



Technical Assignment 2

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Health Sciences Facility III
Baltimore, Maryland
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Executive Summary

The contents of this technical assignment for Health Sciences Facility III analyzes the project schedule, cost estimate, site logistics plan, and LEED accreditation. This 10-story, \$206 million dollar lab and research facility for the University of Maryland is located in Baltimore, Maryland. The cost estimation includes a detailed look at the structural system, an MEP assemblies estimate, and a general conditions evaluation.

For the detailed project schedule, the 55 month design and construction phase began in April 2013 and will finish at the end of September 2017. The building was split up by floor or by specific quadrants per floor to accommodate repetitive elements within the structure and interiors. The items number around 350 tasks and will be of great use in the following reports that analyze the acceleration of the schedule.

From the square foot structural estimate of \$14,173,761 to the detailed estimate of \$20,729,700, there was a substantial increase in accuracy of this estimate. With the actual estimate at \$21,297,000, this makes the detailed estimate only 2.66% lower than what it should be. This quantity take off includes concrete, rebar, and miscellaneous steel. The formwork is shown on the overall estimate sheet and is represented by the SFCA values on the takeoff sheets. In the MEP assemblies estimate, a more detailed approach was taken to account for multiple unique systems in the building such as the glycol system, medical and laboratory piping, and a variety of pumps. All of the systems were lower than expected; for example, the mechanical and plumbing system came in at \$54,860,000 while the actual estimate is \$62,903,000. Electrical work was ten million dollars less than expected and fire protection was \$300,000 less than the actual estimate. Items such as temporary utilities and services contribute to this offset in pricing. The general conditions estimate was higher than expected—about \$15,175,500 rather than the construction manager's \$10,130,300. One potential reason for this difference is the temporary facilities costs are included in the general conditions while the actual estimate includes the temporary facilities in various subcontractor pricing.

There are 3 phases to the site logistics plan. The first phase embodies the demolition of the existing building. Mobility around the site is crucial to demolish the existing structure without damaging the nearby structures. In the second phase, the excavation requires careful watch of the high water table and the heavily congested utility lines surrounding the site. Finally, the last stage involves the superstructure and interior portion of this building. Here the congestion is materials, equipment, and manpower on a tight site rather than the underground utilities.

Lastly, a LEED evaluation using the new LEED v4 checklist was used to understand the approach that the project plans to take in their LEED accreditation process. Based on the evaluation, the project can successfully track toward a LEED silver certification. The areas with the most opportunity for points are Location and Transportation as well as Materials and Resources.

Detailed Project Schedule

Summary

Found in the appendix A of this technical assignment is the full breakout of the 350 line item detailed project schedule. This lab and research space is a 55 month preconstruction/construction duration with 50 months of construction. There are two core and shell floors that are not in the scope of this project. Preconstruction for the construction manager and the design began in April 2013 and continued through July 2014. During this time, demolition of the existing building began in July 2013. The design reached 100% construction documents while the project was pouring the mat foundation. Below is a summary of the durations of the main project phases.

Table 1- Summary Project Schedule

| Health Sciences Facility III Project Summary Schedule | | | |
|--|-------------------|--------------------|-----------------|
| Phase | Begin | End | Duration (Days) |
| Procurement/Preconstruction | April 15, 2013 | October 1, 2015 | 639 |
| Demolition/Excavation | July 31, 2013 | July 11, 2014 | 245 |
| Substructure | July 4, 2014 | September 24, 2014 | 59 |
| Superstructure | August 25, 2014 | February 18, 2016 | 389 |
| Envelope | February 11, 2015 | October 28, 2016 | 448 |
| Interiors | January 22, 2015 | March 7, 2017 | 554 |
| Sitework | January 11, 2016 | July 1, 2016 | 125 |
| Building Closeout | January 18, 2017 | September 29, 2017 | 183 |

Procurement

The design and construction of this building is considered fast tracked because only 5 months of preconstruction had occurred before the notice to proceed was issued and the contractors broke ground to demolish the existing structure. The construction manager was on board at the beginning of design, and one of the first tasks they completed was the acquisition of design assist subcontractors in the concrete, curtain wall, mechanical and electrical trades.

Excavation

As mentioned in previous reports, the high water table was of great concern to the design and construction team. The dewatering system needed to be operational until the structure reached at least the fourth floor to sufficiently weigh down the potential uplift and structural problems that would occur from the water infiltration. This led to a decision to provide perimeter wells around the site and jet wells in the most crucial areas with the most water on site.

Structure

Once the building reached plan bottom, the mat foundation was prepared and poured. With a 44" or 60" mat foundation in all areas, the concrete was divided into 8 pours to accommodate the massive cubic yardage of concrete. The upper basement slab only takes up a portion of the lower basement footprint, so it did not warrant the same

structure as the mat foundation or the upper levels. Looking at the floors above grade, the building follows the same general floor plan, gradually getting smaller as the floors progress upward. This is divided up into 4 sections, seen in the image below.

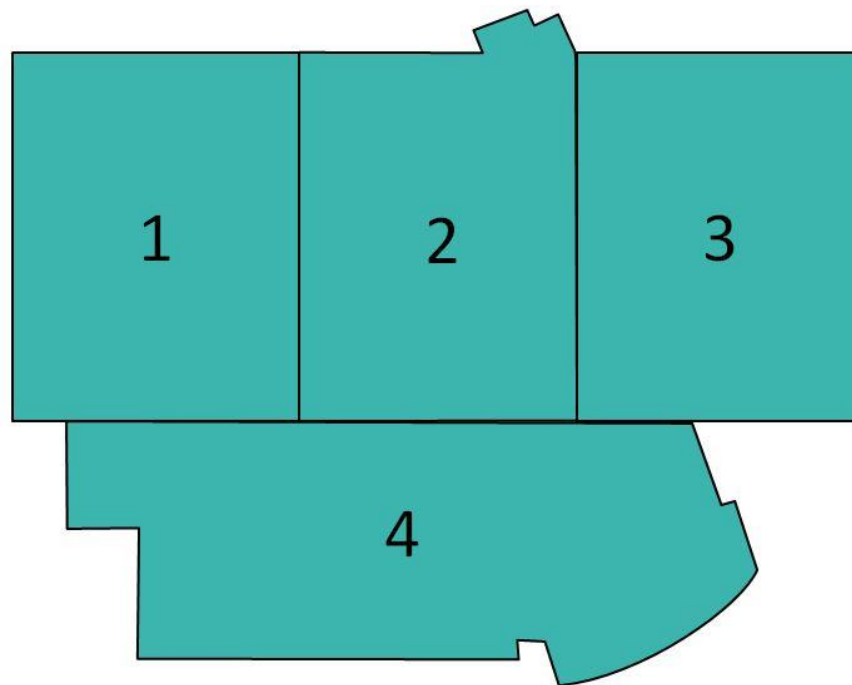


Figure 1- Floor 1 Pour Sequence

Envelope

The logic behind this envelope schedule starts on the west elevation of the north tower where the material hoist is located. Because of the material hoist, this is one of the last elevations to finish. After starting the exterior skin on the west side, the phasing moves clockwise around the building, with overlap on every elevation. The period of the most activity on the envelope is from July to November of 2015, where every face has multiple trades working up the structure. Consideration was taken to make sure the same trade does not have too many areas of the building to build at one time. The precast encounters this issue for a short amount of time while the curtain wall is working on many areas of the south face for a longer period of time. The envelope does not start until the fourth floor has been poured with the inclusion of the safety net surrounding the floor.

Interiors

The breakout of the interiors for the purpose of this exercise is by floor. Floors 1-10 are highly repeatable, not including the two core and shell floors. This schedule captures the main trades and a high level view of the overall duration it will take for a trade to complete one floor. The lower basement and lower penthouse would normally have a separate breakout for the heavy mechanical and electrical work in those spaces, but this exercise captured those elements in the line items that call out the installation of the mechanical and electrical equipment. The upper basement and upper penthouse are small enough to be included in the lower basement and lower penthouse schedule items. Basement interior work can technically start after the completion of the first floor slab,

but without the interior contractors on board at that time, there is a small lag to accommodate the buyout of the subcontractors. Also, the first and second floors do not start until the last face of the storefront or granite has begun on the envelope to account for the sequencing to become dried-in on that floor. Because the envelope is broken out on above floors as a masonry chunk from floors 3-7, floor 7 is tied to the masonry line item for the same reason as the first two floors. Generally the MEP overhead rough in is linked from one floor to the next in a start to start fashion with a lag because the MEP trades can sequence themselves so that they are able to be on multiple floors at once. For example, the mechanical piping workers can be on the fourth floor while the ductwork men are working in the same areas on the third and the plumbing contractors on the second, etc.

Sitework and Project Closeout

Although not at the most ideal time, the sitework is to be completed from January 2016 to July 2016. With exterior work, it is not on the critical path and much of it can be moved around to accommodate weather in this schedule because the project is not complete until September of that following year. The buffer space can be taken advantage of when working on the new utility lines as well as the restoration of the adjacent streets. This type of work is ideally done as close to the end of the project as possible to avoid any damages from construction. Due to the large size of this project, ample time is left for commissioning and flushout of the building. Extra commissioning for the building, including the building envelope, helps with the LEED accreditation process. The building reaches substantial completion at the end of September 2017.

Overall Estimate

From the square foot cost to the mixed assemblies and detailed estimate, the estimate grew from \$140 million to \$184 million as seen in table 2. This improvement is attributed to the hybrid assemblies and detailed estimate of the MEP systems as well as a detailed quantity takeoff of the structural system, explained below.

Table 2- Actual vs RS Means Estimate

| Actual Building Systems Cost | | | RS Means Building Systems Cost | | |
|------------------------------|-----------------------|-----------|--------------------------------|-----------------------|-----------|
| System | Amount | % Project | System | Amount | % Project |
| Demolition/Excavation | \$ 7,616,000 | 3.69 | Demolition/Excavation | \$ 5,750,000 | 3.11 |
| Structure | \$ 21,297,000 | 10.31 | Structure | \$ 20,729,700 | 11.22 |
| Envelope | \$ 34,726,000 | 16.82 | Envelope | \$ 14,416,100 | 7.80 |
| Mechanical/Plumbing | \$ 62,903,000 | 30.46 | Mechanical/Plumbing | \$ 54,860,900 | 29.69 |
| Electrical | \$ 32,357,000 | 15.67 | Electrical | \$ 22,357,600 | 12.10 |
| Fire Protection | \$ 1,965,000 | 0.95 | Fire Protection | \$ 1,621,400 | 0.88 |
| Sitework | \$ 2,672,800 | 1.29 | Sitework | \$ 2,672,800.00 | 1.45 |
| Other | \$ 42,956,200 | 20.80 | Other | \$ 47,171,200 | 25.53 |
| General Conditions | \$ 10,130,300 | 4.91 | General Conditions | \$ 15,175,500 | 8.21 |
| Total | \$ 206,493,000 | | Total | \$ 184,755,200 | |

Detailed Structural Estimate

Below is a list of assumptions made for the detailed estimate of the structural system:

- Omit curbs and equipment pads because they are not structural elements
- Lap splicing:
 - add 4' per floor for vertical bar in columns
 - add 6' of splice at the mid-span of every beam that requires a splice
 - average shear wall splice is 6' (3' per bar)
 - 2' splice per bar for bottom mat on elevated slabs, 4'4" splicing for mat foundation
- All beams are assumed to be 5000 psi concrete
- RS Means Assumptions
 - Largest formwork size is 36"; any formwork that is above this uses the 36" number
 - Most columns average to be 24"x24", so all are assumed to be that size for estimating purposes
 - HSS steel was not found in RS Means. A distributor was found online with quantities in \$/ft found here:
http://www.discountsteel.com/items/Mechanical_Structural_Steel_Rectangular_Tube.cfm?item_id=205&size_no=141&pieceLength=full&sku_no=307&len_ft=0&len_in=0&len_fraction=0&itemComments=&qty=1

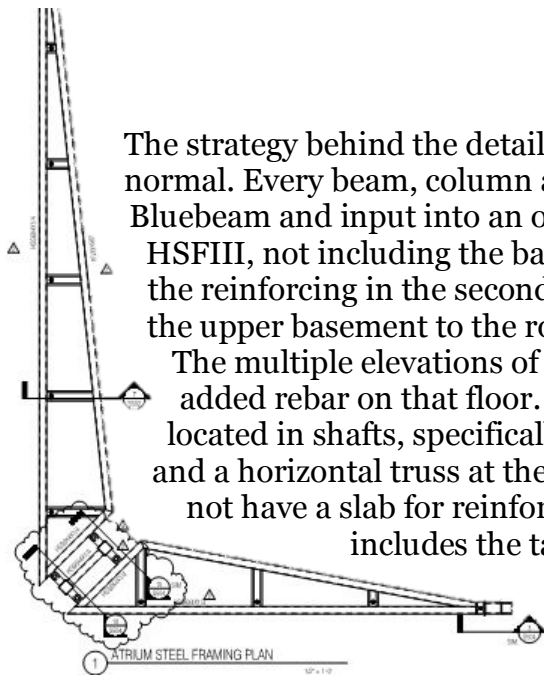


Figure 2- courtesy of the contract documents

The strategy behind the detailed structural estimate was by far a longer method than normal. Every beam, column and shear wall was taken off from the drawings in Bluebeam and input into an original excel file. The slabs are generally repetitive in HSFIII, not including the basement and first floor. A detailed quantity takeoff of the reinforcing in the second floor slab was calculated and then extrapolated from the upper basement to the roof based on the percentage of SF compared to floor 2.

The multiple elevations of level 1 called for a multiplier of 1.05 to make up for the added rebar on that floor. The miscellaneous steel in the building is mainly located in shafts, specifically elevator shafts. There is also steel on the atrium roof and a horizontal truss at the joining of the two curtain walls in the atrium that does not have a slab for reinforcement, seen in the figure on the left. Appendix B includes the takeoff information as well as overall estimate information.

MEP Assemblies Estimate

With a lab and research building, there are multiple mechanical assemblies that RS Means does not cover. Despite this limitation, cost data was acquired from the subcontractors to aid in the understanding of the breakout of the MEP trades and to act as a comparison to the assemblies estimate. For piping, ductwork, wiring and other elements that ran through the entire building, a \$/SF value from the contractor was used against the square foot estimate found from a quantity takeoff of the concrete slabs. This also applies to lighting fixtures to accommodate the volume of LED fixtures that are not represented in RS Means. Large equipment from the other systems was determined using the detailed RS Means cost data. This helps account for all of the special systems that come along with this type of building. Overall, all estimates are lower than the actual estimate. This may be partially represented in the lack of temporary facilities quantities in the RS Means estimates because the real MEP estimates include a line item for each subcontractor's contribution to temporary facilities. Also, there is a large volume of miscellaneous smaller equipment not found in RS Means that is in the actual building. Finally, there is no markup, bonding, insurance, escalation, allowances or general conditions within the RS Means estimate that all contribute to the actual building estimate.

General Conditions Estimate

The general conditions estimate for the project is considerably higher than the actual estimate. Two drivers to this is the inclusion of temporary facilities and the tower crane in this estimate. The tower crane rental in the actual estimate is divided up by the subcontractors and their frequency of use. Also, the temporary facilities are carried by the subcontractor that installed the work, i.e. the electrical subcontractor carries the pricing for temporary power. Some unknown contingencies and allowances are not included in the RS Means cost but can be seen in the actual estimate. In the staffing plan, not all of the members are full time or through the whole project. This is specific to the BIM manager and the accountant, who are charged to the job less than 50% of their work week.

Site Logistics Plan

The first phase of this project includes the demolition of the existing structure, seen in the site logistics plans in appendix C. There needs to be as much open space as possible to allow for this movement in dismantling the existing building. With a tight site, the construction management trailer is located 2 blocks off site in the University of Maryland's administrative building. This is a colocation room that is shared with the design assist subcontractors. The subcontractors also have trailers located on site for material and foreman use. The wheel wash stations are crucial to the erosion and sediment control portion of this project that is in an urbanized area. Finally, covered walkways allow for safe access to both entrances to the School of Dentistry that are adjacent to the project boundaries.

