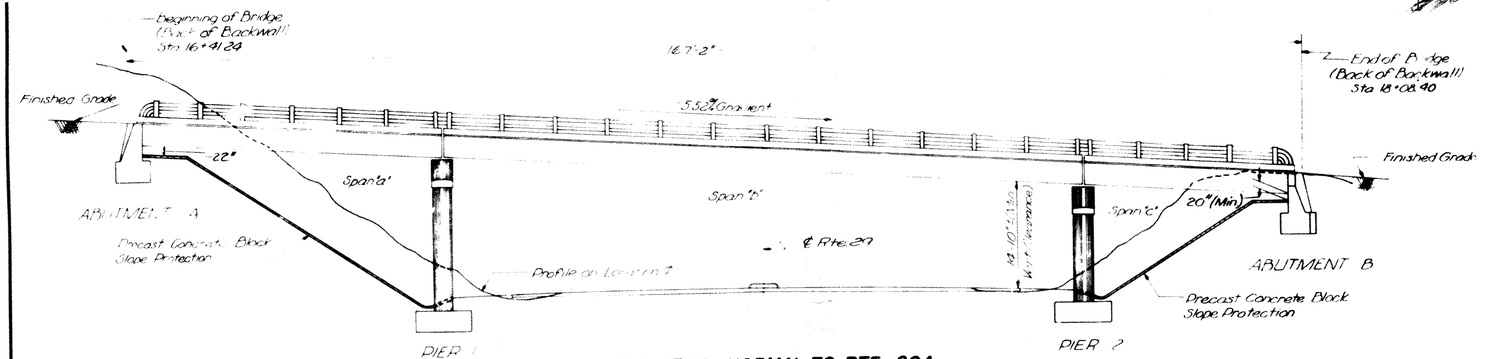
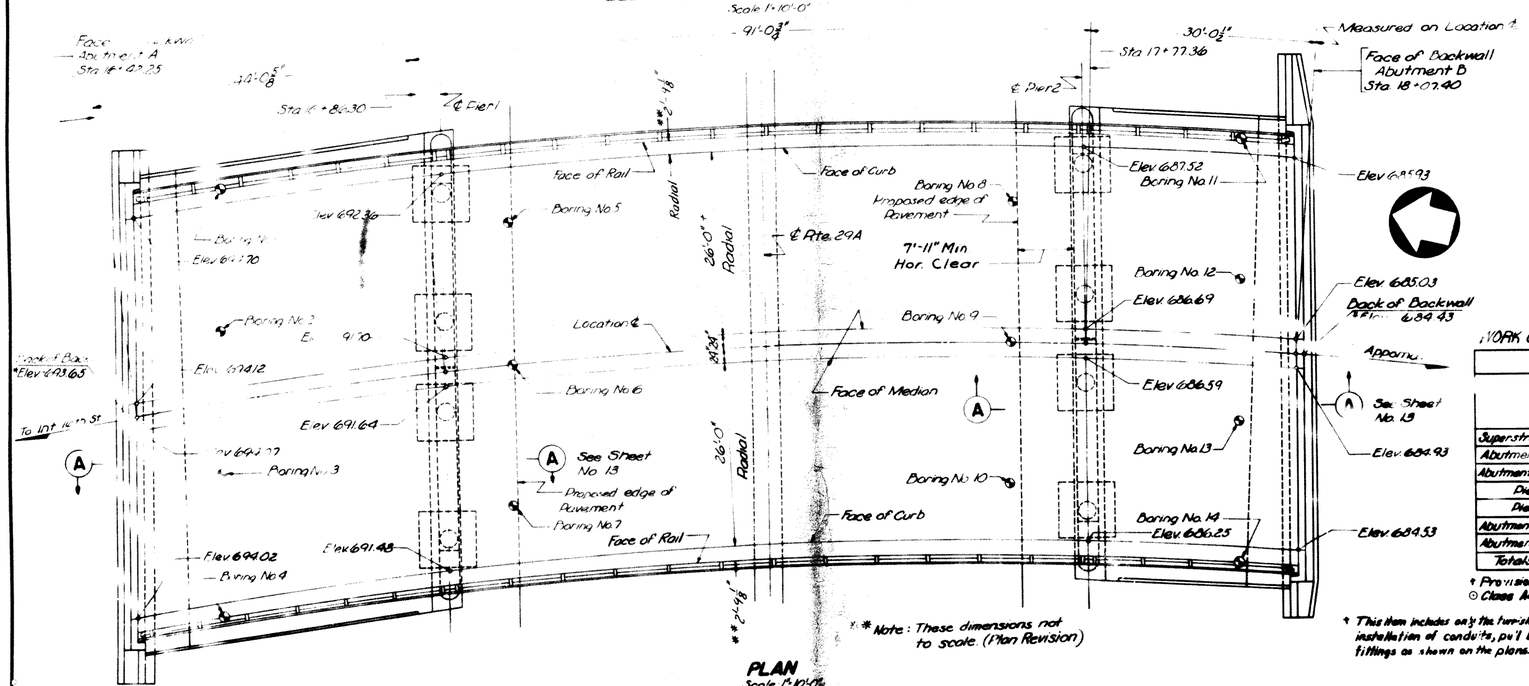
PROJ. NO. DESIGN	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(1)	42



ELEVATION NORMAL TO RTE. 29A

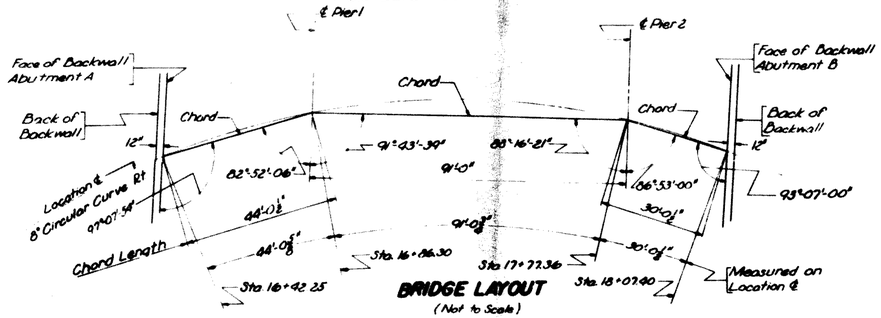
Scale 1"=10'-0"



* Note: These dimensions not to scale. (Plan Revision)

PLAN
Scale 1"=10'-0"
(Median Barrier and Lighting Standard Bases not shown)

Note
Elevations shown are at the top of curb or median except those marked with an asterisk "*". The elevations shown with an asterisk "*" are at the point of finished grade 6" below top surface at median.



BRIDGE LAYOUT
(Not to Scale)

Drawn by: J.A.G.
Traced by: J.B.S.
Checked by: S.N.H.

GENERAL NOTE

Roadway: 1-26'-0 clear, 1-26'-0"† clear, 2-3'-0" Sidewalks 4'-0" median strip.

Capacity: H20-44 and HS15-44 loadings

Specifications

General- Virginia Department of Highways Road and Bridge Specifications, 1958

Design- A.A.S.H.O. Standard Specifications for Highway Bridges, 1961.

Supplemental-
"Aluminum Alloy and Aluminum Railing," revised March 29, 1961.
"Pads for Masonry Bearing Areas," revised February 8, 1965.
"Curing Concrete", revised August 23, 1961.
"Structural Backfill," dated April 17, 1961.
"Concrete Joint Filler and Sealer", revised April 28, 1964.
"Set Retarder Admixture", revised August 24, 1963.
"Structural Steel", revised January 31, 1964.
"Epoxy Resin Compounds", dated July 27, 1961.
"Composite Stringer-Slab Construction", revised October 10, 1961.
"Bridge Roadway Lighting System and Electrical Conduit System", revised July 31, 1963.

Special Provisions-
"Pretensioned Prestressed Concrete", revised March 17, 1965.
"Alternate Metal Railing", revised November 1, 1962.
"Bridge Deck Waterproofing", dated August 15, 1963

Specifications and Special Provisions referred to above are necessary to make these plans complete.

Concrete in prestressed members shall be Prestressed Concrete. All other concrete shall be Class A(AE)

All bridge seat bearing areas shall be finished to truly level plane surfaces at the elevation shown.

All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted.

Footings shall rest on firm material.

Only that excavation below and outside the limits of the cut template of Rte. 29A shall be allowed as structural excavation.

Particular attention is called to the sub-paragraph of paragraph C. 7. of the "Special Provisions for Pretensioned Prestressed Concrete", requiring accurately flat and level end bearings.

Cost of crushed stone for abutment weep holes shall be included in unit price bid for Class A(AE) concrete.

Either alternate metal railing or the aluminum railing shown on sheet 13 may be used.

The item "Beam Median Barrier" includes cost of all structural steel members, hardware and mounting devices.

B.M. "B" chiseled on S.E. corner of Concrete End Wall of pipe under 17th St. -65' Rt. Sta. 189+20, Elev. 664.35.

* This item includes only the furnishing and installation of conduits, pull boxes and fittings as shown on the plans.

WORK ORDER NO. 2 - ROUGHEN BEARING AREAS - 43 EACH

FINAL ~~ESTIMATED~~ QUANTITIES

	Concrete Class A(AE) Cu. Yds.	Reinforcing Steel Pounds	Pretensioned Members Each: Span "a" Len 44'-0"	Span "b" Len 91'-0"	Span "c" Len 30'-0"	Beam Median Barrier Lin. Ft.	Structure Excavation Cu. Yds.	Bit. Concrete Type ~~S-4~~ or S-5 Tons	Conc. Block Slope Protection Sq. Yds.	Metal Railing Lin. Ft.	Bridge Deck Water-proofing Sq. Yds.
Superstructure	⊙ 61.9	10,920	14	15	14	167	~~32 65~~	~~61 79~~	—	328.0	969
Abutment A-Neat	35.6	1,880	—	—	—	—	—	—	~~109 38~~	—	—
Abutment A-Footing	~~48.6~~ 49.4	1,270	—	—	—	—	~~209 266~~	—	—	—	—
Pier 1	~~73.2~~ 73.4	11,770	—	—	—	—	~~76 85~~	—	—	—	—
Pier 2	68.5	11,270	—	—	—	—	~~73 86~~	—	—	—	—
Abutment B-Neat	36.9	1,940	—	—	—	—	—	—	~~26 7 38~~	—	—
Abutment B-Footing	~~44.8~~ 47.4	1,380	—	—	—	—	~~220 159~~	—	—	—	—
Totals	~~363.9~~ 366.1	40,430	14	15	14	167	610 703	~~64 79~~	~~86 961~~	328.0	969

† Provisions For Roadway Lighting System - Lump Sum 100%
⊙ Class A4 (4,000 psi.)

"AS BUILT" Finals Posted By Lynchburg District Office Feb. 1968

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HIGHWAYS
PROPOSED BRIDGE

RTE. 460 OVER RTE. 29A- CITY OF LYNCHBURG
0.1 MI. S.E. OF INT. 16th ST.- PROJ. 0460-118-101, B601- STA. 17 + 25
1-44 FT., 1-91 FT. & 1-30 FT. PRESTRESSED CONCRETE BOX BEAM SPANS

Richmond, Virginia

Recommended for Approval: J. N. Elam — Bridge Engineer

Recommended for Approval: _____ Assistant Chief Engineer

Approved: _____ Deputy Commissioner and Chief Engineer

Revised: Dec. 13, 1965
Revised: Nov. 30, 1965
Revised: Sept. 15, 1965
Revised: August 26, 1965

Revised: May 19, 1965
Revised: October 5, 1964
Plans Completed: April 26, 1962.

CLXV-16
Sheet 1 of 16

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(2)	42

Location ℄

Elev. 694.18 — Bars A51-28 Spa. @ 12" = 28'-0" — Face of Backwall — Elev. 694.11 — Elev. 694.17 — Bars A51-27 Spa. @ 12" = 27'-0" — Bar AH1 (Min. Lap 23") — Elev. 694.70 — Elev. 694.76 — Elev. 694.75 — Elev. 694.63 — Elev. 694.69

Elev. 694.05 — Elev. 694.12 — Elev. 694.08 — Elev. 694.06 — Chord — 47°07'54"

PLAN

VIEW 5-5
Scale ¾"=1'-0"

VIEW 3-3
Scale ¾"=1'-0"

VIEW 4-4
Scale: ¾"=1'-0"

Round corner with 2" radius

Round corner with 1½" radius

* Dimension can be adjusted for providing proper alignment of the curb on abutment and the curb on superstructure.

Note Bridge Deck Waterproofing shall be applied prior to placement of Bituminous Concrete Surface.

Elev. 694.02 — Elev. 694.09 — Elev. 694.05 — Elev. 694.00 — Elev. 694.02 — Elev. 694.07 — Elev. 694.06 — Elev. 694.11 — Elev. 694.17 — Elev. 694.12 — Elev. 694.70 — Elev. 694.76 — Elev. 694.69 — Elev. 694.63 — Elev. 694.68

Bituminous Concrete Surface

2 Bars AH (Min. Lap 15") — Bars AV # A5 - 32 Spaces @ 12" = 32'-0" — Bar AH1 (Min. Lap 23") — Bar AC, N.F. — Elev. 690.51

2 Bars AB (Min. Lap 23") & Bar AH (Min. Lap 15") — 6" (Typ)

Bars AC, N.F. & F.F. — Bars AF (Min. Lap 2'-6") — 2 Bars AH — Bars AC, N.F. & F.F.

10'-0" — 10'-0" — 6" ℄ Drain — 9'-11¼" — 10'-0" — 10'-0" — 10'-0"

FRONT ELEVATION

Toe of Edge (Max radius 1") — Horiz. — 9" 11" 12" 13" 15" — Bars AV — Bars AH (Min. Lap 15") — Face of Backwall — Bars AH1 (Min. Lap 23") — Bars AB (Min. Lap 23") — See Detail A, this sheet — Bars A5 — Bars AF (Min. Lap 2'-6") — Form with 6" ℄ non-rigid tubing. — Bars A51

2" crusher-run aggregate shall be placed as shown extending 18" min. laterally each side of ℄ weep hole.

SECTION B-B

9" 24" 12" 15" — Bars AC — Bars AF (Min. Lap 2'-6") — 6'-5⅞"

END VIEW 1-1

5" — 15" 12" 24" 9" — 7'-2" — 7'-1⅞" — 2'-9⅜"

END VIEW 2-2

Dampproofing to extend entire length of joint. — 18" min. — 5½" — 6" — Permissible Const. Joint

DETAIL A
Scale: 1"=1'-0"

Note: Concrete above construction joint shall not be cast until the curb on abutment can be aligned with the curb on the superstructure.

RTE. 460 OVER RTE. 29A

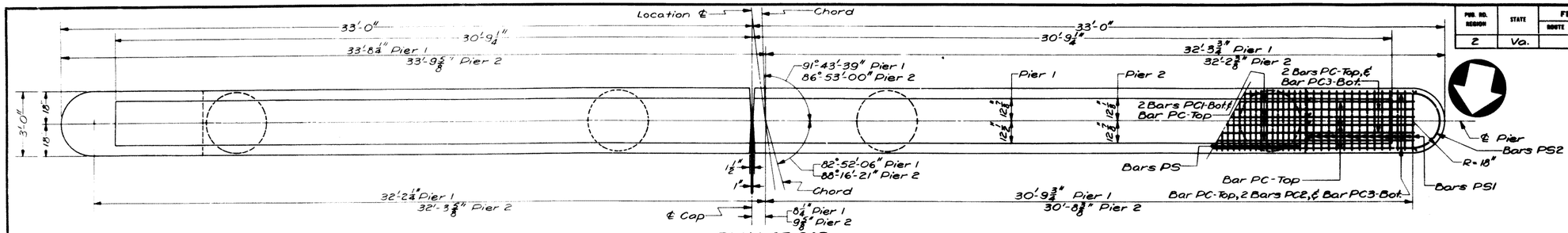
ABUTMENT A

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962

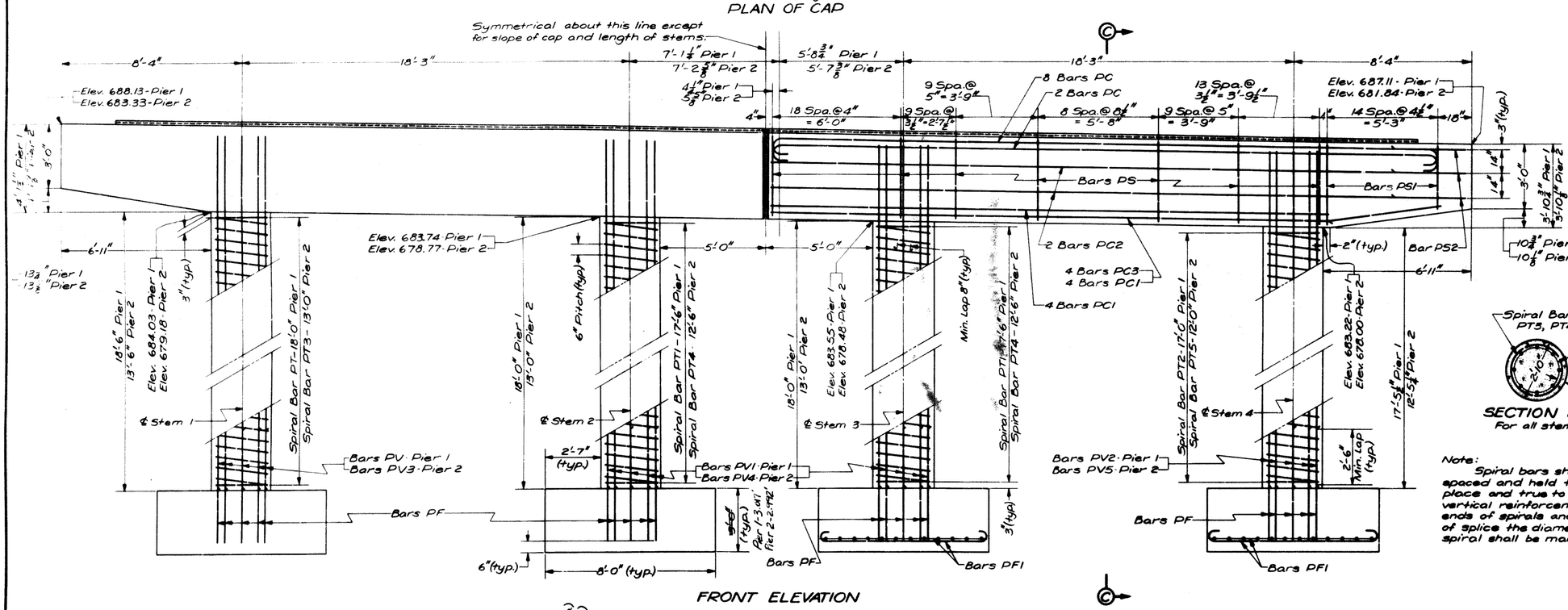
Drawn by: J.A.G.
Traced by: M.L.H.
Checked by: F.J.H.

Scale 1" = 1'-0" — Jan. 1955 — CL-XV-16

PUB. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(16)	460	0460-118-101, B601	11(3)	42

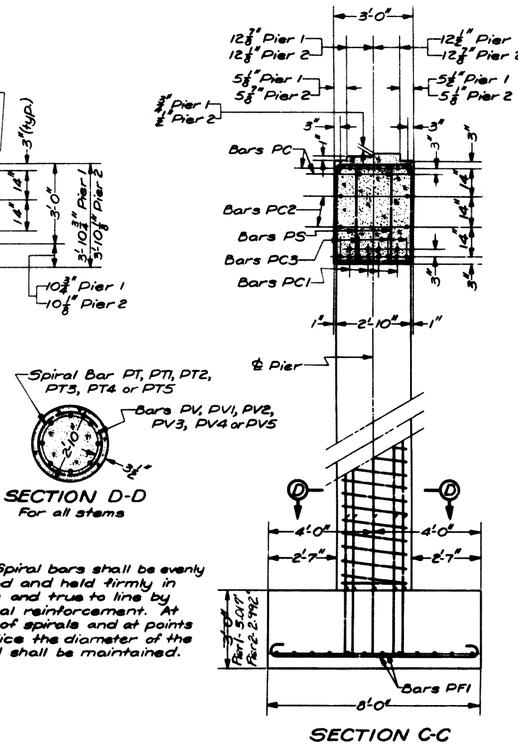


PLAN OF CAP



FRONT ELEVATION

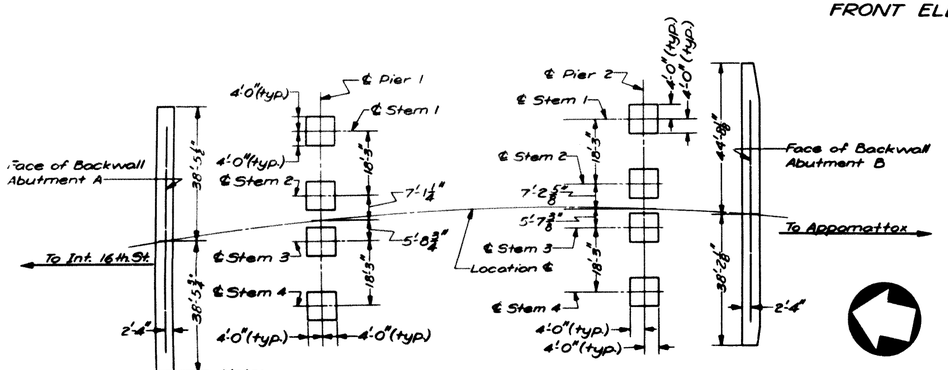
PIERS
Scale: 3/8"=1'-0"



SECTION C-C

SECTION D-D
For all stems

Note:
Spiral bars shall be evenly spaced and held firmly in place and true to line by vertical reinforcement. At ends of spirals and at points of splice the diameter of the spiral shall be maintained.



Note:
This layout is to be used only for purposes of location of footings of abutments and piers. For details of neatwork, see abutment and pier details.

SUBSTRUCTURE LAYOUT
(Showing Outlines of Footings)

RTE. 460 OVER RTE. 29A
PIERS
SUBSTRUCTURE LAYOUT

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Virginia April, 1962.

Drawn by: J.A.G.
Traced by: J.K.H.
Checked by: S.N.H.

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(4)	42

PLAN

* Dimension can be adjusted for providing proper alignment of the curb on abutment and the curb on superstructure.

FRONT ELEVATION

Note: Concrete above construction joint shall not be cast until the curb on abutment can be aligned with the curb on the superstructure.

SECTION E-E

END VIEW 6-6

END VIEW 7-7

RTE. 460 OVER RTE. 29A

ABUTMENT B

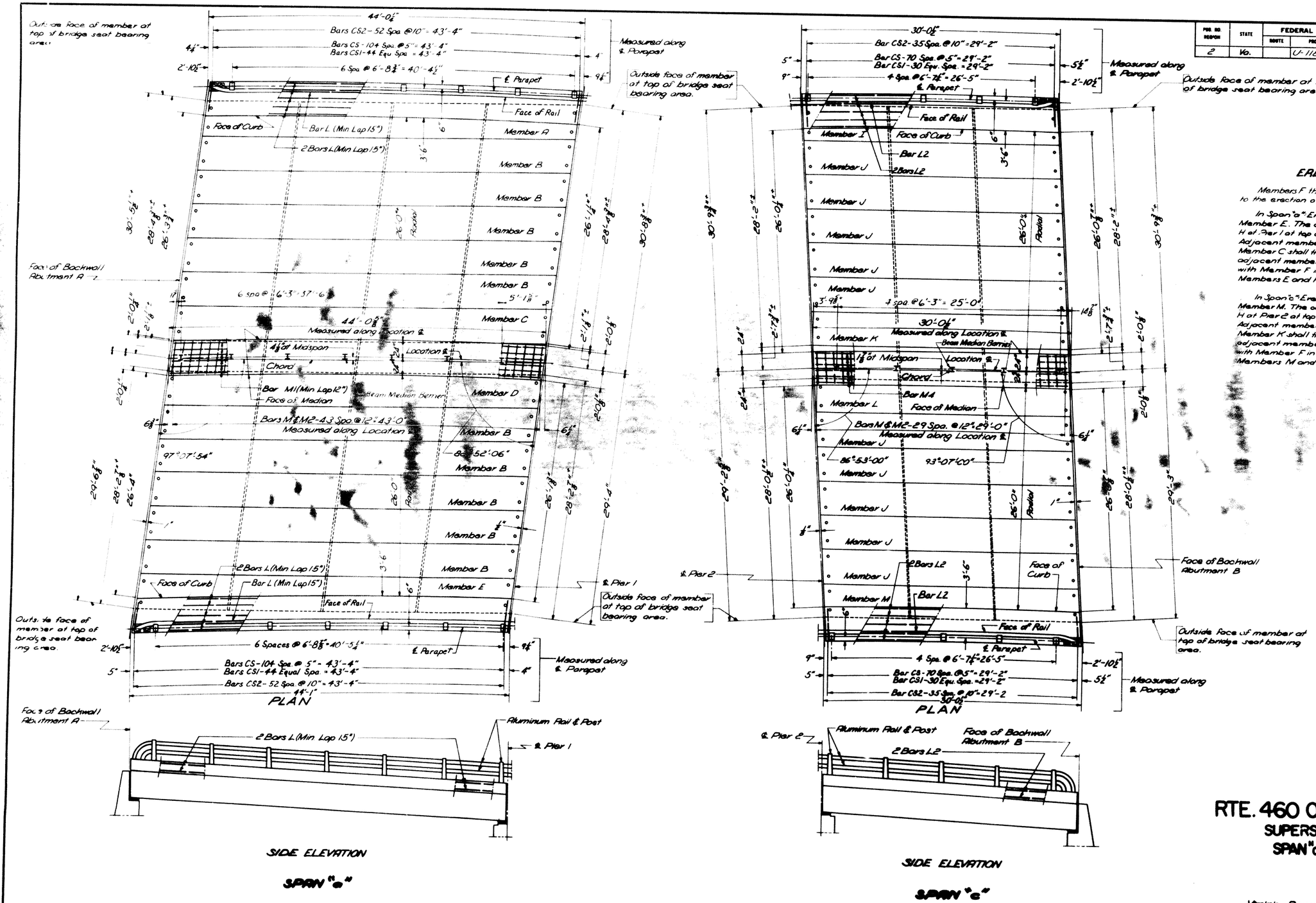
Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962

Drawn by: J.A.G.

Approved August 26, 1965.

CLXV-16

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(5)	42



ERECTION PROCEDURE

Members F thru H of Span "b" shall be in place prior to the erection of Spans "a" and "c".

In Span "a": Erection of members shall begin with Member E. The outside face of the ends of Members E and H at Pier 1 at top of bridge seat bearing area shall be aligned. Adjacent members shall be erected ending with Member D. Member C shall then be erected in a position such that when adjacent members have been erected, Member A is aligned with Member F in a manner similar to the alignment of Members E and H.

