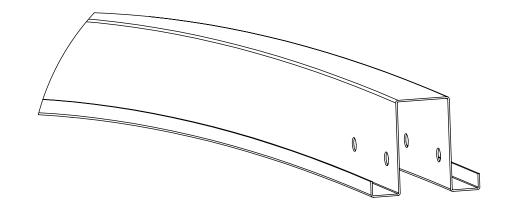
# R030096GP2SS06 **30x96 PRO SOLAR GREENHOUSE** W/CORRUGATED POLYCARBONATE ROLL-FORM STRUCTURE: 30' X 96' @ 6' RAFTER SPACING & GROUND POST



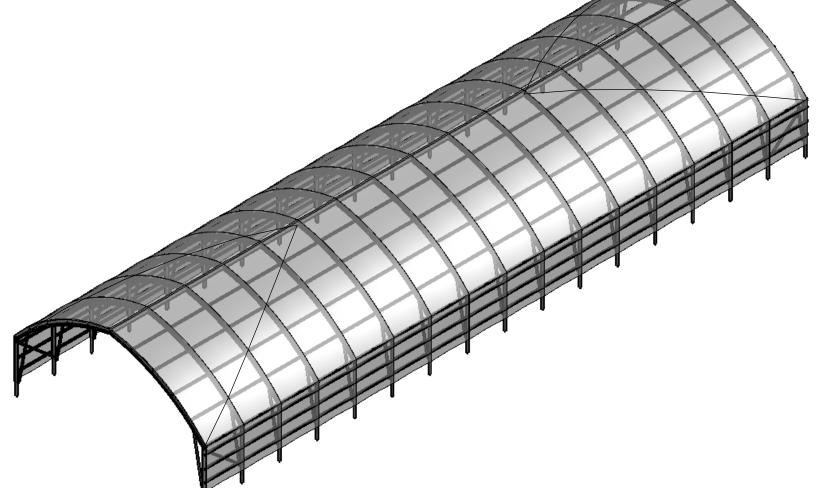




Content Guide:
[A1-1.0] COVER PAGE
[B1-1.0] GENERAL NOTES
[C1-1.0] MATERIAL SPECIFICATIONS
[D1-1.0] FRONT PROFILE (GRID)
[D2-1.0] FRONT PROFILE (PART LOCATIONS)
[D3-1.0] FRONT PROFILE (OVER THE TOP)
[E1-1.0] SIDE PROFILE
[F1-1.0]TOP PROFILE
[G1-1.0] DETAIL LOCATION CALL-OUTS
[G2-1.0] CONNECTION DETAILS
[G3-1.0] CONNECTION DETAILS
[G4-1.0] CABLE CONNECTION DETAILS
[G5-1.0] RAFTER SPLICE CONNECTION DETA
[G6-1.0] CORRUGATED POLYCARBONATE/EN

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#### **GENERAL NOTES:**

GENERAL ABBREVIATIONS
TOS TOP OF STEEL / TSL TOP OF SLAB / GALV. GALVANIZED /
FND FOUNDATION / EL ELEVATION / RND. ROUND /
GA GAUGE / DIA DIAMETER / TYP. TYPICAL

#### **FOUNDATION:**

1. FOUNDATION BY OTHERS

#### SITE ADAPTATION/ENGINEERING VERIFICATION:

- 1. PRIOR TO COMMENCING FABRICATION FOR A SPECIFIC SITE, VERIFY IF ANY MODIFICATIONS TO THE STRUCTURE AND/OR FOUNDATION CONNECTIONS ARE REQUIRED BY THE SITE ADAPTATION ENGINEER.
- 2. THIS IS A PROTOTYPICAL DESIGN AND DOCUMENT SET. THE DESIGN AND DEPICTED FABRICATION, ERECTION, AND FOUNDATION DRAWINGS ARE ONLY VALID FOR THE EXACT DESIGN PARAMETERS AND COMBINATIONS OF PARAMETERS DOCUMENTED. THE DESIGN MUST BE SITE ADAPTED TO SPECIFIC SITES. ANY USE OF THIS DESIGN AND DOCUMENT FOR A SPECIFIC SITE REQUIRES:
  - A. DESIGN PARAMETER VERIFICATION BY A REGISTERED PROFESSIONAL ENGINEER, EXPERIENCED IN STRUCTURAL ENGINEERING, VERIFY THAT LOADING CONDITIONS AND THE REQUIREMENTS OF THE SITE ARE EQUAL TO OR LESS THAN THE DOCUMENTED DESIGN PARAMETERS AND/OR COMBINATION OF THE DOCUMENTED DESIGN PARAMETERS
  - B. VERIFICATION OF SPECIFIC SITE SOIL CONDITIONS. FIELD VERIFY THAT THE EXISTING SITE SOIL CONDITIONS ARE EQUAL TO OR GREATER THAN THE DOCUMENTED DESIGN PARAMETERS AND/OR COMBINATIONS OF DOCUMENTED DESIGN PARAMETERS.
  - C. ANY SITE SPECIFIC CONDITIONS FAILING A OR B WILL REQUIRE RE-ANALYSIS OF THE STRUCTURE AND/OR FOUNDATION BY A CERTIFIED DESIGN PROFESSIONAL. FAILURE TO VERIFY THE VALIDITY OF THIS DESIGN FOR A SPECIFIC SITE, FOLLOWED BY ANY NECESSARY SITE ADAPTATION MODIFICATION CAN RESULT IN A DANGEROUS SITUATION.

#### STEEL:

- 1. ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.
- 2. STEEL PLATES SHALL COMPLY WITH ASTM A572 GRADE 50 OR EQUAL. STRUCTURAL STEEL IS TO BE SHOP PRIME- COATED WITH COLD GALVANIZING COMPOUND. APPLY SHOP PRIME COAT TO OBTAIN A UNIFORM DRY FILM THICKNESS OF NOT LESS THAN 2-MILS.
- 3. ALL BOLTED CONNECTIONS SHALL USE A307 BOLTS WITH COMPATIBLE WASHERS AND NUTS OF DIAMETERS INDICATED ON PLANS. BOLTS NEED ONLY BE TIGHTENED TO THE SNUG-TIGHT CONDITION. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH, OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH
- 4. ALL STRUCTURAL STEEL IS TO BE FABRICATED IN ACCORDANCE WITH THE LATEST EDITION OF AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- 5. ALL HOT ROLLED STEEL USED IN THE FABRICATION OF COLD FORMED STRUCTURAL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF 50KSI.
- 6. ALL COLD ROLLED STEEL USED IN THE FABRICATION OF COLD FORMED STRUCTURAL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF 80 KSI.
- 7. LIGHT GAGE COLD FORMED STRUCTURAL STEEL MEMBERS SHALL CONFORM TO A.S.T.M. SPEC A-500 GRADE "D" (Fy = 50KSI), UNLESS OTHERWISE NOTED.

