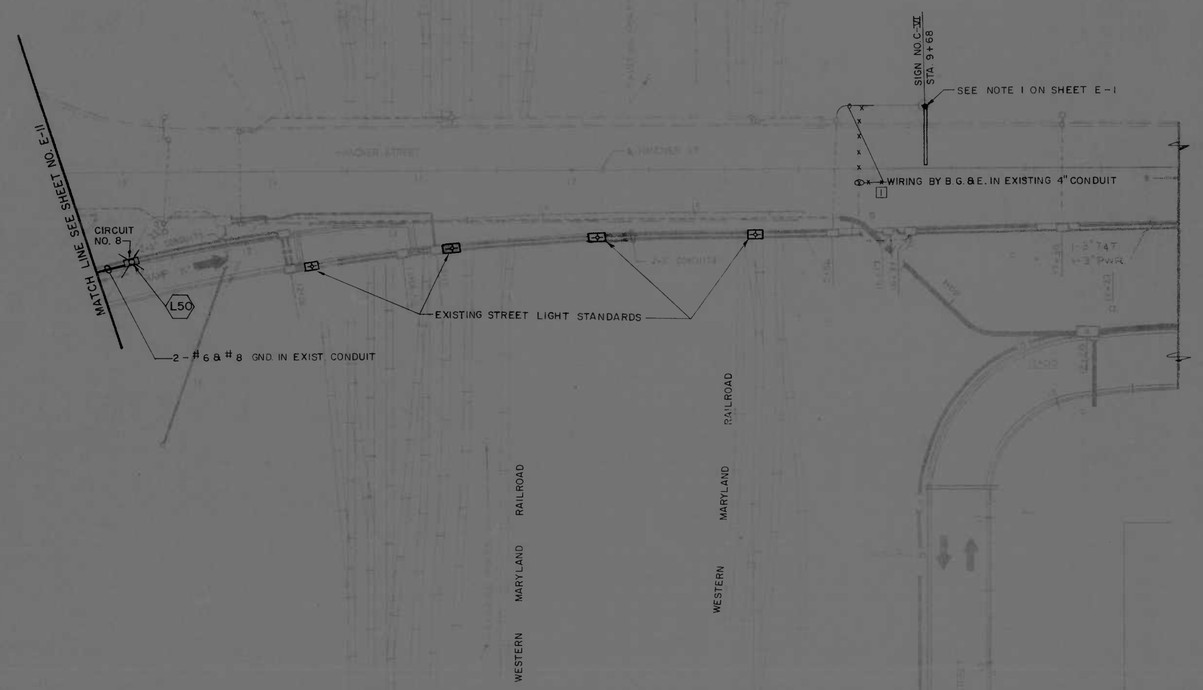
RATIO - 24

K&E BALTIMORE 19 1193 HERCULENE MC 3818+

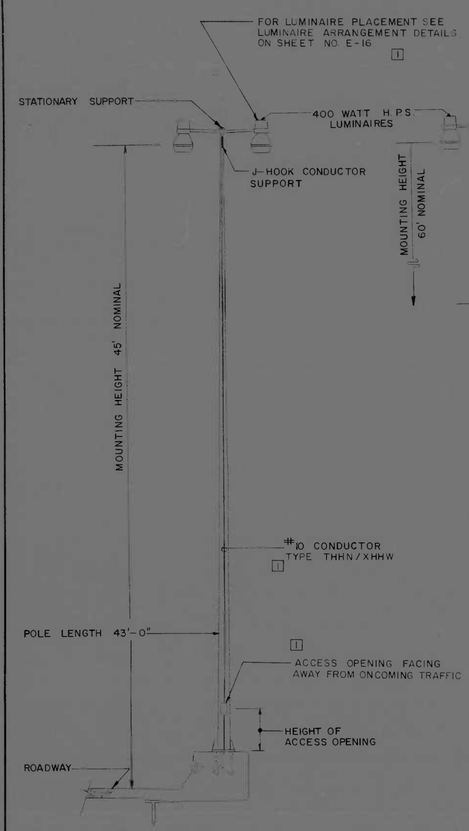
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-12	54 E-24



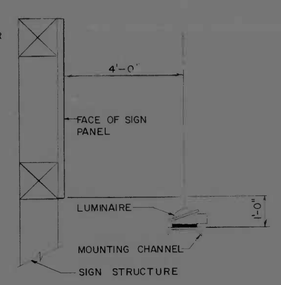
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
1 REVISION NO. 1 5/22/79 BY EBA-S&T	EBA - S&T *Consulting Engineers* BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET **LIGHTING PLAN**	DRAWN BY S. EDMUNDS; TRACED BY S. EDMUNDS; DES. BY J. ROLLINSON; CHK. BY J. NONNEMACHER
		SCALE: 1" = 40' DATE: SEPT., 1978	F.A.P. NO. I-95-4(99)31; S.H.A. NO. BC 246-100-815; BALTO. CITY NO. 2521
			SHEET NO. 54; E-12 OF E-24

RATIO - 24

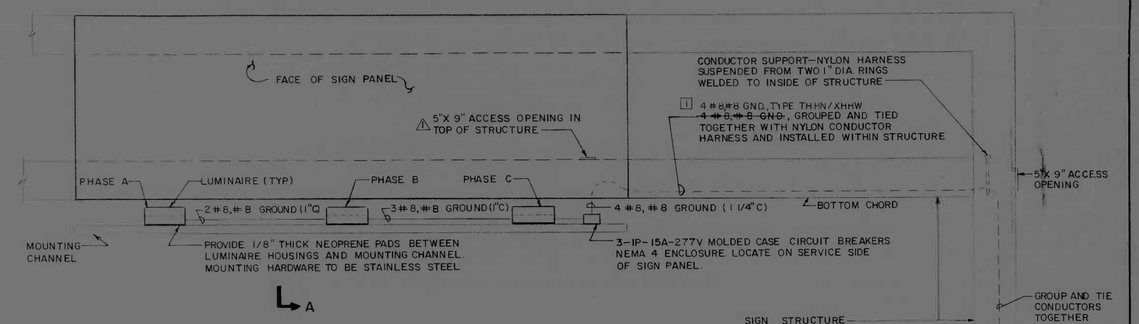
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(991)31	E-15	54 E-24

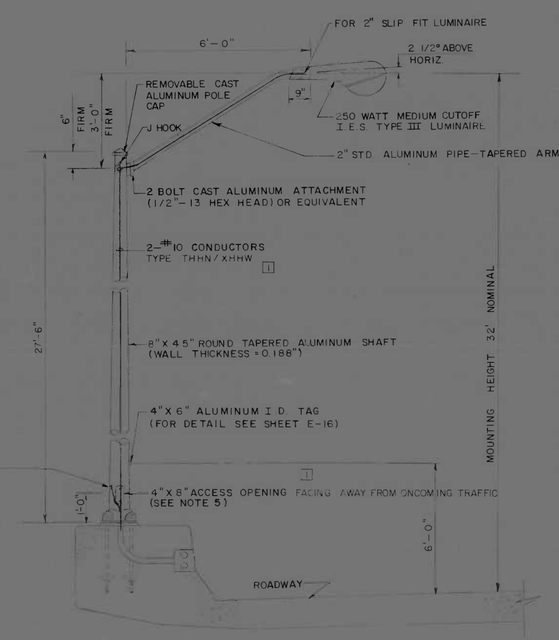


HIGH MAST PARAPET INSTALLATION

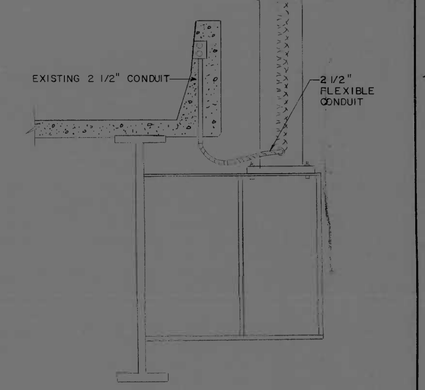


SECTION A-A





CONVENTIONAL LIGHTING STANDARD



TYPICAL SIGN LIGHTING INSTALLATION

NOTES:

1. LUMINAIRES SHALL BE EQUALLY SPACED ABOUT THE POLE.
2. NO LOWERING DEVICE REQUIRED FOR POLE HEIGHTS OF 43 FEET.
3. LOWERING DEVICE REQUIRED FOR POLE HEIGHTS OF 58 FEET.
4. SEE TABULATION ON SHEET NOS. E-16, E-17 FOR NUMBER OF LUMINAIRES REQUIRED.
5. STRAIGHT OR IN-LINE TYPE FUSED CONNECTORS OF THE NON-BREAKAWAY TYPE SHALL BE PROVIDED IN ALL PHASE CONDUCTORS AT THE ACCESS OPENING. THE CONNECTORS SHALL BE RATED 30 AMPERES (MINIMUM), 600 VOLTS AND SHALL BE PROVIDED WITH 15 AMPERE FUSES. THE UNIT SHALL BE SELF-INSULATING WITHOUT REQUIRING TAPING, POURING OR CLAMPING.

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
1 ADDENDUM NO. 2 11/21/78 BY EBA/S&T 1 REVISION NO. 1 5/22/79 BY EBA/S&T	EBA — S & T Consulting Engineers BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET LIGHTING DETAILS	DRAWN BY S.V. EDMUNDS TRACED BY S.V. EDMUNDS DES. BY J. ROLLINSON CHK. BY J. ROLLINSON
		SCALE: NONE DATE: SEPT., 1978	F.A.P. NO. I-95-4(991)31 SHA NO. BC 246-100-815 BALTO. CITY NO. 2521 SHEET NO. 54 E-15 OF E-24

K&E BALTIMORE 10 X 10 TO THE HERCULENE MC 2518

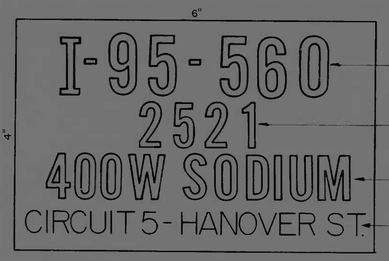
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-16	54 E-24

STRUCTURAL REQUIREMENTS — LIGHTING STANDARDS

POLE HEIGHT (FEET)	NOMINAL BASE DIA. INCHES	SECTION 'A' LENGTH (FEET)	SECTION 'A' GAGE (AWG)	SECTION 'B' LENGTH (FEET)	SECTION 'B' GAGE (AWG)	SECTION 'C' LENGTH (FEET)	SECTION 'C' GAGE (AWG)	SECTION 'D' LENGTH (FEET)	SECTION 'D' GAGE (AWG)	SECTION 'E' LENGTH (FEET)	SECTION 'E' GAGE (AWG)	SECTION 'F' LENGTH (FEET)	SECTION 'F' GAGE (AWG)
43(A)	10	25	11	18	11								
43(B)	10	25	11	18	11								
43(C)	10	25	11	18	11								
58	17.5	20	7	20	11	18	11						
135	26.5	30	4+4	25	0	20	0	20	2	20	2	20	2
48	10	25	11	23	11								

BASE DATA — LIGHTING STANDARDS

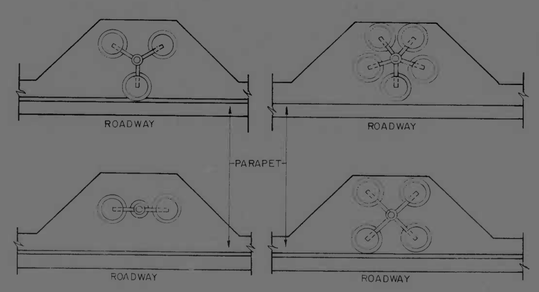
POLE HEIGHT IN FEET	BASE PLATE DIAMETER INCHES	BASE PLATE THICKNESS INCHES	ANCHOR BOLT HOLES BOLT CIR. DIA. IN.	ANCHOR BOLT HOLES NO. HOLES REQUIRED	ANCHOR BOLT HOLES BOLT DIA. INCHES	ANCHOR BOLT HOLES HOLE DIA. INCHES	ANCHOR BOLT WASHERS DIAMETER INCHES	ANCHOR BOLT WASHERS THICKNESS INCHES	DIMENSIONS — STIFFENERS (INCHES) NO. REQUIRED	A	B	C	T	W
43(A)	17 1/2	1 1/4	13 1/2	4	1 1/4	1 1/2	5 1/4	3/8	4					
43(B)	17 1/2	1 1/4	13 1/2	4	2	2 1/4	6 3 1/4	3/8	4					
43(C)	36	1 1/4	25 1/2	4	1 1/4	1 1/2	5 1/4	3/8	4	2 1/4	4 1/4	8	5/16	1/4
58	36	1 1/2	25 1/2	4	1 3/4	2	5 3/4	7/8	4	2 1/4	4 1/4	8	3/8	5/16
135	48	2	39 3/4	8	2	2 1/4	7 1/4	1 7/8	8	5 3/4	8 3/4	18	1/2	5/16
27.5			11	4	1	1 1/4	4 1/2	3/8	4					
48	17 1/2	1 1/4	13 1/2	4	1 1/4	1 1/2	3 1/4	3/8	4	2 1/4	4 1/4	8	5/16	1/4



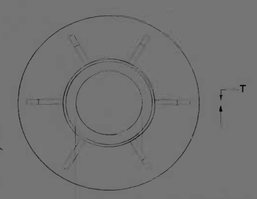
DETAIL IDENTIFICATION MARKER

SCALE: FULL SIZE

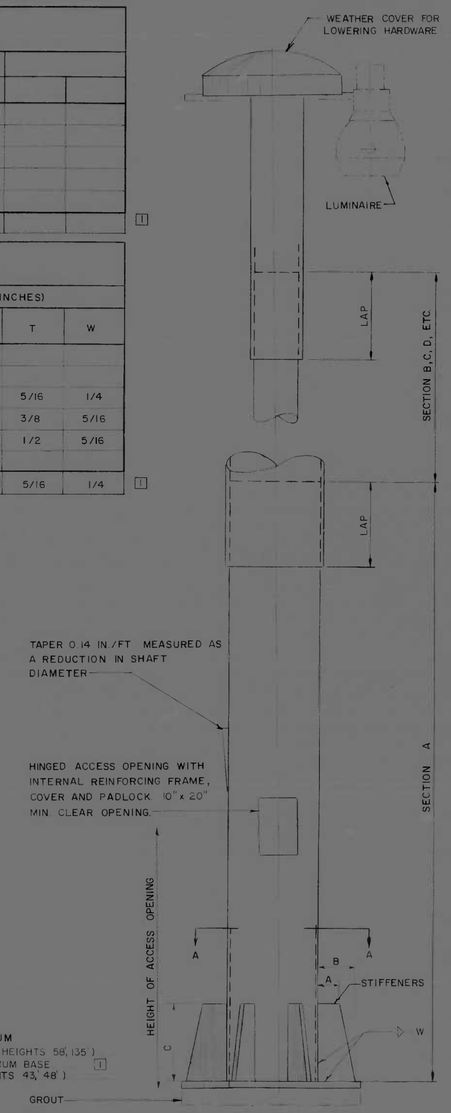
NOTE: BLACK CHARACTERS ON WHITE FIELD



LUMINAIRE ARRANGEMENT DETAILS



PLAN A-A



HIGH MAST POLE WITH LOWERING DEVICE

ELEVATION

TABULATION OF LIGHTING STANDARDS

POLE DESIGNATION	LOCATION STATION	LOCATION ON	POLE NO.	POLE HEIGHT (FEET)	HEIGHT OF ACCESS OPENING (FEET)	LUMINAIRE ARRANGEMENT ②	LOWERING DEVICE	MOUNTING	REMARKS
L 1	20 + 29 33	RAMP C	551	~~43 (A)~~ 48	⑥ ~~3~~ 3	H	NO	~~PARAPET ③~~ 6	
L 2	246 + 85	I-95 N.B.R.	553	43 (C)		A		PARAPET ③	
L 3	249 + 00	I-95 MEDIAN	554	43 (C)		D			
L 4	17 + 27	RAMP D	556	43 (C)		A			
L 5	21 + 30	RAMP D	555	43 (A)		A			
L 6	252 + 90	I-95 MEDIAN	559	43 (C)		E			
L 7	256 + 85	I-95 MEDIAN	562			C			
L 8	13 + 40	RAMP D	557			A			
L 9	25 + 75	RAMP G	561			B			
L 10	29 + 03	RAMP G	563			A			
L 11	18 + 90	RAMP H	558			B			
L 12	22 + 52	RAMP H	560	43 (C)		M			
L 13	31 + 50	RAMP G	566	43 (B)		A			
L 14	26 + 00	RAMP H	564			M			
L 15	28 + 20	RAMP H	565			E			
L 16	18 + 35	RAMP F	567			A			
L 17	20 + 90	RAMP F	568	43 (B)		E	NO		
L 18	267 + 48	I-95 MEDIAN	571	58		G	YES		
L 19	269 + 58	I-95 MEDIAN	572	58		G	YES		
L 20	271 + 68	I-95 MEDIAN	573	58		G	YES		
L 21	12 + 95	RAMP E	575	43 (B)		A	NO		
L 22	15 + 60	RAMP E	574			A			
L 23	24 + 25	RAMP F	569			A			
L 24	27 + 35	RAMP F	570	43 (B)		A	NO		
L 25	273 + 78	I-95 MEDIAN	576	58		G	YES		
L 26	275 + 86		577			G			
L 27	277 + 94		578			G			
L 28	280 + 02		579			G			
L 29	282 + 10		580			G			
L 30	284 + 15		581	58	3	G		PARAPET ③	
L 31	287 + 50	I-95 MEDIAN	585	135	①	F	YES	GROUND ①	
L 32	32 + 95	RAMP J	582	27.5	1	J	NO	PARAPET ⑤	CONVENTIONAL LIGHTING
L 33	31 + 45	RAMP J	583			J			
L 34	4 + 85	RAMP K	584			J			
L 35	29 + 95	RAMP J	586			J			
L 36	28 + 65		587			J			
L 37	27 + 45		588			J			
L 38	26 + 50		589			J			
L 39	25 + 60		590			J			
L 40	24 + 70		591	27.5	1	J	NO	PARAPET ⑤	CONVENTIONAL LIGHTING
L 41	23 + 80		—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING ④
L 42	22 + 80	RAMP J	—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING ④

FOR CONTINUATION SEE SHEET NO. E-17

NOTES:

① SEE HIGH MAST GROUND INSTALLATION DETAIL ON SHEET NO. E-18.

② LUMINAIRE ARRANGEMENT CODE ON SHEET NO. E-20

③ SEE HIGH MAST PARAPET INSTALLATION DETAIL ON SHEET NO. E-15.

