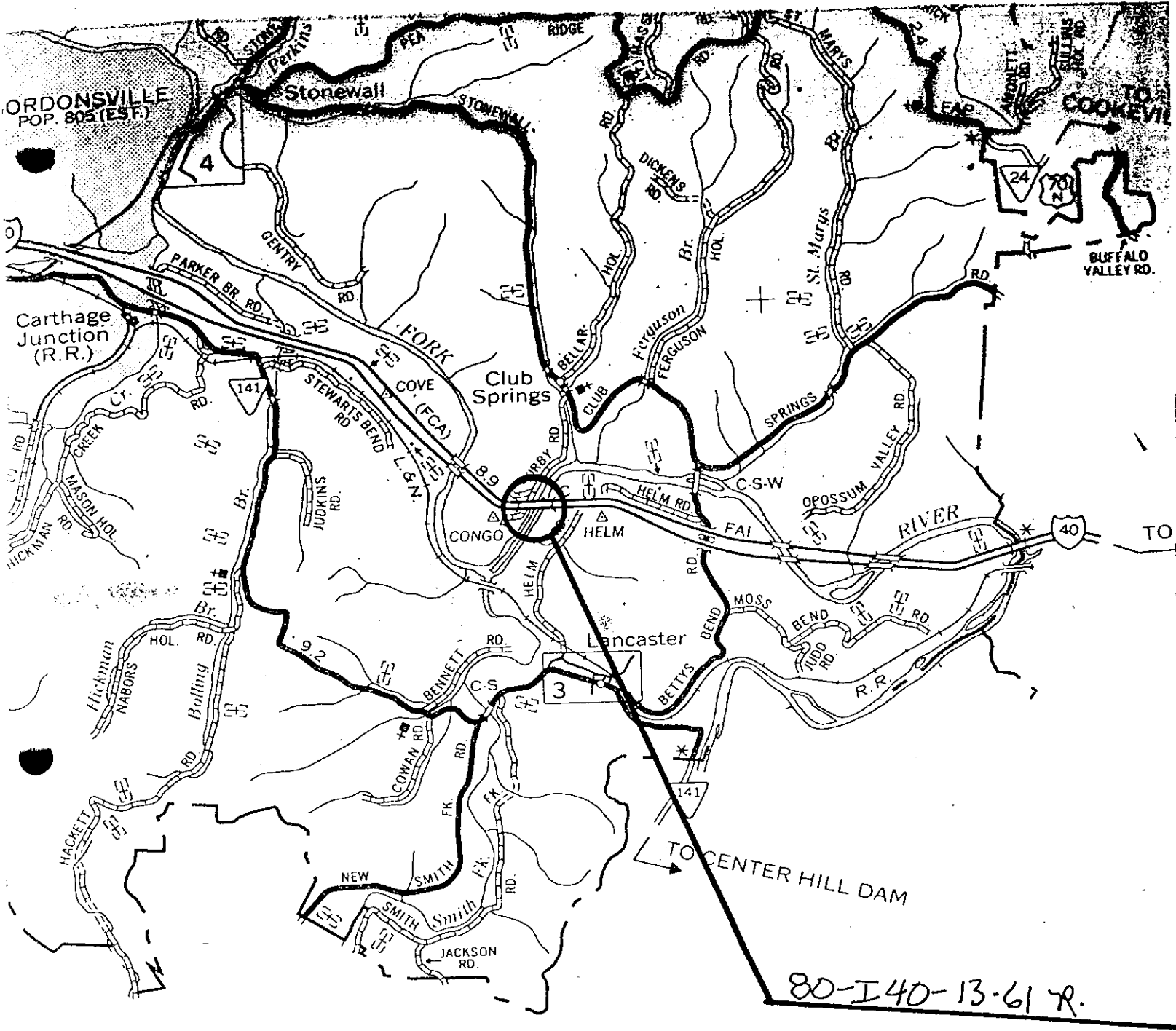




COUNTY

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 13.61 R

Co. Route Log Mile

Crossing: CANEY FORK RIV & KIRBY R*

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/25/2003

Comments: CLEAN DRAINS 50% CLOGGED

Bridge Number: 80I00400027

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed

By / Date

REPAIR DIAPHRAGMS

243

PATCH BOTTOM OF DECK IN SPAN NO. 0001

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 - 13.61 R

Co. Route Log Mile

Crossing: CANEY FORK RIV & KIRBY R*

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/12/01

Comments: *

Bridge Number: 80I00400027

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed

By / Date

243	PATCH BOTTOM OF DECK IN SPAN NO. 0001

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. : 80I00400027

BRIDGE NO. : 80 - I0040 - 1361 - R
OVER : CANEY FORK RIV & KIRBY R*

DATE : 05/07/97 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/15/99 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 : 005
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000446
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 52
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 :

- 1 REPAIR TOP_ DECK IN SPAN NO. 0001_
- 2 PATCH BOTTOM OF DECK IN SPAN NO. 0001

: MAINTENANCE COMPLETED :

- 1 BY _____ DATE _____
- 2 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400027 :

*

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE

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

EXPLANATIONS AND COMMENTS:

MEMORANDUM

DATE: 1-25-99

TO: Mr. Wayne Seger
Civil Engineering Manager I

FROM: Mr. Phillip Shraybman
Structural Specialist Supervisor II

SUBJECT: THE ADDITION OF 3.25" OF ASPHALT TO THE FOLLOWING

STRUCTURES(S): 80-I40-8.94/ CSX RR AND A COUNTY ROAD WBL & EBL
80-I40-9.77/ SR 264 AND A BRANCH WBL & EBL
80-I40-10.37/ HICKMAN CREEK AND NFA A156 WBL
80-I40-10.45/ HICKMAN CREEK AND NFA A156 EBL
80-I40-13.61/ CANEY FORK RIVER WBL & EBL
80-I40-15.43/ CANEY FORK RIVER WBL
80-I40-15.49/ CANEY FORK RIVER EBL
80-I40-16.14/ CANEY FORK RIVER EBL
80-I40-16.18/ CANEY FORK RIVER WBL
80-I40-17.13/ NFA A431 AND CANEY FK. RV.WBL & EBL

We have recently evaluated the above bridge(s) and have determined that the addition of the 3.25" of asphalt will be acceptable.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000271
(Includes Item 5A)

Feature Intersected: CANEY FORK RIV & KIRBY R

County: 80
Route: I0040
Special Case: 0
County Sequence: 01
Log Mile: 13.61

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>06/12/2001</u> <u>4/25/2003</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	7	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	7	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	7	
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	<u>GOOD</u> FAIR POOR CRITICAL		
	<u>Gilbert Wayne Hunter</u>	<u>4/25/03</u>	
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 06/15/2000

Bridge Number: 801004000272
(Includes Item 5A)

Feature Intersected: I40 / A136 KIRBY RD.

County: 80
Route: 0A136
Special Case: 0
County Sequence: 01
Log Mile: 0.84

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	<u>06/12/2001</u> <u>4/25/2003</u>	515 (A) TYPE UNDERPASS BARRIER None Exists but Needed
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	17 FT. 0 IN. ____ FT. ____ IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	17 FT. 1 IN. ____ FT. ____ IN.	(B) ADEQUACY OF BARRIER OR RAIL 0
47	TOTAL HORIZONTAL UNDERCLEARANCE	41 FT. 11 IN. ____ FT. ____ IN.	(C) ADEQUACY OF TRANSITIONS 0
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R <u>17</u> FT. <u>0</u> IN.		(D) ADEQUACY OF TERMINALS 0
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R <u>3</u> FT. <u>0</u> IN.		554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING 99 FT. 99 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	<u>0</u> FT. <u>0</u> IN.	____ FT. ____ IN.
521	OVERALL CONDITION (Circle One) <u>GOOD</u> FAIR POOR CRITICAL		HEIGHT POSTED AT BOTH APPROACHES? YES [] NO [] N/A [X]

555 COMMENTS _____

Hilbert Wayne Hunter
TEAM LEADER SIGNATURE

4/25/2003
REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 801004000271
(Includes Item 5A)

Feature Intersected: CANEY FORK RIV & KIRBY R

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 13.61

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>06/15/1999</u>	
		<u>6/12/01</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	9 EXCELLENT CONDITION
		____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
		____ FT. ____ 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		
	1 1 1 1		
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P		
58	DECK	7	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	7	
60	SUBSTRUCTURE	8	
61	CHANL/CHANL PROTECTION	7	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.
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	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.
521	OVERALL CONDITION (Circle One)		
	GOOD FAIR POOR CRITICAL		
	<u>GOOD</u>		0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
TEAM LEADER SIGNATURE		REVIEW DATE	
<u>Gilbert Wayne Hunter</u>		<u>6/12/01</u>	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000272
(Includes Item 5A)

Feature Intersected: 140 / A136 KIRBY RD.

County: 80
Route: 0A136
Special Case: 0
County Sequence: 01
Log Mile: 0.84

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	<u>06/15/1999</u>	515 (A) TYPE UNDERPASS BARRIER <u>None Exists but Needed</u>
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	<u>17</u> FT. <u>0</u> IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	<u>17</u> FT. <u>1</u> IN.	(B) ADEQUACY OF BARRIER OR RAIL <u>0</u>
47	TOTAL HORIZONTAL UNDERCLEARANCE	<u>41</u> FT. <u>11</u> IN.	(C) ADEQUACY OF TRANSITIONS <u>0</u>
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	<u>Circle One: (H) R</u> <u> </u> FT. <u> </u> IN.	(D) ADEQUACY OF TERMINALS <u>0</u>
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE <u>Circle One: (H) R</u> <u>3</u> FT. <u>0</u> IN.	554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING <u>99</u> FT. <u>99</u> IN.	
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE <u>0</u> FT. <u>0</u> IN.	<u> </u> FT. <u> </u> IN.	
521	OVERALL CONDITION (Circle One) <u>GOOD</u> FAIR POOR CRITICAL	HEIGHT POSTED AT BOTH APPROACHES? YES [] NO [] N/A [X]	

555 COMMENTS

Gilbert Wayne Hunter
TEAM LEADER SIGNATURE

6/12/01
REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Bridge Number: 801004000271
(Includes Item 5A)

Feature Intersected: CANEY FORK RIV & KIRBY R

County: 80
Route: 10040
Special Case: 0
County Sequence: 1
Log Mile: 13.61

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	<u>5/1/97</u> <u>6/1/51/99</u>	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62 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.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	☒ H 17 FT. 0 IN. Circle One: H R N <u>17</u> FT. <u>1</u> IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
36	TRAFFIC SAFETY FEATURES	Br. Rail Trans. Appr. Rail Appr. Rail Ends <u>1</u> <u>1</u> <u>1</u> <u>1</u>	6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
41	STRC OPEN/CLOSED/POSTED	A A K P	5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
58	DECK	7	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
59	SUPERSTRUCTURE	7	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.
60	SUBSTRUCTURE	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.
61	CHANL/CHANL PROTECTION	7	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.
62	CULVERT AND RETAIN WALL	N	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
OVERALL CONDITION (Circle One)			
☒ GOOD ☐ FAIR ☐ POOR ☐ CRITICAL			
<u>Wilbert Wayne Hunter</u> SIGNATURE		<u>6/1/51/99</u> DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County: 80

Route: 0A136

Special Case: 0

County Sequence: 1

Log Mile: 0.84

Bridge Number: 80I004000272
(Includes Item 5A)

Feature Intersected: 140 / A136 KIRBY RD.

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	5/1/97 <u>6/1/5/99</u>	(A) TYPE UNDERPASS BARRIER None Exists but Needed
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	17 FT. 0 IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	<u>17</u> FT. <u>1</u> IN. 17 FT. 1 IN.	
47	TOTAL HORIZONTAL UNDERCLEARANCE	41 FT. 11 IN.	
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE ☒ H	3 FT. 11 IN.	
Circle One: H R N		FT. IN.	(B) ADEQUACY OF BARRIER OR RAIL 0
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	0 FT. 0 IN.	(C) ADEQUACY OF TRANSITIONS 0
		FT. IN.	(D) ADEQUACY OF TERMINALS 0
OVERALL CONDITION (Circle One)			VERTICAL CLEARANCE LISTED ON HEIGHT POSTING SIGNS 99 FT. 99 IN. FT. IN.

GOOD FAIR POOR CRITICAL

HEIGHT POSTED AT
BOTH APPROACHES? YES [] NO [] N/A [X]

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 Hutto

SIGNATURE

6/1/5/99

DATE

REV. 06-28-90

RATING BASED ON: LFR

RT, LN

Bridge No.: 80-140-13.61
 Evaluator: A. MENAIE
 Date: 10-29-97
 ADT: 30000 (1996) Defense Rte.
 Detour length: 50 Yes ☒ No ☐

INVENTORY 503 H 20 Tons 66 HS 34 Tons

OPERATING 504 H 52 Tons 64 HS 72 Tons

TN LEGAL LOAD 517 T____ Tons

V.C. Over Deck ft. in. [X] NA

CONDITION RATING (Structural)

	Culverts
58 Deck	N 7
59 Superstructure	N 7
60 Substructure	N 8
61 Chl & Chl Protection	7
62 Culv & Ret Walls	N
113 Scour Condition	6

APPRAISAL RATING (Relation to System)

	Culverts
67 Structural Evaluation	7
68 Deck Geometry	8
69 Under Clearance	N 9
70 Bridge Posting	5
71 Waterway Adequacy	6
72 Approach Rdy Alignment	8

Overall Condition (65): G F P C

Texture Coat (513): 610 N/A

Paint Condition (514): N/A

(36) pr. Rail. Trans.. Appr. rails. Terminals

Traffic Safety features: 11111

Rail Under Bridge (515): 6000

Comments and Recommendations:

CONFIDENTIAL 3-8-02 ARMY

ART. 5.1.2 OF MAINT. MAN. FOR CONC. BR. WITH UNK. REINF
DES. STD. OR DES. PLANS FOR H15 OR HS20 LOADING

COMMENTARY (Condition)

- N NOT APPLICABLE
9 EXCELLENT CONDITION
8 VERY GOOD CONDITION - no problems noted
7 GOOD CONDITION - Some minor problems
6 SATISFACTORY CONDITION - structural elements
show some minor deterioration
5 FAIR CONDITION - all primary structural
elements are sound but may have minor section
loss, deterioration, spalling or scour
4 POOR CONDITION - advanced section loss,
deterioration, spalling or scour
3 SERIOUS CONDITION - loss of section, deter-
ioration, spalling or scour have affected
primary structural components - local failures
are possible - fatigue cracks in steel or shear
cracks in concrete may be present
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
1 "IMMINENT" FAILURE CONDITION - major deter-
ioration or section loss present in critical
structural components or obvious vertical or
horizontal movement affecting structure
stability - bridge is closed to traffic but
corrective action may put back in light service
0 FAILED CONDITION - out of service - beyond
corrective action

COMMENTARY (Appraisal)

- ```

N Not applicable
9 Superior to present desirable
 criteria
8 Equal to present desirable
 criteria
7 Better than present minimum
 criteria
6 Equal to present minimum
 criteria
5 Somewhat better than minimum
 adequacy to tolerate being left
 in place as is
4 Meets minimum tolerable limits
 to be left in place as is
3 Basically intolerable requiring
 high priority of corrective
 action
2 Basically intolerable requiring
 high priority of replacement
1 This value of rating code not
 used
0 Bridge closed

```

GOOD-----7, 8 & 9  
FAIR-----5 & 6  
POOR-----3 & 4  
CRITICAL 0, 1 & 2

Sufficiency Rating  
Dated:

92.4  
3-8-02  
92.4

## BARS UPDATE RATING FOR ADDITIONAL DEAD LOAD

BRIDGE NUMBER: 80-I40-13.61 L&amp;R LANES

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) ..                                  | 87.92  |
| THICKNESS OF ADDITIONAL ASPHALT.....(INCHES) ..            | 3.25   |
| MOMENT CAPACITY AVAILABLE AT INVENTORY LEVEL.....(K-FT) .. | 1342.7 |
| MOMENT CAPACITY AVAILABLE AT OPERATING LEVEL.....(K-FT) .. | 1877.3 |
| H      LIVELOAD MOMENT.....(K-FT) ..                       | 545.6  |
| HS     LIVELOAD MOMENT.....(K-FT) ..                       | 934.5  |

## OUTPUT DATA - DUE TO MOMENT

|        |          |           |                  |
|--------|----------|-----------|------------------|
| DLW/FT | MCAP-INV | MCAP-OPER | DEAD LOAD MOMENT |
| .253   | 1342.7   | 1877.3    | 318.42           |

|                    |                     |
|--------------------|---------------------|
| MOMENT AVAIL - INV | MOMENT AVAIL - OPER |
| 1024.28            | 1558.88             |

|         |          |
|---------|----------|
| H-LLM+I | HS-LLM+I |
| 545.6   | 934.5    |

## H AND HS RATINGS - DUE TO MOMENT

|        |          |          |           |
|--------|----------|----------|-----------|
| H@ INV | H @ OPER | HS @ INV | HS @ OPER |
| 28.16  | 42.86    | 39.46    | 60.05     |



| REC.NO. | 01                                                                              | 070996 A. McNABB | RECORD           | H15 HS20      | PCIB 89  | 447 0 0   | 42 0 0 5 | *LF* |
|---------|---------------------------------------------------------------------------------|------------------|------------------|---------------|----------|-----------|----------|------|
| 100     | 02ARM077 A. McNABB                                                              |                  |                  |               |          |           |          |      |
| 100     | 05ARM077LM 13-613 80 I-40                                                       |                  |                  |               |          |           |          |      |
| 200     | 06ARM077 G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE              |                  |                  |               |          |           |          |      |
| 300     | 06ARM077 I-40/CANEY FORK RV. EAST AND WEST BOUND LANE--G01=SPAN #2,3,44 BOTH LN |                  |                  |               |          |           |          |      |
| 400     | 07ARM077 60000 3000                                                             |                  |                  |               |          |           |          |      |
| 500     | 08ARM077G01 1                                                                   | 8810 0           |                  |               | CPS 270  | 1.162     |          |      |
| 600     | 08ARM077G02 1                                                                   | 8711 0           |                  |               | CPS 270  | 1.162     |          |      |
| 700     | 08ARM077G03 1                                                                   | 86 5 0           |                  |               | CPS 270  | 1.162     |          |      |
| 800     | 10ARM077G01 01                                                                  |                  | W 500.           |               | 8810 0   |           |          |      |
| 900     | 10ARM077G01 01                                                                  | 44 5 0 P 4.15    |                  |               |          |           |          |      |
| 1000    | 10ARM077G02 01                                                                  |                  | W 500.           |               | 8711 0   |           |          |      |
| 1100    | 10ARM077G02 01                                                                  | 43 8 8 P 4.15    |                  |               |          |           |          |      |
| 1200    | 10ARM077G02 01                                                                  | 43 2 8 P 4.15    |                  |               |          |           |          |      |
| 1300    | 10ARM077G02 01                                                                  |                  | W 500.           |               | 86 5 0   |           |          |      |
| 1400    | 10ARM077G03 01                                                                  |                  |                  |               |          |           |          |      |
| 1500    | 11ARM077G01 0101                                                                | 8810 001         |                  |               |          |           |          |      |
| 1600    | 11ARM077G02 0101                                                                | 8711 001         |                  |               |          |           |          |      |
| 1700    | 11ARM077G03 0101                                                                | 86 5 001         |                  |               |          |           |          |      |
| 1800    | 14ARM077G01 0101                                                                | 8810 0C 01       | 88.58.5020.01.50 | 88.511.07.000 |          |           |          |      |
| 1900    | 14ARM077G02 0101                                                                | 8711 0C 01       | 88.58.5020.01.50 | 88.511.07.000 |          |           |          |      |
| 2000    | 14ARM077G03 0101                                                                | 86 5 0C 01       | 88.58.5020.01.50 | 88.511.07.000 |          |           |          |      |
| 2100    | 15ARM077G01 01                                                                  |                  |                  |               | 01L 1208 | 2.00TNG04 |          |      |
| 2200    | 15ARM077G01 01                                                                  |                  |                  |               | 02L 1208 | 4.00      |          |      |
| 2300    | 15ARM077G01 01                                                                  |                  |                  |               | 03L 0408 | 6.00      |          |      |
| 2400    | 15ARM077G01 01                                                                  |                  |                  |               | 04B 0605 | 63.29     |          |      |
| 2500    | 15ARM077G02 01                                                                  |                  |                  |               | 01L 1208 | 2.00TNG04 |          |      |
| 2600    | 15ARM077G02 01                                                                  |                  |                  |               | 02L 1208 | 4.00      |          |      |
| 2700    | 15ARM077G02 01                                                                  |                  |                  |               | 03L 0408 | 6.00      |          |      |
| 2800    | 15ARM077G02 01                                                                  |                  |                  |               | 04B 0605 | 63.29     |          |      |
| 2900    | 15ARM077G03 01                                                                  |                  |                  |               | 01L 1208 | 2.00TNG04 |          |      |
| 3000    | 15ARM077G03 01                                                                  |                  |                  |               | 02L 1208 | 4.00      |          |      |
| 3100    | 15ARM077G03 01                                                                  |                  |                  |               | 03L 0408 | 6.00      |          |      |
| 3200    | 15ARM077G03 01                                                                  |                  |                  |               | 04B 0605 | 63.29     |          |      |

THE FOLLOWING STRUCTURES WERE SELECTED

ARM077

## STRUCTURE I.D. = ARM-077

\*\*\*\*\*  
 \*  
 \* STRUCTURE HEADER AND DESCRIPTION  
 \*  
 \*\*\*\*\*

100-- 2 A. MCNABE EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS  
 TYPE = PCIB YEAR = 89 LEN = 447.00 FT. WIDTH = 42.00 FT. 5 SPANS SP.LOAD =  
 INV.LL.TRK. = OP.LL.TRK. =

\*\*\*\*\*  
 \*  
 \* STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS  
 \*  
 \*\*\*\*\*

200-- 5 BRIDGE-1M 13.61 DIST./CO. = 3 80 CONST. ROUTE = I-40 CONST. SECT. = CONST. STA. = 0+ .  
 MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=  
 ROUTE I.D. = MARKED ROUTE =

\*\*\*\*\*  
 \*  
 \* COMMENTS  
 \*  
 \*\*\*\*\*

300-- 6 0 G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE  
 400-- 6 0 I-40/CANEY FORK RV. EAST AND WEST BOUND LANE--G01=SPAN #2,3,4 BOTH LN

\*\*\*\*\*  
 \*  
 \* SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS  
 \*  
 \*\*\*\*\*

| STRUCT<br>ID | STEEL | FY= | 0. | F <sub>y</sub> = 60000.<br>F <sub>w</sub> C = 3000. | REINF.<br>CONCRETE | COMPOSITE<br>STEEL/CONC | FY =<br>F <sub>w</sub> C = | 0.<br>0. | LOSS =<br>EG/ES = | 0.<br>.000 | F <sub>w</sub> S =<br>F <sub>w</sub> = | 0.<br>C = | MAX =.00<br>MIN =.00 | .00<br>.00 | .00<br>.00 | FY =<br>FV = | 0.<br>0. | IMPACT FACTOR |    | TIMBER |      |
|--------------|-------|-----|----|-----------------------------------------------------|--------------------|-------------------------|----------------------------|----------|-------------------|------------|----------------------------------------|-----------|----------------------|------------|------------|--------------|----------|---------------|----|--------|------|
|              |       |     |    |                                                     |                    |                         |                            |          |                   |            |                                        |           |                      |            |            |              |          | INV           | OP | POST   | SPEC |

\*\*\*\*\*  
 \*  
 \* MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-CIRCER, STRINGER AND FLOOR BEAM  
 \*  
 \*\*\*\*\*

| MEMBER<br>ID | SPANS | STIFF. | SPAN 1<br>SYMM CODE (SPAN 4) | SPAN 2<br>(SPAN 5) | SPAN 3<br>(SPAN 5) | MATERIAL<br>CODE | ALLOWABLE STRESS<br>FY | FB  | FC** | LL DIST.<br>FACTOR | END THRU<br>FL.BM | MAX<br>DECK | INV | IMPACT<br>OP. | FACTOR | POST SPEC |
|--------------|-------|--------|------------------------------|--------------------|--------------------|------------------|------------------------|-----|------|--------------------|-------------------|-------------|-----|---------------|--------|-----------|
|              |       |        |                              |                    |                    |                  |                        |     |      |                    |                   |             |     |               |        |           |
| 700-- 8      | G 2   | 1      | 87.917                       | .000               | .000               | CPS              | 270.00                 | .00 | .00  | 1.162              | .00               | .00         | .00 | .00           | .00    | .00       |
| 800-- 8      | G 3   | 1      | 86.417                       | .000               | .000               | CPS              | 270.00                 | .00 | .00  | 1.162              | .00               | .00         | .00 | .00           | .00    | .00       |

\*\*\*\*\*  
 \* SUPERIMPOSED DEAD LOADS-GIRDERS, STRINGERS AND FLOOR BEAMS \*  
 \*\*\*\*\*

| MEMBER ID | SYMM. | SPAN NO. | DISTANCE LEFT SUPP. | ER. TYPE | LOAD P OR W(L) | W(R) | LENGTH    |
|-----------|-------|----------|---------------------|----------|----------------|------|-----------|
| 900--10   | G 1   | 1        | .000FT.             | W        | 500.0          | .0   | 88.833FT. |
| 1000--10  | G 1   | 1        | 44.417FT.           | P        | 4.2            | .0   | .000FT.   |
| 1100--10  | G 2   | 1        | .000FT.             | W        | 500.0          | .0   | 87.917FT. |
| 1200--10  | G 2   | 1        | 43.768FT.           | P        | 4.2            | .0   | .000FT.   |
| 1300--10  | G 2   | 1        | 43.208FT.           | P        | 4.2            | .0   | .000FT.   |
| 1400--10  | G 3   | 1        | .000FT.             | W        | 500.0          | .0   | 86.417FT. |

