

Davidson County SE



Regular Inspection Report

Location: 19-I0040-18.34

Federal ID: 19I00400317

Owner: Nashville

Description:

3 span Bridge/ W.P.G.

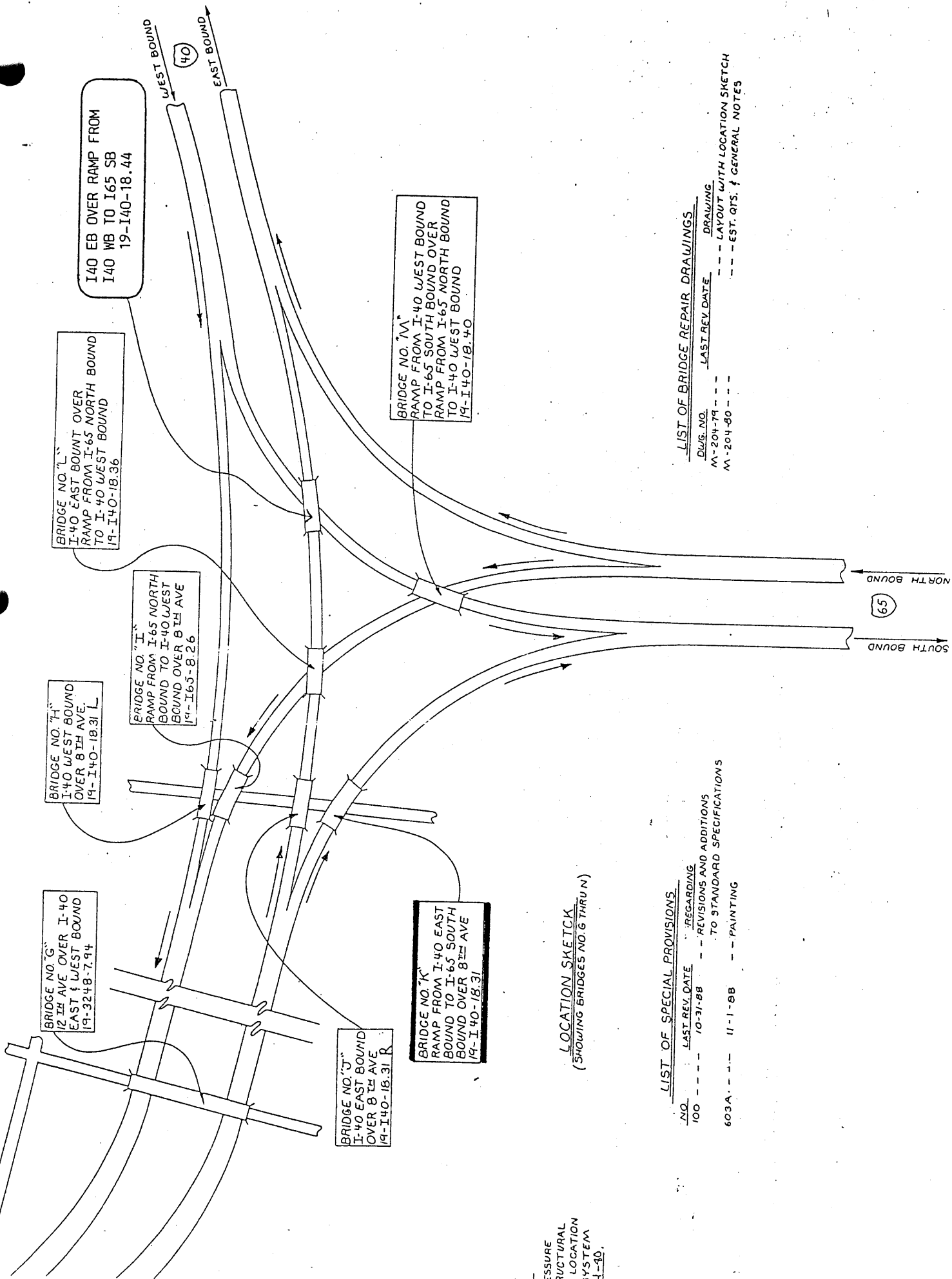
I-40 Ramp /8TH AVE SR 6

G.P.S.

N 36° 8.8000' W 86° 46.8000'



PRODUCED PURSUANT TO
PUBLIC RECORDS REQUEST
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document records request does not
waive the provisions of §409



LOCATION SKETCH
(SHOWING BRIDGES NO. G THRU N)

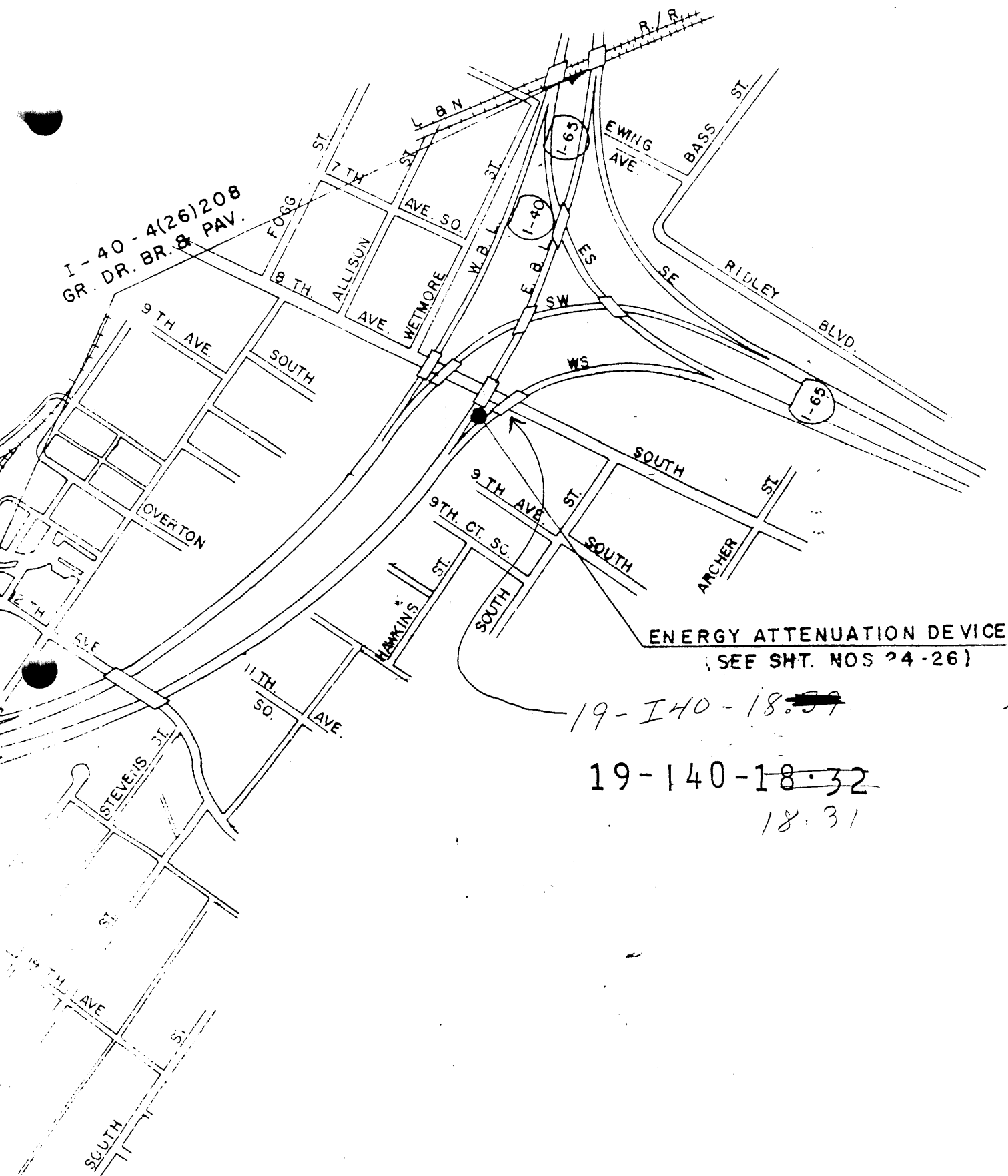
LIST OF SPECIAL PROVISIONS

NO.	LAST REV. DATE	REGARDING
100	10-31-88	REVISIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
603A	11-1-88	PAINTING

LIST OF BRIDGE REPAIR DRAWINGS

DWG. NO.	LAST REV. DATE	DRAWING
M-204-74		LAYOUT WITH LOCATION SKETCH
M-204-80		EST. QTS. & GENERAL NOTES

I-40-4(26)208
GR. DR. BR. & PAV.



ENERGY ATTENUATION DEVICE
(SEE SHT. NOS 24-26)

19-I40-18.59

19-140-18.32

18.31

EXIST RETAINING WALL
NOS 20-23

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 19 - I0040 - 18.34
Co. Route Log Mile

Bridge Number: 19I00400317

County: Davidson

Crossing: I40 RMP / 8TH AVE SR 6

Region: 03

Bridge Rating: FAIR

District: 31

Inspection Cycle: 15

Maint.Resp.: 01

Inspection Date: 12/1/2003

Spec.Case: 0

Co.Seq: 01

Comments: REPAIR COLLISION DAMAGE BRIDGE RAIL "A" END RIGHT SIDE
SPAN #1.

Maintenance Recommendations:

Maintenance Completed
By / Date

114	CLEAN AND REPAIR BEARINGS "A" AT ABUTMENT #1
	REPLACE EXPANSION JOINT "A" END
	REPAIR COLLISION DAMAGE TUBULAR RAIL "B" END LEFT SIDE
114	CLEAN AND PAINT BEARING AT ____ NO. ____
031	CLEAN AND SEAL JOINTS IN SPAN NO. 0001 ____
	REPAIR EROSION "B" END RIGHT SIDE

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:

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 19 - I0040 - 18.34

Co. Route Log Mile

Crossing: I40 RMP / 8TH AVE SR 6

Bridge Rating: FAIR

Inspection Cycle: 14

Inspection Date: 10/19/2001

Bridge Number: 19I00400317

County: Davidson

Region: 03

District: 31

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Comments: REPAIR COLLISION DAMAGE BRIDGE RAIL "A" END RIGHT SIDE
SPAN #1.

Maintenance Recommendations:

Maintenance Completed
By / Date

114	CLEAN AND REPAIR BEARINGS "A" AT ABUTMENT #1
114	CLEAN AND PAINT BEARING AT ____ NO. ____
031	CLEAN AND SEAL JOINTS IN SPAN NO. 0001 ____
	REPAIR EROSION "B" END RIGHT SIDE

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:

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 19 - ^{165- 8.30}~~I0040~~ - 18.31
Co. Route Log Mile

Bridge Number: 19I00400317

County: Davidson

Crossing: I40 RMP / 8TH AVE SR 6

Region: 03

Bridge Rating: FAIR

District: 31

Inspection Cycle: 13

Maint.Resp.: 01

Inspection Date: 3/6/00

Spec.Case: 0

Co.Seq: 01

Comments: REPAIR COLLISION DAMAGE BRIDGE RAIL "A" END RIGHT SIDE SPAN
#1.

Level of Service: 7

Number Main Spans: 003

Owner: 01

Number Appr Spans: 0000

Appr Rdwy (xxx ft): 038

Bridge Length (xxxxxx ft) 000157

Skew: 60

Curb-to-Curb (xxx.x ft): 0382

Type of Service: 11

Out-to-Out (xxx.x ft): 0417

Main Structure Type: 402

Item 500: 02

Appr Structure Type: 000

Facility Carried By: I40

Maintenance Recommendations:

Maintenance Completed
By / Date

114	CLEAN AND REPAIR BEARINGS "A" AT ABUTMENT #1
114	CLEAN AND PAINT BEARING AT ____ NO. ____
031	CLEAN AND SEAL JOINTS IN SPAN NO. 0001 ____

BRIDGE MAINTENANCE RECOMMENDATIONS

BRIDGE SEQ. NO. : 19I00400317

BRIDGE NO. : 19 - I0040 - 1831 - N
OVER : I40 RMP / 8TH AVE SR 6

DATE : 02/25/98 BRIDGE RATING : FAIR COUNTY : Davidson
CO. SEQ. : 01 INSPECTION CYCLE : 12 MAINT DIST : 31
SPEC. CASE : 7 INSPECTION DATE : 02/25/98 REGION : 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 11
043 - STRUCTURE TYPE, MAIN : 402
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 003
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000157
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 60
051 - BRDG RDWY WID, CRB-TO-CRB : 0382
052 - DECK WIDTH, OUT-TO-OUT : 0417
500 - HWY OF THE INVENTORY ROUTE : 02

: MAINTENANCE & REPAIR RECOMMENDATIONS :

- 1 CLEAN AND SEAL JOINTS IN SPAN NO. 0001 _____
- 2 CLEAN AND PAINT BEARING AT _____ NO. _____

: MAINTENANCE COMPLETED :

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

: COMMENTS FOR BRIDGE SEQ. NO. : 19I00400317 :

REPAIR COLLISION DAMAGE ON BRIDGERAIL, ALSO REPAIR APPROACH RAIL "B"
END RIGHT SIDE - TRANSITION. REPAIR BOTTOM DECK SPANS #1 & #3.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE

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

EXPLANATIONS AND COMMENTS:

TENNESSEE BRIDGE INSPECTION PROGRAM

SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 19100400317

LOCATION NO: 19 - 10040 - 18.34

(6A) CROSSING: 140 RMP / 8TH AVE SR 6

(505) METHOD OF ANALYSIS: LOAD FACTOR
METHOD

(548) RATING BASED ON: CONCRETE DECK

LOAD RATINGS IN TONS

INVENTORY (503) H 20

(518B) HS 36

OPERATING (504) H 40

(519) HS 73

(549) EVALUATOR: CAJ

(522) EVAL. DATE: 4/14/2004

LAST UPDATED BY: JOHNSON

(29) ADT: 121,260 (30) ADT YR: 2003

(100) STRAHNET ROUTE: YES

(19) DETOUR LENGTH: 16 KM

(520) VC OVER RDWY: 99.99 METERS

CONDITION RATINGS

(58) DECK RATING:

(59) SUPERSTRUCTURE RATING:

(60) SUBSTRUCTURE RATING:

(61) CHANNEL PROTECTION:

(62) CULVERT RATING:

(113A) NBIS SCOUR CODE:

(113B) TDOT SCOUR CODE:

OTHER RATING ITEMS

(521) OVERALL CONDITION:

(513) TEXTURE COAT RATING:

(514) PAINT CONDITION RATING:

(41) WEIGHT POSTING CODE:

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:

(68) DECK GEOMETRY:

(69) UNDER CLEARANCE:

(70) BRIDGE POSTING:

(71) WATERWAY ADEQUACY:

(72) APPROACH RDWY ALIGNMENT:

CODE VALUES

N - NOT APPLICABLE

9 - EXCELLENT CONDITION

8 - VERY GOOD CONDITION

7 - GOOD CONDITION

6 - SATISFACTORY

5 - FAIR CONDITION

4 - POOR CONDITION

3 - SERIOUS CONDITION

2 - CRITICAL CONDITION

1 - FAILURE IS IMMINENT

0 - FAILED CONDITION

(36) TRAFFIC SAFETY

FEATURES: 0 1 1 1

(525) REPAIR LIST NO: 2

COMMENTS

NO COMMENTS AT THIS TIME.

(502) SUFF. RATING: 74.0

(528) STR. DEFICIENT: NO

(529) FUNC. OBSOLETE: NO



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 08/28/2003

Bridge Number: 19I004003171
(Includes Item 5A)
Feature Intersected: I40 RMP / 8TH AVE SR 6
Evaluation Status:

County: 19
Route: I0040
Special Case: 0
County Sequence: 1
Log Mile: 18.34

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>10/19/2001</u> <u>12/1/03</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. _____ FT. _____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. _____ FT. _____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES Br. Rail Trans. Appr. Rail Terminal SPEED LIMIT 0 1 1 1 55		7 GOOD CONDITION - SOME MINOR PROBLEMS.
41	STRC OPEN/CLOSED/POSTED A K P	A	6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
58	DECK	7	5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
59	SUPERSTRUCTURE	5	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
60	SUBSTRUCTURE	6	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.
61	CHANL/CHANL PROTECTION	N	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	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 IT BACK IN LIGHT SERVICE.
71	WATERWAY ADEQUACY	N	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
72	APPROACH RDWY ALIGNMENT	8	
521	OVERALL CONDITION	<u>FAIR</u> <u>F</u>	

TEAM LEADER SIGNATURE [Signature] REVIEW DATE 12/1/03



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 08/28/2003

County: 19

Route: SR006

Bridge Number: 19I004003172
(Includes Item 5A)

Special Case: 0

County Sequence: 1

Feature Intersected: I40 RMP / 8TH AVE SR 6

Log Mile: 7.97

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	INSPECTION DATE	<u>10/19/2001</u> <u>12/1/03</u>	515 (A) TYPE UNDERPASS BARRIER NONE NEEDED OR NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	<u>14</u> FT. <u>6</u> IN. ____ FT. ____ IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	<u>14</u> FT. <u>6</u> IN. ____ FT. ____ IN.	(B) ADEQUACY OF BARRIER OR RAIL <u>N</u>
47	TOTAL HORIZONTAL UNDERCLEARANCE	<u>67</u> FT. <u>11</u> IN. ____ FT. ____ IN.	(C) ADEQUACY OF TRANSITIONS <u>N</u>
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: <u>(H)</u> R <u>14</u> FT. <u>4</u> IN.		(D) ADEQUACY OF TERMINALS <u>N</u>
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: <u>(H)</u> R <u>10</u> FT. <u>00</u> IN.		554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING ____ FT. ____ IN. ____ FT. ____ IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	<u>10</u> FT. <u>00</u> IN.	
521	OVERALL CONDITION <u>FAIR</u>		HEIGHT POSTED AT BOTH APPROACHES? YES [] <u>NO []</u> N/A []
555	COMMENTS	<u> Hwy Conc. on Bearings</u>	

f. waltz
TEAM LEADER SIGNATURE

12/1/03
REVIEW DATE

14'-6" → 4.42m.

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

RAMP
 STA #78
 REV. 05-22-00

DT-1449

(548) RATING BASED ON: CONCRETE DECKBridge No.: 19-I40-18.31-(549) Evaluator: Alan Johnson(522) Eval. Date: 09 / 06 / 2000(29) ADT: 99400 (19 99) Yr (30)

(100) Strahnet Route Yes(X) No()

(19) Detour 16 km

(53) Vert. Clearance Over Deck

 m (XX.XX) (X) NAINVENTORY 503 H 20 Tons 518B HS 36 TonsOPERATING 504 H 40 Tons 519 HS 73 TonsCONDITION RATING (Structural)APPRAISAL RATING (Relation to System)

	Culverts			Culverts	
58 Deck	N	7	67 Structural Evaluation		5
59 Superstructure	N	5	68 Deck Geometry		9
60 Substructure	N	6	69 Under Clearance	N	6
61 Chl & Chl Protection		N	70 Bridge Posting		5
62 Culv & Ret Walls		N	71 Waterway Adequacy		N
113A Scour Condition		N	72 Approach Rdwy Alignment		8
113B Scour Condition					

Overall Condition (521): G (F) P C

Texture Coat (513)

Paint (514 A, B, & C)

N							
1	0	5	1	9	8	9	1

Traffic Safety

Features (36): 10 | 1 | 1 | 1 | 1Repair List No. (525): 2

Comments and Recommendations:

SIB's >> H20-HS20 REVIEWED-CAJ-03-28-2002

- * * Article 5.1.2 of Maint. Man. For Conc. Br. with unknown reinf.
 * * * Des. Std. or Des. Plans For H15 or HS20 Loading.

COMMENTARY (Condition)

- N NOT APPLICABLE
 9 EXCELLENT CONDITION
 8 VERY GOOD CONDITION - no problems noted
 7 GOOD CONDITION - some minor problems
 6 SATISFACTORY CONDITION - structural elements show some minor deterioration
 5 FAIR CONDITION - all primary structural elements are sound, but may have minor section loss, deterioration, spalling, or scour.
 4 POOR CONDITION - advanced section loss, deterioration, spalling, or scour
 3 SERIOUS CONDITION - loss of section, deterioration, spalling, or scour have affected primary structural components - local failures are possible - fatigue cracks in steel or shear cracks in concrete may be present
 2 CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored, it may be necessary to close the bridge until corrective action is taken.
 1 "IMMINENT" FAILURE CONDITION - Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic, but corrective action may put it back in light service.
 0 FAILED CODITION - Out of service, beyond corrective action.

COMMENTARY (Appraisal)

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

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

SUFFICIENCY RATING : DATE OF SUFF. RATING : / /



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 191004003171
(Includes Item 5A)

Feature Intersected: I40 RMP / 8TH AVE SR 6

County: 19

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 18.34

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>03/06/2000</u> <u>10 / 19 / 01</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 0 1 0		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
58	DECK	7	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
59	SUPERSTRUCTURE	5	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
60	SUBSTRUCTURE	6	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
61	CHANL/CHANL PROTECTION	N	
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	GOOD <u>FAIR</u> POOR CRITICAL		
	<u>Jim Watts</u>	<u>10 / 19 / 01</u>	
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 06/15/2000

Bridge Number: 191004003172
(Includes Item 5A)

Feature Intersected: 140 RMP / 8TH AVE SR 6

County: 19
Route: SR006
Special Case: 0
County Sequence: 01
Log Mile: 7.97

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

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10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	<u>14</u> FT. <u>6</u> IN. ____ FT. ____ IN.	Revised Barrier Type
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	<u>14</u> FT. <u>6</u> IN. ____ FT. ____ IN.	(B) ADEQUACY OF BARRIER OR RAIL N
47	TOTAL HORIZONTAL UNDERCLEARANCE	<u>67</u> FT. <u>10</u> IN. ____ FT. ____ IN.	(C) ADEQUACY OF TRANSITIONS N
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: H R	<u>14</u> FT. <u>6</u> IN.	(D) ADEQUACY OF TERMINALS N
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: <u>F</u> R	<u>10</u> FT. <u>0</u> IN.	554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING 99 FT. 99 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	<u>10</u> FT. <u>0</u> IN.	____ FT. ____ IN.
521	OVERALL CONDITION (Circle One) GOOD <u>FAIR</u> POOR CRITICAL		HEIGHT POSTED AT BOTH APPROACHES? YES [] NO [] N/A <u>X</u>
555	COMMENTS		

Jim Watts
TEAM LEADER SIGNATURE

10 / 19 / 01
REVIEW DATE

CONCRETE DECK RATINGS
---- LOAD FACTOR ANALYSIS ----

BRIDGE NUMBER.: 19 - I40 - 18.31 - STR-78

NAME : ALAN JOHNSON

DATE : 09-05-1997

SPAN NUMBER.: TYPICAL

BAY NUMBER.: TYPICAL

COMMENTS.: RATE THE AVERAGE BEAM SPACING FOR BEAMS 1 AND 2.

INPUT DATA

CLEAR SPAN LENGTH(FEET)...: 7.5
SLAB THICKNESS(INCH)...: 8
CLEAR DISTANCE - BOTTOM STEEL TO BOTTOM DECK ..(INCH)...: 1
NEW BAR SIZE NUMBER OF STEEL BAR.....(WHOLE NUMBER)...: 6
IS THE BAR ROUND ?(Y-N)...: Y
SPACING BETWEEN THE STEEL BARS(INCH)...: 6.5
YIELD STRENGTH - STEEL(KSI)...: 40
PERCENT OF STEEL EFFECTIVE FOR MOMENT..(WHOLE NUMBER)...: 100
YIELD STRENGTH - CONCRETE(KSI)...: 3
ASPHALT THICKNESS(IN.)...: 4
SUPPORTING BEAM FLANGE OR WALL THICKNESS(IN)...: 12
DECK CONT. OVER 3 OR MORE BEAMS OR SUPPORTS ?...(Y-N)...: Y
IS THE DECK MONOLITHIC ?.....(Y-N)...: N
IS THE DECK SUPPORTED BY LONGITUDINAL BEAMS ?...(Y-N)...: Y

OUTPUT DATA FOR LOAD FACTOR ANALYSIS

COMPUTED VALUES	NON-FACTORED MOMENTS
A ----- (INCH) = 1.066	
SPAN LENGTH ---- (FEET) = 8	
MOM-CAP ----- (K-FT) = 14.91	MDL --- = .95
MOM-AVAIL-LL+I - (K-FT) = 13.67	H-LL+I = 3.9
W-DL ----- (K/FT) = .148	HS-LL+I = 5.2

H & HS RATINGS - (TONS)

H @ INV	H @ OPER	HS @ INV	HS @ OPER
24	40	44	73

BARS INPUT FILE DATA REPORT

=====

- General Data -

FILE NAME: 19- 295.DAT

REGION: 3

ROUTE: I0040

LOGMILE: 1831

SYSTEM BRIDGE?: YES

LANE (R/L): R

CROSSING: I40-RAMP-(STR78) / SR-6

- Specific Data -

STD. OVERLOAD BRIDGE?: NO

TIMBER SUBSTRUCTURE?: NO

STRUCTURE TYPE - I43: 402

ASPHALT DEPTH ON DECK: 4.

LAST REVISION DATE: 09/05/97

TYPE OF RATING ANALYSIS: LF

OVERALL CONDITION: F

TOTAL NUMBER OF SPANS: 3

IS BRIDGE POSTED?: NO

MAXIMUM SPAN LENGTH - I48: 82

YEAR BRIDGE WAS BUILT: 1970

A A S H T O * A A S H T O * A A S H T O * A A S H T O * A A S H T O * A A S H T O * A A S H T O * A A S H T O

A PROPRIETARY COMPUTER SOFTWARE PRODUCT

A
A S H T O * A
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A S H T O *
P P S H T C *
A A S H

C

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

FEBRUARY 5, 1997

[illegible]

BARS-PC R5.5-MOD 3.0

RECORD										REC.NO.
01	090597	ALAN	JOHNSON	H15					*LF*	100
02	CAJ295	ALAN	JOHNSON		CSIB70	161	1	0	39 8 0 3	100
05	CAJ295LM	18.313	19	I-40						200
06	CAJ2951	THERE IS 4" OF ASPHALT ON THE DECK.								300
06	CAJ2952	THE BEAM SPACINGS VARY. I USED THE AVERAGE SPACING FOR BEAMS 1 AND 2.								400
07	CAJ29536000	3000								500
08	CAJ295G01	3	341010	8011 2	39 7 3CSC			1.391		600
10	CAJ295G01	01		W 563	341010					700
10	CAJ295G01	02		W 563	8011 2					800
10	CAJ295G01	03		W 563	39 7 3					900
11	CAJ295G01	0101	29 41001							1000
11	CAJ295G01	0102	5 6 002							1100
11	CAJ295G01	0201	3 6 003							1200
11	CAJ295G01	0202	7311 204							1300
11	CAJ295G01	0203	3 6 003							1400
11	CAJ295G01	0301	5 6 002							1500
11	CAJ295G01	0302	34 1 301							1600
12	CAJ295G01			01	35.8750112.00P0.937535.406	0.0				1700
12	CAJ295G01			01	020.625 34.00016.75	0.0				1800
12	CAJ295G01			01	0312.00 0.93750.4687	0.0				1900
12	CAJ295G01			02	37.5000112.00P0.875037.063	0.0				2000
12	CAJ295G01			02	0212.00 0.937536.156	0.0				2100
12	CAJ295G01			02	030.625 34.00018.750	0.0				2200
12	CAJ295G01			02	0412.00 0.93751.3437	0.0				2300
12	CAJ295G01			02	0512.00 0.87500.4375	0.0				2400
12	CAJ295G01			03	38.2500112.00P0.875037.812	0.0				2500
12	CAJ295G01			03	0212.12 1.250036.750	0.0				2600
12	CAJ295G01			03	030.812 34.00019.125	0.0				2700
12	CAJ295G01			03	0412.12 1.25001.5000	0.0				2800
12	CAJ295G01			03	0512.00 0.87500.4375	0.0				2900
12	CAJ295G01			04	36.5000112.12P1.250035.875	0.0				3000
12	CAJ295G01			04	020.812 34.00018.250	0.0				3100
12	CAJ295G01			04	0312.12 1.25000.6250	0.0				3200
14	CAJ295G01	0101	29 410N	01	102.08.0018.01.0096.008.00	5.00				3300
14	CAJ295G01	0102	5 6 0N	02	102.08.0018.01.3196.008.005.312					3400
14	CAJ295G01	0201	3 6 0N	01						3500
14	CAJ295G01	0202	12 6 0N	01						3600
14	CAJ295G01	0203	49 4 0C	01						3700
14	CAJ295G01	0204	12 1 2N	01						3800
14	CAJ295G01	0205	3 6 0N	01						3900
14	CAJ295G01	0301	5 6 0N	02						4000
14	CAJ295G01	0302	34 1 3N	01						4100
16	CAJ295G01	01T01	341010C							4200
16	CAJ295G01	01B01	21 1 2SPSP	1	21 1 2					4300
16	CAJ295G01	01B02	5 0 0SPSP	1	5 0 0					4400
16	CAJ295G01	01B03	8 9 8SPSP	1	8 9 8					4500
16	CAJ295G01	02T01	8011 2C							4600
16	CAJ295G01	02B01	9 0 0SPSP	1	9 0 0					4700
16	CAJ295G01	02B02	5 0 0SPSP	1	5 0 0					4800
16	CAJ295G01	02B03	16 311SPSP	1	16 311					4900
16	CAJ295G01	02B04	5 0 0SPSP	1	5 0 0					5000

BARS-PC R5.5-MOD 3.0

RECORD										REC.NO.
16	CAJ295G01	02B05	16 311SPSP	1	16 311					5100
16	CAJ295G01	02B06	5 0 0SPSP	1	5 0 0					5200
16	CAJ295G01	02B07	16 311SPSP	1	16 311					5300
16	CAJ295G01	02B08	5 0 0SPSP	1	5 0 0					5400
16	CAJ295G01	02B09	3 0 1SPSP	1	3 0 1					5500
16	CAJ295G01	03T01	39 7 3C							5600
16	CAJ295G01	03B01	141013SPSP	1	141013					5700
16	CAJ295G01	03B02	6 0 0SPSP	1	6 0 0					5800
16	CAJ295G01	03B03	18 8 6SPSP	1	18 8 6					5900

THE FOLLOWING STRUCTURES WERE SELECTED

CAJ295

 * STRUCTURE HEADER AND DESCRIPTION *

100-- 2 ALAN JOHNSON EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
 TYPE = CSIB YEAR = 70 LEN = 161.08 FT. WIDTH = 39.67 FT. 3 SPANS SP.LOAD =
 INV.LL.TRK.= OP.LL.TRK.=

 * STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS *

200-- 5 BRIDGE=LM 18.31 DIST./CO.= 3 19 CONST. ROUTE = I-40 CONST. SECT.= CONST. STA.= 0+ .
 MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=
 ROUTE I.D.= MARKED ROUTE =

 * COMMENTS *

300-- 6 1 THERE IS 4" OF ASPHALT ON THE DECK.
 400-- 6 2 THE BEAM SPACINGS VARY. I USED THE AVERAGE SPACING FOR BEAMS 1 AND 2.

 * SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS *

	STRUCT STEEL	REINF. CONCRETE	COMPOSITE STEEL/CONC	PRESTRESSED CONCRETE	IMPACT FACTOR				TIMBER	
					INV	OP	POST	SPEC		
500-- 7	FY=36000.	FY = 3000. F"C= 0.	FY = 0. F"C= 0.	LOSS = 0. EG/ES= .000	F"S = 0. F"C= 0.	MAX =.00	.00	.00	.00	FY = 0. FV = 0.

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

MEMBER ID	SPANS SYMM CODE	STIFF. (SPAN 4)	SPAN 2 (SPAN 5)	SPAN 3 (SPAN 6)	MATL CODE	ALLOWABLE STRESS		LL DIST. FACTOR	END THRU FL.BM DECK	MAX INV	IMPACT OP.	FACTOR POST	TIMBER SPEC
						FY	FB FC* FC**						
600-- 8	G 1 3	34.885	80.927	39.599	CSC	.00	.00	1.391		.00	.00	.00	.00

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

	MEMBER ID	SYMM.	SPAN NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	LOAD P OR W(L)	LOAD W(R)	LENGTH
700--10	G 1		1	.000FT.	W	563.0	.0	34.885FT.
800--10	G 1		2	.000FT.	W	563.0	.0	80.927FT.
900--10	G 1		3	.000FT.	W	563.0	.0	39.599FT.

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

	MEMBER ID	SYMM.	SPAN NO.	RANGE NO.	RANGE LENGTH	SECTION NO. LEFT	SECTION NO. RIGHT	SEC. VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	HYBRID CODE	GIRDER FY	GIRDER CODE	GIRDER FY
1000--11	G 1		1	1	29.385FT.	1	0			.000FT.	.000FT.		0.		0.
1100--11	G 1		1	2	5.500FT.	2	0			.000FT.	.000FT.		0.		0.
1200--11	G 1		2	1	3.500FT.	3	0			.000FT.	.000FT.		0.		0.
1300--11	G 1		2	2	73.927FT.	4	0			.000FT.	.000FT.		0.		0.
1400--11	G 1		2	3	3.500FT.	3	0			.000FT.	.000FT.		0.		0.
1500--11	G 1		3	1	5.500FT.	2	0			.000FT.	.000FT.		0.		0.
1600--11	G 1		3	2	34.099FT.	1	0			.000FT.	.000FT.		0.		0.

*
***** SECTION PROPERTIES (STEEL OR TIMBER) - GIRDERS STRINGERS, FLOOR BEAMS ***** *

MEMBER ID	SEC.	A	I	S	CODE	SAME	ADR	H	ELE	A	IX	DY	DX
1700--12	G 1	0	.00	.0	.0	1	0	35.88	1	12.00P	.9	35.4	.0
1800--12	G 1	0	.00	.0	.0	1	0	.00	2	.63	34.0	16.8	.0
1900--12	G 1	0	.00	.0	.0	1	0	.00	3	12.00	.9	.5	.0
2000--12	G 1	0	.00	.0	.0	2	0	37.50	1	12.00P	.9	37.1	.0
2100--12	G 1	0	.00	.0	.0	2	0	.00	2	12.00	.9	36.2	.0
2200--12	G 1	0	.00	.0	.0	2	0	.00	3	.63	34.0	18.8	.0
2300--12	G 1	0	.00	.0	.0	2	0	.00	4	12.00	.9	1.3	.0
2400--12	G 1	0	.00	.0	.0	2	0	.00	5	12.00	.9	.4	.0
2500--12	G 1	0	.00	.0	.0	3	0	38.25	1	12.00P	.9	37.8	.0
2600--12	G 1	0	.00	.0	.0	3	0	.00	2	12.12	1.3	36.8	.0
2700--12	G 1	0	.00	.0	.0	3	0	.00	3	.81	34.0	19.1	.0
2800--12	G 1	0	.00	.0	.0	3	0	.00	4	12.12	1.3	1.5	.0
2900--12	G 1	0	.00	.0	.0	3	0	.00	5	12.00	.9	.4	.0
3000--12	G 1	0	.00	.0	.0	4	0	36.50	1	12.12P	1.3	35.9	.0
3100--12	G 1	0	.00	.0	.0	4	0	.00	2	.81	34.0	18.3	.0
3200--12	G 1	0	.00	.0	.0	4	0	.00	3	12.12	1.3	.6	.0

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

MEMBER ID	SPAN SYMM.	SPAN RANGE	RANGE LENGTH	COMP N CODE	SECT SAME	A R	WIDTH	THICK -NESS	FILLET WIDTH	FILLET THICK.	EFFECT. WIDTH	EFFECT. THICK.	DIST TO TOP SECT.
3300--14	G 1	1 1	29.385FT.	N 0	1 0		102.00	8.00	18.00	1.00	96.00	8.00	5.00
3400--14	G 1	1 2	5.500FT.	N 0	2 0		102.00	8.00	18.00	1.31	96.00	8.00	5.31
3500--14	G 1	2 1	3.500FT.	N 0	1 0		.00	.00	.00	.00	.00	.00	.00
3600--14	G 1	2 2	12.500FT.	N 0	1 0		.00	.00	.00	.00	.00	.00	.00

3700--14	G 1	2	3	49.333FT. C	0	1	0	.00	.00	.00	.00	.00	.00	.00
3800--14	G 1	2	4	12.094FT. N	0	1	0	.00	.00	.00	.00	.00	.00	.00
3900--14	G 1	2	5	3.500FT. N	0	1	0	.00	.00	.00	.00	.00	.00	.00
4000--14	G 1	3	1	5.500FT. N	0	2	0	.00	.00	.00	.00	.00	.00	.00
4100--14	G 1	3	2	34.099FT. N	0	1	0	.00	.00	.00	.00	.00	.00	.00

 * BRACING LENGTH SPECIFICATIONS - LOAD FACTOR ANALYSIS *

MEMBER	SPAN	RANGE	RANGE	SUPPORT	COND.	SPACES	SPACING	STIFF
ID	SYMM	T/B	LENGTH	LEFT	RIGHT		DISTANCE	SPACING
4200--16	G 1	1 T 1	34.885FT.C			0	.000FT.	.000IN.
4300--16	G 1	1 B 1	21.094FT.SP	SP		1	21.094FT.	.000IN.
4400--16	G 1	1 B 2	5.000FT.SP	SP		1	5.000FT.	.000IN.
4500--16	G 1	1 B 3	8.792FT.SP	SP		1	8.792FT.	.000IN.
4600--16	G 1	2 T 1	80.927FT.C			0	.000FT.	.000IN.
4700--16	G 1	2 B 1	9.000FT.SP	SP		1	9.000FT.	.000IN.
4800--16	G 1	2 B 2	5.000FT.SP	SP		1	5.000FT.	.000IN.
4900--16	G 1	2 B 3	16.307FT.SP	SP		1	16.307FT.	.000IN.
5000--16	G 1	2 B 4	5.000FT.SP	SP		1	5.000FT.	.000IN.
5100--16	G 1	2 B 5	16.307FT.SP	SP		1	16.307FT.	.000IN.
5200--16	G 1	2 B 6	5.000FT.SP	SP		1	5.000FT.	.000IN.
5300--16	G 1	2 B 7	16.307FT.SP	SP		1	16.307FT.	.000IN.
5400--16	G 1	2 B 8	5.000FT.SP	SP		1	5.000FT.	.000IN.
5500--16	G 1	2 B 9	3.005FT.SP	SP		1	3.005FT.	.000IN.
5600--16	G 1	3 T 1	39.599FT.C			0	.000FT.	.000IN.
5700--16	G 1	3 B 1	14.901FT.SP	SP		1	14.901FT.	.000IN.
5800--16	G 1	3 B 2	6.000FT.SP	SP		1	6.000FT.	.000IN.
5900--16	G 1	3 B 3	18.698FT.SP	SP		1	18.698FT.	.000IN.

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 1
INVENTORY AND/OR OPERATING ANALYSIS

BARS-PC RELEASE 5.5

INPUT CODING --

STRUCTURE LM 18.31

D/P STR. I.D.-- CAJ-295

DATE 9/ 5/97
BY ALAN JOHNSON

INVENTORY
LIVE LOAD RATING
H15 H 42.69

OPERATING
LIVE LOAD RATING
HS20 HS 52.87

STRUCTURE DESCRIPTION --

LOCATION --

MICROFILM REEL NUMBERS --

IDENTIFICATION LM 18.31
TYPE CSIB
YEAR OF CONSTR. 1970
LENGTH 161.08 FEET
ROADWAY WIDTH 39.67 FEET
NUMBER OF SPANS 3

DISTRICT 3
COUNTY 19
CONSTR. RTE. I-40
CONSTR. SEC.
CONSTR. STA. 0+ .
KEY RTE.
MARKED RTE.

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS --

THERE IS 4" OF ASPHALT ON THE DECK.
THE BEAM SPACINGS VARY. I USED THE AVERAGE SPACING FOR BEAMS 1 AND 2.

INVENTORY RATING SUMMARY --

MEMBER ID. G 1
SPAN 2
CRITICAL C.P. DIST. 40.5 FEET
LIVE LOAD DESIGNATION H15

MOMENT
(FT. KIPS)
MEMBER CAPACITY 1764.1
DL EFFECT 643.7

CAPACITY FOR (LL+I) 1149.1
ACTUAL (LL+I) 403.8

INVENTORY RATING H 42.69

OPERATING RATING SUMMARY --

MEMBER ID. G 1
SPAN 2
CRITICAL C.P. DIST. 40.5 FEET
LIVE LOAD DESIGNATION HS20

MOMENT
(FT. KIPS)
MEMBER CAPACITY 2940.1
DL EFFECT 643.7

CAPACITY FOR (LL+I) 1915.2
ACTUAL (LL+I) 724.6

OPERATING RATING HS 52.87

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. CAJ-295 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

STRUCTURE LM 18.31

D/P STR. ID-- CAJ-295

INPUT CODING--

		INVENTORY		OPERATING	
DATE	9/ 5/97	LIVE LOAD	RATING	LIVE LOAD	RATING
		H15	H 42.7	HS20	HS 52.9
BY	ALAN JOHNSON				

STRUCTURE DESCRIPTION--

LOCATION--

MICROFILM REEL NUMBERS--

IDENTIFICATION	LM 18.31	DISTRICT	3	DESIGN PLANS
TYPE	CSIB	COUNTY	19	COMPUTATIONS
YEAR OF CONSTR.	1970	CONSTR. RTE.	I-40	CORRESPONDENCE
LENGTH	161.08 FEET	CONSTR. SEC.		
ROADWAY WIDTH	39.67 FEET	CONSTR. STA.	0+ .	
NUMBER OF SPANS	3	KEY RTE.		
		MARKED RTE.		

