HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Robert K. Sutton
Chairman

Date: April 18, 2024

MEMORANDUM

TO: Rabbiah Sabbakhan, DPS Director Department of Permitting Services
Dan Bruechert
FROM: Historic Preservation Section
Maryland-National Capital Park & Planning Commission
SUBJECT: Historic Area Work Permit #1063867 - Bus Shelter Construction

---

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **approved** bat the April 17, 2024 HPC meeting.

The HPC staff has reviewed and stamped the attached construction drawings**.**

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: City of Takoma Park
Address: 6951 Carroll Ave., Takoma Park

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Dan Bruechert at 301-563-3408or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.

Installation of a Bus Shelter
Intersection of MD-195 (Carroll Avenue) and Laurel Avenue
Takoma Park, MD

Vicinity Map:

Laurel Avenue is a City street. All installation work will occur from Laurel Avenue, with no traffic disruption on MD-195 -- Carroll Avenue.

RideOn Stop ID: 20744
Average daily boarding (2023): 86

APPROVED

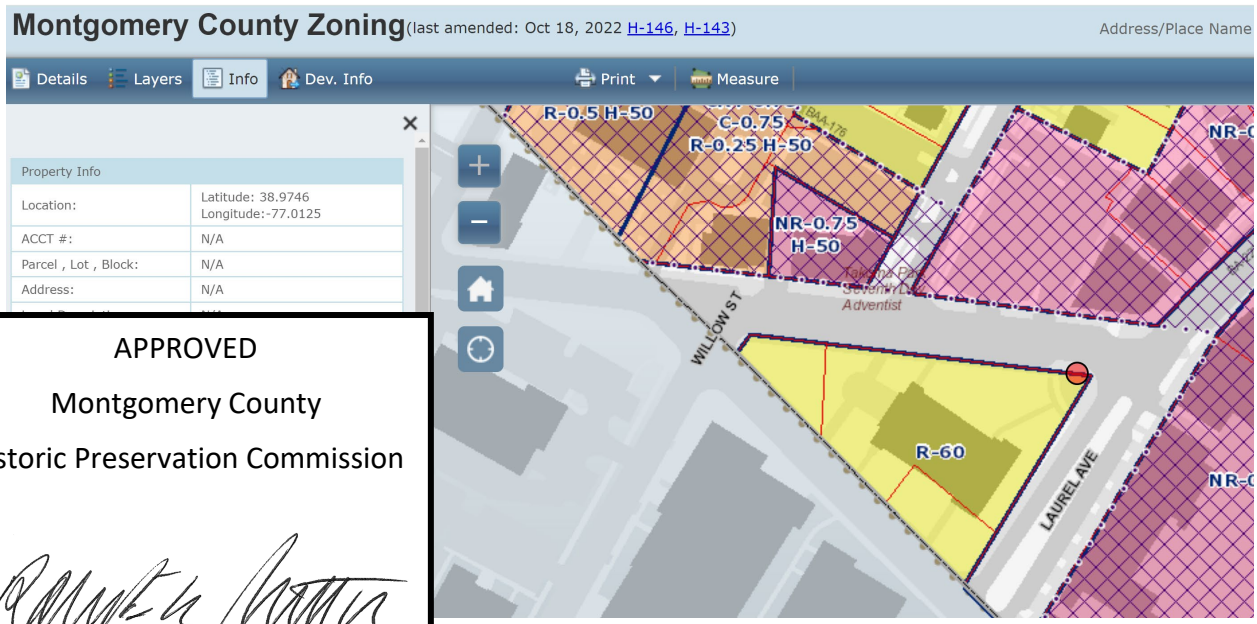
Montgomery County

Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:53 pm, Apr 18, 2024

Installation of a Bus Shelter at the Intersection of MD-195 (Carroll Avenue) and Laurel Avenue Takoma Park, MD

Right-of-Way Map (Source: MCAtlas.org):



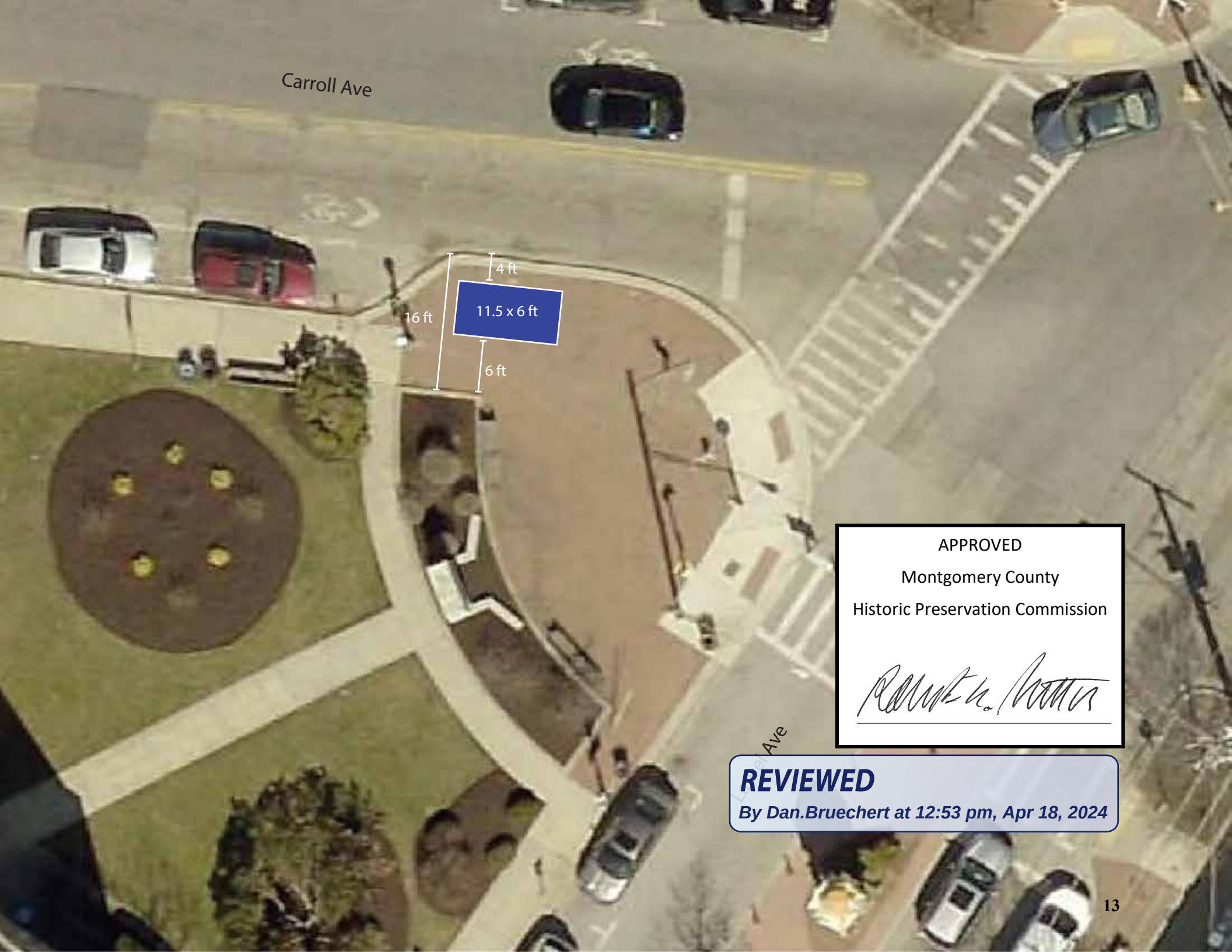
APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:53 pm, Apr 18, 2024



APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:53 pm, Apr 18, 2024

TOLAR

DURABILITY WITH DISTINCTION

INSTALLATION INSTRUCTIONS

9' BUS STOP SHELTER
WITH FLAT ADVERTISING BOX
& PERF PANELS

OPTIONAL FEATURES:
BENCH

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:53 pm, Apr 18, 2024

TOLAR MANUFACTURING COMPANY INC.

