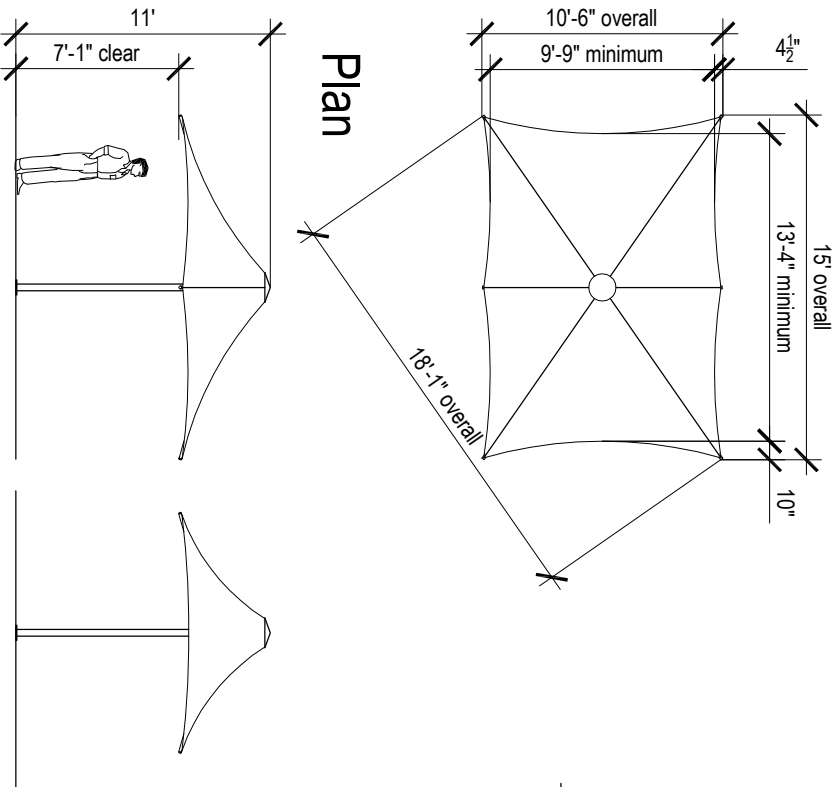


**CENTRA RECTANGULAR 15' - CR45**

Designed to 90mph, Exp B  
 Rated when umbrella is fully erected.  
 Umbrella weight: 188 lb.

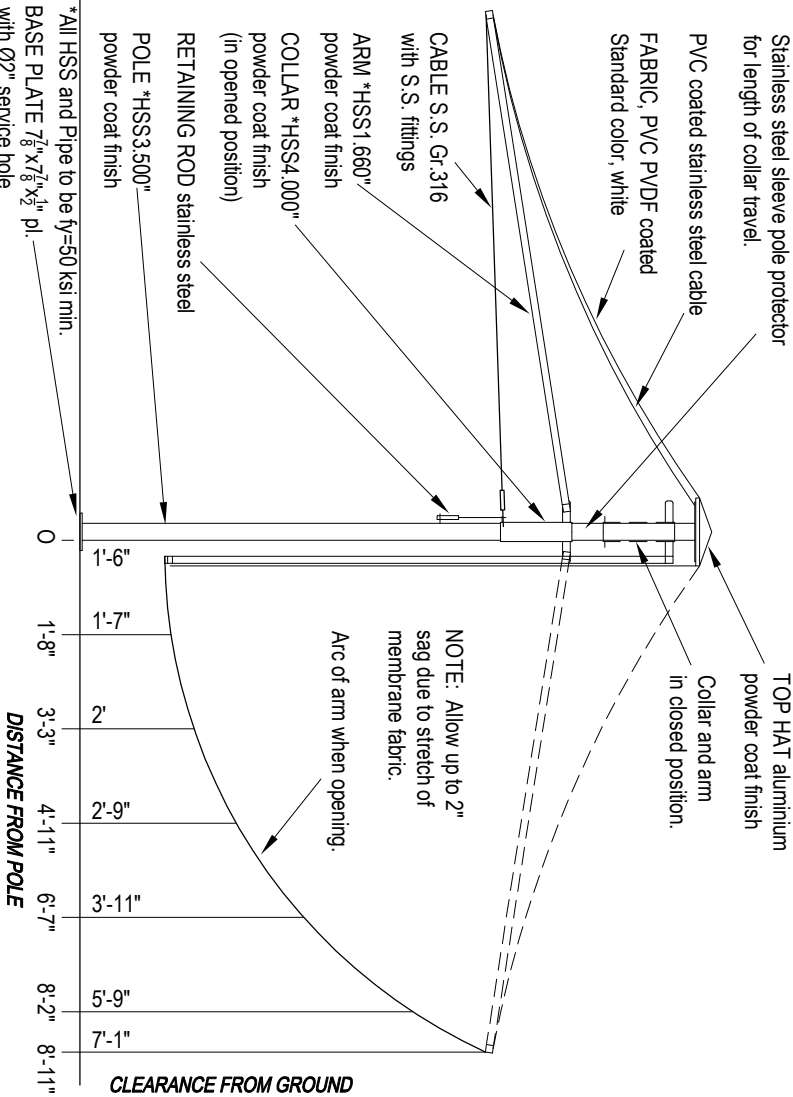
Overall dimensions represent clearance dimensions for the complete umbrella. Membrane dimensions differ, depending on variations in tensioning and fabrication. All dimensions are nominal and have a tolerance of +/- 2".

