



# COMMONWEALTH OF VIRGINIA

VDOT PROJECT NUMBER: U000-1-136, P101  
UPC NUMBER: UPC 79791  
CITY OF ALEXANDRIA PROJECT NUMBER: 11-122



# CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

| STATE | FEDERAL AID                        |       | STATE                          |  | SHEET NO. |
|-------|------------------------------------|-------|--------------------------------|--|-----------|
|       | PROJECT                            | ROUTE | PROJECT                        |  |           |
| VA.   | RSTP-5401(851) &<br>RSTP-5401(893) |       | 0000-100-136, PE-101,<br>M-501 |  | /         |

|                  |     |                |                                |
|------------------|-----|----------------|--------------------------------|
| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS<br>INITIALS<br>Date: |
| CADD ENGINEER    | MS  | Date: 04/03/14 |                                |
| PROJECT ENGINEER | DLF | Date: 04/03/14 |                                |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 |                                |
| DEP. DIRECTOR    |     |                |                                |

Scale: N.T.S. Project No. 11-122 Sheet G001

### GENERAL NOTES:

- COORDINATE ALL WORK TO MAINTAIN NORMAL BUS OPERATIONS AND PEDESTRIAN ACCESS AT ALL SITES, AS DIRECTED BY THE CITY.
- REFER TO THE CITY FOR SCHEDULING, AS WELL AS MAINTENANCE AND OPERATION OF TEMPORARY STOPS AND SIGNAGE, AND RELATED REQUIREMENTS.
- ARCHAEOLOGICAL REMAINS MAY BE PRESENT. DO NOT EXCAVATE BEYOND THE VERTICAL AND HORIZONTAL LIMITS INDICATED.
- ERECT AND MAINTAIN ALL EROSION CONTROL DEVICES IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS, AND AS DIRECTED IN THE FIELD BY THE CITY. DEVICES SHOWN ON THE PLAN ARE PROVIDED FOR INFORMATION ONLY.
- ERECT AND MAINTAIN BARRICADES TO PROTECT THE AREAS OF WORK AND PREVENT UNAUTHORIZED INTRUSION.
- PROTECT EXISTING SHRUBS & TREES AND THEIR ROOTS SYSTEMS FROM DAMAGE, SOIL COMPACTION, AND CONTAMINATION--FINES IMPOSED. REFER TO DIVISION 01 SECTION "TEMPORARY TREE AND PLANT PROTECTION" FOR TREE PROTECTION REQUIREMENTS..
- THE CITY WILL COORDINATE WITH ALL ADJACENT PROPERTY OWNERS TO OBTAIN ANY ESSENTIAL CONSTRUCTION EASEMENTS PRIOR TO CONTRACTOR MOBILIZATION.
- COMPLY WITH THE CITY'S RECYCLING PLAN FOR ALL MATERIAL BEING REMOVED.
- BASE INFORMATION INCLUDING, BUT NOT LIMITED TO, RIGHTS-OF-WAY, EASEMENTS, SIGHT DISTANCES, UTILITY LOCATION, TOPOGRAPHY, AND PROPOSED GRADING PROVIDED BY THE CITY OF ALEXANDRIA.
- VERIFY EXISTING CONDITIONS AND UTILITIES, INCLUDING SUBSURFACE UTILITIES AND STRUCTURES. SOME INFO SHOWN IS APPROXIMATE, BASED ON LIMITED AVAILABLE DATA, PROVIDED FOR INFORMATION ONLY. INSPECT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO CONSTRUCTION. CONTACT "MISS UTILITY" AT LEAST 48 HOURS PRIOR TO THE START OF ANY EXCAVATION; COMPLY WITH ALL "MISS UTILITY" REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH ALL UNDERGROUND UTILITIES, TRANSMISSION LINES/PIPES, AND OTHER EXTANT FACILITIES. CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO SUCH ITEMS CAUSED BY THE ACTION OR INACTION OF HIS/HER FORCES.
- PLANS ARE REPRESENTATIVE OF DESIGN INTENT ONLY AND, AS SUCH, DENOTE VERTICAL AND HORIZONTAL RELATIONSHIPS, MATERIALS, AND FINISHES. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION/CONSTRUCTION.
- DO NOT PROCEED WITH CONSTRUCTION WHEN DISCREPANCIES, OBSTRUCTIONS, AND/OR GRADE CONFLICTS EXIST. NOTIFY CITY AND AWAIT DIRECTION PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR

- CITY SHALL APPROVE STAKING IN FIELD OF ALL WORK PRIOR TO CONSTRUCTION. NOTIFY CITY 72 HOURS IN ADVANCE OF STAKEOUT.
- ALL WORK SHALL CONFORM TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS OF THE CITY OF ALEXANDRIA, THE COMMONWEALTH OF VIRGINIA, AND THE FEDERAL GOVERNMENT UNLESS WAIVED AND/OR MODIFIED UNDER SEPARATE APPLICATION.
- CONTRACTOR SHALL OBTAIN ALL PERMITS ASSOCIATED WITH THIS WORK AT HIS/HER OWN COST PRIOR TO CONSTRUCTION.
- ALL DIMENSIONS SHOWN ARE PARALLEL AND PERPENDICULAR UNLESS OTHERWISE NOTED. DO NOT SCALE DIMENSIONS OFF THE DRAWINGS.
- PRIOR TO DEMOLITION, LOCATE & RECORD LOCATION OF EXISTING SHELTER.
- GRADE AREAS ADJACENT TO NEW PAVING AT 2% FOR THE FIRST 2'-0", THEN RETURN TO GRADE AT 3:1. FILL ALL HOLES AND DEPRESSIONS WITHIN THE AREA OF WORK.
- REPAIR ADJACENT GRADE W/ TOPSOIL & TURF SOD TO MATCH ADJACENT CONDITION, UNLESS OTHERWISE INDICATED.
- SAWCUT EXISTING PAVEMENTS TO BE REMOVED AT NEXT NEAREST EXISTING JOINT.
- NEW PAVEMENTS SHALL MEET AND MATCH ADJACENT EXISTING PAVEMENT SECTIONS.
- EXISTING S/W SHOWN TO BE REMOVED IS THE MINIMUM EXPECTED TO MEET CURRENT ADA. IT MAY BE NECESSARY TO REMOVE AND RE-SLOPE ADDITIONAL S/W TO MEET CURRENT ADA. VERIFY AT EACH SITE AND REVIEW WITH THE CITY.
- "EXISTING SLOPE," AS NOTED ON THE PLANS, REFERS TO THE EXISTING SLOPE AT THE CURB, UNLESS OTHERWISE INDICATED.
- PRIOR TO POURING SLABS, VERIFY THAT AS-BUILT SLOPES WITHIN SHELTER, BOARDING PAD, AND ACCESSIBLE ROUTE WILL COMPLY W/ CURRENT ADA & OTHER REQUIREMENTS. ADJUST LAYOUT AS DIRECTED BY CITY IN THE FIELD.
- DO NOT RELOCATE EXISTING SIGNAGE OR TRASH RECEPTACLES UNLESS OTHERWISE INDICATED.
- INSTALL NEW AND RELOCATED COMPONENTS PLUMB AND LEVEL. USE RESPECTIVE MFR'S STANDARD METHOD OF SHIMMING OR ADJUSTMENT, AS APPROVED BY THE CITY.
- REMOVE ALL NEWSPAPER BOXES AND OTHER APPURTENANCES FROM WHEELCHAIR SPACES, ACCESSIBLE ROUTES, BOARDING PAD, AND

- ENTRANCES TO SHELTERS.
- ALL METALS EXCEPT FASTENERS ARE ALUMINUM, UNLESS OTHERWISE NOTED. REFER TO STRUCTURAL DETAILS AND DIVISION 05 SECTION "ALUMINUM FRAMING."
- FINISH PER SPECIFICATIONS, DIVISION 5 SECTION "METAL FABRICATIONS" FOR ALUMINUM FINISHES. COLOR: BLACK OR SILVER, AS DIRECTED BY CITY.
- PROVIDE DEDUCT ALTERNATE AS FOLLOWS:
  - GALVANIZED STEEL REPLACES ALUMINUM. REFER TO DIVISION 05 SECTION "STRUCTURAL STEEL FRAMING."
  - PROVIDE STRUCTURAL CALCULATIONS TO DETERMINE WALL THICKNESS AND MEET REQUIRED LOADS.
  - FINISH PER SPECIFICATIONS, DIVISION 5 SECTION "METAL FABRICATIONS" FOR STEEL FINISHES.
- ALL SHOP CONNECTIONS ARE WELDED ALL-AROUND AND GROUND SMOOTH PRIOR TO FINISHING. ALL FIELD CONNECTIONS ARE BY MECHANICAL FASTENER.
- PROVIDE SUBMITTALS AND SAMPLES OF ALL PRODUCTS AND MATERIALS PRIOR TO ORDERING AND/OR CONSTRUCTION.
- PROVIDE SHOP DRAWINGS OF SHELTER STRUCTURE AND CONCRETE REINFORCEMENT, SEALED BY A VIRGINIA-LICENSED STRUCTURAL ENGINEER.
- VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND ENSURE THAT FINAL ASSEMBLY IS FULLY CONSISTENT WITH DESIGN INTENT. DO NOT PROCEED WITH FABRICATION WHEN DISCREPANCIES EXIST. NOTE RECOMMENDED ADJUSTMENTS IN SHOP DRAWINGS, FOR REVIEW AND APPROVAL BY THE ARCHITECT PRIOR TO FABRICATION. CONTRACTOR IS RESPONSIBLE FOR WORK PERFORMED PRIOR TO DIRECTION AND SHALL BEAR ALL COSTS ASSOCIATED WITH REMEDIAL ACTION, AS DIRECTED BY CITY.
- CONTRACTOR SHALL BEAR RESPONSIBILITY FOR WORK UNDERTAKEN AND/OR MATERIALS ORDERED PRIOR TO OBTAINING COMPLETE APPROVAL.
- FACTORY-ASSEMBLE AND FINISH THE FOLLOWING AS MODULAR PANELS (EXCEPT GLAZING) FOR TILT-UP FIELD ASSEMBLY:
  - ROOF ASSEMBLY,
  - BENCH ASSEMBLY,
  - WALL PANEL 1,
  - WALL PANEL 2,
  - WALL PANEL 3
  - WALL PANEL 4.
- THIS PROJECT PROPOSES NO FRONT WIND SCREENS FOR EACH

### SHELTER IMPROVEMENT. INDEX OF SHEETS:

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TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS

CITY OF ALEXANDRIA  
VIRGINIA

NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICIAL (TYPED)

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION

DATE: TITLE OF POSITION

EMILY A. BAKER, PE

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

DATE: CITY ENGINEER

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION

DATE: DISTRICT PLANNING AND INVESTMENT MANAGER

DATE: DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR RIGHT OF WAY ACQUISITION

DATE: DISTRICT ADMINISTRATOR

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

DATE: DISTRICT PLANNING AND INVESTMENT MANAGER

DATE: DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR CONSTRUCTION

DATE: DISTRICT ADMINISTRATOR

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SVCS.

APPROVED: [Signature] 5/2/14 DATE:

DIRECTOR

RECOMMENDED FOR APPROVAL: [Signature] 5/2/14 DATE:

DEPUTY DIRECTOR OF OPERATIONS

RECOMMENDED FOR APPROVAL: [Signature] 4/24/14 DATE:

DEPUTY DIRECTOR OF INFRASTRUCTURE & ENVIRONMENT

RECOMMENDED FOR APPROVAL: [Signature] 4/25/14 DATE:

DEPUTY DIRECTOR OF TRANSPORTATION

DEPARTMENT OF PROJECT IMPLEMENTATION

APPROVED: [Signature] 5/2/14 DATE:

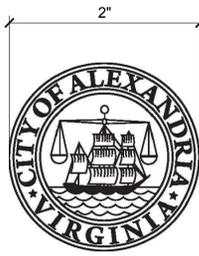
DIRECTOR

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

COVER SHEET

CITY OF ALEXANDRIA, VIRGINIA  
Transportation & Environmental Services  
P. O. Box 178  
Alexandria, Virginia 22313



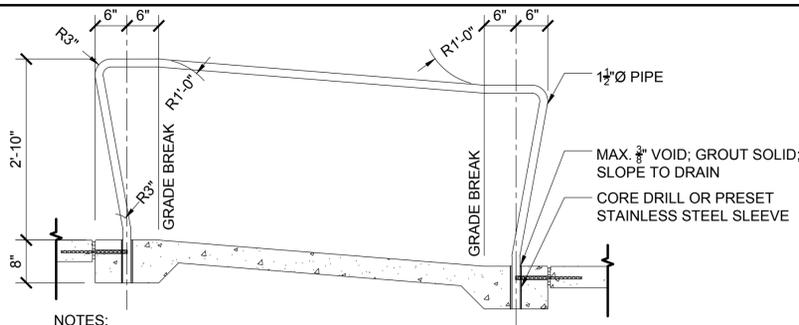


EXTERIOR GRADE, DIE-CUT 3 MIL VINYL DECAL W/ PRESURE-SENSITIVE ADHESIVE BACKING; FROSTED-ETCHED LOGO W/ CLEAR BACKGROUND

- NOTES:  
 1. IMAGE ABOVE IS VIEW FROM INSIDE SHELTER. PRINT REVERSE IMAGE; AFFIX TO OUTSIDE OF ENCLOSURE.  
 2. GRAPHIC PROVIDED BY CITY.

**9 GLAZING DECAL**

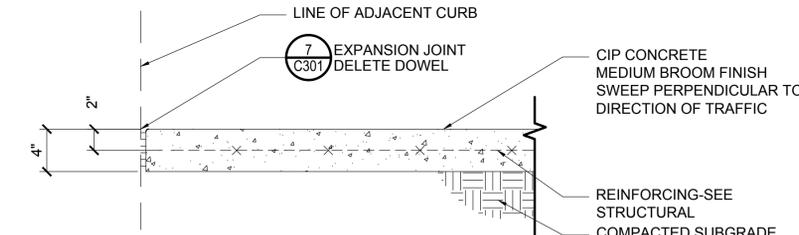
1/2" = 1'-0"



- NOTES:  
 1. WELD AND GRIND SMOOTH ALL JOINTS. MATCH ADJACENT FINISH.  
 2. ALL METAL: MATCH ADJACENT SHELTER MATERIAL & FINISH

**5 HAND RAIL**

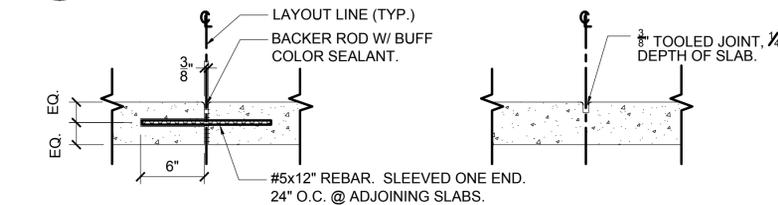
3/4" = 1'-0"



- NOTES:  
 1. DETAIL IS FOR SIDEWALKS. REFER TO 3/L301 FOR SHELTER PAD.  
 2. REFER TO 7/C301 FOR JOINT TYPES.

**6 CONCRETE PAVING**

1 1/2" = 1'-0"

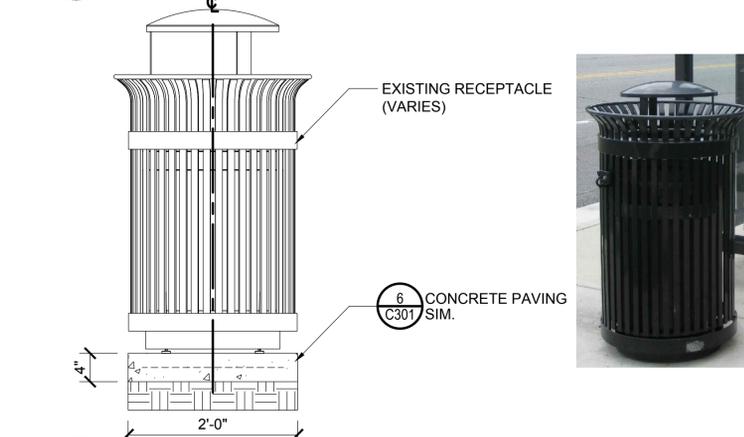


EXPANSION/ISOLATION JOINT (EJ) CONTROL/CONTRACTION JOINT (CJ)

- NOTES:  
 1. INSTALL CONTROL JOINTS AT EQUAL INTERVALS OF 5'-0" UNLESS OTHERWISE INDICATED.  
 2. INSTALL EXPANSION JOINTS @ 20'-0" INTERVALS MAX., UNLESS OTHERWISE INDICATED, AND WHERE SLAB MEETS ANY ADJACENT STRUCTURE.  
 3. TOOL ALL EXPOSED EDGES W/ 1/4" RADIUS.  
 4. RECESS EXPANSION JOINTS 1/4" BELOW FINISH GRADE.  
 5. SAWCUT JOINTS ARE PROHIBITED.

