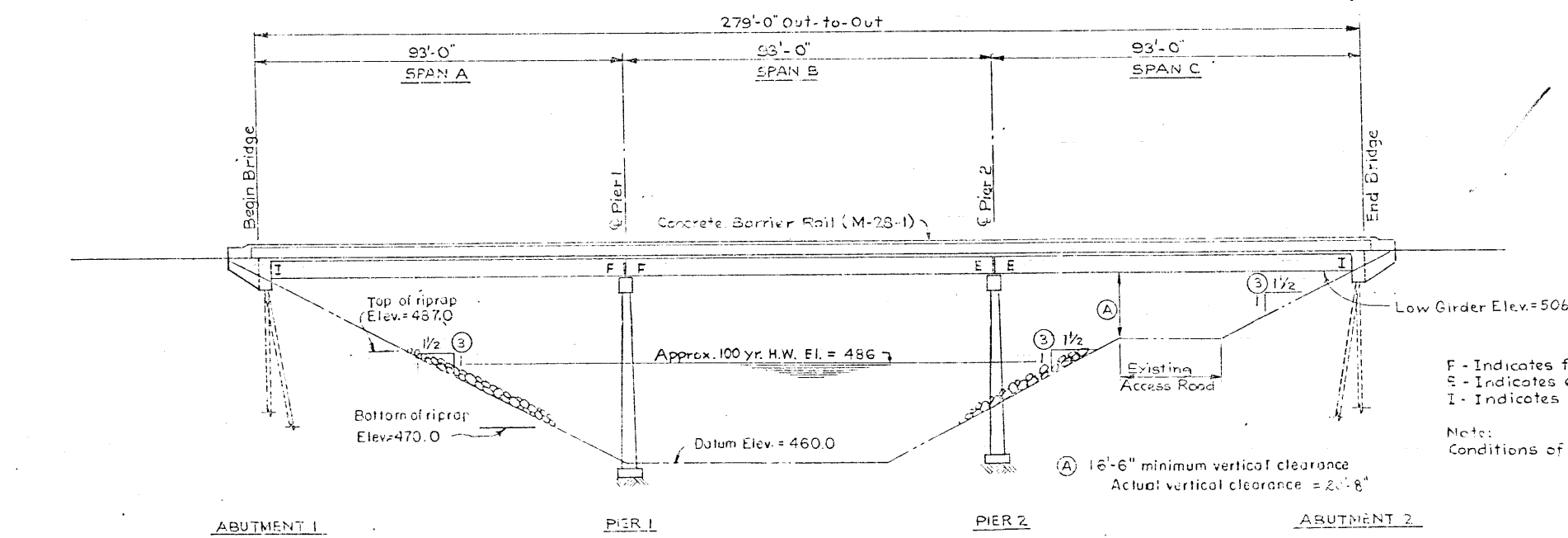
Notes:
For Roadway Data not shown see
Roadway Plans.
- Denotes direction of one lane
of traffic.
NOTE: FOR CONSTRUCTION SEQUENCE
SEE DWS. NO. M-214-59A.

2009 ADT = 30,000
Design velocity = 65mph

5-13-98

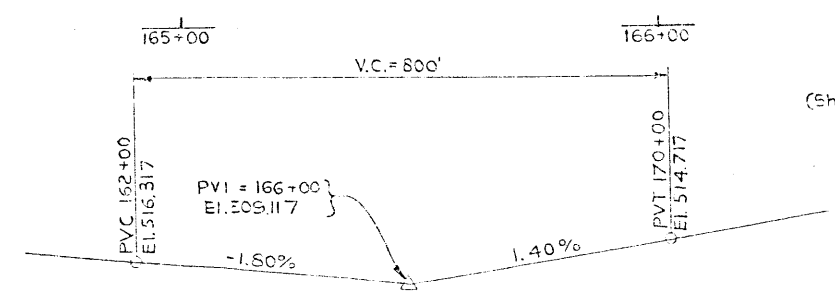
Plans should have the
bridge ID # of ~~80I404002~~ ^{80I404002}
for the EBL of I-40

Thanks
BLS



ELEVATION
(Shown at right angles to E.B.L.)
Scale: 1" = 20'-0"

F - Indicates fixed bearing.
E - Indicates expansion bearing
I - Indicates integral Abutment.
Note:
Conditions of fixity are shown for new beams.



VERTICAL CURVE DATA - I-40 E.B.L.
No Scale

Note: The grade shown is based on existing plans
grade plus 0.417' and shall be used for bridge
construction only.

Hydraulic Design Data
Drainage Area = 46.0 sq. miles
Design Discharge (100 yr) = 1770 cfs
Area Below 100 yr. elevation = 2600 sq. ft.
Velocity (100 yr) = 7.7 fps
Roadway Overlapping elevation = 511.9
500 yr discharge = 23200 cfs

WILBUR SMITH ASSOCIATES
William S. Huppert
STATE OF TENNESSEE

BRIDGE NO. 1
Sheet 2 of 2
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
LAYOUT OF BRIDGE WIDENING
I-40 E.B.L. OVER
HICKMAN CREEK
STA. 165+29.50 E.B.L. I-40
BRIDGE ID # EBL-80I404002
SMITH COUNTY
1989

DESIGNED BY: DWT DATE: 12-88
DRAWN BY: BLS DATE: 12-88
SUPERVISED BY: DWT DATE: 12-88
CHECKED BY: DWT DATE: 12-88

CORRECT ENGINEER OF STRUCTURES
APPROVED
M-214-35

CLASS "A", GRADING "D" = 17 C.Y. 80-I40-10.37

LIST OF DRAWINGS

DRAWING NO.	LATEST REV. DATE
Layout of Bridge Widening - W.B.L.	M-214-34
Layout of Bridge Widening - E.B.L.	M-214-35
General Notes	M-214-36
Estimated Quantities	M-214-37
Repair Details	M-214-38
Superstructure Details - W.B.L.	M-214-41
Superstructure Details - E.B.L.	M-214-42
Prestressed Concrete - I-Beam (Type IV) - Spans A&C - W.B.L.	M-214-43
Prestressed Concrete - I-Beam (Type IV) - Span B - W.B.L.	M-214-44
Prestressed Concrete - I-Beam (Type IV) - Spans A&C - E.B.L.	M-214-45
Prestressed Concrete - I-Beam (Type IV) - Span B - E.B.L.	M-214-46
Bearing Details	M-214-47
Abutment Details (1)	M-214-48
Abutment Details (2)	M-214-49
Abutment Details (3)	M-214-50
Abutment Details (4)	M-214-51
Abutment Details (5)	M-214-52
Piers 1 & 2	M-214-53
Piers 1 & 2	M-214-54
Piers 1 & 2	M-214-55
Bill of Steel	M-214-56
Bill of Steel	M-214-57
Bar Bending Details	M-214-58
Sounding Sketch - W.B.L.	M-214-59
Sounding Sketch - E.B.L.	M-214-59A

CONSTRUCTION SEQUENCE

Existing Bridge Drawings
 **Notes: Only Existing Bridge Dwg. G-15-16 & G-15-22 to be printed with Plans.
 Note: Drawing No.'s M-214-39 & M-214-40 not used.

STANDARD DRAWINGS

Std. Reinf. Bar Support	K-80-14	08-27-76
Misc. Abutment & Drainage Details	K-85-150	06-25-87
Pneumatic Concrete Repairs	K-86-4	02-05-73
Reinf. Concrete Pavement at Bridge Ends	K-86-144	07-17-81
Bridge Railing-Concrete Parapet	M-28-1	11-01-88
Concrete Median Barrier and Parapet Drains	M-28-1A	09-06-87
Std. Pile Details	M-174-150	

*Asterisk denotes these standards to be printed with plans.

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	Date LATEST REVISION	LIST OF SPECIAL PROVISIONS
105A	07-21-87	Regarding Approval of Shop Drawings
602	05-15-89	Regarding 602' Steel Structures Section
603A	11-01-88	Regarding Painting
604	11-06-87	Regarding Concrete Structures
604C	01-26-88	Regarding Structural Concrete
604R	01-20-89	Regarding Rideability of Bridge Decks and Roadway Approaches
604R	03-23-85	Regarding Side Drains and Bridge Drains
607A	05-04-87	Regarding Machined Rib Rod
607A	03-25-85	Regarding Epoxy Coated Reinforcing Steel

Stage Construction-Abutments Bridge No. 1,3 & 6 M-214-52A

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Transportation. (March 1981 Edition)

LOADING: HS20-44 with Alternate Military.

DESIGN SPECIFICATIONS: AASHTO 1983 Edition with addenda.

CONCRETE: To be Class 'A' f'c = 4,500 psi for superstructure concrete and 3,000 psi for substructures and parapets.
 Class A Concrete for bridge decks shall be in accordance with Section 604 of the Standard Specifications except as modified by Special Provisions 604-C.

BRIDGE DECK SURFACE FINISH: To be in accordance with Note (c) sheet 2 of Special Provisions 604.

BRIDGE DECK FORMS: Bridge Deck Forms for concrete decks shall be constructed using removable forms only. The contractor shall take steps to assure the stability of the exterior girder against twisting or overturning during slab pouring operations. When the width of the overhang exceeds the depth of the exterior girder, details and design calculations for the cantilever support system shall be submitted to the Engineer for approval.

Bearing Devices shall be in accordance with the details and dimensions shown on drawing M-214-47.

REINFORCING STEEL: To be ASTM A615 Grade 60. Standard CRSI hook details apply unless otherwise noted on Bill of Steel. Spacing dimensions are center to center and cover dimensions are clear distance unless otherwise noted. Placing Tolerances are +/- 1/2" for spacing and -1/8" or + 3/8" for cover. The suffix E, for bars so marked, denotes epoxy coated reinforcement. See Special Provisions 907A.

PILES: To be HP10x42 driven to refusal on rock or minimum bearing of 55 tons per pile.

Piles at Abutment 1&2 shall be equipped with APF 20 lb. Pruyt 75750, DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB310 or I.C.E. 20 lb. Std. pile point driving tips or approved equal welded to the pile in accordance with the manufacturers recommendation. The cost of the driving tips shall be included in the unit price bid for piles.

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

GROUTED BARS IN DRILLED HOLES: Horizontally drilled holes shall be drilled 1/2" in diameter larger than the bar, cleaned, packed with non shrink grout and driven to its seat. Vertically drilled holes shall be drilled 1/4" in diameter larger than the bar, cleaned, packed with epoxy grout and driven to its seat. All grouting material shall be approved by T.D.O.T. Materials and Tests.

SHOP DRAWINGS: See Special Provision No. 105A.

DRILLED-IN ANCHORS: Certification: The contractor shall furnish certified anchor pull out data from an independent testing laboratory using Class 'A' concrete as prescribed by Tennessee Highway Specifications. The required ultimate load for 7/8" dia. Anchor is 19,000 lbs., 18,000 lbs. for 3/4" dia. Anchors, 12,000 lbs. for 5/8" dia. Anchors and 9,000 lbs. for 1/2" dia. Anchors. In Place Requirements: The units shall be sub-set 3/32" to 1/4" and torqued, with base plate in place, to an equivalent direct pull out load of 60 percent of required ultimate load. Slipage shall not exceed 1/4". The Department will perform testing of Anchors on site to insure the specified in place requirements. Installations not meeting these requirements must be corrected at the contractors expense.

NON-PAY ITEMS: Only items shown on the proposal as pay items will be paid for. Compensation for all labor, materials, tools, equipment, and incidentals for the entire contract shall be included in the price bid for pay items.

FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennessee Standard Specification. An Applied Texture Finish shall be used in lieu of a Class II finish. The color of the finish shall be similar to Mountain Gray, Federal Specification No. 36440, Federal Color Standard No. 895c, and a color sample shall be submitted to the Engineer for approval. No texture finish shall be applied prior to completion of paving and hauling operations at the bridge site. Payment for the Applied Texture Finish shall be under item 604-04.01 & 604-04.02.

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

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

REBAR: Machined Rib-rod shall be Class B in accordance with Special Provision 607A and shall be paid for under item 209-04.08 ton.

PAINT: System B - Inorganic Zinc - Jethro's Finish Bright Green Top Coat - See Tennessee Standard Specification 603.25(b) and Special Provision 603A.

WELDING: See notes on Drawing No. M-214-53A.

WELDING: See Special Provision No. 602 and notes on Drawing No. M-214-53A.

WELDING: See Special Provision No. 602 and notes on Drawing No. M-214-53A.

STEEL STRUCTURE: See Tennessee Standard Specification Section 602 and notes on Drawing No. M-214-53A.

NOTE: The Contractor shall assume full responsibility of maintaining the structural integrity of the existing bridge during construction. Any damage to structural members to be left in place shall be repaired to the satisfaction of the Engineer and paid for at the Contractor's expense.

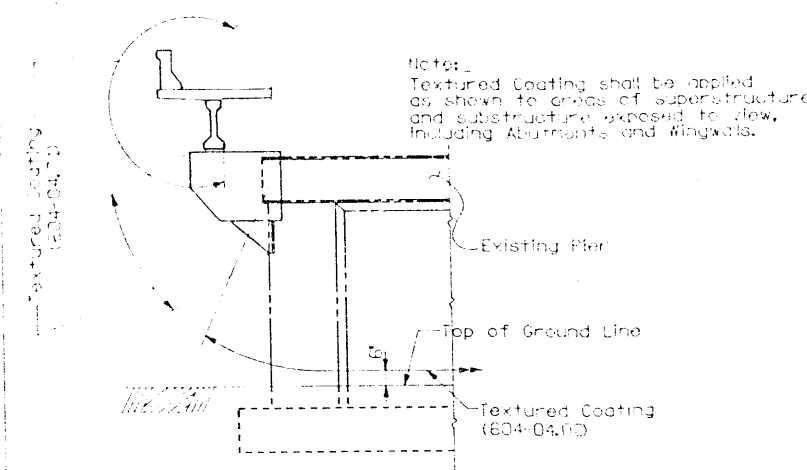
TESTING MECHANICAL COUPLERS: In addition to requirements stated elsewhere within these plans, the Contractor will prepare, under field conditions, two (2) specimens of each size utilized. This will be in addition to required certifications. Each coupled rebar in the specimens shall be a minimum of 30 inches in length. The Department will test, at their discretion, each specimen 125% of the specified tension yield strength of the rebar prior to coupler approval.

CONSTR. NO. R0001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-691257	1989	

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	10/10/89	CLP	ADDED DWG. No. M-214-52A & M-214-166A
2	9-29-89	DWT	
3			
4			
5			
6			
7			
8			
9			
10			



DETAIL SHOWING LIMITS OF TEXTURED COATING

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

GENERAL NOTES
 I-40 OVER
 HICKMAN CREEK
 STA. 162+13.19 W.B.L.
 STA. 165+29.50 E.B.L.
 SMITH COUNTY
 1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

SECTION OF HIGHWAYS

M-214-36

DESIGNED BY: HCL DATE: 11/89
 DRAWN BY: EAP/TLC DATE: 11/89
 SUPERVISED BY: JCH DATE: 11/89
 CHECKED BY: MCH DATE: 11/89

- ⑨ BRIDGE ID# W.B.L. - 80100400021 (Sta. 162+13.19)
BRIDGE ID# E.B.L. - 80100400022 (Sta. 165+29.50)
- ⑪ NOTE: Square yard for pavement at bridge ends shall be measured as road surface area and shall include all concrete, reinforcing steel, piles, joint material, manhole for roadway drain, surface finish as per SP 604 and any other incidentals necessary for complete installation.
- ⑪ NOTE: For sketches and notes on Concrete repairs, see Drawing M-214-33.
- ⑫ Includes blast cleaning and painting existing bridge bearings.
- ⑬ Support Frame for Pier Extension.
- ⑭ Excavation based on existing ground.

- ⑤ The use of a rammer is prohibited for removal of concrete. See notes on Dwg. No. M-214-32.
- ⑥ Guardrail attachment to bridge rail post shall be installed prior to all traffic being detoured onto Westbound Bridge. All Materials, Labor, etc. for installation shall be included under Item 706 10-22.
- ⑦ Includes quantities for Abutment Sub-beam, see Dwg. M-214-38.

