



STRUCTURAL CALCULATIONS FOR DANA POINT HARBOR BUILDING 11

KPFF Job #1900799



JUNE 1, 2021

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Building & Safety: OCPW AzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

DPH – BUILDING 11

KPFF Job #1900799

May 28, 2021

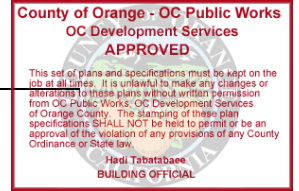



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Please include calculations and details for guardrails per ASCE 7-16, Section 4.5.1.

A_LOADING CRITERIA

A1/19

 kpff Consulting Engineers 18400 Von Karman Avenue, Suite 600 Irvine, CA 92612-1518 (949) 252-1022 tel (949) 252-8082 fax	project	Dana Point Harbor - B11	by	SH	sheet no.
	location	Dana Point CA	date	5/27/2021	
	client	SMS ARCH	job no.	1900799	Permits: BNR21-0245, ELE21-0862, MEC21-0513, PI B21-0888
					Building & Safety: OCPW Azarvard B 12/29/2025

Flat Roof


County of Orange - OC Public Works
 OC Development Services
APPROVED
 This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works - OC Development Services of Orange County. The stamping of these plan specifications SHALL NOT be held to permit or be an approval of the violation of any provisions of any County Ordinance or State law.
 BUILDINGS OFFICIAL

	Deck	Including Beams	Including Girders	Including Columns	Seismic
Dead Load					
Roofing	1.0	1.0	1.0	1.0	1.0
PVC Weather Barrier	1.0	1.0	1.0	1.0	1.0
1/2" Densglass	2.0	2.0	2.0	2.0	2.0
Rigid Insulation	9.0	9.0	9.0	9.0	9.0
1.5" Decking	3.0	3.0	3.0	3.0	3.0
Mech+plumbing ceiling	4.0	4.0	4.0	4.0	4.0
lights	5.0	5.0	5.0	5.0	5.0
Sprinklers	1.0	1.0	1.0	1.0	1.0
Gravity Misc	2.0	2.0	2.0	2.0	2.0
Beams/ Trusses		4.0	4.0	4.0	4.0
Girders			3.0	3.0	3.0
Columns				1.0	1.0
Future Solar Panels	0.0	0.0	0.0	0.0	3.0
Exterior Walls Below					10.0
CMU Walls Below					0.0
Interior Walls					7.0
Seismic Misc					2.0
Subtotal =	30.0	34.0	37.0	38.0	60.0

Live Load **20.0 PSF (reducible)**
 50.0 PSF (reducible) At Mechanical

- * Future solar panel gravity load is already accounted for in roof design live load
 Full roof design live load cannot occur over panels.
 Future solar panel seismic load is average over entire sloped roof area.

Concrete/CMU Walls Not Included in the design

 18400 Von Karman Avenue, Suite 600 Irvine, CA 92612-1518 (949) 252-1022 tel (949) 252-8082 fax	project	Dana Point Harbor - B11	by	SH	sheet no.
	location	Dana Point CA	date	5/27/2021	
	client	SMS ARCH	job no.	1900799	Building & Safety: OCPW/Azarvar/B 12/29/2025 Permits: BNR21-0245, ELE21-0862, MEC21-0513, PI B21-0898



Floor

Dead Load	Deck	Including Beams	Including Girders	Including Columns	Seismic
Floor Finish	10.0	10.0	10.0	10.0	10.0
W3 Decking (18 ga)	3.0	3.0	3.0	3.0	3.0
3.25" LWT Concrete Topping	44.0	44.0	44.0	44.0	44.0
1/2" overpour	4.5	4.5	4.5	4.5	4.5
Mechanical	3.0	3.0	3.0	3.0	3.0
Plumbing	1.0	1.0	1.0	1.0	1.0
ceiling	5.0	5.0	5.0	5.0	5.0
lights	1.0	1.0	1.0	1.0	1.0
Sprinklers	2.0	2.0	2.0	2.0	2.0
Gravity Misc	2.5	2.5	2.5	2.5	2.5
Beams/ Trusses		4.0	4.0	4.0	4.0
Girders			3.0	3.0	3.0
Columns				1.0	1.0
Future Solar Panels	0.0	0.0	0.0	0.0	0.0
Exterior Walls Below					10.0
CMU Walls Below					0.0
Interior Walls					10.0
Seismic Misc					2.0
Subtotal =	76.0	80.0	83.0	84.0	106.0

Live Load **100.0 PSF (reducible)**

* Concrete/CMU Walls Not Included in the design

kpff Consulting Engineers
 18400 Von Karman Avenue, Suite 600
 Irvine, CA 92612-1518
 (949) 252-1022 tel (949) 252-8082 fax

project	Dana Point Harbor - B1	by	RJF	sheet no.
location	Dana Point CA	date	5/27/2021	
client	SMS ARCH	job no.	1900799	

Building & Safety: OCPW Azarvar/B 12/29/2025
 Permits: BNR21-0245, ELE21-0882, MEC21-0513, PI B21-0888

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 BUILDING OFFICIAL

Exterior Floor Deck

Dead Load	Deck	Including Beams	Including Girders	Including Columns	Seismic
Floor Finish	15.0	15.0	15.0	15.0	15.0
W3 Decking	2.5	2.5	2.5	2.5	2.5
3.25" LW Concrete Top 1"	44.0	44.0	44.0	44.0	44.0
4 inch avg concrete sloped	40.0	40.0	40.0	40.0	40.0
Mechanical	1.0	1.0	1.0	1.0	1.0
Plumbing	1.0	1.0	1.0	1.0	1.0
ceiling	10.0	10.0	10.0	10.0	10.0
lights	1.0	1.0	1.0	1.0	1.0
Sprinklers	2.0	2.0	2.0	2.0	2.0
Gravity Misc	1.5	1.5	1.5	1.5	1.5
Beams/ Trusses		5.0	5.0	5.0	5.0
Girders			2.0	2.0	2.0
Columns				2.0	2.0
Future Solar Panels	0.0	0.0	0.0	0.0	0.0
Exterior Walls					5.0
CMU Walls Above and Below					0.0
Interior Walls					0.0
Seismic Misc					3.0
Subtotal =	118.0	123.0	125.0	127.0	135.0

Live Load **100.0 PSF**

* Future solar panel gravity load is already accounted for in roof design live load
 Full roof design live load cannot occur over panels.
 Future solar panel seismic load is average over entire sloped roof area.

Concrete/CMU Walls Not Included in the design

A_Tsunami BOD & DESIGN IMPLICATIONS

A4/19
KPFF, Inc.

Dana Point Harbor Revitalization – Retail

Tsunami Basis of Design & Design Implications Summary

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513,
PLB21-0899

2019 California Building Code, Section 1615

ASCE 7-16, Chapter 6



Tsunami Resilience Design required for Risk Category III structures within a Tsunami Zone.

Structures determined to have a Tsunami inundation depth less than 3', need not be designed for Tsunami Resiliency.

The proposed site contains:

- (8) Two-story Risk Category III new structures (Bld 1, 6, 7, 8, 9, 10, 11, 12)
- (1) Two-story Risk Category III existing structure (Bld 5A)
- (2) One-story Risk Category III existing structures (Bld 2, 5B)
- (2) Risk Category II structures (Bld 3, 4)

Tsunami Analysis and Load Determination

Maximum Tsunami Inundation depth, h_{max} , for the proposed Risk Category III structures has been determined to be **5.83'**. This was determined through an Energy Grade Line Analysis and based upon elevation points provided by civil drawings and ASCE 7 Tsunami Hazard Tool.

Tsunami Building Design Implications

For all two-story, Risk Category III structures, **seismic** has been determined to govern the LFRS design.

For all one-story, Risk Category III structures, **tsunami** has been determined to govern the LFRS design.

- Based on the intent of tsunami resilience design, to mitigate collapse prevention of a structure, so that the building occupants may evacuate to a higher occupiable level, it appears to be impractical to design a one-story Risk Category III structure for tsunami resilience.
- *C6.8.1 Performance of Tsunami Risk Category II and III Buildings and Other Structures*
Where the structure does not have an occupiable floor with an elevation exceeding 1.3 times the Maximum Considered Tsunami inundation elevation by more than 10 ft, the facility should implement a plan and procedure for evacuation to a location above and outside of the Tsunami Evacuation Zone or to a designed Tsunami Vertical Evacuation Refuge Structure.
- In this case, without an occupiable floor above 17.6' (1.3(5.83') + 10'), it appears to be impractical to design a one-story, Risk Category III structure for tsunami resilience.

Tsunami Building Design Implications (cont.)

Although the (6) two-story, Risk Category III structures are governed by seismic demands on the LFRS, Debris Impact Loads and Hydrostatic Foundation loads must still be considered.

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

Debris Impact Loads

- Vehicular impact loads must be considered at all building perimeter structural elements
Tvhc = 30k
- Wood Log and Poles impact loads must be considered at all building perimeter structural elements.



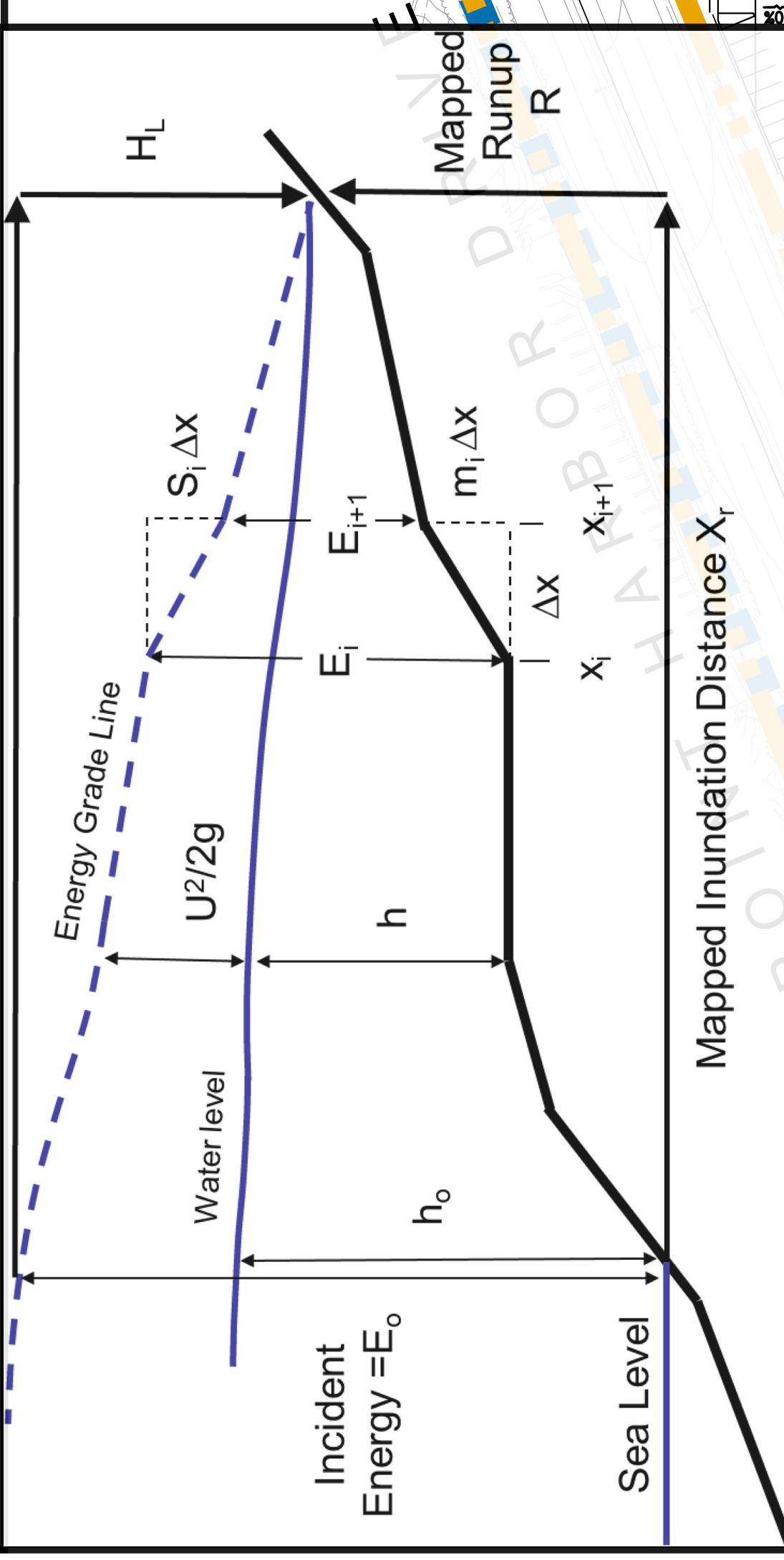
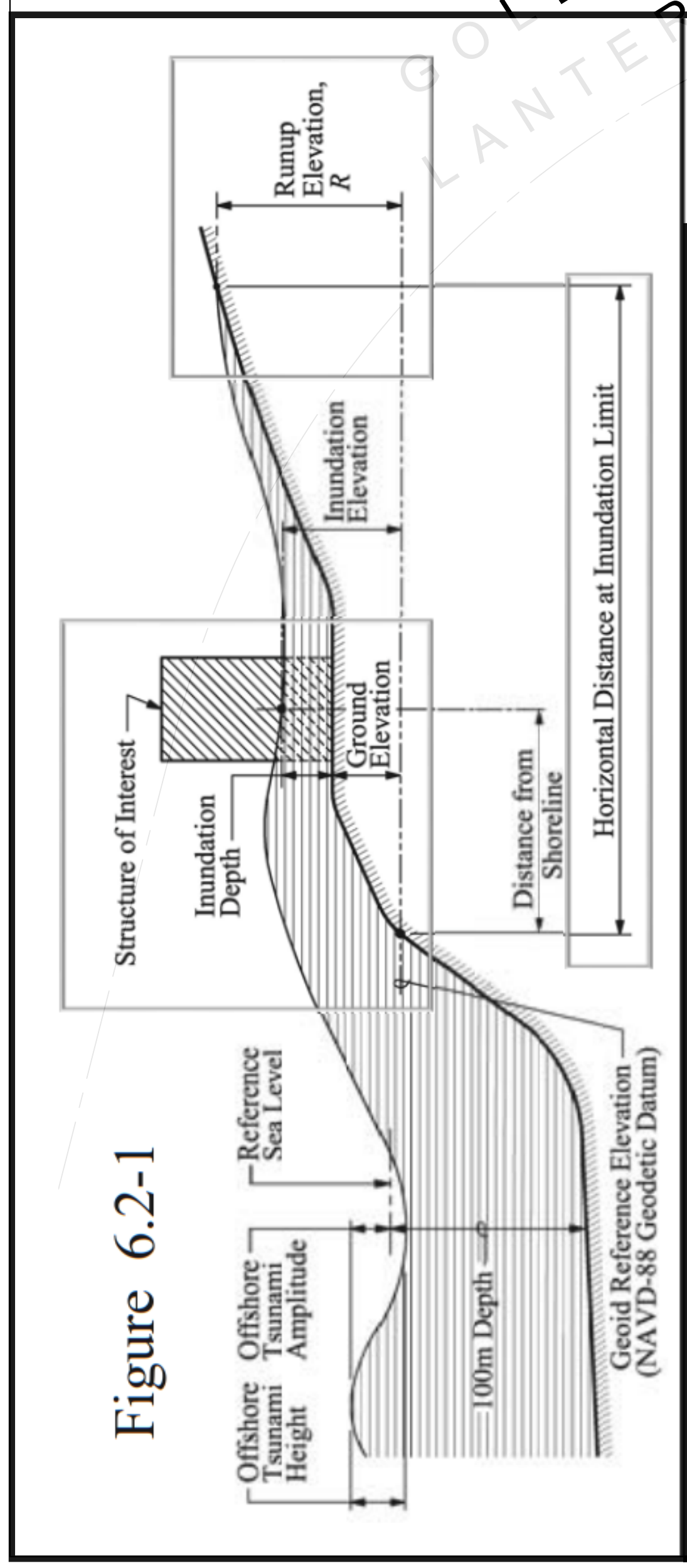
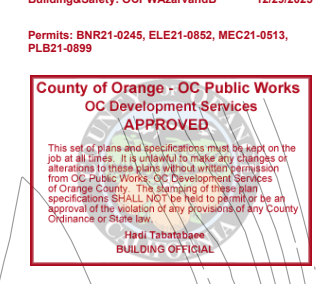
Hydrostatic Foundation Loads

- **The following considerations have been mitigated by soil improvements outlined in the soils report for this project.**
 - Loss of soil shear strength must be considered at 1.2 times inundation depth. Reduced soil bearing capacity due to pore pressure softening.
 - Scour depth must be considered at 1.2 times inundation depth.
 - General erosion.
 - Must be discussed and coordinated with Geotechnical Engineer
 - o *Even though stability analysis of concrete structures is a structural engineering responsibility, the analysis must be performed with input from other disciplines. It is necessary to determine hydrostatic loads consistent with water levels determined by hydraulic and hydrological engineers. Geotechnical engineers and geologists must provide information on properties of foundation materials, and must use experience and judgement to predict behavior of complex foundation conditions. To ensure that the proper information is supplied, it is important that those supplying the information understand how it will be used by the structural engineer...*
- Therefore, it is recommended that the report of the geotechnical investigation for a project in the Tsunami Design Zone include explanation of the derivation of the design values for explicit use in strength design load combinations...

THE FOLLOWING ASCE 7-16 TSUNAMI ANALYSIS PROVIDED, HAS DETERMINED TSUNAMI LOADING DOES NOT GOVERN FOR ANY OF THE STRUCTURES WITHIN THIS PROJECT.

TSUNAMI INUNDATION STUDY

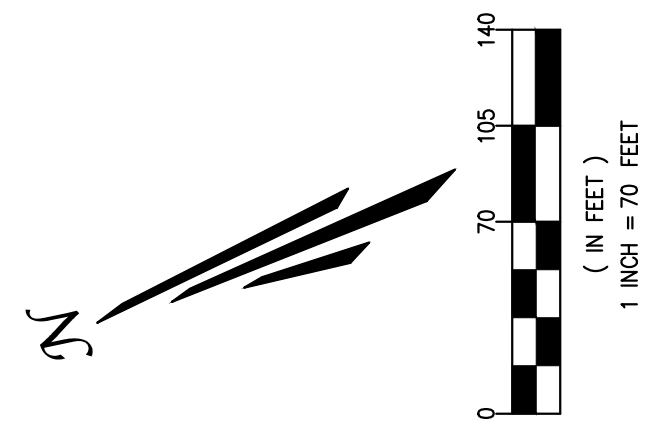
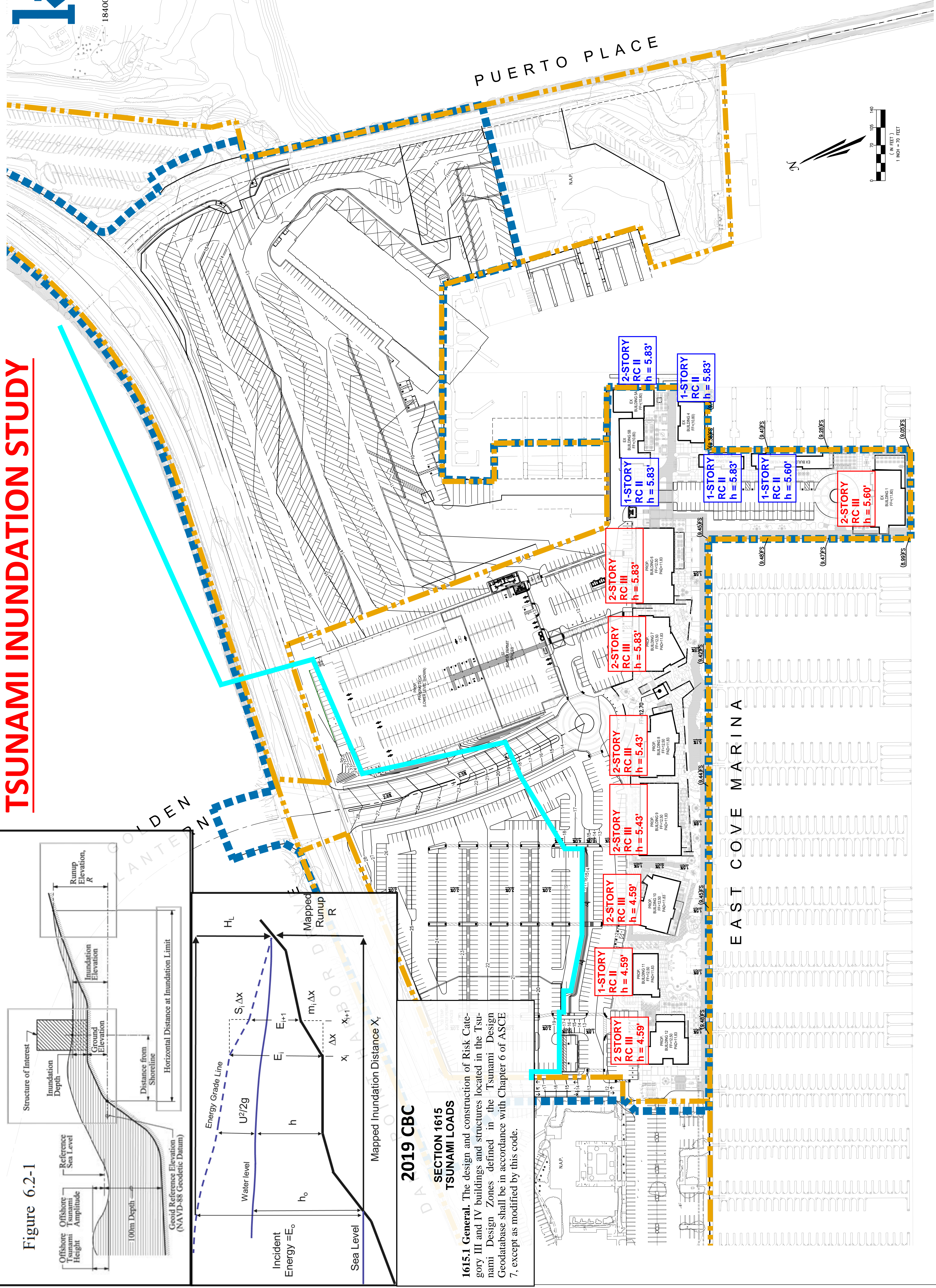
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2019 CBC

SECTION 1615 TSUNAMI LOADS

1615.1 General. The design and construction of Risk Category III and IV buildings and structures located in the Tsunami Design Zones defined in the Tsunami Design Geodatabase shall be in accordance with Chapter 6 of ASCE 7, except as modified by this code.



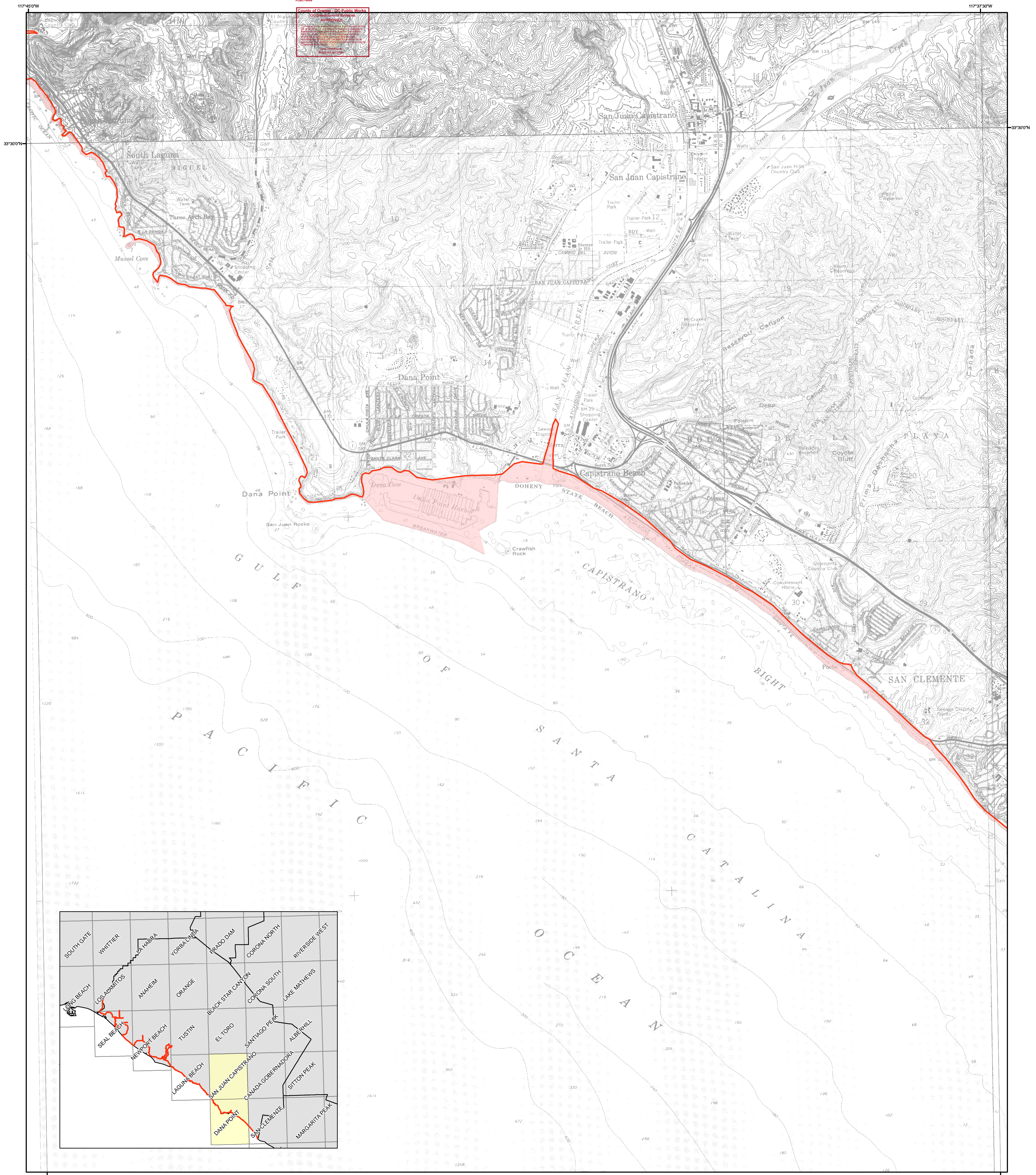
7	NO.	DATE	REVISIONS	ENGR.	APPROV.	DATE
6						
5						
4						
3						
2						
1						

PREPARED UNDER THE SUPERVISION OF:	701 N. Rockcenter Drive Santa Ana, CA 92705 P: 714.560.8200 F: 714.560.8211 www.tait.com	DATE
DESIGNED BY:	Los Angeles Sacramento San Francisco Phoenix San Diego Boise Denver Portland	DATE
CHECKED BY:		DATE
RECOMMENDED BY:		DATE

DRAWN BY:	DATE
DESIGNED BY:	DATE
CHECKED BY:	DATE
RECOMMENDED BY:	DATE

PROJECT:	DANA POINT HARBOR REVITALIZATION
CLIENT:	DANA POINT HARBOR PARTNERS, LLC
ARCHITECT:	BURNHAMWARD
ENGINEER:	R.D. OLSON
FINANCIAL GROUP:	BELLWETHER

CONCEPTUAL GRADING PLANS	C2.2
PAGE 44B	
DANA POINT HARBOR	



METHOD OF PREPARATION

Initial tsunami modeling was performed by the University of Southern California (USC) Tsunami Research Center funded through the California Emergency Management Agency (CalEMA) by the National Tsunami Hazard Mitigation Program. The tsunami modeling process utilized the MOST (Method of Splitting Tsunami) computational program (Version 0), which allows for wave evolution over a variable bathymetry and topography used for the inundation mapping (Titov and Gonzalez, 1997; Titov and Synolakis, 1998).

The bathymetric/topographic data that were used in the tsunami models consist of a series of nested grids. Near-shore grids with a 3 arc-second (75- to 90-meters) resolution or higher, were adjusted to "Mean High Water" sea-level conditions, representing a conservative sea level for the intended use of the tsunami modeling and mapping.

A suite of tsunami source events was selected for modeling, representing realistic local and distant earthquakes and hypothetical extreme undersea, near-shore landslides (Table 1). Local tsunami sources that were considered include offshore reverse-thrust faults, restraining bends on strike-slip fault zones and large submarine landslides capable of significant seafloor displacement and tsunami generation. Distant tsunami sources that were considered include great subduction zone events that are known to have occurred historically (1960 Chile and 1964 Alaska earthquakes) and others which can occur around the Pacific Ocean "Ring of Fire."

In order to enhance the result from the 75- to 90-meter inundation grid data, a method was developed utilizing higher-resolution digital topographic data (3- to 10-meters resolution) that better defines the location of the maximum inundation line (U.S. Geological Survey, 1993; Intermap, 2003; NOAA, 2004). The location of the enhanced inundation line was determined by using digital imagery and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1993). This information was verified, where possible, by field work coordinated with local county personnel.

The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of tsunami generation and propagation phenomena as expressed in the models. Thus, although an attempt has been made to identify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event.

This map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event.

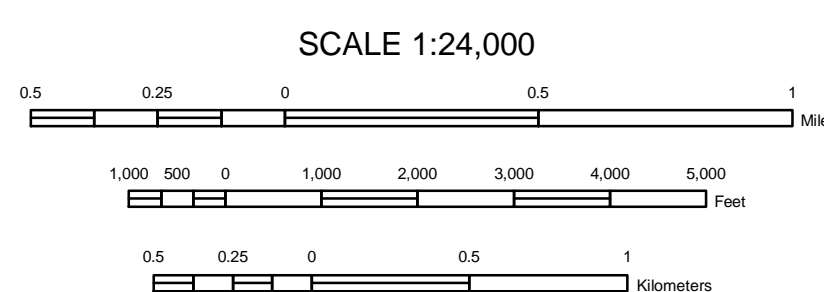
References:

- Intermap Technologies, Inc., 2003, Intermap product handbook and quick start guide: Intermap NEXTmap document on 5-meter resolution data, 112 p.
- Lander, J.F., Lockridge, P.A., and Kozuch, M.J., 1993, Tsunamis Affecting the West Coast of the United States 1806-1992: National Geophysical Data Center Key to Geophysical Record Documentation No. 29, NOAA, NESDIS, NGDC, 242 p.
- National Atmospheric and Oceanic Administration (NOAA), 2004, Interferometric Synthetic Aperture Radar (ISAR) Digital Elevation Models from GeoSAR platform (EarthData): 3-meter resolution data.
- Titov, V.V., and Gonzalez, F.I., 1997, Implementation and Testing of the Method of Tsunami Splitting (MOST): NOAA Technical Memorandum ERL PMEL - 112, 11 p.
- Titov, V.V., and Synolakis, C.E., 1998, Numerical modeling of tidal wave runup: Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE, 124 (4), pp 157-171.
- U.S. Geological Survey, 1993, Digital Elevation Models: National Mapping Program, Technical Instructions, Data Users Guide 5, 48 p.

TSUNAMI INUNDATION MAP FOR EMERGENCY PLANNING

State of California ~ County of Orange
**DANA POINT QUADRANGLE
SAN JUAN CAPISTRANO QUADRANGLE**

March 15, 2009



MAP EXPLANATION

- Tsunami Inundation Line
- Tsunami Inundation Area

PURPOSE OF THIS MAP

This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only. This map, and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.

The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events; due to a lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time.

Please refer to the following websites for additional information on the construction and/or intended use of the tsunami inundation map:

State of California Emergency Management Agency, Earthquake and Tsunami Program:
<http://www.oes.ca.gov/WebPage/oeswebsite.nsf/Content/B1EC51BA215931768825741F005E8D80?OpenDocument>

University of Southern California - Tsunami Research Center:
<http://www.usc.edu/dept/tsunamis/2005/index.php>

State of California Geological Survey Tsunami Information:
http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/index.htm

National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model):
<http://nctr.pmel.noaa.gov/time/background/models.html>

MAP BASE

Topographic base maps prepared by U.S. Geological Survey as part of the 7.5-minute Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line boundaries may reflect updated digital orthophotographic and topographic data that can differ significantly from contours shown on the base map.

DISCLAIMER

The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranties regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the State of California nor USC shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

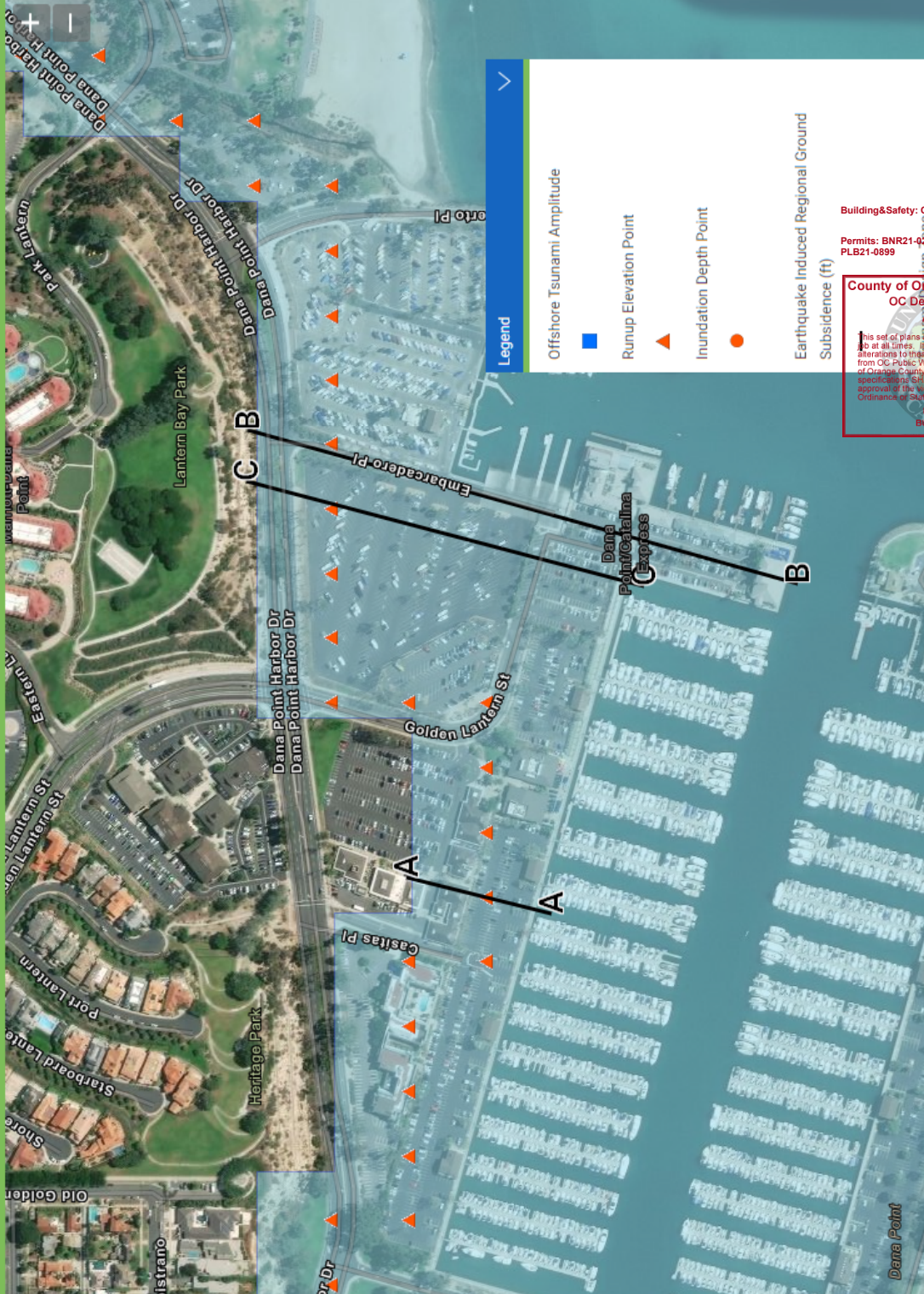
Table 1: Tsunami sources modeled for the Orange County coastline.

Sources (M = moment magnitude used in modeled event)	Areas of Inundation Map Coverage and Sources Used		
	Long Beach Harbor	Newport Harbor	Dana Point
Local Sources	Catalina Fault	X	X
	Channel Thrust Fault	X	X
	Newport-Inglewood Fault	X	X
	San Mateo Thrust Fault	X	X
	Palos Verdes Submarine Landslide #1	X	X
Distant Sources	Palos Verdes Submarine Landslide #2	X	X
	Cascadia Subduction Zone #3 (M9.2)	X	X
	Central Aleutians Subduction Zone#1 (M8.9)	X	X
	Central Aleutians Subduction Zone#2 (M8.9)	X	X
	Central Aleutians Subduction Zone#3 (M9.2)	X	X
	Chile North Subduction Zone (M9.4)	X	X
	1960 Chile Earthquake (M9.3)	X	X
	1952 Kamchatka Earthquake (M9.0)	X	X
	1964 Alaska Earthquake (M9.2)	X	X
	Japan Subduction Zone #2 (M8.8)	X	X
Kuril Islands Subduction Zone #2 (M8.8)	X	X	
Kuril Islands Subduction Zone #3 (M8.8)	X	X	
Kuril Islands Subduction Zone #4 (M8.8)	X	X	



ASCE Tsunami Hazard Tool

ASCE Tsunami Design Geodatabase Version 2016-1.0



Enter Structure Information

Enter Location

ADDRESS

Find address or place

Select Criteria

Tsunami Risk Category

Measurements Customary SI

Select Data Type for Analysis

DATA POINTS	TRANSECT
<input type="text" value="A"/>	<input type="button" value="PLOT TRANSECT"/>
<input type="text" value="B"/>	<input type="button" value="PLOT TRANSECT"/>
<input type="text" value="C"/>	<input type="button" value="PLOT TRANSECT"/>

Add a Transect

All data are per the requirements of the ASCE/SEI 7 standard.

