



TRANSMITTAL
LETTER

Change III Pub. III
PennDOT Publication No. 111

DATE
February 1, 1977

SUBJECT:

Traffic Standards - Signing - TC - 7700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

Attached is a revised issue of PennDOT construction standards TC-7717 sheets 1 and 6 of 10 dated December 20, 1976 and TC-7717 sheet 7 of 10 dated July 29, 1976.

Direct any questions concerning revised standards to Mr. J. R. Doughty, P.E., Director, Bureau of Traffic Engineering, Pennsylvania Department of Transportation, Room 1014, Transportation and Safety Building, Harrisburg, Pennsylvania 17120. Telephone number (717)787-3620.

CANCEL AND DESTROY THE FOLLOWING:

TC-7717 Sheet 1 dated March 15, 1974
TC-7717 Sheet 6 dated March 15, 1974
TC-7717 Sheet 7 dated March 15, 1974

REQUEST ADDITIONAL COPIES FROM:

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APPROVED FOR ISSUANCE BY:

A handwritten signature in cursive script, appearing to read 'J. R. Doughty'.

J. R. Doughty, P.E.
Director
Bureau of Traffic Engineering



TRANSMITTAL
LETTER

PennDOT Pub. #111

DATE

April 3, 1974

BJECT:

Traffic Standards - Signing - TC - 7700 Series

INFORMATION AND SPECIAL INSTRUCTIONS:

Attached is the initial issue of PennDOT construction standards covering the erection of traffic signs, sign supports, overhead sign support structures, sign lighting and other traffic appurtenances. This particular issue is part of the TC-7717 group covering steel overhead sign support structures, spans 50 feet to 120 feet, with or without catwalks.

As additional traffic standards in the TC-7700 Series are developed and approved they will be issued as supplements to this publication.


Direct any questions concerning these standards to Mr. J. R. Doughty, Director, Bureau of Traffic Engineering, Pennsylvania Department of Transportation, Room 1014, Transportation and Safety Building, Harrisburg, Pennsylvania 17120
Telephone (717) 787-3620

CANCEL AND DESTROY THE FOLLOWING:

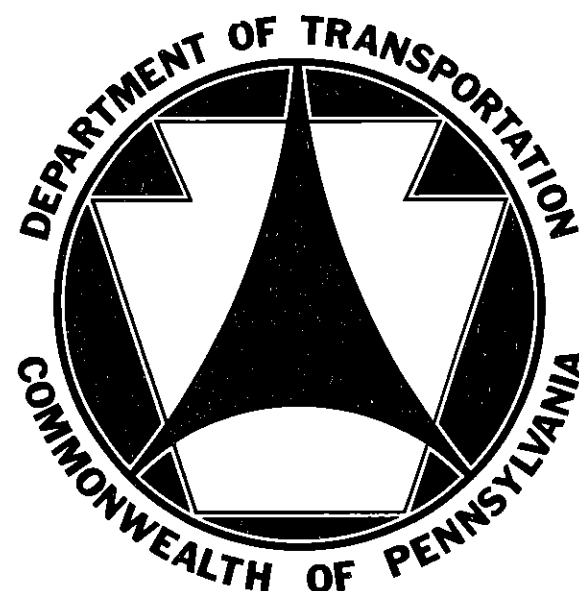
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APPROVED FOR ISSUANCE BY:


Robert R. Mueser, P.E.
Deputy Chief Highway Engineer

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**



**TRAFFIC STANDARDS
SIGNING**

APRIL 1974

INFORMATIONAL NOTES

THESE NOTES MUST BE READ BEFORE USING THESE STANDARDS.

THESE STANDARDS SHALL BE USED FOR OVERHEAD STRUCTURES, SUBJECT TO LIMITATIONS AS SHOWN. THEY SHALL BE USED AS THE BASIS FOR THE PREPARATION OF STRUCTURE LAYOUTS AND CONTRACT PLANS. DETAILS SHOWN ON THESE STANDARDS NEED NOT BE COPIED, FOR REFERENCE TO THESE STANDARDS ON OVERHEAD SIGN STRUCTURE CONTRACT PLANS WILL BE PERMITTED, PROVIDING COORDINATING INFORMATION IS SHOWN ON THE CONTRACT PLANS.

DESIGN COMPUTATIONS ARE NOT REQUIRED FOR ANY PORTION OF A STRUCTURE FOR WHICH THE INFORMATION IS TAKEN DIRECTLY FROM THE DESIGN TABLES CONTAINED IN THESE STANDARDS, PROVIDING THE RESTRICTIONS RELATING TO THESE DESIGN TABLES ARE NOT EXCEEDED.

GENERAL DESIGN INSTRUCTIONS

DESIGN TABLES INCLUDED IN THESE STANDARDS WERE DEVELOPED USING A COMPUTER PROGRAM AND ARE BASED ON THE DESIGN CRITERIA SHOWN ON THIS SHEET.

TOWERS SHALL BE SET AS FAR FROM EDGE OF ROADWAY PAVEMENT AS CROSS SECTION GEOMETRICS AND/OR RIGHT OF WAY WILL PERMIT, WITH THE MAXIMUM DISTANCE TO CENTERLINE OF TOWER EQUAL TO 30 FEET. TOWERS SHALL BE PROTECTED BY GUARD RAIL, OR OTHER SUITABLE MEANS, DEPENDING UPON SITE CONDITIONS.

TOP OF FOUNDATION PEDESTAL SHALL BE SET A MINIMUM ABOVE SURROUNDING TERRAIN TO MINIMIZE HAZARD EFFECT OF CONCRETE PEDESTAL ABOVE GRADE. TOP OF FOUNDATION FOOTING TO BE SET A MINIMUM OF 2'-6" BELOW TOP OF PEDESTAL WITH A 1'-0" MINIMUM COVER MAINTAINED OVER FOOTING AT ALL POINTS. CARE SHALL BE TAKEN TO ATTEMPT TO KEEP TOP OF FOOTINGS BELOW BOTTOM OF GUARD RAIL POSTS THAT MIGHT BE IN AREA OF FOOTING OR FREE OF ANY OTHER OBSTRUCTING UNIT SUCH AS A STORM SEWER. IF IT BECOMES NECESSARY TO LOWER A FOOTING TO THE EXTENT THAT THE HEIGHT OF PEDESTAL IS GREATER THAN 7 FEET, THE SCOPE OF THE DESIGN TABLES HAS BEEN EXCEEDED AND IT WILL BE NECESSARY TO DESIGN A FOUNDATION PEDESTAL AND FOOTING FOR THIS SPECIAL CONDITION.

THE TRUSS, SIGNS, LIGHT FIXTURES (AND CATWALK, IF USED) SHALL BE SET TO AN ELEVATION THAT WILL PROVIDE 17'-6" MINIMUM VERTICAL CLEAR ABOVE THE HIGHEST POINT OF THE ENTIRE WIDTH OF THE ROADWAY PAVEMENT AND SHOULDERS PASSING UNDER THE STRUCTURE. GENERALLY THE BOTTOM OF ALL SIGNS ON A STRUCTURE SHALL BE SET TO THE SAME ELEVATION. IN THE CASE OF A STRUCTURE SPANNING DUAL ROADWAYS, WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST POINT ON EACH DUAL ROADWAY IS GREATER THAN 2'-6", THE BOTTOM OF ALL SIGNS OVER EACH DUAL ROADWAY SHALL BE SET TO THE SAME CLEARANCE, WITH THE ELEVATION DIFFERENCE OF BOTTOM OF SIGNS OVER EACH ROADWAY BEING EQUAL TO THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST POINT ON EACH DUAL ROADWAY.

THE TRUSS SHALL BE SET TO AN ELEVATION THAT PLACES THE CENTER OF THE TRUSS AT MID-HEIGHT OF THE DEEPEST SIGN OR A MAXIMUM OF 6 FEET ABOVE THE BOTTOM OF THE SIGNS. IN THE INSTANCES WHERE THE ULTIMATE SIGN AREA CRITERIA IS TO BE USED, SET THE TRUSS TO AN ELEVATION THAT PLACES THE CENTER OF THE TRUSS AT 6 FEET ABOVE THE BOTTOM OF THE SIGNS. IN THE INSTANCES WHERE THE STRUCTURE IS SPANNING DUAL ROADWAYS WITH ELEVATIONS DIFFERENCES GREATER THAN 2'-6" AS DESCRIBED PREVIOUSLY, SET THE TRUSS TO AN ELEVATION THAT PLACES THE CENTER OF THE TRUSS AT 6 FEET ABOVE THE BOTTOM OF THE SIGNS OVER THE LOWER ROADWAY.

THE DESIGN SIGN AREA TO BE USED FOR SELECTING MEMBER SIZES FOR EACH STRUCTURE SHALL BE DETERMINED FROM ONE OF THE FOLLOWING TWO CONDITIONS. THE FIRST CONDITION IS THE ACTUAL SIGN AREA TO BE PLACED ON THE STRUCTURE AT THE TIME OF ITS CONSTRUCTION. THE SECOND CONDITION IS FOR AN ULTIMATE SIGN AREA EQUAL TO THE WIDTH OF ROADWAY PAVEMENT UNDER THE STRUCTURE TIMES 12 FEET. THE TRAFFIC ENGINEER SHALL SPECIFY WHEN THE ULTIMATE SIGN AREA IS TO BE USED FOR DESIGN OF STRUCTURE. THE DESIGN SIGN AREA SHALL BE THE SIGN AREA COMPUTED FROM EITHER OF THE PREVIOUSLY DEFINED CONDITIONS, ROUNDED TO THE NEXT HIGHER HUNDRED SQUARE FOOT AREA.

THE LOADING TYPE TO BE USED FOR EACH STRUCTURE SHALL BE DETERMINED BY COMPUTING THE LOCATION OF THE CENTER OF GRAVITY OF THE SIGN AREA, ACTUAL OR ULTIMATE AREA CONDITION. IF THE LOCATION OF THE CENTER OF GRAVITY OF THE SIGN AREA FALLS BETWEEN 0.42 x SPAN LENGTH AND 0.58 x SPAN LENGTH, LOADING TYPE 1 SHALL BE USED FOR THE DESIGN OF THE STRUCTURE. IF THE LOCATION OF THE CENTER OF GRAVITY OF THE SIGN AREA FALLS BETWEEN THE ENDS OF THE SPAN AND THE PREVIOUSLY DEFINED LIMITS, LOADING TYPE 2 SHALL BE USED FOR THE DESIGN OF STRUCTURE.

TOWER MEMBER SIZES, FOUNDATION PEDESTALS AND FOOTINGS SHALL BE SELECTED FROM THE APPROPRIATE DESIGN HEIGHT IN THE DESIGN TABLES. THERE ARE FOUR DESIGN HEIGHTS (THE DIMENSION FROM TOP OF FOUNDATION PEDESTAL TO THE CENTER OF THE TRUSS) VARYING IN 5 FOOT INCREMENTS FROM 18 FEET TO 33 FEET. USE AS THE DESIGN HEIGHT, THE HEIGHT IN THE DESIGN TABLE NEXT LARGER THAN THE ACTUAL DIMENSION FROM THE TOP OF FOUNDATION PEDESTAL TO THE CENTER OF THE TRUSS.

OVERHEAD SIGN STRUCTURES MAY BE CONSTRUCTED WITH OR WITHOUT CATWALK. THE TRAFFIC ENGINEER SHALL SPECIFY WHEN A CATWALK IS TO BE INCLUDED AS PART OF THE STRUCTURE.

DESIGN CRITERIA

DESIGN SPECIFICATIONS - DESIGN REQUIREMENTS OF 1975 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.

WIND SPEED - 80 MILES PER HOUR.

COEFFICIENT FOR HEIGHT ABOVE GROUND = 1.00

SHAPE COEFFICIENT - TRUSS CHORDS = 1.86
TRUSS WEBS = 2.86
SIGN = 1.19
CATWALK = 2.86
TOWER = 1.86

CONCRETE - $f'c = 3,000$ P.S.I.

REINFORCEMENT BARS - $f_s = 20,000$ P.S.I.

STRUCTURAL STEEL - PIPES AND TUBES - $F_y = 35,000$ P.S.I.
OTHERS - $F_y = 36,000$ P.S.I.

FATIGUE STRENGTH - AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES CONSIDERING 2,000,000 CYCLES OF MAX. STRESS.

MAXIMUM FOUNDATION BEARING PRESSURE - 1.5 TONS PER SQ. FT.