④ SEE UNDERPASS LUMINAIRE MOUNTING DETAIL ON SHEET NO. E-23

⑤ SEE CONVENTIONAL LIGHTING STANDARD DETAIL ON SHEET NO. E-15

⑥ SEE POLE MOUNTING AND CONDUIT ARRANGEMENT DETAIL ON SHEET NO. E-22

REVISIONS	CONSULTANT
⚠ ADDENDUM NO. 2 11/21/78 BY EBA/S&T	EBA - S&T Consulting Engineers
1 REVISION NO. 1 5/22/79 BY EBA/S&T	BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
&
STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

LIGHTING TABULATION AND DETAILS

DRAWN BY S. EDMUNDS
TRACED BY S. EDMUNDS
DES. BY J. ROLLINSON
CHK. BY J. NONNEMACHER

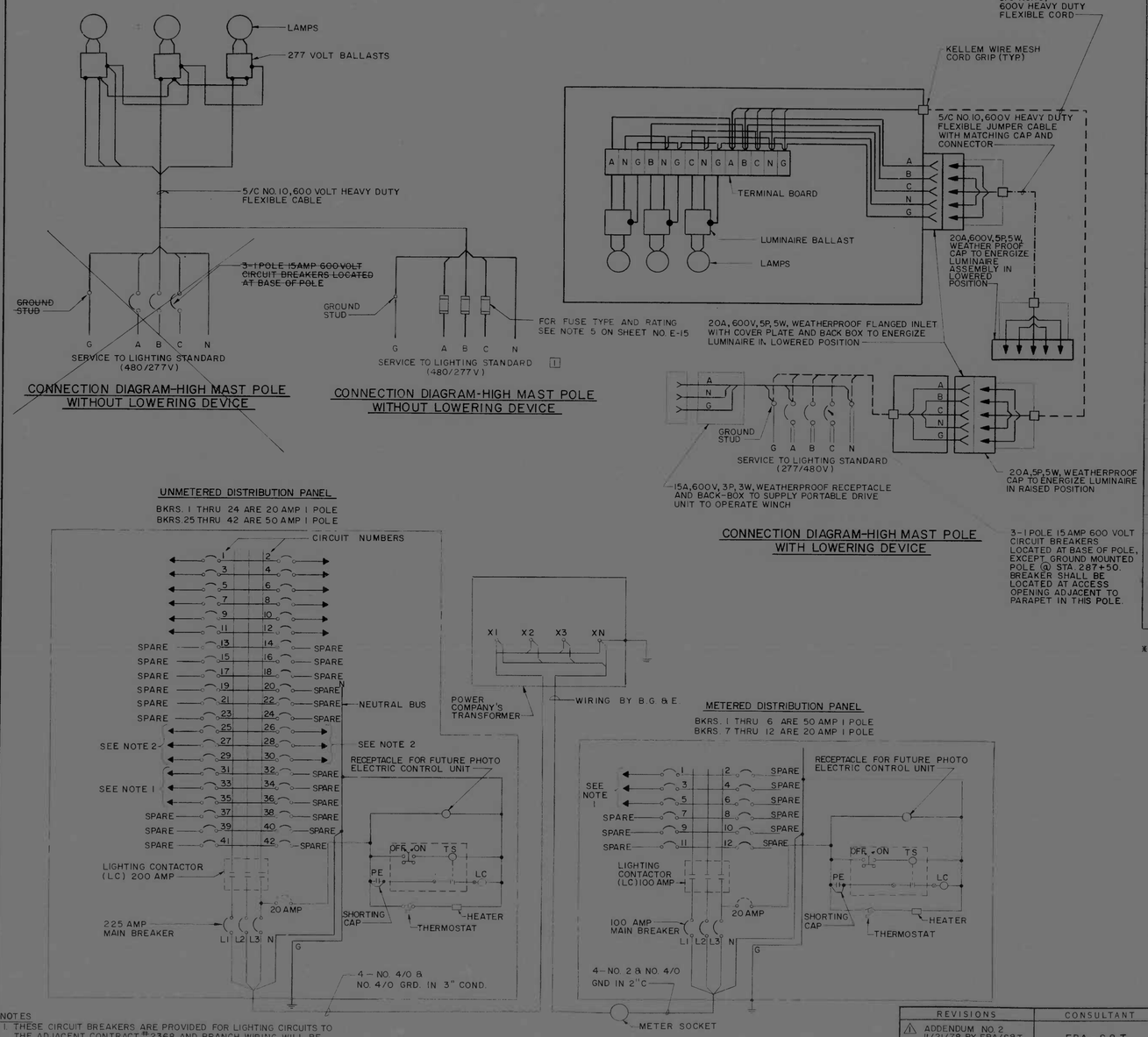
F.A.P. NO. I-95-4(99)31
S.H.A. NO. BC 246-100-815
BALTO. CITY NO. 2521

SCALE: NONE
DATE: SEPT., 1978

SHEET NO. 54
E-16 OF E-24

RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-17	54 E-24



NOTES

1. THESE CIRCUIT BREAKERS ARE PROVIDED FOR LIGHTING CIRCUITS TO THE ADJACENT CONTRACT #2368 AND BRANCH WIRING WILL BE INCLUDED IN THAT CONTRACT.
2. THESE CIRCUIT BREAKERS ARE PROVIDED FOR LIGHTING CIRCUITS TO THE ADJACENT CONTRACT #2368.

CONTROL AND DISTRIBUTION SCHEMATIC

TABULATION OF LIGHTING STANDARDS CONT.

POLE DESIGNATION	LOCATION STATION	LOCATION ON	⚠ POLE NO.	POLE HEIGHT (FEET)	HEIGHT OF ACCESS OPENING (FEET)	LUMINAIRE ARRANGEMENT (2)	LOWERING DEVICE	MOUNTING	REMARKS
L 43	19 + 09	HANOVER ST.	—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING (4)
L 44	19 + 55	HANOVER ST.	—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING (4)
L 45	20 + 11	HANOVER ST.	—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING (4)
L 46	6 + 80	RAMP K	592	27.5	1	J	NO	PARAPET (5)	CONVENTIONAL LIGHTING
L 47	8 + 20	↓	593	↓	↓	J	↓	↓	↓
L 48	9 + 40		594			J			
L 49	10 + 40		595			J			
L 50	11 + 25	RAMP K	596	27.5	1	J	↑	PARAPET (5)	CONVENTIONAL LIGHTING
L 51	241 + 60	I-95 MEDIAN	550	43A	3	D	NO	PARAPET (3)	
L 52	245 + 20	I-95 MEDIAN	552	43C	3	C	NO	PARAPET (3)	
L 53	7 + 40	RAMP D	—	—	—	K	—	STRUCTURAL	UNDERPASS LIGHTING (4)

* FOR NOTES (2), (3), (4) & (5) SEE SHEET NO. E-16.

REVISIONS	CONSULTANT
⚠ ADDENDUM NO. 2 11/21/78 BY EBA/S&T	EBA - S&T
1 REVISION NO. 1 5/22/79 BY EBA/S&T	Consulting Engineers
	BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
&
STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

LIGHTING TABULATION & SCHEMATICS

SCALE NONE DATE SEPT. 1978

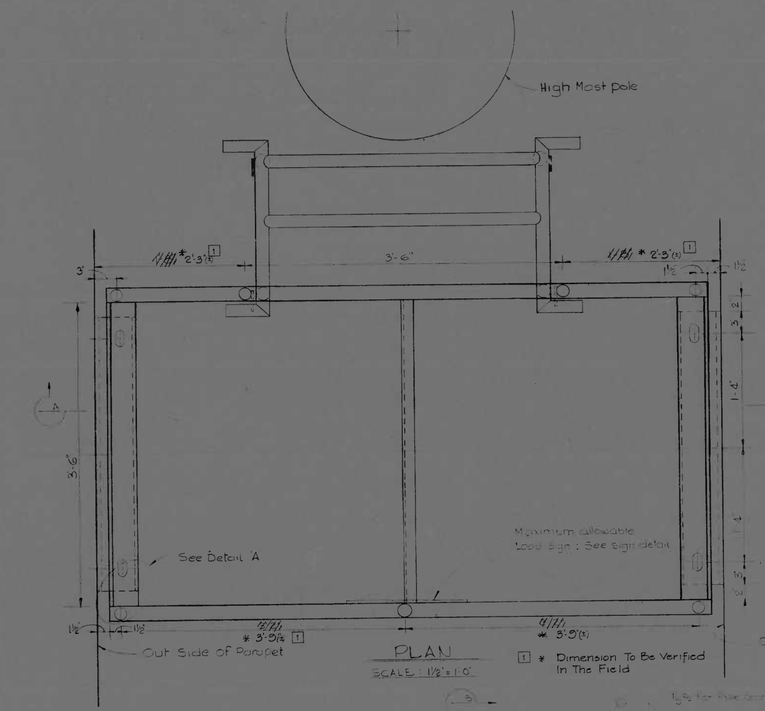
DRAWN BY S. V. EDMUNDS
TRACED BY S. V. EDMUNDS
DES. BY J. ROLLINSON
CHK. BY J. NONNEMACHER

F.A.P. NO. I-95-4(99)31
S.H.A. NO. BC 246-100-815
BALTO. CITY NO. 2511

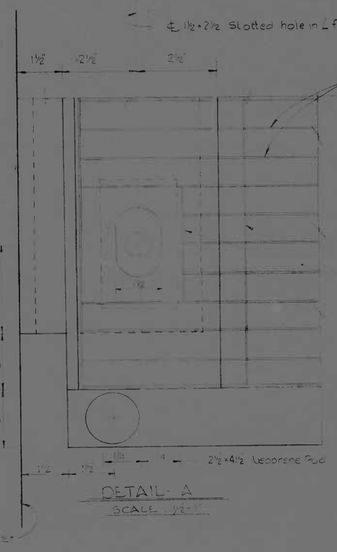
SHEET NO. 54
E-17 OF E-24

K&E BALTIMORE 10 1133 HERCULENE MG 4870

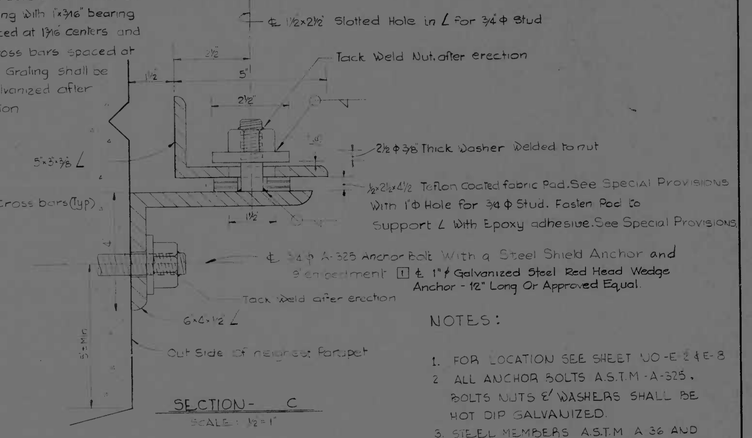
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-19	54 E-24



PLAN
SCALE : 1½" = 1'-0"



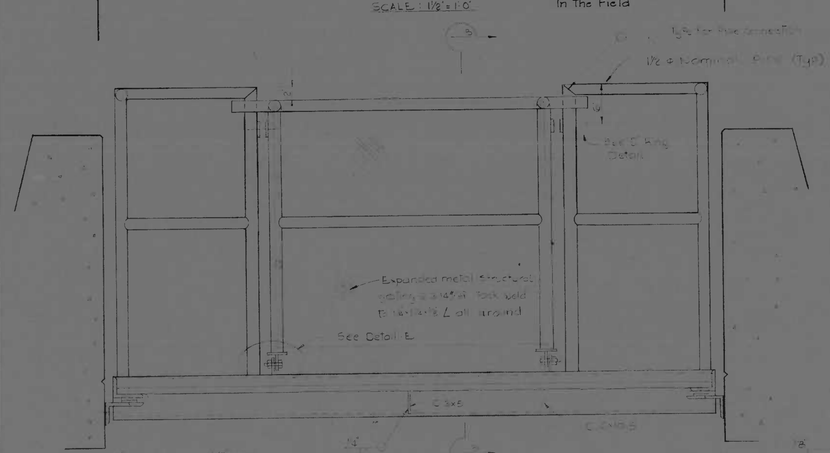
DETAIL A
SCALE : 1/2" = 1'



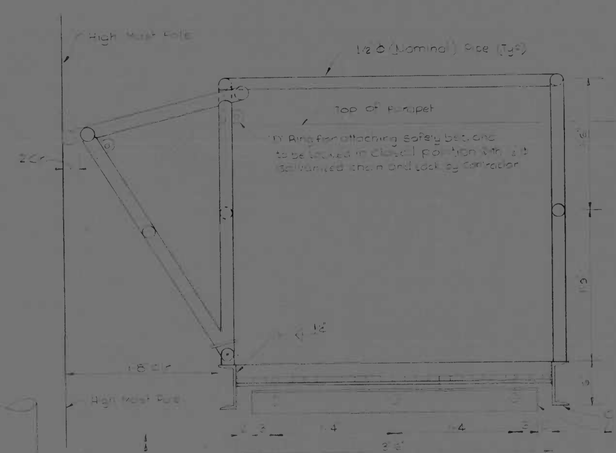
SECTION - C
SCALE : 1½" = 1'

NOTES:

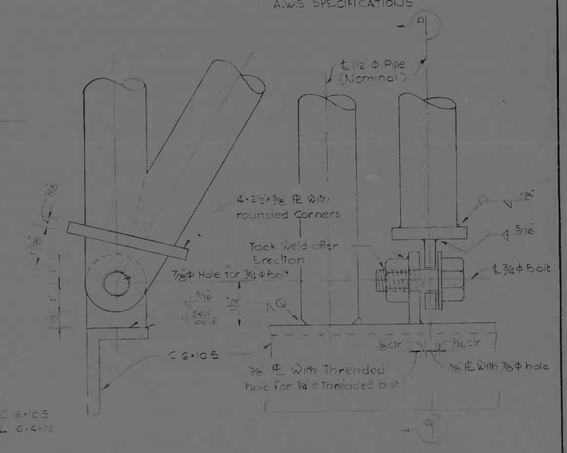
1. FOR LOCATION SEE SHEET NO-E-3 & E-8
2. ALL ANCHOR BOLTS A.S.T.M.-A-325. BOLTS NUTS & WASHERS SHALL BE HOT DIP GALVANIZED.
3. STEEL MEMBERS A.S.T.M. A 36 AND HOT DIP GALVANIZED AFTER FABRICATON.
4. ALL WELDING SHALL CONFORM TO LATEST A.W.S. SPECIFICATIONS



SECTION - A
SCALE : 1½" = 1'-0"

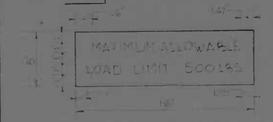


SECTION - B
SCALE : 1½" = 1'-0"



SECTION - D
SCALE : 1½" = 1'

DETAIL - E
SCALE : 1½" = 1'



SIGN DETAIL

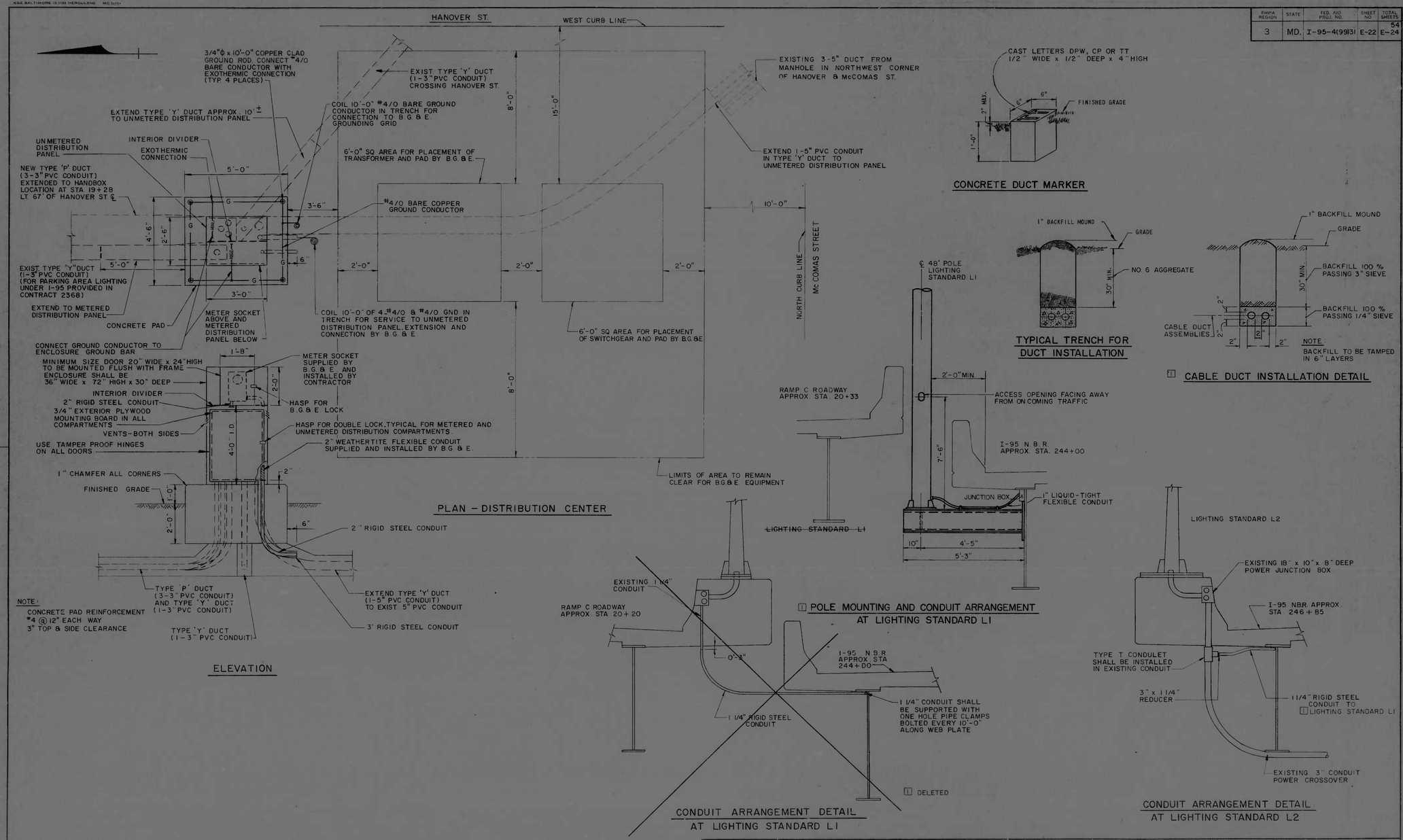
'D' RING DETAIL
SCALE : 1½" = 1'

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
1 Revised Anchor Bolt Size & Dimension, 5-22-71	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET HIGH MAST SERVICE PLATFORM DETAILS SCALE: NONE DATE: SEPT., 1978

DRAWN BY M. MULLIN
TRACED BY M. MULLIN
DES. BY J. ROLLINSON
CHK. BY J. NONNEMACHER
F.A.P. NO. I-95-4 (99)31
S.H.A. NO. BC 246-100-815
BALTO. CITY NO. 2521
SHEET NO. 54
E-19 OF E-24

RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-22	54 E-24



REVISIONS	CONSULTANT
1 REVISION NO. 1 5/22/79 BY EBA/S&T	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY-SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