\*\*\*\*\*  
 \* SECTION RANGE SPECIFICATIONS \*  
 \*\*\*\*\*

| MEMBER ID | SYMM. | SPAN NO. | RANGE NO. | RANGE LENGTH | SECTION NO. LEFT | SECTION NO. RIGHT | VAR. CODE | HINGE 1 DIST. | HINGE 2 DIST. | HYBRID GIRDER CODE | FY |
|-----------|-------|----------|-----------|--------------|------------------|-------------------|-----------|---------------|---------------|--------------------|----|
| 1500--11  | G 1   | 1        | 1         | 88.833FT.    | 1                | 0                 |           | .000FT.       | .000FT.       | 0.                 | 0. |
| 1600--11  | G 2   | 1        | 1         | 87.917FT.    | 1                | 0                 |           | .000FT.       | .000FT.       | 0.                 | 0. |
| 1700--11  | G 3   | 1        | 1         | 86.417FT.    | 1                | 0                 |           | .000FT.       | .000FT.       | 0.                 | 0. |

\*\*\*\*\*  
 \* SECTION PROPERTIES (COMPOSITE) - GIRDERS, STRINGERS, FLOOR BEAMS \*  
 \*\*\*\*\*

| MEMBER ID | SYMM | SPAN RANGE | RANGE LENGTH | COMP CODE | N SECT | A SAME R | WIDTH | THICK -NESS | FILLET WIDTH | FILLET THICK. | EFFECT. WIDTH | EFFECT. THICK. | DIST TO TOP SECT. |
|-----------|------|------------|--------------|-----------|--------|----------|-------|-------------|--------------|---------------|---------------|----------------|-------------------|
| 1800--14  | G 1  | 1          | 1            | 88.833FT. | C      | 0        | 1     | 0           | 88.50        | 8.50          | 20.00         | 1.50           | 88.50 11.00 7.00  |
| 1900--14  | G 2  | 1          | 1            | 87.917FT. | C      | 0        | 1     | 0           | 88.50        | 8.50          | 20.00         | 1.50           | 88.50 11.00 7.00  |
| 2000--14  | G 3  | 1          | 1            | 86.417FT. | C      | 0        | 1     | 0           | 88.50        | 8.50          | 20.00         | 1.50           | 88.50 11.00 7.00  |

\*\*\*\*\*  
 \* SECTION PROPERTIES (PRESTRESSED CONCRETE) - GIRDERS, STRINGERS, FLOOR BEAMS \*  
 \*\*\*\*\*

| MEMBER ID | SECT | SAME | ADR | VOIDS DEPTH | DESCRIPTION WIDTH | DIST. | CODE | DEPTH | TEFLW | TEFT | WEFT | BFTL | BFTLW | I | ASI | DI           |
|-----------|------|------|-----|-------------|-------------------|-------|------|-------|-------|------|------|------|-------|---|-----|--------------|
| 2100--15  | G 1  | 1    | 0   | .0          | .00               | .0    | TNG  | 4.00  | .0    | .00  | .00  | .00  | .0    | 1 | L   | 1208.00 2.00 |
| 2200--15  | G 1  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 2 | L   | 1208.00 4.00 |
| 2300--15  | G 1  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 3 | L   | 408.00 6.00  |
| 2400--15  | G 1  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 4 | B   | 605.00 63.29 |
| 2500--15  | G 2  | 1    | 0   | .0          | .00               | .0    | TNG  | 4.00  | .0    | .00  | .00  | .00  | .0    | 1 | L   | 1208.00 2.00 |
| 2600--15  | G 2  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 2 | L   | 1208.00 4.00 |
| 2700--15  | G 2  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 3 | L   | 408.00 6.00  |
| 2800--15  | G 2  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 4 | B   | 605.00 63.29 |
| 2900--15  | G 3  | 1    | 0   | .0          | .00               | .0    | TNG  | 4.00  | .0    | .00  | .00  | .00  | .0    | 1 | L   | 1208.00 2.00 |
| 3000--15  | G 3  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 2 | L   | 1208.00 4.00 |
| 3100--15  | G 3  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 3 | L   | 408.00 6.00  |
| 3200--15  | G 3  | 1    | 0   | .0          | .00               | .0    |      | .00   | .0    | .00  | .00  | .00  | .0    | 4 | B   | 605.00 63.29 |

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

INPUT CODING --

DATE 7/ 9/96  
BY A. MCNABB

STRUCTURE LM 13.61

D/P STR. I.D.-- ARM-077

|                  |                  |
|------------------|------------------|
| INVENTORY        | OPERATING        |
| LIVE LOAD RATING | LIVE LOAD RATING |
| H15 H 37.06      | HS20 HS 40.45    |

|                          |                   |                           |
|--------------------------|-------------------|---------------------------|
| STRUCTURE DESCRIPTION -- | LOCATION --       | MICROFILM REEL NUMBERS -- |
| IDENTIFICATION LM 13.61  | DISTRICT 3        | DESIGN PLANS              |
| TYPE PCIB                | COUNTY 80         | COMPUTATIONS              |
| YEAR OF CONSTR. 1989     | CONSTR. RTE. 1-40 | CORRESPONDENCE            |
| LENGTH 447.00 FEET       | CONSTR. SEC. 0+   |                           |
| ROADWAY WIDTH 42.00 FEET | CONSTR. STA.      |                           |
| NUMBER OF SPANS 5        | KEY RTE.          |                           |
|                          | MARKED RTE.       |                           |

ANALYST REMARKS --

G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE  
I-40/CANEY FORK RV. EAST AND WEST BOUND LANE---G01=SPAN #2,3,&4 BOTH LN

INVENTORY RATING SUMMARY --

MEMBER ID. G 1  
SPAN 1  
CRITICAL C.P. DIST. 44.4 FEET  
LIVE LOAD DESIGNATION H15

OPERATING RATING SUMMARY --

MEMBER ID. G 1  
SPAN 1  
CRITICAL C.P. DIST. 44.4 FEET  
LIVE LOAD DESIGNATION HS20

MOMENT  
(FT. KIPS)  
MEMBER CAPACITY 3569.6  
DL EFFECT 2199.9

MOMENT  
(FT. KIPS)  
MEMBER CAPACITY 4112.4  
DL EFFECT 2199.9

CAPACITY FOR (LL+I) 1369.7  
ACTUAL (LL+I) 554.3

CAPACITY FOR (LL+I) 1912.5  
ACTUAL (LL+I) 945.5

INVENTORY RATING H 37.06

OPERATING RATING HS 40.45

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

INPUT CODING --  
DATE 7/ 9/96  
BY A. MCNABB  
STRUCTURE LM 13.61  
D/P STR. I.D.-- ARM-077  
INVENTORY  
LIVE LOAD RATING OPERATING  
LIVE LOAD RATING  
H15 H 36.92 HS20 HS 40.18

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --  
IDENTIFICATION LM 13.61 DISTRICT 3 DESIGN PLANS  
TYPE PCIB COUNTY 80 COMPUTATIONS  
YEAR OF CONSTR. 1989 CONSTR. RTE. I-40 CORRESPONDENCE  
LENGTH 447.00 FEET CONSTR. SEC. 0+  
ROADWAY WIDTH 42.00 FEET CONSTR. STA.  
NUMBER OF SPANS 5 KEY RTE.  
MARKED RTE.

ANALYST REMARKS --

G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE  
I-40/CANEY FORK RV. EAST AND WEST BOUND LANE---G01=SPAN #2,3,&4 BOTH LN

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --  
MEMBER ID. G 2 MEMBER ID. G 2  
SPAN 1 SPAN 1  
CRITICAL C.P. DIST. 44.0 FEET CRITICAL C.P. DIST. 44.0 FEET  
LIVE LOAD DESIGNATION H15 LIVE LOAD DESIGNATION HS20  
MEMBER CAPACITY MEMBER CAPACITY  
DL EFFECT 3587.5 DL EFFECT 4122.0  
MOMENT 2244.8 MOMENT 2244.8  
(FT. KIPS) (FT. KIPS)  
CAPACITY FOR (LL+I) 1342.7 CAPACITY FOR (LL+I) 1877.3  
ACTUAL (LL+I) 545.6 ACTUAL (LL+I) 934.5  
INVENTORY RATING H 36.92 OPERATING RATING HS 40.18

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

INPUT CODING --  
DATE 7/ 9/96  
BY A. MCNABB  
STRUCTURE LM 13.61  
INVENTORY  
LIVE LOAD RATING OPERATING  
H15 H 42.14 HS20 HS 46.77  
D/P STR. I.D.-- ARM-077

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --  
IDENTIFICATION LM 13.61 DISTRICT 3 DESIGN PLANS  
TYPE PCIB COUNTY 80 COMPUTATIONS  
YEAR OF CONSTR. 1989 CONSTR. RTE. I-40 CORRESPONDENCE  
LENGTH 447.00 FEET  
ROADWAY WIDTH 42.00 FEET CONSTR. STA. 0+ .  
NUMBER OF SPANS 5 KEY RTE.  
MARKED RTE.

ANALYST REMARKS --

G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE  
I-40/CANEY FORK RV. EAST AND WEST BOUND LANE---G01=SPAN #2,3,64 BOTH LN

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --  
MEMBER ID. G 3 MEMBER ID. G 3  
SPAN 1 SPAN 1  
CRITICAL C.P. DIST. 43.2 FEET CRITICAL C.P. DIST. 43.2 FEET  
LIVE LOAD DESIGNATION H15 LIVE LOAD DESIGNATION HS20  
MOMENT (FT. KIPS) MOMENT (FT. KIPS)  
MEMBER CAPACITY 3487.4 MEMBER CAPACITY 4137.6  
DL EFFECT 1994.6 DL EFFECT 1994.6  
CAPACITY FOR (LL+I) 1492.9 CAPACITY FOR (LL+I) 2143.1  
ACTUAL (LL+I) 531.4 ACTUAL (LL+I) 916.3  
INVENTORY RATING H 42.14 OPERATING RATING HS 46.77

\*\*\* FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. ARM-077 BARS-PC RELEASE 5.5  
INVENTORY AND/OR OPERATING ANALYSIS

D/P STR. ID-- ARM-077

STRUCTURE LM 13.61

INPUT CODING--

DATE 7/ 9/96

INVENTORY  
LIVE LOAD RATING  
H15 H 36.9

OPERATING  
LIVE LOAD RATING  
HS20 HS 40.2

BY A. MCNAEBB

STRUCTURE DESCRIPTION--

IDENTIFICATION LM 13.61  
TYPE PCIB  
YEAR OF CONSTR. 1989  
LENGTH 447.00 FEET  
ROADWAY WIDTH 42.00 FEET  
NUMBER OF SPANS 5

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--

G02=SPAN #1 IN BOTH LANES AND G03=SPAN #5 EAST BOUND LANE  
I-40/CANEY FORK RV. EAST AND WEST BOUND LANE---G01=SPAN #2,3,44 BOTH LN

INVENTORY RATING SUMMARY

MEMBER I.D. G 2  
SPAN 1  
CRITICAL C.P. DIST. 44.0 FEET  
LIVE LOAD DESIGNATION H15

MOMENT  
(FOOT-KIPS)  
MEMBER CAPACITY 3587.5  
DL EFFECT 2244.8

CAPACITY FOR (LL+I) 1342.7  
ACTUAL (LL+I) 545.6

INVENTORY RATING H 36.92

OPERATING RATING SUMMARY

MEMBER I.D. G 2  
SPAN 1  
CRITICAL C.P. DIST. 44.0 FEET  
LIVE LOAD DESIGNATION HS20

MOMENT  
(FOOT-KIPS)  
MEMBER CAPACITY 4122.0  
DL EFFECT 2244.8

CAPACITY FOR (LL+I) 1877.3  
ACTUAL (LL+I) 934.5

OPERATING RATING HS 40.18

DETAIL DATA FOR FLEXURAL MEMBER

DATE 07/09/96

NO. SPANS = 1  
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-C77

MEMBER I.D.--G01

MATERIAL--CPS

LL DIST. FACT. = 1.162

SUPERIMPOSED CONCENTRATED DL(S)

DIST. FROM LT SUPPORT\*\*\*

STIFF SPAN P \*

FT. TRANS. LONG. NO. KIPS FT.

1 88.833 01 01 821.9 821.9 821.9 1 500.0 500.0 .000 88.833 1 4.2 44.417

VAR

CODE

S

T

P

B

DL DUE TO

MEM. WEIGHT

W(LT) W(RT)

LBS/FT LBS/FT

821.9 821.9

SPAN

W(LT)

W(RT)

FT.

NO.

SUPERIMPOSED DISTRIBUTED DL(S)

DIST. FROM LT SUPPORT\*\*\*

STIFF SPAN P \*

FT. TRANS. LONG. NO. KIPS FT.

1 500.0 500.0 .000 88.833

CHECK POINTS RATED--

SPAN DIS FRM FUNC SPAN DIS FRM FUNC

NO. LT SPRT M VL VR NO. LT SPRT M VL VR

FT. FT.

1 .000 X

1 44.417 X

1 88.833 X

| NO. SPANS = 1                   |        |           |             |            |        |            |        |      |            |           |
|---------------------------------|--------|-----------|-------------|------------|--------|------------|--------|------|------------|-----------|
| NOT SYMMETRICAL                 |        |           |             |            |        |            |        |      |            |           |
| MATERIAL--CPS                   |        |           |             |            |        |            |        |      |            |           |
| LL DIST. FACT. = 1.162          |        |           |             |            |        |            |        |      |            |           |
| SUPERIMPOSED CONCENTRATED DL(S) |        |           |             |            |        |            |        |      |            |           |
| DIST. FROM LI SUPPORT***        |        |           |             |            |        |            |        |      |            |           |
| SUPERIMPOSED DISTRIBUTED DL(S)  |        |           |             |            |        |            |        |      |            |           |
| LENGTH DISTRIBUTED*****         |        |           |             |            |        |            |        |      |            |           |
| DIST. FROM LT SUPPORT***        |        |           |             |            |        |            |        |      |            |           |
| STIFF SPAN P *                  |        |           |             |            |        |            |        |      |            |           |
| FT. TRANS. LONG. NO. KIPS /FT.  |        |           |             |            |        |            |        |      |            |           |
| 87.917 1 4.2 43.208             |        |           |             |            |        |            |        |      |            |           |
| 4.2 43.708                      |        |           |             |            |        |            |        |      |            |           |
| VAR                             | CODE   | DL DUE TO | MEM. WEIGHT | SPAN W(LT) | W(RT)  | NO. LBS/FT | LBS/FT | FT.  | FT. TRANS. | LONG. NO. |
| SEC. NO.                        | T      | T         | W(LT)       | W(RT)      |        |            |        |      |            |           |
| LT                              | RT     | P         | B           | LBS/FT     | LBS/FT |            |        |      |            |           |
| 1                               | 87.917 | 1         | 87.917      | 01         | 01     | 821.9      | 821.9  | 1    | 500.0      | 500.0     |
|                                 |        |           |             |            |        |            |        | .000 | 87.917     | 1         |

|   |        |   |   |
|---|--------|---|---|
| 1 | .000   |   | X |
| 1 | 43.958 | X |   |
| 1 | 87.917 |   | X |

```

DATE 07/09/96
NO. SPANS = 1
NOT SYMMETRICAL
D/P STRUCTURE I.D. ARM-077
MEMBER I.D.--G03
MATERIAL--CPS
LL DIST. FACT. = 1.162
SUPERIMPOSED CONCENTRATED DL(S)
VAR CODE DL DUE TO LENGTH DISTRIBUTED DL(S)
S MEM. WEIGHT DIST. FROM LT SUPPORT** *
T W(LT) W(RT) SPAN W(LT) W(RT) STIFF SPAN P
LT RT P B LBS/FT LBS/FT NO. LBS/FT LBS/FT FT. TRANS. LONG. NO. KIPS FT.
1 86.417 1 86.417 01 01 821.9 821.9 1 500.0 500.0 .000 86.417

```

DATE 07/09/96

NO. SPANS = 1  
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-077  
MEMBER I.D.-G03  
MATERIAL-CPB  
LL DIST. FACT. = 1.162  
SUPERIMPOSED CONCENTRATED DL(S)  
DIST. FROM LT SUPPORT\*\*\* \*  
OFF SPAN P + \*  
. LONG. NO. KIPS FT.

| SPAN LENGTH |        | RNG. |        | LENGTH |    | VAR |   | DL DUE TO |             | SUPERIMPOSED DISTRIBUTED DL(S) |                       | SUPERIMPOSED CONCENTRATED DL(S) |                      |
|-------------|--------|------|--------|--------|----|-----|---|-----------|-------------|--------------------------------|-----------------------|---------------------------------|----------------------|
| NO.         | FT.    | NO.  | FT.    | LT     | RT | T   | P | S         | MEM. WEIGHT | LENGTH DISTRIBUTED             | DIST. FROM LT SUPPORT | DIST. FROM RT SUPPORT           | FT.                  |
| 1           | 86.417 | 1    | 86.417 | 01     | 01 |     |   |           |             | 1                              | 500.0                 | 500.0                           | 86.417               |
|             |        |      |        |        |    |     |   |           |             | SPAN                           | W(LT)                 | W(RT)                           |                      |
|             |        |      |        |        |    |     |   |           |             | LBS/FT                         | LBS/FT                | FT.                             | FT. TRANS. LONG. NO. |
|             |        |      |        |        |    |     |   |           |             | 1                              | 500.0                 | 500.0                           | 86.417               |

|              |                      |              |      |         |                 |     |  |
|--------------|----------------------|--------------|------|---------|-----------------|-----|--|
|              | CHECK POINTS RATED-- |              |      |         |                 |     |  |
| SPAN DIS FRM | FUNC                 | SPAN DIS FRM | FUNC | NO.     | Lt SERT M VL VR | FT. |  |
| NO.          | Lt SERT              | M VL VR      | NO.  | Lt SERT | M VL VR         | FT. |  |

|   |        |   |   |
|---|--------|---|---|
| 1 | .000   |   | X |
| 1 | 43.208 | X |   |
| 1 | 86.417 |   | X |





D/P STRUCTURE I.D. ARM-077  
MEMBER I.D.--G03  
C.P. LOCATION 1

1  
1  
1  
1

\*\*\*\*\* SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 1

| -----SECTION MODULUS----- |       |        |      |       |            |        |         |           |       |         |        |         |         |    |
|---------------------------|-------|--------|------|-------|------------|--------|---------|-----------|-------|---------|--------|---------|---------|----|
| H                         | AREA  | SQ.IN. | AS   | CT    | DA         | ECC    | IX      |           | C     |         | TOP    |         | BOTTOM  |    |
|                           |       |        |      |       |            |        | FI      | BEND      | {BOT} | + BEND  | - BEND | + BEND  | - BEND  |    |
| NON-COM                   | 54.00 | 789.00 | 4.28 | 29.83 | 2.10       | 20.74  | 867.5   | 270206.5  | 24.17 | 9058.4  | 9058.4 | 11179.1 | 11179.1 | P  |
|                           |       |        |      |       |            | LOSS = | 34890.3 | 822271.0  | 42.03 | 68673.9 | .0     | 19565.6 | .0      | N  |
| SLAB RESTEEL              | 1.86  | 63.29  |      |       |            | FF =   | 718.0   | 540862.2  | 32.97 | 25712.6 | .0     | 16407.1 | .0      | 3N |
| NON-COM; D =              | 50.57 |        |      | 14.14 | JD = 47.10 |        |         | +++ COMP; | 63.07 |         | 8.80   | JD =    | 60.14   |    |

[illegible]

|  |              |      |        |        |            |        |               |              |         |         |         |         |
|--|--------------|------|--------|--------|------------|--------|---------------|--------------|---------|---------|---------|---------|
|  | X-DIST (FT.) | .000 | 43.209 | 86.417 | P/S AREA = | 933.5  | PRESTRESS     | STEEL / CONC | TOP     | TOP     | BOTTOM  | BOTTOM  |
|  | Y-ORDINATE   | .000 | 21.604 | .000   | SLAB +EY   | 6C000. | +BEND         | - BEND       | PSI     | PSI     | - BEND  | - BEND  |
|  |              |      |        |        |            |        | 3000.OFT-KIPS | FT-KIPS      | FT-KIPS | FT-KIPS | FT-KIPS | FT-KIPS |

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

|  | J1 | J2 | J3 | J4 | J5 | J6 | J7 | J8 | J9 | J10 | J11 | J12 | J13 | J14 | J15 | J16 | J17 | J18 | J19 | J20 | J21 | J22 | J23 | J24 | J25 | J26 | J27 | J28 | J29 | J30 | J31 | J32 | J33 | J34 | J35 | J36 | J37 | J38 | J39 | J40 | J41 | J42 | J43 | J44 | J45 | J46 | J47 | J48 | J49 | J50 | J51 | J52 | J53 | J54 | J55 | J56 | J57 | J58 | J59 | J60 | J61 | J62 | J63 | J64 | J65 | J66 | J67 | J68 | J69 | J70 | J71 | J72 | J73 | J74 | J75 | J76 | J77 | J78 | J79 | J80 | J81 | J82 | J83 | J84 | J85 | J86 | J87 | J88 | J89 | J90 | J91 | J92 | J93 | J94 | J95 | J96 | J97 | J98 | J99 | J100 | J101 | J102 | J103 | J104 | J105 | J106 | J107 | J108 | J109 | J110 | J111 | J112 | J113 | J114 | J115 | J116 | J117 | J118 | J119 | J120 | J121 | J122 | J123 | J124 | J125 | J126 | J127 | J128 | J129 | J130 | J131 | J132 | J133 | J134 | J135 | J136 | J137 | J138 | J139 | J140 | J141 | J142 | J143 | J144 | J145 | J146 | J147 | J148 | J149 | J150 | J151 | J152 | J153 | J154 | J155 | J156 | J157 | J158 | J159 | J160 | J161 | J162 | J163 | J164 | J165 | J166 | J167 | J168 | J169 | J170 | J171 | J172 | J173 | J174 | J175 | J176 | J177 | J178 | J179 | J180 | J181 | J182 | J183 | J184 | J185 | J186 | J187 | J188 | J189 | J190 | J191 | J192 | J193 | J194 | J195 | J196 | J197 | J198 | J199 | J200 | J201 | J202 | J203 | J204 | J205 | J206 | J207 | J208 | J209 | J210 | J211 | J212 | J213 | J214 | J215 | J216 | J217 | J218 | J219 | J220 | J221 | J222 | J223 | J224 | J225 | J226 | J227 | J228 | J229 | J230 | J231 | J232 | J233 | J234 | J235 | J236 | J237 | J238 | J239 | J240 | J241 | J242 | J243 | J244 | J245 | J246 | J247 | J248 | J249 | J250 | J251 | J252 | J253 | J254 | J255 | J256 | J257 | J258 | J259 | J260 | J261 | J262 | J263 | J264 | J265 | J266 | J267 | J268 | J269 | J270 | J271 | J272 | J273 | J274 | J275 | J276 | J277 | J278 | J279 | J280 | J281 | J282 | J283 | J284 | J285 | J286 | J287 | J288 | J289 | J290 | J291 | J292 | J293 | J294 | J295 | J296 | J297 | J298 | J299 | J300 | J301 | J302 | J303 | J304 | J305 | J306 | J307 | J308 | J309 | J310 | J311 | J312 | J313 | J314 | J315 | J316 | J317 | J318 | J319 | J320 | J321 | J322 | J323 | J324 | J325 | J326 | J327 | J328 | J329 | J330 | J331 | J332 | J333 | J334 | J335 | J336 | J337 | J338 | J339 | J340 | J341 | J342 | J343 | J344 | J345 | J346 | J347 | J348 | J349 | J350 | J351 | J352 | J353 | J354 | J355 | J356 | J357 | J358 | J359 | J360 | J361 | J362 | J363 | J364 | J365 | J366 | J367 | J368 | J369 | J370 | J371 | J372 | J373 | J374 | J375 | J376 | J377 | J378 | J379 | J380 | J381 | J382 | J383 | J384 | J385 | J386 | J387 | J388 | J389 | J390 | J391 | J392 | J393 | J394 | J395 | J396 | J397 | J398 | J399 | J400 | J401 | J402 | J403 | J404 | J405 | J406 | J407 | J408 | J409 | J410 | J411 | J412 | J413 | J414 | J415 | J416 | J417 | J418 | J419 | J420 | J421 | J422 | J423 | J424 | J425 | J426 | J427 | J428 | J429 | J430 | J431 | J432 | J433 | J434 | J435 | J436 | J437 | J438 | J439 | J440 | J441 | J442 | J443 | J444 | J445 | J446 | J447 | J448 | J449 | J450 | J451 | J452 | J453 | J454 | J455 | J456 | J457 | J458 | J459 | J460 | J461 | J462 | J463 | J464 | J465 | J466 | J467 | J468 | J469 | J470 | J471 | J472 | J473 | J474 | J475 | J476 | J477 | J478 | J479 | J480 | J481 | J482 | J483 | J484 | J485 | J486 | J487 | J488 | J489 | J490 | J491 | J492 | J493 | J494 | J495 | J496 | J497 | J498 | J499 | J500 | J501 | J502 | J503 | J504 | J505 | J506 | J507 | J508 | J509 | J510 | J511 | J512 | J513 | J514 | J515 | J516 | J517 | J518 | J519 | J520 | J521 | J522 | J523 | J52 |
|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|

[illegible]

|          | DL      | SDL     | +BEND       | -BEND   | +BEND  |
|----------|---------|---------|-------------|---------|--------|
|          | FT-KIPS | FT-KIPS | F-KPS       | F-KPS   | F-KPS  |
| P 6      |         |         |             |         |        |
| O 7      |         |         |             |         |        |
| I 8      | 1527.8  | 466.7   | 1492.9      | 1464.7  | 1464.7 |
| N 9      |         |         | OPERATING   | 2441.2  | 2143.1 |
| T 0      | AREA    | ***     | ULT MOM CAP | VEH. 1  | 0.0    |
|          | TOTALS  |         | FT-KIPS     | VEH. 2  | 0.0    |
| POS AREA | 933.5   | 0.0     | 5827.5      | VEH. 3  | 0.0    |
| NEG AREA | -0.0    | 0.0     | -580.6      | SPECIAL | 0.0    |

