

PROJECT Kercheval Streetscape

PROJECT NO. 10812.001 (Detroit St. Task 1)

SUBMITTAL NO. 06 - Bus Shelter

DESCRIPTION Bus Shelter

DATE RECEIVED 5/5/2020

DATE RETURNED 5/8/2020

Review is only for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. Refer to attached for additional SmithGroup comments and/or review codes. The final review code prevails.

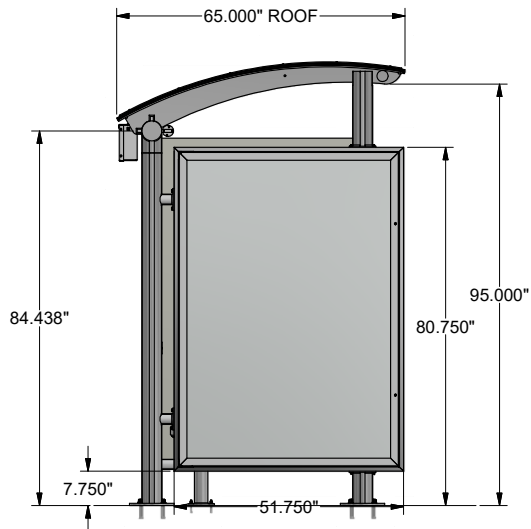
SMITHGROUP ACTION		
DISCIPLINE	REVIEWED BY	REVIEW CODE
Landscape Architecture	Brian Charlton	Approved as Noted
FINAL REVIEW CODE:		Approved as Noted

GENERAL REVIEW COMMENTS:

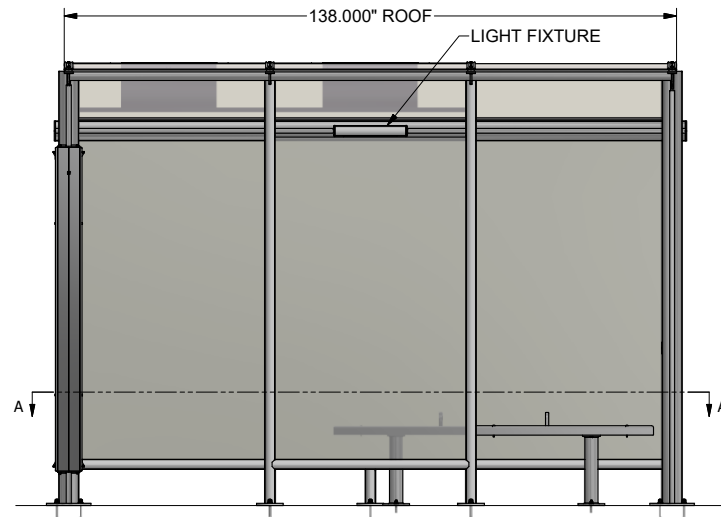
Bus Shelter is Approved as Noted below:

- 4'x6' non-lit advertisement display shall be deleted and replaced with the clear tempered safety glass
- Dual solar powered USB ports shall be deleted
- Aluminum structure to be powdercoated RAL 9006 - White aluminum
- Roof panels to be bronze acrylic
- Bench slats to be gray
- Install with 1/2" x 3 3/4" anchor bolts for the structure and 3/8" x 2 3/4" anchor bolts for the bench per the enclosed installation instructions
- Prior to installation confirm bus shelter location and orientation with DDOT (Kathy Kelly - 313-319-5218)

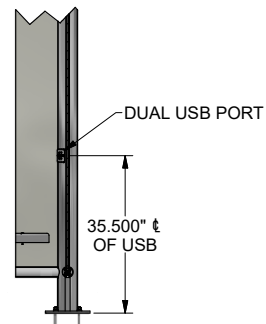
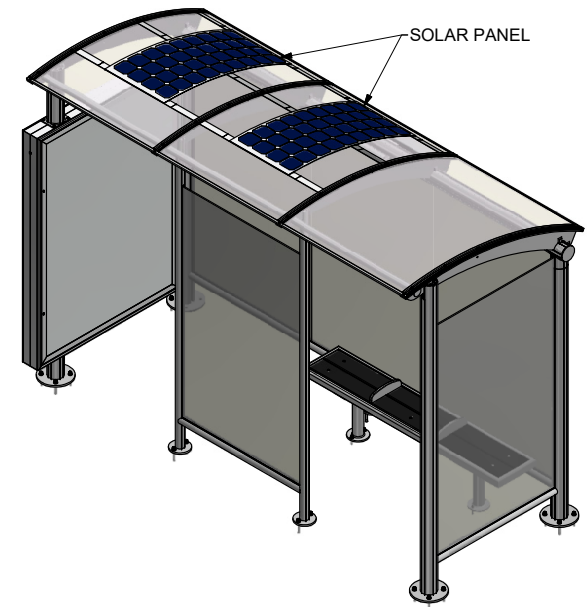
- Bus shelter opening faces away from the street with 2' min. distance from curb face to nearest edge of shelter overhang
- Confirm ADA accessible path to boarding area and proper boarding area (5'x8')



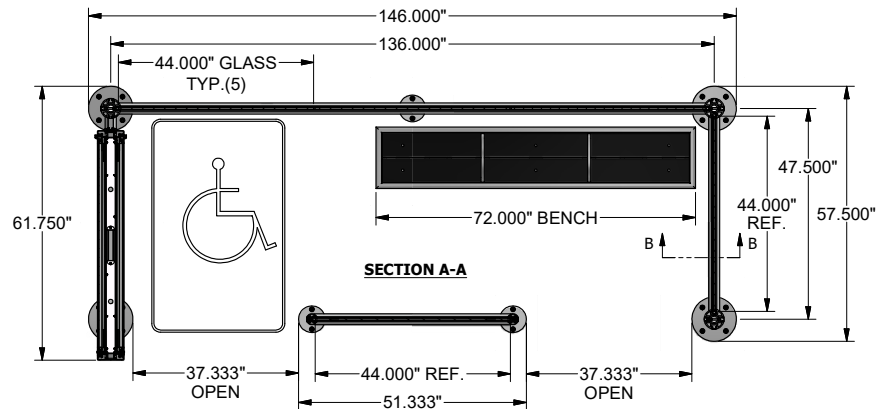
SIDE ELEVATION



FRONT ELEVATION



SECTION B-B



SECTION A-A

QUANTITY (1) SHELTER THUS

SPECIFICATIONS:

- T.B.D. POWDER COATED ALUMINUM STRUCTURE
- 3/8" CLEAR TEMPERED SAFETY GLASS
- 6' ECLIPSE BENCH WITH T.B.D. HDPE SLATS AND (2) SEAT DIVIDERS
- DUAL SOLAR POWERED USB PORT (RIGHT REAR COLUMN)
- 4' x 6' NON-LIT ADVERTISEMENT DISPLAY (LEFT SIDE WALL)
- 1/4" T.B.D. ACRYLIC ARCHED ROOF
- SOLAR LIGHTING PACKAGE WITH L.E.D. LIGHT FIXTURE AND BATTERY ENCLOSURE

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SIGNED:

DATE:



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MADISON HEIGHTS, MICHIGAN 48071
1-800-893-3665 WWW.BRASCO.COM

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CUSTOMER: MAJOR CEMENT CO.		DESIGNER: HAUS	CHECKER: BDH
PROJECT: ECLIPSE STYLE SHELTER		DATE: 3-2-20	DATE: 3-2-20
MODEL: EC-0512-F-C-AR-AC-TG-1-0-S	JOB # 6170	SHEET: S-001	REVISION: A



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INSTALLATION GUIDELINES

Thank you for your order. Enclosed with these guidelines are engineering instructions specific to your order. Please review all pages in full before proceeding with your installation.

Storage

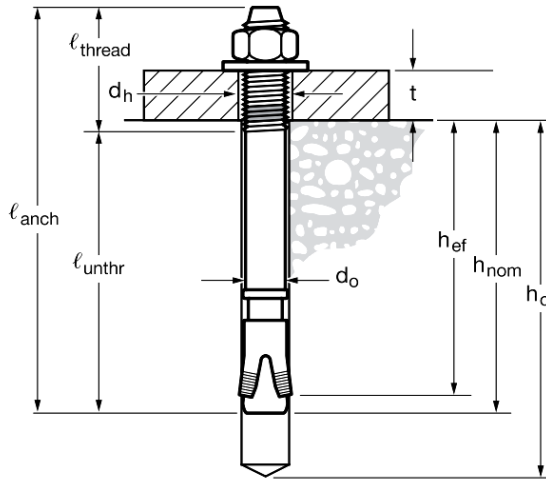
1. Products stored outside must be fully tarped. Wooden crates, cardboard boxes and identifying labels are not weatherproof and will deteriorate in the elements.
2. If your order includes solar lighting, be cautious when handling batteries as they are capable of generating hazardous short-circuit currents. Remove all jewelry (bracelets, metal watches, rings) before attempting to handle or disassemble batteries.
3. Batteries should be stored indoors at a recommended 68 degrees Fahrenheit for max shelf life.
4. Batteries should be installed no later than 3 months from delivery or battery warranties will be void.