#### **CABLES AND HARDWARE:**

- 1. ALL CABLE SHALL BE GALVANIZED STEEL, MULTIPURPOSE, 7 X 7(≤ 1/4" DIA.) OR 7 X 19 (5/16" & 3/8" DIA.) OR 6 X 26 (1/2" DIA.) CLASS STRAND CORE COMMERCIAL GRADE, OF DIAMETER INDICATED, UNLESS OTHERWISE NOTED.
- 2. CABLE SLEEVES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

#### **CABLES AND HARDWARE (CONT.):**

- 3. USE THIMBLES WITH WIRE ROPE CLIPS IN ALL LOOP-END APPLICATIONS.
- 4. TENSION CABLES AT TURNBUCKLE TO TAUT CONDITION (STRAIGHT AND NOT SLACK OR LOOSE).
- 5. TIGHTEN CABLES SEQUENTIALLY TO AVOID TWISTING OR DEFORMING STRUCTURAL ELEMENTS DURING ERECTION. RECHECK PREVIOUSLY TIGHTENED CABLES UNTIL ALL CABLES ACHIEVE TAUT CONDITION.

#### WELDING:

1. REFER TO "WELDING GUIDELINES" PUBLISHED BY ALLIED TUBE AND CONDUIT; HARVEY, ILLINOIS, FOR RECOMMENDED PROCESSES AND PRACTICES FOR WELDING GALVANIZED STEEL TUBING.

A. TO DEVELOP THE FULL STRENGTH AT PIPE JOINT, THE ALL AROUND FILLET WELDS SHALL BE SIZED AS FOLLOWS:

### THICKNESS OF THE TUBE - MINIMUM FILLET WELD SIZE

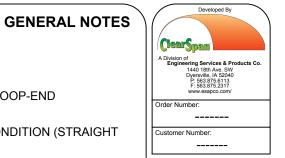
Gage 14	1/8"
Gage 13 & 12	5/32"
Gage 11 & 10	3/16'
Gage 9 & 8	7/32"
Gage 7	1/4"

(PLEASE NOTE; WHEN TUBES OF TWO DIFFERENT WALL THICKNESSES ARE JOINED, THE MINIMUM FILLET WELD SIZE SHALL BE BASED ON THE THINNER OF THE TWO MEMBERS).

- 2. WELDS SHALL SHOW UNIFORM SECTION, SMOOTHNESS OF WELD METAL, FREEDOM FROM POROSITY AND CLINKERS, AND ADEQUATE STRENGTH AND DURABILITY.
- 3. ALL WELDS NOT OTHERWISE IDENTIFIED SHALL BE CONTINUOUS.
- 4. ALL SHOP WELDING IS TO BE DONE BY CERTIFIED OPERATORS (TEST POSITION 4F AND 5F WITH PIPE IS MINIMUM REQUIRED CERTIFICATION).
- 5. ALL WELDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.1 AND D1.3

#### **ERECTION AND FIELD QUALITY CONTROL:**

- 1. THE ERECTOR IS RESPONSIBLE FOR DESIGNING AND FURNISHING ALL TEMPORARY BRACING, SHORING, AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF ERECTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING ERECTION.
- 2. NO OPENING (OTHER THAN THOSE SHOWN ON THE DRAWINGS) SHALL BE MADE IN ANY STRUCTURAL MEMBER, AND NO MODIFICATION OR ALTERATION SHALL BE MADE TO ANY STRUCTURAL MEMBER OR CONNECTION WITHOUT THE WRITTEN APPROVAL OF THE DESIGN ENGINEER.

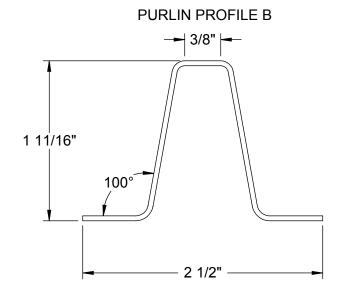


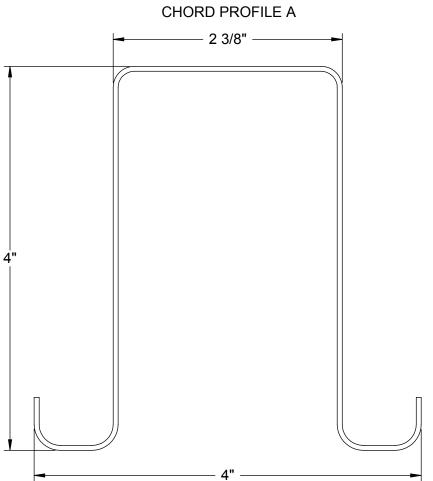
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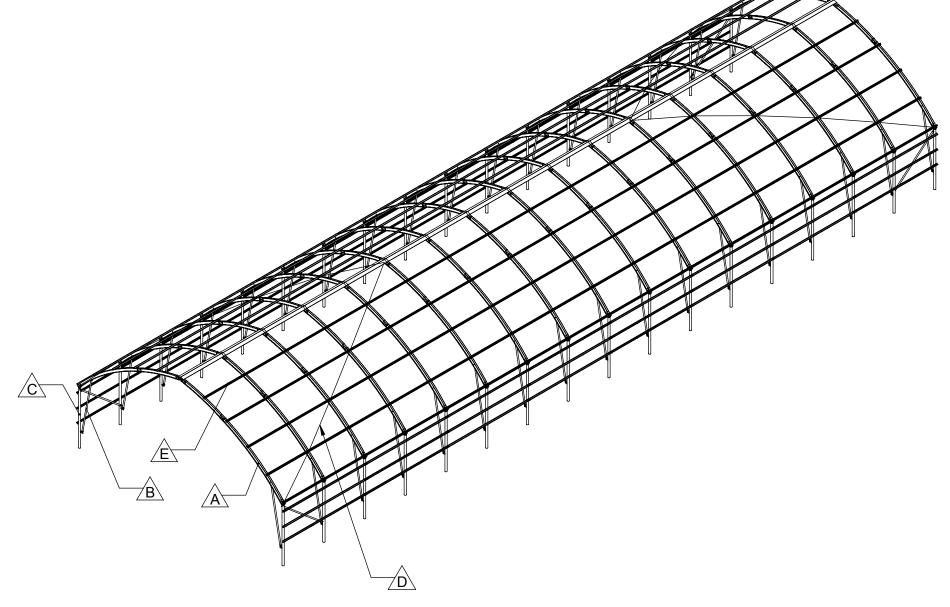
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B1-1.0

