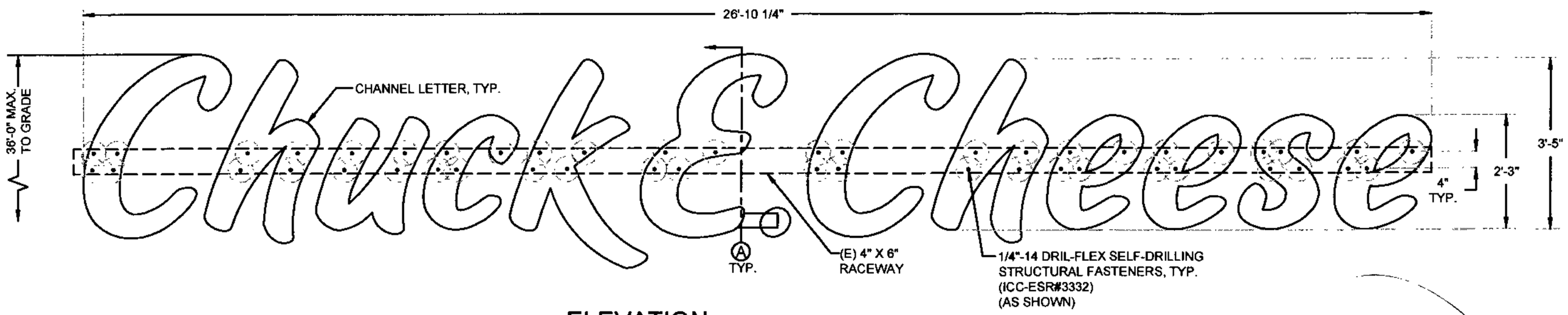
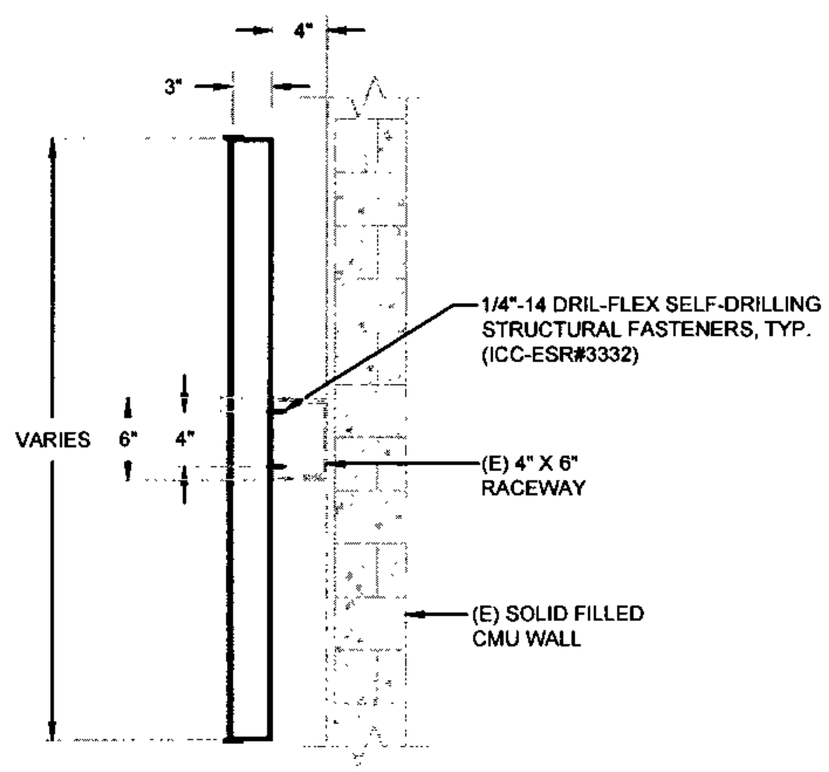


ELEVATION
N.T.S.



A SECTION VIEW
@ CHANNEL LETTERS
N.T.S.

CITY OF SAN JOSE
BUILDING DIVISION
B.P. # 19-109655 1
DATE 05/15/19 S.T.

REGISTERED PROFESSIONAL ENGINEER
TONY JACOB
C59022
CIVIL
STATE OF CALIFORNIA

MAY 09 2019

Sign Design Based on 2016 CBC

Job #	JTS_43019_R
Project	Chuck E. Cheese - Sign Type C
Job Location	2445 Fontaine Road San Jose, CA

INPUT DATA

Exposure category (B, C or D)		=	C	
Risk Category		=	II	
Nominal Design Windspeed	V_{ULT}	=	110	mph
Topographic factor	K_{zt}	=	1	Flat
Height of the sign	h	=	36	ft
Vertical dimension (for wall, s = h)	s	=	2.25	ft
Horizontal dimension	B	=	26.23	ft
Dimension of return corner	L_r	=	0.25	ft

ANALYSIS

Velocity pressure (Based on section 29.4.2)

$q_h = 0.00256\ K_z K_{zt} K_d V^2$ = **26.75** psf

where:

q_h = velocity pressure at height h. (Eq. 29.3-1, page 249)

K_h = velocity pressure exposure coefficient = **1.02**

evaluated at height above ground level, h (Tab. 29.3-1, pg 251)

K_d = wind directionality factor. (Tab. 26.6-1, page 194) = **0.85**

Wind Force Low Rise Buildings (Sec. 30.4.2 & 29.4)

Max horizontal wind pressure = $p = q_h\ GC_p$ = = **27.97** psf

GC_p = external pressure coefficients (Fig. 30.4-1, page 277) **1.05**

A_s = B s = the gross area = **20.4** ft^2

DESIGN SUMMARY

Allowable Stress Design Wind Factor = 0.6

Design Wind Pressure = 0.6 x p = 16.78 psf

Design Windforce, F = 16.78 x As = 0.342 kips

Sign Parameters:

Weight of cabinet, DL =	300 Lbs
Vertical distance between anchors, y =	0.33 ft
b (return) =	0.25 ft
Offset from wall =	0.00 ft
Min. no. of top or bott. anchors =	24 no.

Anchor Design DRIL-FLEX SELF-DRILLING SCREWS

Tension Req'd. USE ICC-ESR#3332

T = 12 **1/4"-14** T=184

Shear Required

V = 7 V=454

Unity = (12 / 184) + (7 / 454) = 0.08 < 1 (OK)

19-1118 06

NOTES :

GENERAL :

- SIGN DESIGN IS BASED ON ADEQUATE EXISTING SUPPORT ELEMENTS.
- PROVIDE ISOLATION OF DISSIMILAR MATERIALS.
- COAT ALUMINUM IN CONTACT WITH CONCRETE WITH ZINC RICH PAINT.
- THERE IS NO PROTECTION ZONE AS DEFINED IN AISC 341-10.
- PROVIDE FULLY WELDED END CAPS AT EXPOSED OPEN ENDS OF STEEL / ALUM. TUBES, MATCH THICKNESS LIKE FOR LIKE.
- SLOPE TOP OF EXPOSED FOOTING AWAY FROM DIRECT BURIAL POSTS

ANCHORS :

- BRAND NAME APPROVED POST INSTALLED ANCHORS SPECIFIED ON PLANS MAY BE SUBSTITUTED BY APPROVED EQUAL.

STEEL :

DESIGN AND FABRICATION ACCORDING TO 2016 CBC

- PLATE, ANGLE, CHANNEL TEE, AND WIDE FLANGE: ASTM A36
- ROUND PIPE: ASTM A53 GRADE B OR EQUIVALENT.
- HSS ROUND, SQUARE, AND RECTANGULAR TUBE: ASTM A500 GRADE B OR EQUIVALENT
- ALL ANCHORS BOLTS SHOULD BE: ASTM F1554
- ALL STEEL MACHINED BOLTS SHOULD BE: ASTM A307
- ALL STAINLESS STEEL MACHINED BOLTS SHOULD BE: ASTM A276
- ALL BOLTS TO BE ZINC COATED BY (HOT DIPPED): ASTM A153 OR F2329
- BEARING TYPE CONNECTION REINFORCING REBAR: ASTM A615 GRADE 60 DEFORMED BARS

ALUMINUM :

DESIGN AND FABRICATION ACCORDING TO 2015 ALUM. DESIGN MANUAL

- PLATES, ANGLES, CHANNELS, TEE, AND SQUARE TUBING: ALUMINUM ALLOY 6061 - T6 WITH 0.098 LBS PER CUBIC INCH.

WELDING :

STEEL

DESIGN AND FABRICATION ACCORDING TO AWS D1.1.

- AWS CERTIFICATION REQUIRED FOR ALL STRUCTURAL WELDERS.
- E70 XX ELECTRODE FOR SMAW PROCESS.
- E70S XX ELECTRODE FOR GMAW PROCESS.
- ER7 XX ELECTRODE FOR GTAW PROCESS.
- E70T XX ELECTRODE FOR FCAW PROCESS.

ALL WELDS SHALL BE MADE WITH A FILLER METAL THAT CAN PRODUCE WELDS THAT HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20FT-LB AT ZERO 0° AS DETERMINED BY THE APPROPRIATE AWS A5 CLASSIFICATION TEST METHOD OR MFG'S. CERTIFICATION.

ALUMINUM

DESIGN AND FABRICATION ACCORDING TO AWS D1.2.

ALL WELDING IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS A.5.10. FILLER ALLOYS PER TABLES M.9.1 & M.9.2 OF 2015 ALUMINUM DESIGN MANUAL.

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TEL. (661)259-0700 FAX. (661)259-0900

SHEET TITLE:

CHUCK E. CHEESE
SIGN TYPE C (CHANNEL LETTERS)

DRN BY: B.B.	DATE LAST REVISED: May 08, 2019	REV. NO.	REV. DATE	REVISED BY	PROJECT JOB #: JTS_43019_Chuck E Cheese_Signage_Fontain Rd_San Jose_CA.dwg
CHK BY: T.J.	PROJ. START DATE: Mar 1, 2019	1	--/--/--	--	PROJECT LOCATION: CHUCK E. CHEESE, 2445 FOUNTAINE RD., SAN JOSE, CA
REV BY: T.J.	SCALE: AS SHOWN	2	--/--/--	--	SHEET # 1 OF 1
plotted by: Jessica on 5.8.2019 @ 5:07 PM		3	--/--/--	--	

PC # 19-109655

OFFICE