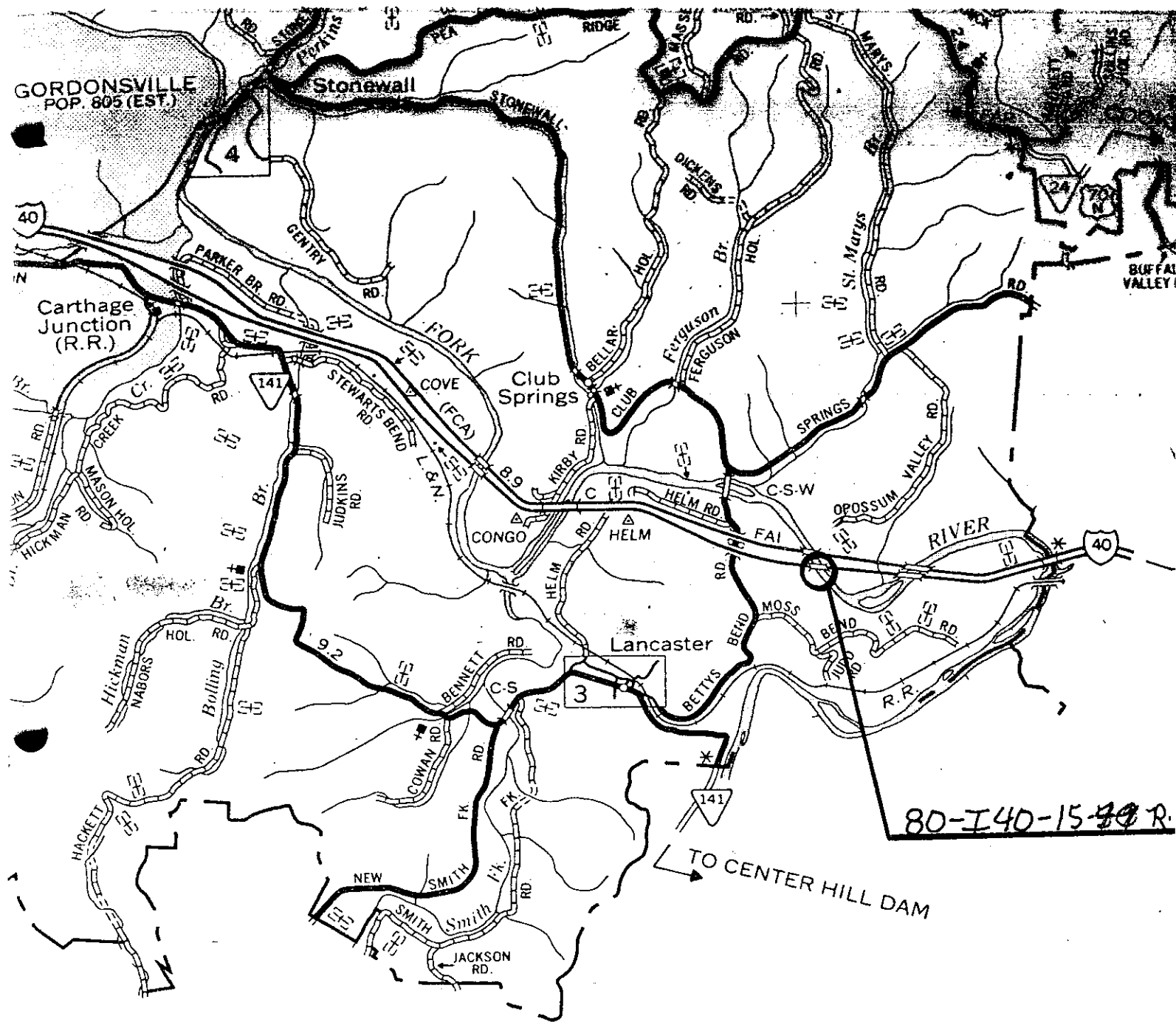




COUNTY

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 15.49

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/25/2003

Comments:

Bridge Number: 80I00400031

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed
By / Date

REPAIR SETTLEMENT UNDER ABUTMENT #1.

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 - 15.49

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/13/01

Bridge Number: 80I00400031

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Comments: REPAIR SETTLEMENT UNDER ABUTMENT #1 AND 2.

Maintenance Recommendations:

Maintenance Completed
By / Date

201 CLEAN DRIFT

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. : 80I00400031

BRIDGE NO. : 80 - I0040 - 1549 - N
OVER : CANEY FORK RIVER *

DATE : 06/17/99 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/17/99 REGION : 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 15
043 - STRUCTURE TYPE, MAIN : 502
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 005
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000394
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 53
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 CLEAN DRIFT

: MAINTENANCE COMPLETED :

1 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400031 :

REPAIR SETTLEMENT UNDER ABUTMENT #1.

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: 80I004000311
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 15.49

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>06/13/2001</u>	
		<u>4/25/2003</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	8	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	7	
60	SUBSTRUCTURE	7	
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	7	
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.
	<u>Gilbert Wayne Hunter</u>	<u>4/25/2003</u>	
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000311
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 15.49

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>06/17/1999</u>	
		<u>6 113 101</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	8	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	7	
60	SUBSTRUCTURE	7	
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	7	
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)		0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
	<u>GOOD</u> FAIR POOR CRITICAL		
TEAM LEADER SIGNATURE		REVIEW DATE	

Wilbert Wayne Hunter
TEAM LEADER SIGNATURE

6 113 101
REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County: 80

Route: 10040

Special Case: 0

County Sequence: 1

Log Mile: 15.49

Bridge Number: 80I004000311
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

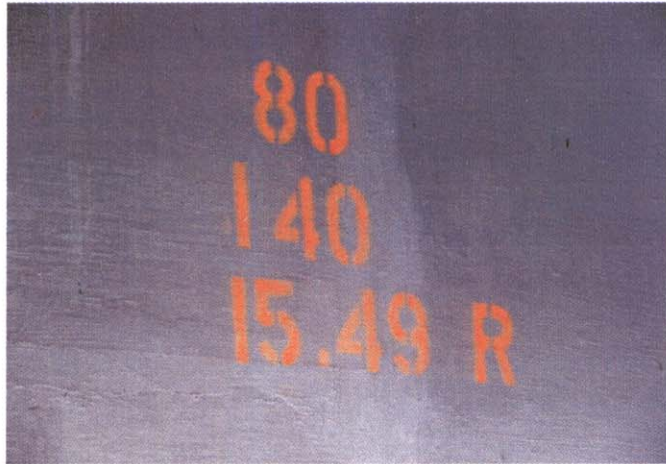
ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	5/1/97	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62
		6/1/7/99	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	9 EXCELLENT CONDITION
		FT. IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
		FT. IN.	6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	N 0 FT. 0 IN.	5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Circle One: H R N	FT. IN.	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
36	TRAFFIC SAFETY FEATURES		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.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		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 1 1 1		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.
41	STRC OPEN/CLOSED/POSTED	A	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
	A K P		
58	DECK	8	
59	SUPERSTRUCTURE	7	
60	SUBSTRUCTURE	7	
61	CHANL/CHANL PROTECTION	7	
62	CULVERT AND RETAIN WALL	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
	OVERALL CONDITION (Circle One)		
	GOOD FAIR POOR CRITICAL		
	SIGNATURE	DATE	
	Robert Wayne Hunter	6/1/7/99	

Bridge No.: 80 — 10040 — 1549
Crossing: CANEY FORK RIVER *
Federal No.: 80100400031

Date:

April 25, 2003

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No 80I00400031

Date:

April 25, 2003

PIC2



INLET-ELEV

PIC3



VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80100400031 Date:

June 13, 2001

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal N 80I00400031

Date:

June 13, 2001

PIC2



INLET-ELEV

PIC3



DRIFT @ PIER 2

Bridge No.: 80 — I0040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No. 80I00400031

Date:

June 13, 2001

PIC4



VIEW ACROSS DECK

PIC5



UNFINISHED WORK @ ABUT-2 FORMS IN PLACE

Bridge No.: 80 — I0040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date: June 13, 2001

PIC6



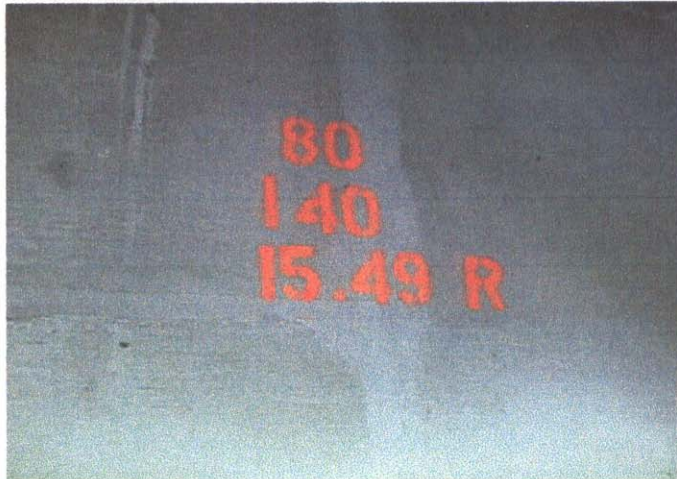
UNFINISHED WORK @ ABUT-2 FORMS IN PLACE

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date:

June 17, 1999

PIC1



BRIDGE NO. AT ABUTMENT #1

Bridge No.: 80 — I0040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No 80I00400031

Date:

June 17, 1999

PIC2



ABUTMENT TYPICAL

PIC3



SETTLEMENT AT ABUTMENT #1 EITH EXPOSED PILE

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date:

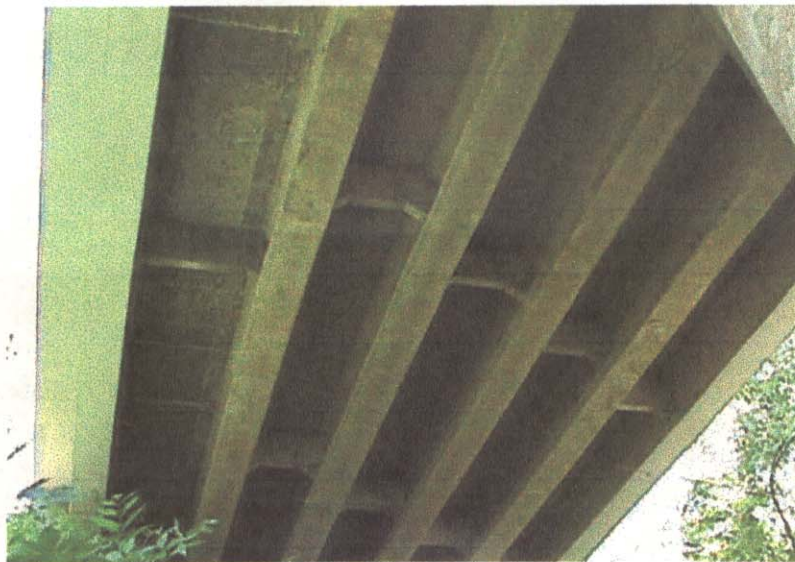
June 17, 1999

PIC4



PIER TYPICAL

PIC5



BOTTOM OF DECK

Bridge No.: 80 — I0040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date: June 17, 1999

PIC6



UPSTREAM

PIC7



DOWNSTREAM

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date: June 17, 1999

PIC8



ELEVATION INLET

PIC9



APPROACH #1

Bridge No.: 80 — 10040 — 1549
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400031

Date: June 17, 1999

PIC10



APPROACH #2

PIC11



ACROSS TOP OF DECK

Bridge No.: 80 — 10040 — 1549
Crossing: CANEY FORK RIVER *
Federal No.: 80I00400031

Date: June 17, 1999

PIC12



RAISING JOINT FOR NEW A.C. OVERLAY WITH SEAL

PIC13



CURTAIN WALL SETTLEMENT REPAIR AT ABUTMENT #2

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 6/13/2001
Plans: yes

Bridge No. 80I00400031
Eleven Digit No.

Bridge Location No. 80 - I0040 - 15.49
Co. Route Log Mile

I 40 over CANEY FORK RIVER *
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

G

Deck Condition (Item 58)

G

Superstructure (Item 59)

a. Beams

G

b. Bearings

G

c. Diaphragms

G

Substructure (Item 60)

a. Caps/Bridge Seats

G

b. Columns/Piles

G

c. Footings

NV

d. Wing W./Breast W.

G

Scour/Erosion

G

Channel (Item 61)

G

UNDERWATER INSPECTION

To Be Performed By: Non required

Date Underwater Insp. _____

BRIDGE is: Good

COMMENTS:

Weight Limit Posted

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector: Silbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-15.49 RT LANE
4/25/2003

140/Caney Fork Creek
5 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. The approach alignment is good, along with the embankment and drains. The approach guardrail and bridge rail are standard type and in good condition. There are no paddleboards.

The wearing surface, parapet, drains, joint leakage, and joint is in good condition. The bottom deck, along with the bearing devices, superstructure and sub-structure elements are in good condition. There is moderate drift build-up but no scour at this time. A curb wall was poured on abutment #2 to repair scour. There is one pile exposed at abutment #1 with settlement up to 6" high. Piles have light corrosion and flaking.

Gilbert Hunter

ROUTINE BRIDGE INSPECTION REPORT

Page No.

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

Field Report No. 14 Date 6/17/99
Previous Report No. 15 Date 6-13-01
Plans: yes

Bridge No. 80I00400031
Eleven Digit No.

Bridge Location No. 80 - I0040 - 15.49 R
Co. Route Log Mile

I-40 over CANEY FORK RIVER
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	
F	slight erosion under Abut #1 6'-H w. 1 exp. pile
G	Abut #2 1'-H

UNDERWATER INSPECTION

To Be Performed By: none required

Date Underwater Insp.

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-I40-15.49 RT LANE
6-13-01

140/Caney Fork Creek
5 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. The approach alignment is good, along with the embankment and drains. The approach guardrail and bridge rail are standard type and in good condition. There are no paddleboards.

The wearing surface, parapet, drains, joint leakage, and joint is in good condition. The bottom deck, along with the bearing devices, superstructure and sub-structure elements are in good condition. There is moderate drift build-up but no scour at this time. Forms were built for concrete pour under abutment #2 for settlement but the pour was never completed, 1' high. There is one pile exposed at abutment #1 with settlement up to 6" high. Piles have light corrosion and flaking.

Gilbert Hunter

BRIDGE INSPECTION REPORT

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

FIELD REPORT NO. 14 DATE 6-17-99
REVIOUS REPORT NO. 13 DATE 5-7-97
PLANS ---- YES ☒ NO ☐

BRIDGE NO. 80100400031
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80 - I40 - 15.49 R.L.
CO. ROUTE LOG MILE

I40 E.B.L. OVER Cross Fork River
ROAD NAME FEATURE INTERSECTED STRUCTURE NAME (IF NAMED)
YEAR CONSTRUCTED 1959 COUNTY Smith MAINTENANCE DISTRICT NO. 32
(ESTIMATED OR ACTUAL)

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

FEATURES

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

BRIDGE SKEW 53° LT ☐ RT ☒

INSPECTORS

STRUCTURE TYPE PPC 26 NO. SPANS 5
Main Span Main Span

1. Hunter

STRUCTURE TYPE - NO. SPANS -
Approach Spans Approach Spans

2. Daniel

MAXIMUM SPAN LENGTH 83' TOTAL LENGTH 394'

3. Love

4. Crutcher

5. _____

6. _____

7. _____

8. _____

9. _____

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

UNDERWATER INSPECTION

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

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

CHANGE IN STRUCTURAL CONDITION YES ☐ NO ☒
MAJOR REPAIRS MADE YES ☐ NO ☒

FRACTURE CRITICAL
DETAILS: YES ☐ NO ☒
IF YES, INCLUDE BIR 3.9

COMMENTS: _____

Willard Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

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

PERFORMANCE EVALUATION

Time of day inspected 10:00 Weather conditions Sunny 70°

Vehicles observed Tractor Trailer & passenger type

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

APPROACH

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

TRAFFIC SAFETY FEATURES

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

SIGNING

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

Other Signs or Plaques _____

Comments Regarding Any Problems With Signing _____

Other Recommendations _____

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

BRIDGE LOC. NO. 80 - I40 - 15.49
CO. ROUTE L.M.

DATE: 6-17-99

DECK

COMMENTS

WEARING SURFACE	(G)	F	P	C	<u>NEW H.C. OVERLAY</u>
DECK - STRUCTURAL CONDITION	(G)	F	P	C	<u>TRANSVERSE CRACKS IN JOINTING BETWEEN BEAMS E & F IN ALL SPANS</u>
CURBS	G	F	P	C	<u>NA</u>
MEDIAN	G	F	P	C	<u>NA</u>
SIDEWALKS	G	F	P	C	<u>NA</u>
PARAPET	(G)	F	P	C	<u>H.C. CRACKS</u>
RAILING	G	F	P	C	<u>NA</u>
PAINT	G	F	P	C	<u>NA</u>
DRAINS	(G)	F	P	C	
LIGHTING STD'S	G	F	P	C	<u>NA</u>
UTILITIES	G	F	P	C	<u>NA</u>
JOINT LEAKAGE	(G)	F	P	C	
EXPANSION JOINTS	(G)	F	P	C	

SUPERSTRUCTURE

COMMENTS

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

TEXTURE COAT

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

COMMENTS: moderate staining on texture coat & scaling of

RECOMMENDATIONS texture coat on pier.

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

BRIDGE LOC. NO. 80 - I40 - 15.49
CO. ROUTE L.M.

DATE: 6-17-99

SUBSTRUCTURE

ABUTMENTS

COMMENTS

CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	NA
WINGS	(G)	F	P	C	
BACKWALL	G	F	P	C	NV
PLUMB	(G)	F	P	C	
FOOTING	G	F	P	C	NA
PILES	G	(F)	P	C	1 pile exposed Abut #1 & curtain wall has been installed
EMBANKMENT	G	(F)	P	C	settlement at Abut #1 at Abut #2 To repair settlement
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	
SLOPE PAVING	G	F	P	C	NA

PIERS

CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NA
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	
PILES	G	F	P	C	
BEARING SURFACE	G	F	P	C	
BEARINGS	G	F	P	C	

SCOUR CONDITION NONE ☒ _____

RECOMMENDATIONS: _____

BRIDGE LOC. NO. 80 - I40 - 15.49 ()
CO. ROUTE L.M. (LOG km)DATE: 6-17-99STREAM CHANNEL DATA AND CONDITIONSSTREAM CROSSING: Canev Fork River

- I. 1. Type of bed material? Bedrock & Gravel
 2. Has the channel shifted? YES [] NO [X] NOT APPARENT []
 3. Condition of rip-rap? G F P C Est. % failed _____ N/A [X]
 4. Overall condition of channel? G (F) P C
 5. Item 61 - Code values 0 thru 9 according to the recording and coding guide currently in effect: 7
 6. Underwater diver inspection recommended? YES [] NO [X]
 If yes, why? _____

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

- III. Waterway adequacy and debris characteristics: (check if applicable)
 1. Bridge deck elevations:
 (a) level with approach roadway [X]
 (b) higher than approach roadway. []
 (c) roadway approach >=0.6 m above natural ground line. . [X]
 2. Abutment encroaches into channel []
 3. Large scour (blowhole) under bridge. []
 4. Indications that flood waters overtop bridge:
 NO [X] YES [] OCCASIONALLY [] FREQUENTLY [] UNKNOWN []
 5. Debris characteristics:
 (a) debris present YES [X] NO []
 (b) debris likely to accumulate: YES [X] NO []
 (c) dead trees upstream: [] or downstream: []

IV. Comments: _____

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

- I. Does this bridge need a special inspection? YES [] NO [X]
 II. Reason for special inspection: _____

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

SUMMARY
80-I40-15.49 RT LANE
6-17-99

140/Caney Fork Creek
5 Span/P.P.C.I.B.

This bridge was inspected and found to be in good condition. The approach alignment is good, along with the embankment and drains. The approach guardrail and bridge rail are standard type and in good condition. There are no paddleboards.

The wearing surface, parapet, drains, joint leakage, and joint is in good condition. The bottom deck, along with the bearing devices, superstructure and sub-structure elements are in good condition. There is moderate drift build-up but no scour at this time. Repairs for settlement are under way at this time. There is one pile exposed at abutment #1 with settlement up to 6" high. Piles have light corrosion and flaking.

Gilbert Hunter

Top RT.

Curb

Abut

A

Elev.

500.00

LT.

RT.

Abut A

500.81

500.17

499.45

500.00

Pier 1

499.78

499.27

498.52

499.03

" 2

498.95

498.43

497.72

498.22

" 3

498.25

497.70

497.15

497.61

" 4

497.85

497.35

496.80

497.30

Abut B

497.73

497.18

496.60

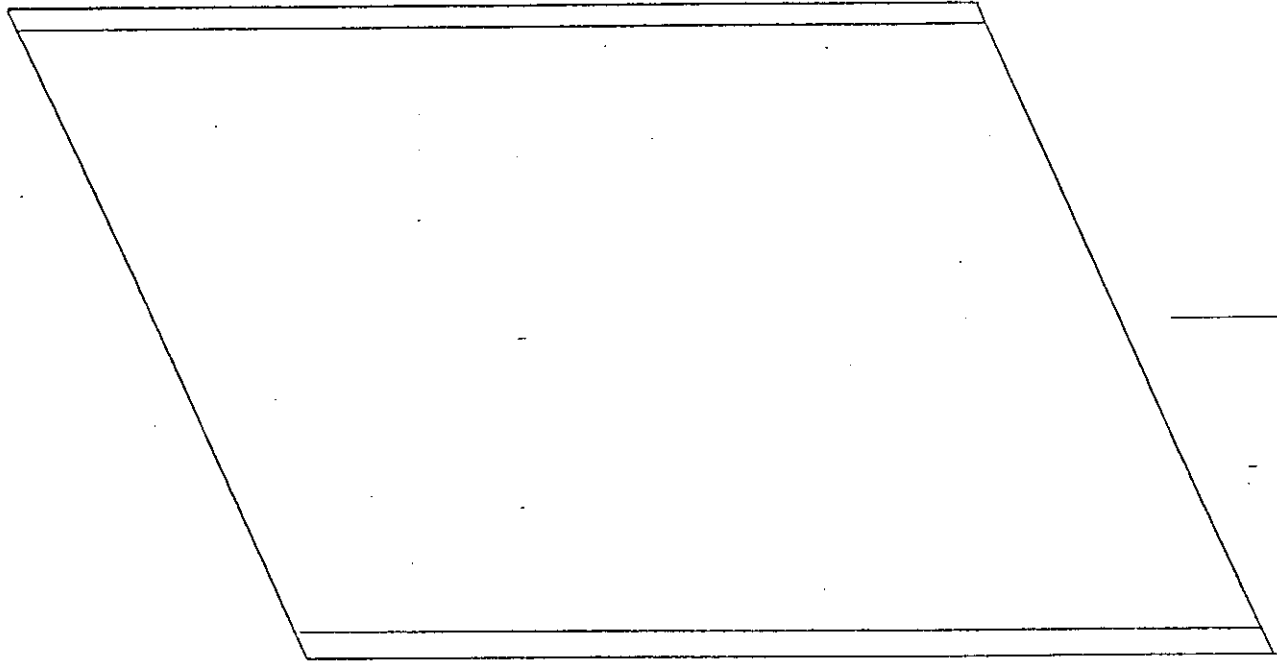
497.22

80-140 -15.57

Rep #3

RT Lane

6-11-71
B

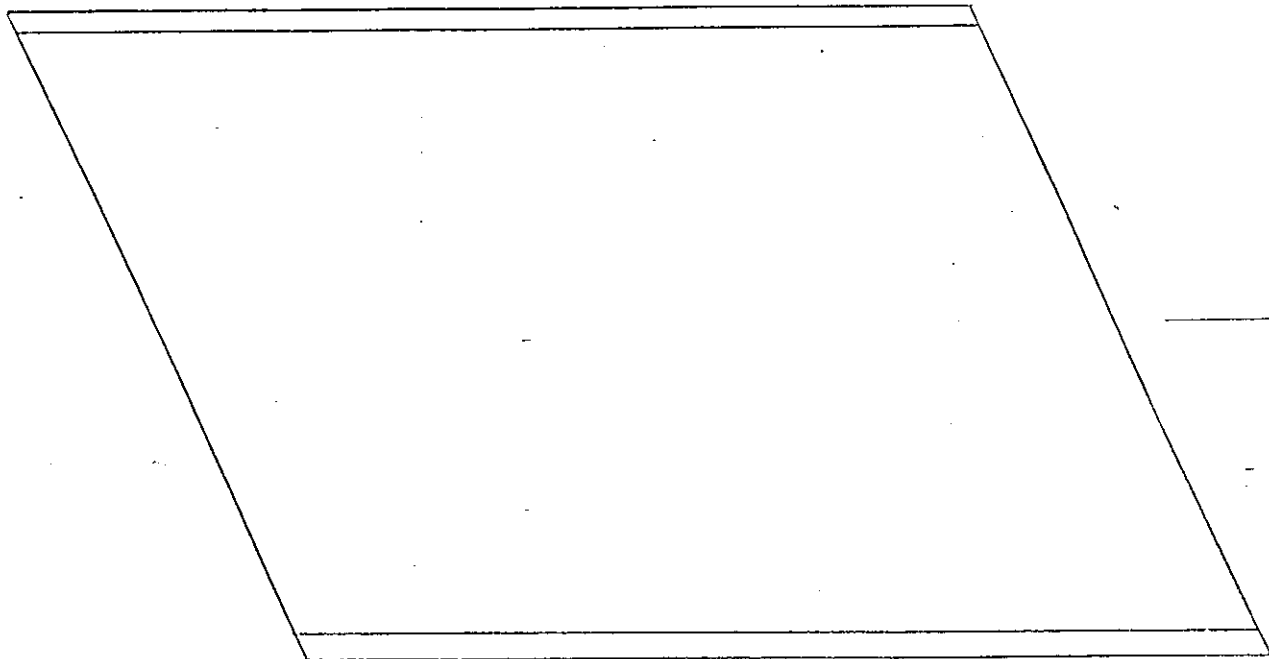


Top Slab $\pm$ /

Br. $\pm$ 80-140-15.49 R.L.

Deck	NV	AC OVERLAY
Parapet	G	
Drains	NA	
Joints	NV	PAVED OVER

6-17-44
R



TOP Slab $\pm$ 4

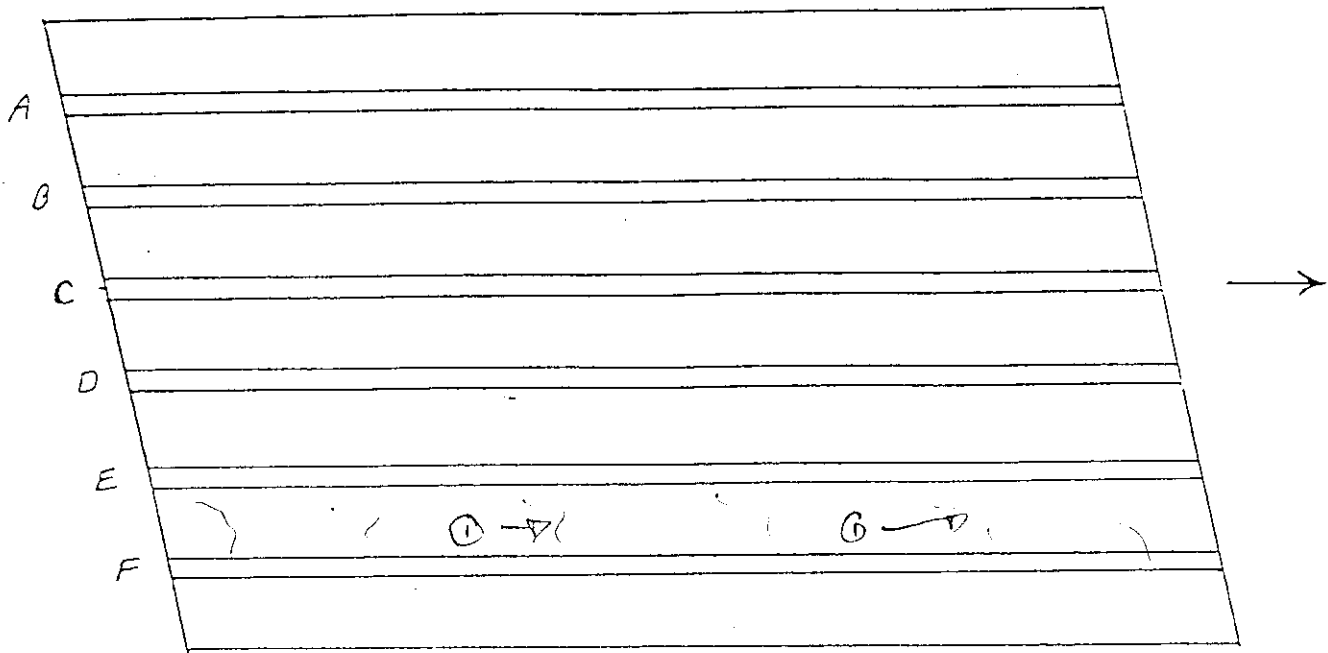
Br. $\pm$ 80-140-15.49 R.L.

Deck	NV	AC OVERLAY
Parapet	G	
Drains	G	
Joints	NV	PAVED OVER



Br. ^{II} 80-740-15.49 R.L.

Deck	NV	MC OUTLAY
Parapet	G	
Drains	G	
Joints	NV	DIVID LER



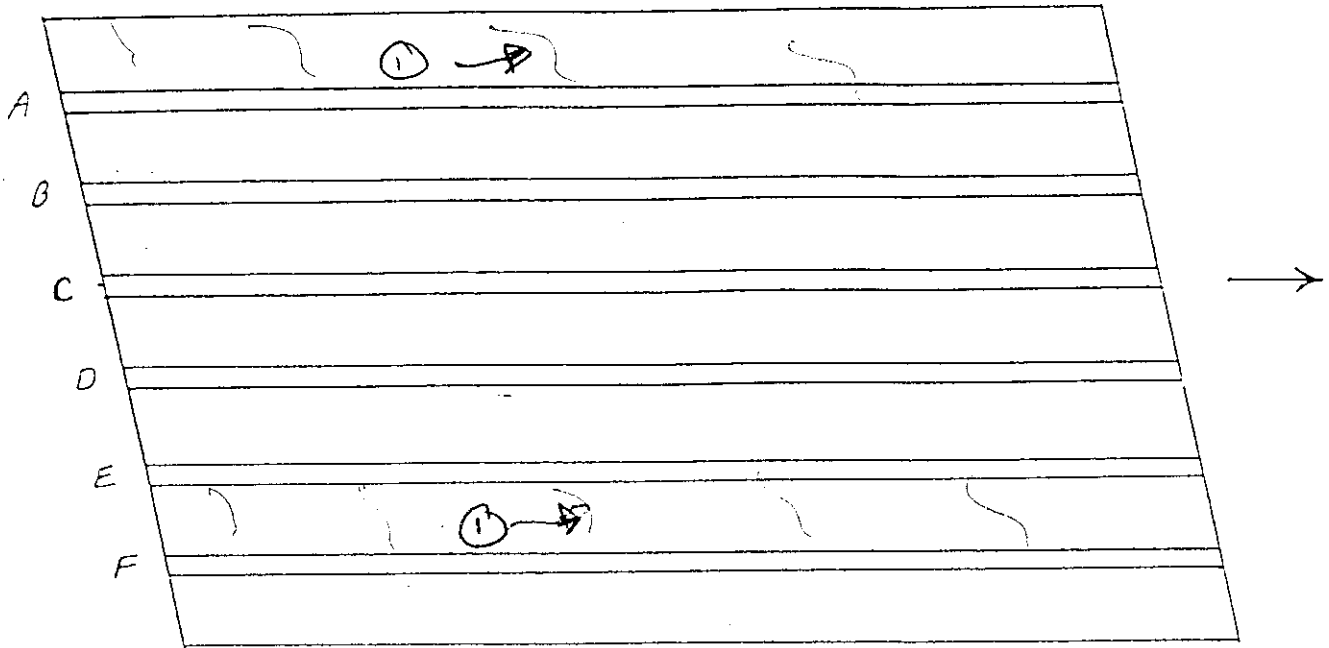
Bottom Slab = 5

Br. = 80-I40-15.49 R.L.

Deck	G	① RANDOM LEADING - TRANSVERSES @ 12" O.C.
		IN BETWEEN BEAMS "E" & "F"

Diaph.	G	
--------	---	--

Beams	G	
-------	---	--



Bottom Slab = 1

Br. = 80-140-15.49 R.L.

Deck B ① TRANSVERSE CRACKS W/ LEACHING BETWEEN BEAMS "E" & "F" AND OUTLET SIDE @ BEAM "A"

Diaph. 0

Beams 0

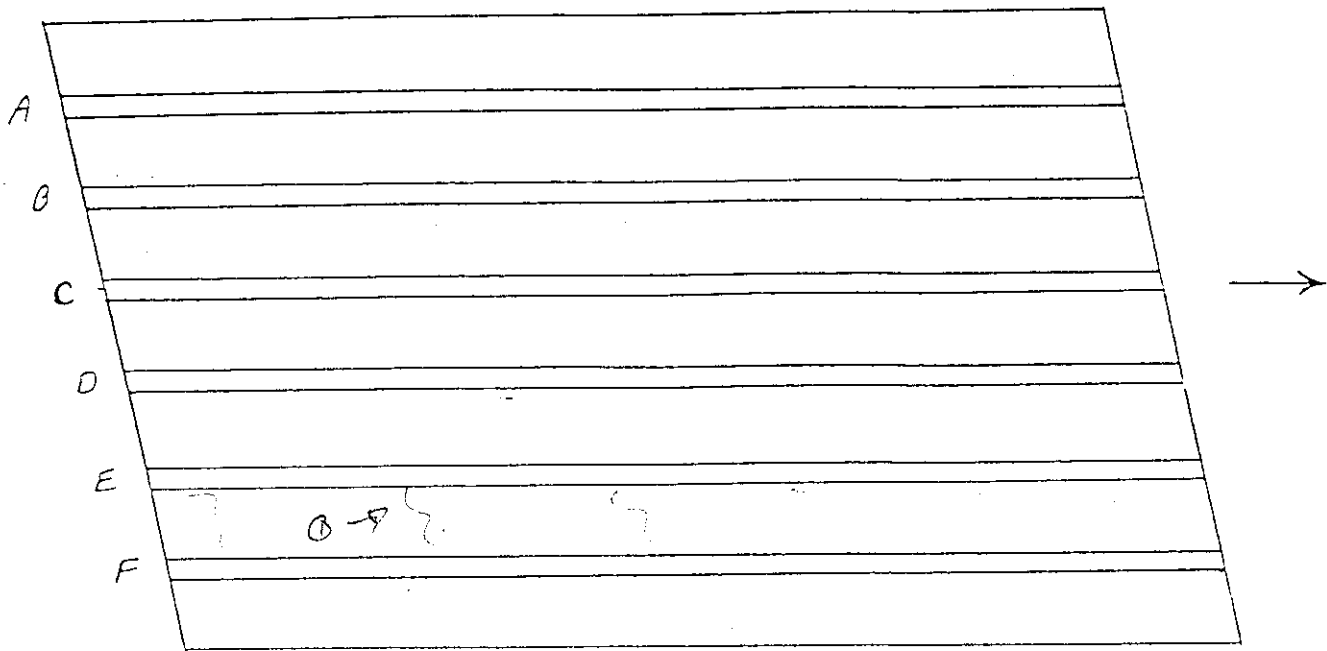
A diagram of a 6-row grid, labeled A through F on the left side. An arrow points to the right from the right side of the grid. Row A contains a circled 6 and an arrow. Row F contains a circled 1 and an arrow.