DISTRIBUTION CENTER & MISCELLANEOUS DETAILS

DRAWN BY J. GARDECKI
TRACED BY J. GARDECKI
DES. BY J. ROLLINSON
CHK. BY J. NONNEMACHER

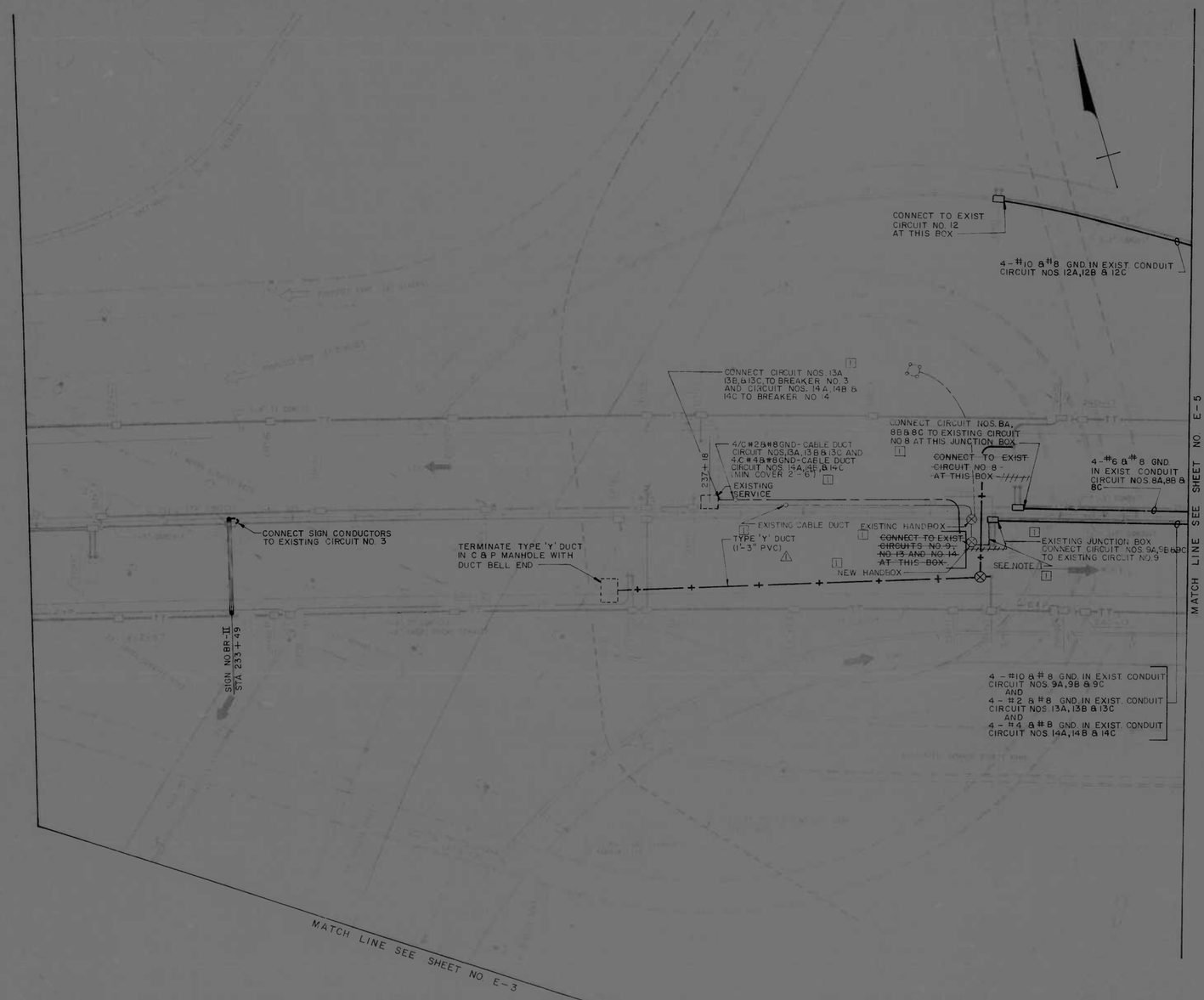
F.A.P. NO. I-95-4 (99)31
S.H.A. NO. BC 246-100-815
BALTO. CITY NO. 2521

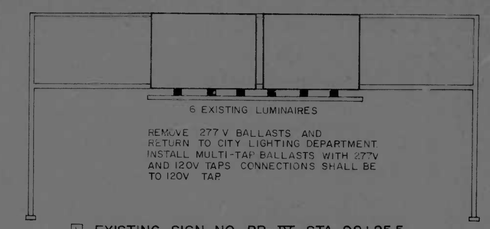
SCALE: NONE
DATE: SEPT., 1978

SHEET NO. 54
E-22 OF E-24

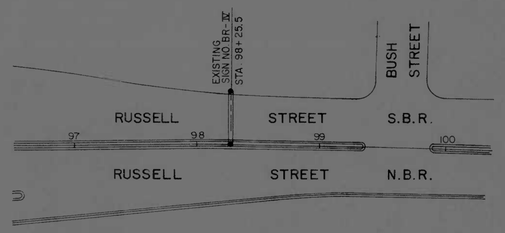
RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	E-4	54 / E-24





1 EXISTING SIGN NO. BR-IV STA. 98+25.5
RUSSELL ST - SOUTHBOUND



1 PLAN-LOCATION SIGN BR-IV
SCALE: 1" = 50'

NOTES:

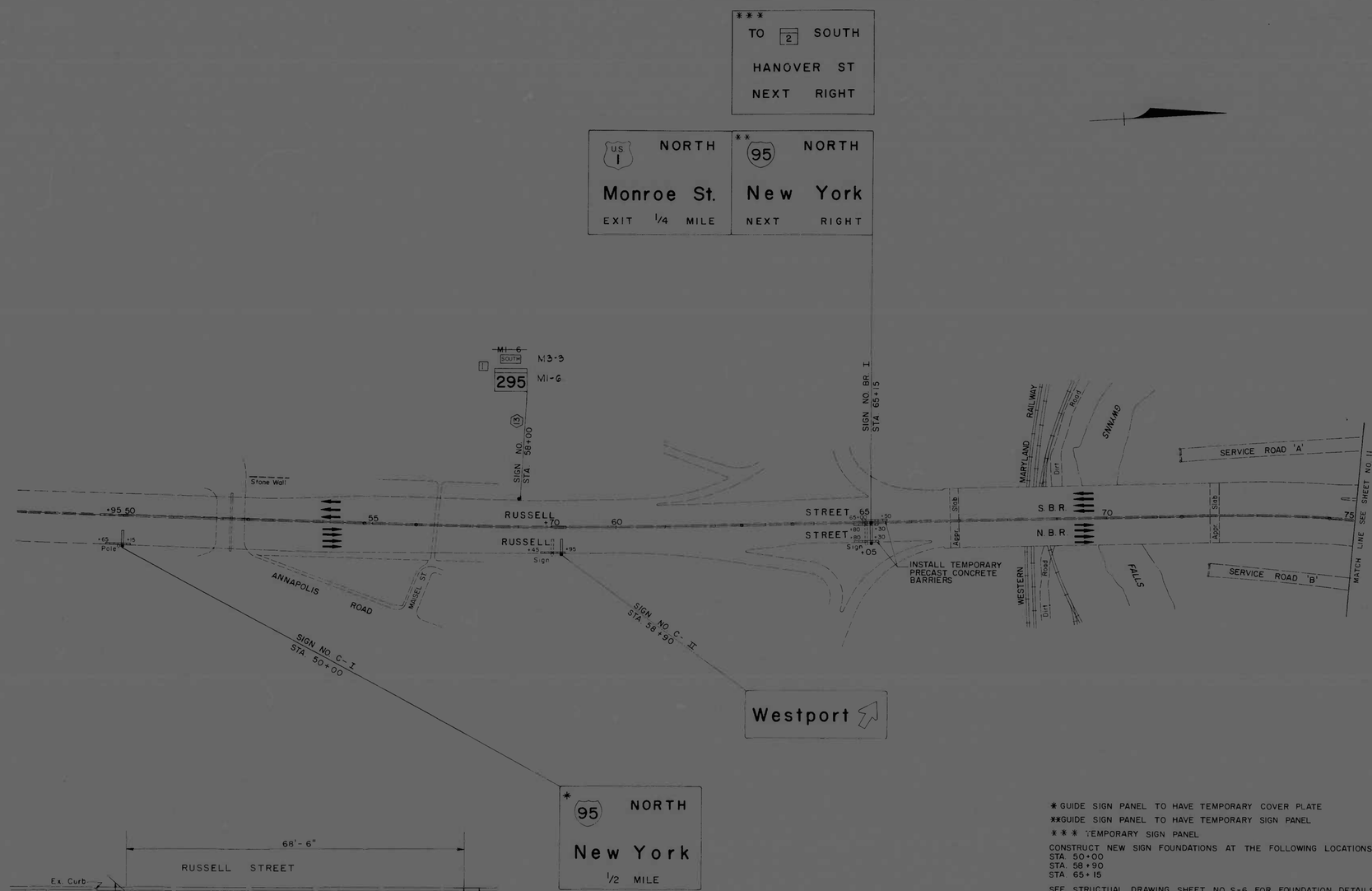
1. CONTRACTOR SHALL REMOVE CIRCUIT NO. 9 BACK TO THE NEW HANDBOX. CIRCUIT NO. 9 SHALL THEN BE REINSTALLED WITH NEW CIRCUIT NOS. 13A, 13B, 13C, 4 - #2 & #8 GND. AND NOS. 14A, 14B, 14C, 4 - #4 & #8 GND. IN EXISTING 3" CONDUIT.

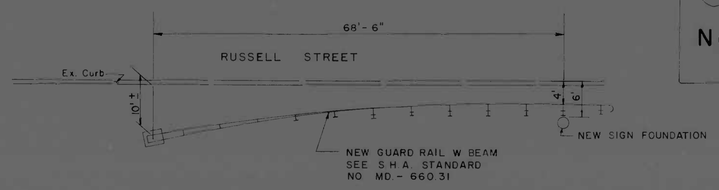
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
1 ADDENDUM NO. 2 11/21/78 BY EBA/S&T 1 REVISION NO. 1 5/22/79 BY EBA/S&T	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET LIGHTING PLAN SCALE: 1" = 40' DATE: SEPT., 1978	DRAWN BY R. L. BAUMAN TRACED BY R. L. BAUMAN DES. BY J. ROLLINSON CHK. BY J. NONNEMACHER F.A.P. NO. I-95-4(99)31 S.H.A. NO. BC 246-100-815 BALTO. CITY NO. 2521 SHEET NO. 54 E-4 OF E-24

RATIO - 24

K&E BALTIMORE 18 1153 HERCULENE MC 4978

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-10	54 R-23





GUARD RAIL DETAIL @ SIGN FOUNDATIONS

SCALE: 1" = 10'

* GUIDE SIGN PANEL TO HAVE TEMPORARY COVER PLATE

** GUIDE SIGN PANEL TO HAVE TEMPORARY SIGN PANEL

*** TEMPORARY SIGN PANEL

CONSTRUCT NEW SIGN FOUNDATIONS AT THE FOLLOWING LOCATIONS:
STA. 50+00
STA. 58+90
STA. 65+15

SEE STRUCTUAL DRAWING SHEET NO. S-6 FOR FOUNDATION DETAILS

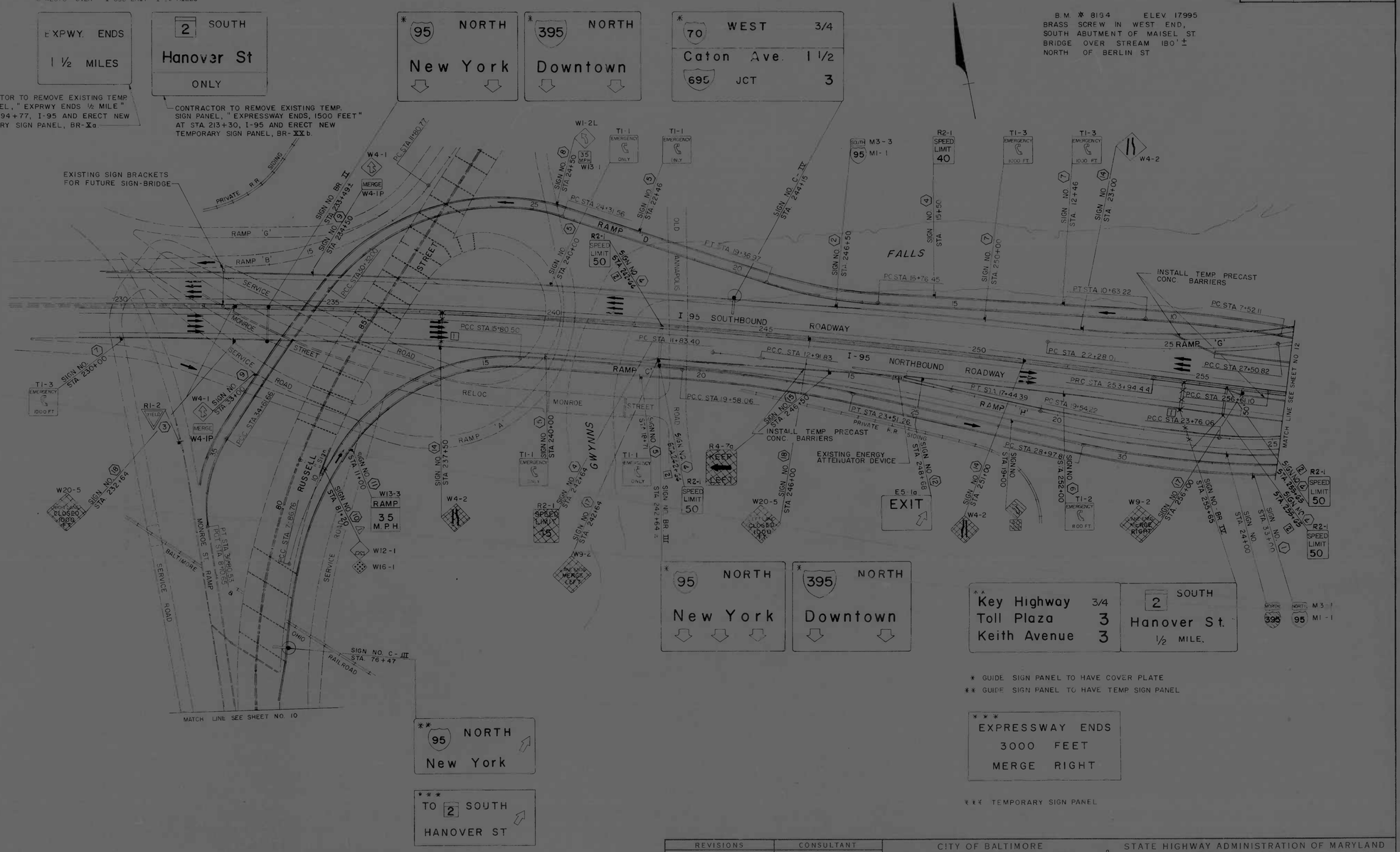
SEE STRUCTUAL DRAWING SHEET NO. S-5 FOR COVER PLATES

EXISTING POLES AND PANELS ARE TO BE REMOVED BY THE CONTRACTOR AND BECOME THE PROPERTY OF THE BALTIMORE CITY DEPARTMENT OF TRANSIT & TRAFFIC
EXISTING POLES AND PANELS ARE LOCATED AT THE FOLLOWING STATIONS:
STA. 49+95±
STA. 58+70±
STA. 65+05±

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY	
1 REVISION NO. 1 BY EBA S&T 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET SIGNING PLAN RUSSELL STREET	DRAWN BY J. BAKER; TRACED BY J. BAKER; DES. BY D. HUBER; CHK. BY D. HUBER
		SCALE 1" = 100' DATE SEPT. 1978	F.A.P. NO. I-95-4(99)31; S.H.A. NO. BC 246-100-815; BALTO. CITY NO. 2521
			SHEET NO. 54; R-10 OF R-23

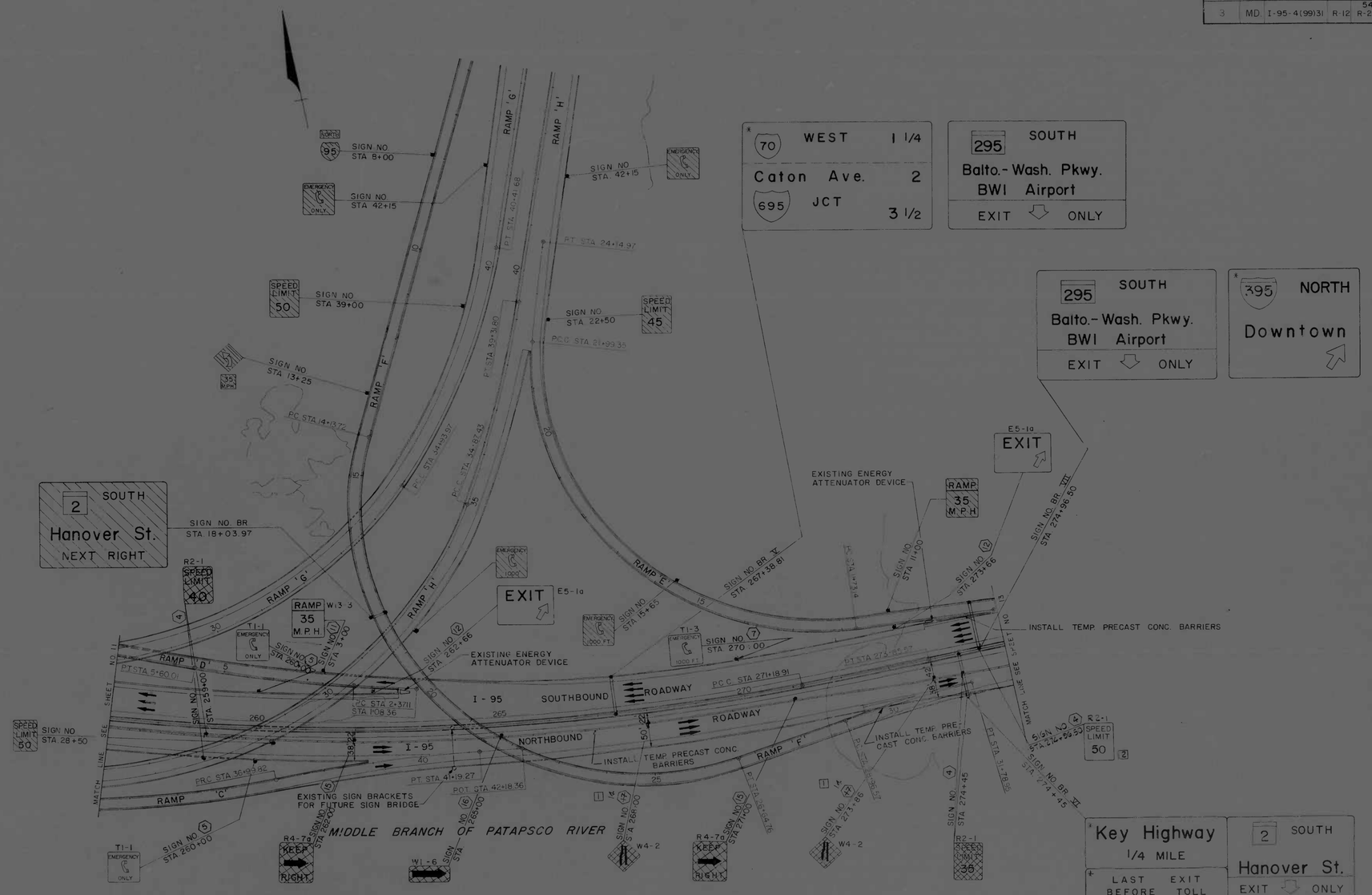
RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-11	54 / R-23



