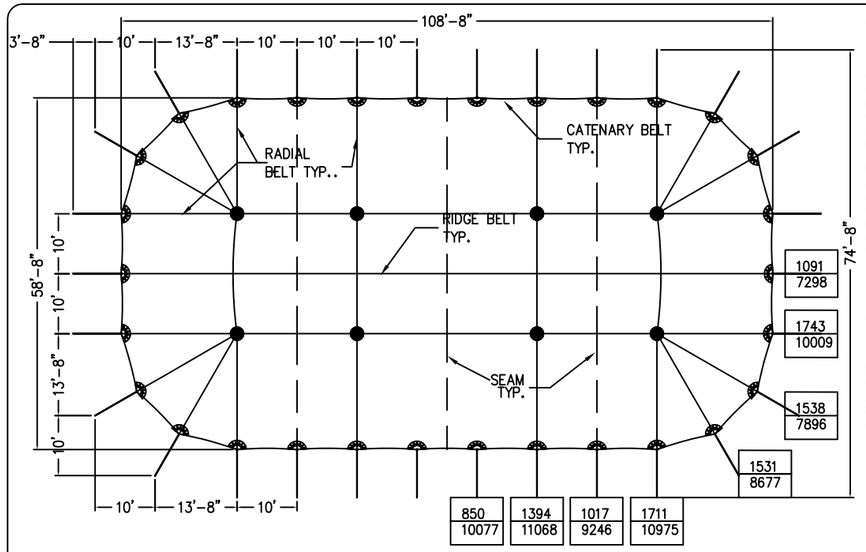


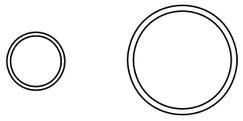
PLAN VIEW
SCALE: 3/32"=1'-0"

LEGEND:

THIS NUMBER REPRESENTS THE AS-INSTALLED TENSION (PRE-STRESS) IN LBS (POUNDS) THAT IS THE AMOUNT OF TENSION NECESSARY IN THE EDGE TIEBACK ROPE TO PROPERLY PULL THE TENT OUT AND KEEP IT PROPERLY TENSIONED.

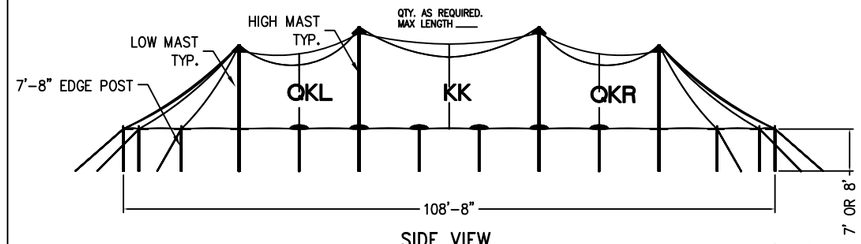
THIS NUMBER REPRESENTS THE PULL OUT TENSION IN LBS THAT THE TIEBACK DEVICE MUST RESIST IN THE DIRECTION OF THEIR CORRESPONDING TIEBACK ROPE UNDER FULL WIND LOAD, INCLUDING A FACTOR OF SAFETY=3.0

NOTE: ANCHORING SAFETY FACTOR = 2.2



SIDE POLE
2" SCH.40
ALUM. 6061T6

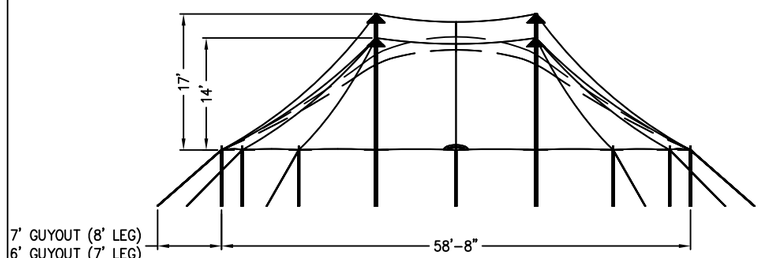
CENTER POLE
4" SCH.40
ALUM.6061T6



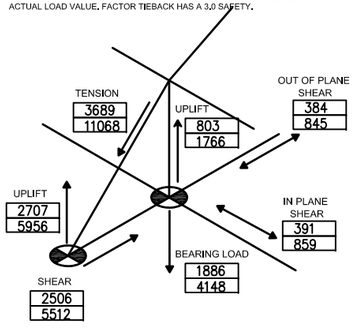
SIDE VIEW
SCALE: 3/32"=1'-0"