TOOLS NEEDED

☐ Drill Motor	☐ Cordless Drill	☐ Rivet Gun
☐ 1/4" Drill Bit	☐ Air Compressor	☐ Tape Measure
☐ #11 Drill Bit	☐ Steel Hammer	☐ Torque Wrench
☐ 8" Long 1/2" Masonry Drill Bits	☐ Dead Blow Hammer or Mallet	☐ 60" Bar Clamps
☐ 5/8" and 3/4" Socket and Wrench	☐ Bubble Level, Line / String Level	☐ Generator or Other Power Source
☐ HD Drill Motor or Hammer Drill	☐ Min. 6ft. Step Ladder	☐ Shop Vac or Broom for Clean Up

Installing Expansion Anchors

Expansion Anchor Installed



Setting information	Symbol	Units	Nominal anchor diameter d _o													
			3/8			1/2				5/8				3/4		
Nominal bit diameter	d _{bit}	in.	3/8			1/2				5/8				3/4		
Minimum nominal embedment	h _{nom}	in. (mm)	2-5/16 (59)			2-3/8 (60)		3-5/8 (91)		3-9/16 (91)		4-7/16 (113)		4-5/16 (110)		5-9/16 (142)
Effective minimum embedment	h _{ef}	in. (mm)	2 (51)			2 (51)		3-1/4 (83)		3-1/8 (79)		4 (102)		3-3/4 (95)		4-3/4 (121)
Min. hole depth	h _o	in. (mm)	2-5/8 (67)			2-5/8 (67)		4 (102)		3-3/4 (95)		4-3/4 (121)		4-5/8 (117)		5-3/4 (146)
Min. thickness of fixture ¹	t _{min}	in. (mm)	1/8 (3)			1/8 (3)		n/a		1/8 (3)		n/a		1/8 (3)		n/a
Max. thickness of fixture	t _{max}	in. (mm)	2-1/4 (57)			4 (101)		2-3/4 (70)		5-5/8 (143)		4-3/4 (121)		4-5/8 (117)		3-5/8 (92)
Installation torque	T _{inst}	ft-lb (Nm)	25 (34)			40 (54)				60 (81)				110 (149)		
Fixture hole diameter	d _h	in. (mm)	7/16 (11.1)			9/16 (14.3)				11/16 (17.5)				13/16 (20.6)		
Available anchor lengths	ℓ _{anch}	in. (mm)	3 (76)	3-3/4 (95)	5 (127)	3-3/4 (95)	4-1/2 (114)	5-1/2 (140)	7 (178)	4-3/4 (121)	6 (152)	8-1/2 (216)	10 (254)	5-1/2 (140)	8 (203)	10 (254)
Threaded length including dog point	ℓ _{thread}	in. (mm)	7/8 (22)	1-5/8 (41)	2-7/8 (73)	1-5/8 (41)	2-3/8 (60)	3-3/8 (86)	4-7/8 (178)	1-1/2 (38)	2-3/4 (70)	5-1/4 (133)	6-3/4 (171)	1-1/2 (38)	4 (102)	6 (152)
Unthreaded length	ℓ _{unthr}	in. (mm)	2-1/8 (54)			2-1/8 (54)				3-1/4 (83)				4 (102)		

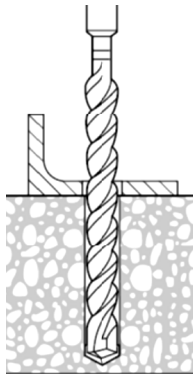
Expansion Anchor Technical Chart

Minimum thickness of fixture is a concern only when the anchor is installed at the minimum nominal embedment. When KWIK Bolt TZ anchors are installed at this embedment, the anchor threading ends near the surface of the concrete. If the fixture is sufficiently thin, it could be possible to run the nut to the bottom of the threading during application of the installation torque. If fixtures are thin, it is recommended that embedment be increased accordingly.

Step 1.

Prepping the Concrete

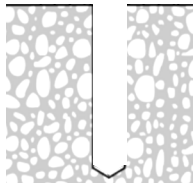
Using anchor boot as a template, mark hole locations and move anchor boot out of the way. Drill a hole the same diameter as the expansion anchor to a minimum depth of 1/2" deeper than the anchor will penetrate to allow debris to fall during installation.



Step 2.

Prepping the Hole

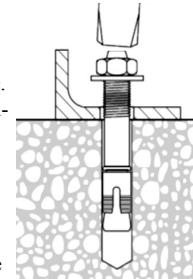
Clean debris from holes using a wire brush, vacuum, or compressed air.



Step 3.

Anchor Installation

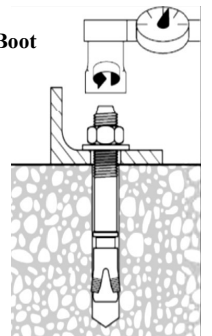
Replace the anchor boot and align with holes in the concrete. Make sure the nut on the expansion anchor is threaded to the top of the threaded rod to prevent damage to the threads. Insert the expansion anchor through the base plate and into the hole in the concrete. Hit the expansion anchor with sharp blows until the washers are snug against the base plates.



Step 4.

Securing the Anchor Boot

Tighten the nut to the recommended installation torque.



Standard Brasco Anchoring Guidelines

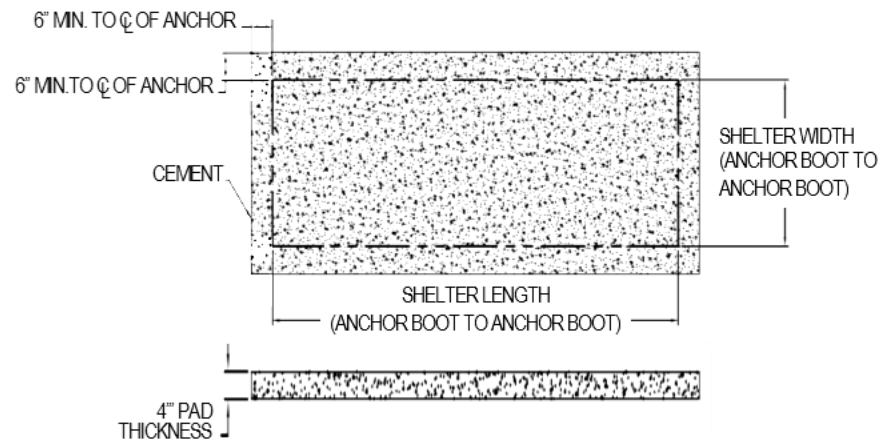
Expansion Anchor Installed

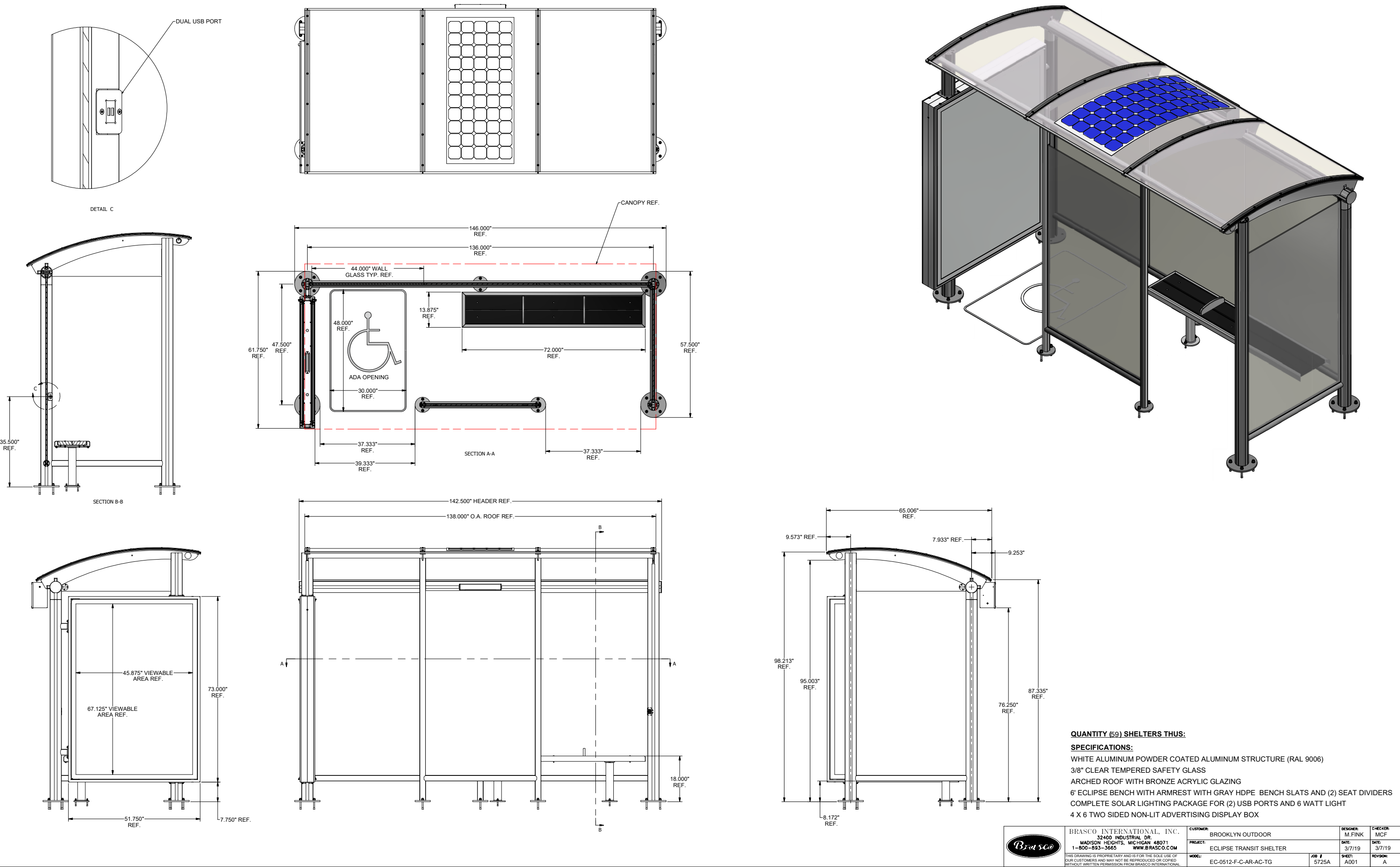
1. Locating proper column locations is critical. Care must be taken to keep columns plumb and walls square to each other.
2. Shelter should be sloped slightly to the rear for proper drainage. Approximately 1/4 inch slope per ft. from front to rear of shelter is recommended. Columns should be shimmed as necessary.
3. Anchors to be installed in conjunction with manufacturers recommendations only. (See Expansion Anchor Technical Chart on previous page.)
4. Anchors need to be installed a minimum of 6 inches from the edge of the concrete pad. See below for reference.