Br. = 80-140-15.49 R.L.

Diaph.	C
--------	---

Beams	1.
-------	----

6-17-97 b.d.



Bottom Slab = 4

Br. = 80-I40-15.49 R.L.

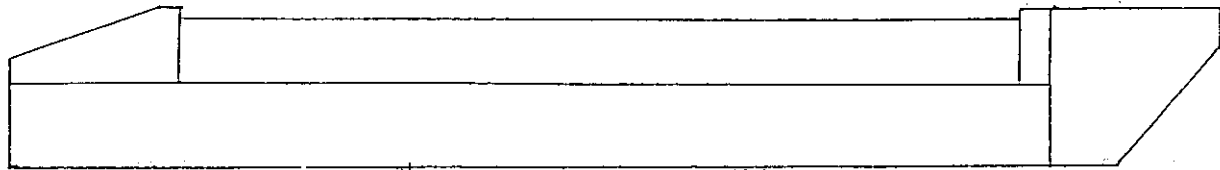
Deck 6

① RANDOM LEADERS w/ TRANSVERSE BEAMS
BETWEEN BEAMS "E" & "F"

Diaph. 6

Beams 8

6-17-99 B&P



Exposed pile

SETTLEMENT

G.L.

ABUT #1

Br. # 80-I40-1549 R.L.

BACKWALL NV

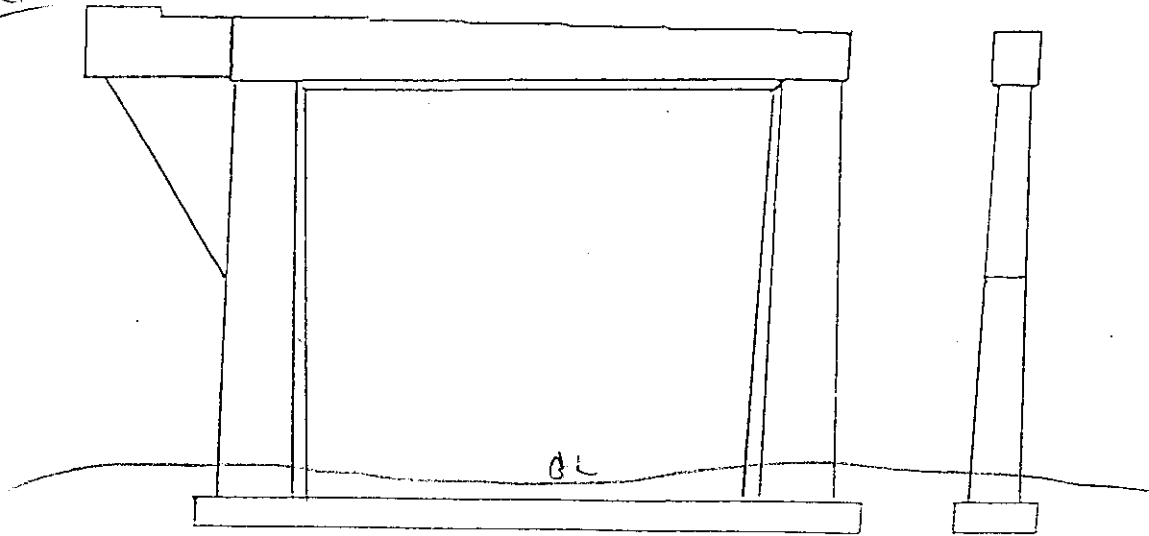
CAP G settlement up to 6"-H w. 1 exposed pile light cor. on pile

wings G

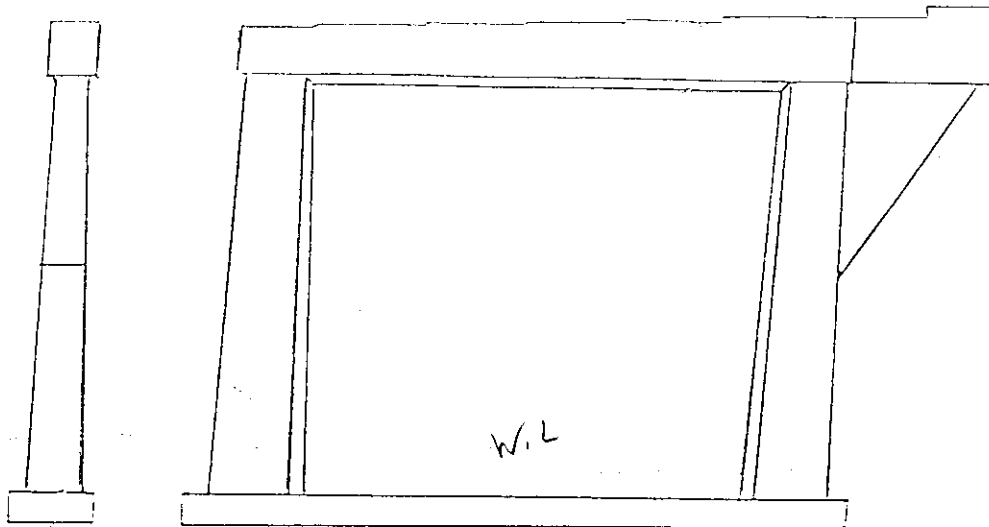
Bearings NV

0-17-94 B.F

PA 012



FRONT

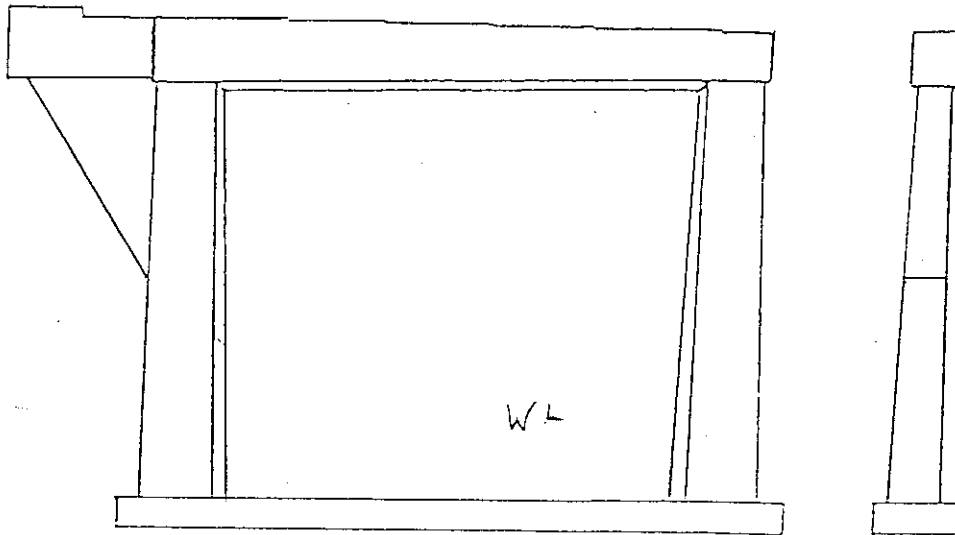
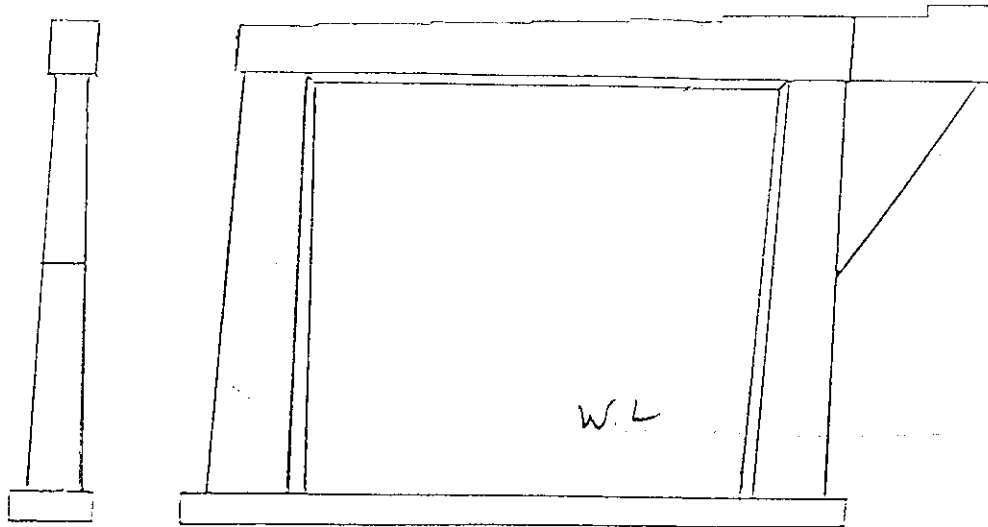


$\rho_{\text{cr}} \approx 4$

Br. # 80-I 40-15.49 R.L.

CAP	Q
Wall	Q
FTG.	N/V
Bearings	Q

B.M.K.

FRONT

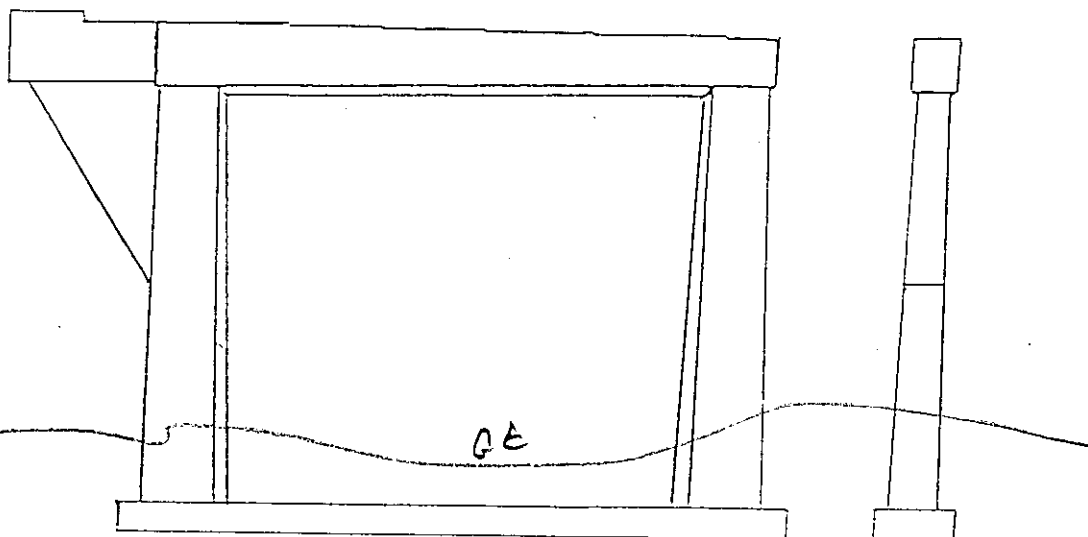
Pier #3

Br. # 80-I40-15.49 R.L.

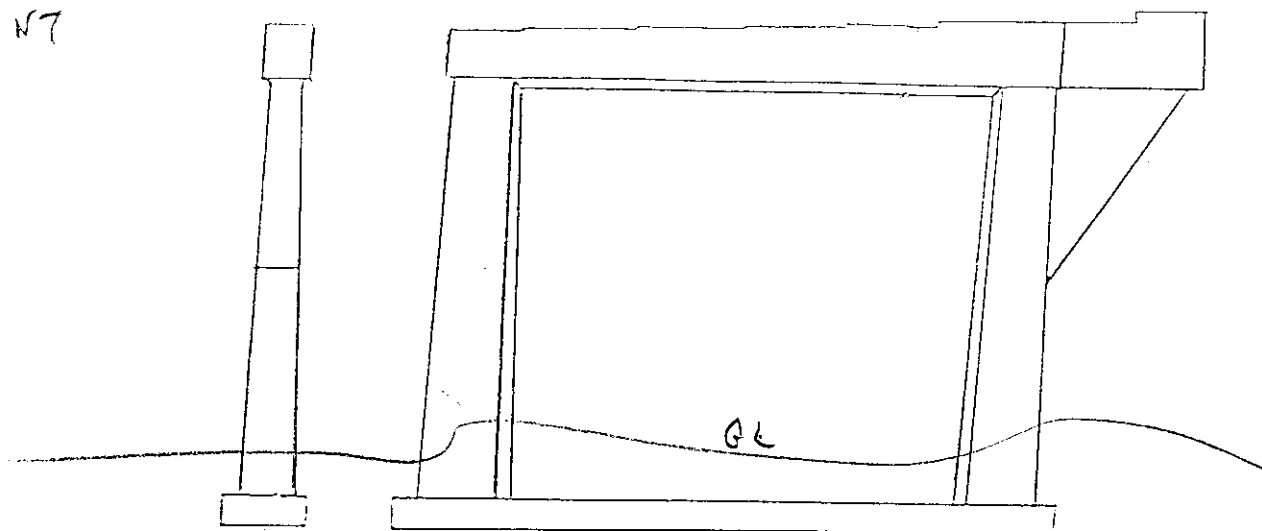
CAP	2	
Wall	2	HEAVY WATER ABUTMENT
FTG.	N/V	
Bearings	8	

6-17-99 6P

BAD



Fred N7

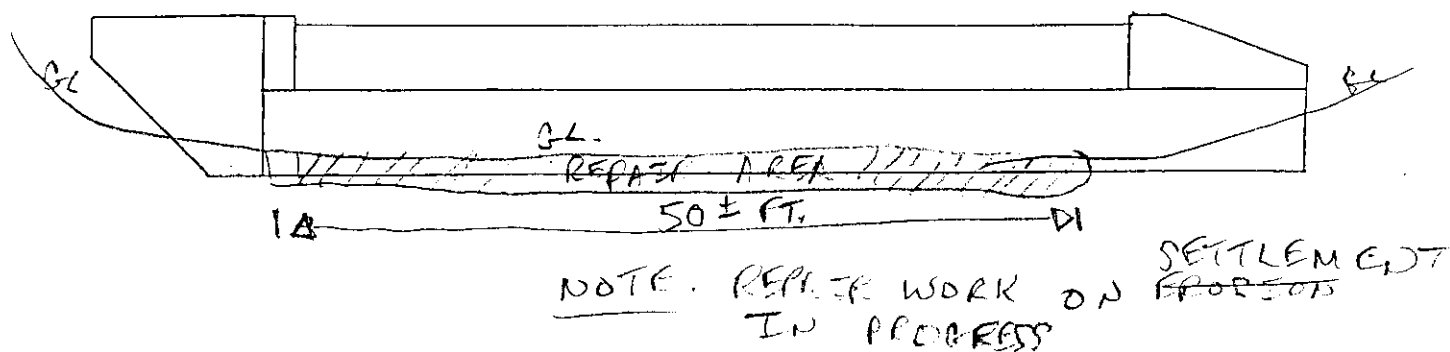


Pier #1

Br. # 80-I40-15.49 R.L.

CAP	Q
Wall	Q
FTG.	NIV
Bearings	Q

6-17-99 Bp



ABU7 # 2

Br. # 80-I40-15.49 R.L.

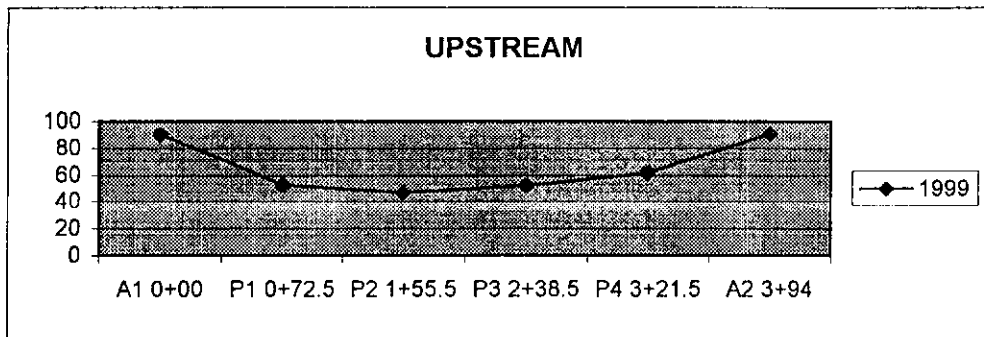
BACKwall	N/V
CAP	Q
wings	Q
Bearings	U.I. N/V

80-140-15.49 Rt.
ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET
STATION ELEV.

6/17/99

1999

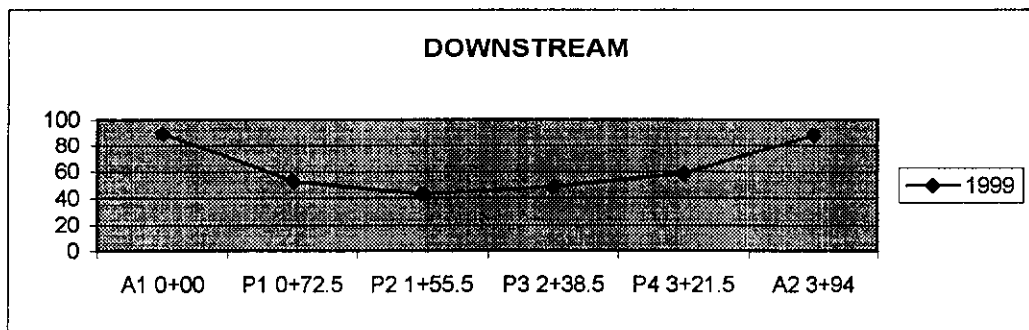
A1 0+00	90.5
P1 0+72.5	52.4
P2 1+55.5	47.1
P3 2+38.5	52
P4 3+21.5	61.5
A2 3+94	91.1



STATION ELEV.

1999

A1 0+00	89.5
P1 0+72.5	52.8
P2 1+55.5	43.3
P3 2+38.5	48.7
P4 3+21.5	58.6
A2 3+94	88.2



LIST OF DRAWINGS

Layout of Bridge Widening
General Notes
Estimated Quantities
Repair Details
Superstructure Details (1)
Superstructure Details (2)
Superstructure Details (3)
Superstructure Details (4)
Prestr. Conc. I-Beam - spans A&E W.B.L.
Prestr. Conc. I-Beam - spans (B-D) W.B.L.
Prestr. Conc. I-Beam - spans A&E E.B.L.
Prestr. Conc. I-Beam - spans (B-D) E.B.L.
Bearing Details
Abutment Details (1)
Abutment Details (2)
Abutment Details (3)
Piers 1,2,3 & 4 - W.B.L. & E.B.L.
Piers 1,2,3 & 4 - W.B.L. & E.B.L.
Bill of Steel
Bill of Steel
Bill of Steel
Bar Bending Details
* ~~CONSTRUCTION SEQUENCE~~
Existing Bridge Drawings
* ~~Note: Only Dwg. G-15-82 thru G-15-103 to be printed with Plans.~~
Note: Drawing Nos. M-214-113 & M-214-114 not used.
* ~~Stage Construction - Abutments Bridge No. 2, 4 & 5~~
STANDARD DRAWINGS

Std. Reinf. Bar Support
Misc. Abutment & Drainage Details
Reinf. Concrete Pavement at Bridge Ends
* Bridge Railing-Concrete Parapet
* Concrete Median Barrier and Parapet Drains

* Stripseal Exp. Joint new construction

* Asterisk denotes these standards to be printed with plans.

STANDARD DRAWINGS
Std. Reinf. Bar Support
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LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER
105A
602
603A
604
604C
604R
604S
607D
709
907A

Date
LATEST REVISION

07-21-87
09-30-88
11-01-88
11-06-87
01-26-88
01-20-89
03-14-88
02-20-85
05-04-87
03-25-85

LIST OF SPECIAL PROVISIONS

Regarding Approval of Shop Drawings
Regarding Section 609 Steel Structures
Regarding Painting
Regarding Concrete Structures
Regarding Structural Concrete
Regarding Rideability of Bridge Decks and Roadway Approaches
Regarding Strip Seal Expansion Joints
Regarding Side Drains and Bridge Drains
Regarding Machined Rip-Rap
Regarding Epoxy Coated Reinforcing Steel

DRAWING NO.

M-214-109
M-214-110
M-214-111
M-214-112
M-214-115
M-214-116
M-214-117
M-214-118
M-214-119
M-214-120
M-214-121
M-214-122
M-214-123
M-214-124
M-214-125
M-214-126
M-214-127
M-214-127A
M-214-128
M-214-129
M-214-129A, 151B, 151C
M-214-130
M-214-130A
M-214-131

LATEST REV. DATE

G-15-82 thru G-15-103
G-10-99
08-27-76
06-25-87
07-17-81
11-01-88
09-08-87
02-21-89

G-15-82 thru G-15-103
G-10-99

M-214-79A

M-156-108, 108A

GENERAL NOTES

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

LOADING: HS20-44 with Alternate Military.

DESIGN SPECIFICATIONS: AASHTO 1983 Edition with addenda.

CONCRETE: To be class 'A', f'c to be 4,500 psi for superstructure concrete and 3,000 psi for substructures and parapets.

Class A Concrete for bridge decks shall be in accordance with Section 604 of the Standard Specifications except as modified by Special Provisions 604-C.

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

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

Bearing Devices shall be in accordance with the details and dimensions shown on drawing M-214-123.

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

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

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

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

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

SHOP DRAWINGS: See Special Provision No. 105A.

CONCRETE SEAL: To be either:

a. Sonneborn HLM 5000 S, B, or R (spray, brush, or roll on)
b. 3M Scotch Clad, cold applied, single component moisture curing polyurethane elastomer.

c. Koppers 300M

Concrete Seal to be applied to the Top Surface of Pier 3 before placement of bearing devices and applying Textured Coating. Concrete shall be clean and dry before applying the concrete seal and the thickness of the seal shall not be less than 50 mils. The cost shall be included in the unit price of the expansion device.

DRILLED-IN ANCHORS:

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

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

FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennessee Standard Specification. An Applied Texture Finish shall be used in lieu of a Class 'B' finish. The color of the finish shall be similar to Mountain Grey, Federal Specification No. 36440, Federal Color Standard No. 595a, and a color sample shall be submitted to the Engineer for approval. No texture finish shall be applied prior to completion of paving and hauling operations at the bridge site. Payment for the Applied Texture Finish shall be under Item 604-04.01 & 604-04.02.

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

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

RIP-RAP: Machined rip-rap shall be Class A-1 in accordance with Special Provision 709 and shall be paid for under Item 709-05.06 - Ton.

STRUCTURAL STEEL: See notes on Drawing No. M-214-127A.

WELDING: See Special Provisions No. 602 and notes on Drawing No. M-214-127A.

PAINT: System B - Inorganic Zinc - Urethane Finish Bright Green Top Coat - See Tennessee Standard Specification 603.05(b) and Special Provision 603A.

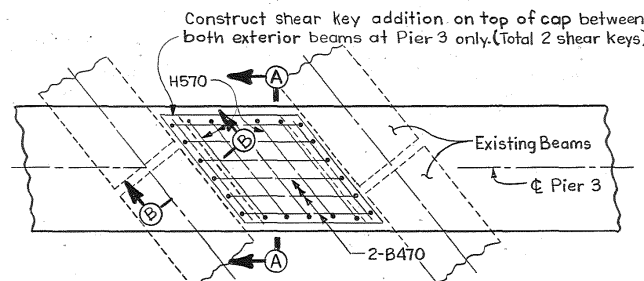
RADIOGRAPHIC, ULTRASONIC, AND MAGNETIC INSPECTION: See Special Provision No. 602. Notes on Drawing No. M-214-127A.

STEEL STRUCTURES: See Tennessee Standard Specifications, Section 602 and notes on Drawing No. M-214-127A.

GENERAL NOTES (cont'd)

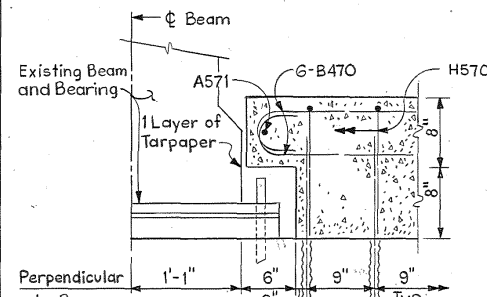
NOTE: The Contractor shall accept full responsibility of maintaining the structural integrity of the existing bridge during construction. Any damage to structural members to be left in place shall be repaired to the satisfaction of the Engineer and paid for at the Contractor's expense.

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



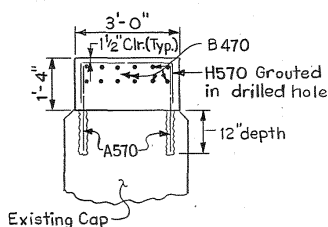
PLAN OF SHEAR KEY ADDITION

No Scale



SECTION "B-B"

No Scale



SECTION "A-A"

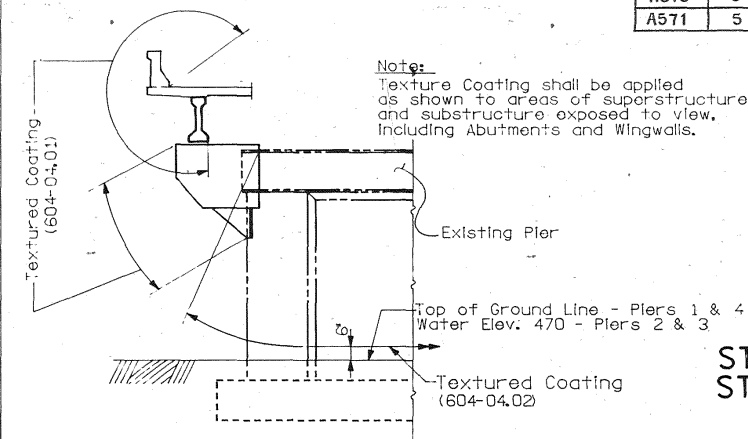
(Through Shear Key Addition)
No Scale

ESTIMATED QUANTITIES

	Class 'A' Concrete (Bridges) C.Y.	Steel Bar Reinforcement (Bridges) LBS.
Pier 3 WBL	1	224
Pier 3 EBL	1	217

BILL OF REINFORCING

Total for Pier 3 (2 Shear Keys)					
H-Bar			B-Bar		
Mark	Size	No.	EBL a	WBL a	b
A570	5	20	2'-2"	2'-2"	
B470	4	24	5'-1 1/2"	5'-4"	0'-6"
H570	5	10	3'-5"	3'-5"	1'-2"
A571	5	4	3'-5"	3'-5"	



DETAIL SHOWING LIMITS OF TEXTURED COATING

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	WHP	ADDED DWG. NO. M-214-59A
2	7/14/89	DWT	Added Dwg. No. M-214-79A
			2 M-214-151B

DESIGNED BY: HDL
DRAWN BY: TLK/EAB
SUPERVISED BY: WSH
CHECKED BY: HDL
DATE: 12/88
DATE: 12/88
DATE: 12/88
DATE: 3/89

CORRECT

ENGINEER OF STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

M-214-110

- CONSTR. NO. 80001-3152-44

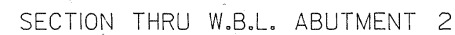
ESTIMATED QUANTITIES

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

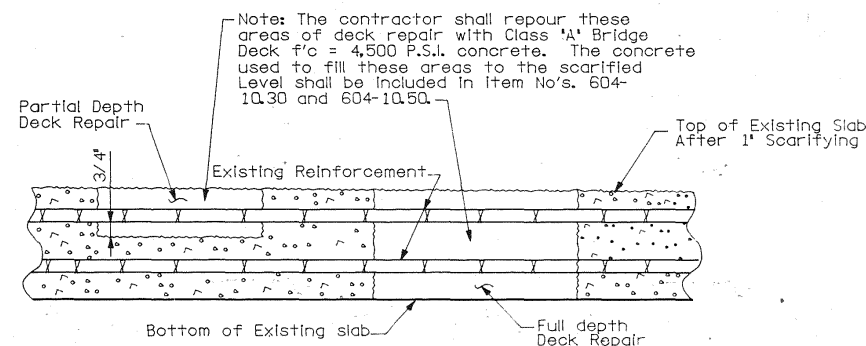
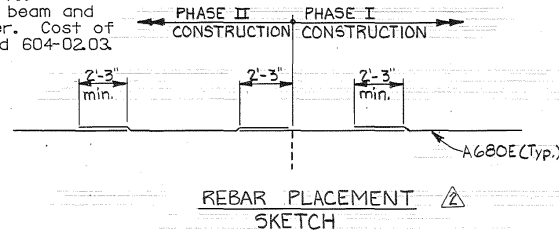
1-40 OVER

DESIGNED BY: HDL	DATE: 12/88
DRAWN BY: TLK/EAB	DATE: 12/88
SUPERVISED BY: WSH	DATE: 12/88
CHECKED BY: HDL	DATE: 3/89

M-214-111

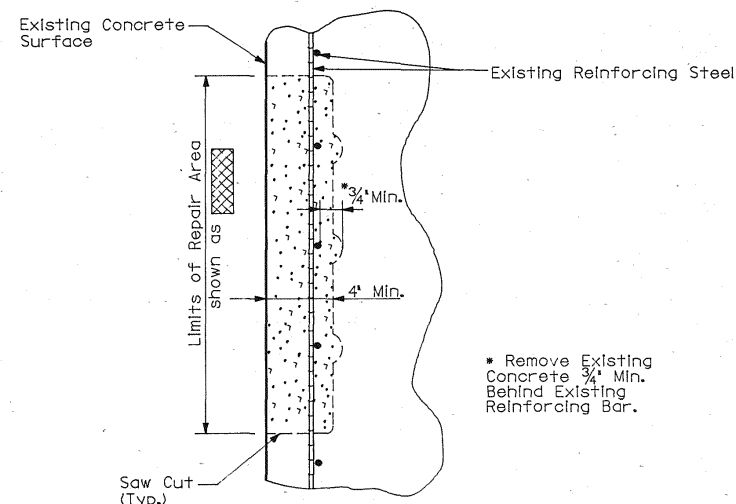


- ① Before addition of new approach pavement, backfill shall be excavated sufficient to expose front and back of all piles. Vehicular and construction loads will not be permitted on the constructed portion of the bridge during this operation. Corroded areas of piles shall be wire brushed or blast cleaned and repainted per Specification Section 606.19. No separate payment will be made for painting or cleaning.
- ② Construct abutment sub-beam using Class 'A', $f'c=3,000$ psi concrete. Sub-beam shall be cast full length of existing retained abutment beam and to the depth specified, unless otherwise directed by the Engineer. Cost of material and labor shall be included in the bid items 604-03.01 and 604-02.03.
- ③ Backfill to limit shown with Class A Grading D Material. Install backfill and underdrain in compliance with Std. Drawing K-85-150.
- ④ Reestablish fill slope to lines shown.



Remove Concrete in all delaminated areas to a depth of 3/4" below the top mat of Reinforcing steel. All reinforcing steel in areas of deck repair shall be blast cleaned. Areas of concrete removed shall be designated by postcard from the District Office. Structures Deck repair will be paid for under Item No. 604-1050, Bridge deck repair, (partial depth of slab) S.Y. If delaminated concrete is encountered which appears to run full depth of slab, the Engineer may designate these areas to be repaired under Item No. 604-1030, Bridge deck repair, (full depth of slab), S.Y. 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.

DESIGNED BY: WSH DATE 1/89
DRAWN BY: TLK DATE 1/89
SUPERVISED BY: WSH DATE 1/89
CHECKED BY: WSH DATE 3/89

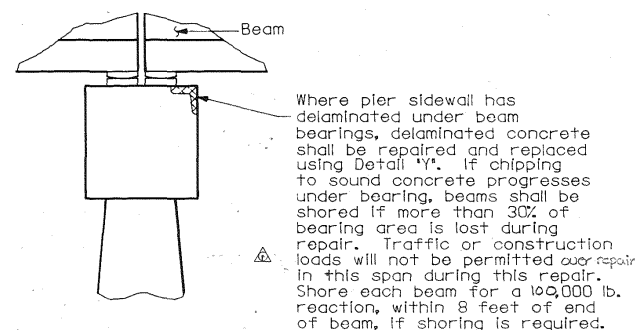


DETAIL "Y"
DETAIL SHOWING EXISTING CONCRETE SURFACE
TO BE REPAIRED

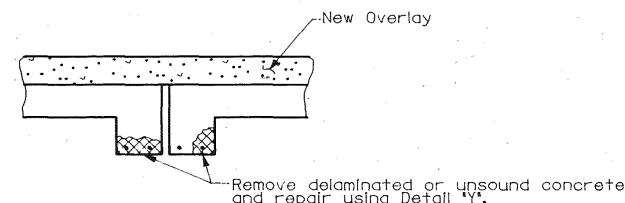
Care shall be taken when removing existing deteriorated concrete in designated repair areas so as not to damage the existing reinforcing steel. All existing reinforcing steel shall be blast cleaned to remove all rust before pouring new concrete.

Concrete for the repaired areas shall be high early strength, $f'c = 3,000$ p.s.i.; Type III cement shall be used in lieu of Type I cement. No traffic or other loading will be allowed on the repaired areas until 10 calendar days have elapsed and representative test specimens have attained a compressive strength of not less than 3,000 p.s.i.

Cost of removing deteriorated concrete, all blast cleaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in details shall be included under Item No. 604-1Q42, Concrete Repairs, C.F..



SECTION THRU W.B.L. PIER 1 &
E.B.L. PIER 4



SECTION THRU SLAB BUILD - DOWNS
W.B.L. PIER 1 & E.B.L. PIER 3 & 4

GENERAL NOTES

NOTE: Existing reinforcing which protrudes from the top of E.B.L. Pier 3 cap shall be removed to 1' below concrete surface and patched flush with surface. No separate payment will be made for this work.