SAMPLE
100 lbs ACTUAL LOAD VALUE
220 lbs MINIMUM DESIGN LOAD FOR ANCHORING SYSTEM*

* MINIMUM DESIGN LOAD FOR ANCHORING SYSTEM IS CALCULATED USING A FACTOR OF SAFETY = 2.2. SOME FIXED MECHANICAL ANCHORS HAVING ULTIMATE LOADS IN EXCESS OF THIS SPECIFIED LOAD CAN BE USED, BUT THOSE ANCHORS MUST ALSO HAVE ALLOWABLE/ WORKING LOADS GREATER THAN ACTUAL LOAD VALUE. FACTOR TIEBACK HAS A 3.0 SAFETY.



END VIEW
SCALE: 1/8"=1'-0"



GENERAL

The Information on this drawing pertains only to the Tidewater 59' x Tent, designed and manufactured by Aztec Tents, Inc., Torrance, CA. If used for review or approval of a particular installation, this drawing should be accompanied by the assurances of the manufacturer's engineer that the materials, sizes and specification requirements on this drawing will be met or exceeded, and by the assurances of the installer's engineer that the anchoring requirements and the Installation and maintenance recommendations will also be met or exceeded, The following criteria, results, design loads and typical material sizes are considered appropriate for many applications and installations of this standardized structure. The adequacy and appropriateness of the engineering criteria selected for the structure should be reviewed for each installation and site based on local climate, wind conditions, geographical locations, exposure, duration of installation, occupancy and building code requirements.

1. ENGINEERING CRITERIA

The tent system has been evaluated using the criteria set forth In the document's "Minimum Design Loads for Buildings and Other Structures: ASCE/SEI Standard 7-10" published by The American Society of Civil Engineers / Structural Engineering Institute.

Exposure Category C (open terrain) has been assumed. The standard 50 year mean recurrence interval has been reevaluated for a 2 year return period to account for the temporary nature of the tent installation. Installations of longer than 180 days exceed the evaluation criteria used and are not covered by this document.

This tent complies with ASCE 7-10 design wind speed of 115 mph (3-second gust). Pursuant to Chapter 27 of ASCE 7-10 the tent has been reanalyzed to 78 mph (3-second gust) due to the temporary nature of the installation. Reaction loads are based on the reduced loads and pressures. If a wind speed of 38 mph or greater occurs or is forecast, at the site where the tent is erected, the tent shall be evacuated. If a wind speed of 78 mph is forecast at the site where the tent is erected, the tent shall be taken down and removed from the site.

The structure is not engineered for snow or live loading.

External pressure coefficients from ASCE/SEI 7-10 Figure 26.5-1A (enclosed, partially enclosed buildings) have been used to calculate surface pressures. Wind gusting is taken into account in the analysis. Two different wind directions have been assessed for wind loads over the entire tent. Analysis has been performed with side walls, All information pertains to structures mounted at grade on a horizontal ground plane without nearby escarpments, ridges, or hills.

2. DESIGN LOADS AND MATERIAL SPECIFICATIONS

2.1 Fabric

Recommended Factor of Safety for fabric: 4.0 times the maximum design stress.

Maximum fabric stresses under design wind loads:
Warp: 55 lb/in
Fill: 25 lb/in

Material: PVC laminated/coated polyester fabric with minimum strip tensile strength (as per Federal Testing Standard No. 191, Method 5102):

Required Fabric Strip Tensile Strengths:
Warp: 220 lbs/in
Fill: 100 lbs/in

Note: Warp direction runs parallel to seam lines. The fabric should be top-coated to resist U.V. degradation and soiling. Fabric reinforcing (double layer) is required at mast tops and post top locations.

2.2 Fabric Seams

Recommended Factor of Safety for fabric seams: 2.0 times the maximum design stress. 200% of the maximum design fabric stress yields a minimum required seam strength of 110 lbs/in (as per Federal Testing Standard No. 191, Method 5120)

Seams must pass a "hanging dead load seam test" of not less than four hours duration at 100% of the maximum design fabric stress at 90 °F with no visible failure or slippage.