ANALYST REMARKS--

THERE IS 4" OF ASPHALT ON THE DECK.
THE BEAM SPACINGS VARY. I USED THE AVERAGE SPACING FOR BEAMS 1 AND 2.

INVENTORY RATING SUMMARY

MEMBER I.D.	G 1
SPAN	2
CRITICAL C.P. DIST.	40.5 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	1764.1
DL EFFECT	643.7

CAPACITY FOR (LL+I)	1149.1
ACTUAL (LL+I)	403.8

INVENTORY RATING H 42.69

OPERATING RATING SUMMARY

MEMBER I.D.	G 1
SPAN	2
CRITICAL C.P. DIST.	40.5 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	2940.1
DL EFFECT	643.7

CAPACITY FOR (LL+I)	1915.2
ACTUAL (LL+I)	724.6

OPERATING RATING HS 52.87

DETAIL DATA FOR FLEXURAL MEMBER

DATE 09/05/97

NO. SPANS = 3
NOT SYMMETRICAL

D/P STRUCTURE I.D. CAJ-295

MEMBER I.D.--G01

MATERIAL--CSC

LL DIST. FACT. = 1.391

SUPERIMPOSED CONCENTRATED DL(S)

DIST. FROM LT SUPPORT****

NOT ENTERED										VAR		SUPERIMPOSED DISTRIBUTED DL(S)					SUPERIMPOSED CONCENTRATED DL					
										CODE	DL DUE TO		LENGTH DISTRIBUTED*****					DIST. FROM LT SUPPORT***				
										S	MEM. WEIGHT											
										T	W(LT)	W(RT)										
SPAN	LENGTH	RNG.	LENGTH	SEC.	NO.	T	T					SPAN	W(LT)	W(RT)	*	*	STIFF	SPAN	P	*		
NO.	FT.	NO.	FT.	LT	RT	P	B			LBS/FT	LBS/FT	NO.	LBS/FT	LBS/FT	FT.	FT.	TRANS.	LONG.	NO.	KIPS	FT.	
1	34.885	1	29.385	01	01					148.9	148.9	1	563.0	563.0	.000	34.885						
		2	5.500	02	02					220.3	220.3	2	563.0	563.0	34.885	80.927						
2	80.927	1	3.500	03	03					268.5	268.5	3	563.0	563.0	115.813	39.599						
		2	73.927	04	04					197.0	197.0											
		3	3.500	03	03					268.5	268.5											
3	39.599	1	5.500	02	02					220.3	220.3											
		2	34.099	01	01					148.9	148.9											

CHECK POINTS RATED--

SPAN DIS FRM				SPAN DIS FRM			
NO.	LT	SPRT	FT.	NO.	LT	SPRT	FT.
1			.000	1			13.954
2			.000	2			40.464
3			.000	3			23.759
3			39.599				

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/05/97

D/P STRUCTURE I.D. CAJ-295
MEMBER I.D.--G01
C.P. LOCATION

1.00

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

	H	GROSS		---NET AREA---		IX + BEND IN**4	IX - BEND IN**4	C (BOT) IN.	SECTION		MODULUS	
		AREA	BEND	BEND	BEND				TOP	TOP	BOTTOM	BOTTOM
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	SQ.IN.				+ BEND IN**3	- BEND IN**3	+ BEND IN**3	- BEND IN**3
NON-COM	.00	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)						8930.1		17.36	482.3		514.4	
COM (N=3N)						8930.1		17.36	482.3		514.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN.BRACE LENGTH = .00 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	+ BEND FT-KIPS	- BEND FT-KIPS	+ BEND FT-KIPS	- BEND FT-KIPS
INVENTORY	1.0	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					
***** DL MOMENT EFFECT ***** AVAIL.CAPAC.FOR LL+IMPACT						
	DL	SDL	+BEND	-BEND	+BEND	-BEND
	FT-KIPS	FT-KIPS	F-KPS	F-KPS	F-KPS	F-KPS
	.0	.0	INVENTORY 1376.3	.0	1376.3	.0
			OPERATING 2293.9	-680.8	2293.9	-725.1
			VEH. 1	.0	.0	.0
			VEH. 2	.0	.0	.0
			VEH. 3	.0	.0	.0
			SPECIAL	.0	.0	.0
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

LIVE LOAD	LL+IMP	LL	LOC.NO. 1 WHEEL	DIR	AXLE SPACE	LL+IMP	LL	LOC.CONC LOAD	LOC.CONC LOAD 2	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	.0	.0	.000	L	.0	.0	.000	.000	8.159	122.4	H 122.4
	-BEND	.0	.0	.000	L	.0	.0	.000	.000			
OPER HS20	+BEND	.0	.0	77.534	L	.0	.0	.000	.000	7.475	269.1	HS149.5
	-BEND	.0	.0	.000	L	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST SPEC	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/05/97

D/P STRUCTURE I.D. CAJ-295
MEMBER I.D.--G01
C.P. LOCATION 1.40

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

---NET AREA---				IX		C	SECTION		MODULUS	
H	GROSS AREA	+ BEND	- BEND	+ BEND	- BEND	(BOT)	TOP	TOP	BOTTOM	BOTTOM
IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	+ BEND	- BEND	+ BEND	- BEND
NON-COM	.00	.00	.00	.00	.0	.00	.0	.0	.0	.0
COM (N=N)				8930.1		17.36	482.3		514.4	
COM (N=3N)				8930.1		17.36	482.3		514.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 21.09 , YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH *****

MOMENT CAPACITY

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	1.727	-1.418	.154	.000	.000	.000
N 2	3.477	-2.046	.272	.000	.000	.000
T 3	5.273	-2.279	.343	.000	.000	.000
H 4	7.138	-2.286	.372	.000	.000	.000
5	5.606	-2.108	.365	.000	.000	.000
P 6	4.190	-1.789	.328	.000	.000	.000
O 7	2.912	-1.370	.267	.000	.000	.000
I 8	1.795	-.895	.188	.000	.000	.000
N 9	.838	-.411	.097	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

INVENTORY

OPERATING	1.0
POST VEH1	.0
POST VEH2	.0
POST VEH3	.0
POST SPEC	.0

***** DL MOMENT

DL	SDL
FT-KIPS	FT-KIPS
-47.8	3.5

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP	TOP	BOT	BOT
	+BEND	-BEND	+BEND	-BEND
INVENTORY	1402.9	-641.3	1402.9	-685.6
OPERATING	2338.2	-1068.8	2338.2	-1142.7
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .243 FOR -BEND)

-----TRUCK LOAD-----				-----LANE LOAD-----			
LIVE LOAD	LL+IMP	LL	LOC.NO. DIR	LL+IMP	LL	LOC.CONC	LOC.CONC
	FT-KIPS	FT-KIPS	1 WHEEL FT.	FT-KIPS	FT-KIPS	LOAD	LOAD 2
INV H15	+BEND 164.6	126.6	27.954 R	.0	141.0	108.5	13.954
	-BEND 58.5	47.0	73.168 R	.0	76.3	61.4	67.256
OPER HS20	+BEND 258.1	198.5	-.046 L	.0	188.0	144.6	13.954
	-BEND 134.5	108.2	81.256 R	.0	101.8	81.9	67.256
POST	+BEND .0	.0	.000				
	-BEND .0	.0	.000				
POST	+BEND .0	.0	.000				
	-BEND .0	.0	.000				
POST	+BEND .0	.0	.000				
	-BEND .0	.0	.000				
POST SPEC	+BEND .0	.0	.000				
	-BEND .0	.0	.000				

RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
5.174	77.6	H 77.6
5.498	197.9	HS110.0
.000	.0	
.000	.0	
.000	.0	
.000	.0	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/05/97

D/P STRUCTURE I.D. CAJ-295
MEMBER I.D.--G01
C.P. LOCATION 2.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1OF SPAN 2

---NET AREA---				IX		C	SECTION		MODULUS	
H	GROSS AREA	+ BEND	- BEND	+ BEND	- BEND	(BOT)	TOP	TOP	BOTTOM	BOTTOM
IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	+ BEND	- BEND	+ BEND	- BEND
							IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.00	.0	.0	.0	.0
COM (N=N)					19410.7	22.88	848.5		848.5	
COM (N=3N)					19410.7	22.88	848.5		848.5	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN.BRACE LENGTH = 9.00 ,YBAR = 1.02

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

							M1/M2	M1/M2	MOMENT CAPACITY			
							TOP	BOTTOM	+ BEND	- BEND	+ BEND	- BEND
							FT-KIPS	FT-KIPS	FT-KIPS	FT-KIPS	FT-KIPS	FT-KIPS
***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)							INVENTORY	.3				
							OPERATING	.0				
							POST VEH1	.0				
							POST VEH2	.0				
							POST VEH3	.0				
							POST SPEC	.0				
							***** DL MOMENT		***** AVAIL.CAPAC.FOR LL+IMPACT			
							EFFECT		TOP	TOP	BOT	BOT
							DL	SDL	+BEND	-BEND	+BEND	-BEND
							FT-KIPS	FT-KIPS	F-KPS	F-KPS	F-KPS	F-KPS
							-492.5	-196.8	INVENTORY	2787.0	-1194.1	2787.0
									OPERATING	4645.0	-1990.2	4645.0
							AREA		VEH. 1	.0	.0	.0
							TOTALS		VEH. 2	.0	.0	.0
									VEH. 3	.0	.0	.0
									SPECIAL	.0	.0	.0
POS AREA	.0	.0	23.6	.0	.0	.0	23.6					
NEG AREA	77.7	295.4	.0	.0	.0	.0	373.1					

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .273 FOR -BEND)

-----TRUCK LOAD-----										-----LANE LOAD-----		
LIVE LOAD	LL+IMP	LL	LOC.NO.	DIR	AXLE	LL+IMP	LL	LOC.CONC	LOC.CONC	RATING	SAFE LOAD	RATING
	FT-KIPS	FT-KIPS	1 WHEEL		SPACE	FT-KIPS	FT-KIPS	LOAD	LOAD 2	FACT.	CAPACITY	VALUE
			FT.		FT.			FT.	FT.		TONS	
INV H15	+BEND	23.2	17.9	145.652	R	.0	21.7	16.7	131.652			
	-BEND	149.8	117.6	73.168	R	.0	270.5	212.4	67.256	4.415	66.2	H 66.2
OPER HS20	+BEND	46.6	35.8	153.570	R	.0	28.9	22.2	131.652			
	-BEND	344.6	270.6	81.256	R	.0	360.6	283.2	67.256	5.519	198.7	HS110.4
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								
POST SPEC	+BEND	.0	.0	.000						.000	.0	
	-BEND	.0	.0	.000								

BARS RELEASE 5.5

D/P STRUCTURE I.D. CAJ-295
MEMBER I.D.--G01
C.P. LOCATION

-----SECTION MODULUS-----

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      (AS)C =      .0 SQ. IN. , (DS)C =      .0 SQ. IN. BRACE LENGTH =      16.31 , YBAR =      .14
***** INFLUENCE LINE (SIMPLE SPAN) ***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

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INVENTORY	.8	.0
-----------	----	----

SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	POST VEH1	.0
						POST VEH2	0

E 1	- .365	1.832	-.688	.000	.000	.000	POST VEH3	.0
	-.729	1.558	1.014	.000	.000	.000	POST SPEC	.0

[illegible]

5	-1.368	15.222	-1.625	.000	.000	.000	EFFECT	FOR	FOR	FOR	B	
P 6	-1.389	11.365	-1.460	.000	.000	.000	DL	SDL	+BEND	-BEND	+BEND	-B

U 7	-1.272	7.840	-1.189	.000	.000	.000	11 RIB	11 RIB	11 RIB	11 RIB	11 RIB
I 8	-.994	4.645	-.837	.000	.000	.000	382.0	261.6	INVENTORY	1377.8	-1302.4 1377.8 -130

T 0	.000	.000	.000	.000	.000	.000	AREA	VEH. 1	.0	.0	.0
-----	------	------	------	------	------	------	------	--------	----	----	----

POS AREA	.0	537.8	.0	.0	.0	.0	537.8	VEH. 3	.0	.0	.0
----------	----	-------	----	----	----	----	-------	--------	----	----	----

NEG AREA	31.0	.0	42.1	.0	.0	.0	73.1	SPECIAL	.0	.0	.0
----------	------	----	------	----	----	----	------	---------	----	----	----

[illegible]

LOAD	1 WHEEL	SPACE	LOAD	LOAD 2	FACT.	CAPACITY	VALUE
	ET	ET WIRS ET WIRS	ET	ET		TONS	

INV	H15	+BEND	361.4	290.8	89.349	R	.0	403.8	324.9	75.349		2.846	42.7	H	42.7
-----	-----	-------	-------	-------	--------	---	----	-------	-------	--------	--	-------	------	---	------

OPER. VS. CO. BEND	724.6	583.0	61.346	1	0	538.4	433.2	75.349		2.643	95.2	HS 52.9
--------------------	-------	-------	--------	---	---	-------	-------	--------	--	-------	------	---------

-BEND	83.1	63.9	153.570	R	.0	69.7	55.6	151.652	.000
-------	------	------	---------	---	----	------	------	---------	------

POST	+BEND	.0	.0	.000
	-BEND	.0	.0	.000

POST	+BEND	.0	.0	.000	.000	.0
------	-------	----	----	------	------	----

-BEND	.0	.0	.000
-------	----	----	------

-BEND	.0	.0	.000
-------	----	----	------

BARS RELEASE 5.5

D/P STRUCTURE I.D. CAJ-295

3.00

---NET AREA---

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 14.90 , YBAR = .43

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

INVENTORY	.3	.0
-----------	----	----

INVENTORY	1.5	1.5
OPERATING	.0	

OPERATING	.0
POST VEH1	.0
POST VEH2	.0
POST VEH3	.0
POST SPEC	.0

***** DL MOMENT *****		***** AVAIL.CAPAC.FOR LL+IMPACT *****			
EFFECT		TOP	TOP	BOT	BOT
DL	SDL	+BEND	-BEND	+BEND	-BEND
FT-KIPS	FT-KIPS	F-KPS	F-KPS	F-KPS	F-KPS
-489.0	-201.7	INVENTORY 2390.3	-910.4	2390.3	-910.4
		OPERATING 3983.8	-1517.3	3983.8	-1517.3
VEA		VEH. 1	.0	.0	.0
VALS		VEH. 2	.0	.0	.0
15.7		VEH. 3	.0	.0	.0
74.0		SPECIAL	.0	.0	.0

[illegible]

BARS RELEASE 5.5

D/P STRUCTURE I.D. CAJ-295

3.60

C.P. LOCATION

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 18.70 , YBAR = .00

***** ULTIMATE STRENGTH *****

	FOR	BOTTOM	AT RISK	AT RISK	AT RISK	AT RISK
INVENTORY	.5	.0				

ORDINATES OF THE THREE ORDER INFLUENCE LINE (CONTINUOUS DATA, STEADY STATE)								VEHICLE
SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	POST VEH1		
							.0	

N 2	.1145	.1900	1.925	.000	.000	.000	POST SIZE	10
T 3	.203	-1.220	3.186	.000	.000	.000		

5	.276	-1.900	6.255	.000	.000	.000	EFFECT	TOP	TOP	BOT	B
---	------	--------	-------	------	------	------	--------	-----	-----	-----	---

0 7	.257	-2.069	5.910	.000	.000	.000	FT-KIPS	FT-KIPS	F-KPS	F-KPS	F-KPS	F-
-----	------	--------	-------	------	------	------	---------	---------	-------	-------	-------	----

N 9	.112	-1.294	1.934	.000	.000	.000	OPERATING	2272.4	-1134.6	2272.4	-120
-----	------	--------	-------	------	------	------	-----------	--------	---------	--------	------

TOTALS	VEH. 2	.0	.0	.0
--------	--------	----	----	----

NEG AREA	.0	106.5	.0	.0	.0	.0	106.5	SPECIAL	.0	.0	.0
----------	----	-------	----	----	----	----	-------	---------	----	----	----

-----TRUCK LOAD----- -----LANE LOAD-----

	LIVE LOAD		LL+IMP	LL	LOC.NO. 1 WHEEL	DIR	AXLE SPACE FT.	LL+IMP	LL	LOC.CONC LOAD	LOC.CONC LOAD 2	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
	H15	+BEND -BEND	187.4 53.0	144.1 42.7	125.572 77.534	L L	.0 .0	163.3 68.9	125.6 55.4	139.572 91.534		4.333	65.0	H 65.0
OPER HS20	+BEND -BEND	310.8 121.9	239.1 98.1	153.572 69.438	R L	.0 .0	217.7 91.9	167.5 73.9	139.572 91.534			4.353	156.7	HS 87.1
POST	+BEND -BEND	.0 .0	.0 .0	.000 .000								.000	.0	
POST	+BEND -BEND	.0 .0	.0 .0	.000 .000								.000	.0	
POST	+BEND -BEND	.0 .0	.0 .0	.000 .000								.000	.0	
POST SPEC	+BEND -BEND	.0 .0	.0 .0	.000 .000								.000	.0	

BARS RELEASE 5.5

D/P STRUCTURE I.D. CAJ-295

4.00

-----SECTION MODULUS-----

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = .00 , YBAR = .00

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

M1/M2	M1/M2	+ BEND	- BEND	+ BEND	- BEND
TOP	BOTTOM	FT-KIPS	FT-KIPS	FT-KIPS	FT-KIPS

INVENTORY	1.0	.0
OPERATING	.0	
POST VEH1	.0	
POST VEH2	.0	
POST VEH3	.0	
POST SPEC	.0	

***** DL MOMENT		***** AVAIL.CAPAC.FOR LL+IMPACT				
EFFECT		TOP	TOP	BOT	BOT	
DL	SDL	+BEND	-BEND	+BEND	-BEND	
FT-KIPS	FT-KIPS	F-KPS	F-KPS	F-KPS	F-KPS	
.0	.0	INVENTORY	1376.3	-680.8	1376.3	-725.1
		OPERATING	2293.9	-1134.6	2293.9	-1208.6
LEA	VEH. 1	.0	.0	.0	.0	
ALS	VEH. 2	.0	.0	.0	.0	
.0	VEH. 3	.0	.0	.0	.0	
.0	SPECIAL	.0	.0	.0	.0	

AD-----

LOC. CONC	LOC. CONC	RATING	SAFE LOAD	RATING
LOAD	LOAD 2	FACT.	CAPACITY	VALUE
FT.	FT.		TONS	
.000		7.795	116.9	H 116.9
.000	.000			
.000		7.033	253.2	HS140.7
.000	.000			
		.000	.0	
		.000	.0	
		.000	.0	
		.000	.0	

SUMMARY OF SHEAR ANALYSIS

DATE 09/05/97

D/P STRUCTURE I.D. CAJ-295

MEMB. ID	SPAN MATL	DIS NO.	FRM LT	L SPRT	R	DL SHEAR KIPS	SDL SHEAR KIPS	---INVENTORY---		---OPERATING---		--VEH. 1 --		--VEH. 2 --		--VEH. 3 --		--SPECIAL--	
								LL+I MAX.V KIPS	T L MIN.V KIPS	LL+I MAX.V KIPS	T L MIN.V KIPS	LL+I MAX.V KIPS	LL+I MIN.V KIPS	LL+I MAX.V KIPS	LL+I MIN.V KIPS	LL+I MAX.V KIPS	LL+I MIN.V KIPS	LL+I MAX.V KIPS	LL+I MIN.V KIPS
G01	CSC	1	.000	L		3.7	4.2	24.5	L	6.6	L	44.6	T	10.1	T				
		1	13.954	L		10.5	3.7	11.8	T	13.8	L	17.8	T	18.5	L				
		2	.000	L		43.3	22.7	38.2	L	1.8	L	58.9	T	3.2	T				
		2	40.464	L		.0	.1	14.8	L	14.6	L	24.5	T	23.7	T				
		3	.000	L		32.9	16.2	31.4	L	.5	L	53.3	T	.8	T				
		3	23.759	L		8.3	2.9	13.4	L	11.8	T	17.9	L	18.9	T				
		3	39.599	L		7.8	6.1	5.3	L	25.2	L	8.1	T	46.6	T				

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

-- STRUCTURAL STEEL PROPERTIES --															
H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) -		- B'/t -		Lb (FT)		Ry (IN)		- Lb / Ry	Ry	HYBRID RATIO, R
					TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	+BEND -BEND
35.88	.63	57.40	34.00	54.40	5.69	5.69	6.07	6.07	CONT	21.09	3.46	3.46	.00	73.07	1.0000 1.0000
-- COMPOSITE CONCRETE PROPERTIES --															
EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)						
96.0	8.0	9	.00	.00	6.43	.0	11.25	11.25	21.25						
-- SECTION PROPERTIES --															
GROSS AREA		NET AREA	IX	IX	C	TOP	TOP	BOTT	BOTT	----- SECTION MODULUS -----					
AREA	+BEND	-BEND	+BEND	-BEND	(BOT)	+BEND	-BEND	+BEND	-BEND	----- PLASTIC SECTION MODULUS -----					
SQ.IN.	SQ.IN.	SQ.IN.	IN.**4	IN.**4	IN.	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3
43.75	43.75	43.75	8930.1	8930.1	17.36	482.3	482.3	482.3	482.3	514.4	514.4	514.4	514.4	514.4	514.4
NON-COM			8930.1	.0	17.36	482.3	.0	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4
COM(N=N)			8930.1	.0	17.36	482.3	.0	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4
COM(N=3N)			8930.1	.0	17.36	482.3	.0	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4
-- ULTIMATE STRENGTH --															
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)		2200/(SQRT Fy)		-- YIELD STRESS, Fy (PSI) --								
STEEL	CONC.	REBAR	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	WEB		
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.	36000.	36000.	36000.	36000.		
***** SECTION QUALIFICATION *****															
STIFFENED		UNSTIFFENED	COMPACT	BRACED	UNBRACED	REDUCTION	SYMMETRICAL UNSYMMETRICAL								
LONG TRANS				NON-COMPACT	NON-COMPACT	FACTOR									
+BEND		X	X			1.0000	X								
-BEND		X	X			1.0000	X								
***** SECTION CAPACITY *****															
+BEND		ML =	.00 FT-KIPS,	MR =	.00 FT-KIPS										
-BEND		ML =	.00 FT-KIPS,	MR =	.00 FT-KIPS										
--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --															
TOP	TOP	BOTT	BOTT	MU	MAX. CAP.	MAX. CAP.	MU	VU	VU						
+BEND	-BEND	+BEND	-BEND		STEEL	CONC.		LEFT	RIGHT						
INV.	1376.35	759.37	1376.35	712.23	1645.30	548.43	2433.66	2982.09	443.70	443.70					
OPER.	2293.91	1265.61	2293.91	1187.05	1645.30	548.43	2433.66	2982.09	443.70	443.70					
***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****															
-- DEAD LOAD --															
M (DL)	M (SDL)	REDIS.	REDIS.	V (DL)	V (SDL)										
.00	.00	.00	.00	3.67	4.18										

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.00

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

		-- LIVE LOAD --										-----FIXED-----		-----MAX-----	
LIVE LOAD		-----TRUCK MOMENT-----					-----LANE MOMENT-----					SHEAR		SHEAR	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.		+V	-V	+V	-V
		LL+I	FT-KIPS	FT-KIPS	1 WHEEL		FT-KIPS	FT-KIPS	LOAD #1	LOAD #2		KIPS	KIPS	KIPS	KIPS
		FT-KIPS			FT.				FT.	FT.					
INV.	H15 +BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00			
	-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00			
														.00	24.52
OPER.	HS20 +BEND	.00	.0	.0	77.534	L	.0	.0	.000	.000	.00	.00			
	-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00			
														.00	44.61

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.000	.000	.000	.000	.000	.000
N 2	.000	.000	.000	.000	.000	.000
T 3	.000	.000	.000	.000	.000	.000
H 4	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8	.000	.000	.000	.000	.000	.000
N 9	.000	.000	.000	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

	AREA						AREA
	TOTALS						
POS AREA	.0	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0	.0

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DATE 9/ 5/97

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.00

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --							
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT			
		TOP	TOP	BOTT	BOTT	TOP	BOTT		
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND
INV.	H15	1376.3	.0	1376.3	.0	999.0000	999.0000	999.0000	999.0000
OPER.	HS20	2293.9	680.8	2293.9	725.1	999.0000	999.0000	999.0000	999.0000

RATING
VALUE
SAFE
LOAD
CAP. (TONS)

		-- RATING FACTOR FOR SERVICEABILITY --							
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY			
		TOP	TOP	BOTT	BOTT	TOP	BOTT		
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND
INV.	H15	824.8	937.8	879.6	937.8	999.0000	999.0000	999.0000	999.0000
OPER.	HS20	1374.7	1563.0	1466.0	1563.0	999.0000	999.0000	999.0000	999.0000

RATING
VALUE
SAFE
LOAD
CAP. (TONS)

		-- RATING FACTOR FOR SHEAR --					
		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		LEFT	RIGHT	LEFT	RIGHT		
INV.	H15	200.07	200.07	8.1589	8.1589	H 122.4	122.4
OPER.	HS20	333.45	333.45	7.4752	7.4752	HS149.5	269.1

PAGE 1

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***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****
              -- DEAD LOAD --
M (DL)      M (SDL)      REDIS.      REDIS.      V (DL)      V (SDL)
M-(DL)---M-(SDL)
-47.81      3.51      -47.81      3.51      -10.53      -3.68

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DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.40

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .243 FOR -BEND)

		-- LIVE LOAD --											
LIVE LOAD		-----TRUCK MOMENT-----					-----LANE MOMENT-----					-----FIXED-----	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.		SHEAR	
		LL+I			1 WHEEL				LOAD #1	LOAD #2	+V	-V	-V
		FT-KIPS	FT-KIPS	FT-KIPS	FT.		FT-KIPS	FT-KIPS	FT.	FT.	KIPS	KIPS	KIPS
INV.	H15	+BEND	164.56	164.6	126.6	27.954	R	141.0	108.5	13.954	.000	1.45	9.91
		-BEND	76.34	58.5	47.0	73.168	R	76.3	61.4	67.256	.000	1.39	1.39
													13.84
OPER.	HS20	+BEND	258.07	258.1	198.5	-.046	L	188.0	144.6	13.954	.000	10.08	10.44
		-BEND	134.53	134.5	108.2	81.256	R	101.8	81.9	67.256	.000	9.64	9.64
													18.45
													18.45

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	
T 0	.000	.000	.000	.000	.000	.000	
E 1	1.727	-1.418	.154	.000	.000	.000	
N 2	3.477	-2.046	.272	.000	.000	.000	
T 3	5.273	-2.279	.343	.000	.000	.000	
H 4	7.138	-2.286	.372	.000	.000	.000	
5	5.606	-2.108	.365	.000	.000	.000	
P 6	4.190	-1.789	.328	.000	.000	.000	
O 7	2.912	-1.370	.267	.000	.000	.000	
I 8	1.795	-.895	.188	.000	.000	.000	
N 9	.838	-.411	.097	.000	.000	.000	
T 0	.000	.000	.000	.000	.000	.000	
							AREA
POS AREA	115.0	.0	9.4	.0	.0	.0	TOTALS
NEG AREA	.0	118.2	.0	.0	.0	.0	124.4
							118.2

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DATE 9/ 5/97

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.40

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP	TOP	BOTT	BOTT	TOP	BOTT				
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	RATING	SAFE
										VALUE	LOAD
											CAP. (TONS)
INV.	H15	1402.9	641.3	1402.9	685.6	8.5255	8.4002	8.5255	8.9816		
OPER.	HS20	2338.2	1068.8	2338.2	1142.7	9.0603	7.9448	9.0603	8.4947		

		-- RATING FACTOR FOR SERVICEABILITY --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP	TOP	BOTT	BOTT	TOP	BOTT				
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	RATING	SAFE
										VALUE	LOAD
											CAP. (TONS)
INV.	H15	851.4	798.2	906.2	853.0	5.1737	10.4561	5.5068	11.1741	H 77.6	77.6
OPER.	HS20	1419.0	1330.4	1510.3	1421.7	5.4982	9.8892	5.8522	10.5683	HS110.0	197.9

		-- RATING FACTOR FOR SHEAR --					
		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR			
		LEFT	RIGHT	LEFT	RIGHT		
						RATING	SAFE
						VALUE	LOAD
INV.	H15	196.26	213.31	14.1796	14.1796		
OPER.	HS20	327.10	355.51	17.7245	17.7245		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION - 2.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 2 *****

-- STRUCTURAL STEEL PROPERTIES --																	
H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) -		- B'/t -		Lb (FT)	Ry (IN)		- Lb / Ry		HYBRID RATIO, R			
					TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT			
38.25	.81	47.11	34.00	41.87	5.65	5.65	2.66	2.66	CONT	9.00	3.48	3.48	.00	30.99	1.0000 1.0000		
-- COMPOSITE CONCRETE PROPERTIES --																	
EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)								
96.0	8.0	9	.00	.00	.00	1.0	25.65	25.65	27.61								
-- SECTION PROPERTIES --																	
GROSS		NET AREA		IX	IX	C	TOP	TOP	BOTT	BOTT	TOP		TOP		BOTT		
AREA	+BEND	-BEND	+BEND	-BEND	(BOT)	+BEND	-BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	
SQ.IN.	SQ.IN.	SQ.IN.	IN.**4	IN.**4	IN.	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	
NON-COM	78.91	78.91	78.91	19410.7	19410.7	19.12	848.5	848.5	848.5	848.5	1161.13	1161.13	1161.13	1161.13	1161.13	1161.13	
COM(N=N)				19410.7	.0	22.88	848.5	.0	848.5	848.5							
COM(N=3N)				19410.7	.0	22.88	848.5	.0	848.5	848.5							
-- ULTIMATE STRENGTH --																	
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)		2200/(SQRT Fy)		-- YIELD STRESS, Fy (PSI) --										
STEEL	CONC.	REBAR	TOP	BOT	TOP	BOT	BOT		TOP		WEB						
			FLANGE	FLANGE	FLANGE	FLANGE	FLANGE		FLANGE								
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.		36000.		36000.						
***** SECTION QUALIFICATION *****																	
STIFFENED		UNSTIFFENED		COMPACT		BRACED		UNBRACED		REDUCTION		SYMMETRICAL UNSYMMETRICAL					
LONG TRANV						NON-COMPACT		NON-COMPACT		FACTOR							
+BEND		X		X						1.0000		X					
-BEND		X		X						1.0000		X					
***** SECTION CAPACITY *****																	
+BEND		ML =		.00 FT-KIPS,		MR =		.00 FT-KIPS									
-BEND		ML =		-265.19 FT-KIPS,		MR =		-959.76 FT-KIPS									
--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --																	
TOP		TOP		BOTT		BOTT		MU		MAX. CAP.		MAX. CAP.		MU		VU	
+BEND		-BEND		+BEND		-BEND				STEEL		CONC.				LEFT RIGHT	
INV.	2373.40	1607.72	2373.40	1174.85	3483.40	1161.13	3981.23	5142.36							576.46	576.46	
OPER.	3955.66	2679.54	3955.66	1958.09	3483.40	1161.13	3981.23	5142.36							576.46	576.46	
***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****																	
-- DEAD LOAD --																	
M (DL)		M (SDL)		REDIS.		REDIS.		V (DL)		V (SDL)							
				M-(DL)---		M-(SDL)											
-492.54		-196.77		-492.54		-196.77		43.31		22.72							

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.00

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .273 FOR -BEND)

		-- LIVE LOAD --													
LIVE LOAD		-----TRUCK MOMENT-----						-----LANE MOMENT-----				-----FIXED-----		-----MAX-----	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.	SHEAR		SHEAR		
		LL+I			1 WHEEL				LOAD #1	LOAD #2	+V	-V	+V	-V	
		FT-KIPS	FT-KIPS	FT-KIPS	FT.		FT-KIPS	FT-KIPS	FT.	FT.	KIPS	KIPS	KIPS	KIPS	
INV.	H15 +BEND	23.21	23.2	17.9	145.652	R	21.7	16.7	131.652	.000	15.88	1.60			
	-BEND	270.46	149.8	117.6	73.168	R	270.5	212.4	67.256	20.931	15.56	15.56			
													38.24	36.55	
OPER.	HS20 +BEND	46.58	46.6	35.8	153.570	R	28.9	22.2	131.652	.000	21.18	3.20			
	-BEND	360.61	344.6	270.6	81.256	R	360.6	283.2	67.256	20.931	20.74	20.74			
													58.87	56.28	

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	-.916	-3.545	.386	.000	.000	.000
N 2	-1.774	-5.115	.681	.000	.000	.000
T 3	-2.516	-5.698	.857	.000	.000	.000
H 4	-3.087	-5.714	.929	.000	.000	.000
5	-3.427	-5.270	.912	.000	.000	.000
P 6	-3.479	-4.471	.819	.000	.000	.000
O 7	-3.186	-3.425	.667	.000	.000	.000
I 8	-2.490	-2.238	.469	.000	.000	.000
N 9	-1.393	-1.027	.242	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

	AREA TOTALS					
POS AREA	.0	.0	23.6	.0	.0	.0
NEG AREA	77.7	295.4	.0	.0	.0	.0
						373.1

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.00

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT				RATING VALUE	SAFE LOAD CAP. (TONS)
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND		
INV.	H15	2787.0	1194.1	2787.0	1194.1	120.0857	4.4152	120.0857	4.4152	H 66.2	66.2
OPER.	HS20	4645.0	1990.2	4645.0	1990.2	99.7279	5.5190	99.7279	5.5190	HS110.4	198.7
		-- RATING FACTOR FOR SERVICEABILITY --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY				RATING VALUE	SAFE LOAD CAP. (TONS)
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND		
INV.	H15	1864.5	1572.0	1864.5	1572.0	80.3390	5.8122	80.3388	5.8122		
OPER.	HS20	3107.5	2619.9	3107.5	2619.9	66.7193	7.2652	66.7192	7.2652		
		-- RATING FACTOR FOR SHEAR --									
		AVAILABLE CAPACITY (KIPS)				RATING FACTOR - SHEAR				RATING VALUE	SAFE LOAD
		LEFT	RIGHT			LEFT	RIGHT				
INV.	H15	226.44	226.44			5.9221	5.9221				
OPER.	HS20	377.39	377.39			6.4111	6.4111				

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION - 2.50

***** SECTION PROPERTIES IN COMPOSITE RANGE 3 OF SPAN 2 *****

-- COMPOSITE CONCRETE PROPERTIES --								
EFF.WIDTH	EFF.THICK.	VALUE	(AS)C	(DS)C	VALUE	Atf	Abf	Aw
(IN.)	(IN.)	N	(SQ.IN.)	(IN.)	a	(SQ.IN.)	(SQ.IN.)	(SQ.IN.)
96.0	8.0	9	.00	.00	.00	15.15	15.15	27.61

-- ULTIMATE STRENGTH --									
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)		2200/(SQRT Fy)		-- YIELD STRESS, Fy (PSI) --		
STEEL	CONC.	REBAR	TOP	BOT	TOP	BOT	BOT	TOP	WEB
			FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

	SECTION QUALIFICATION			COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
	STIFFENED		UNSTIFFENED						
	LONG	TRANSV							
+BEND			X	X			1.0000		X
-BEND			X		X		1.0000	X	

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1764.06	916.19	1764.06	916.19	2306.12	768.71	3053.42	3822.12	576.46	576.46
OPER.	2940.09	1526.99	2940.09	1526.99	2306.12	768.71	3053.42	3822.12	576.46	576.46

-- DEAD LOAD --					
M (DL)	M (SDL)	REDIS.	REDIS.	V (DL)	V (SDL)
		M-(DL)---	M-(SDL)		
382.05	261.64	382.05	261.64	.04	-.06

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.50

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .243 FOR +BEND AND = .300 FOR -BEND)

-- LIVE LOAD --															
LIVE LOAD		-----TRUCK MOMENT-----						-----LANE MOMENT-----				-----FIXED-----		-----MAX-----	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.	SHEAR		SHEAR		
		LL+I			1 WHEEL				LOAD #1	LOAD #2	+V	-V	+V	-V	
		FT-KIPS	FT-KIPS	FT-KIPS	FT.		FT-KIPS	FT-KIPS	FT.	FT.	KIPS	KIPS	KIPS	KIPS	
INV.	H15	+BEND	403.79	361.4	290.8	89.349	R	403.8	324.9	75.349	.000	2.95	7.97		
		-BEND	52.24	41.4	31.8	145.652	R	52.2	40.2	131.652	.000	3.09	3.09		
														14.76	14.76
OPER.	HS20	+BEND	724.56	724.6	583.0	61.346	L	538.4	433.2	75.349	.000	3.06	7.16		
		-BEND	83.05	83.1	63.9	153.570	R	69.7	53.6	131.652	.000	3.20	3.20		
														24.50	24.50

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	
T 0	.000	.000	.000	.000	.000	.000	
E 1	-.365	1.832	-.688	.000	.000	.000	
N 2	-.708	4.550	-1.214	.000	.000	.000	
T 3	-1.004	7.765	-1.529	.000	.000	.000	
H 4	-1.232	11.324	-1.657	.000	.000	.000	
5	-1.368	15.222	-1.625	.000	.000	.000	
P 6	-1.389	11.365	-1.460	.000	.000	.000	
O 7	-1.272	7.840	-1.189	.000	.000	.000	
I 8	-.994	4.645	-.837	.000	.000	.000	
N 9	-.556	1.915	-.432	.000	.000	.000	
T 0	.000	.000	.000	.000	.000	.000	
							AREA
							TOTALS
POS AREA	.0	537.8	.0	.0	.0	.0	537.8
NEG AREA	31.0	.0	42.1	.0	.0	.0	73.1

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DATE 9/ 5/97

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.50

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP	TOP	BOTT	BOTT	TOP		BOTT		RATING VALUE	SAFE LOAD CAP. (TONS)
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND		
INV.	H15	1377.8	1302.4	1377.8	1302.4	3.4123	24.9301	3.4123	24.9301		
OPER.	HS20	2296.4	2170.7	2296.4	2170.7	3.1694	26.1357	3.1694	26.1357		
		-- RATING FACTOR FOR SERVICEABILITY --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP	TOP	BOTT	BOTT	TOP		BOTT		RATING VALUE	SAFE LOAD CAP. (TONS)
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND		
INV.	H15	9141.3	1517.7	1149.1	1517.7	22.6390	29.0514	2.8459	29.0514	H 42.7	42.7
OPER.	HS20	15235.5	2529.5	1915.2	2529.5	21.0272	30.4563	2.6433	30.4563	HS 52.9	95.2
		-- RATING FACTOR FOR SHEAR --									
		AVAILABLE CAPACITY (KIPS)				RATING FACTOR - SHEAR					
		LEFT	RIGHT			LEFT	RIGHT			RATING VALUE	SAFE LOAD
INV.	H15	266.07	266.07			18.0206	18.0206				
OPER.	HS20	443.44	443.44			18.1022	18.1022				

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION - 3.00

PAGE 1

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 3 *****

-- STRUCTURAL STEEL PROPERTIES --															
H	Tweb	H/Tweb	D	D/Tweb	- B' (IN) -		- B'/t -		Lb (FT)		Ry (IN)		- Lb / Ry	HYBRID RATIO, R	
(IN.)	(IN.)		(IN.)		TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	+BEND
37.50	.63	60.00	34.00	54.40	5.69	5.69	3.14	3.14	CONT	14.90	3.46	3.46	.00	51.62	1.0000 1.0000

-- COMPOSITE CONCRETE PROPERTIES --									
EFF.WIDTH	EFF.THICK.	VALUE	(AS)C	(DS)C	VALUE	VALUE	Atf	Abf	Aw
(IN.)	(IN.)	N	(SQ.IN.)	(IN.)	a	Y	(SQ.IN.)	(SQ.IN.)	(SQ.IN.)
96.0	8.0	9	.00	.00	.00	.4	21.75	21.75	21.25