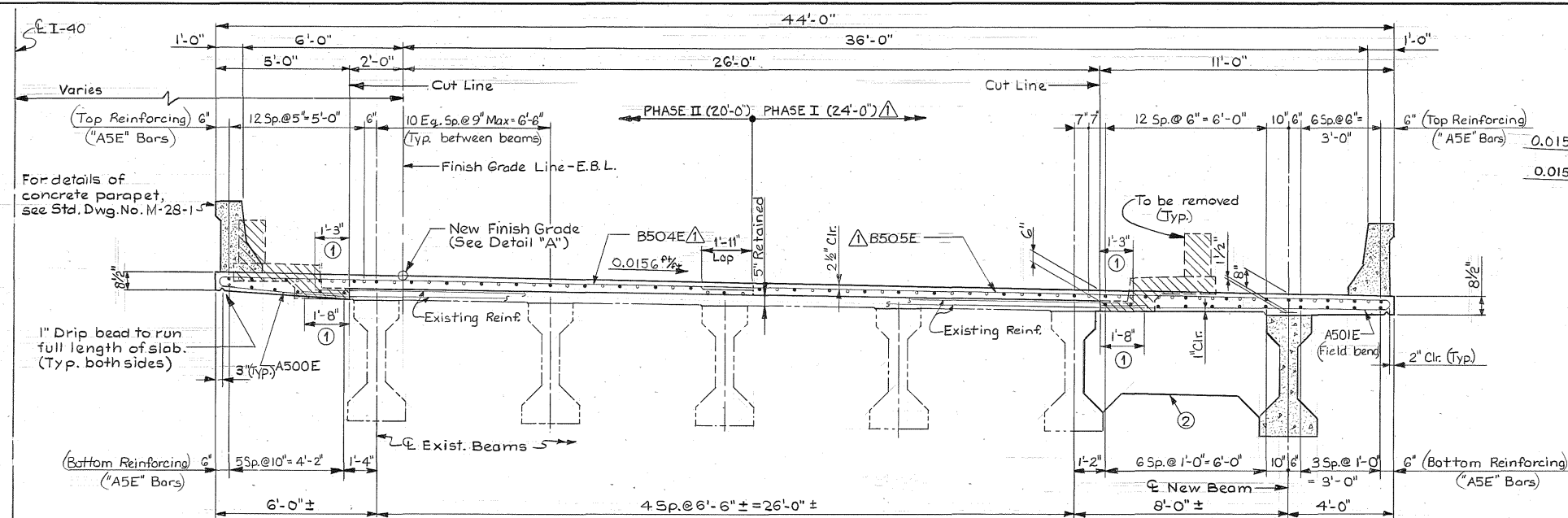
Necessary concrete repairs at piers of this bridge, before the addition of the cantilever beam bracket. In general, these repairs which may be conflicting or may be obscured by the angle strap will be required to be completed before the addition of the angle support frame and the concrete bracket. However,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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

REPAIR DETAILS
I-40 OVER
CANEEY FORK RIVER
STA. 431+41.96 C SURVEY E.B.L.
STA. 424+17.07 C SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS



TYPICAL SECTION - E.B.L. (LOOKING FORWARD ON SURVEY)
(W.B.L. similar to opposite hand)
Scale: 3/8" = 1'-0"

DETAIL "A"
No Scale

Note:

● - Continuous longitudinal reinforcement.

○ - Non-Continuous longitudinal reinforcement.

① Retain 1'-3" or 1'-5" extension of transverse existing deck reinforcing into new concrete. Any existing deck bar which cannot be preserved shall be replaced at the same location by drilling and grouting a 2'-8" #4 dowel bar, embedded 12" in existing concrete, at no additional cost to the Department. Do not use precast deck forms in bay adjacent to existing deck.

② New concrete diaphragm. For location and details, see Dwg. No. M-214-118.

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(11)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISIONS FOR CONSTR. JT.

Notes:

When pouring deck, provision shall be made for setting reinforcing steel for parapet. The parapet shall not be poured until the slab is poured and cured.

All girders to be supported during construction of slab to prevent rotation.

For estimated quantities, see Dwg. No. M-214-117.
For slab pouring sequence, see Dwg. No. M-214-117.

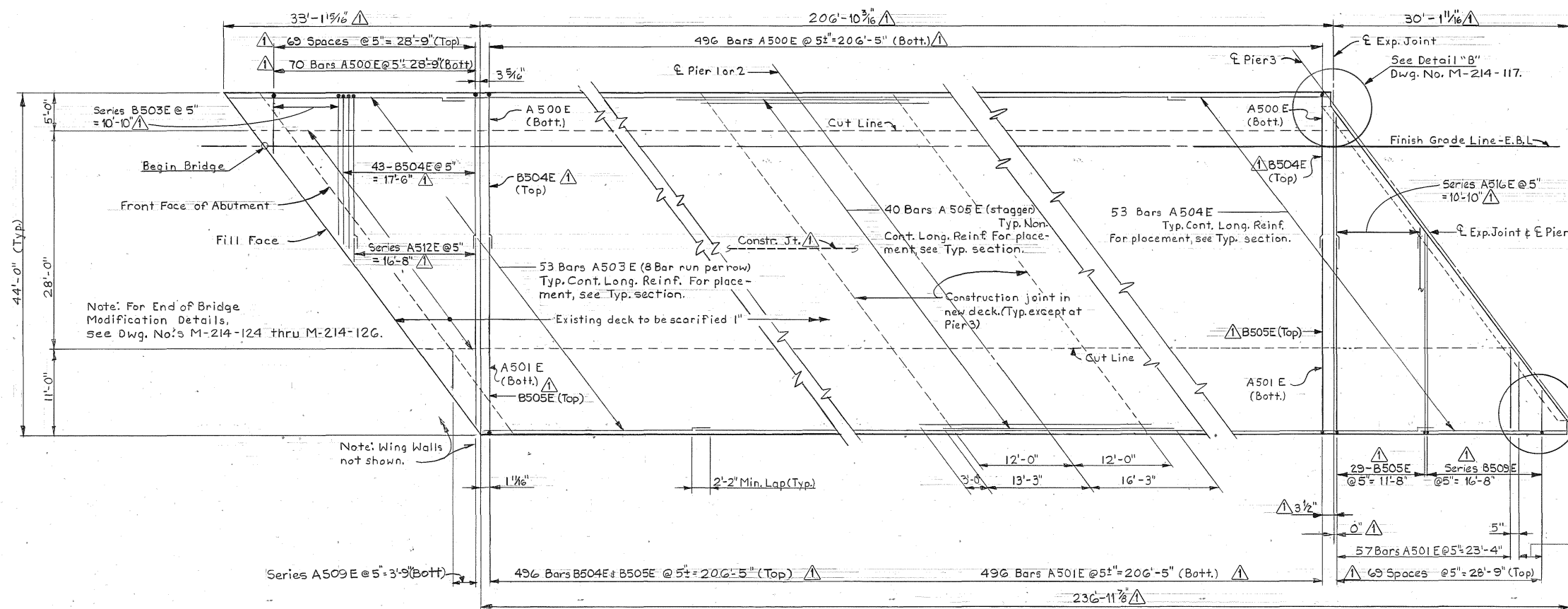
For expected erection camber values, see Dwg. No. M-214-118.

For bituminous filler detail at expansion joints, see Dwg. No. M-214-118.

When pouring wingwalls, provisions shall be made for setting reinforcing steel for wingpost and parapet, see Std. Dwg. No. M-28-1.

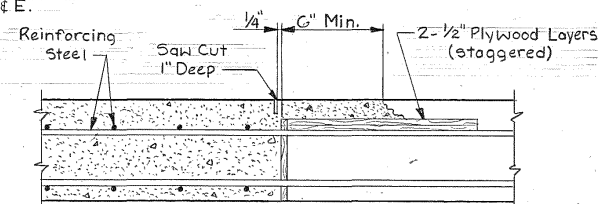
For existing beam camber, see Dead Load Correction Curve, Dwg. No. M-214-116.

Bridge Details are symmetrical about E. (For W.B.L.)



SPANS A THRU C
DECK PLAN - E.B.L.
No Scale

Note: See Dwg. No. M-214-116 for spans D & E.



SLAB CONSTRUCTION JOINT
No Scale

See Dwg. No. M-214-59A for Construction Joint and Phase Construction Details.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (I)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY DKR DATE 11-88
DRAWN BY RMH DATE 11-88
SUPERVISED BY WSH DATE 11-88
CHECKED BY DKR DATE 1-89

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

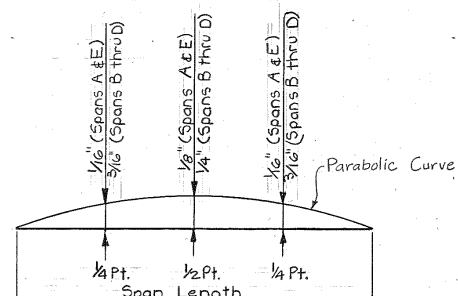
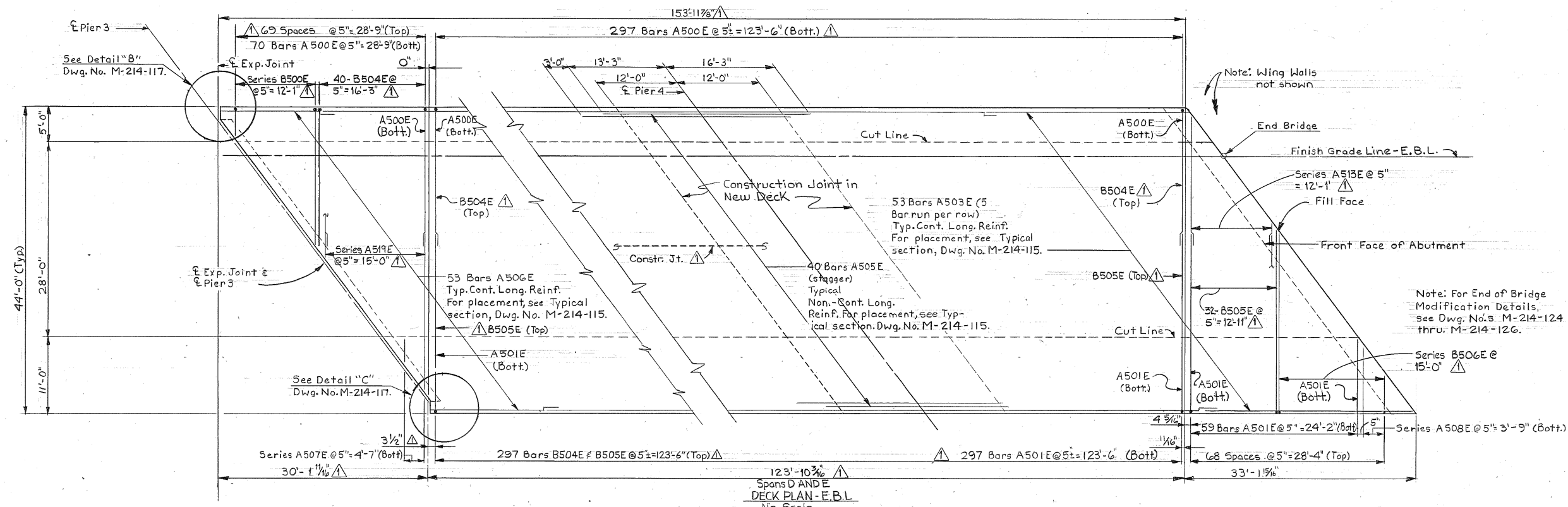
M-214-115

CONSTR. NO. 80001-3152-44

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

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISIONS FOR CONSTR. JT.

Note:
For additional notes, see Dwg. No. M-214-115.
For estimated quantities, see Dwg. No. M-214-117.
For slab pouring sequence, see Dwg. No. M-214-117.

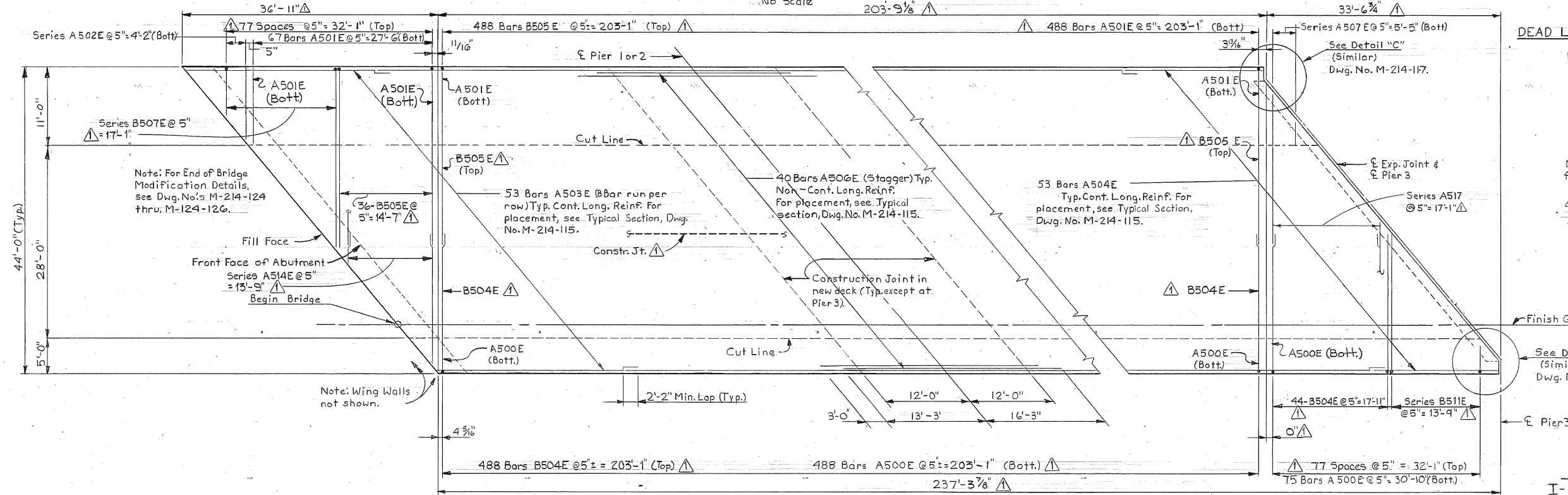


DEAD LOAD CORRECTION CURVE-EXISTING BEAMS

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 screed adjustment.

Note: See Dwg. No. M-214-117 for Spans D & E.

See Dwg. No. M-214-59A for Construction Joint and Phase Construction Details.



FINISH GRADE LINE - W.B.L.

See Detail "B" (Similar) Dwg. No. M-214-117.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS (2)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: DKR
DRAWN BY: RMH
SUPERVISED BY: WSH
CHECKED BY: DKR
DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 2-89

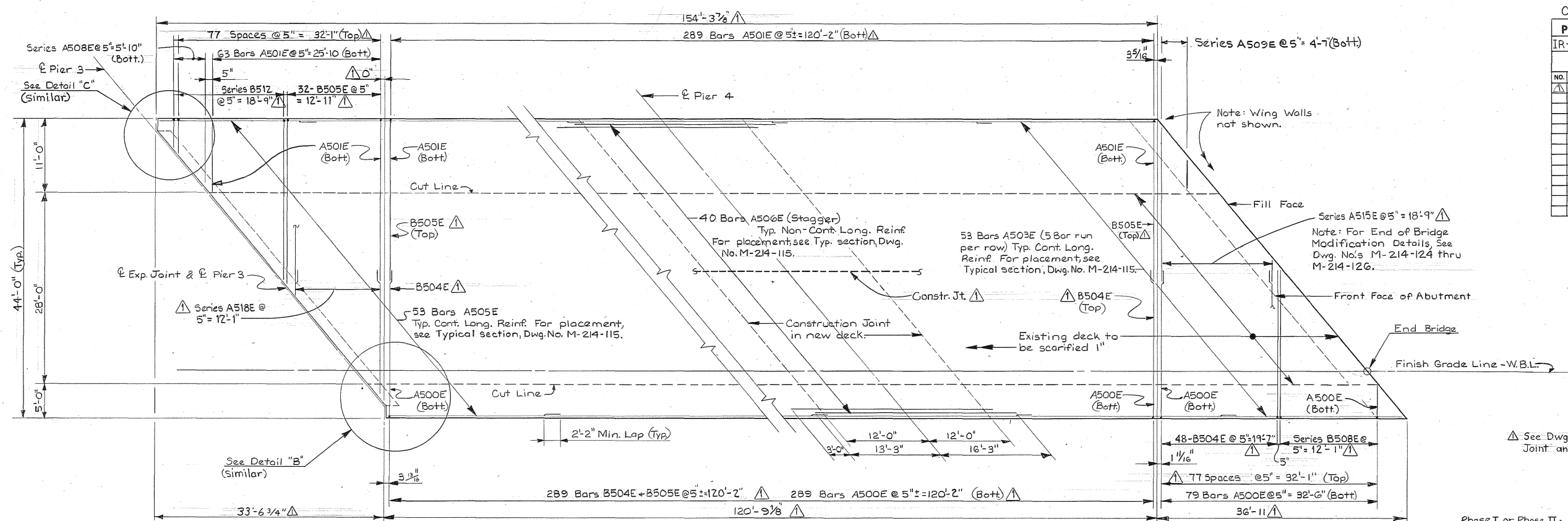
CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

CONSTR. NO. 80001-3152-44

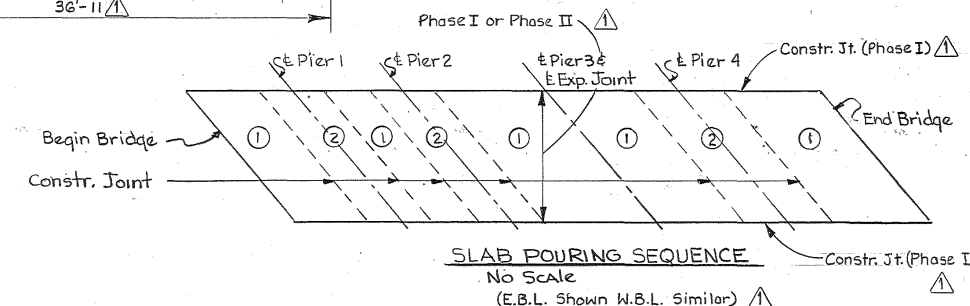
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISIONS FOR CONSTR. JT.



SPANS D & E
DECK PLAN - W.B.L.
No Scale

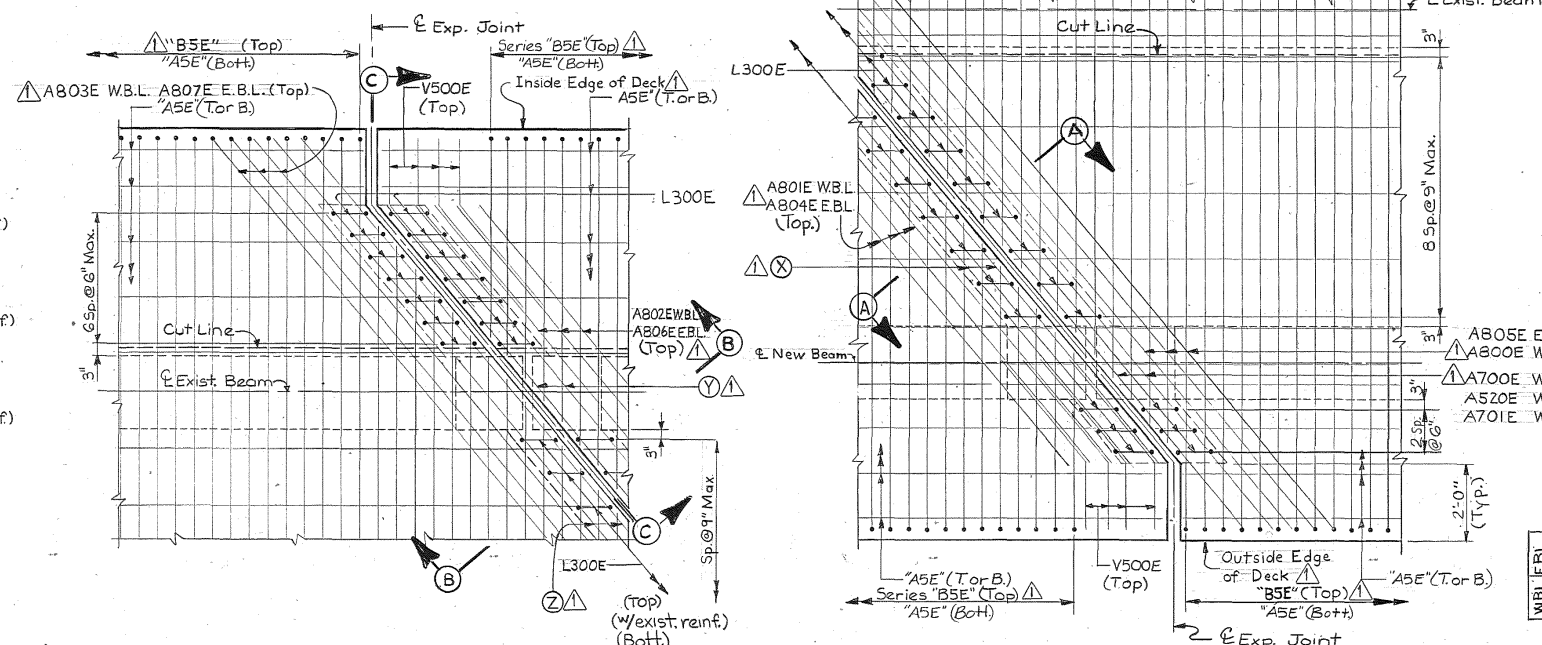


Note:
All pours to be made in numerical sequence. Pour No. ① in exterior spans, shall proceed in a direction from mid-span to the abutment. Pours with the same numerical designation may be made simultaneously. Also, pours ① and ② may be made simultaneously provided the ① sections are placed on each side of any ② section placed during a particular pour. The contractor shall make adequate provisions during placement of slab to prevent the exterior beams from twisting. No equipment shall be permitted on the bridge until all pours are made and the concrete is properly cured. All slab construction joints shall be in accordance with the Slab Construction Joint detail shown on Dwg. M-214-115.

⊗ A701E W.B.L. A704E E.B.L. (Top)
A520E W.B.L. A523E E.B.L. (w/exist. reinf.)
A701E W.B.L. A704E E.B.L. (Bottom)

⊙ A702E W.B.L. A706E E.B.L. (Top)
A521E W.B.L. A525E E.B.L. (w/exist. reinf.)
A702E W.B.L. A706E E.B.L. (Bottom)

⊙ A703E W.B.L. A707E E.B.L. (Top)
A521E W.B.L. A525E E.B.L. (w/exist. reinf.)
A702E W.B.L. A706E E.B.L. (Bottom)



DETAIL "B"
No Scale

Note:
For sections A-A, B-B and C-C
see Dwg. No. M-214-118.

DETAIL "C"
No Scale

Note: All #7 & #8 bars in Details "B" & "C" shall be mechanically coupled at the Phase I/Phase II construction joint using mechanical couplers in accordance with AASHTO 8.32.2.3 & General Notes Dwg.

ESTIMATED	QUANTITIES
Class A Concrete Bridge Deck CY.	Epoxy Coated Reinforcing Steel Lb.
388	30922
389	30974

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (3)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 & SURVEY E.B. I-40
STA. 424+17.07 & SURVEY W.B. I-40
SMITH COUNTY
1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-117

DESIGNED BY DKR DATE 11-88
DRAWN BY WEN DATE 11-88
SUPERVISED BY WSH DATE 11-88
CHECKED BY DKR DATE 2-89

Top of new concrete overlay

8'-0" $\pm$

12" 7-K500E @ 12" Max. 12"

1

2" ϕ hole through web of existing beam for 1 1/2" ϕ tiered rod

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

15'-6 1/2"

Location of concrete intermediate phraams, see beam detail drawings.

New Beam

Top of new concrete deck

3/4" Clr.

5E Diaphragm

K500E

A510E

2" ϕ Hole

1/2" Clr. (Typ.)

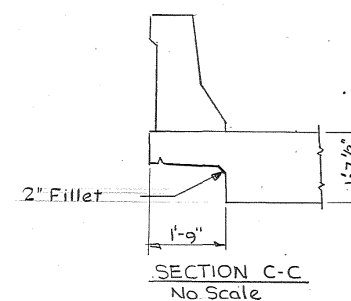
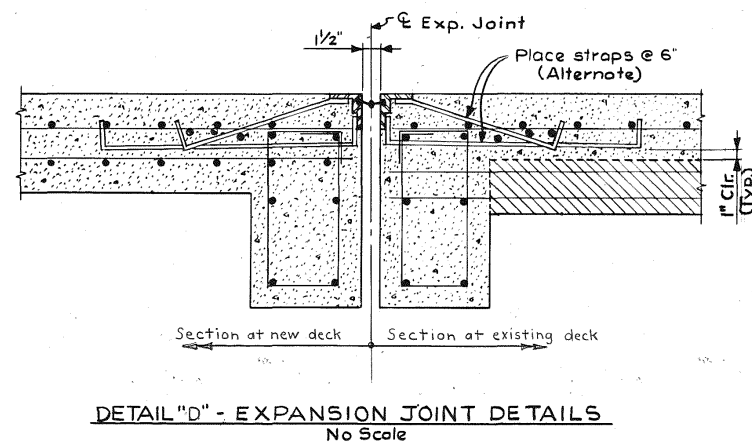
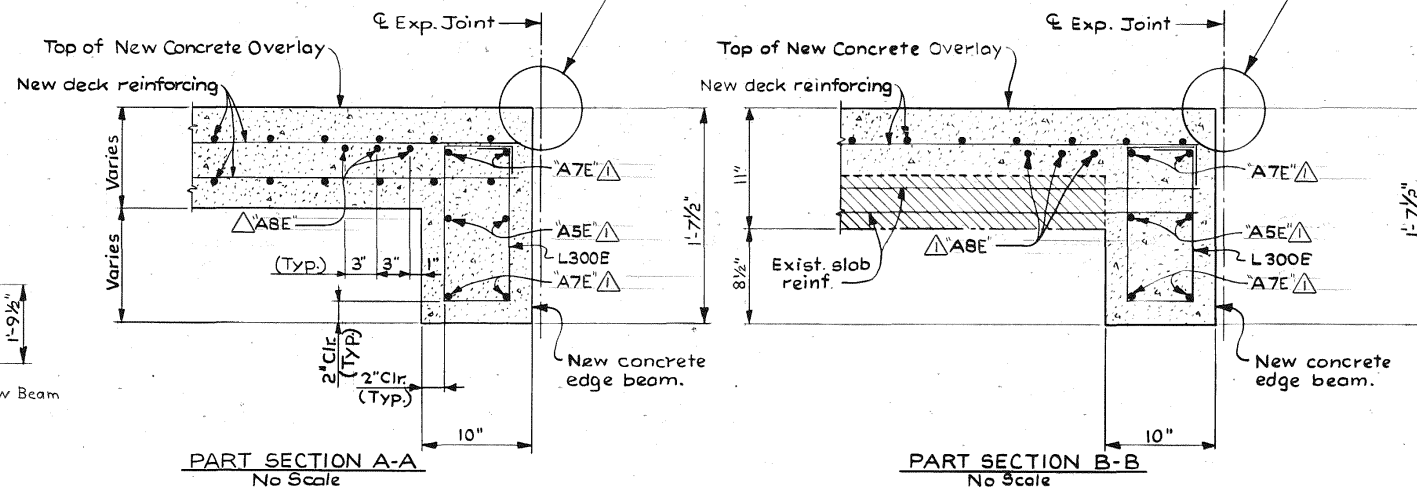
3'-10 1/2"

4" 4" 8"

Bottom of beam

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.

— For Expansion Joint Details,
see Detail "D" below.



atched area indicates
minous fiber filler
n girders and new
te edge beam.

Notch in top
of girder

4 Girders

Pier

Bearing Sole Plate (Typ.)

Notch in top girder

Pier Cap Below
Exp. Jt.

All c
furni
inous
in the
No. 6
Not
proj
cut
of t

All costs associated with furnishing and installing bituminous material shall be included in the price bid for item No. 604-01.12

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

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

[illegible]

Strip Seal Expansion Joints
1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Dwg. No. M-156-108 ~~108~~ ^{103A}.
Concrete Details and reinforcing steel shall be as shown on this drawing except modifications shall be allowed as stipulated in Special Provision No. 6045.

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. 604-11.03.

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

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:

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.~~

SUPERSTRUCTURE DETAILS (4)

I-40 OVER CANEY FORK RIVER
STA. 431+41.96 E SURVEY E.B. I-40
STA. 424+17.07 E SURVEY W.B. I-40
SMITH COUNTY
1989

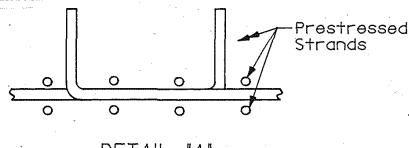
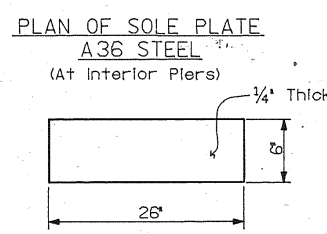
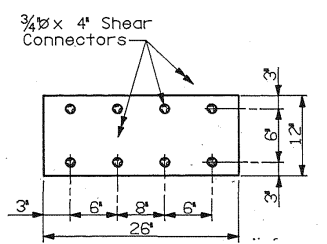
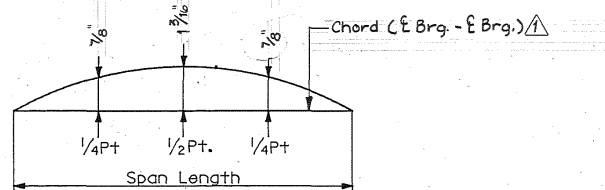
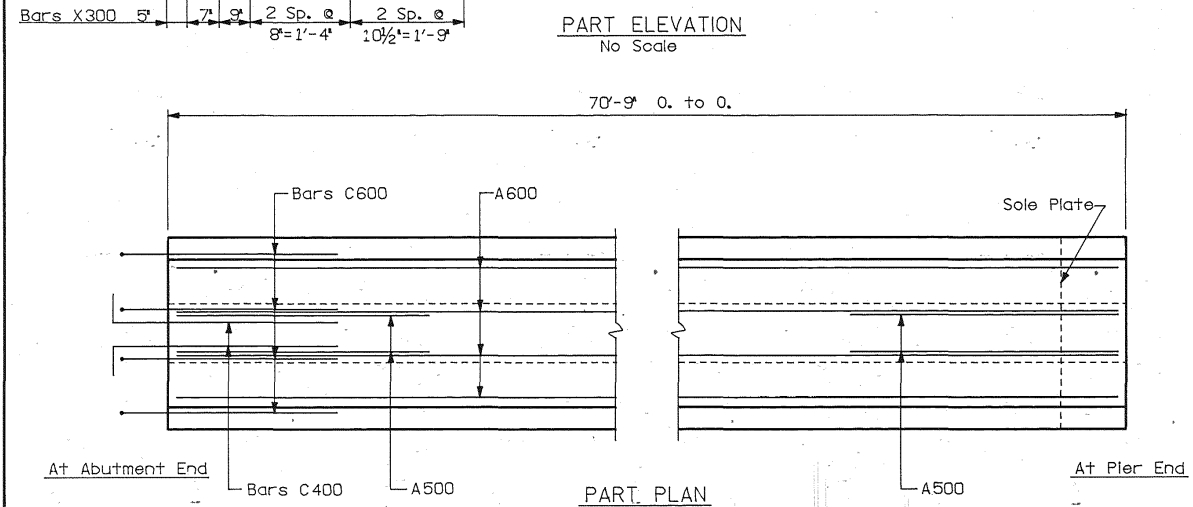
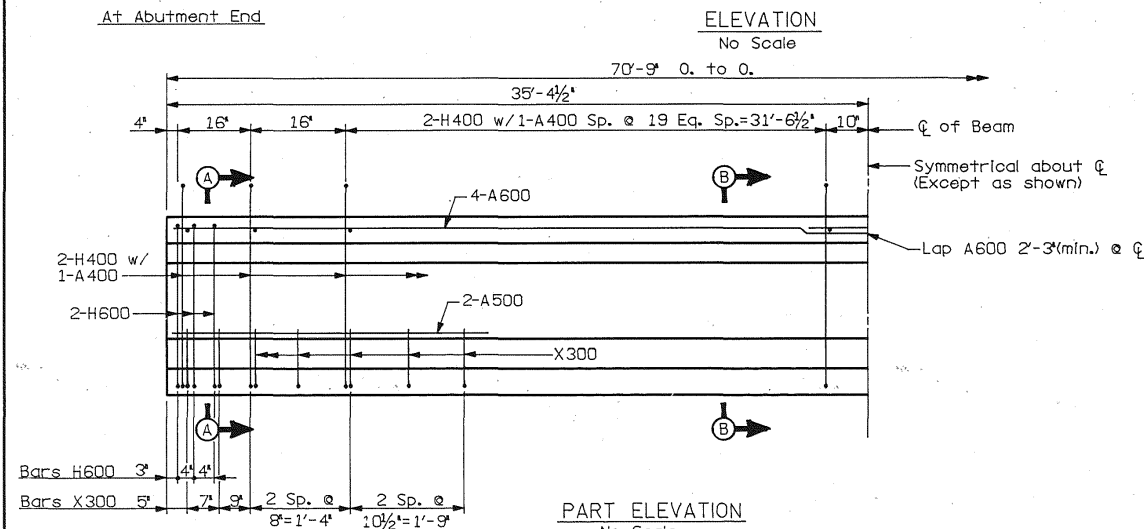
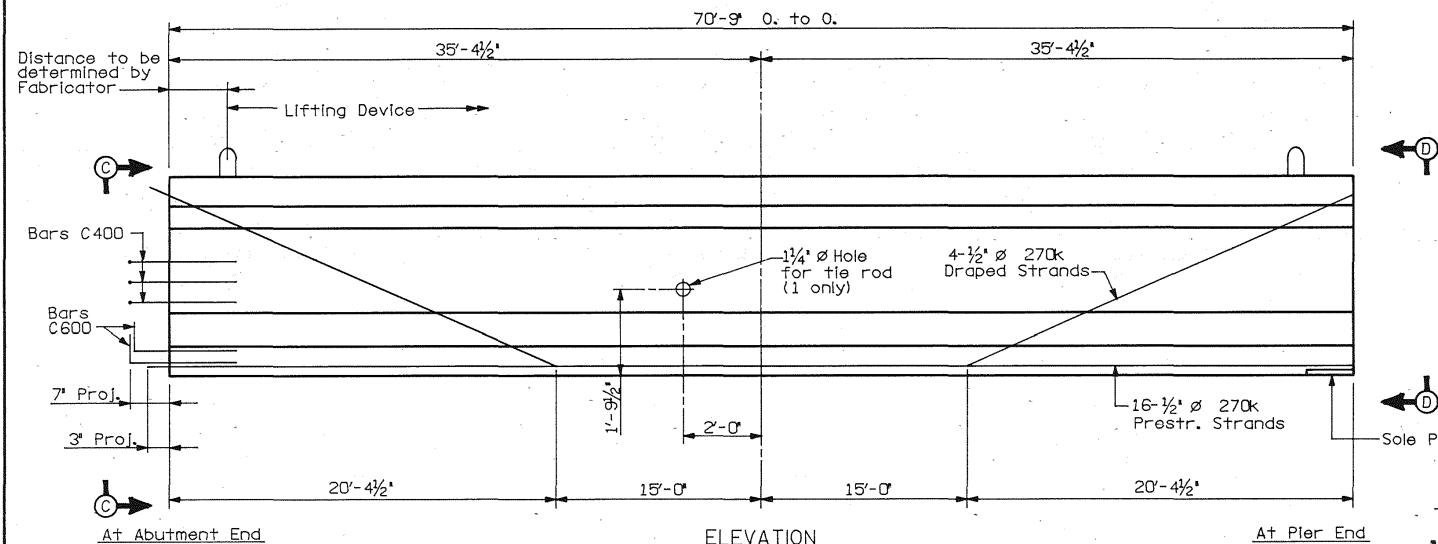
DESIGNED BY	DKR	DATE	11-88
DRAWN BY	HJK	DATE	1-89
SUPERVISED BY	WSH	DATE	1-89
CHECKED BY	DKR	DATE	2-89

CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-118

75-CEB-240T1W2C(65)00N
DTNOXX
25 FEB 1989 08:48



WESTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	44	1'-6"	44	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	36'-10"	8	36'-10"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	88	6'-5"	88	6'-5"
H600	6	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN E	
CLASS 'A' CONCRETE	C.Y.	14.4	14.4	
REINFORCING STEEL	LB.	1,080	1,080	
PRESTRESSING STRANDS	LB.	748	748	

- Denotes Grade 60 Reinf. Steel
- Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44			
PROJECT NO.		YEAR	SHEET NO.
IR-40-591)257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES

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

Mild steel reinforcing shall be ASTM A615 Grade 60.
All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated low relaxation prestressing strands.

