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# **APPENDIX A: TYPICAL FLOOR LAYOUT**



Figure 35: Second Floor Layout of As-Built Building

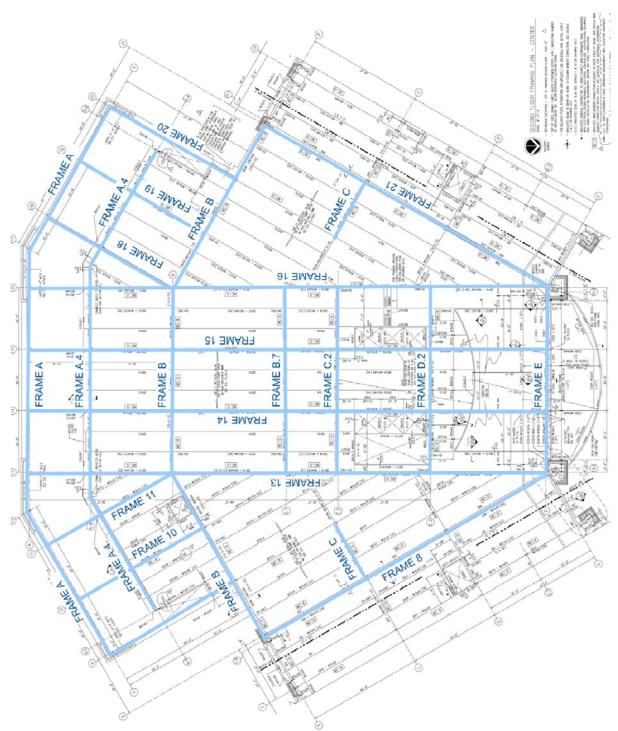


Figure 36: Second Floor Layout of Center or As-Built building

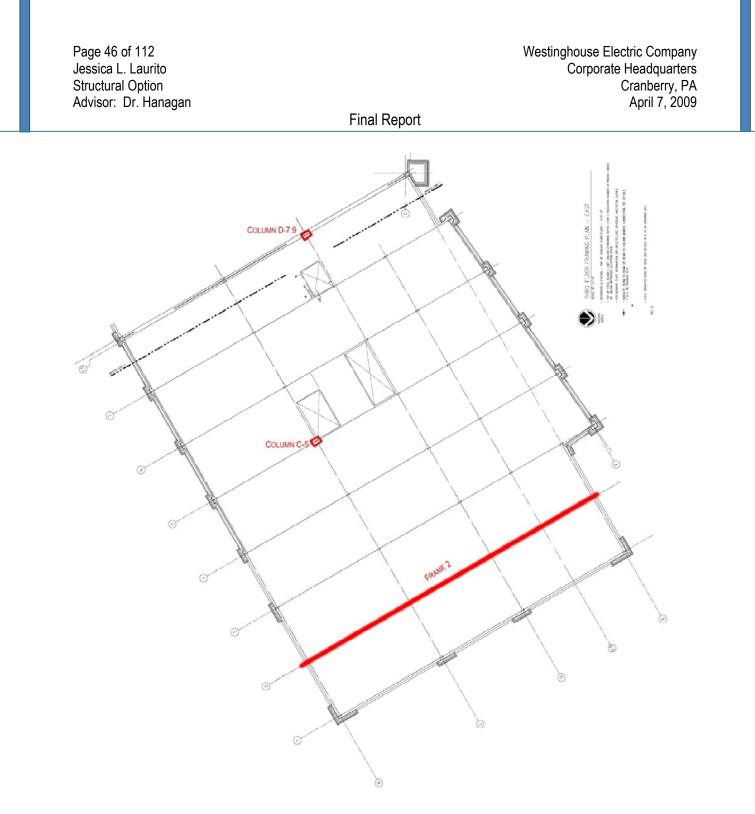


Figure 37: Third Floor East of Redesigned Concrete Building with Portal Analysis Frame Indicated and Columns for Column Checks Indicated

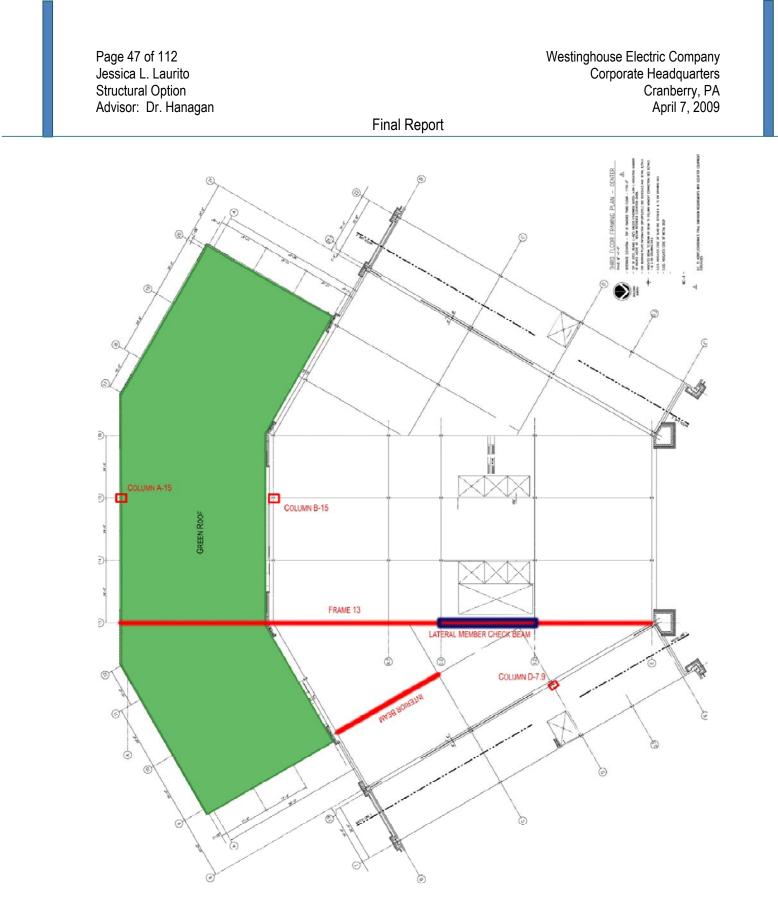
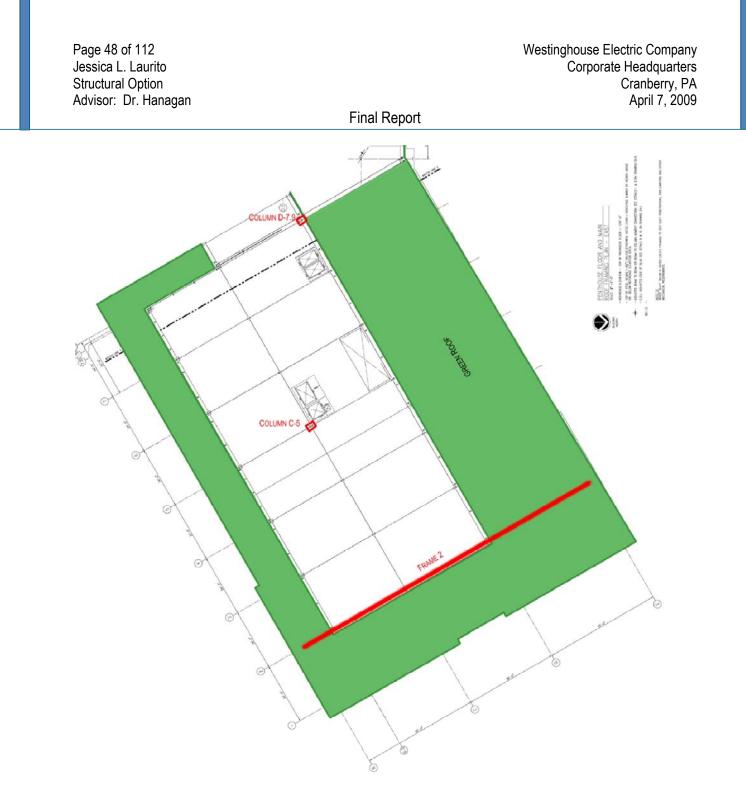


Figure 38: Third Floor Center of Redesigned Concrete Building with Portal Analysis Frame Indicated and Columns for Column Checks Indicated





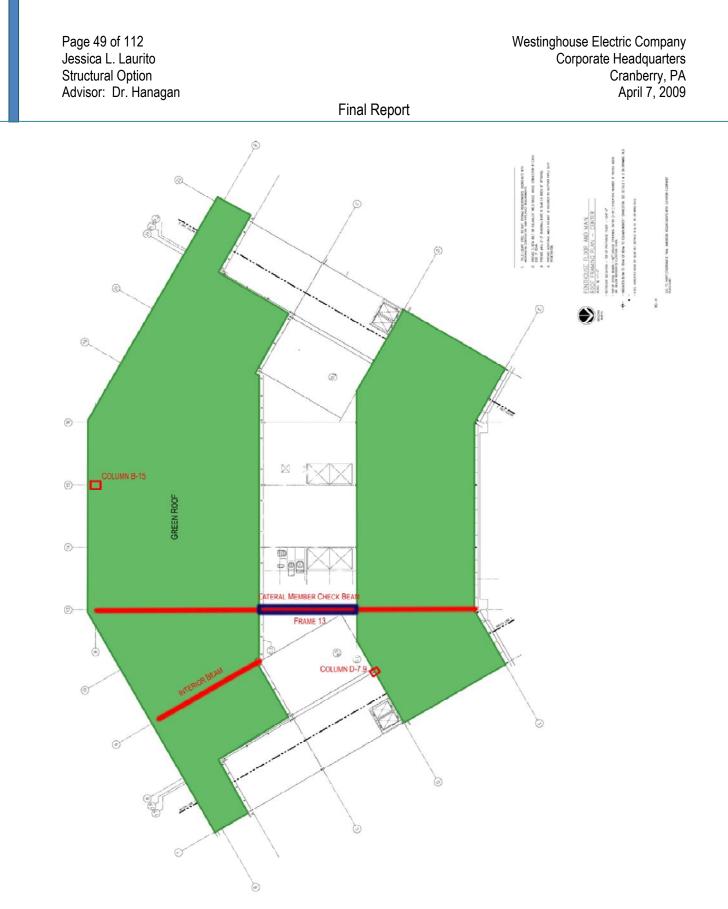


Figure 40: Green Roof Plan Center of Redesigned Building with Portal frame Analysis, lateral Beam Check, Interior Beam Check, and Spot Checked Columns Indicated

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# **APPENDIX B: TORSION EFFECTS CALCULATIONS**

The centers of rigidity for each direction were determined by taking the sum of the stiffness in one direction multiplied by the distance from the perpendicular distance from the origin (distance from the opposite origin) all divided by the sum of the stiffness for each frame used in the calculation. For example, the center of rigidity in the Y direction was calculated by taking the K in the X direction and multiplying it by the distance from the Y origin, and finding the sum of all the values divided by the sum of the K's in the X direction (Kix\*dix/ΣKix). The Ix was calculated by taking the sum of the K's in the X direction multiplied by the distance from the Y origin squared ( $\Sigma$ kix\*yi<sup>2</sup>). The Iy was calculated using the same method.

> Center of Rigidity in Y= Kix\*dix/ $\Sigma$ kix Center of Rigidity in X= Kiy\*dix/ $\Sigma$ kiy Ix=  $\Sigma$ kix\*yi<sup>2</sup> Iy=  $\Sigma$ kiy\*xi<sup>2</sup>

After the K values were determined, the K in the direction of the force was divided by the sum of the K's in the same direction and multiplied by the force in the specific direction. The torsion induced moment in each direction was determined differently for wind and for seismic.

For seismic forces, the torsion induced moment was calculated by taking the force at the specified story multiplied by the center of rigidity subtracted from center of mass in the direction perpendicular to the force.

Torsion Induced Moment X= (Force)\*(Center of Mass in Y direction- Center of Rigidity in X direction)

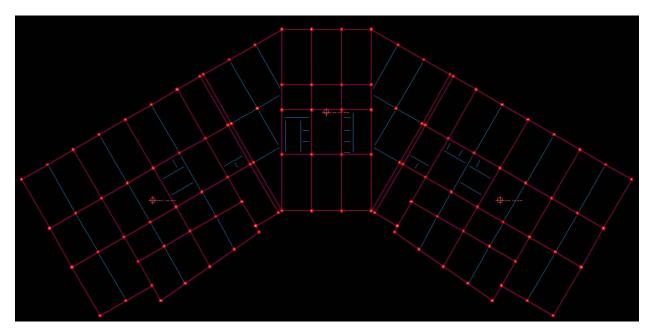


Figure 41: Centers of Mass for New Building

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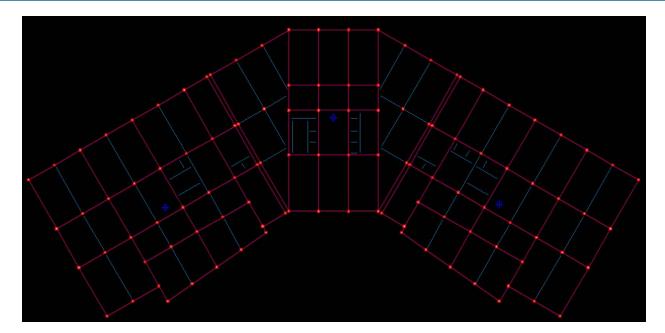


Figure 42: Centers of Rigidity for New Building

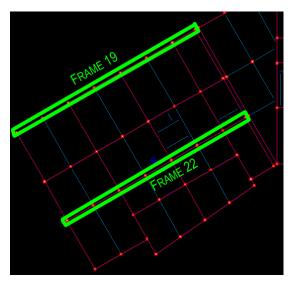


Figure 43: Center of Rigidity and Frames for Comparison

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As is seen in the following figures of the wind shears from frames 19 and 22, the further away from the center of rigidity the frame is located, the more torsion and shear the frame takes. The concept of torsion is evident in these frames.

Load Case: W9 Win	d Wind IB	C06_4_X+Y_CW		
Level	Shear-X	Change-X	Shear-Y	Change-Y
	kips	kips	kips	kips
Roof	24.27	24.27	17.43	17.43
Fifth	29.05	4.78	20.97	3.54
Fourth	43.42	14.37	31.90	10.93
Third	51.17	7.75	38.22	6.32
Second	46.66	-4.51	33.40	-4.82
First	-9.04	-55.70	-11.12	-44.52

#### Figure 44: Wind Shears Frame 19

Load Case: W9 Wind	Wind IB	C06_4_X+Y_CW		
Level	Shear-X	Change-X	Shear-Y	Change-Y
	kips	kips	kips	kips
Penthouse	3.26	3.26	3.47	3.47
Roof	3.71	0.45	7.56	4.10
Fifth	9.77	6.06	15.69	8.12
Fourth	12.68	2.91	20.61	4.92
Third	18.67	5.99	27.52	6.92
Second	19.37	0.70	35.57	8.05
First	-3.24	-22.62	-10.30	-45.87

#### Figure 45: Wind Shears Frame 22

Load Case: E1 Seismic EO IBC06_X_+E_F										
Level	Shear-X	Change-X	Shear-Y	Change-Y						
	kips	kips	kips	kips						
Roof	50.00	50.00	15.85	15.85						
Fifth	49.63	-0.37	14.53	-1.33						
Fourth	64.72	15.09	19.06	4.54						
Third	66.40	1.68	20.10	1.04						
Second	73.12	6.72	15.00	-5.10						
First	-23.19	-96.31	7.26	-7.74						

#### Figure 46: Seismic Shears Frame 19

Load Case: E1 Seismic EQ IBC06_X_+E_F										
Level	Shear-X	Change-X	Shear-Y	Change-Y						
	kips	kips	kips	kips						
Penthouse	20.03	20.03	6.15	6.15						
Roof	26.35	6.32	-6.05	-12.20						
Fifth	47.99	21.64	-4.00	2.05						
Fourth	56.10	8.12	-5.38	-1.38						
Third	65.66	9.56	-5.03	0.35						
Second	60.39	-5.28	-4.42	0.61						
First	-17.19	-77.57	6.33	10.75						

Figure 47: Seismic Shears Frame 22

# **APPENDIX C: WIND LOAD CALCULATIONS**

# MAIN WIND-FORCE RESISTING SYSTEM (ASCE 7-05)

Table 18: Wind Calculation Conditions

Basic Wind Speed (V) mph	90
Exposure Category	В
Importance Factor (I)	1
Wind Directionality Factor (Kd)	0.85
Topographic Factor (Kzt)	1

BUILDING L/B AND VALUES

Table 19: Windward, Leeward, and Sidewall constants

		L/B	C <sub>p</sub>
East-West Direction			
	Windward	4.317	0.8
	Leeward	4.317	-0.2
	Sidewall	4.317	-0.7
North-South Direction			
	Windward	0.232	0.8
	Leeward	0.232	-0.5
	Sidewall	0.232	-0.7

#### **Table 17: Wind Calculation Constants**

	Wind D	Virection
Variable	N-S	E-W
Stiffness	Flex	Flex
В	544	126
L	126	544
h	92.5	92.5
Z	30'	30'
l	320	320
E	0.333	0.333
α	0.25	0.25
β	0.05	0.05
V	90	90
Vz	67.644	67.644
Lz	380.55	380.55
n <sub>1</sub>	1.163	1.163
N <sub>1</sub>	6.54	6.54
R <sub>n</sub>	0.043	0.043
R <sub>h</sub>	0.127	0.127
R <sub>b</sub>	0.023	0.095
RL	0.030	0.007
b	0.45	0.45
R	0.037	0.074
l <sub>z</sub>	0.275	0.275
<b>g</b> <sub>R</sub>	0.000	0.000
q <sub>p</sub>	14.836	14.836
g <sub>v</sub>	3.4	3.4
Q	0.731	0.832
G <sub>f</sub>	0.772	0.830

0.731

0.832

# WIND CALCULATIONS CONTINUED:

$$q_{p} = 0.00256 K_{h}K_{zt}K_{d}V^{2}l = 14.836$$

$$GCpn = 1.5 -1$$

$$Pp = q_{p}GCpn = 22.254 -14.836$$

$$n_{1} = 43.5 -1.163 eq (C6-15)$$

$$H^{0.9}$$

n<sub>1</sub>> 1 therefore Rigid structure

$$\begin{array}{rcl} g_{Q} &=& g_{V} =& 3.4\\ G &=& 0.85\\ &z &=& 0.6h =& 55.5\\ z_{min} &=& 30'\\ I_{z} &=& c(33/z)^{1/6} &=& 0.275\\ L_{z} &=& l(z/33)^{e} &=& 380.55\\ Q_{N-S} &=& \sqrt{(1/(1+0.63(B+h/L_{z})^{0.63}))} =&& 0.731\\ Q_{E-W} &=& \sqrt{(1/(1+0.63(B+h/L_{z})^{0.63}))} =&& 0.832\\ G_{fN-S} &=& 0.925 \left[(1+1.7I_{z}g_{Q}Q)/(1+1.7g_{v}I_{z})\right] =&& 0.772274\\ G_{fE-W} &=& 0.925 \left[(1+1.7I_{z}g_{Q}Q)/(1+1.7g_{v}I_{z})\right] =& 0.829674 \end{array}$$

# WIND CALCULATIONS CONTINUED:

	Table 20: Design Wind Pressure in N-S											
	Design Wind Pressures p in N-S Direction (Table 5.41)											
Location	Height above Ground Level z (ft)	q(psf)	External Pressure qGC <sub>p</sub> (psf)	Internal Pressure q <sub>h</sub> GC <sub>pi</sub>	Net Press	ure p (psf)						
	2 (11)		qoo <sub>p</sub> (psi)	Ч <sub>h</sub> OO <sub>pi</sub>	+Gcpi	-Gcpi						
Windward	92.5	14.354	8.87	2.67	6.20	11.54						
	74.5	13.47	8.32	2.67	5.65	10.99						
	70	13.20	8.16	2.67	5.49	10.83						
	60	12.61	7.79	2.67	5.12	10.46						
	50	12.02	7.42	2.67	4.75	10.09						
	46	11.72	7.24	2.67	4.57	9.91						
	40	11.28	6.97	2.67	4.30	9.64						
	32	10.56	6.53	2.67	3.86	9.20						
	30	9.79	6.05	2.67	3.38	8.72						
	25	9.20	5.68	2.67	3.01	8.35						
	20	8.46	5.22	2.67	2.55	7.90						
	18	8.46	5.22	2.67	2.55	7.90						
	15	8.46	5.22	2.67	2.55	7.90						
Leeward	All	14.35	-5.54	2.67	-8.21	-2.87						
Side	All	14.35	-7.76	2.67	-10.43	-5.09						

## Table 21: Design Wind Pressure in E-W

	Design Wind Pressures p in E-W Direction (Table 5.41)									
Location	Height above Ground Level	d Level q(psf)	Pressure Press	Internal Pressure q <sub>h</sub> GC <sub>pi</sub>	Net Press	ure p (psf)				
	z (ft)		qGC <sub>p</sub> (psf)	Ч <sub>h</sub> OO <sub>pi</sub>	+Gcpi	-Gcpi				
Windward	92.5	14.35	9.53	2.67	6.86	12.20				
	74.5	13.47	8.94	2.67	6.27	11.61				
	70	13.20	8.76	2.67	6.09	11.43				
	60	12.61	8.37	2.67	5.70	11.04				
	50	12.02	7.98	2.67	5.31	10.65				
	46	11.72	7.78	2.67	5.11	10.45				
	40	11.28	7.48	2.67	4.81	10.15				
	32	10.56	7.01	2.67	4.34	9.68				
	30	10.39	6.89	2.67	4.22	9.56				
	25	9.79	6.50	2.67	3.83	9.17				
	20	9.20	6.11	2.67	3.43	8.78				
	18	8.90	5.91	2.67	3.24	8.58				
	15	8.46	5.61	2.67	2.94	8.28				
Leeward	All	13.47	-2.24	2.67	-4.91	0.44				
Side	All	13.47	-7.82	2.67	-10.49	-5.15				

# WIND CALCULATIONS CONTINUED:

					Wind Pressures (psf)					
Floor Heights	Level	Total Height	Kz	q <sub>Z</sub>	N-S	N-S	N-S	E-W	E-W	E-W
					Windward	Leeward	Side Wall	Windward	Leeward	Sidewall
18	Penthouse	92.5	0.9675	14.354	11.54	-8.21	-10.43	12.20	-4.91	-10.49
14.5	Roof	74.5	0.908	13.471	10.99	-8.21	-10.43	11.61	-4.91	-10.49
14	5	60	0.85	12.611	10.46	-8.21	-10.43	11.43	-4.91	-10.49
14	4	46	0.79	11.720	9.91	-8.21	-10.43	11.04	-4.91	-10.49
14	3	32	0.712	10.563	9.20	-8.21	-10.43	10.65	-4.91	-10.49
18	2	18	0.59	8.902	7.90	-8.21	-10.43	10.45	-4.91	-10.49

### Table 22: Total Wind pressures by Height

	Wind Design									
Level	Load (kips)		Shear	(kips)	Moment (ft-k)					
	N-S	E-W	N-S	E-W	N-S	E-W				
Pent	193.4	38.8	0	0	3481.3	698.2				
Roof	151.5	30.2	193.4	38.8	2196.7	437.6				
5	144.8	29.3	344.9	69.0	2026.7	410.7				
4	138.0	28.1	489.7	98.3	1932.5	393.8				
3	132.6	27.4	627.7	126.4	1856.3	384.1				
2	140.2	31.0	760.3	153.9	2523.7	557.2				
Total	900.5	184.8	900.5	184.8	10535.9	2183.4				

### Table 23: Wind Forces, Shears, and Moment

Note: Total Base Shear includes load from Windward and Leeward pressures

## WIND CALCULATIONS CONTINUED:

### **RAM COMPARISON**

As these tables show, RAM values are around the same change from floor to floor as the hand calculations.

RAM values were compared further to the hand calculation method results used throughout the report and used in previous technical reports. The main differences have already been addressed, such as the possibility of a finite element analysis. The wind design table below is the final story force and story shears for the east portion of the building.

### RAM CALCULATED VALUES

#### Table 24: RAM Calculated Wind Values

Гірат		Total				F	RAM Wind Pro	essures (psf)		
Floor Heights	Level	Total Height	Kz	q <sub>z</sub>	N-S	N-S	N-S	E-W	E-W	E-W
ricigitta		ricigiti			Windward	Leeward	Side Wall	Windward	Leeward	Sidewall
18	Penthouse	92.5	0.966	14.331	11.57	-8.23	-10.46	11.57	-5.98	-8.23
14.5	Roof	74.5	0.909	13.486	11.05	-8.23	-10.46	11.05	-5.98	-8.23
14	5	60	0.854	12.670	10.54	-8.23	-10.46	10.54	-5.98	-8.23
14	4	46	0.792	11.750	9.97	-8.23	-10.46	9.97	-5.98	-8.23
14	3	32	0.714	10.593	9.25	-8.23	-10.46	9.25	-5.98	-8.23
18	2	18	0.605	8.976	8.25	-8.23	-10.46	8.25	-5.98	-8.23

#### Table 25: RAM Wind Forces, Shears, and Moments

			Wind E	Design			
Level	Load (kips)		Shear	<sup>·</sup> (kips)	Moment (ft-k)		
	N-S	E-W	N-S	E-W	N-S	E-W	
Pent	193.9	39.8	0	0	3491.0	716.6	
Roof	152.1	31.1	193.9	39.8	2205.3	451.1	
5	143.0	29.7	346.0	70.9	2001.8	415.3	
4	138.6	28.1	489.0	100.6	1940.9	393.9	
3	133.2	26.9	627.7	128.7	1864.2	376.2	
2	161.4	28.7	760.8	155.6	2904.7	516.3	
Total	922.2	184.3	922.2	184.3	10916.9	2152.9	

Note: Total Base Shear includes load from Windward and Leeward pressures

# **APPENDIX D: SEISMIC LOAD CALCULATIONS**

 Table 26:
 Seismic Design Values

Seismic Design Values, ASCE 7-05								
Response Modification Coefficient	R= 3	R= 3.5	Table 12.2-1					
Coefficient	C <sub>U</sub> = 1.7	C <sub>U</sub> = 1.7	Table 12.8-1					
Fundamental Period	T= 1.497	T= 1.497	Sec. 12.8.2					
Seismic Response Coefficient	C <sub>S</sub> = 0.016	C <sub>S</sub> = 0.014	Eq. 12.8-3					
Building Height (above grade)	h= 74.5	h= 74.5						

### Table 27: Seismic Design Values continued

Seismic Design Values, ASCE 7-05								
Occupancy	II	Table 1-1						
Importance Factor	I= 1	Table 11.5-1						
Site Class	D	Table 20.3-1						
Spectral Response Acceleration, short	S <sub>S</sub> = 0.12	Figure 22-1						
Spectral Response Acceleration, 1 sec	S <sub>1</sub> = 0.046	Figure 22-2						
Site Coefficient F <sub>a</sub>	F <sub>a</sub> = 1.6	Table 11.4-1						
Site Coefficient F <sub>V</sub>	F <sub>V</sub> = 2.4	Table 11.4-2						
MCE Spectral Response Acceleration, short	S <sub>MS</sub> = 0.192	Eq. 11.4-1						
MCE Spectral Response Acceleration, 1 sec	S <sub>M1</sub> = 0.1104	Eq. 11.4-2						
Design Spectral Acceleration, short	S <sub>DS</sub> = 0.128	Eq. 11.4-3						
Design Spectral Acceleration, 1 sec	S <sub>D1</sub> = 0.0736	Eq. 11.4-4						
Seismic Design Category	В	Table 11.6-1						

### Table 28: Fv Values

F <sub>v</sub> Values (Table 11.4-2 ASCE 7-05)							
	S <sub>1</sub> ≤0.1 S <sub>1</sub> =0.3 S <sub>1</sub> =0.3 S <sub>1</sub> =0.4 S <sub>1</sub> ≥						
D	2.4	2	1.8	1.6	1.5		

### Table 29: Fa Values

F <sub>a</sub> Values (Table 11.4-1 ASCE 7-05)							
	S <sub>S</sub> ≤0.25 S <sub>S</sub> =0.5 S <sub>S</sub> =0.75 S <sub>S</sub> =1.0 S <sub>S</sub> ≥1.						
D	1.6	1.4	1.2	1.2	1		

## SEISMIC CALCULATIONS CONTINUED:

The values for all the seismic coefficients were determined using ASCE 7-05 equations and tables. The building was first confirmed as Seismic design category B by using Table 11.6-2 of ASCE 7-05. Once the design category had been confirmed, the approximate period was calculated by using equation 12.8-7 and table 12.8-2. Since ASCE 7-05 section 11.6 requires where an S<sub>1</sub> value is less than 0.75 the Seismic Design Category can be determined solely on table11.6-1 and 11.6-2 when  $T_a$  > 0.8T<sub>S</sub>, the period used to calculate drift is less than T<sub>S</sub>, equation 12.8-2 is used to find C<sub>S</sub>, and rigid diaphragms are present.

