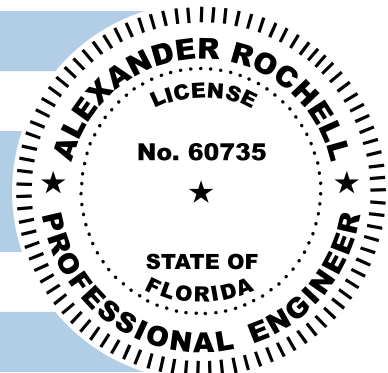


Structural Calculations For:
Hollub Residence
6100 W. Suburban Drive
Pinecrest, FL 33156

Digitally signed by
Alexander Rochell

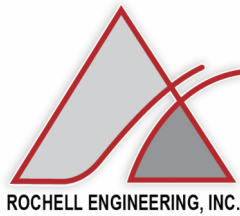
Contact Info:
Rochell
Engineering

Date: 2024.05.23
16:15:33-04'00'



Alexander Rochell, P.E.
FL Registration No. 60735
Cert. of Authorization No. 27054

This item has been digitally signed & sealed by Alexander Rochell, PE on 5-23-24. Printed copies of this document are not considered signed & sealed and the signature must be verified on any electronic copies.



DESIGN LOADS:

Roof SDL = 15 psf
Roof LL = 30 psf

Ground Floor SDL = 25 psf
Ground Floor LL = 40 psf

Typical Floor SDL = 25 psf
Typical Floor LL = 40 psf

Stairs SDL = 15 psf
Stairs LL = 40 psf

Terrace SDL = 15 psf
Terrace LL = 60 psf

Garage SDL = 15 psf
Garage LL = 50 psf

Balcony SDL = 15 psf
Balcony LL = 60 psf

Wind Loads: (ASCE 7-16):

Velocity = 175 mph (Hurricane Ocean Line)

Exposure = C

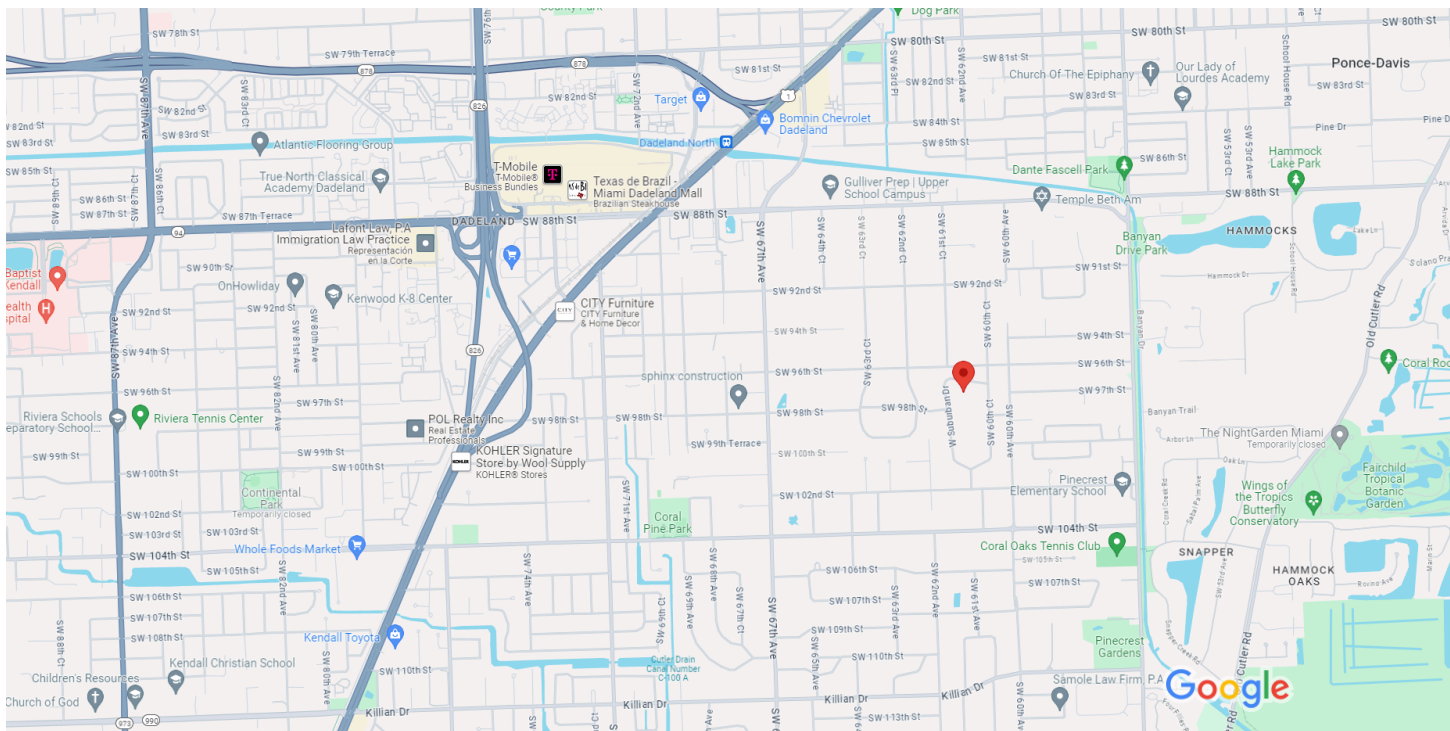
Importance Factor = 1.0

Internal Pressure Coeff. = +/- 0.18

Directionality Factor, K_d = 0.85

Building Category = II

Note: This structure has been designed as “enclosed” and requires impact resistant glass or shutters to comply with Florida Building Code sections R4403.16 & R4410.



Map data ©2024 Google 1000 ft



6100 W Suburban Dr

Building



Directions



Save



Nearby



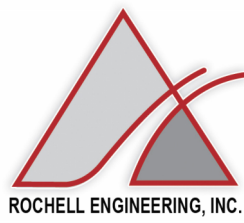
Send to
phone



Share



6100 W Suburban Dr, Miami, FL 33156



Wind Loads per ASCE 7-22

MecaWind v2447

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Calculations Prepared by:

Rochell Engineering, Inc.
1500 NW 89th Ct
SUITE 212
0
Doral, FL, 33172
Date: May 06, 2024
Designer: M.D

Calculations Prepared For:

Client: Locus Architecture
Location: 6100 W Suburban Dr. Pinecrest, FL 33156
Description: Hollub Spec Home 2

File Location: Y:\00_Projects\Locus Architecture\
Hollub Spec Home 2 (Locus Architecture)\Calculations\Wind Load Analysis\Wind Load Table.wnd

General:

Wind Load Standard	= ASCE 7-22	Basic Wind Speed	= 175.0 mph
Exposure Classification	= C	Risk Category	= II
Structure Type	= Building	Design Basis for Wind Pressures	= ASD
MWFRS Analysis Method	= Ch 27	C&C Analysis Method	= Ch 30 Pt 1
Dynamic Type of Structure	= Rigid	Show Advanced Options	= True
Reset Advanced Options to Default Values	= Defaults	Simple Diaphragm Building	= True
Show Base Reactions in Output	= Summary	MWFRS Pressure Elevations	= Automatic
Topographic Effects	= None	Override Directionality Factor K_d	= False
Override the Gust Factor G	= False		

Building:

Roof = Roof Type	= Flat	Encl = Enclosure Classification	= Enclosed
Help = Help on Building Roof Type	= Help	RfHt = Roof Height	= 25.000 ft
W = Building Width	= 101.000 ft	L = Building Length	= 181.000 ft
OH = Type of Overhang	= All Overhang	Par = Parapet	= Solid
P _{ht} = Parapet Height	= 0.67 ft	HT _{over} = Override Mean Roof Height	= False
Ht _{man} = Mean Roof Height	= 25.000 ft	RA _{over} = Override Roof Area	= False
IsElev = Building is Elevated	= False		

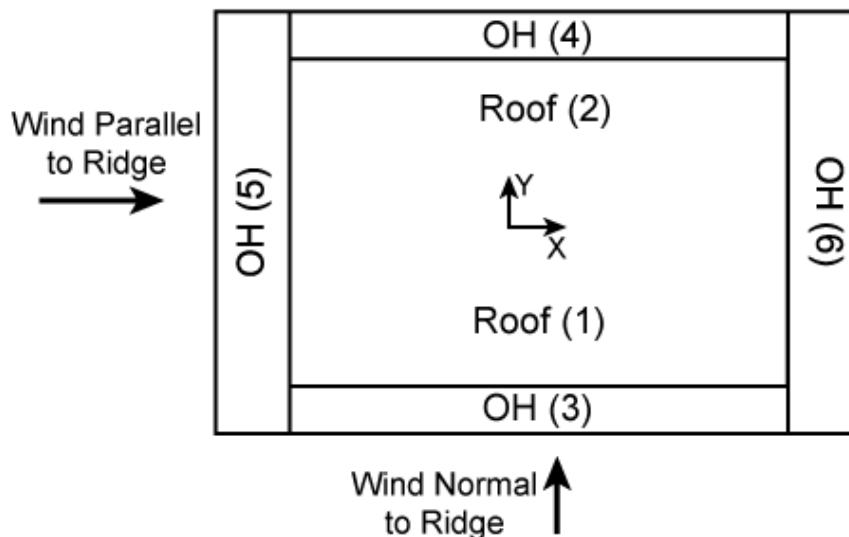
Exposure Constants [Tbl 26.11-1]:

α = 3-s Gust-speed exponent	= 9.800	Z_g = Nominal Ht of Boundary Layer	= 2460.000 ft
$\hat{\alpha}$ = Reciprocal of α	= 0.102	b = 3 sec gust speed factor	= 1.000
α_m = Mean hourly Wind-Speed Exponent	= 0.156	b_m = Mean hourly Windspeed Exponent	= 0.660
c = Turbulence Intensity Factor	= 0.200	ϵ = Integral Length Scale Exponent	= 0.2000

Overhang Inputs:

Std	= Overhangs on all sides are the same	= True
OHType	= Type of Roof Wall Intersections	= Overhang
OH	= Overhang of Roof Beyond Wall	= 3.000 ft

Main Wind Force Resisting System (MWFRS) Wind Calculations per Ch 27



h = Mean structure height = 25.000 ft

K_h	=	$2.41 \cdot (Z/Z_g)^{2/\alpha}$ [Tbl 26.10-1]	=	0.945
K_{zt}	=	Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]	=	1.000
K_d	=	Wind Directionality Factor per Tbl 26.6-1	=	0.85
$+GC_{pi}$	=	Enclosed Positive Internal Pressure Tbl 26.13-1	=	+0.18
$-GC_{pi}$	=	Enclosed Negative Internal Pressure Tbl 26.13-1	=	-0.18
LF	=	Load Factor based upon ASD Design	=	0.60
K_e	=	Ground Elev Factor [Tbl 26.10-1]	=	1.000
Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.44 psf
RA	=	Roof Area	=	20009.00 ft ²
Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.44 psf
Q_p	=	$0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.68 psf
Q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$	=	44.44 psf
Q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	=	44.44 psf

MWFRS Wind Loads [Normal to Ridge]

h	=	Mean Roof Height Of Building	=	25.000 ft
hp	=	Height To the top Of the Parapet	=	25.670 ft
RHt	=	Ridge Height Of Roof	=	25.000 ft
B	=	Horizontal Dimension Of Building Normal To Wind Direction	=	181.000 ft
L	=	Horizontal Dimension Of building Parallel To Wind Direction	=	101.000 ft
L/B	=	Ratio Of L/B used For Cp determination	=	0.558
h/L	=	Ratio Of h/L used For Cp determination	=	0.248
Slope	=	Slope Of Roof	=	0.0 Deg

Gust Factor Calculation for Wind: [Normal to Ridge]

Gust Factor Category I Rigid Structures - Simplified Method

G_1	=	Simplified: For Rigid Structures can use 0.85	=	0.85
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Gust Factor Category II Rigid Structures - Complete Analysis

Z_m	=	Equiv Struc Height: $\max(0.6 \cdot h, Z_{min})$	=	15.000 ft
I_{zm}	=	Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-7]	=	0.228
L_{zm}	=	Turbulence Integral Length Scale: $l \cdot (Z_m/33)^6$ [Eq 26.11-9]	=	427.057 ft
B	=	Building Width Width Normal to Wind Direction	=	181.000 ft
Q	=	$1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8]	=	0.846
G_2	=	Detailed: $0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q)/(1+1.7 \cdot g_v \cdot I_{zm})]$ [Eq 26.11-6]	=	0.844

Gust Factor Used in Analysis

G	=	Gust Factor: $\min(G_1, G_2)$	=	0.844
---	---	-------------------------------	---	-------

$C_{p_{ww}}$	=	Windward Wall Coefficient (All L/B Values)	=	0.800
$C_{p_{lw}}$	=	Leeward Wall Coefficient using L/B	=	-0.500
$C_{p_{sw}}$	=	Side Wall Coefficient (All L/B values)	=	-0.700
$GC_{pn_{ww}}$	=	Parapet Combined Net Pressure Coefficient (Windward Parapet)	=	1.500
$GC_{pn_{lw}}$	=	Parapet Combined Net Pressure Coefficient (Leeward Parapet)	=	-1.000

Wind Pressures [Normal to Ridge]

All wind pressures include a Load Factor (LF) of 0.6

Elev ft	GC_{pi}	q_i psf	K_z	K_{zt}	q_z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	+0.18	44.44	0.945	1.000	44.44	18.70	-22.74	-29.11	41.44	9.60
20.000	+0.18	44.44	0.903	1.000	42.46	17.57	-22.74	-29.11	40.30	9.60
15.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
10.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
5.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	-0.18	44.44	0.945	1.000	44.44	32.30	-9.14	-15.51	41.44	9.60
20.000	-0.18	44.44	0.903	1.000	42.46	31.16	-9.14	-15.51	40.30	9.60
15.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60
10.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60
5.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60

K_e	=	$2.41 \cdot (Z/Z_g)^{2/\alpha}$	K_{zt}	=	Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]
GC_{pi}	=	Enclosed Internal Pressure Tbl 26.13-1	q_z	=	$0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]
Q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	Q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$
Side	=	$q_h \cdot K_d \cdot G \cdot C_{p_{sw}} - Q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1	Leeward	=	$q_h \cdot K_d \cdot G \cdot C_{p_{lw}} - Q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1
Windward	=	$q_z \cdot K_d \cdot G \cdot C_{p_{ww}} - Q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1	Total	=	Windward - Leeward
P_p	=	$q_h \cdot K_d \cdot (GC_{pn_{ww}})$ Eq 27.3-3	P_p	=	$q_h \cdot K_d \cdot (GC_{pn_{lw}})$ Eq 27.3-3

- Minimum Pressure: § 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure ($\pm GC_{pi}$) [Normal to Ridge]

All wind pressures include a Load Factor (LF) of 0.6

Reference	Description	Location	Start Dist ft	End Dist ft	C_p Min	C_p Max	GC_{pi}	Pressure Min psf	Pressure Max psf
OH_Bot	Overhang Bottom	3	All	All	0.800	0.800	+0.00/-0.00	25.50	25.50

OH_Top	Overhang Top (0 to h)	3,5,6	0.000	25.000	-0.900	-0.180	+0.00/-0.00	-28.69	-5.74
OH_Top	Overhang Top (h to 2*h)	5,6	25.000	50.000	-0.500	-0.180	+0.00/-0.00	-15.94	-5.74
OH_Top	Overhang Top (>= 2*h)	4,5,6	50.000	107.000	-0.300	-0.180	+0.00/-0.00	-9.56	-5.74
Roof	Roof (0 to h)	All	3.000	25.000	-0.900	-0.180	+0.18/-0.18	-35.49	1.06
Roof	Roof (h to 2*h)	All	25.000	50.000	-0.500	-0.180	+0.18/-0.18	-22.74	1.06
Roof	Roof (>= 2*h)	All	50.000	104.000	-0.300	-0.180	+0.18/-0.18	-16.36	1.06

Roof Pressures based upon Ch 27:

Start = Start Dist from Windward Edge
 C_{p_min} = Smallest Coefficient Magnitude
 $Press_{Min} = q_h \cdot K_d \cdot G \cdot C_{p_min} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1

End = End Dist from Windward Edge
 C_{p_max} = Largest Coefficient Magnitude
 $Press_{Max} = q_h \cdot K_d \cdot G \cdot C_{p_max} - q_{in} \cdot K_d \cdot (-GC_{pi})$ Eq 27.3-1

- No reduction factor was applicable
- The smaller uplift pressures due to C_{p_Min} can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

MWFRS Wind Loads [Parallel to Ridge]

h	= Mean Roof Height Of Building	= 25.000 ft
hp	= Height To the top Of the Parapet	= 25.670 ft
RHt	= Ridge Height Of Roof	= 25.000 ft
B	= Horizontal Dimension Of Building Normal To Wind Direction	= 101.000 ft
L	= Horizontal Dimension Of building Parallel To Wind Direction	= 181.000 ft
L/B	= Ratio Of L/B used For C_p determination	= 1.792
h/L	= Ratio Of h/L used For C_p determination	= 0.138
Slope	= Slope Of Roof	= 0.0 Deg

Gust Factor Calculation for Wind: [Parallel to Ridge]

Gust Factor Category I Rigid Structures - Simplified Method

G_1 = Simplified: For Rigid Structures can use 0.85 = 0.85

Gust Factor Category II Rigid Structures - Complete Analysis

Z_m = Equiv Struc Height: $\text{Max}(0.6 \cdot h, Z_{min})$ = 15.000 ft
 I_{zm} = Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-7] = 0.228
 L_{zm} = Turbulence Integral Length Scale: $l \cdot (Z_m/33)^6$ [Eq 26.11-9] = 427.057 ft
 B = Building Width Width Normal to Wind Direction = 101.000 ft
 Q = $1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8] = 0.880
 G_2 = Detailed: $0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q)/(1+1.7 \cdot g_v \cdot I_{zm})]$ [Eq 26.11-6] = 0.862

Gust Factor Used in Analysis

G = Gust Factor: $\text{Min}(G_1, G_2)$ = 0.850

C_{p_ww} = Windward Wall Coefficient (All L/B Values) = 0.800
 C_{p_lw} = Leeward Wall Coefficient using L/B = -0.342
 C_{p_sw} = Side Wall Coefficient (All L/B values) = -0.700
 GC_{pn_ww} = Parapet Combined Net Pressure Coefficient (Windward Parapet) = 1.500
 GC_{pn_lw} = Parapet Combined Net Pressure Coefficient (Leeward Parapet) = -1.000

Wind Pressures [Parallel to Ridge] All wind pressures include a Load Factor (LF) of 0.6

Elev ft	GC_{pi}	q_i psf	K_z	K_{zt}	q_z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	+0.18	44.44	0.945	1.000	44.44	18.89	-17.77	-29.27	36.65	9.60
20.000	+0.18	44.44	0.903	1.000	42.46	17.74	-17.77	-29.27	35.51	9.60
15.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
10.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
5.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	-0.18	44.44	0.945	1.000	44.44	32.48	-4.17	-15.68	36.65	9.60
20.000	-0.18	44.44	0.903	1.000	42.46	31.34	-4.17	-15.68	35.51	9.60
15.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60
10.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60
5.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60

$K_z = 2.41 \cdot (Z/Z_g)^{2/\alpha}$

GC_{pi} = Enclosed Internal Pressure Tbl 26.13-1

q_{ip} = Positive Internal Pressure: $q_h \cdot LF$

Side = $q_h \cdot K_d \cdot G \cdot C_{p_sw} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1

Windward = $q_z \cdot K_d \cdot G \cdot C_{p_ww} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1

p_p = $q_h \cdot K_d \cdot (GC_{pn_ww})$ Eq 27.3-3

K_{zt} = Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]

q_z = $0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]

q_{in} = Negative Internal Pressure: $q_h \cdot LF$

Leeward = $q_h \cdot K_d \cdot G \cdot C_{p_lw} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1

Total = Windward - Leeward

p_p = $q_h \cdot K_d \cdot (GC_{pn_lw})$ Eq 27.3-3

- Minimum Pressure: § 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure ($\pm GC_{pi}$) [Parallel to Ridge]
All wind pressures include a Load Factor (LF) of 0.6

Reference	Description	Location	Start Dist ft	End Dist ft	C _p Min	C _p Max	GC _{pi}	Pressure Min psf	Pressure Max psf
OH_Bot	Overhang Bottom	5	All	All	0.800	0.800	+0.00/-0.00	25.68	25.68
OH_Top	Overhang Top (0 to h)	3,4,5	0.000	25.000	-0.900	-0.180	+0.00/-0.00	-28.90	-5.78
OH_Top	Overhang Top (h to 2*h)	3,4	25.000	50.000	-0.500	-0.180	+0.00/-0.00	-16.05	-5.78
OH_Top	Overhang Top (>= 2*h)	3,4,6	50.000	184.000	-0.300	-0.180	+0.00/-0.00	-9.63	-5.78
Roof	Roof (0 to h)	All	3.000	25.000	-0.900	-0.180	+0.18/-0.18	-35.69	1.02
Roof	Roof (h to 2*h)	All	25.000	50.000	-0.500	-0.180	+0.18/-0.18	-22.85	1.02
Roof	Roof (>= 2*h)	All	50.000	184.000	-0.300	-0.180	+0.18/-0.18	-16.43	1.02

Roof Pressures based upon Ch 27:

Start = Start Dist from Windward Edge
C_{p_min} = Smallest Coefficient Magnitude
Press_{Min} = $q_h \cdot K_d \cdot G \cdot C_{p_min} - q_{in} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1

End = End Dist from Windward Edge
C_{p_max} = Largest Coefficient Magnitude
Press_{Max} = $q_h \cdot K_d \cdot G \cdot C_{p_max} - q_{in} \cdot K_d \cdot (-GC_{pi})$ Eq 27.3-1

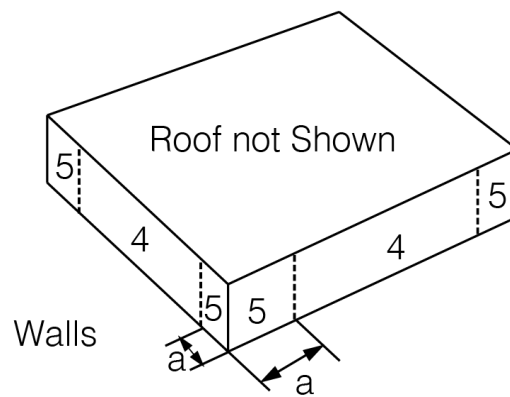
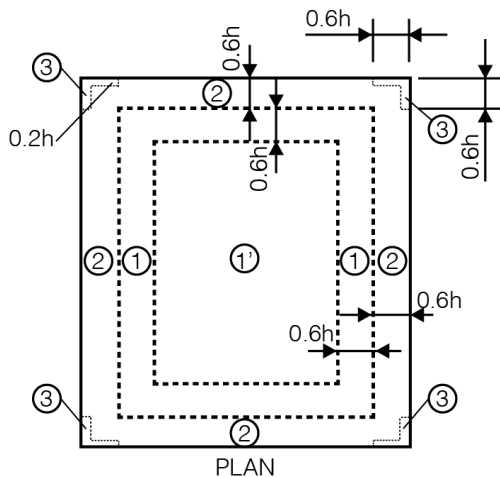
- No reduction factor was applicable
- The smaller uplift pressures due to C_p Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Reaction Summary Wind (MWFRS)

Description	F _x Kip	F _y Kip	F _z Kip	M _x k•ft	M _y k•ft	M _z k•ft
Normal to Ridge: Walls+Roof +GC _{pi}	0.00	-191.13	-448.68	7,428.68	0.00	0.00
Normal to Ridge: Walls Only +GC _{pi}	0.00	-191.13	0.00	2,566.09	0.00	0.00
Normal to Ridge: Walls+Roof -GC _{pi}	0.00	-191.13	-4.35	3,286.10	0.00	0.00
Normal to Ridge: Walls Only -GC _{pi}	0.00	-191.13	0.00	2,566.09	0.00	0.00
Normal to Ridge: Walls+Roof Min Pressure	0.00	-44.60	0.00	572.49	0.00	0.00
Parallel to Ridge: Walls+Roof +GC _{pi}	-94.54	0.00	-393.97	0.00	-7,174.99	0.00
Parallel to Ridge: Walls Only +GC _{pi}	-94.54	0.00	0.00	0.00	-1,280.60	0.00
Parallel to Ridge: Walls+Roof -GC _{pi}	-94.54	0.00	0.41	0.00	-2,039.12	0.00
Parallel to Ridge: Walls Only -GC _{pi}	-94.54	0.00	0.00	0.00	-1,280.60	0.00
Parallel to Ridge: Walls+Roof Min Pressure	-24.89	0.00	0.00	0.00	-319.46	0.00

- * Per MecaLibrary.RefEntry, Use greater of Shear calculated with or without roof.
- * X= Along Building ridge, Y = Normal to Building Ridge, Z = Vertical
- * Minimum Pressures applied to a vertical plane normal to wind.
- * Reactions calculated about the geometric center of the footprint

Components and Cladding (C&C) Wind Loads per Ch 30 Part 1 Roof & Wall



h/W	= Ratio of mean roof height to building width	= 0.248
h/L	= Ratio of mean roof height to building length	= 0.138
h	= Mean structure height	= 25.000 ft
K _h	= $2.41 \cdot (Z/Z_g)^{2/\alpha}$	= 0.945
K _{zt}	= Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]	= 1.000
K _d	= Wind Directionality Factor per Tbl 26.6-1	= 0.85
+GC _{pi}	= Enclosed Positive Internal Pressure Tbl 26.13-1	= +0.18
-GC _{pi}	= Enclosed Negative Internal Pressure Tbl 26.13-1	= -0.18
LF	= Load Factor based upon ASD Design	= 0.60
K _e	= Ground Elev Factor [Tbl 26.10-1]	= 1.000
q _h	= $0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	= 44.44 psf
LHD	= Least Horizontal Dimension: Min(B, L)	= 101.000 ft
a ₁	= Min(0.1•LHD, 0.4•h)	= 10.000 ft
a	= Max(a ₁ , 0.04•LHD, 3 ft [0.9 m])	= 10.000 ft
h/B	= Ratio of mean roof height to least horizontal dim: h/B	= 0.248
0.2*h	= Parameter used to define Zone 3	= 5.000 ft

$$= 15.000 \text{ ft}$$

Wind Pressures for C&C Ch 30 Pt 1 Roof & Wall

All wind pressures include a Load Factor (LF) of 0.6

Description	Zone	Width	Span	Area	1/3 Rule	Figure	GCP Max	GCP Min	p Max psf	p Min psf
		ft	ft	ft²						
10 sq. ft.	1	1.000	5.500	10.08	Yes	30.3-2A	0.300	-1.699	18.12	-70.96
10 sq. ft.	1'	1.000	5.500	10.08	Yes	30.3-2A	0.300	-0.900	18.12	-40.79
10 sq. ft.	2	1.000	5.500	10.08	Yes	30.3-2A	0.300	-2.298	18.12	-93.60
10 sq. ft.	3	1.000	5.500	10.08	Yes	30.3-2A	0.300	-3.196	18.12	-127.53
10 sq. ft.	4	1.000	5.500	10.08	Yes	30.3-1	0.899	-0.989	40.77	-44.17
10 sq. ft.	5	1.000	5.500	10.08	Yes	30.3-1	0.899	-1.259	40.77	-54.35
20 sq. ft.	1	1.000	7.750	20.02	Yes	30.3-2A	0.270	-1.576	16.99	-66.32
20 sq. ft.	1'	1.000	7.750	20.02	Yes	30.3-2A	0.270	-0.900	16.99	-40.79
20 sq. ft.	2	1.000	7.750	20.02	Yes	30.3-2A	0.270	-2.140	16.99	-87.64
20 sq. ft.	3	1.000	7.750	20.02	Yes	30.3-2A	0.270	-2.881	16.99	-115.60
20 sq. ft.	4	1.000	7.750	20.02	Yes	30.3-1	0.852	-0.942	38.98	-42.38
20 sq. ft.	5	1.000	7.750	20.02	Yes	30.3-1	0.852	-1.164	38.98	-50.77
50 sq. ft.	1	1.000	12.000	48.00	Yes	30.3-2A	0.232	-1.419	15.56	-60.41
50 sq. ft.	1'	1.000	12.000	48.00	Yes	30.3-2A	0.232	-0.900	15.56	-40.79
50 sq. ft.	2	1.000	12.000	48.00	Yes	30.3-2A	0.232	-1.939	15.56	-80.04
50 sq. ft.	3	1.000	12.000	48.00	Yes	30.3-2A	0.232	-2.478	15.56	-100.41
50 sq. ft.	4	1.000	12.000	48.00	Yes	30.3-1	0.792	-0.882	36.70	-40.10
50 sq. ft.	5	1.000	12.000	48.00	Yes	30.3-1	0.792	-1.043	36.70	-46.21
100 sq. ft.	1	1.000	18.000	108.00	Yes	30.3-2A	0.200	-1.274	14.35	-54.93
100 sq. ft.	1'	1.000	18.000	108.00	Yes	30.3-2A	0.200	-0.883	14.35	-40.16
100 sq. ft.	2	1.000	18.000	108.00	Yes	30.3-2A	0.200	-1.753	14.35	-73.00
100 sq. ft.	3	1.000	18.000	108.00	Yes	30.3-2A	0.200	-2.105	14.35	-86.31
100 sq. ft.	4	1.000	18.000	108.00	Yes	30.3-1	0.736	-0.826	34.59	-37.99
100 sq. ft.	5	1.000	18.000	108.00	Yes	30.3-1	0.736	-0.932	34.59	-41.98
200 sq. ft.	1	1.000	25.000	208.33	Yes	30.3-2A	0.200	-1.157	14.35	-50.49
200 sq. ft.	1'	1.000	25.000	208.33	Yes	30.3-2A	0.200	-0.741	14.35	-34.77
200 sq. ft.	2	1.000	25.000	208.33	Yes	30.3-2A	0.200	-1.601	14.35	-67.29
200 sq. ft.	3	1.000	25.000	208.33	Yes	30.3-2A	0.200	-1.803	14.35	-74.90
200 sq. ft.	4	1.000	25.000	208.33	Yes	30.3-1	0.690	-0.780	32.88	-36.28
200 sq. ft.	5	1.000	25.000	208.33	Yes	30.3-1	0.690	-0.841	32.88	-38.56
500 sq. ft.	1	1.000	40.000	533.33	Yes	30.3-2A	0.200	-1.000	14.35	-44.57
500 sq. ft.	1'	1.000	40.000	533.33	Yes	30.3-2A	0.200	-0.537	14.35	-27.06
500 sq. ft.	2	1.000	40.000	533.33	Yes	30.3-2A	0.200	-1.400	14.35	-59.68
500 sq. ft.	3	1.000	40.000	533.33	Yes	30.3-2A	0.200	-1.400	14.35	-59.68
500 sq. ft.	4	1.000	40.000	533.33	Yes	30.3-1	0.630	-0.720	30.60	-33.99
500 sq. ft.	5	1.000	40.000	533.33	Yes	30.3-1	0.630	-0.720	30.60	-33.99

1/3 Rule = Effective width need not be less than 1/3 of the span length

GCp = External Pressure Coefficients taken from Figures 30.3-1 through 30.3-7

p = Wind Pressure: $q_h \cdot K_d \cdot [GC_p - GC_{pi}]$ [Eq. 30.3-1]

* Per § 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] (Includes LF)

Since Roof Slope= 10° , the Wall GCp values for Zone 4 & 5 are reduced by 10%

Parapet Components and Cladding (C&C) Wind Loads per Ch 30 Pt 4:

There were no Components and Cladding entered with the Parapet Zone specified

Calculations Prepared by:

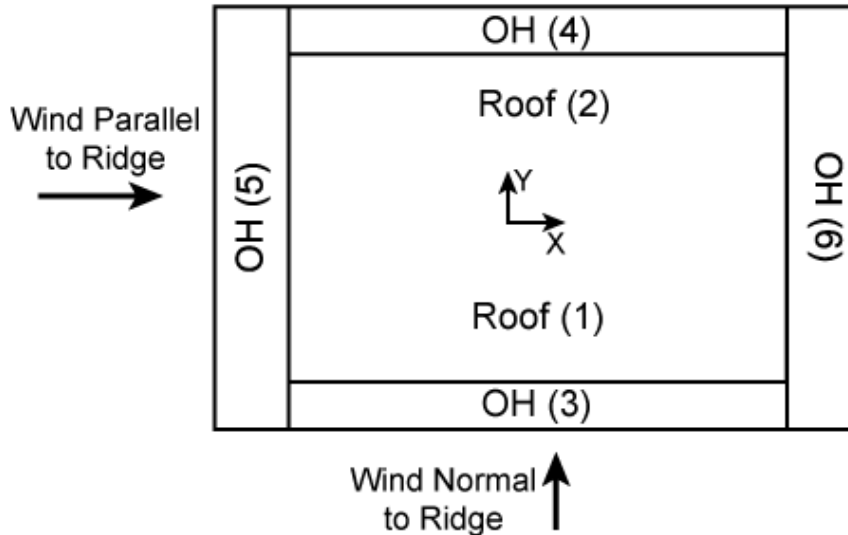
Rochell Engineering, Inc.
1500 NW 89th Ct
SUITE 212
0
Doral, FL, 33172
Date: May 06, 2024
Designer: M.D

Calculations Prepared For:

Client: Locus Architecture
Location: 6100 W Suburban Dr. Pinecrest, Fl 33156
Description: Hollub Spec Home 2

File Location: Y:\00_Projects\Locus Architecture\

Hollub Spec Home 2 (Locus Architecture)\Calculations\Wind Load Analysis\Wind Load Pressure.wnd

Main Wind Force Resisting System (MWFRS) Wind Calculations per Ch 27

h	=	Mean structure height	=	25.000 ft
K_h	=	$2.41 \cdot (Z/Z_0)^{2/\alpha}$ [Tbl 26.10-1]	=	0.945
K_{zt}	=	Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]	=	1.000
K_d	=	Wind Directionality Factor per Tbl 26.6-1	=	0.85
+GC _{pi}	=	Enclosed Positive Internal Pressure Tbl 26.13-1	=	+0.18
-GC _{pi}	=	Enclosed Negative Internal Pressure Tbl 26.13-1	=	-0.18
LF	=	Load Factor based upon ASD Design	=	0.60
K_e	=	Ground Elev Factor [Tbl 26.10-1]	=	1.000
Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.44 psf
RA	=	Roof Area	=	20009.00 ft ²
Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.44 psf
Q_p	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	44.68 psf
Q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$	=	44.44 psf
Q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	=	44.44 psf

MWFRS Wind Loads [Normal to Ridgel]

h	=	Mean Roof Height Of Building	=	25.000 ft
h _{pt}	=	Height To the top Of the Parapet	=	25.670 ft
RHt	=	Ridge Height Of Roof	=	25.000 ft
B	=	Horizontal Dimension Of Building Normal To Wind Direction	=	181.000 ft
L	=	Horizontal Dimension Of building Parallel To Wind Direction	=	101.000 ft
L/B	=	Ratio Of L/B used For Cp determination	=	0.558
h/L	=	Ratio Of h/L used For Cp determination	=	0.248
Slope	=	Slope Of Roof	=	0.0 Deg

Gust Factor Calculation for Wind: [Normal to Ridge]***Gust Factor Category I Rigid Structures - Simplified Method***

G_1	=	Simplified: For Rigid Structures can use 0.85	=	0.85
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Gust Factor Category II Rigid Structures - Complete Analysis

Z_m	=	Equiv Struc Height: $\text{Max}(0.6 \cdot h, Z_{min})$	=	15.000 ft
I_{zm}	=	Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-7]	=	0.228
L_{zm}	=	Turbulence Integral Length Scale: $l \cdot (Z_m/33)^4$ [Eq 26.11-9]	=	427.057 ft
B	=	Building Width Normal to Wind Direction	=	181.000 ft
Q	=	$1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8]	=	0.846
G_2	=	Detailed: $0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q)/(1+1.7 \cdot g_v \cdot I_{zm})]$ [Eq 26.11-6]	=	0.844

Gust Factor Used in Analysis

G	=	Gust Factor: $\text{Min}(G_1, G_2)$	=	0.844
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$C_{p_{ww}}$	=	Windward Wall Coefficient (All L/B Values)	=	0.800
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$C_{p_{LW}}$	=	Leeward Wall Coefficient using L/B	=	-0.500
$C_{p_{SW}}$	=	Side Wall Coefficient (All L/B values)	=	-0.700
$GC_{pn_{ww}}$	=	Parapet Combined Net Pressure Coefficient (Windward Parapet)	=	1.500
$GC_{pn_{lw}}$	=	Parapet Combined Net Pressure Coefficient (Leeward Parapet)	=	-1.000

Wind Pressures [Normal to Ridge]
All wind pressures include a Load Factor (LF) of 0.6

Elev ft	GC_{pi}	q_i psf	K_z	K_{zt}	q_z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	+0.18	44.44	0.945	1.000	44.44	18.70	-22.74	-29.11	41.44	9.60
20.000	+0.18	44.44	0.903	1.000	42.46	17.57	-22.74	-29.11	40.30	9.60
15.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
10.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
5.000	+0.18	44.44	0.851	1.000	40.04	16.18	-22.74	-29.11	38.91	9.60
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	-0.18	44.44	0.945	1.000	44.44	32.30	-9.14	-15.51	41.44	9.60
20.000	-0.18	44.44	0.903	1.000	42.46	31.16	-9.14	-15.51	40.30	9.60
15.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60
10.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60
5.000	-0.18	44.44	0.851	1.000	40.04	29.77	-9.14	-15.51	38.91	9.60

K_z	=	$2.41 \cdot (Z/Z_g)^{2/\alpha}$	K_{zt}	=	Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]
GC_{pi}	=	Enclosed Internal Pressure Tbl 26.13-1	q_z	=	$0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]
q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$
Side	=	$q_h \cdot K_d \cdot G \cdot C_{p_{SW}} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1	Leeward	=	$q_h \cdot K_d \cdot G \cdot C_{p_{LW}} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1
Windward	=	$q_z \cdot K_d \cdot G \cdot C_{p_{NW}} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1	Total	=	Windward - Leeward
p_p	=	$q_h \cdot K_d \cdot (GC_{pn_{ww}})$ Eq 27.3-3	p_p	=	$q_h \cdot K_d \cdot (GC_{pn_{lw}})$ Eq 27.3-3

• Minimum Pressure: § 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
• Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure ($\pm GC_{pi}$) [Normal to Ridge]
All wind pressures include a Load Factor (LF) of 0.6

Reference	Description	Location	Start Dist ft	End Dist ft	C_p Min	C_p Max	GC_{pi}	Pressure Min psf	Pressure Max psf
OH_Bot	Overhang Bottom	3	All	All	0.800	0.800	+0.00/-0.00	25.50	25.50
OH_Top	Overhang Top (0 to h)	3,5,6	0.000	25.000	-0.900	-0.180	+0.00/-0.00	-28.69	-5.74
OH_Top	Overhang Top (h to 2*h)	5,6	25.000	50.000	-0.500	-0.180	+0.00/-0.00	-15.94	-5.74
OH_Top	Overhang Top ($\geq 2 \cdot h$)	4,5,6	50.000	107.000	-0.300	-0.180	+0.00/-0.00	-9.56	-5.74
Roof	Roof (0 to h)	All	3.000	25.000	-0.900	-0.180	+0.18/-0.18	-35.49	1.06
Roof	Roof (h to 2*h)	All	25.000	50.000	-0.500	-0.180	+0.18/-0.18	-22.74	1.06
Roof	Roof ($\geq 2 \cdot h$)	All	50.000	104.000	-0.300	-0.180	+0.18/-0.18	-16.36	1.06

Roof Pressures based upon Ch 27:					
Start	=	Start Dist from Windward Edge	End	=	End Dist from Windward Edge
$C_{p_{min}}$	=	Smallest Coefficient Magnitude	$C_{p_{max}}$	=	Largest Coefficient Magnitude
$Press_{Min}$	=	$q_h \cdot K_d \cdot G \cdot C_{p_{min}} - q_{ip} \cdot K_d \cdot (+GC_{pi})$ Eq 27.3-1	$Press_{Max}$	=	$q_h \cdot K_d \cdot G \cdot C_{p_{max}} - q_{in} \cdot K_d \cdot (-GC_{pi})$ Eq 27.3-1

- No reduction factor was applicable
- The smaller uplift pressures due to $C_{p_{Min}}$ can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

MWFRS Wind Loads [Parallel to Ridge]

h	=	Mean Roof Height Of Building	=	25.000 ft
hp	=	Height To the top Of the Parapet	=	25.670 ft
RHt	=	Ridge Height Of Roof	=	25.000 ft
B	=	Horizontal Dimension Of Building Normal To Wind Direction	=	101.000 ft
L	=	Horizontal Dimension Of building Parallel To Wind Direction	=	181.000 ft
L/B	=	Ratio Of L/B used For C_p determination	=	1.792
h/L	=	Ratio Of h/L used For C_p determination	=	0.138
Slope	=	Slope Of Roof	=	0.0 Deg

Gust Factor Calculation for Wind: [Parallel to Ridge]

Gust Factor Category I Rigid Structures - Simplified Method				
G_1	=	Simplified: For Rigid Structures can use 0.85	=	0.85
Gust Factor Category II Rigid Structures - Complete Analysis				
Z_m	=	Equiv Struc Height: $\text{Max}(0.6 \cdot h, Z_{min})$	=	15.000 ft
I_{zm}	=	Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-7]	=	0.228
L_{zm}	=	Turbulence Integral Length Scale: $l \cdot (Z_m/33)^e$ [Eq 26.11-9]	=	427.057 ft
B	=	Building Width Width Normal to Wind Direction	=	101.000 ft
Q	=	$1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8]	=	0.880

$$G_2 = \text{Detailed: } 0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q) / (1+1.7 \cdot g_v \cdot I_{zm})] \quad [\text{Eq } 26.11-6] = 0.862$$

Gust Factor Used in Analysis

$$G = \text{Gust Factor: } \min(G_1, G_2) = 0.850$$

$$C_{p_{WW}} = \text{Windward Wall Coefficient (All L/B Values)} = 0.800$$

$$C_{p_{LW}} = \text{Leeward Wall Coefficient using L/B} = -0.342$$

$$C_{p_{SW}} = \text{Side Wall Coefficient (All L/B values)} = -0.700$$

$$GC_{p_{n_{WW}}} = \text{Parapet Combined Net Pressure Coefficient (Windward Parapet)} = 1.500$$

$$GC_{p_{n_{LW}}} = \text{Parapet Combined Net Pressure Coefficient (Leeward Parapet)} = -1.000$$

Wind Pressures [Parallel to Ridge]
All wind pressures include a Load Factor (LF) of 0.6

Elev ft	GC _{pi}	q _i psf	K _z	K _{zt}	q _z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	+0.18	44.44	0.945	1.000	44.44	18.89	-17.77	-29.27	36.65	9.60
20.000	+0.18	44.44	0.903	1.000	42.46	17.74	-17.77	-29.27	35.51	9.60
15.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
10.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
5.000	+0.18	44.44	0.851	1.000	40.04	16.34	-17.77	-29.27	34.11	9.60
25.670	Parapet	44.44	0.950	1.000	44.68	56.96	-37.98	0.00	94.94	9.60
25.000	-0.18	44.44	0.945	1.000	44.44	32.48	-4.17	-15.68	36.65	9.60
20.000	-0.18	44.44	0.903	1.000	42.46	31.34	-4.17	-15.68	35.51	9.60
15.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60
10.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60
5.000	-0.18	44.44	0.851	1.000	40.04	29.94	-4.17	-15.68	34.11	9.60

$$K_z = 2.41 \cdot (Z/Z_g)^{2/\alpha}$$

$$GC_{pi} = \text{Enclosed Internal Pressure Tbl } 26.13-1$$

$$q_{ip} = \text{Positive Internal Pressure: } q_h \cdot LF$$

$$\text{Side} = q_h \cdot K_d \cdot G \cdot C_{p_{SW}} - q_{ip} \cdot K_d \cdot (+GC_{pi}) \quad \text{Eq } 27.3-1$$

$$\text{Windward} = q_s \cdot K_d \cdot G \cdot C_{p_{WW}} - q_{ip} \cdot K_d \cdot (+GC_{pi}) \quad \text{Eq } 27.3-1$$

$$p_p = q_h \cdot K_d \cdot (GC_{p_{n_{WW}}}) \quad \text{Eq } 27.3-3$$

$$K_{zt} = \text{Topographic: } (1+K_1 \cdot K_2 \cdot K_3)^{1/2} \quad [\text{Eq } 26.8-1]$$

$$q_z = 0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF \quad [\text{Eq } 26.10-1]$$

$$q_{in} = \text{Negative Internal Pressure: } q_h \cdot LF$$

$$\text{Leeward} = q_h \cdot K_d \cdot G \cdot C_{p_{LW}} - q_{ip} \cdot K_d \cdot (+GC_{pi}) \quad \text{Eq } 27.3-1$$

$$\text{Total} = \text{Windward} - \text{Leeward}$$

$$p_p = q_h \cdot K_d \cdot (GC_{p_{n_{LW}}}) \quad \text{Eq } 27.3-3$$

- Minimum Pressure: § 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure ($\pm GC_{pi}$) [Parallel to Ridge]
All wind pressures include a Load Factor (LF) of 0.6

Reference	Description	Location	Start Dist ft	End Dist ft	C _p Min	C _p Max	GC _{pi}	Pressure Min psf	Pressure Max psf
OH_Bot	Overhang Bottom	5	All	All	0.800	0.800	+0.00/-0.00	25.68	25.68
OH_Top	Overhang Top (0 to h)	3,4,5	0.000	25.000	-0.900	-0.180	+0.00/-0.00	-28.90	-5.78
OH_Top	Overhang Top (h to 2*h)	3,4	25.000	50.000	-0.500	-0.180	+0.00/-0.00	-16.05	-5.78
OH_Top	Overhang Top (>= 2*h)	3,4,6	50.000	187.000	-0.300	-0.180	+0.00/-0.00	-9.63	-5.78
Roof	Roof (0 to h)	All	3.000	25.000	-0.900	-0.180	+0.18/-0.18	-35.69	1.02
Roof	Roof (h to 2*h)	All	25.000	50.000	-0.500	-0.180	+0.18/-0.18	-22.85	1.02
Roof	Roof (>= 2*h)	All	50.000	184.000	-0.300	-0.180	+0.18/-0.18	-16.43	1.02

Roof Pressures based upon Ch 27:

$$\text{Start} = \text{Start Dist from Windward Edge}$$

$$C_{p_{min}} = \text{Smallest Coefficient Magnitude}$$

$$\text{Press}_{Min} = q_h \cdot K_d \cdot G \cdot C_{p_{min}} - q_{ip} \cdot K_d \cdot (+GC_{pi}) \quad \text{Eq } 27.3-1$$

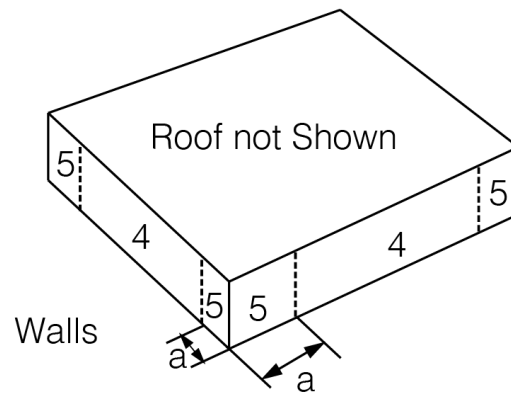
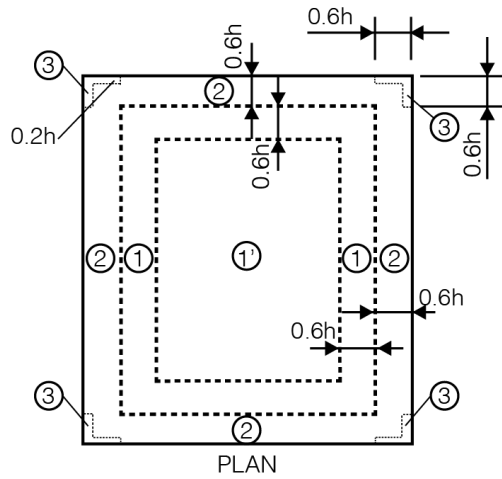
$$\text{End} = \text{End Dist from Windward Edge}$$

$$C_{p_{max}} = \text{Largest Coefficient Magnitude}$$

$$\text{Press}_{Max} = q_h \cdot K_d \cdot G \cdot C_{p_{max}} - q_{in} \cdot K_d \cdot (-GC_{pi}) \quad \text{Eq } 27.3-1$$

- No reduction factor was applicable
- The smaller uplift pressures due to C_p Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Components and Cladding (C&C) Wind Loads per Ch 30 Part 1 Roof & Wall



h/W	= Ratio of mean roof height to building width	= 0.248
h/L	= Ratio of mean roof height to building length	= 0.138
h	= Mean structure height	= 25.000 ft
K_h	= $2.41 \cdot (Z/Z_g)^{2/\alpha}$	= 0.945
K_{zt}	= Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]	= 1.000
K_d	= Wind Directionality Factor per Tbl 26.6-1	= 0.85
$+GC_{pi}$	= Enclosed Positive Internal Pressure Tbl 26.13-1	= +0.18
$-GC_{pi}$	= Enclosed Negative Internal Pressure Tbl 26.13-1	= -0.18
LF	= Load Factor based upon ASD Design	= 0.60
K_e	= Ground Elev Factor [Tbl 26.10-1]	= 1.000
q_h	= $0.00256 \cdot K_h \cdot K_{zt} \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	= 44.44 psf
LHD	= Least Horizontal Dimension: Min(B, L)	= 101.000 ft
a_1	= $\text{Min}(0.1 \cdot LHD, 0.4 \cdot h)$	= 10.000 ft
a	= $\text{Max}(a_1, 0.04 \cdot LHD, 3 \text{ ft } [0.9 \text{ m}])$	= 10.000 ft
h/B	= Ratio of mean roof height to least horizontal dim: h/B	= 0.248
$0.2 \cdot h$	= Parameter used to define Zone 3	= 5.000 ft
$0.6 \cdot h$	= Parameter used to define Zones 1 and 2	= 15.000 ft

Wind Pressures for C&C Ch 30 Pt 1 Roof & Wall
All wind pressures include a Load Factor (LF) of 0.6

Description	Zone	Width ft	Span ft	Area ft ²	1/3 Rule	Figure	GCp Max	GCp Min	p Max psf	p Min psf
W-A	4	2.000	6.330	13.36	Yes	30.3-1	0.880	-0.970	40.04	-43.44
W-A	5	2.000	6.330	13.36	Yes	30.3-1	0.880	-1.220	40.04	-52.88
W-B	4	2.080	2.500	5.20	No	30.3-1	0.900	-0.990	40.79	-44.19
W-B	5	2.080	2.500	5.20	No	30.3-1	0.900	-1.260	40.79	-54.39
W-C	4	4.670	11.420	53.33	No	30.3-1	0.784	-0.874	36.43	-39.83
W-C	5	4.670	11.420	53.33	No	30.3-1	0.784	-1.029	36.43	-45.66
W-D	4	4.670	9.670	45.16	No	30.3-1	0.796	-0.886	36.86	-40.26
W-D	5	4.670	9.670	45.16	No	30.3-1	0.796	-1.052	36.86	-46.53
W-E	4	4.920	6.580	32.37	No	30.3-1	0.819	-0.909	37.73	-41.13
W-E	5	4.920	6.580	32.37	No	30.3-1	0.819	-1.098	37.73	-48.27
W-F	4	6.420	4.420	28.38	No	30.3-1	0.828	-0.918	38.07	-41.47
W-F	5	6.420	4.420	28.38	No	30.3-1	0.828	-1.116	38.07	-48.95
W-G	4	2.000	4.080	8.16	No	30.3-1	0.900	-0.990	40.79	-44.19
W-G	5	2.000	4.080	8.16	No	30.3-1	0.900	-1.260	40.79	-54.39
W-H	4	2.830	9.670	31.17	Yes	30.3-1	0.822	-0.912	37.83	-41.23
W-H	5	2.830	9.670	31.17	Yes	30.3-1	0.822	-1.103	37.83	-48.46
W-I	4	6.420	9.580	61.50	No	30.3-1	0.775	-0.865	36.06	-39.46
W-I	5	6.420	9.580	61.50	No	30.3-1	0.775	-1.009	36.06	-44.92
W-J	4	8.170	9.580	78.27	No	30.3-1	0.758	-0.848	35.43	-38.83
W-J	5	8.170	9.580	78.27	No	30.3-1	0.758	-0.976	35.43	-43.66
W-K	4	1.670	7.750	20.02	Yes	30.3-1	0.852	-0.942	38.98	-42.38
W-K	5	1.670	7.750	20.02	Yes	30.3-1	0.852	-1.164	38.98	-50.77
D-1	4	6.330	11.640	73.68	No	30.3-1	0.762	-0.852	35.59	-38.99
D-1	5	6.330	11.640	73.68	No	30.3-1	0.762	-0.984	35.59	-43.98
D-2	4	2.670	7.330	19.57	No	30.3-1	0.854	-0.944	39.04	-42.44
D-2	5	2.670	7.330	19.57	No	30.3-1	0.854	-1.167	39.04	-50.89
D-3	4	2.500	9.250	28.52	Yes	30.3-1	0.828	-0.918	38.06	-41.46
D-3	5	2.500	9.250	28.52	Yes	30.3-1	0.828	-1.115	38.06	-48.93
D-4	4	1.000	9.830	32.21	Yes	30.3-1	0.819	-0.909	37.74	-41.14
D-4	5	1.000	9.830	32.21	Yes	30.3-1	0.819	-1.099	37.74	-48.29
D-5	4	4.500	9.250	41.63	No	30.3-1	0.802	-0.892	37.08	-40.48
D-5	5	4.500	9.250	41.63	No	30.3-1	0.802	-1.063	37.08	-46.96
WALL 1ST FLOOR	4	1.000	13.000	56.33	Yes	30.3-1	0.781	-0.871	36.29	-39.69
WALL 1ST FLOOR	5	1.000	13.000	56.33	Yes	30.3-1	0.781	-1.021	36.29	-45.38
WALL 2ND FLOOR	4	1.000	12.000	48.00	Yes	30.3-1	0.792	-0.882	36.70	-40.10
WALL 2ND FLOOR	5	1.000	12.000	48.00	Yes	30.3-1	0.792	-1.043	36.70	-46.21
GARAGE WALL	4	1.000	12.000	48.00	Yes	30.3-1	0.792	-0.882	36.70	-40.10
GARAGE WALL	5	1.000	12.000	48.00	Yes	30.3-1	0.792	-1.043	36.70	-46.21

SKYLIGHT	1	1.500	4.000	6.00	No	30.3-2A	0.300	-1.700	18.13	-71.01
SKYLIGHT	2	1.500	4.000	6.00	No	30.3-2A	0.300	-2.300	18.13	-93.67

Area = Span Length x Effective Width

1/3 Rule = Effective width need not be less than 1/3 of the span length

GCp = External Pressure Coefficients taken from Figures 30.3-1 through 30.3-7

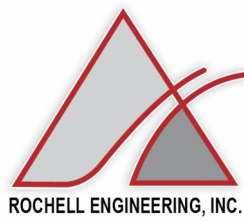
p = Wind Pressure: $q_h \cdot K_d \cdot [GC_p - GC_{pi}]$ [Eq 30.3-1]

* Per § 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] {Includes LF}

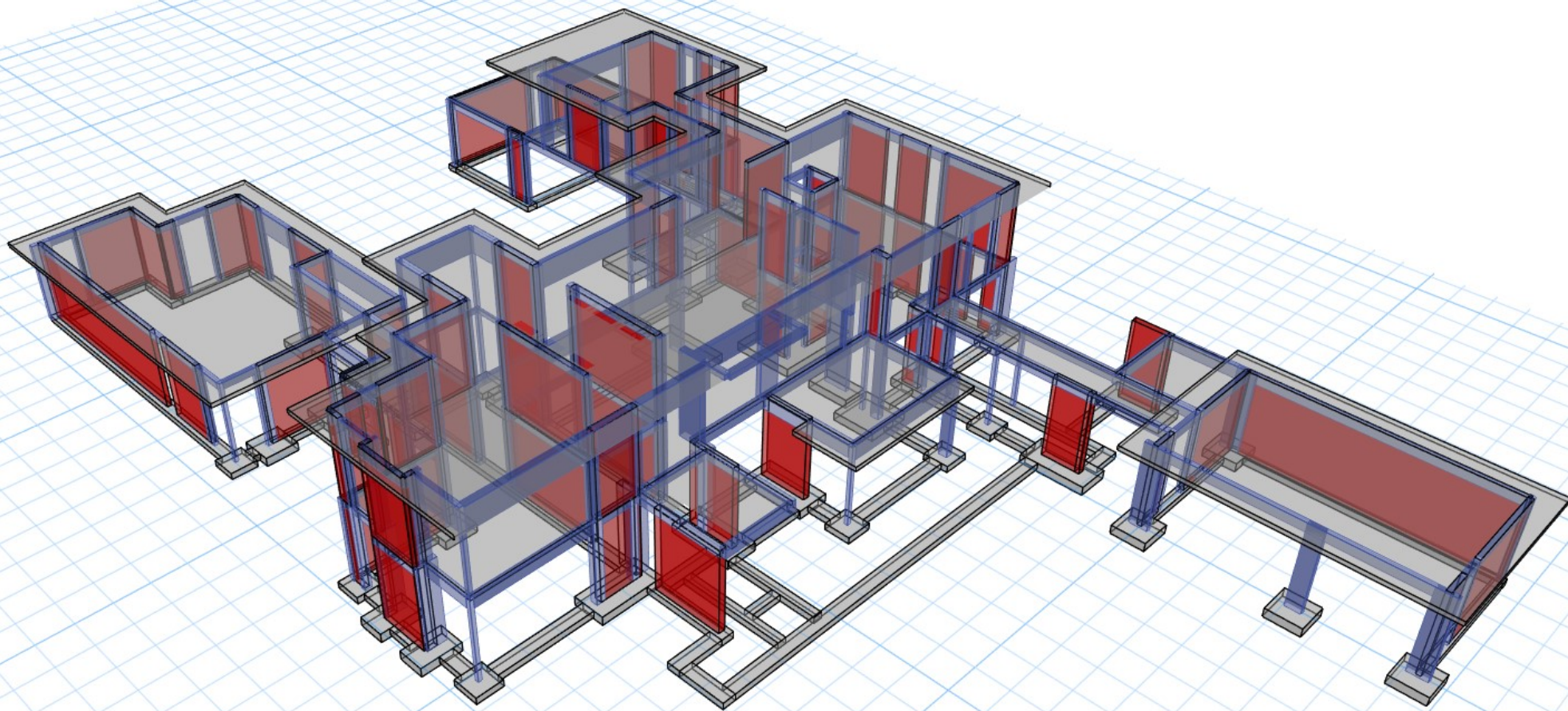
Since Roof Slope= 10°, the Wall GCp values for Zone 4 & 5 are reduced by 10%

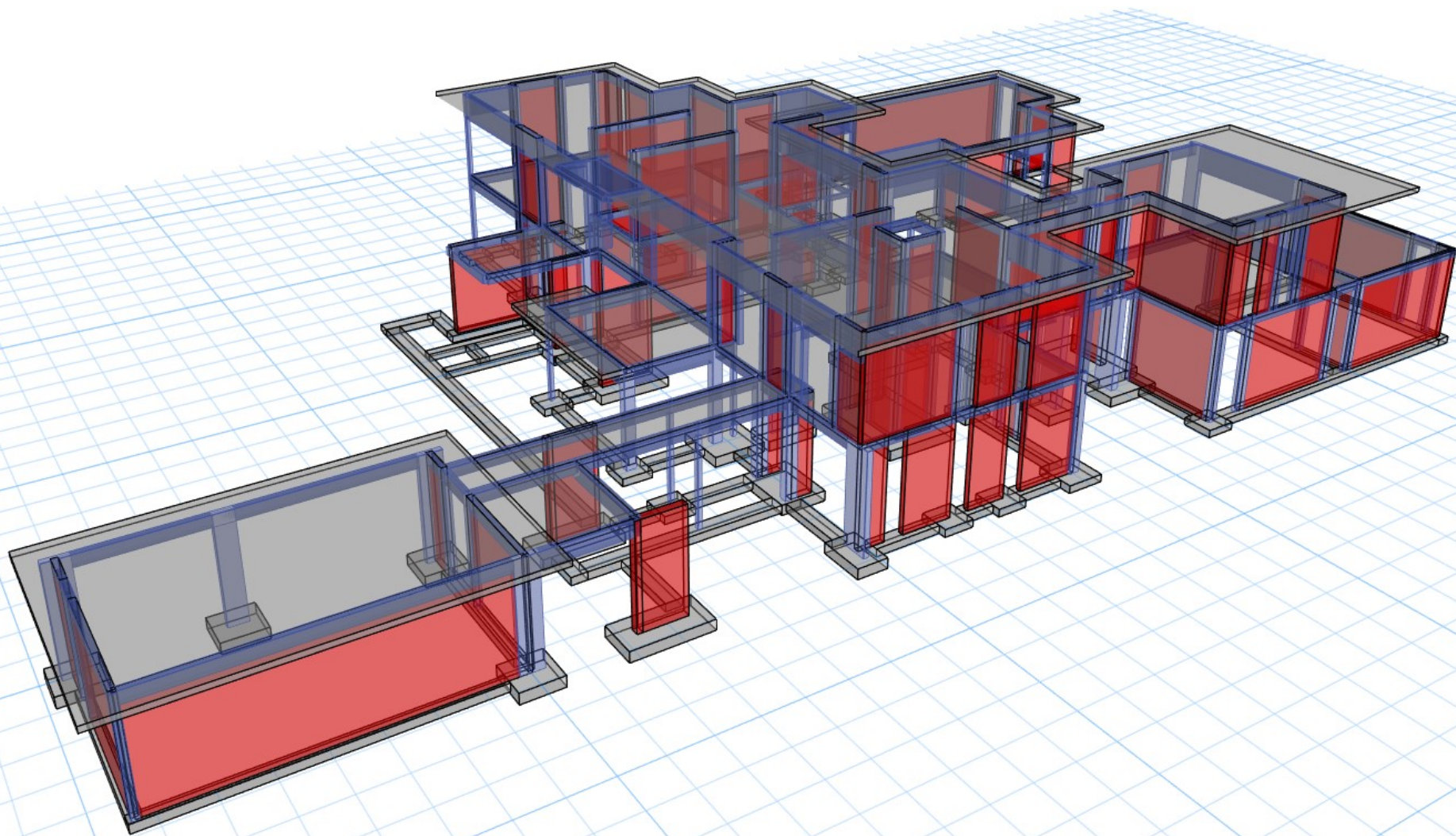
Parapet Components and Cladding (C&C) Wind Loads per Ch 30 Pt 4:

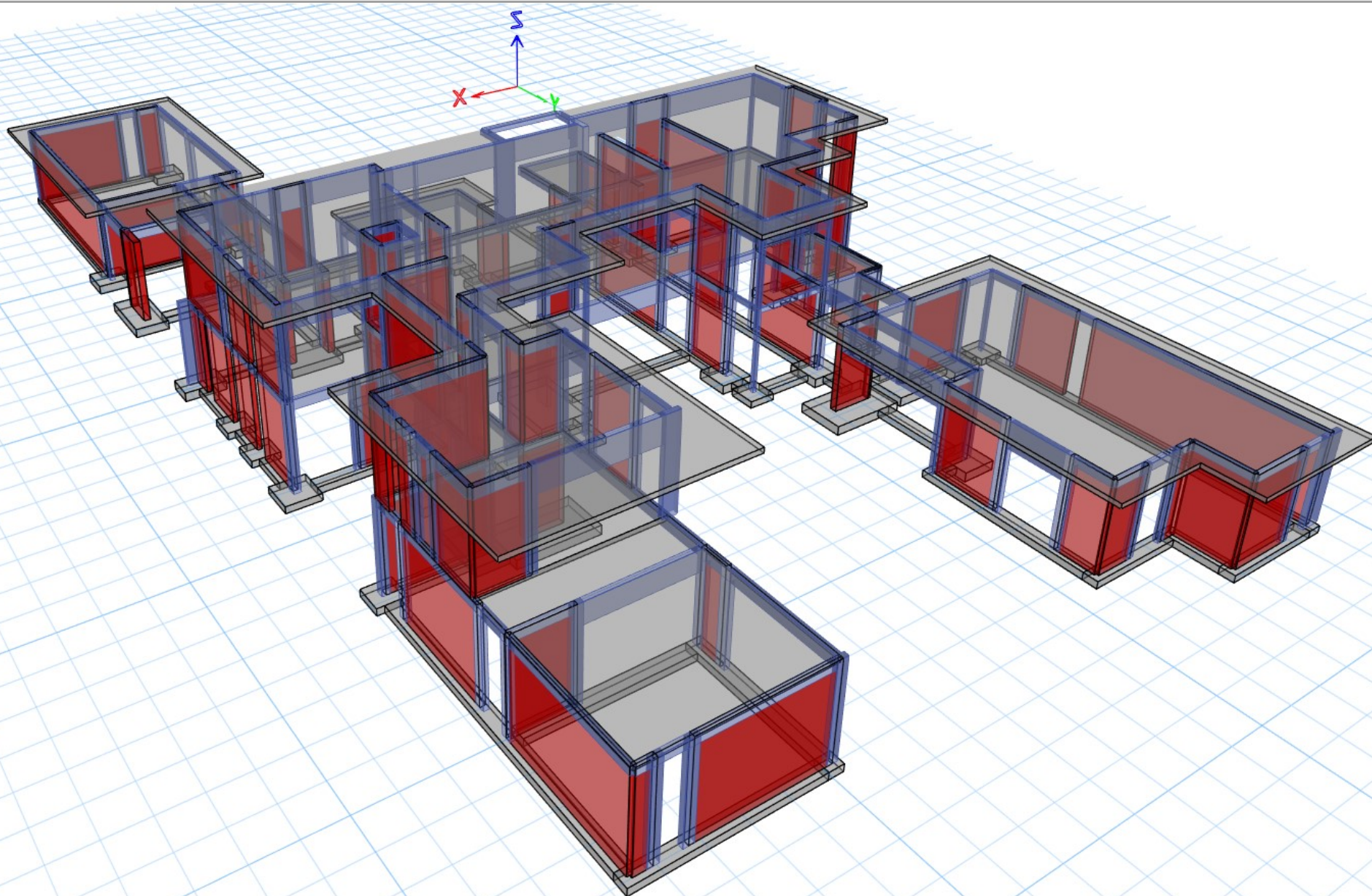
There were no Components and Cladding entered with the Parapet Zone specified

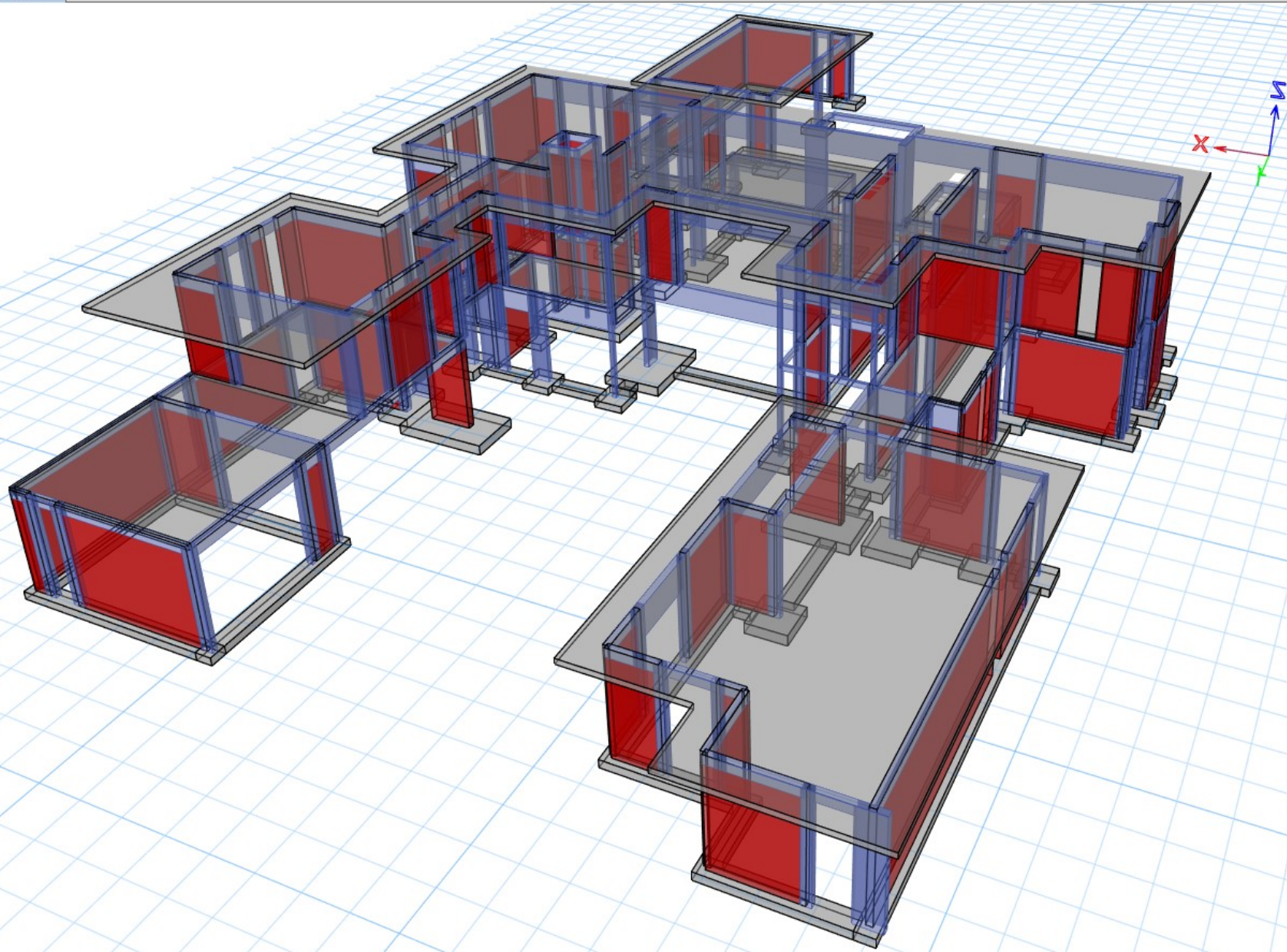


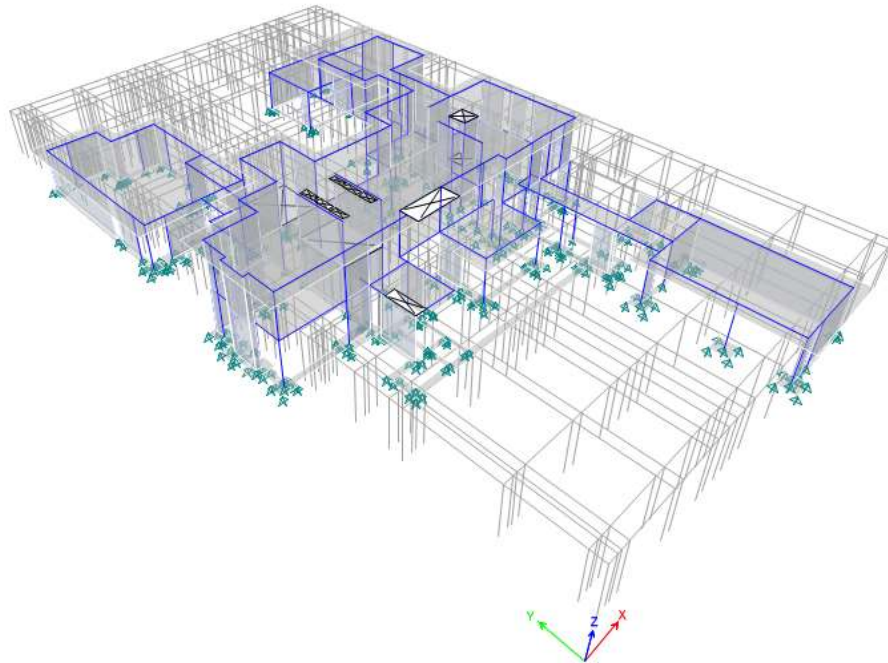
ETABS Model Report











Hollub Spec Home 2

Hollub Spec Home 2

Model File: Hollub Spec Home 2, Revision 0

5/23/2024

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1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height ft	Master Story	Similar To	Splice Story	Color
T1	Roof	13	Yes	None	No	Yellow
T1	Second Floor	13	Yes	None	No	Yellow