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***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .236 FOR +BEND AND = .236 FOR -BEND)
```

| LIVE LOAD | TRUCK LOAD |         |            |           | LANE LOAD  |         |         |                | SAFE LOAD CAPACITY TONS | RATING FACT. | RATING VALUE |
|-----------|------------|---------|------------|-----------|------------|---------|---------|----------------|-------------------------|--------------|--------------|
|           | LL+IMP     | LL      | LOC. NO. 1 | DIR WHEEL | AXLE SPACE | LL+IMP  | LL      | LOC. CONC LOAD |                         |              |              |
| LIVE LOAD |            |         |            |           |            |         |         |                |                         |              |              |
|           | FT-KIPS    | FT-KIPS | FT.        |           | FT.        | FT-KIPS | FT-KIPS | FT.            |                         |              |              |
| H15       | +BEND      | 435.4   | 352.2      | 29.208    | L          | .0      | 531.4   | 429.8          | 43.208                  | 2.809        | 42.1         |
|           | -BEND      | .0      | .0         | .000      | L          | .0      | .0      | .0             | .000                    |              |              |
| HS20      | +BEND      | 916.3   | 741.1      | 29.208    | L          | .0      | 708.6   | 573.0          | 43.208                  | 2.339        | 46.8         |
|           | -BEND      | .0      | .0         | .000      | L          | .0      | .0      | .0             | .000                    |              |              |

| Account | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 2376 | 2377 | 2378 | 2379 | 2380 | 2381 | 2382 | 2383 | 2384 | 2385 | 2386 | 2387 | 2388 | 2389 | 2390 | 2391 | 2392 | 2393 | 2394 | 2395 | 2396 | 2397 | 2398 | 2399 | 2400 | 2401 | 2402 | 2403 | 2404 | 2405 | 2406 | 2407 | 2408 | 2409 | 2410 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 2418 | 2419 | 2420 | 2421 | 2422 | 2423 | 2424 | 2425 | 2426</ |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|



Bridge No.: 80 — I0040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No 80I00400027

Date:

April 25, 2003

PIC2



INLET-ELEV

PIC3



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80I00400027

Date:

April 25, 2003

PIC4



LEFT SIDE VIEW @ UNDERPASS

Bridge No.: 80 — 10040 — 1361

Crossing:: CANEY FORK RIV & KIRBY R\*

Federal No.: 80I00400027

Date:

June 12, 2001

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No 80I00400027

Date:

June 12, 2001

PIC2



INLET-ELEV

PIC3



LEFT SIDE VIEW

Bridge No.: 80 — 10040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80I00400027

Date:

June 12, 2001

PIC4



DRIFT AT PIER #2

PIC5



VIEW ACROSS DECK

Bridge No.: 80 — 10040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80100400027

Date:

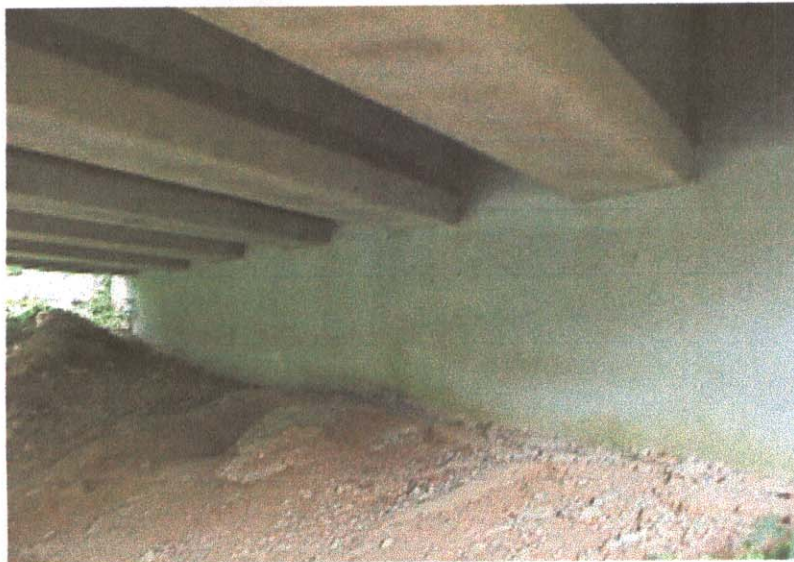
June 15, 1999

PIC4



BRIDGE NO. AT ABUTMENT # 1

PIC5



ABUTMENT TYPICAL

Bridge No.: 80 — 10040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80100400027

Date:

June 15, 1999

PIC1



APPROACH #1

Bridge No.: 80 — I0040 — 1361  
Crossing: CANEY FORK RIV & KIRBY R\*  
Federal No 80I00400027

Date:

June 15, 1999

PIC2



APPROACH #2

PIC3



ACROSS TOP OF DECK

Bridge No.: 80 — I0040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80I00400027

Date: June 15, 1999

PIC6



PIER TYPICAL

PIC7



APPROACH RIGHT SIDE

Bridge No.: 80 — 10040 — 1361  
Crossing:: CANEY FORK RIV & KIRBY R\*  
Federal No.: 80I00400027

Date:

June 15, 1999

PIC8



BOTTOM OF DECK

PIC9



DOWNSTREAM

# ROUTINE BRIDGE INSPECTION REPORT

Page No. \_\_\_\_\_

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

Field Report No. 16 Date 4-25-2003  
Previous Report No. 15 Date 6/12/2001  
Plans: Yes

Bridge No. 80I00400027  
Eleven Digit No.

Bridge Location No. 80 - I0040 - 13.61 R  
Co. Route Log Mile

I 40 over CANEY FORK RIV & KIRBY R\*  
Road Name Crossing

Indepth Insp. Req'd: No  
(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

Hunter  
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  |                                                       |
| F  | Large breakouts w. exposed rebar over pier cap #1 & 4 |
|    |                                                       |
| G  |                                                       |
| G  |                                                       |
| NV |                                                       |
| G  |                                                       |
| G  |                                                       |
| G  |                                                       |

## UNDERWATER INSPECTION

To Be Performed By: none required

Date Underwater Insp. \_\_\_\_\_

BRIDGE is: good

## COMMENTS:

Weight Limit Posted No

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector: Gilbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY  
80-I40-13.61 RT  
4/25/2003

I40/Caney Fork River & Kerby Rd.  
5 Span/P.P.C.I Beam

This bridge was inspected and found to be in **good** condition. The approach is in good condition in all sections. The bridge railing and approach rail are standard type and in good condition.

The wearing surface is good new A.C. overlay. The drains and joints are good and also parapets. The bottom deck shows some 1 ½" deep breakouts with exposed steel in span #1 and some transverse hair cracks with leaching. These areas were good. The diaphragms are fair over pier #1 and #4 with breakouts and exposed rebar.

The superstructure is in good condition, but beam "F" in span #2 did have a 1" deep breakout. All other beams were in good condition. There is no problem with alignment of these members. The substructure units are in good condition. There is no problem with debris build-up or scour at this time.

Gilbert Hunter

# ROUTINE BRIDGE INSPECTION REPORT

Page No. \_\_\_\_\_

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

Field Report No. 14 Date 6/15/99  
Previous Report No. 15 Date 6-12-01  
Plans: yes

Bridge No. 80I00400027  
Eleven Digit No.

Bridge Location No. 80 - I0040 - 13.61 R  
Co. Route Log Mile

I40

over CANEY FORK RIV & KIRBY R\*  
Road Name Crossing

Indepth Insp. Req'd: NO  
(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

Hunter

Daniel

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 |  |
| G |  |

## UNDERWATER INSPECTION

To Be Performed By: None required

Date Underwater Insp. 1

BRIDGE is: open

## COMMENTS:

Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector: Gilbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY  
80-I40-13.61 RT  
6-12-01

I40/Caney Fork River & Kerby Rd.  
5 Span/P.P.C.I Beam

This bridge was inspected and found to be in **good** condition. The approach is in good condition in all sections. The bridge railing and approach rail are standard type and in good condition.

The wearing surface is good new A.C. overlay. The drains and joints are good and also parapets. The bottom deck shows some 1 ½" deep breakouts with exposed steel in span #1 and some transverse hair cracks with leaching. These areas were good.

The superstructure is in good condition, but beam "F" in span #2 did have a 1" deep breakout. All other beams were in good condition. There is no problem with alignment of these members. The substructure units are in good condition. There is no problem with debris build-up or scour at this time.

Gilbert Hunter

# BRIDGE INSPECTION REPORT

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

FIELD REPORT NO. 14 DATE 6/15/99  
REVIOUS REPORT NO. 13 DATE 5-7-97  
PLANS ---- YES ☐ NO ☐

BRIDGE NO. 80100400027  
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80 - T40 - 13.61 Rt.  
CO. ROUTE LOG MILE

I40 OVER Coney Fork & Kirby Rd.  
ROAD NAME FEATURE INTERSECTED STRUCTURE NAME (IF NAMED)  
YEAR CONSTRUCTED 1959 COUNTY Smith MAINTENANCE DISTRICT NO. 32  
(ESTIMATED OR ACTUAL)

☐ [ ] ☒ [X]  
YEAR WIDENED 1991 YEAR REHABILITATED '91  
ESTIMATED OR ACTUAL ESTIMATED OR ACTUAL  
☐ [ ] ☒ [X]

## FEATURES

WEARING SURFACE-- CONCRETE ☐ TIMBER ☐ ASPHALT ☐ (DEPTH=\_\_\_\_)  
FLARED WIDTH ----- YES ☐ NO ☒ [X]  
NAVIGATIONAL CONTROL-- YES ☐ NO ☒ [X]  
MEDIAN WIDTH ----- OPEN ☒ [X] NONE ☐ CLOSED ☐

BRIDGE SKEW 52° LT ☒ [X] RT ☐

## INSPECTORS

STRUCTURE TYPE PFC I6 NO. SPANS 5  
Main Span Main Span

STRUCTURE TYPE - NO. SPANS -  
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 89.5' TOTAL LENGTH 445'

WIDTHS CLEARANCES  
DECK OUT-TO-OUT 44' MIN. VERTICAL OVER DECK -  
ROADWAY CURB/CURB 42' MIN. VERTICAL UNDER CL 17'1"  
SIDEWALK - RT - LT MIN. LATERAL UNDER CL 30' RT - LT  
\*APPROACH ROADWAY 24'  
APPR. SHLD. 10 RT 4 LT  
\*DOES NOT INCLUDE SHOULDER

## UNDERWATER INSPECTION

INSPECTION PERFORMED BY:  
DOT FIELD TEAM ☐ [ ] DATE \_\_\_\_\_  
CONTRACT DIVERS ☐ [ ] DATE \_\_\_\_\_  
NONE REQUIRED ☒ [X]

(<25')  
NBIS BRIDGE  
LENGTH over 25'  
(ft) (in)

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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Wilbert Wayne Hunter  
SUPERVISING BRIDGE INSPECTOR

BRIDGE RATING ☒ [X] ☐ [ ] ☐ [ ] ☐ [ ]  
GOOD FAIR POOR CRITICAL

PERFORMANCE EVALUATION

Time of day inspected 11:30 Weather conditions 80° sunny

Vehicles observed Tractor trailer & passenger type

| <u>LIVE LOAD BEHAVIOR</u>      | <u>YES</u> | <u>NO</u>                           | <u>COMMENTS</u> |
|--------------------------------|------------|-------------------------------------|-----------------|
| Substructure                   |            |                                     |                 |
| Horiz. & Vert. Defl. - - - [ ] |            | <input checked="" type="checkbox"/> |                 |
| Vibration - - - - - [ ]        |            | <input checked="" type="checkbox"/> |                 |
| Superstructure                 |            |                                     |                 |
| Horiz. & Vert. Defl. - - - [x] |            | [ ]                                 |                 |
| Vibration - - - - - [x]        |            | [ ]                                 |                 |

APPROACH

|            |     |   |   |   |           |
|------------|-----|---|---|---|-----------|
| Alignment  | (G) | F | P | C |           |
| Slab       | (G) | F | P | C |           |
| Joints     | G   | F | P | C | <u>NU</u> |
| Pavement   | (G) | F | P | C |           |
| Embankment | (G) | F | P | C |           |
| Drains     | (G) | F | P | C |           |

TRAFFIC SAFETY FEATURES

|                    |     |   |   |   | STANDARD                            | SUB-STANDARD |  |
|--------------------|-----|---|---|---|-------------------------------------|--------------|--|
| Bridgerailing      | (G) | F | P | C | <input checked="" type="checkbox"/> | [ ]          |  |
| Transitions        | (G) | F | P | C | <input checked="" type="checkbox"/> | [ ]          |  |
| Guardrail          | (G) | F | P | C | <input checked="" type="checkbox"/> | [ ]          |  |
| Guardrail Terminal | (G) | F | P | C | <input checked="" type="checkbox"/> | [ ]          |  |

SIGNING

|                                      | YES | NO                                  | NEEDED |                                                |
|--------------------------------------|-----|-------------------------------------|--------|------------------------------------------------|
| Paddleboard - - - - -                | [ ] | <input checked="" type="checkbox"/> | [ ]    | WEIGHT LIMIT POSTED                            |
|                                      |     |                                     |        | YES [ ] NO <input checked="" type="checkbox"/> |
| Vertical Clearance (< 14') - - - -   | [ ] | [ ]                                 | [ ]    |                                                |
