

THIS DRAWING WAS PREPARED BY OTHERS AND REVIEWED BY AMMTEC CONSULTANTS FOR STRUCTURAL CORRECTNESS



Skyways
by Landscape Structures Inc.
8131 Forney Rd.
Dallas TX, 75227
playlsi.com

Stamp:



Project Info:

HIP 24' 0" X 24' 0" X 10' 0" Base
Plate
Harris Park

110 SW Blue Pkwy.

Lee's Summit, MO 64063

Project No.

SO-01024873

Sheet title

Cover Sheet

Sheet Size:

"D" 34"x22"

Reference Scale:



Revisions

#	Revision	Date	By
A	For Approval		KS

Drawn by:

KS

Designed by:

FP

Approved by:

FP

Drawing:

HIPS-010-2400-2400-1000-0000-105-5

Sheet:

1

DESIGN INFORMATION

CODE AND LOADS:

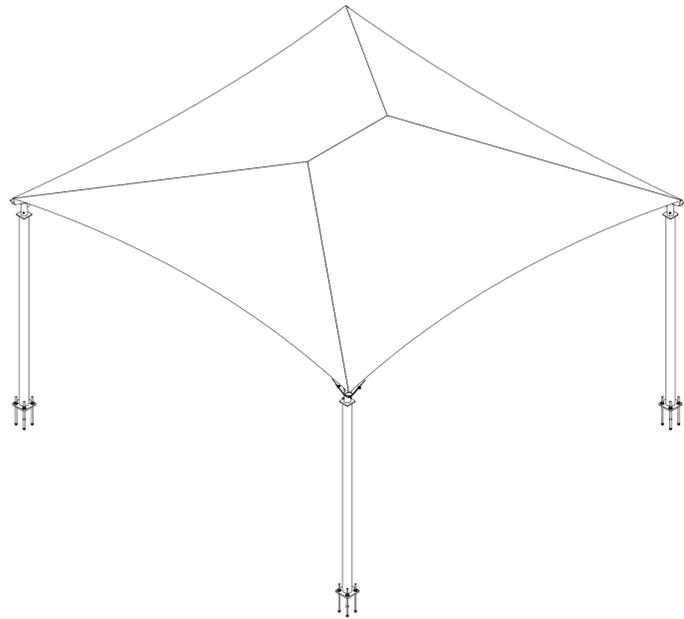
- BUILDING CODE: IBC-2018
- SQUARE FOOTAGE - 576.00 SQFT
- OCCUPANCY CLASSIFICATION - U (UTILITY & MISCELLANEOUS).
- CONSTRUCTION TYPE - II
- SINGLE STORY STRUCTURE.
- RISK CATEGORY I.

LOADS:

- DEAD LOAD= SELF WEIGHT.
- LIVE LOAD = 5 PSF.
- DESIGN WIND LOAD Vult= 105 MPH 3.0 Sec. Gust
- EXPOSURE: C.
- GROUND SNOW LOADS: 5 PSF

SOILS:

- THIS STRUCTURE WAS NOT DESIGNED FOR A FLOOD HAZARD AREA.
- SOILS WERE EVALUATED USING VALUES OBTAINED FROM IBC, TABLE 1806.2 AND ASSUMING SOIL TYPE 5.
- ALLOWABLE BEARING 1500 PSF.
- LATERAL BEARING: 100 PSF/FT (UP TO 200 PSF/FT AS PER IBC).



CP044517

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING:
 - 1.1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION - "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS."
 - 1.2. AMERICAN WELDING SOCIETY - "STRUCTURAL WELDING CODE" AWS D1.1.
 - 1.3. AMERICAN SOCIETY FOR TESTING AND MATERIALS - AS REFERENCED HEREIN.
 - 1.4. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) - AS REFERENCED.
2. THE FABRIC MEMBRANE IS NOT DESIGNED OR INTENDED TO BE WALKED ON IT IS DESIGNED ONLY TO WITHSTAND WIND AND SNOW LOADS SPECIFIED ABOVE.
3. DO NOT SCALE OFF OF DRAWINGS.
4. TENSION CABLE FABRIC TO 250 Lbs.

MATERIALS:

5. STRUCTURAL MEMBERS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS U.N.O.
 - 5.1. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500, GRADE C.
 - 5.2. ALL PLATES AND BARS SHALL CONFORM TO ASTM A 36.
 - 5.3. ALL BASEPLATES SHALL CONFORM TO ASTM A-572 GRADE 50.