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

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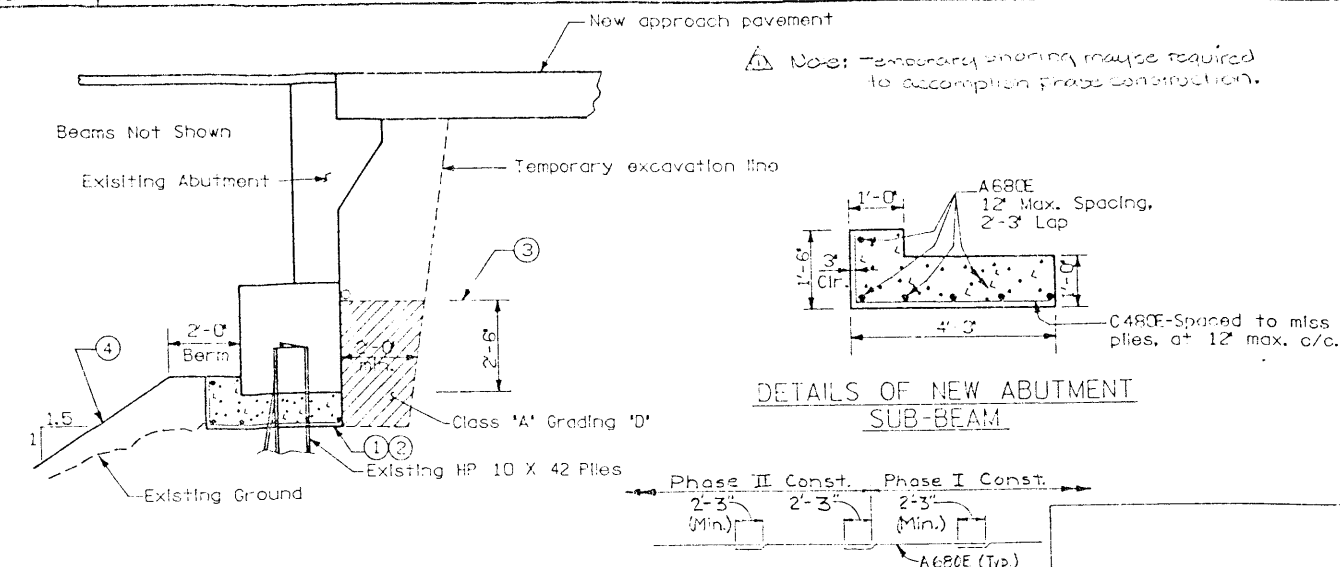
S/D ITEM NO. ITEM STRUCTURE		ESTIMATED QUANTITIES																				
		202-04.01 REMOVAL OF STRUCTURES	204-02.01 DRY EXCAVATION (BRIDGES)	602-02.01 STRUCTURAL STEEL	603-02.01 REPAINTING EXISTING STEEL STRUCTURES	604-01.12 CLASS 'A' CONCRETE (BRIDGE DECK)	604-02.03 EPOXY COATED REINFORCING STEEL	604-03.01 CLASS 'A' CONCRETE (BRIDGES)	604-03.02 STEEL BAR REINFORCEMENT (BRIDGES)	604-03.04 PAVEMENT AT BRIDGE ENDS	604-04.01 APPLIED TEXTURE FINISH (NEW STRUCTURES)	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	604-10.30 BRIDGE DECK REPAIR (FULL DEPTH)	604-10.50 BRIDGE DECK REPAIR (PARTIAL DEPTH)	604-36 SCARIFYING	606-02.03 STEEL PILES (10 INCH)	615-01.04 PRESTRESSED CONCRETE I-BEAM (TYPE IV) 5'-4" DEEP	620-03 CONCRETE PARAPET (M-28-1)	622-01 PNEU- MATICALLY PLACED CONCRETE	705-10.23 GUARDRAIL ATTACHMENT TO BRIDGE RAIL POST	709-05.08 MACHINED RIP-RAP (CLASS B)	710-09.01 6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM
		(5)(9)(5) L.S.	(14) C.Y.	(9)(3) LB.	(9)(2) L.S.	(1) C.Y.	(17) Δ LB.	(17) C.Y.	LB.	(11) S.Y.	S.Y.	(8)(11) S.Y.	(8)(11) S.Y.	(7) S.Y.	L.F.	(2) L.F.	(4)(6) L.F.	(8)(11) S.F.	(15) L.F.	(8) TON	(3) L.F.	(3) L.F.
Superstructure						230	52090				839	193				239						
Abutment 1			33			25	1861	8	2507		41	11			47						54	12
Pier 1				3400				11	2233		31	316						70				
Pier 2				3400				11	2233		31	307						570				
Abutment 2			33			25	1861	8	2507		41	11			48						54	12
Subtotal		.5	66	6800	.5	280	56812	38	9480	220	983	838	104	128	752	95	239	526	640	355	106	24
Superstructure						257	60026				941	223				274						
Abutment 1			7			35	1688	4	2191		44	16			50						37	12
Pier 1				4100				14	2750		31	414						120				
Pier 2				4100				14	2750		31	293						570				
Abutment 2			7			35	1688	4	2152		44	15			45						37	12
Subtotal		.5	14	8200	.5	327	63402	36	9343	0	1091	961	0	90	915	95	274	611	990	235	74	24
Totals		1.0	80	15000	1.0	607	120214	74	19323	220	2074	1799	104	218	1667	190	513	1137	1630	590	182	48

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ESTIMATED QUANTITIES
I-40 OVER
HICKMAN CREEK
STA. 162+13.19 W.B.L.
STA. 165+29.50 E.B.L.
SMITH COUNTY
1989

DESIGNED BY: HDL DATE: 11-1-80
 DRAWN BY: FABIAN K DATE: 11-1-80
 SUPERVISED BY: ASH DATE: 11-1-80
 CHECKED BY: HDL DATE: 2-29

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____

M-214-37

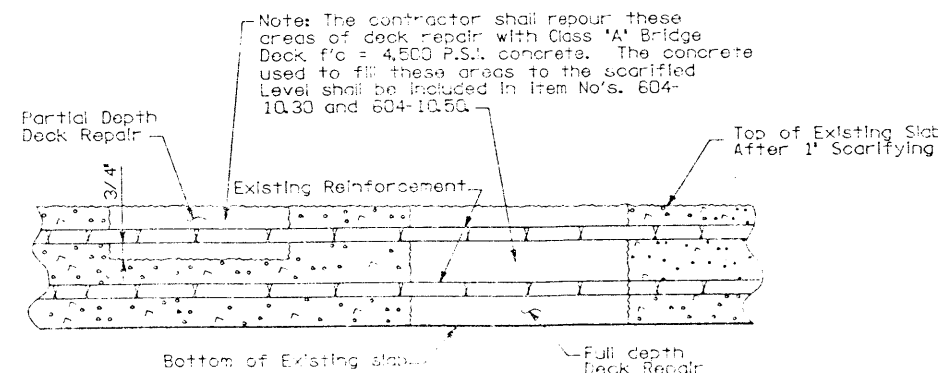


SECTION THRU W.B.L. ABUTMENTS 1 AND 2

REBAR PLACEMENT SKETCH

NOTES:

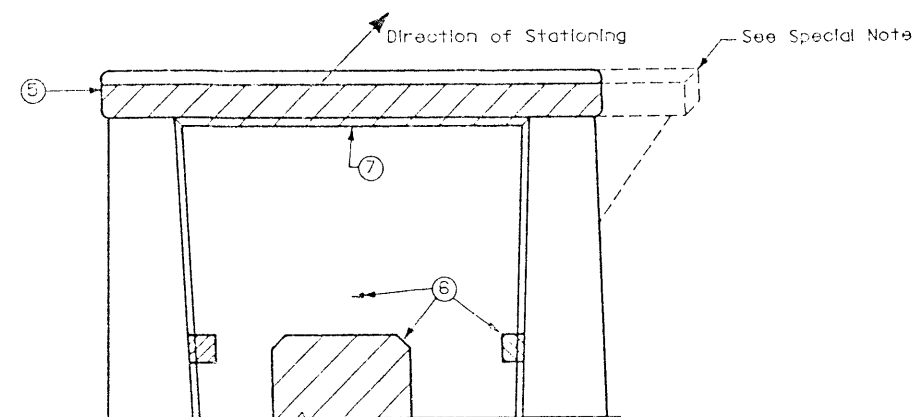
- ① Before addition of new approach pavement, backfill shall be excavated sufficient to expose front and back of all piles. Vehicular and construction loads will not be permitted on the constructed portion of the bridge during this operation. Corroded areas of piles shall be wire brushed or blast cleaned and repainted per Specification Section 606.12. No separate payment will be made for painting or cleaning.
- ② Construct abutment sub-beam using Class 'A', f'c=3,000 psi concrete. Sub-beam shall be cast full length of existing retained abutment beam and to the depth specified, unless otherwise directed by the Engineer. Cost of material and labor shall be included in the bid items 604-03.01 and 604-02.03.
- ③ Backfill to limit shown with Class A Grading D Material. Install backfill and underdrain in compliance with Std. Drawing K-85-150.
- ④ Reestablish fill slope to lines shown.



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

Remove concrete in all designated areas to a depth of 3/4" below the top mat of Reinforcing steel. All reinforcing steel in areas of deck repair shall be blast cleaned. Areas of concrete removed shall be designated by personnel from the Division of Structures. Deck repair will be paid for under item No. 604-10.50. Bridge deck repair, (partial depth of slab) S.Y. If deteriorated concrete is encountered which appears to run full depth of slab, the Engineer may designate these areas to be repaired under item No. 604-10.30. Bridge deck repair, (full depth of slab) S.Y. Power driven hand tools used for removal of sound concrete in making partial depth repairs are subject to the following restrictions: 1) Pneumatic hammers heavier than 35 pound class shall not be used. 2) Chipping hammers of the 15 pound class shall be used to remove concrete from beneath any reinforcing steel.

DESIGNED BY: WCH
DRAWN BY: JCH
SUPERVISED BY: JCH
CHECKED BY: JCH
DATE: 1/2/89
DATE: 1/2/89
DATE: 1/2/89
DATE: 1/2/89



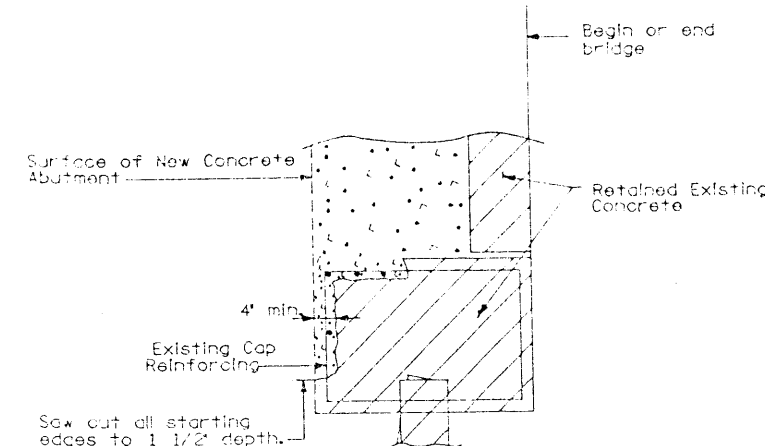
ELEVATION OF PIERS SHOWING AREAS OF PNEUMATICALLY PLACED CONCRETE (LOOKING IN DIRECTION OF STATIONING)

Legend: Areas for pneumatically placed concrete. The areas to be repaired will be sufficiently larger than the spalled areas to insure that patches extend into sound concrete. Care shall be taken when removing existing deteriorated concrete in repair areas so as not to damage existing reinforcing steel. All existing reinforcing exposed shall be blast cleaned to remove all rust before placement of pneumatically placed concrete.

Note: See Tennessee Standard Specifications Section 622 Pneumatically Placed Concrete and Standard Drawing K-86-4.

Note: Cost of removing all unsound and deteriorated concrete, placing of pneumatically placed concrete, and all labor and materials necessary for completing the work shall be paid for under item no. 622-01 Pneumatically Placed Concrete, sq. ft.

- The following areas (minimally), are to be repaired (see elevation sketch):
- ⑤ Left and end of E.B.L. Pier 1 Cap (approximate area 50 sq. ft.)
 - ⑥ Fire damage areas of E.B.L. Pier 2 forward side (area approximately 300 sq. ft.)
 - ⑦ All cap sides with fillet areas and including top cap surfaces for E.B.L. Pier 2 W.B.L. Pier 2 (approx. area 500 sq. ft. each)
 - ⑧ All exposed surfaces of slab edge beams (between I-beams) at existing expansion joints at Piers 1 and 2 E.B.L. and W.B.L., approx. area 140 sq. ft. each bridge. (Not shown by sketch, see Section B-B, existing bridge Dwg. G-15-26).



SECTION THRU EXISTING ABUTMENT BEAMS

This section shall apply where surfaces of abutment beams are deteriorated or have significant surface scaling, and the cap beam is not otherwise replaced by new construction.

Deteriorated concrete shall be removed by chipping to sound concrete. If reinforcing is exposed, concrete shall be removed at least 3/4 inch behind reinforcing. The entire area shall be blast cleaned, and all reinforcing corrosion removed before placement of new concrete. No separate payment for these repairs will be made.

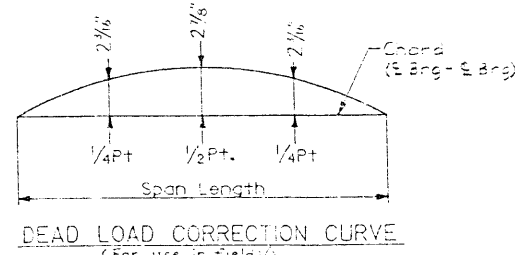
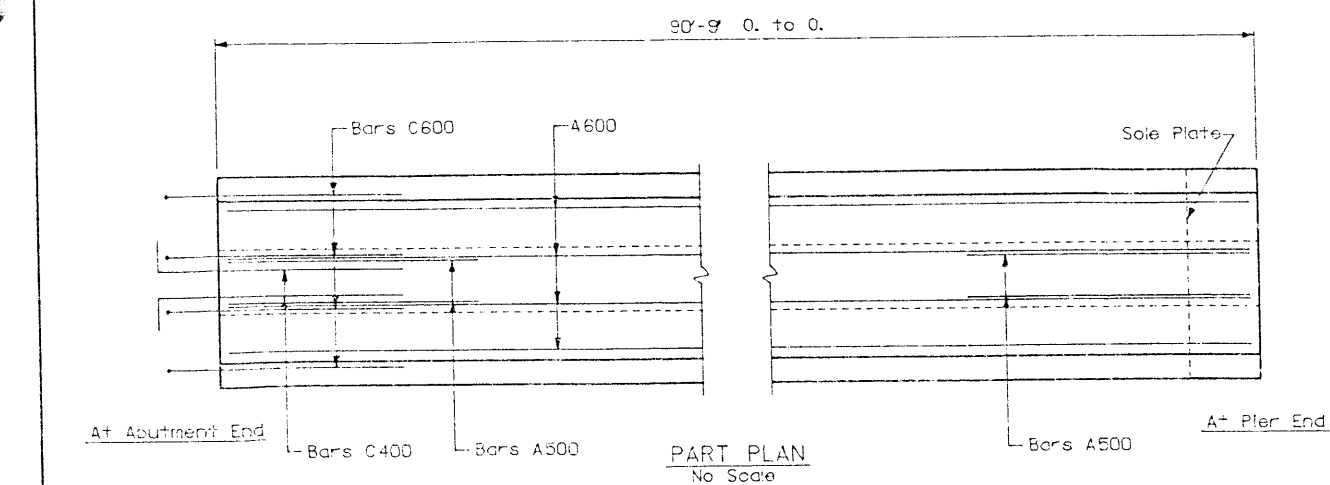
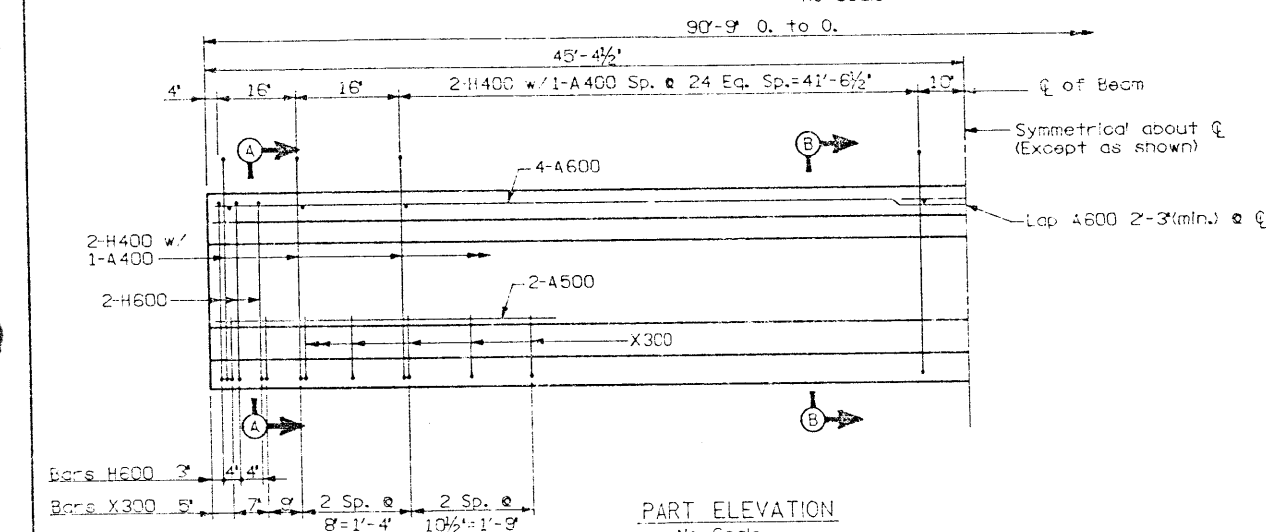
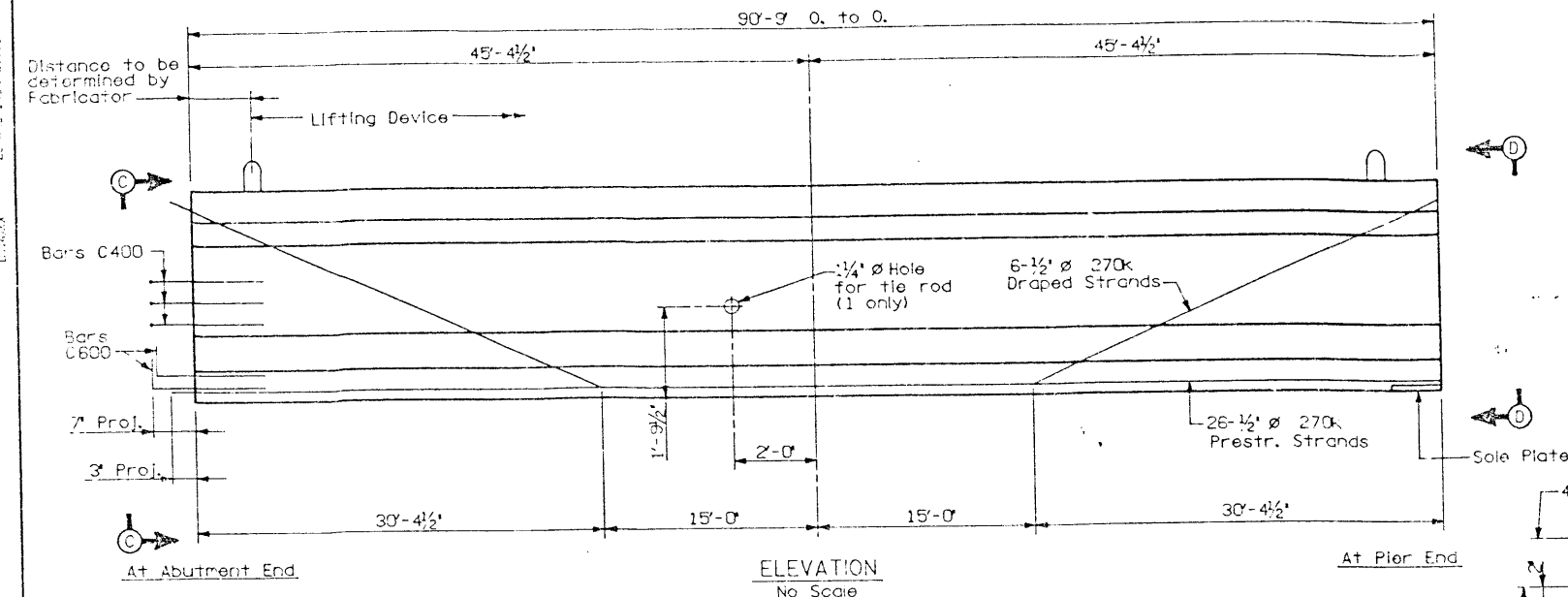
PROJECT NO.	YEAR	SHEET NO.	
IR-40-5911257	1989		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	8-29-89	DWT	Station Added
A	8-29-89	DWT	Station Added

SPECIAL NOTE

Necessary concrete repairs at piers of this bridge are shown before the addition of the cantilever beam bracket. In general, these repairs which may be confiloting or may be obscured by the angle strap will be required to be completed before the addition of the angle support frame and the concrete bracket. However, the necessary surface removal and chipping for the bracket addition will override or preclude the need for surface repairs to some end portions of these piers. The Contractor need not first perform surface or other damage repair within the area limits scheduled for the bracket addition or its strap tie system, as shown by relevant details within these plans. Where these repair details overlap the 'footprint' of the bracket addition, the resulting construction shall have neat and appropriately formed lines and surfaces, regardless of the order of construction. The Contractor will not be paid for any surface repairs within the area bounded by the bracket connection to each pier.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
REPAIR DETAILS
I-40 OVER
HICKMAN CREEK
STA. 162+13.19 W.B.L.
STA. 165+29.50 E.B.L.
SMITH COUNTY
1989

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	54	1'-0"	54	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	46'-10"	8	46'-10"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	108	6'-5"	108	6'-5"
H600	6	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"

EASTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN C	
CLASS 'A' CONCRETE	C.Y.	18.5	18.5	
REINFORCING STEEL	LB.	1,290	1,290	
PRESTRESSING STRANDS	LB.	1,535	1,535	

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5911257	1989	
REVISIONS		
NO.	DATE	BY
1	9/29/89	DWT
Revised Dead Load Correction Values		

NOTES:

The top of all beams are to be rough floated. At approximately the time of initial set, the top of the beams will also be scrubbed transversely with a coarse wire brush to remove all laitance and produce a rough surface. Where precast slab panels are to be used and set on bituminous fiberboard, the outer two inches of the top flange may be troweled.