		-- SECTION PROPERTIES --				----- SECTION MODULUS -----				---- PLASTIC SECTION MODULUS ----			
		AREA		IX	IX	C	TOP	BOTT	BOTT	TOP	TOP	BOTT	BOTT
		GROSS	NET										
		AREA	+BEND	-BEND	+BEND	-BEND	(BOT)	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND
		SQ. IN.	SQ. IN.	SQ. IN.	IN. **4	IN. **4	IN.	IN. **3	IN. **3	IN. **3	IN. **3	IN. **3	IN. **3
NON-COM		64.75	64.75	64.75	15909.5	15909.5	18.75	848.5	848.5	848.5	848.5	956.83	956.83
COM (N=N)					15909.5	.0	18.75	848.5	.0	848.5	848.5		
COM (N=3N)					15909.5	.0	18.75	848.5	.0	848.5	848.5		

-- ULTIMATE STRENGTH --									
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)		2200/(SQRT Fy)		-- YIELD STRESS, Fy (PSI) --		
STEEL	CONC.	REBAR	TOP	BOT	TOP	BOT	BOT	TOP	WEB
			FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION OUALIFICATION *****

STIFFENED		UNSTIFFENED	COMPACT	BRACED	UNBRACED	REDUCTION	SYMMETRICAL	UNSYMMETRICAL
LONG	TRANV			NON-COMPACT	NON-COMPACT	FACTOR		
+BEND		X	X			1.0000		X
-BEND		X	X			1.0000	X	