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux ft	Uy ft	Rz deg	Story Range	Bubble Size in	Color
T1	G1	Cartesian	0	0	0	Default	60	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	2.3333	End	Yes
G1	X (Cartesian)	C	3.3333	End	Yes
G1	X (Cartesian)	D	5.3333	End	Yes
G1	X (Cartesian)	E	17.6666	End	Yes
G1	X (Cartesian)	F	20.1666	End	Yes
G1	X (Cartesian)	H	28.5	End	Yes
G1	X (Cartesian)	I	31.0833	End	Yes
G1	X (Cartesian)	J	34.5	End	Yes
G1	X (Cartesian)	K	37.3333	End	Yes
G1	X (Cartesian)	L	40.3333	End	Yes
G1	X (Cartesian)	M	43.6666	End	Yes
G1	X (Cartesian)	N	53.8333	End	Yes
G1	X (Cartesian)	O	62.5	End	Yes
G1	X (Cartesian)	P	65.8333	End	Yes
G1	X (Cartesian)	Q	74.1666	End	Yes
G1	X (Cartesian)	S	78.8333	End	Yes
G1	X (Cartesian)	T	83.8333	End	Yes
G1	X (Cartesian)	U	84.4166	End	Yes
G1	X (Cartesian)	V	88.9166	End	Yes
G1	X (Cartesian)	X	89.8333	End	Yes
G1	X (Cartesian)	Y	102.6666	End	Yes
G1	X (Cartesian)	Z	105.8333	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	3.3333	Start	Yes
G1	Y (Cartesian)	3	18.75	Start	Yes

Table 1.3 - Grid Definitions - Grid Lines (continued)

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
G1	Y (Cartesian)	4	40.1667	Start	Yes
G1	Y (Cartesian)	5	43.5	Start	Yes
G1	Y (Cartesian)	6	52.1667	Start	Yes
G1	Y (Cartesian)	7	63.5	Start	Yes
G1	Y (Cartesian)	8	64.6667	Start	Yes
G1	Y (Cartesian)	9	66.8333	Start	Yes
G1	Y (Cartesian)	10	75.5833	Start	Yes
G1	Y (Cartesian)	11	78.8333	Start	Yes
G1	Y (Cartesian)	12	81.4167	Start	Yes
G1	Y (Cartesian)	13	87	Start	Yes
G1	Y (Cartesian)	14	94.8333	Start	Yes
G1	Y (Cartesian)	15	102.9167	Start	Yes
G1	Y (Cartesian)	16	110.25	Start	Yes
G1	Y (Cartesian)	17	123.9167	Start	Yes
G1	Y (Cartesian)	18	127.25	Start	Yes
G1	Y (Cartesian)	19	130.25	Start	Yes
G1	Y (Cartesian)	20	133.5833	Start	Yes
G1	Y (Cartesian)	21	151.3333	Start	Yes
G1	Y (Cartesian)	22	153.6667	Start	Yes
G1	Y (Cartesian)	23	159.8333	Start	Yes
G1	Y (Cartesian)	24	164	Start	Yes
G1	Y (Cartesian)	25	175.75	Start	Yes
G1	Y (Cartesian)	26	179.0833	Start	Yes
G1	Y (Cartesian)	27	183.75	Start	Yes
G1	Y (Cartesian)	28	187.0833	Start	Yes

1.3 Point Coordinates**Table 1.4 - Point Bays**

Label	Is Auto Point	X ft	Y ft	DZBelow ft
1	No	77.5	0.8333	0
2	No	82.5	0.8333	0
3	Yes	53	119.7917	0
4	Yes	53.9166	93.5417	0
5	No	99.6666	77.8333	0
6	No	99.6666	79.8333	0
7	No	75.3333	130.0833	0
8	No	87.3333	130.0833	0
9	No	87.3333	137.0833	0
10	No	75.3333	137.0833	0
11	Yes	60.4	106.6008	0
12	Yes	59.858	105.0475	0
15	No	87.3333	127.6667	0
16	No	87.3333	135.6667	0
27	No	40.3333	75.5833	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
28	No	53.8333	75.5833	0
31	No	82.5	5.8333	0
32	No	77.5	5.8333	0
33	No	77.5	16.25	0
34	No	82.5	16.25	0
35	No	82.5	21.25	0
36	No	77.5	21.25	0
37	No	77.5	37.6667	0
38	No	82.5	37.6667	0
39	No	82.5	42.6667	0
40	No	77.5	42.6667	0
41	No	100.3333	179.6667	0
42	No	100.1666	37.6667	0
43	No	105.1666	37.6667	0
44	No	105.1666	42.6667	0
45	No	100.1666	42.6667	0
46	No	8.4166	131.0833	0
47	No	13.4166	131.0833	0
48	No	13.4166	136.0833	0
49	No	8.4166	136.0833	0
50	No	3.3333	131.5833	0
51	No	7.3333	131.5833	0
52	No	7.3333	135.5833	0
53	No	3.3333	135.5833	0
54	No	1.3333	76.9167	0
55	No	5.3333	76.9167	0
56	No	5.3333	80.9167	0
57	No	1.3333	80.9167	0
62	No	15.1666	100.4167	0
63	No	20.1666	100.4167	0
64	No	20.1666	105.4167	0
65	No	15.1666	105.4167	0
66	No	37.8333	115.5833	0
67	No	42.8333	115.5833	0
68	No	42.8333	120.5833	0
69	No	37.8333	120.5833	0
70	No	26	148.8333	0
71	No	31	148.8333	0
72	No	31	153.8333	0
73	No	26	153.8333	0
74	No	16.6666	122.9167	0
75	No	18.6666	122.9167	0
76	No	2.3333	96.8333	0
77	No	16.6666	124.9167	0
78	No	20.6666	122.9167	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
79	No	22.6666	122.9167	0
80	No	4.3333	96.8333	0
81	No	20.6666	124.9167	0
82	No	63.8333	117.9167	0
83	No	67.8333	117.9167	0
84	No	67.8333	121.9167	0
85	No	63.8333	121.9167	0
86	No	80	3.3333	0
87	Yes	53	119.7917	0
88	Yes	53.9166	93.5417	0
89	Yes	53	119.7917	0
90	Yes	53.9166	93.5417	0
91	No	82.1666	108.25	0
92	No	86.1666	108.25	0
93	No	86.1666	112.25	0
94	No	82.1666	112.25	0
95	No	100.6666	131.6667	0
96	No	104.6666	131.6667	0
97	No	104.6666	135.6667	0
98	No	100.6666	135.6667	0
99	No	102	2.6667	0
100	No	103.3333	2.6667	0
101	No	22.6666	130.5833	0
102	No	102	4	0
103	No	84	3.3333	0
104	No	87.5	3.3333	0
106	No	91.9166	127.6667	0
107	No	91.9166	135.6667	0
109	No	86.4166	118.9167	0
110	No	86.4166	120.9167	0
115	No	102.6666	3.3333	0
116	No	20.6666	130.5833	0
117	No	4.3333	99.9167	0
118	No	82.5	2.6667	0
119	No	82.5	4	0
120	No	103.3333	37.6667	0
121	No	102	37.6667	0
122	No	2.3333	99.9167	0
123	No	101.6666	80.8333	0
124	No	91.9166	132.6667	0
125	No	91.9166	134.6667	0
126	No	80	18.75	0
127	No	80	40.1667	0
128	No	100.1666	39.5	0
129	No	100.1666	40.8333	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
130	No	83.8333	40.1667	0
131	No	90.1666	40.1667	0
132	No	102.6666	40.1667	0
133	No	102.6666	51.5	0
134	No	82.5	39.5	0
135	No	82.5	40.8333	0
136	No	100.1666	49.5	0
137	No	102.6666	57.5	0
138	No	105.1666	49.5	0
139	No	105.1666	59.5	0
140	No	102.6666	78.8333	0
141	No	102.6666	82.3333	0
142	No	102.6666	84.9167	0
143	No	102.6666	91.5833	0
144	No	102.6666	94.1667	0
145	No	102.6666	99.4167	0
146	No	100.1666	59.5	0
147	No	81.3333	49.5	0
148	No	86.3333	49.5	0
149	No	86.3333	59.5	0
150	No	81.3333	59.5	0
151	No	81.8333	64.8333	0
152	No	85.8333	64.8333	0
153	No	85.8333	68.8333	0
154	No	81.8333	68.8333	0
155	No	72.1666	64.8333	0
156	No	76.1666	64.8333	0
157	No	76.1666	68.8333	0
158	No	72.1666	68.8333	0
159	No	51.8333	64.8333	0
160	No	55.8333	64.8333	0
161	No	55.8333	68.8333	0
162	No	51.8333	68.8333	0
163	No	82.8333	77.25	0
164	No	90.8333	77.25	0
165	No	90.8333	83.25	0
166	No	82.8333	83.25	0
167	No	70.6666	76.625	0
168	No	77.6666	76.625	0
169	No	77.6666	83.625	0
170	No	70.6666	83.625	0
171	No	73.9166	84.2083	0
172	No	77.9166	84.2083	0
173	No	77.9166	91.2083	0
174	No	73.9166	91.2083	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
175	No	73.6666	95.2083	0
176	No	87.6666	95.2083	0
177	No	87.6666	105.2083	0
178	No	73.6666	105.2083	0
179	No	99.6666	76.8333	0
180	No	105.6666	76.8333	0
181	No	105.6666	80.8333	0
182	No	99.6666	80.8333	0
183	No	100.6666	132.6667	0
184	Yes	53	119.7917	0
185	Yes	53.9166	93.5417	0
186	No	100.6666	134.6667	0
187	No	103.6666	80.8333	0
188	Yes	53	119.7917	0
189	Yes	53.9166	93.5417	0
190	No	101.6666	178.6667	0
191	No	103.6666	178.6667	0
192	No	103.6666	180.6667	0
193	No	16.6666	105.4167	0
194	No	101.6666	135.6667	0
195	No	103.6666	135.6667	0
196	No	18.6666	105.4167	0
197	No	38.3333	121.9167	0
198	No	42.3333	121.9167	0
199	No	42.3333	125.9167	0
200	No	77.8333	158.8333	0
201	No	79.8333	158.8333	0
202	No	79.8333	160.8333	0
203	No	102.6666	102	0
204	No	102.6666	110.25	0
205	No	90	110.25	0
206	No	93.8333	110.25	0
207	No	84.1666	110.25	0
208	No	38.3333	125.9167	0
209	No	84.1666	119.9167	0
210	No	88.9166	119.9167	0
211	No	88.9166	129.6667	0
212	No	88.9166	133.6667	0
213	No	102.6666	133.6667	0
214	No	102.6666	138.8333	0
215	No	102.6666	154.8333	0
216	No	77.8333	178.6667	0
217	No	79.8333	178.6667	0
218	No	79.8333	180.6667	0
219	No	102.6666	159.8333	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
220	No	77.6666	79.25	0
221	No	77.6666	81.25	0
222	No	90.8333	77.8333	0
223	No	90.8333	79.8333	0
224	Yes	53	119.7917	0
225	Yes	53.9166	93.5417	0
226	No	102.6666	179.6667	0
227	No	96.3333	179.6667	0
228	No	78.8333	179.6667	0
229	No	94.8333	159.8333	0
230	No	78.8333	159.8333	0
231	No	78.8333	163.6667	0
232	No	78.8333	133.6667	0
233	No	84.4166	133.6667	0
234	Yes	53	119.7917	0
235	Yes	53.9166	93.5417	0
236	No	82.8333	79.25	0
237	No	82.8333	81.25	0
238	No	65.8333	110.25	0
239	No	65.8333	119.9167	0
240	No	76.9166	119.9167	0
241	No	88.8333	77.25	0
242	No	84.8333	77.25	0
243	No	82.8333	68.8333	0
244	No	84.8333	68.8333	0
245	No	82.8333	59.5	0
246	No	84.8333	59.5	0
247	No	84.8333	64.8333	0
248	No	82.8333	64.8333	0
249	No	77.8333	180.6667	0
250	No	101.6666	158.8333	0
251	No	101.6666	160.8333	0
252	No	26	121.4167	0
253	No	90.8333	50.5	0
254	No	90.8333	52.5	0
255	No	88.8333	52.5	0
256	No	86.3333	50.5	0
257	No	86.3333	52.5	0
258	No	6.3333	182.75	0
259	No	6.3333	184.75	0
260	No	4.3333	184.75	0
261	No	19.1666	182.75	0
262	No	90.8333	56.5	0
263	No	105.8333	43.5	0
264	No	76.6666	0	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
265	No	105.8333	0	0
266	No	76.6666	43.5	0
267	No	83.8333	57.5	0
268	No	83.8333	51.5	0
269	No	28.5	78.9167	0
270	No	21.75	78.9167	0
271	No	3.3333	78.9167	0
272	No	3.3333	87	0
273	No	3.3333	94.8333	0
274	No	3.3333	100.6667	0
275	No	3.3333	102.9167	0
276	No	17.6666	102.9167	0
277	No	17.6666	109.9167	0
278	No	17.6666	113.5	0
279	No	17.6666	115.75	0
280	No	17.6666	123.9167	0
281	No	21.6666	123.9167	0
282	No	28.5	123.9167	0
283	No	28.5	81.9167	0
284	No	28.5	87.1667	0
285	No	28.5	102.9167	0
286	No	28.5	110.25	0
287	No	21.6666	133.5833	0
288	No	10.9166	133.5833	0
289	No	5.3333	133.5833	0
290	No	5.3333	139.1667	0
291	No	5.3333	148.3333	0
292	No	5.3333	151	0
293	No	5.3333	183.75	0
294	No	10.8333	183.75	0
295	No	20.1666	183.75	0
296	No	20.1666	175.75	0
297	No	22.8333	175.75	0
298	No	28.5	175.75	0
299	No	34	170.0833	0
300	No	34	161	0
301	No	34	151.3333	0
302	No	5.3333	151.3333	0
303	No	28.5	151.3333	0
304	No	28.1666	133.5833	0
305	No	34.5	133.5833	0
306	No	28.5	133.5833	0
307	No	28.5	75.4167	0
308	No	28.5	64.6667	0
309	No	34	175.75	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
310	No	53.8333	81.4167	0
311	No	53.8333	73.9167	0
312	No	40.3333	81.4167	0
313	No	40.3333	73.9167	0
314	No	40.3333	78.9167	0
315	No	40.3333	87.1667	0
316	No	40.3333	102.9167	0
317	No	40.3333	110.25	0
318	No	40.3333	123.9167	0
319	No	40.3333	118.0833	0
320	No	53.8333	66.8333	0
321	No	74.1666	78.8333	0
322	No	74.1666	81.4167	0
323	No	74.1666	66.8333	0
324	No	80.25	102.8333	0
325	No	75.9166	102.8333	0
326	No	85.4166	102.8333	0
327	No	75.9166	97.5833	0
328	No	80.25	97.5833	0
329	No	85.4166	97.5833	0
330	No	75.9166	87.7083	0
331	No	83.8333	66.8333	0
332	No	83.8333	78.8333	0
333	No	83.8333	81.6667	0
334	No	89.8333	78.8333	0
335	No	89.8333	81.6667	0
336	No	89.8333	66.8333	0
337	No	89.8333	40.1667	0
338	No	102.6666	52.1667	0
339	No	83.8333	52.1667	0
340	No	89.8333	52.1667	0
341	No	102.6666	43.5	0
342	No	89.8333	43.5	0
343	No	83.8333	43.5	0
344	No	50.5	63.5	0
345	No	50.5	73.9167	0
346	No	74.1666	63.5	0
347	No	40.3333	64.6667	0
348	No	2	94.8333	0
349	No	2	87	0
350	No	88.9166	110.25	0
351	No	84.1666	133.6667	0
352	No	37.3333	130.25	0
353	No	2	130.25	0
354	No	28.5	130.25	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
355	No	21.6666	130.25	0
356	No	2	187.0833	0
357	No	23.5	187.0833	0
358	No	37.3333	179.0833	0
359	No	23.5	179.0833	0
360	No	78.8333	153.6667	0
361	No	102.6666	153.6667	0
362	No	34	133.5833	0
363	No	80.1666	110.25	0
364	No	31.5	74	0
365	No	31.5	64.6667	0
366	No	28.5	74	0
367	No	7.5	102.9167	0
368	No	10	102.9167	0
369	No	28.5	109.9167	0
370	No	28.5	118.0833	0
371	No	61.1666	110.25	0
372	No	81.75	119.9167	0
373	No	84.1666	123.6667	0
374	No	88.9166	123.6667	0
375	No	84.1666	130	0
376	No	88.9166	130	0
377	No	78.8333	139.6667	0
378	No	78.8333	147.75	0
379	No	96.0833	153.6667	0
380	No	102.6666	146.5833	0
381	No	102.6666	142.5833	0
382	No	102.6666	139.5833	0
383	No	102.6666	136.9167	0
384	No	102.6666	102.3333	0
385	No	102.6666	99.75	0
386	No	102.6666	94.5	0
387	No	102.6666	91.4167	0
388	No	98.1666	78.8333	0
389	No	92.3333	78.8333	0
390	No	89.3333	78.8333	0
391	No	84.8333	78.8333	0
392	No	68.8333	81.4167	0
393	No	90.8333	58.5	0
394	No	106	75.5833	0
395	No	0	75.5833	0
396	No	0	106.25	0
397	No	14.3333	106.25	0
398	No	25.1667	127.25	0
399	No	25.1667	113.25	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
400	No	14.3333	113.25	0
401	No	43.6666	113.5833	0
402	No	62.5	113.5833	0
403	No	62.5	123.25	0
404	No	43.6666	127.25	0
405	No	80.8333	123.25	0
406	No	75.5	164	0
407	No	105.9999	164	0
408	No	106	130.3334	0
409	No	75.5	130.3334	0
410	No	106	113.5833	0
411	No	92.2499	113.5833	0
412	No	80.8333	130.3334	0
413	No	92.2499	130.3334	0
414	No	29.25	97.2083	0
415	No	31.0833	97.2083	0
416	No	31.0833	92.875	0
417	No	29.25	92.875	0
418	No	31.0833	97.875	0
419	No	29.25	97.875	0
420	No	31.0833	102.2083	0
421	No	29.25	102.2083	0
422	No	29.25	92.2083	0
423	No	31.0833	92.2083	0
424	No	31.0833	87.875	0
425	No	29.25	87.875	0
426	No	39.5833	97.2083	0
427	No	37.75	97.2083	0
428	No	37.75	92.875	0
429	No	39.5833	92.875	0
430	No	39.5833	97.875	0
431	No	37.75	97.875	0
432	No	37.75	102.2083	0
433	No	39.5833	102.2083	0
434	No	39.5833	92.2083	0
435	No	37.75	92.2083	0
436	No	37.75	87.875	0
437	No	39.5833	87.875	0
438	No	100.1666	56.5	0
439	No	100.1666	58.5	0
440	No	21.1666	182.75	0
441	No	21.1666	184.75	0
442	No	31	121.4167	0
443	No	33	174.75	0
444	Yes	53	119.7917	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
445	Yes	53.9166	93.5417	0
446	No	86.1666	109.25	0
447	No	86.1666	111.25	0
448	No	35	174.75	0
449	No	35	176.75	0
450	No	31	126.4167	0
451	No	19.1666	174.75	0
452	No	86.4166	117.4167	0
453	No	91.4166	117.4167	0
454	No	91.4166	122.4167	0
455	No	86.4166	122.4167	0
456	No	74.9166	117.9167	0
457	No	78.9166	117.9167	0
458	No	78.9166	121.9167	0
459	No	74.9166	121.9167	0
460	No	21.1666	174.75	0
461	No	21.1666	176.75	0
462	No	26	126.4167	0
463	No	4.3333	135.5833	0
464	No	74.9166	118.9167	0
465	No	74.9166	120.9167	0
466	No	67.8333	118.9167	0
467	No	67.8333	120.9167	0
468	No	78.9166	118.9167	0
469	No	78.9166	120.9167	0
470	Yes	53	119.7917	0
471	Yes	53.9166	93.5417	0
472	No	61.8333	104.75	0
473	No	69.8333	104.75	0
474	No	69.8333	115.75	0
475	No	61.8333	115.75	0
476	No	6.3333	135.5833	0
477	No	33	150.3333	0
478	No	35	150.3333	0
479	No	103.6666	107.75	0
480	No	66.8333	117.9167	0
481	No	64.8333	117.9167	0
482	No	64.8333	115.75	0
483	No	66.8333	115.75	0
484	No	33	152.3333	0
485	No	101.6666	107.75	0
486	No	105.1666	107.75	0
487	No	105.1666	112.75	0
488	No	100.1666	107.75	0
489	No	41.3333	109.25	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
490	No	41.3333	111.25	0
491	No	100.1666	112.75	0
492	No	100.1666	109.25	0
493	No	29.5	148.8333	0
494	No	41.3333	115.5833	0
495	No	39.3333	115.5833	0
496	No	100.1666	111.25	0
497	No	100.6666	97.4167	0
498	No	61.8333	109.25	0
499	No	61.8333	111.25	0
500	No	27.5	148.8333	0
501	No	104.6666	97.4167	0
502	No	104.6666	101.4167	0
503	No	100.6666	101.4167	0
504	No	29.5	130.0833	0
505	No	31	150.3333	0
506	No	31	152.3333	0
507	No	25.8333	130.0833	0
508	No	36.8333	130.0833	0
509	No	36.8333	137.0833	0
510	No	25.8333	137.0833	0
511	No	27.5	137.0833	0
512	No	29.5	137.0833	0
513	No	18.6666	130.5833	0
514	No	24.6666	130.5833	0
515	No	24.6666	136.5833	0
516	No	18.6666	136.5833	0
517	No	27.5	130.0833	0
518	No	38.3333	122.9167	0
519	No	38.3333	124.9167	0
520	No	31	122.9167	0
521	No	31	124.9167	0
522	No	27.5	126.4167	0
523	No	29.5	126.4167	0
524	No	100.6666	89.5833	0
525	No	18.6666	132.5833	0
526	No	18.6666	134.5833	0
527	No	13.4166	132.5833	0
528	No	13.4166	134.5833	0
529	No	104.6666	89.5833	0
530	No	104.6666	93.5833	0
531	No	8.4166	132.5833	0
532	No	8.4166	134.5833	0
533	No	7.3333	132.5833	0
534	No	7.3333	134.5833	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
535	No	100.6666	93.5833	0
536	No	39.3333	120.5833	0
537	No	41.3333	120.5833	0
538	No	41.3333	121.9167	0
539	No	39.3333	121.9167	0
540	No	103.6666	89.5833	0
541	No	101.6666	89.5833	0
542	No	103.6666	93.5833	0
543	No	101.6666	93.5833	0
544	No	5.3333	101.9167	0
545	No	5.3333	103.9167	0
546	No	15.1666	101.9167	0
547	No	15.1666	103.9167	0
548	No	1.3333	99.9167	0
549	No	5.3333	99.9167	0
550	No	1.3333	103.9167	0
551	No	-0.3334	92.8333	0
552	No	5.6666	92.8333	0
553	No	5.6666	96.8333	0
554	No	-0.3334	96.8333	0
555	No	-0.3334	85	0
556	No	5.6666	85	0
557	No	5.6666	89	0
558	No	-0.3334	89	0
559	No	103.6666	97.4167	0
560	No	101.6666	97.4167	0
561	No	103.6666	101.4167	0
562	No	101.6666	101.4167	0
563	No	3	92.8333	0
564	No	1	92.8333	0
565	No	1	89	0
566	No	3	89	0
567	Yes	53	119.7917	0
568	Yes	53.9166	93.5417	0
569	Yes	53	119.7917	0
570	Yes	53.9166	93.5417	0
571	No	4.3333	85	0
572	No	2.3333	85	0
573	No	2.3333	80.9167	0
574	No	4.3333	80.9167	0
575	No	20.125	76.4167	0
576	No	30.125	76.4167	0
577	No	30.125	81.4167	0
578	No	20.125	81.4167	0
579	Yes	53	119.7917	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
580	Yes	53.9166	93.5417	0
583	No	29.5	121.4167	0
584	No	27.5	121.4167	0
585	No	27.5	81.4167	0
586	No	29.5	81.4167	0
587	No	37.8333	72.6667	0
588	No	42.8333	72.6667	0
589	No	42.8333	82.6667	0
590	No	37.8333	82.6667	0
591	No	51.3333	72.6667	0
592	No	56.3333	72.6667	0
593	No	56.3333	82.6667	0
594	No	51.3333	82.6667	0
595	No	39.3333	82.6667	0
596	No	41.3333	82.6667	0
604	No	54.8333	72.6667	0
605	No	52.8333	72.6667	0
606	No	72.1666	65.8333	0
607	No	72.1666	67.8333	0
608	No	52.8333	68.8333	0
609	No	54.8333	68.8333	0
610	No	55.8333	65.8333	0
611	No	55.8333	67.8333	0
616	No	75.1666	76.625	0
617	No	73.1666	76.625	0
618	No	73.1666	68.8333	0
619	No	75.1666	68.8333	0
620	No	27.5	63.6667	0
621	No	29.5	63.6667	0
623	No	27.5	65.6667	0
624	No	29.5	76.4167	0
625	No	27.5	76.4167	0
634	No	51.3333	72.9167	0
635	No	51.3333	74.9167	0
636	No	51.3333	80.4167	0
637	No	51.3333	82.4167	0
638	No	42.8333	80.4167	0
639	No	42.8333	82.4167	0
640	No	42.8333	72.9167	0
641	No	42.8333	74.9167	0
643	No	20.5	63.6667	0
644	No	22.5	63.6667	0
646	No	20.5	65.6667	0
648	No	20.5	56.6667	0
649	No	22.5	56.6667	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X ft	Y ft	DZBelow ft
650	No	22.5	58.6667	0
651	No	20.5	58.6667	0
657	No	81.3333	56.6667	0
658	No	81.3333	58.6667	0
664	No	20.125	77.9167	0
665	No	20.125	79.9167	0
666	No	5.3333	77.9167	0
667	No	5.3333	79.9167	0
673	No	37.8333	74.4167	0
674	No	37.8333	76.4167	0
677	No	29.5	74.4167	0
678	No	32.5	64.6667	0
684	No	33.1666	64	0
685	No	33.1666	65.3333	0
689	No	33.1666	74.4167	0
690	No	31.8333	74.4167	0
691	No	31.8333	58.6667	0
692	No	33.1666	58.6667	0
693	No	38.6666	64.6667	0
694	No	38	64	0
697	No	38	65.3333	0
702	No	39.3333	72.6667	0
703	No	38	72.6667	0
704	No	38	58.5	0
705	No	39.3333	58.5	0

1.4 Line Connectivity**Table 1.5 - Column Bays**

Label	PointBayI	PointBayJ	IEndStory
C15	86	86	Below
C16	103	103	Below
C45	104	104	Below
C52	115	115	Below
C53	126	126	Below
C55	127	127	Below
C58	130	130	Below
C59	131	131	Below
C67	132	132	Below
C68	140	140	Below
C69	204	204	Below
C70	205	205	Below
C71	206	206	Below
C72	207	207	Below
C73	209	209	Below
C75	210	210	Below

Table 1.5 - Column Bays (continued)

Label	PointBayI	PointBayJ	IEndStory
C76	211	211	Below
C77	212	212	Below
C78	213	213	Below
C79	214	214	Below
C121	215	215	Below
C122	219	219	Below
C123	41	41	Below
C124	227	227	Below
C125	228	228	Below
C126	229	229	Below
C127	231	231	Below
C128	230	230	Below
C129	238	238	Below
C130	239	239	Below
C131	240	240	Below
C134	269	269	Below
C135	270	270	Below
C136	271	271	Below
C140	272	272	Below
C141	273	273	Below
C142	274	274	Below
C143	275	275	Below
C144	276	276	Below
C145	277	277	Below
C146	281	281	Below
C147	284	284	Below
C148	285	285	Below
C149	286	286	Below
C150	282	282	Below
C151	287	287	Below
C152	288	288	Below
C153	289	289	Below
C154	290	290	Below
C155	293	293	Below
C156	294	294	Below
C157	297	297	Below
C158	298	298	Below
C159	299	299	Below
C160	300	300	Below
C161	301	301	Below
C162	303	303	Below
C163	314	314	Below
C164	315	315	Below
C165	316	316	Below
C166	317	317	Below
C167	318	318	Below

Table 1.5 - Column Bays (continued)

Label	PointBayI	PointBayJ	IEndStory
C168	319	319	Below
C169	320	320	Below
C170	321	321	Below
C171	322	322	Below
C172	323	323	Below
C173	324	324	Below
C174	325	325	Below
C175	326	326	Below
C176	327	327	Below
C177	328	328	Below
C178	329	329	Below
C179	330	330	Below
C180	331	331	Below
C181	332	332	Below
C182	334	334	Below
C183	336	336	Below
C184	312	312	Below
C185	370	370	Below
C186	371	371	Below
C187	372	372	Below
C188	373	373	Below
C189	374	374	Below
C190	375	375	Below
C191	376	376	Below
C192	232	232	Below
C193	377	377	Below
C194	378	378	Below
C195	360	360	Below
C196	379	379	Below
C197	380	380	Below
C198	381	381	Below
C199	350	350	Below
C200	387	387	Below
C201	388	388	Below
C202	389	389	Below
C203	390	390	Below
C204	391	391	Below
C205	392	392	Below
C206	310	310	Below

Table 1.6 - Beam Bays

Label	PointBayI	PointBayJ
B1	370	282
B2	27	312
B3	28	310
B4	232	378

Table 1.6 - Beam Bays (continued)

Label	PointBayI	PointBayJ
B5	378	360
B6	213	380
B7	380	361
B8	360	379
B9	86	127
B10	379	361
B11	333	335
B12	212	213
B13	232	351
B14	280	282
B15	350	374
B16	374	376
B17	376	212
B18	209	373
B19	373	375
B20	375	351
B21	363	350
B22	350	206
B23	277	369
B24	363	207
B25	207	206
B26	317	371
B27	371	238
B28	27	28
B76	86	115
B78	115	132
B80	127	132
B86	232	213
B87	232	228
B88	230	229
B89	238	239
B90	239	209
B91	132	338
B92	321	322
B93	323	321
B94	310	322
B95	320	310
B96	320	323
B97	130	332
B98	321	332
B99	332	334
B100	334	140
B101	340	338
B102	337	340
B103	340	334
B104	312	310

Table 1.6 - Beam Bays (continued)

Label	PointBayI	PointBayJ
B105	350	212
B106	281	287
B107	308	347
B108	347	312
B109	308	283
B110	271	272
B111	349	272
B112	349	348
B113	348	273
B114	273	275
B115	275	276
B116	276	277
B117	277	280
B119	284	315
B120	284	285
B121	285	316
B122	315	316
B124	282	318
B125	286	282
B126	303	301
B127	289	293
B128	293	295
B129	296	295
B130	296	309
B131	330	325
B133	328	329
B134	329	326
B135	328	324
B136	324	326
B137	332	333
B138	334	335
B139	140	204
B140	282	306
B141	306	303
B142	289	306
B143	306	305
B144	317	319
B145	319	318
B146	362	301
B147	301	300
B148	300	299
B149	299	309
B151	206	204
B152	207	209
B153	209	351
B154	213	226

Table 1.6 - Beam Bays (continued)

Label	PointBayI	PointBayJ
B155	228	226
B156	271	270
B157	270	314
B158	286	317
B159	317	238
B160	229	219
B161	286	370

1.5 Area Connectivity**Table 1.7 - Floor Bays**

Label	NumPoints	PointNumber	PointBay
F1	4	1	1
F1		2	2
F1		3	31
F1		4	32
F2	4	1	33
F2		2	34
F2		3	35
F2		4	36
F3	4	1	37
F3		2	38
F3		3	39
F3		4	40
F4	4	1	42
F4		2	43
F4		3	44
F4		4	45
F5	4	1	46
F5		2	47
F5		3	48
F5		4	49
F6	4	1	50
F6		2	51
F6		3	52
F6		4	53
F7	4	1	54
F7		2	55
F7		3	56
F7		4	57
F8	4	1	7
F8		2	8
F8		3	9
F8		4	10
F9	4	1	62
F9		2	63

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F9		3	64
F9		4	65
F10	4	1	264
F10		2	265
F10		3	263
F10		4	266
F11	4	1	342
F11		2	341
F11		3	338
F11		4	340
F12	4	1	343
F12		2	342
F12		3	334
F12		4	332
F13	4	1	320
F13		2	323
F13		3	322
F13		4	310
F14	6	1	345
F14		2	311
F14		3	320
F14		4	323
F14		5	346
F14		6	344
F15	4	1	308
F15		2	347
F15		3	314
F15		4	269
F16	4	1	66
F16		2	67
F16		3	68
F16		4	69
F17	4	1	70
F17		2	71
F17		3	72
F17		4	73
F18	4	1	76
F18		2	80
F18		3	117
F18		4	122
F19	4	1	15
F19		2	106
F19		3	107
F19		4	16
F20	4	1	207
F20		2	350

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F20		3	212
F20		4	351
F21	4	1	238
F21		2	207
F21		3	209
F21		4	239
F22	20	1	273
F22		2	275
F22		3	276
F22		4	280
F22		5	281
F22		6	355
F22		7	354
F22		8	282
F22		9	318
F22		10	317
F22		11	204
F22		12	140
F22		13	321
F22		14	322
F22		15	312
F22		16	314
F22		17	271
F22		18	272
F22		19	349
F22		20	348
F23	6	1	352
F23		2	353
F23		3	356
F23		4	357
F23		5	359
F23		6	358
F24	4	1	360
F24		2	361
F24		3	226
F24		4	228
F25	4	1	232
F25		2	213
F25		3	361
F25		4	360
F26	20	1	396
F26		2	395
F26		3	394
F26		4	410
F26		5	411
F26		6	413

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F26		7	408
F26		8	407
F26		9	406
F26		10	409
F26		11	412
F26		12	405
F26		13	403
F26		14	402
F26		15	401
F26		16	404
F26		17	398
F26		18	399
F26		19	400
F26		20	397
F27	4	1	82
F27		2	83
F27		3	84
F27		4	85
F29	4	1	91
F29		2	92
F29		3	93
F29		4	94
F30	4	1	95
F30		2	96
F30		3	97
F30		4	98
F34	4	1	197
F34		2	198
F34		3	199
F34		4	208
F35	4	1	252
F35		2	442
F35		3	450
F35		4	462
F36	4	1	136
F36		2	138
F36		3	139
F36		4	146
F37	4	1	147
F37		2	148
F37		3	149
F37		4	150
F38	4	1	151
F38		2	152
F38		3	153
F38		4	154

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F39	4	1	155
F39		2	156
F39		3	157
F39		4	158
F40	4	1	159
F40		2	160
F40		3	161
F40		4	162
F41	4	1	163
F41		2	164
F41		3	165
F41		4	166
F42	4	1	167
F42		2	168
F42		3	169
F42		4	170
F43	4	1	171
F43		2	172
F43		3	173
F43		4	174
F44	4	1	175
F44		2	176
F44		3	177
F44		4	178
F45	4	1	179
F45		2	180
F45		3	181
F45		4	182
F47	4	1	488
F47		2	486
F47		3	487
F47		4	491
F48	4	1	216
F48		2	217
F48		3	218
F48		4	249
F49	4	1	446
F49		2	492
F49		3	496
F49		4	447
F50	4	1	497
F50		2	501
F50		3	502
F50		4	503
F51	4	1	524
F51		2	529

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F51		3	530
F51		4	535
F52	4	1	548
F52		2	549
F52		3	545
F52		4	550
F53	4	1	544
F53		2	546
F53		3	547
F53		4	545
F54	4	1	551
F54		2	552
F54		3	553
F54		4	554
F55	4	1	555
F55		2	556
F55		3	557
F55		4	558
F56	4	1	452
F56		2	453
F56		3	454
F56		4	455
F57	4	1	456
F57		2	457
F57		3	458
F57		4	459
F58	4	1	507
F58		2	508
F58		3	509
F58		4	510
F59	4	1	472
F59		2	473
F59		3	474
F59		4	475
F60	4	1	513
F60		2	514
F60		3	515
F60		4	516
F61	4	1	123
F61		2	187
F61		3	540
F61		4	541
F63	4	1	99
F63		2	100
F63		3	120
F63		4	121

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F64	4	1	118
F64		2	99
F64		3	102
F64		4	119
F65	4	1	134
F65		2	128
F65		3	129
F65		4	135
F68	4	1	220
F68		2	236
F68		3	237
F68		4	221
F69	4	1	255
F69		2	254
F69		3	164
F69		4	241
F70	4	1	243
F70		2	244
F70		3	242
F70		4	163
F71	4	1	245
F71		2	246
F71		3	247
F71		4	248
F72	4	1	256
F72		2	253
F72		3	254
F72		4	257
F73	4	1	262
F73		2	438
F73		3	439
F73		4	393
F75	4	1	575
F75		2	576
F75		3	577
F75		4	578
F76	4	1	466
F76		2	464
F76		3	465
F76		4	467
F77	4	1	482
F77		2	483
F77		3	480
F77		4	481
F78	4	1	489
F78		2	498

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F78		3	499
F78		4	490
F79	4	1	543
F79		2	542
F79		3	559
F79		4	560
F80	4	1	468
F80		2	109
F80		3	110
F80		4	469
F81	4	1	124
F81		2	183
F81		3	186
F81		4	125
F82	4	1	194
F82		2	195
F82		3	191
F82		4	190
F83	4	1	217
F83		2	191
F83		3	192
F83		4	218
F84	4	1	201
F84		2	250
F84		3	251
F84		4	202
F85	4	1	200
F85		2	201
F85		3	217
F85		4	216
F86	4	1	463
F86		2	476
F86		3	259
F86		4	260
F87	4	1	258
F87		2	440
F87		3	441
F87		4	259
F88	4	1	460
F88		2	448
F88		3	449
F88		4	461
F89	4	1	451
F89		2	460
F89		3	440
F89		4	261

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F90	4	1	477
F90		2	478
F90		3	448
F90		4	443
F91	4	1	511
F91		2	512
F91		3	493
F91		4	500
F92	4	1	505
F92		2	477
F92		3	484
F92		4	506
F93	4	1	527
F93		2	525
F93		3	526
F93		4	528
F94	4	1	533
F94		2	531
F94		3	532
F94		4	534
F96	4	1	587
F96		2	588
F96		3	589
F96		4	590
F97	4	1	591
F97		2	592
F97		3	593
F97		4	594
F98	4	1	562
F98		2	561
F98		3	479
F98		4	485
F99	4	1	222
F99		2	5
F99		3	6
F99		4	223
F113	4	1	595
F113		2	596
F113		3	494
F113		4	495
F114	4	1	74
F114		2	78
F114		3	81
F114		4	77
F115	4	1	78
F115		2	79

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F115		3	101
F115		4	116
F116	4	1	193
F116		2	196
F116		3	75
F116		4	74
F117	4	1	520
F117		2	518
F117		3	519
F117		4	521
F118	4	1	522
F118		2	523
F118		3	504
F118		4	517
F119	4	1	536
F119		2	537
F119		3	538
F119		4	539
F120	4	1	565
F120		2	566
F120		3	563
F120		4	564
F121	4	1	573
F121		2	574
F121		3	571
F121		4	572
F122	4	1	585
F122		2	586
F122		3	583
F122		4	584
F123	4	1	608
F123		2	609
F123		3	604
F123		4	605
F124	4	1	610
F124		2	606
F124		3	607
F124		4	611
F125	4	1	618
F125		2	619
F125		3	616
F125		4	617
F126	4	1	620
F126		2	621
F126		3	624
F126		4	625

Table 1.7 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F127	4	1	638
F127		2	636
F127		3	637
F127		4	639
F128	4	1	640
F128		2	634
F128		3	635
F128		4	641
F129	4	1	643
F129		2	620
F129		3	623
F129		4	646
F130	4	1	648
F130		2	649
F130		3	644
F130		4	643
F131	4	1	649
F131		2	657
F131		3	658
F131		4	650
F132	4	1	666
F132		2	664
F132		3	665
F132		4	667
F133	4	1	677
F133		2	673
F133		3	674
F133		4	624
F134	4	1	691
F134		2	692
F134		3	689
F134		4	690
F135	4	1	704
F135		2	705
F135		3	702
F135		4	703
F136	4	1	684
F136		2	694
F136		3	697
F136		4	685

Table 1.8 - Wall Bays

Label	NumPoints	PointNumber	PointBay	PointStory
W81	4	1	86	Below
W81		2	103	Below
W81		3	103	Same

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W81		4	86	Same
W82	4	1	104	Below
W82		2	115	Below
W82		3	115	Same
W82		4	104	Same
W83	4	1	127	Below
W83		2	130	Below
W83		3	130	Same
W83		4	127	Same
W84	4	1	115	Below
W84		2	132	Below
W84		3	132	Same
W84		4	115	Same
W85	4	1	131	Below
W85		2	132	Below
W85		3	132	Same
W85		4	131	Same
W86	4	1	140	Below
W86		2	141	Below
W86		3	141	Same
W86		4	140	Same
W87	4	1	142	Below
W87		2	143	Below
W87		3	143	Same
W87		4	142	Same
W88	4	1	144	Below
W88		2	145	Below
W88		3	145	Same
W88		4	144	Same
W89	4	1	203	Below
W89		2	204	Below
W89		3	204	Same
W89		4	203	Same
W90	4	1	205	Below
W90		2	206	Below
W90		3	206	Same
W90		4	205	Same
W91	4	1	219	Below
W91		2	226	Below
W91		3	226	Same
W91		4	219	Same
W92	4	1	214	Below
W92		2	215	Below
W92		3	215	Same
W92		4	214	Same
W93	4	1	229	Below

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W93		2	219	Below
W93		3	219	Same
W93		4	229	Same
W94	4	1	230	Below
W94		2	231	Below
W94		3	231	Same
W94		4	230	Same
W95	4	1	228	Below
W95		2	227	Below
W95		3	227	Same
W95		4	228	Same
W96	4	1	41	Below
W96		2	226	Below
W96		3	226	Same
W96		4	41	Same
W97	4	1	212	Below
W97		2	213	Below
W97		3	213	Same
W97		4	212	Same
W98	4	1	232	Below
W98		2	233	Below
W98		3	233	Same
W98		4	232	Same
W99	4	1	207	Below
W99		2	209	Below
W99		3	209	Same
W99		4	207	Same
W100	4	1	274	Below
W100		2	275	Below
W100		3	275	Same
W100		4	274	Same
W101	4	1	275	Below
W101		2	276	Below
W101		3	276	Same
W101		4	275	Same
W102	4	1	279	Below
W102		2	280	Below
W102		3	280	Same
W102		4	279	Same
W103	4	1	280	Below
W103		2	281	Below
W103		3	281	Same
W103		4	280	Same
W104	4	1	277	Below
W104		2	278	Below
W104		3	278	Same

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W104		4	277	Same
W105	4	1	270	Below
W105		2	269	Below
W105		3	269	Same
W105		4	270	Same
W106	4	1	284	Below
W106		2	285	Below
W106		3	285	Same
W106		4	284	Same
W107	4	1	269	Below
W107		2	283	Below
W107		3	283	Same
W107		4	269	Same
W108	4	1	286	Below
W108		2	282	Below
W108		3	282	Same
W108		4	286	Same
W109	4	1	290	Below
W109		2	291	Below
W109		3	291	Same
W109		4	290	Same
W110	4	1	292	Below
W110		2	293	Below
W110		3	293	Same
W110		4	292	Same
W111	4	1	304	Below
W111		2	306	Below
W111		3	306	Same
W111		4	304	Same
W112	4	1	306	Below
W112		2	305	Below
W112		3	305	Same
W112		4	306	Same
W113	4	1	294	Below
W113		2	295	Below
W113		3	295	Same
W113		4	294	Same
W114	4	1	295	Below
W114		2	296	Below
W114		3	296	Same
W114		4	295	Same
W115	4	1	296	Below
W115		2	297	Below
W115		3	297	Same
W115		4	296	Same
W116	4	1	298	Below

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W116		2	309	Below
W116		3	309	Same
W116		4	298	Same
W117	4	1	299	Below
W117		2	309	Below
W117		3	309	Same
W117		4	299	Same
W118	4	1	303	Below
W118		2	301	Below
W118		3	301	Same
W118		4	303	Same
W119	4	1	301	Below
W119		2	300	Below
W119		3	300	Same
W119		4	301	Same
W120	4	1	308	Below
W120		2	307	Below
W120		3	307	Same
W120		4	308	Same
W121	4	1	311	Below
W121		2	310	Below
W121		3	310	Same
W121		4	311	Same
W122	4	1	313	Below
W122		2	312	Below
W122		3	312	Same
W122		4	313	Same
W123	4	1	315	Below
W123		2	316	Below
W123		3	316	Same
W123		4	315	Same
W124	4	1	317	Below
W124		2	319	Below
W124		3	319	Same
W124		4	317	Same
W125	4	1	327	Below
W125		2	325	Below
W125		3	325	Same
W125		4	327	Same
W126	4	1	328	Below
W126		2	329	Below
W126		3	329	Same
W126		4	328	Same
W127	4	1	329	Below
W127		2	326	Below
W127		3	326	Same

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W127		4	329	Same
W128	4	1	332	Below
W128		2	333	Below
W128		3	333	Same
W128		4	332	Same
W129	4	1	334	Below
W129		2	335	Below
W129		3	335	Same
W129		4	334	Same
W130	4	1	133	Below
W130		2	338	Below
W130		3	338	Same
W130		4	133	Same
W131	4	1	338	Below
W131		2	137	Below
W131		3	137	Same
W131		4	338	Same
W132	4	1	268	Below
W132		2	339	Below
W132		3	339	Same
W132		4	268	Same
W133	4	1	339	Below
W133		2	267	Below
W133		3	267	Same
W133		4	339	Same
W134	4	1	349	Below
W134		2	348	Below
W134		3	348	Same
W134		4	349	Same
W135	4	1	288	Below
W135		2	287	Below
W135		3	287	Same
W135		4	288	Same
W136	4	1	275	Below
W136		2	367	Below
W136		3	367	Same
W136		4	275	Same
W137	4	1	368	Below
W137		2	276	Below
W137		3	276	Same
W137		4	368	Same
W138	4	1	349	Below
W138		2	272	Below
W138		3	272	Same
W138		4	349	Same
W139	4	1	348	Below

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W139		2	273	Below
W139		3	273	Same
W139		4	348	Same
W140	4	1	277	Below
W140		2	369	Below
W140		3	369	Same
W140		4	277	Same
W141	4	1	286	Below
W141		2	370	Below
W141		3	370	Same
W141		4	286	Same
W142	4	1	371	Below
W142		2	238	Below
W142		3	238	Same
W142		4	371	Same
W143	4	1	209	Below
W143		2	372	Below
W143		3	372	Same
W143		4	209	Same
W144	4	1	209	Below
W144		2	373	Below
W144		3	373	Same
W144		4	209	Same
W145	4	1	375	Below
W145		2	351	Below
W145		3	351	Same
W145		4	375	Same
W146	4	1	232	Below
W146		2	351	Below
W146		3	351	Same
W146		4	232	Same
W147	4	1	377	Below
W147		2	378	Below
W147		3	378	Same
W147		4	377	Same
W148	4	1	379	Below
W148		2	361	Below
W148		3	361	Same
W148		4	379	Same
W149	4	1	380	Below
W149		2	361	Below
W149		3	361	Same
W149		4	380	Same
W150	4	1	382	Below
W150		2	381	Below
W150		3	381	Same

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W150		4	382	Same
W151	4	1	213	Below
W151		2	383	Below
W151		3	383	Same
W151		4	213	Same
W152	4	1	376	Below
W152		2	212	Below
W152		3	212	Same
W152		4	376	Same
W153	4	1	374	Below
W153		2	350	Below
W153		3	350	Same
W153		4	374	Same
W154	4	1	350	Below
W154		2	363	Below
W154		3	363	Same
W154		4	350	Same
W155	4	1	140	Below
W155		2	387	Below
W155		3	387	Same
W155		4	140	Same
W156	4	1	386	Below
W156		2	385	Below
W156		3	385	Same
W156		4	386	Same
W157	4	1	384	Below
W157		2	204	Below
W157		3	204	Same
W157		4	384	Same
W158	4	1	388	Below
W158		2	140	Below
W158		3	140	Same
W158		4	388	Same
W159	4	1	391	Below
W159		2	390	Below
W159		3	390	Same
W159		4	391	Same
W160	4	1	321	Below
W160		2	322	Below
W160		3	322	Same
W160		4	321	Same

Table 1.9 - Null Area Bays

Label	NumPoints	PointNumber	PointBay	PointStory
A1	4	1	27	Same
A1		2	28	Same
A1		3	310	Same
A1		4	312	Same
A5	4	1	284	Same
A5		2	315	Same
A5		3	316	Same
A5		4	285	Same
A6	4	1	286	Same
A6		2	317	Same
A6		3	318	Same
A6		4	282	Same
A13	4	1	308	Same
A13		2	365	Same
A13		3	364	Same
A13		4	366	Same
A14	4	1	328	Same
A14		2	329	Same
A14		3	326	Same
A14		4	324	Same
A15	4	1	414	Same
A15		2	415	Same
A15		3	416	Same
A15		4	417	Same
A16	4	1	419	Same
A16		2	418	Same
A16		3	420	Same
A16		4	421	Same
A17	4	1	422	Same
A17		2	423	Same
A17		3	424	Same
A17		4	425	Same
A18	4	1	426	Same
A18		2	427	Same
A18		3	428	Same
A18		4	429	Same
A19	4	1	430	Same
A19		2	431	Same
A19		3	432	Same
A19		4	433	Same
A20	4	1	434	Same
A20		2	435	Same
A20		3	436	Same
A20		4	437	Same

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	Unknown	Blue	
A416Gr270	Tendon	Uniaxial	Unknown	Green	
A500GrB46	Steel	Isotropic	Unknown	Green	
A615Gr60	Rebar	Uniaxial	Unknown	Blue	
M1500Psi-1	Masonry	Isotropic	fcm 1500 psi	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 4)

Name	Material	Shape	Color	Area in2	J in4	I33 in4	I22 in4	I23 in4	IMajor in4
2B-1	3000Psi	Concrete Rectangular	Magenta	352	6658.37	56789.33	1877.33	0	
2B-10	3000Psi	Concrete Rectangular	Yellow	432	16407	46656	5184	0	
2B-11	3000Psi	Concrete Rectangular	Gray8Dark	288	5291.19	31104	1536	0	
2B-12	3000Psi	Concrete Rectangular	Blue	112	1538.66	1829.33	597.33	0	
2B-13	3000Psi	Concrete Rectangular	Green	144	2216.86	3888	768	0	
2B-14	3000Psi	Concrete Rectangular	Cyan	272	4949.6	26202.67	1450.67	0	
2B-15	3000Psi	Concrete Rectangular	Red	112	1538.66	1829.33	597.33	0	
2B-16	3000Psi	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	
2B-17	3000Psi	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	
2B-18	3000Psi	Concrete Rectangular	Yellow	168	3932.38	2744	2016	0	
2B-19	3000Psi	Concrete Rectangular	Gray8Dark	168	3932.38	2744	2016	0	
2B-2	3000Psi	Concrete Rectangular	Magenta	352	6658.37	56789.33	1877.33	0	
2B-20	3000Psi	Concrete Rectangular	Red	176	2899.04	7098.67	938.67	0	
2B-21	3000Psi	Concrete Rectangular	Gray8Dark	176	2899.04	7098.67	938.67	0	
2B-22	3000Psi	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	
2B-23	3000Psi	Concrete Rectangular	Cyan	288	9500.62	13824	3456	0	
2B-24	3000Psi	Concrete Rectangular	Gray8Dark	240	4265.95	18000	1280	0	
2B-25	3000Psi	Concrete Rectangular	Blue	288	9500.62	13824	3456	0	
2B-26	3000Psi	Concrete Rectangular	Green	192	4999.14	4096	2304	0	
2B-27	3000Psi	Concrete Rectangular	Cyan	168	3932.38	2744	2016	0	
2B-28	3000Psi	Concrete Rectangular	Red	168	3932.38	2744	2016	0	
2B-29	3000Psi	Concrete Rectangular	Magenta	144	2921.4	1728	1728	0	
2B-3	3000Psi	Concrete Rectangular	Yellow	160	2557.9	5333.33	853.33	0	
2B-30	3000Psi	Concrete Rectangular	Yellow	160	2557.9	5333.33	853.33	0	
2B-31	3000Psi	Concrete Rectangular	Gray8Dark	288	5291.19	31104	1536	0	
2B-32	3000Psi	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	
2B-33	3000Psi	Concrete Rectangular	Green	96	1205.11	1152	512	0	
2B-34	3000Psi	Concrete Rectangular	Cyan	144	2216.86	3888	768	0	
2B-35	3000Psi	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	
2B-4	3000Psi	Concrete Rectangular	Gray8Dark	288	9500.62	13824	3456	0	

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 4, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	IMajor in ⁴
2B-5	3000Psi	Concrete Rectangular	Green	288	9500.62	13824	3456	0	
2B-6	3000Psi	Concrete Rectangular	Blue	336	6316.79	49392	1792	0	
2B-7	3000Psi	Concrete Rectangular	Cyan	96	1205.11	1152	512	0	
2B-8	3000Psi	Concrete Rectangular	Red	96	1205.11	1152	512	0	
2B-9	3000Psi	Concrete Rectangular	Magenta	96	1205.11	1152	512	0	
C-1	3000Psi	Concrete Rectangular	Green	96	1205.11	1152	512	0	
C-10	3000Psi	Concrete Rectangular	Gray8Dark	192	3240.89	9216	1024	0	
C-11	3000Psi	Concrete Rectangular	Cyan	336	6316.79	49392	1792	0	
C-12	3000Psi	Concrete Rectangular	Magenta	272	4949.6	26202.67	1450.67	0	
C-13	3000Psi	Concrete Rectangular	Gray8Dark	368	6999.94	64890.67	1962.67	0	
C-15	3000Psi	SD Section	Green	336	7491.84	3081.14	37604.57	-2962.29	37856.91
C-16	3000Psi	Concrete Rectangular	Cyan	288	9500.62	13824	3456	0	
C-18	3000Psi	Concrete Rectangular	Cyan	216	6100.87	5832	2592	0	
C-19	3000Psi	Concrete Rectangular	Blue	224	3924.35	14634.67	1194.67	0	
C-2	3000Psi	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	
C-20	3000Psi	Concrete Rectangular	Blue	384	7341.5	73728	2048	0	
C-21	3000Psi	Concrete Rectangular	Gray8Dark	256	4608.18	21845.33	1365.33	0	
C-22	3000Psi	Concrete Rectangular	Yellow	208	3582.29	11717.33	1109.33	0	
C-23	3000Psi	Concrete Rectangular	Magenta	432	16407	46656	5184	0	
C-3	3000Psi	Concrete Rectangular	Green	144	2921.4	1728	1728	0	
C-4	3000Psi	Concrete Rectangular	Green	160	2557.9	5333.33	853.33	0	
C-5	3000Psi	Concrete Rectangular	Yellow	192	4999.14	4096	2304	0	
C-6	3000Psi	Concrete Rectangular	Gray8Dark	504	19867.01	74088	6048	0	
C-8	3000Psi	Concrete Rectangular	Gray8Dark	304	5632.78	36581.33	1621.33	0	
C-9	3000Psi	SD Section	Magenta	160	2793.43	1646.93	3310.93	-614.4	3513.2
HSS6X6X1/2	A500GrB46	Steel Tube	Gray8Dark	9.74	81.1	48.3	48.3	0	
HSS6X6X3/8	A500GrB46	Steel Tube	Red	7.58	64.6	39.5	39.5	0	
HSS8X4X3/8	A500GrB46	Steel Tube	Green	7.58	49.3	58.7	19.6	0	
HSS8X4X5/16	A500GrB46	Steel Tube	Red	6.43	42.6	51	17.2	0	
RB-1	3000Psi	Concrete Rectangular	Yellow	368	6999.94	64890.67	1962.67	0	
RB-10	3000Psi	Concrete Rectangular	Green	192	3240.89	9216	1024	0	
RB-11	3000Psi	Concrete Rectangular	Blue	336	6316.79	49392	1792	0	
RB-12	3000Psi	Concrete Rectangular	Green	336	6316.79	49392	1792	0	
RB-13	3000Psi	Concrete Rectangular	Cyan	368	6999.94	64890.67	1962.67	0	
RB-15	3000Psi	Concrete Rectangular	Magenta	96	1205.11	512	1152	0	
RB-16	3000Psi	Concrete Rectangular	Green	96	1205.11	512	1152	0	
RB-2	3000Psi	Concrete Rectangular	Gray8Dark	504	19867.01	74088	6048	0	
RB-3	3000Psi	Concrete Rectangular	Blue	336	6316.79	49392	1792	0	
RB-4	3000Psi	Concrete Rectangular	Green	336	6316.79	49392	1792	0	
RB-5	3000Psi	Concrete Rectangular	Cyan	504	19867.01	74088	6048	0	
RB-6	3000Psi	Concrete Rectangular	Red	96	1205.11	512	1152	0	
RB-7	3000Psi	Concrete Rectangular	Magenta	336	6316.79	49392	1792	0	
RB-8	3000Psi	Concrete Rectangular	Yellow	336	6316.79	49392	1792	0	
RB-9	3000Psi	Concrete Rectangular	Blue	336	6316.79	49392	1792	0	
TB-1	3000Psi	Concrete Rectangular	Magenta	96	1205.11	1152	512	0	

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 4, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	IMajor in ⁴
TB-2	3000Psi	Concrete Rectangular	Yellow	144	2921.4	1728	1728	0	
TB-6	3000Psi	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 4)

Name	IMinor in ⁴	MajorAngle deg	As2 in ²	As3 in ²	S33Pos in ³	S33Neg in ³	S22Pos in ³	S22Neg in ³	Z33 in ³	Z22 in ³	R33 in
2B-1			293.33	293.33	2581.33	2581.33	469.33	469.33	3872	704	12.7017
2B-10			360	360	2592	2592	864	864	3888	1296	10.3923
2B-11			240	240	1728	1728	384	384	2592	576	10.3923
2B-12			93.33	93.33	261.33	261.33	149.33	149.33	392	224	4.0415
2B-13			120	120	432	432	192	192	648	288	5.1962
2B-14			226.67	226.67	1541.33	1541.33	362.67	362.67	2312	544	9.815
2B-15			93.33	93.33	261.33	261.33	149.33	149.33	392	224	4.0415
2B-16			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
2B-17			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
2B-18			140	140	392	392	336	336	588	504	4.0415
2B-19			140	140	392	392	336	336	588	504	4.0415
2B-2			293.33	293.33	2581.33	2581.33	469.33	469.33	3872	704	12.7017
2B-20			146.67	146.67	645.33	645.33	234.67	234.67	968	352	6.3509
2B-21			146.67	146.67	645.33	645.33	234.67	234.67	968	352	6.3509
2B-22			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
2B-23			240	240	1152	1152	576	576	1728	864	6.9282
2B-24			200	200	1200	1200	320	320	1800	480	8.6603
2B-25			240	240	1152	1152	576	576	1728	864	6.9282
2B-26			160	160	512	512	384	384	768	576	4.6188
2B-27			140	140	392	392	336	336	588	504	4.0415
2B-28			140	140	392	392	336	336	588	504	4.0415
2B-29			120	120	288	288	288	288	432	432	3.4641
2B-3			133.33	133.33	533.33	533.33	213.33	213.33	800	320	5.7735
2B-30			133.33	133.33	533.33	533.33	213.33	213.33	800	320	5.7735
2B-31			240	240	1728	1728	384	384	2592	576	10.3923
2B-32			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
2B-33			80	80	192	192	128	128	288	192	3.4641
2B-34			120	120	432	432	192	192	648	288	5.1962
2B-35			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
2B-4			240	240	1152	1152	576	576	1728	864	6.9282
2B-5			240	240	1152	1152	576	576	1728	864	6.9282
2B-6			280	280	2352	2352	448	448	3528	672	12.1244
2B-7			80	80	192	192	128	128	288	192	3.4641
2B-8			80	80	192	192	128	128	288	192	3.4641
2B-9			80	80	192	192	128	128	288	192	3.4641
C-1			80	80	192	192	128	128	288	192	3.4641
C-10			160	160	768	768	256	256	1152	384	6.9282
C-11			280	280	2352	2352	448	448	3528	672	12.1244
C-12			226.67	226.67	1541.33	1541.33	362.67	362.67	2312	544	9.815

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 4, continued)

Name	IMinor in4	MajorAngle deg	As2 in2	As3 in2	S33Pos in3	S33Neg in3	S22Pos in3	S22Neg in3	Z33 in3	Z22 in3	R33 in
C-13			306.67	306.67	2821.33	2821.33	490.67	490.67	4232	736	13.2791
C-15	2828.81	4.869	287.98	263.47	431.36	634.35	1907.48	2309.05	848	3096	3.0282
C-16			240	240	1152	1152	576	576	1728	864	6.9282
C-18			180	180	648	648	432	432	972	648	5.1962
C-19			186.67	186.67	1045.33	1045.33	298.67	298.67	1568	448	8.0829
C-2			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188
C-20			320	320	3072	3072	512	512	4608	768	13.8564
C-21			213.33	213.33	1365.33	1365.33	341.33	341.33	2048	512	9.2376
C-22			173.33	173.33	901.33	901.33	277.33	277.33	1352	416	7.5056
C-23			360	360	2592	2592	864	864	3888	1296	10.3923
C-3			120	120	288	288	288	288	432	432	3.4641
C-4			133.33	133.33	533.33	533.33	213.33	213.33	800	320	5.7735
C-5			160	160	512	512	384	384	768	576	4.6188
C-6			420	420	3528	3528	1008	1008	5292	1512	12.1244
C-8			253.33	253.33	1925.33	1925.33	405.33	405.33	2888	608	10.9697
C-9	1444.66	18.222	138.28	131.07	242.2	316.72	376.24	459.85	432	618.67	3.2083
HSS6X6X1/2			5.58	5.58	16.1	16.1	16.1	16.1	19.8	19.8	2.2269
HSS6X6X3/8			4.19	4.19	13.17	13.17	13.17	13.17	15.8	15.8	2.2828
HSS8X4X3/8			5.58	2.79	14.68	14.68	9.8	9.8	18.8	11.5	2.7828
HSS8X4X5/16			4.66	2.33	12.75	12.75	8.6	8.6	16.1	9.91	2.8163
RB-1			306.67	306.67	2821.33	2821.33	490.67	490.67	4232	736	13.2791
RB-10			160	160	768	768	256	256	1152	384	6.9282
RB-11			280	280	2352	2352	448	448	3528	672	12.1244
RB-12			280	280	2352	2352	448	448	3528	672	12.1244
RB-13			306.67	306.67	2821.33	2821.33	490.67	490.67	4232	736	13.2791
RB-15			80	80	128	128	192	192	192	288	2.3094
RB-16			80	80	128	128	192	192	192	288	2.3094
RB-2			420	420	3528	3528	1008	1008	5292	1512	12.1244
RB-3			280	280	2352	2352	448	448	3528	672	12.1244
RB-4			280	280	2352	2352	448	448	3528	672	12.1244
RB-5			420	420	3528	3528	1008	1008	5292	1512	12.1244
RB-6			80	80	128	128	192	192	192	288	2.3094
RB-7			280	280	2352	2352	448	448	3528	672	12.1244
RB-8			280	280	2352	2352	448	448	3528	672	12.1244
RB-9			280	280	2352	2352	448	448	3528	672	12.1244
TB-1			80	80	192	192	128	128	288	192	3.4641
TB-2			120	120	288	288	288	288	432	432	3.4641
TB-6			106.67	106.67	341.33	341.33	170.67	170.67	512	256	4.6188

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 4)

Name	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in	Area Modifier	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier
2B-1	0	0	0	0	1	1	1	1	1	1
2B-10	0	0	0	0	1	1	1	1	1	1
2B-11	0	0	0	0	1	1	1	1	1	1
2B-12	0	0	0	0	1	1	1	1	1	1
2B-13	0	0	0	0	1	1	1	1	1	1
2B-14	0	0	0	0	1	1	1	1	1	1
2B-15	0	0	0	0	1	1	1	1	1	1
2B-16	0	0	0	0	1	1	1	1	1	1
2B-17	0	0	0	0	1	1	1	1	1	1
2B-18	0	0	0	0	1	1	1	1	1	1
2B-19	0	0	0	0	1	1	1	1	1	1
2B-2	0	0	0	0	1	1	1	1	1	1
2B-20	0	0	0	0	1	1	1	1	1	1
2B-21	0	0	0	0	1	1	1	1	1	1
2B-22	0	0	0	0	1	1	1	1	1	1
2B-23	0	0	0	0	1	1	1	1	1	1
2B-24	0	0	0	0	1	1	1	1	1	1
2B-25	0	0	0	0	1	1	1	1	1	1
2B-26	0	0	0	0	1	1	1	1	1	1
2B-27	0	0	0	0	1	1	1	1	1	1
2B-28	0	0	0	0	1	1	1	1	1	1
2B-29	0	0	0	0	1	1	1	1	1	1
2B-3	0	0	0	0	1	1	1	1	1	1
2B-30	0	0	0	0	1	1	1	1	1	1
2B-31	0	0	0	0	1	1	1	1	1	1
2B-32	0	0	0	0	1	1	1	1	1	1
2B-33	0	0	0	0	1	1	1	1	1	1
2B-34	0	0	0	0	1	1	1	1	1	1
2B-35	0	0	0	0	1	1	1	1	1	1
2B-4	0	0	0	0	1	1	1	1	1	1
2B-5	0	0	0	0	1	1	1	1	1	1
2B-6	0	0	0	0	1	1	1	1	1	1
2B-7	0	0	0	0	1	1	1	1	1	1
2B-8	0	0	0	0	1	1	1	1	1	1
2B-9	0	0	0	0	1	1	1	1	1	1
C-1	0	0	0	0	1	1	1	1	1	1
C-10	0	0	0	0	1	1	1	1	1	1
C-11	0	0	0	0	1	1	1	1	1	1
C-12	0	0	0	0	1	1	1	1	1	1
C-13	0	0	0	0	1	1	1	1	1	1
C-15	-1.7143	-1.1429	0	0	1	1	1	1	1	1
C-16	0	0	0	0	1	1	1	1	1	1
C-18	0	0	0	0	1	1	1	1	1	1
C-19	0	0	0	0	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 4, continued)

Name	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in	Area Modifier	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier
C-2	0	0	0	0	1	1	1	1	1	1
C-20	0	0	0	0	1	1	1	1	1	1
C-21	0	0	0	0	1	1	1	1	1	1
C-22	0	0	0	0	1	1	1	1	1	1
C-23	0	0	0	0	1	1	1	1	1	1
C-3	0	0	0	0	1	1	1	1	1	1
C-4	0	0	0	0	1	1	1	1	1	1
C-5	0	0	0	0	1	1	1	1	1	1
C-6	0	0	0	0	1	1	1	1	1	1
C-8	0	0	0	0	1	1	1	1	1	1
C-9	-0.8	-0.8	0	0	1	1	1	1	1	1
HSS6X6X1/2	0	0	0	0	1	1	1	1	1	1
HSS6X6X3/8	0	0	0	0	1	1	1	1	1	1
HSS8X4X3/8	0	0	0	0	1	1	1	1	1	1
HSS8X4X5/16	0	0	0	0	1	1	1	1	1	1
RB-1	0	0	0	0	1	1	1	1	1	1
RB-10	0	0	0	0	1	1	1	1	1	1
RB-11	0	0	0	0	1	1	1	1	1	1
RB-12	0	0	0	0	1	1	1	1	1	1
RB-13	0	0	0	0	1	1	1	1	1	1
RB-15	0	0	0	0	1	1	1	1	1	1
RB-16	0	0	0	0	1	1	1	1	1	1
RB-2	0	0	0	0	1	1	1	1	1	1
RB-3	0	0	0	0	1	1	1	1	1	1
RB-4	0	0	0	0	1	1	1	1	1	1
RB-5	0	0	0	0	1	1	1	1	1	1
RB-6	0	0	0	0	1	1	1	1	1	1
RB-7	0	0	0	0	1	1	1	1	1	1
RB-8	0	0	0	0	1	1	1	1	1	1
RB-9	0	0	0	0	1	1	1	1	1	1
TB-1	0	0	0	0	1	1	1	1	1	1
TB-2	0	0	0	0	1	1	1	1	1	1
TB-6	0	0	0	0	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 4 of 4)

Name	Weight Modifier
2B-1	1
2B-10	1
2B-11	1
2B-12	1
2B-13	1
2B-14	1
2B-15	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 4 of 4, continued)

Name	Weight Modifier
2B-16	1
2B-17	1
2B-18	1
2B-19	1
2B-2	1
2B-20	1
2B-21	1
2B-22	1
2B-23	1
2B-24	1
2B-25	1
2B-26	1
2B-27	1
2B-28	1
2B-29	1
2B-3	1
2B-30	1
2B-31	1
2B-32	1
2B-33	1
2B-34	1
2B-35	1
2B-4	1
2B-5	1
2B-6	1
2B-7	1
2B-8	1
2B-9	1
C-1	1
C-10	1
C-11	1
C-12	1
C-13	1
C-15	1
C-16	1
C-18	1
C-19	1
C-2	1
C-20	1
C-21	1
C-22	1
C-23	1
C-3	1
C-4	1
C-5	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 4 of 4, continued)

Name	Weight Modifier
C-6	1
C-8	1
C-9	1
HSS6X6X1/2	1
HSS6X6X3/8	1
HSS8X4X3/8	1
HSS8X4X5/16	1
RB-1	1
RB-10	1
RB-11	1
RB-12	1
RB-13	1
RB-15	1
RB-16	1
RB-2	1
RB-3	1
RB-4	1
RB-5	1
RB-6	1
RB-7	1
RB-8	1
RB-9	1
TB-1	1
TB-2	1
TB-6	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness in
12CIP	Wall	Shell-Thin	3000Psi	12
12CMU	Wall	Shell-Thin	M1500Psi-1	12
8CIP	Wall	Shell-Thin	3000Psi	8
8CMU	Wall	Shell-Thin	M1500Psi-1	8
F-12	Slab	Shell-Thick	3000Psi	12
F-16	Slab	Shell-Thick	3000Psi	16
Slab8	Slab	Shell-Thin	3000Psi	8