WELDS:

6. ALL WELDS SHALL BE CONTINUOUS WHERE LENGTH IS NOT GIVEN.
7. ALL WELDS SHALL DEVELOP THE FULL STRENGTH OF THE WEAKER MEMBER.
8. ALL WELDS SHALL BE MADE USING E70XX .035 OR .045 WIRE.
9. ALL WELDED JOINTS SHALL CONFORM TO AWS PRE QUALIFIED WELDED JOINTS AS DESIGNATED BY THE STANDARD WELD SYMBOLS AND TERMS AS SHOWN ON THE DRAWINGS.
10. WELDS SHALL BE MADE ONLY BY OPERATORS WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TESTS, AS PRESCRIBED IN THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY, D1.1, "STRUCTURAL WELDING CODE", TO PERFORM THE TYPE OF WORK REQUIRED.
11. WELDING OF FIELD CONNECTIONS SHALL NOT BE ALLOWED.
12. ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" U.N.O.
13. SPECIAL ATTENTION SHALL BE GIVEN TO WELDS IN AREAS IN DIRECT CONTACT WITH SHADE FABRIC TO ENSURE THAT THESE WELDS ARE GROUND SMOOTH AND DO NOT HAVE SHARP EDGES OR BURRS.

BOLTED CONNECTIONS:

14. FIELD CONNECTIONS SHALL BE BOLTED AS INDICATED ON THE DRAWINGS.
15. ALL LOCK WASHERS SHALL BE SPLIT-RING.
16. ALL BOLTS SHALL BE TIGHTENED TO A SNUG CONDITION.
17. TOLERANCES ON HOLES FOR CONNECTING PLATES AND BOLTED ELEMENTS IN FIELD SHALL BE +1/8" LARGER THAN THE NOMINAL DIAMETER OF THE BOLT, FOR BASE PLATES IT SHALL BE 1/4" LARGER. BOLT HOLES IN METAL PARTS MAY BE CUT USING A FLAME CUTTING MACHINE.
18. ALL CAP SCREWS SHALL BE GRADE 8 MANUFACTURED IN ACCORDANCE WITH ASTM A354 STANDARD SPECIFICATIONS FOR ALLOY STEEL, QUENCHED AND TEMPERED. ADDITIONALLY, THE CAP SCREWS SHALL CONFORM TO THE DIMENSIONAL REQUIREMENT SPECIFIED IN ANSI/ ASME B18.2.1 FOR HEXAGON CAP SCREWS.
19. ALL FLAT WASHERS SHALL BE GRADE 8 FLAT WASHERS MANUFACTURED IN ACCORDANCE WITH ASTM F436 STANDARD SPECIFICATIONS FOR HARDENED STEEL WASHERS. THE FLAT WASHERS SHALL MEET THE DIMENSIONAL REQUIREMENT SPECIFIED IN ANSI/ ASME B18.22.1 FOR HARDENED STEEL WASHERS.
20. ALL LOCK WASHERS SHALL BE GRADE 8 LOCK WASHERS MANUFACTURED IN ACCORDANCE WITH ASTM F436 STANDARD SPECIFICATIONS FOR HARDENED LOCK WASHERS. THE LOCK WASHERS SHALL MEET THE DIMENSIONAL REQUIREMENT SPECIFIED IN ANSI/ ASME B18.21.1 FOR HARDENED STEEL LOCK WASHERS.
21. ALL HEX NUTS SHALL BE GRADE 8 NUTS MANUFACTURED IN ACCORDANCE WITH ASTM A563 STANDARD SPECIFICATIONS FOR CARBON AND ALLOW STEEL NUTS. THE NUTS SHALL MEET THE DIMENSIONAL REQUIREMENT SPECIFIED IN ANSI/ ASME B18.2.2 FOR HEXAGON NUTS.
22. ALL HARDWARE COMPONENTS SHALL HAVE A YELLOW ZINC FINISH APPLIED THROUGH AN ELECTROPLATING PROCESS, MEETING THE REQUIREMENTS OF ASTM B633.

STEEL CABLES:

23. STRUCTURAL WIRE ROPE CABLES SHALL CONFORM TO THE LATEST REVISION OF ASTM A 603, "STANDARD SPECIFICATION FOR ZINC-COATED STEEL STRUCTURAL WIRE ROPE."
24. ALL WIRE ROPE CABLE SHALL BE 7X19 STRAND CORE GALVANIZED WIRE ROPE WITH A BREAKING STRENGTH VALUE OF: 7000 lbs.
25. CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE FABRIC REACH A TAUGHT APPEARANCE.
26. ANY LONG-TERM CABLE SAG SHALL BE MINIMIZED DURING THE MAINTENANCE RE-TIGHTENING VISITS AS REQUIRED.