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

All beams are AASHTO - PCI standard type IV.

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

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

Elastomeric pads to be 6"x26"x1/4" (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-123.

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

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

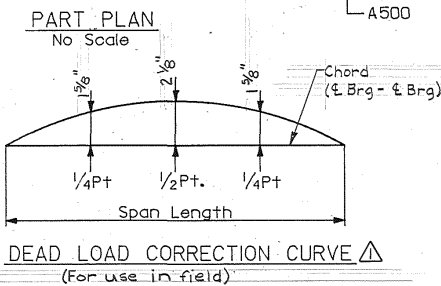
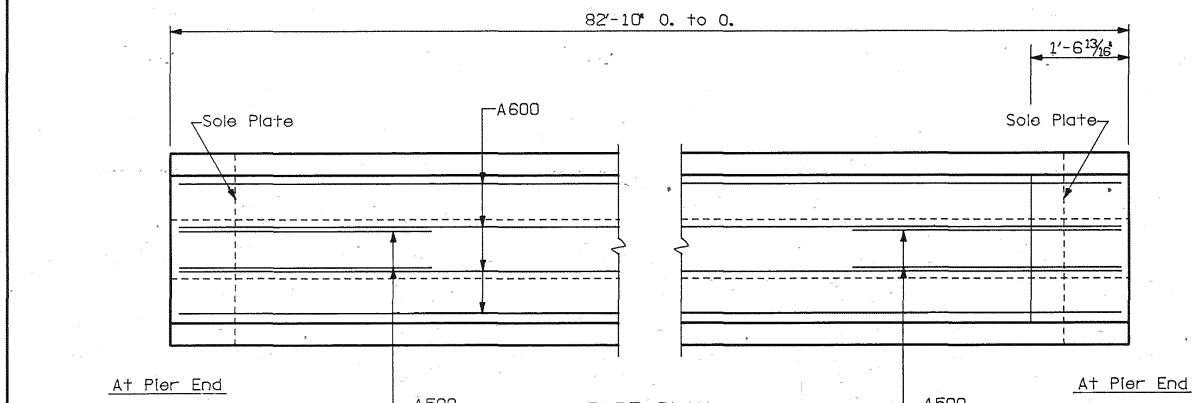
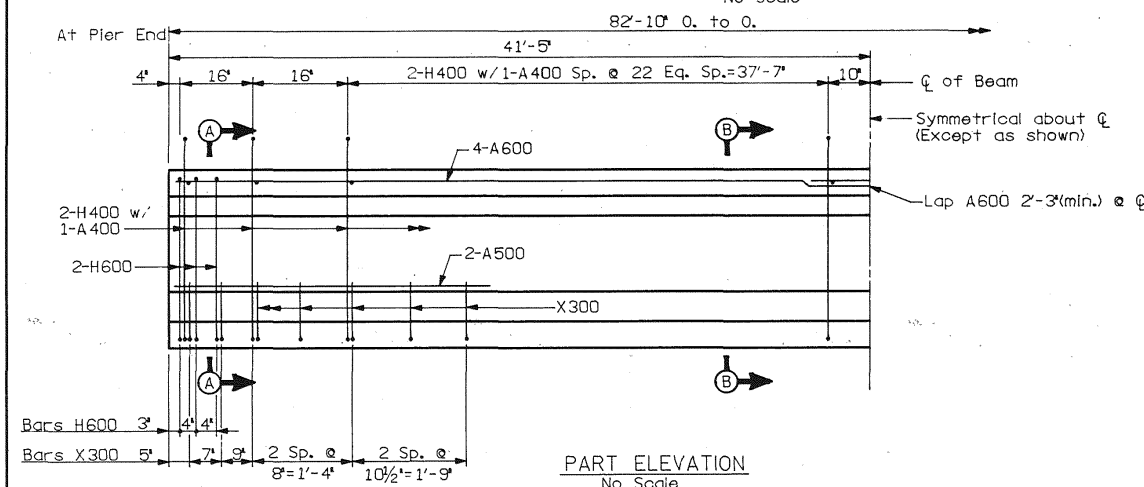
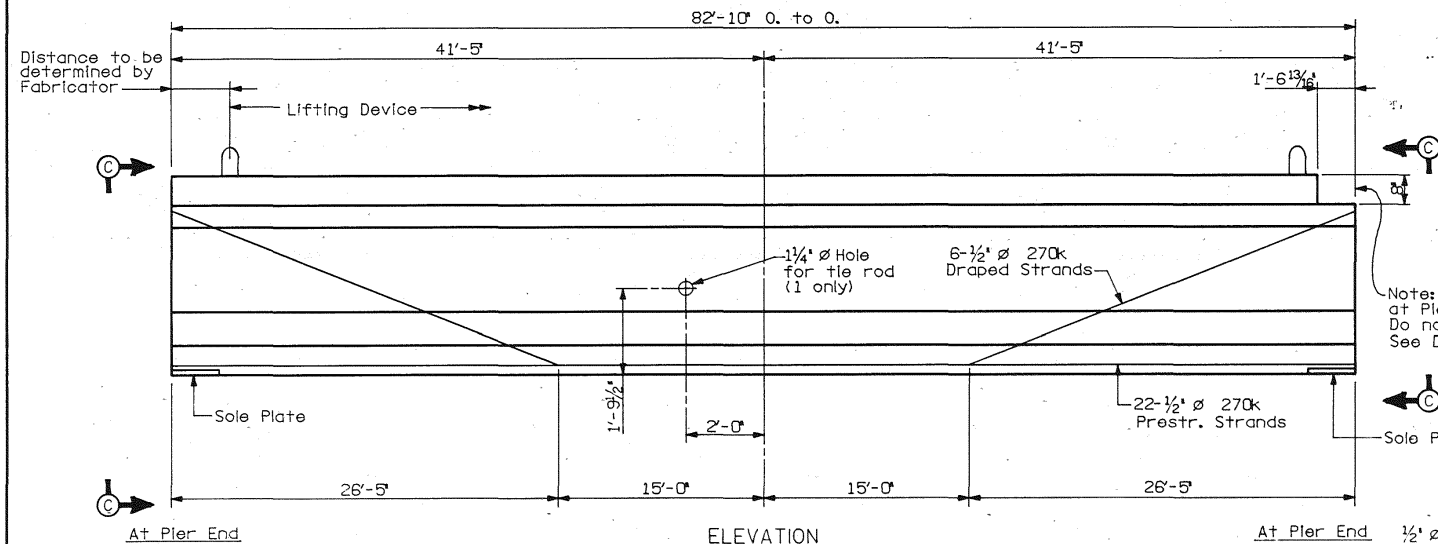
The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about 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
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS A & E - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: DWT
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: HIZ
DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 11-88

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-119



WESTBOUND LANE							
BILL OF STEEL - ONE BEAM							
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	50	1'-6"	50	1'-6"	50	1'-6"
A500	5	4	5'-0"	4	5'-0"	4	5'-0"
A600	6	8	42'-9"	8	42'-9"	8	42'-9"
H400	4	100	6'-5"	100	6'-5"	100	6'-5"
H600	6	12	5'-8"	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"	14	6'-8"

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN B	SPAN C	SPAN D
CLASS 'A' CONCRETE	C.Y.	16.8	16.8	16.8
REINFORCING STEEL	LB.	1,160	1,160	1,160
PRESTRESSING STRANDS	LB.	1,220	1,220	1,220

• Denotes Grade 60 Reinf. Steel
◦ Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44			
PROJECT NO.	YEAR	SHEET NO.	
IR-40-5(9)1257	1989		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-14-89	DWT	Revised Dead Load Correction Values

NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" $\varnothing$ 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.

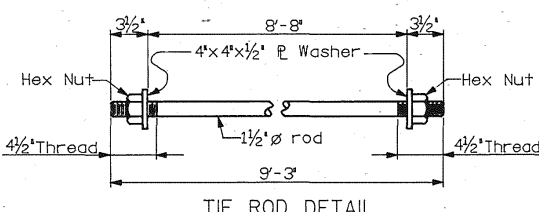
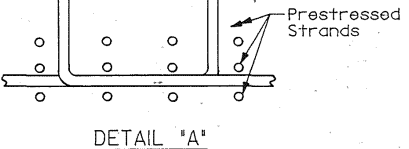
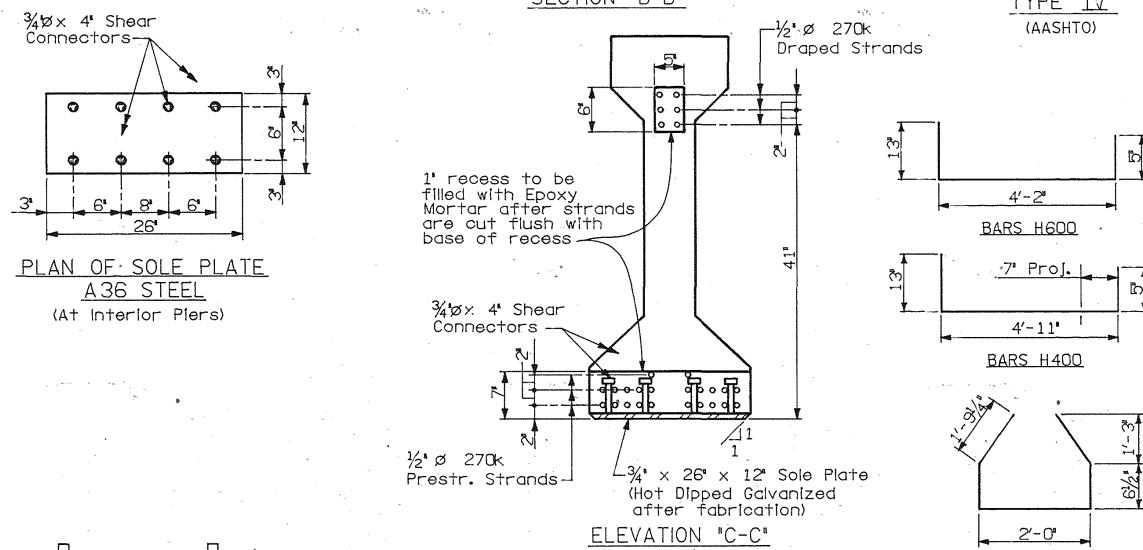
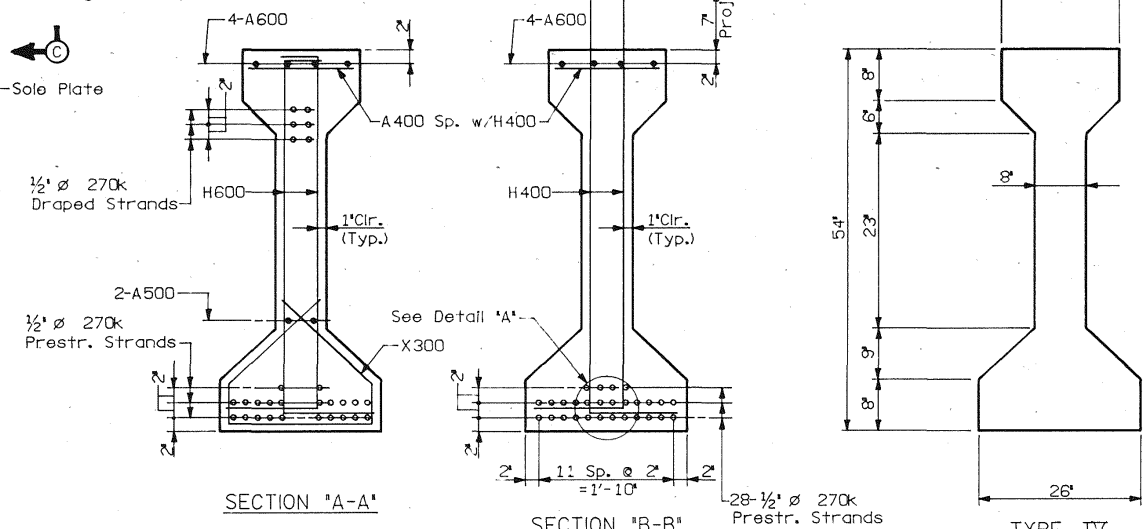
1" recess shall be formed at each end of beam and fill with epoxy mortar as shown. For details of bearings at pier ends, see Dwg. No. M-214-123.

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

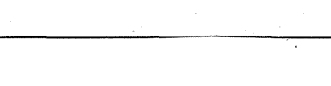
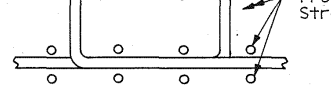
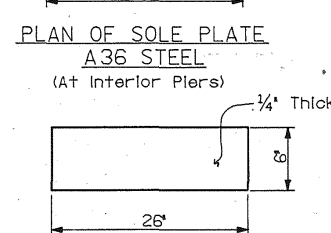
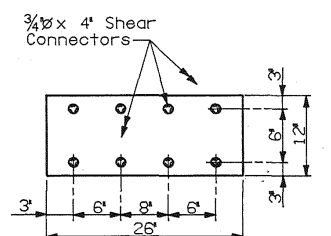
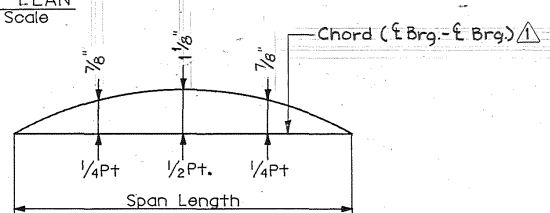
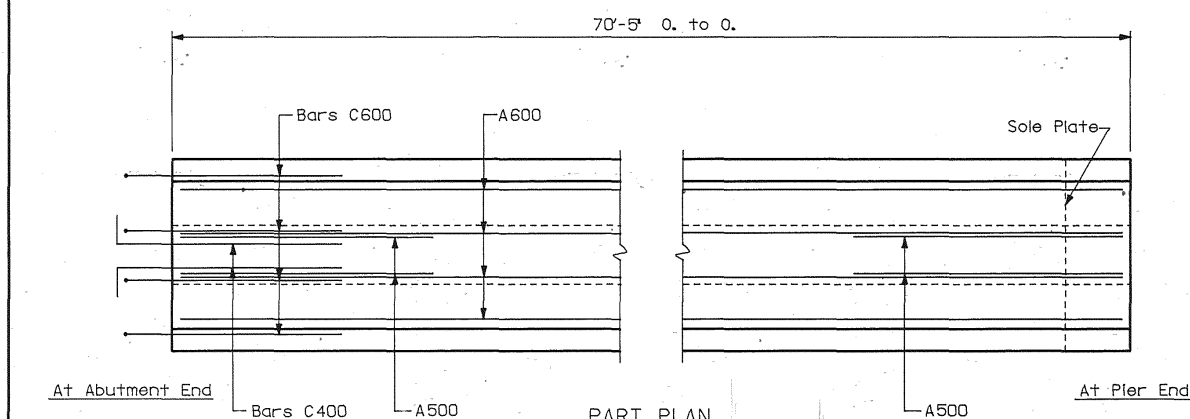
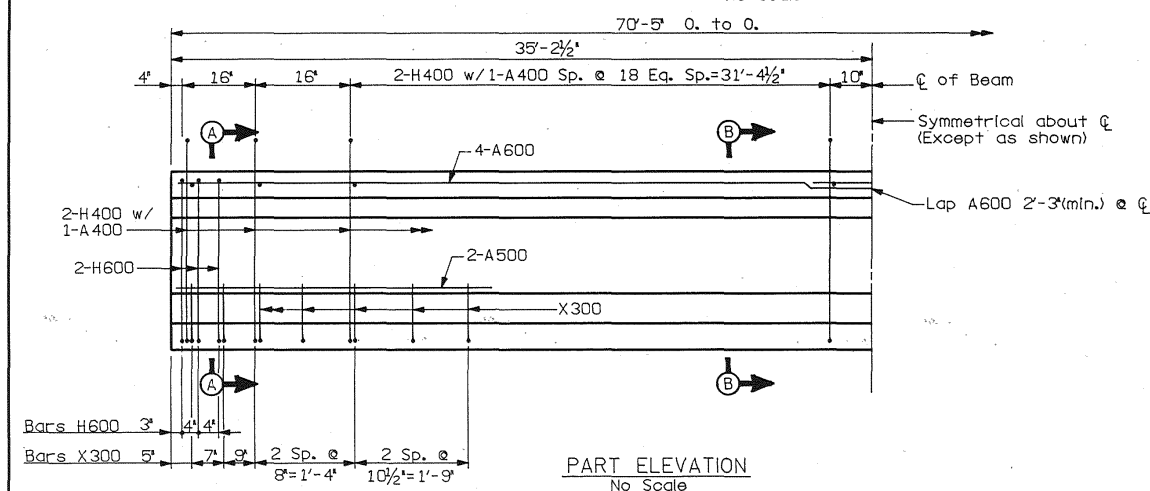
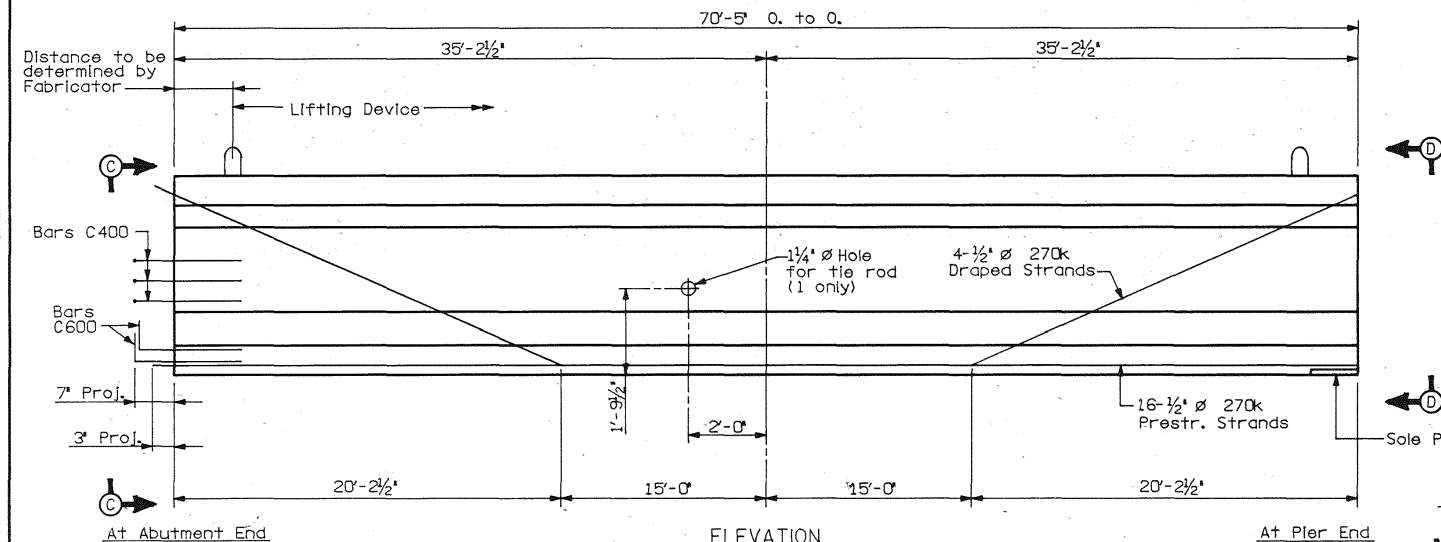
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS B, C & D - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 424+7.07 $\pm$ SURVEY W.B. I-40
SMITH COUNTY
1989

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

DATE 11-88
DATE 11-88
DATE 11-88
DATE 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

M-214-120



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	42	1'-6"	42	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	36'-8"	8	36'-8"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	84	6'-5"	84	6'-5"
H600	6	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"

EASTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN E	
CLASS 'A' CONCRETE	C.Y.	14.3	14.3	
REINFORCING STEEL	LB.	1,043	1,043	
PRESTRESSING STRANDS	LB.	745	745	

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

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	
REVISIONS		
NO.	DATE	BY
1	9/14/89	DWT
		REVISED DEAD LOAD CORRECTION VALUES

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

Mild steel reinforcing shall be ASTM A615 Grade 60.
All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated low relaxation prestressing strands.
An initial force at anchorage (after seating) of 31,000 Lbs. shall be applied to each strand in all beams.

All beams are AASHTO - PCI standard type IV.
After the beam is removed from the prestressing bed, bars C600 and C400, at abutment end, shall be bent as shown. The prestressing strands shall be left projecting 3" +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands at pier ends. 1" recess shall be formed and fill with epoxy mortar as shown.

Elastomeric pads to be 6"x26"x (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-123.
The concrete for this construction shall be of such properties as to attain a compressive strength of not less than (5,000 PSI) at the age of 28 days and stress transfer shall not be made to the bridge member until the test specimens indicate that the concrete has reached a compressive strength of at least (4,000 PSI). See General Notes for Concrete finishing note.

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

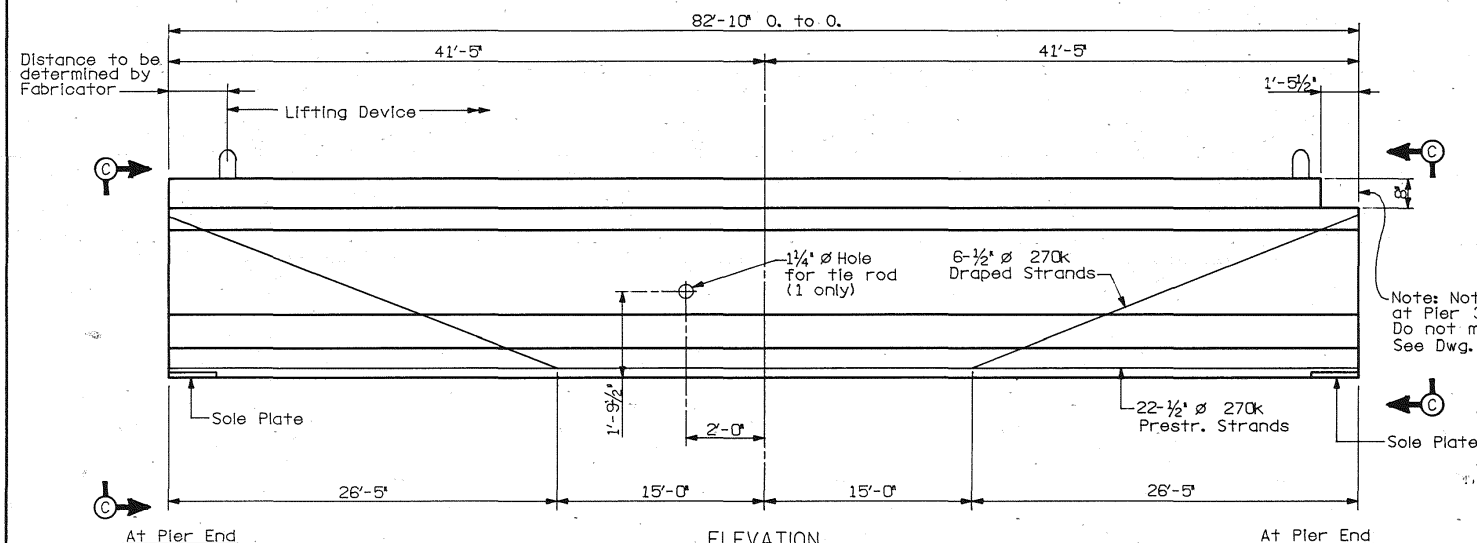
The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about 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
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS A & E - EASTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
SMITH COUNTY
1989

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

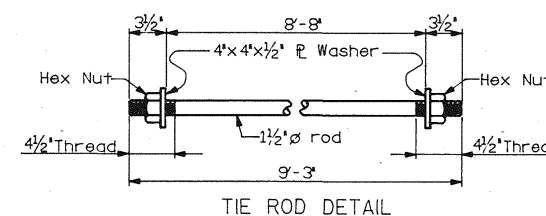
CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-121



EASTBOUND LANE						
BILL OF STEEL - ONE BEAM						
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D
A400	4	50	1'-6"	50	1'-6"	50
A500	5	4	5'-0"	4	5'-0"	4
A600	6	8	42'-9"	8	42'-9"	8
H400	4	100	6'-5"	100	6'-5"	100
H600	6	12	5'-8"	12	5'-8"	12
X300	3	14	6'-8"	14	6'-8"	14

EASTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN B	SPAN C	SPAN D
CLASS 'A' CONCRETE	C.Y.	16.8	16.8	16.8
REINFORCING STEEL	LB.	1,160	1,160	1,160
PRESTRESSING STRANDS	LB.	1,220	1,220	1,220

- Denotes Grade 60 Reinf. Steel
- Denotes Prestressing Strand



CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5911/257	1989	

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	9/14/89	DWT	Revised Dead Load Correction Values

NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" $\varnothing$ 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.

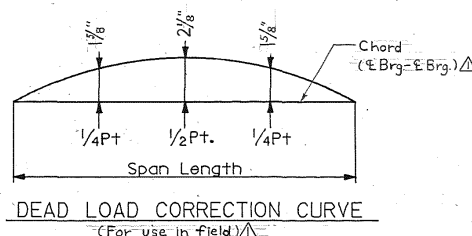
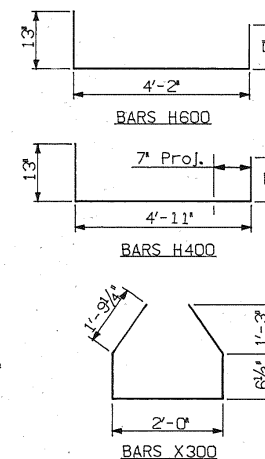
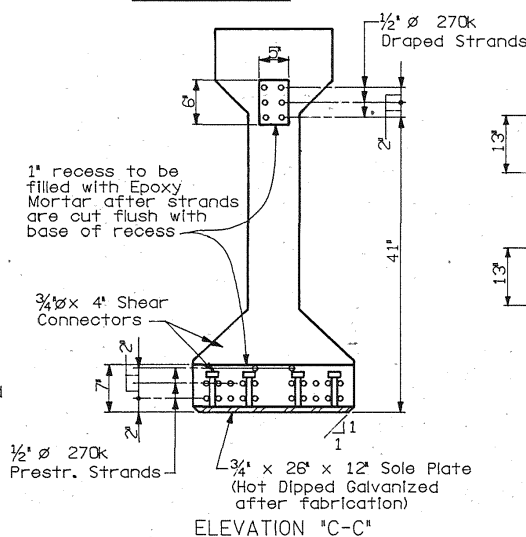
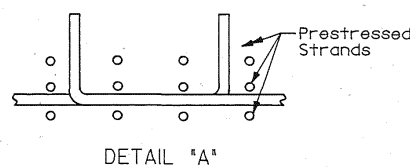
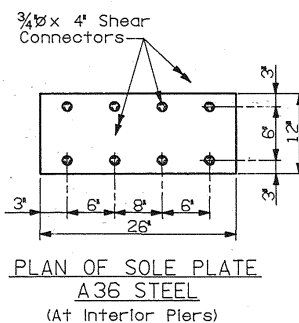
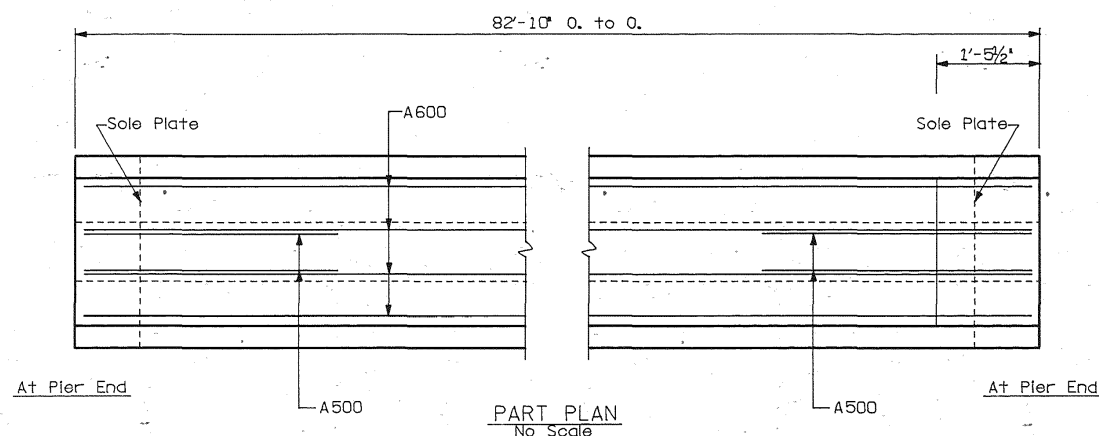
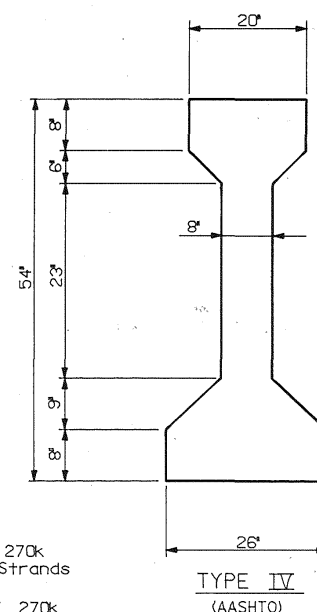
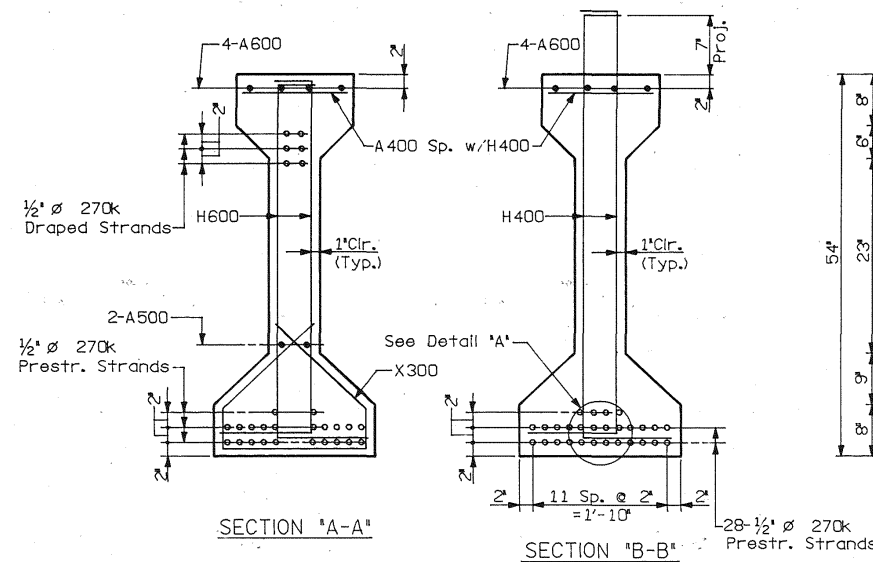
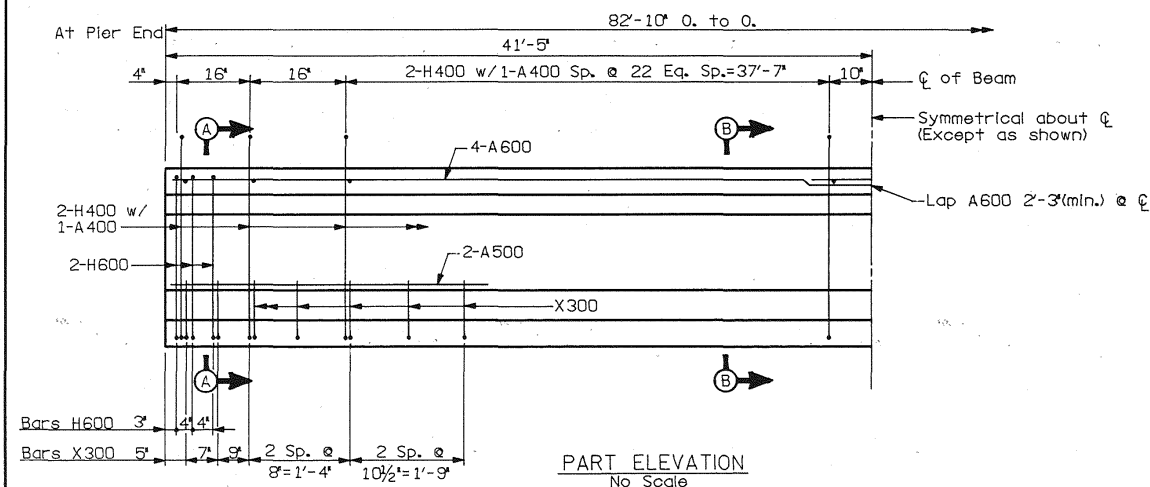
For details of bearings at pier ends, see Dwg. No. M-214-123.