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated. Low relaxation prestressing strands.

An initial force at anchorage (after seating) of 31,000 Lbs., shall be applied to each strand in all beams.

All beams are AASHTO - PCI standard type IV.

After the beam is removed from the prestressing bed, bars C600 and C400, at abutment end, shall be bent as shown.

The prestressing strands shall be left projecting 3" +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands at pier ends, 1" recess shall be formed and fill with epoxy mortar as shown.

Elastomeric pads to be 6"x26"x (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-47.

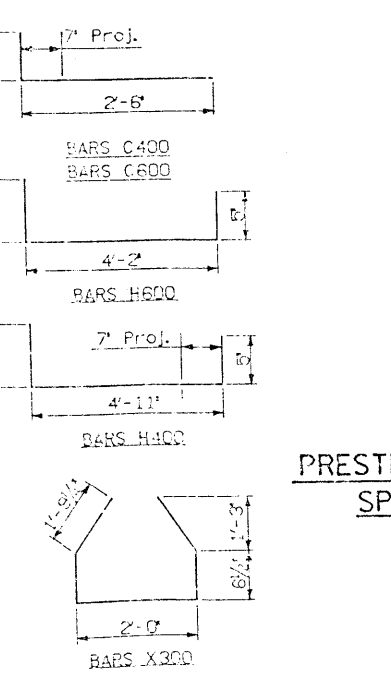
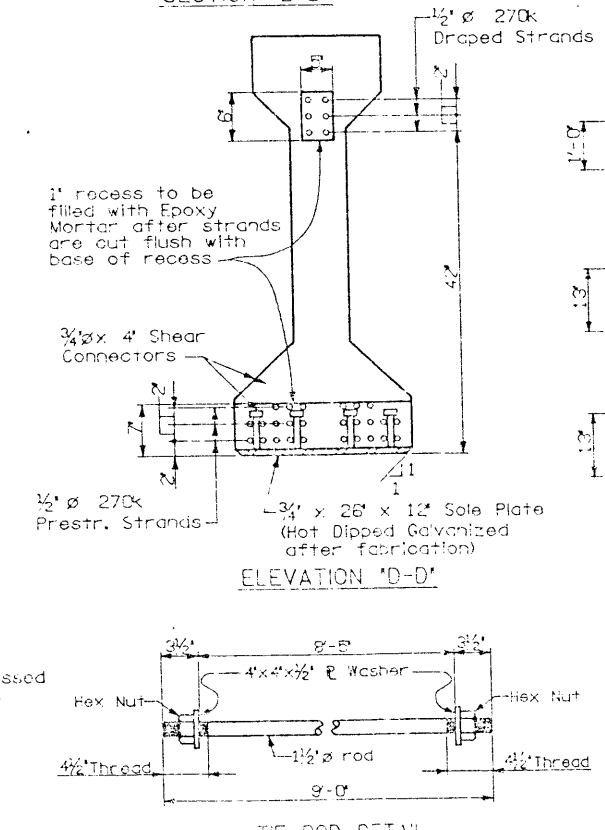
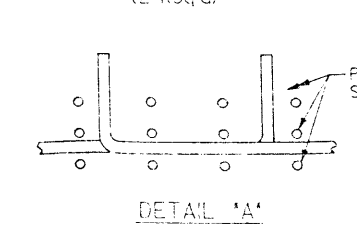
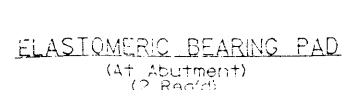
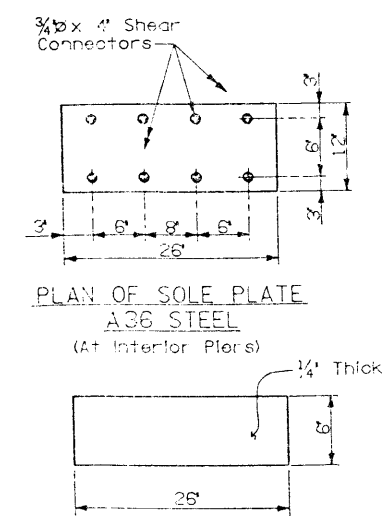
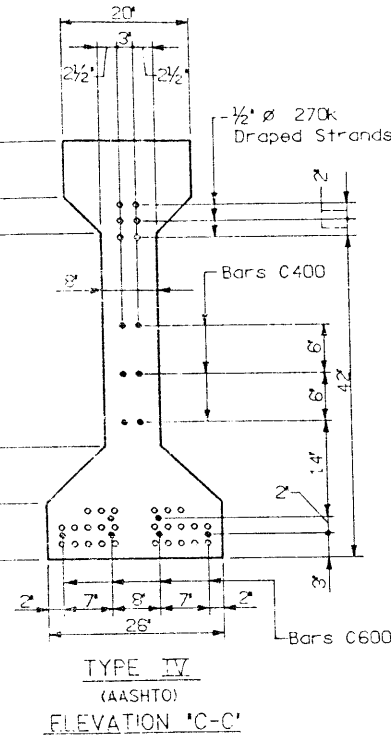
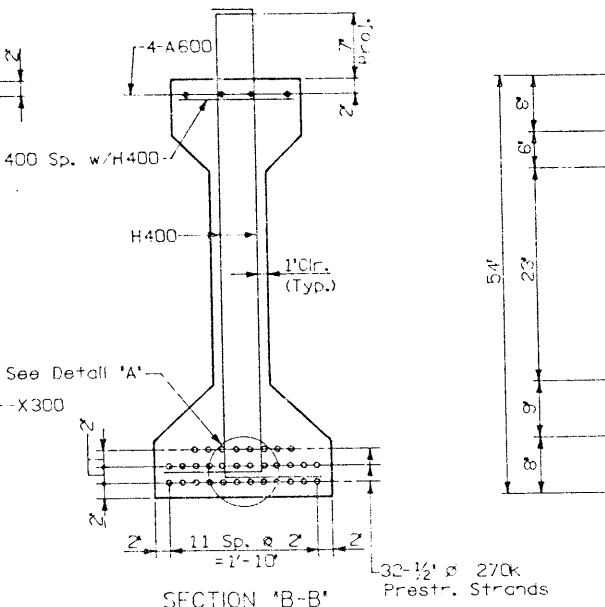
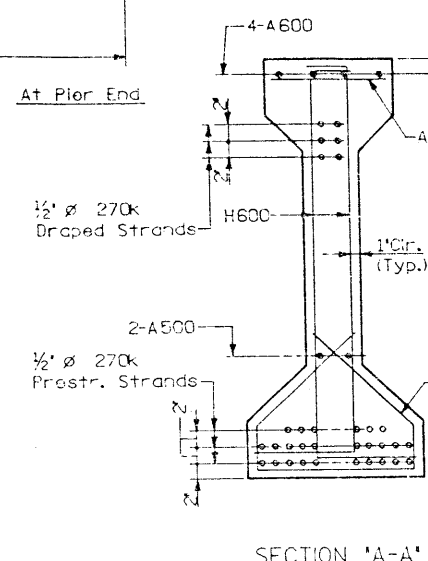
The concrete for this construction shall be of such properties as to attain a compressive strength of not less than (5,000 PSI) at the age of 28 days and stress transfer shall not be made to the bridge member until the test specimens indicate that the concrete has reached a compressive strength of at least (4,000 PSI). See General Notes for concrete finishing note.

NOTE: Cost of 1/4" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement prestressed beam.

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS A & C - EASTBOUND LANE
I-40 OVER HICKMAN CREEK
STA. 165+29.50 E.B. I-40
SMITH COUNTY
1989



DESIGNED BY: DWT
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: HIZ

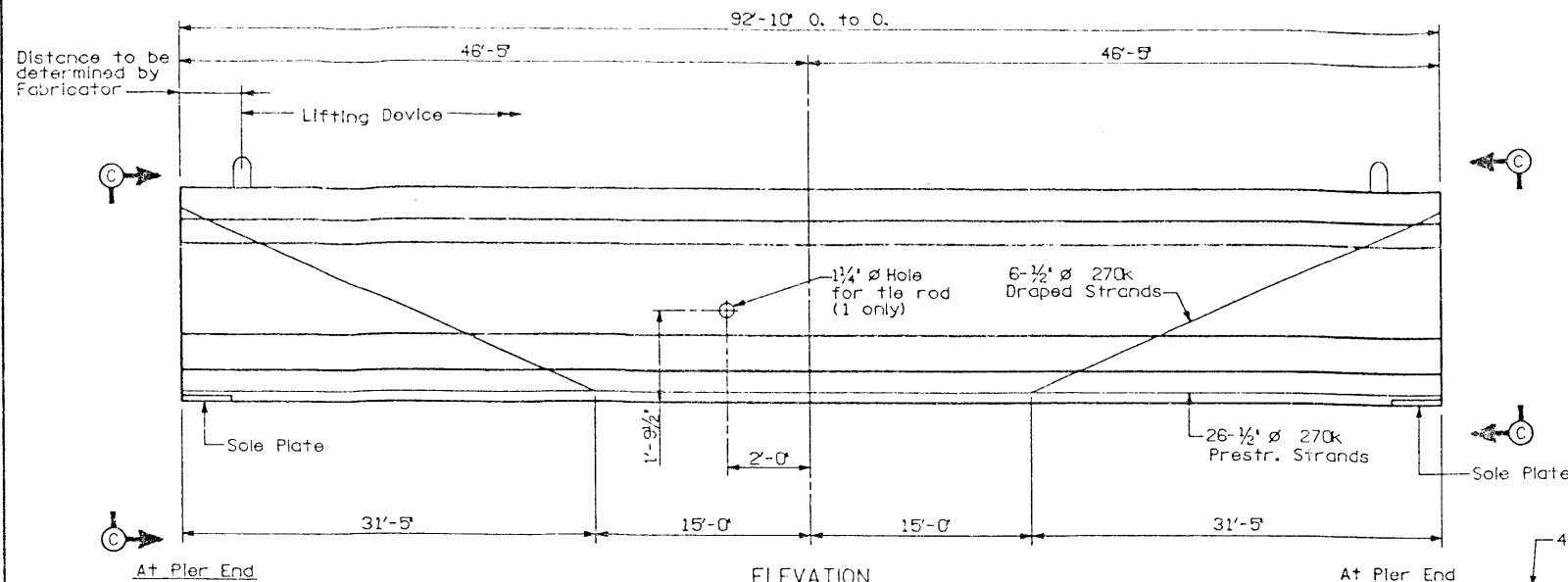
DATE: 11-89
DATE: 11-89
DATE: 11-89
DATE: 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
M-214-48

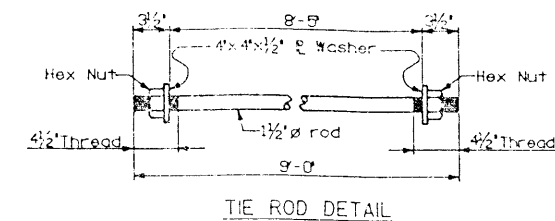
EASTBOUND LANE			
BILL OF STEEL - ONE BEAM			
BARS	SIZE	NO. REQ'D	LENGTH
A400	4	56	1'-6"
A500	5	4	5'-0"
A600	6	8	47'-9"
H400	4	112	6'-5"
H600	6	12	5'-8"
X300	3	14	6'-8"

EASTBOUND LANE		
ESTIMATED QUANTITIES - ONE BEAM		
CLASS 'A' CONCRETE	REINFORCING STEEL	PRESTRESSING STRANDS
C.Y.	LB.	LB.
18.8	1,230	1,563

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	
REVISIONS		
NO.	DATE	BY
1	9-25-89	DWT
Revised Dead Load Correction Values		



- - Denotes Grade 60 Reinf. Steel
- - Denotes Prestressing Strand



NOTES:

The top of all beams are to be rough floated. At approximately the time of initial set, the top of the beams will also be scrubbed transversely with a coarse wire brush to remove all laitance and produce a rough surface. Where precast slab panels are to be used and set on bituminous fiberboard, the outer two inches of the top flange may be troweled.

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated low relaxation prestressing strands.

An initial force at anchorage (after seating of 31,000 Lbs., shall be applied to each strand in all beams.

All beams are AASHTO - PCI standard type IV.

1' recess shall be formed at each end of beam and fill with epoxy mortar as shown.

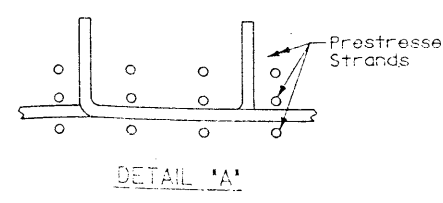
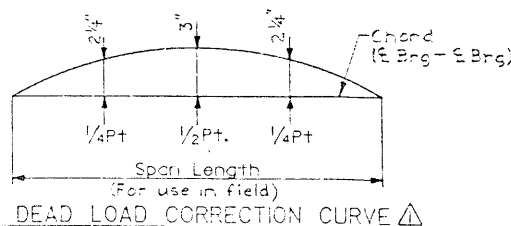
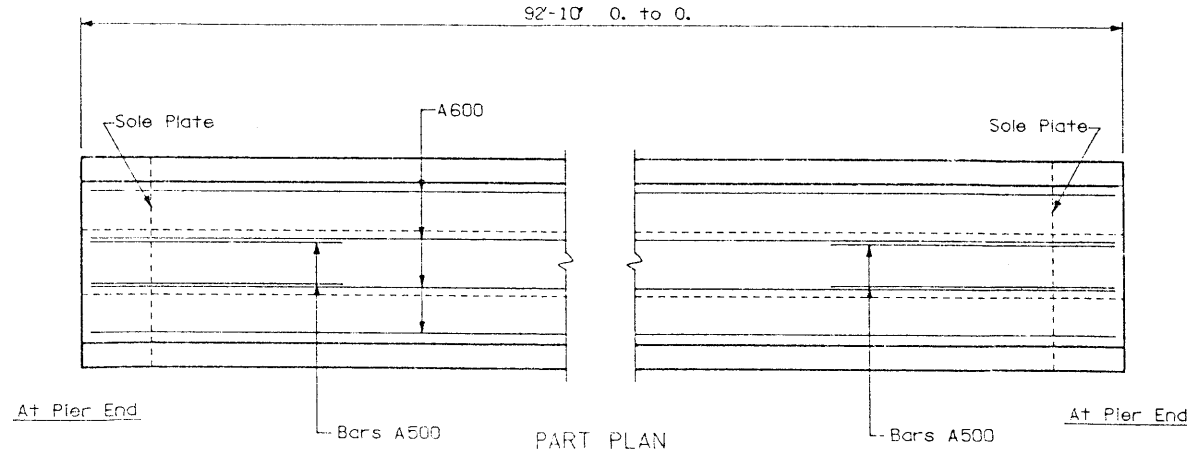
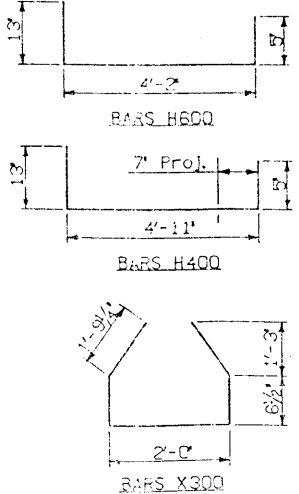
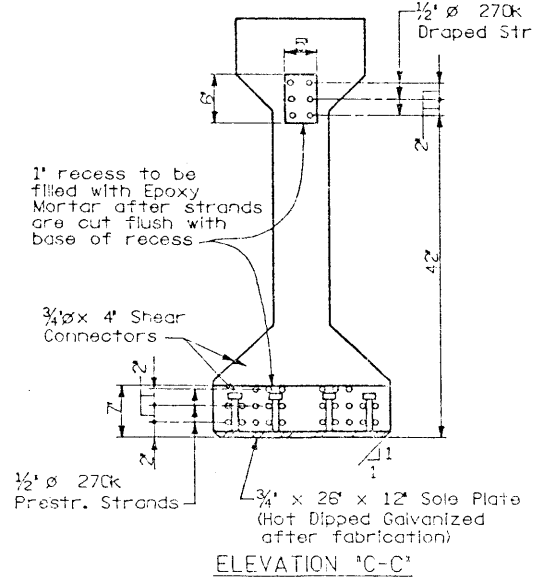
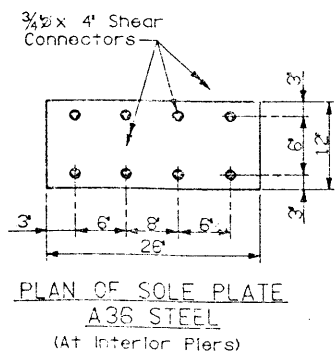
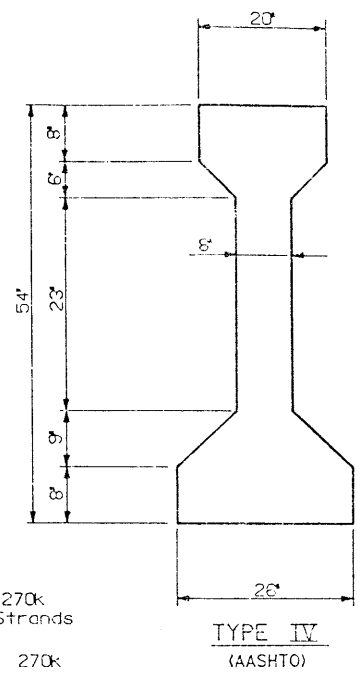
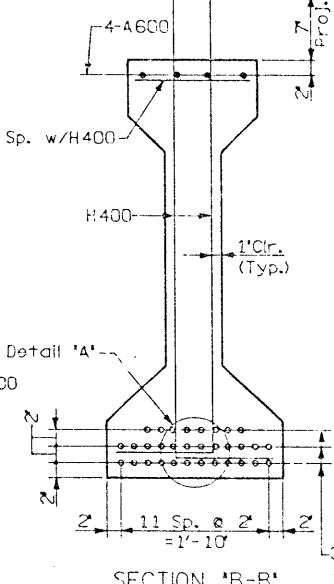
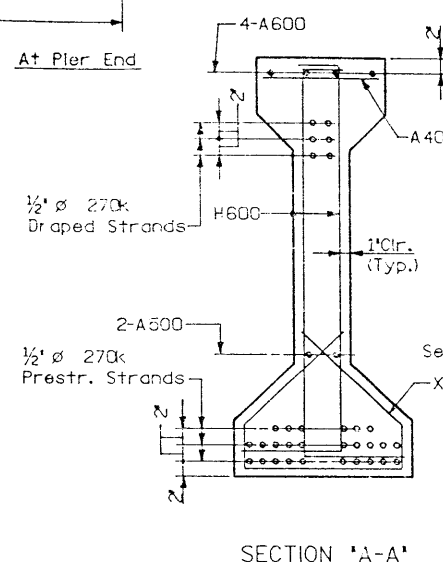
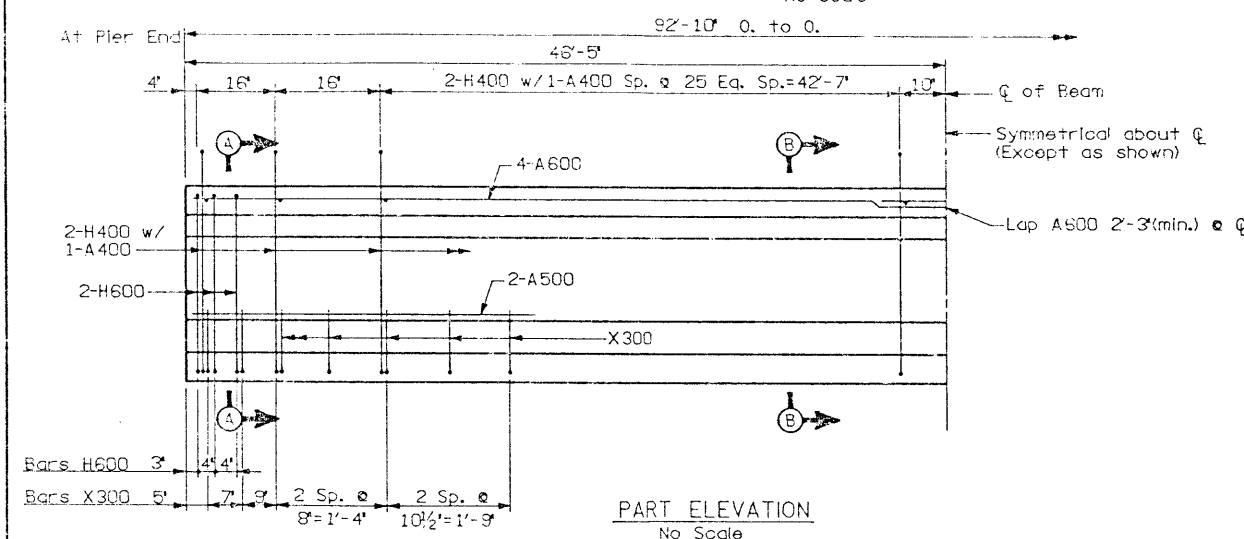
For details of bearings at pier ends, see Dwg. No. M-214-47.