LOCATION OF RESULTANT CENTER OF PRESSURE UNDER FOOTING - WITHIN MIDDLE ONE-HALF OF FOOTING DIMENSION PERPENDICULAR TO CENTER OF TRUSS AND WITHIN MIDDLE ONE-THIRD OF FOOTING DIMENSION PERPENDICULAR TO CENTER OF TOWER.

DEAD LOAD AND WIND LOAD RESULTING FROM CATWALK HAVE BEEN INCLUDED IN THE DESIGNS SHOWN IN TABLES ON SHEETS 2, 3, 4 & 5.

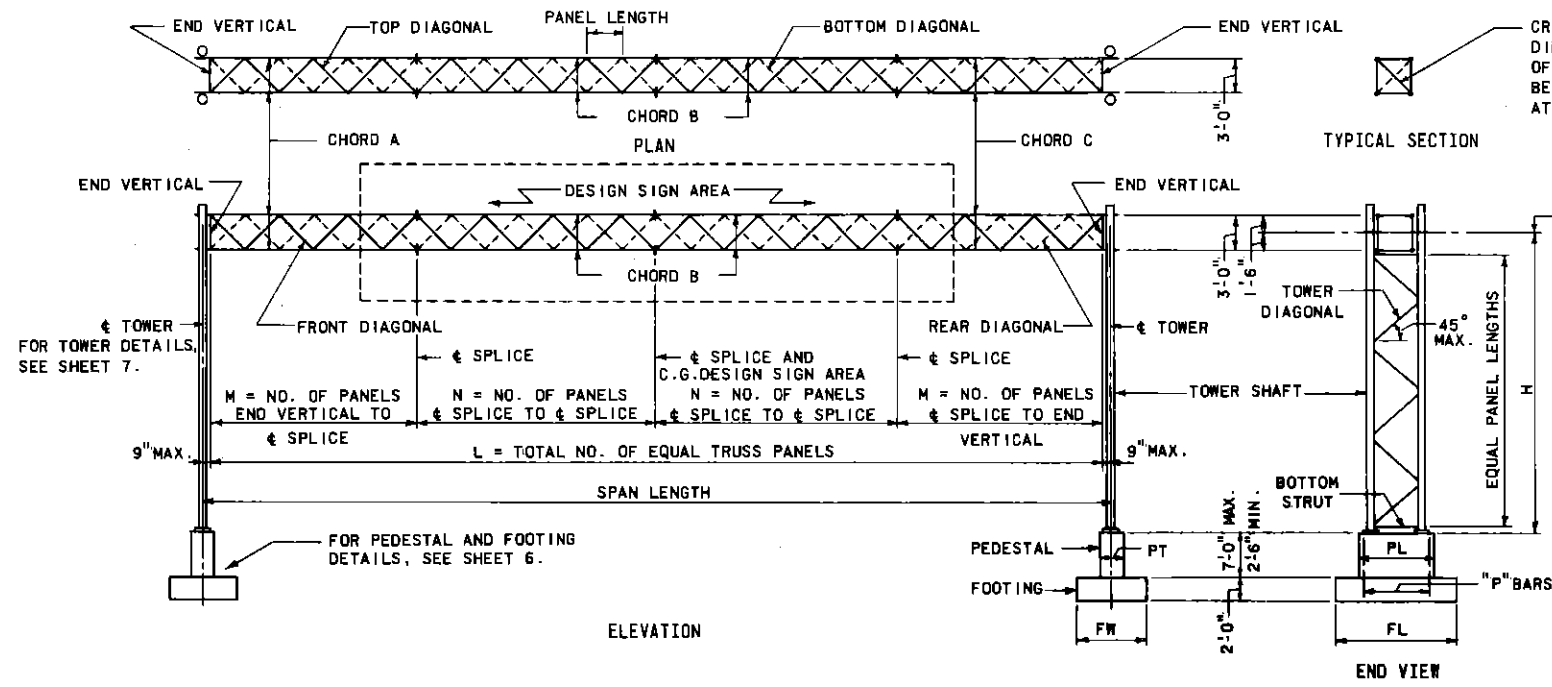
B	12-20-76
A	10-10-74

REVISIONS

<p>Commonwealth of Pennsylvania DEPARTMENT OF TRANSPORTATION BUREAU OF TRAFFIC ENGINEERING</p>			
<p>OVERHEAD SIGN STRUCTURE STANDARDS STEEL SPANS</p>			
<p>GENERAL INFORMATION DESIGN INSTRUCTIONS AND CRITERIA</p>			
Recommended 2/15/74 <i>B. Katala</i> Chief Bridge Engineer	Recommended 3/15/74 <i>[Signature]</i> Director, Bureau of Traffic Engineering	Approved 3/15/74 <i>R. R. Mueser</i> Deputy Chief Highway Engineer	Sheet 1 of 10 TC-777

DESIGN AREA FT. SQ. FT.	TRUSS MEMBERS								TOWER MEMBERS								FOUNDATION PEDESTAL								FOOTING TYPE					
	CHORDS (PIPE O.D. x WALL THICKNESS)			DIAGONALS		END VERTICALS (ST)	CROSS BRACING (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.		BOTTOM STRUT (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.		H =	H =	H =	H =		
	A	B	C	FRONT AND REAR (ST)	TOP AND BOTTOM (ST)		SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	PLXPT (FT.)		NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	18 FT.	23 FT.	28 FT.	33 FT.			
	100	3.500x0.300	---	3.500x0.300	1.5x3.750	2.0x4.750	2.5x7.375	1.5x3.750	8.625x0.322	1.5x 3.750	10.750x0.365	1.5x 3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	611	711	713	813	100	
50	200	3.500x0.300	---	3.500x0.300	1.5x3.750	2.0x4.750	2.5x7.375	1.5x3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x 3.750	12.750x0.375	1.5x 3.750	14.000x0.375	2.0x 4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	7x2.5	18#4	712	713	814	915	200
50	300	4.000x0.318	---	4.000x0.318	1.5x3.750	2.5x7.375	3.0x8.625	1.5x3.750	10.750x0.365	2.0x 4.750	12.750x0.375	2.0x 4.750	14.000x0.375	2.0x 4.750	16.000x0.375	2.5x 7.375	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	20#4	8x2.5	20#4	713	814	915	916	300
50	400	4.000x0.318	---	4.000x0.318	2.0x4.750	2.5x7.375	3.0x8.625	1.5x3.750	12.750x0.375	2.5x 7.375	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	7x2.5	20#4	8x2.5	20#4	8x3.0	24#4	814	915	916	1017	400
50	500	4.500x0.337	---	4.500x0.337	2.0x4.750	2.5x7.375	3.0x8.625	1.5x3.750	12.750x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x3.0	22#4	8x3.0	28#4	815	916	1016	1018	500
50	600	4.500x0.337	---	4.500x0.337	2.5x7.375	2.5x7.375	3.0x8.625	1.5x3.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	3.0x 8.625	1.5x3.750	7x2.5	20#4	8x2.5	24#4	8x3.0	24#4	8x3.0	32#4	815	1016	1018	1118	600
60	100	3.500x0.300	---	3.500x0.300	1.5x3.750	2.0x4.750	2.5x7.375	1.5x3.750	10.750x0.365	1.5x 3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x 3.750	12.750x0.375	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	611	712	713	813	100	
60	200	4.000x0.318	---	4.000x0.318	1.5x3.750	2.0x4.750	2.5x7.375	1.5x3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x 3.750	12.750x0.375	1.5x 3.750	14.000x0.375	2.0x 4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	7x2.5	20#4	712	813	814	915	200
60	300	4.000x0.318	---	4.000x0.318	1.5x3.750	2.5x7.375	3.0x8.625	1.5x3.750	12.750x0.375	2.0x 4.750	12.750x0.275	2.0x 4.750	16.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	813	814	915	916	300
60	400	4.500x0.337	---	4.500x0.337	1.5x3.750	2.5x7.375	3.0x8.625	1.5x3.750	12.750x0.375	2.5x 7.375	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	7x2.5	20#4	8x2.5	20#4	8x3.0	24#4	814	915	916	1017	400
60	500	4.500x0.337	---	4.500x0.337	2.0x4.750	2.5x7.375	3.0x8.625	1.5x3.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x3.0	22#4	8x3.0	28#4	815	916	1016	1018	500
60	600	5.563x0.375	---	5.563x0.375	2.0x4.750	2.5x7.375	3.0x8.625	1.5x3.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	3.0x 8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	24#4	9x3.0	28#4	915	1016	1018	1118	600
60	700	5.563x0.375	---	5.563x0.375	2.5x7.375	3.0x8.625	3.5x10.000	1.5x3.750	16.000x0.375	3.0x 8.625	18.000x0.375	3.0x 8.625	20.000x0.375	3.0x 8.625	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	9x3.5	28#4	916	1017	1118	1119	700
70	100	4.000x0.318	4.000x0.318	4.000x0.318	1.5x3.750	2.0x4.750	2.5x7.375	2.0x4.750	10.750x0.365	1.5x 3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x 3.750	12.750x0.375	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	711	713	813	814	100	
70	200	4.000x0.318	4.000x0.318	4.000x0.318	1.5x3.750	2.0x4.750	2.5x7.375	2.0x4.750	10.750x0.365	1.5x 3.750	12.750x0.375	2.0x 4.750	14.000x0.375	2.0x 4.750	16.000x0.375	2.0x 4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	713	813	815	915	200
70	300	4.500x0.337	4.500x0.337	4.500x0.337	1.5x3.750	2.5x7.375	3.0x8.625	2.0x4.750	12.750x0.375	2.0x 4.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	8x3.0	22#4	813	815	916	1016	300
70	400	5.563x0.375	5.563x0.375	5.563x0.375	1.5x3.750	2.5x7.375	3.0x8.625	2.0x4.750	12.750x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	24#4	8x3.0	24#4	814	915	917	1017	400
70	500	5.563x0.375	5.563x0.375	5.563x0.375	1.5x3.750	2.5x7.375	3.0x8.625	2.0x4.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	2.5x 7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	815	916	1017	1018	500
70	600	5.563x0.375	5.563x0.375	5.563x0.375	2.0x4.750	2.5x7.375	3.0x8.625	2.0x4.750	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	3.0x 8.625	20.000x0.375	3.0x 8.625	1.5x3.750	8x2.5	20#4	8x3.0	22#4	9x3.0	24#4	9x3.0	28#4	915	917	1018	1118	600
70	700	6.625x0.432	6.625x0.432	6.625x0.432	2.0x4.750	3.0x8.625	3.5x10.000	2.0x4.750	16.000x0.375	3.0x 8.625	18.000x0.375	3.0x 8.625	20.000x0.375	3.0x 8.625	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	9x3.5	28#4	916	1017	1019	1119	700
70	800	6.625x0.432	6.625x0.432	6.625x0.432	2.0x4.750	3.0x8.625	3.5x10.000	2.0x4.750	16.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	9x3.5	28#4	9x3.5	32#4	917	1018	1119	1220	800
80	100	4.000x0.318	4.000x0.318	4.000x0.318	1.5x3.750	2.0x4.750	2.0x4.750	2.0x4.750	10.750x0.365	1.5x 3.750	10.750x0.365	1.5x 3.750	12.750x0.375	1.5x 3.750	14.000x0.375	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	712	713	813	815	100	
80	200	4.500x0.337	4.500x0.337	4.500x0.337	1.5x3.750	2.0x4.750	2.0x4.750	2.0x4.750	10.750x0.365	2.0x 4.750	12.750x0.375	2.0x 4.750	14.000x0.375	2.0x 4.750	16.000x0.375	2.5x 7.375	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	20#4	8x2.5	20#4	713	814	915	916	200
80	300	5.563x0.258	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.0x 4.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	8x3.0	22#4	813	815	916	1017	300
80	400	5.563x0.375	5.563x0.375	5.563x0.375	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	2.5x 7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	815	916	1017	1018	400
80	500	6.625x0.280	6.625x0.432	6.625x0.280	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	14.000x0.375	2.5x 7.375	16.000x0.375	2.5x 7.375	18.000x0.375	2.5x 7.375	20.000x0.375	2.5x 7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	915	916	1017	1119	500
80	600	6.625x0.432	6.625x0.432	6.625x0.432	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	2.5x 7.375	18.000x0.375	3.0x 8.625	20.000x0.375	3.0x 8.625	24.000x0.375	3.0x 8.625	1.5x3.750	8x2.5	20#4	8x3.0	24#4	9x3.0	24#4	9x3.5	28#4	916	1017	1018	1119	600
80	700	6.625x0.432	6.625x0.432	6.625x0.432	1.5x3.750	3.0x8.625	3.0x8.625	2.0x4.750	16.000x0.375	3.0x 8.625	18.000x0.375	3.0x 8.625	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	9x3.5	32#4	917	1018	1118	1120	700
80	800	8.625x0.322	8.625x0.322	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	16.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	10x3.5	26#4	10x3.5	28#4	1016	1018	1119	1220	800
80	900	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1118	1120	1221	900

NOTES:
 FOR GENERAL DESIGN INSTRUCTIONS, SEE SHEET 1.
 FOR GENERAL NOTES, SEE SHEET 6.
 ONE OR MORE SPLICES IN THE TRUSS MAY BE ADDED OR ELIMINATED AT THE OPTION OF THE FABRICATOR. IN CASE OF THE ADDITION OR ELIMINATION OF SPLICES, THE HEAVIER CHORD MATERIAL MUST BE EXTENDED TOWARD THE LIGHTER CHORD MATERIAL TO THE DESIRED SPLICE LOCATION.
 FOOTING TYPE DENOTES SIZE OF FOOTING. FOR EXAMPLE, TYPE 916 IS A FOOTING 9'(FW)x16'(FL).