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

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Paul Tabatabaee
 BUILDINGS OFFICIAL

ENERGY GRADE LINE ANALYSIS
ASCE 7-16 Section 6.6

Inland Inundation Distance from Map, X_k (ft) = **916 ft**
 Manning's coefficient, Table 6.6-1, $n =$ **0.03**
 Runup Elevation from NAVD-88, R (ft) = **17.2 ft**
 50 Year Sea Level Change, S_{LC} (ft) = **0.88 ft**
 NAVD88 - MHW = **4.41 ft**
 $Z_{FF} =$ **12.5 ft**
 $X_{FF} =$ **90 ft**
 $h_{max} =$ **5.83 ft**
 $u_{max} =$ **11.67 ft/s**

From ASCE 7 Tsu Hazard Tool Transect

ASCE 7 Tsu Hazard Tool Map
 USACE 2013
 FF from NAVD-88
 Horiz. distance from NAVD-88 to FF

$g =$ 32.2 ft/s²
 $\alpha =$ 1.0
 $h_0 =$ 0.1 ft

Froude number specified at shoreline
 Assume non-zero depth $\ll 1$

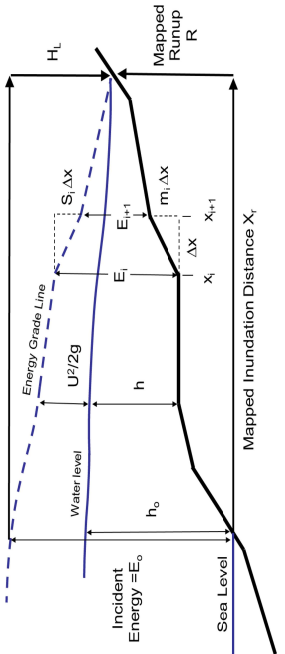


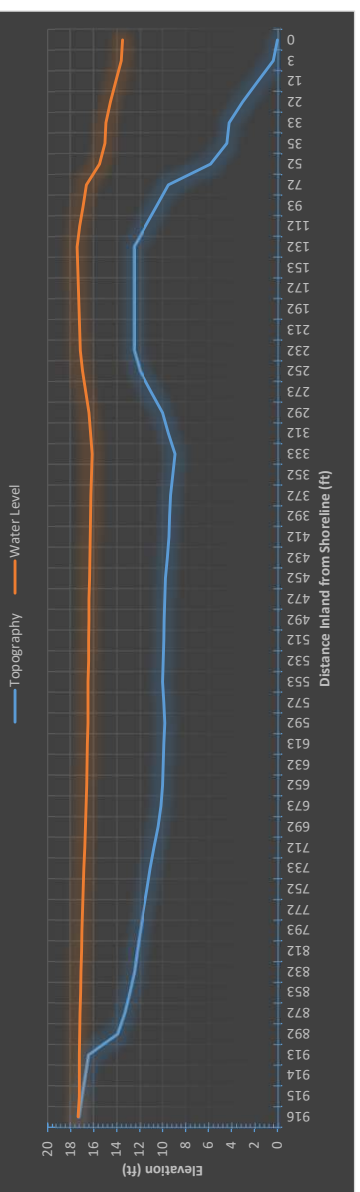
Figure 6.6-1 Energy Method for Overland Tsunami Flow Depth and Velocity

Transect Profile

input	x_i (ft)	z_i (ft)	slope increments Δx (ft)	Δz (ft)	slope ϕ	manning n_i	x/x_k	Froude F_{r_i}	friction s_i	energy head E_{g_i} (ft)	inundation depth h_i (ft)	fluid velocity u_i (ft/s)	u_{min} (ft/s)	inundation elevation $h_i + z_i$ (ft)
0	916	17.24				0.03	1.00	0.00000	0	0.00	0.10	0.00		17.34
1	915	16.97	1.07	0.27	0.2523	0.03	1.00	0.034179	0.000457481	0.27	0.27	0.10	10.00	17.24
2	914	16.69	1.08	0.28	0.2593	0.03	1.00	0.04845	0.000340041	0.55	0.55	0.20	10.00	17.24
3	913	16.42	1.07	0.27	0.2523	0.03	1.00	0.059292	0.000250217	0.82	0.82	0.30	10.00	17.24
4	892	13.94	20.36	2.48	0.1218	0.03	0.97	0.160451	0.001229949	3.33	3.28	1.65	10.00	17.22
5	872	13.33	20.37	0.61	0.0299	0.03	0.95	0.219054	0.000572215	3.95	3.86	2.44	10.00	17.19
6	853	12.89	19.3	0.44	0.0228	0.03	0.93	0.267786	0.000701438	4.40	4.25	3.08	10.00	17.14
7	832	12.48	20.37	0.41	0.0201	0.03	0.91	0.302153	0.00084034	4.83	4.62	3.68	10.00	17.10
8	812	12.23	20.37	0.25	0.0123	0.03	0.89	0.336951	0.000962845	5.10	4.82	4.20	10.00	17.05
9	793	11.98	19.29	0.25	0.0130	0.03	0.87	0.366875	0.001092583	5.37	5.03	4.67	10.00	17.01
10	772	11.67	20.37	0.31	0.0152	0.03	0.84	0.396026	0.001220883	5.70	5.29	5.17	10.00	16.96
11	752	11.37	20.37	0.3	0.0147	0.03	0.82	0.423175	0.001325841	6.03	5.54	5.65	10.00	16.91
12	733	11.09	19.29	0.28	0.0145	0.03	0.80	0.447367	0.001415878	6.34	5.76	6.09	10.00	16.85
13	712	10.75	20.37	0.34	0.0167	0.03	0.78	0.471569	0.001511406	6.71	6.04	6.58	10.00	16.79
14	692	10.4	20.37	0.35	0.0172	0.03	0.76	0.494588	0.001586556	7.09	6.32	7.05	10.00	16.72
15	673	10.15	19.3	0.25	0.0130	0.03	0.73	0.51545	0.001646636	7.37	6.51	7.46	10.00	16.66
16	652	10	20.36	0.15	0.0074	0.03	0.71	0.53658	0.00173232	7.56	6.61	7.83	10.00	16.61
17	632	9.96	20.37	0.04	0.0020	0.03	0.69	0.556918	0.001838249	7.64	6.61	8.13	10.00	16.57
18	613	9.88	19.3	0.08	0.0041	0.03	0.67	0.575526	0.001962116	7.75	6.65	8.42	10.00	16.53
19	592	9.79	20.37	0.09	0.0044	0.03	0.65	0.594533	0.002080839	7.89	6.70	8.73	10.00	16.49
20	572	9.89	20.36	-0.1	-0.0049	0.03	0.62	0.612943	0.002195316	7.83	6.59	8.93	10.00	16.48
21	553	10.01	19.3	-0.12	-0.0062	0.03	0.60	0.629897	0.00235687	7.76	6.47	9.09	10.00	16.48
22	532	9.94	20.37	0.07	0.0034	0.03	0.58	0.64731	0.002535177	7.88	6.51	9.37	10.00	16.45
23	512	9.89	20.37	0.05	0.0025	0.03	0.56	0.664267	0.002652906	7.98	6.54	9.64	10.00	16.43
24	492	9.86	19.29	0.03	0.0016	0.03	0.54	0.679935	0.002768521	8.07	6.55	9.88	10.00	16.41
25	472	9.82	20.37	0.04	0.0020	0.03	0.52	0.696097	0.002896471	8.16	6.57	10.13	10.13	16.39
26	452	9.74	20.37	0.08	0.0039	0.03	0.49	0.711893	0.00301971	8.31	6.63	10.40	10.40	16.37
27	432	9.59	19.29	0.15	0.0078	0.03	0.47	0.728534	0.003119289	8.52	6.74	10.70	10.70	16.33
28	412	9.45	20.37	0.14	0.0069	0.03	0.45	0.741682	0.003197126	8.72	6.84	11.01	11.01	16.29
29	392	9.39	20.37	0.06	0.0029	0.03	0.43	0.756526	0.003276724	8.85	6.88	11.26	11.26	16.27
30	372	9.3	19.3	0.09	0.0047	0.03	0.41	0.770327	0.003377902	9.00	6.94	11.52	11.52	16.24
31	352	9.11	20.36	0.19	0.0093	0.03	0.38	0.784622	0.003472244	9.26	7.08	11.85	11.85	16.19
32	333	8.91	19.3	0.2	0.0104	0.03	0.36	0.797937	0.003519949	9.53	7.23	12.18	12.18	16.14
33	312	8.5	20.37	-0.59	-0.0290	0.03	0.34	0.811754	0.003569022	9.01	6.78	11.99	11.99	16.28
34	292	10	20.37	-0.5	-0.0245	0.03	0.32	0.825339	0.003934106	8.59	6.41	11.86	11.86	16.41
35	273	8.1	19.29	-1	-0.0518	0.03	0.30	0.838	0.004289449	7.68	5.68	11.34	11.34	16.68
36	252	12	20.37	-1	-0.0491	0.03	0.28	0.851167	0.004992917	6.78	4.98	10.77	10.77	16.98
37	232	12.5	20.37	-0.5	-0.0245	0.03	0.25	0.864132	0.005876067	6.40	4.66	10.58	10.58	17.16
38	213	12.5	19.3	0	0.0000	0.03	0.23	0.87624	0.006453223	6.52	4.71	10.80	10.80	17.21
39	192	12.5	20.36	0	0.0000	0.03	0.21	0.888834	0.006563247	6.66	4.77	11.02	11.02	17.27
40	172	12.5	20.37	0	0.0000	0.03	0.19	0.901258	0.006665662	6.79	4.83	11.24	11.24	17.33
41	153	12.5	19.3	0	0.0000	0.03	0.17	0.912873	0.006755309	6.92	4.89	11.45	11.45	17.39
42	132	12.5	20.37	0	0.0000	0.03	0.14	0.924974	0.006855971	7.06	4.95	11.67	11.67	17.45
43	112	11.5	20.36	1	0.0491	0.03	0.12	0.936913	0.006949131	8.20	5.70	12.69	12.69	17.20
44	93	10.5	19.3	1	0.0518	0.03	0.10	0.948092	0.006173575	9.32	6.43	13.64	13.64	16.93
45	72	9.5	20.37	1	0.0491	0.03	0.08	0.959749	0.005607698	10.44	7.15	14.56	14.56	16.65
46	52	5.83	20.37	3.67	0.1802	0.03	0.06	0.971266	0.005169372	14.21	9.66	17.13	17.13	15.49
47	35	4.4	17.15	1.43	0.0834	0.03	0.04	0.980858	0.003901095	15.71	10.61	18.13	18.13	15.01

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Topography vs. Energy Method



Building&Safety: OCPW&ZarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

County of Orange - OC Public Works
 OC Development Services
APPROVED

This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works - OC Development Services of Orange County. The filing of these plan specifications SHALL NOT be held to permit or be an approval of the violation of any provisions of any County Ordinance or State law.

Hadi Tabatabaee
 BUILDING OFFICIAL

48	33	4.21	2.14	0.19	0.0888	0.03	0.04	0.982048	0.00356046	15.91	10.73	18.26	18.26	19.02	14.94
49	22	3.03	10.72	1.18	0.1101	0.03	0.02	0.987989	0.003561709	17.13	11.51	19.02	19.02	19.02	14.54
50	12	1.7	9.65	1.33	0.1378	0.03	0.01	0.993307	0.00335727	18.49	12.38	19.83	19.83	19.83	14.08
51	3	0.37	9.65	1.33	0.1378	0.03	0.00	0.998596	0.003154206	19.85	13.24	20.62	20.62	20.62	13.61
52	0	0	2.57	0.37	0.1440	0.03	0.00	1	0.002956674	20.23	13.48	20.84	20.84	20.84	13.48
53	-1	-0.09	0.64	0.09	0.1406	0.03	0.00	1.000349	0.002906222	20.32	13.54	20.89	20.89	20.89	13.45
54	-2	-0.24	1.08	0.15	0.1389	0.03	0.00	1.000939	0.002897166	20.47	13.64	20.98	20.98	20.98	13.40
55	-3	-0.3	1.07	0.06	0.0561	0.03	0.00	1.001522	0.002879979	20.53	13.68	21.02	21.02	21.02	13.38
56	-4	-0.31	1.07	0.01	0.0093	0.03	0.00	1.002105	0.002875594	20.55	13.68	21.03	21.03	21.03	13.37
57	-5	-0.31	1.07	0	0.0000	0.03	-0.01	1.002688	0.002878227	20.55	13.68	21.04	21.04	21.04	13.37
58	-6	-0.32	1.07	0.01	0.0093	0.03	-0.01	1.00327	0.002882259	20.56	13.68	21.06	21.06	21.06	13.36
59	-7	-0.33	1.08	0.01	0.0093	0.03	-0.01	1.003858	0.002884921	20.58	13.68	21.07	21.07	21.07	13.35
60	-8	-0.35	1.07	0.02	0.0187	0.03	-0.01	1.004439	0.002887556	20.60	13.69	21.09	21.09	21.09	13.34
61	-9	-0.36	1.07	0.01	0.0093	0.03	-0.01	1.005021	0.002888781	20.61	13.70	21.11	21.11	21.11	13.34

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



ENERGY GRADE LINE ANALYSIS
ASCE 7-16 Section 6.6

Inland Inundation Distance from Map, X_k (ft) = **327** ft
 From ASCE 7 Tsu Hazard Tool Transsect

Manning's coefficient, Table 6.6-1, $n =$ **0.025**
 From ASCE 7 Tsu Hazard Tool Map
 USACE 2013

Runup Elevation from NAVD-88, R (ft) = **16.3** ft
 50 Year Sea Level Change, SIC (ft) = **0.88** ft
 NAVD88 - MHW = **4.41** ft
 $Z_{FF} =$ **12.5** ft
 $X_{FF} =$ **90** ft
 $h_{max} =$ **4.69** ft
 $U_{max} =$ **10.00** ft/s

FF from NAVD-88
 Horiz. distance from NAVD-88 to FF

$g =$ 32.2 ft/s²
 $\alpha =$ 1.0
 $h_0 =$ 0.1 ft

Froude number specified at shoreline
 Assume non-zero depth $\ll 1$

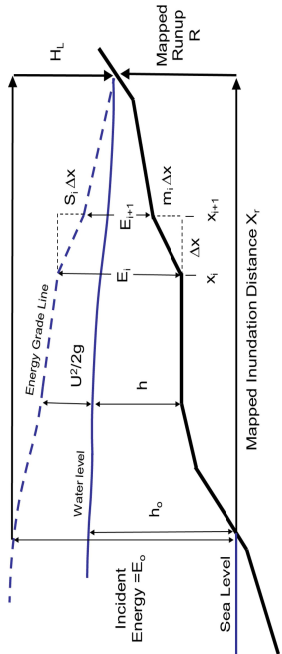
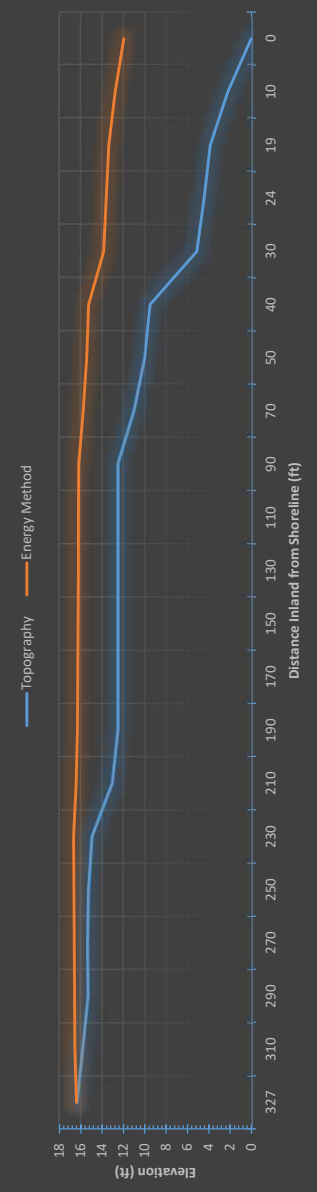


Figure 6.6-1 Energy Method for Overland Tsunami Flow Depth and Velocity

Topography vs. Energy Method



Transect Profile

input	x_i (ft)	z_i (ft)	slope increments Δx (ft)	Δz (ft)	slope ϕ	manning n_i	x/x_k	Froude F_{ri}	friction s_i	energy head E_{gi} (ft)	inundation depth h_i (ft)	fluid velocity u_i (ft/s)	u_{min} (ft/s)	inundation elevation $h_i + z_i$ (ft)
	0	16.31				0.025	1.00	0.0000	0	0.00	0.10	0.00		16.41
1	310	15.79	17.51	0.52	0.0297	0.025	0.95	0.231304	0.014549608	0.77	0.75	1.14	10.00	16.54
2	290	15.28	20.24	0.51	0.0252	0.025	0.88	0.339624	0.00415698	1.37	1.29	2.19	10.00	16.57
3	270	15.33	19.46	-0.05	-0.0026	0.025	0.83	0.418096	0.00367296	1.39	1.28	2.68	10.00	16.61
4	250	15.23	19.84	0.1	0.0050	0.025	0.76	0.485206	0.005007207	1.59	1.42	3.28	10.00	16.65
5	230	14.92	20.24	0.31	0.0153	0.025	0.70	0.545223	0.005683855	2.01	1.75	4.10	10.00	16.67
6	210	13.02	20.24	1.9	0.0939	0.025	0.64	0.599259	0.005567652	4.03	3.41	6.28	10.00	16.43
7	190	12.5	19.84	0.52	0.0262	0.025	0.58	0.647868	0.003343069	4.61	3.81	7.18	10.00	16.31
8	170	12.5	20.24	0	0.0000	0.025	0.52	0.693956	0.003434232	4.68	3.77	7.65	10.00	16.27
9	150	12.5	19.85	0	0.0000	0.025	0.46	0.736361	0.003906722	4.76	3.75	8.09	10.00	16.25
10	130	12.5	19.85	0	0.0000	0.025	0.40	0.776452	0.004377393	4.85	3.72	8.50	10.00	16.22
11	110	12.5	20.23	0	0.0000	0.025	0.34	0.815286	0.004852775	4.95	3.71	8.91	10.00	16.21
12	90	12.5	19.85	0	0.0000	0.025	0.27	0.85167	0.005313728	5.05	3.71	9.30	10.00	16.21
13	70	8	19.85	1.5	0.0756	0.025	0.21	0.886563	0.005766139	6.67	4.79	11.00	11.00	15.79
14	50	10	19.84	1	0.0504	0.025	0.15	0.920117	0.004811134	7.76	5.45	12.19	12.19	15.45
15	40	8.5	10.12	0.5	0.0494	0.025	0.12	0.936769	0.004376373	8.31	5.77	12.77	12.77	15.27
16	30	5.1	10.12	4.4	0.4348	0.025	0.09	0.95313	0.004279669	12.75	8.77	16.01	16.01	13.87
17	24	4.42	5.84	0.68	0.1164	0.025	0.07	0.962446	0.002873409	13.45	9.19	16.56	16.56	13.61
18	19	3.86	4.67	0.56	0.1199	0.025	0.06	0.96983	0.002783446	14.02	9.53	16.99	16.99	13.39
19	10	2.21	9.34	1.65	0.1767	0.025	0.03	0.984433	0.00276409	15.69	10.57	18.16	18.16	12.78
20	0	0.01	10.11	2.2	0.2176	0.025	0.00	1	0.002572372	17.92	11.95	19.61	19.61	11.96
21	-10	-2.13	10.12	2.14	0.2115	0.025	-0.03	1.015343	0.002346668	20.08	13.25	20.97	20.97	11.12

SITE

SEAWALL

SITE

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Building&Safety: OCPWazarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



STRUCTURAL DESIGN PROCEDURES FOR TSUNAMI EFFECTS

ASCE 7-16 SECTION 6.8

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

$h_{max} =$	5.83 ft	EGLA	maximum site inundation depth
$u_{max} =$	11.67 ft/s	EGLA	maximum site flow velocity
$\gamma_{sw} =$	64.0 lb/ft ³	6.8.4	effective weight density of sea water
$\rho_{sw} =$	2.0 sl/ft ³	6.8.4	effective mass density of sea water
$k_s =$	1.1	6.8.4	fluid density factor to account for micro-debris
$l_{tsu} =$	1.25	T6.8-1	tsunami importance factor
$\gamma_s = k_s \gamma_{sw} =$	70.4 lb/ft ³	(6.8-4)	fluid weight density
$\rho_s = k_s \rho_{sw} =$	2.2 sl/ft ³	(6.8-5)	fluid mass density



6.8.3.1 Load Cases

Load Case 1

The minimum condition of combined hydrodynamic force with buoyant force shall be evaluated with respect to the depth of water in the interior.

Interior water depth: 6.9.1 Buoyancy

Uplift caused by buoyancy shall include enclosed spaces without tsunami breakaway walls that have opening area less than 25% of the inundated exterior wall area.

The volumetric displacement of foundation elements, excluding deep foundations, shall be included in this calculation of uplift.

$$F_v = \gamma_s V_w \quad (6.9-1)$$

*This is mitigated by soil improvement methods per geotechnical engineer.

Load Case 2

Depth at 2/3 of max inundation depth when max velocity and max specific momentum flux shall be assumed to occur in either incoming or receding directions.

Figure 6.8-1

Load Case 3

Maximum inundation depth when velocity shall be assumed at 1/3 of maximum in either incoming or receding directions.

Figure 6.8-1

6.8.3.3 Load Combinations

$$0.9D + F_{TSU} + H_{TSU} \quad (6.8-1a)$$

$$1.2D + F_{TSU} + 0.5L + 0.2S + H_T \quad (6.8-1b)$$

6.8.6 Directionality of Flow

The principal inflow direction shall be assumed to vary by **±22.5 degrees** from the transect perpendicular to the orientation of the shoreline averaged over 500 ft to either side of the site.

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6.8.7 Minimum Closure Ratio for Load Determination

Minimum closure ratio of **70%** of the inundated project area along the perimeter of the structure.

6.9 HYDROSTATIC LOADS

$$F_v = \gamma_s V_w \quad (6.9-1) \text{ buoyancy}$$

$$F_h = 0.5 \gamma_s b h_{max}^2 \quad (6.9-2) \text{ unbalanced lateral hydrostatic force}$$

$$p_r = \gamma_s h_r \quad (6.9-3) \text{ residual water surcharge load on floors and walls}$$

$$h_r = h_{max} - h_s$$

$$p_s = \gamma_s h_{max} \quad (6.9-3) \text{ surcharge pressure on foundation}$$

$$p_s = \boxed{410.2} \text{ psf}$$

6.10 HYDRODYNAMIC LOADS

BUILDING 6 LOADING SUMMARY

$$p_{uw} = 1.25 I_{tsu} \gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = \boxed{5.83} \text{ ft}$$

$$p_{uw} = \boxed{641} \text{ psf}$$

$$h_{applied} = \boxed{7.57} \text{ ft}$$

6.8.7 Closure Ratio = 0.7

$$w = \boxed{148} \text{ ft} \quad \text{building width perpendicular to inflow/outflow}$$

$$V_{TSU} = \boxed{503} \text{ kips} \quad \text{total tsunami base shear for inflow/outflow direction}$$

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 900 \text{ kips}$$

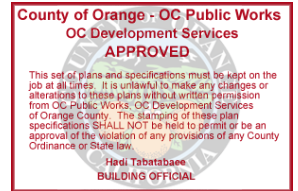
$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 1688 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

Building&Safety: OCPWazarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



BUILDING 7 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu}\gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 5.83 \text{ ft}$$

$$p_{uw} = 641 \text{ psf}$$

$$h_{applied} = 7.58 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

w = 120 ft

building width perpendicular to inflow/outflow

$V_{TSU} = 408$ kips

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 879 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 1648 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

BUILDING 8 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu}\gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 5.43 \text{ ft}$$

$$p_{uw} = 597 \text{ psf}$$

$$h_{applied} = 7.06 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

w = 125 ft

building width perpendicular to inflow/outflow

$V_{TSU} = 369$ kips

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 978 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 1834 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

Building&Safety: OCPWazarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



BUILDING 9 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu}\gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 5.43 \text{ ft}$$

$$p_{uw} = 597 \text{ psf}$$

$$h_{applied} = 7.06 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

$$w = 140 \text{ ft}$$

building width perpendicular to inflow/outflow

$$V_{TSU} = 413 \text{ kips}$$

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 905 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 1697 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

BUILDING 10 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu}\gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 4.59 \text{ ft}$$

$$p_{uw} = 505 \text{ psf}$$

$$h_{applied} = 5.97 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

$$w = 111 \text{ ft}$$

building width perpendicular to inflow/outflow

$$V_{TSU} = 234 \text{ kips}$$

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 158 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 296 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

Building&Safety: OCPWArvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



BUILDING 11 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu} \gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 4.59 \text{ ft}$$

$$p_{uw} = 505 \text{ psf}$$

$$h_{applied} = 5.97 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

$$w = 125 \text{ ft}$$

building width perpendicular to inflow/outflow

$$V_{TSU} = 264 \text{ kips}$$

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 168 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 315 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

BUILDING 12 LOADING SUMMARY

$$p_{uw} = 1.25I_{tsu} \gamma_s h_{max} \quad (6.10-1)$$

$$h_{max} = 4.69 \text{ ft}$$

$$p_{uw} = 516 \text{ psf}$$

$$h_{applied} = 6.10 \text{ ft}$$

6.8.7 Closure Ratio = 0.7

$$w = 98 \text{ ft}$$

building width perpendicular to inflow/outflow

$$V_{TSU} = 216 \text{ kips}$$

total tsunami base shear for inflow/outflow direction

6.8.3.4 LFRS Acceptance Criteria Check

$$V_{EQ} = 228 \text{ kips}$$

$$\Omega_o = 2.5$$

$$0.75(\Omega_o)V_{EQ} = 428 \text{ kips}$$

SEISMIC GOVERNS LFRS DESIGN

Building&Safety: OCPWazarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



6.11 DEBRIS IMPACT LOADS

6.11.2 Wood Logs and Poles

$$F_{ni} = u_{max} \sqrt{k m_d} \quad (6.11-2)$$

$$k_{min} = 350 \text{ kip/in}$$

$$m_{dmin} = 1000 \text{ lbs}$$

$$F_{ni} = 6906 \text{ lbs}$$

$$F_i = I_{tsu} C_o F_{ni} R_{max} \quad (6.11-3)$$

$$F_i = 8.42 \text{ kips}$$

$$h_{applied} = 5.83 \text{ ft}$$

6.11.3 Impact by Vehicles

$$F_i = 37.5 \text{ kips}$$

$$h_{applied} = 5.83 \text{ ft}$$

6.11.4 Impact by Submerged Tumbling Boulder and Concrete Debris

$$F_i = 10.0 \text{ kips} \quad \text{*only when } h_{max} > 6'-0"$$

$$h_{applied} = 2.00 \text{ ft}$$

6.12 FOUNDATION DESIGN

$$\phi = 0.67$$

*to be applied to all foundation element capacities, including anchorage **resisting uplift from tsunami loading only.**

6.12.2.1 Uplift and Underseepage Forces

Uplift and underseepage must be considered for cases where

- soil expected to be saturated before tsunami
- soil saturation is anticipated to occur over course of tsunami event

c. the area of concern is expected to remain inundated after the tsunami

6.12.2.2 Loss of Strength

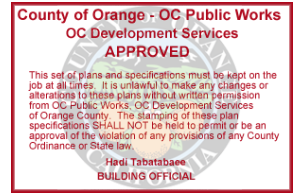
Loss of shear strength shall be accounted for up to a depth of 1.2 times the maximum inundation depth.

7.0 ft (1.2xh) from top of general site erosion

*This is mitigated by soil improvement methods per geotechnical engineer.

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



6.12.2.3 General Erosion

General erosion must be considered and determined by civil and geotechnical engineer.

*This is mitigated by soil improvement methods per geotechnical engineer.

6.12.2.4 Scour

Sustained flow scour depth, D

D = 1.2h Table 6.12-1

D = **7.0** ft

*This is mitigated by soil improvement methods per geotechnical engineer.

Transect	Latitude	Longitude	Transect Distance(ft.)	Elevation MHW (ft.)	Transect Distance from NAVD-88 (ft.)	Elevation NAVD-88(ft.)
C Transect	33.46244	-117.69211	925.14	12.82	915.92	17.24 RUNUP
C Transect	33.46243	-117.69211	924.07	12.55	914.85	16.97
C Transect	33.46243	-117.69211	922.99	12.27	913.77	16.69
C Transect	33.46243	-117.69211	921.92	12	912.7	16.42
C Transect	33.46237	-117.69213	901.56	9.52	892.34	13.94
C Transect	33.46232	-117.69214	881.19	8.91	871.97	13.33
C Transect	33.46227	-117.69216	861.89	8.47	852.67	12.89
C Transect	33.46222	-117.69218	841.52	8.06	832.3	12.48
C Transect	33.46216	-117.69219	821.15	7.81	811.93	12.07
C Transect	33.46211	-117.69221	801.86	7.56	792.64	11.98
C Transect	33.46206	-117.69223	781.49	7.25	772.27	11.89
C Transect	33.462	-117.69224	761.12	6.95	751.9	11.80
C Transect	33.46195	-117.69226	741.83	6.67	732.61	11.71
C Transect	33.4619	-117.69228	721.46	6.33	712.24	11.62
C Transect	33.46184	-117.69229	701.09	5.98	691.87	11.53
C Transect	33.46179	-117.69231	681.79	5.73	672.57	11.44
C Transect	33.46174	-117.69233	661.43	5.58	652.21	11.35
C Transect	33.46168	-117.69235	641.06	5.54	631.84	11.26
C Transect	33.46163	-117.69236	621.76	5.46	612.54	11.17
C Transect	33.46158	-117.69238	601.39	5.37	592.17	11.08
C Transect	33.46152	-117.6924	581.03	5.47	571.81	10.99
C Transect	33.46147	-117.69241	561.73	5.59	552.51	10.90
C Transect	33.46142	-117.69243	541.36	5.52	532.14	10.81
C Transect	33.46136	-117.69245	520.99	5.47	511.77	10.72
C Transect	33.46131	-117.69246	501.7	5.44	492.48	10.63
C Transect	33.46126	-117.69248	481.33	5.4	472.11	10.54
C Transect	33.46121	-117.6925	460.96	5.32	451.74	10.45
C Transect	33.46115	-117.69251	441.67	5.17	432.45	10.36
C Transect	33.4611	-117.69253	421.3	5.03	412.08	10.27
C Transect	33.46105	-117.69255	400.93	4.97	391.71	10.18
C Transect	33.46099	-117.69257	381.63	4.88	372.41	10.09
C Transect	33.46094	-117.69258	361.27	4.69	352.05	9.99
C Transect	33.46089	-117.6926	341.97	4.49	332.75	9.90
C Transect	33.46084	-117.69262	321.6	4.32	312.38	9.81
C Transect	33.46078	-117.69263	301.23	4.54	292.01	9.72
C Transect	33.46073	-117.69265	281.94	4.59	272.72	9.63
C Transect	33.46068	-117.69267	261.57	4.17	252.35	9.54
C Transect	33.46062	-117.69268	241.2	3.82	231.98	9.45
C Transect	33.46057	-117.6927	221.9	3.67	212.68	9.36
C Transect	33.46052	-117.69272	201.54	3.59	192.32	9.27
C Transect	33.46046	-117.69273	181.17	3.48	171.95	9.18
C Transect	33.46041	-117.69275	161.87	3.28	152.65	9.09
C Transect	33.46036	-117.69277	141.5	3.07	132.28	9.00
C Transect	33.4603	-117.69279	121.14	2.96	111.92	8.91
C Transect	33.46025	-117.6928	101.84	2.82	92.62	8.82
C Transect	33.4602	-117.69282	81.47	2.61	72.25	8.73
C Transect	33.46014	-117.69284	61.1	1.41	51.88	8.64
C Transect	33.4601	-117.69285	43.95	-0.02	34.73	8.55
C Transect	33.46009	-117.69285	41.81	-0.21	32.59	8.46
C Transect	33.46006	-117.69286	31.09	-1.39	21.87	8.37
C Transect	33.46004	-117.69287	21.44	-2.72	12.22	8.28
C Transect	33.46001	-117.69288	11.79	-4.05	2.57	8.19
C Transect	33.46001	-117.69288	9.22	-4.42	0	8.10
C Transect	33.46	-117.69288	8.58	-4.51	-0.64	8.01
C Transect	33.46	-117.69288	7.5	-4.66	-1.72	7.92
C Transect	33.46	-117.69288	6.43	-4.72	-2.79	7.83
C Transect	33.46	-117.69288	5.36	-4.73	-3.86	7.74
C Transect	33.45999	-117.69288	4.29	-4.73	-4.93	7.65
C Transect	33.45999	-117.69289	3.22	-4.74	-6	7.56
C Transect	33.45999	-117.69289	2.14	-4.75	-7.08	7.47
C Transect	33.45998	-117.69289	1.07	-4.77	-8.15	7.38
C Transect	33.45998	-117.69289	0	-4.78	-9.22	7.29

Building & Safety: OCPW/AzarvandB 12/29/2025

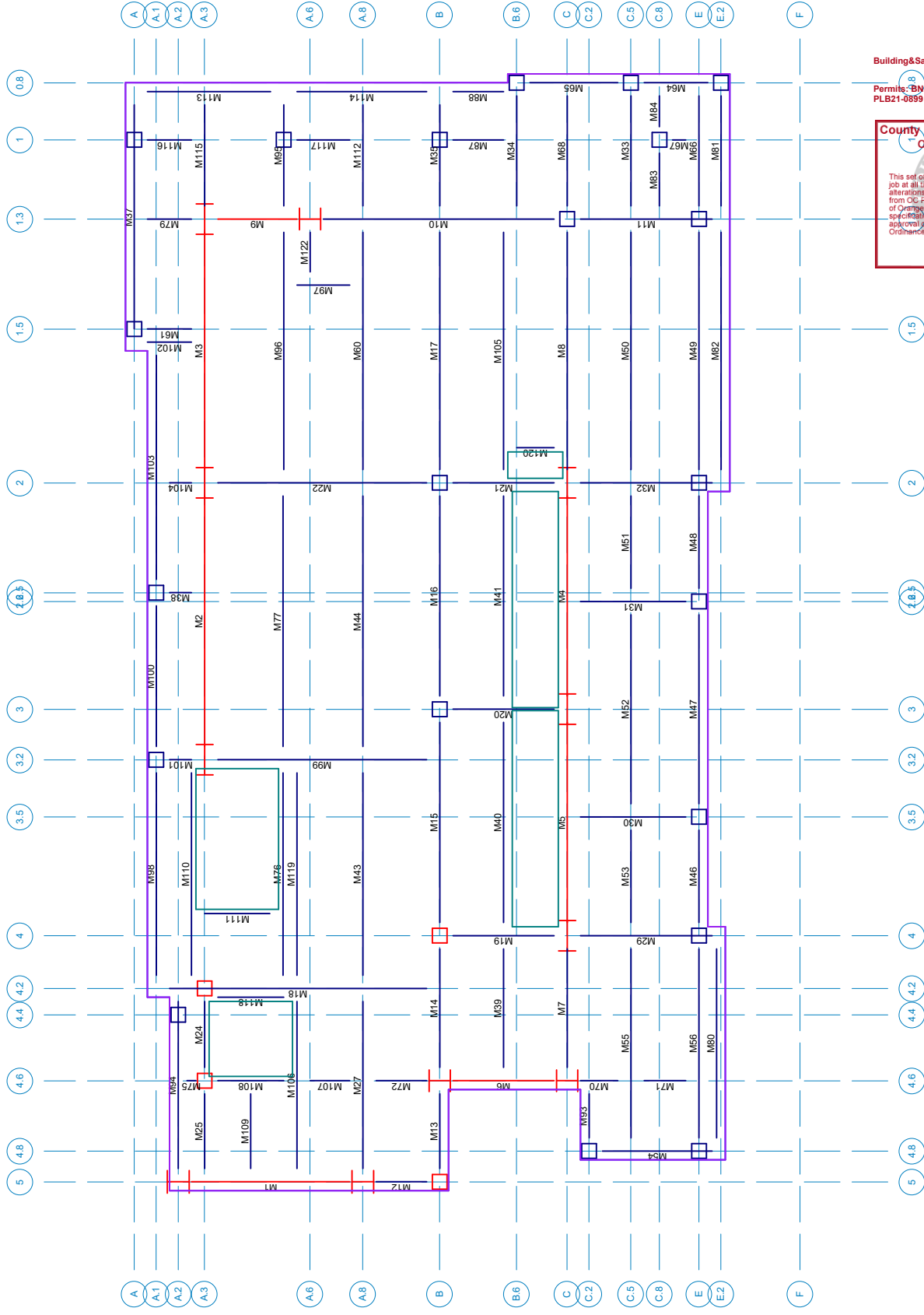
Permits: BNR21-0333 ELE21-0852, MEC21-0513, PLB21-0899



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B GRAVITY DESIGN

B1/27



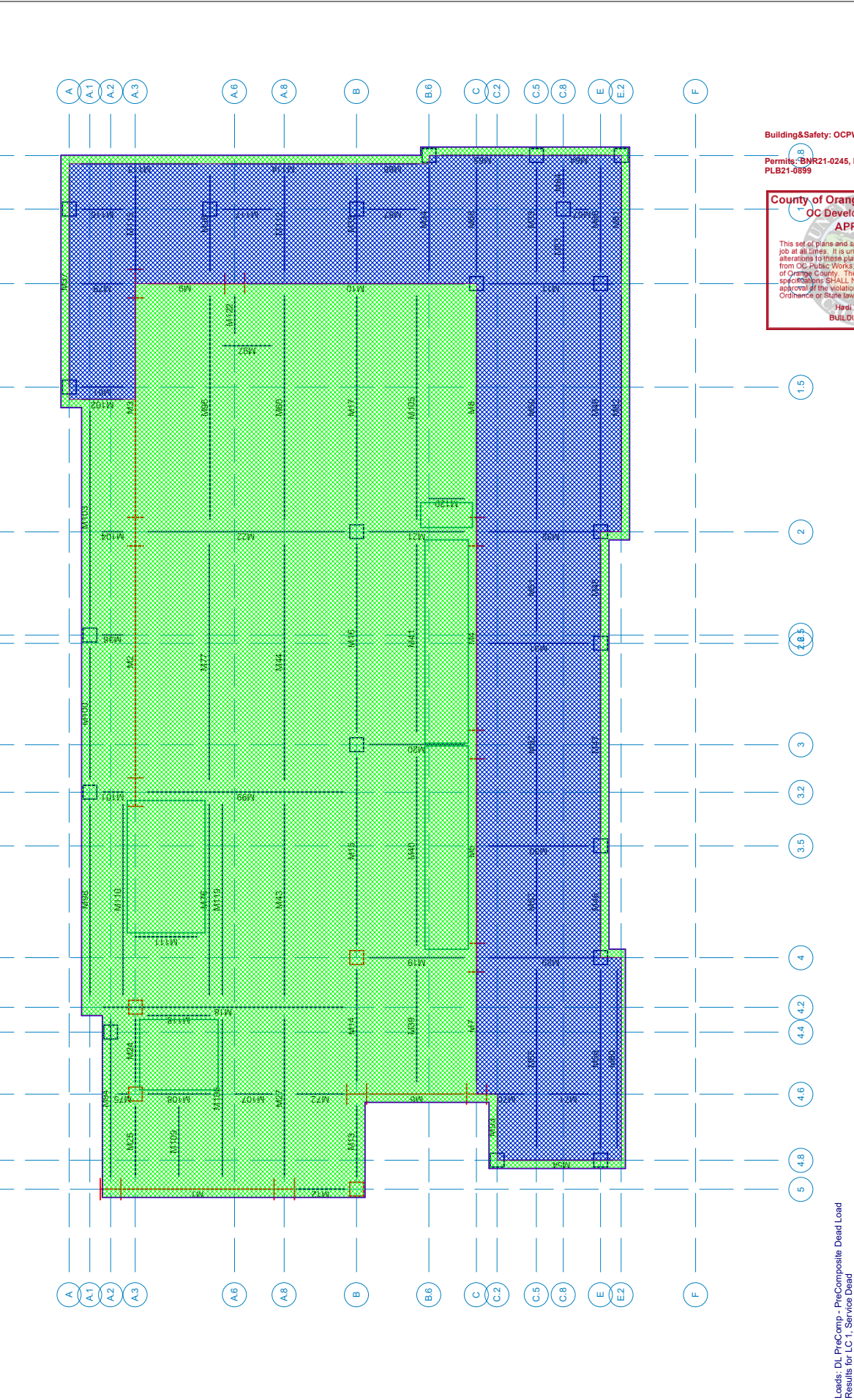
Building & Safety: OCPW Azarvan B
Permits: BNR21-0245, ELE21-0862, OC21-0513, PLB21-0899

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Head, Technical Services
BUILDINGS DIVISION

SK 1	Floor	May 20 2021 7:06 PM
SH	Dana Point Harbor_Bld'g. 11	2021-03-10_Bldg 11
1900799	DPH - BD11 - Floor Framing Legend	