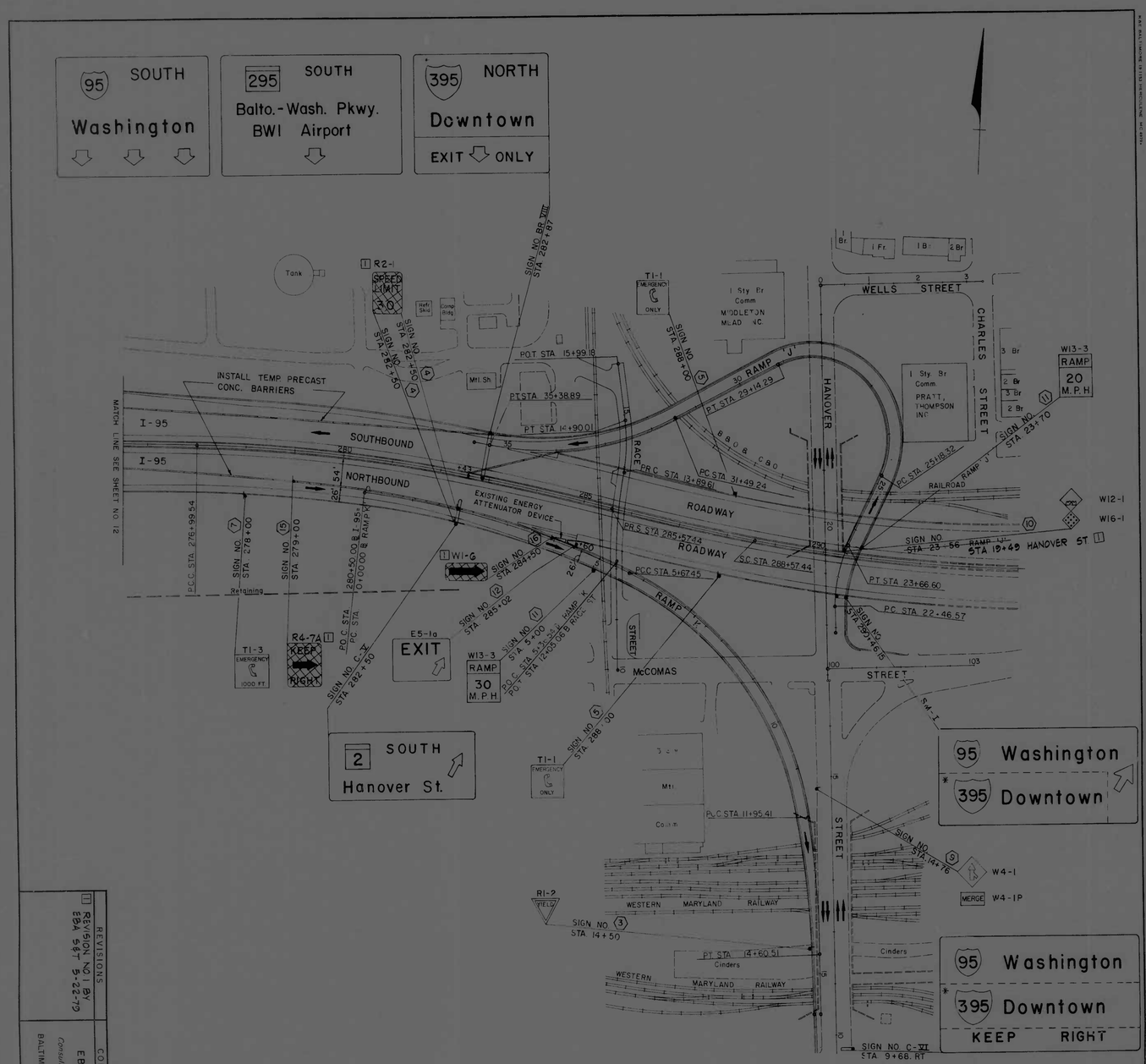
REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
1 ADDENDUM NO. 2 BY EBA S&T 11-21-78 1 REVISION NO. 1 BY EBA S&T 5-22-79 2 REVISION NO. 2 BY EBA S&T 12-13-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET SIGNING PLAN I - 95 SCALE 1" = 100' DATE SEPT. 1978 DRAWN BY J. BAKER DES. BY D. HUBER TRACED BY E. BAYNARD CHK. BY D. HUBER F.A.P. NO. I-95-4(99)31 CHA NO. BL 246-100-815 BALTO. CITY NO. 4521 SHEET NO. 54 R-11 OF R-23

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-12	54 R-23



REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
1 REVISION NO. 1 BY EBA S&T 5-22-79 2 REVISION NO. 2 BY EBA S&T 12-3-79	EBA - S&T Consulting Engineers BALTIMORE MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET SIGNING PLAN I-95 SCALE 1" = 100' DATE SEPT. 1978

DRAWN BY J. BAKER	DES. BY D. HUBER
TRACED BY A. CLARK	CHK. BY D. HUBER
F.A.P. NO. I-95-3(39)31	SHEET NO. 54
S.H.A. NO. 95246-00-519	R-12 OF R-23
BALTO. CITY NO. 2521	



FIPMA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD	I-95-4 (993) 3	R-13 R-23	54

B.M. #8230 ELEV. 25.458
BRASS SCREW IN E. END OF CONC. RETE. WINGWALL OF HANOVER STREET BRIDGE OVER R.R. LINE TO LOCUST POINT

REVISIONS
1 REVISION NO. 1 BY EBA S&T 5-22-79

CONSULTANT
EBA - S&T
Consulting Engineers
BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET
SIGNING PLAN I-95

DRAWN BY J. BAKER
TRACED BY E.R. BAYNARD
DES. BY D. HUBER
CHK. BY D. HUBER
I 95-4(993)3
F.A.P. NO. BE-246-002-025
STATE NO. 8230
BALTO. CITY NO. 2521
SHEET NO. 54
R-13 or R-23

SCALE 1" = 100'
DATE SEPT. 1978

RATIO - 24

RATIO - 24

K&E BALTIMORE 19 1153 HERCULENE MC 4878

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-2	54 R-23

GENERAL NOTES

CRITERIA:

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT

DESIGN

A.A.S.H.T.O. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," 1971 (M U T C D). AND SUBSEQUENT REVISIONS.

A.A.S.H.T.O. "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 1975".

A.A.S.H.T.O. "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES," 1977 AND SUBSEQUENT REVISIONS.

MATERIALS AND CONSTRUCTION

MARYLAND STATE ROADS COMMISSION "SPECIFICATIONS FOR MATERIALS, HIGHWAYS BRIDGES & INCIDENTAL STRUCTURES", 1968. SUPPLEMENT TO SPECIFICATION FOR INTERSTATE DIVISION OF BALTIMORE CITY DATED MARCH 1978. REVISIONS AND ADDITIONS THERETO.

DESIGN STRESSES: 24,000 [1]

REINFORCING STEEL-f = ~~20,000~~ P.S.I.

CONCRETE- f'c = 3,500 P.S.I., f'c = 1,200 P.S.I., n = 10

SOIL BEARING PRESSURE-f = 3,000 P.S.F.

CHAMFER AND FINISH:

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE 3/4"x3/4" CHAMFER UNLESS OTHERWISE SHOWN. ALL EXPOSED CONCRETE SHALL BE GIVEN "ORDINARY SURFACE FINISH" UNLESS OTHERWISE NOTED IN THE SPECIAL PROVISIONS OR ON THE PLANS.

CLASSIFICATION OF SIGNS:

SIGNS ARE DIVIDED INTO 2 GENERAL CATEGORIES:

1. GUIDE SIGNS
2. STANDARD SIGNS

1. GUIDE SIGNS

A. STRUCTURAL TYPES

BR - BRIDGE (2 SUPPORTS)
C - CANTILEVER (1 SUPPORT)
R - ROADSIDE (2 SUPPORTS)

B. PANELS

MATERIAL- EXTRUDED ALUMINUM
COPY-DEMOUNTABLE

IDENTIFICATION OF SIGNS AND PANELS

1. GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN SUPPORT NUMBER ON THE PLANS AND IN THE TABULATIONS. NUMBERS ARE CONSECUTIVE THROUGH THE PLANS. PANELS ON GUIDE SIGNS ARE IDENTIFIED WITH LOWER CASE LETTERS

2. STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY A NUMBER PRECEDED BY CAPITAL LETTERS WHERE MORE THAN ONE STANDARD PANEL IS USED PER SIGN, A LOWER CASE SUFFIX IS ADDED. STANDARD SIGN PANELS ARE IDENTIFIED AS FOLLOWS:

R - REGULATORY
W - WARNING
M - ROUTE MARKERS AND ACCESSORIES
T - SPECIAL SIGNS
H - HAZARD MARKERS

PANELS SHALL BE DESIGNATED TO AGREE WITH M.U.T.C.D.

PANEL LAYOUTS AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.

2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON A.A.S.H.T.O. MANUALS NOTED ABOVE AND THE ALPHABET SERIES DETAILED IN THE BUREAU OF PUBLIC ROADS PUBLICATION, "STANDARD HIGHWAY SIGNS," A DETAILED DESIGN MANUAL FOR THE 1971 STANDARD HIGHWAY SIGNS WILL BE USED FOR SIGN LAYOUT AND IS AVAILABLE AT THE STATE HIGHWAY ADMINISTRATION TRAFFIC SAFETY DIVISION.

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE THE COLOR IS BLACK OR OTHERWISE NOTED.

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSIONS TO BASELINE STATIONS.

2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLANS SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

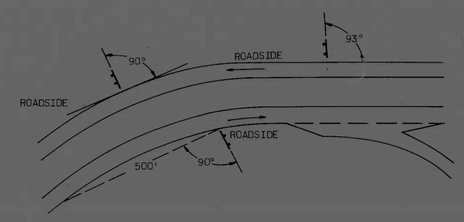
EXISTING UTILITIES WHICH MAY AFFECT THE WORK OF THIS PROJECT HAVE BEEN SHOWN ON THE PLANS FROM RECORDED DATA. HOWEVER THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATIONS.

△ DESIGN WIND: 60 M.P.H. FOR OVERHEAD SIGNS
60 M.P.H. FOR GUIDE SIGNS

△ DESIGN PRESSURE: 60 P.S.F. FOR PANELS
42 P.S.F. FOR MEMBERS

ORIENTATION OF SIGN FACES



ROADSIDE SIGNS

A. VERTICAL ALIGNMENT

POSITION PANEL SO FACE IS PLUMB

B. HORIZONTAL ALIGNMENT (SEE DIAGRAM)

ON TANGENTS, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 93° WITH EDGE OF PAVEMENT. ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500 FEET IN ADVANCE OF SIGN.

ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° TO THE TANGENT TO THE CURVE AT THE SIGN LOCATION.

POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

A. VERTICAL ALIGNMENT

POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT THE PANEL FACE IS PLUMB

B. HORIZONTAL ALIGNMENT

POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF PANEL IS AT RIGHT ANGLES TO NORMAL EDGE OF ROADWAY. IF THE ROADWAY IS ON A HORIZONTAL CURVE, THE PANEL SHALL BE POSITIONED 90° TANGENT TO THE CURVE. POSITION OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY UNLESS INDICATED OTHERWISE.

C. VERTICAL CLEARANCE

POSITION ALL OVERHEAD SIGNS SO THAT VERTICAL CLEARANCE IS 17 FEET 8 INCHES CLEAR BETWEEN THE USABLE ROADWAY TO THE BOTTOM OF THE SIGN LUMINAIRE SUPPORTS.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-588, UNLESS OTHERWISE NOTED. ALL BOLTS SHALL BE H.S BOLTS CONFORMING TO ASTM A-325 TYPE 3 UNLESS OTHERWISE NOTED.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE ~~40 OR~~ [1] 60

CONCRETE

ALL PORTLAND CEMENT CONCRETE SHALL BE MIX NO. 3 CONFORMING TO ARTICLE 34.08 OF THE SPECIFICATIONS AS MODIFIED BY THE LATEST ERRATA AND ADDENDA.

WELDING

ALL WELDING SHALL BE DONE IN ACCORDANCE WITH SPECIAL PROVISIONS. ALL GROOVE WELDS SHALL BE CONSIDERED AS CARRYING PRIMARY STRESS AND SHALL BE RADIOGRAPHED IN ACCORDANCE WITH THE SPECIFICATIONS. ULTRASONIC INSPECTION MAY BE SUBSTITUTED FOR RADIOGRAPHIC INSPECTION SUBJECT TO THE APPROVAL BY THE ENGINEER.

CONTINGENT SIGN COVERING

SHOULD THE TRAFFIC FLOW BE OTHER THAN SHOWN ON SHEET NOS. R-10, R-11, R-12 & R-13 THE ENGINEER MAY REQUIRE ADDITIONAL SIGNS TO BE COVERED IN ACCORDANCE WITH SPECIAL PROVISIONS SPSI-3. MEASUREMENT FOR THIS CONTINGENT SIGN COVERING WILL BE BY THE SQUARE FOOT AREA OF THE VERTICAL FRONT FACE COVERED WITH NO REDUCTION FOR ROUNDING OF SIGN CORNERS. ACCEPTED COVERINGS, AS MEASURED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT OF CONTINGENT SIGN COVERING, WHICH COST SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE SPECIFIED WORK.

HIGH MAST LIGHTING

FOUNDATIONS FOR HIGH MAST LIGHTING HAVE BEEN DETAILED FOR CONSTRUCTION UNDER B.C. CONTRACT NO. 2273

LEGEND

EXISTING HIGH MAST LIGHT FOUNDATION
CANTILEVER SIGN STRUCTURE
BRIDGE SIGN STRUCTURE
ROADSIDE GROUND MOUNTED SIGNS (10) (9)
INDICATES FLOW OF TRAFFIC
DELINEATORS
SINGLE WHITE (60)
DOUBLE AMBER (62)
DIAMOND HAZARD MARKER
GUARD RAIL
SIGNS NOT IN CONTRACT
24" R.C.P. EXISTING UTILITIES
TEMPORARY PRECAST CONCRETE BARRIER
NEW BRACKET AND CANTILEVER SIGN STRUCTURE
HIGH MAST LIGHTING STANDARD, PARAPET MOUNTED WITH 400 WATT H.P.S. LUMINAIRES. ARROW INDICATES LUMINAIRE STREET SIDE ORIENTATION. NUMBERED ARROW INDICATES THE QUANTITY OF LUMINAIRES ORIENTED IN THAT DIRECTION
30'-0" M.H. ALUMINUM POLE WITH BRACKET ARM MOUNTED ON PARAPET. 250 WATT H.P.S.
UNDERPASS LUMINAIRE, 250 WATT H.P.S.
(L10) POLE DESIGNATION
WIRING INSTALLED IN EXISTING 3 IN. CONDUIT
UNDERGROUND DUCT
(S) SUBSTATION/DISTRIBUTION PANEL LOCATION
GROUND ROD
HANDBOX LOCATION
EXISTING STREET LIGHT STANDARD, PARAPET MOUNTED
EXISTING JUNCTION BOX LOCATED IN PARAPET
MOLDED CASE CIRCUIT BREAKER
DUCK OR CABLE MARKER
EXPOSED CONDUIT RUN
EXISTING CONDUIT CROSSING
HIGH MAST LIGHTING STANDARD WITH 400 WATT H.P.S. LUMINAIRES. ARROW INDICATES STREET SIDE ORIENTATION
KEEP RIGHT — TEMPORARY SIGNS
RAMP 35 M.P.H. — N.I.C. (NOT IN CONTRACT)

ABBREVIATIONS

H.P.S.	HIGH PRESSURE SODIUM VAPOR
M.C.	MEDIUM CUT-OFF
M.N.C.	MEDIUM NON-CUT-OFF
S.C.	SHORT CUT-OFF
S.S.C.	SHORT SEMI-CUT-OFF
C&P	CHESAPEAKE AND POTOMAC
T&T	TRANSIT AND TRAFFIC
B.G.&E.	BALTIMORE GAS AND ELECTRIC
NOS.	NUMBERS
GND.	GROUND
EXIST.	EXISTING
MIN.	MINIMUM
MAX.	MAXIMUM
HORIZ.	HORIZONTAL

REVISIONS	CONSULTANT
△ ADDENDUM NO. 2 BY EBA/S&T 11-21-78 [1] REVISION NO. 1 BY EBA S&T 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

GENERAL NOTES AND LEGEND

SCALE: NOT TO SCALE DATE: SEPT. 1978

DRAWN BY J. BAKER DES. BY W. BEHAN
TRACED BY J. BAKER CHK. BY D. HUBER
F.A.P. NO. I-95-4(99)31
S.H.A. NO. B.C. 246-100-815
BALTO. CITY NO. 2521

SHEET NO. 54
R-2 OF R-23

RATIO - 24

K&E BALTIMORE 1X1153 HERCULENE MC 4979a

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-8	54 R-23

SIGN INDEX AND QUANTITY SUMMARY

STANDARD SIGNS INDEX AND SUMMARY

	SIGN NO.	STANDARD SIGN (U.S. DEPT. OF TRANSPORTATION NO.)	SIGN SIZE	SUPPORT TYPE	MOUNTING BOLTS REQUIRED	LOCATION AND QUANTITIES PER SHEET R-11	R-12	R-13	TOTAL NUMBER	REMARKS
	1	M1-1	48"x48"	S-1	4	1			1	ON SAME SUPPORT
1		M3-1	30"x15"		2	1			1	
	2	M1-1	48"x48"	S-1	4	1			1	ON SAME SUPPORT
1		M3-3	30"x15"		2	1			1	
1	3	R1-2	48"x48"x48"	~~S-1~~ S-2	4	~~1~~		1	~~2~~ 1	
	4	R2-1	48"x60"	S-1	4	1			1	
1	5	T1-1	30"x30"	S-5	2 4	4	2	2	8	
	6	T1-2	30"x30"	S-2	4	1			1	
	7	T1-3	30"x30"	S-2	4	3	1	1	5	
	8	W1-2L	48"x48"	S-1	4	1			1	ON SAME SUPPORT
1		W13-1	24"x24"		2	1			1	
1	9	W4-1	48"x48"	S-1	4	2		~~1~~	~~3~~ 2	ON SAME SUPPORT
1		W4-1P	18"x24"		2	2		~~1~~	~~3~~ 2	
1	10	W12-1	~~36"x36"~~ 30"x30"		~~4~~	1		~~1~~	~~2~~ 1	ATTACH TO EXIST OVERHEAD SIGN SUPPORT △
1		W16-1	~~36"x36"~~ 18"x18"		~~4~~	1		~~1~~	~~2~~ 1	
	11	W13-3	48"x60"	S-1	4	1	1	2	4	
1	12	E5-1A	60"x84"	S-3	~~4~~ 10	1	2	1	4	
1	13	* M1-6	45"x36"	S-6	4	~~1~~			1	
	14	W4-2	48"x48"	S-1	4	1			1	
1	3	R1-2	48"x48"x48"	S-6	4	1			1	
	4	R2-1 (T)	48"x60"	S-1	4		1		1	
	4	R2-1 (T)	48"x60"			1	1	1	3	ATTACH TO NEW SIGN SUPPORT **
	4	R2-1 (T)	48"x60	S-4	4		2	1	3	
	15	R4-7A (T)	48"x48"	S-4	4	1	2	1	4	
	16	W1-6 (T)	24"x48"	S-4	4		1	1	2	
	17	W9-2 (T)	48"x48"	S-4	4	2			2	
1	18	W20-5 (T)	48"x48"	S-1	4	~~2~~ 3			~~2~~ 3	
1	14	W4-2 (T)	48"x48"	S-1	4	2			2	~~ATTACH TO NEW SIGN SUPPORT **~~
	14	W4-2 (T)	48"x48"	S-4	4		2		2	

* SEE SHEET NO. R-10

(T) = TEMPORARY SIGN

** SIGNS TO BE ATTACHED TO SUPPORTS USING REMOVABLE STEEL BANDS OF THE TYPE AND SIZE APPROVED BY THE ENGINEER. COST OF THE STEEL BANDS AND ATTACHMENT TO BE INCLUDED IN THE COST OF SIGNS.