TRANSIT SHELTERS | STREET FURNITURE | DISPLAYS & DIRECTORIES | TRANSIT SOLAR LIGHTING
258 Mariah Circle, Corona, CA USA 92879-1751 | 800-339-6165 | 951-808-0081 | www.tolarmfg.com

ANCHORING INSTRUCTIONS AND SPECIFICATION TABLE

4.3.5 Kwik Bolt 3 Expansion Anchor

4.3.5.3 Technical Data

Table 1 - Kwik Bolt 3 Specifications[1]

Details / Bolt Size				in. (mm)	1/4 (6.4)			3/8 (9.5)			1/2 (12.7)		
d_{bit}	nominal bit diameter[2]			in.	1/4			3/8			1/2		
$h_{min}/h_{nom}/h_{deep}$	depth of embedment			in. (mm)	1-1/8 (29)	2 (51)	3 (76)	1-5/8 (41)	2-1/2 (64)	3-1/2 (89)	2-1/4 (57)	3-1/2 (89)	4-3/4 (121)
h_o	minimum/standard/deep hole depth			in. (mm)	1-3/8 (35)	2-1/4 (57)	3-1/4 (83)	2 (51)	2-7/8 (73)	3-7/8 (89)	2-3/4 (70)	4 (102)	5-1/4 (133)
d_h	wedge clearance hole in fixture			in. (mm)	5/16 (8)			7/16 (11)			9/16 (14)		
T_{inst} Recommended Installation Torque	Normal weight & Light weight Concrete		Carbon Steel HDG	ft-lb (Nm)	4 (5)			20 (27)			40 (54)		
			Stainless Steel	ft-lb (Nm)	6 (8)			20 (27)			40 (54)		
	Grout Filled Block		Carbon Steel	ft-lb (Nm)	4 (5)			15 (20)			25 (34)		
h	min. base material thickness			in.	3 inch (76 mm) or 1.3 times embedment, whichever number is greater								
Bolt Fracture Load		Carbon Steel			2900 lb[4,6]			7200 lb[4,6]			12400 lb[4]		
		HDG			no offering			no offering			12400 lb[4]		
		Stainless steel			2900 lb[4,7]			7200 lb[4,7]			12400 lb[4]		

Details / Bolt Size				in. (mm)	5/8 (15.9)			3/4 (19.1)			1 (25.4)		
d_{bit}	nominal bit diameter[2]			in.	5/8			3/4			1		
$h_{min}/h_{nom}/h_{deep}$	minimum/standard/deep depth of embedment			in. (mm)	2-3/4 (70)	4 (102)	5-1/2 (140)	3-1/4 (83)	4-3/4 (121)	6-1/2[3] (165)	4-1/2 (114)	6 (152)	9 (229)
h_o	minimum/standard/deep hole depth			in. (mm)	3-3/8 (86)	4-5/8 (117)	6-1/8 (156)	4 (102)	5-1/2 (140)	6-4/5 (173)	5-1/2 (140)	7 (178)	10 (254)
d_h	wedge clearance hole in fixture			in. (mm)	11/16 (17)			13/16 (21)			1-1/8 (29)		
T_{inst} Recommended Installation Torque	Normal weight & Light weight Concrete		Carbon Steel HDG	ft-lb (Nm)	85 (115)			150 (203)			250 (339)		
			Stainless Steel	ft-lb (Nm)	85 (115)			150 (203)			235 (319)		
	Grout Filled Block		Carbon Steel	ft-lb (Nm)	65 (88)			120 (1663)			-		
h	min. base material thickness			in.	3 inch (76 mm) or 1.3 times embedment, whichever number is greater								
Bolt Fracture Load		Carbon Steel			19600 lb[4]			28700 lb[4,8]			$f_{ut} \geq 88$ ksi, $f_y \geq 75$ ksi[5]		
		HDG			19600 lb[4]			28700 lb[4]			no offering		
		Stainless steel			21900 lb[4]			$f_{ut} \geq 76$ ksi, $f_y \geq 64$ ksi[5]			$f_{ut} \geq 76$ ksi, $f_y \geq 64$ ksi[5]		

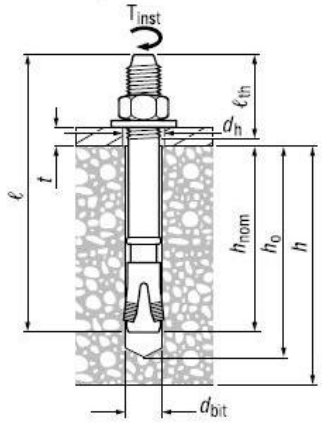
1 See Kwik Bolt 3 Product Line Table in Section 4.5.3.3 for a full list and anchor length and thread length configurations.

bits (see Section 8.4.1) and matched tolerance
to 1 inch.
anchors is 8 inch (203 mm).
rt of product quality control. These values are

gth. Bolt fracture load not applicable.
unk Kwik Bolt 3. The tensile and yield strengths

sunk Kwik Bolt 3. The tensile and yield strengths

not applicable.



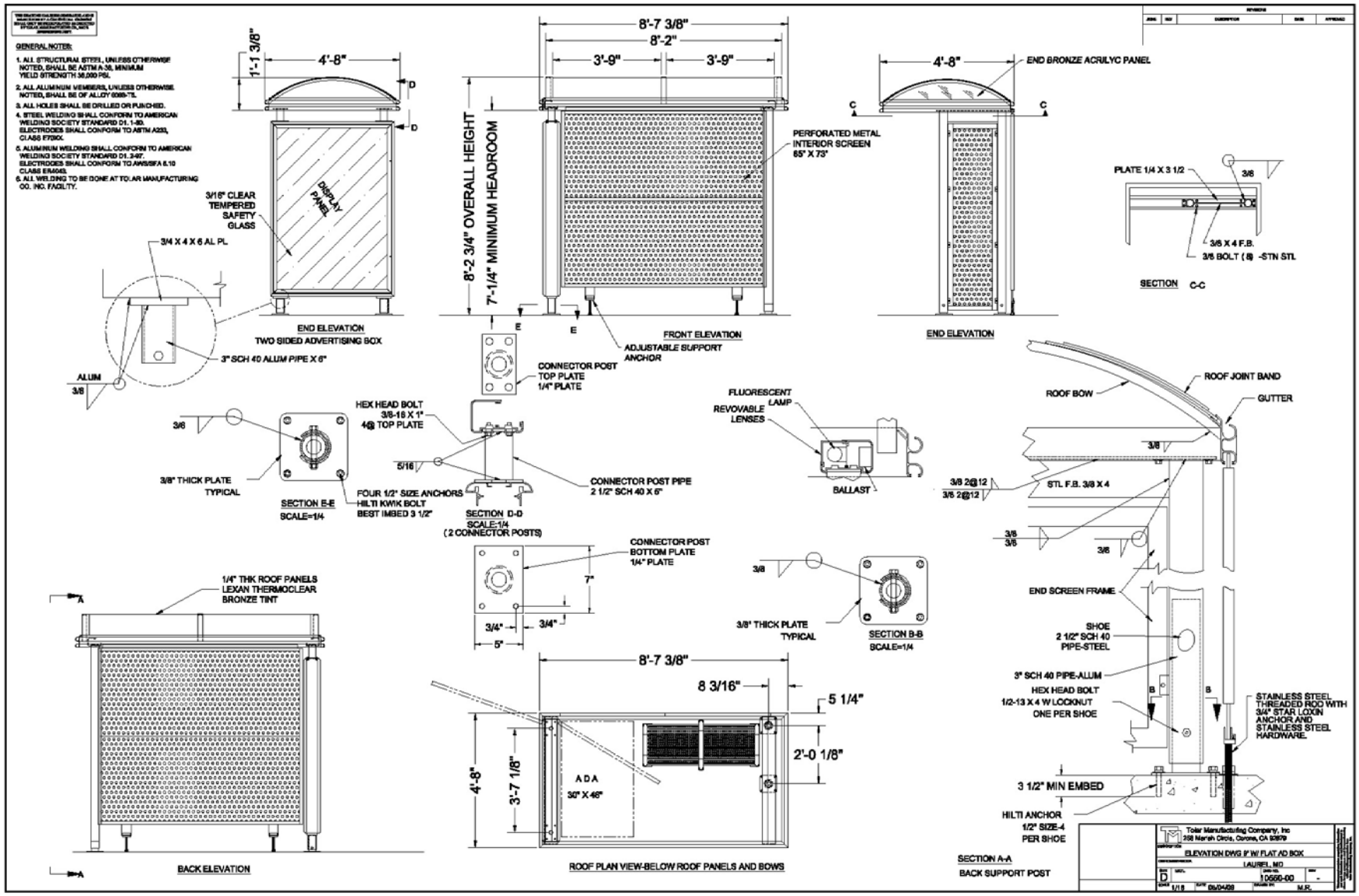
APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:53 pm, Apr 18, 2024



APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:53 pm, Apr 18, 2024

ROOF PANEL INSTALLATION

1. **There is a film on both sides of the Lexan panel. Examine the panel and note which surface is to be faced externally. Remove film from both sides of Lexan panel. Install edge into groove as shown in Fig 1 (Page 5). Press the panel over the top and into groove on opposite side. There should be a 1/2" gap between panels. Press down firmly so the panel contacts the roof bow at its top.**

2. **See Fig 2 (Page 6). Place the pressure bands with the two rubber bulb seals over the center joints. There can be a short gap at either end. Use the TEKS screws #14 x 1 1/2"(5 per bow) to secure the pressure rib to the roof bow. The TEKS screw is self-drilling and tapping. A 3/8" nut driver with suitable power tool should be used.**

   PROCEDURE:

   1. **Install center screw first-be sure band is centered. Use #14 x 1 1/2" TEKS screw.**
   2. **Install next screws down; use #14 x 1 1/2" TEKS screws.**
   3. **Press band down and install bottom screws; Use #14 x 1 1/2" TEKS screws.**

3. **See Fig 3 (Page 7). Install acrylic end panel in place, and slip the 55" long rubber J-channel over one edge of the curved 3" wide band. This band is used at each end of the roof. The edge of the band without the J-channel will be aligned to the outer edge of the last bow and on top of the 1/4" square bead. Use 5 of the TEKS screws per each of these bands.**

   PROCEDURE:

   1. **Install center screw first-be sure band is centered. Use #14 x 1 1/2" TEKS screw.**
   2. **Install next screws down; use #14 x 1 1/2" TEKS screws.**
   3. **Press band down and install bottom screws, use #14 x 1 1/2" TEKS screws.**

APPROVED

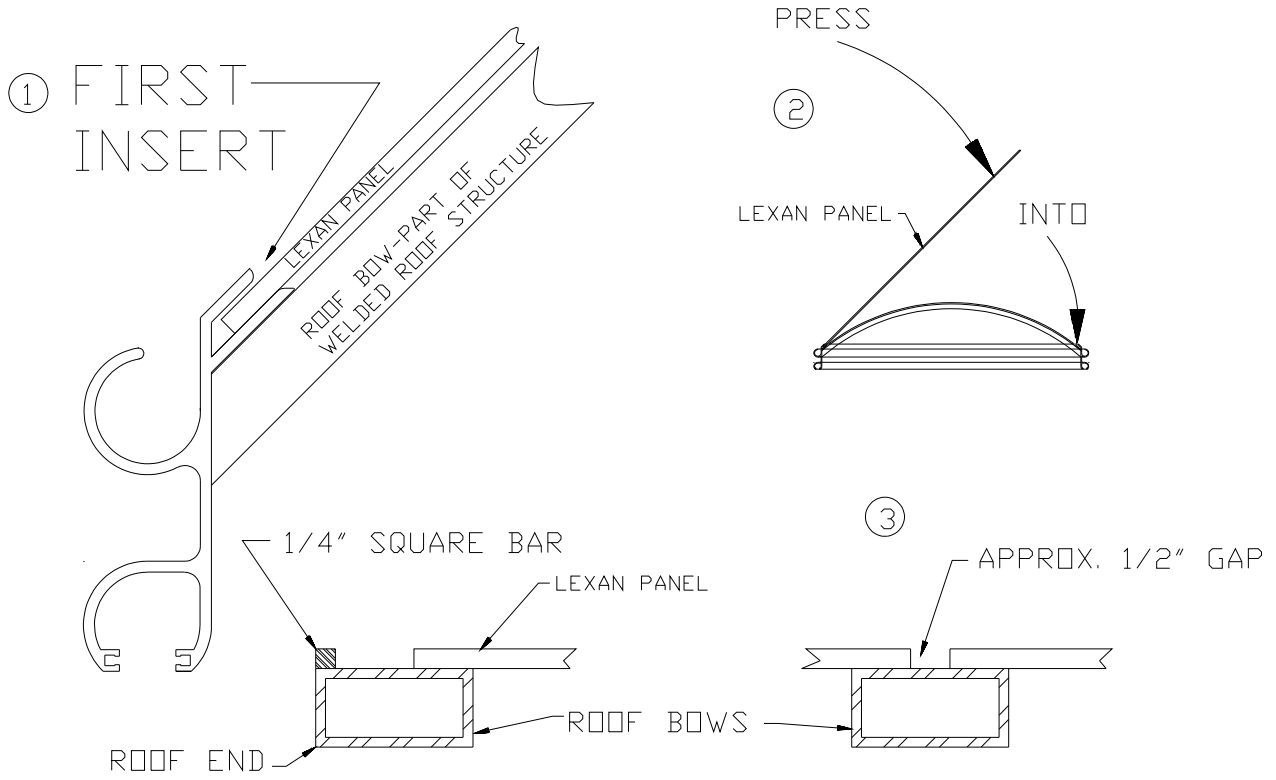
Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:53 pm, Apr 18, 2024