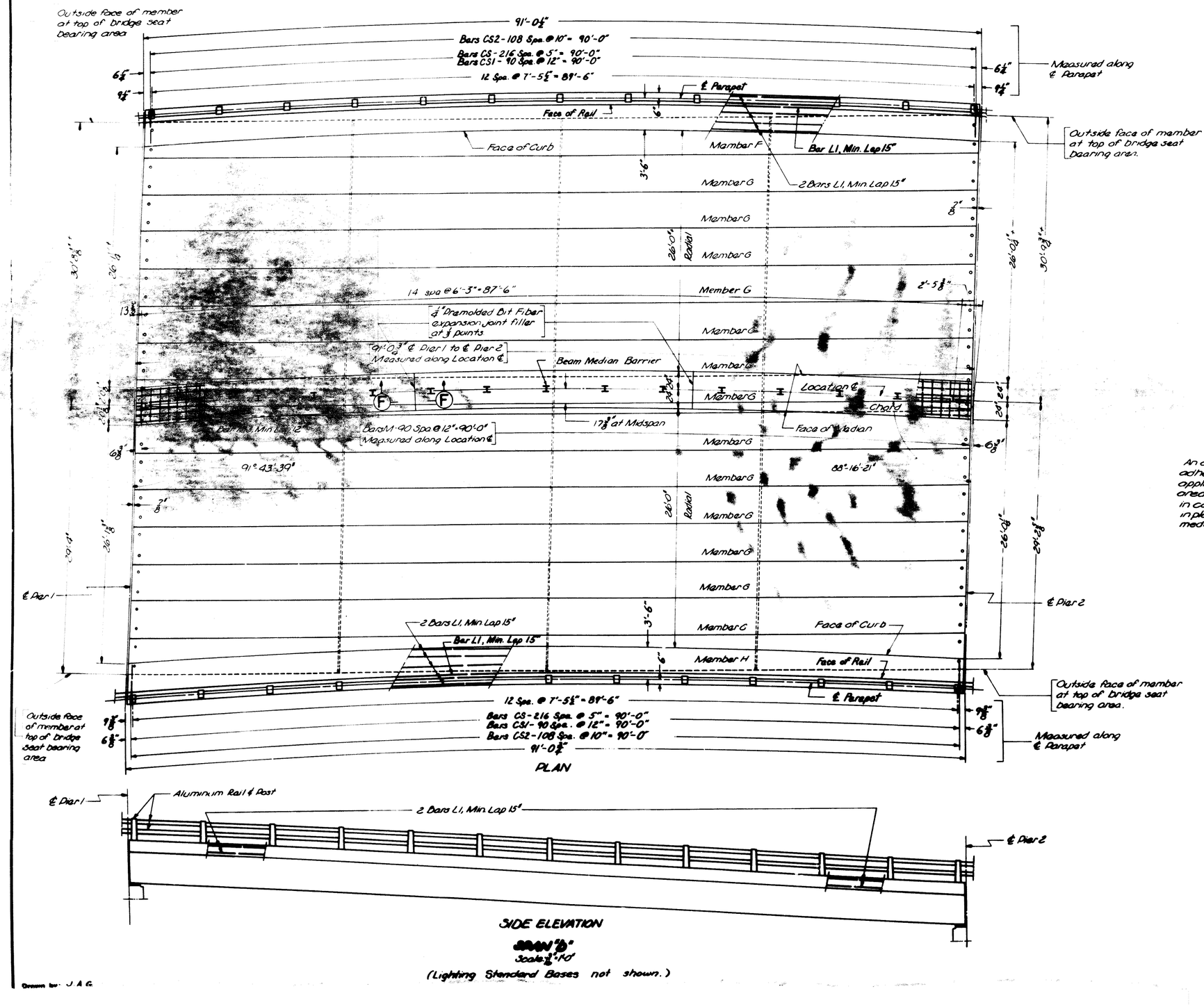
In Span "c": Erection of members shall begin with Member M. The outside face of the ends of Members M and H at Pier 2 at top of bridge seat bearing area shall be aligned. Adjacent members shall be erected ending with Member L. Member K shall then be erected in a position such that when adjacent members have been erected, Member I is aligned with Member F in a manner similar to the alignment of Members M and H.

RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE
SPAN "a" & SPAN "c"

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

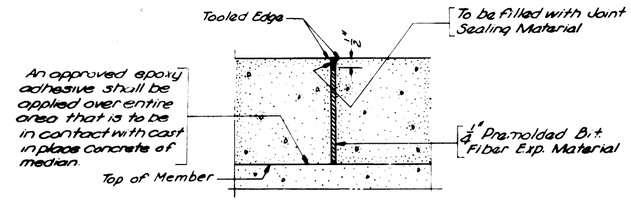
Drawn by: J.A.G.
Traced by: J.P.M.

PROJ. NO. DESIGN	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOT. SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(6)	41



ERECTION PROCEDURE

Erection of members shall begin with span "b" Erection shall begin at the low side of the superelevation with Member H and end with Member F.



SECTION F-F
Scale: 3/2"/0"
(Beam Median Barrier not shown)

RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE
SPAN "b"

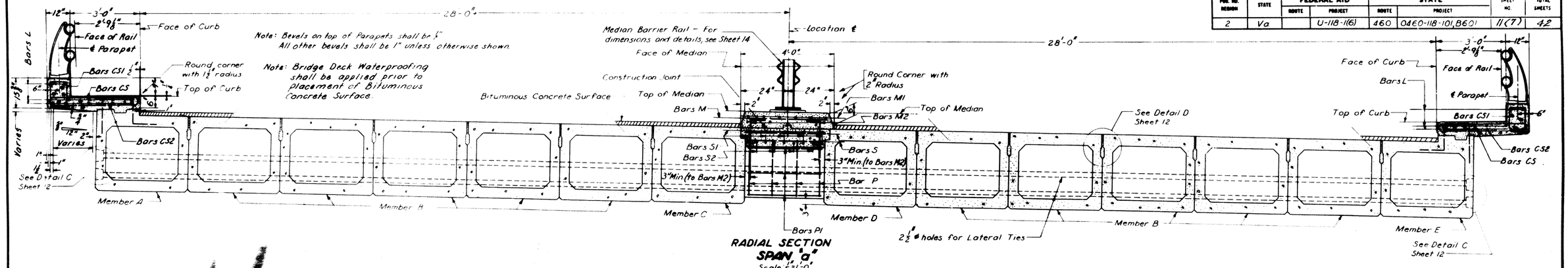
Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

Revised: Sept. 15, 1965
Revised: August 26, 1965.

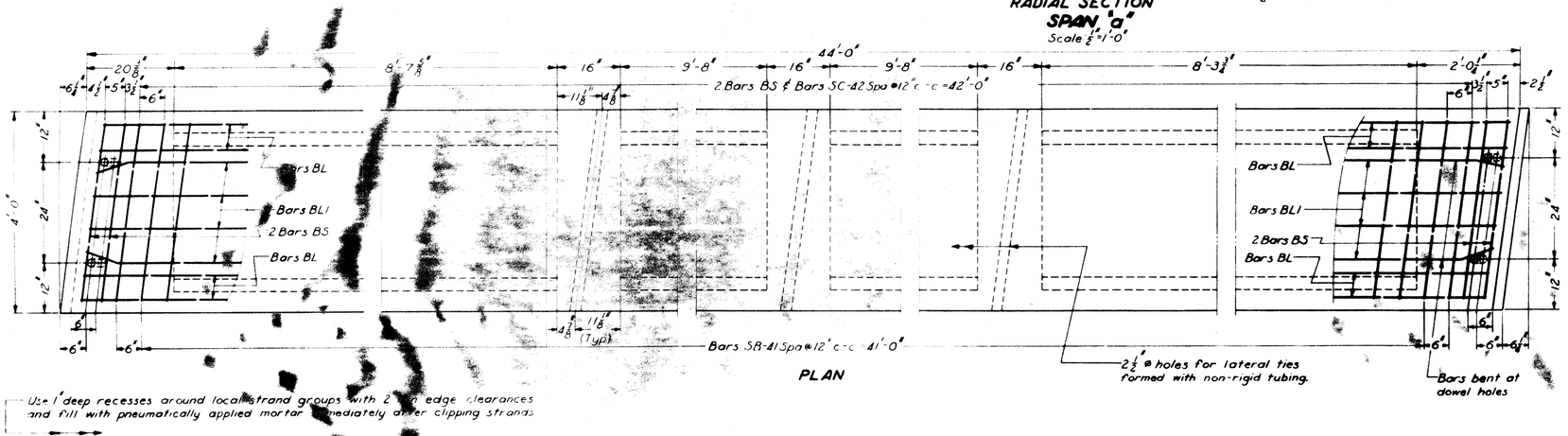
Drawn by: J.A.G.

CLXV-16

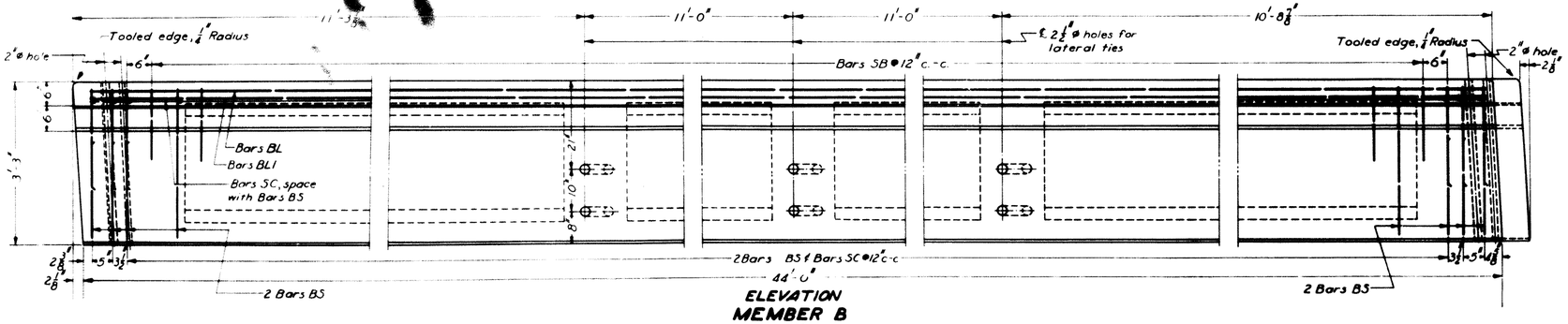
FED. RD. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va		U-118-1(6)	460	0460-118-101, B601	11(7)	42



RADIAL SECTION
SPAN "a"
Scale ½"=1'-0"

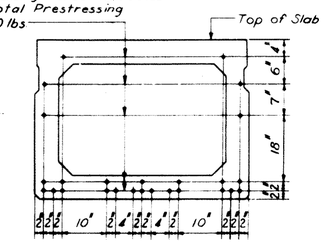


PLAN

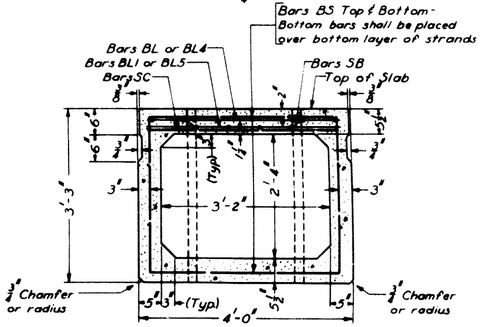


ELEVATION
MEMBER B
Scale ¾"=1'-0"

26-⅜" ø S.R. Uncoated Prestressing Strands. Prestressing Force = 18,900 lbs per strand; Total Prestressing Force: 491,400 lbs



STRAND PATTERN FOR ALL MEMBERS IN SPAN "a" AND "c"
Scale ¾"=1'-0"

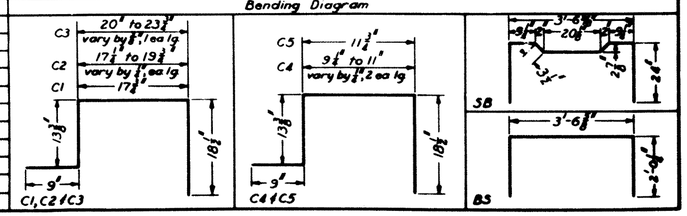


TYPICAL SECTION THRU MEMBERS B & J
Scale ¾"=1'-0"

REINFORCING STEEL PER MEMBER - Span "a"

Mark	No	Size	Length	Pin	Location
BL	8	#6	22'-9"	—	All Members
BL1	8	#4	22'-5"	"	"
BS	94	#5	7'-4"	3½"ø	"
C1	22	#5	4'-4"	3½"ø	Member A only
C2	11	#5	4'-3½" to 4'-6"	3½"ø	"
C3	11	#5	4'-6¼" to 4'-10"	3½"ø	"
C4	22	#5	3'-7½" to 3'-10"	3½"ø	Member E only
C5	22	#5	3'-10"	3½"ø	"
SB	42	#5	7'-5"	3½"ø	All Members
SC	47	#5	3'-7	—	" "

Bending Diagram



Drawn by: J.A.G.
Traced by: H.K.R.
Checked by: S.N.H.

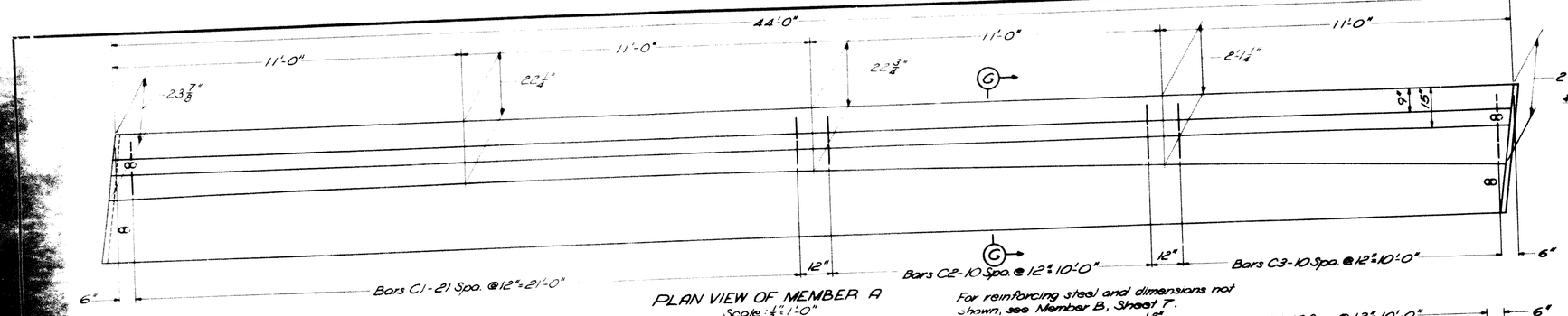
RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE SPAN "a"
STRAND PATTERN FOR ALL MEMBERS IN SPANS a & c
TYPICAL SECTION THRU MEMBERS B & J

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962

Revised: August 26, 1965.
Revised: October 5, 1964.

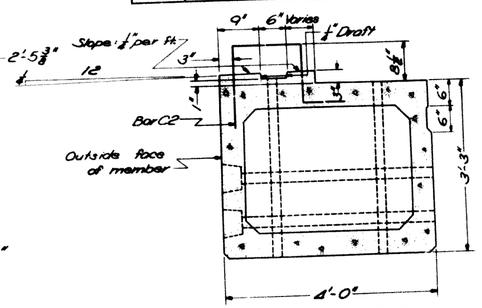
CLXV-16
Sheet 7 of 16

FED. RD. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	RD.	SHEET
2	Va.		U-118-1(6)	460	0460-118-101, B601	11(8)	42

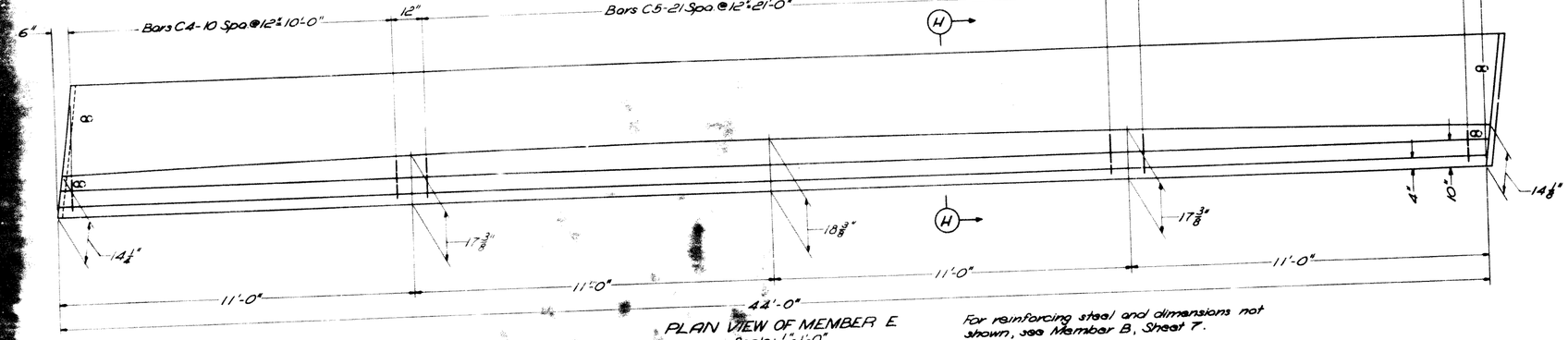


PLAN VIEW OF MEMBER A
Scale: 1/8" = 1'-0"

For reinforcing steel and dimensions not shown, see Member B, Sheet 7.