EXECUTION:

27. STEEL FABRICATOR SHALL PROVIDE EFFECTIVE, FULL TIME QUALITY CONTROL OVER ALL FABRICATION ACTIVITIES.
28. VISUAL INSPECTION SHALL BE PERFORMED TO ENSURE ALL WELDS CONFORM TO AWS STANDARDS
29. GRIND ALL SHARP EDGES AND CORNERS SMOOTH.

CONCRETE:

30. CONCRETE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 - 30.1. AMERICAN CONCRETE INSTITUTE (ACI) 318: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - 30.2. ASTM C94: STANDARD SPECIFICATION FOR READY-MIXED CONCRETE.
 - 30.3. ASTM C150: STANDARD SPECIFICATION FOR PORTLAND CEMENT.
 - 30.4. ASTM C33: STANDARD SPECIFICATION FOR CONCRETE AGGREGATES.
31. ALL CONCRETE SHALL BE READY-MIX.
32. MIX DESIGN SHALL BE DEVELOPED BY A QUALIFIED CONCRETE TECHNOLOGIST OR MIX DESIGN PROFESSIONAL IN ACCORDANCE WITH ACI 318 GUIDELINES.
33. ALL CONCRETE PLACEMENT SHALL BE PERFORMED BY EXPERIENCED PERSONNEL USING PROPER EQUIPMENT AND TECHNIQUES TO ACHIEVE THE SPECIFIED CONSOLIDATION AND FINISH.
34. ALL CONCRETE SHALL BE PLACED WITHIN THE TIME LIMITS SPECIFIED IN ASTM C94 TO ENSURE PROPER WORKABILITY AND STRENGTH DEVELOPMENT.
35. ALL CONCRETE SHALL BE ADEQUATELY CURED TO PROMOTE HYDRATION AND ACHIEVE THE SPECIFIED STRENGTH AND DURABILITY.
36. ALL CONCRETE, IF REQUIRED, SHALL BE TESTED IN ACCORDANCE WITH ASTM C31/C31M FOR COMPRESSIVE STRENGTH AND ASTM C39/C39M FOR CYLINDER TESTING.
37. CONCRETE SPECIFICATIONS SHALL BE AS FOLLOWS:
 - 37.1. 28 DAY STRENGTH: f'c=3,000 PSI (MIN.).
 - 37.2. SLUMP: 3-5.
 - 37.3. TYPE II/V PORTLAND CEMENT.
 - 37.4. AGGREGATE SHALL CONFORM TO ASTM C-33.
 - 37.5. NO AIR ENTRAINMENT REQUIRED.
38. ALL CONCRETE STEEL REINFORCEMENT SHALL CONFORM TO ASTM A-615 GRADE 60.
39. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL AND RSI MANUAL OF STANDARD PRACTICE.
40. REINFORCING CONCRETE COVER SHALL BE 3" MIN.
41. ALL ANCHOR BOLTS SET IN CONCRETE SHALL COMPLY WITH ASTM F-1554 GRADE 55.
42. ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI AND SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C-109, ASTM C939, ASTM C1090 WHEN APPLICABLE.
43. GROUT LEVELING BED THICKNES 2 1/2" MAX.