The excavation and foundation phase of this project causes more congestion on site due to the large mat foundation and basement. There are two ramp designations because the ramp needs to move at some point in the project to build the lagging behind the ramp area. As the excavation reaches plan bottom, the bottom of the hole can be appropriately used as material storage for the concrete foundation. There needs to be ample space above the hole to accommodate potentially multiple cranes during the sequencing of the concrete placement. Port-a-johns are located inside of the building or in the excavation hole. Also, the dewatering station located in the southwest corner of the site will remain there until the building passes the 4th floor and has enough weight to keep the high water table at bay without damage to the structure. Parking is not on site and is the responsibility of the contractor to find parking. The material staging areas will also host the dumpsters because they are in line with the truck path on and off site.

The final stage involves the superstructure, skin and interiors. The main differences in this site logistics plan are the appearance of the material hoist and tower crane. There are more site trailers to account for more subcontractors on site. With more open space for layout of material, there should also be a clear path around the building for cranes and other machinery to move around to perform various tasks. The peak times of tower crane usage will require more cranes to complete the assigned tasks on schedule, further requiring space around the building for crane movement.

LEED Analysis

Health Sciences Facility III was compared against the new USGBC v4 LEED certification checklist. Because LEED points rely heavily on the design of the building, decisions to pursue specific points were made based on observations of the contract drawings. The overall project is chasing a LEED silver certification, which is concurrent with this analysis. The checklist for this project is located in appendix D. Overall, this assessment aligns closely with the actual project pursuits and goals for LEED. There are several opportunities that were taken advantage of by the designers in the areas of the location and materials and resources on this project. One element not verified in this personal analysis of LEED is the points that require calculations for the overall building life cycle and energy performance. For the purposes of this analysis, general goals were set based on the evaluation of the project.

Location and Transportation

With HSF III located in downtown Baltimore, there are several opportunities to acquire points in this section. Multiple forms of public transportation are available within walking distance from the project. This includes rail, commuter bus, local bus, and metro. Due to the existing building on site, demolishing the old building avoids building on virgin soil and gains the project a point under sensitive land protection. Bike racks are an easy add to the project, especially because the owner is a university and has a higher volume of people who ride bikes around school. The location of this project also satisfies all of the points under the surrounding density and diverse uses credit. Within a half mile, there is a multitude of diverse uses, from residential space to many public services like a police station, post office, fire station and several types of entertainment.

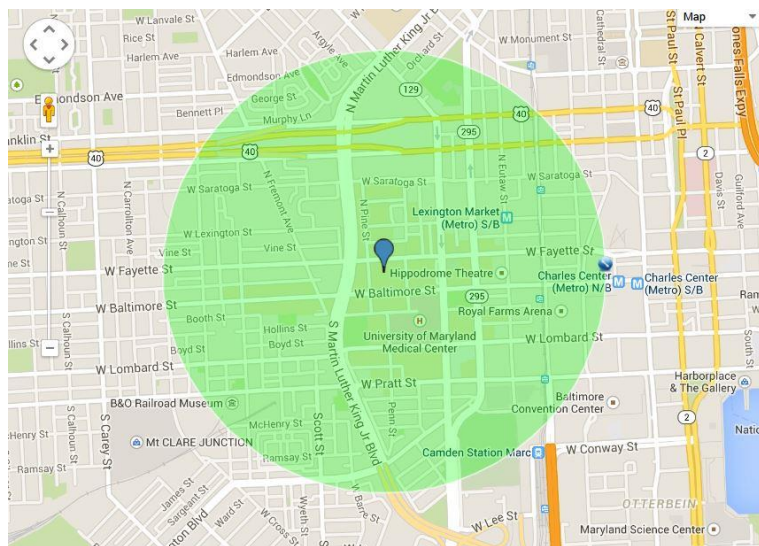


Figure 3- courtesy of Google

Sustainable Sites

There is a detailed erosion and sediment control plan located in the drawings, and those plans are being heavily monitored by both the construction manager and the owner. Because construction activity easily destroys the barriers and methods to control the soil, regular maintenance is mandatory to keep them functional. During schematic design, a detailed survey and evaluation of the site included elements such as an energy study, a focus on the effects of the high water table, and a study on the climate. Following this phase, a geotechnical report further reported its findings on the soil conditions as well as confirmation on the potential effects of the high water table. The water table example played a large role in design as it was a major driver in the choice of foundation type. The structural engineer decided on a mat foundation to simulate a bathtub concept that gives the building enough weight for the water to divert around it without an effect on the structure.

The building footprint only makes up about 40 percent of the overall site footprint, which allows for a large amount of open space and vegetation to compliment the grade change at main entrance of the building. Based on the landscape drawings, there is a healthy ratio of vegetation to sidewalk within this open space. Figure 4 shows a small snapshot of this open space in the courtyard. An IRMA roof system, known as inverted roof membrane assembly has several layers and is designed for mid to high rise buildings for thermal protection. The inverted idea comes from the fact that the roof membrane is located on the face of the concrete roof with insulation on top of the membrane, contrary to traditional roof assemblies. This roof system as well as the many green roofs on this building aid in the reduction of the heat island effect in this area.

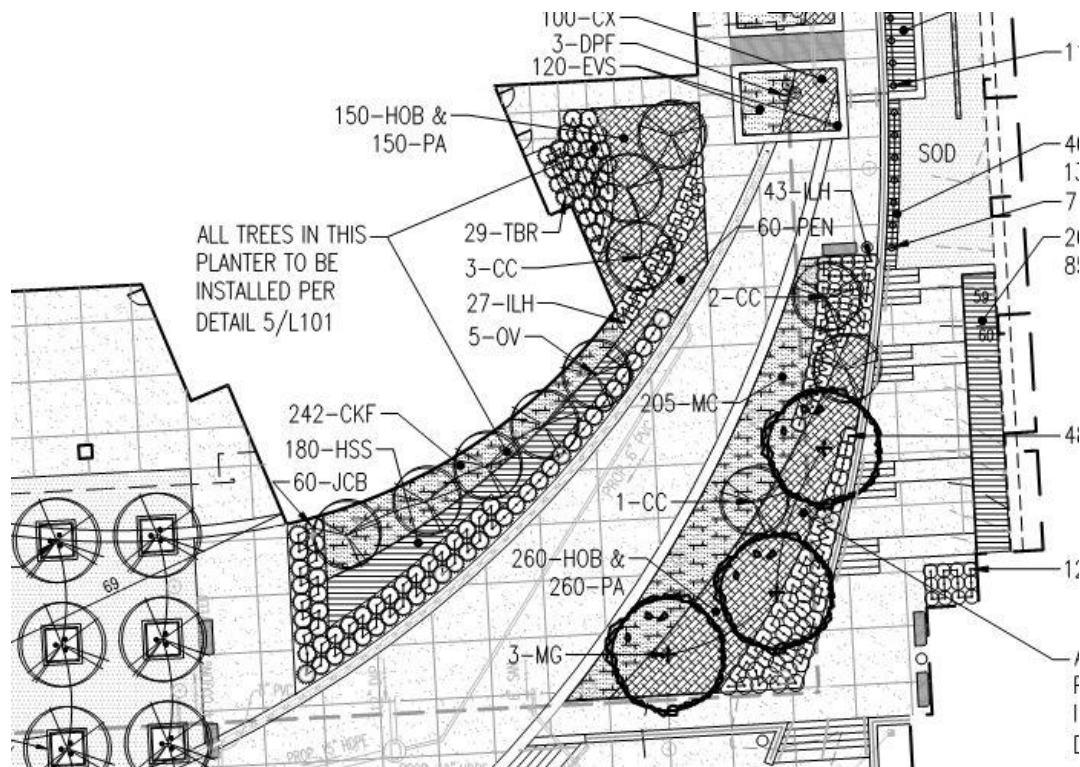


Figure 4- courtesy of the contract documents

Water Efficiency

Despite the lack of design calculations for this portion of the analysis, it can be assumed that the design team made significant efforts in reducing the overall water consumption of the building. Outdoor vegetation is self-sustaining, such as the dwarf english yew and the redbud. For the purposes of this analysis, a 35% reduction of indoor water use was established as a goal for the project. There is also evidence within the drawings of multiple types of meters to monitor consumption, specifically water and electricity.

Energy and Atmosphere

All air handling units and HVAC systems should not use CFC based refrigerants, which meets one of the requirements in this section of the LEED analysis. There is also an excessive building flushout process at the conclusion of this job to accommodate commissioning and the cleaning of the systems from construction. University of Maryland also requested commissioning of the building envelope due to prior experience with envelope leakage; this pools into the enhanced commissioning credit. Concerning optimizing energy performance, a ballpark 9 points, or 22% improvement in energy performance was decided because this building is a lab research facility and has multiple systems located in it that requires a higher volume of energy than other types of buildings. With that limitation, there is still opportunity to design each system efficiently and provide improvements in the energy performance with every system included in the building. The renewable energy production is also a broad goal made for the project that does not have specific backup information to justify the claim.

Materials and Resources

This section is where the construction manager has the most control in directly chasing LEED points. The current construction manager, Barton Malow, has a detailed plan that monitors waste leaving the project. A joint effort between the subcontractors, construction manager, and engineers aid in the efforts to pick appropriate products to satisfy these credits. The LEED system has been around long enough that manufacturers have modified their products to adhere to these standards, making the process and the documentation of this process simple for this LEED section. Some of the monitoring of the VOC content and other chemicals in various products is more important when deciding on the interior products. The subcontractors and manufacturers in this case will provide the best input in the decision making because they work closely with the product. Also, the demolition of the project allowed for the opportunity to recycle most of the rebar and steel found in the building, adhering to the demolition waste management credit.

Indoor Environmental Quality

The credits related to enhancing indoor air quality are extremely important in this building because of the nature of a lab and research space. There are multiple air handling units that are 100% DOAS systems to provide fresh air to the lab and vivarium spaces. The site is smoke free, which contributes to the construction air quality management plan. This will be further developed as the building moves closer to the dried-in stage. With an open floor plan, the acoustical performance applies more strictly to the office spaces and meeting rooms that are closed off to the research areas. Lab and

research buildings generally have a higher acoustical requirement which allows this project to meet the acoustical needs for the points.

When concerned about daylighting, most of the entire south façade is made up of curtain wall that illuminates the majority of the office spaces. The lab spaces take advantage of the ambient daylight on the north elevation which eliminates the glare from the direct sunlight into the space. Also, the south curtain wall faces the open courtyard for pleasant views of the surrounding areas. The building will also be the tallest in the area, allowing for more views of Baltimore.

Innovation/Regional Policy

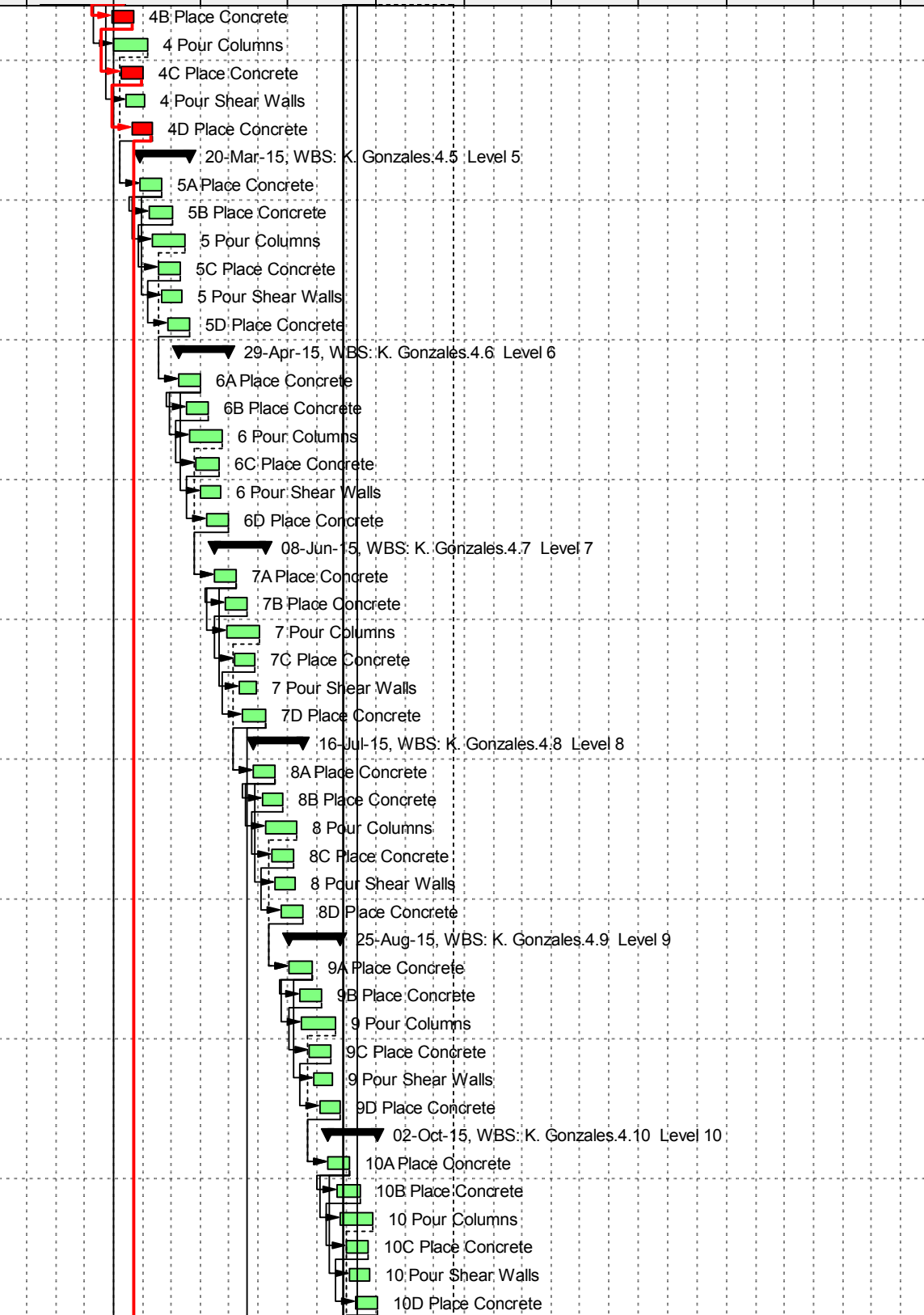
Finally, the only credit pursued in this section is the LEED accredited professional, which for this project is the Senior Project Manager on the construction management team.

Appendix A

| Activity ID | Activity Name | Start | Finish | Original Duration | 2013 2014 2015 2016 2017 | | | | | | | | | | | | | | | |
|--|------------------------------------|------------|-----------|-------------------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| Project: K. Gonzales HSFIII | | | | | 01-Oct-15, WBS: K. Gonzales.7 Procurement/Precon | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.7 Procurement/Precon | | | | | | | | | | | | | | | | | | | | |
| A4010 | Schematic Design | 15-Apr-13 | 23-Jul-13 | 70 | Schematic Design | | | | | | | | | | | | | | | |
| A4020 | Design Development | 10-Jul-13 | 04-Feb-14 | 147 | Design Development | | | | | | | | | | | | | | | |
| A4030 | NTP | 24-Jul-13* | | 0 | NTP, 24-Jul-13* | | | | | | | | | | | | | | | |
| A4040 | Site Mobilization | 24-Jul-13 | 30-Jul-13 | 5 | Site Mobilization | | | | | | | | | | | | | | | |
| A4050 | 50% Construction Documents | 22-Jan-14 | 27-Mar-14 | 47 | 50% Construction Documents | | | | | | | | | | | | | | | |
| A4060 | 100% Construction Documents | 28-Mar-14 | 24-Jul-14 | 85 | 100% Construction Documents | | | | | | | | | | | | | | | |
| A3930 | Order Mech Lg Equip | 25-Jul-14 | 17-Sep-15 | 300 | Order Mech Lg Equip | | | | | | | | | | | | | | | |
| A3940 | Order Elec Lg Equip | 25-Jul-14 | 17-Sep-15 | 300 | Order Elec Lg Equip | | | | | | | | | | | | | | | |
| A4070 | Procure Elevators | 25-Jul-14 | 01-Oct-15 | 310 | Procure Elevators | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.6 Excavation | | | | | 11-Jul-14, WBS: K. Gonzales.6 Excavation | | | | | | | | | | | | | | | |
| A1000 | Demolition of Existing Structure | 31-Jul-13 | 31-Jan-14 | 130 | Demolition of Existing Structure | | | | | | | | | | | | | | | |
| A1010 | Install H Piles | 03-Feb-14 | 14-Feb-14 | 10 | Install H Piles | | | | | | | | | | | | | | | |
| A1020 | Drill Dewatering Wells/Pump Piping | 11-Feb-14 | 31-Mar-14 | 35 | Drill Dewatering Wells/Pump Piping | | | | | | | | | | | | | | | |
| A1030 | 1st Lift Excavation/Lagging | 25-Mar-14 | 15-Apr-14 | 16 | 1st Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1040 | 2nd Lift Excavation/Lagging | 10-Apr-14 | 01-May-14 | 16 | 2nd Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1050 | 3rd Lift Excavation/Lagging | 28-Apr-14 | 19-May-14 | 16 | 3rd Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1060 | 4th Lift Excavation/Lagging | 14-May-14 | 04-Jun-14 | 16 | 4th Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1070 | 5th Lift Excavation/Lagging | 30-May-14 | 20-Jun-14 | 16 | 5th Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1080 | 6th Lift Excavation/Lagging | 17-Jun-14 | 08-Jul-14 | 16 | 6th Lift Excavation/Lagging | | | | | | | | | | | | | | | |
| A1090 | Remove Ramp | 09-Jul-14 | 11-Jul-14 | 3 | Remove Ramp | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5 Substructure | | | | | 24-Sep-14, WBS: K. Gonzales.5 Substructure | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.1 Pour 1 | | | | | 04-Aug-14, WBS: K. Gonzales.5.1 Pour:1 | | | | | | | | | | | | | | | |
| A1100 | Install MEP Embeds | 04-Jul-14 | 10-Jul-14 | 5 | Install MEP Embeds | | | | | | | | | | | | | | | |
| A1120 | Place Rebar | 11-Jul-14 | 18-Jul-14 | 6 | Place Rebar | | | | | | | | | | | | | | | |
| A1110 | Form Slab | 21-Jul-14 | 28-Jul-14 | 6 | Form Slab | | | | | | | | | | | | | | | |
| A1130 | Pour Concrete | 24-Jul-14 | 28-Jul-14 | 3 | Pour Concrete | | | | | | | | | | | | | | | |
| A3770 | Erect Tower Crane | 29-Jul-14 | 04-Aug-14 | 5 | Erect Tower Crane | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.2 Pour 2 | | | | | 05-Aug-14, WBS: K. Gonzales.5.2 Pour:2 | | | | | | | | | | | | | | | |
| A1140 | Install MEP Embeds | 11-Jul-14 | 17-Jul-14 | 5 | Install MEP Embeds | | | | | | | | | | | | | | | |
| A1160 | Place Rebar | 21-Jul-14 | 28-Jul-14 | 6 | Place Rebar | | | | | | | | | | | | | | | |
| A1150 | Form Slab | 29-Jul-14 | 05-Aug-14 | 6 | Form Slab | | | | | | | | | | | | | | | |
| A1170 | Pour Concrete | 29-Jul-14 | 31-Jul-14 | 3 | Pour Concrete | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.3 Pour 3 | | | | | 13-Aug-14, WBS: K. Gonzales.5.3 Pour 3 | | | | | | | | | | | | | | | |
| A1180 | Install MEP Embeds | 18-Jul-14 | 24-Jul-14 | 5 | Install MEP Embeds | | | | | | | | | | | | | | | |
| A1200 | Place Rebar | 29-Jul-14 | 05-Aug-14 | 6 | Place Rebar | | | | | | | | | | | | | | | |
| A1210 | Pour Concrete | 01-Aug-14 | 05-Aug-14 | 3 | Pour Concrete | | | | | | | | | | | | | | | |
| A1190 | Form Slab | 06-Aug-14 | 13-Aug-14 | 6 | Form Slab | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.4 Pour 4 | | | | | 21-Aug-14, WBS: K. Gonzales.5.4 Pour 4 | | | | | | | | | | | | | | | |
| A1260 | Install MEP Embeds | 25-Jul-14 | 31-Jul-14 | 5 | Install MEP Embeds | | | | | | | | | | | | | | | |
| A1280 | Place Rebar | 06-Aug-14 | 13-Aug-14 | 6 | Place Rebar | | | | | | | | | | | | | | | |
| A1290 | Pour Concrete | 06-Aug-14 | 08-Aug-14 | 3 | Pour Concrete | | | | | | | | | | | | | | | |
| A1270 | Form Slab | 14-Aug-14 | 21-Aug-14 | 6 | Form Slab | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.5 Pour 5 | | | | | 29-Aug-14, WBS: K. Gonzales.5.5 Pour 5 | | | | | | | | | | | | | | | |
| A1300 | Install MEP Embeds | 01-Aug-14 | 07-Aug-14 | 5 | Install MEP Embeds | | | | | | | | | | | | | | | |

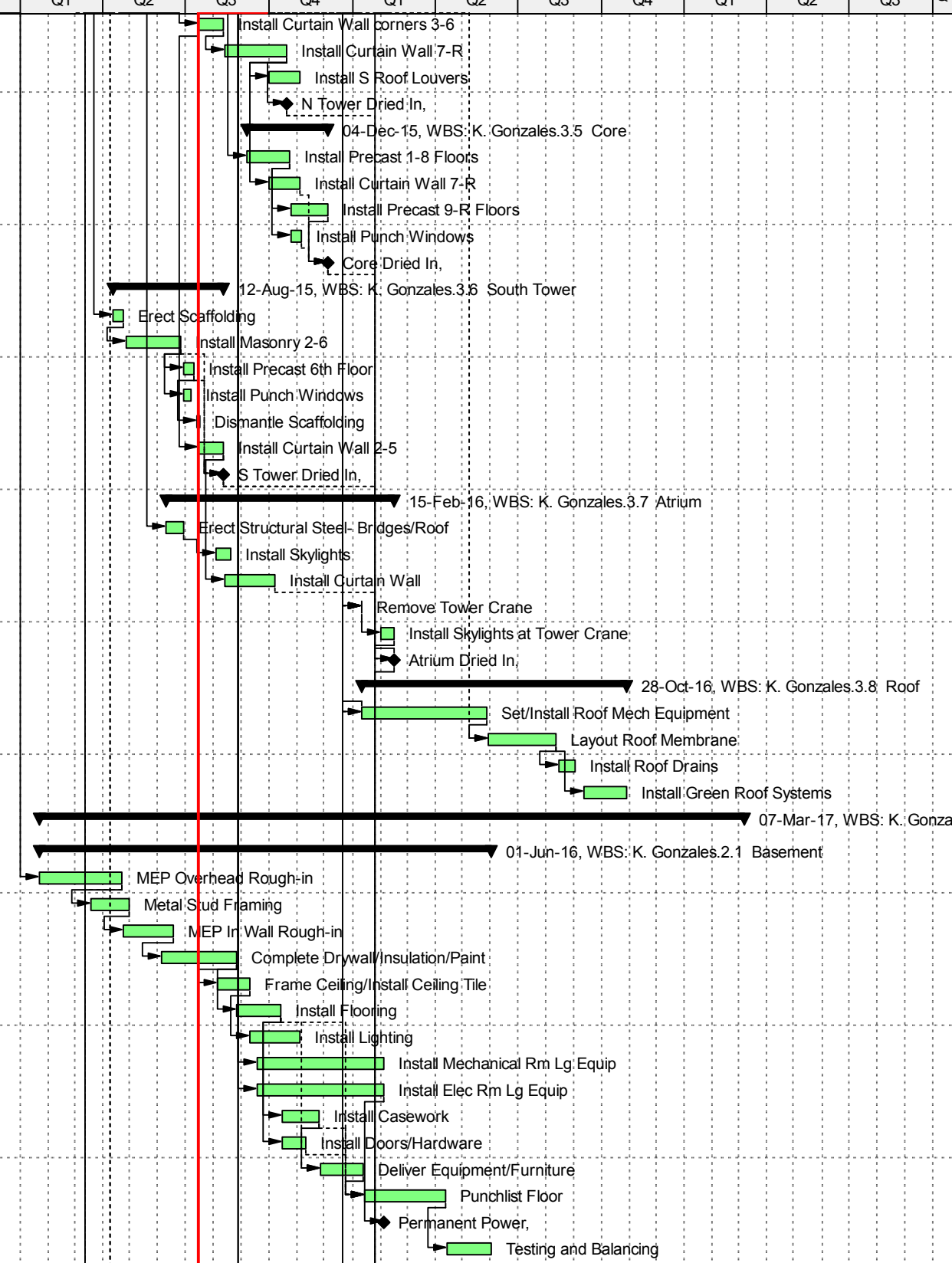
| Activity ID | Activity Name | Start | Finish | Original Duration | 2013 2014 2015 2016 2017 | | | | | | | | | | | | | | | | | | | |
|--|--------------------|-----------|-----------|-------------------|--------------------------|-----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| A1330 | Pour Concrete | 11-Aug-14 | 13-Aug-14 | 3 | | | | | | | | | | | | | | | | | | | | |
| A1320 | Place Rebar | 14-Aug-14 | 21-Aug-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1310 | Form Slab | 22-Aug-14 | 29-Aug-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.6 Pour 6 | | | | | 08-Sep-14 | 08-Sep-14 | 22 | | | | | | | | | | | | | | | | | |
| A1340 | Install MEP Embeds | 08-Aug-14 | 14-Aug-14 | 5 | | | | | | | | | | | | | | | | | | | | |
| A1370 | Pour Concrete | 14-Aug-14 | 18-Aug-14 | 3 | | | | | | | | | | | | | | | | | | | | |
| A1360 | Place Rebar | 22-Aug-14 | 29-Aug-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1350 | Form Slab | 01-Sep-14 | 08-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.7 Pour 7 | | | | | 15-Aug-14 | 16-Sep-14 | 23 | | | | | | | | | | | | | | | | | |
| A1380 | Install MEP Embeds | 15-Aug-14 | 21-Aug-14 | 5 | | | | | | | | | | | | | | | | | | | | |
| A1410 | Pour Concrete | 19-Aug-14 | 21-Aug-14 | 3 | | | | | | | | | | | | | | | | | | | | |
| A1400 | Place Rebar | 01-Sep-14 | 08-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1390 | Form Slab | 09-Sep-14 | 16-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.8 Pour 8 | | | | | 11-Aug-14 | 24-Sep-14 | 33 | | | | | | | | | | | | | | | | | |
| A1220 | Install MEP Embeds | 22-Aug-14 | 28-Aug-14 | 5 | | | | | | | | | | | | | | | | | | | | |
| A1250 | Pour Concrete | 22-Aug-14 | 26-Aug-14 | 3 | | | | | | | | | | | | | | | | | | | | |
| A1240 | Place Rebar | 09-Sep-14 | 16-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1230 | Form Slab | 17-Sep-14 | 24-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.5.8.1 Upper Basement | | | | | 11-Aug-14 | 05-Sep-14 | 20 | | | | | | | | | | | | | | | | | |
| A1 | Install MEP Embeds | 11-Aug-14 | 15-Aug-14 | 5 | | | | | | | | | | | | | | | | | | | | |
| A1 | Place Rebar | 18-Aug-14 | 25-Aug-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1 | Form Slab | 26-Aug-14 | 02-Sep-14 | 6 | | | | | | | | | | | | | | | | | | | | |
| A1 | Pour Concrete | 03-Sep-14 | 05-Sep-14 | 3 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4 Superstructure | | | | | 25-Aug-14 | 18-Feb-16 | 389 | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.1 Level 1 | | | | | 25-Aug-14 | 15-Oct-14 | 38 | | | | | | | | | | | | | | | | | |
| A1460 | 1A Place Concrete | 25-Aug-14 | 16-Sep-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A1470 | 1B Place Concrete | 03-Sep-14 | 25-Sep-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A3010 | 1 Pour Columns | 05-Sep-14 | 09-Oct-14 | 25 | | | | | | | | | | | | | | | | | | | | |
| A1480 | 1C Place Concrete | 12-Sep-14 | 06-Oct-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A3020 | 1 Pour Shear Walls | 17-Sep-14 | 07-Oct-14 | 15 | | | | | | | | | | | | | | | | | | | | |
| A1490 | 1D Place Concrete | 23-Sep-14 | 15-Oct-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.2 Level 2 | | | | | 02-Oct-14 | 24-Nov-14 | 38 | | | | | | | | | | | | | | | | | |
| A1500 | 2A Place Concrete | 02-Oct-14 | 24-Oct-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A1510 | 2B Place Concrete | 13-Oct-14 | 04-Nov-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A4140 | 2 Pour Columns | 15-Oct-14 | 18-Nov-14 | 25 | | | | | | | | | | | | | | | | | | | | |
| A1520 | 2C Place Concrete | 22-Oct-14 | 13-Nov-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A4150 | 2 Pour Shear Walls | 27-Oct-14 | 14-Nov-14 | 15 | | | | | | | | | | | | | | | | | | | | |
| A1530 | 2D Place Concrete | 31-Oct-14 | 24-Nov-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.3 Level 3 | | | | | 11-Nov-14 | 01-Jan-15 | 38 | | | | | | | | | | | | | | | | | |
| A1540 | 3A Place Concrete | 11-Nov-14 | 03-Dec-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A1550 | 3B Place Concrete | 20-Nov-14 | 12-Dec-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A4160 | 3 Pour Columns | 24-Nov-14 | 26-Dec-14 | 25 | | | | | | | | | | | | | | | | | | | | |
| A1560 | 3C Place Concrete | 01-Dec-14 | 23-Dec-14 | 17 | | | | | | | | | | | | | | | | | | | | |
| A4170 | 3 Pour Shear Walls | 04-Dec-14 | 24-Dec-14 | 15 | | | | | | | | | | | | | | | | | | | | |
| A1570 | 3D Place Concrete | 10-Dec-14 | 01-Jan-15 | 17 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.4 Level 4 | | | | | 19-Dec-14 | 10-Feb-15 | 38 | | | | | | | | | | | | | | | | | |
| A1580 | 4A Place Concrete | 19-Dec-14 | 12-Jan-15 | 17 | | | | | | | | | | | | | | | | | | | | |

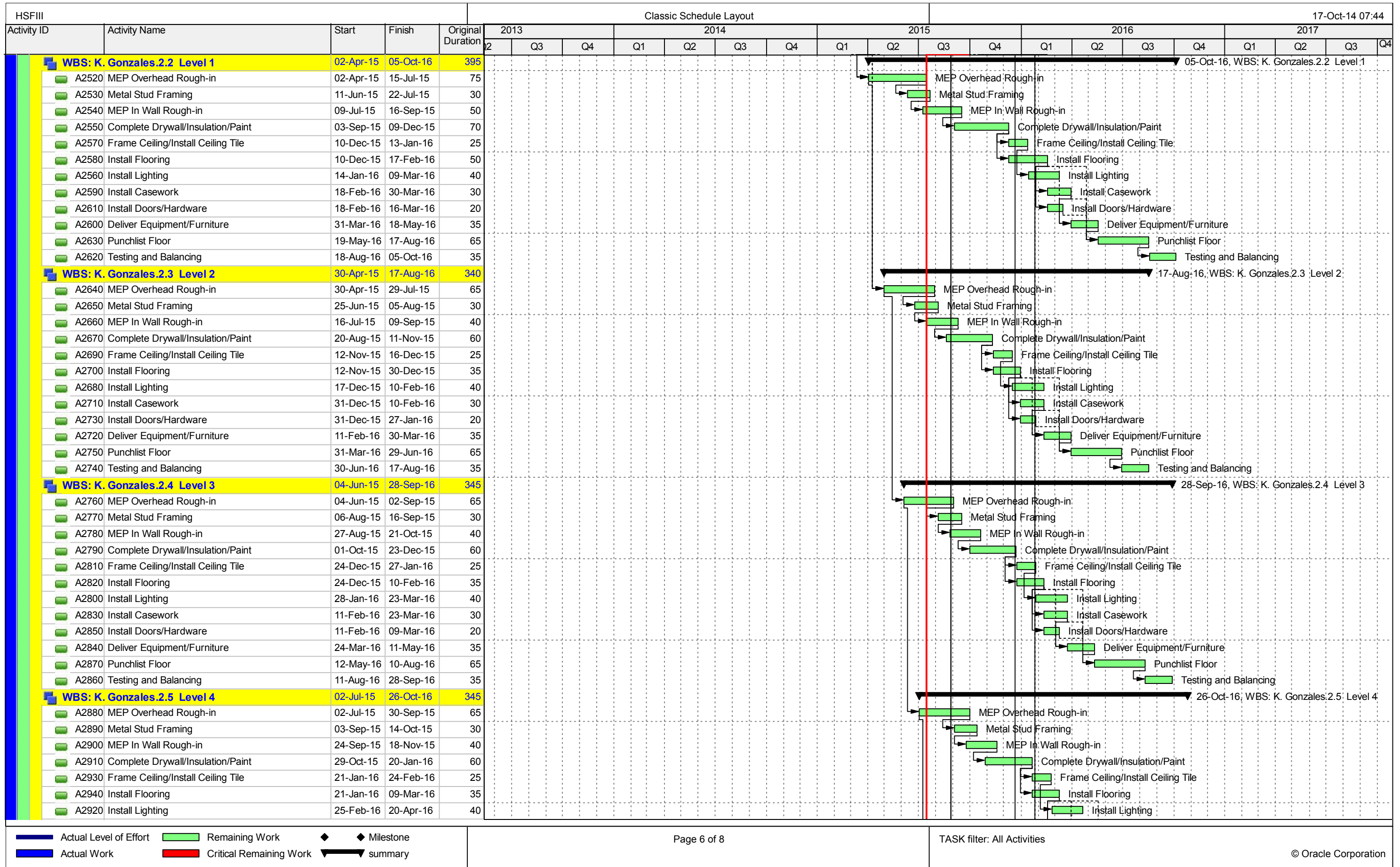
| HSFIII | | Classic Schedule Layout | | | | | | | | | | | 17-Oct-14 07:44 | | | | | | | | | | | | | | |
|-------------|---------------------------------------|-------------------------|------------------|-------------------|------|----|----|----|------|----|----|----|-----------------|----|----|----|------|----|----|----|------|----|----|--|--|--|--|
| Activity ID | Activity Name | Start | Finish | Original Duration | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | | | | |
| | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | | | |
| █ | A1590 4B Place Concrete | 30-Dec-14 | 21-Jan-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4180 4 Pour Columns | 01-Jan-15 | 04-Feb-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1600 4C Place Concrete | 08-Jan-15 | 30-Jan-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4190 4 Pour Shear Walls | 13-Jan-15 | 02-Feb-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1610 4D Place Concrete | 19-Jan-15 | 10-Feb-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.5 Level 5 | 28-Jan-15 | 20-Mar-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1620 5A Place Concrete | 28-Jan-15 | 19-Feb-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1630 5B Place Concrete | 06-Feb-15 | 02-Mar-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4200 5 Pour Columns | 10-Feb-15 | 16-Mar-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1640 5C Place Concrete | 17-Feb-15 | 11-Mar-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4210 5 Pour Shear Walls | 20-Feb-15 | 12-Mar-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1650 5D Place Concrete | 26-Feb-15 | 20-Mar-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.6 Level 6 | 09-Mar-15 | 29-Apr-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1660 6A Place Concrete | 09-Mar-15 | 31-Mar-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1670 6B Place Concrete | 18-Mar-15 | 09-Apr-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4220 6 Pour Columns | 20-Mar-15 | 23-Apr-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1680 6C Place Concrete | 27-Mar-15 | 20-Apr-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4230 6 Pour Shear Walls | 01-Apr-15 | 21-Apr-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1690 6D Place Concrete | 07-Apr-15 | 29-Apr-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.7 Level 7 | 16-Apr-15 | 08-Jun-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1700 7A Place Concrete | 16-Apr-15 | 08-May-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1710 7B Place Concrete | 27-Apr-15 | 19-May-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4240 7 Pour Columns | 29-Apr-15 | 02-Jun-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1720 7C Place Concrete | 06-May-15 | 28-May-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4250 7 Pour Shear Walls | 11-May-15 | 29-May-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1730 7D Place Concrete | 15-May-15 | 08-Jun-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.8 Level 8 | 26-May-15 | 16-Jul-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1740 8A Place Concrete | 26-May-15 | 17-Jun-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1750 8B Place Concrete | 04-Jun-15 | 26-Jun-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4260 8 Pour Columns | 08-Jun-15 | 10-Jul-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1760 8C Place Concrete | 15-Jun-15 | 07-Jul-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4270 8 Pour Shear Walls | 18-Jun-15 | 08-Jul-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1770 8D Place Concrete | 24-Jun-15 | 16-Jul-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.9 Level 9 | 03-Jul-15 | 25-Aug-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1780 9A Place Concrete | 03-Jul-15 | 27-Jul-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1790 9B Place Concrete | 14-Jul-15 | 05-Aug-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4280 9 Pour Columns | 16-Jul-15 | 19-Aug-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1800 9C Place Concrete | 23-Jul-15 | 14-Aug-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4290 9 Pour Shear Walls | 28-Jul-15 | 17-Aug-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1810 9D Place Concrete | 03-Aug-15 | 25-Aug-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| ▣ | WBS: K. Gonzales.4.10 Level 10 | 12-Aug-15 | 02-Oct-15 | 38 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1820 10A Place Concrete | 12-Aug-15 | 03-Sep-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1830 10B Place Concrete | 21-Aug-15 | 14-Sep-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4300 10 Pour Columns | 25-Aug-15 | 28-Sep-15 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1840 10C Place Concrete | 01-Sep-15 | 23-Sep-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A4310 10 Pour Shear Walls | 04-Sep-15 | 24-Sep-15 | 15 | | | | | | | | | | | | | | | | | | | | | | | |
| █ | A1850 10D Place Concrete | 10-Sep-15 | 02-Oct-15 | 17 | | | | | | | | | | | | | | | | | | | | | | | |



| Activity ID | Activity Name | Start | Finish | Original Duration | 2013 | | | | | | | | | | | | | | | | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | |
|---|------------------------------|-----------|-----------|-------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|------|----|----|--|------|--|--|--|------|--|--|--|
| | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | | | | | | | | |
| WBS: K. Gonzales.4.11 Level LP | | | | | 11-Nov-15, WBS: K. Gonzales.4.11 Level LP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1860 | LPA Place Concrete | 21-Sep-15 | 13-Oct-15 | 17 | LPA Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1870 | LPB Place Concrete | 30-Sep-15 | 22-Oct-15 | 17 | LPB Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A4320 | LP Pour Columns | 02-Oct-15 | 05-Nov-15 | 25 | LP Pour Columns | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1880 | LPC Place Concrete | 09-Oct-15 | 02-Nov-15 | 17 | LPC Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A4330 | LP Pour Shear Walls | 14-Oct-15 | 03-Nov-15 | 15 | LP Pour Shear Walls | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1890 | LPD Place Concrete | 20-Oct-15 | 11-Nov-15 | 17 | LPD Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.12 Level UP | | | | | 27-Nov-15, WBS: K. Gonzales.4.12 Level UP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A4340 | UP Pour Columns | 26-Oct-15 | 27-Nov-15 | 25 | UP Pour Columns | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1900 | Place Concrete | 29-Oct-15 | 04-Nov-15 | 5 | Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.13 Level ROOF | | | | | 08-Jan-16, WBS: K. Gonzales.4.13 Level ROOF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1910 | RA Place Concrete | 18-Nov-15 | 10-Dec-15 | 17 | RA Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1920 | RB Place Concrete | 27-Nov-15 | 21-Dec-15 | 17 | RB Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1930 | RC Place Concrete | 08-Dec-15 | 30-Dec-15 | 17 | RC Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1940 | RD Place Concrete | 17-Dec-15 | 08-Jan-16 | 17 | RD Place Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.4.14 Miscellaneous | | | | | 18-Feb-16, WBS: K. Gonzales.4.14 Miscellaneous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A3950 | Install Elevators | 02-Oct-15 | 18-Feb-16 | 100 | Install Elevators | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A4080 | Topping Out | | 08-Jan-16 | 0 | Topping Out | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3 Envelope | | | | | 28-Oct-16, WBS: K. Gonzales.3 Envelope | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.1 North Tower West Elevation | | | | | 17-Feb-16, WBS: K. Gonzales.3.1 North Tower West Elevation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1950 | Install Granite 1st Floor | 11-Feb-15 | 03-Mar-15 | 15 | Install Granite 1st Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1960 | Install Storefront 2nd Floor | 26-Feb-15 | 13-Mar-15 | 12 | Install Storefront 2nd Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1970 | Erect W Scaffolding | 16-Mar-15 | 10-Apr-15 | 20 | Erect W Scaffolding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A3960 | Erect Material Hoist | 16-Mar-15 | 20-Mar-15 | 5 | Erect Material Hoist | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1980 | Install Masonry 3-7 Floors | 13-Apr-15 | 07-Aug-15 | 85 | Install Masonry 3-7 Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1990 | Install Masonry 8-R Floors | 10-Aug-15 | 04-Dec-15 | 85 | Install Masonry 8-R Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2000 | Install Punch Windows | 10-Aug-15 | 11-Sep-15 | 25 | Install Punch Windows | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2010 | Dismantle W Scaffolding | 07-Dec-15 | 18-Dec-15 | 10 | Dismantle W Scaffolding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A3970 | Dismantle Material Hoist | 16-Feb-16 | 17-Feb-16 | 2 | Dismantle Material Hoist | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.2 North Tower North Elevation | | | | | 29-Jan-16, WBS: K. Gonzales.3.2 North Tower North Elevation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2090 | Install Granite 1st Floor | 18-Feb-15 | 17-Mar-15 | 20 | Install Granite 1st Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2100 | Install Storefront 2nd Floor | 16-Mar-15 | 03-Apr-15 | 15 | Install Storefront 2nd Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2110 | Install Precast 3-7 Floors | 18-May-15 | 04-Sep-15 | 80 | Install Precast 3-7 Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2120 | Install Precast 8-R Floors | 07-Sep-15 | 25-Dec-15 | 80 | Install Precast 8-R Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2130 | Install Punch Windows | 07-Sep-15 | 06-Nov-15 | 45 | Install Punch Windows | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2140 | Install N Roof Louvers | 28-Dec-15 | 29-Jan-16 | 25 | Install N Roof Louvers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.3 North Tower East Elevation | | | | | 12-Jan-16, WBS: K. Gonzales.3.3 North Tower East Elevation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2020 | Install Granite 1st Floor | 04-Mar-15 | 24-Mar-15 | 15 | Install Granite 1st Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2030 | Install Storefront 2nd Floor | 06-Apr-15 | 21-Apr-15 | 12 | Install Storefront 2nd Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2040 | Erect E Scaffolding | 03-Jun-15 | 30-Jun-15 | 20 | Erect E Scaffolding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2050 | Install Masonry 3-7 Floors | 01-Jul-15 | 29-Sep-15 | 65 | Install Masonry 3-7 Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2060 | Install Masonry 8-R Floors | 30-Sep-15 | 29-Dec-15 | 65 | Install Masonry 8-R Floors | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2070 | Install Punch Windows | 30-Sep-15 | 03-Nov-15 | 25 | Install Punch Windows | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2080 | Dismantle E Scaffolding | 30-Dec-15 | 12-Jan-16 | 10 | Dismantle E Scaffolding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.4 North Tower South Elevation | | | | | 04-Nov-15, WBS: K. Gonzales.3.4 North Tower South Elevation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2150 | Install Masonry 1st Floor | 11-Mar-15 | 08-Apr-15 | 21 | Install Masonry 1st Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2160 | Install Storefront 2nd Floor | 09-Apr-15 | 22-Apr-15 | 10 | Install Storefront 2nd Floor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Activity ID | Activity Name | Start | Finish | Original Duration | 2013 2014 2015 2016 2017 | | | | | | | | | | | | | | | | | | | |
|---|--------------------------------------|-----------|-----------|-------------------|--------------------------|-----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | | | | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| A2180 | Install Curtain Wall corners 3-6 | 16-Jul-15 | 12-Aug-15 | 20 | | | | | | | | | | | | | | | | | | | | |
| A2170 | Install Curtain Wall 7-R | 13-Aug-15 | 21-Oct-15 | 50 | | | | | | | | | | | | | | | | | | | | |
| A2190 | Install S Roof Louvers | 01-Oct-15 | 04-Nov-15 | 25 | | | | | | | | | | | | | | | | | | | | |
| A3800 | N Tower Dried In | | 21-Oct-15 | 0 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.5 Core | | | | | 07-Sep-15 | 04-Dec-15 | 65 | | | | | | | | | | | | | | | | | |
| A2200 | Install Precast 1-8 Floors | 07-Sep-15 | 23-Oct-15 | 35 | | | | | | | | | | | | | | | | | | | | |
| A2230 | Install Curtain Wall 7-R | 01-Oct-15 | 04-Nov-15 | 25 | | | | | | | | | | | | | | | | | | | | |
| A2210 | Install Precast 9-R Floors | 26-Oct-15 | 04-Dec-15 | 30 | | | | | | | | | | | | | | | | | | | | |
| A2220 | Install Punch Windows | 26-Oct-15 | 06-Nov-15 | 10 | | | | | | | | | | | | | | | | | | | | |
| A4100 | Core Dried In | | 04-Dec-15 | 0 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.6 South Tower | | | | | 13-Apr-15 | 12-Aug-15 | 88 | | | | | | | | | | | | | | | | | |
| A2240 | Erect Scaffolding | 13-Apr-15 | 24-Apr-15 | 10 | | | | | | | | | | | | | | | | | | | | |
| A2250 | Install Masonry 2-6 | 27-Apr-15 | 26-Jun-15 | 45 | | | | | | | | | | | | | | | | | | | | |
| A2270 | Install Precast 6th Floor | 29-Jun-15 | 10-Jul-15 | 10 | | | | | | | | | | | | | | | | | | | | |
| A2280 | Install Punch Windows | 29-Jun-15 | 07-Jul-15 | 7 | | | | | | | | | | | | | | | | | | | | |
| A2290 | Dismantle Scaffolding | 13-Jul-15 | 17-Jul-15 | 5 | | | | | | | | | | | | | | | | | | | | |
| A2260 | Install Curtain Wall 2-5 | 16-Jul-15 | 12-Aug-15 | 20 | | | | | | | | | | | | | | | | | | | | |
| A4110 | S Tower Dried In | | 12-Aug-15 | 0 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.7 Atrium | | | | | 09-Jun-15 | 15-Feb-16 | 180 | | | | | | | | | | | | | | | | | |
| A2300 | Erect Structural Steel- Bridges/Roof | 09-Jun-15 | 29-Jun-15 | 15 | | | | | | | | | | | | | | | | | | | | |
| A2310 | Install Skylights | 04-Aug-15 | 19-Aug-15 | 12 | | | | | | | | | | | | | | | | | | | | |
| A2320 | Install Curtain Wall | 13-Aug-15 | 07-Oct-15 | 40 | | | | | | | | | | | | | | | | | | | | |
| A2330 | Remove Tower Crane | 11-Jan-16 | 11-Jan-16 | 1 | | | | | | | | | | | | | | | | | | | | |
| A2340 | Install Skylights at Tower Crane | 02-Feb-16 | 15-Feb-16 | 10 | | | | | | | | | | | | | | | | | | | | |
| A4120 | Atrium Dried In | | 15-Feb-16 | 0 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.3.8 Roof | | | | | 11-Jan-16 | 28-Oct-16 | 210 | | | | | | | | | | | | | | | | | |
| A3790 | Set/Install Roof Mech Equipment | 11-Jan-16 | 27-May-16 | 100 | | | | | | | | | | | | | | | | | | | | |
| A2350 | Layout Roof Membrane | 30-May-16 | 12-Aug-16 | 55 | | | | | | | | | | | | | | | | | | | | |
| A2370 | Install Roof Drains | 15-Aug-16 | 02-Sep-16 | 15 | | | | | | | | | | | | | | | | | | | | |
| A2360 | Install Green Roof Systems | 12-Sep-16 | 28-Oct-16 | 35 | | | | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.2 Interiors | | | | | 22-Jan-15 | 07-Mar-17 | 554 | | | | | | | | | | | | | | | | | |
| WBS: K. Gonzales.2.1 Basement | | | | | 22-Jan-15 | 01-Jun-16 | 355 | | | | | | | | | | | | | | | | | |
| A2400 | MEP Overhead Rough-in | 22-Jan-15 | 22-Apr-15 | 65 | | | | | | | | | | | | | | | | | | | | |
| A2410 | Metal Stud Framing | 19-Mar-15 | 29-Apr-15 | 30 | | | | | | | | | | | | | | | | | | | | |
| A2420 | MEP In Wall Rough-in | 23-Apr-15 | 17-Jun-15 | 40 | | | | | | | | | | | | | | | | | | | | |
| A2430 | Complete Drywall/Insulation/Paint | 04-Jun-15 | 26-Aug-15 | 60 | | | | | | | | | | | | | | | | | | | | |
| A2450 | Frame Ceiling/Install Ceiling Tile | 06-Aug-15 | 09-Sep-15 | 25 | | | | | | | | | | | | | | | | | | | | |
| A2460 | Install Flooring | 27-Aug-15 | 14-Oct-15 | 35 | | | | | | | | | | | | | | | | | | | | |
| A2440 | Install Lighting | 10-Sep-15 | 04-Nov-15 | 40 | | | | | | | | | | | | | | | | | | | | |
| A2380 | Install Mechanical Rm Lg Equip | 18-Sep-15 | 04-Feb-16 | 100 | | | | | | | | | | | | | | | | | | | | |
| A2390 | Install Elec Rm Lg Equip | 18-Sep-15 | 04-Feb-16 | 100 | | | | | | | | | | | | | | | | | | | | |
| A2470 | Install Casework | 15-Oct-15 | 25-Nov-15 | 30 | | | | | | | | | | | | | | | | | | | | |
| A2490 | Install Doors/Hardware | 15-Oct-15 | 11-Nov-15 | 20 | | | | | | | | | | | | | | | | | | | | |
| A2480 | Deliver Equipment/Furniture | 26-Nov-15 | 13-Jan-16 | 35 | | | | | | | | | | | | | | | | | | | | |
| A2510 | Punchlist Floor | 14-Jan-16 | 13-Apr-16 | 65 | | | | | | | | | | | | | | | | | | | | |
| A4090 | Permanent Power | | 04-Feb-16 | 0 | | | | | | | | | | | | | | | | | | | | |
| A2500 | Testing and Balancing | 14-Apr-16 | 01-Jun-16 | 35 | | | | | | | | | | | | | | | | | | | | |





█ Actual Level of Effort
 █ Remaining Work
 ◆ Milestone
█ Actual Work
 █ Critical Remaining Work
 ▸ summary

Appendix B

| | UNT | AMT | MAT/UNT | MAT | LAB/UNT | LABOR | EQP/UNT | EQP | TOT |
|--|---|---------|------------|-------|-----------|--------|-----------|-----------|------------|
| A.0 Demolition/Excavation (Square Foot) | | | | | | | | | |
| Demolition | EA | | 1 | | | | | | 848,000 |
| Excavation | EA | | 1 | | | | | | 4,901,993 |
| | | | | | | | | Subtotal: | 5,750,000 |
| A.1 Substructure (Detailed) | | | | | | | | | |
| FORMWORK | | | | | | | | | |
| 03 11 13.45 0020 | Wall footing, 4 use | SFCA | 26,502 | 2.03 | 53,799 | 2.87 | 76,061 | - | 129,860 |
| 03 11 13.55 0120 | Mat Foundation, 4 use | SFCA | 60,236.67 | 0.65 | 39,154 | 6.10 | 367,444 | - | 406,598 |
| CONCRETE (includes formwork, formwork is for reference above) | | | | | | | | | |
| 03 30 53.40 1900 | Elevated Slab, 20' span | CY | 244.22 | 256 | 62,521 | 249 | 60,811 | 19.30 | 4,713.49 |
| 03 30 53.40 4050 | Foundation Mat, over 20CY | CY | 8,105.21 | 178 | 1,442,727 | 87 | 705,153 | 10 | 81,052.10 |
| 03 30 53.40 4500 | Foundation wall, 28' tall | CY | 1,963.11 | 155 | 304,282 | 187 | 367,102 | 15.25 | 29,937.44 |
| REINFORCEMENT | | | | | | | | | |
| 03 21 11.60 0700 | walls, #3-#7 | TON | 117.93 | 1,000 | 117,926 | 540 | 63,680 | - | 181,607 |
| 03 21 11.60 0750 | wall, #8-#18 | TON | 187.01 | 1,000 | 187,009 | 405 | 75,739 | - | 262,748 |
| 03 21 11.60 0550 | Mat foundation rebar (footings, #8-#18) | TON | 428.02 | 1,000 | 428,019 | 450.00 | 192,608 | - | 620,627 |
| 07 17 13.10 0100 | Waterproofing, bentonite, rolls, 3/8" thick | SF | 83,248 | 1.50 | 124,872 | 0.57 | 47,451 | - | 172,323 |
| 07 17 13.10 0625 | Drain board, 2" with filter fabric | SF | 26,502 | 0.54 | 14,311 | 0.15 | 3,975 | - | 18,286 |
| | | | | | | | | Subtotal: | 4,313,900 |
| B Shell: Superstructure (Detailed) | | | | | | | | | |
| FORMWORK | | | | | | | | | |
| 03 11 13.20 1550 | Beams and girders, exterior spandrel, 24" wide, 2 use | SFCA | 37,725.63 | 1.4 | 52,816 | 7.40 | 279,170 | - | 331,986 |
| 03 11 13.20 3500 | Beams and girders, bottom only, 30" wide, 1 use | SFCA | 16,666.33 | 3.98 | 66,332 | 9.30 | 154,997 | - | 221,329 |
| 03 11 13.20 2050 | Beams and girders, interior beam, 12" wide, 2 use | SFCA | 5,265.63 | 1.7 | 8,952 | 6.30 | 33,173 | - | 42,125 |
| 03 11 13.20 4000 | Beams and girders, vertical, 36" wide, 1 use | SFCA | 31,163.67 | 5.10 | 158,935 | 6.40 | 199,447 | - | 358,382 |
| 03 11 13.25 7750 | Columns, steel framed plywood, 24"x24" | SFCA | 170,862.33 | 0.78 | 133,273 | 3.17 | 541,634 | - | 674,906 |
| 03 11 13.25 1150 | Elevated Slabs, plywood, 4 use | SF | 413,103 | 1.18 | 487,462 | 3.83 | 1,582,184 | - | 2,069,646 |
| 03 11 13.25 2150 | Elevated Slabs, drop panel, plywood, 4 use | SF | 57,882.23 | 1.68 | 97,242 | 4.03 | 233,265 | - | 330,508 |
| CONCRETE (includes formwork, formwork is for reference above) | | | | | | | | | |
| 03 30 53.40 0350 | Beams, 25' span | CY | 3,270 | 335 | 1,095,450 | 495 | 1,618,650 | 40.0 | 130,800 |
| 03 30 53.40 0940 | Columns, square, 24"x24", over 3% reinforcing | CY | 3,132.43 | 680 | 2,130,049 | 650 | 2,036,076 | 52.5 | 164,452.33 |
| 03 30 53.40 1900 | Elevated Slab, 20' span | CY | 12,195.51 | 256 | 3,122,051 | 249 | 3,036,682 | 19.3 | 235,373.37 |
| 03 30 53.40 4270 | Shear Wall, 14' tall | CY | 1,349.14 | 152 | 205,069 | 228 | 307,604 | 18.6 | 25,093.99 |
| 03 30 53.40 6800 | Stairs | LF Nose | 788 | 5.40 | 4,255 | 26 | 20,488 | 40.0 | 31,520 |
| REINFORCEMENT | | | | | | | | | |
| 03 21 11.60 0700 | walls, #3-#7 | TON | 85 | 1,000 | 85,401 | 540 | 46,117 | - | 131,518 |
| 03 21 11.60 0750 | wall, #8-#18 | TON | 4.02 | 1,000 | 4,015 | 405 | 1,626 | - | 5,641 |
| 03 21 11.60 0400 | Elevated Slab, #3-#7 | TON | 679.32 | 1,000 | 679,324 | 560 | 380,421 | - | 1,059,745 |
| 03 21 11.60 0100 | Beams and girders, #3-#7 | TON | 63.19 | 1,000 | 63,192 | 1,025 | 64,772 | - | 127,964 |
| 03 21 11.60 0150 | Beams and girders, #8-#18 | TON | 270.17 | 1,000 | 270,171 | 600 | 162,102 | - | 432,273 |
| STEEL | | | | | | | | | |
| 05 12 23.75 0300 | W8x10 | LF | 127 | 14.60 | 1,854 | 4.68 | 594 | 2.55 | 323.85 |
| 05 12 23.75 0320 | W8x15 | LF | 2,084.50 | 22 | 45,859 | 4.68 | 9,755 | 2.55 | 5,315.48 |
| 05 12 23.75 0600 | W10x12 | LF | 24.50 | 17.50 | 429 | 4.68 | 115 | 2.55 | 62.48 |
| 05 12 23.75 0620 | W10x15 | LF | 89.25 | 22 | 1,964 | 4.68 | 418 | 2.55 | 227.59 |
| 05 12 23.75 1100 | W12x16 | LF | 32 | 23.50 | 752 | 3.19 | 102 | 1.74 | 55.68 |
| 05 12 23.75 1300 | W12x22 | LF | 98 | 32 | 3,136 | 3.19 | 313 | 1.74 | 170.52 |
| 05 12 23.75 1900 | W14x22 | LF | 34 | 38 | 1,292 | 2.84 | 97 | 1.54 | 52.36 |
| 05 12 23.75 2700 | W16x26 | LF | 38.75 | 38 | 1,473 | 2.81 | 109 | 1.53 | 59.29 |
| 05 12 23.75 3300 | W18x35 | LF | 1,852.50 | 51 | 94,478 | 4.22 | 7,818 | 1.74 | 3,223.35 |
| 05 12 23.75 3500 | W18x40 | LF | 1,216.0 | 58.50 | 71,136 | 4.22 | 5,132 | 1.74 | 2,115.84 |
| 05 12 23.75 3700 | W18x50 | LF | 32.0 | 73 | 2,336 | 4.44 | 142 | 1.83 | 58.56 |
| 05 12 23.75 3900 | W18x55 | LF | 56.25 | 80 | 4,500 | 4.44 | 250 | 1.83 | 102.94 |
| 05 12 23.75 3920 | W18x65 | LF | 32 | 94.50 | 3,024 | 4.50 | 144 | 1.86 | 59.52 |
| 05 12 23.75 1300 | C4x4.5, lightweight framing | LF | 29.50 | 4.29 | 127 | 18.85 | 556 | 2.15 | 63.43 |
| 05 12 23.75 1300 | C8x11.5, lightweight framing | LF | 1,218.50 | 9.15 | 11,149 | 34.50 | 42,038 | 3.95 | 4,813.08 |

| | | UNT | AMT | MAT/UNT | MAT | LAB/UNT | LABOR | EQP/UNT | EQP | TOT |
|--------------|----------------------------------|-----|--------|---------|--------|---------|-------|---------|-----------|------------|
| Manufacturer | HSS3x2x1/4 | LF | 169 | 8.89 | 1,502 | - | - | - | - | 1,502 |
| Manufacturer | HSS4x4x5/16 | LF | 42 | 13.35 | 561 | - | - | - | - | 561 |
| Manufacturer | HSS5x5x1/4 | LF | 4.50 | 14.06 | 63 | - | - | - | - | 63 |
| Manufacturer | HSS5x5x5/16 | LF | 1,056 | 17.17 | 18,134 | - | - | - | - | 18,134 |
| Manufacturer | HSS6x4x1/4 | LF | 520 | 16.27 | 8,461 | - | - | - | - | 8,461 |
| Manufacturer | HSS6x4x5/16 | LF | 192 | 23.85 | 4,579 | - | - | - | - | 4,579 |
| Manufacturer | HSS6x6x1/4 | LF | 102 | 17.12 | 1,746 | - | - | - | - | 1,746 |
| Manufacturer | HSS6x6x5/16 | LF | 472.20 | 21.01 | 9,919 | - | - | - | - | 9,919 |
| Manufacturer | HSS6x6x3/8 | LF | 406.12 | 24.73 | 10,044 | - | - | - | - | 10,044 |
| Manufacturer | HSS6x6x5/8 | LF | 14.67 | 31.72 | 465 | - | - | - | - | 465 |
| Manufacturer | HSS8x4x5/16 | LF | 154.50 | 34.35 | 5,307 | - | - | - | - | 5,307 |
| Manufacturer | HSS8x6x3/8 | LF | 120.67 | 40.71 | 4,912 | - | - | - | - | 4,912 |
| Manufacturer | HSS8x8x5/16 | LF | 494.75 | 53.39 | 26,414 | - | - | - | - | 26,414 |
| Manufacturer | HSS10x6x1/4 | LF | 13 | 32.28 | 420 | - | - | - | - | 420 |
| Manufacturer | HSS10x10x5/16 | LF | 214 | 72.63 | 15,543 | - | - | - | - | 15,543 |
| Manufacturer | HSS10x10x1/2 | LF | 175 | 56.21 | 9,837 | - | - | - | - | 9,837 |
| Manufacturer | HSS14x6x3/8 | LF | 234 | 51.11 | 11,960 | - | - | - | - | 11,960 |
| | Steel Connections (10% of steel) | | | 0.10 | 37,337 | - | - | - | - | 37,337 |
| | | | | | | | | | Subtotal: | 16,415,800 |

| B Shell: Enclosure (Square Foot) | | | | | | | | | | |
|---|----------------------------------|----|------|--|--|--|--|--|-----------|------------|
| | Base Price | EA | 1.00 | | | | | | | 10,224,155 |
| | Curtain Wall Percentage Increase | % | 0.25 | | | | | | | 2,556,039 |
| | Precast Percentage Increase | % | 0.16 | | | | | | | 1,635,865 |
| | | | | | | | | | Subtotal: | 14,416,100 |

| D Plumbing (Assemblies) | | | | | | | | | | |
|--------------------------------|--|----|---------|----------|-----------|-------|---------|-----|-----------|------------|
| PIPING | | | | | | | | | | |
| Contractor | Storm, cast iron | SF | 420,864 | 2.65 | 1,115,290 | - | - | - | - | 1,115,290 |
| Contractor | Natural gas, medical air, medical vacuum | SF | 420,864 | 1.64 | 690,217 | - | - | - | - | 690,217 |
| Contractor | Domestic Water | SF | 420,864 | 3.20 | 1,346,765 | - | - | - | - | 1,346,765 |
| Contractor | Laboratory water, gas, air, vacuum | SF | 420,864 | 9.14 | 3,846,697 | - | - | - | - | 3,846,697 |
| Contractor | Animal Water | SF | 420,864 | 0.52 | 218,849 | - | - | - | - | 218,849 |
| Contractor | RO/DI Water | SF | 420,864 | 1.61 | 677,591 | - | - | - | - | 677,591 |
| Contractor | Sanitary, Waste, Vent, Acid | SF | 420,864 | 4.15 | 1,746,586 | - | - | - | - | 1,746,586 |
| FIXTURES | | | | | | | | | | |
| D2010 120 3000 | Water closet, wall hung, back to back | EA | 155 | 3,525 | 546,375 | 1,150 | 178,250 | - | - | 724,625 |
| D2010 210 2000 | Urinal, wall hung | EA | 10 | 620 | 6,200 | 825 | 8,250 | - | - | 14,450 |
| D2010 310 2040 | Lavatory vanity top, 18"x15" | EA | 105 | 960 | 100,800 | 815 | 85,575 | - | - | 186,375 |
| D2010 430 1600 | Laboratory sink, stainless steel, single bowl | EA | 300 | 2,125 | 637,500 | 1,025 | 307,500 | - | - | 945,000 |
| D2010 810 1920 | Drinking Fountain, non recessed, stainless steel | EA | 42 | 1,650 | 69,300 | 485 | 20,370 | - | - | 89,670 |
| 22 14 26.13 4680 | Roof Drain, 8" | EA | 50 | 3,025 | 151,250 | 1,975 | 98,750 | - | - | 250,000 |
| EQUIPMENT | | | | | | | | | | |
| 23 21 20.46 2390 | Expansion Tank, 200 gal | EA | 2 | 8,100 | 16,200 | 420 | 840 | - | - | 17,040 |
| 24 21 20.46 2390 | Expansion Tank, 80 gal | EA | 2 | 4,050 | 8,100 | 280 | 560 | - | - | 8,660 |
| 22 31 13.10 6070 | Water Softener, 60 kgrains | EA | 4 | 2,525 | 10,100 | 230 | 920 | - | - | 11,020 |
| Contractor | Rainwater Reclamation System | EA | 1 | - | - | - | - | - | - | 178,000 |
| Contractor | Reverse Osmosis/Deionized Water | SF | 420,864 | 0.40 | 168,346 | - | - | - | - | 168,346 |
| 22 11 23.13 0500 | Booster Pump, 30HP | EA | 1 | 26,400.0 | 26,400 | 2,880 | 2,880 | - | - | 29,280 |
| D2020 250 2260 | Water heater, gas fired, 600 MBH input | EA | 6 | 25,000.0 | 150,000 | 3,975 | 23,850 | - | - | 173,850 |
| 22 12 21.13 2070 | Water Storage Tank, 12,000 gallon capacity | EA | 3 | 17,400.0 | 52,200 | 1,050 | 3,150 | 440 | 1320 | 56,670 |
| 22 62 19.70 0130 | Vacuum system for medical facilities, triplex 180 SFCM | EA | 1 | 49,600.0 | 49,600 | 1,075 | 1,500 | - | - | 51,100 |
| 22 13 29.14 3100 | Sump Pump, 174 GPM (average) | EA | 12 | 3,075.0 | 36,900 | 920 | 11,040 | - | - | 47,940 |
| 23 21 23.13 4300 | Water Pumps, 3HP | EA | 6 | 3,375.0 | 20,250 | 460 | 2,760 | - | - | 23,010 |
| Contractor | Meters and Valves | SF | 420,864 | 0.65 | 273,562 | - | - | - | - | 273,562 |
| Contractor | Miscellaneous Medical Equipment | SF | 420,864 | 1.76 | 740,721 | - | - | - | - | 740,721 |
| Contractor | Miscellaneous Laboratory Equipment | SF | 420,864 | 0.59 | 248,310 | - | - | - | - | 248,310 |
| | | | | | | | | | Subtotal: | 13,879,600 |

| | | UNT | AMT | MAT/UNT | MAT | LAB/UNT | LABOR | EQP/UNT | EQP | TOT |
|---------------------------------------|---|-----|---------|---------|------------|---------|---------|---------|-----|------------|
| D HVAC (Assemblies) | | | | | | | | | | |
| PIPING | | | | | | | | | | |
| Contractor | Insulation | SF | 420,864 | 12.71 | 5,349,181 | - | - | - | - | 5,349,181 |
| Contractor | Hot Water Piping | SF | 420,864 | 9.91 | 4,170,762 | - | - | - | - | 4,170,762 |
| Contractor | Fuel Oil Piping | SF | 420,864 | 1.27 | 534,497 | - | - | - | - | 534,497 |
| Contractor | Chilled Water Piping | SF | 420,864 | 15.72 | 6,615,982 | - | - | - | - | 6,615,982 |
| Contractor | Condensate Piping | SF | 420,864 | 9.80 | 4,124,467 | - | - | - | - | 4,124,467 |
| Contractor | Heat Pump Piping | SF | 420,864 | 2.87 | 1,207,880 | - | - | - | - | 1,207,880 |
| AIR DISTRIBUTION | | | | | | | | | | |
| Contractor | Ductwork, supply, return, exhaust, dampers, sound attenuators | SF | 420,864 | 25.34 | 10,664,694 | - | - | - | - | 10,664,694 |
| 23 34 16.10 0240 | Fans, exhaust, 400 CFM | EA | 3 | 1,250 | 3,750 | 335 | 1,005 | - | - | 4,755 |
| 23 34 16.10 5560 | Fans, exhaust, 5,000 CFM | EA | 6 | 4,725 | 28,350 | 555 | 3,330 | - | - | 31,680 |
| 23 34 16.10 0350 | Fans, exhaust, 10,000 CFM | EA | 3 | 2,925 | 8,775 | 1,550 | 4,650 | - | - | 13,425 |
| 23 34 16.10 4080 | Fans, exhaust, 15,000 CFM | EA | 4 | 6,025 | 24,100 | 395 | 1,580 | - | - | 25,680 |
| 23 34 16.10 4120 | Fans, exhaust, 30,000 CFM | EA | 6 | 11,900 | 71,400 | 490 | 2,940 | - | - | 74,340 |
| 23 34 16.10 4140 | Fans, exhaust, 38,000 CFM | EA | 2 | 15,800 | 31,600 | 565 | 1,130 | - | - | 32,730 |
| 23 34 16.10 4140 | Fans, exhaust, 46,500 CFM | EA | 2 | 15,800 | 31,600 | 565 | 1,130 | - | - | 32,730 |
| 23 34 16.10 4160 | Fans, exhaust, 57,000 CFM | EA | 5 | 20,100 | 100,500 | 985 | 4,925 | - | - | 105,425 |
| Contractor | VFDs | SF | 420,864 | 1.65 | 694,426 | - | - | - | - | 694,426 |
| HEATING/COOLING EQUIPMENT | | | | | | | | | | |
| 23 57 19.16 1120 | Heat Exchanger, 98 GPM, liquid to liquid shell type | EA | 6 | 13,700 | 82,200 | 600 | 3,600 | - | - | 85,800 |
| 23 57 19.16 3140 | Heat Exchanger, 1200 GPM, liquid to liquid | EA | 2 | 91,500 | 183,000 | 5,250 | 10,500 | - | - | 193,500 |
| 23 57 19.16 0300 | Heat Exchanger, 700 GPM, liquid to liquid shell type | EA | 2 | 25,000 | 50,000 | 1,875 | 3,750 | - | - | 53,750 |
| 23 22 23.10 2150 | Pumps, duplex | EA | 2 | 10,400 | 20,800 | 830 | 1,660 | - | - | 22,460 |
| 23 21 23.13 4190 | Pumps, in line | EA | 18 | 2,950 | 53,100 | 415 | 7,470 | - | - | 60,570 |
| 22 11 23.10 4130 | Pumos, single stage | EA | 14 | 18,900 | 264,600 | 3,225 | 45,150 | - | - | 309,750 |
| 22 13 26.10 0360 | Blow down separator, 16" | EA | 3 | 9,500 | 28,500 | 660 | 1,980 | - | - | 30,480 |
| Contractor | Steam generator | EA | 1 | - | - | - | - | - | - | 36,860 |
| 46 25 13.20 0100 | Water Filter, side stream filter | EA | 3 | 22,300 | 66,900 | 340 | 1,020 | 49 | 147 | 68,067 |
| Assumption | Glycol System | EA | 1 | 10,000 | 10,000 | - | - | - | - | 10,000 |
| 23 21 20.10 0380 | Air Separator | EA | 3 | 6,075 | 18,225 | 595 | 1,785 | - | - | 20,010 |
| 23 64 16.10 0330 | Centrifugal Chiller, 1200 ton | EA | 3 | 523,000 | 1,569,000 | 22,000 | 66,000 | - | - | 1,635,000 |
| 23 65 13.10 2596 | Cooling Tower | EA | 3 | 119,000 | 357,000 | 10,100 | 30,300 | - | - | 387,300 |
| Contractor | BTU meter | EA | 1 | - | - | - | - | - | - | 5,000 |
| 23 21 20.46 2390 | Expansion Tank,1300 gal | EA | 2 | 8,100 | 16,200 | 315 | 630 | - | - | 16,830 |
| 23 21 20.46 2390 | Expansion Tank,900 gal | EA | 2 | 6,750 | 13,500 | 280 | 560 | - | - | 14,060 |
| 23 21 20.46 2390 | Expansion Tank,300 gal | EA | 1 | 4,050 | 4,050 | 280 | 280 | - | - | 4,330 |
| 23 21 20.46 2390 | Expansion Tank,600 gal | EA | 2 | 4,725 | 9,450 | 315 | 630 | - | - | 10,080 |
| 23 73 13.10 0990 | AHU, dbl wall, VFD.economizer, sound attenuator, 38000CFM | EA | 2 | 50,500 | 101,000 | 3,275 | 6,550 | - | - | 107,550 |
| 23 73 13.10 0990 | AHU, dbl wall, VFD, heat pipe, 64000CFM | EA | 6 | 210,000 | 1,260,000 | 19,000 | 114,000 | - | - | 1,374,000 |
| 23 73 13.20 1550 | AHU, packaged, 10000CFM | EA | 9 | 25,300 | 227,700 | 2,425 | 21,825 | - | - | 249,525 |
| Contractor | Filter House | EA | 1 | - | - | - | - | - | - | 92,000 |
| Contractor | Air Terminal Units | SF | 420,864 | 4.78 | 2,011,730 | - | - | - | - | 2,011,730 |
| Contractor | Testing and Balancing | EA | 1 | - | - | - | - | - | - | 500,000 |
| Contractor | Commissioning | EA | 1 | - | - | - | - | - | - | 155,000 |
| Subtotal: | | | | | | | | | | 40,981,300 |
| D Fire Protection (Assemblies) | | | | | | | | | | |
| D4010 410 1080 | Wet Sprinkler, ordinary hazard, 10,000 SF | SF | 39,594 | 1.95 | 77,208 | 2.60 | 102,944 | - | - | 180,153 |
| D4010 410 1220 | Each additional floor, 10,000SF | SF | 381,270 | 1.35 | 514,715 | 2.43 | 926,486 | - | - | 1,441,201 |
| Subtotal: | | | | | | | | | | 1,621,400 |
| D Electrical (Assemblies) | | | | | | | | | | |
| D5010 130 1250 | Underground Electric Service, 1200A, w/ groundfault switchboard | EA | 1 | 47,900 | 47,900 | 1,500 | 1,500 | - | - | 49,400 |
| D5010 240 0620 | Substation, 5000A | EA | 5 | 82,000 | 410,000 | 18,000 | 90,000 | - | - | 500,000 |
| D5010 240 0580 | Switchboard, 1200A | EA | - | 24,400 | - | 7,950 | - | - | - | - |
| D5010 250 4060 | Distribution Board, 480/277V, 100A | EA | 67 | 3,000 | 201,000 | 1,850 | 123,950 | - | - | 324,950 |
| D5010 250 5040 | Distribution Board, 480/277V, 225A | EA | 7 | 8,125 | 56,875 | 5,375 | 37,625 | - | - | 94,500 |

| | UNT | AMT | MAT/UNT | MAT | LAB/UNT | LABOR | EQP/UNT | EQP | TOT |
|--|---|-----|---------|--------|-----------|--------|-----------|-----------|--------------------------------|
| D5010 250 6020 | Distribution Board, 480/277V, 400A | EA | 4 | 12,300 | 49,200 | 8,575 | 34,300 | - | 83,500 |
| D5010 250 7000 | Distribution Board, 480/277V, 600A | EA | 5 | 21,400 | 107,000 | 12,700 | 63,500 | - | 170,500 |
| D5010 240 0540 | Distribution Board, 480/277V, 800A | EA | 10 | 18,100 | 181,000 | 6,400 | 64,000 | - | 245,000 |
| D5010 240 0560 | Distribution Board, 480/277V, 1000A | EA | 5 | 22,500 | 112,500 | 7,100 | 35,500 | - | 148,000 |
| D5010 250 1040 | Distribution Board, 120/208V, 50A | EA | 5 | 2,475 | 12,375 | 3,075 | 15,375 | - | 27,750 |
| D5010 250 1040 | Distribution Board, 120/208V, 60A | EA | 7 | 2,475 | 17,325 | 3,075 | 21,525 | - | 38,850 |
| D5010 250 1040 | Distribution Board, 120/208V, 100A | EA | 20 | 2,475 | 49,500 | 3,075 | 61,500 | - | 111,000 |
| D5010 250 1040 | Distribution Board, 120/208V, 125A | EA | 32 | 2,475 | 79,200 | 3,075 | 98,400 | - | 177,600 |
| D5010 250 1040 | Distribution Board, 120/208V, 150A | EA | 21 | 2,475 | 51,975 | 3,075 | 64,575 | - | 116,550 |
| D5010 250 2020 | Distribution Board, 120/208V, 175A | EA | 2 | 6,025 | 12,050 | 4,900 | 9,800 | - | 21,850 |
| D5010 250 2020 | Distribution Board, 120/208V, 225A | EA | 72 | 6,025 | 433,800 | 4,900 | 352,800 | - | 786,600 |
| D5010 250 2020 | Distribution Board, 120/208V, 250A | EA | 20 | 6,025 | 120,500 | 4,900 | 98,000 | - | 218,500 |
| D5010 250 3000 | Distribution Board, 120/208V, 400A | EA | 28 | 8,475 | 237,300 | 7,725 | 216,300 | - | 453,600 |
| D5010 250 3000 | Distribution Board, 120/208V, 500A | EA | 1 | 8,475 | 8,475 | 7,725 | 7,725 | - | 16,200 |
| D5020 110 0480 | Receptacles, 8 per 1000SF, with transformer | SF | 420,864 | 0.74 | 311,439 | 2.41 | 1,014,282 | - | 1,325,722 |
| D5020 130 0320 | Wall Switches: 2.5 per 1000 SF | SF | 420,864 | 0.12 | 50,504 | 0.47 | 197,806 | - | 248,310 |
| D5020 175 1420 | Motor and Starter, 75 HP AHU | EA | 13 | 8,600 | 111,800 | 1,950 | 25,350 | - | 137,150 |
| D5020 175 1180 | Motor and Starter, 30 HP Booster Pump | EA | 12 | 3,325 | 39,900 | 975 | 11,700 | - | 51,600 |
| D5020 175 1480 | Motor and Starter, 100 HP Chilled Water | EA | 14 | 9,725 | 136,150 | 2,125 | 29,750 | - | 165,900 |
| D5020 175 1300 | Motor and Starter, 50 HP Chilled Water | EA | 27 | 5,050 | 136,350 | 1,475 | 39,825 | - | 176,175 |
| | Chiller | EA | | - | - | - | - | - | - |
| D5020 175 0240 | Motor and Starter, 1 HP | EA | 177 | 680 | 120,360 | 325 | 57,525 | - | 177,885 |
| D5020 175 0720 | Motor and Starter, 5 HP | EA | 23 | 1,300 | 29,900 | 540 | 12,420 | - | 42,320 |
| D5020 175 0880 | Motor and Starter, 7.5 HP | EA | 12 | 1,325 | 15,900 | 730 | 8,760 | - | 24,660 |
| D5020 175 1600 | Motor and Starter, 150 HP | EA | 5 | 28,600 | 143,000 | 2,675 | 13,375 | - | 156,375 |
| D5020 175 0960 | Motor and Starter, 10 HP | EA | 21 | 1,700 | 35,700 | 740 | 15,540 | - | 51,240 |
| Contractor | Connections | SF | 420,864 | 3.25 | 1,367,808 | - | - | - | 1,367,808 |
| Contractor | Interior Lighting | SF | 420,864 | 14.59 | 6,140,406 | - | - | - | 6,140,406 |
| Contractor | Data Comm | SF | 420,864 | 4.56 | 1,919,140 | - | - | - | 1,919,140 |
| Contractor | Security | SF | 420,864 | 3.52 | 1,481,441 | - | - | - | 1,481,441 |
| Contractor | Fire Alarm | SF | 420,864 | 3.01 | 1,266,801 | - | - | - | 1,266,801 |
| Contractor | Site Lighting | SF | 420,864 | 1.88 | 791,224 | - | - | - | 791,224 |
| Contractor | Branch Wiring | SF | 420,864 | 5.05 | 2,125,363 | - | - | - | 2,125,363 |
| Contractor | Motor and Equipment Wiring | SF | 420,864 | 2.67 | 1,123,707 | - | - | - | 1,123,707 |
| | | | | | | | | Subtotal: | 22,357,600 |
| G Building Sitework and Landscape (Square Foot) | | | | | | | | | Subtotal: 2,672,800 |
| Other (Square Foot) | | | | | | | | | Subtotal: 47,171,200 |
| | | | | | | | | | Subtotal: 47,171,200 |
| | | | | | | | | | SUBTOTAL 169,579,700 |
| | | | | | | | | | General Conditions 15,175,484 |
| | | | | | | | | | GRAND TOTAL 184,755,200 |

| Name | BEAM CONCRETE | | | | | | | BOTTOM BAR (LF) | | | | TOP BAR/ LE & RE (LF) | | | | | STIRRUP (LF) | | |
|---|---------------|--------|----------|-------|-----------|-----------|--------|-----------------|----------|----------|----------|-----------------------|----------|-----------|----------|--------|--------------|----|-----------|
| | W (in) | H (in) | L (FT) | Perim | SFCA | CF | CY | #8 | #9 | #10 | #11 | #7 | #8 | #9 | #10 | #11 | #4 | #5 | #6 |
| B-1,73 | 24 | 40 | 76.42 | 10.67 | 560.39 | 509.44 | 18.87 | | 305.67 | | | | | 401.67 | | | | | 879.11 |
| B-2,109 | 24 | 14 | 104.50 | 6.33 | 539.92 | 243.83 | 9.03 | | | 627.00 | | | | 385.50 | | | | | 699.83 |
| B-3 | 30 | 30 | 876.00 | 10.00 | 6,570.00 | 5,475.00 | 202.78 | | | 5,256.00 | | | 4,272.00 | | | | | | 9,240.00 |
| B-4,14 | 36 | 32 | 171.00 | 11.33 | 1,482.00 | 1,368.00 | 50.67 | | | | 855.00 | | | | 1,560.00 | | | | 2,368.67 |
| B-4A | 27 | 40 | 131.50 | 11.17 | 1,030.08 | 986.25 | 36.53 | | | 526.00 | | | | | 747.50 | | | | 1,652.67 |
| B-6,15,15A,16 | 30 | 32 | 325.80 | 10.33 | 2,497.80 | 2,172.00 | 80.44 | | 1,954.80 | | | | | 155.68 | 1,591.20 | | | | 4,213.52 |
| B-7 | 24 | 18 | 396.67 | 7.00 | 2,181.67 | 1,190.00 | 44.07 | 1,586.67 | | | | | | 1,550.00 | | | | | 4,340.00 |
| B-8,10,19,24,29,35,47,61,62,63,64,65,66,100-103 | 24 | 24 | 2,040.17 | 8.00 | 12,241.00 | 8,160.67 | 302.25 | | | | | | | 12,630.83 | | | | | 20,492.80 |
| B-9,27 | 12 | 24 | 1,766.17 | 6.00 | 7,064.67 | 3,532.33 | 130.83 | 3,532.33 | | | | | 4,132.33 | | | | | | 13,196.40 |
| B-11 | 24 | 22 | 38.00 | 7.67 | 221.67 | 139.33 | 5.16 | | | 190.00 | | | | | 250.00 | | | | 591.87 |
| B-12,34 | 24 | 28 | 202.33 | 8.67 | 1,281.44 | 944.22 | 34.97 | | | | 1,011.67 | | | | 1,191.67 | | | | 2,260.27 |
| B-13 | 24 | 20 | 36.25 | 7.33 | 205.42 | 120.83 | 4.48 | | | | | | | 126.75 | | | | | 329.27 |
| B-14A | 23 | 40 | 29.67 | 10.50 | 212.61 | 189.54 | 7.02 | | | | | | | | 249.67 | | | | 388.50 |
| B-17 | 16 | 32 | 229.00 | 8.00 | 1,221.33 | 814.22 | 30.16 | | | | | | | | 795.00 | | | | 1,904.00 |
| B-18 | 18 | 24 | 190.00 | 7.00 | 950.00 | 570.00 | 21.11 | | | | 760.00 | | | 1,000.00 | | | | | 1,435.00 |
| B-18A | 18 | 28 | 28.50 | 7.67 | 152.00 | 99.75 | 3.69 | | | | | | | 354.00 | | | | | 333.50 |
| B-20,93,94 | 24 | 46 | 146.00 | 11.67 | 1,143.67 | 1,119.33 | 41.46 | | | | 1,022.00 | | | | 776.00 | | | | 1,843.33 |
| B-21 | 36 | 48 | 36.00 | 14.00 | 360.00 | 432.00 | 16.00 | | | | | | | | 210.00 | | | | 525.00 |
| B-22,50 | 48 | 48 | 49.50 | 16.00 | 594.00 | 792.00 | 29.33 | | | | | | | | 430.50 | | | | 1,228.00 |
| B-23,51,52,55,56 | 36 | 48 | 113.00 | 14.00 | 1,130.00 | 1,356.00 | 50.22 | | | | 565.00 | | | | 572.00 | | | | 1,687.00 |
| B-25,31,106 | 12 | 36 | 332.92 | 8.00 | 1,664.58 | 998.75 | 36.99 | | | 1,331.67 | | | | | 1,451.67 | | | | 2,927.33 |
| B-28,41,42,53,54 | 48 | 60 | 192.17 | 18.00 | 2,498.17 | 3,843.33 | 142.35 | | | | | 1,537.33 | | | 1,921.33 | | | | 3,675.00 |
| B-30,105 | 18 | 36 | 190.17 | 9.00 | 1,141.00 | 855.75 | 31.69 | | | | 760.67 | | | | 452.33 | | | | 1,792.50 |
| B-32 | 24 | 52 | 35.50 | 12.67 | 295.83 | 307.67 | 11.40 | | | | | 355.00 | | | | 207.50 | | | 468.67 |
| B-33 | 21 | 36 | 19.67 | 9.50 | 127.83 | 103.25 | 3.82 | | | | | | | 102.67 | | | | | 237.50 |
| B-36-37,74,104 | 24 | 36 | 122.25 | 10.00 | 855.75 | 733.50 | 27.17 | | | | 611.25 | | | | 585.00 | | | | 1,523.00 |
| B-38-40,43,44,45 | 36 | 30 | 97.00 | 11.00 | 824.50 | 727.50 | 26.94 | | | | | 388.00 | | | 532.00 | | | | 1,149.50 |
| B-46,67,68,71,72 | 24 | 42 | 78.33 | 11.00 | 587.50 | 548.33 | 20.31 | | | | 313.33 | | | | 433.33 | | | | 1,095.60 |
| B-48 | 30 | 36 | 15.00 | 11.00 | 120.00 | 112.50 | 4.17 | | | | | 90.00 | | | | 84.00 | | | 231.00 |
| B-49 | 27 | 24 | 17.83 | 8.50 | 115.92 | 80.25 | 2.97 | | | | | | | | 95.33 | | | | 229.50 |
| B-57-58 | 30 | 48 | 68.00 | 13.00 | 612.00 | 680.00 | 25.19 | | | | | 408.00 | | | | 320.00 | | | 1,097.20 |
| B-59 | 30 | 60 | 12.67 | 15.00 | 126.67 | 158.33 | 5.86 | | | | | | | | 93.33 | | | | 249.00 |
| B-60,82,108 | 24 | 48 | 82.50 | 12.00 | 660.00 | 660.00 | 24.44 | | | | 412.50 | | | | 562.50 | | | | 1,080.00 |
| B-69,86,87,88 | 24 | 54 | 67.00 | 13.00 | 569.50 | 603.00 | 22.33 | | | | 268.00 | | | | 364.00 | | | | 1,118.00 |
| B-70 | 24 | 78 | 17.00 | 17.00 | 178.50 | 221.00 | 8.19 | | | | | | | 92.00 | | | | | 314.50 |
| B-75-77 | 24 | 60 | 58.83 | 14.00 | 529.50 | 588.33 | 21.79 | 235.33 | | | | | | 153.67 | | | | | 886.67 |
| B-78 | 12 | 28 | 39.67 | 6.67 | 171.89 | 92.56 | 3.43 | 79.33 | | | | | 103.33 | | | | | | 307.88 |
| B-79-80,81 | 24 | 90 | 65.25 | 19.00 | 750.38 | 978.75 | 36.25 | | | | 261.00 | | | | 272.50 | | | | 1,325.25 |
| B-83 | 24 | 30 | 10.00 | 9.00 | 65.00 | 50.00 | 1.85 | 40.00 | | | | | | | 32.00 | | | | 120.60 |
| B-84 | 24 | 32 | 19.75 | 9.33 | 131.67 | 105.33 | 3.90 | | | | | | 103.00 | | | | | | 234.27 |
| B-89 | 12 | 90 | 16.33 | 17.00 | 155.17 | 122.50 | 4.54 | | | | | | | | 44.67 | | | | 303.17 |
| B-90 | 12 | 24 | 19.17 | 6.00 | 76.67 | 38.33 | 1.42 | | | | | | | | 50.33 | | | | 146.40 |
| B-91-92 | 18 | 24 | 61.00 | 7.00 | 305.00 | 183.00 | 6.78 | 244.00 | | | | | | 316.00 | | | | | 666.75 |
| B-95 | 16 | 21 | 59.92 | 6.17 | 264.63 | 139.81 | 5.18 | | | | | | | 233.75 | | | | | 577.35 |
| B-96 | 24 | 21 | 19.25 | 7.50 | 110.69 | 67.38 | 2.50 | | | | 57.75 | | | 75.75 | | | | | 183.75 |
| B-97 | 12 | 21 | 19.25 | 5.50 | 72.19 | 33.69 | 1.25 | | | | 57.75 | | | 75.75 | | | | | 165.69 |
| B-110 | 16 | 65 | 36.00 | 13.50 | 291.00 | 260.00 | 9.63 | 144.00 | | | | | | 120.00 | | | | | 567.00 |
| B-111 | 12 | 18 | 44.83 | 5.00 | 156.92 | 67.25 | 2.49 | 134.50 | | | | | | | | | | | 463.33 |
| RB-1,2,3,4,5,6,7,17,28 | 48 | 36 | 1,114.92 | 14 | 12,264.08 | 13,379.00 | 495.52 | | | | | | | 12,713.50 | | | | | 19,397.00 |
| RB-8,9,10,11,18,20 | 24 | 36 | 322.25 | 10 | 2,255.75 | 1,933.50 | 71.61 | | | | | | | 1,768.50 | | | | | 3,329.38 |
| RB-12,13,14,15 | 60 | 36 | 105.08 | 16 | 1,366.08 | 1,576.25 | 58.38 | | | | | | | 774.50 | | | | | 2,794.00 |
| RB-16 | 84 | 36 | 51.00 | 20 | 867.00 | 1,071.00 | 39.67 | | | | | | | 456.00 | | | | | 1,042.86 |
| RB-19 | 16 | 36 | 223.75 | 9 | 1,267.92 | 895.00 | 33.15 | | | | 671.25 | | | 887.25 | | | | | 2,013.38 |
| RB-21,22 | 24 | 30 | 54.00 | 9 | 351.00 | 270.00 | 10.00 | 216.00 | | | | | 312.00 | | | | | | 526.50 |
| RB-23 | 18 | 38 | 36.25 | 9 | 223.54 | 172.19 | 6.38 | 145.00 | | | | | | | 84.50 | | | | 352.33 |
| RB-24 | 30 | 30 | 268.00 | 10 | 2,010.00 | 1,675 | 62 | | | | 1,608.00 | | | | 1,264.00 | | | | 2,800.00 |

| Name | BEAM CONCRETE | | | | | | | BOTTOM BAR (LF) | | | | TOP BAR/ LE & RE (LF) | | | | | STIRRUP (LF) | | |
|-------------|---------------|--------|--------|-------|----------|-------|----|-----------------|--------|--------|----------|-----------------------|--------|--------|-----|----------|--------------|----------|----------|
| | W (in) | H (in) | L (FT) | Perim | SFCA | CF | CY | #8 | #9 | #10 | #11 | #7 | #8 | #9 | #10 | #11 | #4 | #5 | #6 |
| RB-25,26,27 | 30 | 28 | 112.33 | 10 | 823.78 | 655 | 24 | | | 898.67 | | | | 755.33 | 210 | | 1,542.80 | | |
| RB-29,30,31 | 42 | 32 | 91.25 | 12 | 882.08 | 852 | 32 | | 456.25 | | | | 655.50 | | | | 1,242.58 | | |
| RB-32 | 24 | 40 | 21.25 | 11 | 155.83 | 142 | 5 | | 85.00 | | | | | 109.00 | | | 242.67 | | |
| PHB-1 | 30 | 18 | 409.00 | 8 | 2,658.50 | 1,534 | 57 | 1,636.00 | | | | 1,924.00 | | | | | 5,028.00 | | |
| TG-1 | 42 | 96 | 50.75 | 23 | 761.25 | 1,421 | 53 | | | 913.50 | | | | | | 808.47 | | 1,432.90 | |
| TG-2 | 60 | 96 | 50.75 | 26 | 913.50 | 2,030 | 75 | | | | 1,218.00 | | | | | 1,249.46 | | | 1,619.80 |
| TG-3 | 66 | 96 | 50.75 | 27 | 964.25 | 2,233 | 83 | | | | 1,319.50 | | | | | 2,083.96 | | | 1,682.10 |
| TG-4 | 48 | 96 | 50.75 | 24 | 812.00 | 1,624 | 60 | | | | 1,015.00 | | | | | 1,693.22 | | | 1,857.00 |
| TG-5 | 42 | 96 | 50.75 | 23 | 761.25 | 1,421 | 53 | | | | 812.00 | | | | | 661.48 | | 1,432.90 | |
| TG-6 | 42 | 96 | 50.75 | 23 | 761.25 | 1,421 | 53 | | | | 913.50 | | | | | 808.47 | | 1,432.90 | |
| TG-7 | 60 | 96 | 50.75 | 26 | 913.50 | 2,030 | 75 | | | | 1,218.00 | | | | | 1,249.46 | | | 1,619.80 |
| TG-8 | 66 | 96 | 50.75 | 27 | 964.25 | 2,233 | 83 | | | | 1,319.50 | | | | | 2,083.96 | | | 1,682.10 |
| TG-9 | 48 | 96 | 50.75 | 24 | 812.00 | 1,624 | 60 | | | | 1,015.00 | | | | | 1,693.22 | | | 1,857.00 |
| TG-10 | 42 | 96 | 50.75 | 23 | 761.25 | 1,421 | 53 | | | | 812.00 | | | | | 661.48 | | 1,432.90 | |
| TG-11 | 30 | 98 | 39.50 | 21 | 520.08 | 806 | 30 | | | | 632.00 | | | 260.21 | | | | 1,706.67 | |
| TG-12 | 18 | 102 | 39.50 | 20 | 454.25 | 504 | 19 | | | | 395.00 | | | 182.00 | | | | | 1,210.00 |
| TG-13 | 30 | 90 | 39.50 | 20 | 493.75 | 741 | 27 | | | | 632.00 | | | | | 195.04 | | | 1,210.00 |
| TG-14 | 30 | 72 | 21.25 | 17 | 233.75 | 319 | 12 | | | | 170.00 | | | | | 143.26 | | 563.13 | |
| TG-15 | 48 | 60 | 36.25 | 18 | 471.25 | 725 | 27 | | | | 797.50 | | | | | 338.00 | | | 1,001.25 |

| TOTALS | CY | | |
|----------|---------|---------|--------|
| 5000 psi | 3,270 | | |
| | LF | LBS | Ton |
| #4 | 123,261 | 82,585 | 41.29 |
| #5 | 19,007 | 19,767 | 9.88 |
| #6 | 12,529 | 18,794 | 9.40 |
| #7 | 2,568 | 5,239 | 2.62 |
| #8 | 19,558 | 52,221 | 26.11 |
| #9 | 70,246 | 238,835 | 119.42 |
| #10 | 22,988 | 98,848 | 49.42 |
| #11 | 28,331 | 150,437 | 75.22 |