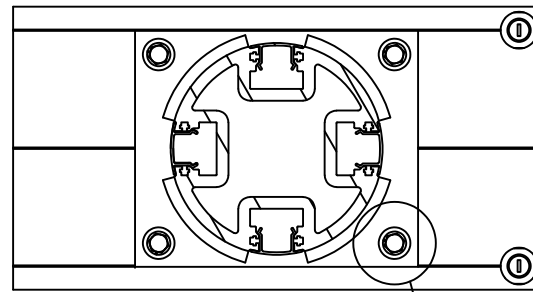
Standard Concrete Pad Overview

NOTE: This visual is for reference only. Brasco is not liable for concrete installation instructions unless structural concrete calculations are included with an order. Consult your local building codes for specific concrete pad requirements.

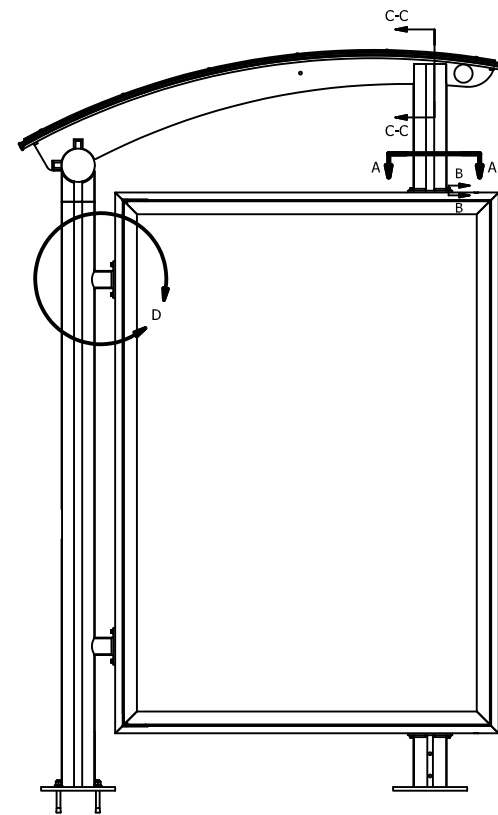
RECOMMENDED: Brasco recommends a minimum 4 inch thick, 3000 PSI concrete pad for areas with wind speeds lower than 110 MPH. The concrete pad should allow a minimum of 6 inches around the shelter's perimeter to prevent concrete breakage when anchoring. Concrete may or may not require additional reinforcement.