1	9	W4-1	48"x48"	S-6	4			1	1	ON SAME SUPPORT
1		W4-1P	18"x24"					1	1	
1	10	W12-1	30"x30"	S-1	4			1	1	ON SAME SUPPORT
1		W16-1	18"x18"					1	1	
1	13	* M3-3	30"x15"						1	ON SAME SUPPORT AS M1-6

INTERSTATE, U.S. AND STATE SHIELDS FOR OVERHEAD GUIDE SIGN USE

SHIELD NO.	SHIELD SIZE	DIGITS ≥ 10	DIGITS < 10	BR-I a	BR-I b	BR-II a	BR-II b	BR-III a	BR-III b	BR-IV b	BR-V a	BR-V b	BR-VI c	BR-VII a	BR-VII b	BR-VIII a	BR-VIII b	BR-VIII c	BR-XX b	C-I	C-III	C-IV	C-V	C-VI	SM-I	INTER-STATE, U.S. OR STATE NO.	TOTAL NO.
IS-1	36"x36"	2	15"		1						1									1	1	1				M1-1	5
IS-2	48"x48"	2	18"			1		1							1											M1-1	3
IS-3	48"x60"	3	18"				1		1					1			1									M1-1	4
U.S. 1	36"x36"	1	15"	1																						M1-4	1
S-1	36"x36"	1	18"							1			1										1			M1-6a	2
IS 4	36"x45"	3	15"								1															M1-1	1
S-2	36"x50"	3	18"									1		1			1									M1-6a	3
IS 5	36"x45"	3	15"																			1				M1-1	1
IS 6	24"x24"	2	12"																					1	1	M1-1	2
IS-7	24"x30"	3	12"																					1	1	M1-1	2
S-3	24"x24"(T)	1	12"		1															1						M1-6a	2
S-4	36"x36"(T)	1	18"																1							M1-6a	1

(T)=TEMPORARY SIGN PANEL

STANDARD SIGNS INDEX AND SUMMARY [2]

SIGN NO.	STANDARD SIGN (U.S. DEPT. OF TRANSPORTATION NO.)	SIGN SIZE	SUPPORT TYPE	MOUNTING BOLTS REQUIRED	LOCATION AND QUANTITIES PER SHEET R-11	R-12	R-13	TOTAL NO.	REMARKS
4	R2-1	48"x60"			4**	1		5	ATTACH TO EXIST. OVERHEAD SIGN SUPPORT
4	R2-1	48"x60"						2*	ATTACH TO EXIST. OVERHEAD SIGN SUPPORT

* SEE SHEET NO. R-7 B.C. CONTRACT NO. 2410 STA. 216+00

** TWO SIGNS AT STATION 255+65 TO BE FURNISHED ONLY.

OVERHEAD GUIDE SIGN INDEX AND SUMMARY

SIGN NO.	SHEET NO.	PANEL (SQ. FT.) a	b	c	TOTAL AREA	STRUCT. TYPE	REMARKS
BR-I	R-10	150.00	140.00		290.00	BR.	
BR-II	R-11	221.00	214.50		435.50	BR.	TEMPORARY COVER PLATE
BR-III	R-11	221.00	214.50		435.50	BR.	TEMPORARY COVER PLATE
BR-IV	R-11	210.00	160.00		370.00	BR.	
BR-V	R-12	280.00	308.00		588.00	BR.	BR-V a TO HAVE PARTIAL TEMPORARY COVER PLATE
BR-VI	R-12	87.50	122.50	192.00	402.00	BR.	BR-VI a AND b TO HAVE TEMPORARY COVER PLATE
BR-VII	R-12	308.00	231.00		539.00	BR.	BR-VII b TO HAVE TEMPORARY COVER PLATE
BR-VIII	R-13	259.00	308.00	231.00	798.00	BR.	BR-VIII c TO HAVE TEMPORARY COVER PLATE
C-I	R-10	140.00			140.00	C.	TEMPORARY COVER PLATE
C-II	R-10	60.00			60.00	C.	
C-III	R-11	136.00			136.00	C.	
C-IV	R-11	260.00			260.00	C.	PARTIAL TEMPORARY COVER PLATE
C-V	R-13	144.00			144.00	C.	
C-VI	R-13	153.00			153.00	C.	PARTIAL TEMPORARY COVER PLATE
SM-1	R-13	140.00			140.00	SM	PARTIAL TEMPORARY COVER PLATE
BR-1	R-10		140.00		140.00	BR	TEMPORARY SIGN PANEL
BR-IV	R-11	210.00			210.00	BR	TEMPORARY SIGN PANEL
C-III	R-11	136.00			136.00	C	TEMPORARY SIGN PANEL

SIGN NO.	SHEET NO.	PANEL (SQ. FT.) a	b	c	TOTAL AREA	STRUCT. TYPE	REMARKS
BR-X	R-11	136.50			136.50	BR	TEMPORARY SIGN PANEL
BR-XX	R-11		198.00		198.00	BR	TEMPORARY SIGN PANEL

BR = BRIDGE SIGN

C = CANTILEVER SIGN

SM = STRUCTURE MOUNTED FOR BRIDGE SIGN DETAILS SEE SHEET NO. S-1 FOR CANTILEVER SIGN DETAILS SEE SHEET NO. S-2.

ARROWS FOR GUIDE SIGNS INDEX AND SUMMARY

TYPE	SIZE H	W	ANGLE	BR-II a	BR-III a	BR-III b	BR-IV b	BR-V c	BR-VI a	BR-VII b	BR-VIII a	BR-VIII b	C-II, III c	C-IV	C-V	SM-I	TOTAL
A-1	28"	17"	⇗ 60°							1			1	1	1	1	5
B-1	22"	32"	⇩	2	2	3	2	1	1		1		3	1	1		17
A-1(T)	28"	17"	⇗ 60°													1	1

(T) = TEMPORARY SIGN PANEL

REVISIONS	CONSULTANT
△ ADDENDUM NO. 2 BY EBA S&T 1-21-78 [1] REVISION NO. 1 BY EBA S&T 5-22-78 [2] REVISION NO. 2 BY EBA S&T 12-13-78	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET
SIGN INDEX & QUANTITY SUMMARY

SCALE: NOT TO SCALE DATE: SEPT. 1978

DRAWN BY E.R. BAYNARD DES. BY W. BEHAN
TRACED BY A. CLARK CHK. BY D. HUBER

F.A.P. NO. I-95-4(99)31
S.H.A. NO. B.C. 246-100-815
BALTO. CITY NO. 2321

SHEET NO. 54
R-8 OF R-23

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	R-9	54 R-23

SIGN INDEX AND QUANTITY SUMMARY

STANDARD SIGNS INDEX AND SUMMARY

	SIGN NO.	STANDARD SIGN (U.S. DEPT. OF TRANSPORTATION)	SIGN SIZE	SUPPORT TYPE	MOUNTING BOLTS REQUIRED	LOCATION	TOTAL NO.	REMARKS
	58	R2-1	48"x60"	S-7 ⚠	--	STA. 110+00± ℄ I-95, LT. & RT. ⚠	2 ⚠	SEE NOTE 7 ⚠
	13	R2-1	36"x48"	S-6	4	STA. 117+50 ℄ N.B. COLLECTOR ROAD	1	SEE NOTE 1
[1]		~~R2-1(RE)~~	~~18"x36"~~				1	
	47	W13-3	36"x48"	S-6	4	STA. 5+00 ℄ RAMP 'F'	1	SEE NOTE 1
	46	W13-3	36"x48"		4	STA. 2+00 ℄ RAMP 'O'	1	SEE NOTE 2
	9	R1-2	48"x48"x48"	S-6	4	STA. 15+00 ℄ RAMP 'A'	1	SEE NOTE 1
	51	W3-2	48"x48"	S-6	4	STA. 10+00 ℄ RAMP 'A'	1	SEE NOTE 1
	47	W13-3	48"x60"	S-6	4	STA. 5+50 ℄ RAMP 'A'	1	SEE NOTE 1
	70	W13-3	48"x60"		--	STA. 58+80 ℄ CATON AVENUE	1	SEE NOTE 3
[1]	49**	W16-1	18"x18"	S-6	~~4~~ 2	STA. 121+10 ℄ N.B. COLLECTOR ROAD	1	SEE NOTE 1
[1]	49**	W16-1	18"x18"	S-6	~~4~~ 2	STA. 1+45 ℄ RAMP 'O'	1	SEE NOTE 1
[1]	49**	W16-1	18"x18"	S-6	~~4~~ 2	STA. 37+50 ℄ S.B. COLLECTOR ROAD	1	SEE NOTE 1
	12	R2-1	36"x48"	S-6	4	STA. 31+00 ℄ S.B. COLLECTOR ROAD	1	SEE NOTE 1
[1]		~~R2-1(RE)~~	~~18"x36"~~				1	
	45	W13-2	48"x60"	S-1	4	STA. 168+40 ℄ I-95	1	SEE NOTE 1
[1]	12	R2-1	36"x48"	S-6	4	STA. 150+50 ℄ ~~I-95~~ N.B COLLECTOR ROAD	1	SEE NOTE 2
[1]		~~R2-1(RE)~~	~~18"x36"~~				1	
	2	M1-1	48"x48"	--	--	STA. 165+00 ℄ I-95	1	SEE NOTE 4
		M3-1	15"x30"				1	
	59	R2-1	48"x60"	S-1	4	STA. 178+60 ℄ I-95	1	SEE NOTE 1
	10	R1-2	36"x36"x36"		4	STA. 185+00 ℄ N.B. COLLECTOR ROAD	1	SEE NOTE 5
	32	W3-2	48"x48"	S-1	4	STA. 38+00 ℄ RAMP 'B'	1	SEE NOTE 1
	4	M1-1	48"x48"		4	STA. 183+00 ℄ I-95	1	SEE NOTE 2
[1]		M3-3	15"x30"		4		1	
	8	R1-2	36"x36"x36"		4	STA. 20+00 ℄ RAMP 'F'	1	SEE NOTE 5
	38	W4-1	36"x36"		4	STA. 190+00 ℄ I-95	1	SEE NOTE 5
		W4-1P	18"x24"				1	
	33	W3-2	36"x36"		4	STA. 15+00 ℄ RAMP 'F'	1	SEE NOTE 5
	39	W4-1	48"x48"	S-1	4	STA. 194+00 ℄ I-95	1	SEE NOTE 1
[1]		W4-1P	18"x24"		2		1	
[1]	11	R1-2	48"x48"x48"	~~S-1~~ S-2	4	STA. 42+00 ℄ RAMP 'B'	1	SEE NOTE 1
[1]	~~71~~ T1	W20-5	48"x48"	S-1	4	STA. 235+90 ℄ I-95	2	SEE NOTE 6
	4	M1-1	48"x48"		4	STA. 142+00 ℄ I-95	1	SEE NOTE 2
[1]		M3-3	15"x30"		4		1	
	29	T1-3	30"x30"	S-2	4	STA. 171+05 ℄ I-95	1	SEE NOTE 6
	29	T1-3	30"x30"	S-2	4	STA. 177+00 ℄ I-95	1	SEE NOTE 6
	29	T1-3	30"x30"	S-2	4	STA. 197+00 ℄ I-95	1	SEE NOTE 6
[1]	40	W4-1(L)	36"x36"	S-1	4	STA. 19+00 ℄ S.B. COLLECTOR ROAD	1	SEE NOTE 6
		W4-1P	18"x24"		2		1	
	37	W4-1	48"x48"	S-6	4	STA. 129+00 ℄ I-95	1	SEE NOTE 1
[1]		W4-1P	18"x24		2		1	
	9	R1-2	48"x48"x48"	S-6	4	STA. 3+80 ℄ RAMP 'A'	1	SEE NOTE 1
[1]	6	R1-2	48"x48"x48"	~~S-1~~ S-2	4	STA. ~~29+00~~ 23+00 ℄ RAMP 'B' @ RUSSELL STREET	1	SEE NOTE 1
[1]	7	~~W1-1~~ W1-2L	48"x48"	S-1	4	STA. 5+00 ℄ RAMP 'A' @ RUSSELL STREET	2	SEE NOTE 6
[1]		~~W1-2L~~ W13-1	24"x24"		2		2	
⚠	T2					STA. 120+10 ℄ I-95		SEE NOTE 8
⚠	T4					STA. 136+50 ℄ I-95		SEE NOTE 8
⚠	T6					STA. 141+50 ℄ I-95		SEE NOTE 8
[2]	00	R2-1	48"x60"			STA. 142+50 ℄ I-95 (MEDIAN)	1	SEE NOTE 3
[2]	02	R2-1	48"x60"			STA. 178+60 ℄ I-95	1	SEE NOTE 2
[2]	03	R2-1 **	48"x60"			STA. 213+30 ℄ I-95	2	SEE NOTE 3

NOTE 1: REMOVE EXIST. SIGN PANEL AND POST AND ERECT NEW SIGN PANEL ON NEW POST.
NOTE 2: REMOVE EXIST. SIGN PANEL AND ERECT NEW SIGN PANEL ON EXIST. POST.
NOTE 3: ATTACH TO EXIST. OVERHEAD BRIDGE SIGN SUPPORT.
NOTE 4: REMOVE EXIST. SIGN PANEL AND POST AND ATTACH TO EXIST. OVERHEAD BRIDGE SIGN SUPPORT.
NOTE 5: REMOVE EXIST. SIGN PANEL AND POST.
NOTE 6: REMOVE EXIST. SIGN PANEL AND POST AND ERECT SAME SIGN PANEL ON NEW POST.
⚠ NOTE 7: ERECT NEW PANEL ON NEW POST (SEE DETAIL SHEET NO. S-4)
⚠ NOTE 8: REMOVE EXIST. SIGN PANEL FROM EXIST. POST AND ATTACH NEW HINGE TO SAME PANEL AND POST (SEE DETAIL SHEET NO. S-4)

* SIGNS TO BE ATTACHED TO SUPPORTS USING REMOVABLE STEEL BANDS OF THE TYPE AND SIZE APPROVED BY THE ENGINEER. COST OF THE STEEL BANDS AND ATTACHMENT TO BE INCLUDED IN THE COST OF SIGNS.

** MOUNTING HEIGHT SHALL BE 3' 6" FROM FINISHED GRADE TO BOTTOM OF SIGN PANEL.

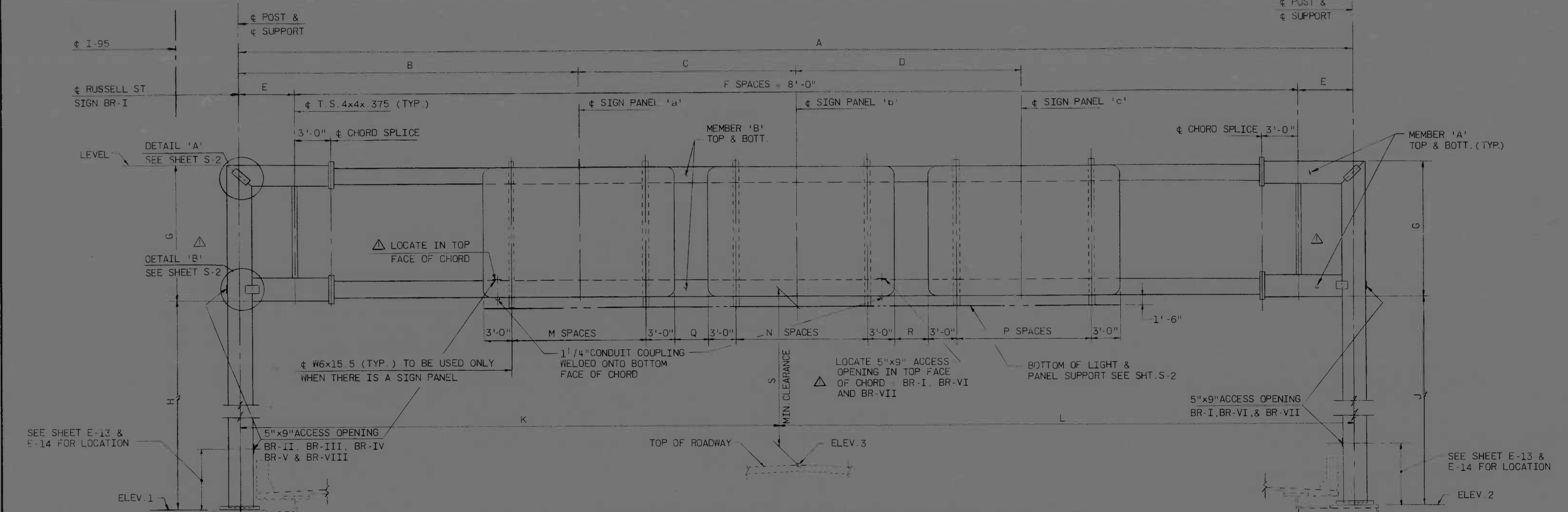
[2]	04	R2-1	48"x60"			STA. 178+65 ℄ I-95	1	SEE NOTE 3
[2]	05	R2-1	48"x60"			STA. 127+55 ℄ I-95	2	SEE NOTE 3

** TWO SIGNS AT STATION 213+30 TO BE FURNISHED ONLY.

REVISIONS	CONSULTANT	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS & STATE HIGHWAY ADMINISTRATION OF MARYLAND INTERSTATE DIVISION FOR BALTIMORE CITY
⚠ ADDENDUM NO. 2 BY EBA S&T 11-21-78 [1] REVISION NO. 1 BY EBA S&T 5-22-79 [2] REVISION NO. 2 BY EBA S&T 2-3-79	EBA - S&T *Consulting Engineers* BALTIMORE, MARYLAND	I-95 HIGHWAY SIGNING & LIGHTING RUSSELL STREET TO HANOVER STREET SIGN INDEX & QUANTITY SUMMARY SCALE: NOT TO SCALE DATE: SEPT. 1978 DRAWN BY A. CLARK DES. BY W. BEHAN TRACED BY C. WALKER CHK. BY D. HUBER F.A.P. NO. I-95-4(99)31 S.H.A. NO. B.C. 246 100-815 BALTO. CITY NO. 2521 SHEET NO. 54 R-9 OF R-23

RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	S-1	54



ELEVATION SIGN BRIDGE-NOS. BR-I THROUGH BR-VIII

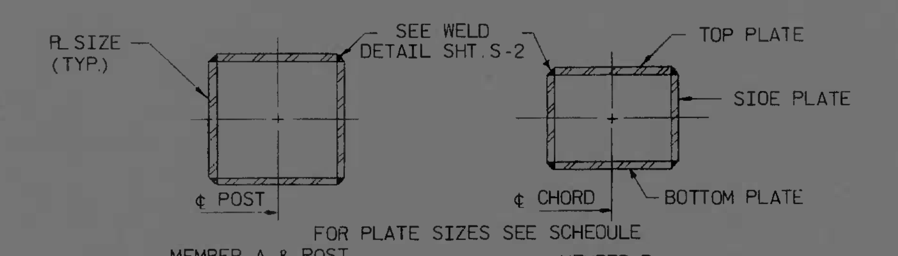
LOOKING AHEAD STATION FOR SIGN NOS. BR-I, BR-II, BR-III, BR-IV & BR-VI
LOOKING BACK STATION FOR SIGN NOS. BR-V, BR-VII, & BR-VIII

STRUCTURAL NOTES

1. STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-588 SEE SPECIAL PROVISIONS
2. ALL BOLTS SHALL BE HIGH STRENGTH A.S.T.M. A-325 TYPE 3. FOR MATERIALS AND INSTALLATION SPECIFICATION, SEE SPECIAL PROVISIONS.
3. ALUMINUM SIGN PANELS SHALL BE OF ALLOY NO. 6063-T-6.
4. DESIGN CRITERIA: A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 1975.
5. OFFSETS AND ELEVATIONS (ESPECIALLY FOR SIGNS MOUNTING ON EXISTING STRUCTURES) WILL BE VERIFIED BY THE CONTRACTOR BEFORE FABRICATION OF OVERHEAD SIGN BRIDGES.
6. HORIZONTAL ALIGNMENT: POSITION ALL OVER HEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO NORMAL EDGE OF ROADWAY.
7. VERTICAL CLEARANCE: POSITION ALL OVERHEAD SIGNS SO THAT REQUIRED VERTICAL CLEARANCE IS SATISFIED.
8. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED WELDING PROCEDURES FOR THE ENGINEER'S APPROVAL.
9. [1] No Threads In Shear Plane

REFERENCE NOTES

1. FOR GENERAL NOTES, SEE SHEET NO. R-2.
2. FOR FOUNDATION NOTES, SEE SHEET NO. S-6.
3. FOR SIGN MESSAGES, SEE SHEETS R-13 THRU R-15.
4. FOR ACCESS OPENING & COVER DETAIL, SEE SHEET NO. S-2.
5. FOR SIGN PANEL ASSEMBLY DETAILS, SEE SHEET NO. S-5.
6. FOR CAISSON DETAILS - BR-I, SEE SHEET NO. S-6.