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter in	Area in2
#6	0.75	0.44

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Roof	140	203	D2		Yes
Roof	204	204	D2		Yes
Roof	206	206	D2		Yes
Roof	209	208	D2		Yes
Roof	212	211	D2		Yes
Roof	213	213	D2		Yes
Roof	232	212	D2		Yes
Roof	238	224	D2		Yes
Roof	239	234	D2		Yes
Roof	269	95	D2		Yes
Roof	270	116	D2		Yes
Roof	271	120	D2		Yes
Roof	272	121	D2		Yes
Roof	273	122	D2		Yes
Roof	274	123	D2		Yes
Roof	275	124	D2		Yes
Roof	276	125	D2		Yes
Roof	277	126	D2		Yes
Roof	282	134	D2		Yes
Roof	284	140	D2		Yes
Roof	285	141	D2		Yes
Roof	286	142	D2		Yes
Roof	310	167	D2		Yes
Roof	312	169	D2		Yes
Roof	314	171	D2		Yes
Roof	315	172	D2		Yes
Roof	316	173	D2		Yes
Roof	317	174	D2		Yes
Roof	318	175	D2		Yes
Roof	319	176	D2		Yes
Roof	321	178	D2		Yes
Roof	322	179	D2		Yes
Roof	324	181	D2		Yes
Roof	325	182	D2		Yes
Roof	326	183	D2		Yes
Roof	327	184	D2		Yes
Roof	328	185	D2		Yes
Roof	329	186	D2		Yes
Roof	330	187	D2		Yes
Roof	332	189	D2		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Roof	334	191	D2		Yes
Roof	348	250	D2		Yes
Roof	349	249	D2		Yes
Roof	350	247	D2		Yes
Roof	351	254	D2		Yes
Roof	360	389	D2		Yes
Roof	361	390	D2		Yes
Roof	363	253	D2		Yes
Roof	367	395	D2		Yes
Roof	368	403	D2		Yes
Roof	369	405	D2		Yes
Roof	370	406	D2		Yes
Roof	371	409	D2		Yes
Roof	372	411	D2		Yes
Roof	373	413	D2		Yes
Roof	374	414	D2		Yes
Roof	375	417	D2		Yes
Roof	376	419	D2		Yes
Roof	377	437	D2		Yes
Roof	378	439	D2		Yes
Roof	379	441	D2		Yes
Roof	380	443	D2		Yes
Roof	381	445	D2		Yes
Roof	382	447	D2		Yes
Roof	383	449	D2		Yes
Roof	384	451	D2		Yes
Roof	385	453	D2		Yes
Roof	386	455	D2		Yes
Roof	387	457	D2		Yes
Roof	388	459	D2		Yes
Roof	389	461	D2		Yes
Roof	390	463	D2		Yes
Roof	391	465	D2		Yes
Roof	392	467	D2		Yes
Roof	394	472	D2		Yes
Roof	395	475	D2		Yes
Roof	396	480	D2		Yes
Roof	397	481	D2		Yes
Roof	398	482	D2		Yes
Roof	399	486	D2		Yes
Roof	400	487	D2		Yes
Roof	401	494	D2		Yes
Roof	402	495	D2		Yes
Roof	403	496	D2		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Roof	404	497	D2		Yes
Roof	405	498	D2		Yes
Roof	406	504	D2		Yes
Roof	407	512	D2		Yes
Roof	408	513	D2		Yes
Roof	409	514	D2		Yes
Roof	410	516	D2		Yes
Roof	411	517	D2		Yes
Roof	412	518	D2		Yes
Roof	413	519	D2		Yes
Roof	414	530	D2		Yes
Roof	415	531	D2		Yes
Roof	416	532	D2		Yes
Roof	417	533	D2		Yes
Roof	418	537	D2		Yes
Roof	419	539	D2		Yes
Roof	420	540	D2		Yes
Roof	421	541	D2		Yes
Roof	422	542	D2		Yes
Roof	423	543	D2		Yes
Roof	424	544	D2		Yes
Roof	425	545	D2		Yes
Roof	426	546	D2		Yes
Roof	427	547	D2		Yes
Roof	428	548	D2		Yes
Roof	429	549	D2		Yes
Roof	430	550	D2		Yes
Roof	431	551	D2		Yes
Roof	432	552	D2		Yes
Roof	433	553	D2		Yes
Roof	434	554	D2		Yes
Roof	435	555	D2		Yes
Roof	436	556	D2		Yes
Roof	437	557	D2		Yes
Roof	27	166	From Area		Yes
Roof	28	168	From Area		Yes
Roof	11	127	D2		
Roof	3	130	D2		
Roof	87	136	D2		
Roof	89	146	D2		
Roof	184	148	D2		
Roof	188	150	D2		
Roof	224	152	D2		
Roof	234	154	D2		

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Roof	444	156	D2		
Roof	470	158	D2		
Roof	567	160	D2		
Roof	569	162	D2		
Roof	579	164	D2		
Second Floor	41	86	D1		Yes
Second Floor	86	2	D1		Yes
Second Floor	103	4	D1		Yes
Second Floor	104	6	D1		Yes
Second Floor	115	8	D1		Yes
Second Floor	126	10	D1		Yes
Second Floor	127	12	D1		Yes
Second Floor	130	14	D1		Yes
Second Floor	131	16	D1		Yes
Second Floor	132	18	D1		Yes
Second Floor	133	22	D1		Yes
Second Floor	137	26	D1		Yes
Second Floor	140	41	D1		Yes
Second Floor	141	50	D1		Yes
Second Floor	142	52	D1		Yes
Second Floor	143	54	D1		Yes
Second Floor	144	56	D1		Yes
Second Floor	145	58	D1		Yes
Second Floor	203	60	D1		Yes
Second Floor	204	66	D1		Yes
Second Floor	205	68	D1		Yes
Second Floor	206	70	D1		Yes
Second Floor	207	30	D1		Yes
Second Floor	209	40	D1		Yes
Second Floor	210	62	D1		Yes
Second Floor	211	64	D1		Yes
Second Floor	212	72	D1		Yes
Second Floor	213	73	D1		Yes
Second Floor	214	76	D1		Yes
Second Floor	215	78	D1		Yes
Second Floor	219	80	D1		Yes
Second Floor	226	82	D1		Yes
Second Floor	227	88	D1		Yes
Second Floor	228	90	D1		Yes
Second Floor	229	84	D1		Yes
Second Floor	230	91	D1		Yes
Second Floor	231	93	D1		Yes
Second Floor	232	97	D1		Yes
Second Floor	233	100	D1		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Second Floor	238	226	D1		Yes
Second Floor	239	227	D1		Yes
Second Floor	240	230	D1		Yes
Second Floor	263	235	D1		Yes
Second Floor	264	236	D1		Yes
Second Floor	265	238	D1		Yes
Second Floor	266	239	D1		Yes
Second Floor	267	242	D1		Yes
Second Floor	268	243	D1		Yes
Second Floor	269	258	D1		Yes
Second Floor	270	259	D1		Yes
Second Floor	271	260	D1		Yes
Second Floor	272	261	D1		Yes
Second Floor	273	262	D1		Yes
Second Floor	274	263	D1		Yes
Second Floor	275	264	D1		Yes
Second Floor	276	265	D1		Yes
Second Floor	277	266	D1		Yes
Second Floor	278	267	D1		Yes
Second Floor	279	268	D1		Yes
Second Floor	280	269	D1		Yes
Second Floor	281	270	D1		Yes
Second Floor	282	271	D1		Yes
Second Floor	283	272	D1		Yes
Second Floor	284	273	D1		Yes
Second Floor	285	274	D1		Yes
Second Floor	286	275	D1		Yes
Second Floor	287	276	D1		Yes
Second Floor	288	277	D1		Yes
Second Floor	289	278	D1		Yes
Second Floor	290	279	D1		Yes
Second Floor	291	280	D1		Yes
Second Floor	292	281	D1		Yes
Second Floor	293	282	D1		Yes
Second Floor	294	283	D1		Yes
Second Floor	295	284	D1		Yes
Second Floor	296	285	D1		Yes
Second Floor	297	286	D1		Yes
Second Floor	298	287	D1		Yes
Second Floor	299	288	D1		Yes
Second Floor	300	289	D1		Yes
Second Floor	301	290	D1		Yes
Second Floor	302	291	D1		Yes
Second Floor	303	292	D1		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Second Floor	304	293	D1		Yes
Second Floor	305	294	D1		Yes
Second Floor	306	295	D1		Yes
Second Floor	307	296	D1		Yes
Second Floor	308	297	D1		Yes
Second Floor	309	336	D1		Yes
Second Floor	310	339	D1		Yes
Second Floor	311	340	D1		Yes
Second Floor	312	341	D1		Yes
Second Floor	313	342	D1		Yes
Second Floor	314	343	D1		Yes
Second Floor	315	344	D1		Yes
Second Floor	316	345	D1		Yes
Second Floor	317	346	D1		Yes
Second Floor	318	347	D1		Yes
Second Floor	319	348	D1		Yes
Second Floor	320	359	D1		Yes
Second Floor	321	397	D1		Yes
Second Floor	322	398	D1		Yes
Second Floor	323	399	D1		Yes
Second Floor	324	423	D1		Yes
Second Floor	325	424	D1		Yes
Second Floor	326	425	D1		Yes
Second Floor	327	426	D1		Yes
Second Floor	328	427	D1		Yes
Second Floor	329	428	D1		Yes
Second Floor	330	429	D1		Yes
Second Floor	331	24	D1		Yes
Second Floor	332	27	D1		Yes
Second Floor	333	28	D1		Yes
Second Floor	334	34	D1		Yes
Second Floor	335	35	D1		Yes
Second Floor	336	36	D1		Yes
Second Floor	337	48	D1		Yes
Second Floor	338	102	D1		Yes
Second Floor	339	108	D1		Yes
Second Floor	340	110	D1		Yes
Second Floor	341	111	D1		Yes
Second Floor	342	112	D1		Yes
Second Floor	343	113	D1		Yes
Second Floor	344	114	D1		Yes
Second Floor	345	117	D1		Yes
Second Floor	346	118	D1		Yes
Second Floor	347	19	D1		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Second Floor	348	23	D1		Yes
Second Floor	349	25	D1		Yes
Second Floor	350	45	D1		Yes
Second Floor	351	46	D1		Yes
Second Floor	352	119	D1		Yes
Second Floor	353	129	D1		Yes
Second Floor	354	131	D1		Yes
Second Floor	355	133	D1		Yes
Second Floor	356	135	D1		Yes
Second Floor	357	137	D1		Yes
Second Floor	358	138	D1		Yes
Second Floor	359	139	D1		Yes
Second Floor	360	143	D1		Yes
Second Floor	361	144	D1		Yes
Second Floor	362	38	D1		Yes
Second Floor	363	96	D1		Yes
Second Floor	364	37	D1		Yes
Second Floor	365	98	D1		Yes
Second Floor	366	115	D1		Yes
Second Floor	367	394	D1		Yes
Second Floor	368	396	D1		Yes
Second Floor	369	404	D1		Yes
Second Floor	370	407	D1		Yes
Second Floor	371	408	D1		Yes
Second Floor	372	410	D1		Yes
Second Floor	373	412	D1		Yes
Second Floor	374	415	D1		Yes
Second Floor	375	416	D1		Yes
Second Floor	376	418	D1		Yes
Second Floor	377	422	D1		Yes
Second Floor	378	438	D1		Yes
Second Floor	379	440	D1		Yes
Second Floor	380	442	D1		Yes
Second Floor	381	444	D1		Yes
Second Floor	382	446	D1		Yes
Second Floor	383	448	D1		Yes
Second Floor	384	450	D1		Yes
Second Floor	385	452	D1		Yes
Second Floor	386	454	D1		Yes
Second Floor	387	456	D1		Yes
Second Floor	388	458	D1		Yes
Second Floor	389	460	D1		Yes
Second Floor	390	462	D1		Yes
Second Floor	391	464	D1		Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Second Floor	392	466	D1		Yes
Second Floor	12	128	D1		
Second Floor	4	132	D1		
Second Floor	88	145	D1		
Second Floor	90	147	D1		
Second Floor	185	149	D1		
Second Floor	189	151	D1		
Second Floor	225	153	D1		
Second Floor	235	155	D1		
Second Floor	445	157	D1		
Second Floor	471	159	D1		
Second Floor	568	161	D1		
Second Floor	570	163	D1		
Second Floor	580	165	D1		
Base	41	85	From Area	UX; UY; UZ	Yes
Base	86	1	From Area	UX; UY; UZ	Yes
Base	103	3	From Area	UX; UY; UZ	Yes
Base	104	5	From Area	UX; UY; UZ	Yes
Base	115	7	From Area	UX; UY; UZ	Yes
Base	126	9	From Area	UX; UY; UZ	Yes
Base	127	11	From Area	UX; UY; UZ	Yes
Base	130	13	From Area	UX; UY; UZ	Yes
Base	131	15	From Area	UX; UY; UZ	Yes
Base	132	17	From Area	UX; UY; UZ	Yes
Base	133	103	From Area	UX; UY; UZ	Yes
Base	137	105	From Area	UX; UY; UZ	Yes
Base	140	42	From Area	UX; UY; UZ	Yes
Base	141	49	From Area	UX; UY; UZ	Yes
Base	142	51	From Area	UX; UY; UZ	Yes
Base	143	53	From Area	UX; UY; UZ	Yes
Base	144	55	From Area	UX; UY; UZ	Yes
Base	145	57	From Area	UX; UY; UZ	Yes
Base	203	59	From Area	UX; UY; UZ	Yes
Base	204	65	From Area	UX; UY; UZ	Yes
Base	205	67	From Area	UX; UY; UZ	Yes
Base	206	69	From Area	UX; UY; UZ	Yes
Base	207	29	From Area	UX; UY; UZ	Yes
Base	209	39	From Area	UX; UY; UZ	Yes
Base	210	61	From Area	UX; UY; UZ	Yes
Base	211	63	From Area	UX; UY; UZ	Yes
Base	212	71	From Area	UX; UY; UZ	Yes
Base	213	74	From Area	UX; UY; UZ	Yes
Base	214	75	From Area	UX; UY; UZ	Yes
Base	215	77	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	219	79	From Area	UX; UY; UZ	Yes
Base	226	81	From Area	UX; UY; UZ	Yes
Base	227	87	From Area	UX; UY; UZ	Yes
Base	228	89	From Area	UX; UY; UZ	Yes
Base	229	83	From Area	UX; UY; UZ	Yes
Base	230	94	From Area	UX; UY; UZ	Yes
Base	231	92	From Area	UX; UY; UZ	Yes
Base	232	101	From Area	UX; UY; UZ	Yes
Base	233	99	From Area	UX; UY; UZ	Yes
Base	238	225	From Area	UX; UY; UZ	Yes
Base	239	228	From Area	UX; UY; UZ	Yes
Base	240	229	From Area	UX; UY; UZ	Yes
Base	267	109	From Area	UX; UY; UZ	Yes
Base	268	106	From Area	UX; UY; UZ	Yes
Base	269	298	From Area	UX; UY; UZ	Yes
Base	270	299	From Area	UX; UY; UZ	Yes
Base	271	300	From Area	UX; UY; UZ	Yes
Base	272	301	From Area	UX; UY; UZ	Yes
Base	273	302	From Area	UX; UY; UZ	Yes
Base	274	303	From Area	UX; UY; UZ	Yes
Base	275	304	From Area	UX; UY; UZ	Yes
Base	276	305	From Area	UX; UY; UZ	Yes
Base	277	306	From Area	UX; UY; UZ	Yes
Base	278	326	From Area	UX; UY; UZ	Yes
Base	279	324	From Area	UX; UY; UZ	Yes
Base	280	325	From Area	UX; UY; UZ	Yes
Base	281	307	From Area	UX; UY; UZ	Yes
Base	282	311	From Area	UX; UY; UZ	Yes
Base	283	327	From Area	UX; UY; UZ	Yes
Base	284	308	From Area	UX; UY; UZ	Yes
Base	285	309	From Area	UX; UY; UZ	Yes
Base	286	310	From Area	UX; UY; UZ	Yes
Base	287	312	From Area	UX; UY; UZ	Yes
Base	288	313	From Area	UX; UY; UZ	Yes
Base	289	314	From Area	UX; UY; UZ	Yes
Base	290	315	From Area	UX; UY; UZ	Yes
Base	291	328	From Area	UX; UY; UZ	Yes
Base	292	329	From Area	UX; UY; UZ	Yes
Base	293	316	From Area	UX; UY; UZ	Yes
Base	294	317	From Area	UX; UY; UZ	Yes
Base	295	333	From Area	UX; UY; UZ	Yes
Base	296	334	From Area	UX; UY; UZ	Yes
Base	297	318	From Area	UX; UY; UZ	Yes
Base	298	319	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	299	320	From Area	UX; UY; UZ	Yes
Base	300	321	From Area	UX; UY; UZ	Yes
Base	301	322	From Area	UX; UY; UZ	Yes
Base	303	323	From Area	UX; UY; UZ	Yes
Base	304	330	From Area	UX; UY; UZ	Yes
Base	305	332	From Area	UX; UY; UZ	Yes
Base	306	331	From Area	UX; UY; UZ	Yes
Base	307	338	From Area	UX; UY; UZ	Yes
Base	308	337	From Area	UX; UY; UZ	Yes
Base	309	335	From Area	UX; UY; UZ	Yes
Base	310	356	From Area	UX; UY; UZ	Yes
Base	311	355	From Area	UX; UY; UZ	Yes
Base	312	358	From Area	UX; UY; UZ	Yes
Base	313	357	From Area	UX; UY; UZ	Yes
Base	314	349	From Area	UX; UY; UZ	Yes
Base	315	350	From Area	UX; UY; UZ	Yes
Base	316	351	From Area	UX; UY; UZ	Yes
Base	317	352	From Area	UX; UY; UZ	Yes
Base	318	353	From Area	UX; UY; UZ	Yes
Base	319	354	From Area	UX; UY; UZ	Yes
Base	320	360	From Area	UX; UY; UZ	Yes
Base	321	400	From Area	UX; UY; UZ	Yes
Base	322	401	From Area	UX; UY; UZ	Yes
Base	323	402	From Area	UX; UY; UZ	Yes
Base	324	430	From Area	UX; UY; UZ	Yes
Base	325	431	From Area	UX; UY; UZ	Yes
Base	326	432	From Area	UX; UY; UZ	Yes
Base	327	433	From Area	UX; UY; UZ	Yes
Base	328	434	From Area	UX; UY; UZ	Yes
Base	329	435	From Area	UX; UY; UZ	Yes
Base	330	436	From Area	UX; UY; UZ	Yes
Base	331	31	From Area	UX; UY; UZ	Yes
Base	332	32	From Area	UX; UY; UZ	Yes
Base	333	33	From Area	UX; UY; UZ	Yes
Base	334	43	From Area	UX; UY; UZ	Yes
Base	335	47	From Area	UX; UY; UZ	Yes
Base	336	44	From Area	UX; UY; UZ	Yes
Base	338	104	From Area	UX; UY; UZ	Yes
Base	339	107	From Area	UX; UY; UZ	Yes
Base	348	21	From Area	UX; UY; UZ	Yes
Base	349	20	From Area	UX; UY; UZ	Yes
Base	1	170	From Area	UX; UY; UZ	Yes
Base	2	177	From Area	UX; UY; UZ	Yes
Base	31	180	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	32	188	From Area	UX; UY; UZ	Yes
Base	33	190	From Area	UX; UY; UZ	Yes
Base	34	192	From Area	UX; UY; UZ	Yes
Base	35	193	From Area	UX; UY; UZ	Yes
Base	36	194	From Area	UX; UY; UZ	Yes
Base	37	195	From Area	UX; UY; UZ	Yes
Base	38	196	From Area	UX; UY; UZ	Yes
Base	39	197	From Area	UX; UY; UZ	Yes
Base	40	198	From Area	UX; UY; UZ	Yes
Base	42	199	From Area	UX; UY; UZ	Yes
Base	43	200	From Area	UX; UY; UZ	Yes
Base	44	201	From Area	UX; UY; UZ	Yes
Base	45	202	From Area	UX; UY; UZ	Yes
Base	46	205	From Area	UX; UY; UZ	Yes
Base	47	207	From Area	UX; UY; UZ	Yes
Base	48	209	From Area	UX; UY; UZ	Yes
Base	49	210	From Area	UX; UY; UZ	Yes
Base	50	214	From Area	UX; UY; UZ	Yes
Base	51	215	From Area	UX; UY; UZ	Yes
Base	52	216	From Area	UX; UY; UZ	Yes
Base	53	217	From Area	UX; UY; UZ	Yes
Base	54	218	From Area	UX; UY; UZ	Yes
Base	55	219	From Area	UX; UY; UZ	Yes
Base	56	220	From Area	UX; UY; UZ	Yes
Base	57	221	From Area	UX; UY; UZ	Yes
Base	62	233	From Area	UX; UY; UZ	Yes
Base	63	237	From Area	UX; UY; UZ	Yes
Base	64	240	From Area	UX; UY; UZ	Yes
Base	65	241	From Area	UX; UY; UZ	Yes
Base	66	244	From Area	UX; UY; UZ	Yes
Base	67	245	From Area	UX; UY; UZ	Yes
Base	68	246	From Area	UX; UY; UZ	Yes
Base	69	248	From Area	UX; UY; UZ	Yes
Base	70	251	From Area	UX; UY; UZ	Yes
Base	71	252	From Area	UX; UY; UZ	Yes
Base	72	255	From Area	UX; UY; UZ	Yes
Base	73	256	From Area	UX; UY; UZ	Yes
Base	82	368	From Area	UX; UY; UZ	Yes
Base	83	369	From Area	UX; UY; UZ	Yes
Base	84	370	From Area	UX; UY; UZ	Yes
Base	85	371	From Area	UX; UY; UZ	Yes
Base	91	376	From Area	UX; UY; UZ	Yes
Base	92	377	From Area	UX; UY; UZ	Yes
Base	93	378	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	94	379	From Area	UX; UY; UZ	Yes
Base	95	380	From Area	UX; UY; UZ	Yes
Base	96	381	From Area	UX; UY; UZ	Yes
Base	97	382	From Area	UX; UY; UZ	Yes
Base	98	383	From Area	UX; UY; UZ	Yes
Base	99	384	From Area	UX; UY; UZ	Yes
Base	100	385	From Area	UX; UY; UZ	Yes
Base	102	387	From Area	UX; UY; UZ	Yes
Base	118	476	From Area	UX; UY; UZ	Yes
Base	119	477	From Area	UX; UY; UZ	Yes
Base	120	478	From Area	UX; UY; UZ	Yes
Base	121	479	From Area	UX; UY; UZ	Yes
Base	128	489	From Area	UX; UY; UZ	Yes
Base	129	490	From Area	UX; UY; UZ	Yes
Base	134	491	From Area	UX; UY; UZ	Yes
Base	135	492	From Area	UX; UY; UZ	Yes
Base	136	493	From Area	UX; UY; UZ	Yes
Base	138	499	From Area	UX; UY; UZ	Yes
Base	139	500	From Area	UX; UY; UZ	Yes
Base	146	501	From Area	UX; UY; UZ	Yes
Base	147	502	From Area	UX; UY; UZ	Yes
Base	148	503	From Area	UX; UY; UZ	Yes
Base	149	505	From Area	UX; UY; UZ	Yes
Base	150	506	From Area	UX; UY; UZ	Yes
Base	151	507	From Area	UX; UY; UZ	Yes
Base	152	508	From Area	UX; UY; UZ	Yes
Base	153	509	From Area	UX; UY; UZ	Yes
Base	154	510	From Area	UX; UY; UZ	Yes
Base	155	511	From Area	UX; UY; UZ	Yes
Base	156	515	From Area	UX; UY; UZ	Yes
Base	157	520	From Area	UX; UY; UZ	Yes
Base	158	521	From Area	UX; UY; UZ	Yes
Base	159	522	From Area	UX; UY; UZ	Yes
Base	160	523	From Area	UX; UY; UZ	Yes
Base	161	524	From Area	UX; UY; UZ	Yes
Base	162	525	From Area	UX; UY; UZ	Yes
Base	163	526	From Area	UX; UY; UZ	Yes
Base	164	527	From Area	UX; UY; UZ	Yes
Base	165	528	From Area	UX; UY; UZ	Yes
Base	166	529	From Area	UX; UY; UZ	Yes
Base	167	534	From Area	UX; UY; UZ	Yes
Base	168	535	From Area	UX; UY; UZ	Yes
Base	169	536	From Area	UX; UY; UZ	Yes
Base	170	538	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	171	558	From Area	UX; UY; UZ	Yes
Base	172	559	From Area	UX; UY; UZ	Yes
Base	173	560	From Area	UX; UY; UZ	Yes
Base	174	561	From Area	UX; UY; UZ	Yes
Base	175	562	From Area	UX; UY; UZ	Yes
Base	176	563	From Area	UX; UY; UZ	Yes
Base	177	564	From Area	UX; UY; UZ	Yes
Base	178	565	From Area	UX; UY; UZ	Yes
Base	179	566	From Area	UX; UY; UZ	Yes
Base	180	567	From Area	UX; UY; UZ	Yes
Base	181	568	From Area	UX; UY; UZ	Yes
Base	182	569	From Area	UX; UY; UZ	Yes
Base	220	594	From Area	UX; UY; UZ	Yes
Base	221	595	From Area	UX; UY; UZ	Yes
Base	222	596	From Area	UX; UY; UZ	Yes
Base	223	597	From Area	UX; UY; UZ	Yes
Base	236	602	From Area	UX; UY; UZ	Yes
Base	237	603	From Area	UX; UY; UZ	Yes
Base	241	604	From Area	UX; UY; UZ	Yes
Base	242	605	From Area	UX; UY; UZ	Yes
Base	243	606	From Area	UX; UY; UZ	Yes
Base	244	607	From Area	UX; UY; UZ	Yes
Base	245	608	From Area	UX; UY; UZ	Yes
Base	246	609	From Area	UX; UY; UZ	Yes
Base	247	610	From Area	UX; UY; UZ	Yes
Base	248	611	From Area	UX; UY; UZ	Yes
Base	253	616	From Area	UX; UY; UZ	Yes
Base	254	617	From Area	UX; UY; UZ	Yes
Base	255	618	From Area	UX; UY; UZ	Yes
Base	256	619	From Area	UX; UY; UZ	Yes
Base	257	620	From Area	UX; UY; UZ	Yes
Base	262	625	From Area	UX; UY; UZ	Yes
Base	393	626	From Area	UX; UY; UZ	Yes
Base	438	627	From Area	UX; UY; UZ	Yes
Base	439	628	From Area	UX; UY; UZ	Yes
Base	446	635	From Area	UX; UY; UZ	Yes
Base	447	636	From Area	UX; UY; UZ	Yes
Base	452	641	From Area	UX; UY; UZ	Yes
Base	453	642	From Area	UX; UY; UZ	Yes
Base	454	643	From Area	UX; UY; UZ	Yes
Base	455	644	From Area	UX; UY; UZ	Yes
Base	456	645	From Area	UX; UY; UZ	Yes
Base	457	646	From Area	UX; UY; UZ	Yes
Base	458	647	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	459	648	From Area	UX; UY; UZ	Yes
Base	464	653	From Area	UX; UY; UZ	Yes
Base	465	654	From Area	UX; UY; UZ	Yes
Base	466	655	From Area	UX; UY; UZ	Yes
Base	467	656	From Area	UX; UY; UZ	Yes
Base	468	657	From Area	UX; UY; UZ	Yes
Base	469	658	From Area	UX; UY; UZ	Yes
Base	472	661	From Area	UX; UY; UZ	Yes
Base	473	662	From Area	UX; UY; UZ	Yes
Base	474	663	From Area	UX; UY; UZ	Yes
Base	475	664	From Area	UX; UY; UZ	Yes
Base	480	669	From Area	UX; UY; UZ	Yes
Base	481	670	From Area	UX; UY; UZ	Yes
Base	482	671	From Area	UX; UY; UZ	Yes
Base	483	672	From Area	UX; UY; UZ	Yes
Base	489	687	From Area	UX; UY; UZ	Yes
Base	490	688	From Area	UX; UY; UZ	Yes
Base	494	683	From Area	UX; UY; UZ	Yes
Base	495	684	From Area	UX; UY; UZ	Yes
Base	498	689	From Area	UX; UY; UZ	Yes
Base	499	690	From Area	UX; UY; UZ	Yes
Base	106	391	From Area	UX; UY; UZ	Yes
Base	107	392	From Area	UX; UY; UZ	Yes
Base	109	420	From Area	UX; UY; UZ	Yes
Base	110	421	From Area	UX; UY; UZ	Yes
Base	124	485	From Area	UX; UY; UZ	Yes
Base	125	488	From Area	UX; UY; UZ	Yes
Base	183	570	From Area	UX; UY; UZ	Yes
Base	186	573	From Area	UX; UY; UZ	Yes
Base	190	578	From Area	UX; UY; UZ	Yes
Base	191	579	From Area	UX; UY; UZ	Yes
Base	192	580	From Area	UX; UY; UZ	Yes
Base	194	582	From Area	UX; UY; UZ	Yes
Base	195	583	From Area	UX; UY; UZ	Yes
Base	200	588	From Area	UX; UY; UZ	Yes
Base	201	589	From Area	UX; UY; UZ	Yes
Base	202	621	From Area	UX; UY; UZ	Yes
Base	216	592	From Area	UX; UY; UZ	Yes
Base	217	593	From Area	UX; UY; UZ	Yes
Base	218	612	From Area	UX; UY; UZ	Yes
Base	249	613	From Area	UX; UY; UZ	Yes
Base	250	614	From Area	UX; UY; UZ	Yes
Base	251	615	From Area	UX; UY; UZ	Yes
Base	258	666	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	259	624	From Area	UX; UY; UZ	Yes
Base	260	629	From Area	UX; UY; UZ	Yes
Base	261	667	From Area	UX; UY; UZ	Yes
Base	440	631	From Area	UX; UY; UZ	Yes
Base	441	632	From Area	UX; UY; UZ	Yes
Base	443	681	From Area	UX; UY; UZ	Yes
Base	448	639	From Area	UX; UY; UZ	Yes
Base	449	640	From Area	UX; UY; UZ	Yes
Base	451	650	From Area	UX; UY; UZ	Yes
Base	460	651	From Area	UX; UY; UZ	Yes
Base	461	668	From Area	UX; UY; UZ	Yes
Base	463	660	From Area	UX; UY; UZ	Yes
Base	476	665	From Area	UX; UY; UZ	Yes
Base	477	673	From Area	UX; UY; UZ	Yes
Base	478	674	From Area	UX; UY; UZ	Yes
Base	484	698	From Area	UX; UY; UZ	Yes
Base	493	692	From Area	UX; UY; UZ	Yes
Base	500	693	From Area	UX; UY; UZ	Yes
Base	505	699	From Area	UX; UY; UZ	Yes
Base	506	700	From Area	UX; UY; UZ	Yes
Base	507	701	From Area	UX; UY; UZ	Yes
Base	508	702	From Area	UX; UY; UZ	Yes
Base	509	703	From Area	UX; UY; UZ	Yes
Base	510	704	From Area	UX; UY; UZ	Yes
Base	511	705	From Area	UX; UY; UZ	Yes
Base	512	706	From Area	UX; UY; UZ	Yes
Base	513	707	From Area	UX; UY; UZ	Yes
Base	514	708	From Area	UX; UY; UZ	Yes
Base	515	709	From Area	UX; UY; UZ	Yes
Base	516	710	From Area	UX; UY; UZ	Yes
Base	525	719	From Area	UX; UY; UZ	Yes
Base	526	720	From Area	UX; UY; UZ	Yes
Base	527	721	From Area	UX; UY; UZ	Yes
Base	528	722	From Area	UX; UY; UZ	Yes
Base	531	725	From Area	UX; UY; UZ	Yes
Base	532	726	From Area	UX; UY; UZ	Yes
Base	533	727	From Area	UX; UY; UZ	Yes
Base	534	728	From Area	UX; UY; UZ	Yes
Base	74	257	From Area	UX; UY; UZ	Yes
Base	75	581	From Area	UX; UY; UZ	Yes
Base	77	363	From Area	UX; UY; UZ	Yes
Base	78	364	From Area	UX; UY; UZ	Yes
Base	79	365	From Area	UX; UY; UZ	Yes
Base	81	577	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	101	386	From Area	UX; UY; UZ	Yes
Base	116	473	From Area	UX; UY; UZ	Yes
Base	193	584	From Area	UX; UY; UZ	Yes
Base	196	585	From Area	UX; UY; UZ	Yes
Base	197	586	From Area	UX; UY; UZ	Yes
Base	198	587	From Area	UX; UY; UZ	Yes
Base	199	590	From Area	UX; UY; UZ	Yes
Base	208	591	From Area	UX; UY; UZ	Yes
Base	252	622	From Area	UX; UY; UZ	Yes
Base	442	623	From Area	UX; UY; UZ	Yes
Base	450	630	From Area	UX; UY; UZ	Yes
Base	462	637	From Area	UX; UY; UZ	Yes
Base	504	694	From Area	UX; UY; UZ	Yes
Base	517	695	From Area	UX; UY; UZ	Yes
Base	518	696	From Area	UX; UY; UZ	Yes
Base	519	697	From Area	UX; UY; UZ	Yes
Base	520	711	From Area	UX; UY; UZ	Yes
Base	521	712	From Area	UX; UY; UZ	Yes
Base	522	713	From Area	UX; UY; UZ	Yes
Base	523	714	From Area	UX; UY; UZ	Yes
Base	536	723	From Area	UX; UY; UZ	Yes
Base	537	724	From Area	UX; UY; UZ	Yes
Base	538	729	From Area	UX; UY; UZ	Yes
Base	539	730	From Area	UX; UY; UZ	Yes
Base	544	735	From Area	UX; UY; UZ	Yes
Base	545	736	From Area	UX; UY; UZ	Yes
Base	546	737	From Area	UX; UY; UZ	Yes
Base	547	738	From Area	UX; UY; UZ	Yes
Base	548	222	From Area	UX; UY; UZ	Yes
Base	549	223	From Area	UX; UY; UZ	Yes
Base	550	232	From Area	UX; UY; UZ	Yes
Base	551	739	From Area	UX; UY; UZ	Yes
Base	552	740	From Area	UX; UY; UZ	Yes
Base	553	741	From Area	UX; UY; UZ	Yes
Base	554	742	From Area	UX; UY; UZ	Yes
Base	555	743	From Area		Yes
Base	556	744	From Area		Yes
Base	557	745	From Area		Yes
Base	558	746	From Area		Yes
Base	563	751	From Area	UX; UY; UZ	Yes
Base	564	752	From Area	UX; UY; UZ	Yes
Base	565	753	From Area	UX; UY; UZ	Yes
Base	566	754	From Area	UX; UY; UZ	Yes
Base	571	759	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	572	760	From Area	UX; UY; UZ	Yes
Base	573	761	From Area	UX; UY; UZ	Yes
Base	574	762	From Area	UX; UY; UZ	Yes
Base	575	763	From Area	UX; UY; UZ	Yes
Base	576	764	From Area	UX; UY; UZ	Yes
Base	577	765	From Area	UX; UY; UZ	Yes
Base	578	766	From Area	UX; UY; UZ	Yes
Base	583	771	From Area	UX; UY; UZ	Yes
Base	584	772	From Area	UX; UY; UZ	Yes
Base	585	773	From Area	UX; UY; UZ	Yes
Base	586	774	From Area	UX; UY; UZ	Yes
Base	587	775	From Area	UX; UY; UZ	Yes
Base	588	776	From Area	UX; UY; UZ	Yes
Base	589	777	From Area	UX; UY; UZ	Yes
Base	590	778	From Area	UX; UY; UZ	Yes
Base	591	779	From Area		Yes
Base	592	780	From Area		Yes
Base	593	781	From Area		Yes
Base	594	782	From Area		Yes
Base	595	783	From Area	UX; UY; UZ	Yes
Base	596	784	From Area	UX; UY; UZ	Yes
Base	604	792	From Area	UX; UY; UZ	Yes
Base	605	793	From Area	UX; UY; UZ	Yes
Base	606	794	From Area	UX; UY; UZ	Yes
Base	607	795	From Area	UX; UY; UZ	Yes
Base	608	796	From Area	UX; UY; UZ	Yes
Base	609	797	From Area	UX; UY; UZ	Yes
Base	610	798	From Area	UX; UY; UZ	Yes
Base	611	799	From Area	UX; UY; UZ	Yes
Base	616	804	From Area	UX; UY; UZ	Yes
Base	617	805	From Area	UX; UY; UZ	Yes
Base	618	806	From Area	UX; UY; UZ	Yes
Base	619	807	From Area	UX; UY; UZ	Yes
Base	620	808	From Area	UX; UY; UZ	Yes
Base	621	809	From Area	UX; UY; UZ	Yes
Base	623	840	From Area	UX; UY; UZ	Yes
Base	624	812	From Area	UX; UY; UZ	Yes
Base	625	813	From Area	UX; UY; UZ	Yes
Base	634	822	From Area	UX; UY; UZ	Yes
Base	635	823	From Area	UX; UY; UZ	Yes
Base	636	824	From Area	UX; UY; UZ	Yes
Base	637	825	From Area	UX; UY; UZ	Yes
Base	638	826	From Area	UX; UY; UZ	Yes
Base	639	827	From Area	UX; UY; UZ	Yes

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	640	828	From Area	UX; UY; UZ	Yes
Base	641	829	From Area	UX; UY; UZ	Yes
Base	643	831	From Area	UX; UY; UZ	Yes
Base	644	841	From Area	UX; UY; UZ	Yes
Base	646	834	From Area	UX; UY; UZ	Yes
Base	648	836	From Area	UX; UY; UZ	Yes
Base	649	837	From Area	UX; UY; UZ	Yes
Base	650	838	From Area	UX; UY; UZ	Yes
Base	651	839	From Area	UX; UY; UZ	Yes
Base	657	847	From Area	UX; UY; UZ	Yes
Base	658	848	From Area	UX; UY; UZ	Yes
Base	664	855	From Area	UX; UY; UZ	Yes
Base	665	856	From Area	UX; UY; UZ	Yes
Base	666	857	From Area	UX; UY; UZ	Yes
Base	667	858	From Area	UX; UY; UZ	Yes
Base	673	864	From Area	UX; UY; UZ	Yes
Base	674	865	From Area	UX; UY; UZ	Yes
Base	677	868	From Area	UX; UY; UZ	Yes
Base	678	869	From Area	UX; UY; UZ	Yes
Base	684	897	From Area	UX; UY; UZ	Yes
Base	685	898	From Area	UX; UY; UZ	Yes
Base	689	880	From Area	UX; UY; UZ	Yes
Base	690	881	From Area	UX; UY; UZ	Yes
Base	691	882	From Area	UX; UY; UZ	Yes
Base	692	883	From Area	UX; UY; UZ	Yes
Base	693	884	From Area	UX; UY; UZ	Yes
Base	694	899	From Area	UX; UY; UZ	Yes
Base	697	900	From Area	UX; UY; UZ	Yes
Base	702	893	From Area	UX; UY; UZ	Yes
Base	703	894	From Area	UX; UY; UZ	Yes
Base	704	895	From Area	UX; UY; UZ	Yes
Base	705	896	From Area	UX; UY; UZ	Yes
Base	76	574	From Area	UX; UY; UZ	
Base	80	575	From Area	UX; UY; UZ	
Base	117	576	From Area	UX; UY; UZ	
Base	122	638	From Area	UX; UY; UZ	
Base	7	231	From Area	UX; UY; UZ	
Base	8	361	From Area	UX; UY; UZ	
Base	9	362	From Area	UX; UY; UZ	
Base	10	366	From Area	UX; UY; UZ	
Base	15	469	From Area	UX; UY; UZ	
Base	16	470	From Area	UX; UY; UZ	
Base	5	367	From Area	UX; UY; UZ	
Base	6	388	From Area	UX; UY; UZ	

Table 3.1 - Joint Assignments - Summary (continued)

Story	Label	UniqueName	Diaphragm	Restraints	Include in Mesh
Base	123	659	From Area	UX; UY; UZ	
Base	187	675	From Area	UX; UY; UZ	
Base	479	691	From Area	UX; UY; UZ	
Base	485	715	From Area	UX; UY; UZ	
Base	486	373	From Area	UX; UY; UZ	Yes
Base	487	374	From Area	UX; UY; UZ	Yes
Base	488	372	From Area	UX; UY; UZ	Yes
Base	491	375	From Area	UX; UY; UZ	Yes
Base	492	633	From Area	UX; UY; UZ	Yes
Base	496	634	From Area	UX; UY; UZ	Yes
Base	497	483	From Area		
Base	501	484	From Area		
Base	502	571	From Area		
Base	503	572	From Area		
Base	524	598	From Area		
Base	529	599	From Area		
Base	530	649	From Area		
Base	535	652	From Area		
Base	540	676	From Area	UX; UY; UZ	
Base	541	677	From Area	UX; UY; UZ	
Base	542	678	From Area	UX; UY; UZ	
Base	543	679	From Area	UX; UY; UZ	
Base	559	680	From Area	UX; UY; UZ	
Base	560	682	From Area	UX; UY; UZ	
Base	561	685	From Area	UX; UY; UZ	
Base	562	686	From Area	UX; UY; UZ	

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Roof	B89	194	Beam	9.6667	RB-12	RB-12		2		
Roof	B90	195	Beam	18.3333	RB-12	RB-12		2		
Roof	B92	248	Beam	2.5833	TB-2	TB-2		2		
Roof	B94	250	Beam	20.3333	RB-7	RB-7		2		
Roof	B98	254	Beam	9.6667	RB-8	RB-8		2		
Roof	B99	255	Beam	6	RB-8	RB-8		2		
Roof	B100	256	Beam	12.8333	RB-8	RB-8		2		
Roof	B104	260	Beam	13.5	RB-7	RB-7		2		
Roof	B110	266	Beam	8.0833	RB-4	RB-4		2		
Roof	B111	267	Beam	1.3333	TB-6	TB-6		2		
Roof	B112	268	Beam	7.8333	TB-6	TB-6		2		

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Roof	B113	269	Beam	1.3333	TB-6	TB-6		2		
Roof	B114	270	Beam	8.0833	TB-6	TB-6		2		
Roof	B115	271	Beam	14.3333	TB-6	TB-6		2		
Roof	B116	272	Beam	7	RB-3	RB-3		2		
Roof	B120	276	Beam	15.75	TB-1	TB-1		2		
Roof	B122	278	Beam	15.75	TB-2	TB-2		2		
Roof	B124	279	Beam	11.8333	RB-1	RB-1		2		
Roof	B131	286	Beam	15.125	2B-32	2B-32		2		
Roof	B133	287	Beam	5.1667	TB-1	TB-1		2		
Roof	B134	288	Beam	5.25	TB-1	TB-1		2		
Roof	B135	289	Beam	5.25	2B-33	2B-33		2		
Roof	B136	290	Beam	5.1667	2B-33	2B-33		2		
Roof	B139	293	Beam	31.4167	TB-6	TB-6		2		
Roof	B144	298	Beam	7.8333	TB-2	TB-2		2		
Roof	B145	299	Beam	5.8333	RB-2	RB-2		2		
Roof	B151	305	Beam	8.8333	RB-9	RB-9		2		
Roof	B156	310	Beam	18.4167	RB-5	RB-5		2		
Roof	B157	311	Beam	18.5833	RB-5	RB-5		2		
Roof	B161	320	Beam	7.8333	TB-2	TB-2		2		
Roof	B1	67	Beam	5.8333	RB-2	RB-2		2		
Roof	B2	392	Beam	5.8333	RB-16	RB-16		2		
Roof	B3	68	Beam	5.8333	RB-6	RB-6		2		
Roof	B4	31	Beam	14.0833	TB-6	TB-6		2		
Roof	B5	88	Beam	5.9167	TB-6	TB-6		2		
Roof	B6	106	Beam	12.9167	TB-6	TB-6		2		
Roof	B7	107	Beam	7.0833	TB-6	TB-6		2		
Roof	B8	108	Beam	17.25	RB-11	RB-11		2		
Roof	B10	110	Beam	6.5833	TB-6	TB-6		2		
Roof	B12	155	Beam	13.75	TB-6	TB-6		2		
Roof	B13	156	Beam	5.3333	TB-6	TB-6		2		
Roof	B15	158	Beam	13.4167	TB-6	TB-6		2		
Roof	B16	159	Beam	6.3333	RB-10	RB-10		2		
Roof	B17	160	Beam	3.6667	TB-1	TB-1		2		
Roof	B18	161	Beam	3.75	TB-6	TB-6		2		
Roof	B19	163	Beam	6.3333	RB-10	RB-10		2		
Roof	B20	164	Beam	3.6667	TB-6	TB-6		2		
Roof	B21	165	Beam	8.75	TB-1	TB-1		2		
Roof	B22	166	Beam	4.9167	RB-9	RB-9		2		
Roof	B23	167	Beam	10.8333	TB-6	TB-6		2		
Roof	B26	115	Beam	20.8333	RB-13	RB-13		2		
Roof	B27	169	Beam	4.6667	TB-6	TB-6		2		
Roof	B28	170	Beam	13.5	RB-15	RB-15		2		
Roof	C69	162	Column	13	C-9	C-9	180		3	
Roof	C129	193	Column	13	C-10	C-10	90		3	

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Roof	C130	196	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Roof	C134	200	Column	13	C-3	C-3			3	
Roof	C135	201	Column	13	C-3	C-3			3	
Roof	C136	202	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Roof	C140	203	Column	13	C-4	C-4			3	
Roof	C141	204	Column	13	C-4	C-4			3	
Roof	C142	205	Column	13	C-1	C-1	90		3	
Roof	C144	207	Column	13	C-2	C-2			3	
Roof	C145	208	Column	13	C-1	C-1	90		3	
Roof	C147	210	Column	13	C-1	C-1	90		3	
Roof	C148	211	Column	13	C-1	C-1	90		3	
Roof	C149	212	Column	13	C-5	C-5	90		3	
Roof	C150	321	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Roof	C164	227	Column	13	C-5	C-5	90		3	
Roof	C165	228	Column	13	C-5	C-5	90		3	
Roof	C166	229	Column	13	C-5	C-5	90		3	
Roof	C167	230	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Roof	C168	231	Column	13	C-5	C-5	90		3	
Roof	C170	355	Column	13	C-3	C-3			3	
Roof	C171	354	Column	13	C-8	C-8			3	
Roof	C173	236	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Roof	C174	237	Column	13	C-1	C-1	90		3	
Roof	C175	238	Column	13	C-2	C-2	90		3	
Roof	C176	239	Column	13	C-1	C-1	90		3	
Roof	C177	240	Column	13	C-1	C-1			3	
Roof	C178	241	Column	13	C-2	C-2			3	
Roof	C179	242	Column	13	C-20	C-20	90		3	
Roof	C184	315	Column	13	C-6	C-6	90		3	
Roof	C185	319	Column	13	C-5	C-5	90		3	
Roof	C186	322	Column	13	C-2	C-2			3	
Roof	C187	323	Column	13	C-2	C-2			3	
Roof	C188	324	Column	13	C-2	C-2	90		3	
Roof	C189	325	Column	13	C-2	C-2	90		3	
Roof	C190	326	Column	13	C-2	C-2	90		3	
Roof	C191	327	Column	13	C-2	C-2	90		3	
Roof	C192	328	Column	13	C-2	C-2			3	
Roof	C193	330	Column	13	C-2	C-2	90		3	
Roof	C194	331	Column	13	C-2	C-2	90		3	
Roof	C195	332	Column	13	C-10	C-10			3	
Roof	C196	333	Column	13	C-2	C-2			3	
Roof	C197	334	Column	13	C-2	C-2	90		3	
Roof	C198	335	Column	13	C-2	C-2	90		3	
Roof	C199	343	Column	13	C-2	C-2			3	
Roof	C200	347	Column	13	C-1	C-1	90		3	

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Roof	C201	348	Column	13	C-2	C-2			3	
Roof	C202	349	Column	13	HSS8X4X5/16	HSS8X4X5/16	90		3	
Roof	C203	350	Column	13	C-2	C-2			3	
Roof	C204	351	Column	13	C-2	C-2			3	
Roof	C205	356	Column	13	HSS8X4X5/16	HSS8X4X5/16	90		3	
Roof	C206	357	Column	13	C-8	C-8			3	
Second Floor	B9	10	Beam	36.8333	2B-22	2B-22		2		
Second Floor	B76	11	Beam	22.6667	TB-1	TB-1		2		
Second Floor	B78	12	Beam	36.8333	TB-6	TB-6		2		
Second Floor	B80	13	Beam	22.6667	TB-6	TB-6		2		
Second Floor	B86	33	Beam	23.8333	TB-2	TB-2		2		
Second Floor	B87	46	Beam	46	2B-13	2B-13		2		
Second Floor	B88	49	Beam	16	2B-14	2B-14		2		
Second Floor	B89	111	Beam	9.6667	2B-11	2B-11		2		
Second Floor	B90	112	Beam	18.3333	2B-11	2B-11		2		
Second Floor	B91	32	Beam	12	2B-21	2B-21		2		
Second Floor	B92	51	Beam	2.5833	2B-23	2B-23		2		
Second Floor	B93	52	Beam	12	2B-23	2B-23		2		
Second Floor	B94	53	Beam	20.3333	2B-26	2B-26		2		
Second Floor	B95	54	Beam	14.5833	2B-25	2B-25		2		
Second Floor	B96	55	Beam	20.3333	2B-24	2B-24		2		
Second Floor	B97	56	Beam	38.6667	2B-18	2B-18		2		
Second Floor	B98	60	Beam	9.6667	2B-35	2B-35		2		
Second Floor	B99	61	Beam	6	2B-34	2B-34		2		
Second Floor	B100	62	Beam	12.8333	2B-35	2B-35		2		
Second Floor	B101	64	Beam	12.8333	2B-20	2B-20		2		
Second Floor	B102	65	Beam	12	2B-19	2B-19		2		
Second Floor	B103	66	Beam	26.6667	2B-19	2B-19		2		
Second Floor	B104	14	Beam	13.5	2B-26	2B-26		2		
Second Floor	B105	22	Beam	23.4167	2B-15	2B-15		2		
Second Floor	B106	26	Beam	9.6667	2B-5	2B-5		2		
Second Floor	B107	15	Beam	11.8333	2B-28	2B-28		2		
Second Floor	B108	27	Beam	16.75	2B-27	2B-27		2		
Second Floor	B109	30	Beam	17.25	TB-2	TB-2		2		
Second Floor	B110	50	Beam	8.0833	2B-30	2B-30		2		Yes
Second Floor	B111	57	Beam	1.3333	TB-1	TB-1		2		
Second Floor	B112	58	Beam	7.8333	TB-1	TB-1		2		
Second Floor	B113	59	Beam	1.3333	TB-1	TB-1		2		
Second Floor	B114	63	Beam	8.0833	TB-1	TB-1		2		
Second Floor	B115	69	Beam	14.3333	TB-1	TB-1		2		
Second Floor	B116	70	Beam	7	2B-31	2B-31		2		
Second Floor	B117	71	Beam	14	TB-1	TB-1		2		
Second Floor	B119	73	Beam	11.8333	2B-9	2B-9		2		
Second Floor	B120	74	Beam	15.75	TB-2	TB-2		2		

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Second Floor	B121	75	Beam	11.8333	2B-8	2B-8		2		
Second Floor	B122	76	Beam	15.75	TB-2	TB-2		2		
Second Floor	B124	78	Beam	11.8333	HSS8X4X3/8	HSS8X4X3/8		2		
Second Floor	B125	79	Beam	13.6667	TB-2	TB-2		2		
Second Floor	B126	82	Beam	5.5	TB-1	TB-1		2		
Second Floor	B127	81	Beam	50.1667	TB-1	TB-1		2		
Second Floor	B128	83	Beam	14.8333	TB-1	TB-1		2		
Second Floor	B129	84	Beam	8	TB-1	TB-1		2		
Second Floor	B130	85	Beam	13.8333	TB-1	TB-1		2		
Second Floor	B131	87	Beam	15.125	2B-32	2B-32		2		
Second Floor	B133	89	Beam	5.1667	TB-1	TB-1		2		
Second Floor	B134	90	Beam	5.25	TB-1	TB-1		2		
Second Floor	B135	91	Beam	5.25	2B-33	2B-33		2		
Second Floor	B136	92	Beam	5.1667	2B-33	2B-33		2		
Second Floor	B137	93	Beam	2.8333	TB-2	TB-2		2		
Second Floor	B138	94	Beam	2.8333	TB-2	TB-2		2		
Second Floor	B139	95	Beam	31.4167	TB-1	TB-1		2		
Second Floor	B140	96	Beam	9.6667	2B-4	2B-4		2		
Second Floor	B141	97	Beam	17.75	2B-3	2B-3		2		
Second Floor	B142	98	Beam	23.1667	TB-1	TB-1		2		
Second Floor	B143	99	Beam	6	TB-2	TB-2		2		
Second Floor	B144	100	Beam	7.8333	TB-2	TB-2		2		
Second Floor	B145	101	Beam	5.8333	HSS8X4X3/8	HSS8X4X3/8		2		
Second Floor	B146	102	Beam	17.75	2B-2	2B-2		2		
Second Floor	B147	103	Beam	9.6667	TB-1	TB-1		2		
Second Floor	B148	104	Beam	9.0833	2B-1	2B-1		2		
Second Floor	B149	105	Beam	5.6667	TB-1	TB-1		2		
Second Floor	B151	116	Beam	8.8333	2B-16	2B-16		2		
Second Floor	B152	127	Beam	9.6667	TB-1	TB-1		2		
Second Floor	B153	129	Beam	13.75	2B-12	2B-12		2		
Second Floor	B154	144	Beam	46	TB-1	TB-1		2		
Second Floor	B155	145	Beam	23.8333	TB-1	TB-1		2		
Second Floor	B156	29	Beam	18.4167	2B-30	2B-30		2		
Second Floor	B157	38	Beam	18.5833	2B-29	2B-29		2		
Second Floor	B158	77	Beam	11.8333	2B-7	2B-7		2		
Second Floor	B159	80	Beam	25.5	2B-10	2B-10		2		Yes
Second Floor	B160	86	Beam	7.8333	TB-1	TB-1		2		
Second Floor	B11	151	Beam	6	2B-17	2B-17		2		
Second Floor	B14	72	Beam	10.8333	2B-6	2B-6		2		
Second Floor	B24	157	Beam	4	TB-1	TB-1		2		
Second Floor	B25	168	Beam	9.6667	TB-1	TB-1		2		
Second Floor	C15	1	Column	13	C-21	C-21	90		3	
Second Floor	C16	2	Column	13	C-1	C-1			3	
Second Floor	C45	3	Column	13	C-1	C-1			3	

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Second Floor	C52	4	Column	13	C-1	C-1			3	
Second Floor	C53	5	Column	13	C-22	C-22	90		3	
Second Floor	C55	6	Column	13	C-21	C-21	90		3	
Second Floor	C58	7	Column	13	C-2	C-2			3	
Second Floor	C59	8	Column	13	C-2	C-2			3	
Second Floor	C67	9	Column	13	C-21	C-21	90		3	
Second Floor	C68	28	Column	13	C-11	C-11			3	
Second Floor	C69	41	Column	13	C-9	C-9	180		3	
Second Floor	C70	42	Column	13	C-2	C-2			3	
Second Floor	C71	43	Column	13	C-2	C-2			3	
Second Floor	C72	19	Column	13	C-2	C-2	90		3	
Second Floor	C73	20	Column	13	C-13	C-13			3	
Second Floor	C75	23	Column	13	C-23	C-23			3	
Second Floor	C76	24	Column	13	C-23	C-23			3	
Second Floor	C77	25	Column	13	C-3	C-3			3	
Second Floor	C78	34	Column	13	C-3	C-3			3	
Second Floor	C79	35	Column	13	C-2	C-2	90		3	
Second Floor	C121	36	Column	13	C-2	C-2	90		3	
Second Floor	C122	37	Column	13	C-2	C-2	90		3	
Second Floor	C123	40	Column	13	C-2	C-2			3	
Second Floor	C124	44	Column	13	C-2	C-2			3	
Second Floor	C125	45	Column	13	C-2	C-2			3	
Second Floor	C126	39	Column	13	C-2	C-2			3	
Second Floor	C127	47	Column	13	C-2	C-2	90		3	
Second Floor	C128	48	Column	13	C-2	C-2	90		3	
Second Floor	C129	109	Column	13	C-19	C-19	90		3	
Second Floor	C130	113	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C131	114	Column	13	C-19	C-19			3	
Second Floor	C134	117	Column	13	C-15	C-15	-90		3	
Second Floor	C135	118	Column	13	C-5	C-5			3	
Second Floor	C136	119	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C140	120	Column	13	C-12	C-12			3	
Second Floor	C141	121	Column	13	C-12	C-12			3	
Second Floor	C142	122	Column	13	C-1	C-1			3	
Second Floor	C143	123	Column	13	C-1	C-1			3	
Second Floor	C144	124	Column	13	C-2	C-2			3	
Second Floor	C145	125	Column	13	C-2	C-2	90		3	
Second Floor	C146	126	Column	13	C-1	C-1			3	
Second Floor	C147	128	Column	13	C-5	C-5	90		3	
Second Floor	C148	130	Column	13	C-5	C-5	90		3	
Second Floor	C149	131	Column	13	C-5	C-5	90		3	
Second Floor	C150	132	Column	13	C-5	C-5	90		3	
Second Floor	C151	133	Column	13	C-2	C-2			3	
Second Floor	C152	134	Column	13	C-2	C-2			3	

Table 3.2 - Frame Assignments - Summary (continued)

Story	Label	UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Max Station Spacing ft	Min Number Stations	Releases
Second Floor	C153	135	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C154	136	Column	13	C-2	C-2	90		3	
Second Floor	C155	137	Column	13	C-12	C-12			3	
Second Floor	C156	138	Column	13	C-1	C-1			3	
Second Floor	C157	139	Column	13	C-1	C-1			3	
Second Floor	C158	140	Column	13	C-1	C-1			3	
Second Floor	C159	141	Column	13	C-2	C-2	90		3	
Second Floor	C160	142	Column	13	C-2	C-2	90		3	
Second Floor	C161	143	Column	13	C-2	C-2			3	
Second Floor	C162	146	Column	13	C-2	C-2			3	
Second Floor	C163	147	Column	13	C-16	C-16			3	
Second Floor	C164	148	Column	13	C-5	C-5	90		3	
Second Floor	C165	149	Column	13	C-5	C-5	90		3	
Second Floor	C166	150	Column	13	C-5	C-5	90		3	
Second Floor	C167	152	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C168	153	Column	13	C-5	C-5	90		3	
Second Floor	C169	154	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C170	173	Column	13	C-5	C-5	90		3	
Second Floor	C171	174	Column	13	HSS6X6X1/2	HSS6X6X1/2			3	Yes
Second Floor	C172	175	Column	13	C-5	C-5	90		3	
Second Floor	C173	184	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C174	185	Column	13	C-1	C-1	90		3	
Second Floor	C175	186	Column	13	C-2	C-2	90		3	
Second Floor	C176	187	Column	13	C-1	C-1	90		3	
Second Floor	C177	188	Column	13	C-1	C-1			3	
Second Floor	C178	189	Column	13	C-2	C-2			3	
Second Floor	C179	190	Column	13	C-20	C-20	90		3	
Second Floor	C180	16	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	
Second Floor	C181	17	Column	13	C-18	C-18	90		3	
Second Floor	C182	18	Column	13	C-18	C-18	90		3	
Second Floor	C183	21	Column	13	HSS6X6X3/8	HSS6X6X3/8			3	

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Spring
Roof	F26	173	Slab8	Slab	
Roof	W97	162	8CMU	Wall	
Roof	W100	92	8CMU	Wall	
Roof	W105	97	12CMU	Wall	
Roof	W106	150	8CMU	Wall	
Roof	W123	115	12CMU	Wall	
Roof	W124	116	12CMU	Wall	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Spring
Roof	W125	117	8CMU	Wall	
Roof	W126	118	8CMU	Wall	
Roof	W127	119	8CMU	Wall	
Roof	W134	137	8CMU	Wall	
Roof	W136	143	8CMU	Wall	
Roof	W137	144	8CMU	Wall	
Roof	W138	145	8CMU	Wall	
Roof	W139	146	8CMU	Wall	
Roof	W140	149	8CMU	Wall	
Roof	W141	151	12CMU	Wall	
Roof	W142	152	8CMU	Wall	
Roof	W143	153	8CMU	Wall	
Roof	W144	154	8CMU	Wall	
Roof	W145	155	8CMU	Wall	
Roof	W146	156	8CMU	Wall	
Roof	W147	157	8CMU	Wall	
Roof	W148	158	8CMU	Wall	
Roof	W149	159	8CMU	Wall	
Roof	W150	160	8CMU	Wall	
Roof	W151	161	8CMU	Wall	
Roof	W152	163	8CMU	Wall	
Roof	W153	164	8CMU	Wall	
Roof	W154	165	8CMU	Wall	
Roof	W155	166	8CMU	Wall	
Roof	W156	167	8CMU	Wall	
Roof	W157	168	8CMU	Wall	
Roof	W158	169	8CMU	Wall	
Roof	W159	170	8CMU	Wall	
Roof	W160	171	12CMU	Wall	
Roof	A14	142	None	Opening	
Roof	A15	176	None	Opening	
Roof	A16	177	None	Opening	
Roof	A17	178	None	Opening	
Roof	A18	179	None	Opening	
Roof	A19	180	None	Opening	
Roof	A20	181	None	Opening	
Roof	A1	39	None	Opening	
Second Floor	F10	53	Slab8	Slab	
Second Floor	F11	26	Slab8	Slab	
Second Floor	F12	27	Slab8	Slab	
Second Floor	F13	28	Slab8	Slab	
Second Floor	F14	29	Slab8	Slab	
Second Floor	F15	6	Slab8	Slab	
Second Floor	F20	32	Slab8	Slab	
Second Floor	F21	33	Slab8	Slab	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Spring
Second Floor	F22	34	Slab8	Slab	
Second Floor	F23	41	Slab8	Slab	
Second Floor	F24	43	Slab8	Slab	
Second Floor	F25	44	Slab8	Slab	
Second Floor	W81	1	8CMU	Wall	
Second Floor	W82	2	8CMU	Wall	
Second Floor	W83	3	8CMU	Wall	
Second Floor	W84	4	8CMU	Wall	
Second Floor	W85	5	8CMU	Wall	
Second Floor	W86	10	8CMU	Wall	
Second Floor	W87	11	8CMU	Wall	
Second Floor	W88	12	8CMU	Wall	
Second Floor	W89	13	8CMU	Wall	
Second Floor	W90	14	8CMU	Wall	
Second Floor	W91	15	8CMU	Wall	
Second Floor	W92	16	8CMU	Wall	
Second Floor	W93	17	8CIP	Wall	
Second Floor	W94	18	8CIP	Wall	
Second Floor	W95	19	8CIP	Wall	
Second Floor	W96	20	8CIP	Wall	
Second Floor	W97	22	12CMU	Wall	
Second Floor	W98	23	12CIP	Wall	
Second Floor	W99	48	8CMU	Wall	
Second Floor	W100	56	8CMU	Wall	
Second Floor	W101	57	8CMU	Wall	
Second Floor	W102	58	8CMU	Wall	
Second Floor	W103	59	8CMU	Wall	
Second Floor	W104	60	8CMU	Wall	
Second Floor	W105	61	12CMU	Wall	
Second Floor	W106	62	12CMU	Wall	
Second Floor	W107	63	12CMU	Wall	
Second Floor	W108	64	12CMU	Wall	
Second Floor	W109	65	8CMU	Wall	
Second Floor	W110	66	8CMU	Wall	
Second Floor	W111	67	12CIP	Wall	
Second Floor	W112	68	12CIP	Wall	
Second Floor	W113	69	8CMU	Wall	
Second Floor	W114	70	8CMU	Wall	
Second Floor	W115	71	8CMU	Wall	
Second Floor	W116	72	8CMU	Wall	
Second Floor	W117	73	8CMU	Wall	
Second Floor	W118	74	8CMU	Wall	
Second Floor	W119	75	8CMU	Wall	
Second Floor	W120	76	12CIP	Wall	
Second Floor	W121	77	12CIP	Wall	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Spring
Second Floor	W122	78	12CIP	Wall	
Second Floor	W123	79	12CMU	Wall	
Second Floor	W124	80	12CMU	Wall	
Second Floor	W125	89	8CMU	Wall	
Second Floor	W126	90	8CMU	Wall	
Second Floor	W127	91	8CMU	Wall	
Second Floor	W128	7	12CMU	Wall	
Second Floor	W129	8	12CMU	Wall	
Second Floor	W130	9	12CIP	Wall	
Second Floor	W131	21	12CIP	Wall	
Second Floor	W132	24	12CIP	Wall	
Second Floor	W133	25	12CIP	Wall	
Second Floor	W134	30	8CMU	Wall	
Second Floor	W135	36	8CMU	Wall	
Second Floor	W138	148	8CMU	Wall	
Second Floor	W139	147	8CMU	Wall	
Second Floor	A5	31	None	Opening	
Second Floor	A6	35	None	Opening	
Second Floor	A13	37	None	Opening	
Second Floor	A14	38	None	Opening	
Base	F1	40	F-16	Slab	
Base	F2	42	F-16	Slab	
Base	F3	45	F-16	Slab	
Base	F4	46	F-16	Slab	
Base	F5	47	F-16	Slab	
Base	F6	49	F-12	Slab	
Base	F7	50	F-12	Slab	
Base	F9	52	F-16	Slab	
Base	F16	54	F-16	Slab	
Base	F17	55	F-16	Slab	
Base	F27	83	F-12	Slab	
Base	F29	85	F-12	Slab	
Base	F30	86	F-12	Slab	
Base	F36	96	F-16	Slab	
Base	F37	98	F-16	Slab	
Base	F38	99	F-12	Slab	
Base	F39	100	F-12	Slab	
Base	F40	101	F-12	Slab	
Base	F41	102	F-16	Slab	
Base	F42	103	F-16	Slab	
Base	F43	104	F-16	Slab	
Base	F44	105	F-16	Slab	
Base	F45	106	F-16	Slab	
Base	F56	122	F-16	Slab	
Base	F57	123	F-12	Slab	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Spring
Base	F59	125	F-16	Slab	
Base	F63	87	F-12	Slab	
Base	F64	88	F-12	Slab	
Base	F65	95	F-12	Slab	
Base	F68	109	F-12	Slab	
Base	F69	110	F-12	Slab	
Base	F70	111	F-12	Slab	
Base	F71	112	F-12	Slab	
Base	F72	113	F-12	Slab	
Base	F73	114	F-12	Slab	
Base	F76	124	F-12	Slab	
Base	F77	126	F-12	Slab	
Base	F78	127	F-12	Slab	
Base	F48	134	F-12	Slab	
Base	F58	174	F-16	Slab	
Base	F60	175	F-16	Slab	
Base	F80	121	F-12	Slab	
Base	F81	129	F-12	Slab	
Base	F82	130	F-12	Slab	
Base	F83	131	F-12	Slab	
Base	F84	132	F-12	Slab	
Base	F85	133	F-12	Slab	
Base	F86	135	F-12	Slab	
Base	F87	136	F-12	Slab	
Base	F88	138	F-12	Slab	
Base	F89	139	F-12	Slab	
Base	F90	140	F-12	Slab	
Base	F91	141	F-12	Slab	
Base	F92	172	F-12	Slab	
Base	F93	182	F-12	Slab	
Base	F94	183	F-12	Slab	
Base	F34	186	F-12	Slab	
Base	F35	187	F-16	Slab	
Base	F52	51	F-12	Slab	
Base	F53	192	F-12	Slab	
Base	F54	193	F-16	Slab	
Base	F55	194	F-16	Slab	
Base	F75	197	F-16	Slab	
Base	F96	199	F-16	Slab	
Base	F97	200	F-16	Slab	
Base	F113	128	F-12	Slab	
Base	F114	81	F-12	Slab	
Base	F115	82	F-12	Slab	
Base	F116	185	F-12	Slab	
Base	F117	189	F-12	Slab	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Spring
Base	F118	190	F-12	Slab	
Base	F119	191	F-12	Slab	
Base	F120	195	F-12	Slab	
Base	F121	196	F-12	Slab	
Base	F122	198	F-12	Slab	
Base	F123	201	F-12	Slab	
Base	F124	202	F-12	Slab	
Base	F125	203	F-12	Slab	
Base	F126	204	F-12	Slab	
Base	F127	205	F-12	Slab	
Base	F128	206	F-12	Slab	
Base	F129	207	F-12	Slab	
Base	F130	208	F-12	Slab	
Base	F131	209	F-12	Slab	
Base	F132	210	F-12	Slab	
Base	F133	211	F-12	Slab	
Base	F134	213	F-12	Slab	
Base	F135	214	F-12	Slab	
Base	F136	215	F-12	Slab	
Base	F18	188	F-12	Slab	
Base	F8	94	F-16	Slab	SOIL
Base	F19	93	F-16	Slab	
Base	F47	84	F-12	Slab	
Base	F49	120	F-12	Slab	
Base	F50	184	F-12	Slab	
Base	F51	212	F-12	Slab	
Base	F61	216	F-12	Slab	
Base	F79	218	F-12	Slab	
Base	F98	220	F-12	Slab	
Base	F99	107	F-12	Slab	

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Dead	No	Dead	1	
Live	No	Live	0	
WL	No	Wind	0	ASCE 7-22
WL(1/12)	Yes	Wind	0	ASCE 7-22
WL(10/12)	Yes	Wind	0	ASCE 7-22
WL(11/12)	Yes	Wind	0	ASCE 7-22
WL(12/12)	Yes	Wind	0	ASCE 7-22
WL(2/12)	Yes	Wind	0	ASCE 7-22
WL(3/12)	Yes	Wind	0	ASCE 7-22
WL(4/12)	Yes	Wind	0	ASCE 7-22
WL(5/12)	Yes	Wind	0	ASCE 7-22
WL(6/12)	Yes	Wind	0	ASCE 7-22
WL(7/12)	Yes	Wind	0	ASCE 7-22
WL(8/12)	Yes	Wind	0	ASCE 7-22
WL(9/12)	Yes	Wind	0	ASCE 7-22

4.2 Auto Wind Loading

ASCE 7-22 Auto Wind Load Calculation

This calculation presents the automatically generated lateral wind loads for load pattern WL according to ASCE 7-22, as calculated by ETABS.