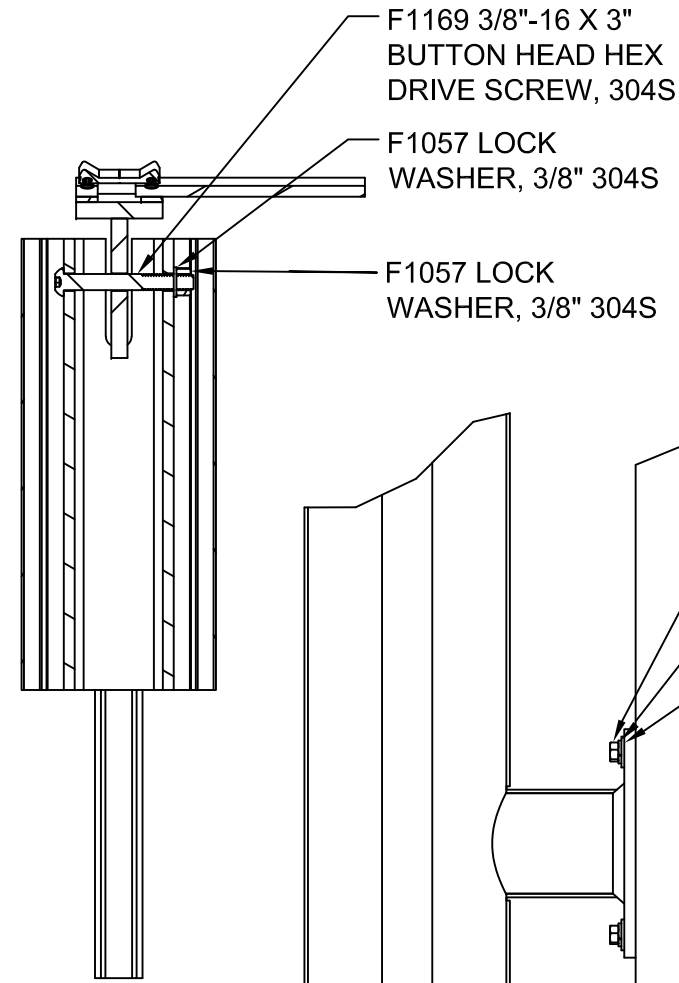


SECTION A-A

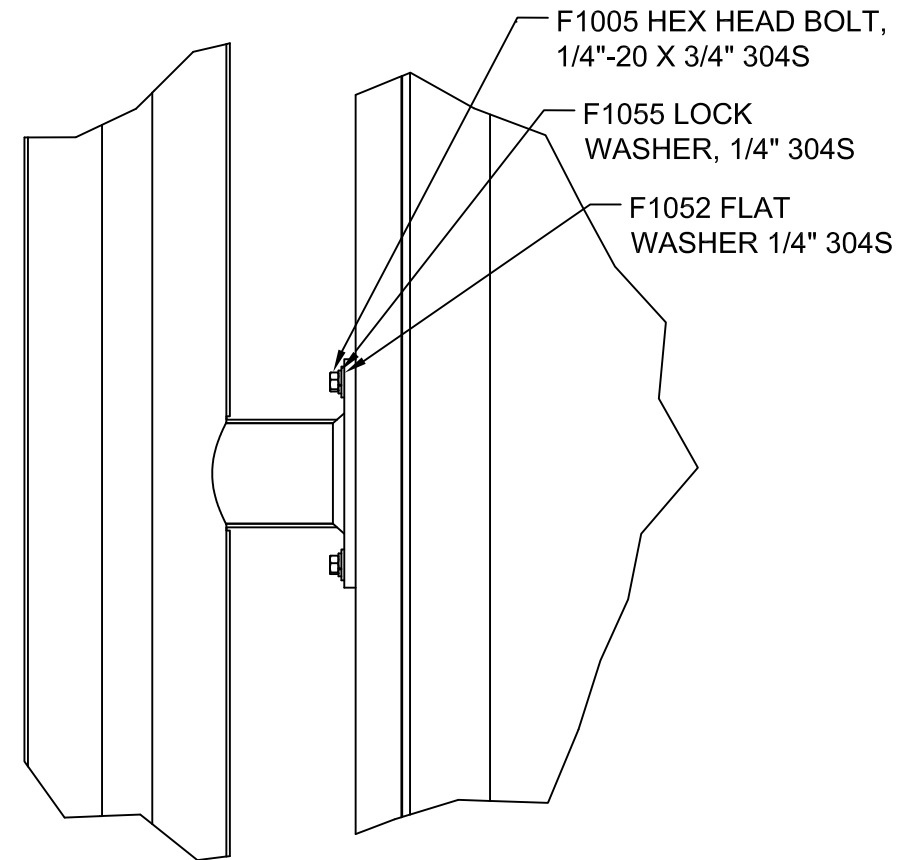


SECTION B-B

- F1005 HEX HEAD BOLT, 1/4"-20 X 3/4" 304S
- F1055 LOCK WASHER, 1/4" 304S
- F1052 FLAT WASHER 1/4" 304S



SECTION C-C



DETAIL D

VIEW SHOWING ADVERTISEMENT BOX MOUNTED TO ECLIPSE SHELTER DURING INSTALLATION



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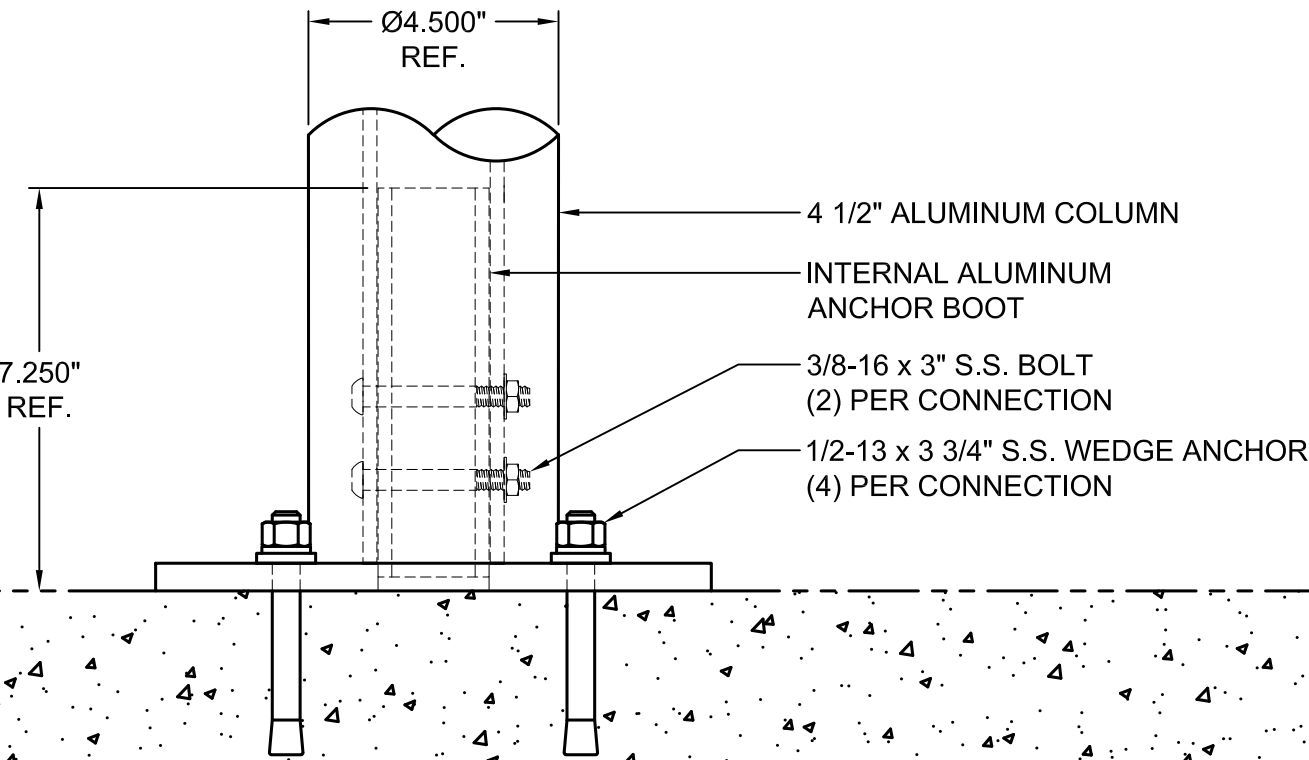
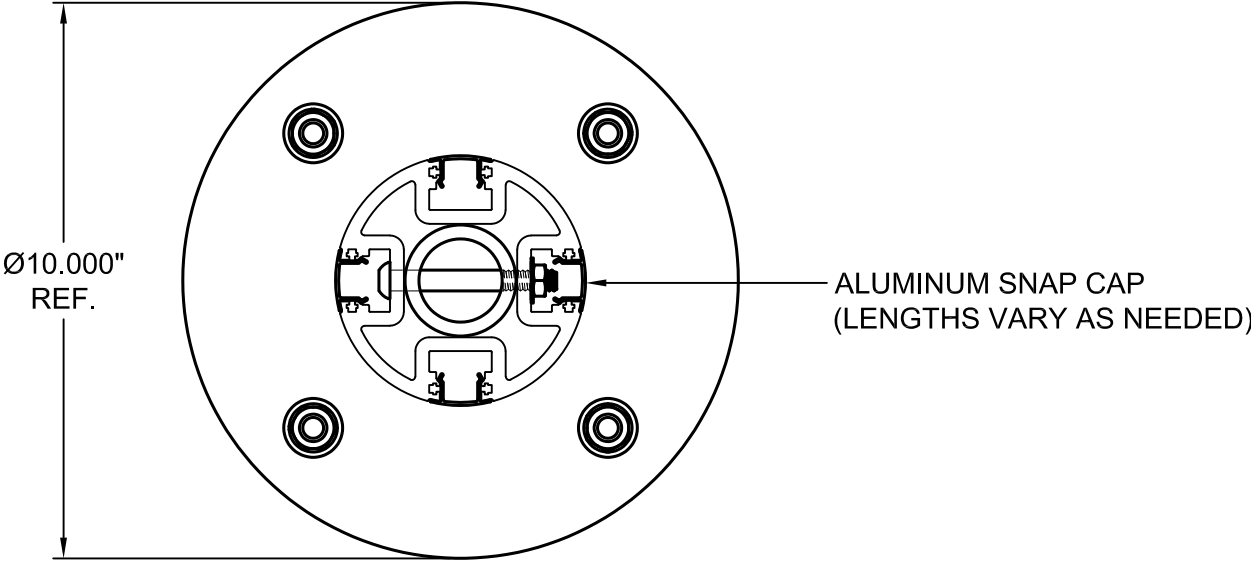
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SIGNED: _____ DATE: _____

CUSTOMER:	INSTALLATION INSTRUCTIONS			ENGINEER:	M.FINK
				DATE:	1/26/18
PROJECT:	ECLIPSE STYLE TRANSIT SHELTER			CHECKER:	BMB
				DATE:	1/26/18
MODEL:	ECLIPSE SERIES	JOB #	EC-INST	SHEET #:	EC-INST 12



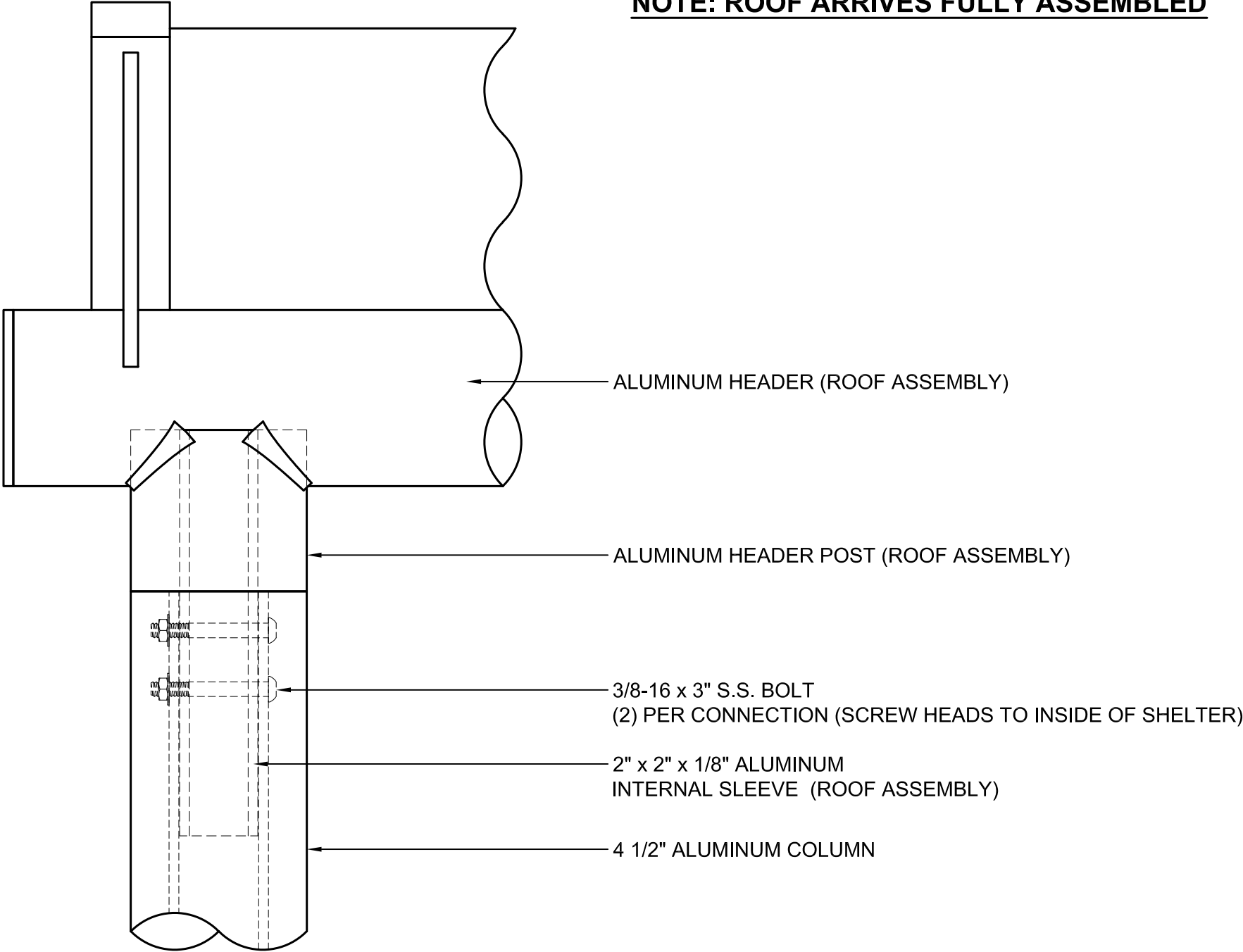
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SIGNED: _____ DATE: _____

CUSTOMER:	INSTALLATION INSTRUCTIONS	ENGINEER: ZTL	
		DATE:	10-17-13
PROJECT:	ECLIPSE STYLE TRANSIT SHELTER	CHECKER: BMB	
		DATE:	10-17-13
MODEL:	ECLIPSE SERIES	JOB #	EC-INST
		SHEET #:	EC-INST 2