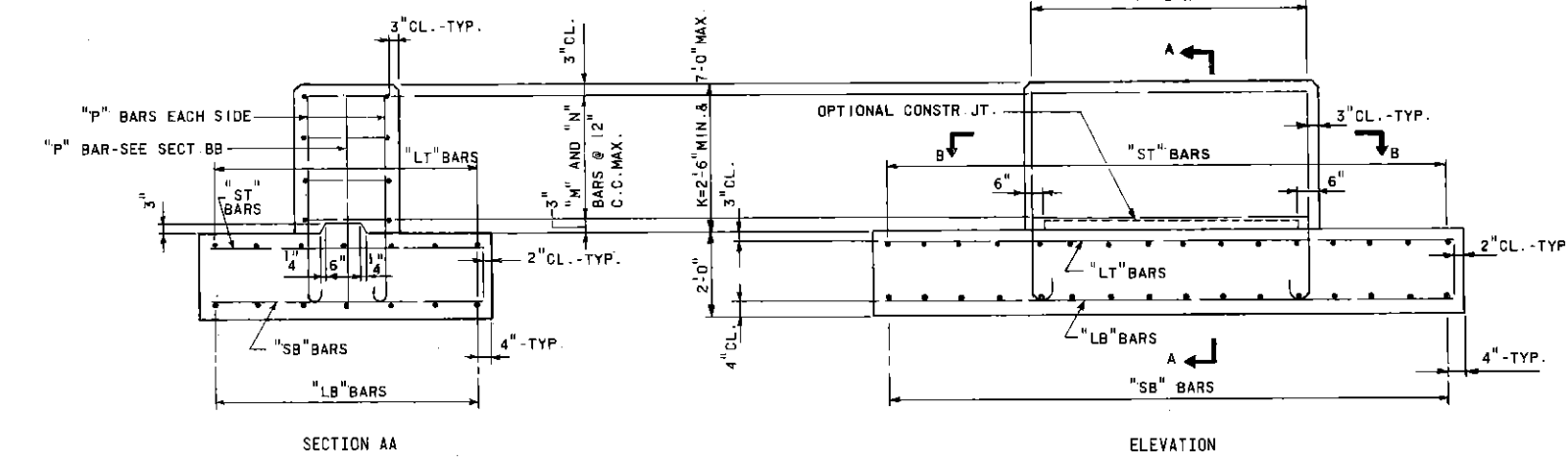
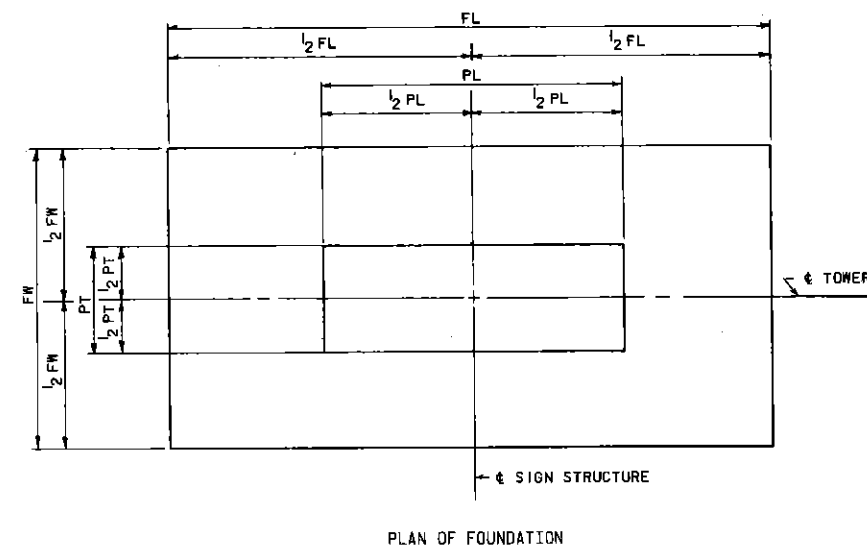
DESIGN SIGN AREA FT. SQ. FT.	TRUSS MEMBERS								TOWER MEMBERS								FOUNDATION PEDESTAL								FOOTING TYPE				DESIGN SIGN AREA SQ. FT.	DESIGN SIGN SPAN FT.		
	CHORDS (PIPE O.D. x WALL THICKNESS)			DIAGONALS		END VERTICALS (ST)	CROSS BRACING (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.		BOTTOM STRUT (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.		H = 18 FT.	H = 23 FT.	H = 28 FT.	H = 33 FT.				
	A	B	C	FRONT AND REAR (ST)	TOP AND BOTTOM (ST)			SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)		PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE							PLXPT (FT.)	NO. "P" BARS & SIZE
90	200	5.563x0.258	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.0x4.750	12.750x0.375	2.0x4.750	14.000x0.375	2.0x4.750	16.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	814	814	915	916	200
90	300	6.625x0.280	6.625x0.432	6.625x0.280	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	814	915	916	1017	300		
90	400	6.625x0.432	6.625x0.432	6.625x0.432	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	20.000x0.375	2.5x7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	8x3.0	22#4	9x3.0	24#4	815	916	1016	1018	400		
90	500	6.625x0.432	6.625x0.432	6.625x0.432	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	2.5x7.375	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	24.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x3.0	22#4	9x3.0	24#4	9x3.5	28#4	915	1016	1018	1119	500		
90	600	8.625x0.322	8.625x0.500	8.625x0.322	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	10x3.5	26#4	916	1017	1018	1119	600		
90	700	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	3.5x10.000	18.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	10x3.5	26#4	10x3.5	28#4	917	1018	1119	1120	700		
90	800	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	1.5x3.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1019	1120	1220	800		
90	900	8.625x0.500	8.625x0.500	8.625x0.500	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	18.000x0.375	3.5x10.000	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1118	1120	1221	900		
90	1000	8.625x0.500	8.625x0.500	8.625x0.500	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	18.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	24#4	10x3.5	26#4	10x3.5	32#4	10x3.5	36#4	1018	1119	1220	1222	1000		
100	200	5.563x0.258	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.0x4.750	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	813	815	915	917	200		
100	300	6.625x0.280	6.625x0.432	6.625x0.280	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	20#4	8x3.0	24#4	814	915	916	1017	300		
100	400	8.625x0.322	8.625x0.322	8.625x0.322	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	815	916	1017	1019	400		
100	500	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	2.5x7.375	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	9x3.0	28#4	915	917	1018	1118	500		
100	600	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	916	1017	1118	1120	600		
100	700	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	16.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	10x3.5	26#4	10x3.5	28#4	917	1018	1119	1220	700		
100	800	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	18.000x0.375	3.5x10.000	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1118	1120	1221	800		
100	900	10.750x0.365	10.750x0.500	10.750x0.365	2.0x4.750	3.5x10.000	3.5x10.000	2.0x4.750	18.000x0.375	4.0x11.500	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1119	1120	1221	900		
100	1000	10.750x0.365	10.750x0.500	10.750x0.365	2.5x7.375	3.5x10.000	3.5x10.000	2.0x4.750	18.000x0.375	4.0x11.500	24.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	24#4	10x3.5	26#4	10x3.5	32#4	10x3.5	36#4	1018	1119	1220	1222	1000		
100	1100	10.750x0.365	10.750x0.500	10.750x0.365	2.5x7.375	3.5x10.000	3.5x10.000	2.0x4.750	20.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	28#4	10x3.5	28#4	10x3.5	36#4	10x3.5	36#4	1019	1120	1221	1322	1100		
110	300	8.625x0.322	8.625x0.500	8.625x0.322	1.5x3.750	2.5x7.375	2.5x7.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	20.000x0.375	2.5x7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	815	916	1017	1018	300		
110	400	8.625x0.322	8.625x0.500	8.625x0.322	1.5x3.750	3.0x8.625	3.0x8.625	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	9x3.0	24#4	9x3.0	28#4	915	917	1018	1118	400		
110	500	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	2.5x7.375	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	10x3.5	26#4	916	1017	1018	1119	500		
110	600	10.750x0.365	10.750x0.500	10.750x0.365	2.0x4.750	3.0x8.625	3.0x8.625	2.5x7.375	16.000x0.375	3.0x8.625	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	916	1017	1118	1120	600		
110	700	10.750x0.365	10.750x0.500	10.750x0.365	2.0x4.750	3.5x10.000	3.5x10.000	2.5x7.375	18.000x0.375	3.5x10.000	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1019	1120	1220	700		
110	800	10.750x0.365	10.750x0.500	10.750x0.365	2.0x4.750	3.5x10.000	3.5x10.000	2.5x7.375	18.000x0.375	4.0x11.500	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	2.0x4.750	9x3.0	24#4	9x3.0	28#4	10x3.5	28#4	10x3.5	32#4	1017	1118	1120	1221	800		
110	900	10.750x0.365	10.750x0.500	10.750x0.365	2.5x7.375	3.5x10.000	3.5x10.000	2.5x7.375	18.000x0.375	4.0x11.500	24.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	24#4	10x3.5	26#4	10x3.5	32#4	10x3.5	36#4	1018	1119	1220	1222	900		
110	1000	12.750x0.375	12.750x0.500	12.750x0.375	2.5x7.375	4.0x11.500	4.0x11.500	2.5x7.375	20.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	2.0x4.750	9x3.0	24#4	10x3.5	26#4	10x3.5	32#4	10x3.5	36#4	1018	1119	1220	1222	1000		
110	1100	12.750x0.375	12.750x0.500	12.750x0.375	2.5x7.375	4.0x11.500	4.0x11.500	2.5x7.375	20.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	24.000x0.500	5.0x17.500	2.5x7.375	9x3.0	28#4	10x3.5	28#4	10x3.5	36#4	10x3.5	36#4	1019	1120	1221	1322	1100		
110	1200	12.750x0.375	12.750x0.500	12.750x0.375	2.5x7.375	4.0x11.500	4.0x11.500	2.5x7.375	20.000x0.375	5.0x17.500	24.000x0.375	5.0x17.500	24.000x0.500	5.0x17.500	24.000x0.500	5.0x17.500	2.5x7.375	9x3.0	28#4	10x3.5	28#4	10x3.5	36#4	10x3.5	36#4	1019	1120	1221	1322	1200		
120	300	8.625x0.322	8.625x0.500	8.625x0.322	1.5x3.750	2.5x7.375	2.5x7.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	20.000x0.375	2.5x7.375	1.5x3.750	8x2.5	20#4	8x2.5	20#4	9x3.0	24#4	9x3.0	24#4	815	916	917	10			