**7 CONCRETE JOINTING**

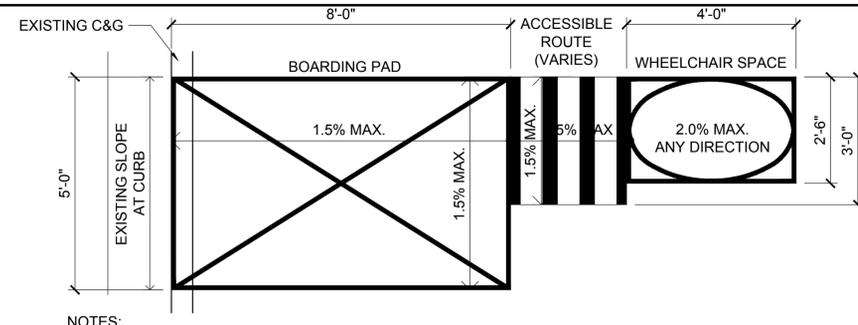
1 1/2" = 1'-0"



- NOTES:  
 1. VICTOR STANLEY MODELS & OTHERS MANUFACTURED WITH LEVELING FEET AND ACCOMMODATION FOR ANCHORS:  
 1.1. ADJUST LEVELING FEET TO SET RECEPTACLE PLUMB.  
 1.2. ANCHOR TO CONCRETE BASE AS INDICATED.  
 2. WHERE RECEPTACLES ARE SHOWN INSTALLED ON SIDEWALKS, DELETE PAD & ANCHOR AS INDICATED.  
 3. ORIENT RECEPTACLES TOWARD ADJACENT CURB AND VERIFY SIDE DOOR, WHERE PRESENT, HAS FULL RANGE OF UNIMPEDED MOTION.

**8 TRASH RECEPTACLE**

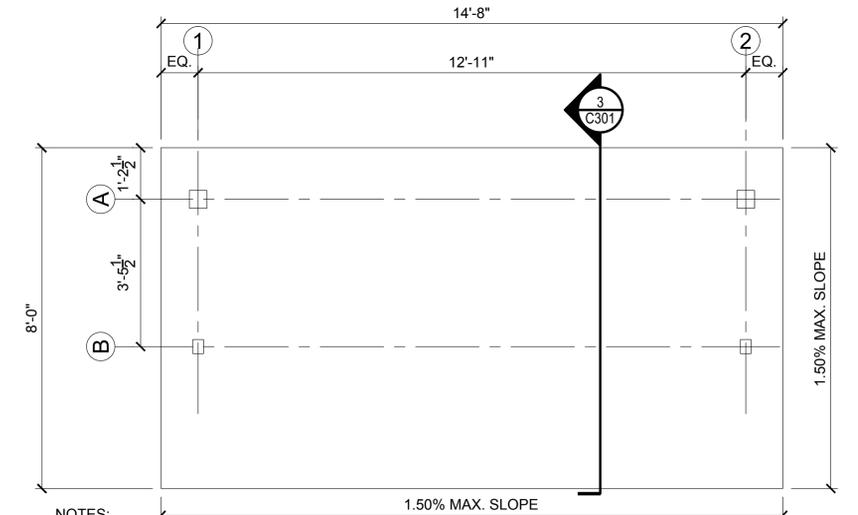
1" = 1'-0"



- NOTES:  
 1. ABOVE INDICATES TYPICAL CONDITIONS. ACTUAL CONDITIONS VARY AT EACH SITE. REFER TO SITE PLANS.

**1 ACCESSIBLE ROUTE - TYPICAL**

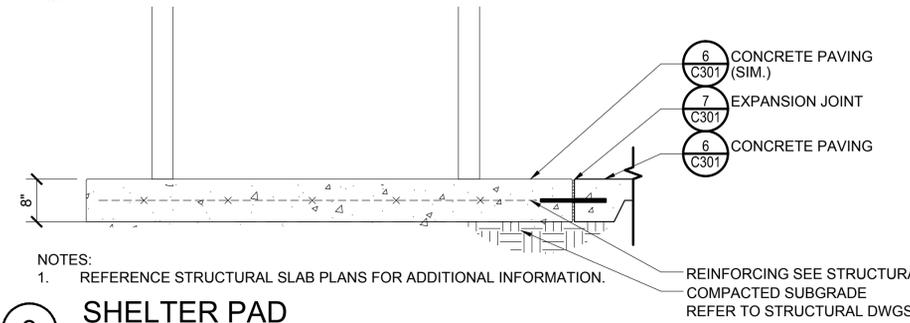
1/2" = 1'-0"



- NOTES:  
 1. DIMENSIONS ABOVE ARE TYPICAL. EXTEND OR REDUCE TO MEET OVERALL LENGTH AND/OR WIDTH TO ADJACENT WALLS/ PAVEMENTS AS INDICATED AND AS DIRECTED BY THE ARCHITECT.  
 2. PROVIDE EXPANSION JOINT BETWEEN EDGE OF PAD AND ADJACENT WALLS AND/OR PAVEMENTS.  
 3. FOOTPRINT FOR SHELTER CONFIGURATION "B" SHOWN ABOVE. OTHERS VARY.

**2 SHELTER PAD - PLAN**

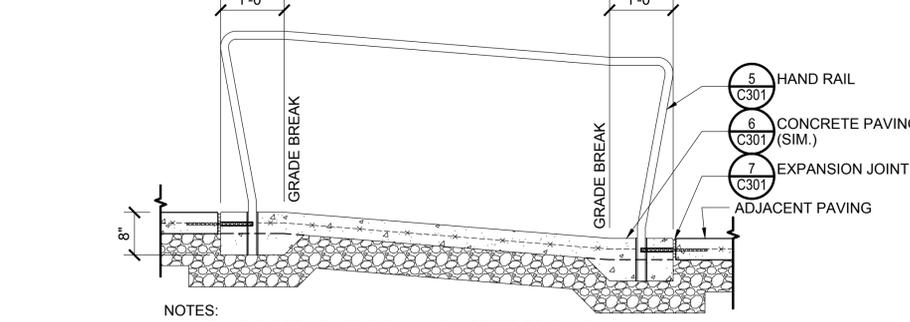
1/2" = 1'-0"



- NOTES:  
 1. REFERENCE STRUCTURAL SLAB PLANS FOR ADDITIONAL INFORMATION.  
 REINFORCING SEE STRUCTURAL COMPACTED SUBGRADE REFER TO STRUCTURAL DWGS.

**3 SHELTER PAD**

3/4" = 1'-0"



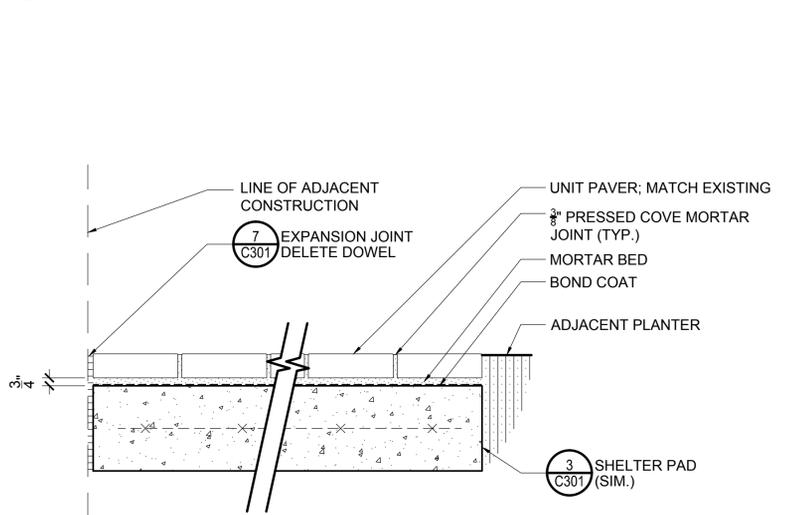
- NOTES:  
 1. RAMP SLOPE & DIMENSIONS VARY. REFER TO PLANS.  
 2. COORDINATE W/ HAND RAIL FABRICATION.

**4 HCP RAMP**

3/4" = 1'-0"

**10 TREE PROTECTION FENCE**

1/2" = 1'-0"



- NOTES:  
 1. INSTALL JOINT MORTAR BY MEANS OF A GROUT BAG AND POINTING. FLOATING AND SCREENING IS PROHIBITED.  
 2. INSTALL PAVER COURSES IN STRAIGHT LINES AND TRUE ARCS AND TANGENTS.  
 3. FOR ALL CUTS, REPLICATE EDGE CONDITION OF UNCUT UNIT.  
 4. CUT UNITS LESS THAN 1/4 PAVEMENT DIMENSION ARE PROHIBITED. REMOVE CUT UNIT AND 2 ADJACENT UNITS; INSTALL 3 EQUAL CUT UNITS.  
 5. REFER TO 3/L312 FOR POST BASE IN UNIT PAVING.

**11 UNIT PAVING**

1 1/2" = 1'-0"

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

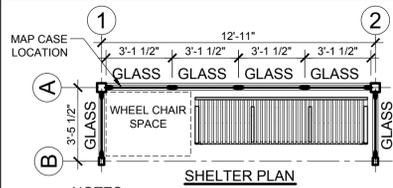
CITY OF ALEXANDRIA, VIRGINIA  
 Transportation & Environmental Services  
 P. O. Box 178  
 Alexandria, Virginia 22313

CONSTRUCTION  
 DETAILS

| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
|------------------|-----|----------------|-----------|
| CADD ENGINEER    | MS  | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 | Date:     |
| DEP. DIRECTOR    | EB  | Date: 04/03/14 |           |

Scale: AS INDICATED Project No. 11-122 Sheet C301

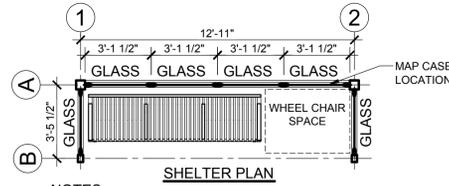




- NOTES:
1. BENCH LOCATIONS VARY EACH SITE.
  2. OPTIONAL SOLAR ARRAY COMPONENTS, DELEGATED DESIGN, AS APPROVED BY CITY: REMOTE LOCATE BATTERIES, CONTROLLER, DRIVER IN ALUMINUM (FINISHED TO MATCH SHELTER) OR STAINLESS STEEL NEMA 3R-COMPLIANT EXTERIOR CABINET, BASE MOUNT, W/ FOOTING(S). MOUNT JUNCTION BOX INSIDE LOWER BEAM; PROVIDE FLUSH ACCESS PLATE ON INTERIOR SIDE.

**1** CONFIGURATION B1

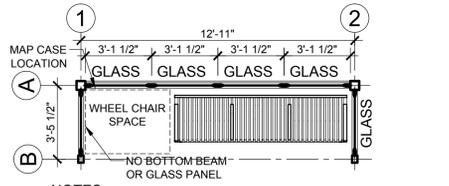
1/4" = 1'-0"



- NOTES:
1. BENCH LOCATIONS VARY EACH SITE.
  2. OPTIONAL SOLAR ARRAY COMPONENTS, DELEGATED DESIGN, AS APPROVED BY CITY: REMOTE LOCATE BATTERIES, CONTROLLER, DRIVER IN ALUMINUM (FINISHED TO MATCH SHELTER) OR STAINLESS STEEL NEMA 3R-COMPLIANT EXTERIOR CABINET, BASE MOUNT, W/ FOOTING(S). MOUNT JUNCTION BOX INSIDE LOWER BEAM; PROVIDE FLUSH ACCESS PLATE ON INTERIOR SIDE.

**2** CONFIGURATION B2

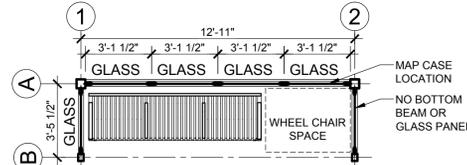
1/4" = 1'-0"



- NOTES:
1. BENCH LOCATIONS VARY EACH SITE.
  2. OPTIONAL SOLAR ARRAY COMPONENTS, DELEGATED DESIGN, AS APPROVED BY CITY: REMOTE LOCATE BATTERIES, CONTROLLER, DRIVER IN ALUMINUM (FINISHED TO MATCH SHELTER) OR STAINLESS STEEL NEMA 3R-COMPLIANT EXTERIOR CABINET, BASE MOUNT, W/ FOOTING(S). MOUNT JUNCTION BOX INSIDE LOWER BEAM; PROVIDE FLUSH ACCESS PLATE ON INTERIOR SIDE.

**3** CONFIGURATION B3

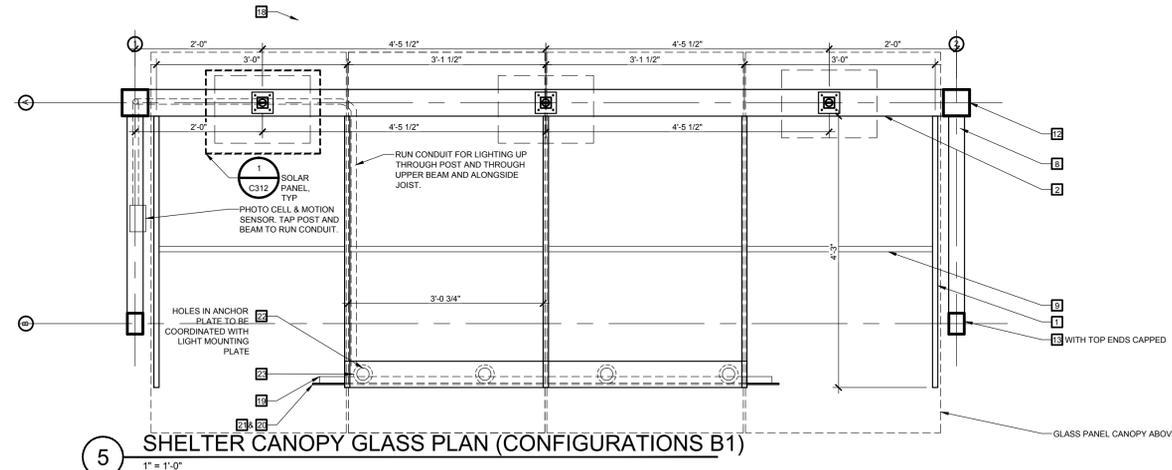
1/4" = 1'-0"



- NOTES:
1. BENCH LOCATIONS VARY EACH SITE.
  2. OPTIONAL SOLAR ARRAY COMPONENTS, DELEGATED DESIGN, AS APPROVED BY CITY: REMOTE LOCATE BATTERIES, CONTROLLER, DRIVER IN ALUMINUM (FINISHED TO MATCH SHELTER) OR STAINLESS STEEL NEMA 3R-COMPLIANT EXTERIOR CABINET, BASE MOUNT, W/ FOOTING(S). MOUNT JUNCTION BOX INSIDE LOWER BEAM; PROVIDE FLUSH ACCESS PLATE ON INTERIOR SIDE.