NOTE: ROOF ARRIVES FULLY ASSEMBLED



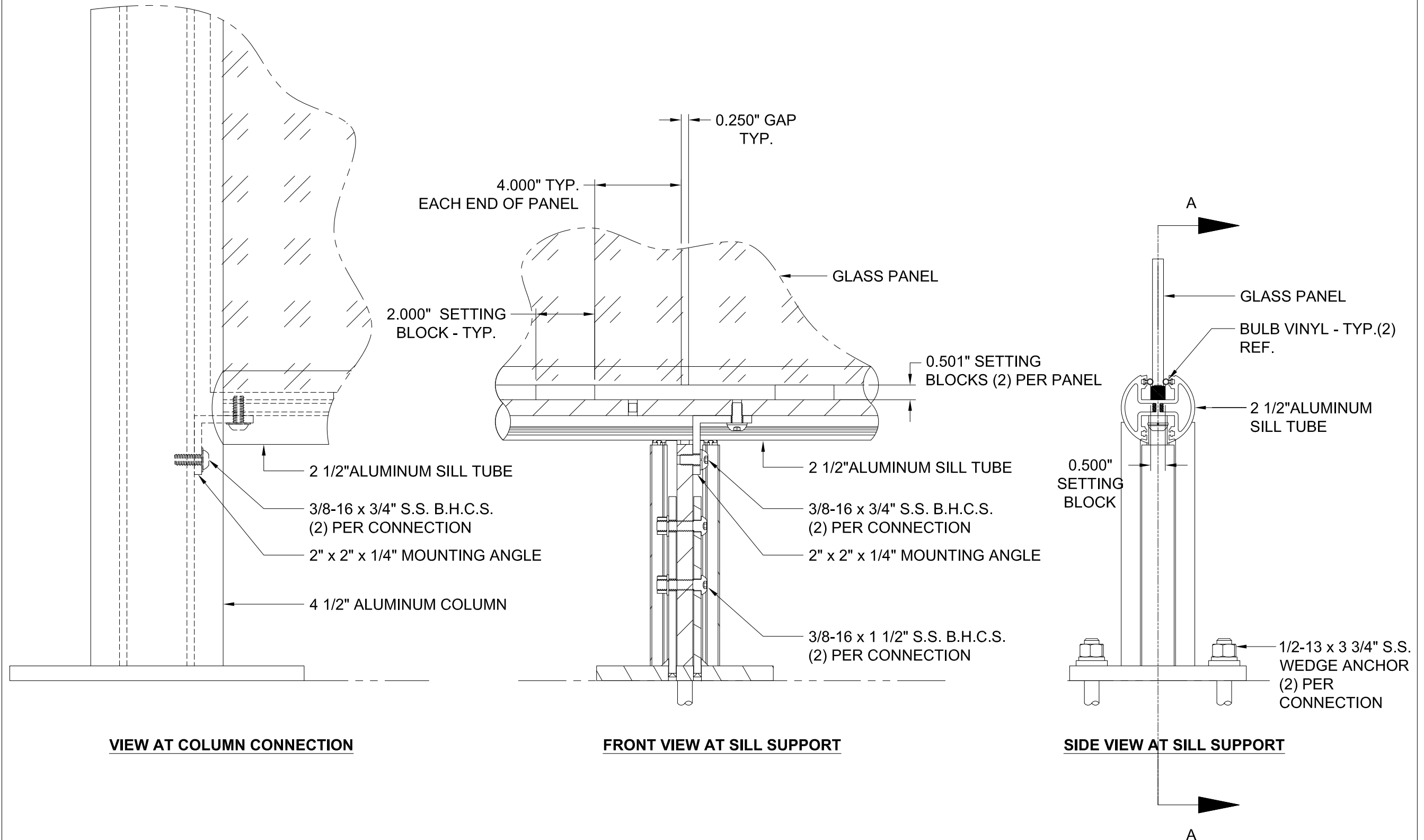
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SIGNED: _____ DATE: _____

CUSTOMER:	INSTALLATION INSTRUCTIONS	ENGINEER: ZTL	
		DATE:	10-17-13
PROJECT:	ECLIPSE STYLE TRANSIT SHELTER	CHECKER: BMB	
		DATE:	10-17-13
MODEL:	ECLIPSE SERIES	JOB #	EC-INST
		SHEET #:	EC-INST 3



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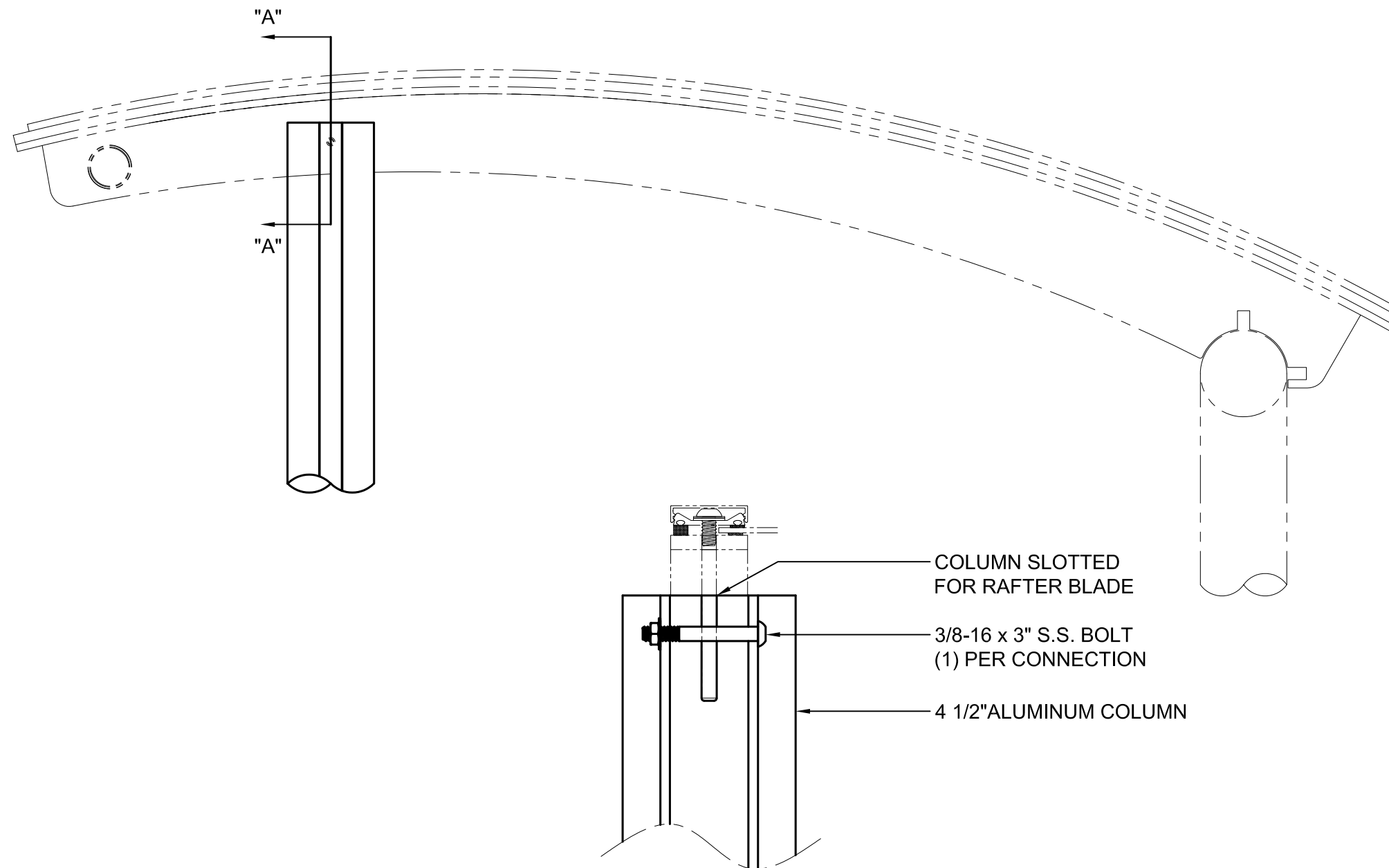
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SIGNED: _____ DATE: _____

CUSTOMER:	INSTALLATION INSTRUCTIONS			ENGINEER:	ZTL
PROJECT:	ECLIPSE STYLE TRANSIT SHELTER			DATE:	10-17-13
MODEL:	ECLIPSE SERIES	JOB #	EC-INST	CHECKER:	BMB
				DATE:	10-17-13
				SHEET #:	EC-INST 4



SECTION "A-A"