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

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

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

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



DESIGNED BY: DWT
DRAWN BY: FAR
SUPERVISED BY: WSH
CHECKED BY: HZZ

DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 2-89

CORRECT

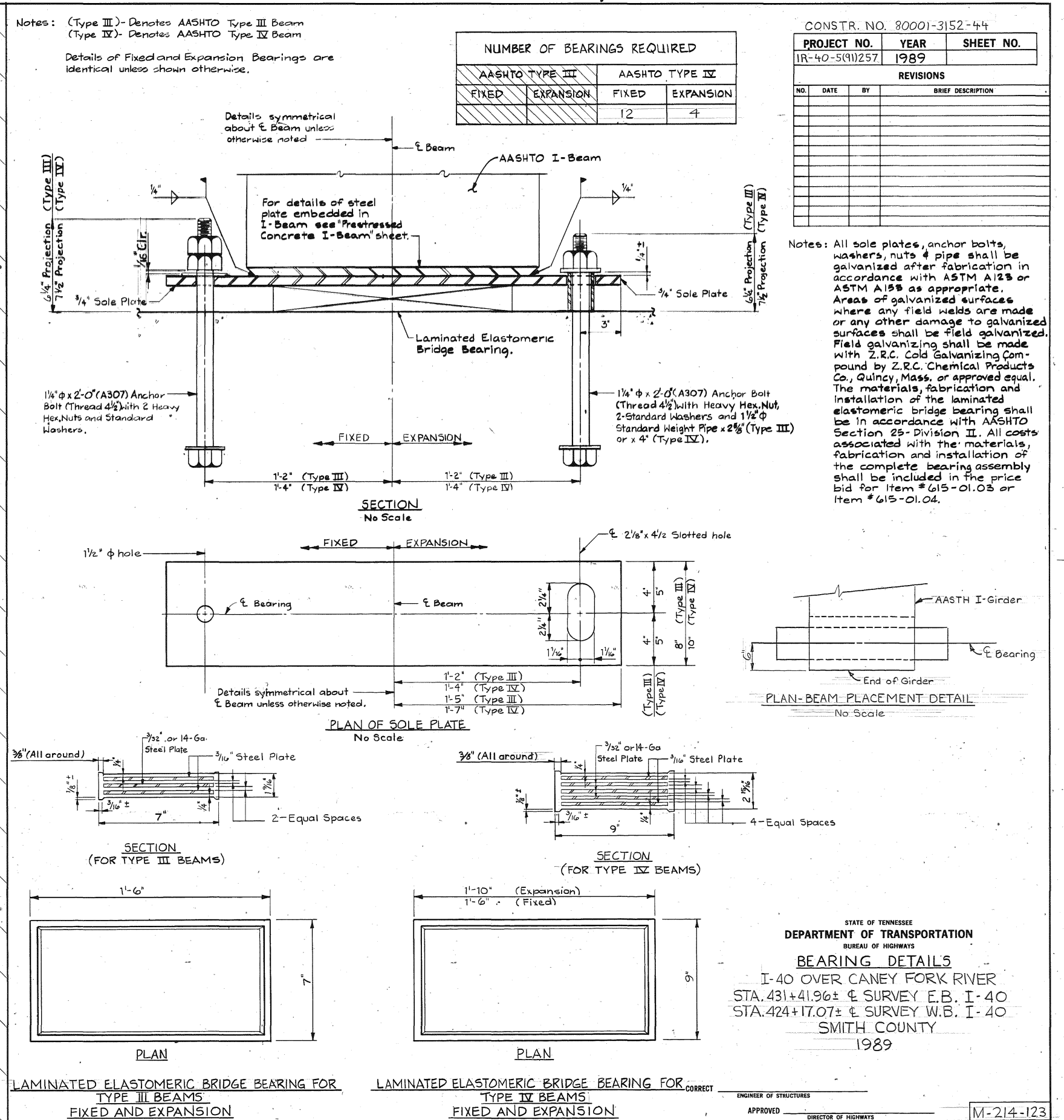
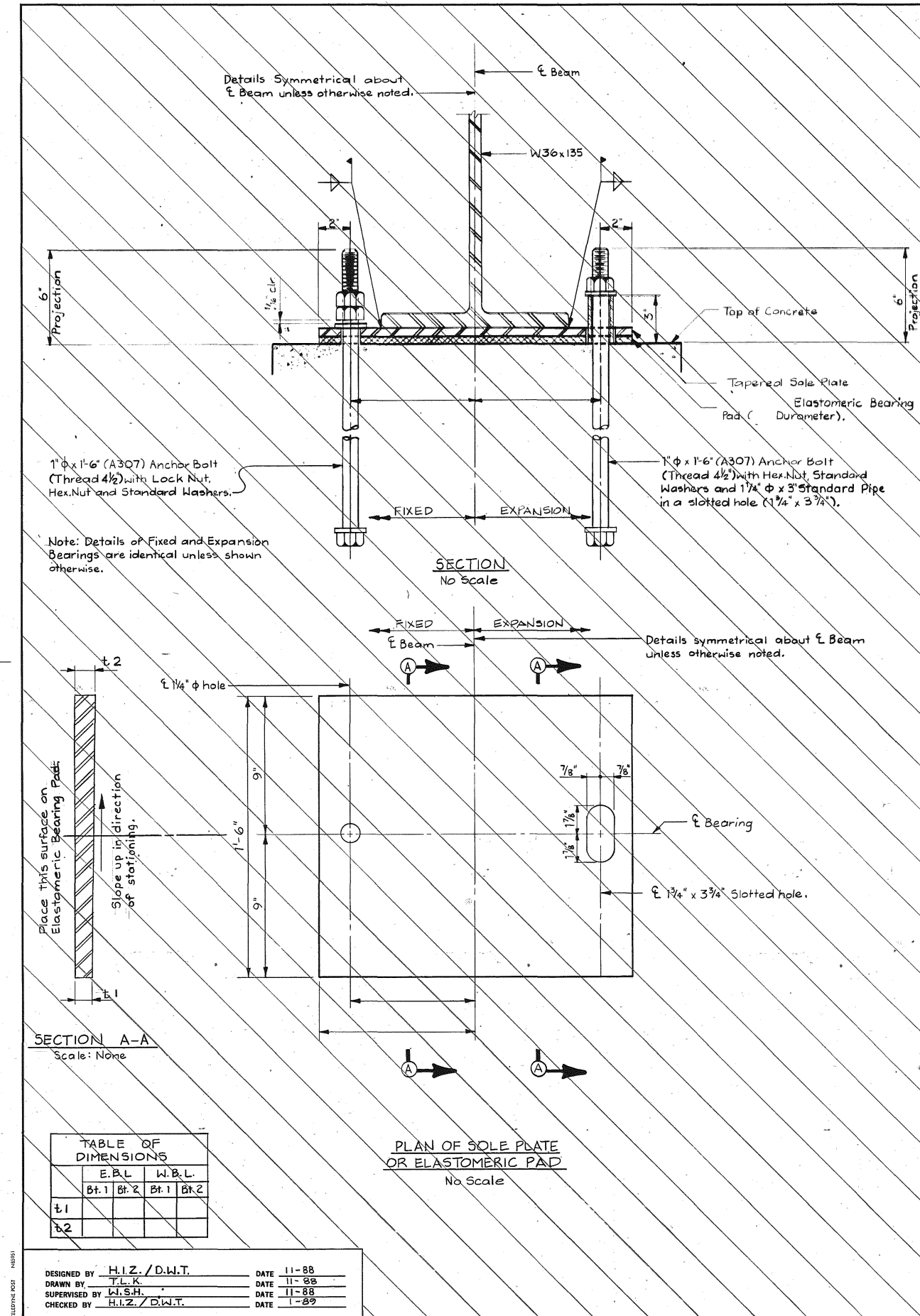
ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-122

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS B, C & D - EASTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
SMITH COUNTY
1989



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

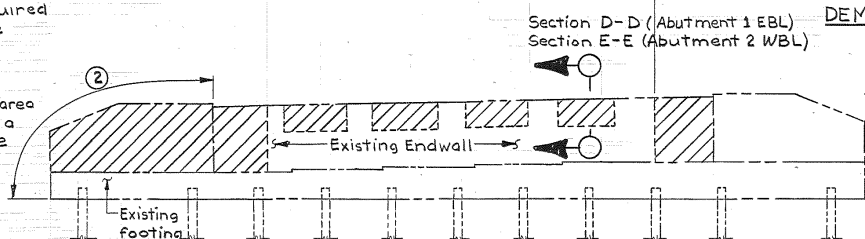
All materials removed become the property of the Contractor and shall be disposed of by him.

All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for item No. 202-02.04.

② Reinforcement in this area shall be removed to a depth of 2" below the top of the existing footing and then the footing shall be patched with grout.

PLAN-ABUTMENT 1 E.B.L. or ABUTMENT 2 W.B.L.

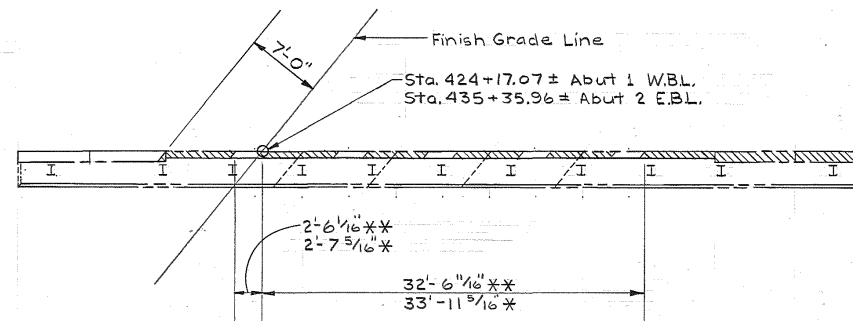
No Scale



ELEVATION

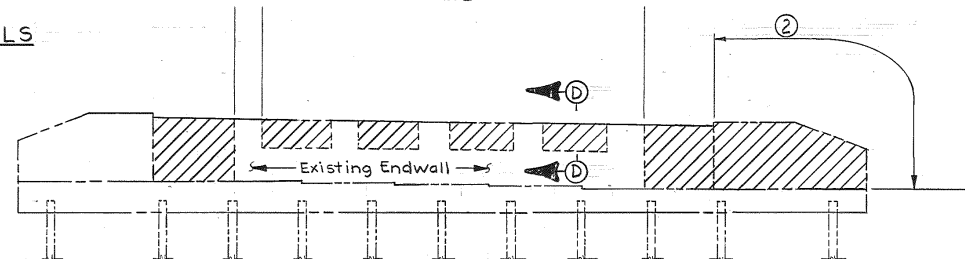
No Scale

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



PLAN-ABUTMENT 1 W.B.L. OR ABUTMENT 2 E.B.L.

No Scale



ELEVATION

No Scale

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

Denotes existing structure to be removed. Retain reinforcing unless otherwise noted.

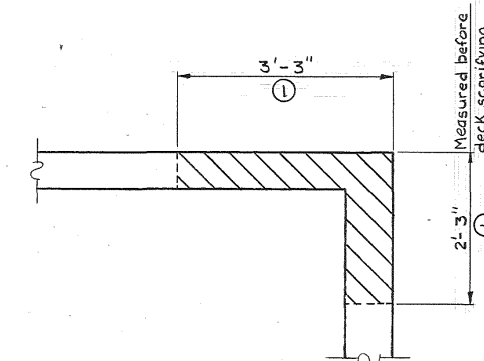
① Concrete to be removed in this area (between Girders only) retain existing reinforcing.

Constr. No. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-59(1) 257	1989	

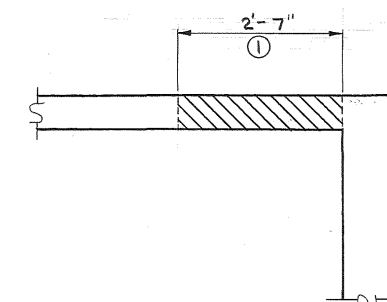
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



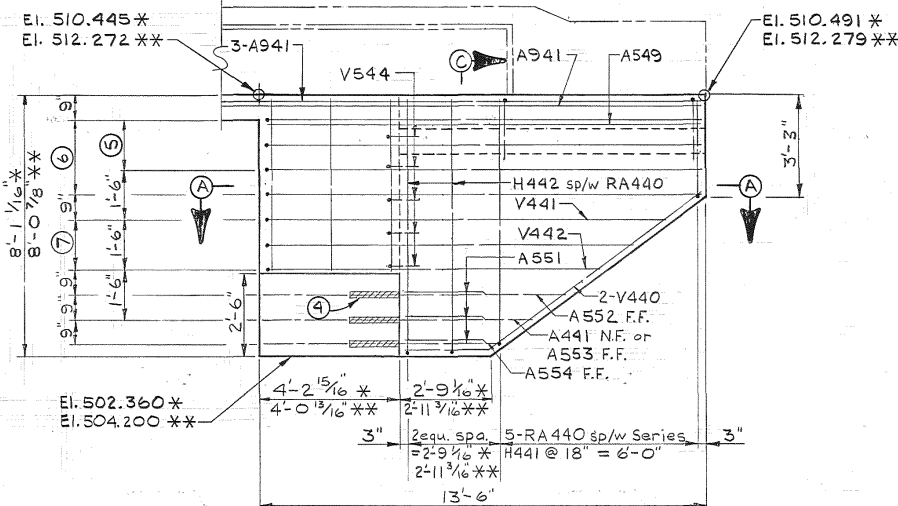
SECTION E-E ABUTMENT 2 W.B.L. ONLY

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



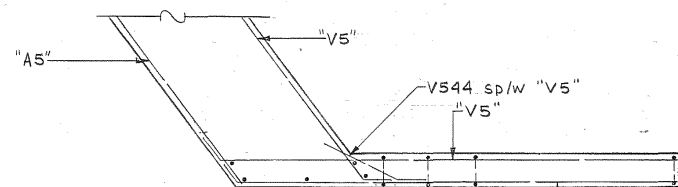
SECTION D-D

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



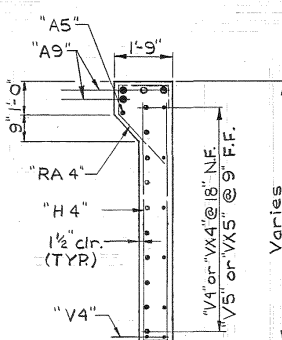
ELEVATION-WINGWALL 2

No Scale



SECTION "A-A"

Scale: 3/8" = 1'-0"

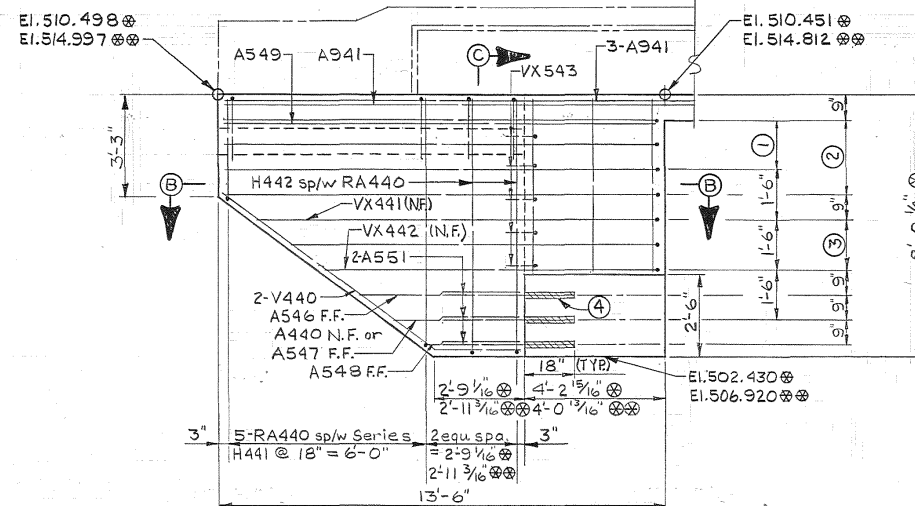


SECTION C-C

Scale: 3/8" = 1'-0"

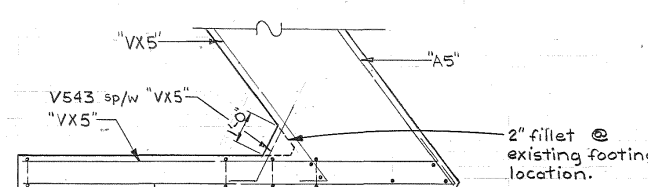
* Wingwall 2 ABUTMENT 1 W.B.L.
** Wingwall 2 ABUTMENT 2 E.B.L.
⊗ Wingwall 1 ABUTMENT 2 W.B.L.
⊗⊗ Wingwall 1 ABUTMENT 1 E.B.L.

- ① 2-VX440 @ 18" NF = 1'-6".
- ② 4-VX541 @ 9" = 2'-3" F.F.
- ③ Series VX542 @ 9" = 1'-6" F.F.
- ④ Install grouted bars in drilled holes in accordance with General Notes Drawing.
- ⑤ 2-V443 @ 18" (N.F.) = 1'-6"
- ⑥ 4-V541 @ 9" = 2'-3" (FF)
- ⑦ Series V542 @ 9" = 1'-6" (FF)



ELEVATION-WINGWALL 1

No Scale



SECTION "B-B"

Scale: 3/8" = 1'-0"

Note: At Wingwall reduce 1'-4" dimension to 1'-0" in vicinity of bridge end drain only. (Eliminate Bracket) Form at constant 1'-0" height for full height at these locations. Omit Bars "RA4" and field cut "A9" & "A5" at drains. Adjust placement of remaining reinforcing to fit while maintaining clearances. See Std. Dwg. D-85-1 for limits of bridge end drain.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (I)

I-40 OVER CANEY FORK RIVER
STA. 431+41.96 ± SURVEY E.B. I-40
STA. 424+17.07 ± SURVEY W.B. I-40
SMITH COUNTY
1989

CORRECT

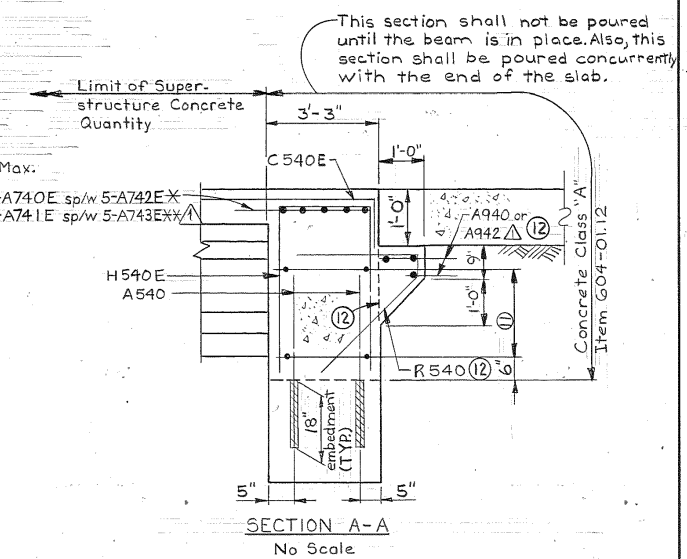
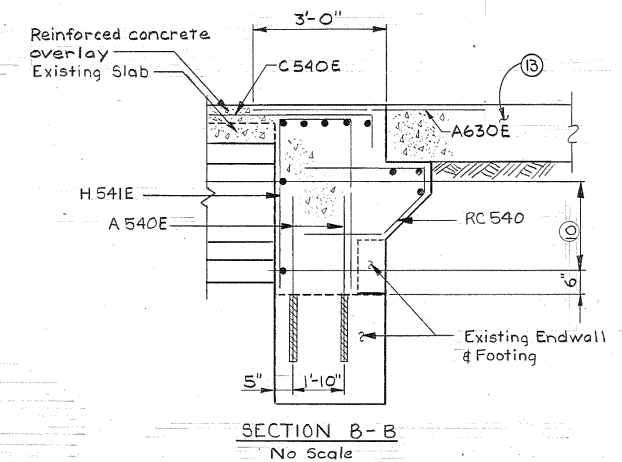
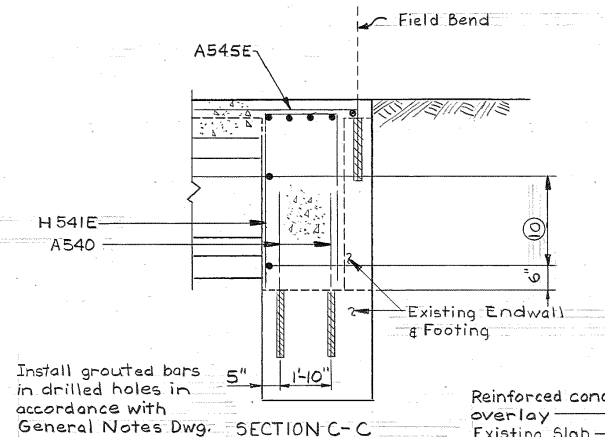
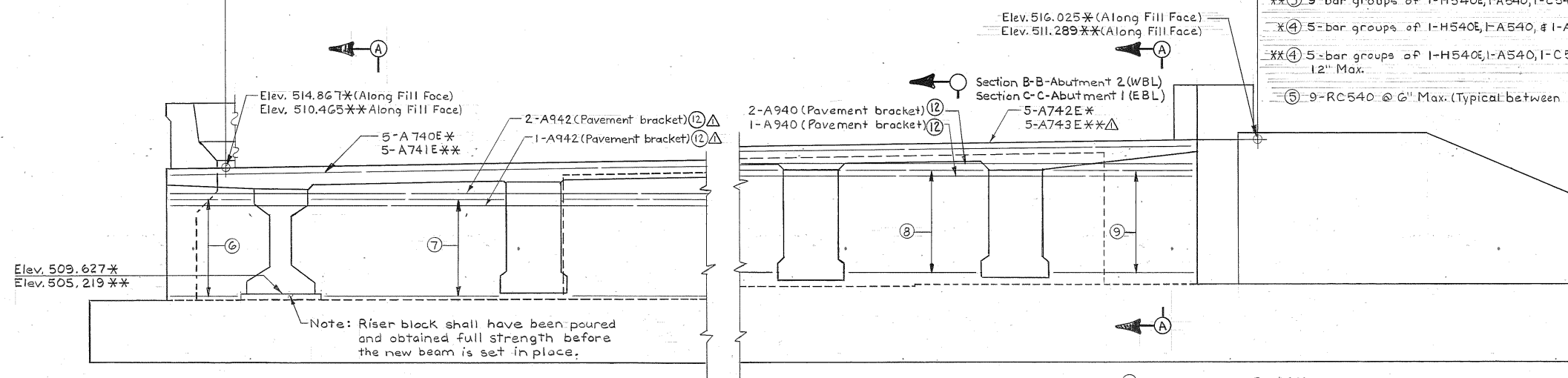
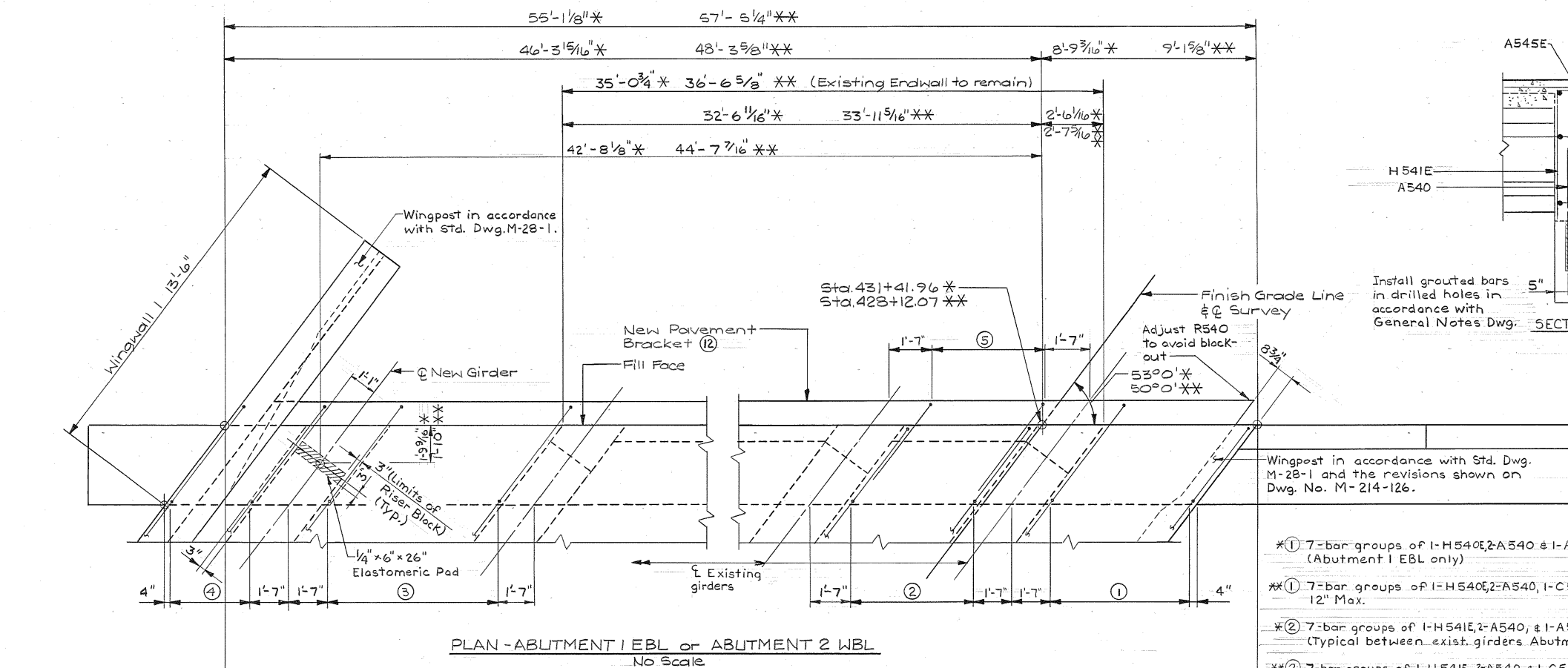
ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-124

DESIGNED BY D.W.T. DATE 2-89
DRAWN BY W.D.M. DATE 2-89
SUPERVISED BY W.S.H. DATE 2-89
CHECKED BY D.W.T. DATE 3-89

[illegible]

- *① 7-bar groups of 1-H540E, 2-A540, 1-C540E @ 12" Max.
(Abutment 1 EBL only)
- **① 7-bar groups of 1-H540E, 2-A540, 1-C540E & 1-R540 @ 12" Max.
- *② 7-bar groups of 1-H541E, 2-A540, & 1-A545E @ 2" Max.
(Typical between exist. girders Abutment 1 EBL only)
- **② 7-bar groups of 1-H541E, 2-A540, & 1-C540E @ 12" Max.
(Typical between exist. girders)
- *③ 9-bar groups of 1-H540E, 2-A540, 1-A545E @ 12" Max.
(Abutment 1 EBL only)
- **③ 9-bar groups of 1-H540E, 1-A540, 1-C540E, & 1-R540 @ 12" Max.
- *④ 5-bar groups of 1-H540E, 1-A540, & 1-A545E @ 12" Max. 5-A74
5-A74
- **④ 5-bar groups of 1-H540E, 1-A540, 1-C540E, & 1-R540 @ 12" Max.
- ⑤ 9-R540 @ 2" Max. (Typical between exist. girders)

⚠ See Dwg. No. M-214-79 A
for construction joint and
phase construction details.

⑤ 5-A541 NF or 5-VX540 FF

⑦ 5-A542 NF

⑧ 5-A543 NF (Typical between existing girders)

⑨ 5-A544 NF or 5-A544 FF

⑩ 5-A543 @ 12" FF = 4'-0"

⑪ 5-A5" @ 12" (FF) or 5-V5" or 5-VX5" @ 12" NF = 4'-0"

*-Abutment 1 E.B.L.

** - Abutment 2 W.B.L.

DESIGNED BY	<u>DWT</u>	DATE	<u>2-89</u>
DRAWN BY	<u>TEE/RMH</u>	DATE	<u>2-89</u>
SUPERVISED BY	<u>WSH</u>	DATE	<u>2-89</u>
CHECKED BY	<u>DWT</u>	DATE	<u>3-89</u>

⑫ No approach pavement is required at Abutment 1 (EBL).
Omit bars A940, A942, F5540 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'-4" req'd. each approach slab. All cost associated with the revision shown shall be included in the price bid for item No. 604-03.04.

CORRECT _____
ENGINEER OF STRUCTURES

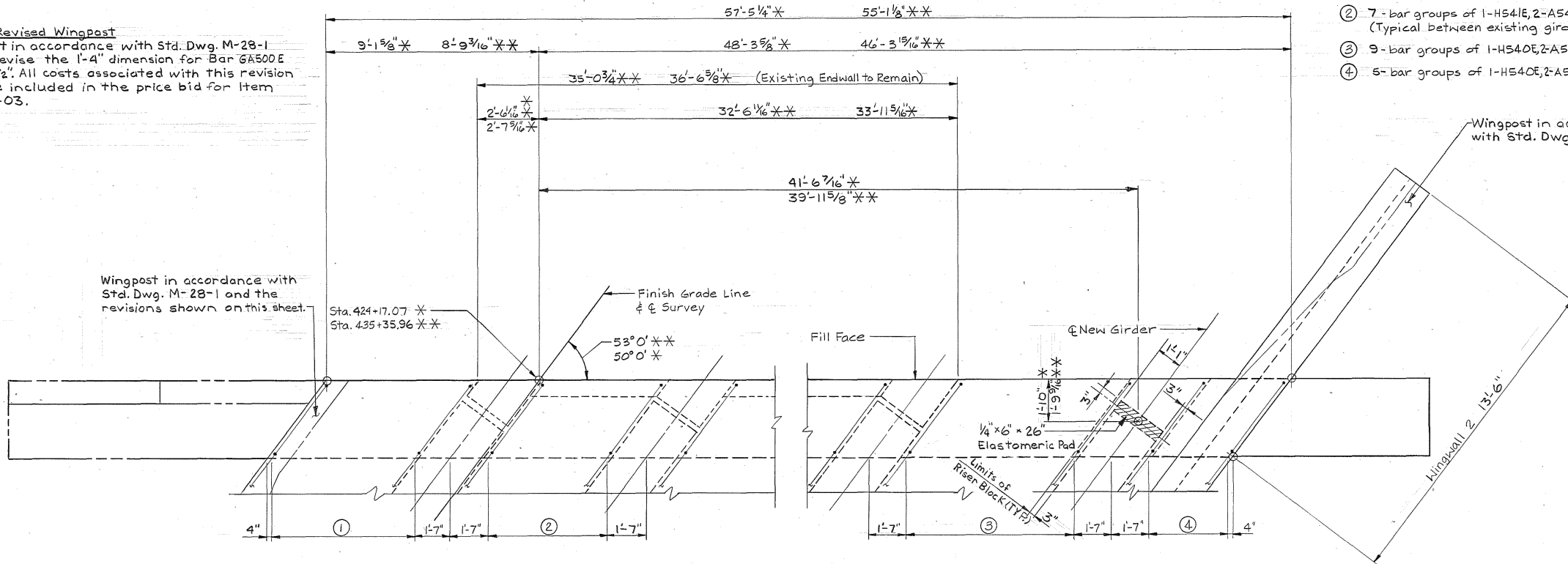
APPROVED _____
DIRECTOR OF HIGHWAYS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS(2)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 ♀ SURVEY E.B. I-40
STA. 424+17.07 ♀ SURVEY W.B. I-40
SMITH COUNTY
1989

M-214-125

Notes: Revised Wingpost
Wingpost in accordance with Std. Dwg. M-28-1 except revise the 1'-4" dimension for Bar 6A500E to 1'-0 1/2". All costs associated with this revision shall be included in the price bid for Item No. 620-03.

Wingpost in accordance with Std. Dwg. M-28-1 and the revisions shown on this sheet.



PLAN - ABUTMENT 1 WBL or ABUTMENT 2 EBL
No Scale

* Abutment 1 WBL
** Abutment 2 EBL

- ① 7-bar groups of 1-H540E, 2-A540 & 1-A545E @ 12" Max.
- ② 7-bar groups of 1-H541E, 2-A540 & 1-A545E @ 12" Max. (Typical between existing girders)
- ③ 9-bar groups of 1-H540E, 2-A540 & 1-A545E @ 12" Max.
- ④ 5-bar groups of 1-H540E, 2-A540 & 1-A545E @ 12" Max.

Constr. No. 80001-3152-44

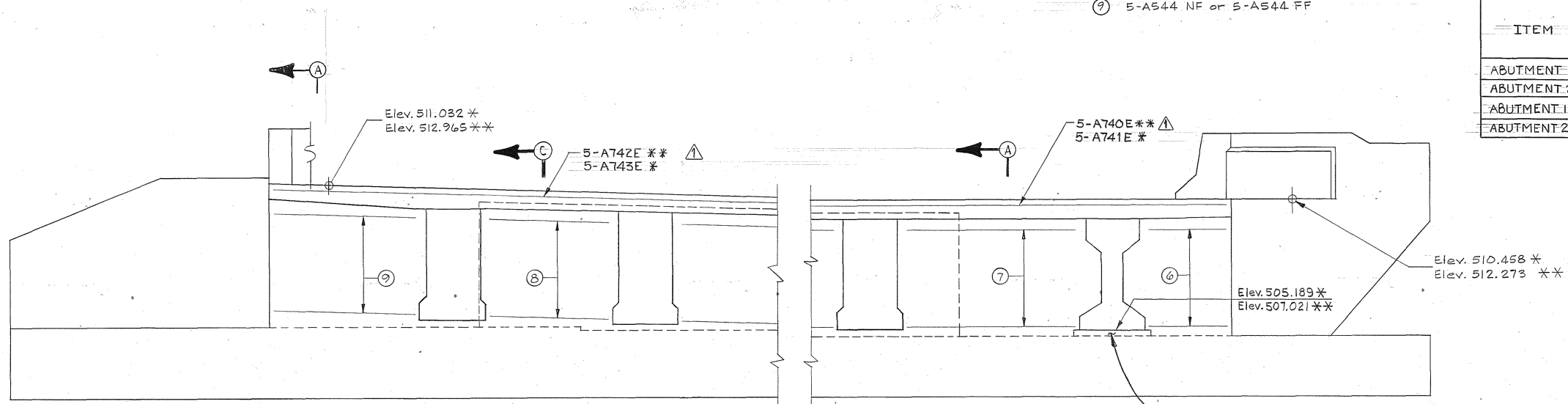
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-14-89	DWT	Changes due to Long Constr. Jt.

Notes:
Cost of bridge rail and post is to be included in cost of the bridgerail system. All costs associated with field bending reinforcing steel shall be included in the price bid for Item No. 604-03.02.
△ See Dwg. No. M-214-79 A for construction joint and phase construction details.