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 (4,000 PSI). See General Notes for concrete finishing note.

NOTE: Cost of elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

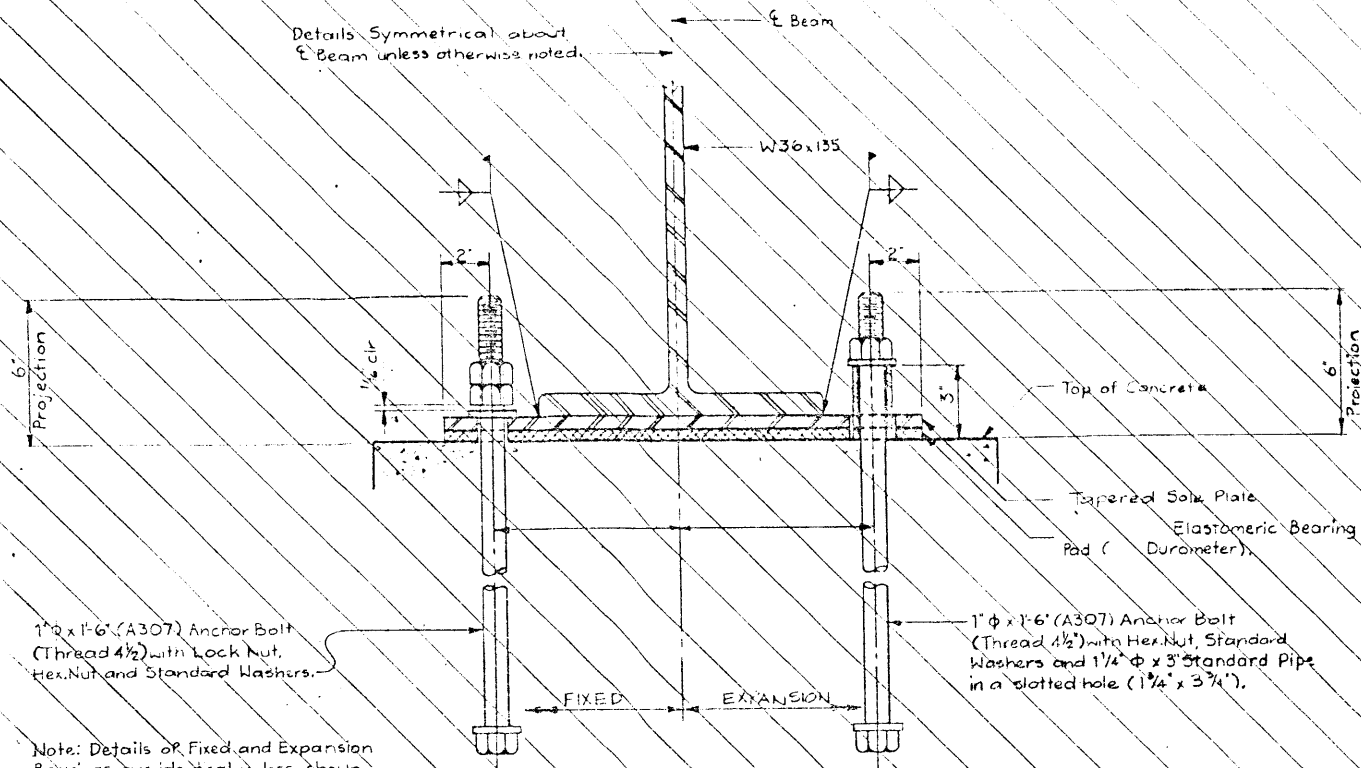
DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.



DESIGNED BY: DWT
 DRAWN BY: EAB
 SUPERVISED BY: WSH
 CHECKED BY: HTZ

DATE: 11-89
 DATE: 1-90
 DATE: 1-90
 DATE: 1-90

CORRECT
 APPROVED
 M-214-46



Note: Details of Fixed and Expansion Bearings are identical unless shown otherwise.

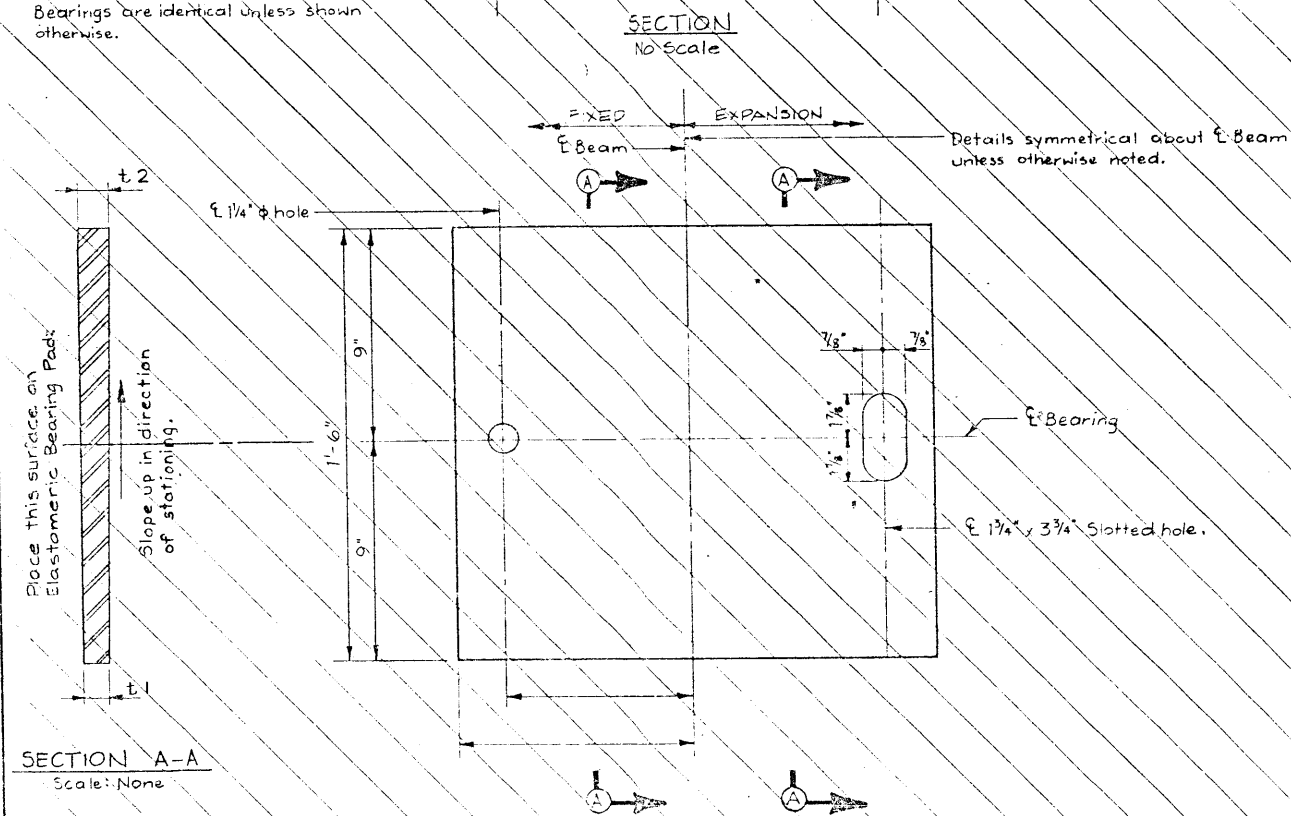
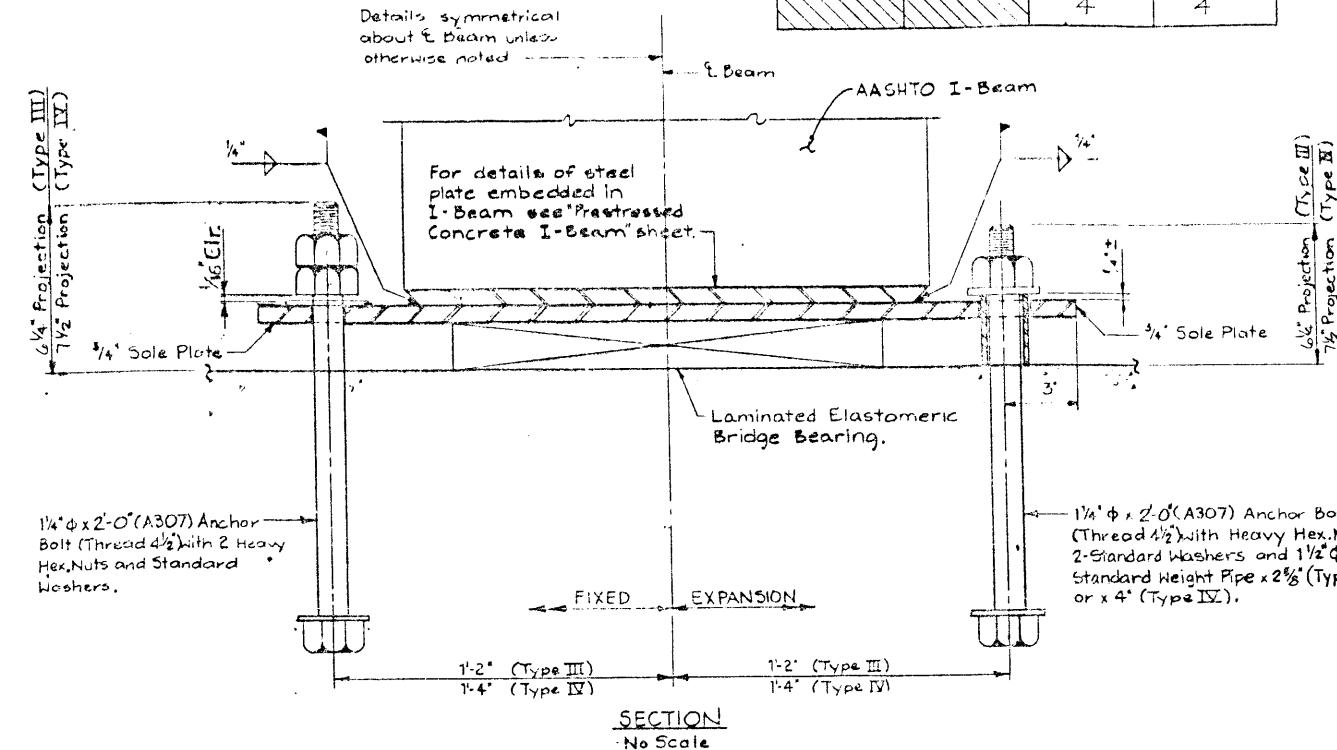


TABLE OF DIMENSIONS			
	E.B.L.	W.B.L.	
	Bt. 1	Bt. 2	Bt. 1
t1			
t2			

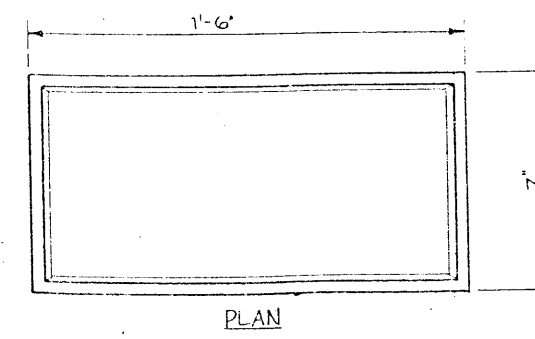
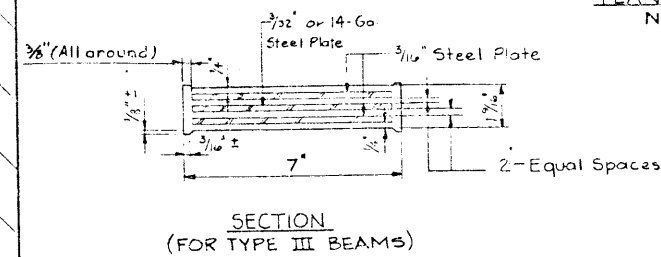
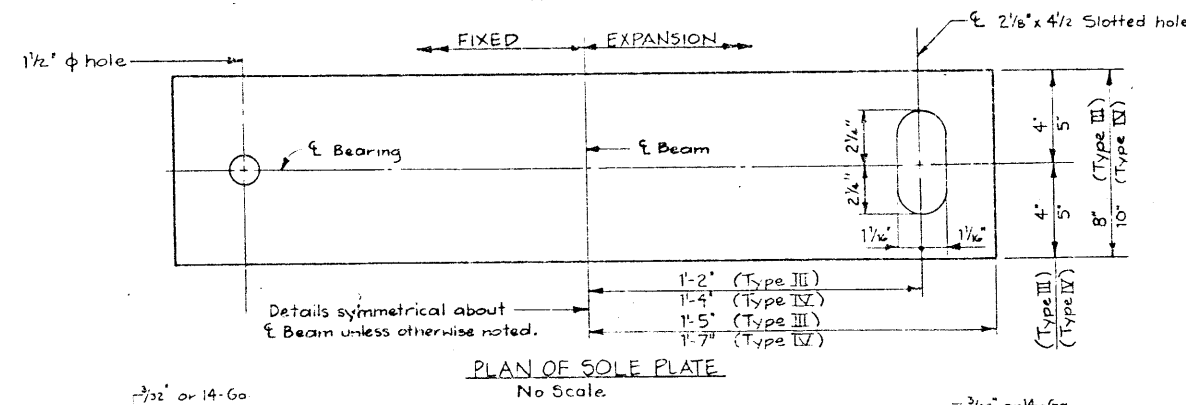
DESIGNED BY H.I.Z./D.W.T. DATE 11-88
 DRAWN BY T.L.K. DATE 11-88
 SUPERVISED BY L.I.S.H. DATE 11-88
 CHECKED BY H.I.Z./D.W.T. DATE 1-89

Notes: (Type III) - Denotes AASHTO Type III Beam
 (Type IV) - Denotes AASHTO Type IV Beam
 Details of Fixed and Expansion Bearings are identical unless shown otherwise.

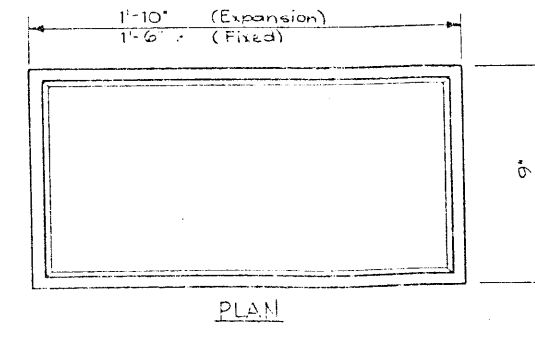
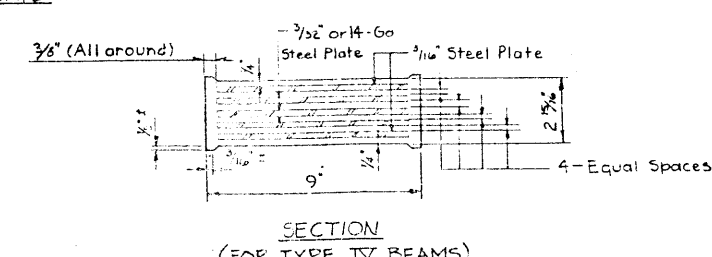
NUMBER OF BEARINGS REQUIRED			
AASHTO TYPE III		AASHTO TYPE IV	
FIXED	EXPANSION	FIXED	EXPANSION
		4	4



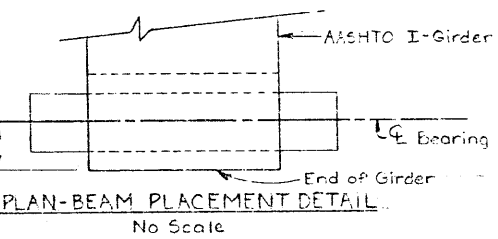
Notes: All sole plates, anchor bolts, washers, nuts & pipe shall be galvanized after fabrication in accordance with ASTM A123 or ASTM A153 as appropriate. Areas of galvanized surfaces where any field welds are made or any other damage to galvanized surfaces shall be field galvanized. Field galvanizing shall be made with Z.R.C. Cold Galvanizing Compound by Z.R.C. Chemical Products Co., Quincy, Mass. or approved equal. The materials, fabrication and installation of the laminated elastomeric bridge bearing shall be in accordance with AASHTO Section 25-Division II. All costs associated with the materials, fabrication and installation of the complete bearing assembly shall be included in the price bid for Item #615-01.03 or Item #615-01.04.