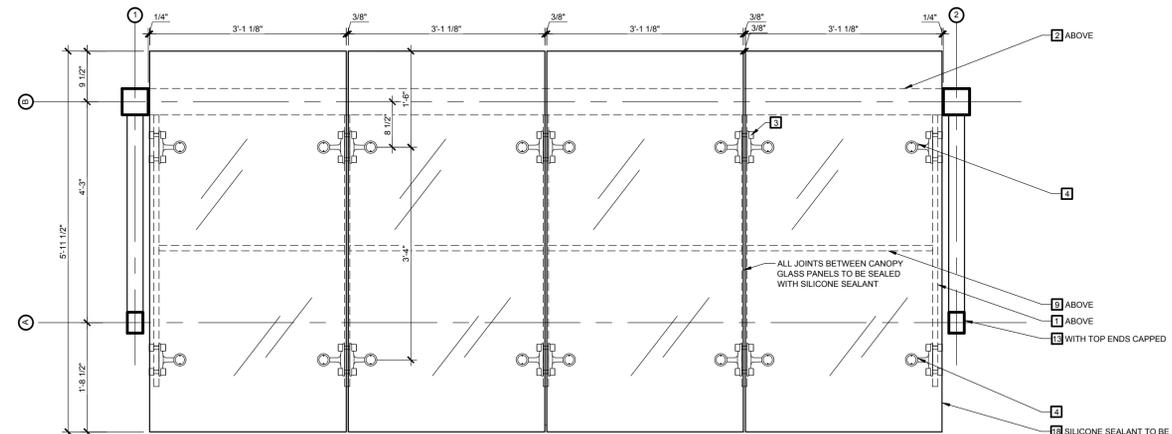
**4** CONFIGURATION B4

1/4" = 1'-0"



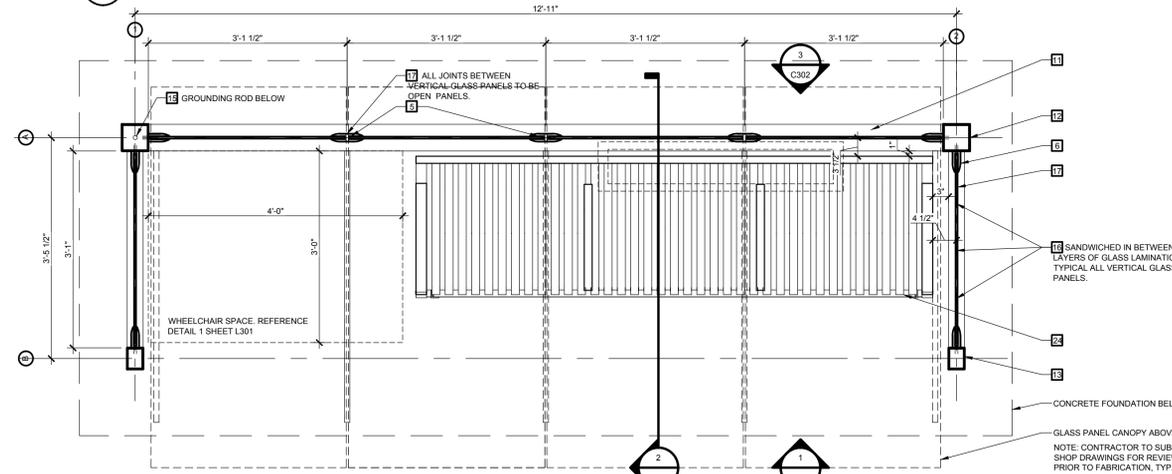
**5** SHELTER CANOPY GLASS PLAN (CONFIGURATIONS B1)

1" = 1'-0"



**5** SHELTER CANOPY GLASS PLAN (CONFIGURATIONS B1)

1" = 1'-0"



**6** SHELTER PLAN (CONFIGURATIONS B1)

1" = 1'-0"

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

|  |      |                |            |
|--|------|----------------|------------|
| DESIGN ENGINEER                        | RE   | Date: 04/03/14 | REVISIONS  |
| CADD ENGINEER                          | M/S  | Date: 04/03/14 | INITIALS   |
| PROJECT ENGINEER                       | D/LF | Date: 04/03/14 | COMMENTS   |
| DEPUTY DIRECTOR                        | EB   | Date: 04/03/14 |            |
| DEP. DIRECTOR                          |      |                |            |
| Scale: AS INDICATED/Project No. 11-122 |      |                | Sheet C302 |

CONSTRUCTION DETAILS

CITY OF ALEXANDRIA, VIRGINIA  
 Transportation & Environmental Services  
 P. O. Box 178  
 Alexandria, Virginia 22313





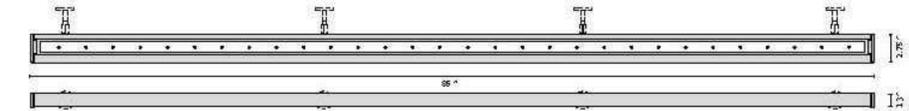
### STRIP OVAL LED 2160

Luminaire system specially designed for longitudinal uplighting and downlighting.  
 Very small housing in anodized extruded aluminium.  
 Diffuser in tempered glass.  
 Adjustable wall mounting bracket with joint for directing the luminaire.  
 Accessory available in packs of 2 (to be ordered separately).  
 Available as a visor accessory, able to direct the light (to be ordered separately).  
 3000 °K (warm) and 6000 °K (cool) white LEDs.  
 The LED transformer/driver must be ordered separately.  
 Lenses can be mounted on LED models to obtain light beams of 10°, 25° or 40°.  
 The lens accessory and lens holder are available in a package containing 3 pieces (to be ordered separately).  
 Cover available as an accessory to conceal the terminal connection for the power supply unit cable.



| code                       | hsp           | current | color                  | IP |
|----------------------------|---------------|---------|------------------------|----|
| <b>STRIP OVAL LED 2160</b> |               |         |                        |    |
| 076288                     | n. 30 LED 36W | 24V     | Gray Anodized - 3000 K | 55 |
| 076290                     | n. 30 LED 36W | 24V     | Gray Anodized - 6000 K | 55 |

UL listed for wet location  
 LM79 pending



|              |
|--------------|
| PRODUCT CODE |
| PROJECT      |
| TYPE         |



PERFORMANCE IN LIGHTING USA, inc.  
 2621 Keys Pointe  
 Conyers, Georgia 30013 - USA  
 voice 770.822.2115 - fax 770.822.9925  
 toll free 866.373.2292  
 web www.pil-usa.com  
 e-mail info@pil-usa.com

PROVIDE CUSTOM POWDER COAT COLOR PER CITY REQUIREMENTS. COORDINATE CUSTOM SIGN/VISOR PANEL WITH CITY COPY & REQUIREMENTS.

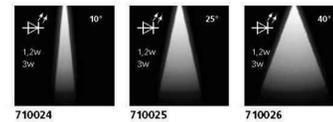
### STRIP OVAL LED 2160

Three different adjustable wall brackets are available, one joint and a mini mounting support bracket.

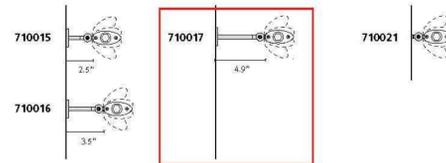
The mini fixed support bracket (710020) is only required for fluorescent models, to mount the remote gear unit to the light fixture.

The terminal plate cover is useful for covering the area where power cables enter the wall (box). Necessary for new constructions.

For the LED models, it is possible to use additional lenses to concentrate the light beam at a width of 10°, 25° or 40°. Every lens location need a support.



| code              | description                               | color         |
|-------------------|---|---------------|
| <b>COMPONENTS</b> |   |               |
| 710015            | Adjustable wall bracket 2.5° (2 pieces)   | Gray Anodized |
| 710016            | Adjustable wall bracket 3.5° (2 pieces)   | Gray Anodized |
| 710017            | Adjustable wall bracket 4.9° (2 pieces)   | Gray Anodized |
| 710020            | Fixed mini-support bracket (2 pieces)     | Gray Anodized |
| 710021            | Joint                                     | Gray Anodized |
| 07945             | Plate cover jbox Strip Oval               | Gray Anodized |
| 710022            | Lens support for white LEDs (3 pieces)    |               |
| 710024            | Lens for white LED beam at 10° (3 pieces) |               |
| 710025            | Lens for white LED beam at 25° (3 pieces) |               |
| 710026            | Lens for white LED beam at 40° (3 pieces) |               |



### STRIP OVAL LED 2160



| code               | description  | color         |
|--------------------|--------------|---------------|
| <b>ACCESSORIES</b> |              |               |
| 710047             | Visor L 2142 | Gray Anodized |

The visor accessory optimizes the direction of the light distribution.

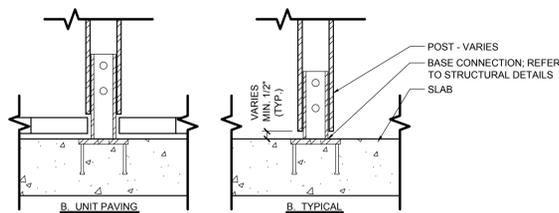
PROVIDE CUSTOM POWDER COAT COLOR PER CITY REQUIREMENTS. COORDINATE CUSTOM SIGN/VISOR PANEL WITH CITY COPY & REQUIREMENTS.

**CITY OF ALEXANDRIA, VIRGINIA**  
 Transportation & Environmental Services  
 P. O. Box 178  
 Alexandria, Virginia 22313



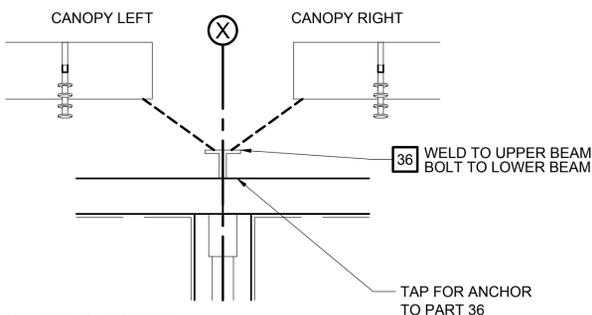
## CONSTRUCTION DETAILS

|                  |     |                |           |
|------------------|-----|----------------|-----------|
| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
| CADD ENGINEER    | MS  | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 |           |
| DEP. DIRECTOR    | EB  | Date: 04/03/14 |           |
| Date:            |     |                |           |

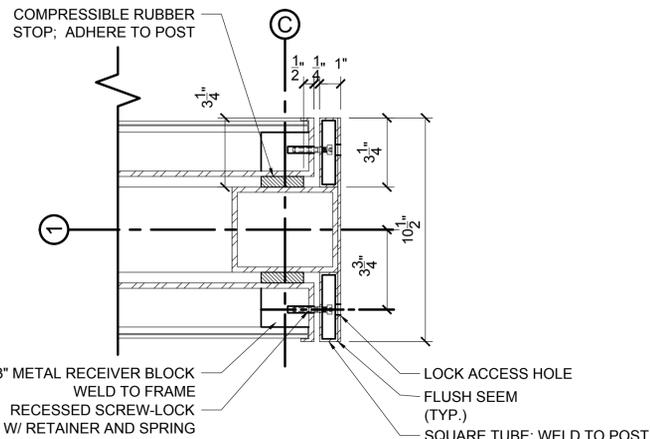


**3 POST BASE - TYPICAL**  
1" = 1'-0"

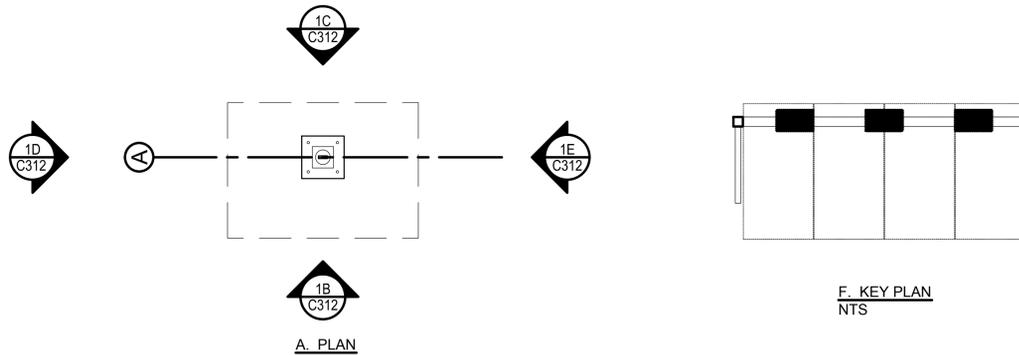
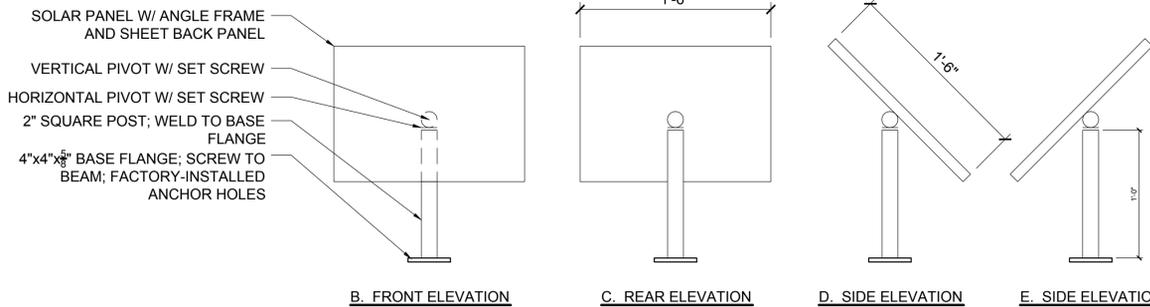
NOTES:  
1. FACTORY-INSTALL COUNTERSUNK SCREW HOLES IN POSTS.  
2. ORIENT BOLT HOLES AND HARDWARE AS INDICATED.  
3. REFER TO STRUCTURAL DETAILS



**4 L-BRACKET**  
1" = 1'-0"



**5 UPPER FASCIA - PART 63**  
3" = 1'-0"



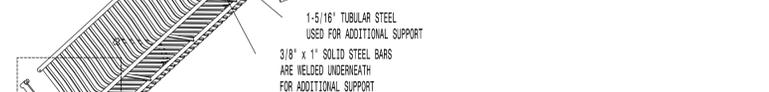
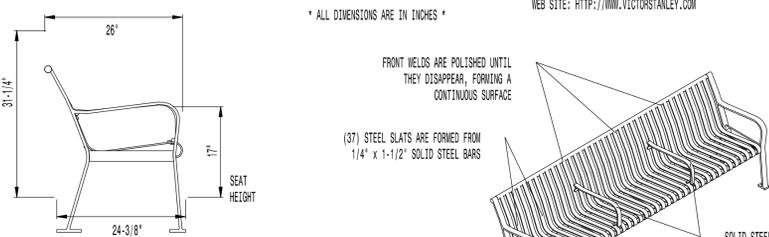
**NOTES:**

1. THE SOLAR ARRAY IS AN OPTION ITEM, TO BE SELECTED BY THE CITY PER SITE.
2. EACH SOLAR ARRAY SHALL PROVIDE A MINIMUM OF 150 WATTS AND INCLUDE THE FOLLOWING: 3 DOMESTIC PHOTOVOLTAIC PANELS, FRAMES & MOUNTING HARDWARE, WIRING, (2) 116 Ahr AGM LONG LIFE 12V BATTERIES, ENERGY MANAGEMENT SYSTEM (CONTROLLER), PASSIVE INFRARED MOTION SENSOR, ADJUSTABLE TIMER, AND LIGHTS (AS INDICATED). ORIENT PANELS UNIFORMLY TO THE SOUTH FOR OPTIMAL ENERGY COLLECTION.
3. PROGRAM: DESIGN AND INSTALL A SYSTEM TO PROVIDE FOR NO LESS THAN 4 HOURS OF DAILY OPERATION AT 100% OUTPUT. ACTIVATE LIGHTS AT 100% WHEN MOTION INDICATING PASSENGERS ARE INSIDE THE SHELTER IS DETECTED. PROVIDE 50% OUTPUT SETTING WHEN MOTION IS NOT DETECTED. ENABLE CONTROLLER TO PARSE AVAILABLE POWER UNIFORMLY ACROSS EACH DAY'S OPERATION WHEN CLOUD COVER INHIBITS EXPECTED ENERGY COLLECTION.
4. DESIGN STRUCTURE FOR MINIMUM 90 MPH SUSTAINED WINDS.
5. PROVIDE 160 DEGREES OF VERTICAL ROTATION AND 360 DEGREES OF LATERAL ROTATION.
6. CONCEAL ALL EXTERIOR WIRING AND ANCHORING DEVICES FROM VIEW, AS APPROVED BY ARCHITECT. MAKE ALL WIRE RUNS STRAIGHT, TRUE, AND FIRMLY AFFIXED. PROVIDE STRAP ANCHORS MATCHING THE METAL AND COLOR OF THE STRUCTURE.
7. THE SOLAR ARRAY IS A DELEGATED DESIGN. PROVIDE DIMENSIONED SHOP DRAWINGS, PRODUCT LITERATURE, OPERATING PROGRAM AND CALCULATIONS FOR REVIEW AND ADJUSTMENT PRIOR TO ORDERING/FABRICATION.
8. SHELTER MOUNTED SOLAR PANELS SHALL BE PRECLUDED WITHIN LOCAL HISTORIC DISTRICTS AND AT ALL SITES ALONG WASHINGTON STREET.