Loads: DL, PreComp - PreComposite Dead Load
Results for LC 1, Service Dead

B2/27
 Area Load w/ Default
 Lateral Gravity
 E Balcony
 F Roof
 G MEP

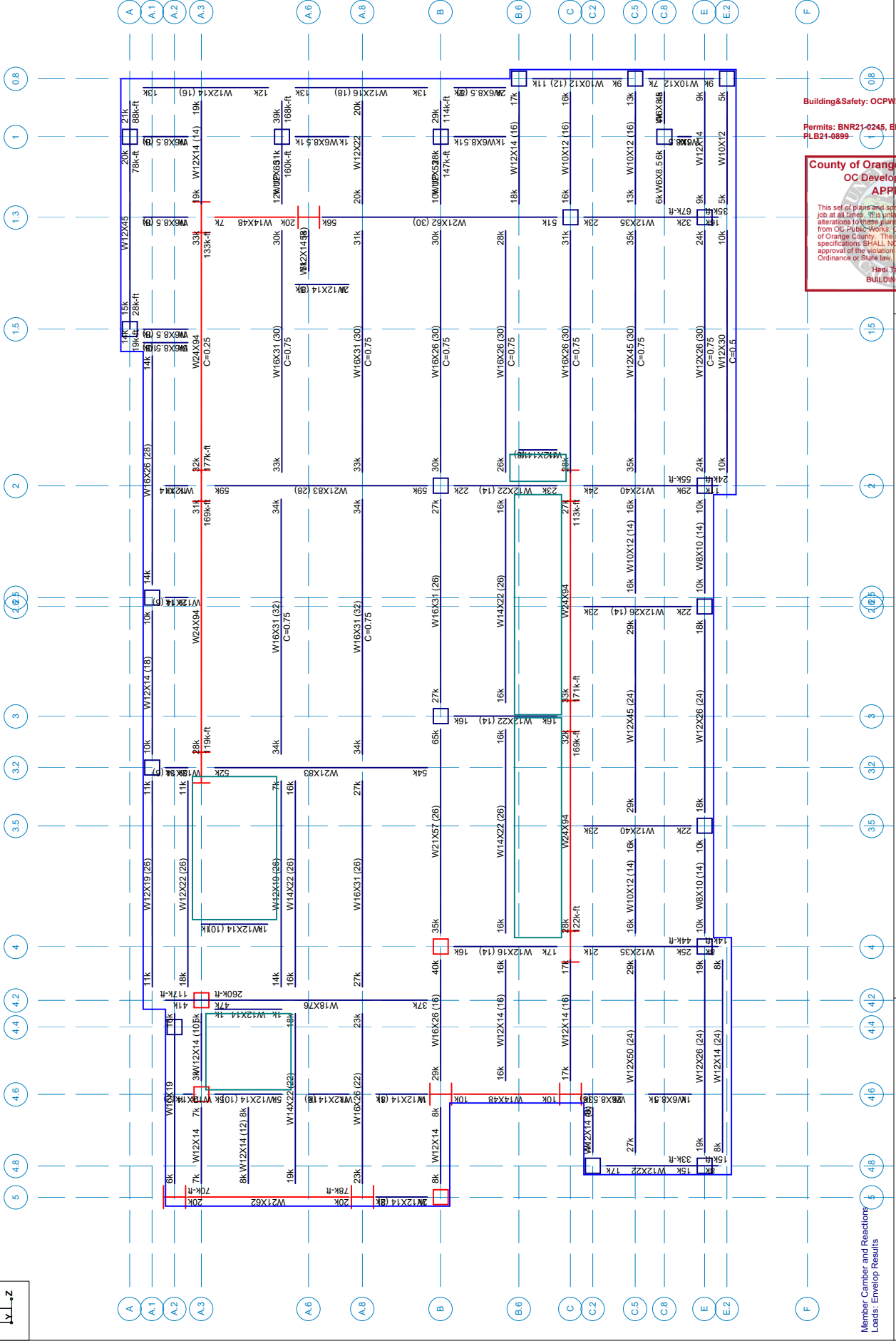


Building & Safety: OCPW Azarvan B
 12/29/2025
 Permits: BMR21-0245, ELE21-0862, PC21-0513, PLB21-0899

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KPFF	Floor	SK	May 20 2021 7:08 PM
SH	Dana Point Harbor_Bld'g. 11	SK	2021-03-10_Bldg 11
1900799	DPH - BD11 - Floor Loading		

Loads: DL, PreComp - PreComposite Dead Load
 Results for LC 1, Service Dead



Building & Safety: OCPW Azarvan B 12/29/2025
 Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB21-0899

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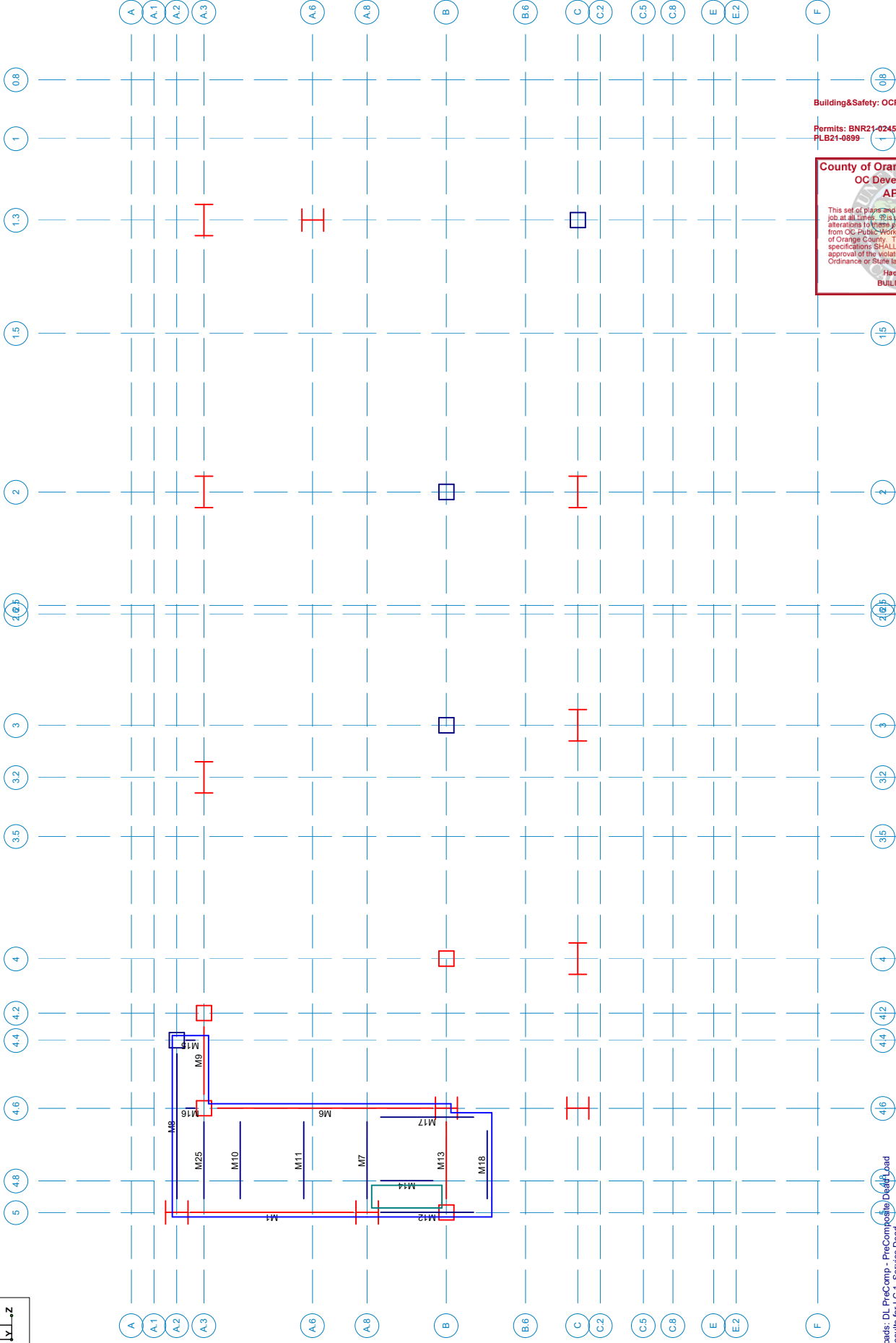
Head, Technical Services
 BUILDING & SAFETY

SK 3
 May 2 2021 7:11 PM
 2021-03-10_Bldg 11

Floor
 Dana Point Harbor_Bld'g. 11
 DPH - BD11 - Floor Design Results

KPFF
 SH
 1900799

Member Camber and Reactions
 Leads: Envelop Results



Building&Safety: OCPW Azarvan B 12/29/2025
 Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB21-0899

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 OC Development Services
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Head, Technical Services
 BUILDING DEPARTMENT

SK 4	Low Roof
May 20 2021 7:13 PM	Dana Point Harbor_Bld'g. 11
2021-03-10 Bldg 11	DPH - BD11 - Low Roof Member Legend

Leads: DL, PreComp - PreComposite, Deft Lead
 Results for LC 1, Service Dead

KPFF

SH

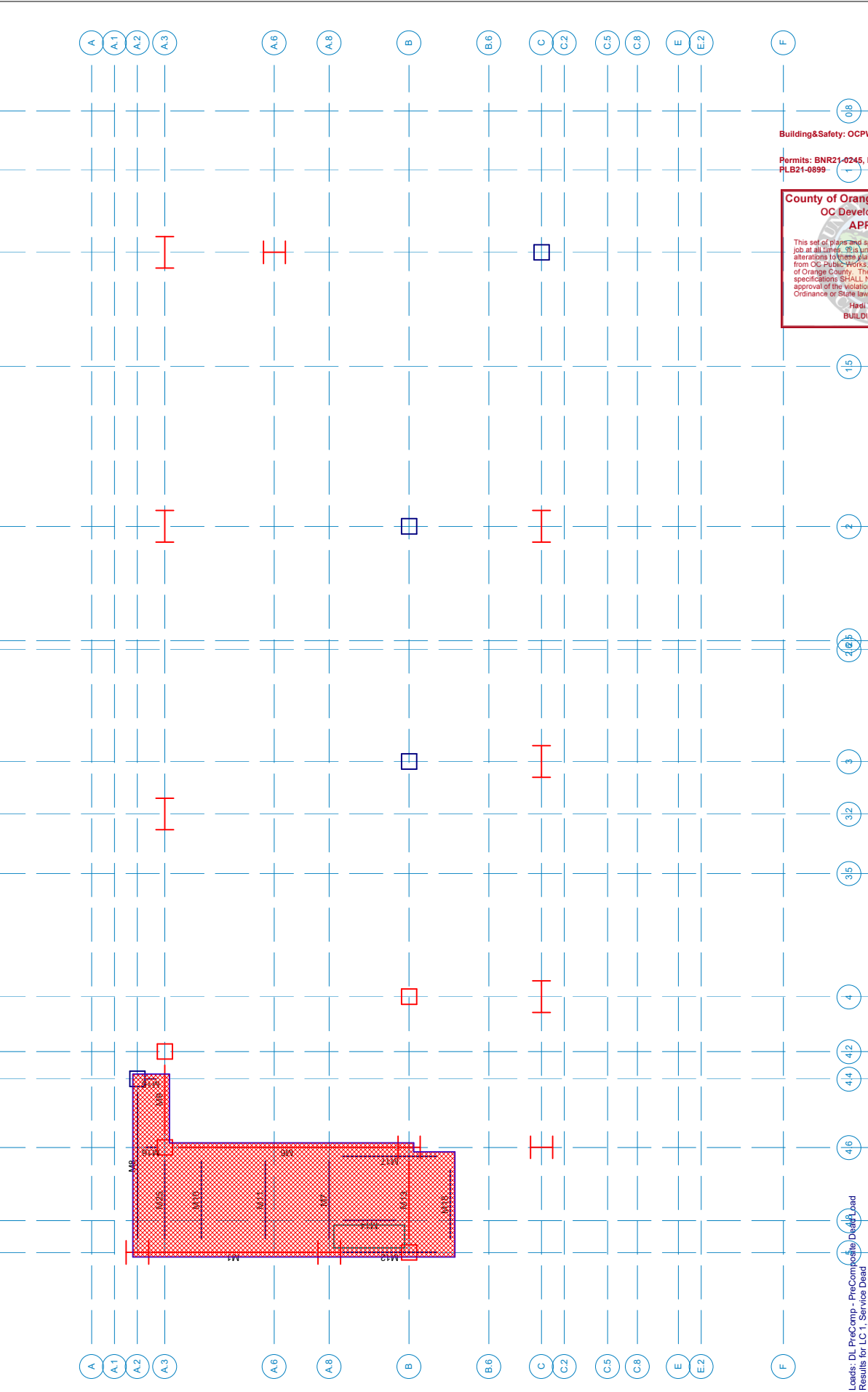
1900799

B5/27

Area Load w/ Default



Lateral Gravity



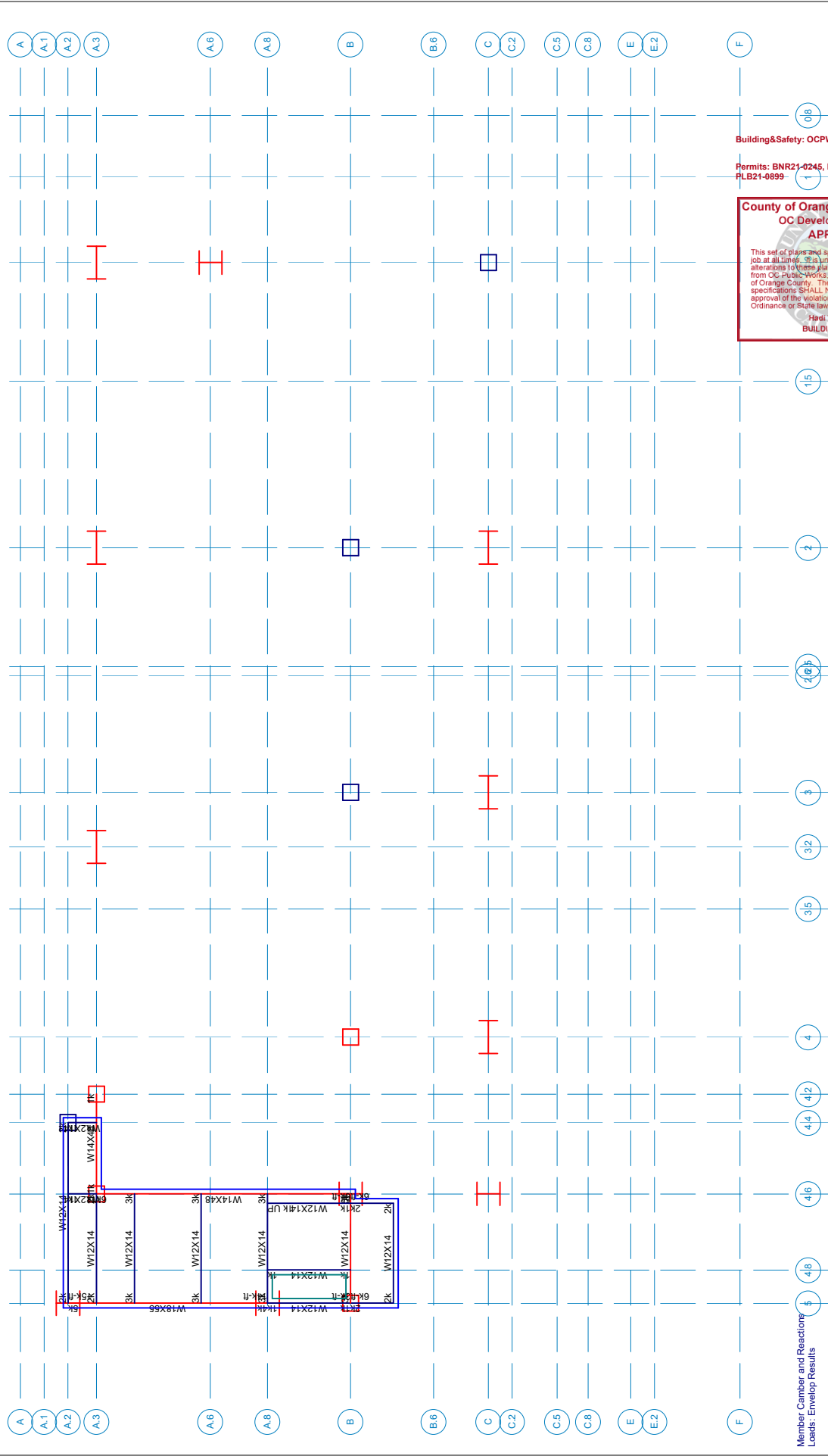
Building & Safety: OCPW Azarvan B
 Permits: BNR21-0245, ELE21-0862, MC21-0513, PLB21-0899
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 Head, Technical Services
 BUILDING OFFICIAL
 May 20 2021 7:14 PM
 2021-03-10_Bldg 11

SK 5
 Low Roof
 Dana Point Harbor_Bld'g. 11
 DPH - BD11 - Area Loading

Leads: DL-PreComp - PreComposite Deck Load Results for LC 1, Service Dead

KPFF
 SH
 1900799

B6/27
Area Load
As Applied



Building&Safety: OCPW/Azarvan/B
Permits: BNR21-0245, ELE21-0862, MCC21-0513, PLB21-0899

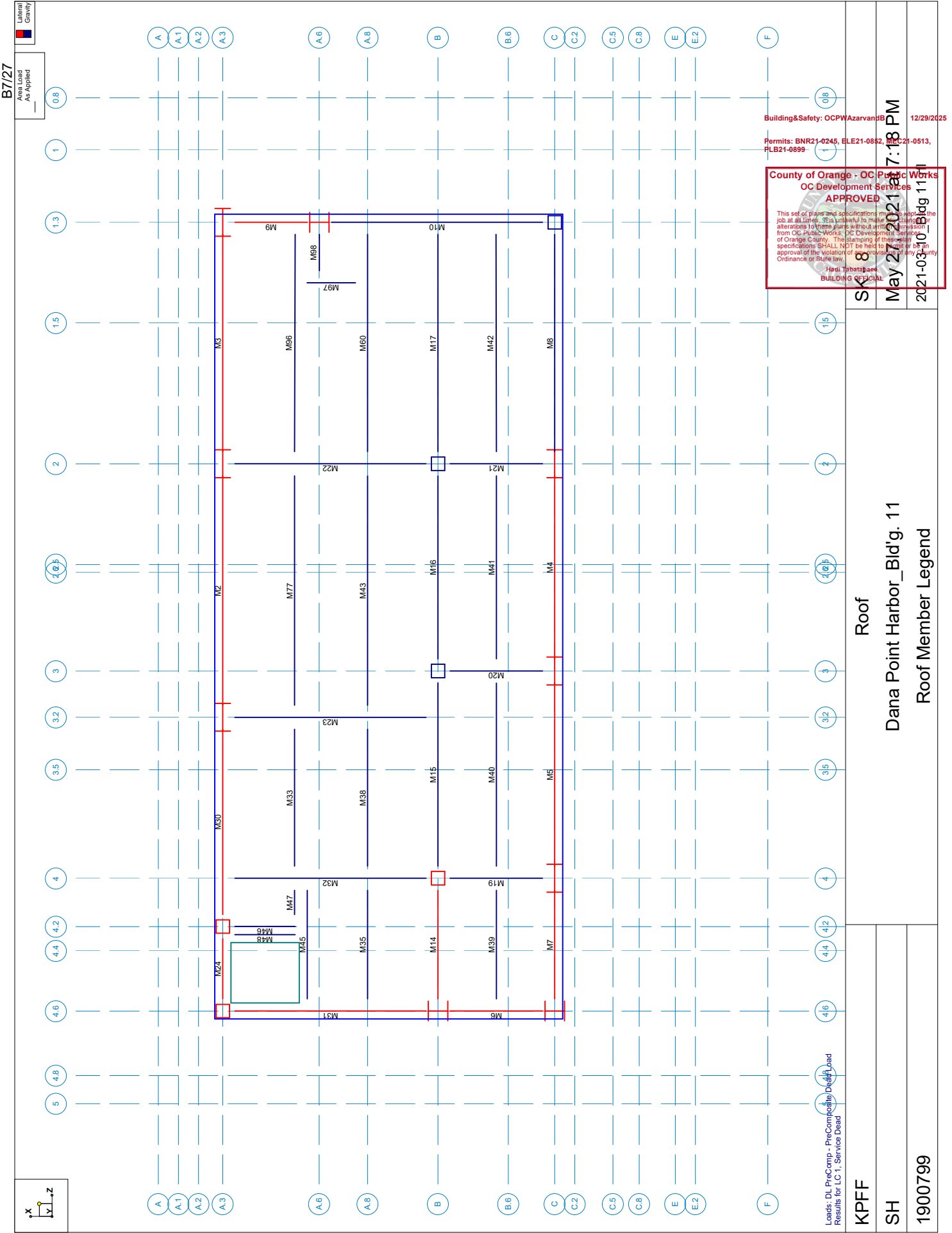
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Head, Technical Services
BUILDINGS DEPARTMENT

May 20 2021 7:16 PM
2021-03-10_Bldg 11

KPFF	Low Roof
SH	Dana Point Harbor_Bld'g. 11
1900799	DPH - BD11 - Low Roof Design Results



B7/27

Area Load
As Applied



Leads: DL, PreComp - PreComposite Deck Load
Results for LC 1, Service Dead

Roof

Dana Point Harbor_Bld'g. 11

Roof Member Legend

KPFF

SH

1900799

Building&Safety: OCPW/Azarvan/B
12/29/2025
Permits: BNR21-0245, ELE21-0862, MCC21-0513,
PLB21-0899

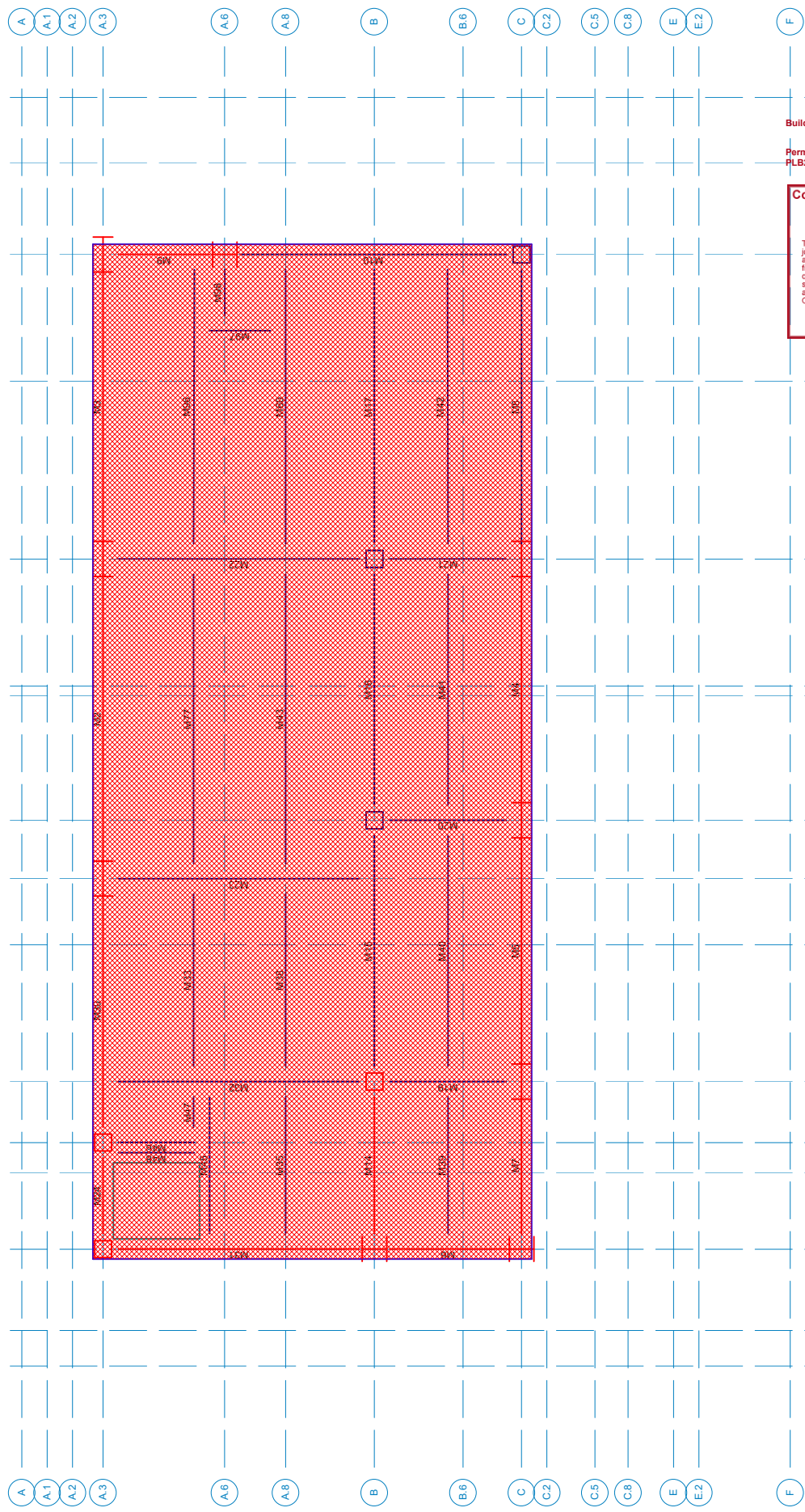
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OC Development Services
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BUILDINGS DEPARTMENT

SK 8

May 2 2021 7:18 PM

2021-03-10_Bldg 11

B8/27
 Area Load w/ Default
 Lateral Gravity
 Balcony
 Roof
 MEP



Building & Safety: OCPW Azarvan B 12/29/2025
 Permits: BNR21-0245, ELE21-0862, MCC21-0513, PLB21-0899

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 BUILDING DEPARTMENT

SK 9
 May 2 2021 7:19 PM
 2021-03-10_Bldg 11

Roof
 Dana Point Harbor_Bld'g. 11
 Roof Loading

Leads: DL, PreComp - PreComposite Deck Load
 Results for LC 1, Service Dead

KPFF

SH

1900799

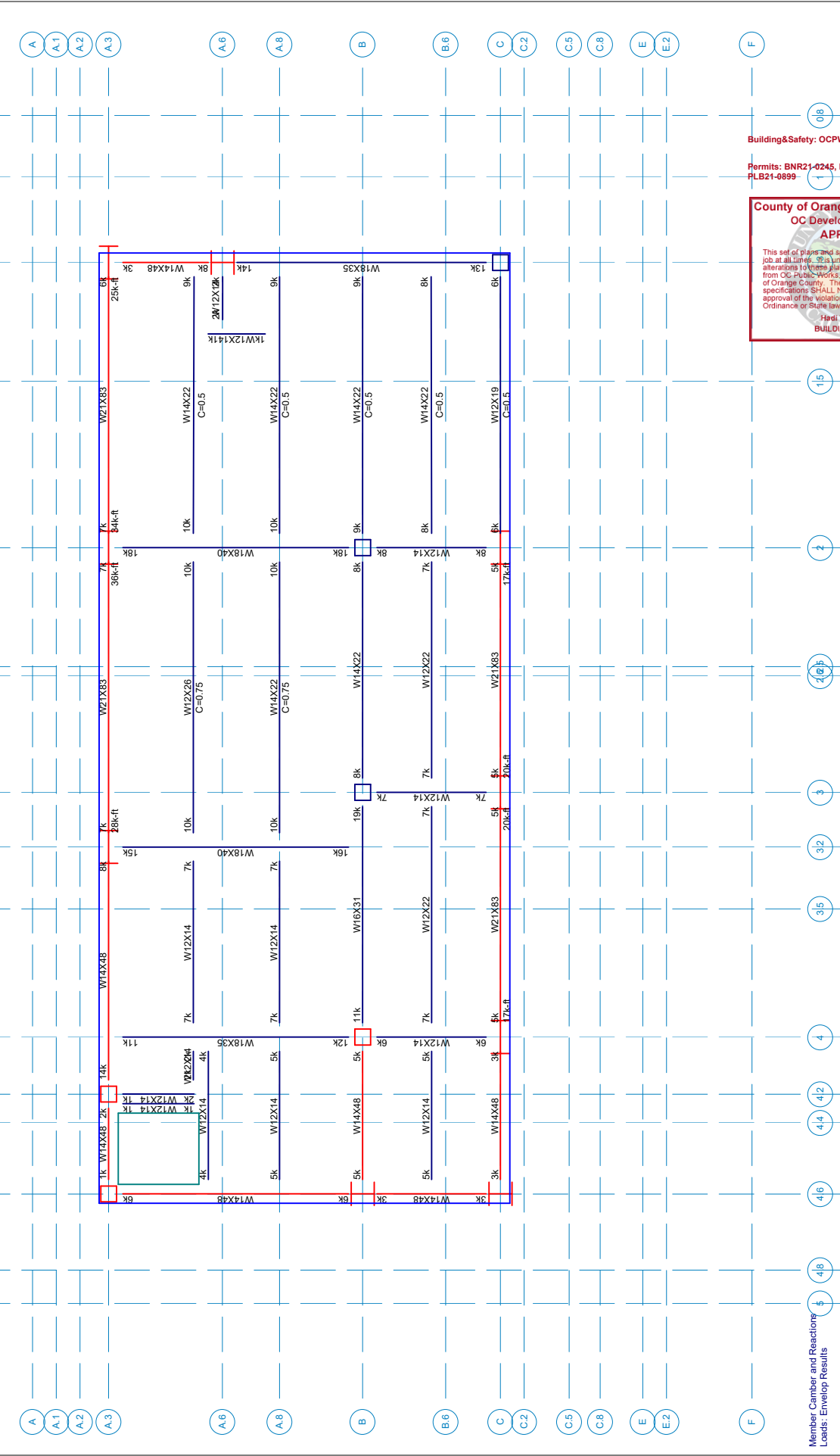
B9/27



Deck Type
w/ Default

- Concrete Deck
- Steel Deck
- Aluminum Deck
- Wood

Lateral Gravity



Building & Safety: OCPW Azarvan B 12/29/2025
Permits: BNR21-0245, ELE21-0862, PC21-0513, PLB21-0899

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BUILDING DEPARTMENT

SKP
May 2 2021 7:20 PM
2021-03-10_Bldg 11

KPFF
SH
1900799

Roof
Dana Point Harbor_Bld'g. 11
Roof Design Results

Member Camber and Reactions
Leads: Envelop Results

Dfc^YMi; fJX^@bYg

Building&Safety: OCPWAZarvandB 12/29/2025

Forms: OMC21-0576, ELEC11-0024, IMC021-0576, PLB21-0899

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G€	ØÊ	Ê€	FH€	FÍ	FÍ	ÿ•
GF	ØÊ	Ê€	FH€	FJÊG	FJÊG	ÿ•
GG	ØÊG	Ê€	FH€	G	G	ÿ•
GH	Ò	Ê€	FH€	G Ê	G Ê	ÿ•
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G	Ò	Ê€	FH€	í F	í F	ÿ•
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G	ØÊ	Ê€	FH€	ííÊí	ííÊí	ÿ•
G	ØÊí	Ê€	FH€	ííÊí	ííÊí	ÿ•
GJ	ØÊG	Ê€	FH€	í Êí	í Êí	ÿ•
H€	ØÊ	Ê€	FH€	í HGG	í HGG	ÿ•
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8 YW ; YbYfU`DfcDYfHfYg

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F	Ó[}&^çÁÔ&!	Ó[}&HÇEEPY	í Á	H	F€
G	Ó[{] •æ ÁÔ&!	X^!& ÁSY HÊY HÇ{ { [[[] ÊG ÁSY Áí •æY HÇ{ { [[[] ÊÓ[}&HÇEEPY ÊG ÁZæÊÊÊ		G	F€
H	T ^çÁÔ&!	X^!& Áç^ÁÚ] [] -Ô&!	Fí * æÁÚSÖÊí	G	JÊ
I	Y [[á	Y [[á ÁÔ&!	FÁ	F	í



Ó{| }â´ K SÚØØ
 Ó•ã)´ K ÚP
 R àÁ´{ à¹ K FJεεĴĴ
 T [â\Áαε ^ K Óαäá [ä of Pαsä|' ÓáCÉF

B15/27
 T αε ÁGĴ ÉZεCΓ
 İ K İ ÁŮ
 Ó@ε & àÁÓ K'´´´

6 YUa 7cXYGi a a UfmZf<chFc`YX':.:`ccf fl cbĴĴbi YXŁ

Building&Safety: OCPWazravand B 12/29/2025

Sää\	Uä^	ÓĴ žā	Uč á•	Óα äĴĴ äε αβ Ó) äā* ĴĴ Š &žca	ŠÓ	Ó\ / ÓĴĴ Š &žca	Óα	U@εá ÓĴĴ Š &žca	ŠÓ						
HJ	TII	Y Fİ YHF	p	HG	εĴİ	ØJG	εĴİİ	Fİ Ĵİ	İ	εĴİ G	Fİ Ĵİ	ŠŠ	εĴİ G	İ	İ
İε	Tİİ	Y İ YFε	p	FI	ε	ØJG	εĴİ J	İ Ĵİ	İ	εĴİ H	İ Ĵİ	ØŠĴĴ	εĴİ F	İ	İ
İF	Tİİ	Y FGÝĴ	p	G	ε	ØJG	εĴİ G	FGĴ	İ	εĴİ F	FGĴ	ØŠĴĴ	εĴİ G	İ	İ
İG	Tİİ	Y İ YFε	p	FI	ε	ØJG	εĴİ J	İ Ĵİ	İ	εĴİ H	İ Ĵİ	ØŠĴĴ	εĴİ G	İ	İ
İH	TİJ	Y FGÝĴ	p	HE	εĴİ	ØJG	εĴİ H	Fİ	İ	εĴİ İ	Fİ	ØŠĴĴ	εĴİ G	İ	İ
İİ	Tİε	Y FGÝİ	p	HE	εĴİ	ØJG	εĴİ H	Fİ	İ	εĴİ F	Fİ	ØŠĴĴ	εĴİ G	İ	İ
İİ	TİF	Y FεÝFG	p	FI	ε	ØJG	εĴİ İ	İ Ĵİ	İ	εĴİ Ĵ	İ Ĵİ	ØŠĴĴ	εĴİ G	İ	İ
İİ	TİG	Y FGÝİ	p	G	ε	ØJG	εĴİ H	FGĴ	İ	εĴİ F	FGĴ	ØŠĴĴ	εĴİ G	İ	İ
İİ	TİH	Y FεÝFG	p	FI	ε	ØJG	εĴİ İ	İ Ĵİ	İ	εĴİ Ĵ	İ Ĵİ	ØŠĴĴ	εĴİ G	İ	İ
İİ	Tİİ	Y FGÝGG	p		ε	ØJG	εĴİ İ	İ Ĵİ G	İ	εĴİ	İ Ĵİ G	ØŠĴĴ	εĴİ İ	İ	İ
İJ	Tİİ	Y FGÝİε	p	G	ε	ØJG	εĴİ Ĵ	FGĴ	İ	εĴİ Ĵ	FGĴ	ØŠĴĴ	εĴİ G	İ	İ
İε	Tİİ	Y FGÝĴ	p	G	ε	ØJG	εĴİ J	FGĴ	İ	εĴİ G	FFεĴİ	ØŠĴĴ	εĴİ J	İ	İ
İF	Tİε	Y Fİ YHF	p	HE	εĴİ	ØJG	εĴİ H	Fİ ĴFH	İ	εĴİ	Fİ ĴFH	ŠŠ	εĴİ G	İ	İ
İG	TİF	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ	İ H	εĴİ	ε	ŠŠ	εĴİ G	İ	H	İ
İH	Tİİ	Y FεÝFG	p		ε	ØJG	εĴİ İ	Ĵ Ĵİ H	İ	εĴİ İ	İ ĴĴİ	ØŠĴĴ	εĴİ İ	İ	İ
İİ	Tİİ	Y FεÝFG	p	FG	ε	ØJG	εĴİ F	İ ĴĴİ	İ	εĴİ F	İ ĴĴİ	ØŠĴĴ	εĴİ H	FH	İ
İİ	Tİİ	Y FGÝFI	p		ε	ØJG	εĴİ J	İ ĴĴİ	İ	εĴİ İ	İ ĴĴİ	ØŠĴĴ	εĴİ H	Fİ Ĵ	İ
İİ	Tİİ	Y İ Yİ Ĵ	p		ε	ØJG	εĴİ F	ĴĴ H	εĴİ	ε	ŠŠ	ε	İ Ĵ	H	İ
İİ	Tİİ	Y FεÝFG	p	Fİ	ε	ØJG	εĴİ J	İ Ĵİ	İ	εĴİ H	İ Ĵİ	ØŠĴĴ	εĴİ G	İ	İ
İİ	Tİε	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ F	ĴĴ JG	İ	εĴİ F	HĴĴİ	ØŠĴĴ	εĴİ	İ	İ
İJ	TİF	Y İ Yİ Ĵ	p		ε	ØJG	εĴİ Ĵ	H Ĵİ İ	H	εĴİ	ε	ŠŠ	εĴİ G	İ Ĵİ	H
İε	TİG	Y FGÝFI	p	İ	ε	ØJG	εĴİ H	İ Ĵİ İ	H	εĴİ	ε	ŠŠ	εĴİ G	İ Ĵİ	H
İF	Tİİ	Y FGÝFI	p	G	ε	ØJG	ε	Fİ Ĵ H	H	εĴİ	ε	ŠŠ	ε	H	H
İG	Tİİ	Y FGÝFJ	p	G	ε	ØJG	εĴİ İ	İ Ĵİ İ	İ	εĴİ İ	FGĴ İ	ØŠĴĴ	εĴİ İ	İ	İ
İH	Tİİ	Y Fİ YHF	p	HG	εĴİ	ØJG	εĴİ G	Fİ Ĵİ	İ	εĴİ İ	Fİ Ĵİ	ŠŠ	εĴİ G	İ	İ
İİ	TİJ	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ	İ H	εĴİ	ε	ŠŠ	εĴİ G	İ	H	İ
İİ	Tİε	Y FGÝFI	p	G	ε	ØJG	εĴİ İ	FGĴ	İ	εĴİ H	FGĴ	ØŠĴĴ	εĴİ F	İ	İ
İİ	TİF	Y FεÝFG	p		ε	ØJG	εĴİ FG	İ Ĵİ	İ	εĴİ H	İ Ĵİ	ØŠĴĴ	εĴİ J	Fİ Ĵ	İ
İİ	TİG	Y FGÝHE	p		εĴİ	ØJG	εĴİ H	Fİ	İ	εĴİ J	Fİ	ŠŠ	εĴİ	HE	İ
İİ	TİH	Y İ Yİ Ĵ	p		ε	ØJG	εĴİ	İ Ĵ	İ	εĴİ İ	İ Ĵ	ØŠĴĴ	εĴİ J	J	İ
İJ	Tİİ	Y İ Yİ Ĵ	p		ε	ØJG	εĴİ J	HĴĴ	İ	εĴİ İ	HĴĴ	ØŠĴĴ	εĴİ G	İ Ĵ	İ
İε	Tİİ	Y İ Yİ Ĵ	p		ε	ØJG	εĴİ	İ Ĵİ İ	H	εĴİ	ε	ŠŠ	εĴİ G	İ Ĵİ	H
İF	Tİİ	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ FJ	İ Ĵİ İ	İ	εĴİ JG	İ Ĵİ İ	ØŠĴĴ	εĴİ H	İ	İ
İG	TJH	Y FGÝFI	p	İ	ε	ØJG	εĴİ F	İ	İ	εĴİ J	İ	ØŠĴĴ	εĴİ F	İ	İ
İH	TJİ	Y FεÝFJ	p		ε	ØJG	εĴİ F	FJĴεCΓ	İ	εĴİ	İ Ĵİ	ØŠĴĴ	εĴİ J	GĴ	İ
İİ	T FεG	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ İ	ĴĴ	İ	εĴİ İ	HĴ	ØŠĴĴ	εĴİ H	İ	İ
İİ	T FεH	Y Fİ YĴ	p	G	ε	ØJG	εĴİ FF	Fİ ĴĴ	İ	εĴİ FF	Fİ ĴĴ	ØŠĴĴ	εĴİ F	İ	İ
İİ	T Fε	Y FGÝFI	p		ε	ØJG	εĴİ F	ĴĴ H	H	εĴİ	ε	ŠŠ	ε	İ Ĵ	H
İİ	T Fε	Y Fİ YĴG	p	GĴ	ε	ØJG	εĴİ H	FεĴİ G	İ	εĴİ F	FF	ØŠĴĴ	εĴİ J	GĴ	İ
İİ	T Fε	Y FGÝFI	p	İ	ε	ØJG	εĴİ G	H Ĵİ	H	εĴİ	ε	ŠŠ	εĴİ F	İ Ĵ	H
İJ	T Fε	Y FGÝFI	p	Fε	ε	ØJG	εĴİ	İ ĴĴ	İ	εĴİ H	İ ĴĴ	ØŠĴĴ	εĴİ F	FεĴİ	İ
İε	T Fε	Y FGÝFI	p	FG	ε	ØJG	εĴİ H	İ Ĵİ	İ	εĴİ İ	İ Ĵİ	ØŠĴĴ	εĴİ G	FFĴİ	İ
İF	T FFF	Y FGÝFI	p	Fε	ε	ØJG	εĴİ H	İ ĴĴ	İ	εĴİ	ε	ŠŠ	εĴİ F	FεĴİ ĴĴ	İ
İG	T Jİ	Y FGÝİ	p		ε	ØJG	εĴİ J	JĴĴ H	İ	εĴİ J	Fİ Ĵ	ØŠĴĴ	εĴİ F	JĴĴ H	İ
İH	T FFH	Y FGÝFI	p	Fİ	ε	ØJG	εĴİ FJ	İ Ĵİ J	İ	εĴİ G	İ Ĵİ İ	ØŠĴĴ	εĴİ J	İ	İ
İİ	T FFİ	Y FGÝFI	p	Fİ	ε	ØJG	εĴİ H	JĴĴ	İ	εĴİ F	JĴĴ	ØŠĴĴ	εĴİ İ	Fİ Ĵİ	İ
İİ	T FFG	Y FGÝGG	p		ε	ØJG	εĴİ İ	İ ĴĴ	İ	εĴİ G	İ Ĵİ ε	ØŠĴĴ	εĴİ G	Fİ Ĵİ	İ
İİ	T FFİ	Y FGÝFI	p	Fİ	ε	ØJG	εĴİ H	İ ĴĴ	İ	εĴİ G	İ Ĵİ ε	ØŠĴĴ	εĴİ G	Fİ Ĵİ	İ
İİ	T FFİ	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ	İ H	εĴİ	ε	ŠŠ	εĴİ G	İ	H	İ
İİ	T FFİ	Y İ Yİ Ĵ	p	İ	ε	ØJG	εĴİ	İ H	εĴİ	ε	ŠŠ	εĴİ G	J	H	İ
İJ	T Jİ	Y Fİ YHF	p	HE	εĴİ	ØJG	εĴİ G	Fİ ĴFH	İ	εĴİ Ĵ	Fİ ĴFH	ŠŠ	εĴİ J	İ	İ
Jε	T Jİ	Y FGÝFI	p	İ	ε	ØJG	εĴİ H	İ	İ	εĴİ J	İ Ĵİ İ	ØŠĴĴ	εĴİ İ	J	İ

Permits: 010121-0249, ECE11-0002, MC021-0510, PLB21-0899

City of Orange - OC Public Works
 OC Development Services
APPROVED

Comments and specifications must be kept on the project. It is unlawful to make any changes or amendments to the approved drawings or specifications without the written consent of the City of Orange Public Works - OC Development Services. The signing of this plan indicates that the applicant has read and understands the terms and conditions of the City of Orange Public Works - OC Development Services and has agreed to comply with all applicable laws, rules, regulations, and provisions of any County or State law.