***** SECTION CAPACITY *****

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+ BEND      ML =      .00 FT-KIPS,  MR =      .00 FT-KIPS
- BEND      ML = -249.01 FT-KIPS,  MR = -963.45 FT-KIPS
--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) ---  -- COMPOSITE MOMENT CAPACITY (FT-KIPS) --  -- SHEAR CAPACITY (KIPS) --

```

	TOP	TOP	BOTT	BOTT	MU	MAX. CAP.	MAX. CAP.	MU	VU	VU
	+BEND	-BEND	+BEND	-BEND		STEEL	CONC.		LEFT	RIGHT
INV.	1975.83	1324.85	1975.83	1174.85	2870.50	956.83	3324.12	4280.96	443.70	443.70
OPER.	3293.04	2208.08	3293.04	1958.09	2870.50	956.83	3324.12	4280.96	443.70	443.70

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

		-- DEAD LOAD --			
M (DL)	M (SDL)	REDIS.	REDIS.	V (DL)	V (SDL)
		M- (DL) ---M- (SDL)			
-488.98	-201.75	-488.98	-201.75	32.85	16.24

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.00

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .270 FOR -BEND)

-- LIVE LOAD --															
LIVE LOAD		-----TRUCK MOMENT-----						-----LANE MOMENT-----				-----FIXED-----		-----MAX-----	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.	SHEAR		SHEAR		
		LL+I			1 WHEEL				LOAD #1	LOAD #2	+V	-V	+V	-V	
		FT-KIPS	FT-KIPS	FT-KIPS	FT.		FT-KIPS	FT-KIPS	FT.	FT.	KIPS	KIPS	KIPS	KIPS	
INV.	H15	+BEND	17.16	17.2	13.2	6.931	L	15.4	11.9	20.931	.000	8.47	.43		
		-BEND	272.72	135.4	106.6	77.534	L	272.7	214.8	91.534	131.652	8.28	8.28		
														30.04	31.42
OPER.	HS20	+BEND	33.23	33.2	25.6	-3.533	L	20.6	15.8	20.931	.000	11.30	.84		
		-BEND	363.63	311.4	245.2	69.438	L	363.6	286.3	91.534	131.652	11.04	11.04		
														50.94	53.29

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	
T 0	.000	.000	.000	.000	.000	.000	
E 1	.185	-.884	-1.761	.000	.000	.000	
N 2	.358	-1.969	-3.108	.000	.000	.000	
T 3	.508	-3.049	-3.915	.000	.000	.000	
H 4	.623	-4.009	-4.243	.000	.000	.000	
5	.691	-4.749	-4.162	.000	.000	.000	
P 6	.702	-5.170	-3.740	.000	.000	.000	
O 7	.643	-5.173	-3.044	.000	.000	.000	
I 8	.502	-4.657	-2.143	.000	.000	.000	
N 9	.281	-3.236	-1.106	.000	.000	.000	
T 0	.000	.000	.000	.000	.000	.000	
							AREA
POS AREA	15.7	.0	.0	.0	.0	.0	TOTALS
NEG AREA	.0	266.2	107.8	.0	.0	.0	15.7
							374.0

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.00

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT				RATING VALUE	SAFE LOAD CAP. (TONS)
		TOP	TOP	BOTT	BOTT	TOP	BOTT	TOP	BOTT		
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND		
INV.	H15	2390.3	910.4	2390.3	910.4	139.3250	3.3383	139.3250	3.3383	H 50.1	50.1
OPER.	HS20	3983.8	1517.3	3983.8	1517.3	119.8989	4.1728	119.8989	4.1728	HS 83.5	150.2
		-- RATING FACTOR FOR SERVICEABILITY --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY				RATING VALUE	SAFE LOAD CAP. (TONS)
		TOP	TOP	BOTT	BOTT	TOP	BOTT	TOP	BOTT		
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND		
INV.	H15	1865.4	1221.7	1865.4	1221.7	108.7306	4.4799	108.7303	4.4799		
OPER.	HS20	3109.0	2036.2	3109.0	2036.2	93.5702	5.5998	93.5700	5.5998		
		-- RATING FACTOR FOR SHEAR --									
		AVAILABLE CAPACITY (KIPS)				RATING FACTOR - SHEAR				RATING VALUE	SAFE LOAD
		LEFT	RIGHT			LEFT	RIGHT				
INV.	H15	175.33	175.33			5.5797	5.5797				
OPER.	HS20	292.21	292.21			5.4836	5.4836				

***** SECTION PROPERTIES IN COMPOSITE RANGE 2 OF SPAN 3 *****

-- STRUCTURAL STEEL PROPERTIES --																
H	Tweb	H/Tweb	D	D/Tweb	- B' (IN) -		- B'/t -		Lb (FT)		Ry (IN)		- Lb / Ry	HYBRID RATIO, R		
(IN.)	(IN.)		(IN.)		TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	+BEND	-BEND
35.88	.63	57.40	34.00	54.40	5.69	5.69	6.07	6.07	CONT	18.70	3.46	3.46	.00	64.77	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --									
EFF.WIDTH	EFF.THICK.	VALUE	(AS)C	(DS)C	VALUE	VALUE	Atf	Abf	Aw
(IN.)	(IN.)	N	(SQ.IN.)	(IN.)	a	Y	(SQ.IN.)	(SQ.IN.)	(SQ.IN.)
96.0	8.0	9	.00	.00	6.43	.0	11.25	11.25	21.25

		-- SECTION PROPERTIES --						----- SECTION MODULUS -----				---- PLASTIC SECTION MODULUS ----								
		GROSS AREA		NET AREA		IX		IX		C		TOP		BOTT		TOP		BOTT		
		+BEND		-BEND		+BEND		-BEND		(BOT)		+BEND		-BEND		+BEND		-BEND		
		SQ. IN.		SQ. IN.		SQ. IN.		IN. **4		IN. **4		IN.		IN. **3		IN. **3		IN. **3		
NON-COM		43.75	43.75	43.75		8930.1		8930.1		17.36		482.3		482.3		514.4		514.4		548.43
COM (N=N)						8930.1				17.36		482.3		.0		514.4		514.4		
COM (N=3N)						8930.1				17.36		482.3		.0		514.4		514.4		

-- ULTIMATE STRENGTH --									
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)		2200/(SQRT Fy)		-- YIELD STRESS, Fy (PSI) --		
STEEL	CONC.	REBAR	TOP	BOT	TOP	BOT	BOT	TOP	WEB
			FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	FLANGE	
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

SECTION QUALIFICATION	STIFFENED		COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
	LONG	TRANSV						
	+BEND							
-BEND		X			X	1.0000		X

***** SECTION CAPACITY *****

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SECTION CAPACITY
+-----+-----+-----+-----+-----+-----+-----+-----+
+BEND      ML =          .00 FT-KIPS,   MR =          .00 FT-KIPS
-BEND      ML =      -47.37 FT-KIPS,   MR =     -100.65 FT-KIPS,   M1/M2 =    .4707      CB = 1.0
--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) ---  -- COMPOSITE MOMENT CAPACITY (FT-KIPS) --  -- SHEAR CAPACITY (KIPS) --

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	TOP	TOP	BOTT	BOTT	MU	MAX. CAP.	MAX. CAP.	MU	VU	VU
	+BEND	-BEND	+BEND	-BEND		STEEL	CONC.		LEFT	RIGHT
INV.	1376.35	667.85	1376.35	712.23	1645.30	548.43	2433.66	2982.09	443.70	443.70
OPER.	2293.91	1113.08	2293.91	1187.05	1645.30	548.43	2433.66	2982.09	443.70	443.70

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

		-- DEAD LOAD --			
M (DL)	M (SDL)	REDIS.	REDIS.	V (DL)	V (SDL)
		M-(DL)---M-(SDL)			
-3.71	25.24	-3.71	25.24	8.29	2.87

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.60

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .243 FOR -BEND)

		-- LIVE LOAD --										-----FIXED-----		-----MAX-----	
LIVE LOAD		-----TRUCK MOMENT-----				LOC.NO. 1 WHEEL FT.	DIR	-----LANE MOMENT-----				SHEAR		SHEAR	
		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LL+IMP FT-KIPS			LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS	
INV.	H15	+BEND	187.39	187.4	144.1	125.572	L	163.3	125.6	139.572	.000	1.44	11.83		
		-BEND	68.90	53.0	42.7	77.534	L	68.9	55.4	91.534	.000	1.37	1.37		
														13.40	13.40
OPER.	HS20	+BEND	310.82	310.8	239.1	153.572	R	217.7	167.5	139.572	.000	8.05	18.78		
		-BEND	121.91	121.9	98.1	69.438	L	91.9	73.9	91.534	.000	7.70	7.70		
														18.90	18.90

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	
T 0	.000	.000	.000	.000	.000	.000	
E 1	.074	-.353	.880	.000	.000	.000	
N 2	.143	-.788	1.925	.000	.000	.000	
T 3	.203	-1.220	3.186	.000	.000	.000	
H 4	.249	-1.603	4.638	.000	.000	.000	
5	.276	-1.900	6.255	.000	.000	.000	
P 6	.281	-2.068	8.008	.000	.000	.000	
O 7	.257	-2.069	5.910	.000	.000	.000	
I 8	.201	-1.863	3.895	.000	.000	.000	
N 9	.112	-1.294	1.934	.000	.000	.000	
T 0	.000	.000	.000	.000	.000	.000	
							AREA TOTALS
POS AREA	6.3	.0	145.1	.0	.0	.0	151.3
NEG AREA	.0	106.5	.0	.0	.0	.0	106.5

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.60

PAGE 3

***** RATING FACTOR *****

		-- RATING FACTOR FOR MOMENT --									
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP	TOP	BOTT	BOTT	TOP		BOTT		RATING	SAFE
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	VALUE	LOAD
											CAP. (TONS)
INV.	H15	1363.4	680.8	1363.4	725.1	7.2760	9.8805	7.2760	10.5246		
OPER.	HS20	2272.4	1134.6	2272.4	1208.6	7.3108	9.3070	7.3108	9.9138		

-- RATING FACTOR FOR SERVICEABILITY --											
		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP	TOP	BOTT	BOTT	TOP		BOTT		RATING VALUE	SAFE LOAD CAP. (TONS)
		+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND		
INV.	H15	811.9	837.7	866.7	892.5	4.3326	12.1583	4.6251	12.9538	H 65.0	65.0
OPER.	HS20	1353.1	1396.2	1444.5	1487.5	4.3533	11.4527	4.6472	12.2020	HS 87.1	156.7

		-- RATING FACTOR FOR SHEAR --				RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		AVAILABLE CAPACITY (KIPS)				LEFT	RIGHT		
		LEFT	RIGHT						
INV.	H15	198.09	198.09			14.7784	14.7784		
OPER.	HS20	330.15	330.15			18.4730	18.4730		

DATE 9/ 5/97

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

BARS-PC RELEASE 5.5

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION - 4.00

PAGE 1

***** SECTION PROPERTIES IN COMPOSITE RANGE 2 OF SPAN 3 *****

H	Tweb	H/Tweb	D	D/Tweb	- B' (IN) -	- B'/t -	Lb (FT)	Ry (IN)	- Lb / Ry	HYBRID RATIO, R						
(IN.)	(IN.)		(IN.)		TOP	BOT	TOP	BOT	TOP	BOT	+BEND	-BEND				
35.88	.63	57.40	34.00	54.40	5.69	5.69	6.07	6.07	CONT	18.70	3.46	3.46	.00	64.77	1.0000	1.0000

EFF.WIDTH	EFF.THICK.	VALUE	(AS)C	(DS)C	VALUE	VALUE	Atf	Abf	Aw
(IN.)	(IN.)	N	(SQ.IN.)	(IN.)	a	Y	(SQ.IN.)	(SQ.IN.)	(SQ.IN.)
96.0	8.0	9	.00	.00	6.43	.0	11.25	11.25	21.25

-- SECTION PROPERTIES --						----- SECTION MODULUS -----				----- PLASTIC SECTION MODULUS -----				
GROSS	NET AREA	IX	IX	C	TOP	TOP	BOTT	BOTT	TOP	TOP	BOTT	BOTT		
AREA	+BEND	-BEND	+BEND	-BEND	(BOT)	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	+BEND	-BEND	
SQ.IN.	SQ.IN.	SQ.IN.	IN.**4	IN.**4	IN.	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	IN.**3	
NON-COM	43.75	43.75	43.75	8930.1	8930.1	17.36	482.3	482.3	514.4	514.4	548.43	548.43	548.43	548.43
COM(N=N)				8930.1	.0	17.36	482.3	.0	514.4	514.4				
COM(N=3N)				8930.1	.0	17.36	482.3	.0	514.4	514.4				

-- ULTIMATE STRENGTH --						-- YIELD STRESS, Fy (PSI) --			
Fy (PSI)	f'c (PSI)	Fy (PSI)	2055/(SQRT Fy)	2200/(SQRT Fy)		BOT	TOP	WEB	
STEEL	CONC.	REBAR	FLANGE	FLANGE	FLANGE	FLANGE	FLANGE		
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****						REDUCTION	SYMMETRICAL	UNSYMMETRICAL
STIFFENED	UNSTIFFENED	COMPACT	BRACED	UNBRACED		FACTOR		
LONG	TRANV		NON-COMPACT	NON-COMPACT				
+BEND		X	X			1.0000		X
-BEND		X	X			1.0000		X

***** SECTION CAPACITY *****						--- COMPOSITE MOMENT CAPACITY (FT-KIPS) ---				--- SHEAR CAPACITY (KIPS) ---	
+BEND	ML =	.00 FT-KIPS,	MR =	.00 FT-KIPS					VU	VU	
-BEND	ML =	.00 FT-KIPS,	MR =	.00 FT-KIPS					LEFT	RIGHT	
--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) ---											

	TOP	TOP	BOTT	BOTT	MU	MAX. CAP.	MAX. CAP.	MU	VU	VU
	+BEND	-BEND	+BEND	-BEND		STEEL	CONC.		LEFT	RIGHT
INV.	1376.35	759.37	1376.35	712.23	1645.30	548.43	2433.66	2982.09	443.70	443.70
OPER.	2293.91	1265.61	2293.91	1187.05	1645.30	548.43	2433.66	2982.09	443.70	443.70

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****					
-- DEAD LOAD --					
M (DL)	M (SDL)	REDIS.	REDIS.	V (DL)	V (SDL)
		M-(DL)---	M-(SDL)		
.00	.00	.00	.00	-7.82	-6.05

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 5/97

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 4.00

PAGE 2

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

		-- LIVE LOAD --										-----FIXED-----		-----MAX-----	
LIVE LOAD		-----TRUCK MOMENT-----					-----LANE MOMENT-----					SHEAR		SHEAR	
		REDIS	LL+IMP	LL	LOC.NO.	DIR	LL+IMP	LL	LOC.CONC.	LOC.CONC.		+V	-V	+V	-V
		LL+I	FT-KIPS	FT-KIPS	1 WHEEL		FT-KIPS	FT-KIPS	LOAD #1	LOAD #2		KIPS	KIPS	KIPS	KIPS
		FT-KIPS	FT-KIPS	FT-KIPS	FT.		FT-KIPS	FT-KIPS	FT.	FT.					
INV.	H15 +BEND	.00	.0	.0	137.452	L	.0	.0	.000	.000	.00	.00			
	-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00			
														25.20	.00
OPER.	HS20 +BEND	.00	.0	.0	123.452	L	.0	.0	.000	.000	.00	.00			
	-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00			
														46.55	.00

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

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6	
T 0	.000	.000	.000	.000	.000	.000	
E 1	.000	.000	.000	.000	.000	.000	
N 2	.000	.000	.000	.000	.000	.000	
T 3	.000	.000	.000	.000	.000	.000	
H 4	.000	.000	.000	.000	.000	.000	
5	.000	.000	.000	.000	.000	.000	
P 6	.000	.000	.000	.000	.000	.000	
O 7	.000	.000	.000	.000	.000	.000	
I 8	.000	.000	.000	.000	.000	.000	
N 9	.000	.000	.000	.000	.000	.000	
T 0	.000	.000	.000	.000	.000	.000	
							AREA
							TOTALS
POS AREA	.0	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0	.0

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DATE 9/ 5/97

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

D/P STRUCTURE I.D. = CAJ-295
MEMBER I.D. -- G 1
C.P. LOCATION -- 4.00

PAGE 3

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --
AVAILABLE (LL+I) CAPACITY (FT-KIPS) RATING FACTOR - MOMENT
TOP TOP BOTT BOTT
+BEND -BEND +BEND -BEND +BEND -BEND +BEND -BEND
INV. H15 1376.3 680.8 1376.3 725.1 999.0000 999.0000 999.0000 999.0000
OPER. HS20 2293.9 1134.6 2293.9 1208.6 999.0000 999.0000 999.0000 999.0000

RATING
VALUE
SAFE
LOAD
CAP. (TONS)

-- RATING FACTOR FOR SERVICEABILITY --
AVAILABLE (LL+I) CAPACITY (FT-KIPS) RATING FACTOR -SERVICEABILITY
TOP TOP BOTT BOTT
+BEND -BEND +BEND -BEND +BEND -BEND +BEND -BEND
INV. H15 824.8 937.8 879.6 937.8 999.0000 999.0000 999.0000 999.0000