LAMINATED ELASTOMERIC BRIDGE BEARING FOR TYPE III BEAMS
 FIXED AND EXPANSION

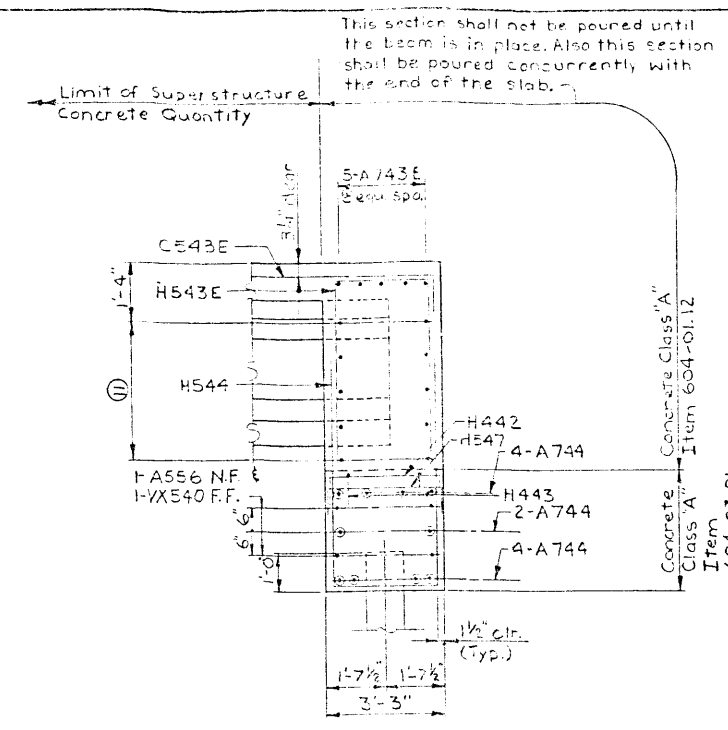
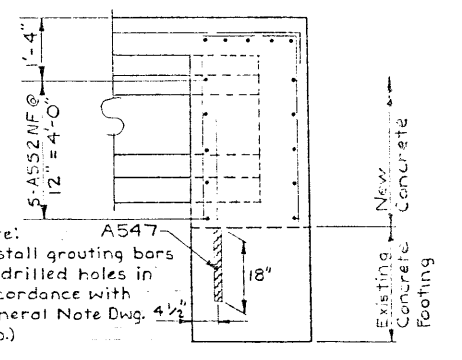
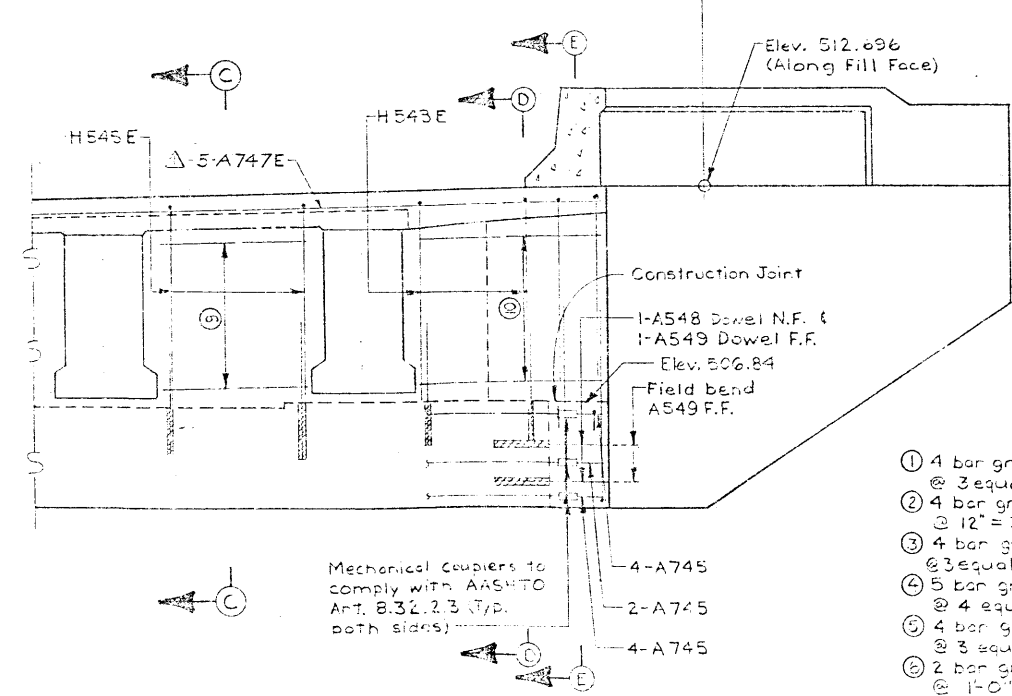
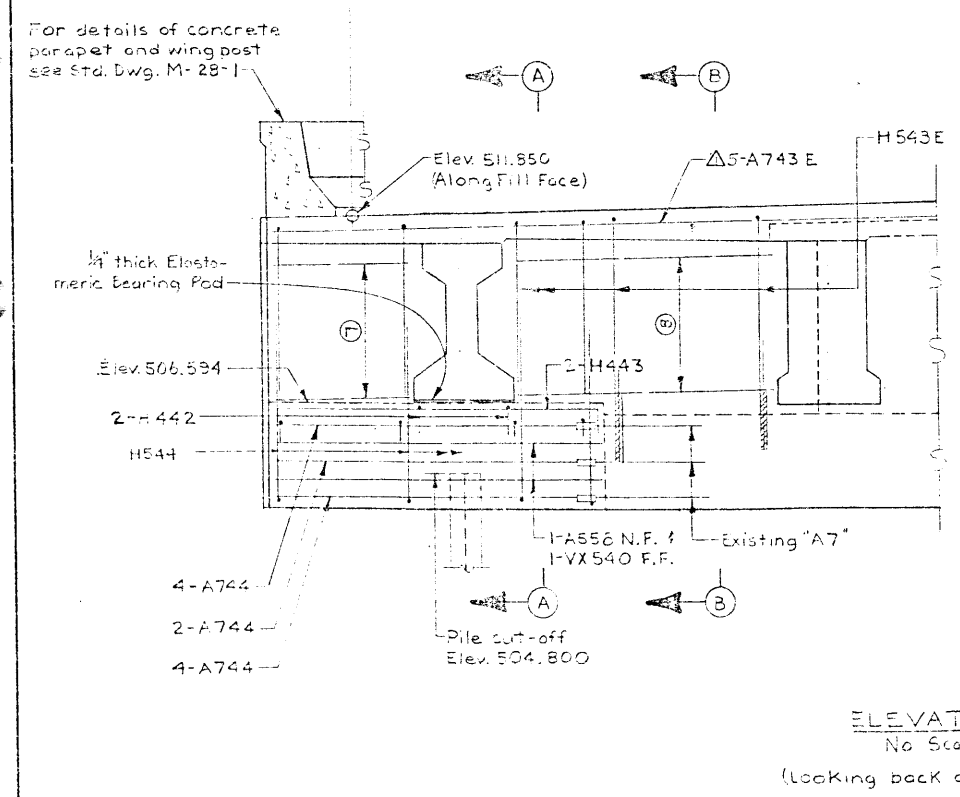
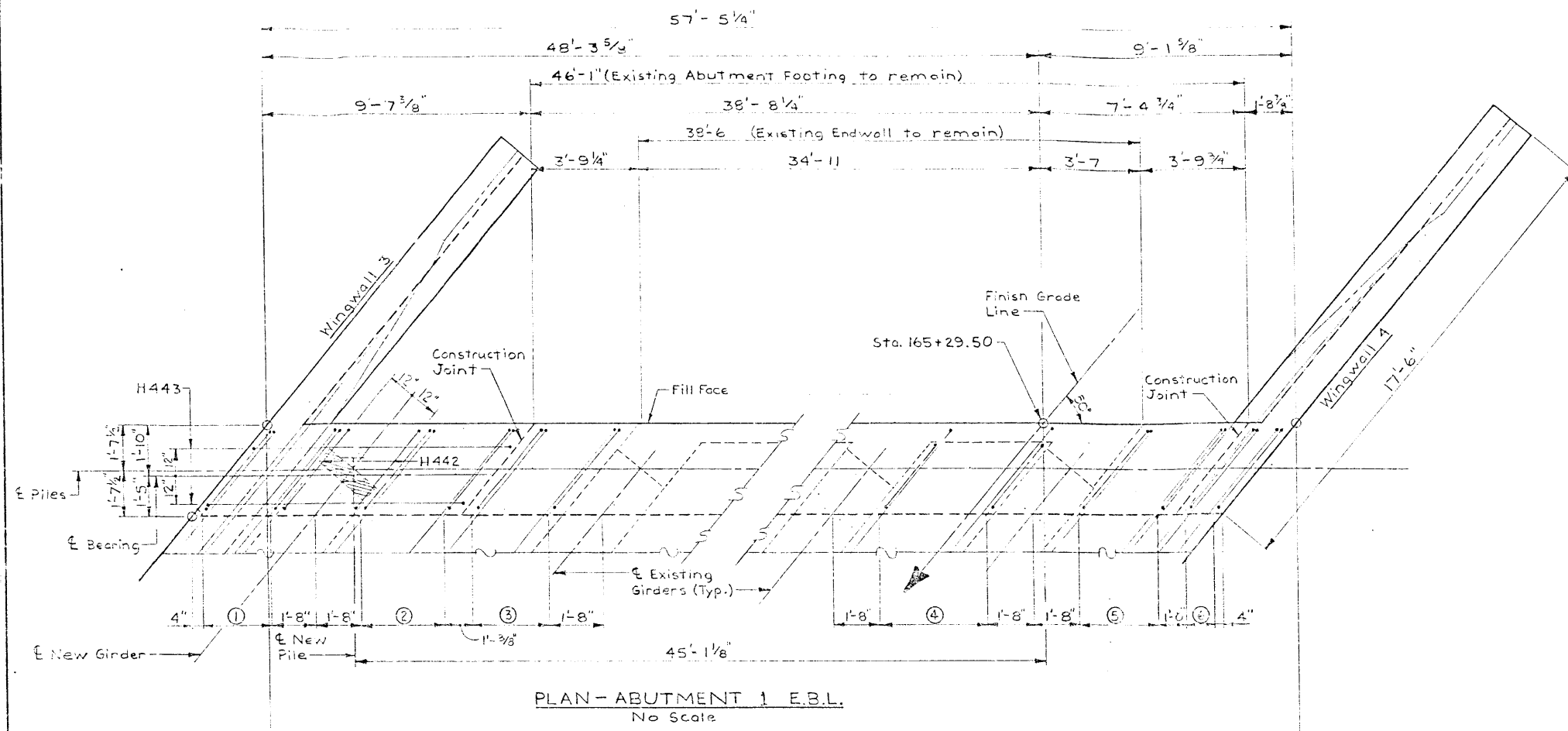


LAMINATED ELASTOMERIC BRIDGE BEARING FOR TYPE IV BEAMS
 FIXED AND EXPANSION



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
 BEARING DETAILS
 I-40 OVER
 HICKMAN CREEK
 STA. 162+13.19 W.B.L. I-40
 STA. 165+29.50 E.B.L. I-40
 SMITH COUNTY
 1989

ENGINEER OF STRUCTURES
 APPROVED
 DIRECTOR OF HIGHWAYS

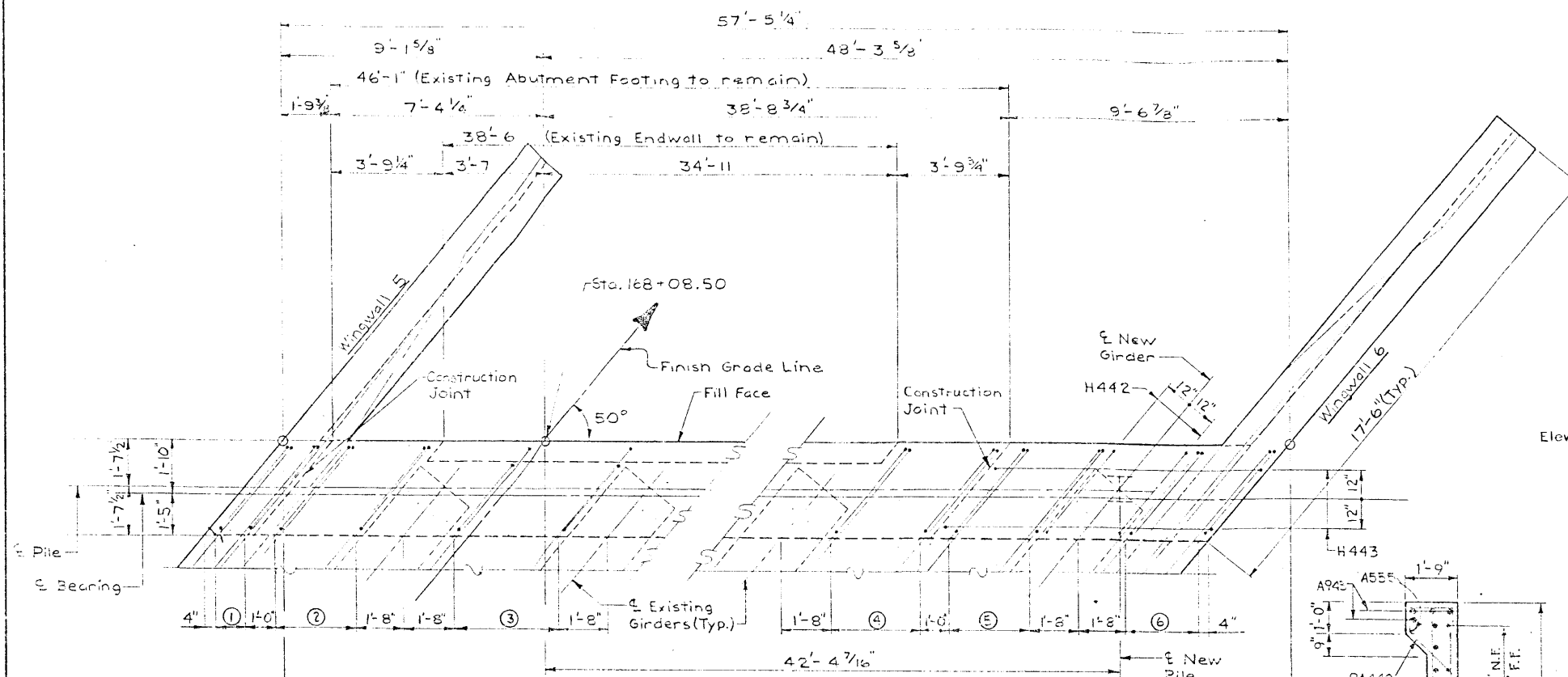
[illegible]

Cost of bridge rail and post is to be included in the cost of the bridge rail system.

All costs associated with providing and installing mechanical couplers or field bending reinforcing steel shall be included in the price bid for Item No. G04-C03.02.

△ See Dwg. No. M-214-52A for construction joint and phase construction details.

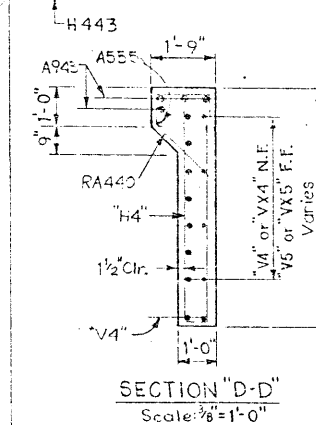
- ① 4 bar groups of 1-H544, 1-H543E, 1-CS43E & H547
 @ 3 equal spaces = 2'-6 3/4".
- ② 4 bar groups of 1-H544, 1-H543E, 1-CS43E & H547
 @ 12" = 3'-0".
- ③ 4 bar groups of 1-A547, 1-H543E & 1-CS43E
 @ 3 equal spaces = 2'-9".
- ④ 5 bar groups of 2-A547, 1-H545E & 1-A557E
 @ 4 equal spaces = 3'-10 3/4" (Typical between existing girders)
- ⑤ 4 bar groups of 1-A547, 1-H543E & 1-CS43E
 @ 3 equal spaces = 2'-10 1/4".
- ⑥ 2 bar groups of 1-H544, 1-H543E, 1-CS43E & H547
 @ 1'-0".
- ⑦ 5-A550 N.F. & 5-VX541 F.F.
- ⑧ 5-A552 N.F.
- ⑨ 5-A553 N.F. (Typical between existing girders)
- ⑩ 5-A554 N.F. & 5-V540 F.F.
- ⑪ 5-A551 @ 12" I.I.F. & 5-VX51 or 5-V51
 @ 12" F.F. = 4'-0".