2.3 Ridge Web Belts

The Ridge Web Belt with the greatest design tension has been selected to size all Ridge Web Belts.

Recommended Factor of Safety for web belts: 3.0 times maximum design tension.

Ridge Belt Maximum Design Tension = 1,400 lbs.
Material: polyester web belt with a minimum breaking strength of 4,200 lbs with maximum elongation of 12% to 17% at breaking.

Note: All web belts shall be terminated at each end with stitching adequate to develop the full breaking strength of the web belt. Thread for stitching web belts to main fabric should be high quality UV resistant polyester.

2.4 Radial Web Belts

The Radial Web Belt with the greatest design tension has been selected to size all Radial Web Belts.

Recommended Factor of Safety for web belts: 3.0 times maximum design tension.

Radial Belt Maximum Design Tension = 2,100 lbs.
Material: polyester web belt with a minimum breaking strength of 6,300 lbs with maximum elongation of 12% to 17% at breaking.

2.5 Edge Catenary Web Belts

The Edge Catenary with the greatest design tension has been selected to size all edge catenary web belts.

Recommended Factor of Safety for web belts: 3.0 times maximum design tension.

Catenary Maximum Design Tension = 1,200 lbs.
Material: Polyester web belt with a minimum breaking strength of 3,600 lbs with maximum elongation of 12% to 17% at breaking.

2.6 Tieback Ropes for Edge Posts

Tiebacks can be a rope, cable, webbing or similar structural member with tensile capacity. Recommended Factor of Safety for edge post tieback ropes: 3.0 times the maximum design tension.Using multiple tiebacks at each column location to achieve the designated load is acceptable. Refer to Plan Drawing Load Blocks for specific loading at each leg location.

2" Polyester Webbing Belt w/ 11,068 lbs. breaking strength has allowable load of 3,689 lbs. F.O.S.=3

2.7 Masts (Interior High Columns) and Edge Posts

All masts should be aluminum construction 6005-T5, 6105-T5 or 6061-T6 alloy. Section sizes are indicated below.

	High Masts	Low Masts	Edge Posts
Design Loads	-3323 lbf	-2274 lbf	-2497 lbf
Member Size	4"sch40	4"sch40	2"sch40

Note: The above figures for edge post design loads do not account for the effects of wind loading from fabric side walls. Therefore, the walls should be removed or tied up if high winds are anticipated or occur.

2.7 Connecting Hardware

All connecting hardware such as shackles, turnbuckles, pear-shaped rings, and fabricated metal plates or assemblies shall have allowable working loads of 2.0 times the maximum design loading.

3. INSTALLATION

3.1 All anchor locations must be laid out accurately as shown on the attached diagram (in advance of laying out the fabric) to a tolerance ±4" in any direction (right or left, forward or back, up or down, etc.). All column base locations must be laid out accurately to a tolerance of ±3" in any direction.

3.2 Anchor and column locations shown on the diagram assume a perfectly flat site. If the actual site has variations in elevation that prevent all the anchors and post/mast bases from being at the same level, new anchor locations and/or column lengths must be accurately calculated to preserve original design geometry and vectors.

3,3 Ensure that the anchors installed are adequate to resist the pull out loads shown on the diagram. Actual testing of some individual anchors to 75% of the anchor pull-out load is recommended.

3.4 Certification of this structure is valid only with the use of Aztec supplied and assured components or those which meet or exceed the requirements of this drawing throughout the installation of this structure, with the exception of the anchoring devices which must be determined by the installation engineer as noted in 3.3 above.

3.5 Rainwater Ponding - If rainwater ponding occurs at any point on the fabric, evacuate the tent, remove the water and adjust the tieback rope prestress tension back to design levels to achieve positive drainage.

All the above requirements must be adhered to in order for the structure to obtain proper geometry, as-installed pre-stress, and anchor holding strength, all of which are necessary to achieve full design wind load resistance capacity.

Interior bays (mast to mast lengths of 20') can be deleted as required on a case by case basis to make the tent shorter in length. This does not effect the structural capacity of the tent in any way.

4. INSTALLATION PROCEDURE GUIDELINES

Correct field installation of a rental tent requires diligence and considerable skill and expertise which can be obtained only through the proper field training and experience of a professional rental tent Supervised Installation Crew. This is instrumental to obtaining the optimal structural behavior of the Tent.