OPER. HS20 1374.7 1563.0 1466.0 1563.0 999.0000 999.0000 999.0000 999.0000

RATING
VALUE
SAFE
LOAD
CAP. (TONS)

-- RATING FACTOR FOR SHEAR --
AVAILABLE CAPACITY (KIPS) RATING FACTOR - SHEAR
LEFT RIGHT LEFT RIGHT
INV. H15 196.46 213.11 7.7945 7.7945
OPER. HS20 327.43 355.18 7.0333 7.0333

RATING
VALUE
SAFE
LOAD
H 116.9 116.9
HS140.7 253.2

DATE 9/ 5/97

SUMMARY OF SHEAR ANALYSIS

D/P STRUCTURE I.D. CAJ-295

MEMB.		SPAN DIS FRM L		DL	SDL	---INVENTORY----		---OPERATING----		--VEH. 1 --		--VEH. 2 --		--VEH. 3 --		---SPECIAL---	
ID	MATL	NO.	LT SPRT R	SHEAR	SHEAR	MAX.V L	MIN.V L	MAX.V L	MIN.V L	MAX.V	MIN.V	MAX.V	MIN.V	MAX.V	MIN.V	MAX.V	MIN.V
				FT.	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS	KIPS
G 1	CSC	1		.000 L	3.7	4.2	24.5 L	6.6 L	44.6 T	10.1 T	.0	.0	.0	.0	.0	.0	.0
		1		13.954 L	10.5	3.7	11.8 T	13.8 L	17.8 T	18.5 L	.0	.0	.0	.0	.0	.0	.0
		2		.000 L	43.3	22.7	38.2 L	1.8 L	58.9 T	3.2 T	.0	.0	.0	.0	.0	.0	.0
		2		40.464 L	.0	.1	14.8 L	14.6 L	24.5 T	23.7 T	.0	.0	.0	.0	.0	.0	.0
		3		.000 L	32.9	16.2	31.4 L	.5 L	53.3 T	.8 T	.0	.0	.0	.0	.0	.0	.0
		3		23.759 L	8.3	2.9	13.4 L	11.8 T	17.9 L	18.9 T	.0	.0	.0	.0	.0	.0	.0
		3		39.599 L	7.8	6.1	5.3 L	25.2 L	8.1 T	46.6 T	.0	.0	.0	.0	.0	.0	.0

Bridge No.: 00019 — I40 — 18.34

Crossing:: I40 STR 79 / I65 RAMP *

Federal No.: 19I00400081

Date:

December 1, 2003

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 19 — I40 — 18.34
Crossing:: I40 STR 79 / I65 RAMP *
Federal N 19I00400081

Date:

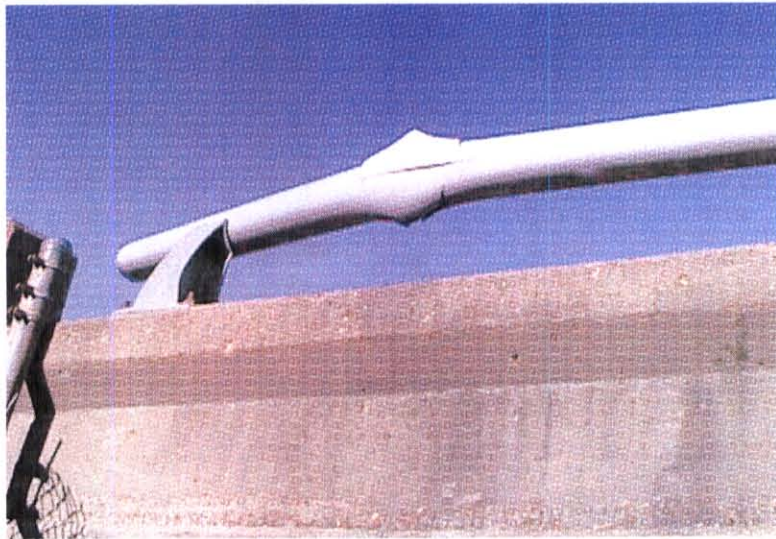
December 1, 2003

PIC2



ELEVATION RIGHT SIDE

PIC3



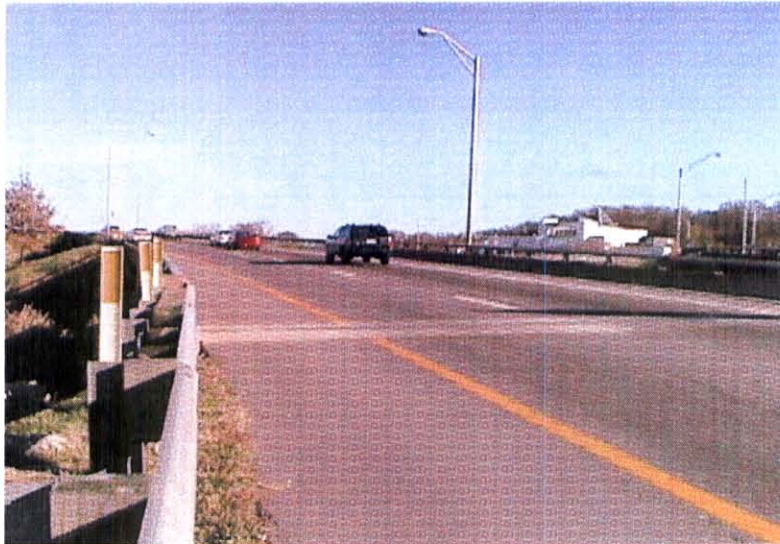
COLLISION DAMAGE BRIDGE RAIL SPAN #1 RIGHT

Bridge No.: 19 — I40 — 18.34
Crossing:: I40 STR 79 / I65 RAMP *
Federal No. 19I00400081

Date:

December 1, 2003

PIC4

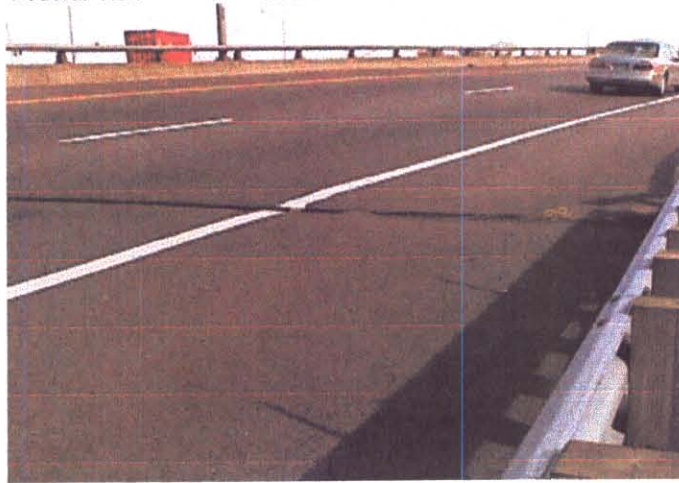


VIEW ACROSS DECK

Bridge No.: 00019 — I 40 — 18.34
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date: October 19, 2001

PIC1



VIEW ACROSS DECK

Bridge No.: 19 — I 40 — 18.34
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No 19I00400317

Date:

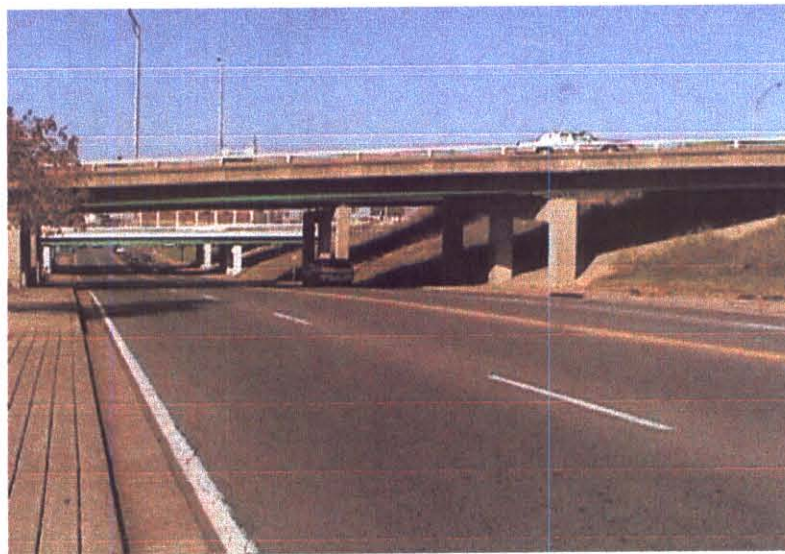
October 19, 2001

PIC2



BRIDGE NO. AT ABUTMENT # 1

PIC3



ELEVATION RT VIEW

Bridge No.: 19 — 140 — 18.34
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date:

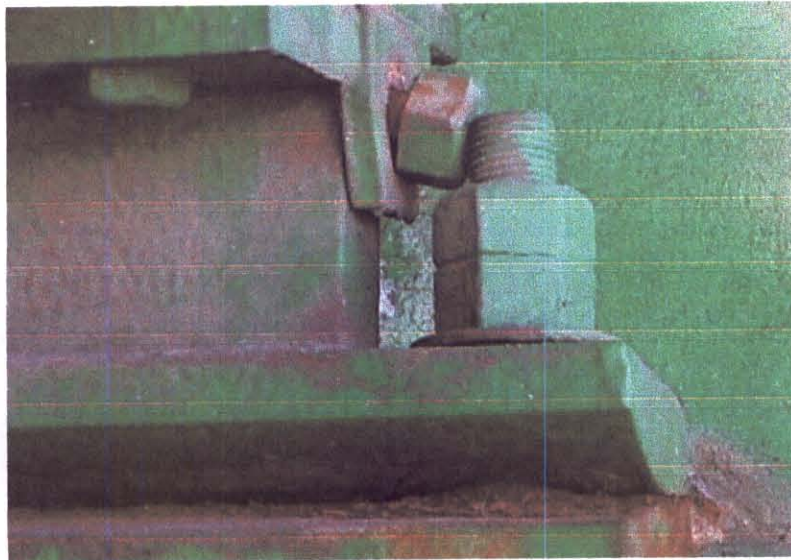
October 19, 2001

PIC4



SPALL AT ABUTMENT #1 BACKWALL

PIC5



BEARING "A" SHEARED BOLT AT ABUTMETN #1

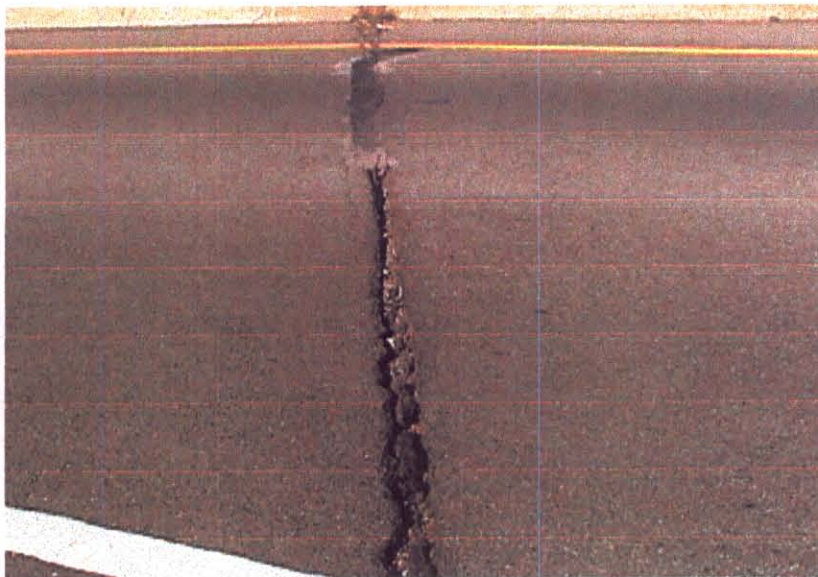
Bridge No.: 19 — I 40 — 18.34
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date: October 19, 2001

PIC6



COLLISION DAMAGE AT SPAN #1 BRIDGE RAIL RIGHT



Bridge No.: 19 — 10040 — 1831

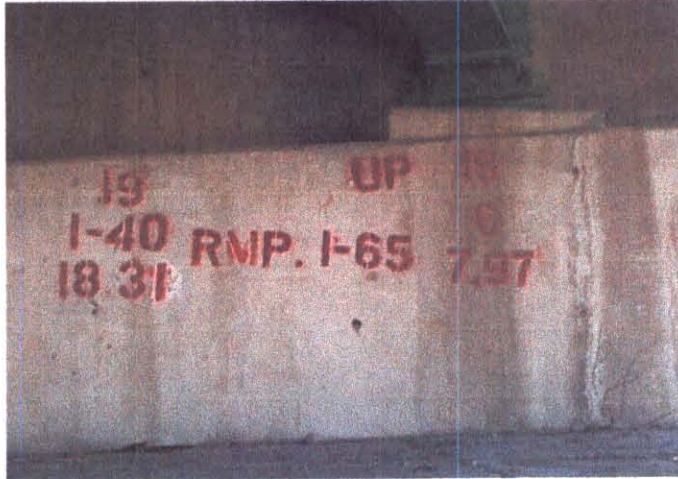
Crossing:: 140 RMP / 8TH AVE SR 6

Federal No.: 19100400317

Date:

March 6, 2000

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 19 — 10040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No 19I00400317

Date:

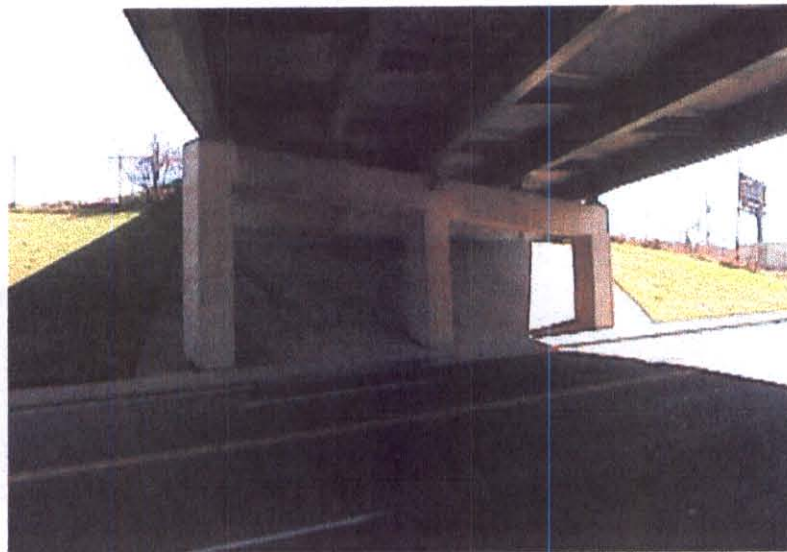
March 6, 2000

PIC2



ABUTMENT #1 TYPICAL

PIC3



BENT TYPICAL

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date:

March 6, 2000

PIC4



BOTTOM DECK SPAN #2 TYPICAL

PIC5



LOOKING BACK ON ROUTE

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date: March 6, 2000

PIC6



LOOKING AHEAD ON ROUTE

PIC7



POPOUT AREA OVER BENT #1 BAY "B"

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date:

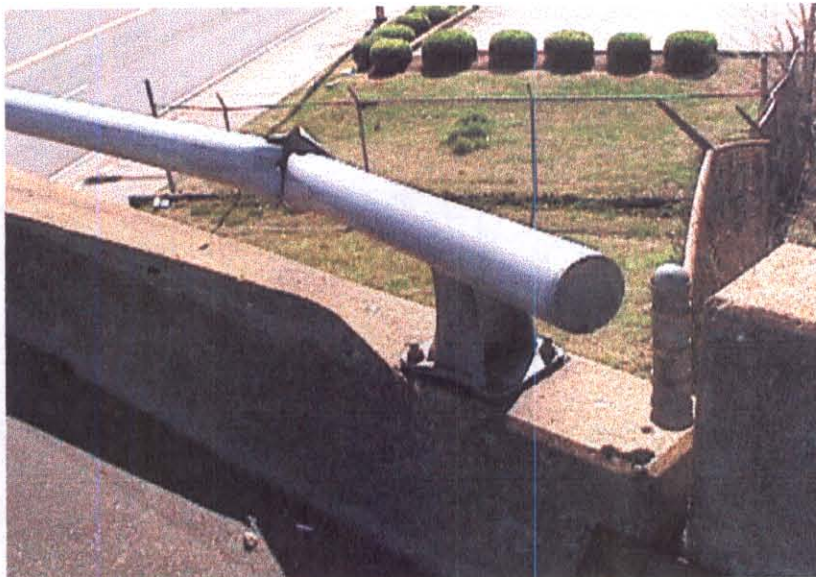
March 6, 2000

PIC8



VIEW ACROSS DECK

PIC9



COLLISION DAMAGE TO BRIDGE RAIL RIGHT SIDE

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date: March 6, 2000

PIC10



MISSING BOLTS IN TRASITION G RAIL

PIC11



ELEVATION VIEW RT. SIDE LOOKING TOWARD ABUTMENT #2

Bridge No.: 19 — 10040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date: March 6, 2000

PIC12



AREA OF DELAM TYPICAL ALL WINGS

PIC13



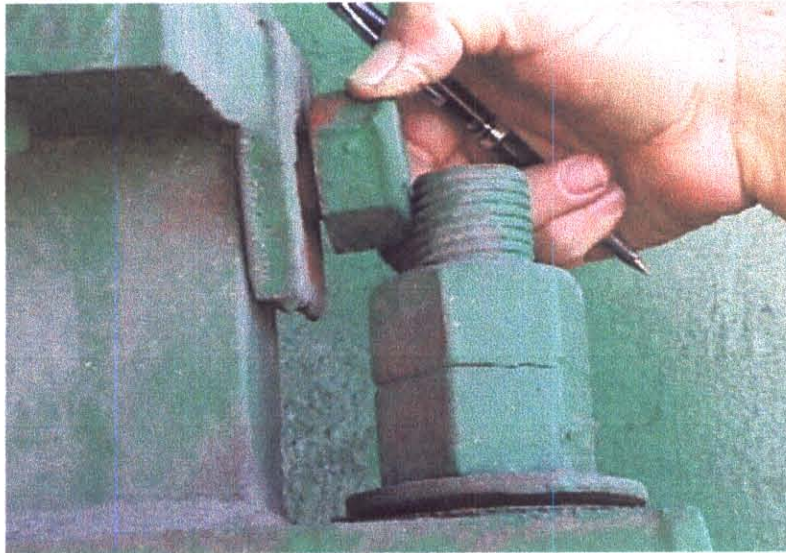
COLLISION DAMAGE GUARD RAIL TRANSITION RT. SIDE "B" END

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 RMP / 8TH AVE SR 6
Federal No.: 19I00400317

Date:

March 6, 2000

PIC14



BEARING PIN BEAM "A" AT ABUTMENT #1

PIC15



BEARING PIN BEAM "A" AT ABUTMENT #1

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 15 Date 12.1.03
Previous Report No. 14 Date 10/19/2001
Plans: DESIGN

Bridge No. 19I00400317
Eleven Digit No.

Bridge Location No. 19 - I0040 - 18.34
Co. Route Log Mile

I40 over I40 RMP / 8TH AVE SR 6

Indepth Insp. Req'd: NO

Road Name

Crossing

(If yes itemize limits under comment)

Structure Type WPG

FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface NO Type ASPHALT Depth 3" (in.)

Bridge Rail NO Describe changes:

Approach Rail NO

CLEARANCE CHANGES: NO (If yes make changes below)

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

Vertical Under Clearance 14'6" (ft.-in.)

Horizontal Under Clearance _____ (*.* ft.)

Deck Width Curb/Curb 38.2' (*.* ft.)

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

Sidewalk Width Rt. _____ Lt. _____

INSPECTORS

Watts

Clark

Love

Condition: FAIR (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)

F	
F	
F	
G	
P	Abut #1 Missing Anchors & Backstation fix
G	
G	
G	
G	
G	
NV	
F	Heavy Map Cracks & Delam.
F	Abut B Rt. Side 2' L x 3' Dp

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: [Signature]

BRIDGE RATING: FAIR

INSPECTION REPORT FOR UNDERPASS ROUTE

Form BIR 3.0A

(Rev. 9-22-98)

DT-1443

Field Report No. 15 Date 12.1.03
Previous Report No. 14 Date 10.19.01Bridge No. 19I00400317

Eleven Digit No.

Underpass Location No. 19 - 526 - 7.99I40 Ramp

or

8th Ave

Railroad/Walkway

Co.

Route

Log Mile

over

Co.

Route

Log Mile

Co.

Route

Log Mile

County Davidson

Structure Name (If Named) _____

Year Constructed 1972Year Widened —Year Rehabilitated —**GEOMETRIC FEATURES UNDER BRIDGE**

(*. * ft. unless otherwise noted)

Divided Highway N/AType of Wearing Surface AsphaltWidth of Approach Traveled Roadway 48.0 ft. (Does Not Include Shoulders)Width of Median if Divided Highway — ft.Approach Shoulder Width 2.0 ft. Right 2.0 ft. Left*Horizontal Clearance Under Bridge 68.0 ft.*Distance Between Pier Protection
Guardrail and Substructure — ft. Right — ft. Left*Width of Sidewalk Under Bridge 8.0 ft. Right 8.0 ft. Left*Minimum Vertical Clearance: 14 ft. 6 in. (ft.-in.)

*Show on Sketch

TRAFFIC SAFETY FEATURES

Pier Protection Railing or Parapet

Approach Guardrail Terminals

Approach Guardrail

Approach Guardrail Terminal

Rating

Standard/ SubStandard
Non Exist

	<u>Non-Exist</u>

INSPECTORS

1. WATTS
2. CLARK
3. LOVE
4. _____
5. _____
6. _____

SIGNING

Yes/ No/ Needed

Paddleboards

Vertical Clearance (<14'-6")

Narrow Passage

One Lane Passage

Other Underpass Signs Needed

<u>No</u>
<u>No</u>
<u>No</u>
<u>No</u>

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

Date 12.1.03

Underpass Location No. 19 - 526 - 7.99
Co. Route Log Mile

Other Signs or Plaques:

Comments Regarding any
Problems with Signing:

BRIDGE FEATURES (*. * ft.)

Bridge Skew 84 ° RT Number of Lanes/Tracks on Bridge 2
Structure Type (Main Span) WPCG No. Main Spans 3
Structure Type (Appr. Spans) — No. Appr. Spans —
Maximum Span Length 71.5 (ft.) Total Length 158 (ft.)
Width of Bridge Out-to-Out 42.0 (ft.) Right Angle to Centerline of Bridge
Width of Bridge Along Skew — (ft.) (If Unable to Measure at Right
Angle to Centerline of Bridge)

BRIDGE CONDITION: Fair

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

Comment on any Conditions of Bridge that would Effect Roadway Beneath:

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

MINIMUM PICTURES REQUIRED

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

SUMMARY
19-I40-18.34
12/1/03

I 40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in fair condition. The approach alignment and embankment are good. Approach pavement is good. There is erosion on shoulder line "B" end right side. Bridge railing is substandard and rated fair. Approach guardrail is standard type and in good condition. Transitions are standard type and good.

Asphalt cement wearing surface is good. Railing is poor with heavy collision damage on the right side of span #1. Joint leakage is good. Joints are paved over at "B" end. "A" end is poor with 50% paved over with A/C breakouts.

Bottom deck is fair with some 3" deep breakouts with exposed steel in span #1. Superstructure elements are good. On abutment #1, the backwall is poor with heavy map cracks, breakouts, and spalls. Wings are fair with map cracking at abutment #1. Bearings are rated fair, except for bearing "A" at abutment #1 is poor with sheared pin bolt on left side of bearing. Underpass pier protection is not in place. The minimum distance to the nearest bent is 9.8'.

Jim Watts

ROUTINE BRIDGE INSPECTION REPORT

Page No.

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

Field Report No. 14 Date 10.19.01
Previous Report No. 13 Date 3/6/00
Plans: DESIGN

Bridge No. 19100400317
Eleven Digit No.

Bridge Location No. 19 - 10040 - 18.34
Co. Route Log Mile

140 over 140 RMP / 8TH AVE SR 6
Road Name Crossing

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

Structure Type WPG

FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface Type ASPHALT Depth 3" (in.)
Bridge Rail Describe changes:
Approach Rail

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck (ft.-in.)
Vertical Under Clearance 14'6" (ft.-in.)
Horizontal Under Clearance (*.ft.)
Deck Width Curb/Curb 38.2' (*.ft.)
Deck Width Rail/Rail (*.ft.)
Sidewalk Width Rt. Lt.

INSPECTORS

Watts
Carver
Love
Honea

Condition: FAIR (If change describe in comments)

Comments

Approaches
Deck Condition (Item 58)
Superstructure (Item 59)
 a. Beams
 b. Bearings
 c. Diaphragms
Substructure (Item 60)
 a. Caps/Bridge Seats
 b. Columns/Piles
 c. Footings
 d. Wing W./Breast W.
Scour/Erosion
Channel (Item 61)

G	
F	Spall's, popouts, w/Exp. Stc. & EFF. Sp #1
F	
G	
P	ABUT #1 Bearing "A" Sheared Pin Bolt
G	
G	
G	
G	
NV	
F	Map Cracking popouts & EFF.
F	MOD. Erosion @ End RT. SD.
NA	

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: Jim Watts

BRIDGE RATING: FAIR

SUMMARY
19-I40-18.34
10/19/01

I40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in fair condition. Approach alignment and embankment are good. Approach pavement is good. There is a erosion on shoulder line "B" end right side. Bridge railing is substandard and rated fair. Approach guardrail is standard type and in good condition. Transitions are standard type and good.

Asphalt cement wearing surface is good. Railing is poor with heavy collision damage on the right side of span #1. Joint leakage is good. Joints are paved over at "B" end. "A" end is poor with 50% paved over with A/C breakouts.

Bottom deck is fair with some 3" deep breakouts with exposed steel in span #1. Super structure elements are good. On beam "E" span #2 are collision damage scrapes. Bents are good. On abutment #1, the backwall is poor with heavy map cracks breakouts. Wings are 3" deep with exposed steel on abutment #1 with heavy map cracks and popouts. Bearings are rated fair, except for bearing "A" at abutment #1 is poor with sheared pin bolt on left side of bearing. Underpass pier protection is not in place. The minimum distance to the nearest bent is 9.8'.

Jim Watts

BRIDGE INSPECTION REPORT

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

FIELD REPORT NO. 13 DATE 3.6.00
REVIOUS REPORT NO. 12 DATE 2-25-98
PLANS ---- YES ☒ NO ☐

BRIDGE NO. 19I00400317
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 19-I40-18.31
CO. ROUTE LOG MILE

I40 Ramp OVER 8th Ave (GRW)
ROAD NAME FEATURE INTERSECTED STRUCTURE NAME (IF NAMED)
YEAR CONSTRUCTED 70 COUNTY Davidson MAINTENANCE DISTRICT NO. 31
(ESTIMATED OR ACTUAL)
[] ☒
YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED OR ACTUAL ESTIMATED OR ACTUAL
[] [] [] []

FEATURES

WEARING SURFACE-- CONCRETE ☐ TIMBER ☐ ASPHALT ☒ (DEPTH= 3")
FLARED WIDTH ----- YES ☐ NO ☒
NAVIGATIONAL CONTROL-- YES ☐ NO ☒
MEDIAN WIDTH ----- OPEN ☐ NONE ☒ CLOSED ☐
BRIDGE SKEW 60° LT ☐ RT ☒

STRUCTURE TYPE WPG NO. SPANS 3
Main Span Main Span

STRUCTURE TYPE _____ NO. SPANS _____
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 81.5 TOTAL LENGTH 156.5

WIDTHS CLEARANCES
DECK OUT-TO-OUT 41.7 MIN. VERTICAL OVER DECK _____
ROADWAY CURB/CURB 38.2 MIN. VERTICAL UNDER CL 14'6"
SIDEWALK _____ RT _____ LT _____ MIN. LATERAL UNDER CL 10 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: _____

Watts
SUPERVISING BRIDGE INSPECTOR

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

PERFORMANCE EVALUATIONTime of day inspected 1000 Weather conditions Cl. 68°Vehicles observed All TypesLIVE LOAD BEHAVIORYESNOCOMMENTS

Substructure

Horiz. & Vert. Defl. - - - ++[]Vibration - - - - - []++

Superstructure

Horiz. & Vert. Defl. - - - []++Vibration - - - - - []++APPROACH