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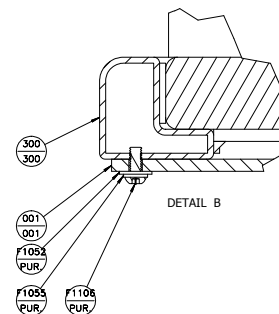
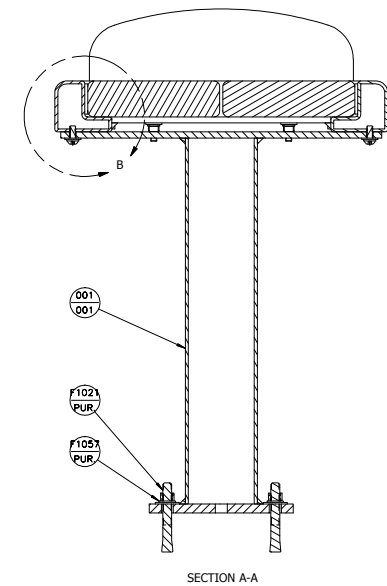
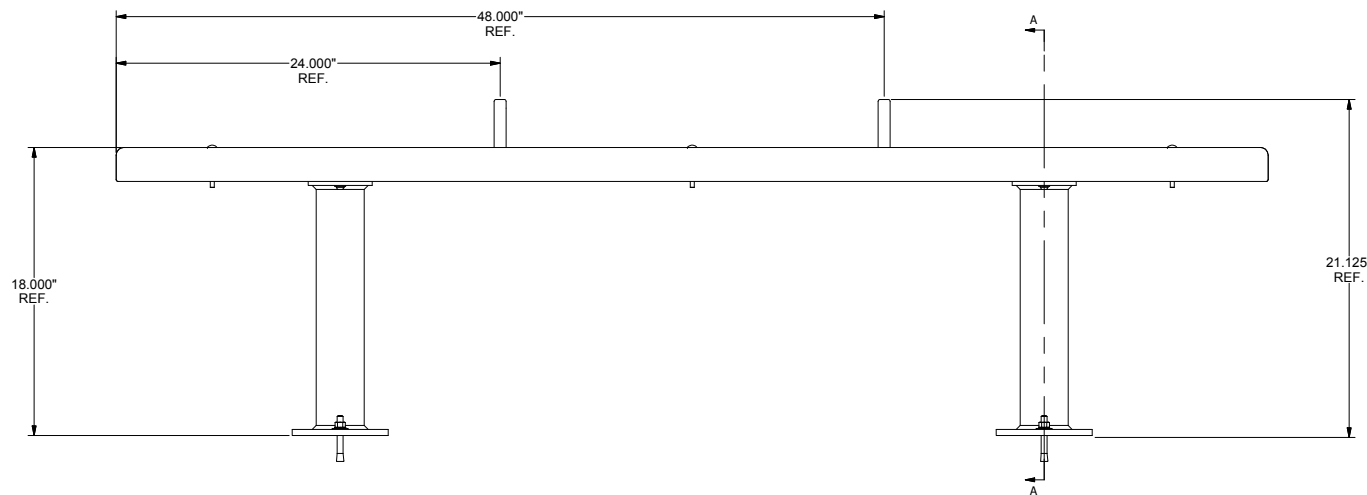
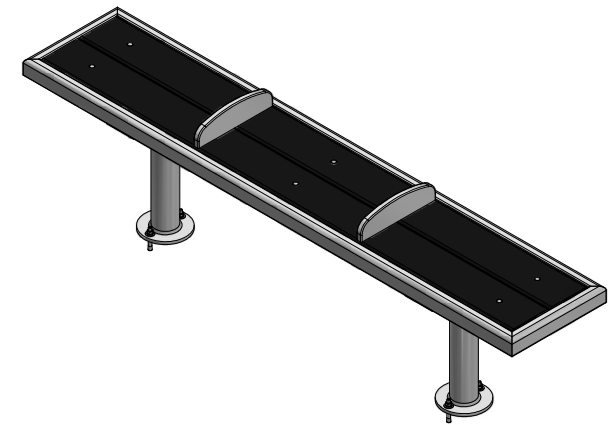
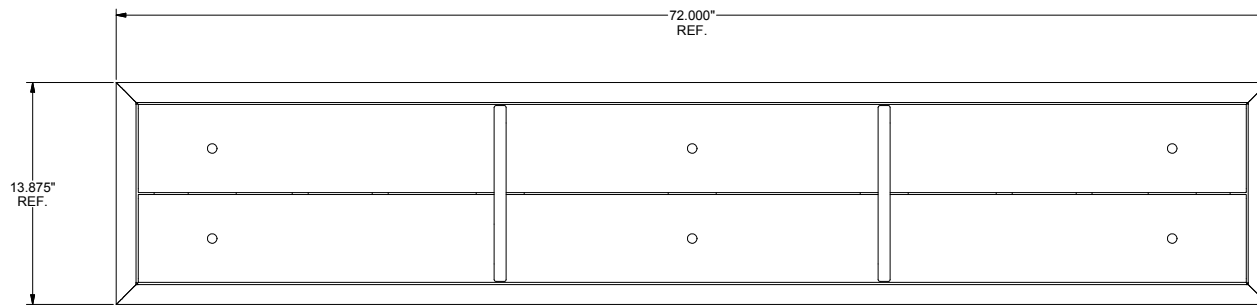
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SIGNED: _____ DATE: _____

CUSTOMER:	INSTALLATION INSTRUCTIONS	ENGINEER: ZTL	
		DATE:	10-17-13
PROJECT:	ECLIPSE STYLE TRANSIT SHELTER	CHECKER: BMB	
		DATE:	10-17-13
MODEL:	ECLIPSE SERIES	JOB #	EC-INST
		SHEET #:	EC-INST 5



XXX ECLIPSE BENCH (BE-EC-6-2S)
(SEE BOM) REQ'D - SUB ASSEMBLY
SEE PARTS LIST

BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST					
ITEM	QTY	SHT	DESCRIPTION	PART NUMBER	NOTES
001	2	001	BENCH LEG WELDMENT (2 SLAT)		SEE DWG.
300	1	300	BENCH SEAT ASSEMBLY (BE-EC-6-2S)		SEE DWG.
F1021	4	PUR.	3/8"-16 x 2 3/4" S.S. WEDGE ANCHOR BOLT	F1021	
F1052	4	PUR.	1/4" S.S. FLAT WASHER	F1052	
F1055	4	PUR.	1/4" S.S. LOCKWASHER	F1055	
F1057	4	PUR.	3/8" S.S. LOCK WASHER	F1057	
F1106	4	PUR.	1/4-20 X 5/8 S.S. TAMPER RESISTANT SCREW	F1106	



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CUSTOMER: BRASCO INTERNATIONAL		DESIGNER: BMB	CHECKER: NCR
PROJECT: ECLIPSE BENCH STANDARDS		DATE: 6/27/16	DATE: 6/27/16
MODEL: BE-EC-6-2S	JOB # STD.	SHEET: A001	REVISION: A



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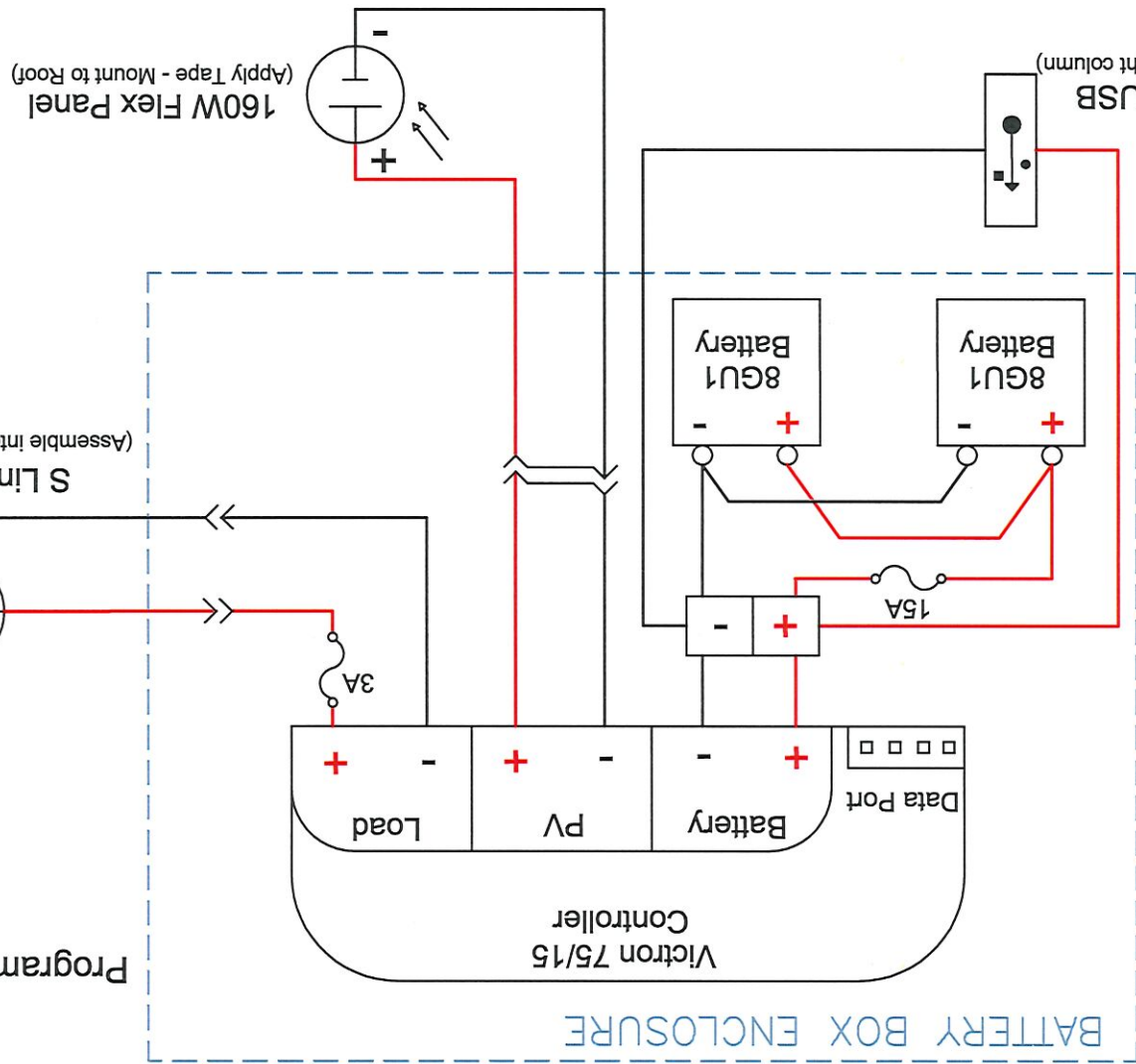
SIGNED: _____		DATE: _____	
CUSTOMER: BROOKLYN OUTDOOR		MODEL: 1P2B1LU	
PROJECT: Solar Powered Security Light w/ USB		JOB #: 5725	
ENGINEER: JMB		SHEET #: 1	
DATE: 5/29/2018		CHECKER: _____	
DATE: _____		DATE: _____	