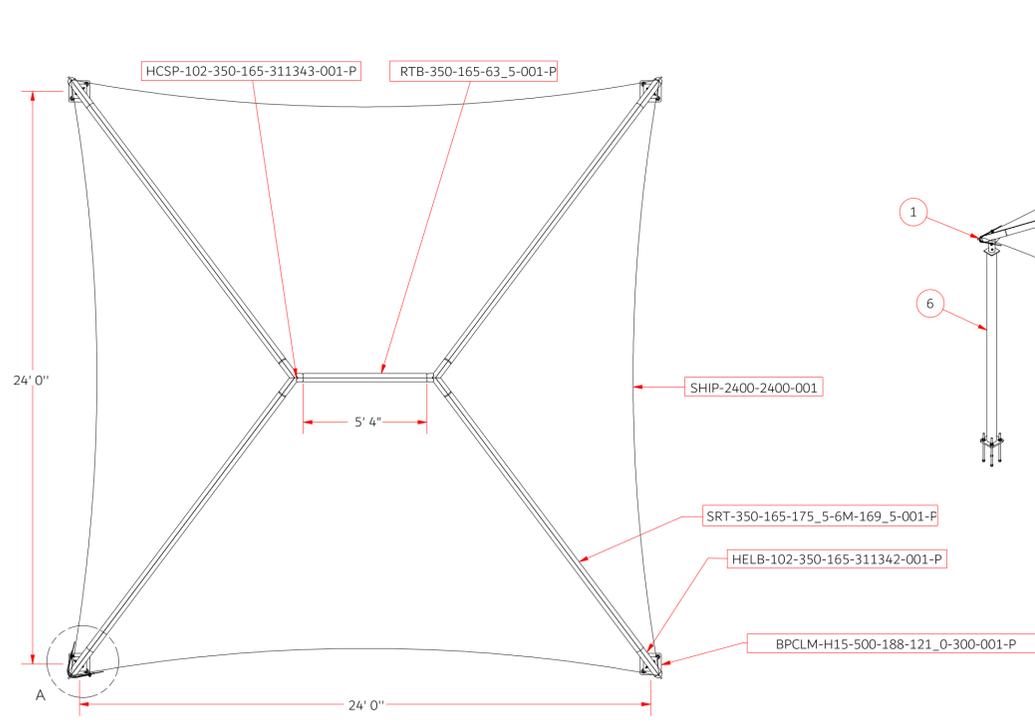
FABRIC NOTES:

44. FABRIC SHALL BE MANUFACTURED BY GALE PACIFIC; NO SUBSTITUTIONS ARE ALLOWED.
45. FABRIC SHALL BE HIGH DENSITY POLYETHYLENE (HDP) MATERIAL.
46. THE FABRIC SHALL ACHIEVE AN ULTIMATE TENSILE CAPACITY WHEN TESTED PER ASTM D-5034:
47. WARP DIRECTION OF 150 LB AT 66% MAX ELONGATION.
48. WEFT DIRECTION OF 529 LB AT .58% MAX ELONGATION.
49. SHEAR MODULUS OF 350 LBF/SQIN MIN.
50. THE FABRIC SHALL RETAIN 80% OF ITS TENSILE AND TEARING STRENGTH AFTER ULTRAVIOLET EXPOSURE PER ASTM G53 USING A 313 NM LIGHT SOURCE FOR 500 HOURS WHILE MOISTENED FOR 1 HOUR EVERY 12 HOURS.
51. FABRIC SHALL REQUIRE ANNUAL INSPECTION AND MAINTENANCE.
52. IT IS RECOMMENDED THAT THE FABRIC TOP SHALL BE REMOVED PRIOR TO NATURAL EVENT WHERE THE SNOW AND WIND EXPECTATIONS EXCEEDS THE DESIGN LOADS INDICATED IN GENERAL NOTES. THE OWNER ACCEPTS FULL RESPONSIBILITY OF REMOVING THE FABRIC FROM THE STEEL FRAME WHEN ANY OR ALL OF THESE CONDITIONS MAY OCCUR.
53. ALL FABRIC SHALL CONFORM TO FIRE PROPAGATION PERFORMANCE CRITERIA OF NFPA 701 OR HAVE A FLAME SPREAD INDEX NOT GREATER THAN 25 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.

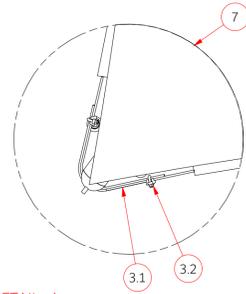
PAINT

54. ALL PAINT WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 - 59.1. ASTM D520 - STANDARD SPECIFICATION FOR ZINC DUST PIGMENT.
 - 59.2. ASTM D3363 - STANDARD TEST METHOD FOR FILM HARDNESS BY PENCIL TEST.
 - 59.3. ASTM D7091 - STANDARD PRACTICE FOR NONDESTRUCTIVE MEASUREMENT OF DRY FILM THICKNESS
 - 59.4. ASTM D3359 - STANDARD TEST METHODS FOR RATING ADHESION BY TAPE TEST.
55. ALL STRUCTURAL STEEL SHALL BE GRIT BLASTED PRIOR TO PAINT.
56. ALL WORK SHALL BE FREE OF OIL, GREASE AND MACHINING CHIPS BEFORE BLASTING.
57. SURFACE PREPARATION PRIOR TO PAINTING SHALL BE EXECUTED IN ACCORDANCE TO COMMERCIAL BLAST CLEANING SSPC-SP6 OR NACE #3.
58. THE ABRASIVE MEDIA FOR CLEANING SHALL BE A STEEL GRIT G50.
59. ALL STRUCTURAL STEEL EXCEPT EMBEDDED ITEMS, SHALL BE PAINTED WITH TWO SHOP COATS (3.0 MILS THICK. MIN.) FIRST COAT WITH ZINC RICH PRIMER AND A SECOND COAT OF A WEATHER RESISTANT POWDER COATING BASED ON POLYESTER TGIC (PROSHIELD).
60. A TOTAL OF 2% OF ALL PAINT PAINTED PARTS SHALL PASS ADHESION TEST AS PER ASTM D-3359.
61. THE PAINT SYSTEM SHALL PASS 2000 HOURS OF SALT SPRAY RESISTANCE AS PER ASTM B-117.
62. ALL PAINT SHALL BE A APPLIED USING AN APPLICATION PROCESS AS FOLLOWS:
63. APPLY THE ZINC-RICH PRIMER POWDER COATING USING ELECTROSTATIC SPRAY EQUIPMENT.
 - 63.1. ACHIEVE A DRY FILM THICKNESS (DFT) OF 3 MILS FOR THE PRIMER LAYER - ASTM D7091.
 - 63.2. CURE THE PRIMER LAYER ACCORDING TO A GEL STATE.
 - 63.3. APPLY THE POLYESTER TOPCOAT POWDER COATING OVER THE PRIMER LAYER.
 - 63.4. ACHIEVE A DFT OF 3 MILS FOR THE TOPCOAT LAYER.
 - 63.5. CURE THE POWDER COAT SYSTEM IN A CONTROLLED TEMPERATURE OVEN AT A MINIMUM OF 400 DEGREES F.

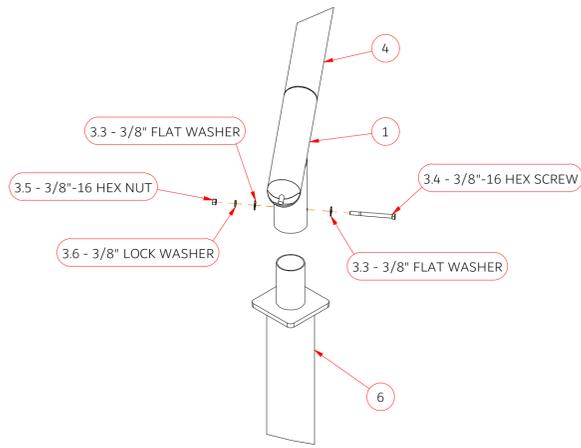
ABBREVIATION KEY			
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
CL	CENTER LINE	QTY	QUANTITY
FFE	FINISH FLOOR ELEVATION	O.C	ON CENTER
FFL	FINISH FLOOR LEVEL	SQ	SQUARE
HSS	HOLLOW STRUCTURAL SECTION	U.N.O	UNLESS NOTED OTHERWISE
ID	INTERNAL DIAMETER	KSI	KIPS PER SQUARE INCH
LBS	POUND	TYP	TYPICAL
TOF	TOP OF FOOTING	EQ	EQUAL



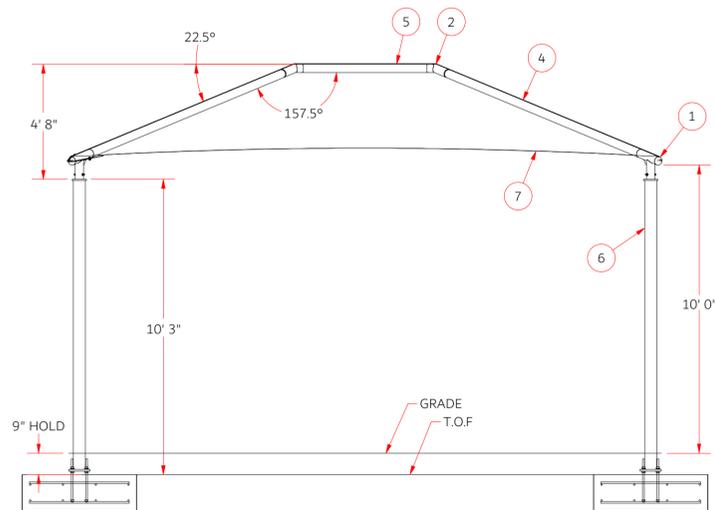
PLAN VIEW (AREA COVERED: 576.00 SQFT)
NOT TO SCALE
SHADE IS TRANSPARENT IN THIS VIEW