| Narrow [ ] One Lane Bridge [ ] - [ ] | [ ] | [ ]                                 | [ ]    | 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 - 13.61 Rt.  
CO. ROUTE L.M.

DATE: 6-15-99

DECK

COMMENTS

|                   |     |   |   |   |    |
|-------------------|-----|---|---|---|----|
| WEARING SURFACE   | (G) | F | P | C |    |
| DECK - STRUCTURAL | G   | F | P | C |    |
| CONDITION         |     |   |   |   |    |
| CURBS             | G   | F | P | C | NA |
| MEDIAN            | G   | F | P | C | NA |
| SIDEWALKS         | G   | F | P | C | NA |
| PARAPET           | (G) | F | P | C |    |
| RAILING           | G   | F | P | C | NA |
| PAINT             | G   | F | P | C | NA |
| DRAINS            | G   | F | P | C |    |
| LIGHTING STD'S    | G   | F | P | C | NA |
| UTILITIES         | G   | F | P | C | NA |
| JOINT LEAKAGE     | (G) | F | P | C |    |
| EXPANSION JOINTS  | G   | F | P | C | NA |

SUPERSTRUCTURE

COMMENTS

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

TEXTURE COAT

|                    |   |   |   |   |
|--------------------|---|---|---|---|
| CONDITION RATING   | G | F | P | C |
| OVERALL APPEARANCE | G | F | P | C |
| STAINING           | G | F | P | C |
| SCALING            | G | F | P | C |
| FADING             | G | F | P | C |

NEEDS SPOT PAINTING? YES [ ] NO [ ]  
NEEDS REPAINTING? YES [ ] NO [ ]

COMMENTS: \_\_\_\_\_

RECOMMENDATIONS: \_\_\_\_\_

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

BRIDGE LOC. NO. 80 - I40 - 13.61 A  
CO. ROUTE L.M.

DATE: 6-15-99

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>NV</u> |
| PILES           | G   | F | P | C | <u>NV</u> |
| EMBANKMENT      | (G) | F | P | C | _____     |
| BEARING SURFACE | G   | F | P | C | <u>NV</u> |
| BEARINGS        | G   | F | P | C | <u>NV</u> |
|                 |     |   |   |   |           |
| 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 | <u>NV</u> |
| PILES           | G   | F | P | C | <u>NV</u> |
| 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>NV</u> |
| PILES           | G   | F | P | C | <u>NV</u> |
| BEARING SURFACE | (G) | F | P | C | _____     |
| BEARINGS        | (G) | F | P | C | _____     |

SCOUR CONDITION NONE ☒ \_\_\_\_\_

RECOMMENDATIONS: \_\_\_\_\_

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

SUMMARY  
80-I40-13.61 RT  
6-15-99

I40/Caney Fork River & Kerby Rd.  
5 Span/P.P.C.I Beam

This bridge was inspected and found to be in good condition. The approach is in good condition in all sections. The bridge railing and approach rail are standard type and in good condition.

The wearing surface is good new A.C. overlay. The drains and joints are good and also parapets. The bottom deck shows some 38mm deep breakouts with exposed steel in span #1 and some transverse hair cracks with leaching. These areas were good.

The superstructure is in good condition, but beam "F" in span #2 did have a 1" deep breakout. All other beams were in good condition. There is no problem with alignment of these members. The substructure units are in good condition. 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 6-15-99  
DATE 5-7-97

### INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 80I00400027  
ELEVEN DIGIT NUMBER

UNDERPASS LOC. NO. 80 - A136 - 0.84  
CO. RTE. L.M.

80 - I40 - 13.61<sup>ft</sup> OVER 80 - A136 - 0.84  
CO. RTE. L.M. CO. RTE. L.M.

STRUCTURE NAME (IF NAMED)

COUNTY Smith

YEAR CONSTRUCTED 1959  
ESTIMATED [ ] ACTUAL [X]

YEAR WIDENED 91

YEAR REHABILITATED 91

### GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [ ] RIGHT RDWY [ ] N.A. [X]  
TYPE OF WEARING SURFACE - - - - CONCRETE [ ] ASPHALT [X] GRAVEL [ ]  
WIDTH OF APPROACH TRAVELED ROADWAY 12' FT. (DOES NOT INCLUDE SHOULDERS)  
WIDTH OF MEDIAN IF DIVIDED HIGHWAY \_\_\_\_\_ FT.  
APPROACH SHOULDER WIDTH 3 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 17 FT. 1 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  
TERMINAL

G F P C

[ ]

[ ] NON EXIST [X]

### SIGNING FOR UNDERPASS ROUTE

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

### INSPECTORS

1. Hunter  
2. Daniel  
3. Crutcher  
4. Walter  
5. \_\_\_\_\_  
6. \_\_\_\_\_

UNDERPASS LOC. NO. 80 - A136 - 0.84  
CO. RTE. L.M.

OTHER SIGNS OR PLAQUES

COMMENTS REGARDING ANY PROBLEM WITH SIGNING

## BRIDGE- FEATURES

BRIDGE SKEW 52°  
STRUCTURE TYPE PPCIB NO. SPANS 5  
MAIN SPAN MAIN TYPE  
STRUCTURE TYPE — NO. SPANS —  
APPROACH SPAN APPROACH TYPE  
MAXIMUM SPAN LENGTH 89' FT. TOTAL LENGTH 445.5 FT.  
WIDTH OF BRIDGE OUT-TO-OUT 44' FT. (RT. < TO L 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

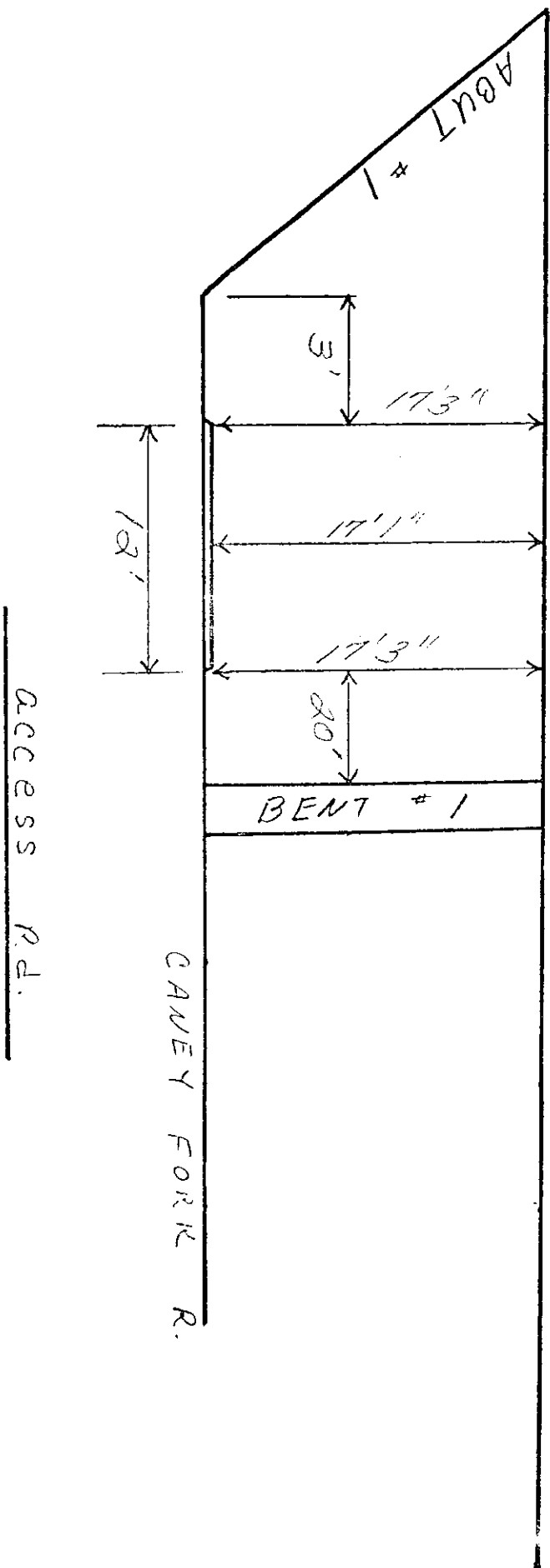
NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) OF THESE FORMS, ONE FOR EACH ROADWAY.

### MINIMUM PICTURES REQUIRED

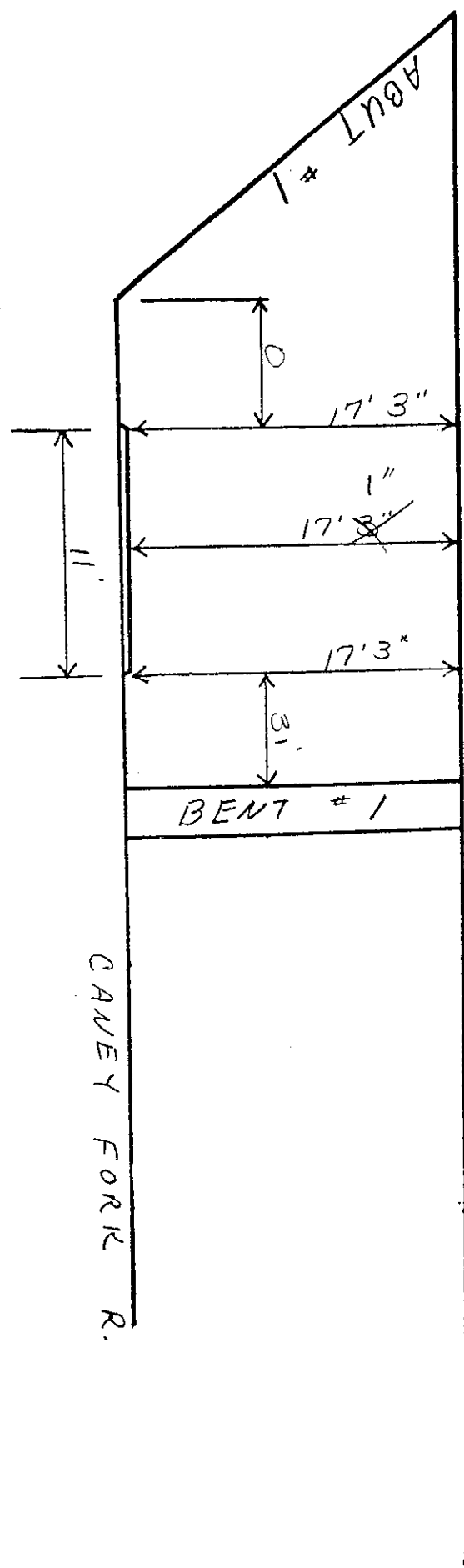
1. ELEVATION VIEW OF BRIDGE ON BOTH SIDES SHOWING UNDERPASS
2. VIEW SHOWING BOTH APPROACHES TO BRIDGE
3. VIEW SHOWING SAFETY FEATURES
4. VIEW SHOWING ANY PROBLEMS

Clearance Sketch

80-I40-13.61 R7. →

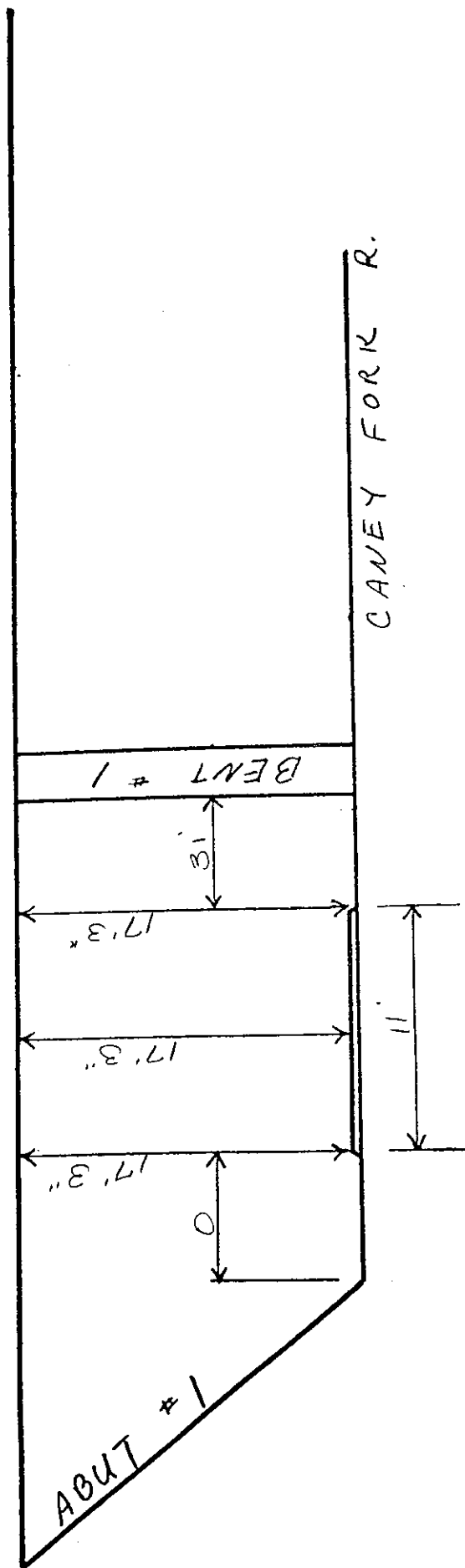


21



10-25-93nd  
2-24-95nd  
5-7-97nd

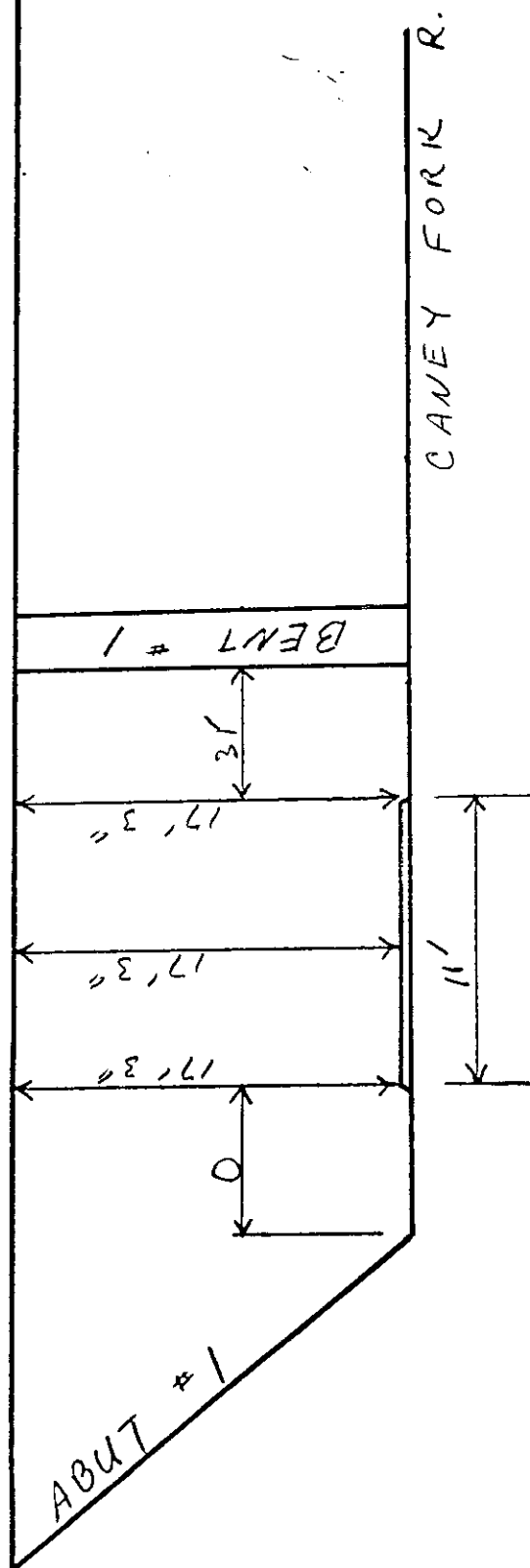
80-I40-13.61 RT. →



access Rd.

FEB 5 1990

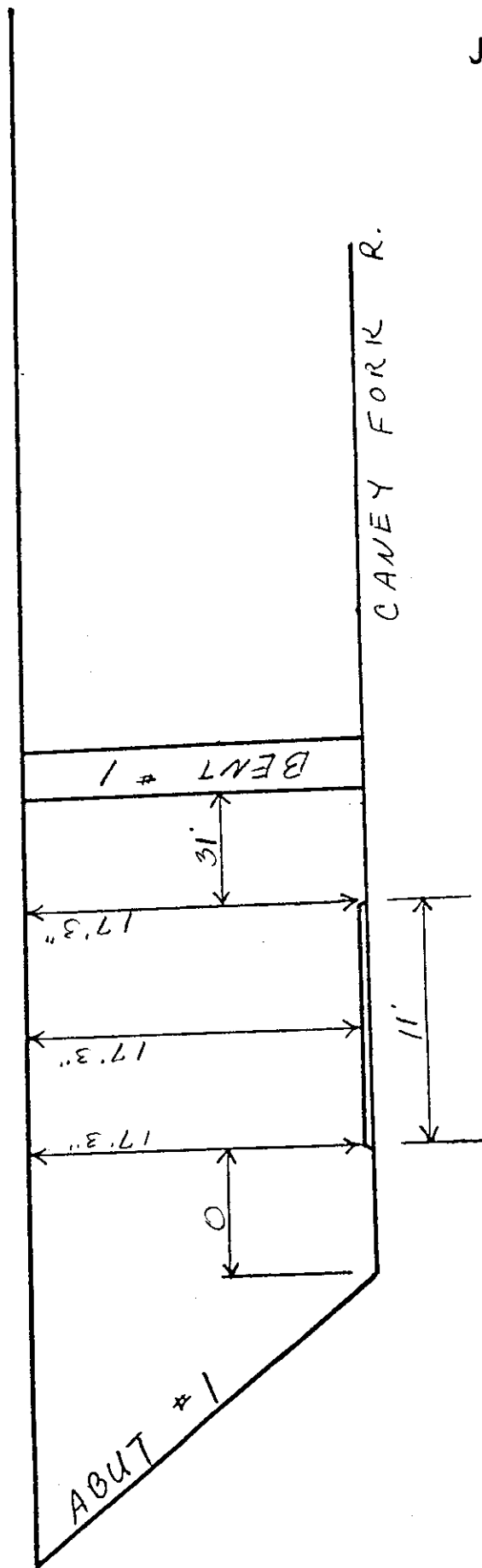
80-I40-13.61 RT. →



access Rd.

JAN 29 1988

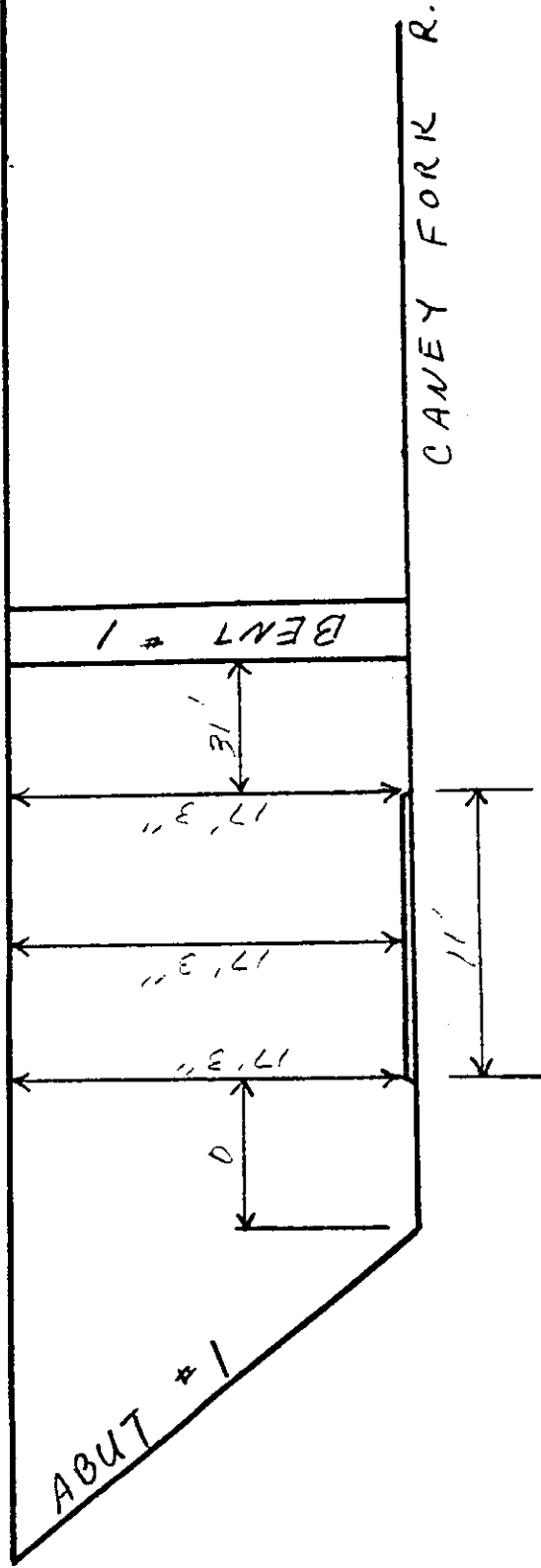
80-I40-13.61 RT. →

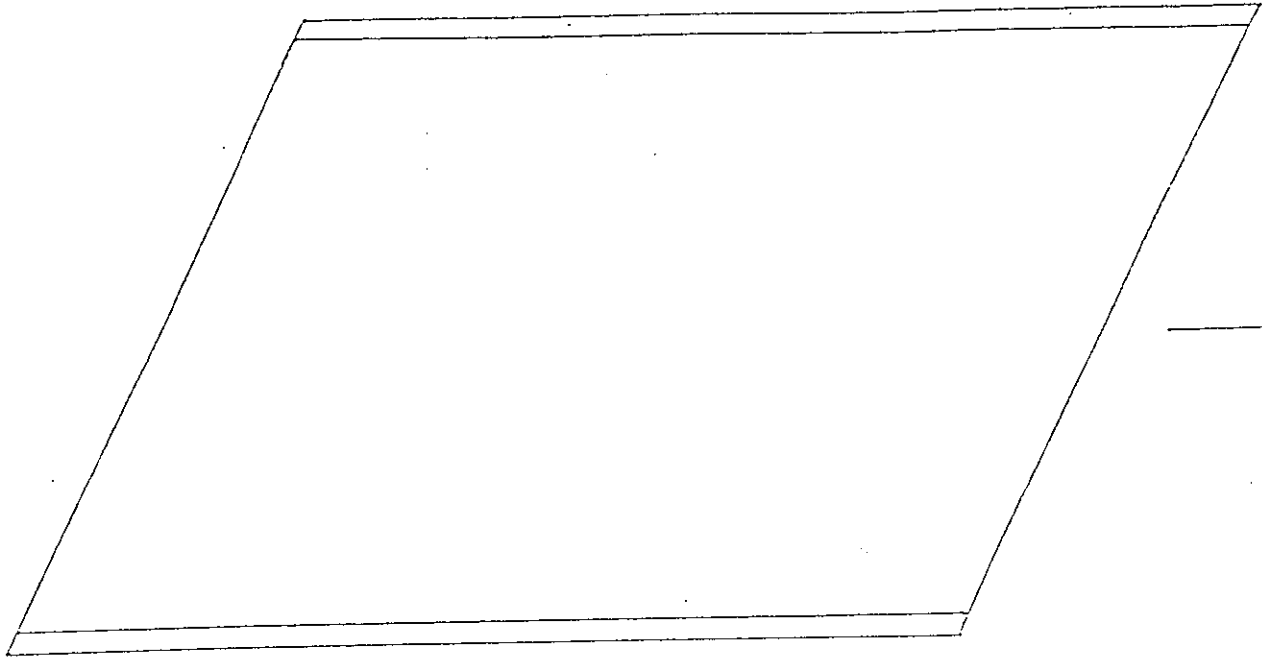


access Rd.

JUL 24 1986

80-I40-13.61 RT. →





Top Slab II

Br. # 80-140-13.61 RT.

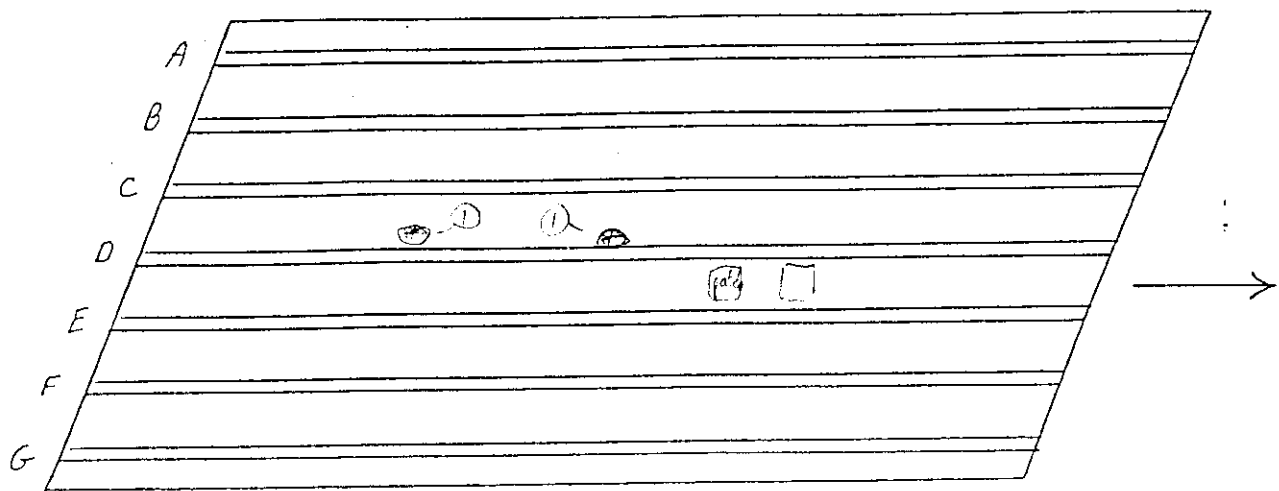
|         |    |                |
|---------|----|----------------|
| Deck    | NV | New AC overlay |
| Parapet | G  |                |
| Drains  | NA |                |
| Joints  | NA |                |











Bottom Slab = 1

Br. = 80-I40-13.61 RT.

Deck Good Random 2" dp deck repair B.O.'s w/ rip. steel

Diaph. Good

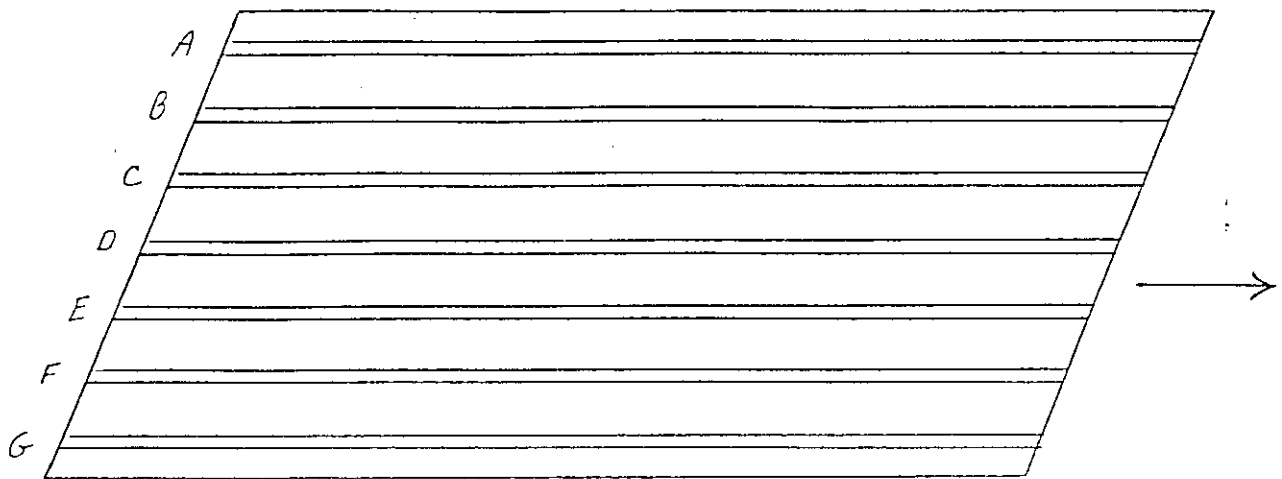
Beams Good



Bottom Slab = Z

Br. = 80 - I 40 - 13.61 RT.

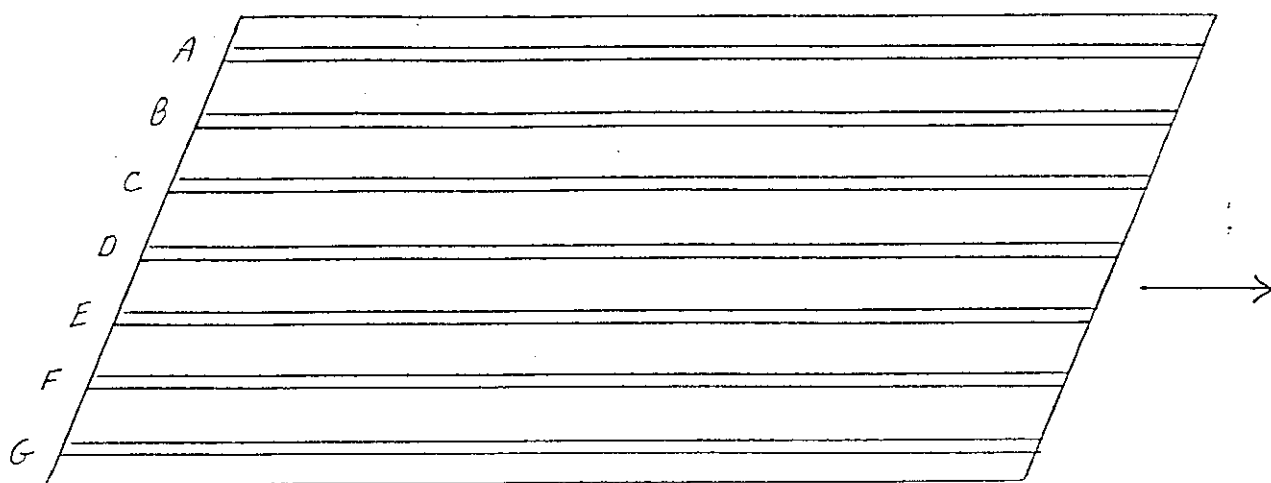
|        |   |
|--------|---|
| Deck   | G |
| Diaph. | G |
| Beams  | G |



Bottom Slab = 3

Br. = 80-I40-13.61 RT.

|        |   |
|--------|---|
| Deck   | G |
| Diaph. | G |
| Beams  | G |



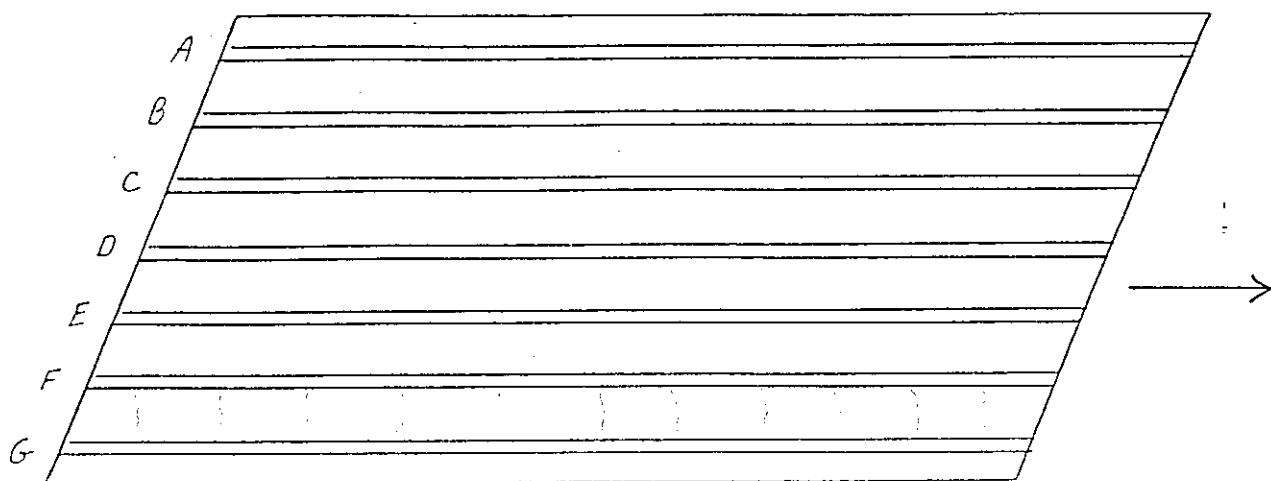
Bottom Slab = 4

Br. = 80 - I40 - 13.61 RT.

Deck G

Diaph. G

Beams G



BOTTOM Slab = 5

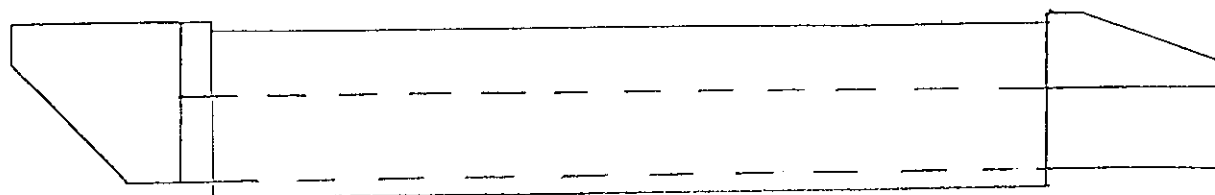
Br. = 80 - I 40 - 13.61 RT.

|      |      |                                   |
|------|------|-----------------------------------|
| Deck | Good | transverse hair cracks w/ efflor. |
|------|------|-----------------------------------|

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

|       |      |                                                          |
|-------|------|----------------------------------------------------------|
| Beams | Good | carbon break-outs in beams where diaphragms are attached |
|-------|------|----------------------------------------------------------|

6-15-99  
R



ABUT # 1

Br. # 80 - I 40 - 13.61 RT.

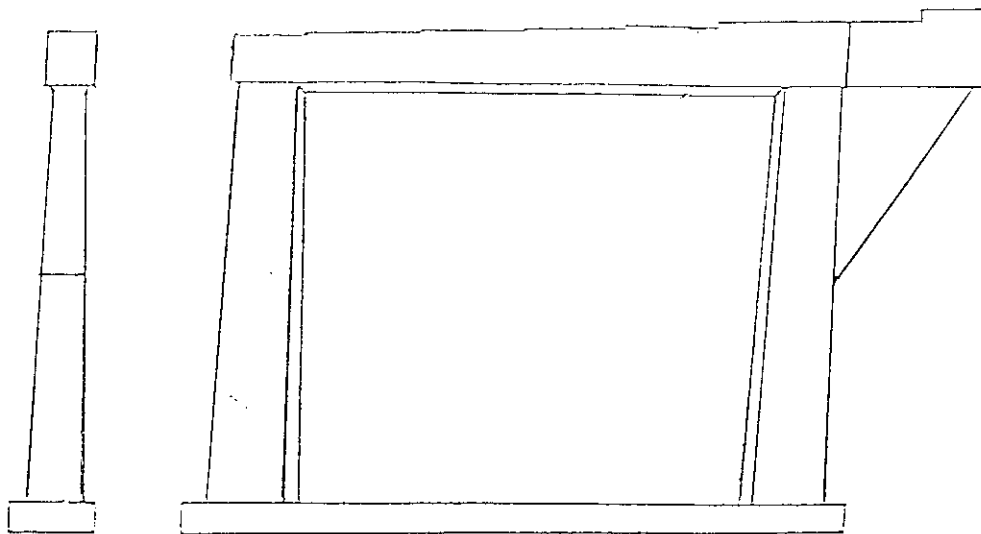
Backwall NV

CAP NV conc. poured in front of & on top of

wings G

Bearings NV encased in conc. diaph.

This technical drawing shows a side elevation of a rectangular structure. It features a thick horizontal base and a thick horizontal top rail. A vertical post is on the left, and a diagonal brace connects the top left corner to the post. A large rectangular opening is in the center. To the right, a partial view of another structure is shown, consisting of a vertical post and a horizontal rail.



Br. # 80-I40-13.61 RT.

|          |    |
|----------|----|
| CAP      | G  |
| Wall     | G  |
| FTG.     | NV |
| Bearings | G  |



The image displays four orthographic views of a mechanical component, arranged in a standard layout. The views are as follows:

- Top View (Top Left):** Shows the component from above. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the right side, and a horizontal flange is at the top.
- Front View (Bottom Left):** Shows the component from the front. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the right side, and a horizontal flange is at the top.
- Left Side View (Top Right):** Shows the component from the left side. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the right side, and a horizontal flange is at the top.
- Right Side View (Bottom Right):** Shows the component from the right side. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the right side, and a horizontal flange is at the top.

Br. # 80-I40-13.61 RT.

|          |    |  |
|----------|----|--|
| CAP      | G  |  |
| Wall     | G  |  |
| FTG.     | NV |  |
| Bearings | G  |  |



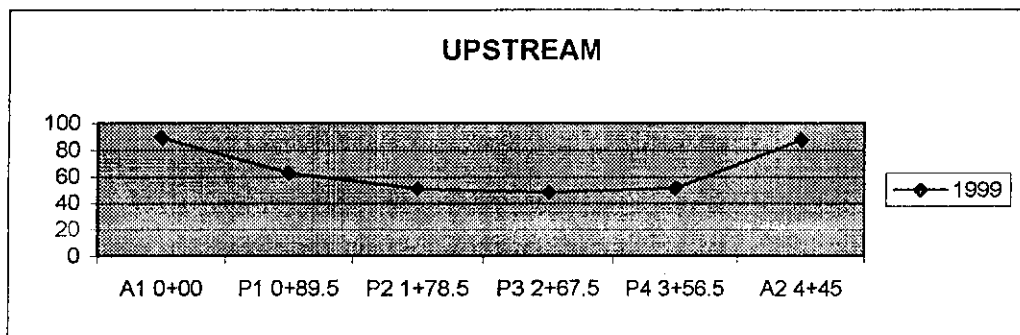
Br. # 80-I40-13.61 RT.

|          |   |
|----------|---|
| Bearings | G |
|----------|---|

80-I40-13.61 Rt.  
 ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET  
 STATION ELEV.

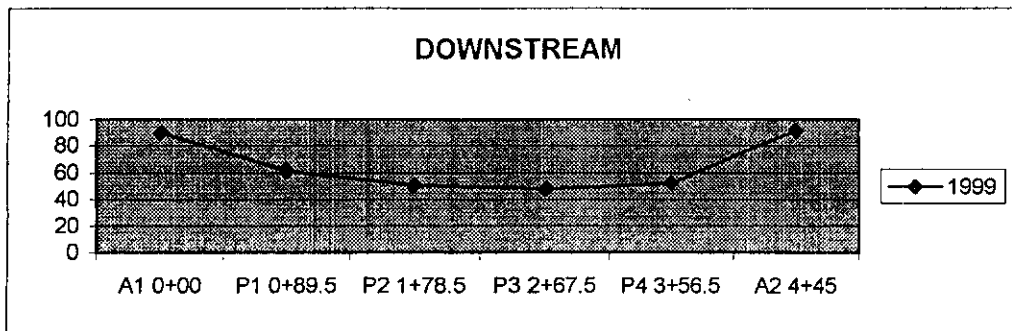
6/15/99

|           |      |
|-----------|------|
|           | 1999 |
| A1 0+00   | 88.9 |
| P1 0+89.5 | 63   |
| P2 1+78.5 | 51   |
| P3 2+67.5 | 48.3 |
| P4 3+56.5 | 51.4 |
| A2 4+45   | 87.5 |



STATION ELEV.

|           |      |
|-----------|------|
|           | 1999 |
| A1 0+00   | 89.6 |
| P1 0+89.5 | 61.6 |
| P2 1+78.5 | 50.8 |
| P3 2+67.5 | 47.6 |
| P4 3+56.5 | 52.2 |
| A2 4+45   | 91.8 |



SM00 13 COST ESTIMATE \$ \_\_\_\_\_

|                                                   |                                              |                              |
|---------------------------------------------------|----------------------------------------------|------------------------------|
| Station <sup>EBL-331+93.00</sup><br>WBL-332+41.00 | Length <sup>EBL-445'-0"</sup><br>WBL-447'-0" | Designer <i>Wilbur Smith</i> |
|---------------------------------------------------|----------------------------------------------|------------------------------|

|                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description (Span Data) <i>Precast Prestressed Concrete I-Beam with composite concrete deck slab</i><br>EBL-89'-6" 3 @ 89'-0" & 88'-6"<br>WBL-2 @ 90'-0" and 3 @ 89'-0" |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                          |                                                  |
|---------------------|--------------------------|--------------------------------------------------|
| Roadway Description | Out-to Out <i>44'-0"</i> | Width Between Curbs or Bridgerails <i>42'-0"</i> |
|---------------------|--------------------------|--------------------------------------------------|

|                              |                            |                                  |                             |
|------------------------------|----------------------------|----------------------------------|-----------------------------|
| Sidewalk Width<br><i>N/A</i> | Rail Type<br><i>M-28-1</i> | Median Description<br><i>N/A</i> | Slab Depth<br><i>8 1/2"</i> |
|------------------------------|----------------------------|----------------------------------|-----------------------------|

|                                     |                                    |
|-------------------------------------|------------------------------------|
| X-Slope or S.E. = <i>0.0156 1/1</i> | Min. Vert. Clearance <i>17'-0"</i> |
|-------------------------------------|------------------------------------|

|                                   |                               |                        |
|-----------------------------------|-------------------------------|------------------------|
| Horizontal Curve <i>N/A</i> Lt/Rt | Skew <i>52°</i> <i>(t)</i> Rt | Exp. Jts. <i>(Y) N</i> |
|-----------------------------------|-------------------------------|------------------------|

|                                              |                                                              |
|----------------------------------------------|--------------------------------------------------------------|