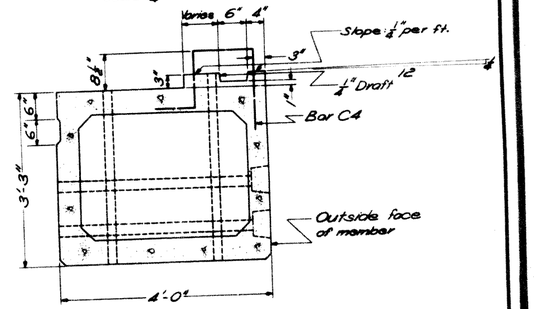


SECTION G-G
Scale: 3/4" = 1'-0"

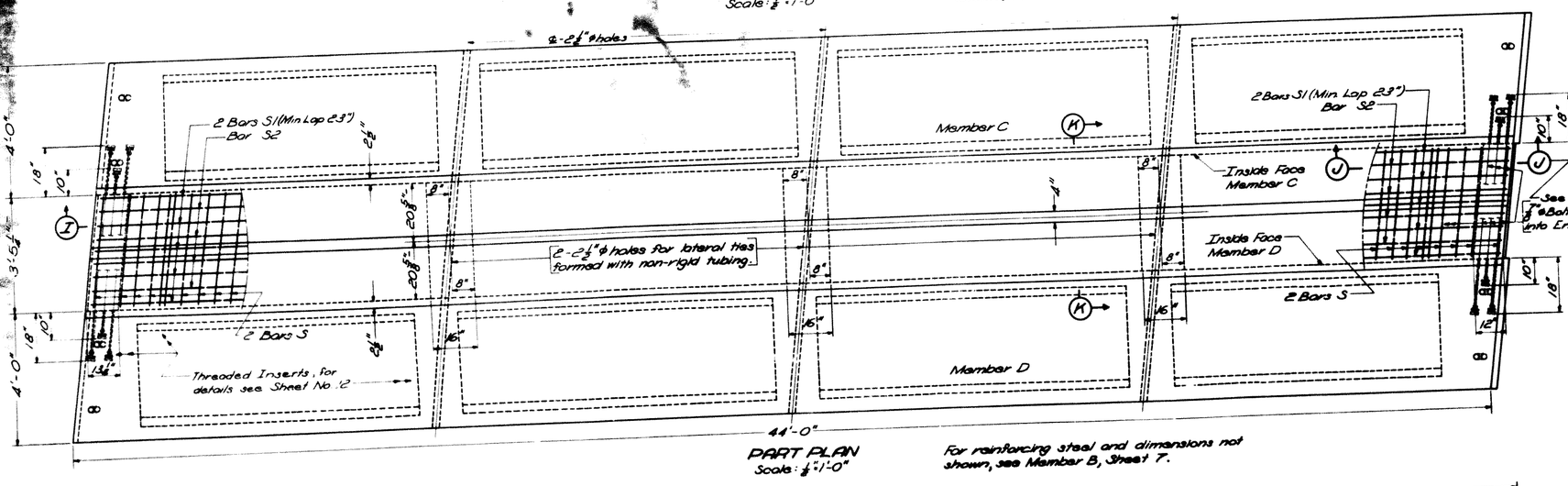


PLAN VIEW OF MEMBER E
Scale: 1/8" = 1'-0"

For reinforcing steel and dimensions not shown, see Member B, Sheet 7.

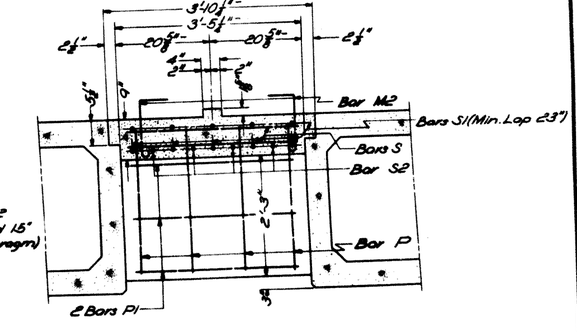


SECTION H-H
Scale: 3/4" = 1'-0"



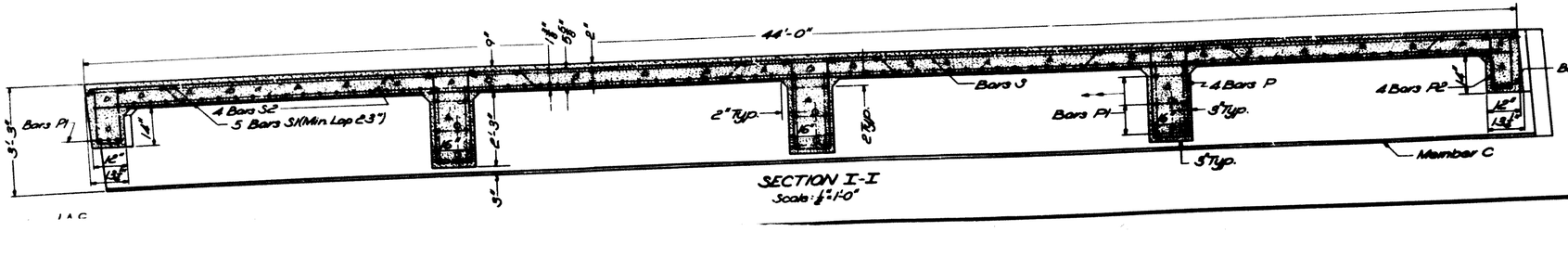
PART PLAN
Scale: 1/4" = 1'-0"

For reinforcing steel and dimensions not shown, see Member B, Sheet 7.



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

Note: Before casting diaphragms and slab, the contact surfaces shall be roughened and an approved epoxy bonding compound shall be applied. After casting, a cylinder strength of 2500 psi must be obtained before tensioning the lateral ties.



SECTION I-I
Scale: 1/4" = 1'-0"

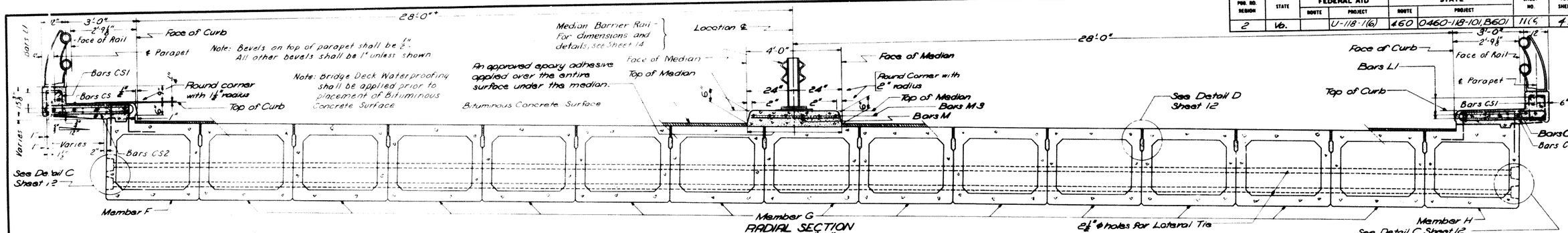
RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE
SPAN "a"

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

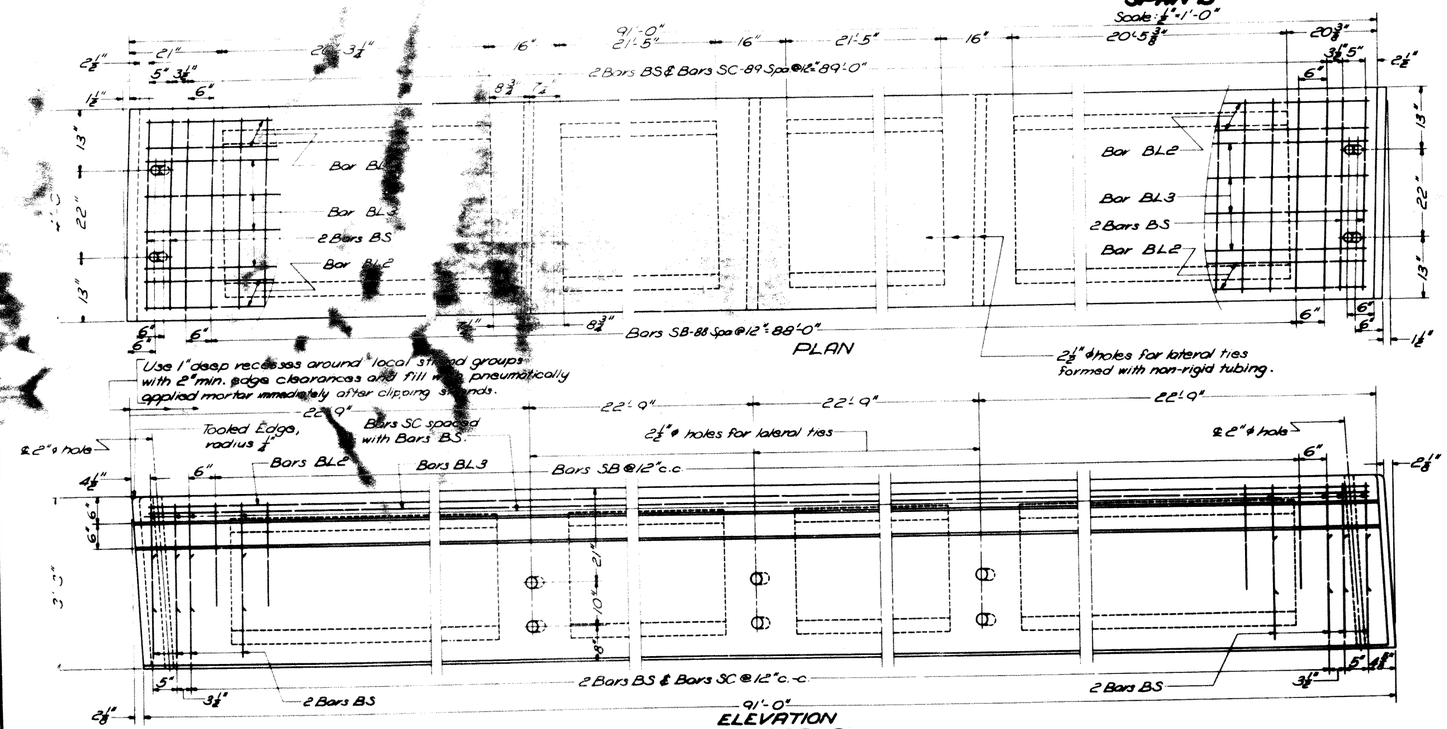
Revised: August 26, 1965.

CLXV-16
Sheet 8 of 16

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11C5	42

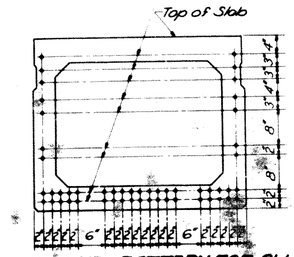


RADIAL SECTION
SPAN "b"
Scale: ¼"=1'-0"

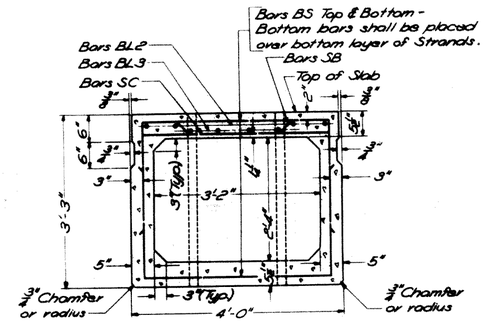


PLAN

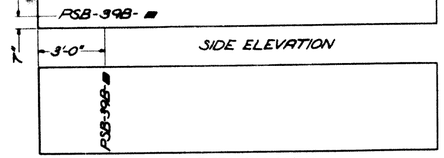
ELEVATION
MEMBER G
Scale: ¾"=1'-0"



STRAND PATTERN FOR ALL MEMBERS IN SPAN "b"
Scale: ¾"=1'-0"



TYPICAL SECTION THRU MEMBER G
Scale: ¾"=1'-0"



BOTTOM VIEW

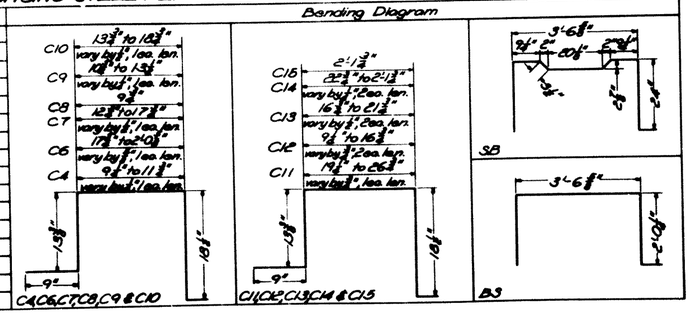
IDENTIFICATION MARKINGS
(Not to Scale)

Identification Markings shall be made by setting dies in the form to give letters 2 inches high and from ⅛ to ¼ inch deep. Marking shall be made both on the bottom and on one side of each member (outside for exterior member). Where the ■ is shown, the number of ½" ϕ S.R. Strands shall be marked. For example if a member has 52-½" ϕ S.R. Strands, the marking shall be PSB-398-52. Any member not having correct identification marking will be rejected.