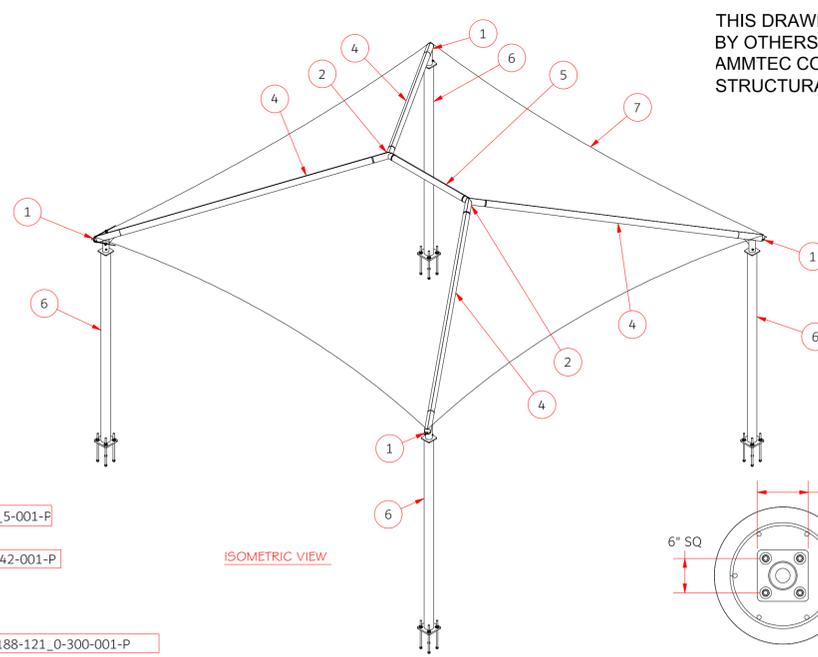
DETAIL A
SHADE-CABLE CONNECTION



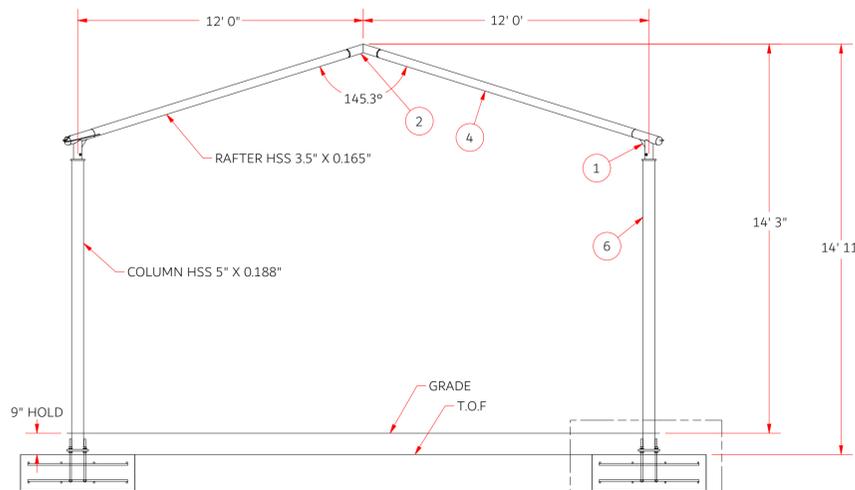
COLUMN-ELBOW CONNECTION



PLAN SOUTH ELEVATION
OPTION 3 - SPREAD FOOTING SHOWN
NOT TO SCALE
SHADE IS TRANSPARENT IN THIS VIEW



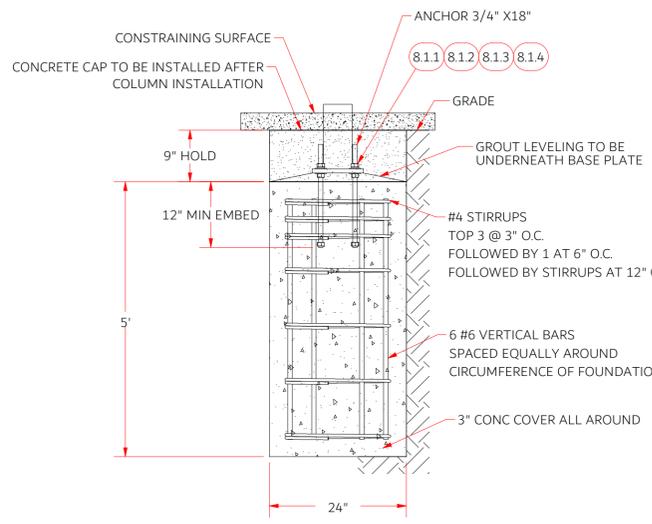
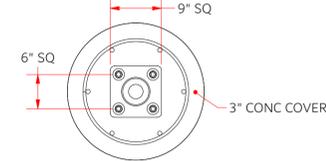
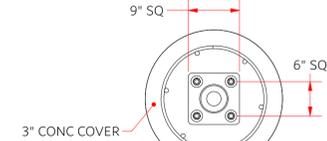
ISOMETRIC VIEW



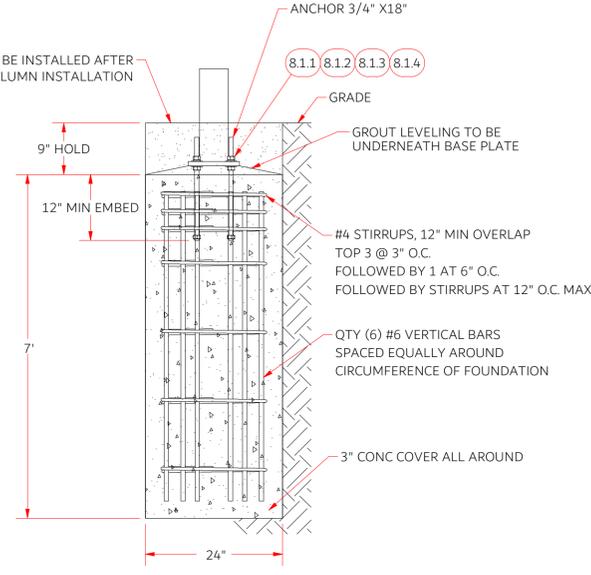
PLAN EAST ELEVATION
NOT TO SCALE
SHADE NOT SHOWN IN THIS VIEW

THIS DRAWING WAS PREPARED
BY OTHERS AND REVIEWED BY
AMMTEC CONSULTANTS FOR
STRUCTURAL CORRECTNESS

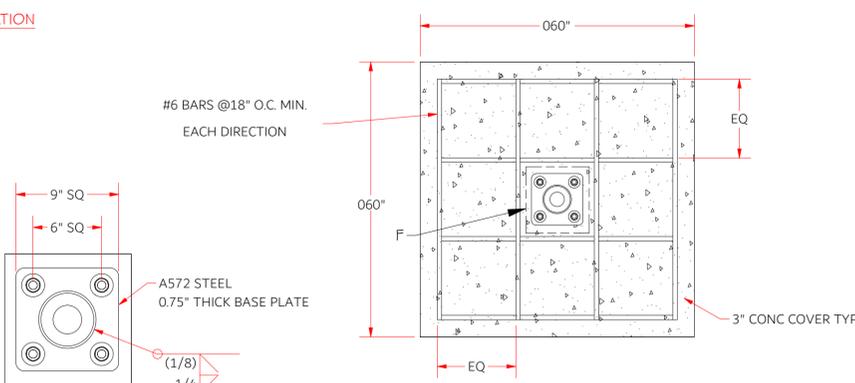
ITEM	QTY	PART NUMBER	AX Part Number	DESCRIPTION	MASS
1	4	HELB-102-350-165-311342-001-P	348213	Std Hip Eib, 3.5" OD x 0.165-HELB-102-350-165-311342-001-P	13.420 lbmass
2	2	HCS-102-350-165-311343-001-P	348703	Std Hip Crosspiece, 3.5" x 0.165-HCS-102-350-165-311343-001-P	12.059 lbmass
3	1	PKC-SHIP-2400-2400-000		Standard Hip Hardware Pack PKC-SHIP-2400-2400-000	
3.1	1	CBL-025-115_0-01		115FT. of 1/4" x 19 Hot Dipped Galv. Aircraft Steel Cable CBL-025-115_0-01	33.00 lb
3.2	2	CLCM-25	259617	HDG Cable Clamp 3/4"	0.223 lbmass