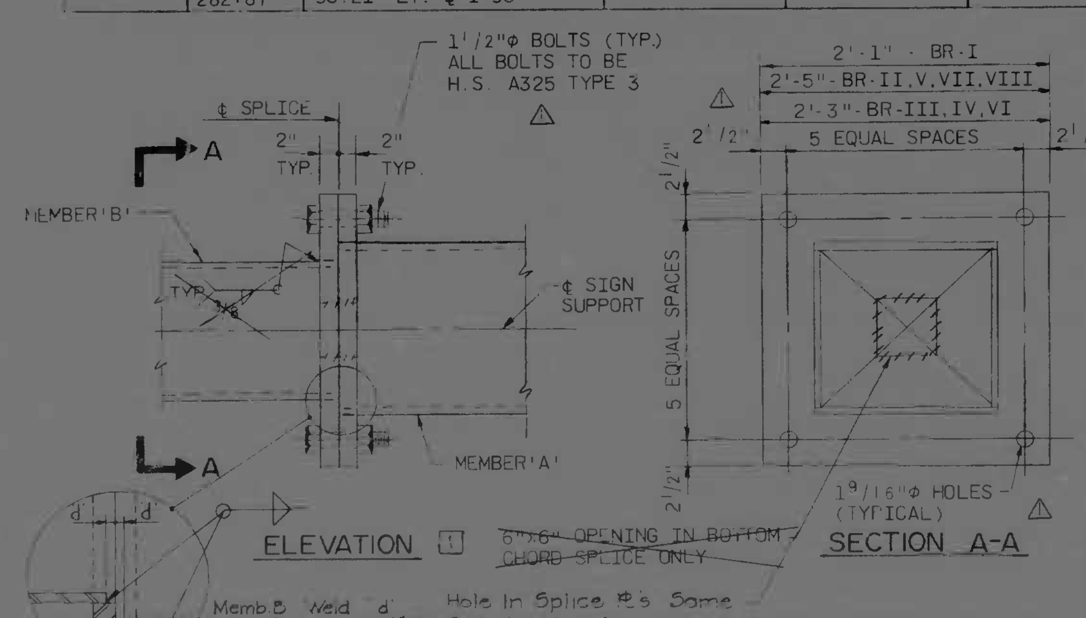


TYPICAL FRAME DETAIL

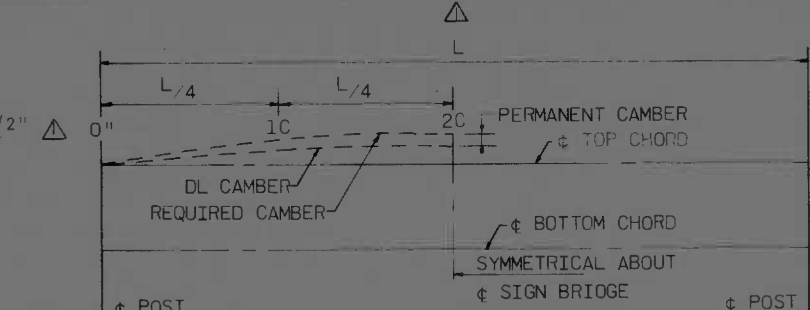
[1] SIGN BRIDGES SCHEDULE

SIGN NO.	¢ POST & ¢ SUPPORT STATION	OFFSET	A	B	C	D	E	F	G	H	J	K	L
BR-I	65+15 65+15	0.00' ¢ RUSSELL ST. 48.58' RT. ¢ RUSSELL ST.	48'-7"	20'-6"	15'-0"	- - -	4'-3 1/2"	5	10'-6"	~~18'-6 1/8"~~ 17'-9 3/8"	~~19'-11"~~ 20'-9 3/8"	22'-0"	26'-7"
BR-II	233+49 233+49	2.50' RT. ¢ I-95 79.50' RT. ¢ I-95	77'-0"	26'-6"	24'-0"	- - -	6'-6"	8	13'-8"	21'-7 9/16"	21'-7 9/16"	38'-6"	38'-6"
BR-III	242+64 242+64	2.50' RT. ¢ I-95 91.50' RT. ¢ I-95	89'-0"	31'-0"	30'-0"	- - -	4'-6"	10	~~13'-10"~~ 13'-4"	22'-3 3/4"	22'-7 7/16"	38'-6"	50'-6"
BR-IV	255+65 255+65	2.58' RT. ¢ I-95 68.00' RT. ¢ I-95	65'-5"	28'-0"	19'-0"	- - -	4'-8 1/2"	7	10'-8"	22'-5"	21'-2 5/8"	50'-5"	15'-0"
BR-V	267+38.81 267+38.81	2.42' LT. ¢ I-95 83.27' LT. ¢ I-95	80'-10 1/4"	36'-3"	21'-6"	- - -	4'-5 1/8"	9	14'-8"	23'-0 3/4"	21'-2 1/2"	14'-7"	66'-3 1/4"
BR-VI	274+45 274+45	2.50' RT. ¢ I-95 91.05' RT. ¢ I-95	91'-6 5/8"	56'-3"	17'-3"	- - -	5'-9 5/16"	10	12'-4"	21'-8 7/8"	21'-10 7/8	38'-6"	53'-0 5/8"
BR-VII	274+96.50 274+96.50	2.50' LT. ¢ I-95 104.77' LT. ¢ I-95	102'-3 1/4"	56'-6"	30'-1"	- - -	7'-1 5/8"	11	14'-8"	21'-5 3/16	21'-9 1/4"	38'-6"	63'-9 1/4"
BR-VIII	282+87 282+87	2.50' LT. ¢ I-95 90.21' LT. ¢ I-95	87'-8 1/2"	32'-6"	20'-9"	19'-9"	7'-10 1/4"	9	14'-8"	21'-0"	23'-1 7/16"	62'-6"	25'-2 1/2"

SIGN NO.	FRAME MEMBER SIZE: MEMBER A & POST PLATE SIZE	MEMBER B PLATE SIZE	PANEL DIMENSIONS: M	N	P	Q	R	PANEL SIZE (WIDTH x HEIGHT): 'a'	'b'	'c'	ELEVATION (APPROX.): 1	2	3	MIN. CLEARANCE: S
BR-I	PL 12 1/2"x3/4"	T&B-13"x5/8" S - 6 3/4"x1/2"	1 @ 9'-0"	1 @ 8'-0"	- - -	6"	- - -	15'x10'	14'x10'	- - -	~~50.80~~ 51.42	~~49.40~~ 48.42	~~48.31~~ 48.45	19'-6"
BR-II	PL 15 3/4"x1 1/8"	T&B-17"x3/4" S - 8 1/2x1/2"	1 @ 11'-0"	1 @ 10'-6"	- - -	7'-3"	- - -	17'x13'	16'-6"x13'	- - -	69.37	69.37	72.00	17'-6"
BR-III	~~PL 14 1/2"x3/4"~~ PL 14"x1"	T&B-14 3/4"x5/8" S -10 3/4"x5/8"	1 @ 11'-0"	1 @ 10'-6"	- - -	13'-3"	- - -	17'x13'	16'-6"x13'	- - -	67.92	67.61	71.23	17'-6"
BR-IV	PL 14 3/4"x5/8"	T&B-15"x5/8" S -6 3/4"x1/2"	2 @ 7'-6"	1 @ 10'-0"	- - -	6"	- - -	21'x10'	16'x10'	- - -	53.94	55.14	57.36	17'-6"
BR-V	PL 15 3/4"x1 1/8"	T&B-17"x3/4" S - 8 1/2"x1/2"	2 @ 7'-0"	2 @ 8'-0"	- - -	6"	- - -	20'x14'	22'x14'	- - -	56.67	58.52	60.73	17'-6"
BR-VI	~~PL 14 1/2"x3/4"~~ PL 14"x1"	T&B-14 3/4"x5/8" S -10 3/4"x5/8"	1 @ 11'-6"	1 @ 10'-0"	- - -	6"	- - -	17'-6"x12'	16'x12'	- - -	66.99	66.83	69.73	17'-6"
BR-VII	PL 15 1/2"x1 1/4"	T&B-17"x3/4" S -8 1/2"x1/2"	2 @ 8'-0"	1 @ 10'-6"	- - -	10'-10"	- - -	22'x14'	16'-6"x14'	- - -	67.98	67.64	70.41	17'-6"
BR-VIII	PL 15"x1 1/2"	T&B-17"x3/4" S -8 1/2"x1/2"	2 @ 6'-3"	2 @ 8'-0"	1 @ 10'-6"	6"	6"	18'-6"x14'	22'x14'	16'-6"x14'	79.24	77.11	81.23	17'-6"



CHORD SPLICE DETAILS

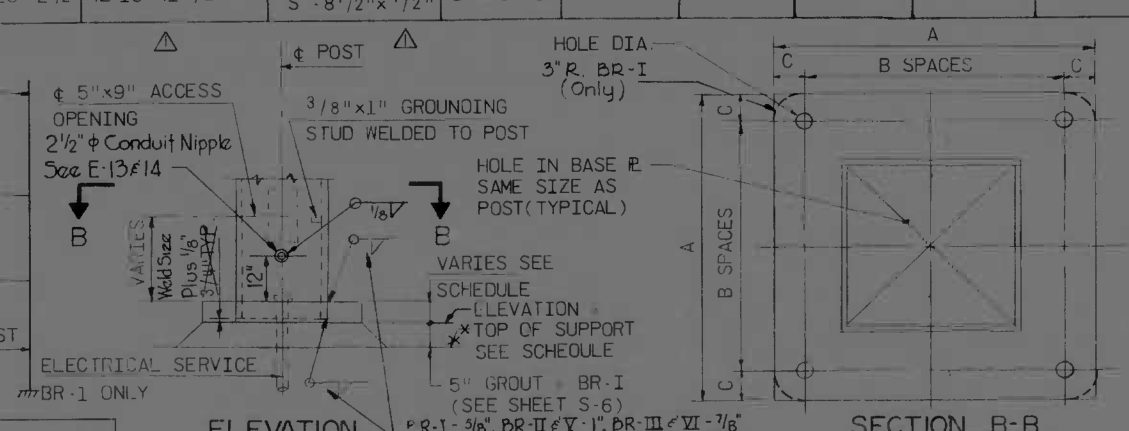


CAMBER DIAGRAM

CAMBER SCHEDULE FOR SIGN BRIDGES

	BR-I 1C	BR-I 2C	BR-II, BR-V 1C	BR-II, BR-V 2C	BR-III BR-VI 1C	BR-III BR-VI 2C	BR-IV 1C	BR-IV 2C	BR-VII 1C	BR-VII 2C	BR-VIII 1C	BR-VIII 2C
DL CAMBER	5/16	7/16	1 1/4	1 13/16	1 5/16	1 7/8	7/8	1 1/4	2 15/16	4 3/16	1 13/16	2 1/2
PERMANENT CAMBER	7/16	9/16	11/16	1	3/4	1 1/8	9/16	13/16	7/8	1 1/4	3/4	1 1/16
REQUIRED CAMBER	3/4	1	1 15/16	2 13/16	2 1/16	3	1 7/16	2 1/16	3 13/16	5 7/16	2 9/16	3 9/16

ALL CAMBER ORDINATES GIVEN IN INCHES



[1] BASE PLATE DETAILS FOR SIGN BRIDGES

[1] BASE PLATE SCHEDULE FOR SIGN BRIDGES

NO.	BASE PL SIZE	ANCHOR BOLTS	A	B	C	HOLE DIA.
BR-I	~~2"x24"x24"~~ 2 1/4"x29"x29"	12-~~1 1/4"~~ 1 1/2"φx10'-10"LG	~~24"~~ 29"	3 @ ~~8"~~ 7 1/2"	3 1/4" ~~3"~~	~~1 5/16"~~ 1 9/16"
BR-II	2 1/4"x34"x34"	8-2 1/4"φx8 1/2" LG.	34"	2 @ 13"	4"	2 1/2"
BR-III	2 1/4"x34"x34"	8-2 1/4"φx8 1/2" LG.	34"	2 @ 13"	4"	2 1/2"
BR-IV	2 1/4"x34"x34"	8-2 1/4"φx8 1/2" LG.	34"	2 @ 13"	4"	2 1/2"
BR-V	~~2 1/4"~~x34"x34"	20-1 1/2"φx~~8 1/2"~~ LG.	34"	5 @ 5 1/2"	3 1/4"	1 9/16"
BR-VI	~~2 1/4"~~x34"x34"	20-1 1/2"φx~~8 1/2"~~ LG.	34"	5 @ 5 1/2"	3 1/4"	1 9/16"
BR-VII	~~2 1/4"~~x34"x34"	20-1 1/2"φx~~8 1/2"~~ LG.	34"	5 @ 5 1/2"	3 1/4"	1 9/16"
BR-VIII	~~2 1/4"~~x34"x34"	20-1 1/2"φx~~8 1/2"~~ LG.	34"	5 @ 5 1/2"	3 1/4"	1 9/16"
	2 7/8"	9"				

REVISIONS	CONSULTANT
ADDENDUM NO. 2 EBA/S&T 11-21-78 [1] Revised Details EBA/S&T 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
&
STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

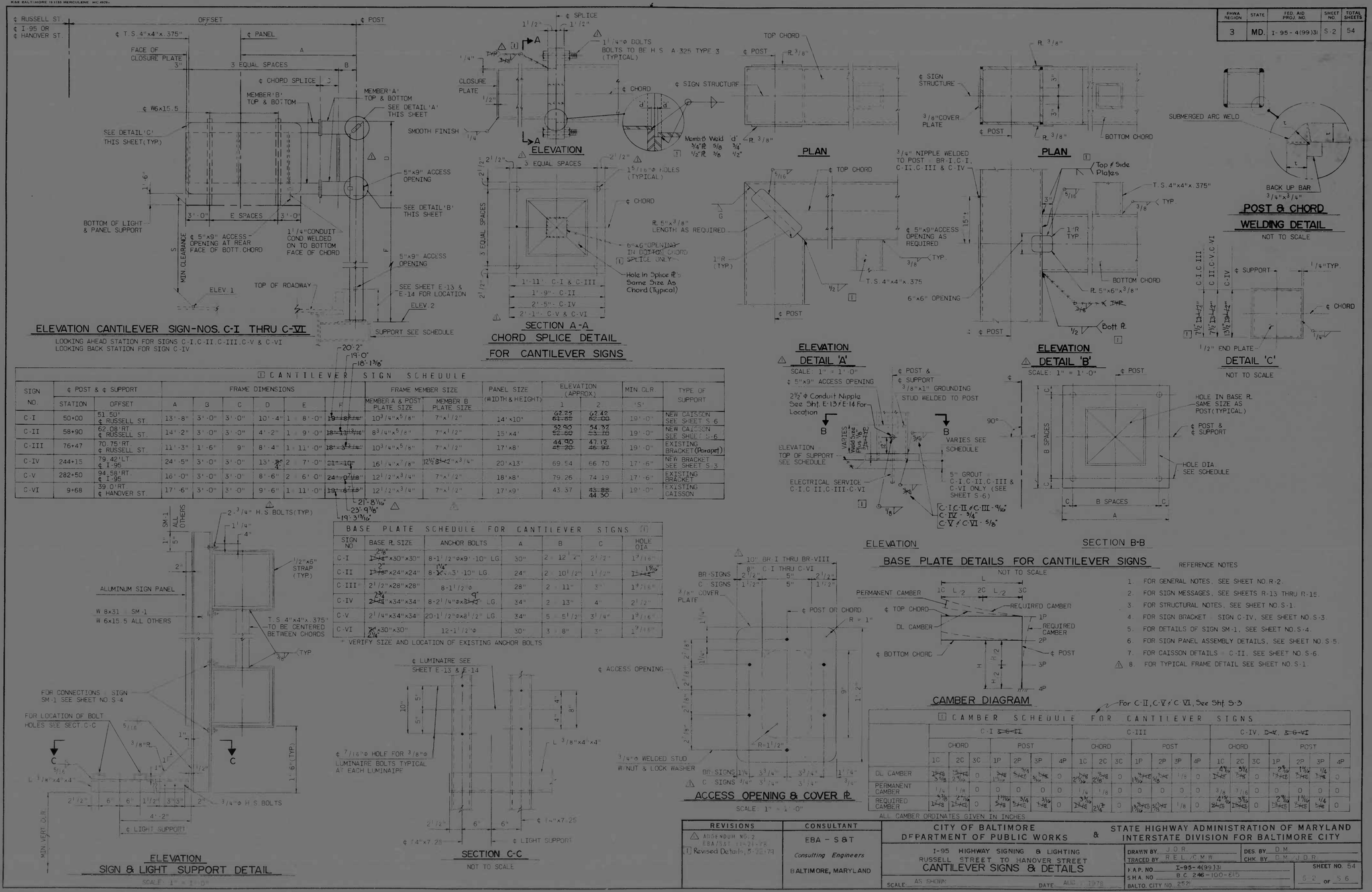
BRIDGE SIGNS & DETAILS

SCALE: NO SCALE DATE: AUG. 1978

DRAWN BY: J.O.R. DES. BY: O.M.
TRACED BY: R.E.L. / C.M.W. CHK. BY: O.M. / J.D.R.
F.A.P. NO. I-95-4(99)31
S.H.A. NO. BC 246-100-815
BALTO. CITY NO. 2521
SHEET NO. 54
S-1 OF S-6

RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	S-2	54



CANTILEVER SIGN SCHEDULE

SIGN NO.	℄ POST & ℄ SUPPORT STATION	OFFSET	FRAME DIMENSIONS A	B	C	D	E	F	FRAME MEMBER SIZE MEMBER A & POST PLATE SIZE	MEMBER B PLATE SIZE	PANEL SIZE (WIDTH & HEIGHT)	ELEVATION (APPROX.) 1	2	MIN. CLR. 'S'	TYPE OF SUPPORT
C-I	50+00	51.50' ℄ RUSSELL ST.	13'-8"	3'-0"	3'-0"	10'-4"	1 @ 8'-0"	19'-8 7/16"	10 3/4"x5/8"	7"x1/2"	14'x10'	62.25 ~~61.85~~	62.42 ~~62.00~~	19'-0"	NEW CAISSON SEE SHEET S-6
C-II	58+90	62.08'RT. ℄ RUSSELL ST.	14'-2"	3'-0"	3'-0"	4'-2"	1 @ 9'-0"	18'-1 13/16"	8 3/4"x5/8"	7"x1/2"	15'x4'	52.90 ~~52.60~~	54.32 ~~53.78~~	19'-0"	NEW CAISSON SEE SHEET S-6
C-III	76+47	70.75'RT. ℄ RUSSELL ST.	11'-3"	1'-6"	9"	8'-4"	1 @ 11'-0"	18'-3 11/16"	10 3/4"x5/8"	7"x1/2"	17'x8'	44.90 ~~45.20~~	47.12 ~~46.92~~	19'-0"	EXISTING BRACKET (Parapet)
C-IV	244+15	79.42'LT. ℄ I-95	24'-5"	3'-0"	3'-0"	13'-3/4"	2 @ 7'-0"	21'-10"	16 1/4"x7/8"	12 1/2"x3/4"	20'x13'	69.54	66.70	17'-6"	NEW BRACKET SEE SHEET S-3
C-V	282+50	94.58'RT. ℄ I-95	16'-0"	3'-0"	3'-0"	8'-6"	2 @ 6'-0"	24'-9 7/8"	12 1/2"x3/4"	7"x1/2"	18'x8'	79.26	74.19	17'-6"	EXISTING BRACKET
C-VI	9+68	39.0'RT. ℄ HANOVER ST.	17'-6"	3'-0"	3'-0"	9'-6"	1 @ 11'-0"	19'-6 7/8"	12 1/2"x3/4"	7"x1/2"	17'x9'	43.37	~~43.88~~ 44.30	19'-0"	EXISTING CAISSON

BASE PLATE SCHEDULE FOR CANTILEVER SIGNS

SIGN NO.	BASE PL SIZE	ANCHOR BOLTS	A	B	C	HOLE DIA.
C-I	~~1'-7 1/4"~~ 2'-6 1/8" x30"x30"	8-1 1/2"Φx9'-10" LG.	30"	2 @ 12 1/2"	2 1/2"	1 3/16"
C-II	~~1'-7 1/8"~~ 2'-3" x24"x24"	8-~~1"~~ 1 1/4"Φx3'-10" LG.	24"	2 @ 10 1/2"	1 1/2"	~~1"~~ 1 3/16"
C-III	2'-1/2"x28"x28"	8-1 1/2"Φ 9" LG.	28"	2 @ 11"	3"	1 3/16"
C-IV	~~2'-1/4"~~ 2'-3/4" x34"x34"	8-2 1/4"Φx~~3'-1/2"~~ 3'-9" LG.	34"	2 @ 13"	4"	2 1/2"
C-V	2'-1/4"x34"x34"	20-1 1/2"Φx8 1/2" LG.	34"	5 @ 5 1/2"	3 1/4"	1 3/16"
C-VI	~~2'-1/4"~~ 2'-1/4" x30"x30"	12-1 1/2"Φ	30"	3 @ 8"	3"	1 3/16"