REINFORCING STEEL PER MEMBER - SPAN "b"

Mark	No.	Size	Length	Pin	Location
BL2	12	#6	31'-6"	—	All Members
BL3	12	#4	31'-0"	—	" "
BS	188	#5	7'-4"	—	" "
C4	11	#5	3'-7⅛" to 3'-10"	3½"	Member F only
C6	12	#5	4'-4" to 4'-10⅛"	3½"	" " "
C7	11	#5	3'-11⅛" to 4'-4"	3½"	" " "
C8	23	#5	3'-8"	3½"	" " "
C9	12	#5	3'-9" to 3'-11⅛"	3½"	" " "
C10	11	#5	4'-0" to 4'-5"	3½"	" " "
C11	11	#5	4'-8½" to 5'-1"	3½"	" " "
C12	22	#5	3'-7⅛" to 4'-3"	3½"	Member H only
C13	22	#5	4'-3" to 4'-8"	3½"	" " "
C14	26	#5	4'-9" to 5'-0"	3½"	" " "
C15	21	#5	5'-0"	3½"	" " "
SB	89	#5	7'-5"	3½"	All Members
SC	94	#5	3'-7"	—	" "

Bending Diagram



Drawn by: J.A.C.
Traced by: J.P.M.

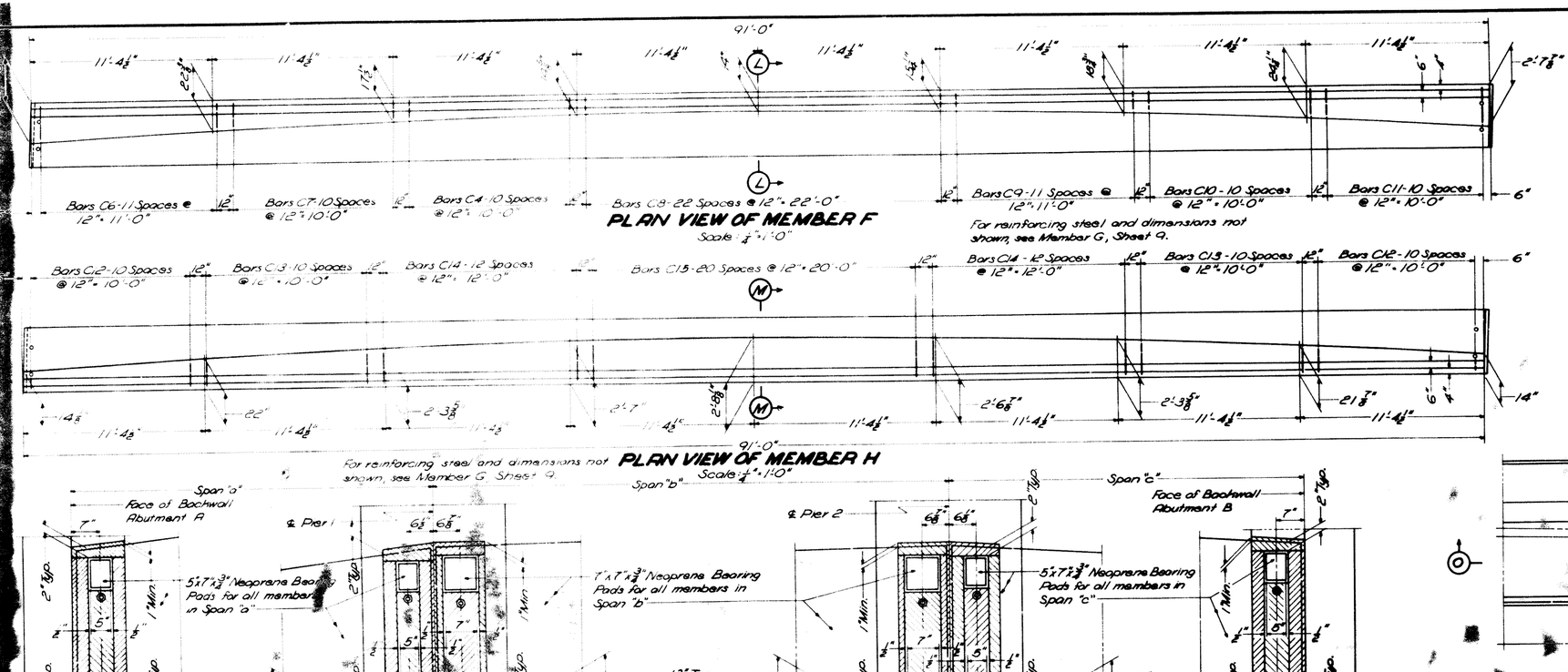
RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE
SPAN "b"

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

Revised: August 26, 1965.
Revised: October 5, 1964.

CLXV-16
Sheet 9 of 16

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)	460	0460-118-101, B601	11 (10)	16



PLAN VIEW OF MEMBER F

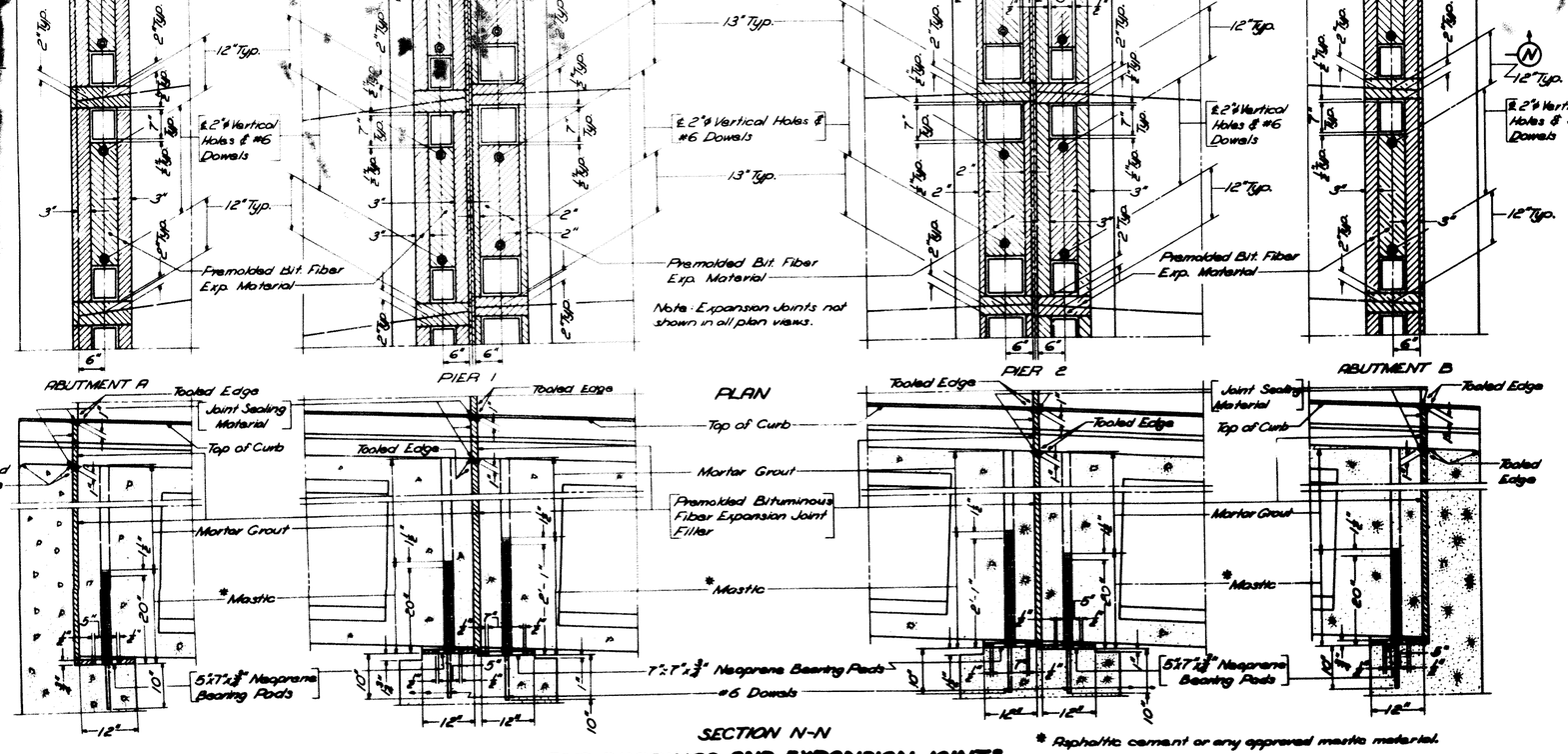
Scale: ¼" = 1'-0"

For reinforcing steel and dimensions not shown, see Member G, Sheet 9.

PLAN VIEW OF MEMBER H

Scale: ¼" = 1'-0"

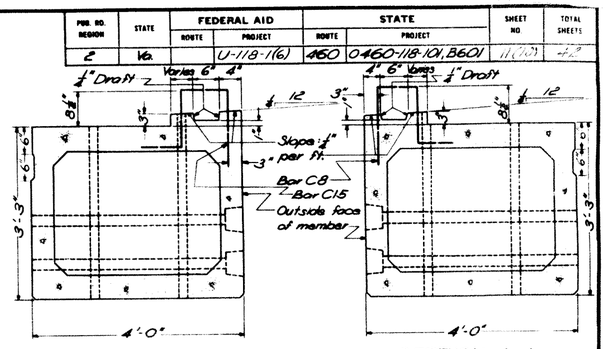
For reinforcing steel and dimensions not shown, see Member G, Sheet 9.



END BEARINGS AND EXPANSION JOINTS

Scale: ¾" = 1'-0"

* Asphaltic cement or any approved mastic material.

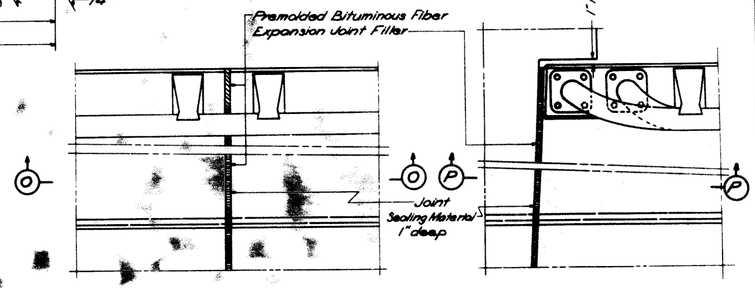


SECTION M-M

Scale: ¾" = 1'-0"

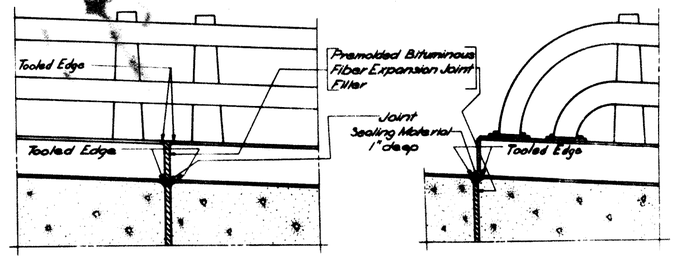
SECTION L-L

Scale: ¾" = 1'-0"



PART PLAN AT PIERS

PART PLAN AT ABUTMENTS



SECTION O-O

SECTION P-P

RTE. 460 OVER RTE. 29A

SUPERSTRUCTURE - SPAN "b"

END BEARINGS AND EXPANSION JOINTS

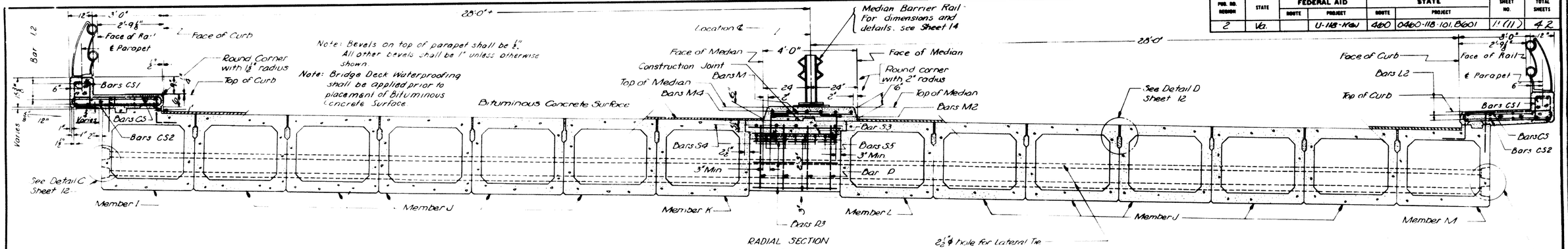
Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

Revised: August 26, 1965.
Revised: October 5, 1965.

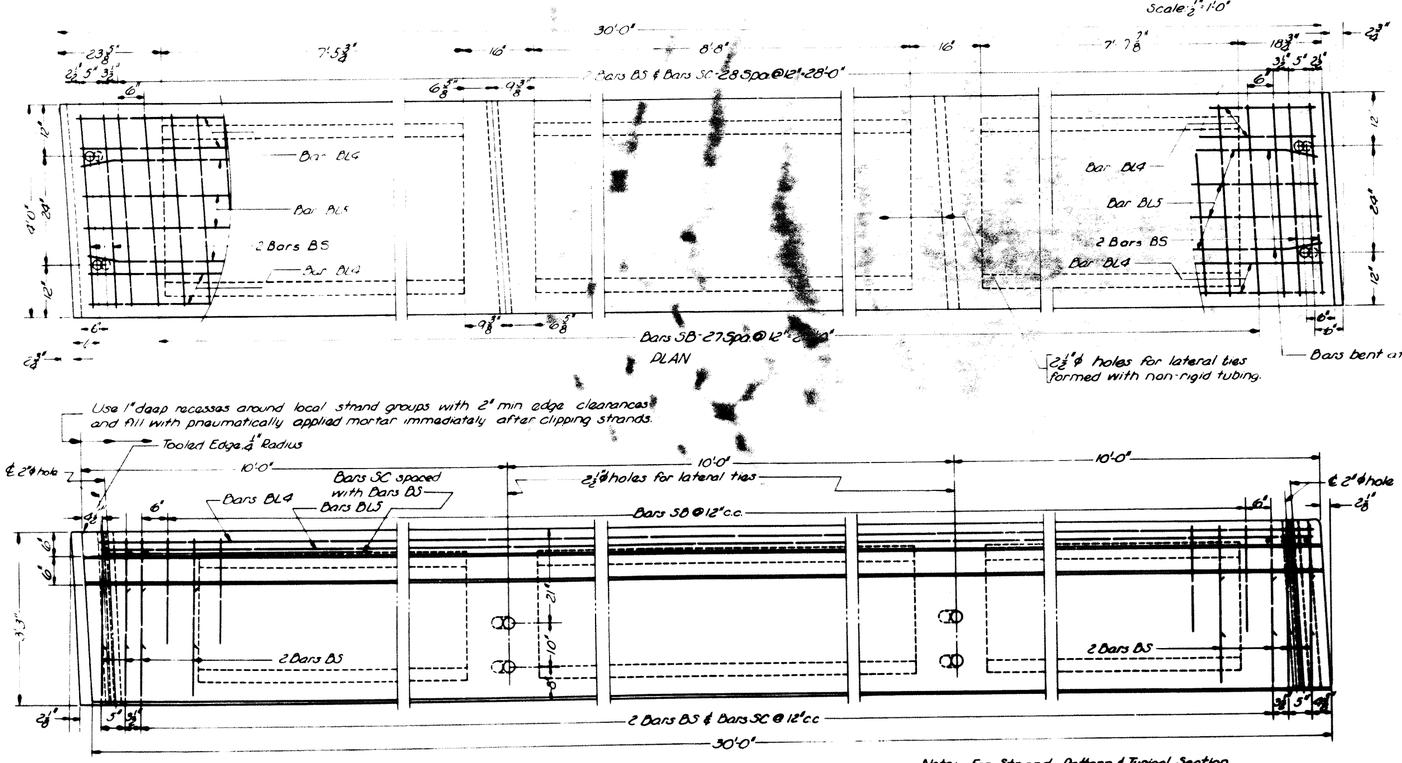
CLXV-16
Sheet 10 of 16

Drawn by: J.A.G
Traced by: J.P.M.
Checked by: S.N.H

PUB. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(6)N	460	0460-118-101, B601	11 (11)	42



RADIAL SECTION
SPAN "C"
Scale: ½"=1'-0"

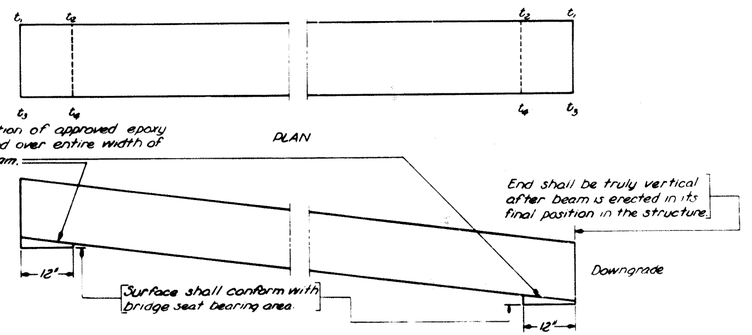


PLAN

ELEVATION

MEMBER J
Scale: ¾"=1'-0"

Note: For Strand Pattern & Typical Section of Member J, See Sheet No 7.



PLAN

ELEVATION

PREPARATION OF BEAM BEARING AREA
For Members in all spans
(Not to Scale)

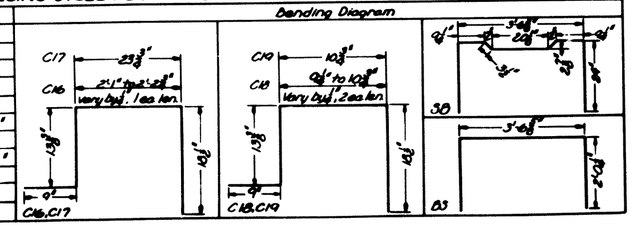
THICKNESS OF EPOXY MORTAR

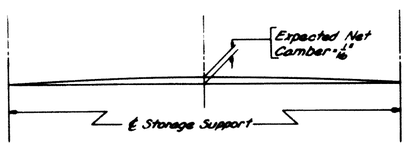
Thickness	t_1	t_2	t_3	t_4
Members A thru E				
Upgrade	1"	¾"	¾"	¾"
Downgrade	¾"	¾"	¾"	¾"
Members F thru H				
Upgrade	¾"	1¼"	¾"	¾"
Downgrade	¾"	¾"	¾"	1¼"
Members I thru M				
Upgrade	¾"	¾"	¾"	¾"
Downgrade	¾"	¾"	¾"	¾"

REINFORCING STEEL PER MEMBER - SPAN "C"

Mark	No.	Size	Length	Pin	Location
BL4	4	#6	29'-6"	—	All Members
BL5	4	#4	29'-6"	—	" "
BS	66	#5	7'-4"	3½"ϕ	" "
C16	8	#5	4'-11½" to 5'-0"	3½"ϕ	Member I only
C17	22	#5	4'-10"	3½"ϕ	" " "
C18	14	#5	3'-7½" to 3'-9"	3½"ϕ	Member M only
C19	16	#5	3'-9"	3½"ϕ	" " "
3D	28	#5	7'-5"	3½"ϕ	All Members
3C	33	#5	3'-7"	—	" "

Bending Diagram





CAMBER DIAGRAM
For members in all spans
(Not to Scale)

Note: The expected Net Camber is the amount of rise that should occur at Midspan when stress transfer is made and the member is freely resting on Storage Supports.

RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE SPAN "C"
PREPARATION OF BEAM BEARING AREA
CAMBER DIAGRAM

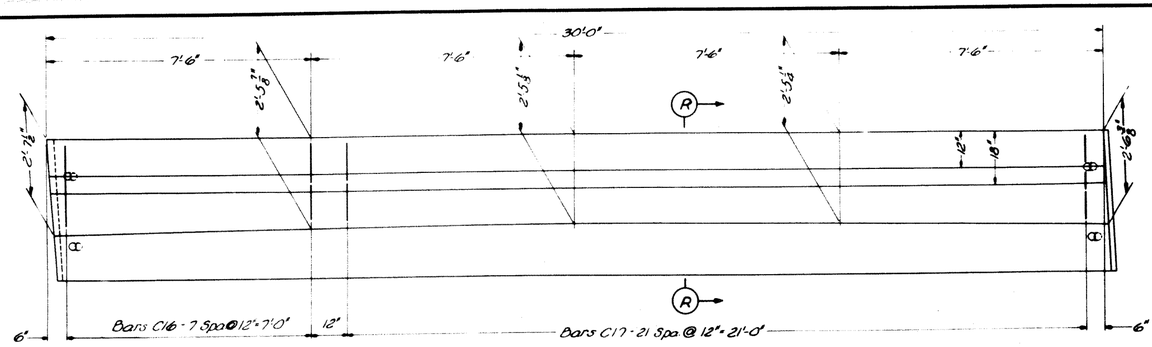
Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962

Revised: August 26, 1965.
Revised: October 5, 1964.

CLXV-16
Sheet 11 of 16

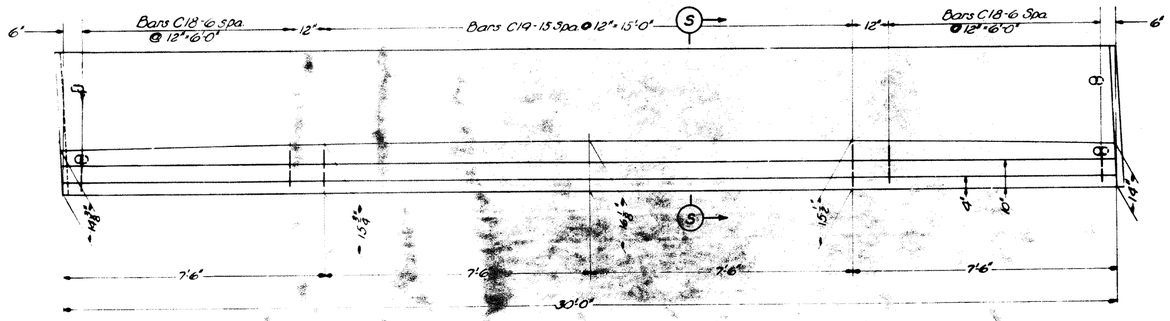
Drawn by J.A.G.
Traced by J.B.S.
Checked by S.N.H.

PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
2	Va.		U-118-1(6)	460	0460-118-101, B601	11-12



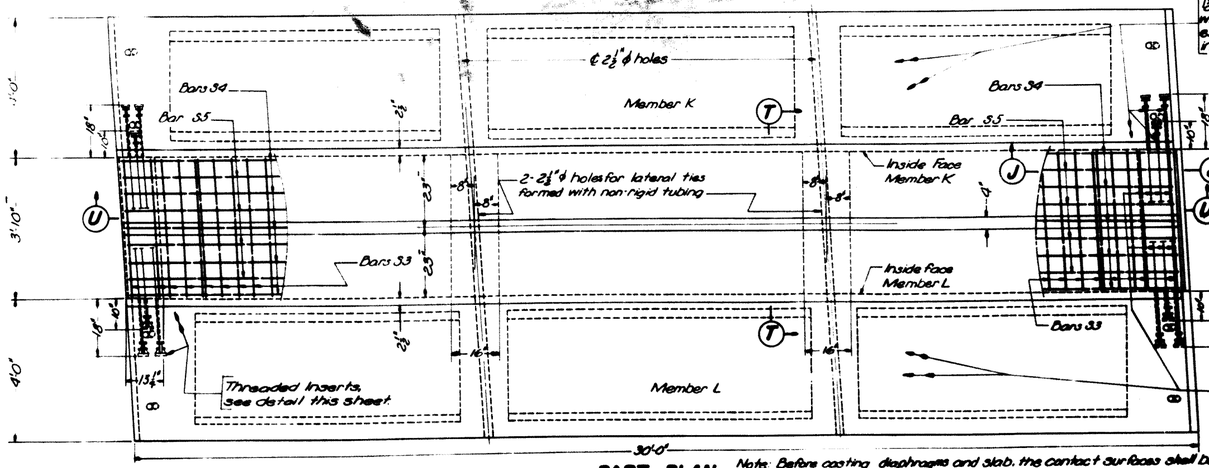
PLAN VIEW OF MEMBER I
Scale: ¼" = 1'-0"

For reinforcing steel and dimensions not shown, See Member J, Sheets 7 & 11.



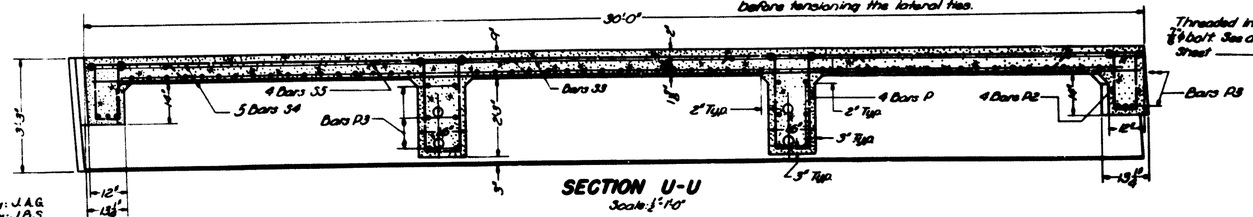
PLAN VIEW OF MEMBER M
Scale: ¼" = 1'-0"

For reinforcing steel and dimensions not shown, See Member J, Sheets 7 & 11.

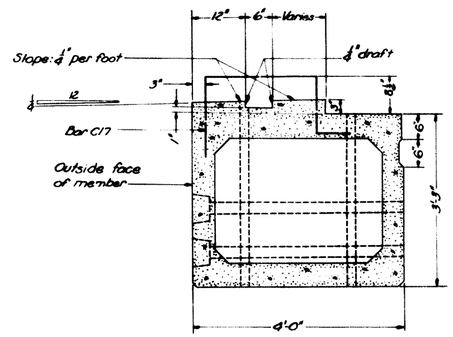


PART PLAN
Scale: ¼" = 1'-0"

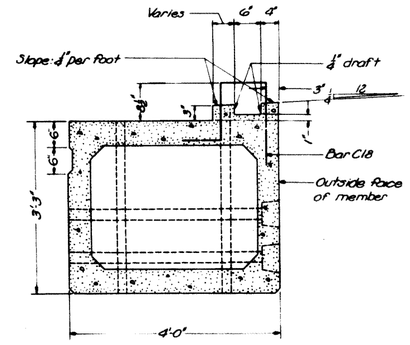
Note: Before casting diaphragms and slab, the contact surfaces shall be roughened and an approved epoxy bonding compound shall be applied. After casting, a cylinder strength of 2500 psi must be obtained before tensioning the lateral ties.



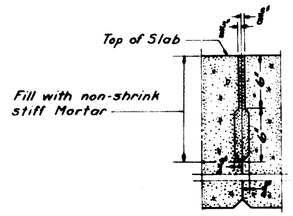
SECTION U-U
Scale: ½" = 1'-0"



SECTION R-R
Scale: ¾" = 1'-0"



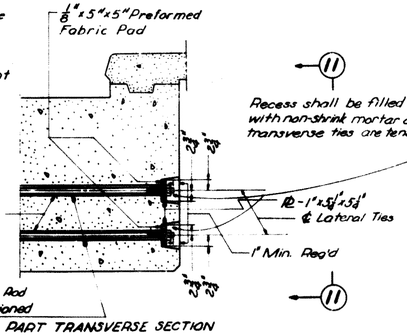
SECTION S-S
Scale: ¾" = 1'-0"



DETAIL D
Scale: 1½" = 1'-0"

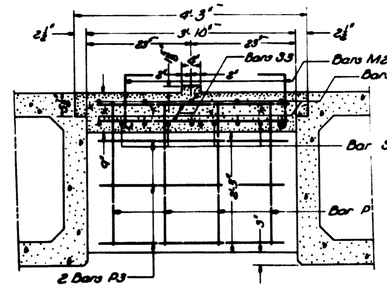
Non-Shrink Mortar

Shear keys and recesses at ends of transverse ties shall be filled with non-shrink mortar made of one part Portland Cement, two parts sand, an approved shrinkage-reducing admixture and water just sufficient for workability. Surfaces that will be in contact with mortar shall be thoroughly cleaned and dampened as necessary to insure good bond.
All mortaring of shear keys shall be done in one continuous operation without interruption for each span of superstructure as a unit.

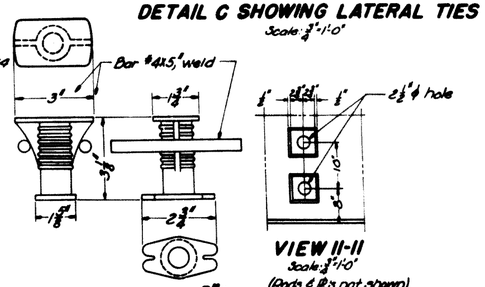


DETAIL C SHOWING LATERAL TIES
Scale: ¾" = 1'-0"

1¼" ϕ Open hole formed with non-rigid tubing extending to threaded inserts.



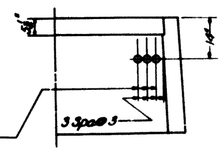
SECTION T-T
Scale: ¾" = 1'-0"



VIEW II-II
Scale: ¾" = 1'-0"
(Rods & R's not shown)

THREADED INSERT FOR ⅞" ϕ BOLT
Not to Scale
Note: Threaded insert with 2-#4 bars, when embedded as shown, shall develop full strength of ⅞" ϕ threaded bolt.

⅞" ϕ Bolt. (Extend 15" min. into End Diaphragm)



SECTION J-J
(Typical on inside faces at ends of Members C, D, K & L)
Slab and diaphragm removed.
Scale: ¾" = 1'-0"

RTE. 460 OVER RTE. 29A
SUPERSTRUCTURE SPAN "C"
DETAIL C SHOWING LATERAL TIES

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962.

Revised: August 26, 1965.
Revised: October 5, 1964.

Drawn by: J.A.G.
Traced by: J.B.S.
Checked by: S.N.H.

CLXV-1
Sheet 12 of

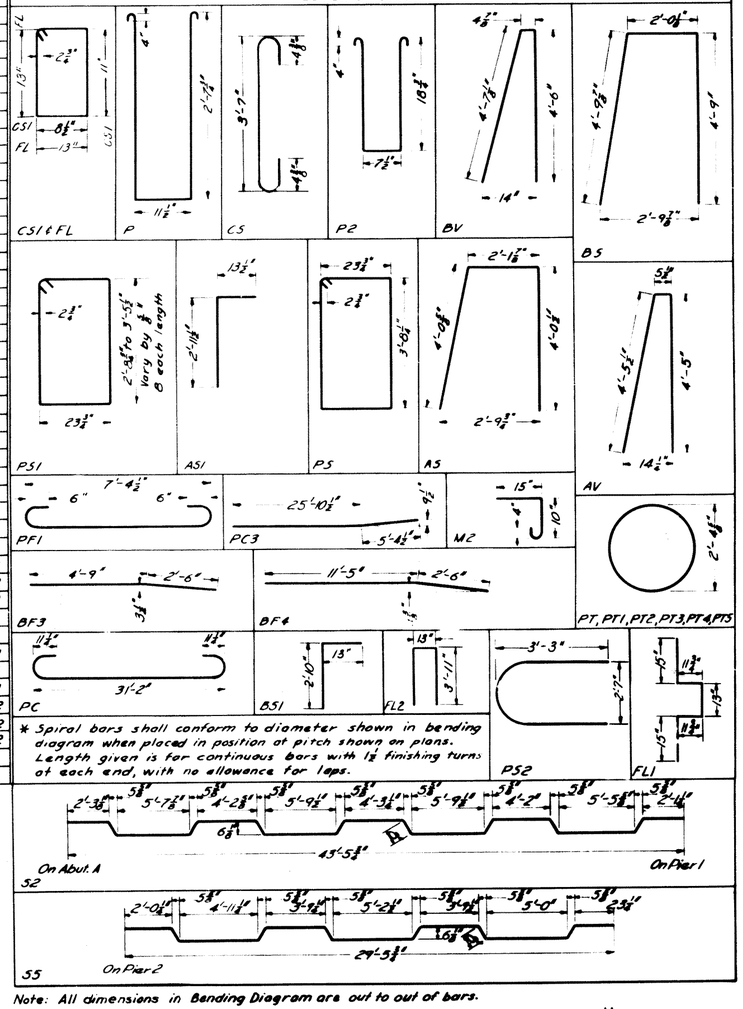
PROJ. NO. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1(16)	460	0460-118-101,B601	11 (13)	42

REINFORCING STEEL SCHEDULE

Mark	No	Size	Length	Pin	Location
SUPERSTRUCTURE					
CS	78	#5	4'-6"	2½"ø	Curbs
CS1	334	#4	3'-8"	2"ø	Parapets
CS2	394	#4	3'-6"	—	Curbs
L	44	#4	22'-5"	—	Curbs & Parapets
L1	66	#4	31'-0"	—	" "
L2	22	#4	29'-6"	—	" "
M	162	#3	3'-6"	—	Median
M1	12	#3	22'-3"	—	"
M2	146	#4	2'-5"	2"ø	"
M3	18	#3	31'-0"	—	"
M4	6	#3	29'-6"	—	"
P	20	#4	6'-11"	2"ø	Diaph. Span a & c
P1	24	#4	3'-0"	—	" Span a
P2	16	#4	4'-5"	2"ø	" Span a & c
P3	18	#4	3'-4"	—	" Span c
FL	6	#4	4'-9"	2"ø	Lighting Bases
FL1	4	#4	5'-3"	2"ø	" "
S	90	#4	3'-0"	—	Slab Span a
S1	20	#6	22'-9"	—	" " "
S2	4	#6	44'-6"	4½"ø	" " "
S3	66	#4	3'-4"	—	Slab Span c
S4	10	#6	29'-6"	—	" "
S5	4	#6	30'-3"	4½"ø	" "
FL2	9	#6	8'-7"	4½"ø	Lighting Bases
ABUTMENT A					
AB	4	#6	35'-4"	—	Bridge Seat
AC	18	#4	5'-6"	—	Wing Wall
AH	22	#4	34'-7"	—	Backwall
A3	66	#4	10'-1"	2"ø	"
AH1	2	#6	29'-0"	—	"
AF	12	#8	39'-6"	—	Footing
AV	66	#4	9'-2"	2"ø	Backwall
"	57	#4	4'-0"	2"ø	"
ABUTMENT B					
BB	4	#6	36'-2"	—	Bridge Seat
BC	4	#4	6'-3"	—	Wing Wall
BC1	4	#4	12'-9"	—	" "
BC2	2	#4	5'-6"	—	" "
"	1	#4	9'-3"	—	" "

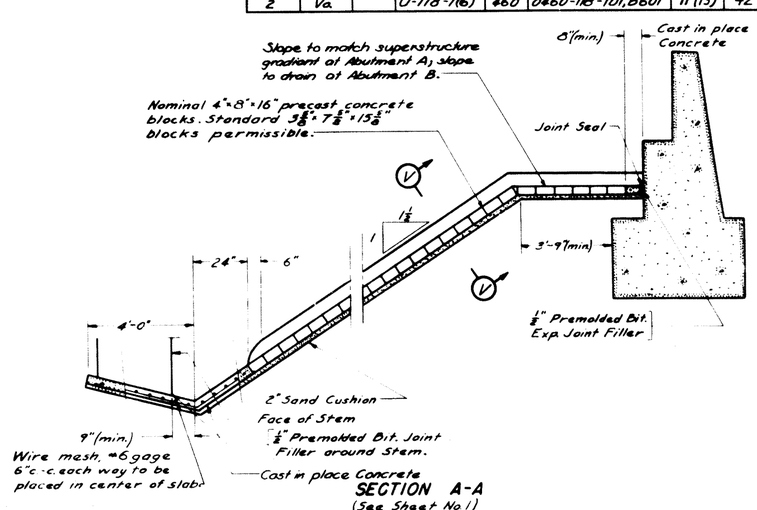
Mark	No	Size	Length	Pin	Location
BC4	1	#4	6'-6"	—	Wing Wall
BC5	1	#4	4'-6"	—	" "
BH	22	#4	33'-8"	—	Backwall
BS	67	#4	11'-5"	2"ø	"
BF	9	#8	29'-5"	—	Footing
BF1	4	#8	34'-3"	—	"
BF2	2	#8	36'-7"	—	"
BF3	2	#8	7'-3"	8"ø	"
BF4	2	#8	13'-11"	8"ø	"
BH1	2	#6	28'-6"	—	Backwall
BV	67	#4	9'-4"	2"ø	"
BS1	56	#4	3'-10"	2"ø	"
PIERS					
PC	40	#10	33'-11"	10"ø	Cap for Pier 1 & 2
PC1	32	#9	25'-11"	—	" " " "
PC2	16	#4	31'-2"	—	" " " "
PC3	16	#9	31'-3"	9"ø	" " " "
PF	64	#8	5'-0"	—	Footing & Stems
PF1	192	#6	8'-11"	4½"ø	Footings
PS	536	#4	11'-9"	2"ø	Cap for Pier 1 & 2
PS1	120	#4	9'-10" to 11'-3⅜"	2"ø	" " " "
PS2	12	#6	7'-11"	2'-5½"ø	" " " "
PT	1	#2	290'-4"	*	Stem 1 of Pier 1
PT1	2	#2	565'-10"	*	Stems 2 & 3 of Pier 1
PT2	1	#2	275'-6"	*	Stem 4 of Pier 1
PT3	1	#2	215'-11"	*	Stem 1 of Pier 2
PT4	2	#2	416'-10"	*	Stems 2 & 3 of Pier 2
PT5	1	#2	201'-0"	*	Stem 4 of Pier 2
PV	8	#8	22'-2"	—	Stem 1 of Pier 1
PV1	16	#8	21'-8"	—	Stems 2 & 3 of Pier 1
PV2	8	#8	21'-2"	—	Stem 4 of Pier 1
PV3	8	#8	17'-2"	—	Stem 1 of Pier 2
PV4	16	#8	16'-8"	—	Stems 2 & 3 of Pier 2
PV5	8	#8	16'-2"	—	Stem 4 of Pier 2

BENDING DIAGRAM

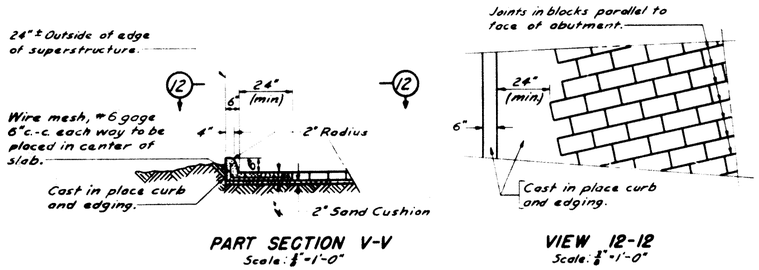


* Spiral bars shall conform to diameter shown in bending diagram when placed in position of pitch shown on plans. Length given is for continuous bars with 1½ finishing turns at each end, with no allowance for laps.

Note: All dimensions in Bending Diagram are out to out of bars.

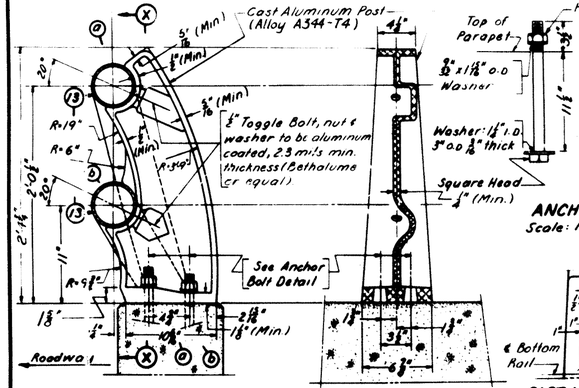


SECTION A-A
(See Sheet No 1)
Scale: ¾"=1'-0"



PART SECTION V-V
Scale: ¾"=1'-0"

VIEW 12-12
Scale: ¾"=1'-0"

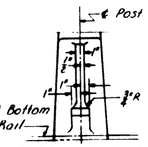


Note: 1⅛"ø Anchor bolt meeting requirements of A.S.T.M A 325-58 T. Nuts, washers and 5" of threaded ends of bolt to be aluminum coated, 2.3 mils min. thickness (Betholume or equal.)

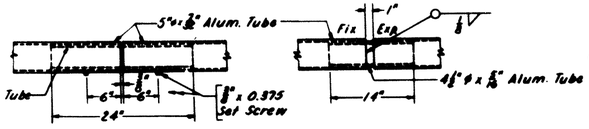
SECTION W-W
Scale: 1½"=1'-0"

SECTION X-X
Scale: 1½"=1'-0"

ANCHOR BOLTS
Scale: 1½"=1'-0"

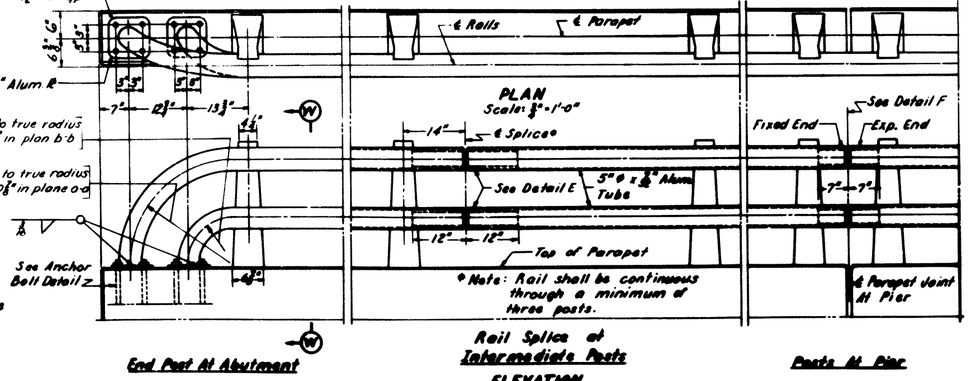


PART VIEW 13-13
Scale: 1½"=1'-0"



DETAIL E
Scale: 1"=1'-0"

DETAIL F
Scale: 1"=1'-0"



End Post At Abutment

Rail Splice at Intermediate Posts

ELEVATION
Scale: ¾"=1'-0"

Posts At Pier

PRECAST CONCRETE BLOCK SLOPE PROTECTION

Note: Concrete slab riprap may be used in place of precast concrete blocks for slope protection. The slab shall be 4" thick and shall be placed in sections approximately 4'-0" square, reinforced with #6 gage wire mesh 6"c.-c. each way, placed in center of slab and continuous thru construction joints. The 2" sand cushion is not to be used with slab riprap.