| Hydraulic Drainage Area = <i>195</i> Sq. Mi. | Deck Area = <sup>EBL=19580</sup><br><i>WBL=19668</i> Sq. Ft. |
|----------------------------------------------|--------------------------------------------------------------|

|                                             |                                                      |
|---------------------------------------------|------------------------------------------------------|
| Beam Spacing <i>7' 9"</i><br>(C.L. to C.L.) | Cantilever Distance <i>3' 6"</i><br>(C.L. to E.O.S.) |
|---------------------------------------------|------------------------------------------------------|

|                          |                                                  |       |
|--------------------------|--------------------------------------------------|-------|
| Beam Size Info.          | Steel <i>N/A</i>                                 | Other |
| Concrete: Type <i>IV</i> | I-Beam *OR* D <i>N/A</i> x W <i>N/A</i> Box Beam |       |

|                                   |                              |
|-----------------------------------|------------------------------|
| Abutment Type <i>Concrete Ped</i> | Pier Type <i>Solid Shaft</i> |
|-----------------------------------|------------------------------|

|                            |                            |
|----------------------------|----------------------------|
| Footing Type <i>Spread</i> | Footing Type <i>Spread</i> |
|----------------------------|----------------------------|

## LIST OF DRAWINGS

| Items                              | Dwg. No.         | Items                | Dwg. No.          |
|------------------------------------|------------------|----------------------|-------------------|
| <i>Layout</i>                      | <i>M-214-88</i>  | <i>Plans</i>         | <i>M-214-105A</i> |
| <i>General Notes</i>               | <i>M-214-89</i>  | <i>"</i>             | <i>M-214-105B</i> |
| <i>Est. Quantities</i>             | <i>M-214-90</i>  | <i>Bill of Steel</i> | <i>M-214-106</i>  |
| <i>Repair Details</i>              | <i>M-214-91</i>  | <i>"</i>             | <i>M-214-107</i>  |
| <i>Superstr. Details</i>           | <i>M-214-94</i>  | <i>"</i>             | <i>M-214-107A</i> |
| <i>"</i>                           | <i>M-214-95</i>  | <i>"</i>             | <i>M-214-108</i>  |
| <i>"</i>                           | <i>M-214-96</i>  |                      |                   |
| <i>Prestressed Concrete I-Beam</i> | <i>M-214-97</i>  |                      |                   |
| <i>"</i>                           | <i>M-214-98</i>  |                      |                   |
| <i>"</i>                           | <i>M-214-99</i>  |                      |                   |
| <i>"</i>                           | <i>M-214-100</i> |                      |                   |
| <i>Reaping Details</i>             | <i>M-214-101</i> |                      |                   |
| <i>Abut. Details</i>               | <i>M-214-102</i> |                      |                   |
| <i>"</i>                           | <i>M-214-103</i> |                      |                   |
| <i>"</i>                           | <i>M-214-104</i> |                      |                   |
| <i>Plans</i>                       | <i>M-214-105</i> |                      |                   |

Remarks: (old layout no., widening info., route class, etc.)

*Widening - Old layout no. - G-15-54 & 65*

|                                                       |                                                                         |
|-------------------------------------------------------|-------------------------------------------------------------------------|
| Bridge I.D. No.<br>EBL-80100400027<br>WBL-80100400028 | Project Limits:<br>From SR 153 (Gordonsville Intch.) to Putnam Co. Line |
|-------------------------------------------------------|-------------------------------------------------------------------------|

|                                 |                        |                      |                       |                          |                                |                                    |
|---------------------------------|------------------------|----------------------|-----------------------|--------------------------|--------------------------------|------------------------------------|
| Project<br><i>IR-40-3(1)257</i> | County<br><i>Smith</i> | Route<br><i>I-40</i> | L.M.<br><i>H52024</i> | Loading<br><i>42'-0"</i> | Roadway<br><i>I-40 EBL/WBL</i> | Location:<br><i>Cumy Fk. River</i> |
|---------------------------------|------------------------|----------------------|-----------------------|--------------------------|--------------------------------|------------------------------------|

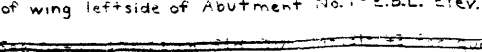
|               |      |           |
|---------------|------|-----------|
| PROJECT NO.   | YEAR | SHEET NO. |
| IR-40-5(9)257 | 1989 |           |

## REVISIONS

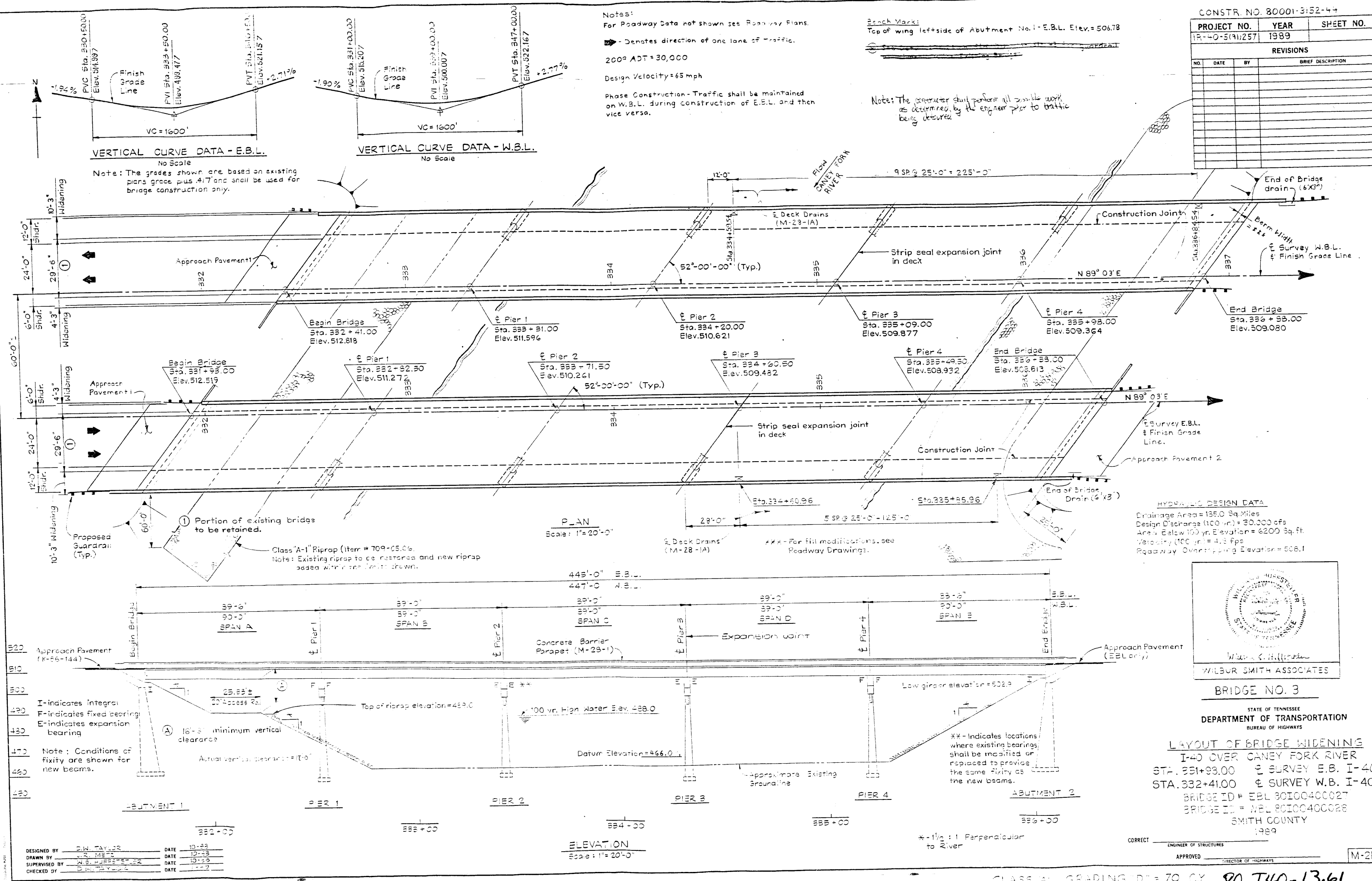
[illegible]

Notes:  
For Roadway Data not shown see Roadway Plans.  
 - Denotes direction of one lane of traffic.  
2009 ADT = 30,000  
Design Velocity = 65 mph  
Phase Construction - Traffic shall be maintained on W.B.L. during construction of E.B.L. and the vice versa.

Pench Mark:  
Top of wing left side of Abutment No. 1 - E.B.L. Elev. = 506.78



Note: The contractor shall perform all possible work as determined by the engineer prior to traffic being cleared.





- ⑤ All reinforcing steel in the parapet shall be epoxy coated. Cost to be included in the price bid for Item 620-03.
- ⑥ The expansion Joint at Pier 3 shall be in accordance with Special Provision 6045 and Standard Drawing M-156-108.1. ~~108.1~~ The total required movement is 4 Inches. Shop drawings shall be submitted to the Engineer of Structures for approval.
- ⑦ The cost of removing any existing asphalt overlay shall be included in the unit price bid for scarifying.
- ⑧ NOTE: Cost of polyethylene sheeting and all miscellaneous items necessary for Installation to be included in cost of perforated Pipe.

- (9) BRIDGE ID# E.S.L. - 80100-00027S+A. 331+93.20  
BRIDGE ID# N.S.L. - 80100-00028S+A. 332+41.00
- (10) For sketch and notes on Concrete Repair, see  
drawing No. M-214-91.
- (11) NOTE: Square yard for pavement at bridge  
ends shall be measured as road surface  
area and shall include all concrete,  
reinforcing steel, ties, joint material,  
notch for roadway drain, surface finish as  
per SP604 and any other increments  
necessary for complete installation.
- (12) Jacking at Pier No.2 for Existing  
Bearing replacement, see drawing No.  
M-214-101 for details.

- (13) NOTE: Items No. 604-1232, 604-1242, 604-1233 and 709-0576 shall be bid with the contingency that these items may be increased, decreased or eliminated as directed by the Engineer.
- (14) Includes blasting, cleaning and painting existing bridge bearings.
- (15) Excavation based on Existing Ground.
- (16) Support Frame for Pier Extension.
- (17) The use of a rammer is prohibited for removal of concrete. See notes on Dwg. No. M-214-91.
- (18) Guardrail attachment to bridge pier post shall be installed prior to all traffic being detoured onto Westbound Bridge. All materials, labor, etc. for installation shall be included under item 705-1223.

- ② Includes quantities for Apartment Sub-beam, see Dwg. M-24-31.
- ③ Includes quantities for Pier Shear Key, see Dwg. M-24-39.

CONSTP. NO. 80001-3152-44

[illegible]

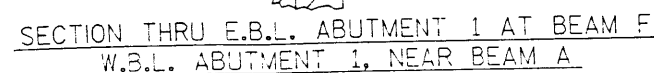
| BID ITEM NO.   |      | 202-04.03<br>REMOVAL<br>OF<br>STRUCTURES | 204-02.01<br>DRY<br>EXCAVATION<br>(BRIDGES) | 602-02.03<br>STRUCTURAL<br>STEEL | 603-02.02<br>REPAINTING<br>EXISTING<br>STEEL<br>STRUCTURES | 604-01.12<br>CLASS 'A'<br>CONCRETE<br>(BRIDGE<br>DECK) | 604-02.03<br>EPOXY<br>COATED<br>REINFORCING<br>STEEL | 604-03.01<br>CLASS 'A'<br>CONCRETE<br>(BRIDGES) | 604-03.02<br>STEEL BAR<br>REINFORCEMENT<br>(BRIDGES) | 604-03.04<br>PAVEMENT<br>AT<br>BRIDGE<br>ENDS | 604-04.01<br>APPLIED<br>TEXTURE<br>FINISH<br>(NEW<br>STRUCTURES) | 604-04.02<br>APPLIED<br>TEXTURE<br>FINISH<br>(EXISTING<br>STRUCTURES) | 604-10.30<br>BRIDGE<br>DECK<br>REPAIR<br>(FULL<br>DEPTH) | 604-10.42<br>CONCRETE<br>REPAIRS | 604-10.50<br>BRIDGE<br>DECK<br>REPAIR<br>(PARTIAL<br>DEPTH) | 604-11.02<br>EXPANSION<br>DEVICE<br>(STRIP SEAL<br>JOINT 4'<br>MOVEMENT) | 604-36<br>SCARIFYING | 615-01.04<br>PRESTRESSED<br>CONCRETE<br>I-BEAM<br>(TYPE IV)<br>54" DEEP | 620-03<br>CONCRETE<br>PARAPET<br>(M-28-1) | 705-10.23<br>GUARDRAIL<br>ATTACHMENT<br>TO<br>BRIDGE RAIL<br>POST | 709-05.06<br>MACHINED<br>RIP-RAP<br>(CLASS A-D) | 710-09.01<br>6" PERF.<br>PIPE WITH<br>VERTICAL<br>DRAIN<br>SYSTEM | 710-09.02<br>6" PIPE<br>UNDERDRAIN | 920-01.75<br>LACKING<br>STRUCTURES |
|----------------|------|------------------------------------------|---------------------------------------------|----------------------------------|------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------|----------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------|------------------------------------|------------------------------------|
| ITEM           | ITEM | (4)(9)(7)<br>L.S.                        | (15)<br>C.Y.                                | (9)(18)<br>LB.                   | (9)(14)<br>L.S.                                            | (1)<br>C.Y.                                            | (19)<br>LB.                                          | (19)(20)<br>C.Y.                                | (22)<br>C.Y.                                         | (11)<br>S.Y.                                  | S.Y.                                                             | S.Y.                                                                  | (1)(13)<br>S.Y.                                          | (1)(13)<br>C.F.                  | (1)(23)<br>S.Y.                                             | (6)<br>L.F.                                                              | (7)<br>S.Y.          | (2)<br>L.F.                                                             | (3)(5)<br>L.F.                            | (13)<br>L.F.                                                      | (13)<br>TON                                     | (8)<br>L.F.                                                       | (8)<br>L.F.                        | (9)(2)<br>L.S.                     |
| STRUCTURE      |      |                                          |                                             |                                  |                                                            | 433                                                    | 97124                                                |                                                 |                                                      |                                               | 1472                                                             | 357                                                                   |                                                          | 2                                |                                                             |                                                                          |                      | 442                                                                     |                                           |                                                                   |                                                 | 74                                                                | 12                                 |                                    |