[illegible]

PLAN- ABUTMENT 2 E.B.L.
No Scale

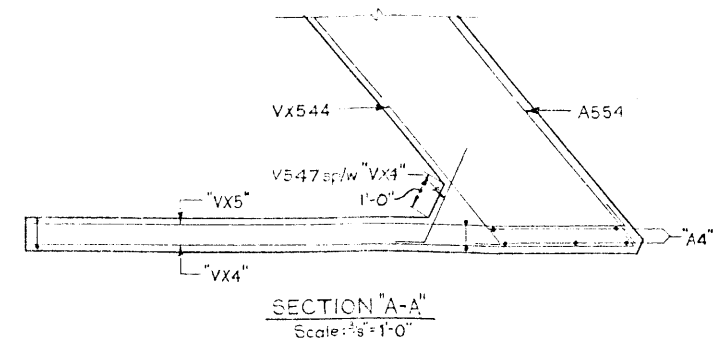
- ① 2 bar groups of 1-H544, 1-H543E, H547 & 1-C543E @ 1'-0".
- ② 4 bar groups of 1-A547, 1-H543E & 1-C543E @ 3 equal spaces 2'-10 3/4".
- ③ 5 bar groups of 2-A547, 1-H545E & 1-A557E @ 4 equ. spa. = 3'-10 3/4" (Typical between existing girders)
- ④ 4 bar groups of 1-A547, 1-H543E & 1-C543E @ 12" = 3'-0".
- ⑤ 4 bar groups of 1-H544, 1-H543E, H547 & 1-C543E @ 3 equ. spa. = 2'-9 3/4".
- ⑥ 4 bar groups of 1-H544, 1-H543E, H547 & 1-C543E @ 3 equ. spa. = 2'-6 1/2".
- ⑦ 5-A554 N.F. & 5-VK54 F.F.
- ⑧ 5-A553 N.F. (Typical between existing girders)
- ⑨ 5-A552 N.F.
- ⑩ 5-A550 N.F. & 5-V546 F.F.
- N.F. - Near Face
F.F. - Far Face

For details of concrete
parapet and wing post
see Std. Dwg. M-28-17

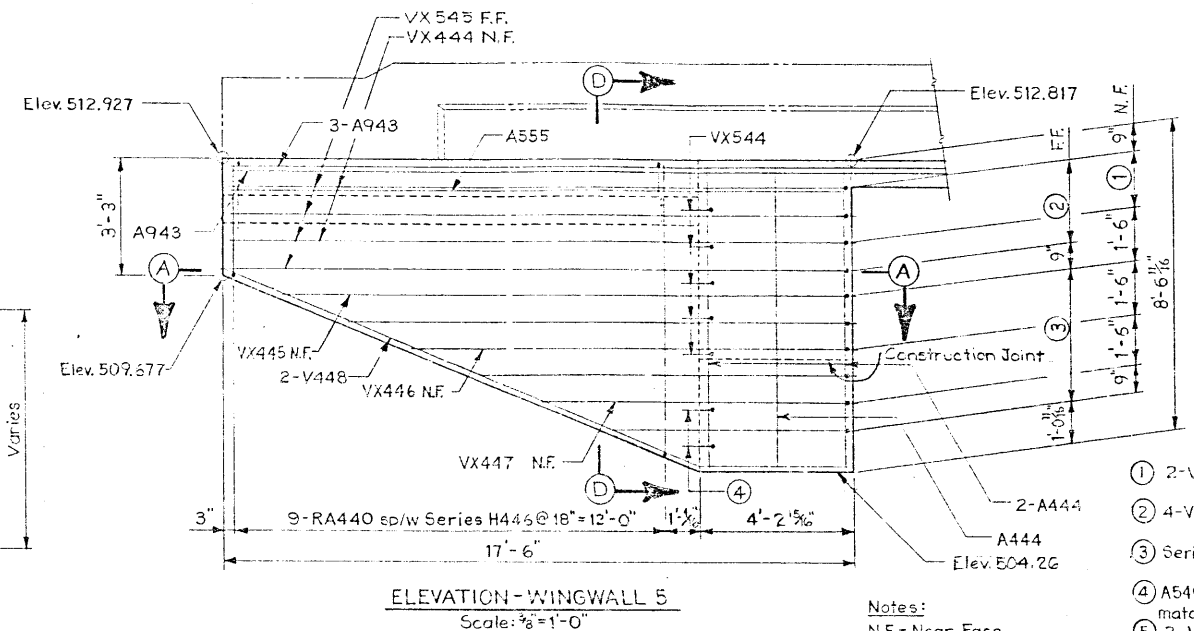


SECTION "D-D"

Scale: $\frac{3}{8}" = 1'-0"$



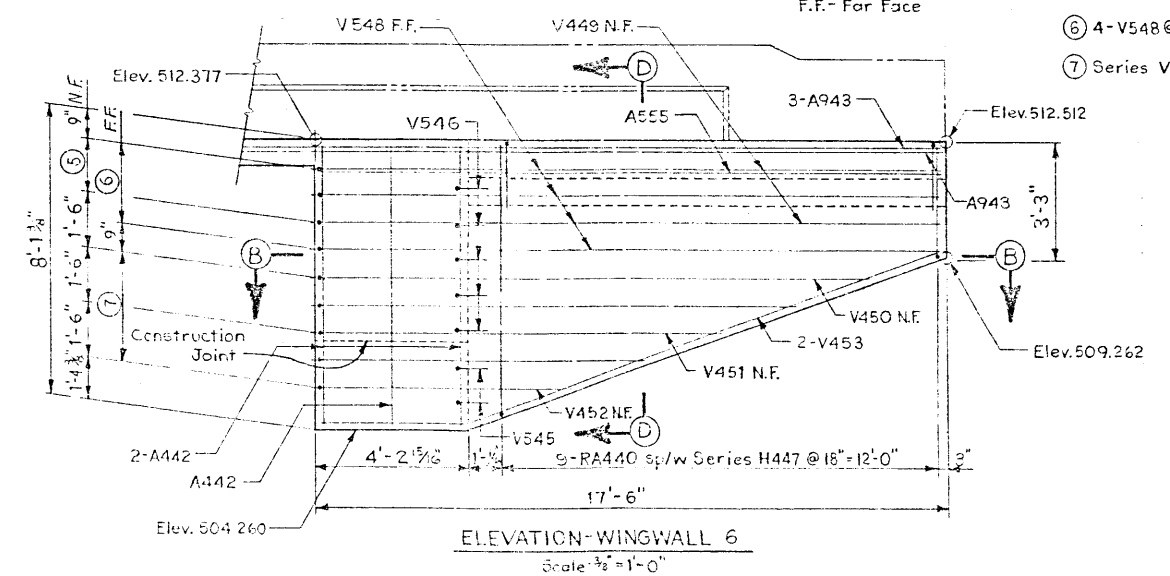
SECTION "A-A"
Scale: $\frac{3}{8}" = 1'-0"$



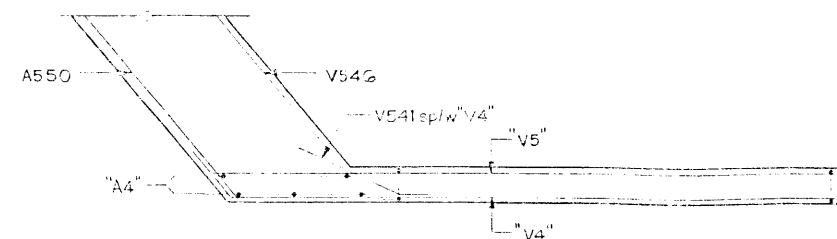
ELEVATION - WINGWALL 5
Scale: $\frac{3}{8}'' = 1'-0''$

- ① 2-VX444@18" N.F.
- ② 4-VX545@9"=2'-3" F.F.
- ③ Series VX546@9"=3'-9" F.F.
- ④ A549(Dowel) Field bend to match V544
- ⑤ 2-V449@18" N.F.
- ⑥ 4-V548@9"=2'-3" F.F.
- ⑦ Series V549@9"=3'-0" F.F.

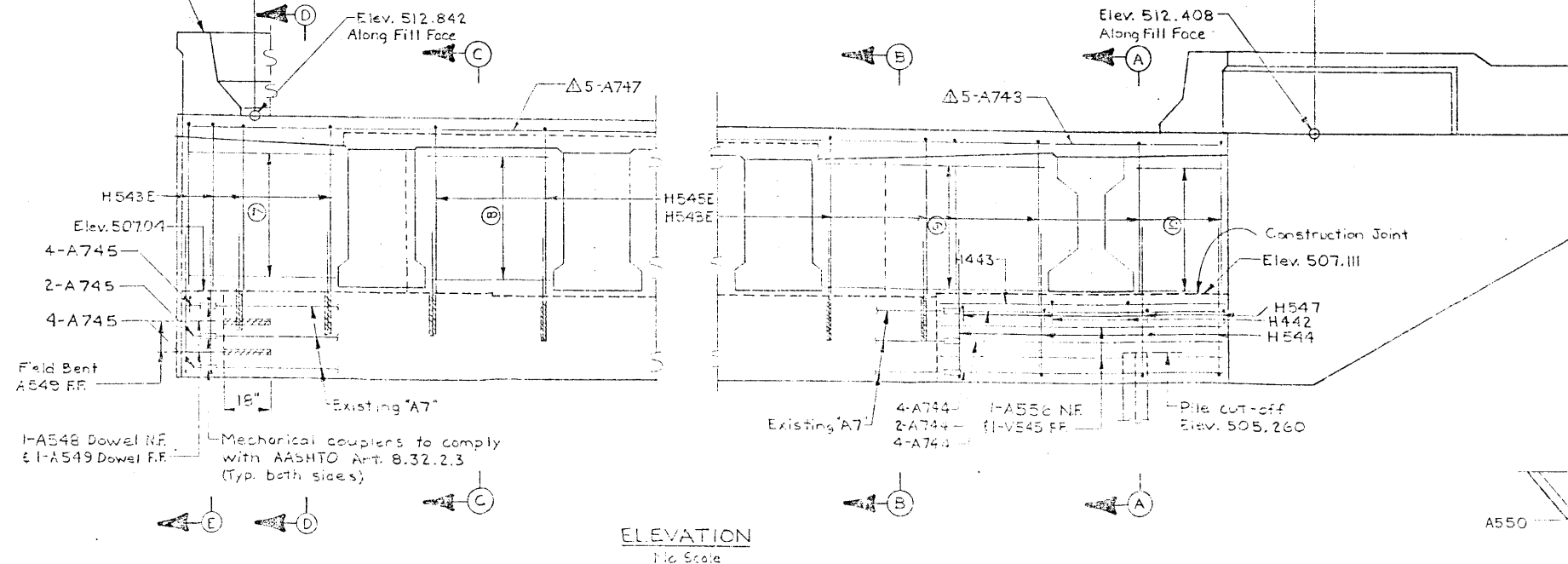
Notes:
N.F. - Near Face
F.F. - Far Face



ELEVATION-WINGWALL 6
Scale: $\frac{3}{8}'' = 1'-0''$



SECTION "B-B"
Scale: $\frac{3}{8}" = 1'-0"$



ELEVATION
No Scale

DESIGNED BY DWT DATE 1-89
 DRAWN BY SFC/NDM DATE 1-89
 SUPERVISED BY ASH DATE 1-89
 CHECKED BY HZZ DATE 2-89

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (5)
I-40 E.B.L. OVER
HICKMAN CREEK
STA. 165+29.50 E.B.L. I-40
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-24-52

PROJECT NO.	YEAR	SHEET NO.
1R-40-5911257	1989	

REVISIONS			
NO.	DATE	BY	DESCRIPTION

Notes:

For General Notes, see Dwg. No. M-214-36.

Dimensions shown on this drawing are necessarily approximate. Contractor shall field verify dimensions of existing structure before proceeding with work, which includes but is not limited to the fabrication of structural steel, reinforcement, girders and formwork.

All welds and weld inspections to be in accordance with ANSI/AASHTO/AWS D1.5-88 and Special Provision No. 602. All welds, including fillet welds, to be inspected. All structural steel shall be considered main members for the purpose of determining frequency of inspection of fillet welds.

All structural steel not completely encased in concrete shall conform to AASHTO M 222 (ASTM A589), Fy=50 ksi minimum. All structural steel completely encased in concrete shall conform to AASHTO M 183 (ASTM A36), Fy=36 ksi.

All structural steel exposed to the atmosphere shall be finished with paint in accordance with General Notes for painting structural steel. In addition, surfaces not accessible after erection shall receive an additional shop primer coat of inorganic zinc paint.

Chipping portions of existing pier necessary for bracket addition and drilling and grouting of dowels shall be considered incidental to the work and shall not be paid for separately.

The 4 inch chipping of concrete may not be sufficient to insure the removal of all unsound concrete. If more concrete removal is required to reach sound material, care shall be taken not to cut or otherwise damage existing reinforcement.

Concrete shall obtain 90 per cent of the specified 28 day strength prior to placement of the girders.

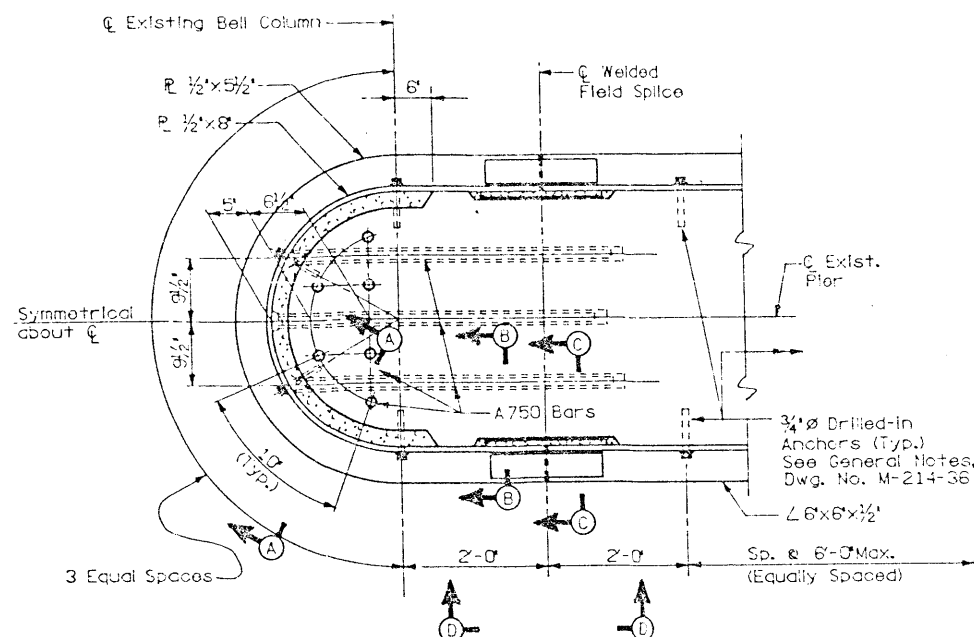
Grout shall be non-shrink, Fc=5,000 psi. Grout shall be allowed to achieve a strength of 3,000 psi before being loaded.

Care shall be taken during placement of concrete to insure that concrete completely fills space under structural steel gusset plates and that no pockets or voids exist adjacent to gusset plates.

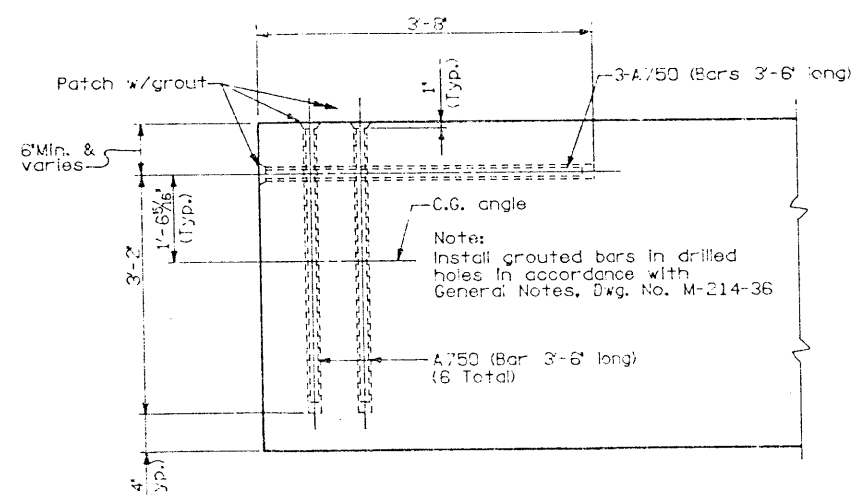
Mechanical couplers shall be Cold Forged Mechanical Splices applied by octagonal dies and be capable of developing 125% of the specified yield strength of the reinforcement. In accordance with Provisions of AASHTO Art. 8.32. Certification of AASHTO compliance will be required prior to approval. All costs associated with installing mechanical couplers, labor, equipment and incidentals shall be included in the cost for item 604-0302.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

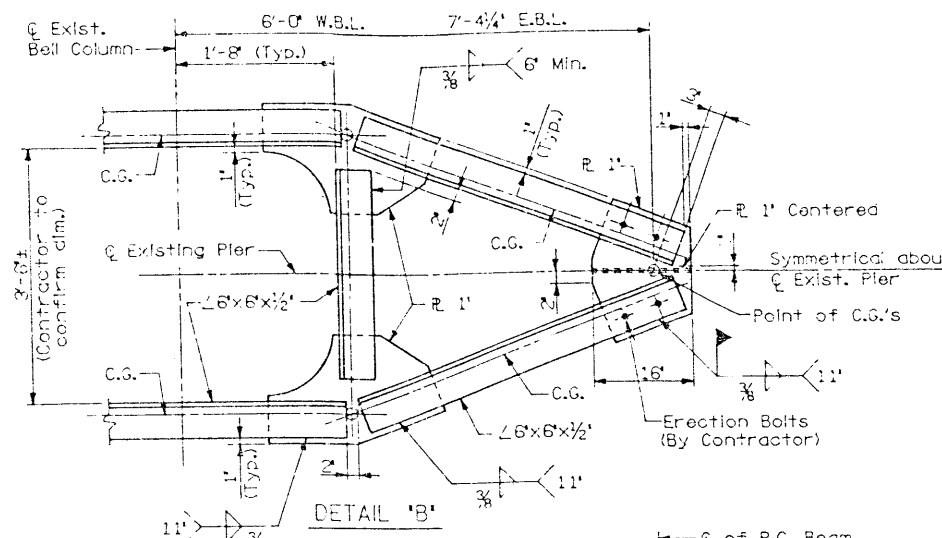
PIERS 1 & 2
I-40 W.B.L. & E.B.L. OVER
HICKMAN CREEK
STA. 162+13.19 W.B.L. I-40
STA. 165+29.50 E.B.L. I-40
SMITH COUNTY
1989



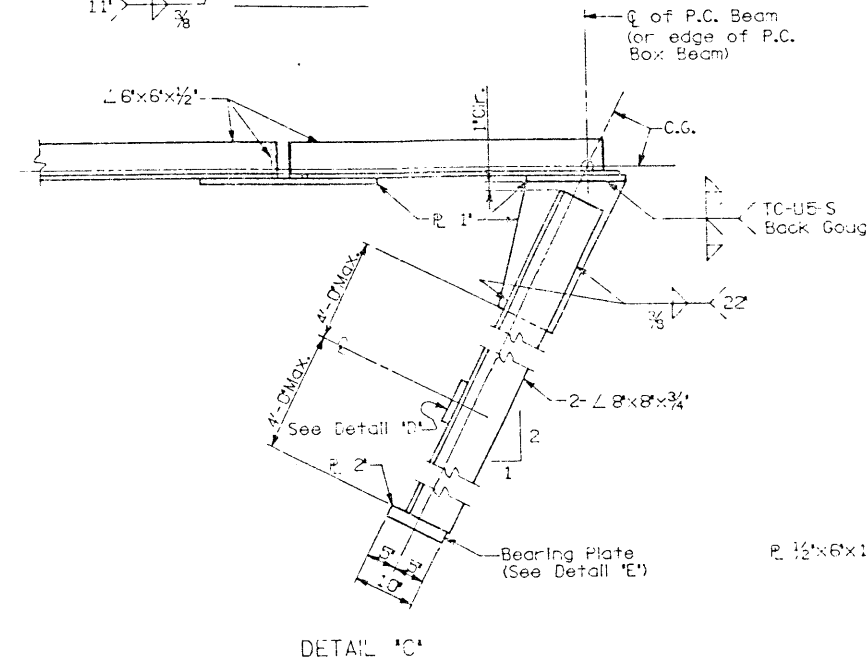
DETAIL 'A'