BEFORE REMOVING PROTECTIVE FILMS
FROM LEXAN PANEL DETERMINE WHICH
SURFACE IS TO BE EXPOSED TO THE OUTSIDE



APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:53 pm, Apr 18, 2024

FIG 1

G:\AutoCAD2000\Installations,Plots\Fig1.dwg, Model, 02/28/2003 08:28:14 AM

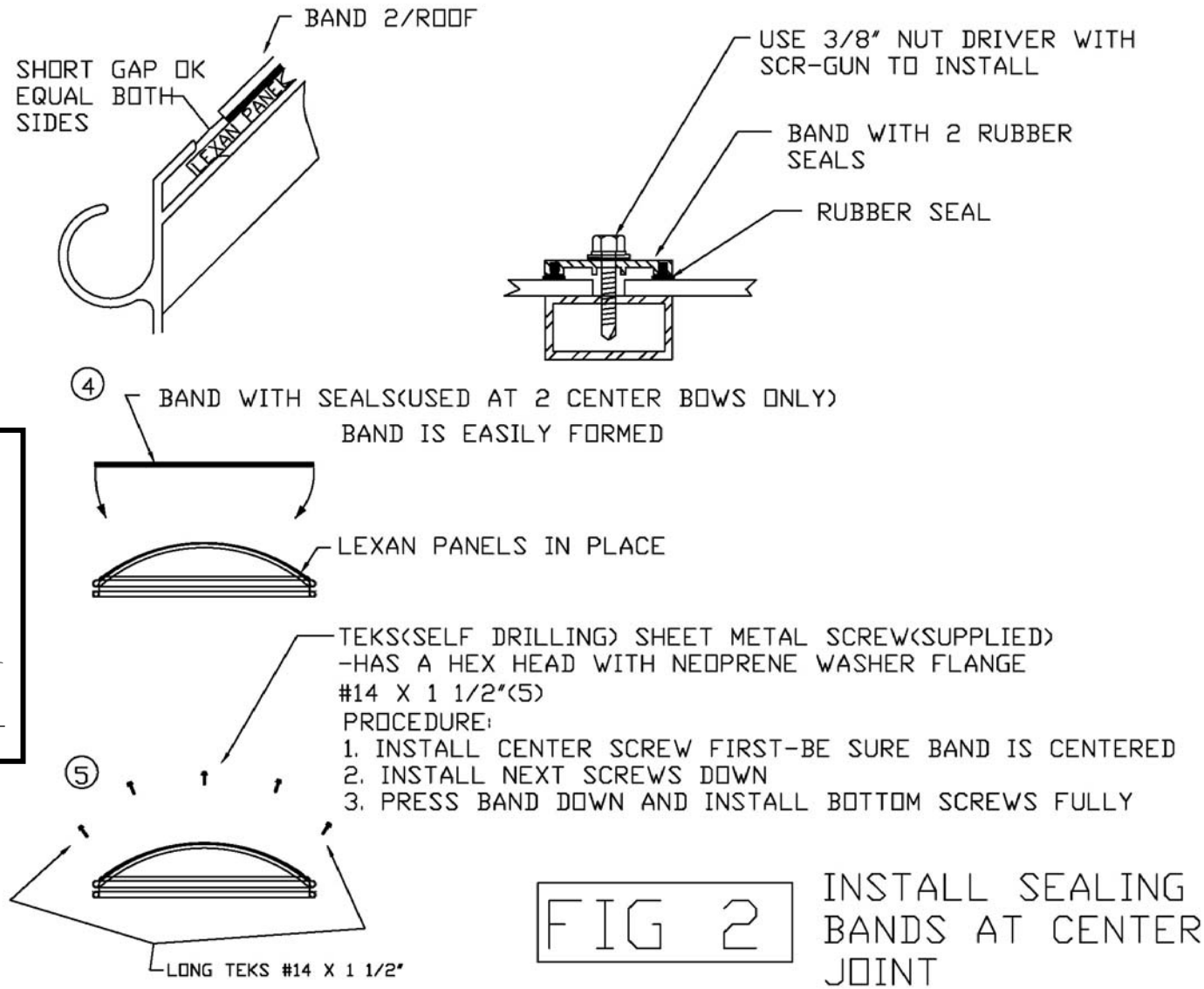


FIG 2 INSTALL SEALING BANDS AT CENTER JOINT

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:54 pm, Apr 18, 2024

6

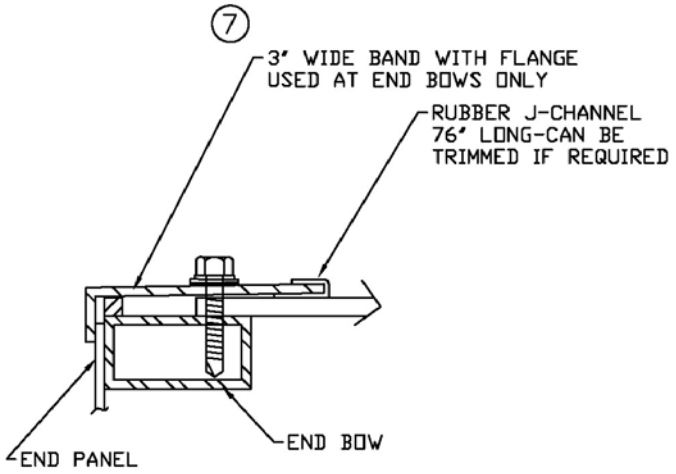
APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024



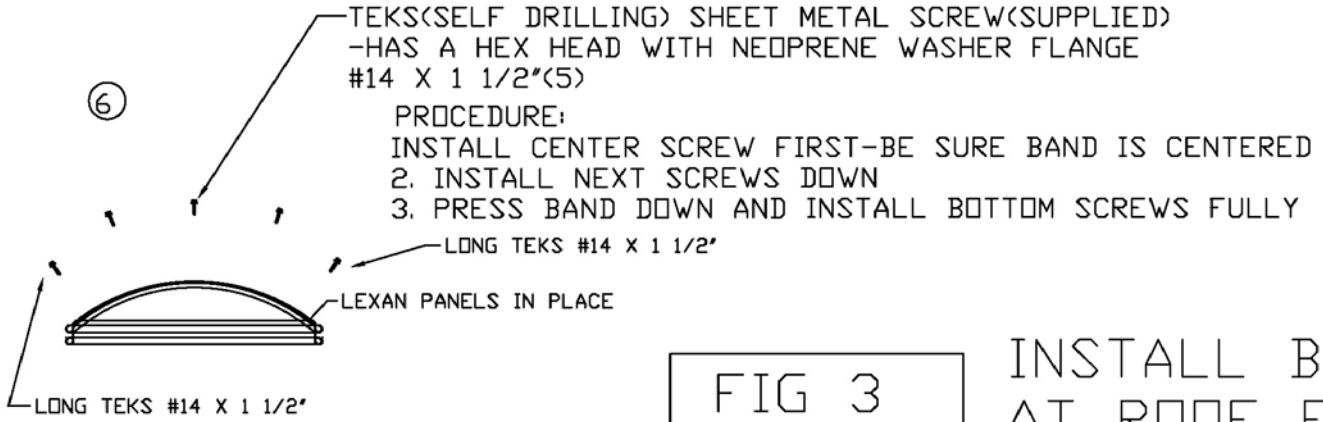


FIG 3 INSTALL BANDS AT ROOF ENDS

7

AD-BOX INSTALLATION

NOTE: This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

1. **Open the door using the supplied tamperproof drive tip. Remove the fluorescent lamps by lifting up against the springs. Remove the bottom cover & the cover along the side below the breaker box.**

2. **Provide 120 volt 60 cycle (390 watts) electrical power under the ad box see pages 9, 10 & 11. The electrical power may be routed up through either shoe of ad box or a separate hole may be drilled in ad box bottom.**

3. **Using the Elevation drawing as a guide, place the advertising ad box at the desired location. Note: Hinges are toward the back of the shelter. Insert the shoes into the round pipe extending from bottom of the ad box. These 2 shoes and the 2 shoes at the opposite end of the shelter can be slid up or down for height adjustment. If the grade is level, the ad box shoes should extend down approximately 8" from the ad box bottom. If the grade is higher at the opposite end of the shelter the 8" dimension must be increased accordingly.**

4. **Support and level the ad box at the desired height. The two ad box shoes have 9\16 diameter holes. Using these holes as guides, drill 1/2" diameter holes through the shoes. Install the 1/2-13 x 4" hex head bolt and 1/2-13 locking hex nut at each shoe.**

5. **Mark the concrete using the holes in the two shoes to locate the eight anchors. Move the ad box to allow drilling of the concrete. Refer to anchoring Spec Sheet for anchoring instructions.**

   <u>IMPORTANT:</u> Place shim material under a corner of the shoe if the ground is uneven. Also place shim material under a corner of the shoe if the roof has been leveled and the shoe is not flat to sidewalk. Do not torque down the anchors so that the advertising box is distorted.

