CT ENGINEERING
INC.

City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
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BULLETIN

Date:	**June 8, 2020**	Number: **CTE - 01**	Project #: **03096**
Project Name:	**Bigfoot Java**		Attached: **n/a**

Subject: **New Digital Menu Boards**
Drawings Affected:
Description/Action:

This bulletin provides design clarifications and/or variation requests for the 'Bigfoot Java' projects located in Washington State.
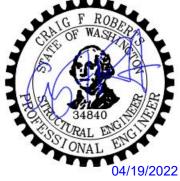
We understand Bigfoot Java would like to install new digital menu boards at several locations around Washington State. We have reviewed the intended menu board and the suggested/proposed foundation design.

Given the need for this foundation to work for all locations, we have used minimum soil parameters given in the IBC and the appropriate Wind (controls over seismic in this case) parameters giving in the ASCE 7.

We have concluded that the proposed foundation detail (see attached) is the correct design for proper support of the menu boards given the design needs.

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING DOCUMENTS MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.
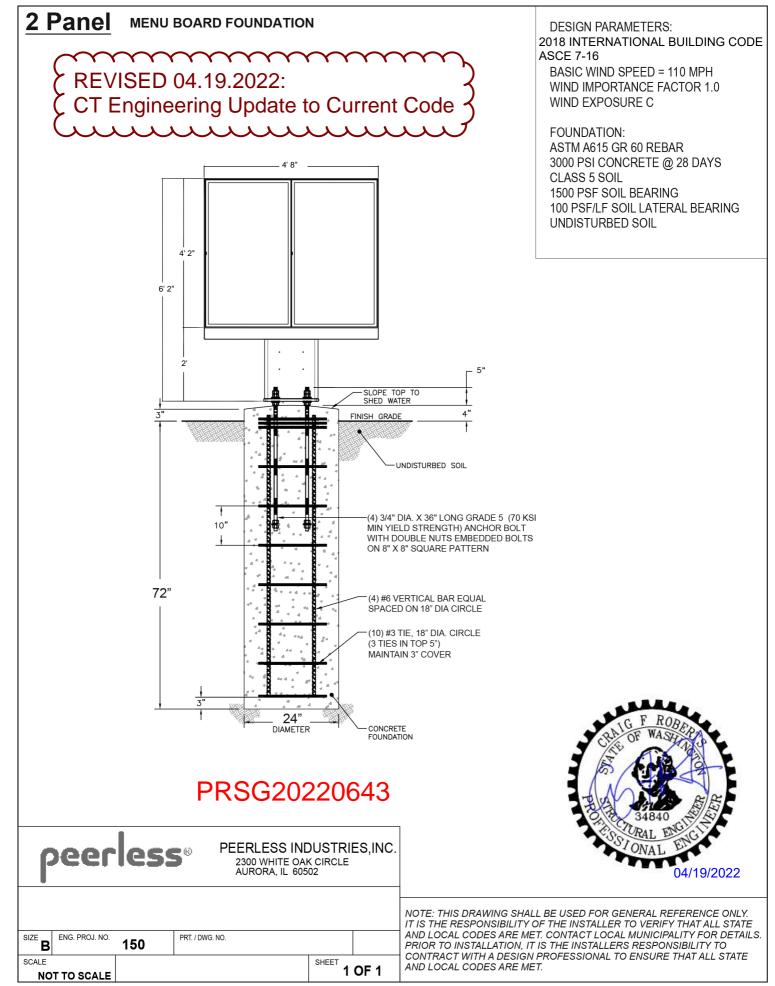
REVISED 04.19.2022:
CT Engineering Update to Current Code

No change required for building code update.