- ⑥ 5-A541 NF or 5-V540 FF
- ⑦ 5-A542 NF
- ⑧ 5-A543 NF (Typical between existing girders)
- ⑨ 5-A544 NF or 5-A544 FF

ESTIMATED QUANTITIES				
ITEM	CLASS "A" CONCRETE (BRIDGE DECK) C.Y.	CLASS "A" CONCRETE (BRIDGES) C.Y.	STEEL BAR REINFORCEMENT (BRIDGES) LBS.	EPOXY COATED REINFORCING STEEL LBS.
ABUTMENT 1 EBL	31	—	1200	1792
ABUTMENT 2 EBL	31	—	1118	1792
ABUTMENT 1 WBL	32	—	1118	1815
ABUTMENT 2 WBL	35	14	2232△	2824△

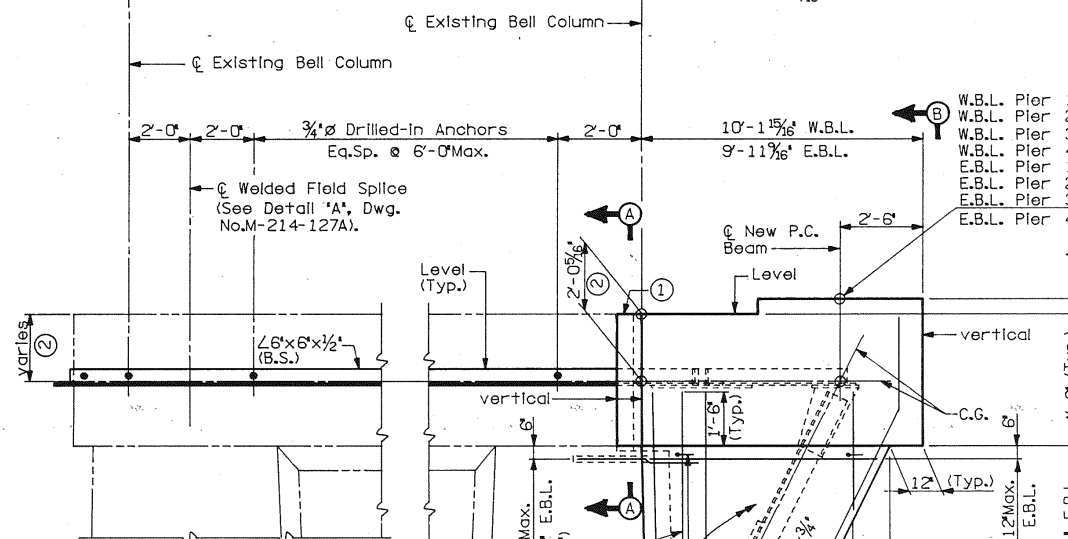


ELEVATION
No Scale
(Abutment 1 WBL looking back on stationing or Abutment 2 EBL looking in direction of stationing)

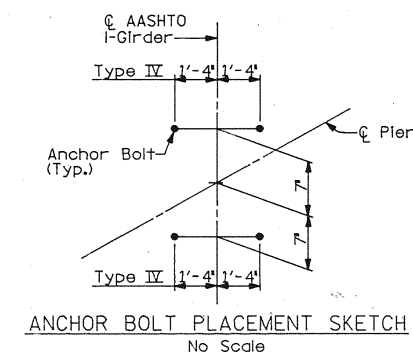
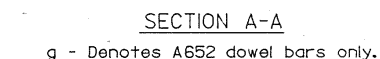
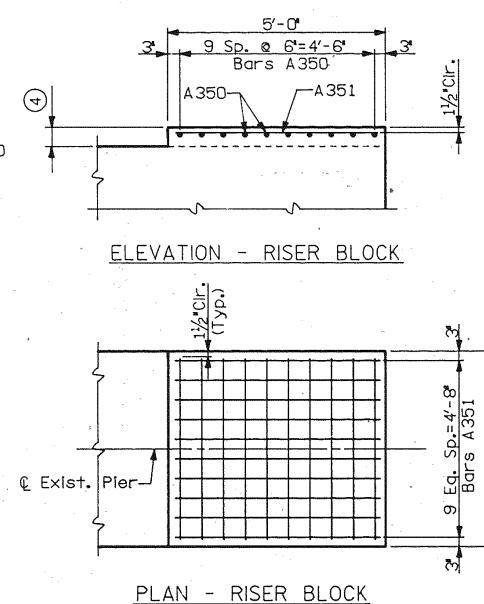
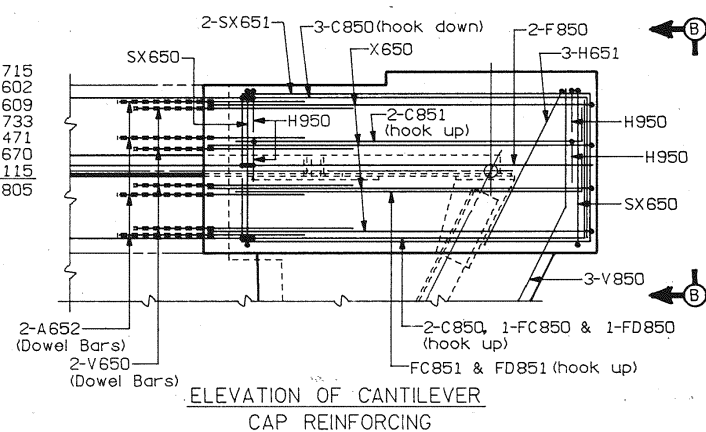
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS(3)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: DWT DATE: 2-89
DRAWN BY: TEP DATE: 2-89
SUPERVISED BY: WSH DATE: 2-89
CHECKED BY: DWT DATE: 2-89

CORRECT: _____
ENGINEER OF STRUCTURES
APPROVED: _____
DIRECTOR OF HIGHWAYS

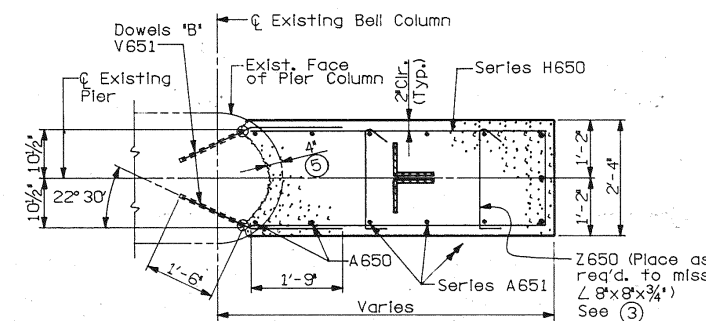


- See Detail 'G' —
Dwg. No. M-214-127A
- PART ELEVATION
(Showing Cantilever Column Reinforcing)



Note:
For notes, see Dwg. No. M-214-127A.

ESTIMATED QUANTITIES			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
W.B.L. - 1	14	4,100	2,870
W.B.L. - 2	14	4,100	2,870
W.B.L. - 3	~~14~~ 15	4,100	3044 ~~2,870~~
W.B.L. - 4	14	4,100	2,870
E.B.L. - 1	14	4,000	2,795
E.B.L. - 2	14	4,000	2,795
E.B.L. - 3	~~14~~ 15	4,000	3044 ~~2,795~~
E.B.L. - 4	14	4,000	2,795

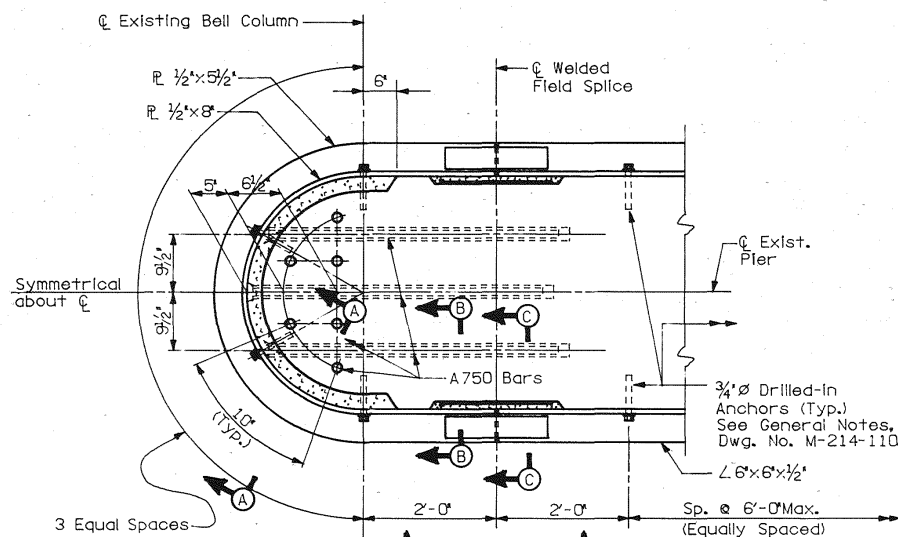


SECTION C-C
(Layout Downels 'B')
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

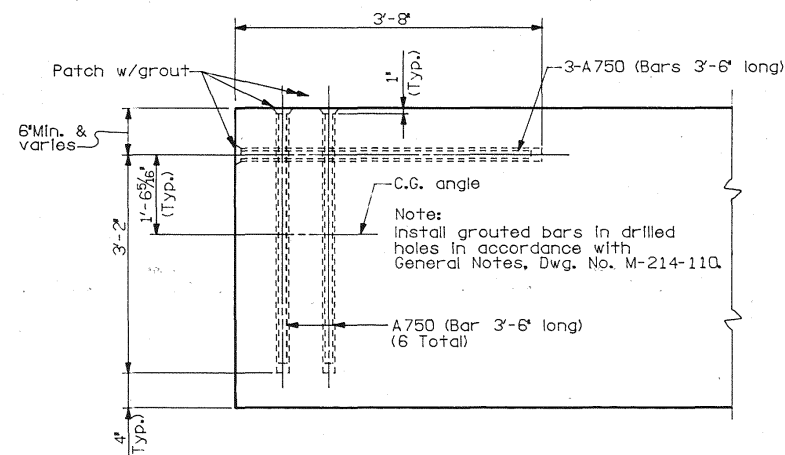
PIERS 1, 2, 3 & 4
I-40 OVER

CANEY FORK RIVER W.B.L. & E.B.L.
STA. 424+17.07 C SURVEY W.B.L.
STA. 431+41.96 C SURVEY E.B.L.

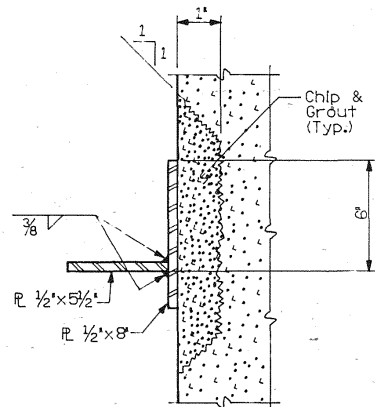
SMITH COUNTY
1989



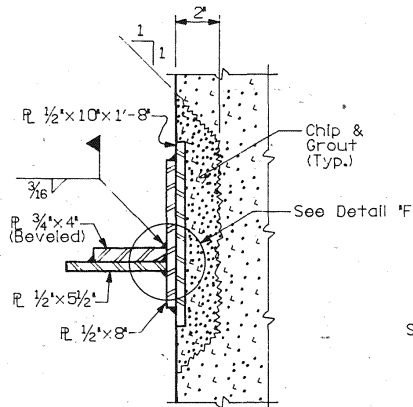
DETAIL 'A'



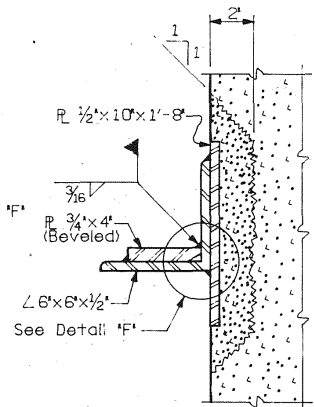
DETAIL 'H'



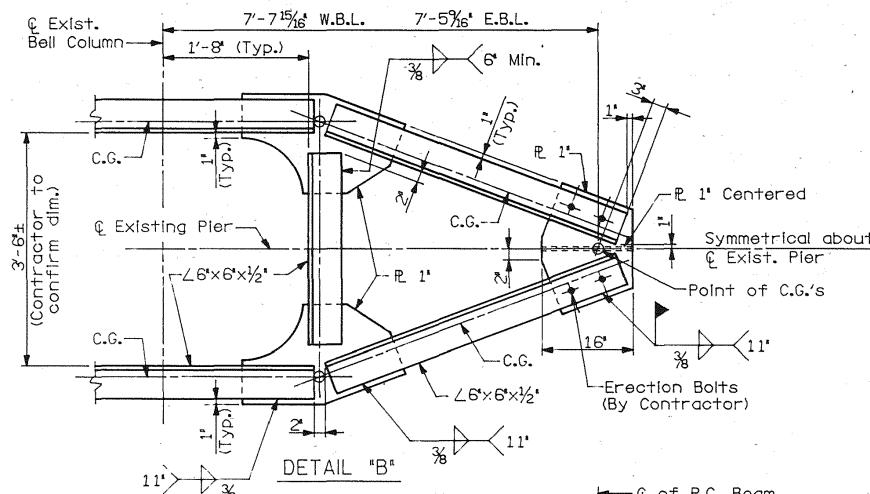
SECTION A-A



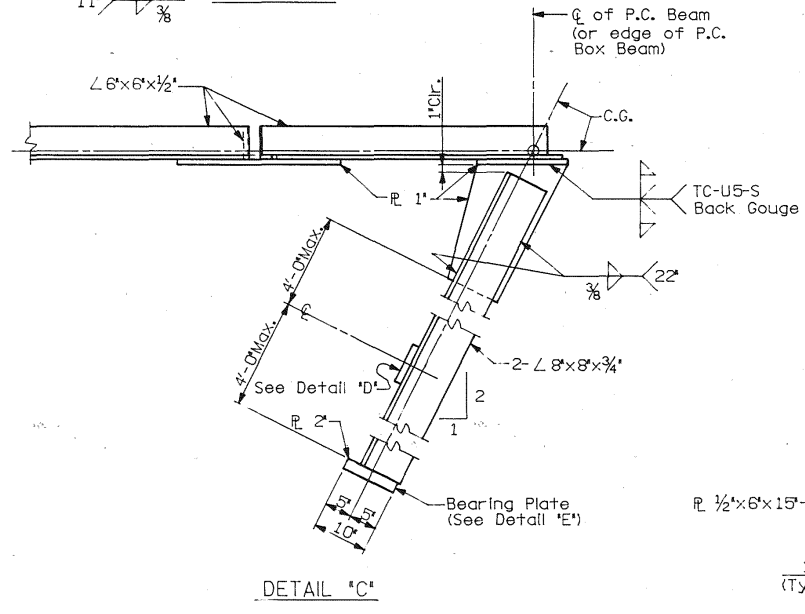
SECTION B-B



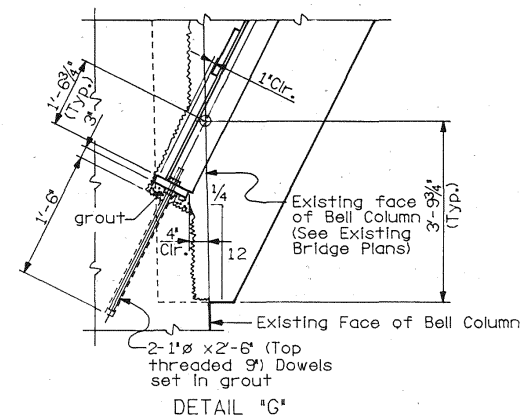
SECTION C-C



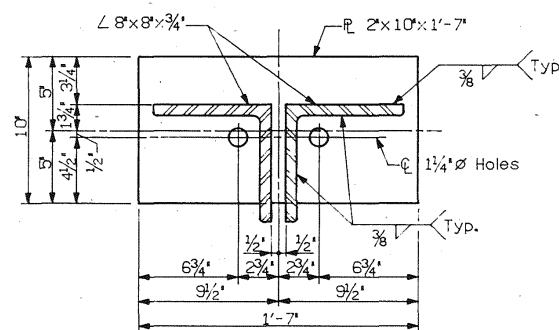
DETAIL 'B'



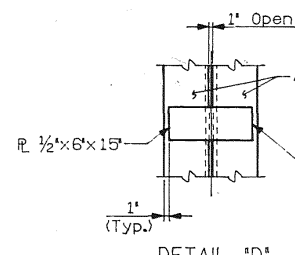
DETAIL 'C'



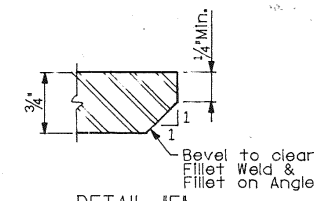
DETAIL 'G'



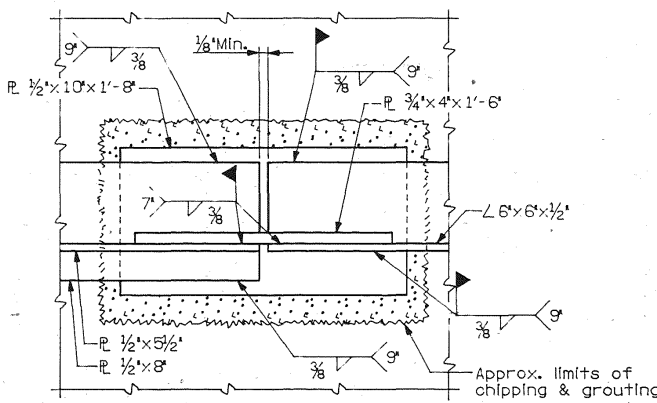
DETAIL 'E'
PLAN OF BEARING PLATE



DETAIL 'D'



DETAIL 'F'



ELEVATION D-D

Notes Cont':
Drilled-in anchors shall be in accordance with General Notes.
Riser blocks to be poured monolithically with Cantilever cap beam.
Elastomeric pads shall be in place a minimum of one day before being disturbed by setting beams. Place rubber bonding cement in such a way that column surfaces will not be stained.
Riser block bearing pad surface to conform to bottom of beam grade.
Anchor bolts shall be in place when Cantilever cap is poured.
Reinforcement shall be adjusted as needed to prevent interference with anchor bolt placement. Drilled and grouted anchor bolts shall not be allowed.

CONSTR. NO. 80001-3152-44

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

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

Notes:
For General Notes, see Dwg No. M-214-110.

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

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

All structural steel not completely encased in concrete shall conform to AASHTO M 222 (ASTM A588), FY=50 ksi minimum. All structural steel completely encased in concrete shall conform to AASHTO M 183 (ASTM A36), FY=36 ksi.

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

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

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

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

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

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

Mechanical couplers shall be Cold Forged Mechanical Couplers applied by octagonal dies and be capable of developing 125% of the specified yield strength of the reinforcement. In accordance with Provisions of AASHTO Art. 8.32. Certification of AASHTO compliance will be required prior to approval. All costs associated with installing mechanical couplers, labor, equipment and incidentals shall be included in the cost for item 604-03.02.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PIERS 1, 2, 3 & 4
I-40 OVER
CANEY FORK RIVER W.B.L. & E.B.L.
STA. 424+17.07+ C SURVEY W.B.L.
STA. 431+41.96+ C SURVEY E.B.L.
SMITH COUNTY
1989

DESIGNED BY: WCA
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: WCA
DATE: 2-89
DATE: 2-89
DATE: 2-89
DATE: 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

Scale: None
M-214-127A

[illegible]

TYPE	SIZE	SERIES
A	5	06*

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

I-40 OVER
CANEEY FORK RIVER
STA. 431+41.96 C SURVEY E.B.L.
STA. 424+17.07 C SURVEY W.B.L.
SMITH COUNTY
1989

DESIGNED BY _____ DATE 1-89
DRAWN BY _____ DATE 1-89
SUPERVISED BY W. S. HUFFSTETLER DATE 1-89
CHECKED BY _____ DATE _____

ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-128

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS
ABUTMENT 2 W.B.L.											SPANS A THRU E - E.B.L.											PIER 1 - E.B.L.													
A440	E	WINGWALL 1	4	1	3-7					3-7	2	B502	E	"	5	1	4-7	0-7				4-2	1092	V650	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8		5-0	60	
A540	E	ABUTMENT	5	98	4-2					4-2	426	* 70 BAR SERIES EACH TO											V651	"	6	28	1-9	1-9	1-7 3/8	0-8		3-6	147		
A541	E	ABUT. & W.W. 1	5	5	3-3					3-3	17	* 70 BAR SERIES EACH TO											V850	"	8	3	17-1	2-4 1/2	2-1 1/2	1-0 3/4		19-6	156		
A542	E	ABUTMENT	5	5	7-1					7-1	37	B504	E	"	5	876	19-10	0-7				20-5	18654	X650	"	6	4	4-7 3/4	9-9	1-0	0-8 1/2		26-2	157	
A543	"	"	5	20	5-3					5-3	110	K500	E	"	5	35	0-10	3-6	0-5			9-1	332	Z650	"	6	69	1-0	2-0	0-8		3-8	380		
A544	"	"	5	10	5-9					5-9	60	L300	E	"	3	66	1-2 1/2	0-6	0-4			4-1	101	***TOTAL WEIGHT (LBS) 2795											
A546	E	WINGWALL 1	5	1	4-0					4-0	4	V500	E	"	5	8	2-0	1-7	1-3 3/4	0-1 1/8		3-7	30	PIER 2 - E.B.L.											
A547	"	"	5	1	3-0					3-0	3	***TOTAL WEIGHT (LBS) 90922											A350	"	3	10	4-10					4-10	18		
A548	"	"	5	1	2-0					2-0	2	***TOTAL INCLUDES 90922 LBS OF EPOXY COATED BARS											A351	"	3	10	4-8					4-8	18		
A549	"	"	5	1	12-0					12-0	13	FOR CONTINUATION SEE SHEET 151B											A650	"	6	4	15-2 1/4					15-2	91		
A551	"	"	5	6	4-0					4-0	25	ABUTMENT 1 E.B.L.											A651	"	6	2	15-2 1/4					15-2	214		
A680	E	FD'N REPAIR	6	24	22-1					22-1	796	* 8 BAR SERIES EACH TO											A652	"	6	8	3-6					3-6	42		
A741	E	ABUTMENT	7	5	31-7					31-7	323	A440	E	WINGWALL 1	4	1	3-7					3-7	2	C850	"	8	5	9-6 1/2	3-5 1/2			13-0	174		
A940	"	"	9	3	25-4					25-4	258	A540	E	ABUTMENT	5	98	4-2					4-2	426	C851	"	8	2	9-10	1-0			10-10	58		
A941	E	WINGWALL 1	9	4	13-10					13-10	188	A541	E	ABUT. & W.W. 1	5	5	3-3					3-3	17	F850	"	8	2	1-4 1/4	0-9	7-8	0-6 1/4	0-6 1/4	9-9	52	
C480	E	FD'N REPAIR	4	78	1-0	3-9				4-9	247	A542	E	ABUTMENT	5	5	7-1					7-1	37	FC850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35	
C540	E	ABUTMENT	5	49	10-0	0-10				10-10	554	A543	"	"	5	20	5-3					5-3	110	FC851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	
H441	E	WINGWALL 1	4	1	0-9	7-3				15-3	36	A544	"	"	5	10	5-9					5-9	60	FD850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35	
* 5 BAR SERIES EACH TO											A545	E	"	5	49	11-6					11-6	588	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28		
H442	"	"	4	2	0-9	7-4				15-5	21	A546	E	WINGWALL 1	5	1	4-0					4-0	4	H650	"	6	1	2-0	8-0			18-0	237		
H540	E	ABUTMENT	5	21	3-0	5-0				13-0	285	A547	"	"	5	1	3-0					3-0	3	* 14 BAR SERIES EACH TO											
H541	E	"	5	28	2-4	5-0				12-4	360	A548	"	"	5	1	2-0					2-0	2									4-6			
R540	E	ABUTMENT	5	21	3-0	0-6	5-3	3-8 3/8		8-9	192	A549	"	"	5	1	12-0					12-0	13	SX650	"	6	11	4-9 1/2	3-7 1/2	1-0		14-1	233		
RA440	E	WINGWALL	4	7	0-8	1-6	0-10	2-1	1-5 3/8	5-1	24	A551	"	"	5	6	4-0					4-0	25	SX651	"	6	2	3-5 3/4	9-9 3/4	1-9		26-7	80		
RC540	E	ABUTMENT	5	36	3-0	0-6	1-5	2-0	1-0	6-11	260	A740	E	ABUTMENT	7	5	30-5					30-5	311	V650	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8	5-0	60		
V440	E	WINGWALL 1	4	2	2-7	7-10	6-4	4-7 1/2		10-5	14	A941	E	WINGWALL 1	9	4	13-10					13-10	188	V651	"	6	28	1-9	1-9	1-7 3/8	0-8	3-6	147		
VX440	E	WINGWALL 1	4	2	13-0	0-8	0-5	0-6 1/4		13-8	8	H441	E	WINGWALL 1	4	1	0-9	7-3				15-3	36	V850	"	8	3	17-1	2-4 1/2	2-1 1/2	1-0 3/4	19-6	156		
VX441	"	"	4	1	12-0	0-8	0-5	0-6 1/4		12-8	8	* 5 BAR SERIES EACH TO											Z650	"	6	69	1-0	2-0	0-8		3-8	380			
VX442	"	"	4	1	10-0	0-8	0-5	0-6 1/4		10-8	7	H442	"	"	4	2	0-9	7-4				15-5	21	***TOTAL WEIGHT (LBS) 2795											
VX540	E	ABUTMENT	5	5	13-5	0-10	0-6 1/4	0-7 3/8		14-3	74	H540	E	ABUTMENT 1	5	21	3-0	5-0				13-0	285	A652	"	6	8	3-6				3-6	42		
VX541	E	WINGWALL 1	5	4	12-4	0-10	0-6 1/4	0-7 3/8		12-3	35	H541	E	"	5	28	2-4	5-0				12-4	360	C850	"	8	5	9-6 1/2	3-5 1/2			13-0	174		
VX542	"	"	5	1	11-5	0-10	0-6 1/4	0-7 3/8		12-3	35	RA440	E	WINGWALL 1	4	7	0-8	1-6	0-10	2-1	1-5 3/8	5-1	24	C851	"	8	2	9-10	1-0			10-10	58		
* 3 BAR SERIES EACH TO											V440	E	WINGWALL 1	4	2	2-7	7-10	6-4	4-7 1/2		10-5	14	FD850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35		
VX543	"	"	5	5	3-3	0-10	0-4 1/2	0-9		4-1	21	VX440	"	"	4	2	13-0	0-8	0-5	0-6 1/4		13-8	8	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	
A743	E	ABUTMENT	7	5	25-4					25-4	253	VX441	"	"	4	1	12-0	0-8	0-5	0-6 1/4		12-8	8	PIER 3 - E.B.L.											
A942	"	"	9	3	31-7					31-7	322	VX442	"	"	4	1	10-0	0-8	0-5	0-6 1/4		10-8	7	A350	"	3	10	4-10					4-10	18	
***TOTAL WEIGHT (LBS) 5056											VX540	E	ABUTMENT	5	5	13-5	0-10	0-6 1/4	0-7 3/8		14-3	74	A351	"	3	10	4-8					4-8	18		
***TOTAL INCLUDES 2232 LBS OF NON EPOXY COATED BARS, 2824 LBS OF EPOXY COATED											VX541	E	WINGWALL 1	5	4	12-4	0-10	0-6 1/4	0-7 3/8		13-2	55	A650	"	6	4	15-2 1/4					15-2	91		
SPANS A THRU E - E.B.L.											VX542	"	"	5	1	11-5	0-10	0-6 1/4	0-7 3/8		12-3	35	A651	"	6	2	15-2 1/4					15-2	214		
A500	E	DECK	5	932	4-9					4-9	4617	VX543	"	"	5	5	3-3	0-10	0-4 1/2	0-9		4-1	21	* 8 BAR SERIES EACH TO											
A501	E	"	5	909	10-9					10-9	10192	A742	E	ABUTMENT	7	5	24-3				24-3	248	A652	"	6	8	3-6					3-6	42		
A502	E	"	5	1	10-1					10-1	92	***TOTAL WEIGHT (LBS) 2352											C850	"	8	5	9-6 1/2	3-5 1/2			13-0	174			
* 13 BAR SERIES EACH TO											***TOTAL INCLUDES 1792 LBS OF EPOXY COATED BARS											C851	"	8	2	9-10	1-0			10-10	58				
***TOTAL INCLUDES 1200 LBS OF NON EPOXY COATED BARS											PIER 1 - E.B.L.											F850	"	8	2	1-4 1/4	0-9	7-8	0-6 1/4	0-6 1/4	9-9	52			
A503	E	"	5	689	30-0					30-0	21559	A350	"	RISE BLOCK	3	10	4-10				4-10	18	FC850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35		
A504	E	"	5	53	16-4					16-4	903	A351	"	"	3	10	4-8					4-8	18	FC851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	
A505	E	"	5	120	29-6					29-6	3692	A650	"	CANT. COLUMN	6	4	15-2 1/4				15-2	91	FD850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35		
A506	E	"	5	53	16-10					16-10	931	A651	"	"	6	2	15-2 1/4				15-2	214	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28		
A507	E	"	5	1	8-8					8-8	70	* 8 BAR SERIES EACH TO											H650	"	6	1	2-0	8-0			18-0	237			
* 12 BAR SERIES EACH TO											A652	"	CANT. CAP	6	8	3-6					3-6	42	* 14 BAR SERIES EACH TO												
A508	E	"	5	1	10-5					10-5	83	C850	"	"	8	5	9-6 1/2	3-5 1/2				13-0	174	H651	"	6	3	1-0	4-0			9-0	41		
* 10 BAR SERIES EACH TO											C851	"	"	8	2	9-10	1-0				10-10	58	H950	"	9	22	4-10	1-0			6-10	511			

DESIGNED BY _____ DATE 1-89
DRAWN BY _____ DATE 1-89
SUPERVISED BY W. S. HUFFSTETLER DATE 1-89
CHECKED BY _____ DATE _____

TYPE	SIZE	SERIES
A	5	06

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

<u>LOCATION</u>	<u>SERIES</u>
SUPERSTRUCTURE	00
BUTMENT	50
ER	50
RETAINING WALL	70
APPROACH SLAB	90

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

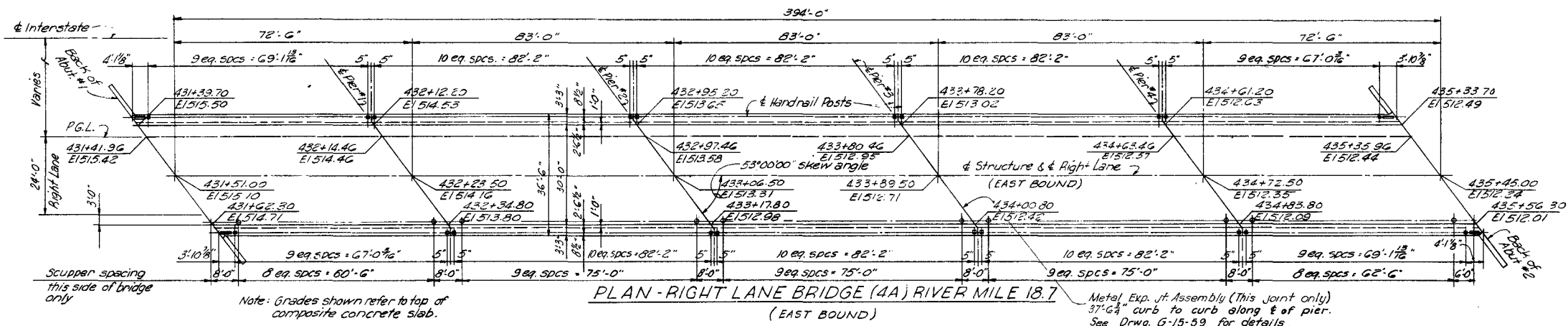
BILL OF STEEL

I-40 OVER
CANEEY FORK RIVER
431+41.96 C SURVEY E
424+17.07 C SURVEY W
SMITH COUNTY
1989

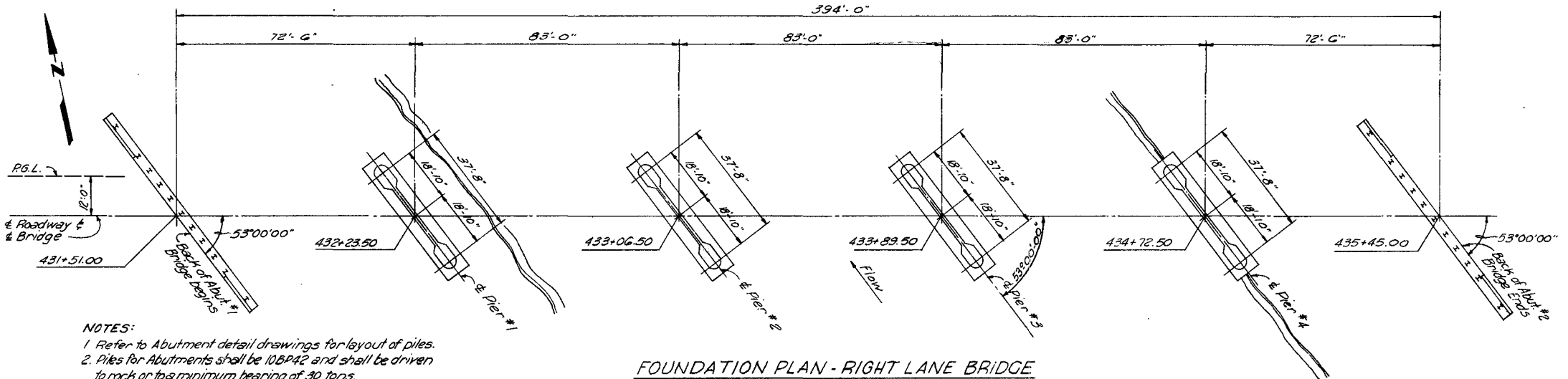
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5 (9) 264		49	372



GENERAL NOTES:
 GENERAL SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works.
 DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHO 1957 and Tentative AASHO Specifications covering prestressed design and construction (with subsequent revisions).
 DESIGN LOADING: H-20-S16-44 and for alternate loading as per Section 4C of PPM 20-4.
 CONCRETE: All concrete shall be Class "A" and shall be air entrained.
 REINFORCING STEEL: See Specifications.
 FORMS AND FINISH: See Specifications.
 HAND RAILS: Standard 2-bar steel Hand-railing, Tennessee Highway Department Standard.
 PRECAST PRESTRESSED CONCRETE GIRDERS: See Special Provisions.
 SELF LUBRICATING BEARING PLATES: See Special Provisions.