**1 SOLAR PANEL**  
1 1/2" = 1'-0"

**VICTOR STANLEY, INC.**  
Manufacturers of Quality Site Furnishings since 1962.

P.O. DRAWER 330 - DUNKIRK, MD 20754 USA  
TOLL FREE: (800) 368-2573 (USA & CANADA)  
TEL (301) 855-6300 - FAX (410) 257-7579  
WEB SITE: HTTP://WWW.VICTORSTANLEY.COM



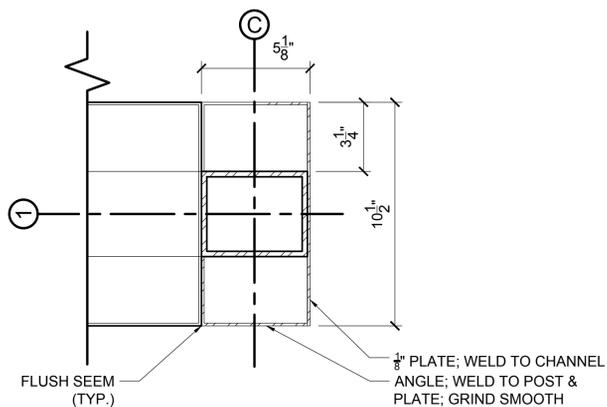
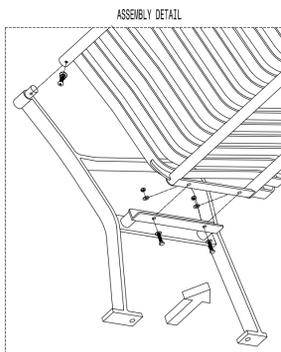
AVAILABLE OPTIONS  
POWDER COATING BLACK  
12 STANDARD COLORS, CUSTOM COLORS (INCLUDING THE RAL RANGE)  
TWO INTERMEDIATE SOLID STEEL ARMRESTS

LENGTHS  
STANDARD 8' LENGTH

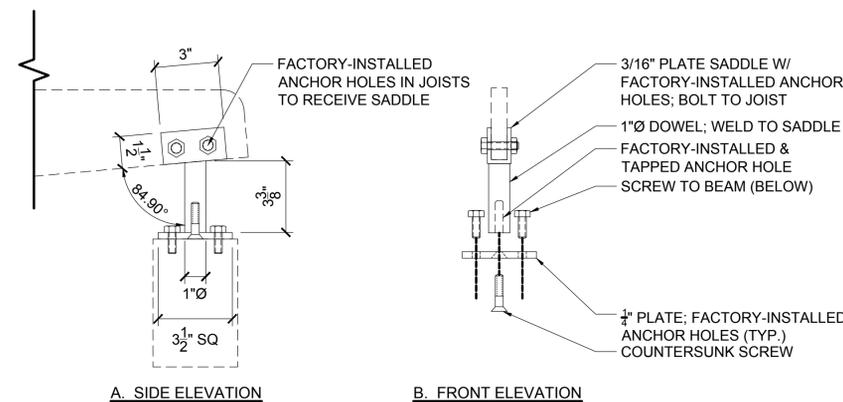
**NOTES:**

1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD COATING FILM. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. IT IS NOT RECOMMENDED TO LOCATE ANCHOR BOLTS UNTIL BENCH IS IN PLACE. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
4. ANCHOR BOLTS NOT PROVIDED BY VICTOR STANLEY, INC.
5. HOT DIP GALVANIZE BEFORE POWDER COATING. SEE WRITTEN SPECIFICATIONS FOR DETAILS.
6. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
7. THIS PRODUCT IS SHIPPED PARTIALLY UNASSEMBLED.

**NOTE:**  
LOCATION OF BENCH IN SHELTER VARIES PER SITE LOCATION TO BE DETERMINED BY CITY.



**6 LOWER FASCIA - PART 64**  
3" = 1'-0"



**NOTES:**

1. PROVIDE ELASTOMERIC SEALANT WHERE DOWEL PASSES THROUGH CANOPY, AS REVIEWED AND APPROVED BY ARCHITECT.
2. PREDRILL & TAP SIGN PANEL BEAM PRIOR TO FINISHING.

**2 SADDLE BRACKET**  
3" = 1'-0"

**RB-28**  
STEELSEATERS™ RB SERIES  
ALL STEEL CONTOURED BENCH  
8-FOOT LENGTH WITH 2) INTERMEDIATE ARMRESTS

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REV. 1/18/11 DRAWN L.D.L. 2010-618

**7 BENCH**  
NTS

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

**CITY OF ALEXANDRIA, VIRGINIA**  
Transportation & Environmental Services  
P. O. Box 178  
Alexandria, Virginia 22313



**CONSTRUCTION  
DETAILS**

| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
|------------------|-----|----------------|-----------|
| CADD ENGINEER    | MS  | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 |           |
| DEP. DIRECTOR    | EB  | Date: 04/03/14 |           |

Scale: AS INDICATED Project No. 11-122 Sheet C312

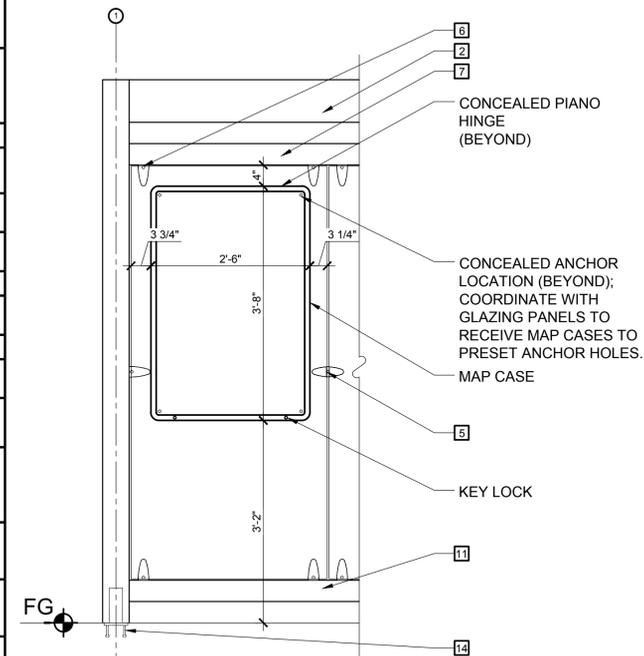
| PART NO. | PART                                   | DESCRIPTION   | DIMENSION  | OTHER   | QUANTITY |
|----------|--|---|--|---|----------|
| 1        | JOIST                                  | ALUMINUM PLATE TAPERED FROM 4" TO 7" AT BACK BEAM   | 1" THICK- SEE STRUCTURAL                                     | ALL WELDS TO BE GROUND SMOOTH. POWDER COAT COLOR BLACK.   | 5        |
| 2        | UPPER BEAM                             | RECTANGULAR TUBE  | 8"x5"  | PUNCH FOR ELECTRICAL RUNS AT CENTER JOIST LOCATION  | 1        |
| 3        | DOUBLE SIDE MOUNTED SPIDER CONNECTOR   | STELLA GLASS HARDWARE:<br>http://www.stellaglasshardware.com<br>SS202ST-AB601T  |  | TWO HEAVY-DUTY SS201ST SPIDER ASSEMBLIES CONNECTED BACK TO BACK AND COMPLETE WITH 2 HEAVY DUTY ARTICULATING GLASS BOLTS; DOUBLE FIXING BOLT PROVIDES SECURE FASTENING OF SPIDER ONTO STRUCTURE; GLASS BOLT OFFERS UNIQUE ALLEN KEY RECESS FOR QUICK ADJUSTABILITY; GLASS BOLT FEATURES 7.5 DEGREES OF ROTATION TO CREATE FACETTED GLASS WALLS AND CANOPIES OUT OF FLAT GLASS<br>SPIDER FITTING: 2 ARMS (CONNECTED BACK TO BACK)<br>200MM BETWEEN FEET OF SPIDER<br>APPROXIMATELY 119MM +/- 3MM FROM THE CENTERLINE OF SPIDER FIXING TO THE OUTSIDE FACE OF GLASS WHEN INSTALLED AB601T ARTICULATING BOLT; 60MM DIAMETER BUTTON FACE; M16 THREAD<br>MINIMUM 38.1 MM [1 1/2"] DIAMETER HOLE IN GLASS. PROVIDE PRODUCT DATA & SHOP DRAWINGS FOR REVIEW & APPROVAL. STAINLESS STEEL | 6        |
| 4        | SINGLE SIDE MOUNTED SPIDER CONNECTOR   | STELLA GLASS HARDWARE:<br>http://www.stellaglasshardware.com<br>SS202ST-AB601T  |  | A HEAVY-DUTY SINGLE ARM SIDE-MOUNTED SPIDER FITTING COMPLETE WITH 1 HEAVY DUTY ARTICULATING GLASS BOLT<br>DOUBLE FIXING BOLT PROVIDES SECURE FASTENING OF SPIDER ONTO STRUCTURE; GLASS BOLT OFFERS UNIQUE ALLEN KEY RECESS FOR QUICK ADJUSTABILITY; GLASS BOLT FEATURES 7.5 DEGREES OF ROTATION TO CREATE FACETTED GLASS WALLS AND CANOPIES OUT OF FLAT GLASS<br>1 ARM SPIDER FITTING APPROXIMATELY 119MM +/- 3MM FROM THE CENTERLINE OF SPIDER FIXING TO THE OUTSIDE FACE OF GLASS AB601T ARTICULATING BOLT<br>60MM DIAMETER BUTTON FACE; M16 THREAD<br>MINIMUM 38.1 MM [1 1/2"] DIAMETER HOLE IN GLASS. PROVIDE PRODUCT DATA & SHOP DRAWINGS FOR REVIEW & APPROVAL. STAINLESS STEEL.  | 4        |
| 5        | ELLIPTICAL GLASS TO GLASS CONNECTOR    | STELLA GLASS HARDWARE:<br>http://www.stellaglasshardware.com  | ~2" W X 6" LONG  | CONTACT: TOM CAROLAN, STELLA CUSTOM GLASS HARDWARE INC. : 1-855-5-STELLA OR 604.231.5892 X 109. PROVIDE PRODUCT DATA & SHOP DRAWINGS FOR REVIEW & APPROVAL. STAINLESS STEEL.  | 3        |
| 6        | ELLIPTICAL GLASS TO ALUMINUM CONNECTOR | STELLA GLASS HARDWARE:<br>http://www.stellaglasshardware.com  | ~2" WIDE X 4" LONG   | CONTACT: TOM CAROLAN, STELLA CUSTOM GLASS HARDWARE INC. : 1-855-5-STELLA OR 604.231.5892 X 109. PROVIDE PRODUCT DATA & SHOP DRAWINGS FOR REVIEW & APPROVAL. STAINLESS STEEL.  | 30       |
| 7        | INTERMEDIATE BEAM                      | RECTANGULAR TUBE  | 4" DEEP X 4" WIDE  | ALL WELDS TO BE GROUND SMOOTH. POWDER COAT COLOR BLACK.   | 1        |
| 8        | TOP BEAM AT SIDES                      | RECTANGULAR TUBE  | 4" DEEP X 3" WIDE X 3'-1 1/2" LONG                           | ALL WELDS TO BE GROUND SMOOTH. POWDER COAT COLOR BLACK.   | 2        |
| 9        | BLOCKING                               | ALUMINUM PLATE  | 3/4" THICK X 5" DEEP   | POWDER COAT COLOR BLACK.  | 4        |
| 10       | BASE BEAM AT SIDES                     | RECTANGULAR TUBE  | 4" DEEP X 3" WIDE  | POWDER COAT COLOR BLACK.  | 2        |
| 11       | BASE BEAM AT BACK                      | RECTANGULAR TUBE  | 4" DEEP X 4" WIDE  | POWDER COAT COLOR BLACK.  | 1        |
| 12       | POST                                   | RECTANGULAR TUBE  | 5"x5"  | PUNCH FOR ELECTRICAL RUNS TO CONNECT THROUGH TOP BEAM WITH WITH TOP ENDS CAPPED. POWDER COAT COLOR BLACK.   | 2        |
| 13       | POST                                   | RECTANGULAR TUBE  | 3"x4"  | WITH TOP ENDS CAPPED. POWDER COAT COLOR BLACK.  | 2        |
| 14       | SLEEVE                                 | STAINLESS STEEL SLEEVE WITH EMBED PLATE   |  | REFER TO STRUCTURAL DETAILS   |          |
| 15       | GROUNDING ROD                          | 3/8" STEEL ROD.   | EXTEND MIN. 1'-0" CONCRETE FOOTING                           |   | 1        |
| 16       | DECAL                                  | FROSTED DIE-CUT VINYL   | 2" DIAMETER  | DETAIL 9/L301; GRAPHIC DESIGN FILE PROVIDED BY CITY; APPLIED BY GLAZING VENDOR SANDWICH BETWEEN LAMINATED GLASS SHEETS. COORDINATE PRESET ANCHOR HOLES FOR PANELS THAT WILL RECEIVE SECONDARY MAP CASES. COORDINATE WITH GLAZING ITEM NO. 17.   | 18       |
| 17       | GLAZING                                | SAFETY GLASS  | 6'-4 1/2" x 3'-1" x MIN 9/16" THICK                          | LAMINATED TEMPERED; DESIGN FOR MINIMUM INDICATED LOADS. COORDINATE PRESET ANCHOR HOLES FOR PANELS THAT WILL RECEIVE SECONDARY MAP CASES. COORDINATE WITH GLAZING ITEM NO. 16.   | 6        |
| 18       | CANOPY GLAZING                         | FROSTED LAMINATED SAFETY GLASS  | 3'-1" X 5'-11 1/2" X MIN. 9/16" THICK                        | DESIGN FOR MINIMUM INDICATED LOADS; PROVIDE CALCULATIONS; PROVIDE 75% INTEGRAL SCREEN; PATTERN & COLOR AS REVIEWED AND APPROVED BY ARCHITECT.   | 4        |
| 19       | LIGHT                                  | PERFORMANCE IN LIGHTING USA, INC. STRIP OVAL LED 2160. SEE SHEET L311.  |  | INSTALL WITH CUSTOM VISOR/SIGN PANEL ITEM NO. 20 AND ADJUSTABLE WALL BRACKET ITEM NO. 23. COLOR: SATIN BLACK. CONTACT:MIKE DEVLIN: ALLIANCE LIGHTING: 443-320-0802. PROVIDE UNDERGROUND CONNECTION TO LOCAL ELECTRICAL GRID. PROVIDE PLANS COMPLYING WITH ALL APPLICABLE CODES, PREPARED AND SEALED BY A STATE-LICENSED ELECTRICAL ENGINEER, AND AS DIRECTED BY THE CITY  | 1        |
| 20       | VISOR/SIGN PANEL                       | PERFORMANCE IN LIGHTING USA, INC. CUSTOM VISOR  |  | COLOR: SATIN BLACK. CONTACT:MIKE DEVLIN: ALLIANCE LIGHTING: 443-320-0802  | 1        |
| 21       | LETTERING                              | ENGRAVED STREET ADDRESS. COPY PROVIDED BY CITY.   | 4" HEIGHT  | METAL ENGRAVED STREET LETTERING INTO CUSTOM VISOR/ SIGN PANEL BY LIGHTING MANUFACTURER. GEORGIA FONT; COLOR & COPY VARY PER SITE, PROVIDED BY CITY. PROVIDE HALF-SIZE PAPER MOCKUP FOR REVIEW & APPROVAL.   |          |
| 22       | ANCHOR PLATE                           | ALUMINUM ANCHOR PLATE FOR LIGHT ATTACHMENT  | 5" x 1/2" x 6'-4"  | SHOP WELDED TO CENTER THREE JOISTS. PUNCH HOLES FOR ELECTRICAL RUNS AND LIGHT ANCHOR POINTS.  | 1        |
| 23       | ADJUSTABLE LIGHT BRACKET               | PERFORMANCE IN LIGHTING USA, INC. ADJUSTABLE WALL ANCHOR 710017   | 4.9" LONG  | INSTALL WITH CUSTOM VISOR/SIGN PANEL ITEM NO. 20 AND LIGHT ITEM NO. 19. COLOR: SATIN BLACK. CONTACT:MIKE DEVLIN: ALLIANCE LIGHTING: 443-320-0802  | 4        |
| 24       | BENCH                                  | VICTOR STANLEY STEELSITES RB-28 BENCH. 8'-0" LONG WITH TWO INTERMEDIATE ARM RESTS.  |  | SEE DETAIL 2 SHEET L312   | 1        |
| 25       | OPTIONAL MAP CASE                      |   |  | COORDINATE W/ ITEM 17 TO PRESET ANCHOR HOLES; DELETE ITEM 16 ON GLAZING TO RECEIVE MAP CASES. WEATHER TIGHT, SUITABLE FOR POSTER DISPLAY IN EXTERIOR EXPOSURES; SAFETY GLASS; COORDINATE W/ LOCK MECHANISM. SEE L3.13. COORDINATE MAP DIMENSIONS WITH CITY AND WMATA REQUIREMENTS.  | 1        |
| 26       | PUSH TO TALK BUTTON                    | PUSH BUTTON FOR REAL TIME INFORMATION SIGNAGE WITH CUSTOM HOUSING TO MOUNT TO POST. COORDINATE WITH LUMINATOR REQUIREMENTS. | ~3" W X 4" H. COORDINATE SIZE WITH LUMINATOR                 | INFORMATION BASED ON DRAFT OF LUMINATOR CONTROL DRAWING. COORDINATE WITH LUMINATOR AND WMATA REQUIREMENTS.  | 1        |
| 27       | INTERFACE CONTROL PANEL                | INTERFACE CONTROL PANEL FOR REAL TIME INFORMATION. COORDINATE WITH LUMINATOR REQUIREMENTS.                                  | ~46.25" L x 9.25" H X 6.5" D. COORDINATE SIZE WITH LUMINATOR | INFORMATION BASED ON DRAFT OF LUMINATOR CONTROL DRAWING. COORDINATE WITH LUMINATOR AND WMATA REQUIREMENTS.  | 1        |

\*FOR ALL WMATA MAINTAINED SHELTERS SHALL BE PAINTED "METRO BROWN", FEDERAL STANDARD 20040, 595C. COORDINATE SITE SPECIFIC LOCATIONS WITH WMATA.

## 1 PART SCHEDULE

- PROVIDE ALL NECESSARY WORKMANSHIP AND HARDWARE.
- PROVIDE SHOP DRAWINGS, SAMPLES, SUBMITTALS, AND CALCULATIONS FOR ALL COMPONENTS AND ASSEMBLIES.
- ALL POWDER COATING SHALL BE SATIN BLACK FINISH. FOR ALL WMATA MAINTAINED SHELTERS SHALL BE PAINTED, METRO BROWN, FEDERAL STANDARD 20040, 595C. COORDINATE SITE SPECIFIC LOCATIONS WITH WMATA.
- FACTORY ASSEMBLE AND COMPONENTS FINISH PANELS. FIELD-WELDING ONLY PER STRUCTURAL REQUIREMENTS.
- PROVIDE NON-CORROSIVE HARDWARE AND FASTENERS FULLY COMPATIBLE WITH ADJACENT MATERIALS.
- INSTALL SHELTER PLUMB AND, LEVEL. ALL JOINTS SHALL BE SQUARE, TRUE, AND TIGHT.

## 2 GENERAL NOTES



NOTES:

- MOUNT MAP CASE INSIDE SHELTER.
- DELEGATED DESIGN, AS APPROVED BY CITY. PROVIDE LOW PROFILE, EXTERIOR GRADE, ALUMINUM MAP CASE: POWDER COAT TO MATCH SHELTER; IMPACT RESISTANT GLASS; KEY-ACCESS. REFER TO PHOTOS A-C FOR DESIGN INTENT.
- ELEVATION SHOWN ABOVE FOR CONFIGURATIONS B1 & B3. B2 AND B4 ARE MIRROR IMAGES OF THE ABOVE.

## 3 MAP CASE

3/4" = 1'-0"



A. DESIGN INTENT



B. INSIDE VIEW



C. OUTSIDE VIEW

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

CITY OF ALEXANDRIA, VIRGINIA  
Transportation & Environmental Services  
P. O. Box 178  
Alexandria, Virginia 22313



CONSTRUCTION  
DETAILS

| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
|------------------|-----|----------------|-----------|
| CADD ENGINEER    | MFS | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 | Date:     |
| DEP. DIRECTOR    |     |                |           |

Scale: AS INDICATED Project No. 11-122 Sheet C313

# ALEXANDRIA BUS SHELTER MODIFICATIONS

## CITY OF ALEXANDRIA, VIRGINIA

**1. GENERAL**

A. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE PROVISIONS OF THE 2009 INTERNATIONAL BUILDING CODE & VIRGINIA STATE BUILDING CODE & THE CITY OF ALEXANDRIA REQUIREMENTS

B. DESIGN LOADS (PSF):

| DESIGN LOADS   |           |           |            |
|----------------|-----------|-----------|------------|
| LOCATION       | LIVE LOAD | DEAD LOAD | TOTAL LOAD |
| ROOF JOIST:    | 30 PSF    | 15 PSF    | 45 PSF     |
| CONCRETE SLAB: | 100 PSF   |           |            |

**SNOW LOADS – ASCE 7:**

- GROUND SNOW LOAD ( $P_g$ ) = 25 PSF (FIG. 7-1)
- EXPOSURE FACTOR ( $C_e$ ) = 0.9 (TABLE 7-2, TERRAIN B)
- THERMAL FACTOR ( $C_t$ ) = 1.2 (TABLE 7-3)
- IMPORTANCE FACTOR ( $I$ ) = 1.00 (TABLE 7-4)
- ROOF SLOPE FACTOR ( $C_s$ ) = 1.0 WITH ROOF PITCH  $< 8:12$  (FIG. 7-2)
- FLAT ROOF SNOW LOAD ( $P_f=0.7 C_e C_t I P_g$ ) = 19 PSF
- SLOPED ROOF SNOW LOAD ( $P_s=C_s P_f$ ) = 19 PSF
- DESIGNED SNOW LOAD = 30 PSF

**WIND LOADS – IRC 2009 AND ASCE 7-05:**

MAIN WIND-FORCE RESISTING SYSTEM AND COMPONENTS AND CLADDING LOADS ARE EVALUATED IN ACCORDANCE WITH PROVISIONS OF SECTION 1609 OF THE 2009.

- BASIC WIND SPEED = 90 MPH (3-SECOND GUST WIND SPEED)
- WIND LOAD IMPORTANCE FACTOR = 1.0
- WIND EXPOSURE CATEGORY = C
- TOPOGRAPHIC EFFECTS FACTOR ( $K_z$ ) = 1.0
- DESIGN WIND LOAD = 30 PSF

A. THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC., TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.

**B. CONTRACTOR SHALL REVIEW AND VERIFY ALL FIELD CONDITIONS, DIMENSIONS AND CONTRACT DOCUMENTS PRIOR TO COMMENCING WORK AND SHALL NOTIFY THE S.E.R. OR ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS BEFORE PROCEEDING.**

C. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE GENERAL CONTRACTOR AND REVIEWED BY THE S.E.R. SHOULD THE OWNER OR CONTRACTOR FAIL TO OBTAIN THE S.E.R.'S REVIEW OF THE SHOP DRAWINGS, THE S.E.R. WILL NOT ACCEPT RESPONSIBILITY FOR THE DESIGN AND CERTIFICATION OF THIS PROJECT. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL NOT BE PRODUCED PRIOR TO FINAL CONSTRUCTION SET.

D. DO NOT FABRICATE PRIOR TO SHOP DRAWING REVIEW. REVIEW IS LIMITED TO CONFORMANCE WITH THE DESIGN CONCEPT. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR FOR COMPATIBILITY OF ARCHITECTURAL AND STRUCTURAL REQUIREMENTS. NOTIFY ARCHITECT OR ENGINEER OF ANY CONFLICTS PRIOR TO FABRICATION.

**2. EARTHWORK**

A. THE FOUNDATION HAS BEEN DESIGNED FOR AN ASSUMED ALLOWABLE BEARING PRESSURE OF 1000 PSF FOR ORIGINAL UNDISTURBED SOILS AND COMPACTED FILL. THE FOOTING SUBGRADES SHALL BE VERIFIED FOR BEARING REQUIREMENTS BY A GEOTECHNICAL ENGINEER. JUST PRIOR TO THE PLACEMENT OF CONCRETE, FOOTING EXCAVATIONS SHALL HAVE THE SIDES AND BOTTOMS CLEANED AND HAND TAMPED TO A UNIFORM SURFACE.

B. ALL FOOTINGS SHALL PROJECT AT LEAST 1'-0" INTO UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL. BOTTOMS OF ALL EXTERIOR FOOTINGS SHALL BE AT LEAST 2'-6" BELOW FINISHED GRADE. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED. NO EXCAVATION SHALL BE CLOSER THAN AT A SLOPE OF 2:1 (TWO HORIZONTAL TO ONE VERTICAL) TO A FOOTING. DO NOT PLACE CONCRETE OVER FROZEN SOIL. FOOTINGS SHALL NOT BE FOUND ON EXISTING FILL, LOOSE OR WET SOIL. STEP FOOTINGS WITH A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.

C. PRIOR TO THE START OF ANY CONSTRUCTION, ALL VEGETATION, TOPSOIL, ORGANIC SOILS, SOIL MIXED WITH EXCESSIVE AMOUNTS OF ROOTS, STUMPS, ASPHALT OR OTHER DELETERIOUS MATERIALS, BUILDING DEBRIS, EXISTING UTILITY LINES AND BACKFILL SHALL BE REMOVED FROM ALL BUILDING AND PAVEMENT AREAS INCLUDING AT LEAST 5 FT OFFSETS OUTSIDE ALL BUILDING AND PAVEMENT LINES. SOFT, VERY WET AND LOOSE SOILS SHALL ALSO BE REMOVED FROM BUILDING AREAS. THE CLEARED AREAS SHALL ALSO BE PROOF ROLLED PRIOR TO THE PLACEMENT OF FILL. PROOF ROLLING SHALL BE CARRIED OUT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER. IF PUMPING OR RUTTING IS OBSERVED, THE SOFT OR WET MATERIAL SHALL BE REMOVED DOWN TO FIRM SUBGRADE AND REPLACED WITH SUITABLE FILL. ALL POTENTIALLY EXPANSIVE CLAY (CL-CH) SOILS BELOW FOOTINGS AND FOR AT LEAST 2 FT BELOW SLABS AND PAVEMENTS SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL MATERIALS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.

D. CONTRACTOR TO PROVIDE A DE-WATERING SYSTEM (IF REQUIRED) TO PREVENT SOFTENING OF SUBGRADE, FACILITATE CONTROL OF GROUNDWATER AND ALLOW CONSTRUCTION IN DRY CONDITIONS. NO EXCAVATION SHALL EXTEND CLOSER THAN 2 FT TO GROUNDWATER LEVEL. IF THE SOIL AT THE SUBGRADE BECOMES WET, THEN CONSTRUCTION SHOULD BE STOPPED AND DE-WATERING MUST BE PERFORMED TO LOWER THE WATER LEVEL. RESUME EXCAVATION ONLY AFTER THE GEOTECHNICAL ENGINEER HAS EXAMINED THE CONDITION AND HAS APPROVED THE RESTART OF ANY EXCAVATION WORK.

E. HEAVE – DUE TO THE DEPTH OF THE FOUNDATION, THE STRUCTURE (THE SLAB AND ALUMINUM FRAMING) MAY BE SUBJECTED TO HEAVE DURING FREEZING SEASON. ALL ELECTRICAL WIRES AND CONDUIT SHALL BE DESIGNED TO ACCOMMODATE 1" OF HEAVE.

**3. CONCRETE**

A. CONCRETE MATERIAL, QUALITY CONTROL, DESIGN AND CONSTRUCTION SHALL CONFIRM WITH REQUIREMENTS OF CHAPTER 19, INTERNATIONAL BUILDING CODE (IBC), AND WITH BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318).

B. MINIMUM SPECIFIED 28 DAYS CONCRETE DESIGN STRENGTH SHALL BE AS SHOWN ON THE CONCRETE STRENGTH AND DURABILITY REQUIREMENTS TABLE LOCATED ON SHEET S0.2 UNLESS A HIGHER STRENGTH IS SHOWN ON THE CONSTRUCTION DRAWINGS. EXPOSURE CATEGORIES ARE PER ACI-318, CHAPTER 4. CEMENTITIOUS MATERIALS CONTENT SHALL BE LIMITED AS PER ACI-318, TABLE 4.2.2. ALL CEMENTITIOUS MATERIALS SHALL BE INCLUDED IN CALCULATING WATER/CEMENT RATIO.

C. MIXING, TRANSPORTING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 301.

D. HIGH STRENGTH GROUT SHALL BE NON-SHRINK, NON-METALLIC CONFORMING TO ASTM C 827 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

E. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60 (60,000 PSI). WELDED WIRE FABRIC (W/F) SHALL CONFORM TO ASTM A-185. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE ACI'S "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES" (ACI-315). DETAILS OF REINFORCEMENT SHALL CONFORM TO ACI 318-LATEST EDITION, ACI 315 AND CRSI STANDARDS.

F. CONCRETE PROTECTION FOR REINFORCEMENT: PROVIDE THE MINIMUM CLEARANCES (COVER) FOR REINFORCEMENT AS FOLLOWS:

|  |        |                  |
|--|--------|------------------|
| FOOTINGS AND OTHER CONCRETE POURED AGAINST EARTH | 3"     | $F'c = 4000$ PSI |
| FORMED CONCRETE EXPOSED TO EARTH OR WEATHER      |        |                  |
| #5 BAR AND SMALLER                               | 1 1/2" | $F'c = 4000$ PSI |
| #6 BAR AND LARGER                                | 2"     | $F'c = 4000$ PSI |

SLABS ON GROUND (EXTERIOR), U.N.O. MID-DEPTH  $F'c = 4000$  PSI

G. SLABS ON GRADE SHALL BE 8" THICK – SEE STRUCTURAL SLAB PLAN FOR REQUIRED REINFORCEMENT. PLACE CONCRETE OVER 6 MIL POLYETHYLENE VAPOR BARRIER AND 95% COMPACTED MATERIAL OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER. THE AGGREGATE LAYER SHALL BE PLACED OVER FIRM NATURAL SUBGRADE OR ON COMPACTED AND CONTROLLED FILL. USE AIR-ENTRAIMENT AT ALL EXTERIOR SLABS. PROVIDE CONTROL AND CONSTRUCTION JOINTS AT 15' - 25' MAXIMUM OR AS REQUIRED TO PREVENT UNCONTROLLED CRACKING PER ACI RECOMMENDATIONS.

H. SLAB OPENINGS AND SLEEVES SMALLER THAN 12" (IN LARGER DIMENSION) ARE NOT SHOWN ON PLANS. CONTRACTOR SHALL SUBMIT ALL OPENINGS (SIZE AND LOCATION) AS A SINGLE COORDINATED SLEEVE PLAN FOR REVIEW AND APPROVAL.

I. CHAMFER ALL EXPOSED CONCRETE CORNERS, 3/4"x3/4" UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.

J. MAXIMUM PERMISSIBLE WATER CEMENTIOUS MATERIALS RATIOS FOR CONCRETE WHEN STRENGTH DATA FROM FIELD EXPERIENCE OR TRIAL MIXTURES ARE NOT AVAILABLE SHALL BE IN ACCORDANCE WITH ACI 318.

K. PROTECT CONCRETE FROM FREEZING DURING PLACING AND FOR A PERIOD OF NOT LESS THAN FIVE DAYS AFTERWARD.

L. CAST IN PLACE ALL SLEEVES AND INSERTS.

**3. STEEL**

C. STRUCTURAL STEEL: SQUARE AND RECTANGULAR HSS SHAPES TO CONFORM TO ASTM A304 (FY = 30 KSI) ALL STRUCTURAL PLATES SHALL CONFORM TO ASTM A304 (FY = 30 KSI)

D. WELDS SHALL COMPLY WITH AWS D1.1. WELDING ELECTRODE: E70XX

E. PROVIDE STEEL PLATE FOR ALL STRUCTURAL STEEL BEARING ON CONCRETE.

F. ALL ANCHOR BOLTS, BEARING PLATES, AND INSERTS SHALL BE CAST INTO CONNECTING WORK USING PRE-SET TEMPLATES.

G. ALL STEEL EXPOSED TO WEATHER, INCLUDING STEEL LINTELS FOR MASONRY OPENINGS, EXCEPT WHERE FABRICATED OF APPROVED CORROSION-RESISTANT STEEL OR OF STEEL HAVING A CORROSION RESISTANT OR OTHER APPROVED COATING, SHALL BE PROTECTED AGAINST CORROSION WITH AN APPROVED COAT OF PAINT, ENAMEL, OR OTHER APPROVED PROTECTION.

**4. ALUMINUM SECTIONS**

A. ALUMINUM DESIGN IS BASED ON, AND THE CONSTRUCTION SHALL CONFORM TO THE 2010 EDITION OF THE ALUMINUM DESIGN MANUAL AND STRUCTURAL WELDING CODE – ALUMINUM OF AMERICAN WELDING SOCIETY.

B. ALUMINUM SHALL BE NEW AND SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

|                                  |           |                       |
|----------------------------------|-----------|-----------------------|
| 6061 -T6 ANGLES, ROLLED SECTIONS | ASTM B038 | $F_y = 35$ KSI (MIN.) |
| 6061 -T6 TUBES AND PIPES         | ASTM B429 | $F_y = 35$ KSI (MIN.) |
| 6061 -T6 PLATE                   | ASTM B209 | $F_y = 35$ KSI (MIN.) |

C. ALL MECHANICAL CONNECTIONS SHALL BE MADE USING TYPE 304 STAINLESS STEEL HARDWARE (BOLTS, NUTS, WASHERS, SCREWS).

D. ALL WELDS ARE TO BE PERFORMED BY A QUALIFIED CERTIFIED WELDER AND SHALL BE MADE USING 5356 WELD FILLER.

E. SHOP DRAWINGS ARE REQUIRED FOR THE FABRICATION OF THE COMPONENT PARTS OF THE STRUCTURE AND THE CONNECTIONS.

F. COATING – ALUMINUM MEMBERS SHALL BE ANODIZED AND COATED WITH ENCOATE.

G. ROOF JOIST LIVE LOAD DEFLECTION SHALL NOT EXCEED  $L/360$  UP TO A MAXIMUM OF 0.8". TOTAL LOAD DEFLECTION SHALL NOT EXCEED  $L/240$  UP TO A MAXIMUM OF 1.0".