* VERIFY SIZE AND LOCATION OF EXISTING ANCHOR BOLTS

CAMBER SCHEDULE FOR CANTILEVER SIGNS

For C-II, C-V & C-VI, See Sht. S-3

	C-I ~~& C-VI~~ CHORD 1C	2C	3C	POST 1P	2P	3P	4P	C-III CHORD 1C	2C	3C	POST 1P	2P	3P	4P	C-IV, ~~C-V, & C-VI~~ CHORD 1C	2C	3C	POST 1P	2P	3P	4P
DL CAMBER	~~1 7/8~~ 1 5/8	~~2 1/8~~ 2 1/16	0	~~5/8~~ 1 1/16	~~5/8~~ 1 1/16	~~5/8~~ 1 1/16	0	~~2 3/8~~ 2 1/16	~~2 3/8~~ 2 1/16	0	~~1 3/16~~ 1 1/16	~~1 3/16~~ 1 1/16	1/8	0	~~2 3/8~~ 2 1/16	~~2 3/8~~ 2 1/16	0	~~1 3/16~~ 1 1/16	~~1 3/16~~ 1 1/16	1/8	0
PERMANENT CAMBER	1/4	1/8	0	0	0	0	0	1/4	1/8	0	0	0	0	0	3/8	3/16	0	0	0	0	0
REQUIRED CAMBER	~~1 7/8~~ 1 5/8	~~2 1/8~~ 2 1/16	0	~~1 1/16~~ 5/8	~~5/8~~ 1 1/16	~~5/8~~ 1 1/16	0	~~2 3/8~~ 2 1/16	~~2 3/8~~ 2 1/16	0	~~1 3/16~~ 1 1/16	~~1 3/16~~ 1 1/16	1/8	0	~~2 3/8~~ 2 1/16	~~2 3/8~~ 2 1/16	0	~~1 3/16~~ 1 1/16	~~1 3/16~~ 1 1/16	1/4	0

ALL CAMBER ORDINATES GIVEN IN INCHES

REFERENCE NOTES

1. FOR GENERAL NOTES, SEE SHEET NO. R-2.
2. FOR SIGN MESSAGES, SEE SHEETS R-13 THRU R-15.
3. FOR STRUCTURAL NOTES, SEE SHEET NO. S-1.
4. FOR SIGN BRACKET - SIGN C-IV, SEE SHEET NO. S-3.
5. FOR DETAILS OF SIGN SM-1, SEE SHEET NO. S-4.
6. FOR SIGN PANEL ASSEMBLY DETAILS, SEE SHEET NO. S-5.
7. FOR CAISSON DETAILS - C-II, SEE SHEET NO. S-6.
8. △1 FOR TYPICAL FRAME DETAIL SEE SHEET NO. S-1.

REVISIONS	CONSULTANT
△1 ADDENDUM NO. 2 EBA/S&T 11-21-78 △2 Revised Details, 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
&
STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET
CANTILEVER SIGNS & DETAILS

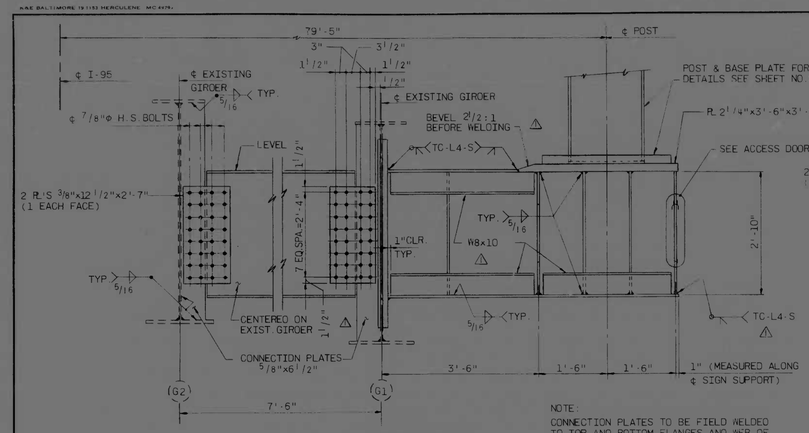
SCALE: AS SHOWN DATE: AUG. 1978

DRAWN BY J.O.R. DES. BY D.M.
TRACED BY R.E.L./C.M.W. CHK. BY D.M./J.D.R.
F.A.P. NO. I-95-4(99)31
S.H.A. NO. B.C. 246-100-815
BALTO. CITY NO. 2521

SHEET NO. 54
S-2 OF S-6

RATIO - 24

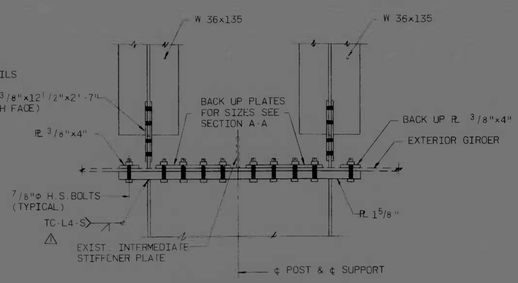
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	S-3	54



NOTE:
CONNECTION PLATES TO BE FIELD WELDED TO TOP AND BOTTOM FLANGES AND WEB OF EXISTING GIRDER

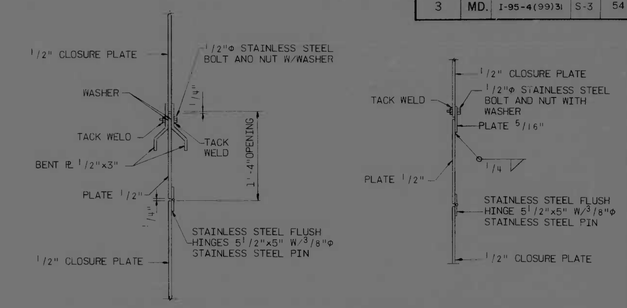
ELEVATION

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



SECTION E-E

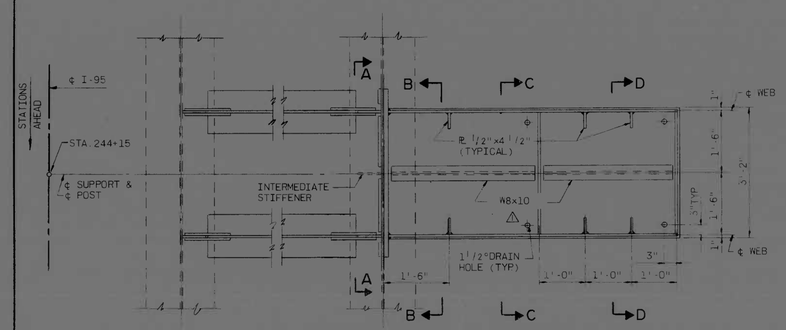
SCALE: 1" = 1'-0"



LATCH DETAIL — ALTERNATE BOLTED LOCK

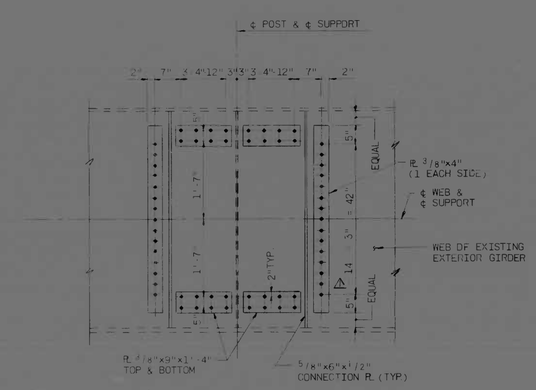
ACCESS DOOR DETAILS

NOT TO SCALE



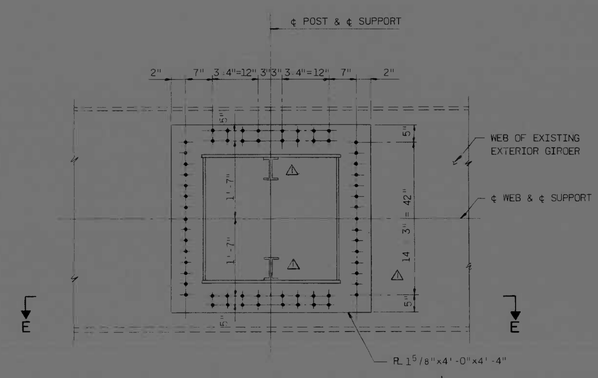
PLAN

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



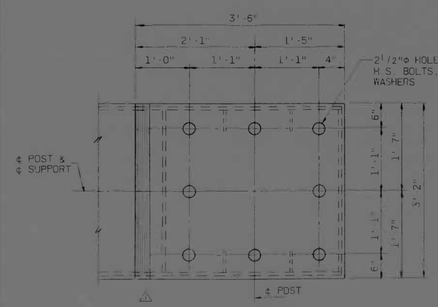
SECTION A-A

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



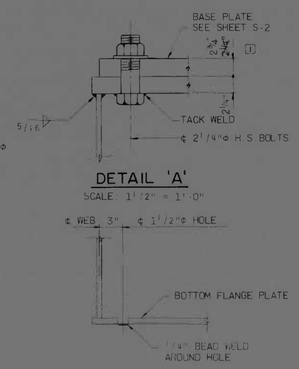
SECTION B-B

SCALE: 1 1/2" = 1'-0"



BOLT PLAN

SCALE: 1" = 1'-0"

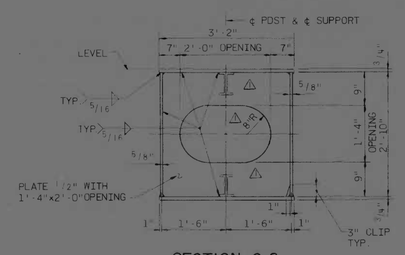


DETAIL 'A'

SCALE: 1 1/2" = 1'-0"

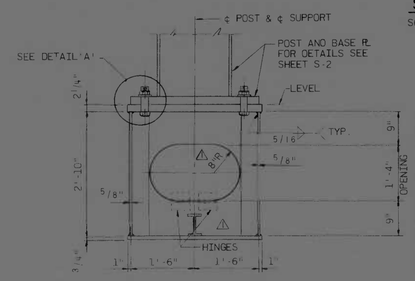
DRAIN HOLE DETAIL

SCALE: 1 1/2" = 1'-0"



SECTION C-C

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



SECTION D-D

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

[1] CAMBER SCHEDULE FOR CANTILEVER SIGNS

	C-II						C-V						C-VI					
	CHORD			POST			CHORD			POST			CHORD			POST		
	1C	2C	3C	1P	2P	3P	4P	1C	2C	3C	1P	2P	3P	4P	1C	2C	3C	1P	2P	3P	4P	1C	2C	3C	1P	2P	3P	4P
DL CAMBER	4 5/16	3/16	0	1 7/16	1 7/16	5/16	0	6 5/8	4 7/16	0	1 5/8	9/16	1/4	0	7	4 7/16	0	1 7/8	11/16	3/16	0	7	4 7/16	0	1 7/8	11/16	3/16	0
PERMANENT CAMBER	1/4	1/8	0	0	0	0	0	5/16	3/16	0	0	0	0	0	0	0	0	0	0	0	0	3/16	3/16	0	0	0	0	0
REQUIRED CAMBER	5 5/16	3 5/8	0	1 7/16	1 5/16	5/16	0	6 11/16	4 3/16	0	1 5/8	9/16	1/4	0	7 5/16	5 1/8	0	1 7/8	11/16	3/16	0	7 5/16	5 1/8	0	1 7/8	11/16	3/16	0

REVISIONS	CONSULTANT
[1] ADDENDUM NO. 2 EBA/S&T 11-21-78	EBA - S & T
[1] Added Schedule 5-22-79	Consulting Engineers
	BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

BRACKET DETAIL FOR SIGN C-IV

SCALE: AS SHOWN — DATE: AUG. 1978

DRAWN BY: J.D.R. — DES. BY: D.M.
TRACED BY: R.E.L. & M.R. — CHK. BY: D.M. / J.D.R.

F.A.P. NO. I-95-4(99)31
S.H.A. NO. BR. 246-100-815
BALTO. CITY NO. 2521

SHEET NO. 54
S 3 OF S 6

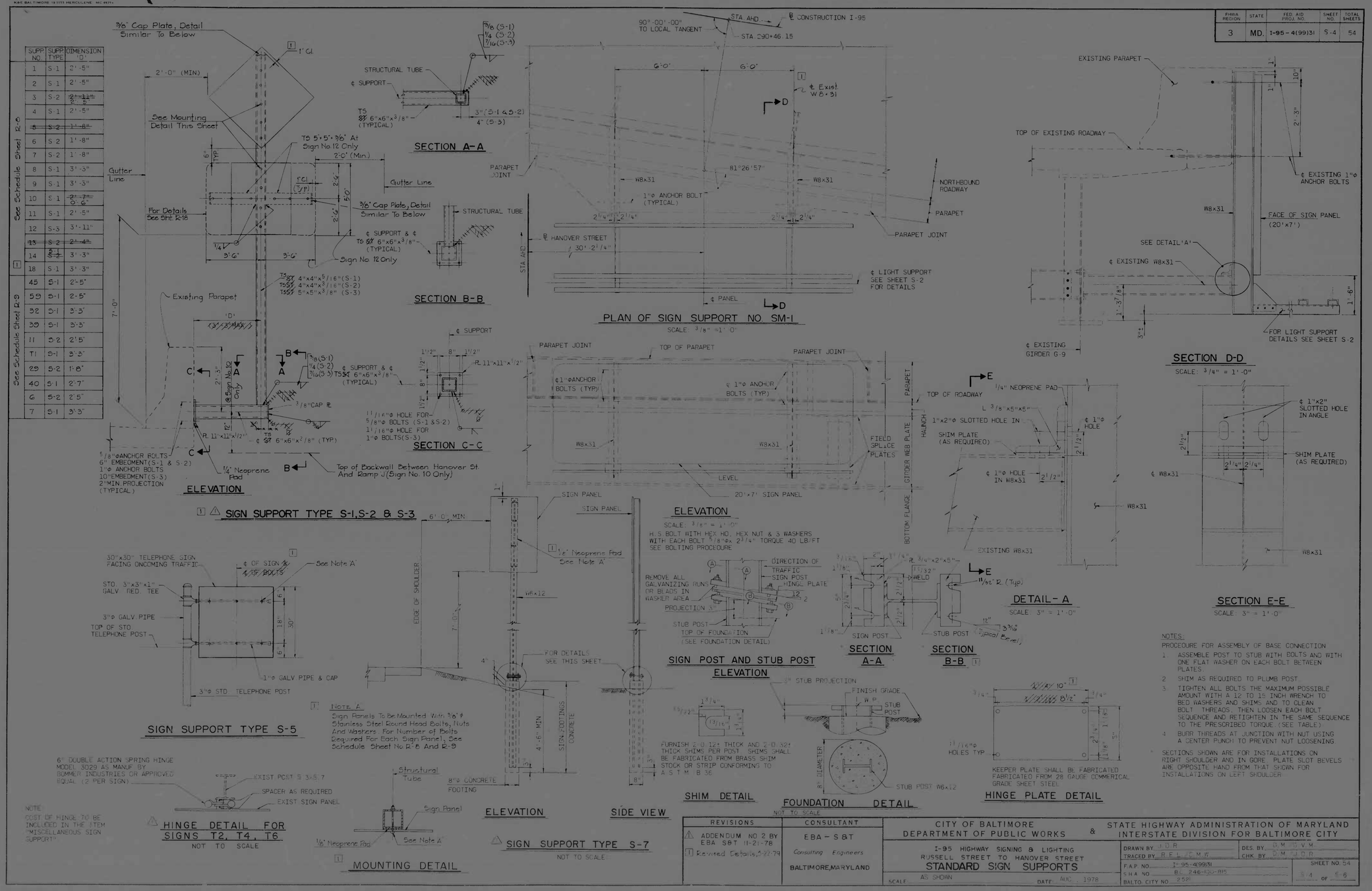
RATIO - 24

FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)31	S-4	54

SUPP NO.	SUPP TYPE	DIMENSION 'D'
1	S-1	2'-5"
2	S-1	2'-5"
3	S-2	~~2'-11" 8'-6"~~
4	S-1	2'-5"
~~5~~	~~S-2~~	~~1'-8"~~
6	S-2	1'-8"
7	S-2	1'-8"
8	S-1	3'-3"
9	S-1	3'-3"
10	S-1	~~2'-7" 6'-6"~~
11	S-1	2'-5"
12	S-3	3'-11"
~~13~~	~~S-2~~	~~2'-4"~~
14	~~S-1 S-2~~	3'-3"
18	S-1	3'-3"
45	S-1	2'-5"
59	S-1	2'-5"
32	S-1	3'-3"
39	S-1	3'-3"
11	S-2	2'-5"
T1	S-1	3'-3"
29	S-2	1'-8"
40	S-1	2'-7"
6	S-2	2'-5"
7	S-1	3'-3"

See Schedule Sheet R-6

See Schedule Sheet R-9



NOTES:

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. ASSEMBLE POST TO STUB WITH BOLTS AND WITH ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
2. SHIM AS REQUIRED TO PLUMB POST.
3. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE AMOUNT WITH A 12 TO 15 INCH WRENCH TO BED WASHERS AND SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT SEQUENCE AND RETIGHTEN IN THE SAME SEQUENCE TO THE PRESCRIBED TORQUE. (SEE TABLE)
4. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

* SECTIONS SHOWN ARE FOR INSTALLATIONS ON RIGHT SHOULDER AND IN GORE. PLATE SLOT BEVELS ARE OPPOSITE HAND FROM THAT SHOWN FOR INSTALLATIONS ON LEFT SHOULDER.

REVISIONS	CONSULTANT
⚠ ADDENDUM NO. 2 BY EBA S&T 11-21-78	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND
1 Revised Details, 5-22-79	

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

STANDARD SIGN SUPPORTS

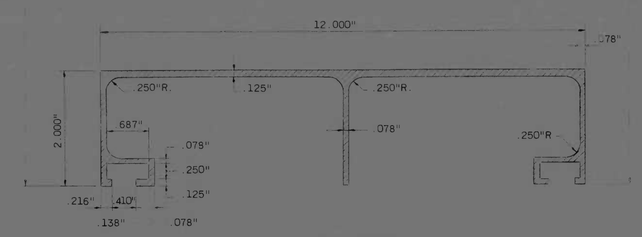
SCALE: AS SHOWN DATE: AUG., 1978

DRAWN BY: J.D.R. DES. BY: D.M. & V.M.
TRACED BY: R.E.L. & E.M.W. CHK. BY: D.M. & J.D.R.