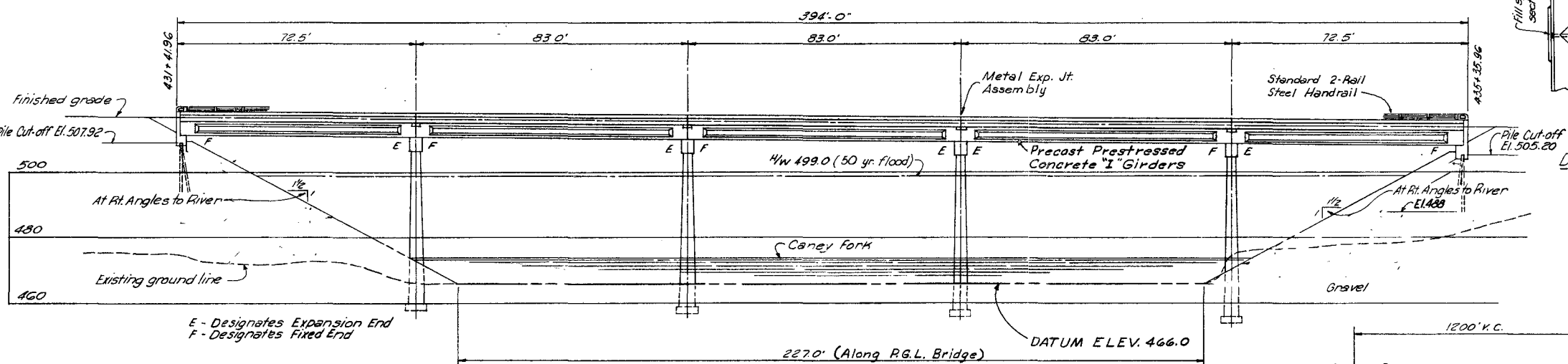


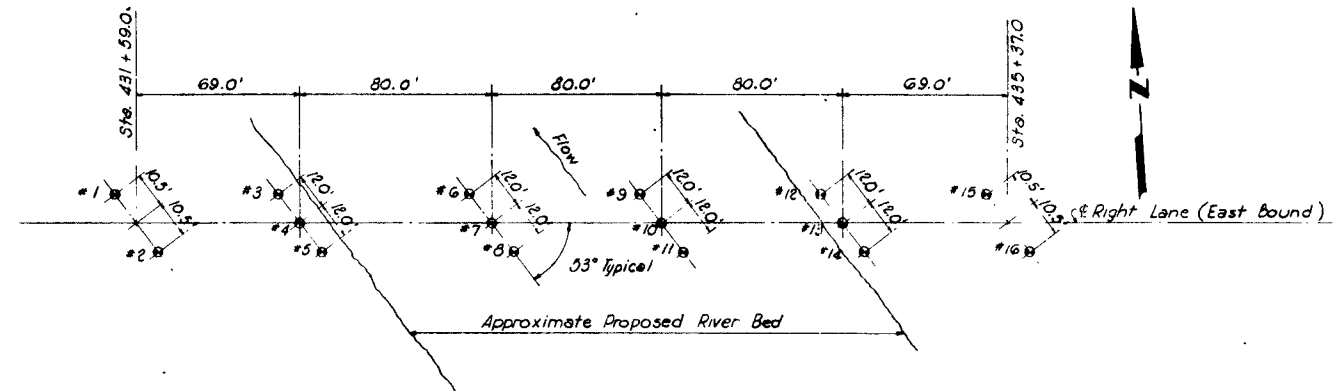
ESTIMATED QUANTITIES

ITEM NO	17-3	17-2	17-4	135-4	135-12	702	154-PT5	154-PT6	137-3	132-1
ITEM	EXCAVATION	WET DRY ROCK	CONC. CLASS "A"	REINF. STEEL	STEEL HANDRAIL 2-BAR	54" DEEP TYPE II AASHO BEAMS L=70'-6"	10 B.P.42 BEARING PILES L=82'-10"	10 B.P.42 BEARING PILES L=82'-10"	10 B.P.42 BEARING PILES L=82'-10"	STRUCT. STEEL
UNIT	Cu. Yds.	Cu. Yds.	Lbs.	Lbs.	Lin. Ft.	EACH	EACH	LIN. FT.	Lbs.	
SUPERSTRUCTURE			356.6	95,335	772					1825
GIRDERS						10	15			
ABUTMENT #1			31.2	3,502				530		
ABUTMENT #2			29.8	3,484				520		
PIER #1	108	136	18	167.3	14,112					
PIER #2	126	10	10	169.0	14,190					
PIER #3	138	20	168.8	14,190						
PIER #4	164	23	174.0	14,508						
TOTALS	536	136	71	1096.7	159,321	772	10	15	1050	1825

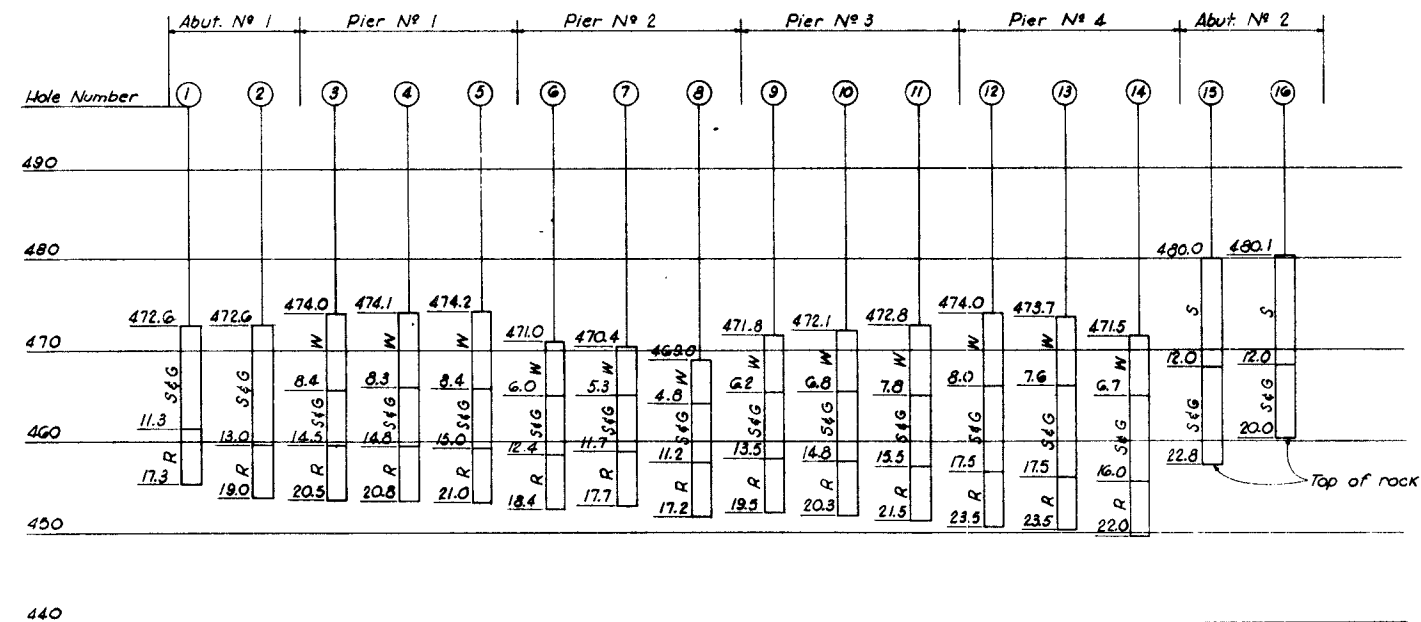
All joint material shall be included in the Unit Price bid for Class "A" Concrete.

- NOTES:**
 1. Refer to Abutment detail drawings for layout of piles.
 2. Piles for Abutments shall be 10B.P.42 and shall be driven to rock or to a minimum bearing of 30 tons.
 3. End fills shall be in place and compacted before driving piles for Abutments.
 4. Pier footings shall set a minimum of 1'-0" into rock.
 5. Contractor shall exercise special care in backfilling at piers to prevent overturning.





PLAN-CORE DRILLING LAYOUT
(RIVER MILE 18.7 RT. LANE - EAST BOUND)



LEGEND

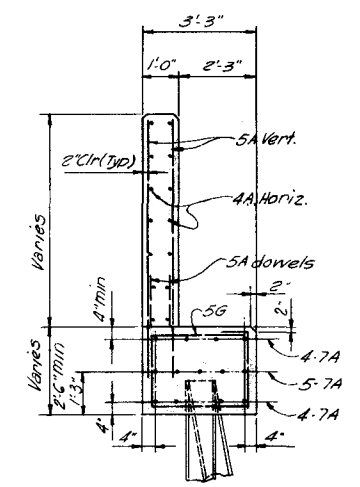
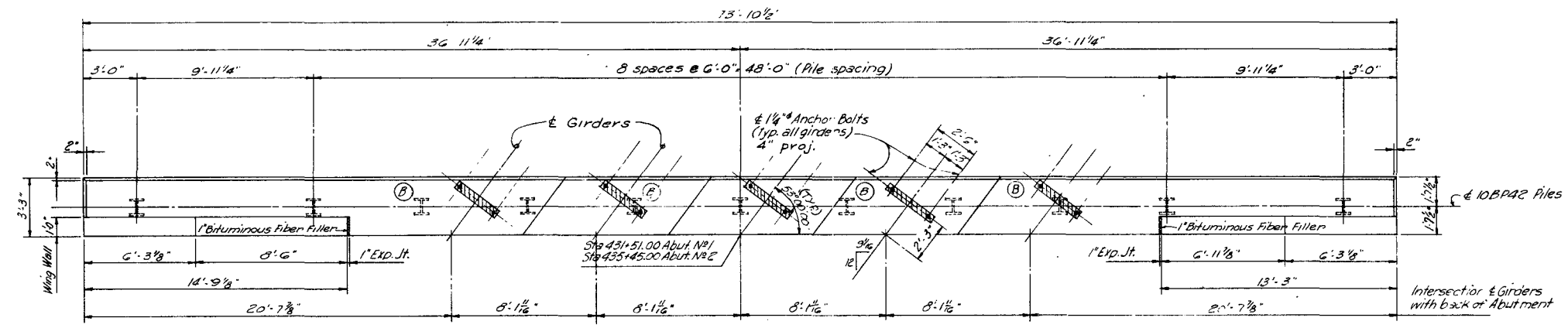
- W----Water
- C----Clay and Silt
- S----Sand
- S&G--Sand and Gravel
- WR---Weathered Rock
- R----Rock (Limestone)
- B----Boulders

LOG OF CORE BORINGS

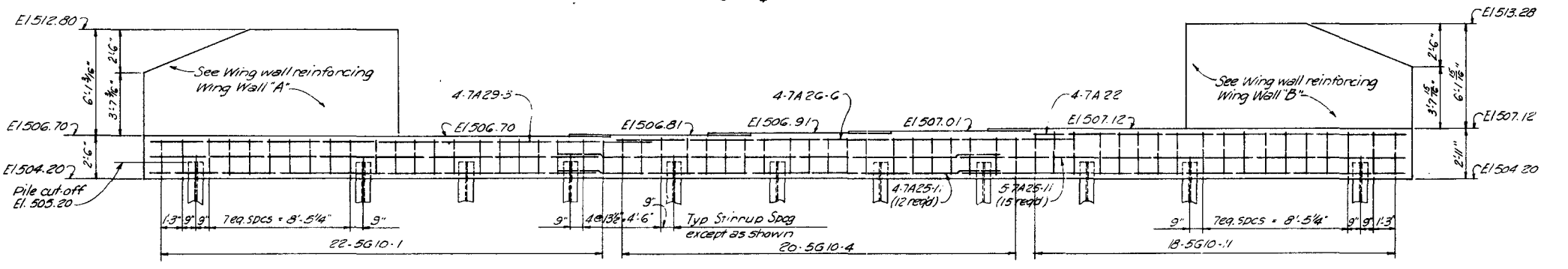
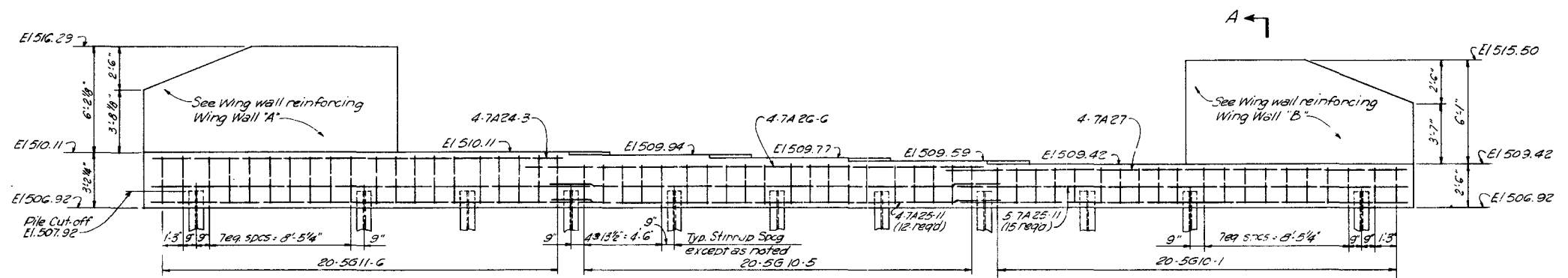
NOTE: Water elevation in
Caney Fork River fluctuates,
depending on discharge
at Center Hill Dam.

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA. 431+41.96 - RIGHT LANE (EAST BOUND) (4A)	
LAYOUT & LOG OF CORE BORINGS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. W.R.S. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-83
G-15-83	

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9) 264		96	372

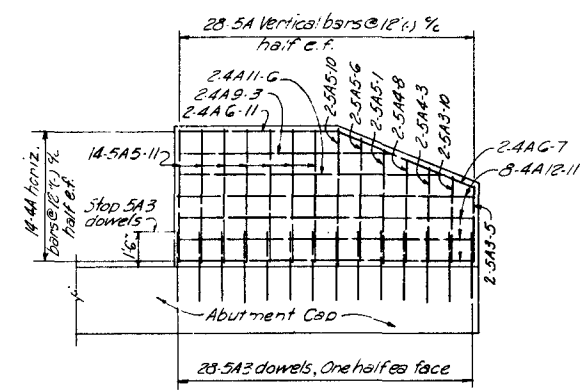
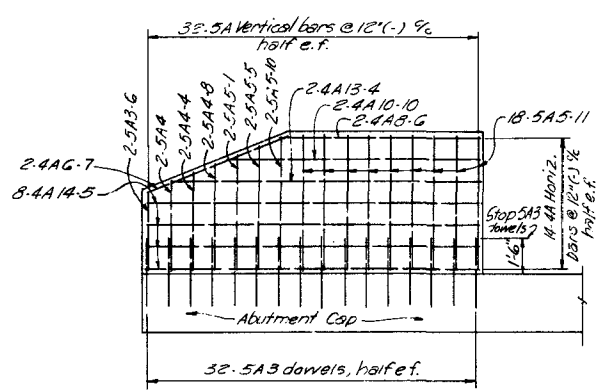


Note:
All exposed edges shall have 3/8"x3/4" chamfer unless otherwise noted.



ESTIMATED QUANTITIES

		ABUTMENT NO 1	ABUTMENT NO 2
Class "A" Concrete	Cu. Yds.	31.2	29.8
Reinforcing Steel	Lbs.	3502	3484



Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7
STA 431 + 41.96 - RIGHT LANE (EAST BOUND) (4A)

ABUTMENTS NOS 1 AND 2

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.R.

DATE
11-16-84

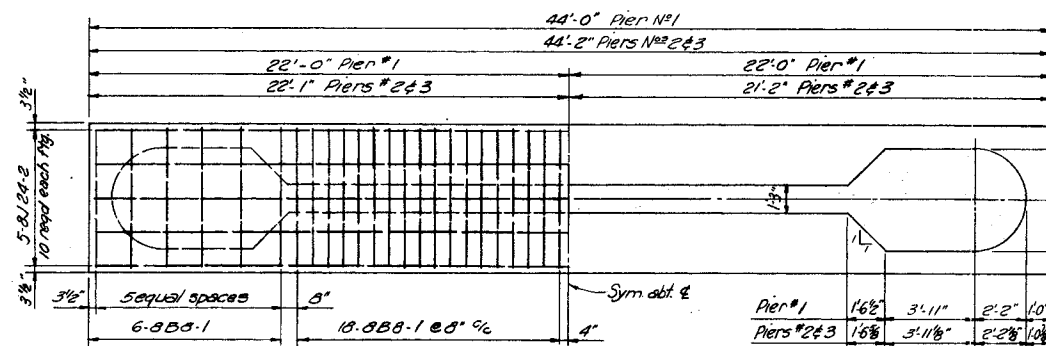
G-15-84

Pair #1	2:2"	2:2"
Pairs #2 & 3	2:2 1/2"	2:2 1/2"
Pair #1	1:1"	4:4"
Pairs #2 & 3	1:1 1/2"	4:4 1/4"
		6:6"

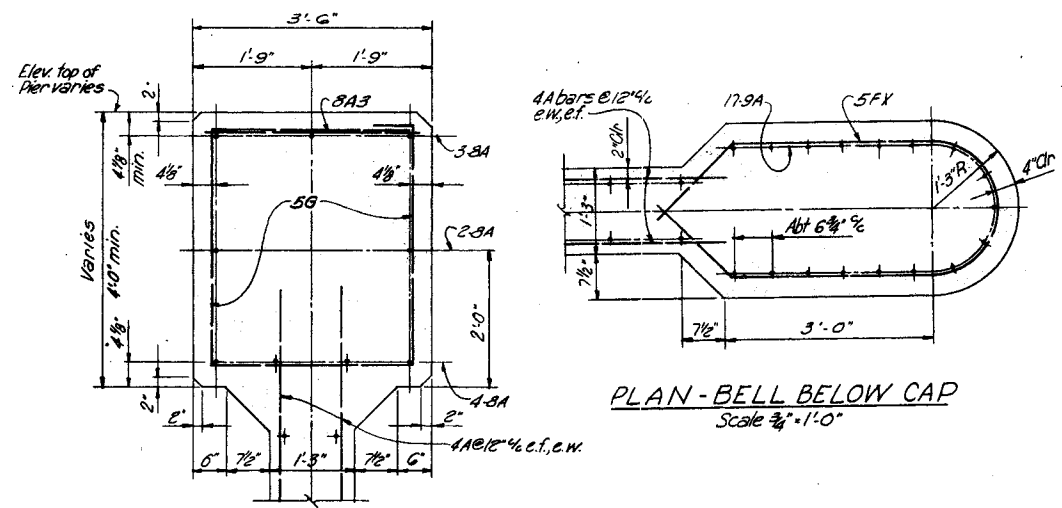
Pier-1 Sta. 432+23.50
 Pier-2 Sta. 433+06.50
 Pier-3 Sta. 433+89.50

Dimensions and details shown in the elevation view:

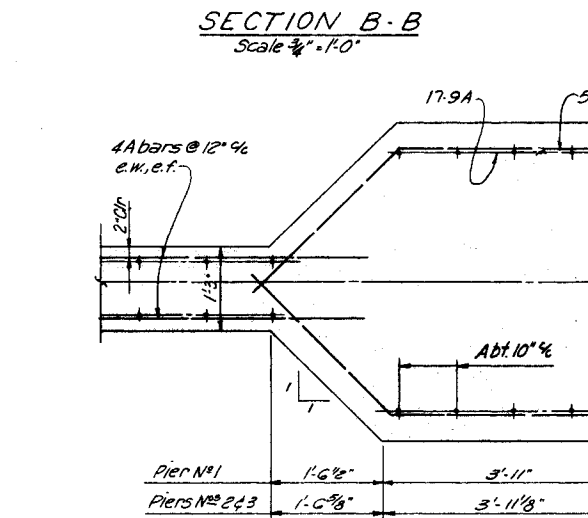
- Overall length: 37'-8"
- Span lengths: 18'-10", 18'-10"
- Deck width: 3'-6"
- Deck thickness: 1'-9" / 1'-9"
- Radius at ends: 1'-9" R
- Girders: 4 Girders
- Stiffeners: 2'-6" / 1'-9"
- Stiffener spacing: 8'-1 1/2", 8'-1 1/2", 8'-1 1/2", 8'-1 1/2", 8'-1 1/2"
- Stiffener angle: 53°00'-00"
- Stiffener height: 4'-0 1/2" TYP.
- Stiffener base: 8'-1 1/2"
- Stiffener reinforcement: 4 #4 ANCH. BOLTS 5" PROJ.



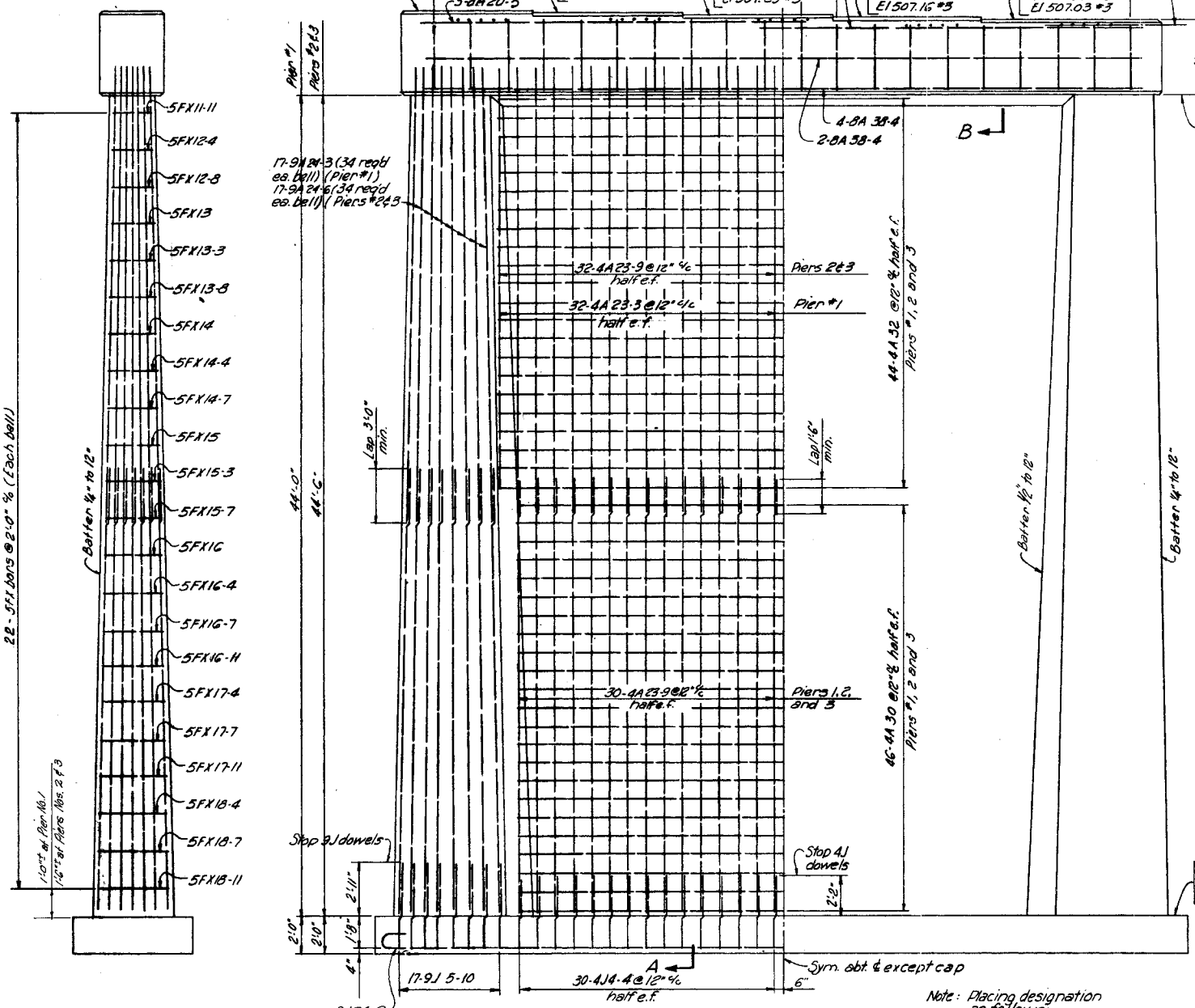
Pier #1	1'6 1/2"	3'-11"	2'-2"	1'0"
Piers #2 & 3	1'6 3/8"	3'-11 1/8"	2'-2 3/8"	1'0"



PLAN - BELL BELOW CAP
Scale $\frac{3}{4}" = 1'-0"$

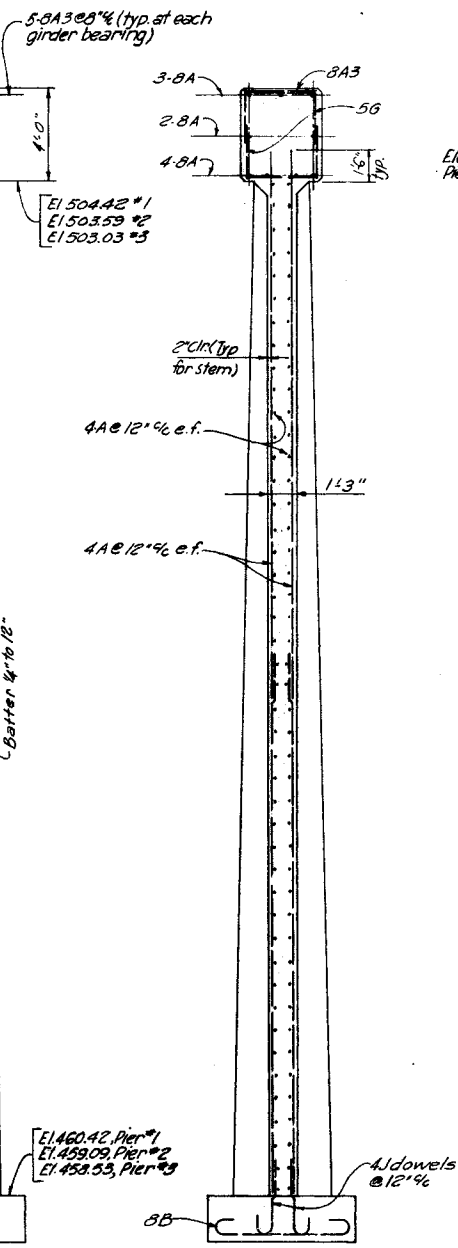


PLAN-BELL AT FOOTING
Scale $\frac{3}{4}" = 1'-0"$



END ELEVATION
Scale 1/4" = 1'-0"

SIDE ELEVATION
LOOKING FORWARD ON SURVEY
Scale $\frac{1}{4}'' = 1'-0''$



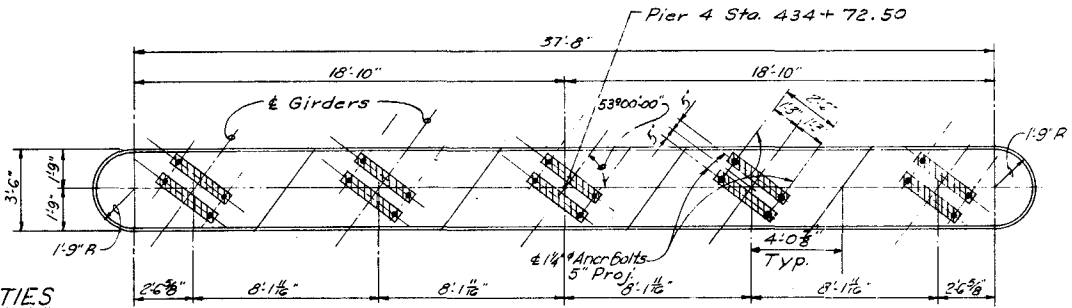
SECTION A-A
Scale 1/4" = 1'-0"

Scale as noted		
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE		
BRIDGE OVER CANEY FORK RIVER-RIVER MILE 18.7 STA 431+41.96-C RIGHT LANE (EAST BOUND)(4A)		
DIERS NOS 1, 2 & 3		
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE		
DR. <u>R.W.P.</u> CHK'D. <u>R.A.H.</u> APP'D. <u>W.R.</u>	DATE <u>11-16-59</u>	G-15-85

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		F-40-5(9)264		98	372

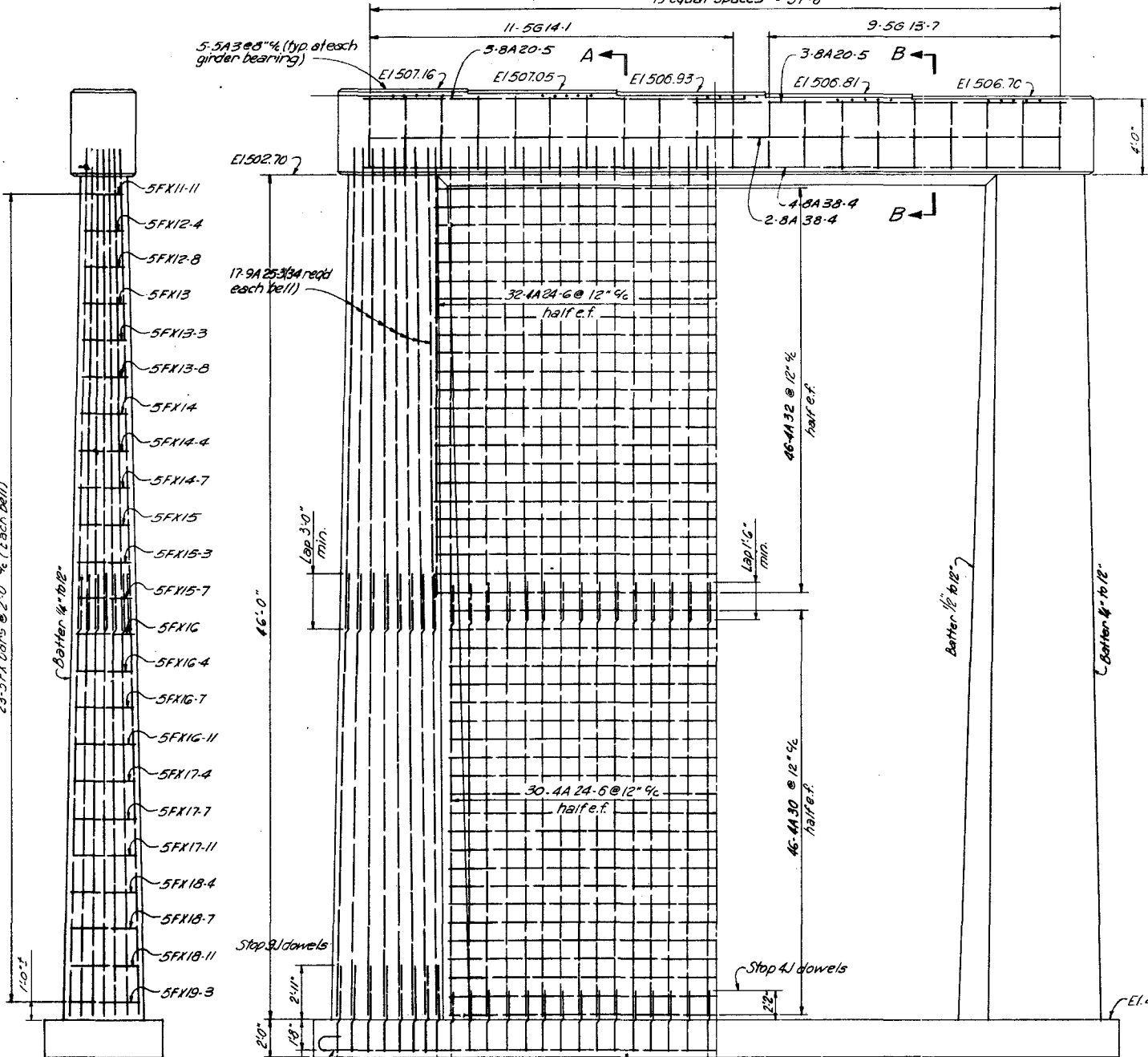
ESTIMATED QUANTITIES

PIER No. 4	
Class "A" Concrete	Cu Yds. 174.0
Reinforcing Steel	Lbs. 14,508



PLAN-CAP

Scale 1/4" = 1'-0"
19 equal spaces = 37'-8"



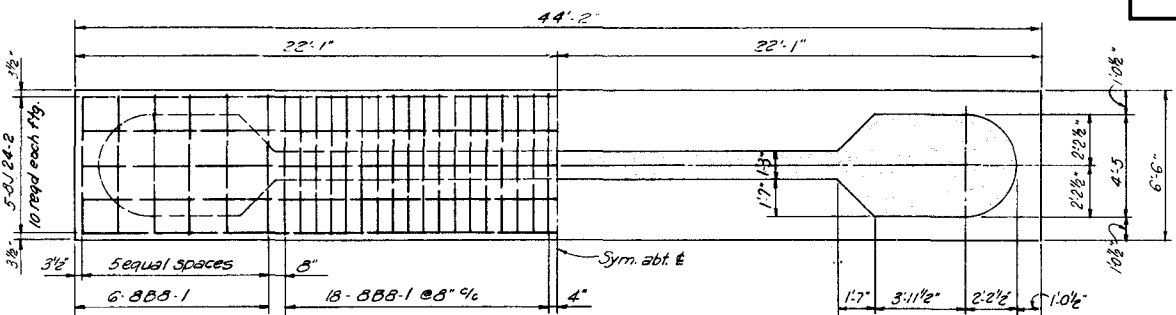
END ELEVATION

Scale 1/4" = 1'-0"

SIDE ELEVATION

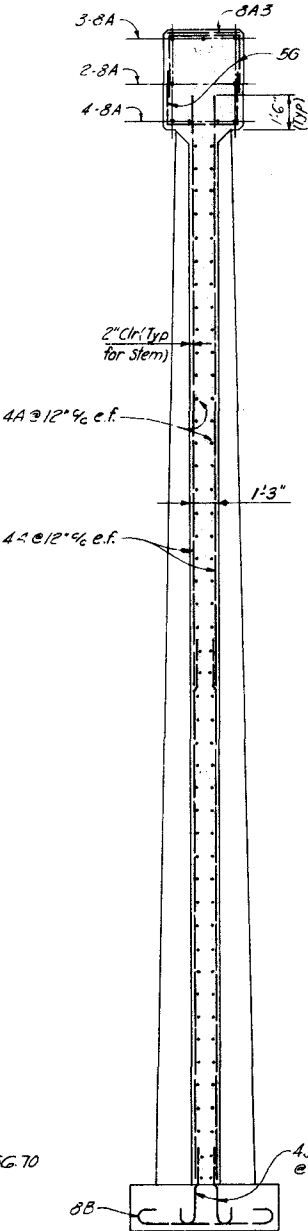
LOOKING FORWARD ON SURVEY
Scale 1/4" = 1'-0"

Note: Placing designation as follows:
e.f. - each face
e.w. - each way



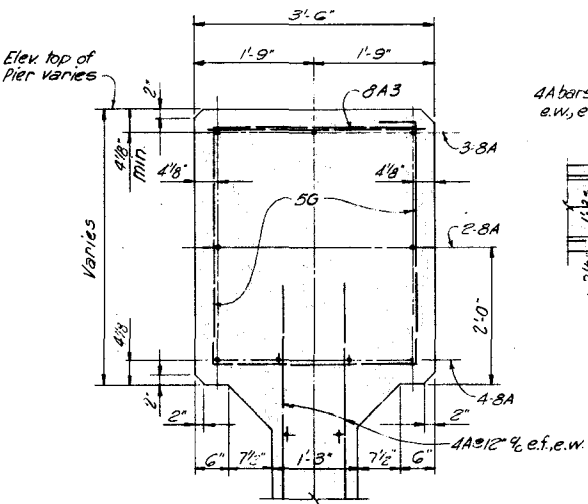
PLAN-FOOTING

Scale 1/4" = 1'-0"



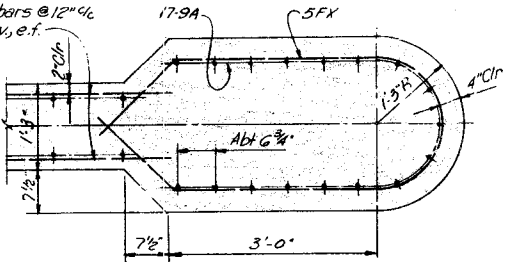
SECTION A-A

Scale 1/4" = 1'-0"



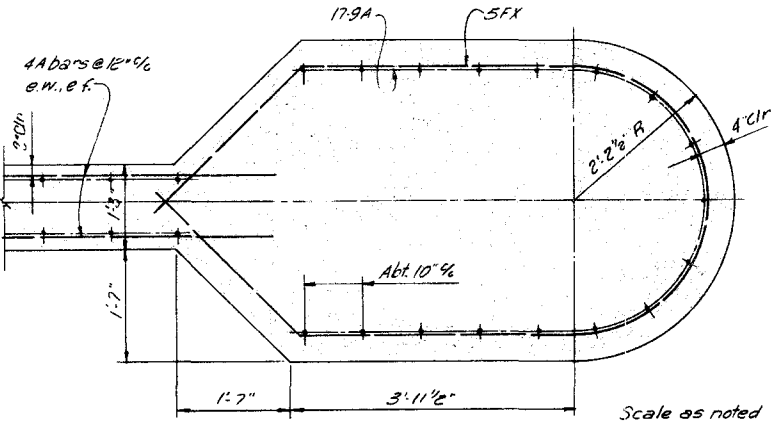
SECTION B-B

Scale 3/8" = 1'-0"



PLAN-BELL BELOW CAP

Scale 3/8" = 1'-0"



PLAN-BELL AT FOOTING

Scale 3/8" = 1'-0"

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGE OVER CANEY FORK RIVER-RIVER MILE 18.7
STA 431+41.9G - RIGHT LANE (EASTBOUND)(4A)

PIER No. 4

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.R.

CHK'D. R.A.H.

APP'D. W.R.