**5. SHOP DRAWINGS**

A. CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) COPIES OF SHOP DRAWINGS FOR THE FOLLOWING STRUCTURAL ITEMS:

- CONCRETE**
  - FOUNDATION REBAR DRAWINGS
  - CONCRETE MIX DESIGNS (INCLUDING TEST RESULTS & ADMIXTURES)
  - CONCRETE ACCESSORIES (SEALANTS, GROUTS, ANCHOR BOLTS, EPOXIES)
  - FLOOR FLATNESS AND LEVELNESS CERTIFICATION.
- ALUMINUM**
  - BEAMS AND JOIST
  - COLUMNS
- STEEL**
  - BASE PLATES
  - WELDED STUDS (ANCHORS RODS)

| SHEET INDEX |                            |
|-------------|----------------------------|
| SHEET       | DESCRIPTION                |
| S0.1        | GENERAL NOTES              |
| S1.1        | BUS SHELTER SLAB PLANS     |
| S1.2        | BASE FRAMING PLANS         |
| S1.3        | INTERMEDIATE FRAMING PLANS |
| S1.4        | ROOF FRAMING PLANS         |
| S1.5        | COLUMN SCHEDULE            |
| S2.1        | SECTIONS AND DETAILS       |

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

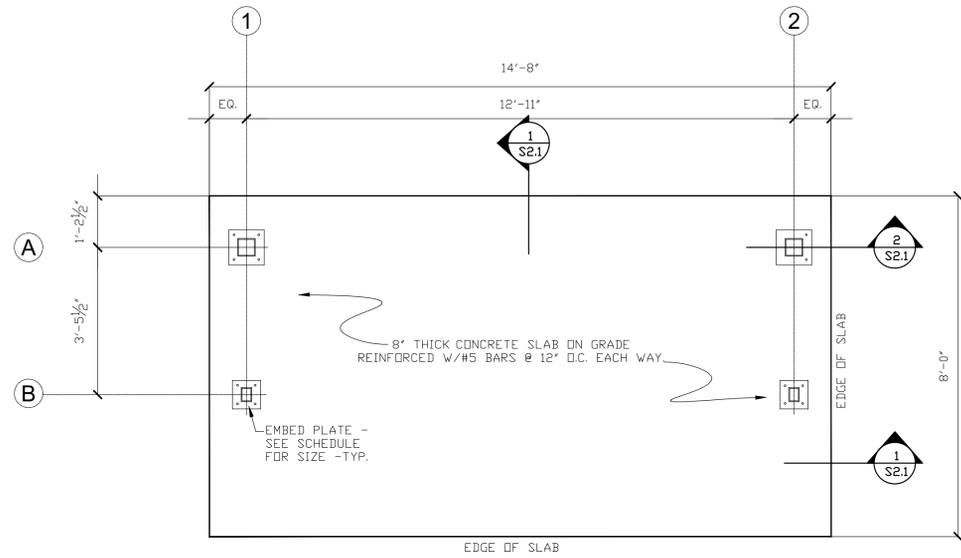


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GENERAL NOTES

| DESIGN ENGINEER  | RE   | Date: 04/03/14                   | REVISIONS |
|--|--|----------------------------------|-----------|
| CADD ENGINEER <td>DLF <td>Date: 04/03/14 <td>INITIALS</td> </td></td>    | DLF <td>Date: 04/03/14 <td>INITIALS</td> </td> | Date: 04/03/14 <td>INITIALS</td> | INITIALS  |
| PROJECT ENGINEER <td>DLF <td>Date: 04/03/14 <td>COMMENTS</td> </td></td> | DLF <td>Date: 04/03/14 <td>COMMENTS</td> </td> | Date: 04/03/14 <td>COMMENTS</td> | COMMENTS  |
| DEPUTY DIRECTOR <td>EB <td>Date: 04/03/14 <td></td> </td></td>           | EB <td>Date: 04/03/14 <td></td> </td>          | Date: 04/03/14 <td></td>         |           |
| DEP. DIRECTOR <td>EB <td>Date: 04/03/14 <td></td> </td></td>             | EB <td>Date: 04/03/14 <td></td> </td>          | Date: 04/03/14 <td></td>         |           |

Scale: AS INDICATED Project No. 11-122 Sheet S0.1

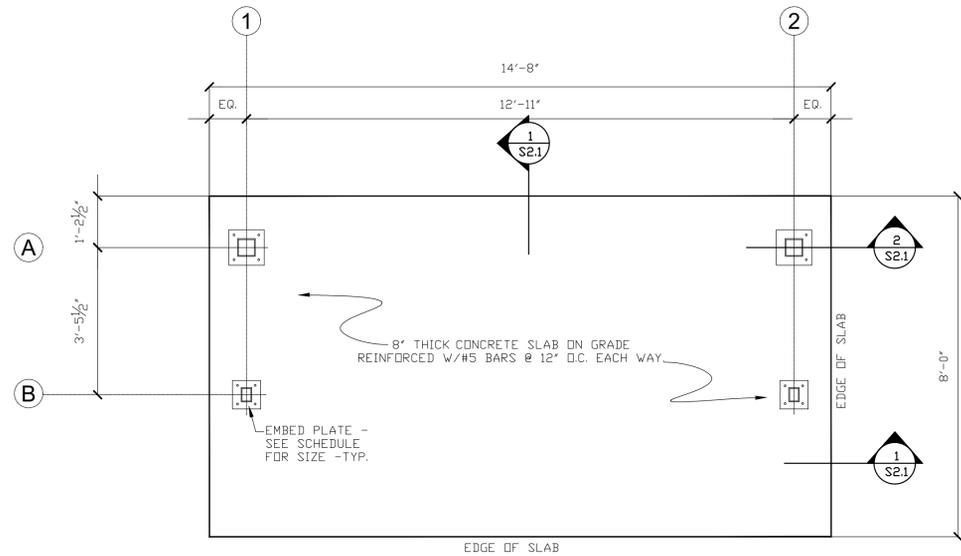


**SLAB PLAN (SHELTER CONFIGURATION B-2)**

SCALE: 1/2" = 1'-0"

NOTES:

1. SLAB ON GRADE SHALL BE **4000** psi NORMAL WEIGHT CONCRETE, **8"** THICK REINFORCED W/#5 BARS @ 12" O.C. EACH WAY PLACED ON 6 MIL. POLYETHYLENE VAPOR BARRIER OVER 95% COMPACTED MATERIAL.
2. TOP OF SLAB ELEVATION **VARIES**. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
3. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. COORDINATE PITCHED AREAS, DEPRESSIONS, AND DRAINS WITH ARCHITECTURAL DRAWINGS.

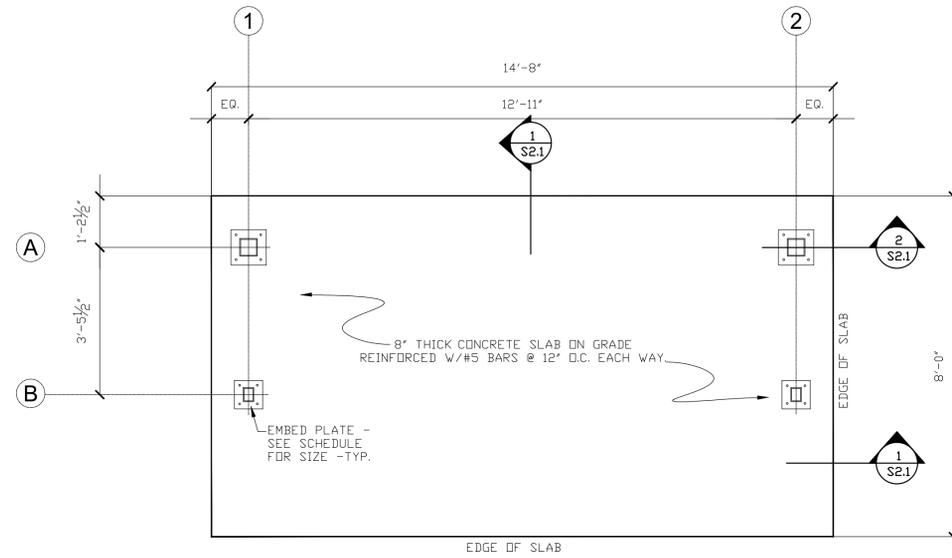


**SLAB PLAN (SHELTER CONFIGURATION B-4)**

SCALE: 1/2" = 1'-0"

NOTES:

1. SLAB ON GRADE SHALL BE **4000** psi NORMAL WEIGHT CONCRETE, **8"** THICK REINFORCED W/#5 BARS @ 12" O.C. EACH WAY PLACED ON 6 MIL. POLYETHYLENE VAPOR BARRIER OVER 95% COMPACTED MATERIAL.
2. TOP OF SLAB ELEVATION **VARIES**. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
3. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. COORDINATE PITCHED AREAS, DEPRESSIONS, AND DRAINS WITH ARCHITECTURAL DRAWINGS.

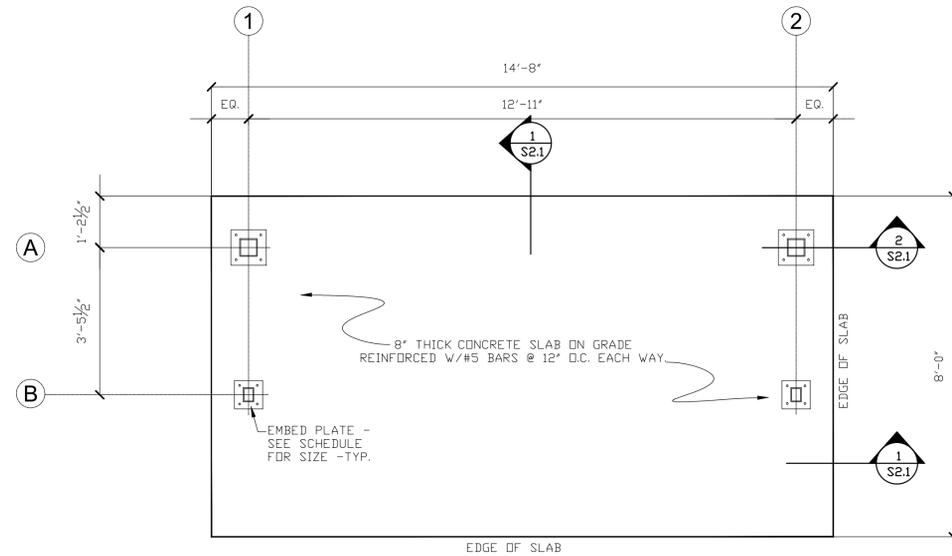


**SLAB PLAN (SHELTER CONFIGURATION B-1)**

SCALE: 1/2" = 1'-0"

NOTES:

1. SLAB ON GRADE SHALL BE **4000** psi NORMAL WEIGHT CONCRETE, **8"** THICK REINFORCED W/#5 BARS @ 12" O.C. EACH WAY PLACED ON 6 MIL. POLYETHYLENE VAPOR BARRIER OVER 95% COMPACTED MATERIAL.
2. TOP OF SLAB ELEVATION **VARIES**. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
3. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. COORDINATE PITCHED AREAS, DEPRESSIONS, AND DRAINS WITH ARCHITECTURAL DRAWINGS.



**SLAB PLAN (SHELTER CONFIGURATION B-3)**

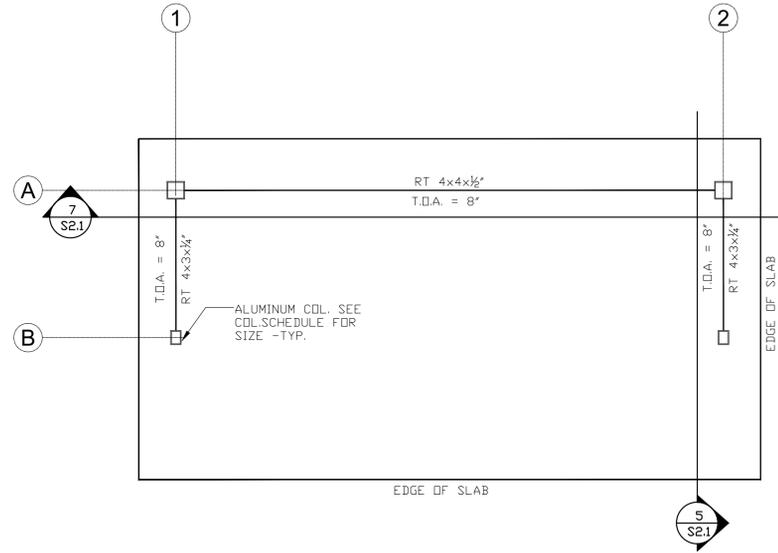
SCALE: 1/2" = 1'-0"

NOTES:

1. SLAB ON GRADE SHALL BE **4000** psi NORMAL WEIGHT CONCRETE, **8"** THICK REINFORCED W/#5 BARS @ 12" O.C. EACH WAY PLACED ON 6 MIL. POLYETHYLENE VAPOR BARRIER OVER 95% COMPACTED MATERIAL.
2. TOP OF SLAB ELEVATION **VARIES**. VERIFY WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS.
3. G.C. TO VERIFY ALL DIMENSIONS SHOWN WITH LATEST ARCHITECTURAL AND CIVIL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. COORDINATE PITCHED AREAS, DEPRESSIONS, AND DRAINS WITH ARCHITECTURAL DRAWINGS.



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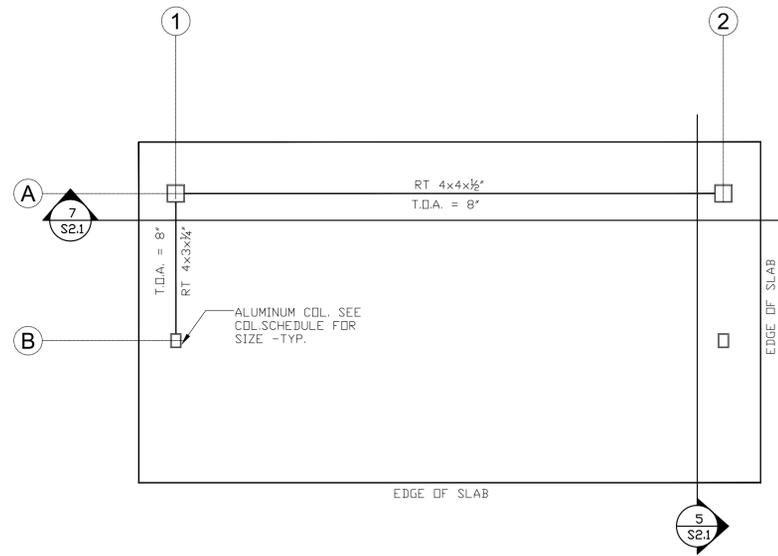


**BASE FRAMING PLAN (SHELTER CONFIGURATION B-2)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = <TOP OF ALUMINUM> +8" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.

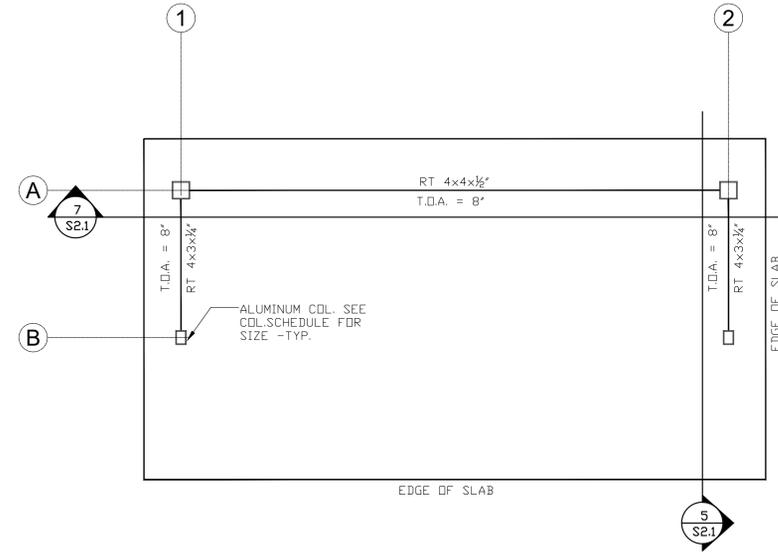


**BASE FRAMING PLAN (SHELTER CONFIGURATION B-4)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = <TOP OF ALUMINUM> +8" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.