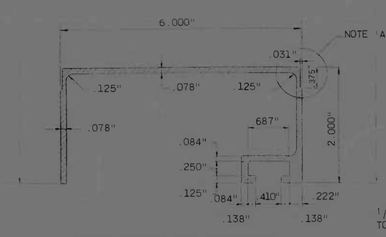
F.A.P. NO. I-95-4(99)31
S.H.A. NO. B.C. 246-420-815
BALTO. CITY NO. 252

SHEET NO. 54
S-4 OF 56

FEDERAL REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(003)31	S-5	54

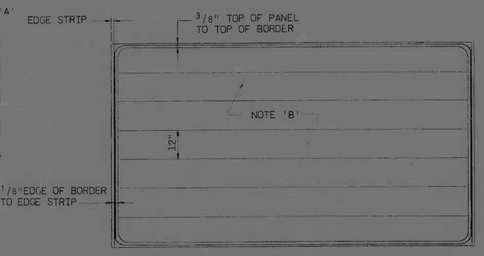


TYPICAL PANEL

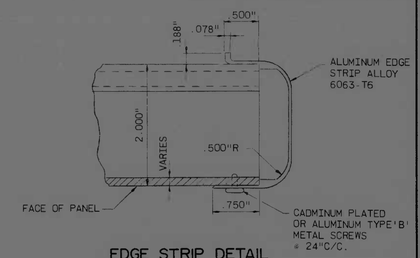


TOP PANEL AS REQUIRED
(SEE NOTE D)

STANDARD ALUMINUM SIGN PANELS
ALLOY 6063-T6



TYPICAL ASSEMBLY OF EDGE STRIP BORDER AND REFLECTIVE BACKGROUND



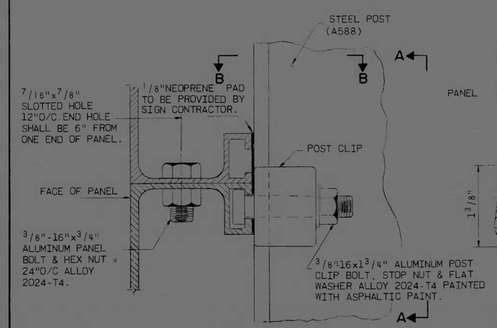
EDGE STRIP DETAIL

NOTE 'A' ALUMINUM PANELS MAY HAVE SQUARE CORNERS OR NOTCHED CORNERS AS SHOWN. NO OTHER TYPE CORNERS ARE ACCEPTABLE.

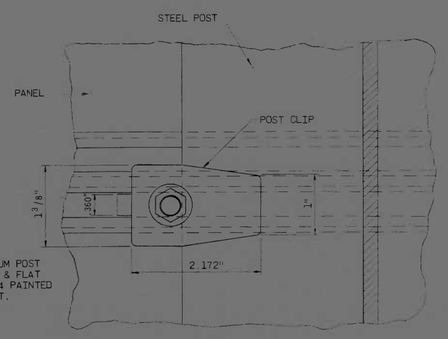
NOTE 'B' THE REFLECTIVE SHEETING APPLIED TO EXTRUDED PANELS SHALL EXTEND APPROX. 1/4" OVER EACH SIDE AND SHALL BE ADHERED TO THE SIDE OF THE PANEL.

NOTE 'C' ALUMINUM POST CLIPS SHALL BE A.S.T.M. DESIGNATION B-108 ALLOY 356.0-T6 AND SHALL BE PAINTED WITH ASPHALTIC PAINT, MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-V-51.

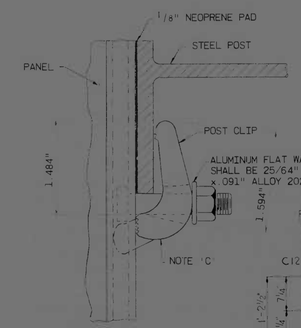
NOTE 'D' NO MORE THAN ONE 6' PANEL SHALL BE USED IN MAKING UP OF THE GUIDE SIGNS.



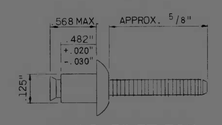
SIDE VIEW



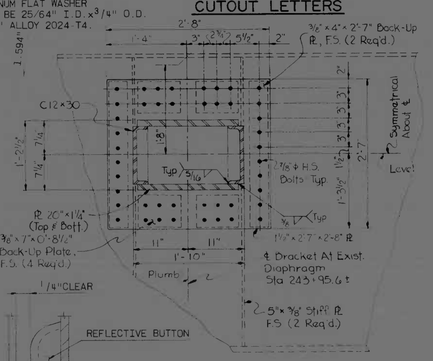
SECTION A-A



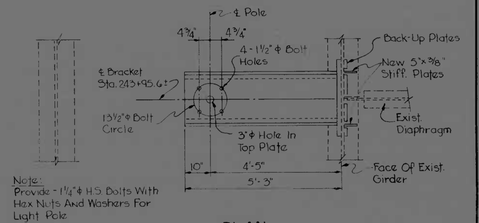
SECTION B-B



BLIND RIVET FOR CUTOUT LETTERS

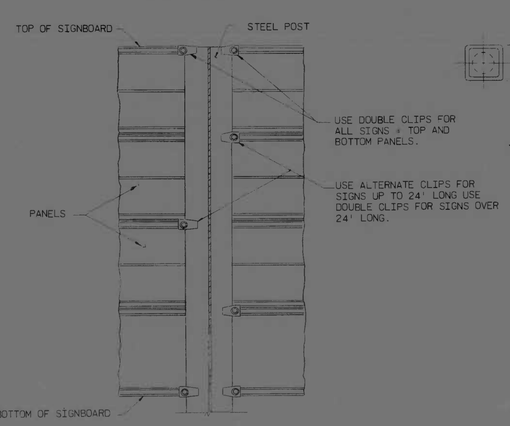


SECTION E-E



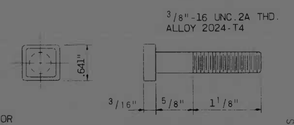
Note:
Provide - 1 1/4"ϕ H.S. Bolts With Hex Nuts And Washers For Light Pole

PLAN

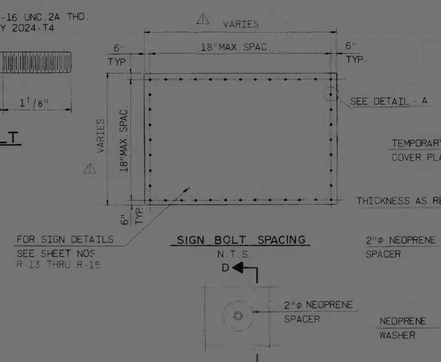


ELEVATION

POST CLIP LOCATION



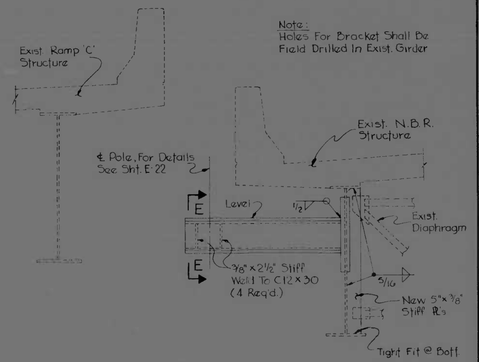
POST CLIP BOLT



SIGN BOLT SPACING
N.T.S.

SECTION D-D
FULL SIZE

TEMPORARY COVER PLATE MOUNTING DETAILS



ELEVATION - LOOKING WEST
LIGHT BRACKET DETAILS

REVISIONS	CONSULTANT
⚠ ADDENDUM NO. 2 EBA/S&T 10-21-78 1 Added Bracket Detail 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
&
STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET

SIGN PANEL ASSEMBLY DETAILS

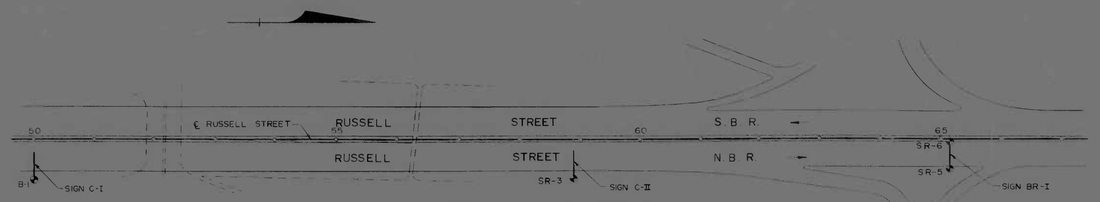
SCALE: NOT TO SCALE DATE: JULY 1978

DRAWN BY J.G.R. DES. BY D.M. & V.M.
TRACED BY R.E.C. & A.R. CHK. BY D.M. & R.D.
F.A.P. NO. I-95-4(003)31
S.H.A. NO. BC 046-00-815
BALTO. CITY NO. 4526

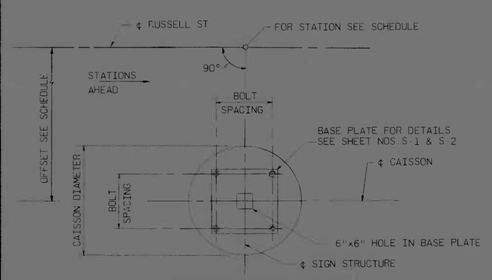
SHEET NO. 54
S-5 OF S-6

RATIO - 24

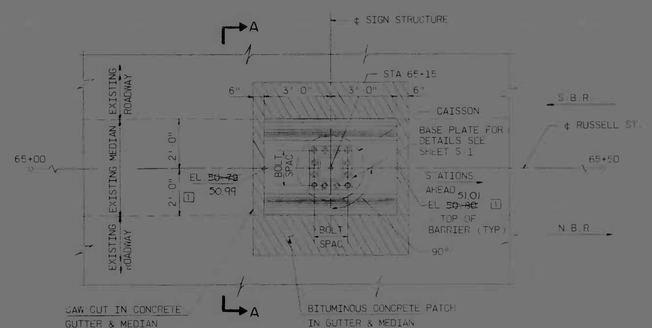
FHWA REGION	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD.	I-95-4(99)3(	S 6	S4



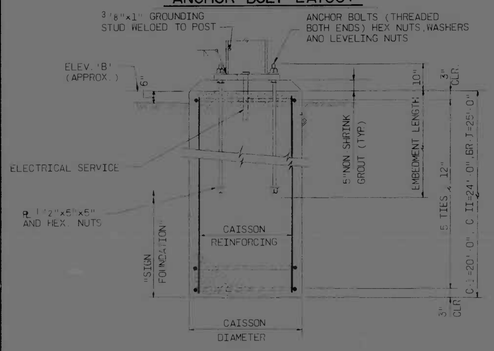
LOCATION PLANS FOR BORINGS



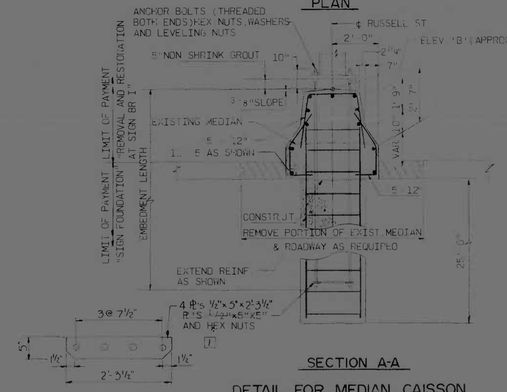
ANCHOR BOLT LAYOUT



PLAN



CAISSON ELEVATION



SECTION A-A

DETAIL FOR MEDIAN CAISSON AT BRIDGE SIGN BR-I

SECTION THRU CAISSON

1 CAISSON SCHEDULE									
SIGN NO.	STATION	LOCATION	ELEV 'B' (APPROX)	CAISSON		ANCHOR BOLTS			
		OFFSET TO ℄ CAISSON		DIA.	REINF	SPACING	NO. & SIZE	EMBED LGTH.
C-I	50+00	61.5' RT ℄ RUSSELL ST	62.00	54"	23 #11	2 SPCS. ~~73-3/4"~~ 73¾"	8 1½"Φ	9' 0"
C-II	58+90	62.08' RT ℄ RUSSELL ST	~~53-75~~ 53.75	42"	14 #11	2 SPCS. 10½"	8 ¾"Φ	5' 0"
BR-I	65+15	0.00' ℄ RUSSELL ST	~~51-80~~ 51.80	42"	12 #11	3 SPCS. 8@7½"	12 1½"Φ	10'-0"
	65+15	48.58' RT ℄ RUSSELL ST	~~29-40~~ 48.00	42"	12 #11	3 SPCS. 8@7½"	12 1½"Φ	10' 0"

1½"Φ

FOUNDATION NOTES:

1. SPECIFICATIONS: S.H.A. C. SPECIFICATIONS AND ERRATA TO SPECIFICATIONS DATED MARCH 1968 AND SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION AND 1975 SUPPLEMENT. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS.
2. DESIGN WIND: DESIGN WIND PRESSURE IS BASED ON VELOCITY OF 80 MPH.
3. CONCRETE: MIX NO. 3 AIR ENTRAINED CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 P.S.I. 28 DAYS. FOR REINFORCED CONCRETE DESIGN f'c = 1,200 P.S.I. SEE SPECIAL PROVISIONS.
4. CHAMFER: ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED ¾"x¾" WITH MILLED CHAMFER STRIPS.
5. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-615 ~~GRADE 40~~ OR GRADE 60 [1] ALL SPLICES SHALL BE LAPPED A MINIMUM OF 30 BAR DIAMETERS UNLESS OTHERWISE NOTED. MINIMUM COVER FOR ANY BAR SHALL BE 3" UNLESS OTHERWIDE NOTED.
6. WHEN DRILLING CAISSONS IN VICINITY OF CONCRETE PROTECTIVE BARRIERS, CONTRACTOR SHALL PROTECT ADJACENT UNDERDRAINS AGAINST DAMAGE OF SETTLEMENT.
7. MAXIMUM DESIGN FOUNDATION BEARINGS PRESSURE 3,000 P.S.I.
8. EXISTING UTILITIES: EXISTING CONDUITS, PIPES, MAINS, OVERHEAD LINES, SURFACE CONSTRUCTION ETC. WHICH MAY AFFECT THE WORK OF THIS PROJECT HAVE BEEN SHOWN ON THE PLAN RECORDED DATA, HOWEVER, THE ENGINEER DOES NOT WARRANT OR GUARANTEE TAG ACCURACY OR COMPLETNESS OF THE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING UTILITIES WHICH MIGHT BE AFFECTED BY THE WORK OR THE OPERATIONS.

BORING NO. B-1

STA. 50+00 51' RT. ℄ RUSSELL ST.

SURFACE ELEVATION 61.50

HOLLOW STEM AUGERS — 24 HRS. 6/9/78

Elev.	Description	Sample	Blows
58.0	SEE NOTE 1	1	19
54.5	MOIST DENSE LIGHT GRAY FINE SILTY SAND	2	29
		3	15
50.0	MOIST MEDIUM DENSE BROWN FINE SAND	4	36
	MOIST, HARD TO VERY HARD VARI-COLORED CLAY	5	42
		6	34
29.5		7	109
		8	168
	WET VERY DENSE BROWN FINE SAND	9	78
		10	128
13.0		11	100/4"
10.5	SEE NOTE 2	12	100/4"
	WET, VERY DENSE, FINE BROWN SAND	13	100/4"
3.5			
2.1	SEE NOTE 3		

NOTES:
1. MOIST MEDIUM DENSE BROWN SAND AND GRAVEL WITH SOME SILT.
2. MOIST VERY HARD VARI-COLORED FINE SANDY CLAY.
3. MOIST VERY HARD VARI-COLORED CLAY.

BORING NO. SR-3

STA. 58+90 66' RT. ℄ RUSSELL ST.

SURFACE ELEVATION 54.00 (SEE NOTE 1)

HOLLOW STEM AUGERS — 72 HRS. 6/7/76

Elev.	Description	Sample	Blows
52.0	SEE NOTE 2	1	7
	MOIST MEDIUM DENSE BROWN AND GRAY SAND WITH LITTLE CLAY	2	17
		3	23
41.5		4	15
36	WET MEDIUM BROWN DENSE SAND	5	52
	WET DENSE BROWN AND GRAY SAND WITH TRACE OF CLAY	6	32
26.5		7	164
21.0	WET VERY DENSE COARSE SAND WITH TRACE OF GRAVEL	8	100/3"
17.0	MOIST VERY HARD RED AND WHITE SILTY CLAY WITH TRACE OF FINE SAND	9	100/3"
	WET VERY DENSE RED AND WHITE SAND WITH TRACE OF CLAY	10	100/1"
12.0			
10.3	SEE NOTE 3		

NOTES:
1. ORIGINAL ELEV. 56.08 UNDER CUT DUE TO STEEP SLOPE.
2. MOIST LOOSE BROWN SAND WITH SANDSTONE FRAGMENTS.
3. WET VERY DENSE CLAYEY SAND.

BORING NO. SR-5

STA. 65+15 50' RT. ℄ RUSSELL ST.

SURFACE ELEVATION 47.54

HOLLOW STEM AUGER — 24 HRS. 6/4/76

Elev.	Description	Sample	Blows
44.5	MOIST MEDIUM DENSE BROWN SILTY SAND (FILL)	1	23
		2	42
	MOIST, MEDIUM DENSE TO DENSE, BROWN SILTY SAND TRACE OF MICA (FILL)	3	16
34.5		4	15
	MOIST MEDIUM DENSE SILTY SAND SOME GRAVEL TRACE OF ORGANIC & FILL (STRONG GASOLINE ODOR)	5	17
29.5			
	MOIST VERY STIFF BROWN & GRAY SANDY CLAY TRACE OF GRAVEL	6	20
21.5		7	19
	WET MEDIUM DENSE BROWN & GRAY FINE SAND TRACE OF SILT	8	17
		9	30
8.5			
	DRY HARD MICACEOUS SILTY CLAY (DECOMPOSED ROCK)	10	42
-1.5	SEE NOTE 1	11	47

NOTES:
1. ELEV. -2.5 DRY HARD MICACEOUS SILTY CLAY (DECOMPOSED ROCK).
2. HIT WATER 19.0'

BORING NO. SR-6

STA. 65+15 2' RT. ℄ RUSSELL ST.

SURFACE ELEVATION 47.93 — SEE NOTE 1

HOLLOW STEM AUGER

Elev.	Description	Sample	Blows
45.4	SEE NOTE 2	1	12
40.9	MOIST VERY STIFF BROWN SANDY SILT (FILL)	2	25
	MOIST DENSE BROWN SAND AND GRAVEL (FILL)	3	40
34.9		4	15
30.9	WET STIFF CLAY SOME SAND	5	28
	MOIST VERY STIFF VARI-COLORED CLAY TRACE OF MICA AND FINE SAND.	6	30
		7	27
		8	34
		9	51
		10	43
0.1			
-2.1	DRY HARD GRAY FINE SAND AND SILT TRACE OF MICA	11	68

NOTES:
1. ELEV. 47.3 CONCRETE ROADWAY.
2. MOIST MEDIUM DENSE SAND AND GRAVEL (FILL SUBBASE).
3. BORING WET 13.0'
4. BORING BACKFILLED UPON COMPLETION DUE TO LOCATION IN ROADWAY

TYPICAL HEADING

CASING BLOWS PER FOOT	STRATA ELEVATIONS	DESCRIPTION OF MATERIAL	SAMPLE NUMBER	SPOON BLOWS PER FOOT OR PERCENT CORE RECOVERY

WATER LEVEL

REFERENCE NOTES:
1. FOR GENERAL NOTES, SEE SHEET NO. R-2.
2. FOR SIGN DETAILS, SEE SHEETS S-1 & S-2.
3. FOR ELECTRICAL SERVICE, SEE SHEET NOS. E-13 & E-14.

REVISIONS	CONSULTANT
[1] Revised Schedule, 5-22-79	EBA - S&T Consulting Engineers BALTIMORE, MARYLAND

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS

&

STATE HIGHWAY ADMINISTRATION OF MARYLAND
INTERSTATE DIVISION FOR BALTIMORE CITY

I-95 HIGHWAY SIGNING & LIGHTING
RUSSELL STREET TO HANOVER STREET
CAISSON LOCATION & BORING LOGS

SCALE: NOT TO SCALE DATE: AUG. 1978

DRAWN BY J.D.R. DES. BY D.M. & D.V.M.
TRACED BY R.E.L. / C.M.W. CHK. BY D.M. & J.D.R.
F.A.P. NO. I-95-4(99)3(
S.H.A. NO. BC 246-100-915
BALTO. CITY NO. 2521

SHEET NO. S-6 OF S-6