3.3	8	FLWA-375-02-01-01	257134	3/8" Flat Washer G-8 Yellow Zinc	0.012 lbmass
3.4	4	HCS-375-16-450-01-01	257142	Hex Cap Screw 3/8"-16 UNC X 4 1/2" G-8 Yellow Zinc	0.169 lbmass
3.5	4	HNT-375-16-04-01-01	257176	3/8" - 10 UNC Hex Nut G-8 Yellow Zinc	0.018 lbmass
3.6	4	LOWA-375-03-01-01	257187	3/8" Split Lock Washer G-8 Yellow Zinc	0.03601 lbmass
4	4	SRT-350-165-175_5-6M-169_5-001-P		HSS 350-165-175_5-6M-169_5-001-P	74.86 lb
5	1	RTB-350-165-63_5-001-P		ROUND TUBE HSS 3.5" OD X 0.165", PAINTED RTB-350-165-63_5-001-P	27.10 lb
6	4	BPCLM-H15-500-188-121_0-300-001-P		BASEPLATE COLUMN 500-188-121_0-LONG WITH 300 CLIP, PAINTED BPCLM-H15-500-188-121_0-300-001-P	112.37 lbs
7	1	SHIP-2400-2400-001		Standard Hip Fabric Top, 2400x2400	115.20 lb
8	1	REC-HIP-0750-18-16-01		HIP Anchor Pack 3/4"x18" QTY - 16	45.795 lbmass
8.1	16	ANCH-0750-18	257222	Anchor Assembly 3/4" x 18"	2.862 lbmass
8.1.1	2	HNT-750-10-04-02-04	257179	Hex Nut 3/4" - 10 Bare	0.139 lbmass
8.1.2	1	ANBO-001-0750-18	257217	Anchor Bolt 3/4" x 18"	2.394 lbmass
8.1.3	2	FLWA-750-02-02-04	257137	3/4" Flat Washer, Regular, G-5 Black	0.074 lbmass
8.1.4	1	LOWA-750-03-02-04	257190	3/4" Split Lock Washer G-5 Bare	0.04262 lbmass



