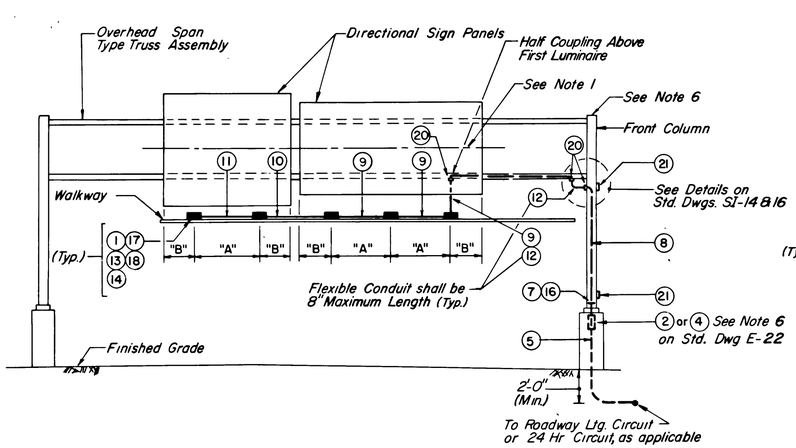
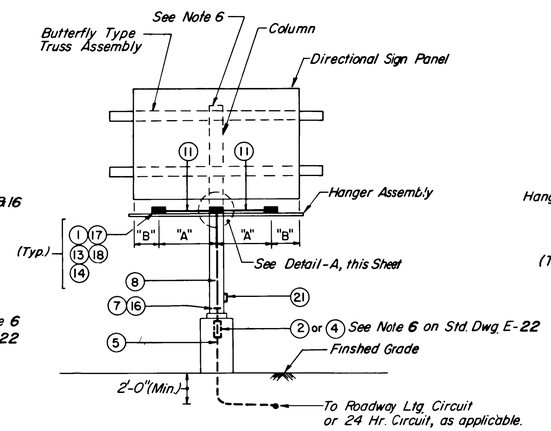
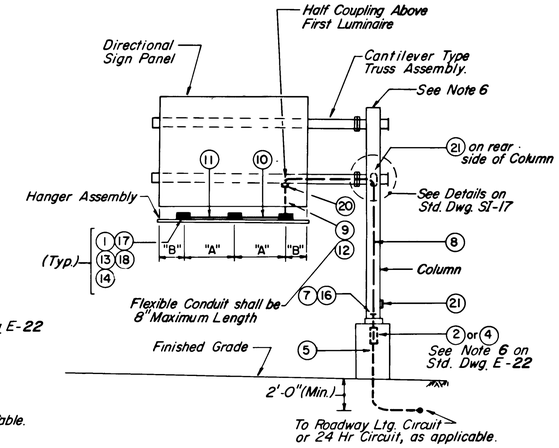


OVERHEAD SPAN TYPE
SIGN STRUCTURE



BUTTERFLY TYPE
SIGN STRUCTURE



CANTILEVER TYPE
SIGN STRUCTURE

TYPICAL SIGN STRUCTURE ELEVATIONS

No Scale

(For Additional Installation Details, See Std. Dwg E-22)