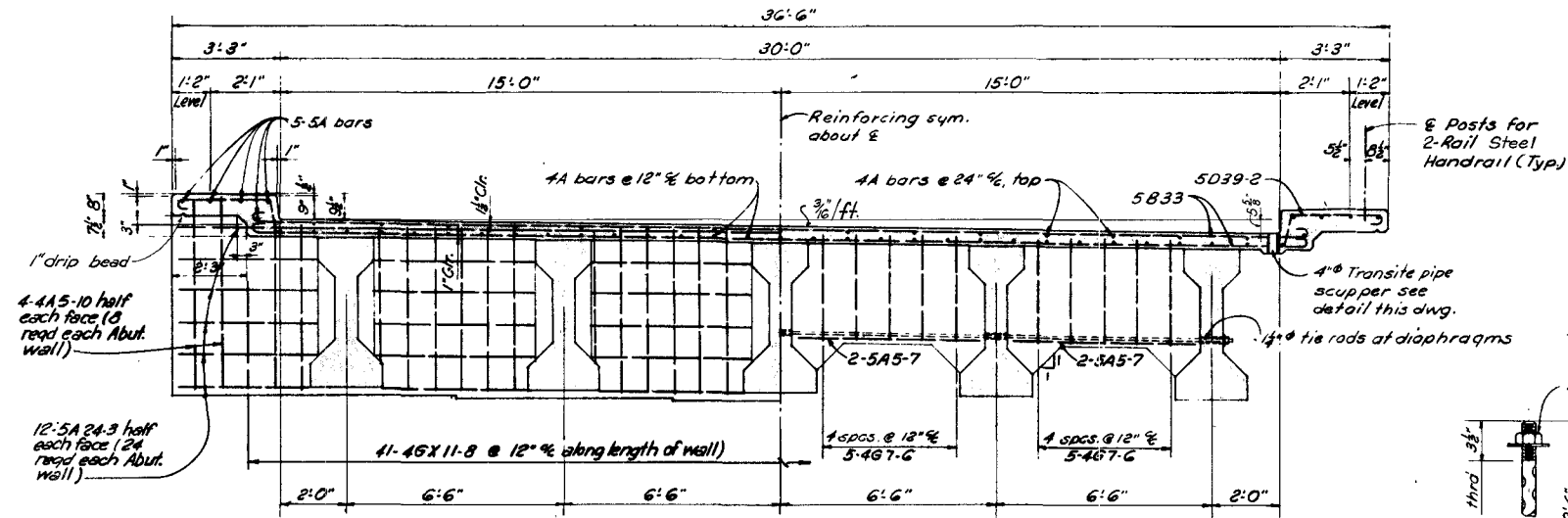
DATE

11-16-59

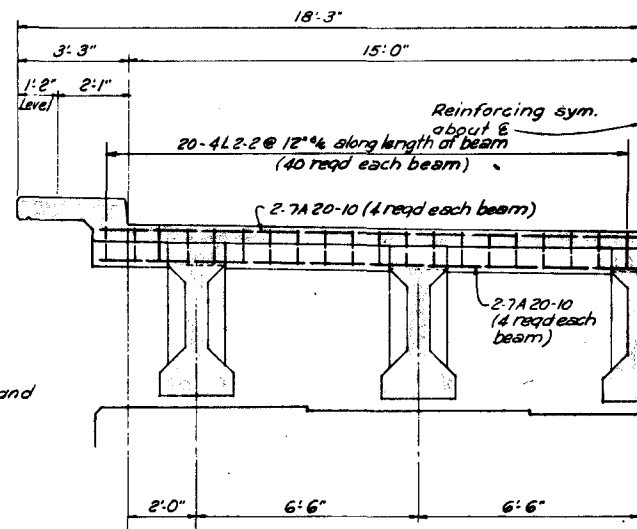
G-15-86

Rev. 8-22-60

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	N	I-405(3)264		100	372

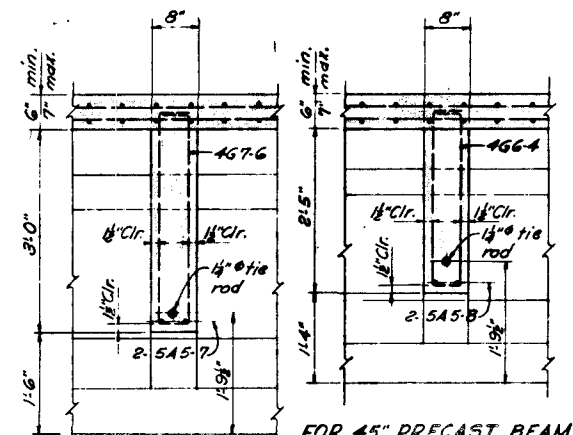


HALF-SECTION AT ABUTMENTS
Scale: $\frac{1}{8}$ "=1'-0"

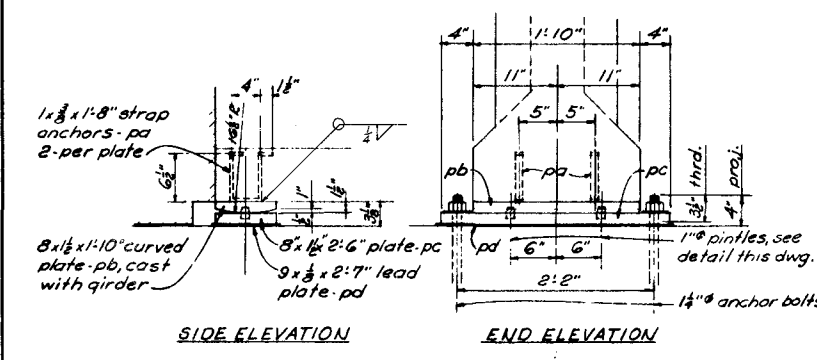


NOTE: Slab reinforcing omitted for clarity

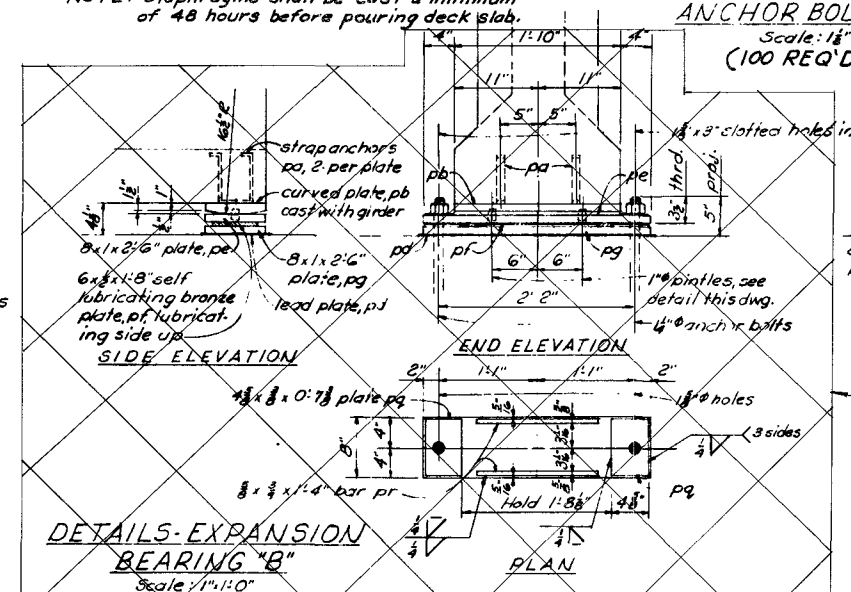
HALF SECTION AT BENTS OR PIERS
Scale: $\frac{1}{8}$ "=1'-0"



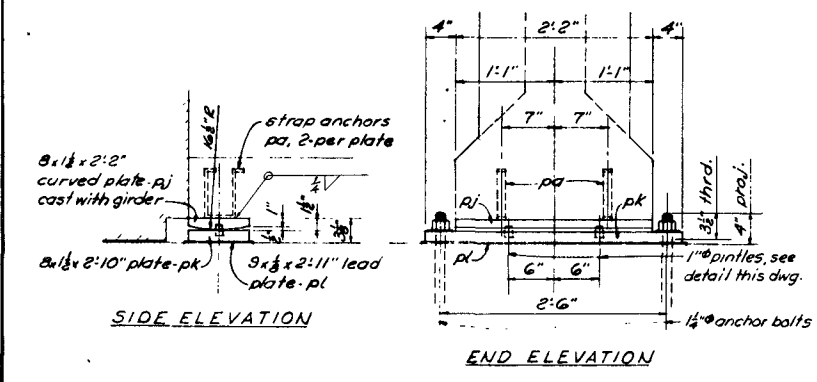
SECTION THRU INTERMEDIATE DIAPHRAGMS
Scale: $\frac{1}{8}$ "=1'-0"



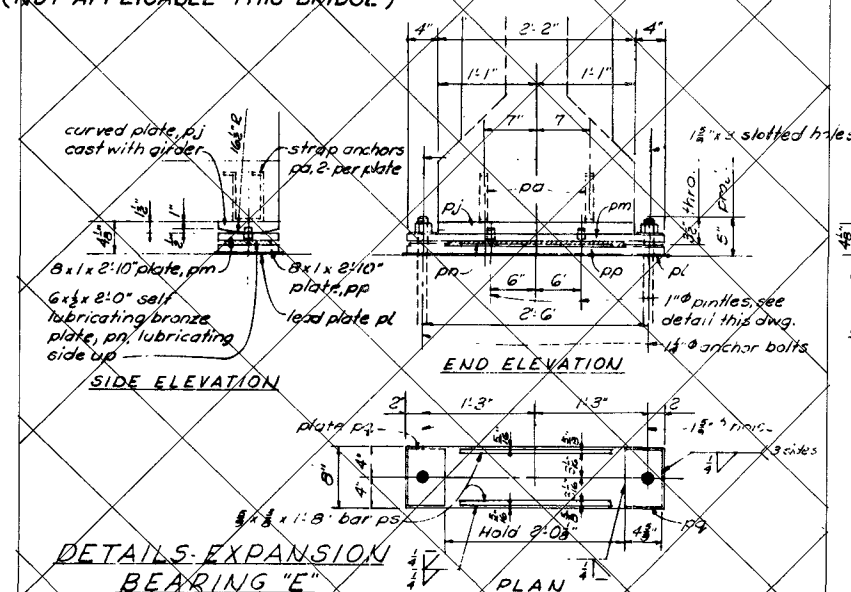
DETAILS-FIXED BEARING "A"
Scale: $\frac{1}{4}$ "=1'-0"
(NOT APPLICABLE THIS BRIDGE)



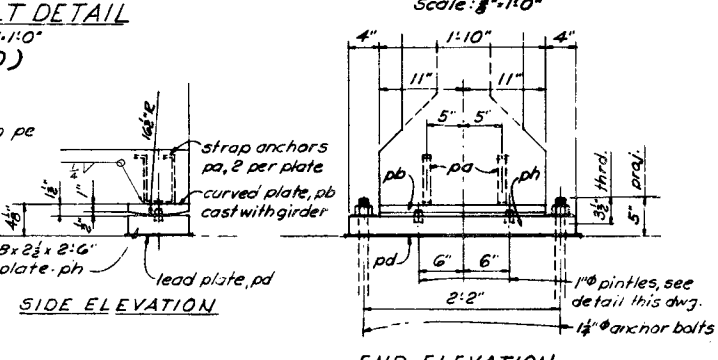
DETAILS-EXPANSION BEARING "B"
Scale: $\frac{1}{4}$ "=1'-0"
(NOT APPLICABLE THIS BRIDGE)



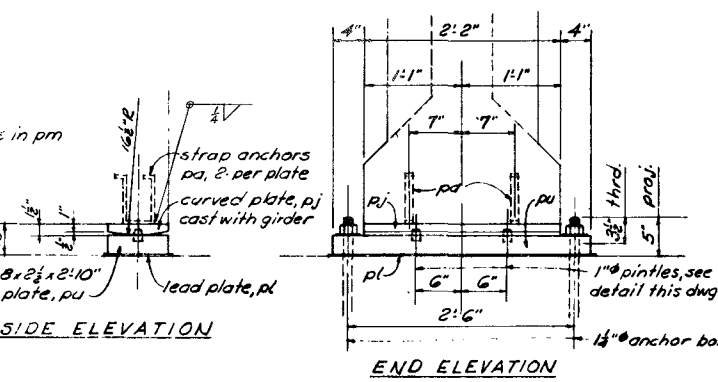
DETAILS-FIXED BEARING "D"
Scale: $\frac{1}{4}$ "=1'-0"



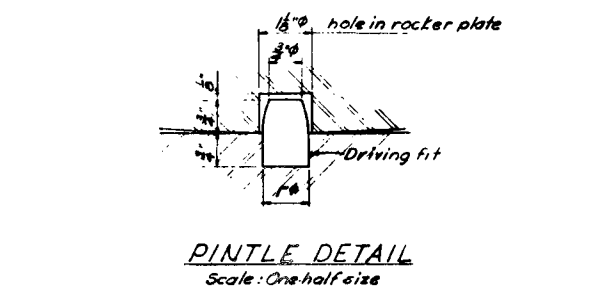
DETAILS-EXPANSION BEARING "E"
Scale: $\frac{1}{4}$ "=1'-0"



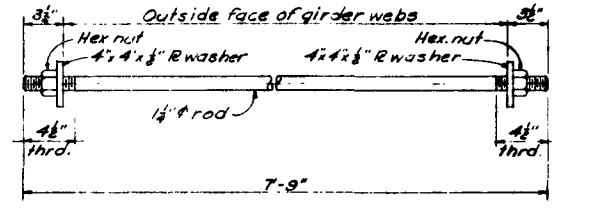
DETAILS-FIXED BEARING "C"
Scale: $\frac{1}{4}$ "=1'-0"
(NOT APPLICABLE THIS BRIDGE)



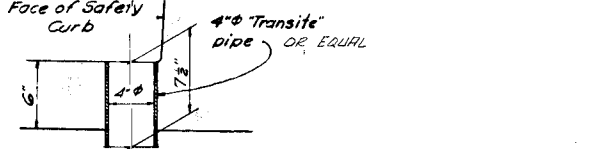
DETAILS-FIXED BEARING "F"
Scale: $\frac{1}{4}$ "=1'-0"



PINTLE DETAIL
Scale: One-half size



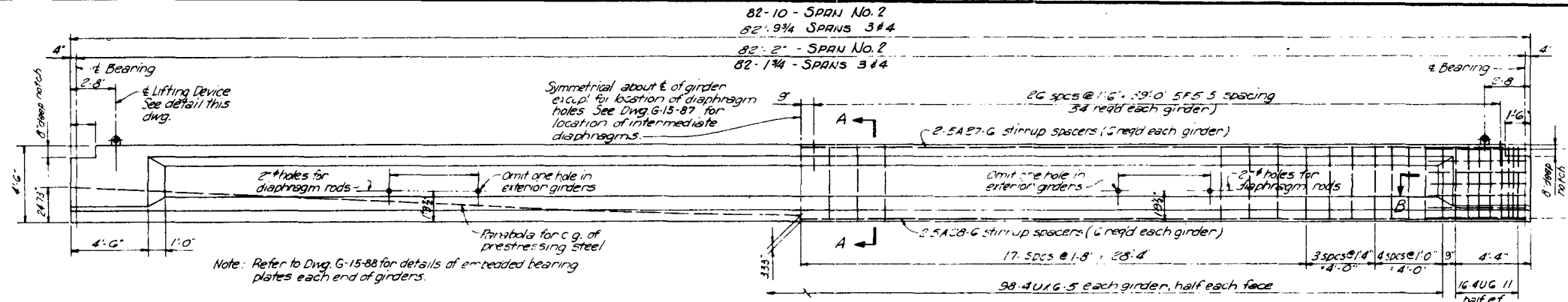
DETAIL OF TIE ROD AT DIAPHRAGMS
Scale: $\frac{1}{2}$ "=1'-0"



SECTION DETAILS-DECK SCUPPER
Scale: $\frac{1}{2}$ "=1'-0"
Scale As Noted

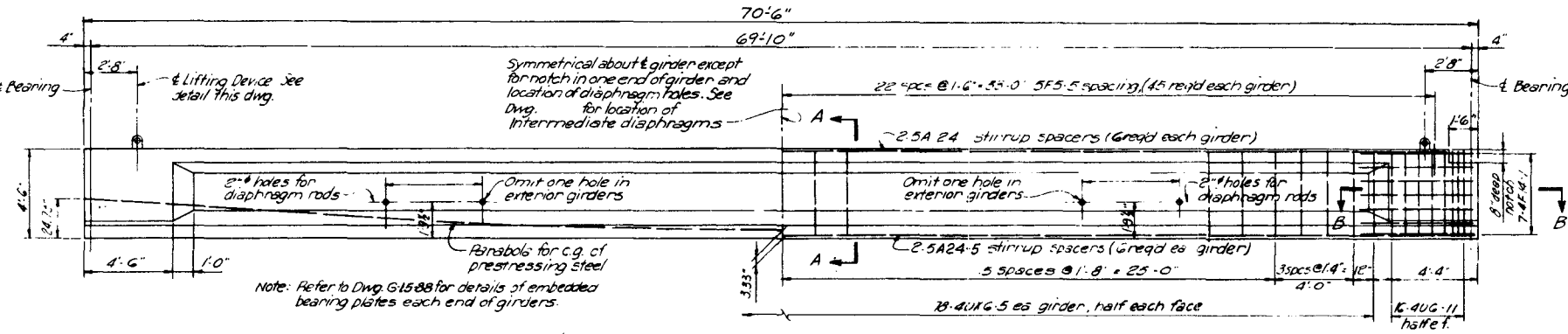
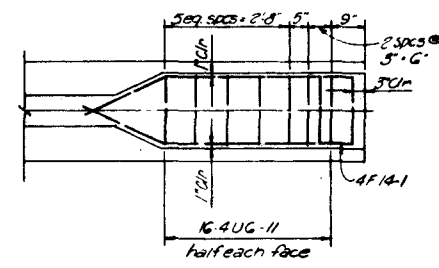
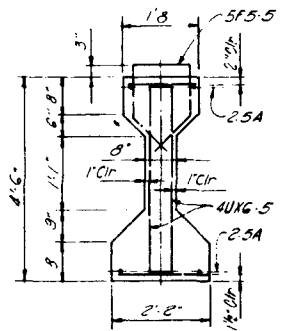
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER; RIVER MILE 12.7 STA 431+41.96- RIGHT LANE (EAST BOUND)(4A)	
SUPERSTRUCTURE AND GIRDER BEARING DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.A.H. CHKD. R.A.H. APPD. W.R.	DATE 11-16-59 G-15-88

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264	102	372	



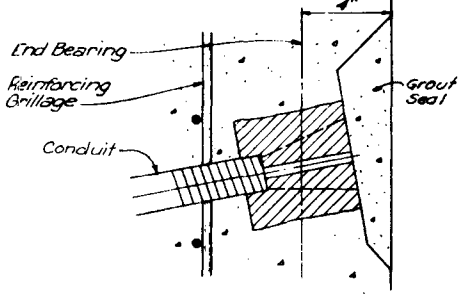
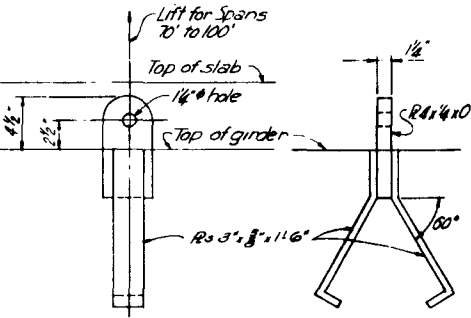
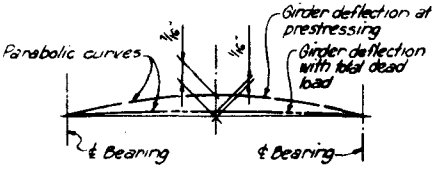
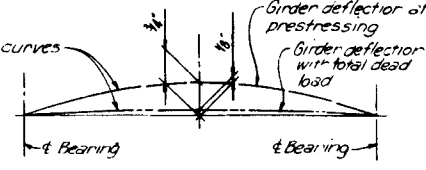
ELEVATION - INTERIOR SPAN GIRDERS (TYPE IV A.A.S.H.O. "I")
Approx. wt ea girder = 36 tons
15 REQUIRED
Scale 1/4" = 1'-0"

INTERIOR SPAN GIRDER NOTES: (2, 3 & 4)
1 Type unit: 18 x 0.196 (18.0 196" diameter high tension wires anchored in each unit) 9 units required each girder.
2 The initial prestressing force shall be 866,250 lbs. (96,250 lbs. each unit). This is based on assumed losses of 20% due to creep, shrinkage, elastic deformation and cable friction losses. An amount sufficient to allow for the anchorage losses as determined by test, shall be added to the initial prestressing force.
3 The final prestressing force shall be 693,000 lbs. (77,000 lbs. each unit) at the E of span.



ELEVATION - END SPAN GIRDERS (TYPE IV A.A.S.H.O. "I")
Approx. wt ea girder = 37 tons
10 REQUIRED
Scale 1/4" = 1'-0"

END SPAN GIRDER NOTES: (1 & 5)
1 Type unit: 18 x 0.196 (18.0 196" diameter high tension wires anchored in each unit) 7 units required each girder.
2 The initial prestressing force shall be 673,750 lbs. (96,250 lbs. each unit). This is based on assumed losses of 20% due to creep, shrinkage, elastic deformation and cable friction losses. An amount sufficient to allow for the anchorage losses as determined by test, shall be added to the initial prestressing force.
3 The final prestressing force shall be 539,000 lbs. (77,000 lbs. each unit) at the E of span.

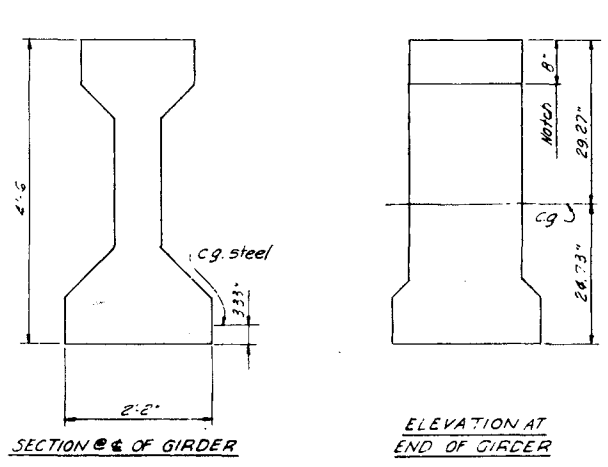


ESTIMATED QUANTITIES

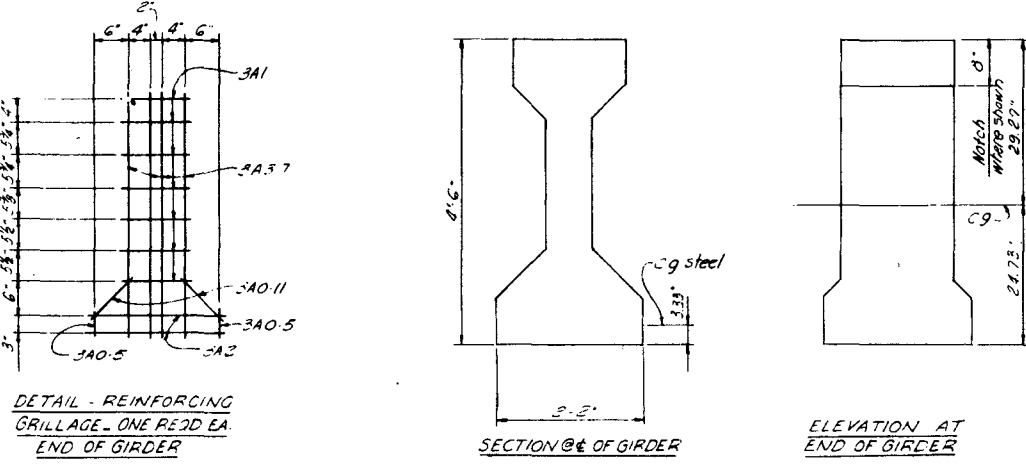
5000 psi Concrete	Cu Yds.	415.4
W-tensile Reinf. Steel	Lbs.	30,955
Reinforcing Steel	Lbs.	32,563
*Structural Steel	Lbs.	18,527

* Includes Brg Lrs, Tie Rods & Lifting Devices

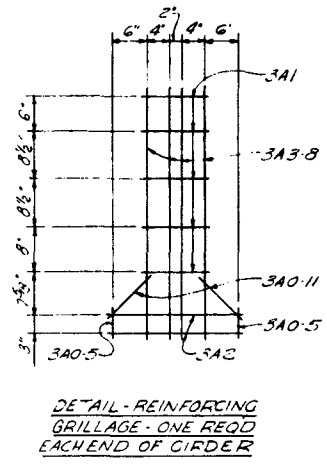
GENERAL GIRDER NOTES:
1 Details are for parallel wire.
2 The following information shall be submitted to the Engineer for approval: The proposed type of tendons which will be used in post-tensioning the sections, all necessary additional details, including those for anchorage, methods to be employed, procedures to be followed and the total relaxed post-tension force for each girder, including allowances for all losses.
3 The tops of all girders shall be artificially roughened to insure bond with the concrete slab.
4 Allow 25# sq. ft. dead load for future wearing surface.



DETAILS - PRESTRESSING STEEL LAYOUT FOR INTERIOR SPAN GIRDERS
Scale 3/4" = 1'-0"



DETAILS - PRESTRESSING STEEL LAYOUT FOR END SPAN GIRDERS
Scale 3/4" = 1'-0"



Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7
STA 431+41.96 RIGHT LANE (EAST BOUND)(4A)

PRESTRESSED GIRDER DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.P. _____ DATE _____
CHK'D. R.A.H. _____
APP'D. W.R. _____

G-15-90

REV. 4-18-60

PROJECT : PAGE OF												
ITEM:	BAR	NO.	BENDING DIMENSIONS - FEET & INCHES									
LOCATION	MARK	REQD	a	b	c	e	f	g	h	o	r	WEIGHT
ABUTMENT NOS. 1 & 2 (Half each Abutment except as otherwise noted)												
Abut. No. 2	7A29-3	4										239
Abut. No. 1	7A27	4										221
	7A26-6	8										433
	7A25-11	54										2861
Abut. No. 1	7A24-3	4										198
Abut. No. 2	7A22	4										180
	5A5-11	64										395
	5A5-10	8										49
	5A5-6	4										23
	5A5-5	4										23
	5A5-1	8										42
	5A4-8	8										39
	5A4-4	4										18
	5A4-3	4										18
	5A4	4										17
	5A3-10	4										16
	5A3-6	4										15
	5A3-5	4										15
	5A3	120										375
Abut. No. 1	5G11-6	20	2-9	2-8								240
Abut. No. 2	5G10-11	18	2-9	2-5								205
Abut. No. 1	5G10-5	20	2-9	2-2								219
Abut. No. 2	5G10-4	20	2-9	2-1								215
Abut. No. 1	5G10-1	20	2-9	2-0								210
Abut. No. 2	5G10-1	22	2-9	2-0								231
	4A14-5	16										154
	4A13-4	4										36
	4A12-11	16										138
	4A11-6	4										31
	4A10-10	4										29
	4A9-3	4										25
	4A8-6	4										23
	4A6-11	4										18
	4A6-7	8										35
Total Abutment No. 1 ---												3502
Total Abutment No. 2 ---												3484
Total both Abutments ---												6986
PIERS NOS. 1, 2, 3 & 4 (One fourth each pier except as otherwise noted)												
Pier No. 4	9A25-3	68										5839
Pier No. 2	9A24-6	68										5664
Pier No. 3	9A24-6	68										5664
Pier No. 1	9A24-3	68										5607
	9U5-10	136									4-7	2696
	8A38-4	24										2456
	8A20-5	24										1304
	8A3	100										801
	8B8-1	192									5-9	4143
	8U24-2	40									23-1	2581
Pier No. 4	5FX19-3	2	3-9	2-0	2-11						5-9 1-10	40
	5FX18-11	8	3-9	2-0	2-10						5-7 1-9	159
	5FX18-7	8	3-8	1-11	2-9						5-6 1-9	155
	5FX18-4	8	3-8	1-11	2-9						5-4 1-8	153
	5FX17-11	8	3-7	1-10	2-8						5-2 1-8	150
	5FX17-7	8	3-7	1-10	2-7						5-1 1-7	147
	5FX17-4	8	3-6	1-10	2-7						4-11 1-7	145
	5FX16-11	8	3-6	1-9	2-6						4-10 1-6	141
	5FX16-7	8	3-5	1-8	2-5						4-8 1-6	138
	5FX16-4	8	3-5	1-8	2-5						4-7 1-5	136
	5FX16	8	3-4	1-8	2-4						4-5 1-5	134
	5FX15-7	8	3-4	1-7	2-3						4-3 1-4	130
	5FX15-3	8	3-3	1-6	2-3						4-2 1-4	127
	5FX15	8	3-3	1-6	2-3						4-0 1-3	125
	5FX14-7	8	3-2	1-5	2-1						3-11 1-3	122

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PROJECT : PAGE OF												
ITEM:	BAR	NO.	BENDING DIMENSIONS - FEET & INCHES									
LOCATION	MARK	REQD	a	b	c	e	f	g	h	o	r	WEIGHT
PIERS NOS. 1, 2, 3 & 4 (Cont'd)												
	5FX14-4	8	3-2	1-5	2-1						3-9 1-2	120
	5FX14	8	3-1	1-5	2-0						3-8 1-2	117
	5FX13-8	8	3-1	1-4	1-11						3-6 1-1	114
	5FX13-3	8	3-0	1-4	1-10						3-4 1-1	111
	5FX13	8	3-0	1-3	1-10						3-3 1-0	108
	5FX12-8	8	2-11	1-2	1-9						3-1 1-0	106
	5FX12-4	8	2-11	1-2	1-8						3-0 0-11	103
	5FX11-11	8	2-10	1-2	1-8						2-10 0-11	99
Pier No. 1	5G14-2	11	3-0	3-9								163
Pier No. 2	5G14-2	11	3-0	3-9								163
Pier No. 3	5G14-2	11	3-0	3-9								163
Pier No. 4	5G14-1	11	3-0	3-9								162
	5G13-7	36	3-0	3-6								510
Pier No. 1	4A32	44										941
Pier No. 2	4A32	44										941
Pier No. 3	4A32	44										941
Pier No. 4	4A32	46										983
	4A30	184										3687
Pier No. 4	4A24-6	124										2029
Pier No. 1	4A23-9	60										952
Pier No. 2	4A23-9	124										1967
Pier No. 3	4A23-9	124										1967
Pier No. 1	4A23-3	64										994
	4U4-4	240									3-10	694
Total Pier No. 1 ---												14112
Total Pier No. 2 ---												14190
Total Pier No. 3 ---												14190
Total Pier No. 4 ---												14508
Total Piers ---												57000
SUPERSTRUCTURE												
Beam @ Exp. Jt.	7A20-10	64										1362
	5A28-6	504										14982
	5A25-7	30										800
	5A25	306										7979
Abut. walls	5A24-3	48										1214
Diaphragms	5A5-7	80										466
Conc. end posts	5A2-10	24										71
	5B33	824									31-10	28361
	5D39-2	274	2-9	1-0	3-3	1-0	0-2	2-9			36-3	1191
	5DX35-5	2	31-0									74
	5DX35-4	2	30-11									74
	5DX34-2	8	29-9									285
	5DX34	2	29-7									71
	5DX32-9	8	28-4									273
	5DX32-8	2	28-3									68
	5DX31-6	8	27-1									263
	5DX31-5	2	27-0									66
	5DX30-2	10	25-9									315
	5DX28-10	10	24-5									301
	5DX27-6	8	23-1									229
	5DX27-5	2	23-0									57
	5DX26-2	10	21-9									273
	5DX24-10	10	20-5									259
	5DX23-7	8	19-2									197
	5DX23-5	2	19-0									49
	5DX22-3	8	17-10									186
	5DX22-2	2	17-9									46
	5DX20-11	8	16-6									175
	5DX20-10	2	16-5									43
	5DX19-7	8	15-2									163
	5DX19-5	2	15-0									41
	5DX18-3	8	13-10									152
	5DX18-2	2	13-9									38
	5DX16-11	8	12-6									141
	5DX16-9	3	12-4									35
	5DX15-7	8	11-2									130

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PROJECT : PAGE OF												
ITEM:	BAR	NO.	BENDING DIMENSIONS - FEET & INCHES									
LOCATION	MARK	REQD	a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (Cont'd)									
	5DX15-6	2	11-1									32
	5DX14-9	2	10-4									31
	5DX14-7	8	10-2									122
	5DX13-11	10	9-6									145
	5DX13-3	2	8-9									27
	5DX13-1	8	8-8									109
	5DX12-5	2	8-0									26
	5DX12-3	8	7-10									102
	5DX11-8	2	7-3									24
	5DX11-5	8	7-0									95
	5DX10-11	2	6-6									23
	5DX10-9	8	6-4									90
	5DX10-2	2	5-9									21
	5DX10-1	8	5-8									84
	5DX9-5	10	5-0									98
	5DX8-9	2	4-4									18
	5DX8-8	8	4-3									72
	5U31-9	16								31-2		530
	5U31-7	4								31-0		132
	5U31-1	8								30-6		259
	5U30-11	2								30-4		64
	5U30-4	16								29-9		504
	5U29-8	8								29-1		248
	5U29-7	2								29-0		62
	5U29-3	4								28-10		122
	5U29	16								28-5		484
	5U28-11	4								28-4		121
	5U28-5	8								27-10		237
	5U28-4	2								27-9		59
	5U27-9	16								27-2		463
	5U27-8	4								27-1		115
	5U27-1	10								26-6		282
	5U26-5	20								25-10		551
	5U25-9	10								25-2		269
	5U25-1	16								24-6		419
	5U25	4								24-5		104
	5U24-5	8								23-10		204
	5U24-4	2								23-9		51
	5U23-9	16								23-2		394
	5U23-8	4								23-1		99
	5U23-1	10								22-6		241
	5U22-5	20								21-10		466
	5U21-9	10								21-2		227
	5U21-1	16								20-6		352
	5U21	4								20-5		88
	5U20-6	8								19-11		171
	5U20-4	2								19-9		42
	5U19-10	16								19-3		331
	5U19-8	4								19-1		82
	5U19-2	8								18-7		160
	5U19-1	2								18-6		40
	5U18-6	16								17-11		309
	5U18-5	4								17-10		77
	5U17-10	8								17-3		149
	5U17-9	2								17-2		37
	5U17-2	16								16-7		287
	5U17	4								16-5		71
	5U16-6	8								15-11		138
	5U16-4	2								15-9		34
	5U15-10	16								15-3		264
	5U15-8	4								15-1		65
	5U15-2	8								14-7		127
	5U15-1	2								14-6		31
	5U14-6	16								13-11		242
	5U14-4	4								13-9		60
	5U13-10	8								13-3		115
	5U13-8	2								13-1		29
	5U13-3	16								12-7		220
	5U13	4								12-5		54
	5U12-6	8								11-11		104
	5U12-5	2								11-10		26
	5U12	20								11-5		250
	5U11-8	2								11-1		24
	5U11-6	8								10-11		96
	Cont'd	on Reinforcing Steel Schedule No.2										