Note : The umbrellas must be closed and tied before wind speeds reach gusts of 60mph (100km/h) Refer note on Specification - Umbrella Design.



**Elevation**

**End Elevation**

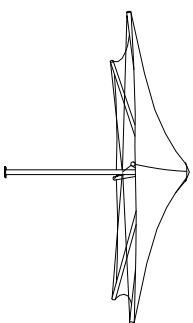


\*All HSS and Pipe to be fy=50 ksi min.  
 BASE PLATE 7 7/8" x 7 7/8" x 1/2" pl. with Ø2" service hole.  
 4- 3/2" hold down bolts at 5 1/2" o.c.  
 F1554 Gr. 36 galvanized or stainless steel Gr. 316.  
 With dome nuts and leveling nuts.

**15' Center Support Rectangular Umbrella  
 Centra - Model CR45**

**OPENED POSITION**

**CLOSED POSITION**



Centra Model CR45  
 Architectural Umbrellas

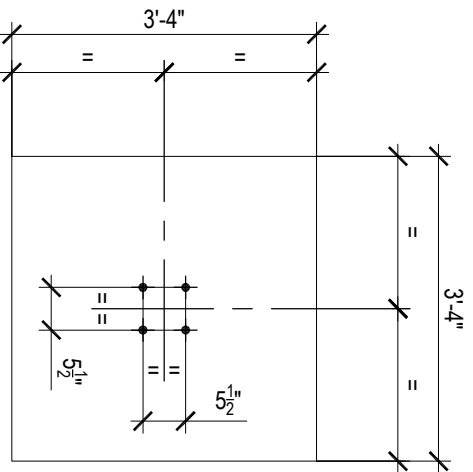


Birdair Inc.

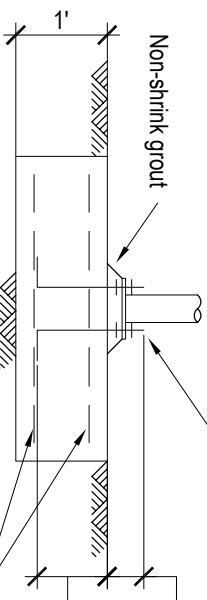
Engineering Framing

EF-CR45-07.10

www.birdairumbrellas.com  
 sales@birdairumbrellas.com



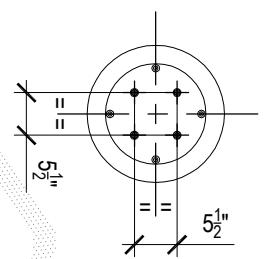
Plan



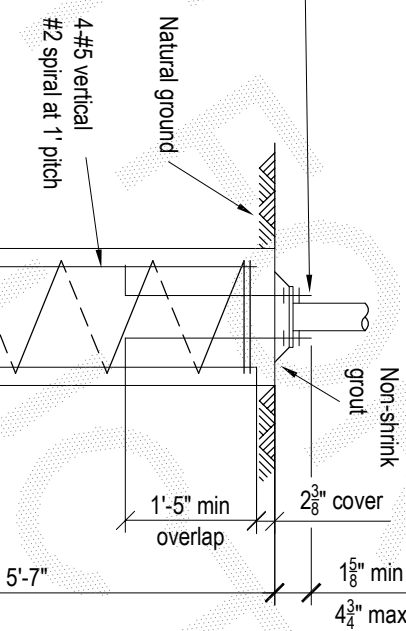
Elevation

## CR45 - Pad Footing

- 4- 1/2" F1554 Gr. 36 galvanized H.D. bolts with nuts and leveling nuts - 4" hook to suit level of top of paving, tiling, etc
- 4 3/4" max.
- 1 5/8" min
- 9" embedment (cast in)
- 6x6-W/5.5xW/5.5 wire mesh top & bottom
- Natural Ground
- Non-shrink grout
- Bolt projection 1 5/8" min.
- 4 3/4" max.
- Embedment 4 1/2" min.
- 5 1/2" o.c.
- 4- 1/2" H.D. bolts to be threaded rod F1554 Gr. 36 hot dipped galvanized, or stainless steel Gr.316. Supplied with nuts, washers and leveling nuts.
- Chemical anchors, at 5 1/2" x 5 1/2" centers to be 'Hilti HVU', or engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions. Hole to be clean and dry at time of installation.



Plan

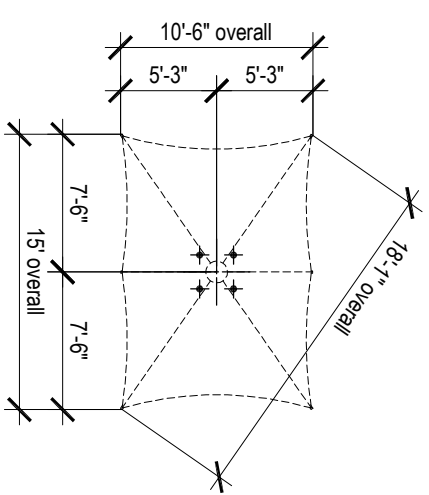


Elevation

## CR45 - Pier Footing

- 4- 1/2" H.D. bolts to be threaded rod F1554 Gr. 36 hot dipped galvanized, or stainless steel Gr.316. Supplied with nuts, washers and leveling nuts.
- Chemical anchors, at 5 1/2" x 5 1/2" centers to be 'Hilti HVU', or engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions. Hole to be clean and dry at time of installation.
- 4 #5 vertical #2 spiral at 1' pitch
- 1'-5" min overlap
- 2" top cover
- 1 5/8" min
- 4 3/4" max
- 5'-7"
- Ø1'-6"
- 5 1/2"
- 5/8"
- Non-shrink grout
- Natural ground

- Notes:**
- Designed to 90mph, Exp B
  - Assumed soil conditions:
  - Pad - bearing capacity 14.5 psf
  - Pier - cu=7.25 psf (stiff clay)
  - Minimum 2 3/8" cover to all reinforcement
  - Concrete strength f'c 3600 psi
  - 3/4 aggregate size
  - Slump 2 1/2"
- Anchor bolt location tolerances per Australian Standard AS 4800-1998**
- 3mm for anchor bolt centers within an anchor bolt group.
  - 6mm for adjacent anchor bolt group centers.
  - Maximum accumulation of 6mm per 30m not to exceed a total of 25mm.
  - 6mm from anchor bolt group center to column line center.



H.D. Bolt Layout Plan  
Not to scale

## Chemical Anchor Detail

Figured dimensions take precedence. Do not scale.  
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**Centra Model CR45**  
**Architectural Umbrellas**  
 Birdair Inc.      Footing Detail      FD-CR45-08.10  

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