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024

APPROVED

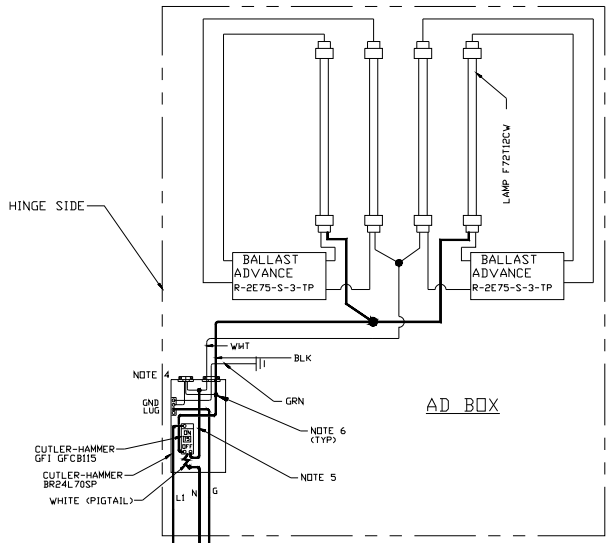
Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



POWER SUPPLY

FACTORY REQUIREMENTS

1. ELECTRICAL REQUIREMENTS ARE 120 VAC, 60 CYCLE & 390 WATT(.390 KW/HR)
2. THIS ELECTRIC SIGN (ADVERTISING BOX) IS UL LISTED. THE LISTING NUMBER IS E179042.
3. ELECTRICAL SUPPLY SHALL BE THREE WIRE(HOT, NEUTRAL & GROUND)
4. THE GREEN INSULATED CONDUCTOR CABLE SHALL BE USED FOR EQUIPMENT GROUNDING ONLY.
5. GROUND AND NEUTRAL ARE NOT TO BE CONNECTED INSIDE CHALLENGER BOX, BUS TOP SHELTER OR KIOSK.
6. USE WIRE NUT TO MAKE SPLICE CONNECTION.

8. EACH ELECTRICAL DEVICE SHALL BE GROUNDED TO THE WELDED FIXTURE/ CROSSMEMBER/ROOF STRUCTURE OR TO THE ADVERTISING BOX. ENSURE THAT EACH FACTORY INSTALLED ELECTRICAL DEVICE'S GROUNDING CONNECTION IS TO BRIGHT METAL-NO PAINT OR OTHER FINISH IS ALLOWED UNDER GROUNDING LUG OR SCREW.
9. ALL WIRING TO BE IN ENCLOSED WIREWAYS.
10. DO NOT DRILL OR TAP COLUMNS, POSTS, MOLDINGS WHICH CONTAIN ELECTRICAL CIRCUIT WIRING.

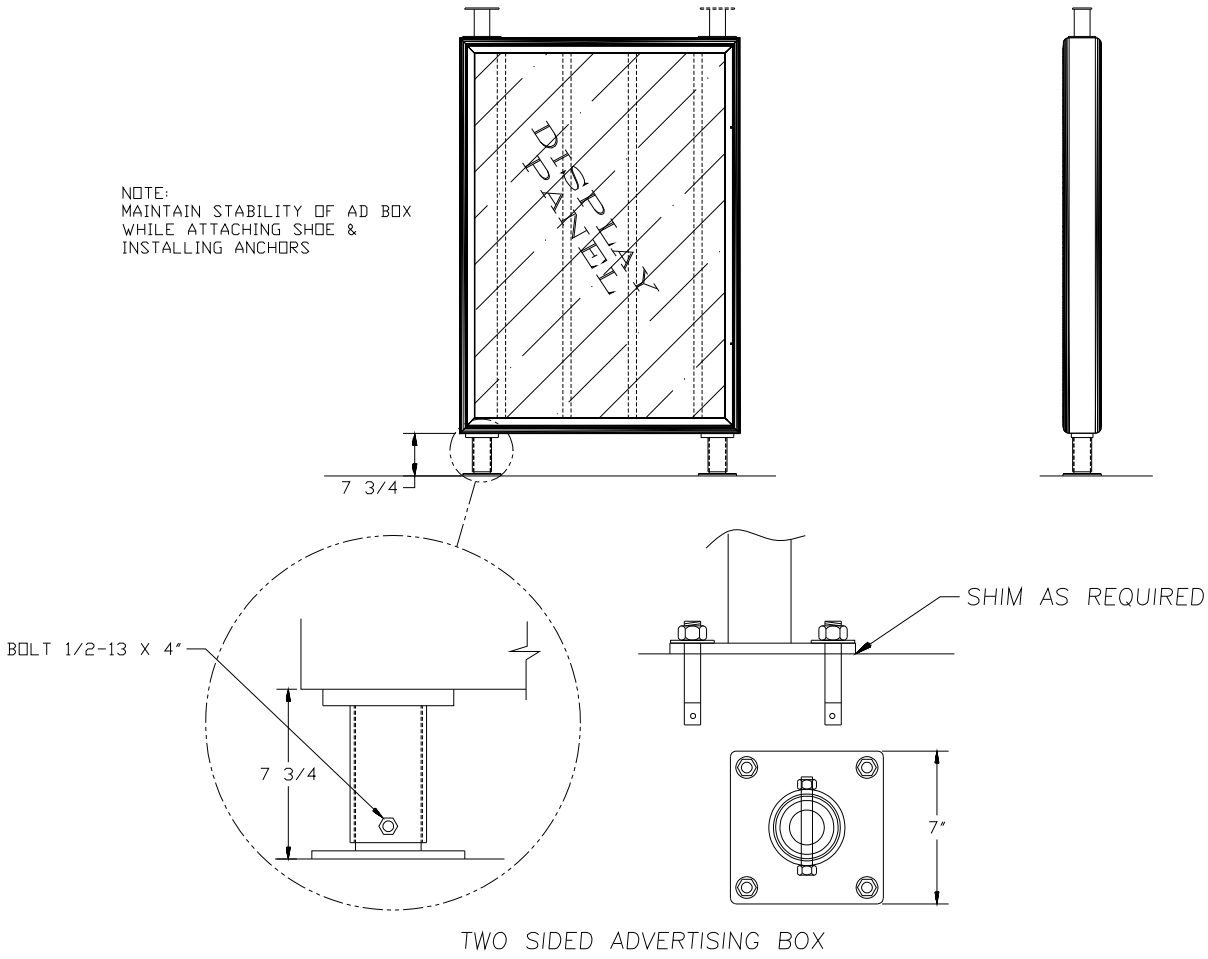
INSTALLATION CONTRACTOR REQUIREMENTS

1. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF NATIONAL ELECTRICAL CODE, LOCAL CODES AND THE AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL PROVIDE OVER CURRENT PROTECTION NOT TO EXCEED 20A. THE PROTECTIVE DEVICE SHALL HAVE AN AIC RATING WHICH EXCEEDS THE AVAILABLE SHORT CIRCUIT CURRENT AT THE SUPPLY POINT.
3. CONTRACTOR SHALL PROVIDE A DURABLE IDENTIFICATION OF THE SHELTER LOAD AT THE BRANCH CIRCUIT SUPPLY POINT.
4. CONTRACTOR SHALL PROVIDE A DURABLE NAMEPLATE NEAR THE TOLAR RATING PLATE IDENTIFYING THE LOCATION OF THE BRANCH CIRCUIT PROTECTIVE DEVICE SERVING THE SHELTER.