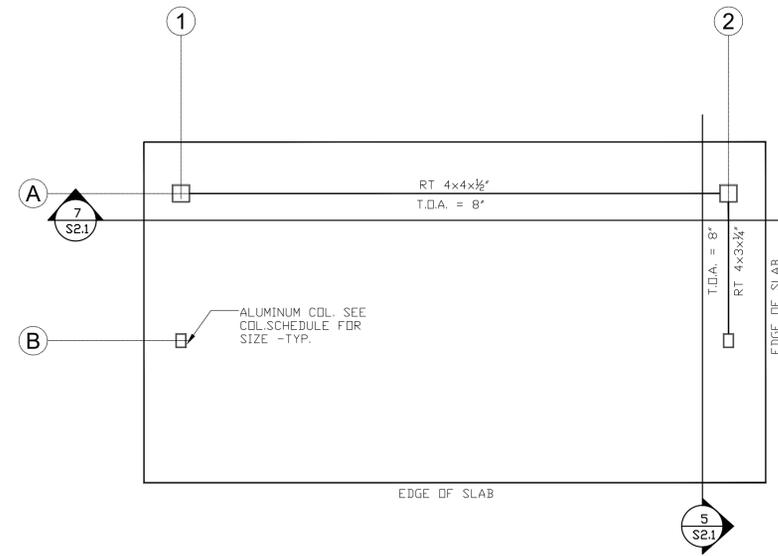


**BASE FRAMING PLAN (SHELTER CONFIGURATION B-1)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = <TOP OF ALUMINUM> +8" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.



**BASE FRAMING PLAN (SHELTER CONFIGURATION B-3)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = <TOP OF ALUMINUM> +8" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.

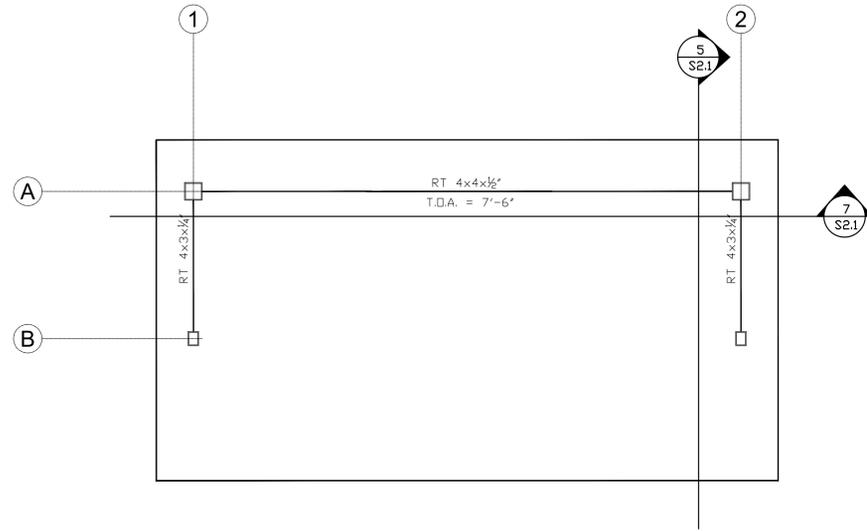
CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

BASE FRAMING PLANS

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| DEP. DIRECTOR    |     |                |           |

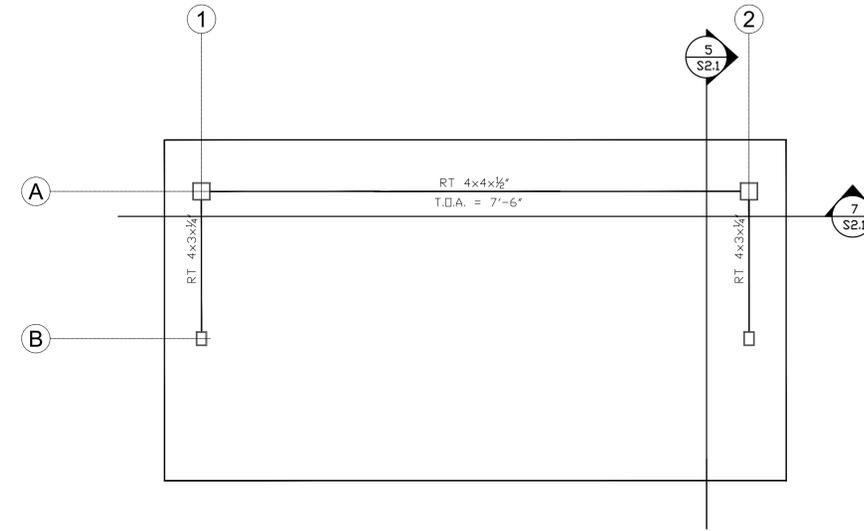


**INTERMEDIATE FRAMING PLAN (SHELTER CONFIGURATION B-2)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 7'-6" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.

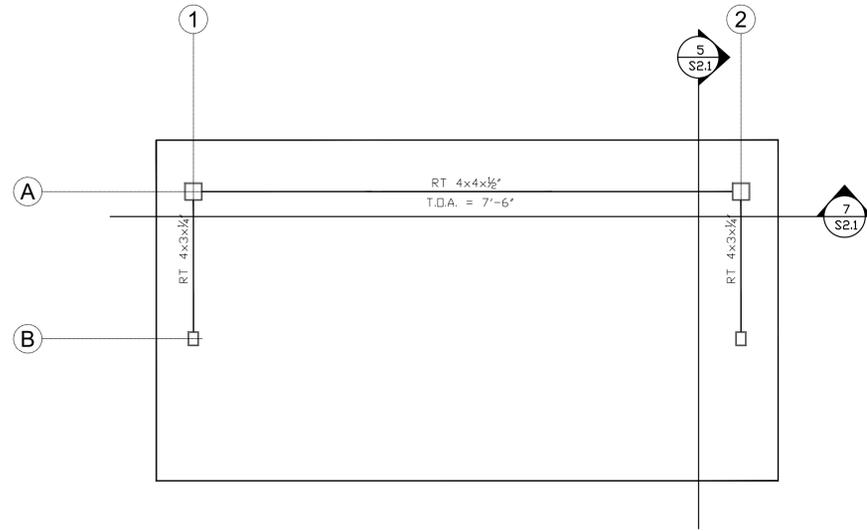


**INTERMEDIATE FRAMING PLAN (SHELTER CONFIGURATION B-1)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 7'-6" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.

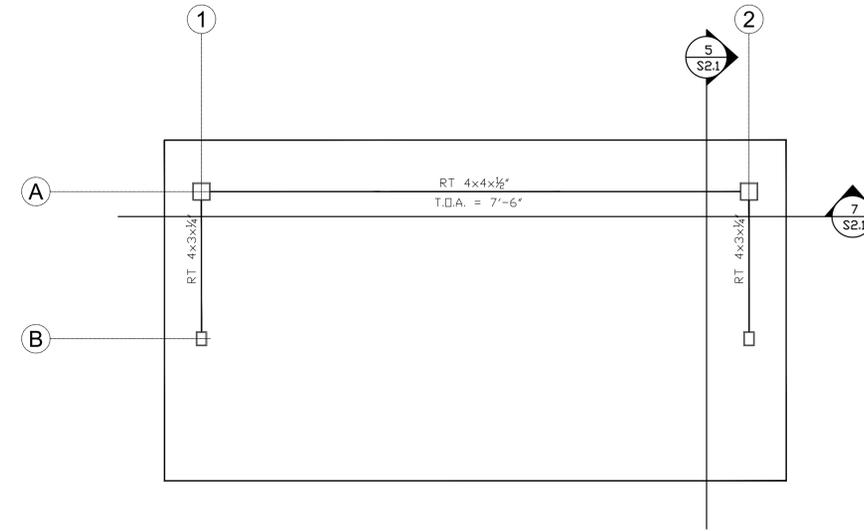


**INTERMEDIATE FRAMING PLAN (SHELTER CONFIGURATION B-4)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 7'-6" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.



**INTERMEDIATE FRAMING PLAN (SHELTER CONFIGURATION B-3)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 7'-6" FROM CONCRETE SLAB (U.N.D.)
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.

CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

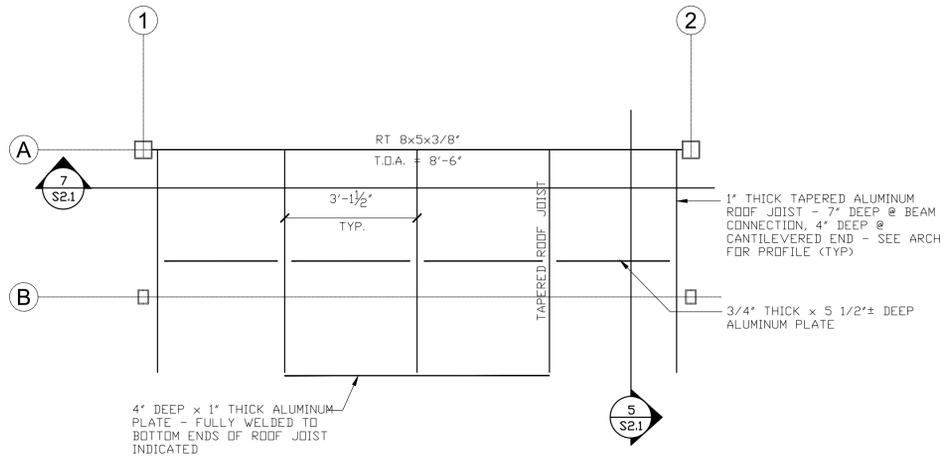
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 Alexandria, Virginia 22313



INTERMEDIATE  
 FRAMING PLANS

| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
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| CADD ENGINEER    | MS  | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 |           |
| DEP. DIRECTOR    |     | Date: 04/03/14 |           |

Scale: AS INDICATED Project No. 11-122 Sheet S1.3

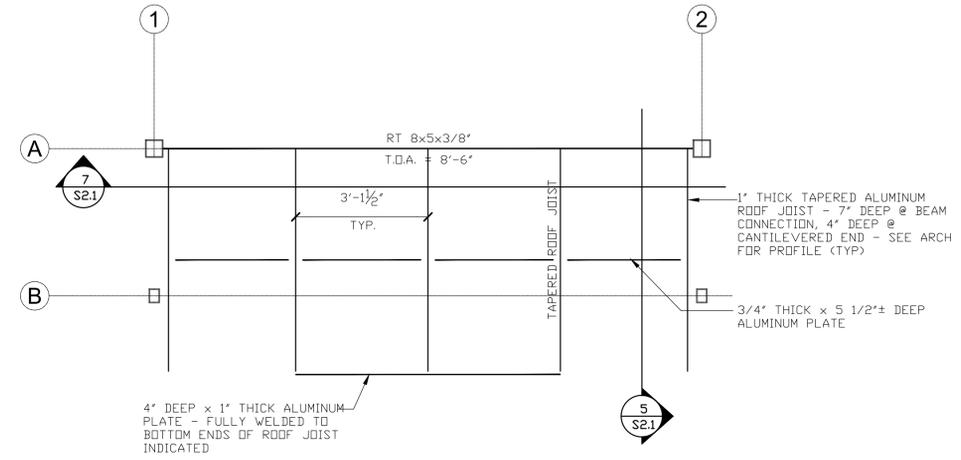


**ROOF FRAMING PLAN (SHELTER CONFIGURATION B-2)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 8'-6" FROM CONCRETE SLAB.
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.

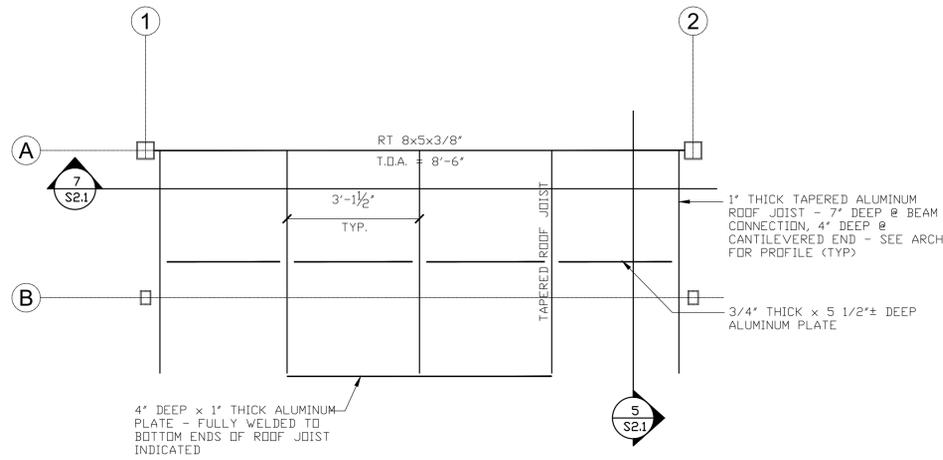


**ROOF FRAMING PLAN (SHELTER CONFIGURATION B-1)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 8'-6" FROM CONCRETE SLAB.
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.

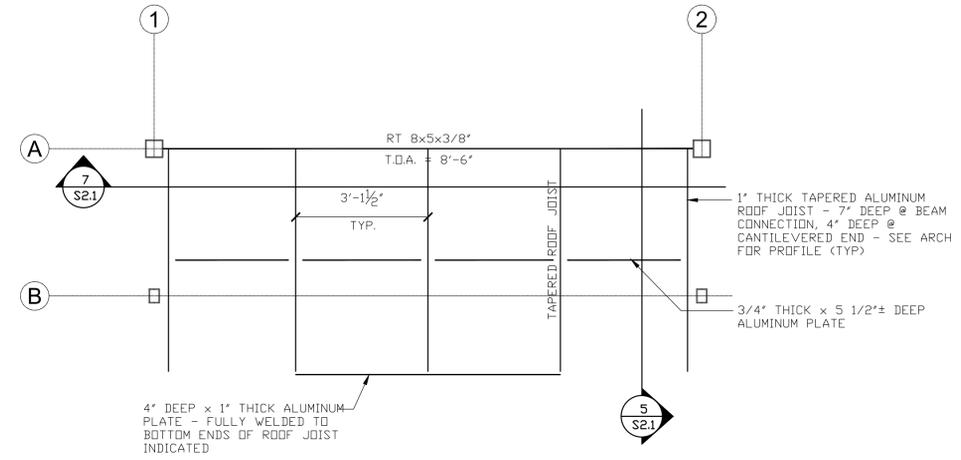


**ROOF FRAMING PLAN (SHELTER CONFIGURATION B-4)**

SCALE: 1/2" = 1'-0"

NOTES:

1. T.O.A = (TOP OF ALUMINUM) 8'-6" FROM CONCRETE SLAB.
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.



**ROOF FRAMING PLAN (SHELTER CONFIGURATION B-3)**

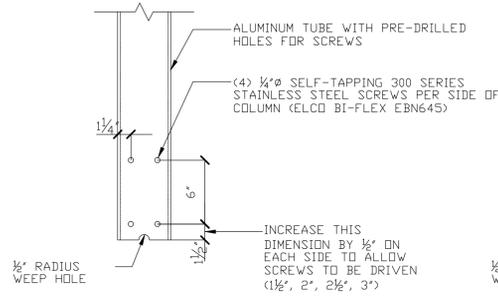
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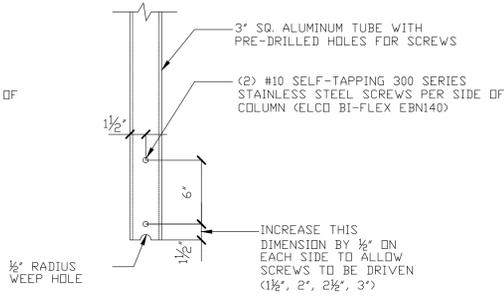
1. T.O.A = (TOP OF ALUMINUM) 8'-6" FROM CONCRETE SLAB.
2. ALL ALUMINUM MEMBERS MUST BE 6061-T6.
3. SEE COLUMN SCHEDULE FOR ALUMINUM COLUMN SIZE.