Alignment

(G) F P C

Slab

G F P C

Joints

G F (P) C

Pavement

(G) F P C

Embankment

(G) F P C

Drains

G F (P) CNANV Paved OverAC OverlayPaved Over or NATRAFFIC SAFETY FEATURES

Bridgerailing

G F (P) C

Transitions

G F (P) C

Guardrail

G (F) P C

Guardrail Terminal

G F (P) C

STANDARD

SUB-STANDARD

Sp#1 Rt. So.

[]++Heavy Cor. Dmg Rt. So. A End[]++A & B End Rt. So. Disconnected++[]Lgh. Cor. Dmg.[]++SIGNING

Paddleboard - - - - - YES NO NEEDED

[]++++

WEIGHT LIMIT POSTED

YES [] NO ++Vertical Clearance (< 14') - - - []++[]Narrow [] One Lane Bridge [] - []++[]

GROSS _____ TONS

2 AXLE _____ TONS

3 OR MORE

AXLES _____ TONS

Other Signs or Plaques _____

Comments Regarding Any Problems With Signing _____

Other Recommendations _____

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

BRIDGE LOC. NO. 19 - I40 - 18.31 Ramp DATE: 3.6.06
CO. ROUTE L.M.

DECK

COMMENTS

WEARING SURFACE	Ⓒ	F	P	C	AC Overlay
DECK - STRUCTURAL	G	Ⓔ	P	C	Sp# Bay "B" AC w/eff: Popout w/Exp. Stc.
CONDITION					
CURBS	G	F	P	C	N/A
MEDIAN	G	F	P	C	N/A
SIDEWALKS	G	F	P	C	N/A
PARAPET	G	Ⓔ	P	C	Mod Scare w/ Popouts w/ Exp. Stc.
RAILING	G	F	Ⓔ	C	Hwy Col. Dmg. Sp# 1 RT SO.
PAINT	G	F	P	C	N/A
DRAINS	G	F	P	C	N/A
LIGHTING STD'S	G	F	P	C	N/A
UTILITIES	G	F	P	C	N/A
JOINT LEAKAGE	Ⓒ	F	P	C	
EXPANSION JOINTS	G	F	Ⓔ	C	Paved over A Enn

SUPERSTRUCTURE

COMMENTS

BEARING DEVICES	G	F	Ⓔ	C	About 1 Bearing "A" Pin Has Sheared.
GIRDERS OR BEAMS	Ⓒ	F	P	C	
FLOOR BEAMS	G	F	P	C	N/A
STRINGERS	G	F	P	C	N/A
DIAPHRAGMS	Ⓒ	F	P	C	
BRACING	G	F	P	C	N/A
TRUSSES - GENERAL	G	F	P	C	/
- PORTALS	G	F	P	C	/
- BRACING	G	F	P	C	/
PAINT	G	F	P	C	/
ALIGNMENT OF MEMBERS	Ⓒ	F	P	C	

TEXTURE COAT N/A

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

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

COMMENTS: _____

RECOMMENDATIONS: _____

FORM BIR 3.3

Rev. 09/24/98

DT-0082

BRIDGE LOC. NO. 19-I40 - 18.31 RAMP DATE: 3-6-00
CO. ROUTE L.M.SUBSTRUCTURE

ABUTMENTS

COMMENTS

CAPS	G	F	P	C	<u>N/A</u>
BREASTWALL	<u>G</u>	F	P	C	
WINGS	G	<u>F</u>	P	C	<u>Heavy Map Cracks w/ Repairs w/ OFF. Abut #1</u>
BACKWALL	G	<u>F</u>	P	C	<u>Bo w/ Exp. 2'lg X 1.5'H X 1-0' Dp. Abut #1</u>
PLUMB	<u>G</u>	F	P	C	
FOOTING	G	F	P	C	<u>NV</u>
PILES	G	F	P	C	<u>NV</u>
EMBANKMENT	<u>G</u>	F	P	C	
BEARING SURFACE	<u>G</u>	F	P	C	
SLOPE PAVING	<u>G</u>	F	P	C	

PIERS

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

BENTS

CAPS	<u>G</u>	F	P	C	
COLUMNS	<u>G</u>	F	P	C	
PLUMB	<u>G</u>	F	P	C	
FOOTINGS	G	F	P	C	<u>NV</u>
PILES	G	F	P	C	<u>NV</u>
BEARING SURFACE	<u>G</u>	F	P	C	

SCOUR CONDITION NONE []

RECOMMENDATIONS: _____

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

CURRENT FIELD REPORT NO. 13 DATE 3-6-00
PREVIOUS FIELD REPORT NO. 12 DATE 2-25-98

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 19I00400317 UNDERPASS LOC. NO. 19 - SR6 - 7.97
ELEVEN DIGIT NUMBER CO. RTE. L.M.

I40 Ramp OVER SR6 -
CO. RTE. L.M. CO. RTE. L.M. STRUCTURE NAME (IF NAMED)

COUNTY Davidson

YEAR CONSTRUCTED 72 YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED [] ACTUAL [✓]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [] RIGHT RDWY [] N.A. [✓]
TYPE OF WEARING SURFACE - - - - CONCRETE [] ASPHALT [✓] GRAVEL []
WIDTH OF APPROACH TRAVELED ROADWAY 48 FT. (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY — FT.
APPROACH SHOULDER WIDTH 2 FT. (RT.) 2 FT. (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 68 FT. 0 IN.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND
SUBSTRUCTURE — FT. (RT.) — FT. (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE 8 FT. (RT.) 8 FT. (LT.)
*MINIMUM VERTICAL CLEARANCE 14 FT. 6 IN.

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

STANDARD SUB-STANDARD

PIER PROTECTION RAILING

OR PARAPET	G	F	P	C	[]	[]	NON EXIST [✓]
APPROACH GUARDRAIL	G	F	P	C	[]	[]	NON EXIST [✓]
TRANSITIONS	G	F	P	C	[]	[]	NON EXIST [✓]
APPROACH GUARDRAIL	G	F	P	C	[]	[]	NON EXIST [✓]
APPROACH GUARDRAIL	G	F	P	C	[]	[]	NON EXIST [✓]
TERMINAL	G	F	P	C	[]	[]	NON EXIST [✓]

SIGNING FOR UNDERPASS ROUTE

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

INSPECTORS

1. Walt
2. Carver
3. Ethridge
4. _____
5. _____
6. _____

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

UNDERPASS LOC. NO. 19 - SR6 - 7.97
 CO. RTE. L.M.

OTHER SIGNS OR PLAQUES _____

COMMENTS REGARDING ANY PROBLEM WITH SIGNING _____

BRIDGE FEATURES

BRIDGE SKEW 60° RT
 STRUCTURE TYPE WPG NO. SPANS 3
 MAIN SPAN MAIN TYPE
 STRUCTURE TYPE APPROACH SPAN NO. SPANS APPROACH TYPE
 MAXIMUM SPAN LENGTH 81.5 FT. TOTAL LENGTH 156.5 FT.
 WIDTH OF BRIDGE OUT-TO-OUT 41.7 FT. (RT. < TO L OF BRIDGE)
 WIDTH OF BRIDGE ALONG SKEW - FT. (IF UNABLE TO MEASURE AT RT. & TO L OF BRIDGE)
 NUMBER OF LANES/TRACKS ON BRIDGE 2

BRIDGE CONDITION

G

(F)

P

C

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

DOES POTENTIAL EXIST BECAUSE OF DETERIORATED CONDITION FOR FAILURE OF MAJOR MEMBERS? YES [] NO ☒

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH _____

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

MINIMUM PICTURES REQUIRED

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

SUMMARY
19-I40-18.31
2-29-00

I40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in fair condition. Approach alignment and embankment are good. Approach pavement is good. There is a pothole on shoulder line ■ B■ end right side. Bridge railing is substandard. Approach guardrail is standard type, except for the transition, which is not connected to the bridge rail on the ■ A■ and ■ B■ end right sides, rated poor.

Asphalt cement wearing surface is good. Tailing is poor with heavy collision damage on the right side of span #1. Joint leakage is good. Joints are paved over at ■ B■ end. ■ A■ end is poor with 100% debris build-up and paved over.

Bottom deck is fair with some 3■ deep breakouts with exposed steel in span #1. Super structure elements are good. On beam ■ E■ span #2 are collision damage scrapes. Bents are good. On abutment #1, the backwall and wings are fair. Bearings are rated fair, except for bearing ■ A■ at abutment #1 is poor. Wings and backwall have delamination and map cracks with leaching. Underpass pier protection is not in place. The minimum distance to the nearest bent is 9.8'.

Jim Watts

2-25-98MD
AUG 08 1991

5-18-93

3-27-96JW

3-6-00JW

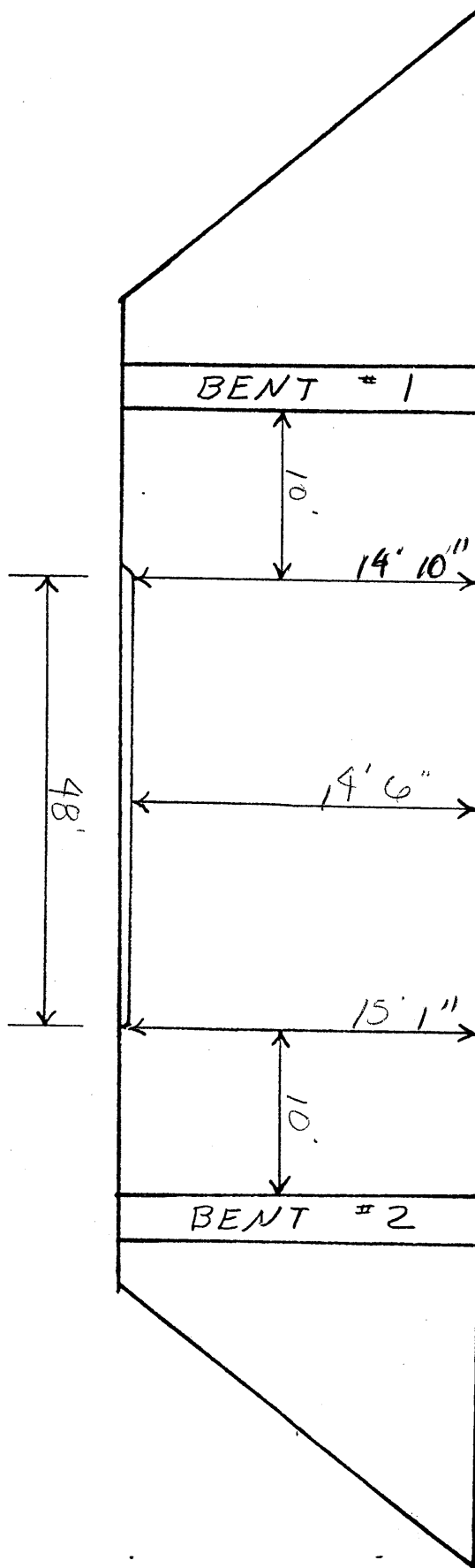
10-19-01JW

12-1-03JW

Clearance Sketch

19-I40-18.3X¹⁴
Ramp

19-6-7.97



2-25-98MD
AUG 08 1991

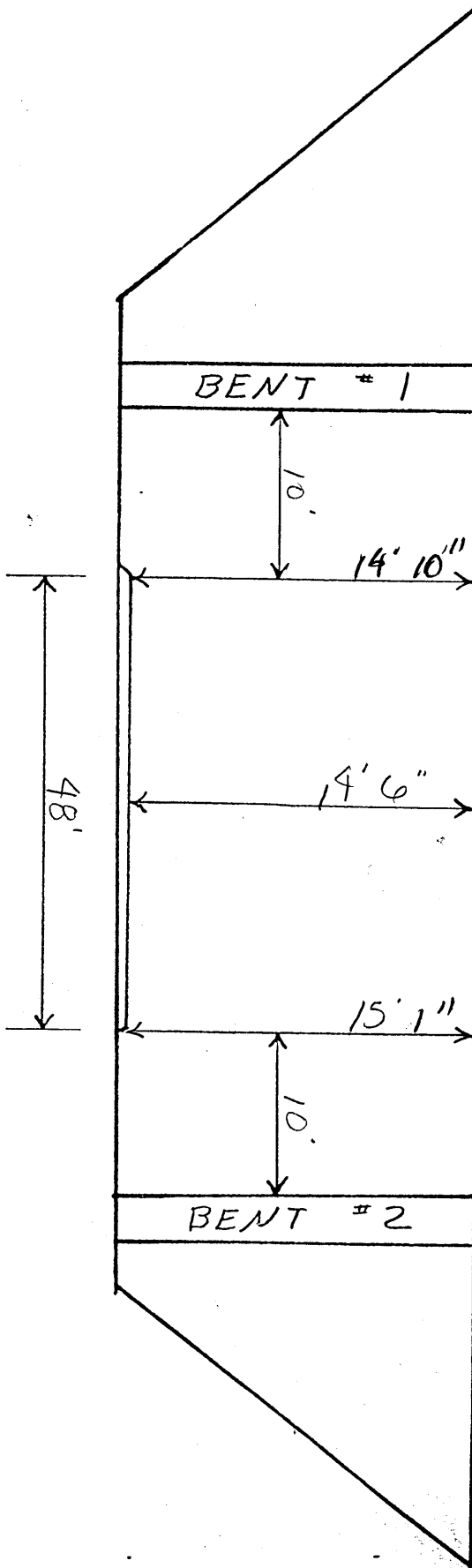
5-18-93

3-27-96

3-6-00 JW

10-19-01 JW

19-6-7.97



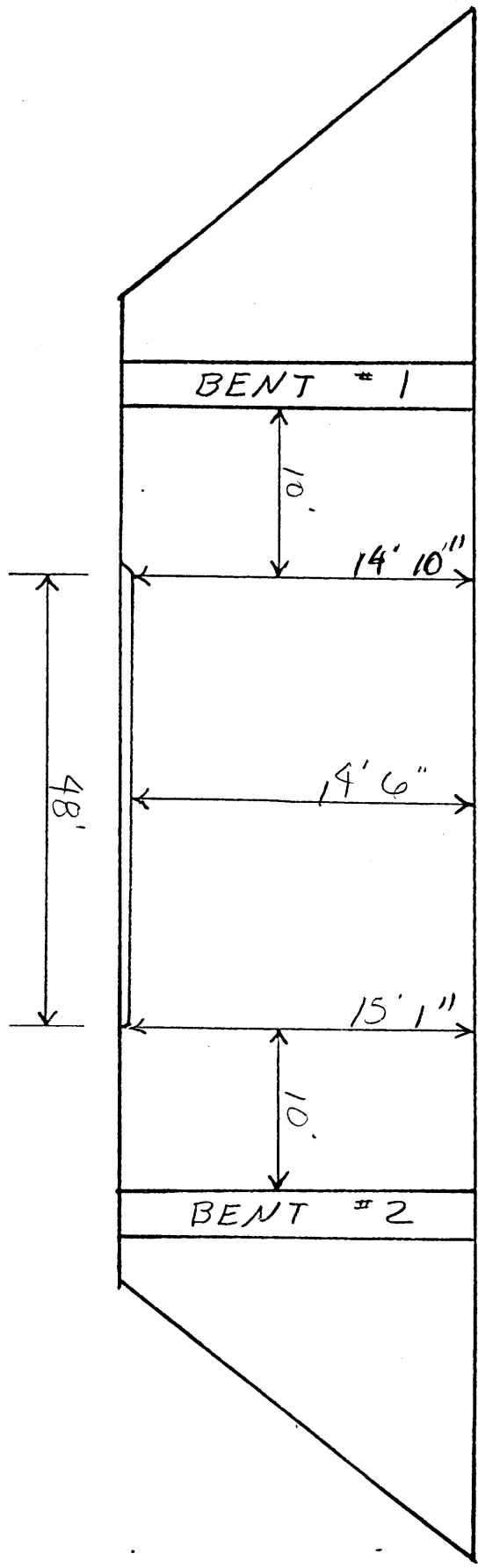
19-I40-18.3X^H
Ramp

Clearance Sketch

2-25-98MD
AUG 08 1991

5-18-93
3-27-96
3-6-00 Jw

19-6-7.97



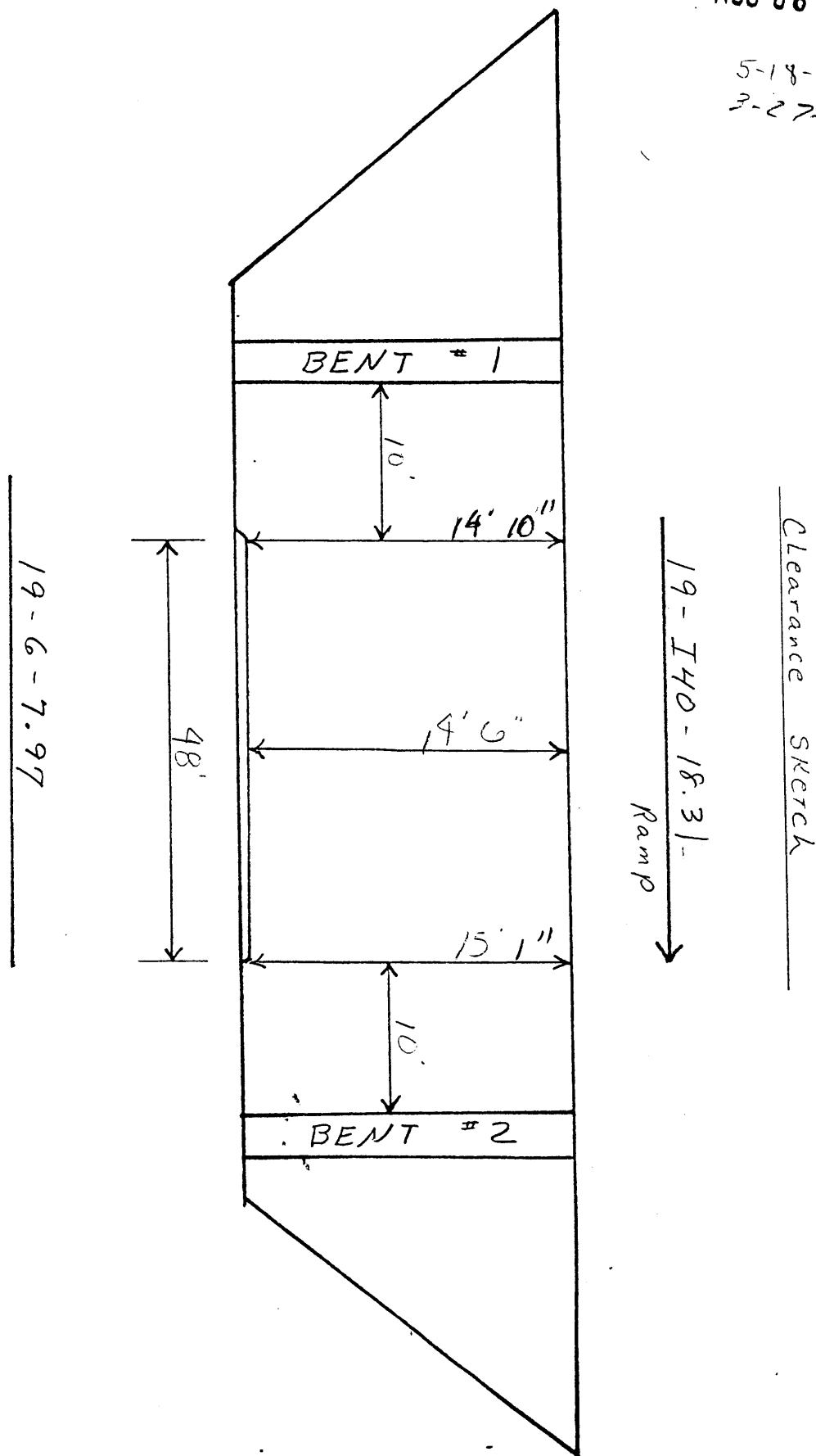
Clearance Sketch

19-I40-18.31

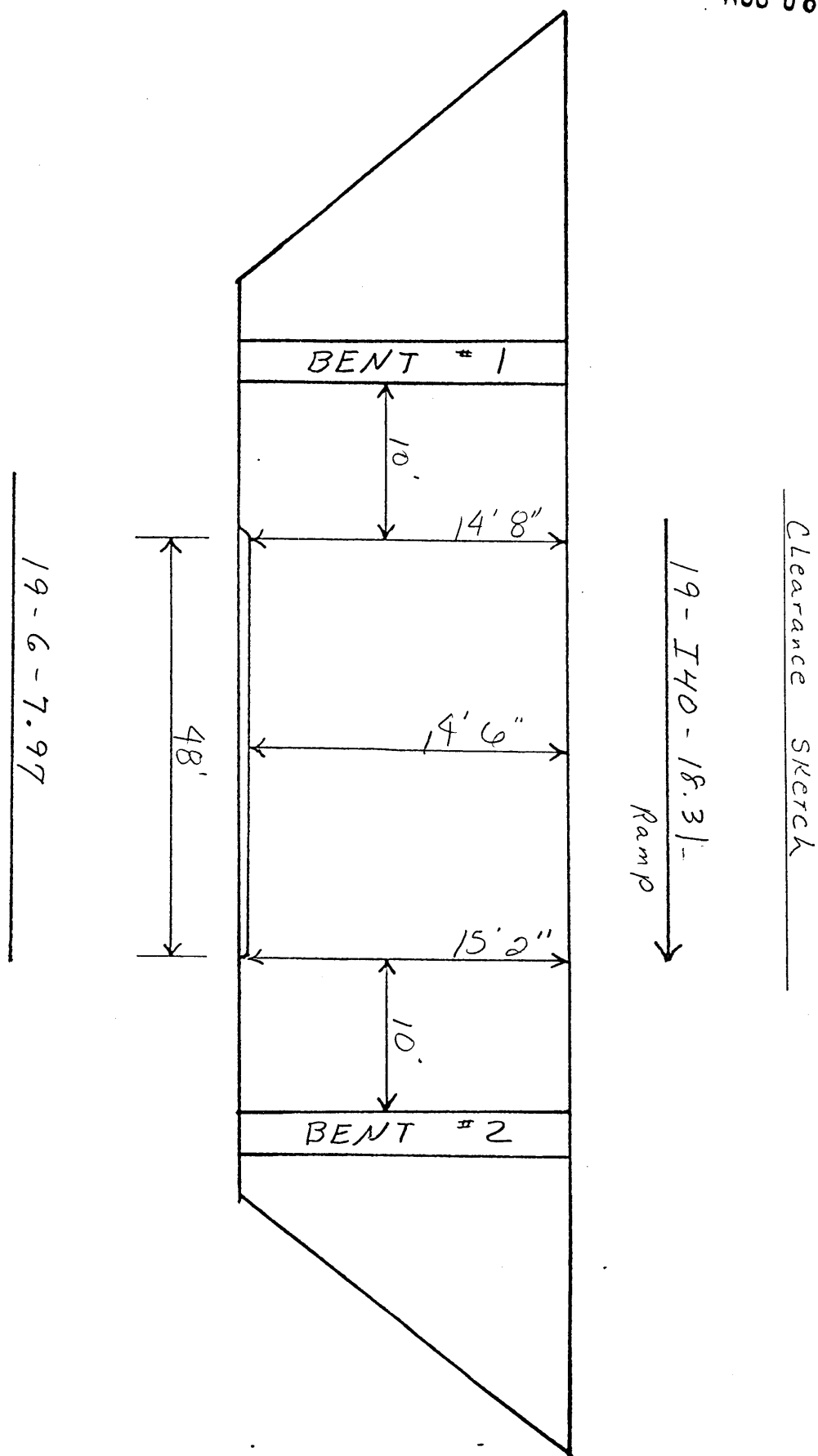
Ramp

2-25-98MD
AUG 08 1991

5-18-93
3-27-95/94



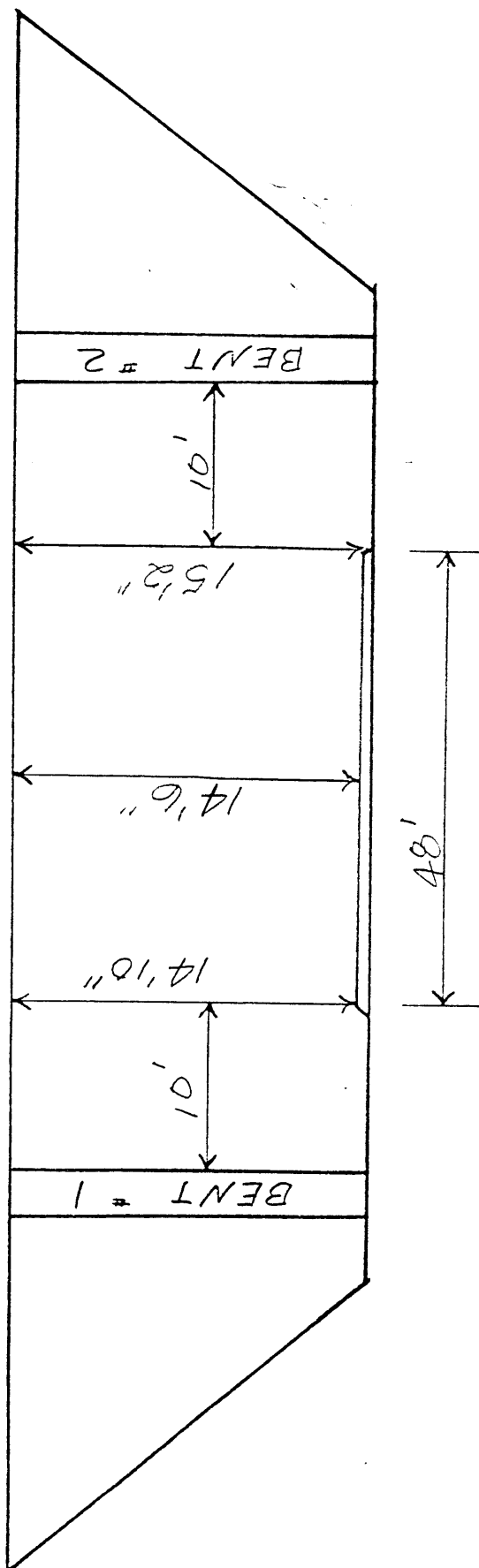
AUG 08 1991



JUN 29 1989

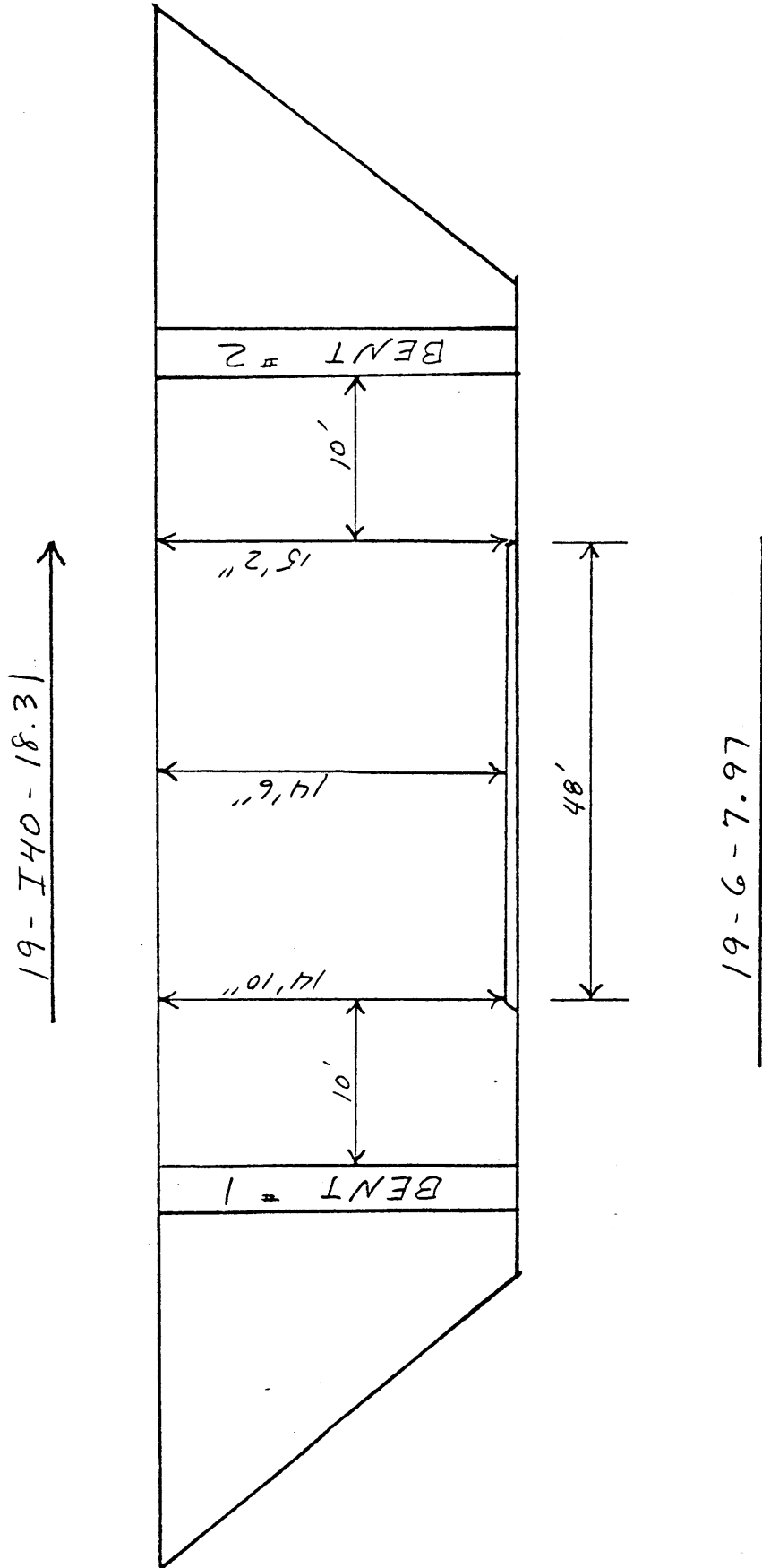
Clearance Sketch

19-I40-18.31
Ramp

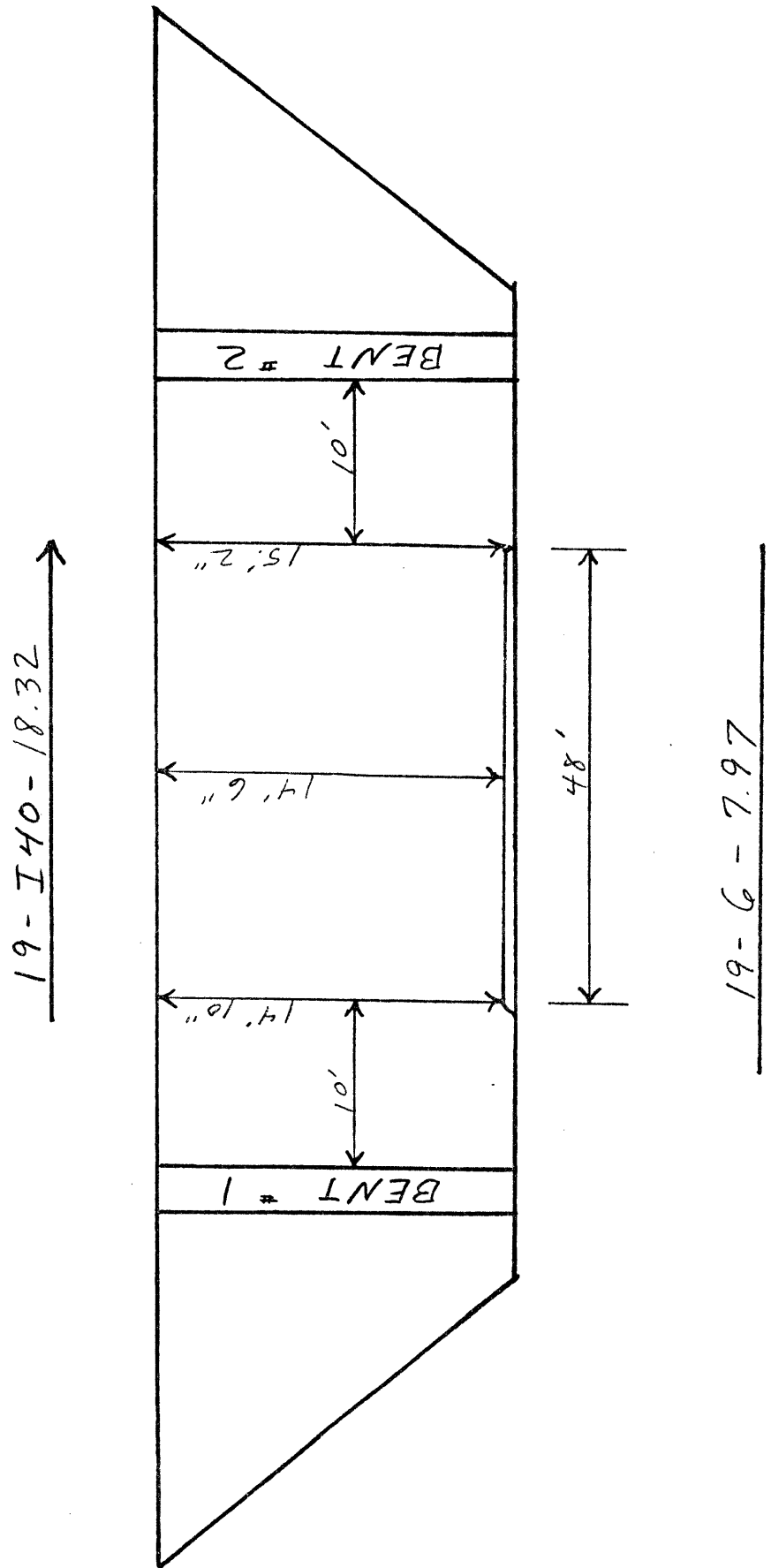


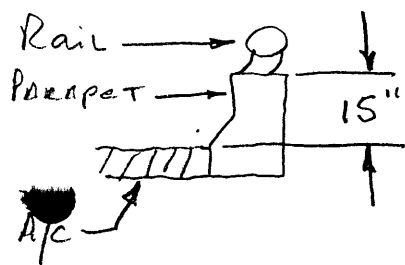
19-6-7.97

JUN 01 1987



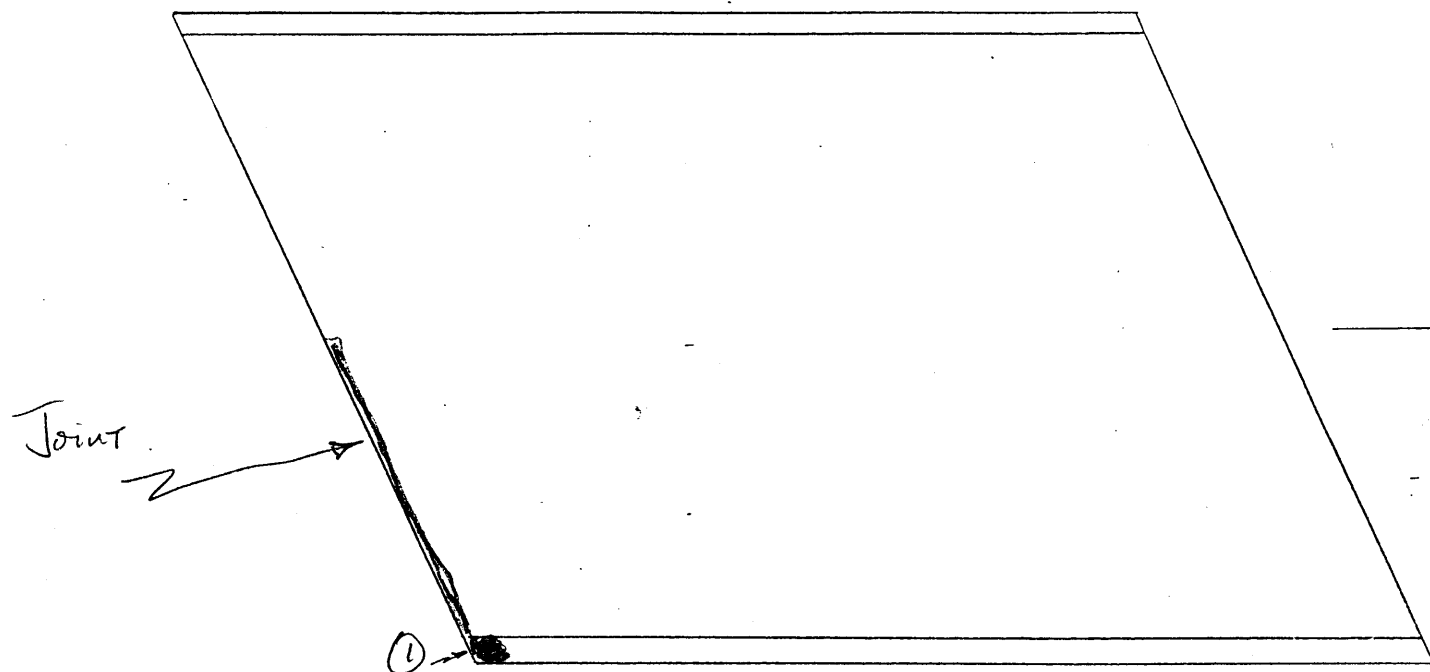
AUG 19 1985





Typ. All Spans

3.6.00 JW
10.19.01 JW



Top Slab = 1

Br. # 19-I40-18.31⁴

Deck	NV	AC Overlay Good
Parapet	F	^{Hwy} Med Scale & Parapets w/ Exp. STL. & Substandard
Joints	P	Paved Over (A/C Bogs 4" wd. x 3" Dp. x 12' Lg.)
Rails	P	① Hwy Cal. Dmg. R.R. SD. @ 1 st Post & 4 th Post Substandard

*

A hand-drawn diagram of a parallelogram. A horizontal line segment is drawn at the bottom. A vertical line segment is drawn on the left side. A small circle with the number 1 is at the bottom-left vertex. An arrow points to the left side of the parallelogram.

Br. ^{II} 19-I40-18.31

Deck	NV	AC Overlay Good
Parapet	F	Mod Scale & Repairs w/ Exp STL.
Joints	P	Paved Over
RAILS	P	① Hwy Cal. Dmg. RT. SD. @ 1 st Post & 4 th Post Substandard

Br. ^{II} 19-I40-18.31

Deck		See # 1
Parapet		See # 1
Joints	NA	
Pails	G	

Br. ^{II} 19-I40-18.31

Deck		See #1
Parapet		See #1
Joints	NV	Paved Over
Rails	F	Mod. Col. Dmg. Last Post Lt. So.

[illegible]

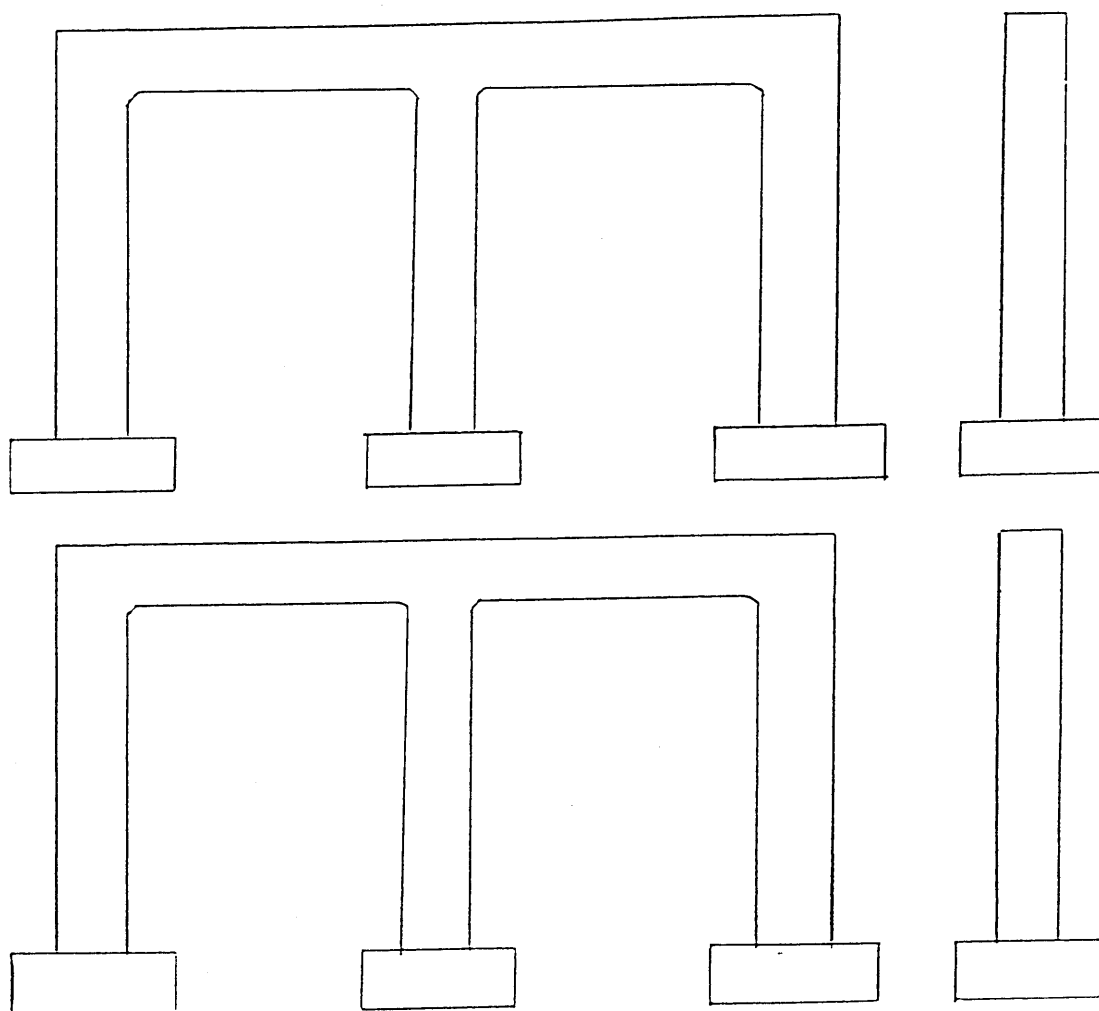
Br. # 19- I40-18.3X⁴

✱

Br. # 19 - I40 - 18.31

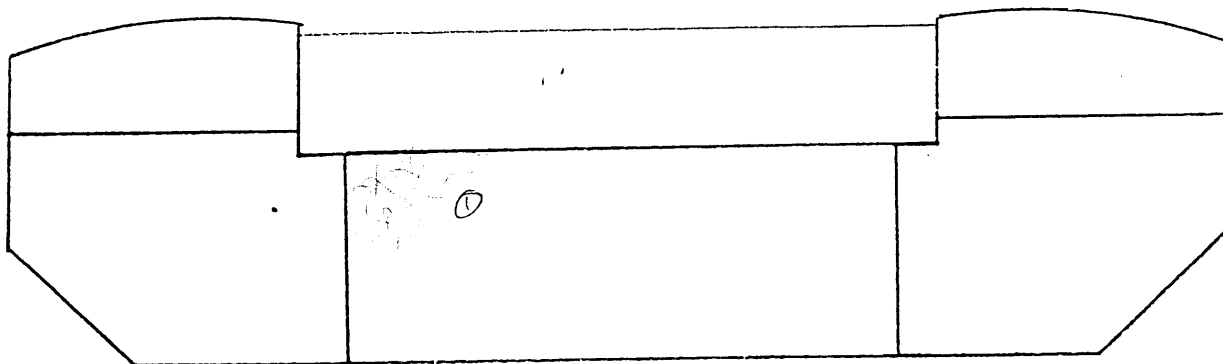
BACK	F	② B.O. 2' L x 1 1/2' h x 1' deep w/ exposed steel
Wall		③ Heavy spall
		④ Heavy eff
Wall	G	
WINGS	F	② Map cracking w/ popouts & eff
FOOTING	NV	
Bearings	P	All bearings ARE tilted back 2" Bearing "A" pin bolts is sheered

3-6-00
E


$$\text{Benz} \equiv \text{Z}$$

Br. = 19-I40-18.31

CAP	G
Column	G
Footing	NV
Bearings	G



ABU7 #2

B. # 19 - I 40 - 18.31

Back		
Wall	F	Map cracking w/ eff + popouts
Wall	G	
Wings	G	
Footing	NV	
Bearings	G	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

March 10, 2000

Mr. Rick Pack
Program Scheduling Section
Suite 600, J.K. Polk Bldg.
Nashville, Tn. 37243

Re: Bridge Repair Project - In House
Const. No. 19958-4190-04
P.E. No. 19958-4126-04
Bridge No. 19-I40(EBL)-18.31
Bridge No. 19-I40(Ramp)-18.31
Bridge No. 19-I40(EBL)-18.36
Bridge No. 19-I40(EBL)-18.44
Bridge No. 19-I40(WBL)-18.55
Bridge No. 19-I40(EBL)-18.55
Bridge No. 19-I40(WBL)-18.67
Bridge No. 19-I40(EBL)-18.67
Davidson County

Dear Mr. Pack:

We would like to remove this project from the May 12th, 2000 letting. We will notify you when we plan to re-schedule for a future letting.

If you have any questions please call Terry Mackie at 741-6048.

Yours very truly,

Terry D. Mackie

(for)

Hollis Tackitt
Civil Engineering Manager II
Bridge Inspection and Repair

TDM:tdm

cc: Mr. Terry Leatherwood ✓
File



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

February 1, 2000

Mr. Rick Pack
Program Scheduling Section
Suite 600, J.K. Polk Bldg.
Nashville, Tn. 37243

Re: Bridge Repair Project - In House
Const. No. 19958-4190-04
P.E. No. 19958-4126-04
Bridge No. 19-I40(EBL)-18.31
Bridge No. 19-I40(Ramp)-18.31
Bridge No. 19-I40(EBL)-18.36
Bridge No. 19-I40(EBL)-18.44
Bridge No. 19-I40(WBL)-18.55
Bridge No. 19-I40(EBL)-18.55
Bridge No. 19-I40(WBL)-18.67
Bridge No. 19-I40(EBL)-18.67
Davidson County

Dear Mr. Pack:

We would like to request re-scheduling of the above referenced repair project. We would like to move this project to the May 12th, 2000 letting instead of the March 31st, 2000 letting.

If you have any questions please call Terry Mackie at 741-6048.

Yours very truly,

Terry D. Mackie

(for)

Hollis Tackitt

Civil Engineering Manager II

Bridge Inspection and Repair

TDM:tdm

cc: Mr. Terry Leatherwood ✓
File

*Rec'd
2-1-00
JES*



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

July 14, 1999

Mr. Rick Pack
Program Scheduling Section
Suite 600, J.K. Polk Bldg.
Nashville, Tn. 37243

Re: Bridge Repair Project - In House
Const. No. 19958-4190-04
P.E. No. 19958-4126-04
Bridge No. 19-I40(EBL)-18.31
Bridge No. 19-I40(Ramp)-18.31
Bridge No. 19-I40(EBL)-18.36
Bridge No. 19-I40(EBL)-18.44
Bridge No. 19-I40(WBL)-18.55
Bridge No. 19-I40(EBL)-18.55
Bridge No. 19-I40(WBL)-18.67
Bridge No. 19-I40(EBL)-18.67
Davidson County

Dear Mr. Pack:

We would like to request re-scheduling of the above referenced repair project. We would like to move this project to the February, 2000 letting instead of the Sept. 3rd, 1999 letting.

If you have any questions please call Terry Mackie at 741-6048.

Yours very truly,

Terry D. Mackie
(for)

Hollis Tackitt
Civil Engineering Manager II
Bridge Inspection and Repair

TDM:tdm

cc: Mr. Terry Leatherwood
File



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

June 22, 1999

Mr. Rick Pack
Program Scheduling Section
Suite 600, J.K. Polk Bldg.
Nashville, Tn. 37243

Re: Bridge Repair Project - In House
Const. No. 19958-4190-04
P.E. No. 19958-4126-04
Bridge No. 19-I40(EBL)-18.31
Bridge No. 19-I40(Ramp)-18.31
Bridge No. 19-I40(EBL)-18.36
Bridge No. 19-I40(EBL)-18.44
Bridge No. 19-I40(WBL)-18.55
Bridge No. 19-I40(EBL)-18.55
Bridge No. 19-I40(WBL)-18.67
Bridge No. 19-I40(EBL)-18.67
Davidson County

Dear Mr. Pack:

We request scheduling for the above referenced repair project for the Sept. 3rd, 1999 letting.

If you have any questions please call Terry Mackie at 741-6048.

Yours very truly,

A handwritten signature in cursive script that reads "Terry D. Mackie".

(for)
Hollis Tackitt
Civil Engineering Manager II
Bridge Inspection and Repair

TDM:tdm

cc: Mr. Terry Leatherwood ✓
Mr. Tom Quinn
File

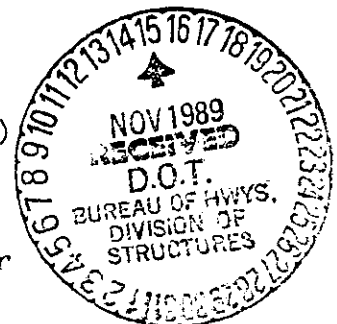
November 14, 1989

Mr. Richard Omohundro
Director of Construction
DEPARTMENT OF TRANSPORTATION
Suite 700, James K. Polk Building
Nashville, Tennessee 37219

Contract No. 7576
Project No. 19-946-4120-04
Reference No. same
County: Davidson

Civil Engineering Supervisor 1: Joe Epley

Contractor
Surety
Engineering Director
Materials Engineer
Utilities Engineer
Mr. Ed Wasserman
Harris Tucker
Civil Engineering Supervisor 1