04/19/2022

CALL WITH ANY QUESTIONS

Issued by:	Tyler Wandschneider, PE	Date:	June 8, 2020

Distribution:
Mike Baily

Structural Engineers   W:\03096 Bigfoot Java_Construction\Bulletins\CTE #01 - New Menu Foundations\03096 Bigfoot Java - 2020.06.08 - CTE #01 - New Digital Menu Foundation.docx

PRSG20220643

2 Panel MENU BOARD FOUNDATION

REVISED 04.19.2022:
CT Engineering Update to Current Code

4' 8"
4' 2"
6' 2"
2'
5"
SLOPE TOP TO SHED WATER
FINISH GRADE
3"
4"
UNDISTURBED SOIL
10"
(4) 3/4" DIA. X 36" LONG GRADE 5 (70 KSI MIN YIELD STRENGTH) ANCHOR BOLT WITH DOUBLE NUTS EMBEDDED BOLTS ON 8" X 8" SQUARE PATTERN
72"
(4) #6 VERTICAL BAR EQUAL SPACED ON 18" DIA CIRCLE
(10) #3 TIE, 18" DIA. CIRCLE (3 TIES IN TOP 5") MAINTAIN 3" COVER
3"
24" DIAMETER
CONCRETE FOUNDATION

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CRAIG F ROBERTS
STATE OF WASHINGTON
STRUCTURAL ENGINEER
34840
PROFESSIONAL ENGINEER

04/19/2022

SIZE B	ENG. PROJ. NO. 150	PRT. / DWG. NO.	
SCALE NOT TO SCALE			SHEET 1 OF 1

NOTE: THIS DRAWING SHALL BE USED FOR GENERAL REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE INSTALLER TO VERIFY THAT ALL STATE AND LOCAL CODES ARE MET. CONTACT LOCAL MUNICIPALITY FOR DETAILS. PRIOR TO INSTALLATION, IT IS THE INSTALLERS RESPONSIBILITY TO CONTRACT WITH A DESIGN PROFESSIONAL TO ENSURE THAT ALL STATE AND LOCAL CODES ARE MET.

C T E N G I N E E R I N G
INC.

Project:

Date:

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Menu Size:

$$A_{screen} := 60 \ in \cdot 55 \ in = 23 \ ft^2$$

Min wind:

$$F_w := 16 \ psf \cdot A_{screen} = 367 \ lbf \qquad\qquad h_F := 52 \ in$$

$$K_z := 0.85 \qquad V := 110$$
$$K_{zt} := 1.0$$
$$K_d := 0.85 \qquad\qquad q_z := 0.00265 \ psf \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 = 23 \ psf$$

$$F_{wz} := q_z = 23 \ psf$$

$$F_w := F_{wz} \cdot A_{screen} = 531 \ lbf$$

Min Seismic:

$$a_p := 2.5 \qquad S_{DS} := 1.0 \qquad W_p := 287 \ lbf$$

$$R_p := 5.0 \qquad I_p := 1.0 \qquad z := 0 \ in \qquad h := 75.5 \ in$$

$$F_p := \frac{0.4 \cdot a_p \cdot S_{DS} \cdot W_p}{\left(\dfrac{R_p}{I_p}\right)} \cdot \left(1 + 2 \cdot \frac{z}{h}\right) = 57.4 \ lbf$$

1807.3.2.1 Un-Constrained Post Embedment Depth

$$d = 0.5 \cdot A \cdot \left(1 + \left(\sqrt{1 + \left(4.36 \ \frac{h}{A}\right)}\right)\right) \qquad\qquad \text{Top Un-Restrained formula}$$

$$b := 2 \ ft$$

$$h := 52 \ in$$

$$P := F_w$$

$$S_1 := 191.67 \ psf \qquad \text{(At a 5ft depth)}$$

$$A := \frac{2.34 \cdot P}{S_1 \cdot b}$$

$$d := 0.5 \cdot A \cdot \left(1 + \left(\sqrt{1 + \left(4.36 \ \frac{h}{A}\right)}\right)\right)$$

04/19/2022

$$d = 70.26 \ in \quad \text{Say 6ft} \qquad \underline{\textbf{Use a post embedment of 2ft dia with a 6ft depth.}}$$

Foundation - Outdoor Menu Board.mcdx

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