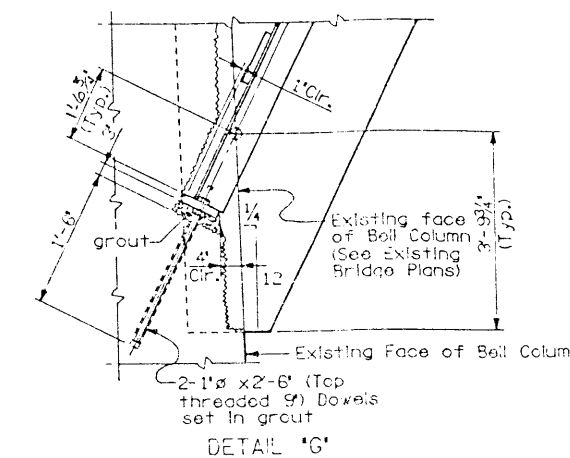
DETAIL 'H'



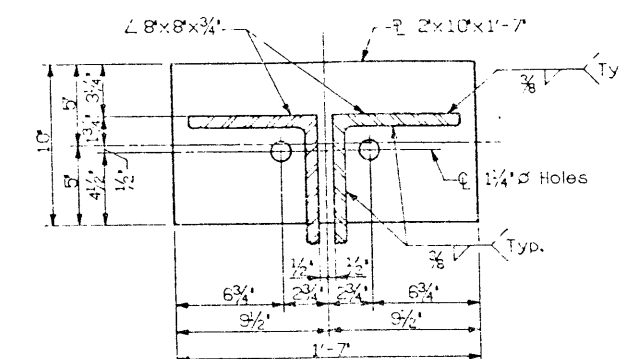
DETAIL 'B'



DETAIL 'C'

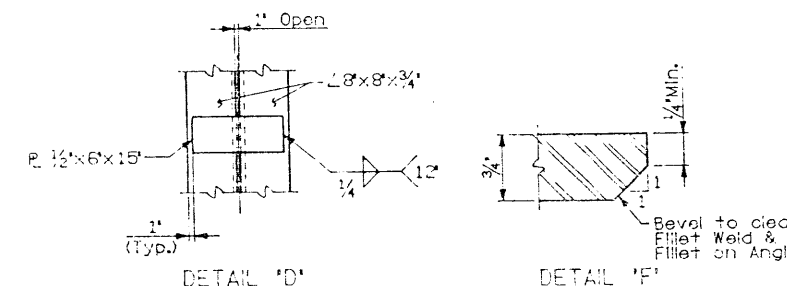


DETAIL 'G'



DETAIL 'E'

PLAN OF BEARING PLATE



DETAIL 'D'

DETAIL 'F'

Notes Cont:

Drilled-in anchors shall be in accordance with General Notes.

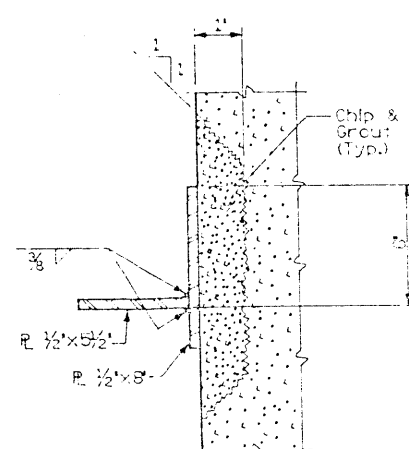
Riser blocks to be poured monolithically with Cantilever cap beam.

Elastomeric pads shall be in place a minimum of one day before being disturbed by setting beams. Place rubber bonding cement in such a way that column surfaces will not be stained.

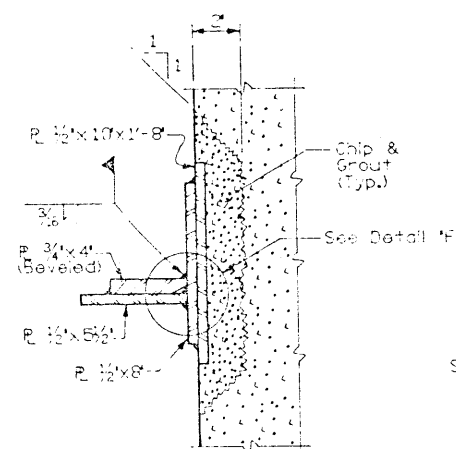
Riser block bearing pad surface to conform to bottom of beam grade.

Anchor bolts shall be in place when Cantilever cap is poured.

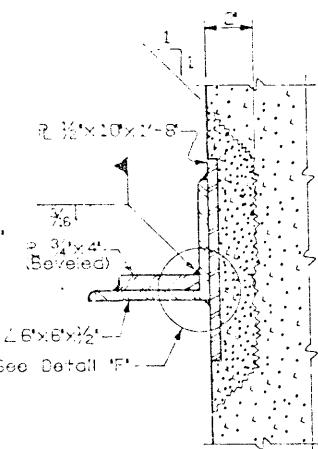
Reinforcement shall be adjusted as needed to prevent interference with anchor bolt placement. Drilled and grouted anchor bolts shall not be allowed.



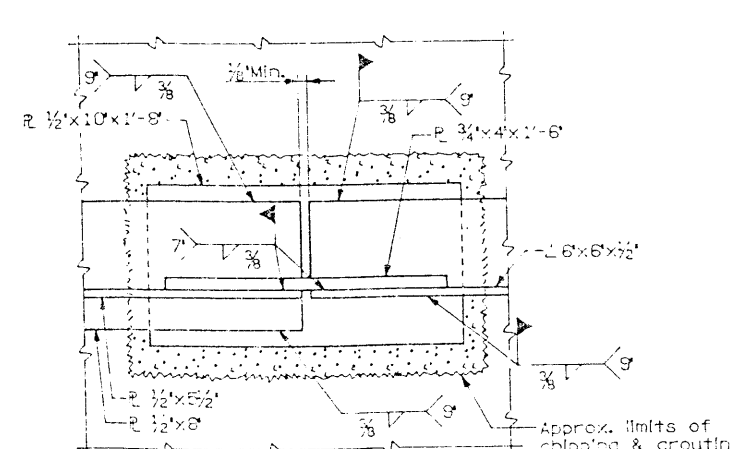
SECTION A-A



SECTION B-B



SECTION C-C



ELEVATION D-D

DESIGNED BY: WCA
DRAWN BY: WCA
CHECKED BY: WCA
DATE: 12-20-88
DATE: 12-20-88
DATE: 12-20-88

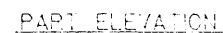
CHECKED

DIRECTOR OF STRUCTURES

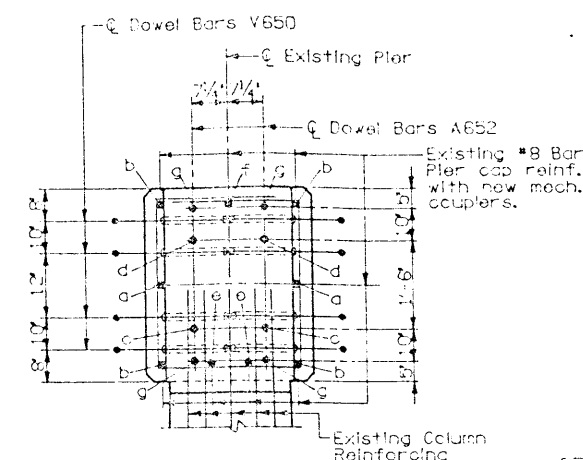
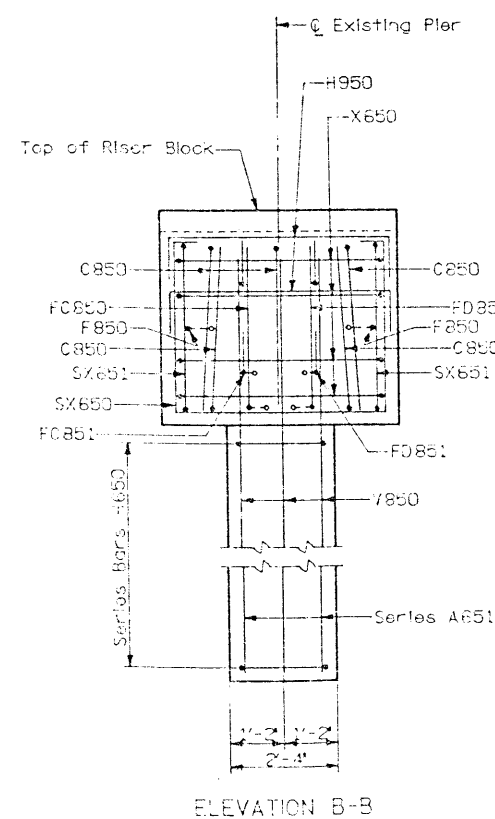
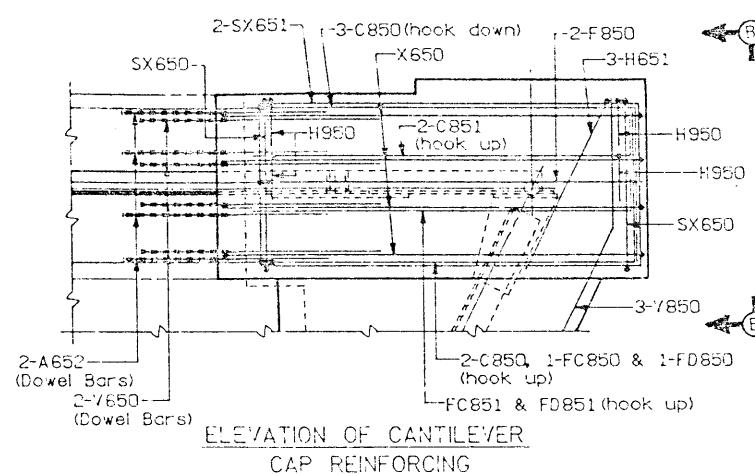
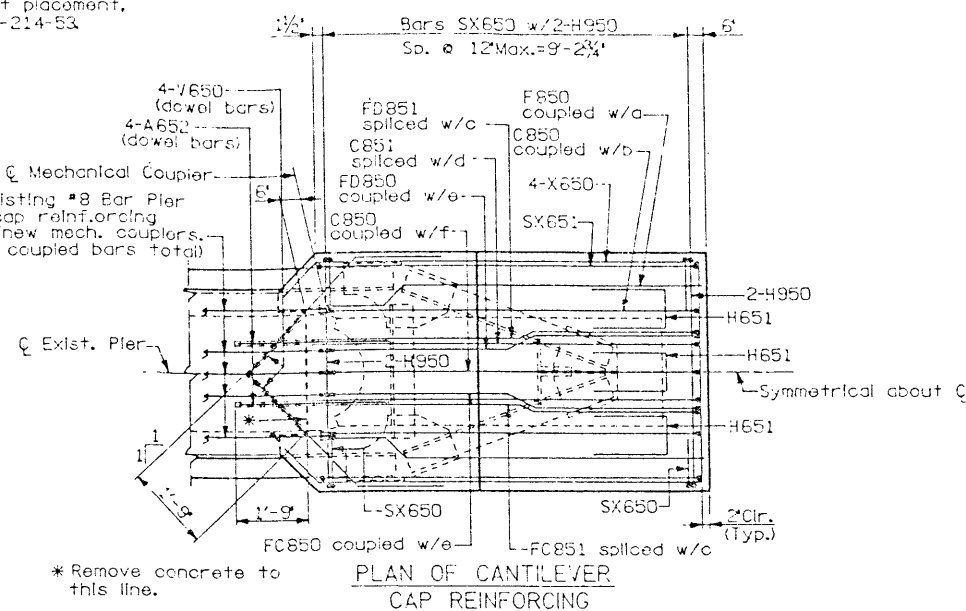
APPROVED

Scale: None

M-214-591



(Showing Cantilever Column Reinforcing)



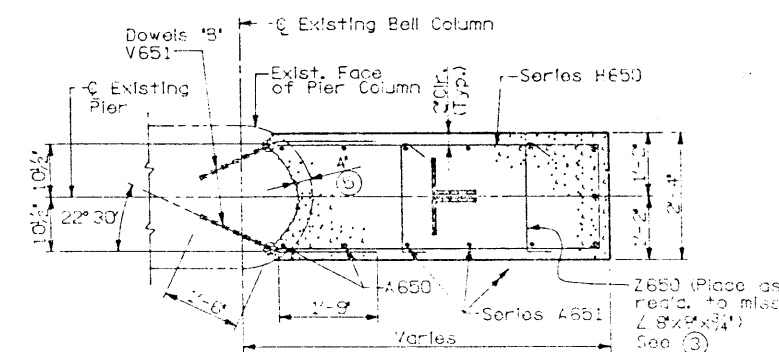
SECTION A-A

g - Denotes A652 dowel bars only.

[illegible]

Note:
For notes, see Dwg. No. M-214-53A.

ESTIMATED QUANTITIES - E.B...			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
1	14	4,100	2,750
2	14	4,100	2,750



SECTION C-C
(Layout Dowels 'B')

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1 & 2
I-40 E.B.L. OVER
HICKMAN CREEK
STA. 165+29.50+ E.B.L. I-40
SMITH COUNTY
1989