District Engineer: Johnny Woosley
Ben Teague (Bridge Inspection)

[illegible]

LIST OF REFERENCE DRAWINGS

BRIDGE NO. "H"
K-61-36 - LAYOUT OF BRIDGE
K-61-37 - SUPERSTRUCTURE DETAIL
K-61-38 - STRUCTURAL STEEL DETAIL

BRIDGE NO. "I"
K-61-27- LAYOUT OF BRIDGE
K-61-28- SLAB DETAIL
K-61-29- STRUCTURAL STEEL DETAIL

BRIDGE NO. "J"
K-61-20 - LAYOUT OF BRIDGE
K-61-21 - SUPERSTRUCTURE DETAIL
K-61-22 - STRUCTURAL STEEL DETAIL

BRIDGE NO. "K"
K-61-43 - LAYOUT OF BRIDGE
K-61-44 - SLAB DETAIL
K-61-45 - STRUCTURAL STEEL DETAIL

BRIDGE NO. "L"
K-61-54- LAYOUT OF BRIDGE
K-61-56- SLAB DETAIL
K-61-57- FRAMING PLAN & DETAIL

BRIDGE NO. "M"
K-61-84 - LAYOUT OF BRIDGE
K-61-86 - SLAB DETAIL
K-61-87 - FRAMING PLAN & DETAIL

BRIDGE NO. N
K-61-1 - LAYOUT OF BRIDGE
K-61-2 - SUPERSTRUCTURE DETAIL
K-61-3 - STRUCTURAL STEEL DETAIL

<u>DWG. NO.</u>	<u>LAST REV. DATE</u>	<u>DRAWING</u>
M-204-79 - - -	- - -	LAYOUT WITH LOCATION SKETCH
M-204-80 - - -	- - -	EST. QTS. & GENERAL NOTES

<u>NO.</u>	<u>LAST REV. DATE</u>	<u>REGARDING</u>
100 - - - -	10-31-88	- - REVISIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
603A - - - -	11-1-88	- - PAINTING

1) PARTIAL BLASTCLEANING, HIGH PRESSURE WATER WASH, AND PAINT ALL STRUCTURAL STEEL FOR BRIDGES AS SHOWN IN LOCATION SKETCH THIS SHEET. SEE PAINT SYSTEM AND NOTES ON DWG. NO. M-204-40,

LOCATION SKETCH
(SHOWING BRIDGES NO. 6 THRU 9)

DESIGNED BY MCINTURFF DATE 2-89
DRAWN BY HOUSTON LEWIS DATE 2-89
SUPERVISED BY GENTRY & MCINTURFF DATE 2-89
CHECKED BY MCINTURFF & LEWIS DATE 3-89

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT WITH LOCATION SKETCH
FOR BRIDGE PAINTING PROJECT
BRIDGE NO. G, H, I, J, K, L, M & N
DAVIDSON COUNTY
1989

CORRECT Edward Wasserman
ENGINEER OF STRUCTURES

APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-204-79

[illegible]

① INCLUDES COST OF ALL LABOR AND MATERIALS FOR PARTIAL BLAST CLEANING AND PAINTING OF ALL EXISTING STRUCTURAL STEEL. NOTE - FOR APPROXIMATE WEIGHT OF STRUCTURAL STEEL TO BE PAINTED, SEE TABLE BELOW.

TABLE DESIGNATING AREAS OF STRUCTURAL STEEL TO BE BLASTCLEANED AND PRIMED WITH INORGANIC ZINC.

Painting System

The painting system shall be a high performance two coat system, (additional areas of the bridge are to receive a complete blastcleaning and primed with Inorganic Zinc Primer, see table this sheet,) consisting of a two component Aluminum Epoxy Mastic Primer and a High Solids Epoxy Finish or Polyurethane Finish Coat. The material specifications for the finish coat shall comply with Tennessee Special Provision No. 603A, except the minimum dry film thickness shall be 4.0 mils in lieu of 2.0 mils. The finish coat shall display a solid finish. The Aluminum Epoxy Mastic Primer shall be applied directly over the Aluminum Epoxy Mastic Primer in accordance with the manufacturer's current printed instructions.

Coating System Description

The coating specified here-in shall be applied in order to meet the following requirements:
Surface Preparation: (See notes below)
Primers: Aluminum Epoxy Mastic at 7 mils Dry Film Thickness and Inorganic Zinc Primer at 1 mils Dry Film Thickness.
Finish Coat: Two Component High Build Aliphatic Polyurethane at 4 mils Dry Film Thickness.
All products used in this coating system, including thinners, must be supplied by the same manufacturer.
All products excepted from the application of the Inorganic Zinc Primer, shall be applied by roller or brush only. The Inorganic Zinc Primer shall be applied by spray.

Application

The coating applicator shall follow the manufacturer's printed instructions, and shall have these instructions on site during the course of the work.

Finish Coat

The finish coat shall be a High Build Aliphatic Polyurethane. Color of the finish coat shall comply with Federal Standard No. 595a, 24110, Bright Green. The finish coat shall be applied to the entire structural steel surface.

Products

The Aluminum Epoxy Mastic shall be Carboline's Carbotarmastic 90, Devco-Napko's Epoxy Aluminum Mastic, Catalog #235-K-9100 or an equal Aluminum Epoxy Mastic that can be supplied by a paint company that is currently on the Tennessee Department of Transportation's Qualified Products Lists for Paint - Inorganic Zinc Primers and Top Coats.

The High Build Aliphatic Polyurethane shall be in accordance with Special Provision No. 603A, (except as modified in the notes above), and shall be supplied by the same manufacturer.

The Inorganic Zinc Primer shall be in accordance with Tennessee Standard Specifications Section 603.06 and 910.03.

Surface Preparation

- A) Remove any oil or grease with a solvent cleaning in accordance with SSPC-SP1. Solvents shall be safe and biodegradable. Remove all chalk, loose coating and other contaminants with a high pressure water wash. (Typical for all structural steel members, except for areas as designated in table this sheet.) See note "B" below.
- B) All structural steel for the limits shown in table this sheet shall be blast cleaned in accordance with the Tennessee Standard Specifications, Section 603.05b. After blastcleaning these areas shall receive a primer coat of Inorganic Zinc. All other rusted or corroded areas on the structural steel shall receive a hand or power tool cleaning. These areas shall be spot primed with 7 mils dry film thickness, of Aluminum Epoxy Mastic.
- C) After a high pressure water wash of all structural steel, all structural steel shall then receive 7 mils dry film thickness, of Aluminum Epoxy Mastic.

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPT. OF TRANSPORTATION (MARCH 1981 EDITION)

DESIGN SPECIFICATIONS: AASHTO (1983 EDITION) WITH ADDENDUM.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

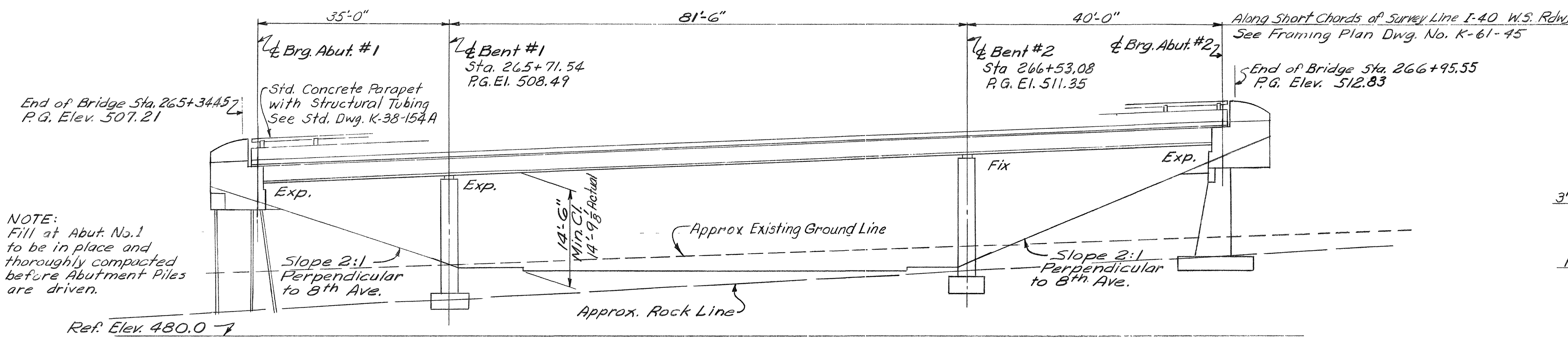
ESTIMATED QUANTITIES + GENERAL NOTES
FOR BRIDGE PAINTING PROJECT
BRIDGES No. G, H, I, J, K, L, M + N
DAVIDSON COUNTY
1989

DESIGNED BY Wayne McInturff DATE 12-88
 DRAWN BY Cody Hawkins DATE 12-88
 SUPERVISED BY Gentry + McInturff DATE 1-89
 CHECKED BY McInturff + Lewis DATE 3-89

CORRECT Edward P. Hesseman
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-204-80

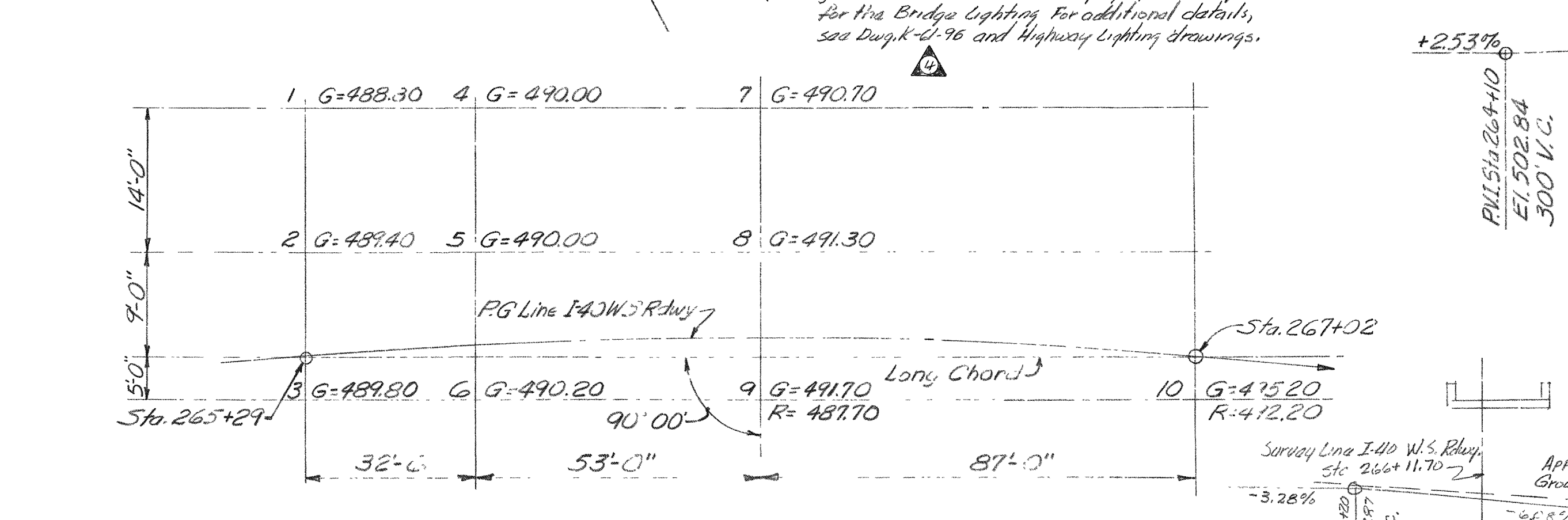
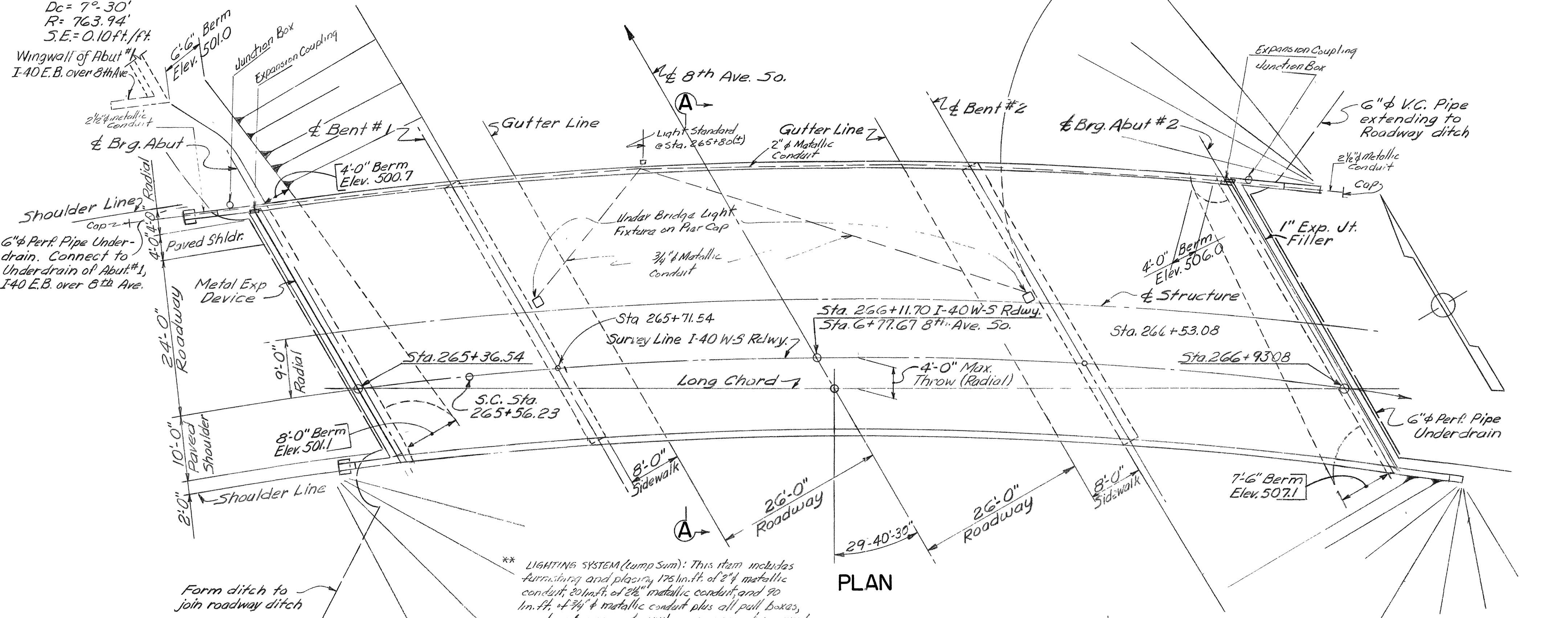
FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN	I-40-4(28)208	1970	136	305



CURVE DATA

Dc = 7°-30'
R = 763.94'
S.E. = 0.10 ft./ft.

Wingwall of Abut. #1 I-40 E.B. over 8th Ave.



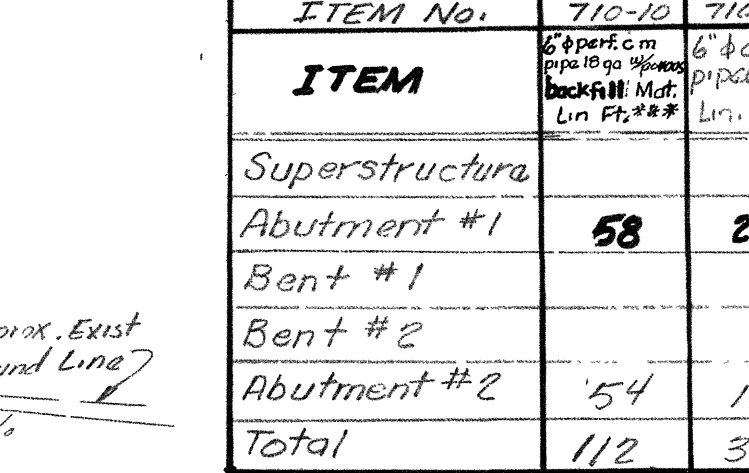
SOUNDING SKETCH

DESIGNED BY: DWF
DRAWN BY: DWF
TRACED BY: J.F.K.
CHECKED BY: J.F.K.

DATE: 12-9-65
DATE: 12-65

8th AVE. PROFILE

I-40 W.S. RDWY PROFILE



BRIDGERAIL NOTE

USE STD. CONCRETE PARAPET WITH STRUCTURAL TUBING. SEE STD. DWG. K-38-154A

BRIDGERAIL POST SPACING NORTH SIDE N-16.19" X 1-1/2" SOUTH SIDE N-16.19" X 1-1/2"

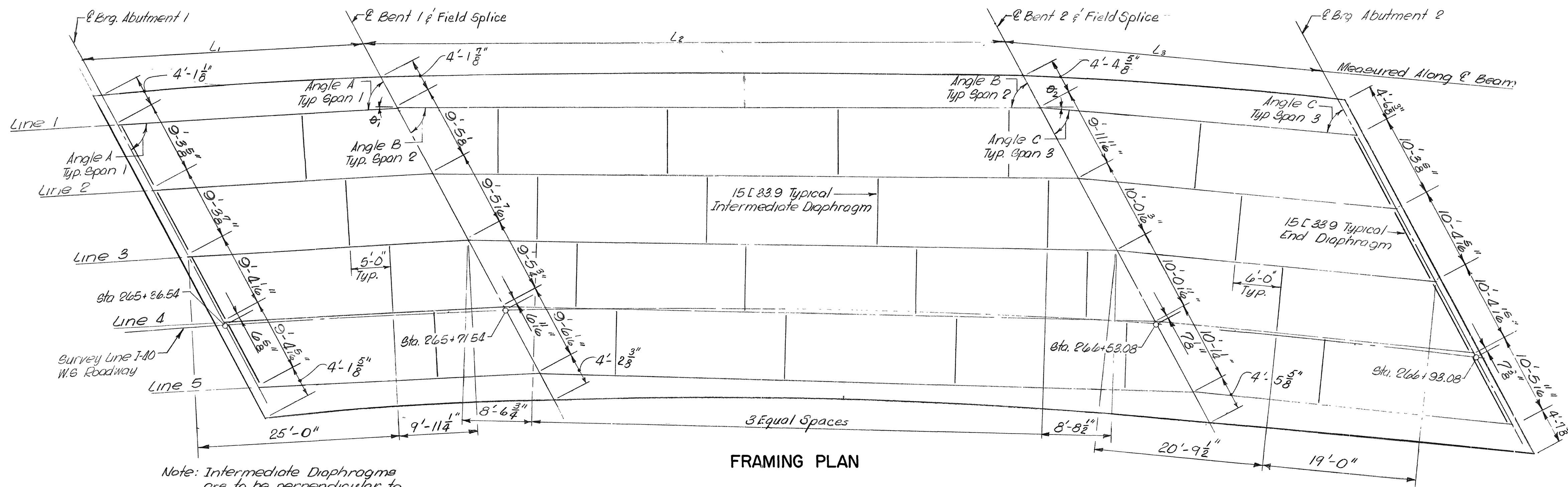
NOTE: DIMENSIONS SHOWN ARE FOR BRIDGERAIL ALONG & OF BASE L.R.

Excavation based on existing ground and rock lines.

ESTIMATED QUANTITIES

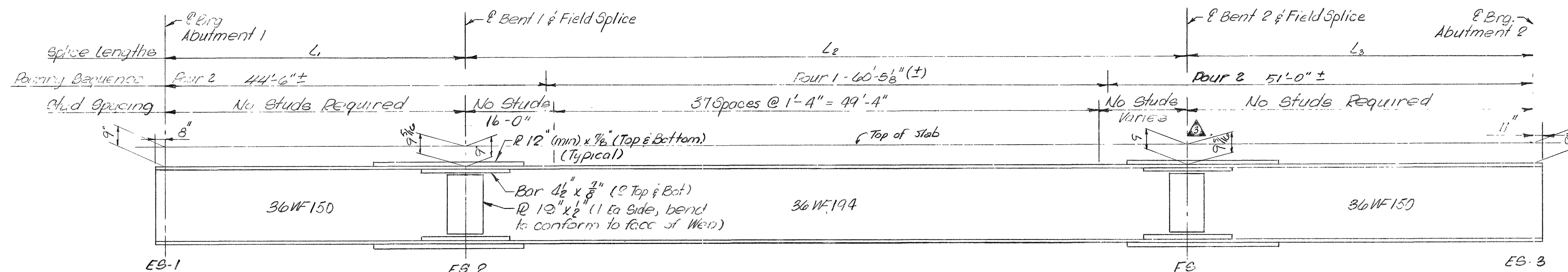
ITEM No.			710-10	710-11	714-01	204-06	204-02a	204-24a1	604-03-01	604-03-02	604-04-06	606-02-03	616-06	604-03-03
ITEM	6" x 6" c.m. piped 18 ga. 36000 backfill Mat. lin. ft.	6" d.c.m. piped 18 ga. lin. ft.	Rockway Excavation Light 18 ga. cable	Rock Drilling Lin. Ft.	Excavation Cu. Yds.	Dry Rock			Concrete Class A Cu. yds.	Reinforcing Steel Lbs.	Steel Structures	Steel Piles Lin. Ft.	Standard Bridgerail Lin. Ft.	Linseed Oil Treatment sq. yds.
Superstructure									166.5	60,274.2		114	316	865
Abutment #1	58	20							37.4	3,658				57
Bent #1				18	17	25			39.6	8,162				
Bent #2				24	11	28			40.7	8,372				
Abutment #2	54	18		18	44	18			61.8	10,496				59
Total	112	38	Lump Sum	60	72	71			547.9	90,462.6	Lump Sum	114	316	979

1. K-41 8-31-70 Revised Field Connection note & dead load correction curve.
2. RMD 21-Dec-70 Added slab to beam elev.
3. RMD 18-Jan-71 Rev. dimension from sketch beam.



Note: Intermediate Diaphragms are to be perpendicular to Beam Line 3.

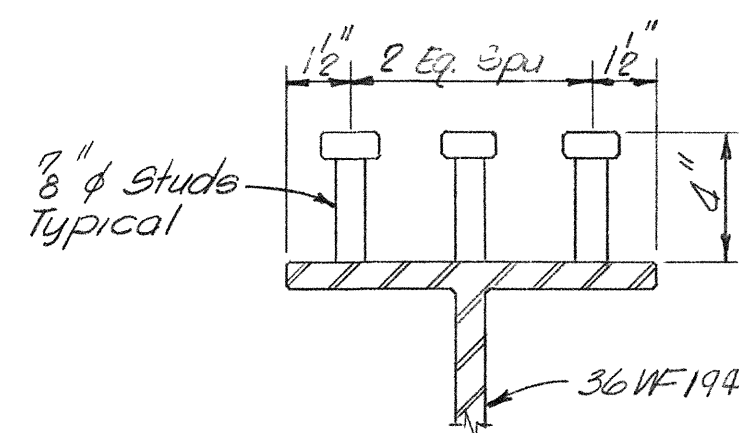
FRAMING PLAN



ELEVATION

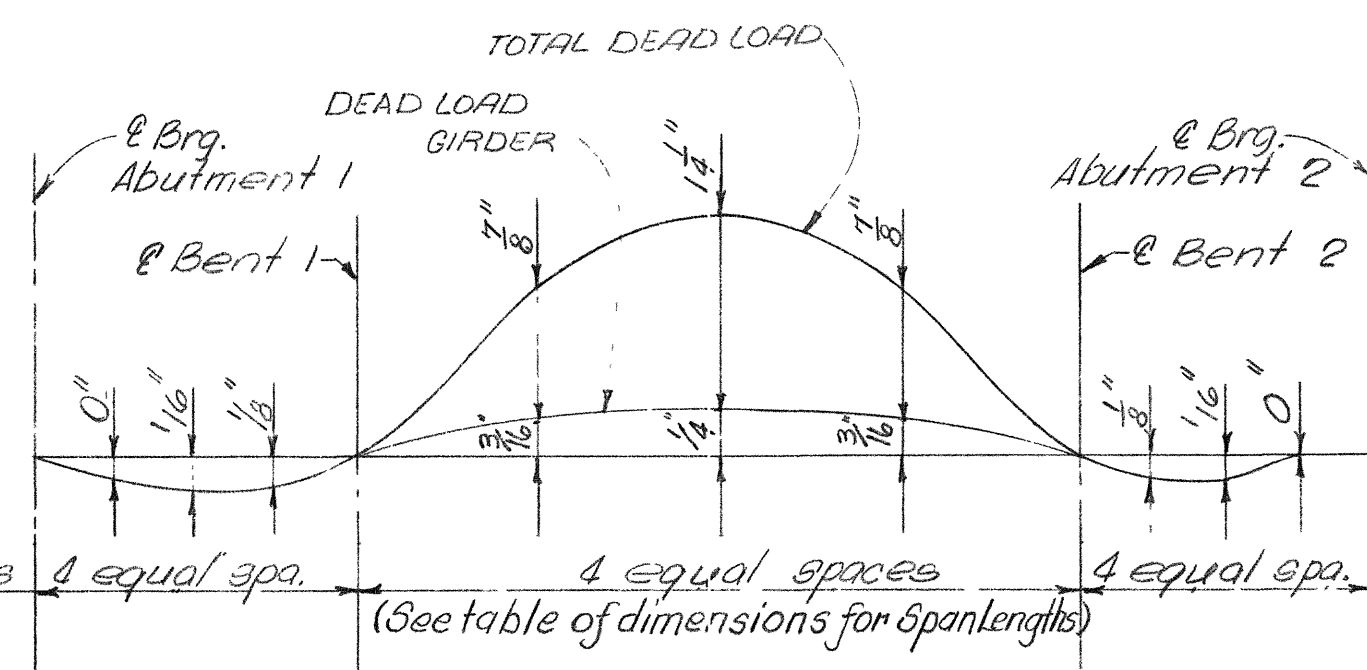
Note: Ends of girders and bearing stiffeners to be vertical in final position under full dead load.

Note: For Splice Detail see Drawing No. K-61-46



STUD DETAIL

Note: Studs shall be in sets of 3 and spaced Curve Ordinates as shown above.



DEAD LOAD CORRECTION CURVE

Line No	Length			Angle		
	L ₁	L ₂	L ₃	A	B	C
1	34'-10"	80'-8"	39'-5 1/2"	65°-28'-02.4"	61°-34'-49.8"	57°-13'-26.4"
2	34'-10 5/8"	80'-11 1/8"	39'-7 1/8"	65°-16'-46.4"	61°-14'-29.5"	56°-49'-17.2"
3	34'-11 1/2"	81'-2 3/8"	39'-9 1/2"	65°-05'-04.5"	60°-53'-38.1"	56°-24'-29.2"
4	34'-11 1/2"	81'-5 1/8"	39'-11 1/8"	64°-52'-55.2"	60°-32'-14.3"	55°-59'-00.6"
Profile Grade	35'-0"	81'-6"	40'-0"	64°-52'-11.5"	60°-30'-57.7"	55°-57'-29.3"
5	35'-0 1/16"	81'-9 3/8"	40'-2 1/8"	64°-40'-17.4"	60°-10'-16.6"	55°-32'-49.6"

Dimensions shown are for a normal temperature of 70°F with dead load on the structure. Layout dimensions are horizontal dimensions.

θ = Intersection $\angle$ between beam lines
 $\theta_1 = \angle A - \angle B$
 $\theta_2 = \angle B - \angle C$

Additional Shop Splice Note: Shop splices necessary due to lengths or size of material involved may be located by the fabricator subject to approval by the Engineer.

STRUCTURAL STEEL NOTES

Concrete placement shall be made in numerical sequence shown on Beam Elevation, this sheet. Pours with the same number designation may be made simultaneously. Dimensions shown for pouring limits are along Line 3.

For Abutment & Bent layout see Drawing No. K-61-47.

Structural Steel shall conform to ASTM A36, unless otherwise noted.

Field Connections shall be Δ 8" ϕ High Tensile Strength Bolts as shown on plane. See AASHTO Specifications Article 2.10.20. All High Strength Bolted Connections are friction type.

Paint System B-Splice Chromate. See Tennessee Highway Specifications Section 603. No paint shall be applied to the top surfaces of top flanges or at any point of field welded or bolted connections, splices and other field connections shall be cleaned and primed before forming slab.

Welding shall be in accordance with the current AWS D.1 Specification and Tennessee Standard Specifications Section 602.13. The cost of radiographic and magnetic particle inspection is to be included in the price bid for steel structures.

Beams shall be cambered to compensate for dead load deflection and vertical curve. See Diagram this sheet for Dead Load Correction Curve.

For Bearing Details see Drawing No. K-61-46.

For Roadway Expansion Device Details see Drawing No. K-56-34.

For other structural steel details see Drawing No. K-61-46.

For Slab Details see Drawing No. K-61-44.

For General Notes see Drawing No. K-61-43.

Stud Shear Connectors: See Tennessee Standard Specifications Section 602.14.

Approval of Materials: No fabrication shall be started until the materials involved have been approved by the Tennessee Highway Division of Tests.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STRUCTURAL STEEL DETAILS

INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

STATION 266+11.70

DAVIDSON COUNTY

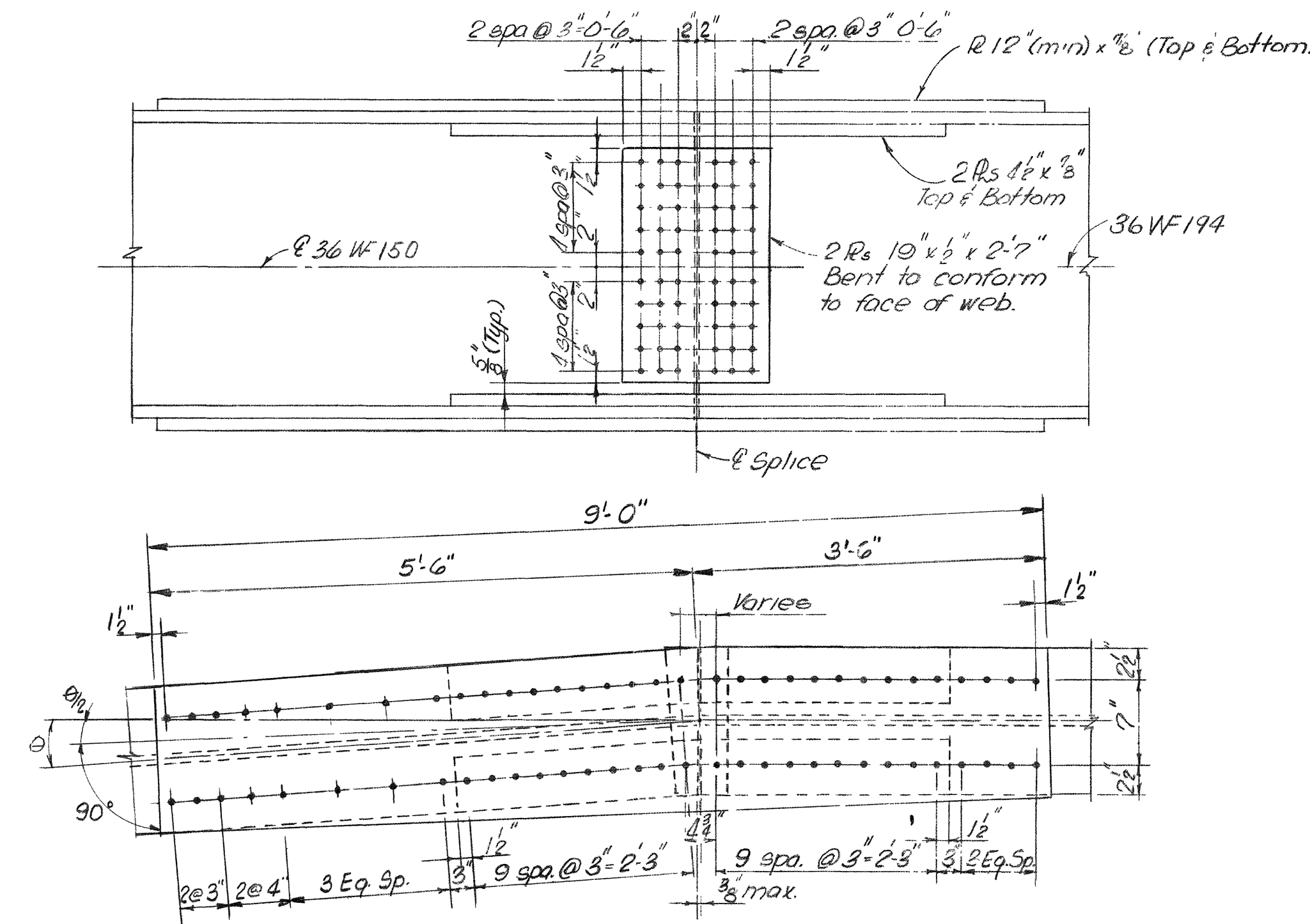
1970

APPROVED

K-61-45

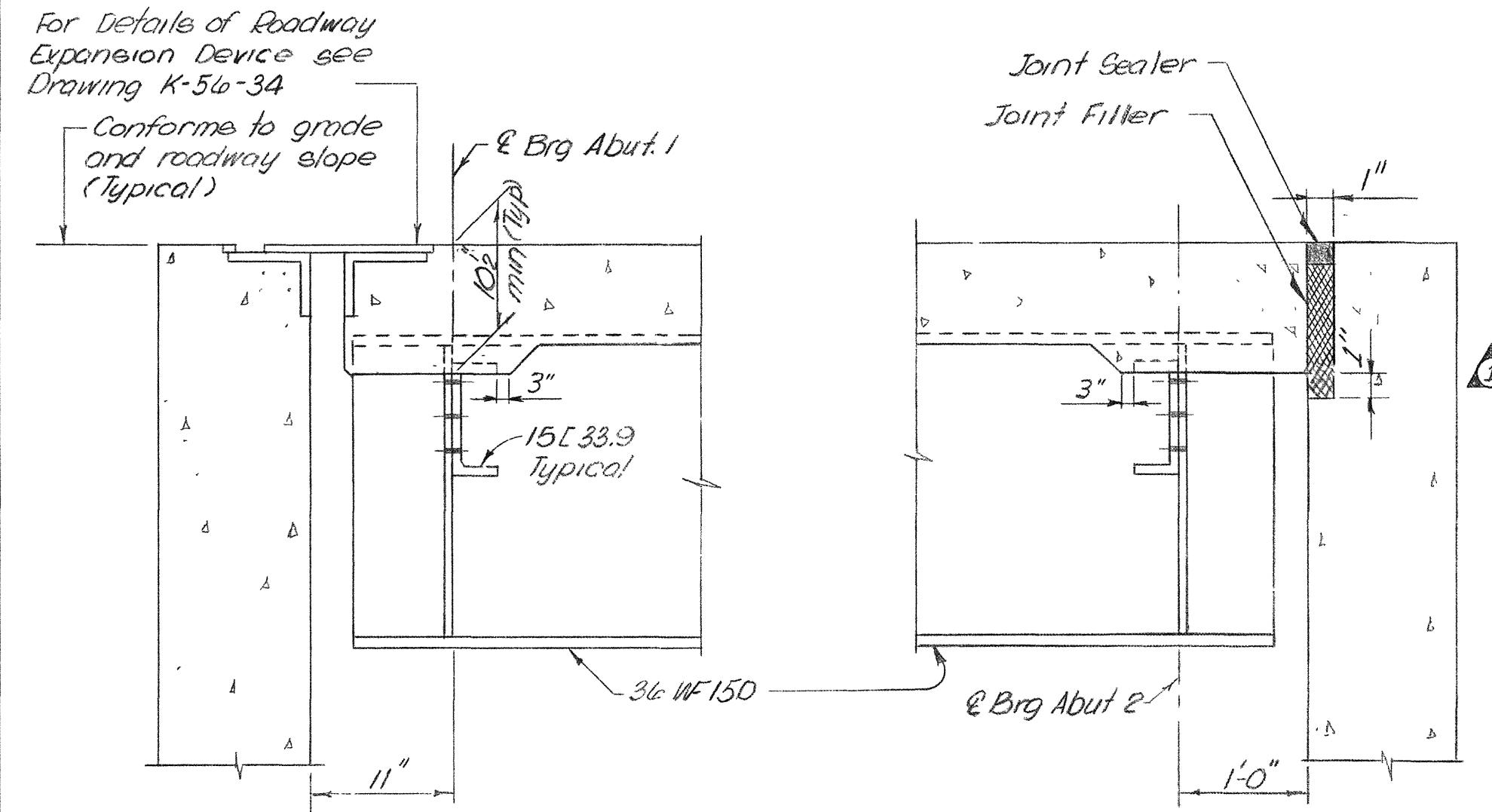
BRIGHTON ENGINEERING COMPANY

DESIGNED BY: A.L.K. DATE: 5-4-66
 DRAWN BY: F.A.B. DATE: 6-24-66
 TRACED BY: DATE:
 CHECKED BY: R.W.H. DATE: 11-7-66



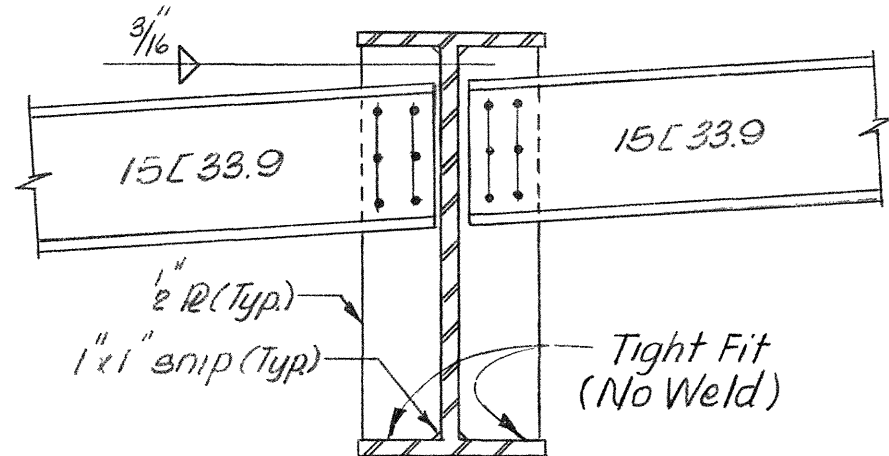
SPlice DETAIL

Note
For Intersection Angle (θ) see sheet K-61-45

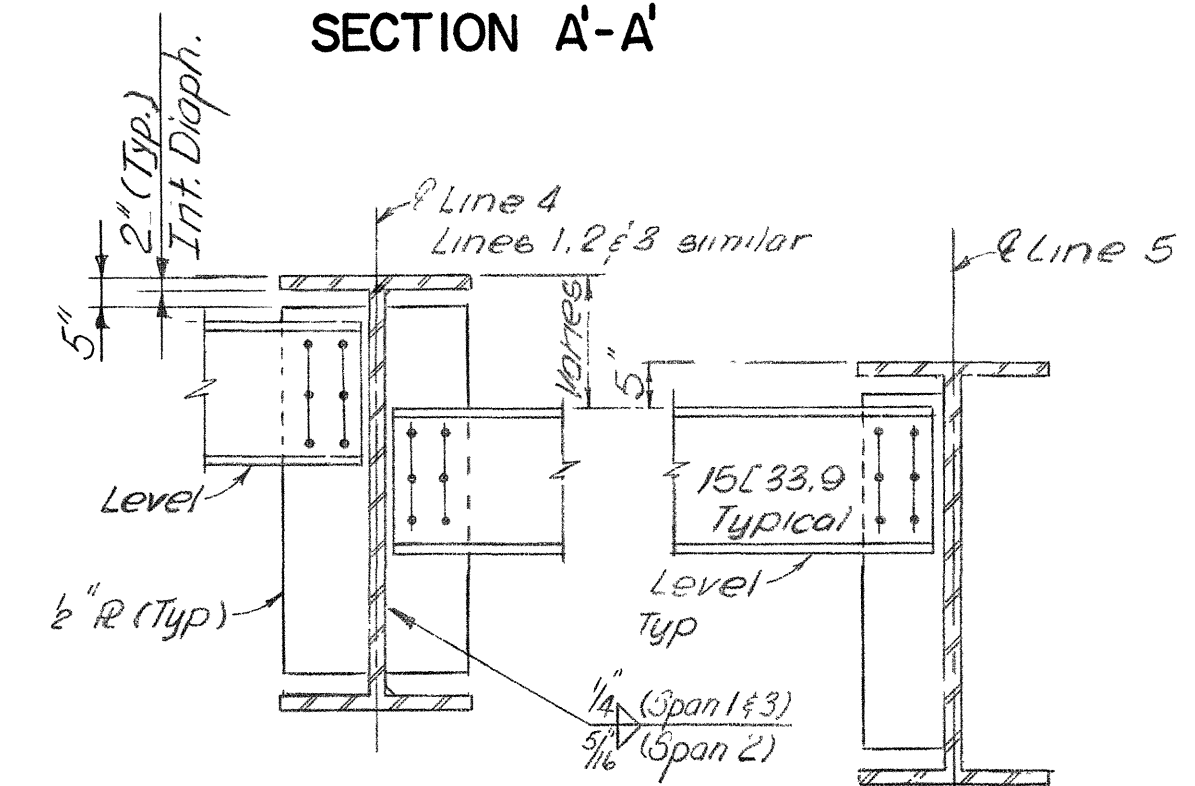


SECTION A-A

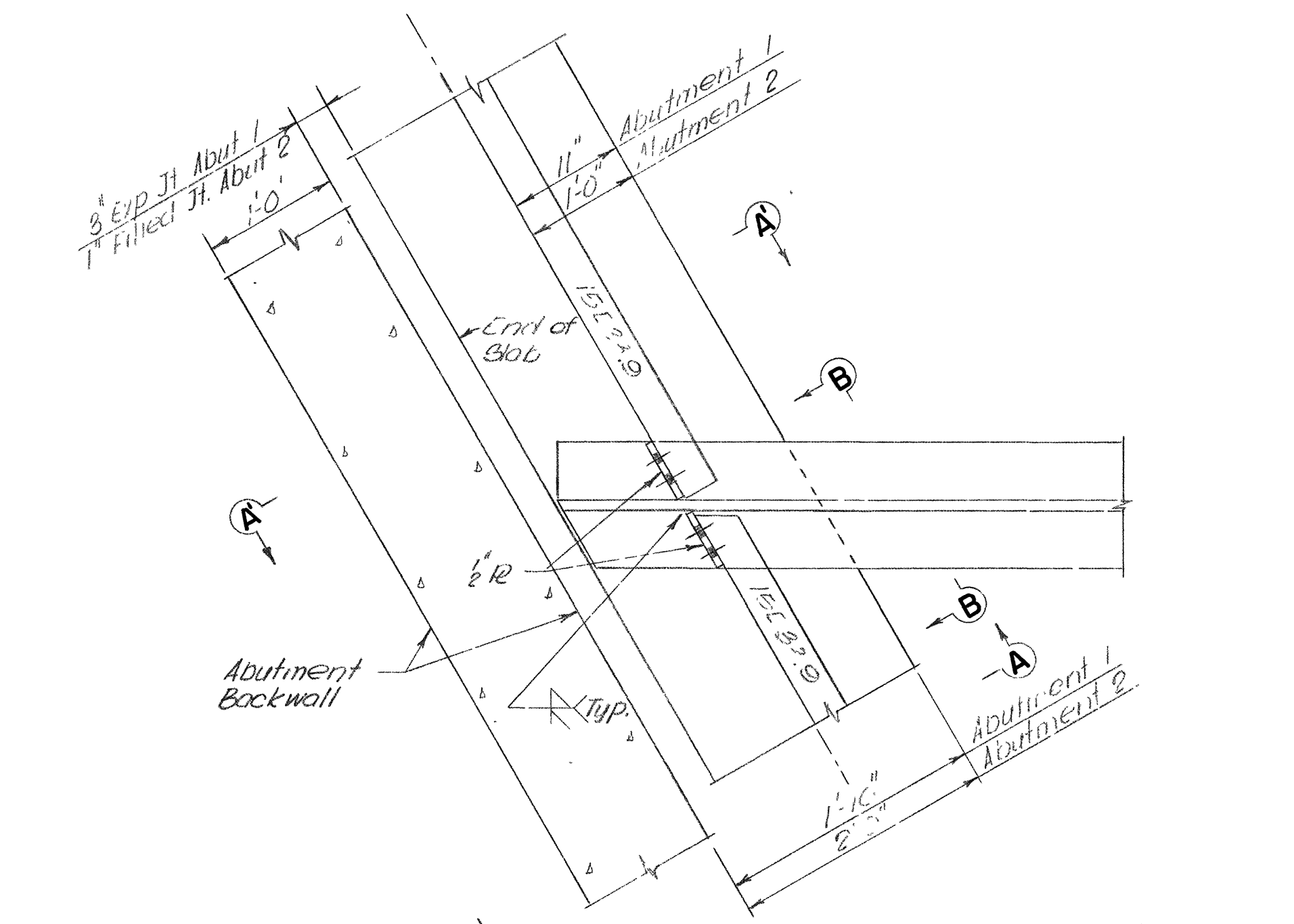
SECTION A'-A'



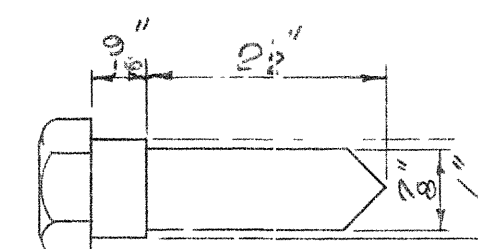
SECTION B-B



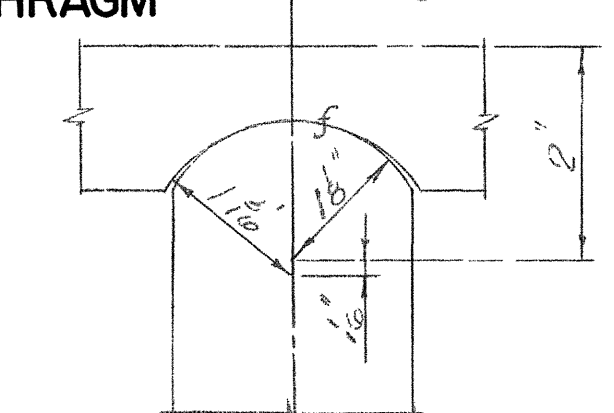
INTERMEDIATE DIAPHRAGM CONNECTION DETAIL



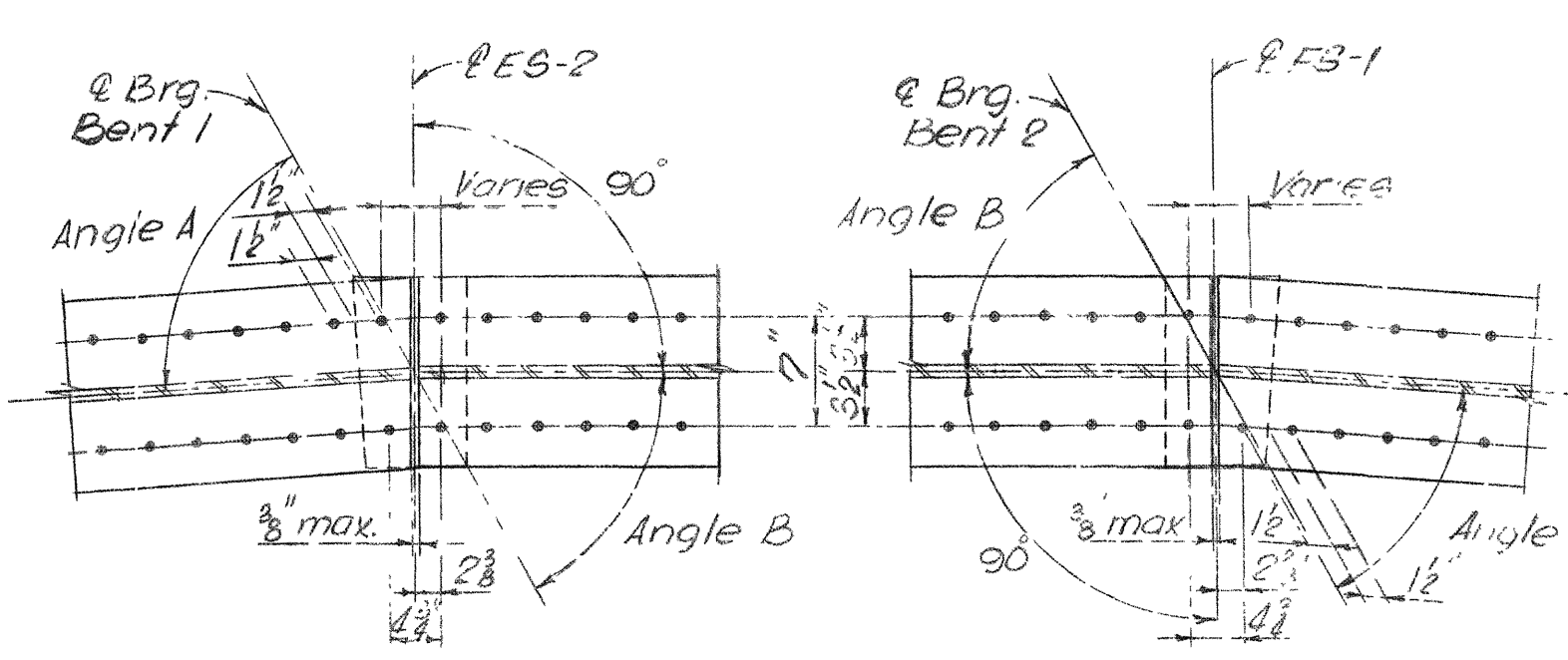
PLAN OF END DIAPHRAGM



BOLT DETAIL



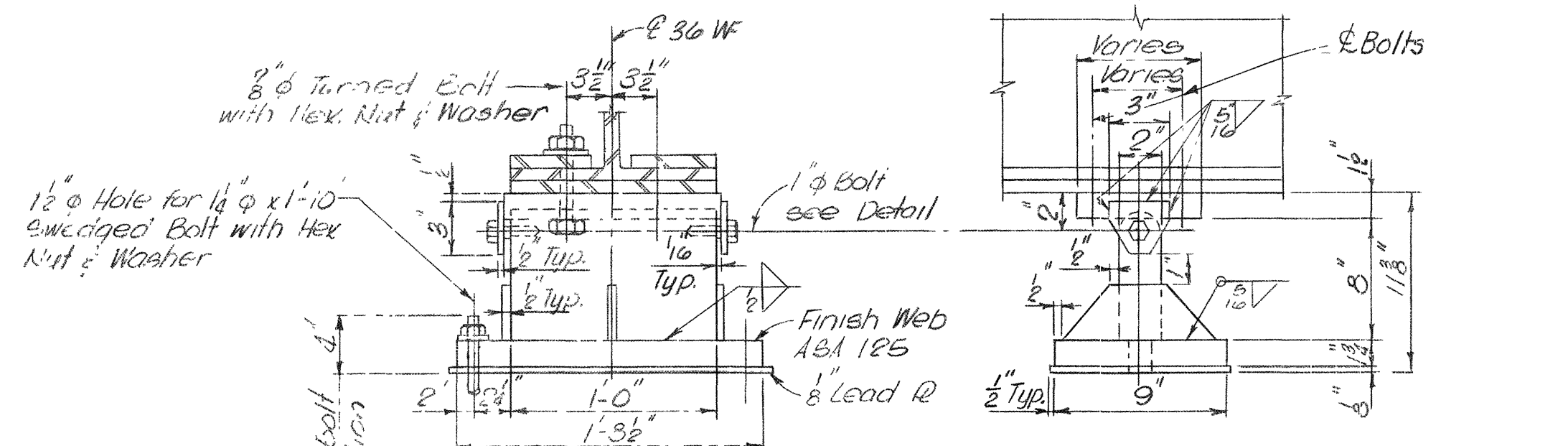
TOP BEARING DETAIL



DETAIL A

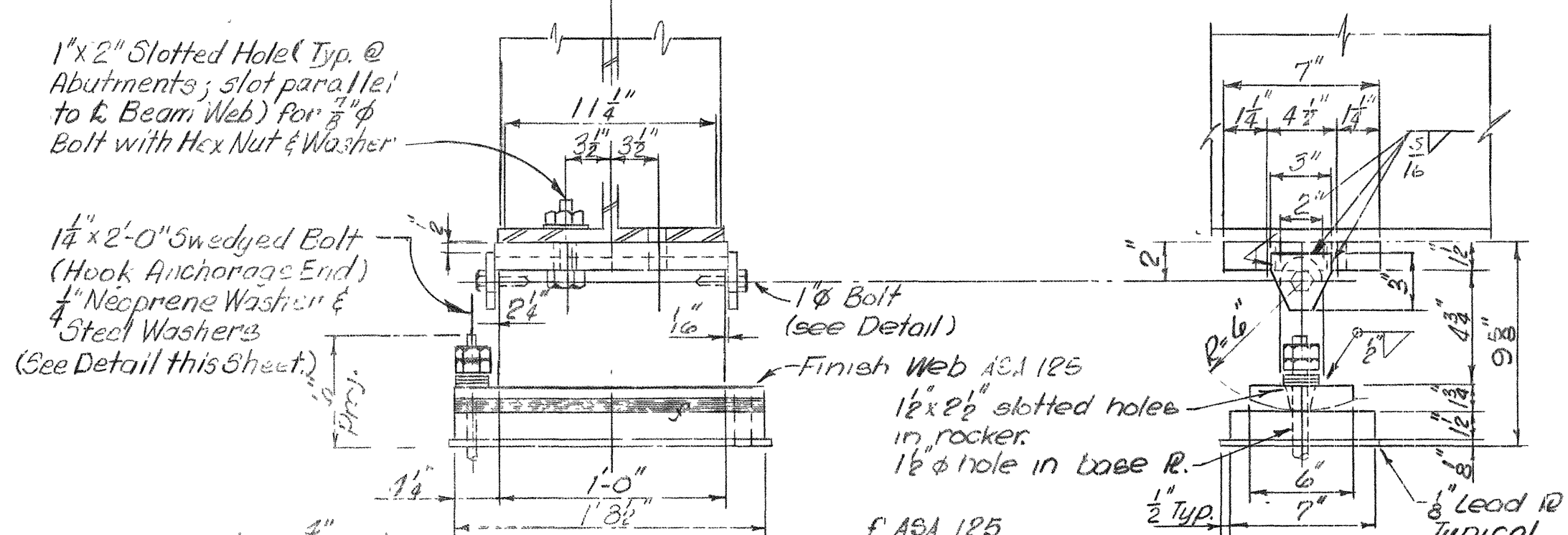
DETAIL B

Note: Holes shall be subpunched or subdrilled if smaller reamed to size and marked, marked while assembled in the shop.
For orientation of ES-2 and ES-3 see Detail A and Detail B respectively.



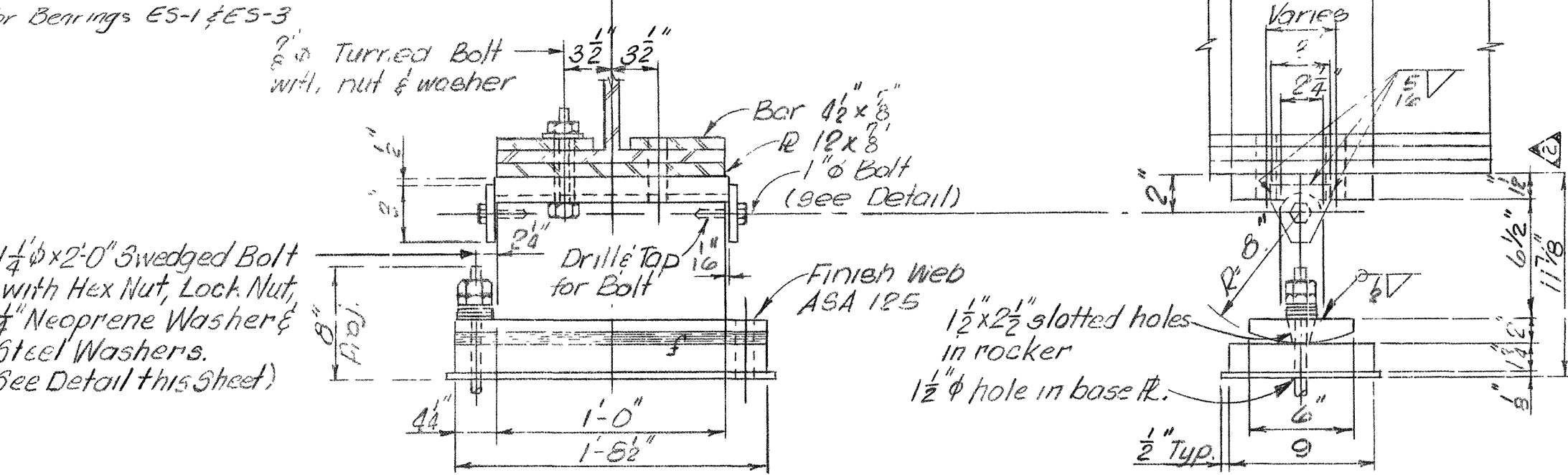
FIXED BEARING FS-1

5-Req'd Bent No.2



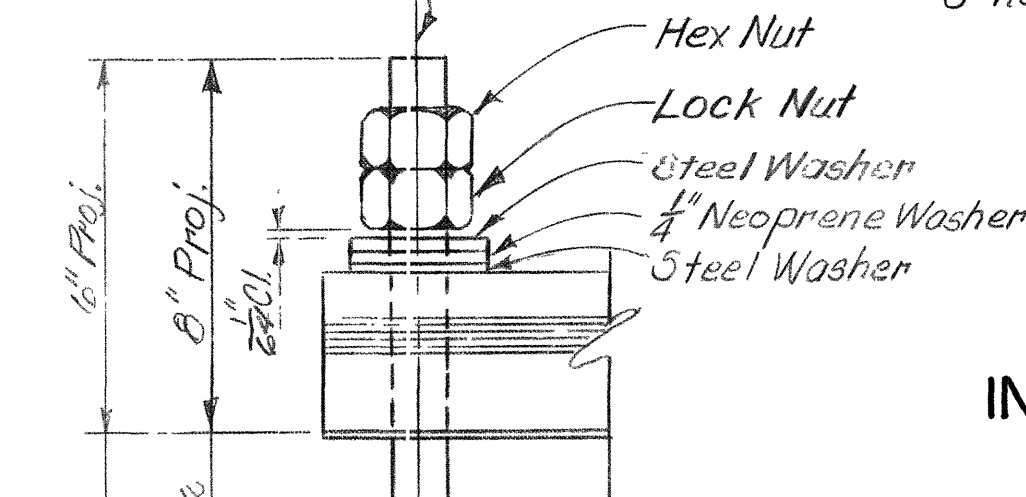
EXPANSION BEARING ES-1 & ES-3

10-Req'd - Use at Abuts. only



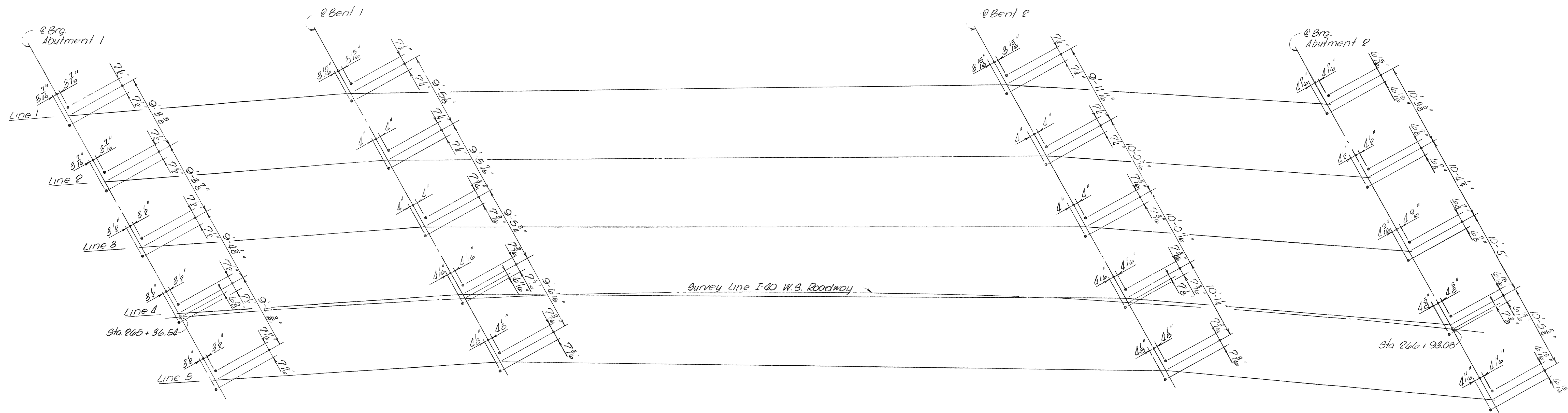
EXPANSION BEARING ES-2

5-Req'd Bent No.1

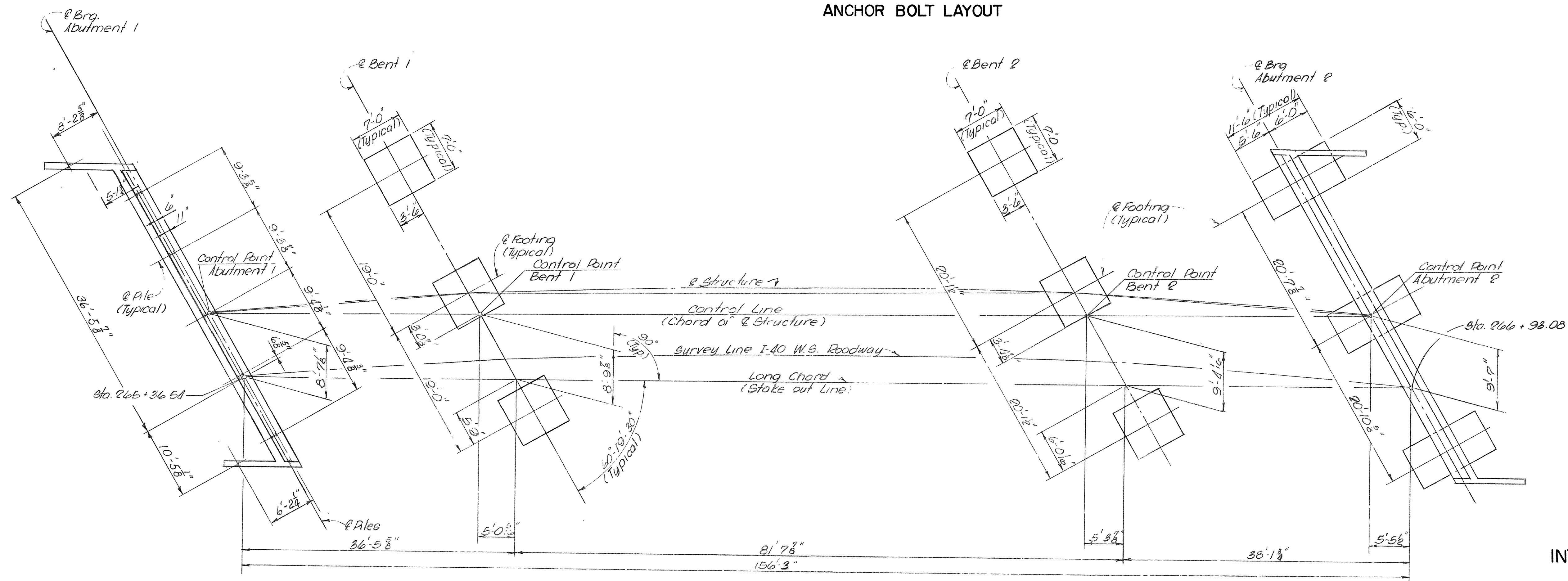


BEARING DEVICE ANCHORAGE DETAIL

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
STRUCTURAL STEEL DETAILS
INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.
STATION 266+11.70
DAVIDSON COUNTY
1970



ANCHOR BOLT LAYOUT



STAKE OUT DIAGRAM

Note
For Anchor Bolt projections see Drawings
