

**PSU AE Senior Thesis
Towers Crescent Building B
Vienna Virginia**



**Mike Synnott
Structural Option**

TOWERS CRESCENT BUILDING B

VIENNA, VA



Mike Synnott
Structural

Architecture:

- Size: 218,000 sf
- Height: 9 Stories, 122.75'
- Building designed after existing Phillip Johnson building already on site.
- Part of Master plan including existing and 2nd new building.
- Glazed Aluminum and Brick Curtain Wall

Construction:

- Owner: Quadrangle Development Corporation and AEW Capital Management
- Project Designer: Rod Henderer, AIA
- Project Manager: A. J. Thackrah
- Structural: KCE
- MEP: EDG
- GM: Davis Construction
- Civil: VIKA
- Project Delivery: GMP (Guaranteed Maximum Price)
- Cost: app. \$37,000,000



Structural System:

- Structural Steel Moment Frame
- 5.25" Flat Slab on Metal Decking
- Concrete/Steel Composite Design





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Executive Summary

Throughout the year, I have studied the current design of Towers Crescent Building B, as well as proposed two alternate structures to compare to the design of the building. Much was learned through checking the existing structure and designing my own alternate structures.

The existing structure is composite steel with braced frames for lateral support. This design was quite efficient, especially when considering constructability and time of construction.

The two alternate structures are concrete flat slab designs, with the first using the same column layout as the original design and the second adding a row of columns. The first alternate design employs the use of post tensioning and slab beams to counteract the forces and deflections on the structure. The second alternate design uses drop panels and smaller bays to limit deflection and loads on the columns.

Height was not considered to change between designs for Building B due to the importance of the architectural design of the structure. Had this been considered, it would have greatly influenced my decision on which design was the most efficient and economic.

I decided that the existing system was the best design for Towers Crescent Building B. It was the least expensive and took the least amount of time to build. It was also the simplest design to construct. Had height changes been considered in the design of the alternate structures, the second alternate structure would have been the best design. With the lowering of the story height, and the addition of a row of columns, this design would have been much less expensive and would not have taken much more time to construct than the steel structure.



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Introduction

Towers Crescent Building B is a 9 Story, mixed use retail and office building. Located in Vienna Virginia, it shares its space with two other buildings already located on the site. This 200,000 square foot building completed construction in November 2001 at a cost of about \$45,000,000.

The owners of Building B, Quadrangle Development Corporation and AEW Capital Management hired the following firms for the design of the building.

- RTKL Architects designed the building, basing it off of an existing building, already on the site.
- KCE Structural Engineers handled the design of the structure.
- EDG-MEP Engineering handled the design of the mechanical and electrical systems.
- Davis Construction Corporation acted as general contractor and Construction Manager for the construction of the building.

My proposal for Building B is a look into the structural design of the building and to check if the composite steel design is in fact the most efficient design for the building. Two alternate structures will be investigated. The first structure looked at a concrete flat slab layout, using the same column layout as the original design. The second is also a concrete flat slab, but with an extra row of columns added to decrease the size of the bays.

Two breadth studies were also done on Building B. The first is an in depth look at the architectural history of the building and why it was designed the way it was. The second is an in depth cost analysis/comparison of the existing design and the two alternate designs.



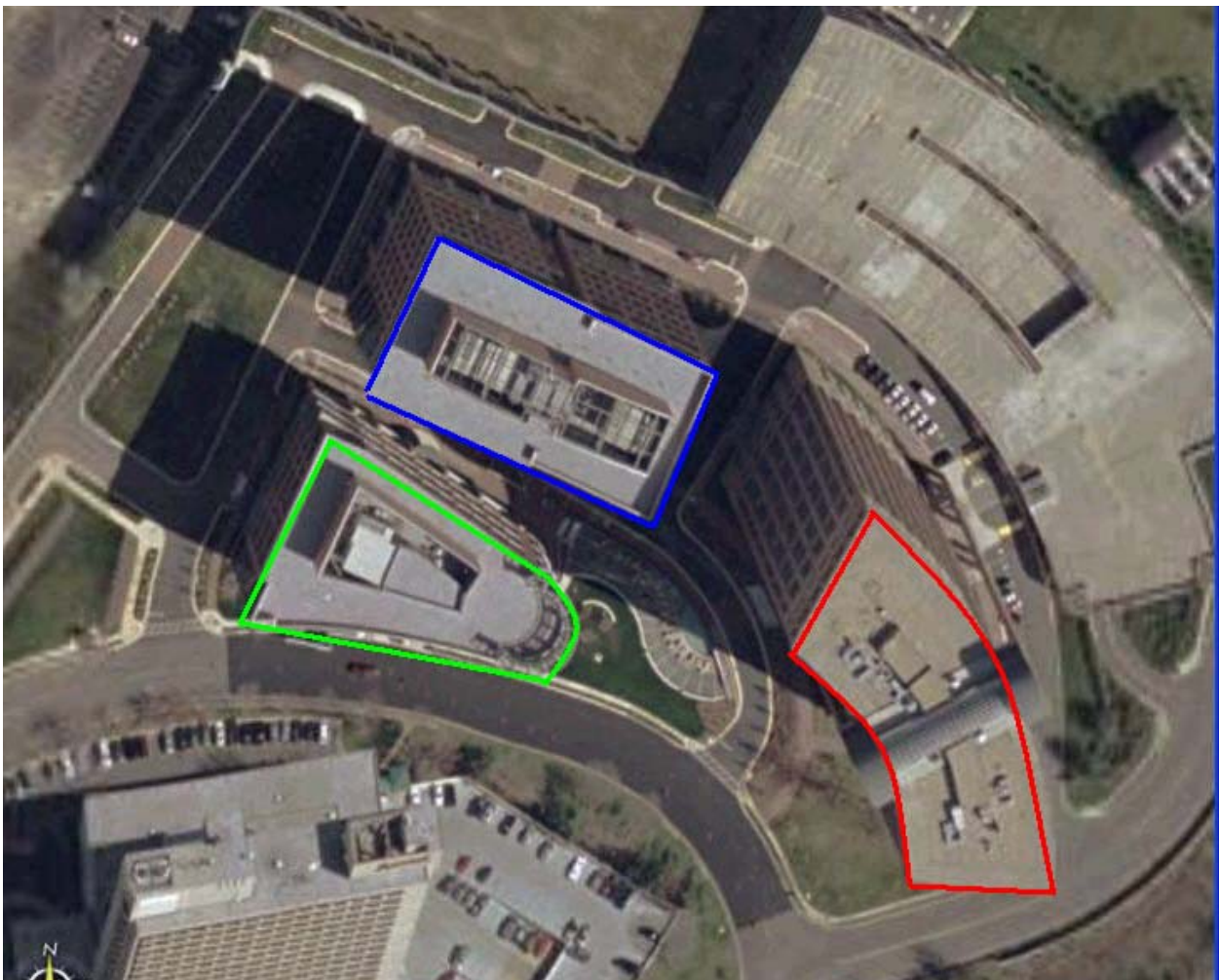
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Site Information

Located on the 8000 block of Towers Crescent Dr are three buildings, Towers Crescent, Building B, and Building C. Towers Crescent was built first, in the mid 1980's, while buildings B and C were built about the year 2001. The photo below is of the site taken from Google Earth. Highlighted in red is the original Towers Crescent building. In blue is Building B and in green is Building C.





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Breadth Study 1 – Architectural History

Built in 2001, Building B was designed based off of Towers Crescent, the first building built on the site. Towers Crescent was designed by well known architect Philip Johnson in the early 1980's.

If you do not recognize the name Philip Johnson, he was born July 8th, 1906 in Cleveland OH. He attended Harvard and graduated in 1930 with a degree in Architectural History. From there he became the first Director of the Department of Architecture at the Museum of Modern Art in New York City. He returned to Harvard in 1940 and studied architecture, where the design for one of his most famous works, the Glass House, was designed for his master Thesis. Due to “50 years of imagination and vitality embodied in a myriad of museums, theaters, libraries, houses, gardens and corporate structures”, he became the first recipient of the Pritzker Architecture Prize in 1979.

A few of his most Notable works I have listed below.

The Glass House, New Canaan CT (1949)





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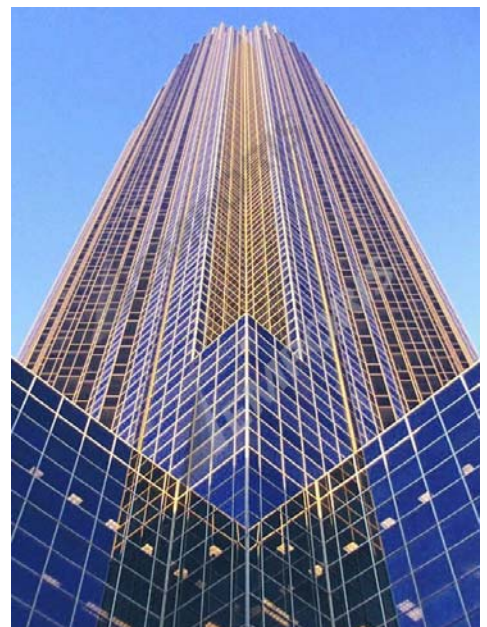
Crystal Cathedral, Garden Grove CA (1980)



AT&T Headquarter, New York City (1984)



Transco Tower, Houston Texas (1983)





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Johnson's original idea for the design of the Towers Crescent site was to have two other identical buildings built alongside the original in order to provide a focal point from I-495. RTKL, the architectural firm hired for the design of the site, decided to modify Johnson's original idea. The redesign is to create five smaller buildings instead of two identical buildings, but still maintain the same total square footage of 900,000 square feet. Buildings B and C are the first two of the five to be built with three other buildings still in the planning/design phase.

With such a prestigious name attached to site, the design of Building B had to encompass Johnson's style as well as accentuate Towers Crescent Building. The façade, primarily brick and glass, also contains aluminum trim and a two story, pre-patina copper wall. RTKL succeeded in designing buildings which complemented the original Towers Crescent and added to the beauty of the site.



Towers Crescent Building



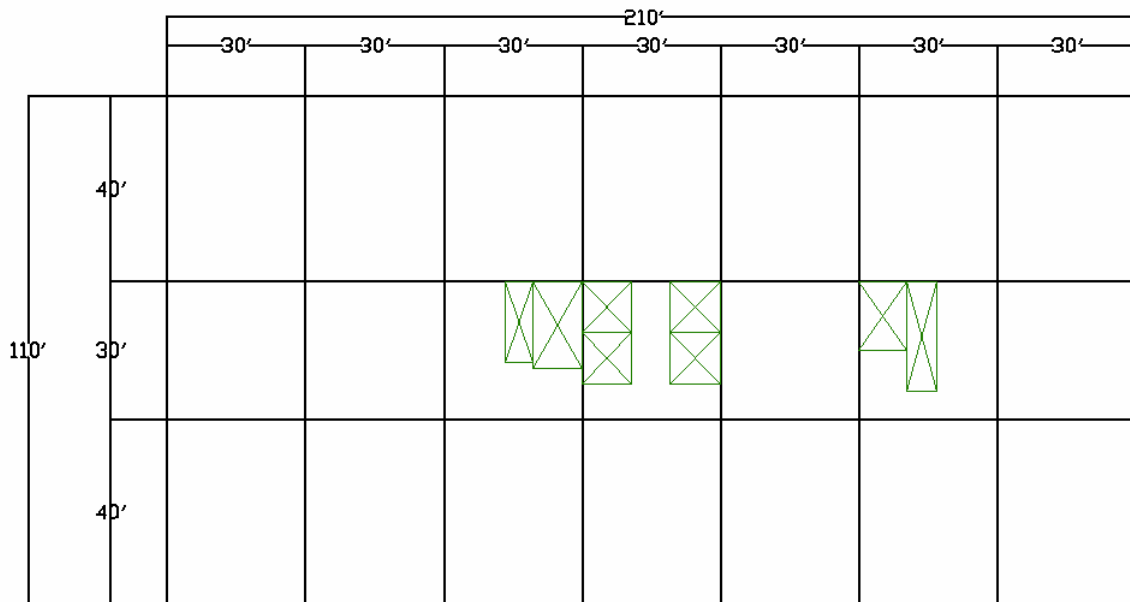
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Existing Structure

Building B is a 9 story, 200,000 square foot building with an average story height of 13'-4". The exterior façade is composed of mainly glass and brick, with aluminum and copper aspects as well. The footprint of the building is basically rectangular, measuring 210' x 110'. Two typical bay sizes, 40' x 30' and 30' x 30' make up a typical floor, shown below.



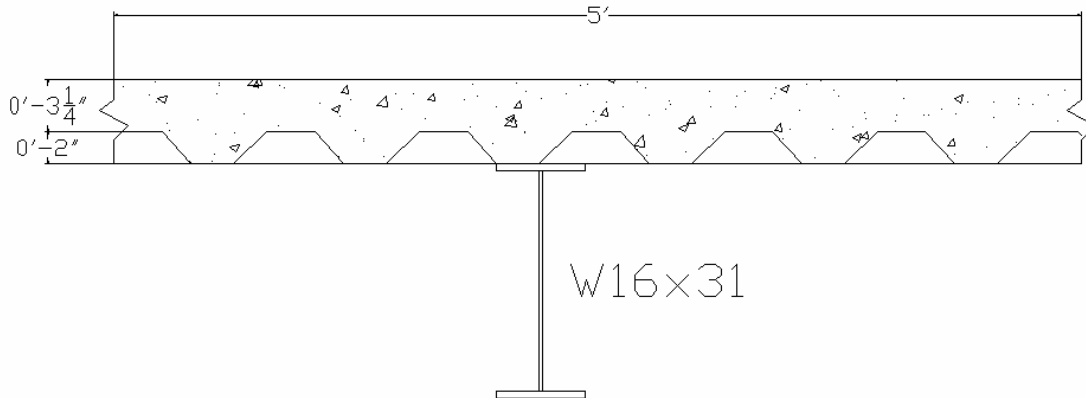
The entire building is a steel composite structure, with a 5.5" concrete slab, including 2" metal decking and shear studs to transfer the load between concrete and steel. The 4th through 7th floors of Building B are considered to be typical floors, with the 8th floor similar, but with a few differences in beam selection, and the 2nd and 9th floors differing in floor plan and story height, respectively. A section of the steel composite floor for one beam is shown below.



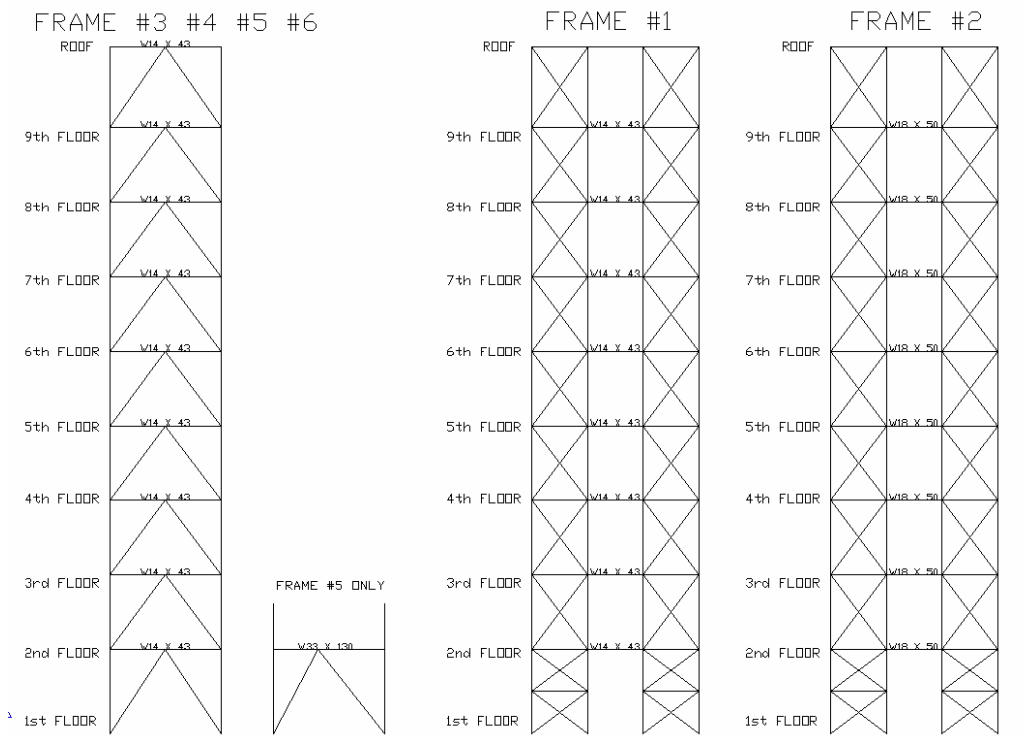
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Steel braced frames are in place to resist the lateral forces on the building, four in the north/south direction and two in the east/west. These walls provide a great deal of deflection resistance, limiting the entire building to just 1.6" drift, which is less than half the allowable drift of 3.68". The braced frames on the building are shown below. Frames #1 and #2 resist in the east/west direction and frames #3 - #6 resist in the north/south direction.



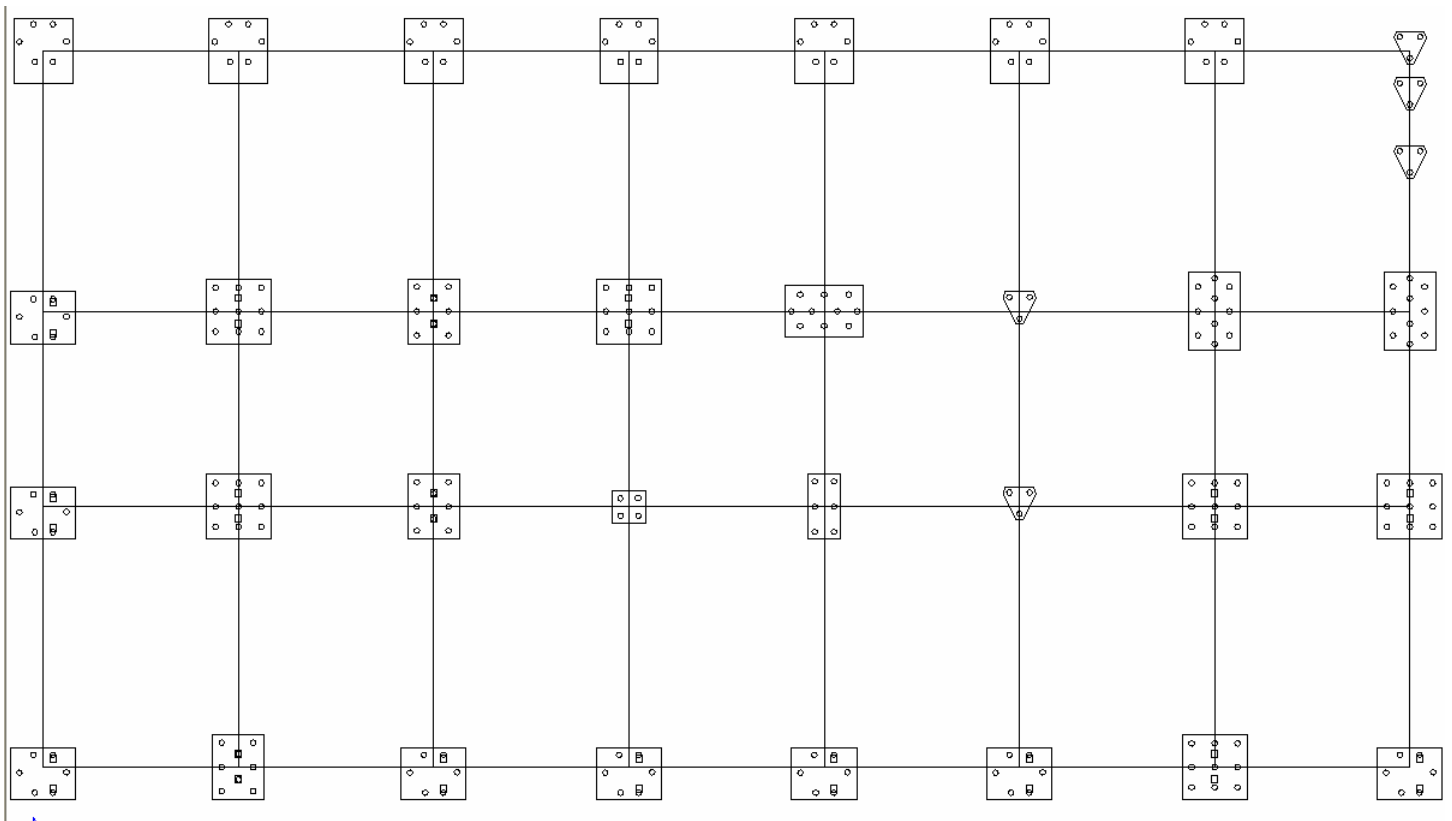


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Three floors of parking garage are located below the first floor of Building B. Concrete flat slab with drop panels is used for each floor of the garage. The slab is 9" deep with #5 @ 12" on center. The drop panels are 5.25" deep and span 1/6th the total span from column to column in all directions. The foundation is comprised of mini-piles and piles with pile caps located at each column. The basic foundation plan is shown below.





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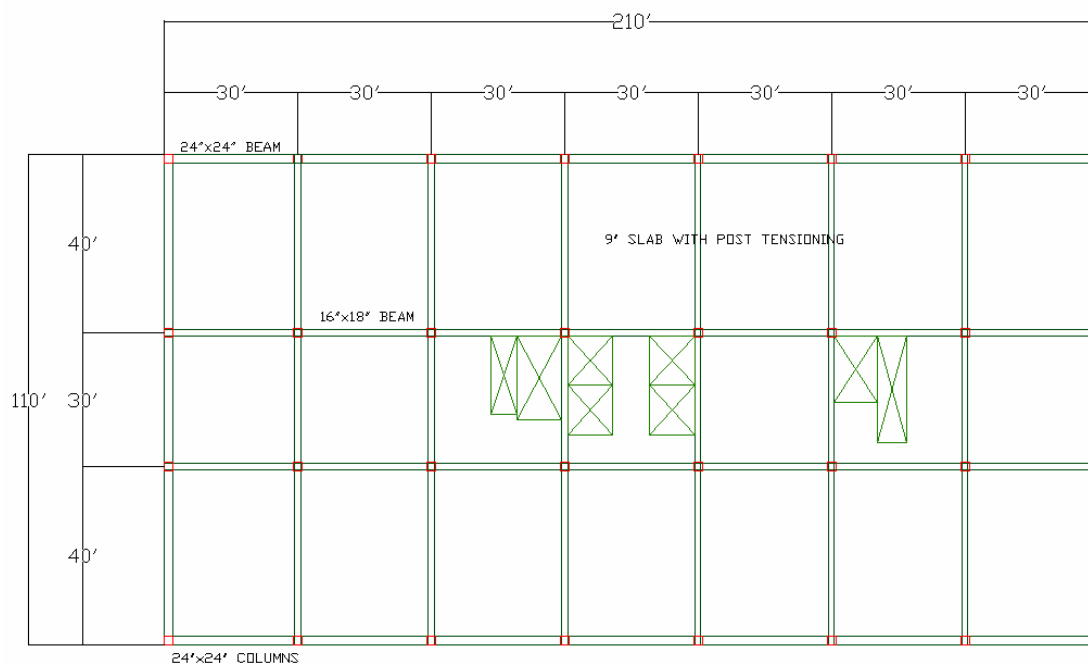


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Depth Study

Proposed for my in depth study of Building B is a check of two alternate structures, both consisting of cast-in-place concrete. The first uses the same column layout as the existing steel structure, using 40' x 30' and 30' x 30' bays, while the second adds a row of columns in the east/west direction, cutting down the bay size to 30' x 27.5'. Also, due to both alternate structures being concrete, shear walls will be investigated and compared to the existing braced frame lateral support. RAM Concept was used for the design of both concrete floor systems, with the use of excel spreadsheets and PCACOL for the design of the columns.

The first alternate structure being looked at has the same column layout as the original building. A post tensioned flat slab with drop panels was my original design for the floors, but throughout the design process this was changed to a flat slab with beams spanning from column to column. The structural plan of the floor system is shown below.





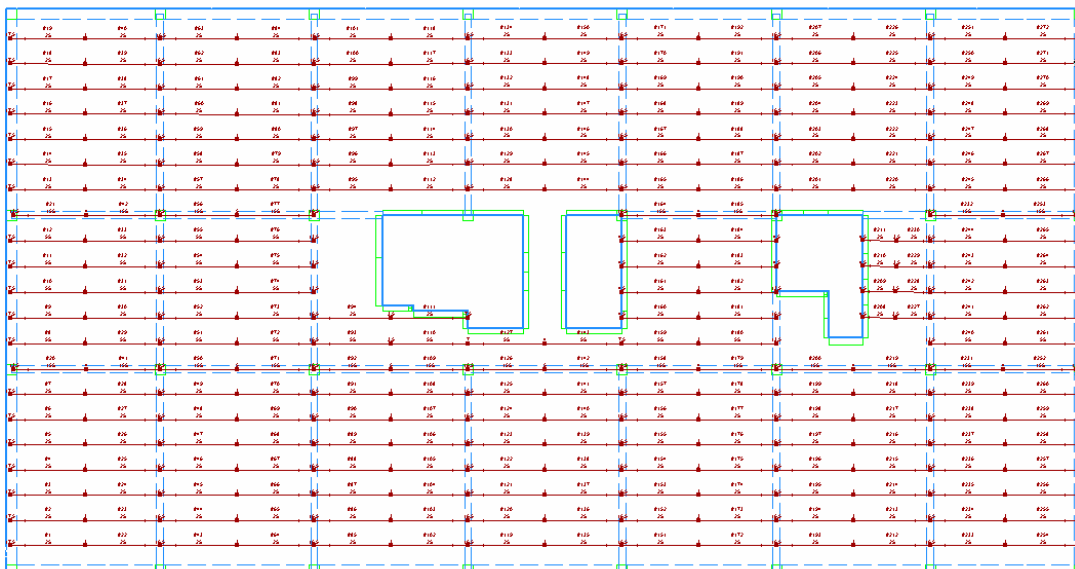
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The floor system of Building B is made up of a 9 inch flat slab, 16" x 18" interior beams, 24" x 24" exterior beams, and post tensioning in both directions. When working through the design of the floor, a 9" slab was necessary due to the amount of deflection occurring in the larger span. The use of any shallower slab would cause deflections greater than 2", which is the limit when considering L/240 for the maximum allowable deflection. All of the beams were designed to aid in the strength of the system, as well as counteract punching shear at the columns. The exterior beams are larger than the interior beams due to the amount of moment being transferred to them by the interior beams and slab. Post tensioning was needed to help limit the deflection in the slab. The area needing the most post tensioning was located along the beam in the 40' span direction. A maximum of 27 strands of 1/2" unbonded tendons were needed in order to create an allowable span. 25 strands were used for the rest of the tendons in the north/south directions. In the east west direction, 5 and 15 strands were used, the greater being used along the beams. Post tensioning plans in both directions, as well as a deflection plan of a section of the building are shown below.



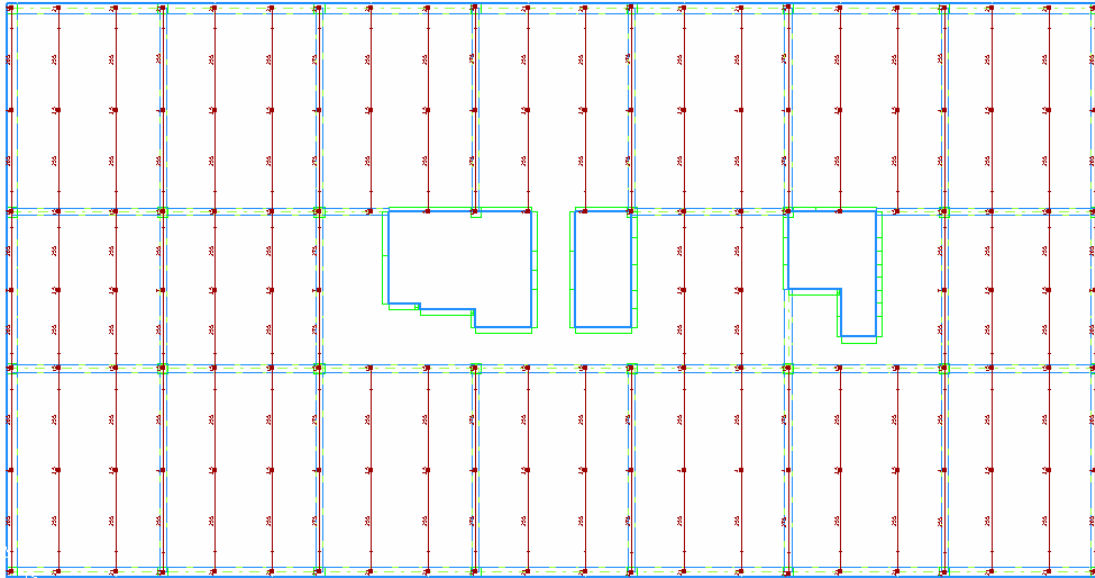
Lateral Tendons



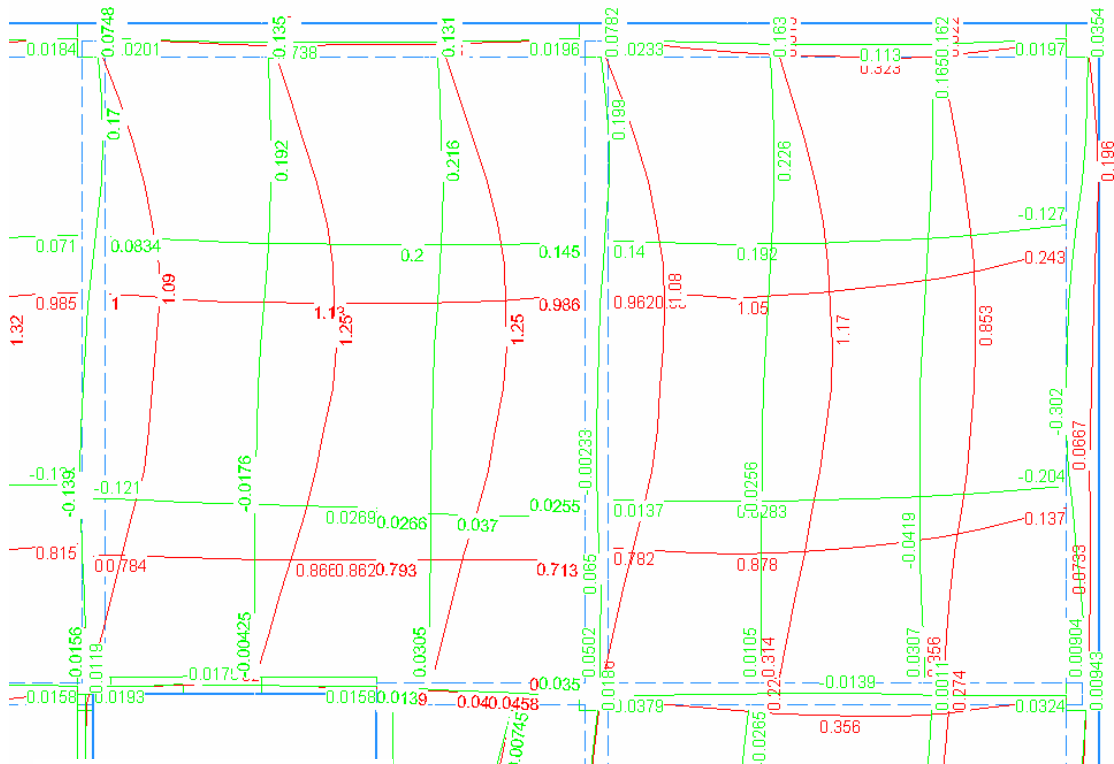
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Longitudinal Tendons



Deflection Plan – Northeast
section of Building



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The design of the columns for this system include 24" square columns for the 4th through 9th floors, 28" square columns for the 2nd and 3rd floors, and 32" square columns for the 1st floor. The columns were sized through the use of PCACOL, assuming biaxial loading. Axial loads were calculated using tributary area method. Also, moments on each column were taken from RAM Concept calculations. For the design of each floors column sizes, only the worst case scenario was considered and used for every column on that floor in order to maintain uniformity and create an easier build. Detailed Calculations through excel and a summary of Calculations from PCACOL can be found in Appendix A.2. Also, a summary of the column sizes and reinforcement is shown below.

40'x30' Layout

Floor	Column Size	Reinforcement	Area of Steel (sq in)	Applied Loads			Allowable Loads		
				P (k)	Mx(ft k)	My(ft k)	P (k)	Mx(ft k)	My(ft k)
9	24"x24"	8 - #8	6.32	205	-158	37	568	-449	105
8	24"x24"	8 - #8	6.32	486	229	28	897	429	53
7	24"x24"	8 - #8	6.32	754	229	28	1111	353	44
6	24"x24"	8 - #8	6.32	1021	229	28	1246	283	35
5	24"x24"	8 - #8	6.32	1289	229	28	1297	240	30
4	24"x24"	12 - #10	15.24	1556	229	28	1580	234	29
3	28"x28"	12 - #9	12.00	1824	229	28	1873	235	29
2	28"x28"	20 - #9	20.00	2091	229	28	2127	224	28
1	32"x32"	12 - #10	15.24	2360	229	28	2433	226	28

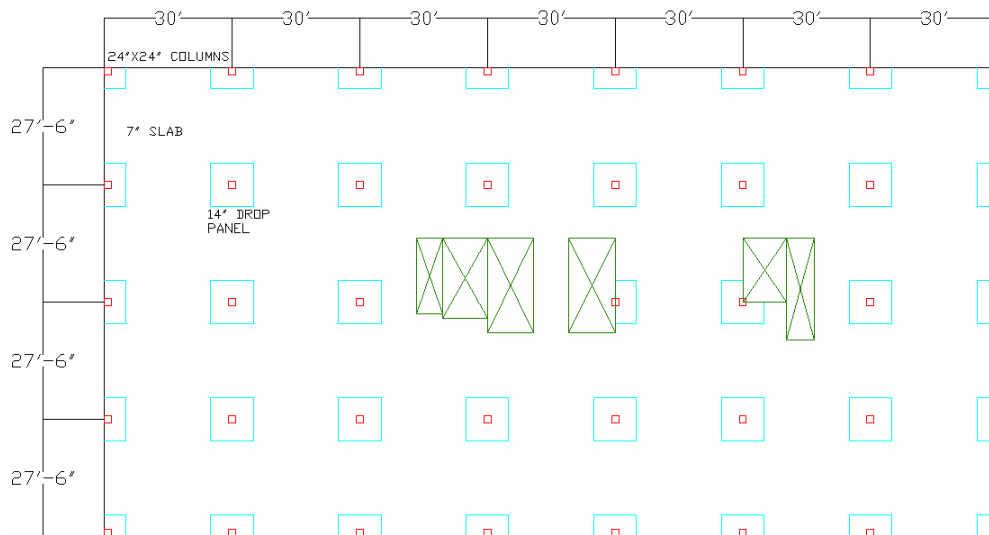


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The second alternate structure investigated added a row of columns creating 1 uniform bay of 30' x 27.5'. The floor system for this design is a flat slab with drop panels. The structural plan is shown below.



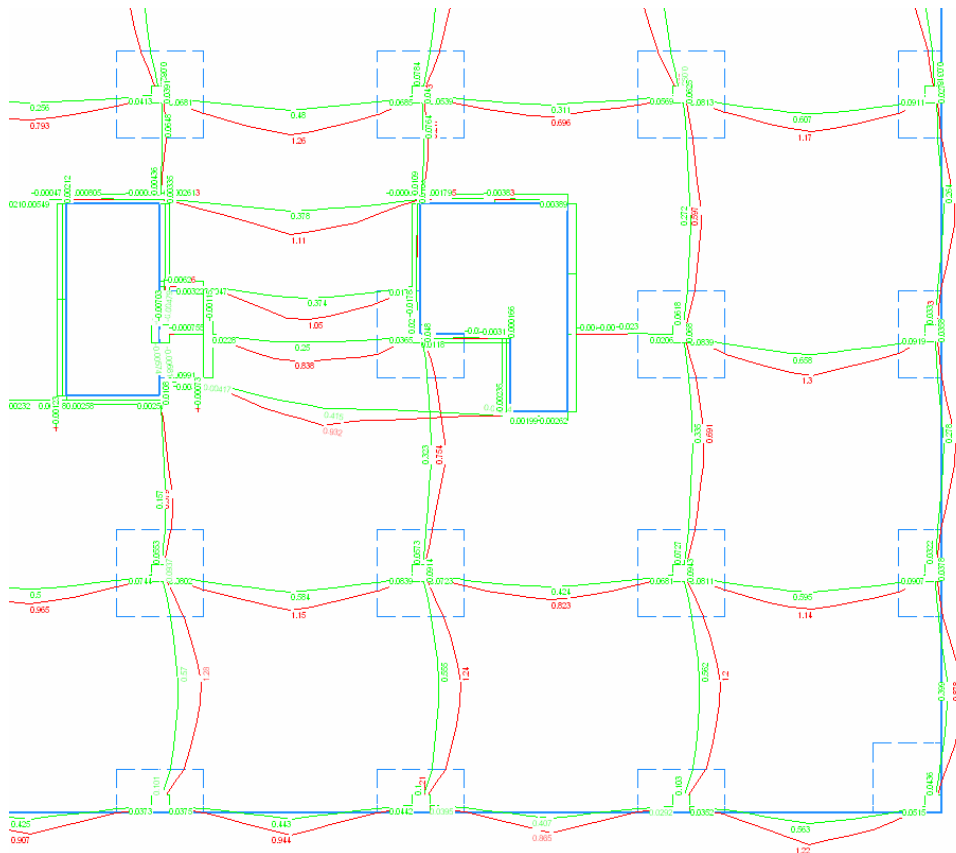
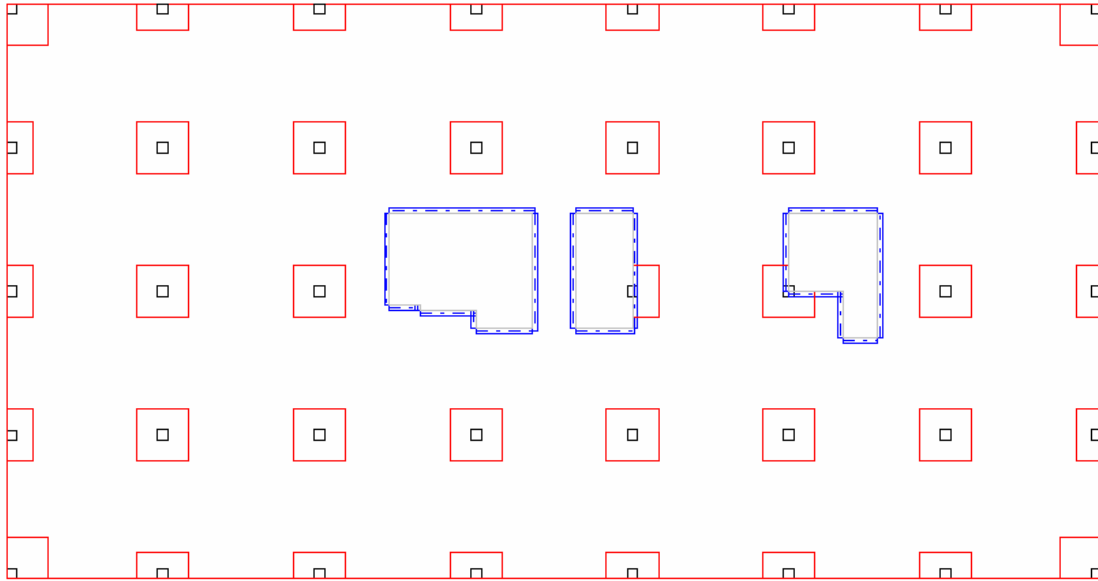
The floor system of this design uses a 7" flat slab with 14" drop panels, sized at 10' x 10'. The drop panels increase in size around the corner columns in order to accommodate for punching shear. These panels are the same depth as the others, with an 8' span in both directions. Due to the decrease in bay size, post tensioning was not needed for the design to work. Reinforcement in the slab ranged from as little as 5 # 4 bars along the edge beams to as much as 30 #8 bars starting at the middle of the slab. This seems like a large number, but being spaced out over 15', it isn't quite as congested as assumed at first glance. Considering $L/240$ for maximum deflection, or a maximum deflection of 1.5", every span was acceptable. The worst deflection, which occurred on the southeast section of the building, was 1.3". A plan of the floor system, along with a deflection plan of the southeast corner of the building can be found on the next page.



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The design of the columns for this system includes 24" square columns for the 2nd through 9th floors and 28" columns for the first floor. As with the first alternate design, the columns were designed using PCACOL, assuming biaxial loading. Axial loads were calculated in excel using the tributary area method. Moments were found in RAM Concept. Detailed Calculations through excel and a summary of Calculations from PCACOL can be found in Appendix A.2. Also, a summary of the column sizes and reinforcement is shown below.

30'x27.5' Layout

Floor	Column Size	Reinforcement	Area of Steel (sq in)	Applied Loads			Allowable Loads		
				P (k)	Mx(ft k)	My(ft k)	P (k)	Mx(ft k)	My(ft k)
9	24"x24"	8 - #8	6.32	142	155	-149	283	233	-301
8	24"x24"	8 - #8	6.32	341	115	-149	736	259	-336
7	24"x24"	8 - #8	6.32	530	115	-149	1010	229	-297
6	24"x24"	8 - #8	6.32	714	115	-149	1175	193	-250
5	24"x24"	8 - #8	6.32	898	115	-149	1267	165	-213
4	24"x24"	8 - #8	6.32	1082	115	-149	1297	138	-179
3	24"x24"	8 - #8	6.32	1266	115	-149	1297	120	-155
2	24"x24"	12 - #9	12.00	1450	115	-149	1477	120	-155
1	28"x28"	8 - #9	8.00	1634	115	-149	1746	127	-164

Due to the change from steel to concrete, shear walls were designed to replace the steel braced frames in order to resist lateral loads. The walls are 12" thick and are located exclusively around the openings on the interior of the building. The design was checked through the use of ETABS. A total drift of 0.79 inches was found when designing for the worst case loads, seismic. Compared to the steel braced frame of the existing design, this dropped the total drift by nearly 50%. Even with the decrease in drift, both designs were well below the allowable drift of 3.68".



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Breadth Study 2 – Cost Analysis

Cost Analysis

As a second breadth analysis, I performed a cost comparison between the existing composite steel structure and the two other proposed structures. RSMMeans 2006 was used to compute the total costs of the structures. You can find all calculations for the costs in Appendix B.

Through looking at total costs for materials, labor, and equipment, none of the structures really stood out above the rest in cost to the owner. The least expensive layout is the existing structure, though the difference in cost between it and the 40'x30' Bay Structure is only \$58,000. For a \$48 million structure, this difference is not a factor. The largest difference in cost is between the existing layout structure and the 30'x27.5' Bay structure. The \$290,000 difference is quite large; yet still not large enough to be a deciding factor in selecting the system. Below is a table showing the broken down as well as total cost of each structural system.

Layout	Columns (\$)	Slab (\$)	Beams/ Girders (\$)	Decking (\$)	Braced Frames (\$)	PT (\$)	Reinf. (\$)	Shear Walls (\$)	Formwork (\$)	Total Cost(\$)
Existing	448,816.23	433,965.74	1,589,730.00	519,126.30	131,489.67	-----	-----	-----	-----	3,123,127.94
40' x 30' Bay	498,122.53	676,310.25	-----	-----	-----	267,249.60	400,817.39	432,047.86	906,444.00	3,180,991.63
30' x 27.5' Bay	540,166.11	595,139.75	-----	-----	-----	-----	939,950.74	432,047.86	906,444.00	3,413,748.46



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Along with a cost analysis, I compared the time of construction between the existing structure and the two proposed structures. This turned out to be the real deciding factor for choosing one layout over the other.

Through the use of Primavera scheduling software, the amount of time to construct the existing steel structure, 52 days, was much less than the two alternate concrete structures, 135 days and 126 days. (The 40'x30' Bay structure taking 135 days and the 30'x27.5' Bay structure 126 days.)

This large difference in construction time is mostly due to the float available in steel construction, where as the slab is being poured and curing, the next level of steel columns/beams is placed on the structure.

Normally, a nine story concrete structure would take longer than 126 or 135 days to erect, but through discussion with a professional, I was informed that since Washington DC is a concrete city, contractors have become extremely efficient in the construction of concrete structures, even with post tensioning. This was taken into consideration when setting the construction schedule. A detailed schedule from Primavera is located in Appendix C.

When considering both structural cost and time of construction, the steel building is the most economic to build, with it having such a short time of construction. This also will save the owner a lot of money due to a lower cost for general construction costs, such as engineers, project managers, trailers, etc. There is no real difference economically between the two concrete alternatives as both cost nearly the same, with the 40'x30' Bay costing less than the 30'x27.5' Bay, and their construction schedules differ by about one week.



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Summary/Conclusions

Through comparing the design of the alternate systems and the existing building, I learned much about steel and concrete design, and the economics behind why each is chosen.

The existing structure was very well designed, utilizing a simply planned building. The composite steel design is very efficient, especially when considering the time of construction. At an estimated 52 days for the construction of the structural elements, the time taken to construct the existing structure is much less than the time taken to construct either of the two alternate structures. The cost of the structure was also the cheapest, though not by much.

Both alternate structures were equal economically. The 40' x 30' design was about \$200,000 cheaper than the 30' x 27.5' design, but also took a week longer to construct. The feasibility of each structure is about the same. The first layout would be difficult due to the amount of post tensioning needed in the slab, while the second layout would be difficult due to the amount of reinforcement needed. Both structures show about the same amount of deflection. The only real difference was the thickness of the slab between the 2 designs. The first layout had a 9" slab, but the second layout was able to shrink that to 7".

The height of the building was kept constant throughout the design of the alternate structures due to the architectural aspect of the building. If this was considered, the second alternate structure would have been the best design, as it would have lowered the story height by nearly 1.5'. Thus lowering the cost dramatically, since the columns would be shorter and the façade would use less materials.

In conclusion, the best design for Building B is the existing composite steel design. Though, if height was considered in the economy of the building, adding a row of columns to the design would be the most economic design.



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Credits and Acknowledgements

References

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- American Concrete Institute, ACI 318 – 05. *Building Code Requirements for Structural Concrete*
- R.S. Means Company, *Means Building Construction Cost Data*, 2006
- <http://architecture.about.com/library/bl-johnson.htm>
- International Building Code, IBC, 2003

Special Thanks To:

- RTKL Architects – Matthew Loeffler, Kristen Kaiser
 - For providing the architectural plans and other firms involved in the design
- KCE Structural - Allyn Kilsheimer, Stan Jagan
 - For the structural documents
- Davis Construction – James Davis, Robin Wallace
 - For information on the Construction of Building B
- Quadrangle Development Corp. – Steve Foote, Paula Conley
 - For allowing me to use Building B for my thesis
- Frank Malits and Frank Burke
 - For answering my many questions on design. Mainly the same questions Frank Burke asked I had.
- Professor Parfitt
 - For advising me throughout the year



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- Professor Hanagan and Boothby
 - For being understanding of thesis and adapting their classes to the thesis schedule
- All my Friends
 - For providing much stress relief in the form of baseball, poker, football, mouse pad Frisbee. And all that in the thesis lab
 - And for providing me with great music to keep me motivated to continue working when I was losing concentration

Roof

column #	Mr(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	132	-62.9	300	576	No
2	-139	69.3	600	576	No
3	137	20.5	600	576	No
4	-124	-66.6	300	576	No
5	81.2	35.9	600	576	No
6	-158	37	1200	576	No
7	159	34.4	1200	576	No
8	-62.6	32.9	600	576	No
9	203	13.3	600	576	No
10	-143	15.8	1200	576	No
11	157	20.4	1200	576	No
12	-198	11.3	600	576	No
13	189	4.57	600	576	No
14	-120	-16.3	900	576	No
15	143	9.6	600	576	No
16	-180	12.5	600	576	No
17	60	-4	600	576	No
18	-131	-12.9	1200	576	No
19	155	-67.3	900	576	No
20	-35.4	0.693	600	576	No
21	213	-11.4	600	576	No
22	-104	3.79	1200	576	No
23	153	54.4	900	576	No
24	-198	-5.22	600	576	No
25	210	-30.9	600	576	No
26	-144	-16.8	1200	576	No
27	157	-49.5	1200	576	No
28	-184	-24.9	600	576	No
29	131	74.8	300	576	No
30	-143	32.4	600	576	No
31	153	76.3	600	576	No
32	-117	80.6	300	576	No

Floors 5-8

column #	Mr(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	254	-146	300	576	No
2	-238	-99.9	600	576	No
3	240	-107	600	576	No
4	-243	-152	300	576	No
5	376	35.1	600	576	No
6	229	28.4	1200	576	No
7	227	27.2	1200	576	No
8	-345	28.4	600	576	No
9	521	10.5	600	576	No
10	-251	37.6	1200	576	No
11	230	145	1200	576	No
12	-485	5.4	600	576	No
13	478	-16	600	576	No
14	-295	4.58	900	576	No
15	355	20.7	600	576	No
16	-470	5.36	600	576	No
17	311	-1.94	600	576	No
18	-301	-32.8	1200	576	No
19	303	-269	900	576	No
20	-363	5.99	600	576	No
21	474	-13.9	600	576	No
22	-254	30.2	1200	576	No
23	297	147	900	576	No
24	-534	-6.78	600	576	No
25	505	-32.2	600	576	No
26	-260	-67.7	1200	576	No
27	245	-97.4	1200	576	No
28	-496	-25.5	600	576	No
29	263	156	300	576	No
30	-239	208	600	576	No
31	255	234	600	576	No
32	-247	158	300	576	No

Floors 3-4

column #	Mr(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	254	-146	300	784	No
2	-238	-99.9	600	784	No
3	240	-107	600	784	No
4	-243	-152	300	784	No
5	376	35.1	600	784	No
6	229	28.4	1200	784	No
7	227	27.2	1200	784	No
8	-345	28.4	600	784	No
9	521	10.5	600	784	No
10	-251	37.6	1200	784	No
11	230	145	1200	784	No
12	-485	5.4	600	784	No
13	478	-16	600	784	No
14	-295	4.58	900	784	No
15	355	20.7	600	784	No
16	-470	5.36	600	784	No
17	311	-1.94	600	784	No
18	-301	-32.8	1200	784	No
19	303	-269	900	784	No
20	-363	5.99	600	784	No
21	474	-13.9	600	784	No
22	-254	30.2	1200	784	No
23	297	147	900	784	No
24	-534	-6.78	600	784	No
25	505	-32.2	600	784	No
26	-260	-67.7	1200	784	No
27	245	-97.4	1200	784	No
28	-496	-25.5	600	784	No
29	263	156	300	784	No
30	-239	208	600	784	No
31	255	234	600	784	No
32	-247	158	300	784	No

Floors 2

column #	Ml(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	254	-146	300	1024	No
2	-238	-99.9	600	1024	No
3	240	-107	600	1024	No
4	-243	-152	300	1024	No
5	376	35.1	600	1024	No
6	229	28.4	1200	1024	No
7	227	27.2	1200	1024	No
8	-345	28.4	600	1024	No
9	521	10.5	600	1024	No
10	-251	37.6	1200	1024	No
11	230	145	1200	1024	No
12	-485	5.4	600	1024	No
13	478	-16	600	1024	No
14	-295	4.58	900	1024	No
15	355	20.7	600	1024	No
16	-470	5.36	600	1024	No
17	311	-1.94	600	1024	No
18	-301	-32.8	1200	1024	No
19	303	-269	900	1024	No
20	-363	5.99	600	1024	No
21	474	-13.9	600	1024	No
22	-254	30.2	1200	1024	No
23	297	147	900	1024	No
24	-534	-6.78	600	1024	No
25	505	-32.2	600	1024	No
26	-260	-67.7	1200	1024	No
27	245	-97.4	1200	1024	No
28	-496	-25.5	600	1024	No
29	263	156	300	1024	No
30	-239	208	600	1024	No
31	255	234	600	1024	No
32	-247	158	300	1024	No

NOTE

All Moments Taken from 24"X24" Column

Roof

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	300.00	1.00	1	16.0	20.0	0.683	4.0	10.928	150.0	176.49	52.95
2	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
3	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
4	300	300.00	1.00	1	16.0	20.0	0.683	4.0	10.928	150.0	176.49	52.95
5	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
6	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
7	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
8	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
9	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
10	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
11	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
12	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
13	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
14	900	900.00	3.00	1	16.0	20.0	0.500	4.0	8.000	150.0	171.80	154.62
15	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
16	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
17	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
18	1050	1050.00	3.50	1	16.0	20.0	0.481	4.0	7.703	150.0	171.33	179.89
19	900	900.00	3.00	1	16.0	20.0	0.500	4.0	8.000	150.0	171.80	154.62
20	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
21	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
22	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
23	900	900.00	3.00	1	16.0	20.0	0.500	4.0	8.000	150.0	171.80	154.62
24	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
25	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
26	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
27	1200	1200.00	4.00	1	16.0	20.0	0.467	4.0	7.464	150.0	170.94	205.13
28	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
29	300	300.00	1.00	1	16.0	20.0	0.683	4.0	10.928	150.0	176.49	52.95
30	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
31	600	600.00	2.00	1	16.0	20.0	0.556	4.0	8.899	150.0	173.24	103.94
32	300	300.00	1.00	1	16.0	20.0	0.683	4.0	10.928	150.0	176.49	52.95

Floor 9

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	300.00	1.00	1	100	20	0.683	4	68.30	150.0	268.28	133.43
2	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
3	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
4	300	300.00	1.00	1	100	20	0.683	4	68.30	150.0	268.28	133.43
5	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
6	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
7	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
8	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
9	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
10	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
11	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
12	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
13	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
14	900	900.00	3.00	1	100	20	0.500	4	50.00	150.0	239.00	369.72
15	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
16	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
17	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
18	1050	1050.00	3.50	1	100	20	0.481	4	48.15	150.0	236.03	427.73
19	900	900.00	3.00	1	100	20	0.500	4	50.00	150.0	239.00	369.72
20	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
21	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
22	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
23	900	900.00	3.00	1	100	20	0.500	4	50.00	150.0	239.00	369.72
24	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
25	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
26	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
27	1200	1200.00	4.00	1	100	20	0.467	4	46.65	150.0	233.64	485.50
28	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
29	300	300.00	1.00	1	100	20	0.683	4	68.30	150.0	268.28	133.43
30	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
31	600	600.00	2.00	1	100	20	0.556	4	55.62	150.0	247.99	252.74
32	300	300.00	1.00	1	100	20	0.683	4	68.30	150.0	268.28	133.43

Floor 8

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	600.00	1.00	2	100	20	0.556	4	55.62	150.0	247.99	207.83
2	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
3	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
4	300	600.00	1.00	2	100	20	0.556	4	55.62	150.0	247.99	207.83
5	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
6	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
7	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
8	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
9	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
10	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
11	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
12	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
13	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
14	900	1800.00	3.00	2	100	20	0.427	4	42.68	150.0	227.28	574.28
15	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
16	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
17	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
18	1050	2100.00	3.50	2	100	20	0.414	4	41.37	150.0	225.19	664.17
19	900	1800.00	3.00	2	100	20	0.427	4	42.68	150.0	227.28	574.28
20	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
21	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
22	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
23	900	1800.00	3.00	2	100	20	0.427	4	42.68	150.0	227.28	574.28
24	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
25	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
26	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
27	1200	2400.00	4.00	2	100	20	0.403	4	40.31	150.0	223.49	753.69
28	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
29	300	600.00	1.00	2	100	20	0.556	4	55.62	150.0	247.99	207.83
30	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
31	600	1200.00	2.00	2	100	20	0.467	4	46.65	150.0	233.64	392.92
32	300	600.00	1.00	2	100	20	0.556	4	55.62	150.0	247.99	207.83

Floor 7

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	900.00	1.00	3	100	20	0.500	4	50.00	150.0	239.00	279.53
2	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
3	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
4	300	900.00	1.00	3	100	20	0.500	4	50.00	150.0	239.00	279.53
5	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
6	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
7	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
8	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
9	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
10	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
11	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
12	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
13	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
14	900	2700.00	3.00	3	100	20	0.400	4	40.00	150.0	223.00	774.98
15	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
16	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
17	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
18	1050	3150.00	3.50	3	100	20	0.400	4	40.00	150.0	223.00	898.32
19	900	2700.00	3.00	3	100	20	0.400	4	40.00	150.0	223.00	774.98
20	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
21	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
22	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
23	900	2700.00	3.00	3	100	20	0.400	4	40.00	150.0	223.00	774.98
24	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
25	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
26	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
27	1200	3600.00	4.00	3	100	20	0.400	4	40.00	150.0	223.00	1021.29
28	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
29	300	900.00	1.00	3	100	20	0.500	4	50.00	150.0	239.00	279.53
30	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
31	600	1800.00	2.00	3	100	20	0.427	4	42.68	150.0	227.28	529.29
32	300	900.00	1.00	3	100	20	0.500	4	50.00	150.0	239.00	279.53

Floor 6

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	1200.00	1.00	4	100	20	0.467	4	46.65	150.0	233.64	349.62
2	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
3	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
4	300	1200.00	1.00	4	100	20	0.467	4	46.65	150.0	233.64	349.62
5	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
6	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
7	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
8	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
9	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
10	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
11	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
12	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
13	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
14	900	3600.00	3.00	4	100	20	0.400	4	40.00	150.0	223.00	975.68
15	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
16	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
17	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
18	1050	4200.00	3.50	4	100	20	0.400	4	40.00	150.0	223.00	1132.47
19	900	3600.00	3.00	4	100	20	0.400	4	40.00	150.0	223.00	975.68
20	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
21	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
22	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
23	900	3600.00	3.00	4	100	20	0.400	4	40.00	150.0	223.00	975.68
24	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
25	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
26	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
27	1200	4800.00	4.00	4	100	20	0.400	4	40.00	150.0	223.00	1288.89
28	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
29	300	1200.00	1.00	4	100	20	0.467	4	46.65	150.0	233.64	349.62
30	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
31	600	2400.00	2.00	4	100	20	0.403	4	40.31	150.0	223.49	663.39
32	300	1200.00	1.00	4	100	20	0.467	4	46.65	150.0	233.64	349.62

Floor 5

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	1500.00	1.00	5	100	20	0.444	4	44.36	150.0	229.98	418.61
2	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
3	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
4	300	1500.00	1.00	5	100	20	0.444	4	44.36	150.0	229.98	418.61
5	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
6	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
7	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
8	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
9	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
10	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
11	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
12	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
13	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
14	900	4500.00	3.00	5	100	20	0.400	4	40.00	150.0	223.00	1176.38
15	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
16	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
17	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
18	1050	5250.00	3.50	5	100	20	0.400	4	40.00	150.0	223.00	1366.62
19	900	4500.00	3.00	5	100	20	0.400	4	40.00	150.0	223.00	1176.38
20	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
21	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
22	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
23	900	4500.00	3.00	5	100	20	0.400	4	40.00	150.0	223.00	1176.38
24	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
25	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
26	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
27	1200	6000.00	4.00	5	100	20	0.400	4	40.00	150.0	223.00	1556.49
28	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
29	300	1500.00	1.00	5	100	20	0.444	4	44.36	150.0	229.98	418.61
30	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
31	600	3000.00	2.00	5	100	20	0.400	4	40.00	150.0	223.00	797.19
32	300	1500.00	1.00	5	100	20	0.444	4	44.36	150.0	229.98	418.61

Floor 4

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	1800.00	1.00	6	100	20	0.427	4	42.68	150.0	227.28	486.80
2	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
3	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
4	300	1800.00	1.00	6	100	20	0.427	4	42.68	150.0	227.28	486.80
5	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
6	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
7	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
8	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
9	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
10	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
11	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
12	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
13	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
14	900	5400.00	3.00	6	100	20	0.400	4	40.00	150.0	223.00	1377.08
15	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
16	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
17	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
18	1050	6300.00	3.50	6	100	20	0.400	4	40.00	150.0	223.00	1600.77
19	900	5400.00	3.00	6	100	20	0.400	4	40.00	150.0	223.00	1377.08
20	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
21	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
22	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
23	900	5400.00	3.00	6	100	20	0.400	4	40.00	150.0	223.00	1377.08
24	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
25	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
26	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
27	1200	7200.00	4.00	6	100	20	0.400	4	40.00	150.0	223.00	1824.09
28	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
29	300	1800.00	1.00	6	100	20	0.427	4	42.68	150.0	227.28	486.80
30	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
31	600	3600.00	2.00	6	100	20	0.400	4	40.00	150.0	223.00	930.99
32	300	1800.00	1.00	6	100	20	0.427	4	42.68	150.0	227.28	486.80

Floor3

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	2100.00	1.00	7	100	20	0.414	4	41.37	150.0	225.19	554.36
2	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
3	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
4	300	2100.00	1.00	7	100	20	0.414	4	41.37	150.0	225.19	554.36
5	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
6	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
7	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
8	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
9	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
10	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
11	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
12	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
13	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
14	900	6300.00	3.00	7	100	20	0.400	4	40.00	150.0	223.00	1577.78
15	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
16	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
17	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
18	1050	7350.00	3.50	7	100	20	0.400	4	40.00	150.0	223.00	1834.92
19	900	6300.00	3.00	7	100	20	0.400	4	40.00	150.0	223.00	1577.78
20	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
21	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
22	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
23	900	6300.00	3.00	7	100	20	0.400	4	40.00	150.0	223.00	1577.78
24	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
25	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
26	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
27	1200	8400.00	4.00	7	100	20	0.400	4	40.00	150.0	223.00	2091.69
28	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
29	300	2100.00	1.00	7	100	20	0.414	4	41.37	150.0	225.19	554.36
30	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
31	600	4200.00	2.00	7	100	20	0.400	4	40.00	150.0	223.00	1064.79
32	300	2100.00	1.00	7	100	20	0.414	4	41.37	150.0	225.19	554.36

Floor 2

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	Reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(pcf)	Total load(pcf)	Axial Load(k)
1	300	2400.00	1.00	8	100	20	0.403	4	40.31	150.0	223.49	621.40
2	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
3	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
4	300	2400.00	1.00	8	100	20	0.403	4	40.31	150.0	223.49	621.40
5	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
6	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
7	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
8	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
9	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
10	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
11	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
12	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
13	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
14	900	7200.00	3.00	8	100	20	0.400	4	40.00	150.0	223.00	1778.48
15	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
16	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
17	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
18	1050	8400.00	3.50	8	100	20	0.400	4	40.00	150.0	223.00	2069.07
19	900	7200.00	3.00	8	100	20	0.400	4	40.00	150.0	223.00	1778.48
20	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
21	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
22	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
23	900	7200.00	3.00	8	100	20	0.400	4	40.00	150.0	223.00	1778.48
24	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
25	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
26	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
27	1200	9600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.00	2359.29
28	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
29	300	2400.00	1.00	8	100	20	0.403	4	40.31	150.0	223.49	621.40
30	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
31	600	4800.00	2.00	8	100	20	0.400	4	40.00	150.0	223.00	1198.59
32	300	2400.00	1.00	8	100	20	0.403	4	40.31	150.0	223.49	621.40

By Column 1,4,29,32

Floor	Axial Load
R	52.946
9	133.43
8	207.83
7	279.53
6	349.62
5	418.61
4	486.80
3	554.36
2	621.40

2,3,5,8,9,12,13,15,16,17,20,21,24,25,28,30,31

Floor	Axial Load
R	103.943
9	252.74
8	392.92
7	529.29
6	663.39
5	797.19
4	930.99
3	1064.79
2	1198.59

6,7,10,11,22,26,27

Floor	Axial Load
R	205.131
9	485.50
8	753.69
7	1021.29
6	1288.89
5	1556.49
4	1824.09
3	2091.69
2	2359.29

14,19,23

Floor	Axial Load
R	154.620
9	369.72
8	574.28
7	773.43
6	975.68
5	1176.38
4	1377.08
3	1577.78
2	1778.48

18

Floor	Axial Load
R	179.892
9	427.73
8	664.17
7	898.32
6	1132.47
5	1366.62
4	1600.77
3	1834.92
2	2069.07

Floors 1-8

column #	Mr(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	115	-149	825	576	NO
2	8.82	-252	1650	576	NO
3	-0.24	-259	1650	576	NO
4	10.3	-250	1650	576	NO
5	-115	-147	825	576	NO
6	232	17.8	1650	576	NO
7	-20	20.4	3300	576	NO
8	-236	19	1650	576	NO
9	0.949	12.6	3300	576	NO
10	21.3	19.5	3300	576	NO
11	241	-1.64	1650	576	NO
12	-30.4	4.92	3300	576	NO
13	-16.9	125	3300	576	NO
14	60.4	37.6	3300	576	NO
15	-247	-0.662	1650	576	NO
16	253	0.802	1650	576	NO
17	-92.2	11.5	3300	576	NO
18	159	1.57	3300	576	NO
19	-271	0.901	1650	576	NO
20	250	-0.0122	1650	576	NO
21	-85.3	-29.9	3300	576	NO
22	113	-34.3	3300	576	NO
23	-261	-3.99	1650	576	NO
24	5.4	-311	1650	576	NO
25	246	2.93	1650	576	NO
26	-56.3	41	3300	576	NO
27	-127	234	2475	576	NO
28	126	41.7	3300	576	NO
29	-259	5.26	1650	576	NO
30	241	-18.3	1650	576	NO
31	-45.6	-57.3	3300	576	NO
32	1.2	-160	3300	576	NO
33	61.4	-67.9	3300	576	NO
34	-248	-19.1	1650	576	NO
35	124	147	825	576	NO
36	-5.71	262	1650	576	NO
37	-1.68	285	1650	576	NO
38	7.81	262	1650	576	NO
39	-127	145	825	576	NO

9th Floor

column #	Mr(ft k)	Ms(ft k)	Tributary Area (sq ft)	Column area (sq in)	slender column?
1	67.5	-93.4	825	576	NO
2	0.465	-182	1650	576	NO
3	-0.133	-181	1650	576	NO
4	1.94	-181	1650	576	NO
5	-68	-92	825	576	NO
6	137	12.9	1650	576	NO
7	41.2	44.4	3300	576	NO
8	-140	13.7	1650	576	NO
9	0.269	21.1	3300	576	NO
10	-41.4	44.2	3300	576	NO
11	145	-1.92	1650	576	NO
12	15.6	-0.621	3300	576	NO
13	-11.7	79.9	3300	576	NO
14	7.53	23.6	3300	576	NO
15	-150	-1.33	1650	576	NO
16	154	0.692	1650	576	NO
17	-21.3	8.96	3300	576	NO
18	67.9	2.48	3300	576	NO
19	-167	0.629	1650	576	NO
20	152	-0.228	1650	576	NO
21	-16.1	-22.3	3300	576	NO
22	45.4	-25.7	3300	576	NO
23	-162	-2.86	1650	576	NO
24	4.39	-156	1650	576	NO
25	148	2.61	1650	576	NO
26	4.2	33	3300	576	NO
27	-73.4	136	2475	576	NO
28	50.3	32.9	3300	576	NO
29	-158	4.24	1650	576	NO
30	143	-13.6	1650	576	NO
31	25.5	-71.2	3300	576	NO
32	0	-115	3300	576	NO
33	-11	-74.5	3300	576	NO
34	-148	-13.9	1650	576	NO
35	74.8	92.5	825	576	NO
36	0.27	188	1650	576	NO
37	0.988	197	1650	576	NO
38	0.654	188	1650	576	NO
39	-75.8	90.5	825	576	NO

Roof

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(psf)	Total load(psf)	Axial Load(k)
1	206.25	206.25	1.00	1	16.0	20.0	0.772	4.0	12.356	150.0	178.769	36.871
2	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
3	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
4	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
5	206.25	206.25	1.00	1	16.0	20.0	0.772	4.0	12.356	150.0	178.769	36.871
6	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
7	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
8	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
9	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
10	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
11	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
12	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
13	680.63	680.63	3.30	1	16.0	20.0	0.537	4.0	8.600	150.0	172.759	117.585
14	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
15	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
16	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
17	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
18	713.63	713.63	3.46	1	16.0	20.0	0.531	4.0	8.492	150.0	172.587	123.163
19	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
20	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
21	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
22	767.25	767.25	3.72	1	16.0	20.0	0.521	4.0	8.332	150.0	172.332	132.221
23	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
24	340.31	340.31	1.65	1	16.0	20.0	0.657	4.0	10.505	150.0	175.808	59.829
25	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
26	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
27	206.25	206.25	1.00	1	16.0	20.0	0.772	4.0	12.356	150.0	178.769	36.871
28	748.69	748.69	3.63	1	16.0	20.0	0.524	4.0	8.386	150.0	172.417	129.087
29	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
30	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
31	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
32	686.81	686.81	3.33	1	16.0	20.0	0.536	4.0	8.579	150.0	172.726	118.630
33	825	825.00	4.00	1	16.0	20.0	0.511	4.0	8.178	150.0	172.085	141.970
34	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
35	206.25	206.25	1.00	1	16.0	20.0	0.772	4.0	12.356	150.0	178.769	36.871
36	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
37	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
38	412.5	412.50	2.00	1	16.0	20.0	0.619	4.0	9.908	150.0	174.853	72.127
39	206.25	206.25	1.00	1	16.0	20.0	0.772	4.0	12.356	150.0	178.769	36.871

Floor 9

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL (psf)	Self Weight DL (psf)	Total load (psf)	Axial Load (k)
1	206.25	206.25	1.00	1	100	20	0.772	4	77.22	150.0	282.557	95.149
2	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
3	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
4	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
5	206.25	206.25	1.00	1	100	20	0.772	4	77.22	150.0	282.557	95.149
6	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
7	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
8	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
9	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
10	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
11	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
12	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
13	680.63	680.63	3.30	1	100	20	0.537	4	53.75	150.0	244.997	284.337
14	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
15	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
16	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
17	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
18	713.63	713.63	3.46	1	100	20	0.531	4	53.08	150.0	243.921	297.233
19	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
20	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
21	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
22	767.25	767.25	3.72	1	100	20	0.521	4	52.08	150.0	242.322	318.143
23	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
24	340.31	340.31	1.65	1	100	20	0.657	4	65.66	150.0	264.049	149.688
25	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
26	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
27	206.25	206.25	1.00	1	100	20	0.772	4	77.22	150.0	282.557	95.149
28	748.69	748.69	3.63	1	100	20	0.524	4	52.41	150.0	242.856	310.911
29	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
30	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
31	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
32	686.81	686.81	3.33	1	100	20	0.536	4	53.62	150.0	244.789	286.754
33	825	825.00	4.00	1	100	20	0.511	4	51.11	150.0	240.779	340.612
34	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
35	206.25	206.25	1.00	1	100	20	0.772	4	77.22	150.0	282.557	95.149
36	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
37	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
38	412.5	412.50	2.00	1	100	20	0.619	4	61.93	150.0	258.084	178.587
39	206.25	206.25	1.00	1	100	20	0.772	4	77.22	150.0	282.557	95.149