General Installation Guidelines

Clear the site to prepare for the planned activity.

Use drop cloths to prevent soiling or damaging the fabric membrane.

Pad and tape objects with sharp projections which will remain on site under the tent.

Check for sub-grade utilities before installing the anchors.

Install the anchors.
Locate the public circulation routes with clearance from anchoring devices. Identify clearly.

Cover any sharp edges on anchoring devices with protective material.

Place the tent sections on site, unroll, and lace together.

Connect side poles to tent, and attach tieback ropes to fabric and anchors.

Check all equipment for operational condition before lift up.

Raise the side poles and adjust tieback ropes.

Use jump ropes or other positive connections on all side poles to prevent the tent from separating from the pole tops.

Raise the masts.
Anchor all masts to the ground to restrain movement.

Check and methodically adjust the columns and tieback ropes into final design geometry to obtain proper stresses in the fabric. Any components showing visible signs of damage should be immediately replaced.

Proper safety equipment should be used at all times to ensure a safe installation and take down. Safety equipment such as hard hats, steel toe shoes, safety glasses and other equipment, as required, should be utilized at all times.

The weather should be carefully considered by the Owner and/or Installer before raising or lowering the fabric tent since the fabric cannot transmit design wind loads or shed rainwater loads (potential ponding) when it is untensioned. It is recommended that raising or lowering the fabric tent be performed when the wind speed is less than 15 mph. The decision of when to raise or lower the fabric tent should be the responsibility of the experienced rental tent installation supervisor based on conservative life safety considerations and judgement.

Adequate and appropriate installation and maintenance procedures are necessary to achieve and sustain full design load capability for the Tent. The Owner and/or Installer are fully responsible for assuring that the tent is properly installed and maintained.

Follow additional installation instructions provided by the manufacturer.

5. INSPECTION

Each component of the Tent should be inspected at the beginning and the end of each installation for visual signs of damage by the installer. All damaged materials should be repaired or replaced immediately.

6. ANCHORING

A Factor of Safety of 2.2 times the design load is commonly used for ground anchors of temporary structures.

A wide variety of ground anchoring devices are commonly used. Soil conditions and resulting ground anchor holding capacities vary from site to site, and can vary within a particular site. The Owner and/or Installer of the Tent is fully responsible for assuring that the selection and installation of the anchoring devices is adequate and appropriate to resist the pull out loads on this drawing.

Reduced anchor performance can occur under wet soil conditions and needs to be accounted for. Care should be taken that water is not allowed to drain or collect near anchors.

Anchoring device holding capacity can be developed using a single large device, or by using multiple smaller devices.

7. MAINTENANCE

A variety of material and weather factors can result in fabric stretch, web belt stretch, rope stretch, mast base settling, anchor settling, changes to design geometry, etc. Changes to the design geometry of the tent, and consequently the structural performance characteristics of the tent, can occur while the tent is in service and not attended by the professional installer.

It is recommended that a Maintenance Agreement be arranged between the Client and the Installer involving periodic inspections and adjustments.

All information and recommendations contained herein have been prepared by at the request, acceptance and approval of Aztec Tents.

Additional installation and anchoring information entitled "The IFAI Procedural Handbook For The Safe Installation And Maintenance Of Tentage" is published by the Tent Rental Division of the Industrial Fabrics Association International.

It is understood and expected that some damage to the membrane and/or other non-structural components may occur In conditions below the overall design wind velocity rating of the tent system. This damage may result In components requiring repair or replacement as necessary.

AZTEC TENTS
DESIGN & PRODUCTION
2665 COLUMBIA ST. TORRANCE, CA. 90503
(800) 228-3687 - FAX (310) 381-0722

TIDEWATER
59X TIDEWATER W/ WALLS
STRUCTURAL DRAWING

PART NUMBER: TIDEWATER 59X WITH WALLS 020818

REVISION HISTORY

REV.	DESCRIPTION:	BY:	DATE:

CONFIDENTIAL

ENGINEER: N/A	DATE: 4/12/2018
PAGE: 1 OF 1	DRAWN: LYZ

☒ FOR REFERENCE
☐ FOR INSTALLATION

EVENT/CLIENT:
SITE ADDRESS:
NUMBER OF TENTS:
DURATION DATES: