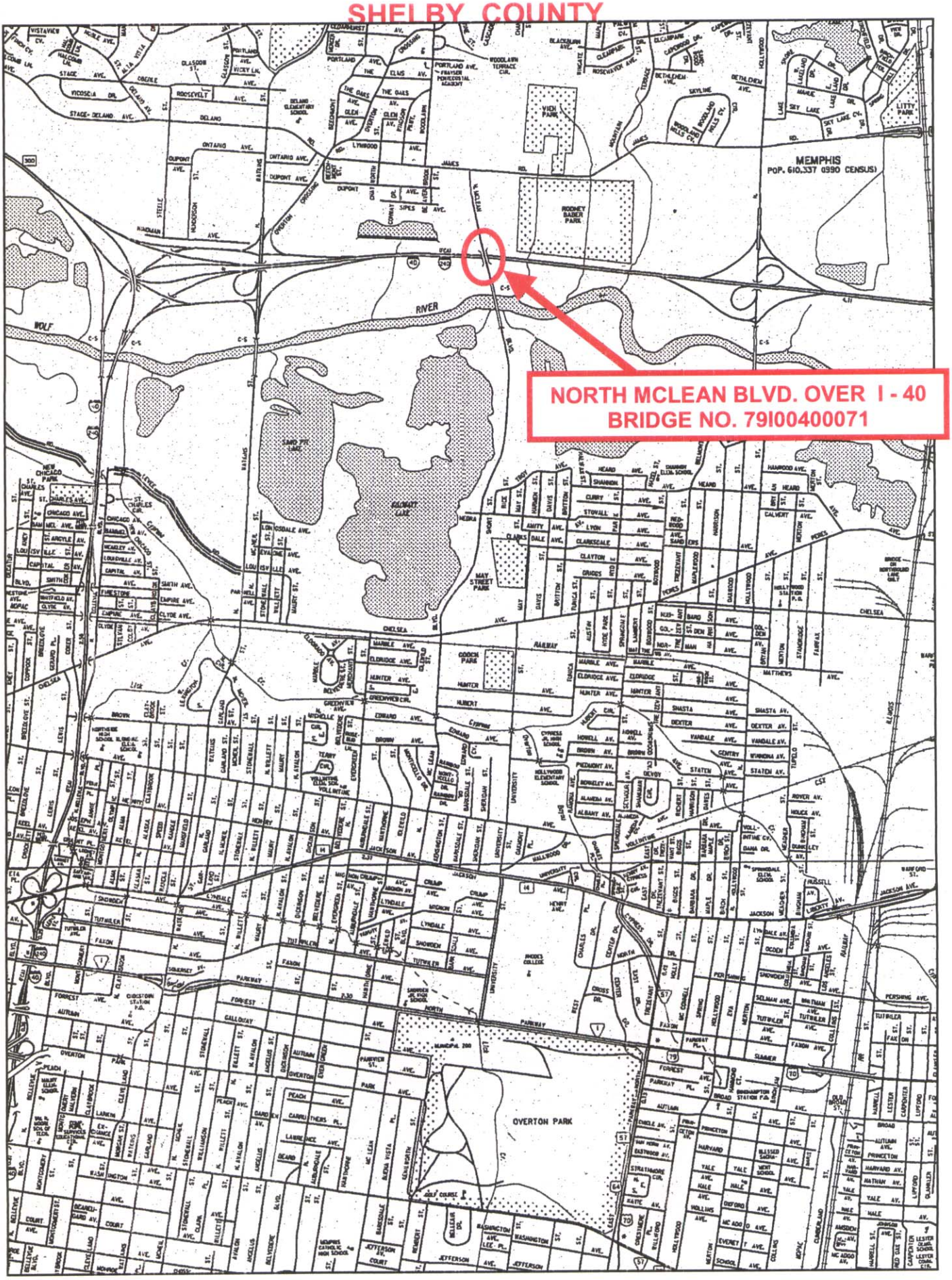
SHELBY COUNTY



TN TDOT Department of Transportation

Asset **#79I00400071**(Load Rating)
Region: 04, **County:** 79 - Shelby
Load Rating Lead: Yun Lin, **Load Rating Date:** 02/15/2024

CONDITION

41 - Structure Open/Posted/Closed	A - Open, no restriction
58 - Deck	7 - GOOD CONDITION - some minor problems.
59 - Superstructure	7 - GOOD CONDITION - some minor problems.
60 - Substructure	5 - FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
61 - Channel/Channel Protection	N - Not applicable.
62 - Culverts	N - Not applicable. Used if structure is not a culvert.
521 - Overall Bridge Cond	F - Fair

Load Rating / Post

548 - Ratings Based On	AASHTOWare BrR (1.5" PMC)
505 - TDOT rating method	LRFR-RF - LOAD & RESISTANCE FACTOR RATING (RF) - HL93
65 - Inventory Rating Method	8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loadings
66 - Inventory Rating	35.96
NBI_066A	1.11
63 - Operating Rating Method	8 - Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loadings
64 - Operating Rating	46.33
NBI_064A	1.43
516B - Single Unit Posting	
517B - Multi Unit Posting	
70 - Bridge Posting	5 - Equal to or above legal loads
534 - Posting Log Note	
552 - Posting Closure Comp	

Notes

Wearing Surf. thickness in load rating	1.50
ADTT used in Load rating	5000
547 - evaluation sheet note	

Load Rating Assumptions and QA Checklist - Consultant Calculations

Bridge ID 79I00400071 Bridge Location 79-2819-5.18

Load Rating Date Inspection Date 9/27/22 Current ADTT Considered ☐

Plans Set M-44-20 BR-46-1 BR-33-29

Consultant Gresham

	Assumptions	QA
Dimensions match plans & field conditions		☑ REVIEWED By Rebecca Hayworth, P.E. at 2:40 pm, Feb 12, 2024
Cross section Checked		☑
Framing plan Checked		☑
Material Properties Checked		☑
Condition Assumed for Load rating	Fair (5)	☑
Deterioration/Damage Captured	N/A	☑
Shear Considered	Yes	☑
Rails Distribution	Evenly	☑
Asphalt Thickness (inches)	1.50 PMC Overlay	☑
Asphalt Considered Field Verified	No	☑
Distribution Factors Calc Method	AASHTOWare	☑
Impact Factor	33%	☑
AASHTO Trucks & TDOT Trucks Rated	Yes	☑

Comments

2/12/24 - Please add the 1.5 PMC Overlay.

2/29/24 - Results accepted. No posting required.

Bridge Maintenance Recommendations

Bridge Location No.: **79 - I0040 - 0660** Over/Under Pass No. 79 - 02819 - 0518
Co. Route Log Mile

Bridge Number: **79I00400071**

Crossing:

Road Name:

Road Name #2: MCLEAN BLVD.

Region: 04

District: 45 Spec.Case: 0

Maint.Resp.: 01 Co.Seq: 01

Bridge Rating: FAIR

Inspection Cycle: 16 County: Shelby

@ ' x '
Barrels Length Width

Inspection Date: 8/11/2003 City:

Comments:

Maintenance Recommendations: **Maintenance Completed: by/date**

235	**THE TERMINAL(S) FOR THE UNDERPASS APPR. GUARDRAIL IS/ARE SUBSTANDARD**
007	**CLEAN AND SEAL JOINT AT APPROACH NO. _1 & 2**
238	**BRIDGERAILS ARE SUBSTANDARD**
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**
226	**GUARDRAIL TERMINALS AT APPROACH NO. 1 & 2 ARE SUBSTANDARD**
154	**REPAIR WINGS AT ABUTMENT NO. _1 & 2**
171	**REPAIR BACKWALLS ON ABUTMENT NO. _1 (@ SPAN #1)**

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

Bridge Maintenance Recommendations

Bridge Location No.: **79 - I0040 - 0660** (Co. Route Log Mile)

Over/Under Pass No.: 79 - 02819 - 0518

Bridge Number: **79I00400071**

Crossing:

Road Name:

Road Name #2: MCLEAN BLVD.

Region: 04

District: 45 Spec.Case: 0

Maint.Resp.: 01 Co.Seq: 01

Bridge Rating: FAIR

@ ' x '
Barrels Length Width

Inspection Cycle: 15 County: Shelby

Inspection Date: 9/11/01 City:

Comments:

Maintenance Recommendations:

		Maintenance Completed by/date
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**	
226	**GUARDRAIL TERMINALS AT APPROACH NO. 1 & 2 ARE SUBSTANDARD**	
230	**REPAIR APPROACH GUARDRAILS AT APPROACH NO. __2**	
154	**REPAIR WINGS AT ABUTMENT NO. _1**	
235	**THE TERMINAL(S) FOR THE UNDERPASS APPR. GUARDRAIL IS/ARE SUBSTANDARD**	

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:

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 09/12/2001

County:	79
Route:	02819
Special Case:	0
County Sequence:	01
Log Mile:	5.18

Bridge Number: (Includes Item 5A) 79I004000711

Feature Intersected: N. MCLEAN BLVD / I40

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/11/2001 8/11/2003
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT
Y/0	0	0	0	50
__	__	__	__	_____

41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	7
60	SUBSTRUCTURE	5
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 (FAIR) POOR CRITICAL

8/11/2003

TEAM LEADER SIGNATURE — REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY 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 STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

Revised 09/21/2001

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County:	79
Route:	I0040
Special Case:	0
County Sequence:	01
Log Mile:	6.60

Bridge Number: (Includes Item 5A) 79I004000712

Feature Intersected: N. MCLEAN BLVD / I40

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/11/2001 8/11/2003
10	MINIMUM V.C. OVER ROADWAY (ROADWAY + SHOULDERS)	16 FT. 11 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER ROADWAY (EXCLUDES SHOULDERS)	16 FT. 11 IN. ____ FT. ____ IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	~~99~~ FT. ~~99~~ IN. 90 FT. 0 IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	____ FT. ____ IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	10 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	30 FT. 0 IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
Metal Barrier or Rail

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 1 ____

(C) ADEQUACY OF TRANSITIONS 1 ____

(D) ADEQUACY OF TERMINALS 1 ____

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
99 FT. 99 IN.
____ FT. ____ IN.

521 OVERALL CONDITION (Circle One)
GOOD (FAIR) POOR CRITICAL

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

555 COMMENTS _____

TEAM LEADER SIGNATURE

8/11/2003
REVIEW DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	79
Route:	02819
Special Case:	0
County Sequence:	01
Log Mile:	5.18

Bridge Number: (Includes Item 5A) 79I004000711

Feature Intersected: N. MCLEAN BLVD / I40

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	01/19/2000 9/11/2001
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	Br. Rail: 0 / 1 — Trans.: 0 — Appr. Rail: 0 — Appr. Rail Ends: 0
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	6 / 7
59	SUPERSTRUCTURE	7
60	SUBSTRUCTURE	5
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 (FAIR) POOR CRITICAL

TEAM LEADER SIGNATURE

9/11/2001
REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY 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 STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

Revised 06/15/2000

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County: 79
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 6.60

Bridge Number: (Includes Item 5A) 79I004000712
Feature Intersected: N. MCLEAN BLVD / I40

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	01/19/2000 → 9/11/2001
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	~~16~~ 16 FT. ~~9~~ 11 IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	~~16~~ 16 FT. ~~9~~ 11 IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	~~99~~ 90 FT. ~~99~~ 0 IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	16 FT. 11 IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	10 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	30 FT. 0 IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
Metal Barrier or Rail

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 1

(C) ADEQUACY OF TRANSITIONS 1

(D) ADEQUACY OF TERMINALS 1

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
99 FT. 99 IN.
____ FT. ____ IN.

521 OVERALL CONDITION (Circle One)
GOOD (FAIR) POOR CRITICAL

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

555 COMMENTS

TEAM LEADER SIGNATURE

9/11/2001
REVIEW DATE

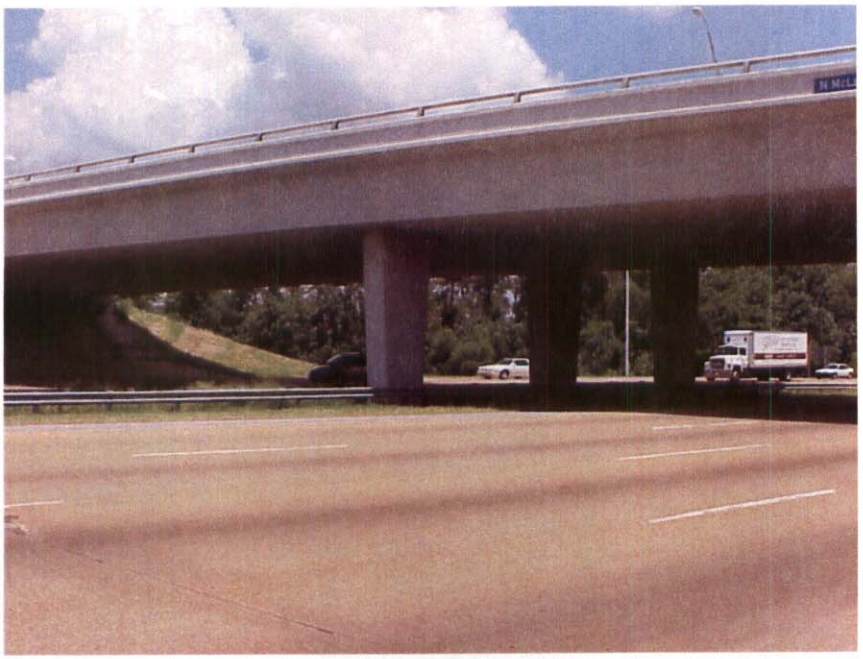
Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03

VIEW ACROSS TOP OF DECK

BRIDGE NO. ON ABUTMENT #1 CAP

Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03

ABUTMENT #1 WITH EARTHQUAKE DEVICES



FRONT OF COLUMN BENT

Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03

ABUTMENT #1, LEFT SIDE OF BACKWALL SPALLED TO STEEL

ABUTMENT #2 WITH EARTHQUAKE DEVICES

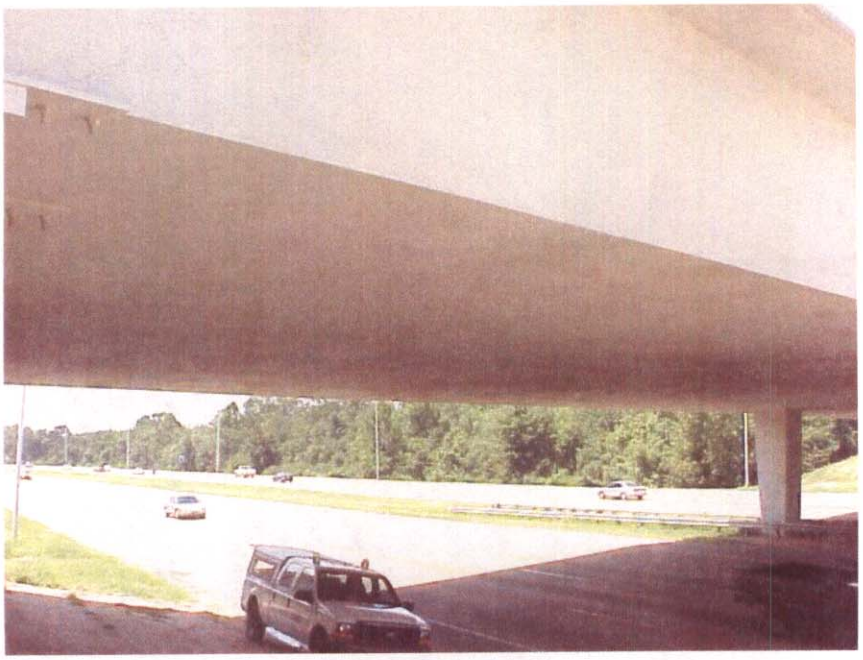
Bridge Loc. No: 79 - I0040 - 06.60 **Date: 08-11-03**

ELEVATION LEFT SIDE

ELEVATION RIGHT SIDE

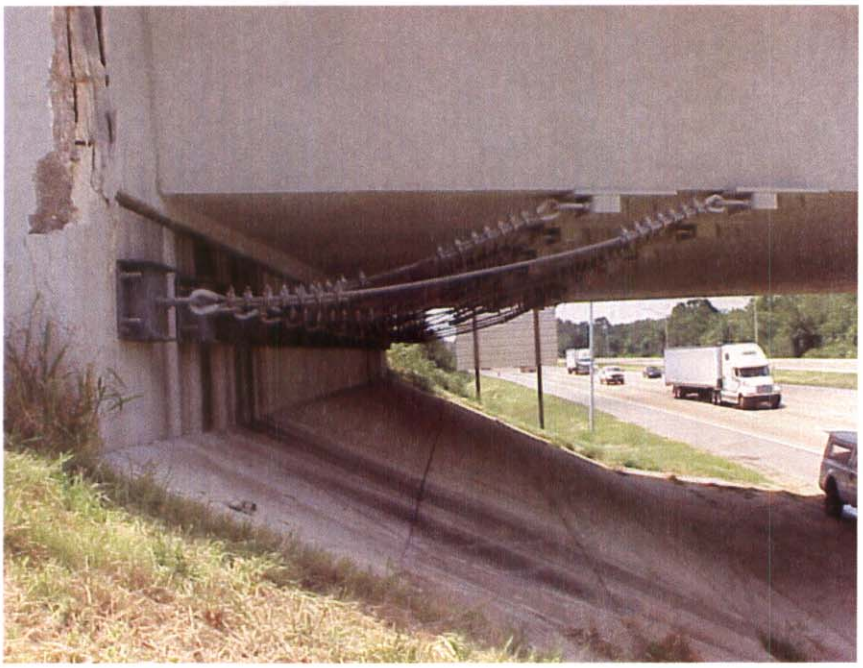
Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03

ABUTMENT #1, RIGHT SIDE OF BACKWALL SPALLED TO STEEL



SPAN #1, BOTTOM OF DECK, TYPICAL OF SPAN #2

Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03



ABUTMENT #1 WITH EARTHQUAKE DEVICE

APPROACH #1 WITH JOINT MATERIAL MISSING, TYPICAL OF APPROACH #2

Bridge Loc. No: 79 - I0040 - 06.60 Date: 08-11-03

APPROACH #1 WITH JOINT MATERIAL MISSING, TYPICAL OF APPROACH #2

LOOKING AHEAD ON ROUTE

Bridge Loc. No: 79 - I0040 - 06.60 **Date: 08-11-03**

LOOKING BACK ON ROUTE

AUG

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No. 16 Date 8-11-03
Previous Report No. 15 Date 9-11-01
Plans: YES ( ) NO ( )

Bridge No. 79I00400071 (Eleven Digit No.) Bridge Location No. 79 - I0040 - 0660 (Co. Route Log Mile) 79 - 02819 - 0518 (OVER/UNDER PASS)

_____ (Road Name) over _____ (Crossing) _____ (CITY)

Year Constructed _____ County Shelby Maintenance District 45

Year Widened _____ Year Rehabilitated _____ _____ (Structure Name (If Named))

FEATURES

Wearing Surface Concrete (X) Timber ( ) Asphalt ( ) Depth _____(in.)

Flared Width Yes ( ) No (X) Median Width Open ( ) None ( ) Closed (X)

Navigational Control Yes ( ) No (X) Bridge Skew 80L ° LT ( ) RT ( )

Structure Type (Main Span) CONC. BOX BEAM

Structure Type (Appr.Spans) _____

No. Main Spans 2 No. Approach Spans _____

Maximum Span Length 141.0 (**.* ft.)

Total Length 282.0 (**.* ft.)

INSPECTORS

1. GREER
2. LOVE
3. ADAMS
4. BYRD
5. REEVES
6. _____
7. _____
8. _____

WIDTHS (*.* ft.)

Deck Out-to-Out 70.0

Roadway Curb/Curb 68.0

Roadway Rail/Rail _____

Sidewalk Rt. 6.0 Lt. 6.0

*Approach Roadway 2@26

*(Does Not Include Shoulders)

Approach Shoulder Rt. 6.0'
Lt. 6.0'

CLEARANCES

Min. Vertical Clearance over Deck _____ (ft.-in.)

Min. Vertical Under Clearance 16' 11" (ft.-in.)

Min. Lateral Under Clearance Rt. 10' (*.* ft.)

Min. Lateral Under Clearance Lt. 30' (*.* ft.)

FRACTURE CRITICAL: _____
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) _____ (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: _____ Date _____

DOT FIELD TEAM ( ) CONTRACT DIVERS ( ) NONE REQUIRED (X)

Change in Structural Condition: Yes ( ) No (X) Major Repairs Made: Yes ( ) No (X)

COMMENTS

N035 ° 11 ' 32.5 "
W089 ° 59 ' 35.7 "
G.P.S. Location

BRIDGE RATING: ( ) (X) ( ) ( )
GOOD FAIR POOR CRITICAL

Supervising Bridge Inspector: Greer

Form BIR 3.1
(Rev. 9-22-98)
DT-0080

Bridge Location No. 79 - I0040 - 6.60 -
Co. Route Log Mile

Date AUG 11 2005

PERFORMANCE EVALUATION

Time of Day Inspected 1:45 Weather Conditions SUNNY 88°

Vehicles Observed ALL TYPES

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	
Superstructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
~~Slab~~ SIDE WALK	(G) F P C	
Joints	G F (P) C	APPROACH #1 & 2 MATERIAL MISSING IN JOINT (007)
Pavement	(G) F P C	
Embankment	(G) F P C	
Drains MEDIAN	(G) F P C (G)	

TRAFFIC SAFETY FEATURES

	Rating	STANDARD/ SUB-STANDARD		Comments
Bridgerailing	G (F) P C	( )	(X)	
Transitions	(G) F P C	( )	(X)	
Guardrail	G (F) P C	( )	(X)	
Guardrail Terminal	(G) F P C	( )	(X)	

SIGNING

	YES	NO	NEEDED
Paddleboards	( )	(X)	(X)
Vertical Clearance (<14'-6")	( )	(X)	( )
NARROW ( )	( )	(X)	( )
ONE LANE BRIDGE ( )	( )	(X)	( )

Weight Limit Posted
YES ( ) NO (X)
Gross..... _____ Tons
2 Axle..... _____ Tons
3 or more Axles.. _____ Tons

Other Signs or Plaques: _____

Comments Regarding any Problems with Signing: TWO OVER HEAD SIGNS ON SPAN #2 REAR STOP

Form BIR 3.2
(Rev. 9-22-98)
DT-0081

Bridge Location No. 79 - 10040 - 6.60 - Date _____
Co. Route Log Mile

DECK	Rating	Comments
Wearing Surface	(G) F P C	
Deck - Structural Condition	(G) F P C	
Curbs	(G) F P C	
Median	G (F) P C	
Sidewalks	(G) F P C	
Parapet	(G) F P C	
Railing	G F P C	
Paint	G F P C	
Drains	G F P C	
Lighting Standards	(G) F P C	
Utilities	G F P C	
Joint Leakage	G F P C	
Expansion Joints	G F P C	
SUPERSTRUCTURE		
Bearing Devices	G F P C	
Beams BOX	(G) F P C	
Girders	G F P C	
P C C S	G F P C	
BOLTS (PCCS)	G F P C	
Floor Beams	G F P C	
Stringers	G F P C	
Diaphragms	G F P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G F P C	
Alignment of Members	(G) F P C	

TEXTURE COAT

Condition Rating (G) F P C
Overall Appearance (G) F P C
Staining Rating (G) F P C

Fading (G) F P C
Needs Spot Painting YES ( ) NO (X)
Needs Repainting YES ( ) NO (X)

Comments _____

Scaling Rating (G) F P C

RECOMMENDATIONS: _____

CLEAN SEAL JOINTS ( )

CLEAN DRAINS ( )

Form BIR 3.3
(Rev. 9-22-98)
DT-0082

Bridge Location No. 79 - 10040 - 6.60 -
Co. Route Log Mile

Date _____

SUBSTRUCTURE

ABUTMENTS

	Rating	Comments	PILE(S)	ABUTMENT
Caps	G (F) P C			
Breastwall	G F P C			
Wings	G F (P) C	ABUT #1 RIGHT AND ABUT #2 LEFT SPALLING (154)		
Backwall	G F (P) C	SPAN #1 BACKWALL SPALLING AT ABUT #1 LEFT SIDE (171)		
Plumb	(G) F P C			
Footing	G F P C			
Piles	G F P C			
Embankment	(G) F P C			
Bearing	(G) F P C			
Slope Paving	(G) F P C			
Rip Rap	G F P C			
Earthquake Devices	(G) F P C			

PILES TO BE REPLACED

PIERS

		PILE(S)	PIER
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	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
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	G F P C		
Bracing	G F P C		
Earthquake Devices	G F P C		

Piles Need Replacement: NO (~~X~~) YES ( )

CUT VEGETATION NO (X) YES ( )

CLEAR DRIFT NO (~~X~~) YES ( )

RECOMMENDATIONS: _____

INSPECTION REPORT FOR UNDERPASS ROUTE

Page No.___

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

Field Report No. 16 Date ___
Previous Report No. 15 Date 9-11-01

Bridge No. 79I00400071 (Eleven Digit No.)

Underpass Location No. 79 (Co.) - I0040 (Route) - 0660 (Log Mile)

-0- (Railroad/Walkway) or ___ (Co.) - ___ (Route) - ___ (Log Mile)

over/under 79 (Co.) - 02819 (Route) - 0518 (Log Mile)

County Shelby

Structure Name (If Named) ___

Year Constructed ___

Year Widened ___ Year Rehabilitated ___

GEOMETRIC FEATURES UNDER BRIDGE

(.* ft. unless otherwise noted)*

Divided Highway LEFT RDWY (X) RIGHT RDWY ( ) N.A. ( )

Type of Wearing Surface CONCRETE ( ) ASPHALT (X) GRAVEL ( )

(2) BTWN. B-1 & A-2

Width of Approach Traveled Roadway	50	ft. (Does Not Include Shoulders)		
Width of Median if Divided Highway	65	ft.		
Approach Shoulder Width	10	ft. Right	10	ft. Left
*Horizontal Clearance Under Bridge	90	ft.	0	IN.
*Distance Between Pier Protection Guardrail and Substructure	0	ft. Right	4.0	ft. Left
*Width of Sidewalk Under Bridge	N/A	ft. Right	N/A	ft. Left
*Minimum Vertical Clearance:	16	ft. 11 in.		

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	(G) F P C	( )	(X)	( )
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	(G) F P C	( )	(X)	( )
Approach Guardrail Terminal	(G) F P C	( )	(X)	( )

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( )	NO (X) NEEDED ( )
Vertical Clearance (<14'-6")	YES ( )	NO (X) NEEDED ( )
Narrow Passage	YES ( )	NO (X) NEEDED ( )
One Lane Passage	YES ( )	NO (X) NEEDED ( )

Other Underpass Signs Needed

NONE

INSPECTORS

1. BURD
2. REEVES
3. ___
4. ___
5. ___
6. ___

INSPECTION REPORT FOR UNDERPASS ROUTE

Page No. ___

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

Field Report No. 16 Date ___
Previous Report No. 15 Date 9-11-01

Bridge No. 79I00400071 (Eleven Digit No.)

Underpass Location No. 79 - I0040 - 0660 - (Co. Route Log Mile)

-0- (Railroad/Walkway) or ___ - ___ - ___ (Co. Route Log Mile)

over/under 79 - 02819 - 0518 (Co. Route Log Mile)

County Shelby

Structure Name (If Named) ___

Year Constructed ___

Year Widened ___ Year Rehabilitated ___

GEOMETRIC FEATURES UNDER BRIDGE

(.* ft. unless otherwise noted)*

(1) BTWN. A-1 & B-1

Divided Highway LEFT RDWY ( ) RIGHT RDWY (X) N.A. ( )

Type of Wearing Surface CONCRETE ( ) ASPHALT (X) GRAVEL ( )

Width of Approach Traveled Roadway	50 ft. (Does Not Include Shoulders)			
Width of Median if Divided Highway	65 ft.			
Approach Shoulder Width	10 ft.	Right	10 ft.	Left
*Horizontal Clearance Under Bridge	90 ft.		0 IN.	
*Distance Between Pier Protection Guardrail and Substructure	0 ft.	Right	4 ft.	Left
*Width of Sidewalk Under Bridge	N/A ft.	Right	N/A ft.	Left
*Minimum Vertical Clearance:	17 ft. 8 in.			

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	(G) F P C	( )	(X)	( )
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	(G) F P C	( )	(X)	( )
Approach Guardrail Terminal	(G) F P C	( )	(X)	( )

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( )	NO (X)	NEEDED ( )
Vertical Clearance (<14'-6")	YES ( )	NO (X)	NEEDED ( )
Narrow Passage	YES ( )	NO (X)	NEEDED ( )
One Lane Passage	YES ( )	NO (X)	NEEDED ( )

Other Underpass Signs Needed

NONE

INSPECTORS

1. BYRD
2. REEVES
3. ___
4. ___
5. ___
6. ___

AUG 11 2003

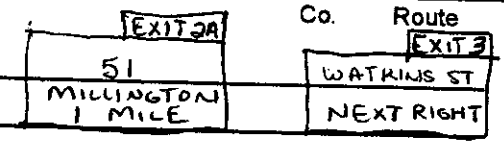
Page No.___

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

Date _____

Underpass Location No. 79 - 10040 - 0660 -
Co. Route Log Mile

Other Signs or Plaques: @ SPAN #2 RT.



Comments Regarding any Problems with Signing: NONE

BRIDGE FEATURES (*.* ft.)

Bridge Skew 80 Lt°
Structure Type (Main Span) Box Beam No. Main Spans 2
Structure Type (Appr.Spans) _____ No. Appr. Spans _____
Maximum Span Length 141 (ft.) Total Length 282' (ft.)
Width of Bridge Out-to-Out 70' (ft.) Right Angle to Centerline of Bridge)
Width of Bridge Along Skew _____ (ft.) (If Unable to Measure at Right
Number of Lanes/Tracks on Bridge _____ Angle to Centerline of Bridge)

BRIDGE CONDITION: G (F) P C

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath YES ( ) NO (X)
Does Potential Exist Because of Deteriorated Condition or Failure of Major Member YES ( ) NO (X)

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

NONE

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

MINIMUM PICTURES REQUIRED

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

Inspection Team's Summary

Bridge Location No 79 -I0040 -06.60 -

Inspection Date 08-11-03

Bridge Rating FAIR

This two span concrete box beam bridge with concrete substructure is in fair condition. Substandard bridge rails, guardrails & terminals are present. Material missing in joints on approach #1 & #2. Abut. #1 Rt. & abutment #2 Lt. wings are spalling. Span #1 backwall is spalled to steel. Min. vertical under clearance is 16'11".

Carolyne Adams

INSPECTOR

CROSS SECTION: YES ( ) NO (X) PONTIS: YES ( ) NO (X)

AUG 2003

2003

79I00400071 BRIDGE NO.: 79 CO. I0040 ROUTE 0660 L.M. _____ L/R SKEW: 80L

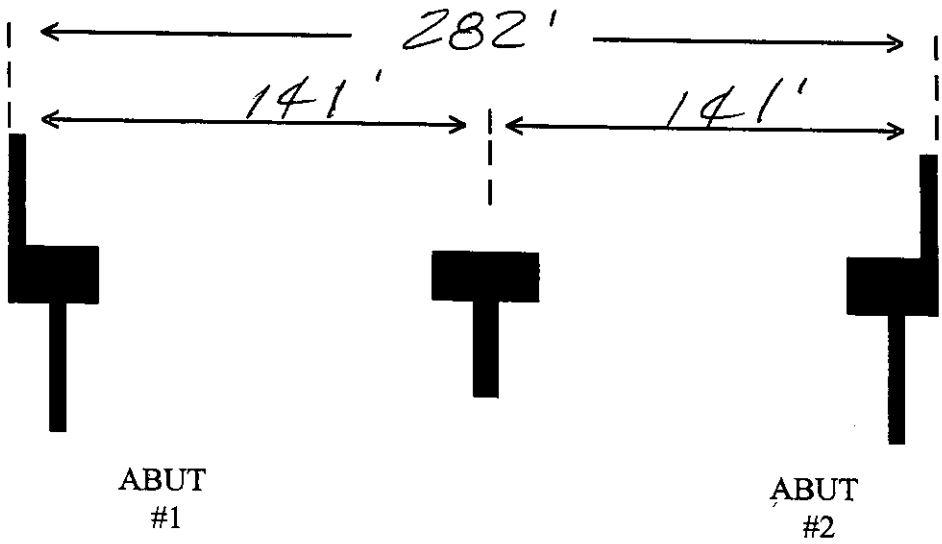
Direction of Route →

PLAN VIEW

REQUIRED DATA

1. F = FIXED
   E = EXPANSION

2. S = SIMPLE
   C = CONTINUOUS



BIR 3.10
Rev. 06/22/01
ET-1510

BRIDGE LOC. NO. 79 I0040 0660 -
CO. ROUTE L. M. L/R

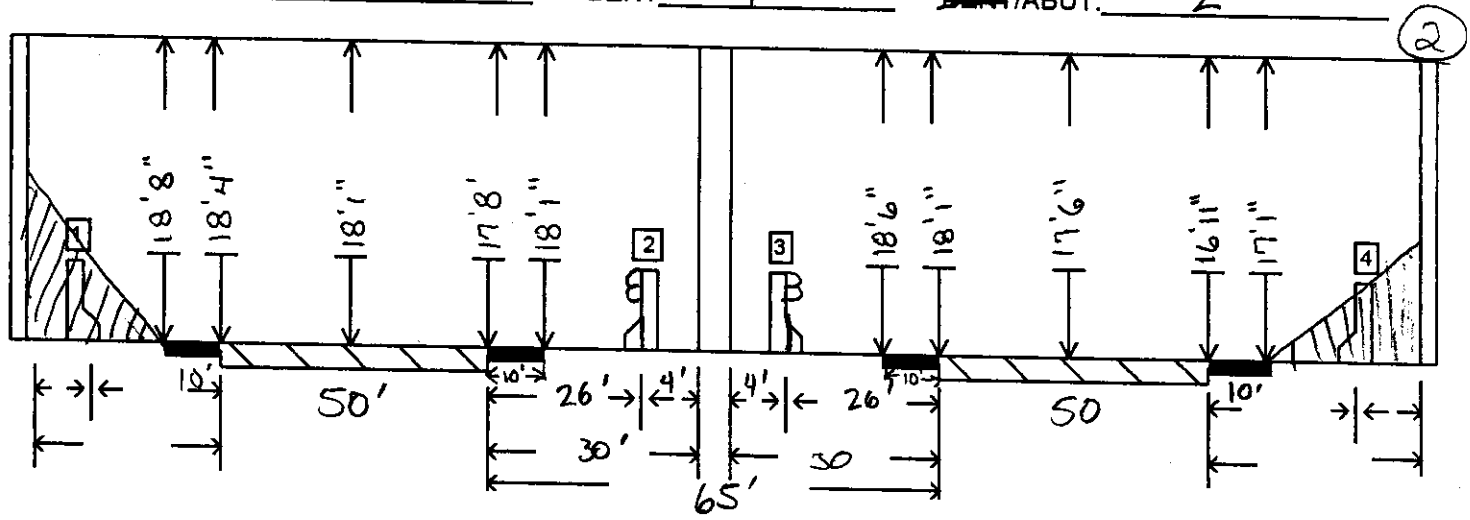
DATE: 2003

RT.

LATERAL AND VERTICAL CLEARANCES

[redacted]/ABUT. 1 BENT 1 [redacted]/ABUT. 2 LT.

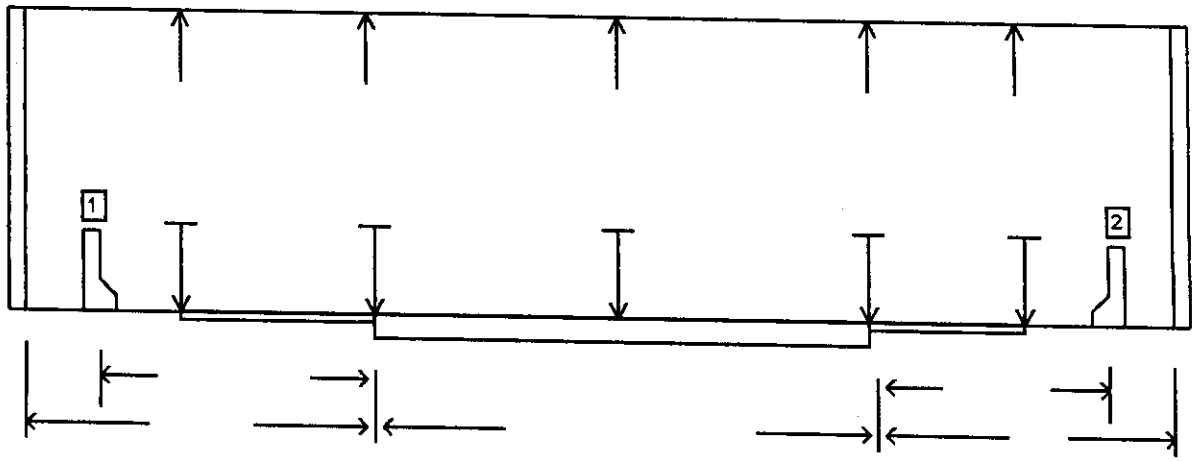
(1)



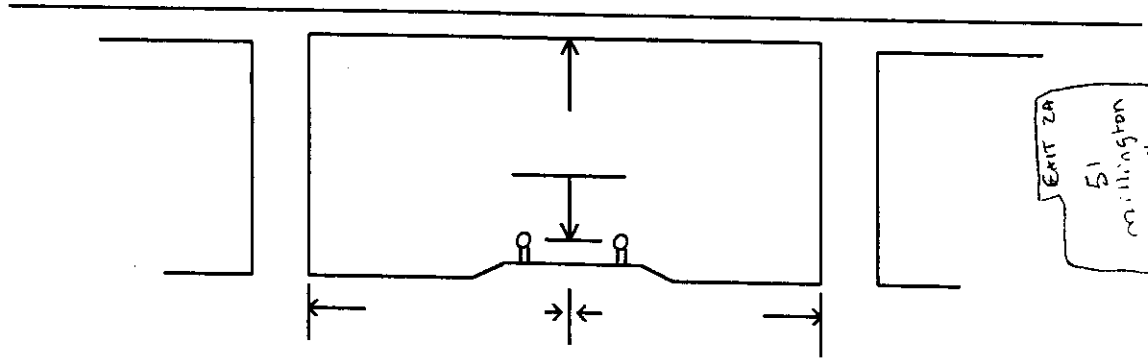
(2)

1.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
2.	RAIL/BARRIER TYPE:	W-SHAPE	[X]	CONC. BARRIER	[ ]	NONE	[ ]
3.	RAIL/BARRIER TYPE:	W-SHAPE	[X]	CONC. BARRIER	[ ]	NONE	[ ]
4.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]

BENT/ABUT. _____ BENT/ABUT. _____



BENT/ABUT. _____ BENT/ABUT. _____

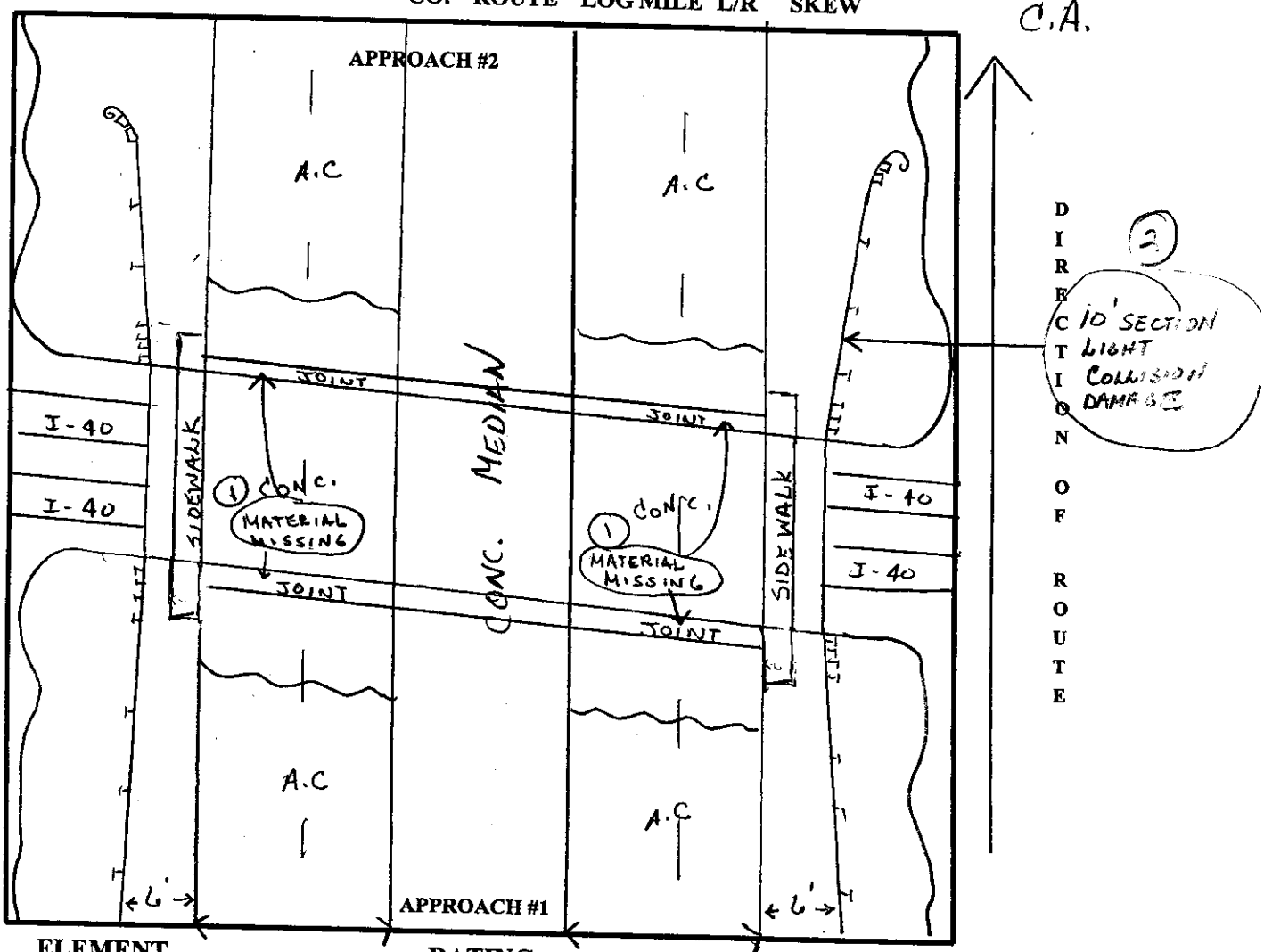


EXIT 2A
51
Washington
1 mile

BRIDGE NO.: 79I00400071 | 79 | I0040 | 0660 | - | 80L | DATE: _____

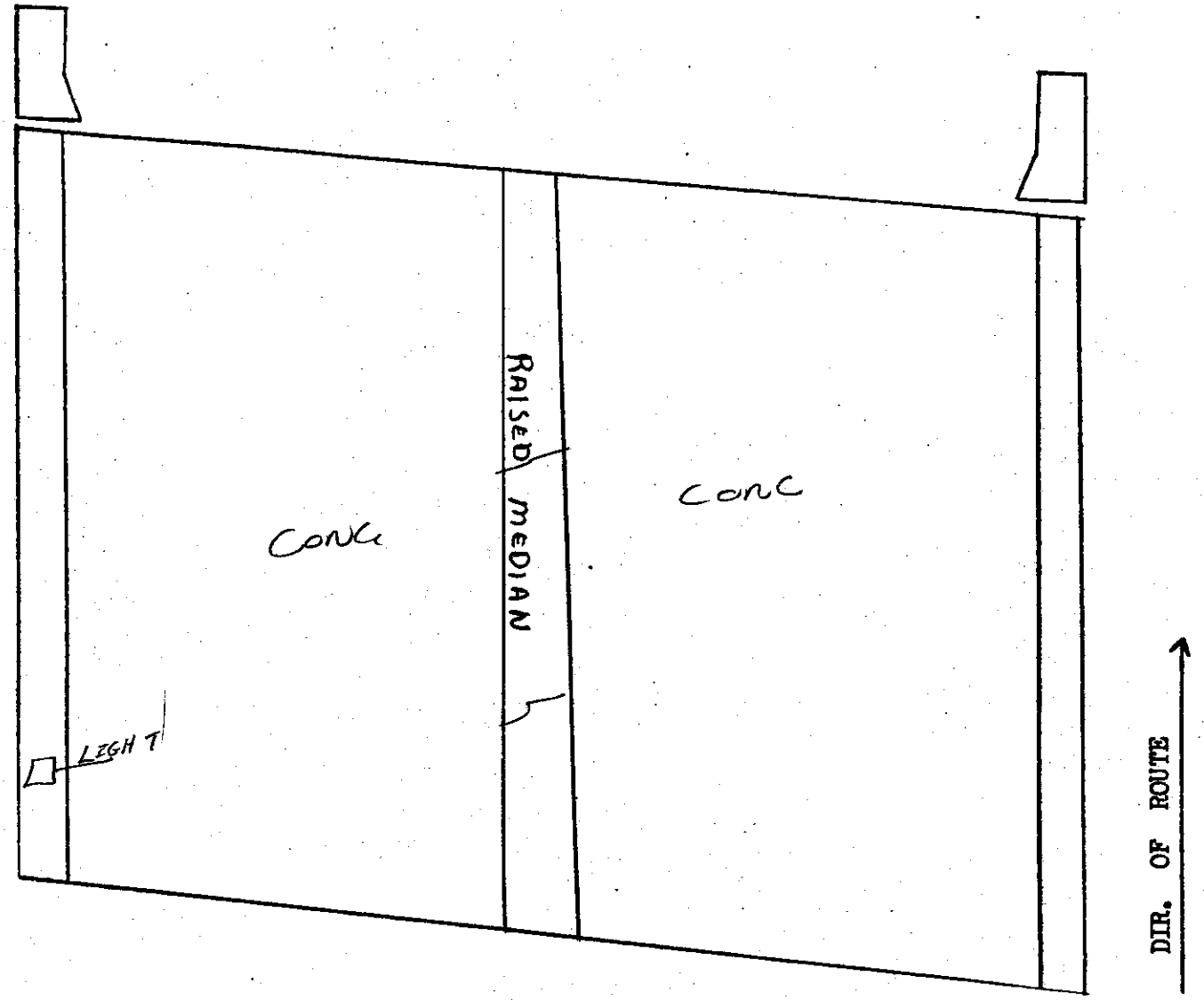
CO. ROUTE LOG MILE L/R SKEW

C.A.



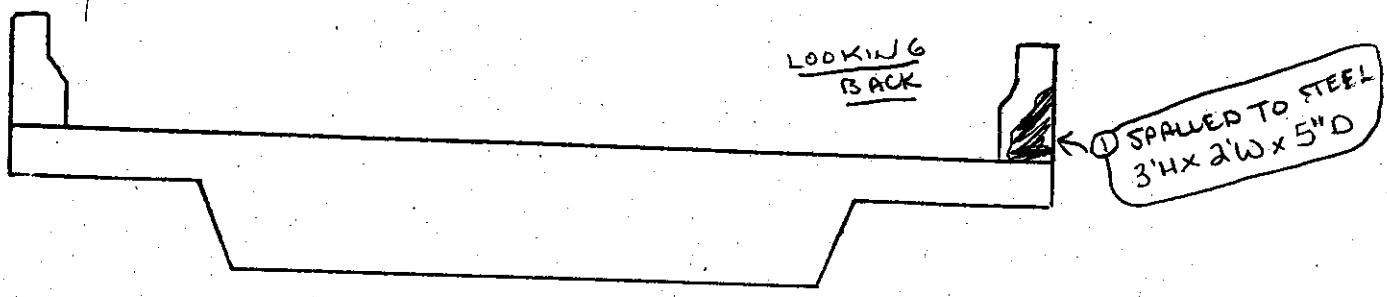
ELEMENT	RATING	COMMENTS
ALIGNMENT	(G) F P C	
APPROACH PAVEMENT	G (F) P C	APP. #1 & 2 - FINE CRACKS
APPROACH SLAB	G F P C	N/V
APPROACH GUARDRAIL	G (F) P C	
EMBANKMENT	(G) F P C	
DRAINS	G F P C	N/A
APPROACH JOINT	G F (P) C	APP. #1 & 2 - MATERIAL MISSING
~~SIGNS~~ SIDEWALK	(G) F P C	
CONC. MEDIAN	(G)	

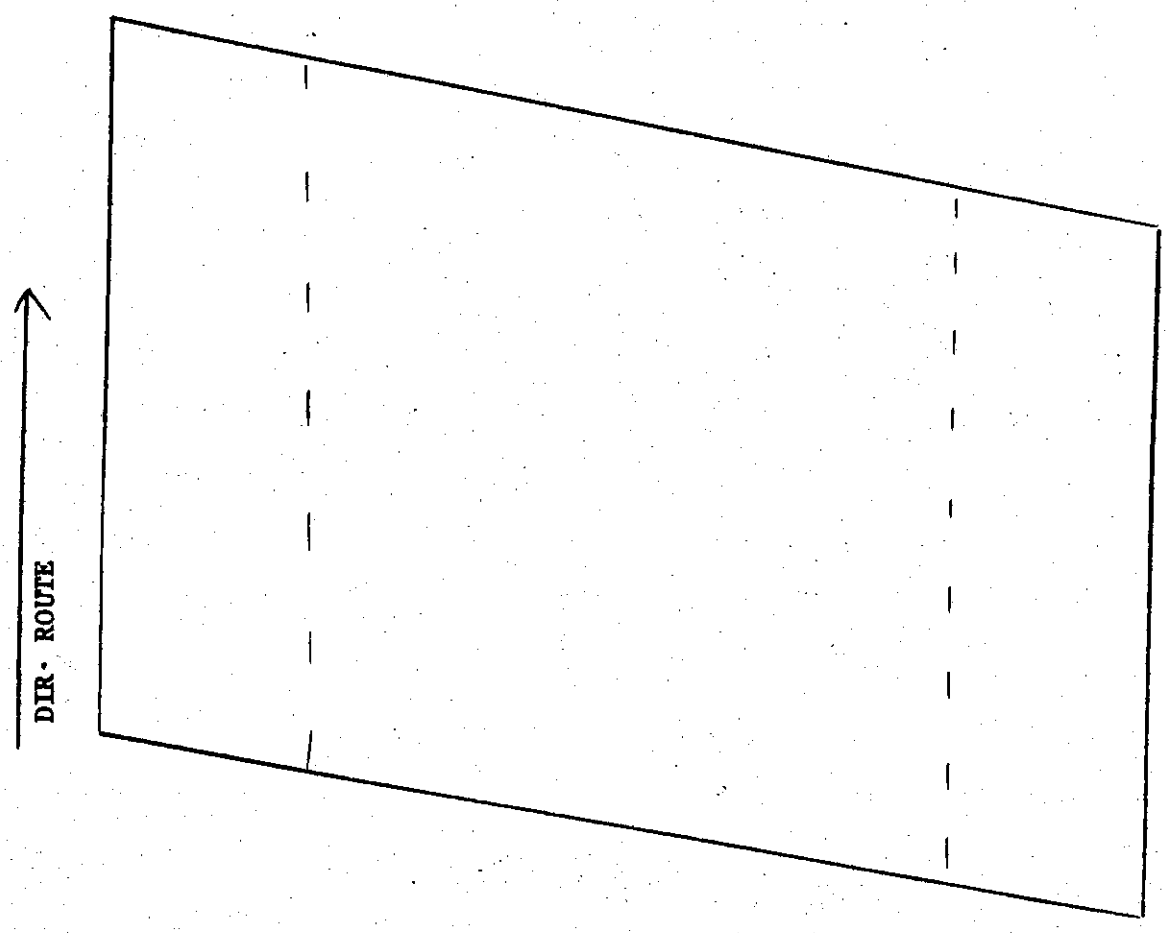
BRIDGE NO. 79-I 40-6160 SK. 80° Lt SPAN NO 1



DECK	(G) F P C	
PARAPET	(G) F P C	
DRAINS	G F P C	NONE
JOINTS	G F P C	CONT.
SIDEWALK	(G)	
RAILS	(G) F P C	
CURB	(G)	
LIGHT MEDIAN	(G) (G) (F) PC	

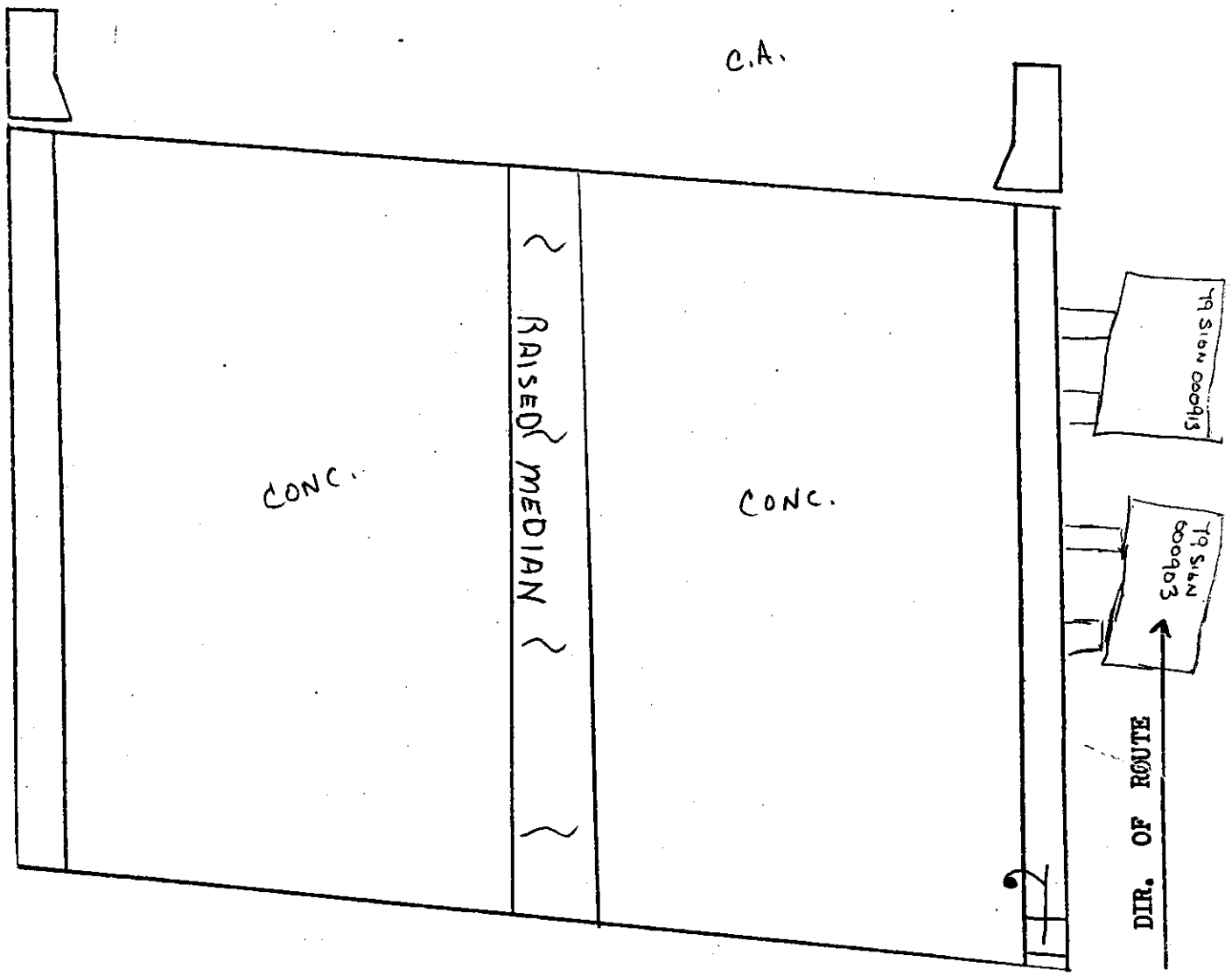
BRIDGE NO. 79-I-40-6160 SK. 8004 SPAN NO. 1





ELEMENT	RATING	COMMENTS
BOTTOM DECK	(G) F P C	
BACKWALL	G F (P) C	SEE (1)

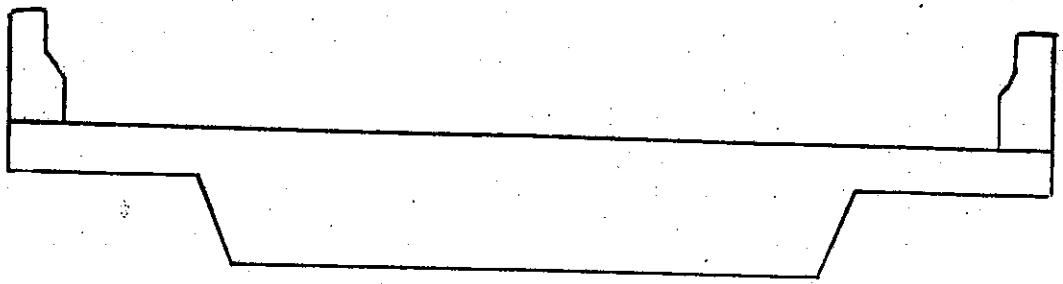
BRIDGE NO. 79 E-40 -660 SK. 80° Lt SPAN NO 2



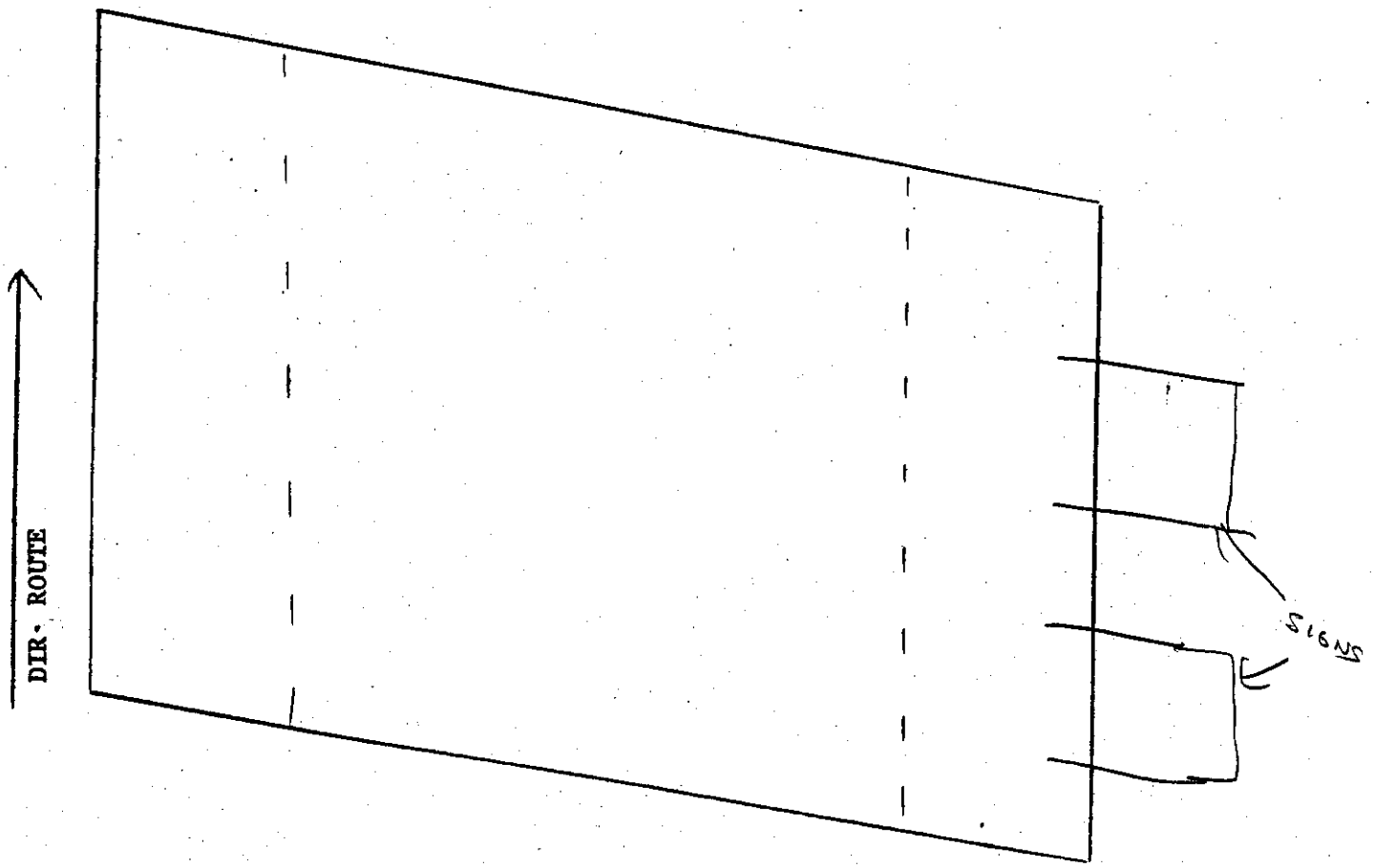
DECK	(G)	F	P	C	
PARAPET	(G)	F	P	C	
SIDEWALK	(G)	F	P	C	
CURB	(G)	F	P	C	
RAILS	(G)	F	P	C	
LIGHT MEDIAN	(G)				
		(F)			SCATTERED FINE CRACKS
SIGNS	(G)				

AUG 1 1 [illegible]

BRIDGE NO. 29 E- 40 - 0140 SK. 8064 SPAN NO. 2

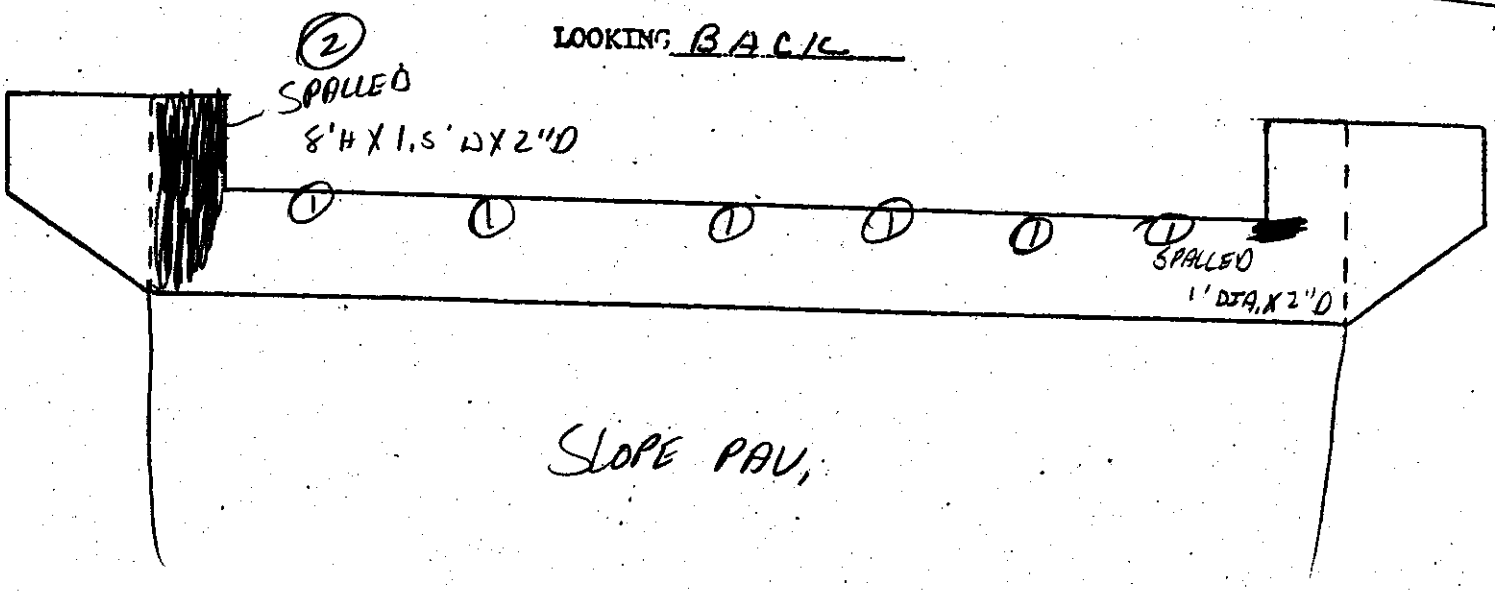


DB



ELEMENT	RATING	COMMENTS
BOTTOM DECK	(G) F P C	
BACKWALL	(G) F P C	

BRIDGE NO. 79 I- 40 - 6160 ABUT. NO. 1

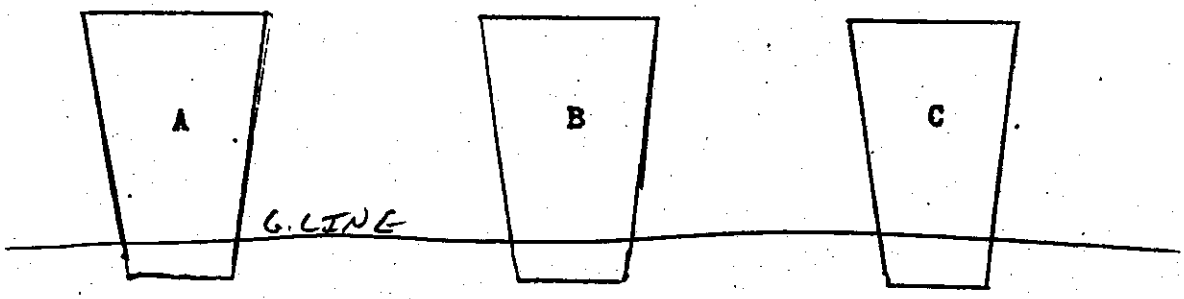


ELEMENT	RATING	COMMENTS
BEARING	(G) F P C	
PAINT	G F P C	
CAP	G (F) P C	SPALLED
WINGS	G F (P) C	SEE (2)
EMB.	(G) F P C	
VEG.	(G) F P C	
RIP-RAP	G F P C	
SLOPE PAV.	(G) F P C	
~~BACKWALL~~	(G) F P C	(1)

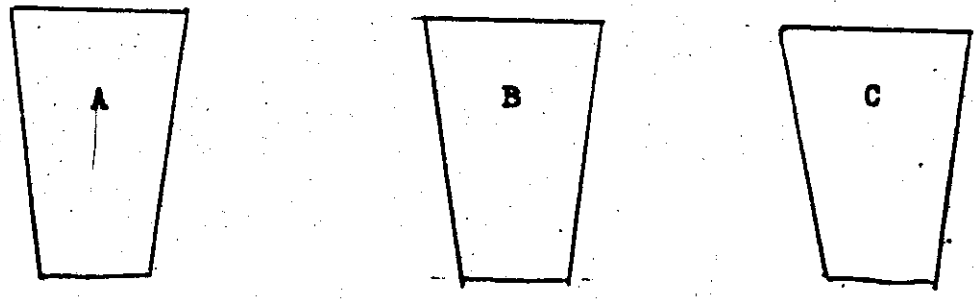
EQ,

BRIDGE NO 79-I-40-bile0

BENT NO 1



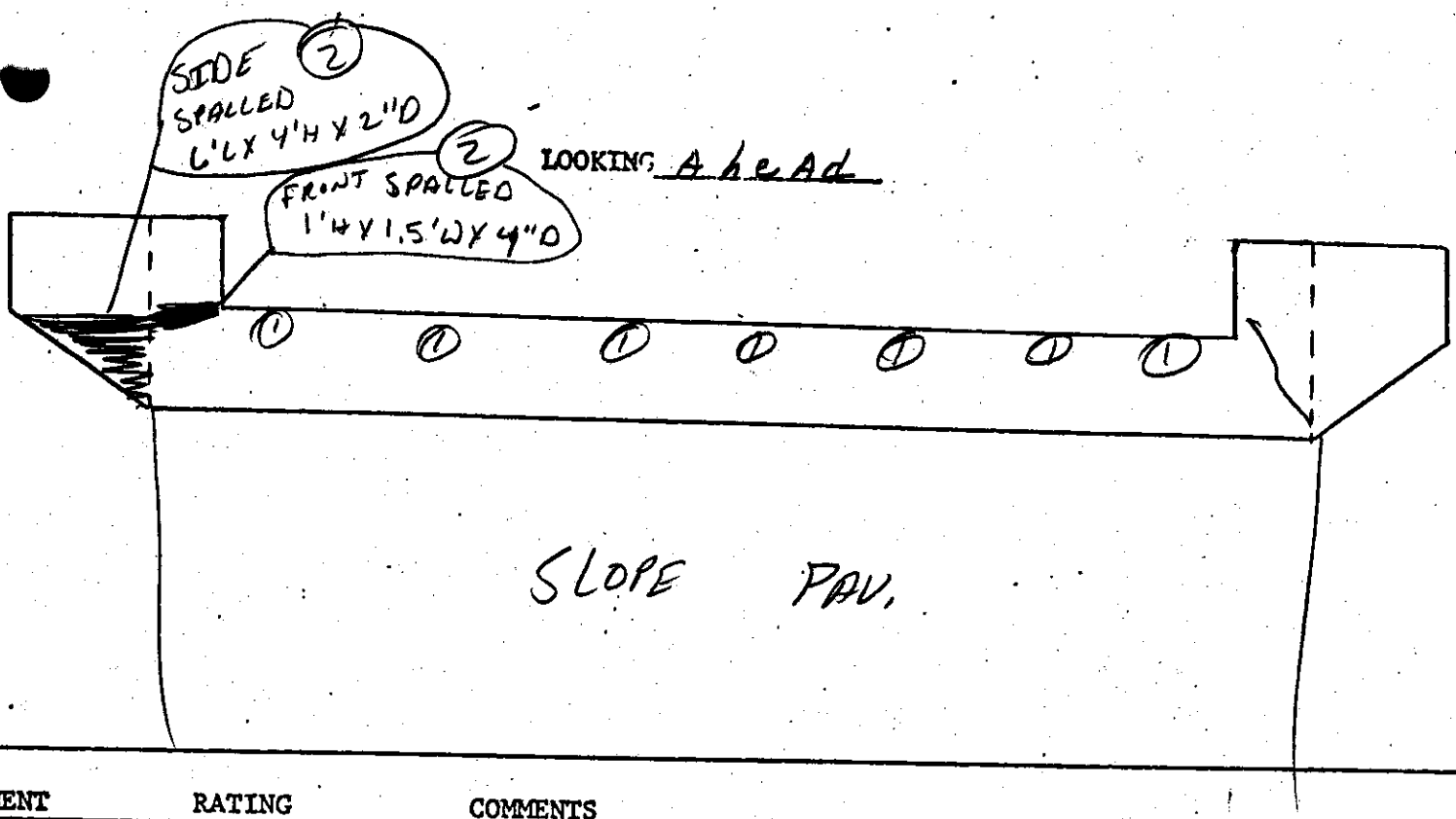
FRONT



REAR

ELEMENT	RATING	COMMENT
STEM A	(G) F P C	
B	(G) F P C	
C	(G) F P C	

BRIDGE NO. 29 I- 40 - 6160 ABUT. NO. 2 AUG



EMENT	RATING	COMMENTS
BEARING	(G) F P C	
PAINT	G F P C	N/A
CAP	(G) F P C	
WINGS	G F (P) C	SEE (2)
EMB.	(G) F P C	
VEG.	G (F) P C	LIGHT GROWTH
RIP-RAP	G F P C	N/A
SLOPE PAV.	(G) F P C	
~~BACKWALL~~	(G) F P C	(1)

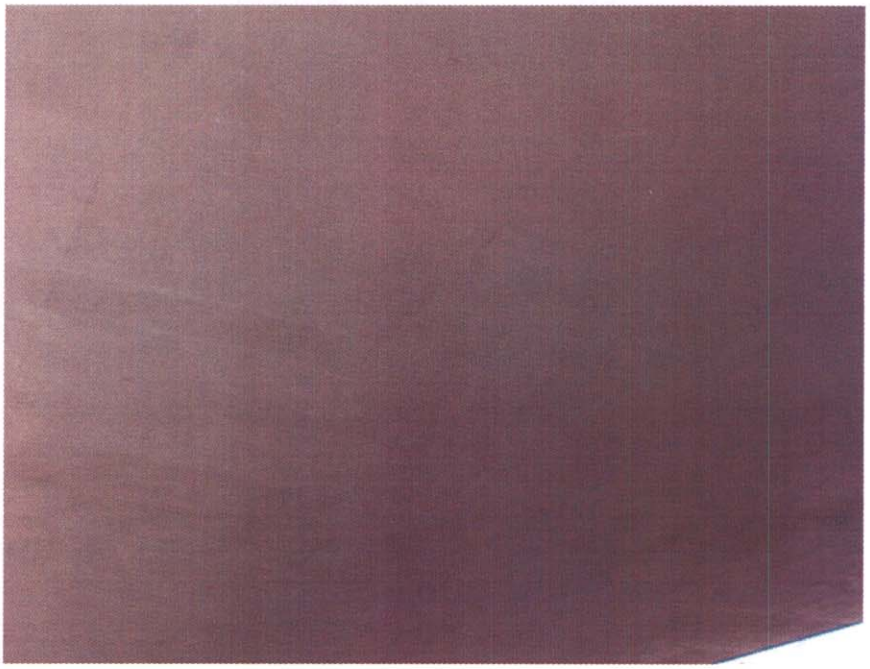
E.O.

Bridge Loc. No: 79 - I0040 - 06.60 Date: 09-11-01

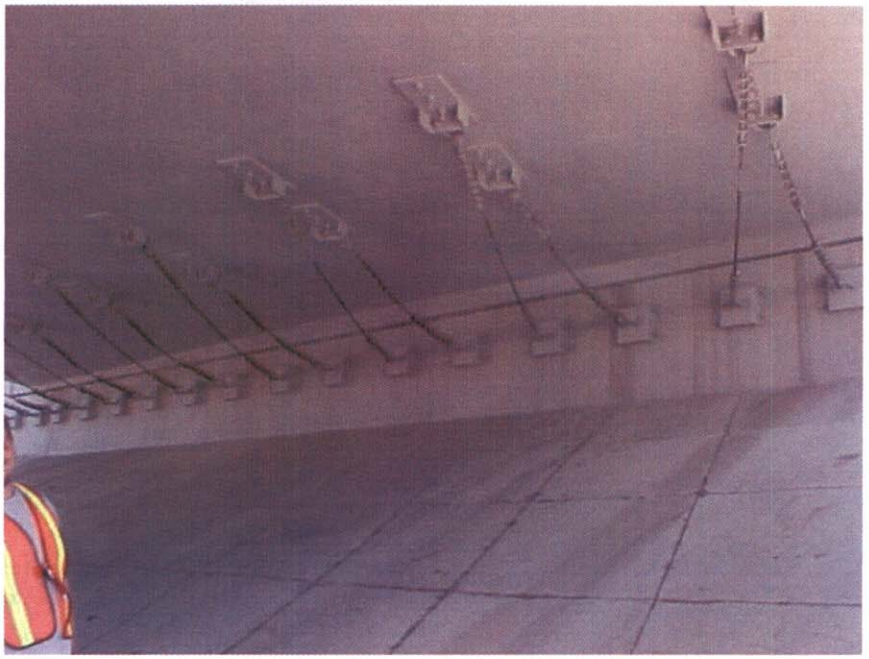
LOOKING BACK ON ROUTE

BRIDGE NO.

Bridge Loc. No: 79 - I0040 - 06.60 Date: 09-11-01



SPAN #1, BOTTOM OF DECK



ABUTMENT #1

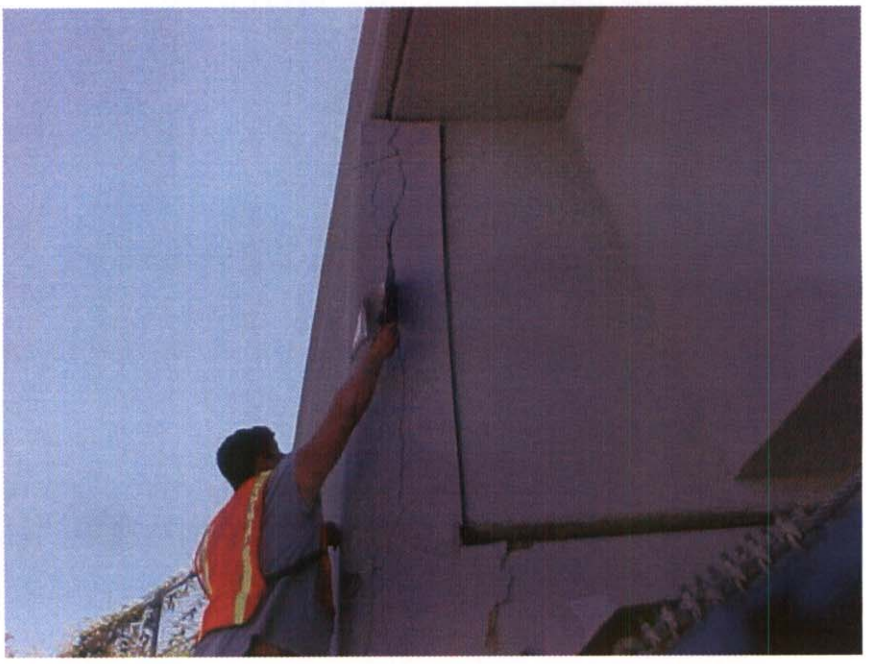
Bridge Loc. No: 79 - I0040 - 06.60 Date: 09-11-01

BENT #1

ELEVATION LEFT SIDE

Bridge Loc. No: 79 - I0040 - 06.60 Date: 09-11-01

ELEVATION RIGHT SIDE



ABUTMENT #1, RIGHT WING CRACKING

Bridge Loc. No: 79 - I0040 - 06.60 Date: 09-11-01

LOOKING AHEAD ON ROUTE

VIEW ACROSS TOP OF DECK, LOOKING AHEAD

Bridge Loc. No: 79 - I0040 - 06.60 **Date: 09-11-01**

APPROACH #2, RIGHT GUARDRAIL HAS COLLISION DAMAGE

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No. 15 Date 9-11-01
Previous Report No. 14 Date _____
Plans: YES (X) NO ( )

Bridge No. 79I00400071 (Eleven Digit No.) Bridge Location No. 79 - I0040 - 6.60 - (Co. Route Log Mile) 79 - 02819 - 0518 (OVER/UNDER PASS)

_____ (Road Name) over -0- (Crossing) _____ (Structure Name (If Named))

Year Constructed _____ County Shelby Maintenance District 45

Year Widened _____ Year Rehabilitated _____

FEATURES

Wearing Surface Concrete (X) Timber ( ) Asphalt ( ) Depth _____(in.)

Flared Width Yes ( ) No (X) Median Width Open ( ) None (X) Closed ( )

Navigational Control Yes ( ) No (X) Bridge Skew 80L ° LT ( ) RT ( )

Structure Type (Main Span) CONC. BOX BEAM

Structure Type (Appr.Spans) _____

No. Main Spans 2 No. Approach Spans _____

Maximum Span Length _____ (**.* ft.)

Total Length 282.0 (**.* ft.)

INSPECTORS

1. COLLINS
2. ADAMS
3. BYRD
4. REEVES
5. _____
6. _____
7. _____
8. _____

WIDTHS (*.* ft.)

Deck Out-to-Out 70.0

Roadway Curb/Curb 68.0

Roadway Rail/Rail _____

Sidewalk Rt. 6.0 Lt. 6.0

*Approach Roadway 2 @ 26'

*(Does Not Include Shoulders)

Approach Shoulder Rt. N/A
Lt. N/A

CLEARANCES

Min. Vertical Clearance over Deck ~5 (ft.-in.)

Min. Vertical Under Clearance 16'-11" (ft.-in.)

Min. Lateral Under Clearance Rt. 10 (*.* ft.)

Min. Lateral Under Clearance Lt. 10 (*.* ft.)

FRACTURE CRITICAL: N/A
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) N/A (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: Date _____

DOT FIELD TEAM ( ) CONTRACT DIVERS ( ) NONE REQUIRED (X)

Change in Structural Condition: Yes (X) No (X)

Major Repairs Made: Yes ( ) No (X)

COMMENTS:

N 35°-11'-32.5"
W 89°-59'-35.7"

NEW TEXTURE COATING
NEW DECK & SIDE WALKS

BRIDGE RATING: ( ) GOOD (X) FAIR ( ) POOR ( ) CRITICAL

Supervising Bridge Inspector: _____

Form BIR 3.1
(Rev. 9-22-98)
DT-0080

Bridge Location No. 79 - I0040 - 6.60 - (Co. Route Log Mile)

Date _____

PERFORMANCE EVALUATION

Time of Day Inspected 1:45 Weather Conditions CLEAR & 85°

Vehicles Observed ALL TYPES

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	
Superstructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
Slab	G F P C	N/A
Joints	(G) F P C	
Pavement	(G) F P C	
Embankment	(G) F P C	
Drains	G F P C	N/A

TRAFFIC SAFETY FEATURES

	Rating	STANDARD	SUB-STANDARD	Comments
Bridgerailing	(G) F P C	(X)	( )	
Transitions	(G) F P C	( )	(X)	
Guardrail	G F (P) C	( )	(X)	APP #2 RT COLLISION DAMAGE (2301)
Guardrail Terminal	(G) F P C	( )	(X)	

SIGNING

	YES	NO	NEEDED
Paddleboards	( )	(X)	( )
Vertical Clearance (<14'-6")	( )	(X)	( )
NARROW ( )	( )	(X)	( )
ONE LANE BRIDGE ( )	( )	(X)	( )

Weight Limit Posted

YES ( ) NO (X)

Gross..... _____ Tons

2 Axle..... _____ Tons

3 or more Axles.. _____ Tons

Other Signs or Plaques: OVER HEAD ATTACHED TO SPAN #2 RT

Comments Regarding any Problems with Signing: 79-40-6.60 → NO NO. NONE

Form BIR 3.2
(Rev. 9-22-98)
DT-0081

SEP 1 1 200

Bridge Location No. 79 - 10040 - 6.60 - Date _____
Co. Route Log Mile

	Rating	Comments
DECK		
Wearing Surface	(G) F P C	
Deck - Structural Condition	(G) F P C	
Curbs	(G) F P C	
Median	(G) F P C	
Sidewalks	(G) F P C	
Parapet	(G) F P C	
Railing	(G) F P C	
~~Paint~~ SIGN	(G) F P C	
Drains	G F P C	
Lighting Standards	(G) F P C	
Utilities	(G) F P C	
Joint Leakage	G F P C	
Expansion Joints	G F P C	CNT Deck
SUPERSTRUCTURE		
Bearing Devices	G F P C	
Beams SOLID	(G) F P C	
Girders	G F P C	
P C C S	G F P C	
BOLTS (PCCS)	G F P C	
Floor Beams	G F P C	
Stringers	G F P C	
Diaphragms	G F P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G F P C	
Alignment of Members	(G) F P C	

TEXTURE COAT

Condition Rating (G) F P C
Overall Appearance (G) F P C
Staining Rating (G) F P C

Fading (G) F P C
Needs Spot Painting YES ( ) NO (Y)
Needs Repainting YES ( ) NO (Y)

Comments _____ Scaling Rating (G) F P C

RECOMMENDATIONS: _____ CLEAN SEAL JOINTS ( )

_____ CLEAN DRAINS ( )

Form BIR 3.3
(Rev. 9-22-98)
DT-0082

Bridge Location No. 79 - 10040 - 6.60 -
Co. Route Log Mile

Date 1 / 2001

SUBSTRUCTURE

PILES TO BE REPLACED

ABUTMENTS

	Rating	Comments	PILE(S)	ABUTMENT
Caps	(G) F P C			
Breastwall	G F P C			
Wings	G F (P) C	ABUT #1 RT SPALLING	(154)	
Backwall	(G) F P C			
Plumb	(G) F P C			
Footing	G F P C			
Piles	G F P C			
Embankment	(G) F P C			
Bearing	(G) F P C			
Slope Paving	(G) F P C			
Rip Rap	G F P C			
Earthquake Devices	(G) F P C			

PIERS

		PILE(S)	PIER
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	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
Caps	G F P C N/A		
~~Columns~~ STEMS	(G) F P C		
Plumb	(G) F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	G F P C		
Bracing	G F P C		
Earthquake Devices	G F P C N/A		

Piles Need Replacement: NO (X) YES ( )

CUT VEGETATION NO (X) YES ( )

CLEAR DRIFT NO (X) YES ( )

RECOMMENDATIONS:

SEP 11 2001

Page 1 of 2 **INSPECTION REPORT FOR UNDERPASS ROUTE** Page No.___

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

Field Report No. _____ Date _____
Previous Report No. _____ Date _____

Bridge No. 79I00400071 (Eleven Digit No.)

Underpass Location No. 79 - I0040 - 0660 - (Co. - Route - Log Mile)

-0- (Railroad/Walkway) or ___ - ___ - ___ (Co. - Route - Log Mile)

over/under 79 - 02819 - 0518 (Co. - Route - Log Mile)

County Shelby

Structure Name (If Named) _____

Year Constructed _____

Year Widened _____ Year Rehabilitated _____

GEOMETRIC FEATURES UNDER BRIDGE *(*.* ft. unless otherwise noted)*

Divided Highway LEFT RDWY ( ) RIGHT RDWY (X) N.A. ( )

Type of Wearing Surface CONCRETE (X) ASPHALT ( ) GRAVEL ( )

Width of Approach Traveled Roadway 50' ft. (Does Not Include Shoulders)

Width of Median if Divided Highway 65 ft.

Approach Shoulder Width 10' ft. Right 10' ft. Left

*Horizontal Clearance Under Bridge 90 ft. 0 IN.

*Distance Between Pier Protection Guardrail and Substructure N/A ft. Right 4' ft. Left

*Width of Sidewalk Under Bridge N/A ft. Right N/A ft. Left

*Minimum Vertical Clearance: 16 ft. 11 in.

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	(G) F P C	( )	(X)	( )
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	(G) F P C	( )	(X)	( )
Approach Guardrail Terminal	(G) F P C	( )	(X)	( )

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( )	NO (X)	NEEDED ( )
Vertical Clearance (<14'-6")	YES ( )	NO (X)	NEEDED ( )
Narrow Passage	YES ( )	NO (X)	NEEDED ( )
One Lane Passage	YES ( )	NO (X)	NEEDED ( )

Other Underpass Signs Needed

_____

_____

INSPECTORS

1. REEVES
2. BYRD
3. _____
4. _____
5. _____
6. _____

SEP 1 [illegible]

Page 1 of 2 **INSPECTION REPORT FOR UNDERPASS ROUTE** Page No.___

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

Field Report No. _____ Date _____
Previous Report No. _____ Date _____

Bridge No. 79I00400071 (Eleven Digit No.)

Underpass Location No. 79 - I0040 - 0660 - (Co. Route Log Mile)

-0- (Railroad/Walkway) or ___ - ___ - ___ (Co. Route Log Mile)

over/under 79 - 02819 - 0518 (Co. Route Log Mile)

County Shelby

Structure Name (If Named) _____

Year Constructed _____

Year Widened _____ Year Rehabilitated _____

GEOMETRIC FEATURES UNDER BRIDGE *(*.* ft. unless otherwise noted)*

Divided Highway LEFT RDWY (X) RIGHT RDWY ( ) N.A. ( )

Type of Wearing Surface CONCRETE (X) ASPHALT ( ) GRAVEL ( )

Width of Approach Traveled Roadway	50 ft. (Does Not Include Shoulders)			
Width of Median if Divided Highway	65 ft.			
Approach Shoulder Width	10' ft.	Right	10' ft.	Left
*Horizontal Clearance Under Bridge	90 ft.		0 IN.	
*Distance Between Pier Protection Guardrail and Substructure	N/A ft.	Right	4.0' ft.	Left
*Width of Sidewalk Under Bridge	N/A ft.	Right	N/A ft.	Left
*Minimum Vertical Clearance:	17 ft. 6 in.			

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	(G) F P C	( )	(X)	( )
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	(G) F P C	( )	(X)	( )
Approach Guardrail Terminal	(G) F P C	( )	(X)	( )

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( )	NO (X)	NEEDED ( )
Vertical Clearance (<14'-6")	YES ( )	NO (X)	NEEDED ( )
Narrow Passage	YES ( )	NO (X)	NEEDED ( )
One Lane Passage	YES ( )	NO (X)	NEEDED ( )

Other Underpass Signs Needed

_____

_____

INSPECTORS

1. RGEVOS
2. BYRD
3. _____
4. _____
5. _____
6. _____

SEP 7 L 2019

Page No.___

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

Date _____

Underpass Location No. 79 - 10040 - 0660 -
Co. Route Log Mile

Other Signs or Plaques: _____

_____

Comments Regarding any
Problems with Signing: _____

_____

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 80 4°

Structure Type (Main Span) Box Beam No. Main Spans 2

Structure Type (Appr.Spans) _____ No. Appr. Spans _____

Maximum Span Length 141 (ft.) Total Length 282' (ft.)

Width of Bridge Out-to-Out 70' (ft.) Right Angle to Centerline of Bridge)

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

Number of Lanes/Tracks on Bridge 4

BRIDGE CONDITION: G (F) P C

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath YES ( ) NO (X)

Does Potential Exist Because of Deteriorated Condition or Failure of Major Member YES ( ) NO (X)

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

Inspection Team's Summary

SEP 11 2001

Bridge Location No. 79 - 10040 - 6.60 -
Inspection Date 79-8819 - 4.93
Bridge Rating FAIR

THIS TWO SPAN CONCRETE SOLID DECK BRIDGE WITH CONCRETE SUBSTRUCTURE IS IN FAIR CONDITION. ALL TRAFFIC SAFETY FEATURES ARE PRESENT. APP. # 2 RT GUARDRAIL HAS COLLISION DAMAGE. ABUT # 1 RT WING IS CRACKING & SPALLING. MIN. VERTICAL CLEARANCE IS 16'11"

Carolyne Adams

Cross Section: yes ( ) no (X)

Pontis: yes ( ) no (X)

SEP 1 1 2001

BRIDGE NO. 79 I-40 6.60 SKEW_____
CO. ROUTE L. M. (LOG) km

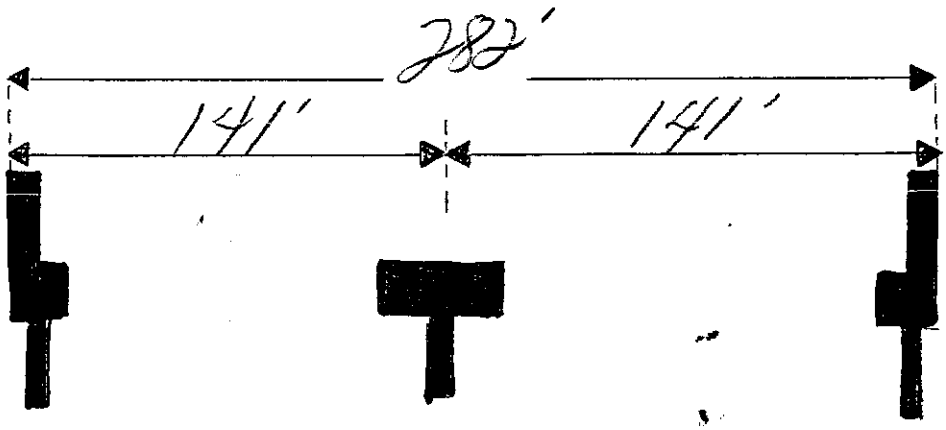
Direction of Route

PLAN VIEW

REQUIRED DATA.

1. F = FIXED
   E = EXPANSION

2. S = SIMPLE
   C = CONTINUOUS



ABUT
1

ABUT
2

SEP 11 2001

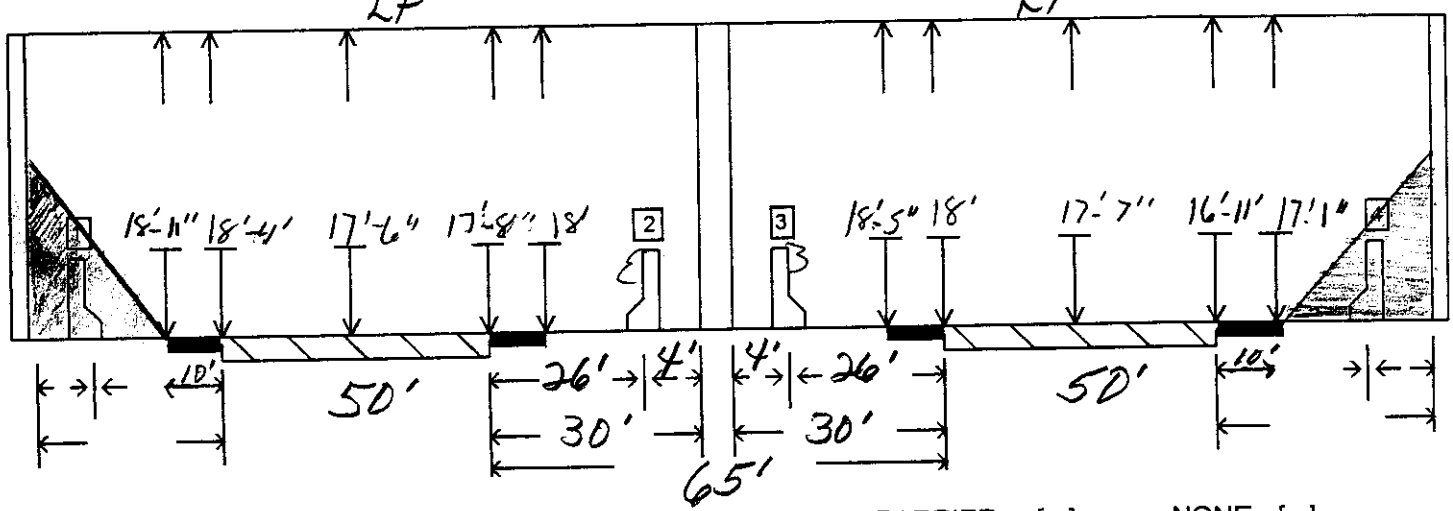
BIR 3.10
Rev. 06/22/01
ET-1510

BRIDGE LOC. NO. 79 I0040 0660 -
CO. ROUTE L. M. L/R

DATE: _____

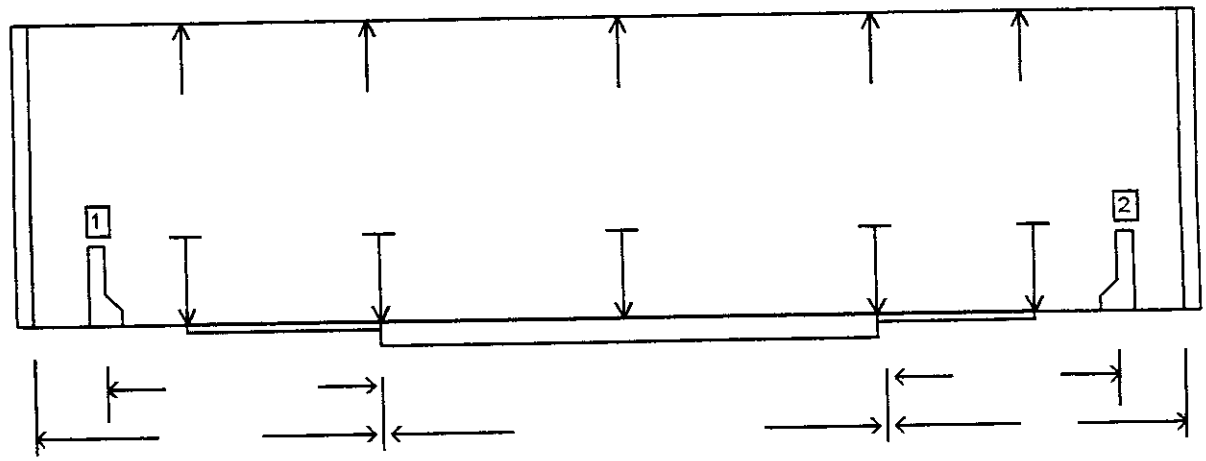
LATERAL AND VERTICAL CLEARANCES

BENT/ABUT. 1 BENT 1 BENT/ABUT. 2

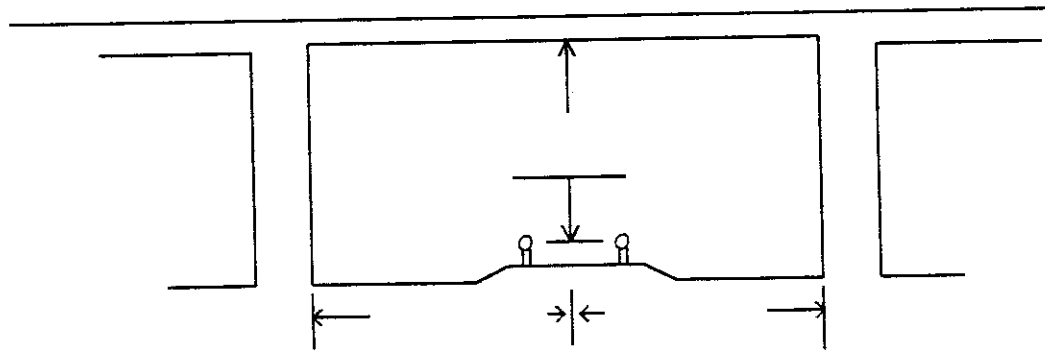


1.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[ ]
2.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[ ]
3.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[ ]
4.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[ ]

BENT/ABUT._____ BENT/ABUT._____



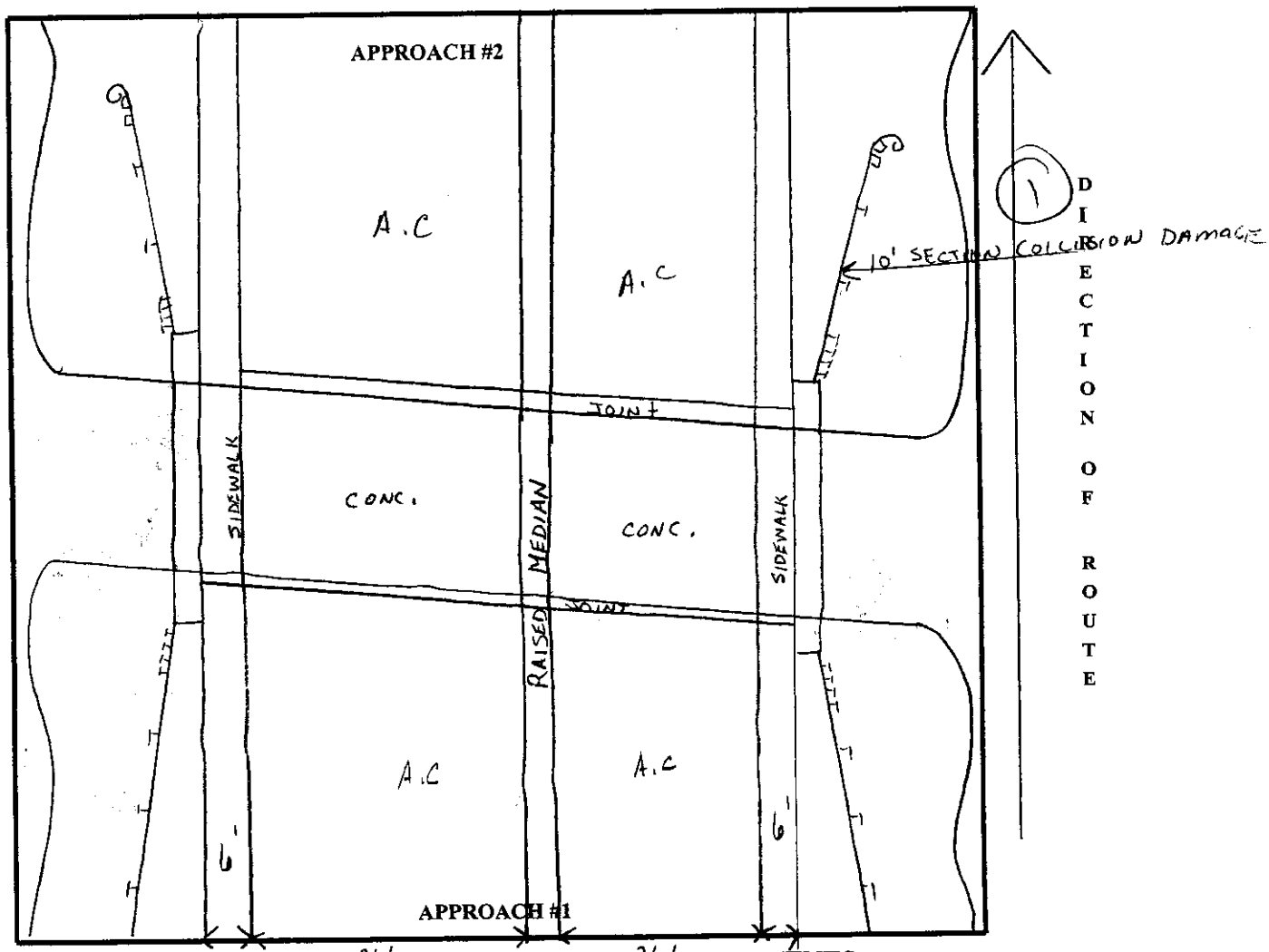
BENT/ABUT._____ BENT/ABUT._____



SEP 1 1 2007

BRIDGE NO.: 79I00400071 | 79 | I0040 | 0660 | - | 80L | DATE: _____

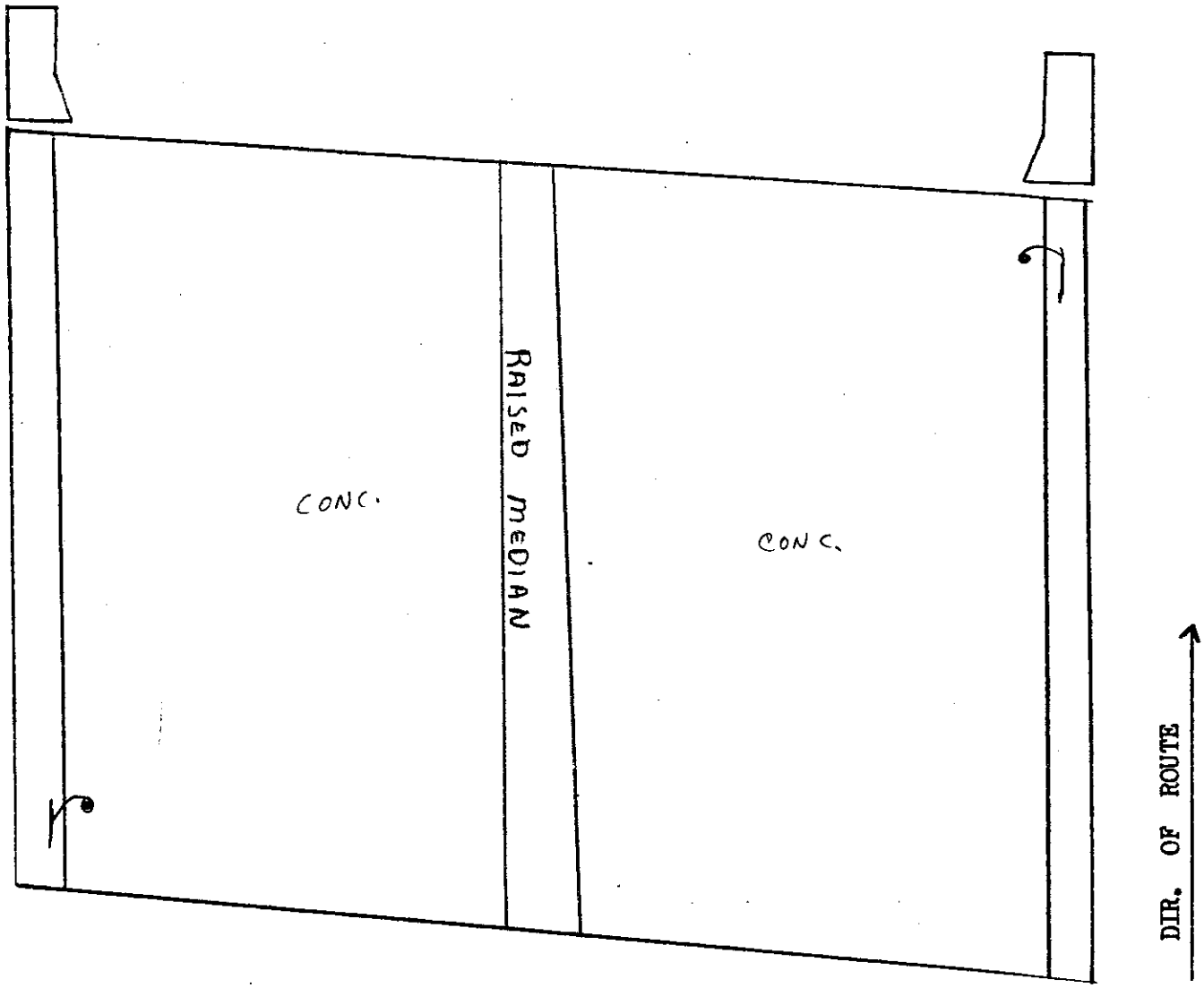
CO. ROUTE LOG MILE L/R SKEW



ELEMENT	RATING	COMMENTS
ALIGNMENT	(G) F P C	
APPROACH PAVEMENT	(G) F P C	
APPROACH SLAB	G F P C	N/V
APPROACH GUARDRAIL	G F (P) C	APP. # 2 RT - SEE (1)
EMBANKMENT	(G) F P C	
DRAINS	G F P C	N/A
APPROACH JOINT	(G) F P C	
~~SIGNS~~ MEDIAN	(G) F P C	

SEP 1 1 2002

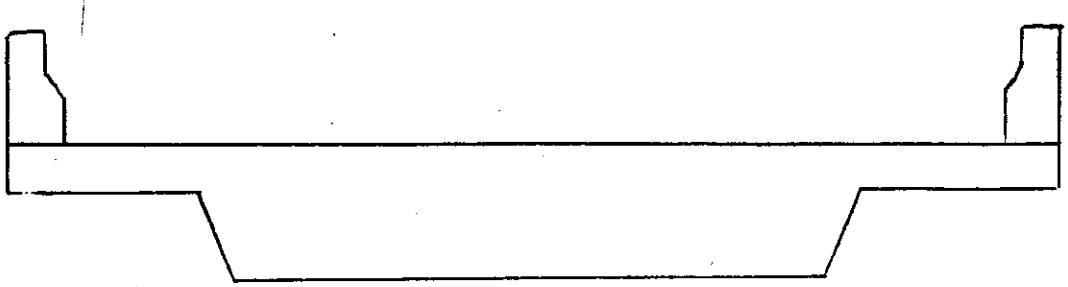
BRIDGE NO. 79-E 49-6160 SK. 80° Lt SPAN NO 1

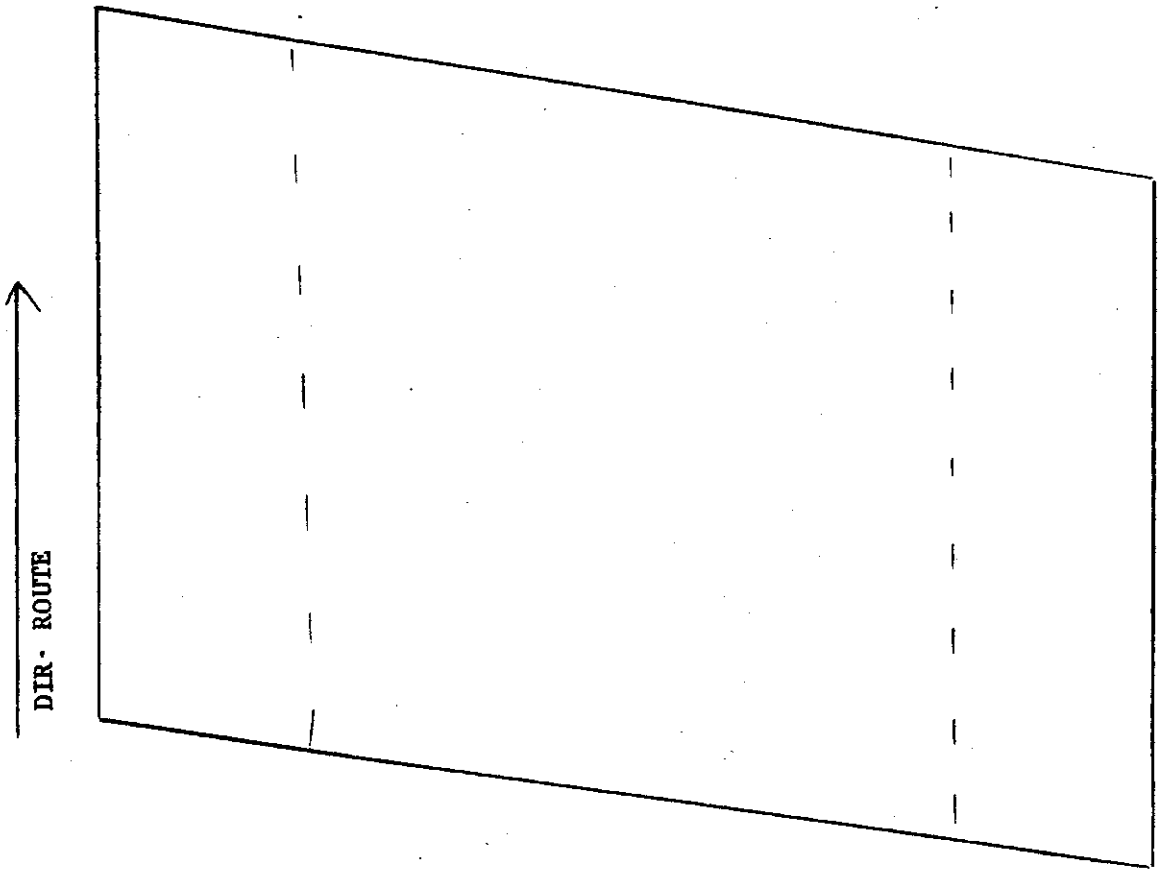


DECK	(G) F P C	
PARAPET	(G) F P C	
DRAINS	G F P C	N/A
~~LIGHTS~~ LIGHT	(G) F P C	
RAILS	(G) F P C	
SIDEWALK	(6)	
MEDIAN	(6)	
	(6)	

SEP 1 1 2001

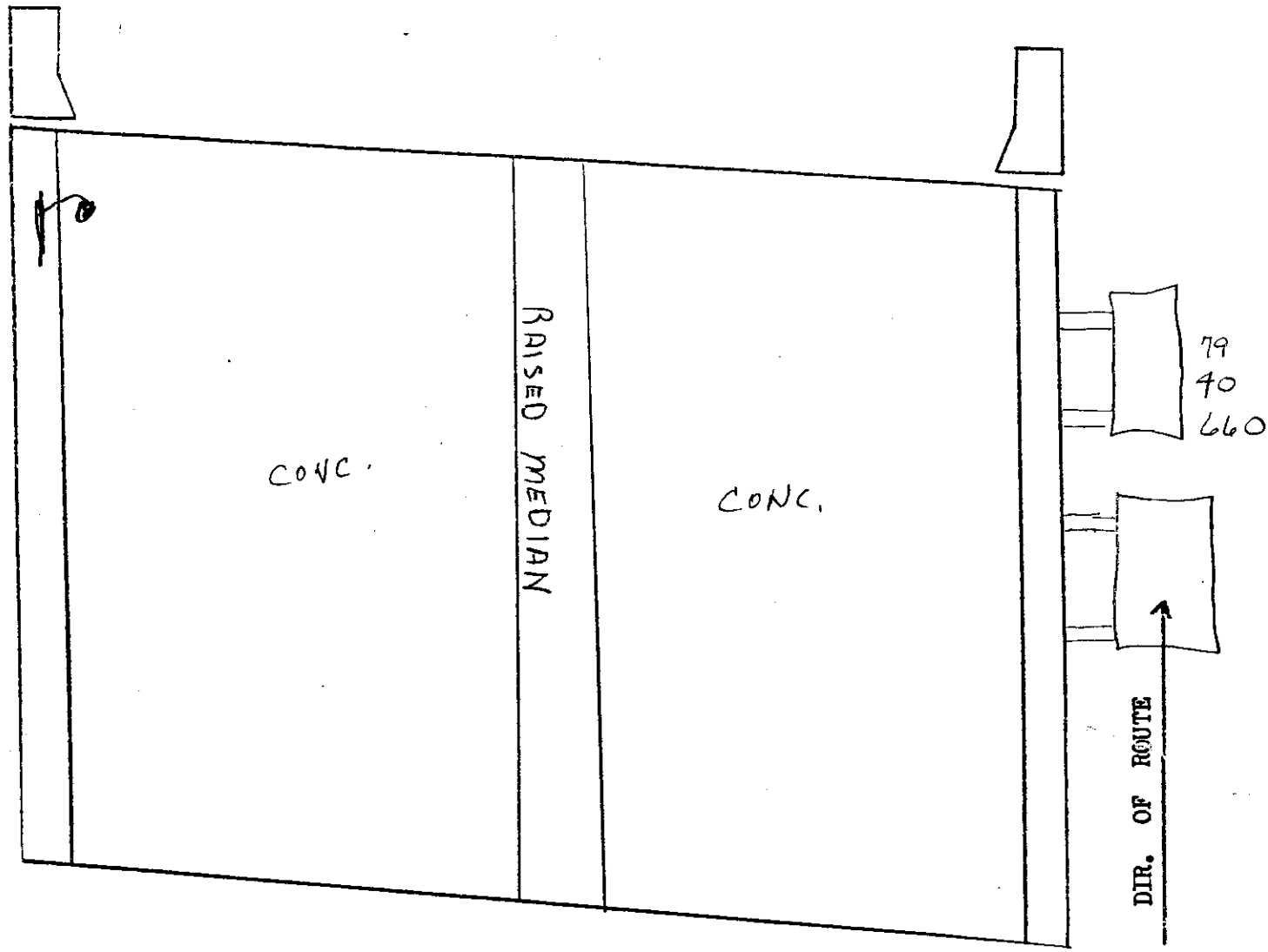
BRIDGE NO. 79 - I - 20 - 6160 SK. 80°∠ SPAN NO. 1





ELEMENT	RATING	COMMENTS
BOTTOM DECK	G F P C	

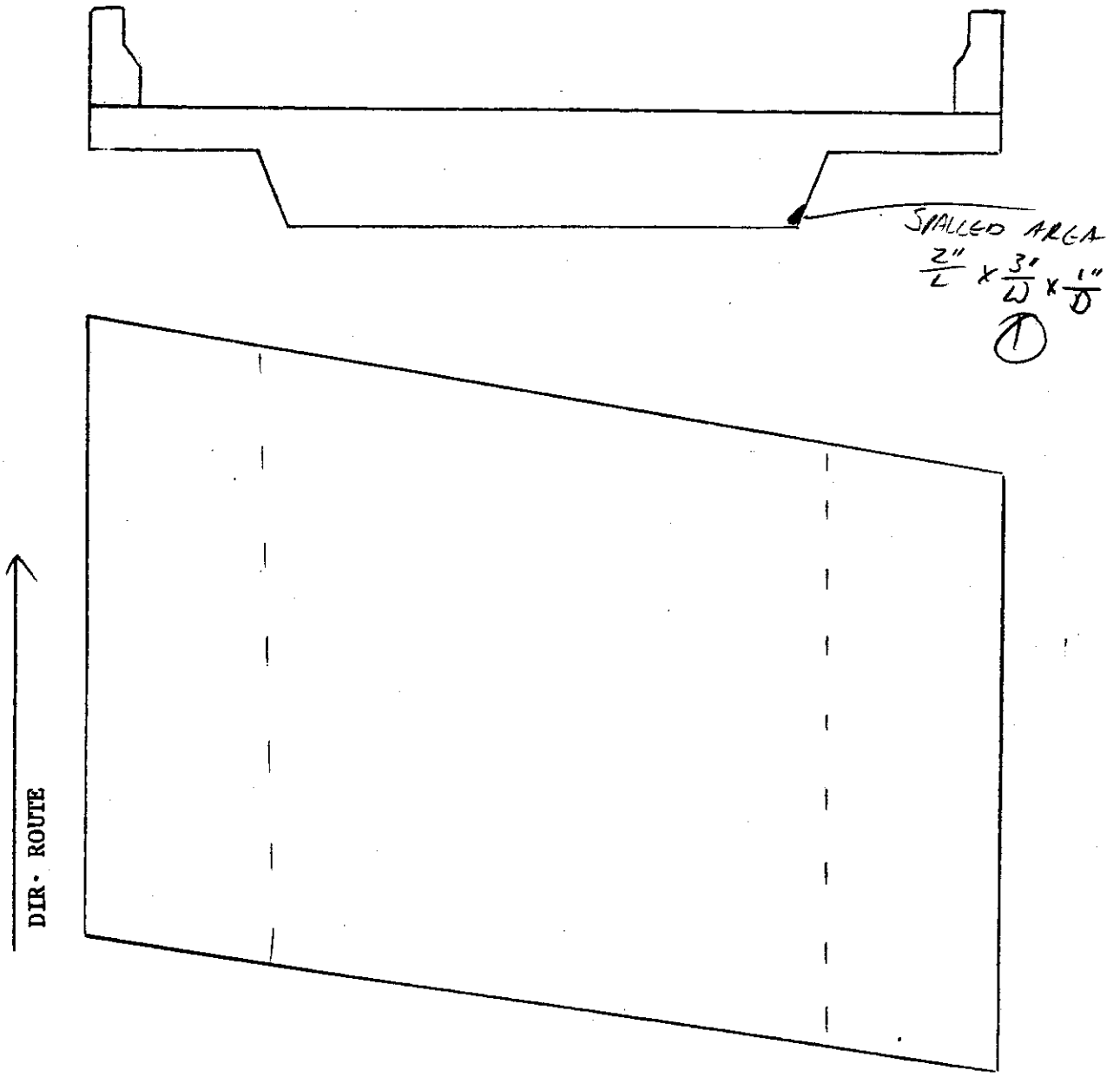
BRIDGE NO. 79 E-40 -660 SK. 80° Lt SPAN NO 2



DECK	(G)	F	P	C	
PARAPET	(G)	F	P	C	
~~BRAINS~~ SIDEWALK	(G)	F	P	C	
~~JOINTS~~	~~G~~	~~F~~	~~P~~	~~C~~	
SIGN	(G)				
RAILS	(G)	F	P	C	
LIGHT	(G)				
MEDIAN	(G)				
CURB	(G)				

SEP 1 1 2001

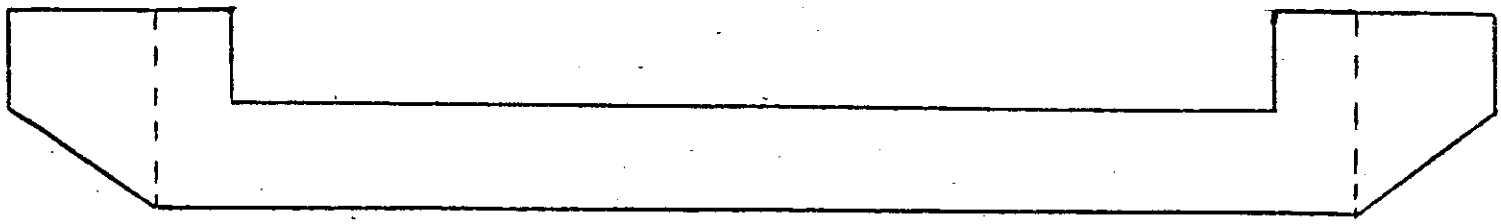
BRIDGE NO. 29 E 4d - 6160 SK. 8004 SPAN NO. 2



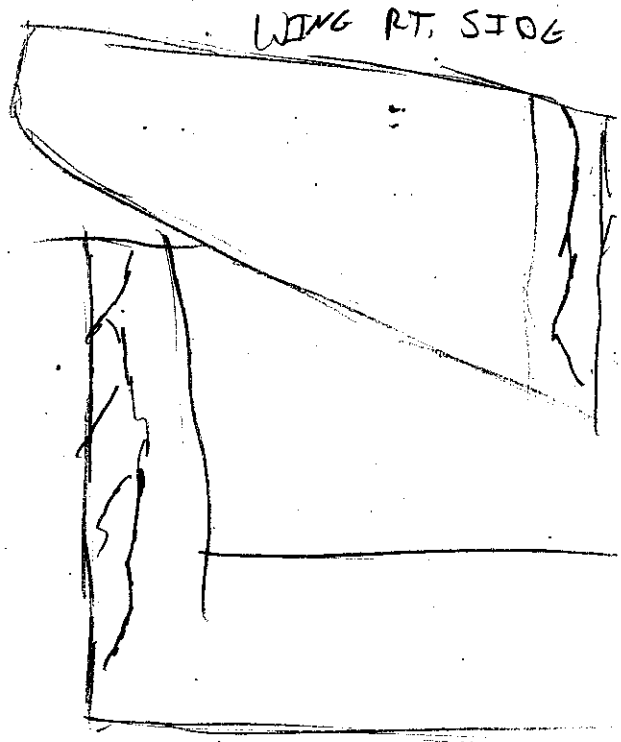
ELEMENT	RATING	COMMENTS
BOTTOM DECK	6 G (F) P C	SEE (1)
UTILITY	(6)	

BRIDGE NO. 79 I- 40 - 6.60 ABUT. NO. 1 SEP 14 2011

LOOKING BACK



LEMENT	RATING	COMMENTS
BEARING	(G) F P C	
PAINT	(G) F P C	
CAP	(G) F P C	
WINGS	G F (P) C	SEE (1)
EMB.	(G) F P C	
VEG.	G (F) P C	MODERATE GROWTH
RIP-RAP	G F P C	N/A
SLOPE PAV	(G) F P C	
BACKWALL	(G) F P C	
EARTH QUAKE	(6)	



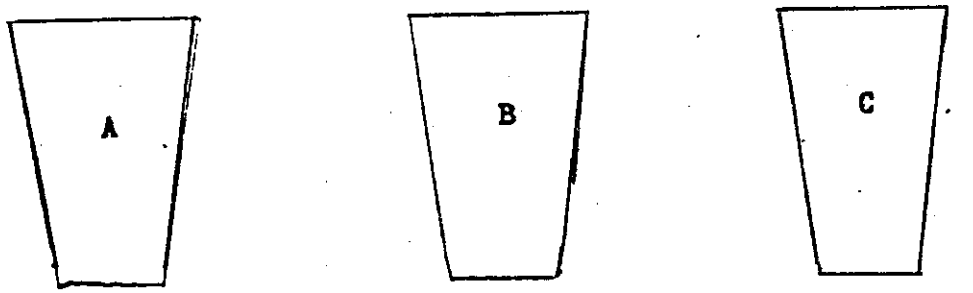
FRONT VIEW OF WING

(1) WING PATCHED - SPALLING W/UP TO ½" OPEN CRACKS

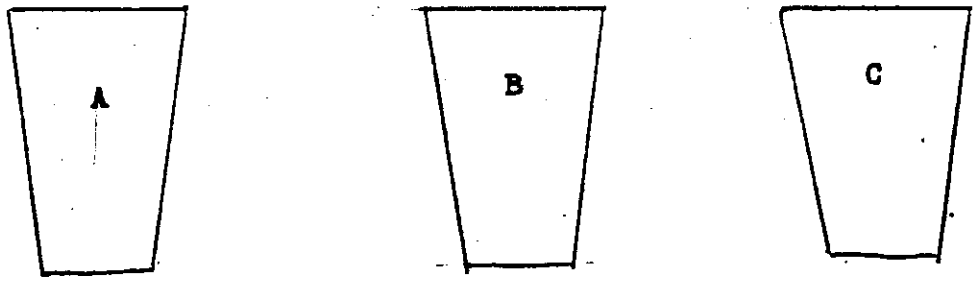
BRIDGE NO 79-I-40-616O

BENT NO 1

SEP 1 1 2001



FRONT



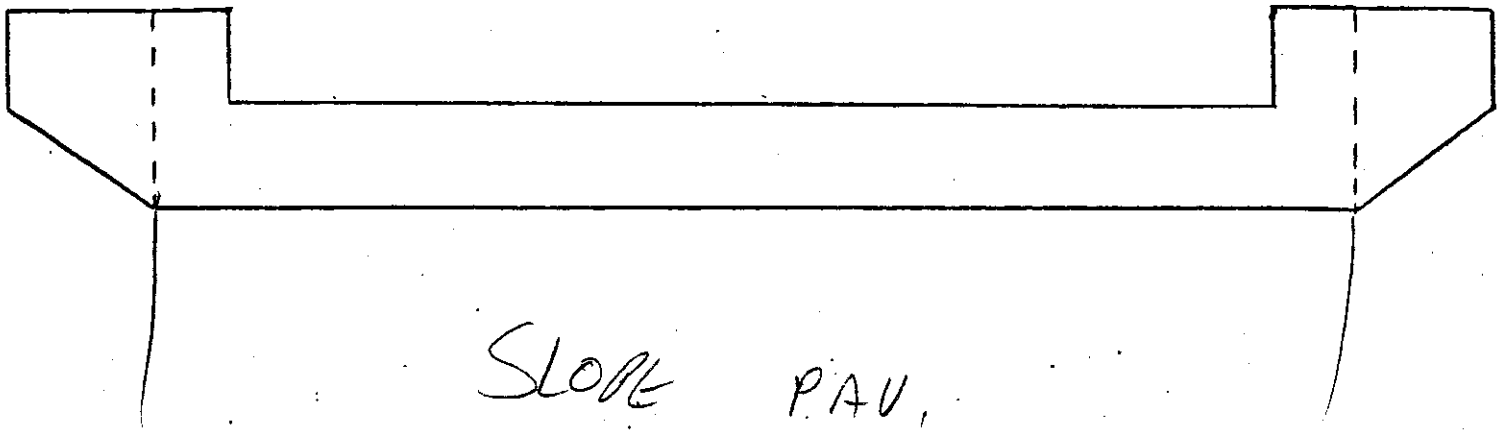
REAR

ELEMENT		RATING	COMMENT
STEM	A	(G) F P C	
	B	(G) F P C	
	C	(G) F P C	

SEP

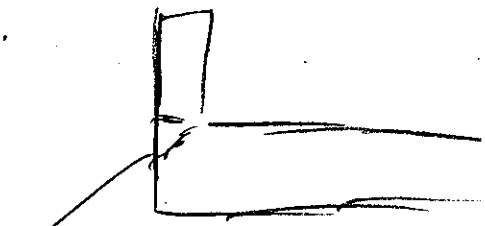
BRIDGE NO. 79 I 40 - 6160 ABUT. NO. 2

LOOKING Ahead



LEMENT	RATING	COMMENTS
BEARING	(G) F P C	
PAINT	(G) F P C	
CAP	(G) F P C	
WINGS	G (F) P C	SEG (1)
EMB.'	(G) F P C	
VEG.	G (F) P C	MODERATE GROWTH
RIP-RAP	G F P C	N/A
SLOPE PAV.	(G) F P C	
BACKWALL	(G) F P C	

LT. WING

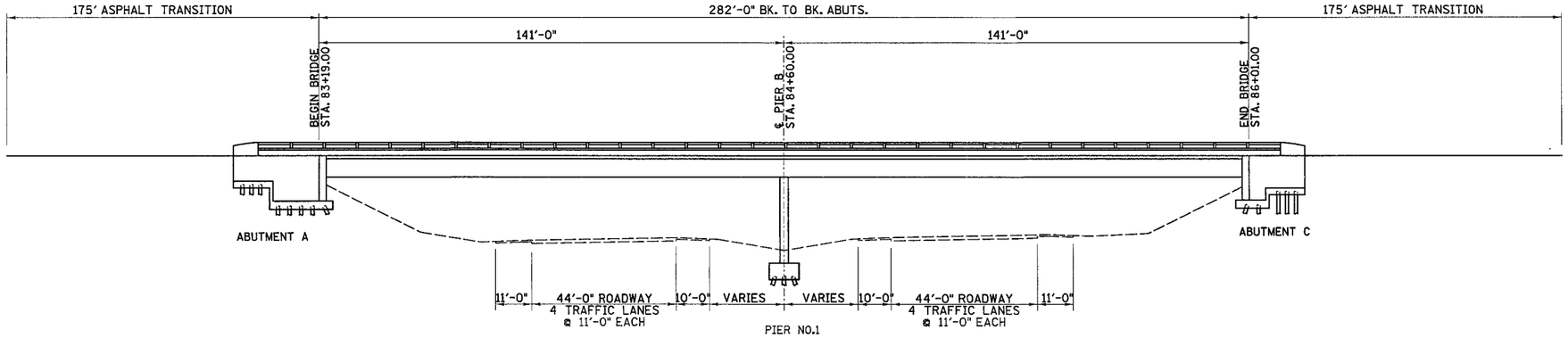


PATCHED AREA
SPALLING
2'/L X 1'/W X 1"/D
(1)

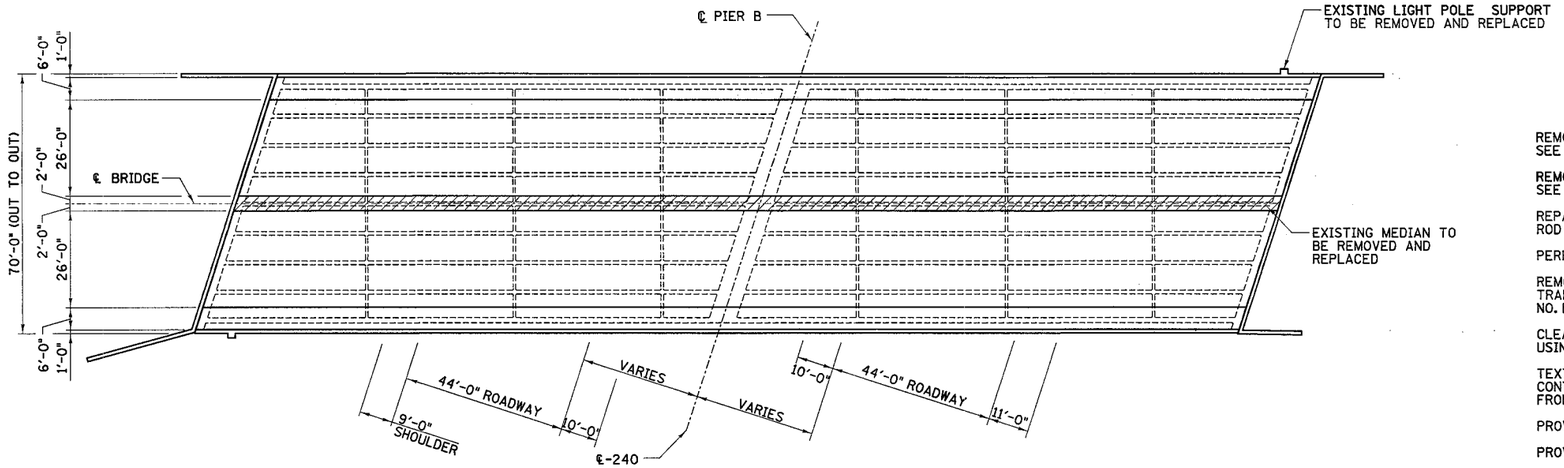
PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/00	AJK	UPDATED REV. DATE



ELEVATION
SCALE: 1" = 20'



PLAN
SCALE: 1" = 20'

SCOPE OF WORK

REMOVE ASPHALT FROM BRIDGE DECK AND TRANSITION ASPHALT IN APPROACHES. SEE BR-46-12.

REMOVE ¼" OF DECK SURFACE USING HYDRODEMOLITION, AND ADD 1½" PMC OVERLAY. SEE DWG. NO. BR-46-8.

REPAIR HEADERS AT JOINTS AT BRIDGE ENDS. USE POURABLE SEALANT WITH BACKER ROD FOR JOINTS. SEE DWG. NO. BR-46-7.

PERFORM MISCELLANEOUS CONCRETE SPALL REPAIR. SEE DWG. NO. BR-46-10.

REMOVE AND REPLACE EXISTING CENTER MEDIAN WITH SAME CROSS SECTION. REUSE TRANSVERSE DOWELS AND PROVIDE NEW LONGITUDINAL REINFORCEMENT. SEE DWG. NO. BR-46-9.

CLEAN AND SEAL EXISTING SIDEWALKS, NEW MEDIAN AND EXISTING APPROACH MEDIANS USING WATER REPELLENT CONCRETE SEAL. SEE DWG. NO. BR-46-9.

TEXTURE COAT BRIDGERAIL, SIDES AND BOTTOM OF BOX GIRDER AND ENTIRE SUBSTRUCTURE. CONTRACTOR SHALL TO MASK SEISMIC RESTRAINTS, SIGNS AND ALUMINUM BRIDGE RAILING FROM TEXTURE COAT MATERIALS. SEE DWG. BR-46-3.

PROVIDE TRAFFIC CONTROL. SEE SHEET NOS. 4, 6 AND 7.

PROVIDE 175' ASPHALT TRANSITIONS OFF EACH END OF BRIDGE. SEE DWG. NO. BR-46-12.

LIST OF DRAWINGS

LIST OF REFERENCE DRAWINGS ◐◐

DWG. NO.	LAST REV. DATE	DRAWING
M-25-19		BRIDGE LAYOUT
M-25-19A		GENERAL NOTES & ESTIMATED QUANTITIES
M-25-20		ABUTMENT A - FOOTING PLAN
M-25-21		ABUTMENT A - PLAN AND ELEVATION
M-25-22		ABUTMENT C - FOOTING PLAN
M-25-23		ABUTMENT C - PLAN AND ELEVATION
M-25-24		ABUTMENT DETAILS
M-25-25		PEIR B
M-25-26		SUPERSTRUCTURE - TYPICAL SECTIONS
M-25-27		BOTTOM SLAB PLAN AND LONGITUDINAL SECTION
M-25-28		TOP SLAB PLAN
M-25-29		TOP & BOTTOM SLAB & GIRDER REINFORCING
M-25-30		SLAB ELEVATIONS

M-25-109 LIGHT STD. BASE & WING POST DETAILS
TENN. STD. DWG. K-56-144 PAVEMENT @ BRIDGE ENDS
TENN. STD. DWG. M-28-1 BRIDGE RAILING

◐◐ ALL REFERENCE DRAWINGS TO BE PRINTED WITH THE PLANS

SPECIAL PROVISIONS

NO.	LAST REV. DATE	REGARDING
105A	**	APPROVAL OF SHOP DRAWINGS
108B	**	SPECIAL PROVISION REGARDING PROJECT COMPLETION AND LIQUIDATED DAMAGES
604CR	**	REPAIR OF BRIDGE DECK CRACKS
604H	**	HYDRODEMOLITION
619A	**	POLYMER MODIFIED CONCRETE (PMC) OVERLAY

** DENOTES CURRENT REVISION DATE AS PER CONTRACT DOCUMENTS

BRIDGE NO. 79I00400071

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE TO BE REPAIRED

MCLEAN BLVD. OVER I-40/I-240
BRIDGE NO. 79-2819-4.93

SHELBY COUNTY
2000

TERRY L. JOHNSON REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 23127 STATE OF TENNESSEE
6/12/00

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-46-1

L:/1997/972923/DRAWINGS/SHEL-08.DGN 5/12/00

BRIDGE REPAIR QUANTITIES

	ITEM	DESCRIPTION	UNIT	MCLEAN BLVD.	HIGHLAND STREET	TOTAL
①	209-08	TEMPORARY SILT FENCE	L.F.	50	50	100
②	307-03.16	BITUMINOUS PLANT MIX BASE (HOT MIX) GRADING B-M2	TON	20	20	40
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1	1	2
	411-01.01	MINERAL AGGREGATE (ACS) GRADING D	TON	63	63	126
	411-01.02	ASPHALT CEMENT (ACS) GRADING D	TON	4	4	8
	415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	2022	2742	4764
③	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	3180	3264	6444
④	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	1504	1567	3071
⑤	604-10.05	CONCRETE	S.F.	30	45	75
⑥	604-10.14	REMOVE EXISTING WEARING SURFACE	L.S.	0.5	0.5	1
⑦	604-10.18	REINFORCING STEEL (REPAIRS)	LB.	820	-	820
⑧	604-10.20	HYDRODEMOLITION	S.Y.	1630	2045	3675
⑨	604-10.42	CONCRETE REPAIRS	C.F.	662	-	662
⑩	604-10.43	PENETRATING WATER REPELLENT CONCRETE SEAL	S.Y.	1180	1520	2700
⑪	604-10.44	EXPANSION JOINT REPAIR	L.F.	148	164	312
⑫	604-10.54	CONCRETE REPAIRS	S.F.	30	35	65
⑬	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	-	140	140
⑭	617-02	BRIDGE DECK CRACK SEALING	L.F.	1796	1413	3209
⑮	617-05	SEALANT (HMWM)	GAL.	18	15	33
⑯	619-01	BRIDGE DECK OVERLAY (PMC)	S.Y.	1630	2045	3675
⑰	705-08.65	ENERGY ABSORBING TERMINAL (PORTABLE)	EACH	2	2	4
	712-01	TRAFFIC CONTROL	L.S.	0.5	0.5	1
⑱	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1350	1210	2560
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	158	158	316
	712-05.03	WARNING LIGHTS (TYPE C)	EACH	82	82	164
	712-06.10	NEW SIGNS (CONSTRUCTION)	S.F.	784	832	1616
⑲	712-06.01	VERTICAL PANELS	S.F.	44	44	88
	712-06.16	SIGNS (CONSTRUCTION) (REDUCED SPEED WARNING)	EACH	2	2	4
	712-08.03	FLASHING ARROW BOARD (TYPE C)	EACH	4	4	8
⑳	712-09.01	REMOVABLE PAVEMENT MARKING LINE (8" BARRIER LINE)	L.F.	7530	7240	14,770
㉑	713-16.03	CHANGEABLE MESSAGE SIGN	EACH	1	1	2
	716-02.01	PAINTED PAVEMENT MARKING (LINE)	L.M.	0.6	0.5	1.1
	717-01	MOBILIZATION	L.S.	0.5	0.5	1

① INCLUDES THE COST OF ALL LABOR AND MATERIALS FOR FURNISHING AND INSTALLING THE TEMPORARY SILT FENCE, WHERE LOCATED BY THE ENGINEER, AND REMOVAL UPON PROJECT COMPLETION. SEE STD. DWG. EC-STR-3. THE ENGINEER MAY INCREASE, DECREASE OR ELIMINATE THE QUANTITY FOR THIS ITEM. SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.

② INCLUDES COST OF LABOR AND MATERIALS TO PLACE ASPHALT MATERIAL AND ANY REQUIRED EXCAVATION FOR SHOULDER STRENGTHENING OR OTHER PURPOSES AS DIRECTED BY ENGINEER IN THE FIELD. THE QUANTITY MAY BE INCREASED, DECREASED, OR ELIMINATED BY THE ENGINEER.

③ INCLUDES ALL COSTS TO APPLY TEXTURE FINISH AS SHOWN IN THE DETAIL THIS DWG.

④ INCLUDES COST TO PERFORM BRIDGE DECK GROOVING WITHING 1'-0" OF THE TOE OF THE CURB FOR THE FULL LENGTH OF BRIDGE.

⑤ INCLUDES ALL COSTS TO PERFORM CONCRETE SPALL REPAIR USING CLASS "A" CONCRETE. FOR NOTES AND DETAILS SEE DWG. NO. BR-46-10.

⑥ INCLUDES ALL COSTS FOR REMOVING APPROXIMATELY 3" DEPTH OF EXISTING ASPHALT SURFACE FROM BRIDGE END TO BRIDGE END. FOR NOTES AND DETAILS, SEE TRAFFIC CONTROL SHEETS AND DWG. NO. BR-46-12.

⑦ INCLUDES COST OF ALL REINFORCING STEEL REQUIRED TO COMPLETE REPAIRS AS SHOWN ON THESE PLANS.

⑧ INCLUDES THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT TO REMOVE AND DISPOSE OF ALL CONCRETE AND OTHER DEBRIS TO A MINIMUM ¼" DEPTH BY HYDRODEMOLITION SUPPLEMENTED BY OTHER NECESSARY MEANS, INCLUDING VACUUMING, SHIELDING, CONTAINMENT, AND FILTRATION OF WASH WATER. FOR NOTES AND DETAILS, SEE DWG. NO. BR-46-8 AND SPECIAL PROVISION 604H.

⑨ INCLUDES ALL COSTS ASSOCIATED WITH REMOVING EXISTING MEDIAN AT MCLEAN STREET BRIDGE, CLEANING ALL EXPOSED REINFORCING STEEL, FORMING, HIGH EARLY STRENGTH CONCRETE AND ALL LABOR AND MATERIALS TO PERFORM REPAIRS AS SHOWN ON DWG. NO. BR-46-9. THIS ITEM WILL ALSO INCLUDE ALL COST ASSOCIATED WITH REMOVING AND REPLACING LIGHT SUPPORT AT MCLEAN STREET BRIDGE. FOR LOCATION, SE DWG. NO. BR-46-1.

⑩ INCLUDES ALL COSTS TO CLEAN AND COAT EXISTING SIDEWALKS AND MEDIANS AS SHOWN ON DETAILS DWG. NC. BR-46-9.

⑪ INCLUDES ALL COSTS TO REMOVE EXISTING EXPANSION JOINTS AND FURNISH AND INSTALL NEW POURED SEALANT JOINTS, INCLUDING CONCRETE REMOVAL, NEW CONCRETE, CLEANING EXPOSED REINFORCING STEEL AND ALL OTHER COMPONENTS NECESSARY FOR A COMPLETE INSTALLATION. SEE DWG. NO. BR-46-7 FOR NOTES AND DETAILS.

⑫ INCLUDES ALL COSTS TO PERFORM CONCRETE SPALL REPAIR USING CEMENTITIOUS PATCHING MATERIAL. FOR NOTES AND DETAILS, SEE DWG. NO. BR-46-10.

⑬ INCLUDES ALL COSTS ASSOCIATED WITH EPOXY INJECTED CRACK REPAIRS FOR LOCATIONS DETERMINED ON SITE BY ENGINEER. FOR NOTES AND DETAILS, SEE DWG. NO. BR-46-8.

⑭ INCLUDES ALL COSTS FOR INSTALLING DECK SEALER (HMWM) AT CONSTRUCTION JOINTS IN THE POLYMER MODIFIED CONCRETE DECK OVERLAY, INCLUDING DECK SURFACE PREPARATION, CLEANING, LABOR, SAND AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE JOINTS, ACCORDING TO MANUFACTURER'S SPECIFICATIONS. THIS ITEM DOES NOT INCLUDE THE COST FOR FURNISHING THE DECK SEALER (HMWM). SEE SPECIAL PROVISION 604CR.

⑮ INCLUDES ALL COSTS FOR FURNISHING THE SEALER MATERIAL (HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE) FOR SEALING OVERLAY CONSTRUCTION JOINTS.

⑯ INCLUDES ALL COSTS ASSOCIATED WITH PLACING AND FINISHING OF POLYMER MODIFIED CONCRETE (PMC) OVERLAY. FOR NOTES AND DETAILS, SEE DWG. NO. BR-46-8, TN DOT STANDARD SPECIFICATION AND SPECIAL PROVISION 619A.

⑰ THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLES WOULD BE A QUAD-GUARD OR A REACT 350. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS LISTED ON THE MANUFACTURER'S BILL OF MATERIALS. SHOP DRAWINGS OF THE PORTABLE ENERGY TERMINALS MUST BE SUBMITTED TO AND APPROVED BY THE DIVISION OF STRUCTURES PRIOR TO INSTALLATION.

⑱ INCLUDES ALL COSTS FOR FURNISHING INTERCONNECTED PORTABLE BARRIER RAIL FOR PHASE 1 & PHASE 2. PRICE BID SHALL INCLUDE ALL COSTS FOR RELOCATING AND REUSING THE INTERCONNECTED PORTABLE BARRIER RAIL FROM PHASE 1 TO PHASE 2.

⑲ INCLUDES ALL COSTS FOR FURNISHING AND INSTALLING VP-1L AND VP-1R VERTICAL PANELS MOUNTED ON THE INTERCONNECTED PORTABLE CONCRETE BARRIER RAIL (16 SIGNS VP-1L AND 16 SIGNS VP-1R). FOR NOTES AND DETAILS, SEE STD. DWG. NO. T-PBR-2. FOR LOCATIONS SEE SHEETS 6 & 7, TRAFFIC CONTROL PLAN.

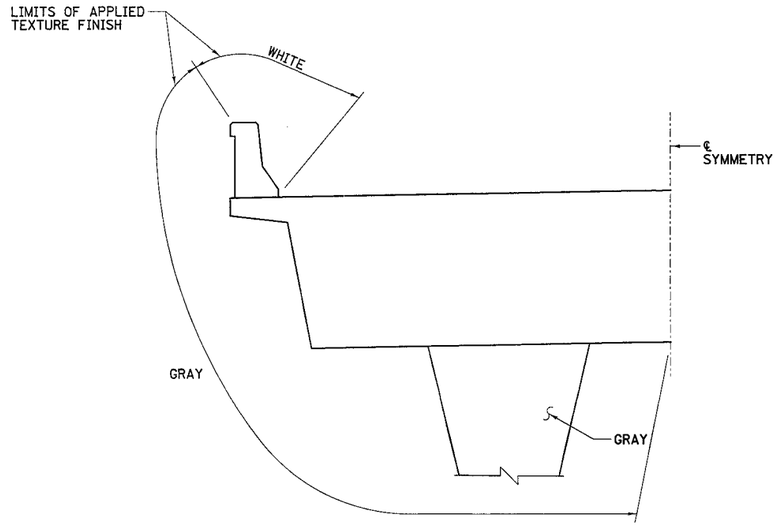
⑳ INCLUDES ALL COSTS FOR FURNISHING, PLACING, REMOVING AND DISPOSAL OF REMOVABLE PAVEMENT MARKING. SEE TRAFFIC CONTROL SHEETS 6 & 7 AND DWG. NO. BR-46-10 FOR NOTES AND DETAILS.

㉑ MESSAGE BOARD SIGN TO BE LOCATED BY ENGINEER PRIOR TO I-40/I-240 INTERSECTIONS.

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/00	AJK	ADDED 4TH WEEKEND



IN ADDITION TO THE ABOVE SURFACES, ALL EXPOSED SURFACES OF ABUTMENTS, WINGWALLS, WINGPOSTS AND MEDIAN SHALL RECEIVE A TEXTURE COATED FINISH.

NOTES:

THE CONTRACTOR SHALL CLEAN ALL SURFACES TO RECEIVE APPLIED TEXTURE COATING. ALL CLEANING SHALL BE SATISFACTORY TO THE ENGINEER PRIOR TO APPLYING THE TEXTURE COATING.

THE APPLIED TEXTURE FINISH COLOR FOR BRIDGE SHALL BE SIMILAR TO MOUNTAIN GRAY, FEDERAL SPECIFICATIONS NO. 36440, FEDERAL COLOR STANDARD 595B, EXCEPT THAT THE INSIDE FACE AND TOP OF THE PARAPET SHALL BE WHITE, FEDERAL SPECIFICATION NO. 37886. A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. A LIST OF APPROVED TEXTURE COATINGS MAY BE OBTAINED FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION DIVISION OF MATERIALS AND TESTS.

NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT BRIDGE SITE.

COSTS ASSOCIATED WITH CLEANING, FURNISHING AND APPLYING TEXTURE COATING AND ALL LABOR AND NECESSARY MATERIALS SHALL BE INCLUDED IN ITEM NO. 604-04.02, APPLIED TEXTURE FINISH (EXISTING STRUCTURE), S.Y.

SEE SHEETS 4 & 5 FOR TRAFFIC CONTROL FOR TEXTURE COATING AND TIME RESTRICTIONS.

THE CONTRACTOR SHALL MASK SEISMIC RESTRAINTS, SIGNS AND ALUMINUM BRIDGE RAILING PRIOR TO TEXTURE COATING.

CONSTRUCTION SEQUENCE AND TIME LIMITATIONS FOR TEXTURE COATING

THE CONTRACTOR SHALL TEXTURE COAT THE BRIDGES ON WEEKENDS ONLY AS FOLLOWS:

WEEKEND 1

THE CONTRACTOR SHALL CLOSE THE RIGHT SIDE OF EAST BOUND I-40 UNDER BRIDGES 79-2819-4.93 (MCLEAN BLVD) AND 79-4186-2.11 (HIGHLAND STREET) AS PER SHEETS 4 & 5 AND COMPLETE TEXTURE COATING ON THAT SECTION OF THE BRIDGES OVER THE RIGHT SIDE CLOSURES.

WEEKEND 2

THE CONTRACTOR SHALL CLOSE THE LEFT SIDE OF EAST BOUND I-40 UNDER BRIDGES 79-2819-4.93 (MCLEAN BLVD) AND 79-4186-2.11 (HIGHLAND STREET) AS PER SHEETS 4 & 5 AND COMPLETE TEXTURE COATING ON THAT SECTION OF THE BRIDGES OVER THE LEFT SIDE CLOSURES.

⚠ WEEKENDS 3 & 4

THE CONTRACTOR SHALL COMPLETE THE ABOVE SEQUENCE ON WEST BOUND I-40.

SPECIAL NOTE CONCERNING PLACEMENT OF THE POLYMER MODIFIED CONCRETE (PMC) OVERLAY

THE POLYMER MODIFIED CONCRETE (PMC) OVERLAY SHALL BE PLACED ONLY DURING NIGHT-TIME HOURS. EXCEPT WHEN SPECIFICALLY AUTHORIZED BY THE ENGINEER. NIGHT-TIME HOURS SHALL BE DEFINED AS THE TIME BETWEEN SUNSET AND SUNRISE. STRICT ADHERENCE TO CURING THE PMC OVERLAY AS PER TENNESSEE DOT STANDARD SPECIFICATIONS SHALL BE MAINTAINED.

TERRY L. JOHNSON — REGISTERED ENGINEER — AGRICULTURAL — No. 23125 — STATE OF TENNESSEE — 6/12/00

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED QUANTITIES

MCLEAN BLVD. OVER I40/I240
BRIDGE NO. 79-2819-4.93

HIGHLAND STREET OVER I40/I240
BRIDGE NO. 79-4186-2.11

SHELBY COUNTY
2000

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

L:/1997/972923/DRAWINGS/SHEL-02.DGN 6/9/00

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	3

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 1995 EDITION).

DESIGN SPECIFICATIONS: AASHTO 1992 EDITION WITH ADDENDA.

REINFORCING STEEL: SEE THE STANDARD SPECIFICATIONS.

CONCRETE: TO BE CLASS "A" CONCRETE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A, SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES.

HIGHE EARLY STRENGTH CONCRETE: THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER-TO-CEMENT RATIO SHALL BE A MIXIMUM OF 0.40. NO FLY ASH REPLACEMENT WILL BE PERMITTED AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 PSI.

BRIDGE DECK SURFACE FINISH: SHALL BE IN ACCORDANCE WITH METHOD (c) IN THE SUBSECTION 604.23 OF THE STANDARD SPECIFICATIONS.

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

NON-PAY ITEMS: ONLY ITEMS SHOWN ON THE PROPOSAL AS PAY ITEMS WILL BE PAID FOR. COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS FOR THE ENTIRE CONTRACT SHALL BE INCLUDED IN THE PRICE FOR THE PAY ITEMS.

GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND BAR DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.

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

GROUT: GROUT SHALL BE A PORTLAND CEMENT TYPE IN ACCORDANCE WITH STANDARD SPECIFICATION 918.21-GROUT.

POLYMER MODIFIED CONCRETE: SEE THE STANDARD SPECIFICATIONS.

RIDEABILITY OF BRIDGE DECK: TO BE IN ACCORDANCE WITH ARTICLE 604-28 OF THE STANDARD SPECIFICATIONS.

SUGGESTED LATEX MODIFIED CONCRETE CURING PROCEDURES

COVER THE OVERLAY PROMPTLY WITH A SINGLE LAYER OF WET BURLAP. NEW BURLAP, EVEN WHEN PRESOAKED, CAN DRY OUT QUICKLY AND SHOULD BE AVOIDED OR PRESOAKED FOR SEVERAL DAYS. IT MAY REQUIRE THE BURLAP TO BE WET, LET DRY OUT, AND THIS PROCEDURE REPEATED SEVERAL TIMES TO ALLOW TOTAL ABSORPTION. USE WHITE VISQUEEN (PLASTIC) TO COVER THE WET BURLAP DURING THE OVERLAY IN HOT WEATHER.

PLACE THE WET BURLAP ON THE OVERLAY AS SOON AS POSSIBLE. CONSISTENTLY SPRAY A MIST OF WATER OVER THE BURLAP BEFORE IT IS COVERED WITH WHITE VISQUEEN (PLASTIC), HOWEVER, SPRAYING THE BURLAP WITH WATER BEFORE COVERING WITH WHITE VISQUEEN (PLASTIC) SHOULD NOT BE EXCESSIVE TO THE POINT THE WATER IS DAMAGING THE FRESH OVERLAY SURFACE.

THE WHITE VISQUEEN (PLASTIC) SHOULD BE PULLED, PLACED AND KEPT WITHIN TEN TO THIRTY FEET OF THE FRONT COVER OF BURLAP. THESE DISTANCES SHOULD BE ADJUSTED BASED ON THE WEATHER CONDITIONS AT THE TIME OF PLACEMENT. SECURE THE PLASTIC SO IT WILL NOT BLOW OFF THE BURLAP DURING THE WET CURE. MINIMIZING THE NUMBER OF SEAMS IN THE PLASTIC IS BEST SUITED FOR WRING AND EASIER TO SECURE.

SECURE THE PLASTIC BY USING THE RAILS, ROLLING OVER THE EDGES OF WET BURLAP ONTO THE PLASTIC, LAYING FOLDED WET BURLAP TRANSVERSELY ACROSS THE DECK OR BY KEEPING WATER ON THE SURFACE OF THE PLASTIC. SEAL THE PLASTIC TO AVOID THE WIND FROM PUFFING UP THE PLASTIC DURING THE WET CURE. EXERCISE CAUTION WHEN WETTING DOWN THE SURFACE OF THE PLASTIC SO AS NOT TO ALLOW THE WATER TO RUN INTO THE OVERLAY BEING PLACED.

DURING HOT SUMMER OVERLAYS, SOAKER HOSES SHOULD BE PLACED UNDER THE PLASTIC. THIS SHOULD BE DONE WHEN THE OVERLAY HAS SET LONG ENOUGH TO SUPPORT THE WEIGHT OF THE SOAKER HOSES AND AFTER THE OVERLAY PLACEMENT IS COMPLETED. USING THE COOLEST WATER POSSIBLE WILL GREATLY ENHANCE ALL THE PROCEDURES IN HOT WEATHER.

THE LATEX MODIFIED CONCRETE OVERLAYS SHALL BE POURED AT NIGHT (8:00 PM - 5:00 AM) UNLESS APPROVED OTHERWISE BY THE ENGINEER FOR THE BRIDGE INSPECTION AND REPAIR OFFICE.

FINAL PAVEMENT MARKING

THE CONTRACTOR SHALL USE THERMOPLASTIC PAVEMENT MARKING ON THE FINAL SURFACE, THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKING AFTER THE PAVING OPERATION IS COMPLETED. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-02.01, PLASTIC PAVEMENT MARKING (LINE) PER LIN. MI.

CONST. WORK ZONE TRAFFIC CONTROL

ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE (1) WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.

IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COST OF REMOVAL, COVERING AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY. BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06.10, NEW SIGNS (CONSTRUCTION), SQUARE FOOT.

A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS FLAGGER SIGNS, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK. THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK. THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

GUARDRAIL: CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIRMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETELY IN PLACE.

ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED AND THE CHANNELIZING DEVICES ARE TO BE IN PLACE BEFORE BEING OPENED TO TRAFFIC.

UTILITY NOTES

THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.

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

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

PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

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

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM , INC., AT 1-800-351-1111.

UNLESS OTHERWISE NOTIFIED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WERE CONSTRUCTION STAKES, LINES AND GRADES ARE A CONTRACT ITEM, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SLOPE STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK, AND AT ANY LOCATION OF THE PROJECT DIRECTED BY THE ENGINEER.

PAVEMENT - RESURFACING

THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

TERRY L. JOHNSON — REGISTERED ENGINEER — AGRICULTURAL — No. 23121 — STATE OF TENNESSEE — 5/11/00

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

MCLEAN BLVD. OVER I40
BRIDGE NO. 79-2819-4.93

HIGHLAND STREET OVER I40
BRIDGE NO. 79-4186-2.11

SHELBY COUNTY
2000

BR-46-4

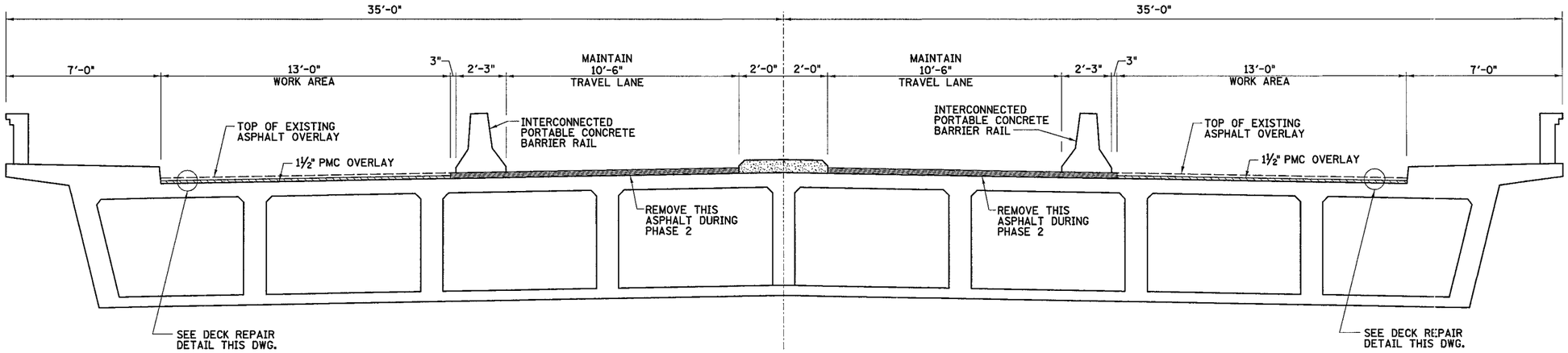
DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

L:/1997/972923/DRAWINGS/SHEL-03.DGN 5/10/00

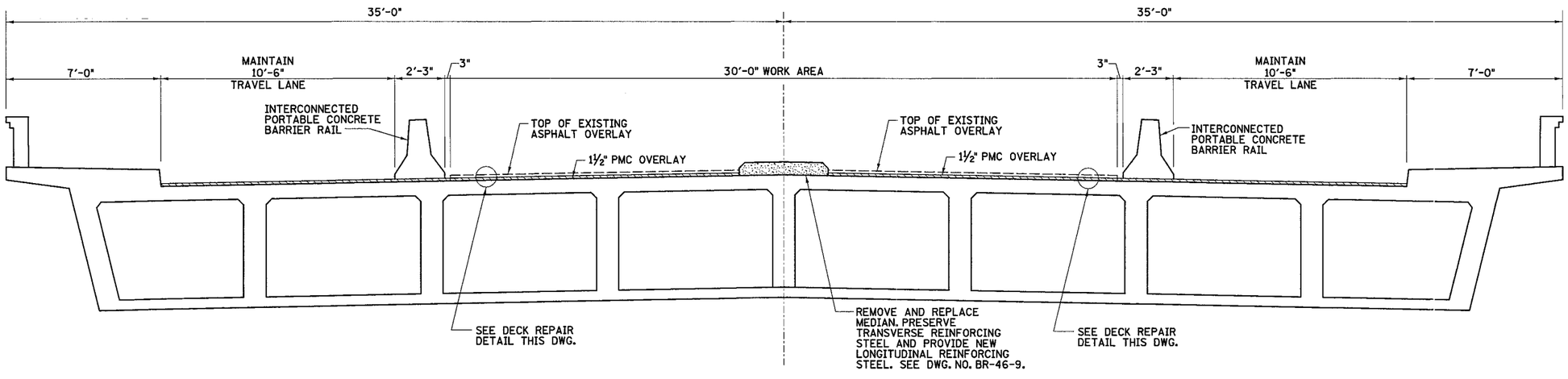
PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

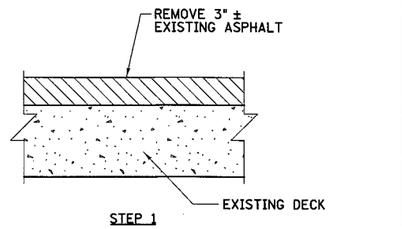
NO.	DATE	BY	BRIEF DESCRIPTION

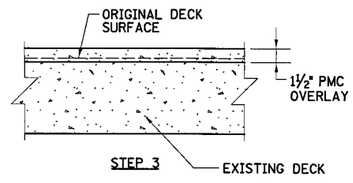


PHASE 1
REPAIR OUTSIDE LANES
SCALE: ⅜" = 1'-0"



PHASE 2
REPAIR INSIDE LANES AND MEDIAN
SCALE: ⅜" = 1'-0"





DECK REPAIR DETAIL
FOR NOTES AND DETAIL ON PMC OVERLAY, SEE DWG. NO. BR-46-8

PHASED CONSTRUCTION DETAILS

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY D. HIBBARD DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

TERRY L. JOHNSON REGISTERED ENGINEER AGRICULTURE CIVIL No. 23121 STATE OF TENNESSEE
5-14-00

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

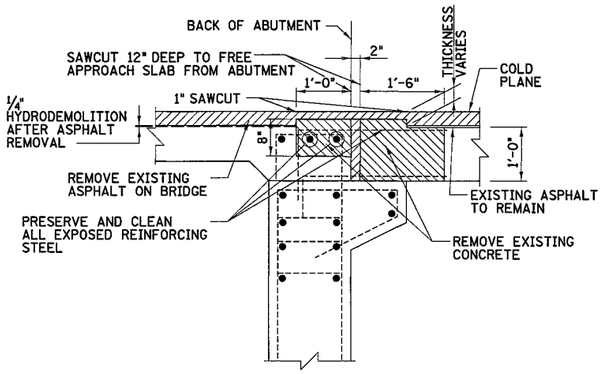
BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I-40
BRIDGE NO. 79-2819-4.93

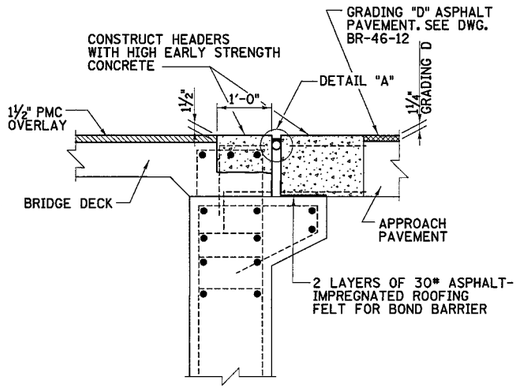
SHELBY COUNTY
2000

BR-46-5

L:/1997/972923/DRAWINGS/SHEL-10.DGN 5/9/00



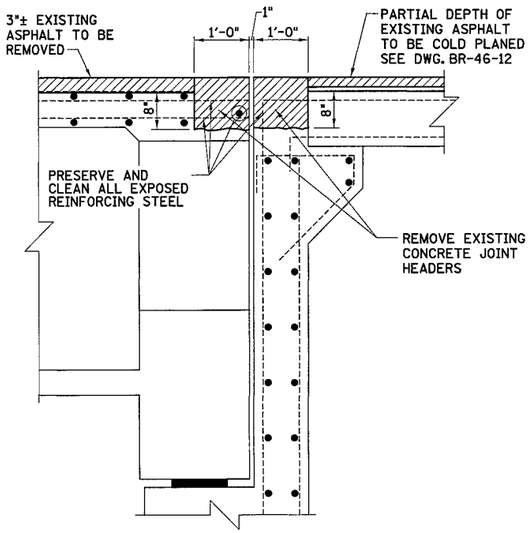
DEMOLITION
SCALE: 3/4" = 1'-0"



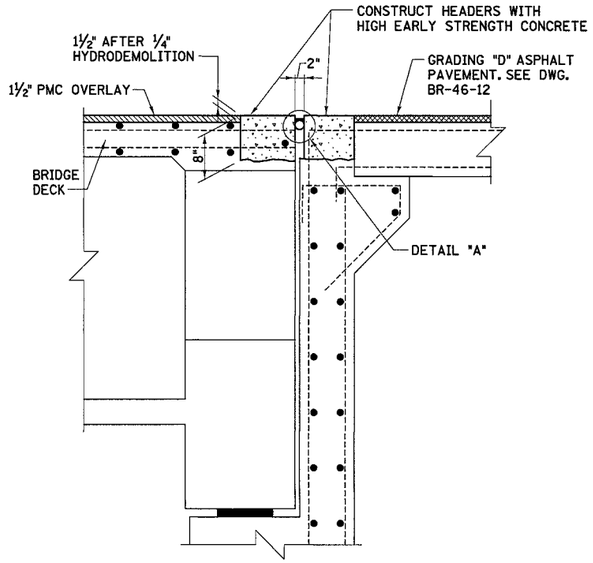
INSTALLATION
SCALE: 3/4" = 1'-0"

EXPANSION JOINT REPAIR

HIGHLAND



DEMOLITION
SCALE: 3/4" = 1'-0"



INSTALLATION
SCALE: 3/4" = 1'-0"

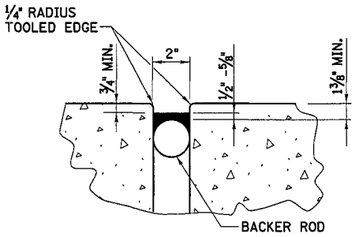
EXPANSION JOINT REPAIR

MCLEAN

DESIGNED BY	A.J. KHAIRI	DATE	MAR. 2000
DRAWN BY	K. KYZER	DATE	MAR. 2000
SUPERVISED BY	T. JOHNSON	DATE	MAR. 2000
CHECKED BY	T. JOHNSON	DATE	MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

L:/1997/972923/DRAWINGS/SHEL-12.DGN 5/10/00



DETAIL "A"
(EXPANSION JOINT DIAGRAM)

NOTES:

EXPANSION GAP WILL CHANGE AT OTHER TEMPERATURES AND THE CONTRACTOR MUST COMPENSATE FOR JOINT MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. NO INCREASE IN THE UNIT BID PRICE WILL BE ALLOWED.

THE DEPTH OF THE JOINT POURED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. FOR PROPER INSTALLATION THE PAVEMENT AND AIR TEMPERATURE SHALL BE 40° F AND RISING AND MUST NOT FALL BELOW 40°F PRIOR TO COMPLETE CURE OF THE SEALANT.

THE SEALANT THICKNESS PLACED SHALL BE CHECKED PRIOR TO CURING AT A MINIMUM OF THREE LOCATIONS ACROSS A TWELVE FOOT LENGTH OF JOINT TO ASSURE PROPER THICKNESS.

COST OF INSTALLING NEW EXPANSION JOINT, SAW CUTTING, CLEANING EXPOSED REINFORCING STEEL, BACKER ROD, JOINT SEALER, CONCRETE REMOVAL HIGH EARLY STRENGTH CONCRETE, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO INSTALL. THE NEW EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.44, EXPANSION JOINT REPAIRS, L.F.

HIGHLAND

MCLEAN

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

GENERAL NOTES:

ITEM NO. 604-10.44, EXPANSION JOINT REPAIR (L.F.):

JOINT SYSTEM INCLUDES FURNISHING ALL MATERIAL AND EQUIPMENT AND COMPLETE INSTALLATION AS SHOWN ON THIS DRAWING AND THE MANUFACTURER'S SPECIAL PROVISIONS. THE JOINT SEALANT SYSTEM CONSISTS OF A SURFACE PRIMER; A SELF-LEVELING OR NON-SAG SEALANT AND BACKER MATERIAL. DETAILED SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION. THE MANUFACTURER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORKMANSHIP AND PERFORMANCE OF THE INSTALLED JOINT.

JOINT SEALANT:

THE JOINT SEALANT WILL BE A POURABLE, COLD APPLIED (TWO COMPONENT) RAPID-CURING, SELF LEVELING MATERIAL WHEN INSTALLED ON GRADES LESS THAN OR EQUAL TO 3% ALONG THE CENTERLINE OF THE JOINT. JOINT SEALANTS USED IN CONJUNCTION WITH OTHER MANUFACTURER APPROVED COMPONENTS COMPRISING ANOTHER MANUFACTURER'S JOINT SEALANT SYSTEM WILL MEET THE REQUIREMENTS OF THESE SPECIFICATIONS. PRIOR TO PREPARING THE JOINT SEALANT, THE MANUFACTURER'S REPRESENTATIVE WILL BE CONSULTED TO ESTABLISH THE USABLE POT LIFE OF THE MATERIAL TO THE MIXED CONSIDERING THE AMBIENT TEMPERATURE AT THE TIME OF MIXING. WHEN MIXING HAS BEEN COMPLETED THE AGE OF THE MIXTURE WILL BE TIMED AND THE MATERIAL WILL BE DISCARDED WHEN THE MANUFACTURER'S PREDICTED POT LIFE HAS BEEN EXCEEDED. IF AT ANY POINT IN THE TIME DURING THE INSTALLATION OF JOINT SEALANT THE MANUFACTURER'S REPRESENTATIVE DETERMINES THAT THE MIXED JOINT SEALANT HAS CURED TO A POINT WHERE IT CAN NOT BE PROPERLY INSTALLED IT WILL BE DISCARDED.

SURFACE PRIMER:

THE JOINT SEALANT MUST BE APPLIED TO HIGH EARLY CONCRETE SURFACES WITH THE USE OF A SPECIAL PRIMER FOR EACH APPLICATION. THE VERTICAL FACES OF THE JOINT RECEIVING SURFACE PRIMER ARE TO BE FREE OF DUST PARTICLES, MOISTURE, CILS AND LAITANCE AT THE TIME THE SURFACE PRIMER IS APPLIED. PER THE MANUFACTURER'S REQUIREMENT, THE SURFACE PRIMER SHALL BE FULLY CURED BEFORE THE JOINT SEALANT IS INSTALLED. THE MANUFACTURER'S APPROVAL AND INSTALLATION PROCEDURES FOR A SPECIAL PRIMER MUST BE GIVEN TO THE PROJECT ENGINEER IN WRITING BEFORE THE PRIMER IS INSTALLED.

BACKER ROD:

THE BACKER ROD SHALL BE A CLOSED CELL, NON-GASSING FOAM MATERIAL CAPABLE OF WITHSTANDING ELEVATED TEMPERATURES RESULTING FROM THE REACTION OF THE TWO COMPONENT SEALANT THAT MAY OCCUR. THE MATERIAL TYPE IS TO BE APPROVED BY THE JOINT SEALANT SYSTEM MANUFACTURER AND TESTED IN ACCORDANCE WITH ASTM D545. A LETTER OF CERTIFICATION SHALL BE ISSUED TO TDOT MATERIALS AND TESTS DIVISION BY THE MANUFACTURER WITH EACH DELIVERY OF MATERIAL ON THE SITE. THE FIRST SHIPMENT SHALL INCLUDE A COPY OF THE MANUFACTURER'S QUALITY ASSURANCE PROGRAM LISTING ALL TESTING CRITERIA.

HIGH EARLY STRENGTH CONCRETE

THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A" EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAYS COMPRESSIVE STRENGTH SHALL BE 3500 P.S.I. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 P.S.I. MINIMUM.

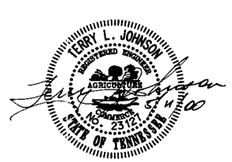
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

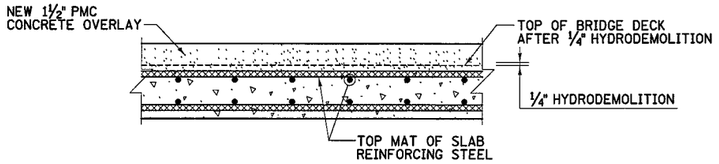
MCLEAN BLVD. OVER I40
BRIDGE NO. 79-2819-4.93

HIGHLAND STREET OVER I40
BRIDGE NO. 79-4186-2.11

SHELBY COUNTY
2000



BR-46-7



DETAIL SHOWING CONCRETE OVERLAY

N.T.S.

NOTES REGARDING POLYMER MODIFIED CONCRETE (PMC) OVERLAY

1. ALL COST ASSOCIATED WITH PLACEMENT AND FINISHING OF POLYMER MODIFIED CONCRETE (PMC) OVERLAY IN ACCORDANCE WITH STANDARD SPECIFICATIONS INCLUDING ANY TOOLS, LABOR, EQUIPMENT OR INCIDENTALS SHALL BE INCLUDED UNDER ITEM NO. 619-01 BRIDGE DECK OVERLAY (PMC), S.Y.

NOTES REGARDING HYDRODEMOLITION

1. THE REMOVAL OF TOP ¼" OF BRIDGE DECK CONCRETE SHALL BE DONE USING HYDRODEMOLITION EQUIPMENT (SELF-PROPELLED MACHINE THAT UTILIZES HIGH WATER PRESSURE). ROTOMILLING OF EXISTING CONCRETE DECK PRIOR TO HYDRODEMOLITION WILL NOT BE ALLOWED. PNEUMATIC HAMMERS, 35 POUND CLASS MAXIMUM, MAY BE USED IN AREAS THAT ARE INACCESSIBLE OR INCONVENIENT TO THE SELF-PROPELLED MACHINE SUCH AS, BUT NOT LIMITED TO, AREAS NOT TO EXCEED ONE FOOT AWAY FROM CURBS OR PARAPETS.

2. PRIOR TO THE COMMENCEMENT OF THE REMOVAL OPERATION, THE HYDRODEMOLITION EQUIPMENT SHALL BE CALIBRATED ON AN AREA OF SOUND CONCRETE APPROXIMATELY 2 FT X 5 FT AS DIRECTED BY THE ENGINEER. THE REQUIRED DEPTH OF REMOVAL SHALL BE VERIFIED PERIODICALLY AND, IF NECESSARY, THE EQUIPMENT WILL BE RE-CALIBRATED TO INSURE THE REQUIRED DEPTH OF REMOVAL. THE CALIBRATION PROCESS WILL BE INCLUDED UNDER ITEM NO. 604-10.20 HYDRODEMOLITION, S.Y.

3. WASTE WATER FROM THE HYDRODEMOLITION PROCESS SHALL BE CONTROLLED AND FILTERED TO PRODUCE A VISIBLY CLEAR WATER PRIOR TO RELEASING IT TO SURROUNDING ENVIRONMENT. SEDIMENT BASINS AT THE END OF OR OUTSIDE OF THE STRUCTURE SHALL BE USED IF FURTHER FILTRATION IS REQUIRED TO PRODUCE VISIBLY CLEAR WATER. BRIDGE DECK DRAINS SHALL BE PLUGGED DURING HYDRODEMOLITION PROCESS.

4. AFTER HYDRODEMOLITION IS APPLIED, CLEANING OF THE BRIDGE DECK SHALL BE PERFORMED WITH A VACUUM SYSTEM CAPABLE OF REMOVING WET DEBRIS AND WATER. CLEANING SHALL BE DONE BEFORE DEBRIS AND WATER IS ALLOWED TO DRY ON DECK. ALL EXPOSED REINFORCING STEEL WHICH IS LEFT UNSUPPORTED BY HYDRODEMOLITION PROCESS SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM BENDING BY VACUUM TRUCK OR ANY OTHER EQUIPMENT. ALL REINFORCING STEEL DAMAGED OR DISLODGED BY THESE OPERATIONS SHALL BE REPLACED WITH EPOXY COATED BARS OF THE SAME SIZE AT THE EXPENSE OF CONTRACTOR.

5. THE FINISH SURFACE SHALL MATCH EXISTING SURFACE SLOPE (NORMAL CROWN WITH 0.018 FOOT PER FOOT SLOPE).

6. ALL COSTS ASSOCIATED WITH HYDRODEMOLITION, INCLUDING ALL MATERIAL AND LABOR NECESSARY TO REMOVE AND DISPOSE OF ALL CONCRETE AND OTHER DEBRIS TO A ¼" MINIMUM DEPTH, INCLUDING ROTOMILLING, VACUUMING, SHIELDING, CONTAINMENT, FILTRATION OF WASTE WATER, ADDITIONAL JACKHAMMERING, AND ALL OTHER ASPECTS OF WORK NECESSARY TO REMOVE TOP ¼" MINIMUM OF BRIDGE DECK CONCRETE BY HYDRODEMOLITION SHALL BE INCLUDED UNDER ITEM NO. 604-10.20, HYDRODEMOLITION, S.Y.

7. SEE ALSO SPECIAL PROVISION 604H

HIGHLAND

MCLEAN

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

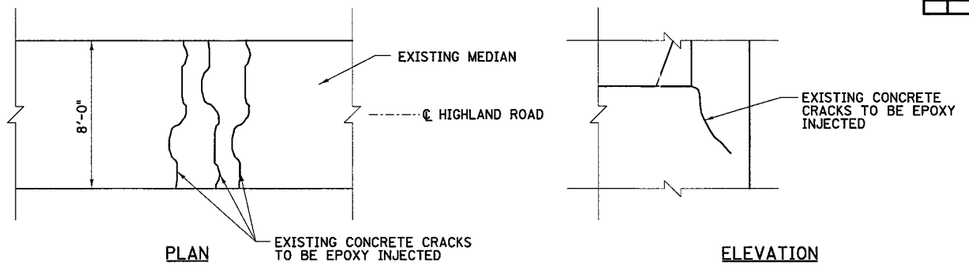
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

L:/1997/972923/DRAWINGS/SHEL-13.DGN 5/10/00

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PLAN

ELEVATION

EPOXY INJECTION FOR MEDIAN CRACK REPAIR

EPOXY INJECTION FOR VERTICAL CRACKS

NOTES:

ALL CRACKS SMALLER THAN 1/4" SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE. ALL CRACKS 1/4" OR LARGER SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE OF THE GEL TYPE.

EXTREME CAUTION SHALL BE TAKEN WHEN SELECTING A PRESSURE NECESSARY TO COMPLETE THE EPOXY INJECTION CRACK REPAIR SO AS NOT TO DAMAGE THE STRUCTURE BY CAUSING ADDITIONAL CRACKING. IF ADDITIONAL DAMAGE OCCURS, THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY. ALL EPOXY INJECTION WORK SHALL MEET WITH THE FULL APPROVAL OF THE ENGINEER.

ALL EPOXY INJECTION CONTRACTORS AND/OR SUBCONTRACTORS SHALL BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.

AFTER EPOXY INJECTION IS COMPLETE, ALL INJECTION PORTS SHALL BE REMOVED AND ALL EXCESS SEALING MATERIAL AND EPOXY SHALL BE REMOVED FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

CRACK LOCATIONS SHOWN THIS SHEET ARE APPROXIMATE ONLY. THE ENGINEER FROM THE STRUCTURES DIVISION, BRIDGE INSPECTION AND REPAIR WILL MAKE EXACT CRACK LOCATIONS TO RECEIVE EPOXY INJECTION.

THE ENGINEER SHALL COLLECT RANDOM SAMPLES OF THE EPOXY RESIN FOR EVALUATION BY THE MATERIALS AND TEST DEPARTMENT, DEPARTMENT OF TRANSPORTATION, FOR VERIFICATION OF THE STRENGTH AND QUALITY OF THE MATERIAL.

IF THE CRACKS ARE NOT FULLY SEALED OR THE STRENGTH REQUIRMENTS ARE NOT MET, THEN REDUCTION IN PAYMENT DETERMINED BY THE ENGINEER WILL BE MADE TO THE CONTRACTORS BID PRICE OF ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE), L.F.

THE ENGINEER FROM THE STRUCTURES DEVISION, BRIDGE INSPECTION AND REPAIR OFFICE SHALL DESIGINATE FOUR (4) RANDOM LOCATIONS WERE THE CRACKS HAVE BEEN EPOXY INJECTED FOR THE CONTRACTOR TO CORE. THE ONE (1) INCH DIAMETER CORES WILL BE IMMEDIATELY TURNED OVER TO THE ENGINEER FOR INSPECTION AND TO VERIFY FULL SEALING OF THE CRACKS. COST OF CORING SHALL BE INCLUDED IN ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE), L.F.

COST OF ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE EPOXY INJECTION REPAIRS TO EXISTING CONCRETE CRACKS SHALL BE INCLUDED UNDER ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE) L.F. ITEM NO. 604-10.62 SHALL BE BID SUCH THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

HIGHLAND

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

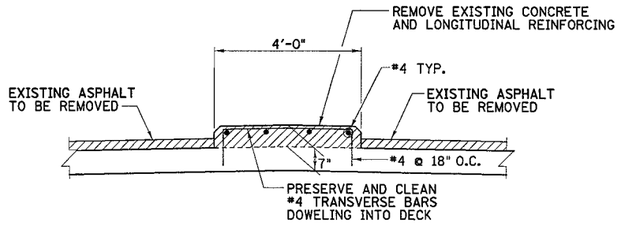
BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I40
BRIDGE NO. 79-2819-4.93

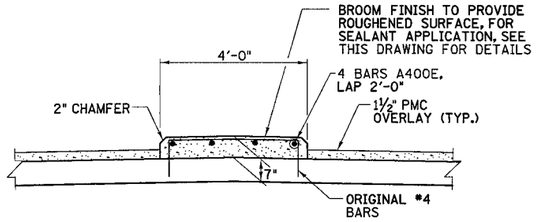
HIGHLAND STREET OVER I40
BRIDGE NO. 79-4186-2.11

SHELBY COUNTY
2000

BR-46-8



DEMOLITION



CONSTRUCTION

MEDIAN REPLACEMENT DETAILS

SCALE: ½" = 1'-0"

NOTE:

WHEN REMOVING THE EXISTING MEDIAN CONCRETE, CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE EXISTING TRANSVERSE REINFORCING STEEL DOWELING INTO THE SLAB. THE LONGITUDINAL STEEL SHALL BE REMOVED.

THE TRANSVERSE REINFORCING STEEL TO REMAIN SHALL BE CLEANED AND INCORPORATED INTO THE NEW MEDIAN.

THE COST OF REMOVING THE EXISTING MEDIAN CONCRETE, REMOVING EXISTING LONGITUDINAL REINFORCING STEEL, FORMING, HIGH EARLY STRENGTH CONCRETE AND ALL MATERIALS AND LABOR NECESSARY FOR THE MEDIAN REPLACEMENT SHOWN IN THESE DETAILS SHALL INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

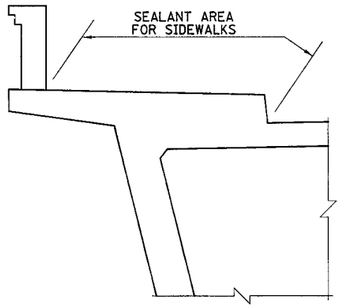
COST OF EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED IN ITEM NO. 604-10.18, REINFORCING STEEL (REPAIRS), LB.

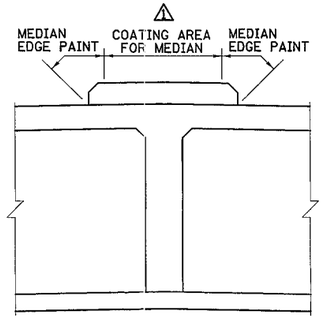
DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

MCLEAN

L:/1997/972923/DRAWINGS/SHEL-14.DGN 5/12/00





SEALANT COVERAGE DETAIL

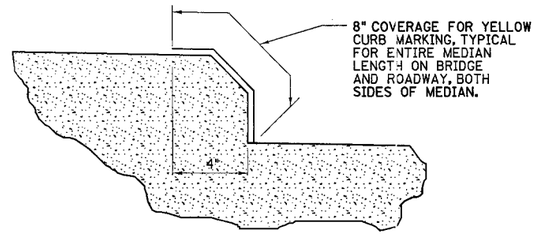
PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
⚠1	6/12/00	AJK	ADDED NOTES

⚠NOTE:

DO NOT APPLY COATING TO AREAS TO RECEIVE YELLOW EDGE MARKING.



MEDIAN EDGE PAINT DETAIL

NOTES:

SAND BLAST OR WATER BLAST EXISTING SIDEWALK AND MEDIAN TO PROVIDE CLEAN AND ROUGHENED SURFACE BEFORE APPLYING SIDEWALK AND MEDIAN COATING, AND TO REMOVE YELLOW COATING ON MEDIAN EDGES.

THE NEW CONCRETE SURFACE OF THE MEDIAN SHALL RECEIVE A BROOM FINISH TO PROVIDE A ROUGHENED SURFACE BEFORE APPLYING COATING.

THE SIDEWALK AND MEDIAN COATING SHALL BE MASTER BUILDERS RE39. A FLEXIBLE, CEMENTITIOUS COATING FOR WATERPROOFING AND PROTECTION, APPLIED IN TWO COATS IN STRICT CONFORMANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

ALL WORK SHALL MEET WITH THE FULL APPROVAL OF ENGINEER.

ALL COSTS ASSOCIATED WITH SAND OR WATER BLAST CLEANING, FURNISHING COATING MATERIALS, LABOR, AND ANY NECESSARY MATERIALS SHALL BE INCLUDED IN ITEM NO. 604-10.43, PENETRATING WATER REPELLENT CONCRETE SEAL, S.Y.

THE CONCRETE MEDIAN ON THE APPROACH ROADWAYS SHALL ALSO RECEIVE THE PREPARATION AND COATING,
HIGHLAND ROAD: APPROX. 1,500 L.F. ON ROADWAY APPROACHES
MCLEAN BLVD.: APPROX. 1,255 L.F. ON ROADWAY APPROACHES

ALL COSTS ASSOCIATED WITH MARKING THE MEDIAN EDGES SHALL BE PAID FOR UNDER ITEM NO. 716-02.01, PAINTED PAVEMENT MARKING (LINE), L.F. THE EDGE PAINTING BE MEASURED AT THE RATE OF TWO LINEAR FEET OF 4" LINE PER LINEAR FOOT OF MEDIAN EDGE.

MCLEAN

HIGHLAND

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I40/I240
BRIDGE NO. 79-2819-4.93

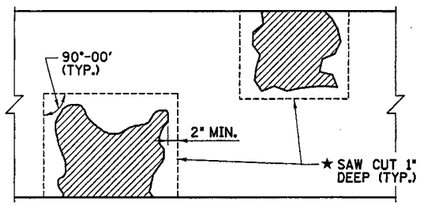
HIGHLAND STREET OVER I40/I240
BRIDGE NO. 79-4186-2.11

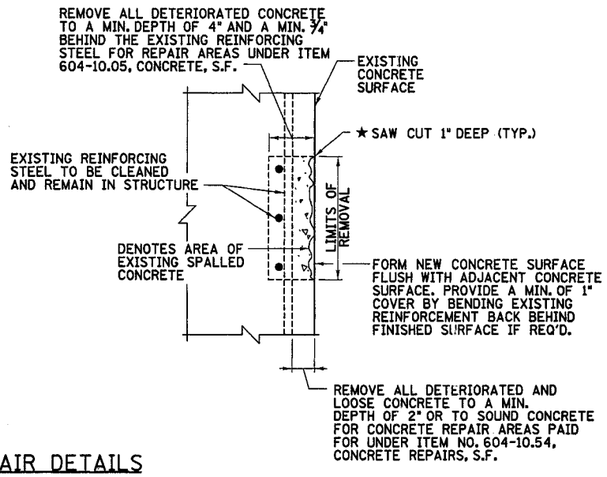
SHELBY COUNTY
2000

BR-46-9

DENOTES AREA OF EXISTING SPALLED CONCRETE

★ SAW CUT EXISTING CONCRETE 1" DEEP SO AS TO OBTAIN A RECTANGULAR AREA. ALL EXISTING REINFORCEMENT SHALL BE CAREFULLY PRESERVED AND BLAST CLEANED.





SPALL SURFACE REPAIR DETAILS

NOTES FOR ITEM NO. 604-10.54:

THE COST OF SAW CUTTING, REMOVING SPALLED OR CRACKED CONCRETE BLAST CLEANING, PATCHING MATERIAL, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

PATCHING MATERIAL SHALL BE A POLYMER-MODIFIED CEMENTITIOUS STRUCTURAL PATCHING VERTICAL AND OVERHEAD MATERIAL. SEE T.D.O.T. QUALIFIED PRODUCTS LIST 13, SPEC. CATEGORY J, SUBLIST F FOR ACCEPTABLE PATCHING MATERIALS.

AFTER CONCRETE REMOVAL OF THE 2" DEPTH HAS TAKEN PLACE, THE ENGINEER SHALL HAVE THE OPTION TO REMOVE ADDITIONAL CONCRETE DEPTH AND SHALL DESIGNATE THIS AREA TO BE REPAIRED AND PAID FOR UNDER ITEM NO. 604-10.05 INSTEAD OF UNDER ITEM NO. 604-10.54.

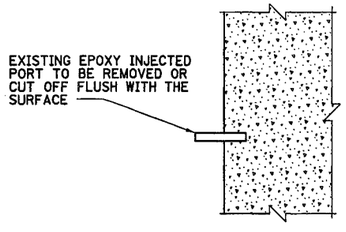
ITEM NO. 604-10.54 SHALL BE BID SUCH THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

☞ ALL AREAS TO BE REPAIRED ARE TO BE MARKED BY THE ENGINEER FROM THE BRIDGE INSPECTION AND REPAIR OFFICE.

NOTES FOR ITEM NO. 604-10.05:

COST OF CUTTING, REMOVING SPALLED OR CREACKED CONCRETE, BLAST CLEANING, CONCRETE, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO. 604-10.05, CONCRETE, S.F.

CONCRETE SHALL BE CLASS "A" CONCRETE, f'c = 3000 PSI AT 28 DAY STRENGTH.



NOTE:

EXISTING EPOXY INJECTION PORTS PROTRUDING FROM THE SURFACE SHALL BE REMOVED FLUSH WITH OR BELOW THE CONCRETE SURFACE. ANY RESULTING HOLES SHALL BE PATCHED FLUSH WITH THE CONCRETE SURFACE WITH CEMENTITIOUS PATCHING MATERIAL.

CARE SHALL BE TAKEN TO NOT SPALL THE CONCRETE ADJACENT TO THE INJECTION PORT. ANY SPALLS CREATED BY THE CONTRACTOR SHALL BE REPAIRED IN ACCORDANCE WITH THE SPALL REPAIR DETAIL, INCLUDING 1" DEEP SAW CUTTING, AT NO COST TO THE STATE.

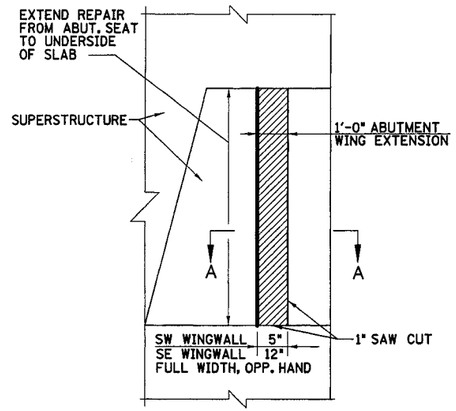
THE FINAL CONCRETE SURFACE, PRIOR TO TEXTURE COATING, SHALL BE SATISFACTORY TO THE ENGINEER.

ALL COSTS FOR LABOR AND MATERIALS FOR CUTTING OFF OR REMOVING APPROXIMATELY 14 EXISTING EPOXY INJECTION PORTS SHALL BE MEASURED AT THE QUANTITY OF 0.10 S.F. AND PAID FOR UNDER ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

REMOVE EXISTING EPOXY INJECTION PORTS

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

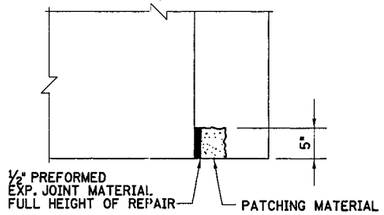
L:/1997/972923/DRAWINGS/SHEL-15.DGN 5/10/00



ELEVATION

NOTE:

THIS DETAIL SHOWS THE TYPICAL JOINT REPAIR BETWEEN THE SUPERSTRUCTURE AND WINGWALL ONLY. THERE WILL ALSO BE ADDITIONAL SPALL REPAIR IN THESE AREAS THAT WILL BE DELINEATED IN THE FIELD BY THE ENGINEER. PAYMENT WILL BE INCLUDED UNDER ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

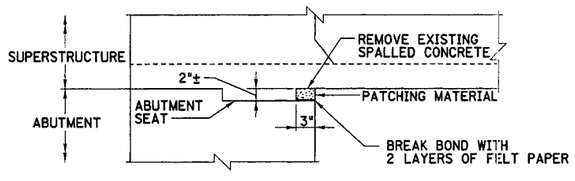


SECTION A-A

ABUTMENT WING EXTENSION REPAIR

SE AND SW CORNERS @ MCLEAN BLVD.

MCLEAN



AREA MEASURED FOR SPALL REPAIR SHALL BE .167 FEET (2") TIMES THE LENGTH DESIGNATED IN THE FIELD BY THE ENGINEER. PAYMENT WILL BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

SUPERSTRUCTURE BEARING SPALL REPAIR

HIGHLAND

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TERRY L. JOHNSON REGISTERED ENGINEER AGRICULTURE No. 23124 STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I40
BRIDGE NO. 79-2819-4.93

HIGHLAND STREET OVER I40
BRIDGE NO. 79-4186-2.11

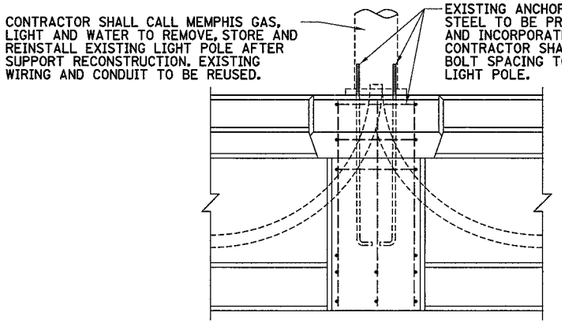
SHELBY COUNTY
2000

BR-46-10

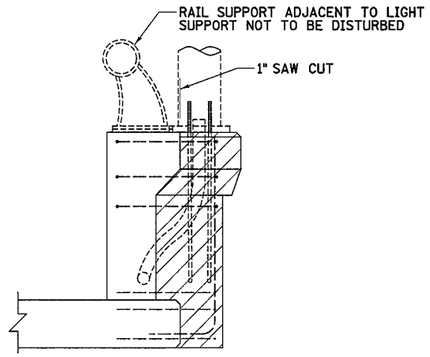
PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



ELEVATION



SECTION

DEMOLITION

SCALE: 1" = 1'-0"

NOTES:

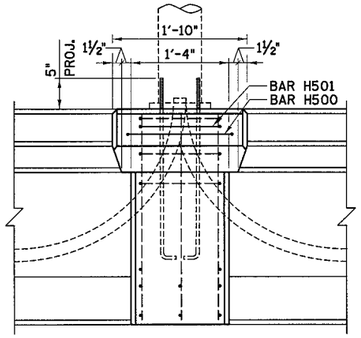
WHEN REMOVING EXISTING DETERIORATED CONCRETE, CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING REINFORCING STEEL IN THE LIGHT SUPPORT.

ALL EXISTING REINFORCING STEEL TO REMAIN IN THE LIGHT SUPPORT IS TO BE CLEANED AND INCORPORATED IN WITH NEW REINFORCING STEEL.

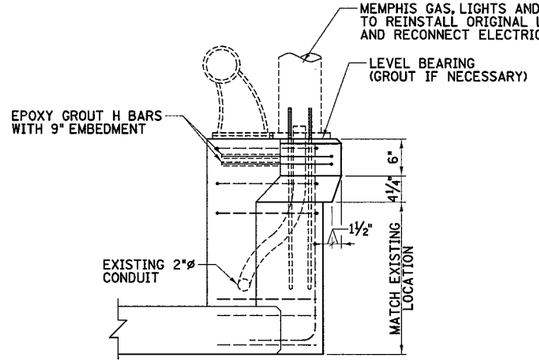
COST OF REMOVING EXISTING DETERIORATED CONCRETE, FORMING, HIGH EARLY STRENGTH CONCRETE, AND ALL MATERIALS AND LABOR NECESSARY FOR REPAIRS AS SHOWN IN THESE DETAILS TO BE INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

COST OF REINFORCING STEEL TO BE INCLUDED IN ITEM NO. 604-10.18, REINFORCING STEEL (REPAIRS), LBS.

ITEM NO. 604-10.42 SHALL BE BID SUCH THAT THESE ITEMS MAY BE INCREASED, DECREASED OR ELIMINATED BY THE ENGINEER.



ELEVATION



SECTION

REPLACE LIGHT SUPPORT

SCALE: 1" = 1'-0"

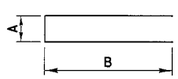
MCLEAN

BILL OF STEEL

SLAB REINFORCEMENT

BARS	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
H500E	5	1	1'-5"	1'-6"			4'-5"
H501E	5	1	1'-1"	1'-6"			4'-1"

ALL BAR DIMENSIONS ARE OUT-TO-OUT.



BARS H

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I-40
BRIDGE NO. 79-2819-4.93

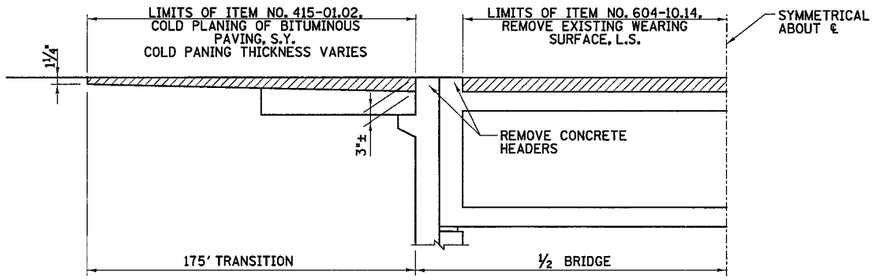
SHELBY COUNTY
2000

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

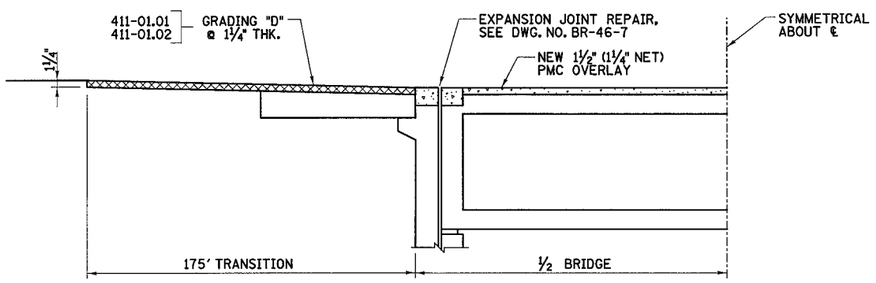
TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

BR-46-11

L:/1991/972923/DRAWINGS/SHEL-16.DGN 5/9/00



STEP 1: ASPHALT REMOVAL



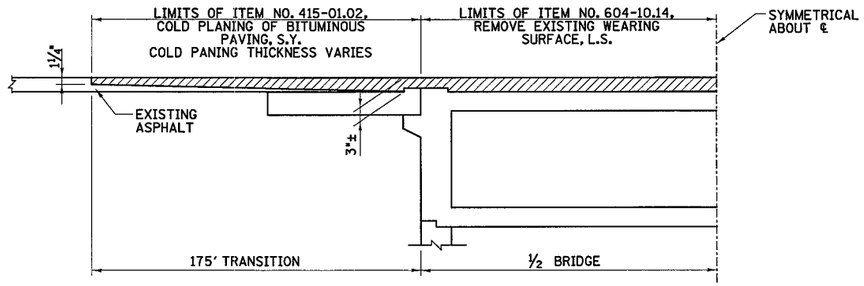
STEP 2: APPLY SURFACE COURSE TO ENTIRE WIDTH OF APPROACHES

NOTE:
PAINTED PAVEMENT MARKING (LINE) SHALL BE ACCORDING TO STANDARD SPECIFICATIONS SECTION 716-05.01 AND SHALL BE PLACED TO THE SATISFACTION OF THE ENGINEER. COST SHALL BE INCLUDED IN THE COST OF ITEM NO. 716-02.01

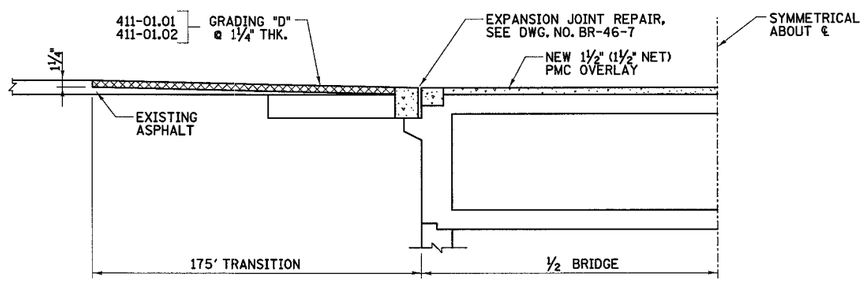
ASPHALT PAVING DETAILS

SCALE: NONE

MCLEAN



STEP 1: ASPHALT REMOVAL



STEP 2: APPLY SURFACE COURSE TO ENTIRE WIDTH OF APPROACHES

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PAINTED PAVEMENT MARKING (LINE) SHALL BE ACCORDING TO STANDARD SPECIFICATIONS SECTION 716-05.01 AND SHALL BE PLACED TO THE SATISFACTION OF THE ENGINEER. COST SHALL BE INCLUDED IN THE COST OF ITEM NO. 716-02.01

ASPHALT PAVING DETAILS

SCALE: NONE

HIGHLAND

PROJECT NO.	YEAR	SHEET NO.
79002-4133-04	2000	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

L:/1997/972923/DRAWINGS/SHEL-17.DGN 5/10/00

DESIGNED BY A.J. KHAIRI DATE MAR. 2000
DRAWN BY K. KYZER DATE MAR. 2000
SUPERVISED BY T. JOHNSON DATE MAR. 2000
CHECKED BY T. JOHNSON DATE MAR. 2000

TN D.O.T. ENGINEERING SUPERVISOR M. LAWSON

TERRY L. JOHNSON REGISTERED ENGINEER AGRICULTURE NO. 23761 STATE OF TENNESSEE 5/11/00

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

MCLEAN BLVD. OVER I40
BRIDGE NO. 79-2819-4.93

HIGHLAND STREET OVER I40
BRIDGE NO. 79-4186-2.11

SHELBY COUNTY
2000

BR-46-12

ESTIMATED QUANTITIES

	ITEM NO.	ITEM DESCRIPTION	UNIT	79-I40-5.09 L&R OVER WOLF RIVER	79-2819-4.93 OVER I40-6.60	79-I40-7.60 L&R OVER FAU 2821	79-I40-8.25 L&R OVER I.C.G.RAILROAD	79-4186-2.11 OVER I40-9.36	79-I40-9.50 L&R OVER WOLF RIVER	TOTAL QUANTITIES
(1)	602-10.39	STRUCTURAL STEEL BRIDGE (REPAIRS)	EACH				24			24
(2)	604-03.60	BRIDGE JOINT SEISMIC MODIFICATION	EACH	48	36	36	28	40	30	218
(3)	604-10.42	CONCRETE REPAIRS	C.F.	36						36
	712-01	TRAFFIC CONTROL	L.S.	0.17	0.16	0.16	0.17	0.17	0.17	1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	500	440		620	460	400	2420
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH			10	18			28
	712-05.01	WARNING LIGHTS (TYPE A)	EACH		6	2	4	6		18
	712-06	SIGNS (CONSTRUCTION)	S.F.		116	44	120	116		396
(4)	712-05.03	WARNING LIGHTS (TYPE C)	EACH				8			8
(5)	712-06.10	NEW SIGNS (CONSTRUCTION)	S.F.	232					232	464
(6)	712-06.16	SIGNS (CONSTRUCTION) (REDUCE SPEED WARNING)	EACH	4	2			2	4	12
	717-01	MOBILIZATION	L.S.	0.17	0.16	0.16	0.17	0.17	0.17	1
	712-08.03	ARROW BOARDS (TYPE C)	EACH			1	2			3

(1) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PROVIDE STRUCTURAL STEEL LATERAL SEISMIC RESTRAINTS.

(2) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PROVIDE WIRE ROPE SEISMIC RESTRAINTS.

(3) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PROVIDE CONCRETE LATERAL SEISMIC RESTRAINTS.

(4) TO BE USED ON FLEXIBLE DRUMS THROUGH TAPERS.

(5) INCLUDES THE INSTALLATION AND MAINTENANCE OF A NEW SIGN PANEL, SHEETING AND SUPPORTS.

(6) ITEM TO BE USED ONLY WHEN CONTRACTOR ESTABLISHES A REDUCED SPEED LIMIT WITHIN THE PROJECT CONSTRUCTION WORK ZONE LIMITS. ITEM INCLUDES SIGN FACE, SUPPORTS AND TWO (2) TYPE "B" FLASHING LIGHTS AS PER THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING ON THE TYPE "B" FLASHERS WHEN WORKERS ARE IN THE CONSTRUCTION WORK ZONE AND TURNING THEM OFF WHEN WORKERS ARE NO LONGER PRESENT IN THE CONSTRUCTION WORK ZONE.

GALVANIZING OF NEW STEEL

ALL NEW STEEL SHALL BE GALVANIZED TO ASTM A123 STANDARDS.

NOTE: ROADSIDE BANKS/SLOPES USED BY THE CONTRACTOR FOR WORK ACCESS, PARKING, AND ANY OTHER OPERATIONS THAT ARE DISTURBED BY HIS OPERATIONS SHALL BE REPAIRED BY REGRADING, RESEEDING, MULCHING OR WHATEVER MEANS ARE NECESSARY TO RESTORE THE BANKS/SLOPES TO THE ORIGINAL CONDITION. ALL RESTORATION WORK SHALL MEET THE FULL SATISFACTION OF THE ENGINEER. COST OF ALL RESTORATION WORK SHALL BE INCLUDED IN ITEMS BID ON.

DESIGNED BY BRIAN EGLI DATE 01/1998
DRAWN BY SCOTT C. NELSON DATE 01/1998
SUPERVISED BY M.LAWSON & T.CHRISTIANSON DATE 01/1998
CHECKED BY M. LAWSON & B. EGLI DATE 02/1998

UTILITY NOTES

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

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

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

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

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

CONST. WORK ZONE TRAFFIC CONTROL

ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF SIGN FACE IS FULLY COVERED

IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPERATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) S.F. AND 712-06.10, NEW SIGNS (CONSTRUCTION) S.F.

A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS FLAGGER SIGNS MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.

THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THRITY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.

PROJECT NO.	YEAR	SHEET NO.
79959-4152-04	1998	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	4-6-98	BKE	REVISED QUANTITY & ADDED NOTE
2	5-8-98	BKE	ADDED GENERAL NOTE
3	5-15-98	BKE	ADDED GENERAL NOTE

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 1995 EDITION)

DESIGN SPECIFICATIONS: AASHTO 1992 EDITION WITH ADDENDA.

STRUCTURAL STEEL: SHALL CONFORM TO AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) UNLESS OTHERWISE NOTED.

REINFORCING STEEL: SEE THE STANDARD SPECIFICATIONS.

GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND BAR DRIVEN TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND BAR DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.

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

BOLTS: SHALL BE HIGH TENSILE STRENGTH BOLTS (ASTM-A325), UNLESS OTHERWISE NOTED. SIZE TO BE AS NOTED ON PLANS. SEE AASHTO SPECIFICATIONS: ARTICLE 11.5.6 DIVISION II. EXISTING CONTRACT SURFACES SHALL BE CLEANED TO SSPC-10 SPECIFICATIONS PRIOR TO ATTACHMENT OF NEW MEMBERS.

CONCRETE: TO BE CLASS 'A' CONCRETE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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

WELDING: ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE AND THE STANDARD SPECIFICATIONS.

SPECIAL NOTE TO CONTRACTOR: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE STREAM AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.

NOTE: ALL STRUCTURAL STEEL FOR SEISMIC RESTRAINER AND LATERAL RESTRAINERS, EXCEPT FOR NON-CORROSIVE WIRE ROPE AND THIMBLES, SHALL BE FABRICATED BY AISC, SIMPLE SPAN BRIDGES CATEGORY, CERTIFIED SHOP.

(1) SPECIAL NOTE CONCERNING DRILLED ANCHORS: AT ALL LOCATIONS WHERE A DRILLCO MAXI-BOLT OR ANCHOR BOLT IS SPECIFIED, A WILLIAMS UNDERCUTTING ANCHOR SHALL BE ACCEPTABLE AS WELL AS THE DRILLCO MAXI-BOLT.

(2) WIRE ROPE: WIRE ROPE SHALL BE AS SPECIFIED IN AASHTO DESIGNATION M277-81(1990).

(3) WIRE ROPE CLIPS: EACH CONNECTION SHALL HAVE A MINIMUM OF FOUR (4) WIRE ROPE CLIPS AND CUMULATIVELY DEVELOP 125% OF THE YIELD STRESS OF THE WIRE ROPE. THIS YIELD STRESS SHALL BE VERIFIED BY TENNESSEE DEPARTMENT OF TRANSPORTATION MATERIALS AND TEST.

WAYNE J. SUCHA
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 19224
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED QUANTITIES
AND
GENERAL NOTES
BRIDGE NO. 79-I40-5.09 (L&R)
BRIDGE NO. 79-2819-4.93
BRIDGE NO. 79-I40-7.60 (L&R)
BRIDGE NO. 79-I40-8.25 (L&R)
BRIDGE NO. 79-4186-2.11
BRIDGE NO. 79-I40-9.50 (L&R)
SHELBY COUNTY
1998

BR-33-29

LIST OF SPECIAL REVISIONS

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

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

LIST OF REFERENCE DRAWINGS

DWG NO.	DRAWING
M-44-20, M-44-22, M-44-25, M-44-27 THRU 29	-- -- -- EXISTING BRIDGE DRAWINGS

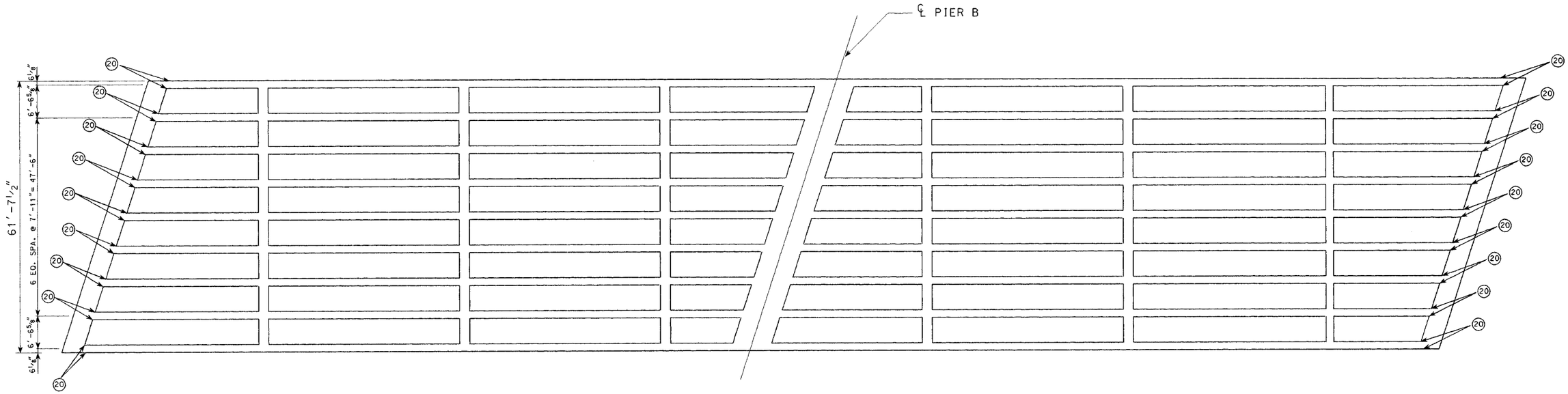
4 3 2 1 LIST OF BRIDGE DRAWINGS

DRAWING NO.	LAST REV. DATE	DRAWING
BR-33-29	5-15-98	ESTIMATED QUANTITIES AND GENERAL NOTES
BR-33-32	5-15-98	SEISMIC RESTRAINER LAYOUT
BR-33-45	4-15-98	SEISMIC RESTRAINER DETAILS TYPE (20)
BR-33-46	4-15-98	SEISMIC RESTAINER DETAILS TYPE (20) CONTINUED
BR-33-49	5-8-98	BOLT INSTALLATION

PROJECT NO.	YEAR	SHEET NO.
79959-4152-04	1998	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	4-6-98	BKE	REVISED LIST OF DRAWINGS
2	4-15-98	BKE	REVISED LIST OF DRAWINGS
3	5-8-98	BKE	REVISED LIST OF DRAWINGS
4	5-15-98	BKE	REVISED LIST OF DRAWINGS



PLAN

NOTE: DIMENSIONS GIVEN ARE RADIAL DIMENSIONS ARE MEASURED ALONG BOTTOM OF BRIDGE.

LEGEND

(20) DENOTES: SEISMIC RESTRAINT TYPE (20)
FOR DETAILS SEE BR-33-45 AND BR-33-46

GENERAL SCOPE OF WORK

1) PROVIDE WIRE ROPE SEISMIC RESTRAINTS AT ABUTMENT (TYPE 20). REFER TO LEGEND AND PLAN VIEW FOR DESCRIPTION AND LOCATION.

BRIDGE NO. 79I00400071

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SEISMIC RESTRAINER LAYOUT
N. MCCLEAN BLVD OVER I-40
BRIDGE NO. 79-2819-4.93
SHELBY COUNTY
1998

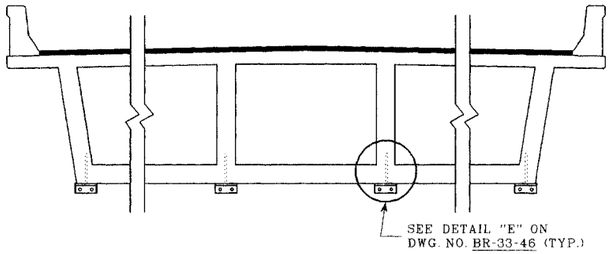
BR-33-32

DESIGNED BY BRIAN CYLES DATE SEPTEMBER 1997
DRAWN BY SHERRAL MCADOO DATE SEPTEMBER 1997
SUPERVISED BY T. CHRISTIANSON / M. LAWSON DATE SEPTEMBER 1997
CHECKED BY MARC LAWSON / BRIAN CYLES DATE FEBRUARY 1998

PROJECT NO.	YEAR	SHEET NO.
79959-4152-04	1998	

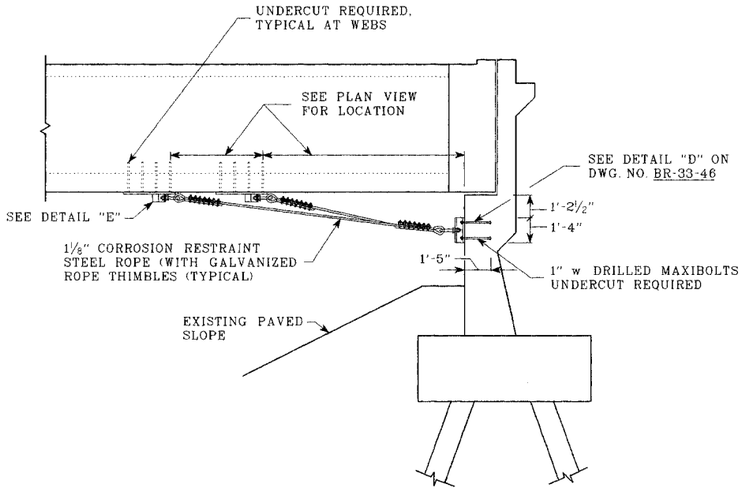
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	4-15-98	BKE	ADDED NUTS TO U-BOLTS

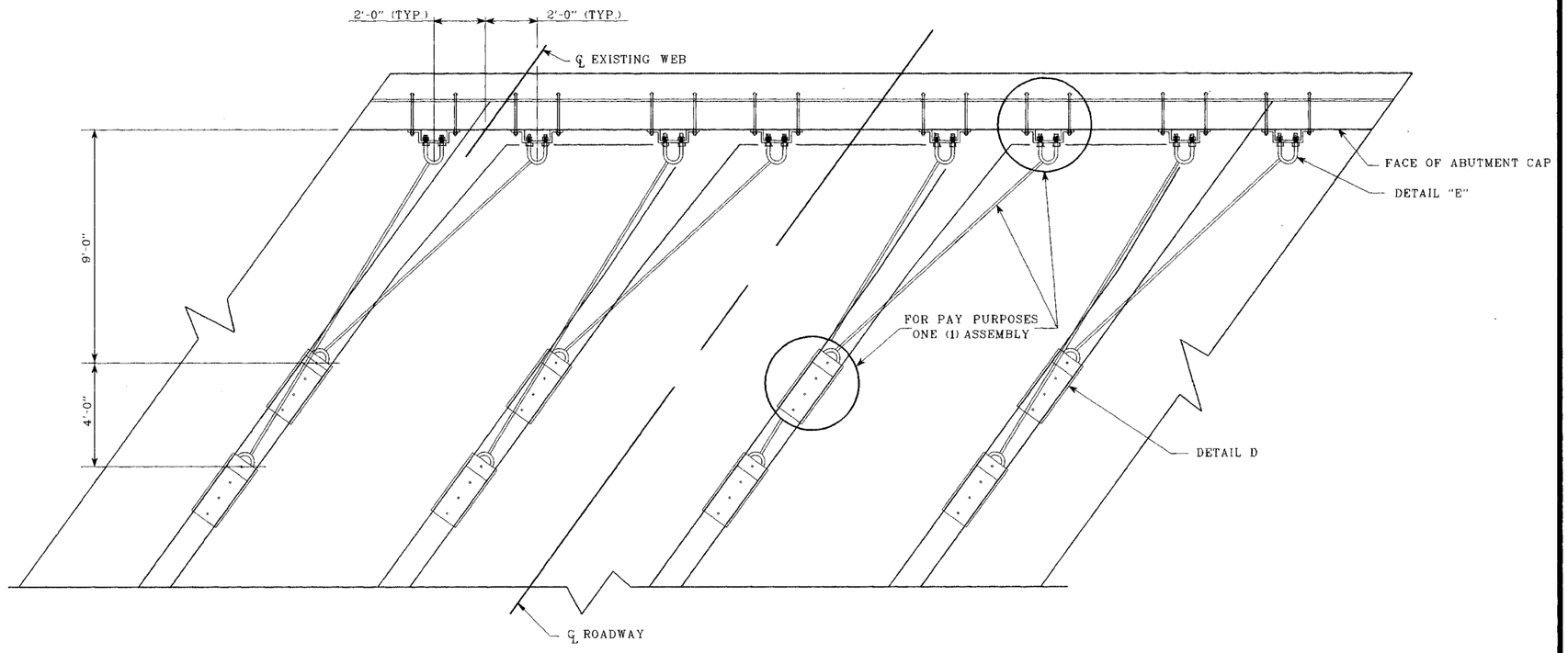


CROSS SECTION

SHOWING SEISMIC RESTRAINTS AT WEBS: TYPICAL AT BRIDGE NUMBERS:
(79-140-7.60 (8 CELLS), 79-2819-4.93 (8 CELLS) & 79-4186-2.11 (9 CELLS))



SEISMIC RESTRAINTS AT ABUTMENTS



PLAN SHOWING SEISMIC RESTRAINTS LOCATIONS

NOTES:

THESE DETAILS ARE APPLICABLE FOR THE FOLLOWING BRIDGES:
79-140-7.60, 79-2819-4.93 & 79-4186-2.11

FOR ADDITIONAL SEISMIC DETAILS, SEE DWG. NO. BR-33-46.

WAYNE J. SEIGEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 19934
STATE OF TENNESSEE
12-29-98

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

⚠1 SEISMIC RESTRAINT - BOX GIRDERS TYPE (20)

SEISMIC RESTRAINER DETAILS
TYPE (20)
SHELBY COUNTY
1998

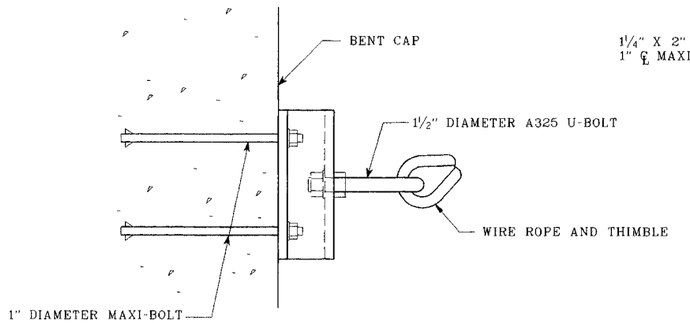
DESIGNED BY Brian Egli DATE September, 1997
DRAWN BY Cory Staupins DATE December, 1997
SUPERVISED BY Mike Lawson, J. Christianson DATE December, 1997
CHECKED BY Mike Lawson, Brian Egli DATE February, 1998

BR-33-45

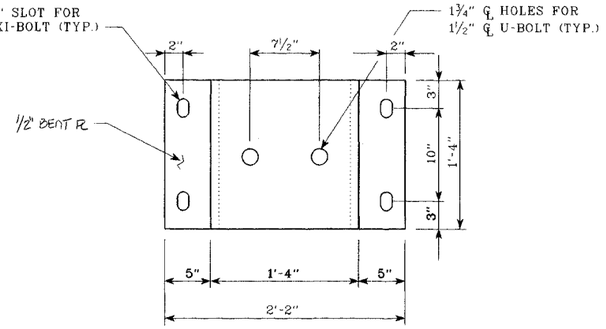
PROJECT NO.	YEAR	SHEET NO.
79959-4152-04	1998	

REVISIONS

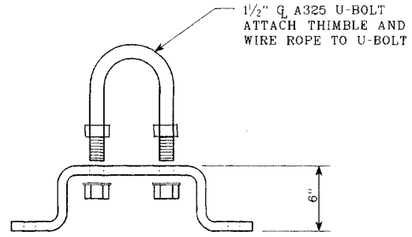
NO.	DATE	BY	BRIEF DESCRIPTION
1	4-15-98	BKE	ADDED NUT TO U-BOLT



DETAIL "D"



PLAN OF DETAIL "D"



SECTION OF DETAIL "D"

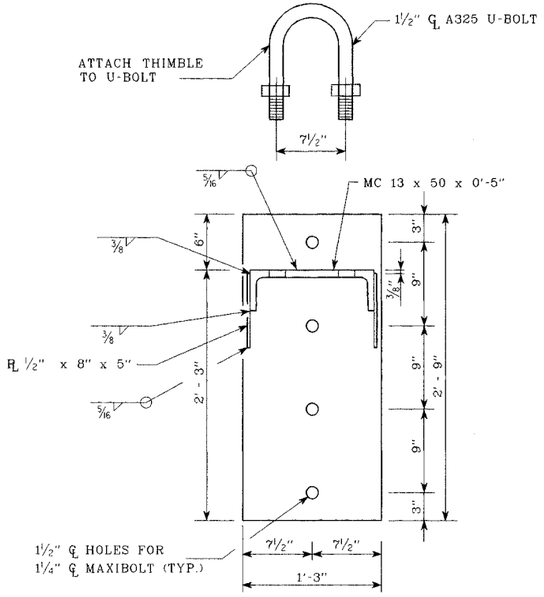
NOTES:

PROVIDE TYPE 20 SEISMIC RESTRAINTS AT BOTH ABUTMENTS AT BRIDGE NO. 79-2819-4.93 (36 ASSEMBLIES REQUIRED), ONE ABUTMENT AT BRIDGE NO.'S 79-140-7.60 (36 ASSEMBLIES REQUIRED) AND 79-4186-2.11 (40 ASSEMBLIES REQUIRED).

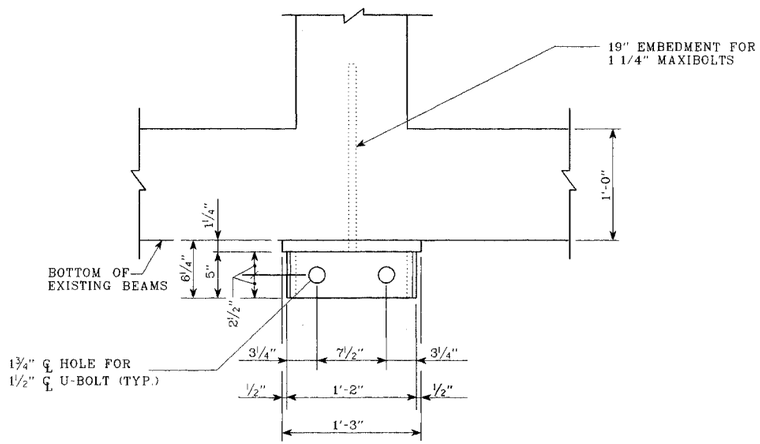
ALL STRUCTURAL STEEL PLATE AND SHAPES SHALL MEET ASTM A36, AND BOLTS AND RODS SHALL MEET ASTM A325. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE COST OF ALL LABOR AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF TYPE 20 SEISMIC RESTRAINT IS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.60, BRIDGE JOINT SEISMIC MODIFICATION, EACH. ONE (1) WIRE ROPE AND ACCOMPANYING PLATES, BOLTS, NUTS, RODS, AND WASHERS IS CONSIDERED ONE ASSEMBLY.

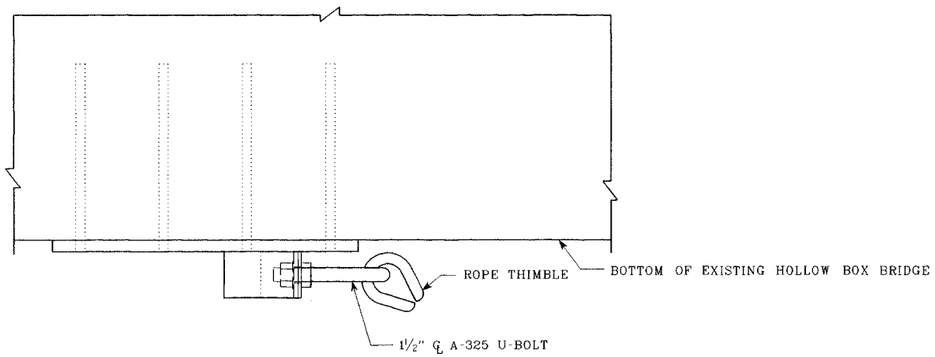
FOR PROCEDURES REGARDING THE INSTALLATION OF ANCHOR BOLTS SEE DWG. NO. BR-33-49.



PLAN OF DETAIL "E"



END VIEW OF DETAIL "E"



DETAIL "B"

WAYNE J. SHORT
REGISTERED ENGINEER
ILL. DEPT. OF AGRICULTURE
ENGINEER
NO. 19734
ST. OF TENNESSEE
MARCH 31, 1998

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SEISMIC RESTRAINER DETAIL
TYPE 20
SHELBY COUNTY
1998

⚠1 SEISMIC RESTRAINT - BOX GIRDERS TYPE 20 (CONTINUED)

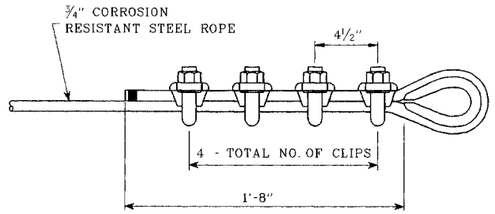
DESIGNED BY Brian Egli DATE September, 1997
DRAWN BY Cory Hawkins DATE December, 1997
SUPERVISED BY Mike Lawson, J. Christianson DATE December, 1997
CHECKED BY Mike Lawson, Brian Egli DATE February, 1998

BR-33-46

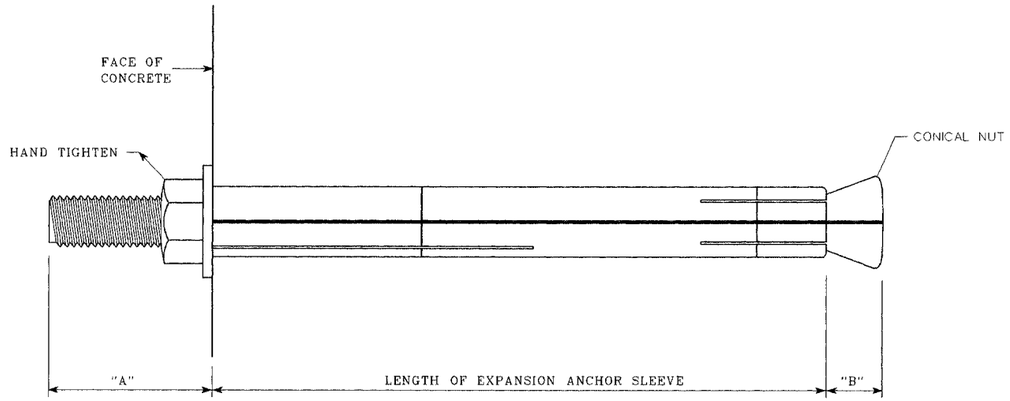
PROJECT NO.	YEAR	SHEET NO.
79959-4152-04	1998	

REVISIONS

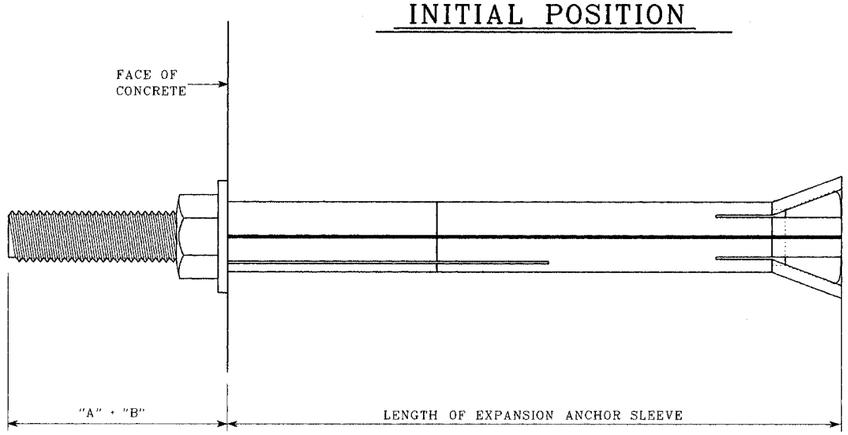
NO.	DATE	BY	BRIEF DESCRIPTION
1	5-8-98	B.K.E.	REVISED SHEET



WIRE ROPE CLIPS



INITIAL POSITION



SET POSITION

PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS:

(3/4" DIAMETER DRILLCO MAXI-BOLT OR WILLIAMS BOLTS)(UNDERCUTING REQUIRED)

1. LOCATE PLACEMENT OF EXISTING REBAR IN VICINITY OF ANCHORS WITH A REBAR LOCATING DEVICE AND MAKE NECESSARY CORRECTIONS IN LOCATIONS OF ANCHORS ON CONCRETE. ANCHOR LOCATION MAY VARY PLUS OR MINUS 3 INCHES IN ANY DIRECTION BUT THE HOLE SHALL BE DRILLED WITHIN 6 DEGREES OF PERPENDICULAR TO THE NOMINAL CONCRETE SURFACE. CUTTING OF REBAR WILL BE ALLOWED.

2. HOLES SHALL BE DRILLED WITH A CARBIDE PERCUSSION DRILL BIT, A "REBAR EATER" BIT OR A DIAMOND CORE BIT.

3. THE DRILL BIT DIAMETER AND HOLE DEPTHS ARE SPECIFIED AS FOLLOWS:
   a) THE MAXIMUM DRILL BIT DIAMETER SHALL NOT EXCEED 1.172 INCH DIAMETER.
   b) THE HOLE DEPTH SHALL NOT BE LESS THAN THE ANCHOR EMBEDMENT PLUS 1½INCHES BUT MAY EXCEED THE SPECIFIED HOLE DEPTH BY NOT MORE THAN 1 INCH.

4. IF AN ANCHOR MUST BE RELOCATED AND A NEW HOLE DRILLED, THE OLD HOLE SHALL BE REPAIRED WITH A NON-SHRINKAGE PACK GROUT.

5. UNDERCUT IN PRIMARY HOLE SHALL BE AS SPECIFIED BY THE MANUFACTURER OF THE UNDERCUTTING TOOL.

6. CLEAN THE HOLE OF CONCRETE DUST AND DEBRIS USING OIL FREE COMPRESSED AIR OR BY VACUUMING. PLACE BEARING SLEEVE FLUSH WITH THE CONCRETE SURFACE.

7. THE EXPANSION SLEEVE IS TO EXPAND INTO THE UNDERCUT CREATED BY THE UNDERCUTTING TOOL THEREFORE THE ANCHOR TUBE MUST TERMINATE AT THE BASE OF THE UNDERCUT SECTION.

8. TO SET THE ANCHOR, IT IS NECESSARY TO DRAW THE CONICAL NUT OF THE STUD BOLT INTO THE ANCHOR SLEEVE. AFTER THE ASSEMBLY IS INSERTED INTO THE DRILLED HOLE, THE ANCHOR WILL BE CONSIDERED SET WHEN THE DIMENSION "A" (SEE ANCHOR SETTING DETAILS) HAS INCREASED BY AN AMOUNT EQUAL TO DIMENSION "B". AFTER THE STEEL PLATES ARE IN PLACE THE FINAL TENSION LOAD OF 28400 LBS. SHALL BE APPLIED. THE ANCHOR LOADS MAY BE APPLIED BY MANUAL TORQUING OR HYDRAULIC TENSIONING.

9. BECAUSE OF CLOSE TOLERANCE BETWEEN CONICAL NUT O.D. AND HOLE I.D. IT MAY BE NECESSARY TO LIGHTLY HAMMER THE ANCHOR INTO THE HOLE. IF HAMMERING IS NECESSARY, STEPS SHALL BE EMPLOYED WHICH WILL PREVENT DAMAGE TO THE STUD BOLT THREADS.

10. INSTALLATION PROCEDURES REQUIRED BY THE ANCHOR MANUFACTURER IN ADDITION TO THE INSTRUCTIONS LISTED ABOVE SHALL BE FOLLOWED.

11. BENT PLATES SHALL BE ASTM A709 (GRADE 36) MATERIAL GALVANIZED TO ASTM A123 STANDARD.

12. POSITION OF PLATE OR ANGLE ON BEAM:
    ABUTMENTS: THE PLATE OR ANGLE SHALL BE POSITIONED ON THE BEAM WITH CABLE IN THE FULL EXTENDED POSITION AND PLATE OR ANGLE POSITION MARKED. THE PLATE OR ANGLE SHALL THEN BE SHIFTED TOWARD THE ABUTMENT 3" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH THE PLATE OR ANGLE ANCHOR HOLES.
    BENTS (BEAM TO BEAM): AFTER ONE ANCHOR HAS BEEN ATTACHED THE ANGLE OF THE OTHER SHALL BE POSITIONED ON THE BEAM WITH CABLE IN THE FULL EXTENDED POSITION ANGLE POSITION MARKED. THE PLATE OR ANGLE SHALL THEN BE SHIFTED TOWARD THE BENT 3" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH THE ANGLE ANCHOR HOLE.

PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS:

(3/4" ϕ HILTI BOLTS OR EQUAL)(NO UNDERCUTTING REQ'D)

1. INSTALLATION TO BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED PROCEDURES.

WAYNE J. SEIGER
REGISTERED ENGINEER
AGRICULTURE
CERTIFICATE NO. 19224
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BOLT INSTALLATION
SHELBY COUNTY
1998

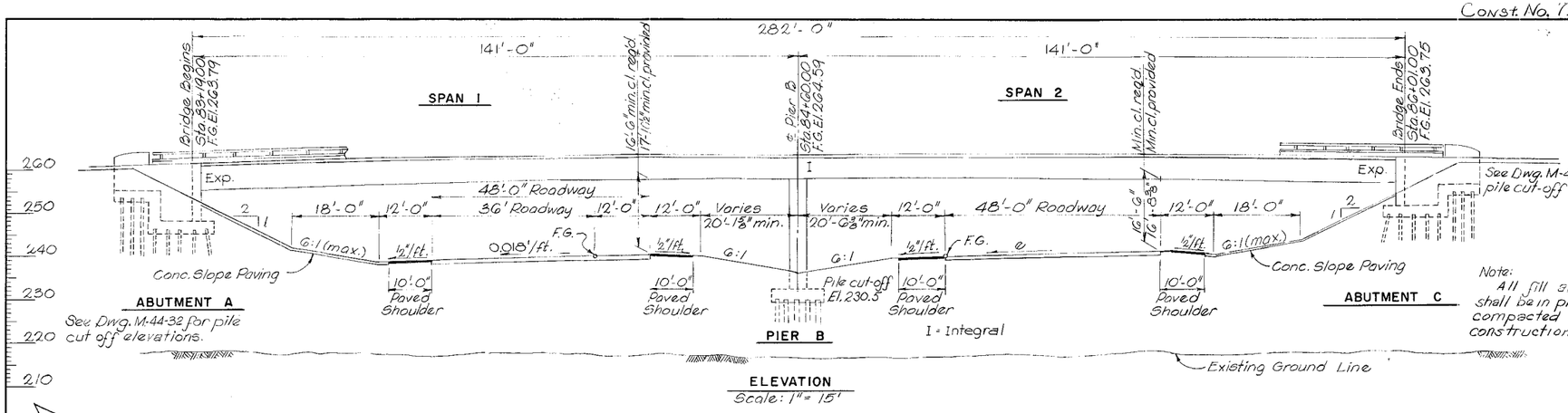
ANCHOR SETTING DETAILS

DESIGNED BY Brian Egli DATE February, 1998
DRAWN BY Cory Hawkins DATE March, 1998
SUPERVISED BY Mike Lawson, J. Christianson DATE March, 1998
CHECKED BY Mike Lawson, Brian Egli DATE April, 1998

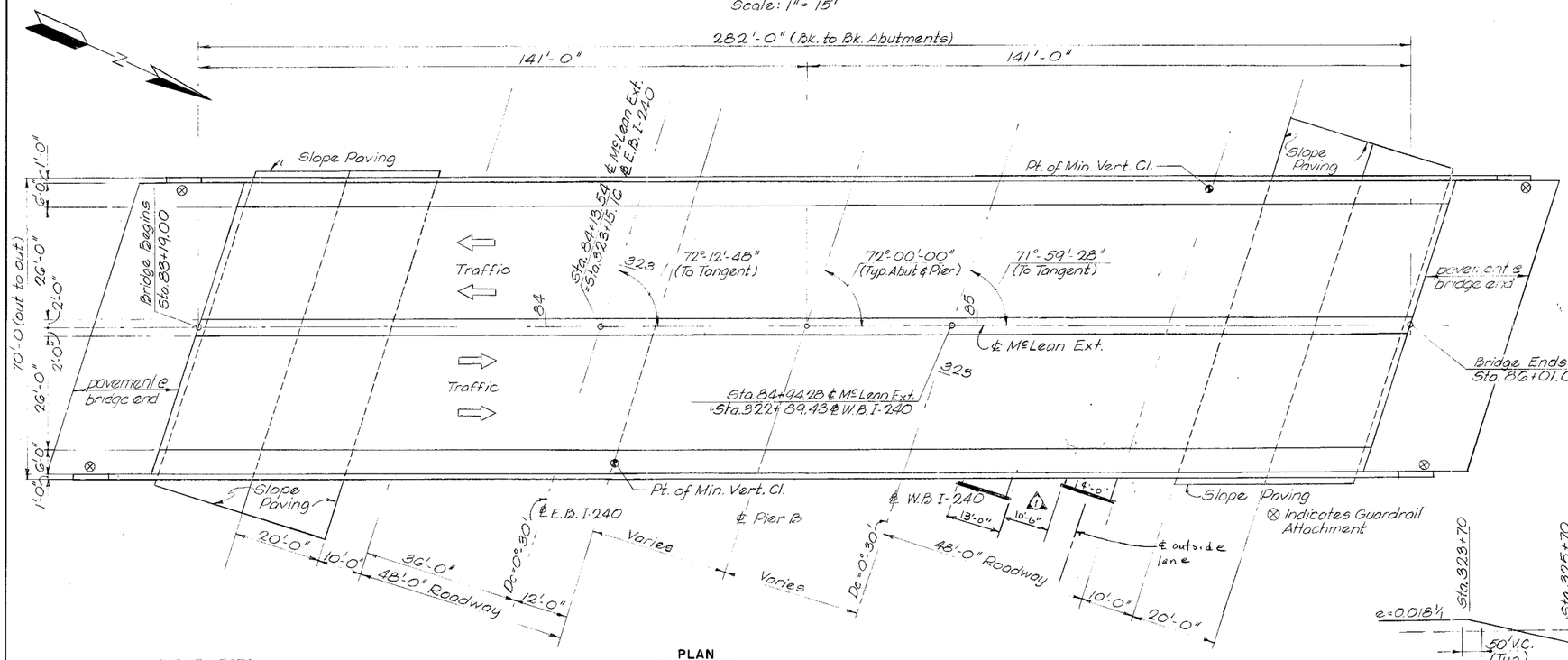
1

BR-33-49

Const. No. 79001-3125-44



ELEVATION
Scale: 1" = 15'



PLAN
Scale: 1" = 15'

SUPERELEVATION DIAGRAM W.B. I-240
Not to Scale

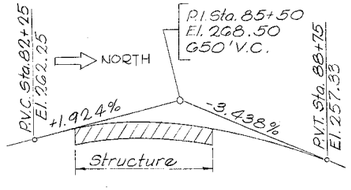
CURVE DATA

W.B. LANES

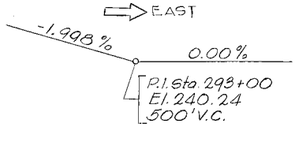
P.I. STA. 313+06.24
Δ = 11°-00'-23.0" RT.
Dc = 0°-30'
R. = 11459.15G'
Lc = 2201.27B'
T = 1104.036'

E.B. LANES

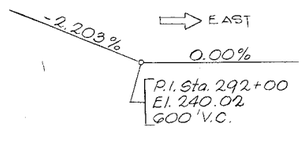
P.I. STA. 313+76.42
Δ = 11°-00'-23.0" RT.
Dc = 0°-30'
R. = 11459.15G'
Lc = 2201.278'
T = 1104.036'



McLEAN BLVD. EXT.-F.G.
Not to Scale



I-240 W.B.-F.G.
Not to Scale

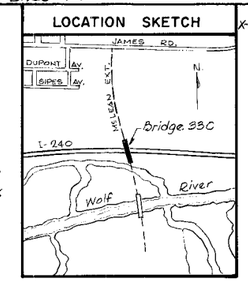


I-240 E.B.-F.G.
Not to Scale

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	June '75
DRAWN BY	J. Starr	DATE	June '75
SUPERVISED BY	D. McCorkle	DATE	June '75
CHECKED BY	F. Hoffman	DATE	Aug. '75

LOCATION SKETCH X-281



PROJECT NO.	YEAR	SHEET NO.
FAC I-240-1(132)6	1975	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/6/78	ELO	Showed Sign location

Note:
All fill at the site of the Bridge shall be in place & thoroughly compacted before any pile construction is begun.

NOTES:

1. See Dwg. M-44-21 for General Notes and Summary of Estimated Quantities.

INDEX OF DRAWINGS

DWG. NO.	TITLE
M-44-20	Bridge Layout.
M-44-21	General Notes and Summary of Estimated Quantities.
M-44-22	Abutment A
M-44-23	Abutment A - Details
M-44-24	Pier B
M-44-25	Abutment C
M-44-26	Abutment C - Details
M-44-27	Typical Sections
M-44-28	Top Slab Plan
M-44-29	Bottom Slab Plan
M-44-30	Post Tensioning Details
M-44-31	Screed Elevations & Rail Post Spacing
M-44-32	Soil Boring
M-44-68	Wingpost, Rail & Light Standard Base Details
K-80-14	Reinforcement Bar Support Details
K-80-130	Preformed Elastic Joint Details
K86-144	Reinf. Concrete Pavement at Bridge Ends
H-5-111	Standard Pile Details
K-38-154	Bridge Railing
K-85-150	Misc. Abutment & Drainage Details.

BRIDGE NO. 79I00400071

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

BRIDGE LAYOUT
STA. 323+00.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-20

Bridge Deck Sealant 1912 Sq Yds. Class "A" Grading D 964 Cu Yds.

MICROFILMED

Const. No 79007-3125-44

PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(132)4	1975	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

GENERAL NOTES

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

2. LOADING: HS-20-44.

3. DESIGN SPECIFICATIONS: 1973 AASHO and Addenda.

4. CAST-IN-PLACE CONCRETE: To be class "A", f'c=4000 psi for superstructure; f'c=3000 psi for substructure and parapets. See Special Provision Regarding Section 604 Concrete Structures.

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

6. BRIDGE RAIL: Build bridge rail in accordance with Tenn. Std. Dwg. K-38-154 Modified for height as shown on Dwg. M-44-68

7. FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennesse Standard Specifications except as modified by the Special Provision Regarding Section 604-Concrete Structures. A Textured Coated Finish shall be used in lieu of a Class 2 Finish. The color of the finish shall be similar to Federal Specification No. (See Detail) Federal Color Standard 595a, and a color sample shall be submitted to the Engineer of Structures for approval. All exposed concrete surfaces, including concrete parapets and wingposts, piers and abutments above grade (but not including bridge slab), shall receive a textured coat finish.

8. FOUNDATION NOTE: FRICTION PILES: After excavating to the proposed footing elevations a test pile shall be driven at each substructure at the location designated on Dwgs. M-44-22 thru M-44-26. A load test will then applied to the test pile on Bent B. The load test shall be in accordance with Special Provision Regarding Load Test For Friction Piles. From the results of the load test the Engineer of Structures will determine final pile tip elevations. For pile design loads, cut-off elevations and pile tip elevations see table on Dwg. No. M-44-32

9. Alternate Piles: The contractor may use piling of a different material or configuration from that shown on the plans provided the substitution meets minimum design standards and conforms to conditions established by the Special Provision No. 131, Regarding piling dated October 1, 1975.