### MATERIAL SPECIFICATIONS







### **MATERIAL CALL-OUTS**

Α	RAFTER CHORD	18 GA ROLL-FORM PROFILE A
В	RAFTER CHORD STRUT	1.66" 14 GA ROUND TUBE
С	GROUND POST	2.875" 8 GA ROUND TUBE
D	CABLE ASSEMBLY	
D1	CABLE	1/4" 7X7 GALV. AIRCRAFT CABLE
D2	TURNBUCKLE	1/2" X 6 JAW/JAW GALV. 2200 LBS
D3	SHACKLE	1/2" BOW GALV
D4	THIMBLE	1/4" GALV
D5	CLAMPS	1/4" GALV
E	PURLINS	18 GA ROLL-FORM PROFILE B

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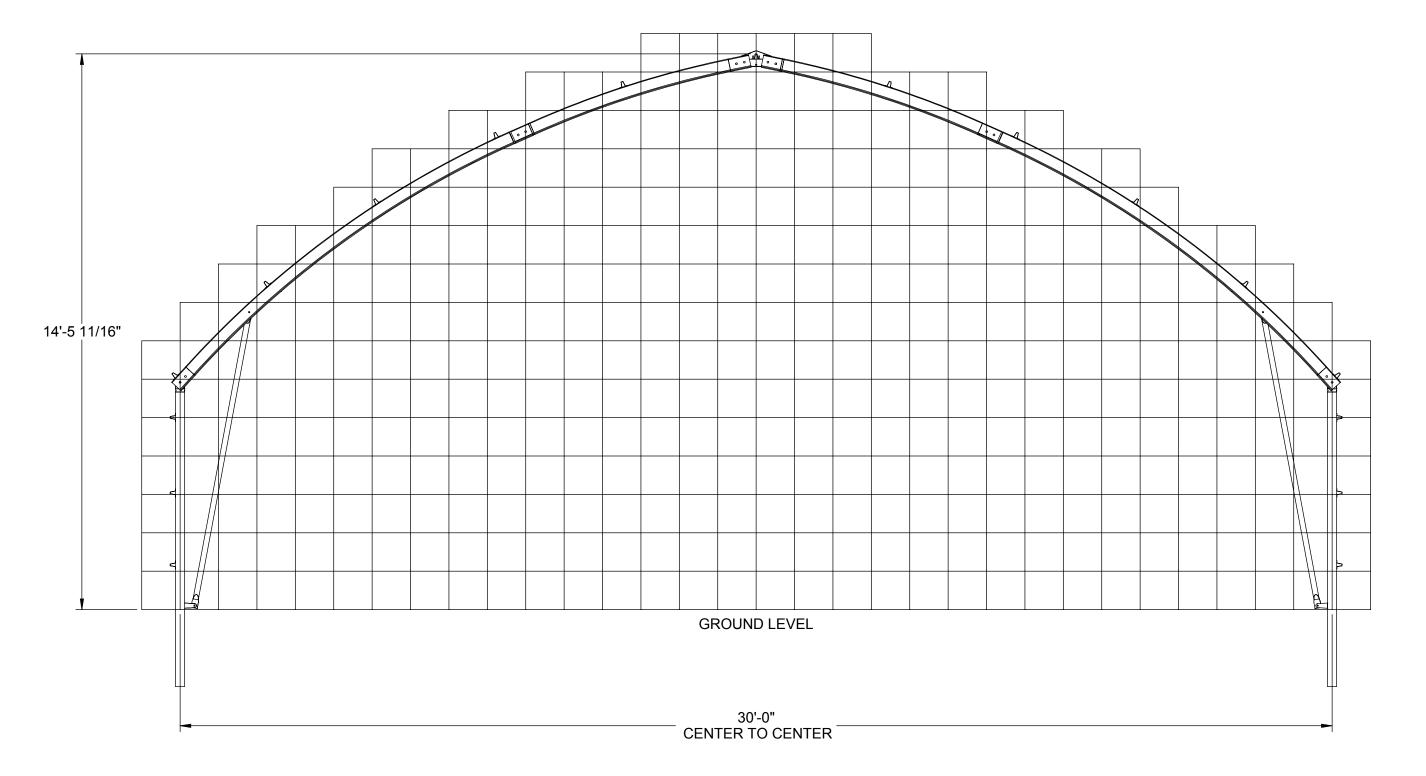
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- FRONT PROFILE (GRID)
- 12" GRID BLOCKS