OVERVIEW

- Phase 1 - 12 Shelters
- Phase 2 - 12 Shelters
- Phase 3 - 12 Shelters
- Phase 4 - 12 Shelters
- Phase 5 - 11 Shelters

(2) 8GU1 Batteries
(Shipped Loose)

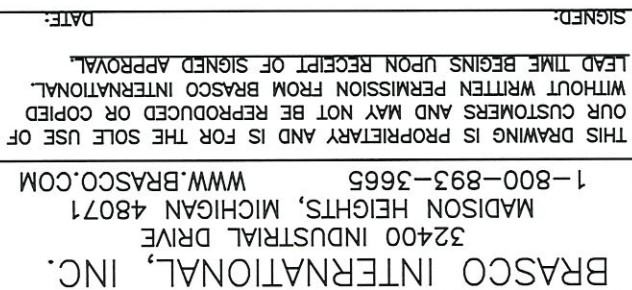
Dual Port USB
(Mounted in back right column)



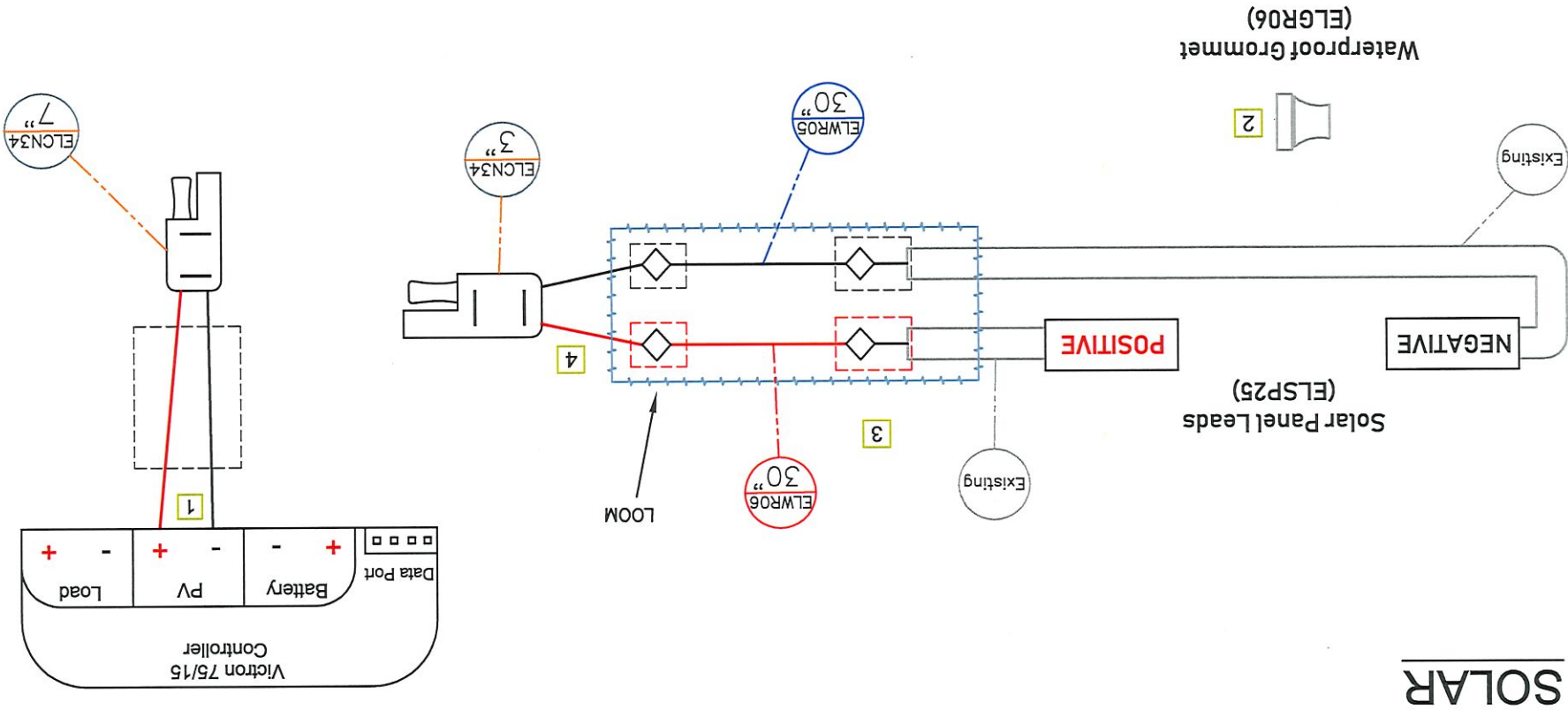
Programmed Setting:
(6/2)

S Line 1' LED Light
(Assemble into fixture - Mount to header)

160W Flex Panel
(Apply Tape - Mount to Roof)



CUSTOMER:	BROOKLYN OUTDOOR	ENGINEER:	JMB
PROJECT:	Solar Powered Security Light w/ USB	DATE:	5/29/2018
		CHECKER:	
		DATE:	
MODEL:	1P2B1LU	JOB #	5725
		SHEET #:	2