Exposure Parameters

Exposure From = Diaphragms

Exposure Category = C

Wind Direction = 0 degrees

Basic Wind Speed, V [ASCE 26.5.1]

$V = 175 \text{ mph}$

Windward Coefficient, $C_{p,wind}$ [ASCE 27.4.1]

$C_{p,wind} = 0.8$

Leeward Coefficient, $C_{p,lee}$ [ASCE 27.4.1]

$C_{p,lee} = 0.5$

Windward Coefficient, $C_{py,wind}$ [ASCE 27.4.1]

$C_{p,wind} = 0.8$

Leeward Coefficient, $C_{py,lee}$ [ASCE 27.4.1]

$C_{p,lee} = 0.5$

Wind Case = Create All

Top Story = Roof

Bottom Story = Base

Include Parapet = No

Factors and Coefficients

Gradient Height, z_g [ASCE Table 26.9-1]

$z_g = 900$

Emperical Exponent, α [ASCE Table 26.9-1]

$\alpha = 9.5$

Velocity Pressure Exposure Coefficient, K_z [ASCE Table 27.3-1]

$$K_z = 2.01 \left(\frac{z}{z_g} \right)^{\frac{2}{\alpha}} \text{ for } 15\text{ft} \leq z \leq z_g$$

$$K_z = 2.01 \left(\frac{15}{z_g} \right)^{\frac{2}{\alpha}} \text{ for } z < 15\text{ft}$$

Topographical Factor, K_{zt} [ASCE 26.8.2]

$K_{zt} = 1$

Directionality Factor, K_d [ASCE 26.6]

$K_d = 0.85$

Gust Effect Factor, G [ASCE 26.9]

$G = 0.85$

Lateral Loading

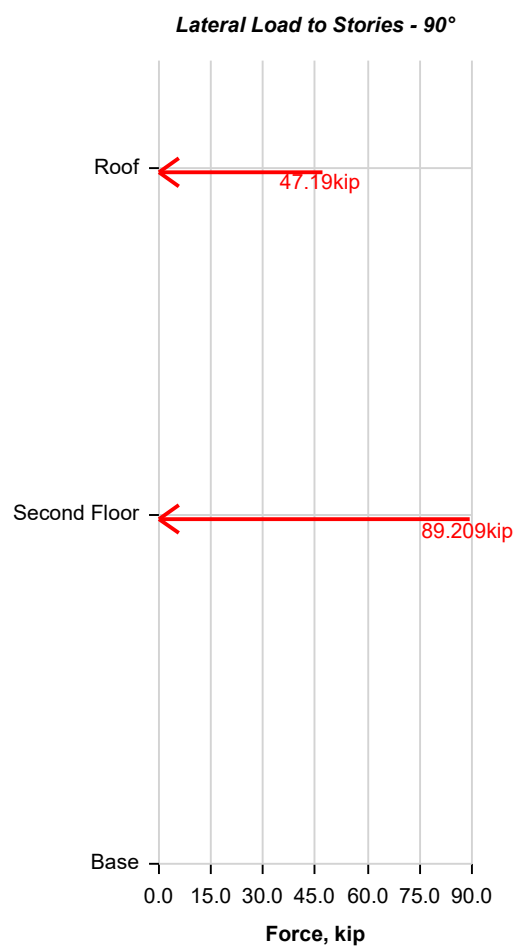
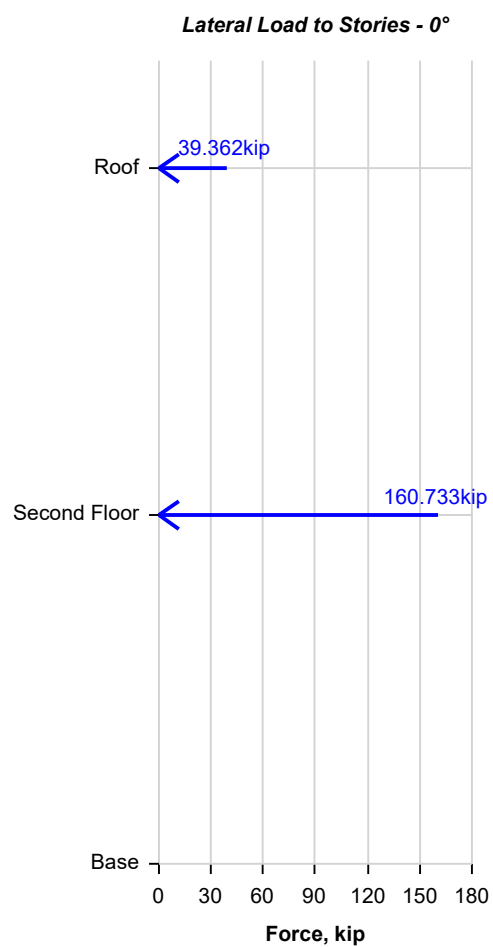
Velocity Pressure, q_z [ASCE 27.3.2 Eq. 27.3-1]

$$q_z = 0.00256 K_z K_{zt} K_d V^2$$

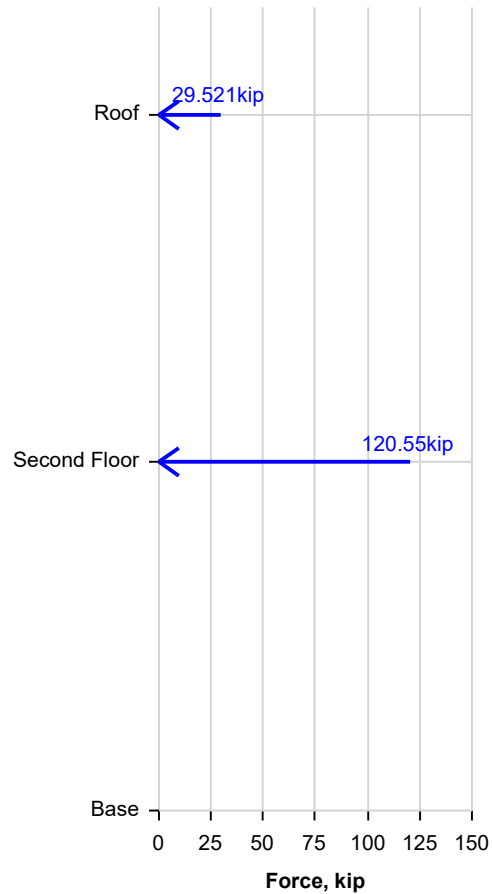
Design Wind Pressure, p [ASCE 27.4.2 Eq. 27.4-2]

$$p = qG C_{p,wind} + q_h (G C_{p,lee})$$

Applied Story Forces

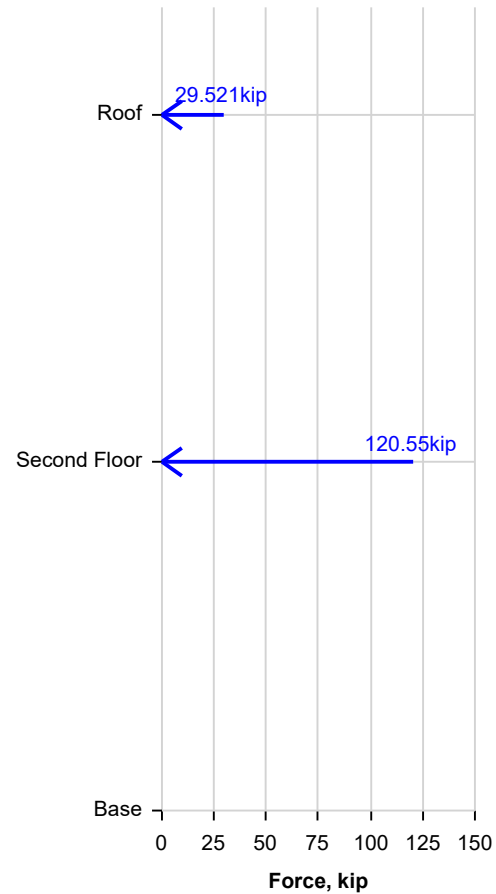


Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	39.362	0
Second Floor	13	160.733	0
Base	0	0	0

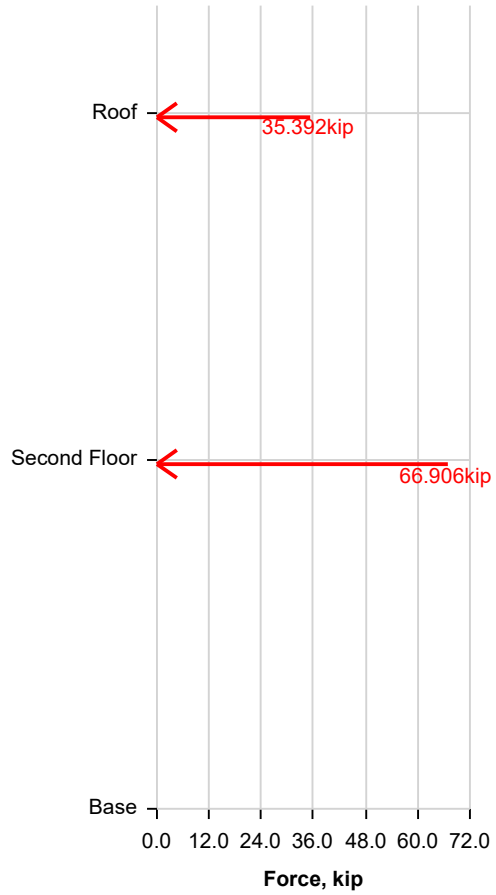
Lateral Load to Stories - 0°

Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	29.521	0
Second Floor	13	120.55	0
Base	0	0	0

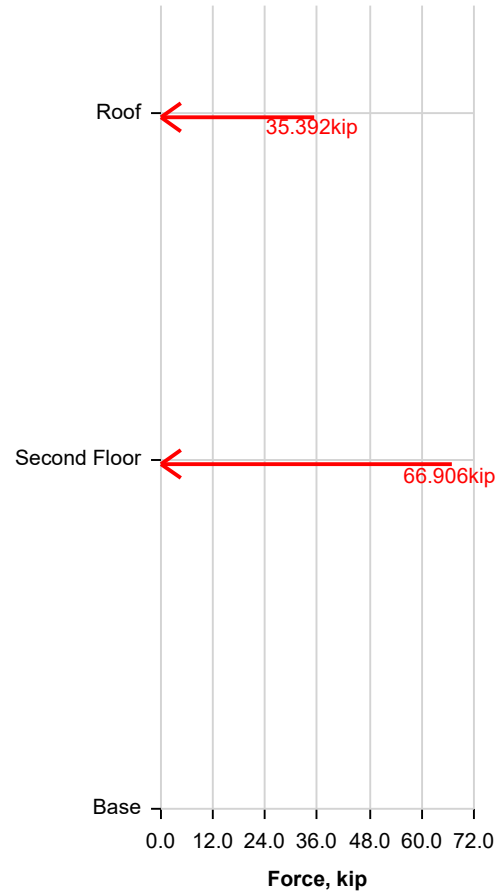
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	0	47.19
Second Floor	13	0	89.209
Base	0	0	0

Lateral Load to Stories - 0°

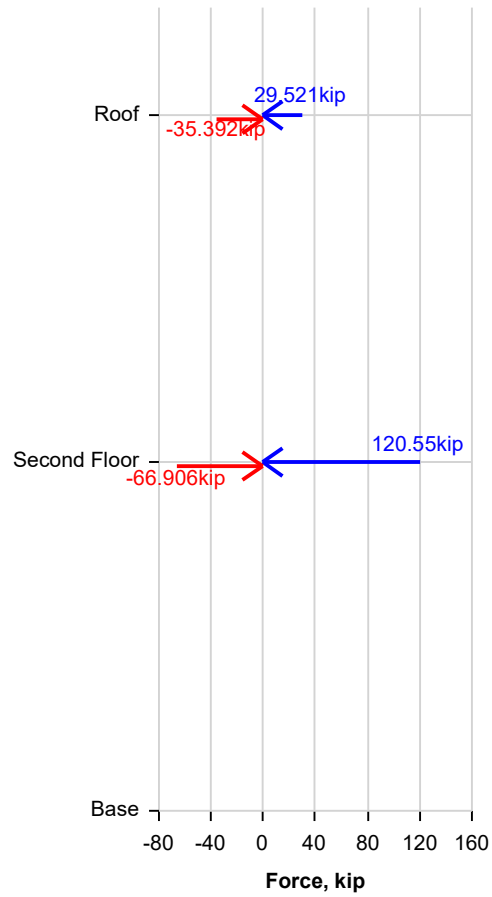
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	29.521	0
Second Floor	13	120.55	0
Base	0	0	0

Lateral Load to Stories - 90°

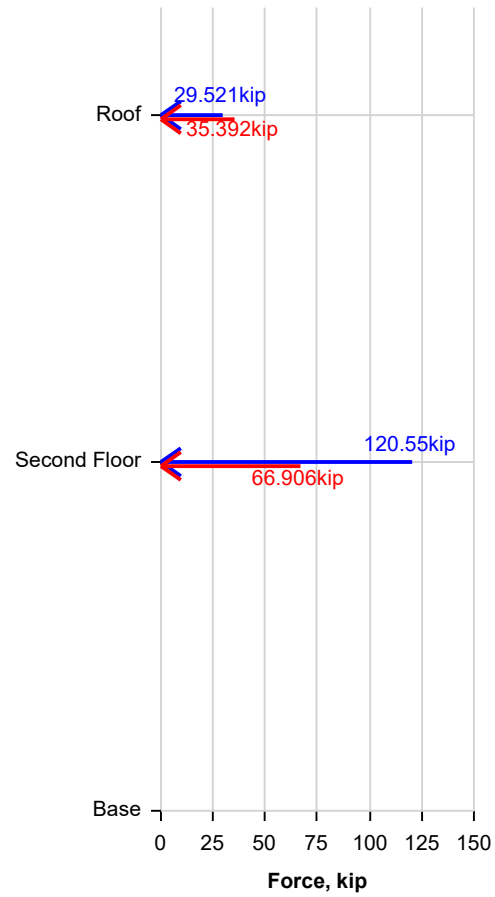
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	0	35.392
Second Floor	13	0	66.906
Base	0	0	0

Lateral Load to Stories - 90°

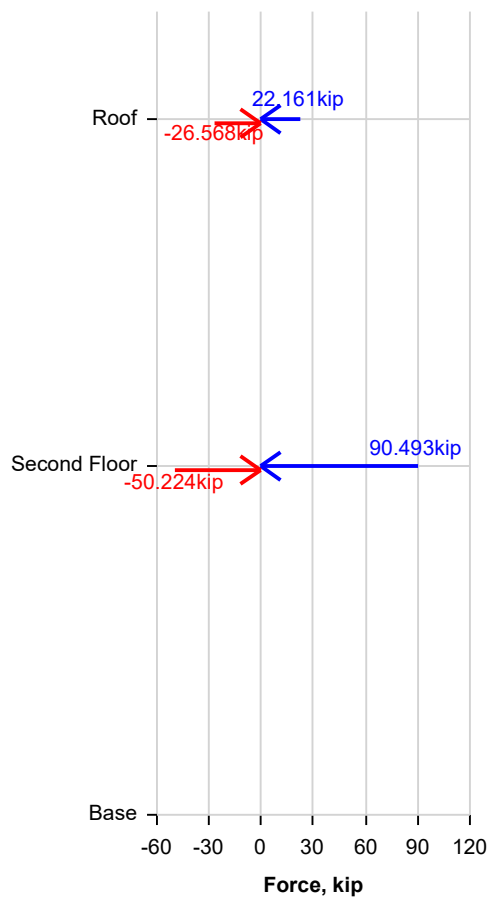
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	0	35.392
Second Floor	13	0	66.906
Base	0	0	0

Lateral Load to Stories - 0°

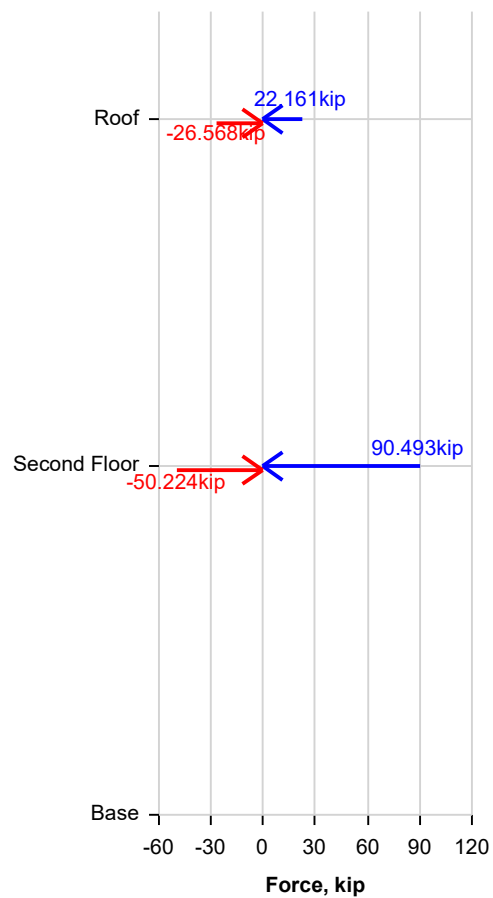
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	29.521	-35.392
Second Floor	13	120.55	-66.906
Base	0	0	0

Lateral Load to Stories - 90°

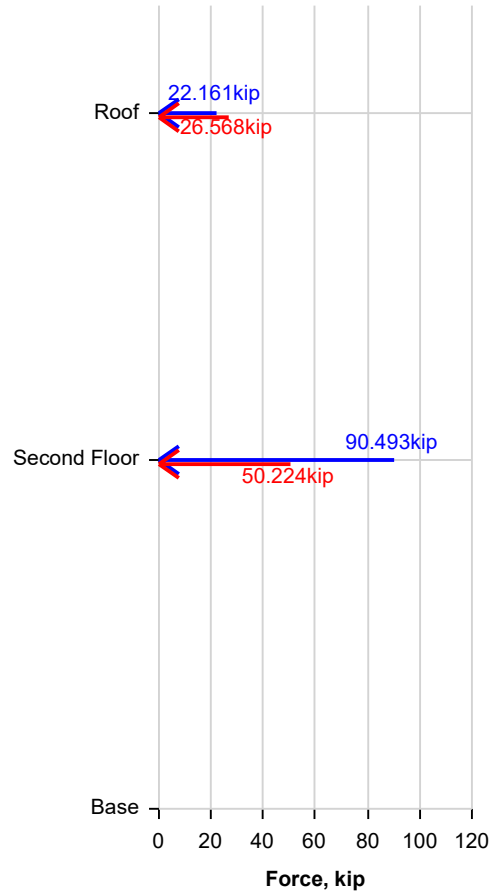
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	29.521	35.392
Second Floor	13	120.55	66.906
Base	0	0	0

Lateral Load to Stories - 0°

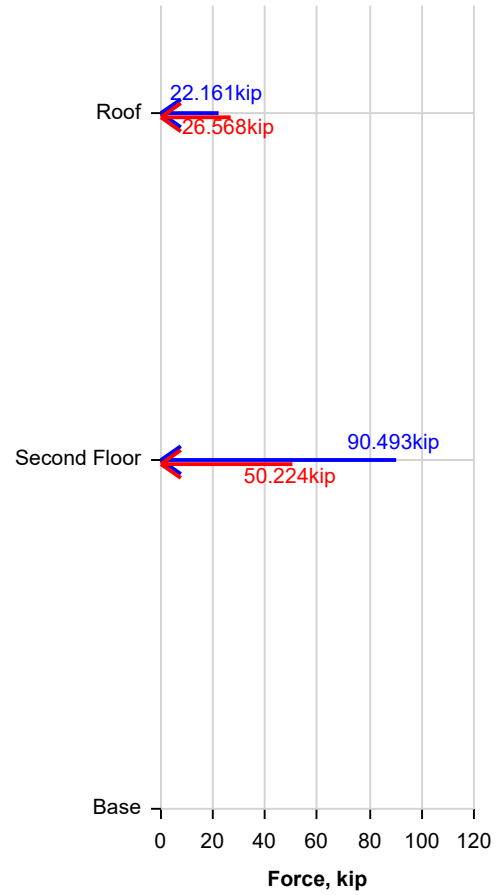
Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	22.161	-26.568
Second Floor	13	90.493	-50.224
Base	0	0	0

Lateral Load to Stories - 0°

Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	22.161	-26.568
Second Floor	13	90.493	-50.224
Base	0	0	0

Lateral Load to Stories - 90°

Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	22.161	26.568
Second Floor	13	90.493	50.224
Base	0	0	0

Lateral Load to Stories - 90°

Story	Elevation	X-Dir	Y-Dir
	ft	kip	kip
Roof	26	22.161	26.568
Second Floor	13	90.493	50.224
Base	0	0	0

4.3 Applied Loads

4.3.1 Point Loads

Table 4.3 - Joint Loads Assignments - Force

Story	Label	UniqueName	Load Pattern	FX kip	FY kip	FZ kip	MX kip-ft	MY kip-ft	MZ kip-ft	X Dimension in	Y Dimension in
Roof	3	130	WL(1/12)	39.362	0	0	0	0	0	0	0
Second Floor	4	132	WL(1/12)	160.733	0	0	0	0	0	0	0
Roof	87	136	WL(2/12)	0	47.19	0	0	0	0	0	0
Second Floor	88	145	WL(2/12)	0	89.209	0	0	0	0	0	0
Roof	89	146	WL(3/12)	29.521	0	0	0	0	391.5288	0	0
Second Floor	90	147	WL(3/12)	120.55	0	0	0	0	3382.926	0	0
Roof	184	148	WL(4/12)	29.521	0	0	0	0	-391.5288	0	0
Second Floor	185	149	WL(4/12)	120.55	0	0	0	0	-3382.926	0	0
Roof	188	150	WL(5/12)	0	35.392	0	0	0	562.7389	0	0
Second Floor	189	151	WL(5/12)	0	66.906	0	0	0	1042.0676	0	0
Roof	224	152	WL(6/12)	0	35.392	0	0	0	-562.7389	0	0
Second Floor	225	153	WL(6/12)	0	66.906	0	0	0	-1042.0676	0	0
Roof	234	154	WL(7/12)	29.521	-35.392	0	0	0	0	0	0
Second Floor	235	155	WL(7/12)	120.55	-66.906	0	0	0	0	0	0
Roof	444	156	WL(8/12)	29.521	35.392	0	0	0	0	0	0
Second Floor	445	157	WL(8/12)	120.55	66.906	0	0	0	0	0	0
Roof	470	158	WL(9/12)	22.161	-26.568	0	0	0	716.3369	0	0
Second Floor	471	159	WL(9/12)	90.493	-50.224	0	0	0	3321.6952	0	0
Roof	567	160	WL(10/12)	22.161	-26.568	0	0	0	-716.3369	0	0
Second Floor	568	161	WL(10/12)	90.493	-50.224	0	0	0	-3321.6952	0	0
Roof	569	162	WL(11/12)	22.161	26.568	0	0	0	716.3369	0	0
Second Floor	570	163	WL(11/12)	90.493	50.224	0	0	0	3321.6952	0	0
Roof	579	164	WL(12/12)	22.161	26.568	0	0	0	-716.3369	0	0
Second Floor	580	165	WL(12/12)	90.493	50.224	0	0	0	-3321.6952	0	0

4.3.2 Area Loads

Table 4.4 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load lb/ft2
Roof	F26	173	Dead	Gravity	15
Second Floor	F10	53	Dead	Gravity	15
Second Floor	F11	26	Dead	Gravity	15
Second Floor	F12	27	Dead	Gravity	15
Second Floor	F13	28	Dead	Gravity	15
Second Floor	F14	29	Dead	Gravity	15
Second Floor	F15	6	Dead	Gravity	15
Second Floor	F20	32	Dead	Gravity	35
Second Floor	F21	33	Dead	Gravity	35
Second Floor	F22	34	Dead	Gravity	35
Second Floor	F23	41	Dead	Gravity	15
Second Floor	F24	43	Dead	Gravity	15
Second Floor	F25	44	Dead	Gravity	35
Roof	F26	173	Live	Gravity	30
Second Floor	F10	53	Live	Gravity	30
Second Floor	F11	26	Live	Gravity	30
Second Floor	F12	27	Live	Gravity	30
Second Floor	F13	28	Live	Gravity	60
Second Floor	F14	29	Live	Gravity	140
Second Floor	F15	6	Live	Gravity	30
Second Floor	F20	32	Live	Gravity	40
Second Floor	F21	33	Live	Gravity	40
Second Floor	F22	34	Live	Gravity	40
Second Floor	F23	41	Live	Gravity	30
Second Floor	F24	43	Live	Gravity	60
Second Floor	F25	44	Live	Gravity	40

4.4 Load Cases**Table 4.5 - Load Case Definitions - Summary**

Name	Type
Dead	Linear Static
Live	Linear Static
Wind	Linear Static

4.5 Load Combinations**Table 4.6 - Load Combination Definitions**

Name	Type	Is Auto	Load Name	SF	Notes
0.6DL+1.0WL	Linear Add	No	Dead	0.6	
0.6DL+1.0WL			Wind	1	
0.6DL+1.0WL+1.5Fa	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa			Wind	1	
0.6DL+1.5HL	Linear Add	No	Dead	0.6	
0.6DL+1.5HL+1.5Fa	Linear Add	No	Dead	0.6	

Table 4.6 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
0.9DL+1.0WL	Linear Add	No	Dead	0.9	
0.9DL+1.0WL			Wind	1	
0.9DL+1.0WL+2.0Fa	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa			Wind	1	
0.9DL+1.6HL	Linear Add	No	Dead	0.9	
1,4DL	Linear Add	No	Dead	1.4	
1.2DL+1.0LL+1.0WL	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL			Live	1	
1.2DL+1.0LL+1.0WL			Wind	1	
1.2DL+1.0LL+1.0WL+2.0Fa	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa			Wind	1	
1.2DL+1.6LL	Linear Add	No	Dead	1.2	
1.2DL+1.6LL			Live	1.6	
Comb1	Linear Add	No	Dead	1	
Comb1			Live	1	
DL	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL			Live	0.75	
DL+0.75LL+0.75WL			Wind	0.75	
DL+0.75LL+0.75WL+1.5Fa	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa			Wind	0.75	
DL+LL	Linear Add	No	Dead	1	
DL+LL			Live	1	
DL+WL	Linear Add	No	Dead	1	
DL+WL			Wind	1	
DStID1	Linear Add	Yes	Dead	1	Dead [Deflections]
DStID2	Linear Add	Yes	Dead	1	Dead + Live [Deflections]
DStID2			Live	1	
DStIS1	Linear Add	Yes	Dead	1.4	Dead [Strength]
DStIS2	Linear Add	Yes	Dead	1.2	Dead + Live [Strength]
DStIS2			Live	1.6	
DStIS3	Linear Add	Yes	Dead	1.2	Dead + Live + Wind + Snow [Strength]
DStIS3			Live	0.5	
DStIS3			Wind	1.3	
DStIS4	Linear Add	Yes	Dead	1.2	Dead + Live - Wind + Snow [Strength]
DStIS4			Live	0.5	
DStIS4			Wind	-1.3	
DStIS5	Linear Add	Yes	Dead	1.2	Dead + Wind [Strength]
DStIS5			Wind	1.3	
DStIS6	Linear Add	Yes	Dead	1.2	Dead - Wind [Strength]
DStIS6			Wind	-1.3	
DStIS7	Linear Add	Yes	Dead	0.9	Dead (min) + Wind [Strength]
DStIS7			Wind	1.3	

Table 4.6 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
DStIS8	Linear Add	Yes	Dead	0.9	Dead (min) - Wind [Strength]
DStIS8			Wind	-1.3	
DWaiS1	Linear Add	Yes	Dead	1.4	Dead [Strength]
DWaiS2	Linear Add	Yes	Dead	1.2	Dead + Live [Strength]
DWaiS2			Live	1.6	
DWaiS3	Linear Add	Yes	Dead	1.2	Dead + Live + Wind + Snow [Strength]
DWaiS3			Live	1	
DWaiS3			Wind	1	
DWaiS4	Linear Add	Yes	Dead	1.2	Dead + Live - Wind + Snow [Strength]
DWaiS4			Live	1	
DWaiS4			Wind	-1	
DWaiS5	Linear Add	Yes	Dead	0.9	Dead (min) + Wind [Strength]
DWaiS5			Wind	1	
DWaiS6	Linear Add	Yes	Dead	0.9	Dead (min) - Wind [Strength]
DWaiS6			Wind	-1	

5 Analysis Results

This chapter provides analysis results.

5.1 Story Results

Table 5.1 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum in	Average in	Ratio
Roof	Dead	LinStatic		X	0.014237	0.008897	1.6
Roof	Dead	LinStatic		Y	0.00957	0.002387	4.009
Second Floor	Dead	LinStatic		X	0.001363	0.000812	1.679
Second Floor	Dead	LinStatic		Y	0.000497	0.000189	2.624
Roof	Live	LinStatic		X	0.003175	0.001927	1.648
Roof	Live	LinStatic		Y	0.002156	0.000477	4.524
Second Floor	Live	LinStatic		X	0.000371	0.000206	1.799
Second Floor	Live	LinStatic		Y	0.000118	2.6E-05	4.472
Roof	Wind	LinStatic	Max	X	0.009592	0.009551	1.004
Roof	Wind	LinStatic	Max	Y	0.006101	0.005166	1.181
Second Floor	Wind	LinStatic	Max	X	0.006329	0.004906	1.29
Second Floor	Wind	LinStatic	Max	Y	0.002076	0.001921	1.081
Roof	Wind	LinStatic	Min	X	0.001673	0.001055	1.586
Roof	Wind	LinStatic	Min	Y	0.006224	0.004961	1.255
Second Floor	Wind	LinStatic	Min	X	0.000973	0.000505	1.926
Second Floor	Wind	LinStatic	Min	Y	0.002462	0.001806	1.363
Roof	Comb1	Combination		X	0.017412	0.010824	1.609
Roof	Comb1	Combination		Y	0.011725	0.002863	4.095
Second Floor	Comb1	Combination		X	0.001734	0.001018	1.703
Second Floor	Comb1	Combination		Y	0.000615	0.000216	2.85
Roof	1,4DL	Combination		X	0.019931	0.012456	1.6
Roof	1,4DL	Combination		Y	0.013398	0.003342	4.009
Second Floor	1,4DL	Combination		X	0.001908	0.001137	1.679
Second Floor	1,4DL	Combination		Y	0.000696	0.000265	2.624
Roof	1.2DL+1.6LL	Combination		X	0.022164	0.01376	1.611
Roof	1.2DL+1.6LL	Combination		Y	0.014933	0.003627	4.117
Second Floor	1.2DL+1.6LL	Combination		X	0.002229	0.001304	1.709
Second Floor	1.2DL+1.6LL	Combination		Y	0.000786	0.00027	2.914
Roof	1.2DL+1.0LL+1.0WL	Combination	Max	X	0.010667	0.003053	3.494
Roof	1.2DL+1.0LL+1.0WL	Combination	Max	Y	0.017982	0.008562	2.1
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Max	X	0.005974	0.003731	1.601
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Max	Y	0.002791	0.002265	1.232
Roof	1.2DL+1.0LL+1.0WL	Combination	Min	X	0.021337	0.013979	1.526
Roof	1.2DL+1.0LL+1.0WL	Combination	Min	Y	0.013182	0.002082	6.333
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Min	X	0.00236	0.001844	1.28
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Min	Y	0.002669	0.001632	1.635
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	X	0.010667	0.003053	3.494
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	Y	0.017982	0.008562	2.1
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	X	0.005974	0.003731	1.601
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	Y	0.002791	0.002265	1.232
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	X	0.021337	0.013979	1.526

Table 5.1 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum in	Average in	Ratio
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	Y	0.013182	0.002082	6.333
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	X	0.00236	0.001844	1.28
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	Y	0.002669	0.001632	1.635
Roof	0.9DL+1.0WL+2.0Fa	Combination	Max	X	0.006308	0.001544	4.087
Roof	0.9DL+1.0WL+2.0Fa	Combination	Max	Y	0.012955	0.00737	1.758
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Max	X	0.006094	0.004181	1.458
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Max	Y	0.002523	0.002182	1.157
Roof	0.9DL+1.0WL+2.0Fa	Combination	Min	X	0.013891	0.009383	1.48
Roof	0.9DL+1.0WL+2.0Fa	Combination	Min	Y	0.010541	0.003274	3.219
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Min	X	0.00158	0.001244	1.271
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Min	Y	0.002569	0.001709	1.503
Roof	0.9DL+1.0WL	Combination	Max	X	0.006308	0.001544	4.087
Roof	0.9DL+1.0WL	Combination	Max	Y	0.012955	0.00737	1.758
Second Floor	0.9DL+1.0WL	Combination	Max	X	0.006094	0.004181	1.458
Second Floor	0.9DL+1.0WL	Combination	Max	Y	0.002523	0.002182	1.157
Roof	0.9DL+1.0WL	Combination	Min	X	0.013891	0.009383	1.48
Roof	0.9DL+1.0WL	Combination	Min	Y	0.010541	0.003274	3.219
Second Floor	0.9DL+1.0WL	Combination	Min	X	0.00158	0.001244	1.271
Second Floor	0.9DL+1.0WL	Combination	Min	Y	0.002569	0.001709	1.503
Roof	0.9DL+1.6HL	Combination		X	0.012813	0.008007	1.6
Roof	0.9DL+1.6HL	Combination		Y	0.008613	0.002148	4.009
Second Floor	0.9DL+1.6HL	Combination		X	0.001227	0.000731	1.679
Second Floor	0.9DL+1.6HL	Combination		Y	0.000447	0.00017	2.624
Roof	DL	Combination		X	0.014237	0.008897	1.6
Roof	DL	Combination		Y	0.00957	0.002387	4.009
Second Floor	DL	Combination		X	0.001363	0.000812	1.679
Second Floor	DL	Combination		Y	0.000497	0.000189	2.624
Roof	DL+LL	Combination		X	0.017412	0.010824	1.609
Roof	DL+LL	Combination		Y	0.011725	0.002863	4.095
Second Floor	DL+LL	Combination		X	0.001734	0.001018	1.703
Second Floor	DL+LL	Combination		Y	0.000615	0.000216	2.85
Roof	DL+WL	Combination	Max	Y	0.013912	0.007609	1.829
Second Floor	DL+WL	Combination	Max	X	0.006068	0.0041	1.48
Second Floor	DL+WL	Combination	Max	Y	0.002573	0.002201	1.169
Roof	DL+WL	Combination	Min	X	0.015314	0.010273	1.491
Roof	DL+WL	Combination	Min	Y	0.01102	0.003035	3.63
Second Floor	DL+WL	Combination	Min	X	0.001717	0.00136	1.262
Second Floor	DL+WL	Combination	Min	Y	0.00258	0.001697	1.521
Roof	DL+0.75LL+0.75WL	Combination	Max	X	0.009424	0.003179	2.964
Roof	DL+0.75LL+0.75WL	Combination	Max	Y	0.014443	0.006661	2.169
Second Floor	DL+0.75LL+0.75WL	Combination	Max	X	0.004455	0.002717	1.639
Second Floor	DL+0.75LL+0.75WL	Combination	Max	Y	0.002143	0.001718	1.247
Roof	DL+0.75LL+0.75WL	Combination	Min	X	0.017426	0.011374	1.532
Roof	DL+0.75LL+0.75WL	Combination	Min	Y	0.010366	0.001322	7.838
Second Floor	DL+0.75LL+0.75WL	Combination	Min	X	0.001906	0.001464	1.302

Table 5.1 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum in	Average in	Ratio
Second Floor	DL+0.75LL+0.75WL	Combination	Min	Y	0.002014	0.001205	1.671
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	X	0.009424	0.003179	2.964
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	Y	0.014443	0.006661	2.169
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	X	0.004455	0.002717	1.639
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	Y	0.002143	0.001718	1.247
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	X	0.017426	0.011374	1.532
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	Y	0.010366	0.001322	7.838
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	X	0.001906	0.001464	1.302
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	Y	0.002014	0.001205	1.671
Roof	0.6DL+1.0WL	Combination	Max	X	0.007375	0.004213	1.751
Roof	0.6DL+1.0WL	Combination	Max	Y	0.010084	0.006654	1.516
Second Floor	0.6DL+1.0WL	Combination	Max	X	0.006172	0.004424	1.395
Second Floor	0.6DL+1.0WL	Combination	Max	Y	0.002374	0.002125	1.117
Roof	0.6DL+1.0WL	Combination	Min	X	0.00962	0.006714	1.433
Roof	0.6DL+1.0WL	Combination	Min	Y	0.009102	0.00399	2.281
Second Floor	0.6DL+1.0WL	Combination	Min	X	0.001172	0.000895	1.309
Second Floor	0.6DL+1.0WL	Combination	Min	Y	0.002533	0.001742	1.454
Roof	0.6DL+1.0WL+1.5Fa	Combination	Max	X	0.007375	0.004213	1.751
Roof	0.6DL+1.0WL+1.5Fa	Combination	Max	Y	0.010084	0.006654	1.516
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Max	X	0.006172	0.004424	1.395
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Max	Y	0.002374	0.002125	1.117
Roof	0.6DL+1.0WL+1.5Fa	Combination	Min	X	0.00962	0.006714	1.433
Roof	0.6DL+1.0WL+1.5Fa	Combination	Min	Y	0.009102	0.00399	2.281
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Min	X	0.001172	0.000895	1.309
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Min	Y	0.002533	0.001742	1.454
Roof	0.6DL+1.5HL	Combination		X	0.008542	0.005338	1.6
Roof	0.6DL+1.5HL	Combination		Y	0.005742	0.001432	4.009
Second Floor	0.6DL+1.5HL	Combination		X	0.000818	0.000487	1.679
Second Floor	0.6DL+1.5HL	Combination		Y	0.000298	0.000114	2.624
Roof	0.6DL+1.5HL+1.5Fa	Combination		X	0.008542	0.005338	1.6
Roof	0.6DL+1.5HL+1.5Fa	Combination		Y	0.005742	0.001432	4.009
Second Floor	0.6DL+1.5HL+1.5Fa	Combination		X	0.000818	0.000487	1.679
Second Floor	0.6DL+1.5HL+1.5Fa	Combination		Y	0.000298	0.000114	2.624
Roof	DStIS1	Combination		X	0.019931	0.012456	1.6
Roof	DStIS1	Combination		Y	0.013398	0.003342	4.009
Second Floor	DStIS1	Combination		X	0.001908	0.001137	1.679
Second Floor	DStIS1	Combination		Y	0.000696	0.000265	2.624
Roof	DStIS2	Combination		X	0.022164	0.01376	1.611
Roof	DStIS2	Combination		Y	0.014933	0.003627	4.117
Second Floor	DStIS2	Combination		X	0.002229	0.001304	1.709
Second Floor	DStIS2	Combination		Y	0.000786	0.00027	2.914
Roof	DStIS3	Combination	Max	Y	0.018207	0.009891	1.841
Second Floor	DStIS3	Combination	Max	X	0.007894	0.005308	1.487
Second Floor	DStIS3	Combination	Max	Y	0.003354	0.002855	1.175
Roof	DStIS3	Combination	Min	X	0.020072	0.013428	1.495

Table 5.1 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum in	Average in	Ratio
Roof	DStIS3	Combination	Min	Y	0.014448	0.003947	3.661
Second Floor	DStIS3	Combination	Min	X	0.002281	0.001807	1.262
Second Floor	DStIS3	Combination	Min	Y	0.003375	0.002211	1.526
Roof	DStIS4	Combination	Max	X	0.017271	0.009852	1.753
Roof	DStIS4	Combination	Max	Y	0.018568	0.010152	1.829
Second Floor	DStIS4	Combination	Max	Y	0.003026	0.002478	1.221
Roof	DStIS4	Combination	Min	X	0.031141	0.024056	1.295
Roof	DStIS4	Combination	Min	Y	0.014287	0.003685	3.877
Second Floor	DStIS4	Combination	Min	X	0.008561	0.007438	1.151
Second Floor	DStIS4	Combination	Min	Y	0.002705	0.002227	1.214
Roof	DStIS5	Combination	Max	X	0.008094	0.00174	4.652
Roof	DStIS5	Combination	Max	Y	0.017129	0.009652	1.775
Second Floor	DStIS5	Combination	Max	X	0.007914	0.005411	1.463
Second Floor	DStIS5	Combination	Max	Y	0.003295	0.002842	1.16
Roof	DStIS5	Combination	Min	X	0.018485	0.012465	1.483
Roof	DStIS5	Combination	Min	Y	0.013847	0.004185	3.309
Second Floor	DStIS5	Combination	Min	X	0.002096	0.001652	1.269
Second Floor	DStIS5	Combination	Min	Y	0.003343	0.002219	1.506
Roof	DStIS6	Combination	Max	X	0.015683	0.008889	1.764
Roof	DStIS6	Combination	Max	Y	0.01749	0.009913	1.764
Second Floor	DStIS6	Combination	Max	Y	0.003059	0.002477	1.235
Roof	DStIS6	Combination	Min	X	0.029554	0.023093	1.28
Roof	DStIS6	Combination	Min	Y	0.013686	0.003924	3.488
Second Floor	DStIS6	Combination	Min	X	0.00854	0.007337	1.164
Second Floor	DStIS6	Combination	Min	Y	0.002672	0.002234	1.196
Roof	DStIS7	Combination	Max	X	0.009161	0.004409	2.078
Roof	DStIS7	Combination	Max	Y	0.014258	0.008936	1.596
Second Floor	DStIS7	Combination	Max	X	0.007993	0.005654	1.414
Second Floor	DStIS7	Combination	Max	Y	0.003146	0.002785	1.13
Roof	DStIS7	Combination	Min	X	0.014214	0.009795	1.451
Roof	DStIS7	Combination	Min	Y	0.012408	0.004901	2.532
Second Floor	DStIS7	Combination	Min	X	0.001687	0.001303	1.295
Second Floor	DStIS7	Combination	Min	Y	0.003307	0.002251	1.469
Roof	DStIS8	Combination	Max	X	0.011412	0.006219	1.835
Roof	DStIS8	Combination	Max	Y	0.01462	0.009197	1.59
Second Floor	DStIS8	Combination	Max	Y	0.003095	0.002445	1.266
Roof	DStIS8	Combination	Min	X	0.025283	0.020424	1.238
Roof	DStIS8	Combination	Min	Y	0.012247	0.00464	2.64
Second Floor	DStIS8	Combination	Min	X	0.008462	0.007097	1.192
Second Floor	DStIS8	Combination	Min	Y	0.002637	0.002279	1.157
Roof	DStID1	Combination		X	0.014237	0.008897	1.6
Roof	DStID1	Combination		Y	0.00957	0.002387	4.009
Second Floor	DStID1	Combination		X	0.001363	0.000812	1.679
Second Floor	DStID1	Combination		Y	0.000497	0.000189	2.624
Roof	DStID2	Combination		X	0.017412	0.010824	1.609

Table 5.1 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum in	Average in	Ratio
Roof	DStID2	Combination		Y	0.011725	0.002863	4.095
Second Floor	DStID2	Combination		X	0.001734	0.001018	1.703
Second Floor	DStID2	Combination		Y	0.000615	0.000216	2.85
Roof	DWals1	Combination		X	0.019931	0.012456	1.6
Roof	DWals1	Combination		Y	0.013398	0.003342	4.009
Second Floor	DWals1	Combination		X	0.001908	0.001137	1.679
Second Floor	DWals1	Combination		Y	0.000696	0.000265	2.624
Roof	DWals2	Combination		X	0.022164	0.01376	1.611
Roof	DWals2	Combination		Y	0.014933	0.003627	4.117
Second Floor	DWals2	Combination		X	0.002229	0.001304	1.709
Second Floor	DWals2	Combination		Y	0.000786	0.00027	2.914
Roof	DWals3	Combination	Max	X	0.010667	0.003053	3.494
Roof	DWals3	Combination	Max	Y	0.017982	0.008562	2.1
Second Floor	DWals3	Combination	Max	X	0.005974	0.003731	1.601
Second Floor	DWals3	Combination	Max	Y	0.002791	0.002265	1.232
Roof	DWals3	Combination	Min	X	0.021337	0.013979	1.526
Roof	DWals3	Combination	Min	Y	0.013182	0.002082	6.333
Second Floor	DWals3	Combination	Min	X	0.00236	0.001844	1.28
Second Floor	DWals3	Combination	Min	Y	0.002669	0.001632	1.635
Roof	DWals4	Combination	Max	X	0.019182	0.011228	1.708
Roof	DWals4	Combination	Max	Y	0.01826	0.008763	2.084
Second Floor	DWals4	Combination	Max	X	0.001653	0.000517	3.195
Second Floor	DWals4	Combination	Max	Y	0.002255	0.001938	1.164
Roof	DWals4	Combination	Min	X	0.029851	0.022154	1.347
Second Floor	DWals4	Combination	Min	X	0.006683	0.006067	1.101
Second Floor	DWals4	Combination	Min	Y	0.002153	0.001663	1.295
Roof	DWals5	Combination	Max	X	0.006308	0.001544	4.087
Roof	DWals5	Combination	Max	Y	0.012955	0.00737	1.758
Second Floor	DWals5	Combination	Max	X	0.006094	0.004181	1.458
Second Floor	DWals5	Combination	Max	Y	0.002523	0.002182	1.157
Roof	DWals5	Combination	Min	X	0.013891	0.009383	1.48
Roof	DWals5	Combination	Min	Y	0.010541	0.003274	3.219
Second Floor	DWals5	Combination	Min	X	0.00158	0.001244	1.271
Second Floor	DWals5	Combination	Min	Y	0.002569	0.001709	1.503
Roof	DWals6	Combination	Max	X	0.011736	0.006632	1.77
Roof	DWals6	Combination	Max	Y	0.013233	0.007571	1.748
Second Floor	DWals6	Combination	Max	Y	0.002356	0.001903	1.238
Roof	DWals6	Combination	Min	X	0.022405	0.017558	1.276
Roof	DWals6	Combination	Min	Y	0.010417	0.003073	3.389
Second Floor	DWals6	Combination	Min	X	0.006563	0.005625	1.167
Second Floor	DWals6	Combination	Min	Y	0.002053	0.001722	1.192

Table 5.2 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X ft	Y ft	Z ft
Roof	Dead	LinStatic		X	8.4E-05	379	96.0833	153.6667	26
Roof	Dead	LinStatic		Y	5.8E-05	387	102.6666	91.4167	26
Roof	Live	LinStatic		X	1.8E-05	379	96.0833	153.6667	26
Roof	Live	LinStatic		Y	1.3E-05	387	102.6666	91.4167	26
Roof	Wind	LinStatic	Max	X	3.7E-05	379	96.0833	153.6667	26
Roof	Wind	LinStatic	Max	Y	2.8E-05	348	2	94.8333	26
Roof	Wind	LinStatic	Min	X	8E-06	391	84.8333	78.8333	26
Roof	Wind	LinStatic	Min	Y	2.4E-05	348	2	94.8333	26
Roof	Comb1	Combination		X	0.000102	379	96.0833	153.6667	26
Roof	Comb1	Combination		Y	7.1E-05	387	102.6666	91.4167	26
Roof	1,4DL	Combination		X	0.000117	379	96.0833	153.6667	26
Roof	1,4DL	Combination		Y	8.1E-05	387	102.6666	91.4167	26
Roof	1.2DL+1.6LL	Combination		X	0.00013	379	96.0833	153.6667	26
Roof	1.2DL+1.6LL	Combination		Y	9.1E-05	387	102.6666	91.4167	26
Roof	1.2DL+1.0LL+1.0WL	Combination	Max	X	8.2E-05	379	96.0833	153.6667	26
Roof	1.2DL+1.0LL+1.0WL	Combination	Max	Y	0.0001	387	102.6666	91.4167	26
Roof	1.2DL+1.0LL+1.0WL	Combination	Min	X	0.000124	379	96.0833	153.6667	26
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	X	8.2E-05	379	96.0833	153.6667	26
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	Y	0.0001	387	102.6666	91.4167	26
Roof	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	X	0.000124	379	96.0833	153.6667	26
Roof	0.9DL+1.0WL+2.0Fa	Combination	Max	X	3.9E-05	379	96.0833	153.6667	26
Roof	0.9DL+1.0WL+2.0Fa	Combination	Max	Y	7E-05	387	102.6666	91.4167	26
Roof	0.9DL+1.0WL+2.0Fa	Combination	Min	X	8.1E-05	379	96.0833	153.6667	26
Roof	0.9DL+1.0WL+2.0Fa	Combination	Min	Y	5.1E-05	348	2	94.8333	26
Roof	0.9DL+1.0WL	Combination	Max	X	3.9E-05	379	96.0833	153.6667	26
Roof	0.9DL+1.0WL	Combination	Max	Y	7E-05	387	102.6666	91.4167	26
Roof	0.9DL+1.0WL	Combination	Min	X	8.1E-05	379	96.0833	153.6667	26
Roof	0.9DL+1.0WL	Combination	Min	Y	5.1E-05	348	2	94.8333	26
Roof	0.9DL+1.6HL	Combination		X	7.5E-05	379	96.0833	153.6667	26
Roof	0.9DL+1.6HL	Combination		Y	5.2E-05	387	102.6666	91.4167	26
Roof	DL	Combination		X	8.4E-05	379	96.0833	153.6667	26
Roof	DL	Combination		Y	5.8E-05	387	102.6666	91.4167	26
Roof	DL+LL	Combination		X	0.000102	379	96.0833	153.6667	26
Roof	DL+LL	Combination		Y	7.1E-05	387	102.6666	91.4167	26
Roof	DL+WL	Combination	Max	X	4.7E-05	379	96.0833	153.6667	26
Roof	DL+WL	Combination	Max	Y	7.6E-05	387	102.6666	91.4167	26
Roof	DL+WL	Combination	Min	X	8.9E-05	379	96.0833	153.6667	26
Roof	DL+WL	Combination	Min	Y	5.4E-05	348	2	94.8333	26
Roof	DL+0.75LL+0.75WL	Combination	Max	X	7E-05	379	96.0833	153.6667	26
Roof	DL+0.75LL+0.75WL	Combination	Max	Y	8.1E-05	387	102.6666	91.4167	26
Roof	DL+0.75LL+0.75WL	Combination	Min	X	0.000102	379	96.0833	153.6667	26
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	X	7E-05	379	96.0833	153.6667	26
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	Y	8.1E-05	387	102.6666	91.4167	26
Roof	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	X	0.000102	379	96.0833	153.6667	26
Roof	0.6DL+1.0WL	Combination	Max	Y	5.3E-05	387	102.6666	91.4167	26

Table 5.2 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X ft	Y ft	Z ft
Roof	0.6DL+1.0WL	Combination	Min	X	5.6E-05	379	96.0833	153.6667	26
Roof	0.6DL+1.0WL	Combination	Min	Y	4.2E-05	348	2	94.8333	26
Roof	0.6DL+1.0WL+1.5Fa	Combination	Max	Y	5.3E-05	387	102.6666	91.4167	26
Roof	0.6DL+1.0WL+1.5Fa	Combination	Min	X	5.6E-05	379	96.0833	153.6667	26
Roof	0.6DL+1.0WL+1.5Fa	Combination	Min	Y	4.2E-05	348	2	94.8333	26
Roof	0.6DL+1.5HL	Combination		X	5E-05	379	96.0833	153.6667	26
Roof	0.6DL+1.5HL	Combination		Y	3.5E-05	387	102.6666	91.4167	26
Roof	0.6DL+1.5HL+1.5Fa	Combination		X	5E-05	379	96.0833	153.6667	26
Roof	0.6DL+1.5HL+1.5Fa	Combination		Y	3.5E-05	387	102.6666	91.4167	26
Roof	DStIS1	Combination		X	0.000117	379	96.0833	153.6667	26
Roof	DStIS1	Combination		Y	8.1E-05	387	102.6666	91.4167	26
Roof	DStIS2	Combination		X	0.00013	379	96.0833	153.6667	26
Roof	DStIS2	Combination		Y	9.1E-05	387	102.6666	91.4167	26
Roof	DStIS3	Combination	Max	X	6.2E-05	379	96.0833	153.6667	26
Roof	DStIS3	Combination	Max	Y	9.9E-05	387	102.6666	91.4167	26
Roof	DStIS3	Combination	Min	X	0.000117	379	96.0833	153.6667	26
Roof	DStIS3	Combination	Min	Y	7.1E-05	348	2	94.8333	26
Roof	DStIS4	Combination	Max	X	0.000102	379	96.0833	153.6667	26
Roof	DStIS4	Combination	Max	Y	0.000104	387	102.6666	91.4167	26
Roof	DStIS4	Combination	Min	X	0.000157	379	96.0833	153.6667	26
Roof	DStIS4	Combination	Min	Y	7.6E-05	348	2	94.8333	26
Roof	DStIS5	Combination	Max	X	5.3E-05	379	96.0833	153.6667	26
Roof	DStIS5	Combination	Max	Y	9.3E-05	387	102.6666	91.4167	26
Roof	DStIS5	Combination	Min	X	0.000108	379	96.0833	153.6667	26
Roof	DStIS5	Combination	Min	Y	6.7E-05	348	2	94.8333	26
Roof	DStIS6	Combination	Max	X	9.3E-05	379	96.0833	153.6667	26
Roof	DStIS6	Combination	Max	Y	9.7E-05	387	102.6666	91.4167	26
Roof	DStIS6	Combination	Min	X	0.000148	379	96.0833	153.6667	26
Roof	DStIS6	Combination	Min	Y	7.2E-05	348	2	94.8333	26
Roof	DStIS7	Combination	Max	Y	7.5E-05	387	102.6666	91.4167	26
Roof	DStIS7	Combination	Min	X	8.3E-05	379	96.0833	153.6667	26
Roof	DStIS7	Combination	Min	Y	5.8E-05	348	2	94.8333	26
Roof	DStIS8	Combination	Max	X	6.8E-05	379	96.0833	153.6667	26
Roof	DStIS8	Combination	Max	Y	8E-05	387	102.6666	91.4167	26
Roof	DStIS8	Combination	Min	X	0.000123	379	96.0833	153.6667	26
Roof	DStIS8	Combination	Min	Y	6.3E-05	348	2	94.8333	26
Roof	DStID1	Combination		X	8.4E-05	379	96.0833	153.6667	26
Roof	DStID1	Combination		Y	5.8E-05	387	102.6666	91.4167	26
Roof	DStID2	Combination		X	0.000102	379	96.0833	153.6667	26
Roof	DStID2	Combination		Y	7.1E-05	387	102.6666	91.4167	26
Roof	DWals1	Combination		X	0.000117	379	96.0833	153.6667	26
Roof	DWals1	Combination		Y	8.1E-05	387	102.6666	91.4167	26
Roof	DWals2	Combination		X	0.00013	379	96.0833	153.6667	26
Roof	DWals2	Combination		Y	9.1E-05	387	102.6666	91.4167	26

Table 5.2 - Story Drifts (continued)

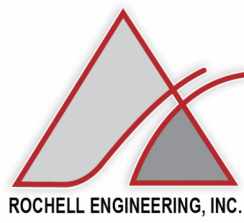
Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X ft	Y ft	Z ft
Roof	DWals3	Combination	Max	X	8.2E-05	379	96.0833	153.6667	26
Roof	DWals3	Combination	Max	Y	0.0001	387	102.6666	91.4167	26
Roof	DWals3	Combination	Min	X	0.000124	379	96.0833	153.6667	26
Roof	DWals4	Combination	Max	X	0.000113	379	96.0833	153.6667	26
Roof	DWals4	Combination	Max	Y	0.000104	387	102.6666	91.4167	26
Roof	DWals4	Combination	Min	X	0.000155	379	96.0833	153.6667	26
Roof	DWals5	Combination	Max	X	3.9E-05	379	96.0833	153.6667	26
Roof	DWals5	Combination	Max	Y	7E-05	387	102.6666	91.4167	26
Roof	DWals5	Combination	Min	X	8.1E-05	379	96.0833	153.6667	26
Roof	DWals5	Combination	Min	Y	5.1E-05	348	2	94.8333	26
Roof	DWals6	Combination	Max	X	7E-05	379	96.0833	153.6667	26
Roof	DWals6	Combination	Max	Y	7.4E-05	387	102.6666	91.4167	26
Roof	DWals6	Combination	Min	X	0.000112	379	96.0833	153.6667	26
Roof	DWals6	Combination	Min	Y	5.5E-05	348	2	94.8333	26
Second Floor	Dead	LinStatic		X	9E-06	295	20.1666	183.75	13
Second Floor	Dead	LinStatic		Y	3E-06	338	102.6666	52.1667	13
Second Floor	Live	LinStatic		X	2E-06	295	20.1666	183.75	13
Second Floor	Live	LinStatic		Y	1E-06	132	102.6666	40.1667	13
Second Floor	Wind	LinStatic	Max	X	4.1E-05	115	102.6666	3.3333	13
Second Floor	Wind	LinStatic	Max	Y	1.3E-05	338	102.6666	52.1667	13
Second Floor	Wind	LinStatic	Min	X	6E-06	115	102.6666	3.3333	13
Second Floor	Wind	LinStatic	Min	Y	1.6E-05	349	2	87	13
Second Floor	Comb1	Combination		X	1.1E-05	295	20.1666	183.75	13
Second Floor	Comb1	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	1,4DL	Combination		X	1.2E-05	295	20.1666	183.75	13
Second Floor	1,4DL	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	1.2DL+1.6LL	Combination		X	1.4E-05	295	20.1666	183.75	13
Second Floor	1.2DL+1.6LL	Combination		Y	5E-06	338	102.6666	52.1667	13
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Max	X	3.8E-05	115	102.6666	3.3333	13
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Max	Y	1.8E-05	338	102.6666	52.1667	13
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Min	X	1.5E-05	295	20.1666	183.75	13
Second Floor	1.2DL+1.0LL+1.0WL	Combination	Min	Y	1.7E-05	348	2	94.8333	13
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	X	3.8E-05	115	102.6666	3.3333	13
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Max	Y	1.8E-05	338	102.6666	52.1667	13
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	X	1.5E-05	295	20.1666	183.75	13
Second Floor	1.2DL+1.0LL+1.0WL+2.0Fa	Combination	Min	Y	1.7E-05	348	2	94.8333	13
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Max	X	3.9E-05	115	102.6666	3.3333	13
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Max	Y	1.6E-05	338	102.6666	52.1667	13
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Min	X	1E-05	295	20.1666	183.75	13
Second Floor	0.9DL+1.0WL+2.0Fa	Combination	Min	Y	1.6E-05	349	2	87	13
Second Floor	0.9DL+1.0WL	Combination	Max	X	3.9E-05	115	102.6666	3.3333	13
Second Floor	0.9DL+1.0WL	Combination	Max	Y	1.6E-05	338	102.6666	52.1667	13
Second Floor	0.9DL+1.0WL	Combination	Min	X	1E-05	295	20.1666	183.75	13
Second Floor	0.9DL+1.0WL	Combination	Min	Y	1.6E-05	349	2	87	13

Table 5.2 - Story Drifts (continued)

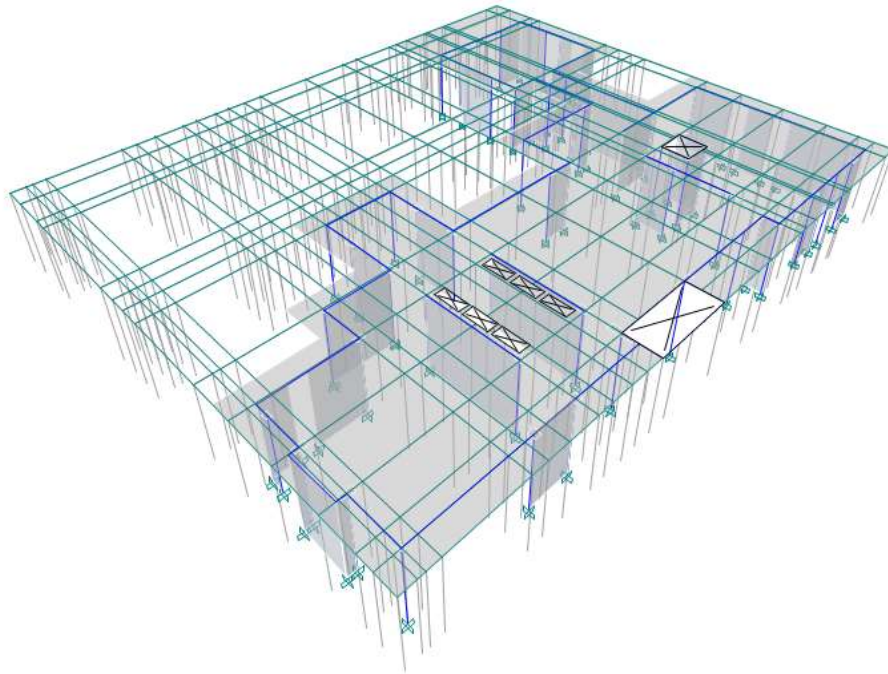
Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X ft	Y ft	Z ft
Second Floor	0.9DL+1.6HL	Combination		X	8E-06	295	20.1666	183.75	13
Second Floor	0.9DL+1.6HL	Combination		Y	3E-06	338	102.6666	52.1667	13
Second Floor	DL	Combination		X	9E-06	295	20.1666	183.75	13
Second Floor	DL	Combination		Y	3E-06	338	102.6666	52.1667	13
Second Floor	DL+LL	Combination		X	1.1E-05	295	20.1666	183.75	13
Second Floor	DL+LL	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	DL+WL	Combination	Max	X	3.9E-05	115	102.6666	3.3333	13
Second Floor	DL+WL	Combination	Max	Y	1.6E-05	338	102.6666	52.1667	13
Second Floor	DL+WL	Combination	Min	X	1.1E-05	295	20.1666	183.75	13
Second Floor	DL+WL	Combination	Min	Y	1.7E-05	349	2	87	13
Second Floor	DL+0.75LL+0.75WL	Combination	Max	X	2.9E-05	115	102.6666	3.3333	13
Second Floor	DL+0.75LL+0.75WL	Combination	Max	Y	1.4E-05	338	102.6666	52.1667	13
Second Floor	DL+0.75LL+0.75WL	Combination	Min	X	1.2E-05	295	20.1666	183.75	13
Second Floor	DL+0.75LL+0.75WL	Combination	Min	Y	1.3E-05	349	2	87	13
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	X	2.9E-05	115	102.6666	3.3333	13
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Max	Y	1.4E-05	338	102.6666	52.1667	13
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	X	1.2E-05	295	20.1666	183.75	13
Second Floor	DL+0.75LL+0.75WL+1.5Fa	Combination	Min	Y	1.3E-05	349	2	87	13
Second Floor	0.6DL+1.0WL	Combination	Max	X	4E-05	115	102.6666	3.3333	13
Second Floor	0.6DL+1.0WL	Combination	Max	Y	1.5E-05	338	102.6666	52.1667	13
Second Floor	0.6DL+1.0WL	Combination	Min	X	8E-06	295	20.1666	183.75	13
Second Floor	0.6DL+1.0WL	Combination	Min	Y	1.6E-05	349	2	87	13
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Max	X	4E-05	115	102.6666	3.3333	13
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Max	Y	1.5E-05	338	102.6666	52.1667	13
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Min	X	8E-06	295	20.1666	183.75	13
Second Floor	0.6DL+1.0WL+1.5Fa	Combination	Min	Y	1.6E-05	349	2	87	13
Second Floor	0.6DL+1.5HL	Combination		X	5E-06	295	20.1666	183.75	13
Second Floor	0.6DL+1.5HL	Combination		Y	2E-06	338	102.6666	52.1667	13
Second Floor	0.6DL+1.5HL+1.5Fa	Combination		X	5E-06	295	20.1666	183.75	13
Second Floor	0.6DL+1.5HL+1.5Fa	Combination		Y	2E-06	338	102.6666	52.1667	13
Second Floor	DStIS1	Combination		X	1.2E-05	295	20.1666	183.75	13
Second Floor	DStIS1	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	DStIS2	Combination		X	1.4E-05	295	20.1666	183.75	13
Second Floor	DStIS2	Combination		Y	5E-06	338	102.6666	52.1667	13
Second Floor	DStIS3	Combination	Max	X	5.1E-05	115	102.6666	3.3333	13
Second Floor	DStIS3	Combination	Max	Y	2.2E-05	338	102.6666	52.1667	13
Second Floor	DStIS3	Combination	Min	X	1.5E-05	295	20.1666	183.75	13
Second Floor	DStIS3	Combination	Min	Y	2.2E-05	349	2	87	13
Second Floor	DStIS4	Combination	Max	Y	1.9E-05	349	2	87	13
Second Floor	DStIS4	Combination	Min	X	5.5E-05	115	102.6666	3.3333	13
Second Floor	DStIS4	Combination	Min	Y	1.7E-05	349	2	87	13
Second Floor	DStIS5	Combination	Max	X	5.1E-05	115	102.6666	3.3333	13
Second Floor	DStIS5	Combination	Max	Y	2.1E-05	338	102.6666	52.1667	13
Second Floor	DStIS5	Combination	Min	X	1.3E-05	295	20.1666	183.75	13

Table 5.2 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X ft	Y ft	Z ft
Second Floor	DStIS5	Combination	Min	Y	2.1E-05	349	2	87	13
Second Floor	DStIS6	Combination	Max	Y	2E-05	349	2	87	13
Second Floor	DStIS6	Combination	Min	X	5.5E-05	115	102.6666	3.3333	13
Second Floor	DStIS6	Combination	Min	Y	1.7E-05	349	2	87	13
Second Floor	DStIS7	Combination	Max	X	5.1E-05	115	102.6666	3.3333	13
Second Floor	DStIS7	Combination	Max	Y	2E-05	338	102.6666	52.1667	13
Second Floor	DStIS7	Combination	Min	X	1.1E-05	295	20.1666	183.75	13
Second Floor	DStIS7	Combination	Min	Y	2.1E-05	349	2	87	13
Second Floor	DStIS8	Combination	Max	Y	2E-05	349	2	87	13
Second Floor	DStIS8	Combination	Min	X	5.4E-05	115	102.6666	3.3333	13
Second Floor	DStIS8	Combination	Min	Y	1.7E-05	349	2	87	13
Second Floor	DStID1	Combination		X	9E-06	295	20.1666	183.75	13
Second Floor	DStID1	Combination		Y	3E-06	338	102.6666	52.1667	13
Second Floor	DStID2	Combination		X	1.1E-05	295	20.1666	183.75	13
Second Floor	DStID2	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	DWals1	Combination		X	1.2E-05	295	20.1666	183.75	13
Second Floor	DWals1	Combination		Y	4E-06	338	102.6666	52.1667	13
Second Floor	DWals2	Combination		X	1.4E-05	295	20.1666	183.75	13
Second Floor	DWals2	Combination		Y	5E-06	338	102.6666	52.1667	13
Second Floor	DWals3	Combination	Max	X	3.8E-05	115	102.6666	3.3333	13
Second Floor	DWals3	Combination	Max	Y	1.8E-05	338	102.6666	52.1667	13
Second Floor	DWals3	Combination	Min	X	1.5E-05	295	20.1666	183.75	13
Second Floor	DWals3	Combination	Min	Y	1.7E-05	348	2	94.8333	13
Second Floor	DWals4	Combination	Max	X	1.1E-05	295	20.1666	183.75	13
Second Floor	DWals4	Combination	Max	Y	1.4E-05	349	2	87	13
Second Floor	DWals4	Combination	Min	X	4.3E-05	115	102.6666	3.3333	13
Second Floor	DWals4	Combination	Min	Y	1.4E-05	349	2	87	13
Second Floor	DWals5	Combination	Max	X	3.9E-05	115	102.6666	3.3333	13
Second Floor	DWals5	Combination	Max	Y	1.6E-05	338	102.6666	52.1667	13
Second Floor	DWals5	Combination	Min	X	1E-05	295	20.1666	183.75	13
Second Floor	DWals5	Combination	Min	Y	1.6E-05	349	2	87	13
Second Floor	DWals6	Combination	Max	Y	1.5E-05	349	2	87	13
Second Floor	DWals6	Combination	Min	X	4.2E-05	115	102.6666	3.3333	13
Second Floor	DWals6	Combination	Min	Y	1.3E-05	349	2	87	13



Roof Level Concrete Slab Design



Roof Slab

Hollub Spec Home 2

Model File: Roof Slab, Revision

5/23/2024

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1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Grid Data

Table 1.1 - Grid Definitions - General

Name	Type	Ux ft	Uy ft	Rz deg	Datum Name	Story Name Above	Story Name Below	Model Datum ft	Story Height Above ft	Story Height Below ft	Bubble Size in	Color
GLOBAL	Cartesian	0	0	0	Story1		Base	0		13	60	10461087

Table 1.2 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	X (Cartesian)	A	0	End	Yes
GLOBAL	X (Cartesian)	B	2.3333	End	Yes
GLOBAL	X (Cartesian)	C	3.3333	End	Yes
GLOBAL	X (Cartesian)	D	5.3333	End	Yes
GLOBAL	X (Cartesian)	E	17.6666	End	Yes
GLOBAL	X (Cartesian)	F	20.1666	End	Yes
GLOBAL	X (Cartesian)	G	23.5	End	Yes
GLOBAL	X (Cartesian)	H	28.5	End	Yes
GLOBAL	X (Cartesian)	I	31.0833	End	Yes
GLOBAL	X (Cartesian)	J	34.5	End	Yes
GLOBAL	X (Cartesian)	K	37.3333	End	Yes
GLOBAL	X (Cartesian)	L	40.3333	End	Yes
GLOBAL	X (Cartesian)	M	43.6666	End	Yes
GLOBAL	X (Cartesian)	N	53.8333	End	Yes
GLOBAL	X (Cartesian)	O	62.5	End	Yes
GLOBAL	X (Cartesian)	P	65.8333	End	Yes
GLOBAL	X (Cartesian)	Q	74.1666	End	Yes
GLOBAL	X (Cartesian)	R	75.9166	End	Yes
GLOBAL	X (Cartesian)	S	78.8333	End	Yes
GLOBAL	X (Cartesian)	T	83.8333	End	Yes
GLOBAL	X (Cartesian)	U	84.4166	End	Yes
GLOBAL	X (Cartesian)	V	88.9166	End	Yes
GLOBAL	X (Cartesian)	X	89.8333	End	Yes
GLOBAL	X (Cartesian)	Y	102.6666	End	Yes
GLOBAL	X (Cartesian)	Z	105.8333	End	Yes
GLOBAL	Y (Cartesian)	10	75.5833	End	Yes
GLOBAL	Y (Cartesian)	11	78.8333	End	Yes
GLOBAL	Y (Cartesian)	12	81.4167	End	Yes
GLOBAL	Y (Cartesian)	13	87	End	Yes
GLOBAL	Y (Cartesian)	14	94.8333	End	Yes
GLOBAL	Y (Cartesian)	15	102.9167	End	Yes
GLOBAL	Y (Cartesian)	16	110.25	End	Yes
GLOBAL	Y (Cartesian)	17	123.9167	End	Yes

Table 1.2 - Grid Definitions - Grid Lines (continued)

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	Y (Cartesian)	18	127.25	End	Yes
GLOBAL	Y (Cartesian)	19	130.25	End	Yes
GLOBAL	Y (Cartesian)	20	133.5833	End	Yes
GLOBAL	Y (Cartesian)	21	151.3333	End	Yes
GLOBAL	Y (Cartesian)	22	153.6667	End	Yes
GLOBAL	Y (Cartesian)	23	159.8333	End	Yes
GLOBAL	Y (Cartesian)	24	164	End	Yes