Floor 8

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL (psf)	Self Weight DL (psf)	Total load (psf)	Axial Load (k)
1	206.25	412.50	1.00	2	100	20	0.619	4	61.93	150.0	258.084	148.378
2	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
3	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
4	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
5	206.25	412.50	1.00	2	100	20	0.619	4	61.93	150.0	258.084	148.378
6	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
7	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
8	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
9	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
10	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
11	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
12	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
13	680.63	1361.25	3.30	2	100	20	0.453	4	45.33	150.0	231.525	441.920
14	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
15	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
16	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
17	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
18	713.63	1427.25	3.46	2	100	20	0.449	4	44.85	150.0	230.764	461.912
19	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
20	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
21	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
22	767.25	1534.50	3.72	2	100	20	0.441	4	44.15	150.0	229.634	494.330
23	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
24	340.31	680.63	1.65	2	100	20	0.537	4	53.75	150.0	244.997	233.063
25	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
26	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
27	206.25	412.50	1.00	2	100	20	0.619	4	61.93	150.0	258.084	148.378
28	748.69	1497.38	3.63	2	100	20	0.444	4	44.38	150.0	230.011	483.118
29	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
30	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
31	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
32	686.81	1373.63	3.33	2	100	20	0.452	4	45.24	150.0	231.378	445.666
33	825	1650.00	4.00	2	100	20	0.435	4	43.46	150.0	228.542	529.159
34	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
35	206.25	412.50	1.00	2	100	20	0.619	4	61.93	150.0	258.084	148.378
36	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
37	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
38	412.5	825.00	2.00	2	100	20	0.511	4	51.11	150.0	240.779	277.908
39	206.25	412.50	1.00	2	100	20	0.619	4	61.93	150.0	258.084	148.378

Floor 7

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL (psf)	Self Weight DL (psf)	Total load (psf)	Axial Load (k)
1	206.25	618.75	1.00	3	100	20	0.552	4	55.15	150.0	247.242	199.372
2	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
3	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
4	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
5	206.25	618.75	1.00	3	100	20	0.552	4	55.15	150.0	247.242	199.372
6	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
7	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
8	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
9	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
10	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
11	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
12	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
13	680.63	2041.88	3.30	3	100	20	0.416	4	41.60	150.0	225.556	595.440
14	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
15	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
16	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
17	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
18	713.63	2140.88	3.46	3	100	20	0.412	4	41.21	150.0	224.935	622.433
19	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
20	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
21	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
22	767.25	2301.75	3.72	3	100	20	0.406	4	40.63	150.0	224.012	666.203
23	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
24	340.31	1020.94	1.65	3	100	20	0.485	4	48.47	150.0	236.566	313.565
25	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
26	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
27	206.25	618.75	1.00	3	100	20	0.552	4	55.15	150.0	247.242	199.372
28	748.69	2246.06	3.63	3	100	20	0.408	4	40.83	150.0	224.320	651.064
29	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
30	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
31	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
32	686.81	2060.44	3.33	3	100	20	0.415	4	41.52	150.0	225.436	600.498
33	825	2475.00	4.00	3	100	20	0.401	4	40.08	150.0	223.121	713.234
34	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
35	206.25	618.75	1.00	3	100	20	0.552	4	55.15	150.0	247.242	199.372
36	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
37	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
38	412.5	1237.50	2.00	3	100	20	0.463	4	46.32	150.0	233.112	374.067
39	206.25	618.75	1.00	3	100	20	0.552	4	55.15	150.0	247.242	199.372

Floor 6

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(psf)	Total load(psf)	Axial Load(k)
1	206.25	825.00	1.00	4	100	20	0.511	4	51.11	150.0	240.779	249.033
2	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
3	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
4	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
5	206.25	825.00	1.00	4	100	20	0.511	4	51.11	150.0	240.779	249.033
6	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
7	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
8	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
9	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
10	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
11	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
12	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
13	680.63	2722.50	3.30	4	100	20	0.400	4	40.00	150.0	223.000	747.221
14	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
15	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
16	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
17	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
18	713.63	2854.50	3.46	4	100	20	0.400	4	40.00	150.0	223.000	781.572
19	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
20	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
21	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
22	767.25	3069.00	3.72	4	100	20	0.400	4	40.00	150.0	223.000	837.300
23	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
24	340.31	1361.25	1.65	4	100	20	0.453	4	45.33	150.0	231.525	392.355
25	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
26	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
27	206.25	825.00	1.00	4	100	20	0.511	4	51.11	150.0	240.779	249.033
28	748.69	2994.75	3.63	4	100	20	0.400	4	40.00	150.0	223.000	818.022
29	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
30	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
31	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
32	686.81	2747.25	3.33	4	100	20	0.400	4	40.00	150.0	223.000	753.657
33	825	3300.00	4.00	4	100	20	0.400	4	40.00	150.0	223.000	897.209
34	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
35	206.25	825.00	1.00	4	100	20	0.511	4	51.11	150.0	240.779	249.033
36	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
37	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
38	412.5	1650.00	2.00	4	100	20	0.435	4	43.46	150.0	228.542	468.340
39	206.25	825.00	1.00	4	100	20	0.511	4	51.11	150.0	240.779	249.033

Floor 5

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL (psf)	Self Weight DL (psf)	Total load (psf)	Axial Load (k)
1	206.25	1031.25	1.00	5	100	20	0.484	4	48.35	150.0	236.368	297.783
2	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
3	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
4	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
5	206.25	1031.25	1.00	5	100	20	0.484	4	48.35	150.0	236.368	297.783
6	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
7	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
8	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
9	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
10	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
11	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
12	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
13	680.63	3403.13	3.30	5	100	20	0.400	4	40.00	150.0	223.000	899.001
14	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
15	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
16	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
17	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
18	713.63	3568.13	3.46	5	100	20	0.400	4	40.00	150.0	223.000	940.712
19	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
20	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
21	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
22	767.25	3836.25	3.72	5	100	20	0.400	4	40.00	150.0	223.000	1008.397
23	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
24	340.31	1701.56	1.65	5	100	20	0.432	4	43.18	150.0	228.091	469.977
25	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
26	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
27	206.25	1031.25	1.00	5	100	20	0.484	4	48.35	150.0	236.368	297.783
28	748.69	3743.44	3.63	5	100	20	0.400	4	40.00	150.0	223.000	984.980
29	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
30	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
31	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
32	686.81	3434.06	3.33	5	100	20	0.400	4	40.00	150.0	223.000	906.816
33	825	4125.00	4.00	5	100	20	0.400	4	40.00	150.0	223.000	1081.184
34	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
35	206.25	1031.25	1.00	5	100	20	0.484	4	48.35	150.0	236.368	297.783
36	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
37	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
38	412.5	2062.50	2.00	5	100	20	0.415	4	41.51	150.0	225.423	561.327
39	206.25	1031.25	1.00	5	100	20	0.484	4	48.35	150.0	236.368	297.783

Floor 4

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL (psf)	Self Weight DL (psf)	Total load (psf)	Axial Load (k)
1	206.25	1237.50	1.00	6	100	20	0.463	4	46.32	150.0	233.112	345.863
2	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
3	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
4	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
5	206.25	1237.50	1.00	6	100	20	0.463	4	46.32	150.0	233.112	345.863
6	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
7	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
8	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
9	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
10	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
11	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
12	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
13	680.63	4083.75	3.30	6	100	20	0.400	4	40.00	150.0	223.000	1050.782
14	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
15	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
16	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
17	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
18	713.63	4281.75	3.46	6	100	20	0.400	4	40.00	150.0	223.000	1099.851
19	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
20	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
21	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
22	767.25	4603.50	3.72	6	100	20	0.400	4	40.00	150.0	223.000	1179.493
23	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
24	340.31	2041.88	1.65	6	100	20	0.416	4	41.60	150.0	225.556	546.736
25	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
26	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
27	206.25	1237.50	1.00	6	100	20	0.463	4	46.32	150.0	233.112	345.863
28	748.69	4492.13	3.63	6	100	20	0.400	4	40.00	150.0	223.000	1151.938
29	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
30	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
31	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
32	686.81	4120.88	3.33	6	100	20	0.400	4	40.00	150.0	223.000	1059.974
33	825	4950.00	4.00	6	100	20	0.400	4	40.00	150.0	223.000	1265.159
34	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
35	206.25	1237.50	1.00	6	100	20	0.463	4	46.32	150.0	233.112	345.863
36	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
37	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
38	412.5	2475.00	2.00	6	100	20	0.401	4	40.08	150.0	223.121	653.365
39	206.25	1237.50	1.00	6	100	20	0.463	4	46.32	150.0	233.112	345.863

Floor 3

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(psf)	Total load(psf)	Axial Load(k)
1	206.25	1443.75	1.00	7	100	20	0.447	4	44.74	150.0	230.582	393.420
2	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
3	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
4	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
5	206.25	1443.75	1.00	7	100	20	0.447	4	44.74	150.0	230.582	393.420
6	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
7	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
8	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
9	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
10	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
11	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
12	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
13	680.63	4764.38	3.30	7	100	20	0.400	4	40.00	150.0	223.000	1202.562
14	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
15	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
16	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
17	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
18	713.63	4995.38	3.46	7	100	20	0.400	4	40.00	150.0	223.000	1258.991
19	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
20	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
21	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
22	767.25	5370.75	3.72	7	100	20	0.400	4	40.00	150.0	223.000	1350.590
23	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
24	340.31	2382.19	1.65	7	100	20	0.404	4	40.37	150.0	223.586	622.825
25	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
26	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
27	206.25	1443.75	1.00	7	100	20	0.447	4	44.74	150.0	230.582	393.420
28	748.69	5240.81	3.63	7	100	20	0.400	4	40.00	150.0	223.000	1318.896
29	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
30	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
31	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
32	686.81	4807.69	3.33	7	100	20	0.400	4	40.00	150.0	223.000	1213.133
33	825	5775.00	4.00	7	100	20	0.400	4	40.00	150.0	223.000	1449.134
34	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
35	206.25	1443.75	1.00	7	100	20	0.447	4	44.74	150.0	230.582	393.420
36	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
37	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
38	412.5	2887.50	2.00	7	100	20	0.400	4	40.00	150.0	223.000	745.352
39	206.25	1443.75	1.00	7	100	20	0.447	4	44.74	150.0	230.582	393.420

Floor 2

column #	Floor Area (sq ft)	Tributary Area (sq ft)	Area Multiplier	Floor Multiplier	Live Load (psf)	Dead Load (psf)	reduction factor	KLL Factor	Reduced LL(psf)	Self Weight DL(psf)	Total load(psf)	Axial Load(k)
1	206.25	1650.00	1.00	8	100	20	0.435	4	43.46	150.0	228.542	440.557
2	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
3	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
4	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
5	206.25	1650.00	1.00	8	100	20	0.435	4	43.46	150.0	228.542	440.557
6	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
7	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
8	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
9	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
10	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
11	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
12	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
13	680.63	5445.00	3.30	8	100	20	0.400	4	40.00	150.0	223.000	1354.343
14	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
15	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
16	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
17	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
18	713.63	5709.00	3.46	8	100	20	0.400	4	40.00	150.0	223.000	1418.130
19	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
20	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
21	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
22	767.25	6138.00	3.72	8	100	20	0.400	4	40.00	150.0	223.000	1521.687
23	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
24	340.31	2722.50	1.65	8	100	20	0.400	4	40.00	150.0	223.000	698.714
25	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
26	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
27	206.25	1650.00	1.00	8	100	20	0.435	4	43.46	150.0	228.542	440.557
28	748.69	5989.50	3.63	8	100	20	0.400	4	40.00	150.0	223.000	1485.854
29	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
30	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
31	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
32	686.81	5494.50	3.33	8	100	20	0.400	4	40.00	150.0	223.000	1366.291
33	825	6600.00	4.00	8	100	20	0.400	4	40.00	150.0	223.000	1633.109
34	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
35	206.25	1650.00	1.00	8	100	20	0.435	4	43.46	150.0	228.542	440.557
36	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
37	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
38	412.5	3300.00	2.00	8	100	20	0.400	4	40.00	150.0	223.000	837.340
39	206.25	1650.00	1.00	8	100	20	0.435	4	43.46	150.0	228.542	440.557

Columns 1,5,35,39

Floor Number	Total Axial Load (k)
Roof	36.871
9	95.149
8	148.378
7	199.372
6	249.033
5	297.783
4	345.863
3	393.420
2	440.557

Columns 2,3,4,,6,8,11,15,16,19,20,23,25,29,30,34,36,37,38

Floor Number	Total Axial Load (k)
Roof	72.127
9	178.587
8	277.908
7	374.067
6	468.340
5	561.327
4	653.365
3	745.352
2	837.340

Columns 7,9,10,12,14,17,21,26,31,33

Floor Number	Total Axial Load (k)
Roof	141.970
9	340.612
8	529.159
7	713.234
6	897.209
5	1081.184
4	1265.159
3	1449.134
2	1633.109

Columns 13,32

Floor Number	Total Axial Load (k)
Roof	117.585
9	284.337
8	441.920
7	595.440
6	747.221
5	899.001
4	1050.782
3	1202.562
2	1354.343

Columns 22,28

Floor Number	Total Axial Load (k)
Roof	132.221
9	318.143
8	494.330
7	666.203
6	837.300
5	1008.397
4	1179.493
3	1350.590
2	1521.687

Columns 18

Floor Number	Total Axial Load (k)
Roof	123.163
9	297.233
8	461.912
7	622.433
6	781.572
5	940.712
4	1099.851
3	1258.991
2	1418.130

Story	Diaphragm	Load	DriftX	DriftY
STORY9	D1	QUAKE	0.7255	0.0718
STORY8	D1	QUAKE	0.6099	0.0619
STORY7	D1	QUAKE	0.503	0.0503
STORY6	D1	QUAKE	0.3987	0.0392
STORY5	D1	QUAKE	0.2996	0.0288
STORY4	D1	QUAKE	0.2089	0.0195
STORY3	D1	QUAKE	0.1299	0.0116
STORY2	D1	QUAKE	0.0662	0.0055
STORY1	D1	QUAKE	0.0216	0.0014
BASE	D1	QUAKE	0	0

Cost Analysis - 30'x27.5' Design

Columns

Floor	Height(ft)	Col. Size	Number Columns	Col. Area (sq in)	Total Volume (cubic yd)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)	Total Cost (\$)
9	14.43	24"x24"	39	576	83.37	440	263	26.5	729.5	729.5	60,820.85
8	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
7	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
6	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
5	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
4	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
3	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
2	13.33	24"x24"	39	576	77.02	440	263	26.5	729.5	729.5	56,184.47
1	15	28"x28"	39	784	117.96	440	263	26.5	729.5	729.5	86,053.98
					740.46			Total \$			540,166.11

Slab

Floor	Depth (in)	Area (sq ft)	Total Volume (cubic Yds)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Finishing Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
8	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
7	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
6	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
5	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
4	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
3	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
2	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
1	7	23,100	564.65	100.1	11.9	4.65	0.46	117.11	66,126.64
								Total \$	595,139.75

Slab Reinforcement

Floor	Weight (tons)	Mat. Cost (\$/ton)	Lab. Cost (\$/ton)	Equip. Cost (\$/ton)	Total Cost (\$/ton)	Total Cost (\$)
9	69.18	995.5	496	18.17	1,509.67	104,438.97
8	69.18	995.5	496	18.17	1,509.67	104,438.97
7	69.18	995.5	496	18.17	1,509.67	104,438.97
6	69.18	995.5	496	18.17	1,509.67	104,438.97
5	69.18	995.5	496	18.17	1,509.67	104,438.97
4	69.18	995.5	496	18.17	1,509.67	104,438.97
3	69.18	995.5	496	18.17	1,509.67	104,438.97
2	69.18	995.5	496	18.17	1,509.67	104,438.97
1	69.18	995.5	496	18.17	1,509.67	104,438.97
					Total \$	939,950.74

Slab Formwork

Floor	Floor Area (sq ft)	Mat. Cost (\$/sq ft)	Lab. Cost (\$/sq ft)	Total Cost (\$/sq ft)	Total Cost (\$)	
9	23,100	1.40	2.96	4.36	100,716.00	
8	23,100	1.40	2.96	4.36	100,716.00	
7	23,100	1.40	2.96	4.36	100,716.00	
6	23,100	1.40	2.96	4.36	100,716.00	
5	23,100	1.40	2.96	4.36	100,716.00	
4	23,100	1.40	2.96	4.36	100,716.00	
3	23,100	1.40	2.96	4.36	100,716.00	
2	23,100	1.40	2.96	4.36	100,716.00	
1	23,100	1.40	2.96	4.36	100,716.00	
					Total \$	906,444.00

Shear Walls

Floor	Height (ft)	Total Length (ft)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	14.26	242.2	174.9	193.25	24.8	392.95	50,265.17
8	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
7	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
6	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
5	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
4	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
3	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
2	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
1	15	242.2	174.9	193.25	24.8	392.95	52,873.61
						Total \$	432,047.86

Total Cost (\$) = 3,413,748.45

Cost Analysis - Existing Structure

Columns

Column Sizes	Height(ft)	Number Columns	Total Length (ft)	Mat. Cost (\$/LF)	Lab. Cost (\$/LF)	Equip. Cost (\$/LF)	Total Cost (\$/LF)	Total Cost (\$)
W12x40	27.5	8.5	233.75	52.5	2.9	1.9	57.3	13,393.88
W12x50	27.5	4	110	52.5	2.9	1.9	57.3	6,303.00
W12x53	27.5	13.5	371.25	52.5	2.9	1.9	57.3	21,272.63
W12x58	27.5	13	357.5	60.5	2.9	1.9	65.3	23,344.75
W12x65	27.5	13	357.5	60.5	2.9	1.9	65.3	23,344.75
W12x72	27.5	15	412.5	75	3.4	2.23	80.63	33,259.88
W12x79	27.5	4	110	75	3.4	2.23	80.63	8,869.30
W12x87	27.5	11	302.5	91	3.4	2.23	96.63	29,230.58
W12x96	27.5	6	165	95	3.4	2.23	100.63	16,603.95
W12x106	27.5	14	385	115	3	1.9	119.9	46,161.50
W12x120	27.5	5	137.5	105	2.48	1.59	109.07	14,997.13
W12x136	27.5	15	412.5	130	3	1.9	134.9	55,646.25
W12x152	27.5	7	192.5	132	3	1.9	136.9	26,353.25
W12x170	27.5	8	220	150	2.75	1.5	154.25	33,935.00
W12x190	27.5	4	110	166	2.61	1.67	170.28	18,730.80
W12x210	27.5	5	137.5	180	2.75	1.5	184.25	25,334.38
W12x230	27.5	2	55	200	2.75	1.5	204.25	11,233.75
Total \$								448,816.23

Slab

Floor	Depth (in)	Area (sq ft)	Total Volume (cubic Yds)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Finishing Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
8	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
7	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
6	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
5	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
4	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
3	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
2	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
1	5.25	23,100	374.31	100.1	11.9	4.65	0.46	117.11	43,834.92
Total \$									433,965.74

Metal Decking

Floor	Floor Area (sq ft)	Mat. Cost (\$/sq ft)	Lab. Cost (\$/ft)	Equip. Cost (\$/ft)	Total Cost (\$/ft)	Total Cost (\$)
9	23100	1.89	0.36	0.02	2.27	52,437.00
8	23100	1.89	0.36	0.02	2.27	52,437.00
7	23100	1.89	0.36	0.02	2.27	52,437.00
6	23100	1.89	0.36	0.02	2.27	52,437.00
5	23100	1.89	0.36	0.02	2.27	52,437.00
4	23100	1.89	0.36	0.02	2.27	52,437.00
3	23100	1.89	0.36	0.02	2.27	52,437.00
2	23100	1.89	0.36	0.02	2.27	52,437.00
1	23100	1.89	0.36	0.02	2.27	52,437.00
Total \$						519,126.30

Beams and Girders

Beam Size	Number Beams	Length (ft)	Total Length	Mat. Cost (\$/LF)	Lab. Cost (\$/LF)	Equip Cost (\$/LF)	Total Cost (\$/LF)	Total Cost (\$)
W12 x 14	9	30	270	13.50	2.35	1.51	17.36	4,687.20
W16 x 26	58	30	1,740	25.00	2.07	1.33	28.40	49,416.00
W16 x 31	545	30	16,350	30.00	2.3	1.47	33.77	552,139.50
W16 x 36	77	30	2,310	37.00	2.5	1.55	41.05	94,825.50
W16 x 56	1	30	30	50.00	2.6	1.70	54.30	1,629.00
W16 x 66	1	30	30	64.50	2.72	1.74	68.96	2,068.80
W18 x 35	19	30	570	33.50	3.13	1.46	38.09	21,711.30
W18 x 40	112	30	3,360	38.50	3.13	1.46	43.09	144,782.40
W18 x 55	3	30	90	53.00	3.29	1.54	57.83	5,204.70
W24 x 55	33	35	1,155	53.00	2.7	1.27	56.97	65,800.35
W24 x 62	14	35	490	59.50	2.7	1.27	63.47	31,100.30
W24 x 76	11	35	385	73.00	2.7	1.27	76.97	29,633.45
W24 x 84	16	35	560	81.00	2.78	1.30	85.08	47,644.80
W27 x 84	65	35	2,275	81.00	2.52	1.18	84.70	192,692.50
W27 x 94	54	35	1,890	90.50	2.52	1.18	94.20	178,038.00
W27 x 114	2	35	70	110.00	2.61	1.22	113.83	7,968.10
W30 x 99	4	40	160	95.50	2.5	1.17	99.17	15,867.20
Total \$								1,589,730.01

Braced Frames

Column size	Height (ft)	Number Beams	Total Length (ft)	Mat. Cost (\$/LF)	Lab. Cost (\$/LF)	Equip. Cost (\$/LF)	Total Cost (\$/LF)	Total Cost (\$)
W6 x 25	14	8	112	19.25	3.45	2.21	24.91	2,789.92
W8 x 15	14	16	224	14.45	3.45	2.21	20.11	4,504.64
W8 x 18	14	8	112	20	3.45	2.21	25.66	2,873.92
W8 x 24	14	8	112	23	3.76	2.41	29.17	3,267.04
W8 x 28	14	8	112	27	3.76	2.41	33.17	3,715.04
W8 x 31	14	8	112	30	3.76	2.41	36.17	4,051.04
W8 x 35	14	16	224	33.5	3.76	2.41	39.67	8,886.08
W8 x 48	14	16	224	46	3.76	2.41	52.17	11,686.08
W10 x 22	14	8	112	21	3.45	2.21	26.66	2,985.92
W10 x 30	14	8	112	32	3.76	2.41	38.17	4,275.04
W10 x 33	14	8	112	32	3.76	2.41	38.17	4,275.04
W10 x 39	14	8	112	40	3.76	2.41	46.17	5,171.04
W10 x 45	14	8	112	47	3.76	2.41	53.17	5,955.04
W10 x 54	14	8	112	50	3.76	2.41	56.17	6,291.04
W14 x 22	14	40	560	25	2.09	1.34	28.43	15,920.80
W14 x 43	14	41	574	41.5	2.56	1.64	45.7	26,231.80
W18 x 50	14	9	126	48	3.29	1.54	52.83	6,656.58
Total \$							131,489.67	

Total Cost (\$) = **3,123,127.94**

Cost Analysis - 30'X40' Design

Columns

Floor	Height(ft)	Col. Size	Number Columns	Col. Area (sq in)	Total Volume (cubic yd)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Finishing Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	14.43	24"x24"	32	576	68.41	440	263	26.5	0.46	117.11	75,145.58	49,904.28
8	13.33	24"x24"	32	576	63.19	440	263	26.5	0.46	117.11	75,145.58	46,100.08
7	13.33	24"x24"	32	576	63.19	440	263	26.5	0.46	117.11	75,145.58	46,100.08
6	13.33	24"x24"	32	576	63.19	440	263	26.5	0.46	117.11	75,145.58	46,100.08
5	13.33	24"x24"	32	576	63.19	440	263	26.5	0.46	117.11	75,145.58	46,100.08
4	13.33	24"x24"	32	576	63.19	440	263	26.5	0.46	117.11	75,145.58	46,100.08
3	13.33	28"x28"	32	784	86.01	440	263	26.5	0.46	117.11	729.5	62,747.33
2	13.33	28"x28"	32	784	86.01	440	263	26.5	0.46	117.11	729.5	62,747.33
1	15	32"x32"	32	1024	126.42	440	263	26.5	0.46	117.11	729.5	92,223.21
Total \$											682.83	498,122.53

Slab

Floor	Depth (in)	Area (sq ft)	Total Volume (cubic Yds)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Finishing Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
8	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
7	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
6	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
5	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
4	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
3	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
2	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
1	9	23,100	641.67	100.1	11.9	4.65	0.46	117.11	75,145.58
Total \$									676,310.25

Slab Reinforcement

Floor	Weight (tons)	Mat. Cost (\$/ton)	Lab. Cost (\$/ton)	Equip. Cost (\$/ton)	Total Cost (\$/ton)	Total Cost (\$)
9	29.5	995.5	496	18.17	1,509.67	44,535.27
8	29.5	995.5	496	18.17	1,509.67	44,535.27
7	29.5	995.5	496	18.17	1,509.67	44,535.27
6	29.5	995.5	496	18.17	1,509.67	44,535.27
5	29.5	995.5	496	18.17	1,509.67	44,535.27
4	29.5	995.5	496	18.17	1,509.67	44,535.27
3	29.5	995.5	496	18.17	1,509.67	44,535.27
2	29.5	995.5	496	18.17	1,509.67	44,535.27
1	29.5	995.5	496	18.17	1,509.67	44,535.27
Total \$					1,509.67	44,535.27
Total \$					15,096.70	400,817.39

Slab Formwork

Floor	Floor Area (sq ft)	Mat. Cost (\$/sq ft)	Lab. Cost (\$/sq ft)	Total Cost (\$/sq ft)	Total Cost (\$)
9	23,100	1.40	2.96	4.36	100,716.00
8	23,100	1.40	2.96	4.36	100,716.00
7	23,100	1.40	2.96	4.36	100,716.00
6	23,100	1.40	2.96	4.36	100,716.00
5	23,100	1.40	2.96	4.36	100,716.00
4	23,100	1.40	2.96	4.36	100,716.00
3	23,100	1.40	2.96	4.36	100,716.00
2	23,100	1.40	2.96	4.36	100,716.00
1	23,100	1.40	2.96	4.36	100,716.00
Total \$					906,444.00

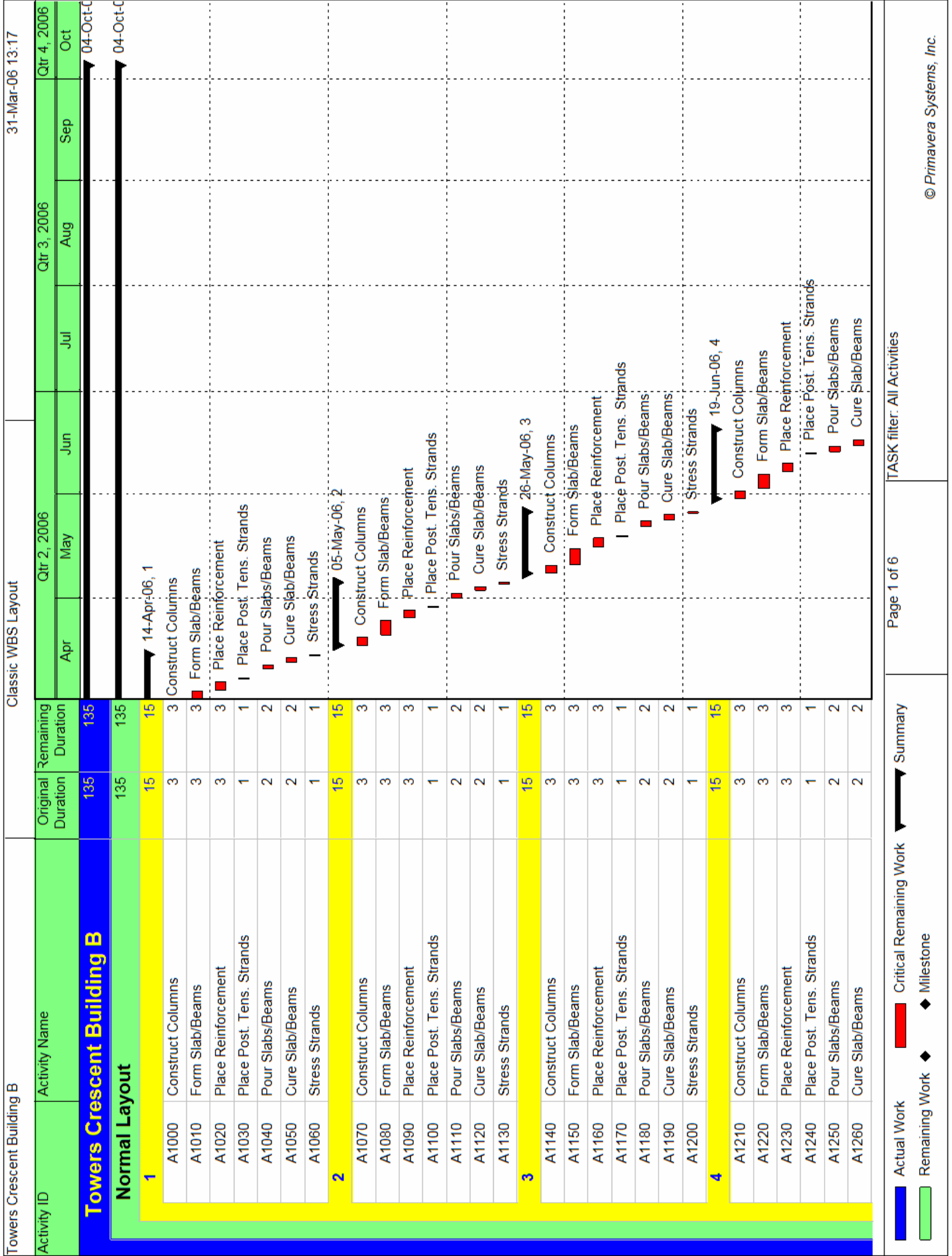
Post Tensioning

Floor	Weight (lbs)	Mat. Cost (\$/sq ft)	Lab. Cost (\$/sq ft)	Equip. Cost (\$/sq ft)	Total Cost (\$/sq ft)	Total Cost (\$)
9	22,160	0.47	0.85	0.02	1.34	29,694.40
8	22,160	0.47	0.85	0.02	1.34	29,694.40
7	22,160	0.47	0.85	0.02	1.34	29,694.40
6	22,160	0.47	0.85	0.02	1.34	29,694.40
5	22,160	0.47	0.85	0.02	1.34	29,694.40
4	22,160	0.47	0.85	0.02	1.34	29,694.40
3	22,160	0.47	0.85	0.02	1.34	29,694.40
2	22,160	0.47	0.85	0.02	1.34	29,694.40
1	22,160	0.47	0.85	0.02	1.34	29,694.40
Total \$					267,249.60	

Shear Walls

Floor	Height (ft)	Total Length (ft)	Mat. Cost (\$/CY)	Lab. Cost (\$/CY)	Equip. Cost (\$/CY)	Total Cost (\$/CY)	Total Cost (\$)
9	14.26	242.2	174.9	193.25	24.8	392.95	50,265.17
8	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
7	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
6	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
5	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
4	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
3	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
2	13.33	242.2	174.9	193.25	24.8	392.95	46,987.01
1	15	242.2	174.9	193.25	24.8	392.95	52,873.61
Total \$						432,047.86	

Total Cost (\$) = **3,180,991.62**



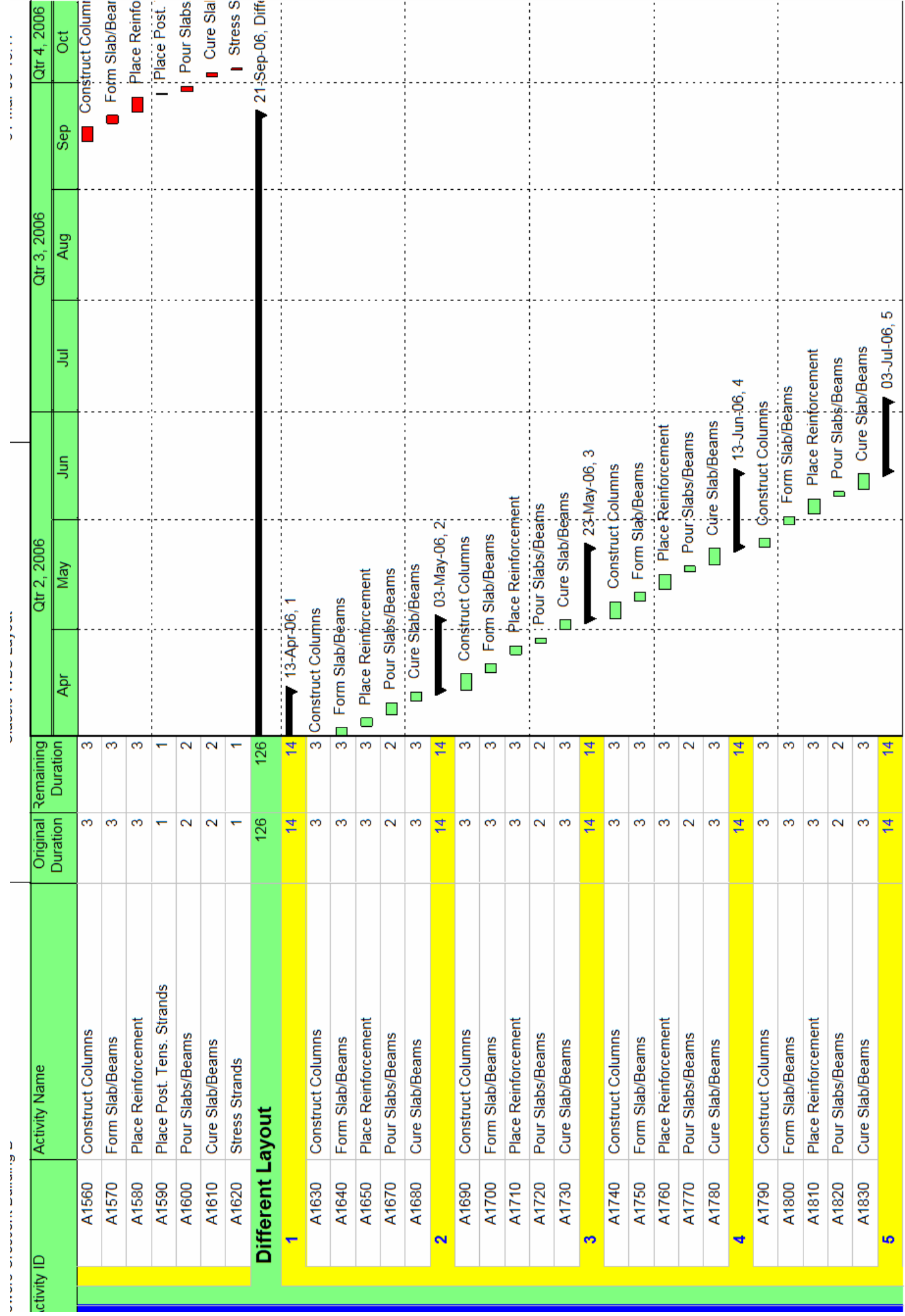
TASK filter: All Activities

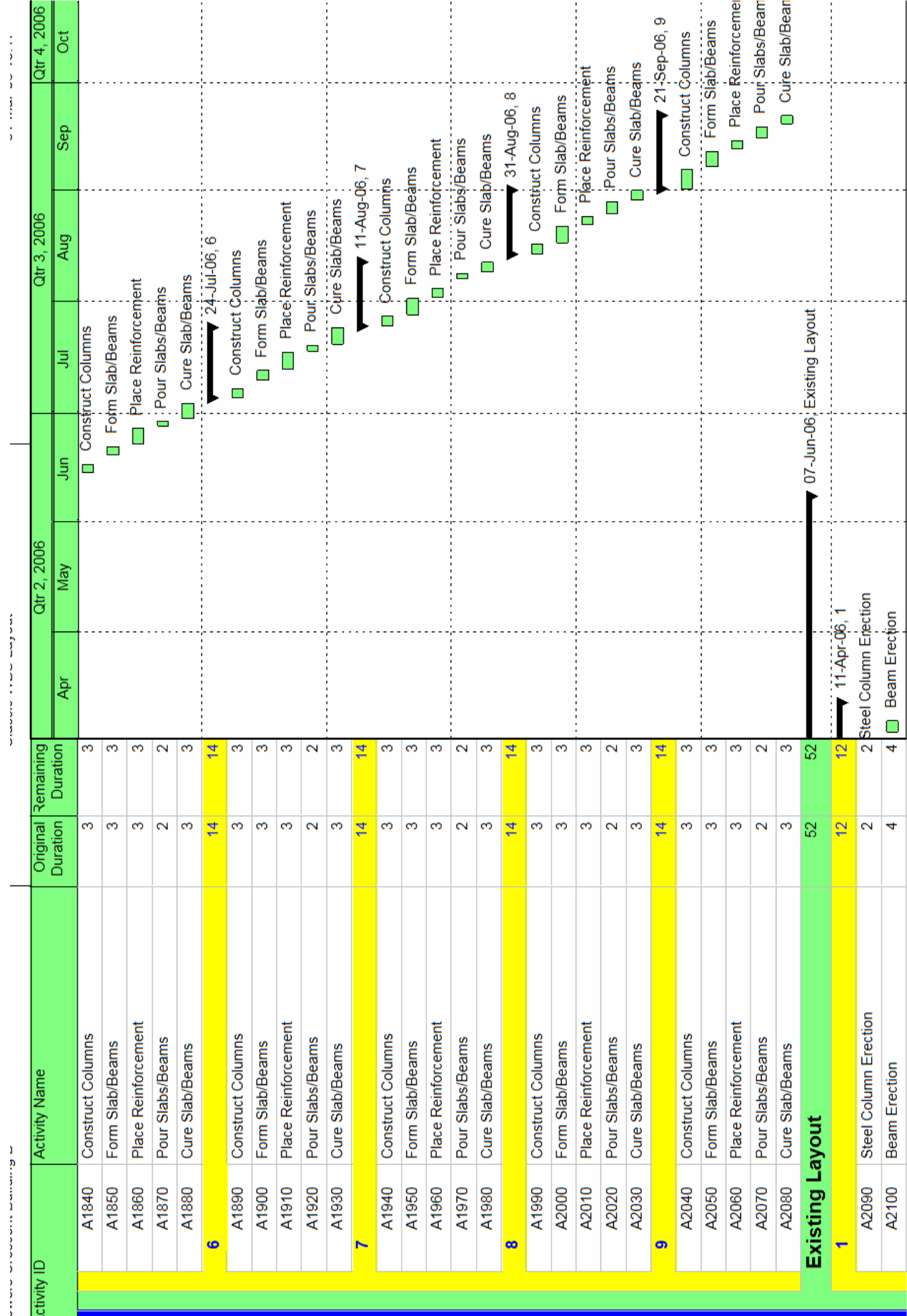
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Activity ID	Activity Name	Qtr 2, 2006			Qtr 3, 2006			Qtr 4, 2006		
		Apr	May	Jun	Jul	Aug	Sep	Oct		
A1270	Stress Strands									
5										
A1280	Construct Columns									
A1290	Form Slab/Beams									
A1300	Place Reinforcement									
A1310	Place Post. Tens. Strands									
A1320	Pour Slabs/Beams									
A1330	Cure Slab/Beams									
A1340	Stress Strands									
6										
A1350	Construct Columns									
A1360	Form Slab/Beams									
A1370	Place Reinforcement									
A1380	Place Post. Tens. Strands									
A1390	Pour Slabs/Beams									
A1400	Cure Slab/Beams									
A1410	Stress Strands									
7										
A1420	Construct Columns									
A1430	Form Slab/Beams									
A1440	Place Reinforcement									
A1450	Place Post. Tens. Strands									
A1460	Pour Slabs/Beams									
A1470	Cure Slab/Beams									
A1480	Stress Strands									
8										
A1490	Construct Columns									
A1500	Form Slab/Beams									
A1510	Place Reinforcement									
A1520	Place Post. Tens. Strands									
A1530	Pour Slabs/Beams									
A1540	Cure Slab/Beams									
A1550	Stress Strands									
9										

█ Actual Work
 █ Critical Remaining Work
 █ Remaining Work
 ◆ Milestone

TASK filter: All Activities
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Activity ID	Activity Name	Original Duration	Remaining Duration	Qtr 2, 2006			Qtr 3, 2006			Qtr 4, 2006	
				Apr	May	Jun	Jul	Aug	Sep	Oct	
A2110	Place Metal Decking	2	2	Place Metal Decking							
A2120	Pour Slab	1	1	Pour Slab							
A2130	Cure Slab	3	3	Cure Slab							
2		12	12	18-Apr-06, 2							
A2140	Steel Column Erection	2	2	Steel Column Erection							
A2150	Beam Erection	4	4	Beam Erection							
A2160	Place Metal Decking	2	2	Place Metal Decking							
A2170	Pour Slab	1	1	Pour Slab							
A2180	Cure Slab	3	3	Cure Slab							
3		12	12	25-Apr-06, 3							
A2190	Steel Column Erection	2	2	Steel Column Erection							
A2200	Beam Erection	4	4	Beam Erection							
A2210	Place Metal Decking	2	2	Place Metal Decking							
A2220	Pour Slab	1	1	Pour Slab							
A2230	Cure Slab	3	3	Cure Slab							
4		12	12	02-May-06, 4							
A2240	Steel Column Erection	2	2	Steel Column Erection							
A2250	Beam Erection	4	4	Beam Erection							
A2260	Place Metal Decking	2	2	Place Metal Decking							
A2270	Pour Slab	1	1	Pour Slab							
A2280	Cure Slab	3	3	Cure Slab							
5		12	12	09-May-06, 5							
A2290	Steel Column Erection	2	2	Steel Column Erection							
A2300	Beam Erection	4	4	Beam Erection							
A2310	Place Metal Decking	2	2	Place Metal Decking							
A2320	Pour Slab	1	1	Pour Slab							
A2330	Cure Slab	3	3	Cure Slab							
6		12	12	16-May-06, 6							
A2340	Steel Column Erection	2	2	Steel Column Erection							
A2350	Beam Erection	4	4	Beam Erection							
A2360	Place Metal Decking	2	2	Place Metal Decking							
A2370	Pour Slab	1	1	Pour Slab							
A2380	Cure Slab	3	3	Cure Slab							
7		12	12	23-May-06, 7							

Activity ID	Activity Name	Original Duration	Remaining Duration	Qtr 2, 2006				Qtr 3, 2006			Qtr 4, 2006
				Apr	May	Jun	Jul	Aug	Sep	Oct	
A2390	Steel Column Erection	2	2		■ Steel Column Erection						
A2400	Beam Erection	4	4		■ Beam Erection						
A2410	Place Metal Decking	2	2		■ Place Metal Decking						
A2420	Pour Slab	1	1		■ Pour Slab						
A2430	Cure Slab	3	3		■ Cure Slab						
8		12	12		■ Steel Column Erection ■ Beam Erection ■ Place Metal Decking ■ Pour Slab ■ Cure Slab						
A2440	Steel Column Erection	2	2		■ Steel Column Erection						
A2450	Beam Erection	4	4		■ Beam Erection						
A2460	Place Metal Decking	2	2		■ Place Metal Decking						
A2470	Pour Slab	1	1		■ Pour Slab						
A2480	Cure Slab	3	3		■ Cure Slab						
9		12	12		■ Steel Column Erection ■ Beam Erection ■ Place Metal Decking ■ Pour Slab ■ Cure Slab						
A2490	Steel Column Erection	2	2		■ Steel Column Erection						
A2500	Beam Erection	4	4		■ Beam Erection						
A2510	Place Metal Decking	2	2		■ Place Metal Decking						
A2520	Pour Slab	1	1		■ Pour Slab						
A2530	Cure Slab	3	3		■ Cure Slab						

Actual Work
Remaining Work

Critical Remaining Work
Milestone

Summary

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