Tolar Manufacturing Company, Inc
258 Mariah Circle,Corona,CA 92879

DESCRIPTION	ELECTRICAL SCHEMATIC-FLAT AD BOX		
CUSTOMER/VENDOR	STD		
SIZE C	MATL. SHEET 1	DWG NO. 2565	REV
SCALE	DATE 4/3/02	DRAWN BY: CN	

G:\AutoCAD2000\Electrical\El Directory Flat Box 120 Low Out 01.dwg, Model, 08/10/2003 07:32:39 AM



TWO SIDED ADVERTISING BOX

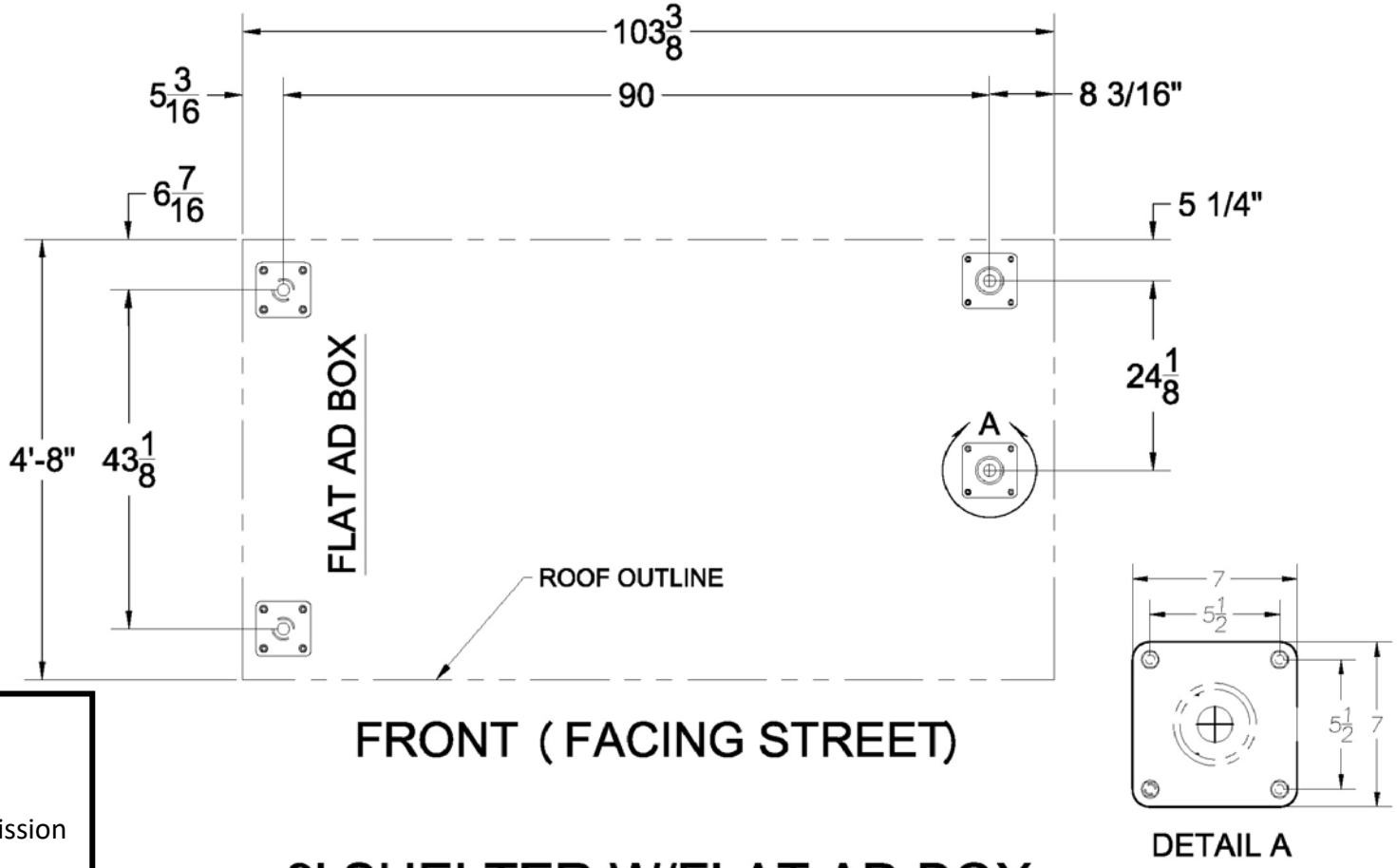
APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024



9' SHELTER W/FLAT AD BOX

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024

ROOF INSTALLATION

SEE PAGE 13

1. **Slide two shoes into the two support posts that are to be installed opposite the ad box.**

2. **Raise the roof over the ad box. Position the Dual post assembly under the crossbeam at the opposite end.**

3. **Insert and tighten 4 (four) 3/8 - 16 X 1 hex head bolts, 3/8 lock washers, and 3/8 flatwashers at the top of each post and the short pipe brackets of the ad box.**

4. **Level the roof by placing a carpenter's level on the roof's gutter on all sides then, through the 9/16" diameter holes at the bottom of each support post, drill a 1/2" diameter hole through the pipe of the shoes. It is not necessary to use the smaller 1/4" diameter holes. Some installers use a 3/4" long U-drive rivet in the small holes temporarily.**

5. **Install the 1/2 - 13 X 4 hex head bolt and 1/2 - 13 locking hex nut at each shoe.**

6. **Plumb the support posts. The dimension between the posts must be 20 5/8" inside to inside. Check this dimension at the post bottom before marking and drilling holes for the anchors. Mark hole locations and refer to anchoring specifications.**

IMPORTANT: **Apply shim under shoes (where applicable) if mounting location is uneven, or for leveling purpose. Do not over-tighten anchors; this may cause distortion on the advertisement box.**