#### Table 30: Seismic Response Value Comparison

Calculate	d Values	USGS Website Values
S <sub>S</sub> = 0.12	(From Figure 22-1)	S <sub>S</sub> = 0.125
S <sub>1</sub> = 0.046	(From Figure 22-2)	S <sub>1</sub> = 0.048
$S_{MS} = F_a * S_s = 0.192$		S <sub>MS</sub> = 0.2
$S_{M1} = F_V * S_1 = 0.1104$		S <sub>M1</sub> = 0.116
S <sub>DS</sub> = 2S <sub>MS</sub> /3= 0.128	A (Table 11.6-1)	S <sub>DS</sub> = 0.133
$S_{D1} = 2S_{M1}/3 = 0.0736$	B (Table 11.6-2)	S <sub>D1</sub> = 0.077

 $C_{T} = 0.016$  (From Table 12.8-2) X = 0.9 (From Table 12.8-2)  $T_{a} = C_{t}h_{n}^{x} = 0.9411255$  $T_{s} = S_{D1}/S_{DS} = 0.575$ 

 $0.8T_s = 0.46$  <  $T_a$  therefore must use Table 11.6-1,2

T<sub>L</sub>= 12 (From Fig. 22-15 p. 228 ASCE 7-05)

 $C_S$  values were calculated according to Section 12.8.1.1 equations 12.8-2, 12.8-3, and 12.8-4 and checked against the minimum requirement from EQ 12.8-5 of  $C_S \ge 0.01$ . Equation 12.8-3 is a maximum for this structure, and equation 12.8-4 does not apply since equation 12.8-3 does. The values were then compared based on R and what the professional calculated.

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		R=3
	$S_{DS}/(R/I) =$	0.0427
C <sub>S</sub> = MAX	$S_{D1}/(T^*R/I) =$	0.0153
for T>T <sub>L</sub>	$S_{D1}T_L/(T^2R/I) =$	0.3324
	2	0.01
C <sub>S</sub> = 0.0153		
$T = C_{U}^{*}T_{a} =$	1.5999134	

k= 1.550 W= 106734.9 V=  $C_s*W=$  1636.69

The floor weights used for the seismic calculations were calculated using a 10" NWC slab over the entire area, added to the column weights. Also, the superimposed loads were added and a bracing allowance to account for beams as part of the floor system.

Table 31: Beams on 4th floor with total beam weight

Beams:			
Shape	Unit Weight (Ib/ft)	Beam Length (ft)	Total Weight
32x34	1095.56	0	0.0 kips
30x34	1027.08	0	0.0 kips
34x34	1164.03	48	55.9 kips
24x34	821.667	5443.9	4473.1 kips
Total Weight=	4528.9	kips	

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### Table 32: Fourth Floor weight calculation

Approx. Area:	64231.7	ft <sup>2</sup>	Floor to Floor Height:			
Slab:						
NWC	145	PCF				
Thickness=	10	inches				
unit weight=	120.8333	psf				
total weight=	7761	kips				
Columns:						
Shape	Quantity	Unit Weight (Ib/ft)	Column Height (ft)	Total Weigh	t	
24x24	102	580	14	828.2 kips	;	
28x28	3	789.44444	14	33.2 kips	;	
30x30	6	906.25	14	76.1 kips	;	
32x32	0	1031.1111	14	0.0 kips	;	
34x34	0	1164.0278	14	0.0 kips	;	
36x36	0	1305	14	0.0 kips	;	
48x48	0	2320	14	0.0 kips	;	
Column Reinf =	22.35	Kips				
X-verse Reinf=	2.77	kips				
Total Weight=	962.6	kips				
Beam =	4528.9	kips				
Reinforcement=	156.177	kips				
Total Weight=	4685.1	kips				
Super Imposed:						
MEP=	5	psf				
Finishes=	3	psf				
Total Weight=	513.9	kips				
TOTAL FLOOR WE	IGHT:		13922.9	or 216	<b>3.</b> 8	
			kips	ps	sf	

The values in this portion of the report were calculated using the method described in the Seismic design portion of this report and the same method used in Technical Report One.

#### Table 33: Seismic Forces, Shears and Moments for As- Built with R=3

R=3

Floor	w <sub>x</sub> (k)	h <sub>x</sub> (ft)	h <sub>x</sub> <sup>k</sup> (ft)	w <sub>x</sub> h <sub>x</sub> <sup>k</sup>	C <sub>vx</sub>	Story Force F <sub>x</sub> (k)	Story Shear V <sub>x</sub> (k)	Moment at Floor (ft-k)
Roof	4240.5	74.5	639.41	2711449	0.359	167.42	0	12473.065
5	4713.6	60	462.27	2178985	0.288	134.55	167.42	8072.7394
4	4726.5	46	310.43	1467216	0.194	90.60	301.97	4167.4204
3	4724.0	32	180.20	851252	0.113	52.56	392.57	1681.9916
2	4653.4	18	76.08	354028	0.047	21.86	445.13	393.48265
1	5444.4						466.99	
Sum	28502.4	74.5	1668.39	7562930	1.000	466.99	466.99	26788.699

### R=3.5

Table 34: Seismic Forces, Shears, and Moments for As-Built with R=3.5

Floor	w <sub>x</sub> (k)	h <sub>x</sub> (ft)	h <sub>x</sub> <sup>k</sup> (ft)	$w_x h_x^{\ k}$	C <sub>vx</sub>	Story Force F <sub>x</sub> (k)	Story Shear V <sub>x</sub> (k)	Moment at Floor (ft-k)
Roof	4240.5	74.5	639.41	2711449	0.359	143.51	0	10691.199
5	4713.6	60	462.27	2178985	0.288	115.32	143.51	6919.4909
4	4726.5	46	310.43	1467216	0.194	77.65	258.83	3572.0746
3	4724.0	32	180.20	851252	0.113	45.05	336.48	1441.7071
2	4653.4	18	76.08	354028	0.047	18.74	381.54	337.27085
1	5444.4						400.28	
Sum	28502.4	74.5	1668.39	7562930	1.000	400.28	400.28	22961.742

Table 35: Seismic Forces, Shears, and Moments for Redesigned with R=3

Floor	w <sub>x</sub> (k)	h <sub>x</sub> (ft)	h <sub>x</sub> <sup>k</sup> (ft)	$w_x h_x^{\ k}$	C <sub>vx</sub>	Story Force F <sub>x</sub> (k)	Story Shear V <sub>x</sub> (k)	Moment at Floor (ft-k)
Penthouse	6481.1	92.5	1115.41	7229044	0.179	293.33	0	27133.348
Roof	18245.1	74.5	797.56	14551503	0.361	590.46	293.33	43989.083
5	14162.0	60	570.24	8075727	0.200	327.69	883.79	19661.364
4	13922.9	46	377.75	5259370	0.130	213.41	1211.48	9816.8534
3	16960.3	32	215.24	3650482	0.091	148.13	1424.89	4740.0283
2	17785.3	18	88.23	1569200	0.039	63.67	1573.02	1146.1239
1	19178.2						1636.69	
Sum	106734.9	92.5	3164.42	40335326	1.000	1636.69	1636.69	106486.8

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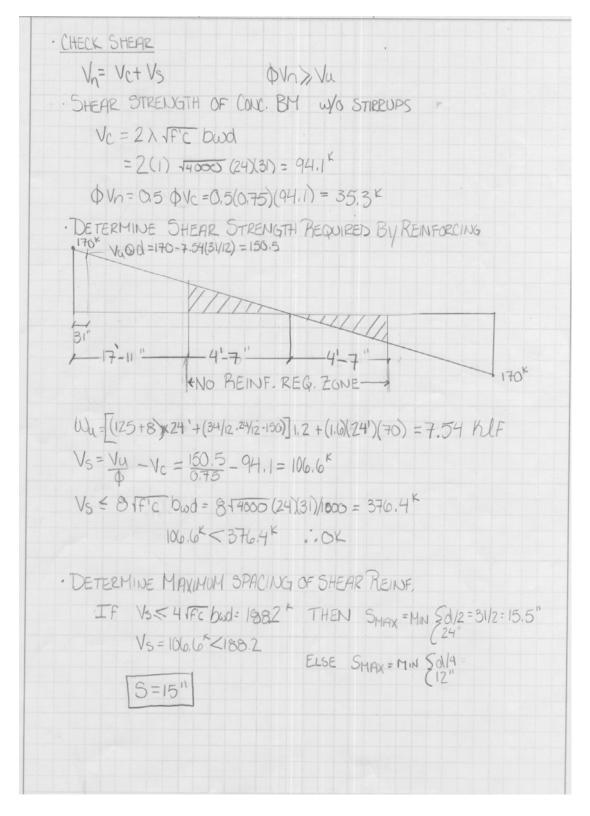
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# **APPENDIX E: MEMBER DESIGNS AND CHECKS**

Interior 45' span beam Design

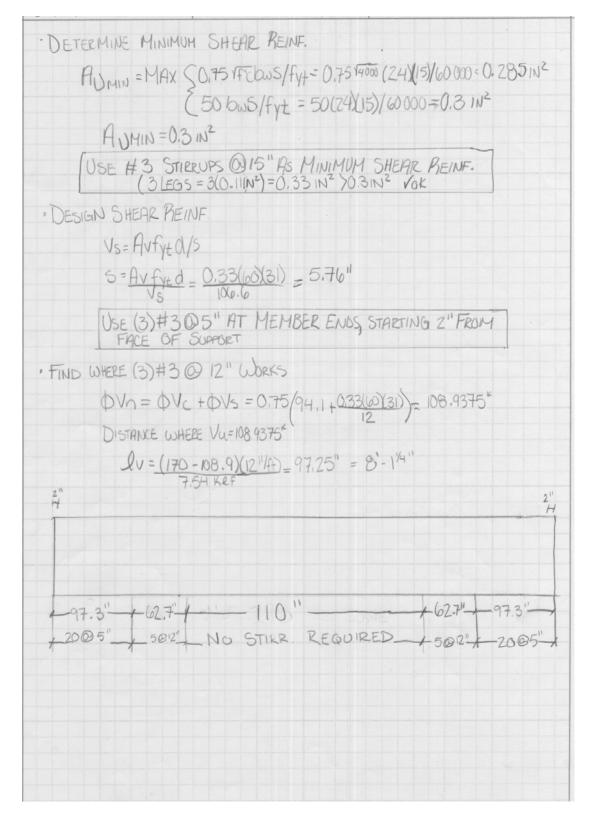
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# MEMBER DESIGN CONTINUED:

Interior slab thickness design

INTERIOR DESIGN
LOADING: 50 OFFICE LOAD-LIVE 20 PARTITION LOAD-LIVE 8 SUPERIMPOSED DEAD (FOR MEP, ETC)- +? CONC SLAB
$W_{u} = 1.2(8PSF) + 1.6(70) = 121.6 PSF$
MATERIALS: $f'_{c} = 4000 \text{ psi}$ $f'_{v} = 60 \text{ hsi}$
MINIMUM SLAB THICKNESS :
·ASSUME COLUMNS ARE 24'X24'
ln = 24' - 2' = 22'
· FROM ACI 318-08, TABLE 9.5 h7, 1/28
h7, (22 x12)/28
$n = 9.43'' \rightarrow h = 10''$
SLAB CONTRIBUTION TO DEAD LOAD
SLAB WEIGHT = 150 PCF x 10" = 125 PSF
WSLAB = 1.2(125 PSF) = 150 PSF
TOTAL LOAD:
Wu = 121.6 PSF+ 150PSF=271.6 PSF
Wa = 272, PSF
MOMENT VALUES USING ACI COEFFICIENTS
AT INTERIOR SUPPORTS: -M=(1) waln = (1) (272 (22) = 13.165 K-F.H
• AT MIDSPAU: $+M = (1 - 1) wuh^2 = (1 - 272)(22)^2 = 8.228 \text{ h-ft}$
• UN FACTORED : $Mu = \frac{wl^2}{8} = \frac{(70+8+125)(22)^2}{8} = 12.282$ h-ft

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REQUIRED REINFORCEMENT  $\cdot P_{MAX} = 0.85\beta (f E/fy) \left[ \frac{e_s}{e_s + e_s} \right]$  $e_{MAX} = 0.85(0.85)(\frac{4}{60})[0.003] = 0.0200$ E FFECTIVE DEPTH :  $bd^2 = 20Mu$ (12")(d2)=20(13.165 K-ft) [d=4.68"] · AREA OF STEEL PLEQUIRES PERFORT IN TOP OF SLAPS:  $As = Mu = \frac{Mu}{4d}$ AS= 13,165 = 0,703 INZ 4 ×4,68 USE #8 @12" (As=0.7917) · AREA OF STEEL REQUIRED PER FOOT @ MIDSPAN: As=Mu Hd AS = 8.228 = 0.4395 IN2 USE # 8 @12" (AS = 0.79 IN2) (FOR EASE OF CONSTRUCTION) . MINIMUM STEEL FOR SHEINKAGE + TEMPERATURE ASMIN = 0.001 8(12")(10") = 0, 216 IN2 ASMIN = 0.216 IN2 < AS = 031 In2 :00K USE # 5 @ 12" O.C.

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· CHECK SHEAR · SHEAR IN END MEMBERS @ FIRST INTERIOR SUPPORT  $V_{u} = \frac{1.15}{2} = \frac{1.15(0.272)(22)}{2} = 3.44$  K · SHEAR AT OTHER SUPPORTS Va= Waln = (0.272) = 2.99 K · ALLOWABLE SHEAR QVn = 0.75(2) VF'C bd QVn= 0.75(2)-4000 (12)(4.68) DVn= 4.97 K Vu< DVn :OK ·DEFLECTION CHECK (TABLE 9.5 CONFIRMATION)  $\Delta = \frac{5\omega J^4}{384 ET}$  $I = \frac{(24' \times 12''/1')^3}{12} = 41472 \text{ IN}^4$ E= 57000-14000 = 3605 hsi  $\Delta = \frac{5(0.272 \text{ hs}F)(45)(24)^4}{384(3605 \text{ hs}F)(4472 \text{ hs}^4)} = 0.611^{11}$  $\Delta HAX = \frac{1}{240} = \frac{24 \times 12}{240} = 1.2"$ (AMAX ) A : OK

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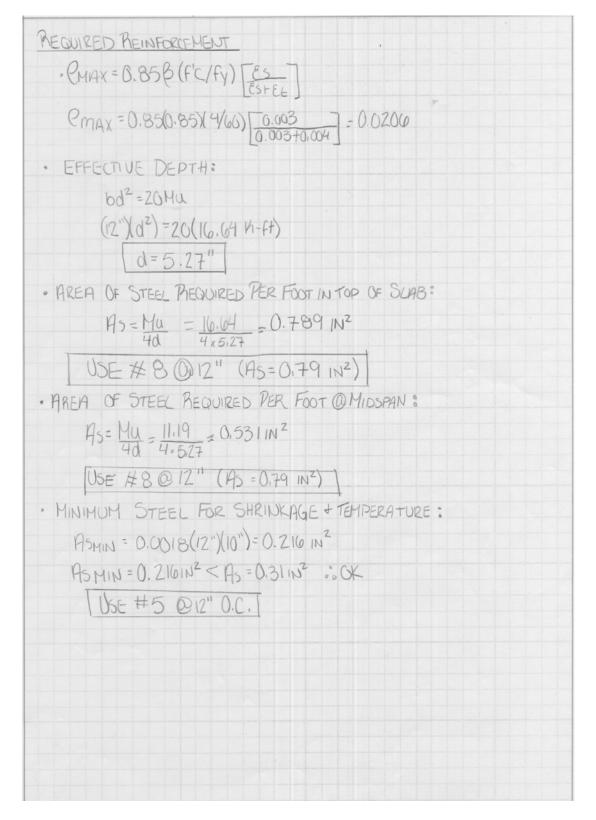
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# MEMBER DESIGN CONTINUED: Third Floor Green Roof Slab Design

LUHUING	1: 50 PSF DEAD 100 PSF Live t SELF
$\omega_{\alpha} =$	1.2(50) + 1.6(100) = 220 PSF
MATERIA	L5: f'c=4000 PS' fy = (0) PS'
MINIMUM	SLAB THICKNESS
·ASSUN	E COLUMNS ARE 24"X24"
ln=	24'-2' =22'
· FROM	1 ACI 318-08, TABLE 9.5 h / ln/28
	$h_{1}(22 \times 12)/28$
	h7, 9,43" -> h=10"
SLAB (	ONTRIBUTION TO DEADLOAD
SLA	$B WT = 150PCF \times 10' = 125 PSF$
Ws	AB= 1.2(125)=150 PSF
TOTAL L	OAD:
h	Ju= 220 PSF + 150 PSF = 370 PSF
	Wu=370 PSF
MOHENT	VALUES USING ACI COEFFCIENTS
•A7	NTERIOR SUPPORTS: $-M = (\frac{1}{10}) Wuln^2 = \frac{1}{10}(370)(22)^2 = 17.91 \text{ K-ft}$
·AT 4	$105PAN: +1=\frac{1}{16}(Waln^{2}=\frac{1}{16}(370)(22)^{2}=11.19 \text{ K-ft}$
= UNFF	ACTORED: $M_{4} = \frac{(50 + 100 + 125)(22)^{2}}{8} = 16.64 \text{ M-ft}$

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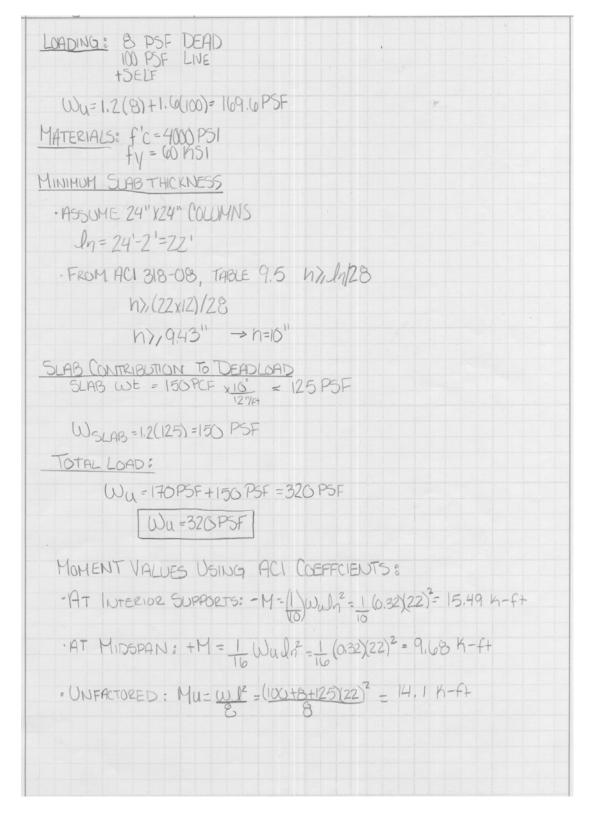


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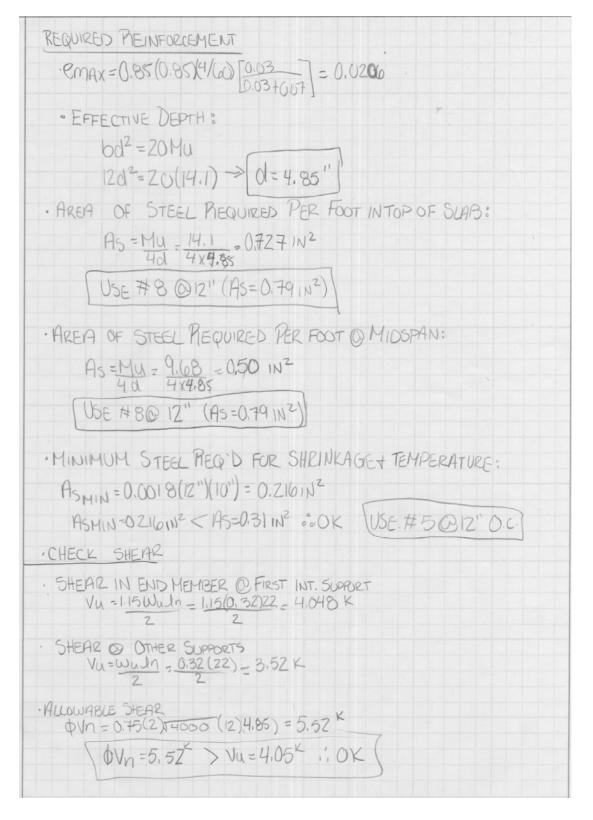
· CHECK SHEAR · SHEAR IN END MEMBERS @ FIRST INTERIOR SUPPORT Vu= 1.15waln = 1.15(0.37)(22) = 4.68 h · SHEAR AT OTHER SUPPORTS  $V_{u} = \frac{\omega_{u} \ln z}{2} = \frac{(0.37)(22)}{2} = 4.07 \text{ K}$ · ALLOWABLE SHEAR Q Vn = 0.75 (2) TFC bd \$ Vn = 0.75(2) 14000 (12)(5.27)  $\phi V_n = 6^k$  $\phi V_n = 6^k > V_u = 4.68^k \circ 0^k$ 

# MEMBER DESIGN CONTINUED: TOP FLOOR GREEN ROOF SLAB DESIGN



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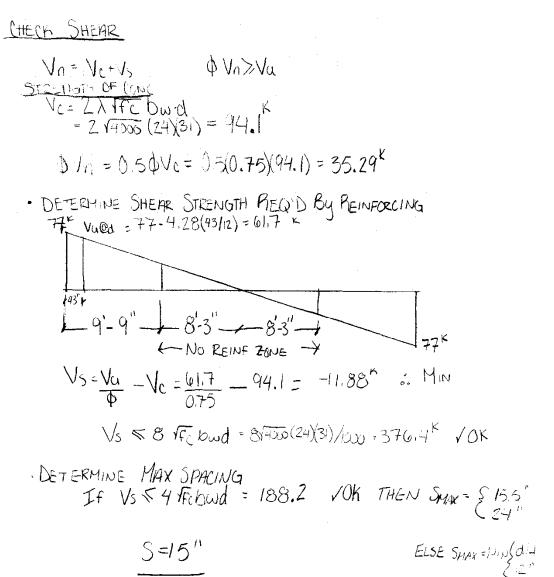
## MEMBER CHECK CONTINUED: LATERAL BEAM GIRDER CHECK

GIEDER CHECK LATERAL END MOMENT = 290 "K [EG LOAD] LOADING : DEAD = 125 PSF+ 8 PSF+ 850 PJF LIVE = 50 PSF + 20 PSF  $W_{u} = 1.2(125+8)(12)+1.2(850)+1.6(50+20)(12)$ W1=4779.7 PJF MAXIMUM MOMENT DETERMINATION GRAVITY MAXCENDS =  $\frac{\omega J^2}{12} = \frac{(4.28 \text{ MJF})(36)^2}{12} = 462.2 \text{ H-ft}$  $M_{MHX} \otimes M_{1D} = \frac{\omega l^2}{22} = (4.28 \text{ KlF}(36)^2 = 231.1 \text{ K-f+}$ GRAVITY + LATERAL [ 1.2.D+1.6L+1.0E] MMAX@ENDS = 462.26-F++2906-F+ = 752.26-F+ MMAXOMID = 231,1 K-F++290 K-F+ = 521,1 K-F+ BM HAS (8) # 8'S IN 2 ROWS d = 31''  $A_{s} = 8(0.79 \text{ in}^{2}) = 6.32 \text{ in}^{2}$  $\Phi Mn = \Phi As fy(d - a/2) \rightarrow a = Asfy = (6.32)(60) = 4.647''$  $\oplus M_n = 0.9(6.32 \text{ Im}^2)(60 \text{ Hsi})(31''-4,647''/2)$ OMn = 9787 H-FN = 815,6 K-Ft >Mu = 752,2 K-Ft /OK

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## MEMBER CHECK CONTINUED:

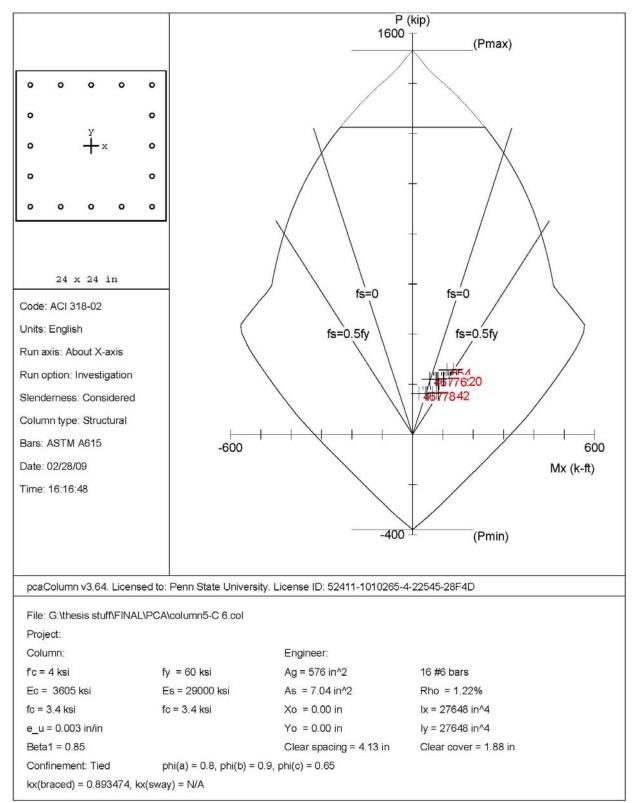


## MEMBER CHECK CONTINUED:

DETERMINE MIN. SHEAR REINF. AU MIN = MAX \$0.75/FCbws/Fyt = 0.75/F000044(15)/60000 = 0.285 in<sup>2</sup> (50 bws/Fyt =  $\frac{1}{2}\sqrt{24}(15)/60000 = 0.285 in<sup>2</sup>$   $f(V_{MIN} = 0.3 in<sup>2</sup>$  BM HAS (3)#3 STIERUPS, As = 0.33 in<sup>2</sup> > AUMIN = 0.31n<sup>2</sup> : 0K (HECK SPECING USE MIAX SPACING SHAX=15" SHAX=15"SPACING ON BH = 9" :: 0K Page 77 of 112 Jessica L. Laurito Structural Option Advisor: Dr. Hanagan

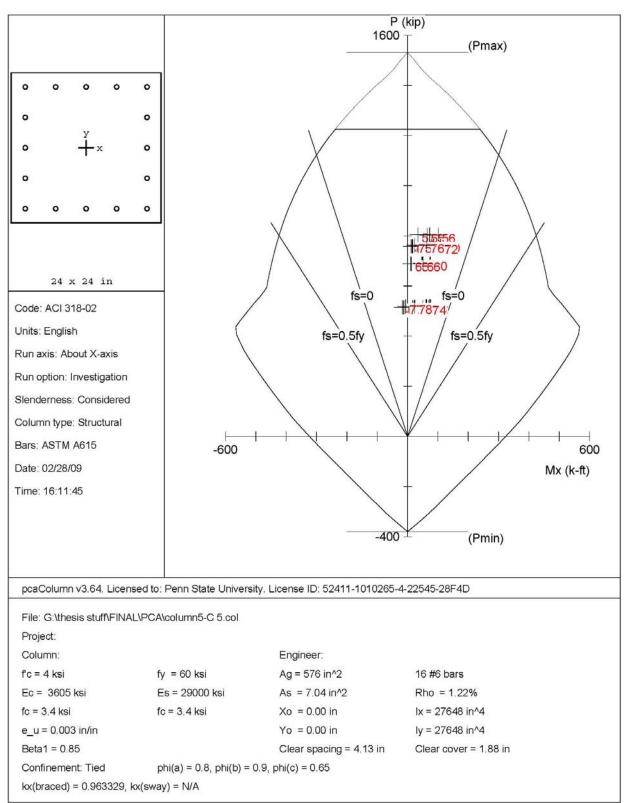
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# MEMBER CHECK CONTINUED: COLUMN C-5 PENTHOUSE LEVEL

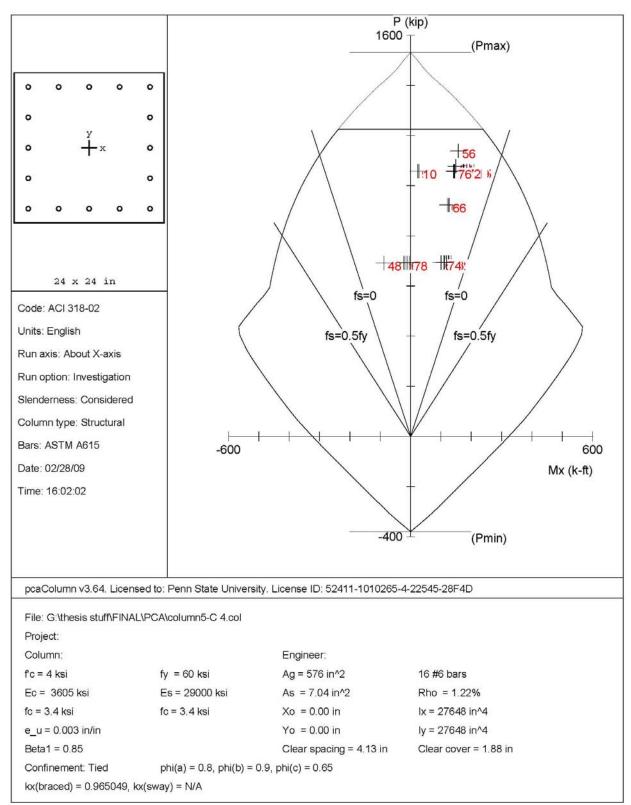


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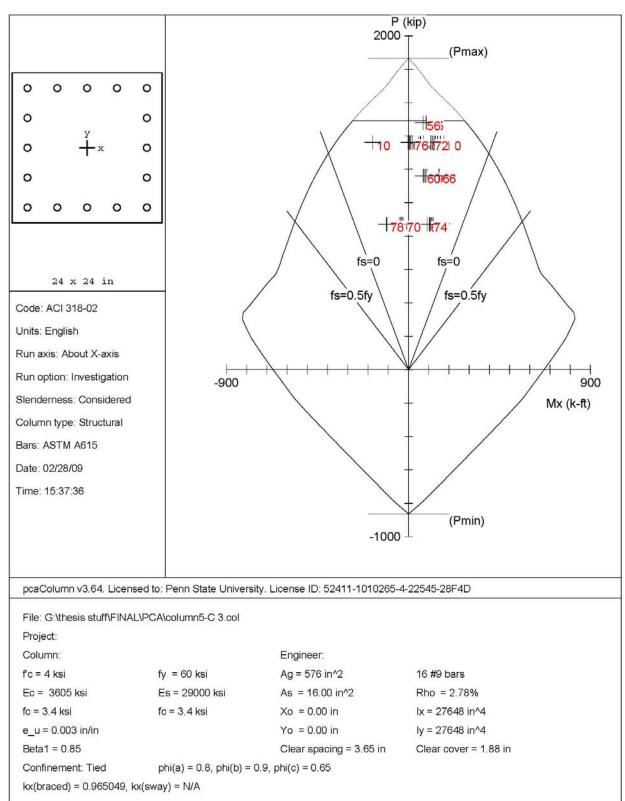
## MEMBER CHECK CONTINUED: COLUMN C-5 FIFTH FLOOR



## MEMBER CHECK CONTINUED: COLUMN C-5 FOURTH FLOOR

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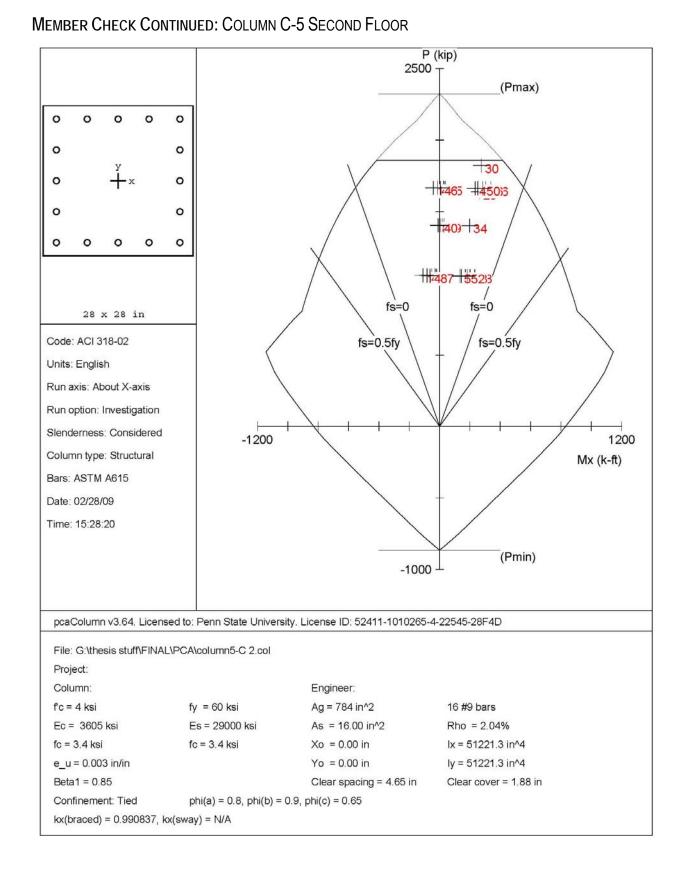
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### MEMBER CHECK CONTINUED: COLUMN C-5 THIRD FLOOR

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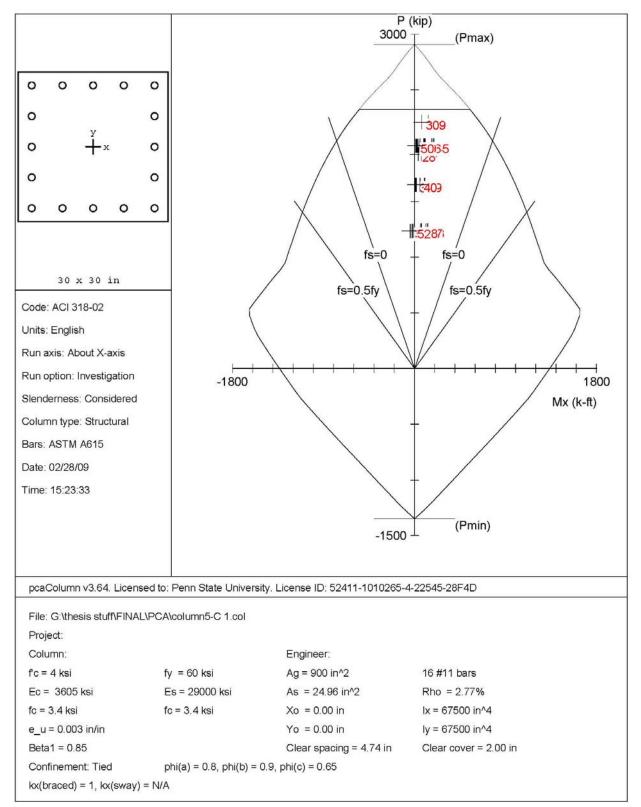
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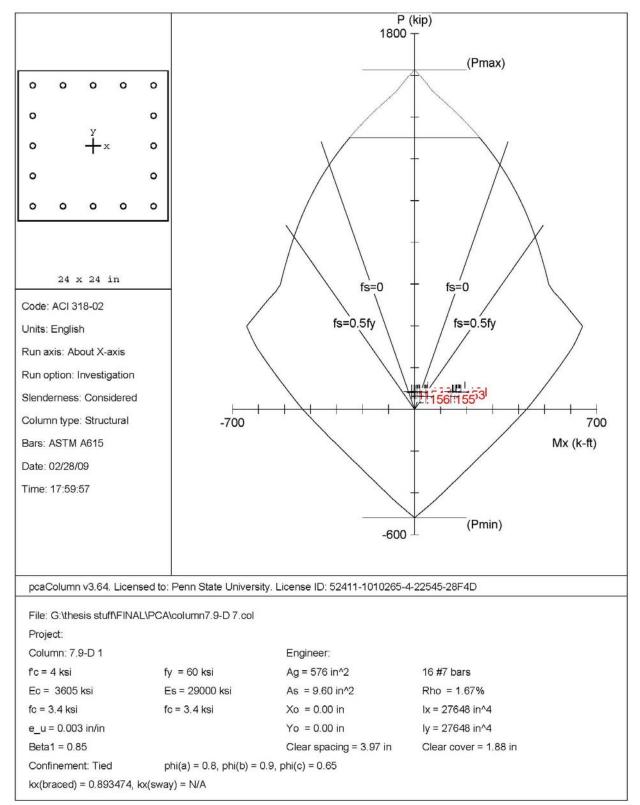
### MEMBER CHECK CONTINUED: COLUMN C-5 FIRST FLOOR



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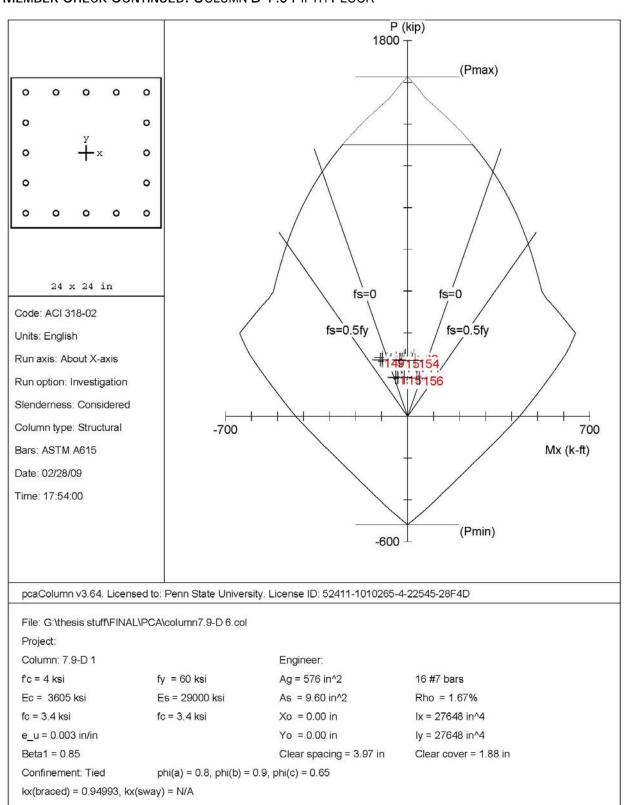
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## MEMBER CHECK CONTINUED: COLUMN D-7.9 PENTHOUSE FLOOR



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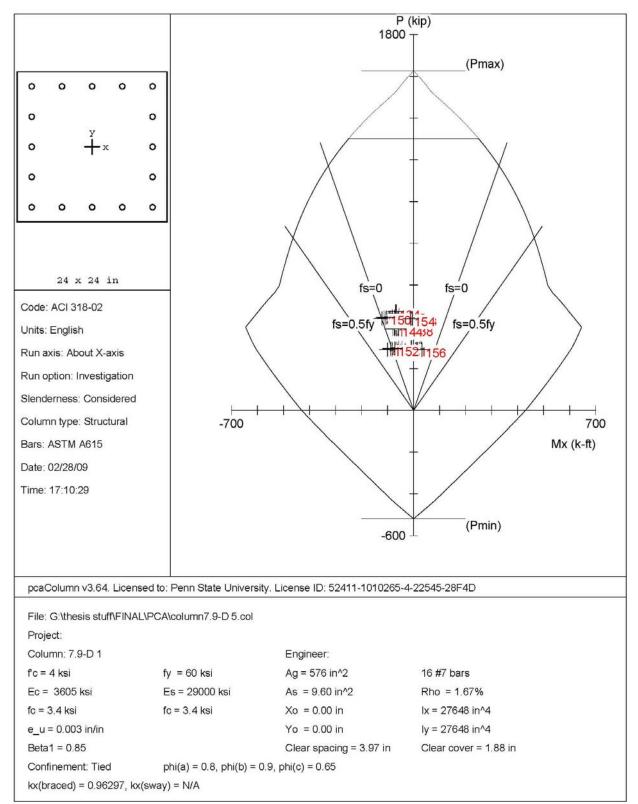


### MEMBER CHECK CONTINUED: COLUMN D-7.9 FIFTH FLOOR

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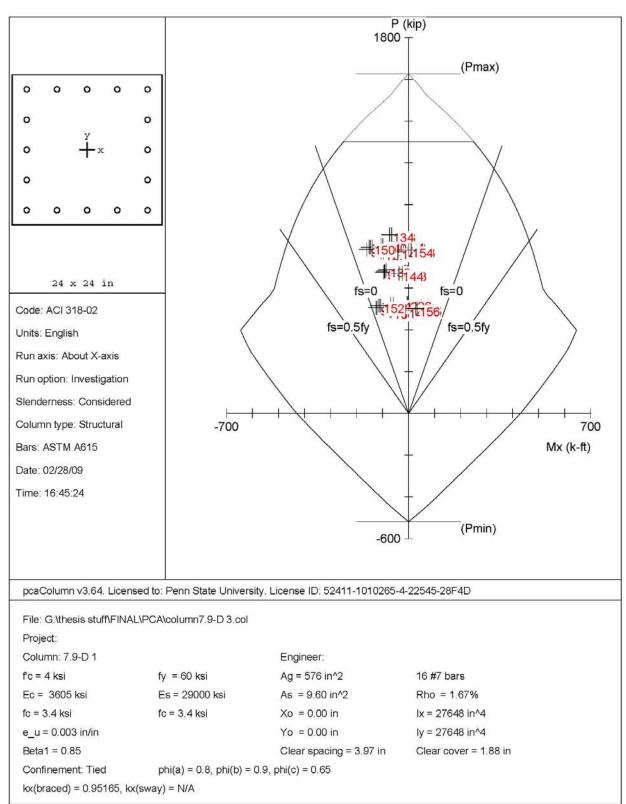
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### MEMBER CHECK CONTINUED: COLUMN D-7.9 FOURTH FLOOR



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### MEMBER CHECK CONTINUED: COLUMN D-7.9 THIRD FLOOR

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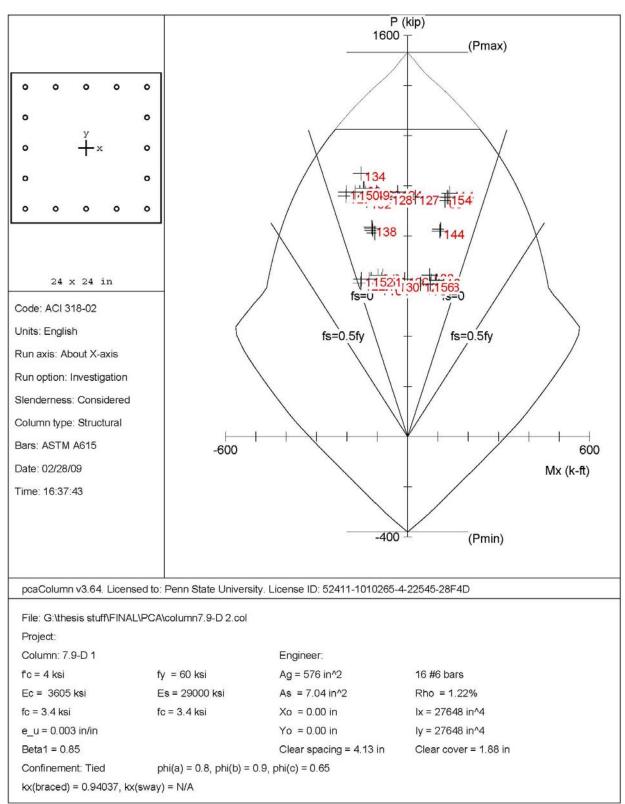
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#### P (kip) 1800 (Pmax) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 fs=0<sup>134</sup>/fs=0 24 x 24 in 14438 Code: ACI 318-02 152 156 fs=0.5fy fs=0.5fy Units: English Run axis: About X-axis Run option: Investigation Slenderness: Considered Column type: Structural -700 700 Bars: ASTM A615 Mx (k-ft) Date: 02/28/09 Time: 16:52:51 (Pmin) -600 pcaColumn v3.64. Licensed to: Penn State University. License ID: 52411-1010265-4-22545-28F4D File: G:\thesis stuff\FINAL\PCA\column7.9-D 4.col Project: Column: 7.9-D 1 Engineer: fc = 4 ksi fy = 60 ksi Ag = 576 in^2 16 #7 bars Ec = 3605 ksi Es = 29000 ksi As = 9.60 in^2 Rho = 1.67% fc = 3.4 ksi fc = 3.4 ksi Xo = 0.00 in lx = 27648 in^4 e\_u = 0.003 in/in Yo = 0.00 in ly = 27648 in^4 Beta1 = 0.85 Clear spacing = 3.97 in Clear cover = 1.88 in Confinement: Tied phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 kx(braced) = 0.965049, kx(sway) = N/A

### MEMBER CHECK CONTINUED: COLUMN D-7.9 SECOND FLOOR

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### MEMBER CHECK CONTINUED: COLUMN D-7.9 FIRST FLOOR

## **APPENDIX F: CONSTRUCTION MANAGEMENT BREADTH STUDY**

Table 36: Cost Analysis Estimate for Concrete Structure with Green Roof

			Detai	led Cost Analy	sis of the Stru	icture			
Level	Description	Amount	Material Price	Material Cost	Labor Price	Labor Cost	Equipment Price	Equipment Cost	Total Cost
	Foundation	58 Ton	\$935.00	\$54,230	\$430.00	\$24,940	\$30.35	\$1,760	\$80,930
Deinfersenset	Columns	2221 Ton	\$935.00	\$2,076,635	\$430.00	\$430.00	\$30.35	\$67,407	\$2,144,472
Reinforcement	Beam/Slabs	572 Ton	\$935.00	\$534,820	\$430.00	\$245,960	\$30.35	\$17,360	\$798,140
	SUB-TOTAL	2851	\$935.00	\$2,665,685	\$430.00	\$430.00	\$30.35	\$86,528	\$2,752,643
	Foundations	6100 CY	\$109.00	\$664,900	\$14.90	\$90,890	\$5.55	\$33,855	\$789,645
Cost in Diasa	Columns	1518 CY	\$109.00	\$165,462	\$34.00	\$51,612	\$16.95	\$25,730	\$242,804
Cast in Place	Slabs	14192 CY	\$109.00	\$1,546,928	\$18.20	\$258,294	\$9.15	\$129,857	\$1,935,079
Concrete	Beams	8415 CY	\$109.00	\$917,235	\$26.50	\$222,998	\$1,320.00	\$11,107,800	\$12,248,033
	SUB-TOTAL	30225	\$109.00	\$3,294,525	\$23.40	\$623,794	\$1,352	\$11,297,242	\$15,215,561
Location Factor:	Total Structure	Estimate:	\$36,07	7,000		Total L	abor Cost:	\$896,0	00
98.9%	Total Materia	al Cost:	\$5,96	1,000		Total Equ	uipment Cost:	\$11,384	,000

#### Table 37: Cost Analysis Estimate for Concrete Structure, No Green Roof

			Detailed Cos	t Analysis of th	e Structure-N	o Green Roof			
Level	Description	Amount	Material Price	Material Cost	Labor Price	Labor Cost	Equipment Price	Equipment Cost	Total Cost
	Foundation	58 Ton	\$935.00	\$54,230	\$430.00	\$24,940	\$30.35	\$1,760	\$80,930
Deinfersonsent	Columns	2000 Ton	\$935.00	\$1,868,972	\$430.00	\$430.00	\$30.35	\$60,667	\$1,930,068
Reinforcement	Beam/Slabs	544 Ton	\$935.00	\$470,642	\$430.00	\$216,445	\$30.35	\$15,277	\$702,363
	SUB-TOTAL	2560	\$935.00	\$2,393,843	\$430.00	\$430.00	\$30.35	\$77,704	\$2,471,977
	Foundations	6100 CY	\$109.00	\$664,900	\$14.90	\$90,890	\$5.55	\$33,855	\$789,645
Oratin Diasa	Columns	1443 CY	\$109.00	\$157,189	\$34.00	\$49,031	\$16.95	\$24,444	\$230,664
Cast in Place	Slabs	14192 CY	\$109.00	\$1,546,928	\$18.20	\$258,294	\$9.15	\$129,857	\$1,935,079
Concrete	Beams	7574 CY	\$109.00	\$917,235	\$26.50	\$222,998	\$1,320.00	\$11,107,800	\$12,248,033
	SUB-TOTAL	30149	\$109.00	\$3,286,252	\$23.40	\$621,213	\$1,352	\$11,295,955	\$15,203,421
Location Factor:	Total Structure	Estimate:	\$35,44	10,000		Total L	abor Cost:	\$864,0	000
98.9%	Total Materia	al Cost:	\$5,68	1,000	-	Total Equ	uipment Cost:	\$11,374	,000

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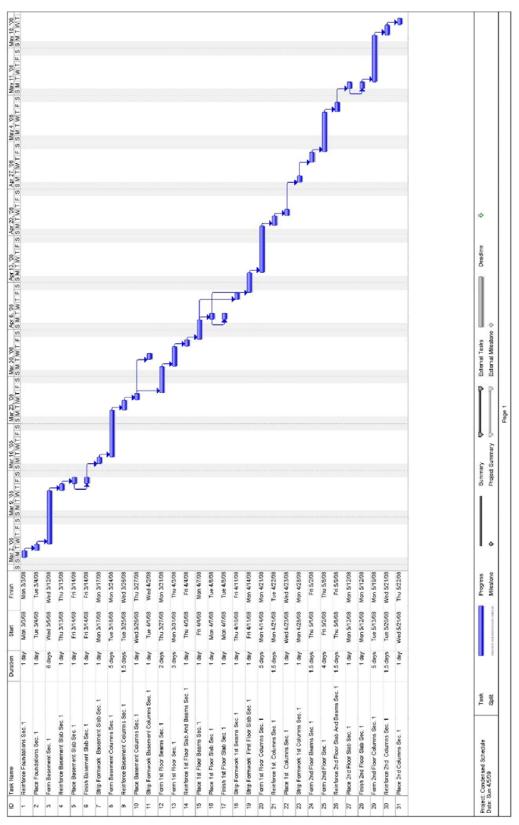


Figure 48: Condensed Gantt Chart

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>	8		15			22		29						
Friday Salurday	7 kec. 1, 5 days	Reinforce Foundations & Flace Foundations Sec. 4	14	Form Basement Sec. 2, 6 days	Flace Basement Stab Sec Flace Foundations Sec. 5	54	Form Basement Columns Sec. 1, 5 days	28	i Sec. 2, 3.5 days	Reinforce Basement Columns Sec. 1,	Form Basement Columns Sec. 2, 5 days			
Thursdey	5 6 Form Basement Sec. 1, 6 days	Reinforce Foundations St (Reinforce Foundations St) Reinforce Foundations St Place Foundations Sec. 2 (Place Foundations Sec. 3) (Place Foundations Sec. 4)	12 13	Reinforce Basement Slab	Reinforce Foundations Sé Place Foundations Sec. 8	19 20		26 27 Form Basement Sec. 3.6 days	Finish Basement Slab Sec. 2, 3.5 days	[Reinforce Bas				
Wednesday	4	000	11		Reinforce Foundations St (Reinforce Foundations St Place Foundations Sec. 6 Place Foundations Sec. 7	18 Ecom Decomposit Social 2 Endote	00. 1, 3.5 days	25	)(		Strip Formwork Baseme		7	
Tuesday		Reinforce Foundations St Place Foundations Sec. 1		Form Basement Sec. 1, 6 days			Finish Basement Steb Sec. 1, 3.5 days		Place Basement Slab Sec	Form Basement Columns Sec. 1, 5 days	Strip Form	5		ent Columns Form Basement Columns Sec. 2,5 days
Wonday	3	Reinforce Foundations Sc	9 10	Form Basemen	Reinforce Foundations Se Place Foundations Sec. £	16 17		23 24 Reinforce Basement Slab		Form Basem		30 31 Form Basement Sec. 3. 6 davs	sec. 2, 3.5 cays	Place Basement Columns
Sundey													Finish Basement Slab Sec.	

Figure 49: March Schedule Calendar

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> Finish Basement Slab Sec. 3, 3.5 days Form 1st Floor Beams Sec. 5, 2 days Form 1st Floor Beams Sec. 4, 2 days Saturcay Reinforce 1st Floor Slab / Place 1st Floor Beams St Form Basement Columns Sec. 5, 5 days Form Basement Columns Sec. 3, 5 days Form Basement Columns Sec. 6, 5 days Form Basement Columns Sec. 4, 5 days Place 1st Flod Strip Formwork Basemei loor Beams Sec. 3, 2 days Finish Basement Slab Sec. 5, 3.5 days Form Basement Sec. 4, 6 days Form 1st Floor Sec. 1, 3 days o F 25 Reinforce Basement Columns Sec. 2, Strip Formwork Baseme Reinforce Basement Slab Reinforce Basement Columns Sec. 5, Strip Formwork Basemen or Slab Sec. Reinforce Basement Columns Sec. 4, Strip Formwork Basemen Reinforce Basement Columns Sec. 3, Strip Formwork Basemen Friday 10 5 Form 1st Floor Sec. 3, 3 days 24 Form Basemen Place Basement Slab Set Place Basement Column por Slab Sec. Strip Formwork 1st Beam Strip Formwork First Floo Thursday Form 1st Floor Colune Strip Formwork Baseme Finish Basement Slab Sec. 4, 3.5 days Form 1st Floor Columns Sec. 2, 5 days 10 **April 2008** 30 33 Strip Formwork First Floo (Reinforce 1st Floor Slab / Reinforce Basement Slab Place Besement Column; Reinforce 1st Floor Slab / Place 1st Floor Beams St Strip Formwork First Floc Place Basement Slab Sec Wednesday Form 1st Floor Beams Sec. 1, 2 days Place Besement Columns Reinforce 1st Columns Sec. 1, 1,5 days [Place 1st Columns Sec.] Finish Basement Stab Sec Reinforce Basement Columns Sec. 1, 1 Form Basement Sec. 4, 6 days 15 22 29 Form Basement Columns Sec. 3, 5 days Reinforce Basement Slab Place Basement Columns Form Reinforce 1st Floor Slab / Place 1st Floor Beams St Form Basement Columns Sec. 2, 5 days Form Basement Columns Sec. 5, 5 days Form Basement Columns Sec. 6, 5 days Form Basement Columns Sec. 4, 5 days Jesday Strip Formwork Baseme Form Basement Sec. 3, 6 days 14 2 8 Form 1st Floor Beams Se Place Basement Slab Ser Place Besement Columns Finish Basement Slab Sec. 5, 3.5 days Form 1st Floor Beams Sec. 4, 2 days Form 1st Floor Beams Sec. 5, 2 days Monday Form 1st Floor Sec. 1, 3 days G 9 20 27 Sunday

**Final Report** 

Figure 50: April Schedule Calendar

Overflow Tasks

ID Name

- 498 Place Basement Columns Sec. 1
- 490 Reinforce Basement Columns Sec. 1
- 573 Strip Formwork 1st Beams Sec. 1

575 Strip Formwork 1st Beams Sec. 3



Start

Finish

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Sunday Monday	day	Tuesday		Wedresday	Thursday	Friday	Saturcay
					Reinforce Basement Slab	_	ms Sec. 6, 2 days
						Place Basement Slab Ser	
	Form Basement Columns Sec. 6, 5 days	t Columns Sec.	6, 5 days			Form Basement Columns Sec. 7, 5 days	ec. 7, 5 days
			Form	Form 1st Floor Columns Sec. 2, 5 days		Reinforce Basement Columns Sec. 6,	
					Place 1st Floor Beams St		Strip Formwork Easement Slab Sec. 5
						Strip Formwork Basemen	
4	5		9	2		8	
Form 1st Floor Beams Sec. 6, 2 days	lays 5		ſ	t Sec. 7, 6 days		Form 1st Floor Beams Sec. 7, 2 days	ms Sec. 7, 2 days
_	Ľ	Finish Basement Slab Sec. 6, 3.5 days	t Slab Sec.	. 6, 3.5 days	Reinforce t	Reinforce Basement Columns Sec. 7,	
	Form Basement Columns Sec. 7, 5 days	t Columns Sec.	7,5 days			Strip Formwork Basemen	
Place Besement Columns	ent Columns		Form	Form 1st Floor Columns Sec. 3, 5 days	days		
Strip Forrwork Basement Slab Sec. 5, It	It Columns Sec. 2, 1.5 days by Place 1st Columns Sec.	2, 1.5 days p( P	lace 1st C	olumns Sec.	Place 1st Floor Beams Se		
	Strip Formwork 1st Colur	k 1st Colui		Reinforce 1st Floor Slab /	Strip Formwork First Floo		
11	t		13	14	15	5 16	
Form 1st Floor Bea Reinforce Bas	Reinforce Basement Slab s			Ľ	Form Basement Sec. 8, 6 day	Form 1st Floor Beams Sec. 9, 2 days	ms Sec. 9, 2 days
Place Besement Columns	<u> </u>	Place Basement Slab Ser	Slab Ser		Finish Basement Slab Sec.	Slab Sec. 7, 3.5 days	
]		S	trip Formw	Strip Formwork Baseme		Strip Formwork Basemen	
		J	Form	Form 1st Floor Columns Sec. 4, 5 days	days		
Reinforce 1st	Reinforce 1st Columns Sec. 3, 1.5 days		lace 1st C	Place 1st Columns Sec.	Place 1st Floor Beams St		
	Strip Formworl	k 1st Colui ec. 2	2. 1.5 day	Strip Formwork 1st Colur e. 2, 1.5 day Reinforce 1st Floor Slab /	Strip Formwork First Floo		
18	19		20	21	22	2 23	
Form 1st Floor Beams Sec. 9, 2 days	lays s			Reinforce Basement Slab Form 1st Floor Sec. 9, 3 days	orm 1st Floor Sec. 9, 3 day	s Is	
Finish Basement Slab Sec. 7, 3.5 days					Place Basement Slab Set	Finish Basement Slab Sec. 8, 3.5 days	ab Sec. 8, 3.5 days
					Strip Form	Strip Formwork Baseme or Slab Sec.	
		C	Form	Form 1st Floor Columns Sec. 5, 5 days	days		
Reinforce 1st	Reinforce 1st Columns Sec. 4, 1.5 days		lace 1st C	Place 1st Columns Sec.	Place 1st Floor Beams St		
	Strip Formwork 1st Colui	k 1st Colui		Reinforce 1st Floor Slab / Strip Formwork First Floo	Strip Formwork First Floo		
25	26		27	28	29	30	
		Form	1 2nd Floor	Form 2nd Floor Sec. 1, 4 days		Reinforce Basement Slab r Sec. 2, 4 days	Sec. 2, 4 days
Finish Basem	Finish Basement Slab Sec. 8, 3.5 days	, 3.5 days		or Slab Sec.			
				Finish 1st Floor Slab Sec.		Reinforce 2nd Floor Slab And Beams Sec. 1, 1.5 days	nd Beams Sec. 1, 1.5 d
			Form	Form 1st Floor Columns Sec. 6, 5	5 days	· · · ·	
Reinforce 1st	Reinforce 1st Columns Sec. 5, 1.5 days )c	5, 1.5 days of P	Place 1st C	Place 1st Columns Sec.			
Dainforma 1st	Chrin Enmund	to 4 of Colum			Strin Eormisory First Floo	~	

Figure 51: May Schedule Calendar

Overflow Tasks

- Strip Formwork 1st Beams Sec. 4 Strip Formwork 1st Beams Sec. 5 Strip Formwork 1st Beams Sec. 6
- 576 577 578
- Form 2nd Floor Beams Sec. 3 Strip Formwork 1st Beams Sec. 7 Strip Formwork 1st Beams Sec. 8 Form 2nd Floor Beams Sec. 4
- 206 579 580 207

Finish

Start

Thu 5/1/08 Wed 5/7/08 Wed 5/14/08 Thu 5/1/08 Wed 5/7/08 Wed 5/14/08 Mon 5/19/08 Wed 5/21/08 Wed 5/28/08 Mon 5/26/08 Tue 5/20/08 Wed 5/21/08 Wed 5/28/08 Tue 5/27/08

Sunday	Monday	Jay Tuesday	vednesday Wednesday	ssday Thursday		Friday S	Saturday
F		2	n	4	5	9	
Plac	ce Baseme	Place Basement Slab Sec]	Finish Basem	Finish Basement Slab Sec. 9, 3.5 days		r Sec. 3, 4 days	
		Place 2nd Floor Beams (	Flace 2nd Floor Slab Se		-		
Reinforce 2nd Floor Slab And Beams S	eams S.	Strip Formwork Baseme	Finish 2nd Floor Slab Se				
Strip	ip Formwor	Strip Formwork 1st Beam Strip Formwork First Floo	rk First Floo 1st Floor Colur		Form 2nd Floor Columns Sec. 1, 5 days	Sec. 1, 5 days	
Rein	inforce 1st	Reinforce 1st Columns Sec. 6, 1.5 days	Place 1st Columns Sec.	Reinforce 2nd Floor	Reinforce 2nd Floor Slab And Beams Si	Place 2nd Floor Beams Sec. 2, 1 day	s Sec. 2, 1 day
		Strip Formwork 1st Colui				Strip Formwork 2nd Beams Sec. 1, 1 di	ams Sec. 1, 1 d
8		6	10	11	12	13	1
Form 2	2nd Floor 5	Form 2nd Floor Sec. 3, 4 days		Form 21	Form 2nd Floor Sec. 4, 4 days	si	
Rein	inforce 1st	Reinforce 1st Columns Sec. 7, 1.5 days	Place 1st Columns Sec.			Place 2nd Floor Slab Sec. 3, 1 day	Sec. 3, 1 day
		Finish 2nd Floor Slab Se				Finish 2nd Floor Slab Sec. 3, 1 day	Sec. 3, 1 day
Fom	Form 2nd Floo	Strip Formwork 1st Colui		Form	Form 2nd Floor Columns Sec. 2, 5 days	Sec. 2, 5 days	
Place 2nd Floor Beams Sec. 2,	ec. 2, 1 day	Strip Formwork 2nd Floc		Strip Formwork Baseme pec. 1, 1.5 da	1.5 da Place 2nd Columns Sec.	olumns Sec.	
Strip Formwork 2nd Beams Sec.	Sec. 1, 1 dg		Reinforce 2nd	Reinforce 2nd Floor Slab And Beams Sv) Place	Place 2rd Floor Beams (	Strip Formwork 2nd Floor Slab Sec. 2,	oor Slab Sec. 2,
15		16	17	8,	19	20	21
Form 2nd Floor Sec.	Sec. 4, 4 days		Fc	Form 2nd Floor Sec. 5, 4 days			
Place 2nd Floor Slab Sec. 3, 1 day	1 day			Plac	Place 2rd Floor Slab Se		
Finish 2nd Floor Slab Sec. 3, 1	c. 3, 1 day			Finis	Finish 2nd Floor Slab Se		
Fom	m 2nd Floc	Form 2nd Floor Columns Sec. 2, 5 days		Form	Form 2nd Floor Columns Sec. 3, 5 days	Sec. 3, 5 days	
		Reinforce 2nd	Reinforce 2nd Floor Slab And Beams Si	Reinforce 2nd Columns Sec. 2, 1.5 da [ Place 2nd Columns Sec.	1.5 da Place 2nd Co	olumns Sec.	
Strip Formwork 2nd Floor Slab S	Slab Sec. 2, 1	Strip Formwork 1st Colui		Place 2nd Floor Beams ( Strip	Strip Fortwork 2nd Floc		
22		23	24	25	26	27	28
		Ű	Form 2nd Floor Sec. 6, 4 days			Form 2nd Floor Sec. 7, 4 days	fays
				Place 2nd Floor Slab Se Finish 2nd Floor Slab Se	2 		
Fom	m 2nd Floc	Form 2nd Floor Columns Sec. 3, 5 days			Form 2nd Floor Columns Sec. 4, 5 days	Sec. 4, 5 days	
Rein	inforce 2nd	Reinforce 2nd Floor Slab And Beams St	Place 2nd Floor Beams :	Reinforce 2nd Columns Sec. 3, 1.5 da	1.5 da Place 2nd Columns Sec.	olumns Sec.	
			Strip Formwork 2nd Bea	Strip Formwork 2nd Floc	Reinforce 2n	Reinforce 2nd Floor Slab And Beams Sec. 6, 1.5 days	Sec. 6, 1.5 days
29		30					
	ß	Form 2nd Floor Sec. 7, 4 days					
Fom	m 2nd Floc	Form 2nd Floor Columns Sec. 4, 5 days					
		Place 2nd Floor Beams (					
Reinforce 2nd Floor Slah And Reams Si	ams Si	Strip Formwork 2nd Rea					

Overflow Tasks

ID Name

|--|

N

Mon 6/2/08	Tue 6/3/08
Thu 6/12/08	Fri 6/13/08
Mon 6/9/08	Tue 6/10/08
Ned 6/18/08	Thu 6/19/08
Thu 6/19/08	Thu 6/19/08
Mon 6/16/08	Tue 6/17/08
Thu 6/19/08	Fri 6/20/08
Thu 6/26/08	Thu 6/26/08
Thu 6/26/08	Fri 6/27/08
ri 6/27/08	Mon 6/30/08

Finish

208	Form 2nd Floor Beams Sec. 5
584	Strip Formwork 2nd Beams Sec. 2
209	Form 2nd Floor Beams Sec. 6
585	Strip Formwork 2nd Beams Sec. 3
645	Strip Formwork 2nd Columns Sec. 1
210	Form 2nd Floor Beams Sec. 7
211	Form 3rd Floor Beams Sec. 1
GAG	Strip Formwork 2nd Columne Sec 2

- 584 209 585 645 210 211

- 646 212 213 Strip Formwork 2nd Columns Sec. 2 Form 3rd Floor Beams Sec. 2 Form 3rd Floor Beams Sec. 3

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	Saturday					Place 2nd Flcor Beams Sec. 7, 1 day	12	Sec. 3, 3 days			mns Sec. 1, 4 days		Strip Formwork 2nd Floor Slab Sec. 7.,	15				days			26													
	Friday 4	Form 3rd Floor Sec. 1, 3 days		Form 2nd Floor Columns Sec. 5, 5 days	Place 2nd Columns Sec.	$\square$		Form 3rd Floor Sec. 3, 3 days	Place 2nd Columns Sec.		Form 3rd Floor Columns Sec. 1, 4 days	Reinforce 3rd Floor Slab ,	Strip Formwork 2nd Bea Strip Formw	18		Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	Form 3rd Floor Columns Sec. 2, 4 days	Place 3rd Columns Sec. *	Strip Fortwork 3rd Bearr	25	Form 3rd Floor Sec. 6, 3 days			Form 3rd Floor Columns Sec. 3, 4 days	Place 3rd Floor Beams Si	Strip Fortwork 3rd Colun							
	Thursday 3			Form 2nd Flu	Reinforce 2nd Columns Sec. 4, 1.5 da	Reinforce 2nd Floor Slab And Beams Si	10		Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	Reinforce 2nd Columns Sec. 5, 1.5 da		Strip Formw	17	Form 3rd Floor Sec. 4, 3 days			Form	Reinforce 3rd Columns E Flace 3rd Columns Sec.	Place 3rd Floor Beams St Strip Formwork 3rd Beam	2				Form 3rd Floor Colu	Place 3rd Columns Sec. £)	Reinforce 3rd Floor Slab J	31		Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	Form 3rd Floor Columns Sec. 4, 4 days	Strip Formwork 3rd Beam	
July 2008	Wednesday 2		Place 2nd Floor Slab Se Finish 2nd Floor Slab Se		Strip Formwork 2nd Floc Reinforce 2			Form 3rd Floor Sec. 2, 3 days			Reinforce 2	Reinforce 3rd Floor Slab / Place 3rd Floor Beams Sr		16					Reinforce 3rd Floor Slab ,	Strip Formwork 3rd Floor	23	5	Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec		Reinforce 3rd Columns S	Place 3rd Columns Sec. 4	30	Form 3rd Floor Sec. 7, 3 days			Form 3rd Floor Colt	Place 3rd Floor Beams Si	Strip Formwork 3rd Colun
	Tuesday	Sec. 7, 4 days	Place 2nd F Finish 2nd F	ec. 4, 5 days		ork 2nd Bea	8	Ľ	loor Slab Se	loor Slab Se	ec. 5, 5 days	Reinforce 3rd Floor Slab /	ork 2nd Floc	15		Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	mns Sec. 1, 4 days	Strip Formwork 3rd Beam		22	Form 3rd Floor Sec. 5, 3 days			days	Place 3rd Columns Sec. (	Place 3rd Floor Beams St	29	Ľ				Reinforce 3rd Columns €	Reinforce 3rd Floor Slab / Strip Formwork 3rd Colun
	Sunday	Form 2nd Floor Sec. 7, 4 days		Form 2nd Floor Columns Sec. 4, 5 days	Place 2nd Floor Beams :	Strip Formwork 2nd Bea	6	Form 3rd Floor Sec. 1, 3 days	Place 2nd Floor Slab Se	Finish 2nd Floor Slab Se	Form 2nd Floor Columns Sec. 5, 5 days		Place 2nd Floor Beams Sec. 7, 1 day Strip Formwork 2nd Floc	13	Form 3rd Floor Sec. 3, 3 days			Form 3rd Floor Columns Sec. 1, 4 days	[Place 3rd Floor Beams Si] Strip Formwork 3rd Beam] [Reinforce 3rd Floor Slab ,	Strip Formwork 2nd Floor Slab Sec. 7.,	20	Ē			Form 3rd Floor Columns Sec. 2, 4 days	Place 3rd Columns Sec. 2	Reinforce 3rd Floor Slab	27 28	Form 3rd Floor Sec. 6, 3 days	Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	Form 3rd Floor Columns Sec. 3, 4 days	Strip Formwork 3rd Bearr	Strip Formwork 3rd Colun

Figure 53: July Schedule Calendar

Overflow Tasks

#### JULY OVERFLOW TASKS

ID	Name	Start	Finish
588	Strip Formwork 2nd Beams Sec. 6	Fri 7/4/08	Mon 7/7/08
647	Strip Formwork 2nd Columns Sec. 3	Thu 7/3/08	Thu 7/3/08
214	Form 3rd Floor Beams Sec. 4	Thu 7/3/08	Fri 7/4/08
215	Form and Floor Beams Sec. 5	Fri 7/4/08	Mon 7/7/08
648	Strip Formwork 2nd Columns Sec. 4	Thu 7/10/08	Thu 7/10/08
	Form 3rd Floor Beams Sec. 6	Thu 7/10/08	
216			Fri 7/11/08
217	Form 3rd Floor Beams Sec. 7	Fri 7/11/08	Mon 7/14/08
649	Strip Formwork 2nd Columns Sec. 5	Thu 7/17/08	Thu 7/17/08
218	Form 3rd Floor Beams Sec. 8	Thu 7/17/08	Fri 7/18/08
219	Form 3rd Floor Beams Sec. 9	Fri 7/18/08	Mon 7/21/08
535	Strip Formwork 3rd Floor Slab Sec. 2	Mon 7/21/08	Mon 7/21/08
536	Strip Formwork 3rd Floor Slab Sec. 3	Thu 7/24/08	Thu 7/24/08
593	Strip Formwork 3rd Beams Sec. 3	Wed 7/23/08	Wed 7/23/08
651	Strip Formwork 3rd Columns Sec. 1	Thu 7/24/08	Thu 7/24/08
220	Form 4th Floor Beams Sec. 1	Tue 7/22/08	Wed 7/23/08
221	Form this Floor Beams Sec. 2	Thu 7/24/08	Fri 7/25/08
537	Strip Formwork 3rd Floor Slab Sec. 4	Tue 7/29/08	Tue 7/29/08
654	Strip Formwork 3rd Columns Sec. 4	Tue 7/29/08	Tue 7/29/08
222	Form 4th Floor Beams Sec. 3	Mon 7/28/08	Tue 7/29/08
223	Form 4th Floor Beams Sec. 4	Wed 7/30/08	Thu 7/31/08

#### AUGUST OVERFLOW TASKS

	Overflow Tasks		
ID	Name	Start	Finish
538 224 468 539 225 226 227 228 229 230	Strip Formwork 3rd Floor Slab Sec. 5 Form 4th Floor Beams Sec. 5 Place 3rd Floor Beams Sec. 7 Strip Formwork 3rd Floor Slab Sec. 6 Form 4th Floor Beams Sec. 6 Form 5th Floor Beams Sec. 7 Form 5th Floor Beams Sec. 1 Form 5th Floor Beams Sec. 2 Form 5th Floor Beams Sec. 3 Form 5th Floor Beams Sec. 4	Fri 8/1/08 Fri 8/1/08 Mon 8/4/08 Wed 8/6/08 Tue 8/5/08 Thu 8/7/08 Mon 8/11/08 Wed 8/13/08 Fri 8/15/08 Tue 8/19/08	Fri 8/1/08 Mon 8/4/08 Mon 8/4/08 Wed 8/6/08 Wed 8/6/08 Fri 8/8/08 Tue 8/12/08 Thu 8/14/08 Mon 8/18/08 Wed 8/20/08
231 232	Form 5th Floor Beams Sec. 5 Form 5th Floor Beams Sec. 6	Thu 8/21/08 Mon 8/25/08	Fri 8/22/08 Tue 8/26/08
232	Form 5th Floor Beams Sec. 7	Wed 8/27/08	Thu 8/28/08
234	Form Roof Beams Sec. 1	Fri 8/29/08	Mon 9/1/08

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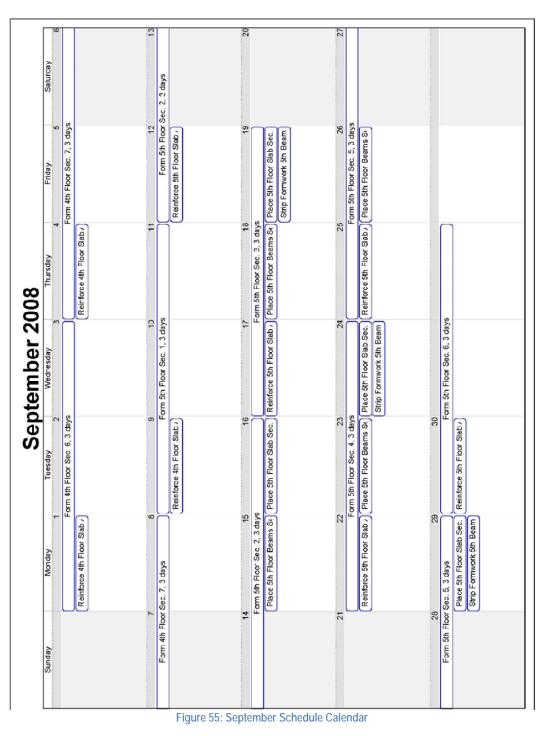
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	2			6						16					23			20	2	
Saturday	Sec. B, 3 days															Sec. 4, 3 days				
Friday	Form 3rd Floor Sec. 8, 3 days		Reinforce 3rd Floor Slab ,	8		Place 3rd Floor Slab Sec.	Firish 3rd Floor Slab Sec	Reinforce 3rd Columns E	Strip Formwork 3rd Bearr	15	Form 4th Floor Sec. 2, 3 days				33	Form 4th Floor Sec. 4, 3 days	Reinforce 4th Floor Stab /	Ϋ́,		
Thursday		mns Sec. 4, 4 days		7	Form 3rd Floor Sec. S, 3 days				Reinforce 3rd Columns £] Strip Formwork 3rd Beam] [Reinforce 3rd Floor Slab , ] [Place 3rd Floor Beams Sh] Strip Formwork 3rd Beam	14	Ľ	Reinforce 4th Floor Slab /	Strip Formwork 3rd Floor		21			¢C.	Form 4th Floor Sec. 5. 3 davs	
Wednesday		Form 3rd Floor Columns Sec. 4, 4 days		9	Ľ			mns Sec. 5, 4 days	Reinforce 3rd Floor Slab ,	13		-	Finish 3rd Floor Slab Sec	Strip Formwork 3rd Bear	20	orm 4th Floor Sec. 3, 3 d		20	1	Reinforce 4th Floor Slab J
Tuesday				9		Place 3rd Floor Slab Sec.	Finish 3rd Floor Slab Sec	Form 3rd Floor Columns Sec. 5, 4 days	Strip Formwork 3rd Beam	12	Form 4th Floor Sec. 1, 3 days	Place 3rd Floor Beams & Place 3rd Floor Slab Sec.			19		Reinforce 4th Floor Slab / Strip Formwork 3rd Floor	90		
Monday				3 4	Form 3rd Floor Sec. 8, 3 days				Reinforce 3rd Columns €	10 11		Reinforce 3rd Floor Slab J	Strip Formwork 3rd Floor		17 18	Sec. 2, 3 days	Strip Formwork 3rd Beam	30 30	arm 4th Ficor Sec. 4. 3 d	5
Sunday																Form 4th Floor				

Figure 54: August Schedule Calendar

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Overflow Tasks

Start

Mon 9/1/08
Tue 9/2/08
Thu 9/4/08
Fri 9/5/08
Tue 9/9/08
Wed 9/10/08
Fri 9/12/08
Tue 9/16/08
Thu 9/18/08
Mon 9/22/08
Wed 9/24/08

Finish

ID	Name

Form Roof Beams Sec. 1 Form Roof Beams Sec. 2 Form Roof Beams Sec. 3 234 235 236 237 238 239 240 241 242 243 244 Form Roof Beams Sec. 4 Form Roof Beams Sec. 5 Form Roof Beams Sec. 6 Form Roof Beams Sec. 7 Form Penthouse Beams Sec. 1 Form Penthouse Beams Sec. 2 Form Penthouse Beams Sec. 3

Form Penthouse Beams Sec. 4

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Sunday Mon day	Tuesday	Wednesday	Thursday	Fridey	Saturday
		Form 5th Floor Sec. 6, 3 days		Form Roof	c. 1, 3 days
		Place 5th Floor Beams Se	Place 5th Floor Slab Sec.	Reinforce 5th Floor Slab /	
			Strip Formwork 5th Beam		
2	2	7		9 10	
Form Roof Sec. 1, 3 days			Form Roof Sec. 2, 3 days		
Place 5th Floor Beams St	Place 5th Floor Slab Sec.	Reinforce 5th Floor Slab	Place 5th Floor Beams St	Place 4th Floor Slab Sec.	
	Strip Formwork 5th Beam		Place 4th Floor Beams St	Place 5th Floor Slab Sec.	
				Finish 4th Floor Slab Sec	
				Place 4th Floor Beams St	
		Reinforce Roof Slab And Beams Sec. 1, 2 days	d Beams Sec. 1, 2 days	Strip Formwork 5th Beam	
12	13 14	4	16	17	
	Form Roof Sec. 3, 3 days			Form Roof Sec. 4, 3 days	
Place 4th Floor Slab Sec.	Place 4th Floor Slab Sec.	Place 4th Floor Slab Sec.	Place Roof Slab Sec. 2, 1	Place 4th Floor Slab Sec.	
Finish 4th Floor Slab Sec	Finish 4th Floor Slab Sec	Finish 4th Floor Slab Sec		Finish 4th Floor Slab Sec	
			Finish 4th Floor Slab Sec	Form 4th Floor Columns Sec. 2, 4 days	Ins Sec. 2, 4 days
	Form 4th Floor Col	Form 4th Floor Columns Sec. 1, 4 days		Reinforce 4th Columns S	
Reinforce Roof Slab A	Reinforce Roof Slab And Beams Sec. 2, 2 days				
19	20 21	1 22	23	24	
Form Roof Sec. 4, 3 days		Form Roof Sec. 5, 3 days		Form Roof Sec. 6, 3 days	c. 6, 3 days
Place 4th Floor Slab Sec.	Place Roof Slab Sec. 3, 1	Finish 5th Floor Slab Sec [Finish 5th Floor Slab Sec	Finish 5th Floor Slab Sec	Place Roof Slab Sec. 4, 1	
Finish 4th Floor Slab Sec	Finish 5th Floor Slab Sec			Finish 5th Floor Slab Sec	
Form 4th Floor Col	Form 4th Floor Columns Sec. 2, 4 days		Form	Form 4th Floor Columns Sec. 3, 4 di	4 days
Reinforce 4th Columns S	Reinforce 4th Columns S	Reinforce 4th Columns S	Reinforce 4th Columns S	Place 4th Columns Sec. 5	
Place 4th Columns Sec. 1	Place 4th Columns Sec. 2	Place 4th Columns Sec. 3	Place 4th Columns Sec. 4		
26 27	7 28	8 29	30	31	
Form Roof Sec. 6, 3 days			Form Roof Sec. 7, 3 days		
Finish 5th Floor Slab Sec	Finish 5th Floor Slab Sec	Place Roof Slab Sec. 5, 1	Finish Roof Slab Sec. 1, *	Finish Rcof Slab Sec. 1, ') [Finish Roof Slab Sec. 2, '	
		Finish 5th Floor Slab Sec			
Form 4th Floor Columns Sec. 3, 4 days	4 days		Form 4th Floor Col	Form 4th Floor Columns Sec. 4, 4 days	
				Form 5th Floor Columns Sec. 2, 7 days	ins Sec. 2, 7 day
				Deletant Ch. Onlymon C	

Figure 56: October Schedule Calendar

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Overflow Tasks

#### OCTOBER OVERFLOW TASKS

ID	Name	Start	Finish
439	Place Roof Beams Sec. 2	Wed 10/15/08	Wed 10/15/08
456	Place 4th Floor Beams Sec. 3	Mon 10/13/08	Mon 10/13/08
457	Place 4th Floor Beams Sec. 4	Tue 10/14/08	Tue 10/14/08
458	Place 4th Floor Beams Sec. 5	Wed 10/15/08	Wed 10/15/08
459	Place 4th Floor Beams Sec. 6	Thu 10/16/08	Thu 10/16/08
460	Place 4th Floor Beams Sec. 7	Fri 10/17/08	Fri 10/17/08
422	Reinforce Roof Slab And Beams Sec. 3	Thu 10/16/08	Fri 10/17/08
544	Strip Formwork 4th Floor Slab Sec. 1	Thu 10/16/08	Thu 10/16/08
545	Strip Formwork 4th Floor Slab Sec. 2	Fri 10/17/08	Fri 10/17/08
601	Strip Formwork 4th Beams Sec. 1	Wed 10/15/08	Wed 10/15/08
602	Strip Formwork 4th Beams Sec. 2	Thu 10/16/08	Thu 10/16/08
603	Strip Formwork 4th Beams Sec. 3	Fri 10/17/08	Fri 10/17/08
615	Strip Formwork 5th Beams Sec. 7	Wed 10/15/08	Wed 10/15/08
617	Strip Formwork Roof Beams Sec. 1	Thu 10/16/08	Thu 10/16/08
331	Form 5th Floor Columns Sec. 1	Wed 10/22/08	Thu 10/30/08
423	Reinforce Roof Slab And Beams Sec. 4	Tue 10/21/08	Wed 10/22/08
424	Reinforce Roof Slab And Beams Sec. 5	Fri 10/24/08	Mon 10/27/08
440	Place Roof Beams Sec. 3	Mon 10/20/08	Mon 10/20/08
441	Place Roof Beams Sec. 4	Thu 10/23/08	Thu 10/23/08
546	Strip Formwork 4th Floor Slab Sec. 3	Mon 10/20/08	Mon 10/20/08
547	Strip Formwork 4th Floor Slab Sec. 4	Tue 10/21/08	Tue 10/21/08
548	Strip Formwork 4th Floor Slab Sec. 5	Wed 10/22/08	Wed 10/22/08
549	Strip Formwork 4th Floor Slab Sec. 6	Thu 10/23/08	Thu 10/23/08
550	Strip Formwork 4th Floor Slab Sec. 7.	Fri 10/24/08	Fri 10/24/08
604	Strip Formwork 4th Beams Sec. 4	Mon 10/20/08	Mon 10/20/08
605	Strip Formwork 4th Beams Sec. 5	Tue 10/21/08	Tue 10/21/08
606	Strip Formwork 4th Beams Sec. 6	Wed 10/22/08	Wed 10/22/08
607	Strip Formwork 4th Beams Sec. 7	Thu 10/23/08	Thu 10/23/08
618	Strip Formwork Roof Beams Sec. 2	Tue 10/21/08	Tue 10/21/08
619	Strip Formwork Roof Beams Sec. 3	Fri 10/24/08	Fri 10/24/08
657	Strip Formwork 4th Columns Sec. 1	Fri 10/24/08	Fri 10/24/08
346	Form Roof Columns Sec. 1	Fri 10/31/08	Wed 11/5/08
425	Reinforce Roof Slab And Beams Sec. 6	Wed 10/29/08	Thu 10/30/08
442	Place Roof Beams Sec. 5	Tue 10/28/08	Tue 10/28/08
443	Place Roof Beams Sec. 6	Fri 10/31/08	Fri 10/31/08
552	Strip Formwork 5th Floor Slab Sec. 1	Mon 10/27/08	Mon 10/27/08
553	Strip Formwork 5th Floor Slab Sec. 2	Tue 10/28/08	Tue 10/28/08
554	Strip Formwork 5th Floor Slab Sec. 3	Wed 10/29/08	Wed 10/29/08
555	Strip Formwork 5th Floor Slab Sec. 4	Thu 10/30/08	Thu 10/30/08
556	Strip Formwork Sth Floor Slab Sec. 5	Fri 10/31/08	Fri 10/31/08
620	Strip Formwork Roof Beams Sec. 4	Wed 10/29/08	Wed 10/29/08
658	Strip Formwork 4th Columns Sec. 2	Mon 10/27/08	Mon 10/27/08
659	Strip Formwork 4th Columns Sec. 3	Tue 10/28/08	Tue 10/28/08
661 660	Strip Formwork 4th Columns Sec. 5 Strip Formwork 4th Columns Sec. 4	Thu 10/30/08 Wed 10/29/08	Thu 10/30/08 Wed 10/29/08
000	Sup romwork an Colomb Sec. 4	wed 10/29/08	Weg 10/29/08

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F			ŝ		1 day				15					days	22					29					
Friday Saturcay	nns Sec. 4, 4 clays	Form 5th Floor Columns Sec. 2, 7 days	7	Form Penthouse Sec. 3, 2 days	Flace Penthouse Slab Sec. 1, 1 day	Finish Roof Slab Sec. 7, *		1	14	tuse Stab S	ouse Slab S	)	days	Form Roof Columns Sec. 4, 3.5 days	21		Form 5th Floor Columns Sec. 4, 7 days	Place 5th Columns Sec. 5	Form Roof Columns Sec. 5, 3.5 days	58		days			
Thursdey	Form 4th Floor Columns Sec. 4, 4 clays		9	Sec. 2, 2 days	Place Roof Slab Sec. 7, 1	Finish Roof Slab Sec. 6, -	nns Sec. 5, 4 days	days	13	Place Penthouse Slab S	Finish Penthouse Stab S		Form 5th Floor Columns Sec. 3, 7 days		20		Form	Reinforce 5th Columns S Flace 5th Columns Sec. 3	Form	27		Place Roof Columns Set Jumns Sec. 3, 5 days			
Wedresday			2	Form Penthouse Sec. 2, 2 days	Finish Roof Slab Sec. 5, 7 Place Roof Slab Sec. 7,		Form 4th Floor Columns Sec. 5, 4 cays	Form 5th Floor Columns Sec. 2, 7 days	12	e Sec. 4, 2 days	Place Penthouse Slab S	Finish Penthouse Slab S	Form	Place 5th Columns Sec. 2	19					25	mns Sec. 4, 7 days	Reinforce Roof Column:   Place Roof (	Place Penthouse Column		
Tuesday			4	: Sec. 1, 2 days	Finish Roof Slab Sec. 4, *			Form	11	Form Penthouse Sec. 4, 2 days	Place Penth	Finish Penth		Reinforce 5th Columns S Place 5th Columns Sec. 2	18	Place Penthouse Slab S Finish Penthouse Slab S		mns Sec. 3, 7 days	s Sec. 4, 3.5 days	25	Form 5th Floor Column's Sec. 4, 7 days	Reinforce R	Reinforce Perthouse Col Place Penthouse Column		
Mondey			3	Form Penthouse Sec. 1, 2 days	Place Roof Slab Sec. 5, 1	Finish Roof Slab Sec. 3.	Form 4th Floor Columns Sec. 4, 4 days		9 10	ouse Sec. 3, 2 days	o Sec. 1, 1 day	Finish Penthouse Slab Se		Form 5th Floor Columns Sec. 2, 7 days	16 17	Place Penth Finish Penth		Form 5th Floor Columns Sec. 3, 7 days	Form Roof Columns Sec. 4, 3.5 days	23			Columns Sec. 5, 3.5 days	30	Form Penthouse Columns Sec. 3, 5 days
Sunday							Form 4th Floor (			Form Penthouse	Place Penthouse Slab Sec. 1, 1 day			Form 5th Floor (									Form Roof		Form Penthouse

Figure 57: November Schedule Calendar

### Westinghouse Electric Company Corporate Headquarters Cranberry, PA April 7, 2009

Start

Finish

### Final Report

#### NOVEMBER OVERFLOW TASKS

ID

Name

Overflow	Tasks

		otan	1.111911
346	Form Roof Columns Sec. 1	Fri 10/31/08	Wed 11/5/08
347	Form Roof Columns Sec. 2	Wed 11/5/08	Mon 11/10/08
341	Place 5th Columns Sec. 1	Mon 11/3/08	Mon 11/3/08
352	Reinforce Roof Columns Sec. 1	Wed 11/5/08	Thu 11/6/08
358	Place Roof Columns Sec. 1	Thu 11/6/08	Fri 11/7/08
426	Reinforce Roof Slab And Beams Sec. 7	Mon 11/3/08	Tue 11/4/08
428	Reinforce Pent Slab And Beams Sec. 1	Wed 11/5/08	Thu 11/6/08
429	Reinforce Pent Slab And Beams Sec. 2	Fri 11/7/08	Mon 11/10/08
433	Place Penthouse Beams Sec. 1	Thu 11/6/08	Fri 11/7/08
444	Place Roof Beams Sec. 7	Wed 11/5/08	Wed 11/5/08
557	Strip Formwork 5th Floor Slab Sec. 6	Mon 11/3/08	Mon 11/3/08
558	Strip Formwork 5th Floor Slab Sec. 7.	Tue 11/4/08	Tue 11/4/08
560	Strip Formwork Roof Slab Sec. 1	Wed 11/5/08	Wed 11/5/08
561	Strip Formwork Roof Slab Sec. 2	Thu 11/6/08	Thu 11/6/08
562	Strip Formwork Roof Slab Sec. 3	Fri 11/7/08	Fri 11/7/08
621	Strip Formwork Roof Beams Sec. 5	Mon 11/3/08	Mon 11/3/08
663	Strip Formwork 5th Columns Sec. 1	Fri 11/7/08	Fri 11/7/08
622	Strip Formwork Roof Beams Sec. 6	Thu 11/6/08	Thu 11/6/08
348	Form Roof Columns Sec. 3	Tue 11/11/08	Fri 11/14/08
354	Reinforce Roof Columns Sec. 3	Fri 11/14/08	Mon 11/17/08
364	Form Penthouse Columns Sec. 1	Tue 11/11/08	Mon 11/17/08
353	Reinforce Roof Columns Sec. 2	Tue 11/11/08	Tue 11/11/08
359	Place Roof Columns Sec. 2	Wed 11/12/08	Wed 11/12/08
430	Reinforce Pent Slab And Beams Sec. 3	Tue 11/11/08	Wed 11/12/08
431	Reinforce Pent Slab And Beams Sec. 4	Thu 11/13/08	Fri 11/14/08
436	Place Penthouse Beams Sec. 4	Fri 11/14/08	Mon 11/17/08
434	Place Penthouse Beams Sec. 2	Mon 11/10/08	Tue 11/11/08
435	Place Penthouse Beams Sec. 3	Wed 11/12/08	Thu 11/13/08
568	Strip Formwork Penthouse Slab Sec. 1	Fri 11/14/08	Fri 11/14/08
563	Strip Formwork Roof Slab Sec. 4	Mon 11/10/08	Mon 11/10/08
564	Strip Formwork Roof Slab Sec. 5	Tue 11/11/08	Tue 11/11/08
565	Strip FormworkRoof Slab Sec. 6	Wed 11/12/08	Wed 11/12/08
566	Strip Formwork Roof Slab Sec. 7.	Thu 11/13/08	Thu 11/13/08
623	Strip Formwork Roof Beams Sec. 7	Tue 11/11/08	Tue 11/11/08
626	Strip Formwork Penthouse Beams Sec. 2	Thu 11/13/08	Fri 11/14/08
625	Strip Formwork Penthouse Beams Sec. 1	Tue 11/11/08	Wed 11/12/08
668	Strip Formwork Roof Columns Sec. 1	Wed 11/12/08	Thu 11/13/08
355	Reinforce Roof Columns Sec. 4	Thu 11/20/08	Thu 11/20/08
360	Place Roof Columns Sec. 3	Mon 11/17/08	Tue 11/18/08
361	Place Roof Columns Sec. 4	Fri 11/21/08	Fri 11/21/08
365	Form Penthouse Columns Sec. 2	Tue 11/18/08	Mon 11/24/08
372	Place Penthouse Columns Sec. 1	Wed 11/19/08	Wed 11/19/08
368	Reinforce Penthouse Columns Sec. 1	Tue 11/18/08	Tue 11/18/08
570	Strip Formwork Penthouse Slab Sec. 3	Wed 11/19/08	Thu 11/20/08
571	Strip Formwork Penthouse Slab Sec. 4	Fri 11/21/08	Mon 11/24/08
569	Strip Formwork Penthouse Slab Sec. 2	Mon 11/17/08	Tue 11/18/08
628	Strip Formwork Penthouse Beams Sec. 4	Wed 11/19/08	Thu 11/20/08
670	Strip Formwork Roof Columns Sec. 3	Fri 11/21/08	Mon 11/24/08
627 664	Strip Formwork Penthouse Beams Sec. 3	Mon 11/17/08	Tue 11/18/08
669	Strip Formwork 5th Columns Sec. 2 Strip Formwork Roof Columns Sec. 2	Tue 11/18/08 Tue 11/18/08	Tue 11/18/08 Tue 11/18/08
665	Strip Formwork Root Columns Sec. 2		
		Thu 11/27/08	Thu 11/27/08
671	Strip Formwork Roof Columns Sec. 4	Thu 11/27/08	Thu 11/27/08
674	Strip Formwork Penthouse Columns Sec. 1	Tue 11/25/08	Tue 11/25/08

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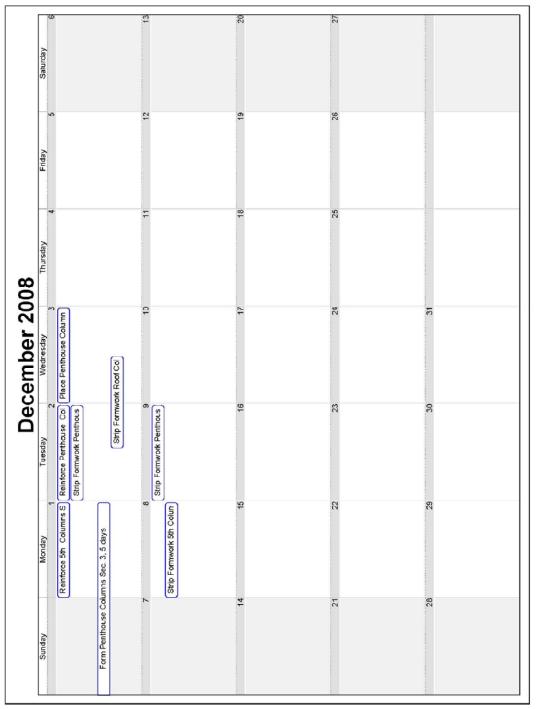


Figure 58: December Schedule Calendar

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uilding 1 onstruction	Description	Dur	Start	Early Finish	Start	Finish	Var	JAN	FEB		APR MAY	<b>JUN 1</b>		AUG	JULI		NOV	-0
	n - Structure/Enclosure																	
0006	Start Construction	0	11FEB08A		21JAN08*		-15		♦ Sta	t Const	ruction							
	Temp Weather Tight Close in of Shell	0	TIFEBOOK	03NOV08A	213/1100	01SEP08*	-45		- Ola	CONIS	luction	Temp W	eather	Tight C	lose in i	of Shell		
	Natural Gas to Building	0		14NOV08A	13AUG08	22AUG08	-60									o Building		
	Temporary Heat	0		14NOV08A			0								Temp	orary Hea	at 🔷	
0132	Water to Building	0		05JAN09A	01OCT08	10OCT08	-61									VVa	ater to	Buil
0392	Fire Protection Water to Building	0		05JAN09A			0							F	ire Prote	ection Wa	ater to I	Bui
Aobilization																		
0002	Mobilization	1*	11FEB08A	11FEB08A	21JAN08	25JAN08	-11		Mob	lization								
	Mobilization - Caissons	5	11FEB08A	11FEB08A	21JAN08	25JAN08	-11				- Caissons							
	Mobilization - Excavator	5	11FEB08A	11FEB08A	21JAN08	25JAN08	-11				- Excavator							
0072	Mobilization - Foundations	5	11FEB08A	11FEB08A	21JAN08	25JAN08	-11		Mob	lization	- Foundations							
nitial Sitewor	ork/Excavation																	
0007	Temporary Construction Roads/Fence/Binder	79*	12FEB08A	30MAY08A	28JAN08	20FEB08	-72				ì	Temporary	Const	truction	Roads/	Fence/Bir	nder	
	Trumbull Work Complete	0	121 LOOUN	11APR08A	200/11100	201 2000	0		_		Trumbull W			douon	noudan	i chice bii		
	Install Access Road	10	12FEB08A	14APR08A	28JAN08	08FEB08	-46				Install Acces							
	Install Construction Ramps	10	13FEB08A	24MAR08A			0		-	li i	stall Constructio							
0067	Build Laydown Area - Parking Lot	10	31MAR08A	04APR08A	28JAN08	07MAR08	-20				Build Laydown	Area - Pa	rking L	ot				
	Install Fence & Double-Wide Gate	5	27MAY08A	30MAY08A	14FEB08	20FEB08	-72				1	Install Fen	ce & D	ouble-V	Nide Ga	te		
aissons																		
0076	Lavout Baselines - Turner	5	08FEB08A	11FEB08A	14JAN08*	18JAN08	-16		aw	ut Baer	lines - Turner							
	Caissons: E-BLDG	5	11FEB08A	11FEB08A 14FEB08A	14JAN08* 04FEB08	18JAN08 08FEB08	-16				E-BLDG							
	Caissons: E-BLDG Caissons: W-BLDG	5	11FEB08A	19FEB08A	11FEB08	15FEB08	-4				W-BLDG							
	Elevator Jack Hole - W	3	20MAY08A	20MAY08A	11FEB08	13FEB08	-69					avator Jack	Hole	w				
irade Beams														_				-
	1	1			m													
	Wall Footers (0.7-3): E-BLDG	8	11FEB08A	27FEB08A			0				oters (0.7-3): E-							
	Wall Footers (3-7): E-BLDG	8	11FEB08A	28FEB08A	0455000	10111 000	0			Wall Fo	oters (3-7): E-B		DI DO					
	Grade Beams: E-BLDG	59* 3	11FEB08A 26FEB08A	01MAY08A 29FEB08A	21FEB08	12MAR08	-36 0			Mall Ea	Grade I oters (N 7-21):		BLDG					
	Wall Footers (N 7-21): C-BLDG Grade Beams: C-BLDG	61*	26FEB08A 26FEB08A	20MAY08A	25FEB08	14MAR08	-47				Gr		e C-B	IDG				
	Wall Footers (S 15-20): C-BLDG	4	28FEB08A	05MAR08A	ZOFEDUO	THMARUO	-4/				ooters (S 15-20)						-	-
	Wall Footers (S 9-15): C-BLDG	4	29FEB08A	03MAR08A			0				ooters (S 9-15):							
	Wall Footers (S 7-9): C-BLDG	4	03MAR08A	06MAR08A			0				ooters (S 7-9):							
	Wall Footers (S 20-22): C-BLDG	2	05MAR08A	13MAR08A			0			Wal	Footers (S 20-2	2): C-BLD	G					
	Interior Spread Footers (S 9-20 / A-B):	3	07MAR08A	12MAR08A			0			Inter	ior Spread Foot	ers (S 9-20	( A-B)	C-BL	DG			
	Wall Footers (S 22-25): W-BLDG	3	10MAR08A	14MAR08A			0			Wa	Footers (S 22-	25): W-BL	DG			1		
0308	Wall Footers (N 22-26): W-BLDG	3	10MAR08A	14MAR08A			0			<b>∎</b> Wa	Il Footers (N 22-:	26): W-BL	DG					
0018	Grade Beams: W-BLDG	20*	10MAR08A	04APR08A	10MAR08	28MAR08	-5				Grade Beams:							
0328	Wall Footers (S 25-31): W-BLDG	3	20MAR08A	28MAR08A			0			-	Wall Footers (S							
	Interior Spread Footers (C-D): C-BLDG	8	17MAR08A	20MAY08A			0				-	erior Sprea			D): C-B	LDG		
	Interior Spread Footers: W-BLDG	5	24MAR08A	04APR08A			0				Interior Spread							
	Interior Spread Footers: E-BLDG	10	07APR08A	01MAY08A			0				Interior			E-BLD	G			
	Elevator Pits: C-BLDG	10	09APR08A	01MAY08A	25FEB08	07MAR08	-39				Elevato							
	Elevator Pits: W-BLDG	5	13MAY08A	27MAY08A	10MAR08	14MAR08	-52			_	Trench Drain	levator Pit						
	Trench Drain: Excavation to Swale (NOT Trench Drain: C-BLDG	5	17MAR08A 24MAR08A	09APR08A 08APR08A			0				Trench Drain		ontoa	wale (i	IOT FOI	JND)	-	
	Trench Drain: E-BLDG	4	24MAR08A	09APR08A			0				Trench Drain							
	Trench Drain: W-BLDG	4	31MAR08A	03APR08A			0				Trench Drain:							
oundation V													1	-			-	1
	Foundation Walls: E-BLDG	30*	03MAR08A	11APR08A	28FEB08	07MAY08	18				Foundation V							
	Foundation Walls: C-BLDG	17*	10APR08A	02MAY08A	06MAR08	14MAY08	8				Founda							
0022 orth Elevation	Foundation Walls: W-BLDG	24*	17APR08A	20MAY08A	07APR08	13JUN08	18				Fo	undation V	valis:	W-BLD	3	-		_
	Form (E / 0.7-3): E-BLDG	3	03MAR08A	06MAR08A			0			Form	(E / 0.7-3): E-BI	DG						
	Resteel / MEPs (E / 0.7-3): E-BLDG	3	06MAR08A	25MAR08A			0				esteel / MEPs (		E-BLC	G				
	Pour (E / 0.7-3): E-BLDG	1	03APR08A	03APR08A			0				Pour (E / 0.7-3	E-BLDG	3					
2480	Form (E / 3-7): E-BLDG	2	04APR08A	08APR08A			0				Form (E / 3-7							
	Resteel / MEPs (E / 3-7): E-BLDG	2	07APR08A	08APR08A			0				Resteel / MEI			.DG				
	Pour (E / 3-7): E-BLDG	1	09APR08A	09APR08A			0				Pour (E / 3-7)							
	Form (E / 7-16): C-BLDG	2	10APR08A	11APR08A			0				Form (E / 7-1							
	Resteel / MEPs (E / 7-16): C-BLDG	2	14APR08A	15APR08A			0				Resteel / M			-BLDG				
	Pour (E / 7-16): C-BLDG	1	16APR08A	16APR08A			0				Pour (E / 7-							
	Form (E / 16-25): W-BLDG	2	17APR08A	18APR08A			0				Form (E / 1	-			DC	-	-	-
	Resteel / MEPs (E / 16-25): W-BLDG	2	18APR08A	24APR08A 30APR08A			0				Resteel /	MEPs (E /						
	Resteel / MEPs (E / 25-29): W-BLDG Form (E / 25-29): W-BLDG	2	28APR08A 28APR08A	01MAY08A			0					/ MEPS (E						
	Porr (E / 16-25): W-BLDG Pour (E / 16-25): W-BLDG	1	29APR08A	29APR08A			0					/ 16-25):						
	Form (E / 29-31, E-D / 31): W-BLDG	2	01MAY08A	14MAY08A			0					n (E / 29-3			W-BLDG	2		
	Pour (E / 25-29): W-BLDG	1	02MAY08A	02MAY08A			0					E / 25-29):						Ē
	Resteel / MEPs (E / 29-31, E-D / 31):	2	09MAY08A	13MAY08A			0											
	Pour (E / 29-31, E-D / 31): W-BLDG	1	20MAY08A	20MAY08A			0				1							
	Form (D-C / 31, C / 28-31): W-BLDG	2	08MAY08A	08MAY08A			0				1							
0410	Resteel / MEPs (D-C / 31, C / 28-31):	2	A80YAME0	09MAY08A			0				1		1					
	Pour (D-C / 31, C / 28-31): W-BLDG	1	16MAY08A	16MAY08A			0				1		1					Ē
			00111 5 5 5	00144 5555									1					1
	Form (B-D / 0.7-4): E-BLDG Resteel / MEPs (B-D / 0.7-4): E-BLDG	3	03MAR08A	06MAR08A	24 (41)00	27552000	0			-								
0034		3	06MAR08A	19MAR08A	24JAN08	27FEB08	-15			-								
0044		4	20110 000*															
0034 0044 0074	Pour (B-D / 0.7-4): E-BLDG	1	20MAR08A	20MAR08A	25JUN08	01JUL08	73											
0034 0044 0074 0194		1 2 2	20MAR08A 03APR08A 04APR08A	20MAR08A 08APR08A 11APR08A	25JUN08	0130108	73 0 0											

Finish Date 18,UN00 Progress Bar Data Date 13,UN00 Progress Bar Figure 59: Turner Construction Schedule 1/4 Page 105 of 112 Jessica L. Laurito Structural Option Advisor: Dr. Hanagan Westinghouse Electric Company Corporate Headquarters Cranberry, PA April 7, 2009

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Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Plan Start	Plan Finish	Fin Var	JAN FEB MAR	2008 APR MAY JUN JUL AUG SEP OCT NOV D
0204	Resteel / MEPs (B / 4-7): E-BLDG	2	07APR08A	07APR08A			0		Resteel / MEPs (B / 4-7): E-BLDG
0214	Pour (B / 4-7): E-BLDG	1	09APR08A	09APR08A			0		IPour (B / 4-7): E-BLDG
0234	Resteel / MEPs (B / 7-9): E-BLDG	2	09APR08A	10APR08A			0		Resteel / MEPs (B / 7-9): E-BLDG
0244	Pour (B / 7-9): E-BLDG	1	14APR08A	11APR08A			0		Pour (B / 7-9): E-BLDG
0033	Form (A-Line, A / 9-12): C-BLDG	2	10APR08A	17APR08A			0		Form (A-Line, A / 9-12): C-BLDG
0103	Form (A / 12-16): C-BLDG	2	11APR08A	22APR08A	13AUG08	19AUG08	85		Form (A / 12-16): C-BLDG
0073	Resteel / MEPs (A-Line, A / 9-12): C-BLDG	2	14APR08A	16APR08A	10SEP08	16SEP08	109		Resteel / MEPs (A-Line, A / 9-12): C-BLDG
0143	Form (A / 16-20, A-A.4): C-BLDG	2	17APR08A	24APR08A	16OCT08	20OCT08	127		Form (A / 16-20, A-A.4): C-BLDG
0193	Resteel / MEPs (A / 16-20, A-A.4): C-BLDG	2	17APR08A	24APR08A			0		Resteel / MEPs (A / 16-20, A-A.4): C-BLDG
0093	Pour (A-Line, A / 9-12): C-BLDG	1	18APR08A	18APR08A	16JUL08	22JUL08	67		Pour (A-Line, A / 9-12): C-BLDG
0123	Resteel / MEPs (A / 12-16): C-BLDG	2	18APR08A 23APR08A	21APR08A 23APR08A	010CT08 28AUG08	07OCT08 01SEP08	121 93		Resteel / MEPs (A / 12-16): C-BLDG Pour (A / 12-16): C-BLDG
	Pour (A / 12-16): C-BLDG	1		01MAY08A	28AUGU8	UISEPU8			Form (A,4-B, B / 20-24); C-BLDG
00921 0203	Form (A.4-B, B / 20-24): C-BLDG Pour (A / 16-20, A-A.4): C-BLDG	2	23APR08A 25APR08A	25APR08A		-	0		Pour (A / 16-20, A-A.4): C-BLDG
0203	Resteel / MEPs (A.4-B, B / 20-23): C-BLDG	2	25APR08A 25APR08A	29APR08A		01SEP08*	89		Resteel / MEPs (A.4-B, B / 20-23): C-BLDG
0182	Pour (A.4-B, B / 20-23): C-BLDG	1	02MAY08A	02MAY08A		UISEF00	0.0	1 1	Pour (A.4-B, B / 20-23); C-BLDG
0292	Form (B / 23-28): W-BLDG	2	23APR08A	07MAY08A			0		Form (B / 23-28): W-BLDG
0302	Resteel / MEPs (B / 23-28): W-BLDG	2	01MAY08A	07MAY08A			0		Resteel / MEPs (B / 23-28): W-BLDG
0312	Pour (B / 23-28); W-BLDG	1	08MAY08A	08MAY08A			0		Pour (B / 23-28): W-BLDG
	Waterproofing	<u> </u>	Competition	- CONTRACT CONT					
	1								Maturat 0 BLDC (4 Line)
0030	Waterproof: C-BLDG (A-Line)	2	01MAY08A	22JUL08A	07JUL08	08JUL08	-10		Waterproof: C-BLDG (A-Line) Waterproof: C-BLDG (E-Line)
0121	Waterproof: C-BLDG (E-Line)	2	01MAY08A	23JUL08A	22APR08	23APR08	-65		
0099	Waterproof: E-BLDG (B-Line)	2	30APR08A	01AUG08A	04AUG08	05AUG08	2		Waterproof: E-BLDG (B-Line)
0031	Waterproof: E-BLDG (E-Line)	2	01MAY08A 13MAY08A	01AUG08A 01AUG08A	22APR08 13MAY08	23APR08 14MAY08	-72 -57		Waterproof: E-BLDG (E-Line) Waterproof: W-BLDG (E-Line)
0131 0029	Waterproof: W-BLDG (E-Line) Waterproof: W-BLDG (B-Line)	2	13MAY08A 19MAY08A	01AUG08A 01AUG08A	13MAY08 22SEP08	14MAY08 23SEP08	-57 37		Waterproof: W-BLDG (E-Line) Waterproof: W-BLDG (B-Line)
.G. Utilities		2	TOWATUBA	JINOGUSA	2236908	2336908	51		
0113E	Elec Main Feeders UG: E-BLDG	5	21APR08A	28APR08A			0		Elec Main Feeders UG: E-BLDG
0223	UG Sanitary Mechanical Rm: E-BLDG	5	22APR08A	01MAY08A			0		UG Sanitary Mechanical Rm: E-BLDG
0213	Elec UG Mechanical Rm: E-BLDG	5	29APR08A	08MAY08A			0		Elec UG Mechanical Rm: E-BLDG
0233	UG Sanitary: E-BLDG	5	09MAY08A	19AUG08A			0		UG Sanitary: E-BLDG
0243	UG Sanitary: C-BLDG	5	05MAY08A	17JUL08A			0		UG Sanitary: C-BLDG
0253	UG Sanitary: W-BLDG	5	05MAY08A	19AUG08A	40.000	44 8 4 5 5 5 5	0		UG Sanitary: W-BLDG UG Utilites (Crane Path): E-I
0058 0052	UG Utilites (Crane Path): E-BLDG UG Utilites (Crane Path): W-BLDG	5	15AUG08A 25AUG08A	19AUG08A 29AUG08A	16JUN08 13MAR08	11JUL08 09APR08	-27 -102		UG Utilites (Crane Path): E-t UG Utilites (Crane Path): W-BLDG
0052 OG	OG Otilites (Crane Path). W-BLDG	5	2340G084	29403084	TSWARUS	USAPROS	- 102		
0046	SOG: C-BLDG	35*	22JUL08A	08SEP08A	14APR08	02MAY08	-91		SOG: C-BLDG
0045	SOG: W-BLDG	13*	21AUG08A	08SEP08A	28APR08	06MAY08	-89		SOG: W-BLDG
0047 levator Pits	SOG: E-BLDG	25*	02SEP08A	060CT08A	10APR08	18APR08	-121		SOG: E-BLDG
P100-11	Excavate (EP 1-2)	1	02MAY08A	02MAY08A			0		Excavate (EP 1-2)
P100-01	Form Bottom (Elevator Pit 1-2)	2	15MAY08A	16MAY08A		-	0		Form Bottom (Elevator Pit 1-2)
EP110-01	Pre-Proof Waterproofing (EP 1-2)	2	20MAY08A	20MAY08A			0		Pre-Proof Waterproofing (EP 1-2)
EP120-01	Place Footing (EP 1-2)	2	20MAY08A	21MAY08A			0		Place Footing (EP 1-2)
EP130-01	Place Walls (EP 1-2)	2	22MAY08A	27MAY08A			0		Place Walls (EP 1-2)
EP140-01	Cure Period (7 Days)	7	27MAY08A	02JUN08A			0		Cure Period (7 Days)
EP150-01	Bituthene Waterproof (EP 1-2)	2	03JUN08A	03JUN08A			0		Bituthene Waterproof (EP 1-2)
EP160-01	Backfill (EP 1-2)	2	03JUN08A	04JUN08A			0		Backfill (EP 1-2)
EP095-03	Excavate (EP 3-4)	1	02MAY08A	02MAY08A			0		Excavate (EP 3-4)
EP100-03	Form Bottom (Elevator Pit 3-4)	2	19MAY08A	19MAY08A			0		Form Bottom (Elevator Pit 3-4)
EP110-03	Pre-Proof Waterproofing (EP 3-4)	2	20MAY08A	20MAY08A			0		Pre-Proof Waterproofing (EP 3-4)
EP120-03	Place Footing (EP 3-4)	2	21MAY08A	21MAY08A			0		Place Footing (EP 3-4)
EP130-03	Place Walls (EP 3-4)	2	23MAY08A	28MAY08A			0		Place Walls (EP 3-4)
EP140-03	Cure Period (7 Days)	7	28MAY08A	04JUN08A			0		Cure Period (7 Days)
EP150-03	Bituthene Waterproof (EP 3-4)	2	08JUL08A	09JUL08A			0		Bituthene Waterproof (EP 3-4)
EP160-03	Backfill (EP 3-4)	2	10JUL08A	11JUL08A			0		Backfill (EP 3-4)
EP095-05	Excavate (EP-5)	1	12MAY08A	13MAY08A			0		Excavate (EP-5)
EP100-05	Form Bottom (Elevator Pit 5)	2	20MAY08A	21MAY08A			0		Form Bottom (Elevator Pit 5)
P110-05	Pre-Proof Waterproofing (EP 5)	2	21MAY08A	21MAY08A			0		Pre-Proof Waterproofing (EP 5)
EP120-05	Place Footing (EP 5)	2	22MAY08A	27MAY08A			0		Place Footing (EP 5)
EP130-05	Place Walls (EP 5)	2	28MAY08A	29MAY08A			0		Place Walls (EP 5)
EP140-05	Cure Period (7 Days)	7	30MAY08A	06JUN08A			0		Cure Period (7 Days)
EP150-05	Bituthene Waterproof (EP 5)	2	23JUN08A	20JUN08A			0		Bituthene Waterproof (EP 5)
EP160-05	Backfill (EP 5)	2	08JUL08A	09JUL08A			0		Backfill (EP 5)
EP095-06	Excavate (EP 6)	1	09APR08A	09APR08A			0		Excavate (EP 6)
EP100-06	Form Bottom (Elevator Pit 6)	2	16JUN08A	16JUN08A			0		Form Bottom (Elevator Pit 6)
	Pre-Proof Waterproofing (EP 6)	2	19JUN08A	19JUN08A			0		Pre-Proof Waterproofing (EP 6)
EP120-06	Place Footing (EP 6)	2	20JUN08A	20JUN08A			0		Place Footing (EP 6)
EP130-06	Place Walls (EP 6)	2	26JUN08A	26JUN08A			0		Place Walls (EP 6)
EP140-06	Cure Period (7 Days)	7	27JUN08A	03JUL08A	-		0		Cure Period (7 Days)
EP150-06	Bituthene Waterproof (EP 6)	2	08JUL08A	09JUL08A			0		Bituthene Waterproof (EP 6) Backfill (EP 6)
EP160-06	Backfill (EP 6)	2	10JUL08A	11JUL08A			0		
EP100-07	Form Bottom (Elevator Pit 7)	2	13JUN08A	13JUN08A			0		Form Bottom (Elevator Pit 7)
EP120-07 EP110-07	Place Footing (EP 7)	2	13JUN08A 23JUN08A	13JUN08A 20JUN08A		-	0		
EP110-07 EP130-07	Pre-Proof Waterproofing (EP 7) Place Walls (EP 7)	2	23JUN08A 01AUG08A	20JUN08A 01AUG08A	-		0		
P130-07	A	2	01AUG08A 02AUG08A	01AUG08A 08AUG08A			0		
EP140-07 EP150-07	Cure Period (7 Days) Bituthene Waterproof (EP 7)	2	02AUG08A 08AUG08A	08AUG08A 08AUG08A		-	0		
P150-07	Bituthene vvaterproof (EP 7) Backfill (EP 7)	2	11AUG08A	11AUG08A			0		
G110	Place Stone & Underdrain (D.5 / 3-20)	2	28MAY08A	29MAY08A			0		
SG120	Form, Vapor Barrier & Mesh (D.5 / 3-20)	2	30MAY08A	02JUN08A			0		
	Waterproof (D.5 / 3-20)	1	02JUN08A	02JUN08A			0		
	Place Concrete (D.5 / 3-20)	1	02JUL08A	02JUL08A			0		
	Strip Forms (D.5 / 3-20)	1	07JUL08A	07JUL08A			0		1
G150		2	12JUN08A	13JUN08A			0		1
G 150 G 160	Place Stone & Underdrain (C-D / 1-0.7)								
5G150 5G160 5G110-02	Place Stone & Underdrain (C-D / 1-0.7) Form, Vapor Barrier & Mesh (C-D / 1-0.7)	1	14JUL08A	14JUL08A			0		
5G130 5G150 5G160 5G110-02 5G120-02 5G130-02			14JUL08A 16JUL08A	14JUL08A 16JUL08A			0		
6G150 6G160 6G110-02 6G120-02	Form, Vapor Barrier & Mesh (C-D / 1-0.7)	1							

Figure 60: Turner Construction Schedule 2/4

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### Final Report

ID	Activity Description	Orig Dur	Early Start	Early Finish	Plan Start	Plan Finish	Fin Var	2008 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DE
SG110-05	Place Stone & Underdrain (C-E / 28-31)	2	19AUG08A	20AUG08A			0	Place Stone & Underdrain (C-E / 28-31)
SG120-05	Form, Vapor Barrier & Mesh (C-E / 27-31)	2	02SEP08A	16SEP08A			0	Form, Vapor Barrier & Mesh (C-E / 27-31)
SG130-05	Waterproof (C-E / 27-31)	1	16SEP08A	16SEP08A			0	Waterproof (C-E / 27-3
SG150-05	Strip Forms (C-E / 27-31)	1	18SEP08A	18SEP08A	-		0	IStrip Forms (C-E / 27- Place Concrete (C-E / 27-31)
SG140-05 SG110-06	Place Concrete (C-E / 27-31) Place Stone & Underdrain (A-B / 9-20) [1]	1 2	26SEP08A 22JUL08A	26SEP08A 05AUG08A	-		0	Place Stone & Underdrain (A-B / 9-20) [1]
SG110-06 SG130-06	Waterproof (A-B / 9-20) [1]	1	18AUG08A	18AUG08A			0	Waterproof (A-B / 9-20) [1]
SG120-06	Form, Vapor Barrier & Mesh (A-B / 9-20) [1]	2	18AUG08A	26AUG08A	-		0	Form, Vapor Barrier & Mesh (A-B / 9-20) [1]
SG140-06	Place Concrete (A-B / 9-20) [1]	1	27AUG08A	27AUG08A	-		0	IPlace Concrete (A-B / 9-20)
SG150-06	Strip Forms (A-B / 9-20) [1]	1	28AUG08A	28AUG08A			0	Strip Forms (A-B / 9-20) [1]
SG110-11	Place Stone & Underdrain (B-D / 15-21) [2]	2	02SEP08A	03SEP08A			0	Place Stone & Underdrain (B-D / 15-21) [2]
SG120-11	Form, Vapor Barrier & Mesh (B-D / 15-21) [2]	2	04SEP08A	05SEP08A			0	Form, Vapor Barrier & Mesh (B-D / 15-21) [2]
SG130-11	Waterproof (B-D / 15-21) [2]	1	05SEP08A	05SEP08A			0	Waterproof (B-D / 15-21)
SG140-11	Place Concrete (B-D / 15-21) [2]	1	08SEP08A	08SEP08A			0	Place Concrete (B-D / 15-21) [2]
SG150-11	Strip Forms (B-D / 15-21) [2]	1	09SEP08A	09SEP08A			0	IStrip Forms (B-D / 15-21
SG110-09	Place Stone & Underdrain (C-D.5 / 5-15) [3]	2	02SEP08A	03SEP08A			0	Place Stone & Underdrain (C-D.5 / 5-15) [3]
SG120-09	Form, Vapor Barrier & Mesh (C-D.5 / 5-15) [3]	2	04SEP08A	05SEP08A			0	Form, Vapor Barrier & Mesh (C-D.5 / 5-15) [3]
SG130-09	Waterproof (C-D.5 / 5-15) [3]	1	05SEP08A	05SEP08A			0	Waterproof (C-D.5 / 5-15)
SG140-09	Place Concrete (C-D.5 / 5-15) [3]	1	08SEP08A	08SEP08A			0	Place Concrete (C-D.5 / 5-15) [3]
SG150-09	Strip Forms (C-D.5 / 5-15) [3]	1	09SEP08A	09SEP08A			0	Strip Forms (C-D.5 / 5-15) [3]
SG110-04	Place Stone & Underdrain (B-C / 5-14) [4]	2	20AUG08A	21AUG08A			0	Place Stone & Underdrain (B-C / 5-14) [4]
SG120-04	Waterproof (B-C / 5-14) [4]	3	22AUG08A	22AUG08A			0	Waterproof (B-C / 5-14) [4]
SG130-04	Form & Mesh (B-C / 5-14) [4]	1	23AUG08A	24AUG08A			0	Form & Mesh (B-C / 5-14) [4]
SG140-04	Place Concrete (B-C / 5-14) [4]	1	02SEP08A	02SEP08A			0	Place Concrete (B-C / 5-14) [4]
SG150-04	Strip Forms (B-C / 5-14) [4]	1	09SEP08A	09SEP08A			0	IStrip Forms (B-C / 5-14)
SG110-07	Place Stone & Underdrain (B-D / 21-25) [5]	2	19AUG08A	20AUG08A	-		0	Place Stone & Underdrain (B-D / 21-25) [5]
SG120-07	Form, Vapor Barrier & Mesh (B-D / 21-25) [5]	2	21AUG08A	22AUG08A	-		0	Form, Vapor Barrier & Mesh (B-D / 21-25) [5]
SG130-07	Waterproof (B-D / 21-25) [5]	1	22AUG08A	22AUG08A			0	Waterproof (B-D / 21-25) [5] Place Concrete (C-D / 21-25) [5]
SG140-07	Place Concrete (C-D / 21-25) [5]	1	29AUG08A	29AUG08A			0	Place Concrete (C-D / 21-25) [5] Strip Forms (C-D / 21-25)
SG150-07 SG150-17	Strip Forms (C-D / 21-25) [5]	1	02SEP08A	02SEP08A			0	
SG150-17 SG110-03	Place Concrete (B-C / 21-26)	1	03SEP08A 02SEP08A	03SEP08A 03SEP08A	-		0	Place Concrete (B-C / 21-2 Place Stone & Underdrain (B-C / 1-5) [7]
SG110-03 SG120-03	Place Stone & Underdrain (B-C / 1-5) [7] Form Vanor Barrier & Mesh. (B-C / 1-5) [7]	-	02SEP08A 04SEP08A	03SEP08A 05SEP08A	-		0	Form, Vapor Barrier & Mesh (B-C / 1-5) [7]
SG120-03 SG130-03	Form, Vapor Barrier & Mesh (B-C / 1-5) [7] Waterproof (B-C / 1-5) [7]	2	04SEP08A 05SEP08A	05SEP08A 05SEP08A	-		0	Waterproof (B-C / 1-5) [7]
SG130-03 SG140-03	Viaterproof (B-C / 1-5) [7] Place Concrete (B-C / 1-5) [7]	1	08SEP08A	08SEP08A			0	Place Concrete (B-C / 1-5) [7]
SG150-03	Strip Forms (B-C / 1-5) [7]	1	09SEP08A	09SEP08A			0	IStrip Forms (B-C / 1-5) [
SG105-12B		4	02SEP08A	29SEP08A			0	Complete Foundation Wall: 0.7 Line
SG110-10	Place Stone & Underdrain (C-E / 0.7-3) [8]	2	01OCT08A	010CT08A	-		0	Place Stone & Underdrain (C-E / 0.7-3) [8]
SG120-10	Form, Vapor Barrier & Mesh (C-E / 0.7-3) [8]	2	010CT08A	030CT08A			0	Form, Vapor Barrier & Mesh (C-E / 0.7-3) [8]
SG130-10	Waterproof (C-E / 0.7-3) [8]	1	020CT08A	020CT08A	-		0	Waterproof (C-E / 0.7-3) [8]
SG140-10	Place Concrete (C-E / 0.7-3) [8]	1	060CT08A	060CT08A			0	Place Concrete (C-E / 0.7-3) [8]
SG150-10	Strip Forms (C-E / 0.7-3) [8]	1	070CT08A	070CT08A			0	Strip Forms (C-E / 0.7-3) [8]
SG110-12A	Place Stone & Underdrain (B-C / 24-28) [10]	2	02SEP08A	03SEP08A			0	Place Stone & Underdrain (B-C / 24-28) [10]
SG120-12A	Form, Vapor Barrier & Mesh (B-C / 24-28)	2	04SEP08A	05SEP08A			0	Form, Vapor Barrier & Mesh (B-C / 24-28) [10]
SG130-12A	Waterproof (B-C / 24-28) [10]	1	05SEP08A	05SEP08A			0	Waterproof (B-C / 24-28)
SG140-12A	Place Concrete (B-C / 24-28) [10]	1	08SEP08A	08SEP08A			0	Place Concrete (B-C / 24-28) [10]
SG150-12A	Strip Forms (B-C / 24-28) [10]	1	09SEP08A	09SEP08A			0	Strip Forms (B-C / 24-28) [10]
SG105-12A	Complete Foundation Wall: 28-Line	4	02SEP08A	020CT08A			0	Complete Foundation Wall: 28-Line
SG105-20	Complete Foundation Walls @ 0.7, 01 Line	10	15SEP08A	29SEP08A			0	Complete Foundation Walls @ 0.7, 01 Line
Backfill/Wall North Elevation	Bracing							
North Elevation								
	Backfill: F-Line, C-BLDG	2	16MAY08A	31JUL08A	07MAY08	08MAY08	-60	Backfill: F-Line, C-BLDG
0397 0577	Backfill: F-Line, C-BLDG Caissons: F-Line, C-BLDG	2	16MAY08A 22MAY08A	31JUL08A 23MAY08A	07MAY08	08MAY08	-60 0	Backfill F-Line, C-BLDG
0397					07MAY08 30APR08	08MAY08 01MAY08	-	
0397 0577	Caissons: F-Line, C-BLDG	3	22MAY08A	23MAY08A			0	Caissons: F-Line, C-BLDG
0397 0577 0327	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG	3	22MAY08A 10JUN08A	23MAY08A 13JUN08A	30APR08	01MAY08	0 -31	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG
0397 0577 0327 0317	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG	3 2 2	22MAY08A 10JUN08A 16JUN08A	23MAY08A 13JUN08A 17JUN08A	30APR08 28APR08	01MAY08 29APR08	0 -31 -35	Caissons: F-Line, C-BLDG ■Piers: F-Line, C-BLDG ■Footings: F-Line, C-BLDG
0397 0577 0327 0317 0227	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG	3 2 2 3	22MAY08A 10JUN08A 16JUN08A 07JUL08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A	30APR08 28APR08 21APR08	01MAY08 29APR08 23APR08	0 -31 -35 -55	ICaissons: F-Line, C-BLDG IPrets: F-Line, C-BLDG IFootings: F-Line, Q-BLDG IVail Branding: F-Line, C-BLDG
0397 0577 0327 0317 0227 0367	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Masonry: F-Line, C-BLDG	3 2 2 3 3	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A	30APR08 28APR08 21APR08	01MAY08 29APR08 23APR08	0 -31 -35 -55 -133	Caissons: F-Line, C-BLDG Pierts: F-Line, C-BLDG IFootings: F-Line, C-BLDG Milli Brandag: F-Line, C-BLDG Masony: F-Line, C-BLDG
0397 0577 0327 0317 0227 0367 0587	Caissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Masony: F-Line, C-BLDG Caissons: F-Line, E-BLDG	3 2 2 3 3 3 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A	30APR08 28APR08 21APR08 02MAY08	01MAY08 29APR08 23APR08 06MAY08	0 -31 -35 -55 -133 0	Caissons: F-Line, C-BLDG IPrets: F-Line, C-BLDG IFootings: F-Line, C-BLDG IMail Brands; F-Line, C-BLDG Caissons: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IPcotings: F-Line, E-BLDG IWall Brading; F-Line, E-BLDG
0397 0577 0327 0317 0227 0367 0587 0297	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Galssons: F-Line, E-BLDG Footings: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Piers: F-Line, E-BLDG	3 2 2 3 3 2 2 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A 18JUN08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A	30APR08 28APR08 21APR08 02MAY08 28APR08	01MAY08 29APR08 23APR08 06MAY08 29APR08	0 -31 -35 -55 -133 0 -38	ICaissons: F-Line, C-BLDG IPerter, F-Line, C-BLDG IProtings: F-Line, C-BLDG Matil Brades; F-Line, C-BLDG Caissons: F-Line, C-BLDG IFoctings: F-Line, F-BLDG IProtings: F-Line, F-BLDG IPerter; F-Line, E-BLDG IPerter; F-Line, E-BLDG
0397 0577 0327 0317 0227 0367 0587 0297 0217 0307 0387	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, F-BLDG Calssons: F-Line, F-BLDG Wall Bracing: F-Line, F-BLDG Piers: F-Line, F-BLDG Bachtlit: F-Line, F-BLDG	3 2 2 3 3 2 2 2 3	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A 18JUN08A 07JUL08A 25AUG08A 22SEP08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 09JUL08A 28AUG08A 07NOV08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 09MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -85 -130	ICaissons: F-Line, C-BLDG IPretirs: F-Line, C-BLDG IFootings: F-Line, C-BLDG IMasony: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, E-BLDG IFootings: F-Line, E-BLDG IVall Bracing: F-Line, E-BLDG IPretirs: F-Line, E-BLDG Backfilt: F-Line, E-BLDG
0397 0577 0327 0317 0227 0367 0587 0297 0217 0307 0387 0357	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Gissons: F-Line, E-BLDG Footings: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfill: F-Line, E-BLDG Masony: F-Line, E-BLDG	3 2 3 3 2 2 2 3 4 2 3 4 2 4	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A 18JUN08A 07JUL08A 25AUG08A 22SEP08A 24SEP08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 20JUN08A 09JUL08A 28AUG08A 07NOV08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132	ICaissons: F-Line, C-BLDG IPerter: F-Line, C-BLDG IFootings: F-Line, C-BLDG Wall Brands: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IVail Brands: F-Line, E-BLDG IVail Brands: F-Line, E-BLDG Backti: F-Line, E-BLDG Backti: F-Line, E-BLDG Backti: F-Line, E-BLDG Maisony: F-Line, E-BLDG
0397 0577 0327 0317 0227 0367 0587 0297 0217 0307 0387 0387 0357 0597	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Foolings: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfilt: F-Line, E-BLDG Backfilt: F-Line, E-BLDG Calssons: F-Line, K-BLDG Calssons: F-Line, K-BLDG	3 2 3 3 2 2 2 3 4 2 4 2 4 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A 18JUN08A 07JUL08A 07JUL08A 25AUG08A 22SEP08A 24SEP08A 26MAY08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 09JUL08A 28AUG08A 07NOV08A 07NOV08A 28MAY08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 02MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 09MAY08 07MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0	Icaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Mail Bracing: F-Line, C-BLDG Caissons: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, F-BLDG IPerts: F-Line, F-BLDG Mail Bracing: F-Line, F-BLDG IPerts: F-Line, F-BLDG Maisons: F-Line, F-BLDG Masons: F-Line, F-BLDG Masons: F-Line, K-BLDG ICaissons: F-Line, K-BLDG
0397 0577 0327 0317 0227 0367 0587 0297 0217 0307 0387 0367 0357 0597 0337	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Galssons: F-Line, E-BLDG Foolings: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfil: F-Line, E-BLDG Backfil: F-Line, E-BLDG Calssons: F-Line, V-BLDG Calssons: F-Line, V-BLDG	3 2 3 3 2 2 3 4 2 3 4 2 4 2 2 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 28MAY08A 18JUN08A 07JUL08A 25AUG08A 22SEP08A 24SEP08A 24SEP08A 20MAY08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 09JUL08A 09JUL08A 07NOV08A 07NOV08A 07NOV08A 28MAY08A 23JUN08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 02MAY08 19MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 29APR08 23APR08 01MAY08 09MAY08 09MAY08 20MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -24	ICalissons: F-Line, C-BLDG IPrets: F-Line, C-BLDG IFootings: F-Line, C-BLDG Ifootings: F-Line, C-BLDG Ifootings: F-Line, C-BLDG IFootings: F-Line, E-BLDG IFootings: F-Line, E-BLDG IPrets: F-Line, E-BLDG IPrets: F-Line, E-BLDG ISSUE: F-Line, V-BLDG IFootings: F-Line, V-BLDG
0397 0577 0327 0317 0227 0367 0297 0217 0307 0387 0387 0387 0357 0597 0337	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Masonry: F-Line, C-BLDG Calissons: F-Line, E-BLDG Footings: F-Line, E-BLDG Piers: F-Line, E-BLDG Backfill: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, V-BLDG Footings: F-Line, V-BLDG Footings: F-Line, V-BLDG	3 2 3 3 2 2 3 4 2 3 4 2 2 4 2 2 2 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 28MAY08A 28MAY08A 18JUN08A 07JUL08A 25AUG08A 22SEP08A 24SEP08A 26MAY08A 20JUN08A 30JUN08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 20JUN08A 20JUN08A 09JUL08A 28AUG08A 07NOV08A 07NOV08A 28MAY08A 22JUN08A 07JUL08A	30APR08 28APR08 21APR08 21APR08 28APR08 21APR08 30APR08 08MAY08 02MAY08 19MAY08 21MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 09MAY08 07MAY08 20MAY08 22MAY08	0 -31 -55 -133 0 -38 -55 -130 -132 0 -24 -32	ICaissons: F-Line, C-BLDG IPerty: F-Line, C-BLDG IFootings: F-Line, C-BLDG Mail Brading: F-Line, C-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, F-BLDG ICaissons: F-Line, WBLDG ICaissons: F-Line, W-BLDG ICaissons: F-Line, W-BLDG
0397 0577 0327 0317 0227 0367 0587 0297 0217 0307 0387 0367 0387 0597 0337 0347	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Brancing: F-Line, C-BLDG Galssons: F-Line, E-BLDG Footings: F-Line, E-BLDG Wall Brachg: F-Line, E-BLDG Backfill: F-Line, E-BLDG Backfill: F-Line, E-BLDG Backfill: F-Line, E-BLDG Galssons: F-Line, W-BLDG Footings: F-Line, W-BLDG Wall Brachg: F-Line, W-BLDG	3 2 3 3 2 2 3 4 2 3 4 2 4 2 2 2	22MAY08A 10,UUN08A 16,UUN08A 07,UUL08A 185EP08A 28MAY08A 18,UUN08A 07,UU08A 25,AUG08A 22,SEP08A 24,SEP08A 24,SEP08A 24,SEP08A 26,MAY08A 20,UUN08A 07,UUN08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 20JUN08A 20JUN08A 09JUL08A 07NOV08A 07NOV08A 07NOV08A 28M4Y08A 23JUN08A 07JUL08A 10JUL08A	30APR08 28APR08 21APR08 21APR08 202MAY08 28APR08 21APR08 30APR08 09MAY08 02MAY08 19MAY08 21MAY08 12MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 09MAY08 07MAY08 20MAY08 20MAY08 22MAY08 14MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -132 0 -24 -32 -41	Icaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IFootings: F-Line, C-BLDG Mathematical Brading: F-Line, C-BLDG Caissons: F-Line, C-BLDG IFootings: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IElens: F-Line, K-BLDG IElens: F-Line, V-BLDD IElens: F-Line, V-BLDD
0397 0577 0327 0227 0367 0587 0297 0217 0367 0397 0367 0357 0357 0357 0357 0347 0347	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Galssons: F-Line, E-BLDG Foolings: F-Line, E-BLDG Poolings: F-Line, E-BLDG Backfill: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calssons: F-Line, W-BLDG Pooling: F-Line, W-BLDG Piers: F-Line, W-BLDG Piers: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 2 3 3 3 2 2 2 3 4 2 2 4 2 2 2 3 3 2 2	22MAY08A 10JUN08A 16JUN08A 07JUL08A 16SEP08A 28MAY08A 18JUN08A 07JUL08A 25AUG08A 22SEP08A 24SEP08A 24SEP08A 24SEP08A 20JUN08A 30JUN08A 10JUL08A	23MAY08A 13JUN08A 13JUN08A 09JUL08A 09JUL08A 20JUN08A 20JUN08A 09JUL08A 28AUG08A 07NOV08A 28AUG08A 07NOV08A 23JUN08A 07JUL08A 25JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 19MAY08 19MAY08 21MAY08 21MAY08 21MAY08	01MAY08 29APR08 23APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 07MAY08 07MAY08 20MAY08 22MAY08 14MAY08 30MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -132 0 -24 -32 -41 -40	ICaissons: F-Line, C-BLDG IPers: F-Line, C-BLDG IFootings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG ICaissons: F-Line, C-BLDG IFootings: F-Line, E-BLDG IFootings: F-Line, E-BLDG IPers: F-Line, E-BLDG IDers: F-Line, E-BLDG IDers: F-Line, E-BLDG IDers: F-Line, E-BLDG IDers: F-Line, E-BLDG IDers: F-Line, V-BLDG IFooting: F-Line, V-BLDG IPers: F-Line, V-BLDG IDers: F-Line,
0397 0577 0327 0227 0367 0587 0297 0217 0307 0387 0387 0387 0387 0357 0397 0337 0397 0337 0407 0377	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Masonry: F-Line, C-BLDG Calissons: F-Line, E-BLDG Foolings: F-Line, E-BLDG Poolings: F-Line, E-BLDG Packfill: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, W-BLDG Foolings: F-Line, W-BLDG Past-Fille, W-BLDG Masonry: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 3 3 2 2 3 4 2 3 4 2 2 4 2 2 2 2	22MAY08A 10,UUN08A 16,UUN08A 07,UUL08A 185EP08A 28MAY08A 18,UUN08A 07,UU08A 25,AUG08A 22,SEP08A 24,SEP08A 24,SEP08A 24,SEP08A 26,MAY08A 20,UUN08A 07,UUN08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 20JUN08A 20JUN08A 09JUL08A 07NOV08A 07NOV08A 07NOV08A 28M4Y08A 23JUN08A 07JUL08A 10JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 19MAY08 19MAY08 21MAY08 21MAY08 21MAY08	01MAY08 29APR08 23APR08 23APR08 06MAY08 29APR08 23APR08 01MAY08 07MAY08 07MAY08 20MAY08 22MAY08 14MAY08 30MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -132 0 -24 -32 -41 -40	ICaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Wall Brading: F-Line, C-BLDG ICaissons: F-Line, C-BLDG IFootings: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, W-BLDG IPerts: F-Line, W-BLDG
0397 0577 0327 0327 0227 0367 0297 0297 0297 0297 0387 0397 0387 0397 0337 0337 0347 0237 0407 9037 8045	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calssons: F-Line, V-BLDG Calssons: F-Line, W-BLDG Footings: F-Line, W-BLDG Piers: F-Line, V-BLDG Piers: F-Line, V-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Masonry: F-Line, W-BLDG Masonry: F-Line, W-BLDG	3 2 2 3 3 2 2 2 3 3 4 2 2 4 2 2 2 3 3 2 2 4	22MAY08A 10JUN08A 16JUN08A 16JUN08A 16JUN08A 28MAY08A 16SEP08A 28MAY08A 7JUL08A 22SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 20JUN08A 30JUN08A 10JUL08A 18NOV08A	23MAY08A 13,UIN08A 17,UIN08A 09,UIL08A 07NOV08A 20,UIN08A 22,UIN08A 28,AUG08A 07NOV08A 28,AUG08A 07NOV08A 23,UIN08A 07,UIN08A 23,UIN08A 23,UIN08A 23,UIN08A 23,UIN08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 02MAY08 21MAY08 21MAY08 22MAY08 23MAY08	01MAY08 29APR08 23APR08 06MAY08 29APR08 23APR08 07MAY08 07MAY08 07MAY08 20MAY08 20MAY08 14MAY08 30MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -24 -32 -41 -40 -132	ICalissons       F-Line, C-BLDG         IPerist:       F-Line, C-BLDG         IPerist:       F-Line, C-BLDG         Masony:       F-Line, C-BLDG         ICalissons:       F-Line, F-BLDG         IFactings:       F-Line, E-BLDG         IBress:       F-Line, E-BLDG         ICalissons:       F-Line, E-BLDG         ICalissons:       F-Line, E-BLDG         ICalissons:       F-Line, E-BLDG         ICalissons:       F-Line, K-BLDG         ICalissons:       F-Line, WBLDG         IFpotings:       F-Line, WBLDG         IFpotings:       F-Line, WBLDG         IMast Brading:       F-Line, WBLDG         IMasony:       F-Line, WBLDG         IMasony:       F-Line, WBLDG
0397 0577 0327 0317 0227 0367 0297 0217 0307 0387 0357 0357 0357 0357 0337 0357 0337 0347 0237 0407 0237 0407 037 5oth Elevation 0177	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Masonry: F-Line, C-BLDG Calissons: F-Line, E-BLDG Footings: F-Line, E-BLDG Piers: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, V-BLDG Footings: F-Line, V-BLDG Piers: F-Line, V-BL	3 2 2 3 3 2 2 2 3 4 4 2 2 4 2 2 3 3 2 2 4 4 5	22MAY08A 10JUN08A 115JUN08A 115JUN08A 116SEP08A 28MAY08A 25AUG08A 25AUG08A 25SEP08A 24SEP08A 24SEP08A 20JUN08A 07JUL08A 10JUL08A 115JUL08A 115JUL08A 115JUL08A 115JUL08A	23MAY08A 13JUN08A 17JUN08A 07NOV08A 07NOV08A 20JU08A 09JUL08A 28AUG08A 07NOV08A 28AUG08A 07NOV08A 23JUN08A 07JUL08A 10JUL08A 25JUL08A 25JUL08A 28NOV08A	30APR08 28APR08 21APR08 21APR08 28APR08 21APR08 30APR08 09MAY08 02MAY08 19MAY08 21MAY08 29MAY08 29MAY08 23MAY08 06AUG08	01MAY08 29APR08 23APR08 06MAY08 29APR08 07MAY08 07MAY08 07MAY08 20MAY08 22MAY08 14MAY08 30MAY08 28MAY08 14MAY08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -132 0 -24 -32 -41 -40	ICaissons: F-Line, C-BLDG IPers:, F-Line, C-BLDG IProtings: F-Line, C-BLDG Mail Brans; F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, E-BLDG IPers: F-Line, E-BLDG IPers: F-Line, E-BLDG IEpers: F-Line, K-BLDG IEpers: F-Lin
0397 0577 0327 0327 0227 0367 0297 0297 0297 0297 0387 0397 0387 0397 0337 0337 0347 0237 0407 9037 8045	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calssons: F-Line, V-BLDG Calssons: F-Line, W-BLDG Footings: F-Line, W-BLDG Piers: F-Line, V-BLDG Piers: F-Line, V-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Masonry: F-Line, W-BLDG Masonry: F-Line, W-BLDG	3 2 2 3 3 2 2 2 3 4 4 2 2 4 2 2 2 3 2 2 4 5 5 5	22MAY08A 10JUN08A 16JUN08A 16JUN08A 16JEP08A 16SEP08A 28MAY08A 22SEP08A 22SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 20JUN08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 07JUL08A 07JUL08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 28AUG08A 07NOV08A 28AUG08A 07NOV08A 28AU708A 23JUN08A 10JUL08A 10JUL08A 15SEP08A 31JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 02MAY08 21MAY08 21MAY08 22MAY08 23MAY08	01MAY08 29APR08 23APR08 23APR08 29APR08 23APR08 01MAY08 07MAY08 07MAY08 20MAY08 22MAY08 14MAY08 30MAY08 28MAY08 14MAY08 14MAY08 15JUL08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -24 -32 -41 -40 -132 -24 -132	ICalissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calissons: F-Line, C-BLDG IFootings: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDD IPerts: F-Line, V-BLDG IPerts: F-L
0397 0577 0327 0317 0227 0367 0297 0217 0367 0387 0387 0387 0387 0387 0397 0347 0337 0347 0237 0347 0237 0407 0377 5odt Elevation 0177 0197 East Elevation	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Matsong: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Wall Brachg: F-Line, E-BLDG Backfill: F-Line, E-BLDG Backfill: F-Line, K-BLDG Footings: F-Line, W-BLDG Footings: F-Line, W-BLDG Backfill F-Line, V-BLDG Backfill F-Line, V-BLDG	3 2 2 3 3 2 2 2 3 4 4 2 2 4 2 2 3 3 2 2 4 4 5	22MAY08A 10JUN08A 16JUN08A 07JUL08A 18SEP08A 23MAY08A 18JUN08A 07JUL08A 22SEP08A 22SEP08A 24SEP08A 24SEP08A 07JUL08A 07JUL08A 10JUL08A 10JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JMY08A 07MAY08A	23MAY08A 13JUN08A 17JUN08A 07N0V08A 30MAY08A 20JUL08A 09JUL08A 09JUL08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07JUL08A 07JUL08A 10JUL08A 28JUL08A 28JUL08A 28JUL08A 23JUL08A 15SEP08A 31JUL08A	30APR08 28APR08 21APR08 22MAY08 28APR08 21APR08 30APR08 08MAY08 20MAY08 21MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 09JUL08 24SEP08	01MAY08 29APR08 23APR08 06MAY08 09MAY08 09MAY08 07MAY08 07MAY08 20MAY08 20MAY08 30MAY08 30MAY08 14MAY08 14MAY08 12AUG08 15JUL08 30SEP08	0 -31 -35 -55 -133 0 -38 -55 -130 -132 0 -24 -32 -41 -40 -132 -24	ICaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG ICaissons: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V-
0397 0577 0327 0317 0227 0267 0297 0217 0297 0217 0307 0387 0367 0367 0367 0367 0347 0337 0347 0347 0347 0347 0347 034	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Foolings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Collisons: F-Line, E-BLDG Wall Bracing: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calssons: F-Line, W-BLDG Foolings: F-Line, W-BLDG Poolings: F-Line, W-BLDG Wall Bracing: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 2 3 3 2 2 2 3 4 4 2 2 4 2 2 2 3 2 2 4 5 5 5	22MAY08A 10JUN08A 16JUN08A 16JUN08A 16JEP08A 16SEP08A 28MAY08A 22SEP08A 22SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 24SEP08A 20JUN08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 07JUL08A 07JUL08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 30MAY08A 28AUG08A 07NOV08A 28AUG08A 07NOV08A 28AU708A 23JUN08A 10JUL08A 10JUL08A 15SEP08A 31JUL08A	30APR08 30APR08 21APR08 21APR08 22APR08 21APR08 30APR08 02MAY08 02MAY08 21MAY08 21MAY08 21MAY08 21MAY08 21MAY08 22MAY08 06AU008 06AU008	01MAY08 29APR08 23APR08 23APR08 29APR08 23APR08 01MAY08 07MAY08 07MAY08 20MAY08 22MAY08 14MAY08 30MAY08 28MAY08 14MAY08 14MAY08 15JUL08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 0 -24 -32 -41 -40 -132 -24 -132	ICalissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calissons: F-Line, C-BLDG IFootings: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDD IPerts: F-Line, V-BLDG IPerts: F-L
0397 0577 0327 0327 0367 0297 0217 0367 0367 0367 0367 0387 0367 0387 0397 0337 0347 0237 0407 0337 0407 0407 0407 0407 0407 04	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Masonry: F-Line, C-BLDG Gaissons: F-Line, E-BLDG Footings: F-Line, E-BLDG Pootings: F-Line, E-BLDG Pars: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, W-BLDG Calissons: F-Line, W-BLDG Footings: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: F-Line, W-BLDG Backfill: Foundations: B-Line, E-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill Foundations: B-Line, W-BLDG Backfill Foundations: B-Line, W-BLDG Backfill Foundations: D-Line, K-BLDG Backfill Foundations: D-Line, K-BLDG Backfill Foundations: D-Line, K-BLDG Backfill Foundations: D-Line, K-BLDG	3 2 2 3 3 2 2 3 4 4 2 2 2 2 3 3 2 2 4 5 5 5 5 3	22MAY08A 10JUN08A 10JUN08A 10JUN08A 07JUL08A 18SEP08A 23MAY08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 23MAY08A 23JUN08A 07JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 11MAY08A 09MAY08A 18SEP08A	23MAY08A 13JUN08A 13JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 03JUL08A 20JUN08A 03JUL08A 28JUN08A 07NOV08A 07NOV08A 27NOV08A 23JUN08A 07NOV08A 10JUL08A 23JUN08A 10JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 21MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 09JUL08 24SEP08 25AUG08	01MAY08 29APR08 23APR08 06MAY08 23APR08 01MAY08 07MAY08 07MAY08 07MAY08 20MAY08 20MAY08 20MAY08 22MAY08 14MAY08 30MAY08 12AUG08	0 -31 -35 -55 -133 0 -38 -55 -130 -132 0 -24 -32 -41 -132 -24 -132 -24 -12 41 -18	ICaissons: F-Line, C-BLDG IPeter: F-Line, C-BLDG IPeter: F-Line, C-BLDG IVali Bracing: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, I-BLDG IPeter: F-Line, V-BLDG IPeter: F-L
0397 0577 0327 0327 0367 0587 0297 0307 0357 0597 0357 0597 0337 0347 0347 0237 0347 0347 0347 0347 0407 0377 0407 0377 0407 0377 0407 040	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Pootings: F-Line, E-BLDG Backfill: F-Line, E-BLDG Colssons: F-Line, W-BLDG Colssons: F-Line, W-BLDG Pootings: F-Line, W-BLDG Pooting: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 2 3 3 2 2 2 3 4 4 2 2 2 2 3 3 2 2 4 4 5 5 5 5	22MAY08A 10JUN08A 16JUN08A 07JUL08A 18SEP08A 23MAY08A 18JUN08A 07JUL08A 22SEP08A 22SEP08A 24SEP08A 24SEP08A 07JUL08A 07JUL08A 10JUL08A 10JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JUL08A 07JMY08A 07MAY08A	23MAY08A 13JUN08A 17JUN08A 07N0V08A 30MAY08A 20JUL08A 09JUL08A 09JUL08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07N0V08A 07JUL08A 07JUL08A 10JUL08A 28JUL08A 28JUL08A 28JUL08A 23JUL08A 15SEP08A 31JUL08A	30APR08 28APR08 21APR08 22MAY08 28APR08 21APR08 30APR08 08MAY08 20MAY08 21MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 09JUL08 24SEP08	01MAY08 29APR08 23APR08 06MAY08 09MAY08 09MAY08 07MAY08 07MAY08 20MAY08 20MAY08 30MAY08 30MAY08 14MAY08 14MAY08 12AUG08 15JUL08 30SEP08	0 -31 -35 -55 -133 0 -38 -55 -130 0 -132 0 -24 -32 -41 -40 -132 -24 -12 -41	ICaissons: F-Line, C-BLDG IPeter: F-Line, C-BLDG IPeter: F-Line, C-BLDG IVali Bracing: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, I-BLDG IPeter: F-Line, V-BLDG IPeter: F-L
0397 0577 0327 0327 0367 0587 0297 0307 0357 0597 0357 0597 0337 0347 0347 0237 0347 0347 0347 0347 0407 0377 0407 0377 0407 0377 0407 040	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Pootings: F-Line, E-BLDG Backfill: F-Line, E-BLDG Colssons: F-Line, W-BLDG Colssons: F-Line, W-BLDG Pootings: F-Line, W-BLDG Pooting: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 2 3 3 2 2 3 4 4 2 2 2 2 3 3 2 2 4 5 5 5 5 3	22MAY08A 10JUN08A 10JUN08A 10JUN08A 07JUL08A 18SEP08A 23MAY08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 23MAY08A 23JUN08A 07JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 11MAY08A 09MAY08A 18SEP08A	23MAY08A 13JUN08A 13JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 03JUL08A 20JUN08A 03JUL08A 28JUN08A 07NOV08A 07NOV08A 27NOV08A 23JUN08A 07NOV08A 10JUL08A 23JUN08A 10JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 21MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 09JUL08 24SEP08 25AUG08	01MAY08 29APR08 23APR08 06MAY08 23APR08 01MAY08 07MAY08 07MAY08 07MAY08 20MAY08 20MAY08 20MAY08 22MAY08 14MAY08 30MAY08 12AUG08	0 -31 -35 -55 -133 0 -38 -55 -130 -132 0 -24 -32 -41 -132 -24 -132 -24 -12 41 -18	ICaissons: F-Line, C-BLDG IPeter: F-Line, C-BLDG IPeter: F-Line, C-BLDG IVali Bracing: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, I-BLDG IPeter: F-Line, V-BLDG IPeter: F-L
0397 0577 0327 0327 0367 0587 0297 0307 0357 0597 0357 0597 0337 0347 0347 0237 0347 0347 0347 0347 0407 0377 0407 0377 0407 0377 0407 040	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Pootings: F-Line, E-BLDG Backfill: F-Line, E-BLDG Colssons: F-Line, W-BLDG Colssons: F-Line, W-BLDG Pootings: F-Line, W-BLDG Pooting: F-Line, W-BLDG Backfill: F-Line, W-BLDG	3 2 2 3 3 2 2 3 4 4 2 2 2 2 3 3 2 2 4 5 5 5 5 3	22MAY08A 10JUN08A 10JUN08A 10JUN08A 07JUL08A 18SEP08A 23MAY08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 23MAY08A 23JUN08A 07JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 10JUL08A 11MAY08A 09MAY08A 18SEP08A	23MAY08A 13JUN08A 13JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 03JUL08A 20JUN08A 03JUL08A 28JUN08A 07NOV08A 07NOV08A 27NOV08A 23JUN08A 07NOV08A 10JUL08A 23JUN08A 10JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A	30APR08 28APR08 21APR08 02MAY08 28APR08 21APR08 30APR08 08MAY08 21MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 09JUL08 24SEP08 25AUG08	01MAY08 29APR08 23APR08 06MAY08 23APR08 01MAY08 07MAY08 07MAY08 07MAY08 20MAY08 20MAY08 20MAY08 22MAY08 14MAY08 30MAY08 12AUG08	0 -31 -35 -55 -133 0 -38 -55 -130 -132 0 -24 -32 -41 -132 -24 -132 -24 -12 41 -18	ICaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG ICaissons: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V-
0397 0577 0327 0327 0367 0587 0297 0217 0307 0387 0397 0397 0397 0397 0397 0397 0397 039	Calssons: F-Line, C-BLDG Piers: F-Line, C-BLDG Footings: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Calssons: F-Line, E-BLDG Colssons: F-Line, E-BLDG Pootings: F-Line, E-BLDG Backfill: F-Line, E-BLDG Colssons: F-Line, W-BLDG Colssons: F-Line, W-BLDG Pootings: F-Line, W-BLDG Pootings: F-Line, W-BLDG Backfill: F-Line,	3 2 2 3 3 2 2 2 3 4 4 2 2 2 3 4 4 2 2 2 3 5 5 5 5 5 5 3 3	22MAY08A 10JUN08A 10JUN08A 10JUN08A 77JUL08A 28MAY08A 28MAY08A 28AJ06A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 20JUN08A 07JUL08A 10JU	23MAY08A 13JUN08A 13JUN08A 09JUL08A 07NOV08A 30MAY08A 20JUN08A 03JUL08A 20JUN08A 03JUL08A 28JUN08A 07NOV08A 07NOV08A 27NOV08A 23JUN08A 07NOV08A 10JUL08A 23JUN08A 10JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A 25JUL08A	30APR08 28APR08 21APR08 02MAY08 21APR08 21APR08 30APR08 03MAY08 02MAY08 21MAY08 21MAY08 23MAY08 23MAY08 06AUG08 06AUG08 05JUL68 24SEP08 25AUG08 13OCT08	01MAY08 29APR08 23APR08 06MAY08 23APR08 01MAY08 07MAY08 07MAY08 07MAY08 20MAY08 20MAY08 20MAY08 22MAY08 14MAY08 30MAY08 12AUG08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -132 -132 -41 -132 -132 -132 -132 -132 -132 -132 -13	ICaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG ICaissons: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V-
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0397 0577 0577 0377 0377 0367 0567 0227 0227 0227 0227 0367 0378 0378	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Fronting: F-Line, C-BLDG Masonry: F-Line, C-BLDG Calissons: F-Line, E-BLDG Calissons: F-Line, E-BLDG Piers: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, W-BLDG Calissons: F-Line, W-BLDG Piers: F-Line, W-BLDG Piers: F-Line, W-BLDG Backfill: Foundations: B-Line, E-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Structural Steel: C-BLDG Structural Steel: C-BLDG Steel Start Structural Steel: C-BLDG Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Steel Steel Steel St	3 2 2 3 3 2 2 2 3 4 2 2 2 3 4 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 3 3 2 2 3 3 2 2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	22MAY08A 10JUN08A 10JUN08A 10JUN08A 7JUL08A 18SEP08A 23MAY08A 23AU308AU308A 23AU308A 23AU308A 23AU308A 23AU308A 23AU308A 23AU308A	23MAY08A 13,UIN08A 17,UIN08A 09,UIL08A 07NOY08A 07NOY08A 20,UIN08A 20,UIN08A 20,UIN08A 20,UIN08A 28,UIL08A 28,UIL08A 28,UIL08A 23,UIL08A 23,UIL08A 23,UIL08A 23,UIL08A 25,UIL08A 25,UIL08A 22,SEP08A 23,OCT08A 23,OCT08A 23,OCT08A 23,SEP08A 27,UIN08A 17,JUL08A	30APR08 28APR08 21APR08 21APR08 02MAY08 30APR08 30APR08 30APR08 08MAY08 21APR08 21APR08 21APR08 21APR08 21APR08 21APR08 23MAY08 08AU008 09JUL08 25AU308 13OCT08 14MAY08 14MAY08	01MAY08 29APR08 23APR08 08MAY08 29APR08 23APR08 01MAY08 09MAY08 20MAY08 20MAY08 20MAY08 20MAY08 20MAY08 14MAY08 30MAY08 12AUG08 15JUL08 15JUL08 27AUG08 15OCT08	0 -31 -35 -55 -133 0 -38 -55 -38 -55 -330 0 -24 -132 0 -132 0 -232 -41 -41 -132 -132 -132 -132 -132 -132 -132 -13	ICaissons: F-Line, C-BLDG IPeter: F-Line, C-BLDG IPeter: F-Line, C-BLDG IVali Bracing: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, I-BLDG IPeter: F-Line, V-BLDG IPeter: F-L
0397 0577 0577 0327 0327 0327 0367 0587 0227 0227 0237 0367 0367 0367 0367 0367 0367 0367 0367 0367 0367 0467 0377 0407 0478 04788 04788 04788 04788 04788 04788 04788 04788 04788 047	Calissons: F-Line, C-BLDG Prers: F-Line, C-BLDG Fronting: F-Line, C-BLDG Masonny: F-Line, C-BLDG Collissons: F-Line, E-BLDG Galssons: F-Line, E-BLDG Prers: F-Line, E-BLDG Masonry: F-Line, E-BLDG Masonry: F-Line, E-BLDG Masonry: F-Line, W-BLDG Footings: F-Line, W-BLDG Press: F-Line, W-BLDG Masonry: F-Line, W-BLDG Backfill Foundations: B-Line, K-BLDG Backfill Foundations: B-Line, E-BLDG Backfill Foundations: B-Line, C-BLDG Backfill Foundations: B-Line, C-BLDG Backfill Foundations: C-T-1 Lines, E-BLDG Backfill Foundations: C-T-1 Lines, E-BLDG Backfill Foundations: C-T-1 Lines, C-BLDG Backfill Foundations: C-T-1 Lines, C-BLDG Structural Steel: C-BLDG Steel Steel S	3 2 2 3 3 2 2 3 4 2 2 4 4 2 2 2 3 2 2 4 4 5 5 5 5 3 3 3 0 71 <sup>+</sup> 54 <sup>+</sup> 42 <sup>+</sup> 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	22MAY08A 10JUN08A 115JUN08A 77JUL08A 18JUN08A 28MAY08A 28MAY08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22JUN08A 07JUL08A 118NOV08A 118NOV08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18JUN08A 113JUL08A 113JUL08A 113JUL08A	23MAY08A 13JUN08A 17JUN08A 09JUL08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 28MAY08A 28MOV08A 15SEP08A 31JUL08A 23SEP08A 23OCT08A	30APR08 28APR08 21APR08 21APR08 02MAY08 30APR08 30APR08 30APR08 08MAY08 21APR08 21APR08 21APR08 21APR08 21APR08 21APR08 23MAY08 08AU008 09JUL08 25AU308 13OCT08 14MAY08 14MAY08	01MAY08 29APR08 23APR08 08MAY08 29APR08 23APR08 01MAY08 09MAY08 20MAY08 20MAY08 20MAY08 20MAY08 20MAY08 14MAY08 30MAY08 12AUG08 15JUL08 15JUL08 27AUG08 15OCT08	0 -31 -35 -555 -133 0 -38 -55 -85 -85 -85 -130 -132 0 -132 0 -132 -12 -40 -132 -12 -41 -118 -6 -6 -6 -6 -7 -84 -10 -118 -118 -118 -118 -118 -118 -118	ICaissons: F-Line, C-BLDG IPeter: F-Line, C-BLDG IPeter: F-Line, C-BLDG IVali Bracing: F-Line, C-BLDG ICaissons: F-Line, E-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, I-BLDG IPeter: F-Line, V-BLDG IPeter: F-L
0.097 0.657 0.657 0.027 0.027 0.027 0.027 0.027 0.027 0.038 0.038 0.	Calissons: F-Line, C-BLDG Piers: F-Line, C-BLDG Fronting: F-Line, C-BLDG Masonry: F-Line, C-BLDG Calissons: F-Line, E-BLDG Calissons: F-Line, E-BLDG Piers: F-Line, E-BLDG Backfill: F-Line, E-BLDG Calissons: F-Line, W-BLDG Calissons: F-Line, W-BLDG Piers: F-Line, W-BLDG Piers: F-Line, W-BLDG Backfill: Foundations: B-Line, E-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Backfill: Foundations: B-Line, W-BLDG Structural Steel: C-BLDG Structural Steel: C-BLDG Steel Start Structural Steel: C-BLDG Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Start Steel Steel Steel Steel St	3 2 2 3 3 2 2 2 3 4 2 2 2 3 4 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 2 3 3 2 2 2 3 3 2 2 2 3 3 2 2 3 3 2 2 3 3 2 2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	22MAY08A 10JUN08A 10JUN08A 10JUN08A 7JUL08A 18SEP08A 23MAY08A 23AU308AU308A 23AU308A 23AU308A 23AU308A 23AU308A 23AU308A 23AU308A	23MAY08A 13,UIN08A 17,UIN08A 09,UIL08A 07NOY08A 07NOY08A 20,UIN08A 20,UIN08A 20,UIN08A 20,UIN08A 28,UIL08A 28,UIL08A 28,UIL08A 23,UIL08A 23,UIL08A 23,UIL08A 23,UIL08A 25,UIL08A 25,UIL08A 22,SEP08A 23,OCT08A 23,OCT08A 23,OCT08A 23,SEP08A 27,UIN08A 17,JUL08A	30APR08 28APR08 21APR08 21APR08 02MAY08 30APR08 30APR08 30APR08 08MAY08 21APR08 21APR08 21APR08 21APR08 21APR08 21APR08 23MAY08 08AU008 09JUL08 25AU308 13OCT08 14MAY08 14MAY08	01MAY08 29APR08 23APR08 08MAY08 29APR08 23APR08 01MAY08 09MAY08 20MAY08 20MAY08 20MAY08 20MAY08 20MAY08 14MAY08 30MAY08 12AUG08 15JUL08 15JUL08 27AUG08 15OCT08	0 -31 -35 -55 -133 0 -38 -55 -38 -55 -330 0 -24 -132 0 -132 0 -232 -41 -41 -132 -132 -132 -132 -132 -132 -132 -13	Icaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Wall Bracing: F-Line, C-BLDG Caissons: F-Line, F-BLDG IFootings: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, F-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V+BLDG IPerts: F-Lin
0097 0577 0577 027 027 027 027 027 027 027 0	Calissons: F-Line, C-BLDG           Piers: F-Line, C-BLDG           Piers: F-Line, C-BLDG           Wall Bracing: F-Line, C-BLDG           Masony: F-Line, C-BLDG           Masony: F-Line, C-BLDG           Masony: F-Line, C-BLDG           Mall Bracing: F-Line, E-BLDG           Mall Bracing: F-Line, E-BLDG           Masony: F-Line, E-BLDG           Masony: F-Line, E-BLDG           Masony: F-Line, K-BLDG           Calissons: F-Line, W-BLDG           Footings: F-Line, W-BLDG           Backfill: F-Line, K-BLDG           Masony: F-Line, W-BLDG           Backfill: Foundations: A-Line, C-BLDG           Backfill: Foundations: A-Line, C-BLDG           Backfill: Foundations: A-Line, K-BLDG           Backfill Foundations: A-Line, K-BLDG           Backfill Foundations: A-Line, K-BLDG           Backfill Foundations: A-Line, K-BLDG           Backfill Foundations: A-Line, K-BLDG           Structural Steel: C-BLDG           Structural Steel: C-BLDG           Structural Steel: C-BLDG           Structural Steel: C-BLDG           Steel Erection Complete           Erect: 13-15/A-E (Seq 1-7)           Detait: 13-16/A-E (Seq 1-9)           Detait: 13-17/A-E (Seq 1-9)	3 2 2 3 3 2 2 2 3 4 2 2 3 4 2 2 3 3 2 4 4 2 2 3 3 3 2 2 4 4 2 2 3 3 3 4 4 2 2 3 3 3 3 2 2 2 3 3 4 4 2 2 3 3 3 2 2 2 3 3 4 4 2 2 3 3 4 4 2 2 3 3 2 2 3 3 3 2 2 3 3 2 2 3 3 2 2 4 4 2 2 3 3 2 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	22MAY08A 10JUN08A 10JUN08A 10JUN08A 7JUL08A 28MAY08A 28JUN08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 22JUN08A 07JUL08A 18NOV08A 18NOV08A 18NOV08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18SEP08A 18JUN08A 09JUN08A 09JUN08A 18JUN08A 09JUN08A 20JUN08A 20JUN08A	23MAY08A 13JUN08A 13JUN08A 13JUN08A 09JUL08A 30MAY08A 20JUN08A 09JUL08A 20JUN08A 07NOV08A 27NOV08A 07NOV08A 07NOV08A 07NOV08A 07NOV08A 07JUL08A 23JUN08A 15SEP08A 31JUL08A 23SEP08A 15SEP08A 30SEP08A 15SEP08A 23S	30APR08 28APR08 21APR08 21APR08 02MAY08 30APR08 30APR08 30APR08 08MAY08 21APR08 21APR08 21APR08 21APR08 21APR08 21APR08 23MAY08 08AU008 09JUL08 25AU308 13OCT08 14MAY08 14MAY08	01MAY08 29APR08 23APR08 08MAY08 29APR08 23APR08 01MAY08 09MAY08 20MAY08 20MAY08 20MAY08 20MAY08 20MAY08 14MAY08 30MAY08 12AUG08 15JUL08 15JUL08 27AUG08 15OCT08	0 -31 -35 -55 -133 0 -38 -55 -85 -130 -32 0 -24 -132 0 -24 -132 -24 -132 -24 -132 -24 -132 -24 -112 -41 -118 -6 -6 -18 -34 0 -112 -112 -112 -112 -112 -112 -112 -1	Icaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG Matil Bracing: F-Line, C-BLDG Caissons: F-Line, F-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, F-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V+BLDG IPerts: F-Line,
0097 0577 0577 0227 0237 0247 0257 0267 0267 0297 0297 0297 0297 0297 0397 0397 0397 0397 0397 0497 0397 0498 04988 04988 04988 04988 04988 04988 04988 04988 04988 049	Calissons: F-Line, C-BLDG Prers: F-Line, C-BLDG Frodings: F-Line, C-BLDG Masonry: F-Line, C-BLDG Colissons: F-Line, E-BLDG Galssons: F-Line, E-BLDG Prers: F-Line, E-BLDG Backtill F-Line, E-BLDG Backtill F-Line, E-BLDG Calissons: F-Line, W-BLDG Footings: F-Line, W-BLDG Prers: F-Line, W-BLDG Press: F-Line, W-BLDG Backtill Foundations: B-Line, E-BLDG Backtill Foundations: B-Line, E-BLDG Backtill Foundations: B-Line, C-BLDG Backtill Foundations: B-Line, C-BLDG Backtill Foundations: B-Line, C-BLDG Backtill Foundations: B-Line, V-BLDG Backtill F	3 2 2 3 3 3 2 2 2 3 4 4 2 2 2 3 3 4 2 2 2 3 3 4 4 2 2 2 3 3 4 4 2 2 2 3 3 4 4 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	22MAY08A 10JUN08A 10JUN08A 10JUN08A 77JUL08A 18SEP08A 23MAY08A 25AUG08A 22SEP08A 22SEP08A 22SEP08A 22SEP08A 24SEP08A 24SEP08A 23JUN08A 18NOV08A 18NOV08A 18NOV08A 18SEP08A 18SEP08A 09JUN08A 18SEP08A 09JUN08A 18JUL08A 13JUL08A 13JUL08A	23MAY08A 13,UN08A 17,UN08A 09,UL08A 07NOV08A 20,UN08A 20,UN08A 20,UN08A 20,UN08A 20,UN08A 20,UN08A 20,UN08A 27,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 23,UN08A 15,SEP08A 23,OCT08A 23,SEP08A 24,SEP08A 24,S	30APR08 28APR08 21APR08 21APR08 02MAY08 30APR08 30APR08 30APR08 08MAY08 21APR08 21APR08 21APR08 21APR08 21APR08 21APR08 23MAY08 08AU008 09JUL08 25AU308 13OCT08 14MAY08 14MAY08	01MAY08 29APR08 23APR08 08MAY08 29APR08 23APR08 01MAY08 09MAY08 20MAY08 20MAY08 20MAY08 20MAY08 20MAY08 14MAY08 30MAY08 12AUG08 15JUL08 15JUL08 27AUG08 15OCT08	0 -31 -35 -55 -133 0 -38 -55 -132 0 -132 0 -132 -132 -132 -132 -132 -132 -132 -132	ICaissons: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG IPerts: F-Line, C-BLDG ICaissons: F-Line, C-BLDG ICaissons: F-Line, E-BLDG IFootings: F-Line, F-BLDG IPerts: F-Line, K-BLDG IPerts: F-Line, V-BLDG IPerts: F-Line, V-

Figure 61: Turner Construction Schedule 3/4

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Plan Start	Plan Finish	Fin Var	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
0489	Stair C1	15	21JUL08A	12AUG08A			0					1	1		Stair C	:1		
0499	Stair W2	15	22JUL08A	08AUG08A			0								Stair W	2		
0509	Stair W1	15	18AUG08A	05SEP08A			0									Stair W1		
Crane 2									1			1	1	_	1		i.	1
0359	Erect: 13-8 / A-E (Seq 101-112)	13	08JUL08A	18JUL08A			0				10.0				ect: 13-8 /	A-E (S	eq 101-1	12)
0449	Detail: 13-8 / A-E (Seq 101-112)	28	17JUL08A	15SEP08A			0			Detail	13-8/	A-E (3	Seq 101-			-	1	
0369	Erect: 8-4 / A-E (Seq 113-124)	25	18JUL08A	05AUG08A			0					1	1		Erect: 8	-4 / A-E	(Seq 11	3-124)
0459	Detail: 8-4 / A-E (Seq 113-124)	39	22JUL08A	15SEP08A			0						(Seq 11)		1	-		
0389	Erect: 4-0.07 / A-E (Seq 125-131)	18	05AUG08A	28AUG08A			0								1)			
0479	Detail: 4-0.07 / A-E (Seq 125-131)	31	06AUG08A	15SEP08A			0			De	tail: 4-0	0.07 / A	-E (Seq	125-13	1)	•		
0519	Stair E1	15	04AUG08A	20AUG08A			0								Stair	r E1		
0529	Stair E2	10	06AUG08A	20AUG08A			0								Stair	r E2		
SOD									1			1	1				i.	
	1					12AUG08									E - E	COD. C		
0050	SOD: C-BLDG	33*	23JUL08A	06SEP08A	25JUN08		-18									SOD: C	SOD: W	
0049	SOD: W-BLDG	32*	25AUG08A	070CT08A	10SEP08	280CT08	15											
0051	SOD: E-BLDG	22*	26AUG08A	24SEP08A	23JUL08	09SEP08	-11						-		-	ISO	D: E-BL	DG
08-21 0281B	MEP Hangers/Slab RI: 8-21 / A-E (1st Fir)	5	14JUL08A	18JUL08A			0							D.4F	P Hanger	e/Slah 5	1. 8-21	A-E (1et
0291B		-													SOD: 8-2			N-L (lat
	SOD: 8-21 / A-E (1st Fir)	5	23JUL08A	28JUL08A			0		1		anorole	lab Di	0.2111			17 A-E	(Ist Fir)	
0381B	MEP Hangers/Slab RI: 8-21 / A-E (5th Fir)	5	14AUG08A	15AUG08A			0		Ň	IEP Ha	ngers/S	ab RI:	0-2177	-E (5th				-
0391B	SOD: 8-21 / A-E (5th Fir)	5	15AUG08A	18AUG08A			0						1			8-21/	A-E (5th	i Fir)
0321B	MEP Hangers/Slab RI: 8-21 / A-E (2nd Fir)	5	24JUL08A	30JUL08A			0		MEPH	angers	olap RI	. 8-21	A-E (2	nd Flr)	1	-	1	
0331B	SOD: 8-21 / A-E (2rd Fir)	5	31JUL08A	04AUG08A			0						·		SOD: 8-	21 / A-E	. (2rd Flr	)
0341B	MEP Hangers/Slab RI: 8-21 / A-E (3rd Fir)	5	25JUL08A	30JUL08A			0		MEPH	angers	/Slab R	1: 8-21	/A-E (	3rd Flr)				
0351B	SOD: 8-21 / A-E (3rd Fir)	5	31JUL08A	12AUG08A			0									8-21 / A	-E (3rd F	fir)
0361B	MEP Hangers/Slab RI: 8-21 / A-E (4th Fir)	5	11AUG08A	12AUG08A			0		M	EP Han	gers/SI	ab RI:	8-21 / A	E (4th	Fir)			
0371B	SOD: 8-21 / A-E (4th Flr)	5	13AUG08A	14AUG08A			0						1			8-21 / A	A-E (4th	Flr)
0401D	MEP Hangers/Slab RI: 8-21 (Penthouse)	5	26AUG08A	02SEP08A			0			ME	Hang	ers/Sla	b RI: 8-3	21 (Pent	house)			1
0411D	SOD: 8-21 (Penthouse)	5	29AUG08A	06SEP08A			0								E 📮	SOD: 8	-21 (Per	nthouse)
08 - 04									i i						1		1	1
0281F	MEP Hangers/Slab RI: 8-4 / A-E (1st Fir)	4	25AUG08A	02SEP08A			0			MEP	Hange	ers/Slab	RI: 8-4	/ A-E (	1st Flr)			
0291F	SOD: 8-4 / A-E (1st Fir)	4	26AUG08A	04SEP08A			0									SOD: 8-	4/A-E (	(1st Fir)
0321F	MEP Hangers/Slab RI: 8-4 / A-E (2nd Fir)	4	29AUG08A	04SEP08A			0			MER	P Hange	ers/Slat	RI: 8-4	4/A-E (	2nd Flr)			
0331F	SOD: 8-4/A-E (2rd Flr)	4	29AUG08A	08SEP08A			0	1								SOD: 8	3-4 / A-E	(2rd Fir)
0341F	MEP Hangers/Slab RI: 8-4 / B-E (3rd Fir)	4	11SEP08A	16SEP08A			0	1		- )	MEP Ha	angers/	Slab RI:	8-4/B-	E (3rd Fir	)		
0351F	SOD: 8-4 / B-E (3rd Fir)	4	12SEP08A	17SEP08A			0									SOD:	8-4/B	E (3rd F
0361F	MEP Hangers/Slab RI: 8-4 / B-E (4th Fir)	4	12SEP08A	17SEP08A			0				MEP H	angers	Slab RI:	8-4/B	E (4th Fir	r)		
0371F	SOD: 8-4 / B-E (4th Fir)	4	15SEP08A	18SEP08A			0									SOD	: 8-4/B	-E (4th F
0381F	MEP Hangers/Slab RI: 8-4 / B-E (5th Fir)	4	16SEP08A	19SEP08A			0				MEPH	langer	s/Slab R	1: 8-4/1	B-E (5th F			
0391F	SOD: 8-4 / B-E (5th Fir)	4	17SEP08A	22SEP08A			0								1 1		D- 8-4/1	B-E (5th F
04-01	JOOD. DATI DE (DATTA)		TROEFOOR	220Er Ourt		1			1 1	-		1	1	-				
0281H	MEP Hangers/Slab RI: 4-1 / A-E (1st Fir)	4	02SEP08A	08SEP08A			0			M	EP Han	gers/SI	ab RI: 4	-1/A-E	(1st Fir)			
0291H	SOD: 4-1 / A-E (1st Fir)	4	03SEP08A	10SEP08A			0								1 i i	SOD	4-1 / A-E	(1st Fir)
0412H	Complete SOD: 0.7-01 (1st Fir)	4	060CT08A	060CT08A			0						Comp	lete SOI	0.7-01 (			
0321H	MEP Hangers/Slab RI: 4-1 / A-E (2nd Fir)	4	03SEP08A	09SEP08A	-		0			ME	P Han	ers/SI			(2nd Fir)			
0331H	SOD: 4-1/A-E (2rd Fir)	4	05SEP08A	11SEP08A			0					1	1				4-1 / A-F	(2rd Fir)
0341H	MEP Hangers/Slab RI: 4-1 / B-E (3rd Fir)	4	15SEP08A	17SEP08A			0			-	MEPH	angers	Slab R	4-1/6	B-E (3rd F			(ard m)
0341H	-			18SEP08A							MILL I	ungen	-Ciub It	1 4 1 / 1	L (ordin			-E (3rd F
	SOD: 4-1 / B-E (3rd Flr)	4	16SEP08A				0				MEDI				B-E (4th F		: 4-17 D	-E (Srd F
0361H	MEP Hangers/Slab RI: 4-1 / B-E (4th Fir)	4	15SEP08A	18SEP08A	-		0				WIEP I	anger	Siab IC	. 4-171	2-C (4011			- 1
0371H	SOD: 4-1 / B-E (4th Fir)	4	17SEP08A	19SEP08A			0						1		1		< 4-1/B	B-E (4th F
0381H	MEP Hangers/Slab RI: 4-1 / B-E (5th Fir)	4	18SEP08A	22SEP08A			0		1		MEP	Hanger	s/Slab F	8: 4-1/	B-E (5th F		1	-
0391H	SOD: 4-1 / B-E (5th Fir)	4	19SEP08A	23SEP08A			0										D: 4-1/1	B-E (5th F
0401H	MEP Hangers/Slab RI: 8-1 (Penthouse)	4	16SEP08A	19SEP08A			0				MEP	Hange	rs/Slab	RI: 8-1	(Penthous			
0411H	SOD: 8-1 (Penthouse)	4	18SEP08A	24SEP08A			0									SO	D: 8-1 (	Penthous
0411H10	Pour Curbs: 8-1 (Penthouse)	5	24SEP08A	30SEP08A			0				_		Pour C	urbs: 8-	1 (Pentho	use)		
01 - 0.7											11-			07.1.5 -	14-2 -			
0281DL	MEP Hangers/Slab RI: 1-0.07 / A-E (1st Fir)		04SEP08A	05SEP08A	-		0			MEP	Hange	rs/Slab	rti: 1-0	.u/ / A-E	(1st Fir)			
0291DL	SOD: 1-0.07 / A-E (1st Fir)	2	08SEP08A	10SEP08A			0						1		0	SOD:	1-0.07 / A	A-E (1st F
21-25		1	0041/0001	224110004	-					MEP H	anders	Slah P	21-25	/B-E (1	st FirM			
0281C	MEP Hangers/Slab RI: 21-25 / B-E (1st Fir)	4	22AUG08A	22AUG08A	-		0			WEP Ha	angers/	JIBD RI	21-25	, D-C (1				1
0291C	SOD: 21-25 / B-E (1st Fir)	4	25AUG08A	25AUG08A			0		E Î.	HER		Clark F	101.00			U: 21-2	5/B-E (	ist Fir)
0321C	MEP Hangers/Slab RI: 21-25 / B-E (2nd Fir)	4	25AUG08A	28AUG08A			0		(	MEPHa	angers/	Slab RI	21-25	/ B-E (2	and Fir)		1	1
0331C	SOD: 21-25 / B-E (2rd Flr)	4	26AUG08A	29AUG08A			0										25 / B-E	(2rd Flr)
0341C	MEP Hangers/Slab RI: 21-25 / B-E (3rd Fir)	4	26SEP08A	30SEP08A			0				MEPH	Hanger			5/B-E (3rd			
0351C	SOD: 21-25 / B-E (3rd Fir)	4	29SEP08A	01OCT08A			0								5 / B-E (3r			
0361C	MEP Hangers/Slab RI: 21-25 / B-E (4th Fir)	4	26SEP08A	30SEP08A			0				MEP	Hanger			5 / B-E (4th			
0371C	SOD: 21-25 / B-E (4th Fir)	4	010CT08A	030CT08A			0	1					SC	D: 21-2	25/B-E (4	th Fir)		
0381C	MEP Hangers/Slab RI: 21-25 / B-E (5th Fir)	4	30SEP08A	030CT08A			0	1			MEP	Hange	rs/Slab I	RI: 21-2	5/B-E (5	th Fir)		
0391C	SOD: 21-25 / B-E (5th Fir)	4	010CT08A				0	1					SC	D: 21-2	25/B-E (5	ith Fir)		
25 - 28							-				_	1	i.				-	
02811	MEP Hangers/Slab RI: 25-28 / B-E (1st Fir)	4	17SEP08A	22SEP08A			0			1	IEP Ha	ingers/s	Slab RI:	25-28 /	B-E (1st F	·ir)		
02911	SOD: 25-28 / B-E (1st Flr)	4	19SEP08A	25SEP08A			0	1					SOD:	25-28 /	B-E (1st	Fir)		
03211	MEP Hangers/Slab RI: 25-28 / B-E (2nd Fir)	4	16SEP08A	19SEP08A			0	1		M	EP Har	gers/S	ab RI: 2	25-28 / E	3-E (2nd F	lr)		
03311	SOD: 25-28 / B-E (2rd Fir)	4	22SEP08A	30SEP08A			0								B-E (2rd			
03411	MEP Hangers/Slab RI: 25-28 / B-E (3rd Fir)	4	223EP08A 29SEP08A	010CT08A			0				MEP	Hange			8 / B-E (3r			
03511	SOD: 25-28 / B-E (3rd Fir)	4	30SEP08A	020CT08A			0		t i						8/B-E (3)			- 1
					-								1 00	. 20-2		1		
03611	MEP Hangers/Slab RI: 25-28 / B-E (4th Fir)	4	30SEP08A	030CT08A	-		0									1		
03711	SOD: 25-28 / B-E (4th Fir)	4	010CT08A	040CT08A			0										. 1	
03811	MEP Hangers/Slab RI: 25-28 / B-E (5th Fir)	4	070CT08A	090CT08A			0										1	
03911	SOD: 25-28 / B-E (5th Fir)	4	080CT08A	100CT08A			0									1		
04011	MEP Hangers/Slab RI: 21-28 (Penthouse)	4	010CT08A	060CT08A			0									-		
04111	SOD: 21-28 (Penthouse)	4	020CT08A	070CT08A			0											
0411110	Pour Curbs: 21-28 (Penthouse)	3	100CT08A	100CT08A			0						1				1	
28 - 31									1				1		1 E			1
	MEP Hangers/Slab RI: 28-31 / B-E (1st Fir)	2	140CT08A	150CT08A			0										1	
0281K 0291K	SOD: 28-31 / B-E (1st Fir)	2	150CT08A	170CT08A			0										1	

Figure 62: Turner Construction Schedule 4/4

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### **APPENDIX G: SUSTAINABLE ARCHITECTURE BREADTH STUDY**



### LEED for New Construction v 2.2 Registered Project Checklist

Project Name: Westinghouse Electric Company Corporate Headquarters

Project Address: 1000 Westinghouse Drive, Cranberry Township, PA 16066

Yes	?	No								
28	5	33	Project Totals (Pre-C	Project Totals (Pre-Certification Estimates)						
	CERTIFIED		Certified: 26-32 points	Silver: 33-38 points	Gold: 39-51 points	Platinum: 52-69 points				

Yes	?	No			
8	3	3	Sustaina	14 Points	
Yes			Prereq 1	Construction Activity Pollution Prevention	Required
1	0	0	Credit 1	Site Selection	1
0	0	1	Credit 2	Development Density & Community Connectivity	1
0	0	1	Credit 3	Brownfield Redevelopment	1
1	0	0	Credit 4.1	Alternative Transportation, Public Transportation	1
1	0	0	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1
0	0	1	Credit 4.3	Alternative Transportation, Low-Emitting & Fuel Efficient Vehicles	1
1	0	0	Credit 4.4	Alternative Transportation, Parking Capacity	1
1	0	0	Credit 5.1	Site Development, Protect or Restore Habitat	1
1	0	0	Credit 5.2	Site Development, Maximize Open Space	1
1	0	0	Credit 6.1	Stormwater Design, Quantity Control	1
	1		Credit 6.2	Stormwater Design, Quality Control	1
	1		Credit 7.1	Heat Island Effect, Non-Roof	1
1	0	0	Credit 7.2	Heat Island Effect, Roof	1
	1		Credit 8	Light Pollution Reduction	1

Yes	?	No			
2	0	0	Water Ef	fficiency	5 Points
1	0	0	Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1
1	0	0	Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1
			Credit 2	Innovative Wastewater Technologies	1
			Credit 3.1	Water Use Reduction, 20% Reduction	1
			Credit 3.2	Water Use Reduction, 30% Reduction	1



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## LEED for New Construction v 2.2 Registered Project Checklist

Yes	?	No				
2	0	15	Energy 8	& Atmosp	here	17 Points
Yes			Prereg 1	Fundament	tal Commissioning of the Building Energy Systems	Required
Yes			Prereg 1		nergy Performance	Required
Yes			Prereg 1	Fundament	tal Refrigerant Management	Required
*Note for	FAc1: All I	FED for Ne	w Constructi		egistered after June 26, 2007 are required to achieve at least tw	(0, (2)) points
2	0	8	1			Sheke.
4	0	•	Credit 1		nergy Performance	1 to 10
				Credit 1.1	10.5% New Buildings / 3.5% Existing Building Renovations	1
			>	Credit 1.2	14% New Buildings / 7% Existing Building Renovations	2
				Credit 1.3	17.5% New Buildings / 10.5% Existing Building Renovations	3
				Credit 1.4	21% New Buildings / 14% Existing Building Renovations	4
				Credit 1.5	24.5% New Buildings / 17.5% Existing Building Renovations	5
				Credit 1.6	28% New Buildings / 21% Existing Building Renovations	6
				Credit 1.7	31.5% New Buildings / 24.5% Existing Building Renovations	7
				Credit 1.8	35% New Buildings / 28% Existing Building Renovations	8
				Credit 1.9	38.5% New Buildings / 31.5% Existing Building Renovations	9
			2	Credit 1.10	42% New Buildings / 35% Existing Building Renovations	10
0	0	3	Credit 2	On-Site Rer	newable Energy	1 to 3
				Credit 2.1	2.5% Renewable Energy	1
				Credit 2.2	7.5% Renewable Energy	2
				Credit 2.3	12.5% Renewable Energy	3
0	0	1	Credit 3	Enhanced (	Commissioning	1
0	0	1	Credit 4	Enhanced F	Refrigerant Management	1
0	0	1	Credit 5	Measureme	ent & Verification	1
0	0	1	Credit 6	Green Pow	er	1

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### LEED for New Construction v 2.2 Registered Project Checklist

Yes	?	No			
5	0	8	Materia	13 Points	
Yes	ſ		Prereq 1	Storage & Collection of Recyclables	Required
0	0	1	Credit 1.1	Building Reuse, Maintain 75% of Existing Walls, Floors & Roof	1
0	0	1	Credit 1.2	Building Reuse, Maintain 95% of Existing Walls, Floors & Roof	1
0	0	1	Credit 1.3	Building Reuse, Maintain 50% of Interior Non-Structural Elements	1
1	0	0	Credit 2.1	Construction Waste Management, Divert 50% from Disposal	1
0	0	1	Credit 2.2	Construction Waste Management, Divert 75% from Disposal	1
1	0	0	Credit 3.1	Materials Reuse, 5%	1
1	0	0	Credit 3.2	Materials Reuse, 10%	1
0	0	1	Credit 4.1	Recycled Content, 10% (post-consumer + 1/2 pre-consumer)	ĩ
0	0	1	Credit 4.2	Recycled Content, 20% (post-consumer + 1/2 pre-consumer)	1
1	0	0	Credit 5.1	Regional Materials, 10% Extracted, Processed & Manufactured	1
1	0	0	Credit 5.2	Regional Materials, 20% Extracted, Processed & Manufactured	1
0	0	1	Credit 6	Rapidly Renewable Materials	1
0	0	1	Credit 7	Certified Wood	1

Yes	?	No			
10	2	3	Indoor E	Invironmental Quality	15 Points
Yes			Prereq 1	Minimum IAQ Performance	Required
Yes			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
1	0	0	Credit 1	Outdoor Air Delivery Monitoring	1
1	0	0	Credit 2	Increased Ventilation	1
	1		Credit 3.1	Construction IAQ Management Plan, During Construction	1
	1		Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1
1	0	0	Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1
1	0	0	Credit 4.2	Low-Emitting Materials, Paints & Coatings	1
1	0	0	Credit 4.3	Low-Emitting Materials, Carpet Systems	1
0	0	1	Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1
0	0	1	Credit 5	Indoor Chemical & Pollutant Source Control	1
1	0	0	Credit 6.1	Controllability of Systems, Lighting	1
1	0	0	Credit 6.2	Controllability of Systems, Thermal Comfort	1
1	0	0	Credit 7.1	Thermal Comfort, Design	1
1	0	0	Credit 7.2	Thermal Comfort, Verification	1
1	0	0	Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1
0	0	1	Credit 8.2	Daylight & Views, Views for 90% of Spaces	1

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Figure 65: LEED Checklist from http://www.usgbc.org/showfile.aspx?documentid=3998 3/4

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## LEED for New Construction v 2.2 Registered Project Checklist

Yes	?	No		
1	0	4	Innovation & Design Process	5 Points
0	0	1	Credit 1.1 Innovation in Design: Provide Specific Title	ĩ
0	0	1	Credit 1.2 Innovation in Design: Provide Specific Title	1
0	0	1	Credit 1.3 Innovation in Design: Provide Specific Title	1
0	0	1	Credit 1.4 Innovation in Design: Provide Specific Title	1
1	0	0	Credit 2 LEED® Accredited Professional	1

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Figure 66: LEED Checklist from http://www.usgbc.org/showfile.aspx?documentid=3998 4/4

### **APPENDIX H: REFERENCES**

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