RTE. 460 OVER RTE. 29A

REINFORCING STEEL

PRECAST CONCRETE BLOCK SLOPE PROTECTION

ALUMINUM RAIL

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Va. April, 1962

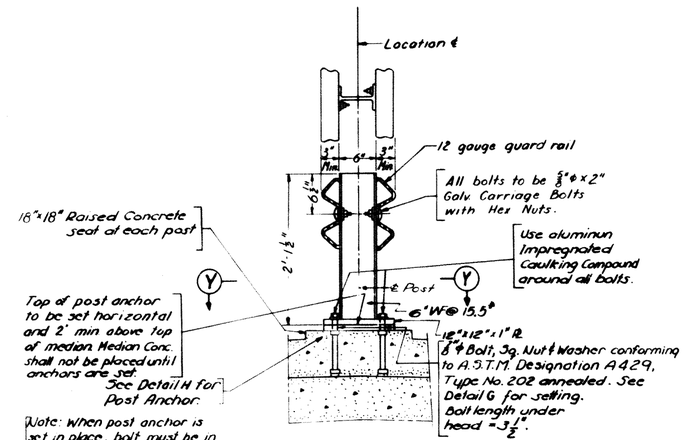
Drawn by: J.A.G.
Traced by: I.L.H. & J.P.M.
Checked by S.N.H.

Revised: August 26, 1965
Revised: October 5, 1964.

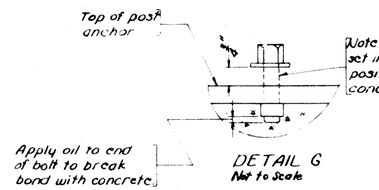
CLXV-16
Sheet 13 of 16

ALUMINUM RAIL

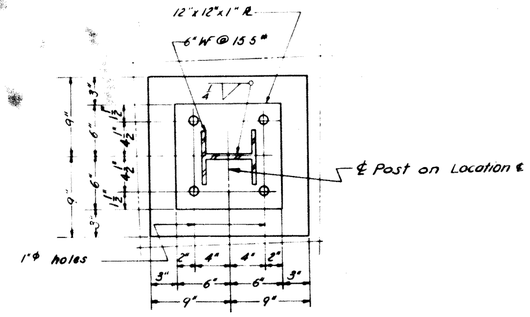
PUB. RD. REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	Va.		U-118-1 (6)	460	0460-118-101, B601	11(14)	42



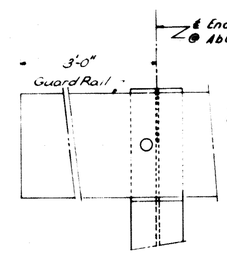
TYPICAL SECTION OF
BEAM MEDIAN BARRIER
Scale 1"=1'0"



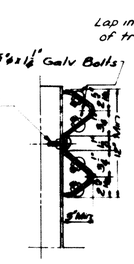
DETAIL G
Not to Scale



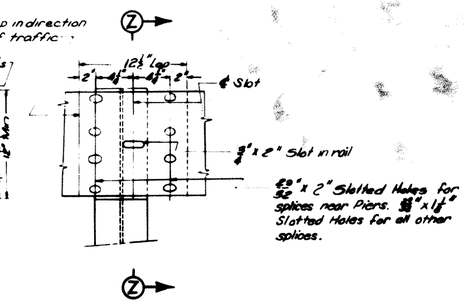
SECTION Y-Y



RAIL AT ABUTMENTS

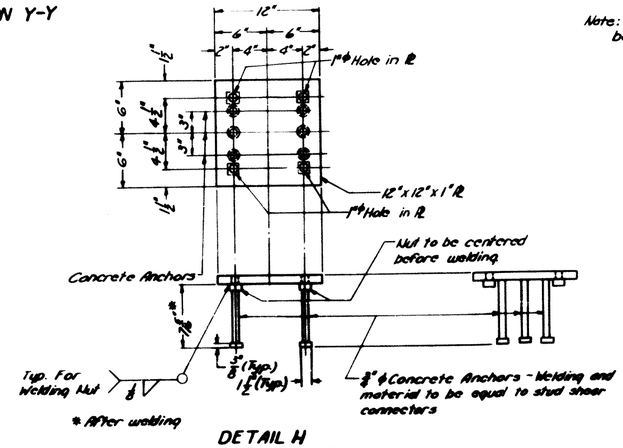


SECTION Z-Z



RAIL SPLICE
(Bolts not Shown)

Note: To allow for superstructure expansion, a rail splice shall be provided at the post nearest each Pier.



DETAIL H
POST ANCHOR

BEAM MEDIAN BARRIER

RTE. 460 OVER RTE. 29A
BEAM MEDIAN BARRIER

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Virginia Aug., 1965

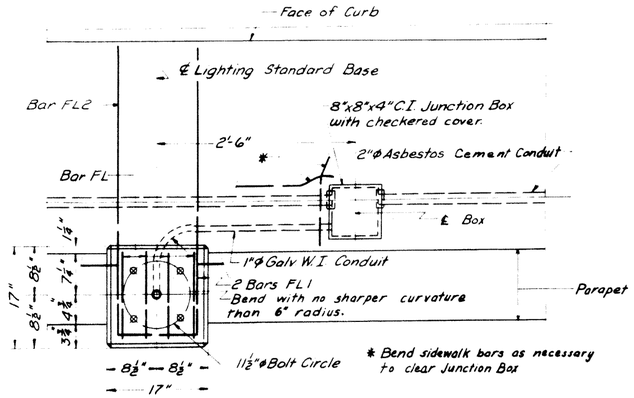
CLXV-16

Scale: 1 1/2"=1'-0" unless otherwise noted.

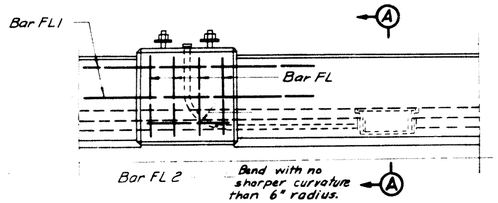
Sheet 14 of 14

Drawn by F.G.C.
Traced by DKG
Checked by J.H.F.

PUB. RD. REGION	STATE	FEDERAL AID		STATE		SHEET NO.	TOTAL SHEETS
		ROUTE	PROJECT	ROUTE	PROJECT		
2	VA.		U-118-1 (6)	460	0460-118-101, B601	11(15)	42

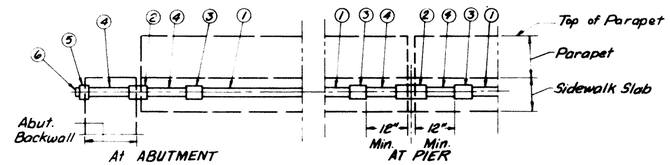


PLAN
Scale 1"=1'-0"



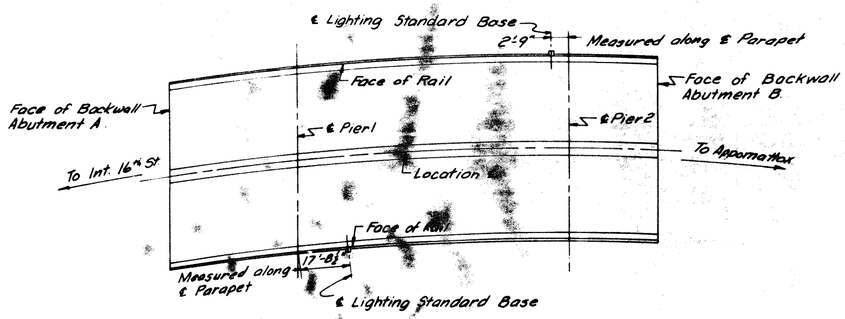
ELEVATION
Scale: 1"=1'-0"

BASE DETAIL FOR LIGHTING STANDARD

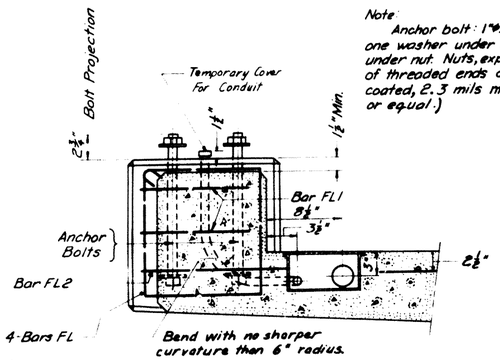


CONDUIT DETAILS AT EXPANSION JOINTS
(Not to Scale)

Legend for Expansion Joint Details:
1. 2"ϕ Asbestos-Cement Conduit
2. Expansion ℄ Deflection Fitting equal to 1963 catalog number DX200 as manufactured by O-Z Electrical Mfg. Co., Inc.
3. Adaptor to connect 2"ϕ asbestos-cement to metal conduit.
4. 2"ϕ Galvanized W.I Conduit
5. Coupling
6. Plug



LAYOUT SHOWING LIGHTING STANDARD BASES
(Not to Scale)



Note:
Anchor bolt: 1"ϕx16" Mach. Bolt with one washer under head and one washer under nut. Nuts, exposed washers and 6" of threaded ends of bolts to be aluminum-coated, 2.3 mils min. thickness (Bethalume or equal.)

Note:
All bevels for concrete base for lighting Standard to be ½.

SECTION A-A
Scale: 1½"=1'-0"

RTE. 460 OVER RTE. 29A
PROVISIONS FOR ROADWAY LIGHTING SYSTEM

Virginia Department of Highways
Office of the Bridge Engineer
Richmond, Virginia
Aug., 1965

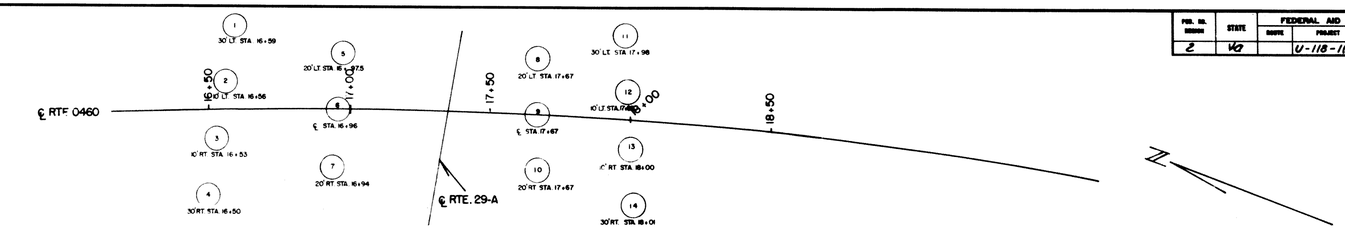
Revised: Sept. 15, 1965

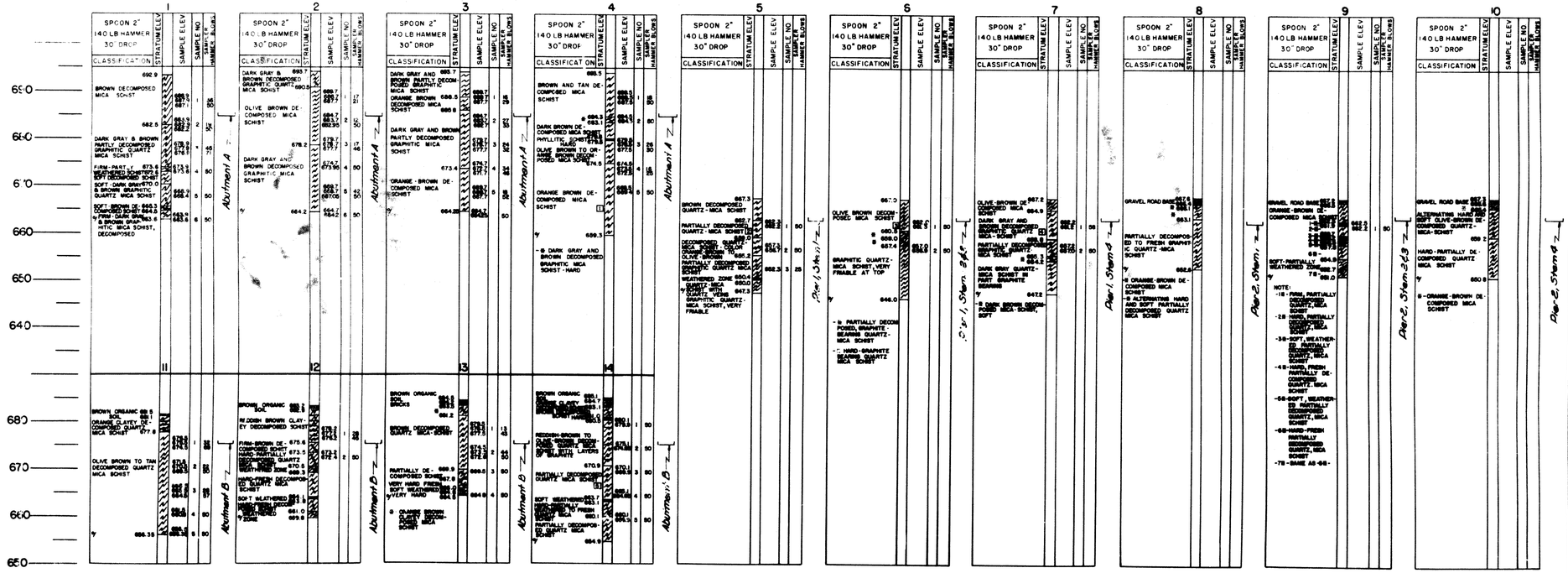
CLXV-16
Sheet 15 of 15

DRAWN BY F.G.C.
TRACED BY [illegible]
CHECKED BY V.H.F.

PROJ. NO. DIVISION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	VA		U-118-1(16)	460	0460-118-101, B601	11(16)	42

PLAN
SCALE 1"=20'





GEOLOGIC SECTION
SCALE 1" = 10'

NOTE:
THE LOGS SHOWN ON THIS PLAN WERE TAKEN FROM FIELD NOTES THEY REPRESENT THE BEST INFORMATION AVAILABLE TO THE VIRGINIA DEPARTMENT OF HIGHWAYS
℄ ELEVATION AT BOTTOM OF DRILL HOLE
C COMPONENT - DIAMOND CORE DRILL
GROUND WATER ELEVATION
1 GW ELEV. 668.0 2 GW ELEV. 660.2 3 GW ELEV. 659.3
4 GW ELEV. 660.5 5 GW ELEV. 666.2

6 24
SH. 7 OF 1

VIRGINIA DEPARTMENT OF HIGHWAYS
ROUTE NO. 0460 STA. 16+50
PROJ. NO. 0460-118-101, B-601
ENGINEERING GEOLOGY
DIVISION OF TESTS
RTE. 0460 OVER RTE. 0029-A
CITY OF LYNCHBURG
MAY 16, 1961

Drawn by: # LONG
Traced by:
Checked by:

Revised August 26, 1965 16 of 16 CLXV-16

1 6 5 — 1 6 F