K-61-48, K-61-49 and K-61-51.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
ANCHOR BOLT LAYOUT & STAKE OUT DIAGRAM
INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

STATION 266 + 11.70

DAVIDSON COUNTY

1970

APPROVED _____

K-61-47

BRIGHTON ENGINEERING COMPANY

DESIGNED BY _____ DATE _____
DRAWN BY F.A.B. DATE 8-15-67
TRACED BY _____ DATE _____
CHECKED BY R.W.H. DATE 2-67

REPRODUCTION

④ 4-2-71 C.E.H. Revised Anchor Bolt Proj.

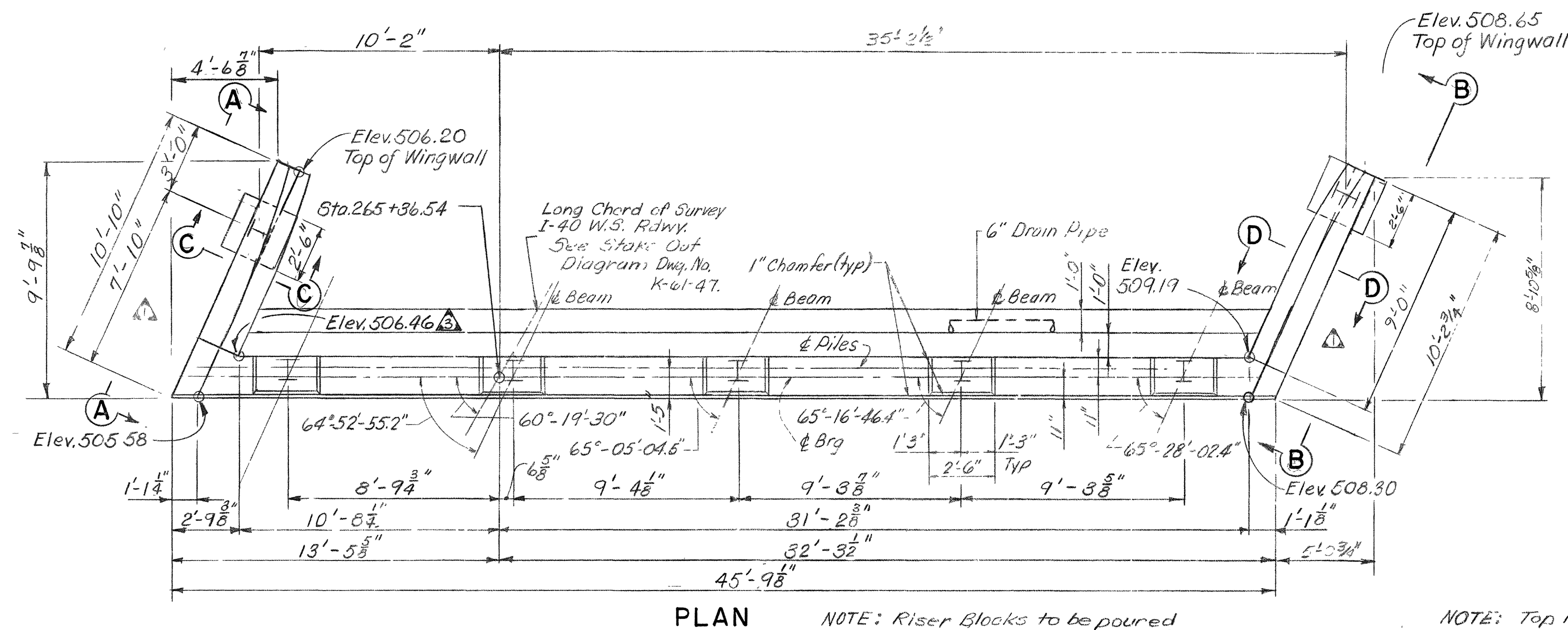
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN.	I-40-4(26) 208	1970	141	305

① 1960-RMD - Winged ...
5 ... and here.

② RMD, B-31-70 Section - E-E
③ R.M.D. 11-23-70 Elevation

Hand-drawn cross-section diagram of a wall assembly. The wall is labeled "1'-0" to 6" at the top. The wall is labeled "Varies" at the top and bottom. The wall is labeled "A4 Bars" at the top left. The wall is labeled "A405 Bars" at the top left. The wall is labeled "A513" at the bottom left. The wall is labeled "A514" at the bottom left. The wall is labeled "A5 Bars" at the bottom left. The wall is labeled "3" at the bottom right. The wall is labeled "3 Eq. Spa." at the bottom right. The wall is labeled "5 Spacing @ 1'-0" = 5'-0" Series A515" at the bottom right. The wall is labeled "2" C1 Typ" at the bottom left. The wall is labeled "9" to 3" at the bottom left. The wall is labeled "1'-0" 1'-1" Varies" at the top left. The wall is labeled "2" at the top left. The wall is labeled "3" at the top right. The wall is labeled "9" at the top right. The wall is labeled "1'-0" Bars A405" at the top right.

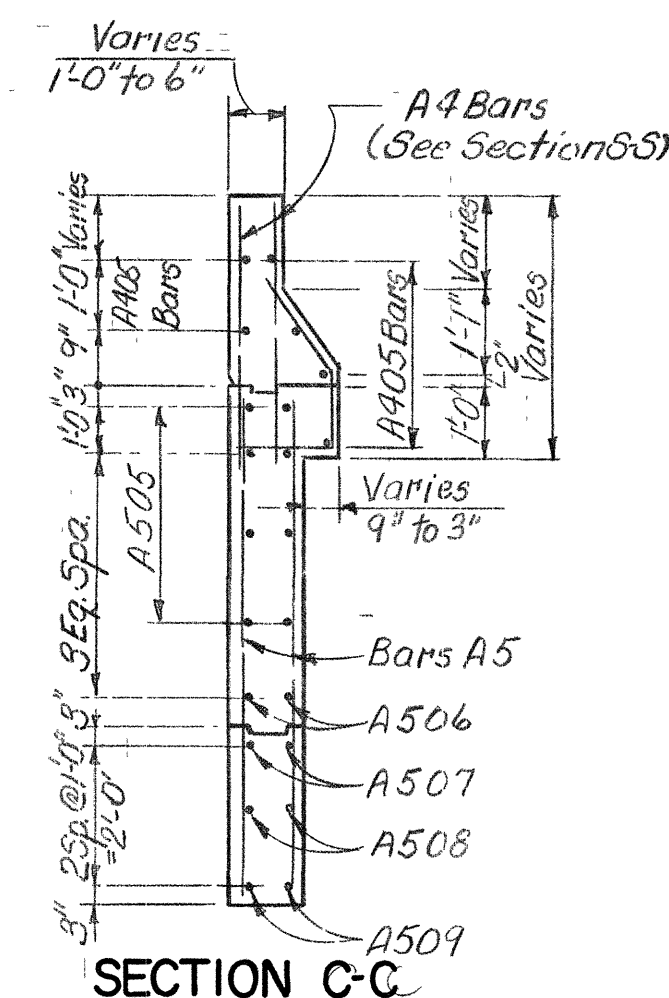
SECTION D-D



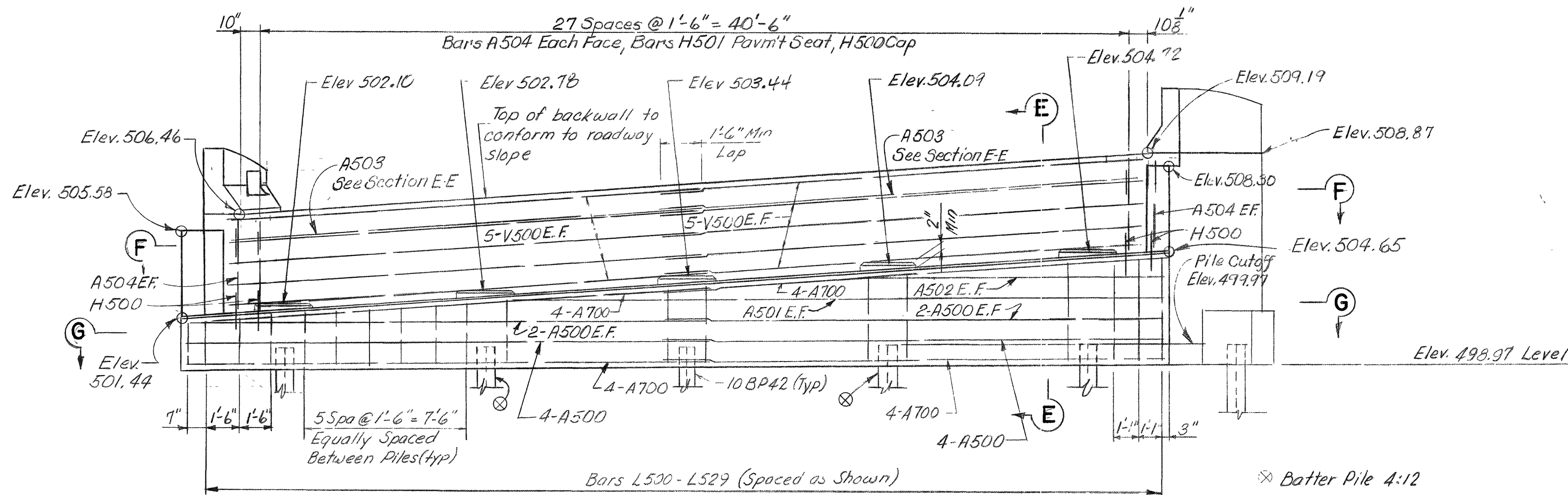
PLAN

NOTE: Riser Blocks to be poured monolithic with abutment beam.

NOTE: Top 12" of Backwall to be poured concurrently with end of Slab. Top of Backwall shall conform to roadway slope and grade.



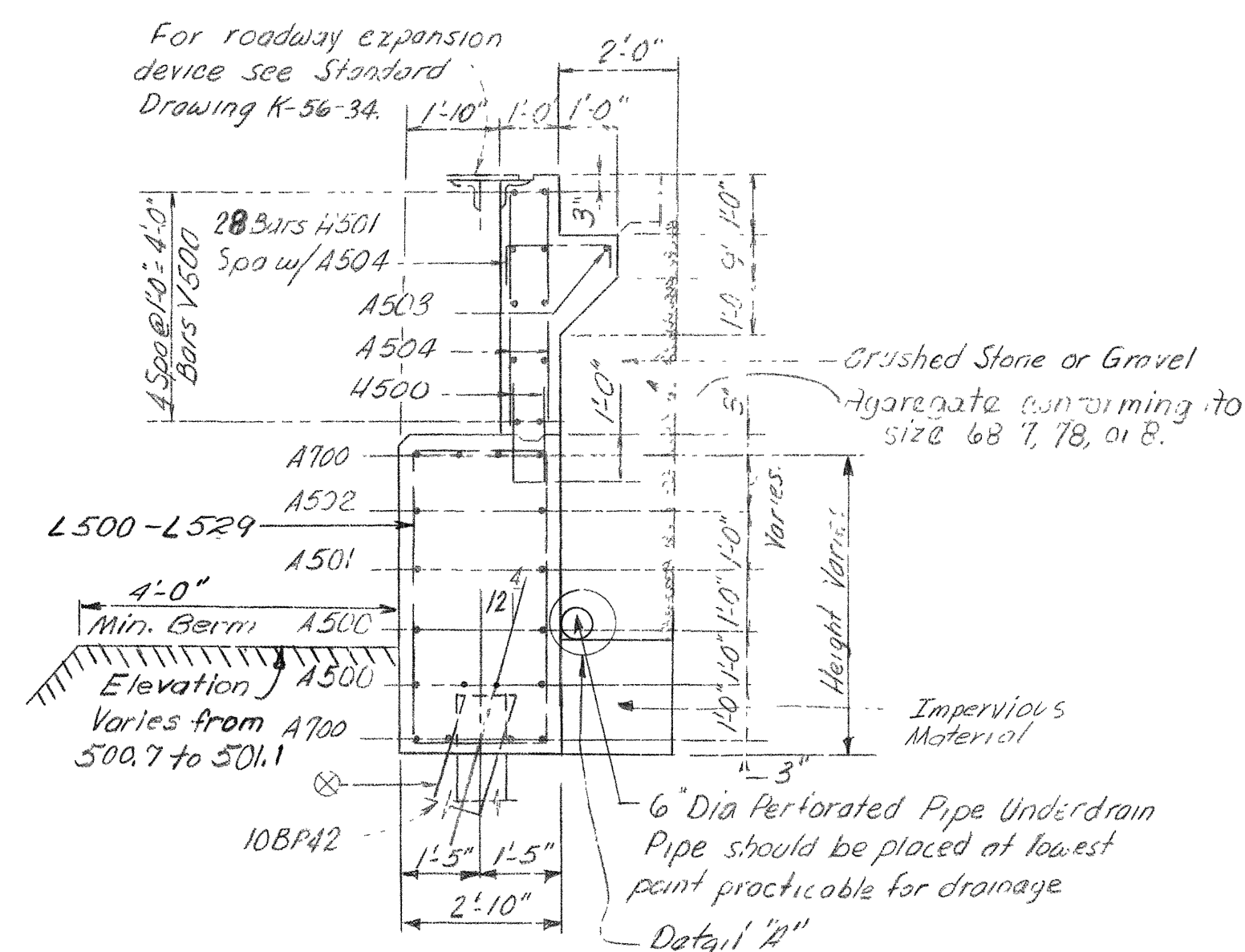
SECTION C-C



ELEVATION

Note: E.F. Denotes Each Face

Note: Rod soundings shall be made as directed by the Engineer. From the results obtained, the Bridge Engineer will decide if piles will be used or the footing carried to rock. Cost of rod soundings to be included in bid items.

SECTION E E

 ESTIMATED QUANTITIES *

Item	Conc - Class A Cu Yds	Reinf. Steel Lbs
Abutment No 1	37.4	3,658

* Includes p. 1. net Quantities

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT I DETAILS

INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

STATION 266+11.70

DAVIDSON COUNTY

1970

APPROVED

K-61-48

BRIGHTON ENGINEERING COMPANY

DESIGNED BY ALK DATE JULY '66
DRAWN BY ALK DATE AUG 1966
TRACED BY _____ DATE _____
CHECKED BY RWH DATE OCT 66

6 1/2" c.m. pipe (18ga.)
to external drainage
system.

6" perforated c.m. pipe
(18ga.) underdrain

24"

35"

Limit of payment
for item No. 710-10

Beginning of pipe
and limit of payment
for item No. 710-10

PLAN

ABUTMENT BACKFILL DRAINAGE DETAILS

Note: All drainage pipes to have a min. downward slope of $\frac{1}{8}$ " per foot.

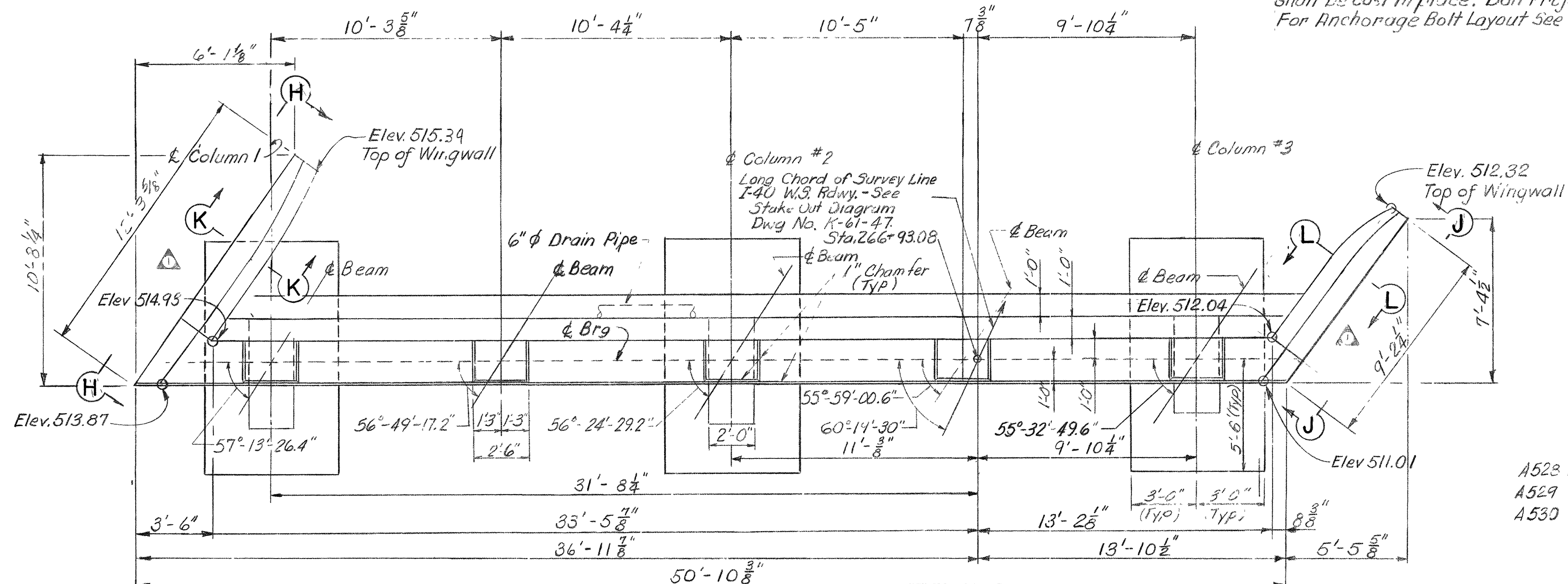
6" perforated 2 cm.
pipe (1/8 in.) wall
Turn bolt & nut
10 mil. polyethylene
sheathing

DETAIL "A"
(See Section E-E)

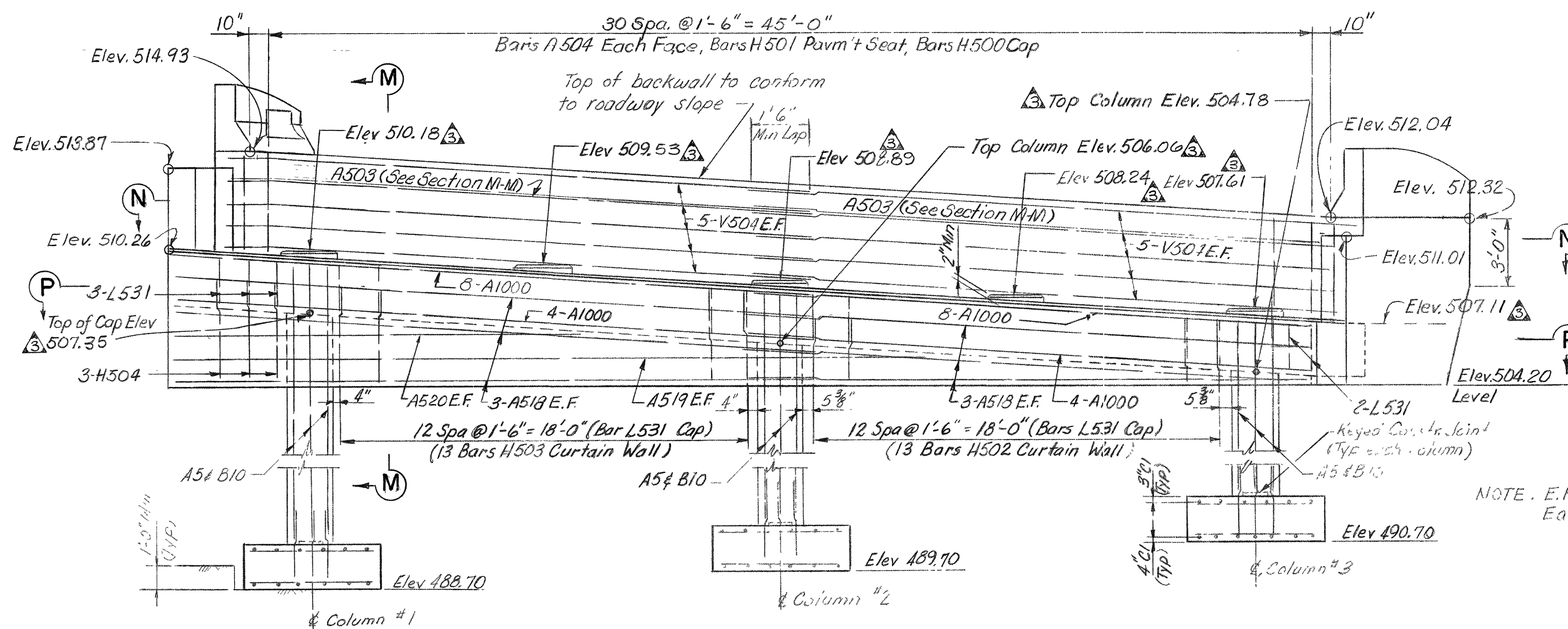
NOTE: Anchorage Bolts for Bearing Devices shall be cast in place. Bolt Projection = 4". For Anchorage Bolt Layout See Dwg. K-61-47.

R.M.D. 11-23-70 Elevations
Q-2-71 U.E.H. Revised Anchor Bolt Proj.

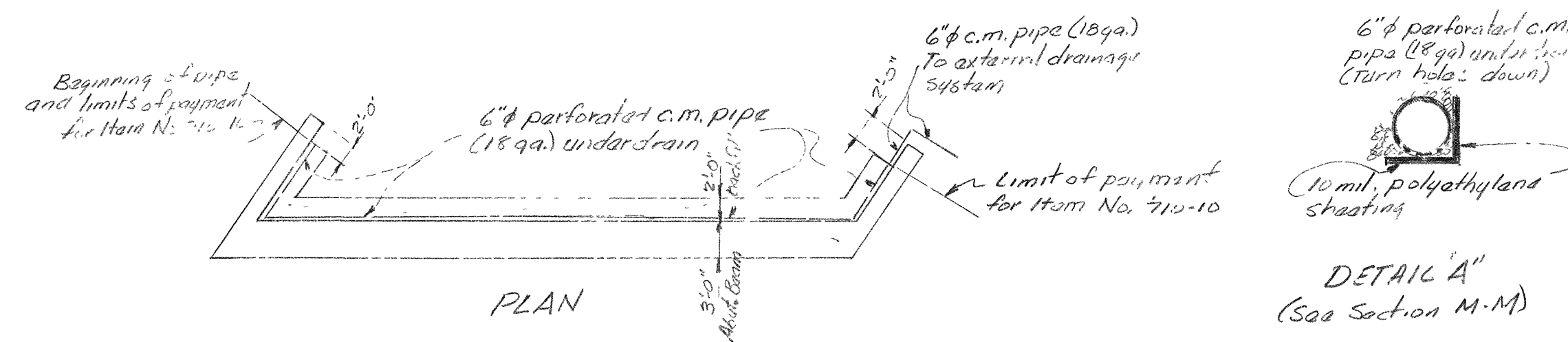
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	1-40-4261208	1970	142	305



NOTE: Riser Blocks to be poured monolithic with abutment beam.



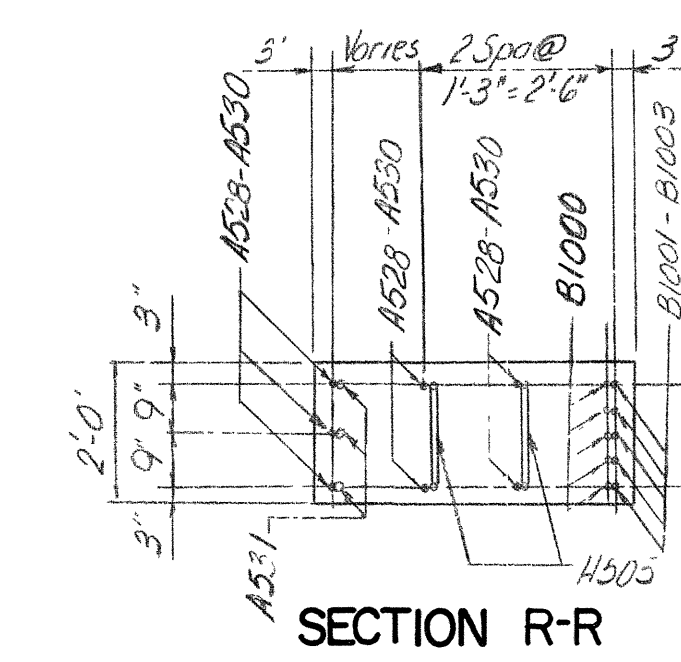
ELEVATION



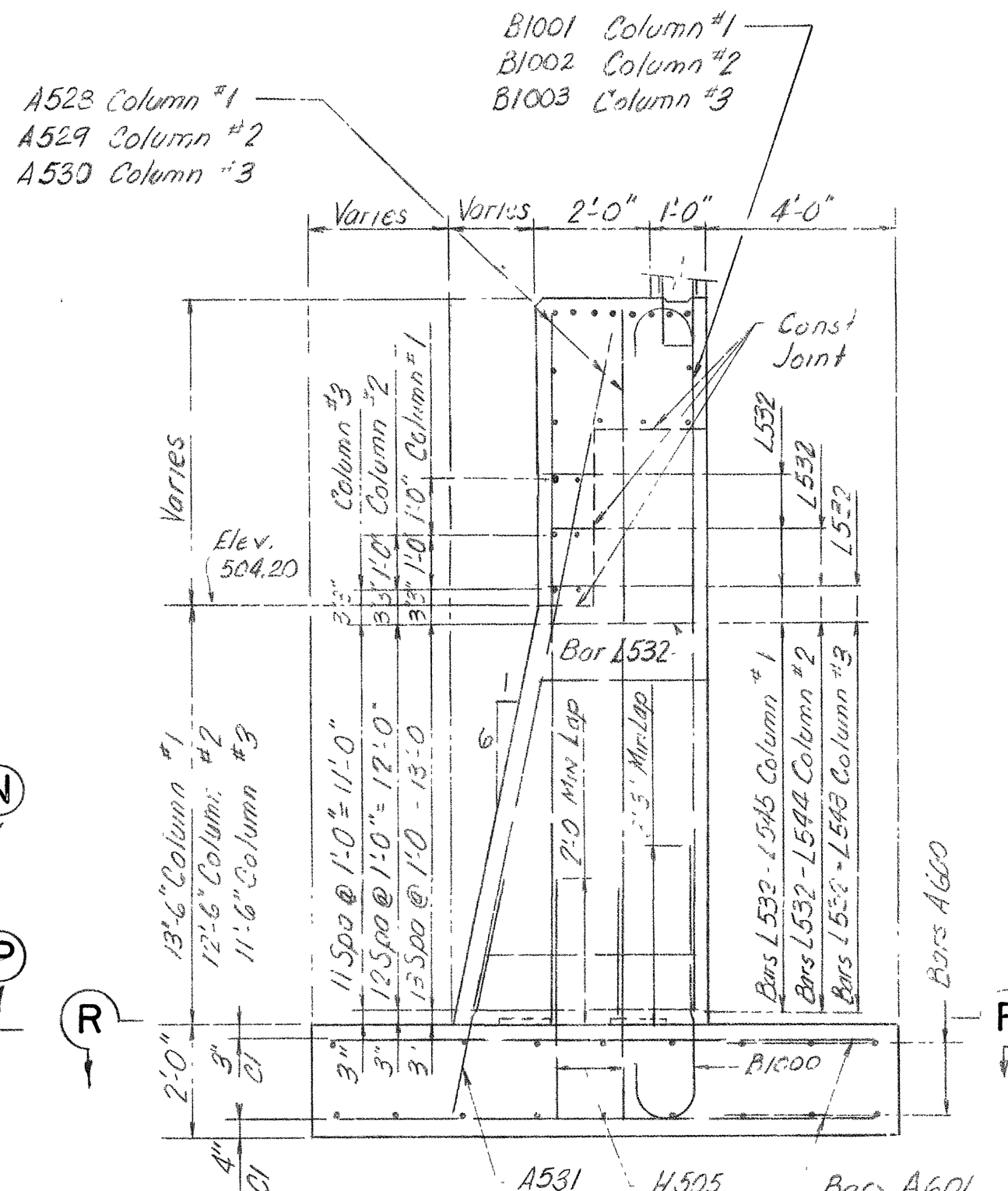
PLAN

ABUTMENT BACKFILL DRAINAGE DETAILS

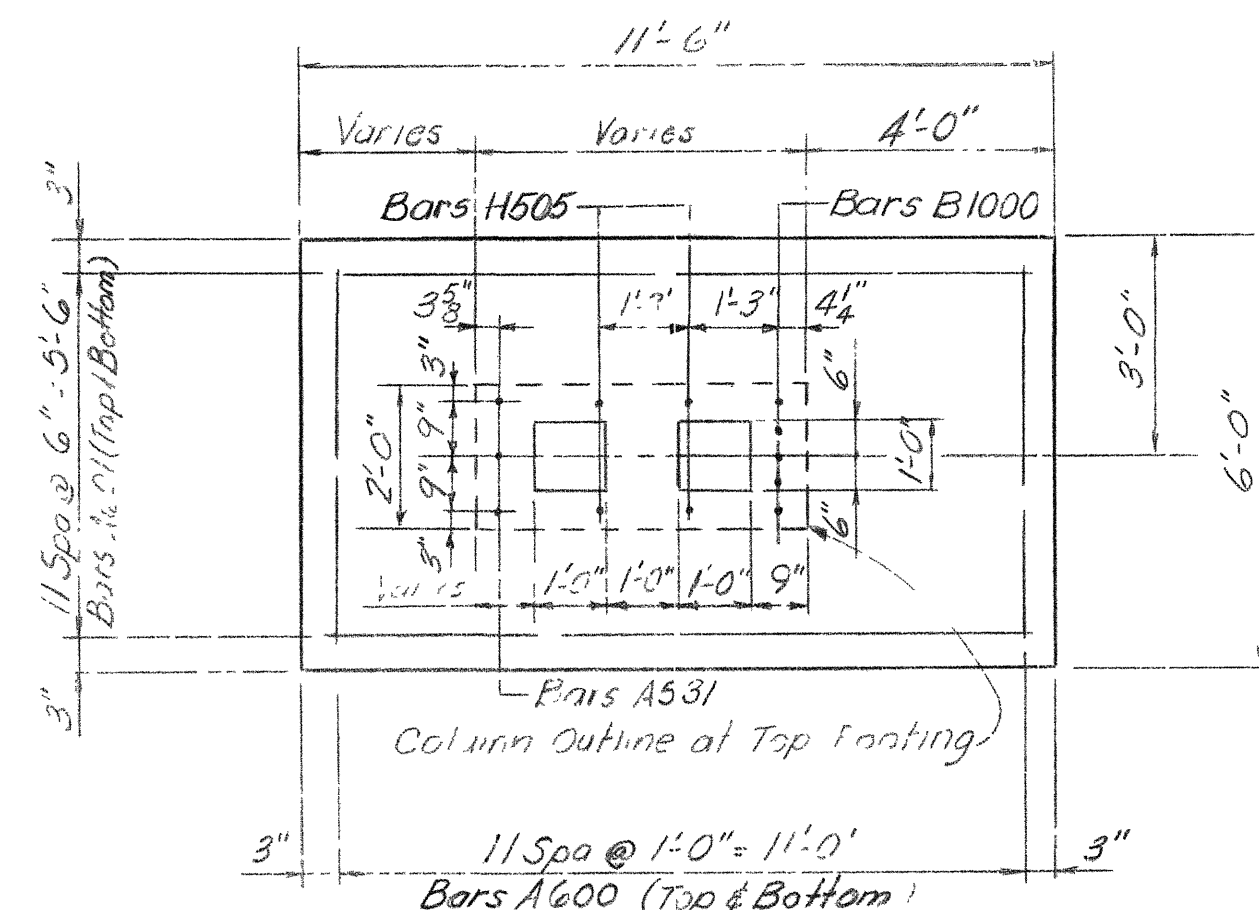
Note: All drainage pipes to have a min. downward slope of 1/4" per foot and conform to abut. beam top. Slope at road edge to be 1/2" ft.



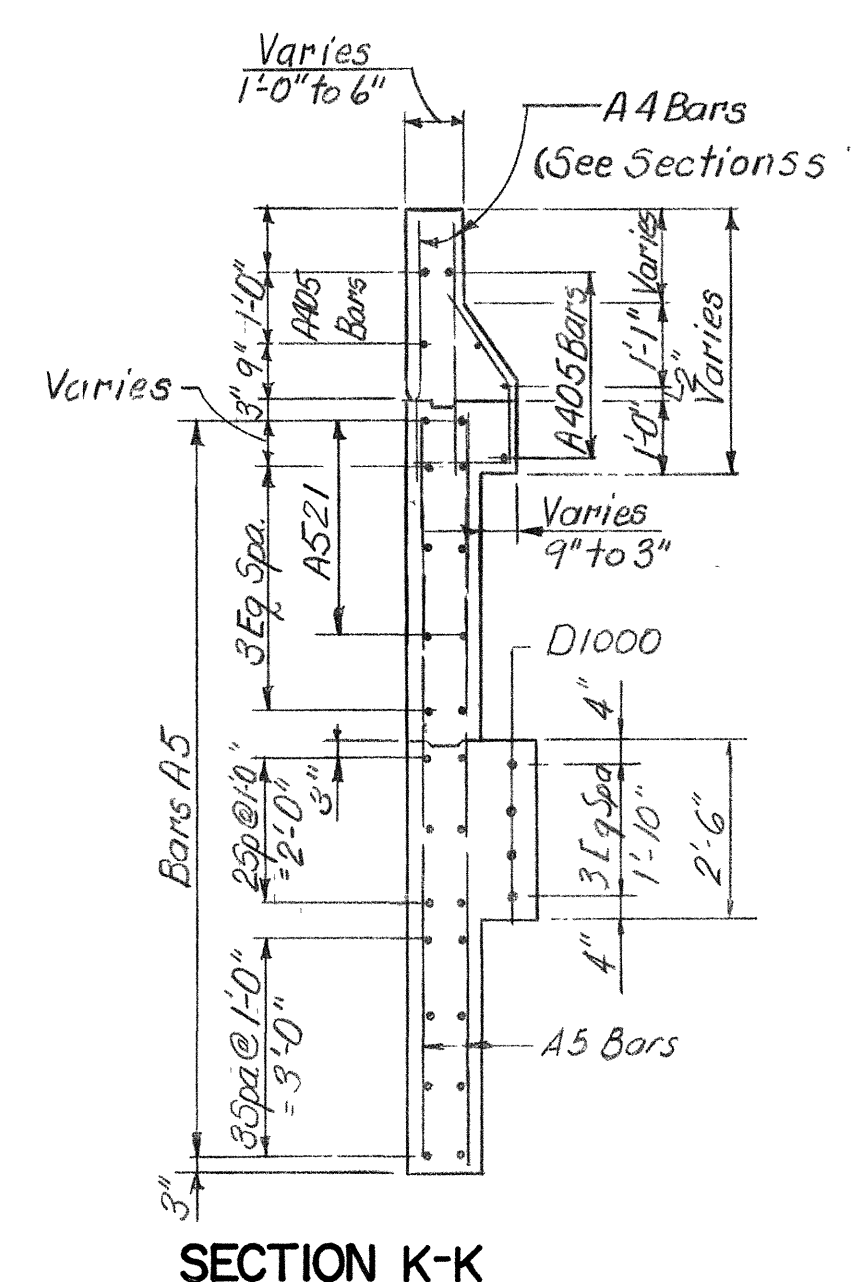
SECTION R-R



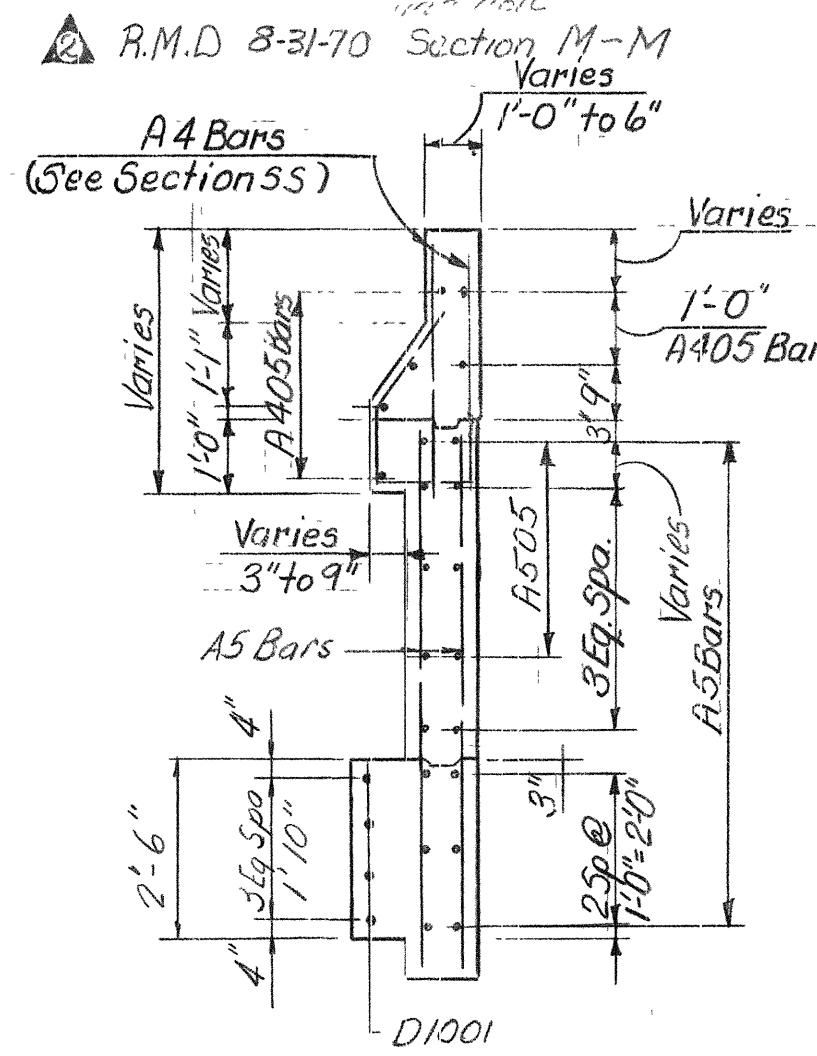
TYPICAL COLUMN ELEVATION



FOOTING PLAN

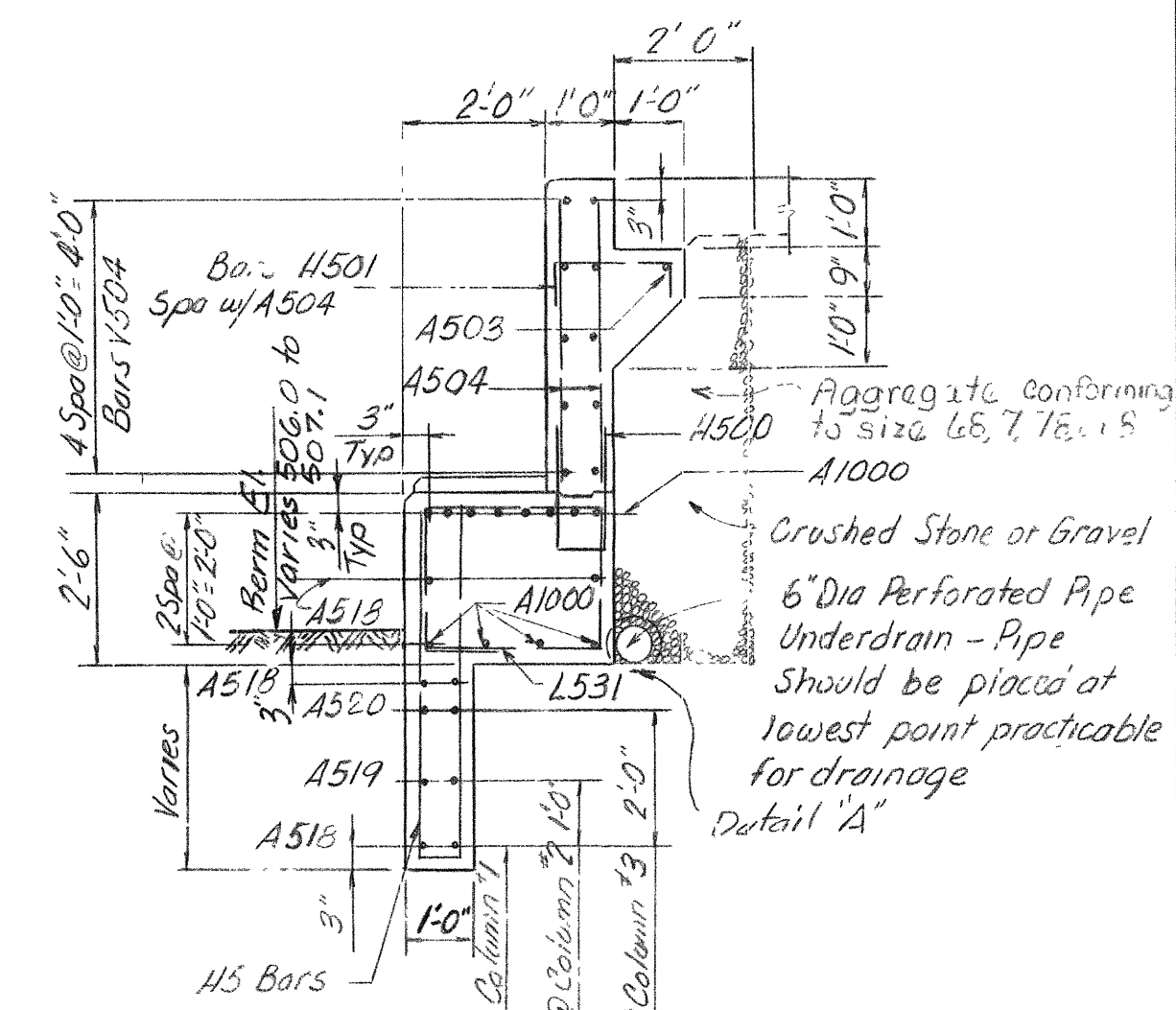


SECTION K-K



SECTION L-L

NOTE: Top 12" of Backwall to be poured concurrently with end of slab. Top of Backwall shall conform to roadway slope & grade.



SECTION M-M

ESTIMATED QUANTITIES*

Item	Conc. - Class A Cu Yds	Reinf. Steel Lf.
Abutment No 2	61.8	10,970

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT 2 DETAILS

INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

STATION 266+11.70

DAVIDSON COUNTY

1970

APPROVED

K-61-49

BRIGHTON ENGINEERING COMPANY

DESIGNED BY: ALX
DRAWN BY: ALX
TRACED BY:
CHECKED BY: RWH
DATE: JULY 70
DATE: AUG 70
DATE: OCT 70

① June 1970 - R.M.D. - Wingpost & Wingwall, Quantities.
② 11-23-70 R.M.D. Elevations



4 threaded steel inserts to fit $\frac{7}{8}'' \phi \times 4''$ Hex Head bolt (A 307). For additional details see Std. Dwg. No. RD-R-6A, Cost to be included in cost of bid items.



Note: Wing Post at Elevation A-A & H-H shown, Wing Post at B-B & J-J opposite hand.

ABUTMENT 1 & 2 DETAILS

INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

DAVIDSON COUNTY

1970

APPROVED _____

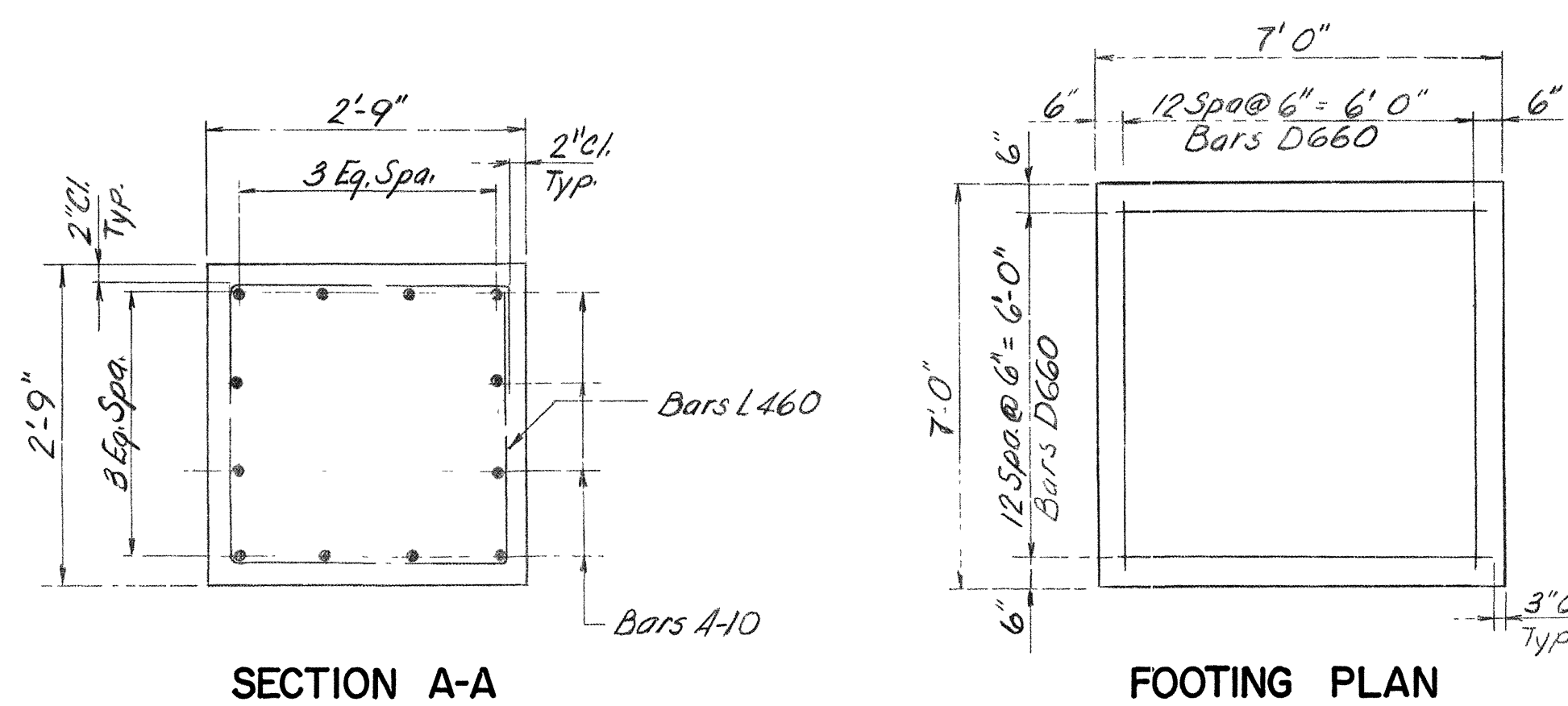
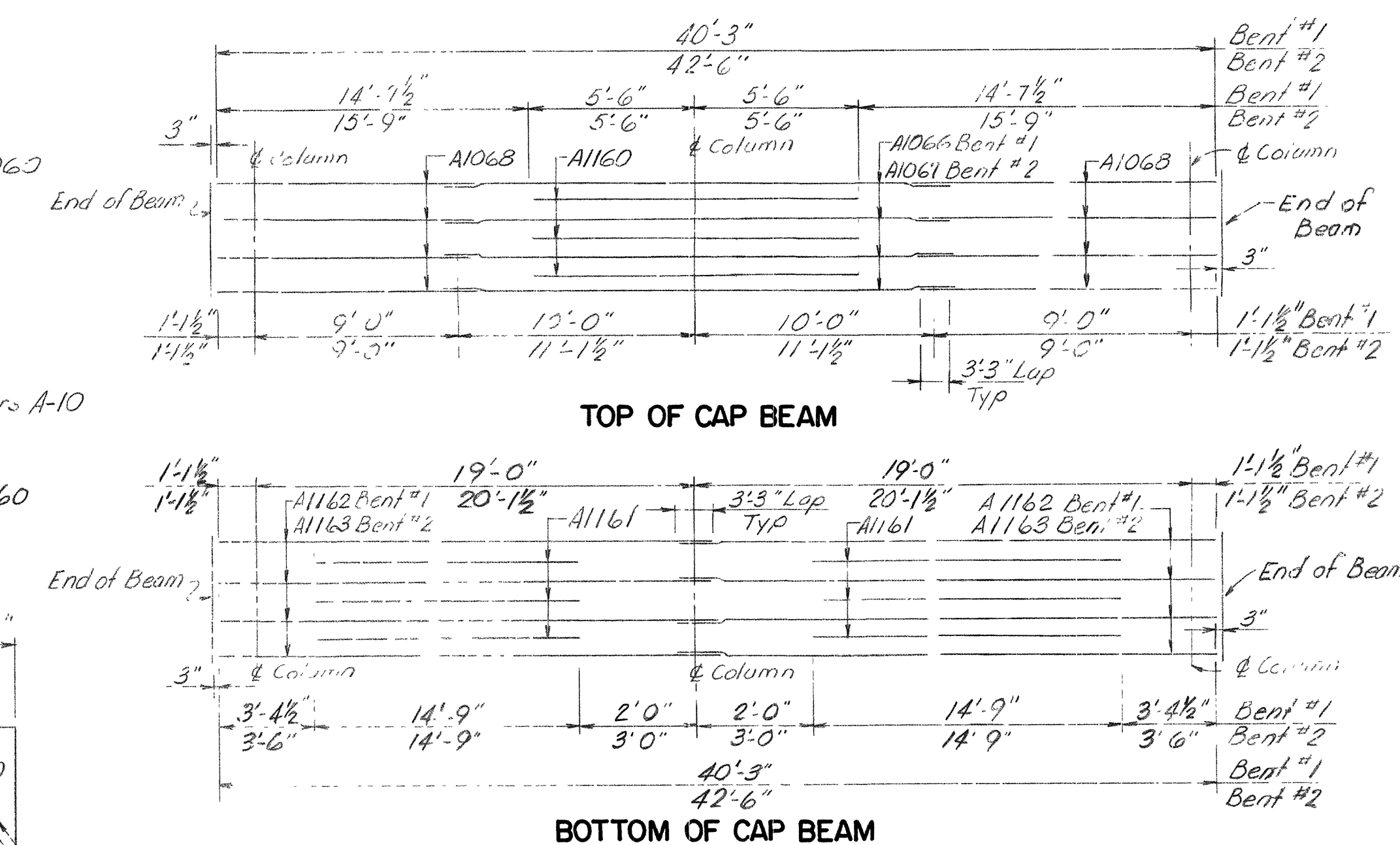
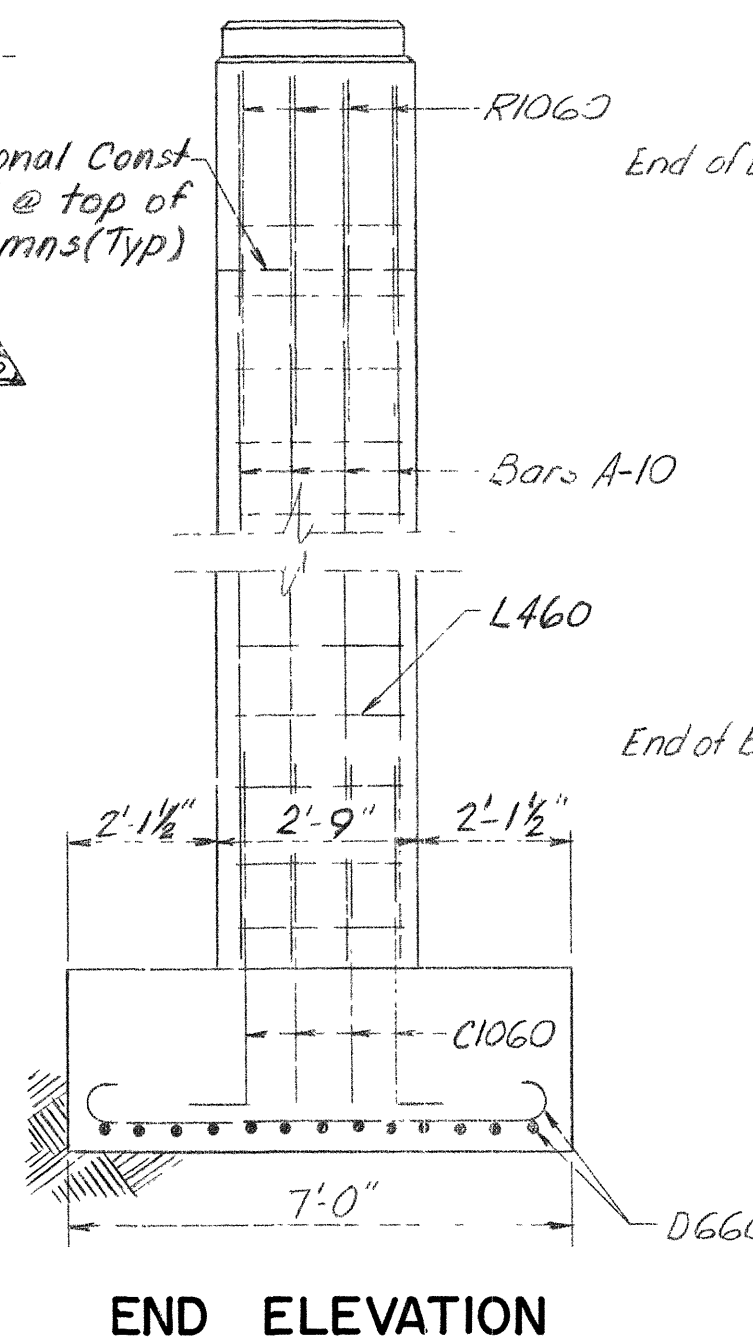
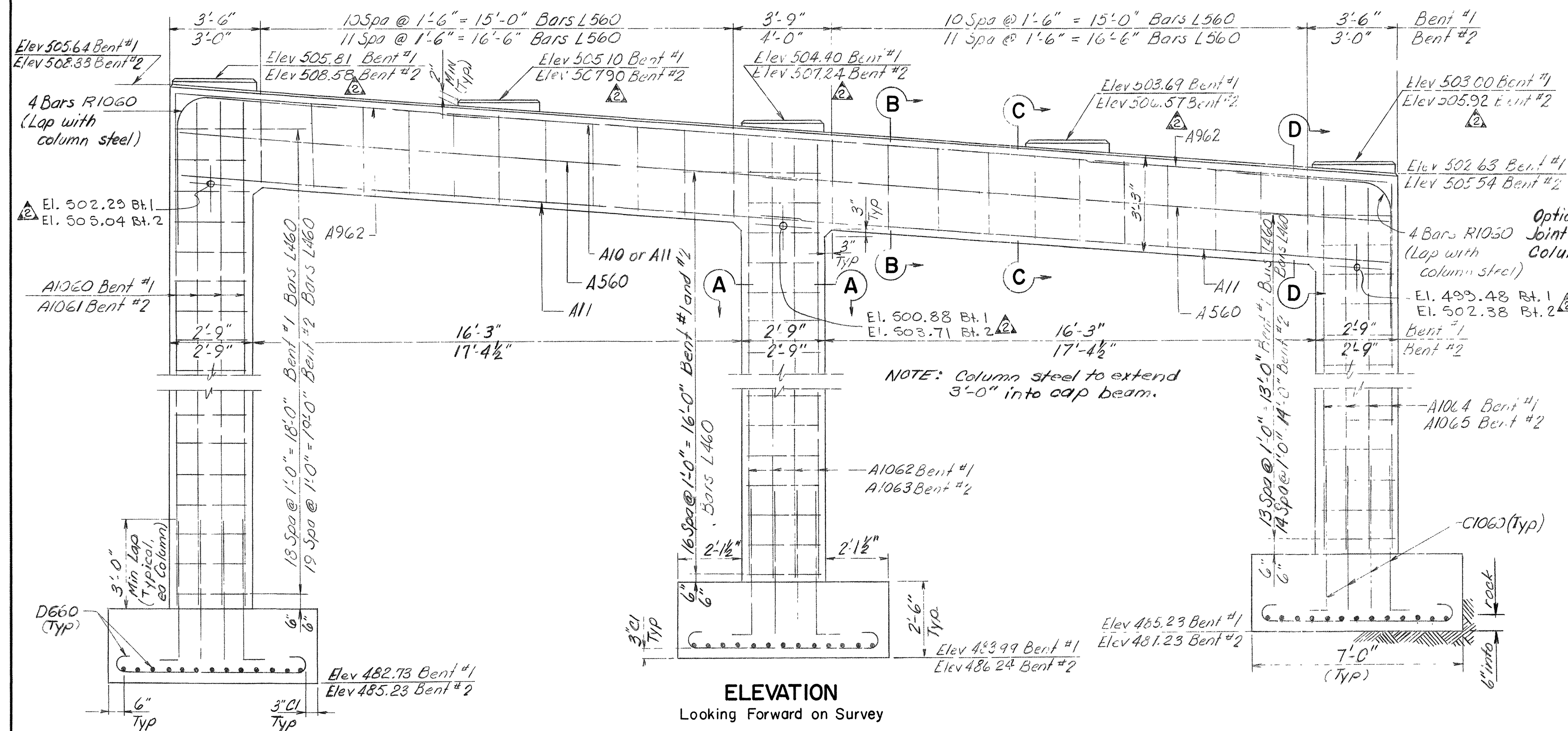
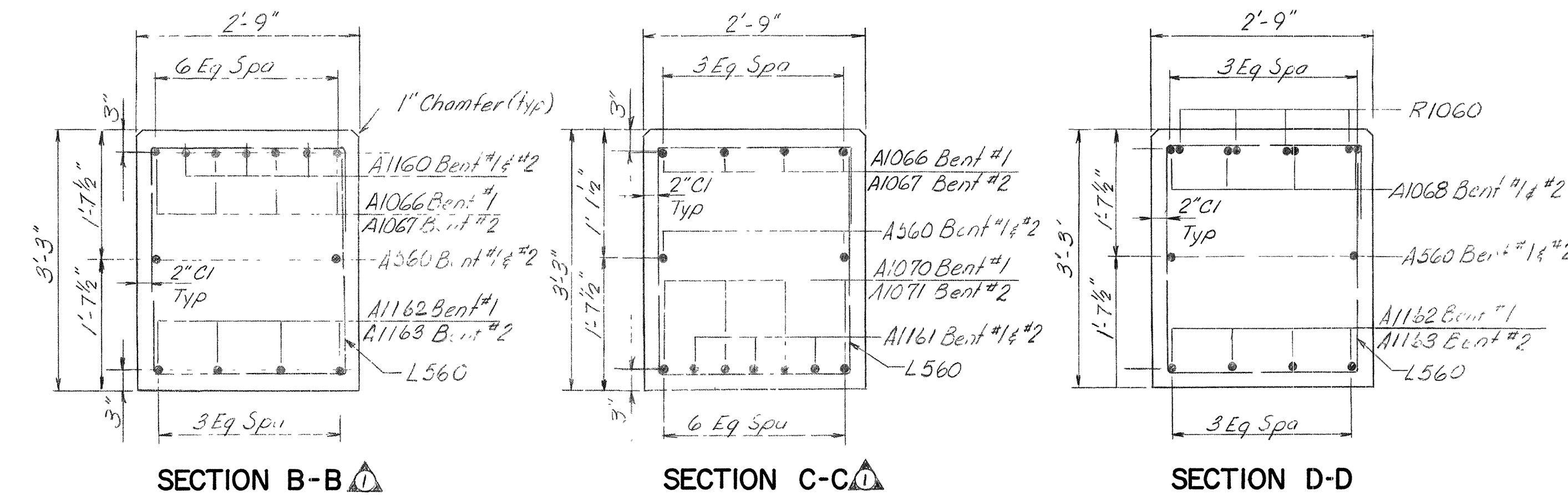
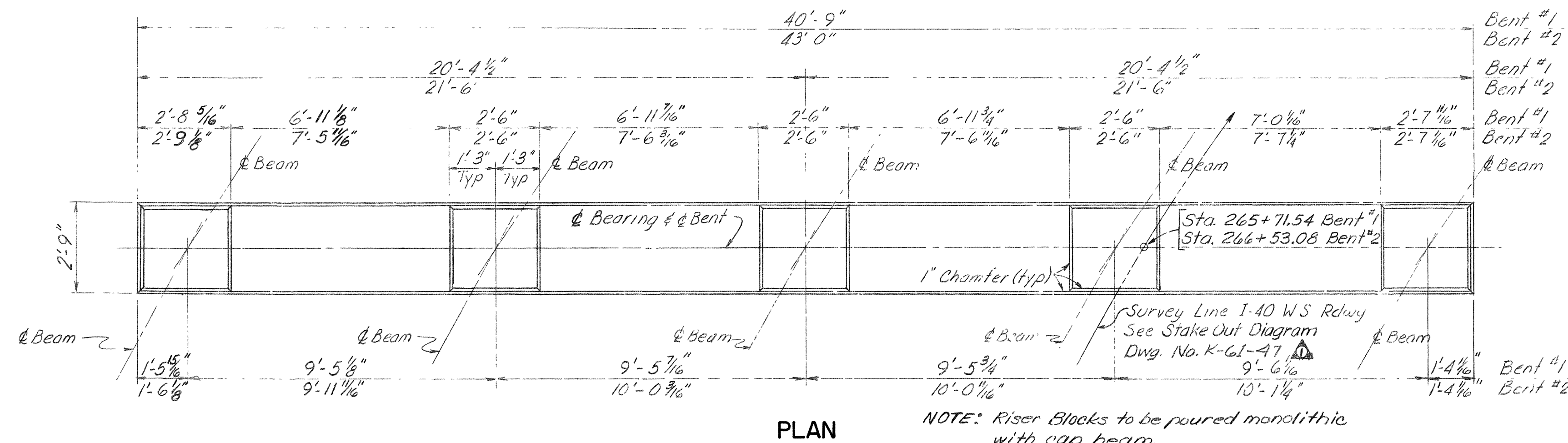
K-61-50

DESIGNED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 TRACED BY _____ DATE _____
 CHECKED BY _____ DATE _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-4(26)208	1970	144	305

1 RMD 8-31-70 Dimensions added
2 RMD 11-23-70 Elevation added

Note When pouring cap beam provisions shall be made for setting anchor bolts for bearing devices. Location of bolts shown on Anchor Bolt Layout Sheet, Dwg. No. K-61-47. Bolt Projection: Bent #1 = 8", Bent #2 = 4".



ESTIMATED QUANTITIES		
Item	Concrete - Class A Cu. Yds	Reinforcing Steel Lbs
Bent #1	39.5	8,162
Bent #2	40.7	8,372

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BENT DETAILS

INTERSTATE 40 W.S. ROADWAY OVER 8TH AVE.

STATION 266+11.70

DAVIDSON COUNTY

1970

APPROVED

K-61-51

DESIGNED BY: H.S.
DRAWN BY: A.L.S.
TRACED BY: J.F.H.
CHECKED BY: J.F.H.

DATE: Sept '66
DATE: Sept '66
DATE: Nov '66
DATE: Nov '66

BRIGHTON ENGINEERING COMPANY

BILL OF STEEL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-40-4(26) 208	1970	145	305

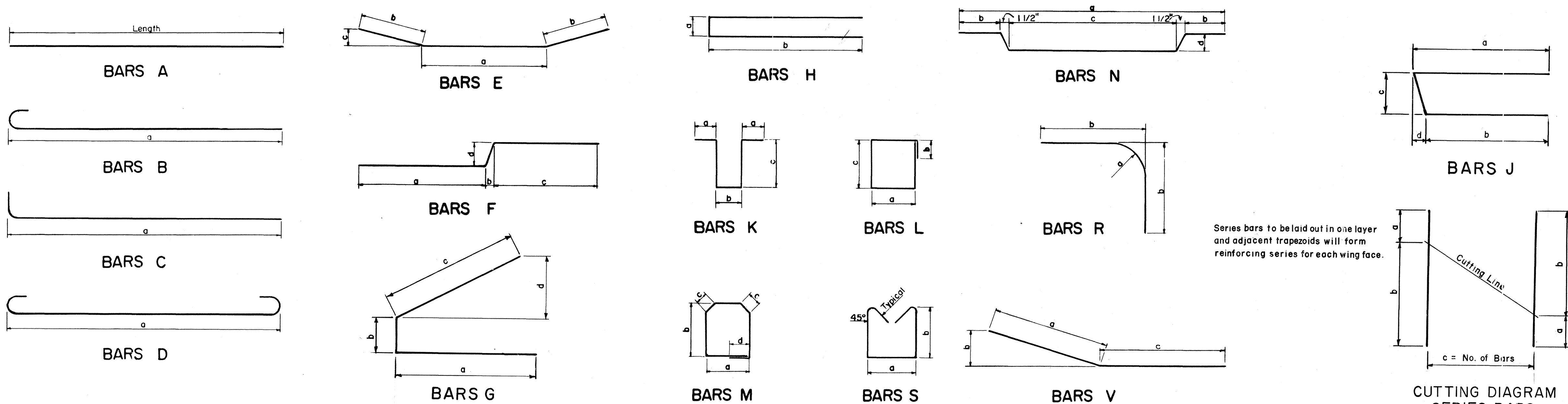
June 1970 R.M.D. - Bar change or omitted.

ABUTMENTS										ABUTMENTS										ABUTMENTS										ABUTMENTS									
BAR	LOCATION	SIZE	NO. REQ'D.		BENDING DIMENSIONS				LENGTH	BAR	LOCATION	SIZE	NO. REQ'D.		BENDING DIMENSIONS				LENGTH	BAR	LOCATION	SIZE	NO. REQ'D.		BENDING DIMENSIONS				LENGTH	BAR	LOCATION	SIZE	NO. REQ'D.		BENDING DIMENSIONS				LENGTH
			ABUT.1	ABUT.2	a	b	c	d					ABUT.1	ABUT.2	a	b	c	d					ABUT.1	ABUT.2	a	b	c	d					ABUT.1	ABUT.2	a	b	c	d	
A400	Wing Post	4	2	2					2'-10"	A600	Flg. Abut. 2	6		72					5'-8"	L500	Cap Abut 1	5	1		2'-6"	1'-0"	2'-4"		10'-8"	V500	Backwall	5	20		21'-10"	0'-5"	1'-3"		23'-1"
A401	Wing Post	4	4	4					3'-2"	A601	Flg. Abut. 2	6		72					11'-2"	L501		5	1		2'-6"	1'-0"	2'-5"		10'-10"	V501	Wingwall	5	2		1'-6"	4'-0"	4'-6"		8'-6"
A402	Wing Post	4	4	4					3'-5"											L502		5	1		2'-6"	1'-0"	2'-6"		11'-0"	V502	Cap	5	6	3	1'-6"	1'-3"	1'-6"		3'-0"
A403	Wing Post	4	4	4					3'-8"											L503		5	1		2'-6"	1'-0"	2'-8"		11'-4"										
A404	Wing Post	4	22	22					3'-9"	A700	Cap Abut 1	7	16						24'-3"	L504		5	1		2'-6"	1'-0"	2'-9"		11'-6"	V504	Backwall	5		20	24'-1"	0'-5"	1'-3"		25'-4"
A405	Wing Post	4	4	4					7'-6"											L505		5	1		2'-6"	1'-0"	2'-10"		11'-9"										
A406	Wing Post	4	32	32					8'-6"	A1000	Cap Abut 2	10		24					27'-3"	L506		5	1		2'-6"	1'-0"	2'-11 1/2"		11'-11"	V506	Wingwall	5		2	4'-9"	1'-6"	5'-0"		9'-9"
																			L507		5	1		2'-6"	1'-0"	3'-1"		12'-2"											
																			L508		5	1		2'-6"	1'-0"	3'-2 1/2"		12'-5"											
																			L509		5	1		2'-6"	1'-0"	3'-4"		12'-8"											
A500	Cap	5	12						23'-9"										L510		5	1		2'-6"	1'-0"	3'-5"		12'-10"	R500	Cap	5	3	6	0'-4"	1'-6"			3'-0"	
A501	Cap	5	2						30'-0"										L511		5	1		2'-6"	1'-0"	3'-6 1/2"		13'-1"											
A502	Cap	5	2						14'-0"	B1000	Flg. Dowels	10		15	5'-0"				6'-5"	L512		5	1		2'-6"	1'-0"	3'-7 1/2"		13'-3"										
A503	Pavm. Seat	5	2	2					24'-0"	B1001	Col. Abut. 2	10		5	18'-3"				19'-8"	L513		5	1		2'-6"	1'-0"	3'-9"		13'-6"										
A504	Backwall	5	60	66					4'-4"	B1002	Col. Abut. 2	10		5	16'-0"				17'-5"	L514		5	1		2'-6"	1'-0"	3'-10"		13'-8"										
A505	Wingwall	5	8	8					7'-8"	B1003	Col. Abut. 2	10		5	13'-9"				15'-2"	L515		5	1		2'-6"	1'-0"	3'-11 1/2"		13'-11"										
A506		5	2	2					7'-0"										L516		5	1		2'-6"	1'-0"	4'-0 1/2"		14'-1"											
A507		5	2	2					9'-6"										L517		5	1		2'-6"	1'-0"	4'-2"		14'-4"											
A508		5	2	2					9'-3"										L518		5	1		2'-6"	1'-0"	4'-3"		14'-6"											
A509		5	2	2					8'-9"										L519		5	1		2'-6"	1'-0"	4'-4 1/2"		14'-9"											
A510		5	2	2					3'-0"	D1000	Cap. Abut. 2	10		4	3'-9"				6'-7"	L520		5	1		2'-6"	1'-0"	4'-5 1/2"		14'-11"										
A511		5	10						7'-0"	D1001	Cap. Abut. 2	10		4	4'-3"				7'-1"	L521		5	1		2'-6"	1'-0"	4'-7"		15'-2"										
A512		5	6						6'-3"										L522		5	1		2'-6"	1'-0"	4'-8"		15'-4"											
																			L523		5	1		2'-6"	1'-0"	4'-9 1/2"		15'-7"											
A514	Wingwall	5	10						8'-6"										L524		5	1		2'-6"	1'-0"	4'-10 1/2"		15'-9"											
A515	Wingwall	5	12						9'-9"										L525		5	1		2'-6"	1'-0"	5'-0"		16'-0"											
A516	Wingwall	5	14						9'-3"	G400	Wing Post	4	13	13	0'-11"	0'-11"	1'-8"	1'-5"	3'-6"	L526		5	1		2'-6"	1'-0"	5'-1"		16'-2"										
A517	Wingwall	5	2						9'-0"										L527		5	1		2'-6"	1'-0"	5'-3"		16'-6"											
A518	Cap	5		12					26'-2"										L528		5	1		2'-6"	1'-0"	5'-4"		16'-8"											
A519	Cap	5		2					30'-0"										L529	Cap Abut 1	5	1		2'-6"	1'-0"	5'-5"		16'-10"											
A520	Cap	5		2					18'-0"	H500	Backwall	5	30	33	0'-6"	1'-8"			2'-8"	L530	Wg. Pile Flg.	5	b		2'-2"	1'-0"	2'-2"		9'-8"										
										H501	Pavm. Seat	5	28	32	1'-9"	0'-8"			2'-1"	L531	Cap Abut 2	5		29	2'-8"	1'-0"	2'-2"		10'-8"										
A522	Wingwall	5		8					8'-6"	H502	Curtain Abut 2	5		13	0'-8"	2'-9"			6'-2"	L532	Col. Abut 2	5		9	1'-8"	1'-0"	2'-8"		9'-8"										
A523	Wingwall	5		12					11'-0"	H503	Curtain Abut 2	5		13	0'-8"	4'-0"			8'-8"	L533		5		3	1'-8"	1'-0"	2'-10"		10'-0"										
A524	Wingwall	5		12					10'-7"	H504	Curtain Abut 2	5		3	0'-8"	5'-6"			11'-8"	L534		5		3	1'-8"	1'-0"	3'-0"		10'-4"										
A525	Wingwall	5		4					9'-4"	H505	Flg. Dowels	5		6	1'-5"	3'-3"			7'-11"	L535		5		3	1'-8"	1'-0"	3'-2"		10'-8"										
A526	Wingwall	5		10					7'-9"										L536		5		3	1'-8"	1'-0"	3'-4"		11'-0"											
A527	Wingwall	5		2					6'-6"										L537		5		3	1'-8"	1'-0"	3'-6"		11'-4"											
A528	Column	5		7					20'-6"										L538		5		3	1'-8"	1'-0"	3'-8"		11'-8"											
A529	Column	5		7					18'-3"										L539		5		3	1'-8"	1'-0"	3'-10"		12'-0"											
A530	Column	5		7					16'-0"	J500	Stub Wall	5		4	4	4'-4"			9'-6"	L540		5		3	1'-8"	1'-0"	4'-0"		12'-4"										
A531	Column	5		9					4'-2"	J501	Stub Wall	5		4	4	2'-9"			6'-4"	L541		5		3	1'-8"	1'-0"	4'-2"		12'-8"										
																			L542		5		3	1'-8"	1'-0"	4'-4"		13'-0"											
																			L543		5		3	1'-8"	1'-0"	4'-6"		13'-4"											
																			L544		5		2	1'-8"	1'-0"	4'-8"		13'-8"											
																			L545	Col. Abut 2	5		1	1'-8"	1'-0"	4'-10"		14'-0"											

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	50

NOTE: Dimensions on this sheet are outside to outside of bars.



DESIGNED BY CDE DATE 6-3-68
DRAWN BY CDE DATE 6-3-68
TRACED BY CDE DATE 6-3-68
CHECKED BY RFE DATE 6-5-68

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
BILL OF STEEL
INTERSTATE 40 W.S. OVER 8TH AVE.
STATION 266+11.70
DAVIDSON COUNTY
1970

APPROVED

K-61-52

BRIGHTON ENGINEERING COMPANY

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEET L
3	TENN	I-40-4(26)208	1970	146	305

REINFORCING STEEL CODE		
TYPE	SIZE	SERIES
A	5	50

Length

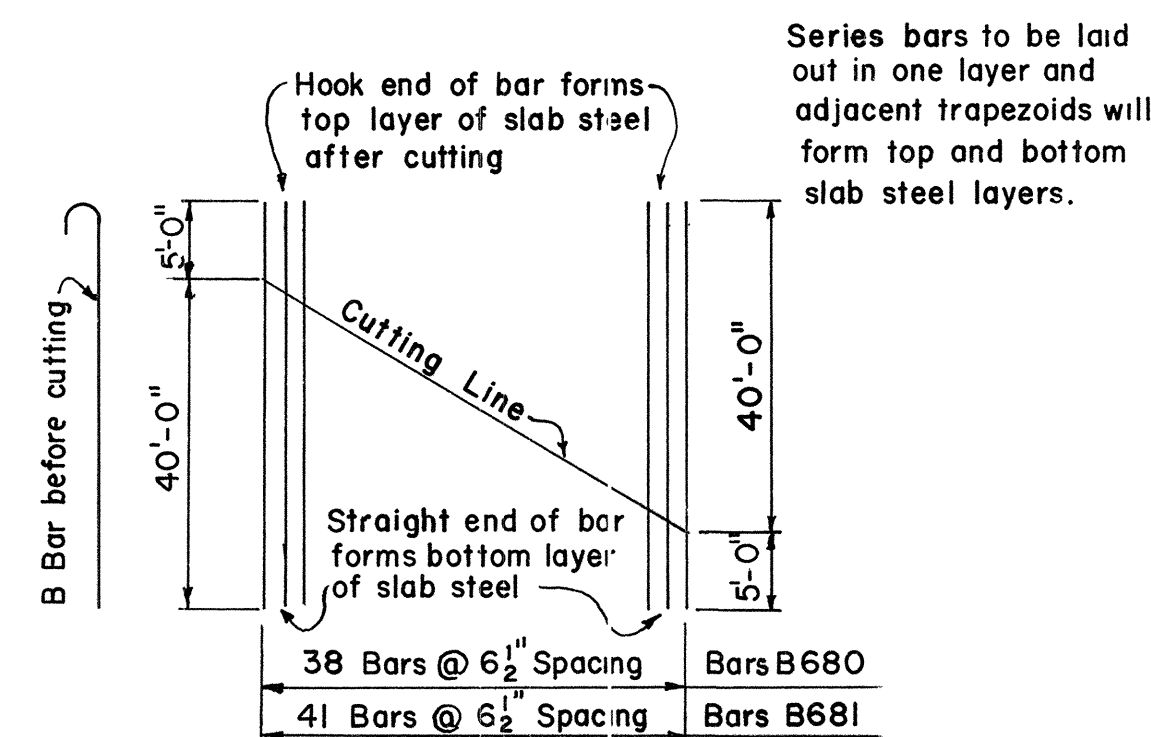
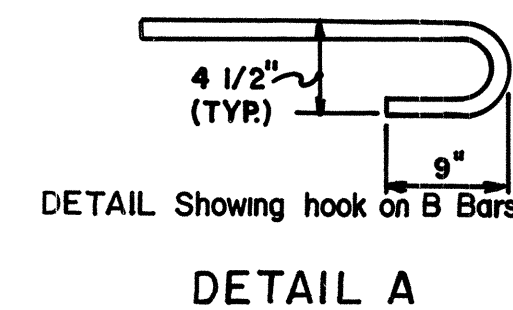
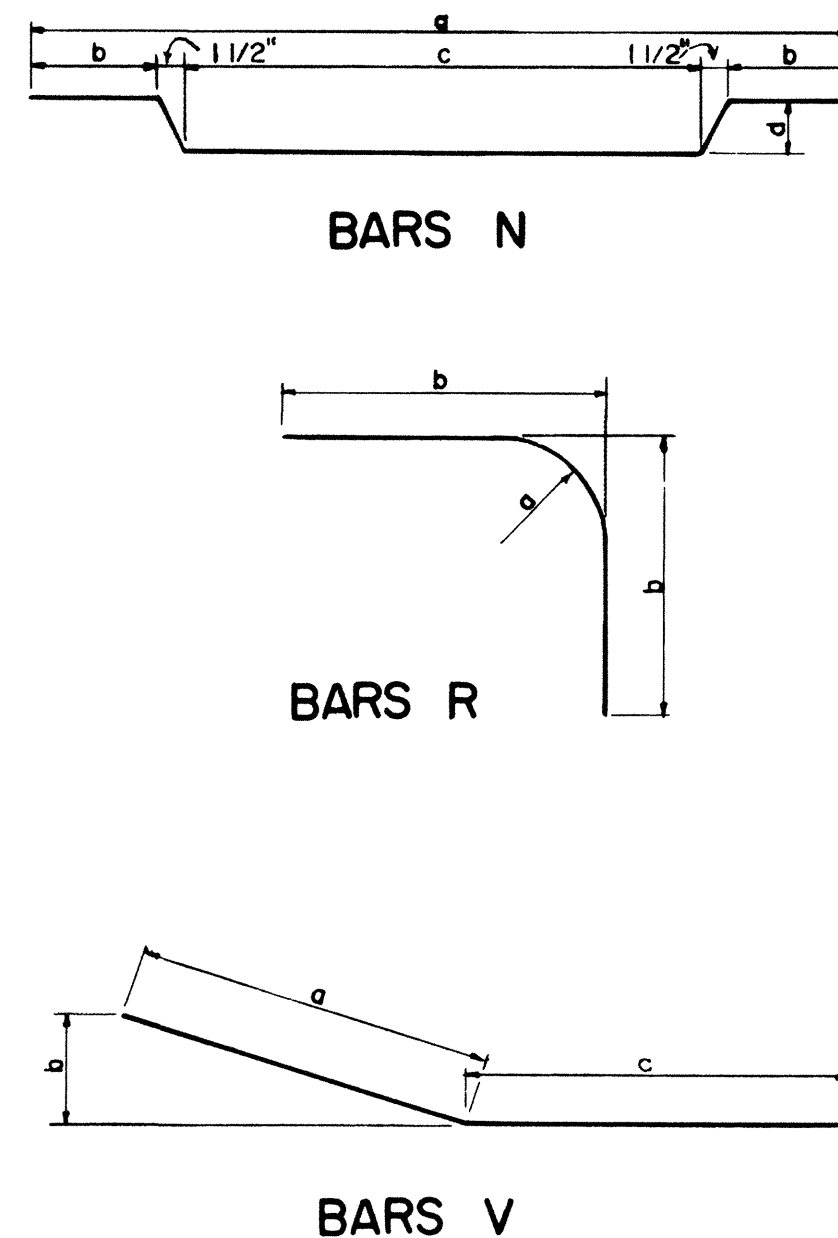
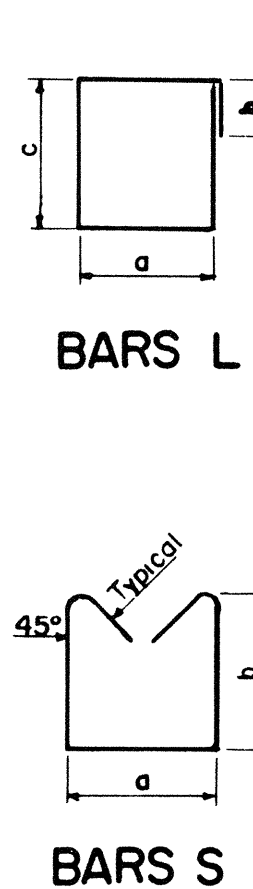
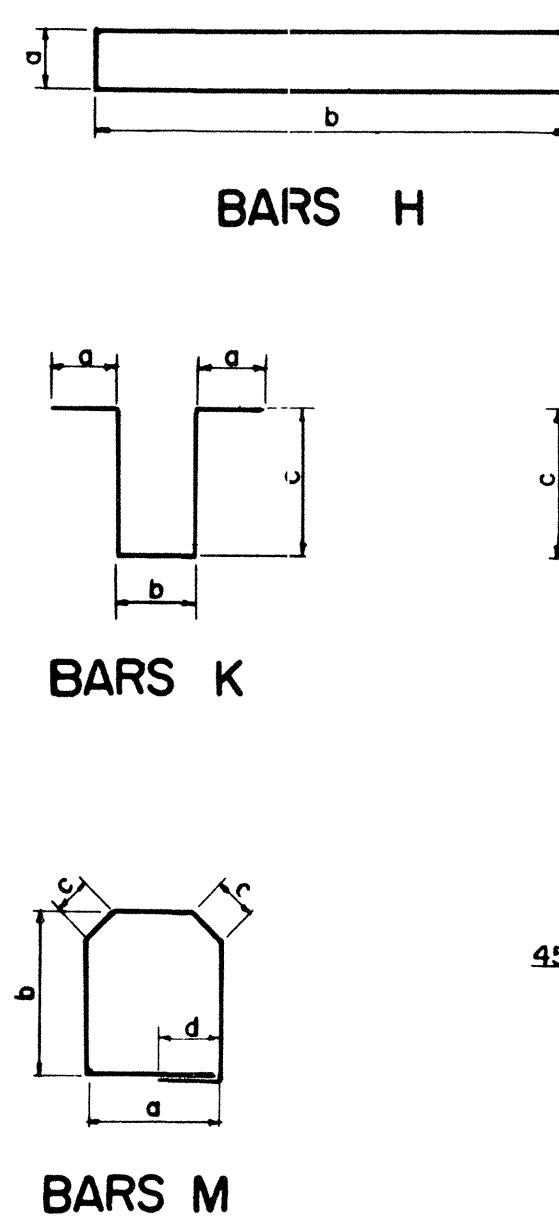
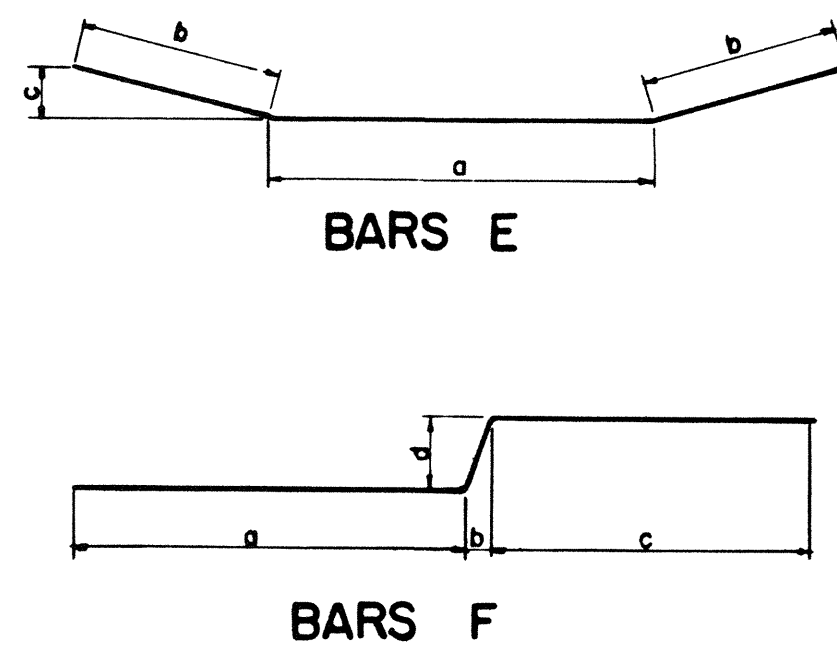
BARS A

SEE DETAIL A for B 680 thru B 682.

BARS B

BARS C

BARS D



STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
BILL OF STEEL
INTERSTATE 40 W.S. OVER 8TH AVE.
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DESIGNED BY _____ DATE _____
DRAWN BY CDF DATE 6-3-68
TRACED BY _____ DATE _____
CHECKED BY RFC DATE 6-5-68

APPROVED _____ K-61-53