11. LOADING TESTS: See Special Provision Regarding Load Test for Friction Piles

12. BRIDGE DECK SEALANT: The Bridge deck and reinforced approach slab shall be sealed in a future paving contract (1912 Sq. Yds. required.)

13. BRIDGE DECK FORMS: Bridge deck forms for concrete decks shall be constructed using either removable forms or permanent forms. In either case, forms shall be attached by means other than welding to support members. See Special Provision No. 650, "Special Provision Regarding Permanent Steel Bridge Deck Forms," Revised November 9, 1973.

14. POST-TENSIONING: See Notes on Dwgs. M-44-30 and Special Provision Regarding Post-Tensioned Prestressed Concrete.

15 UTILITIES: It is intended that the cost of materials and labor necessary for the complete installation of utilities shall be borne by others and shall not be paid for as a part of this contract. The contractor shall cooperate with others in the installation, with no additional compensation allowed the Contractor as a result. All casings and supports shall be furnished by Memphis Light, Gas and Water Division.

16 Bearing Devices: In lieu of the bearing devices shown on these plans the contractor may submit edge of slab and design computations for other bearing devices to the Engineer of Structures for approval. Bearing seat elevations shall be adjusted to compensate for differences in bearing heights. The bearing shall be capable of providing the following minimum requirements under service loads: (Laminated pads-50 durometer req'd. plain pads-70 durometer req'd.)

R.D.L = 101.5 *
R.L.L = 26.5 *
Total Movement - 0.0598 ft.

QUANTITY NOTES

(1) Excavation based on lower roadway profile

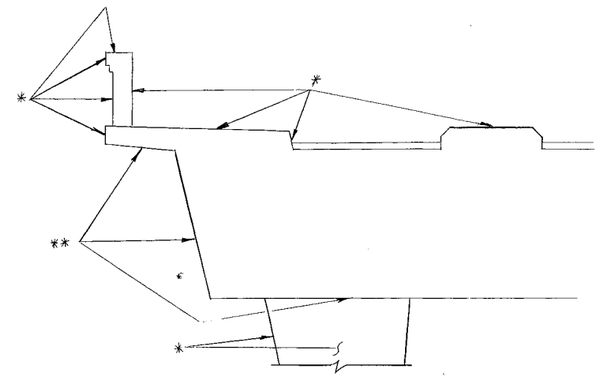
(2) See Alternate Pile Note.

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

(4) Lump sum for Structure Lighting Item No. 714-01.02 includes 470± lin. ft of 2"ϕ conduit with pull wires, 12 anchor bolts and all necessary materials for installation of future Structure Lighting.

(5) The cost of 16 threaded steel inserts 16-7/8" hex head bolts (A307) shall be included in Bridge items bid on.

(6) Quantities given are out-to-out of wingposts.



* Similar to White (Fed. Spec. No. 37886)
** Similar to Orange (Fed. Spec. No. 32544)

In addition to the above surfaces, all exposed surfaces of abutments, wingwalls, wingposts and slope paving, shall recieve a Texture Coating Finish Similar to White (Fed. Spec. No. 37886).

SUMMARY OF ESTIMATED QUANTITIES

Item No.	204-02.01	604-03.01	604-03.02	604-25.04	606-09.01	606-09.02	606-09.03	615-05.02	616-05	710-10	710-11	714-01.02	602-05.07	604-03.03	908-21.01
Description	Dry Excavation (Bridges)(1)	Class A Concrete (Bridges)(7)	Steel Bar Reinforcement (Bridges)	Textured Coated Finish	Test Piles (Precast Conc. Size 1) (2)	Loading Test (Precast Conc. Size 1) (2)	Precast Conc. Piles - Size 1 (2)	Post Tensioning	Conc. Parapet w/Structural Tubing	6"ϕ Perf. C.M.P. (18ga) w/Porous Backfill (3)	6"ϕ C.M.P. underdrains (18ga)	Structure Lighting (4)	Preformed Elastic Joint Sealer	Linseed Oil Treatment	Bearings
Unit	Cu. Yds.	Cu. Yds.	Lbs.	Sq. Yds.	Lin. Ft.	Each	Lin. Ft.	Lump Sum	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lump Sum.	Lin. Ft.	Sq. Yd.	Each
Abutment A	495	197.9	14,603	465	85		1200			119.0	4.0			12	12
Pier B	206	138.3	17,562	140	80	1	1480								
Abutment C	211	122.6	10,124	440	30		1170			101.0	4.0			12	12
Paving at Br. ends		165.6	37,724	95			160							2.88	
Superstructure		1,392.8	203,870	3510				1	622.0			1	125.0	1629	
Total	912	2,017.2	283,883	4650	75	1	3850	1	622.0	220.0	8.0	1	125.0	1944	24

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE July '75
DRAWN BY J. Starr DATE July '75
SUPERVISED BY D. McCorkle DATE July '75
CHECKED BY F. Hoffman DATE July '75

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240
GENERAL NOTES & SUMMARY OF ESTIMATED QUANTITIES
STA. 323+00.00
SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-21

M1348

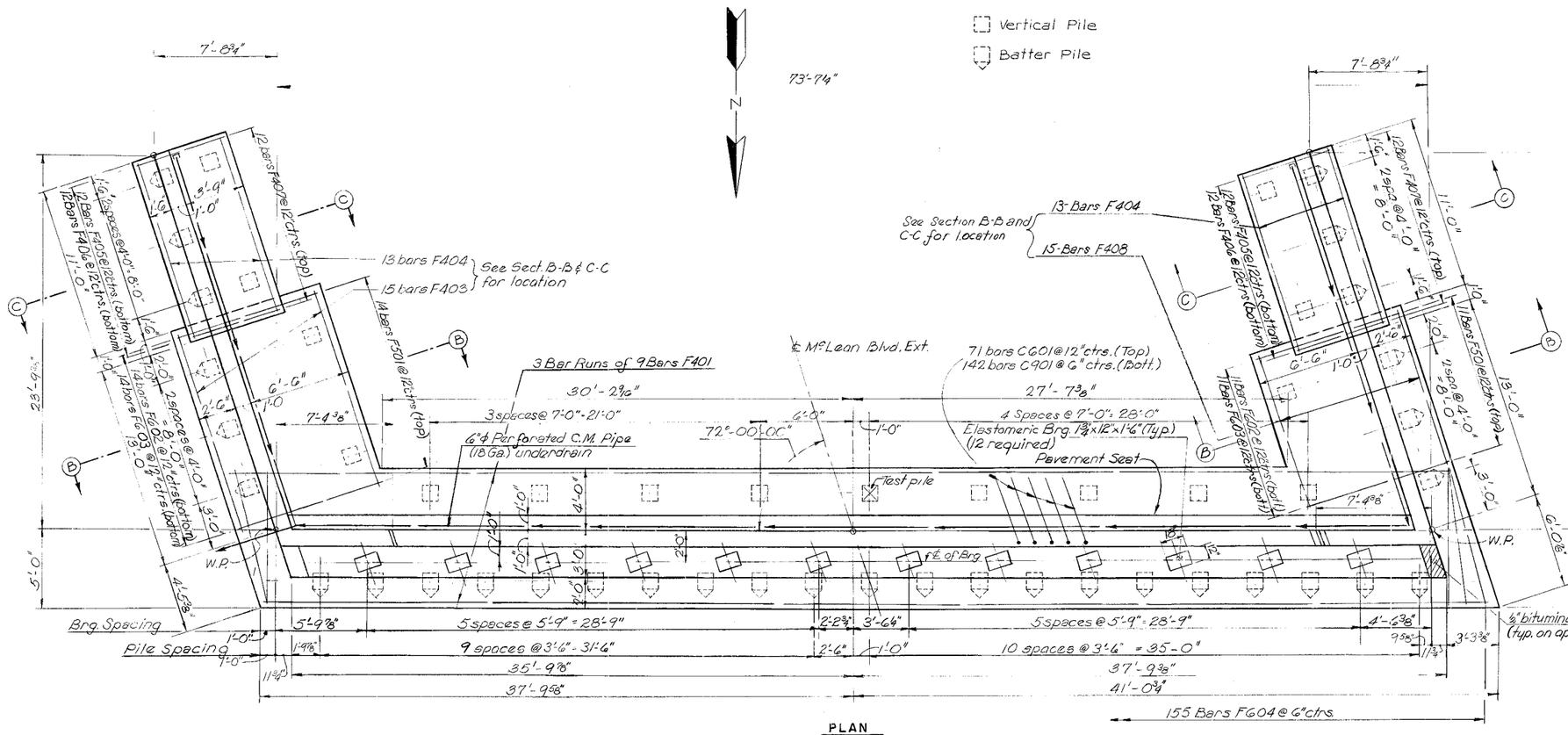
Const. No 79007-3125-44

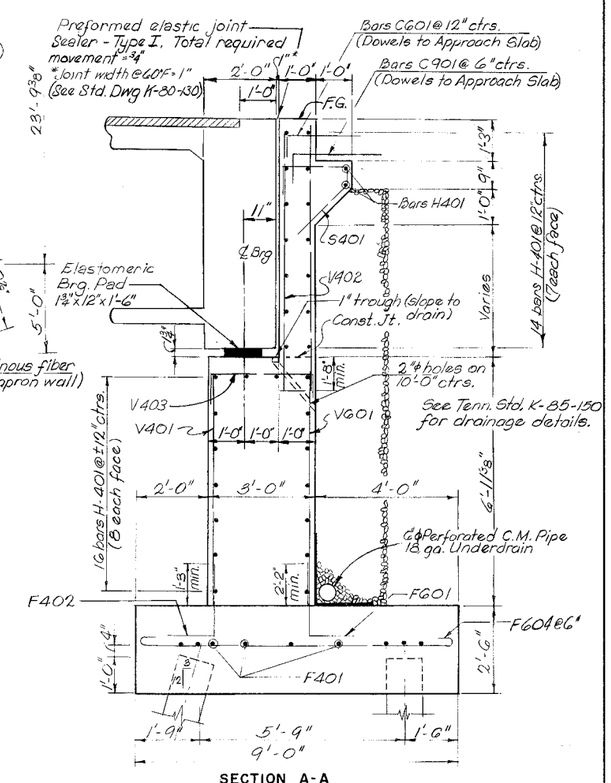
PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(13)2 6	1975	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	1-16-76	C.E.H.	Changed dia. of Steel Sleeve for utility

Note:
1. See Dwg. M-44-23 for Bill of Steel, Wingwall Elevations, Section B-B, & C-C and Estimated Quantities.
2. See Dwg. M-44-68 for Parapet Reinforcement to be placed in wing walls.
3. See Std. Dwg. K-86-149 for details of Reinforced Concrete Pavement at Bridge Ends. Also see Dwg. M-44-23.
4. All drainage pipes to have minimum slope - ⅜"/Ft.
5. The Backwall shall not be poured until after inspection of the Superstructure and Post-Tensioning operations have been completed and the end inspection openings closed.
6. See Dwg. M-44-68 for Parapet and Wingpost details.
7. Cost of Bridgerail and Wingposts to be included in the cost of the Bridgerail System.
8. See Dwg. M-44-29 for details of Elastomeric Bearing Pads.





HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE July '75
DRAWN BY J. Starr DATE July '75
SUPERVISED BY D. McCorkle DATE July '75
CHECKED BY F. Hoffman DATE Aug. '75

PILE NOTE:

Ultimate bearing capacity = 98 Tons for piles in Sections A-A & B-B (39 req'd). Ultimate bearing capacity = 80 Tons for piles in Section C-C (10 req'd). See Dwg. M-44-32 for additional pile data.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240
ABUTMENT A
STA. 323+00.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-22

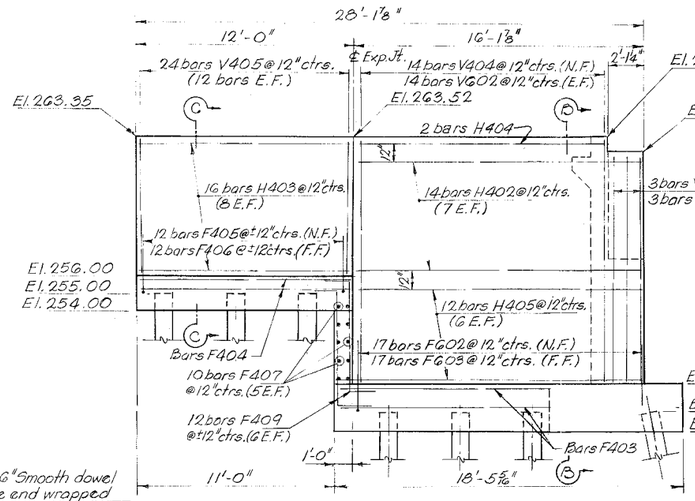
MICROFILMED

Const. No T9007-3125-44

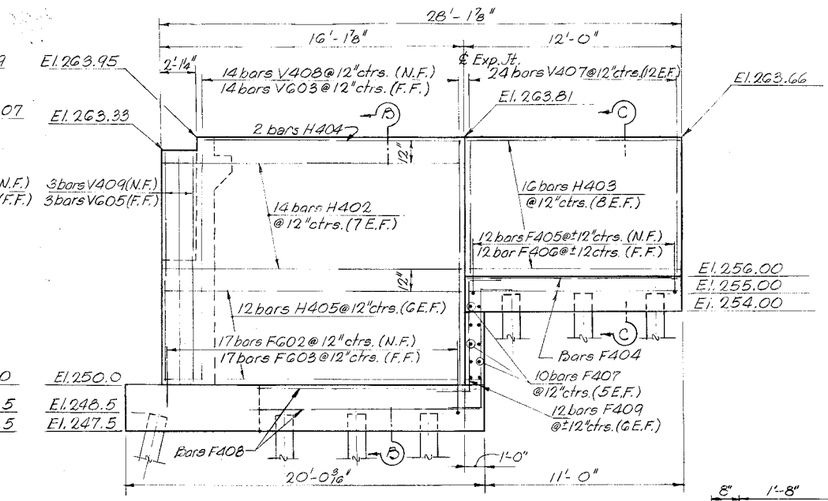
PROJECT NO.	YEAR	SHEET NO.
EAC 124-1(132) 6	1975	

REVISIONS

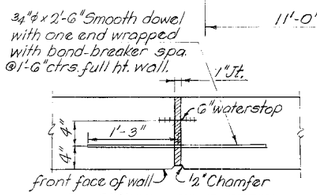
NO	DATE	BY	BRIEF DESCRIPTION



ABUTMENT A - EAST WALL
Scale: ¼"=1'-0"



ABUTMENT A - WEST WALL
Scale: ¼"=1'-0"



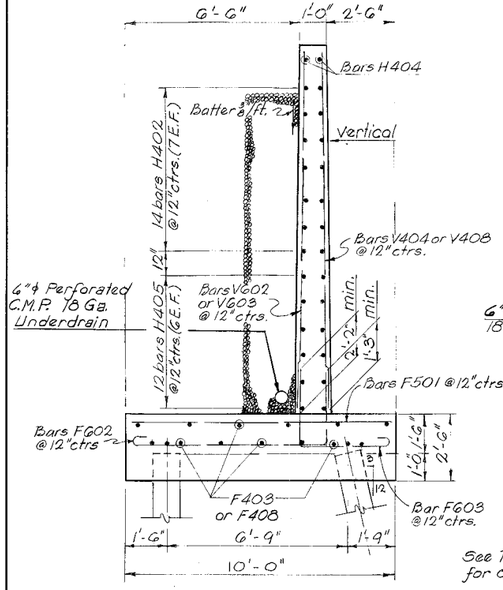
BITUMINOUS JOINT DETAIL
Scale: 1"=1'-0"

Note: Bituminous fiber and 6" waterstop will not be paid for separately but shall be included in the cost of Class A Concrete for payment.

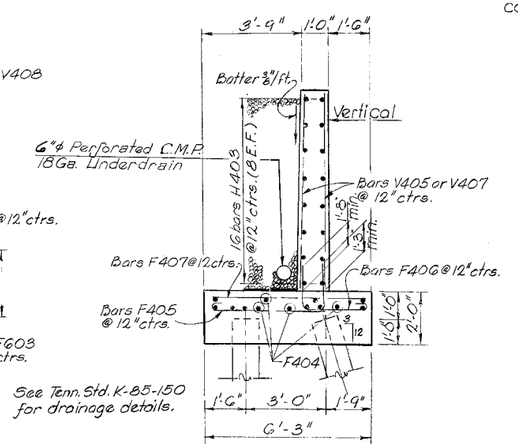
ESTIMATED QUANTITIES

Item No.	Item	Unit	Quantity
204-02.01	Dry Excavation	Cu.Yd.	695
604-03.01	Class A Concrete	Cu.Yd.	197.9
604-03.02	Steel Bar Reinforcement	Pound	14,603
606-09.01	Test Piles (Precast Conc. Size 1)	Lin.Ft.	25.'
606-09.03	Precast Conc. Piling (Size 1)	Lin.Ft	1200.0
710-10	6"ø Perforated C.M.P.(18ga) w/porous bkfill.	Lin.Ft.	119.0
710-11	6"ø C.M.P. Underdrain (18ga)	Lin.Ft.	4.0

Note:
Approach slab to be built according to Tennessee Std Dwg. K-85-144 except as noted below. Bars D490 & M490 to be pushed into green concrete after slab has been screeded

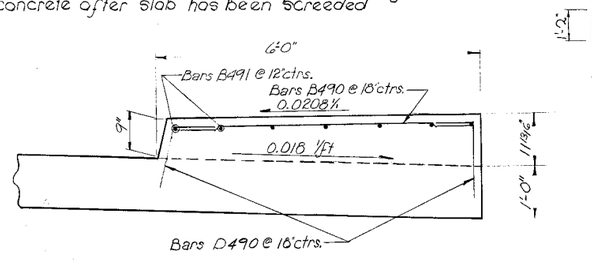


SECTION B-B
Scale: ⅜"=1'-0"

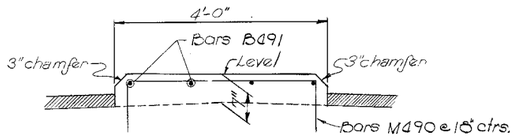


See Tenn. Std. K-85-150 for drainage details.

SECTION C-C
Scale: ⅜"=1'-0"

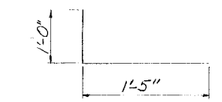


APPROACH SLAB SECTION THRU SIDEWALK
Scale ~ ¾"=1'-0"

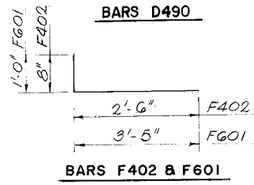


APPROACH SLAB SECTION THRU RAISED MEDIAN

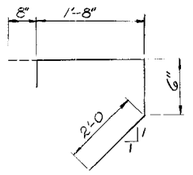
BARS C601 & C901



BARS D490

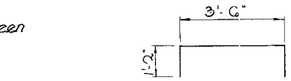


BARS F402 & F601

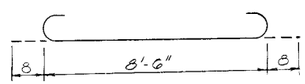


BARS S 401

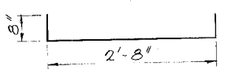
BARS F405, F406, F602 & F603



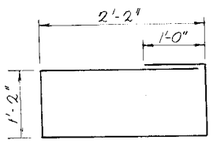
BARS M490



BARS F604



BARS V403



BARS A590

BILL OF STEEL

Mark	No. Req'd	Length	Shape
F401	27	27'-2"	
F402	74	3'-2"	L
F403	15	13'-0"	
F404	26	11'-8"	
F405	24	7'-2"	
F406	24	5'-7"	
F407	44	5'-11"	
F408	15	11'-0"	
F409	24	9'-0"	
F501	25	9'-8"	
CG01	71	3'-9"	L
C901	142	5'-4"	L
FG01	74	4'-4"	L
FG02	25	11'-6"	
FG03	25	7'-10"	
FG04	155	9'-10"	
S401	72	4'-10"	
H401	64	37'-5"	
H402	28	15'-10"	
H403	32	11'-8"	
H404	4	13'-9"	
H405	24	16'-10	
V401	74	6'-8"	
V402	74	8'-2"	
V403	74	4'-0"	
V404	14	13'-4"	
V405	24	7'-2"	
V406	3	12'-8"	
V407	24	7'-8"	
V408	14	13'-8"	
V409	3	12'-11"	
VG01	74	12'-11"	
VG02	14	13'-4"	
VG03	14	13'-8"	
VG04	3	12'-8"	
VG05	3	12'-11"	
APPROACH SLAB			
A490	150	24'-10"	
A590	116	7'-6"	
AG90	69	24'-0"	
A790	16	37'-0"	
A990	137	24'-0"	
B490	34	5'-6"	
B491	18	24'-0"	
M490	17	5'-10"	
D490	68	2'-5	L

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D.McCorkle	DATE	July '75
DRAWN BY	J.Starr	DATE	July '75
SUPERVISED BY	D.McCorkle	DATE	July '75
CHECKED BY	F.Heffman	DATE	Aug. '75

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

ABUTMENT A - DETAILS
STA. 323+00.00

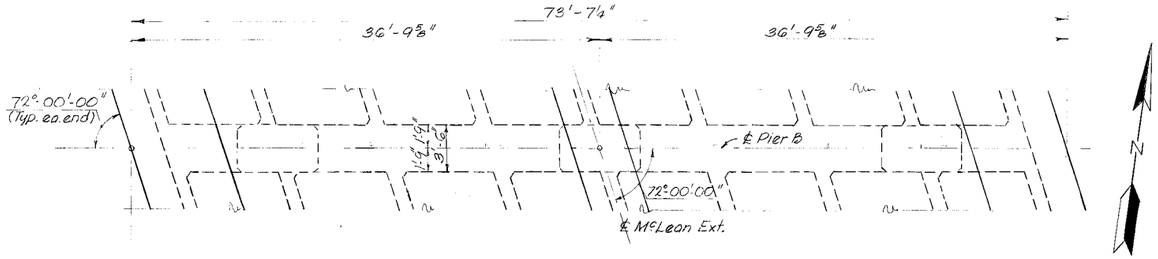
SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

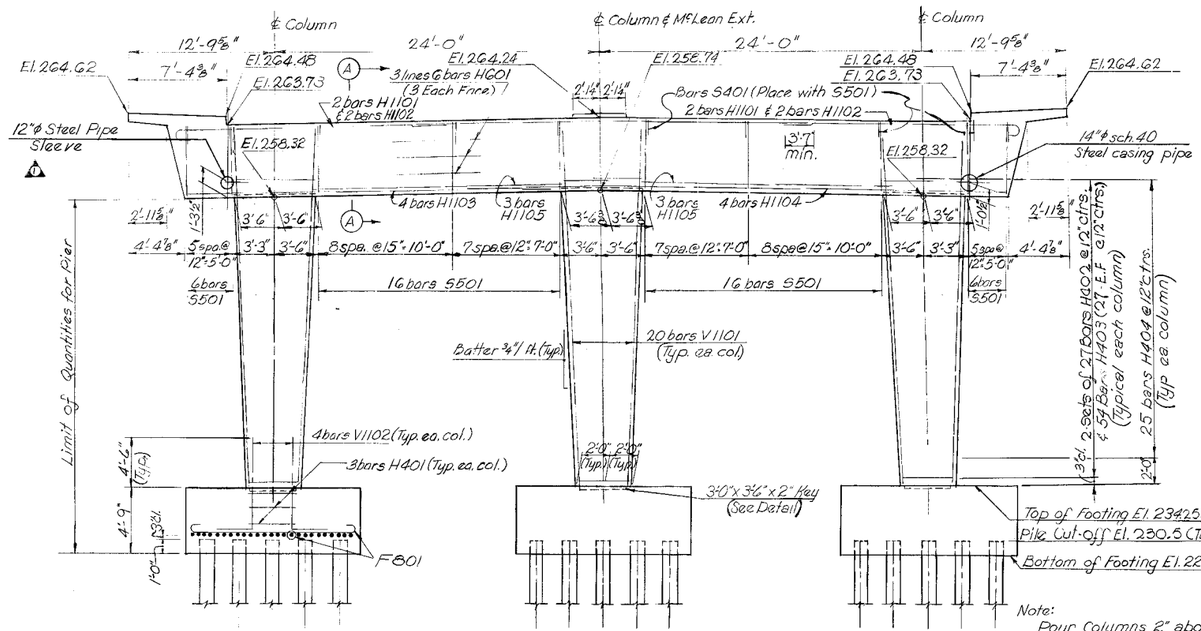
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-23

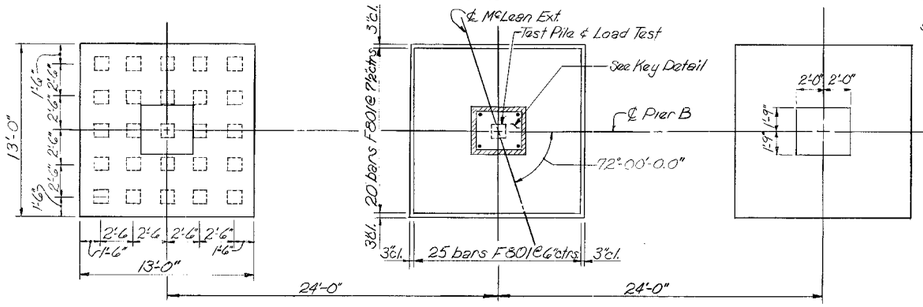
Const. No. 79007-3125-44



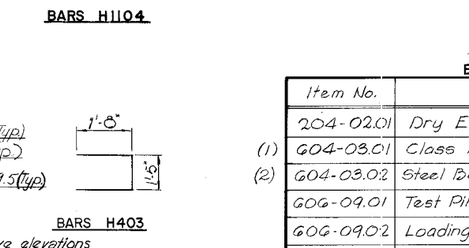
PLAN
Scale: 3/16" = 1'-0"



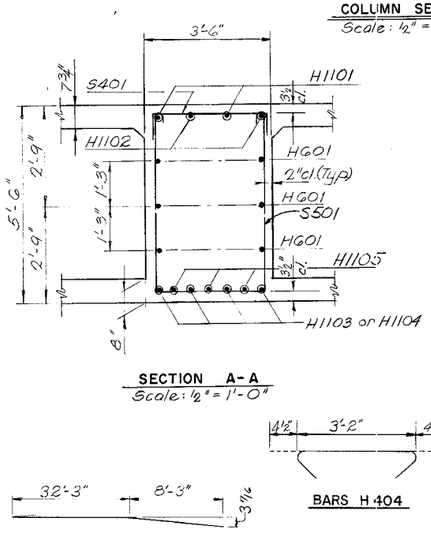
ELEVATION
Scale: 3/16" = 1'-0"



FOOTING PLAN
Scale: 3/16" = 1'-0"



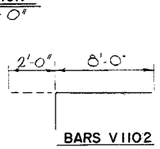
COLUMN SECTION
Scale: ½" = 1'-0"



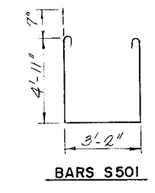
SECTION A-A
Scale: ½" = 1'-0"

BARS H1104

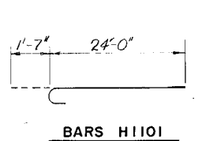
BARS H404



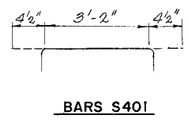
BARS V1102



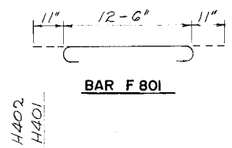
BARS S501



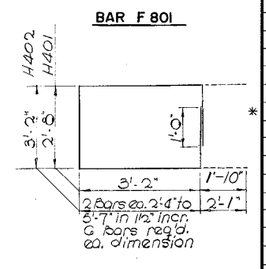
BARS H1101



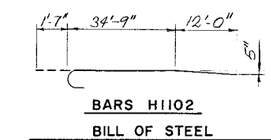
BARS S401



BAR F801



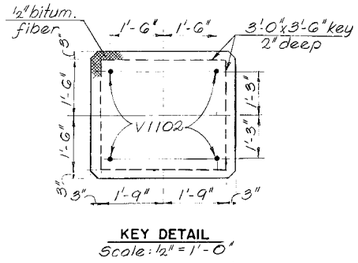
BARS H401 & H402



BARS H1102

BARS H403

Note:
Pour Columns 2" above elevations shown. Column reinforcing shall extend a minimum of 4'-6" into Cap. Columns shall be supported until superstructure is in place.



KEY DETAIL
Scale: ½" = 1'-0"

BILL OF STEEL

Mark	No. Req'd	Length	Shape
H1101	4	25'-7"	
H1102	5	48'-4"	
H1103	4	28'-9"	
H1104	4	40'-6"	
H1105	4	18'-0"	
HG01	12	33'-1"	
H401	9	12'-8"	
H402	6 sets	Varies	
H403	162	4'-9"	
H404	75	3'-11"	
S401	44	3'-11"	
S501	44	14'-2"	
V1101	60	28'-1"	
V1102	12	10'-0"	
F801	135	14'-4"	

* 27 bars Per Set. 1 bar each length 12'-0" to 18'-6" in 3" increments.

ESTIMATED QUANTITIES

	Item No.	Item	Unit	Quantity
	204-02.01	Dry Excavation	Cu. Yd.	206
(1)	604-03.01	Class A Concrete	Cu. Yd.	138.3
(2)	604-03.02	Steel Bar Reinforcement	Pound	17,562
	606-09.01	Test Piles (Precast Conc. Size 1)	Lin. Ft.	80
	606-09.02	Loading Tests (Precast Conc. Size 1)	Each	1
	606-09.03	Precast Conc. Piling (Size 1)	Lin. Ft.	1480

(1) Class "A" Concrete quantity includes concrete in footings and columns only. Concrete in pier cap is included in superstructure quantities.
(2) Steel Bar Reinforcement includes the Steel in footing and columns only Reinforcement in pier cap is included in Superstructure Quantities

PILE NOTE:

See General Notes on Dwg. M-44-21 ultimate bearing capacity is 84 tons. 75 piles required. See Dwg. M-44-32 for additional pile data

Notes:
1. Space Bars S501 as required to clear utilities and cut Bars HG01 as required to clear utilities.
2. Space or Bend Bottom slab & cap Reinforcement as required to clear column Reinforcement. Cut column Reinforcement as required to clear Post Tensioning Tendons.

PROJECT NO.	YEAR	SHEET NO.
EACI-240-1(132)6	1975	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	1-16-76	CEH	Changed dia. of Steel Sleeve for Utility

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

PIER B
STA. 323+00.00

SHELBY COUNTY

CORRECT _____ ENGINEER-OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-24

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	July '75
DRAWN BY	J. Starr	DATE	July '75
SUPERVISED BY	D. McCorkle	DATE	July '75
CHECKED BY	F. Hoffman	DATE	Aug. '75

MICROFILMED

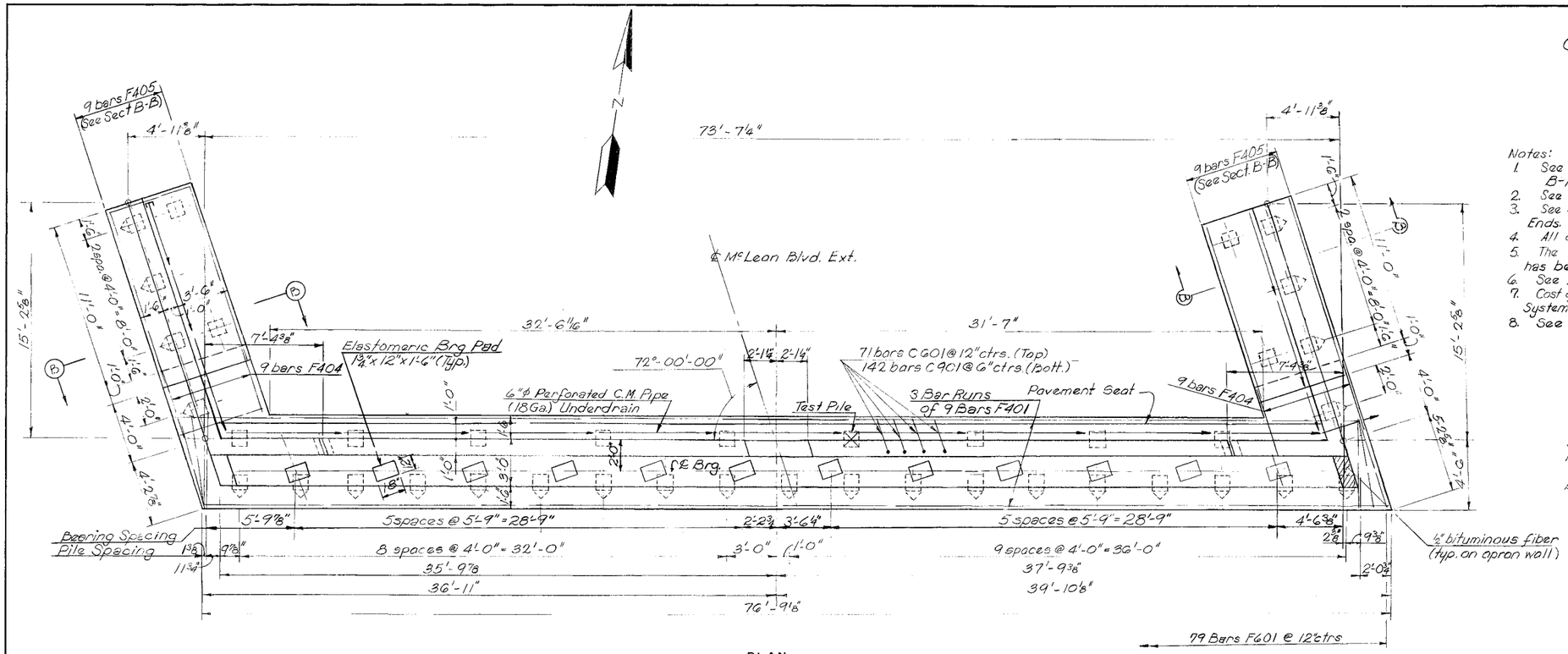
Const. No. 79007-3125-44

PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(132)4	1975	

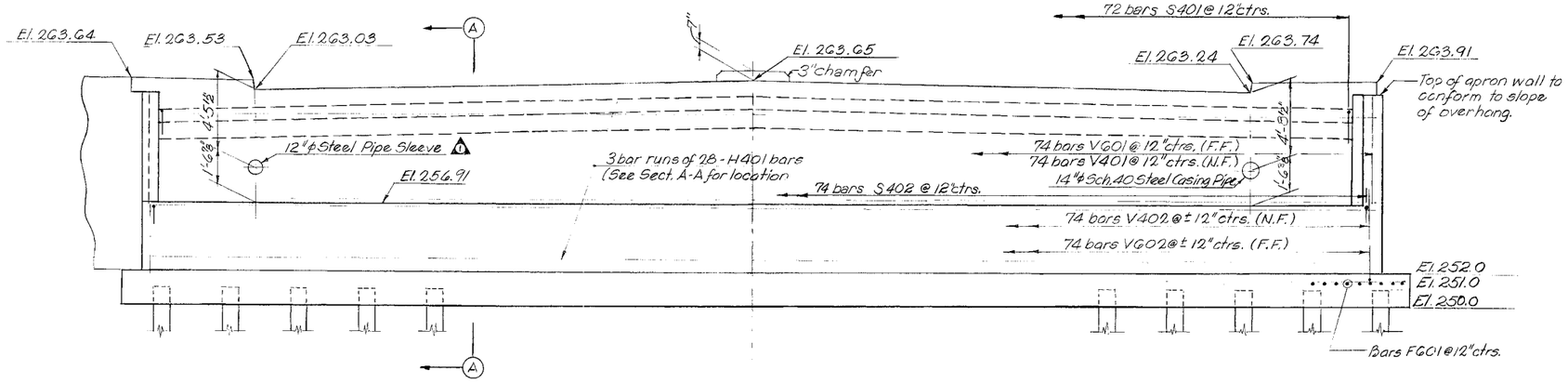
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	1-16-76	C E H	Changed dia. of Steel Sleeve for Utility

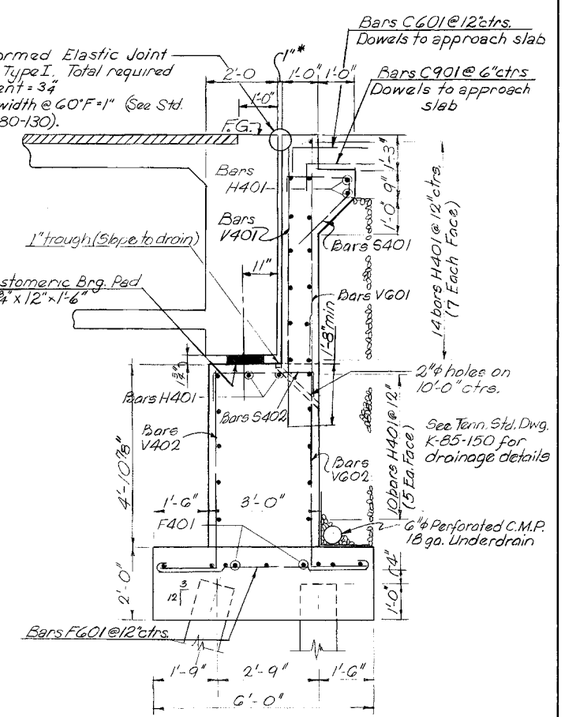
Notes:
1. See Dwg M-44-26 for Bill of Steel, Wing Wall Elevation, Section B-B & C-C and Estimated Quantities.
2. See Std. Dwg. K-38-154 for Parapet Reinforcement to be placed in Wing Walls.
3. See Std. Dwg. K-86-144 for details of Reinforced Concrete Pavement at Bridge Ends. Also See Dwg. M-44-26.
4. All drainage pipes to have minimum slope = 1/8" /ft.
5. The backwall shall not be poured until after inspection of the Superstructure has been completed and the end inspection openings closed.
6. See Dwg. M-44-68 for Parapet and Wingpost details.
7. Cost of Bridgerail and Wingpost to be included in the cost of the Bridgerail System.
8. See Dwg M-44-31 for details of Elastomeric Bearing Pads.



PLAN
Scale: ½" = 1'-0"



ELEVATION
Scale: ½" = 1'-0"



SECTION A-A
Scale: ½" = 1'-0"

PILE NOTE:

See General Notes on Dwg. M-44-21. Drive piles in Sect A-A to an ultimate bearing Capacity of 94 tons. (30 Piles required.) Drive piles in Sect. B-B to an ultimate bearing capacity of 60 tons. (10 piles required) See Dwg. M-44-32 for additional data.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE June '75
DRAWN BY J. Starr DATE June '75
SUPERVISED BY D. McCorkle DATE June '75
CHECKED BY F. Hoffman DATE Aug. '75

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240
ABUTMENT C
STA. 323+00.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-25

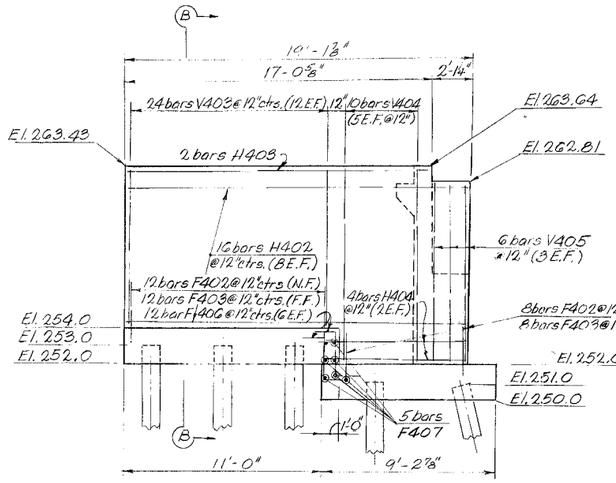
MICROFILMED

Const. No. 79007-3125-44

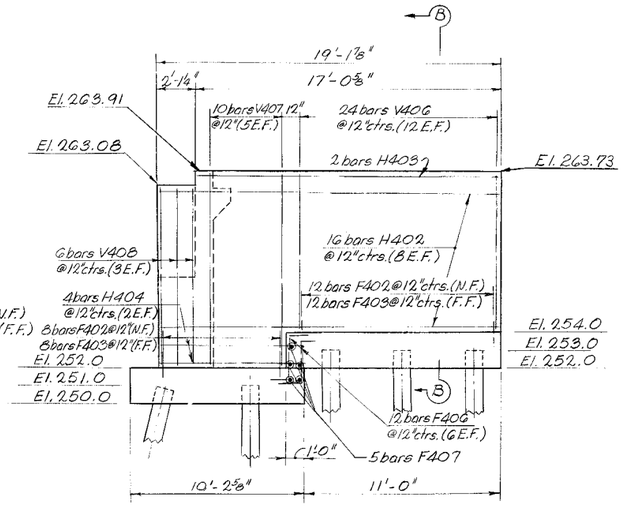
PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(192)6	1975	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



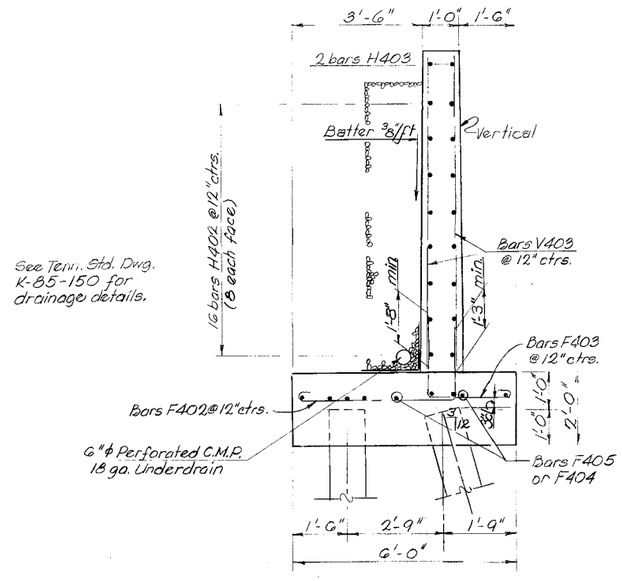
ABUTMENT C - WEST WALL
Scale 4" = 1'-0"



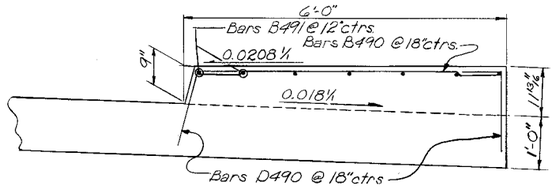
ABUTMENT C - EAST WALL
Scale ¼" = 1'-0"

ESTIMATED QUANTITIES

Item No.	Item	Unit	Quantity
204-02.01	Dry Excavation	Cu.Yd.	211
604-03.01	Class A Concrete	Cu.Yd.	122.6
604-03.02	Steel Bar Reinforcement	Pound	10,124
606-09.01	Test Piles (Precast Conc. Size 1)	Lin.Ft.	30'
606-09.03	Precast Conc. Piling (Size 1)	Lin.Ft.	1,170
710-10.00	6"ϕ Perforated C.M.P. (18Ga) w/porous bkfill	Lin.Ft.	101.0
710-11.00	6"ϕ C.M.P. Underdrain (18Ga.)	Lin.Ft.	4.0

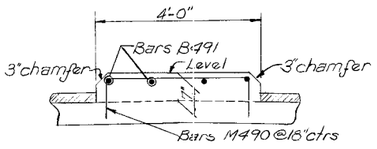


SECTION B-B
Scale ½" = 1'-0"

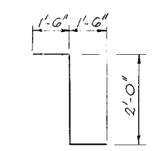


APPROACH SLAB SECTION THRU SIDEWALK
Scale ¾" = 1'-0"

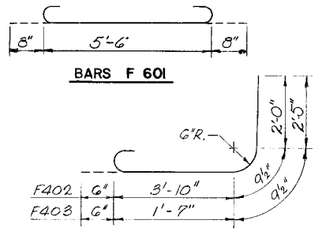
Note:
Approach Slab to be built according to Tenn. Std. Dwg. K-86-144 execpt as noted above. Bars D490 & M490 to be pushed into green concrete after slab has been screeded.



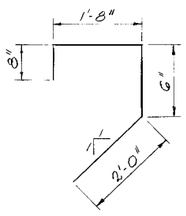
APPROACH SLAB SECTION THRU RAISED MEDIAN



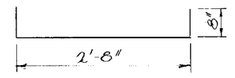
BARS F 406



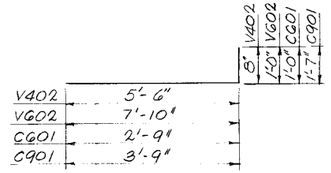
BARS F402 & F403



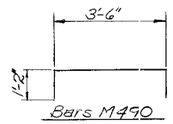
BARS S 401

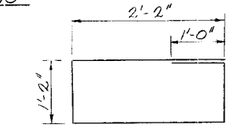


BARS S 402

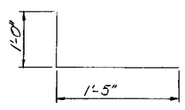


BARS V402, V602, C601 & C901





BARS A 590



BARS D 490

BILL OF STEEL

Mark	No. Reqd.	Length	Shape
F401	27	26'-7"	
F402	40	7'-2"	
F403	40	5'-4"	
F404	18	4'-0"	
F405	18	11'-8"	
F406	24	5'-0"	
F407	10	5'-8"	
C601	71	3'-9"	
C901	142	5'-4"	
FG01	79	6'-10"	
H401	84	25'-6"	
H402	32	18'-10"	
H403	4	16'-9"	
H404	8	8'-0"	
S401	72	4'-9"	
S402	74	4'-0"	
V401	74	8'-2"	
V402	74	6'-2"	
V403	24	9'-3"	
V404	10	11'-9"	
V405	6	10'-6"	
V406	24	9'-7"	
V407	10	11'-8"	
V408	6	10'-9"	
VG01	74	5'-10"	
VG02	74	8'-10"	
APPROACH SLAB			
A490	150	24'-10"	
A590	116	7'-6"	
AG90	69	24'-0"	
A790	16	37'-0"	
A990	139	24'-0"	
B490	34	5'-6"	
B491	18	24'-0"	
M490	17	5'-10"	
D490	68	2'-5"	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

ABUTMENT C - DETAILS
STA. 323+00.00

SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE July '76
DRAWN BY	J. Starr	DATE July '76
SUPERVISED BY	D. McCorkle	DATE July '76
CHECKED BY	F. Hoffman	DATE Aug. '76

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-26

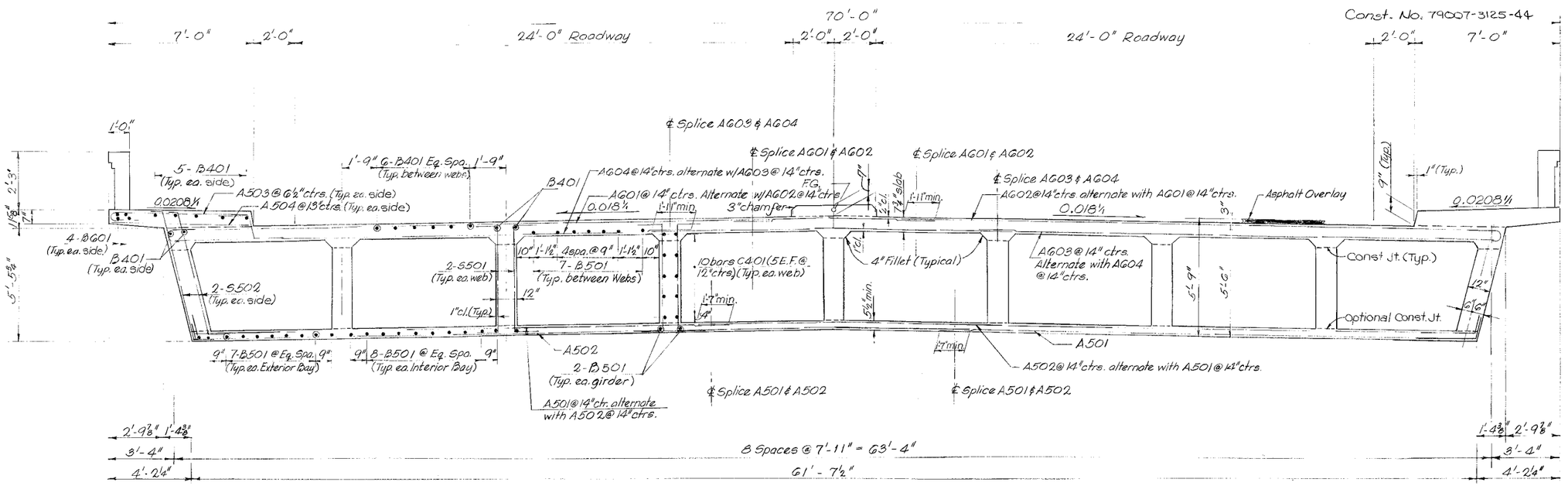
MICROFILMED

PROJECT NO.	YEAR	SHEET NO.
EAC 1240-1(132)6	1975	

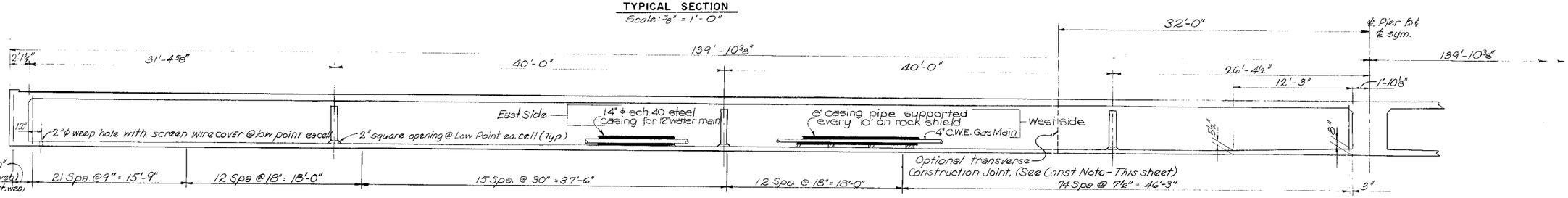
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	1-16-76	C E H	Changed dia. of Steel Sleeve for Utility

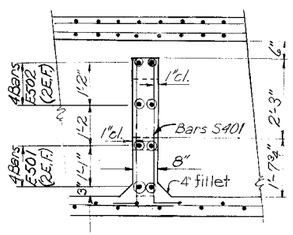
Const. No. 79007-3125-44



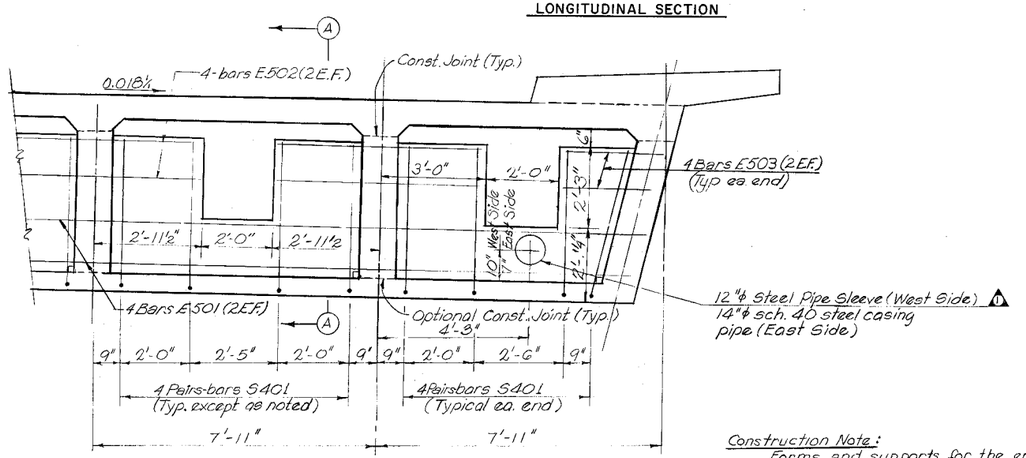
TYPICAL SECTION
Scale: ⅜" = 1'-0"



LONGITUDINAL SECTION



SECTION A - A
Scale: ½" = 1'-0"



DIAPHRAGM DETAILS
Scale: ½" = 1'-0"

ESTIMATED QUANTITIES

	Item No.	Description	Unit	Quantity
	604-0301	Class A Concrete (Bridge)	Cu. Yd.	1392.8
(1)	604-0502	Steel Bar Reinforcement	Lbs.	203,870

1. Quantity includes total Superstructure Reinforcement and 4,720 Lbs of Pier Cap Reinforcement (See Dwg. M-44-24).

NOTES:

1. See Dwg. M-44-29 for Bill of Steel.
2. Longitudinal Section shown is at ℄ Span 1. That for Span 2 is identical.
3. See Dwg. M-44-68 for details of parapet reinforcing to be placed in the slab.

Construction Note:
Forms and supports for the entire bottom slab shall be in place prior to the placement of Superstructure Concrete. Concrete for the top and bottom slabs and webs may be placed in any sequence; However, construction joints will be permitted at designated locations only. No top slab concrete may be placed until all webs have been completed.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	July '75
DRAWN BY	J. Starr	DATE	July '75
SUPERVISED BY	D. McCorkle	DATE	July '75
CHECKED BY	F. Hoffman	DATE	Aug. '75

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

TYPICAL SECTIONS
STA. 323 + 00.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-27

Minimum lap longitudinal bars	
#4	1'-3"
#5	1'-7"
#6	2'-2"

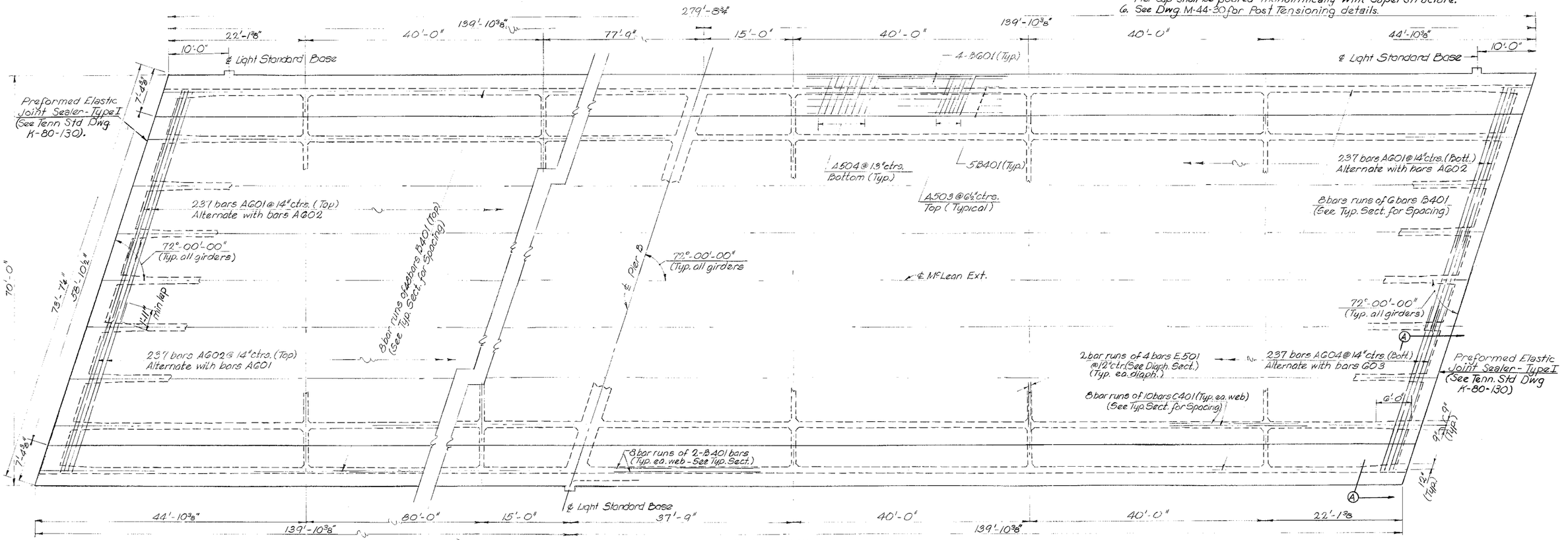
NOTES: Const. No. 79007-3125-44

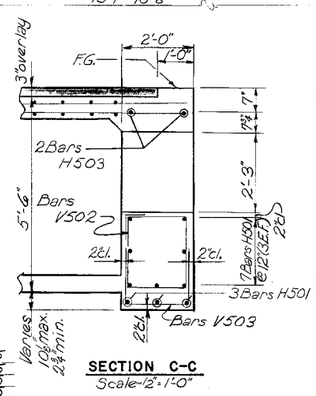
1. See Dwg. M-44-27 for Typical Section, Estimated Quantities and Diaphragm Details
2. See Dwg. M-44-29 for Bill of Steel.
3. See Dwg. M-44-26 for details of Parapet & Rail.
4. When pouring sidewalk provisions shall be made for setting reinforcing steel for parapet. The parapet shall not be poured until the sidewalk is poured, cured and post tensioning completed. When pouring parapet, provisions shall be made for setting anchor bolts for rail. Sidewalks shall be poured before Post-Tensioning.
5. For details of Pier Cap See Dwg. M-44-24 Pier Cap shall be poured monolithically with Superstructure.
6. See Dwg. M-44-30 for Post Tensioning details.

PROJECT NO.	YEAR	SHEET NO.
EACI-240-1(132)6	1975	

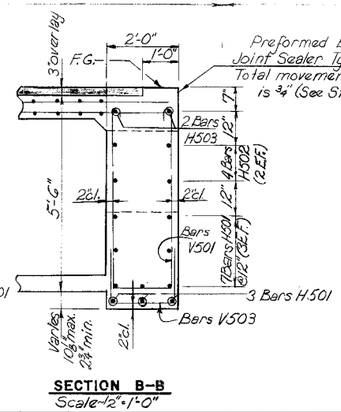
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	1-16-76	C&H	Changed dia. of Steel Sleeve for Utility



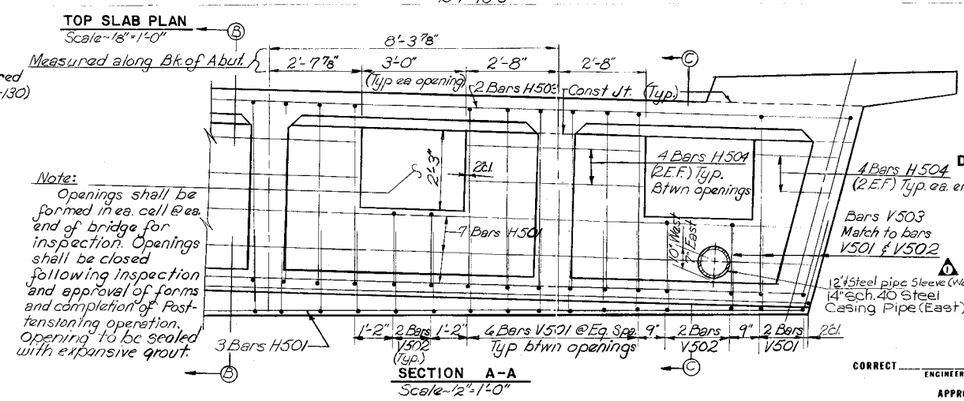


SECTION C-C
Scale-1/2"=1'-0"



SECTION B-B
Scale-1/2"=1'-0"

TOP SLAB PLAN
Scale-1/8"=1'-0"
Measured along Bk. of Abut.



SECTION A-A
Scale-1/2"=1'-0"

Note:
Openings shall be formed in ea. cell @ ea. end of bridge for inspection. Openings shall be closed following inspection and approval of forms and completion of Post-tensioning operation. Opening to be sealed with expansive grout.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

TOP SLAB PLAN
STA. 323+00.00

SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	June '75
DRAWN BY	J. Starr	DATE	June '75
SUPERVISED BY	D. McCorkle	DATE	June '75
CHECKED BY	F. Hoffman	DATE	Aug. '75

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-28

Const. No. 79007-3125-44

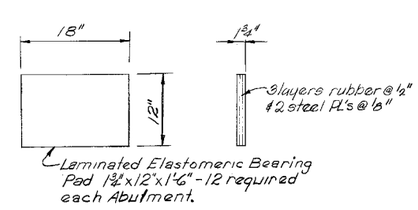
PROJECT NO.	YEAR	SHEET NO.
EAC1240-1(132)0	1975	

REVISIONS

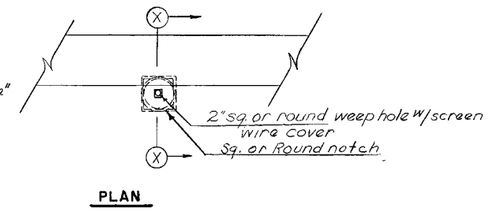
NO	DATE	BY	BRIEF DESCRIPTION

NOTES:

1. See Dwg. M-44-27 for Estimated Quantities, Typical Section, Longitudinal Section, Diaphragm Details and Section A-A, B-B & C-C.
2. Pier Cap to be poured monolithically with Superstructure. See Dwg. M-44-24 for Pier Cap detail.
3. See Dwg M-44-30 for Post-Tensioning details.
4. See Abutment drawings for location of elastomeric bearings.
5. Elastomeric bearing pads shall conform to Section 25 of AASHTO Standard Specifications for Highway Bridges (1973) plus Interim. Laminated Bearings shall be made of 50 Durometer Hardness Elastomers.
6. See Dwg M-44-28 for min. lap for longitudinal bars.

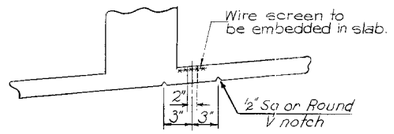


ELASTOMERIC BEARING DETAIL
Scale 1"=1'-0"

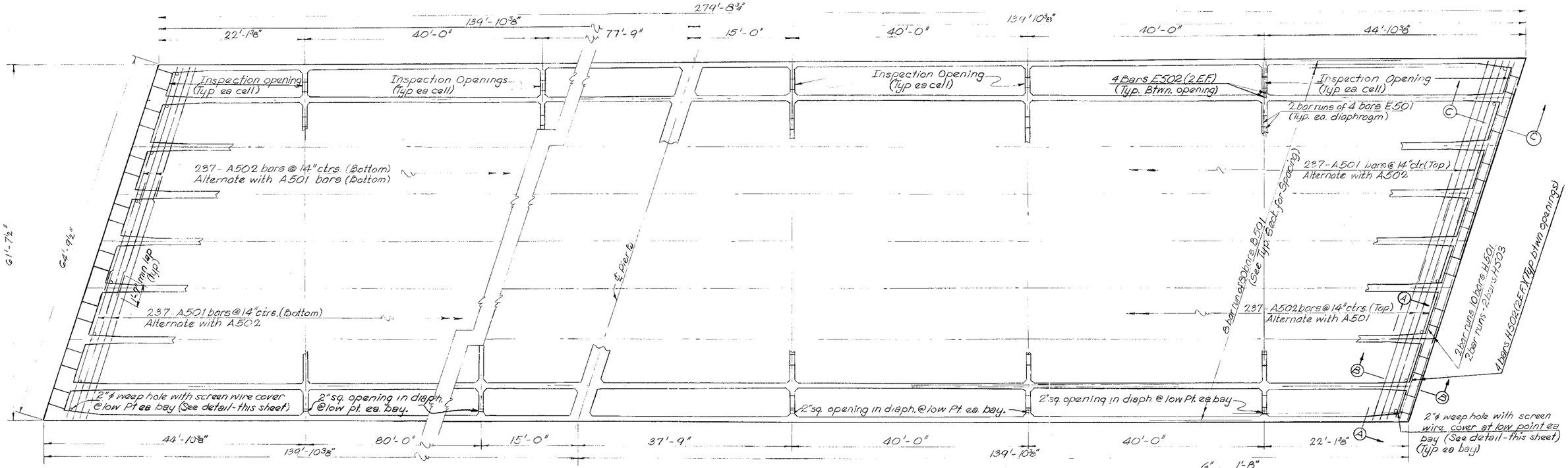


PLAN

WEEP HOLE DETAIL
No Scale



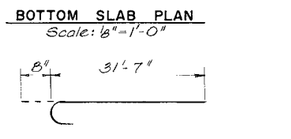
SECTION X-X



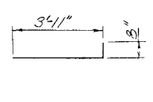
BOTTOM SLAB PLAN
Scale: 1/8"=1'-0"

BILL OF REINFORCING

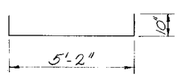
Mark	No. Req'd.	Length	Shape	Mark	No. Req'd.	Length	Shape
A501	474	24'-10"		E501	48	31'-4"	
A502	474	41'-6"		E502	168	5'-6"	
A503	1032	9'-0"		E503	48	2'-0"	
A504	516	6'-8"					
AG01	237	32'-3"					
AG02	237	37'-9"		H501	40	33'-2"	
AG08	237	27'-5"		H502	56	5'-0"	
AG04	237	41'-11"		H503	8	34'-4"	
				H504	16	2'-0"	
B401	608	36'-2"					
B501	1088	36'-6"					
BG01	64	36'-9"		V501	92	12'-10"	
				V502	32	8'-4"	
				V503	124	5'-8"	
C401	720	36'-2"					
S401	384	4'-7"					
S501	2016	6'-9"					
S502	576	7'-0"					



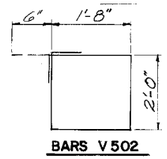
BARS A 601



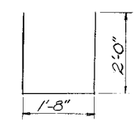
BARS S 401



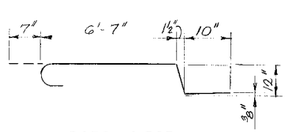
BARS S 501



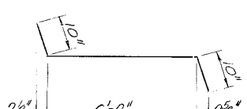
BARS V 502



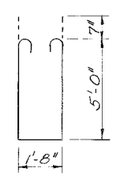
BARS V 503



BARS A 503



BARS S 502



BARS V 501

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240
BOTTOM SLAB PLAN
STA. 323+00.00

SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	June '75
DRAWN BY	J. Starr	DATE	June '75
SUPERVISED BY	D. McCorkle	DATE	June '75
CHECKED BY	F. Hoffman	DATE	Aug. '75

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-29

1. POST TENSIONING: See Special Provision No.560, Special Provision Regarding Post-Tensioned Prestress Concrete and notes this sheet

2. CONCRETE: To be Class A f'_c = 4000 psi; Stressing operations shall not begin until the concrete has reached a compression strength of 3500 psi as indicated by test specimens, See Section 615.09 of the Tennessee Standard Specification.

3. DESIGN: Based on U=0.25 and K=0.0002. P/Jack specified at the jacking ends includes friction losses plus provision for 5000psi loss in stress at jacking plus 31,600 psi long term loss in stress.

4. TENSIONING FORCE: The maximun required tensioning force at the jack is 1945 kips per web which is 76 percent of the specified minimum ultimate tensile strength of the prestressing steel. Tendons shall be jacked to the above value and anchored at an equivalent anchor set of ⅜".

5. STRESSING SEQUENCE: Jacking shall be done from both abutments. Avoid stressing sequence that will cause unsymmetrical forces about a vertical axis.

6. CLEARANCES FOR POST-TENSIONING UNIT: Horizontal clearances between units = 2½ minimum. Units may be bundled vertically in groups of 3 maximum. Vertical clearance between bundled units = 3" minimum.

7. Bar reinforcement interfering with prestressing tendon alignment shall be adjusted by the Engineer.

8. Form work shall not be removed until all Post-Tensioning is complete.

9. If ducts are to be placed within limits of the bottom slab, provisions shall be made to tie the ducts to the vertical steel before the bottom slab is poured.

10. Ducts to be vented through slab to within 3ft of high points of the cable path.

11. Anchorage details are to be determined by the fabricator. Double end pulls of all tendons are required.

12. Camber: Dead load camber shown on the plans is based on E_c = 1,214,700 p.s.i. The Contractor shall submit calculations of deflections due to prestress load based on tendon arrangement selected and E_c = 1,214,700 psi. These deflections shall be subtracted from the dead load camber shown on these plans and adjusted to the vertical curve to determine screed elevations for pouring.

13. Reinforcing Steel Reinforcing Steel required at each end anchorage shall not be paid for separately, but shall be included in the price bid for Post-tensioning. These details are to be included in post-tensioning shop drawings.

Const. No. 79007-3125-44

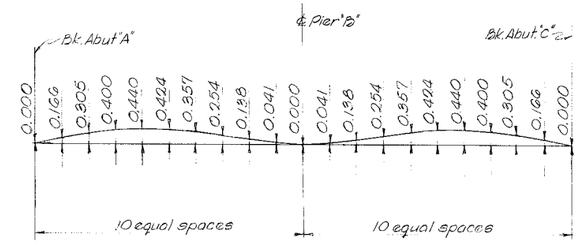
PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(132)6	1975	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

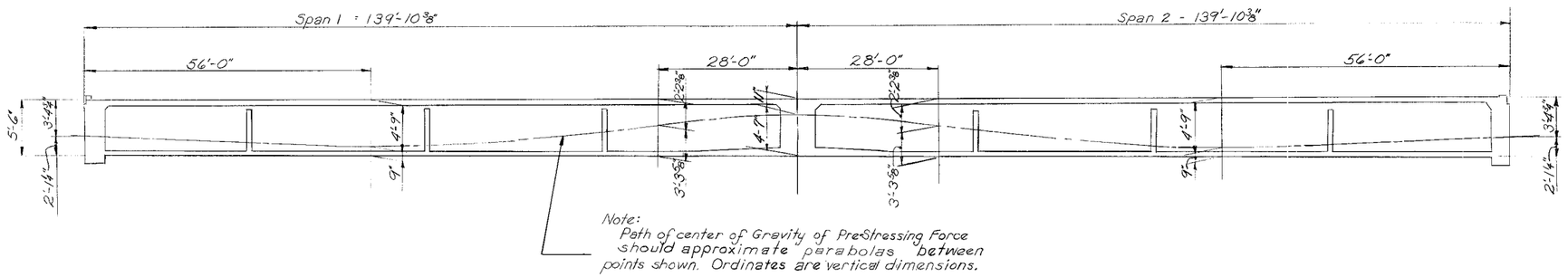
SECTION PROPERTIES

At ℄ Spans (Bottom Slab t = 5½")	At Pier (Bottom Slab t = 8")
A = 17,473 in.²	A = 19,052 in.²
I = 11,856,739 in.⁴	I = 13,381,731 in.⁴
Z_t = 326,557 in.³	Z_t = 343,147 in.³
Z_b = 302,532 in.³	Z_b = 366,594 in.³
Y_t = 36.31 in.	Y_t = 39.0 in.
Y_b = 39.19 in.	Y_b = 36.5 in.



DEAD LOAD CAMBER DIAGRAM

NOTE: The curve shows the dead load camber only. Camber shall be increased by the amount of anticipated take-up in the falsework. Camber values are based on E_c = 1,214,700 psi. See Note 12, this Dwg. for adjustments necessary due to prestress forces and vertical curve.



DRAPE COORDINATES FOR PRE-STRESSED STEEL
~No Scale~

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240

POST-TENSIONING DETAILS
STA. 323+00.00

SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE June 75
DRAWN BY	J. Milam	DATE June 75
SUPERVISED BY	D. McCorkle	DATE June 75
CHECKED BY	F. Hoffman	DATE July 75

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-44-30

MICROFILMED

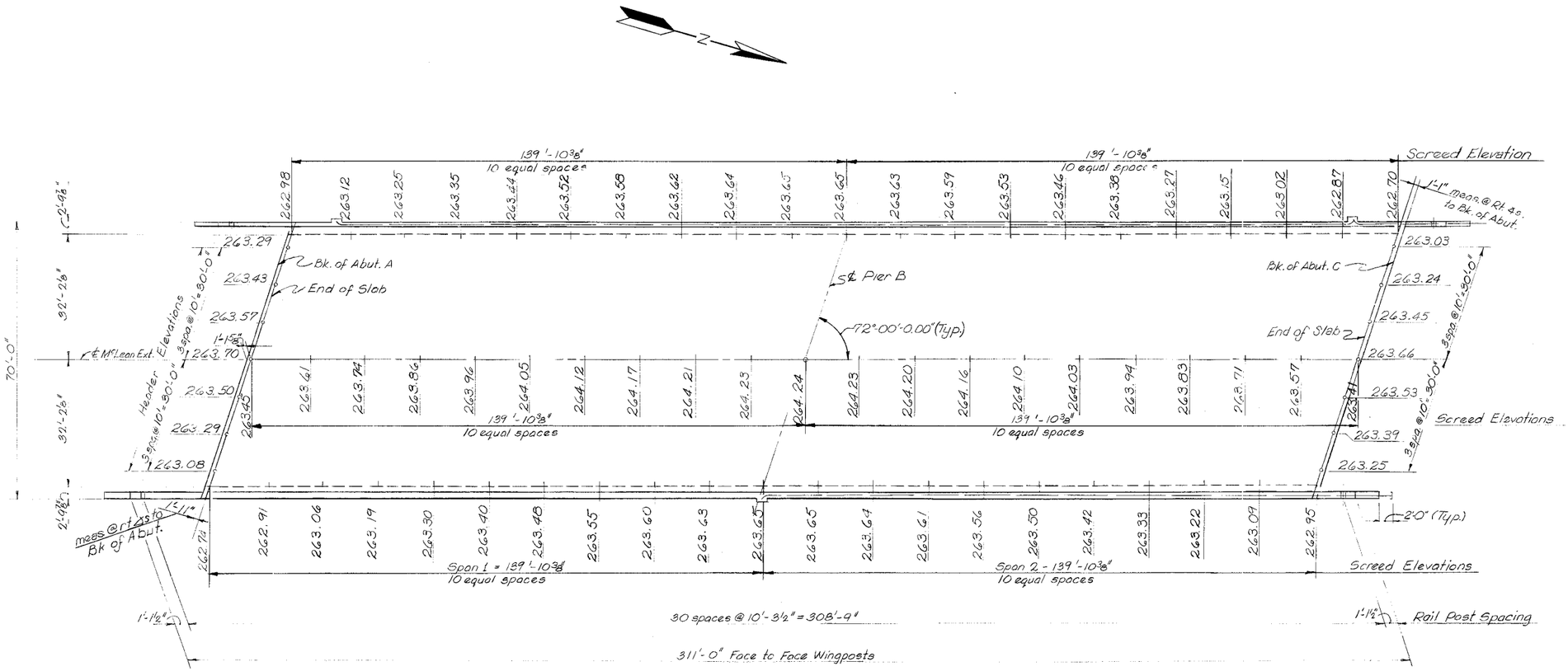
N1154S

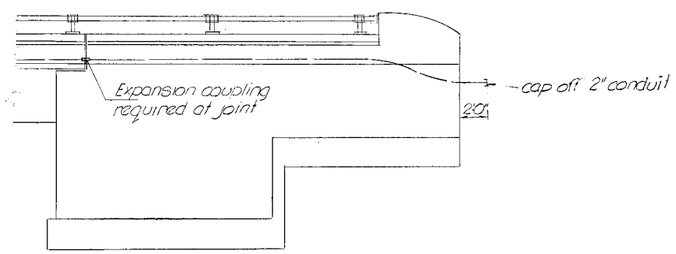
Const. No. 79007-3125-44

PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(132)10	1975	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION





CONDUIT DETAIL AT ABUTMENT

NOTES:

1. The Elevations given are at top of Concrete and do not include 3" Asphalt Overlay.
2. Header Elevations are given at the end of slab but do not include the ⅜" x 3¾" Recess for the Type I Preformed Elastic Joint Sealer

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE 33C
McLEAN BLVD. EXT. OVER I-240
SCREED ELEVATIONS & RAIL POST SPACING
STA. 323+00.00
SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	F. Hoffman	DATE	Aug. '75
DRAWN BY	J. Starr	DATE	Sept '75
SUPERVISED BY	D. McCorkle	DATE	Sept '75
CHECKED BY	D. McCorkle	DATE	Aug. '75

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

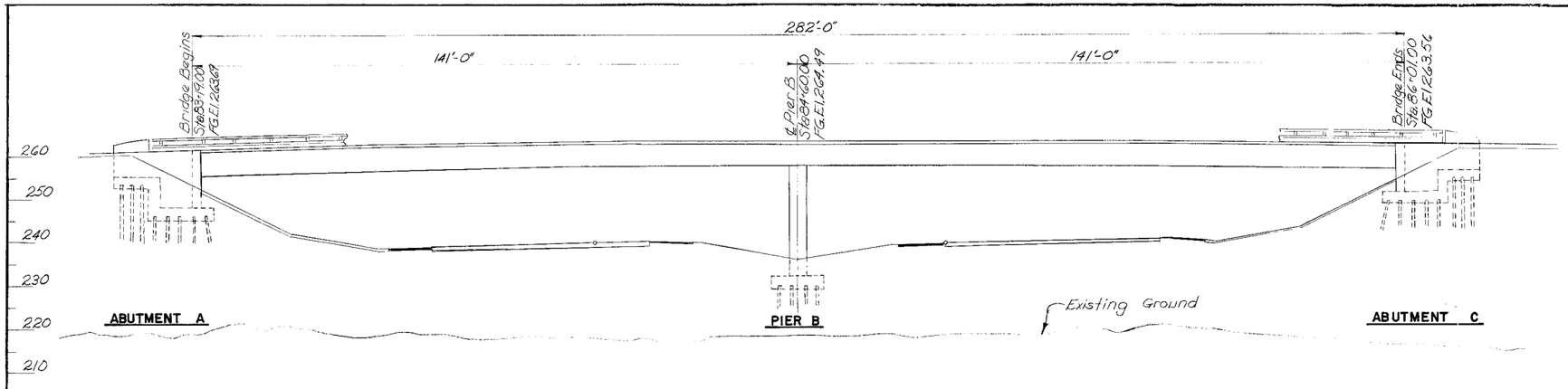
M-44-31

MICROFILMED

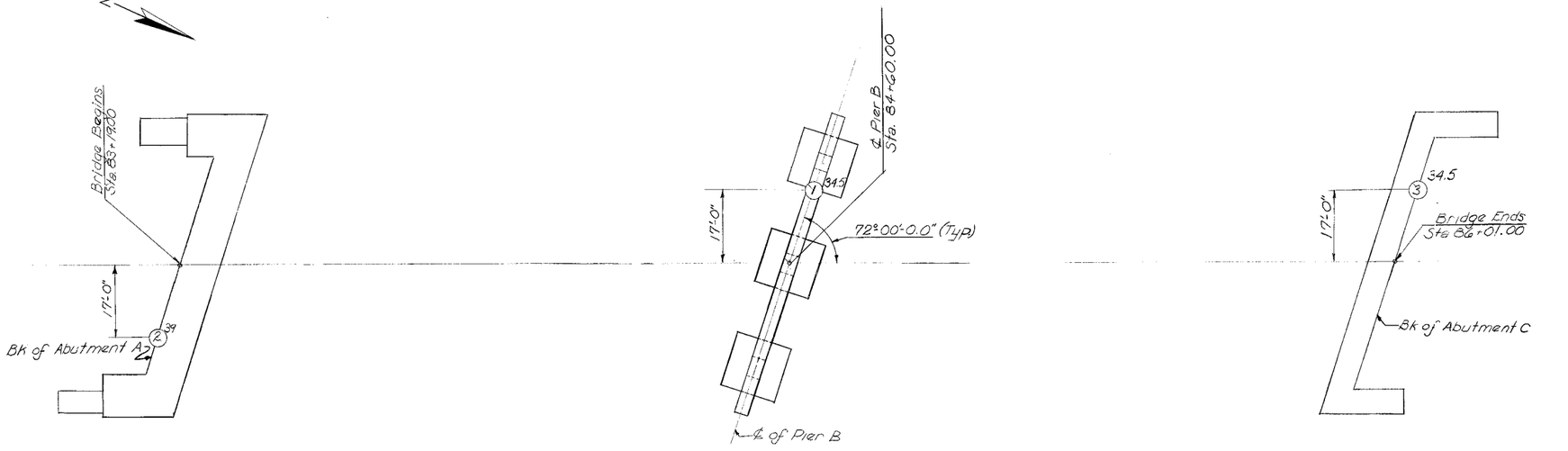
N41545

PROJECT NO.	YEAR	SHEET NO.
EAC I-240-1(132)6	1975	

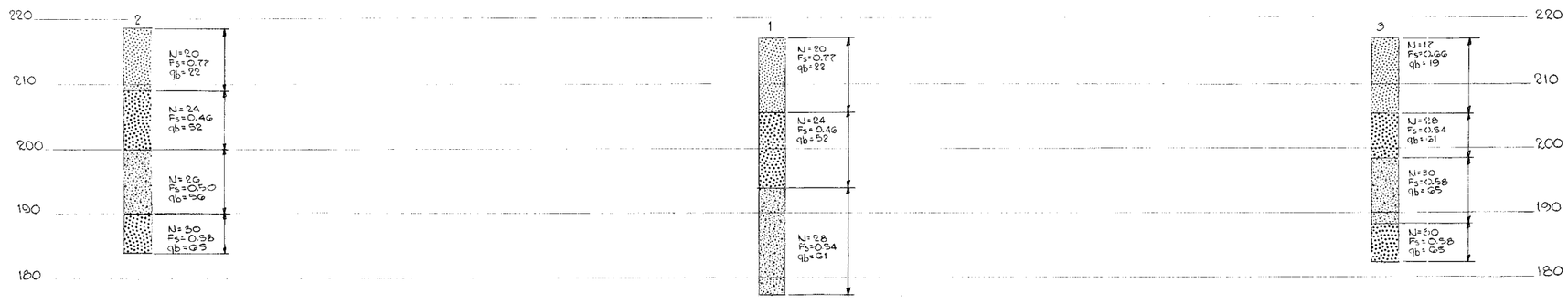
Const. No. 79007-3125-44



ELEVATION
Scale 1"=15'



PLAN
Scale 1"=15'



PILE DATA

Location	① Design Load	No. Req'd	Cut-Off Elevation	Estimated Tip Elevation	② Estimated Pile length
	98 Tons	39	248.50	223.5	25.0
Abutment A	60 Tons	10	255.00	230.0	25.0
Pier B	84 Tons	75	230.50	210.5	20.0
Abutment C	94 Tons	30	251.00	221.0	30.0
	60 Tons	10	253.00	223.0	30.0

① Design Loads are based on factored loads.
② Pile lengths subject to change after reviewing of the load test.

Legend

1 ○ 39.5' Depth augered (no refusal)
Boring no.
N = "N" Value
Fs = Tons/Ft.²
qb = Tons/Ft.²

Silt
Sand
Gravel

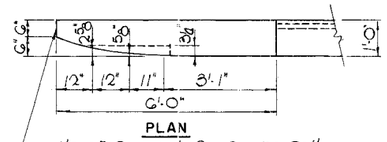
SOIL BORINGS

McLEAN BLVD. EXTENDED OVER E.B. & W.B. I-240

SHELBY COUNTY

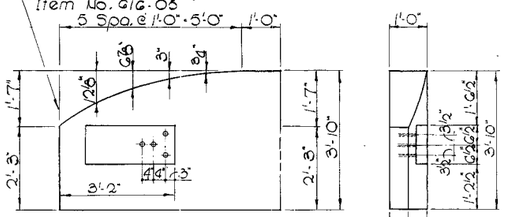
MICROFILMED

M-44-32



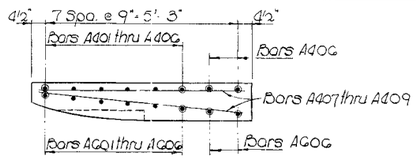
PLAN

Limits of Payment for Bridge Rail
Item No. 615-05

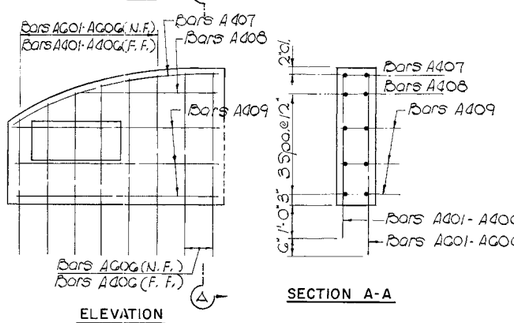


ELEVATION

END ELEVATION



PLAN



ELEVATION

SECTION A-A

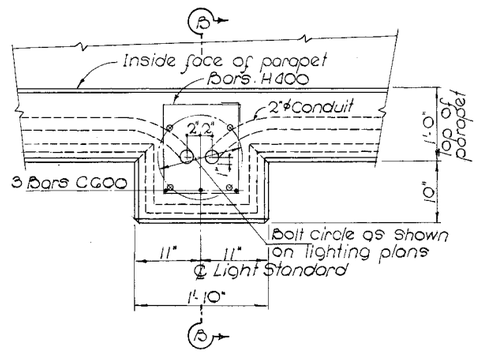
WINGPOST DETAILS
K-38-154 (MODIFIED TO 3'-10" HEIGHT)
Scale: 1/2" = 1'-0"

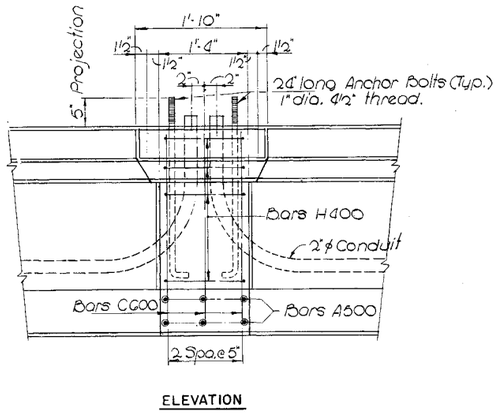
BILL OF STEEL (FOR ONE WING POST)

Bar	No. req'd.	Length	Shape	Bar	No. req'd.	Length	Shape
A401	2	3'-5"		A601	2	3'-11"	
A402	2	3'-10"		A602	2	4'-4"	
A403	2	4'-2"		A603	2	4'-8"	
A404	2	4'-4"		A604	2	4'-10"	
A405	2	4'-6"		A605	2	5'-0"	
A406	6	4'-8"		A606	6	5'-2"	
A407	2	6'-0"					
A408	2	3'-9"					
A409	6	5'-8"					

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCORKLE DATE JUNE 1975
DRAWN BY M. GARAY DATE JUNE 1975
SUPERVISED BY D. McCORKLE DATE JUNE 1975
CHECKED BY F. HOFFMAN DATE JUNE 1975

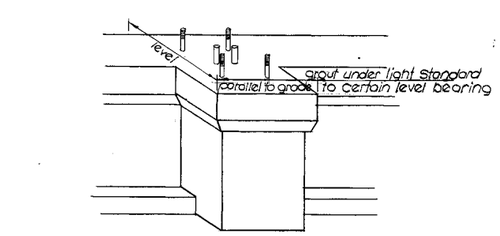


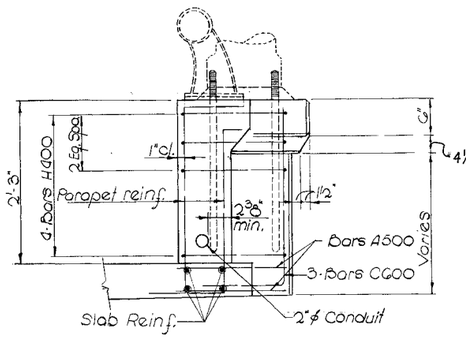


ELEVATION

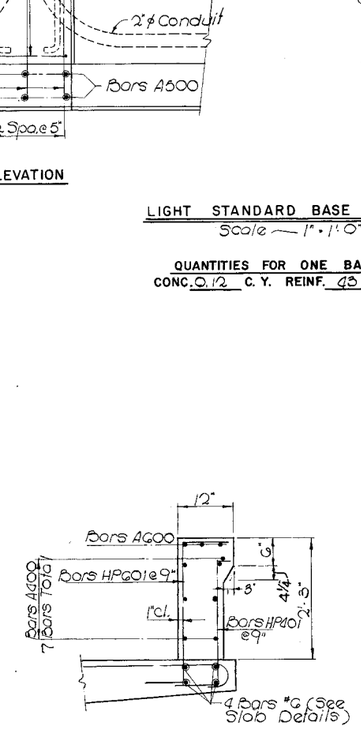
LIGHT STANDARD BASE DETAILS
Scale — 1" = 1'-0"

QUANTITIES FOR ONE BASE
CONC. 0.12 C. Y. REINF. 43 LBS.

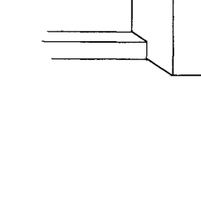




SECTION B-B



SECTION THRU PARAPET

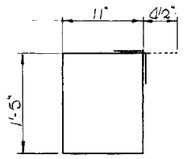


ESTIMATED QUANTITIES
PER LIN. FT. (K-38-154 AS MODIFIED)

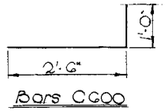
Class "A" Conc.	Steel Bar Reinf.
0.0683 C. Y.	20.90 lbs.

NOTE: For details of regd. joint in parapet at piers, longitudinal reinforcement and details of metal rail see Tenn. Std. Dwg. K-38-150.

MODIFICATIONS TO TENN. STD. DWG. K-38-154
Scale: 3/4" = 1'-0"



Bars H400



Bars CG00

Const. No. 79007-3125-04
Const. No. 79950-3764-54

PROJECT NO.	YEAR	SHEET NO.
FAI-240-1(132)6		
M-3907(1)		

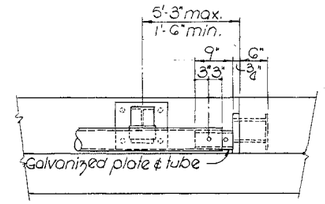
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:
1. See individual bridge plans for location of light standard base if applicable.
2. Quantities for Light Standard Base are included in price bid for bridge rail system.

BILL OF STEEL
(FOR ONE LIGHT STANDARD)

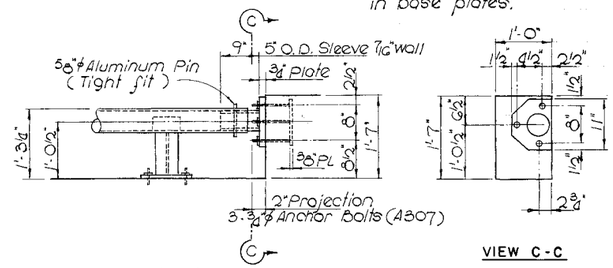
Bar	No. Regd.	Length	Shape
A500	6	2'-0"	
CG00	3	3'-6"	
H400	4	5'-3"	



PLAN

NOTE:
Tubing and base plate material shall be of weldable carbon steel with a minimum yield point of 36 ksi galvanized according to ASTM A123. Specifications after fabrication.

NOTE:
Contractor may field drill holes in base plates.



ELEVATION

VIEW C-C

RAIL ATTACHMENT DETAILS
Scale: 3/4" = 1'-0"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LIGHT STANDARD BASE AND WINGPOST DETAILS
FOR MODIFIED K-38-154 RAIL

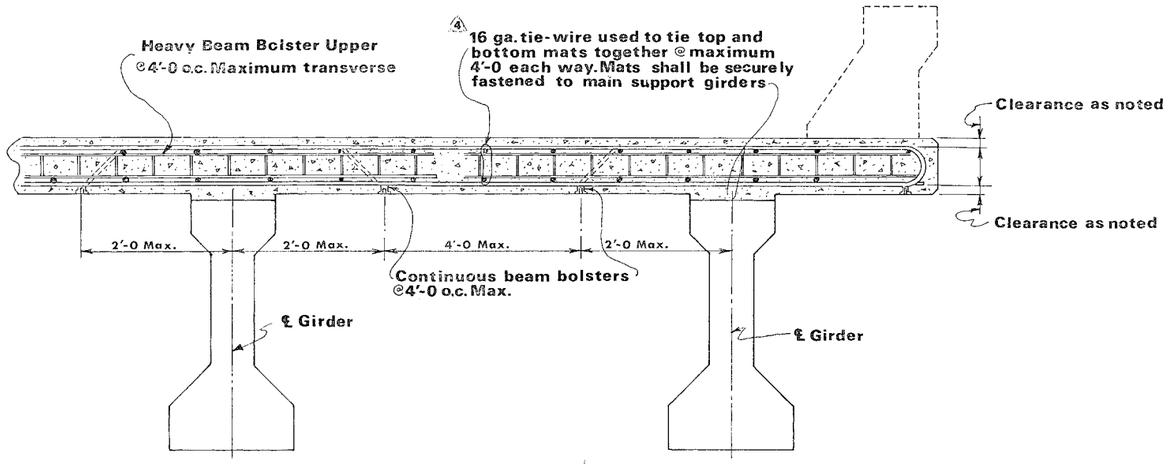
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

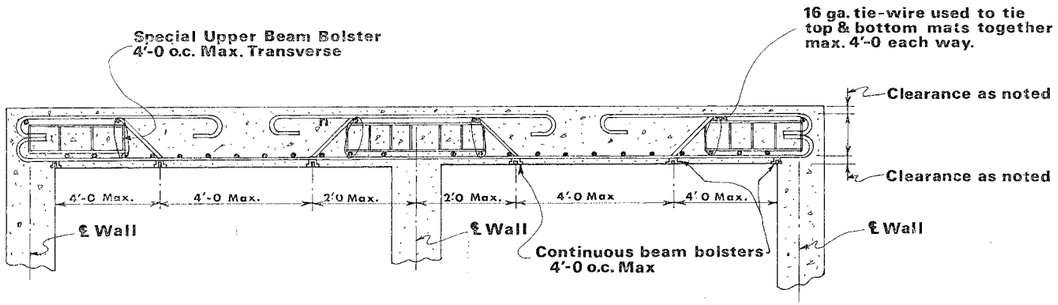
M-44-68

MICROFILMED

M1545



TYPICAL DETAILS FOR GIRDER TYPE BRIDGES



TYPICAL DETAILS FOR BOX TYPE STRUCTURES

④ **TABLE A**

Ba Size	Approx dia. outside deformations (inches)
#3	7/16
#4	9/16
#5	11/16
#6	7/8
#7	1

⑤ **TABLE B**

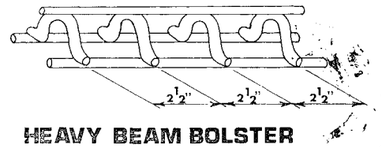
Bar Size	Approx dia. outside deformations (inches)
8	$1\frac{1}{8}$
9	$1\frac{1}{4}$
10	$1\frac{7}{16}$
11	$1\frac{5}{8}$
14	$1\frac{7}{8}$
13	$2\frac{1}{2}$

PROJECT NO.	YEAR	SHEET NO.

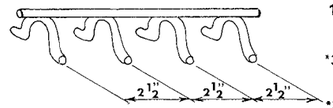
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	10-13-59		Reinf bar clearance
2	6-16-70		Gen. Revisions
3	9-12-74		Note 3 Changed
4	1-14-75		Revised Note
5	8-27-76		Revised Note #10 & added TABLE A & B, added note 13.

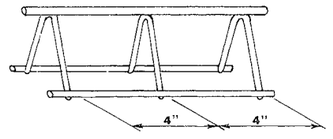
1. Reinforcement in Bridge slabs and top slabs of boxes shall be securely spaced from the forms by metal spacers as indicated this sheet. Other type spacers will not be permitted.
2. All beam bolsters (BB) & heavy beam bolster upper (HBBU) and Special Upper Beam bolster shall be made according to C.R.S.I. Specifications.
*3. Beam bolster (BB) legs in contact with forms and to be at exposed surface of concrete, shall be either "plastic protected" or "stainless steel protected"
4. Reinforcing bars shall be securely fastened together at each intersection using a minimum 16 ga. tie wire, except where spacing is less than one foot in each direction, alternate intersections shall be fastened.
5. Reinforcing bar supports shall be furnished to minus $\frac{1}{16}$" or plus $\frac{1}{8}$" of specified bar.
6. The top and bottom reinforcing mats shall be tied together at maximum of 4'-0 o.c. each way.
7. When any type shear connector protrudes from the top flange of the beam, the reinforcing steel shall be tied to these connectors at maximum 2'-0 o.c. along the beam.
8. Reinforcing steel shall not be used to support concrete buggies, material carts, or bundles of re-bars.
9. Cost of all bar supports and tie wire shall be included in bid price for reinforcing steel.
④ 10. A reinforcing bar may be substituted when a heavy Beam Bolster Upper of a 1" or less height is required. See Table A above.
11. A special Upper Beam Bolster (as detailed this sheet) may be substituted for heavy Beam Bolster Uppers required in heights of $5\frac{1}{4}$" or greater.
12. Steel in top & bottom of slabs of Reinforced Concrete Hollow Box Girders will be supported in accordance with this drawing.
*3a. Plastic protected legs shall be dipped and baked onto the upturned legs per the latest C.R.S.I. specifications.
*3b. Stainless protected legs shall be made from stainless steel with a minimum chromium content of 16% (similar to AISI TYPE 430). Per the latest C.R.S.I. specifications.
⑤ 13. Use table A and/or B for bar sizes to determine beam bolster size to use.



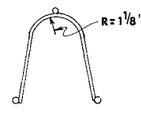
HEAVY BEAM BOLSTER UPPER (HBBU)



BEAM BOLSTER (B B)



SPECIAL UPPER BEAM BOLSTER



END VIEW

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

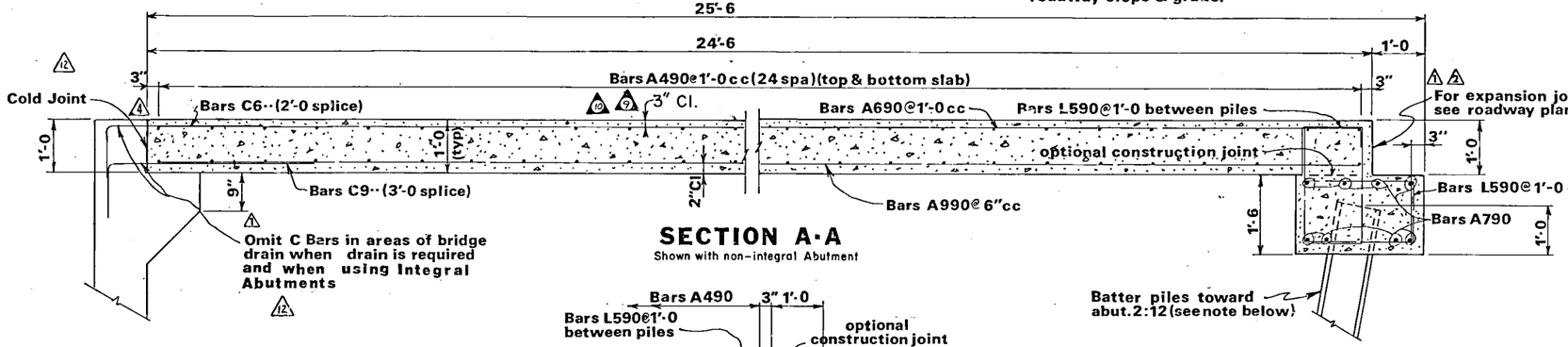
STANDARD REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

DESIGNED BY _____ DATE _____
DRAWN BY G.P. Mullican DATE 8-29-73
SUPERVISED BY _____ DATE _____
CHECKED BY _____ DATE _____

CORRECT H W Lochridge
ENGINEER OF STRUCTURES
APPROVED James Evans
DIRECTOR OF HIGHWAYS

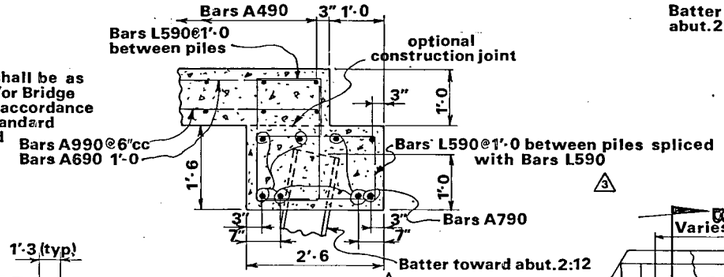
K-80-14

NOTE: Top of slab to conform to roadway slope & grade.



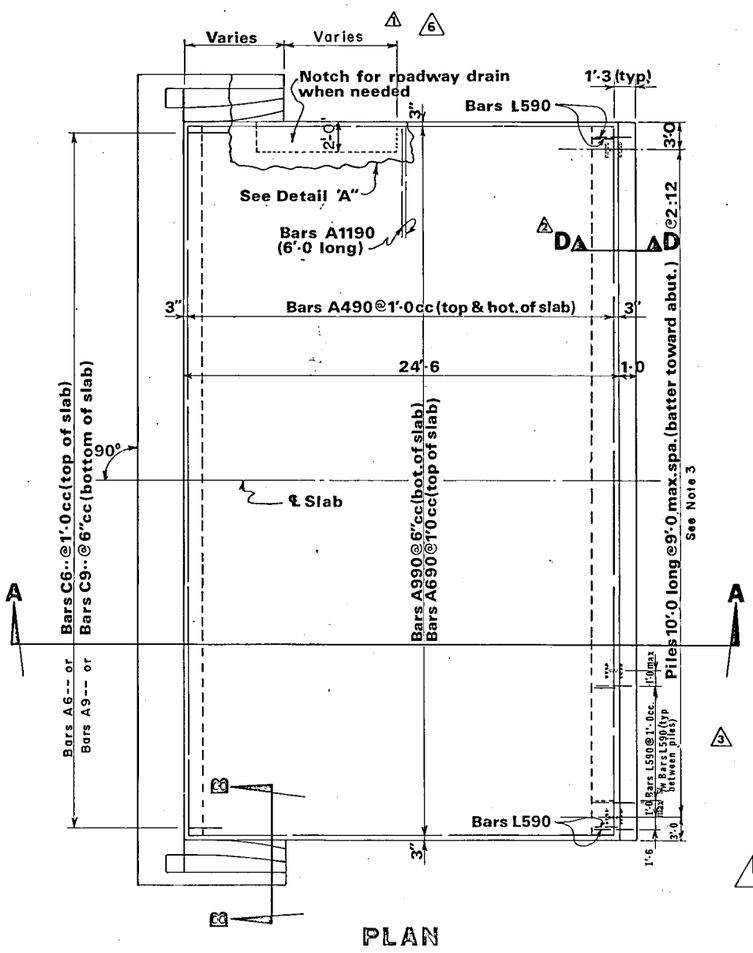
SECTION A-A

Shown with non-integral Abutment

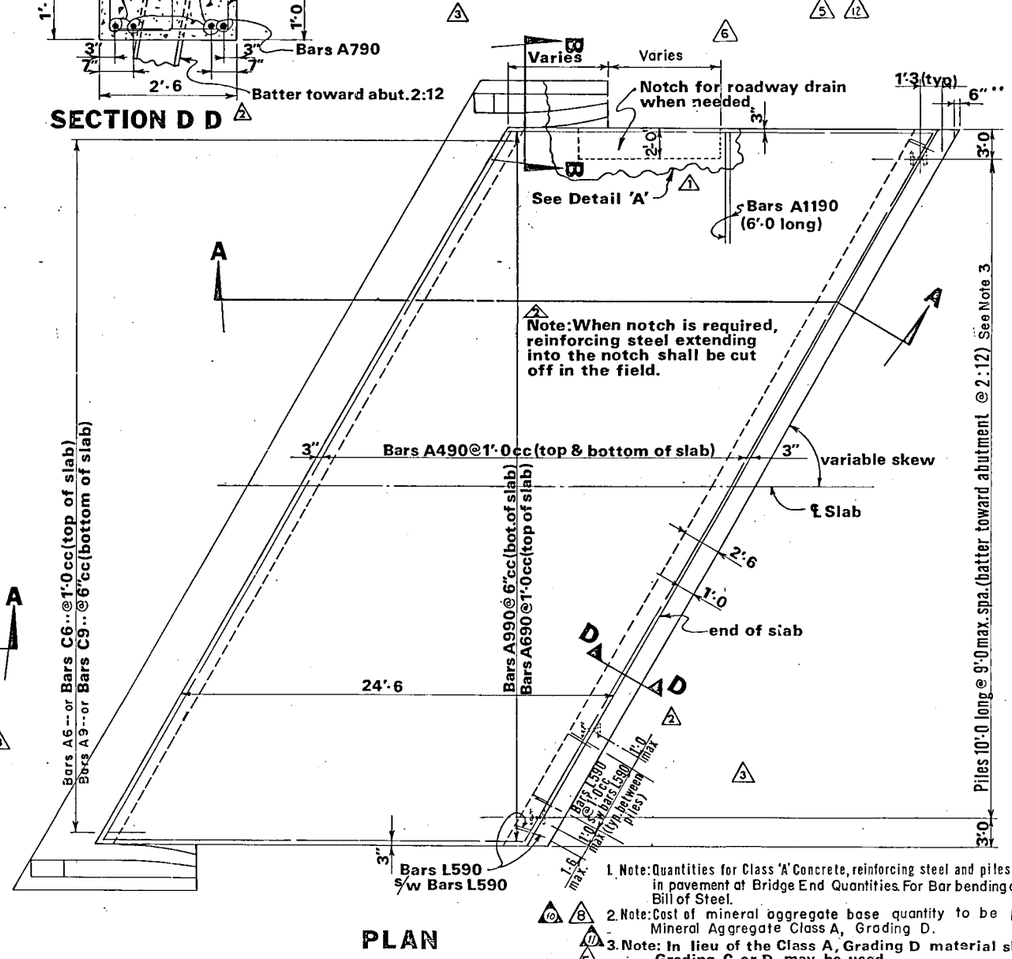


SECTION D D

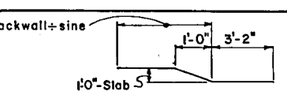
Note: Location of notch for bridge drain shall be as shown on the Roadway Plans and/or Bridge Plans and shall be constructed in accordance with the fit-up requirements of Standard Drawing D-CB-9 or as directed by the Engineer



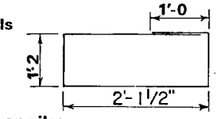
PLAN



PLAN

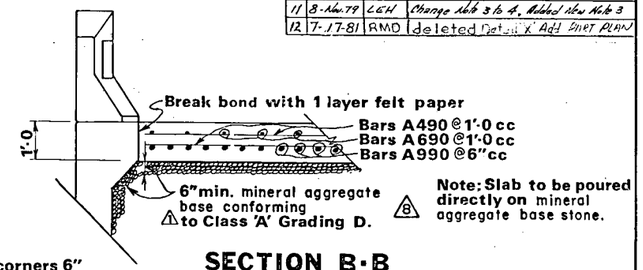


BARS F9--



BARS L ⚠9

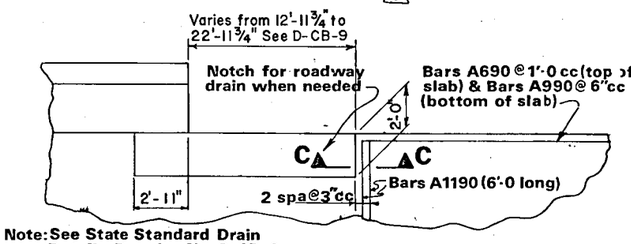
Total Length: 7'-5"



⚠8 Note: Slab to be poured directly on mineral aggregate base stone.

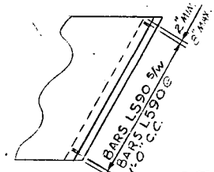
"Clip corners 6" for 60° or less

SECTION B-B

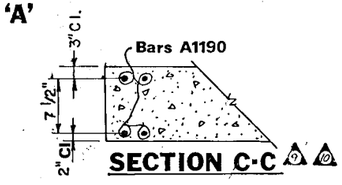


Note: See State Standard Drain Details Drawing No. D CB-9

DETAIL 'A'



PART PLAN (SHOWING L BAR SPA. WITH PILES OMITTED)



SECTION C-C

GENERAL NOTES

CONCRETE: To be Class 'A' (F'c = 3,000 psi)
REINFORCING STEEL: To be ASTM A615. Bending dimensions shown are based on Grade 40. Spacing dimensions are center to center unless otherwise noted.
SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways (Current Edition)

1. Note: Quantities for Class 'A' Concrete, reinforcing steel and piles are included in pavement at Bridge End Quantities. For Bar bending dimensions, see Bill of Steel.
2. Note: Cost of mineral aggregate base quantity to be paid as Item 303-01 Mineral Aggregate Class A, Grading D.
3. Note: In lieu of the Class A, Grading D material shown, Class B, Grading C or D may be used.
4. Note: Piles shall be HP10@42# or Precast Concrete Size I as shown in Estimated Quantities. Piles shall have a maximum length of 10'-0 regardless of bearing and shall be spaced at 9'-0 maximum. Piles shall be omitted if beam is supported on rock or rock fill or if the Abutment is integral.

PROJECT NO.	YEAR	SHEET NO.

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	11-16-70	CMH	Compression seal added, aggregate size changed. General notes revised & bridge drain details.
2	12-18-70	CMH	Section D-D & notes added, compression seal note removed & Expansion joint note added
3	8-12-71	RMD	Clarified spacing & no. of L590 bars
4	3 12 74	RMD	Removed V Notch
5	7-18-75	RMD	Added Detail X & Revised Note 3
6	8-18-75	RMD	Revised Roadway Drain
7	3-2-76	CPR	Changed Dwg. No. on Detail "A"
8	6-17-76	CMH	Revised aggregate designation
9	8-30-76	RMD	Revised minimum clearances
10	5-Dec-77	EPW	Rev. Note 2 & Min. Cl. on top Rebar
11	8-Nov-79	CGH	Change Note 3 to 4, Added New Note 3
12	7-17-81	RMD	deleted Detail X Add SHT PLAN

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

STANDARD DRAWING
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS

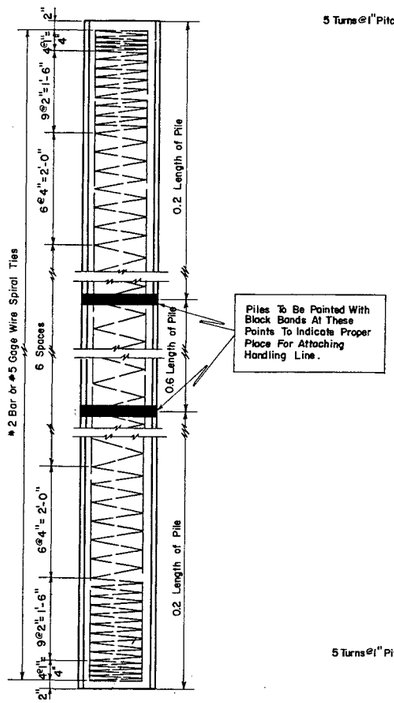
DESIGNED BY C.M.Hiles DATE 8-70
DRAWN BY GPM DATE
SUPERVISED BY C.M.Hiles DATE
CHECKED BY D.W.Fortner DATE 10-8-70

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

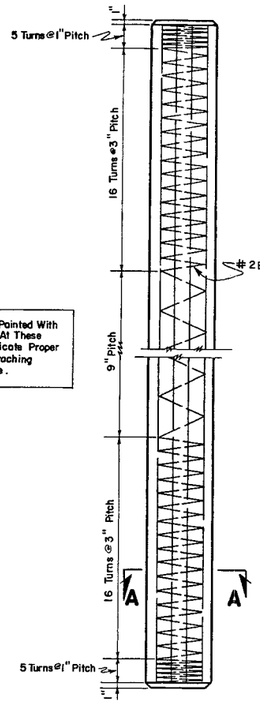
K-86-144

Copy - 1 OF 4 2-5-82

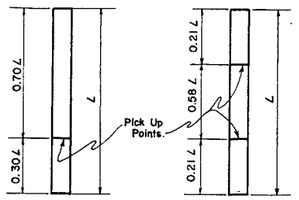
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		



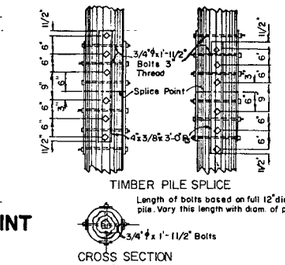
PRECAST CONCRETE PILE



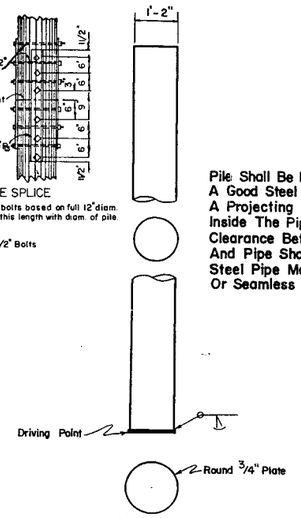
PRESTRESSED CONCRETE PILE



SINGLE POINT PICK-UP **DOUBLE POINT PICK-UP**

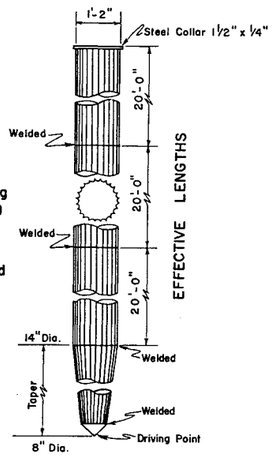


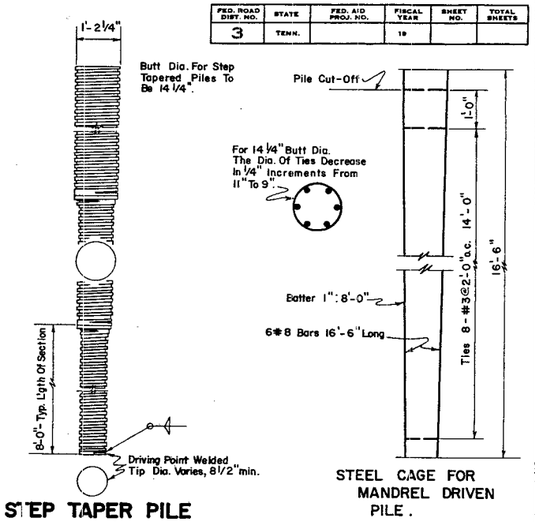
NOTES: (1.) Maximum Length Single Pick Up Point - 60'-0"
(2.) Maximum Length Double Pick Up Point - 85'-0"
(3.) Piles To Be Marked At These Points To Indicate Proper Place For Attaching Handling Lines.
(4.) For Greater Lengths Three Point Pick-up Is Required.



PIPE PILE

Pile Shall Be Driven With A Good Steel Head Having A Projecting Ring Fitting Inside The Pipe. Clearance Between Ring And Pipe Should Be 1/4". Steel Pipe May Be Welded Or Seamless Steel.





STEP TAPER PILE

STEEL CAGE FOR MANDREL DRIVEN PILE.

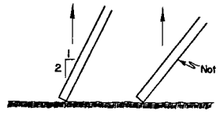
CAST IN PLACE PILES

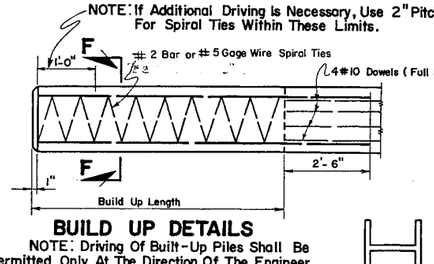
NOTE: Concrete In Cast In Place Piles To Be Class "A"

Length Of Of Pile	Longitudinal Reinforcing	Weight Of Steel Per Ft.	Weight Of Pile Per Ft.
Up To 35'	4 # 7 Bars	9.6 #	205.3 #
36' To 40'	4 # 8 Bars	12.2 #	205.3 #
41' To 45'	4 # 9 Bars	15.1 #	265.3 #
46' To 50'	4 # 10 Bars	18.8 #	265.3 #
51' To 55'	8 # 9 Bars	28.9 #	265.3 #
56' To 60'	8 # 10 Bars	36.2 #	265.3 #

NOTE: If It Becomes Necessary To Use Size 2 Piles The Contractor Will Be Allowed An Increase In The Size 1 Bid Of 25 %.

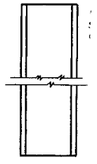
NOTE: In Handling The Piles, They Shall Be Supported At The Points Indicated. Piles To Be Picked Up By Pulling On Both Lines Uniformly. End Of Pile Not To Touch Ground Unless Piles Inclined 1:2 Or Steeper.

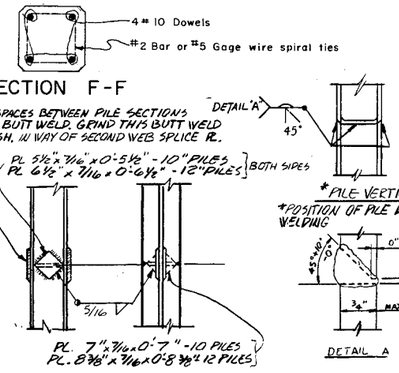




BUILD UP DETAILS

NOTE: Driving Of Built-Up Piles Shall Be Permitted Only At The Direction Of The Engineer.

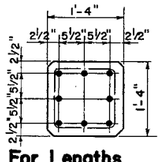




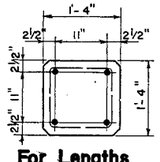
GENERAL NOTES

(1.) SPECIFICATIONS: Standard Road And Bridge Specifications Of The Tennessee Department Of Highways.
(2.) CHOICE OF PILES: To Be Specified On The Layout Sheet For Each Bridge.
(3.) CAST IN PLACE: Pile Shells Shall Have A Minimum Thickness As Follows:
1. Piles Driven Without Mandrel - 7 Gage.
2. Piles Driven With Mandrel Shall Be Of Sufficient Strength And Thickness To Hold Its Original Form And Show No Sign Of Distortion After The Core Has Been Withdrawn.
3. Steel Pipe Shall Be Welded Or Seamless Steel Conforming To ASTM Designation A-252 Grade 2 Welded And Seamless Steel Pipe Piles.
Steel Cage For All Mandrel Driver Piles Will Be Required.
The Contractor Shall Maintain On The Job At All Time Prior To And During The Filling Of The Shells, A Light Suitable For Their Inspection. Improperly Driven, Broken Or Otherwise Defective Shells Shall Be Removed And Replaced Or Otherwise Corrected To The Satisfaction Of The Engineer By Removal And Replacement Or The Driving Of An Additional Pile At No Extra Cost.
(4.) PRESTRESSED CONCRETE PILES: 1. Concrete Shall Have A Minimum 28 Day Strength Of 5000 PSI With A Release Strength Of 3500 PSI For 3/8" ø Strands.
2. Spiral Ties Shall Be Tied To Corner Strands At Intervals Adequate To Prevent Excessive Movement During Vibration. They May Be Manufactured From Stock Meeting Any Grade Of Reinforcing Steel Or Hard Drawn Wire.
(5.) PILE POINTS: All Cast In Place Piles Shall Be Equipped With A Steel Driving Point. Driving Points Shall Be Mill Welded To The Pile Shell. Driving Points May Be Either Structural Steel, Forged Steel Or Cast Steel. Steel Piles Shall Have A Square Cut End Only. No Driving Point Is Required Unless Shown On The Bridge Plans.
(6.) SPLICES: Splice Details For Cast In Place Piles Shall Be Made In Accordance With The Manufacturers Recommendations, Subject To The Approval Of The Engineer. Splice Details For Steel And Prestressed Concrete Piles Shall Be In Accordance With The Details Shown On This Sheet.
(7.) DRIVING FORMULA: Piles Shall Be Driven To A Minimum Capacity As Specified On The Layout Sheet As Determined By The Driving Formulas Stipulated In The Specifications.
(8.) MILL TEST REPORTS: Notarized Mill Test Reports Will Be Required For All Steel Piles And Cast In Place Pile Shells.
(9) WELDING SPECIFICATIONS: AWS for Bridges.
(10) STRUCTURAL STEEL: Structural Steel conforming to ASTM A-7 or ASTM A-36-62T will be acceptable.

STEEL PILES

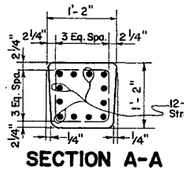


For Lengths Up To 40'

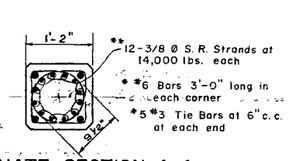


For Lengths From 41' To 50'

For Lengths From 51' To 60'



SECTION A-A

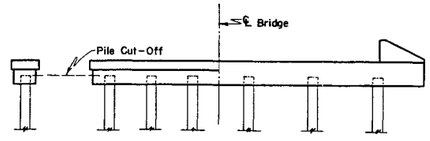


ALTERNATE SECTION A-A

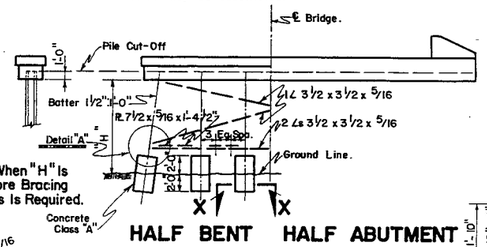
* NOTE: End reinforcement required at tip end and driving end for all piles with circular strand patterns.

** NOTE: Subject to the approval of the Engineer of Structures, alternate strand sizes and arrangements of equivalent total force may be substituted.

DETAIL OF PILE SPLICE



HALF BENT HALF ABUTMENT

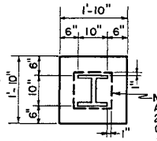


NOTE: When "H" Is 10' Or More Bracing For Bents Is Required.

HALF BENT HALF ABUTMENT

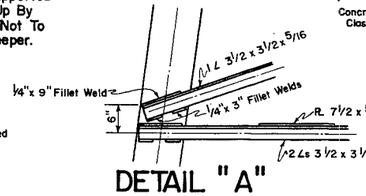
CASE I

STEEL FOR PRECAST CONCRETE



SECTION X-V

NOTE: Wrap Pile With American Welded Fabric 2" x 2" No. 10 Wire. Cost of Wire Fabric to be included in Unit Price Bid for Class "A" Concrete

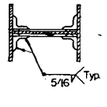


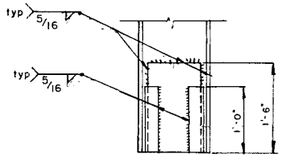
DETAIL "A"

Welds Typical For All End Joints And Intersections.

CASE II

PRECAST CONCRETE FOR STEEL





DETAIL OF PILE DRIVING POINT

NOTE Cost of driving point to be included in the unit price bid for steel piles

Pile	2 Pls	4 Ls
10"	6" x 1/2"	3 1/2" x 3 1/2" x 1/4"
12"	7" x 1/2"	4" x 4" x 1/2"
14"	8" x 1/2"	5" x 5" x 1/2"

TYPICAL DETAILS

When The Substitution Of Steel For Precast Concrete Piles Or Precast Concrete For Steel Piles Is Permitted The Details Will Be As Shown Above. The Substitution Does Not Permit Changing The Number Of Piles In Either Case. Should The Contractor, When Permitted, Elect To Make The Substitution Of Case I, The Cost Of Encasing Blocks At Ground Lines And Bracing If Required Shall Be Included In The Price Per Lin. Ft. Of Piles.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD PILE DETAILS

V 0 15

DESIGNED BY		DATE	
DRAWN BY	J.W. SOUTHERLAND	DATE	5-27-60
RETRACED BY	JOE B. CANTRELL JR.	DATE	2-6-62
CHECKED BY		DATE	

REV. - FEB. 6, 1962	REV. - JULY 25, 1960
REV. - MAR. 1, 1961 BATTER ON PRESTRESSED PILE	REV. - DEC. 14, 1964 SPIRAL TIES
REV. - DEC. 8, 1960	REV. - JAN. 22, 1964 COST OF WIRE FABRIC
REV. - OCT. 27, 1960	REV. - FEB. 24, 1966 TIMBER PILE SPLICE, DETAIL OF PILE DRIVING POINT
REV. - SEPT. 27, 1960 DELETE PILE SUBSTITUTIONS	REV. - NOV. 27, 1973 ADDED ALT. SECTION A-A
	REV. - NOV. 12, 1982 DETAIL OF PILE SPLICE

CORRECT: Fred Green, BRIDGE ENGINEER

APPROVED: [illegible], STATE HIGHWAY ENGINEER

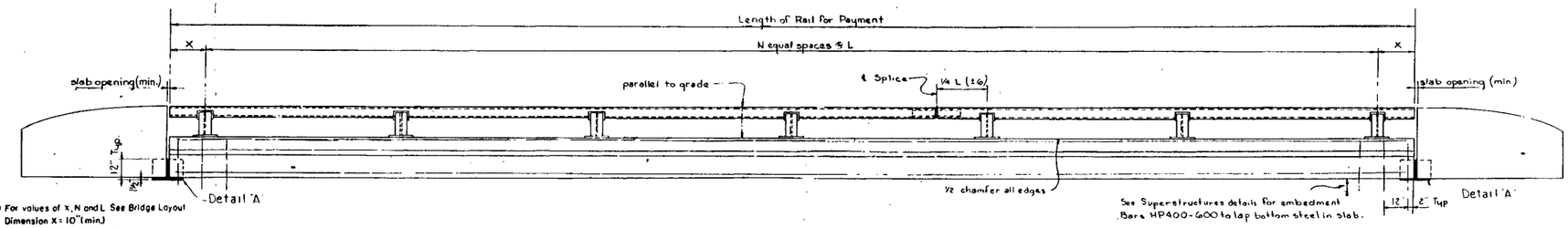
H-5-III

SEE Std.-5-1 & 5-2

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

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	3-20-67	B.R.B.	Added Waterstop details, ASTM Spec. for Alum. Alloys, & Revised Note 6
2	4-24-67	B.R.B.	Added Alternate Aluminum Casting
3	11-7-67	B.R.B.	Revised post spacing & Added detail "A" & "B"
4	9-6-68	B.R.B.	Added item number
5	3-11-69	B.R.B.	Section view of Parapet
6	11-3-69	B.R.B.	Rail Material
7	11-9-70	B.R.B.	REVISED PARAPET JOINT DETAILS
8	2-23-71	B.R.B.	Revised Parapet Steel / Steel Guard & Note.
9	4/26/76	H.M.B.	AASHTO Specs. for aluminum welding
10	6-1-76	H.M.D.	Welding Conformance Note.
11	7-17-81	R.M.D.	Gen. Notes

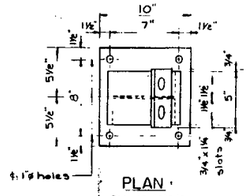


NOTE: For values of X, N and L See Bridge Layout
Dimension X = 10" (min.)
⅛ L (max.)
⚠ Dimension L = 10'-6" (max.)

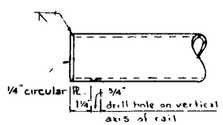
⑦ ELEVATION of PARAPET & RAIL

TYPICAL EXTERIOR VIEW OF CONTINUOUS BRIDGE

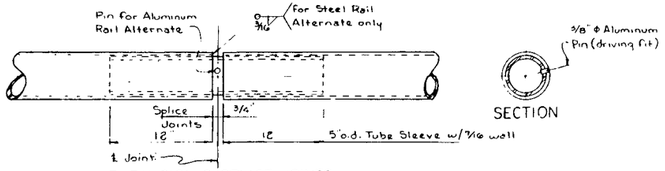
FOR STRUCTURES WITH DECK JOINTS, THE PARAPET OPENING SHALL EQUAL THE DECK OPENING. (SEE DETAIL "B" BELOW). FOR DETAILS OF WINGPOST, SEE BRIDGE DRAWINGS.



PLAN
Showing details with Rail Removed

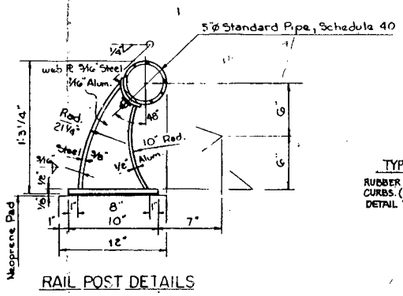


RAIL CAP DETAIL
Typ. at Rail Ends



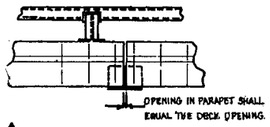
EXPANSION & SPLICE JOINTS
Rail Expansion Joints to be used at Armored Joints in Bridge Deck with tube opening equal to slab opening.

SECTION



RAIL POST DETAILS

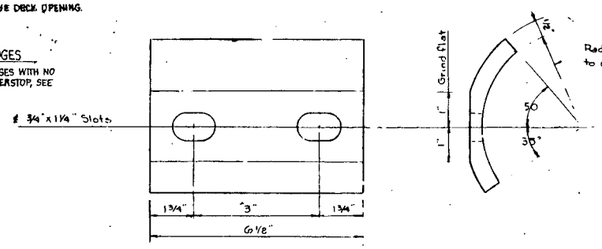
⚠ Cast aluminum posts conforming to the dimensions shown above for fabricated aluminum may be considered subject to the approval of the Engineer.



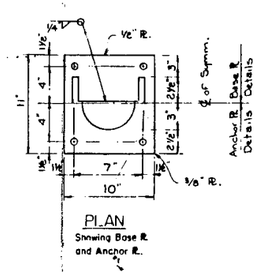
⑦ DETAIL "B"

TYPICAL FOR NON-CONTINUOUS BRIDGES

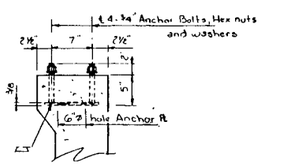
RUBBER OR P.V.C. WATERSTOP REQUIRED FOR BRIDGES WITH NO CURBS. (SET 1½" INTO SLAB). FOR DETAILS OF WATERSTOP, SEE DETAIL "A" BELOW.



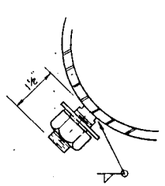
BENT PLATE DETAIL
Typical of each Post



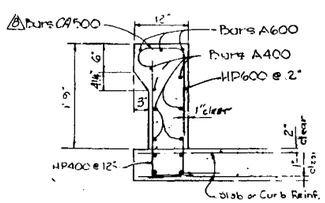
PLAN
Showing Base R. and Anchor R.



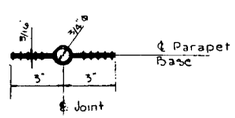
ANCHORAGE DETAILS
Showing Part Section of Parapet



FASTENER DETAIL
Each Post Connection requires 2-⅝"ø reduced weld-base studs with hex nuts and washers.



SECTION of PARAPET
Detail as shown for deck-mounted parapet and similar for structures with curbs. See also Superstructure drawings



⚠ DETAIL "A"
For parapet openings where bitum. fiber expansion joint in deck is used.

GENERAL NOTES

⑪ **DESIGN:** AASHTO Specifications. (current Edition)

MATERIALS: Tubing and Rail Posts may be either Aluminum or Steel.

For Aluminum Alternate -
Rail & Splice Sleeve to be Alloy 6061-T6, ASTM D429
⚠ Fabricated Posts & Rail End Caps - Alloy 6061-T6, ASTM B209 - Cast Aluminum Posts - Alloy A344-T4
Rail Fasteners - Alloy 2024-T4 for Bolts and Alloy 6262-T9 for Hex Nuts, ASTM B211.

For Steel Alternate -
Railing Member - ASTM A53 Grade B Steel Pipe.
Splice Sleeve - ASTM A500-65, Grade B Carbon Steel Tubing, or A53, Grade B Steel Pipe.
Fabricated Posts & End Caps - ASTM-A36
Rail Fasteners - ASTM-A307
Miscellaneous Rail Items - Waterstops - See 1968 Tenn Hwy Dept Specifications
Anchor plates - ASTM-A36, Anchor Bolts - A307, Neoprene Pads - See 1968 Tenn. Hwy. Dept Specifications.

For Parapet Wall - Concrete to be Class "A" and Reinforcing Steel Intermediate or Hard grade.

RAIL ITEM:
Basis of payment to be per linear foot. The item includes all components of the rail, its anchorage, and the reinforced concrete parapet. Payment will be made under item 620-07 ⚠ ⑪

FABRICATION & ERECTION:
1. The railing member shall be continuous from end to end of structure with each rail segment attached to a minimum of three posts.
2. Alignment and Profile of rail shall conform to plans details. For horizontal curves of Radius less than 2000 feet, the rail shall be fabricated to the required shape. Rails shall be parallel to and Posts normal to Roadway Grade unless otherwise noted on plans.
⑦ ⚠ 3 PARAPETS ON CONTINUOUS STRUCTURES SHALL HAVE NO JOINTS EXCEPT AS OTHERWISE SHOWN AT ABUTMENT ENDS ON BRIDGE DRAWINGS. SEE ALSO DETAIL "B"
4. No Concrete for the parapet shall be cast on any structure until the falsework has been struck.
5. All metal materials not specified to be Aluminum Alloy shall be galvanized to the applicable ASTM Requirements. See note 7 below.
⑨ ⑩ ⚠ 6. All welding shall conform to the requirements of either the "Special Provision for Welded Structures" for Steel Rail Alternate or "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, & Traffic Signals" for Aluminum Rail Alternate. After welding, all exposed joints shall be finished by grinding or filling to give a neat appearance.
7. If the steel rail alternate is selected, all components may be either hot-dip galvanized or painted.

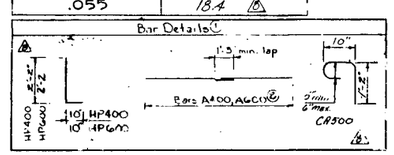
For Painted Steel Alternate:
(A) All surfaces to be painted shall be Blast Cleaned in accordance with "Steel Structures Painting Council Specifications" SSPC-SP6-52T (Commercial Blast Cleaning).
(B) 1st Shop Coat: Zinc Chromate Iron Oxide Ready Mixed Paint A-CHO, Specs, M-142-49. Thickness of coating 1¼ to 1¾ mills. Drying time 16 to 32 hrs. Inside of pipe railing is to be completely painted with first shop coat only. Thickness may exceed 1¾ mills.
2nd Shop Coat: Zinc Chromate-Iron Oxide with enough Black added to provide contrast.
3rd Shop Coat: Aluminum (Prussian Blue added) Tennessee Highway Department Specifications
Field Painting: After erection is completed, the Contractor shall repair skinned or otherwise damaged paint to the satisfaction of the Engineer before applying 1 final field coat of Aluminum (Tenn. Highway Dept. Specs.) Paint shall be applied as set out in A.A.S.H.O. Specs. Article 2.14.6 unless otherwise noted on this drawing or Shop Plans approved by the Engineer.

For Galvanized Steel Alternate:
(A) Railing members and fabricated posts shall be galvanized to A.S.T.M. requirements A123 and anchor bolts, nuts and washers A153. Anchor plate need not be galvanized.
(B) All fabrication shall be complete and ready for assembly before galvanizing except that nuts for rail fasteners and anchor bolts are to be retapped afterwards.
(C) Galvanized members shall be free from dross, flux and rough coating caused by low vat temperatures.

SPECIAL NOTE: Since the finished railing must meet all requirements of fit, alignment and grade, to the full satisfaction of the Engineer it is suggested that complete field measurements be made before any shop fabrication is performed.
⚠ NOTE: ANCHOR BOLTS SHALL BE LOCATED IN THE FIELD BASED ON DIMENSIONS TAKEN FROM SHOP DRAWINGS.

UNIT QUANTITIES FOR ESTIMATING PARAPET ITEMS

Class "A" Conc. cu yds / lin. ft.	Reinf. Steel lbs / lin. ft.
.055	18.4 ⑫



① Bar dimensions are outside to outside. First digit of number indicates size.

⑫ These Bars shall be full length of parapet except that no bar will pass through open joints.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BRIDGE RAILING
CONCRETE PARAPET with STRUCTURAL TUBING
1967

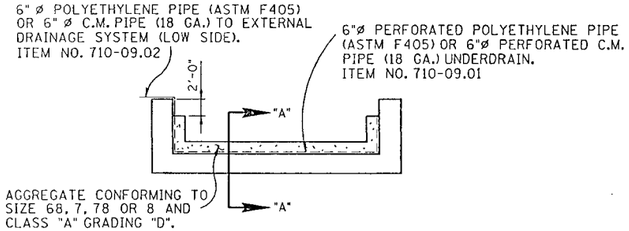
DESIGNED BY _____ DATE _____
DRAWN BY R. Reynolds DATE Feb. 1967
TRACED BY _____ DATE _____
CHECKED BY Bill Burke DATE Feb 1967

CORRECT Fred Gore
APPROVED [signature]

K-38-134

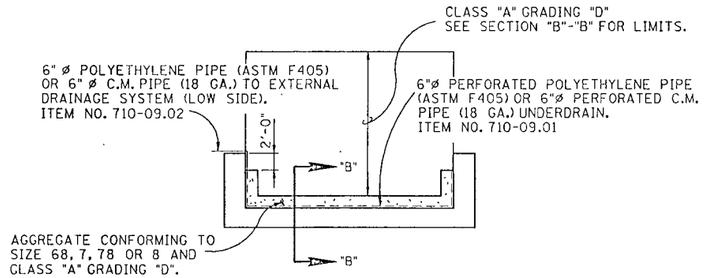
3 of 4 Copies

STD 10 1.DGN



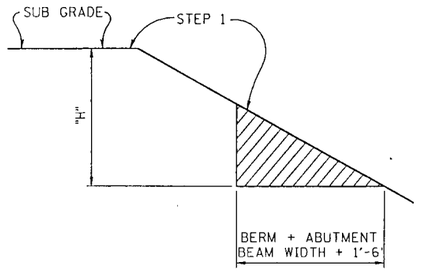
PLAN A (8)

DIMENSION "H" 10'-0" OR LESS



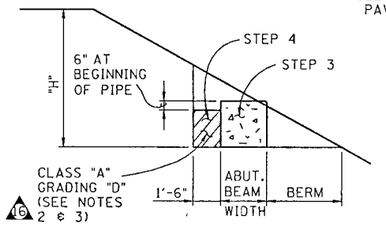
PLAN B (8)

DIMENSION "H" GREATER THAN 10'-0".



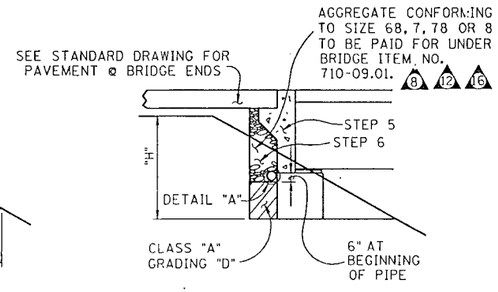
STEP 1: PLACE AND COMPACT END FILL.

STEP 2: EXCAVATE SHADED AREA AS SHOWN. SHALL BE PAID AS DRY EXCAVATION (BRIDGE) OR UNCLASSIFIED EXCAVATION (BRIDGE).



STEP 3: POUR ABUTMENT BEAM.

STEP 4: PLACE BACKFILL MATERIAL BEHIND ABUTMENT BEAM. SEE NOTE 1. (10)

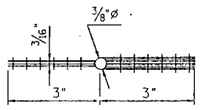


STEP 5: POUR ENDWALL.

STEP 6: PLACE BACKFILL MATERIAL BEHIND ENDWALL. SEE NOTE 1. (10)

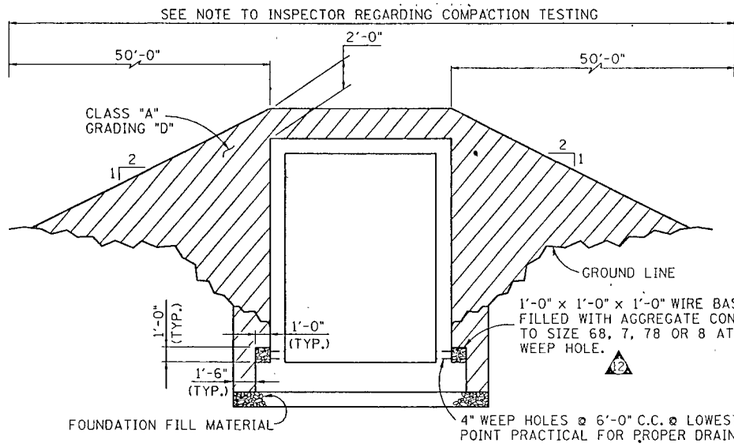
SECTION "A"-"A"

NOTE: THE CONSTRUCTION SEQUENCE SHOWN ABOVE IS APPLICABLE WHERE DIMENSION "H" IS LESS THAN OR EQUAL TO 10'-0".



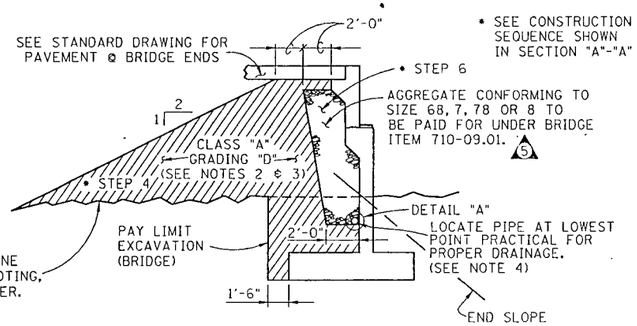
WATERSTOP DETAIL

(FOR LOCATION SEE DESIGN DRAWING)



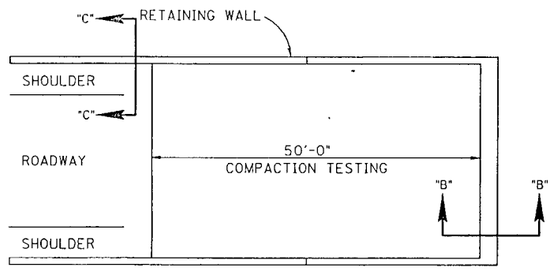
(10) (9) BOX CULVERT OR BRIDGE

NOTE: CLASS "A" GRADING "D" LIMITS ARE TYPICAL FOR BOX CULVERT OR BRIDGE AND WINGWALLS. CLASS "A" GRADING "D" MATERIALS SHALL BE PAID FOR UNDER ROADWAY ITEM NO. 303-01.01. (SEE ROADWAY PLANS.)



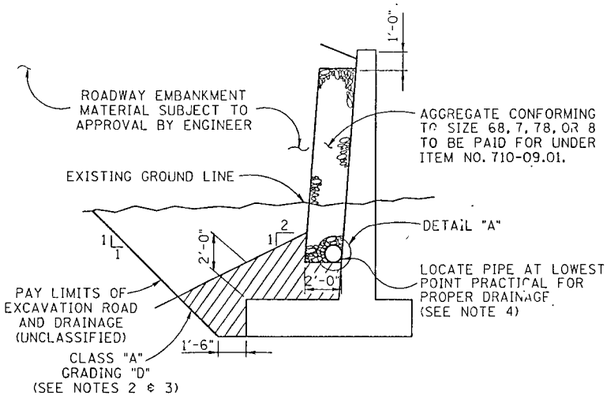
SECTION "B"-"B" (3) (9) (11) (16)

(TYPICAL FOR COUNTERFORT OR CANTILEVER CLOSED ABUTMENTS GREATER THAN 10' IN HEIGHT)

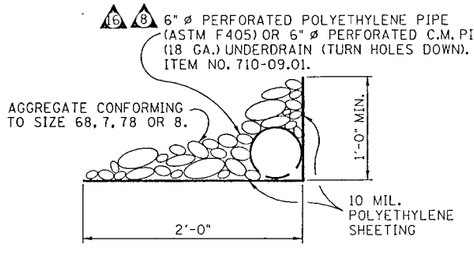


PLAN OF APPROACH ROADWAY AND ABUTMENT

(10) NOTE TO INSPECTOR: SEE MATERIALS AND TESTS SAMPLING AND TESTING SCHEDULE FOR FREQUENCY OF COMPACTION TESTING OF EMBANKMENT AND BACKFILL MATERIAL. ALSO NOTE 1.



(16) (13) (9) RETAINING WALL SECTION "C"-"C"



DETAIL "A"

PROJECT NO.	YEAR	SHEET NO.
	1971	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-24-71	R.G.	
2	3-18-71	E.R.G.	ADDED NOTE NO.3
3	10-8-71	R.M.D.	EXCAVATION SECTION "B"-"B" CLARIFIED
4	10-10-72	R.M.D.	
5	11-27-72	R.M.D.	
6	9-9-72	C.L.L.	CHANGE NOTE
7	1-9-75	R.M.D.	NOTE CHANGED
8	7-17-86	R.M.D.	ADDED POLYETHYLENE PIPE
9	2-9-87	D.W.F.	GENERAL REVISIONS
10	6-25-87	R.M.D.	REV. PAY LIMIT BOX CULVERT, REMOVED INSERT & ADDED ITEM NO. FOR CLASS "A" GRADING "D"
11	1-7-91	R.M.D.	REV. ITEM NO. 710-09.02 TO 710-09.01 AND REV. ITEM NO. 303-01.01 TO 303-01.02
12	2-8-91	R.M.D.	REV. NOTE 2 TO INCLUDE RETAINING WALLS AND REV. ITEM NO. 710-09.02 TO 710-09.01
13	6-24-91	M.A.H.	ADDED SECTION SHOWING GEOCOMPOSITE DRAINAGE SYSTEM AND NOTE NO.4
14	9-1-91	M.A.H.	CHANGED DWG. NO. FROM K-85-150
15	9-18-91	M.A.H.	REMOVED WATERPROOFING
16	5-11-92	M.A.H.	DELETED ALTERNATE "B" AND NOTES

NOTES

(10) 1. BACKFILLING: UNLESS OTHERWISE SPECIFIED OR DIRECTED, THE CONTRACTOR SHALL BACKFILL BEHIND ABUTMENTS, RETAINING WALLS OF BOX TYPE BRIDGES AND CULVERTS AS SOON AS THE FOLLOWING CONDITIONS ARE MET:

A. CONCRETE SURFACES AGAINST WHICH BACKFILL WILL BE PLACED HAVE BEEN GIVEN A CLASS 1 FINISH AS SPECIFIED IN SUBSECTION 604.22.

B. REPRESENTATIVE SPECIMENS OF THE CONCRETE IN THE STRUCTURE, SECTION OR UNIT, CURED BY THE METHODS AND IN THE MANNER THAT THE CONCRETE WHICH THE TEST SPECIMENS REPRESENT IS CURED, ATTAIN A COMPRESSIVE STRENGTH OF 3,000 POUNDS PER SQUARE INCH.

C. THE CONCRETE SHALL HAVE BEEN PLACED A MINIMUM OF 7 DAYS, NOT COUNTING THE DAYS OF TWENTY-FOUR HOURS EACH IN WHICH THE TEMPERATURE FALLS BELOW FOURTY DEGREES FAHRENHEIT, OR 21 CALENDAR DAYS WHICHEVER OCCURS FIRST.

THE PLACEMENT OF BACKFILL AND EMBANKMENT SHALL BE IN ACCORDANCE WITH SUBSECTION 204.11 AND SUBSECTION 205.04, REPECTIVELY, AND AS SPECIFIED ON THE PLANS.

(10) (11) (12) 2. CLASS "A" GRADING "D" MATERIAL SHALL BE PAID FOR UNDER ITEM NO. 303-01.02, GRANULAR BACKFILL (BRIDGES) OR ITEM 303-01.03 THRU 303-01.08, GRANULAR BACKFILL (RETAINING WALLS).

(2) 3. IN LIEU OF THE CLASS "A" GRADING "D" MATERIAL SHOWN, CLASS "B" GRADING "C" OR "D" MAY BE USED.

(16) 4. LOCATE PIPE AT LOWEST POINT PRACTICAL FOR PROPER DRAINAGE WITH SLOPE PARALLEL TO ABUTMENT BEAM OR RETAINING WALL (1/8" PER FOOT MINIMUM). INSTALL PIPE AND 1'-0" OF COVER AS SOON AS POSSIBLE AFTER FORMING WALL.

1/16 MINOR REVISION - FHWA 1/16 APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS 1971

DESIGNED BY R. DISHNER DATE
DRAWN BY KEITH DOUGLAS DATE 1-91
SUPERVISED BY DATE
CHECKED BY R. DISHNER DATE 1-91

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

(14) STD-10-1

K-85-150 Replaced with Std-10-1