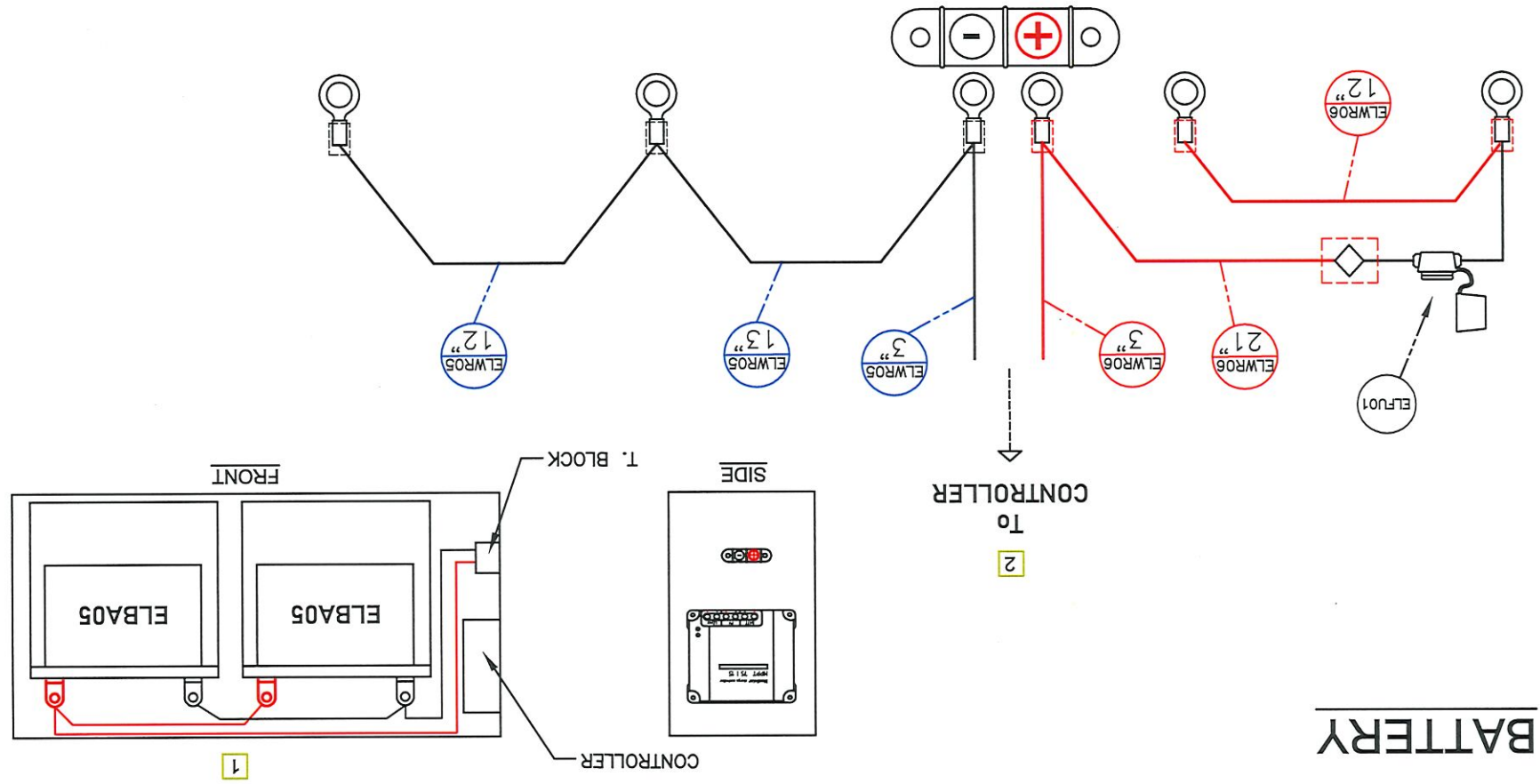


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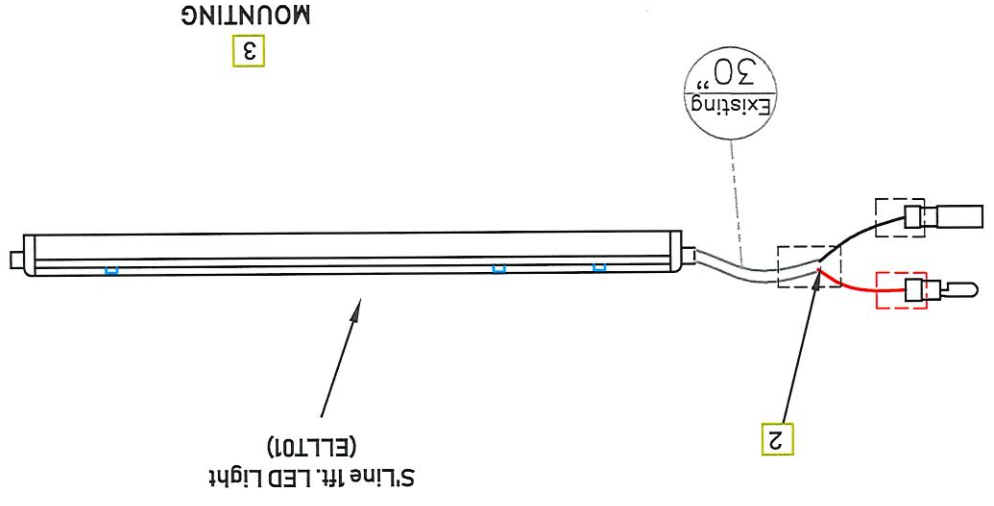
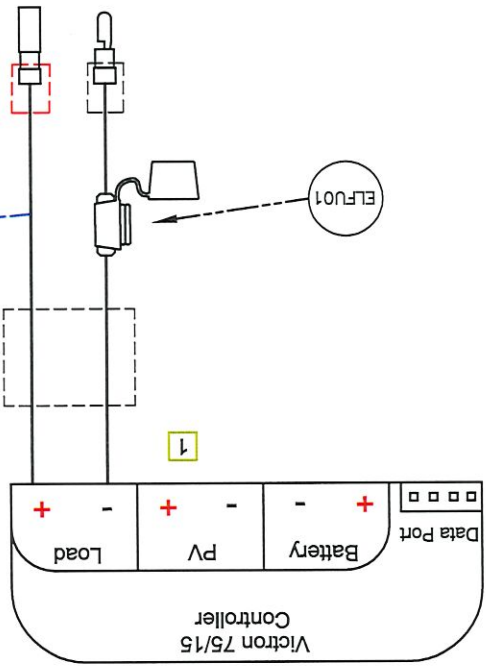
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SIGNED: _____
DATE: _____

MODEL:	1P2B1LU	JOB #	5725	SHEET #	3
PROJECT:	Solar Powered Security Light w/ USB				
CUSTOMER:	BROOKLYN OUTDOOR				
ENGINEER:	JMB	DATE:	5/29/2018	CHECKER:	
		DATE:			



LIGHT

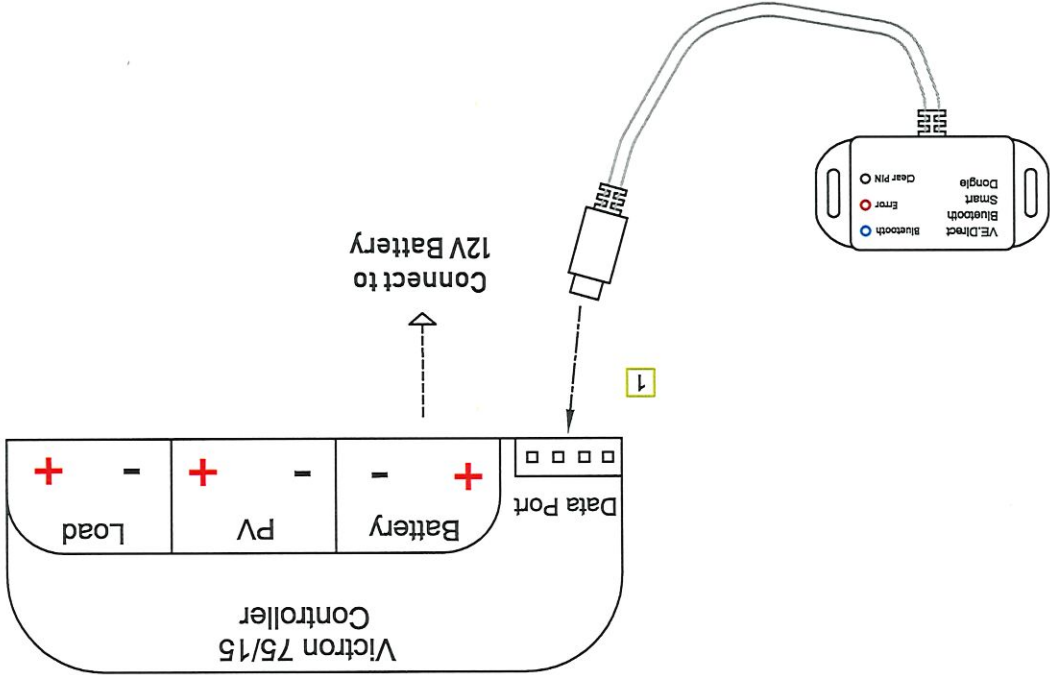


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MODEL:	1P2B1LU	JOB #	5725	SHEET #:	4
PROJECT:	Solar Powered Security Light w/ USB				
CUSTOMER:	BROOKLYN OUTDOOR				
ENGINEER:	JMB	DATE:	5/29/2018	CHECKER:	
		DATE:			

Controller Programming



BRASCO INTERNATIONAL, INC.
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SIGNED: _____

DATE: _____

CUSTOMER:	BROOKLYN OUTDOOR	PROJECT:	Solar Powered Security Light w/ USB	MODEL:	1P2B1LU
ENGINEER:	JMB	CHECKER:		JOB #	5725
DATE:	5/29/2018	DATE:		SHEET #:	5



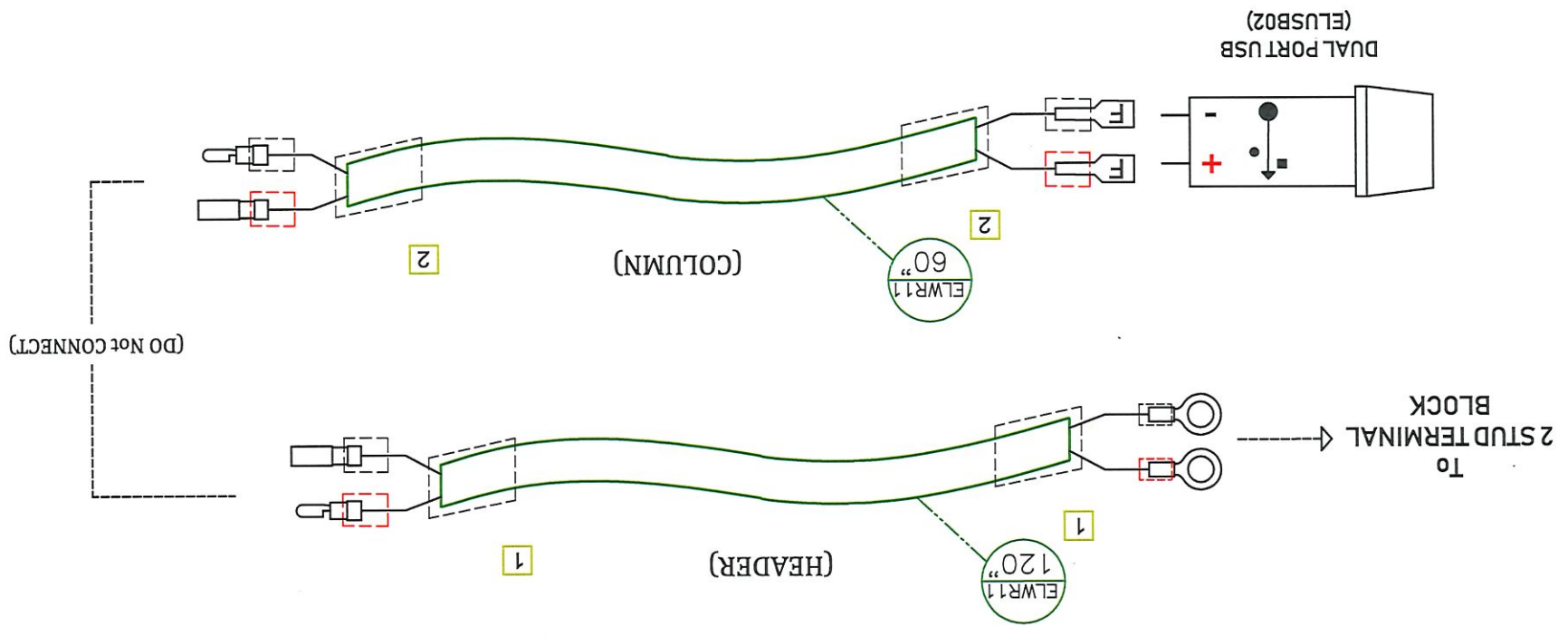
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SIGNED: _____ DATE: _____

MODEL:	1P2B1LU	JOB #	5725	SHEET #	6
PROJECT:	Solar Powered Security Light w/ USB				
CUSTOMER:	BROOKLYN OUTDOOR				
ENGINEER:	JMB	DATE:	5/29/2018	CHECKER:	
		DATE:			

USB Harness



CARE PACKAGE

- KIT Includes:**
- (1) 15 Amp Fuse
 - (1) 3 Amp Fuse



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CUSTOMER:	BROOKLYN OUTDOOR	ENGINEER:	JMB
PROJECT:	Solar Powered Security Light w/ USB	CHECKER:	
MODEL:	1P2B1LU	DATE:	5/29/2018
		DATE:	
		SHEET #:	7
		JOB #	5725