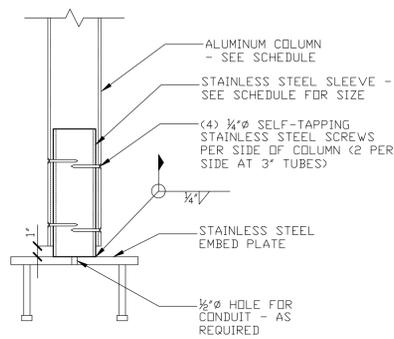
| DESIGN ENGINEER  | RE  | Date: 04/03/14 | REVISIONS |
|------------------|-----|----------------|-----------|
| CADD ENGINEER    | MS  | Date: 04/03/14 | INITIALS  |
| PROJECT ENGINEER | DLF | Date: 04/03/14 | COMMENTS  |
| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 |           |
| DEP. DIRECTOR    |     |                |           |



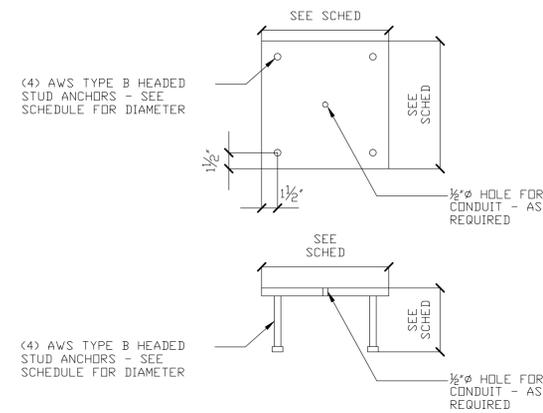
**3 SECTION** SCREW HOLES @ ALUMINUM TUBES  
**S1.5** SCALE: 1-1/2" = 1'-0"



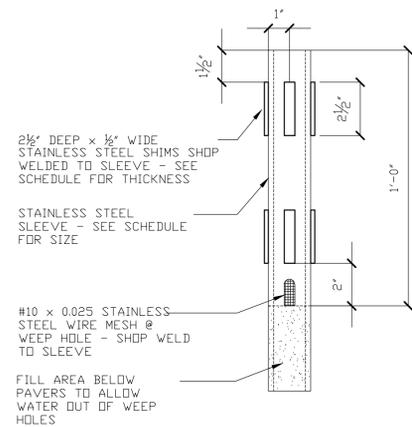
**2 SECTION** AT STAINLESS STEEL SLEEVE  
**S1.5** SCALE: 1-1/2" = 1'-0"



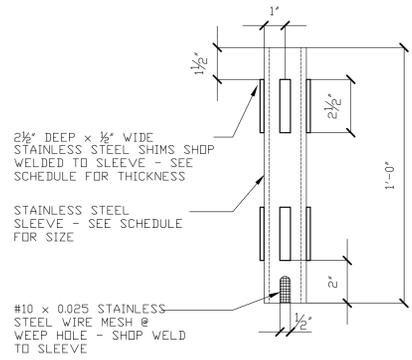
**1 DETAIL** STAINLESS STEEL EMBED PLATE  
**S1.5** SCALE: 1-1/2" = 1'-0"



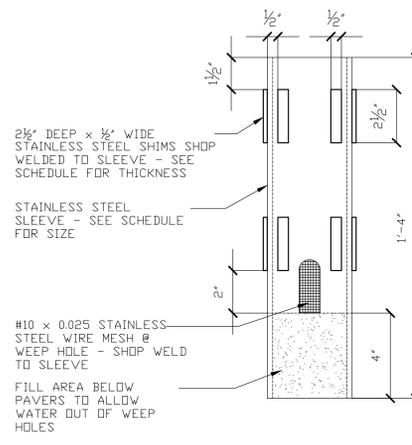
NOTE: ALL STAINLESS STEEL SHALL HAVE A PROTECTIVE COATING APPLIED TO ISOLATE FROM ALUMINUM



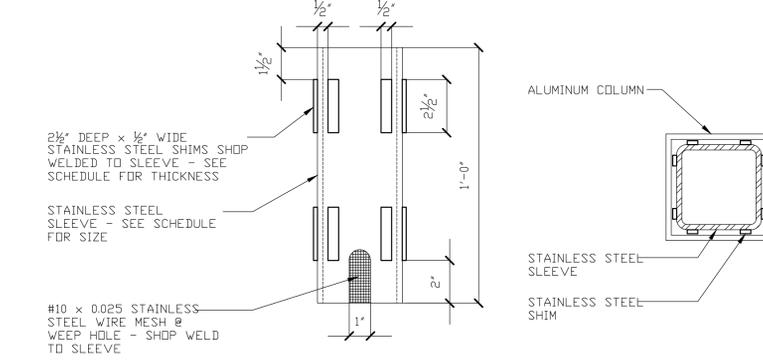
**7 DETAIL** 3" SQ. COLUMN AT SHELTER W/ PAVERS  
**S1.5** SCALE: 3" = 1'-0"



**6 DETAIL** 3" SQ. COLUMN STAINLESS STEEL SHIMS  
**S1.5** SCALE: 3" = 1'-0"



**5 DETAIL** AT SHELTER W/ PAVERS  
**S1.5** SCALE: 3" = 1'-0"

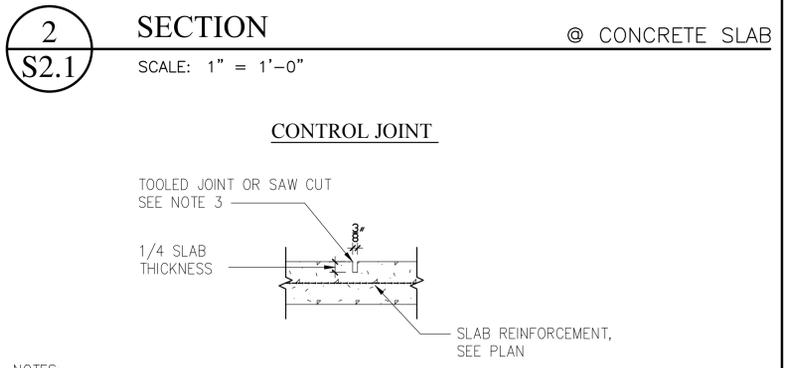
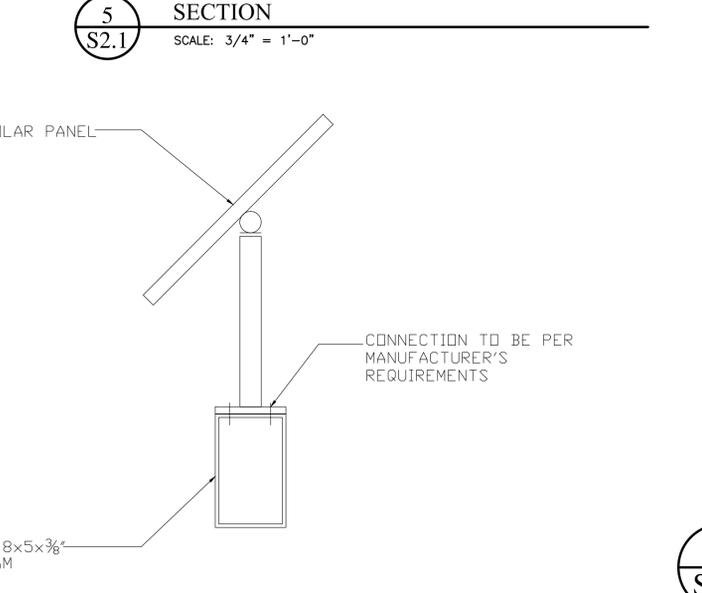
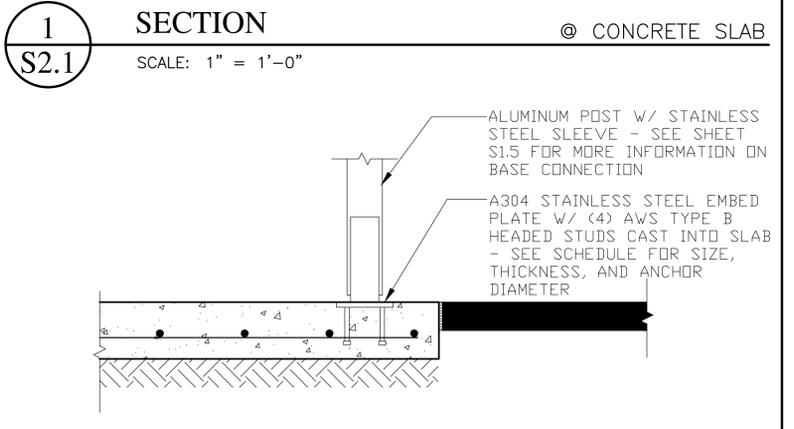
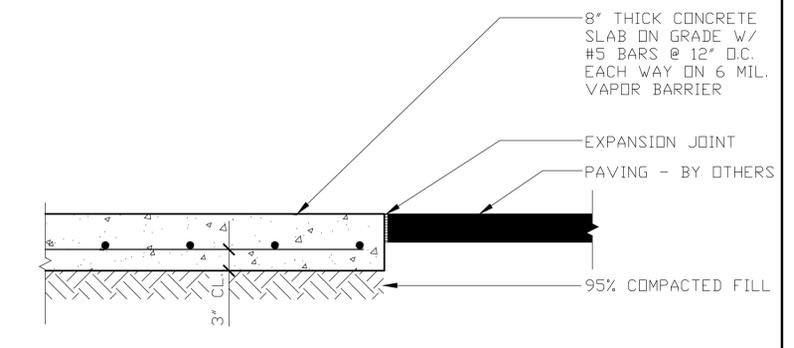
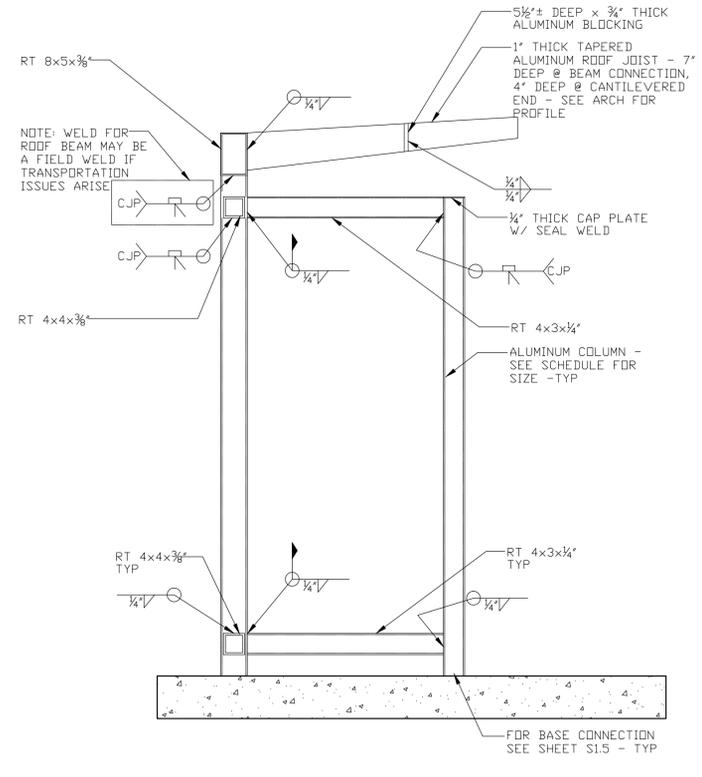
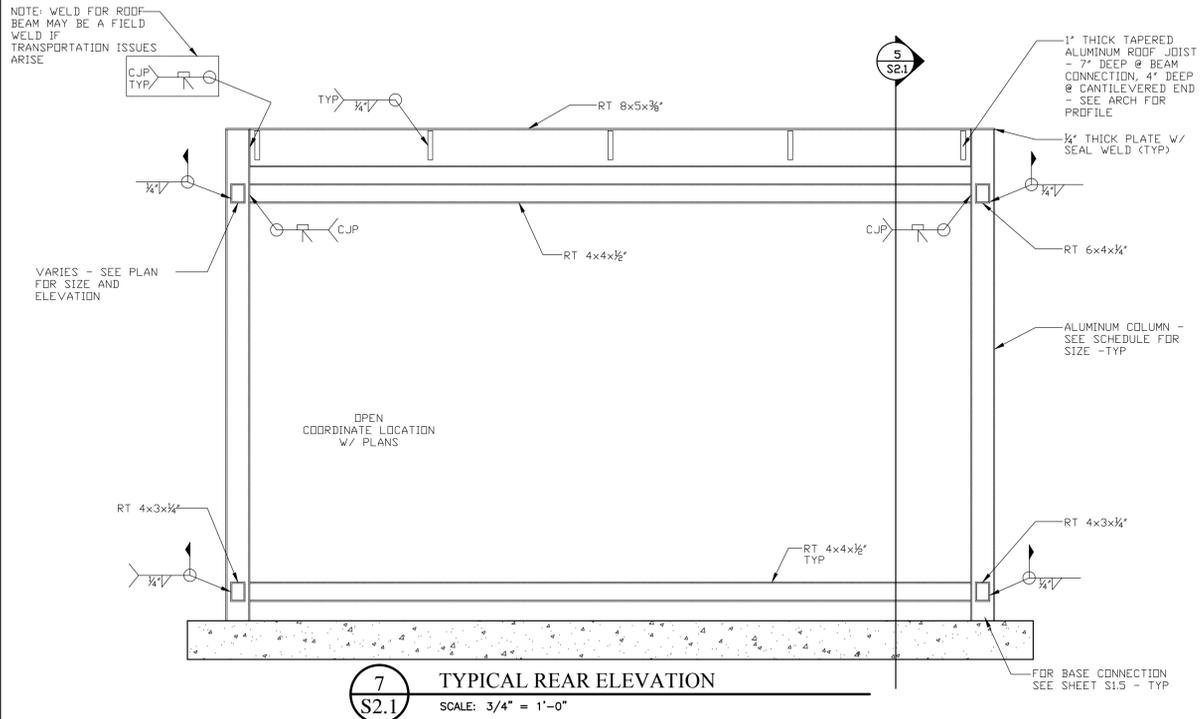


**4 DETAIL** STAINLESS STEEL SHIMS  
**S1.5** SCALE: 3" = 1'-0"

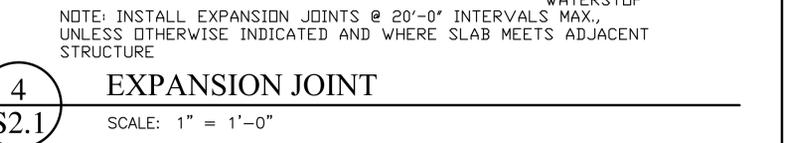
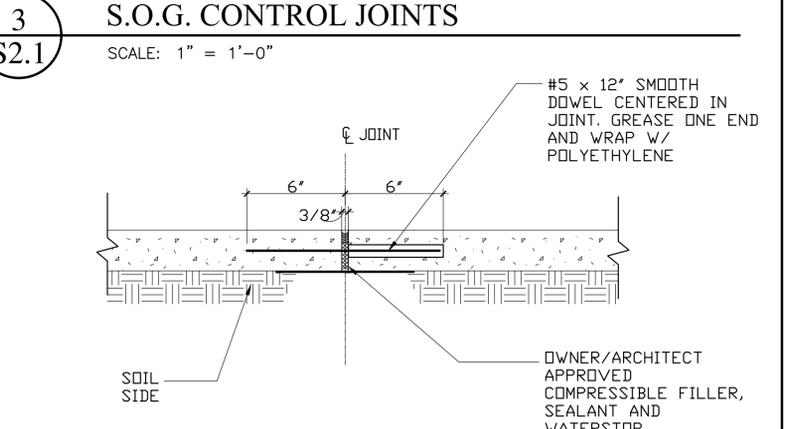
| ALUMINUM COLUMN SCHEDULE                 |  |  |
|--|--|--|
| LOCATION:                                | A-1; A-2;  | B-1; B-2;  |
| COLUMN SIZE                              | RT 5"x5"x1/4"  | RT 3"x4"x1/4"  |
| T.O.A. - ROOF FRAMING                    | 8'-8"  |  |
| T.O.A. - INTERMEDIATE FRAMING            | 7'-8"  |  |
| T.O.A. - BASE FRAMING                    | 0'-8"  |  |
| TOP OF CONC. SLAB                        | 0'-0"  |  |
| EMBED PLATES - A304 STAINLESS STEEL      | 10" x 10" x 3/4"<br>(4) 5/8" AWS TYPE B HEADED STUD ANCHORS W/5" EMBEDMENT | 8" x 8" x 3/4"<br>(4) 5/8" AWS TYPE B HEADED STUD ANCHORS W/5" EMBEDMENT |
| SLEEVES AND SHIMS - A304 STAINLESS STEEL | HSS 4x4x1/4" STAINLESS STEEL SLEEVE<br>W/ 3/8" THICK SHIMS                 | HSS 3x2x1/4" STAINLESS STEEL SLEEVE<br>W/ 3/8" THICK SHIMS               |



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| DEPUTY DIRECTOR  | EB  | Date: 04/03/14 | Date:     |
| DEP. DIRECTOR    | EB  | Date: 04/03/14 | Date:     |



NOTES:  
 1. PROVIDE CONTROL JOINT TO PREVENT UNCONTROLLED CRACKING AS PER ACI RECOMMENDATIONS.  
 2. INSTALL CONTROL JOINTS AT EQUAL INTERVALS OF 5'-0" UNLESS OTHERWISE INDICATED.  
 3. CUTTING SHOULD BE STARTED AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATE FROM BEING DISLODGED.  
 4. SUBMIT PLAN SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS.



CITY OF ALEXANDRIA BUS SHELTER DESIGN PROJECT

CITY OF ALEXANDRIA, VIRGINIA  
 Transportation & Environmental Services  
 P. O. Box 178  
 Alexandria, Virginia 22313



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Scale: AS INDICATED Project No. 11-122 Sheet S2.1