Project: Tabaatabae BUILDING OFFICIAL

6 YUa 'Gì YU'FYgi 'Igy Zcf' <chFc`'YX': 'FccZf' cbHjbi YXL

Building&Safety: OCPWArvandB 12/29/2025

Sää\	Uá^	ø Ž•ã	Ú@X)Žá	X`Žá	Ú@ääÁ@&	Š &žca	ŠÓ
HE	THF	YFIYI	IE	JIEH	IEIF	EIG	
HF	THG	YFIYH	IE	FIEH	FFGI	EIF	
HG	THH	YFGYFI	IE	IEG	IEJ	EJI	
HH	THI	YFGYFI	IE	IEG	IEJ	EIH	
HI	THI	YFGYFI	IE	IEG	HEI	EIJ	
HI	THI	YFGYFI	IE	IEG	FEI	EIF	
HI	THI	YFGYFI	IE	IEG	FEI	EIF	
HI	THI	YFGYFI	IE	IEG	FEI	EIF	
HI	THI	YFGYFI	IE	IEG	FEI	EIF	
HJ	THH	YFIYGG	IE	JIEH	JIEI	EIE	

Forms: DM021-0240, ECL01-0002, IM021-0310, PLB21-0899

County of Orange - OC Public Works
OC Development Services
APPROVED

This stamp and applications must be kept on the job at all times. It is unlawful to make any changes or alterations to this stamp without written approval from OC Public Works, OC Development Services or the County. The stamping of these plan applications SHALL NOT be held to constitute an approval of the violation of any provisions of any County Ordinance or State law.

Print Database
 BUILDING OFFICIAL

6 YUa 'Gì YU'FYgi 'Igy Zcf' <chFc`'YX': '@k'FccZ

Sää\	Uá^	ø Ž•ã	Ú@X)Žá	X`Žá	Ú@ääÁ@&	Š &žca	ŠÓ
F	TF	YFIYI	IE	IEG	IEJ	E	I
G	TFG	YFGYFI	IE	IEG	IEG	IEHH	I
H	TFH	YFGYFI	IE	IEG	IEI	FFI	I
I	TG	YFGYFI	IE	IEG	FEI	FFI	I
I	TI	YFIYI	IE	JIEI	IEG	GIEI	I
I	TI	YFGYFI	IE	IEG	GEI	FFI	I
I	TI	YFGYFI	IE	IEG	FEI	FJ	I
I	TJ	YFIYI	IE	IEG	IEI	E	I
J	TFE	YFGYFI	IE	IEG	GGI	FFI	I
FE	TFE	YFGYFI	IE	IEG	GEH	FFI	I
FF	TFI	YFGYFI	IE	IEG	EGF	IEI	I
FG	TFI	YFGYFI	IE	IEG	IEI	H	I
FH	TFI	YFGYFI	IE	IEG	EIH	E	H
FI	TFI	YFGYFI	IE	IEG	FEI	IEHH	I
FI	TFI	YFGYFI	IE	IEG	FEI	FEI	I

6 YUa '6 YbXj' 'FYgi 'Igy Zcf' <chFc`'YX': : 'ccf

Sää\	Uá^	Ó{]æ^	Úc á	ø Ž•ã	Sää\]	ŽáÁÍ	čcaŠq	Žá Óa	Ó{	Ú@ääÁ@&	Š &žca	ŠÓ	Ó~ ŽÉ
F	TF	YGG	p]	IE	G	GF	GF	FEIH	E	IEI	IEI	GF	PFIE
G	TG	YGG	p]	IE	G	HFE	HFE	GEH	E	GFE	IEI	HFE	PFIE
H	TH	YGG	p]	IE	G	HE	HE	GEI	E	GGI	IEI	E	PFIE
I	TI	YGG	p]	IE	G	GIEI	GIEI	GEH	E	GIEI	IEI	E	PFIE
I	TI	YGG	p]	IE	G	GIEI	GIEI	GEI	E	GIEI	IEI	IEI	PFIE
I	TI	YFIE	p]	IE	G	FEI	FEI	FEI	E	IEI	IEI	IEI	PFIE
I	TI	YFIE	Y^	FI	IE					FEI	IEI	IEI	IEI
I	TI	YFIE	Y^	HE	IE					HIE	IEI	IEI	IEI
J	TJ	YFIE	p]	IE	G	FG	FG	FEI	E	JGE	IEI	J	PFIE
FE	TFE	YFIE	Y^	HE	IE					IIE	IEI	IEI	IEI
FF	TFE	YFIE	p]	IE	G	FI	FI	FEI	E	FJG	IEI	IEI	PFIE
FG	TFG	YFIE	p]	IE	G	IEI	IEI	FEI	E	IEI	IEI	IEI	PFIE
FH	TFH	YFIE	p]	IE	G	FFI	FFI	FEI	E	IEI	IEI	IEI	PFIE
FI	TFI	YFIE	Y^	FI	IE					GIE	IEI	IEI	IEI
FI	TFI	YGG	p]	IE	G	GIEI	GIEI	FEI	E	IEI	IEI	IEI	PFIE
FI	TFI	YFIE	Y^	G	IE					HIE	IEI	IEI	IEI
FI	TFI	YFIE	Y^	HE	IE					HIE	IEI	IEI	IEI
FI	TFI	YFIE	p]	IE	G	HGG	HGG	FEI	E	HIE	IEI	IEI	PFIE
FJ	TFJ	YFIE	Y^	FI	IE					FEI	IEI	IEI	IEI
GE	TGE	YFIE	Y^	FI	IE					FEI	IEI	IEI	IEI



Ó{]æ^ K SÚØØ
 Ó•ã)^\ K ÚP
 R àÀ~{ à^\ K FJ€€JJ
 T[à^\Áæ ^ K Óæ æÚ[à oPæà[!´ ÓàCÆF

B24/27
 T æÁí ÈæGF
 ÌKÌÁÚ
 Ó@&^áÁÓK''''

6 YUa '8 ZYWjcbgZFYUj YZcf 'GhUXUX'7 Urg': :`ccf'f' cbhjb YXL

Forms: DMCE1-0246, ECE1-0002, MCCE1-0510, PLB21-0899

Óæ	Óæ à^\Zá	Ú^\ÓŠZá	Ú^\ÓŠÁæ	ÓŠZá	ÓŠÁæ	ŠZá	ŠÁæ	ÓŠŠZá	ÓŠŠÁæ
FG	T FG	€	€€€H	F€€€€	€€€Í	F€€€€	€€€Í	F€€€€	€€€€
FH	T FH	€	€€Í	HIGG	€€€Í	GFGH	€€€Í G	FÍÍÍ	€€€€
FI	T FI	€	€€GH	ÍIJ	€€HG	ÍÍÍ	€€JF	F€Í	€€€€
FÍ	T FÍ	€	€€Í	F€Í	€€ÍÍ	ÍJI	€€ÚÍ	ÍÍ€	€€€€
FÌ	T FÌ	€	€€ÍÍ	ÍÍÍ	€€ÍÍ	ÍÍF	€€Í J	F€Í J	€€€€
FÌ	T FÌ	€€Í	€€H	F€JG	€€Í	FÍFJ	€€Í G	ÍÍÍ	€€€€
FÌ	T FÌ	€	€€GF	FÍÍF	€€H G	JH	€€HG	JÍ	€€€€
FJ	T FJ	€	€€HU	ÍG	€€Í J	Í€G	€€ÍÍ	F€Í F	€€€€
G€	T G€	€	€€Í G	F€Í H	€€G	ÍÍÍ	€€Í	ÍÍ€	€€€€
GF	T GF	€	€€FÍ	Í€€	€€Í H	ÍH	€€ÍÍ	JHG	€€€€
GG	T GG	€	€€H	JÍF	€€Í	ÍÍH	€€FÍ	F€F€	€€€€
GH	T GH	€	€€FH	JÍFF	€€G	ÍGÍ	€€G	ÍGÍ	€€€€
G	T G	€	€€F	ÍH H	€€Í	GÍH	€€Í H	GÍÍ	€€€€
G	T G	€	€€Í	F€G	€€HG	ÍG	€€F	F€Í J	€€€€
G	T G	€	€€JJ	FÍ€G	€€HG	ÍÍÍ	€€JÍ	ÍJJ	€€€€
G	T H€	€	€€FH	FÍJG	€€Í	ÍÍÍ	€€FG	ÍÍF	€€€€
G	T HF	€	€€Í	F€JH	€€Í H	ÍÍ€	€€Í	FFJÍ	€€€€
GJ	T HG	€	€€€G	FÍÍÍ	€€Í	ÍH	€€FG	ÍH	€€€€
H€	T HH	€	€€GH	ÍÍÍ	€€Í	ÍÍÍ	€€€	FÍJF	€€€€
HF	T H	€	€€Í	F€€	€€Í	ÍJI	€€FÍ	FÍG	€€€€
HG	T H	€	€€Í	FÍ€	€€Í	ÍÍÍ	€€Í H	ÍÍÍ	€€€€
HH	T H	€	€€Í	H€Í J	€€JF	FÍÍÍ	€€Í	JFÍ	€€€€
H	T H	€	€	F€€€€	€	F€€€€	€	F€€€€	€
H	T HU	€	€€G	ÍÍ€	€€Í	ÍÍ€	€€H	FÍJ€	€€€€
H	T I€	€	€€€	ÍÍG	€€Í	ÍH	€€Í	FFÍ	€€€€
H	T IF	€	€€€	ÍÍG	€€Í	ÍH	€€Í	FFÍ	€€€€
H	T IH	€	€€Í	Í€	€€Í	ÍÍG	€€HG	F€HG	€€€€
HJ	T II	€€Í	€€€	JHF	€€Í	F€Í	€€JH	ÍH	€€€€
I€	T Í	€	€€JÍ	ÍG€	€€Í F	ÍÍÍ	€€Í	FJHH	€€€€
IF	T Í	€	€€Í	ÍÍF	€€	ÍÍÍ	€€Í H	F€GÍ	€€€€
IG	T Í	€	€€JÍ	ÍG€	€€Í F	ÍÍÍ	€€Í	FJHH	€€€€
IH	T ÍJ	€€Í	€€FH	FFÍ F	€€Í F	ÍFÍ	€€Í	ÍÍÍ	€€€€
II	T Í€	€€Í	€€G	FÍGH	€€Í	F€FÍ	€€Í	ÍÍÍ	€€€€
ÍÍ	T ÍF	€	€€Í G	JHU	€€H	ÍÍH	€€J	FÍ€G	€€€€
ÍÍ	T ÍG	€	€€FÍ	JHG	€€€	ÍÍÍ	€€Í	F€Í	€€€€
ÍÍ	T ÍH	€	€€Í G	JHU	€€H	ÍÍH	€€J	FÍ€G	€€€€
ÍÍ	T ÍÍ	€	€€	GÍÍ	€€H	FFF	€€FÍ	F€Í G	€€€€
IJ	T ÍÍ	€	€€GH	F€€	€€Í	ÍFG	€€Í G	FF€G	€€€€
Í€	T ÍÍ	€	€€Í	ÍH€	€€H	ÍÍÍ	€€Í	FFÍ F	€€€€
ÍF	T Í€	€€Í	€€Í	FÍFJ	€€Í	G€FÍ	€€Í	ÍÍG	€€€€
ÍG	T ÍF	€	€€€G	F€€€€	€€€G	F€€€€	€	F€€€€	€€€€
ÍH	T ÍÍ	€	€€Í	GÍFÍ	€€€	FFÍ	€€JF	FH J	€€€€
ÍÍ	T ÍÍ	€	€€Í	F€H	€€GH	ÍH	€€Í	FÍÍ	€€€€
ÍÍ	T ÍÍ	€	€€JH	G€Í	€€G	ÍHF	€€Í G	F€GG	€€€€
ÍÍ	T ÍÍ	€	€	F€€€€	€	F€€€€	€	F€€€€	€
ÍÍ	T ÍÍ	€	€€Í F	ÍFG	€€Í H	ÍG	€€G	FÍÍ	€€€€
ÍÍ	T Í€	€	€€€G	HÍF	€€Í	FÍÍ	€€Í F	G€FÍ	€€€€
ÍJ	T ÍF	€	€€€G	F€€€€	€€€G	F€€€€	€	F€€€€	€€€€
Í€	T ÍG	€	€	F€€€€	€	F€€€€	€	F€€€€	€
ÍF	T ÍÍ	€	€	F€€€€	€	F€€€€	€	F€€€€	€
ÍG	T ÍÍ	€	€€Í	ÍH	€€Í G	ÍÍ€	€€	FFÍ	€€€€
ÍH	T ÍÍ	€€Í	€€Í	JFH	€€Í	F€G	€€Í	ÍH	€€€€

County of Orange - OC Public Works
 OC Development Services
 APPROVED
 This plan and applications must comply with the specifications and standards of the OC Development Services of OC Public Works. The stamping of this plan application shall not be held to be an approval of the location of any proposed any County Ordinance.

Final, Tabulated
 BUILDING OFFICE



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Building&Safety: OCPWArvandB 12/29/2025

Permits: DMCE1-0246, ECLCE1-0002, MCCE1-0310, PLB21-0699

Countdown Change - OC Public Works
OC Development Services
APPROVED
This permit and specifications must be kept on the job site. It is unlawful to make any changes or alterations to this permit without written approval from OC Development Services. The stamping of this permit is subject to the approval of any programs in any County Ordinance of the law.
Final, Tabulated, and Binding Official

6 YUa '8 ZYWjcbgZF YUij YZcf 'GhubXUX'7 Urg' : FccZf' cbjbi YXL

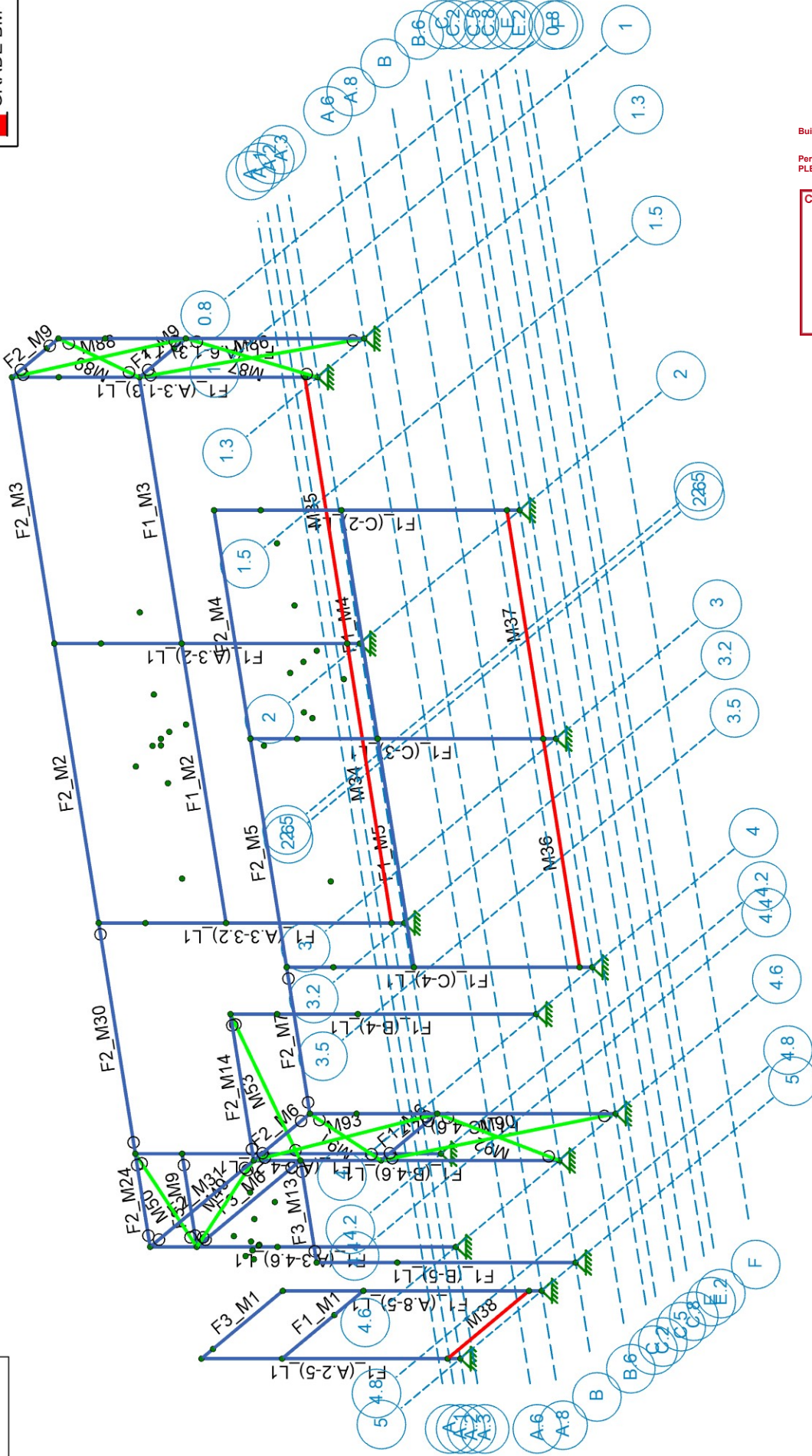
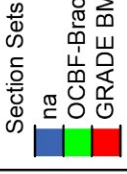
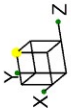
Table with 11 columns: Óæ, Óæ àˆ! Žá, Úˆ! ÓŠŽá, Úˆ! ÓŠÁUæ, ÓŠŽá, ÓŠÁUæ, ŠŠŽá, ŠŠÁUæ, ÓŠÉŠŽá, ÓŠÉŠÁUæ. Rows include FG, FH, FI, FÍ, FÌ, FJ, G, GÍ, GÌ, GJ, H, HÍ, HÌ, HJ.

6 YUa '8 ZYWjcbgZF YUij YZcf 'GhubXUX'7 Urg' : @k FccZ

Table with 11 columns: Óæ, Óæ àˆ! Žá, Úˆ! ÓŠŽá, Úˆ! ÓŠÁUæ, ÓŠŽá, ÓŠÁUæ, ŠŠŽá, ŠŠÁUæ, ÓŠÉŠŽá, ÓŠÉŠÁUæ. Rows include F, G, H, I, Í, Ì, J, F€, FF, FG, FH, FI, FÍ.

C LATERAL DESIGN

C1/15



Building&Safety: OCPWazarvandB 12/29/2025
Permits: BNR21-0245, ELE21-0862, NEC21-0513, PLB21-0899

County of Orange - OC Public Works
OC Development Services
APPROVED

This set of plans and specifications must be used for the job at all times. It is unlawful to make any changes or alterations to these plans without the written permission of Orange County, OC Development Services. The stamping of these plans shall NOT be held to permit or approval of the violation of any provisions of any Ordinance or State law.

Head, Tabatabaee
BUILDING OFFICIAL

Dana Point Harbor_Bld'g. 11

Results for LC 1, DL only

SK-11

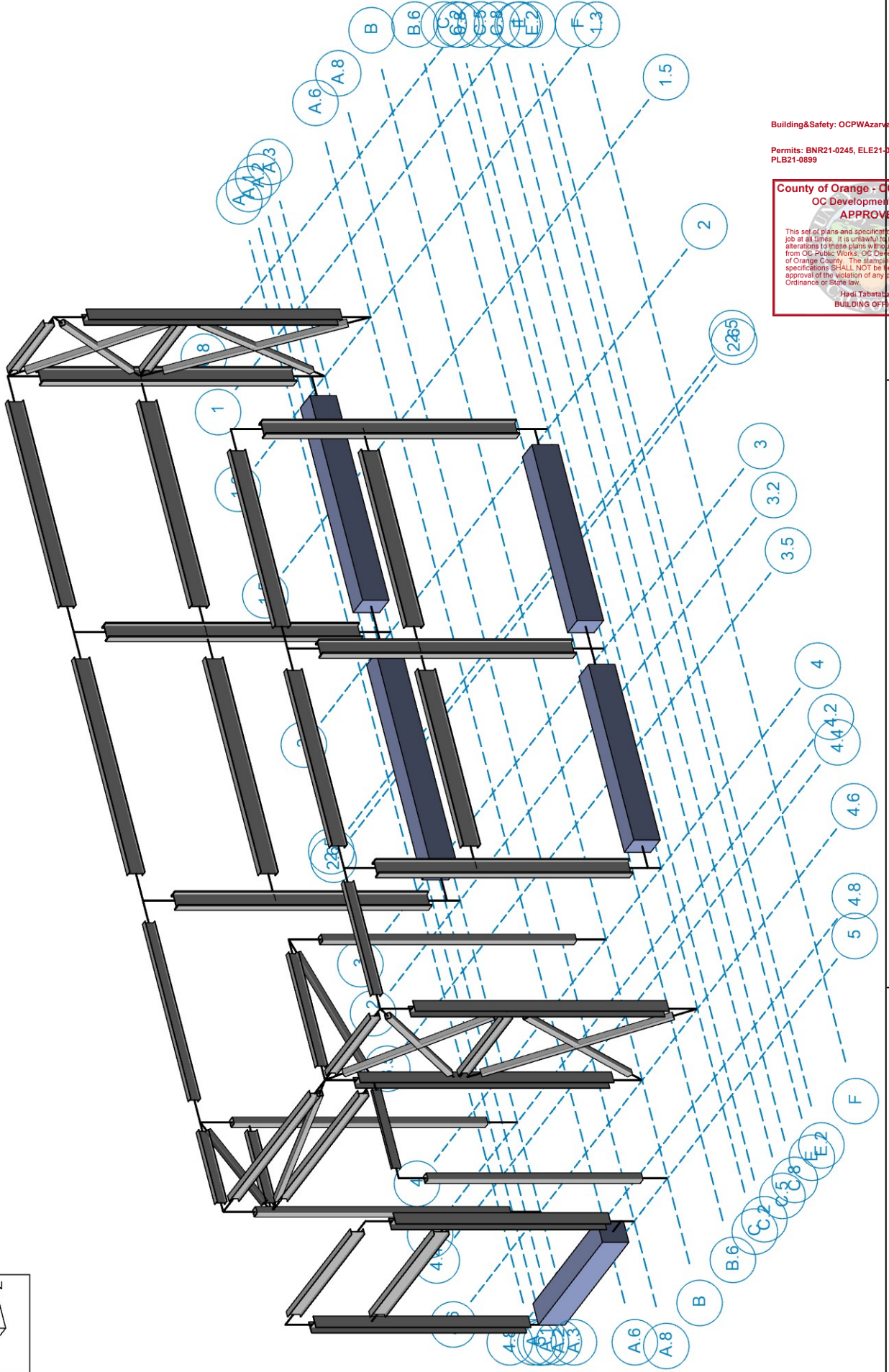
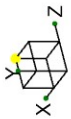
May 27 2021

2021-03-10_Bld'g 11.rfl

KPFF

SH

1900799



Building&Safety: OCPWazarvandB 12/29/2025
 Permits: BNR21-0245, ELE21-0862, NEC21-0513, PLB21-0899

**County of Orange - OC Public Works
 OC Development Services
 APPROVED**

This set of plans and specifications must be used as written for the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works, OC Development Services of Orange County. The stamping of these plan specifications SHALL NOT be held to permit or approval of the violation of any provisions of any Ordinance or State law.

Head, Tabatabaee
 BUILDING OFFICIAL

Dana Point Harbor_Bld'g. 11

SK-12
 May 27 2021
 2021-03-10 Bld'g 11.rfl

KPFF
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 1900799

Seismic Generation Input

Seismic Code: **ASCE 7-16**
 Ct_X: **0.02** T_X (sec): **Not Entered** R_X: **3.25**
 Ct_Z: **0.028** T_Z (sec): **Not Entered** R_Z: **8**
 Ct Exp. X: **0.75** Ct Exp. Z: **0.8**
 Risk Cat **III** TL (sec): **8**
 SD1 (g): **0.455** SDS (g): **1.012** S1 (g): **0.455**
 Base Elev (ft): **0** Parapet Ht (ft): **0**

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



Seismic Generation Detail Results

T_X Used (sec): **0.294** T_X Method A: **0.294** T_X Upper Limit: **0.412**
 T_Z Used (sec): **0.492** T_Z Method A: **0.492** T_Z Upper Limit: **0.689**
 Importance Fac.: **1.25** Design Cat.: **D**
 V_X (k): **451.789** Gov. Eqn. **ASCE Eqn 12.8-2** Cs_X: **0.389**
 V_Z (k): **167.633** Gov. Eqn. **ASCE Eqn 12.8-3** Cs_Z: **0.144**

Seismic Generation Force Results

Floor Level	Height (ft)	Weight (k)	Force X (k)	Force Z (k)	CG X (ft)	CG Z (ft)
Roof	36	255.675	146.088	54.205	46.895	61.162
Low Roof	30.5	26.805	12.976	4.815	55.187	6.537
Floor	21	878.243	292.725	108.613	40.642	67.566
Totals		1160.723	451.789	167.633		

Seismic Generation Diaphragm Results

Floor Level	Width (X) (ft)	Length (Z) (ft)	X Plus (ft)	X Minus (ft)	Z Plus (ft)	Z Minus (ft)
Roof	43.25	100	2.163	2.163	5	5
Low Roof	35.25	20	1.763	1.763	1	1
Floor	68.75	127	3.438	3.438	6.35	6.35



Company : KPPF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

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Project Grid Lines

Building&Safety: OCPWAzarvandB 12/29/2025

	Label	Start [ft]	End [ft]	Start [ft]	End [ft]	Start Bubble	End Bubble
1	5	0	0	-10	86	Yes	Yes
2	4.8	3.5	3.5	-10	86	Yes	Yes
3	4.6	11.5	11.5	-10	86	Yes	Yes
4	4.4	19	19	-10	86	Yes	Yes
5	4.2	22	22	-10	86	Yes	Yes
6	4	28	28	-10	86	Yes	Yes
7	3.5	41.5	41.5	-10	86	Yes	Yes
8	3.2	48	48	-10	86	Yes	Yes
9	3	53.75	53.75	-10	86	Yes	Yes
10	2.6	66	66	-10	86	Yes	Yes
11	2.5	67	67	-10	86	Yes	Yes
12	2	79.5	79.5	-10	86	Yes	Yes
13	1.5	97	97	-10	86	Yes	Yes
14	1.3	109.5	109.5	-10	86	Yes	Yes
15	1	118.5	118.5	-10	86	Yes	Yes
16	0.8	125	125	-10	86	Yes	Yes
17	F	-10	130	0	0	Yes	Yes
18	E.2	-10	130	9	9	Yes	Yes
19	E	-10	130	11.5	11.5	Yes	Yes
20	C.8	-10	130	16	16	Yes	Yes
21	C.5	-10	130	19.25	19.25	Yes	Yes
22	C.2	-10	130	24	24	Yes	Yes
23	C	-10	130	26.5	26.5	Yes	Yes
24	B.6	-10	130	32.25	32.25	Yes	Yes
25	B	-10	130	41	41	Yes	Yes
26	A.8	-10	130	49.75	49.75	Yes	Yes
27	A.6	-10	130	55.75	55.75	Yes	Yes
28	A.3	-10	130	67.75	67.75	Yes	Yes
29	A.2	-10	130	70.75	70.75	Yes	Yes
30	A.1	-10	130	73.25	73.25	Yes	Yes
31	A	-10	130	75.75	75.75	Yes	Yes

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

County of Orange - Public Works
 OC Development Services
APPROVED

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Paul Tabares
 BUILDING OFFICIAL

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N201A	Reaction	Reaction	Reaction
2	N202A	Reaction	Reaction	Reaction
3	N214A	Reaction	Reaction	Reaction
4	N215A	Reaction	Reaction	Reaction
5	N216A	Reaction	Reaction	Reaction
6	N217A	Reaction	Reaction	Reaction
7	N218A	Reaction	Reaction	Reaction
8	N219	Reaction	Reaction	Reaction
9	N220	Reaction	Reaction	Reaction
10	N221	Reaction	Reaction	Reaction
11	N222	Reaction	Reaction	Reaction
12	N93	Reaction	Reaction	Reaction
13	N94A	Reaction	Reaction	Reaction
14	N95A	Reaction	Reaction	Reaction
15	N99A	Reaction	Reaction	Reaction

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	F2_N4	26.5	36	53.75	
2	F2_N5	26.5	36	79.5	
3	F2_N6	67.75	36	48	
4	F2_N7	67.75	36	79.5	
5	F2_N8	67.75	36	109.5	

Node Coordinates (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
6	F2_N9	41	36	11.5	
7	F2_N10	26.5	36	11.5	
8	F2_N36	55.75	36	109.5	
9	F2_N38	26.5	36	28	
10	F2_N71	58.75	36	109.5	
11	F3_N4	26.5	30.5	53.75	
12	F3_N5	26.5	30.5	79.5	
13	F3_N6	67.75	30.5	48	
14	F3_N7	67.75	30.5	79.5	
15	F3_N8	67.75	30.5	109.5	
16	F3_N9	41	30.5	11.5	
17	F3_N34	70.75	30.5	0	
18	F3_N35	49.75	30.5	0	
19	F3_N36	55.75	30.5	109.5	
20	F3_N38	26.5	30.5	28	
21	F3_N45	67.75	30.5	0	
22	F3_N108	26.5	30.5	11.5	
23	F1_N4	26.5	21	53.75	
24	F1_N5	26.5	21	79.5	
25	F1_N6	67.75	21	48	
26	F1_N7	67.75	21	79.5	
27	F1_N8	67.75	21	109.5	
28	F1_N9	41	21	11.5	
29	F1_N10	26.5	21	11.5	
30	F1_N34	70.75	21	0	
31	F1_N35	49.75	21	0	
32	F1_N36	55.75	21	109.5	
33	F1_N38	26.5	21	28	
34	F1_N71	58.75	21	109.5	
35	N201A	41	0	11.5	
36	N202A	26.5	0	11.5	
37	N214A	70.75	0	0	
38	N215A	49.75	0	0	
39	N216A	26.5	0	79.5	
40	N217A	26.5	0	53.75	
41	N218A	67.75	0	79.5	
42	N219	67.75	0	48	
43	N220	67.75	0	109.5	
44	N221	55.75	0	109.5	
45	N222	26.5	0	28	
46	F1_N119	57.25	21	0	
47	N94	67.75	1.5	79.5	
48	N95	67.75	1.5	48	
49	N96	67.75	1.5	109.5	
50	N97	26.5	1.5	28	
51	N98	26.5	1.5	53.75	
52	N99	26.5	1.5	79.5	
53	N100	70.75	1.5	0	
54	N101	49.75	1.5	0	
55	F2_N20	67.75	36	11.5	
56	F2_N28	67.75	36	22	
57	F3_N20	67.75	30.5	11.5	
58	F3_N26	41	30.5	0	
59	F3_N28	67.75	30.5	22	
60	F1_N20	67.75	21	11.5	
61	F1_N26	41	21	0	
62	F1_N28	67.75	21	22	
63	N93	67.75	0	11.5	

Permits: BNR21-0245, ELE21-0852, MEC21-0513, Bldg



Node Coordinates (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
64	N94A	41	0	0	
65	N95A	67.75	0	22	
66	F2 N21	41	36	28	
67	F3 N116	41	30.5	28	
68	F1 N21	41	21	28	
69	N99A	41	0	28	
70	N70	47.125	36	60.5	
71	N71	47.125	36	45.5	
72	N72	47.125	36	75.5	
73	N73	40.6375	36	60.5	
74	N74	53.6125	36	60.5	
75	N75	53.625	30.5	9.5	
76	N76	53.625	30.5	6.5	
77	N77	53.625	30.5	12.5	
78	N78	48.3375	30.5	9.5	
79	N79	58.9125	30.5	9.5	
80	N80	42.375	21	62.5	
81	N81	42.375	21	43.45	
82	N82	42.375	21	81.55	
83	N83	32.0625	21	62.5	
84	N84	52.6875	21	62.5	
85	N85	46.894984	36	61.161998	
86	N86	46.894984	36	66.161998	
87	N87	46.894984	36	56.161998	
88	N88	49.057484	36	61.161998	
89	N89	44.732484	36	61.161998	
90	N90	55.186905	30.5	6.537073	
91	N91	55.186905	30.5	7.537073	
92	N92	55.186905	30.5	5.537073	
93	N93A	56.949405	30.5	6.537073	
94	N94B	53.424405	30.5	6.537073	
95	N95B	40.642323	21	67.565909	
96	N96A	40.642323	21	73.915909	
97	N97A	40.642323	21	61.215909	
98	N98A	44.079823	21	67.565909	
99	N99B	37.204823	21	67.565909	

Permits: BNR21-0245, ELE21-0862, MEC21-0513, P1900799

County of Orange - OC Public Works
OC Development Services
APPROVED

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Hadi Tabatabaee
 BUILDING OFFICIAL

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	SMF-BM	W21X73	Beam	Wide Flange	A992	Typical	21.5	70.6	1600	3.02
2	OCBF-Brace	HSS8X8X10	VBrace	SquareTube	A500 Gr.B Rect	Typical	16.4	146	146	244
3	SMF-COL	W14X176	Column	Wide Flange	A992	Typical	51.8	838	2140	26.5



Company : KPFF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

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Concrete Section Sets

Building&Safety: OCPWazarvandB 12/29/2025

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	GRADE BM	CRECT36X30	Beam	Rectangular	Conc4000NW	Typical	1080	81000	140961051539105

Permits: BNR21-0245, ELE21-0852, MEC21-0513, B21-0888
 County of Orange - DE - Public Works



Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	F2 M2	F2 N6	F2 N7		W21X83	Beam	Wide Flange	Typical
2	F2 M3	F2 N7	F2 N8		W21X83	Beam	Wide Flange	Typical
3	F2 M4	F2 N4	F2 N5		W21X83	Beam	Wide Flange	Typical
4	F2 M5	F2 N38	F2 N4		W21X83	Beam	Wide Flange	Typical
5	F2 M6	F2 N10	F2 N9		W14X48	Beam	Wide Flange	Typical
6	F2 M9	F2 N8	F2 N36		W14X48	Beam	Wide Flange	Typical
7	F3 M1	F3 N34	F3 N35		W18X55	Beam	Wide Flange	Typical
8	F1 M1	F1 N34	F1 N35		W21X62	Beam	Wide Flange	Typical
9	F1 M2	F1 N6	F1 N7		W24X94	Beam	Wide Flange	Typical
10	F1 M3	F1 N7	F1 N8		W24X94	Beam	Wide Flange	Typical
11	F1 M4	F1 N4	F1 N5		W24X94	Beam	Wide Flange	Typical
12	F1 M5	F1 N38	F1 N4		W24X94	Beam	Wide Flange	Typical
13	F1 M6	F1 N10	F1 N9		W14X48	Beam	Wide Flange	Typical
14	F1 M9	F1 N8	F1 N36		W14X48	Beam	Wide Flange	Typical
15	F1 (B-4.6) L1	N201A	F2 N9		W14X120	Column	Wide Flange	Typical
16	F1 (C-4.6) L1	N202A	F2 N10		W14X120	Column	Wide Flange	Typical
17	F1 (A.2-5) L1	N214A	F3 N34		W14X145	Column	Wide Flange	Typical
18	F1 (A.8-5) L1	N215A	F3 N35		W14X145	Column	Wide Flange	Typical
19	F1 (C-2) L1	N216A	F2 N5	90	W18X211	Column	Wide Flange	Typical
20	F1 (C-3) L1	N217A	F2 N4	90	W18X211	Column	Wide Flange	Typical
21	F1 (A.3-2) L1	N218A	F2 N7	90	W18X211	Column	Wide Flange	Typical
22	F1 (A.3-3.2) L1	N219	F2 N6	90	W18X211	Column	Wide Flange	Typical
23	F1 (A.3-1.3) L1	N220	F2 N8	90	W18X211	Column	Wide Flange	Typical
24	F1 (A.6-1.3) L1	N221	F2 N36		W14X120	Column	Wide Flange	Typical
25	F1 (C-4) L1	N222	F2 N38	90	W18X211	Column	Wide Flange	Typical
26	M86	N221	F1 N8		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
27	M87	N220	F1 N36		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
28	M88	F1 N36	F2 N8		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
29	M89	F1 N8	F2 N36		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
30	M90	N202A	F1 N9		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
31	M91	F1 N9	F2 N10		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
32	M92	N201A	F1 N10		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
33	M93	F1 N10	F2 N9		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
34	M34	N94	N95		GRADE BM	Beam	Rectangular	Conc4000NW
35	M35	N94	N96		GRADE BM	Beam	Rectangular	Conc4000NW
36	M36	N97	N98		GRADE BM	Beam	Rectangular	Conc4000NW
37	M37	N98	N99		GRADE BM	Beam	Rectangular	Conc4000NW
38	M38	N100	N101		GRADE BM	Beam	Rectangular	Conc4000NW
39	F2 M24	F2 N28	F2 N20		W14X48	Beam	Wide Flange	Typical
40	F2 M31	F2 N9	F2 N20		W14X48	Beam	Wide Flange	Typical
41	F3 M13	F3 N26	F3 N9		W12X14	Beam	Wide Flange	Typical
42	F3 M6	F3 N9	F3 N20		W14X48	Beam	Wide Flange	Typical
43	F3 M9	F3 N20	F3 N28		W14X48	Beam	Wide Flange	Typical
44	F1 (A.3-4.6) L1	N93	F2 N20		HSS10X10X10	Column	Tube	A500 Gr.B Rect
45	F1 (B-5) L1	N94A	F3 N26		HSS10X10X10	Column	Tube	A500 Gr.B Rect
46	F1 (A.3-4.2) L1	N95A	F2 N28		HSS10X10X10	Column	Tube	A500 Gr.B Rect
47	M49	F3 N20	F2 N9		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
48	M50	F3 N20	F2 N28		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
49	F2 M14	F2 N9	F2 N21		W14X48	Beam	Wide Flange	Typical
50	F1 (B-4) L1	N99A	F2 N21		HSS10X10X10	Column	Tube	A500 Gr.B Rect
51	M53	F3 N9	F2 N21		OCBF-Brace	VBrace	SquareTube	A500 Gr.B Rect
52	F2 M7	F2 N10	F2 N38		W14X48	Beam	Wide Flange	Typical
53	F2 M30	F2 N28	F2 N6		W14X48	Beam	Wide Flange	Typical