1.2 Line Connectivity

Table 1.3 - Column Object Connectivity

Unique Name	UniquePtl	UniquePtJ	Length ft
68	362	204	13
69	363	224	13
70	364	234	13
71	365	95	13
72	366	116	13
73	367	120	13
74	368	121	13
75	369	122	13
76	370	123	13
77	371	125	13
78	372	126	13
79	373	140	13
80	374	141	13
81	375	142	13
82	376	172	13
83	377	173	13
84	378	174	13
85	379	175	13
86	380	176	13
87	381	181	13
88	382	182	13
89	383	183	13
90	384	184	13
91	385	185	13
92	386	186	13
93	387	187	13
94	388	169	13
95	390	406	13
96	391	134	13
97	392	409	13
98	393	411	13
99	394	413	13
100	395	414	13

Table 1.3 - Column Object Connectivity (continued)

Unique Name	UniquePtl	UniquePtJ	Length ft
101	396	417	13
102	397	419	13
103	398	212	13
104	399	437	13
105	400	439	13
106	401	389	13
107	402	441	13
108	403	443	13
109	404	445	13
110	405	247	13
111	407	457	13
112	408	459	13
113	410	461	13
114	412	463	13
115	415	465	13
116	416	179	13
117	418	178	13
118	420	467	13
119	421	167	13

Table 1.4 - Beam Object Connectivity

Unique Name	UniquePtl	UniquePtJ	Length ft
B89	224	234	9.6667
B90	234	53	18.3334
B92	178	179	2.5833
B94	167	179	20.3333
B98	178	54	9.6667
B99	54	55	6
B100	55	56	12.8333
B104	169	167	13.5
B110	120	121	8.0833
B111	57	121	1.3333
B112	57	58	7.8333
B113	58	122	1.3333
B114	122	59	8.0833
B115	59	125	14.3333
B116	125	126	7
B120	140	141	15.75
B122	172	173	15.75
B124	134	175	11.8333
B131	187	182	15.125
B133	185	186	5.1667
B134	186	183	5.25
B135	185	181	5.25

Table 1.4 - Beam Object Connectivity (continued)

Unique Name	UniquePtl	UniquePtJ	Length ft
B136	181	183	5.1667
B139	56	204	31.4167
B144	174	176	7.8333
B145	176	175	5.8333
B151	60	204	8.8333
B156	120	116	18.4167
B157	116	61	18.5833
B161	142	406	7.8333
B2	62	169	5.8333
B1	406	134	5.8333
B3	63	167	5.8333
B4	212	439	14.0833
B5	439	389	5.9167
B6	64	443	12.9167
B7	443	65	7.0833
B8	389	441	17.25
B10	441	65	6.5833
B12	66	64	13.75
B13	212	67	5.3334
B15	247	414	13.4167
B16	414	419	6.3333
B17	419	66	3.6667
B18	53	413	3.75
B19	413	417	6.3333
B20	417	67	3.6667
B21	68	247	8.75
B22	247	60	4.9167
B23	126	69	10.8333
B26	174	409	20.8333
B27	409	224	4.6667
B28	62	63	13.5

Table 1.5 - Null Line Object Connectivity

Unique Name	UniquePtl	UniquePtJ	Length ft
WW100	123	59	2.25
WW105	116	95	6.75
WW125	184	182	5.25
WW136	59	70	4.1667
WW137	71	125	7.6667
WW143	411	53	2.4167
WW147	437	439	8.0833
WW150	72	445	3
WW151	64	73	3.25
WW155	56	457	12.5833

Table 1.5 - Null Line Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
WW156	75	74	5.25
WW157	76	204	7.9167
WW158	459	56	4.5
WW159	465	463	4.5

1.3 Area Connectivity

Table 1.6 - Floor Object Connectivity

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2	Order
F26	77	78	79	80	454.3334	5567.39	1
F26	81	82	83	84			2
F26	85	86	87	88			3
F26	89	90	91	92			4
F26	93	94	96	97			5
ColC204	129	130	131	132	4.6667	1.33	
ColC224	133	135	136	137	5.3333	1.33	
ColC234	138	139	143	144	2	0.25	
ColC95	145	146	147	148	4	1	
ColC116	149	150	151	152	4	1	
ColC120	153	154	155	156	2	0.25	
ColC121	157	158	159	160	4.6667	1.11	
ColC122	161	162	163	164	4.6667	1.11	
ColC123	165	166	168	170	3.3333	0.67	
ColC125	171	177	180	188	4	0.89	
ColC126	189	190	191	192	3.3333	0.67	
ColC140	193	194	195	196	3.3333	0.67	
ColC141	197	198	199	200	3.3333	0.67	
ColC142	201	202	203	205	4.6667	1.33	
ColC172	206	207	208	209	4.6667	1.33	
ColC173	210	211	213	214	4.6667	1.33	
ColC174	215	216	217	218	4.6667	1.33	
ColC175	219	220	221	222	2	0.25	
ColC176	223	225	226	227	4.6667	1.33	
ColC181	228	229	230	231	2	0.25	
ColC182	232	233	235	236	3.3333	0.67	
ColC183	237	238	239	240	4	0.89	
ColC184	241	242	243	244	3.3333	0.67	
ColC185	245	246	248	249	3.3333	0.67	
ColC186	250	251	252	253	4	0.89	
ColC187	254	255	256	257	9.3333	2.67	
ColC169	258	259	260	261	9	3.5	
ColC406	262	263	264	265	4.6667	1.33	
ColC134	266	267	268	269	2	0.25	
ColC409	270	271	272	273	4	0.89	
ColC411	274	275	276	277	4	0.89	

Table 1.6 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2	Order
ColC413	278	279	280	281	4	0.89	
ColC414	282	283	284	285	4	0.89	
ColC417	286	287	288	289	4	0.89	
ColC419	290	291	292	293	4	0.89	
ColC212	294	295	296	297	4	0.89	
ColC437	298	299	300	301	4	0.89	
ColC439	302	303	304	305	4	0.89	
ColC389	306	307	308	309	5.3333	1.33	
ColC441	310	311	312	313	4	0.89	
ColC443	314	315	316	317	4	0.89	
ColC445	318	319	320	321	4	0.89	
ColC247	322	323	324	325	4	0.89	
ColC457	326	327	328	329	3.3333	0.67	
ColC459	330	331	332	333	4	0.89	
ColC461	334	335	336	337	2	0.22	
ColC463	338	339	340	341	4	0.89	
ColC465	342	343	344	345	4	0.89	
ColC179	346	347	348	349	7.6667	2.11	
ColC178	350	351	352	353	4	1	
ColC467	354	355	356	357	2	0.22	
ColC167	358	359	360	361	7.6667	2.11	

Table 1.7 - Wall Object Connectivity

UniqueName	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
62	370	422	59	123	30.5	29.25
63	366	365	95	116	39.5	87.75
64	376	377	173	172	57.5	204.75
65	378	380	176	174	41.6667	101.83
66	384	382	182	184	36.5	68.25
67	385	386	186	185	36.3334	67.17
68	386	383	183	186	36.5	68.25
69	423	424	58	57	41.6667	101.83
70	422	425	70	59	34.3333	54.17
71	426	371	125	71	41.3333	99.67
72	423	368	121	57	28.6667	17.33
73	424	369	122	58	28.6667	17.33
74	372	427	69	126	47.6667	140.83
75	373	374	141	140	57.5	204.75
76	375	390	406	142	41.6667	101.83
77	392	363	224	409	35.3333	60.67
78	393	428	53	411	30.8334	31.42
79	428	394	413	53	33.5	48.75
80	396	429	67	417	33.3333	47.67
81	398	429	67	212	36.6667	69.33

Table 1.7 - Wall Object Connectivity (continued)

UniqueName	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
82	399	400	439	437	42.1667	105.08
83	402	430	65	441	39.1667	85.58
84	403	430	65	443	40.1667	92.08
85	431	404	445	72	32	39
86	432	433	73	64	32.5	42.25
87	434	432	64	66	53.5	178.75
88	397	434	66	419	33.3333	47.67
89	405	395	414	247	52.8333	174.42
90	435	405	247	68	43.5001	113.75
91	436	407	457	56	51.1667	163.58
92	438	440	74	75	36.5	68.25
93	442	362	204	76	41.8333	102.92
94	408	436	56	459	35	58.5
95	415	412	463	465	35	58.5
96	418	416	179	178	31.1667	33.58

Table 1.8 - Null Area Object Connectivity

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
A14	185	186	183	181	20.8334	27.13
A15	101	100	99	98	12.3333	7.94
A16	102	103	104	105	12.3333	7.94
A17	109	108	107	106	12.3333	7.94
A18	110	111	112	113	12.3333	7.94
A19	118	117	115	114	12.3333	7.94
A20	119	124	127	128	12.3333	7.94
A1	62	63	167	169	38.6667	78.75

1.4 Strip Connectivity

Table 1.9 - Strip Object Connectivity

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA1	1	78	79	1.625	1.625	1.625	1.625	No	A
CSA10	1	18	19	1.6667	1.5	1.6667	1.5	No	A
CSA11	1	20	36	8.875	1.6667	8.875	1.6667	No	A
CSA12	1	22	37	1.1667	8.875	1.1667	8.875	No	A
CSA13	1	24	38	3.0833	1.1667	3.0833	1.1667	No	A
CSA14	1	26	39	2.0833	3.0833	2.0833	3.0833	No	A
CSA15	1	28	84	2.0833	2.0833	2.0833	2.0833	No	A
CSA2	1	2	30	1.2917	1.625	1.2917	1.625	No	A
CSA3	1	4	31	2.7917	1.2917	2.7917	1.2917	No	A
CSA4	1	6	32	3.9167	2.7917	3.9167	2.7917	No	A
CSA5	1	8	33	4.0417	3.9167	4.0417	3.9167	No	A

Table 1.9 - Strip Object Connectivity (continued)

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA6	1	10	34	3.6667	4.0417	3.6667	4.0417	No	A
CSA7	1	12	35	6.8333	3.6667	6.8333	3.6667	No	A
CSA8	1	14	15	1.6667	6.8333	1.6667	6.8333	No	A
CSA9	1	16	17	1.5	1.6667	1.5	1.6667	No	A
CSB1	1	78	28	1.1667	1.1667	1.1667	1.1667	No	B
CSB10	1	448	449	1.7084	1.4167	1.7084	1.4167	No	B
CSB11	1	450	451	1.4167	1.5	1.4167	1.5	No	B
CSB12	1	62	452	1.5	1.6667	1.5	1.6667	No	B
CSB13	1	453	454	1.6667	5.0834	1.6667	5.0834	No	B
CSB14	1	63	455	5.0834	4.3334	5.0834	4.3334	No	B
CSB15	1	456	458	4.3334	1.6667	4.3334	1.6667	No	B
CSB16	1	460	462	1.6667	4.1667	1.6667	4.1667	No	B
CSB17	1	464	466	4.1667	0.875	4.1667	0.875	No	B
CSB18	1	468	469	0.875	1.4584	0.875	1.4584	No	B
CSB19	1	470	471	1.4584	2.5	1.4584	2.5	No	B
CSB2	1	40	41	1.1667	0.5	1.1667	0.5	No	B
CSB20	1	472	473	2.5	0.2916	2.5	0.2916	No	B
CSB21	1	474	475	0.2916	2.25	0.2916	2.25	No	B
CSB22	1	476	477	2.25	0.4584	2.25	0.4584	No	B
CSB23	1	478	479	0.4584	6.4166	0.4584	6.4166	No	B
CSB24	1	480	481	6.4166	1.5834	6.4166	1.5834	No	B
CSB25	1	482	483	1.5834	1.5834	1.5834	1.5834	No	B
CSB3	1	42	43	0.5	1	0.5	1	No	B
CSB4	1	44	45	1	6.1667	1	6.1667	No	B
CSB5	1	46	47	6.1667	1.25	6.1667	1.25	No	B
CSB6	1	48	49	1.25	1.6667	1.25	1.6667	No	B
CSB7	1	50	51	1.6667	2.5	1.6667	2.5	No	B
CSB8	1	52	444	2.5	1.2917	2.5	1.2917	No	B
CSB9	1	446	447	1.2917	1.7084	1.2917	1.7084	No	B

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
A416Gr270	Tendon	Uniaxial	Unknown	Magenta	ASTM A416 Grade 270 added 5/20/2024 5:01:41 PM
A615Gr60	Rebar	Uniaxial	Unknown	Cyan	ASTM A615 Grade 60 added 5/20/2024 5:01:41 PM
MAT1	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 3 ksi added 5/20/2024 5:01:41 PM
MAT2	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 3 ksi added 5/20/2024 5:01:41 PM
MAT3	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 3 ksi added 5/20/2024 5:01:41 PM
MAT4	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 3 ksi added 5/20/2024 5:01:41 PM
MAT5	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 3 ksi added 5/20/2024 5:01:41 PM

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
2B-32	MAT1	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
2B-33	MAT1	Concrete Rectangular	Magenta	96	1205.11	1152	512	0	80	80
C116	MAT3	Concrete Rectangular	Red	144	2921.4	1728	1728	0	120	120
C120	MAT4	Concrete Rectangular	Magenta	36	182.59	108	108	0	30	30
C121	MAT3	Concrete Rectangular	Yellow	160	2557.9	5333.33	853.33	0	133.33	133.33
C122	MAT3	Concrete Rectangular	Gray8Dark	160	2557.9	5333.33	853.33	0	133.33	133.33
C123	MAT3	Concrete Rectangular	Red	96	1205.11	1152	512	0	80	80
C125	MAT3	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C126	MAT3	Concrete Rectangular	Yellow	96	1205.11	1152	512	0	80	80
C134	MAT4	Concrete Rectangular	Green	36	182.59	108	108	0	30	30
C140	MAT3	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
C141	MAT3	Concrete Rectangular	Blue	96	1205.11	1152	512	0	80	80
C142	MAT3	Concrete Rectangular	Green	192	4999.14	4096	2304	0	160	160
C167	MAT3	Concrete Rectangular	Cyan	304	5632.78	36581.33	1621.33	0	253.33	253.33
C169	MAT3	Concrete Rectangular	Red	504	19867.01	74088	6048	0	420	420
C172	MAT3	Concrete Rectangular	Cyan	192	4999.14	4096	2304	0	160	160
C173	MAT3	Concrete Rectangular	Red	192	4999.14	4096	2304	0	160	160
C174	MAT3	Concrete Rectangular	Magenta	192	4999.14	4096	2304	0	160	160
C175	MAT4	Concrete Rectangular	Yellow	36	182.59	108	108	0	30	30
C176	MAT3	Concrete Rectangular	Cyan	192	4999.14	4096	2304	0	160	160
C178	MAT3	Concrete Rectangular	Blue	144	2921.4	1728	1728	0	120	120
C179	MAT3	Concrete Rectangular	Gray8Dark	304	5632.78	36581.33	1621.33	0	253.33	253.33
C181	MAT4	Concrete Rectangular	Red	36	182.59	108	108	0	30	30
C182	MAT3	Concrete Rectangular	Magenta	96	1205.11	1152	512	0	80	80
C183	MAT3	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C184	MAT3	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
C185	MAT3	Concrete Rectangular	Blue	96	1205.11	1152	512	0	80	80
C186	MAT3	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
C187	MAT3	Concrete Rectangular	Cyan	384	7341.5	73728	2048	0	320	320
C204	MAT3	Concrete Rectangular	Gray8Dark	192	4999.14	2304	4096	0	160	160
C212	MAT3	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67
C224	MAT3	Concrete Rectangular	Blue	192	3240.89	9216	1024	0	160	160
C234	MAT4	Concrete Rectangular	Green	36	182.59	108	108	0	30	30
C247	MAT3	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C389	MAT3	Concrete Rectangular	Blue	192	3240.89	9216	1024	0	160	160
C406	MAT3	Concrete Rectangular	Magenta	192	4999.14	4096	2304	0	160	160
C409	MAT3	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
C411	MAT3	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
C413	MAT3	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C414	MAT3	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C417	MAT3	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C419	MAT3	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C437	MAT3	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
C439	MAT3	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
C441	MAT3	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67
C443	MAT3	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
C445	MAT3	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
C457	MAT3	Concrete Rectangular	Yellow	96	1205.11	1152	512	0	80	80
C459	MAT3	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C461	MAT4	Concrete Rectangular	Blue	32	117.29	170.67	42.67	0	26.67	26.67
C463	MAT3	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67
C465	MAT3	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
C467	MAT4	Concrete Rectangular	Green	32	117.29	170.67	42.67	0	26.67	26.67
C95	MAT3	Concrete Rectangular	Cyan	144	2921.4	1728	1728	0	120	120
RB-1	MAT1	Concrete Rectangular	Blue	368	6999.94	64890.67	1962.67	0	306.67	306.67
RB-10	MAT1	Concrete Rectangular	Green	192	3240.89	9216	1024	0	160	160
RB-11	MAT1	Concrete Rectangular	Cyan	336	6316.79	49392	1792	0	280	280
RB-12	MAT1	Concrete Rectangular	Red	336	6316.79	49392	1792	0	280	280
RB-13	MAT1	Concrete Rectangular	Magenta	368	6999.94	64890.67	1962.67	0	306.67	306.67
RB-15	MAT1	Concrete Rectangular	Yellow	96	1205.11	512	1152	0	80	80
RB-16	MAT1	Concrete Rectangular	Cyan	96	1205.11	512	1152	0	80	80
RB-2	MAT1	Concrete Rectangular	Green	504	19867.01	74088	6048	0	420	420
RB-3	MAT1	Concrete Rectangular	Cyan	336	6316.79	49392	1792	0	280	280
RB-4	MAT1	Concrete Rectangular	Red	336	6316.79	49392	1792	0	280	280
RB-5	MAT1	Concrete Rectangular	Magenta	504	19867.01	74088	6048	0	420	420
RB-6	MAT1	Concrete Rectangular	Yellow	96	1205.11	512	1152	0	80	80
RB-7	MAT1	Concrete Rectangular	Yellow	336	6316.79	49392	1792	0	280	280
RB-8	MAT1	Concrete Rectangular	Gray8Dark	336	6316.79	49392	1792	0	280	280
RB-9	MAT1	Concrete Rectangular	Blue	336	6316.79	49392	1792	0	280	280
TB-1	MAT1	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
TB-2	MAT1	Concrete Rectangular	Gray8Dark	144	2921.4	1728	1728	0	120	120
TB-6	MAT1	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

Name	S33Pos in3	S33Neg in3	S22Pos in3	S22Neg in3	Z33 in3	Z22 in3	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
2B-32	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-33	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C116	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
C120	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C121	533.33	533.33	213.33	213.33	800	320	5.7735	2.3094	0	0	0	0
C122	533.33	533.33	213.33	213.33	800	320	5.7735	2.3094	0	0	0	0
C123	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C125	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C126	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C134	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C140	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C141	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C142	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C167	1925.33	1925.33	405.33	405.33	2888	608	10.9697	2.3094	0	0	0	0
C169	3528	3528	1008	1008	5292	1512	12.1244	3.4641	0	0	0	0
C172	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C173	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C174	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C175	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C176	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C178	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
C179	1925.33	1925.33	405.33	405.33	2888	608	10.9697	2.3094	0	0	0	0
C181	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C182	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C183	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C184	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C185	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C186	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C187	3072	3072	512	512	4608	768	13.8564	2.3094	0	0	0	0
C204	384	384	512	512	576	768	3.4641	4.6188	0	0	0	0
C212	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C224	768	768	256	256	1152	384	6.9282	2.3094	0	0	0	0
C234	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C247	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C389	768	768	256	256	1152	384	6.9282	2.3094	0	0	0	0
C406	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C409	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C411	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C413	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C414	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C417	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C419	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C437	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C439	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3, continued)

Name	S33Pos in3	S33Neg in3	S22Pos in3	S22Neg in3	Z33 in3	Z22 in3	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
C441	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C443	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C445	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C457	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C459	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C461	42.67	42.67	21.33	21.33	64	32	2.3094	1.1547	0	0	0	0
C463	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C465	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C467	42.67	42.67	21.33	21.33	64	32	2.3094	1.1547	0	0	0	0
C95	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
RB-1	2821.33	2821.33	490.67	490.67	4232	736	13.2791	2.3094	0	0	0	0
RB-10	768	768	256	256	1152	384	6.9282	2.3094	0	0	0	0
RB-11	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-12	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-13	2821.33	2821.33	490.67	490.67	4232	736	13.2791	2.3094	0	0	0	0
RB-15	128	128	192	192	192	288	2.3094	3.4641	0	0	0	0
RB-16	128	128	192	192	192	288	2.3094	3.4641	0	0	0	0
RB-2	3528	3528	1008	1008	5292	1512	12.1244	3.4641	0	0	0	0
RB-3	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-4	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-5	3528	3528	1008	1008	5292	1512	12.1244	3.4641	0	0	0	0
RB-6	128	128	192	192	192	288	2.3094	3.4641	0	0	0	0
RB-7	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-8	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
RB-9	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
TB-1	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
TB-2	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
TB-6	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
2B-32	1	1	1	1	1	1	1
2B-33	1	1	1	1	1	1	1
C116	1	1	1	1	1	1	1
C120	1	1	1	1	1	1	1
C121	1	1	1	1	1	1	1
C122	1	1	1	1	1	1	1
C123	1	1	1	1	1	1	1
C125	1	1	1	1	1	1	1
C126	1	1	1	1	1	1	1
C134	1	1	1	1	1	1	1
C140	1	1	1	1	1	1	1
C141	1	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3, continued)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
C142	1	1	1	1	1	1	1
C167	1	1	1	1	1	1	1
C169	1	1	1	1	1	1	1
C172	1	1	1	1	1	1	1
C173	1	1	1	1	1	1	1
C174	1	1	1	1	1	1	1
C175	1	1	1	1	1	1	1
C176	1	1	1	1	1	1	1
C178	1	1	1	1	1	1	1
C179	1	1	1	1	1	1	1
C181	1	1	1	1	1	1	1
C182	1	1	1	1	1	1	1
C183	1	1	1	1	1	1	1
C184	1	1	1	1	1	1	1
C185	1	1	1	1	1	1	1
C186	1	1	1	1	1	1	1
C187	1	1	1	1	1	1	1
C204	1	1	1	1	1	1	1
C212	1	1	1	1	1	1	1
C224	1	1	1	1	1	1	1
C234	1	1	1	1	1	1	1
C247	1	1	1	1	1	1	1
C389	1	1	1	1	1	1	1
C406	1	1	1	1	1	1	1
C409	1	1	1	1	1	1	1
C411	1	1	1	1	1	1	1
C413	1	1	1	1	1	1	1
C414	1	1	1	1	1	1	1
C417	1	1	1	1	1	1	1
C419	1	1	1	1	1	1	1
C437	1	1	1	1	1	1	1
C439	1	1	1	1	1	1	1
C441	1	1	1	1	1	1	1
C443	1	1	1	1	1	1	1
C445	1	1	1	1	1	1	1
C457	1	1	1	1	1	1	1
C459	1	1	1	1	1	1	1
C461	1	1	1	1	1	1	1
C463	1	1	1	1	1	1	1
C465	1	1	1	1	1	1	1
C467	1	1	1	1	1	1	1
C95	1	1	1	1	1	1	1
RB-1	1	1	1	1	1	1	1
RB-10	1	1	1	1	1	1	1
RB-11	1	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3, continued)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
RB-12	1	1	1	1	1	1	1
RB-13	1	1	1	1	1	1	1
RB-15	1	1	1	1	1	1	1
RB-16	1	1	1	1	1	1	1
RB-2	1	1	1	1	1	1	1
RB-3	1	1	1	1	1	1	1
RB-4	1	1	1	1	1	1	1
RB-5	1	1	1	1	1	1	1
RB-6	1	1	1	1	1	1	1
RB-7	1	1	1	1	1	1	1
RB-8	1	1	1	1	1	1	1
RB-9	1	1	1	1	1	1	1
TB-1	1	1	1	1	1	1	1
TB-2	1	1	1	1	1	1	1
TB-6	1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness in
Col _{stiff}	Slab	Shell-Thin	MAT2	8
Slab8	Slab	Shell-Thin	MAT1	8
WW100	Wall	Shell-Thick	MAT5	8
WW105	Wall	Shell-Thick	MAT5	12
WW106	Wall	Shell-Thick	MAT5	8
WW123	Wall	Shell-Thick	MAT5	12
WW124	Wall	Shell-Thick	MAT5	12
WW125	Wall	Shell-Thick	MAT5	8
WW126	Wall	Shell-Thick	MAT5	8
WW127	Wall	Shell-Thick	MAT5	8
WW134	Wall	Shell-Thick	MAT5	8
WW136	Wall	Shell-Thick	MAT5	8
WW137	Wall	Shell-Thick	MAT5	8
WW138	Wall	Shell-Thick	MAT5	8
WW139	Wall	Shell-Thick	MAT5	8
WW140	Wall	Shell-Thick	MAT5	8
WW141	Wall	Shell-Thick	MAT5	12
WW142	Wall	Shell-Thick	MAT5	8
WW143	Wall	Shell-Thick	MAT5	8
WW144	Wall	Shell-Thick	MAT5	8
WW145	Wall	Shell-Thick	MAT5	8
WW146	Wall	Shell-Thick	MAT5	8
WW147	Wall	Shell-Thick	MAT5	8
WW148	Wall	Shell-Thick	MAT5	8

Table 2.3 - Area Section Property Definitions - Summary (continued)

Name	Type	Element Type	Material	Total Thickness in
WW149	Wall	Shell-Thick	MAT5	8
WW150	Wall	Shell-Thick	MAT5	8
WW151	Wall	Shell-Thick	MAT5	8
WW152	Wall	Shell-Thick	MAT5	8
WW153	Wall	Shell-Thick	MAT5	8
WW154	Wall	Shell-Thick	MAT5	8
WW155	Wall	Shell-Thick	MAT5	8
WW156	Wall	Shell-Thick	MAT5	8
WW157	Wall	Shell-Thick	MAT5	8
WW158	Wall	Shell-Thick	MAT5	8
WW159	Wall	Shell-Thick	MAT5	8
WW160	Wall	Shell-Thick	MAT5	12
WW97	Wall	Shell-Thick	MAT5	8

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter in	Area in ²
#4	0.5	0.2

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

UniqueName	Diaphragm	Restraints
95	From Area	
116	From Area	
120	From Area	
121	From Area	
122	From Area	
123	From Area	
125	From Area	
126	From Area	
134	From Area	
140	From Area	
141	From Area	
142	From Area	
167	From Area	
169	From Area	
172	From Area	
173	From Area	
174	From Area	
175	From Area	
176	From Area	
178	From Area	
179	From Area	
181	From Area	
182	From Area	
183	From Area	
184	From Area	
185	From Area	
186	From Area	
187	From Area	
204	From Area	
212	From Area	
224	From Area	
234	From Area	
247	From Area	
389	From Area	
406	From Area	
409	From Area	
411	From Area	
413	From Area	
414	From Area	
417	From Area	
419	From Area	
437	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
439	From Area	
441	From Area	
443	From Area	
445	From Area	
457	From Area	
459	From Area	
461	From Area	
463	From Area	
465	From Area	
467	From Area	
53	From Area	
54	From Area	
55	From Area	
56	From Area	
57	From Area	
58	From Area	
59	From Area	
60	From Area	
61	From Area	
62	From Area	
63	From Area	
64	From Area	
65	From Area	
66	From Area	
67	From Area	
68	From Area	
69	From Area	
70	From Area	
71	From Area	
72	From Area	
73	From Area	
74	From Area	
75	From Area	
76	From Area	
77	From Area	
78	From Area	
79	From Area	
80	From Area	
81	From Area	
82	From Area	
83	From Area	
84	From Area	
85	From Area	
86	From Area	
87	From Area	
88	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
89	From Area	
90	From Area	
91	From Area	
92	From Area	
93	From Area	
94	From Area	
96	From Area	
97	From Area	
98	From Area	
99	From Area	
100	From Area	
101	From Area	
102	From Area	
103	From Area	
104	From Area	
105	From Area	
106	From Area	
107	From Area	
108	From Area	
109	From Area	
110	From Area	
111	From Area	
112	From Area	
113	From Area	
114	From Area	
115	From Area	
117	From Area	
118	From Area	
119	From Area	
124	From Area	
127	From Area	
128	From Area	
129	From Area	
130	From Area	
131	From Area	
132	From Area	
133	From Area	
135	From Area	
136	From Area	
137	From Area	
138	From Area	
139	From Area	
143	From Area	
144	From Area	
145	From Area	
146	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
147	From Area	
148	From Area	
149	From Area	
150	From Area	
151	From Area	
152	From Area	
153	From Area	
154	From Area	
155	From Area	
156	From Area	
157	From Area	
158	From Area	
159	From Area	
160	From Area	
161	From Area	
162	From Area	
163	From Area	
164	From Area	
165	From Area	
166	From Area	
168	From Area	
170	From Area	
171	From Area	
177	From Area	
180	From Area	
188	From Area	
189	From Area	
190	From Area	
191	From Area	
192	From Area	
193	From Area	
194	From Area	
195	From Area	
196	From Area	
197	From Area	
198	From Area	
199	From Area	
200	From Area	
201	From Area	
202	From Area	
203	From Area	
205	From Area	
206	From Area	
207	From Area	
208	From Area	
209	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
210	From Area	
211	From Area	
213	From Area	
214	From Area	
215	From Area	
216	From Area	
217	From Area	
218	From Area	
219	From Area	
220	From Area	
221	From Area	
222	From Area	
223	From Area	
225	From Area	
226	From Area	
227	From Area	
228	From Area	
229	From Area	
230	From Area	
231	From Area	
232	From Area	
233	From Area	
235	From Area	
236	From Area	
237	From Area	
238	From Area	
239	From Area	
240	From Area	
241	From Area	
242	From Area	
243	From Area	
244	From Area	
245	From Area	
246	From Area	
248	From Area	
249	From Area	
250	From Area	
251	From Area	
252	From Area	
253	From Area	
254	From Area	
255	From Area	
256	From Area	
257	From Area	
258	From Area	
259	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
260	From Area	
261	From Area	
262	From Area	
263	From Area	
264	From Area	
265	From Area	
266	From Area	
267	From Area	
268	From Area	
269	From Area	
270	From Area	
271	From Area	
272	From Area	
273	From Area	
274	From Area	
275	From Area	
276	From Area	
277	From Area	
278	From Area	
279	From Area	
280	From Area	
281	From Area	
282	From Area	
283	From Area	
284	From Area	
285	From Area	
286	From Area	
287	From Area	
288	From Area	
289	From Area	
290	From Area	
291	From Area	
292	From Area	
293	From Area	
294	From Area	
295	From Area	
296	From Area	
297	From Area	
298	From Area	
299	From Area	
300	From Area	
301	From Area	
302	From Area	
303	From Area	
304	From Area	
305	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
306	From Area	
307	From Area	
308	From Area	
309	From Area	
310	From Area	
311	From Area	
312	From Area	
313	From Area	
314	From Area	
315	From Area	
316	From Area	
317	From Area	
318	From Area	
319	From Area	
320	From Area	
321	From Area	
322	From Area	
323	From Area	
324	From Area	
325	From Area	
326	From Area	
327	From Area	
328	From Area	
329	From Area	
330	From Area	
331	From Area	
332	From Area	
333	From Area	
334	From Area	
335	From Area	
336	From Area	
337	From Area	
338	From Area	
339	From Area	
340	From Area	
341	From Area	
342	From Area	
343	From Area	
344	From Area	
345	From Area	
346	From Area	
347	From Area	
348	From Area	
349	From Area	
350	From Area	
351	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
352	From Area	
353	From Area	
354	From Area	
355	From Area	
356	From Area	
357	From Area	
358	From Area	
359	From Area	
360	From Area	
361	From Area	
482	From Area	
2	From Area	
4	From Area	
6	From Area	
8	From Area	
10	From Area	
12	From Area	
14	From Area	
15	From Area	
16	From Area	
17	From Area	
18	From Area	
19	From Area	
20	From Area	
22	From Area	
24	From Area	
26	From Area	
28	From Area	
483	From Area	
30	From Area	
31	From Area	
32	From Area	
33	From Area	
34	From Area	
35	From Area	
36	From Area	
37	From Area	
38	From Area	
39	From Area	
40	From Area	
41	From Area	
42	From Area	
43	From Area	
44	From Area	
45	From Area	
46	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
47	From Area	
48	From Area	
49	From Area	
50	From Area	
51	From Area	
52	From Area	
444	From Area	
446	From Area	
447	From Area	
448	From Area	
449	From Area	
450	From Area	
451	From Area	
452	From Area	
453	From Area	
454	From Area	
455	From Area	
456	From Area	
458	From Area	
460	From Area	
462	From Area	
464	From Area	
466	From Area	
468	From Area	
469	From Area	
470	From Area	
471	From Area	
472	From Area	
473	From Area	
474	From Area	
475	From Area	
476	From Area	
477	From Area	
478	From Area	
479	From Area	
480	From Area	
481	From Area	
365	From Area	UX; UY; UZ; RX; RY; RZ
366	From Area	UX; UY; UZ; RX; RY; RZ
367	From Area	UX; UY; UZ; RX; RY; RZ
368	From Area	UX; UY; UZ; RX; RY; RZ
369	From Area	UX; UY; UZ; RX; RY; RZ
370	From Area	UX; UY; UZ; RX; RY; RZ
371	From Area	UX; UY; UZ; RX; RY; RZ
372	From Area	UX; UY; UZ; RX; RY; RZ
391	From Area	UX; UY; UZ; RX; RY; RZ

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
373	From Area	UX; UY; UZ; RX; RY; RZ
374	From Area	UX; UY; UZ; RX; RY; RZ
375	From Area	UX; UY; UZ; RX; RY; RZ
421	From Area	UX; UY; UZ; RX; RY; RZ
388	From Area	UX; UY; UZ; RX; RY; RZ
376	From Area	UX; UY; UZ; RX; RY; RZ
377	From Area	UX; UY; UZ; RX; RY; RZ
378	From Area	UX; UY; UZ; RX; RY; RZ
379	From Area	UX; UY; UZ; RX; RY; RZ
380	From Area	UX; UY; UZ; RX; RY; RZ
418	From Area	UX; UY; UZ; RX; RY; RZ
416	From Area	UX; UY; UZ; RX; RY; RZ
381	From Area	UX; UY; UZ; RX; RY; RZ
382	From Area	UX; UY; UZ; RX; RY; RZ
383	From Area	UX; UY; UZ; RX; RY; RZ
384	From Area	UX; UY; UZ; RX; RY; RZ
385	From Area	UX; UY; UZ; RX; RY; RZ
386	From Area	UX; UY; UZ; RX; RY; RZ
387	From Area	UX; UY; UZ; RX; RY; RZ
362	From Area	UX; UY; UZ; RX; RY; RZ
398	From Area	UX; UY; UZ; RX; RY; RZ
363	From Area	UX; UY; UZ; RX; RY; RZ
364	From Area	UX; UY; UZ; RX; RY; RZ
405	From Area	UX; UY; UZ; RX; RY; RZ
401	From Area	UX; UY; UZ; RX; RY; RZ
390	From Area	UX; UY; UZ; RX; RY; RZ
392	From Area	UX; UY; UZ; RX; RY; RZ
393	From Area	UX; UY; UZ; RX; RY; RZ
394	From Area	UX; UY; UZ; RX; RY; RZ
395	From Area	UX; UY; UZ; RX; RY; RZ
396	From Area	UX; UY; UZ; RX; RY; RZ
397	From Area	UX; UY; UZ; RX; RY; RZ
399	From Area	UX; UY; UZ; RX; RY; RZ
400	From Area	UX; UY; UZ; RX; RY; RZ
402	From Area	UX; UY; UZ; RX; RY; RZ
403	From Area	UX; UY; UZ; RX; RY; RZ
404	From Area	UX; UY; UZ; RX; RY; RZ
407	From Area	UX; UY; UZ; RX; RY; RZ
408	From Area	UX; UY; UZ; RX; RY; RZ
410	From Area	UX; UY; UZ; RX; RY; RZ
412	From Area	UX; UY; UZ; RX; RY; RZ
415	From Area	UX; UY; UZ; RX; RY; RZ
420	From Area	UX; UY; UZ; RX; RY; RZ
428	From Area	UX; UY; UZ; RX; RY; RZ
436	From Area	UX; UY; UZ; RX; RY; RZ
423	From Area	UX; UY; UZ; RX; RY; RZ

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
424	From Area	UX; UY; UZ; RX; RY; RZ
422	From Area	UX; UY; UZ; RX; RY; RZ
432	From Area	UX; UY; UZ; RX; RY; RZ
430	From Area	UX; UY; UZ; RX; RY; RZ
434	From Area	UX; UY; UZ; RX; RY; RZ
429	From Area	UX; UY; UZ; RX; RY; RZ
435	From Area	UX; UY; UZ; RX; RY; RZ
427	From Area	UX; UY; UZ; RX; RY; RZ
425	From Area	UX; UY; UZ; RX; RY; RZ
426	From Area	UX; UY; UZ; RX; RY; RZ
431	From Area	UX; UY; UZ; RX; RY; RZ
433	From Area	UX; UY; UZ; RX; RY; RZ
440	From Area	UX; UY; UZ; RX; RY; RZ
438	From Area	UX; UY; UZ; RX; RY; RZ
442	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
B89	Beam	9.6667	RB-12	RB-12		3
B90	Beam	18.3334	RB-12	RB-12		3
B92	Beam	2.5833	TB-2	TB-2		3
B94	Beam	20.3333	RB-7	RB-7		3
B98	Beam	9.6667	RB-8	RB-8		3
B99	Beam	6	RB-8	RB-8		3
B100	Beam	12.8333	RB-8	RB-8		3
B104	Beam	13.5	RB-7	RB-7		3
B110	Beam	8.0833	RB-4	RB-4		3
B111	Beam	1.3333	TB-6	TB-6		3
B112	Beam	7.8333	TB-6	TB-6		3
B113	Beam	1.3333	TB-6	TB-6		3
B114	Beam	8.0833	TB-6	TB-6		3
B115	Beam	14.3333	TB-6	TB-6		3
B116	Beam	7	RB-3	RB-3		3
B120	Beam	15.75	TB-1	TB-1		3
B122	Beam	15.75	TB-2	TB-2		3
B124	Beam	11.8333	RB-1	RB-1		3
B131	Beam	15.125	2B-32	2B-32		3
B133	Beam	5.1667	TB-1	TB-1		3
B134	Beam	5.25	TB-1	TB-1		3
B135	Beam	5.25	2B-33	2B-33		3
B136	Beam	5.1667	2B-33	2B-33		3
B139	Beam	31.4167	TB-6	TB-6		3
B144	Beam	7.8333	TB-2	TB-2		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
B145	Beam	5.8333	RB-2	RB-2		3
B151	Beam	8.8333	RB-9	RB-9		3
B156	Beam	18.4167	RB-5	RB-5		3
B157	Beam	18.5833	RB-5	RB-5		3
B161	Beam	7.8333	TB-2	TB-2		3
B2	Beam	5.8333	RB-16	RB-16		3
B1	Beam	5.8333	RB-2	RB-2		3
B3	Beam	5.8333	RB-6	RB-6		3
B4	Beam	14.0833	TB-6	TB-6		3
B5	Beam	5.9167	TB-6	TB-6		3
B6	Beam	12.9167	TB-6	TB-6		3
B7	Beam	7.0833	TB-6	TB-6		3
B8	Beam	17.25	RB-11	RB-11		3
B10	Beam	6.5833	TB-6	TB-6		3
B12	Beam	13.75	TB-6	TB-6		3
B13	Beam	5.3334	TB-6	TB-6		3
B15	Beam	13.4167	TB-6	TB-6		3
B16	Beam	6.3333	RB-10	RB-10		3
B17	Beam	3.6667	TB-1	TB-1		3
B18	Beam	3.75	TB-6	TB-6		3
B19	Beam	6.3333	RB-10	RB-10		3
B20	Beam	3.6667	TB-6	TB-6		3
B21	Beam	8.75	TB-1	TB-1		3
B22	Beam	4.9167	RB-9	RB-9		3
B23	Beam	10.8333	TB-6	TB-6		3
B26	Beam	20.8333	RB-13	RB-13		3
B27	Beam	4.6667	TB-6	TB-6		3
B28	Beam	13.5	RB-15	RB-15		3
68	Column	13	C204	N/A	180	3
69	Column	13	C224	N/A	90	3
70	Column	13	C234	N/A		3
71	Column	13	C95	N/A		3
72	Column	13	C116	N/A		3
73	Column	13	C120	N/A		3
74	Column	13	C121	N/A		3
75	Column	13	C122	N/A		3
76	Column	13	C123	N/A	90	3
77	Column	13	C125	N/A		3
78	Column	13	C126	N/A	90	3
79	Column	13	C140	N/A	90	3
80	Column	13	C141	N/A	90	3
81	Column	13	C142	N/A	90	3
82	Column	13	C172	N/A	90	3
83	Column	13	C173	N/A	90	3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
84	Column	13	C174	N/A	90	3
85	Column	13	C175	N/A		3
86	Column	13	C176	N/A	90	3
87	Column	13	C181	N/A		3
88	Column	13	C182	N/A	90	3
89	Column	13	C183	N/A	90	3
90	Column	13	C184	N/A	90	3
91	Column	13	C185	N/A		3
92	Column	13	C186	N/A		3
93	Column	13	C187	N/A	90	3
94	Column	13	C169	N/A	90	3
95	Column	13	C406	N/A	90	3
96	Column	13	C134	N/A		3
97	Column	13	C409	N/A		3
98	Column	13	C411	N/A		3
99	Column	13	C413	N/A	90	3
100	Column	13	C414	N/A	90	3
101	Column	13	C417	N/A	90	3
102	Column	13	C419	N/A	90	3
103	Column	13	C212	N/A		3
104	Column	13	C437	N/A	90	3
105	Column	13	C439	N/A	90	3
106	Column	13	C389	N/A		3
107	Column	13	C441	N/A		3
108	Column	13	C443	N/A	90	3
109	Column	13	C445	N/A	90	3
110	Column	13	C247	N/A		3
111	Column	13	C457	N/A	90	3
112	Column	13	C459	N/A		3
113	Column	13	C461	N/A	90	3
114	Column	13	C463	N/A		3
115	Column	13	C465	N/A		3
116	Column	13	C179	N/A		3
117	Column	13	C178	N/A		3
118	Column	13	C467	N/A	90	3
119	Column	13	C167	N/A		3
WW100	Null	2.25		N/A		3
WW105	Null	6.75		N/A		3
WW125	Null	5.25		N/A		3
WW136	Null	4.1667		N/A		3
WW137	Null	7.6667		N/A		3
WW143	Null	2.4167		N/A		3
WW147	Null	8.0833		N/A		3
WW150	Null	3		N/A		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
WW151	Null	3.25		N/A		3
WW155	Null	12.5833		N/A		3
WW156	Null	5.25		N/A		3
WW157	Null	7.9167		N/A		3
WW158	Null	4.5		N/A		3
WW159	Null	4.5		N/A		3

3.3 Shell Assignments**Table 3.3 - Area Assignments - Summary**

UniqueName	Section Property	Property Type	Modifiers
F26	Slab8	Slab	
ColC204	Col _{Stiff}	Slab	
ColC224	Col _{Stiff}	Slab	
ColC234	Col _{Stiff}	Slab	
ColC95	Col _{Stiff}	Slab	
ColC116	Col _{Stiff}	Slab	
ColC120	Col _{Stiff}	Slab	
ColC121	Col _{Stiff}	Slab	
ColC122	Col _{Stiff}	Slab	
ColC123	Col _{Stiff}	Slab	
ColC125	Col _{Stiff}	Slab	
ColC126	Col _{Stiff}	Slab	
ColC140	Col _{Stiff}	Slab	
ColC141	Col _{Stiff}	Slab	
ColC142	Col _{Stiff}	Slab	
ColC172	Col _{Stiff}	Slab	
ColC173	Col _{Stiff}	Slab	
ColC174	Col _{Stiff}	Slab	
ColC175	Col _{Stiff}	Slab	
ColC176	Col _{Stiff}	Slab	
ColC181	Col _{Stiff}	Slab	
ColC182	Col _{Stiff}	Slab	
ColC183	Col _{Stiff}	Slab	
ColC184	Col _{Stiff}	Slab	
ColC185	Col _{Stiff}	Slab	
ColC186	Col _{Stiff}	Slab	
ColC187	Col _{Stiff}	Slab	
ColC169	Col _{Stiff}	Slab	
ColC406	Col _{Stiff}	Slab	
ColC134	Col _{Stiff}	Slab	
ColC409	Col _{Stiff}	Slab	
ColC411	Col _{Stiff}	Slab	
ColC413	Col _{Stiff}	Slab	

Table 3.3 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Modifiers
ColC414	Col _{Stiff}	Slab	
ColC417	Col _{Stiff}	Slab	
ColC419	Col _{Stiff}	Slab	
ColC212	Col _{Stiff}	Slab	
ColC437	Col _{Stiff}	Slab	
ColC439	Col _{Stiff}	Slab	
ColC389	Col _{Stiff}	Slab	
ColC441	Col _{Stiff}	Slab	
ColC443	Col _{Stiff}	Slab	
ColC445	Col _{Stiff}	Slab	
ColC247	Col _{Stiff}	Slab	
ColC457	Col _{Stiff}	Slab	
ColC459	Col _{Stiff}	Slab	
ColC461	Col _{Stiff}	Slab	
ColC463	Col _{Stiff}	Slab	
ColC465	Col _{Stiff}	Slab	
ColC179	Col _{Stiff}	Slab	
ColC178	Col _{Stiff}	Slab	
ColC467	Col _{Stiff}	Slab	
ColC167	Col _{Stiff}	Slab	
62	WW100	Wall	Yes
63	WW105	Wall	Yes
64	WW123	Wall	Yes
65	WW124	Wall	Yes
66	WW125	Wall	Yes
67	WW126	Wall	Yes
68	WW127	Wall	Yes
69	WW134	Wall	Yes
70	WW136	Wall	Yes
71	WW137	Wall	Yes
72	WW138	Wall	Yes
73	WW139	Wall	Yes
74	WW140	Wall	Yes
75	WW106	Wall	Yes
76	WW141	Wall	Yes
77	WW142	Wall	Yes
78	WW143	Wall	Yes
79	WW144	Wall	Yes
80	WW145	Wall	Yes
81	WW146	Wall	Yes
82	WW147	Wall	Yes
83	WW148	Wall	Yes
84	WW149	Wall	Yes
85	WW150	Wall	Yes
86	WW151	Wall	Yes

Table 3.3 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Modifiers
87	WW97	Wall	Yes
88	WW152	Wall	Yes
89	WW153	Wall	Yes
90	WW154	Wall	Yes
91	WW155	Wall	Yes
92	WW156	Wall	Yes
93	WW157	Wall	Yes
94	WW158	Wall	Yes
95	WW159	Wall	Yes
96	WW160	Wall	Yes
A14	None	Opening	
A15	None	Opening	
A16	None	Opening	
A17	None	Opening	
A18	None	Opening	
A19	None	Opening	
A20	None	Opening	
A1	None	Opening	

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier
~LLRF	No	Other	0
Dead	No	Dead	1
Live	No	Live	0

4.2 Applied Loads

4.2.1 Area Loads

Table 4.2 - Area Load Assignments - Uniform

UniqueName	Load Pattern	Direction	Load lb/ft2
F26	Dead	Gravity	15
F26	Live	Gravity	30

4.3 Load Cases

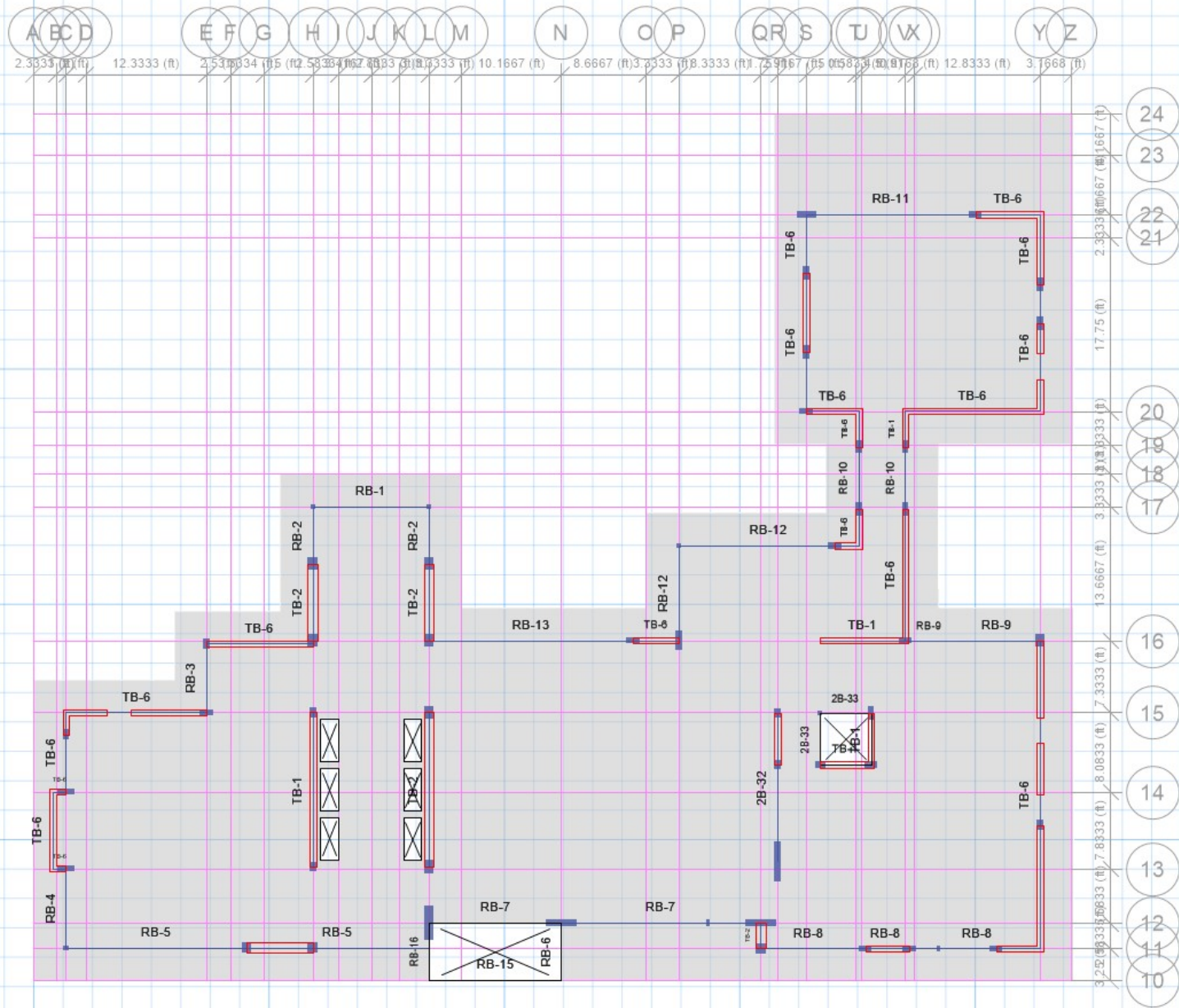
Table 4.3 - Load Case Definitions - Summary

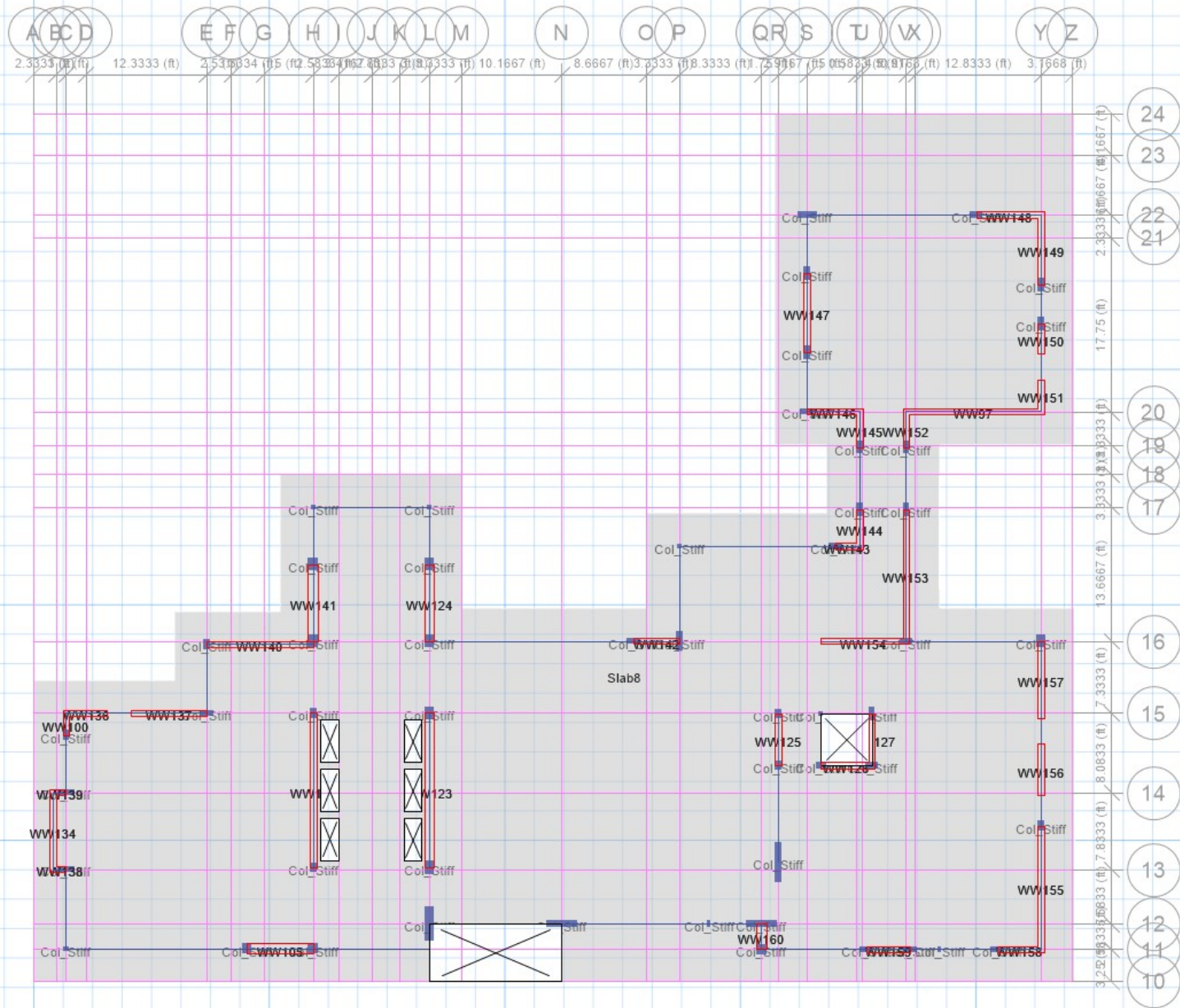
Name	Type
Dead	Linear Static
Live	Linear Static

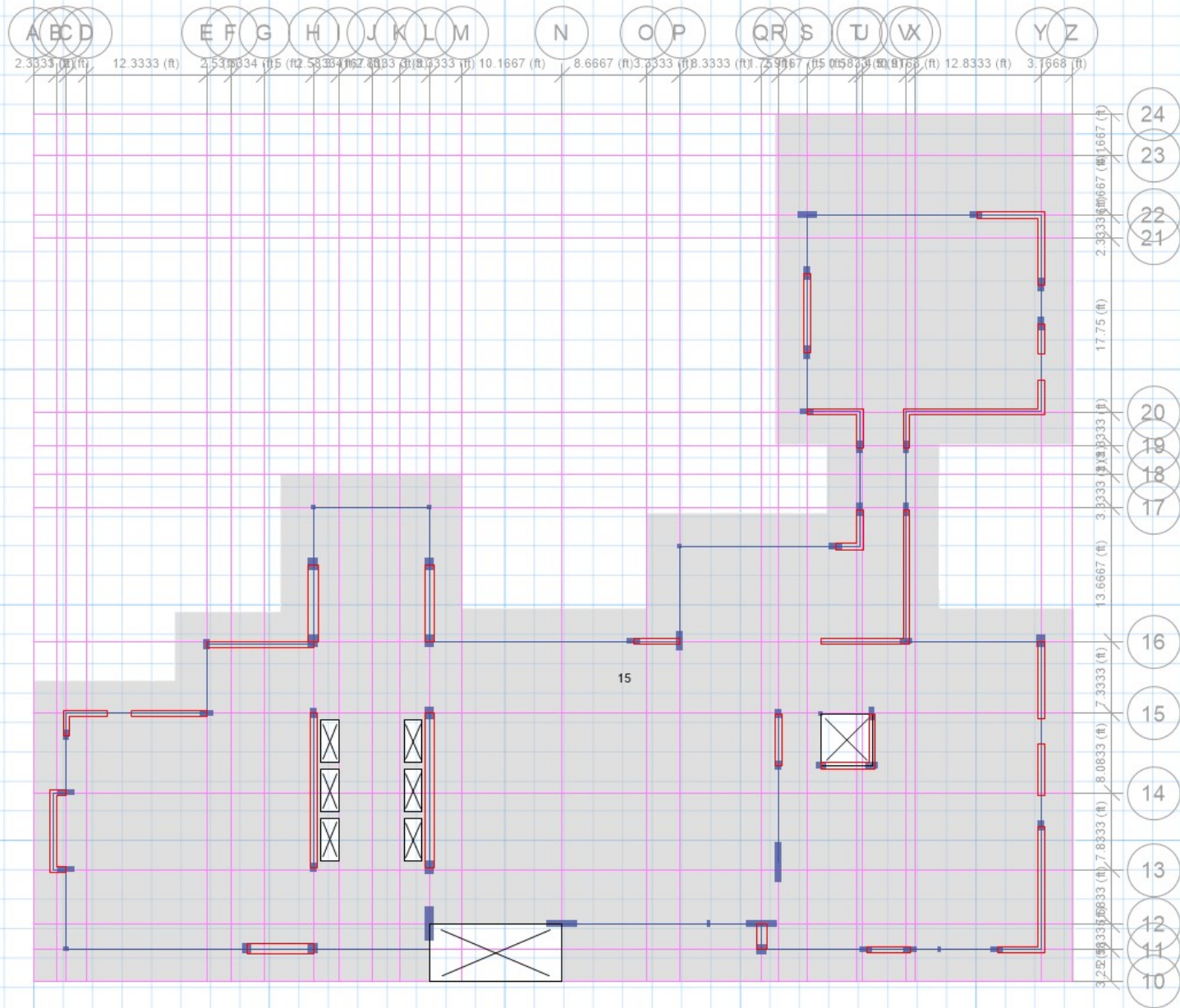
4.4 Load Combinations

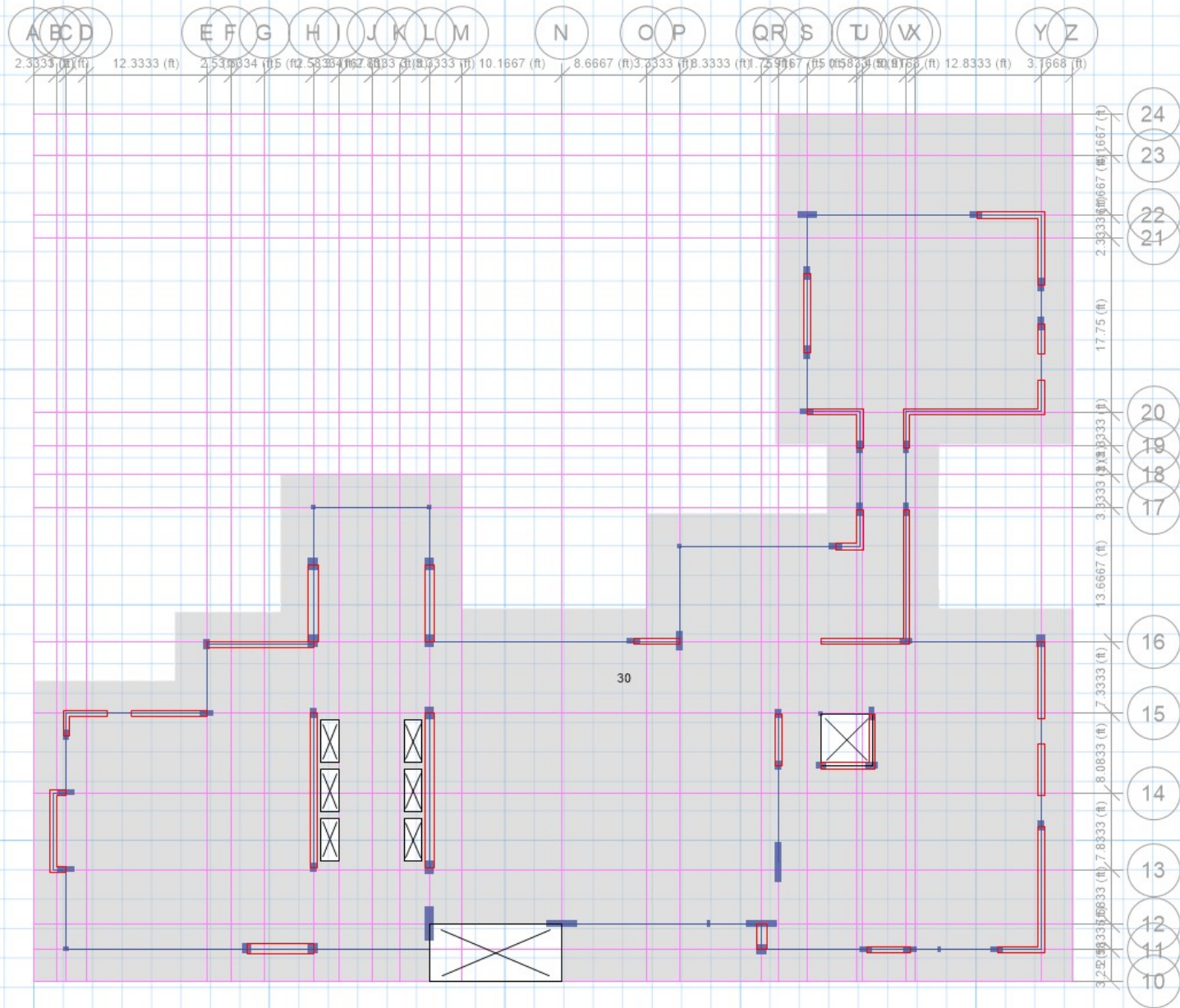
Table 4.4 - Load Combination Definitions

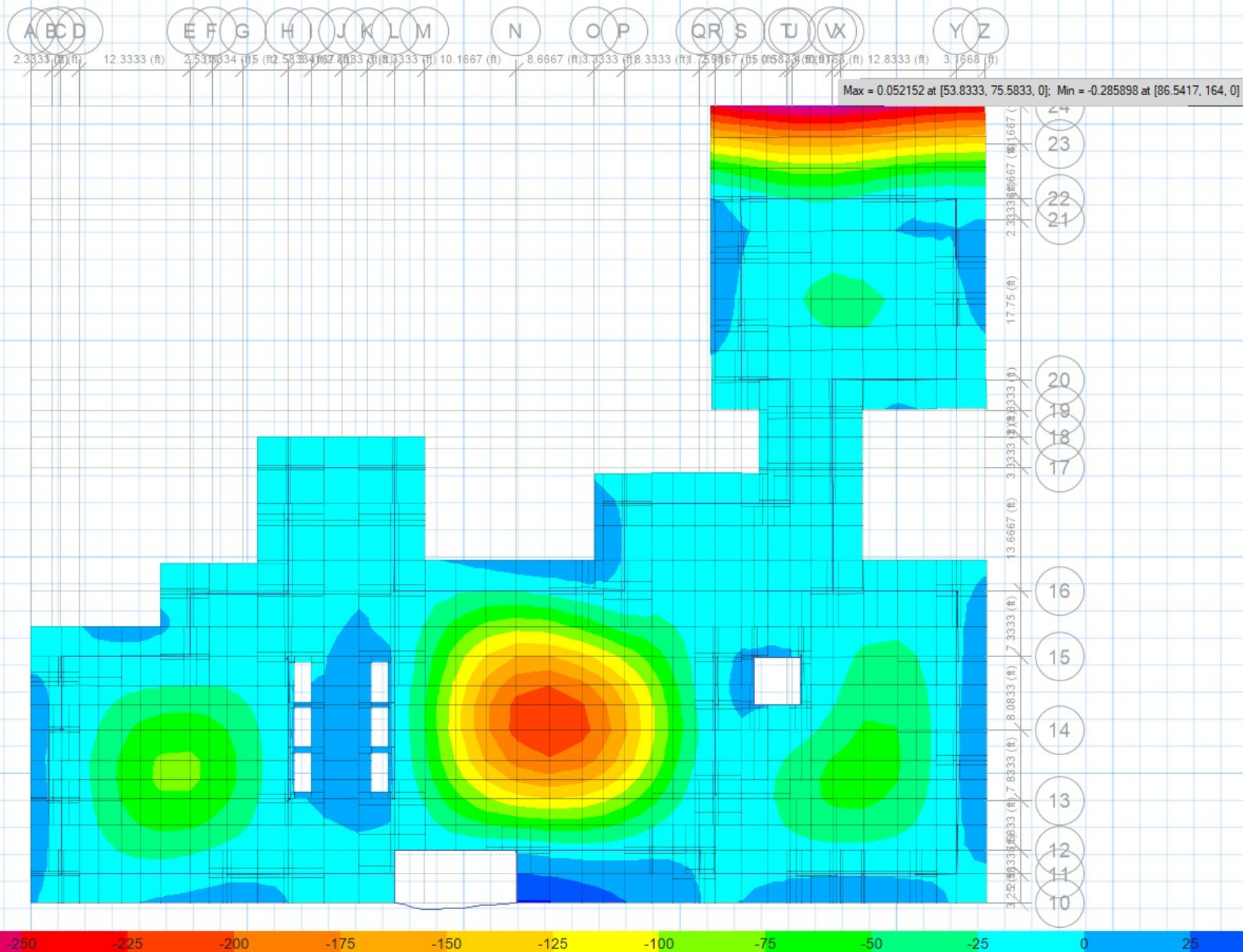
Name	Type	Is Auto	Load Name	SF	Notes
0.6DL+1.5HL	Linear Add	No	Dead	0.6	
0.6DL+1.5HL+1.5Fa	Linear Add	No	Dead	0.6	
0.9DL+1.6HL	Linear Add	No	Dead	0.9	
1,4DL	Linear Add	No	Dead	1.4	
1.2DL+1.6LL	Linear Add	No	Dead	1.2	
1.2DL+1.6LL			Live	1.6	
Comb1	Linear Add	No	Dead	1	
Comb1			Live	1	
DL	Linear Add	No	Dead	1	
DL+LL	Linear Add	No	Dead	1	
DL+LL			Live	1	