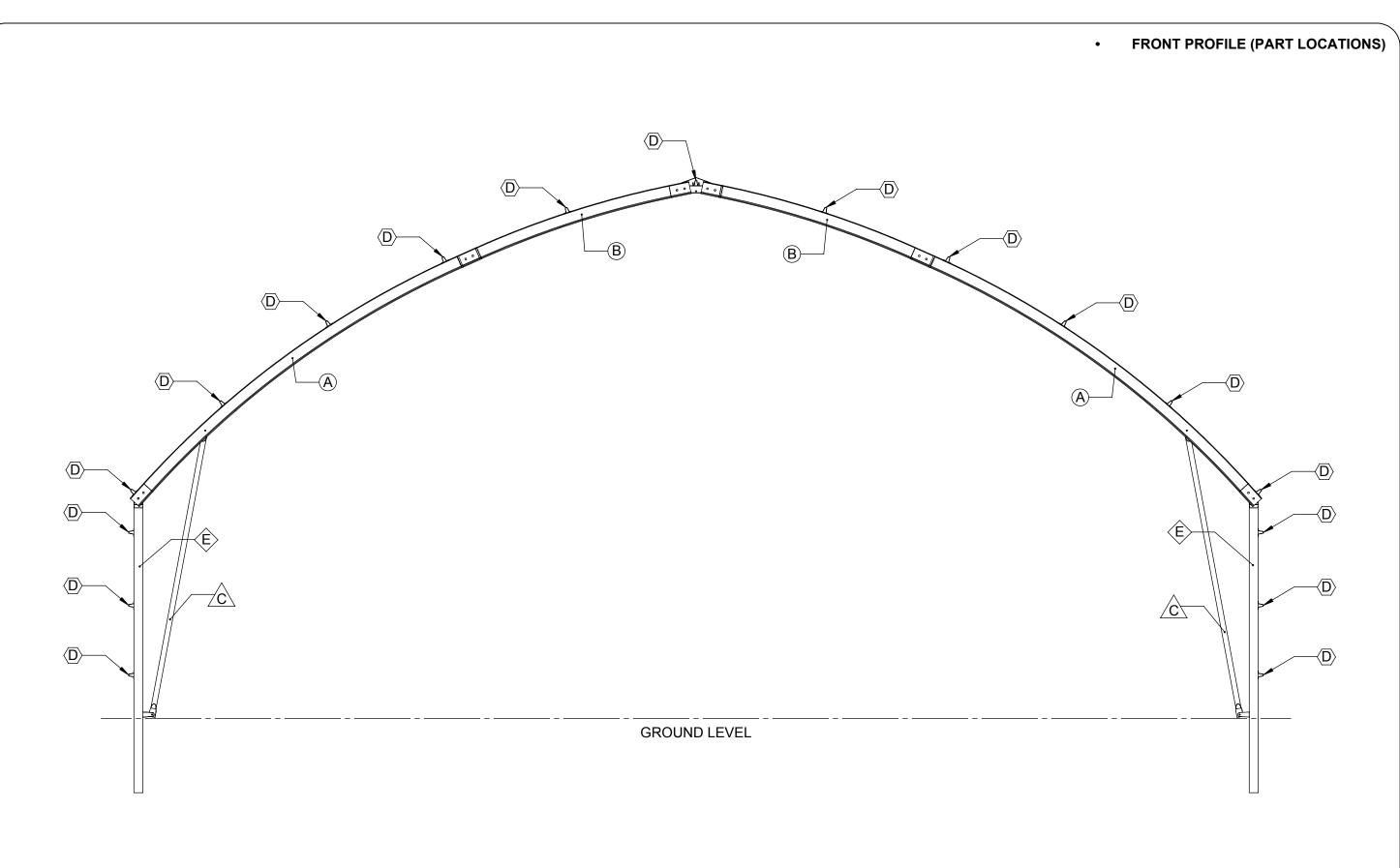




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### RAFTER CHORDS

(A) CFG030PC18GS03 (2-3/8" x 4" 18 GA PROFILE)

STRUTS

C 108963 (1.66" 14 GA ROUND TUBE)

### **PURLINS & HAT CHANNEL**

D RFB144ARSS004 (2-5/16" x 1-11/16" 18 GA PROFILE)

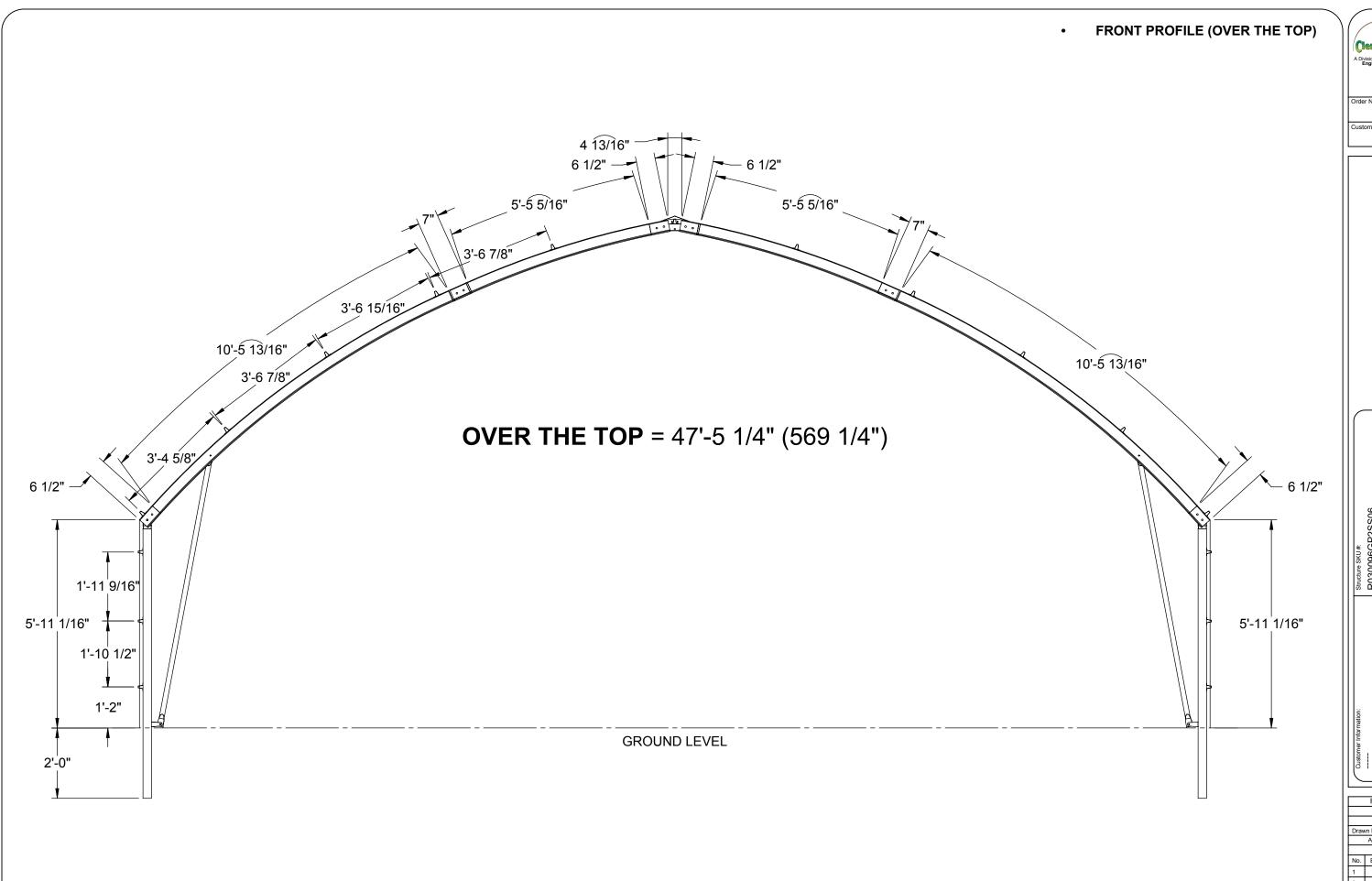
### **GROUND POSTS**

E CFG096ANCS003 (2.875" 8 GA ROUND TUBE

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B CFG030PC18GS02 (2-3/8" x 4" 18 GA PROFILE)