TABULATION OF SIGN LIGHTING LUMINAIRE ARRANGEMENTS

SIGN PANEL HEIGHT	LUMINAIRE SPACING	SIGN PANEL WIDTH (RANGE)	NO. LUM.	(*) AVG. FC	(**) UNIF. RATIO
14' THRU 18'	6'-0"	10'-6"	2	34.1	16.8:1
	6'-6"	11'-0"	2	32.7	16.4:1
	7'-0"	11'-6" THRU 14'-0"	2	31.2	15.9:1
	8'-0"	14'-6" THRU 15'-6"	2	28.7	15.7:1
	6'-0"	16'-0" THRU 17'-0"	3	34.1	16.8:1
	6'-6"	17'-6" THRU 18'-0"	3	32.7	16.4:1
	7'-0"	18'-6" THRU 20'-6"	3	31.2	15.9:1
	7'-6"	21'-0" THRU 22'-6"	3	30.0	15.8:1
	8'-0"	23'-0" THRU 23'-6"	3	28.7	15.7:1
	6'-6"	24'-0" THRU 25'-0"	4	32.7	16.4:1
	7'-0"	25'-6" THRU 27'-6"	4	31.2	15.9:1
	7'-6"	28'-0" THRU 30'-0"	4	30.0	15.8:1
9'THRU 13'-6"	6'-0"	10'-6" THRU 13'-0"	2	30.4	10.2:1
	6'-6"	13'-6" THRU 14'-0"	2	29.2	9.9:1
	5'-0"	14'-6" THRU 15'-0"	3	32.9	11.0:1
	5'-6"	15'-6" THRU 16'-0"	3	31.7	10.6:1
	6'-0"	16'-6" THRU 19'-0"	3	30.4	10.2:1
	6'-6"	19'-6" THRU 20'-6"	3	29.2	9.9:1
	5'-6"	21'-0" THRU 22'-0"	4	31.7	10.6:1
	6'-0"	22'-6" THRU 25'-0"	4	30.4	10.2:1
	6'-6"	25'-6" THRU 26'-0"	4	29.2	9.9:1
	5'-6"	26'-6" THRU 28'-0"	5	31.7	10.6:1
	6'-0"	28'-6" THRU 30'-0"	5	30.4	10.2:1
4' THRU 8'-6"	5'-6"	10'-0" THRU 13'-0"	2	28.9	5.2:1
	6'-6"	13'-6" THRU 14'-0"	2	26.8	4.6:1
	5'-0"	14'-6" THRU 15'-0"	3	29.9	5.5:1
	5'-6"	15'-6" THRU 17'-6"	3	28.9	5.2:1
	6'-0"	18'-0" THRU 19'-0"	3	27.8	4.8:1
	5'-0"	19'-6" THRU 20'-6"	4	29.9	5.5:1
	5'-6"	21'-0" THRU 24'-0"	4	28.9	5.2:1
	5'-0"	24'-6" THRU 27'-0"	5	29.9	5.5:1
	5'-6"	27'-6" THRU 29'-0"	5	28.9	5.2:1
	6'-0"	29'-6" THRU 30'-0"	5	27.8	4.8:1

NOTES

(*) VALUES GIVEN FOR AVERAGE FOOTCANDLES REPRESENT THE MINIMUM REQUIRED FOR VARIOUS SIZE SIGN PANELS AND LUMINAIRE ARRANGEMENTS, BASED UPON AN INITIAL 250 WATT MERCURY VAPOR LAMP OUTPUT OF 11,500 LUMENS.

(**) VALUES GIVEN FOR UNIFORMITY RATIO REPRESENT THE MAXIMUM ACCEPTABLE LIMITS FOR VARIOUS SIZE SIGN PANELS AND LUMINAIRE ARRANGEMENTS, BASED UPON THE RATIO OF MAXIMUM TO MINIMUM FC CALCULATED VALUES.

LEGEND

1. SIGN LIGHTING LUMINAIRE: 250 WATT MERCURY VAPOR TYPE WITH INTEGRAL MULTI-TAP BALLAST. (SEE STANDARD SPECIFICATIONS).
2. ENCLOSED CIRCUIT BREAKER: 3-POLE, 480V., 100A. FRAME WITH 30A. TRIP, BOLTED TYPE MOLDED CASE ENCLOSED CIRCUIT BREAKER WITH GROUNDABLE NEUTRAL, WITHIN A NEMA 4 OR 4X CAST ALUMINUM OR STAINLESS STEEL ENCLOSURE.
3. PHOTOELECTRIC CONTROL UNIT: (SEE STANDARD SPECIFICATIONS). REQUIRED ONLY WHEN USED IN CONJUNCTION WITH LOAD CENTER LISTED BELOW.
4. LOAD CENTER: 2-POLE, 240V., 100A. FRAME WITH 30A. TRIP MAIN CIRCUIT BREAKER; 2-POLE, 240V., 30A., 120V. COIL MAGNETIC CONTACTOR; FUSE BLOCK WITH 15A. FUSE; AND SPST-20A. BYPASS SWITCH, ALL IN NEMA 4 OR 4X ENCLOSURE. (SEE PLANS).