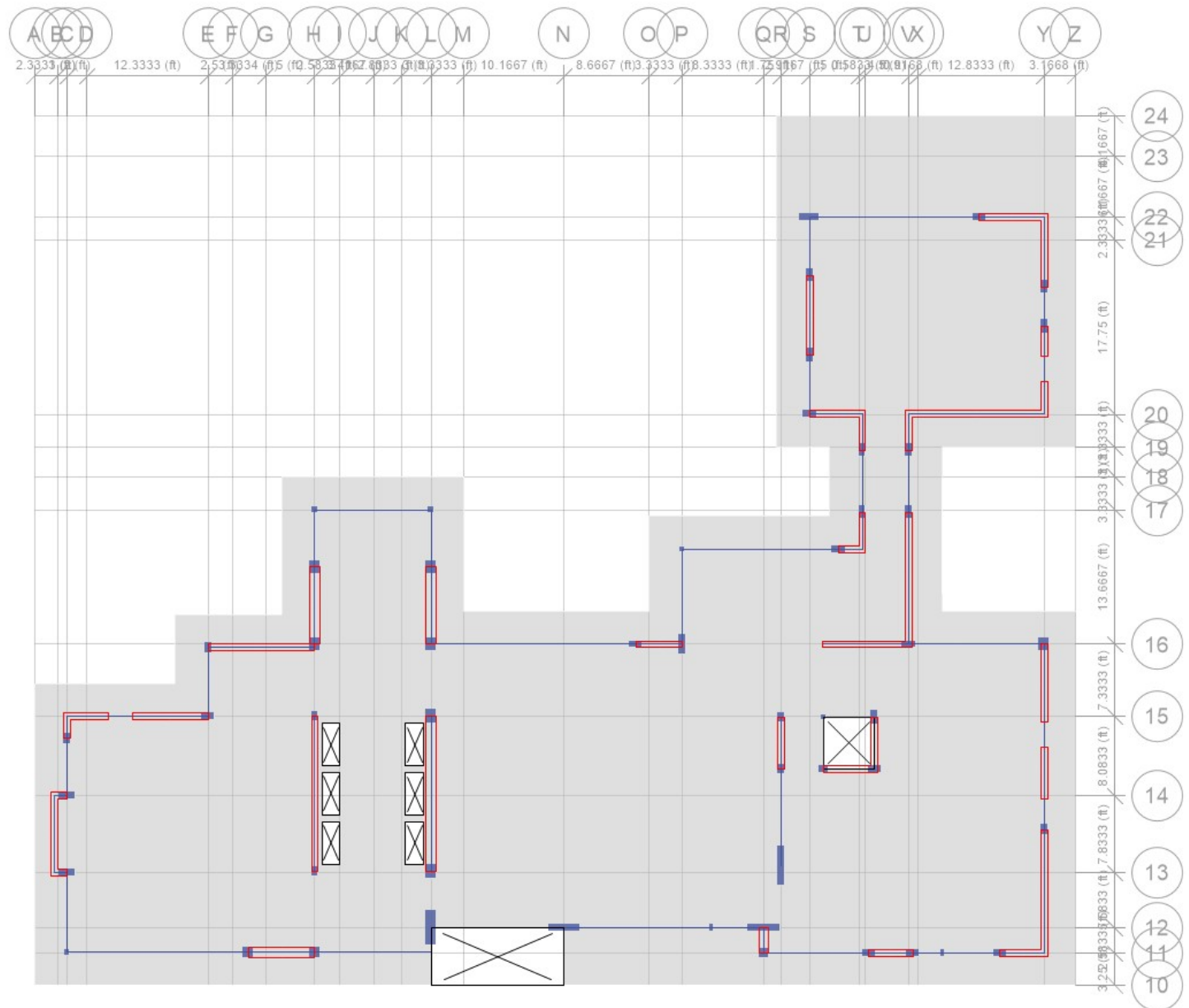


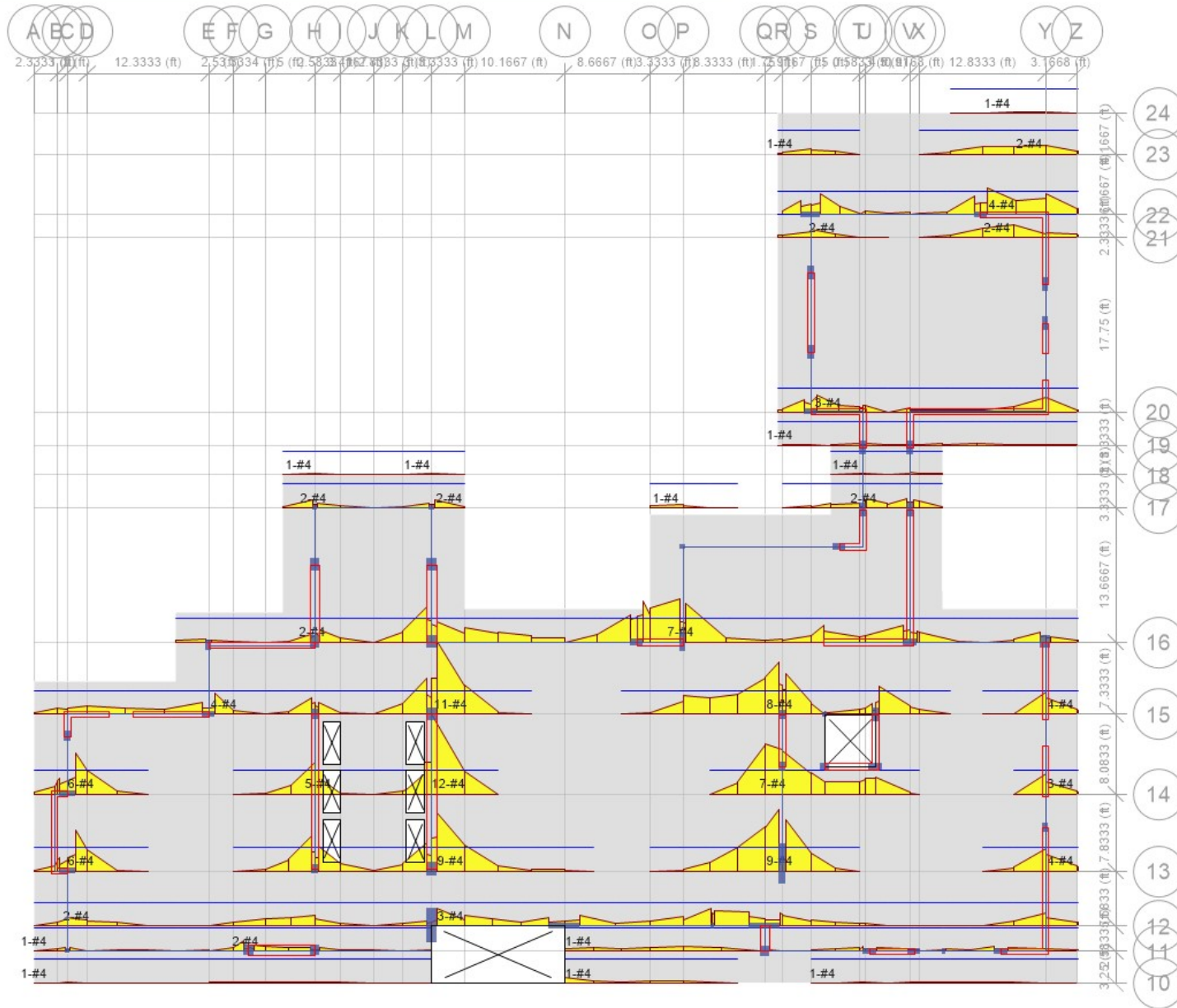


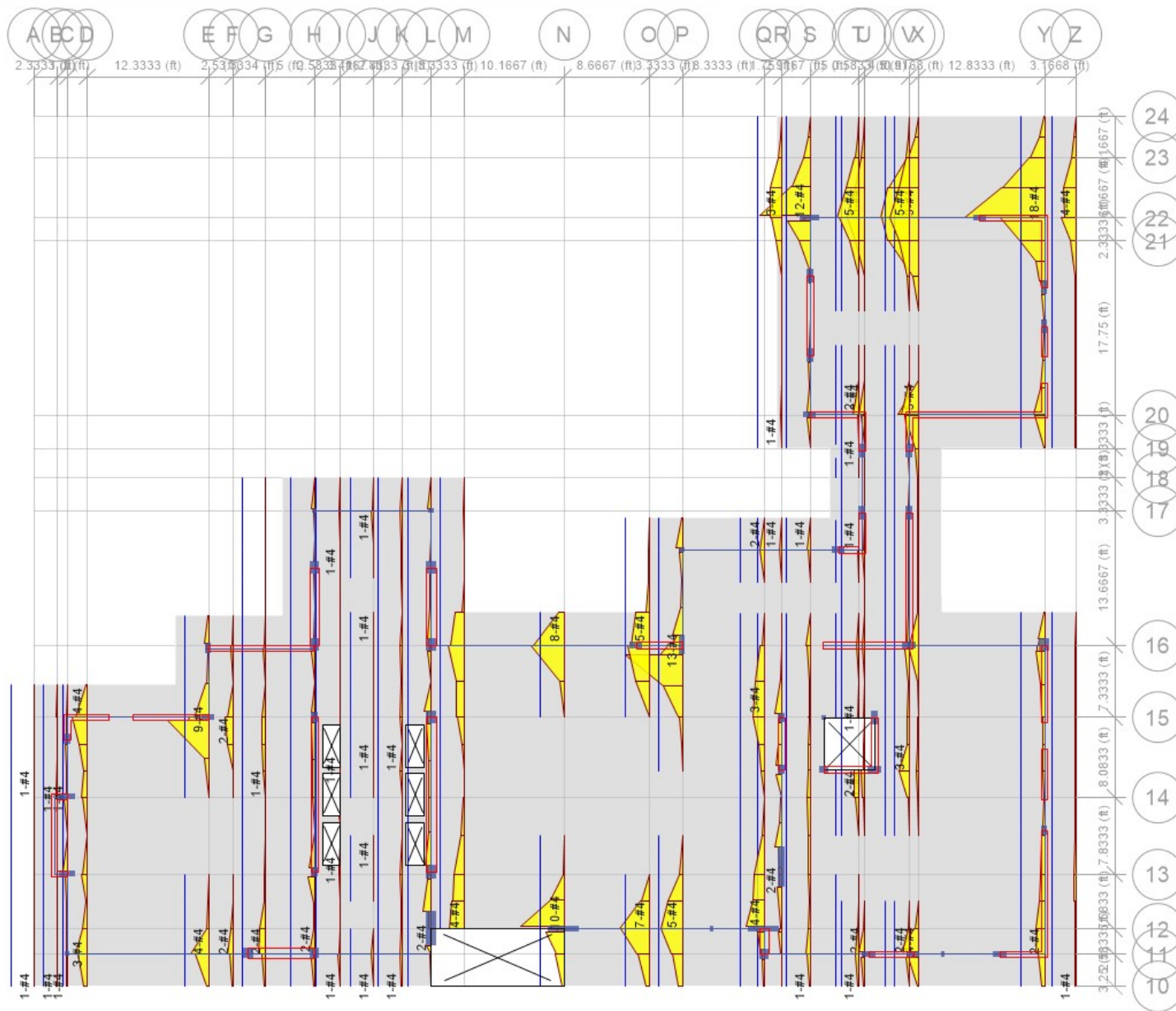


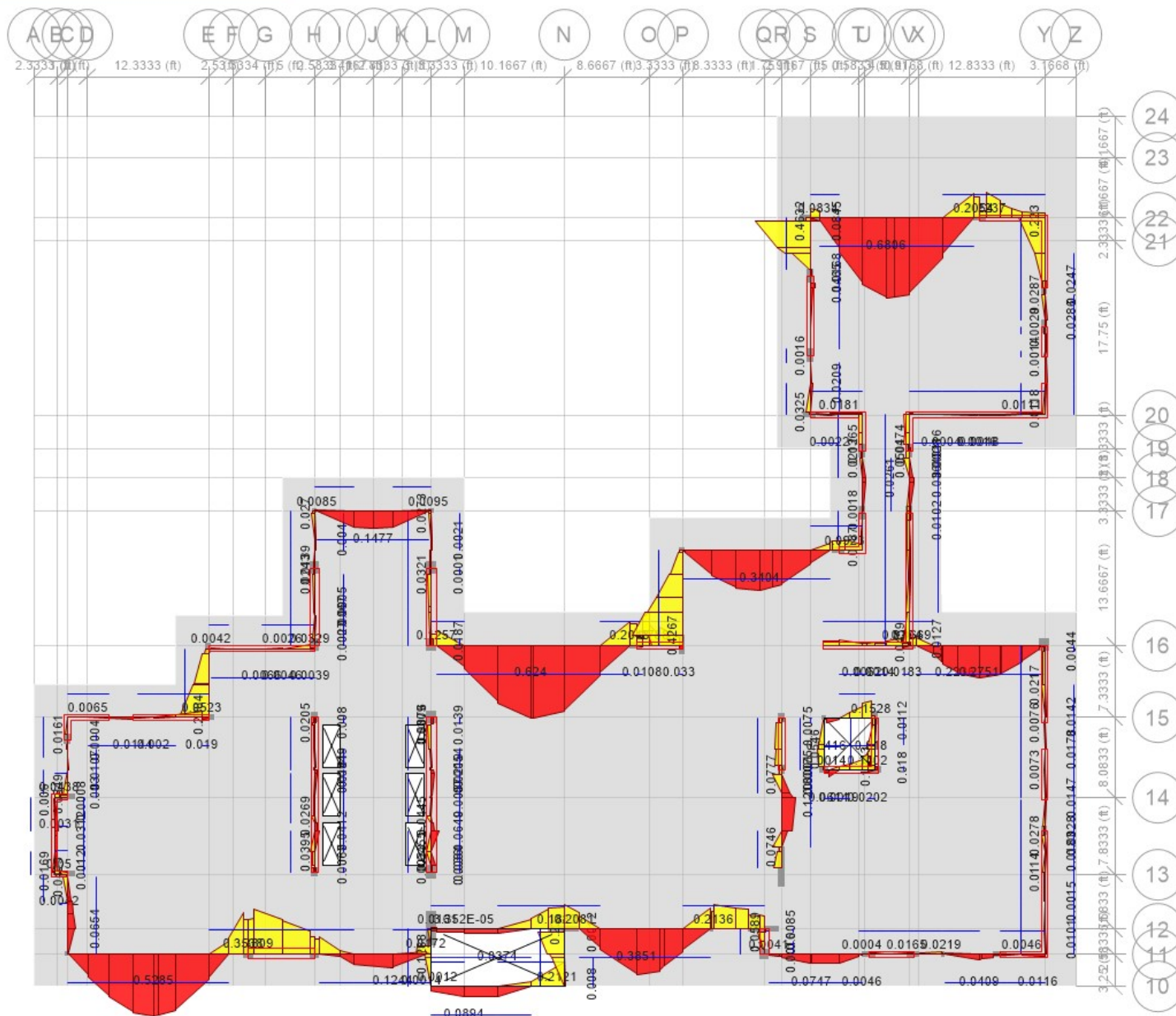


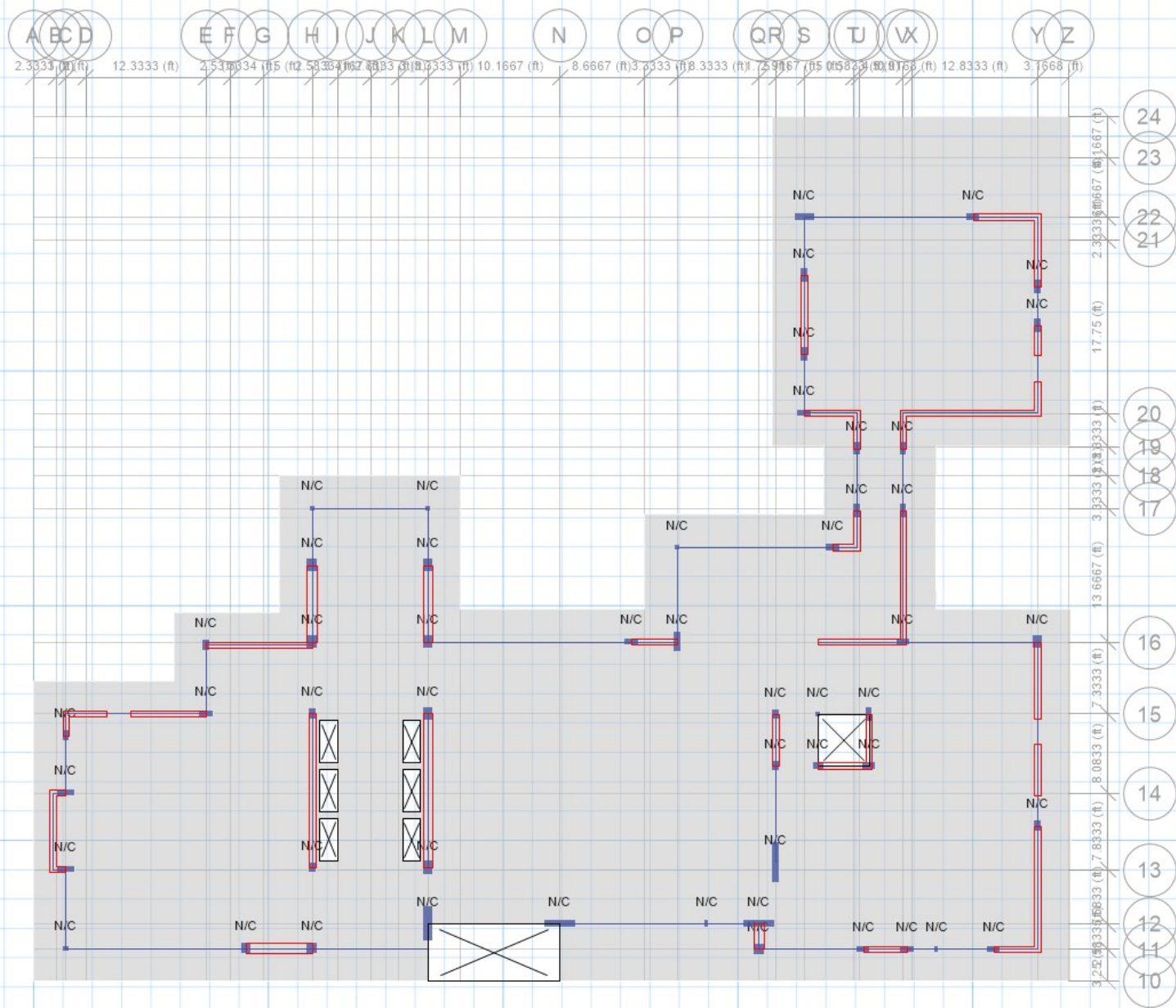


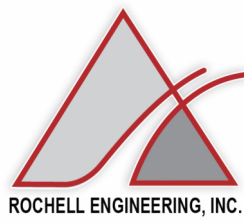




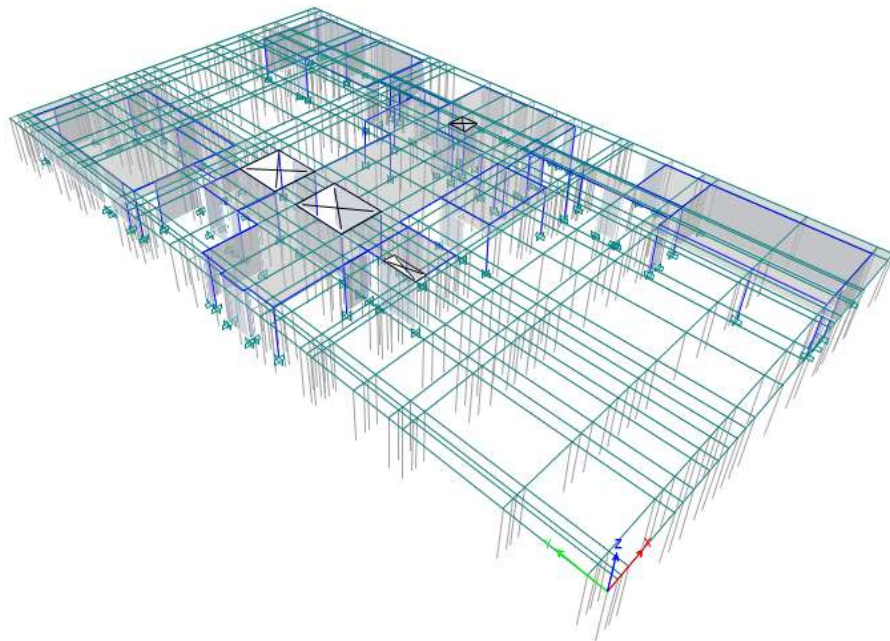








Second Level Concrete Slab Design



Second Floor Slab

Hollub Spec Home 2

Model File: Second Floor Slab, Revision

5/23/2024

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1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Grid Data

Table 1.1 - Grid Definitions - General

Name	Type	Ux ft	Uy ft	Rz deg	Datum Name	Story Name Above	Story Name Below	Model Datum ft	Story Height Above ft	Story Height Below ft	Bubble Size in	Color
GLOBAL	Cartesian	0	0	0	Story1		Base	0		13	60	10461087

Table 1.2 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	X (Cartesian)	A	0	End	Yes
GLOBAL	X (Cartesian)	B	2.3333	End	Yes
GLOBAL	X (Cartesian)	C	3.3333	End	Yes
GLOBAL	X (Cartesian)	D	5.3333	End	Yes
GLOBAL	X (Cartesian)	E	17.6666	End	Yes
GLOBAL	X (Cartesian)	F	20.1666	End	Yes
GLOBAL	X (Cartesian)	G	23.5	End	Yes
GLOBAL	X (Cartesian)	H	28.5	End	Yes
GLOBAL	X (Cartesian)	I	31.0833	End	Yes
GLOBAL	X (Cartesian)	J	34.5	End	Yes
GLOBAL	X (Cartesian)	K	37.3333	End	Yes
GLOBAL	X (Cartesian)	L	40.3333	End	Yes
GLOBAL	X (Cartesian)	M	43.6666	End	Yes
GLOBAL	X (Cartesian)	N	53.8333	End	Yes
GLOBAL	X (Cartesian)	O	62.5	End	Yes
GLOBAL	X (Cartesian)	P	65.8333	End	Yes
GLOBAL	X (Cartesian)	Q	74.1666	End	Yes
GLOBAL	X (Cartesian)	R	75.9166	End	Yes
GLOBAL	X (Cartesian)	S	78.8333	End	Yes
GLOBAL	X (Cartesian)	T	83.8333	End	Yes
GLOBAL	X (Cartesian)	U	84.4166	End	Yes
GLOBAL	X (Cartesian)	V	88.9166	End	Yes
GLOBAL	X (Cartesian)	X	89.8333	End	Yes
GLOBAL	X (Cartesian)	Y	102.6666	End	Yes
GLOBAL	X (Cartesian)	Z	105.8333	End	Yes
GLOBAL	Y (Cartesian)	1	0	End	Yes
GLOBAL	Y (Cartesian)	2	3.3333	End	Yes
GLOBAL	Y (Cartesian)	3	18.75	End	Yes
GLOBAL	Y (Cartesian)	4	40.1667	End	Yes
GLOBAL	Y (Cartesian)	5	43.5	End	Yes
GLOBAL	Y (Cartesian)	6	52.1667	End	Yes
GLOBAL	Y (Cartesian)	7	63.5	End	Yes
GLOBAL	Y (Cartesian)	8	64.6667	End	Yes

Table 1.2 - Grid Definitions - Grid Lines (continued)

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	Y (Cartesian)	9	66.8333	End	Yes
GLOBAL	Y (Cartesian)	10	75.5833	End	Yes
GLOBAL	Y (Cartesian)	11	78.8333	End	Yes
GLOBAL	Y (Cartesian)	12	81.4167	End	Yes
GLOBAL	Y (Cartesian)	13	87	End	Yes
GLOBAL	Y (Cartesian)	14	94.8333	End	Yes
GLOBAL	Y (Cartesian)	15	102.9167	End	Yes
GLOBAL	Y (Cartesian)	16	110.25	End	Yes
GLOBAL	Y (Cartesian)	17	123.9167	End	Yes
GLOBAL	Y (Cartesian)	18	127.25	End	Yes
GLOBAL	Y (Cartesian)	19	130.25	End	Yes
GLOBAL	Y (Cartesian)	20	133.5833	End	Yes
GLOBAL	Y (Cartesian)	21	151.3333	End	Yes
GLOBAL	Y (Cartesian)	22	153.6667	End	Yes
GLOBAL	Y (Cartesian)	23	159.8333	End	Yes
GLOBAL	Y (Cartesian)	24	164	End	Yes
GLOBAL	Y (Cartesian)	25	175.75	End	Yes
GLOBAL	Y (Cartesian)	26	179.0833	End	Yes
GLOBAL	Y (Cartesian)	27	183.75	End	Yes
GLOBAL	Y (Cartesian)	28	187.0833	End	Yes

1.2 Line Connectivity

Table 1.3 - Column Object Connectivity

Unique Name	UniquePtI	UniquePtJ	Length ft
139	682	2	13
140	683	4	13
141	684	6	13
142	685	8	13
143	686	10	13
144	687	12	13
145	688	14	13
146	689	16	13
147	690	18	13
148	691	41	13
149	692	66	13
150	693	68	13
151	694	70	13
152	695	30	13
153	696	40	13
154	697	62	13
155	698	64	13
156	699	72	13
157	700	73	13
158	701	76	13

Table 1.3 - Column Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
159	702	78	13
160	703	80	13
161	704	86	13
162	705	88	13
163	706	90	13
164	707	84	13
165	708	93	13
166	709	91	13
167	710	226	13
168	711	227	13
169	712	230	13
170	713	258	13
171	714	259	13
172	715	260	13
173	716	261	13
174	717	262	13
175	718	263	13
176	719	264	13
177	720	265	13
178	721	266	13
179	722	270	13
180	723	273	13
181	724	274	13
182	725	275	13
183	726	271	13
184	727	276	13
185	728	277	13
186	729	278	13
187	730	279	13
188	731	282	13
189	732	283	13
190	733	286	13
191	734	287	13
192	735	288	13
193	736	289	13
194	737	290	13
195	738	292	13
196	739	343	13
197	740	344	13
198	741	345	13
199	742	346	13
200	743	347	13
201	744	348	13
202	745	359	13
203	746	397	13

Table 1.3 - Column Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
204	747	398	13
205	748	399	13
206	749	423	13
207	750	424	13
208	751	425	13
209	752	426	13
210	753	427	13
211	754	428	13
212	755	429	13
213	756	24	13
214	757	27	13
215	758	34	13
216	759	36	13

Table 1.4 - Beam Object Connectivity

Unique Name	UniquePtI	UniquePtJ	Length ft
B9	2	12	36.8333
B76	2	8	22.6667
B78	8	18	36.8333
B80	12	18	22.6667
B86	97	73	23.8334
B87	97	90	46
B88	91	84	16
B89	226	227	9.6667
B90	227	40	18.3334
B91	18	245	12
B92	397	398	2.5833
B93	399	397	12
B94	339	398	20.3333
B95	359	339	14.5833
B96	359	399	20.3333
B97	14	27	38.6667
B98	397	27	9.6667
B99	27	34	6
B100	34	41	12.8333
B101	246	245	12.8333
B102	247	246	12
B103	246	34	26.6667
B104	341	339	13.5
B105	45	72	23.4167
B106	270	276	9.6667
B107	248	249	11.8333
B108	249	341	16.75
B109	248	250	17.25

Table 1.4 - Beam Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
B110	260	261	8.0833
B111	25	261	1.3333
B112	25	23	7.8333
B113	23	262	1.3333
B114	262	264	8.0833
B115	264	265	14.3333
B116	265	266	7
B117	266	251	14
B14	251	271	10.8333
B119	273	344	11.8333
B120	273	274	15.75
B121	274	345	11.8333
B122	344	345	15.75
B124	271	347	11.8333
B125	275	271	13.6667
B126	292	290	5.5
B127	278	282	50.1667
B128	282	252	14.8333
B129	253	252	8
B130	253	254	13.8333
B131	429	424	15.125
B133	427	428	5.1667
B134	428	425	5.25
B135	427	423	5.25
B136	423	425	5.1667
B137	27	255	2.8333
B138	34	256	2.8333
B139	41	66	31.4167
B140	271	257	9.6667
B141	257	292	17.75
B142	278	257	23.1667
B143	257	267	6
B144	346	348	7.8333
B145	348	347	5.8333
B146	268	290	17.75
B147	290	289	9.6667
B148	289	288	9.0833
B149	288	254	5.6667
B151	70	66	8.8333
B152	30	40	9.6667
B153	40	46	13.75
B154	73	269	46
B155	90	269	23.8334
B156	260	259	18.4167
B157	259	343	18.5833

Table 1.4 - Beam Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
B158	275	346	11.8333
B159	346	226	25.5
B160	84	80	7.8333
B11	255	256	6
B24	96	30	4
B25	30	70	9.6667
W100-W	263	264	2.25
W105-W	259	258	6.75
W125-W	426	424	5.25
W136-W	264	394	4.1667
W137-W	396	265	7.6667
W140-W	266	404	10.8333
W141-W	275	407	7.8333
W142-W	408	226	4.6667
W143-W	410	40	2.4167
W144-W	40	412	3.75
W145-W	416	46	3.6667
W146-W	97	46	5.3334
W147-W	422	438	8.0833
W148-W	440	144	6.5833
W149-W	442	144	7.0833
W150-W	446	444	3
W151-W	73	448	3.25
W97-W	72	73	13.75
W152-W	418	72	3.6667
W153-W	45	415	13.4167
W154-W	96	45	8.75
W155-W	41	456	12.5833
W156-W	454	452	5.25
W157-W	450	66	7.9167
W158-W	458	41	4.5
W159-W	464	462	4.5

Table 1.5 - Null Line Object Connectivity

Unique Name	UniquePtI	UniquePtJ	Length ft
WW81	2	4	4
WW82	6	8	15.1667
WW83	12	14	3.8334
WW85	16	18	12.5
WW86	41	50	3.5
WW87	52	272	6.6667
WW88	280	58	5.25
WW89	281	66	8.25
WW90	68	70	3.8333

Table 1.5 - Null Line Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
WW91	80	269	19.8333
WW92	76	78	16
WW94	91	93	3.8333
WW95	90	88	17.5
WW96	86	269	2.3333
WW98	97	284	5.5834
WW102	285	251	8.1667
WW103	251	270	4
WW104	266	291	3.5833
WW107	258	250	3
WW109	279	293	9.1667
WW110	294	282	32.75
WW111	295	257	0.3333
WW113	283	252	9.3333
WW115	253	286	2.6667
WW116	287	254	5.5
WW120	248	296	10.75
WW121	297	339	7.5
WW122	298	341	7.5
WW130	299	245	0.6667
WW131	245	300	5.3333
WW132	302	301	0.6667
WW133	301	303	5.3333
WW135	277	276	10.75

1.3 Area Connectivity**Table 1.6 - Floor Object Connectivity**

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2	Order
F10	304	305	306	307	145.3334	1268.75	
F11	308	309	245	246	43	111.22	
F12	310	308	34	27	82.6667	212	
F13	359	399	398	339	69.8333	296.53	
F14	313	312	399	359	68.1667	102.5	1
F14	297	311					2
F15	248	249	343	258	52.1667	168.63	
F20	30	45	72	46	56.3333	111.23	
F21	226	30	40	227	56.0001	177.22	
F22	23	25	261	260	309.1667	3288.63	1
F22	343	341	398	397			2
F22	41	66	346	347			3
F22	271	315	314	270			4
F22	251	265	264	262			5
F23	321	320	319	318	184.3333	1897.44	1
F23	317	316					2

Table 1.6 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2	Order
F24	143	144	269	90	99.6667	619.67	
F25	97	73	144	143	87.6667	476.67	
ColC2	325	326	327	328	6.6667	1.78	
ColC4	329	330	331	332	3.3333	0.67	
ColC6	333	334	335	336	3.3333	0.67	
ColC8	337	338	340	342	3.3333	0.67	
ColC10	349	350	351	352	5.6667	1.44	
ColC12	353	354	355	356	6.6667	1.78	
ColC14	357	358	360	361	4.0001	0.89	
ColC16	362	363	364	365	4	0.89	
ColC18	366	367	368	369	6.6667	1.78	
ColC41	370	371	372	373	8.3333	2.33	
ColC66	374	375	376	377	4.6667	1.33	
ColC68	378	379	380	381	4	0.89	
ColC70	382	383	384	385	4	0.89	
ColC30	386	387	388	389	4	0.89	
ColC40	390	391	392	393	9.0001	2.56	
ColC62	395	400	401	402	8	3	
ColC64	403	405	406	409	8	3	
ColC72	411	413	414	417	4	1	
ColC73	419	420	421	430	4	1	
ColC76	431	432	433	434	4	0.89	
ColC78	435	436	437	439	4	0.89	
ColC80	441	443	445	447	4	0.89	
ColC86	449	451	453	455	4	0.89	
ColC88	457	459	461	463	4	0.89	
ColC90	465	467	468	469	4	0.89	
ColC84	470	471	472	473	4	0.89	
ColC93	474	475	476	477	4	0.89	
ColC91	478	479	480	481	4	0.89	
ColC226	482	483	484	485	6	1.56	
ColC227	486	487	488	489	2	0.25	
ColC230	490	491	492	493	6	1.56	
ColC258	494	495	496	497	8	3	
ColC259	498	499	500	501	4.6667	1.33	
ColC260	502	503	504	505	2	0.25	
ColC261	506	507	508	509	7	1.89	
ColC262	510	511	512	513	7	1.89	
ColC263	514	515	516	517	3.3333	0.67	
ColC264	518	519	520	521	3.3333	0.67	
ColC265	522	523	524	525	4	0.89	
ColC266	526	527	528	529	4	0.89	
ColC270	530	531	532	533	3.3333	0.67	
ColC273	534	535	536	537	4.6667	1.33	
ColC274	538	539	540	541	4.6667	1.33	

Table 1.6 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2	Order
ColC275	542	543	544	545	4.6667	1.33	
ColC271	546	547	548	549	4.6667	1.33	
ColC276	550	551	552	553	4	0.89	
ColC277	554	555	556	557	4	0.89	
ColC278	558	559	560	561	2	0.25	
ColC279	562	563	564	565	4	0.89	
ColC282	566	567	568	569	7	1.89	
ColC283	570	571	572	573	3.3333	0.67	
ColC286	574	575	576	577	3.3333	0.67	
ColC287	578	579	580	581	3.3333	0.67	
ColC288	582	583	584	585	4	0.89	
ColC289	586	587	588	589	4	0.89	
ColC290	590	591	592	593	4	0.89	
ColC292	594	595	596	597	4	0.89	
ColC343	598	599	600	601	6	2	
ColC344	602	603	604	605	4.6667	1.33	
ColC345	606	607	608	609	4.6667	1.33	
ColC346	610	611	612	613	4.6667	1.33	
ColC347	614	615	616	617	2	0.25	
ColC348	618	619	620	621	4.6667	1.33	
ColC359	622	623	624	625	2	0.25	
ColC397	626	627	628	629	4.6667	1.33	
ColC398	630	631	632	633	2	0.25	
ColC399	634	635	636	637	4.6667	1.33	
ColC423	638	639	640	641	2	0.25	
ColC424	642	643	644	645	3.3333	0.67	
ColC425	646	647	648	649	4	0.89	
ColC426	650	651	652	653	3.3333	0.67	
ColC427	654	655	656	657	3.3333	0.67	
ColC428	658	659	660	661	4	0.89	
ColC429	662	663	664	665	9.3333	2.67	
ColC24	666	667	668	669	2	0.25	
ColC27	670	671	672	673	5.0001	1.5	
ColC34	674	675	676	677	5	1.5	
ColC36	678	679	680	681	2	0.25	

Table 1.7 - Wall Object Connectivity

UniqueName	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
95	682	683	4	2	34.0001	52
96	684	685	8	6	56.3333	197.17
97	687	688	14	12	33.6667	49.83
98	685	690	18	8	99.6667	478.83
99	689	690	18	16	51	162.5
100	691	760	50	41	33	45.5

Table 1.7 - Wall Object Connectivity (continued)

UniqueName	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
101	761	762	272	52	39.3333	86.67
102	763	764	58	280	36.5	68.25
103	765	692	66	281	42.5	107.25
104	693	694	70	68	33.6667	49.83
105	703	766	269	80	65.6667	257.83
106	701	702	78	76	58	208
107	707	703	80	84	41.6667	101.83
108	709	708	93	91	33.6667	49.83
109	706	705	88	90	61.0001	227.5
110	704	766	269	86	30.6667	30.33
111	699	700	73	72	53.5	178.75
112	767	768	284	97	37.1667	72.58
113	695	696	40	30	45.3333	125.67
114	718	719	264	263	30.5	29.25
115	719	720	265	264	54.6667	186.33
116	769	770	251	285	42.3333	106.17
117	770	722	270	251	34	52
118	721	771	291	266	33.1667	46.58
119	714	713	258	259	39.5	87.75
120	723	724	274	273	57.5	204.75
121	713	772	250	258	32	39
122	725	726	271	275	53.3333	177.67
123	730	773	293	279	44.3333	119.17
124	774	731	282	294	91.5	425.75
125	775	776	257	295	26.6667	4.33
126	776	777	267	257	38	78
127	732	778	252	283	44.6667	121.33
128	779	778	252	253	42	104
129	779	733	286	253	31.3333	34.67
130	734	780	254	287	37	71.5
131	735	780	254	288	37.3333	73.67
132	738	737	290	292	37	71.5
133	737	736	289	290	45.3333	125.67
134	781	782	296	248	47.5	139.75
135	783	784	339	297	41	97.5
136	785	786	341	298	41	97.5
137	740	741	345	344	57.5	204.75
138	742	744	348	346	41.6667	101.83
139	752	750	424	426	36.5	68.25
140	753	754	428	427	36.3334	67.17
141	754	751	425	428	36.5	68.25
142	757	787	255	27	31.6667	36.83
143	758	788	256	34	31.6667	36.83
144	789	790	245	299	27.3333	8.67
145	790	791	300	245	36.6667	69.33

Table 1.7 - Wall Object Connectivity (continued)

UniqueName	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
146	792	793	301	302	27.3333	8.67
147	793	794	303	301	36.6667	69.33
148	795	796	23	25	41.6667	101.83
149	728	727	276	277	47.5	139.75
150	796	717	262	23	28.6667	17.33
151	795	716	261	25	28.6667	17.33

Table 1.8 - Null Area Object Connectivity

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
A5	273	344	345	274	55.1667	186.38
A6	275	346	347	271	51	161.72
A13	248	322	323	324	24.6667	28
A14	427	428	425	423	20.8334	27.13

1.4 Strip Connectivity

Table 1.9 - Strip Object Connectivity

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA1	1	1	305	1.6667	1.6667	1.6667	1.6667	No	A
CSA10	1	31	32	1.625	4.375	1.625	4.375	No	A
CSA11	1	33	41	1.2917	1.625	1.2917	1.625	No	A
CSA12	1	94	P937	2.7917	1.2917	2.7917	1.2917	No	A
CSA13	1	25	P938	3.9167	2.7917	3.9167	2.7917	No	A
CSA14	1	23	P940	4.0417	3.9167	4.0417	3.9167	No	A
CSA15	1	264	P943	3.6667	4.0417	3.6667	4.0417	No	A
CSA16	1	49	66	6.8333	3.6667	6.8333	3.6667	No	A
CSA17	1	53	54	1.6667	6.8333	1.6667	6.8333	No	A
CSA18	1	55	56	1.5	1.6667	1.5	1.6667	No	A
CSA19	1	317	59	1.6667	1.5	1.6667	1.5	No	A
CSA2	1	3	5	7.7083	1.6667	7.7083	1.6667	No	A
CSA20	1	95	61	8.875	1.6667	8.875	1.6667	No	A
CSA21	1	98	99	1.1667	8.875	1.1667	8.875	No	A
CSA22	1	100	144	3.0833	1.1667	3.0833	1.1667	No	A
CSA23	1	101	80	2.0833	3.0833	2.0833	3.0833	No	A
CSA24	1	102	103	5.875	2.0833	5.875	2.0833	No	A
CSA25	1	104	105	1.6667	5.875	1.6667	5.875	No	A
CSA26	1	106	107	2.3333	1.6667	2.3333	1.6667	No	A
CSA27	1	108	87	1.6667	2.3333	1.6667	2.3333	No	A
CSA28	1	318	92	1.6667	1.6667	1.6667	1.6667	No	A
CSA3	1	7	9	10.7083	7.7083	10.7083	7.7083	No	A
CSA4	1	11	13	1.6667	10.7083	1.6667	10.7083	No	A
CSA5	1	15	306	4.3333	1.6667	4.3333	1.6667	No	A

Table 1.9 - Strip Object Connectivity (continued)

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA6	1	17	245	5.6667	4.3333	5.6667	4.3333	No	A
CSA7	1	20	21	0.5833	5.6667	0.5833	5.6667	No	A
CSA8	1	22	26	1.0833	0.5833	1.0833	0.5833	No	A
CSA9	1	28	29	4.375	1.0833	4.375	1.0833	No	A
CSB1	1	1	109	1.1667	1.1667	1.1667	1.1667	No	B
CSB10	1	125	126	1.7084	1.4167	1.7084	1.4167	No	B
CSB11	1	127	128	1.4167	1.5	1.4167	1.5	No	B
CSB12	1	129	130	1.5	1.6667	1.5	1.6667	No	B
CSB13	1	131	132	1.6667	5.0834	1.6667	5.0834	No	B
CSB14	1	133	134	5.0834	4.3334	5.0834	4.3334	No	B
CSB15	1	135	136	4.3334	1.6667	4.3334	1.6667	No	B
CSB16	1	137	138	1.6667	4.1667	1.6667	4.1667	No	B
CSB17	1	139	140	4.1667	0.875	4.1667	0.875	No	B
CSB18	1	141	142	0.875	1.4584	0.875	1.4584	No	B
CSB19	1	145	90	1.4584	2.5	1.4584	2.5	No	B
CSB2	1	110	111	1.1667	0.5	1.1667	0.5	No	B
CSB20	1	147	157	2.5	0.2916	2.5	0.2916	No	B
CSB21	1	149	158	0.2916	2.25	0.2916	2.25	No	B
CSB22	1	151	159	2.25	0.4584	2.25	0.4584	No	B
CSB23	1	153	160	0.4584	6.4166	0.4584	6.4166	No	B
CSB24	1	155	269	6.4166	1.5834	6.4166	1.5834	No	B
CSB25	1	305	92	1.5834	1.5834	1.5834	1.5834	No	B
CSB3	1	112	113	0.5	1	0.5	1	No	B
CSB4	1	114	115	1	6.1667	1	6.1667	No	B
CSB5	1	116	117	6.1667	1.25	6.1667	1.25	No	B
CSB6	1	118	119	1.25	1.6667	1.25	1.6667	No	B
CSB7	1	120	319	1.6667	2.5	1.6667	2.5	No	B
CSB8	1	121	122	2.5	1.2917	2.5	1.2917	No	B
CSB9	1	123	124	1.2917	1.7084	1.2917	1.7084	No	B

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
A416Gr270	Tendon	Uniaxial	Unknown	Magenta	ASTM A416 Grade 270 added 5/20/2024 5:10:10 PM
A615Gr60	Rebar	Uniaxial	Unknown	Cyan	ASTM A615 Grade 60 added 5/20/2024 5:10:10 PM
MAT1	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM
MAT2	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM
MAT3	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM
MAT4	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM
MAT5	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM
MAT6	Concrete	Isotropic	Unknown	Blue	Normalweight f _c = 3 ksi added 5/20/2024 5:10:10 PM

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
12CMU-W	MAT3	Concrete Rectangular	Cyan	1872	85608.54	3796416	22464	0	1560	1560
2B-1	MAT1	Concrete Rectangular	Blue	352	6658.37	56789.33	1877.33	0	293.33	293.33
2B-10	MAT1	Concrete Rectangular	Magenta	432	16407	46656	5184	0	360	360
2B-11	MAT1	Concrete Rectangular	Yellow	288	5291.19	31104	1536	0	240	240
2B-12	MAT1	Concrete Rectangular	Gray8Dark	112	1538.66	1829.33	597.33	0	93.33	93.33
2B-13	MAT1	Concrete Rectangular	Blue	144	2216.86	3888	768	0	120	120
2B-14	MAT1	Concrete Rectangular	Green	272	4949.6	26202.67	1450.67	0	226.67	226.67
2B-15	MAT1	Concrete Rectangular	Red	112	1538.66	1829.33	597.33	0	93.33	93.33
2B-16	MAT1	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
2B-17	MAT1	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
2B-18	MAT1	Concrete Rectangular	Cyan	168	3932.38	2744	2016	0	140	140
2B-19	MAT1	Concrete Rectangular	Red	168	3932.38	2744	2016	0	140	140
2B-2	MAT1	Concrete Rectangular	Green	352	6658.37	56789.33	1877.33	0	293.33	293.33
2B-20	MAT1	Concrete Rectangular	Magenta	176	2899.04	7098.67	938.67	0	146.67	146.67
2B-21	MAT1	Concrete Rectangular	Green	176	2899.04	7098.67	938.67	0	146.67	146.67
2B-22	MAT1	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
2B-23	MAT1	Concrete Rectangular	Yellow	288	9500.62	13824	3456	0	240	240
2B-24	MAT1	Concrete Rectangular	Gray8Dark	240	4265.95	18000	1280	0	200	200
2B-25	MAT1	Concrete Rectangular	Blue	288	9500.62	13824	3456	0	240	240
2B-26	MAT1	Concrete Rectangular	Green	192	4999.14	4096	2304	0	160	160
2B-27	MAT1	Concrete Rectangular	Cyan	168	3932.38	2744	2016	0	140	140
2B-28	MAT1	Concrete Rectangular	Red	168	3932.38	2744	2016	0	140	140
2B-29	MAT1	Concrete Rectangular	Magenta	144	2921.4	1728	1728	0	120	120
2B-3	MAT1	Concrete Rectangular	Blue	160	2557.9	5333.33	853.33	0	133.33	133.33
2B-30	MAT1	Concrete Rectangular	Green	160	2557.9	5333.33	853.33	0	133.33	133.33
2B-31	MAT1	Concrete Rectangular	Cyan	288	5291.19	31104	1536	0	240	240
2B-32	MAT1	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
2B-33	MAT1	Concrete Rectangular	Magenta	96	1205.11	1152	512	0	80	80
2B-34	MAT1	Concrete Rectangular	Cyan	144	2216.86	3888	768	0	120	120
2B-35	MAT1	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
2B-4	MAT1	Concrete Rectangular	Cyan	288	9500.62	13824	3456	0	240	240
2B-5	MAT1	Concrete Rectangular	Magenta	288	9500.62	13824	3456	0	240	240
2B-6	MAT1	Concrete Rectangular	Red	336	6316.79	49392	1792	0	280	280
2B-7	MAT1	Concrete Rectangular	Yellow	96	1205.11	1152	512	0	80	80
2B-8	MAT1	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
2B-9	MAT1	Concrete Rectangular	Red	96	1205.11	1152	512	0	80	80
8CMU-W	MAT3	Concrete Rectangular	Green	1248	25794.97	2530944	6656	0	1040	1040
C10	MAT5	Concrete Rectangular	Cyan	208	3582.29	11717.33	1109.33	0	173.33	173.33
C12	MAT5	Concrete Rectangular	Red	256	4608.18	21845.33	1365.33	0	213.33	213.33
C14	MAT5	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C16	MAT5	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67
C18	MAT5	Concrete Rectangular	Cyan	256	4608.18	21845.33	1365.33	0	213.33	213.33
C2	MAT5	Concrete Rectangular	Yellow	256	4608.18	21845.33	1365.33	0	213.33	213.33
C226	MAT5	Concrete Rectangular	Blue	224	3924.35	14634.67	1194.67	0	186.67	186.67
C227	MAT6	Concrete Rectangular	Green	36	182.59	108	108	0	30	30
C230	MAT5	Concrete Rectangular	Cyan	224	3924.35	14634.67	1194.67	0	186.67	186.67
C24	MAT6	Concrete Rectangular	Cyan	36	182.59	108	108	0	30	30
C258	MAT5	Concrete Rectangular	Red	432	16407	5184	46656	0	360	360
C259	MAT5	Concrete Rectangular	Magenta	192	4999.14	4096	2304	0	160	160
C260	MAT6	Concrete Rectangular	Yellow	36	182.59	108	108	0	30	30
C261	MAT5	Concrete Rectangular	Gray8Dark	272	4949.6	26202.67	1450.67	0	226.67	226.67
C262	MAT5	Concrete Rectangular	Blue	272	4949.6	26202.67	1450.67	0	226.67	226.67
C263	MAT5	Concrete Rectangular	Green	96	1205.11	1152	512	0	80	80
C264	MAT5	Concrete Rectangular	Yellow	96	1205.11	1152	512	0	80	80
C265	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C266	MAT5	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C27	MAT5	Concrete Rectangular	Red	216	6100.87	5832	2592	0	180	180
C270	MAT5	Concrete Rectangular	Green	96	1205.11	1152	512	0	80	80
C271	MAT5	Concrete Rectangular	Yellow	192	4999.14	4096	2304	0	160	160
C273	MAT5	Concrete Rectangular	Cyan	192	4999.14	4096	2304	0	160	160
C274	MAT5	Concrete Rectangular	Red	192	4999.14	4096	2304	0	160	160
C275	MAT5	Concrete Rectangular	Magenta	192	4999.14	4096	2304	0	160	160
C276	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C277	MAT5	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C278	MAT6	Concrete Rectangular	Magenta	36	182.59	108	108	0	30	30
C279	MAT5	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C282	MAT5	Concrete Rectangular	Gray8Dark	272	4949.6	26202.67	1450.67	0	226.67	226.67
C283	MAT5	Concrete Rectangular	Blue	96	1205.11	1152	512	0	80	80
C286	MAT5	Concrete Rectangular	Green	96	1205.11	1152	512	0	80	80
C287	MAT5	Concrete Rectangular	Cyan	96	1205.11	1152	512	0	80	80
C288	MAT5	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
C289	MAT5	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I ₃₃ in ⁴	I ₂₂ in ⁴	I ₂₃ in ⁴	As ₂ in ²	As ₃ in ²
C290	MAT5	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C292	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C30	MAT5	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C34	MAT5	Concrete Rectangular	Magenta	216	6100.87	5832	2592	0	180	180
C343	MAT5	Concrete Rectangular	Red	288	9500.62	13824	3456	0	240	240
C344	MAT5	Concrete Rectangular	Magenta	192	4999.14	4096	2304	0	160	160
C345	MAT5	Concrete Rectangular	Yellow	192	4999.14	4096	2304	0	160	160
C346	MAT5	Concrete Rectangular	Gray8Dark	192	4999.14	4096	2304	0	160	160
C347	MAT6	Concrete Rectangular	Blue	36	182.59	108	108	0	30	30
C348	MAT5	Concrete Rectangular	Green	192	4999.14	4096	2304	0	160	160
C359	MAT6	Concrete Rectangular	Cyan	36	182.59	108	108	0	30	30
C36	MAT6	Concrete Rectangular	Green	36	182.59	108	108	0	30	30
C397	MAT5	Concrete Rectangular	Red	192	4999.14	4096	2304	0	160	160
C398	MAT6	Concrete Rectangular	Magenta	36	182.59	108	108	0	30	30
C399	MAT5	Concrete Rectangular	Yellow	192	4999.14	4096	2304	0	160	160
C4	MAT5	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
C40	MAT5	Concrete Rectangular	Green	368	6999.94	64890.67	1962.67	0	306.67	306.67
C41	MAT5	Concrete Rectangular	Red	336	6316.79	49392	1792	0	280	280
C423	MAT6	Concrete Rectangular	Cyan	36	182.59	108	108	0	30	30
C424	MAT5	Concrete Rectangular	Red	96	1205.11	1152	512	0	80	80
C425	MAT5	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C426	MAT5	Concrete Rectangular	Yellow	96	1205.11	1152	512	0	80	80
C427	MAT5	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80
C428	MAT5	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C429	MAT5	Concrete Rectangular	Green	384	7341.5	73728	2048	0	320	320
C6	MAT5	Concrete Rectangular	Blue	96	1205.11	1152	512	0	80	80
C62	MAT5	Concrete Rectangular	Cyan	432	16407	46656	5184	0	360	360
C64	MAT5	Concrete Rectangular	Red	432	16407	46656	5184	0	360	360
C66	MAT5	Concrete Rectangular	Magenta	192	4999.14	2304	4096	0	160	160
C68	MAT5	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C70	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C72	MAT5	Concrete Rectangular	Blue	144	2921.4	1728	1728	0	120	120
C73	MAT5	Concrete Rectangular	Green	144	2921.4	1728	1728	0	120	120
C76	MAT5	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
C78	MAT5	Concrete Rectangular	Red	128	1876.67	2730.67	682.67	0	106.67	106.67
C8	MAT5	Concrete Rectangular	Green	96	1205.11	1152	512	0	80	80
C80	MAT5	Concrete Rectangular	Magenta	128	1876.67	2730.67	682.67	0	106.67	106.67
C84	MAT5	Concrete Rectangular	Green	128	1876.67	2730.67	682.67	0	106.67	106.67
C86	MAT5	Concrete Rectangular	Yellow	128	1876.67	2730.67	682.67	0	106.67	106.67
C88	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C90	MAT5	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67
C91	MAT5	Concrete Rectangular	Gray8Dark	128	1876.67	2730.67	682.67	0	106.67	106.67
C93	MAT5	Concrete Rectangular	Cyan	128	1876.67	2730.67	682.67	0	106.67	106.67
HSS8X4X3/8	MAT2	General	Gray8Dark	7.58	49.3	58.7	19.6	0	5.58	2.79
TB-1	MAT1	Concrete Rectangular	Gray8Dark	96	1205.11	1152	512	0	80	80

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3, continued)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
TB-2	MAT1	Concrete Rectangular	Cyan	144	2921.4	1728	1728	0	120	120
TB-6	MAT1	Concrete Rectangular	Blue	128	1876.67	2730.67	682.67	0	106.67	106.67

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

Name	S33Pos in ³	S33Neg in ³	S22Pos in ³	S22Neg in ³	Z33 in ³	Z22 in ³	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
12CMU-W	48672	48672	3744	3744	73008	5616	45.0333	3.4641	0	0	0	0
2B-1	2581.33	2581.33	469.33	469.33	3872	704	12.7017	2.3094	0	0	0	0
2B-10	2592	2592	864	864	3888	1296	10.3923	3.4641	0	0	0	0
2B-11	1728	1728	384	384	2592	576	10.3923	2.3094	0	0	0	0
2B-12	261.33	261.33	149.33	149.33	392	224	4.0415	2.3094	0	0	0	0
2B-13	432	432	192	192	648	288	5.1962	2.3094	0	0	0	0
2B-14	1541.33	1541.33	362.67	362.67	2312	544	9.815	2.3094	0	0	0	0
2B-15	261.33	261.33	149.33	149.33	392	224	4.0415	2.3094	0	0	0	0
2B-16	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-17	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-18	392	392	336	336	588	504	4.0415	3.4641	0	0	0	0
2B-19	392	392	336	336	588	504	4.0415	3.4641	0	0	0	0
2B-2	2581.33	2581.33	469.33	469.33	3872	704	12.7017	2.3094	0	0	0	0
2B-20	645.33	645.33	234.67	234.67	968	352	6.3509	2.3094	0	0	0	0
2B-21	645.33	645.33	234.67	234.67	968	352	6.3509	2.3094	0	0	0	0
2B-22	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-23	1152	1152	576	576	1728	864	6.9282	3.4641	0	0	0	0
2B-24	1200	1200	320	320	1800	480	8.6603	2.3094	0	0	0	0
2B-25	1152	1152	576	576	1728	864	6.9282	3.4641	0	0	0	0
2B-26	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
2B-27	392	392	336	336	588	504	4.0415	3.4641	0	0	0	0
2B-28	392	392	336	336	588	504	4.0415	3.4641	0	0	0	0
2B-29	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
2B-3	533.33	533.33	213.33	213.33	800	320	5.7735	2.3094	0	0	0	0
2B-30	533.33	533.33	213.33	213.33	800	320	5.7735	2.3094	0	0	0	0
2B-31	1728	1728	384	384	2592	576	10.3923	2.3094	0	0	0	0
2B-32	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-33	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
2B-34	432	432	192	192	648	288	5.1962	2.3094	0	0	0	0
2B-35	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
2B-4	1152	1152	576	576	1728	864	6.9282	3.4641	0	0	0	0
2B-5	1152	1152	576	576	1728	864	6.9282	3.4641	0	0	0	0
2B-6	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
2B-7	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
2B-8	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
2B-9	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
8CMU-W	32448	32448	1664	1664	48672	2496	45.0333	2.3094	0	0	0	0
C10	901.33	901.33	277.33	277.33	1352	416	7.5056	2.3094	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3, continued)

Name	S33Pos in3	S33Neg in3	S22Pos in3	S22Neg in3	Z33 in3	Z22 in3	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
C12	1365.33	1365.33	341.33	341.33	2048	512	9.2376	2.3094	0	0	0	0
C14	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C16	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C18	1365.33	1365.33	341.33	341.33	2048	512	9.2376	2.3094	0	0	0	0
C2	1365.33	1365.33	341.33	341.33	2048	512	9.2376	2.3094	0	0	0	0
C226	1045.33	1045.33	298.67	298.67	1568	448	8.0829	2.3094	0	0	0	0
C227	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C230	1045.33	1045.33	298.67	298.67	1568	448	8.0829	2.3094	0	0	0	0
C24	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C258	864	864	2592	2592	1296	3888	3.4641	10.3923	0	0	0	0
C259	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C260	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C261	1541.33	1541.33	362.67	362.67	2312	544	9.815	2.3094	0	0	0	0
C262	1541.33	1541.33	362.67	362.67	2312	544	9.815	2.3094	0	0	0	0
C263	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C264	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C265	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C266	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C27	648	648	432	432	972	648	5.1962	3.4641	0	0	0	0
C270	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C271	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C273	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C274	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C275	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C276	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C277	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C278	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C279	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C282	1541.33	1541.33	362.67	362.67	2312	544	9.815	2.3094	0	0	0	0
C283	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C286	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C287	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C288	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C289	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C290	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C292	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C30	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C34	648	648	432	432	972	648	5.1962	3.4641	0	0	0	0
C343	1152	1152	576	576	1728	864	6.9282	3.4641	0	0	0	0
C344	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C345	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C346	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C347	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C348	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3, continued)

Name	S33Pos in3	S33Neg in3	S22Pos in3	S22Neg in3	Z33 in3	Z22 in3	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
C359	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C36	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C397	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C398	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C399	512	512	384	384	768	576	4.6188	3.4641	0	0	0	0
C4	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C40	2821.33	2821.33	490.67	490.67	4232	736	13.2791	2.3094	0	0	0	0
C41	2352	2352	448	448	3528	672	12.1244	2.3094	0	0	0	0
C423	36	36	36	36	54	54	1.7321	1.7321	0	0	0	0
C424	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C425	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C426	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C427	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C428	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C429	3072	3072	512	512	4608	768	13.8564	2.3094	0	0	0	0
C6	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C62	2592	2592	864	864	3888	1296	10.3923	3.4641	0	0	0	0
C64	2592	2592	864	864	3888	1296	10.3923	3.4641	0	0	0	0
C66	384	384	512	512	576	768	3.4641	4.6188	0	0	0	0
C68	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C70	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C72	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
C73	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
C76	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C78	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C8	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
C80	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C84	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C86	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C88	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C90	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C91	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
C93	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0
HSS8X4X3/8	5184	5184	3456	3456	0	0	0	0	0	0	0	0
TB-1	192	192	128	128	288	192	3.4641	2.3094	0	0	0	0
TB-2	288	288	288	288	432	432	3.4641	3.4641	0	0	0	0
TB-6	341.33	341.33	170.67	170.67	512	256	4.6188	2.3094	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
12CMU-W	1	1	1	1	1	1	1
2B-1	1	1	1	1	1	1	1
2B-10	1	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3, continued)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
2B-11	1	1	1	1	1	1	1
2B-12	1	1	1	1	1	1	1
2B-13	1	1	1	1	1	1	1
2B-14	1	1	1	1	1	1	1
2B-15	1	1	1	1	1	1	1
2B-16	1	1	1	1	1	1	1
2B-17	1	1	1	1	1	1	1
2B-18	1	1	1	1	1	1	1
2B-19	1	1	1	1	1	1	1
2B-2	1	1	1	1	1	1	1
2B-20	1	1	1	1	1	1	1
2B-21	1	1	1	1	1	1	1
2B-22	1	1	1	1	1	1	1
2B-23	1	1	1	1	1	1	1
2B-24	1	1	1	1	1	1	1
2B-25	1	1	1	1	1	1	1
2B-26	1	1	1	1	1	1	1
2B-27	1	1	1	1	1	1	1
2B-28	1	1	1	1	1	1	1
2B-29	1	1	1	1	1	1	1
2B-3	1	1	1	1	1	1	1
2B-30	1	1	1	1	1	1	1
2B-31	1	1	1	1	1	1	1
2B-32	1	1	1	1	1	1	1
2B-33	1	1	1	1	1	1	1
2B-34	1	1	1	1	1	1	1
2B-35	1	1	1	1	1	1	1
2B-4	1	1	1	1	1	1	1
2B-5	1	1	1	1	1	1	1
2B-6	1	1	1	1	1	1	1
2B-7	1	1	1	1	1	1	1
2B-8	1	1	1	1	1	1	1
2B-9	1	1	1	1	1	1	1
8CMU-W	1	1	1	1	1	1	1
C10	1	1	1	1	1	1	1
C12	1	1	1	1	1	1	1
C14	1	1	1	1	1	1	1
C16	1	1	1	1	1	1	1
C18	1	1	1	1	1	1	1
C2	1	1	1	1	1	1	1
C226	1	1	1	1	1	1	1
C227	1	1	1	1	1	1	1
C230	1	1	1	1	1	1	1
C24	1	1	1	1	1	1	1
C258	1	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3, continued)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
C259	1	1	1	1	1	1	1
C260	1	1	1	1	1	1	1
C261	1	1	1	1	1	1	1
C262	1	1	1	1	1	1	1
C263	1	1	1	1	1	1	1
C264	1	1	1	1	1	1	1
C265	1	1	1	1	1	1	1
C266	1	1	1	1	1	1	1
C27	1	1	1	1	1	1	1
C270	1	1	1	1	1	1	1
C271	1	1	1	1	1	1	1
C273	1	1	1	1	1	1	1
C274	1	1	1	1	1	1	1
C275	1	1	1	1	1	1	1
C276	1	1	1	1	1	1	1
C277	1	1	1	1	1	1	1
C278	1	1	1	1	1	1	1
C279	1	1	1	1	1	1	1
C282	1	1	1	1	1	1	1
C283	1	1	1	1	1	1	1
C286	1	1	1	1	1	1	1
C287	1	1	1	1	1	1	1
C288	1	1	1	1	1	1	1
C289	1	1	1	1	1	1	1
C290	1	1	1	1	1	1	1
C292	1	1	1	1	1	1	1
C30	1	1	1	1	1	1	1
C34	1	1	1	1	1	1	1
C343	1	1	1	1	1	1	1
C344	1	1	1	1	1	1	1
C345	1	1	1	1	1	1	1
C346	1	1	1	1	1	1	1
C347	1	1	1	1	1	1	1
C348	1	1	1	1	1	1	1
C359	1	1	1	1	1	1	1
C36	1	1	1	1	1	1	1
C397	1	1	1	1	1	1	1
C398	1	1	1	1	1	1	1
C399	1	1	1	1	1	1	1
C4	1	1	1	1	1	1	1
C40	1	1	1	1	1	1	1
C41	1	1	1	1	1	1	1
C423	1	1	1	1	1	1	1
C424	1	1	1	1	1	1	1
C425	1	1	1	1	1	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3, continued)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
C426	1	1	1	1	1	1	1
C427	1	1	1	1	1	1	1
C428	1	1	1	1	1	1	1
C429	1	1	1	1	1	1	1
C6	1	1	1	1	1	1	1
C62	1	1	1	1	1	1	1
C64	1	1	1	1	1	1	1
C66	1	1	1	1	1	1	1
C68	1	1	1	1	1	1	1
C70	1	1	1	1	1	1	1
C72	1	1	1	1	1	1	1
C73	1	1	1	1	1	1	1
C76	1	1	1	1	1	1	1
C78	1	1	1	1	1	1	1
C8	1	1	1	1	1	1	1
C80	1	1	1	1	1	1	1
C84	1	1	1	1	1	1	1
C86	1	1	1	1	1	1	1
C88	1	1	1	1	1	1	1
C90	1	1	1	1	1	1	1
C91	1	1	1	1	1	1	1
C93	1	1	1	1	1	1	1
HSS8X4X3/8	1	1	1	1	1	1	1
TB-1	1	1	1	1	1	1	1
TB-2	1	1	1	1	1	1	1
TB-6	1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness in
Col _{Stiff}	Slab	Shell-Thin	MAT4	8
Slab8	Slab	Shell-Thin	MAT1	8
WW100	Wall	Shell-Thick	MAT3	8
WW101	Wall	Shell-Thick	MAT3	8
WW102	Wall	Shell-Thick	MAT3	8
WW103	Wall	Shell-Thick	MAT3	8
WW104	Wall	Shell-Thick	MAT3	8
WW105	Wall	Shell-Thick	MAT3	12
WW106	Wall	Shell-Thick	MAT3	12
WW107	Wall	Shell-Thick	MAT3	12
WW108	Wall	Shell-Thick	MAT3	12
WW109	Wall	Shell-Thick	MAT3	8
WW110	Wall	Shell-Thick	MAT3	8

Table 2.3 - Area Section Property Definitions - Summary (continued)

Name	Type	Element Type	Material	Total Thickness in
WW111	Wall	Shell-Thick	MAT5	12
WW112	Wall	Shell-Thick	MAT5	12
WW113	Wall	Shell-Thick	MAT3	8
WW114	Wall	Shell-Thick	MAT3	8
WW115	Wall	Shell-Thick	MAT3	8
WW116	Wall	Shell-Thick	MAT3	8
WW117	Wall	Shell-Thick	MAT3	8
WW118	Wall	Shell-Thick	MAT3	8
WW119	Wall	Shell-Thick	MAT3	8
WW120	Wall	Shell-Thick	MAT5	12
WW121	Wall	Shell-Thick	MAT5	12
WW122	Wall	Shell-Thick	MAT5	12
WW123	Wall	Shell-Thick	MAT3	12
WW124	Wall	Shell-Thick	MAT3	12
WW125	Wall	Shell-Thick	MAT3	8
WW126	Wall	Shell-Thick	MAT3	8
WW127	Wall	Shell-Thick	MAT3	8
WW128	Wall	Shell-Thick	MAT3	12
WW129	Wall	Shell-Thick	MAT3	12
WW130	Wall	Shell-Thick	MAT5	8
WW131	Wall	Shell-Thick	MAT5	12
WW132	Wall	Shell-Thick	MAT5	12
WW133	Wall	Shell-Thick	MAT5	12
WW134	Wall	Shell-Thick	MAT3	8
WW135	Wall	Shell-Thick	MAT3	8
WW138	Wall	Shell-Thick	MAT3	8
WW139	Wall	Shell-Thick	MAT3	8
WW81	Wall	Shell-Thick	MAT3	8
WW82	Wall	Shell-Thick	MAT3	8
WW83	Wall	Shell-Thick	MAT3	8
WW84	Wall	Shell-Thick	MAT3	8
WW85	Wall	Shell-Thick	MAT3	8
WW86	Wall	Shell-Thick	MAT3	8
WW87	Wall	Shell-Thick	MAT3	8
WW88	Wall	Shell-Thick	MAT3	8
WW89	Wall	Shell-Thick	MAT3	8
WW90	Wall	Shell-Thick	MAT3	8
WW91	Wall	Shell-Thick	MAT3	8
WW92	Wall	Shell-Thick	MAT3	8
WW93	Wall	Shell-Thick	MAT5	8
WW94	Wall	Shell-Thick	MAT5	8
WW95	Wall	Shell-Thick	MAT5	8
WW96	Wall	Shell-Thick	MAT5	8
WW97	Wall	Shell-Thick	MAT3	12

Table 2.3 - Area Section Property Definitions - Summary (continued)

Name	Type	Element Type	Material	Total Thickness in
WW98	Wall	Shell-Thick	MAT5	12
WW99	Wall	Shell-Thick	MAT3	8

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter in	Area in2
#4	0.5	0.2

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

UniqueName	Diaphragm	Restraints
2	From Area	
4	From Area	
6	From Area	
8	From Area	
10	From Area	
12	From Area	
14	From Area	
16	From Area	
18	From Area	
41	From Area	
50	From Area	
52	From Area	
58	From Area	
66	From Area	
68	From Area	
70	From Area	
30	From Area	
40	From Area	
62	From Area	
64	From Area	
72	From Area	
73	From Area	
76	From Area	
78	From Area	
80	From Area	
86	From Area	
88	From Area	
90	From Area	
84	From Area	
91	From Area	
93	From Area	
97	From Area	
226	From Area	
227	From Area	
230	From Area	
258	From Area	
259	From Area	
260	From Area	
261	From Area	
262	From Area	
263	From Area	
264	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
265	From Area	
266	From Area	
270	From Area	
271	From Area	
273	From Area	
274	From Area	
275	From Area	
276	From Area	
277	From Area	
278	From Area	
279	From Area	
282	From Area	
283	From Area	
286	From Area	
287	From Area	
288	From Area	
289	From Area	
290	From Area	
292	From Area	
339	From Area	
341	From Area	
343	From Area	
344	From Area	
345	From Area	
346	From Area	
347	From Area	
348	From Area	
359	From Area	
397	From Area	
398	From Area	
399	From Area	
423	From Area	
424	From Area	
425	From Area	
426	From Area	
427	From Area	
428	From Area	
429	From Area	
24	From Area	
27	From Area	
34	From Area	
36	From Area	
23	From Area	
25	From Area	
45	From Area	
46	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
143	From Area	
144	From Area	
96	From Area	
394	From Area	
396	From Area	
404	From Area	
407	From Area	
408	From Area	
410	From Area	
412	From Area	
415	From Area	
416	From Area	
418	From Area	
422	From Area	
438	From Area	
440	From Area	
442	From Area	
444	From Area	
446	From Area	
448	From Area	
450	From Area	
452	From Area	
454	From Area	
456	From Area	
458	From Area	
460	From Area	
462	From Area	
464	From Area	
466	From Area	
P858	From Area	
P859	From Area	
P860	From Area	
P861	From Area	
P862	From Area	
P863	From Area	
P864	From Area	
P865	From Area	
P866	From Area	
P867	From Area	
P868	From Area	
P869	From Area	
P870	From Area	
P871	From Area	
P872	From Area	
P873	From Area	
P874	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
P875	From Area	
P876	From Area	
P877	From Area	
P878	From Area	
P879	From Area	
P880	From Area	
P881	From Area	
P882	From Area	
P883	From Area	
P884	From Area	
P885	From Area	
P886	From Area	
P887	From Area	
P888	From Area	
P889	From Area	
P890	From Area	
P891	From Area	
P892	From Area	
P893	From Area	
P894	From Area	
P895	From Area	
P896	From Area	
P897	From Area	
P898	From Area	
P899	From Area	
P900	From Area	
P901	From Area	
P902	From Area	
P903	From Area	
P904	From Area	
P905	From Area	
P906	From Area	
P907	From Area	
P908	From Area	
P909	From Area	
P910	From Area	
P911	From Area	
P912	From Area	
P913	From Area	
P914	From Area	
P915	From Area	
P916	From Area	
P917	From Area	
P918	From Area	
P919	From Area	
P920	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
P921	From Area	
P922	From Area	
P923	From Area	
P924	From Area	
P925	From Area	
P926	From Area	
P927	From Area	
P928	From Area	
P929	From Area	
P930	From Area	
P931	From Area	
P932	From Area	
P933	From Area	
P934	From Area	
P935	From Area	
P936	From Area	
P937	From Area	
P938	From Area	
P939	From Area	
P940	From Area	
P941	From Area	
P942	From Area	
P943	From Area	
P944	From Area	
P945	From Area	
P946	From Area	
P947	From Area	
245	From Area	
246	From Area	
247	From Area	
248	From Area	
249	From Area	
250	From Area	
251	From Area	
252	From Area	
253	From Area	
254	From Area	
255	From Area	
256	From Area	
257	From Area	
267	From Area	
268	From Area	
269	From Area	
272	From Area	
280	From Area	
281	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
284	From Area	
285	From Area	
291	From Area	
293	From Area	
294	From Area	
295	From Area	
296	From Area	
297	From Area	
298	From Area	
299	From Area	
300	From Area	
301	From Area	
302	From Area	
303	From Area	
304	From Area	
305	From Area	
306	From Area	
307	From Area	
308	From Area	
309	From Area	
310	From Area	
311	From Area	
312	From Area	
313	From Area	
314	From Area	
315	From Area	
316	From Area	
317	From Area	
318	From Area	
319	From Area	
320	From Area	
321	From Area	
322	From Area	
323	From Area	
324	From Area	
325	From Area	
326	From Area	
327	From Area	
328	From Area	
329	From Area	
330	From Area	
331	From Area	
332	From Area	
333	From Area	
334	From Area	
335	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
336	From Area	
337	From Area	
338	From Area	
340	From Area	
342	From Area	
349	From Area	
350	From Area	
351	From Area	
352	From Area	
353	From Area	
354	From Area	
355	From Area	
356	From Area	
357	From Area	
358	From Area	
360	From Area	
361	From Area	
362	From Area	
363	From Area	
364	From Area	
365	From Area	
366	From Area	
367	From Area	
368	From Area	
369	From Area	
370	From Area	
371	From Area	
372	From Area	
373	From Area	
374	From Area	
375	From Area	
376	From Area	
377	From Area	
378	From Area	
379	From Area	
380	From Area	
381	From Area	
382	From Area	
383	From Area	
384	From Area	
385	From Area	
386	From Area	
387	From Area	
388	From Area	
389	From Area	
390	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
391	From Area	
392	From Area	
393	From Area	
395	From Area	
400	From Area	
401	From Area	
402	From Area	
403	From Area	
405	From Area	
406	From Area	
409	From Area	
411	From Area	
413	From Area	
414	From Area	
417	From Area	
419	From Area	
420	From Area	
421	From Area	
430	From Area	
431	From Area	
432	From Area	
433	From Area	
434	From Area	
435	From Area	
436	From Area	
437	From Area	
439	From Area	
441	From Area	
443	From Area	
445	From Area	
447	From Area	
449	From Area	
451	From Area	
453	From Area	
455	From Area	
457	From Area	
459	From Area	
461	From Area	
463	From Area	
465	From Area	
467	From Area	
468	From Area	
469	From Area	
470	From Area	
471	From Area	
472	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
473	From Area	
474	From Area	
475	From Area	
476	From Area	
477	From Area	
478	From Area	
479	From Area	
480	From Area	
481	From Area	
482	From Area	
483	From Area	
484	From Area	
485	From Area	
486	From Area	
487	From Area	
488	From Area	
489	From Area	
490	From Area	
491	From Area	
492	From Area	
493	From Area	
494	From Area	
495	From Area	
496	From Area	
497	From Area	
498	From Area	
499	From Area	
500	From Area	
501	From Area	
502	From Area	
503	From Area	
504	From Area	
505	From Area	
506	From Area	
507	From Area	
508	From Area	
509	From Area	
510	From Area	
511	From Area	
512	From Area	
513	From Area	
514	From Area	
515	From Area	
516	From Area	
517	From Area	
518	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
519	From Area	
520	From Area	
521	From Area	
522	From Area	
523	From Area	
524	From Area	
525	From Area	
526	From Area	
527	From Area	
528	From Area	
529	From Area	
530	From Area	
531	From Area	
532	From Area	
533	From Area	
534	From Area	
535	From Area	
536	From Area	
537	From Area	
538	From Area	
539	From Area	
540	From Area	
541	From Area	
542	From Area	
543	From Area	
544	From Area	
545	From Area	
546	From Area	
547	From Area	
548	From Area	
549	From Area	
550	From Area	
551	From Area	
552	From Area	
553	From Area	
554	From Area	
555	From Area	
556	From Area	
557	From Area	
558	From Area	
559	From Area	
560	From Area	
561	From Area	
562	From Area	
563	From Area	
564	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
565	From Area	
566	From Area	
567	From Area	
568	From Area	
569	From Area	
570	From Area	
571	From Area	
572	From Area	
573	From Area	
574	From Area	
575	From Area	
576	From Area	
577	From Area	
578	From Area	
579	From Area	
580	From Area	
581	From Area	
582	From Area	
583	From Area	
584	From Area	
585	From Area	
586	From Area	
587	From Area	
588	From Area	
589	From Area	
590	From Area	
591	From Area	
592	From Area	
593	From Area	
594	From Area	
595	From Area	
596	From Area	
597	From Area	
598	From Area	
599	From Area	
600	From Area	
601	From Area	
602	From Area	
603	From Area	
604	From Area	
605	From Area	
606	From Area	
607	From Area	
608	From Area	
609	From Area	
610	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
611	From Area	
612	From Area	
613	From Area	
614	From Area	
615	From Area	
616	From Area	
617	From Area	
618	From Area	
619	From Area	
620	From Area	
621	From Area	
622	From Area	
623	From Area	
624	From Area	
625	From Area	
626	From Area	
627	From Area	
628	From Area	
629	From Area	
630	From Area	
631	From Area	
632	From Area	
633	From Area	
634	From Area	
635	From Area	
636	From Area	
637	From Area	
638	From Area	
639	From Area	
640	From Area	
641	From Area	
642	From Area	
643	From Area	
644	From Area	
645	From Area	
646	From Area	
647	From Area	
648	From Area	
649	From Area	
650	From Area	
651	From Area	
652	From Area	
653	From Area	
654	From Area	
655	From Area	
656	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
657	From Area	
658	From Area	
659	From Area	
660	From Area	
661	From Area	
662	From Area	
663	From Area	
664	From Area	
665	From Area	
666	From Area	
667	From Area	
668	From Area	
669	From Area	
670	From Area	
671	From Area	
672	From Area	
673	From Area	
674	From Area	
675	From Area	
676	From Area	
677	From Area	
678	From Area	
679	From Area	
680	From Area	
681	From Area	
1	From Area	
3	From Area	
5	From Area	
7	From Area	
9	From Area	
11	From Area	
13	From Area	
15	From Area	
17	From Area	
20	From Area	
21	From Area	
22	From Area	
26	From Area	
28	From Area	
29	From Area	
31	From Area	
32	From Area	
33	From Area	
49	From Area	
53	From Area	
54	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
55	From Area	
56	From Area	
59	From Area	
61	From Area	
87	From Area	
109	From Area	
92	From Area	
94	From Area	
95	From Area	
98	From Area	
99	From Area	
100	From Area	
101	From Area	
102	From Area	
103	From Area	
104	From Area	
105	From Area	
106	From Area	
107	From Area	
108	From Area	
110	From Area	
111	From Area	
112	From Area	
113	From Area	
114	From Area	
115	From Area	
116	From Area	
117	From Area	
118	From Area	
119	From Area	
120	From Area	
121	From Area	
122	From Area	
123	From Area	
124	From Area	
125	From Area	
126	From Area	
127	From Area	
128	From Area	
129	From Area	
130	From Area	
131	From Area	
132	From Area	
133	From Area	
134	From Area	
135	From Area	