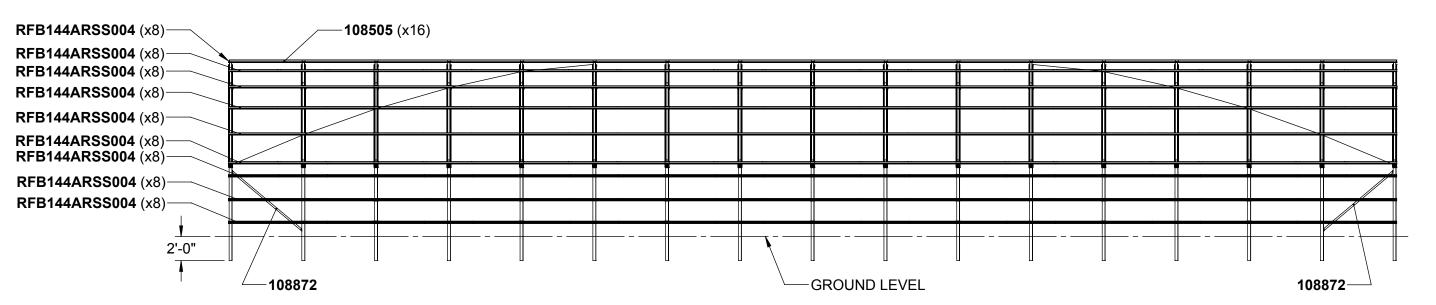
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SIDE PROFILE

**NOTE**: REFER TO PAGE [D2-1.0] FOR FRONT PROFILE OF BRACE LOCATIONS & PAGE [F1-1.0] FOR TOP VIEW OF BRACE LOCATIONS.





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1/2"	R1/8" - 5	5/16" 	<u>/</u> ⊕ !	/ !
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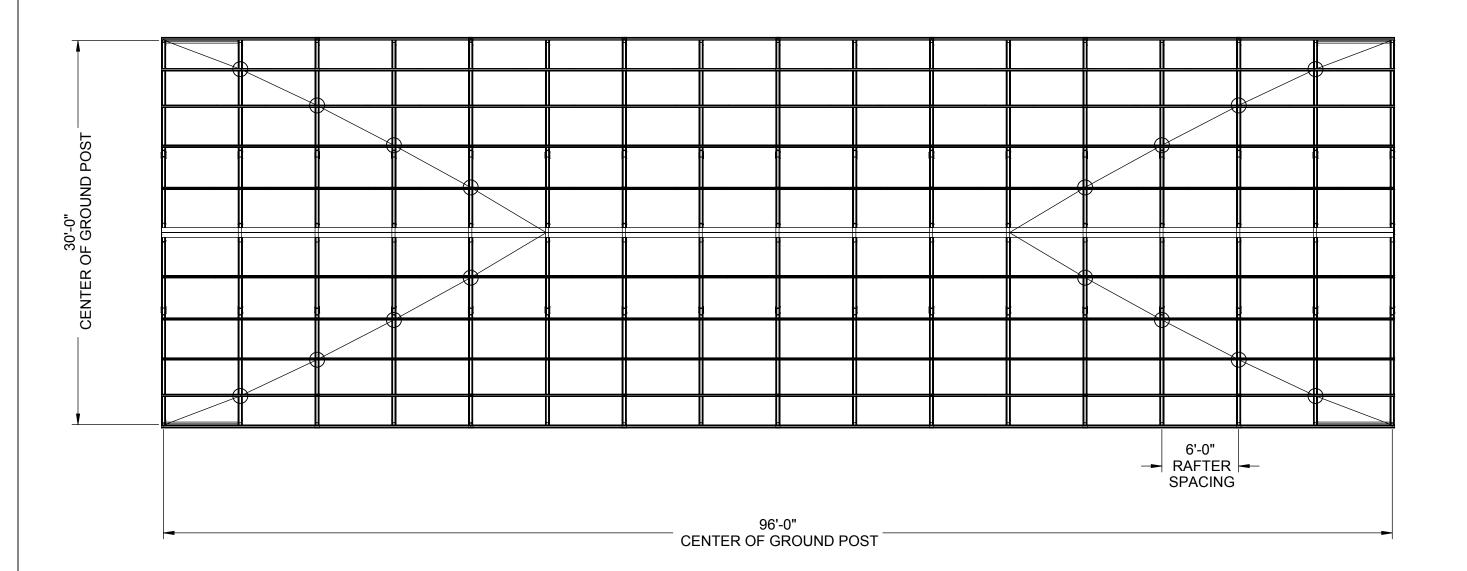
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E1-1.0

• TOP PROFILE



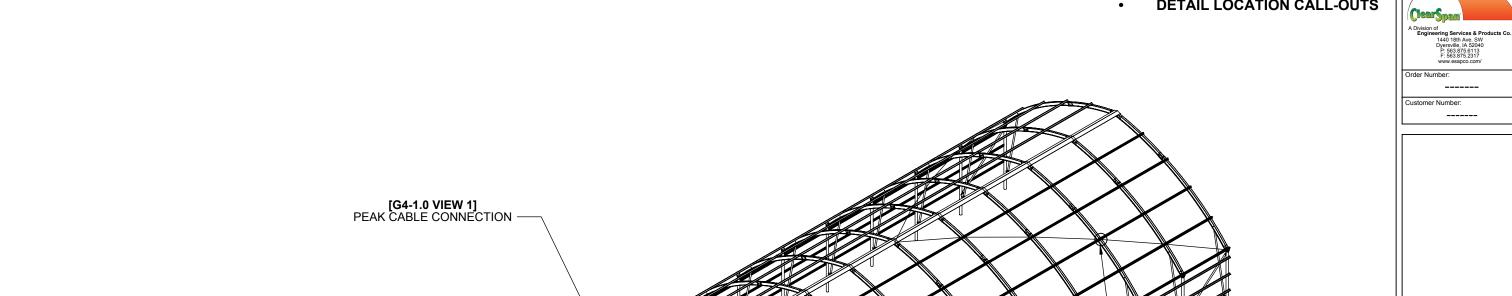


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**DETAIL LOCATION CALL-OUTS** 

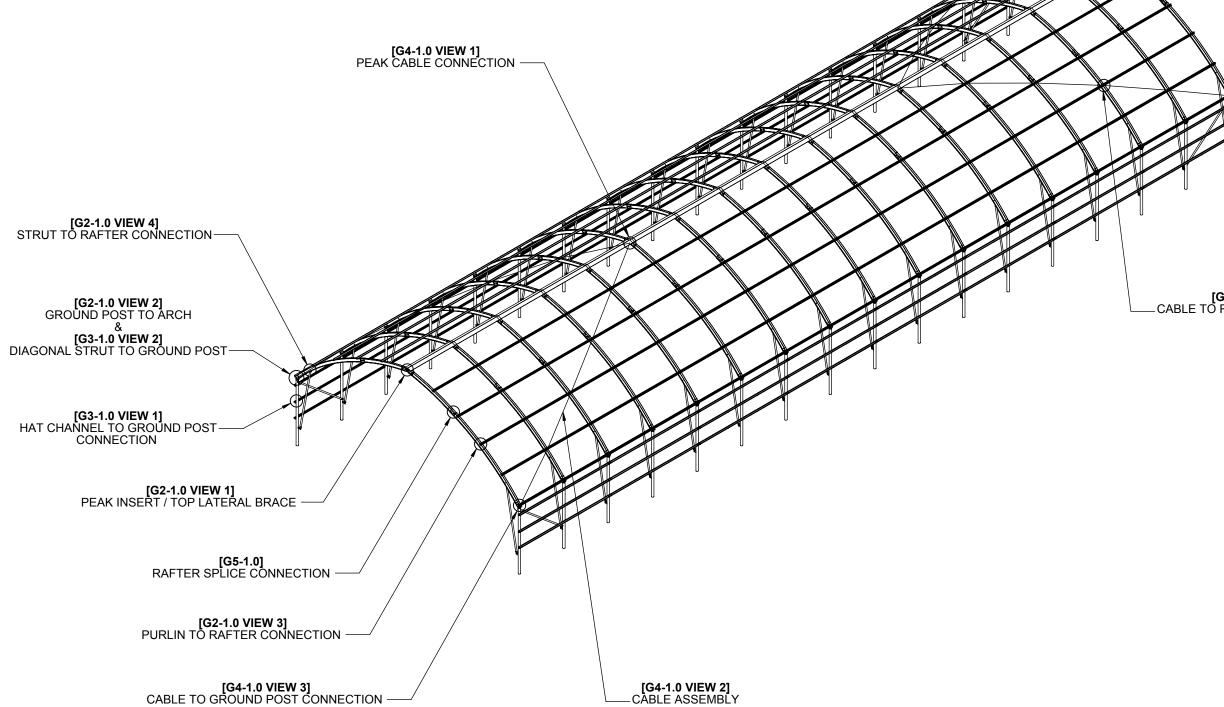


[G4-1.0 VIEW 4] -CABLE TO RAFTER CONNECTION

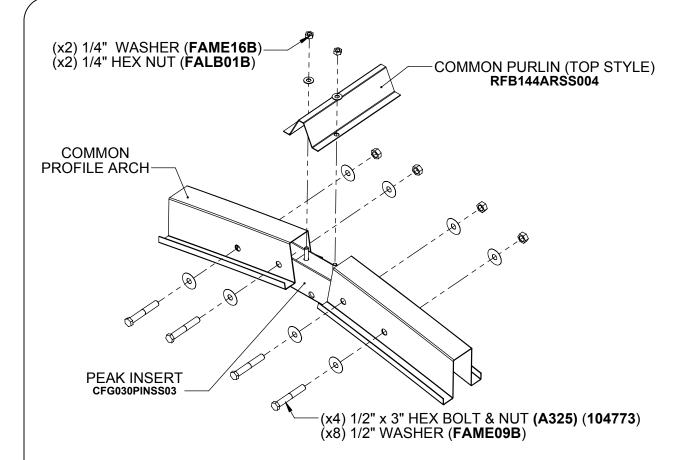
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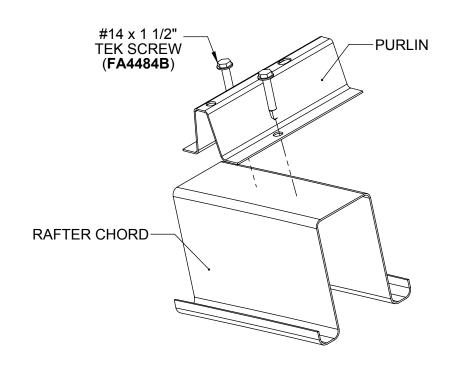
G1-1.0



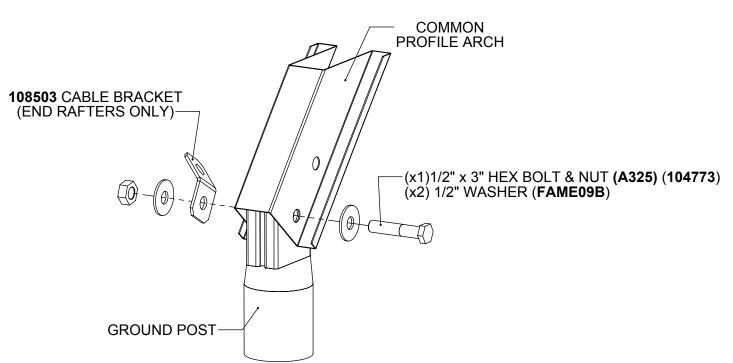
### CONNECTION DETAILS



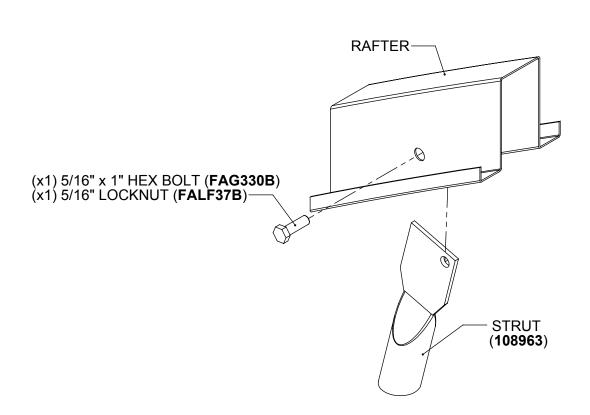
[G2-1.0 VIEW 1] PEAK INSERT / TOP LATERAL BRACE



[G2-1.0 VIEW 3] PURLIN TO RAFTER CONNECTION



[G2-1.0 VIEW 2] GROUND POST TO ARCH



[G2-1.0 VIEW 4] STRUT TO RAFTER CONNECTION

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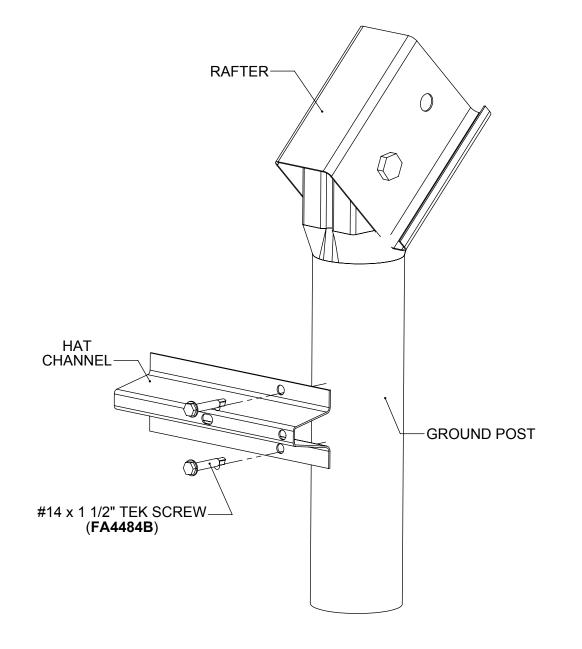
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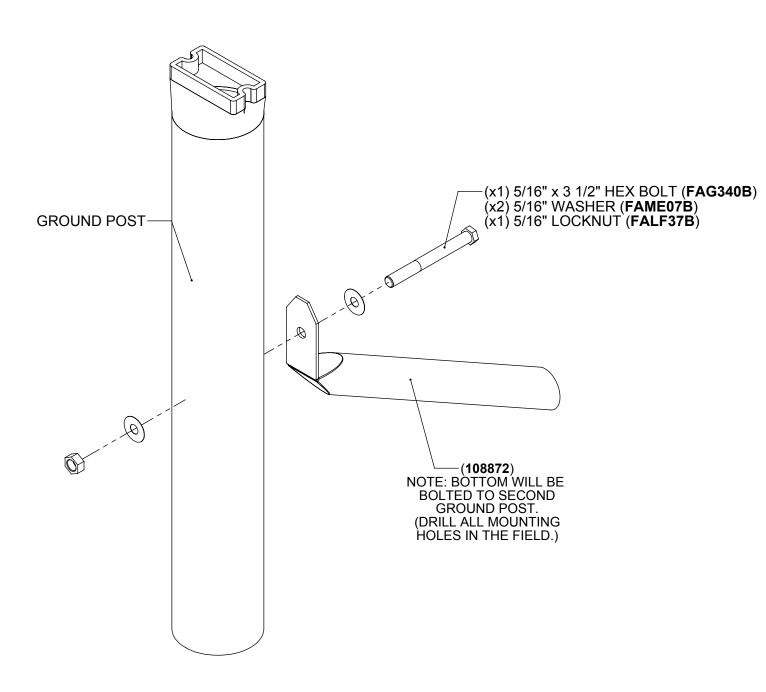
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### CONNECTION DETAILS







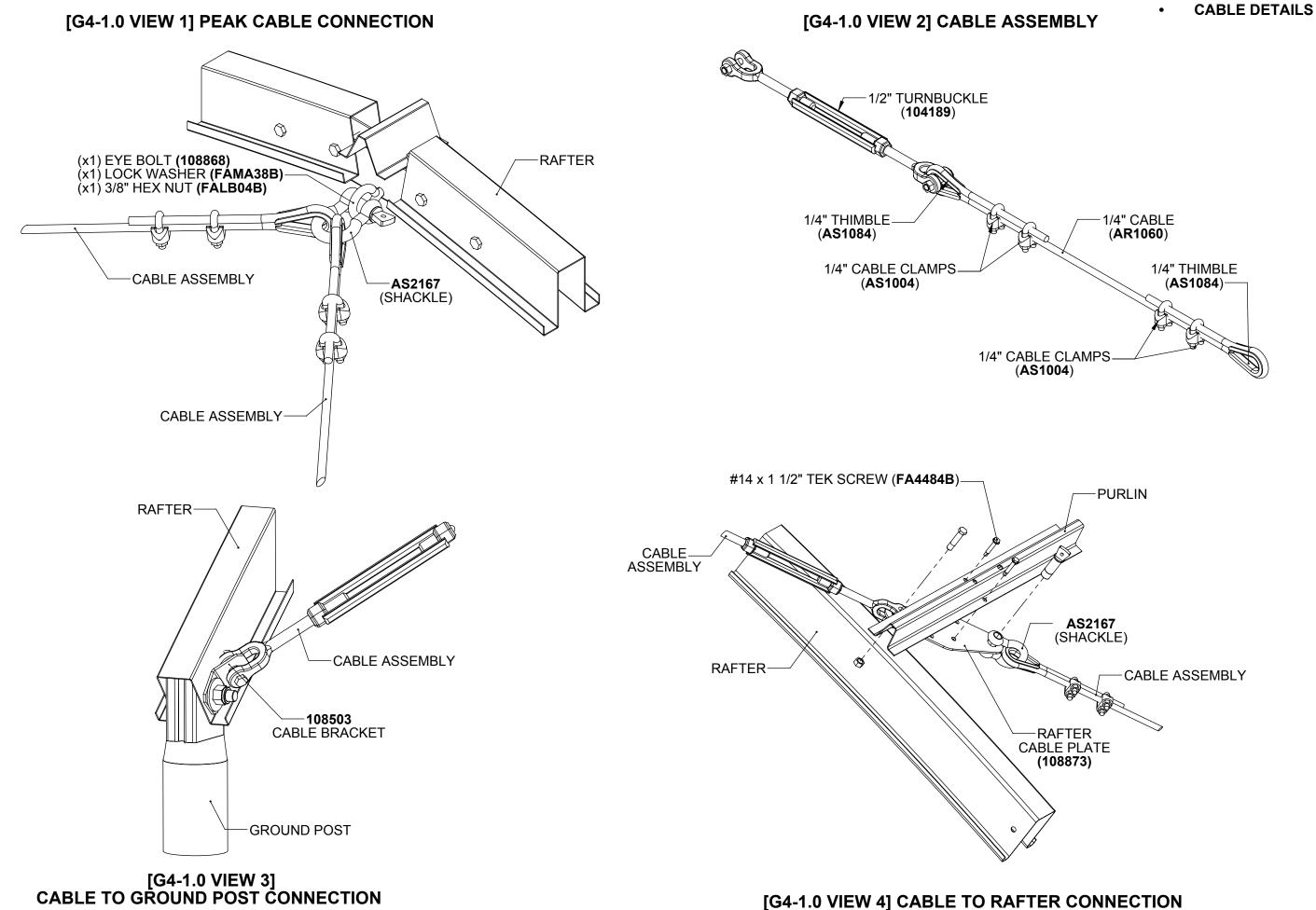




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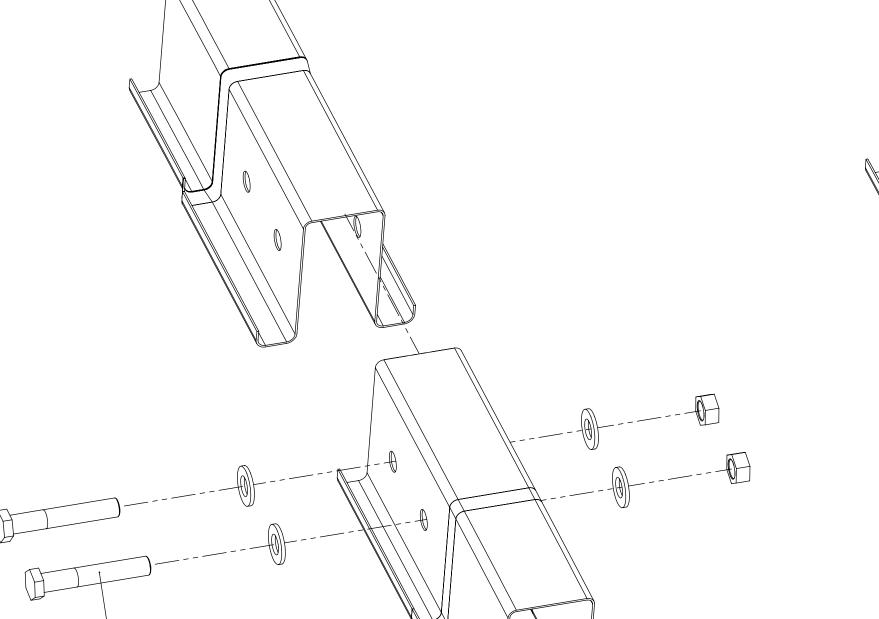
### RAFTER SPLICE CONNECTION DETAIL

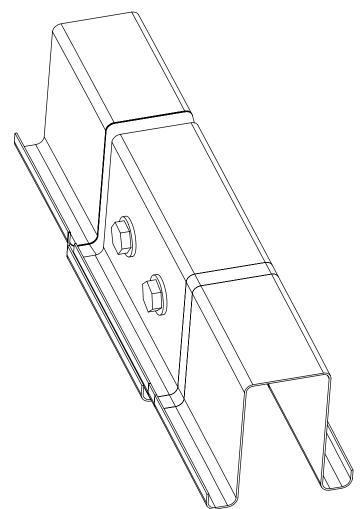
## **EXPLODED DETAIL VIEW**

(2) 1/2" x 3" HEX BOLT & NUT COMBO (**104773**) (4) 1/2" WASHER (**FAME09B**)

## **ASSEMBLED DETAIL VIEW**







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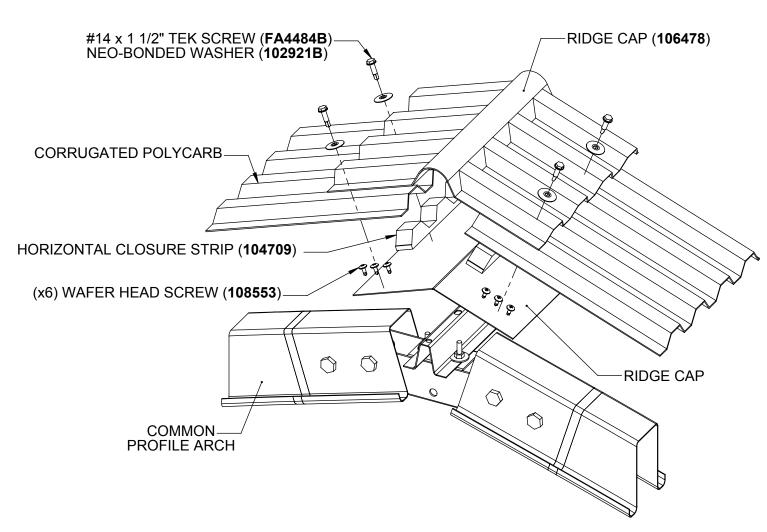
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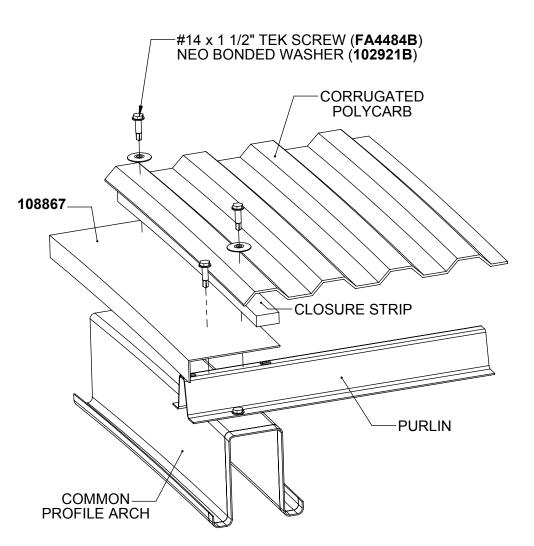
CORRUGATED POLYCARBONATE/END CAP DETAIL





NOTE: THE 108867 "L" SHAPED END CAP IS NOT SHOWN.

[G6-1.0 VIEW 1] RIDGE CAP TO FRAME



[G6-1.0 VIEW 2] CORRUGATED POLYCARB AND END CAP TO FRAME

Structure SKU # R030096GP2SS06	structure Size: 30'-0" W × 96'-0" L	Page Title: CORRUGATED POLYCARBONATE/END CAP DETAIL 30x96 GRN-H w/CORRUGATED POLYCARBONATE
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