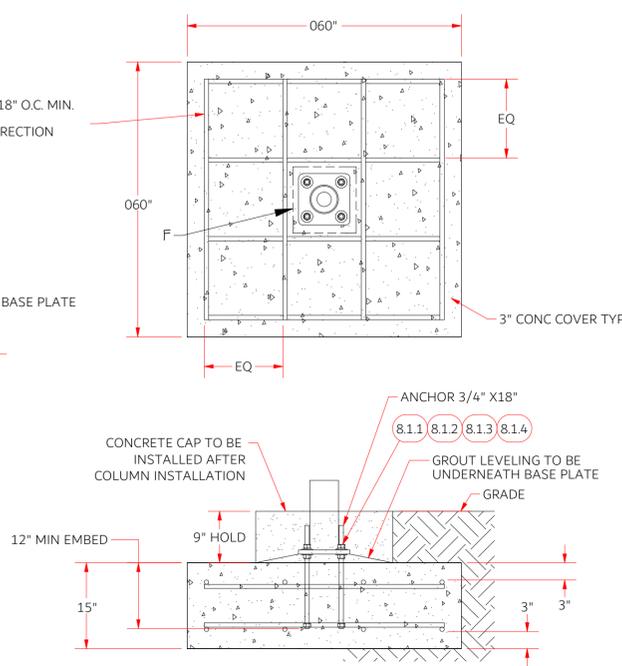
OPTION 2 - CONSTRAINED FOUNDATION
NOT TO SCALE



OPTION 1 - NON-CONSTRAINED FOUNDATION
NOT TO SCALE



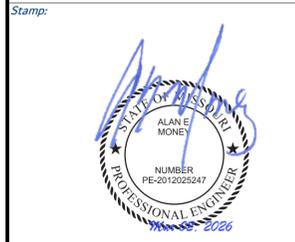
DETAIL F
BASE PLATE



DETAIL E
OPTION 3 - SPREAD FOOTING FOUNDATION
NOT TO SCALE



Skyways
by Landscape Structures Inc.
8131 Forney Rd.
Dallas TX, 75227
playlsi.com



Project Info:
HIP 24' 0" X 24' 0" X 10' 0" Base Plate
Harris Park
110 SW Blue Pkwy.
Lee's Summit, MO 64063

Project No.
SO-01024873
Sheet title
PLANS & SECTIONS
Sheet Size:
"D" 34"x22"



Revisions			
#	Revision	Date	By
A	For Approval		KS

Drawn by: KS
Designed by: FP
Approved by: FP
Drawing:
HIPS-010-2400-2400-1000-0000-105-5
Sheet: