



Builder / Agent:	ITHINK DESIGN PTY LTD	Job Number:	1710168
Owner:	NIATRON 10 PTY LTD	Date:	31/01/2019
Project:	PROPOSED RESIDENTIAL DEVELOPMENT	Order No.	419R
Project Location:	419 REGENCY ROAD, PROSPECT SA		
Original Report Date:	8/10/2018		
Previous Addendum Dates:	NIL		

This Addendum is an integral part of the original Structural Calculations and Details giving specific recommendations for the above mentioned building / structure. The Addendum must be read in conjunction with the original report, previous Addenda and all listed attachments. This report is valid for a period of 24 months based on current standards, regulations, etc.

ATTACHMENTS: SC215-SC264

RECOMMENDED SITE INSPECTIONS:

1. After excavation for the footing beams and piers, prior to placement of the damp proof membrane.
2. After preparation of the reinforcement prior to pouring of any concrete.
3. As otherwise required by the engineer, or requested by the client/contractor.

NOTE: 1. *These inspections will incur additional fees.*
2. *We require 24 hours notice when booking inspections.*

ADDITIONAL NOTES / REQUIREMENTS:

1. As previous.

REASON FOR ADDENDUM:

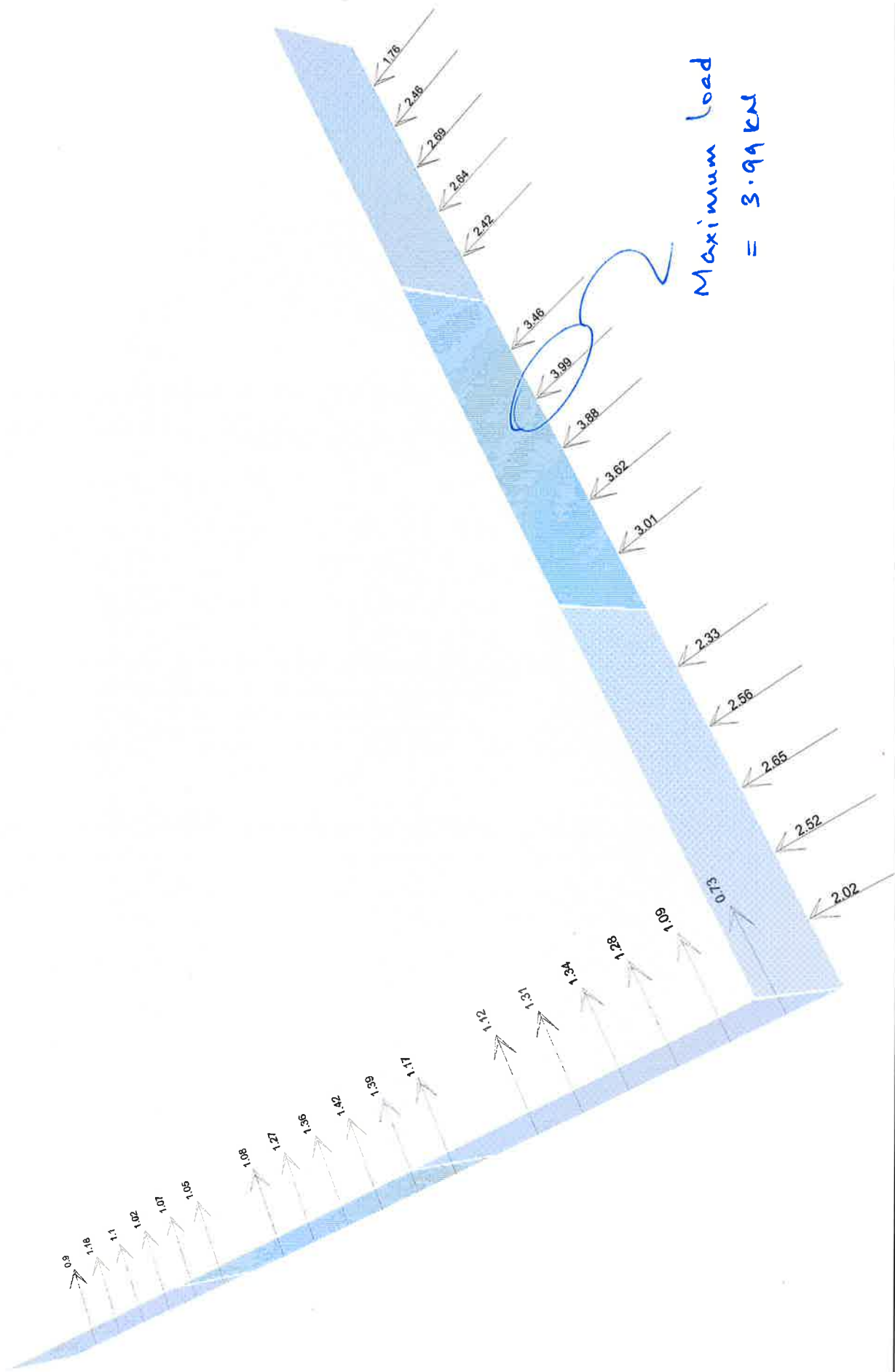
2. Additional calculation provided as requested by certifier

For and on behalf of
TMK Consulting Engineers

TONY GARREFFA
Senior Associate / Team Leader

Wall Panel Over Retaining Wall - EQ load @ dowels

30/01/2019



Ref: 1710168
Sc 215

Again Overturning moment for strength.

$$0.8 \times 9.9 \times \frac{1}{3} \times 1.8 + 0.8 \times 0.3 \times 3.06 \times \frac{1.8}{2} + 4 \times 2 = 13.4 \text{ kNm}$$

This is less than load combination of DL and LL.
refer to page SC162

Stability:

$$\text{Ult. Horiz. Force} = 1.25 \times Q + \psi_c Q + 1.0 F_{eq}$$

$$= 1.25 \times 9.9 + 0.3 \times 3.06 + 4$$

$$= 17.3 \text{ kN} > \text{previously calculated.}$$

However still less than Capacity - refer to

page SC162 \rightarrow Capacity = 17.48 kN.

Ultimate overturning moment -

$$= 1.25 \times 9.9 \times 0.6 + 0.3 \times 3.06 \times 0.9 + 4 \times 2$$

$$= 16.25 \text{ kNm.}$$

Total resistance from previous calculation = 15.60 kNm.

Increase the width of base to 1.25m.

$$\phi M (\text{overturning}) = 17.11 \text{ kNm} > \text{req. (OK)}$$

$$\text{And } \phi \text{ sliding} = 17.84 \text{ kN} > \text{req. (OK)}$$

\rightarrow Refer to calcs beyond.

Redesign of Retaining wall - Allowing for Horizontal Load from Earthquake.

Max. retaining height = 1.8m.

Ultimate horizontal load from EQ = 3.99 ~ 4kN

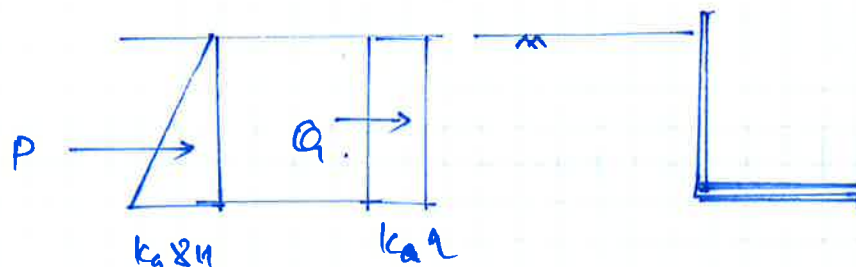
Say dowel @ 200 above ground level.

∴ Additional Moment = 4 × 2 = 8kNm.
(Ultimate)

Load Combination

$0.8(G + \gamma_c Q) + 1.0 F_{eq}$ - Strength limit state

$$1.25 G + \gamma_c Q + 1.0 F_{eq} < 0.8(G + \gamma_c Q)$$



$$k_a = 0.34, \quad \gamma = 18 \text{ kN/m}^3, \quad H = 1.8 \text{ m}, \quad q = 5 \text{ kPa}.$$

$$P = \frac{1}{2} k_a \gamma H^2 = 0.5 \times 0.34 \times 18 \times 1.8^2 = 9.9 \text{ kN}.$$

$$Q = k_a q H = 0.34 \times 5 \times 1.8 = 3.06 \text{ kN}.$$

$$F_{eq}^* = 4 \text{ kN}.$$

$$\text{Ultimate Horizontal for strength} = 0.8(9.9 + 0.3 \times 3.06) + 4 = 12.7 \text{ kN}.$$

Total sliding force is less than
the load combination of D.L and L.L.
(Refer to page SC162)

Checked :

Date : / /

RETAINING WALL DESIGN

This design is in accordance with AS4678 — 2002 Earth-retaining Structures

WALL TYPE: REINFORCED CONCRETE

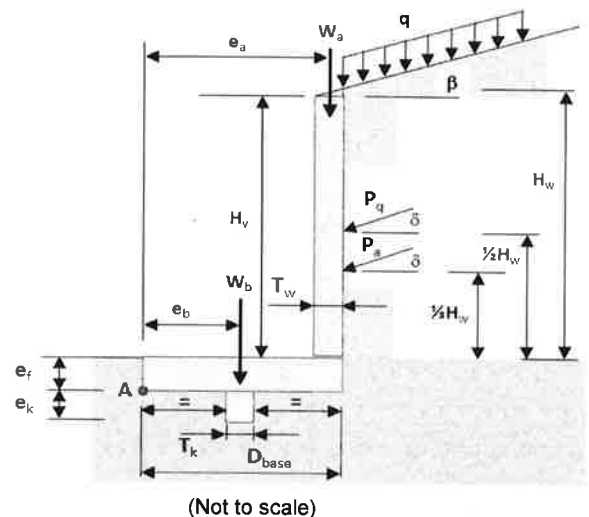
Design input parameters:

a) Geometry

H_v = Vertical height of wall =	1.88 m
T_w = Overall wall thickness =	0.200 m
D_{base} = Width of wall base (must be $\geq T_w$) =	1.25 m
β = Angle of backfill surface =	0.00 degrees
e_f = Embedment depth of footing =	0.25 m
T_k = Width of shear key =	0.25 m
e_k = Embedment depth of shear key =	0.25 m

b) Material Properties

δ = Friction angle between wall and soil =	18 degrees
γ_w = Density of wall material =	24.00 kN/m ³
Concrete compressive strength, f_c =	32 MPa
Reinforcement yield stress =	500 MPa
Vertical reinforcement bar diameter =	12 mm
Vertical reinforcement bar spacing =	200 mm



Retained soil type = Firm clay of medium to high plasticity, silty clay, sandy clay

(AS 4678-2002 Table D4)

Cohesion, c_r : 5 kPa

Density, $\gamma_{s,r}$: 18.0 kN/m³

Friction Angle, ϕ_r : 27 degrees

Foundation soil type = Firm clay of medium to high plasticity, silty clay, sandy clay

(AS 4678-2002 Table D4)

Cohesion, c_f : 5 kPa

Density, $\gamma_{s,f}$: 18.0 kN/m³

Friction Angle, ϕ_f : 27 degrees

Bearing Strength, $q_{u,f}$: 360 kPa

c) Other

q_s = Surcharge on top of backfill surface = 5.00 kPa (Ref. AS 4678 — 2002 Table 1.1 for minimum value)

Design factors:

$k_1 = 1 / \sin(90^\circ) =$	1.00	$k_2 = \sin(90 - \phi_r) =$	0.89
$k_3 = \sin(90 + \delta) =$	0.95	$k_4 = \sin(\phi_r + \delta) =$	0.71
$k_5 = \sin(\phi_r - \beta) =$	0.45	$k_6 = \sin(90 - \beta) =$	1.00

Design height, $H_w = H_v + T_w \cdot \tan \beta =$ 1.88 m

Forces acting on the wall:

$K_a = (k_1 * k_2 / (k_3 + (k_4 * k_5 / k_6)^{0.5}))^2 =$	0.34
$P_a = 0.5 * K_a * \gamma_{s,r} * H_w^2 =$	10.96 kN/m
$P_q = K_a * q_s * H_w =$	3.24 kN/m

NOTE:

Dead Load Factor =	1.2
Live Load Factor =	1.5
$\Phi_{overturning} =$	0.8
$\Phi_{sliding} =$	0.7
$\Phi_{bearing} =$	0.33

Check Overturning (Limit State Condition)

1. Overturning moments (about point A).

(a) Soil pressure

$$M_{a,A}^* = 1.2 * P_a * \cos(\delta) * (\frac{1}{3}H_w + e) = 10.97 \text{ kNm/m}$$

(b) Surcharge on top of backfill surface

$$M_{q,A}^* = 1.5 * P_q * \cos(\delta) * (\frac{1}{2}H_w + e) = 5.50 \text{ kNm/m}$$

$$\Rightarrow \text{Total Overturning Moment is } 16.47 \text{ kNm/m} \leftarrow$$

2. Restoring moments (about point A).

$$M_{R,A} = 0.8 * [(W_a * e_a + W_b * e_b) + (P_a + P_q) * \sin(\delta) * D_{base}] = 17.11 \text{ kNm/m}$$

where

$$W_a \text{ (weight of the wall)} = \gamma_w * H_w * T_w = 9.02 \text{ kN/m}$$

$$e_a = D_{base} - T_w / 2 = 1.15 \text{ m}$$

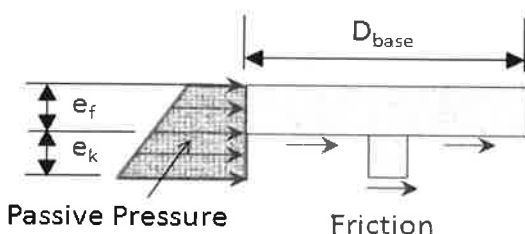
$$W_b \text{ (weight of footing, including shear key)} = 8.83 \text{ kN/m}$$

$$\therefore e_b = D_{base} / 2 = 0.63 \text{ m}$$

$$\Rightarrow \text{Total Restoring Moment is } 17.11 \text{ kNm/m} \leftarrow$$

i.e. Restoring Moment > Overturning Moment \therefore Resistance to Overturning is OK

Check Sliding of Footing (Limit State Condition)



Resistance to horizontal sliding (Limit State Design)

a) Soil friction

$$N_f = W_a + W_b + (P_a + P_q) * \sin(\delta) = 22.24 \text{ kN/m}$$

$$\mu_f = \tan(\phi_f) = 0.51$$

$$\text{Friction resistance, } F_{\phi,f} = N_f * \mu_f = 11.33 \text{ kN/m}$$

b) Passive soil resistance

$$\text{Passive pressure strength at surface} = 16.32 \text{ kPa}$$

$$\text{Passive pressure strength at embedment depth, } (e_f + e_k) = 40.28 \text{ kPa}$$

$$\text{Passive soil resistance, } F_{p,f} = 14.15 \text{ kN/m}$$

Total Resistance, $F_{t,f}$

$$F_{t,f} = \Phi_{sliding} * (F_{\phi,f} + F_{p,f}) = 0.7 * (11.33 + 14.15) \text{ kN/m} = 17.84 \text{ kN/m} \leftarrow$$

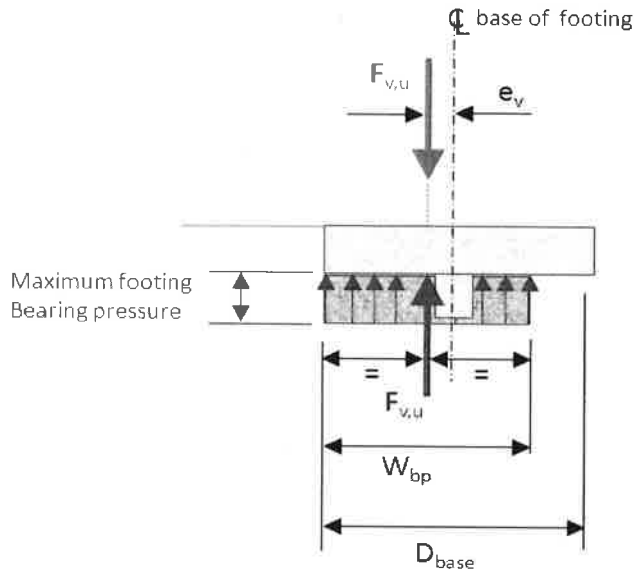
Total Sliding Force, $F_{s,f}$

$$F_{s,f} = (1.2 * P_a + 1.5 * P_q) * \cos(\delta) = 17.14 \text{ kN/m} \leftarrow$$

i.e. Footing Sliding Resistance > Maximum Footing Sliding Force

\therefore Resistance to Sliding of Footing is OK

Check Soil Bearing Pressure (Limit State Condition)



Soil bearing pressure (Limit State Design)

Maximum Bearing Resistance, $\Phi \cdot q_{u,f}$

$$\Phi_{\text{bearing}} \cdot q_{u,f} = 0.33 \cdot 360 \text{ kPa} = 118.8 \text{ kPa} \quad \leftarrow$$

Maximum Bearing Pressure, $P_{m,f}$

Total Vertical Force acting on Footing =

$$F_{v,u} = 1.2 \cdot (W_a + W_b) + (1.2 \cdot P_a + 1.5 \cdot P_q) \cdot \sin(\delta) = 26.69 \text{ kN/m}$$

Overturning Moment About Centre of Base:

$$M_{a,f} = 1.2 \cdot P_a \cdot \cos(\delta) \cdot [\frac{1}{3} H_w + e_f] = 10.97 \text{ kNm/m}$$

$$M_{q,f} = 1.5 \cdot P_q \cdot \cos(\delta) \cdot [\frac{1}{2} H_w + e_f] = 5.50 \text{ kNm/m}$$

Restoring Moment About Centre of Base:

$$M_{r,f} = 1.2 \cdot W_a \cdot (\frac{1}{2} D_{\text{base}} - e_a) = -5.69 \text{ kNm/m}$$

$$\text{Net Moment About Centre of Base} = M_{\text{net},f} = M_{a,f} + M_{q,f} + M_{r,f} = 10.79 \text{ kNm/m}$$

$$\text{Width of wall footing} = D_{\text{base}} = 1.25 \text{ m}$$

$$\text{Load Eccentricity About Centre of Base} = e_v = M_{\text{net},f} / F_{v,u} = 0.404 \text{ m}$$

$$\text{Width of Bearing Pressure Block} = W_{bp} = 2 \cdot (\frac{1}{2} D_{\text{base}} - e_v) = 0.442 \text{ m}$$

$$\text{The Maximum Soil Bearing Pressure, } P_{m,f} = F_{v,u} / W_{bp} = 60 \text{ kPa} \quad \leftarrow$$

i.e. Footing Bearing Resistance > Maximum Footing Bearing Pressure

\therefore Soil Bearing Pressure Beneath Footing is OK

SUMMARY FOR REINFORCED CONCRETE RETAINING WALL FOOTING

WALL HEIGHT = 1.88 m

WALL WIDTH = 0.20 m

FOOTING = 1.25 m wide x 0.250 m deep. Grade N20 concrete.

Type additional information
into these three
lines of text

End of calculation

Floor beam.

End connection upto 200 UB / PFC is 4 M16 ferrules.

Max. Size Used = 200 UB 25 - 2F31.

Reaction at precast panel = $R_{DL} = 15 \text{ kN}$ $R_{LL} = 6 \text{ kN}$
 $N \approx 27 \text{ kN}$.

Capacity of 4 M16 Ferrules if 150 apart - refer to S408

Shear capacity from design table.

$$\phi V_{urc} = \phi V_{uc} + X_{vc} + X_{vd} + X_{va} + X_{vn}$$

where $\phi V_{uc} = 49.6 \text{ kN}$ ~~with~~ for 150 edge distance.

$X_{vc} = 1.12$ for 40 MPa Concrete

$X_{vd} = 1$

$X_{va} = 0.7$ (for edge distance = 150 & anchor spacing 150)

$X_{vn} = 0.75$ (for anchor spacing / edge distance = 1 & 4 anchors)

$$\therefore \phi V_{urc} = 49.6 + 1.12 + 1 + 0.7 + 0.75 = 30.7 \text{ kN for each.}$$

$$\therefore \text{Total Capacity} = 4 \times 30.7 = 122.8 \text{ kN} > \text{req (OK)}$$

$$\begin{aligned} 30\% \text{ of } \phi V_u \text{ of } 200 \text{ UB } 30 &= 0.3 \times 225 \\ &= 67.5 \text{ kN} < \text{Capacity of Connection.} \end{aligned}$$

\therefore Upto 200 UB \rightarrow Adopted 4 M16 ferrules.

(OK)

Checked :

Date : .../.../...

Upto 250 UB / PFC.

4 M20 ferrules — 200 apart
refer to S406

$$\text{Capacity of each} = 76.4 \times 1.12 \times 1 \times 0.7 \times 0.79 = 47.3 \text{ kN}$$

$$\therefore \text{Capacity of 4-ferrules} = 47.3 \times 4 = 189 \text{ kN}$$

Reaction from beams are much smaller

$$30\% \text{ of } \phi_{VV} \text{ of } 250 \text{ UB } 37$$

$$= 0.3 \times 283$$

$$= 84.9 \text{ kN} < \text{Capacity of ferrules connection (OK)}$$

Upto 300 PFC / 310 UB.

6 M20 ferrules. — 200 apart
refer to S406.

$$\text{Capacity of each} = 76.4 \times 1.12 \times 1 \times 0.7 \times 0.71$$

$$= 42.53 \text{ kN}$$

$$\therefore \text{Capacity of 6 ferrules} = 6 \times 42.53$$

$$= 255.2 \text{ kN}$$

3FB2 — 300 PFC

$$\text{Max reaction} = 90 \text{ kN} < \text{Capacity (OK)}$$

$$30\% \text{ of } \phi_{VV} \text{ of } 310 \text{ UB } 46 = 0.3 \times 356$$

$$= 106.8 \text{ kN} < \text{Capacity}$$

\therefore (OK)

Roof Beams.

Max. beam = 250 UB 26. i.e. R22.

Max. reaction from d.l. & ll = $30 \text{ kN} \downarrow (N_{dl+ll}^*)$

Max reaction from d.l. & wl = $27 \text{ kN} \uparrow (N_{dl+wl}^*)$

Checking with 2 M16 ferrules. 150 apart

$$\phi V_{urc} = \phi V_{uc} * X_{vc} * X_{vd} * X_{va} * X_{vn}.$$

$$= 49.6 * 1.12 * 1 * 0.7 * 1$$

$$= 38.9 \text{ kN}.$$

\therefore Total capacity of 2-ferrules = $77.8 \text{ kN} > > \text{req.}$

Since the Connection Capacity allowed for smallest beam is greater than the Connection required for biggest beam

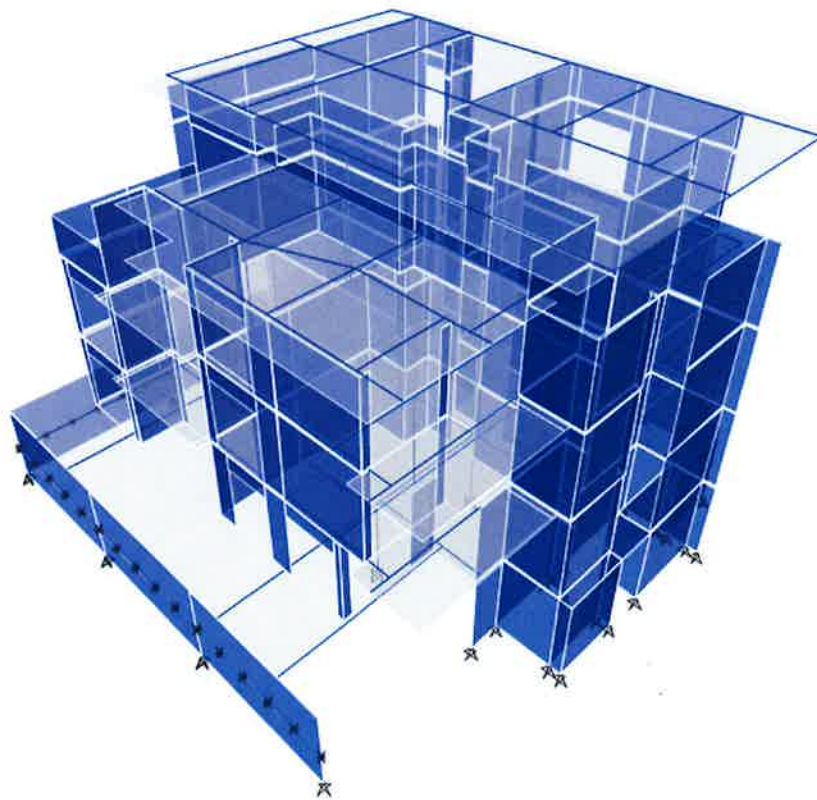
\therefore All the Connection of roof beams ~~checked~~ documented for connection with precast panel is considered adequate.

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SC224

ETABS[®] version 17

Integrated Building Design Software



Stability Report

Proposed Apartments

Model File: Model 01, Revision 0

30/01/2019

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1 Loads

This chapter provides loading information as applied to the model.

1.1 Auto Wind Loading

Table 1.1 - Auto Wind - AS/NZS 1170.2:2011 (Part 1 of 2)

Load Pattern	Loading Method	Exposure Width Type	Angle deg	e	Cp,wind	Cp,lee	Ka	Kc	Kl	Kp
Wind (1/4)	Diaphragms	From Diaphragms	0	0.2	0.8	0.5	1	1	1	1
Wind (2/4)	Diaphragms	From Diaphragms	90	0.2	0.8	0.5	1	1	1	1
Wind (3/4)	Diaphragms	From Diaphragms	180	0.2	0.8	0.5	1	1	1	1
Wind (4/4)	Diaphragms	From Diaphragms	270	0.2	0.8	0.5	1	1	1	1

Table 1.1 - Auto Wind - AS/NZS 1170.2:2011 (Part 2 of 2)

Top Story	Bottom Story	Include Parapet	Vr meter/sec	Terrain Category	Md	Ms	Mt	Cdyn
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1

1.2 Auto Seismic Loading

Table 1.2 - Auto Seismic - AS 1170:2007 (Part 1 of 2)

Load Pattern	Type	Direction	Eccentricity %	Ecc. Overridden	Period Method	User T sec	Top Story	Bottom Story	Site Class	kp
EQ X	Seismic	X		No	User Specified	0.34	Lower Roof	Base	D	1
EQ X	Seismic	X + Ecc. Y	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ X	Seismic	X - Ecc. Y	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y		No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y + Ecc. X	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y - Ecc. X	10	No	User Specified	0.34	Lower Roof	Base	D	1

Table 1.2 - Auto Seismic - AS 1170:2007 (Part 2 of 2)

Z	Sp	μ	Period Used sec	Coeff Used	Weight Used kN	Base Shear kN
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502

AS 1170 2007 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQ X according to AS 1170 2007, as calculated by ETABS.

Direction and Eccentricity

Direction = Multiple

Eccentricity Ratio = 10% for all diaphragms

Structural Period

Period Calculation Method = User Specified

User Period

$$T = 0.34 \text{ sec}$$

Factors and Coefficients

Probability Factor, k_p [AS Table 3.1]

$$k_p = 1$$

Hazard Factor, Z [AS Table 3.2]

$$Z = 0.1$$

Structural Performance Factor, S_p [AS Table 6.5(A)]

$$S_p = 0.77$$

Structural Ductility Factor, μ [AS Table 6.5(A)]

$$\mu = 2$$

Site Sub-soil Class [AS 4.1.1] = De - Deep or Soft Soil

Equivalent Lateral Forces

Seismic Design Action Coefficient,
 $C_{d(T)}$ [AS 6.2.1]

$$C_{d(T)} = \frac{k_p Z C_h(T_1) S_p}{\mu}$$

Calculated Base Shear

Direction	Period Used (sec)	$C_{d(T)}$	W (kN)	V (kN)
X	0.34	0.14168	11848.8864	1678.7502
X + Ecc. Y	0.34	0.14168	11848.8864	1678.7502
X - Ecc. Y	0.34	0.14168	11848.8864	1678.7502

Applied Story Forces

Loads

30/01/2019

Lateral Load to Stories - X

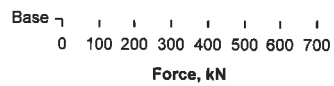
Upper Roof -

Lower Roof ← 314.4688kN

Story3 ← 589.7848kN

Story2 ← 373.072kN

Story1 ← 401.4246kN



Story	Elevation m	X-Dir kN	Y-Dir kN
Upper Roof	13.925	0	0
Lower Roof	12.575	314.4688	0
Story3	9.615	589.7848	0
Story2	6.405	373.072	0
Story1	3.195	401.4246	0
Base	0	0	0

AS 1170 2007 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQ Y according to AS 1170 2007, as calculated by ETABS.

Direction and Eccentricity

Direction = Multiple

Eccentricity Ratio = 10% for all diaphragms

Structural Period

Period Calculation Method = User Specified

User Period

$$T = 0.34 \text{ sec}$$

Factors and Coefficients

Probability Factor, k_p [AS Table 3.1]

$$k_p = 1$$

Hazard Factor, Z [AS Table 3.2]

$$Z = 0.1$$

Structural Performance Factor, S_p [AS Table 6.5(A)]

$$S_p = 0.77$$

Structural Ductility Factor, μ [AS Table 6.5(A)]

$$\mu = 2$$

Site Sub-soil Class [AS 4.1.1] = De - Deep or Soft Soil

Equivalent Lateral Forces

Seismic Design Action Coefficient,
 $C_{d(T)}$ [AS 6.2.1]

$$C_{d(T)} = \frac{k_p Z C_n(T) S_p}{\mu}$$

Calculated Base Shear

Direction	Period Used (sec)	$C_{d(T)}$	W (kN)	V (kN)
Y	0.34	0.14168	11848.8864	1678.7502
Y + Ecc. X	0.34	0.14168	11848.8864	1678.7502
Y - Ecc. X	0.34	0.14168	11848.8864	1678.7502

Applied Story Forces

Loads

Lateral Load to Stories - Y

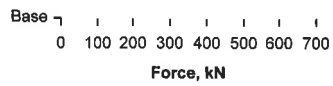
Upper Roof -

Lower Roof -  314.4688kN

Story3 -  589.7848kN

Story2 -  373.072kN

Story1 -  401.4246kN



Story	Elevation m	X-Dir kN	Y-Dir kN
Upper Roof	13.925	0	0
Lower Roof	12.575	0	314.4688
Story3	9.615	0	589.7848
Story2	6.405	0	373.072
Story1	3.195	0	401.4246
Base	0	0	0

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2 Analysis Results

This chapter provides analysis results.

2.1 Story Results

Table 2.1 - Story Max/Avg Displacements

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Modal 1	X	0.045	0.033	1.365
Upper Roof	Modal 1	Y	0.06	0.051	1.178
Lower Roof	Modal 1	X	0.039	0.033	1.167
Lower Roof	Modal 1	Y	0.041	0.038	1.079
Story3	Modal 1	X	0.029	0.022	1.308
Story3	Modal 1	Y	0.041	0.034	1.227
Story2	Modal 1	X	0.016	0.013	1.298
Story2	Modal 1	Y	0.025	0.02	1.221
Upper Roof	Dead	X	0.746	0.389	1.921
Upper Roof	Dead	Y	0.732	0.443	1.652
Lower Roof	Dead	X	0.652	0.356	1.834
Lower Roof	Dead	Y	0.203	0.048	4.225
Story3	Dead	X	0.449	0.259	1.734
Story3	Dead	Y	0.44	0.212	2.077
Story2	Dead	X	0.238	0.145	1.644
Story2	Dead	Y	0.229	0.13	1.767
Upper Roof	Live	X	0.148	0.08	1.84
Upper Roof	Live	Y	0.115	0.061	1.892
Lower Roof	Live	X	0.145	0.081	1.802
Story3	Live	X	0.089	0.053	1.671
Story3	Live	Y	0.073	0.03	2.408
Story2	Live	X	0.045	0.028	1.577
Story2	Live	Y	0.04	0.021	1.859
Upper Roof	SDead	X	0.05	0.026	1.887
Upper Roof	SDead	Y	0.046	0.027	1.697
Lower Roof	SDead	X	0.042	0.022	1.847
Lower Roof	SDead	Y	0.015	0.005	2.991
Story3	SDead	X	0.029	0.017	1.672
Story3	SDead	Y	0.029	0.014	1.994
Story2	SDead	X	0.014	0.009	1.583
Story2	SDead	Y	0.015	0.009	1.675
Upper Roof	Wind 1	X	0.211	0.205	1.032
Upper Roof	Wind 1	Y	0.036	0.032	1.142
Lower Roof	Wind 1	X	0.215	0.209	1.026
Lower Roof	Wind 1	Y	0.028	0.024	1.169
Story3	Wind 1	X	0.145	0.139	1.039
Story3	Wind 1	Y	0.022	0.016	1.384
Story2	Wind 1	X	0.085	0.08	1.062
Story2	Wind 1	Y	0.014	0.01	1.322
Upper Roof	Wind 2	Y	0.245	0.189	1.294
Lower Roof	Wind 2	X	0.068	0.034	2.028
Lower Roof	Wind 2	Y	0.156	0.138	1.135
Story3	Wind 2	Y	0.175	0.125	1.393
Story2	Wind 2	Y	0.107	0.075	1.435
Upper Roof	Wind 3	X	0.309	0.217	1.429

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Wind 3	X	0.258	0.19	1.359
Lower Roof	Wind 3	Y	0.117	0.083	1.42
Story3	Wind 3	X	0.205	0.145	1.411
Story2	Wind 3	X	0.121	0.086	1.406
Upper Roof	Wind 4	X	0.118	0.029	4.018
Upper Roof	Wind 4	Y	0.202	0.136	1.484
Lower Roof	Wind 4	Y	0.274	0.239	1.148
Story3	Wind 4	X	0.08	0.02	3.993
Story3	Wind 4	Y	0.197	0.125	1.575
Story2	Wind 4	X	0.047	0.014	3.258
Story2	Wind 4	Y	0.12	0.078	1.532
Upper Roof	EQ X 1	X	1.509	1.402	1.076
Upper Roof	EQ X 1	Y	0.249	0.16	1.549
Lower Roof	EQ X 1	X	1.262	1.228	1.028
Lower Roof	EQ X 1	Y	0.237	0.215	1.105
Story3	EQ X 1	X	1.071	0.985	1.087
Story2	EQ X 1	X	0.647	0.592	1.092
Upper Roof	EQ X 2	X	1.689	1.426	1.185
Lower Roof	EQ X 2	X	1.337	1.205	1.109
Lower Roof	EQ X 2	Y	0.387	0.318	1.217
Story3	EQ X 2	X	1.187	0.999	1.188
Story2	EQ X 2	X	0.716	0.602	1.19
Upper Roof	EQ X 3	X	1.431	1.379	1.038
Upper Roof	EQ X 3	Y	0.251	0.207	1.211
Lower Roof	EQ X 3	X	1.315	1.251	1.051
Story3	EQ X 3	X	1.016	0.967	1.051
Story3	EQ X 3	Y	0.176	0.11	1.602
Story2	EQ X 3	X	0.594	0.563	1.056
Story2	EQ X 3	Y	0.115	0.071	1.614
Upper Roof	EQ Y 1	Y	1.481	1.392	1.064
Lower Roof	EQ Y 1	X	0.199	0.19	1.045
Lower Roof	EQ Y 1	Y	1.318	1.313	1.004
Story3	EQ Y 1	Y	1.086	1.033	1.052
Story2	EQ Y 1	X	0.104	0.065	1.583
Story2	EQ Y 1	Y	0.686	0.645	1.063
Upper Roof	EQ Y 2	Y	1.657	1.449	1.144
Lower Roof	EQ Y 2	X	0.303	0.214	1.416
Lower Roof	EQ Y 2	Y	1.262	1.215	1.039
Story3	EQ Y 2	Y	1.209	1.039	1.163
Story2	EQ Y 2	Y	0.755	0.648	1.165
Upper Roof	EQ Y 3	X	0.22	0.156	1.404
Upper Roof	EQ Y 3	Y	1.381	1.339	1.031
Lower Roof	EQ Y 3	X	0.273	0.167	1.637
Lower Roof	EQ Y 3	Y	1.469	1.412	1.04
Story3	EQ Y 3	X	0.19	0.113	1.675
Story3	EQ Y 3	Y	1.117	1.027	1.088
Story2	EQ Y 3	X	0.105	0.076	1.387
Story2	EQ Y 3	Y	0.672	0.632	1.064
Upper Roof	RESPONSE SPECTRUM Max.	X	2.466	2.141	1.152

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	RESPONSE SPECTRUM Max	Y	2.495	2.113	1.181
Lower Roof	RESPONSE SPECTRUM Max	X	1.963	1.789	1.098
Lower Roof	RESPONSE SPECTRUM Max	Y	2.109	1.908	1.105
Story3	RESPONSE SPECTRUM Max	X	1.625	1.425	1.14
Story3	RESPONSE SPECTRUM Max	Y	1.698	1.448	1.173
Story2	RESPONSE SPECTRUM Max	X	0.944	0.827	1.142
Story2	RESPONSE SPECTRUM Max	Y	0.989	0.857	1.154
Upper Roof	Serv 01 (G)	X	0.796	0.415	1.918
Upper Roof	Serv 01 (G)	Y	0.779	0.471	1.654
Lower Roof	Serv 01 (G)	X	0.694	0.378	1.835
Lower Roof	Serv 01 (G)	Y	0.219	0.053	4.107
Story3	Serv 01 (G)	X	0.478	0.276	1.73
Story3	Serv 01 (G)	Y	0.468	0.226	2.072
Story2	Serv 01 (G)	X	0.252	0.154	1.64
Story2	Serv 01 (G)	Y	0.244	0.139	1.761
Upper Roof	Serv 02 (G+0.7Q)	X	0.9	0.471	1.909
Upper Roof	Serv 02 (G+0.7Q)	Y	0.859	0.513	1.674
Lower Roof	Serv 02 (G+0.7Q)	X	0.796	0.435	1.83
Lower Roof	Serv 02 (G+0.7Q)	Y	0.24	0.05	4.748
Story3	Serv 02 (G+0.7Q)	X	0.54	0.313	1.723
Story3	Serv 02 (G+0.7Q)	Y	0.52	0.247	2.101
Story2	Serv 02 (G+0.7Q)	X	0.283	0.174	1.633
Story2	Serv 02 (G+0.7Q)	Y	0.272	0.154	1.771
Upper Roof	Serv 03 (G+Wx) Max	X	0.663	0.278	2.386
Upper Roof	Serv 03 (G+Wx) Max	Y	0.94	0.596	1.577
Lower Roof	Serv 03 (G+Wx) Max	X	0.557	0.241	2.312
Lower Roof	Serv 03 (G+Wx) Max	Y	0.323	0.146	2.219
Story3	Serv 03 (G+Wx) Max	X	0.387	0.183	2.112
Story3	Serv 03 (G+Wx) Max	Y	0.581	0.309	1.884
Story2	Serv 03 (G+Wx) Max	X	0.199	0.1	1.976
Story2	Serv 03 (G+Wx) Max	Y	0.312	0.188	1.665
Upper Roof	Serv 03 (G+Wx) Min	X	1.003	0.56	1.791
Upper Roof	Serv 03 (G+Wx) Min	Y	0.732	0.38	1.924
Lower Roof	Serv 03 (G+Wx) Min	X	0.867	0.505	1.715
Lower Roof	Serv 03 (G+Wx) Min	Y	0.296	0.107	2.774
Story3	Serv 03 (G+Wx) Min	X	0.615	0.374	1.646
Story3	Serv 03 (G+Wx) Min	Y	0.433	0.145	2.987
Story2	Serv 03 (G+Wx) Min	X	0.332	0.211	1.575
Story2	Serv 03 (G+Wx) Min	Y	0.219	0.087	2.505
Upper Roof	Serv 04 (G-Wx) Max	X	0.589	0.27	2.183
Upper Roof	Serv 04 (G-Wx) Max	Y	0.826	0.561	1.471
Lower Roof	Serv 04 (G-Wx) Max	X	0.521	0.251	2.075
Lower Roof	Serv 04 (G-Wx) Max	Y	0.355	0.213	1.665
Story3	Serv 04 (G-Wx) Max	X	0.34	0.179	1.906
Story3	Serv 04 (G-Wx) Max	Y	0.504	0.307	1.641
Story2	Serv 04 (G-Wx) Max	X	0.172	0.097	1.784
Story2	Serv 04 (G-Wx) Max	Y	0.269	0.19	1.418
Upper Roof	Serv 04 (G-Wx) Min	X	0.93	0.552	1.685
Upper Roof	Serv 04 (G-Wx) Min	Y	0.617	0.345	1.788

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Serv 04 (G-Wx) Min	X	0.831	0.515	1.611
Story3	Serv 04 (G-Wx) Min	X	0.568	0.369	1.54
Story3	Serv 04 (G-Wx) Min	Y	0.356	0.144	2.476
Story2	Serv 04 (G-Wx) Min	X	0.306	0.207	1.477
Story2	Serv 04 (G-Wx) Min	Y	0.176	0.09	1.963
Upper Roof	Serv 05 (G+Wy)	X	0.796	0.415	1.918
Upper Roof	Serv 05 (G+Wy)	Y	0.779	0.471	1.654
Lower Roof	Serv 05 (G+Wy)	X	0.694	0.378	1.835
Lower Roof	Serv 05 (G+Wy)	Y	0.219	0.053	4.107
Story3	Serv 05 (G+Wy)	X	0.478	0.276	1.73
Story3	Serv 05 (G+Wy)	Y	0.468	0.226	2.072
Story2	Serv 05 (G+Wy)	X	0.252	0.154	1.64
Story2	Serv 05 (G+Wy)	Y	0.244	0.139	1.761
Upper Roof	Serv 06 (G-Wy)	X	0.796	0.415	1.918
Upper Roof	Serv 06 (G-Wy)	Y	0.779	0.471	1.654
Lower Roof	Serv 06 (G-Wy)	X	0.694	0.378	1.835
Lower Roof	Serv 06 (G-Wy)	Y	0.219	0.053	4.107
Story3	Serv 06 (G-Wy)	X	0.478	0.276	1.73
Story3	Serv 06 (G-Wy)	Y	0.468	0.226	2.072
Story2	Serv 06 (G-Wy)	X	0.252	0.154	1.64
Story2	Serv 06 (G-Wy)	Y	0.244	0.139	1.761
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.703	0.319	2.204
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.892	0.559	1.596
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.598	0.282	2.121
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.292	0.118	2.473
Story3	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.414	0.211	1.962
Story3	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.548	0.284	1.929
Story2	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.215	0.116	1.844
Story2	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.292	0.173	1.688
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.941	0.517	1.822
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.746	0.407	1.831
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.815	0.467	1.744
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.241	0.059	4.091
Story3	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.574	0.345	1.666
Story3	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.443	0.169	2.622
Story2	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.308	0.194	1.59
Story2	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.226	0.103	2.205
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.729	0.345	2.109
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.861	0.534	1.611
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.625	0.309	2.024
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.272	0.1	2.713
Story3	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.432	0.229	1.885
Story3	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.526	0.268	1.962
Story2	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.225	0.127	1.776
Story2	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.279	0.163	1.705
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.901	0.489	1.845
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.755	0.425	1.777
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.782	0.443	1.765
Story3	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.547	0.326	1.681

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.45	0.185	2.436
Story2	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.293	0.183	1.602
Story2	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.231	0.113	2.054
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.756	0.374	2.022
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.827	0.508	1.627
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.653	0.337	1.936
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.25	0.081	3.091
Story3	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.451	0.248	1.814
Story3	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.502	0.251	2.003
Story2	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.236	0.138	1.713
Story2	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.264	0.153	1.726
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.858	0.458	1.872
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.765	0.444	1.723
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.745	0.416	1.791
Story3	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.519	0.305	1.699
Story3	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.458	0.202	2.268
Story2	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.276	0.171	1.616
Story2	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.237	0.123	1.918
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.651	0.313	2.078
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.812	0.534	1.519
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.573	0.289	1.981
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.314	0.165	1.9
Story3	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.381	0.208	1.836
Story3	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.494	0.283	1.743
Story2	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.196	0.114	1.726
Story2	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.262	0.174	1.5
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.89	0.511	1.742
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.665	0.383	1.739
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.79	0.474	1.664
Story3	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.541	0.341	1.586
Story3	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.389	0.168	2.314
Story2	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.29	0.191	1.516
Story2	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.196	0.104	1.883
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.691	0.342	2.024
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.803	0.517	1.553
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.606	0.314	1.932
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.288	0.134	2.142
Story3	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.408	0.227	1.8
Story3	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.487	0.267	1.82
Story2	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.212	0.125	1.697
Story2	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.257	0.165	1.561
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.864	0.484	1.783
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.697	0.407	1.712
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.763	0.448	1.704
Story3	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.524	0.323	1.62
Story3	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.411	0.184	2.232
Story2	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.279	0.181	1.545
Story2	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.209	0.114	1.842
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.735	0.372	1.975

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.793	0.498	1.593
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.642	0.34	1.888
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.259	0.101	2.569
Story3	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.437	0.247	1.768
Story3	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.479	0.25	1.914
Story2	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.228	0.137	1.67
Story2	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.252	0.154	1.635
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.836	0.456	1.834
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.73	0.433	1.686
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.735	0.419	1.753
Story3	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.505	0.304	1.661
Story3	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.435	0.201	2.158
Story2	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.268	0.17	1.581
Story2	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.224	0.124	1.805
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.703	0.319	2.204
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.892	0.559	1.596
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.598	0.282	2.121
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.292	0.118	2.473
Story3	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.414	0.211	1.962
Story3	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.548	0.284	1.929
Story2	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.215	0.116	1.844
Story2	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.292	0.173	1.688
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.941	0.517	1.822
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.746	0.407	1.831
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.815	0.467	1.744
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.241	0.059	4.091
Story3	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.574	0.345	1.666
Story3	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.443	0.169	2.622
Story2	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.308	0.194	1.59
Story2	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.226	0.103	2.205
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.729	0.345	2.109
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.861	0.534	1.611
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.625	0.309	2.024
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.272	0.1	2.713
Story3	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.432	0.229	1.885
Story3	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.526	0.268	1.962
Story2	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.225	0.127	1.776
Story2	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.279	0.163	1.705
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.901	0.489	1.845
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.755	0.425	1.777
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.782	0.443	1.765
Story3	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.547	0.326	1.681
Story3	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.45	0.185	2.436
Story2	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.293	0.183	1.602
Story2	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.231	0.113	2.054
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.756	0.374	2.022
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.827	0.508	1.627
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.653	0.337	1.936
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.25	0.081	3.091

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.451	0.248	1.814
Story3	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.502	0.251	2.003
Story2	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.236	0.138	1.713
Story2	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.264	0.153	1.726
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.858	0.458	1.872
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.765	0.444	1.723
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.745	0.416	1.791
Story3	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.519	0.305	1.699
Story3	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.458	0.202	2.268
Story2	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.276	0.171	1.616
Story2	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.237	0.123	1.918
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.651	0.313	2.078
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.812	0.534	1.519
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.573	0.289	1.981
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.314	0.165	1.9
Story3	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.381	0.208	1.836
Story3	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.494	0.283	1.743
Story2	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.196	0.114	1.726
Story2	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.262	0.174	1.5
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.89	0.511	1.742
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.665	0.383	1.739
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.79	0.474	1.664
Story3	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.541	0.341	1.586
Story3	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.389	0.168	2.314
Story2	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.29	0.191	1.516
Story2	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.196	0.104	1.883
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.691	0.342	2.024
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.803	0.517	1.553
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.606	0.314	1.932
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.288	0.134	2.142
Story3	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.408	0.227	1.8
Story3	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.487	0.267	1.82
Story2	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.212	0.125	1.697
Story2	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.257	0.165	1.561
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.864	0.484	1.783
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.697	0.407	1.712
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.763	0.448	1.704
Story3	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.524	0.323	1.62
Story3	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.411	0.184	2.232
Story2	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.279	0.181	1.545
Story2	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.209	0.114	1.842
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.735	0.372	1.975
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.793	0.498	1.593
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.642	0.34	1.888
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.259	0.101	2.569
Story3	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.437	0.247	1.768
Story3	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.479	0.25	1.914
Story2	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.228	0.137	1.67
Story2	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.252	0.154	1.635

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.836	0.456	1.834
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.73	0.433	1.686
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.735	0.419	1.753
Story3	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.505	0.304	1.661
Story3	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.435	0.201	2.158
Story2	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.268	0.17	1.581
Story2	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.224	0.124	1.805
Upper Roof	Ult 01 (1.35G)	X	1.075	0.56	1.918
Upper Roof	Ult 01 (1.35G)	Y	1.051	0.635	1.654
Lower Roof	Ult 01 (1.35G)	X	0.937	0.511	1.835
Lower Roof	Ult 01 (1.35G)	Y	0.295	0.072	4.107
Story3	Ult 01 (1.35G)	X	0.645	0.373	1.73
Story3	Ult 01 (1.35G)	Y	0.632	0.305	2.072
Story2	Ult 01 (1.35G)	X	0.34	0.208	1.64
Story2	Ult 01 (1.35G)	Y	0.329	0.187	1.761
Upper Roof	Ult 02 (1.2G+1.5Q)	X	1.177	0.618	1.903
Upper Roof	Ult 02 (1.2G+1.5Q)	Y	1.107	0.656	1.687
Lower Roof	Ult 02 (1.2G+1.5Q)	X	1.051	0.575	1.828
Lower Roof	Ult 02 (1.2G+1.5Q)	Y	0.308	0.058	5.304
Story3	Ult 02 (1.2G+1.5Q)	X	0.706	0.411	1.718
Story3	Ult 02 (1.2G+1.5Q)	Y	0.672	0.317	2.12
Story2	Ult 02 (1.2G+1.5Q)	X	0.369	0.227	1.628
Story2	Ult 02 (1.2G+1.5Q)	Y	0.353	0.199	1.777
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.815	0.325	2.507
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Max	Y	1.222	0.777	1.573
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.687	0.281	2.441
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.431	0.2	2.15
Story3	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.473	0.214	2.212
Story3	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.76	0.407	1.869
Story2	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.24	0.116	2.068
Story2	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.411	0.248	1.656
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Min	X	1.323	0.746	1.773
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.91	0.454	2.005
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Min	X	1.148	0.676	1.7
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.424	0.176	2.404
Story3	Ult 03 (1.2G+Wx+0.4Q) Min	X	0.814	0.498	1.633
Story3	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.538	0.162	3.317
Story2	Ult 03 (1.2G+Wx+0.4Q) Min	X	0.44	0.281	1.564
Story2	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.271	0.099	2.754
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.706	0.314	2.25
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Max	Y	1.051	0.724	1.451
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.633	0.297	2.135
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.478	0.301	1.587
Story3	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.404	0.207	1.95
Story3	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.645	0.405	1.593
Story2	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.201	0.11	1.821
Story2	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.346	0.251	1.378
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Min	X	1.214	0.734	1.653
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.739	0.402	1.84

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Min	X	1.095	0.691	1.584
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.27	0.076	3.558
Story3	Ult 04 (1.2G-Wx+0.4Q) Min	X	0.744	0.491	1.515
Story3	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.423	0.16	2.637
Story2	Ult 04 (1.2G-Wx+0.4Q) Min	X	0.4	0.275	1.454
Story2	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.207	0.102	2.034
Upper Roof	Ult 05 (1.2G-Wy+0.4Q)	X	1.015	0.53	1.914
Upper Roof	Ult 05 (1.2G-Wy+0.4Q)	Y	0.981	0.589	1.664
Lower Roof	Ult 05 (1.2G-Wy+0.4Q)	X	0.891	0.486	1.832
Lower Roof	Ult 05 (1.2G-Wy+0.4Q)	Y	0.274	0.062	4.404
Story3	Ult 05 (1.2G-Wy+0.4Q)	X	0.609	0.353	1.726
Story3	Ult 05 (1.2G-Wy+0.4Q)	Y	0.591	0.283	2.086
Story2	Ult 05 (1.2G-Wy+0.4Q)	X	0.32	0.196	1.637
Story2	Ult 05 (1.2G-Wy+0.4Q)	Y	0.309	0.175	1.766
Upper Roof	Ult 06 (1.2G-Wy+0.4Q)	X	1.015	0.53	1.914
Upper Roof	Ult 06 (1.2G-Wy+0.4Q)	Y	0.981	0.589	1.664
Lower Roof	Ult 06 (1.2G-Wy+0.4Q)	X	0.891	0.486	1.832
Lower Roof	Ult 06 (1.2G-Wy+0.4Q)	Y	0.274	0.062	4.404
Story3	Ult 06 (1.2G-Wy+0.4Q)	X	0.609	0.353	1.726
Story3	Ult 06 (1.2G-Wy+0.4Q)	Y	0.591	0.283	2.086
Story2	Ult 06 (1.2G-Wy+0.4Q)	X	0.32	0.196	1.637
Story2	Ult 06 (1.2G-Wy+0.4Q)	Y	0.309	0.175	1.766
Upper Roof	Ult 07 (0.9G+Wx) Max	X	0.518	0.169	3.07
Upper Roof	Ult 07 (0.9G+Wx) Max	Y	0.942	0.611	1.542
Lower Roof	Ult 07 (0.9G+Wx) Max	X	0.421	0.136	3.1
Lower Roof	Ult 07 (0.9G+Wx) Max	Y	0.353	0.186	1.899
Story3	Ult 07 (0.9G+Wx) Max	X	0.295	0.11	2.68
Story3	Ult 07 (0.9G+Wx) Max	Y	0.59	0.327	1.807
Story2	Ult 07 (0.9G+Wx) Max	X	0.147	0.059	2.496
Story2	Ult 07 (0.9G+Wx) Max	Y	0.322	0.198	1.625
Upper Roof	Ult 07 (0.9G+Wx) Min	X	1.025	0.59	1.739
Upper Roof	Ult 07 (0.9G+Wx) Min	Y	0.631	0.289	2.185
Lower Roof	Ult 07 (0.9G+Wx) Min	X	0.882	0.53	1.664
Lower Roof	Ult 07 (0.9G+Wx) Min	Y	0.375	0.191	1.966
Story3	Ult 07 (0.9G+Wx) Min	X	0.635	0.394	1.611
Story3	Ult 07 (0.9G+Wx) Min	Y	0.368	0.082	4.479
Story2	Ult 07 (0.9G+Wx) Min	X	0.346	0.224	1.548
Story2	Ult 07 (0.9G+Wx) Min	Y	0.182	0.048	3.767
Upper Roof	Ult 08 (0.9G-Wx) Max	X	0.408	0.157	2.597
Upper Roof	Ult 08 (0.9G-Wx) Max	Y	0.771	0.559	1.38
Lower Roof	Ult 08 (0.9G-Wx) Max	X	0.367	0.151	2.432
Lower Roof	Ult 08 (0.9G-Wx) Max	Y	0.4	0.287	1.396
Story3	Ult 08 (0.9G-Wx) Max	X	0.225	0.103	2.185
Story3	Ult 08 (0.9G-Wx) Max	Y	0.475	0.325	1.463
Story2	Ult 08 (0.9G-Wx) Max	X	0.107	0.053	2.03
Story2	Ult 08 (0.9G-Wx) Max	Y	0.257	0.201	1.278
Upper Roof	Ult 08 (0.9G-Wx) Min	X	0.916	0.578	1.586
Upper Roof	Ult 08 (0.9G-Wx) Min	Y	0.459	0.236	1.946
Lower Roof	Ult 08 (0.9G-Wx) Min	X	0.828	0.545	1.52

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 08 (0.9G-Wx) Min	Y	0.221	0.09	2.448
Story3	Ult 08 (0.9G-Wx) Min	X	0.565	0.387	1.46
Story3	Ult 08 (0.9G-Wx) Min	Y	0.253	0.08	3.149
Story2	Ult 08 (0.9G-Wx) Min	X	0.307	0.218	1.409
Story2	Ult 08 (0.9G-Wx) Min	Y	0.118	0.052	2.283
Upper Roof	Ult 09 (0.9G+Wy) Min	X	0.717	0.374	1.918
Upper Roof	Ult 09 (0.9G+Wy) Min	Y	0.701	0.424	1.654
Lower Roof	Ult 09 (0.9G+Wy) Min	X	0.625	0.34	1.835
Lower Roof	Ult 09 (0.9G+Wy) Min	Y	0.197	0.048	4.107
Story3	Ult 09 (0.9G+Wy) Min	X	0.43	0.249	1.73
Story3	Ult 09 (0.9G+Wy) Min	Y	0.422	0.203	2.072
Story2	Ult 09 (0.9G+Wy) Min	X	0.227	0.138	1.64
Story2	Ult 09 (0.9G+Wy) Min	Y	0.22	0.125	1.761
Upper Roof	Ult 10 (0.9G-Wy) Min	X	0.717	0.374	1.918
Upper Roof	Ult 10 (0.9G-Wy) Min	Y	0.701	0.424	1.654
Lower Roof	Ult 10 (0.9G-Wy) Min	X	0.625	0.34	1.835
Lower Roof	Ult 10 (0.9G-Wy) Min	Y	0.197	0.048	4.107
Story3	Ult 10 (0.9G-Wy) Min	X	0.43	0.249	1.73
Story3	Ult 10 (0.9G-Wy) Min	Y	0.422	0.203	2.072
Story2	Ult 10 (0.9G-Wy) Min	X	0.227	0.138	1.64
Story2	Ult 10 (0.9G-Wy) Min	Y	0.22	0.125	1.761
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.577	0.23	2.509
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.87	0.555	1.568
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.482	0.197	2.444
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.306	0.145	2.118
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.335	0.152	2.212
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.54	0.29	1.863
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.171	0.083	2.067
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.291	0.176	1.654
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.933	0.525	1.777
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.652	0.329	1.98
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.805	0.473	1.701
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.293	0.119	2.458
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.573	0.35	1.636
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.384	0.119	3.24
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.311	0.198	1.567
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.193	0.071	2.714
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.617	0.271	2.276
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.822	0.517	1.588
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.523	0.238	2.195
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.275	0.117	2.351
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.362	0.179	2.021
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.506	0.265	1.909
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.187	0.099	1.896
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.271	0.161	1.678
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.871	0.482	1.808
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.666	0.356	1.869
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.753	0.435	1.731
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.238	0.071	3.333

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Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.532	0.321	1.657
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.395	0.143	2.764
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.287	0.181	1.583
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.201	0.087	2.322
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.657	0.312	2.105
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.773	0.48	1.611
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.563	0.279	2.019
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.244	0.089	2.728
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.389	0.207	1.881
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.472	0.24	1.964
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.203	0.115	1.772
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.25	0.147	1.706
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.809	0.438	1.846
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.68	0.383	1.774
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.702	0.397	1.766
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.491	0.292	1.682
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.406	0.167	2.427
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.263	0.164	1.602
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.208	0.102	2.047
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.501	0.222	2.254
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.75	0.518	1.447
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.444	0.208	2.138
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.339	0.215	1.578
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.287	0.147	1.954
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.459	0.288	1.592
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.143	0.079	1.824
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.246	0.178	1.38
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.856	0.516	1.658
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.532	0.292	1.819
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.767	0.484	1.586
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.185	0.049	3.791
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.525	0.346	1.518
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.304	0.117	2.589
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.283	0.194	1.458
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.148	0.074	2.017
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.562	0.265	2.119
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.736	0.491	1.498
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.496	0.246	2.018
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.298	0.167	1.785
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.328	0.176	1.863
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.448	0.264	1.697
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.167	0.096	1.748
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.238	0.163	1.463
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.816	0.476	1.716
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.58	0.33	1.759
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.726	0.443	1.641
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.498	0.318	1.565
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.337	0.142	2.377
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.267	0.178	1.499

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.169	0.088	1.914
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.624	0.309	2.022
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.722	0.464	1.555
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.547	0.284	1.93
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.258	0.119	2.157
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.368	0.205	1.798
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.438	0.24	1.824
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.191	0.113	1.695
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.231	0.148	1.564
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.776	0.435	1.786
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.628	0.367	1.71
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.686	0.402	1.706
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.471	0.29	1.622
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.371	0.167	2.228
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.251	0.162	1.547
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.189	0.103	1.84
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.577	0.23	2.509
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.87	0.555	1.568
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.482	0.197	2.444
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.306	0.145	2.118
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.335	0.152	2.212
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.54	0.29	1.863
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.171	0.083	2.067
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.291	0.176	1.654
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.933	0.525	1.777
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.652	0.329	1.98
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.805	0.473	1.701
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.293	0.119	2.458
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.573	0.35	1.636
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.384	0.119	3.24
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.311	0.198	1.567
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.193	0.071	2.714
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.617	0.271	2.276
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.822	0.517	1.588
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.523	0.238	2.195
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.275	0.117	2.351
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.362	0.179	2.021
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.506	0.265	1.909
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.187	0.099	1.896
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.271	0.161	1.678
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.871	0.482	1.808
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.666	0.356	1.869
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.753	0.435	1.731
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.238	0.071	3.333
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.532	0.321	1.657
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.395	0.143	2.764
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.287	0.181	1.583
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.201	0.087	2.322
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.657	0.312	2.105

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.773	0.48	1.611
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.563	0.279	2.019
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.244	0.089	2.728
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.389	0.207	1.881
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.472	0.24	1.964
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.203	0.115	1.772
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.25	0.147	1.706
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.809	0.438	1.846
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.68	0.383	1.774
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.702	0.397	1.766
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.491	0.292	1.682
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.406	0.167	2.427
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.263	0.164	1.602
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.208	0.102	2.047
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.501	0.222	2.254
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.75	0.518	1.447
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.444	0.208	2.138
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.339	0.215	1.578
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.287	0.147	1.954
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.459	0.288	1.592
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.143	0.079	1.824
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.246	0.178	1.38
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.856	0.516	1.658
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.532	0.292	1.819
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.767	0.484	1.586
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.185	0.049	3.791
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.525	0.346	1.518
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.304	0.117	2.589
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.283	0.194	1.458
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.148	0.074	2.017
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.562	0.265	2.119
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.736	0.491	1.498
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.496	0.246	2.018
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.298	0.167	1.785
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.328	0.176	1.863
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.448	0.264	1.697
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.167	0.096	1.748
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.238	0.163	1.463
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.816	0.476	1.716
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.58	0.33	1.759
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.726	0.443	1.641
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.498	0.318	1.565
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.337	0.142	2.377
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.267	0.178	1.499
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.169	0.088	1.914
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.624	0.309	2.022
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.722	0.464	1.555
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.547	0.284	1.93
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.258	0.119	2.157

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.368	0.205	1.798
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.438	0.24	1.824
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.191	0.113	1.695
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.231	0.148	1.564
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.776	0.435	1.786
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.628	0.367	1.71
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.686	0.402	1.706
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.471	0.29	1.622
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.371	0.167	2.228
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.251	0.162	1.547
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.189	0.103	1.84
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.875	0.387	2.263
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	1.15	0.72	1.596
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.748	0.343	2.182
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.384	0.159	2.415
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.514	0.256	2.011
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.709	0.37	1.919
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.264	0.14	1.887
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.38	0.226	1.681
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	1.231	0.681	1.806
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.931	0.495	1.883
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	1.071	0.619	1.731
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.342	0.105	3.262
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	0.752	0.455	1.655
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.554	0.199	2.79
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	0.404	0.256	1.581
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.283	0.121	2.327
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.915	0.428	2.139
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	1.101	0.683	1.612
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.789	0.384	2.055
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.353	0.131	2.684
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.541	0.283	1.91
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.676	0.345	1.958
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.28	0.156	1.797
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.36	0.211	1.701
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	1.169	0.638	1.831
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.945	0.522	1.812
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	1.02	0.581	1.755
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	0.711	0.425	1.672
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.565	0.223	2.534
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	0.38	0.239	1.594
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.29	0.137	2.122
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.955	0.469	2.037
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	1.053	0.645	1.631
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.83	0.425	1.953
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.321	0.104	3.097
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.568	0.311	1.826
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.642	0.32	2.004
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.296	0.172	1.724

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.339	0.197	1.724
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	1.107	0.595	1.861
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.959	0.549	1.749
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.968	0.543	1.783
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.67	0.396	1.691
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.575	0.247	2.329
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.356	0.221	1.609
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.298	0.152	1.958
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.799	0.379	2.108
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	1.03	0.684	1.506
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.711	0.353	2.01
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.417	0.229	1.817
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.465	0.251	1.856
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.629	0.368	1.707
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.237	0.136	1.741
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.335	0.228	1.467
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	1.154	0.673	1.715
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.811	0.458	1.772
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	1.034	0.629	1.642
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	0.703	0.45	1.564
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.473	0.197	2.4
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	0.376	0.251	1.497
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.238	0.124	1.92
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.86	0.422	2.038
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	1.016	0.657	1.546
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.762	0.391	1.947
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.376	0.182	2.071
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.506	0.28	1.809
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.618	0.344	1.796
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.261	0.153	1.703
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.328	0.213	1.537
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	1.114	0.632	1.762
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.86	0.495	1.735
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.993	0.589	1.687
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.676	0.422	1.603
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.507	0.222	2.285
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.36	0.236	1.53
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.258	0.138	1.864
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.922	0.465	1.981
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	1.002	0.63	1.591
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.814	0.429	1.895
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.335	0.134	2.505
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.547	0.309	1.771
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.607	0.32	1.899
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.285	0.17	1.672
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.32	0.198	1.618
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	1.074	0.591	1.817
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.908	0.533	1.704
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.952	0.548	1.739

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.649	0.394	1.647
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.541	0.247	2.194
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.344	0.22	1.568
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.278	0.153	1.819
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.875	0.387	2.263
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	1.15	0.72	1.596
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.748	0.343	2.182
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.384	0.159	2.415
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.514	0.256	2.011
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.709	0.37	1.919
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.264	0.14	1.887
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.38	0.226	1.681
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	1.231	0.681	1.806
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.931	0.495	1.883
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	1.071	0.619	1.731
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.342	0.105	3.262
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	0.752	0.455	1.655
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.554	0.199	2.79
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	0.404	0.256	1.581
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.283	0.121	2.327
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.915	0.428	2.139
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	1.101	0.683	1.612
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.789	0.384	2.055
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.353	0.131	2.684
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.541	0.283	1.91
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.676	0.345	1.958
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.28	0.156	1.797
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.36	0.211	1.701
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	1.169	0.638	1.831
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.945	0.522	1.812
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	1.02	0.581	1.755
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	0.711	0.425	1.672
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.565	0.223	2.534
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	0.38	0.239	1.594
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.29	0.137	2.122
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.955	0.469	2.037
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	1.053	0.645	1.631
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.83	0.425	1.953
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.321	0.104	3.097
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.568	0.311	1.826
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.642	0.32	2.004
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.296	0.172	1.724
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.339	0.197	1.724
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	1.107	0.595	1.861
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.959	0.549	1.749
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.968	0.543	1.783
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.67	0.396	1.691
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.575	0.247	2.329
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.356	0.221	1.609

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.298	0.152	1.958
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.799	0.379	2.108
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	1.03	0.684	1.506
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.711	0.353	2.01
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.417	0.229	1.817
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.465	0.251	1.856
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.629	0.368	1.707
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.237	0.136	1.741
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.335	0.228	1.467
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	1.154	0.673	1.715
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.811	0.458	1.772
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	1.034	0.629	1.642
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	0.703	0.45	1.564
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.473	0.197	2.4
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	0.376	0.251	1.497
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.238	0.124	1.92
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.86	0.422	2.038
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	1.016	0.657	1.546
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.762	0.391	1.947
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.376	0.182	2.071
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.506	0.28	1.809
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.618	0.344	1.796
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.261	0.153	1.703
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.328	0.213	1.537
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	1.114	0.632	1.762
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.86	0.495	1.735
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.993	0.589	1.687
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.676	0.422	1.603
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.507	0.222	2.285
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.36	0.236	1.53
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.258	0.138	1.864
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.922	0.465	1.981
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	1.002	0.63	1.591
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.814	0.429	1.895
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.335	0.134	2.505
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.547	0.309	1.771
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.607	0.32	1.899
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.285	0.17	1.672
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.32	0.198	1.618
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	1.074	0.591	1.817
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.908	0.533	1.704
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.952	0.548	1.739
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.649	0.394	1.647
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.541	0.247	2.194
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.344	0.22	1.568
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.278	0.153	1.819
Upper Roof	Ult 35 (G+EQX+0.3Q) Max	X	1.392	1.12	1.243
Upper Roof	Ult 35 (G+EQX+0.3Q) Max	Y	1.064	0.769	1.383
Lower Roof	Ult 35 (G+EQX+0.3Q) Max	X	1.248	0.923	1.351

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 35 (G+EQX+0.3Q) Max	Y	0.478	0.369	1.296
Story3	Ult 35 (G+EQX+0.3Q) Max	X	0.917	0.78	1.176
Story3	Ult 35 (G+EQX+0.3Q) Max	Y	0.666	0.469	1.42
Story2	Ult 35 (G+EQX+0.3Q) Max	X	0.529	0.459	1.152
Story2	Ult 35 (G+EQX+0.3Q) Max	Y	0.371	0.265	1.4
Upper Roof	Ult 35 (G+EQX+0.3Q) Min	X	1.125	0.806	1.396
Upper Roof	Ult 35 (G+EQX+0.3Q) Min	Y	0.719	0.535	1.342
Lower Roof	Ult 35 (G+EQX+0.3Q) Min	X	1.005	0.727	1.382
Lower Roof	Ult 35 (G+EQX+0.3Q) Min	Y	0.387	0.174	2.223
Story3	Ult 35 (G+EQX+0.3Q) Min	X	0.74	0.581	1.274
Story3	Ult 35 (G+EQX+0.3Q) Min	Y	0.424	0.236	1.798
Story2	Ult 35 (G+EQX+0.3Q) Min	X	0.448	0.359	1.246
Story2	Ult 35 (G+EQX+0.3Q) Min	Y	0.235	0.153	1.536
Upper Roof	Ult 36 (G-EQX+0.3Q) Max	X	2.169	1.685	1.288
Upper Roof	Ult 36 (G-EQX+0.3Q) Max	Y	0.908	0.443	2.051
Lower Roof	Ult 36 (G-EQX+0.3Q) Max	X	1.924	1.532	1.256
Story3	Ult 36 (G-EQX+0.3Q) Max	X	1.459	1.179	1.237
Story3	Ult 36 (G-EQX+0.3Q) Max	Y	0.581	0.247	2.355
Story2	Ult 36 (G-EQX+0.3Q) Max	X	0.833	0.69	1.206
Story2	Ult 36 (G-EQX+0.3Q) Max	Y	0.317	0.157	2.026
Upper Roof	Ult 36 (G-EQX+0.3Q) Min	X	2.529	1.998	1.266
Upper Roof	Ult 36 (G-EQX+0.3Q) Min	Y	0.563	0.209	2.694
Lower Roof	Ult 36 (G-EQX+0.3Q) Min	X	2.074	1.728	1.2
Lower Roof	Ult 36 (G-EQX+0.3Q) Min	Y	0.507	0.265	1.914
Story3	Ult 36 (G-EQX+0.3Q) Min	X	1.666	1.371	1.215
Story2	Ult 36 (G-EQX+0.3Q) Min	X	0.972	0.81	1.201
Upper Roof	Ult 37 (G+EQY+0.3Q) Max	Y	2.463	1.996	1.234
Lower Roof	Ult 37 (G+EQY+0.3Q) Max	Y	1.584	1.464	1.082
Story3	Ult 37 (G+EQY+0.3Q) Max	Y	1.7	1.388	1.224
Story2	Ult 37 (G+EQY+0.3Q) Max	Y	1.011	0.859	1.178
Upper Roof	Ult 37 (G+EQY+0.3Q) Min	X	0.99	0.46	2.15
Upper Roof	Ult 37 (G+EQY+0.3Q) Min	Y	2.112	1.759	1.201
Lower Roof	Ult 37 (G+EQY+0.3Q) Min	X	0.613	0.31	1.978
Lower Roof	Ult 37 (G+EQY+0.3Q) Min	Y	1.49	1.267	1.176
Story3	Ult 37 (G+EQY+0.3Q) Min	X	0.584	0.306	1.912
Story3	Ult 37 (G+EQY+0.3Q) Min	Y	1.454	1.152	1.262
Story2	Ult 37 (G+EQY+0.3Q) Min	X	0.303	0.155	1.958
Story2	Ult 37 (G+EQY+0.3Q) Min	Y	0.873	0.724	1.205
Upper Roof	Ult 38 (G-EQY+0.3Q) Max	X	0.695	0.413	1.682
Upper Roof	Ult 38 (G-EQY+0.3Q) Max	Y	1.076	0.78	1.379
Lower Roof	Ult 38 (G-EQY+0.3Q) Max	X	0.863	0.495	1.742
Lower Roof	Ult 38 (G-EQY+0.3Q) Max	Y	1.291	1.163	1.11
Story3	Ult 38 (G-EQY+0.3Q) Max	X	0.449	0.283	1.588
Story3	Ult 38 (G-EQY+0.3Q) Max	Y	0.89	0.675	1.317
Story2	Ult 38 (G-EQY+0.3Q) Max	X	0.228	0.17	1.344
Story2	Ult 38 (G-EQY+0.3Q) Max	Y	0.548	0.445	1.232
Upper Roof	Ult 38 (G-EQY+0.3Q) Min	X	1.06	0.73	1.452
Upper Roof	Ult 38 (G-EQY+0.3Q) Min	Y	1.2	1.017	1.18
Lower Roof	Ult 38 (G-EQY+0.3Q) Min	X	1.01	0.69	1.464

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Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 38 (G-EQY+0.3Q) Min	Y	1.591	1.36	1.17
Story3	Ult 38 (G-EQY+0.3Q) Min	X	0.669	0.482	1.386
Story3	Ult 38 (G-EQY+0.3Q) Min	Y	1.117	0.911	1.226
Story2	Ult 38 (G-EQY+0.3Q) Min	X	0.366	0.285	1.285
Story2	Ult 38 (G-EQY+0.3Q) Min	Y	0.638	0.551	1.157
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	1.505	1.209	1.245
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	1.558	1.221	1.276
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	1.339	1.01	1.326
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	0.885	0.793	1.117
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	0.982	0.835	1.177
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	1.029	0.807	1.274
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	0.575	0.495	1.161
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	0.597	0.475	1.258
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	1.157	0.8	1.446
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	1.108	0.916	1.21
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	1.024	0.755	1.355
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.766	0.539	1.422
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	0.756	0.577	1.31
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.713	0.511	1.396
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	0.469	0.365	1.284
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.42	0.327	1.285
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.865	0.489	1.769
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.762	1.382	1.275
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.742	0.404	1.834
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.031	0.917	1.125
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.527	0.338	1.559
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.183	0.929	1.274
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.312	0.21	1.484
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	0.691	0.569	1.215
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.597	0.173	3.446
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	1.415	1.147	1.234
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.499	0.209	2.391
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.939	0.721	1.303
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.348	0.134	2.607
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.939	0.694	1.353
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.212	0.1	2.111
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.554	0.439	1.262
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.768	0.325	2.362
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	2.538	2.08	1.22
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.63	0.283	2.225
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.659	1.559	1.064
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.448	0.222	2.017
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.752	1.458	1.202
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.271	0.146	1.848
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.046	0.9	1.162
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	2.083	1.773	1.175
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	1.538	1.303	1.18
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	1.434	1.152	1.245
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	0.867	0.727	1.192

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	2.125	1.677	1.267
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	1.962	1.56	1.257
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	Y	0.559	0.434	1.287
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	1.461	1.186	1.232
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	0.822	0.693	1.186
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	2.595	2.086	1.244
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.555	0.243	2.283
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	2.156	1.815	1.188
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.947	0.689	1.376
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	1.723	1.432	1.203
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.641	0.327	1.961
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	1.004	0.848	1.184
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.334	0.184	1.809
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	1.432	1.049	1.365
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.549	0.169	3.252
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	1.393	1.014	1.375
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.75	0.616	1.216
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	0.954	0.731	1.305
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.489	0.214	2.281
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	0.529	0.429	1.232
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.26	0.136	1.911
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.795	1.365	1.315
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.672	0.404	1.664
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.542	1.209	1.275
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	1.049	0.812	1.291
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.167	0.927	1.259
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.714	0.448	1.594
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	0.667	0.547	1.219
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.385	0.266	1.446
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	1.093	0.787	1.39
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	1.132	0.794	1.425
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	1.219	0.834	1.461
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	1.317	1.199	1.098
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	0.754	0.558	1.351
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	0.91	0.67	1.359
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	0.401	0.33	1.217
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	0.567	0.444	1.277
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.567	1.198	1.308
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.293	1.101	1.174
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.411	1.088	1.297
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.706	1.455	1.173
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.025	0.81	1.265
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.204	0.975	1.236
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	0.576	0.477	1.207
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	0.688	0.587	1.172
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	1.364	1.128	1.209
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.674	0.388	1.736
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	1.23	0.896	1.373
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	0.906	0.776	1.167

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.377	0.184	2.05
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	0.514	0.456	1.125
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.186	0.077	2.423
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	1.017	0.719	1.413
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.224	0.084	2.685
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.915	0.641	1.427
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.479	0.249	1.922
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.686	0.53	1.294
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.281	0.107	2.636
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.424	0.334	1.268
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.131	0.048	2.733
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.63	0.354	1.783
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.56	0.214	2.615
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.516	0.397	1.299
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.4	0.256	1.567
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.309	0.106	2.912
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.209	0.145	1.441
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.194	0.095	2.052
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.363	0.038	9.486
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.424	0.241	1.76
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.815	0.593	1.375
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.222	0.051	4.386
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.535	0.341	1.568
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.117	0.039	2.976
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.283	0.202	1.399
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.983	0.696	1.412
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	1.176	1.068	1.102
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.802	0.611	1.312
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.527	0.425	1.242
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.662	0.357	1.856
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.144	1.003	1.14
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.654	0.351	1.862
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.566	1.323	1.183
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.385	0.218	1.769
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.096	0.897	1.223
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.197	0.118	1.664
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	0.626	0.537	1.166
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	2.103	1.597	1.317
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	1.403	0.895	1.568
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	1.843	1.446	1.274
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.475	0.354	1.344
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	1.425	1.126	1.265
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.935	0.588	1.59
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	0.801	0.652	1.23
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.536	0.367	1.461
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	2.573	2.005	1.283
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.953	0.59	1.615
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	2.037	1.701	1.198
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	1.69	1.374	1.23

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.622	0.285	2.179
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	0.983	0.807	1.218
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.361	0.196	1.845
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	1.395	0.914	1.526
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	1.685	1.219	1.382
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	1.195	0.823	1.451
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	0.826	0.697	1.185
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	0.893	0.634	1.41
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	1.128	0.811	1.39
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	0.497	0.362	1.374
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	0.648	0.499	1.297
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.758	1.229	1.43
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	1.337	0.984	1.359
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.343	1.019	1.318
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.733	0.501	1.464
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.125	0.838	1.342
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.884	0.576	1.534
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	0.634	0.481	1.32
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.512	0.367	1.396
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	1.022	0.516	1.98
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	2.492	1.983	1.257
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.821	0.454	1.809
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.536	1.427	1.076
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.633	0.362	1.748
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.719	1.388	1.239
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.334	0.193	1.729
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.017	0.856	1.189
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	1.496	0.928	1.612
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	2.037	1.675	1.216
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	1.014	0.708	1.433
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	1.414	1.172	1.207
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	0.933	0.628	1.485
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	1.401	1.081	1.295
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	0.513	0.348	1.474
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	0.839	0.682	1.229
Upper Roof	ENVELOPE Max	X	1.505	1.209	1.245
Upper Roof	ENVELOPE Max	Y	2.538	2.08	1.22
Lower Roof	ENVELOPE Max	X	1.339	1.01	1.326
Lower Roof	ENVELOPE Max	Y	1.659	1.559	1.064
Story3	ENVELOPE Max	X	0.982	0.835	1.177
Story3	ENVELOPE Max	Y	1.752	1.458	1.202
Story2	ENVELOPE Max	X	0.575	0.495	1.161
Story2	ENVELOPE Max	Y	1.046	0.9	1.162
Upper Roof	ENVELOPE Min	X	2.595	2.086	1.244
Upper Roof	ENVELOPE Min	Y	1.293	1.101	1.174
Lower Roof	ENVELOPE Min	X	2.156	1.815	1.188
Lower Roof	ENVELOPE Min	Y	1.706	1.455	1.173
Story3	ENVELOPE Min	X	1.723	1.432	1.203
Story3	ENVELOPE Min	Y	1.204	0.975	1.236

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	ENVELOPE Min	X	1.004	0.848	1.184
Story2	ENVELOPE Min	Y	0.688	0.587	1.172
Upper Roof	DStIS1	X	1.075	0.56	1.918
Upper Roof	DStIS1	Y	1.051	0.635	1.654
Lower Roof	DStIS1	X	0.937	0.511	1.835
Lower Roof	DStIS1	Y	0.295	0.072	4.107
Story3	DStIS1	X	0.645	0.373	1.73
Story3	DStIS1	Y	0.632	0.305	2.072
Story2	DStIS1	X	0.34	0.208	1.64
Story2	DStIS1	Y	0.329	0.187	1.761
Upper Roof	DStIS2	X	1.177	0.618	1.903
Upper Roof	DStIS2	Y	1.107	0.656	1.687
Lower Roof	DStIS2	X	1.051	0.575	1.828
Lower Roof	DStIS2	Y	0.308	0.058	5.304
Story3	DStIS2	X	0.706	0.411	1.718
Story3	DStIS2	Y	0.672	0.317	2.12
Story2	DStIS2	X	0.369	0.227	1.628
Story2	DStIS2	Y	0.353	0.199	1.777
Upper Roof	DStIS3 Max	X	0.815	0.325	2.507
Upper Roof	DStIS3 Max	Y	1.222	0.777	1.573
Lower Roof	DStIS3 Max	X	0.687	0.281	2.441
Lower Roof	DStIS3 Max	Y	0.431	0.2	2.15
Story3	DStIS3 Max	X	0.473	0.214	2.212
Story3	DStIS3 Max	Y	0.76	0.407	1.869
Story2	DStIS3 Max	X	0.24	0.116	2.068
Story2	DStIS3 Max	Y	0.411	0.248	1.656
Upper Roof	DStIS3 Min	X	1.323	0.746	1.773
Upper Roof	DStIS3 Min	Y	0.91	0.454	2.005
Lower Roof	DStIS3 Min	X	1.148	0.676	1.7
Lower Roof	DStIS3 Min	Y	0.424	0.176	2.404
Story3	DStIS3 Min	X	0.814	0.498	1.633
Story3	DStIS3 Min	Y	0.538	0.162	3.317
Story2	DStIS3 Min	X	0.44	0.281	1.564
Story2	DStIS3 Min	Y	0.271	0.099	2.754
Upper Roof	DStIS4 Max	X	0.706	0.314	2.25
Upper Roof	DStIS4 Max	Y	1.051	0.724	1.451
Lower Roof	DStIS4 Max	X	0.633	0.297	2.135
Lower Roof	DStIS4 Max	Y	0.478	0.301	1.587
Story3	DStIS4 Max	X	0.404	0.207	1.95
Story3	DStIS4 Max	Y	0.645	0.405	1.593
Story2	DStIS4 Max	X	0.201	0.11	1.821
Story2	DStIS4 Max	Y	0.346	0.251	1.378
Upper Roof	DStIS4 Min	X	1.214	0.734	1.653
Upper Roof	DStIS4 Min	Y	0.739	0.402	1.84
Lower Roof	DStIS4 Min	X	1.095	0.691	1.584
Lower Roof	DStIS4 Min	Y	0.27	0.076	3.558
Story3	DStIS4 Min	X	0.744	0.491	1.515
Story3	DStIS4 Min	Y	0.423	0.16	2.637
Story2	DStIS4 Min	X	0.4	0.275	1.454

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	DStIS4 Min	Y	0.207	0.102	2.034
Upper Roof	DStIS5 Max	X	0.756	0.293	2.58
Upper Roof	DStIS5 Max	Y	1.176	0.752	1.563
Lower Roof	DStIS5 Max	X	0.629	0.249	2.524
Lower Roof	DStIS5 Max	Y	0.419	0.202	2.073
Story3	DStIS5 Max	X	0.438	0.193	2.272
Story3	DStIS5 Max	Y	0.731	0.394	1.852
Story2	DStIS5 Max	X	0.223	0.105	2.12
Story2	DStIS5 Max	Y	0.395	0.239	1.649
Upper Roof	DStIS5 Min	X	1.264	0.714	1.77
Upper Roof	DStIS5 Min	Y	0.864	0.43	2.011
Lower Roof	DStIS5 Min	X	1.09	0.644	1.694
Lower Roof	DStIS5 Min	Y	0.409	0.175	2.339
Story3	DStIS5 Min	X	0.778	0.477	1.631
Story3	DStIS5 Min	Y	0.509	0.15	3.39
Story2	DStIS5 Min	X	0.422	0.27	1.564
Story2	DStIS5 Min	Y	0.255	0.09	2.84
Upper Roof	DStIS6 Max	X	0.647	0.282	2.297
Upper Roof	DStIS6 Max	Y	1.005	0.7	1.435
Lower Roof	DStIS6 Max	X	0.575	0.264	2.176
Lower Roof	DStIS6 Max	Y	0.466	0.302	1.539
Story3	DStIS6 Max	X	0.368	0.186	1.982
Story3	DStIS6 Max	Y	0.616	0.393	1.568
Story2	DStIS6 Max	X	0.183	0.099	1.849
Story2	DStIS6 Max	Y	0.33	0.243	1.361
Upper Roof	DStIS6 Min	X	1.155	0.702	1.645
Upper Roof	DStIS6 Min	Y	0.693	0.377	1.837
Lower Roof	DStIS6 Min	X	1.037	0.659	1.574
Lower Roof	DStIS6 Min	Y	0.254	0.074	3.429
Story3	DStIS6 Min	X	0.709	0.47	1.507
Story3	DStIS6 Min	Y	0.394	0.148	2.656
Story2	DStIS6 Min	X	0.383	0.264	1.449
Story2	DStIS6 Min	Y	0.191	0.093	2.05
Upper Roof	DStIS7 Max	X	0.518	0.169	3.07
Upper Roof	DStIS7 Max	Y	0.942	0.611	1.542
Lower Roof	DStIS7 Max	X	0.421	0.136	3.1
Lower Roof	DStIS7 Max	Y	0.353	0.186	1.899
Story3	DStIS7 Max	X	0.295	0.11	2.68
Story3	DStIS7 Max	Y	0.59	0.327	1.807
Story2	DStIS7 Max	X	0.147	0.059	2.496
Story2	DStIS7 Max	Y	0.322	0.198	1.625
Upper Roof	DStIS7 Min	X	1.025	0.59	1.739
Upper Roof	DStIS7 Min	Y	0.631	0.289	2.185
Lower Roof	DStIS7 Min	X	0.882	0.53	1.664
Lower Roof	DStIS7 Min	Y	0.375	0.191	1.966
Story3	DStIS7 Min	X	0.635	0.394	1.611
Story3	DStIS7 Min	Y	0.368	0.082	4.479
Story2	DStIS7 Min	X	0.346	0.224	1.548
Story2	DStIS7 Min	Y	0.182	0.048	3.767

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	DStIS8 Max	X	0.408	0.157	2.597
Upper Roof	DStIS8 Max	Y	0.771	0.559	1.38
Lower Roof	DStIS8 Max	X	0.367	0.151	2.432
Lower Roof	DStIS8 Max	Y	0.4	0.287	1.396
Story3	DStIS8 Max	X	0.225	0.103	2.185
Story3	DStIS8 Max	Y	0.475	0.325	1.463
Story2	DStIS8 Max	X	0.107	0.053	2.03
Story2	DStIS8 Max	Y	0.257	0.201	1.278
Upper Roof	DStIS8 Min	X	0.916	0.578	1.586
Upper Roof	DStIS8 Min	Y	0.459	0.236	1.946
Lower Roof	DStIS8 Min	X	0.828	0.545	1.52
Lower Roof	DStIS8 Min	Y	0.221	0.09	2.448
Story3	DStIS8 Min	X	0.565	0.387	1.46
Story3	DStIS8 Min	Y	0.253	0.08	3.149
Story2	DStIS8 Min	X	0.307	0.218	1.409
Story2	DStIS8 Min	Y	0.118	0.052	2.283
Upper Roof	DStIS9 Max	X	1.392	1.12	1.243
Upper Roof	DStIS9 Max	Y	1.064	0.769	1.383
Lower Roof	DStIS9 Max	X	1.248	0.923	1.351
Lower Roof	DStIS9 Max	Y	0.478	0.369	1.296
Story3	DStIS9 Max	X	0.917	0.78	1.176
Story3	DStIS9 Max	Y	0.666	0.469	1.42
Story2	DStIS9 Max	X	0.529	0.459	1.152
Story2	DStIS9 Max	Y	0.371	0.265	1.4
Upper Roof	DStIS9 Min	X	1.125	0.806	1.396
Upper Roof	DStIS9 Min	Y	0.719	0.535	1.342
Lower Roof	DStIS9 Min	X	1.005	0.727	1.382
Lower Roof	DStIS9 Min	Y	0.387	0.174	2.223
Story3	DStIS9 Min	X	0.74	0.581	1.274
Story3	DStIS9 Min	Y	0.424	0.236	1.798
Story2	DStIS9 Min	X	0.448	0.359	1.246
Story2	DStIS9 Min	Y	0.235	0.153	1.536
Upper Roof	DStIS10 Max	X	2.169	1.685	1.288
Upper Roof	DStIS10 Max	Y	0.908	0.443	2.051
Lower Roof	DStIS10 Max	X	1.924	1.532	1.256
Story3	DStIS10 Max	X	1.459	1.179	1.237
Story3	DStIS10 Max	Y	0.581	0.247	2.355
Story2	DStIS10 Max	X	0.833	0.69	1.206
Story2	DStIS10 Max	Y	0.317	0.157	2.026
Upper Roof	DStIS10 Min	X	2.529	1.998	1.266
Upper Roof	DStIS10 Min	Y	0.563	0.209	2.694
Lower Roof	DStIS10 Min	X	2.074	1.728	1.2
Lower Roof	DStIS10 Min	Y	0.507	0.265	1.914
Story3	DStIS10 Min	X	1.666	1.371	1.215
Story2	DStIS10 Min	X	0.972	0.81	1.201
Upper Roof	DStIS11 Max	Y	2.463	1.996	1.234
Lower Roof	DStIS11 Max	Y	1.584	1.464	1.082
Story3	DStIS11 Max	Y	1.7	1.388	1.224
Story2	DStIS11 Max	Y	1.011	0.859	1.178

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	DStIS11 Min	X	0.99	0.46	2.15
Upper Roof	DStIS11 Min	Y	2.112	1.759	1.201
Lower Roof	DStIS11 Min	X	0.613	0.31	1.978
Lower Roof	DStIS11 Min	Y	1.49	1.267	1.176
Story3	DStIS11 Min	X	0.584	0.306	1.912
Story3	DStIS11 Min	Y	1.454	1.152	1.262
Story2	DStIS11 Min	X	0.303	0.155	1.958
Story2	DStIS11 Min	Y	0.873	0.724	1.205
Upper Roof	DStIS12 Max	X	0.695	0.413	1.682
Upper Roof	DStIS12 Max	Y	1.076	0.78	1.379
Lower Roof	DStIS12 Max	X	0.863	0.495	1.742
Lower Roof	DStIS12 Max	Y	1.291	1.163	1.11
Story3	DStIS12 Max	X	0.449	0.283	1.588
Story3	DStIS12 Max	Y	0.89	0.675	1.317
Story2	DStIS12 Max	X	0.228	0.17	1.344
Story2	DStIS12 Max	Y	0.548	0.445	1.232
Upper Roof	DStIS12 Min	X	1.06	0.73	1.452
Upper Roof	DStIS12 Min	Y	1.2	1.017	1.18
Lower Roof	DStIS12 Min	X	1.01	0.69	1.464
Lower Roof	DStIS12 Min	Y	1.591	1.36	1.17
Story3	DStIS12 Min	X	0.669	0.482	1.386
Story3	DStIS12 Min	Y	1.117	0.911	1.226
Story2	DStIS12 Min	X	0.366	0.285	1.285
Story2	DStIS12 Min	Y	0.638	0.551	1.157
Upper Roof	DStIS13 Max	X	1.396	1.144	1.22
Upper Roof	DStIS13 Max	Y	1.029	0.751	1.371
Lower Roof	DStIS13 Max	X	1.253	0.948	1.322
Lower Roof	DStIS13 Max	Y	0.469	0.37	1.267
Story3	DStIS13 Max	X	0.922	0.795	1.16
Story3	DStIS13 Max	Y	0.644	0.46	1.4
Story2	DStIS13 Max	X	0.533	0.468	1.139
Story2	DStIS13 Max	Y	0.359	0.257	1.399
Upper Roof	DStIS13 Min	X	1.129	0.83	1.36
Upper Roof	DStIS13 Min	Y	0.684	0.517	1.323
Lower Roof	DStIS13 Min	X	1.01	0.752	1.344
Lower Roof	DStIS13 Min	Y	0.378	0.175	2.156
Story3	DStIS13 Min	X	0.745	0.597	1.248
Story3	DStIS13 Min	Y	0.402	0.227	1.773
Story2	DStIS13 Min	X	0.455	0.369	1.231
Story2	DStIS13 Min	Y	0.223	0.147	1.524
Upper Roof	DStIS14 Max	X	2.125	1.66	1.28
Upper Roof	DStIS14 Max	Y	0.874	0.425	2.058
Lower Roof	DStIS14 Max	X	1.881	1.508	1.247
Story3	DStIS14 Max	X	1.436	1.165	1.232
Story3	DStIS14 Max	Y	0.56	0.238	2.352
Story2	DStIS14 Max	X	0.82	0.682	1.202
Story2	DStIS14 Max	Y	0.306	0.15	2.034
Upper Roof	DStIS14 Min	X	2.485	1.974	1.259
Lower Roof	DStIS14 Min	X	2.031	1.704	1.191

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	DStIS14 Min	Y	0.496	0.264	1.879
Story3	DStIS14 Min	X	1.641	1.356	1.21
Story2	DStIS14 Min	X	0.959	0.801	1.197
Upper Roof	DStIS15 Max	Y	2.429	1.978	1.228
Lower Roof	DStIS15 Max	Y	1.575	1.465	1.075
Story3	DStIS15 Max	Y	1.678	1.379	1.216
Story2	DStIS15 Max	Y	0.999	0.852	1.173
Upper Roof	DStIS15 Min	X	0.946	0.436	2.168
Upper Roof	DStIS15 Min	Y	2.077	1.74	1.194
Lower Roof	DStIS15 Min	X	0.569	0.286	1.993
Lower Roof	DStIS15 Min	Y	1.481	1.268	1.168
Story3	DStIS15 Min	X	0.558	0.289	1.927
Story3	DStIS15 Min	Y	1.432	1.143	1.253
Story2	DStIS15 Min	X	0.29	0.146	1.98
Story2	DStIS15 Min	Y	0.861	0.718	1.199
Upper Roof	DStIS16 Max	X	0.65	0.389	1.672
Upper Roof	DStIS16 Max	Y	1.078	0.799	1.35
Lower Roof	DStIS16 Max	X	0.819	0.471	1.739
Lower Roof	DStIS16 Max	Y	1.28	1.162	1.102
Story3	DStIS16 Max	X	0.426	0.269	1.585
Story3	DStIS16 Max	Y	0.886	0.684	1.295
Story2	DStIS16 Max	X	0.217	0.162	1.336
Story2	DStIS16 Max	Y	0.552	0.453	1.22
Upper Roof	DStIS16 Min	X	1.016	0.706	1.438
Upper Roof	DStIS16 Min	Y	1.202	1.035	1.161
Lower Roof	DStIS16 Min	X	0.967	0.666	1.451
Lower Roof	DStIS16 Min	Y	1.58	1.359	1.163
Story3	DStIS16 Min	X	0.644	0.467	1.378
Story3	DStIS16 Min	Y	1.113	0.92	1.21
Story2	DStIS16 Min	X	0.353	0.276	1.277
Story2	DStIS16 Min	Y	0.639	0.556	1.15
Upper Roof	DStID1	X	0.796	0.415	1.918
Upper Roof	DStID1	Y	0.779	0.471	1.654
Lower Roof	DStID1	X	0.694	0.378	1.835
Lower Roof	DStID1	Y	0.219	0.053	4.107
Story3	DStID1	X	0.478	0.276	1.73
Story3	DStID1	Y	0.468	0.226	2.072
Story2	DStID1	X	0.252	0.154	1.64
Story2	DStID1	Y	0.244	0.139	1.761
Upper Roof	DStID2	X	0.944	0.495	1.906
Upper Roof	DStID2	Y	0.894	0.532	1.682
Lower Roof	DStID2	X	0.839	0.459	1.829
Lower Roof	DStID2	Y	0.249	0.049	5.045
Story3	DStID2	X	0.566	0.329	1.72
Story3	DStID2	Y	0.542	0.257	2.112
Story2	DStID2	X	0.297	0.182	1.63
Story2	DStID2	Y	0.284	0.16	1.774
Upper Roof	DCmpD1	X	0.796	0.415	1.918
Upper Roof	DCmpD1	Y	0.779	0.471	1.654

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	DCmpD1	X	0.694	0.378	1.835
Lower Roof	DCmpD1	Y	0.219	0.053	4.107
Story3	DCmpD1	X	0.478	0.276	1.73
Story3	DCmpD1	Y	0.468	0.226	2.072
Story2	DCmpD1	X	0.252	0.154	1.64
Story2	DCmpD1	Y	0.244	0.139	1.761
Upper Roof	DCmpD2	X	0.944	0.495	1.906
Upper Roof	DCmpD2	Y	0.894	0.532	1.682
Lower Roof	DCmpD2	X	0.839	0.459	1.829
Lower Roof	DCmpD2	Y	0.249	0.049	5.045
Story3	DCmpD2	X	0.566	0.329	1.72
Story3	DCmpD2	Y	0.542	0.257	2.112
Story2	DCmpD2	X	0.297	0.182	1.63
Story2	DCmpD2	Y	0.284	0.16	1.774
Upper Roof	DCmpS1	X	1.075	0.56	1.918
Upper Roof	DCmpS1	Y	1.051	0.635	1.654
Lower Roof	DCmpS1	X	0.937	0.511	1.835
Lower Roof	DCmpS1	Y	0.295	0.072	4.107
Story3	DCmpS1	X	0.645	0.373	1.73
Story3	DCmpS1	Y	0.632	0.305	2.072
Story2	DCmpS1	X	0.34	0.208	1.64
Story2	DCmpS1	Y	0.329	0.187	1.761
Upper Roof	DCmpS2	X	1.296	0.681	1.905
Upper Roof	DCmpS2	Y	1.224	0.727	1.684
Lower Roof	DCmpS2	X	1.155	0.632	1.828
Lower Roof	DCmpS2	Y	0.34	0.066	5.159
Story3	DCmpS2	X	0.778	0.452	1.719
Story3	DCmpS2	Y	0.742	0.351	2.116
Story2	DCmpS2	X	0.407	0.25	1.63
Story2	DCmpS2	Y	0.389	0.219	1.775
Upper Roof	DCmpC1	X	1.119	0.583	1.921
Upper Roof	DCmpC1	Y	1.099	0.665	1.652
Lower Roof	DCmpC1	X	0.979	0.534	1.834
Lower Roof	DCmpC1	Y	0.305	0.072	4.225
Story3	DCmpC1	X	0.674	0.389	1.734
Story3	DCmpC1	Y	0.659	0.317	2.077
Story2	DCmpC1	X	0.357	0.217	1.644
Story2	DCmpC1	Y	0.343	0.194	1.767
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Max	X	2.17	1.801	1.205
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Max	Y	3.302	2.639	1.251
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Max	X	1.896	1.448	1.31
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Max	Y	1.994	1.959	1.018
Story3	Ult 51 (G+0.3Q+Spectrum) Max	X	1.351	1.13	1.196
Story3	Ult 51 (G+0.3Q+Spectrum) Max	Y	2.188	1.794	1.22
Story2	Ult 51 (G+0.3Q+Spectrum) Max	X	0.746	0.65	1.147
Story2	Ult 51 (G+0.3Q+Spectrum) Max	Y	1.245	1.043	1.194
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Min	X	3.307	2.721	1.215
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Min	Y	1.692	1.516	1.116
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Min	X	2.475	2.25	1.1

N/A

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Min	Y	2.231	1.856	1.202
Story3	Ult 51 (G+0.3Q+Spectrum) Min	X	2.114	1.780	1.175
Story3	Ult 51 (G+0.3Q+Spectrum) Min	Y	1.551	1.25	1.241
Story2	Ult 51 (G+0.3Q+Spectrum) Min	X	1.2	1.022	1.174
Story2	Ult 51 (G+0.3Q+Spectrum) Min	Y	0.853	0.711	1.2

N/A

Expected maximum displacement = 2.6 mm @ top.

Expected maximum displacement = 1.8 mm @ 3rd Floor.

$$\begin{aligned} \text{height difference} &= 13.925 - 9.615 \\ &= 4.31 \text{ m.} \end{aligned}$$

$$\begin{aligned} d_i &= d_{ie} \times h / S_p \\ &= (2.6 - 1.8) \times \frac{2}{0.77} = 2.04 \text{ mm.} \end{aligned}$$

$$1.5\% \text{ of storey height} = 64.65 \text{ mm}$$

>> than design deflection.

OK

$$\text{Base Shear} = 1678.8 \text{ kN.}$$

Precast panel & lift & stair shaft still OK

$$\text{Shear on dowels} = 1678.8 \text{ kN.}$$

Capacity of 1 No 20 dowels.

$$V_{Rdc} = V_{Rdc} + f_{bv} A_{sv} f_{bv}$$

$$\text{where } V_{Rdc} = 12.5 \text{ kN.}$$

$$f_{bv} = 1.27$$

$$f_{sv} = 3.67$$

$$\therefore V_{Rdc} = 12.5 + 1.27 + 3.67 = 58 \text{ kN.}$$

$$\begin{aligned} \text{No. of dowels required} &= \frac{1678.8}{58} = 29 \\ &\sim 30 \text{ dowels.} \end{aligned}$$

$$C/c_{min} = 24 \text{ \& } S/c_{min} = \frac{1200}{-85} = 14$$

Spread at least 200mm because of reo each side (Conservative)

Checked :

Date : .../.../...

No. of dowels along grid ① and ⑤
 Dowels @ 300 from each end and @ 1200 ξ

$$\text{Along 1} = 6 \times 3 = 18$$

$$\text{Along 5} = 3 + 2 + 2 + 2 = 9$$

$$\text{Total} = 27.$$

$$\begin{aligned} \text{Dowels on Lift shaft \& stair shaft} &= \text{@ } 900 \xi \\ &= 3 \times 3 = 9 \end{aligned}$$

\therefore Minimum number of dowels available = 36 > req.

\therefore (OK)

On other side length of wall is bigger \therefore more dowels
 \therefore (OK)