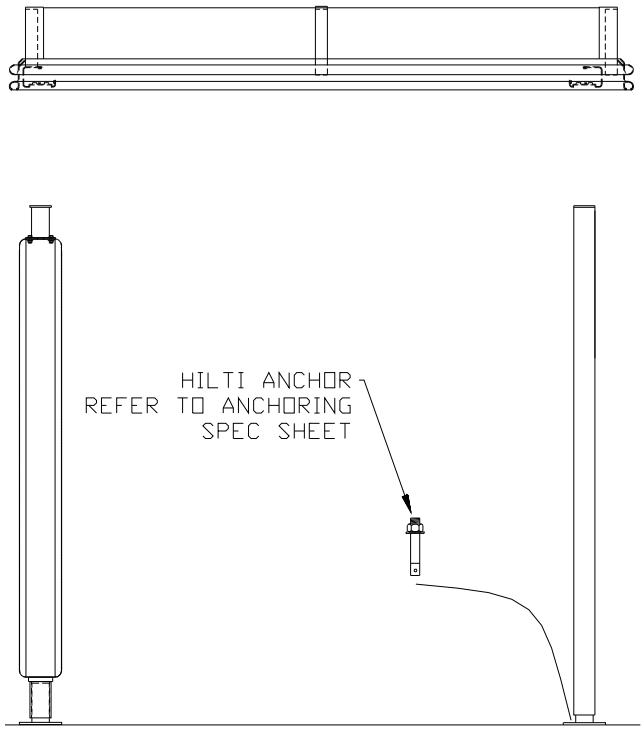
APPROVED

Montgomery County

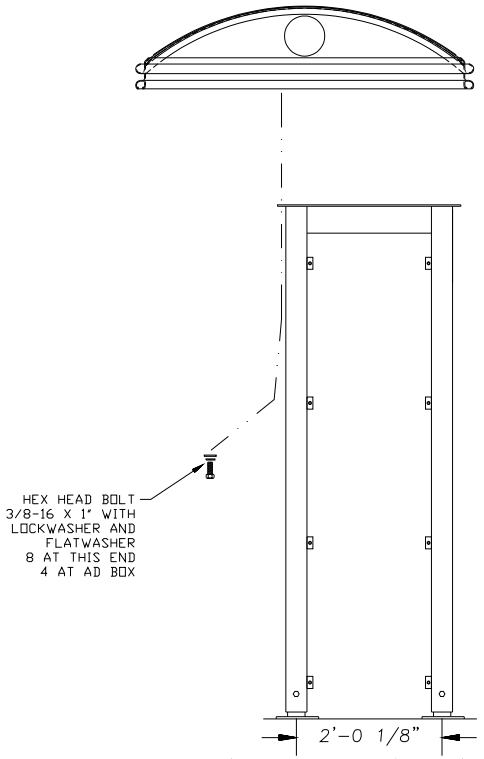
Historic Preservation Commission

REVIEWED

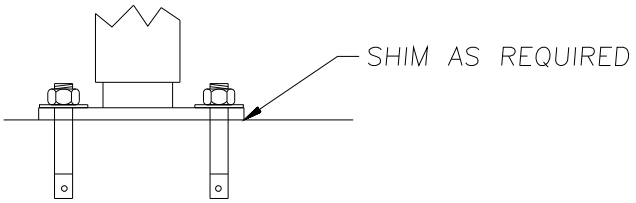
By Dan.Bruechert at 12:54 pm, Apr 18, 2024



FRONT ELEVATION



END ELEVATION



ROOF INSTALLATION(TYPICAL)

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024

REAR SCREEN INSTALLATION

1. **See page 15 and the Elevation Drawing page 3. Drop a plumb line from the rear screen insertion groove of the roof perimeter. Mark the concrete near both ends of the roof and snap a chalk line. The rear screen support/anchor assemblies will be inserted on this line. Mark the chalk line at the intervals shown on the drawings. These marks will be the proper spacing for the support/anchor assemblies. The first support/anchor assembly at either end must be at least 4" in from end of roof.**

2. **Drill two (2) 1 1/4" diameter holes into the concrete on the marks with a masonry drill. These holes should be at least 8" deep and may penetrate into the grade below the concrete. This depth is required to allow clearance for the threaded adjusting rod. Clean out holes.**

3. **Place the bottom screen support/anchor assemblies into the holes. The top surface of the anchor itself should be flush to concrete or 1/2" below The total height of the screen is 79". Measure from inside the screen insertion groove to the screen support anchor. Rotate the threaded rod inside the anchor to adjust height. Tighten the 3/4-10 hexnut to expand and secure anchor. Slide screen up into screen insertion groove and onto bottom screen support/anchor assemblies(separate clip can be slid off). Replace clip.**