Company : KPPF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

C8/15
 5/27/2021
 8:58:14 PM
 Checked By : _____

Floor Diaphragms

Building&Safety: OCPWazarvandB 12/29/2025

Elevation [ft]	Mass [k]	Mass MOI [k-ft ²]	Center Of Mass [ft]	Plus X Eccentricity [ft]	Minus X Eccentricity [ft]	Plus Z Eccentricity [ft]	Minus Z Eccentricity [ft]	Inactive	Diaphragm Type	Design Rule	SEA Material	Thickness [in]	No Wind/Drift
1	36	255.675	2.481e+05	46.895, 61.162	%5	%5	%5	%5	D3	Flexible	N/A	N/A	N/A
2	30.5	26.805	3452.675	55.187, 6.537	%5	%5	%5	%5	D4	Flexible	N/A	N/A	N/A
3	21	878.243	1.506e+06	40.642, 67.566	%5	%5	%5	%5	D2	Rigid	N/A	N/A	N/A

Permits: BNR21-0245, ELE21-0852, MEC21-0513, SEA-1900
 County of Orange - OC Public Works Development Services
 APPROVED
 This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works, OC Development Services of Orange County. The stamping of these plans is subject to the approval of the Building Department and approval of the violation of any provisions of any County Ordinance of Orange County.
 Building Official

Design Size and Code Check Parameters

Label	Max Depth [in]	Min Depth [in]	Max Axial/Bending Chk	Max Shear Chk
1 Typical	23	10	0.95	0.95
2 Balcony	13		0.95	0.95
3 MEP	9		0.95	0.95

Frame / HR Column Seismic Design Rule

Label	Frame Type	Column Ductility	Column Overstrength	Beam Ductility	Connection	Beam Overstrength	Z Factor	Hinge Location [in]	Brace Ductility	Brace Overstrength	KL/r
1 OCBF	OCBF	Moderate	Yes	Moderate	Other/None		N/A	N/A	High		
2 SCBF	SCBF	High	Yes	High	Other/None	Yes	N/A	N/A	High		Yes
3 SMF-WUF-W	SMF	High	Yes	High	WUF-W	Yes		14.625	N/A		

Load Combinations

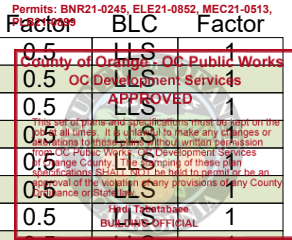
Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1 DL only	Yes	Y	DL	1								
2 LL only	Yes	Y	LL	1	RLL	1						
3 Deflection 1	Yes	Y	DL	1								
4 Deflection 2	Yes	Y	LL	1								
5 Deflection 3	Yes	Y	DL	1	LL	1						
6 IBC 16-1	Yes	Y	DL	1.4								
7 IBC 16-2 (a)	Yes	Y	DL	1.2	LL	1.6	LLS	1.6	RLL	0.5		
8 IBC 16-2 (b)	Yes	Y	DL	1.2	LL	1.6	LLS	1.6				
9 IBC 16-3 (a)	Yes	Y	DL	1.2	RLL	1.6	LL	1	LLS	1		
10 Drift (Z)	Yes	Y	DL	1	Sds*DL	0.2	ELZ	1	LL	1		
11 Drift (Z+eX)	Yes	Y	DL	1	Sds*DL	0.2	ELZ+X	1	LL	1		
12 Drift (Z-eX)	Yes	Y	DL	1	Sds*DL	0.2	ELZ-X	1	LL	1		
13 Drift (X)	Yes	Y	DL	1	Sds*DL	0.2	ELX	1	LL	1		
14 Drift (X+eZ)	Yes	Y	DL	1	Sds*DL	0.2	ELX+Z	1	LL	1		
15 Drift (X-eZ)	Yes	Y	DL	1	Sds*DL	0.2	ELX-Z	1	LL	1		
16 IBC 16-5 (a)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX	1	LL	0.5	LLS	1
17 IBC 16-5 (b)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX+Z	1	LL	0.5	LLS	1
18 IBC 16-5 (c)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX-Z	1	LL	0.5	LLS	1
19 IBC 16-5 (d)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ	1	LL	0.5	LLS	1
20 IBC 16-5 (e)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ+X	1	LL	0.5	LLS	1
21 IBC 16-5 (f)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ-X	1	LL	0.5	LLS	1
22 IBC 16-5 (g)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX	-1	LL	0.5	LLS	1
23 IBC 16-5 (h)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX+Z	-1	LL	0.5	LLS	1
24 IBC 16-5 (i)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELX-Z	-1	LL	0.5	LLS	1
25 IBC 16-5 (j)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ	-1	LL	0.5	LLS	1
26 IBC 16-5 (k)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ+X	-1	LL	0.5	LLS	1
27 IBC 16-5 (l)	Yes	Y	DL	1.2	Sds*DL	0.2	Rho*ELZ-X	-1	LL	0.5	LLS	1
28 IBC 16-7 (a)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX	1				
29 IBC 16-7 (b)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX+Z	1				
30 IBC 16-7 (c)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX-Z	1				
31 IBC 16-7 (d)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ	1				
32 IBC 16-7 (e)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ+X	1				
33 IBC 16-7 (f)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ-X	1				
34 IBC 16-7 (g)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX	-1				
35 IBC 16-7 (h)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX+Z	-1				
36 IBC 16-7 (i)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELX-Z	-1				
37 IBC 16-7 (j)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ	-1				
38 IBC 16-7 (k)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ+X	-1				
39 IBC 16-7 (l)	Yes	Y	DL	0.9	Sds*DL	-0.2	Rho*ELZ-X	-1				

Load Combinations (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	
40	IBC 16-5 (os-a)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX	1	LL	0.5	LLS	1
41	IBC 16-5 (os-b)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX+Z	1	LL	0.5	LLS	1
42	IBC 16-5 (os-c)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX-Z	1	LL	0.5	LLS	1
43	IBC 16-5 (os-d)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ	1	LL	0.5	LLS	1
44	IBC 16-5 (os-e)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ+X	1	LL	0.5	LLS	1
45	IBC 16-5 (os-f)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ-X	1	LL	0.5	LLS	1
46	IBC 16-5 (os-g)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX	-1	LL	0.5	LLS	1
47	IBC 16-5 (os-h)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX+Z	-1	LL	0.5	LLS	1
48	IBC 16-5 (os-i)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELX-Z	-1	LL	0.5	LLS	1
49	IBC 16-5 (os-j)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ	-1	LL	0.5	LLS	1
50	IBC 16-5 (os-k)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ+X	-1	LL	0.5	LLS	1
51	IBC 16-5 (os-l)	Yes	Y	DL	1.2	Sds*DL	0.2	Om*ELZ-X	-1	LL	0.5	LLS	1
52	IBC 16-7 (os-a)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX	1				
53	IBC 16-7 (os-b)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX+Z	1				
54	IBC 16-7 (os-c)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX-Z	1				
55	IBC 16-7 (os-d)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ	1				
56	IBC 16-7 (os-e)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ+X	1				
57	IBC 16-7 (os-f)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ-X	1				
58	IBC 16-7 (os-g)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX	-1				
59	IBC 16-7 (os-h)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX+Z	-1				
60	IBC 16-7 (os-i)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELX-Z	-1				
61	IBC 16-7 (os-j)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ	-1				
62	IBC 16-7 (os-k)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ+X	-1				
63	IBC 16-7 (os-l)	Yes	Y	DL	0.9	Sds*DL	-0.2	Om*ELZ-X	-1				

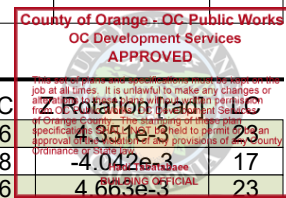
Permits: BNR21-0245, ELE21-0862, MEC21-0513, Factor 0.5



County of Orange - Of Public Works
 OC Development Services
 APPROVED
 The seal of this agency shall not be used on any document or all lines, it is illegal to make any changes or alterations to this seal without the written permission of the County of Orange - Development Services. This seal shall be held to comply with the provisions of the Seal Act of the State of California.

Envelope Node Reactions

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	N201A	max	322.394	24	657.137	18	1.038	11	0	39	0	39	39
2		min	-123.75	13	-584.188	36	-1.01	27	0	1	0	1	1
3	N202A	max	11.27	7	664.162	24	0.397	39	0	39	0	39	39
4		min	-311.2	30	-593.053	30	-0.377	32	0	1	0	1	1
5	N214A	max	15.319	36	90.275	18	0.221	36	0	39	0	39	39
6		min	-34.769	18	-27.97	36	-0.194	30	0	1	0	1	1
7	N215A	max	34.388	24	101.221	24	0.22	18	0	39	0	39	39
8		min	-15.152	30	-23.644	30	-0.217	36	0	1	0	1	1
9	N216A	max	0.608	18	157.246	12	1.361	4	0	39	0	39	39
10		min	-0.481	24	4.935	39	-20.713	21	0	1	0	1	1
11	N217A	max	0.354	17	138.334	7	81.706	27	0	39	0	39	39
12		min	-0.381	23	26.319	4	-80.991	21	0	1	0	1	1
13	N218A	max	0.674	17	212.263	7	70.715	38	0	39	0	39	39
14		min	-0.728	23	50.721	4	-78.281	20	0	1	0	1	1
15	N219	max	0.725	17	151.874	26	28.399	26	0	39	0	39	39
16		min	-0.835	23	17.771	32	-1.71	4	0	1	0	1	1
17	N220	max	275.799	23	604.274	17	1.899	4	0	39	0	39	39
18		min	-122.497	28	-478.77	35	-26.58	20	0	1	0	1	1
19	N221	max	127.367	36	605.544	23	0.27	20	0	39	0	39	39
20		min	-276.549	17	-485.13	29	-0.29	27	0	1	0	1	1
21	N222	max	0.361	17	138.205	27	20.817	27	0	39	0	39	39
22		min	-0.457	23	-1.116	33	-1.329	4	0	1	0	1	1
23	N93	max	0.434	14	35.421	27	0.303	12	0	39	0	39	39
24		min	-0.027	23	1.931	33	-0.43	27	0	1	0	1	1
25	N94A	max	0	4	14.82	7	0.313	12	0	39	0	39	39
26		min	-0.141	24	3.527	4	-0.245	27	0	1	0	1	1
27	N95A	max	-1.493	30	116.649	7	0.536	11	0	39	0	39	39
28		min	-6.949	7	21.439	38	-0.526	26	0	1	0	1	1
29	N99A	max	0.349	16	127.715	7	0.275	12	0	39	0	39	39
30		min	-0.371	24	30.16	38	-0.153	27	0	1	0	1	1
31	Totals:	max	587.326	36	1496.906	7	167.633	26					



Envelope Node Reactions (Continued)

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
32	min	-587.326	18	375.231	4	-167.633	20					

Envelope Node Displacements

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	F2_N4	max	1.704	17	-0.005	4	1.101	21	9.502e-4	21	1.011e-3	36
		min	-1.835	23	-0.02	7	-1.107	27	-9.456e-4	27	-1.051e-3	18
3	F2_N5	max	1.743	17	-0.003	39	1.099	21	1.144e-3	21	9.445e-4	36
4		min	-1.943	23	-0.023	12	-1.11	27	-1.142e-3	39	-9.858e-4	18
5	F2_N6	max	1.715	16	-0.004	32	1.188	20	1.687e-3	20	9.029e-4	36
6		min	-1.841	24	-0.026	7	-1.175	26	-1.53e-3	38	-9.306e-4	18
7	F2_N7	max	1.673	17	-0.009	4	1.184	20	1.297e-3	32	1.194e-3	36
8		min	-1.863	23	-0.033	7	-1.178	26	-1.347e-3	26	-1.265e-3	18
9	F2_N8	max	1.164	17	0.044	36	1.182	20	1.577e-3	11	1.097e-3	24
10		min	-1.43	23	-0.105	17	-1.183	26	-1.632e-3	26	-1.174e-3	16
11	F2_N9	max	1.439	18	0.06	36	1.294	21	5.425e-4	26	1.583e-3	33
12		min	-1.474	24	-0.223	18	-1.25	39	-9.308e-4	30	-1.69e-3	27
13	F2_N10	max	1.42	18	0.094	13	1.106	21	1.547e-3	21	2.569e-3	26
14		min	-1.454	24	-0.222	24	-1.107	27	-1.518e-3	27	-2.637e-3	20
15	F2_N36	max	1.164	17	0.071	28	1.347	20	3.164e-3	20	7.093e-4	21
16		min	-1.431	23	-0.194	23	-1.349	26	-3.18e-3	26	-5.656e-4	30
17	F2_N38	max	1.739	16	-0.002	33	1.105	21	1.149e-3	33	9.38e-4	36
18		min	-1.872	24	-0.019	27	-1.106	27	-1.148e-3	27	-9.696e-4	18
19	F2_N71	max	1.165	17	0.027	28	1.306	20	2.763e-3	20	1.166e-3	21
20		min	-1.432	23	-0.17	23	-1.307	26	-2.793e-3	26	-1.166e-3	27
21	F3_N4	max	1.438	17	-0.005	4	1.006	21	1.722e-3	21	8.225e-4	36
22		min	-1.548	23	-0.019	7	-1.012	27	-1.723e-3	27	-8.53e-4	18
23	F3_N5	max	1.469	17	-0.003	39	1.002	21	1.689e-3	21	7.803e-4	36
24		min	-1.635	23	-0.022	7	-1.021	27	-1.611e-3	39	-8.117e-4	18
25	F3_N6	max	1.444	16	-0.004	32	1.062	20	2.111e-3	32	7.54e-4	36
26		min	-1.549	24	-0.025	7	-1.049	26	-2.151e-3	26	-7.767e-4	18
27	F3_N7	max	1.427	17	-0.009	4	1.059	20	2.203e-3	20	9.382e-4	36
28		min	-1.587	23	-0.032	7	-1.052	26	-2.209e-3	26	-9.883e-4	18
29	F3_N8	max	1.155	17	0.043	36	1.052	20	2.199e-3	20	8.266e-4	36
30		min	-1.377	23	-0.104	17	-1.061	26	-2.112e-3	38	-8.679e-4	18
31	F3_N9	max	1.427	18	0.053	36	1.259	21	2.01e-3	21	2.142e-3	36
32		min	-1.444	24	-0.215	18	-1.24	27	-1.767e-3	39	-2.177e-3	18
33	F3_N34	max	1.386	18	0.003	36	1.139	20	3.125e-3	20	8.018e-4	36
34		min	-1.384	36	-0.014	18	-1.133	26	-3.105e-3	26	-8.385e-4	18
35	F3_N35	max	1.389	18	0.002	30	1.134	20	3.11e-3	21	8.097e-4	36
36		min	-1.383	36	-0.017	24	-1.135	26	-3.116e-3	27	-8.306e-4	18
37	F3_N36	max	1.15	17	0.07	28	1.138	20	3.159e-3	20	6.166e-4	36
38		min	-1.372	23	-0.191	23	-1.139	26	-3.172e-3	26	-5.409e-4	30
39	F3_N38	max	1.467	16	-0.002	33	1.015	21	1.617e-3	33	7.762e-4	36
40		min	-1.578	24	-0.018	27	-1.009	27	-1.698e-3	27	-8.014e-4	18
41	F3_N45	max	1.387	18	0.019	30	1.138	20	3.123e-3	20	8.256e-4	36
42		min	-1.384	36	-0.039	24	-1.133	26	-3.106e-3	26	-8.611e-4	18
43	F3_N108	max	1.31	18	0.09	13	1.002	21	1.645e-3	21	1.625e-3	26
44		min	-1.348	24	-0.215	24	-1.005	27	-1.619e-3	27	-1.674e-3	20
45	F1_N4	max	0.981	17	-0.005	4	0.782	21	1.84e-3	21	4.967e-4	36
46		min	-1.057	23	-0.018	7	-0.787	27	-1.849e-3	27	-5.109e-4	18
47	F1_N5	max	1	17	-0.003	39	0.782	21	2.14e-3	33	4.967e-4	36
48		min	-1.108	23	-0.021	7	-0.787	27	-2.559e-3	27	-5.109e-4	18
49	F1_N6	max	0.985	16	-0.004	32	0.783	20	2.784e-3	11	4.967e-4	36
50		min	-1.053	24	-0.023	7	-0.779	26	-2.427e-3	38	-5.11e-4	18
51	F1_N7	max	1	17	-0.008	32	0.783	20	2.156e-3	20	4.967e-4	36
52		min	-1.108	23	-0.03	7	-0.779	26	-2.082e-3	38	-5.11e-4	18
53	F1_N8	max	1.021	17	0.042	36	0.783	20	2.378e-3	32	4.966e-4	36
54		min	-1.169	23	-0.101	17	-0.779	26	-2.841e-3	26	-5.108e-4	18



Company : KPF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

C11/15
 5/27/2021
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 Checked By : _____

Envelope Node Displacements (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
55	F1_N9	max	1.053	18	0.043	36	0.78	21	4.704e-3	21	4.959e-4	36	3.881e-3	24
56		min	-1.092	24	-0.201	18	-0.783	27	-4.614e-3	27	-5.102e-4	18	4.034e-3	18
57	F1_N10	max	1.053	18	0.083	13	0.782	21	2.327e-3	21	4.959e-4	36	2.991e-3	24
58		min	-1.092	24	-0.203	24	-0.787	27	-2.319e-3	27	-5.101e-4	18	2.937e-3	18
59	F1_N34	max	1.124	18	0.003	36	0.783	20	3.118e-3	20	4.959e-4	36	3.44e-3	24
60		min	-1.12	36	-0.012	18	-0.779	26	-3.098e-3	26	-5.101e-4	18	2.69e-3	30
61	F1_N35	max	1.124	18	0.002	30	0.78	20	3.103e-3	21	4.959e-4	36	2.779e-3	36
62		min	-1.12	36	-0.015	24	-0.781	26	-3.109e-3	27	-5.102e-4	18	-3.203e-3	18
63	F1_N36	max	1.021	17	0.069	28	0.781	20	3.1e-3	20	4.965e-4	36	2.798e-3	23
64		min	-1.169	23	-0.185	23	-0.78	26	-3.109e-3	26	-5.108e-4	18	-2.18e-3	29
65	F1_N38	max	1	16	-0.002	33	0.782	21	2.554e-3	21	4.967e-4	36	4.382e-3	24
66		min	-1.075	24	-0.017	7	-0.787	27	-2.146e-3	39	-5.11e-4	18	-4.146e-3	18
67	F1_N71	max	1.021	17	0.017	28	0.781	20	2.872e-3	32	4.967e-4	36	8.511e-4	35
68		min	-1.169	23	-0.203	23	-0.78	26	-3.042e-3	26	-5.109e-4	18	-1.804e-3	14
69	N201A	max	0	13	0	36	0	27	2.297e-3	21	3.485e-4	36	4.546e-3	24
70		min	0	24	0	18	0	11	-2.355e-3	27	-5.102e-4	18	-4.248e-3	18
71	N202A	max	0	30	0	30	0	32	3.49e-3	21	8.262e-4	12	4.966e-3	24
72		min	0	7	0	24	0	39	-3.526e-3	27	-7.187e-4	39	-4.766e-3	18
73	N214A	max	0	18	0	36	0	30	3.102e-3	20	4.352e-6	36	1.172e-3	24
74		min	0	36	0	18	0	36	-3.094e-3	26	-4.48e-6	18	-9.661e-4	30
75	N215A	max	0	30	0	30	0	36	3.101e-3	20	4.352e-6	36	9.734e-4	36
76		min	0	24	0	24	0	18	-3.095e-3	26	-4.48e-6	18	-1.188e-3	18
77	N216A	max	0	24	0	39	0	21	1.386e-3	33	7.877e-6	36	4.204e-3	23
78		min	0	18	0	12	0	4	-1.592e-3	27	-8.06e-6	18	-3.884e-3	17
79	N217A	max	0	23	0	4	0	21	1.038e-3	21	6.554e-6	36	4.169e-3	23
80		min	0	17	0	7	0	27	-1.046e-3	27	-6.661e-6	18	-3.873e-3	17
81	N218A	max	0	23	0	4	0	20	1.114e-3	20	7.286e-6	17	4.716e-3	23
82		min	0	17	0	7	0	38	-1.146e-3	26	-8.268e-6	23	-4.295e-3	17
83	N219	max	0	23	0	32	0	4	1.784e-3	20	8.891e-6	36	4.577e-3	23
84		min	0	17	0	26	0	26	-1.413e-3	38	-8.975e-6	18	-4.19e-3	17
85	N220	max	0	28	0	35	0	20	1.415e-3	32	1.147e-4	38	4.938e-3	23
86		min	0	23	0	17	0	4	-1.703e-3	26	-1.459e-4	11	-4.49e-3	17
87	N221	max	0	17	0	29	0	27	3.098e-3	20	3.621e-4	36	5.507e-3	23
88		min	0	36	0	23	0	20	-3.089e-3	26	-6.152e-4	18	-4.944e-3	17
89	N222	max	0	23	0	33	0	4	1.58e-3	21	7.788e-6	36	4.152e-3	24
90		min	0	17	0	27	0	27	-1.39e-3	39	-7.891e-6	18	-3.884e-3	16
91	F1_N119	max	1.124	18	0.015	36	0.781	20	3.107e-3	20	4.967e-4	36	6.246e-4	30
92		min	-1.12	36	-0.128	15	-0.78	26	-3.104e-3	26	-5.109e-4	18	-1.222e-3	24
93	N94	max	0.077	17	0	4	0.026	20	9.886e-4	32	7.286e-6	17	4.715e-3	23
94		min	-0.085	23	-0.003	7	-0.026	26	-1.034e-3	26	-8.268e-6	23	-4.294e-3	17
95	N95	max	0.075	17	0	32	0.03	20	1.824e-3	20	8.891e-6	36	4.582e-3	23
96		min	-0.082	23	-0.002	26	-0.027	38	-1.388e-3	38	-8.975e-6	18	-4.193e-3	17
97	N96	max	0.081	17	0.003	36	0.027	32	1.388e-3	32	1.073e-5	17	4.912e-3	23
98		min	-0.089	23	-0.008	17	-0.029	26	-1.731e-3	26	-1.407e-5	23	-4.462e-3	17
99	N97	max	0.07	16	0	33	0.028	21	1.598e-3	21	7.788e-6	36	4.151e-3	24
100		min	-0.075	24	-0.002	27	-0.026	39	-1.369e-3	39	-7.891e-6	18	-3.882e-3	16
101	N98	max	0.07	17	0	4	0.025	21	9.073e-4	21	6.554e-6	36	4.168e-3	23
102		min	-0.075	23	-0.002	7	-0.025	27	-9.135e-4	27	-6.661e-6	18	-3.871e-3	17
103	N99	max	0.07	17	0	39	0.026	33	1.365e-3	33	7.877e-6	36	4.202e-3	23
104		min	-0.076	23	-0.002	12	-0.028	27	-1.609e-3	27	-8.06e-6	18	-3.883e-3	17
105	N100	max	0.022	18	0	36	0.056	20	3.102e-3	20	4.352e-6	36	1.136e-3	24
106		min	-0.023	36	-0.002	18	-0.056	26	-3.094e-3	26	-4.48e-6	18	-8.493e-4	30
107	N101	max	0.023	18	0	30	0.056	20	3.1e-3	20	4.352e-6	36	8.561e-4	36
108		min	-0.022	36	-0.002	24	-0.056	26	-3.094e-3	26	-4.48e-6	18	-1.151e-3	18
109	F2_N20	max	1.484	18	0	33	1.189	20	4.87e-4	26	2.092e-3	7	3.677e-4	35
110		min	-1.519	24	-0.024	27	-1.175	26	-1.19e-4	32	-2.142e-4	30	-2.898e-4	14
111	F2_N28	max	0.863	30	-0.009	38	1.186	20	4.772e-4	26	-3.572e-4	29	1.639e-2	7
112		min	-3.956	24	-0.064	7	-1.172	26	-1.107e-4	32	-3.364e-3	7	3.568e-4	30

Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB21-0092
 County of Orange - Public Works
 APPROVED
 This set of plans and specifications must be kept on file at all times. No changes may be made to the plans or specifications without the written approval of the County of Orange, Department of Planning and Development Services. The approval of these plans is contingent upon the approval of the City of Orange and the County of Orange. The approval of these plans is contingent upon the approval of the City of Orange and the County of Orange.
 Building & Safety - Building Official



Envelope Node Displacements (Continued)

Building&Safety: OCPW&ArvandB 12/29/2025

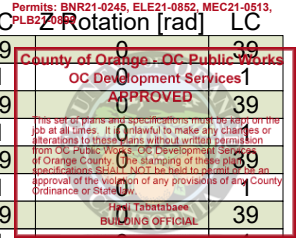
Node Label			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
113	F3 N20	max	1.453	18	0	33	1.155	20	1.57e-3	20	2.092e-3	7	2.016e-3	24
114		min	-1.465	24	-0.023	27	-1.17	26	-1.421e-3	38	-2.142e-4	30	4.1557e-3	30
115	F3 N26	max	1.594	30	-0.002	4	1.262	21	4.392e-3	21	4.967e-4	36	5.077e-3	24
116		min	-1.658	24	-0.008	7	-1.243	27	-4.202e-3	39	-5.109e-4	18	4.129e-3	30
117	F3 N28	max	0.894	30	-0.01	38	1.152	20	1.593e-3	20	-1.753e-4	36	1.819e-3	7
118		min	-2.975	24	-0.063	7	-1.166	26	-1.452e-3	38	-2.135e-3	7	5.87e-4	30
119	F1 N20	max	1.054	18	0	33	0.783	20	3.868e-3	32	4.967e-4	36	4.003e-3	36
120		min	-1.093	24	-0.018	27	-0.779	26	-4.067e-3	26	-5.109e-4	18	-4.426e-3	18
121	F1 N26	max	1.124	18	-0.002	4	0.78	21	3.869e-3	21	4.967e-4	36	4.668e-3	24
122		min	-1.12	36	-0.007	7	-0.783	27	-3.746e-3	39	-5.109e-4	18	-4.299e-3	30
123	F1 N28	max	1.004	16	-0.011	38	0.783	20	3.826e-3	32	4.967e-4	36	2.093e-2	7
124		min	-1.081	24	-0.06	7	-0.779	26	-4.017e-3	26	-5.109e-4	18	9.65e-4	30
125	N93	max	0	23	0	33	0	27	2.751e-3	20	4.967e-4	36	4.509e-3	24
126		min	0	14	0	27	0	12	-2.623e-3	38	-5.109e-4	18	-4.061e-3	30
127	N94A	max	0	24	0	4	0	27	2.714e-3	21	4.967e-4	36	4.377e-3	36
128		min	0	4	0	7	0	12	-2.79e-3	27	-5.109e-4	18	-4.582e-3	18
129	N95A	max	0	7	0	38	0	26	2.77e-3	20	4.967e-4	36	1.815e-3	34
130		min	0	30	0	7	0	11	-2.646e-3	38	-5.109e-4	18	-1.103e-2	15
131	F2 N21	max	1.69	16	-0.018	38	1.285	21	2.744e-3	21	3.328e-4	36	3.929e-3	24
132		min	-1.816	24	-0.075	7	-1.242	39	-2.5e-3	39	-3.693e-4	23	-3.656e-3	16
133	F3 N116	max	1.443	16	-0.017	38	1.104	21	2.769e-3	21	3.929e-4	36	4.091e-3	24
134		min	-1.551	24	-0.071	7	-1.079	27	-2.54e-3	39	-3.933e-4	18	-3.808e-3	16
135	F1 N21	max	1	16	-0.015	38	0.78	21	2.927e-3	21	4.967e-4	36	4.23e-3	24
136		min	-1.075	24	-0.066	7	-0.783	27	-2.796e-3	39	-5.109e-4	18	-3.937e-3	16
137	N99A	max	0	24	0	38	0	27	3.18e-3	21	4.967e-4	36	4.283e-3	24
138		min	0	16	0	7	0	12	-3.268e-3	27	-5.109e-4	18	-3.982e-3	16
139	N70	max	0	39	0	39	0	39	0	39	0	39	0	39
140		min	0	1	0	1	0	1	0	1	0	1	0	1
141	N71	max	0	39	0	39	0	39	0	39	0	39	0	39
142		min	0	1	0	1	0	1	0	1	0	1	0	1
143	N72	max	0	39	0	39	0	39	0	39	0	39	0	39
144		min	0	1	0	1	0	1	0	1	0	1	0	1
145	N73	max	0	39	0	39	0	39	0	39	0	39	0	39
146		min	0	1	0	1	0	1	0	1	0	1	0	1
147	N74	max	0	39	0	39	0	39	0	39	0	39	0	39
148		min	0	1	0	1	0	1	0	1	0	1	0	1
149	N75	max	0	39	0	39	0	39	0	39	0	39	0	39
150		min	0	1	0	1	0	1	0	1	0	1	0	1
151	N76	max	0	39	0	39	0	39	0	39	0	39	0	39
152		min	0	1	0	1	0	1	0	1	0	1	0	1
153	N77	max	0	39	0	39	0	39	0	39	0	39	0	39
154		min	0	1	0	1	0	1	0	1	0	1	0	1
155	N78	max	0	39	0	39	0	39	0	39	0	39	0	39
156		min	0	1	0	1	0	1	0	1	0	1	0	1
157	N79	max	0	39	0	39	0	39	0	39	0	39	0	39
158		min	0	1	0	1	0	1	0	1	0	1	0	1
159	N80	max	0.988	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
160		min	-1.074	23	0	1	-0.782	27	0	1	-5.109e-4	18	0	1
161	N81	max	0.988	16	0	39	0.78	21	0	39	4.967e-4	36	0	39
162		min	-1.058	24	0	1	-0.782	27	0	1	-5.109e-4	18	0	1
163	N82	max	1.001	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
164		min	-1.113	23	0	1	-0.782	27	0	1	-5.109e-4	18	0	1
165	N83	max	0.988	17	0	39	0.781	21	0	39	4.967e-4	36	0	39
166		min	-1.074	23	0	1	-0.785	27	0	1	-5.109e-4	18	0	1
167	N84	max	0.988	17	0	39	0.781	20	0	39	4.967e-4	36	0	39
168		min	-1.074	23	0	1	-0.78	26	0	1	-5.109e-4	18	0	1
169	N85	max	0	39	0	39	0	39	0	39	0	39	0	39
170		min	0	1	0	1	0	1	0	1	0	1	0	1

Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB270889
 County of Orange - Public Works
APPROVED
 This set of plans and specifications were prepared for the job at all times and make any changes, or alterations, or amendments, or a written permit from the County of Orange, Department Services of Orange, prior to the beginning of these plans, specifications, or any provisions of the County Ordinance 92-113, or any other applicable Ordinance, effective.

Envelope Node Displacements (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
171 N86 max	0	39	0	39	0	39	0	39	0	39	0	39
172 min	0	1	0	1	0	1	0	1	0	1	0	1
173 N87 max	0	39	0	39	0	39	0	39	0	39	0	39
174 min	0	1	0	1	0	1	0	1	0	1	0	1
175 N88 max	0	39	0	39	0	39	0	39	0	39	0	39
176 min	0	1	0	1	0	1	0	1	0	1	0	1
177 N89 max	0	39	0	39	0	39	0	39	0	39	0	39
178 min	0	1	0	1	0	1	0	1	0	1	0	1
179 N90 max	0	39	0	39	0	39	0	39	0	39	0	39
180 min	0	1	0	1	0	1	0	1	0	1	0	1
181 N91 max	0	39	0	39	0	39	0	39	0	39	0	39
182 min	0	1	0	1	0	1	0	1	0	1	0	1
183 N92 max	0	39	0	39	0	39	0	39	0	39	0	39
184 min	0	1	0	1	0	1	0	1	0	1	0	1
185 N93A max	0	39	0	39	0	39	0	39	0	39	0	39
186 min	0	1	0	1	0	1	0	1	0	1	0	1
187 N94B max	0	39	0	39	0	39	0	39	0	39	0	39
188 min	0	1	0	1	0	1	0	1	0	1	0	1
189 N95B max	0.991	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
190 min	-1.084	23	0	1	-0.783	27	0	1	-5.11e-4	18	0	1
191 N96A max	0.996	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
192 min	-1.097	23	0	1	-0.783	27	0	1	-5.11e-4	18	0	1
193 N97A max	0.987	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
194 min	-1.072	23	0	1	-0.783	27	0	1	-5.11e-4	18	0	1
195 N98A max	0.991	17	0	39	0.78	21	0	39	4.967e-4	36	0	39
196 min	-1.084	23	0	1	-0.782	27	0	1	-5.109e-4	18	0	1
197 N99B max	0.991	17	0	39	0.781	21	0	39	4.967e-4	36	0	39
198 min	-1.084	23	0	1	-0.784	27	0	1	-5.109e-4	18	0	1



Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc	[k]	phi*Pnt	[k]	phi*Mn y-y	[k-ft]	phi*Mn z-z	[k-ft]	Cb	Eqn
1 F1 (C-4.6) L1	W14X120	0.943	21	48*	0.025	21	y	45*	1140.728	1588.5	382.5	795	1.667	H1-1a				
2 F1 (B-4.6) L1	W14X120	0.883	21	42*	0.14	30.75	y	42*	1140.728	1588.5	382.5	795	1.667	H1-1a				
3 F2 M31	W14X48	0.875	0	24	0.045	0	y	9	112.692	634.5	73.5	294	1.829	H1-1a				
4 F1 M2	W24X94	0.87	31.5	44*	0.148	31.5	y	44*	172.339	1246.5	140.625	743.664	2.251	H1-1b				
5 F1 (A.6-1.3) L1	W14X120	0.865	21	47*	0.023	21	y	41*	1140.728	1588.5	382.5	795	1.667	H1-1a				
6 F1 M3	W24X94	0.861	0	50*	0.168	30	y	44*	190.003	1246.5	140.625	782.681	2.218	H1-1b				
7 M92	HSS8X8X10	0.83	25.52	24	0.003	25.52	y	24	334.27	678.96	154.215	154.215	1.136	H1-1a*				
8 M87	HSS8X8X10	0.81	24.187	23	0.007	24.187	y	20	359.256	678.96	154.215	154.215	1.136	H1-1a*				
9 M86	HSS8X8X10	0.81	24.187	17	0.003	24.187	y	21	359.256	678.96	154.215	154.215	1.136	H1-1a*				
10 M90	HSS8X8X10	0.797	25.52	30	0.004	25.52	y	20	334.27	678.96	154.215	154.215	1.136	H1-1a*				
11 F1 M5	W24X94	0.736	0	51*	0.185	25.75	y	45*	257.899	1246.5	140.625	952.5	2.35	H1-1b				
12 F1 M4	W24X94	0.733	25.75	45*	0.185	0	y	51*	257.899	1246.5	140.625	952.5	2.35	H1-1b				
13 F1 (C-3) L1	W18X211	0.685	1.5	51*	0.372	1.5	y	51*	1559.096	2803.5	495	1837.5	2.057	H1-1b				
14 F2 M3	W21X83	0.675	0	50*	0.066	30	y	44*	141.892	1098	114.375	581.4	2.224	H1-1a				
15 F1 (A.3-4.2) L1	HSS10X10X10	0.652	21	7	0.07	21	y	7	647.237	869.4	252.54	252.54	1.667	H1-1b				
16 F1 (A.3-2) L1	W18X211	0.645	1.5	50*	0.344	1.5	y	44*	1559.096	2803.5	495	1837.5	2.053	H1-1b				
17 F1 (A.3-1.3) L1	W18X211	0.635	21	41*	0.124	1.5	y	44*	1559.096	2803.5	495	1837.5	2.351	H1-1a				
18 F1 (C-2) L1	W18X211	0.578	1.5	45*	0.131	21	y	45*	1559.096	2803.5	495	1837.5	2.056	H1-1b				
19 F1 (C-4) L1	W18X211	0.575	1.5	51*	0.132	21	y	51*	1559.096	2803.5	495	1837.5	2.056	H1-1b				
20 F1 M1	W21X62	0.563	21	48*	0.144	0	y	42*	204.553	823.5	81.375	540	2.307	H1-1b				
21 F2 M2	W21X83	0.551	31.5	44*	0.062	31.5	y	44*	128.701	1098	114.375	545.286	2.22	H1-1b				
22 F1 (A.3-3.2) L1	W18X211	0.526	1.5	50*	0.115	21	y	50*	1559.096	2803.5	495	1837.5	2.05	H1-1b				
23 F1 (A.8-5) L1	W14X145	0.415	1.589	48*	0.152	1.271	y	48*	1433.682	1921.5	498.75	975	2.044	H1-1b				
24 F1 (A.2-5) L1	W14X145	0.413	1.589	42*	0.152	1.271	y	42*	1433.682	1921.5	498.75	975	2.043	H1-1b				
25 F2 M5	W21X83	0.366	25.75	45*	0.06	0	y	51*	192.596	1098	114.375	707.936	2.216	H1-1b				
26 F2 M4	W21X83	0.35	0	51*	0.06	0	y	51*	192.596	1098	114.375	708.684	2.218	H1-1b				
27 F3 M1	W18X55	0.261	0	42*	0.054	0	y	42*	159.729	729	69.375	420	2.331	H1-1b				



Company : KPFF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

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Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Building&Safety: OCPWazarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, 294

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	Phi*	Pnc [k]	Phi*	Pnt [k]	Phi*	Mn	y-y [k-ft]	Phi*	Mn	z-z [k-ft]	Cb	Eqn
28	F2_M30	W14X48	0.26	6.771	9	0.107	0	y	9	119.287	634.5	73.5	294	1	H1-1b							
29	F3_M6	W14X48	0.251	5.573	24	0.04	26.75	y	9	112.692	634.5	73.5	294	1	H4-1a							
30	F1_M6	W14X48	0.215	7.25	8	0.07	0	y	7	345.702	634.5	73.5	294	APPROV	063	H1-1b						
31	F2_M6	W14X48	0.205	0	35	0.022	14.5	y	9	345.702	634.5	73.5	294	1	H1-1a							
32	F1_M9	W14X48	0.204	9	7	0.143	12	y	8	418.604	634.5	73.5	294	1	H4-1b							
33	M93	HSS8X8X10	0.18	20.863	30	0.009	20.863	y	26	422.832	678.96	154.215	154.215	1	H1-1b							
34	F1_(A.3-4.6)_L1	HSS10X10X10	0.169	30.375	27	0.046	30.375	z	11	818.451	869.4	252.54	252.54	1	H1-1b							
35	M91	HSS8X8X10	0.156	20.863	36	0.005	20.863	y	20	422.832	678.96	154.215	154.215	1	H1-1b							
36	F1_(B-4)_L1	HSS10X10X10	0.147	0	7	0.003	36	z	16	647.237	869.4	252.54	252.54	1.667	H1-1b*							
37	F3_M13	W12X14	0.141	11.5	32	0.067	11.5	y	9	27.996	187.2	7.125	65.25	1.649	H1-1b*							
38	M49	HSS8X8X10	0.105	0	18	0.019	27.31	y	26	301.587	678.96	154.215	154.215	1.136	H1-1b*							
39	F2_M9	W14X48	0.075	9	9	0.053	12	y	9	418.604	634.5	73.5	294	1.036	H1-1b							
40	F2_M14	W14X48	0.071	8.594	20	0.035	16.5	y	9	289.023	634.5	73.5	294	1.007	H1-1b							
41	F2_M7	W14X48	0.043	8.25	9	0.022	16.5	y	9	289.023	634.5	73.5	294	1.007	H1-1b							
42	M88	HSS8X8X10	0.042	19.209	29	0.009	19.209	y	17	454.437	678.96	154.215	154.215	1.136	H1-1b*							
43	M50	HSS8X8X10	0.04	0	26	0.142	11.853	y	7	582.708	678.96	154.215	154.215	1.136	H1-1b*							
44	M89	HSS8X8X10	0.039	19.209	35	0.003	19.209	y	21	454.437	678.96	154.215	154.215	1.136	H1-1b*							
45	M53	HSS8X8X10	0.038	8.696	26	0.017	17.393	y	24	488.538	678.96	154.215	154.215	1.136	H1-1b							
46	F1_(B-5)_L1	HSS10X10X10	0.037	20.969	12	0.003	30.5	z	12	647.237	869.4	252.54	252.54	1.677	H1-1b							
47	F3_M9	W14X48	0.019	10.5	32	0.037	0	y	7	461.464	634.5	73.5	294	1.546	H1-1b*							
48	F2_M24	W14X48	0.016	0	32	0.038	0	y	7	461.464	634.5	73.5	294	1.718	H1-1b*							