DESIGN SIGN AREA FT. SQ. FT.	TRUSS MEMBERS								TOWER MEMBERS								FOUNDATION PEDESTAL								FOOTING TYPE				DESIGN SIGN AREA SQ. FT.	SPAN FT.
	CHORDS (PIPE O.D. x WALL THICKNESS)			DIAGONALS		END VERTICALS (ST)	CROSS BRACING (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.		BOTTOM STRUT (ST)	H = 18 FT.		H = 23 FT.		H = 28 FT.		H = 33 FT.							
	A	B	C	FRONT AND REAR (ST)	TOP AND BOTTOM (ST)			SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)	SHAFT (O.D. x WALL)	DIAGONAL (ST)		PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	PLXPT (FT.)	NO. "P" BARS & SIZE	H = 18 FT.	H = 23 FT.	H = 28 FT.	H = 33 FT.		
	100	200	300	400	100	200	300	400	100	200	300	400	100	200	300	400	100	200	300	400	100	200	300	400	100	200	300	400		
50	3.500x0.300	---	3.500x0.216	1.5x3.750	2.0x4.750	2.0x4.750	1.5x3.750	8.625x0.322	1.5x3.750	10.750x0.365	1.5x3.750	10.750x0.365	1.5x3.750	12.750x0.375	1.5x3.750	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	611	613	713	714		
60	4.000x0.318	---	4.000x0.226	1.5x3.750	2.0x4.750	2.0x4.750	1.5x3.750	10.750x0.365	2.0x4.750	12.750x0.375	2.0x4.750	12.750x0.375	2.0x4.750	14.000x0.375	2.0x4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	7x2.5	20#4	713	715	815	817		
70	4.000x0.318	---	4.000x0.226	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	7x2.5	20#4	7x2.5	24#4	8x2.5	24#4	715	815	817	917		
80	4.500x0.337	---	4.500x0.337	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	20#4	7x2.5	24#4	8x2.5	24#4	8x3.0	28#4	816	817	918	919		
90	4.000x0.226	---	4.000x0.226	1.5x3.750	2.0x4.750	2.0x4.750	1.5x3.750	8.625x0.322	1.5x3.750	10.750x0.365	1.5x3.750	10.750x0.365	1.5x3.750	12.750x0.375	1.5x3.750	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	612	712	713	715		
100	4.000x0.226	---	4.000x0.226	1.5x3.750	2.0x4.750	2.0x4.750	1.5x3.750	10.750x0.365	2.0x4.750	12.750x0.375	2.0x4.750	12.750x0.375	2.0x4.750	14.000x0.375	2.0x4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	7x2.5	20#4	713	714	815	816		
110	4.000x0.318	---	4.000x0.226	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	10.750x0.365	2.5x7.375	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	7x2.5	20#4	7x2.5	24#4	8x2.5	24#4	715	816	818	918		
120	4.500x0.337	---	4.500x0.337	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	20#4	7x2.5	24#4	8x2.5	24#4	8x3.0	28#4	817	918	919	1020		
130	4.500x0.337	---	4.500x0.337	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	14.000x0.375	2.5x7.375	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	817	918	919	1020		
140	5.563x0.375	---	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	14.000x0.375	2.5x7.375	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	817	918	919	1020		
150	4.000x0.318	4.000x0.226	4.000x0.226	1.5x3.750	2.0x4.750	2.0x4.750	1.5x3.750	10.750x0.365	1.5x3.750	10.750x0.365	1.5x3.750	12.750x0.375	1.5x3.750	12.750x0.375	1.5x3.750	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	612	712	714	814		
160	4.500x0.337	4.500x0.337	4.500x0.237	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	10.750x0.365	2.0x4.750	12.750x0.375	2.0x4.750	14.000x0.375	2.0x4.750	16.000x0.375	2.5x7.375	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	7x2.5	20#4	714	715	816	916		
170	4.500x0.337	4.500x0.337	4.500x0.237	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	7x2.5	20#4	7x2.5	24#4	8x3.0	24#4	715	816	817	918		
180	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	20.000x0.375	3.0x8.625	1.5x3.750	7x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	816	818	918	1019		
190	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	14.000x0.375	2.5x7.375	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	817	918	919	1020		
200	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	16.000x0.375	3.0x8.625	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	9x3.5	32#4	817	918	919	1021		
210	4.000x0.318	4.000x0.318	4.000x0.318	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	10.750x0.365	1.5x3.750	10.750x0.365	1.5x3.750	12.750x0.375	1.5x3.750	14.000x0.375	2.0x4.750	1.5x3.750	7x2.0	18#4	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	613	713	715	815		
220	4.500x0.337	4.500x0.337	4.500x0.237	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.0x4.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	24#4	8x3.0	24#4	714	815	816	917		
230	5.563x0.258	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	12.750x0.375	2.5x7.375	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	715	816	917	918		
240	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	816	917	919	1020		
250	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	1.5x3.750	16.000x0.375	3.0x8.625	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	20#4	8x2.5	28#4	8x3.0	32#4	9x3.0	32#4	817	918	920	1020		
260	6.625x0.432	6.625x0.432	6.625x0.280	1.5x3.750	3.0x8.625	3.0x8.625	1.5x3.750	16.000x0.375	3.5x10.000	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	4.0x11.500	1.5x3.750	8x2.5	24#4	8x3.0	32#4	9x3.0	32#4	9x3.5	36#4	918	920	1020	1022		
270	8.625x0.322	8.625x0.500	8.625x0.322	2.0x4.750	3.0x8.625	3.0x8.625	1.5x3.750	16.000x0.375	4.0x11.500	20.000x0.375	4.0x11.500	24.000x0.375	4.0x11.500	24.000x0.375	5.0x12.700	2.0x4.750	8x2.5	32#4	9x3.0	32#4	10x3.5	28#4	10x3.5	36#4	919	1020	1022	1123		
280	4.500x0.337	4.500x0.337	4.500x0.237	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	10.750x0.365	1.5x3.750	12.750x0.375	2.0x4.750	12.750x0.375	2.0x4.750	16.000x0.375	2.0x4.750	1.5x3.750	7x2.0	18#4	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	713	714	815	816		
290	5.563x0.258	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.5x7.375	12.750x0.375	2.5x7.375	16.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	1.5x3.750	7x2.5	18#4	7x2.5	18#4	8x2.5	20#4	8x2.5	24#4	714	815	817	917		
300	5.563x0.375	5.563x0.375	5.563x0.258	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	12.750x0.375	2.5x7.375	16.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	2.5x7.375	1.5x3.750	7x2.5	20#4	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	815	817	918	919		
310	6.625x0.432	6.625x0.432	6.625x0.280	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	14.000x0.375	2.5x7.375	16.000x0.375	2.5x7.375	18.000x0.375	3.0x8.625	20.000x0.375	3.0x8.625	1.5x3.750	8x2.5	20#4	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	816	917	919	1019		
320	6.625x0.432	6.625x0.432	6.625x0.280	1.5x3.750	2.5x7.375	2.5x7.375	2.0x4.750	16.000x0.375	3.0x8.625	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	9x3.5	32#4	816	919	1020	1021		
330	6.625x0.432	6.625x0.432	6.625x0.280	2.0x4.750	3.0x8.625	3.0x8.625	2.0x4.750	16.000x0.375	3.0x8.625	18.000x0.375	3.5x10.000	20.000x0.375	3.5x10.000	24.000x0.375	3.5x10.000	1.5x3.750	8x2.5	24#4	8x3.0	28#4	9x3.0	28#4	9x3.5	32#4	816	919	1020	1021		
340	8.625x0.322	8.625x0.																												

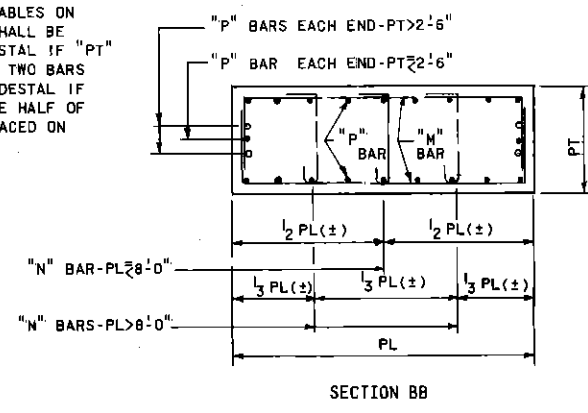
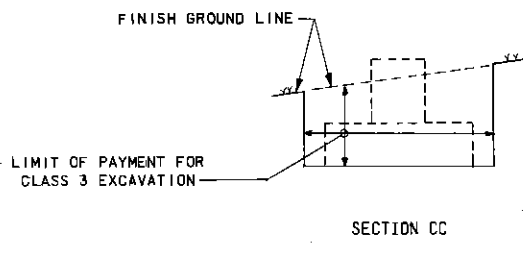
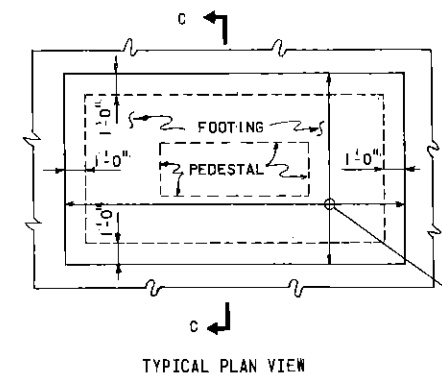
TYPE	FOOTING		VOL. (CU. YD.)	REINFORCEMENT				WEIGHT (LBS.)
	FW	FL		"LB"	"LT"	"SB"	"ST"	
611	6'-0"	11'-0"	4.9	6#4	6#4	11#4	11#4	169
612	6'-0"	12'-0"	5.3	6#4	6#4	12#4	12#4	184
613	6'-0"	13'-0"	5.8	6#4	6#4	13#4	13#4	200
711	7'-0"	11'-0"	5.7	7#4	7#4	11#4	11#4	198
712	7'-0"	12'-0"	6.2	7#4	7#4	12#4	12#4	216
713	7'-0"	13'-0"	6.7	7#4	7#4	13#4	13#4	234
714	7'-0"	14'-0"	7.3	7#4	7#4	14#4	14#4	253
715	7'-0"	15'-0"	7.8	7#4	7#4	15#4	15#4	271
813	8'-0"	13'-0"	7.7	8#4	8#4	13#4	13#4	269
814	8'-0"	14'-0"	8.3	8#4	8#4	14#4	14#4	290
815	8'-0"	15'-0"	8.9	8#4	8#4	15#4	15#4	320
816	8'-0"	16'-0"	9.5	11#4	9#4	16#4	16#4	373
817	8'-0"	17'-0"	10.1	6#5	11#4	17#4	17#4	436
818	8'-0"	18'-0"	10.7	10#5	11#4	18#4	18#4	499
915	9'-0"	15'-0"	10.0	10#4	9#4	15#4	15#4	360
916	9'-0"	16'-0"	10.7	12#4	9#4	16#4	16#4	405
917	9'-0"	17'-0"	11.3	10#5	11#4	17#4	17#4	493
918	9'-0"	18'-0"	12.0	12#5	9#5	18#4	18#4	496
919	9'-0"	19'-0"	12.7	9#6	10#5	19#4	19#4	667
920	9'-0"	20'-0"	13.3	10#6	12#5	20#4	20#4	773
1016	10'-0"	16'-0"	11.9	14#4	11#4	16#4	16#4	468
1017	10'-0"	17'-0"	12.6	10#5	13#4	17#4	17#4	538
1018	10'-0"	18'-0"	13.3	12#5	10#5	18#4	18#4	638
1019	10'-0"	19'-0"	14.1	11#6	10#5	19#4	19#4	749
1020	10'-0"	20'-0"	14.8	12#6	12#5	20#4	20#4	859
1021	10'-0"	21'-0"	15.6	12#6	10#6	21#4	21#4	954
1022	10'-0"	22'-0"	16.3	10#7	12#6	22#4	22#4	1118
1118	11'-0"	18'-0"	14.7	14#5	12#5	18#4	18#4	736
1119	11'-0"	19'-0"	15.5	11#6	12#5	19#4	19#4	813
1120	11'-0"	20'-0"	16.3	12#6	14#5	20#4	20#4	927
1121	11'-0"	21'-0"	17.1	13#6	14#5	21#4	21#4	1005
1122	11'-0"	22'-0"	17.9	11#7	12#6	22#4	22#4	1191
1123	11'-0"	23'-0"	18.7	13#7	14#6	23#4	23#4	1407
1124	11'-0"	24'-0"	19.6	11#8	12#7	24#4	25#4	1625
1220	12'-0"	20'-0"	17.8	14#6	12#6	20#4	25#4	1119
1221	12'-0"	21'-0"	18.7	12#7	12#6	21#4	26#4	1246
1222	12'-0"	22'-0"	19.6	14#7	14#6	23#4	28#4	1473
1224	12'-0"	24'-0"	21.3	14#8	14#7	25#4	32#4	2007
1322	13'-0"	22'-0"	21.2	15#7	16#6	26#4	23#5	1709
1323	13'-0"	23'-0"	22.1	14#8	14#7	29#4	25#5	2071

PL x PT (FT.)	VOL. (CU. YD.)	HORIZONTAL REINFORCEMENT				WEIGHT PER SET A (LBS.)		
		#4 BARS TYPE "M"		#4 BARS TYPE "N"				
LENGTH	A	B	LENGTH	C	NO.			
7x2.0	0.52K	9'-4"	6'-6"	1'-5"	2'-8"	1'-6"	1	14
7x2.5	0.65K	9'-10"	6'-6"	1'-8"	3'-2"	2'-0"	1	15
8x2.5	0.74K	10'-10"	7'-6"	1'-8"	3'-2"	2'-0"	1	17
8x3.0	0.89K	11'-4"	7'-6"	1'-11"	3'-8"	2'-6"	1	18
9x3.0	1.00K	12'-4"	8'-6"	1'-11"	3'-8"	2'-6"	2	21
9x3.5	1.17K	12'-10"	8'-6"	2'-2"	4'-2"	3'-0"	2	23
10x3.5	1.30K	13'-10"	9'-6"	2'-2"	4'-2"	3'-0"	2	24

Δ ONE SET INCLUDES 2 "M" BARS AND NO. OF "N" BARS SHOWN IN TABLE.



NOTE:
TOTAL NUMBER AND SIZE OF "P" BARS REQUIRED ARE GIVEN IN DESIGN TABLES ON SHEETS 2, 3, 4 AND 5. ONE BAR SHALL BE PLACED AT EACH END OF THE PEDESTAL IF "PT" IS EQUAL TO OR LESS THAN 2'-6". TWO BARS SHALL BE AT EACH END OF THE PEDESTAL IF "PT" IS GREATER THAN 2'-6". ONE HALF OF THE REMAINING BARS SHALL BE PLACED ON EACH FACE OF THE PEDESTAL.



GENERAL NOTES:
 (B) FOR GENERAL DESIGN INSTRUCTIONS SEE SHEET 1.
 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PENN. D.O.T. SPECIFICATION FORMS 408/1976 AND 409/1973.
 MATERIALS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 • PIPES OR TUBULAR SECTIONS A53, TYPE E OR S, GRADE B A501 A252, GRADE 2
 • STRUCTURAL BARS, PLATES, SHAPES AND ANCHOR BOLTS A36
 • NUTS FOR ANCHOR BOLTS A307
 • H.S. BOLTS AND WASHERS A325
 NUTS FOR H.S. BOLTS A325
 U-BOLTS, OTHER BOLTS AND WASHERS A276, TYPE 304
 NUTS A276, TYPE 303
 REINFORCEMENT BARS A615, GRADE 40
 ALL STEEL MATERIALS DESIGNATED ABOVE WITH AN ASTERISK * SHALL BE GALVANIZED AFTER FABRICATION IS COMPLETE.
 NUTS FOR ALL BOLTS EXCEPT ANCHOR BOLTS SHALL BE HI-LOK® NUTS AS MANUFACTURED BY THE HI-SHEAR CORPORATION, 2600 SKYPARK DRIVE, TORRENCE, CALIFORNIA 90509; OR APPROVED EQUAL. THE HI-LOK NUT SHALL HAVE UNC-2B COARSE THREADS. PART NUMBERS FOR HI-LOK NUTS ARE AS FOLLOWS:

HI-LOK NUTS FOR H.S. BOLTS - CHL12L
 HI-LOK NUTS FOR ALL OTHER BOLTS EXCEPT ANCHOR BOLTS - CHL20
 ALL HI-LOK NUTS SHALL BE INSTALLED WITH IMPACT WRENCHES OR WITH STANDARD HAND CLOSED-END WRENCHES OR SOCKETS. DURING INSTALLATION, THE HI-LOK NUT SHALL BE TORQUED UNTIL ITS WRENCHING HEX SHEARS OFF UNDER THE APPLIED TORQUE. AT THIS POINT, THE NUT IS SET AND NO FURTHER FORCE SHALL BE APPLIED TO THE REMAINING PORTION OF THE NUT OR TO THE HEAD OF THE BOLT.

CLASS A CEMENT CONCRETE SHALL BE USED IN FOOTINGS AND IN FOUNDATION PEDESTALS.
 EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 1"x1" EXCEPT AS NOTED.
 MAXIMUM DESIGN FOUNDATION BEARING PRESSURE EQUALS 1.5 TONS PER SQUARE FOOT. THE FOOTING MAY BE ORDERED BY THE ENGINEER TO BE AT ANY ELEVATION OR OF ANY DIMENSIONS NECESSARY TO PROVIDE A PROPER FOUNDATION.

REINFORCEMENT BARS SHALL CONFORM TO THE DIMENSIONS SHOWN ON THE DRAWINGS AND WITHIN FABRICATING TOLERANCES AS SHOWN IN THE CURRENT "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION" AS PUBLISHED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
 BARS SHALL NOT BE SPLICED EXCEPT AS PROVIDED ON THESE DRAWINGS OR AUTHORIZED BY THE ENGINEER. WHEN SPLICING IS APPROVED, THE REINFORCEMENT BARS SHALL BE LAPPED FOR A LENGTH OF AT LEAST 30 DIAMETERS AND SHALL BE SECURELY WIRED TOGETHER.

FOR PEDESTAL DIMENSIONS AND REINFORCEMENT, AND FOOTING TYPE, SEE DESIGN TABLES ON SHEETS 2, 3, 4 AND 5.

U-BOLTS CONNECTING TRUSS TO TOWER SHALL NOT BE FINALLY TIGHTENED UNTIL ALL LOADS HAVE BEEN PLACED ON THE TRUSS.

FOOTING SIZES SHOWN ARE MINIMUM REQUIRED FOR STABILITY.

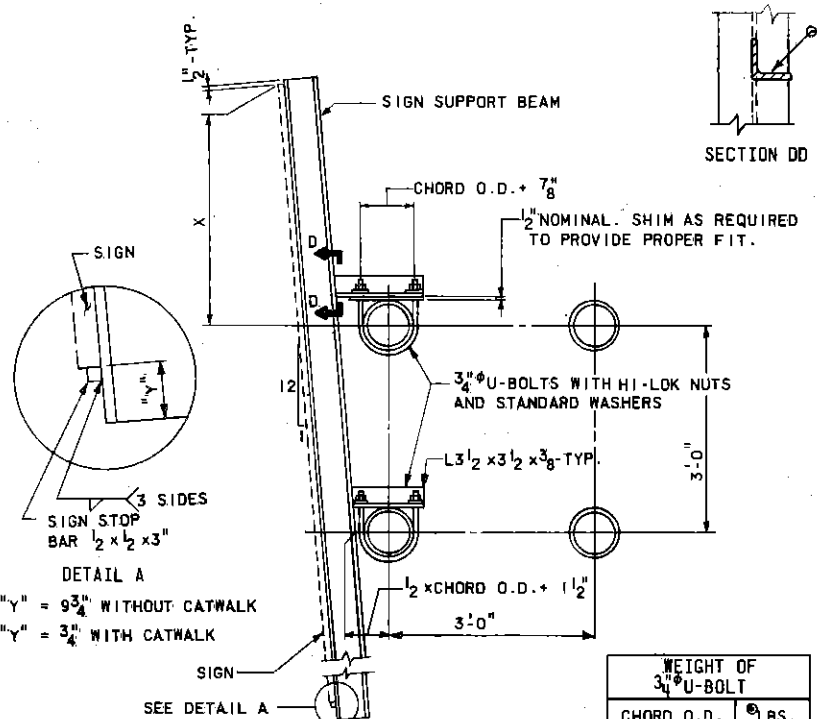
Commonwealth of Pennsylvania
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF TRAFFIC ENGINEERING

OVERHEAD SIGN STRUCTURE STANDARDS
STEEL SPANS

FOUNDATION DESIGN AND DETAILS

REVISIONS	Recommended by <i>[Signature]</i> Chief Bridge Engineer	Recommended by <i>[Signature]</i> Director, Bureau of Traffic Engineering	Approved by <i>[Signature]</i> Deputy Chief Highway Engineer
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Sheet 5 of 10
IC-7A

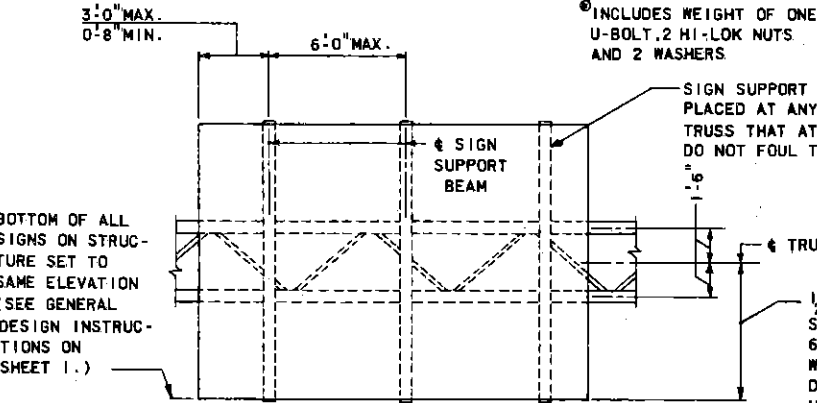


DETAIL A
 "Y" = 9 3/4" WITHOUT CATWALK
 "Y" = 3 3/4" WITH CATWALK

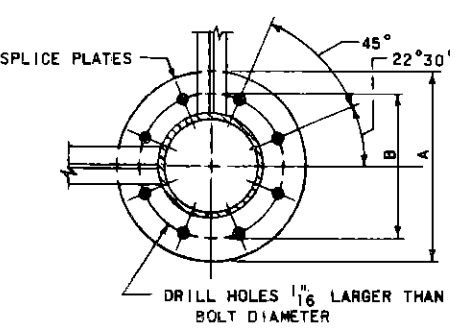
SIGN SUPPORT BEAM	
X	SIZE
0 TO 5'-6"	W6x15.5
5'-6" TO 6'-6"	W6x20.0
6'-6" TO 7'-6"	W6x25.0
7'-6" TO 8'-6"	W8x28.0
8'-6" TO 9'-6"	W8x31.0

WEIGHT OF 3/4" U-BOLT	
CHORD O.D.	LBS.
3.500	2.1
4.000	2.2
4.500	2.4
5.563	2.7
6.625	3.1
8.625	3.7
10.750	4.4
12.750	5.1

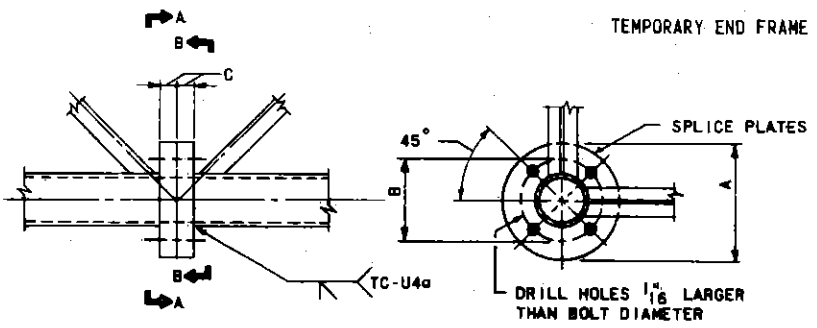
INCLUDES WEIGHT OF ONE U-BOLT, 2 HI-LOK NUTS AND 2 WASHERS



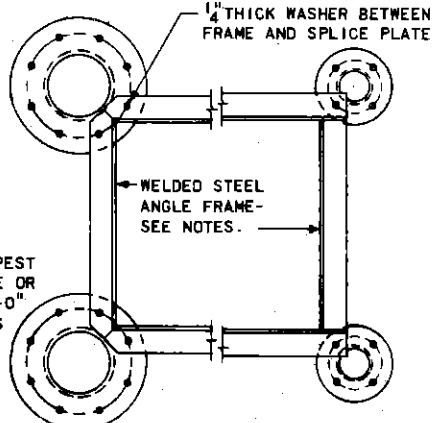
TYPICAL SIGN SUPPORT BEAM SPACING



SECTION AA
 (CHORD O.D. > 6.625 IN.)



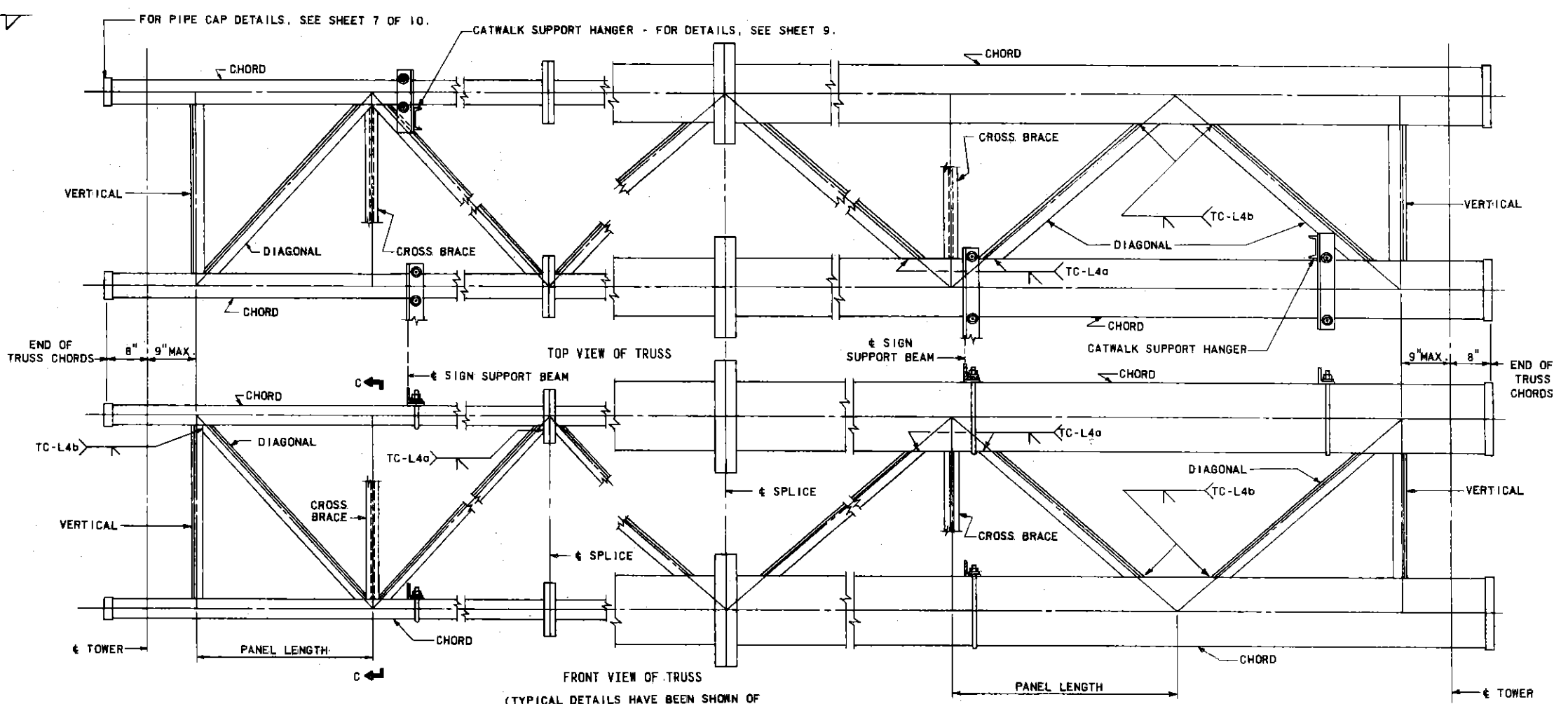
SECTION BB
 (CHORD O.D. < 6.625 IN.)



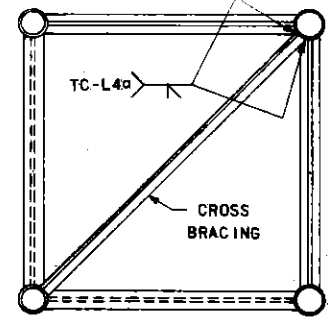
TEMPORARY END FRAME
 CHORD O.D. > 6.625 IN. CHORD O.D. < 6.625 IN.

CHORD SPLICE					
CHORD O.D. IN.	A (IN.)	B (IN.)	C (IN.)	H.S. BOLTS NO.-SIZE	WEIGHT LBS.
3.500	10.0	7.0	1 3/8	4-7/8"	59
4.000	10.0	7.0	1 3/8	4-7/8"	57
4.500	10.0	7.0	1 3/8	4-7/8"	55
5.563	13.0	9.0	1 3/4	4-7/8"	118
6.625	13.0	9.0	1 3/4	4-1"	112
8.625	16.5	12.5	2 1/4	8-7/8"	224
10.750	18.0	14.0	2 1/4	8-1"	244
12.750	19.5	15.5	2 1/2	8-1 1/8"	294

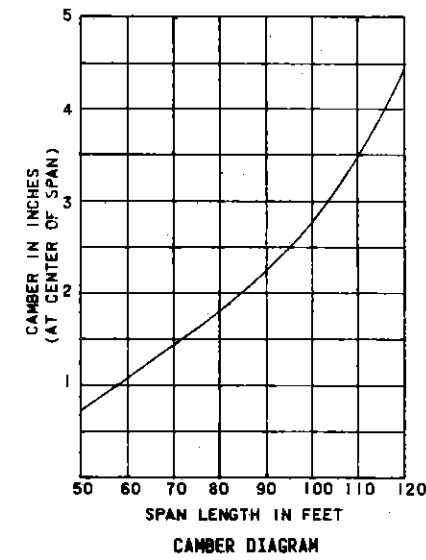
INCLUDES WEIGHT OF SPLICE PLATES, H.S. BOLTS, HI-LOK NUTS AND WASHERS.



(TYPICAL DETAILS HAVE BEEN SHOWN OF BOTH FRONT AND TOP VIEWS OF TRUSS USING COMBINATIONS OF VARIOUS MEMBER SIZES)



CROSS BRACING - ALTERNATING IN DIRECTION @ MAXIMUM SPACING OF 3 PANEL LENGTHS. SHALL NOT BE PLACED AT END VERTICALS NOR AT SPLICE POINTS.



NOTES:
 FOR GENERAL NOTES, SEE SHEET 6.
 FOR MEMBER SIZES, SEE DESIGN TABLES ON SHEETS 2,3,4 AND 5.
 TEMPORARY END FRAME TO BE USED TO PROVIDE ADDITIONAL SUPPORT TO ENDS OF TRUSS CHORDS DURING FABRICATION AND GALVANIZING PROCESSES. REMOVE AND REPAIR GALVANIZING AT POINTS OF CONTACT PRIOR TO TRUSS ASSEMBLY AND ERECTION. TEMPORARY FRAME IS NOT PART OF THE STRUCTURE AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
 TRUSSES SHALL BE FABRICATED WITH CAMBER AT THE CENTER OF THE SPAN EQUAL TO THE VALUE GIVEN BY THE CAMBER DIAGRAM ON THIS DRAWING. ALL TRUSSES SHALL BE ASSEMBLED IN THE SHOP IN A NO LOAD CONDITION TO ENSURE FIT AT SPLICES AND TO CHECK CAMBER.

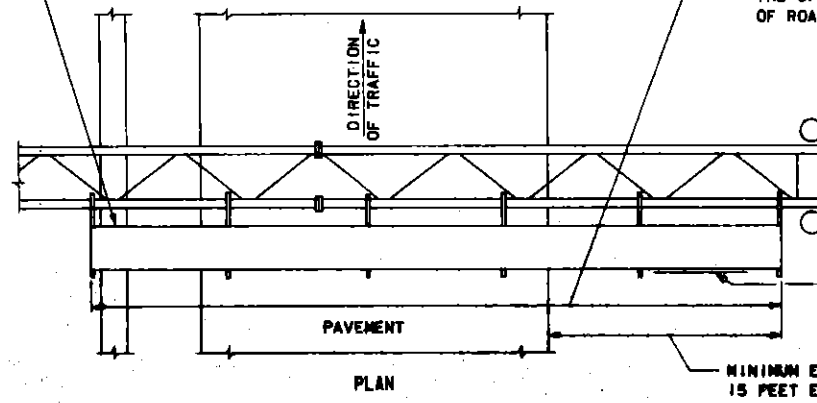
Commonwealth of Pennsylvania
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF TRAFFIC ENGINEERING

OVERHEAD SIGN STRUCTURE STANDARDS
STEEL SPANS
 TRUSS DETAILS
 SIGN SUPPORT DETAILS

Recommended <i>[Signature]</i>	Recommended <i>[Signature]</i> 3/15/74	Approved <i>[Signature]</i> 3/15/74	Sheet 8 of 10
Chief Bridge Engineer	Director, Bureau of Traffic Engineering	Deputy Chief Highway Engineer	TC-7717

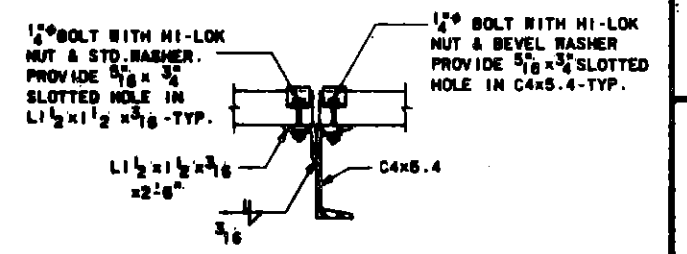
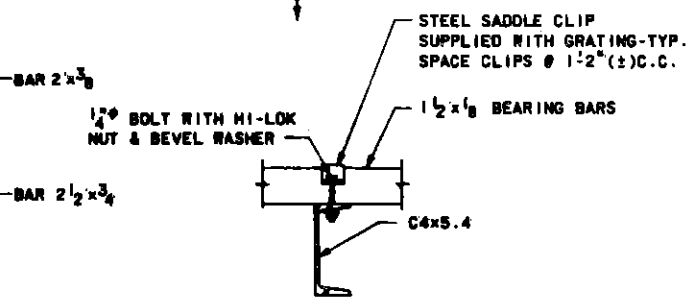
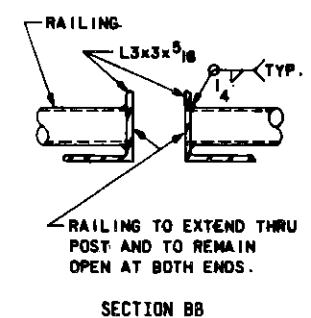
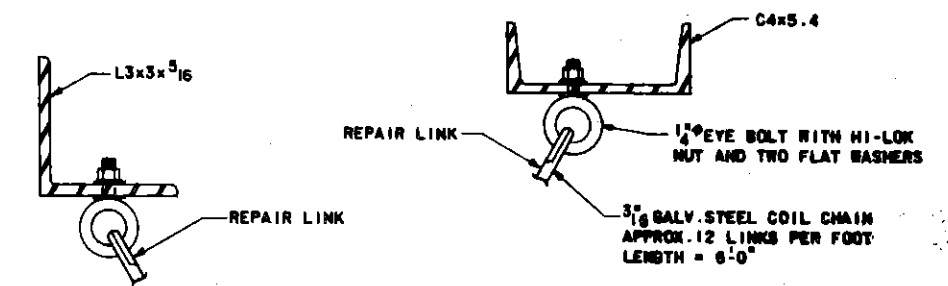
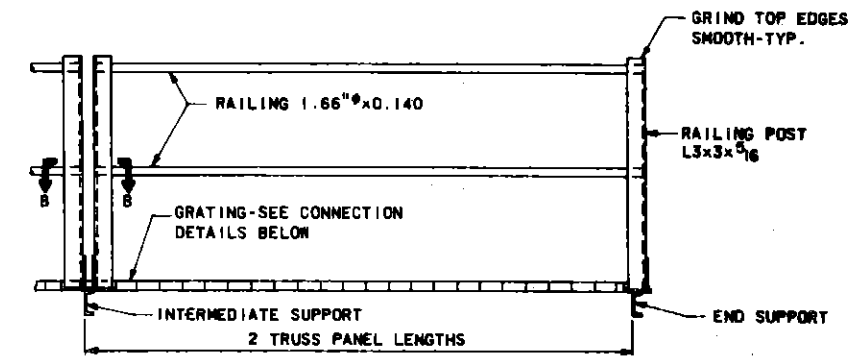
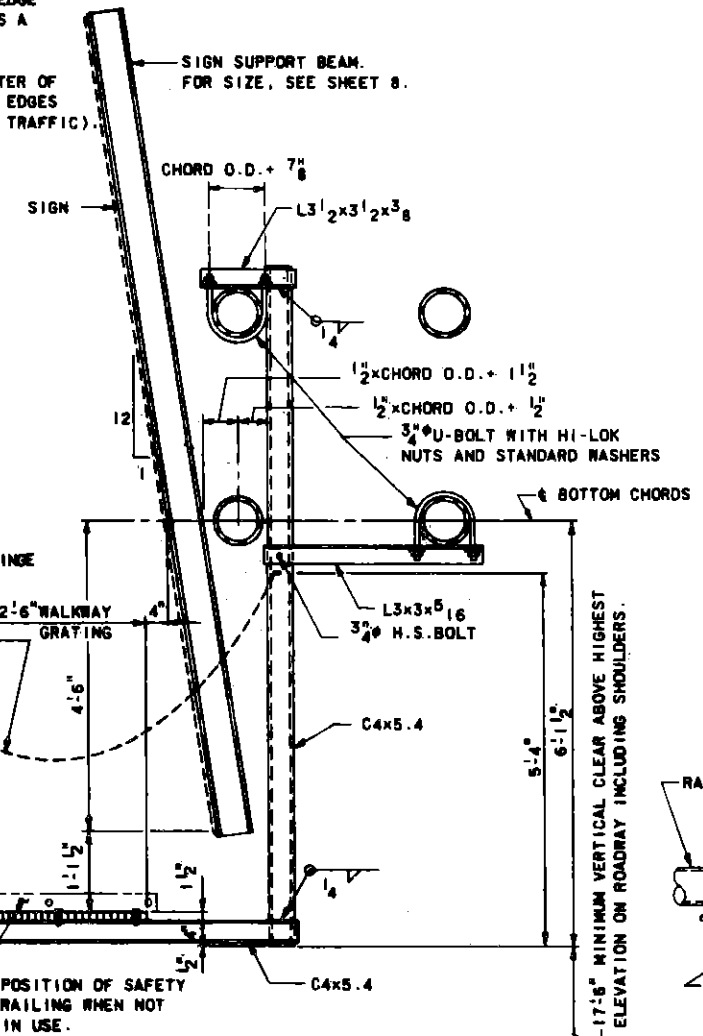
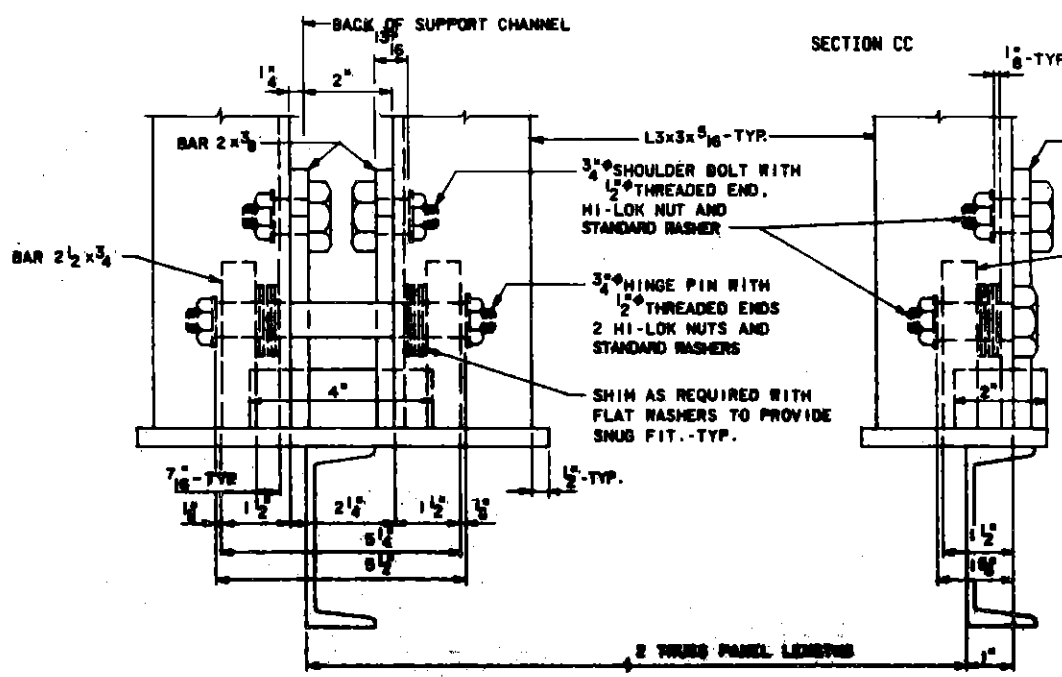
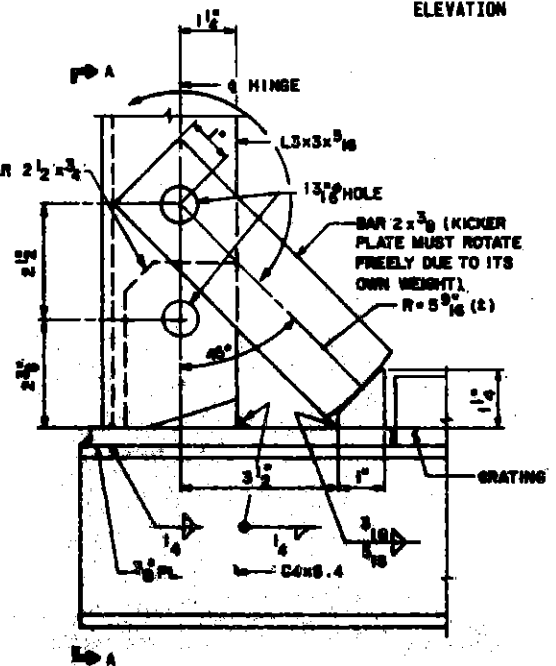
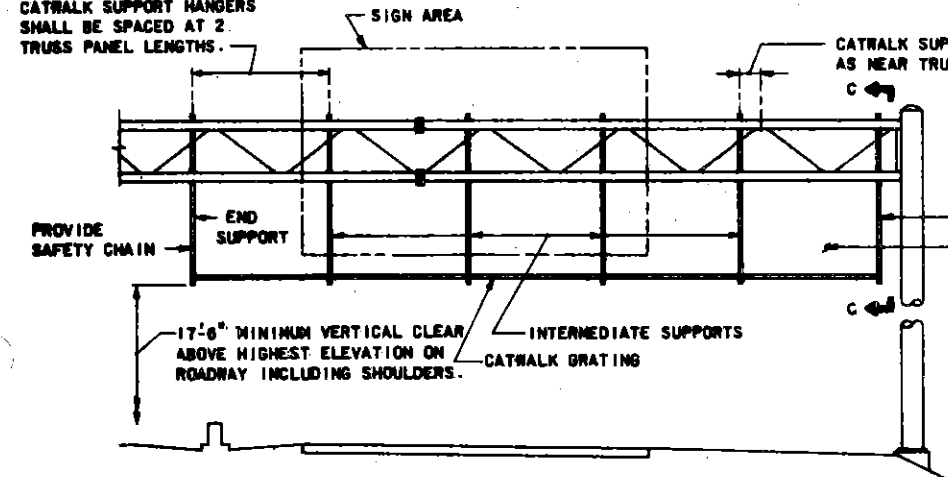
CATWALK MAY BE REQUIRED ON ONE OR BOTH SIDES OF THE TRUSS DEPENDING UPON WHETHER THERE IS ONE OR TWO WAY TRAFFIC ON THE ROADWAY THAT THE SIGN STRUCTURE SPANS.

WHEN CATWALK IS ON ONE SIDE OF THE TRUSS ONLY, THE OVERALL LENGTH SHALL BE SUCH THAT THE END NEAREST THE LEFT EDGE OF ROADWAY (LOOKING IN DIRECTION OF TRAFFIC) EXTENDS A MINIMUM OF 4 FEET BEYOND THIS EDGE OF ROADWAY. WHEN CATWALK IS ON BOTH SIDES OF TRUSS, THE OVERALL LENGTH SHALL BE SUCH THAT BOTH ENDS NEAREST THE CENTER OF THE SPAN EXTEND A MINIMUM OF 4 FEET BEYOND THE LEFT EDGES OF ROADWAY (LOOKING IN THE RESPECTIVE DIRECTIONS OF TRAFFIC).



MINIMUM EXTENT OF CATWALK SHALL BE 15 FEET EXCEPT WHEN TOWER IS SET LESS THAN 17 FEET FROM EDGE OF ROADWAY.

CATWALK SUPPORT HANGERS SHALL BE SPACED AT 2 TRUSS PANEL LENGTHS.



NOTES:

FOR GENERAL NOTES SEE SHEET 6.

FOR USE OF CATWALK SEE GENERAL DESIGN INSTRUCTIONS ON SHEET 1.

SPECIAL CARE SHALL BE TAKEN TO INSURE THAT THE COMPLETED POST HINGE AND KICKER PLATE ASSEMBLY WILL HOLD THE SAFETY RAILING IN A STEADY MANNER, FREE OF ROBBLE WHILE IN THE RAISED POSITION. MAXIMUM ALLOWABLE DISPLACEMENT FROM VERTICAL AT TOP OF RAILING WHEN KICKER PLATES ARE IN JAM POSITION SHALL BE 1".

CATWALK GRATING TO BE CONTINUOUS (NO SPLICES) OVER AS MANY SUPPORTS AS PRACTICABLE CONSISTENT WITH FABRICATION, EASE OF HANDLING AND ASSEMBLY.

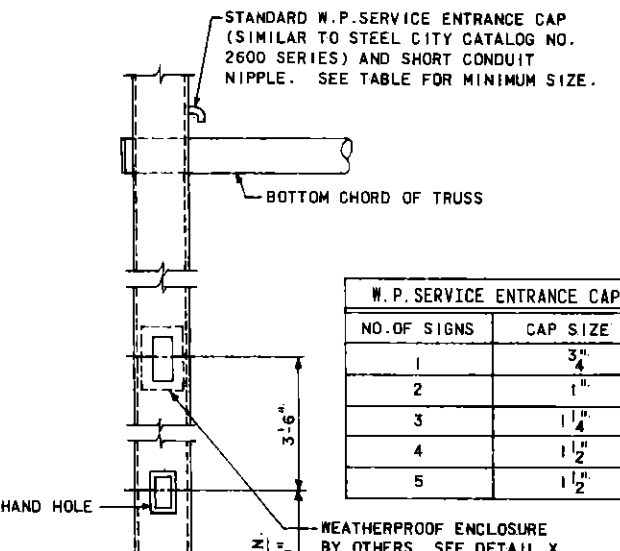
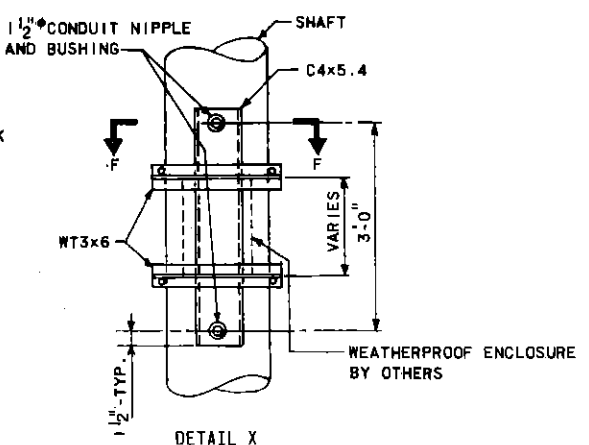
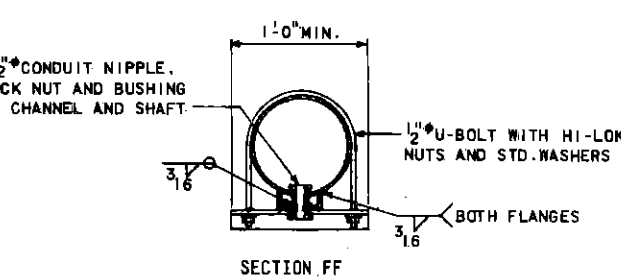
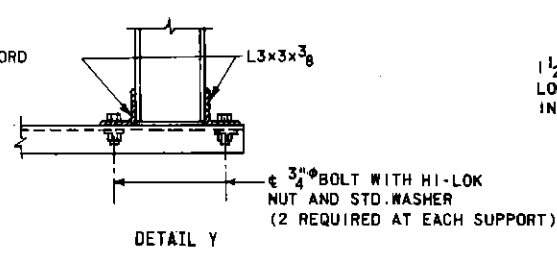
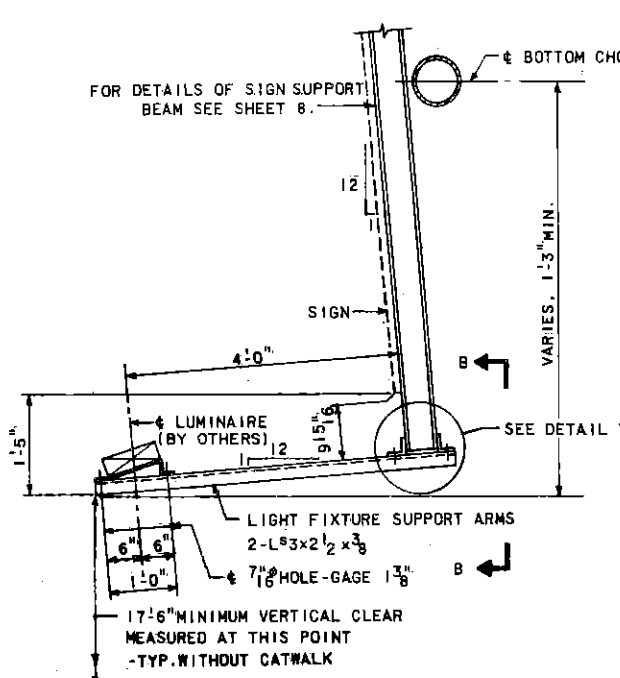
WELDED-TYPE GRATING SHALL HAVE 1 1/2 x 1/8 BEARING BARS @ 1 1/8 CENTERS AND 1/2 x 3/16 CROSS BARS @ 4" CENTERS. WEARING SURFACES OF ALL BARS SHALL BE SERRATED.

PROVIDE 3 CLIPS EVENLY SPACED AT EACH GRATING SUPPORT.

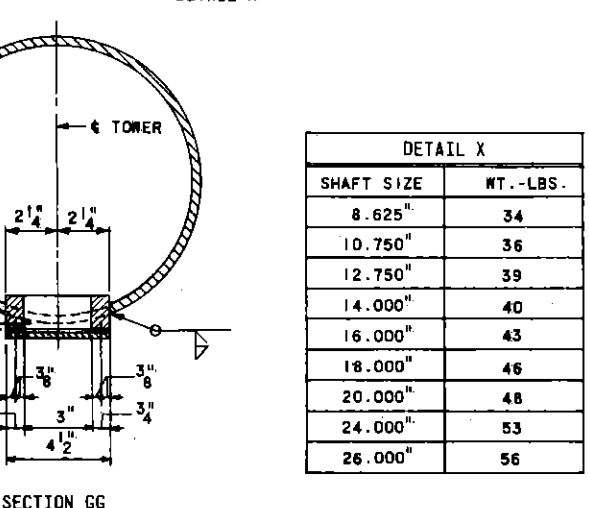
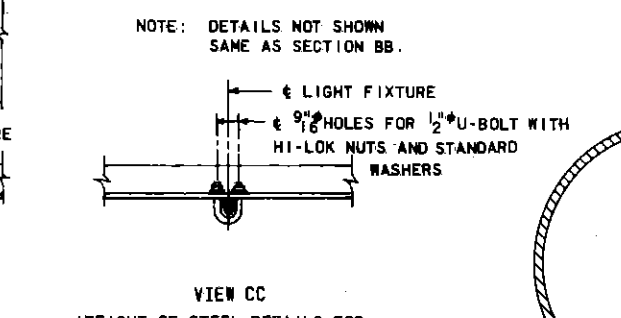
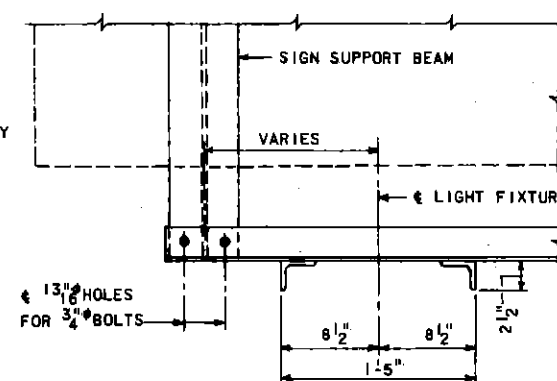
Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC ENGINEERING

OVERHEAD SIGN STRUCTURE STANDARDS
STEEL SPANS
CATWALK DETAILS

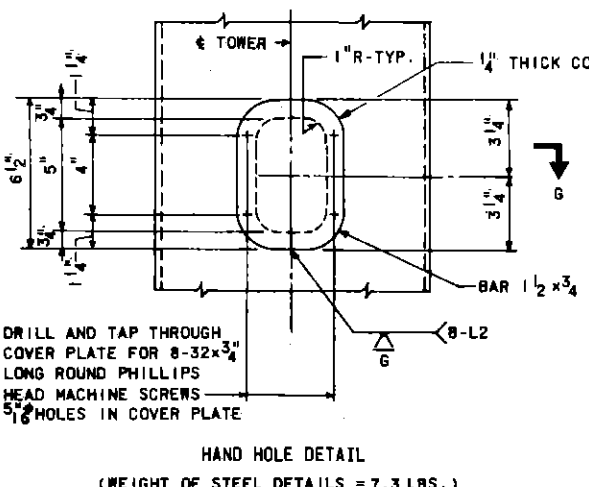
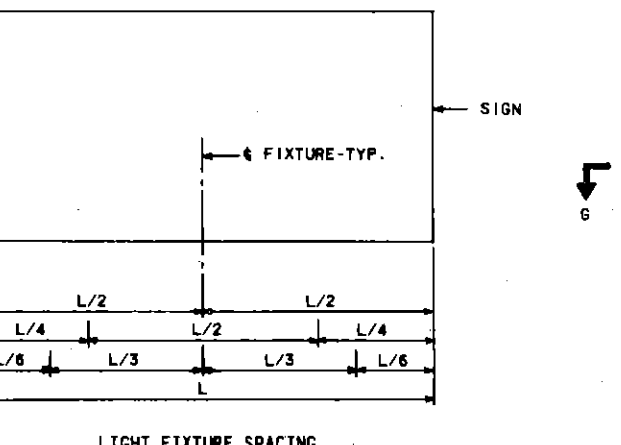
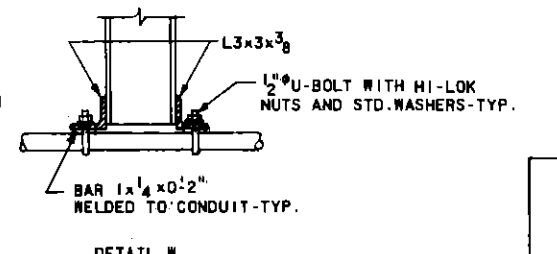
Recommended by <i>[Signature]</i> Chief Bridge Engineer	Recommended by <i>[Signature]</i> Director, Bureau of Traffic Engineering	Approved by <i>[Signature]</i> Deputy Chief Highway Engineer	Sheet 2 of 12 TC-777
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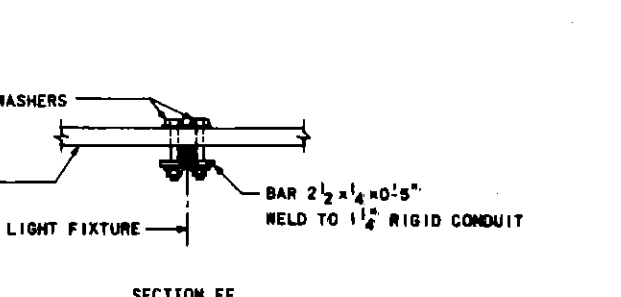
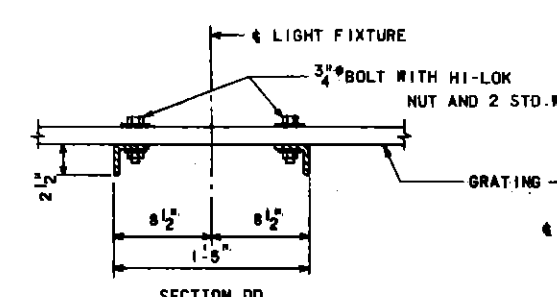
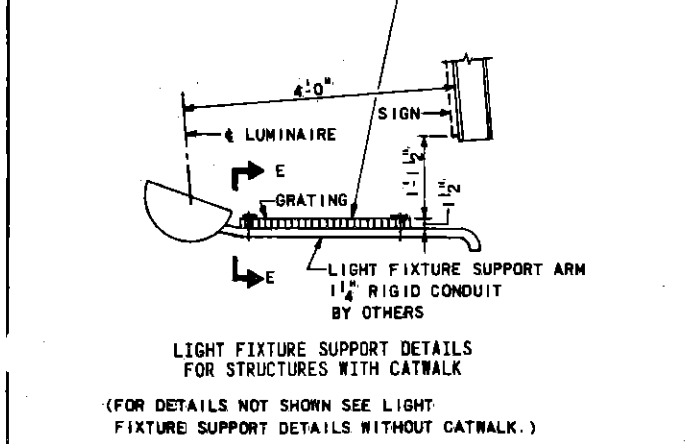
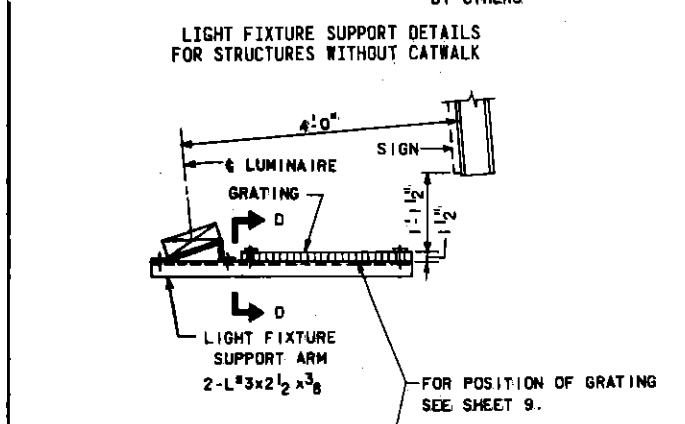
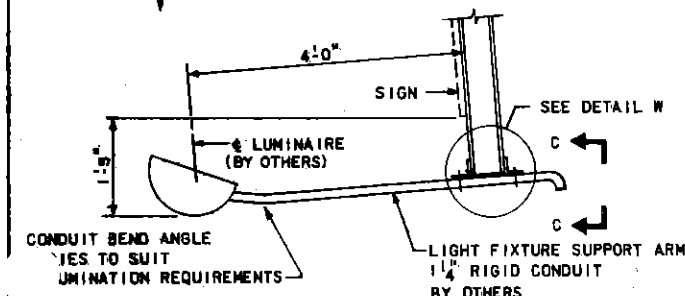
W.P. SERVICE ENTRANCE CAPS	
NO. OF SIGNS	CAP SIZE
1	3/4"
2	1"
3	1 1/4"
4	1 1/2"
5	1 3/4"



DETAIL X	
SHAFT SIZE	WT. - LBS.
8.625"	34
10.750"	36
12.750"	39
14.000"	40
16.000"	43
18.000"	46
20.000"	48
24.000"	53
26.000"	56



NOTES:
FOR GENERAL NOTES SEE SHEET 6.
LIGHT FIXTURES SHALL BE "WALLPACK" LUMINAIRES AS MANUFACTURED BY HOLOPHANE COMPANY INC. OR MERCURY VAPOR TYPE LUMINAIRES AS MANUFACTURED BY CROUSE HINDS COMPANY OR APPROVED EQUAL.



Commonwealth of Pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC ENGINEERING

OVERHEAD SIGN STRUCTURE STANDARDS
STEEL SPANS
LIGHT FIXTURE SUPPORT DETAILS
ELECTRICAL ENCLOSURE SUPPORT DETAILS
HAND HOLE DETAILS

Recommended <i>[Signature]</i> Chief Bridge Engineer	Recommended 3/15/74 <i>[Signature]</i> Director, Bureau of Traffic Engineering	Approved 3/15/74 <i>[Signature]</i> Deputy Chief Highway Engineer	Sheet 10 of 10 TC-7717
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