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:54 pm, Apr 18, 2024

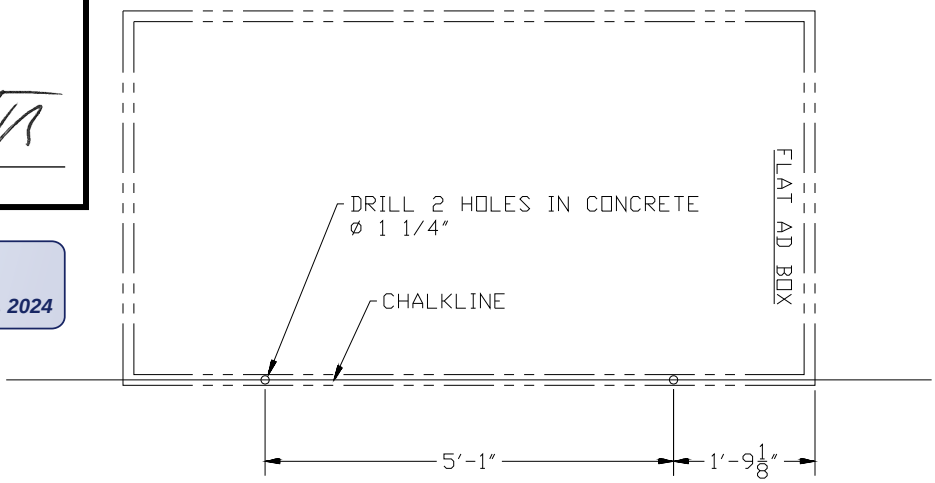
APPROVED

Montgomery County

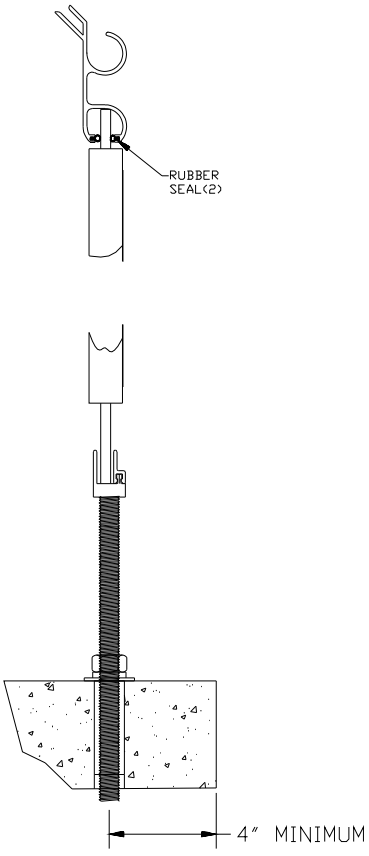
Historic Preservation Commission

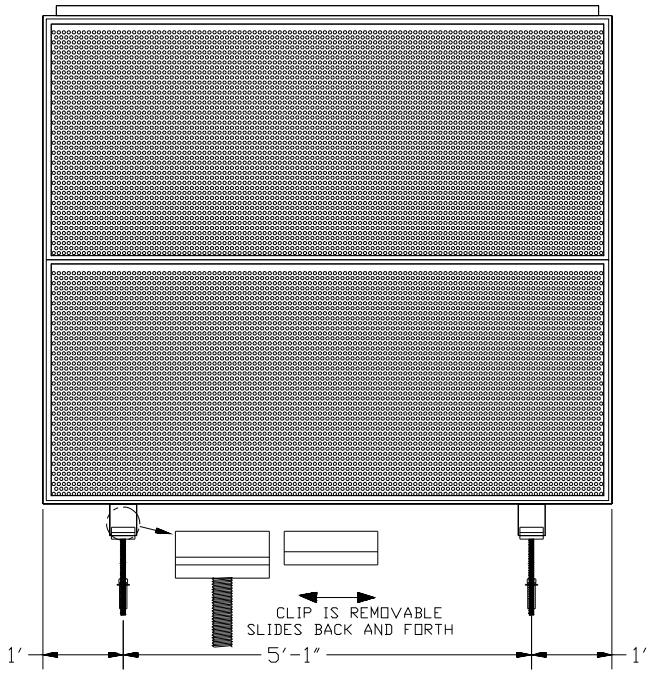
REVIEWED

By Dan.Bruechert at 12:55 pm, Apr 18, 2024



PLAN VIEW

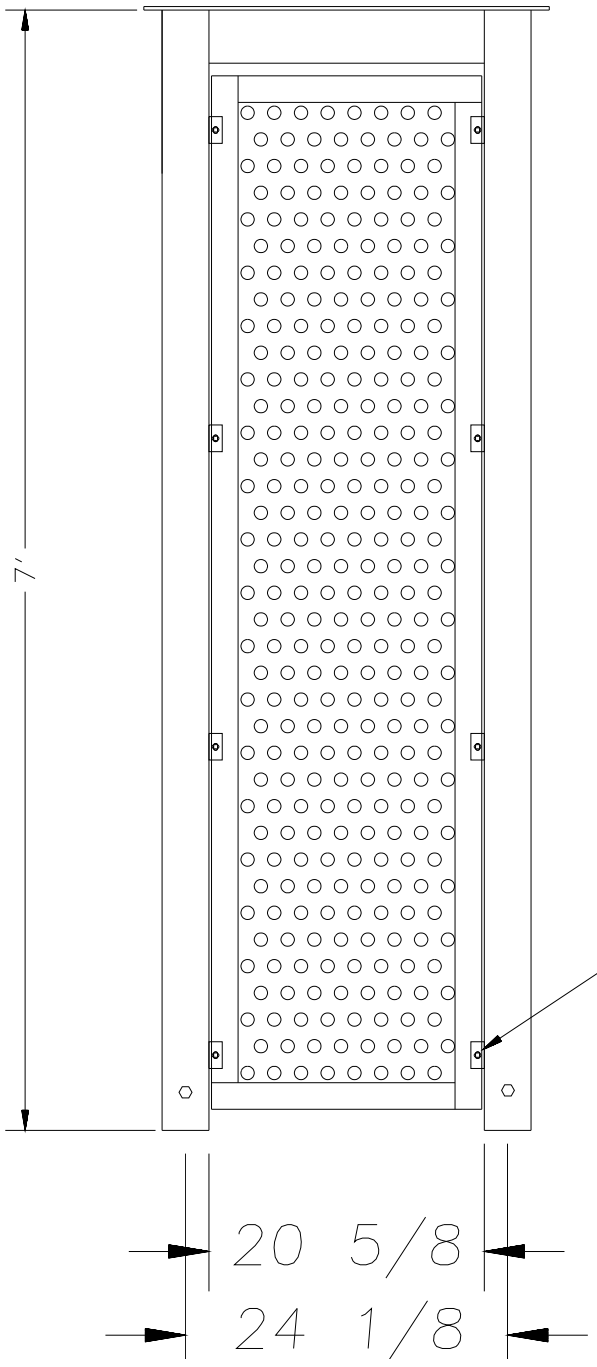




BACK VIEW

G:\Engineering\MSOFFICE\Word\Install Instr\E-version\Instructions 9 Calexico 9616.doc

END SCREEN INSTALLATION



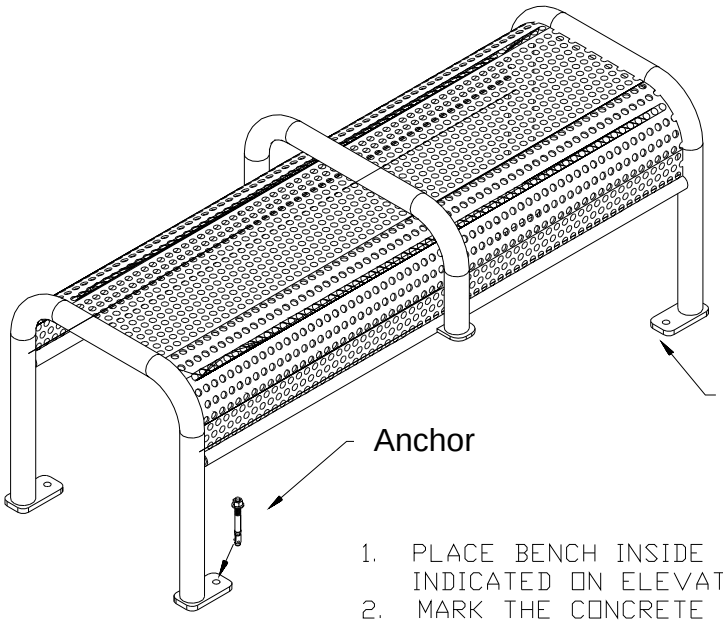
NOTES:
1. SCREEN CAN BE INSTALLED OUTSIDE OF TABS ON PIPE OR INSIDE OF TABS.
2. LOOSEN THE ANCHORS AT BOTTOM TO ALLOW FITTING OF SCREEN.
3. INSTALL THE TAMPERPROOF SCREW THROUGH THE SCREEN FRAME FIRST THEN THROUGH THE TAB.

INSTALL WITH EIGHT SCREWS 1/4-20 X 1 AND SELFLOCK NUT- USE FLATWASHER AGAINST SLOTTED HOLE.

APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:55 pm, Apr 18, 2024

BENCH INSTALLATION



1. PLACE BENCH INSIDE SHELTER IN LOCATION INDICATED ON ELEVATION DRAWING.
2. MARK THE CONCRETE AT EACH OF THE MOUNTING PADS. REFER TO ANCHORING SPEC SHEET FOR ANCHORING INSTRUCTIONS.

G:\AutoCAD2000\Installations,Plots\Ins Benches\4PERFBNCHSS.dwg, Layout, 03/25/2003 11:25:53 AM

APPROVED

Montgomery County

Historic Preservation Commission

REVIEWED

By Dan.Bruechert at 12:55 pm, Apr 18, 2024

Sup-R-Stud®

Sup-R-Stud®

Available Materials
- Carbon steel, zinc plated
- Carbon steel, mechanically galvanized
- Grade 5, yellow di-chromated
- 303/304 stainless steel
- 316 stainless steel

Features/Advantages
- Required hole diameter equals anchor diameter
- Excellent for setting immediately
- Can be loaded immediately
- Can be set in a bottomless hole
- Simple installation
- Nut and washer supplied in package
- ROHS compliant except for Grade 5

Concerns
- Do not use in brick or block
- Not advised for use where vibratory loads are high
- Oversize holes are detrimental and will reduce load performance

Approvals/Listings
- G.S.A. Spec FF-S-325C, Group II, Type 4, Class 1
- UL listed 3/8"-1" (except 7/8")
- FM 3/8", 1/2", 3/4"
- Contact customer service for approvals / listings for state D.O.T.'s

Made in USA

NOTE: The load values below are for all lengths of a given diameter capable of reaching the specified embedment.

Ultimate Tensile & Shear Loads in Lbs.

		2000 P.S.I.	4000 P.S.I.	
Diameter- Threads	Embedment	Tension	Tension	Shear
1/4" - 20	1 1/8"	1,173	1,015	1,472
	2 1/4"	2,573	2,711	
3/8" - 16	1 5/8"	2,289	2,367	3,151
	3 3/8"	3,556	5,203	
1/2" - 13	2 1/4"	4,120	5,068	6,828
	4 1/2"	4,608	5,772	
5/8" - 11	2 3/4"	5,486	5,556	9,659
	5 5/8"	6,957	9,294	
3/4" - 10	3 3/8"	9,267	11,975	15,126
	6 3/4"	13,278	16,201	
7/8" - 9	4"	9,746	13,902	21,574
	8"	14,378	20,288	
1" - 8	4 1/2"	10,226	15,829	28,023
	9"	15,479	24,375	
1 1/4" - 7	6 1/2"	14,720	23,090	33,000

Anchor Spacing / Edge Distance

Anchor Diameter	Min. Anchor Spacing *	Min. Edge Distance *
1/4"	2 1/2"	1 1/4"
3/8"	3 3/4"	1 7/8"
1/2"	5"	2 1/2"
5/8"	6 1/4"	3 1/8"
3/4"	7 1/2"	3 3/8"
7/8"	8 3/4"	4 3/8"
1"	10"	5"
1 1/4"	12 1/2"	6 1/4"

* To obtain 100% load as published

Installation
1 Drill hole 1/2" to 1" deeper than anchor embedment.
2 Clean hole of debris.
3 With nut threaded past the end of stud, hammer into position.
4 Tighten finger tight plus an additional 3-5 turns with wrench.
5 If anchor spins in hole, force anchor up using screwdriver until clip binds into concrete.

APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED
By Dan.Bruechert at 12:55 pm, Apr 18, 2024