| Superstructure |      |                                          |                                             |                                  |                                                            | 39                                                     | 3684                                                 | 23                                              | 5616                                                 |                                               | 37                                                               | 29                                                                    |                                                          | 2                                |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Abutment 1     |      |                                          | 57                                          |                                  |                                                            |                                                        |                                                      |                                                 |                                                      |                                               |                                                                  |                                                                       | 10                                                       |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 1         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 369                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 2         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 381                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 3         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 13                                              | 2687                                                 |                                               | 26                                                               | 390                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 4         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 369                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 | 26                                                                | 12                                 |                                    |
| Abutment 2     |      |                                          | 13                                          |                                  |                                                            | 39                                                     | 2716                                                 | 11                                              | 4757                                                 |                                               | 37                                                               | 29                                                                    |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Subtotal       |      | .5                                       | 70                                          | 15600                            | .5                                                         | 511                                                    | 103524                                               | 83                                              | 20321                                                | 110                                           | 1650                                                             | 1924                                                                  | 0                                                        | 12                               | 45                                                          | 55                                                                       | 465                  | 442                                                                     | 82                                        |                                                                   | 220                                             | 100                                                               | 24                                 | .5                                 |
| Superstructure |      |                                          |                                             |                                  |                                                            | 431                                                    | 96302                                                |                                                 |                                                      |                                               | 1469                                                             | 355                                                                   |                                                          | 1                                |                                                             |                                                                          |                      | 440                                                                     |                                           |                                                                   |                                                 | 74                                                                | 12                                 |                                    |
| Abutment 1     |      |                                          | 57                                          |                                  |                                                            | 43                                                     | 3484                                                 | 23                                              | 5802                                                 |                                               | 37                                                               | 29                                                                    |                                                          | 2                                |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 1         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 392                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 2         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 381                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 3         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 13                                              | 2687                                                 |                                               | 26                                                               | 373                                                                   |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Pier 4         |      |                                          |                                             | 3900                             |                                                            |                                                        |                                                      | 12                                              | 2487                                                 |                                               | 26                                                               | 367                                                                   |                                                          | 13                               |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 | 74                                                                | 12                                 |                                    |
| Abutment 2     |      |                                          | 57                                          |                                  |                                                            | 40                                                     | 3684                                                 | 23                                              | 5689                                                 |                                               | 37                                                               | 29                                                                    |                                                          |                                  |                                                             |                                                                          |                      |                                                                         |                                           |                                                                   |                                                 |                                                                   |                                    |                                    |
| Subtotal       |      | .5                                       | 114                                         | 15600                            | .5                                                         | 514                                                    | 104070                                               | 95                                              | 21639                                                | 220                                           | 1647                                                             | 1926                                                                  | 10                                                       | 16                               | 45                                                          | 55                                                                       | 1459                 | 440                                                                     | 81                                        |                                                                   | 220                                             | 148                                                               | 24                                 | .5                                 |
| Totals         |      | 1.0                                      | 184                                         | 31200                            | 1.0                                                        | 1025                                                   | 207594                                               | 178                                             | 42160                                                | 630                                           | 3297                                                             | 3850                                                                  | 10                                                       | 28                               | 290                                                         | 110                                                                      | 2924                 | 882                                                                     | 1623</                                    |                                                                   |                                                 |                                                                   |                                    |                                    |

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS  
ESTIMATED QUANTITIES  
I-40 OVER  
CANEY FORK RIVER  
STA. 331+93.00 Q SURVEY E.B.L.  
STA. 332+41.00 Q SURVEY W.B.L.  
SMITH COUNTY  
1989

DESIGNED BY HDL DATE 11/88  
 DRAWN BY W. K. EAB DATE 11/88  
 SUPERVISED BY W. K. EAB DATE 11/88  
 CHECKED BY HDL DATE 3/89

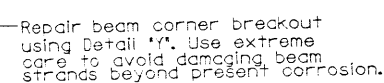
CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES  
APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

M-214-90



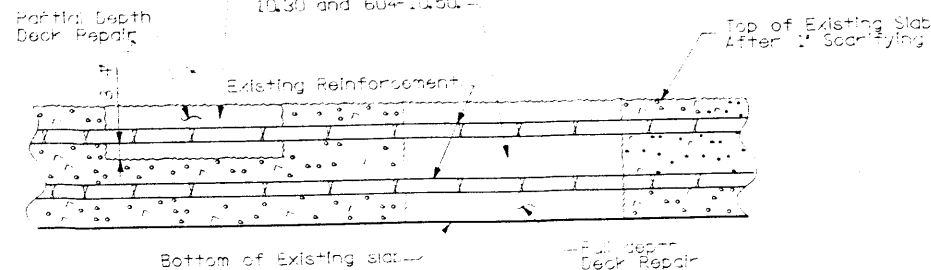