* 5. 2" PVC COATED GALVANIZED CONDUIT WITH 4 #6 & 1 #10 GND.

* 6. NOT USED

* 7. 2" RIGID METALLIC CONDUIT WITH 4 #10 & 1 #10 GND.

* 8. 4 #10 WIRING IN SIGN STRUCTURE COLUMN OR CHORD

* 9. 1" ALUMINUM CONDUIT WITH 4 #10 & 1 #10 GND.

10. 1" ALUMINUM CONDUIT WITH 3 #10 & 1 #10 GND.

11. 1" ALUMINUM CONDUIT WITH 2 #10 & 1 #10 GND.

* 12. 1" FLEXIBLE METALLIC CONDUIT WITH 4 #10 & 1 #10 GND.

13. 3/4" ALUMINUM CONDUIT WITH 2 #10 & 1 #10 GND.

14. 3/4" FLEXIBLE METALLIC CONDUIT WITH 2 #10 & 1 #10 GND.

15. NOT USED

16. GROUNDING BUSHING

17. 6" X 6" X 4" CAST ALUMINUM JUNCTION BOX

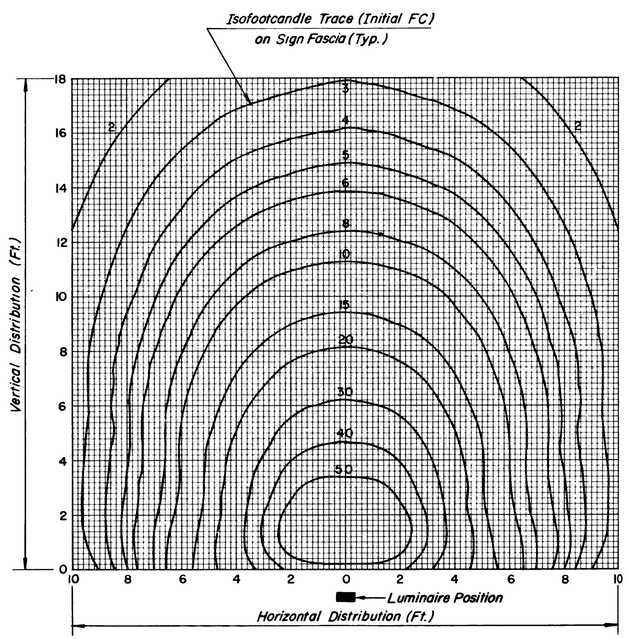
18. 90° FLEXIBLE METALLIC CONDUIT WATERPROOF FITTING

19. NOT USED

20. 1" HALF COUPLING } SEE STRUCTURAL STANDARD DRAWINGS

21. REINFORCED HANDHOLE } SEE STRUCTURAL STANDARD DRAWINGS

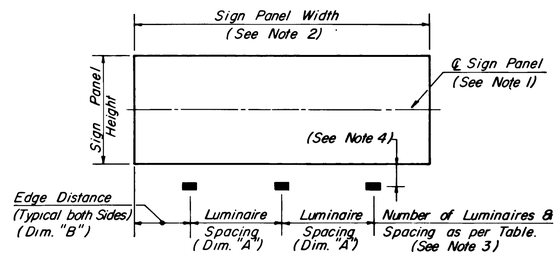
* WIRING SHOWN IN LEGEND IS FOR 3-PHASE, 4-WIRE DISTRIBUTION SYSTEM. FOR 1-PHASE, 3-WIRE SYSTEMS ONE LESS WIRE SHALL BE REQUIRED.



SIGN LIGHTING LUMINAIRE PHOTOMETRIC CURVE

No Scale

(See Note 7)

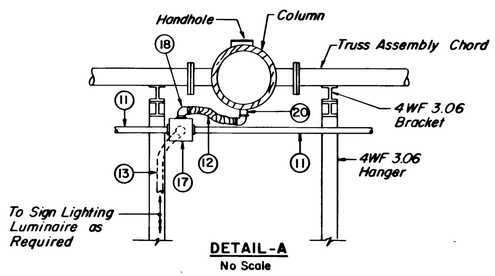


TYPICAL SIGN LIGHTING LUMINAIRE ARRANGEMENT DETAIL

No Scale

NOTES

1. MULTIPLE DIRECTIONAL SIGN PANELS ARE TO BE SET ON COMMON PANEL CENTERLINES COINCIDING WITH THE CENTERLINE OF THE TRUSS ASSEMBLY.
2. THE OVERALL SIGN PANEL WIDTH USED TO DETERMINE THE LUMINAIRE SPACING AND NUMBER OF LUMINAIRES SHALL BE THE ACTUAL SIGN PANEL EDGE TO EDGE DIMENSION. FOR MULTIPLE (SIDE BY SIDE) SIGN PANEL CONFIGURATIONS, WHERE THE DISTANCE BETWEEN THE TWO PANELS IS 1'-6" OR LESS, THE OVERALL WIDTH MAY BE THE COMBINED TOTAL WIDTH OF BOTH PANELS INCLUDING THE DISTANCE BETWEEN PANELS.
3. THE NUMBER OF LUMINAIRES AND SPACING REQUIRED SHALL BE BASED UPON THE OVERALL SIGN PANEL DIMENSIONS, AS SHOWN IN THE "TABULATION OF SIGN LIGHTING LUMINAIRE ARRANGEMENTS". LUMINAIRE ARRANGEMENTS SHALL BE ESTABLISHED USING THE REQUIRED SPACING, SYMMETRICALLY POSITIONED ABOUT THE WIDTH OF THE SIGN PANEL(S) WITH EQUAL EDGE DISTANCES.
4. CRITERIA SHOWN IN THE "TABULATION OF SIGN LIGHTING LUMINAIRE ARRANGEMENTS", ARE BASED UPON A MAXIMUM SIGN PANEL HEIGHT OF 18 FT. LUMINAIRES ARE POSITIONED 1 FT. BELOW THE HIGHEST SIGN PANEL AND VARIES ACCORDING TO THE HEIGHT OF OTHER PANELS SET ON A COMMON HORIZONTAL CENTERLINE.
5. FOR ADDITIONAL INFORMATION AND DETAILS, SEE STANDARD DWG NO. E-22
6. PHOTOELECTRIC CONTROL UNITS SHALL BE INSTALLED ON TOP OF THE COLUMN CAP, WHERE REQUIRED.
7. THE PHOTOMETRIC CURVE IS BASED ON HOLOPHANE COMPANY'S CURVE NO. 37734 FOR A SINGLE LUMINAIRE WITH 250W. DELUX WHITE MERCURY VAPOR LAMP (11,500 LUMENS-INITIAL) LOCATED 4.5 FT. OUT AND 1.0 FT. DOWN OF THE SIGN PANEL.



DETAIL-A
No Scale

(Handhole and Half Coupling at Walkway Elevation)

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

APP.	NO.	DATE	REVISION
		12/96	REISSUED

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE

SIGN LIGHTING DETAILS - I

HOWARD NEEDLES TAMMEN & BERGENDOFF
330 Passaic Ave., Fairfield, New Jersey
JOHN M. ORMAN
N.J. P.E. License No. GE 39691

STANDARD DRAWING E-21

CONTRACT NO. SHEET NO. OF