Envelope Concrete Beam Design Results

Member	Shape	UC Max Top	Loc[ft]	UC LC UC Max Bot	Loc[ft]	UC LC Shear	UC Loc[ft]	UC LC Phi*Mnz Top	k-ft	Phi*Mnz Bot	k-ft	Phi*Vny[k]		
1	M34	CRECT36X30	0.61	0.984	20	0.686	30.516	32	0.394	3.609	20	545.076	312.871	91.074
2	M35	CRECT36X30	0.613	0.938	26	0.64	0.938	32	0.4	3.438	26	545.076	262.14	91.074
3	M36	CRECT36X30	0.612	0.805	27	0.638	24.945	39	0.41	22.263	21	545.076	312.871	91.074
4	M37	CRECT36X30	0.617	24.945	12	0.636	0.805	33	0.412	3.487	27	545.076	312.871	91.074
5	M38	CRECT36X30	0.677	0.656	18	0.581	0.656	36	0.408	3.281	18	421.832	421.832	91.251

Concrete Beam Bending Reinforcement

Member	Shape	Span	Left Top	Left Bot	Right Top	Right Bot	
1	M34	CRECT36X30	1	5 #8	6 #5	5 #8	5 #6
2	M35	CRECT36X30	1	5 #8	6 #5	5 #8	6 #6
3	M36	CRECT36X30	1	5 #8	5 #7	5 #8	5 #6
4	M37	CRECT36X30	1	5 #8	5 #6	5 #8	5 #7
5	M38	CRECT36X30	1	5 #7	5 #7	5 #7	5 #7

Seismic Detailing - Columns

Label	Seismic Design Rule	Ductility Req'd	UC Max LC	Slenderness Checks	Panel Zone Checks	Panel Zone Eqn	Cont. Plate Req'd	Cont. Plate Eqn	SC/WB Ratio	SC/WB	Beam Misc. Checks	
1	F1_(B-4.6)_L1	OCBF	Moderate	0.883 ^{42*}	Pass	N/A	No	N/A	N/A	N/A	Pass	
2	F1_(C-4.6)_L1	OCBF	Moderate	0.943 ^{48*}	Pass	N/A	No	N/A	N/A	N/A	Pass	
3	F1_(A.2-5)_L1	SMF-WUF-W	High	0.413 ^{42*}	Warning	Fail (F1_M1)	360-10: Eqn J10-9	Yes (F3_M1)	360-10: Eqn J10-3	1.22 (pass)	F3_M1	Pass
4	F1_(A.8-5)_L1	SMF-WUF-W	High	0.415 ^{48*}	Warning	Fail (F1_M1)	360-10: Eqn J10-9	Yes (F3_M1)	360-10: Eqn J10-3	1.23 (pass)	F3_M1	Pass
5	F1_(C-2)_L1	SMF-WUF-W	High	0.578 ^{45*}	Warning	Fail (F1_M4)	360-10: Eqn J10-9	Yes (F2_M4)	360-10: Eqn J10-3	1.34 (pass)	F2_M4	Pass
6	F1_(C-3)_L1	SMF-WUF-W	High	0.685 ^{51*}	Warning	Fail (F1_M4)	360-10: Eqn J10-9	Yes (F2_M4)	360-10: Eqn J10-3	0.68 (fail)	F2_M4	Pass
7	F1_(A.3-2)_L1	SMF-WUF-W	High	0.645 ^{50*}	Warning	Fail (F1_M2)	360-10: Eqn J10-9	Yes (F2_M3)	360-10: Eqn J10-3	0.69 (fail)	F2_M2	Pass
8	F1_(A.3-3.2)_L1	SMF-WUF-W	High	0.526 ^{50*}	Warning	Fail (F1_M2)	360-10: Eqn J10-9	Yes (F2_M2)	360-10: Eqn J10-3	1.38 (pass)	F2_M2	Pass
9	F1_(A.3-1.3)_L1	SMF-WUF-W	High	0.635 ^{41*}	Warning	Fail (F1_M3)	360-10: Eqn J10-10	Yes (F2_M3)	360-10: Eqn J10-3	1.37 (pass)	F2_M3	Pass
10	F1_(A.6-1.3)_L1	OCBF	Moderate	0.865 ^{47*}	Pass	N/A	No	N/A	N/A	N/A	Pass	
11	F1_(C-4)_L1	SMF-WUF-W	High	0.575 ^{51*}	Warning	Fail (F1_M5)	360-10: Eqn J10-9	Yes (F2_M5)	360-10: Eqn J10-3	1.34 (pass)	F2_M5	Pass

Seismic Detailing - Beams

Label	Seismic Design Rule	Ductility Req'd	UC Max LC	Slenderness Checks	Type	Req'd Shear [k]	Req'd Moment [k-ft]	SC/WB Ratio	SC/WB Col	Span/Depth Misc. Checks		
1	F2_M2	SMF-WUF-W	High	0.551 ^{44*}	Pass	WUF-W	98.603	1377.839	1.38	F1_(A.3-3.2)_L1	16.7 (pass)	Pass
2	F2_M3	SMF-WUF-W	High	0.675 ^{50*}	Pass	WUF-W	103.576	1383.9	1.37	F1_(A.3-1.3)_L1	15.9 (pass)	Pass



Company : KPFF
 Designer : SH
 Job Number : 1900799
 Model Name : Dana Point Harbor_Bld'g. 11

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Seismic Detailing - Beams (Continued)

Building&Safety: OCPWAzarvandB 12/29/2025

Label	Seismic Design Rule	Ductility	Req'd UC	Max LC	Slenderness Checks	Type	Req'd Shear[k]	Req'd Moment[k-ft]	SC/WB Ratio	SC/WB C _u	Span/Depth	Misc. Checks
3 F2_M4	SMF-WUF-W	High	0.35	51*	Pass	WUF-W	121.134	1405.298	0.68	F1_(C-2)_L113.9 (pass)	11.9 (pass)	Pass
4 F2_M5	SMF-WUF-W	High	0.366	45*	Pass	WUF-W	121.092	1405.247	1.34	F1_(C-4)_L113.5 (pass)	11.9 (pass)	Pass
5 F2_M6	OCBF	Moderate	0.205	35	Pass	Other/None	N/A	N/A	N/A	N/A	N/A	Pass
6 F2_M9	OCBF	Moderate	0.075	9	Pass	Other/None	N/A	N/A	N/A	N/A	N/A	Pass
7 F3_M1	SMF-WUF-W	High	0.261	42*	Pass	WUF-W	87.587	825.413	1.23	F1_(A-3-5)_L113.1 (pass)	11.9 (pass)	Pass
8 F1_M1	SMF-WUF-W	High	0.563	48*	Pass	WUF-W	125.964	1077.519	1.81	F1_(A-3-5)_L114.3 (pass)	11.9 (pass)	Pass
9 F1_M2	SMF-WUF-W	High	0.87	44*	Pass	WUF-W	146.982	1808.968	2.03	F1_(A-3-2)_L114.3 (pass)	11.9 (pass)	Pass
10 F1_M3	SMF-WUF-W	High	0.861	50*	Pass	WUF-W	158.06	1822.469	1.77	F1_(A-3-1.3)_L114 (pass)	11.9 (pass)	Pass
11 F1_M4	SMF-WUF-W	High	0.733	45*	Pass	WUF-W	180.983	1850.406	1.02	F1_(C-3)_L11 (pass)	11.9 (pass)	Pass
12 F1_M5	SMF-WUF-W	High	0.736	51*	Pass	WUF-W	180.885	1850.288	1.96	F1_(C-4)_L11 (pass)	11.9 (pass)	Pass
13 F1_M6	OCBF	Moderate	0.215	8	Pass	Other/None	N/A	N/A	N/A	N/A	N/A	Pass
14 F1_M9	OCBF	Moderate	0.204	7	Pass	Other/None	N/A	N/A	N/A	N/A	N/A	Pass

Permits: BNR21-0245, ELE21-0852, MEC21-0513, OCPWAzarvandB
 APPROVED
 This set of plans and specifications must be submitted for approval at all times. It is the responsibility of the contractor to make any necessary changes or modifications to these plans and specifications. No work shall be performed without the approval of the County of Orange. The contractor shall be responsible for obtaining all necessary permits from the County of Orange. The contractor shall be responsible for obtaining all necessary permits from the County of Orange. The contractor shall be responsible for obtaining all necessary permits from the County of Orange.

Seismic Detailing - Braces

Label	Seismic Design Rule	Frame Ductility	UC	Max LC	Slenderness Checks	Req'd Tension[k]	Req'd Comp[k]	Unbalanced Vert. Force[k]	Unbalanced Beam	Misc. Checks
1 M86	OCBF	High	0.81	17	Pass	1056.16	476.547	N/A	N/A	Pass
2 M87	OCBF	High	0.81	23	Pass	1056.16	476.547	N/A	N/A	Pass
3 M88	OCBF	High	0.042	29	Pass	1056.16	662.223	N/A	N/A	Pass
4 M89	OCBF	High	0.039	35	Pass	1056.16	662.223	N/A	N/A	Pass
5 M90	OCBF	High	0.797	30	Pass	1056.16	429.866	N/A	N/A	Pass
6 M91	OCBF	High	0.156	36	Pass	1056.16	598.653	N/A	N/A	Pass
7 M92	OCBF	High	0.83	24	Pass	1056.16	429.866	N/A	N/A	Pass
8 M93	OCBF	High	0.18	30	Pass	1056.16	598.653	N/A	N/A	Pass

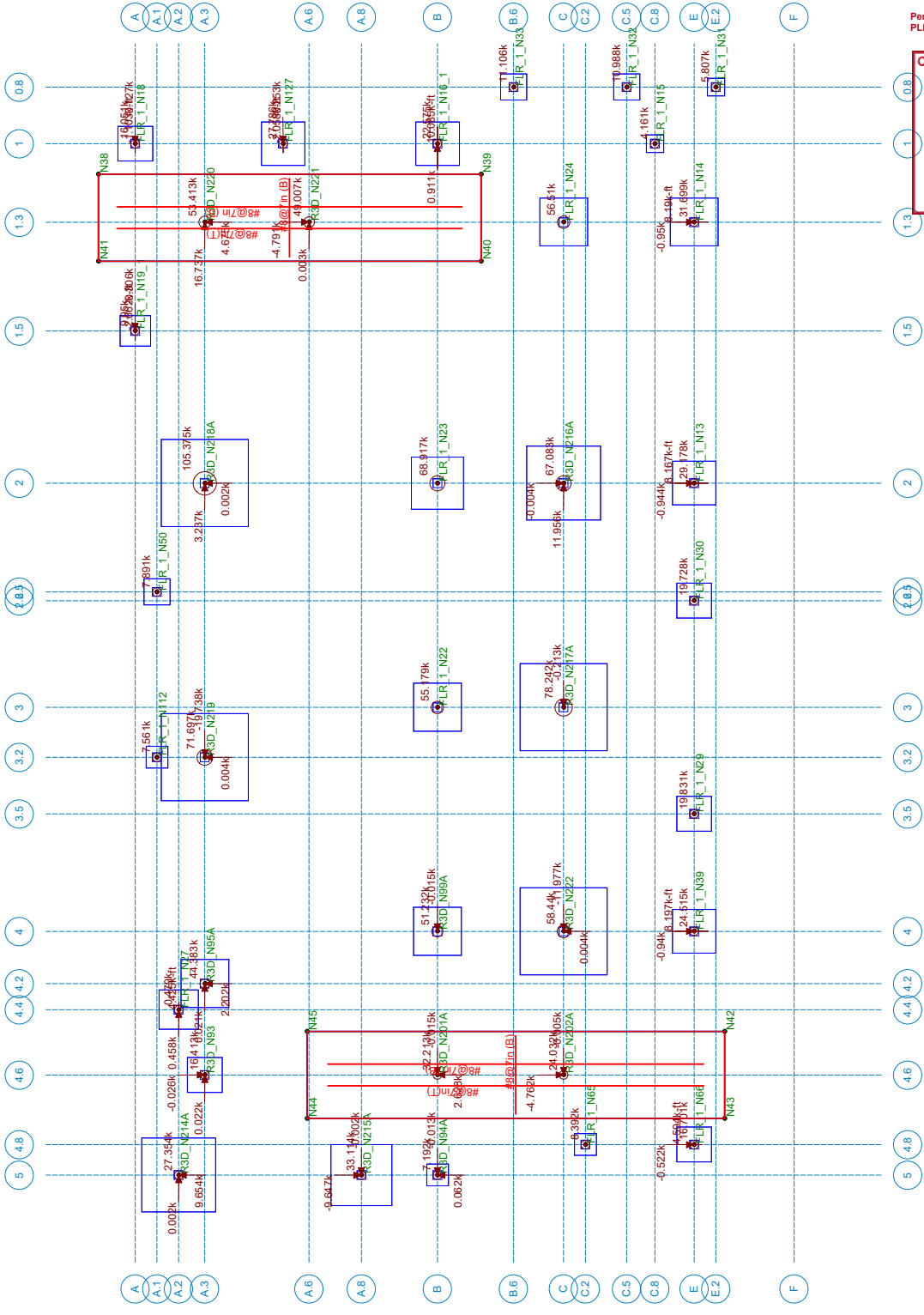
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D FOUNDATION DESIGN

D1/53

Footing Sabs
 Pad



Building&Safety: OCPW Azarvan B 12/29/2025
 Permits: BNR21-0245, ELE21-0862, PC21-0513, PLB21-0899

County of Orange - OC Public Works
OC Development Services
APPROVED

This set of plans and specifications must be applied to the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works, OC Development Services of Orange County. The stamping of these specifications SHALL NOT be construed to constitute approval of the violation of any provisions of any Ordinance or State law.

Head, Technical Services
 BUILDING DEPARTMENT

SK 100
 May 2 2021 9:21 AM
 2021-03-10 Bldg 1151

Dana Point Harbor_Bld'g. 11
 Foundation Legend

KPFF
 SH
 1900799

Loads: DL - Dead Load
 Results for LC 1, IBC 16-1

9bj YcdYGc]`Df Yggi fYg fT c b]bi YXL

Building&Safety: OCPWazarvandB 12/29/2025

Forms: DMCE1-0240, ECLL1-0002, IMC021-0010, PLB21-0899
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Fi	ÜHÖ' bGFÍ OE	€È Í J	G	FÈ FH	H
FJ	ÜHÖ' bGFÍ OE	€È Í Í	FÍ	FÈ Í Í	H
GE	ØSÜ' F' bGH	€È J Í	FÍ	GÈ Í Í	H
GF	ØSÜ' F' bGG	€È J H	FÍ	GÈ Í J	H
GG	ÜHÖ' bJJ OE	€È Í Í	FÍ	GÈ Í Í	H
GH	ÜHÖ' bJI OE	€È J Í	GF	GÈ Í Í	H
G	ÜHÖ' bGFÍ OE	€È Í Í	FÍ	FÈ Í	H
G	ÜHÖ' bGFÍ OE	€È H	FÍ	€È G	H
G	ÜHÖ' bJH	€È Í Í	GF	FÈ G	H
G	ÜHÖ' bJÍ OE	€È HH	FÍ	GÈ J Í	H
G	ØSÜ' F' bG	€È €G	FÍ	FÈ G	H
GJ	ÜHÖ' bGFJ	€È Í H	FÍ	FÈ H J	H
H€	ÜHÖ' bGFÍ OE	€È Í J	FÍ	FÈ Í Í	H
HF	ØSÜ' F' bFFG	€È Í Í	FÍ	GÈ J Í	H
HG	ØSÜ' F' bÍ €	€È G	FÍ	GÈ Í Í	H
HH	bH	€È FJ	G	GÈ Í Í	HÈ J
HI	bHU	€È Í Í	G	FÈ Í H	HÈ J
HÍ	bÍ €	€È Í Í	G	FÈ Í Í	HÈ J
HÌ	bÍ F	€È Í Í	G	GÈ Í Í	HÈ J
HÌ	bÍ G	€È €	H	GÈ GH	HÈ J
HÌ	bÍ H	€È €	H	GÈ GH	HÈ J
HJ	bII	€È Í F	HG	HÈ Ú Í	HÈ J
I €	bÍ Í	€È Í F	HG	HÈ Ú Í	HÈ J
IF	ÜHÖ' bGEFOE	€È JJ	G	FÈ JG	HÈ J
IG	ÜHÖ' bGEGOE	€È Í Í	G	FÈ €	HÈ J
IH	ÜHÖ' bGGE	€È FG	G	GÈ Í	HÈ J
II	ÜHÖ' bGGF	€È Í Í	FÍ	FÈ HH	H
IÍ	bÍ Í	€È	G	FÈ J Í	HÈ J
IÍ	bÍ Í	€È FÍ	G	GÈ	HÈ J
IÍ	bÍ Í	€È GF	G	GÈ J	HÈ J
IÍ	bÍ J	€È €	G	GÈ FÍ	HÈ J
IJ	bÍ €	€È €	G	GÈ FÍ	HÈ J
I€	bÍ F	€È FF	G	GÈ	HÈ J
IF	bÍ G	€È FF	G	GÈ	HÈ J
IG	bÍ H	€È €	G	GÈ FÍ	HÈ J
IH	bÍ Í	€È Í Í	G	FÈ H	HÈ J
II	bÍ Í	€È Í Í	G	FÈ H	HÈ J
IÍ	bÍ Í	€È Í F	G	FÈ G	HÈ J
IÍ	bÍ Í	€È Í F	G	FÈ FJ	HÈ J
IÍ	bÍ Í	€È Í H	G	GÈ Í	HÈ J
IÍ	bÍ J	€È Í H	G	GÈ G	HÈ J
IJ	bÍ €	€È Í Í	G	GÈ Í	HÈ J
I€	bÍ F	€È Í Í	G	GÈ H	HÈ J
IF	bÍ G	€È Í Í	FÍ	FÈ Í F	H
IG	bÍ H	€È Í Í	FÍ	FÈ Í Í	H
IH	bÍ Í	€È J Í	FÍ	FÈ Í H	H
II	bÍ Í	€È JH	FÍ	FÈ Í J	H
IÍ	bÍ Í	€È Í Í	G	FÈ Í Í	HÈ J
IÍ	bÍ Í	€È Í Í	FÍ	FÈ HH	H
IÍ	bÍ Í	€È Í F	FÍ	FÈ FÍ	H
IÍ	bÍ J	€È Í H	G	FÈ G	HÈ J
IJ	bÍ €	€È G	G	GÈ €	HÈ J

County of Orange - OC Public Works
 OC Development Services
APPROVED
 This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without the written approval from OC Public Works - OC Development Services of Orange County. The stamping of these plan specifications shall not be held to grant or be an approval of the violation of any provisions of any County Ordinance or State law.
 Heta Tabatabaee
 BUILDING OFFICIAL

9bj YcdYGcJ`Df Yggi fYg fT c bHpi YXL

Forms: DMCE1-0249, ELEC1-0002, IMC021-0010, PLB21-0899

County of Orange - OC Public Works
 OC Development Services
APPROVED
 This set of plans and specifications must be kept on the job at all times. It is the responsibility of the contractor to make any changes or substitutions to the plans and specifications. No work shall be performed from OC Public Works, OC Development Services or Orange County without stamping of these plan specifications. No work shall be performed without the approval of the Engineer or any provisions of any County Ordinance or State Code.
 Plan Repetitive
PLB21-0899
 OFFICIAL

	Sæ^	T æÁÓ	T æÁÓ	Ú[à^/Áæ ^	Ó{]æ^
FGG	ÞFGH	ÈÈ HG	G	GÈ GG	HÈJ
FGH	ÞFG	ÈÈ IH	G	GÈ Í	HÈJ
FG	ÞFG	ÈÈ IG	G	GÈEH	HÈJ
FG	ÞFG	ÈÈ I	G	GÈ I	HÈJ
FG	ÞFG	ÈÈ I	G	GÈG	HÈJ
FG	ÞFG	ÈÈ JH	G	GÈ Í	HÈJ
FG	ÞFGJ	ÈÈ EH	G	GÈ É	HÈJ
FGJ	ÞFHÈ	ÈÈ È	G	GÈ G	HÈJ
FHÈ	ÞFHF	ÈÈ JI	G	GÈ Í	HÈJ
FHF	ÞFHG	ÈÈ JF	G	GÈ Í	HÈJ
FHG	ÞFHH	ÈÈ JÍ	G	GÈÍ J	HÈJ
FHH	ÞFHI	ÈÈ Í	G	GÈH	HÈJ
FH	ÞFHÍ	ÈÈ IF	G	GÈFI	HÈJ
FH	ÞFHÍ	ÈÈ Í	G	GÈH	HÈJ
FH	ÞFHÍ	ÈÈ IJ	G	GÈJ	HÈJ
FH	ÞFHÍ	ÈÈ Í	G	GÈF	HÈJ
FH	ÞFHJ	ÈÈ FG	G	GÈ IG	HÈJ
FHJ	ÞFJÈ	ÈÈ ÈG	G	GÈ ÈG	HÈJ
FJÈ	ÞFJF	ÈÈ JI	G	GÈH	HÈJ
FJF	ÞFJG	ÈÈ È	G	GÈ G	HÈJ
FIG	ÞFJH	ÈÈ IF	G	GÈÍ J	HÈJ
FJH	ÞFJI	ÈÈ GJ	G	GÈFG	HÈJ
FJI	ÞFJÍ	ÈÈ H	G	GÈH	HÈJ
FJÍ	ÞFJÍ	ÈÈ I	G	GÈJ	HÈJ
FJ	ÞFJ	ÈÈ I	G	GÈH	HÈJ
FJ	ÞFJ	ÈÈ IJ	G	GÈÍ J	HÈJ
FJ	ÞFJ	ÈÈ IJ	G	GÈHJ	HÈJ
FJ	ÞFJÈ	ÈÈ FI	G	GÈ I	HÈJ
FJÈ	ÞFJF	ÈÈ GH	G	GÈ I	HÈJ
FJF	ÞFJG	ÈÈ G	G	GÈ É	HÈJ
FJG	ÞFJH	ÈÈ FI	G	GÈ I	HÈJ
FJH	ÞFJI	ÈÈ IF	G	GÈ JJ	HÈJ
FJI	ÞFJÍ	ÈÈ Í	G	GÈ FI	HÈJ
FJÍ	ÞFJÍ	ÈÈ Í	G	GÈ J	HÈJ
FJ	ÞFJ	ÈÈ IG	G	GÈ Í	HÈJ
FJ	ÞFJ	ÈÈ FH	G	GÈ I	HÈJ
FJ	ÞFJ	ÈÈ È	G	GÈ G	HÈJ
FJ	ÞFJÈ	ÈÈ FI	G	GÈ I	HÈJ
FJÈ	ÞFJF	ÈÈ GH	G	GÈ I	HÈJ
FJF	ÞFJG	ÈÈ EH	G	GÈ É	HÈJ
FJG	ÞFJH	ÈÈ JH	G	GÈ I	HÈJ
FJH	ÞFJI	ÈÈ JJ	G	GÈ I	HÈJ
FJI	ÞFJÍ	ÈÈ I	G	FÈFI	HÈJ
FJÍ	ÞFJÍ	ÈÈ IJ	G	FÈÈJ	HÈJ
FJ	ÞFJ	ÈÈ I	G	FÈJG	HÈJ
FJ	ÞFJ	ÈÈ I	G	FÈ	HÈJ
FJ	ÞFJ	ÈÈ JH	G	FÈÍ	HÈJ
FJ	ÞFJÈ	ÈÈ JI	G	FÈÍ	HÈJ
FJÈ	ÞFJF	ÈÈ JH	G	FÈÍ	HÈJ
FJF	ÞFJG	ÈÈ IJ	G	FÈÍF	HÈJ
FJG	ÞFJH	ÈÈ JI	G	FÈÍG	HÈJ
FJH	ÞFJI	ÈÈ JH	G	FÈÍ	HÈJ



Ó[{]æ^ K SÚØØ
 Ô•ã}^! K ÛP
 R àÁ~{ à^! K FJ€€JJ
 T[à^!Áæ^ K ÔææÚ[á ofPasà[! ÓàC€€F

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 T æÁGÍ ÈGEGF
 JKÍ ÁÚT
 Ô@&^áÁÓ'K''''

9bj YcdYGcJ`Df Yggi fYg fT c bhpi YXL

Building&Safety: OCPWazarvandB 12/29/2025

Forms: DM21-0899, ECL21-0899, MC21-0919, PLB21-0899

County of Orange - OC Public Works

OC Development Services

APPROVED

Signature

Title

Date

This set of plans and specifications must be kept on the job at all times. It is the responsibility of the contractor to make any changes or alterations to the plans and specifications. All changes must be approved in writing by the County of Orange Public Works, OC Development Services. No work shall be performed until the contractor has received the approval of the Engineer of any provisions of any County Ordinance or State Code.

Plan, Specification, and

Approval Stamp

Official

Signature

Title

Date

Signature

Title

Date

Signature

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9bj YcdYGcJ`Df Yggi fYg fT c bhpi YXL

Building&Safety: OCPWazarvandB 12/29/2025

Permits: DM21-0246, EL21-0024, MC21-0516, PLB21-0899

City of Orange, California

County of Orange - OC Public Works
 OC Development Services
APPROVED
 This set of plans and specifications must be kept on the job at all times. It is the contractor's responsibility to make any changes or alterations to this set of plans and specifications in accordance with the provisions of the City of Orange, California Ordinance 21.04.030. Any changes or alterations to these plans and specifications must be approved in writing by the City of Orange, California. This approval shall be subject to the approval of the Commission of any provisions of any County Ordinance or State Law.
 Final, Repetitive
 Planning Official

	Sæ^	T æ ÁÓ	T æ ÁÓ	Ú[áÁ~{ à^! ' ÓàC€€F	City of Orange, California
I H	PIH	€€ G	FÍ	F€ F	H
I H	PIH	€€ G	FÍ	F€ F	H
I H	PIH	€€ H	G	F€ I H	H
I H	PIH	€€ I H	G	F€ I I	H
I H	PIHJ	€€ I I	G	F€ I H	H
I HJ	PII €	€€ I	G	F€ I I	H
I I €	PII F	€€ H	G	F€ I G	H
I I F	PII G	€€ H	G	F€ I G	H
I I G	PII H	€€ G	FÍ	F€ F	H
I I H	PII I	€€ G	FÍ	F€ F	H
I I I	PII Í	€€ F	FÍ	F€ I	H
I I Í	PII Î	€€ G	FÍ	F€ Í	H
I I Î	PII Ï	€€ G	FÍ	F€ Í	H
I I Ï	PII ð	€€ F	FÍ	F€ I	H
I I ð	PII J	€€ I I	G	F€ I F	H
I I J	PII €	€€ I G	G	F€ €	H
I I €	PII F	€€ I H	G	F€ €	H
I I F	PII G	€€ I I	G	F€ I H	H
I I G	PII H	€€ F	FÍ	F€ I	H
I I H	PII I	€€ G	FÍ	F€ Í	H
I I I	PII Í	€€ G	FÍ	F€ Í	H
I I Í	PII Î	€€ F	FÍ	F€ I	H
I I Ï	PII ð	€€ I I	G	F€ I F	H
I I ð	PII J	€€ I J	G	F€ F	H
I I J	PII €	€€ I I	G	F€ I H	H
I I €	PII F	€€ I F	H	G€ I I	H
I I F	PII G	€€ H	H	G€ H	H
I I G	PII H	€€ H	H	G€ H H	H
I I H	PII I	€€ G	G	G€ J I	H
I I I	PII Í	€€ G	G	G€ J F	H
I I Í	PII Î	€€ G	G	G€ J G	H
I I Î	PII Ï	€€ G	G	G€ J I	H
I I Ï	PII ð	€€ G	G	G€ €	H
I I ð	PII J	€€ G	G	G€ €	H
I I J	PII €	€€ G	G	G€ €	H
I I €	PII F	€€ G	G	G€ €	H
I I F	PII G	€€ G	G	G€ J J	H
I I G	PII H	€€ G	G	G€	H
I I H	PII I	€€ G	G	G€ J I	H
I I I	PII Í	€€ G	G	G€ J H	H
I I Í	PII Î	€€ G	G	G€ I H	H
I I Î	PII Ï	€€ F J	G	G€ I G	H
I I Ï	PII ð	€€ G	G	G€ I G	H
I I ð	PII J	€€ G	G	G€ €	H
I I J	PII €	€€ G	G	G€ € H	H
I I €	PII F	€€ G	G	G€ € H	H
I I F	PII G	€€ G	G	G€ €	H
I I G	PII H	€€ G	G	G€ H	H
I I H	PII I	€€ F J	G	G€ G	H
I I I	PII Í	€€ G	G	G€ H	H
I I Í	PII Î	€€ G	G	G€ €	H

9bj YcdYGcJ`DfYggi fYg f7 c bhpi YXL

Permits: DM201-0246, ELEC1-0002, IMC021-0010, PLB21-0899

County of Orange - OC Public Works
 OC Development Services
APPROVED

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Plan Repetitive
 PLAN OFFICIAL

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ÍÍÍ	ÞÍÍ	€ÉÍF	G	GÉJÍ
ÍÍ	ÞÍÍ	€ÉÍF	G	GÉÍ
ÍÍ	ÞÍJ	€ÉÍ	G	GÉJÍ
ÍIJ	ÞÍ€	€ÉÍ	G	GÉJÍ
ÍÍ€	ÞÍF	€ÉÍ	G	GÉÍ
ÍÍF	ÞÍG	€ÉÍ	HG	GÉH
ÍÍG	ÞÍH	€ÉÍ	HG	GÉH
ÍÍH	ÞÍ	€ÉÍ	HG	GÉÍG
ÍÍ	ÞÍÍ	€ÉÍ	HG	GÉHF
ÍÍ	ÞÍÍ	€ÉÍ	HG	GÉH
ÍÍ	ÞÍÍ	€ÉJ	G	GÉÍ
ÍÍ	ÞÍÍ	€ÉG	HG	GÉÉ
ÍÍ	ÞÍJ	€ÉG	HG	GÉÉ
ÍIJ	ÞÍ€	€ÉJ	HG	HÉÍG
ÍÍ€	ÞÍF	€ÉJ	HG	HÉÍH
ÍÍF	ÞÍG	€ÉJ	G	GÉÍ
ÍÍG	ÞÍH	€ÉG	HG	GÉÉ
ÍÍH	ÞÍ	€ÉG	HG	GÉÉ
ÍÍ	ÞÍÍ	€ÉJ	HG	HÉÍ
ÍÍ	ÞÍÍ	€ÉJ	HG	HÉÍH
ÍÍ	ÞÍÍ	€ÉÍ	FI	FÉÍG
ÍÍ	ÞÍÍ	€ÉJ	G	FÉÍF
ÍÍ	ÞÍJ	€ÉJ	G	GÉF
ÍIJ	ÞÍ€	€ÉJJ	G	FÉJG
ÍÍ€	ÞÍF	€ÉÉ	G	GÉF
ÍÍF	ÞÍG	€ÉFF	G	GÉ
ÍÍG	ÞÍH	€ÉJ	G	FÉÍ
ÍÍH	ÞÍ	€ÉJ	G	FÉÍ
ÍÍ	ÞÍÍ	€ÉÍ	G	GÉGH
ÍÍ	ÞÍÍ	€ÉÍ	G	GÉÍ
ÍÍ	ÞÍÍ	€ÉÍ	G	GÉÉ
ÍÍ	ÞÍJ	€ÉJ	FI	FÉH
ÍIJ	ÞÍ€	€ÉÍF	FI	FÉÍG
ÍÍ€	ÞÍF	€ÉÍG	FI	FÉÍ
ÍÍF	ÞÍG	€ÉGH	G	GÉÍ
ÍÍG	ÞÍH	€ÉH	G	GÉHH
ÍÍH	ÞÍ	€ÉFF	G	GÉHJ
ÍÍ	ÞÍÍ	€ÉH	G	GÉHG
ÍÍ	ÞÍÍ	€ÉÉ	FI	FÉG
ÍÍ	ÞÍÍ	€ÉÍ	G	GÉGH
ÍÍ	ÞÍÍ	€ÉÍG	G	GÉF
ÍÍ	ÞÍJ	€ÉJ	G	GÉJ
ÍIJ	ÞÍ€	€ÉÍH	G	GÉÉ
ÍÍ€	ÞÍF	€ÉÍ	FI	FÉÍG
ÍJF	ÞÍJG	€ÉÍ	FI	FÉÍF
ÍJG	ÞÍJH	€ÉÍ	G	FÉÍ
ÍJH	ÞÍJ	€ÉÉ	G	FÉJJ
ÍJ	ÞÍJ	€ÉF	G	GÉ
ÍJ	ÞÍJ	€ÉÍH	FI	FÉÍJ
ÍJ	ÞÍJ	€ÉÉ	FI	FÉÍ
ÍJ	ÞÍJ	€ÉFJ	FI	FÉÍ

: cchbj 'G YU 7\ YW 'f' cchjbi YXL

Forms: DM01-0240, ECL01-0002, MC01-0010, PLB21-0899

X' : Z a **Ó{ cÆÓ**

City of Orange - OC Public Works
 OC Development Services
APPROVED
 Plans and specifications must be kept on the file. It is unlawful to make any changes or amendments to these plans without written approval from Public Works. OC Development Services, Orange County, The stamping of this plan indicates that the project has been reviewed and approved for the violation of any provision of any County Ordinance or State law.

Final, Tabulated
 BUILDING OFFICIAL

R ã c	Ó{ cÆ*	WÓÁ@æ	X' cZ á	Ó{ cÆÓ	WÓÁ@æ	X' : Z a	Ó{ cÆÓ
FF	ØSÙ ' F' ÞHH	Úæå	€	€ÆFI	G	€	G
FG	ØSÙ ' F' ÞFÍ ' F	Úæå	€ÆÍ H	FHGGJ	G	€ÆFI	G
FH	ØSÙ ' F' ÞFG	Úæå	€ÆÍ J	FGFG	G	€ÆI	G
FI	ØSÙ ' F' ÞFÍ	Úæå	€ÆÍ I	HÉ F	G	€ÆI J	G
FÍ	ØSÙ ' F' ÞFJ ' F	Úæå	€ÆFG	€Æ Í J	G	€ÆÉ	G
FÌ	ØSÙ ' F' ÞÍ Í	Úæå	€	€ÆF	G	€	G
FÌ	ÛHÖ ' ÞGGG	Úæå	€ÈGG	Í GGG H	FF	€GJÍ	FF
FÌ	ÛHÖ ' ÞGFÍ OE	Úæå	€ÈÍ Í	Í JÈ JI	FF	€GÍ	G
FJ	ÛHÖ ' ÞGFÍ OE	Úæå	€ÈÍ F	Í GÍ Í	J	€ÈÍ	J
GE	ØSÙ ' F' ÞGH	Úæå	€ÈJG	G ÈJÍ	G	€ÈJG	G
GF	ØSÙ ' F' ÞGG	Úæå	€ÈG	GÈÍ HÍ	G	€ÈG	G
GG	ÛHÖ ' ÞJJOE	Úæå	€ÈÉ	FÌ È FÍ	G	€ÈÉ	G
GH	ÛHÖ ' ÞJÍ OE	Úæå	€	€ÈÉ	G	€	G
G	ÛHÖ ' ÞGFÍ OE	Úæå	€ÆÍ H	FÌ È Í F	F€	€ÈF	F€
G	ÛHÖ ' ÞGFÍ OE	Úæå	€ÈH	FÌ È FJ	Í	€ÆÍ J	Í
G	ÛHÖ ' ÞJH	Úæå	€ÈÍ	GÈ JJ	FF	€ÈÍ	FF
G	ÛHÖ ' ÞJÍ OE	Úæå	€ÈJÍ	FÌ È HÍ	G	€ÈFÍ	G
G	ØSÙ ' F' ÞG	Úæå	€ÈÍ	Í ÈG	H	€ÈEG	H
GJ	ÛHÖ ' ÞGFJ	Úæå	€ÈÍ	Í ÈF	FF	€ÈF	FF
HE	ÛHÖ ' ÞGFÍ OE	Úæå	€ÈÍ I	Í ÈÈ	FF	€ÈÍ I	G
HF	ØSÙ ' F' ÞFFG	Úæå	€	€ÈFF	G	€	G
HG	ØSÙ ' F' ÞÍ €	Úæå	€	€ÈFG	G	€ÈFG	G

: cchbj 'GUZmi: UWc fg

R ã c	Ó{ cÆ*	UÙÈæc	Š	UÙÈÆ:	Š	UÙÈæc	Š	UÙÈÆ:	Š	
F	ØSÙ ' F' ÞÍ Í	Úæå	ÞOE	F	Í ÈÍ	G	FFÈ Í Í	FÍ	ÞOE	F
G	ØSÙ ' F' ÞHU	Úæå	ÞOE	F	Í ÈÉ	G	JÈÍ Í	FÍ	ÞOE	F
H	ØSÙ ' F' ÞGJ	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
I	ØSÙ ' F' ÞHE	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
Í	ØSÙ ' F' ÞFH	Úæå	ÞOE	F	Í È FF	G	FÈÍ G	FÍ	ÞOE	F
Î	ØSÙ ' F' ÞFI	Úæå	ÞOE	F	FÈÍ Í	G	FFÈ G	FÍ	ÞOE	F
Ì	ØSÙ ' F' ÞFÍ	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
Ì	ØSÙ ' F' ÞHF	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
J	ØSÙ ' F' ÞHG	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
F€	ØSÙ ' F' ÞG	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
FF	ØSÙ ' F' ÞHH	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
FG	ØSÙ ' F' ÞFÍ ' F	Úæå	Í È JÍ	HG	ÞOE	F	ÞOE	F	Í È FÍ	FÍ
FH	ØSÙ ' F' ÞFG	Úæå	HGÈ Í Í	G	ÞOE	F	ÞOE	F	Í GGG	HG
FI	ØSÙ ' F' ÞFÍ	Úæå	G È Í	G	ÞOE	F	ÞOE	F	Í È Í I	FÍ
FÍ	ØSÙ ' F' ÞFJ ' F	Úæå	Í È Í	G	ÞOE	F	ÞOE	F	FHÈ Í J	G
FÌ	ØSÙ ' F' ÞÍ Í	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
FÌ	ÛHÖ ' ÞGGG	Úæå	FÈ JH	HH	FÈ É	HH	HÈG Í	HH	FÈ Í I	HH
FÌ	ÛHÖ ' ÞGFÍ OE	Úæå	HÈ H	HÍ	ÞOE	F	ÞOE	F	€ÈÉ	HÍ
FJ	ÛHÖ ' ÞGFÍ OE	Úæå	FÈ Í J	HÍ	FÈ É	HÍ	FÍ Í È FÍ	HÍ	FÈ È H	HÍ
GE	ØSÙ ' F' ÞGH	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
GF	ØSÙ ' F' ÞGG	Úæå	ÞOE	F	ÞOE	F	ÞOE	F	ÞOE	F
GG	ÛHÖ ' ÞJJOE	Úæå	FÈ GJ	HÍ	FÈ FJG	HÍ	Í Í È HG	HI	Í Í È H	HÍ
GH	ÛHÖ ' ÞJÍ OE	Úæå	G È G H	HH	Í Í È Í	FÍ	HÈ Í G	FÍ	Í È JÍ	HH
G	ÛHÖ ' ÞGFÍ OE	Úæå	GÈ JF	HG	GÈ G	HG	FÈ H	HI	FÍ FÈ G	HG
G	ÛHÖ ' ÞGFÍ OE	Úæå	GÈ Í	HI	GÈ Í	HI	FÈ Í	HG	GÍ È É	HI
G	ÛHÖ ' ÞJH	Úæå	FÈ Í F	HH	GÈ É	HH	JÈ FÍ	HI	FÈ HU	HH

G'UV'G'X]b] 'GUZYmi: UM'c'f'g

	ŠŦ	Ùjaà	Ø* ^ã^* á	XæçZá	XiÈçZá	Xæ: Z á	XiÈ: Z á	ÙÙçç	ÙÙÈ:
F	FÌ	ÙF	€	€ÈFÌ	FJÌ ÈFÌ	FÌ ÈÌ	FJÌ ÈFÌ	JÈJÈ	JÈJÈ
G	FÌ	ÙG	€	GÈFH	FJÌ ÈG	ÈÈG	FJÌ ÈG	JÈJÈ	JÈJÈ
H	FÌ	ÙF	€	ÈÈHF	GÈJÈ HH	FÌ ÈG F	GÈJÈ HH	JÈJÈ	JÈJÈ
I	FÌ	ÙG	€	I ÈÈH	GÈHÈ JÌ	ÈÈH	GÈHÈ JÌ	JÈJÈ	JÈJÈ
Í	FÌ	ÙF	€	ÈÈÌ J	GÈÈHÌ Í	FÌ ÈÌ HÌ	GÈÈHÌ Í	JÈJÈ	JÈJÈ
Î	FÌ	ÙG	€	GÈG	FJÌ ÈÌ J	ÈÈG	FJÌ ÈÌ J	JÈJÈ	JÈJÈ
Ï	FJ	ÙF	€	ÈÈFÌ	FJÌ ÈFÌ	FÌ ÈÌ	FJÌ ÈFÌ	JÈJÈ	JÈJÈ
Ï	FJ	ÙG	€	GÈFH	FJÌ ÈG	ÈÈG	FJÌ ÈG	JÈJÈ	JÈJÈ
J	GÈ	ÙF	€	ÈÈFÌ	FJÌ ÈFÌ	FÌ ÈÌ	FJÌ ÈFÌ	JÈJÈ	JÈJÈ
F€	GÈ	ÙG	€	GÈFH	FJÌ ÈG	ÈÈG	FJÌ ÈG	JÈJÈ	JÈJÈ
FF	GF	ÙF	€	ÈÈG	GÈ ÈÈH	FÌ ÈÈ H	GÈ ÈÈH	JÈJÈ	JÈJÈ
FG	GF	ÙG	€	HÈGG	GÈHÈ G	ÈÈH	GÈHÈ G	JÈJÈ	JÈJÈ
FH	GG	ÙF	€	ÈÈÌ	GÈ ÈÈ	FÌ ÈÈ F	GÈ ÈÈ	JÈJÈ	JÈJÈ
FI	GG	ÙG	€	HÈH	GÈGÈÌ H	ÈÈF	GÈGÈÌ H	JÈJÈ	JÈJÈ
FÌ	GH	ÙF	€	ÈÈÌ	GÈ ÈÈ	FÌ ÈÈ F	GÈ ÈÈ	JÈJÈ	JÈJÈ
FÌ	GH	ÙG	€	HÈH	GÈGÈÌ H	ÈÈF	GÈGÈÌ H	JÈJÈ	JÈJÈ
FÌ	G	ÙF	€	FH ÈÈH	GFJÈÈ F	FJÈÈ Ì	GFJÈÈ F	FÈG	JÈJÈ
FÌ	G	ÙG	€	FÌ ÈÈ F	GF ÈÈ H	ÈÈG F	GF ÈÈ H	FÈG Ì	JÈJÈ
FJ	G	ÙF	€	FÈFÌ	GÈÈHG	GÈÈÌ	GÈÈHG	JÈJÈ	JÈH
GÈ	G	ÙG	€	HÈÌ	GF ÈÈ	ÈÈJJ	GF ÈÈ	JÈJÈ	JÈJÈ
GF	G	ÙF	€	FH ÈÈ JJ	GFJÈÈ Ì	FJÈÈ Ì	GFJÈÈ Ì	FÈG	JÈJÈ
GG	G	ÙG	€	FÌ GÈG	GF ÈÈ J	ÈÈÌ	GF ÈÈ J	FÈG Ì	JÈJÈ
GH	G	ÙF	€	FÈÈ F	GÈ ÈÈJ	FÌ ÈÈ J	GÈ ÈÈJ	JÈJÈ	JÈJÈ
G	G	ÙG	€	FÈÈF	GF ÈÈ H	ÈÈH	GF ÈÈ H	JÈJÈ	JÈJÈ
G	G	ÙF	€	FÈÈÌ Ì	GÈÈÌ Ì	FÌ ÈÈ HU	GÈÈÌ Ì	GÈG	JÈJÈ
G	G	ÙG	€	FGÈÈÌ Ì	GF ÈÈÌ	€	GF ÈÈÌ	FÈÌ H	JÈJÈ
G	GJ	ÙF	€	ÈÈÌ	GÈÈÈÈ	FJÈÈ FJ	GÈÈÈÈ	JÈJÈ	JÈJÈ
G	GJ	ÙG	€	I ÈÈ	GF ÈÈ Ì	ÈÈFÌ	GF ÈÈ Ì	JÈJÈ	JÈJÈ
GJ	HÈ	ÙF	€	FÈÈÈÌ Ì	GÈÈÈ F	FÌ ÈÈ GF	GÈÈÈ F	GÈJÌ	JÈJÈ
HÈ	HÈ	ÙG	€	FHÈÈ Ì J	GF ÈÈ Ì	ÈÈÌ	GF ÈÈ Ì	FÈÌ J	JÈJÈ
HF	HF	ÙF	€	FÈG	GF ÈÈ Ì	FÈÌ	GF ÈÈ Ì	JÈJÈ	JÈJÈ
HG	HF	ÙG	€	HÈG	GF ÈÈ J	ÈÈJ	GF ÈÈ J	JÈJÈ	JÈJÈ
HH	HG	ÙF	€	FH ÈÈ FH	FÈÈÈ Ì	I ÈÈ FÌ	FÈÈÈ Ì	ÈÈÌ J	JÈJÈ
HÌ	HG	ÙG	€	FÌ ÈÈ F	FÈÈÈ Ì	ÈÈH	FÈÈÈ Ì	ÈÈÈ	JÈJÈ
HÌ	HH	ÙF	€	FÈJÌ	FGÈÈ G	FÈÈ G	FGÈÈ G	JÈJÈ	JÈJÈ
HÌ	HH	ÙG	€	GÈÈ	FÈÈÈ GH	ÈÈÌ	FÈÈÈ GH	JÈJÈ	JÈJÈ
HÌ	H	ÙF	€	FH ÈÈ FJ	FÈÈÈ Ì	I ÈÈ G	FÈÈÈ Ì	ÈÈÌ J	JÈJÈ
HÌ	H	ÙG	€	FÌ ÈÈ Ì	FGÈÈ JÌ	ÈÈH	FGÈÈ JÌ	ÈÈ FG	JÈJÈ
HJ	HÌ	ÙF	€	FÈÈG	FÈÈÈ FÌ	HÈ G	FÈÈÈ FÌ	JÈJÈ	JÈJÈ
I €	HÌ	ÙG	€	ÈÈÌ	FGÈÈ Ì	ÈÈÌ	FGÈÈ Ì	JÈJÈ	JÈJÈ

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 APPROVED
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 Zepi, Tabatabaei
 BUILDING OFFICIAL

G'UV'Cj Yfh fb]p] 'Vm7UM] cfm

	ŠŦ	Ùjaà	Øæ* ^ã^* & æÈ	T [ÈçZ Èçá	T • ÈçZ Èçá	T [È: Z Èçá	T • È: Z Èçá
F	FÌ	ÙF	ØŠ	€	GÌÌ ÈÈ J	€	FÇÈ Ì ÈÈ FG
G	FÌ	ÙG	ØŠ	€	GÈ FHÈGG	€	FHÌ Ì ÈÈ ÈH
H	FÌ	ÙF	ØŠ	€	GÌÌ ÈÈ J	€	FÇÈ Ì ÈÈ FG
I	FÌ	ÙF	ŠŠ	€	FHHÈ JÌ	€	Ì FÈ ÈÈ H
Í	FÌ	ÙG	ØŠ	€	GÈ FHÈGG	€	FHÌ Ì ÈÈ ÈH
Î	FÌ	ÙG	ŠŠ	€	JJÈÈ JÌ	€	I Ì ÈÈ Ì
Ï	FÌ	ÙF	ØŠ	€	GÌÌ ÈÈ J	€	FÇÈ Ì ÈÈ FG
Ï	FÌ	ÙF	ÙŠŠ	€	GÈÈ J	€	FÈÈÈ G



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Building&Safety: OCPWazarvandB 12/29/2025

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GJ	PG€	€EJI	G	FBJF
G€	PGF	€EJG	G	FBJG
GF	PGG	€EII	G	FBJI
GG	PGH	€EJ	G	FBJH
GH	PGI	€EII	G	FBJH
GI	PGI	€EIH	G	FBJG
GI	PGI	€EIJ	G	FBJF
GI	PGI	€EIF	G	FBJF
GI	PGI	€EIF	G	FBJF
GI	PGJ	€EII	G	FBJF
GI	PG€	€EIJ	G	FBJF
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GI	PGI	€EIH	G	FBJG
GI	PGI	€EII	G	FBJH
GI	PGJ	€E€	G	G€G
GJ	PG€	€E€G	F	F€€
G€	PGF	€EJI	F	F€IJ
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GI	PGI	€EII	G	G€G
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GI	PGI	€E€	F	F€G
GI	PGI	€E€	F	F€G
GI	PGJ	€EJ	F	F€I
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GI	PGI	€EIG	F	F€II
GI	PGI	€EII	F	F€UF
GI	PGI	€EII	F	F€U
GI	PGI	€E€	F	F€€
GI	PGJ	€E	F	F€€
GJ	PG€	€E€	F	F€GH
G€	PGF	€E€G	F	F€€

Forms: DMCE1-9246, ECLL1-0002, MC021-9916, PLB21-0899
 County of Orange - OC Public Works
 OC Development Services
APPROVED
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E EXTERIOR METAL STUD DESIGN

E1/33

sheet no.



18400 Von Karman Ave., Suite 600
Irvine, CA 92612
(949) 252-1022 Fax (949) 252-8082

project	DPH	by	SH
location	DPH, CA	date	5/27/2021
client	SMS	job no.	1900799
Building 10 Monoslope Metal Stud Loading			

Building Safety, CCPM, 10/20/2021

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

Components & Cladding Wind Loads

(ASCE 7-16 - Ch 30, Part 1)

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OC Development Services
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Paul Tabatabaee
ENGINEER OFFICIAL

Wind Coefficients

Risk Category	III	Table 1.5-1
Basic Wind Speed	102	mph, Fig. 26.5-1C
Enclosure Classification	Enclosed	Sec. 26.2
G _{cpi}	0.18	Table 26.13-1
K _d	0.85	Table 26.6-1
Exposure Category	D	Sec. 26.7.3
G	0.85	Sec. 26.11.1
K _e	1.00	Table 26.9-1
K _z @ h	1.14	Table 26.10-1
q _h	25.7	psf, Eq. 26.10-1

Elevation and Structure Dimensions

Ground Elevation Above Sea Level		
Ground to Top of Roof		35.0 ft
Bottom of Roof to Top of Roof		17.0 ft
Mean Roof Height, h		26.5 ft
Roof Angle, θ		15 Degrees
Width of Structure, B		84 ft
Length of Structure, L		111 ft
Width of Pressure Coefficient, a		8.4 ft
Parapet?	No	h _{parapet} 0 ft
Calculate K _{zt} ?	No	K _{zt} 1.00

Strength or Allowable	Strength
Roof Type	Monoslope Roof
Roof Overhang	Yes

Strength Level Wall Pressures (psf)

Fig. 30.3-1

Zone	Effective Wind Area (ft ²)						
	10	20	50	100	200	500	270
4	30.4	29.0	27.2	25.8	24.5	22.7	23.9
	-33.0	-31.6	-29.8	-28.4	-27.0	-25.2	-26.5
5	30.4	29.0	27.2	25.8	24.5	22.7	23.9
	-40.7	-37.9	-34.3	-31.6	-28.9	-25.2	-27.7

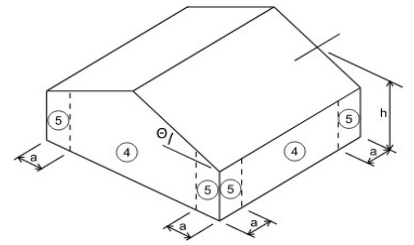


Fig. 30.3-1

Strength Level Roof Pressures (psf)

Fig. 30.3-5B

Zone	Effective Wind Area (ft ²)						
	10	20	50	100	200	500	1000
1	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Overhang	-38.1	-36.6	-34.5	-33.0	-33.0	-33.0	-33.0
2	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Overhang	-45.8	-42.7	-38.6	-35.5	-35.5	-35.5	-35.5
3	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Overhang	-79.3	-72.3	-63.1	-56.1	-56.1	-56.1	-56.1

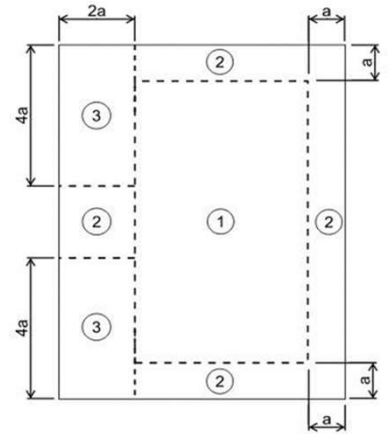


Fig. 30.3-5B

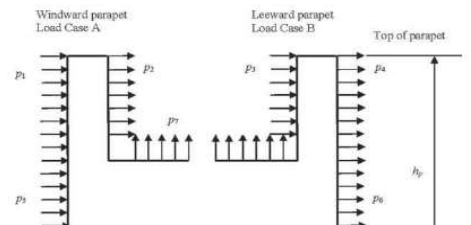


Fig. 30.8-1

$$q_h = 0.00256 K_z K_{zt} K_d K_e V^2 \quad \text{Eq. 26.10-1}$$

$$K_{zt} = (1 + K_1 K_2 K_3)^2 \quad \text{Eq. 26.8-1}$$

$$p = q_h [(GC_p) - (GC_{pi})] \quad \text{Eq. 30.3-1}$$

$$p = q_p [(GC_p) - (GC_{pi})] \quad \text{Eq. 30.8-1}$$



18400 Von Karman Ave., Suite 600
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(949) 252-1022 Fax (949) 252-8082

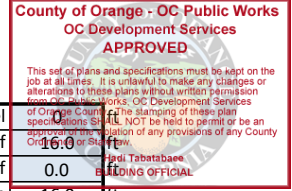
project	DPH	by	SH	sheet no.	E2/33
location	DPH, CA	date	5/27/2021		
client	SMS	job no.	1900799		
Building 10 Monoslope Metal Stud Loading					

Building Safety, CCPM, 18000000 18000000

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

Components & Cladding Wind Loads

(ASCE 7-16 - Ch 30, Part 1 & Part 6)



Wind Coefficients

Risk Category	III	Table 1.5-1
Basic Wind Speed	102	mph, Fig. 26.5-1C
Enclosure Classification	Enclosed	Sec. 26.2
G _{cpi}	0.18	Table 26.13-1
K _d	0.85	Table 26.6-1
Exposure Category	D	Sec. 26.7.3
G	0.85	Sec. 26.11.1
K _e	1.00	Table 26.9-1
K _z @ h	1.04	Table 26.10-1
q _h	23.6	psf, Eq. 26.10-1

Elevation and Structure Dimensions

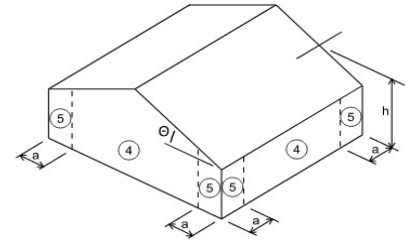
Ground Elevation Above Sea Level		
Ground to Top of Roof		16.0 ft
Bottom of Roof to Top of Roof		0.0 ft
Mean Roof Height, h		16.0 ft
Roof Angle, θ		0 Degrees
Width of Structure, B		84 ft
Length of Structure, L		111 ft
Width of Pressure Coefficient, a		6.4 ft
Parapet?	Yes	h _{parapet} 4 ft
Calculate K _{zt} ?	No	K _{zt} 1.00

Strength or Allowable	Strength
Roof Type	Flat Roof
Roof Overhang	No

Strength Level Wall Pressures (psf)

Fig. 30.3-1

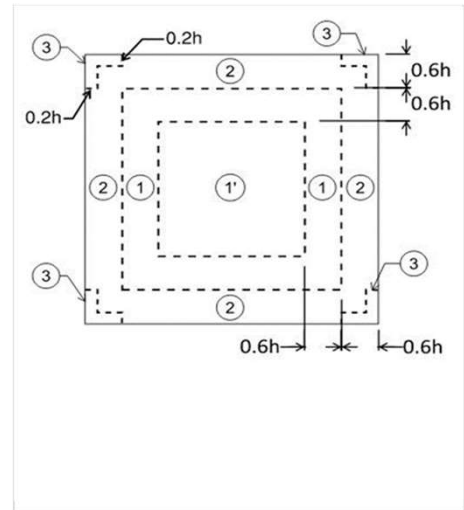
Zone	Effective Wind Area (ft ²)						
	10	20	50	100	200	500	10
4	25.5	24.3	22.9	21.7	20.6	19.1	25.5
	-27.6	-26.5	-25.0	-23.8	-22.7	-21.2	-27.6
5	25.5	24.3	22.9	21.7	20.6	19.1	25.5
	-34.0	-31.7	-28.7	-26.5	-24.2	-21.2	-34.0



Strength Level Roof Pressures (psf)

Fig. 30.3-2A

Zone	Effective Wind Area (ft ²)							
	10	20	50	100	200	500	1000	10
1'	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
	-25.5	-25.5	-25.5	-25.5	-21.9	-17.2	-16.0	-25.5
1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
	-44.3	-41.4	-37.6	-34.6	-31.7	-27.8	-27.8	-44.3
2	25.5	24.3	22.9	21.7	20.6	19.1	19.1	25.5
	-58.5	-54.7	-49.8	-46.0	-42.2	-37.3	-37.3	-58.5
3	25.5	24.3	22.9	21.7	20.6	19.1	19.1	25.5
	-58.5	-54.7	-49.8	-46.0	-42.2	-37.3	-37.3	-58.5

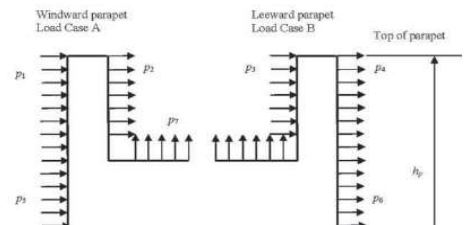


Strength Level Parapet Net Pressures (psf)

q_p 24.5 psf

Fig. 30.8-1

Zone	Effective Wind Area (ft ²)							
	10	20	50	100	200	500	1000	10
4	78.0	72.9	66.2	61.1	56.1	50.4	50.4	78.0
	-54.3	-51.9	-48.8	-46.5	-44.1	-42.2	-42.2	-54.3
5	78.0	72.9	66.2	61.1	56.1	50.4	50.4	78.0
	-60.9	-57.4	-52.7	-49.2	-45.7	-42.2	-42.2	-60.9



$$q_h = 0.00256 K_z K_{zt} K_d K_e V^2 \quad \text{Eq. 26.10-1}$$

$$K_{zt} = (1 + K_1 K_2 K_3)^2 \quad \text{Eq. 26.8-1}$$

$$p = q_h [(GC_p) - (GC_{pi})] \quad \text{Eq. 30.3-1}$$

$$p = q_p [(GC_p) - (GC_{pi})] \quad \text{Eq. 30.8-1}$$

Fig. 30.8-1

Project Name: CFS_stud-hdr-jmb design
 Model: Opening A - 1/S4.0.1
 Code: AISI S100-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



Design Loads

Wall Lateral Pressure : 20 psf

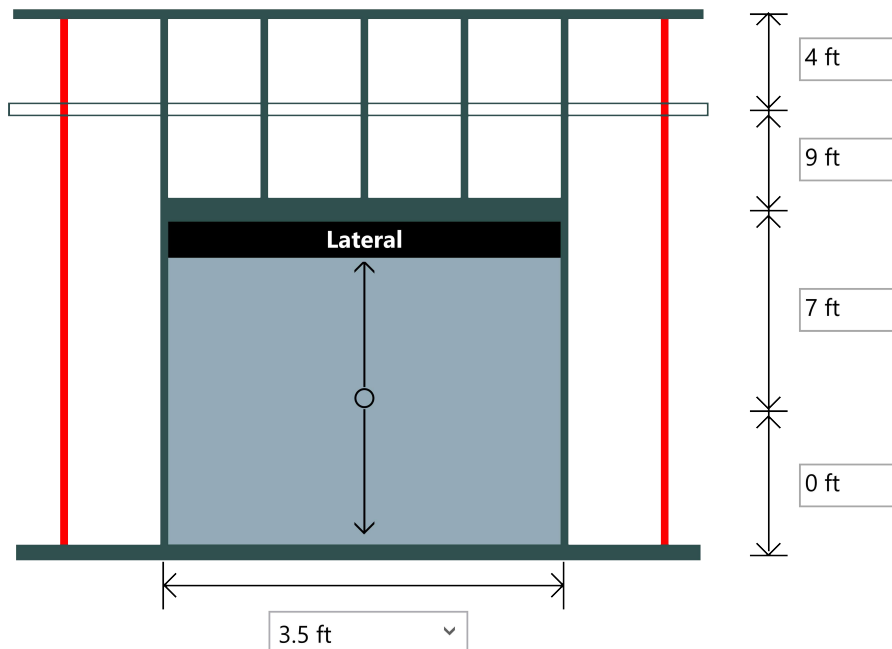
RO Lateral Pressure : 20 psf

Parapet Lateral Pressure :

Lateral Element Forces multiplied by 1 for strength checks

Lateral Forces multiplied by 0.7 for deflection determination

Header: **Box (lateral combined) 20 psf**
 Gravity Load at Header:



Lateral Pressure to: **Head/Sill Only**

Brace Settings

Component(s)	Members(s)	Flexural Bracing (in)	Axial KyLy (in)	Axial KtLt (in)	Distortional K-Phi(lb-in/in)	Distortional LM(in)	Interconnection Spacing(in)
Wall Studs	600S162-54(50), Single@16 in o/c	60 in	60 in	60 in	0	None	N/A
Jamb Studs	600S250-54(50), Single	60 in	60 in	60 in	0	None	N/A
Vertical Header	400S162-43(33), Back-To-Back	Full	N/A	N/A	0	None	N/A
Lateral Header	600T125-54(50), Single	Full	N/A	N/A	0	None	N/A

Summary Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max. Moment (Ft-Lb)	Max. Shear(lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Wall Studs	600S162-54(50), Single@16 in o/c	0.0	750.0	226.7	200.0	333.3
Jamb Studs	600S250-54(50), Single	455.0	1353.3	240.0	362.5	275.6
Vertical Header	400S162-43(33), Back-To-Back	N/A	398.1	455.0	N/A	455.0
Lateral Header	600T125-54(50), Single	N/A	217.8	248.9	N/A	248.9

Summary Design Results

Component(s)	Members(s)	Deflection		Bending +Axial Interaction	Shear Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Wall Studs	600S162-54(50), Single@16 in o/c	L/692	L/523	0.417	0.12	NA	Yes

Project Name: CFS_stud-hdr-jmb design

Model: Opening A - 1/S4.0.1

Code: AISI S100-16

Jamb Studs	600S250-54(50), Single	L/579	L/411	0.673	0.51	NA	Building & Safety: OCPW/AzarvandB 12/29/2025
Vertical Header	400S162-43(33), Back-To-Back	L/2518	NA	0.29	0.13	No	Permits: BMS245, ELE21-0852, MEC21-0513, PLB21-0895
Lateral Header	600T125-54(50), Single	L/8260	NA	0.15	0.09	No	County of Orange - OC Public Works OC Development Services APPROVED This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works Development Services of Orange County. The stamping of these plan specifications SHALL NOT be held to permit or be an approval of the violation of any provision of any County Ordinance or any State Statute. Hadi Tabatabaee BUILDINGS OFFICIAL

Simpson Strong-Tie® Connectors @ Studs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	333.33	0.00	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	43.86 %	29.90 %
R1	200.00	533.33	600T125-54 (50) & (1) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	21.50 %	48.78 %

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Connectors @ Jambs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	275.56	0.00	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	36.26 %	24.71 %
R1	362.50	815.00	600T125-54 (50) & (1) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	77.92 %	88.41 %

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Studs

Span/CantiLever	Bracing Length (in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Top CantiLever	Span	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Span	60	N/A	0.0	OK (0.47)	OK (0.34)	OK (0.38)	OK (0.24)	OK (0.23)	OK (0.15)

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambs

Span/CantiLever	Bracing Length (in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Top CantiLever	Span	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Span	60	4	11295.7	OK (0.90)	OK (0.63)	OK (0.72)	OK (0.46)	OK (0.44)	OK (0.28)

Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.



Design Loads

Wall Lateral Pressure : 20 psf

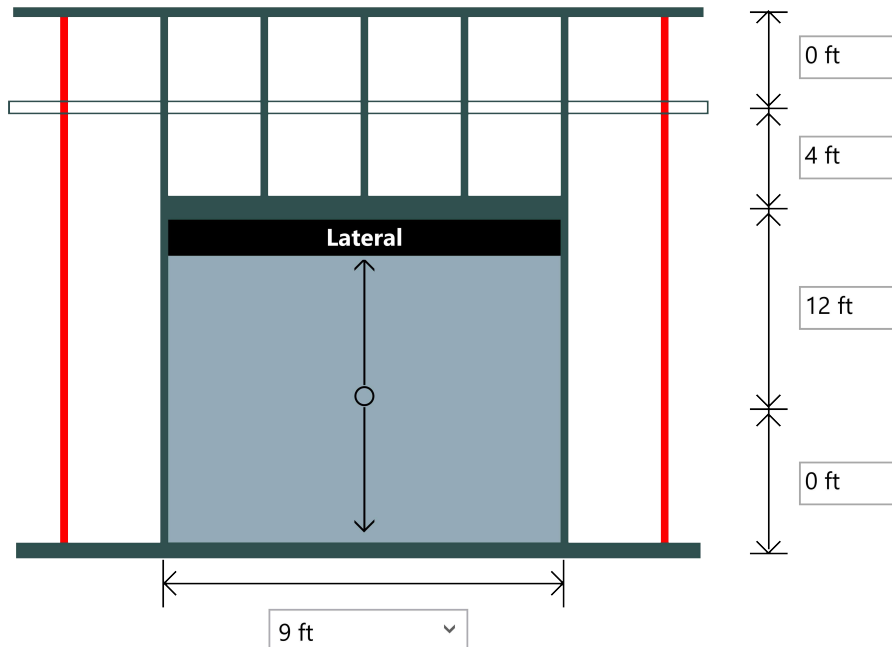
RO Lateral Pressure : Head/Sill Only

Lateral Element Forces multiplied by 1 for strength checks

Lateral Forces multiplied by 0.7 for deflection determination

Header: **Box (lateral combined) 20 psf**

Gravity Load at Header:



Lateral Pressure to: ?

Brace Settings

Component(s)	Members(s)	Flexural Bracing (in)	Axial KyLy (in)	Axial KtLt (in)	Distortional K-Phi(lb-in/in)	Distortional LM(in)	Interconnection Spacing(in)
Wall Studs	600S162-54(50), Single@16 in o/c	60 in	60 in	60 in	0	None	N/A
Jamb Studs	600S137-54(50), Boxed	60 in	60 in	60 in	0	None	12 in
Vertical Header	600S162-54(50), Boxed	Full	N/A	N/A	0	None	N/A
Lateral Header	600T150-54(50), Boxed	Full	N/A	N/A	0	None	N/A

Summary Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max. Moment (Ft-Lb)	Max. Shear(lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Wall Studs	600S162-54(50), Single@16 in o/c	0.0	853.3	213.3	213.3	213.3
Jamb Studs	600S137-54(50), Boxed	360.0	2480.0	646.7	826.7	646.7
Vertical Header	600S162-54(50), Boxed	N/A	810.0	360.0	N/A	360.0
Lateral Header	600T150-54(50), Boxed	N/A	1620.0	720.0	N/A	720.0

Summary Design Results

Component(s)	Members(s)	Deflection		Bending +Axial Interaction	Shear Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Wall Studs	600S162-54(50), Single@16 in o/c	L/589	L/0	0.475	0.08	NA	Yes
Jamb Studs	600S137-54(50), Boxed	L/435	L/0	0.686	0.66	NA	Yes

Project Name: CFS_stud-hdr-jmb design

Model: Opening B - 2/S4.0.2

Date: 05/27/2021

Code: AISI S100-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0

Vertical Header	600S162-54(50), Boxed	L/1543	NA	0.18	0.06	No	Building & Safety OCPW Azarvand B Yes	12/29/2025
Lateral Header	600T150-54(50), Boxed	L/925	NA	0.53	0.13	No	Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899 Yes	

Simpson Strong-Tie® Connectors @ Studs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	213.33	0.00	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	28.07 %	26.02 %
R1	213.33	426.67	600T125-54 (50) & (2) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	22.93 %	26.02 %



* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Connectors @ Jambes

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	646.67	0.00	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	85.09 %	58.00 %
R1	826.67	733.33	600T125-54 (50) & (3) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	59.23 %	67.21 %

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Studs

Span/CantiLever	Bracing Length (in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	60	N/A	0.0	OK (0.47)	OK (0.34)	OK (0.38)	OK (0.24)	OK (0.23)	OK (0.15)

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambes

Span/CantiLever	Bracing Length (in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

Project Name: CFS_stud-hdr-jmb design
 Model: Wind Module – Monoslope Roof
 Code: ASCE 7-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0

WIND LOAD - ASCE 7-16

95 mph, Exposure D, Mean Roof Height = 26.5 ft

K_{zt} at Base = 1

K_d = 0.85 , Roof Slope 15.0 degrees

Enclosed Building, GC_{pi} = 0.18

(Wind Loads Shown are for Alternate Basic Load Combinations Using Allowable Stress Design and are Multiplied by a Factor of 0.6 to convert to ASD)

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



WALL COMPONENTS AND CLADDING per ASCE7-16 Figure 30.3-1

Tributary Area (ft ²)	GCp by Zone	
	Zone 4 (+/-)	Zone 5 (+/-)
10 ft ²	1.00/-1.10	1.00/-1.40
50 ft ²	0.88/-0.98	0.88/-1.15
500 ft ²	0.70/-0.80	0.70/-0.80

Height z (ft)	K_z	K_{zt}	K_e	q_z (psf)	Tributary Area (ft ²)	Wind Pressures (psf) by Zone ()		
						Windward (4,5)	Leeward (4)	Leeward (5)
0 - 26.5	1.14	1.00	1.00	22.34	10	15.8	-17.2	-21.2
					50	14.2	-15.5	-17.9
					500	11.8	-13.1	-13.1

WIND LOAD - ASCE 7-16

95 mph, Exposure D, Mean Roof Height = 16.0 ft

K_{zt} at Base = 1

K_d = 0.85 , Roof Slope 0.0 degrees

Enclosed Building, GC_{pi} = 0.18

Min. 3' high parapet around perimeter of roof

(Wind Loads Shown are for Alternate Basic Load Combinations Using Allowable Stress Design and are

Multiplied by a Factor of 0.6 to convert to ASD)

Building&Safety: OCPWAzarvandB 12/29/2025

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899



WALL COMPONENTS AND CLADDING per ASCE7-16 Figure 30.3-1

Tributary Area (ft ²)	<u>GCp by Zone</u>	
	Zone 4 (+/-)	Zone 5 (+/-)
10 ft ²	0.90/-0.99	0.90/-1.26
50 ft ²	0.79/-0.88	0.79/-1.04
500 ft ²	0.63/-0.72	0.63/-0.72

Height z (ft)						<u>Wind Pressures (psf) by Zone ()</u>		
	K_z	K_{zt}	K_e	q_z (psf)	Tributary Area (ft ²)	Windward (4,5)	Leeward (4)	Leeward (5)
0 - 16	1.04	1.00	1.00	20.46	10	13.3	-14.4	-17.7
					50	11.9	-13.0	-15.0
					500	9.9	-11.0	-11.0

PARAPETS

Tributary Area (ft ²)	<u>GCp by Case and Zone</u>			
	Case A (Zone 4/-2)	Case A (Zone 4 or 5/-3)	Case B (Zone -4/4 or 5)	Case B (Zone -5/4 or 5)
	Front/-Back	Front/-Back	-Front/Back	-Front/Back
10 ft ²	0.90/-2.30	0.90/-2.30	-0.99/0.90	-1.26/0.90
50 ft ²	0.79/-1.93	0.79/-1.93	-0.88/0.79	-1.04/0.79
500 ft ²	0.63/-1.40	0.63/-1.40	-0.72/0.63	-0.72/0.63

Top of Parapet (ft)	<u>Wind Pressures (psf) by Case and Zone ()</u>								
	K_z	K_{zt-p}	K_e	q_{h-p}	Tributary Area (ft ²)	Case A (4/-2)	Case A (4 or 5/-3)	Case B (-4/4 or 5)	Case B (-5/4 or 5)
20	1.08	1.00	1.00	21.27	10	40.8	40.8	-24.1	-27.6
					50	34.7	34.7	-21.3	-23.4
					500	25.9	25.9	-17.2	-17.2

The GCp Values

Do Not Always Vary Linearly between these Areas in Figures 30.3-1 through 30.5-1.

Therefore, Interpolation of These Calculated Values is Not Recommended.

ROOF COMPONENTS AND CLADDING - Gable ROOF

ASCE7-16 Figure 30.3-2A

K_h = 1.04; K_{zt} at roof = 1.00; K_e = 1.00; q_h = 20.46 psf

Project Name: CFS_stud-hdr-jmb design

Model: Wind Module – Roof Deck

Date: 05/27/2021

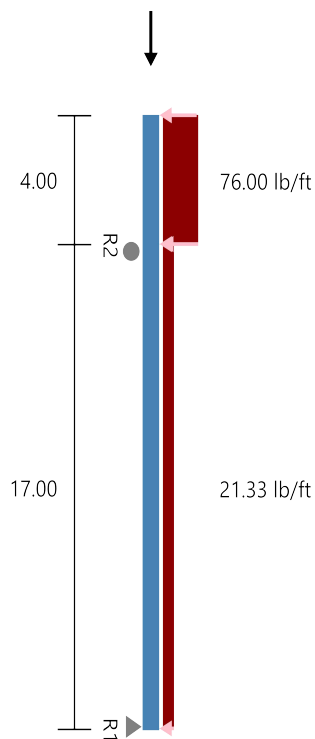
Code: ASCE 7-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0

Zone	Positive Pressure, p (psf)				Negative Pressure, p (psf)				Permits: BNR21-0045, E-1201, 0652, MEC21-0513, PLB21-0899	
	A=10		A=100		A=10		A=100		A=500	
	GC _p	p	GC _p	p	GC _p	p	GC _p	p	GC _p	p
Roof 1	0.30	9.60	0.20	9.60	-1.70	-23.08	-1.29	-18.02	-1.00	14.49
Roof 2	1.00	14.49	0.82	12.28	-2.30	-30.45	-1.77	-23.94	1.40	19.40
Roof 3	1.00	14.49	0.82	12.28	-2.30	-30.45	-1.77	-23.94	1.40	19.40
Roof 1'	0.30	9.60	0.20	9.60	-0.90	-13.26	-0.90	-13.26	-0.55	9.60

Building&Safety: OCPW/AzarvandB 12/29/2025

County of Orange - OC Public Works
 OC Development Services
APPROVED
 This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written approval from OC Public Works. OC Development Services of Orange County. The stamping of these plan specifications shall NOT be held responsible for an approval of any project without a County Ordinance or State law.
 Tabatabaee
 PUBLIC OFFICER



Section : 600S162-54 (50 ksi) @ 16" o.c. Single C Stud (punched)
Maxo = 2313.4 Ft-Lb **Va =** 2822.9 lb **I =** 2.86 in⁴

Loads have not been modified for strength checks
 Loads have been multiplied by 0.70 for deflection calculations

Bridging Connectors - Design Method = AISI S100

Span	Axial KyLy, KtLt	Flexual, Distortional	Stress Connector	Ratio
Top Cant.	None, None	None, 48.0"	N/A	-
Span	60.0", 60.0"	60.0", 204.0"	LSUBH3.25 (Min)	0.41

Web Crippling

Support	Load (lb)	Bearing (in)	Pa (lb)	M (ft-lbs)	Max Int.	Stiffener?
R2	521.1	--Shear Connection w/ clip--				NO
R1	145.6	--Shear Connection w/ clip--				NO

Gravity Load

Type	Load (lb)
Uniform	26.67plf (Top Cantilever), 26.67plf (Span)

	Code Check	Required	Allowed	Interaction	Notes
Top Cant.	Max. Axial, lbs	106.7(c)	4876.0(c)	2%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	304.0	1947.4	16%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	608.0	1930.2	31%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	388.1	2275.5	17%	
	Shear/Moment	0.31	1.00	31%	Shear 304.0, Moment 608.0
	Axial/Moment	0.34	1.00	34%	Axial 106.7(c), Moment 608.0
	Deflection Cant., in	0.018	--meets L/5336--		
Span	Max. Axial, lbs	560.0(c)	4170.1(c)	13%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	217.1	1947.4	11%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	608.0	1930.2	31%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	496.6	1801.9	28%	
	Shear/Moment	0.29	1.00	29%	Shear 217.1, Moment 608.0
	Axial/Moment	0.38	1.00	38%	Axial 393.2(c), Moment 493.2
	Deflection Span, in	0.178	--meets L/1146--		

Project Name: CFS_stud-hdr-jmb design

Model: Typ Stud - Windward

Date: 05/27/2021

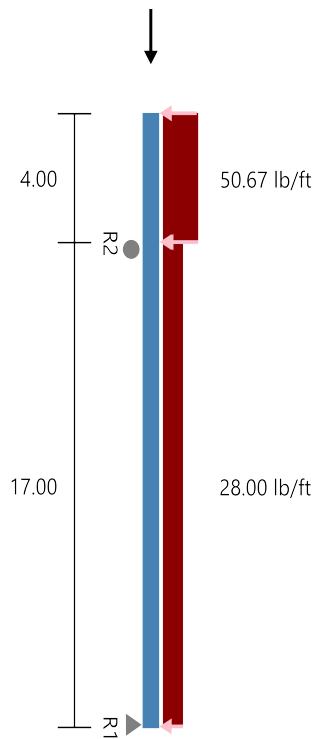
Code: AISI S100-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie Connector	Connector Interaction	Anchor Interaction
R2	521.1	0.0	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	68.57 %	46.74 %
R1	145.6	560.0	600T125-33 (33) & (2) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	21.16 %	33.05 %

* Reference catalog for connector and anchor requirement notes as well as screw placement requirements





Section : 600S162-54 (50 ksi) @ 16" o.c. Single C Stud (punched)
Maxo = 2313.4 Ft-Lb **Va =** 2822.9 lb **I =** 2.86 in⁴

Loads have not been modified for strength checks
 Loads have been multiplied by 0.70 for deflection calculations

Bridging Connectors - Design Method = AISI S100

Span	Axial KyLy, KtLt	Flexual, Distortional	Stress Connector	Ratio
Top Cant.	None, None	None, 48.0"	N/A	-
Span	60.0", 60.0"	60.0", 204.0"	LSUBH3.25 (Min)	0.53

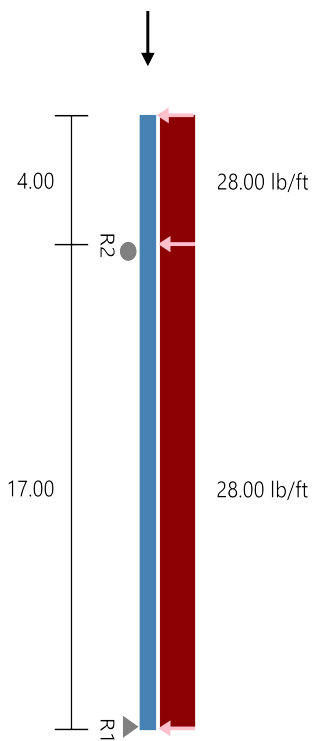
Web Crippling

Support	Load (lb)	Bearing (in)	Pa (lb)	M (ft-lbs)	Max Int.	Stiffener?
R2	464.5	--Shear Connection w/ clip--				NO
R1	214.2	--Shear Connection w/ clip--				NO

Gravity Load

Type	Load (lb)
Uniform	26.67plf (Top Cantilever), 26.67plf (Span)