This section shall apply where surfaces of abutment beams are deteriorated or have significant surface scaling, and the cap beam is not otherwise replaced by new construction.

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.



E.B.L. SPAN A EXISTING BEAM D

Note: The contractor shall repair these areas of deck repair with Class 'A' Bridge Deck fix = 4,500 P.S.I. concrete. The concrete used to fill these areas to the scarified level shall be included in Item No's. 604-1030 and 604-1050.

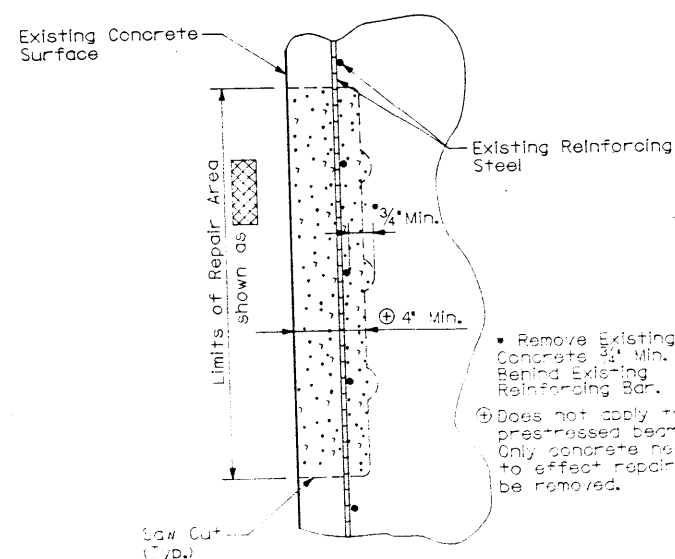


DETAIL SHOWING FULL AND PARTIAL DEPTH BECK REPAIR

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 to be removed shall be designated by personnel from the Bridge Inspection Office. Deck repair will be paid for under item No. 604-133a. Bridges deck repair, (partial depth of 3/8" to 1 1/2" depth of slab, the Engineer encountered which appears to be in full depth of slab, the Engineer may designate these areas to be repaired under item No. 604-133a. Bridge deck repair, full depth of 3/8" to 1 1/2". Power driven hand tools used for removal of unsound 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.



(Looking in Direction of Stationing)



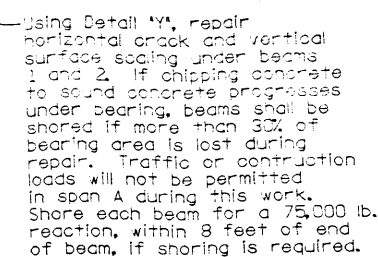
DETAIL - "Y"  
DETAIL SHOWING EXISTING CONCRETE SURFACE  
TO BE REPAIRED

## NOTES FOR DETAIL 1:

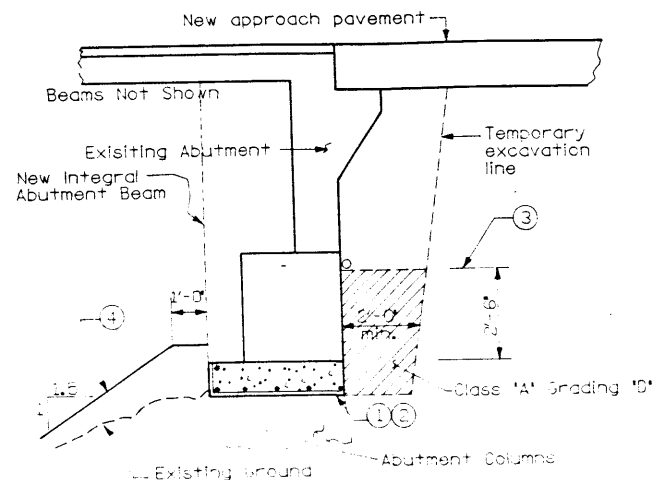
care shall be taken when removing existing deteriorated concrete to designate repair areas so as not to damage the existing reinforcing steel. All existing reinforcing steel shall be blast cleaned to remove all rust before pouring new concrete.

Concrete for the required areas shall be high early strength, type 4, 5000 psi. Type III cement shall be used in lieu of type I cement. No traffic or other loading will be allowed on the required areas until 10 calendar days have elapsed and representative test specimens have attained a compressive strength of not less than 5000 psi.

Cost of removing deteriorated concrete, all cast, leaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in detail shall be included under Item No. 604-10.42, Concrete Repairs, C&G.



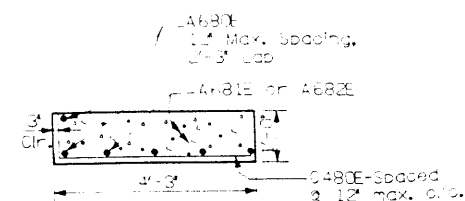
LEFT END VIEW, W.B.L. PIER 1  
(SECTION THRU PIER AT BEAM)



SECTION THREE E.B.L. ABUTMENTS 1 AND 2  
W.B.L. ABUTMENT 1

NOTES:

- ① Before addition of new approach pavement, backfill shall be excavated sufficient to expose all abutment columns. Exposed columns and cap portions shall be thoroughly cleaned. No separate payment will be made for cleaning.
- ② Construct abutment sub-beam using Class 'A' 6000-3200 psi concrete. Sub-beam shall to 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 Bidding Items 604-03.01 and 604-32.03.
- ③ Backfill to limit shown with Class A bedding material. Material shall be placed and compacted in 6" lifts with 12" tamping. Backfill shall not be made until final abutment is completed.
- ④ Establish fill slope to lines shown.



### DETAILS OF NEW ABUTMENT SUB-BEAM

CONST. NO. 80001-3152-44

| PROJECT NO.   | YEAR | SHEET NO. |
|---------------|------|-----------|
| TR-40-591/257 | 1989 |           |

[illegible]

GENERAL NOTES:

NOTE: Remove timber deck formwork left in place by previous construction in E.B.L. span A.

SPECIAL NOTE

Necessary concrete repairs at piers of this bridge shown before the addition of the cantilever beam bracket. In general, these repairs which may be conflicting 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 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 of 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

1-40 OVER

CANEY FORK RIVER

STA. 331+93.00 @ SURVEY E.B.L.

STA. 332+41.00 C SURVEY W.B.L.

SMITH COUNTY

1989

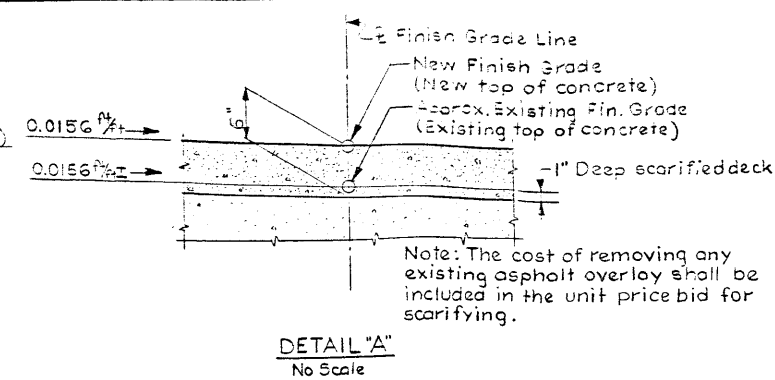
DESIGNED BY: WSH DATE: 1/2/99  
DRAWN BY: TLK DATE: 1/2/99  
SUPERVISED BY: WSH DATE: 1/2/99  
CHECKED BY: WSH DATE: 3/2/99

CORRECT

ENGINEER OF STRUCTURES

APPROVED \_\_\_\_\_

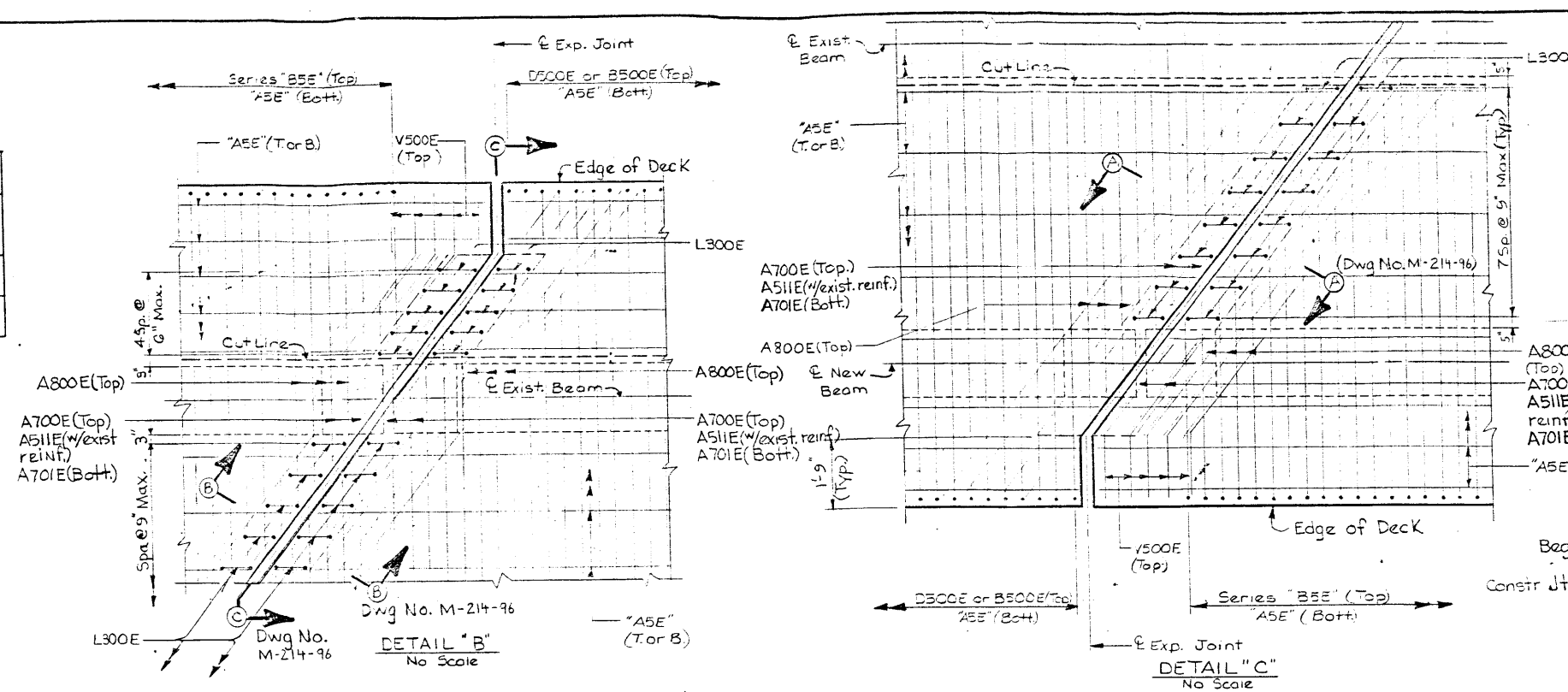
M-214-91



DIRECTOR OF HIGHWAYS

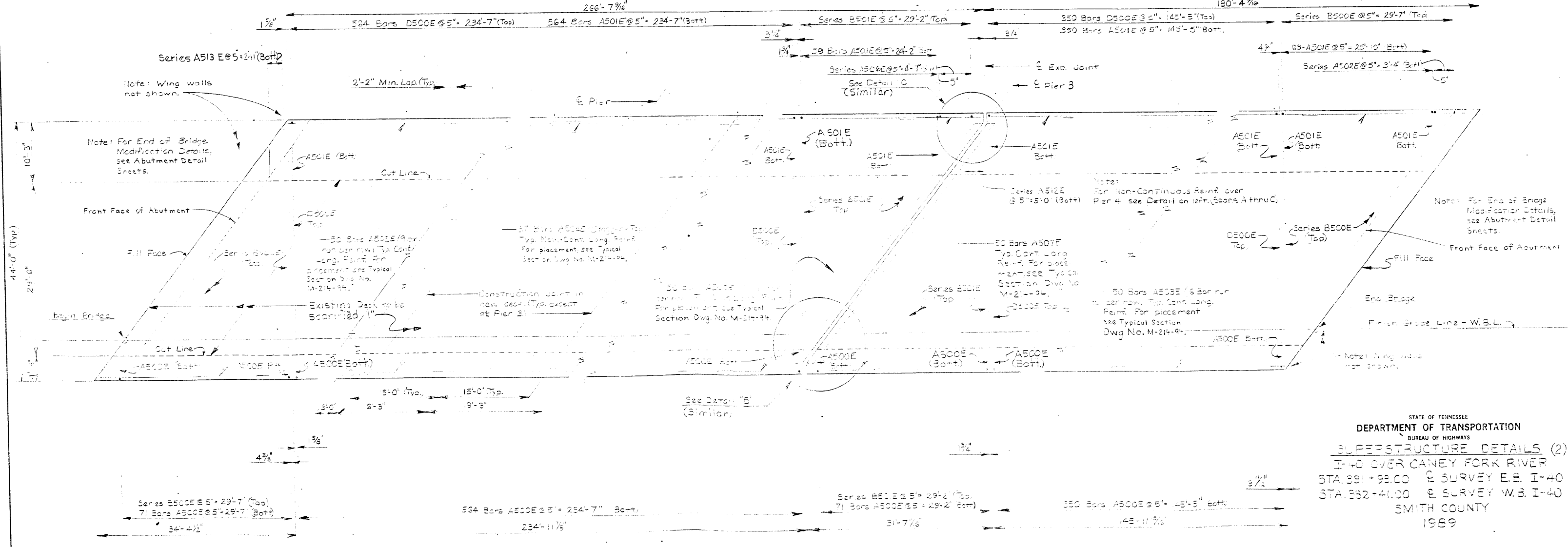
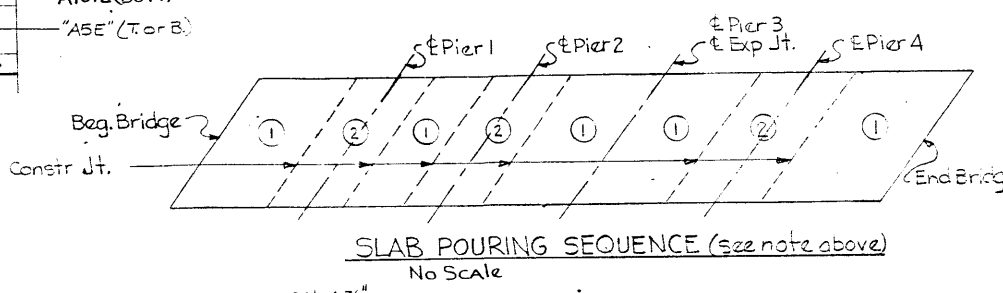
M-214-94

| ESTIMATED QUANTITIES                |                                   |
|-------------------------------------|-----------------------------------|
| Class "A" Concrete (Bridge Deck) CY | Epoxy Coated Reinforcing Steel Lb |
| 431                                 | 96902                             |
| 433                                 | 97124                             |



Note: All pours are to be made in numerical sequence. Pour No. 1 in exterior span from mid-span to the abutment. Pours with the same numerical designation may be made simultaneously. Also, pour 1 & 2 may be made simultaneously, provided the 1 sections are placed on each side of any 2 section placed during a particular pour. No equipment shall be permitted on the bridge until all pours are made and the concrete is properly cured. The Contractor shall make adequate provisions during placement of slab to prevent the exterior beam from twisting. All slab construction joints shall be in accordance with the Slab Construction Joint detail shown on Dwg. No. M-214-96.

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|---------------------------|------|------|-------------------|
| CONSTR. NO. 30001-3151-44 |      |      |                   |
| PROJECT NO.               |      | YEAR | SHEET NO.         |
| IR-40-5(10)157            |      | 1989 |                   |
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7'-0" ±

12" 7-K500E @ 12" Max. 5'-9" 12"

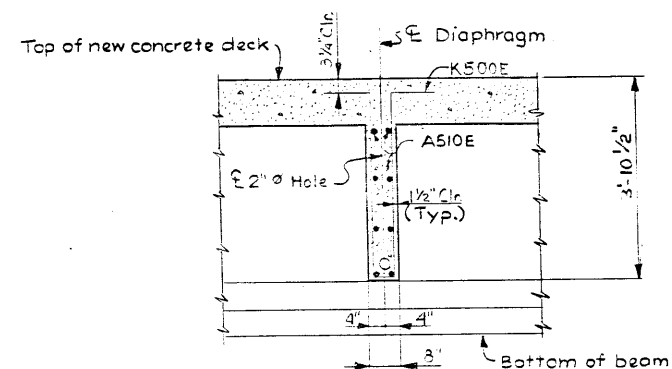
Top of new concrete overlay

Field drill 2" Ø hole through web of existing beam for 1/2" Ø tiered rod

A510E (E.F.) @ 12" Max.

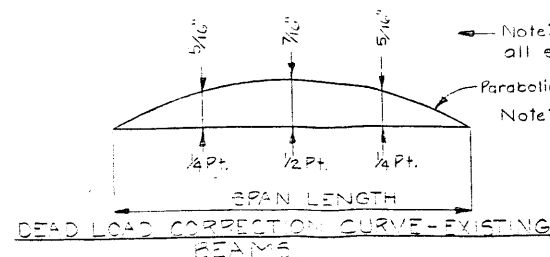
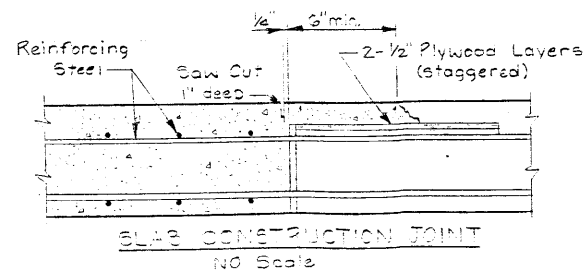
1'-9 1/2"

TYPICAL INTERMEDIATE DIAPHRAGM  
No Scale



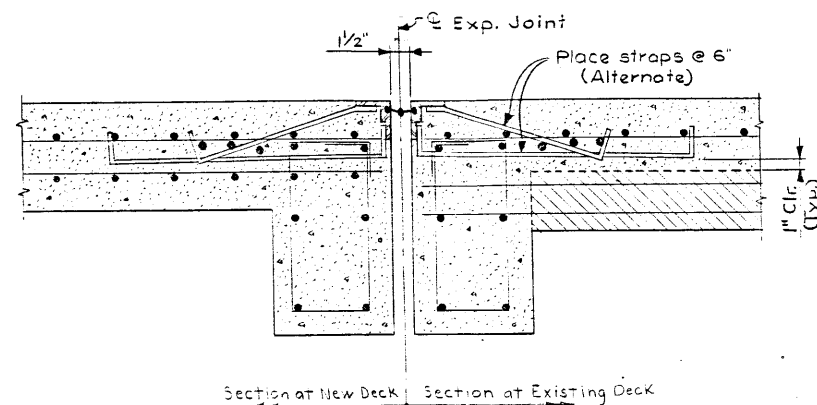
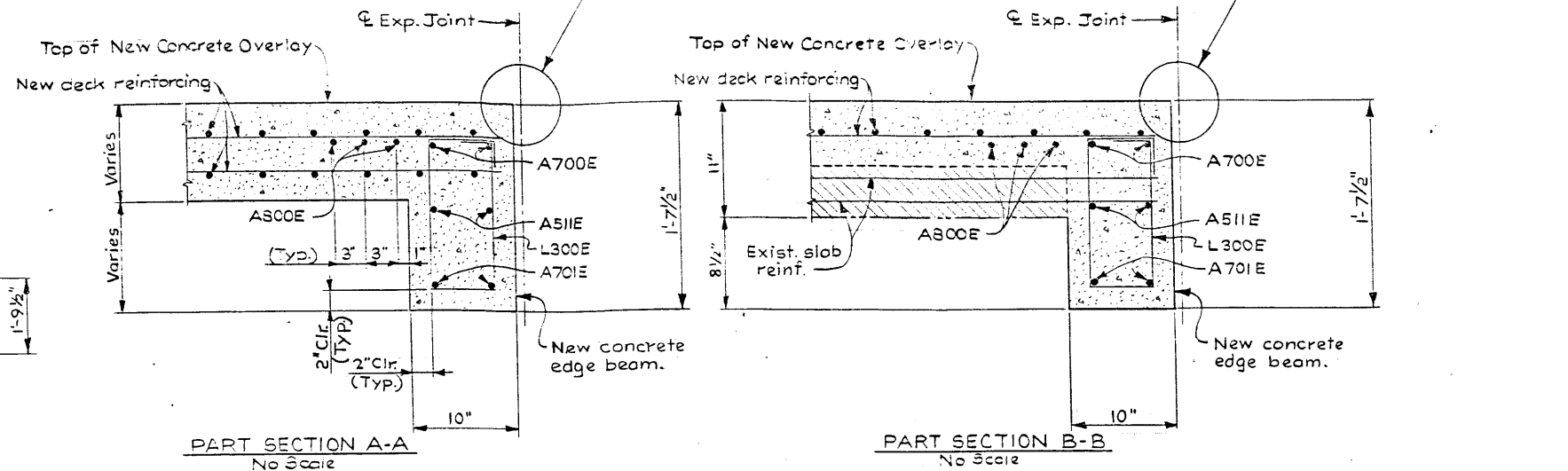
SECTION D-D  
No Scale

Note:  
Top part of Abutments shall be poured concurrently with the deck slab and included in the quantity for item 604-01.12, as shown on abutment sheets.

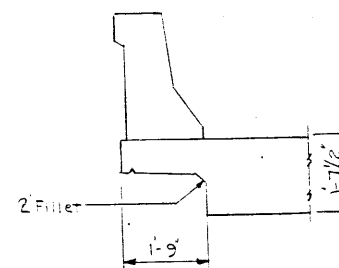


— Note: Values apply to all spans.

Note: This curve includes deflection of existing bridge under load of new deck overlay and new rails. Contractor shall use this information to make the necessary spread adjustment.

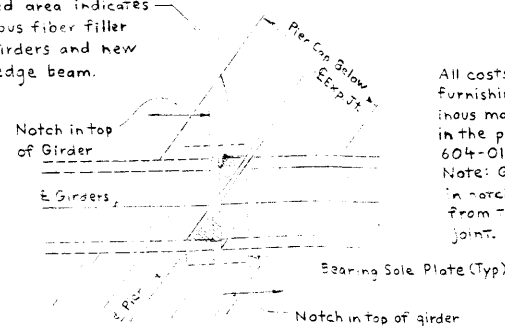


DETAIL "D" - EXPANSION JOINT DETAILS  
No Scale



SECTION C-C  
No Scale

Cross hatched area indicates -  
1/2" bituminous fiber filler  
between girders and new  
concrete edge beam.



All costs associated with furnishing and installing bituminous material shall be included in the price bid for item No. 604-01.2.

Note: Girder reinforcing projecting in trench shall be cut 2" back from the face of the expansion joint.

Bearing Sole Plate (Typ)

- Notch in top of girder

PLAN - ABOVE GIRDERS

BEARING ON PIERS AT EXPANSION JOINT

Note: Immediately before substructure riser blocks are poured, the Contractor shall measure the actual camber of the fabricated prestressed beams and submit these measurements to the Engineer. The anticipated values for the mid-point of the beams at erection, including vertical curve correction, are as follows:

| SPAN | EBL    | WBL    |
|------|--------|--------|
| A    | 3 1/8" | 3 1/2" |
| B    | 3 1/4" | 3 1/4" |
| C    | 3 1/4" | 3 1/4" |
| D    | 3 1/4" | 3 1/4" |
| E    | 3"     | 3 1/8" |

Note: A positive value indicates an upward camber.

If the measured camber exceeds these anticipated values by 1" or more, corrective measures such as changes in riser block elevations, and/or roadway grade must be developed by the Contractor and submitted to the Engineer for approval before any riser blocks are poured.

| PROJECT NO.    | YEAR | SHEET NO. |
|----------------|------|-----------|
| TR-40-5(90257) | 1989 |           |

## REVISIONS

[illegible]

Strip Seal Expansion Joints  
1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Dwg.No. M-156-1085. 12A  
Concrete Details and reinforcing steel shall be as shown on this drawing except modifications shall be allowed as stipulated in Special Provision No. 6045.

2. The Strip Seal Expansion Joint shall comply with requirements of Special Provision No. 604 S.

3. Cost of furnishing and installing the Strip Seal Expansion Joint complete in place including all labor, equipment, and other incidental material necessary to complete the work in accordance with plans, specifications and Special Provisions shall be included in bid for Item No. 604-11.02

4. Joint dimensions shown are for installation at 60° F. Dimensions to be adjusted as necessary for other installation temperatures.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS(2)

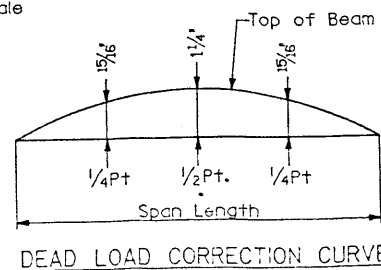
I-40 OVER CANEY FORK RIVER  
STA. 331+93.00 & SURVEY E.B. I-40  
STA 332+41.00 & SURVEY N.B. I-40  
SMITH COUNTY  
1989

DESIGNED BY DWP DATE 11-83  
DRAWN BY HLK DATE 1-89  
SUPERVISED BY NSH DATE 1-89  
CHECKED BY JRP DATE 1-89

CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES

APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

M-214-26



| WESTBOUND LANE                  |      |        |        |  |
|---------------------------------|------|--------|--------|--|
| ESTIMATED QUANTITIES - ONE BEAM |      |        |        |  |
| ITEM                            | UNIT | SPAN A | SPAN C |  |
| CLASS 'A' CONCRETE              | C.Y. | 17.9   | 17.9   |  |
| REINFORCING STEEL               | LB.  | 1,260  | 1,260  |  |
| PRESTRESSING STRANDS            | LB.  | 1,299  | 1,299  |  |

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

[illegible]

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.

S Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" Ø  
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-214-101.

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  $\frac{1}{4}$ " plain elastomeric pads, 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.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS

BUREAU OF HIGHWAYS  
PRESTRESSED CONCRETE I-BEAM (TYPE IV)  
SPANS A & E - WESTBOUND LANE  
I-40 OVER CANEY FORK RIVER  
STA.332+41.00 @ SURVEY W.B. I-40  
SMITH COUNTY  
1989

DESIGNED BY: DWT DATE: 11-88  
DRAWN BY: ELB DATE: 11-88  
SUPERVISED BY: WSH DATE: 11-88  
CHECKED BY: HIZ DATE: \_\_\_\_\_

CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES  
APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

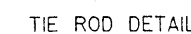
M-214-97

| WESTBOUND LANE                  |      |        |        |        |
|---------------------------------|------|--------|--------|--------|
| ESTIMATED QUANTITIES - ONE BEAM |      |        |        |        |
| ITEM                            | UNIT | SPAN B | SPAN C | SPAN D |
| CLASS "A" CONCRETE              | C.Y. | 18.0   | 18.0   | 18.0   |
| REINFORCING STEEL               | LB.  | 1,230  | 1,230  | 1,230  |
| PRESTRESSING STRANDS            | LB.  | 1,308  | 1,308  | 1,308  |

[illegible]

**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.

CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES  
APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS



DESIGNED BY: DWT DATE: 11-88  
 DRAWN BY: EAB DATE: 11-88  
 SUPERVISED BY: WSH DATE: 11-88  
 CHECKED BY: HJZ DATE: 2-89

CORRECT

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

Diagram illustrating a bolted joint assembly. The assembly consists of a 4x4x1/2" plate, a 1/2" diameter rod, and two hex nuts. The dimensions are as follows:

- Plate thickness: 1/2"
- Plate width: 8"-5"
- Plate length: 3 1/2"
- Hex Nut: 4 1/2" Thread
- Washer: 4x4x1/2"
- Rod: 1/2" diameter
- Assembly length: 9"-0"

[illegible]

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 course 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.

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

All beams are AASHTO - PCI standard type IV.