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
136	From Area	
137	From Area	
138	From Area	
139	From Area	
140	From Area	
141	From Area	
142	From Area	
145	From Area	
147	From Area	
149	From Area	
151	From Area	
153	From Area	
155	From Area	
157	From Area	
158	From Area	
159	From Area	
160	From Area	
682	From Area	UX; UY; UZ; RX; RY; RZ
683	From Area	UX; UY; UZ; RX; RY; RZ
684	From Area	UX; UY; UZ; RX; RY; RZ
685	From Area	UX; UY; UZ; RX; RY; RZ
686	From Area	UX; UY; UZ; RX; RY; RZ
687	From Area	UX; UY; UZ; RX; RY; RZ
688	From Area	UX; UY; UZ; RX; RY; RZ
689	From Area	UX; UY; UZ; RX; RY; RZ
690	From Area	UX; UY; UZ; RX; RY; RZ
691	From Area	UX; UY; UZ; RX; RY; RZ
760	From Area	UX; UY; UZ; RX; RY; RZ
761	From Area	UX; UY; UZ; RX; RY; RZ
764	From Area	UX; UY; UZ; RX; RY; RZ
692	From Area	UX; UY; UZ; RX; RY; RZ
693	From Area	UX; UY; UZ; RX; RY; RZ
694	From Area	UX; UY; UZ; RX; RY; RZ
695	From Area	UX; UY; UZ; RX; RY; RZ
696	From Area	UX; UY; UZ; RX; RY; RZ
697	From Area	UX; UY; UZ; RX; RY; RZ
698	From Area	UX; UY; UZ; RX; RY; RZ
699	From Area	UX; UY; UZ; RX; RY; RZ
700	From Area	UX; UY; UZ; RX; RY; RZ
701	From Area	UX; UY; UZ; RX; RY; RZ
702	From Area	UX; UY; UZ; RX; RY; RZ
703	From Area	UX; UY; UZ; RX; RY; RZ
704	From Area	UX; UY; UZ; RX; RY; RZ
705	From Area	UX; UY; UZ; RX; RY; RZ
706	From Area	UX; UY; UZ; RX; RY; RZ
707	From Area	UX; UY; UZ; RX; RY; RZ

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
709	From Area	UX; UY; UZ; RX; RY; RZ
708	From Area	UX; UY; UZ; RX; RY; RZ
767	From Area	UX; UY; UZ; RX; RY; RZ
710	From Area	UX; UY; UZ; RX; RY; RZ
711	From Area	UX; UY; UZ; RX; RY; RZ
712	From Area	UX; UY; UZ; RX; RY; RZ
713	From Area	UX; UY; UZ; RX; RY; RZ
714	From Area	UX; UY; UZ; RX; RY; RZ
715	From Area	UX; UY; UZ; RX; RY; RZ
716	From Area	UX; UY; UZ; RX; RY; RZ
717	From Area	UX; UY; UZ; RX; RY; RZ
718	From Area	UX; UY; UZ; RX; RY; RZ
719	From Area	UX; UY; UZ; RX; RY; RZ
720	From Area	UX; UY; UZ; RX; RY; RZ
721	From Area	UX; UY; UZ; RX; RY; RZ
722	From Area	UX; UY; UZ; RX; RY; RZ
726	From Area	UX; UY; UZ; RX; RY; RZ
723	From Area	UX; UY; UZ; RX; RY; RZ
724	From Area	UX; UY; UZ; RX; RY; RZ
725	From Area	UX; UY; UZ; RX; RY; RZ
727	From Area	UX; UY; UZ; RX; RY; RZ
728	From Area	UX; UY; UZ; RX; RY; RZ
729	From Area	UX; UY; UZ; RX; RY; RZ
730	From Area	UX; UY; UZ; RX; RY; RZ
731	From Area	UX; UY; UZ; RX; RY; RZ
732	From Area	UX; UY; UZ; RX; RY; RZ
733	From Area	UX; UY; UZ; RX; RY; RZ
734	From Area	UX; UY; UZ; RX; RY; RZ
735	From Area	UX; UY; UZ; RX; RY; RZ
736	From Area	UX; UY; UZ; RX; RY; RZ
737	From Area	UX; UY; UZ; RX; RY; RZ
738	From Area	UX; UY; UZ; RX; RY; RZ
784	From Area	UX; UY; UZ; RX; RY; RZ
786	From Area	UX; UY; UZ; RX; RY; RZ
739	From Area	UX; UY; UZ; RX; RY; RZ
740	From Area	UX; UY; UZ; RX; RY; RZ
741	From Area	UX; UY; UZ; RX; RY; RZ
742	From Area	UX; UY; UZ; RX; RY; RZ
743	From Area	UX; UY; UZ; RX; RY; RZ
744	From Area	UX; UY; UZ; RX; RY; RZ
745	From Area	UX; UY; UZ; RX; RY; RZ
746	From Area	UX; UY; UZ; RX; RY; RZ
747	From Area	UX; UY; UZ; RX; RY; RZ
748	From Area	UX; UY; UZ; RX; RY; RZ
749	From Area	UX; UY; UZ; RX; RY; RZ
750	From Area	UX; UY; UZ; RX; RY; RZ

Table 3.1 - Joint Assignments - Summary (continued)

UniqueName	Diaphragm	Restraints
751	From Area	UX; UY; UZ; RX; RY; RZ
752	From Area	UX; UY; UZ; RX; RY; RZ
753	From Area	UX; UY; UZ; RX; RY; RZ
754	From Area	UX; UY; UZ; RX; RY; RZ
755	From Area	UX; UY; UZ; RX; RY; RZ
756	From Area	UX; UY; UZ; RX; RY; RZ
757	From Area	UX; UY; UZ; RX; RY; RZ
758	From Area	UX; UY; UZ; RX; RY; RZ
759	From Area	UX; UY; UZ; RX; RY; RZ
796	From Area	UX; UY; UZ; RX; RY; RZ
795	From Area	UX; UY; UZ; RX; RY; RZ
790	From Area	UX; UY; UZ; RX; RY; RZ
781	From Area	UX; UY; UZ; RX; RY; RZ
772	From Area	UX; UY; UZ; RX; RY; RZ
770	From Area	UX; UY; UZ; RX; RY; RZ
778	From Area	UX; UY; UZ; RX; RY; RZ
779	From Area	UX; UY; UZ; RX; RY; RZ
780	From Area	UX; UY; UZ; RX; RY; RZ
787	From Area	UX; UY; UZ; RX; RY; RZ
788	From Area	UX; UY; UZ; RX; RY; RZ
776	From Area	UX; UY; UZ; RX; RY; RZ
777	From Area	UX; UY; UZ; RX; RY; RZ
766	From Area	UX; UY; UZ; RX; RY; RZ
762	From Area	UX; UY; UZ; RX; RY; RZ
763	From Area	UX; UY; UZ; RX; RY; RZ
765	From Area	UX; UY; UZ; RX; RY; RZ
768	From Area	UX; UY; UZ; RX; RY; RZ
769	From Area	UX; UY; UZ; RX; RY; RZ
771	From Area	UX; UY; UZ; RX; RY; RZ
773	From Area	UX; UY; UZ; RX; RY; RZ
774	From Area	UX; UY; UZ; RX; RY; RZ
775	From Area	UX; UY; UZ; RX; RY; RZ
782	From Area	UX; UY; UZ; RX; RY; RZ
783	From Area	UX; UY; UZ; RX; RY; RZ
785	From Area	UX; UY; UZ; RX; RY; RZ
789	From Area	UX; UY; UZ; RX; RY; RZ
791	From Area	UX; UY; UZ; RX; RY; RZ
793	From Area	UX; UY; UZ; RX; RY; RZ
792	From Area	UX; UY; UZ; RX; RY; RZ
794	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
B9	Beam	36.8333	2B-22	2B-22		3
B76	Beam	22.6667	TB-1	TB-1		3
B78	Beam	36.8333	TB-6	TB-6		3
B80	Beam	22.6667	TB-6	TB-6		3
B86	Beam	23.8334	TB-2	TB-2		3
B87	Beam	46	2B-13	2B-13		3
B88	Beam	16	2B-14	2B-14		3
B89	Beam	9.6667	2B-11	2B-11		3
B90	Beam	18.3334	2B-11	2B-11		3
B91	Beam	12	2B-21	2B-21		3
B92	Beam	2.5833	12CMU-W	N/A		3
B93	Beam	12	2B-23	2B-23		3
B94	Beam	20.3333	2B-26	2B-26		3
B95	Beam	14.5833	2B-25	2B-25		3
B96	Beam	20.3333	2B-24	2B-24		3
B97	Beam	38.6667	2B-18	2B-18		3
B98	Beam	9.6667	2B-35	2B-35		3
B99	Beam	6	2B-34	2B-34		3
B100	Beam	12.8333	2B-35	2B-35		3
B101	Beam	12.8333	2B-20	2B-20		3
B102	Beam	12	2B-19	2B-19		3
B103	Beam	26.6667	2B-19	2B-19		3
B104	Beam	13.5	2B-26	2B-26		3
B105	Beam	23.4167	2B-15	2B-15		3
B106	Beam	9.6667	2B-5	2B-5		3
B107	Beam	11.8333	2B-28	2B-28		3
B108	Beam	16.75	2B-27	2B-27		3
B109	Beam	17.25	TB-2	TB-2		3
B110	Beam	8.0833	2B-30	2B-30		3
B111	Beam	1.3333	8CMU-W	N/A		3
B112	Beam	7.8333	8CMU-W	N/A		3
B113	Beam	1.3333	8CMU-W	N/A		3
B114	Beam	8.0833	TB-1	TB-1		3
B115	Beam	14.3333	TB-1	TB-1		3
B116	Beam	7	2B-31	2B-31		3
B117	Beam	14	TB-1	TB-1		3
B14	Beam	10.8333	2B-6	2B-6		3
B119	Beam	11.8333	2B-9	2B-9		3
B120	Beam	15.75	8CMU-W	N/A		3
B121	Beam	11.8333	2B-8	2B-8		3
B122	Beam	15.75	12CMU-W	N/A		3
B124	Beam	11.8333	HSS8X4X3/8	N/A		3
B125	Beam	13.6667	TB-2	TB-2		3
B126	Beam	5.5	TB-1	TB-1		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
B127	Beam	50.1667	TB-1	TB-1		3
B128	Beam	14.8333	TB-1	TB-1		3
B129	Beam	8	TB-1	TB-1		3
B130	Beam	13.8333	TB-1	TB-1		3
B131	Beam	15.125	2B-32	2B-32		3
B133	Beam	5.1667	8CMU-W	N/A		3
B134	Beam	5.25	8CMU-W	N/A		3
B135	Beam	5.25	2B-33	2B-33		3
B136	Beam	5.1667	2B-33	2B-33		3
B137	Beam	2.8333	TB-2	TB-2		3
B138	Beam	2.8333	TB-2	TB-2		3
B139	Beam	31.4167	TB-1	TB-1		3
B140	Beam	9.6667	2B-4	2B-4		3
B141	Beam	17.75	2B-3	2B-3		3
B142	Beam	23.1667	TB-1	TB-1		3
B143	Beam	6	TB-2	TB-2		3
B144	Beam	7.8333	12CMU-W	N/A		3
B145	Beam	5.8333	HSS8X4X3/8	N/A		3
B146	Beam	17.75	2B-2	2B-2		3
B147	Beam	9.6667	TB-1	TB-1		3
B148	Beam	9.0833	2B-1	2B-1		3
B149	Beam	5.6667	TB-1	TB-1		3
B151	Beam	8.8333	2B-16	2B-16		3
B152	Beam	9.6667	TB-1	TB-1		3
B153	Beam	13.75	2B-12	2B-12		3
B154	Beam	46	TB-1	TB-1		3
B155	Beam	23.8334	TB-1	TB-1		3
B156	Beam	18.4167	2B-30	2B-30		3
B157	Beam	18.5833	2B-29	2B-29		3
B158	Beam	11.8333	2B-7	2B-7		3
B159	Beam	25.5	2B-10	2B-10		3
B160	Beam	7.8333	TB-1	TB-1		3
B11	Beam	6	2B-17	2B-17		3
B24	Beam	4	TB-1	TB-1		3
B25	Beam	9.6667	TB-1	TB-1		3
W100-W	Beam	2.25	8CMU-W	N/A		3
W105-W	Beam	6.75	12CMU-W	N/A		3
W125-W	Beam	5.25	8CMU-W	N/A		3
W136-W	Beam	4.1667	8CMU-W	N/A		3
W137-W	Beam	7.6667	8CMU-W	N/A		3
W140-W	Beam	10.8333	8CMU-W	N/A		3
W141-W	Beam	7.8333	12CMU-W	N/A		3
W142-W	Beam	4.6667	8CMU-W	N/A		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
W143-W	Beam	2.4167	8CMU-W	N/A		3
W144-W	Beam	3.75	8CMU-W	N/A		3
W145-W	Beam	3.6667	8CMU-W	N/A		3
W146-W	Beam	5.3334	8CMU-W	N/A		3
W147-W	Beam	8.0833	8CMU-W	N/A		3
W148-W	Beam	6.5833	8CMU-W	N/A		3
W149-W	Beam	7.0833	8CMU-W	N/A		3
W150-W	Beam	3	8CMU-W	N/A		3
W151-W	Beam	3.25	8CMU-W	N/A		3
W97-W	Beam	13.75	8CMU-W	N/A		3
W152-W	Beam	3.6667	8CMU-W	N/A		3
W153-W	Beam	13.4167	8CMU-W	N/A		3
W154-W	Beam	8.75	8CMU-W	N/A		3
W155-W	Beam	12.5833	8CMU-W	N/A		3
W156-W	Beam	5.25	8CMU-W	N/A		3
W157-W	Beam	7.9167	8CMU-W	N/A		3
W158-W	Beam	4.5	8CMU-W	N/A		3
W159-W	Beam	4.5	8CMU-W	N/A		3
139	Column	13	C2	N/A	90	3
140	Column	13	C4	N/A		3
141	Column	13	C6	N/A		3
142	Column	13	C8	N/A		3
143	Column	13	C10	N/A	90	3
144	Column	13	C12	N/A	90	3
145	Column	13	C14	N/A		3
146	Column	13	C16	N/A		3
147	Column	13	C18	N/A	90	3
148	Column	13	C41	N/A		3
149	Column	13	C66	N/A	180	3
150	Column	13	C68	N/A		3
151	Column	13	C70	N/A		3
152	Column	13	C30	N/A	90	3
153	Column	13	C40	N/A		3
154	Column	13	C62	N/A		3
155	Column	13	C64	N/A		3
156	Column	13	C72	N/A		3
157	Column	13	C73	N/A		3
158	Column	13	C76	N/A	90	3
159	Column	13	C78	N/A	90	3
160	Column	13	C80	N/A	90	3
161	Column	13	C86	N/A		3
162	Column	13	C88	N/A		3
163	Column	13	C90	N/A		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
164	Column	13	C84	N/A		3
165	Column	13	C93	N/A	90	3
166	Column	13	C91	N/A	90	3
167	Column	13	C226	N/A	90	3
168	Column	13	C227	N/A		3
169	Column	13	C230	N/A		3
170	Column	13	C258	N/A	-90	3
171	Column	13	C259	N/A		3
172	Column	13	C260	N/A		3
173	Column	13	C261	N/A		3
174	Column	13	C262	N/A		3
175	Column	13	C263	N/A		3
176	Column	13	C264	N/A		3
177	Column	13	C265	N/A		3
178	Column	13	C266	N/A	90	3
179	Column	13	C270	N/A		3
180	Column	13	C273	N/A	90	3
181	Column	13	C274	N/A	90	3
182	Column	13	C275	N/A	90	3
183	Column	13	C271	N/A	90	3
184	Column	13	C276	N/A		3
185	Column	13	C277	N/A		3
186	Column	13	C278	N/A		3
187	Column	13	C279	N/A	90	3
188	Column	13	C282	N/A		3
189	Column	13	C283	N/A		3
190	Column	13	C286	N/A		3
191	Column	13	C287	N/A		3
192	Column	13	C288	N/A	90	3
193	Column	13	C289	N/A	90	3
194	Column	13	C290	N/A		3
195	Column	13	C292	N/A		3
196	Column	13	C343	N/A		3
197	Column	13	C344	N/A	90	3
198	Column	13	C345	N/A	90	3
199	Column	13	C346	N/A	90	3
200	Column	13	C347	N/A		3
201	Column	13	C348	N/A	90	3
202	Column	13	C359	N/A		3
203	Column	13	C397	N/A	90	3
204	Column	13	C398	N/A		3
205	Column	13	C399	N/A	90	3
206	Column	13	C423	N/A		3

Table 3.2 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Axis Angle deg	Min Number Stations
207	Column	13	C424	N/A	90	3
208	Column	13	C425	N/A	90	3
209	Column	13	C426	N/A	90	3
210	Column	13	C427	N/A		3
211	Column	13	C428	N/A		3
212	Column	13	C429	N/A	90	3
213	Column	13	C24	N/A		3
214	Column	13	C27	N/A	90	3
215	Column	13	C34	N/A	90	3
216	Column	13	C36	N/A		3
WW81	Null	4		N/A		3
WW82	Null	15.1667		N/A		3
WW83	Null	3.8334		N/A		3
WW85	Null	12.5		N/A		3
WW86	Null	3.5		N/A		3
WW87	Null	6.6667		N/A		3
WW88	Null	5.25		N/A		3
WW89	Null	8.25		N/A		3
WW90	Null	3.8333		N/A		3
WW91	Null	19.8333		N/A		3
WW92	Null	16		N/A		3
WW94	Null	3.8333		N/A		3
WW95	Null	17.5		N/A		3
WW96	Null	2.3333		N/A		3
WW98	Null	5.5834		N/A		3
WW102	Null	8.1667		N/A		3
WW103	Null	4		N/A		3
WW104	Null	3.5833		N/A		3
WW107	Null	3		N/A		3
WW109	Null	9.1667		N/A		3
WW110	Null	32.75		N/A		3
WW111	Null	0.3333		N/A		3
WW113	Null	9.3333		N/A		3
WW115	Null	2.6667		N/A		3
WW116	Null	5.5		N/A		3
WW120	Null	10.75		N/A		3
WW121	Null	7.5		N/A		3
WW122	Null	7.5		N/A		3
WW130	Null	0.6667		N/A		3
WW131	Null	5.3333		N/A		3
WW132	Null	0.6667		N/A		3
WW133	Null	5.3333		N/A		3
WW135	Null	10.75		N/A		3

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

UniqueName	Section Property	Property Type	Modifiers
F10	Slab8	Slab	
F11	Slab8	Slab	
F12	Slab8	Slab	
F13	Slab8	Slab	
F14	Slab8	Slab	
F15	Slab8	Slab	
F20	Slab8	Slab	
F21	Slab8	Slab	
F22	Slab8	Slab	
F23	Slab8	Slab	
F24	Slab8	Slab	
F25	Slab8	Slab	
ColC2	Col _{Stiff}	Slab	
ColC4	Col _{Stiff}	Slab	
ColC6	Col _{Stiff}	Slab	
ColC8	Col _{Stiff}	Slab	
ColC10	Col _{Stiff}	Slab	
ColC12	Col _{Stiff}	Slab	
ColC14	Col _{Stiff}	Slab	
ColC16	Col _{Stiff}	Slab	
ColC18	Col _{Stiff}	Slab	
ColC41	Col _{Stiff}	Slab	
ColC66	Col _{Stiff}	Slab	
ColC68	Col _{Stiff}	Slab	
ColC70	Col _{Stiff}	Slab	
ColC30	Col _{Stiff}	Slab	
ColC40	Col _{Stiff}	Slab	
ColC62	Col _{Stiff}	Slab	
ColC64	Col _{Stiff}	Slab	
ColC72	Col _{Stiff}	Slab	
ColC73	Col _{Stiff}	Slab	
ColC76	Col _{Stiff}	Slab	
ColC78	Col _{Stiff}	Slab	
ColC80	Col _{Stiff}	Slab	
ColC86	Col _{Stiff}	Slab	
ColC88	Col _{Stiff}	Slab	
ColC90	Col _{Stiff}	Slab	
ColC84	Col _{Stiff}	Slab	
ColC93	Col _{Stiff}	Slab	
ColC91	Col _{Stiff}	Slab	
ColC226	Col _{Stiff}	Slab	
ColC227	Col _{Stiff}	Slab	
ColC230	Col _{Stiff}	Slab	
ColC258	Col _{Stiff}	Slab	

Table 3.3 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Modifiers
ColC259	Col _{Stiff}	Slab	
ColC260	Col _{Stiff}	Slab	
ColC261	Col _{Stiff}	Slab	
ColC262	Col _{Stiff}	Slab	
ColC263	Col _{Stiff}	Slab	
ColC264	Col _{Stiff}	Slab	
ColC265	Col _{Stiff}	Slab	
ColC266	Col _{Stiff}	Slab	
ColC270	Col _{Stiff}	Slab	
ColC273	Col _{Stiff}	Slab	
ColC274	Col _{Stiff}	Slab	
ColC275	Col _{Stiff}	Slab	
ColC271	Col _{Stiff}	Slab	
ColC276	Col _{Stiff}	Slab	
ColC277	Col _{Stiff}	Slab	
ColC278	Col _{Stiff}	Slab	
ColC279	Col _{Stiff}	Slab	
ColC282	Col _{Stiff}	Slab	
ColC283	Col _{Stiff}	Slab	
ColC286	Col _{Stiff}	Slab	
ColC287	Col _{Stiff}	Slab	
ColC288	Col _{Stiff}	Slab	
ColC289	Col _{Stiff}	Slab	
ColC290	Col _{Stiff}	Slab	
ColC292	Col _{Stiff}	Slab	
ColC343	Col _{Stiff}	Slab	
ColC344	Col _{Stiff}	Slab	
ColC345	Col _{Stiff}	Slab	
ColC346	Col _{Stiff}	Slab	
ColC347	Col _{Stiff}	Slab	
ColC348	Col _{Stiff}	Slab	
ColC359	Col _{Stiff}	Slab	
ColC397	Col _{Stiff}	Slab	
ColC398	Col _{Stiff}	Slab	
ColC399	Col _{Stiff}	Slab	
ColC423	Col _{Stiff}	Slab	
ColC424	Col _{Stiff}	Slab	
ColC425	Col _{Stiff}	Slab	
ColC426	Col _{Stiff}	Slab	
ColC427	Col _{Stiff}	Slab	
ColC428	Col _{Stiff}	Slab	
ColC429	Col _{Stiff}	Slab	
ColC24	Col _{Stiff}	Slab	
ColC27	Col _{Stiff}	Slab	
ColC34	Col _{Stiff}	Slab	

Table 3.3 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Modifiers
ColC36	Col _{stiff}	Slab	
95	WW81	Wall	Yes
96	WW82	Wall	Yes
97	WW83	Wall	Yes
98	WW84	Wall	Yes
99	WW85	Wall	Yes
100	WW86	Wall	Yes
101	WW87	Wall	Yes
102	WW88	Wall	Yes
103	WW89	Wall	Yes
104	WW90	Wall	Yes
105	WW91	Wall	Yes
106	WW92	Wall	Yes
107	WW93	Wall	Yes
108	WW94	Wall	Yes
109	WW95	Wall	Yes
110	WW96	Wall	Yes
111	WW97	Wall	Yes
112	WW98	Wall	Yes
113	WW99	Wall	Yes
114	WW100	Wall	Yes
115	WW101	Wall	Yes
116	WW102	Wall	Yes
117	WW103	Wall	Yes
118	WW104	Wall	Yes
119	WW105	Wall	Yes
120	WW106	Wall	Yes
121	WW107	Wall	Yes
122	WW108	Wall	Yes
123	WW109	Wall	Yes
124	WW110	Wall	Yes
125	WW111	Wall	Yes
126	WW112	Wall	Yes
127	WW113	Wall	Yes
128	WW114	Wall	Yes
129	WW115	Wall	Yes
130	WW116	Wall	Yes
131	WW117	Wall	Yes
132	WW118	Wall	Yes
133	WW119	Wall	Yes
134	WW120	Wall	Yes
135	WW121	Wall	Yes
136	WW122	Wall	Yes
137	WW123	Wall	Yes
138	WW124	Wall	Yes

Table 3.3 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Modifiers
139	WW125	Wall	Yes
140	WW126	Wall	Yes
141	WW127	Wall	Yes
142	WW128	Wall	Yes
143	WW129	Wall	Yes
144	WW130	Wall	Yes
145	WW131	Wall	Yes
146	WW132	Wall	Yes
147	WW133	Wall	Yes
148	WW134	Wall	Yes
149	WW135	Wall	Yes
150	WW139	Wall	Yes
151	WW138	Wall	Yes
A5	None	Opening	
A6	None	Opening	
A13	None	Opening	
A14	None	Opening	

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier
~LLRF	No	Other	0
Dead	No	Dead	1
Dead _{ABOVE}	No	Dead	0
Live	No	Live	0
Live _{ABOVE}	No	Live	0

4.2 Applied Loads

4.2.1 Area Loads

Table 4.2 - Area Load Assignments - Uniform

UniqueName	Load Pattern	Direction	Load lb/ft2
F10	Dead	Gravity	15
F11	Dead	Gravity	15
F12	Dead	Gravity	15
F13	Dead	Gravity	15
F14	Dead	Gravity	15
F15	Dead	Gravity	15
F20	Dead	Gravity	35
F21	Dead	Gravity	35
F22	Dead	Gravity	35
F23	Dead	Gravity	15
F24	Dead	Gravity	15
F25	Dead	Gravity	35
F10	Live	Gravity	30
F11	Live	Gravity	30
F12	Live	Gravity	30
F13	Live	Gravity	60
F14	Live	Gravity	140
F15	Live	Gravity	30
F20	Live	Gravity	40
F21	Live	Gravity	40
F22	Live	Gravity	40
F23	Live	Gravity	30
F24	Live	Gravity	60
F25	Live	Gravity	40

4.3 Load Cases

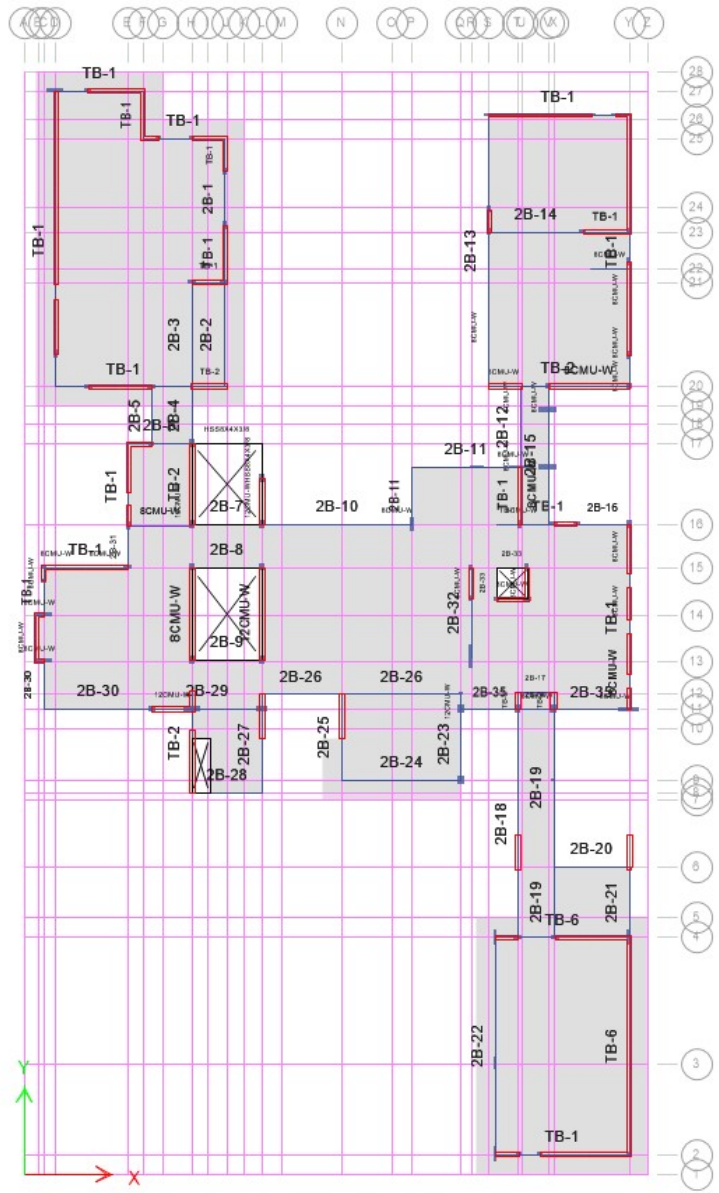
Table 4.3 - Load Case Definitions - Summary

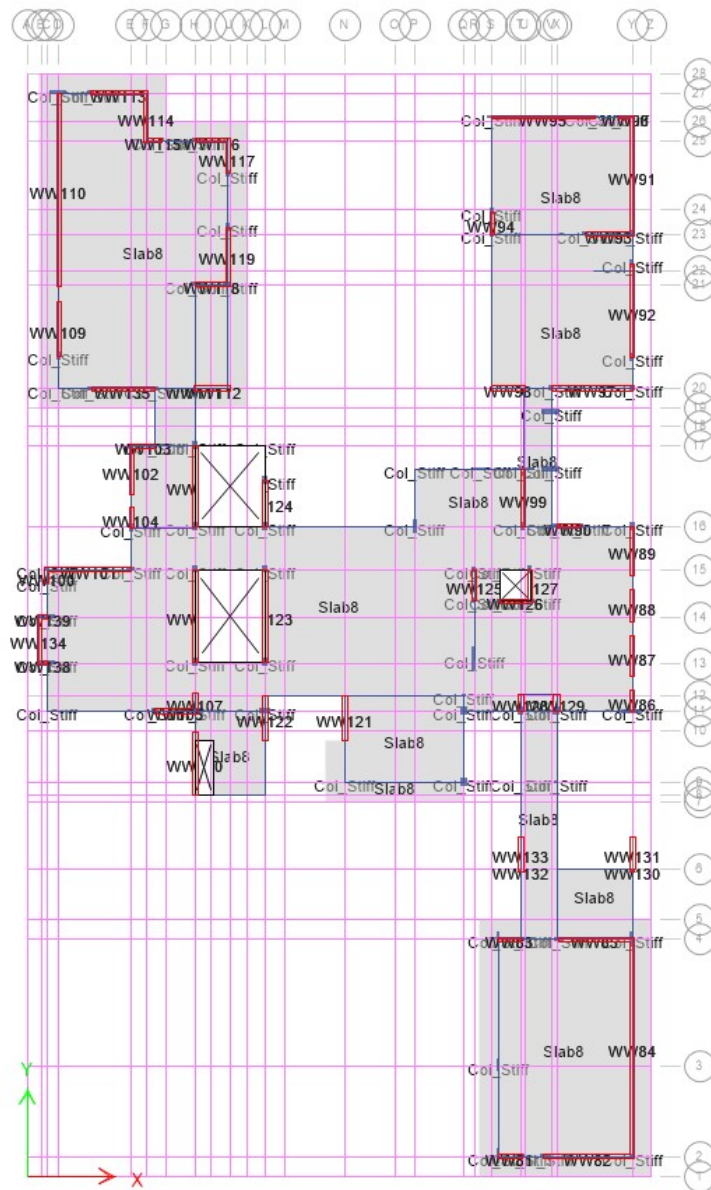
Name	Type
Dead	Linear Static
Live	Linear Static

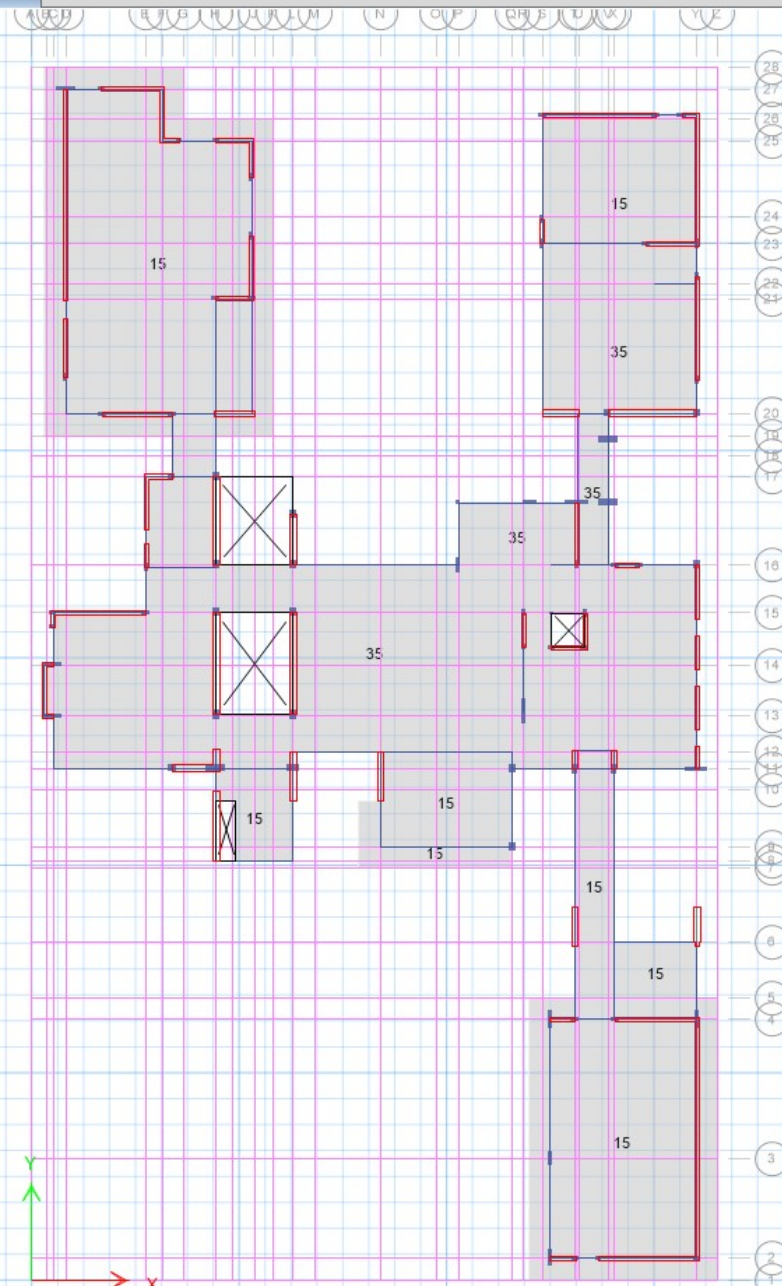
4.4 Load Combinations

Table 4.4 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
0.6DL+1.5HL	Linear Add	No	Dead	0.6	
0.6DL+1.5HL+1.5Fa	Linear Add	No	Dead	0.6	
0.9DL+1.6HL	Linear Add	No	Dead	0.9	
1,4DL	Linear Add	No	Dead	1.4	
1.2DL+1.6LL	Linear Add	No	Dead	1.2	
1.2DL+1.6LL			Live	1.6	
Comb1	Linear Add	No	Dead	1	
Comb1			Live	1	
DL	Linear Add	No	Dead	1	
DL+LL	Linear Add	No	Dead	1	
DL+LL			Live	1	

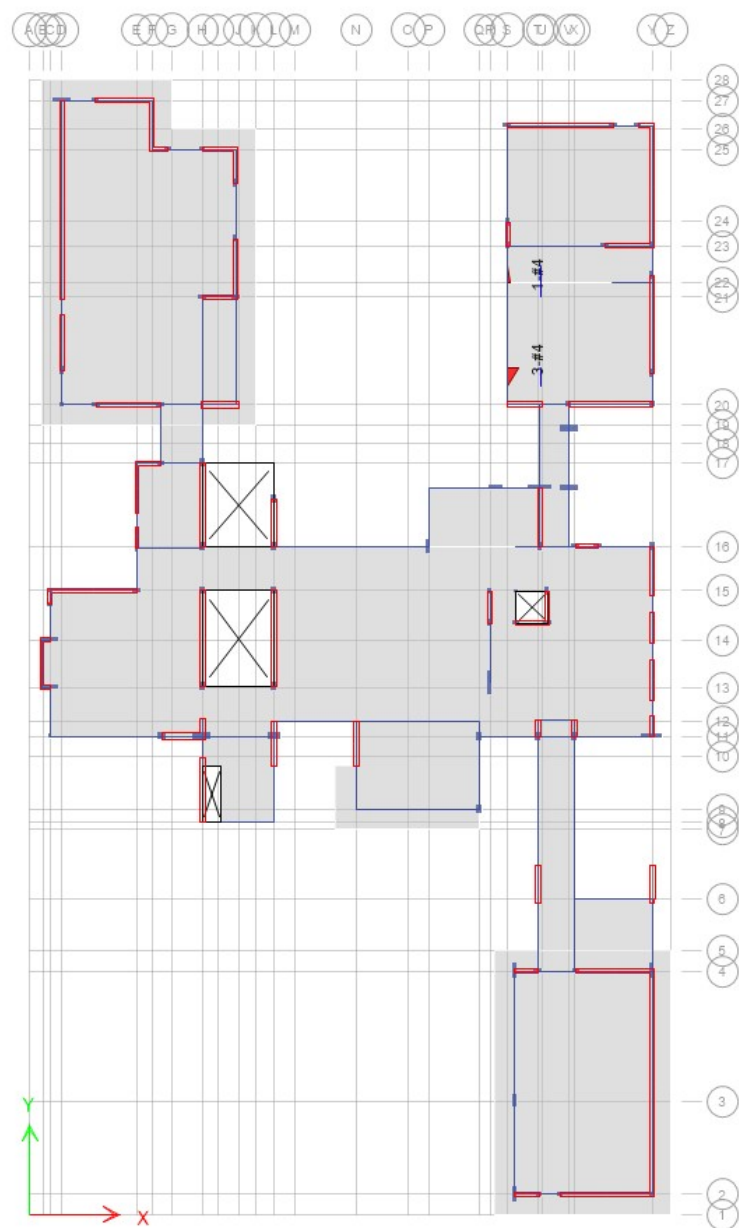


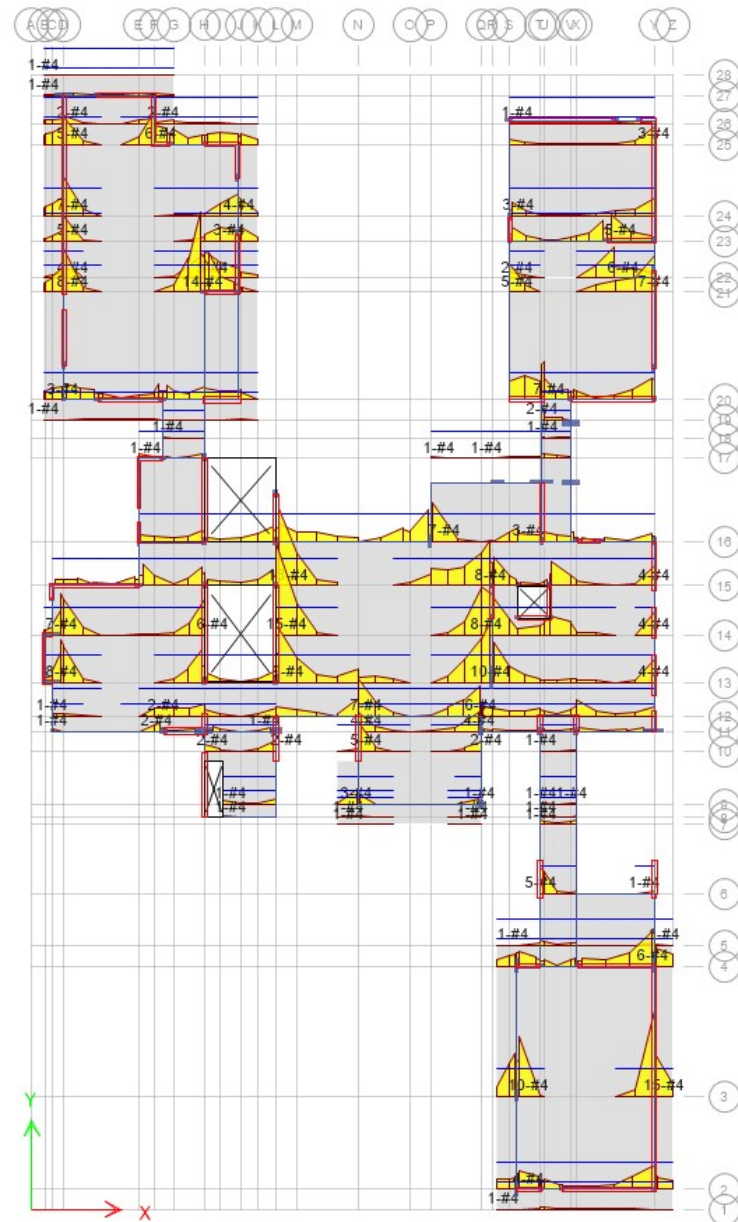


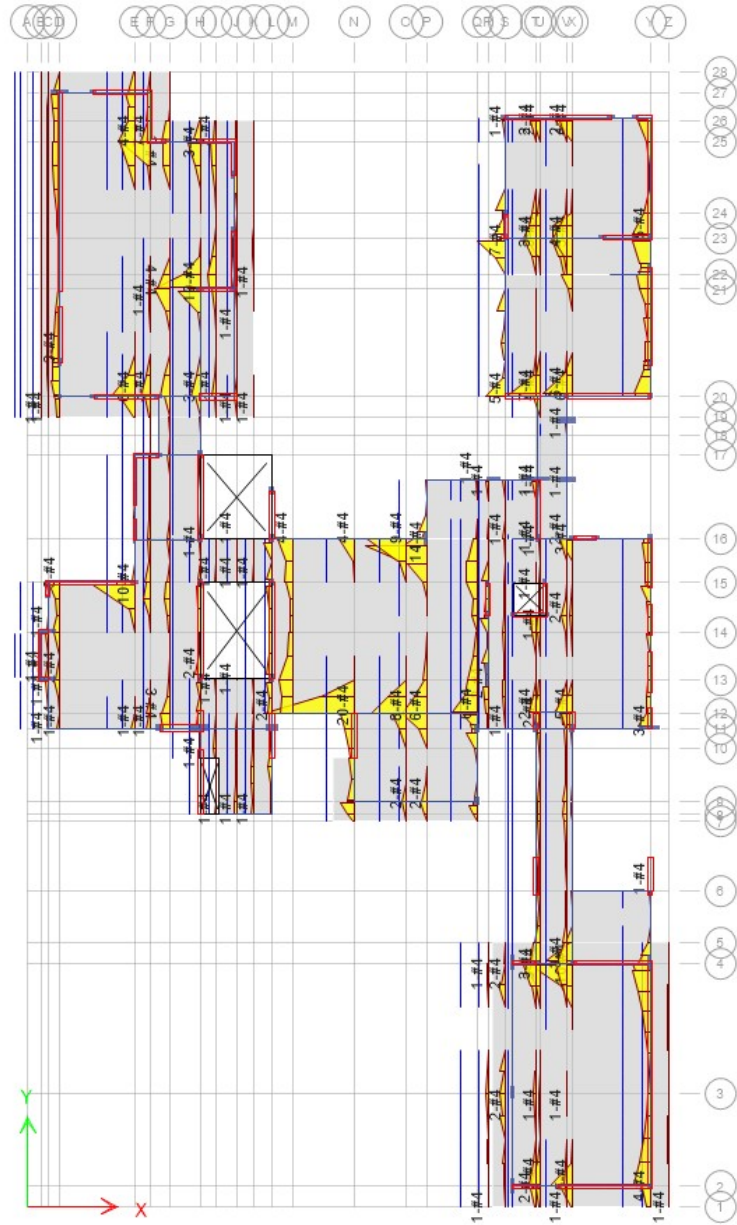


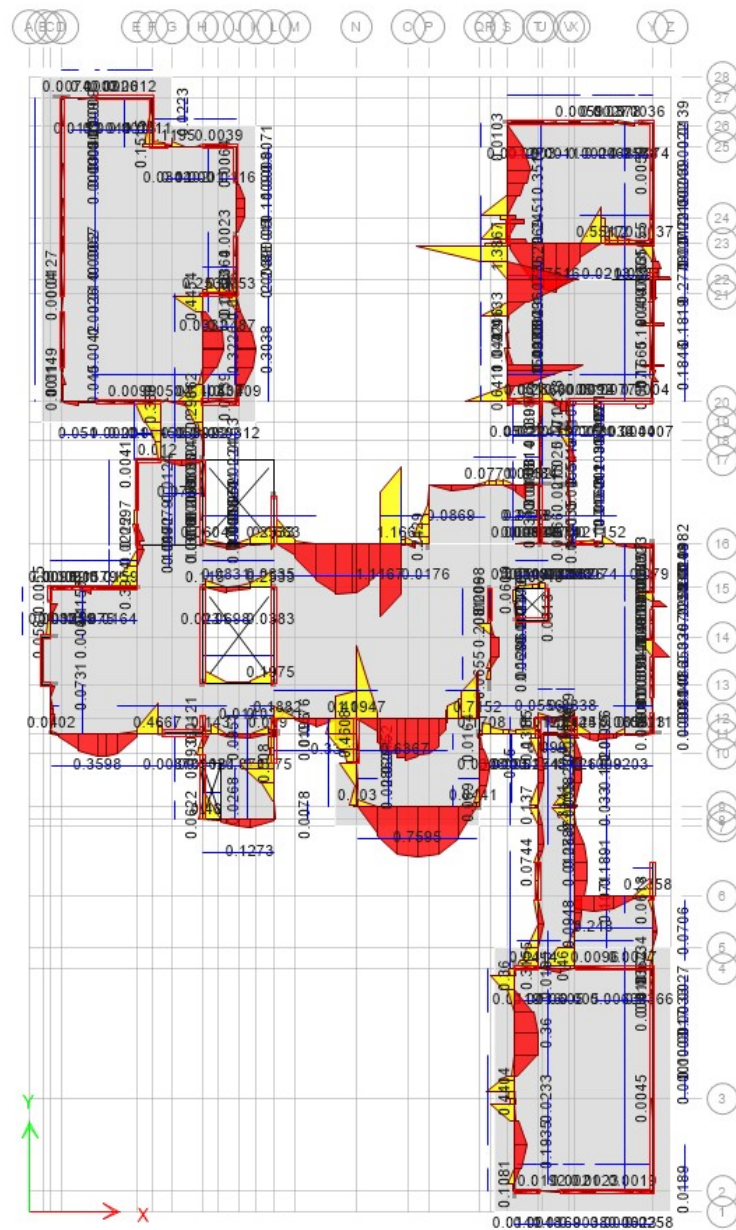


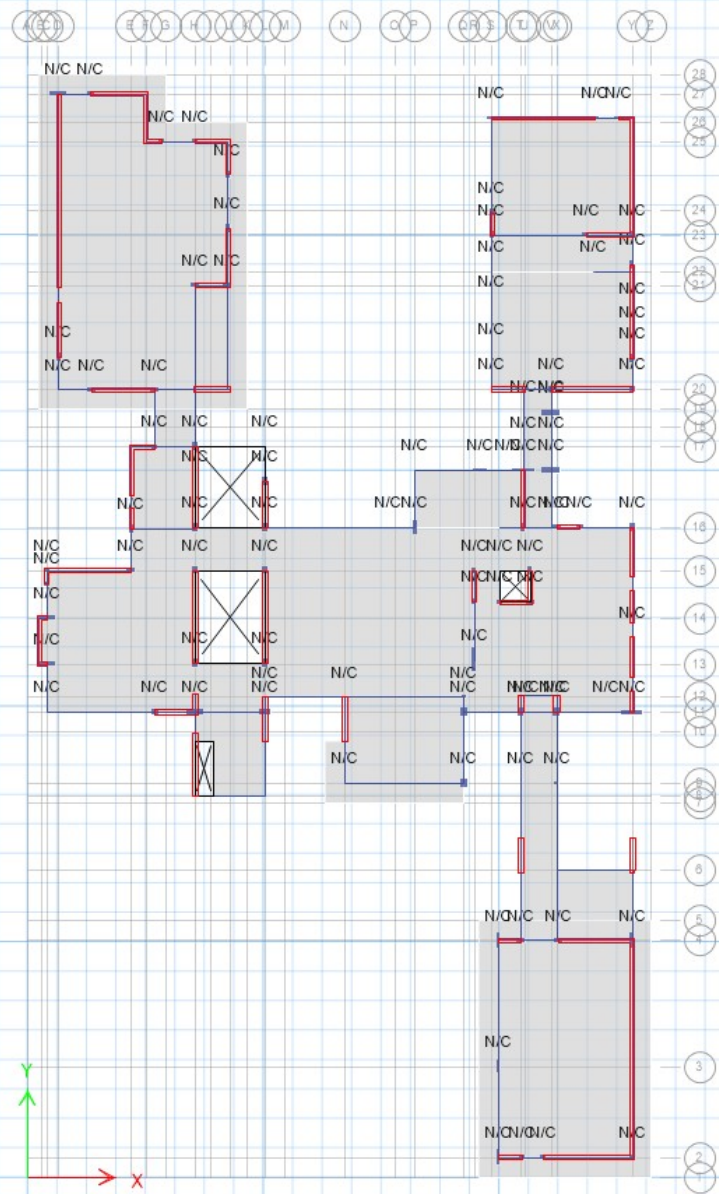


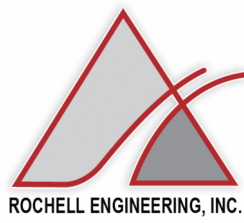




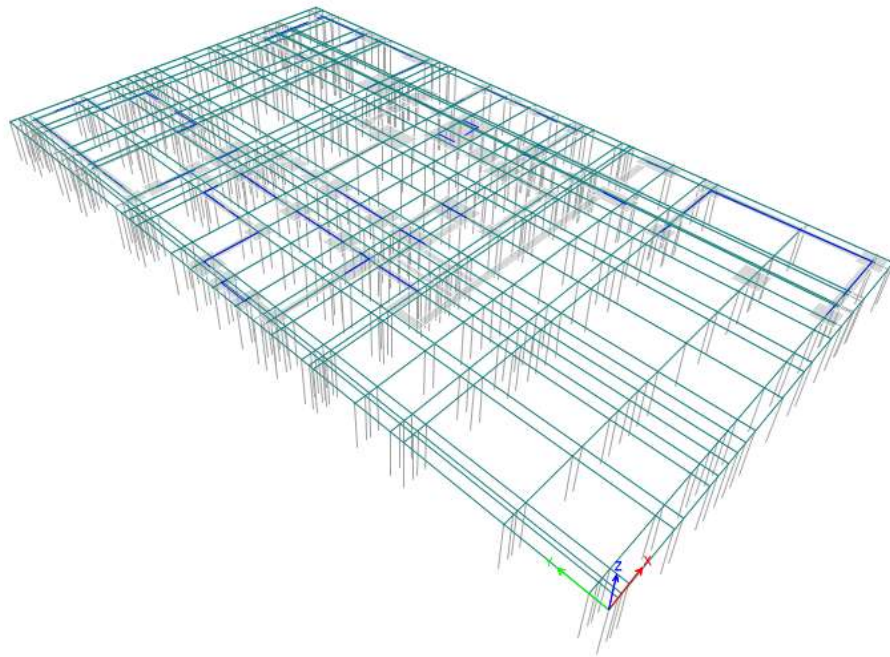








Foundation Design



Foundations

Hollub Spec Home 2

Model File: Foundations, Revision

5/23/2024

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1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Grid Data

Table 1.1 - Grid Definitions - General

Name	Type	Ux ft	Uy ft	Rz deg	Datum Name	Story Name Above	Story Name Below	Model Datum ft	Story Height Above ft	Story Height Below ft	Bubble Size in	Color
GLOBAL	Cartesian	0	0	0	Story1		Base	0		12	60	10461087

Table 1.2 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	X (Cartesian)	A	0	End	Yes
GLOBAL	X (Cartesian)	B	2.3333	End	Yes
GLOBAL	X (Cartesian)	C	3.3333	End	Yes
GLOBAL	X (Cartesian)	D	5.3333	End	Yes
GLOBAL	X (Cartesian)	E	17.6666	End	Yes
GLOBAL	X (Cartesian)	F	20.1666	End	Yes
GLOBAL	X (Cartesian)	H	28.5	End	Yes
GLOBAL	X (Cartesian)	I	31.0833	End	Yes
GLOBAL	X (Cartesian)	J	34.5	End	Yes
GLOBAL	X (Cartesian)	K	37.3333	End	Yes
GLOBAL	X (Cartesian)	L	40.3333	End	Yes
GLOBAL	X (Cartesian)	M	43.6666	End	Yes
GLOBAL	X (Cartesian)	N	53.8333	End	Yes
GLOBAL	X (Cartesian)	O	62.5	End	Yes
GLOBAL	X (Cartesian)	P	65.8333	End	Yes
GLOBAL	X (Cartesian)	Q	74.1666	End	Yes
GLOBAL	X (Cartesian)	S	78.8333	End	Yes
GLOBAL	X (Cartesian)	T	83.8333	End	Yes
GLOBAL	X (Cartesian)	U	84.4166	End	Yes
GLOBAL	X (Cartesian)	V	88.9166	End	Yes
GLOBAL	X (Cartesian)	X	89.8333	End	Yes
GLOBAL	X (Cartesian)	Y	102.6666	End	Yes
GLOBAL	X (Cartesian)	Z	105.8333	End	Yes
GLOBAL	Y (Cartesian)	1	0	End	Yes
GLOBAL	Y (Cartesian)	2	3.3333	End	Yes
GLOBAL	Y (Cartesian)	3	18.75	End	Yes
GLOBAL	Y (Cartesian)	4	40.1667	End	Yes
GLOBAL	Y (Cartesian)	5	43.5	End	Yes
GLOBAL	Y (Cartesian)	6	52.1667	End	Yes
GLOBAL	Y (Cartesian)	7	63.5	End	Yes
GLOBAL	Y (Cartesian)	8	64.6667	End	Yes
GLOBAL	Y (Cartesian)	9	66.8333	End	Yes
GLOBAL	Y (Cartesian)	10	75.5833	End	Yes

Table 1.2 - Grid Definitions - Grid Lines (continued)

Name	Grid Line Type	ID	Ordinate ft	Bubble Location	Visible
GLOBAL	Y (Cartesian)	11	78.8333	End	Yes
GLOBAL	Y (Cartesian)	12	81.4167	End	Yes
GLOBAL	Y (Cartesian)	13	87	End	Yes
GLOBAL	Y (Cartesian)	14	94.8333	End	Yes
GLOBAL	Y (Cartesian)	15	102.9167	End	Yes
GLOBAL	Y (Cartesian)	16	110.25	End	Yes
GLOBAL	Y (Cartesian)	17	123.9167	End	Yes
GLOBAL	Y (Cartesian)	18	127.25	End	Yes
GLOBAL	Y (Cartesian)	19	130.25	End	Yes
GLOBAL	Y (Cartesian)	20	133.5833	End	Yes
GLOBAL	Y (Cartesian)	21	151.3333	End	Yes
GLOBAL	Y (Cartesian)	22	153.6667	End	Yes
GLOBAL	Y (Cartesian)	23	159.8333	End	Yes
GLOBAL	Y (Cartesian)	24	164	End	Yes
GLOBAL	Y (Cartesian)	25	175.75	End	Yes
GLOBAL	Y (Cartesian)	26	179.0833	End	Yes
GLOBAL	Y (Cartesian)	27	183.75	End	Yes
GLOBAL	Y (Cartesian)	28	187.0833	End	Yes

1.2 Line Connectivity

Table 1.3 - Beam Object Connectivity

Unique Name	UniquePtI	UniquePtJ	Length ft
W81-W	1	3	4
W82-W	5	7	15.1667
W83-W	11	13	3.8334
W84-W	7	17	36.8333
W85-W	15	17	12.5
W86-W	42	49	3.5
W87-W	51	53	6.6667
W88-W	55	57	5.25
W89-W	59	65	8.25
W90-W	67	69	3.8333
W91-W	79	81	19.8333
W92-W	75	77	16
W93-W	83	79	7.8333
W94-W	94	92	3.8333
W95-W	89	87	17.5
W96-W	85	81	2.3333
W97-W	71	74	13.75
W98-W	101	99	5.5834
W99-W	29	39	9.6667
W100-W	303	304	2.25
W101-W	304	305	14.3333
W102-W	324	325	8.1667

Table 1.3 - Beam Object Connectivity (continued)

Unique Name	UniquePtI	UniquePtJ	Length ft
W103-W	325	307	4
W104-W	306	326	3.5833
W105-W	299	298	6.75
W106-W	308	309	15.75
W107-W	298	327	3
W108-W	310	311	13.6667
W109-W	315	328	9.1667
W110-W	329	316	32.75
W111-W	330	331	0.3333
W112-W	331	332	6
W113-W	317	333	9.3333
W114-W	334	333	8
W115-W	334	318	2.6667
W116-W	319	335	5.5
W117-W	320	335	5.6667
W118-W	323	322	5.5
W119-W	322	321	9.6667
W120-W	337	338	10.75
W121-W	355	356	7.5
W122-W	357	358	7.5
W123-W	350	351	15.75
W124-W	352	354	7.8333
W125-W	433	431	5.25
W126-W	434	435	5.1667
W127-W	435	432	5.25
W128-W	32	33	2.8333
W129-W	43	47	2.8333
W130-W	103	104	0.6667
W131-W	104	105	5.3333
W132-W	106	107	0.6667
W133-W	107	109	5.3333
W134-W	20	21	7.8333
W135-W	313	312	10.75
W139-W	21	302	1.3333
W138-W	20	301	1.3333

1.3 Area Connectivity**Table 1.4 - Floor Object Connectivity**

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
F1	419	420	421	422	20	25
F3	427	428	429	437	20	25
F4	438	439	440	441	20	25
F5	442	443	444	445	20	25
F6	446	447	448	449	16	16

Table 1.4 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
F7	450	451	452	453	16	16
F9	458	459	460	461	20	25
F16	462	463	464	465	20	25
F27	470	471	472	473	16	16
F29	478	479	480	481	16.0001	16
F36	497	498	499	500	30	50
F37	501	502	503	504	30.0001	50
F38	505	506	507	508	16.0001	16
F39	509	510	511	512	16	16
F40	513	514	515	516	16	16
F41	517	518	519	520	28.0001	48
F42	521	522	523	524	28	49
F45	533	534	535	536	20	24
F68	545	546	547	548	14.3333	10.33
F69	549	550	518	551	53.5	49.5
F70	552	553	554	517	20.8334	16.83
F71	555	556	557	558	14.6667	10.67
F72	559	560	550	561	13	9
F73	562	563	564	565	22.6667	18.67
F57	578	579	580	581	16	16
F76	582	583	584	585	18.1667	14.17
F59	586	587	588	589	38	88
F77	590	591	592	593	8.3333	4.33
F86	628	629	630	631	102.3333	98.33
F87	632	633	634	630	33.6666	29.67
F88	635	636	637	638	31.6667	27.67
F89	639	635	633	640	20	16
F58	651	652	653	654	36	77
F60	655	656	657	658	24	36
F93	659	660	661	662	14.5	10.5
F94	663	664	665	666	6.1667	2.17
F114	667	668	669	670	12.0001	8
F115	668	671	672	673	19.3333	15.33
F116	674	675	676	667	39	35
F34	677	678	679	680	16	16
F35	681	682	683	684	20	25
F117	685	686	687	688	18.6666	14.67
F118	689	690	691	692	11.3333	7.33
F119	693	694	695	696	6.6667	2.67
F54	700	701	702	703	20	24
F55	704	705	706	707	20	24
F120	708	709	710	711	11.6667	7.67
F121	712	713	714	715	12.1667	8.17
F75	716	717	718	719	30	50
F96	724	725	726	727	30	50

Table 1.4 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
F123	732	733	734	735	11.6667	7.67
F124	736	737	738	739	36.6666	32.67
F125	740	741	742	743	19.5833	15.58
F126	744	745	746	747	29.5	25.5
F129	756	744	757	758	18	14
F130	759	760	761	756	18	14
F131	760	762	763	764	121.6667	117.67
F132	765	766	767	768	33.5833	29.58
F133	769	770	771	746	20.6667	16.67
F134	772	773	774	775	34.1667	21
F136	780	781	782	783	12.3333	6.44
17	219	220	221	222	20	25
F63	231	232	488	489	67.6666	63.67
F64	490	233	234	492	39.3333	35.33
F78	247	595	596	248	42	38
19	235	236	237	238	19	22.5
22	244	243	245	246	9.5	5.5
4	56	70	72	73	24	36
5	76	78	80	82	7.1667	3.17
7	86	84	88	90	23.5	19.5
3	46	48	50	52	27	45.5
14	174	173	175	176	34.8333	30.83
20	239	240	241	242	7.6667	3.67
1	16	23	36	37	24	36
2	38	40	41	45	24	36
10	143	145	147	168	9.6667	5.67
12	170	169	171	172	23.5	19.5
F65	493	494	495	496	39.3333	35.33
F2	423	424	425	426	24	36
F80	570	257	258	573	9.2501	5.25
9	91	93	95	96	16	16
21	226	227	230	249	16	16
28	268	269	270	271	21.5	17.5
30	273	272	274	275	11.6667	7.67
F43	525	526	527	528	27	45
F97	728	729	730	731	34	70
F127	748	749	750	751	19	15
F128	752	753	754	755	19	15
F66	537	260	261	540	21.6665	17.67
F90	286	287	636	643	45.8333	41.83
23	8	12	196	197	44	120
F56	254	253	251	252	32	60
15	223	224	255	256	13.3333	9.33
F74	566	567	568	569	32	28
F28	474	475	476	477	20	25

Table 1.4 - Floor Object Connectivity (continued)

Unique Name	UniquePt1	UniquePt2	UniquePt3	UniquePt4	Perimeter ft	Area ft2
32	277	276	278	279	16.6667	12.67
F44	529	530	531	532	54.0001	176
F18	784	785	786	787	8.1667	4.17
F52	454	455	456	457	24	36
F53	697	698	699	280	21.6667	17.67
24	250	259	262	263	16	16
16	213	212	214	215	25	21
8	290	291	179	195	34	66
18	292	293	616	218	35.6667	31.67
F81	216	296	297	217	24.3333	20.33
F83	264	616	619	265	49.6667	45.67
11	288	289	206	207	29.3333	48.33
F84	202	294	295	203	40.6667	36.67
F85	200	201	266	267	27.8334	23.83
6	198	199	177	178	25.9999	40
F17	204	209	287	205	25	37.5
F91	644	645	208	204	27.5	23.5
F135	281	282	778	779	30.6667	18.67

1.4 Strip Connectivity

Table 1.5 - Strip Object Connectivity

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA1	1	2	4	1.6667	1.6667	1.6667	1.6667	No	A
CSA10	1	34	35	1.625	4.375	1.625	4.375	No	A
CSA11	1	112	113	1.2917	1.625	1.2917	1.625	No	A
CSA12	1	114	115	2.7917	1.2917	2.7917	1.2917	No	A
CSA13	1	116	117	3.9167	2.7917	3.9167	2.7917	No	A
CSA14	1	118	119	4.0417	3.9167	4.0417	3.9167	No	A
CSA15	1	120	121	3.6667	4.0417	3.6667	4.0417	No	A
CSA16	1	54	122	6.8333	3.6667	6.8333	3.6667	No	A
CSA17	1	58	60	1.6667	6.8333	1.6667	6.8333	No	A
CSA18	1	62	64	1.5	1.6667	1.5	1.6667	No	A
CSA19	1	66	68	1.6667	1.5	1.6667	1.5	No	A
CSA2	1	6	102	7.7083	1.6667	7.7083	1.6667	No	A
CSA20	1	123	124	8.875	1.6667	8.875	1.6667	No	A
CSA21	1	125	126	1.1667	8.875	1.1667	8.875	No	A
CSA22	1	127	128	3.0833	1.1667	3.0833	1.1667	No	A
CSA23	1	129	130	2.0833	3.0833	2.0833	3.0833	No	A
CSA24	1	131	132	5.875	2.0833	5.875	2.0833	No	A
CSA25	1	133	134	1.6667	5.875	1.6667	5.875	No	A
CSA26	1	135	136	2.3333	1.6667	2.3333	1.6667	No	A
CSA27	1	137	97	1.6667	2.3333	1.6667	2.3333	No	A

Table 1.5 - Strip Object Connectivity (continued)

Name	Number Segments	Strip Start Point	Segment End Point	Start Width Left ft	Start Width Right ft	End Width Left ft	End Width Right ft	Auto Widen	Layer
CSA28	1	98	100	1.6667	1.6667	1.6667	1.6667	No	A
CSA3	1	10	108	10.7083	7.7083	10.7083	7.7083	No	A
CSA4	1	14	110	1.6667	10.7083	1.6667	10.7083	No	A
CSA5	1	18	19	4.3333	1.6667	4.3333	1.6667	No	A
CSA6	1	22	111	5.6667	4.3333	5.6667	4.3333	No	A
CSA7	1	24	25	0.5833	5.6667	0.5833	5.6667	No	A
CSA8	1	26	27	1.0833	0.5833	1.0833	0.5833	No	A
CSA9	1	28	30	4.375	1.0833	4.375	1.0833	No	A
CSB1	1	2	98	1.1667	1.1667	1.1667	1.1667	No	B
CSB10	1	154	155	1.4167	1.5	1.4167	1.5	No	B
CSB11	1	156	157	1.5	1.6667	1.5	1.6667	No	B
CSB12	1	158	159	1.6667	5.0834	1.6667	5.0834	No	B
CSB13	1	160	161	5.0834	4.3334	5.0834	4.3334	No	B
CSB14	1	162	163	4.3334	1.6667	4.3334	1.6667	No	B
CSB15	1	164	165	1.6667	4.1667	1.6667	4.1667	No	B
CSB16	1	166	167	4.1667	2.3334	4.1667	2.3334	No	B
CSB17	1	183	184	2.3334	2.5	2.3334	2.5	No	B
CSB18	1	185	186	2.5	0.2916	2.5	0.2916	No	B
CSB19	1	187	188	0.2916	2.25	0.2916	2.25	No	B
CSB2	1	138	139	1.1667	0.5	1.1667	0.5	No	B
CSB20	1	189	190	2.25	0.4584	2.25	0.4584	No	B
CSB21	1	191	192	0.4584	6.4166	0.4584	6.4166	No	B
CSB22	1	193	194	6.4166	1.5834	6.4166	1.5834	No	B
CSB23	1	4	100	1.5834	1.5834	1.5834	1.5834	No	B
CSB3	1	140	141	0.5	1	0.5	1	No	B
CSB4	1	142	180	1	6.1667	1	6.1667	No	B
CSB5	1	144	181	6.1667	1.25	6.1667	1.25	No	B
CSB6	1	146	182	1.25	4.1667	1.25	4.1667	No	B
CSB7	1	148	149	4.1667	1.2917	4.1667	1.2917	No	B
CSB8	1	150	151	1.2917	1.7084	1.2917	1.7084	No	B
CSB9	1	152	153	1.7084	1.4167	1.7084	1.4167	No	B

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
A416Gr270	Tendon	Uniaxial	Unknown	Magenta	ASTM A416 Grade 270 added 5/21/2024 9:46:17 AM
A615Gr60	Rebar	Uniaxial	Unknown	Cyan	ASTM A615 Grade 60 added 5/21/2024 9:46:17 AM
MAT1	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 4 ksi added 5/21/2024 9:46:17 AM
MAT2	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 4 ksi added 5/21/2024 9:46:17 AM
MAT3	Concrete	Isotropic	Unknown	Blue	Normalweight f'c = 4 ksi added 5/21/2024 9:46:17 AM