	Code Check	Required	Allowed	Interaction	Notes
Top Cant.	Max. Axial, lbs	106.7(c)	4876.0(c)	2%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	202.7	1947.4	10%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	405.3	1930.2	21%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	258.8	2275.5	11%	
	Shear/Moment	0.20	1.00	20%	Shear 202.7, Moment 405.3
	Axial/Moment	0.23	1.00	23%	Axial 106.7(c), Moment 405.3
	Deflection Cant., in	0.174	--meets L/553--		
Span	Max. Axial, lbs	560.0(c)	4170.1(c)	13%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	261.8	1947.4	13%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	819.0	1930.2	42%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	819.0	1799.4	46%	
	Shear/Moment	0.35	1.00	35%	Shear 0.0, Moment 819.0
	Axial/Moment	0.56	1.00	56%	Axial 368.2(c), Moment 816.1
	Deflection Span, in	0.332	--meets L/614--		



Section : 600S162-54 (50 ksi) @ 16" o.c. Single C Stud (punched)
Maxo = 2313.4 Ft-Lb **Va =** 2822.9 lb **I =** 2.86 in⁴

Loads have not been modified for strength checks
 Loads have been multiplied by 0.70 for deflection calculations

Bridging Connectors - Design Method = AISI S100

Span	Axial KyLy, KtLt	Flexural, Distortional	Stress Connector	Ratio
Top Cant.	None, None	None, 48.0"	N/A	-
Span	60.0", 60.0"	60.0", 204.0"	LSUBH3.25 (Min)	0.53

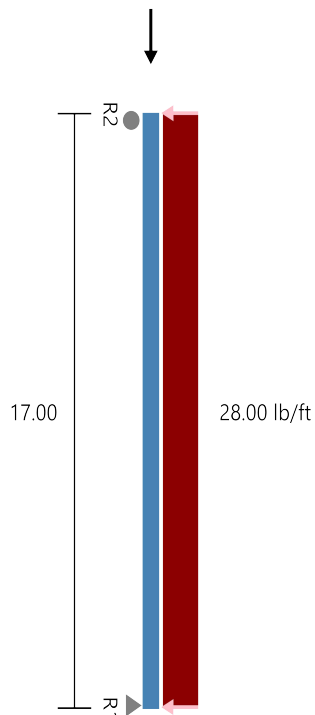
Web Crippling

Support	Load (lb)	Bearing (in)	Pa (lb)	M (ft-lbs)	Max Int.	Stiffener?
R2	363.2	--Shear Connection w/ clip--				NO
R1	224.8	--Shear Connection w/ clip--				NO

Gravity Load

Type	Load (lb)
Uniform	26.67plf (Top Cantilever), 26.67plf (Span)

	Code Check	Required	Allowed	Interaction	Notes
Top Cant.	Max. Axial, lbs	106.7(c)	4876.0(c)	2%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	112.0	1947.4	6%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	224.0	1930.2	12%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	143.0	2275.5	6%	
	Shear/Moment	0.11	1.00	11%	Shear 112.0, Moment 224.0
	Axial/Moment	0.14	1.00	14%	Axial 106.7(c), Moment 224.0
	Deflection Cant., in	0.243	--meets L/395--		
Span	Max. Axial, lbs	560.0(c)	4170.1(c)	13%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	251.2	1947.4	13%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	902.6	1930.2	47%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	902.6	1798.4	50%	
	Shear/Moment	0.39	1.00	39%	Shear 0.2, Moment 902.6
	Axial/Moment	0.60	1.00	60%	Axial 358.3(c), Moment 899.6
	Deflection Span, in	0.379	--meets L/539--		



Section : 600S162-54 (50 ksi) @ 16" o.c. **Single C Stud (punched)**
Maxo = 2313.4 Ft-Lb **Va =** 2822.9 lb **I =** 2.86 in⁴

Loads have not been modified for strength checks
 Loads have been multiplied by 0.70 for deflection calculations

Bridging Connectors - Design Method = AISI S100

Span	Axial KyLy, KtLt	Flexual, Distortional	Connector	Stress Ratio
Span	60.0", 60.0"	60.0", 204.0"	LSUBH3.25 (Min)	0.52

Web Crippling

Support	Load (lb)	Bearing (in)	Pa (lb)	M (ft-lbs)	Max Int.	Stiffener?
R2	238.0	--Shear Connection w/ clip--				NO
R1	238.0	--Shear Connection w/ clip--				NO

Gravity Load

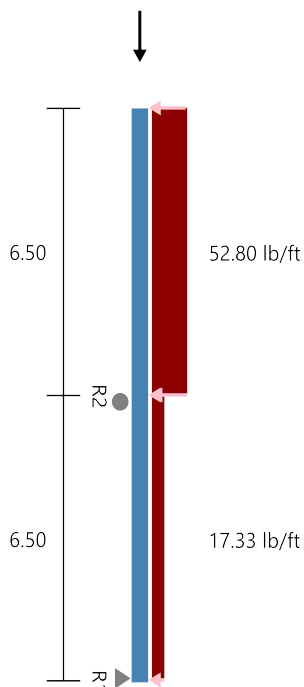
Type	Load (lb)
Uniform	26.67plf (Span)

	Code Check	Required	Allowed	Interaction	Notes
Span	Max. Axial, lbs	453.3(c)	4170.1(c)	11%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	238.0	1947.4	12%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	1011.5	1930.2	52%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	1011.5	1797.3	56%	
	Shear/Moment	0.44	1.00	44%	Shear 0.0, Moment 1011.5
	Axial/Moment	0.63	1.00	63%	Axial 239.4(c), Moment 1008.3
	Deflection Span, in	0.437	--meets L/467--		
Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie Connector	Connector Interaction	Anchor Interaction
R2	238.0	0.0	SCB45.5(2) & (2) #12-24 SST X or XL to A36 Steel	31.32 %	21.35 %
R1	238.0	453.3	600T125-33 (33) & (2) .157" SST PDPA/PDPAT-62KP to steel (3/16" to 1/2" thickness)	34.59 %	54.04 %

* Reference catalog for connector and anchor requirement notes as well as screw placement requirements

Project Name: CFS_stud-hdr-jmb design
 Model: High Parapet (MEP Well)
 Code: AISI S100-16

Simpson Strong-Tie® CFS Designer™ 3.4.5.0



Section : 600S162-54 (50 ksi) @ 16" o.c. Single C Stud (punched)
Maxo = 2313.4 Ft-Lb **Va =** 2822.9 lb **I =** 2.86 in⁴

Loads have not been modified for strength checks
 Loads have been multiplied by 0.70 for deflection calculations

Bridging Connectors - Design Method = AISI S100

Span	Axial		Flexural, Distortional		Connector	Stress Ratio
	KyLy	KtLt				
Top Cant.	60.0"	60.0"	60.0"	78.0"	LSUBH3.25 (Min)	0.95
Span	60.0"	60.0"	60.0"	78.0"	LSUBH3.25 (Min)	0.33

Support	Load (lb)	Bearing (in)	Pa (lb)	M (ft-lbs)	Max Int.	Stiffener?
R2	571.1	--Shear Connection w/ clip--				NO
R1	-115.3	--Shear Connection w/ clip--				NO

Gravity Load

Type	Load (lb)
Uniform	26.67plf

	Code Check	Required	Allowed	Interaction	Notes
Top Cant.	Max. Axial, lbs	173.3(c)	4006.4(c)	4%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	343.2	1947.4	18%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	1115.4	1930.2	58%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	712.1	1788.3	40%	
	Shear/Moment	0.51	1.00	51%	Shear 343.2, Moment 1115.4
	Axial/Moment	0.67	1.00	67%	Axial 173.3(c), Moment 1115.4
	Deflection Cant., in	0.376	--meets L/415--		
Span	Max. Axial, lbs	346.7(c)	4478.9(c)	8%	KΦ=0.00 lb-in/in
	Max. Shear, lbs	227.9	1947.4	12%	Shear (Punched)
	Max. Moment (MaFy, Ma-dist), ft-lbs	1115.4	1930.2	58%	Ma-dist (control), KΦ=0.00 lb-in/in
	Moment Stability, ft-lbs	832.4	1788.3	47%	
	Shear/Moment	0.50	1.00	50%	Shear 227.9, Moment 1115.4
	Axial/Moment	0.66	1.00	66%	Axial 173.3(c), Moment 1115.4
	Deflection Span, in	0.038	--meets L/2066--		

Steel Beam

Lic. # : KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

DESCRIPTION: HIGH CANOPY - HSS BM (10' OC)

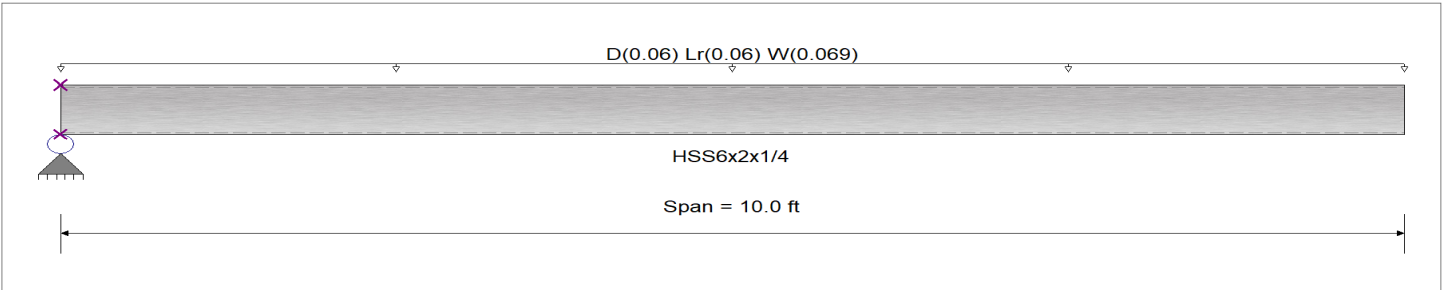
Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Major Axis Bending
 Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
 Uniform Load : D = 0.020, Lr = 0.020, W = 0.0230 ksf, Tributary Width = 3.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.000 : 1	Maximum Shear Stress Ratio =	0.000 : 1
Section used for this span	HSS6x2x1/4	Section used for this span	HSS6x2x1/4
Ma : Applied	0.000 k-ft	Va : Applied	0.0 k
Mn / Omega : Allowable	0.000 k-ft	Vn/Omega : Allowable	0.0 k
Load Combination		Load Combination	
Location of maximum on span	0.000ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 <360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.000 in	Ratio =	0 <240.0
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values					Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
D Only														
+D+Lr														
+D+0.750Lr														
+D+0.60W														
+D+0.750Lr+0.450W														
+D+0.450W														
+0.60D+0.60W														
+0.60D														

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000		0.0000	0.000

Vertical Reactions

Load Combination	Support 1	Support 2

Support notation : Far left is #1

Values in KIPS

Steel Beam

Lic. # : KW-06003761

File: HSS Design.ec6
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KPR-Civil-Engineering-2025

DESCRIPTION: HIGH CANOPY - HSS BM (cont)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

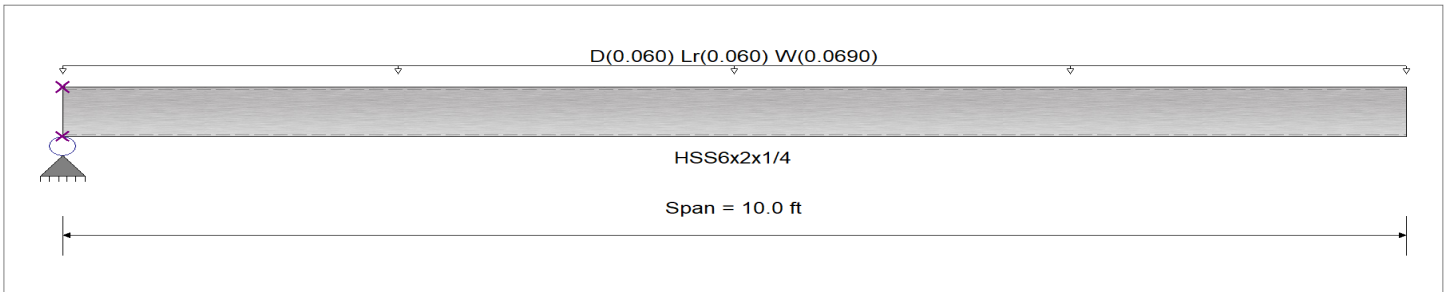
CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Major Axis Bending
 Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
 Loads on all spans...

Uniform Load on ALL spans : D = 0.020, Lr = 0.020, W = 0.0230 ksf, Tributary Width = 3.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.000 : 1	Maximum Shear Stress Ratio =	0.000 : 1
Section used for this span	HSS6x2x1/4	Section used for this span	HSS6x2x1/4
Ma : Applied	0.000 k-ft	Va : Applied	0.0 k
Mn / Omega : Allowable	0.000 k-ft	Vn/Omega : Allowable	0.0 k
Load Combination		Load Combination	
Location of maximum on span	0.000ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 <360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.000 in	Ratio =	0 <240.0
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega	
D Only															
+D+Lr															
+D+0.750Lr															
+D+0.60W															
+D+0.750Lr+0.450W															
+D+0.450W															
+0.60D+0.60W															
+0.60D															

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000		0.0000	0.000

Vertical Reactions

Load Combination	Support 1	Support 2

Support notation : Far left is #1

Values in KIPS

Steel Beam

Lic. #: KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

KPR-000001-01-01-000000025

DESCRIPTION: HSS HDR(A) - 1/S4.0.1 (strong axis)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

CODE REFERENCES

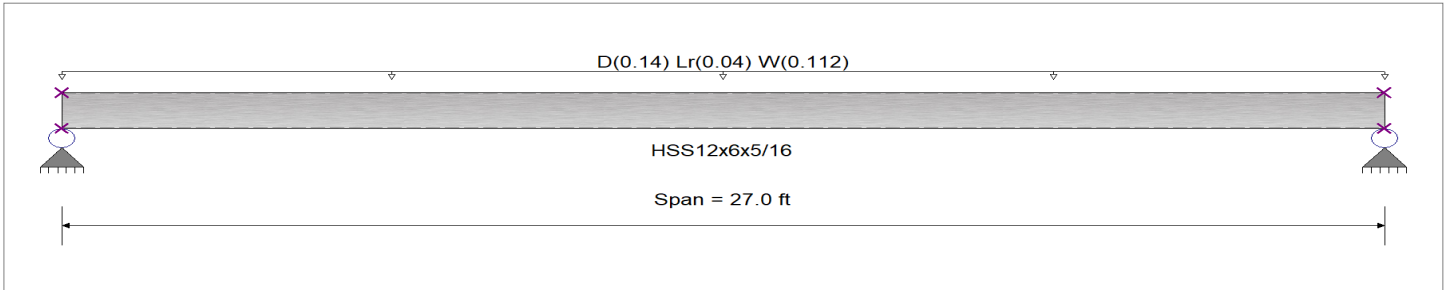
Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Major Axis Bending

Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Uniform Load : D = 0.140, Lr = 0.040, W = 0.1120 k/ft, Tributary Width = 1.0 ft, (Wall Above + Canopy)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.267 : 1	Maximum Shear Stress Ratio =	0.032 : 1
Section used for this span	HSS12x6x5/16	Section used for this span	HSS12x6x5/16
Ma : Applied	23.374 k-ft	Va : Applied	3.463 k
Mn / Omega : Allowable	87.455 k-ft	Vn/Omega : Allowable	107.027 k
Load Combination	+D+0.750Lr+0.450W	Load Combination	+D+0.750Lr+0.450W
Location of maximum on span	13.500ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.252 in	Ratio =	1,285 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.577 in	Ratio =	561 >=240
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values					Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
D Only														
Dsgn. L = 27.00 ft		1	0.183	0.022	16.05		16.05	146.05	87.46	1.14	1.00	2.38	178.74	107.03
+D+Lr														
Dsgn. L = 27.00 ft		1	0.225	0.027	19.69		19.69	146.05	87.46	1.14	1.00	2.92	178.74	107.03
+D+0.750Lr														
Dsgn. L = 27.00 ft		1	0.215	0.026	18.78		18.78	146.05	87.46	1.14	1.00	2.78	178.74	107.03
+D+0.60W														
Dsgn. L = 27.00 ft		1	0.254	0.031	22.17		22.17	146.05	87.46	1.14	1.00	3.28	178.74	107.03
+D+0.750Lr+0.450W														
Dsgn. L = 27.00 ft		1	0.267	0.032	23.37		23.37	146.05	87.46	1.14	1.00	3.46	178.74	107.03
+D+0.450W														
Dsgn. L = 27.00 ft		1	0.236	0.029	20.64		20.64	146.05	87.46	1.14	1.00	3.06	178.74	107.03
+0.60D+0.60W														
Dsgn. L = 27.00 ft		1	0.180	0.022	15.75		15.75	146.05	87.46	1.14	1.00	2.33	178.74	107.03
+0.60D														
Dsgn. L = 27.00 ft		1	0.110	0.013	9.63		9.63	146.05	87.46	1.14	1.00	1.43	178.74	107.03

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750Lr+0.450W	1	0.5774	13.577		0.0000	0.000

Project Title:
 Engineer:
 Project ID:
 Project Descr:

E22/33

Steel Beam

File: HSS Design.ec6
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Lic. # : KW-06003761

KPR-003501-17-11-18-19-20-25

DESCRIPTION: HSS HDR(A) - 1/S4.0.1 (strong axis)

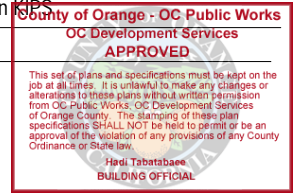
Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	3.463	3.463
Overall MINimum	0.540	0.540
D Only	2.377	2.377
+D+Lr	2.917	2.917
+D+0.750Lr	2.782	2.782
+D+0.60W	3.285	3.285
+D+0.750Lr+0.450W	3.463	3.463
+D+0.450W	3.058	3.058
+0.60D+0.60W	2.334	2.334
+0.60D	1.426	1.426
Lr Only	0.540	0.540
W Only	1.512	1.512



Steel Beam

Lic. #: KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

DESCRIPTION: HSS HDR(A) - 1/S4.0.1 (weak axis)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

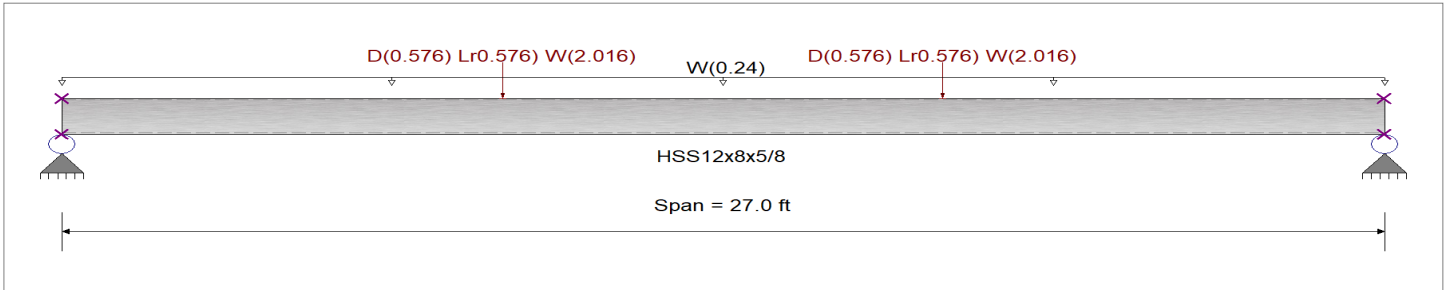
CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Minor Axis Bending
 Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

- Beam self weight NOT internally calculated and added
- Load(s) for Span Number 1
 - Point Load : D = 0.5760, Lr = 0.5760, W = 2.016 k @ 9.0 ft, (Canopy)
 - Point Load : D = 0.5760, Lr = 0.5760, W = 2.016 k @ 18.0 ft, (Canopy)
 - Uniform Load : W = 0.240 k/ft, Tributary Width = 1.0 ft, (Wind - OOP)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.205 : 1	Maximum Shear Stress Ratio =	0.031 : 1
Section used for this span	HSS12x8x5/8	Section used for this span	HSS12x8x5/8
Ma : Applied	29.192 k-ft	Va : Applied	3.730 k
Mn / Omega : Allowable	142.086 k-ft	Vn/Omega : Allowable	120.161 k
Load Combination	+D+0.60W	Load Combination	+D+0.60W
Location of maximum on span	13.500ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.873 in	Ratio =	370 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.640 in	Ratio =	507 >=240
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mny	Mny/Omega	Cb	Rm	Va Max	Vny	Vny/Omega
D Only	Dsgn. L = 27.00 ft	1	0.036	0.005	5.18		5.18	237.28	142.09	1.14	1.00	0.58	200.67	120.16
+D+Lr	Dsgn. L = 27.00 ft	1	0.073	0.010	10.37		10.37	237.28	142.09	1.14	1.00	1.15	200.67	120.16
+D+0.750Lr	Dsgn. L = 27.00 ft	1	0.064	0.008	9.07		9.07	237.28	142.09	1.14	1.00	1.01	200.67	120.16
+D+0.60W	Dsgn. L = 27.00 ft	1	0.205	0.031	29.19		29.19	237.28	142.09	1.14	1.00	3.73	200.67	120.16
+D+0.750Lr+0.450W	Dsgn. L = 27.00 ft	1	0.191	0.028	27.08		27.08	237.28	142.09	1.14	1.00	3.37	200.67	120.16
+D+0.450W	Dsgn. L = 27.00 ft	1	0.163	0.024	23.19		23.19	237.28	142.09	1.14	1.00	2.94	200.67	120.16
+0.60D+0.60W	Dsgn. L = 27.00 ft	1	0.191	0.029	27.12		27.12	237.28	142.09	1.14	1.00	3.50	200.67	120.16
+0.60D	Dsgn. L = 27.00 ft	1	0.022	0.003	3.11		3.11	237.28	142.09	1.14	1.00	0.35	200.67	120.16

Steel Beam

Lic. # : KW-06003761

File: HSS Design.ec6
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DESCRIPTION: HSS HDR(B) - 2/S4.0.1_A (strong axis)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

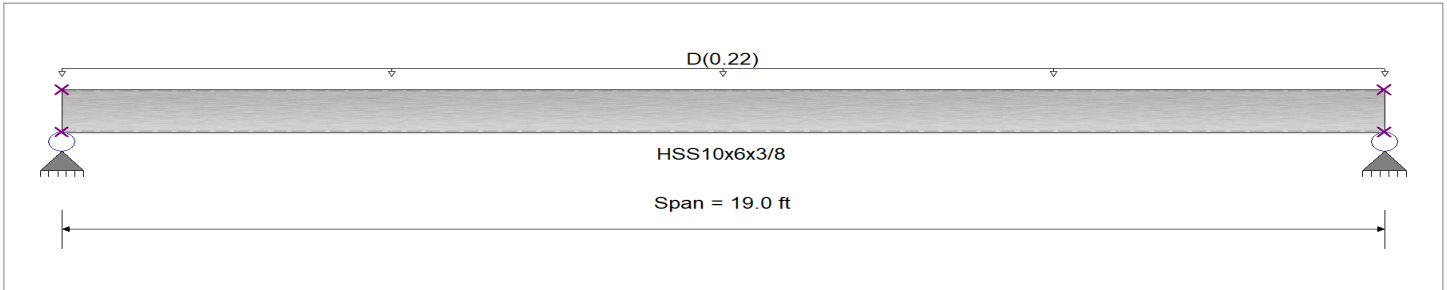


CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Major Axis Bending
 Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Uniform Load : D = 0.220 k/ft, Tributary Width = 1.0 ft, (Wall Above)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.150 : 1	Maximum Shear Stress Ratio =	0.024 : 1
Section used for this span	HSS10x6x3/8	Section used for this span	HSS10x6x3/8
Ma : Applied	11.628 k-ft	Va : Applied	2.448 k
Mn / Omega : Allowable	77.585 k-ft	Vn/Omega : Allowable	103.280 k
Load Combination	D Only	Load Combination	D Only
Location of maximum on span	9.500ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 < 360
Max Upward Transient Deflection	0.000 in	Ratio =	0 < 360
Max Downward Total Deflection	0.191 in	Ratio =	1193 >= 240.
Max Upward Total Deflection	0.000 in	Ratio =	0 < 240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
D Only	Dsgn. L = 19.00 ft	1	0.150	0.024	11.63		11.63	129.57	77.58	1.14	1.00	2.45	172.48	103.28
+0.60D	Dsgn. L = 19.00 ft	1	0.090	0.014	6.98		6.98	129.57	77.58	1.14	1.00	1.47	172.48	103.28

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	0.1911	9.554		0.0000	0.000

Vertical Reactions

Load Combination	Support 1	Support 2
Overall MAXimum	2.448	2.448
Overall MINimum	1.469	1.469
D Only	2.448	2.448
+0.60D	1.469	1.469

Support notation : Far left is #1

Values in KIPS

Steel Beam

Lic. # : KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

DESCRIPTION: HSS HDR(B) - 2/S4.0.1 (weak axis)

Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB21-0899

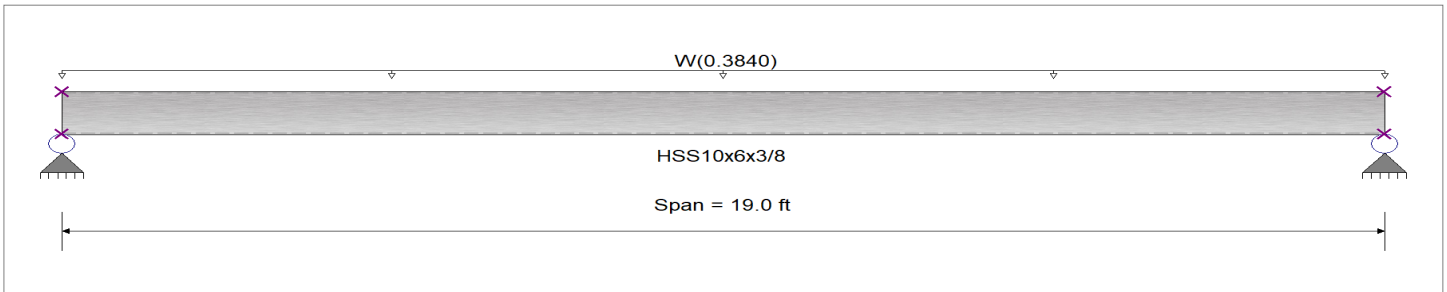
CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Minor Axis Bending
 Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
 Loads on all spans...
 Uniform Load on ALL spans : W = 0.0320 ksf, Tributary Width = 12.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.191 : 1	Maximum Shear Stress Ratio =	0.038 : 1
Section used for this span	HSS10x6x3/8	Section used for this span	HSS10x6x3/8
Ma : Applied	10.397 k-ft	Va : Applied	2.189 k
Mn / Omega : Allowable	54.401 k-ft	Vn/Omega : Allowable	57.137 k
Load Combination	+0.60W	Load Combination	+0.60W
Location of maximum on span	9.500ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.630 in	Ratio =	361 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.379 in	Ratio =	602 >=240.
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mny	Mny/Omega	Cb	Rm	Va Max	Vny	Vny/Omega
Dsgn. L = 19.00 ft		1		0.000				90.85	54.40	1.00	1.00	-0.00	95.42	57.14
+0.60W														
Dsgn. L = 19.00 ft		1	0.191	0.038	10.40		10.40	90.85	54.40	1.14	1.00	2.19	95.42	57.14
+0.450W														
Dsgn. L = 19.00 ft		1	0.143	0.029	7.80		7.80	90.85	54.40	1.14	1.00	1.64	95.42	57.14

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
W Only	1	0.6311	9.554		0.0000	0.000

Vertical Reactions

Load Combination	Support notation : Far left is #1		Values in KIPS	
	Support 1	Support 2		
Overall MAXimum	3.648	3.648		
Overall MINimum	1.642	1.642		
+0.60W	2.189	2.189		
+0.450W	1.642	1.642		
W Only	3.648	3.648		

Steel Beam

Lic. #: KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

DESCRIPTION: HSS HDR(D) - 1/S4.0.2 (strong axis)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

CODE REFERENCES

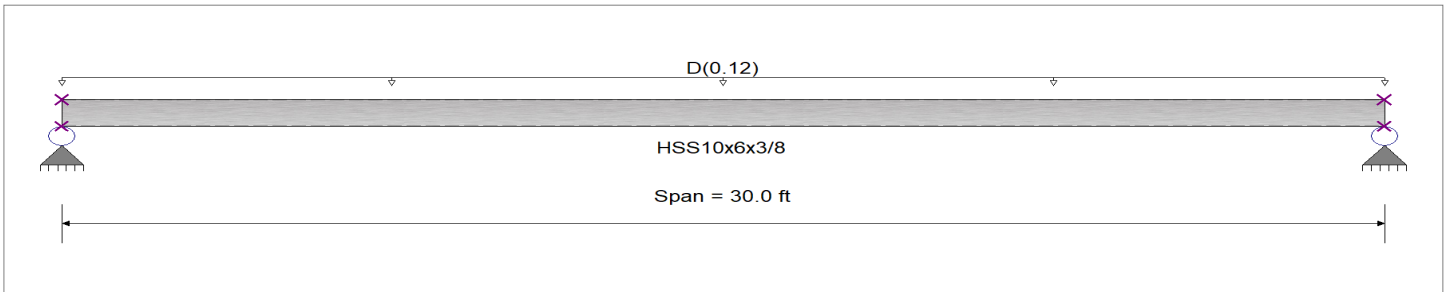
Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Major Axis Bending

Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
 Uniform Load : D = 0.020 ksf, Tributary Width = 6.0 ft, (Wall Above)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.229 : 1	Maximum Shear Stress Ratio =	0.023 : 1
Section used for this span	HSS10x6x3/8	Section used for this span	HSS10x6x3/8
Ma : Applied	17.740 k-ft	Va : Applied	2.365 k
Mn / Omega : Allowable	77.585 k-ft	Vn/Omega : Allowable	103.280 k
Load Combination	D Only	Load Combination	D Only
Location of maximum on span	15.000ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.000 in	Ratio =	0 < 360
Max Upward Transient Deflection	0.000 in	Ratio =	0 < 360
Max Downward Total Deflection	0.727 in	Ratio =	495 >= 240.
Max Upward Total Deflection	0.000 in	Ratio =	0 < 240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values					Summary of Shear Values				
			M	V	Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
D Only	Dsgn. L = 30.00 ft	1	0.229	0.023	17.74		17.74	129.57	77.58	1.14	1.00	2.37	172.48	103.28
+0.60D	Dsgn. L = 30.00 ft	1	0.137	0.014	10.64		10.64	129.57	77.58	1.14	1.00	1.42	172.48	103.28

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	0.7267	15.086		0.0000	0.000

Vertical Reactions

Load Combination	Support 1	Support 2
Overall MAXimum	2.365	2.365
Overall MINimum	1.419	1.419
D Only	2.365	2.365
+0.60D	1.419	1.419

Steel Beam

Lic. # : KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

DESCRIPTION: HSS HDR(D) - 1/S4.0.2 (weak axis)

Permits: BNR21-0245, ELE21-0862, MEC21-0513, PLB21-0899

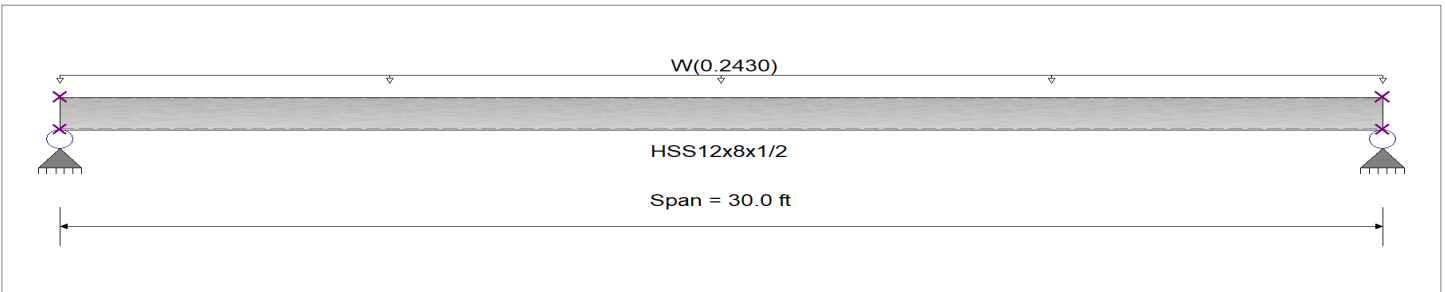
CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Minor Axis Bending

Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
 Loads on all spans...
 Uniform Load on ALL spans : W = 0.0270 ksf, Tributary Width = 9.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.139 : 1	Maximum Shear Stress Ratio =	0.022 : 1
Section used for this span	HSS12x8x1/2	Section used for this span	HSS12x8x1/2
Ma : Applied	16.403 k-ft	Va : Applied	2.187 k
Mn / Omega : Allowable	118.214 k-ft	Vn/Omega : Allowable	101.519 k
Load Combination	+0.60W	Load Combination	+0.60W
Location of maximum on span	15.000ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.861 in	Ratio =	417 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.517 in	Ratio =	696 >=240.
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mny	Mny/Omega	Cb	Rm	Va Max	Vny	Vny/Omega
Dsgn. L = 30.00 ft		1		0.000				197.42	118.21	1.00	1.00	-0.00	169.54	101.52
+0.60W														
Dsgn. L = 30.00 ft		1	0.139	0.022	16.40		16.40	197.42	118.21	1.14	1.00	2.19	169.54	101.52
+0.450W														
Dsgn. L = 30.00 ft		1	0.104	0.016	12.30		12.30	197.42	118.21	1.14	1.00	1.64	169.54	101.52

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
W Only	1	0.8619	15.086		0.0000	0.000

Vertical Reactions

Load Combination	Support notation : Far left is #1		Values in KIPS	
	Support 1	Support 2		
Overall MAXimum	3.645	3.645		
Overall MINimum	1.640	1.640		
+0.60W	2.187	2.187		
+0.450W	1.640	1.640		
W Only	3.645	3.645		

Steel Beam

Lic. #: KW-06003761

File: HSS Design.ec6
 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

KPR-Civil-Engineer-30025

DESCRIPTION: HSS HDR - 2/S4.0.2_La Cantina(weak axis)

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

CODE REFERENCES

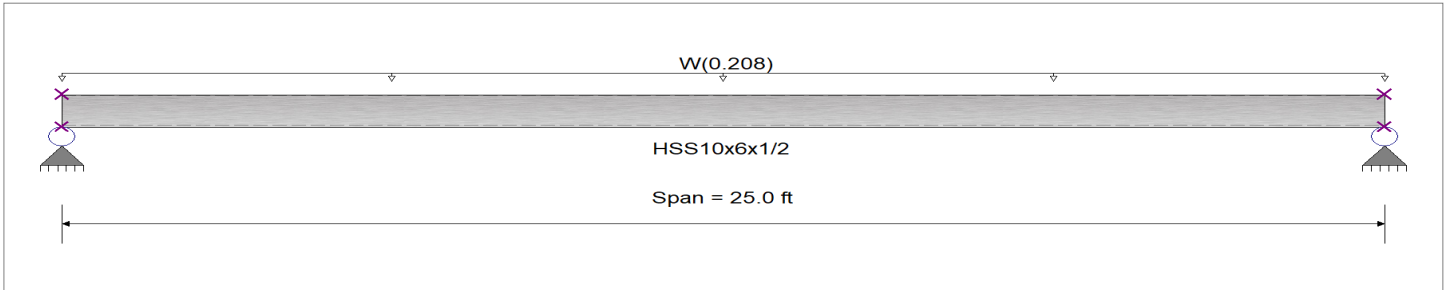
Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
 Load Combination Set : ASCE 7-16



Material Properties

Analysis Method : Allowable Strength Design
 Beam Bracing : Completely Unbraced
 Bending Axis : Minor Axis Bending

Fy : Steel Yield : 46.0 ksi
 E: Modulus : 29,000 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
 Uniform Load : W = 0.2080 k/ft, Tributary Width = 1.0 ft, (Wind OOP)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.141 : 1	Maximum Shear Stress Ratio =	0.022 : 1
Section used for this span	HSS10x6x1/2	Section used for this span	HSS10x6x1/2
Ma : Applied	9.750 k-ft	Va : Applied	1.560 k
Mn / Omega : Allowable	69.092 k-ft	Vn/Omega : Allowable	70.779 k
Load Combination	+0.60W	Load Combination	+0.60W
Location of maximum on span	12.500ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward Transient Deflection	0.824 in	Ratio =	363 >=360.
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360.0
Max Downward Total Deflection	0.495 in	Ratio =	606 >=240.
Max Upward Total Deflection	0.000 in	Ratio =	0 <240.0

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma Max	Mny	Mny/Omega	Cb	Rm	Va Max	Vny	Vny/Omega
Dsgn. L = 25.00 ft		1		0.000				115.38	69.09	1.00	1.00	-0.00	118.20	70.78
+0.60W														
Dsgn. L = 25.00 ft		1	0.141	0.022	9.75		9.75	115.38	69.09	1.14	1.00	1.56	118.20	70.78
+0.450W														
Dsgn. L = 25.00 ft		1	0.106	0.017	7.31		7.31	115.38	69.09	1.14	1.00	1.17	118.20	70.78

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
W Only	1	0.8246	12.571		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.600	2.600
Overall MINimum	1.170	1.170
+0.60W	1.560	1.560
+0.450W	1.170	1.170
W Only	2.600	2.600

Steel Column

File: HSS Design.ec6
Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24

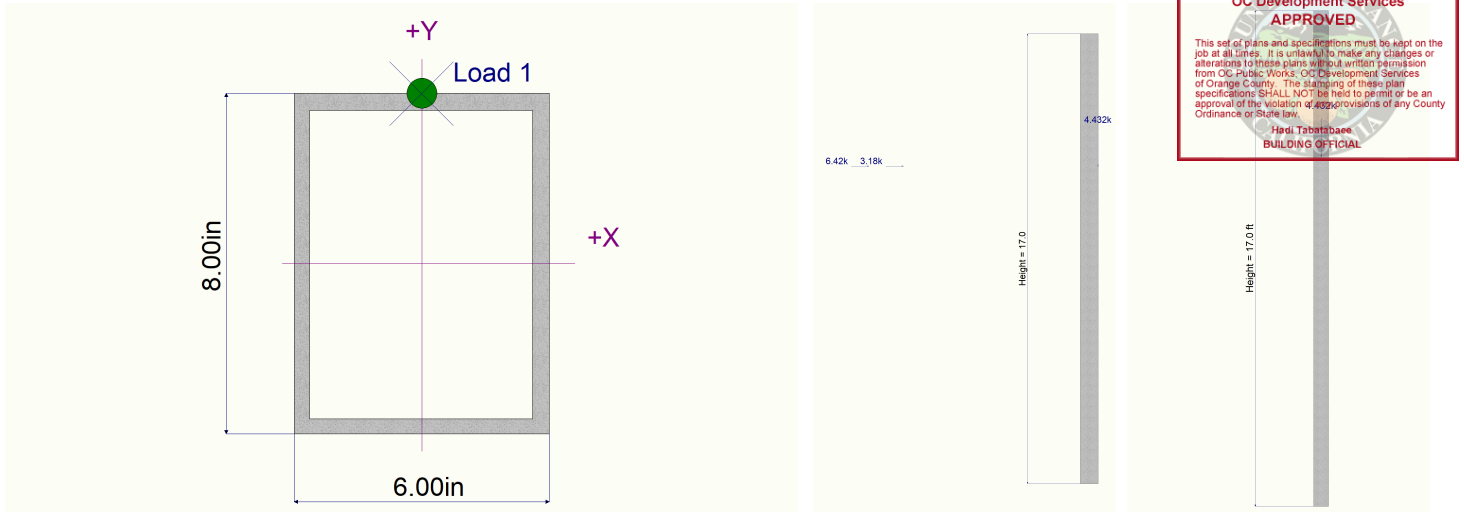
Lic. # : KW-06003761

KPR-0030117-01-2025

DESCRIPTION: HSS JAMB - 1/S4.0.1

Permits: BNR21-0245, ELE21-0852, MEC21-0513, PLB21-0899

Sketches



County of Orange - OC Public Works
OC Development Services
APPROVED

This set of plans and specifications must be kept on the job at all times. It is unlawful to make any changes or alterations to these plans without written permission from OC Public Works, OC Development Services of Orange County. The stamping of these plan specifications SHALL NOT be held to permit or be an approval of the violation of any provisions of any County Ordinance or State law.

Head, Tabatabaee
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