MARK	T	LOCATION	SZ	NO. ROD	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. ROD	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. ROD	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS
					a	b	c	d	e								a	b	c	d	e								a	b	c	d	e		
SPAN A THRU C - W.B.L.											PIER 1 - W.B.L.											ABUTMENT 2 W.B.L.													
A500	E	DECK	5	237	4-10					4-10	1195	A350	E	RISER BLOCK	3	10	4-11					4-11	18	4740	E	"	7	5	19-4				19-4	198	
A501	E	"	5	568	10-10					10-10	6418	A351	E	"	3	10	4-9					4-9	18	4741	E	"	7	10	7-0				7-0	143	
A502	E	"	5	106	24-5					24-5	2609	A650	E	CANT. COLUMN	6	4	12-5					12-5	75	4742	E	"	7	10	1-0				1-0	20	
A503	E	"	5	371	30-0					30-0	11609	A651	E	"	6	2	12-5					12-5	136	A940	E	"	9	8	12-10				12-10	349	
A504	E	"	5	82	32-6					32-6	2780		E	* 6 BAR SERIES	EACH	TO					TO		A941	E	"	9	3	19-4				19-4	195		
A510	E	DIAPHRAGM	5	8	6-0					6-0	50		E	"	8	2	8-4 1/2	1-0			2-8		A940	E	"	4	4	12-8	0-8			13-4	36		
B501	E	DECK	5	580	25-9	0-7				26-4	15930	A652	E	CANT. CAP	6	8	3-6					3-6	42	C441	E	"	4	1	11-5	0-8			12-1	8	
B502	E	DIAPHRAGM	5	7	0-4	3-5	0-5			7-11	58	C850	E	"	8	5	8-1	3-5 1/2			11-7	155	C442	E	"	4	1	8-4	0-8			9-0	6		
			5	580	19-10	0-7				20-5	12351	C851	E	"	8	2	8-4 1/2	1-0			9-5	50	C113	E	"	4	1	4-10	0-8			5-6	4		
***TOTAL WEIGHT (LBS) 53,050											F850											E													
***TOTAL INCLUDES 53,090 LBS OF EPOXY COATED BARS											F850											E													
ABUTMENT 1 W.B.L.											PIER 2 - W.B.L.											ABUTMENT 2 W.B.L.													
A440	E	WINGWALL 2	4	5	7-7					7-7	25	H650	E	CANT. COLUMN	6	1	2-0	6-6			15-0	161	C541	E	"	5	5	10-10	0-10			11-8	61		
A441	E	WINGWALL 1	4	5	8-4					8-4	28		E	* 11 BAR SERIES	EACH	TO					TO		C542	E	"	5	2	7-5	0-10			8-3	17		
A540	E	ABUTMENT	5	5	4-8					4-8	24		E	"	6	3	1-0	4-0			9-0	41	C543	E	"	5	38	10-0	0-10			10-10	429		
A541	E	ABUTMENT	5	20	4-1					4-1	85	H651	E	CANT. CAP	6	3	1-0	4-0			9-0	41	C544	E	"	5	8	12-8	0-10			13-6	113		
A542	E	"	5	5	5-7					5-7	29	H950	E	"	9	18	4-10	1-0			6-10	418	C545	E	"	5	1	11-5	0-10			12-3	47		
A543	E	"	5	5	2-8					2-8	14	SX650	E	"	6	9	4-9 1/2	3-7 1/2	1-0		14-1	190		E	"	6	2	3-5 1/4	8-4 1/2	1-9		23-8	71		
A544	E	"	5	2	7-5					7-5	15	SX651	E	"	6	2	3-5 1/4	8-4 1/2	1-9		23-8	71		E	"	6	8	3-3	1-9	1-2 1/4	1-2 1/4	5-0	60		
A545	E	"	5	2	3-0					3-0	6	V650	E	"	6	8	3-3	1-9	1-2 1/4	1-2 1/4	5-0	60	C546	E	"	5	1	11-7	0-8			12-3	45		
A546	E	"	5	2	3-10					3-10	8	V651	E	CANT. COLUMN	6	22	1-9	1-9	1-7 3/4	0-8	3-6	116		E	"	6	2	3-5 1/4	8-4 1/2	1-9		23-8	71		
A547	E	"	5	48	3-9					3-9	188	V650	E	"	8	3	13-9	2-4 1/2	2-1 1/2	1-0 3/4	16-2	129		E	"	6	4	4-7 3/4	8-3 3/4	1-0	0-8 1/2	23-3	140		
A551	E	WINGWALL	5	2	12-8					12-8	25	X650	E	CANT. CAP	6	4	4-7 3/4	8-3 3/4	1-0	0-8 1/2	23-3	140	H440	E	"	4	1	7-8	0-9			9-2	32		
A680	E	ABUTMENT	6	24	11-4					11-4	409	Z650	E	CANT. COLUMN	6	47	1-0	2-0	0-8			3-8	259		E	"	7	5	24-4				24-4	249	
A740	E	"	7	5	15-4					15-4	196		E	"	6	1	2-0	6-6			15-0	161	H441	E	"	4	1	8-4	0-8			9-8	33		
A741	E	"	7	10	7-0					7-0	143	***TOTAL WEIGHT (LBS) 2233											H441	E	"	4	1	8-4	0-8			9-8	33		
A742	E	"	7	10	1-0					1-0	20	PIER 2 - W.B.L.												E	"	7	5	24-4				24-4	249		
A910	E	WINGWALL 1 & 2	9	8	12-10					12-10	349	A350	E	RISER BLOCK	3	10	4-11					4-11	18	H540	E	"	5	18	2-3	4-11			12-1	227	
A941	E	ABUTMENT	9	3	19-4					19-4	198	A351	E	"	3	10	4-9					4-9	18	H541	E	"	5	10	2-3	4-8			11-7	121	
C440	E	WINGWALL 1 & 2	4	4	12-8	0-8				13-4	36	A650	E	CANT. COLUMN	6	4	12-5					12-5	75	H542	E	"	5	20	1-7	4-11			11-5	238	
C441	E	WINGWALL 2	4	1	11-5	0-8				12-1	8	A651	E	"	6	2	12-5					12-5	136	H543	E	"	5	10	2-3	0-10			3-11	41	
C442	E	"	4	1	8-4	0-8				9-0	6		E	* 6 BAR SERIES	EACH	TO					TO		H540	E	"	5	18	3-2	0-6	4-6	3-2 1/4	8-2	153		
C443	E	"	4	1	4-10	0-8				5-6	4		E	"	6	8	3-6				3-6	42	H540	E	"	5	28	3-2	0-6	1-5	2-4	1-0	7-5	217	
C444	E	WINGWALL 1	4	1	11-7	0-8				12-3	8		E	"	8	5	8-1	3-5 1/2			11-7	155	V440	E	"	4	2	2-4	11-6	10-6	4-8 1/4	13-10	18		
C445	E	"	4	1	8-8	0-8				9-4	6	A652	E	CANT. CAP	6	8	3-6					3-6	42	H540	E	"	5	18	3-2	0-6	1-5	2-4	1-0	7-5	217
C446	E	"	4	1	5-10	0-8				6-6	4	C850	E	"	8	5	8-1	3-5 1/2			11-7	155	V440	E	"	4	2	2-4	11-6	10-6	4-8 1/4	13-10	18		
C480	E	ABUTMENT	4	35	1-0	3-9				4-9	111	C851	E	"	8	2	8-4 1/2	1-0			9-5	50	V441	E	"	4	2	2-4	11-6	10-6	4-8 1/4	13-10	18		
C540	E	ABUTMENT	5	5	4-8	0-10				5-6	29	F850	E	"	8	2	1-4 1/4	0-9	6-2	0-6 1/4	0-6 1/4	8-3	44	V540	E	"	5	10	0-10	2-6	1-9 1/2	1-9 1/2	3-4	35	
IC541	E	"	5	5	10-10	0-10				11-8	61	FC650	E	"	8	1	3-7 1/2	0-10 3/4	3-8	0-9	3-5 1/2	11-7	31	A746	E	"	7	5	24-4				24-4	249	
C542	E	"	5	2	7-5	0-10				8-3	17	FC651	E	"	8	1	4-3	0-2	3-8	0-1 3/4	1-0	9-1	24	***TOTAL INCLUDES 1861 LBS OF EPOXY COATED BARS											
C543	E	"	5	38	10-0	0-10				10-10	429	FD850	E	"	8	1	3-7 1/2	0-10 3/4	3-8	0-9	3-5 1/2	11-7	31	***TOTAL WEIGHT (LBS) 4368											
C544	E	WINGWALL 1 & 2	5	8	12-8	0-10				13-6	113	FD851	E	"	8	1	4-3	0-2	3-8	0-1 3/4	1-0	9-1	24	***TOTAL INCLUDES 2507 LBS OF NON EPOXY COATED BARS											
C545	E	WINGWALL 2	5	1	11-5	0-10				12-3	47	H650	E	CANT. COLUMN	6	1	2-0	6-6			15-0	161													
		* 5 BAR SERIES	EACH	TO						TO			E	* 11 BAR SERIES	EACH	TO					TO														
					4-10					5-8							1-3				4-6														
C546	E	WINGWALL 1	5	1	11-7	0-8				12-3	45	H651	E	CANT. CAP	6	3	1-0	4-0			9-0	41													
		* 5 BAR SERIES	EACH	TO						TO							4-0				9-0	41													
					4-4					5-0							1-0				6-10	418													
H440	E	WINGWALL 2	4	1	7-8	0-9				9-2	32	SX650	E	"	6	9	4-9 1/2	3-7 1/2	1-0		14-1	190													
		* 7 BAR SERIES	EACH	TO						TO							8-4 1/2	1-9			23-8	71													
					3-0					4-6							1-9	1-2 1/4	1-2 1/4	5-0	60														
H441	E	WINGWALL 1	4	1	8-4	0-8				9-8	33	V650	E	CANT. COLUMN	6	22	1-9	1-9	1-7 3/4	0-8	3-6	116													
		* 7 BAR SERIES	EACH	TO						TO							2-4 1/2	2-1 1/2	1-0 3/4	16-2	129														
					3-0					4-4							4-7 3/4	8-3 3/4	1-0	0-8 1/2	23-3	140													
H540	E	ABUTMENT	5	18	2-3	4-11				12-1	227	Z650	E	CANT. COLUMN	6	47	1-0	2-0	0-8			3-8	259												
H541	E	"	5	10	2-3	4-8				11-7	121	***TOTAL WEIGHT (LBS) 2233																							
H542	E	"	5	20	1-7	4-11				11-5	238	ABUTMENT 2 W.B.L.																							
H543	E	ABUTMENT	5	10	2-3	0-10				3-11	41	A440	E	WINGWALL 2	4	5	7-7					7-7	25												
H540	E	ABUTMENT	5	18	3-2	0-6	4-6	3-2 1/4		8-2	153	A441	E	WINGWALL 1	4	5	8-4					8-4	28												
RA440	E	WINGWALL 1 & 2	4	14	0-8	1-6	0-10	2-2	1-6 3/4	5-2	48	A540	E	ABUTMENT	5	5	4-8					4-8	24												
RC540	E	ABUTMENT	5	28	3-2	0-6	1-5	2-4	1-0	7-5	217	A541	E	ABUTMENT	5	20	4-1					4-1	85												
V440	E	WINGWALL 2	4	2	2-4	11-5	10-6	4-8 1/4		13-10	18	A542	E	"	5	5	5-7					5-7	29												
V441	E	WINGWALL 1	4	2	2-4	11-8	10-4 3/4	5-3 3/4		14-0	19	A543	E	"																					

[illegible]

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.

<u>LOCATION</u>	<u>SERIES</u>
SUPERSTRUCTURE	00
ABUTMENT	40
PIER	50
RETAINING WALL	70
APPROACH SLAB	90

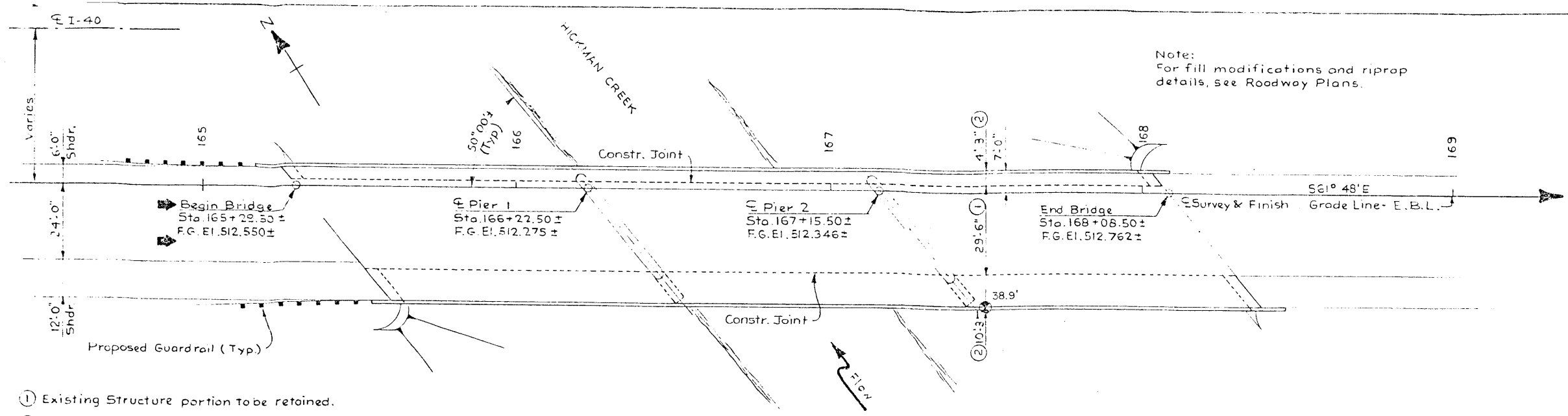
Note: Dimensions shown on this sheet are outside to outside of bar. Standard C.R.S.I. Hook Details shall apply, except as noted.

<u>LOCATION</u>	<u>SERIES</u>
SUPERSTRUCTURE	00
ABUTMENT	40
PIER	50
RETAINING WALL	70
APPROACH SLAB	90

Note: An 'E' in the 'T', Type, column indicates that the bar shall be Epoxy-Coated.

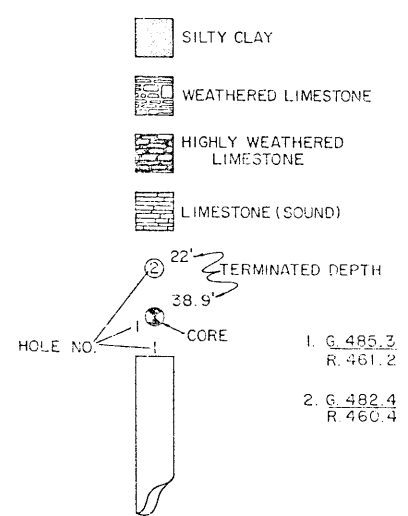
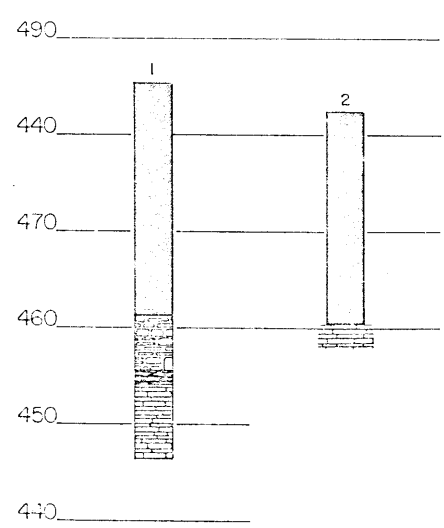
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BILL OF STEEL
I-40 OVER
HICKMAN CREEK
STA. 162+13.19 W.B.L.
STA. 165+29.50 E.B.L.
SMITH COUNTY
1989

MARK	T	LOCATION	SZ	NO. RO'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RO'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RO'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS
					a	b	c	d	e								a	b	c	d	e								a	b	c	d	e		
SPAN A THRU C - E.B.L.												ABUTMENT 1 E.B.L.												ABUTMENT 2 E.B.L.											
A500	E	DECK	5	660	4-1					4-1	2811	VX542	WINGWALL 3	5	4	16-8	0-10	0-6%	0-7%		17-6	73	A442	WINGWALL 6	4	5	7-8					7-8	26		
A501	E	"	5	648	10-1					10-1	6815	VX543	"	5	1	15-4	0-10	0-6%	0-7%		16-2	63	A444	WINGWALL 5	4	5	8-3					8-3	28		
A502	E	"	5	392	30-0					30-0	12266	* 5 BAR SERIES		5	1	10-0					10-0		A547	ABUTMENT	5	58	3-9					3-9	227		
A503	E	"	5	58	29-1					29-1	2973	* 5 BAR SERIES		5	1	7-1					7-1		A548	"	5	5	3-2					3-2	7		
A504	E	"	5	1	3-11					3-11	4	RA440	WINGWALL 3 & 4	4	18	0-8	1-6	0-10	2-2	1-6%	5-2	62	A549	"	5	5	2-10					2-10	15		
A505	E	"	5	82	35-6					35-6	3036	* 12 BAR SERIES		5	1	9-11					9-11		A550	"	5	5	2-10					2-10	15		
A506	E	"	5	1	9-11					9-11	90	* 12 BAR SERIES		5	1	4-6					4-6		A552	"	5	5	6-10					6-10	36		
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 3879												***TOTAL INCLUDES 1688 LBS OF EPOXY COATED BARS											
A507	E	"	5	1	9-9					9-9	88	* 12 BAR SERIES		5	1	4-4					4-4		A553	"	5	25	3-11					3-11	102		
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 3879												***TOTAL INCLUDES 2191 LBS OF NON EPOXY COATED BARS											
A510	E	DIAPHRAGM	5	8	5-9					5-9	48	A350	RISER BLOCK	3	10	4-11					4-11	18	A743	E	"	7	5	21-8					21-8	324	
B500	E	DECK	5	1	19-8	0-7				20-3	425	A351	"	3	10	4-9					4-9	18	A744	"	7	10	9-0					9-0	184		
* 33 BAR SERIES												A650	CANT. COLUMN	6	4	15-0					15-0	90	A745	"	7	10	1-1					1-1	22		
* 33 BAR SERIES												A651	"	6	2	15-0					15-0	159	A943	"	9	8	17-2					17-2	467		
B502	E	"	5	228	19-10	0-7				20-5	13373	* 6 BAR SERIES		5	1	3-10					3-10	4-5	A652	CANT. CAP	6	8	3-6					3-6	42		
K500	E	DIAPHRAGM	5	7	0-4	3-5	0-5			7-11	58	A652	CANT. CAP	6	8	3-6					3-6	42	H442	ABUTMENT	5	18	10-0	0-10					10-10	203	
B501	E	DECK	5	1616	25-9	0-7				26-4	16221	A652	CANT. CAP	6	8	3-6					3-6	42	H443	"	4	2	9-4	0-8					10-8	14	
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
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CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY COATED BARS											
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CONTINUED ON SHEET 166A												***TOTAL WEIGHT (LBS) 60026												***TOTAL INCLUDES 60026 LBS OF EPOXY											



- ① Existing Structure portion to be retained.
- ② Bridge Widening
- ③ At right angle to Hickman Creek

PLAN
Scale: 1" = 20'-0"



Const. No. 80 001 3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

LEGEND

Number and letter combination shown thus:

- A1(L-37) - Indicates proposed boring identification number and location.
- 22' - Number denotes distance in feet from Finish Grade Line to boring location measured along the skew unless otherwise noted.
- L-37 - Letter offset denotes direction (R=right, L=left) from survey centerline.
- A1(L-37) - Number or number-letter combinations denote bent, abutment or retaining wall number.

Bench Mark
Left side abutment 1 E.B.L.
at top of abutment beam
Elev. 506.84

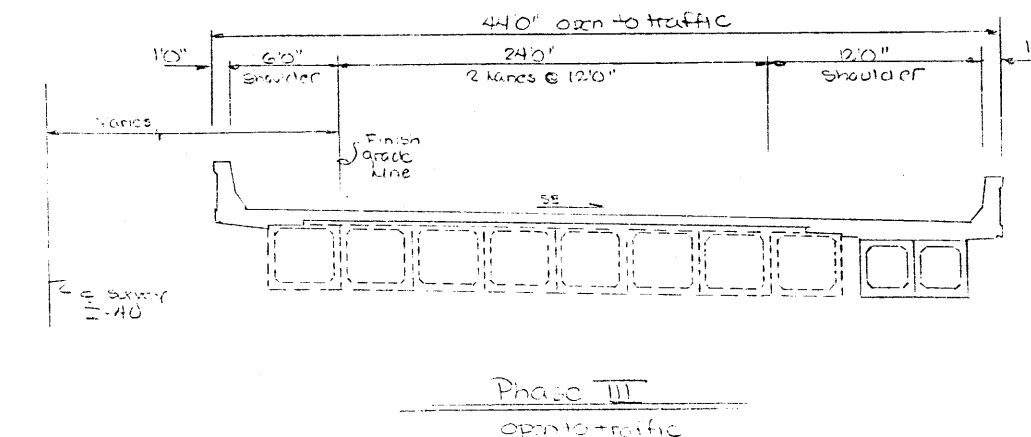
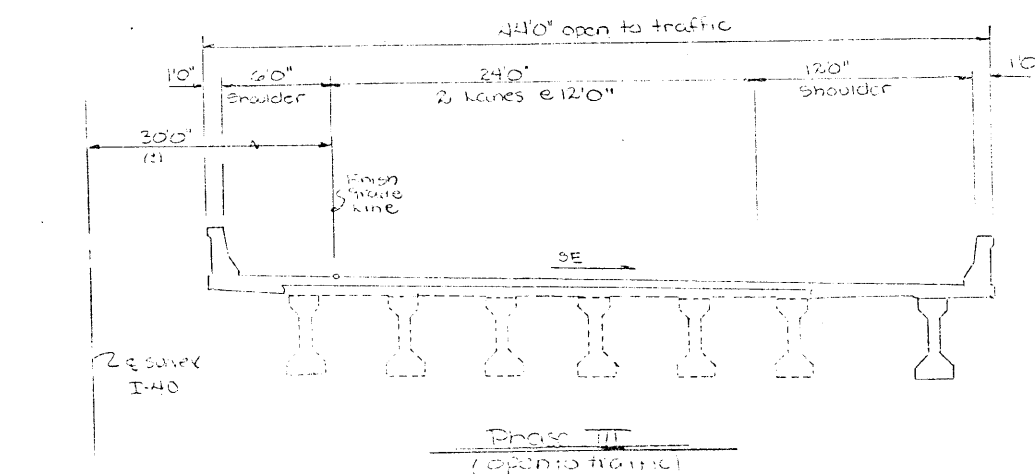
Note: This drawing is to be used for foundation data only, & not as a layout.

Bridge No. 1 - EBL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SOUNDING SKETCH FOR BRIDGE WIDENING
I-40 E.B.L. OVER
HICKMAN CREEK
STA. 165+29.50 ± E.B.L. I-40
SMITH COUNTY
1989

DESIGNED BY DWT DATE 10-88
DRAWN BY DWT DATE 10-88
SUPERVISED BY DWT DATE 10-88
CHECKED BY DWT DATE 10-88

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M. 24-59



PROJECT NO.			YEAR			SHEET NO.		
12-20-59(1) 257			1985					
REVISIONS								
NO.	DATE	BY	BRIEF DESCRIPTION					
1	6/12/84	WAB	add. 1 sheet					
2	7/1/84	WAB	Revised Dates					
3	9-14-89	DWT	Note Added/Removed					

△ Construction stages for approach pavements shall be identical to slab stages. Provide a 1'-6" lap at the construction joint for all bars A490. Bars A790 shall be mechanically coupled at the construction joint using a coupler in accordance with AASHTO 8.32.2.3 and General Notes drawing.

m-214-574