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area in ²	J in ⁴	I33 in ⁴	I22 in ⁴	I23 in ⁴	As2 in ²	As3 in ²
12CIP-W	MAT2	Concrete Rectangular	Cyan	1872	85608.54	3796416	22464	0	1560	1560
12CMU-W	MAT1	Concrete Rectangular	Green	1872	85608.54	3796416	22464	0	1560	1560
8CIP-W	MAT2	Concrete Rectangular	Blue	1248	25794.97	2530944	6656	0	1040	1040
8CMU-W	MAT1	Concrete Rectangular	Gray8Dark	1248	25794.97	2530944	6656	0	1040	1040

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

Name	S33Pos in ³	S33Neg in ³	S22Pos in ³	S22Neg in ³	Z33 in ³	Z22 in ³	R33 in	R22 in	CG Offset 3 in	CG Offset 2 in	PNA Offset 3 in	PNA Offset 2 in
12CIP-W	48672	48672	3744	3744	73008	5616	45.0333	3.4641	0	0	0	0
12CMU-W	48672	48672	3744	3744	73008	5616	45.0333	3.4641	0	0	0	0
8CIP-W	32448	32448	1664	1664	48672	2496	45.0333	2.3094	0	0	0	0
8CMU-W	32448	32448	1664	1664	48672	2496	45.0333	2.3094	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

Name	As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
12CIP-W	1	1	1	1	1	1	1
12CMU-W	1	1	1	1	1	1	1
8CIP-W	1	1	1	1	1	1	1
8CMU-W	1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness in
F-12	Slab	Shell-Thick	MAT3	12
F-16	Slab	Shell-Thick	MAT3	16
F-24	Slab	Shell-Thick	MAT3	24

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter in	Area in2
#6	0.75	0.44

2.5 Spring Properties

Table 2.5 - Spring Property Definitions - Area Springs

Name	Subgrade Modulus kip/in/in2	Nonlinear Option	Color	Notes
SOIL1	0.1	Compression Only	Cyan	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Frame Assignments

Table 3.1 - Frame Assignments - Summary

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Min Number Stations
W81-W	Beam	4	8CMU-W	N/A	3
W82-W	Beam	15.1667	8CMU-W	N/A	3
W83-W	Beam	3.8334	8CMU-W	N/A	3
W84-W	Beam	36.8333	8CMU-W	N/A	3
W85-W	Beam	12.5	8CMU-W	N/A	3
W86-W	Beam	3.5	8CMU-W	N/A	3
W87-W	Beam	6.6667	8CMU-W	N/A	3
W88-W	Beam	5.25	8CMU-W	N/A	3
W89-W	Beam	8.25	8CMU-W	N/A	3
W90-W	Beam	3.8333	8CMU-W	N/A	3
W91-W	Beam	19.8333	8CMU-W	N/A	3
W92-W	Beam	16	8CMU-W	N/A	3
W93-W	Beam	7.8333	8CIP-W	8CIP-W	3
W94-W	Beam	3.8333	8CIP-W	8CIP-W	3
W95-W	Beam	17.5	8CIP-W	8CIP-W	3
W96-W	Beam	2.3333	8CIP-W	8CIP-W	3
W97-W	Beam	13.75	12CMU-W	N/A	3
W98-W	Beam	5.5834	12CIP-W	12CIP-W	3
W99-W	Beam	9.6667	8CMU-W	N/A	3
W100-W	Beam	2.25	8CMU-W	N/A	3
W101-W	Beam	14.3333	8CMU-W	N/A	3
W102-W	Beam	8.1667	8CMU-W	N/A	3
W103-W	Beam	4	8CMU-W	N/A	3
W104-W	Beam	3.5833	8CMU-W	N/A	3
W105-W	Beam	6.75	12CMU-W	N/A	3
W106-W	Beam	15.75	12CMU-W	N/A	3
W107-W	Beam	3	12CMU-W	N/A	3
W108-W	Beam	13.6667	12CMU-W	N/A	3
W109-W	Beam	9.1667	8CMU-W	N/A	3
W110-W	Beam	32.75	8CMU-W	N/A	3
W111-W	Beam	0.3333	12CIP-W	12CIP-W	3
W112-W	Beam	6	12CIP-W	12CIP-W	3
W113-W	Beam	9.3333	8CMU-W	N/A	3
W114-W	Beam	8	8CMU-W	N/A	3
W115-W	Beam	2.6667	8CMU-W	N/A	3
W116-W	Beam	5.5	8CMU-W	N/A	3
W117-W	Beam	5.6667	8CMU-W	N/A	3
W118-W	Beam	5.5	8CMU-W	N/A	3
W119-W	Beam	9.6667	8CMU-W	N/A	3
W120-W	Beam	10.75	12CIP-W	12CIP-W	3

Table 3.1 - Frame Assignments - Summary (continued)

UniqueName	Design Type	Length ft	Analysis Section	Design Section	Min Number Stations
W121-W	Beam	7.5	12CIP-W	12CIP-W	3
W122-W	Beam	7.5	12CIP-W	12CIP-W	3
W123-W	Beam	15.75	12CMU-W	N/A	3
W124-W	Beam	7.8333	12CMU-W	N/A	3
W125-W	Beam	5.25	8CMU-W	N/A	3
W126-W	Beam	5.1667	8CMU-W	N/A	3
W127-W	Beam	5.25	8CMU-W	N/A	3
W128-W	Beam	2.8333	12CMU-W	N/A	3
W129-W	Beam	2.8333	12CMU-W	N/A	3
W130-W	Beam	0.6667	12CIP-W	12CIP-W	3
W131-W	Beam	5.3333	12CIP-W	12CIP-W	3
W132-W	Beam	0.6667	12CIP-W	12CIP-W	3
W133-W	Beam	5.3333	12CIP-W	12CIP-W	3
W134-W	Beam	7.8333	8CMU-W	N/A	3
W135-W	Beam	10.75	8CMU-W	N/A	3
W139-W	Beam	1.3333	8CMU-W	N/A	3
W138-W	Beam	1.3333	8CMU-W	N/A	3

3.2 Shell Assignments

Table 3.2 - Area Assignments - Summary

UniqueName	Section Property	Property Type	Spring
F1	F-16	Slab	SOIL1
F3	F-16	Slab	SOIL1
F4	F-16	Slab	SOIL1
F5	F-16	Slab	SOIL1
F6	F-12	Slab	SOIL1
F7	F-12	Slab	SOIL1
F9	F-16	Slab	SOIL1
F16	F-16	Slab	SOIL1
F27	F-12	Slab	SOIL1
F29	F-12	Slab	SOIL1
F36	F-16	Slab	SOIL1
F37	F-16	Slab	SOIL1
F38	F-12	Slab	SOIL1
F39	F-12	Slab	SOIL1
F40	F-12	Slab	SOIL1
F41	F-16	Slab	SOIL1
F42	F-16	Slab	SOIL1
F45	F-16	Slab	SOIL1
F68	F-12	Slab	SOIL1
F69	F-12	Slab	SOIL1
F70	F-12	Slab	SOIL1
F71	F-12	Slab	SOIL1

Table 3.2 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Spring
F72	F-12	Slab	SOIL1
F73	F-12	Slab	SOIL1
F57	F-12	Slab	SOIL1
F76	F-12	Slab	SOIL1
F59	F-16	Slab	SOIL1
F77	F-12	Slab	SOIL1
F86	F-12	Slab	SOIL1
F87	F-12	Slab	SOIL1
F88	F-12	Slab	SOIL1
F89	F-12	Slab	SOIL1
F58	F-16	Slab	SOIL1
F60	F-16	Slab	SOIL1
F93	F-12	Slab	SOIL1
F94	F-12	Slab	SOIL1
F114	F-12	Slab	SOIL1
F115	F-12	Slab	SOIL1
F116	F-12	Slab	SOIL1
F34	F-12	Slab	SOIL1
F35	F-16	Slab	SOIL1
F117	F-12	Slab	SOIL1
F118	F-12	Slab	SOIL1
F119	F-12	Slab	SOIL1
F54	F-16	Slab	SOIL1
F55	F-16	Slab	SOIL1
F120	F-12	Slab	SOIL1
F121	F-12	Slab	SOIL1
F75	F-16	Slab	SOIL1
F96	F-16	Slab	SOIL1
F123	F-12	Slab	SOIL1
F124	F-12	Slab	SOIL1
F125	F-12	Slab	SOIL1
F126	F-12	Slab	SOIL1
F129	F-12	Slab	SOIL1
F130	F-12	Slab	SOIL1
F131	F-12	Slab	SOIL1
F132	F-12	Slab	SOIL1
F133	F-12	Slab	SOIL1
F134	F-12	Slab	SOIL1
F136	F-12	Slab	SOIL1
17	F-16	Slab	SOIL1
F63	F-12	Slab	SOIL1
F64	F-12	Slab	SOIL1
F78	F-12	Slab	SOIL1
19	F-12	Slab	SOIL1
22	F-12	Slab	SOIL1

Table 3.2 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Spring
4	F-12	Slab	SOIL1
5	F-12	Slab	SOIL1
7	F-12	Slab	SOIL1
3	F-12	Slab	SOIL1
14	F-12	Slab	SOIL1
20	F-12	Slab	SOIL1
1	F-12	Slab	SOIL1
2	F-12	Slab	SOIL1
10	F-12	Slab	SOIL1
12	F-12	Slab	SOIL1
F65	F-12	Slab	SOIL1
F2	F-16	Slab	SOIL1
F80	F-12	Slab	SOIL1
9	F-12	Slab	SOIL1
21	F-12	Slab	SOIL1
28	F-12	Slab	SOIL1
30	F-12	Slab	SOIL1
F43	F-16	Slab	SOIL1
F97	F-16	Slab	SOIL1
F127	F-12	Slab	SOIL1
F128	F-12	Slab	SOIL1
F66	F-12	Slab	SOIL1
F90	F-12	Slab	SOIL1
23	F-24	Slab	SOIL1
F56	F-16	Slab	SOIL1
15	F-12	Slab	SOIL1
F74	F-12	Slab	SOIL1
F28	F-12	Slab	SOIL1
32	F-12	Slab	SOIL1
F44	F-24	Slab	SOIL1
F18	F-12	Slab	SOIL1
F52	F-12	Slab	SOIL1
F53	F-12	Slab	SOIL1
24	F-12	Slab	SOIL1
16	F-12	Slab	SOIL1
8	F-12	Slab	SOIL1
18	F-12	Slab	SOIL1
F81	F-12	Slab	SOIL1
F83	F-12	Slab	SOIL1
11	F-12	Slab	SOIL1
F84	F-12	Slab	SOIL1
F85	F-12	Slab	SOIL1
6	F-12	Slab	SOIL1
F17	F-16	Slab	SOIL1
F91	F-12	Slab	SOIL1

Table 3.2 - Area Assignments - Summary (continued)

UniqueName	Section Property	Property Type	Spring
F135	F-12	Slab	SOIL1

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	No	Other	0	
Dead	No	Dead	1	
Dead _{ABOVE}	No	Dead	0	
Live	No	Live	0	
Live _{ABOVE}	No	Live	0	
Wind(1/12) _{ABOVE}	No	Wind	0	None
Wind(10/12) _{ABOVE}	No	Wind	0	None
Wind(11/12) _{ABOVE}	No	Wind	0	None
Wind(12/12) _{ABOVE}	No	Wind	0	None
Wind(2/12) _{ABOVE}	No	Wind	0	None
Wind(3/12) _{ABOVE}	No	Wind	0	None
Wind(4/12) _{ABOVE}	No	Wind	0	None
Wind(5/12) _{ABOVE}	No	Wind	0	None
Wind(6/12) _{ABOVE}	No	Wind	0	None
Wind(7/12) _{ABOVE}	No	Wind	0	None
Wind(8/12) _{ABOVE}	No	Wind	0	None
Wind(9/12) _{ABOVE}	No	Wind	0	None
WL(1/12)	No	Wind	0	None
WL(10/12)	No	Wind	0	None
WL(11/12)	No	Wind	0	None
WL(12/12)	No	Wind	0	None
WL(2/12)	No	Wind	0	None
WL(3/12)	No	Wind	0	None
WL(4/12)	No	Wind	0	None
WL(5/12)	No	Wind	0	None
WL(6/12)	No	Wind	0	None
WL(7/12)	No	Wind	0	None
WL(8/12)	No	Wind	0	None
WL(9/12)	No	Wind	0	None

4.2 Load Cases

Table 4.2 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Live	Linear Static
Wind(1/12)	Linear Static
Wind(2/12)	Linear Static
Wind(3/12)	Linear Static
Wind(4/12)	Linear Static

Table 4.2 - Load Case Definitions - Summary (continued)

Name	Type
Wind(5/12)	Linear Static
Wind(6/12)	Linear Static
Wind(7/12)	Linear Static
Wind(8/12)	Linear Static
Wind(9/12)	Linear Static
Wind(10/12)	Linear Static
Wind(11/12)	Linear Static
Wind(12/12)	Linear Static

4.3 Load Combinations**Table 4.3 - Load Combination Definitions**

Name	Type	Is Auto	Load Name	SF	Notes
0.6DL+1.0WL(1/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(1/12)			Wind(1/12)	1	
0.6DL+1.0WL(2/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(2/12)			Wind(2/12)	1	
0.6DL+1.0WL(3/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(3/12)			Wind(3/12)	1	
0.6DL+1.0WL(4/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(4/12)			Wind(4/12)	1	
0.6DL+1.0WL(5/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(5/12)			Wind(5/12)	1	
0.6DL+1.0WL(6/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(6/12)			Wind(6/12)	1	
0.6DL+1.0WL(7/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(7/12)			Wind(7/12)	1	
0.6DL+1.0WL(8/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(8/12)			Wind(8/12)	1	
0.6DL+1.0WL(9/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(9/12)			Wind(9/12)	1	
0.6DL+1.0WL(10/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(10/12)			Wind(10/12)	1	
0.6DL+1.0WL(11/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(11/12)			Wind(11/12)	1	
0.6DL+1.0WL(12/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL(12/12)			Wind(12/12)	1	
0.6DL+1.0WL+1.5Fa(1/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(1/12)			Wind(1/12)	1	
0.6DL+1.0WL+1.5Fa(2/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(2/12)			Wind(2/12)	1	
0.6DL+1.0WL+1.5Fa(3/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(3/12)			Wind(3/12)	1	
0.6DL+1.0WL+1.5Fa(4/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(4/12)			Wind(4/12)	1	
0.6DL+1.0WL+1.5Fa(5/12)	Linear Add	No	Dead	0.6	

Table 4.3 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
0.6DL+1.0WL+1.5Fa(5/12)			Wind(5/12)	1	
0.6DL+1.0WL+1.5Fa(6/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(6/12)			Wind(6/12)	1	
0.6DL+1.0WL+1.5Fa(7/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(7/12)			Wind(7/12)	1	
0.6DL+1.0WL+1.5Fa(8/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(8/12)			Wind(8/12)	1	
0.6DL+1.0WL+1.5Fa(9/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(9/12)			Wind(9/12)	1	
0.6DL+1.0WL+1.5Fa(10/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(10/12)			Wind(10/12)	1	
0.6DL+1.0WL+1.5Fa(11/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(11/12)			Wind(11/12)	1	
0.6DL+1.0WL+1.5Fa(12/12)	Linear Add	No	Dead	0.6	
0.6DL+1.0WL+1.5Fa(12/12)			Wind(12/12)	1	
0.6DL+1.5HL	Linear Add	No	Dead	0.6	
0.6DL+1.5HL+1.5Fa	Linear Add	No	Dead	0.6	
0.9DL+1.0WL(1/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(1/12)			Wind(1/12)	1	
0.9DL+1.0WL(2/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(2/12)			Wind(2/12)	1	
0.9DL+1.0WL(3/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(3/12)			Wind(3/12)	1	
0.9DL+1.0WL(4/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(4/12)			Wind(4/12)	1	
0.9DL+1.0WL(5/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(5/12)			Wind(5/12)	1	
0.9DL+1.0WL(6/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(6/12)			Wind(6/12)	1	
0.9DL+1.0WL(7/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(7/12)			Wind(7/12)	1	
0.9DL+1.0WL(8/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(8/12)			Wind(8/12)	1	
0.9DL+1.0WL(9/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(9/12)			Wind(9/12)	1	
0.9DL+1.0WL(10/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(10/12)			Wind(10/12)	1	
0.9DL+1.0WL(11/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(11/12)			Wind(11/12)	1	
0.9DL+1.0WL(12/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL(12/12)			Wind(12/12)	1	
0.9DL+1.0WL+2.0Fa(1/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(1/12)			Wind(1/12)	1	
0.9DL+1.0WL+2.0Fa(2/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(2/12)			Wind(2/12)	1	

Table 4.3 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
0.9DL+1.0WL+2.0Fa(3/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(3/12)			Wind(3/12)	1	
0.9DL+1.0WL+2.0Fa(4/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(4/12)			Wind(4/12)	1	
0.9DL+1.0WL+2.0Fa(5/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(5/12)			Wind(5/12)	1	
0.9DL+1.0WL+2.0Fa(6/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(6/12)			Wind(6/12)	1	
0.9DL+1.0WL+2.0Fa(7/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(7/12)			Wind(7/12)	1	
0.9DL+1.0WL+2.0Fa(8/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(8/12)			Wind(8/12)	1	
0.9DL+1.0WL+2.0Fa(9/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(9/12)			Wind(9/12)	1	
0.9DL+1.0WL+2.0Fa(10/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(10/12)			Wind(10/12)	1	
0.9DL+1.0WL+2.0Fa(11/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(11/12)			Wind(11/12)	1	
0.9DL+1.0WL+2.0Fa(12/12)	Linear Add	No	Dead	0.9	
0.9DL+1.0WL+2.0Fa(12/12)			Wind(12/12)	1	
0.9DL+1.6HL	Linear Add	No	Dead	0.9	
1,4DL	Linear Add	No	Dead	1.4	
1.2DL+1.0LL+1.0WL(1/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(1/12)			Live	1	
1.2DL+1.0LL+1.0WL(1/12)			Wind(1/12)	1	
1.2DL+1.0LL+1.0WL(2/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(2/12)			Live	1	
1.2DL+1.0LL+1.0WL(2/12)			Wind(2/12)	1	
1.2DL+1.0LL+1.0WL(3/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(3/12)			Live	1	
1.2DL+1.0LL+1.0WL(3/12)			Wind(3/12)	1	
1.2DL+1.0LL+1.0WL(4/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(4/12)			Live	1	
1.2DL+1.0LL+1.0WL(4/12)			Wind(4/12)	1	
1.2DL+1.0LL+1.0WL(5/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(5/12)			Live	1	
1.2DL+1.0LL+1.0WL(5/12)			Wind(5/12)	1	
1.2DL+1.0LL+1.0WL(6/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(6/12)			Live	1	
1.2DL+1.0LL+1.0WL(6/12)			Wind(6/12)	1	
1.2DL+1.0LL+1.0WL(7/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(7/12)			Live	1	
1.2DL+1.0LL+1.0WL(7/12)			Wind(7/12)	1	
1.2DL+1.0LL+1.0WL(8/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(8/12)			Live	1	

Table 4.3 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
1.2DL+1.0LL+1.0WL(8/12)			Wind(8/12)	1	
1.2DL+1.0LL+1.0WL(9/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(9/12)			Live	1	
1.2DL+1.0LL+1.0WL(9/12)			Wind(9/12)	1	
1.2DL+1.0LL+1.0WL(10/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(10/12)			Live	1	
1.2DL+1.0LL+1.0WL(10/12)			Wind(10/12)	1	
1.2DL+1.0LL+1.0WL(11/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(11/12)			Live	1	
1.2DL+1.0LL+1.0WL(11/12)			Wind(11/12)	1	
1.2DL+1.0LL+1.0WL(12/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL(12/12)			Live	1	
1.2DL+1.0LL+1.0WL(12/12)			Wind(12/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(1/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(1/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(1/12)			Wind(1/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(2/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(2/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(2/12)			Wind(2/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(3/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(3/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(3/12)			Wind(3/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(4/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(4/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(4/12)			Wind(4/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(5/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(5/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(5/12)			Wind(5/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(6/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(6/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(6/12)			Wind(6/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(7/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(7/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(7/12)			Wind(7/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(8/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(8/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(8/12)			Wind(8/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(9/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(9/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(9/12)			Wind(9/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(10/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(10/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(10/12)			Wind(10/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(11/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(11/12)			Live	1	

Table 4.3 - Load Combination Definitions (continued)

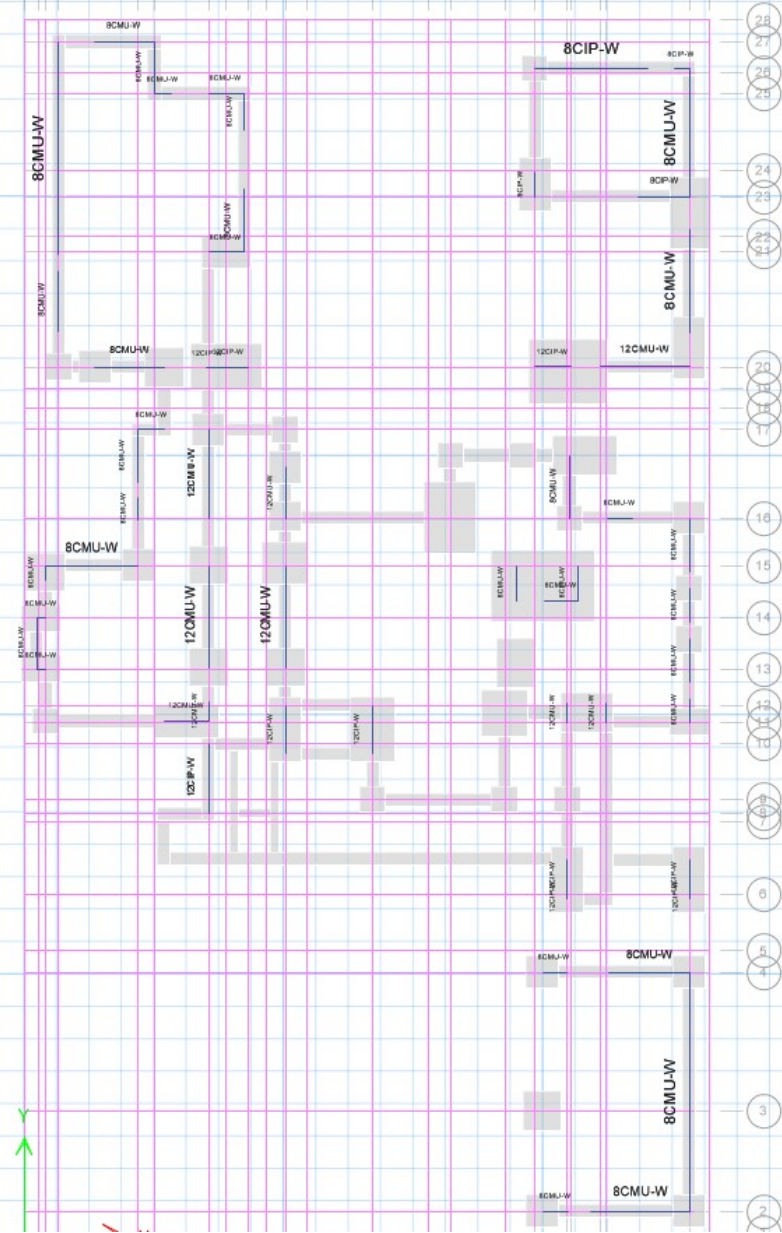
Name	Type	Is Auto	Load Name	SF	Notes
1.2DL+1.0LL+1.0WL+2.0Fa(11/12)			Wind(11/12)	1	
1.2DL+1.0LL+1.0WL+2.0Fa(12/12)	Linear Add	No	Dead	1.2	
1.2DL+1.0LL+1.0WL+2.0Fa(12/12)			Live	1	
1.2DL+1.0LL+1.0WL+2.0Fa(12/12)			Wind(12/12)	1	
1.2DL+1.6LL	Linear Add	No	Dead	1.2	
1.2DL+1.6LL			Live	1.6	
Comb1	Linear Add	No	Dead	1	
Comb1			Live	1	
DL	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(1/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(1/12)			Live	0.75	
DL+0.75LL+0.75WL(1/12)			Wind(1/12)	0.75	
DL+0.75LL+0.75WL(2/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(2/12)			Live	0.75	
DL+0.75LL+0.75WL(2/12)			Wind(2/12)	0.75	
DL+0.75LL+0.75WL(3/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(3/12)			Live	0.75	
DL+0.75LL+0.75WL(3/12)			Wind(3/12)	0.75	
DL+0.75LL+0.75WL(4/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(4/12)			Live	0.75	
DL+0.75LL+0.75WL(4/12)			Wind(4/12)	0.75	
DL+0.75LL+0.75WL(5/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(5/12)			Live	0.75	
DL+0.75LL+0.75WL(5/12)			Wind(5/12)	0.75	
DL+0.75LL+0.75WL(6/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(6/12)			Live	0.75	
DL+0.75LL+0.75WL(6/12)			Wind(6/12)	0.75	
DL+0.75LL+0.75WL(7/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(7/12)			Live	0.75	
DL+0.75LL+0.75WL(7/12)			Wind(7/12)	0.75	
DL+0.75LL+0.75WL(8/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(8/12)			Live	0.75	
DL+0.75LL+0.75WL(8/12)			Wind(8/12)	0.75	
DL+0.75LL+0.75WL(9/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(9/12)			Live	0.75	
DL+0.75LL+0.75WL(9/12)			Wind(9/12)	0.75	
DL+0.75LL+0.75WL(10/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(10/12)			Live	0.75	
DL+0.75LL+0.75WL(10/12)			Wind(10/12)	0.75	
DL+0.75LL+0.75WL(11/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(11/12)			Live	0.75	
DL+0.75LL+0.75WL(11/12)			Wind(11/12)	0.75	
DL+0.75LL+0.75WL(12/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL(12/12)			Live	0.75	
DL+0.75LL+0.75WL(12/12)			Wind(12/12)	0.75	

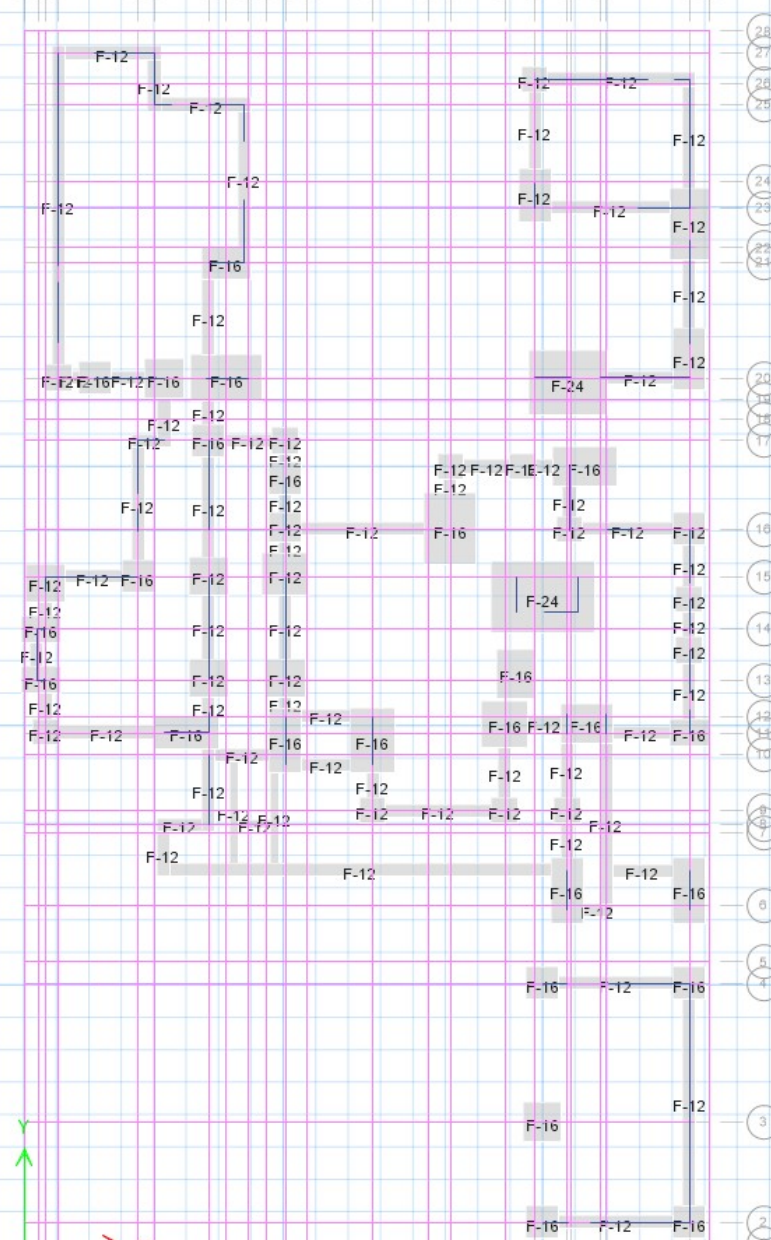
Table 4.3 - Load Combination Definitions (continued)

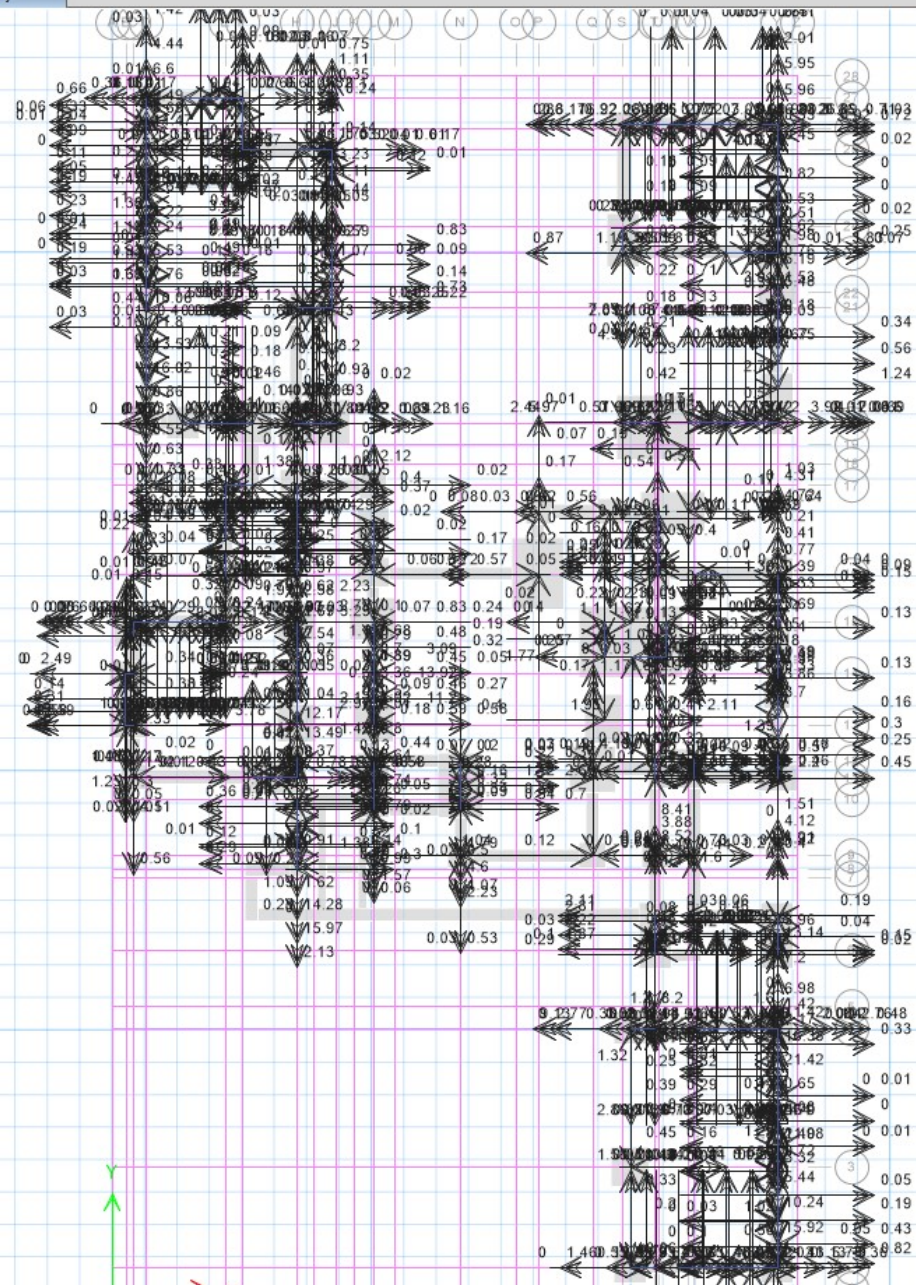
Name	Type	Is Auto	Load Name	SF	Notes
DL+0.75LL+0.75WL+1.5Fa(1/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(1/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(1/12)			Wind(1/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(2/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(2/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(2/12)			Wind(2/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(3/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(3/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(3/12)			Wind(3/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(4/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(4/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(4/12)			Wind(4/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(5/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(5/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(5/12)			Wind(5/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(6/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(6/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(6/12)			Wind(6/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(7/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(7/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(7/12)			Wind(7/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(8/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(8/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(8/12)			Wind(8/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(9/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(9/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(9/12)			Wind(9/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(10/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(10/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(10/12)			Wind(10/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(11/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(11/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(11/12)			Wind(11/12)	0.75	
DL+0.75LL+0.75WL+1.5Fa(12/12)	Linear Add	No	Dead	1	
DL+0.75LL+0.75WL+1.5Fa(12/12)			Live	0.75	
DL+0.75LL+0.75WL+1.5Fa(12/12)			Wind(12/12)	0.75	
DL+LL	Linear Add	No	Dead	1	
DL+LL			Live	1	
DL+WL(1/12)	Linear Add	No	Dead	1	
DL+WL(1/12)			Wind(1/12)	1	
DL+WL(2/12)	Linear Add	No	Dead	1	
DL+WL(2/12)			Wind(2/12)	1	
DL+WL(3/12)	Linear Add	No	Dead	1	
DL+WL(3/12)			Wind(3/12)	1	
DL+WL(4/12)	Linear Add	No	Dead	1	

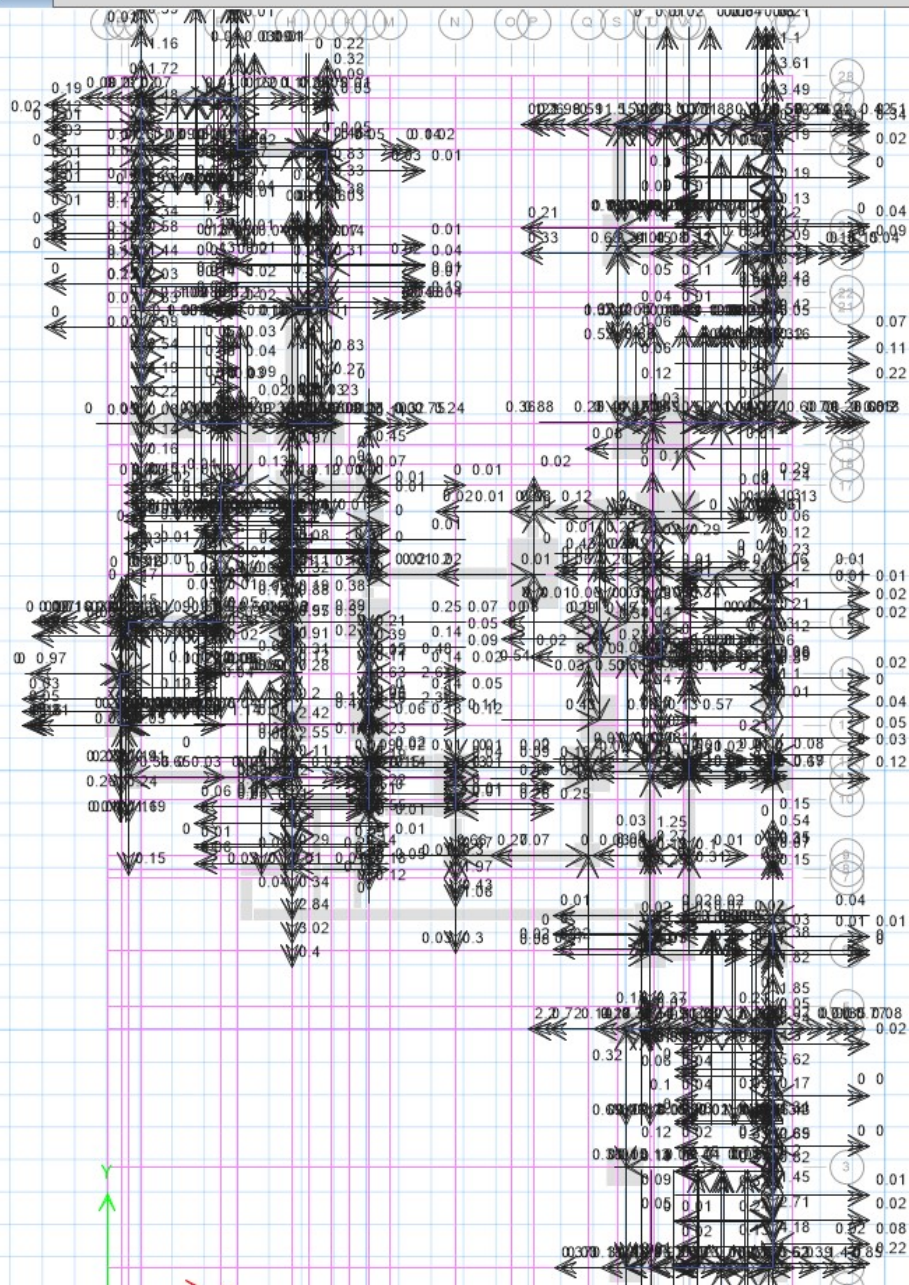
Table 4.3 - Load Combination Definitions (continued)

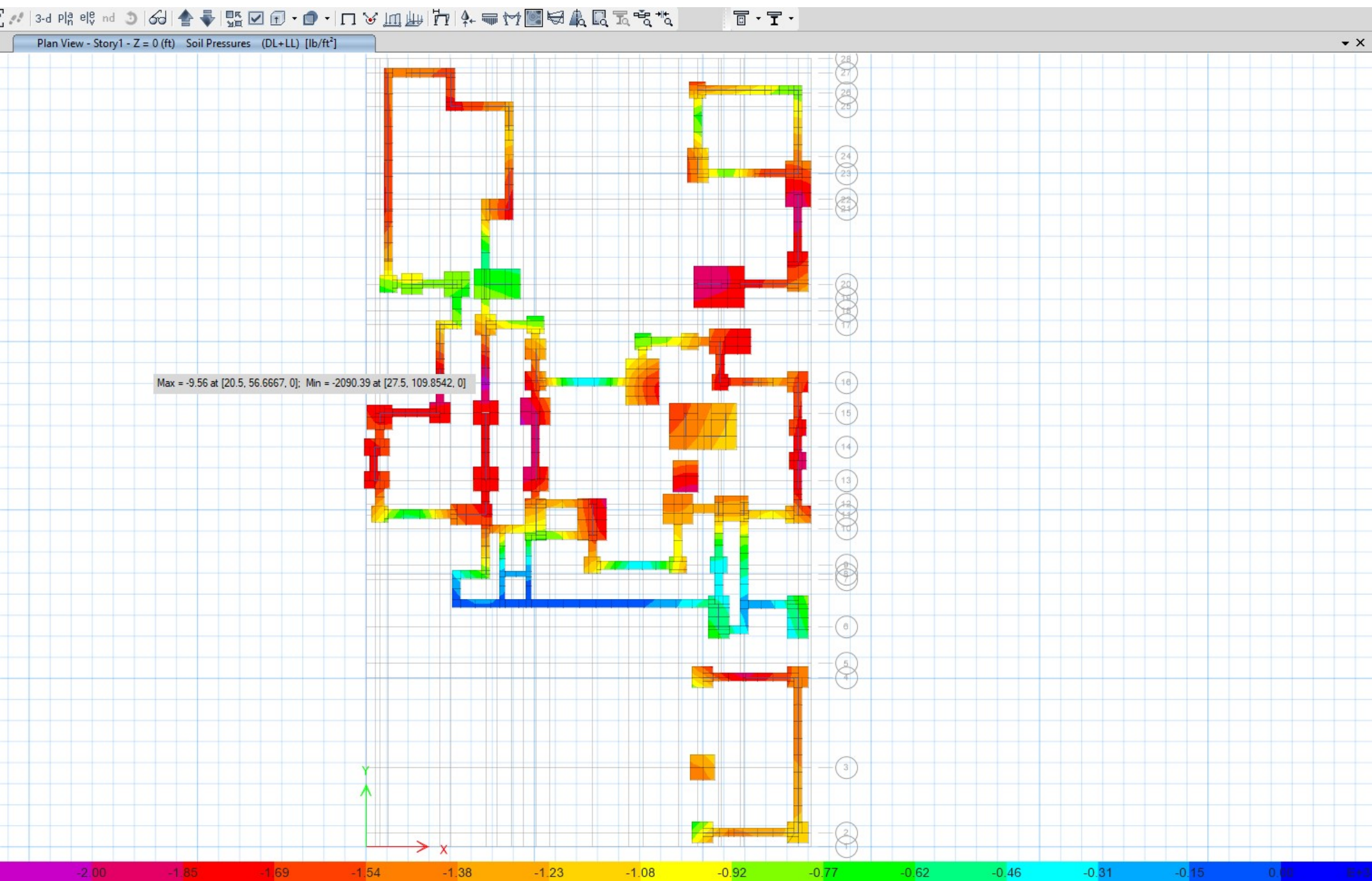
Name	Type	Is Auto	Load Name	SF	Notes
DL+WL(4/12)			Wind(4/12)	1	
DL+WL(5/12)	Linear Add	No	Dead	1	
DL+WL(5/12)			Wind(5/12)	1	
DL+WL(6/12)	Linear Add	No	Dead	1	
DL+WL(6/12)			Wind(6/12)	1	
DL+WL(7/12)	Linear Add	No	Dead	1	
DL+WL(7/12)			Wind(7/12)	1	
DL+WL(8/12)	Linear Add	No	Dead	1	
DL+WL(8/12)			Wind(8/12)	1	
DL+WL(9/12)	Linear Add	No	Dead	1	
DL+WL(9/12)			Wind(9/12)	1	
DL+WL(10/12)	Linear Add	No	Dead	1	
DL+WL(10/12)			Wind(10/12)	1	
DL+WL(11/12)	Linear Add	No	Dead	1	
DL+WL(11/12)			Wind(11/12)	1	
DL+WL(12/12)	Linear Add	No	Dead	1	
DL+WL(12/12)			Wind(12/12)	1	

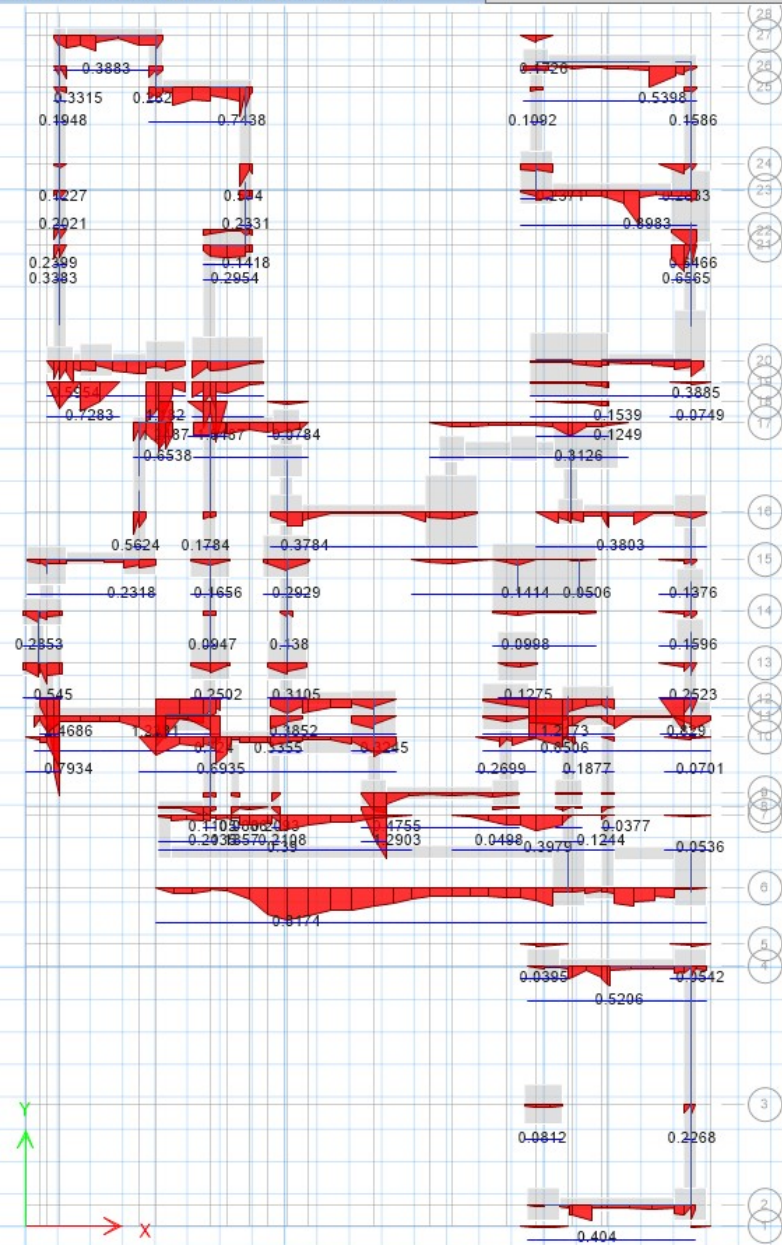








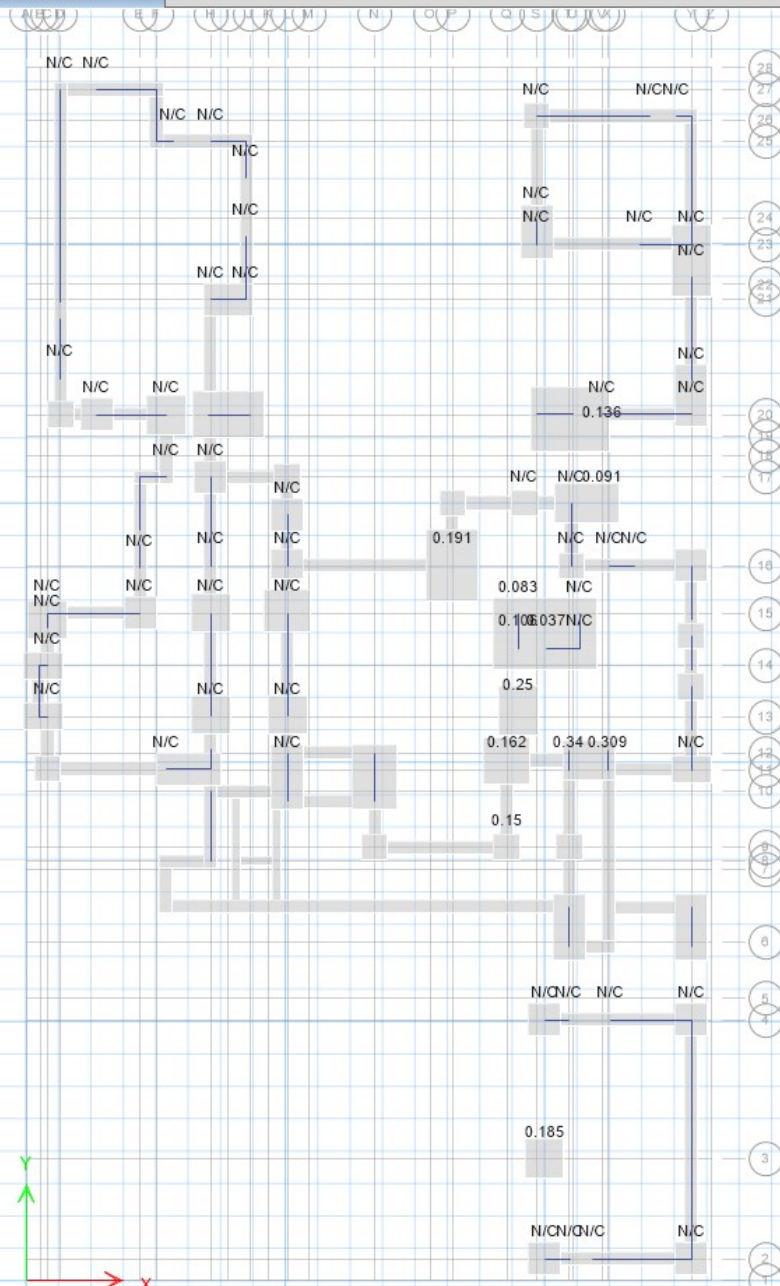


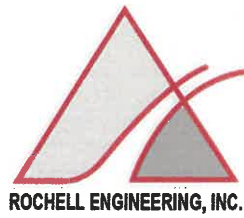




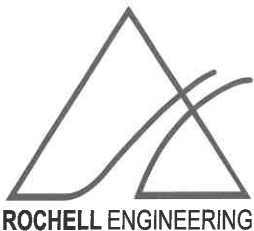








Masonry Wall Design per TMS 402/602-16



Project: Aslhub Sree Home

Page _____ of _____

Proj. No. _____

Date _____

By _____

1500 NW 89th Ct.-Suite 212 • Doral, FL 33172 • Tel: 305.649.4049

DESIGN OF MASONRY WALLS:

- 2nd level walls -

Roof DL = 1000 psf

Roof SL = 1500 psf

Roof L = 3000 psf

Zone ④ = 40 psf

Zone ⑤ = 47 psf

Openings = 2'-6"

Provide: $f_m = 1500 \text{ psi}$

- #6 @ 32" o.c. Vert. @ Zone ④

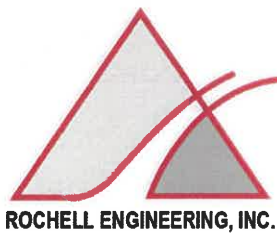
- #6 @ 24" o.c. Vert. @ Zone ⑤

- 2 #6 Vert. ea. side of openings

$\phi +25'6"$
Roof

$\phi +13'0"$
2nd Level

$\phi +0'0"$
Ground Level



Rochell Engineering, Inc.
Consulting Engineers
 1500 NW 89th Court – Suite 212
 Doral, FL 33172

Project Name: Hollub Residence
 Wall ID: Second Level Masonry Wall (Zone 4)

8" Masonry Wall Design (Code Ref: TMS 402/602-16)

Input Data:

Wall Height, H =	12	ft.
Wall Thickness, t =	7.625	in.
Wall Vertical Reinforcing =	# 6	@ 32 in o.c.
Reinforcement Area, Ast =	0.44	sq. in.
Effective Section Width, b =	32	in.
Effective Depth, d =	3.81	in.
Tensile Strength, F _s =	24,000	psi
Comp. Strength, F' _m =	1,500	psi
Mod. of Elasticity, E _s =	29,000,000	psi
Mod. of Elasticity, E _m =	1,350,000	psi

Dead Loads =	1150	lbs./ft.
Live Loads =	300	lbs./ft.
Wind Uplift =	0	lbs./ft.
Wind Loads =	40	psf
Lateral Loads =	107	lbs./ft.
Weight of Wall =	696	lbs./ft.

ASD Load Combinations: (per ASCE 7-16)

Dead Load =	1,846	lbs./ft.
Dead Load + Live Load =	2,146	lbs./ft.
0.6Dead + (Lateral+Uplift) =	4,376	lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	1455	lbs./ft.

Wall Analysis:

Acting Moment, M =	720	ft.-lbs.
Reinf. Ratio, p =	0.00361	
Radius of Gyration, r =	2.59	
h/r =	56	< 99
Moment of Inertia, I =	343.7	in ⁴ /ft
Net Block Area, A _n =	46.0	in ² /ft

OK

Axial :

F _a = 0.25*F' _m [1-(h/140r) ²] =	316	psi (Allowable Axial Compressive Stress)
f _a (DL+LL) = P/A _n =	47	psi (Max. Axial Compressive Stress)
f _a [0.6DL+0.6(Lat+Upl)] =	95	psi
f _a (DL+0.75LL+0.75*0.6W) =	32	psi
f _a (DL) =	40	psi

Bending:

F _b Allowable = 1/3 F' _m =	495	psi
n = E _s / E _m =	21.5	
k =	0.32	
j = 1-k/3 =	0.89	

Max. Bending Stress, f_b = 343 psi

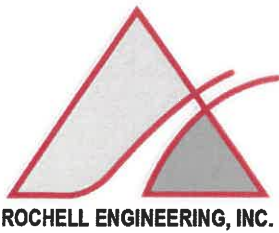
Steel Bending Stress, f_s = 15,407 psi

Add'l f_s = 0 psi (Axial Tension)

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	f _a /F _a =	0.15	< 1.0	OK
2. Bending Comp. Stresses 0.6DL+ (Lat+Uplift)	f _a /F _a + f _b /F _b =	0.99	< 1.0	OK
3. Steel Bending Stresses	f _s /F _s =	0.64	< 1.0	OK
4. Bending+Axial Comp. DL + 0.75LL + 0.75(Wind) =		0.79	< 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (K_d = 0.85)



Rochell Engineering, Inc.
Consulting Engineers
 1500 NW 89th Court – Suite 212
 Doral, FL 33172

Project Name: Hollub Residence
 Wall ID: Second Level Masonry Wall (Zone 5)

8" Masonry Wall Design (Code Ref: TMS 402/602-16)

Input Data:

Wall Height, H =	12 ft.
Wall Thickness, t =	7.625 in.
Wall Vertical Reinforcing =	# 6 @ 24 in o.c.
Reinforcement Area, Ast =	0.44 sq. in.
Effective Section Width, b =	24 in.
Effective Depth, d =	3.81 in.
Tensile Strength, F _s =	24,000 psi
Comp. Strength, F' _m =	1,500 psi
Mod. of Elasticity, E _s =	29,000,000 psi
Mod. of Elasticity, E _m =	1,350,000 psi

Dead Loads =	1150 lbs./ft.
Live Loads =	300 lbs./ft.
Wind Uplift =	0 lbs./ft.
Wind Loads =	47 psf
Lateral Loads =	94 lbs./ft.
Weight of Wall =	732 lbs./ft.

ASD Load Combinations: (per ASCE 7-16)

Dead Load =	1,882 lbs./ft.
Dead Load + Live Load =	2,182 lbs./ft.
0.6Dead + (Lateral+Uplift) =	4,592 lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	1446 lbs./ft.

Wall Analysis:

Acting Moment, M =	846 ft.-lbs.
Reinf. Ratio, p =	0.00481
Radius of Gyration, r =	2.53
h/r =	57 < 99
Moment of Inertia, I =	355.3 in ⁴ /ft
Net Block Area, A _n =	51.3 in ² /ft

OK

Axial :

F _a = 0.25*F' _m [1-(h'/140r) ²] =	313 psi (Allowable Axial Compressive Stress)
f _a (DL+LL) = P/A _n =	43 psi (Max. Axial Compressive Stress)
f _a [0.6DL+0.6(Lat+Upl)] =	90 psi
f _a (DL+0.75LL+0.75*0.6W) =	28 psi
f _a (DL) =	37 psi

Bending:

F _b Allowable = 1/3 F' _m =	495 psi
n = E _s / E _m =	21.5
k =	0.36
j = 1-k/3 =	0.88

Max. Bending Stress, f_b = 365 psi

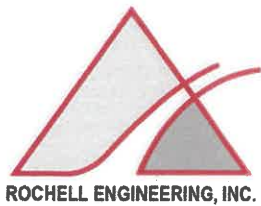
Steel Bending Stress, f_s = 13,778 psi

Add'l f_s = 0 psi (Axial Tension)

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	f _a /F _a =	0.14 < 1.0	OK
2. Bending Comp. Stresses 0.6DL+ (Lat+Uplift)	f _a /F _a + f _b /F _b =	0.95 < 1.0	OK
3. Steel Bending Stresses	f _s /F _s =	0.57 < 1.0	OK
4. Bending+Axial Comp. DL + 0.75LL + 0.75(Wind) =		0.83 < 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (K_d = 0.85)



Rochell Engineering, Inc.
Consulting Engineers
 1500 NW 89th Court – Suite 212
 Doral, FL 33172

Project Name: Hollub Residence
Wall ID: Second Level Wall with 2'-6" opening

8" Masonry Wall Design w/ Openings (Code Ref: TMS 402/602-16)

Input Data:

Member Height, H =	12	ft.
Masonry Opening Width=	2.5	ft.
Wall Thickness, t =	7.625	in.
Wall Vertical Reinforcing =	# 6	@ 32 in o.c.
Reinf. At Opening =	2	# 6
Reinf. Area, Ast =	0.88	sq. in.
Effective Section Width, b =	28	in.
Effective Depth, d =	3.81	in.
Tensile Strength, Fs =	24,000	psi
Comp. Strength, F'm =	1,500	psi
Mod. of Elasticity, Es =	29,000,000	psi
Mod. of Elasticity, Em =	1,350,000	psi

Dead Loads =	1150	lbs./ft.
Live Loads =	300	lbs./ft.
Wind Uplift =	0	lbs./ft.
Wind Loads =	40	psf
Lateral Loads =	143	lbs./ft.
Wt. of Wall =	696	lbs./ft.

Load Combinations: (per ASCE 7-16)

Dead Load =	1,846	lbs./ft.
Dead Load + Live Load =	2,146	lbs./ft.
0.6Dead + (Lateral+ Uplift) =	1,386	lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	2179	lbs./ft.

Wall Analysis:

Acting Moment, M =	720	ft-lbs.
Reinf. Ratio, p =	0.0082	
Radius of Gyration, r =	2.59	
h'/r =	56	< 99
Moment of Inertia, I =	343.7	in ⁴ /ft
Net Block Area, An =	46.0	in ² /ft

OK

Axial :

Fa = 0.25*F'm[1-(h'/140r)^2] =	316	psi (Allowable Axial Compressive Stress)
fa(DL+LL) = P/An =	47	psi (Max. Axial Compressive Stress)
fa[0.6DL+0.6(Lateral+Uplift)] =	46	psi
fa(DL+0.75LL+0.75*0.6W) =	73	psi

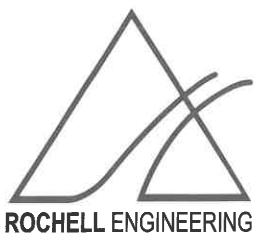
Bending:

Fb = 1/3 F'm =	495	psi	fb =	403	psi
n = Es/Em =	21.5		fs =	10,838	psi
k =	0.44		Add'l fs =	0	psi (Axial Tension)
j = 1-k/3 =	0.85				

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	fa/Fa + fb/Fb =	0.15	< 1.0	OK
2. Bending Comp. Stresses (0.6DL+Lat+Upl)	fa/Fa + fb/Fb =	0.96	< 1.0	OK
3. Steel Bending Stresses	fs/Fs =	0.45	< 1.0	OK
4. Bending + Axial Comp. DL+0.75LL+0.75(W) =		0.96	< 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (Kd = 0.85)



Project: _____

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By _____

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- Ground level walls:

Roof DL = 1000 p/f

Roof SDL = 100 p/f

Roof U = 300 p/f

Cmw wall DL = 720 p/f

2nd level DL = 800 p/f

2nd level SDL = 200 p/f

2nd level U = 320 p/f

Σ DL = 2870 p/f

Σ U = 620 p/f

Zone ④ = 40 p/sf

Zone ⑤ = 45 p/sf

Openings = 2'-6" & 5'-0"

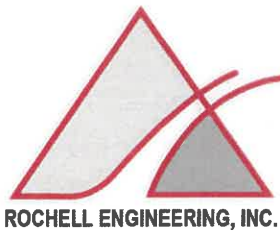
Provide: $F_m = 2000$ psi

- #6 @ 32" o.c Vert. @ Zone ④

- #6 @ 24" o.c Vert. @ Zone ⑤

- Provide 2#6 Vert. ea side of 2'-6" openings

- Provide 8"x12" Conc. Column ea side of 5'-0" openings



Rochell Engineering, Inc.
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Project Name: Hollub Residence
 Wall ID: Ground Level Masonry Wall (Zone 4)

8" Masonry Wall Design (Code Ref: TMS 402/602-16)

Input Data:

Wall Height, H =	13 ft.
Wall Thickness, t =	7.625 in.
Wall Vertical Reinforcing =	# 6 @ 32 in o.c.
Reinforcement Area, A _{st} =	0.44 sq. in.
Effective Section Width, b =	32 in.
Effective Depth, d =	3.81 in.
Tensile Strength, F _s =	24,000 psi
Comp. Strength, F' _m =	2,000 psi
Mod. of Elasticity, E _s =	29,000,000 psi
Mod. of Elasticity, E _m =	1,800,000 psi

Dead Loads =	2870 lbs./ft.
Live Loads =	620 lbs./ft.
Wind Uplift =	0 lbs./ft.
Wind Loads =	40 psf
Lateral Loads =	107 lbs./ft.
Weight of Wall =	754 lbs./ft.

ASD Load Combinations: (per ASCE 7-16)

Dead Load =	3,624 lbs./ft.
Dead Load + Live Load =	4,244 lbs./ft.
0.6Dead + (Lateral+Uplift) =	5,400 lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	3415 lbs./ft.

Wall Analysis:

Acting Moment, M =	845 ft.-lbs.
Reinf. Ratio, p =	0.00361
Radius of Gyration, r =	2.59
h/r =	60 < 99
Moment of Inertia, I =	343.7 in ⁴ /ft
Net Block Area, A _n =	46.0 in ² /ft

OK

Axial :

F _a = 0.25*F' _m [1-(h'/140r) ²] =	407 psi (Allowable Axial Compressive Stress)
f _a (DL+LL) = P/A _n =	92 psi (Max. Axial Compressive Stress)
f _a [0.6DL+0.6(Lat+Upl)] =	117 psi
f _a (DL+0.75LL+0.75*0.6W) =	74 psi
f _a (DL) =	79 psi

Bending:

F _b Allowable = 1/3 F' _m =	660 psi
n = E _s / E _m =	16.1
k =	0.29
j = 1-k/3 =	0.90

Max. Bending Stress, f_b = 447 psi

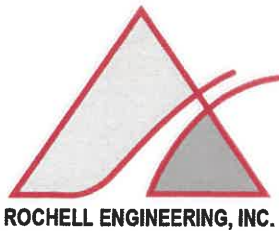
Steel Bending Stress, f_s = 17,841 psi

Add'l f_s = 0 psi (Axial Tension)

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	f _a /F _a =	0.23 < 1.0	OK
2. Bending Comp. Stresses 0.6DL+ (Lat+Uplift)	f _a /F _a + f _b /F _b =	0.97 < 1.0	OK
3. Steel Bending Stresses	f _s /F _s =	0.74 < 1.0	OK
4. Bending+Axial Comp. DL + 0.75LL + 0.75(Wind) =		0.86 < 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (K_d = 0.85)



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Project Name: Hollub Residence
 Wall ID: Ground Level Masonry Wall (Zone 5)

8" Masonry Wall Design (Code Ref: TMS 402/602-16)

Input Data:

Wall Height, H =	13 ft.
Wall Thickness, t =	7.625 in.
Wall Vertical Reinforcing =	# 6 @ 24 in o.c.
Reinforcement Area, Ast =	0.44 sq. in.
Effective Section Width, b =	24 in.
Effective Depth, d =	3.81 in.
Tensile Strength, F _s =	24,000 psi
Comp. Strength, F' _m =	2,000 psi
Mod. of Elasticity, E _s =	29,000,000 psi
Mod. of Elasticity, E _m =	1,800,000 psi

Dead Loads =	2870 lbs./ft.
Live Loads =	620 lbs./ft.
Wind Uplift =	0 lbs./ft.
Wind Loads =	45 psf
Lateral Loads =	90 lbs./ft.
Weight of Wall =	793 lbs./ft.

ASD Load Combinations: (per ASCE 7-16)

Dead Load =	3,663 lbs./ft.
Dead Load + Live Load =	4,283 lbs./ft.
0.6Dead + (Lateral+Uplift) =	5,654 lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	3403 lbs./ft.

Wall Analysis:

Acting Moment, M =	951 ft.-lbs.
Reinf. Ratio, p =	0.00481
Radius of Gyration, r =	2.53
h/r =	62 < 99
Moment of Inertia, I =	355.3 in ⁴ /ft
Net Block Area, A _n =	51.3 in ² /ft

OK

Axial :

F _a = 0.25*F' _m [1-(h/140r) ²] =	403 psi (Allowable Axial Compressive Stress)
f _a (DL+LL) = P/A _n =	83 psi (Max. Axial Compressive Stress)
f _a [0.6DL+0.6(Lat+Upl)] =	110 psi
f _a (DL+0.75LL+0.75*0.6W) =	66 psi
f _a (DL) =	71 psi

Bending:

F _b Allowable = 1/3 F' _m =	660 psi
n = E _s / E _m =	16.1
k =	0.32
j = 1-k/3 =	0.89

Max. Bending Stress, f_b = 453 psi

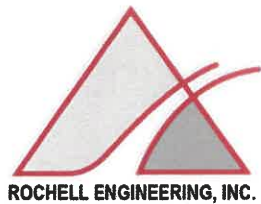
Steel Bending Stress, f_s = 15,256 psi

Add'l f_s = 0 psi (Axial Tension)

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	f _a /F _a =	0.21 < 1.0	OK
2. Bending Comp. Stresses 0.6DL+ (Lat+Uplift)	f _a /F _a + f _b /F _b =	0.96 < 1.0	OK
3. Steel Bending Stresses	f _s /F _s =	0.64 < 1.0	OK
4. Bending+Axial Comp. DL + 0.75LL + 0.75(Wind) =		0.85 < 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (K_d = 0.85)



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Project Name: Hollub Residence
Wall ID: Ground Level Wall with 2'-6" opening

8" Masonry Wall Design w/ Openings (Code Ref: TMS 402/602-16)

Input Data:

Member Height, H =	13 ft.
Masonry Opening Width=	2.5 ft.
Wall Thickness, t =	7.625 in.
Wall Vertical Reinforcing =	# 6 @ 32 in o.c.
Reinf. At Opening =	2 # 6
Reinf. Area, Ast =	0.88 sq. in.
Effective Section Width, b =	28 in.
Effective Depth, d =	3.81 in.
Tensile Strength, Fs =	24,000 psi
Comp. Strength, F'm =	2,000 psi
Mod. of Elasticity, Es =	29,000,000 psi
Mod. of Elasticity, Em =	1,800,000 psi

Dead Loads =	2870 lbs./ft.
Live Loads =	620 lbs./ft.
Wind Uplift =	0 lbs./ft.
Wind Loads =	40 psf
Lateral Loads =	143 lbs./ft.
Wt. of Wall =	754 lbs./ft.

Load Combinations: (per ASCE 7-16)

Dead Load =	3,624 lbs./ft.
Dead Load + Live Load =	4,244 lbs./ft.
0.6Dead + (Lateral+ Uplift) =	2,476 lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	4197 lbs./ft.

Wall Analysis:

Acting Moment, M =	845 ft.-lbs.
Reinf. Ratio, p =	0.0082
Radius of Gyration, r =	2.59
h'/r =	60 < 99
Moment of Inertia, I =	343.7 in ⁴ /ft
Net Block Area, An =	46.0 in ² /ft

OK

Axial :

Fa = 0.25*F'm[1-(h'/140r) ²] =	407 psi (Allowable Axial Compressive Stress)
fa(DL+LL) = P/An =	92 psi (Max. Axial Compressive Stress)
fa[0.6DL+0.6(Lateral+Uplift)] =	83 psi
fa(DL+0.75LL+0.75*0.6W) =	140 psi

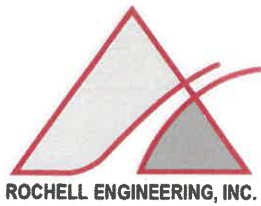
Bending:

Fb = 1/3 F'm =	660 psi	fb =	516 psi
n = Es/Em =	16.1		
k =	0.40	fs =	12,502 psi
j = 1-k/3 =	0.87	Add'l fs =	0 psi (Axial Tension)

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	fa/Fa + fb/Fb =	0.23 < 1.0	OK
2. Bending Comp. Stresses (0.6DL+Lat+Upl)	fa/Fa + fb/Fb =	0.99 < 1.0	OK
3. Steel Bending Stresses	fs/Fs =	0.52 < 1.0	OK
4. Bending + Axial Comp. DL+0.75LL+0.75(W) =		0.97 < 1.0	OK

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (Kd = 0.85)



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Project Name: Hollub Residence
Wall ID: Ground Level Wall with 5'-0" opening

8" Masonry Wall Design w/ Openings (Code Ref: TMS 402/602-16)

Input Data:

Member Height, H =	13 ft.	Dead Loads =	2870 lbs./ft.
Masonry Opening Width=	5 ft.	Live Loads =	620 lbs./ft.
Wall Thickness, t =	7.625 in.	Wind Uplift =	0 lbs./ft.
Wall Vertical Reinforcing =	# 6 @ 32 in o.c.	Wind Loads =	40 psf
Reinf. At Opening =	2 # 6	Lateral Loads =	193 lbs./ft.
Reinf. Area, Ast =	0.88 sq. in.	Wt. of Wall =	754 lbs./ft.
Effective Section Width, b =	28 in.		
Effective Depth, d =	3.81 in.		
Tensile Strength, Fs =	24,000 psi		
Comp. Strength, F'm =	2,000 psi		
Mod. of Elasticity, Es =	29,000,000 psi		
Mod. of Elasticity, Em =	1,800,000 psi		

Load Combinations: (per ASCE 7-16)

Dead Load =	3,624 lbs./ft.
Dead Load + Live Load =	4,244 lbs./ft.
0.6Dead + (Lateral+ Uplift) =	2,476 lbs./ft.
Dead + 0.75Live + 0.75(Wind) =	4234 lbs./ft.

Wall Analysis:

Acting Moment, M =	845 ft-lbs.
Reinf. Ratio, p =	0.0082
Radius of Gyration, r =	2.59
h/r =	60 < 99
Moment of Inertia, I =	343.7 in ⁴ /ft
Net Block Area, An =	46.0 in ² /ft

OK

Axial :

Fa = 0.25*F'm[1-(h'/140r)^2] =	407 psi (Allowable Axial Compressive Stress)
fa(DL+LL) = P/An =	92 psi (Max. Axial Compressive Stress)
fa[0.6DL+0.6(Lateral+Uplift)] =	111 psi
fa(DL+0.75LL+0.75*0.6W) =	191 psi

Bending:

Fb = 1/3 F'm =	660 psi	fb =	696 psi
n = Es/Em =	16.1	fs =	16,863 psi
k =	0.40	Add'l fs =	0 psi (Axial Tension)
j = 1-k/3 =	0.87		

Combined Stresses:

1. Axial Compressive Stresses (DL+LL)	fa/Fa + fb/Fb =	0.23 < 1.0	OK
2. Bending Comp. Stresses (0.6DL+Lat+Upl)	fa/Fa + fb/Fb =	1.33 < 1.0	FALSE
3. Steel Bending Stresses	fs/Fs =	0.70 < 1.0	OK
4. Bending + Axial Comp. DL+0.75LL+0.75(W) =		1.31 < 1.0	FALSE

Notes: Masonry design assumes special inspection provided & conforming to 2020 FBC requirements
 Combined stresses results shall not exceed 1.0 unity value (Kd = 0.85)

USE 8"x12" CONCRETE
 GROUND
 ON SIDE