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.

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 attained a compressive strength of at least (4,000 PSI). See General Notes for Concrete finishing note.

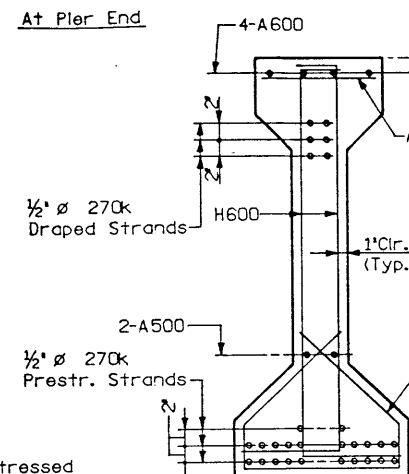
NOTE: Cost of 1/4" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

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.

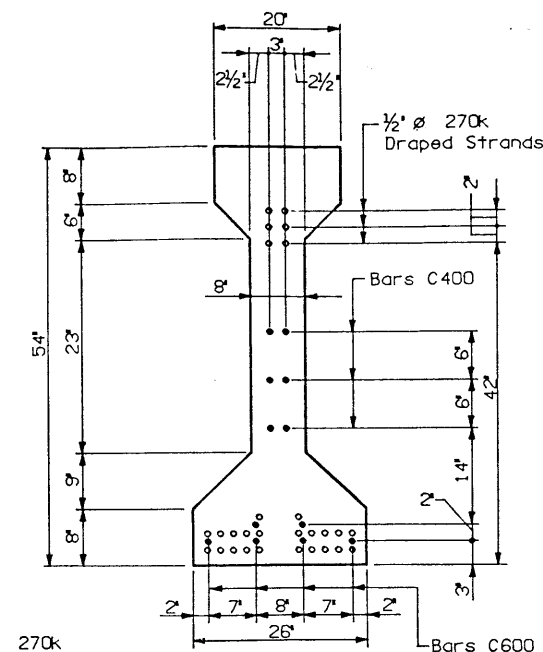
**DEAD LOAD CORRECTION CURVE:** This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS

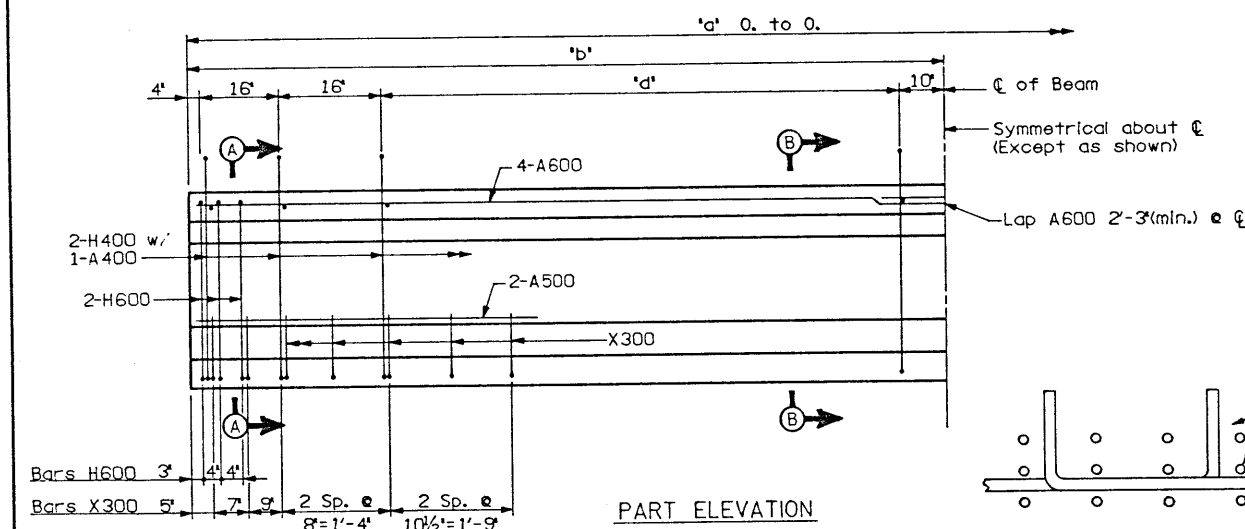
## 1909



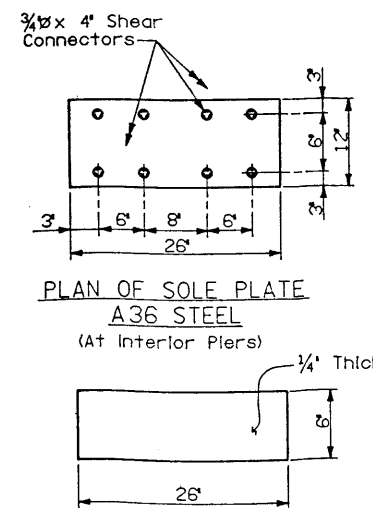
L28-1/2" Ø 270k  
Prestr. Strands



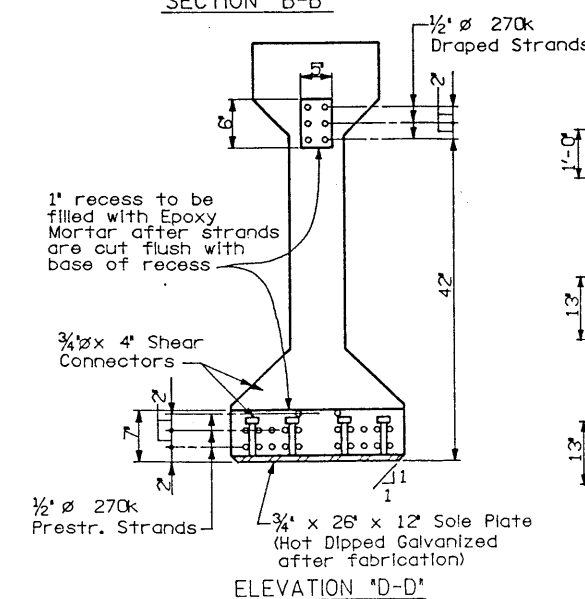
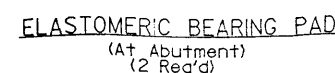
(AASHTO)  
ELEVATION 'C-C'



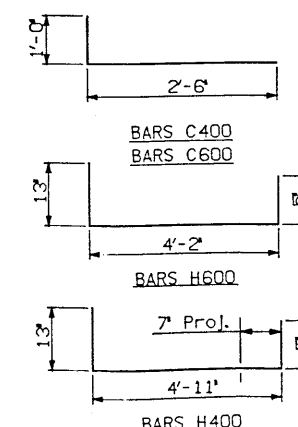
DETAIL 'A'



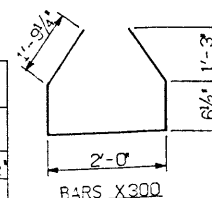
PLAN OF SOLE PLATE  
A36 STEEL  
(At Interior Piers)



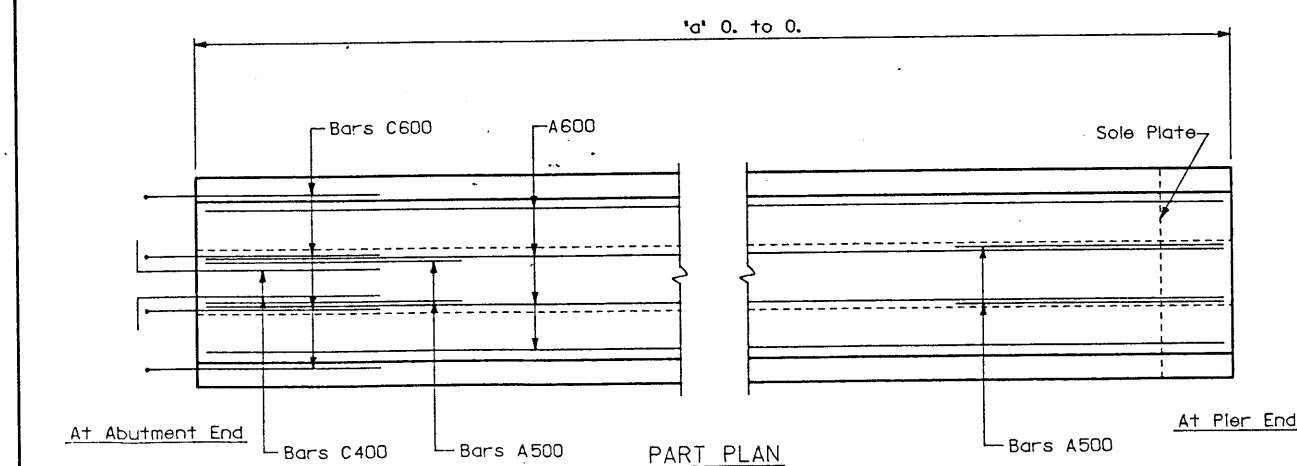
ELEVATION "D-D"



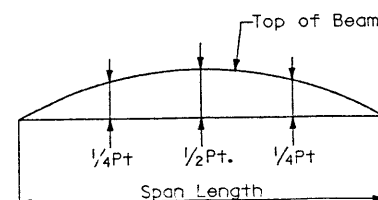
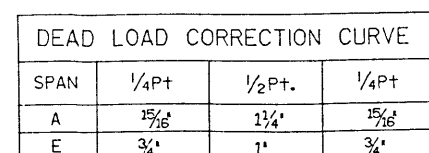
BARS H40C



RARS X300



PART PLAN



| SPAN | 'a'    | 'b'     | 'c'     | 'd'                                      |
|------|--------|---------|---------|------------------------------------------|
| A    | 87'-5" | 43'-8½" | 28'-8½" | 2-H400 w/1-A400 Sp. @ 23 Eq. Sp.=39'-10" |
| E    | 86'-5" | 43'-2½" | 28'-2½" | 2-H400 w/1-A400 Sp. @ 23 Eq. Sp.=39'-4½" |

DESIGNED BY: DWT DATE: 11-88  
 DRAWN BY: FAB DATE: 11-88  
 SUPERVISED BY: WSH DATE: 11-88  
 CHECKED BY: HIZ DATE: 2-89

CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES

APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

4-214-99

| EASTBOUND LANE                  |      |        |        |        |
|---------------------------------|------|--------|--------|--------|
| ESTIMATED QUANTITIES - ONE BEAM |      |        |        |        |
| ITEM                            | UNIT | SPAN B | SPAN C | SPAN D |
| CLASS 'A' CONCRETE              | C.Y. | 18.0   | 18.0   | 18.0   |
| REINFORCING STEEL               | LB.  | 1,230  | 1,230  | 1,230  |
| PRESTRESSING STRANDS            | LB.  | 1,308  | 1,308  | 1,308  |

[illegible]

NOTES:

The top of all beams are to be rough floated. At approximately the time of initial set, the top of the beams will be covered 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" Ø  
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-214-101.

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.

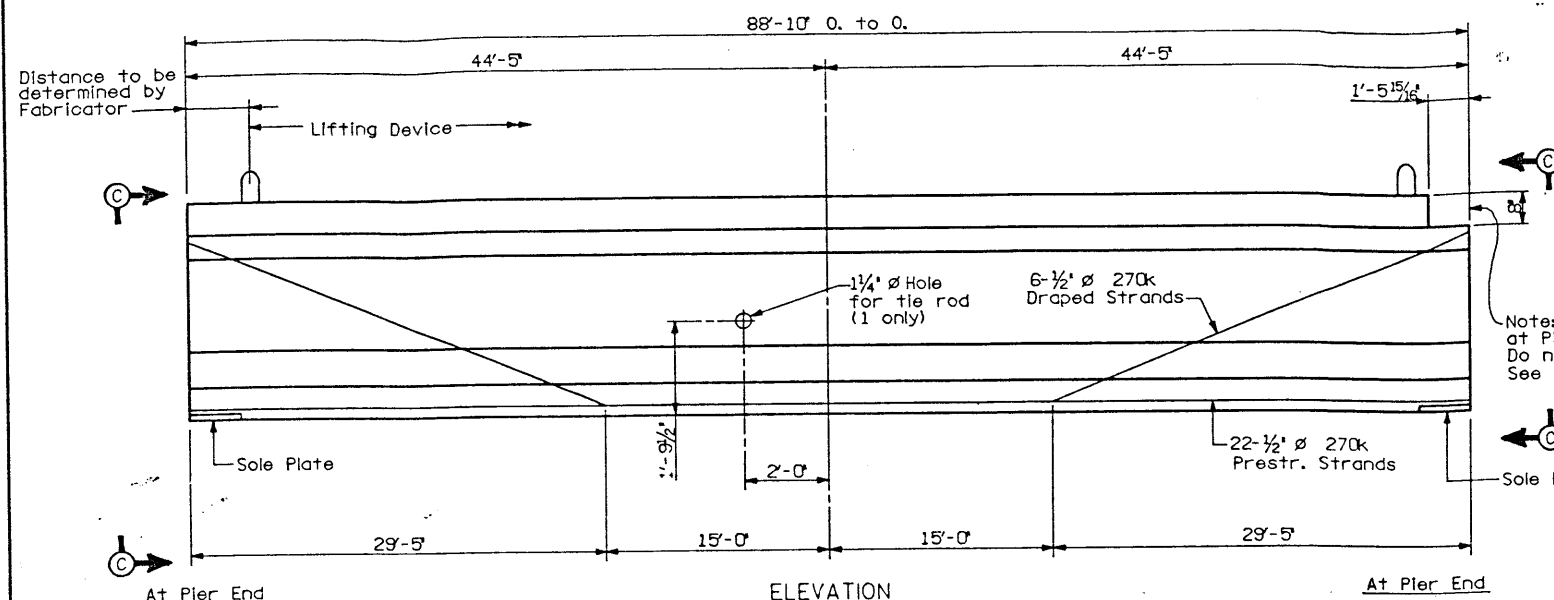
DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS

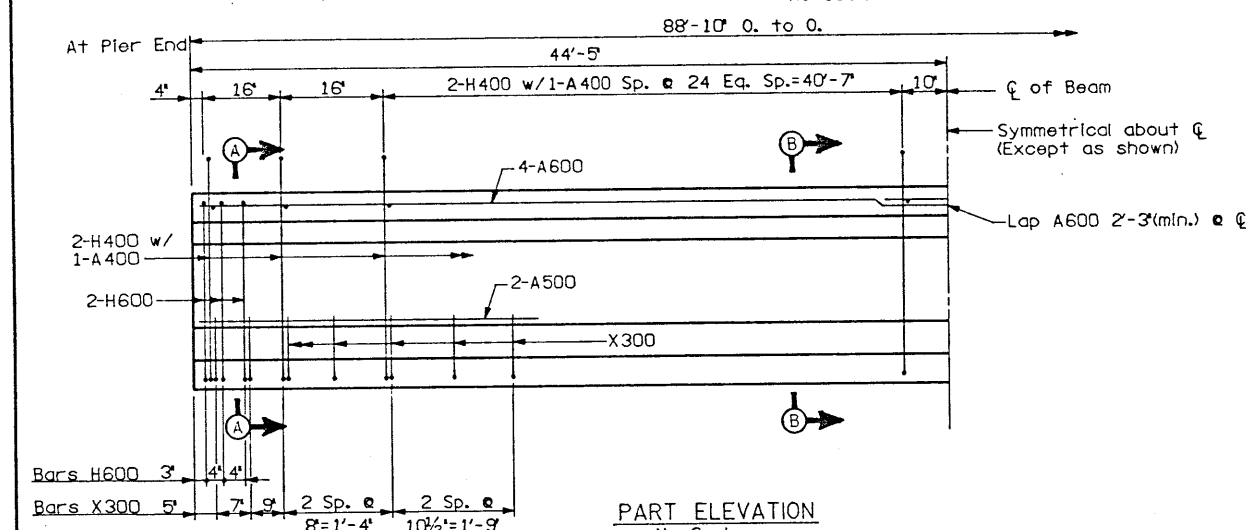
## 1989

APPROVED \_\_\_\_\_  
 \_\_\_\_\_  
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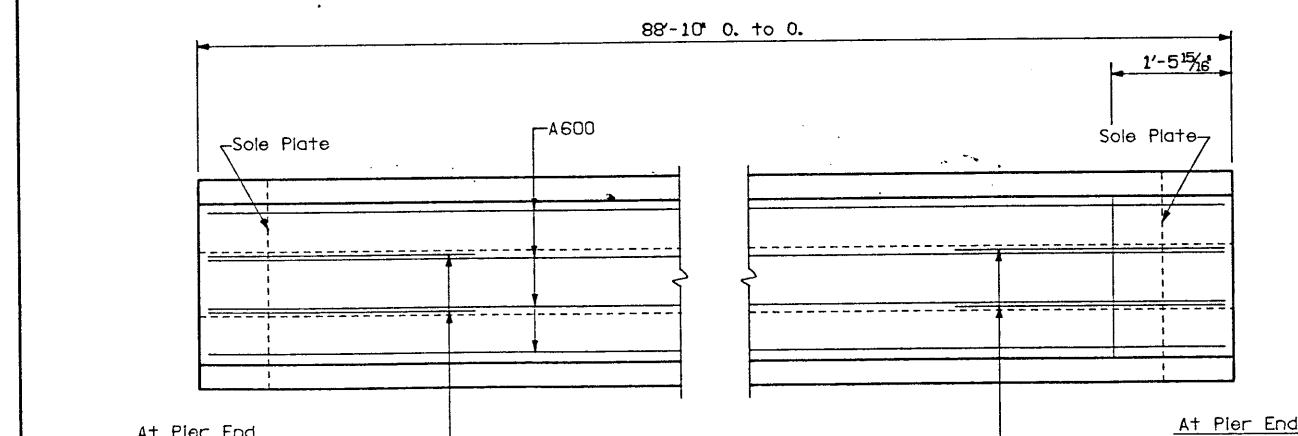
M-214-10C



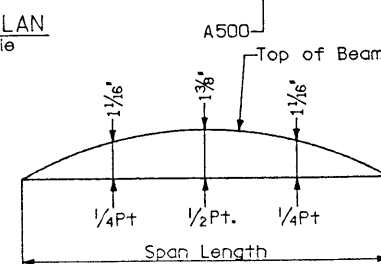
ELEVATION  
No Scale



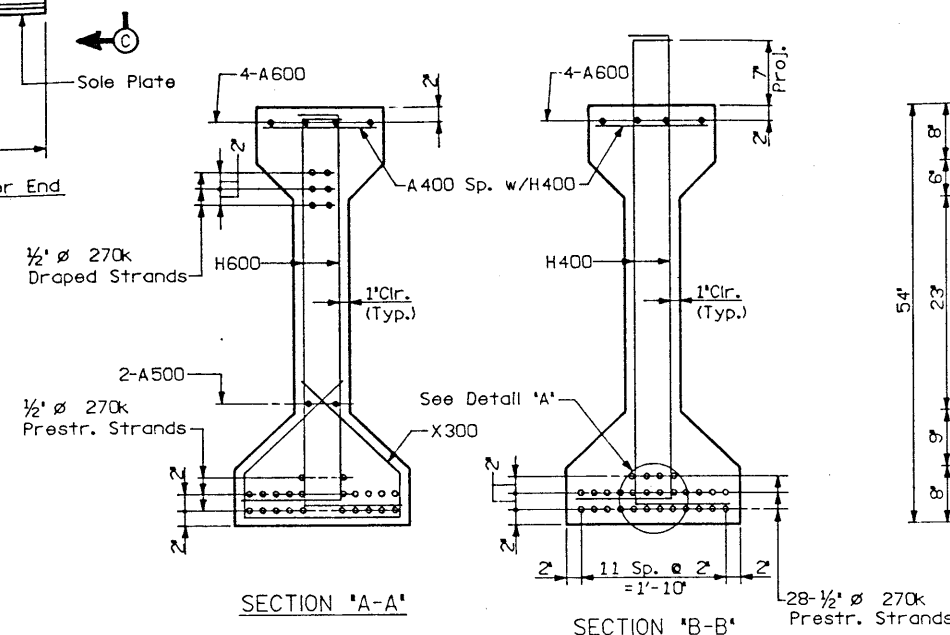
PART ELEVATION  
No. Scale



PART PLAN  
No Scale

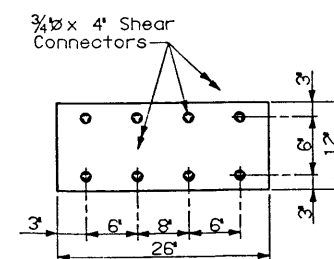


DEAD LOAD CORRECTION CURVE

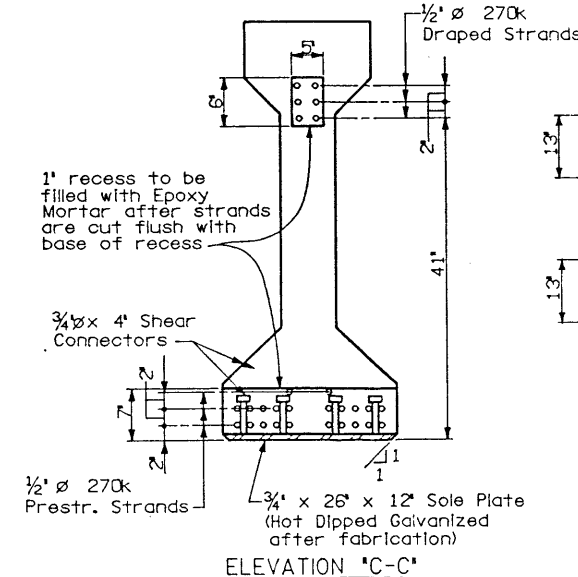


SECTION 'A-A'

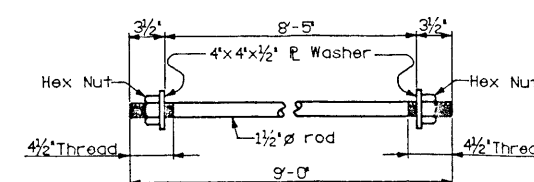
SECTION 'B-B'



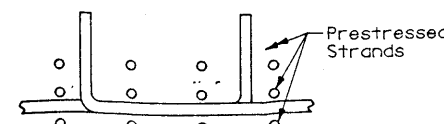
PLAN OF SOLE PLATE  
A36 STEEL  
(At Interior Piers)



ELEVATION 'C-C'



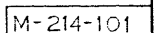
TIE ROD DETAIL



DETAIL "A"

DESIGNED BY: DWT DATE: 11-88  
 DRAWN BY: FAB DATE: 11-88  
 SUPERVISED BY: WSH DATE: 11-88  
 CHECKED BY: HIZ DATE: 2-89

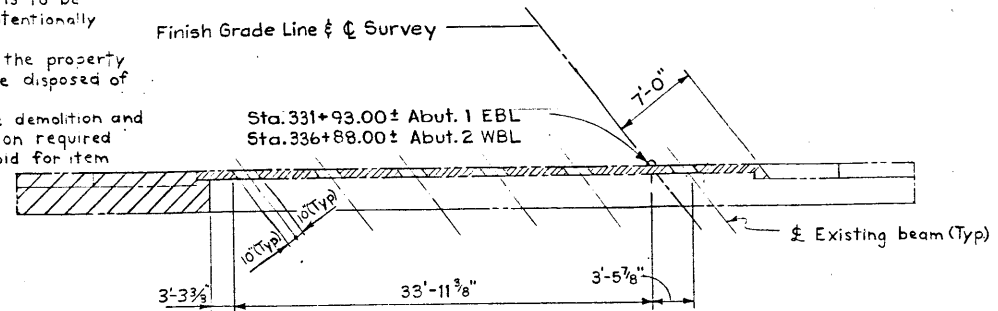
CORRECT



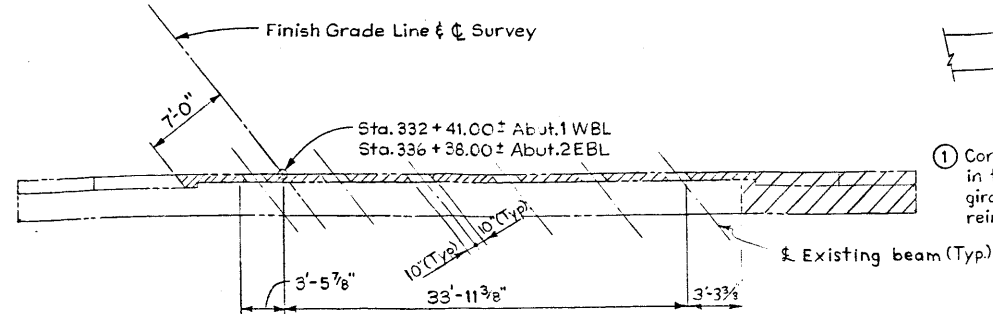
All surfaces of the existing abutment against which new concrete is to be placed shall be cleaned and intentionally roughened.

All materials removed become the property of the Contractor and shall be disposed of by him.

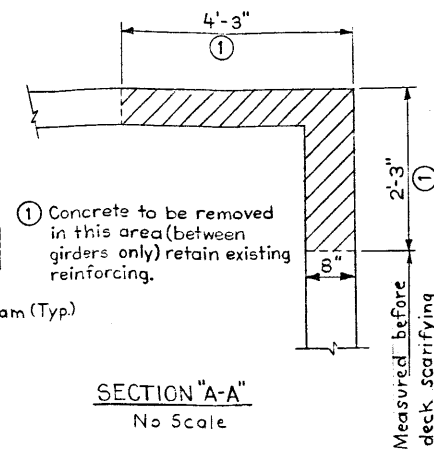
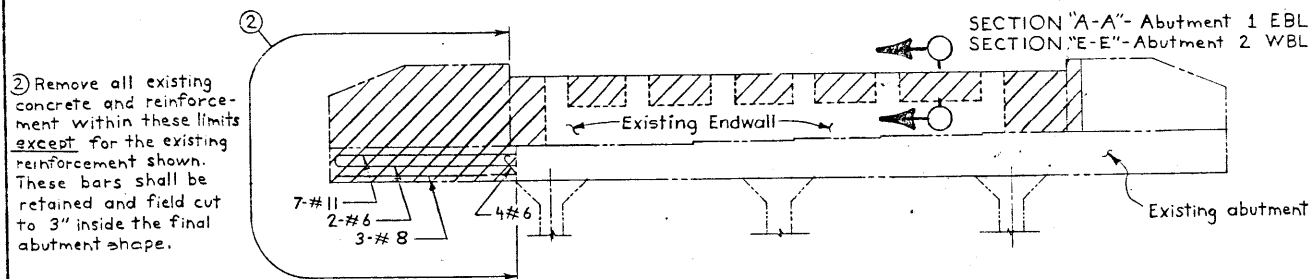
All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for item No. 202-04.03.



PLAN-ABUTMENT 1 E.B.L. or ABUTMENT 2 W.B.L.  
No Scale

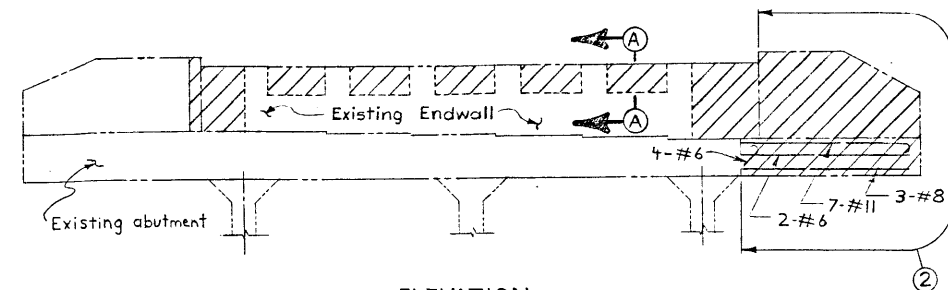


PLAN-ABUTMENT 1 W.B.L. or ABUTMENT 2 E.B.L.  
No Scale

[illegible]

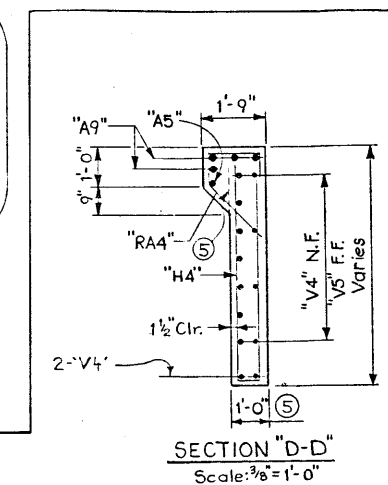
ELEVATION  
No Scale

(Abutment 1 E.B.L. looking back on stationing or  
Abutment 2 W.B.L. looking in direction of stationing)

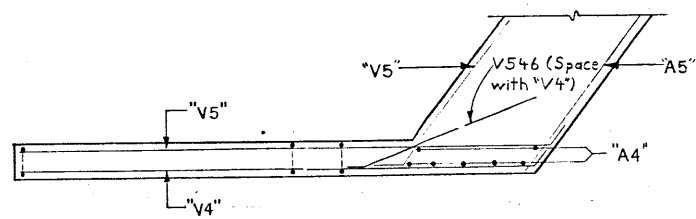


ELEVATION  
No Scale

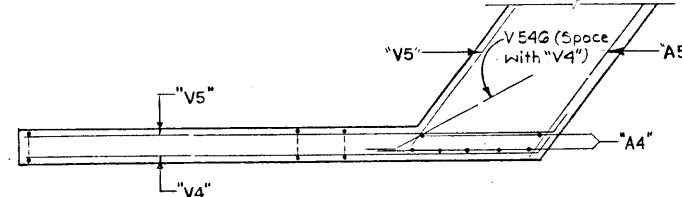
(Abutment 1 W.B.L. looking back on stationing or  
Abutment 2 E.B.L. looking in direction of stationing)



SECTION E-E (ABUTMENT 2 WBL ONLY)  
No Scale

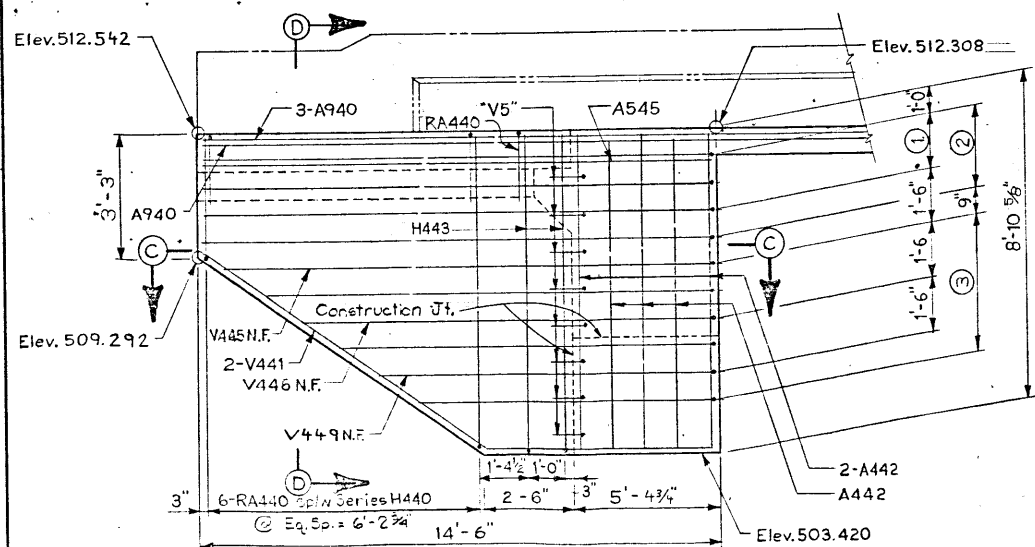


SECTION "C-C"  
No Scale



SECTION "B-B"  
No Scale

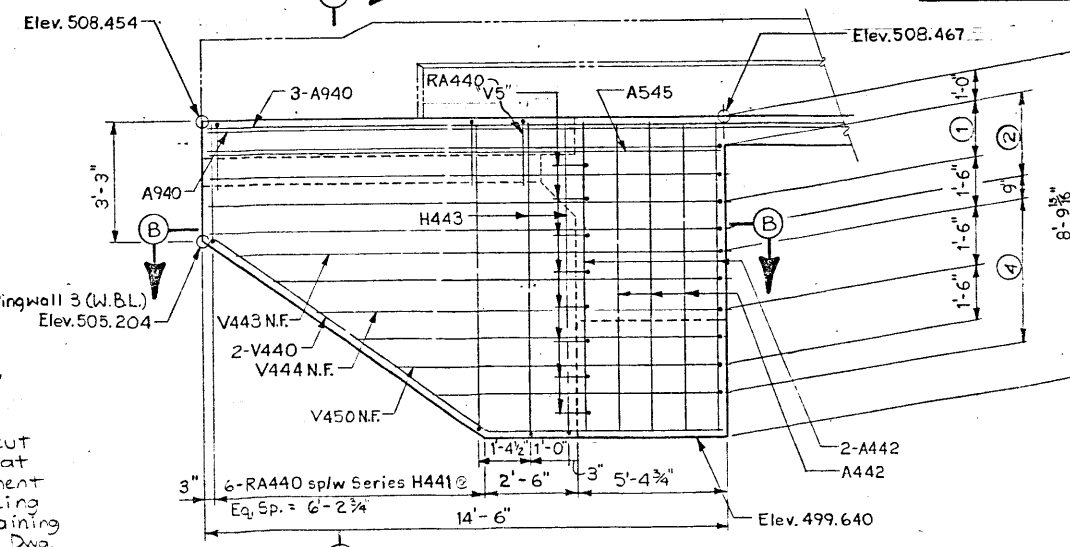
| ESTIMATED QUANTITIES |                                        |                                    |                                              |                                            |
|----------------------|----------------------------------------|------------------------------------|----------------------------------------------|--------------------------------------------|
| ITEM                 | CLASS "A"<br>CONCRETE<br>(BRIDGE DECK) | CLASS "A"<br>CONCRETE<br>(BRIDGES) | STEEL BAR<br>REINFORCEMENT<br>(BRIDGES)(LBS) | EPOXY COATED<br>REINFORCING<br>STEEL (LBS) |
| ABUTMENT 1 EBL       | 43 C.Y.                                | 23 C.Y.                            | 5802                                         | 3484                                       |
| ABUTMENT 2 EBL       | 40 C.Y.                                | 23 C.Y.                            | 5689                                         | 3684                                       |
| ABUTMENT 1 WBL       | 39 C.Y.                                | 23 C.Y.                            | 5616                                         | 3684                                       |
| ABUTMENT 2 WBL       | 39 C.Y.                                | 11 C.Y.                            | 4757                                         | 2716                                       |



ELEVATION-WINGWALL 1  
No Scale

- ① 2-V442 @ 18" N.F. = 1'-6"
- ② 4-V541 @ 9" = 2'-3" F.F.
- ③ Series V543 @ 9" = 3'-9" F.F.
- ④ Series V542 @ 9" = 3'-9" F.F.

- ⑤ At Wingwall 2 (EBL) ~~Wingwall~~ Elev. reduce 1'-9" dimension to 1'-0" in vicinity of bridge end drain only. Form at constant 1'-0" for full height at this location. Omit Bars "RA4" and field cut Bars "A3" and A545 at drain. Adjust placement of remaining reinforcing to fit while maintaining clearances. See Std. Dwg. D-BE-3 for limits of bridge end drain.



ELEVATION-WINGWALL 2  
No Scale

|               |     |      |      |
|---------------|-----|------|------|
| DESIGNED BY   | DWT | DATE | 1-89 |
| DRAWN BY      | SFC | DATE | 1-89 |
| SUPERVISED BY | NSH | DATE | 1-89 |
| CHECKED BY    | DWT | DATE | 2-89 |

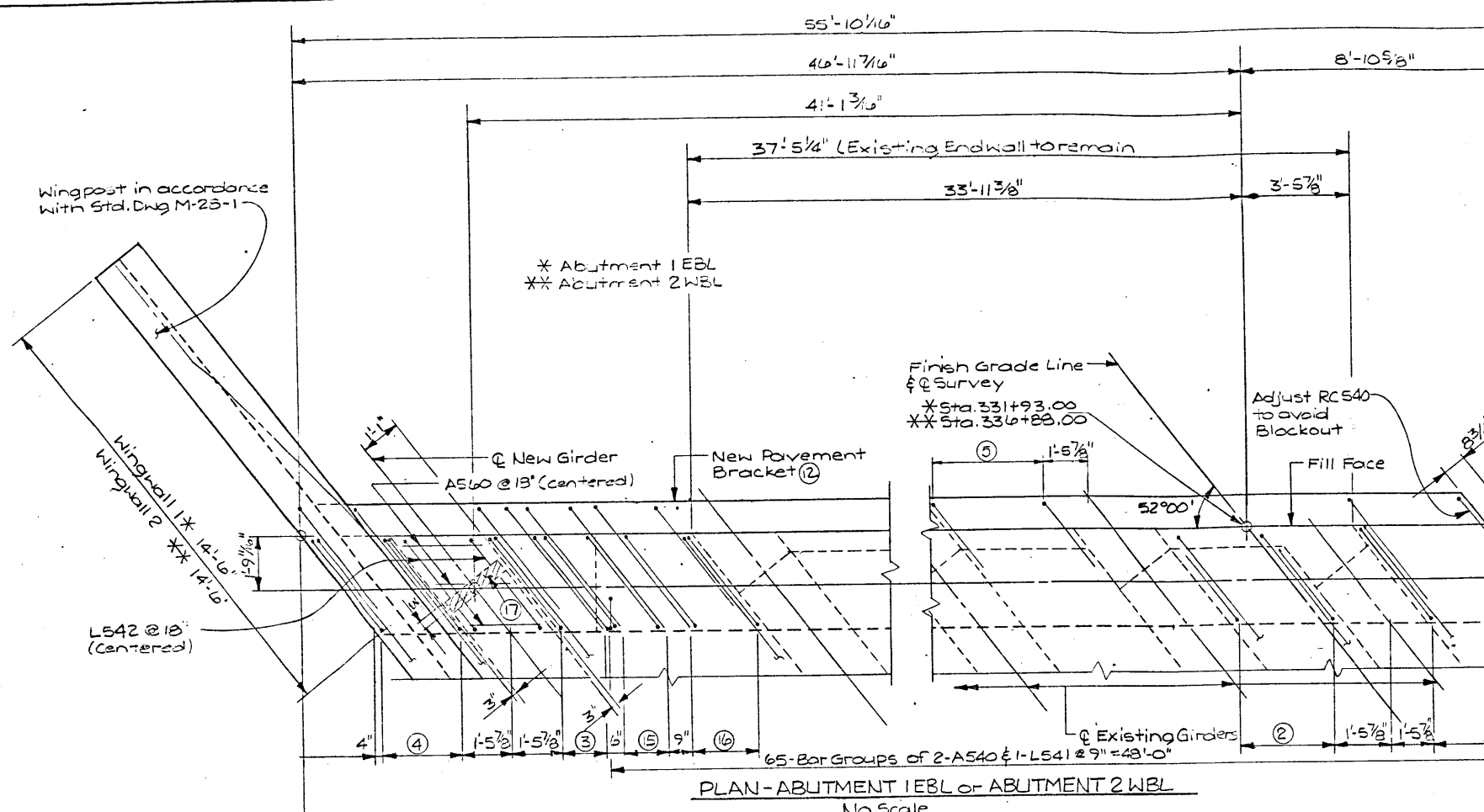
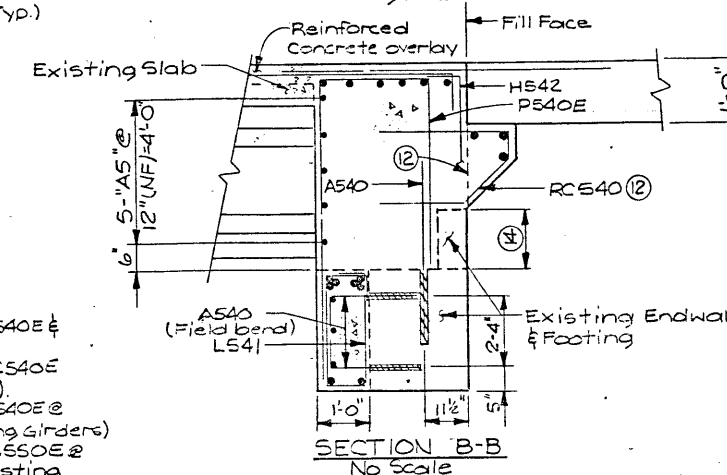
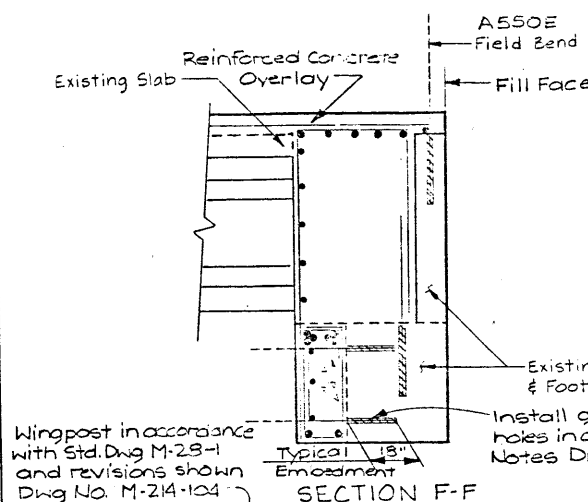
CORRECT \_\_\_\_\_  
ENGINEER OF STRUCTURES

APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

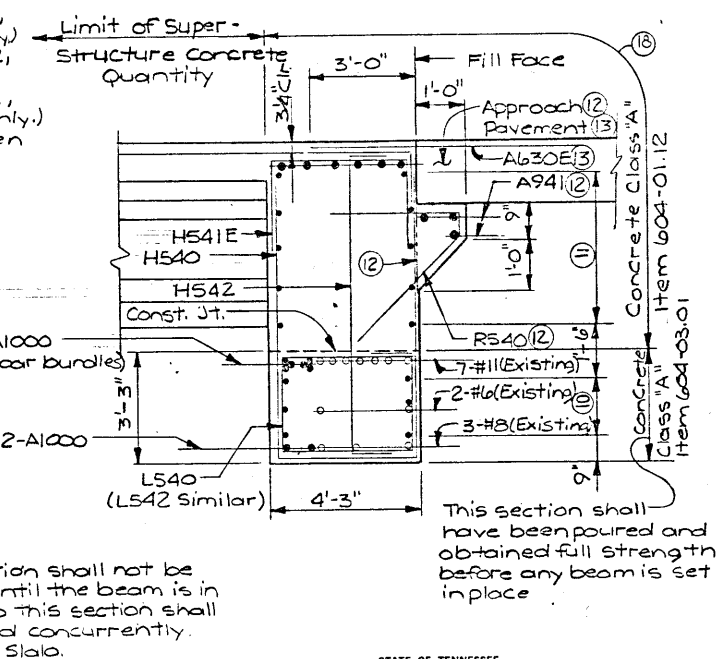
M-214-102

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| Constr. No. 80001-3152-44 |      |      |                   |
| PROJECT NO.               |      | YEAR | SHEET NO.         |
| IR-40-5(9)257             |      | 1989 |                   |
| REVISIONS                 |      |      |                   |
| NO.                       | DATE | BY   | BRIEF DESCRIPTION |
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⑭ Endwall shall be completely removed at certain locations see Demolition Details on Dwg M-214-102

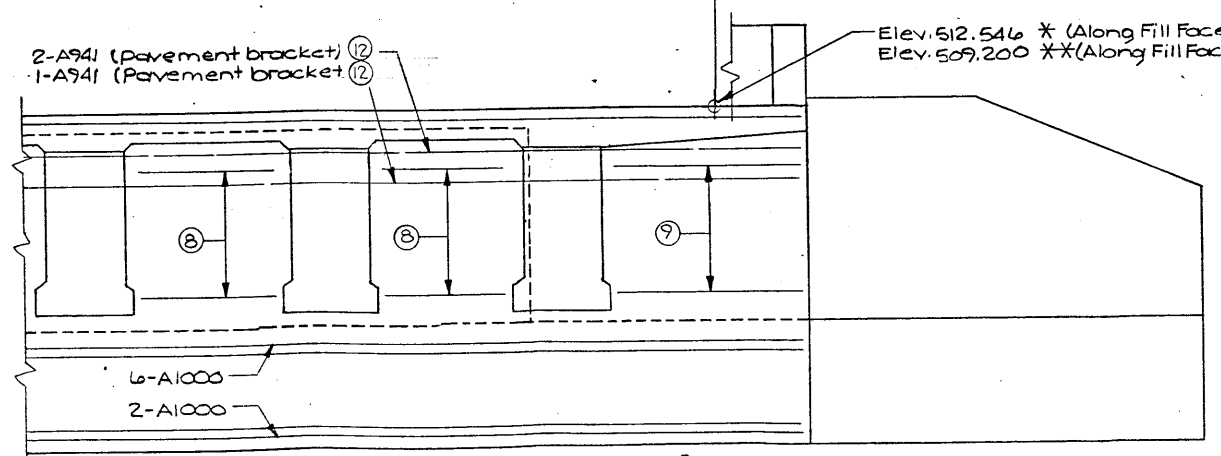
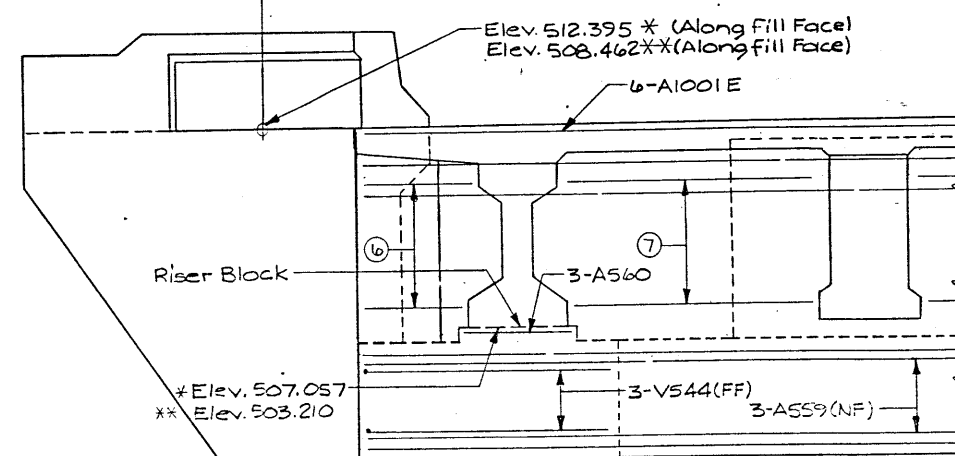


- \* ① 6-Bar Groups of 1-PS40E, 3-AS40, 1-CS40E & 1-RS40 @ 12" Max = 4'-10"
- \*\* ① 6-Bar Groups of 1-PS40E, 3-AS40 & 1-CS40E @ 12" Max = 4'-10" (Abutment 2 WBL Only)
- \* ② 5-Bar Groups of 1-PS40E, 1-AS40, 1-CS40E @ 12" Max = 3'-11" (Typical Between Existing Girders)
- \*\* ② 5-Bar Groups of 1-PS40E, 1-AS40, 1-AS50E @ 12" Max = 3'-11" (Typical Between Existing Girders Abutment 2 WBL Only)
- \* ③ 3-Bar Groups of 1-HS40, 1-HS41E, 1-HS42, 1-L540, 1-CS40E & 1-RS40 @ 9" = 1'-6"
- \*\* ③ 3-Bar Groups of 1-HS40, 1-HS41E, 1-HS42, 1-L540 & 1-CS40E @ 9" = 1'-6" (Abut. 2 WBL Only)
- \* ④ 4-Bar Groups of 1-HS40, 1-HS41E, 1-HS42, 1-L540, 1-CS40E & 1-RS40 @ 12" Max = 2'-7 3/8"
- \*\* ④ 4-Bar Groups of 1-HS40, 1-HS41E, 1-HS42, 1-L540 & 1-CS40E @ 12" = 2'-7 3/8" (Abut. 2 WBL Only)
- \* ⑤ 9-RS40 @ 6" Max = 3'-11" (Typical Between Existing Girder Abutment 1 EBL Only)



⑦ 1/4" x 6" x 26" Elastomeric bearing pad

Section B-B (Abutment 1 EBL)  
Section F-F (Abutment 2 WBL)



- \* ⑮ 3-Bar Groups of 1-PS40E, 1-CS40E, 1-RS40 & 1-HS42 @ 9" = 1'-6"
- \*\* ⑮ 3-Bar Groups of 1-PS40E, 1-CS40E & 1-HS42 @ 9" = 1'-6" (Abutment 2 WBL Only)
- \* ⑯ 4-Bar Groups of 1-PS40E, 1-CS40E, 1-AS40 & 1-RS40 @ 9" = 2'-3"
- \*\* ⑯ 4-Bar Groups of 1-PS40E, 1-CS40E & 1-AS40 @ 9" = 1'-6" (Abutment 2 WBL Only)

DESIGNED BY: DATE: 1-89  
DRAWN BY: DATE: 1-89  
SUPERVISED BY: DATE: 1-89  
CHECKED BY: DATE: 1-89

(Abutment 1 EBL looking back on stationing or abutment 2 WBL looking in direction of stationing)

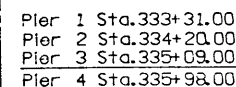
- ⑤ 5-AS41 NF or 5-V540 FF
- ⑦ 5-AS42 NF
- ⑧ 5-AS43 NF (Typical Between Existing Girders)
- ⑨ 5-AS44 NF or 5-AS44 FF
- ⑩ 3-AS59 @ 9" (FF), 3-V5 or 3-VX5 @ 9" (NF = 1'-6")
- ⑪ 5-AS" @ 12" (FF), 5-V5 or 5-VX5 @ 12" (NF = 4'-0")

⑫ No approach pavement is required at Abutment 2 (WBL) omit bars A941, RS40 & RS40 and form fill face flush at this location.

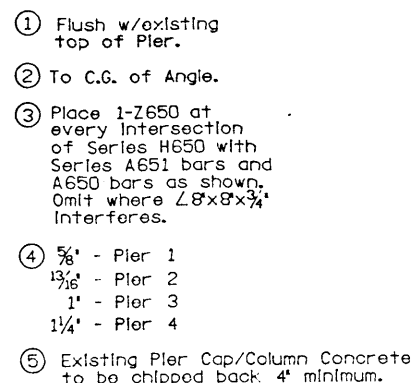
⑬ Approach pavement in accordance with Standard Drawing K-86-144 except delete bars A6-- (Top) and F9-- (bottom) (see K-86-144) and substitute bars A630E (6'-0" long) @ 12" - 41 req'd each approach slab. All cost associated with the revision shall be included in the price bid for item No 604-03.04

CORRECT: ENGINEER OF STRUCTURES  
APPROVED: DIRECTOR OF HIGHWAYS

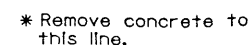
M-214-103



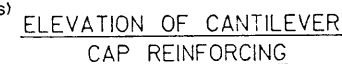
PART PLAN



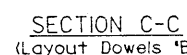
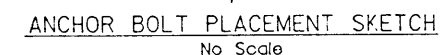
PART ELEVATION  
(Showing Cantilever Column Reinforcing)



PLAN OF CANTILEVER  
CAP REINFORCING



g - Denotes A652 dowel bars only.



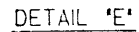
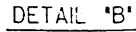
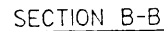
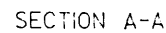
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS

PIERS 1, 2, 3 &amp; 4

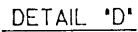
1-40 OVER  
CANEEY FORK RIVER W.B.L.  
STA. 332+41.00 C SURVEY W.B.L.  
SMITH COUNTY  
1989

Note:  
For notes, see Dwg. No. M-214-105A.  
For Bearing Modification Details at Pier 2  
see Dwg. No. M-214-101.

| ESTIMATED QUANTITIES - W.B.L. |                              |                  |                                   |
|-------------------------------|------------------------------|------------------|-----------------------------------|
| Item                          | Class 'A' Concrete (Bridges) | Structural Steel | Steel Bar Reinforcement (Bridges) |
| Pier No.                      | C.Y.                         | Lb.              | Lb.                               |
| 1                             | 12                           | 3,900            | 2,487                             |
| 2                             | 12                           | 3,900            | 2,487                             |
| 3                             | <del>12</del> 13             | 3,900            | <del>2,487</del> 2,617            |
| 4                             | 12                           | 3,900            | 2,487                             |



PLAN OF BEARING PLATE



ELEVATION D-D

1-40 OVER  
CANEY FORK RIVER W.B.L. & E.B.L.  
STA. 332+41.00 C SURVEY W.B.L.  
STA. 331+93.00 C SURVEY E.B.L.  
SMITH COUNTY  
1989