General Conditions Cost Estimate

| RS Means Cost Code | Description | UNT | QTY | Hrly Rate | \$/UNT | COST (\$) |
|--------------------------------|---|-----|----------|-----------|-----------------|---------------------|
| PROJECT MANAGEMENT TEAM | | | | | | |
| Construction Manager | Senior Project Manager | WK | 216.325 | 95 | 3800 | 822,035.00 |
| Construction Manager | Project Manager | WK | 192.725 | 90 | 3600 | 693,810.00 |
| Construction Manager | Site/Structure/Enclosure Superintendent | WK | 216.325 | 120 | 4800 | 1,038,360.00 |
| Construction Manager | MEP Superintendent | WK | 194.75 | 80 | 3200 | 623,200.00 |
| Construction Manager | Interiors Superintendent | WK | 94.775 | 80 | 3200 | 303,280.00 |
| Construction Manager | BIM Manager | WK | 43.65 | 75 | 3000 | 130,950.00 |
| Construction Manager | Administrative Assistant | WK | 145.525 | 40 | 1600 | 232,840.00 |
| Construction Manager | Senior Project Engineer | WK | 145.525 | 60 | 2400 | 349,260.00 |
| Construction Manager | Project Engineer-Structure/Skin | WK | 145.525 | 50 | 2000 | 291,050.00 |
| Construction Manager | Project Engineer-MEP | WK | 192.725 | 50 | 2000 | 385,450.00 |
| Construction Manager | Project Engineer-Interiors | WK | 145.525 | 50 | 2000 | 291,050.00 |
| Construction Manager | Field Accountant | WK | 52.9 | 50 | 2000 | 105,800.00 |
| | | | | | Subtotal | 5,161,285.00 |
| SITE CONDITIONS | | | | | | |
| Contractor | Temporary Heat | EA | | | | 330,000.00 |
| Contractor | Temporary Power | EA | | | | 87,000.00 |
| 01 51 13.80 0700 | Temporary Water | MO | 50 | | 68 | 3,400.00 |
| 01 52 13.40 0140 | Temporary phone & Data | MO | 50 | | 89 | 4,450.00 |
| 01 56 26.50 0020 | Temporary Fencing | LF | 2000 | | 7.2 | 14,400.00 |
| 01 74 13.20 0100 | Final Cleaning | MSF | 420.864 | | 564 | 237,367.30 |
| Assumption | Temporary Restrooms | EA | 14 | | 300 | 4,200.00 |
| 01 58 13.50 0020 | Temporary Signage | SF | 450 | | 29.5 | 13,275.00 |
| Assumption | Dumpsters | MO | 45 | | 1800 | 81,000.00 |
| | | | | | Subtotal | 775,092.30 |
| FIELD OFFICE SUPPLIES | | | | | | |
| 01 52 13.20 0300 | Field Office & Furnishings | EA | 1 | | 15200 | 15,200.00 |
| 01 52 13.40 0100 | Office Equipment | MO | 50 | | 600 | 30,000.00 |
| 01 52 13.40 0120 | General Office Supplies | MO | 50 | | 300 | 15,000.00 |
| 01 52 13.40 0160 | Lights and HVAC | MO | 50 | | 167 | 8,350.00 |
| Assumption | Drawings and Specs | EA | 25 | | 300 | 7,500.00 |
| Assumption | Mobile Phones | EA | 8 | | 200 | 1,600.00 |
| Assumption | Office Water Cooler | EA | 1 | | 500 | 500.00 |
| 01 31 13.40 0130 | Main Office Expense | Job | 20000000 | | 0.10% | 20,000.00 |
| | | | | | Subtotal | 98,150.00 |
| CONSTRUCTION SUPPLIES | | | | | | |
| 01 54 19.50 0500 | Tower Crane | MO | 18 | | 320000 | 5,760,000.00 |
| 01 54 36.50 0020 | Mobilization/Demobilization | EA | 2 | | 300000 | 600,000.00 |
| 01 54 39.70 0020 | Small Tools | EA | 1 | | 750,000 | 750,000.00 |
| 01 45 23.50 0100 | Testing and Inspecting | EA | 1 | | 250000 | 250,000.00 |
| | | | | | Subtotal | 7,360,000.00 |
| SAFETY | | | | | | |
| Assumption | PPE's | MO | 50 | | 50 | 2,500.00 |
| Assumption | First Aid + Monthly Upkeep | MO | 50 | | 50 | 2,500.00 |
| Assumption | Fall Protection | EA | 8 | | 200 | 1,600.00 |
| Assumption | Safety Program and Training | MO | 50 | | 80 | 4,000.00 |
| Assumption | Fire Extinguishers | EA | 25 | | 90 | 2,250.00 |
| 01 54 09.60 00340 | Safety Net | LF | 1832 | | 1.15 | 2,106.80 |
| | | | | | Subtotal | 14,956.80 |
| MISCELLANEOUS | | | | | | |
| 01 41 26.50 0020 | Bonding | % | 1 | | | 1,766,000.00 |
| | Insurance | % | 1 | | | 1,766,000.00 |

GRAND TOTAL 15,175,484.10

| H (ft) | SLABS (SF) | | Roof (SF) | | Slab Breakout (SF) | | | | | | | | Drop Panels | | | Slab Rebar (LF) | | | | | | | | | |
|--------|-------------|------------|-------------------------|--------|--------------------|--------|--------|-------|--------|-------|--------|--------------------------------|-------------|-------|--------|-----------------|--------|---------|------------|------------|------------|----------|-----------|----------|------|
| | LB | UB | H (in) | SF | CF | PSI | H (in) | SF | CF | PSI | H (in) | SF | CF | PSI | SF | CF | CY | #4 | #5 | #6 | #8 | #9 | #11 | | |
| 14 | 56,746 | | 44 | 48,667 | 178,446 | Below | 60 | 8,079 | 40,395 | 6,000 | 5 | 15,115 | 6,298 | 3,500 | - | - | - | - | - | - | - | - | - | - | |
| 14 | 9,891 | | 8 | 9,891 | 6,594 | | | | | | | | | | - | - | - | 15,085 | 15,497 | 6,640 | 23 | | 240,319 | 7,336 | |
| 20 | 39,594 | | Specific Breakout below | | | | | | | | | | 6,470 | 2,747 | 101.72 | 63,404 | 65,136 | 27,908 | 98 | | 431 | 89 | | | |
| 17.33 | 33,616 | lvl 2 Roof | 4,492 | 8 | 29,347 | 19,565 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | 10 | 4,492 | 3,743 | 5,000 | 5,493 | 2,922 | 108.20 | 51,268 | 52,668 | 22,566 | 80 | 349 | 72 | |
| 14.67 | 35,758 | | | 8 | 31,489 | 20,993 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | | | | 5,843 | 2,918 | 108.08 | 54,535 | 56,024 | 24,004 | 85 | 371 | 77 | | |
| 14.67 | 35,718 | | | 8 | 31,449 | 20,966 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | | | | 5,836 | 2,922 | 108.20 | 54,474 | 55,962 | 23,978 | 84 | 371 | 77 | | |
| 14.67 | 35,758 | | | 8 | 31,489 | 20,993 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | | | | 5,843 | 2,547 | 94.33 | 54,535 | 56,024 | 24,004 | 85 | 371 | 77 | | |
| 14.67 | 31,173 | lvl 6 Roof | 4,545 | 8 | 26,904 | 17,936 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | 10 | 4,545 | 3,788 | 5,000 | 5,094 | 2,115 | 78.32 | 47,542 | 48,841 | 20,926 | 74 | 323 | 67 | |
| 14.67 | 25,881 | lvl 7 Roof | 5,292 | 8 | 21,612 | 14,408 | 5,000 | 10 | 4,269 | 3,558 | 5,000 | Composite Metal deck see S127W | | 4,229 | 2,115 | 78.32 | 39,471 | 40,549 | 17,374 | 61 | 269 | 55 | | | |
| 14.67 | 25,881 | | | 8 | 23,025 | 15,350 | 5,000 | 10 | 2,856 | 2,380 | 5,000 | | | | 4,229 | 2,115 | 78.32 | 39,471 | 40,549 | 17,374 | 61 | 269 | 55 | | |
| 14.67 | 25,881 | | | 8 | 23,025 | 15,350 | 5,000 | 10 | 2,856 | 2,380 | 5,000 | | | | 4,229 | 2,115 | 78.32 | 39,471 | 40,549 | 17,374 | 61 | 269 | 55 | | |
| 18 | 25,881 | | | 8 | 23,025 | 15,350 | 5,000 | 10 | 2,856 | 2,380 | 5,000 | | | | 4,229 | 2,115 | 78.32 | 39,471 | 40,549 | 17,374 | 61 | 269 | 55 | | |
| 16 | 25,881 | | | 9 | 23,025 | 17,269 | 5,000 | 10 | 2,856 | 2,380 | 5,000 | | | | 4,229 | 2,115 | 78.32 | 39,471 | 40,549 | 17,374 | 61 | 269 | 55 | | |
| 24 | 13,205 | | | 8 | 10,349 | 6,899 | 5,000 | 10 | 2,856 | 2,380 | 5,000 | | | | 2,158 | 1,079 | 39.96 | 20,139 | 20,689 | 8,865 | 31 | 137 | 28 | | |
| 27.33 | Parapet ht. | Roof | 25,881 | 8 | 18,680 | 12,453 | 5,000 | 9 | 3,490 | 2,618 | 5,000 | 11 | 3,711 | 3,402 | 5,000 | TOTAL LF | | 558,336 | 573,588 | 245,762 | 866 | 3,798 | 784 | | |
| | | | | | | | | | | | | | | | | | | LBS | 374,085.32 | 596,531.05 | 368,642.32 | 2,311.69 | 12,913.50 | 4,163.69 | |
| | | | | | | | | | | | | | | | | | | | TON | 187.04 | 298.27 | 184.32 | 1.16 | 6.46 | 2.08 |

| | | | |
|-------------------------------|---------|---------|-----|
| Total SF 420,864 (no roof) | | | |
| Slab/Wall Totals | | | |
| TOTAL | CF | CY | |
| 3500 | 11,716 | 434 | |
| 5000 | 654,269 | 24,232 | |
| 6000 | 127,918 | 4,738 | |
| 7000 | 865.58 | 32 | |
| LF | LBS | Ton | |
| #4 | 700,839 | 469,562 | 235 |
| #5 | 726,376 | 755,431 | 378 |
| #6 | 270,302 | 405,453 | 203 |
| #7 | 56,602 | 115,468 | 58 |
| #8 | 142,883 | 381,498 | 191 |
| #9 | 244,959 | 832,859 | 416 |
| #11 | 8,120 | 43,118 | 22 |

| Level 1 Slab Breakout (SF) | | | | | | | | | | | |
|----------------------------|--------|-----------|--------|---------------|-------|-------|------|--------------|-----|-----|------|
| H (in) | SF | CF | PSI | H (in) | SF | CF | PSI | H (in) | SF | CF | PSI |
| 8 | 19,522 | 13,015 | 5,000 | 54 | 168 | 756 | 3500 | | | | |
| 10 | 9,423 | 7,853 | 5,000 | Topping slabs | | | | Topping slab | | | |
| 12 | 24,548 | 24,548 | 5,000 | 6 | 3,401 | 1,701 | 3500 | 24 | 487 | 974 | 3500 |
| Mat Slab PSI | | CF | | | | | | | | | |
| 6000 | | 22,731.25 | 83,348 | | | | | | | | |
| 5000 | | 25,935.75 | 95,098 | | | | | | | | |

| X/12 | Rebar |
|------|----------|
| 1 | #4 0.07 |
| 2 | #5 1.04 |
| 3 | #6 1.5 |
| 4 | #7 2.04 |
| 5 | #8 2.67 |
| 6 | #9 3.4 |
| 7 | #10 4.3 |
| 8 | #11 5.31 |
| 9 | |
| 10 | |
| 11 | |

| Slab Rebar Level 2 Breakout (LF) | | | | | | |
|----------------------------------|--------|--------|--------|----|-----|-----|
| | #4 | #5 | #6 | #8 | #9 | #11 |
| Bottom Mat | 51,268 | 13,325 | | | | |
| Extra Bottom | | 480 | 2,452 | | 288 | |
| | | 133 | 2,219 | | | |
| | | 7,075 | 1,201 | | | |
| | | 776 | 1,594 | | | |
| Top Bar | | 2,120 | 4,532 | | | 72 |
| | | | 5,995 | | | |
| | | 2,207 | 319 | | | |
| | | 3,053 | 2,102 | | | |
| | | 2,227 | 1,144 | | | |
| | | 5,826 | 289 | | | |
| | | 1,439 | 583 | | | |
| | | 1,314 | | | | |
| | | 1,489 | | | | |
| | | 5,918 | | | | |
| | 2,613 | | | | | |
| | 2,459 | | | | | |
| | 216 | | | | | |
| Mid Bar | | | | 80 | 61 | |
| TOTALS (LF) | 51,268 | 52,668 | 22,566 | 80 | 349 | 72 |

| Mat Slab Rebar | |
|-----------------|------------|
| #9 | #11 |
| Btm/Top Mat | 223,896 |
| Extra Bar Vert | 10,105 |
| Extra Bar Horiz | 6,318 |
| TOTAL LF | 240,319 |
| LBS | 817,082.90 |
| TON | 408.54 |

| Foundation Walls | | | | | | | |
|------------------|--------|--------|--------|-------|------------|------------|------------|
| PSI | H (ft) | W (ft) | L (ft) | CF | CY | Rebar (LF) | |
| | | | | | | #5 | #8 |
| 5000 | 28 | 2 | 946.5 | 53004 | 1963.11 | 130,238 | 49,218 |
| TOTAL | | | | LBS | 135,447.94 | 100,404.72 | 374,018.94 |
| | | | | TON | 67.72 | 50.20 | 187.01 |

| Shear Walls | | | | | | | | | | | | | | | | | |
|-------------|------|--------|--------|--------|---------------|----------|--------|------------|----------|---------|----------|----------|--------|--|-----|--|--|
| | PSI | H (ft) | W (ft) | L (ft) | Openings (CF) | CF | CY | Rebar (LF) | | | | | | | | | |
| | | | | | | | | #4 | #5 | #6 | #7 | #8 | #9 | | | | |
| SW-1 | 6000 | 28 | 1 | 16.33 | - | 457.33 | 16.94 | | | | | | | | | | |
| | 5000 | 198 | 1 | 16.33 | - | 3,234 | 119.78 | 12,448 | 3,962 | 5,175 | 891 | 912 | | | | | |
| SW-2 | 6000 | 28 | 1 | 19.50 | - | 546 | 20.22 | | | | | | | | | | |
| | 5000 | 158 | 1 | 19.50 | 92.15 | 2,988.85 | 110.70 | 12,407 | 2,448 | | | 128 | 128 | | | | |
| SW-3 | 6000 | 28 | 1 | 29.33 | - | 821.33 | 30.42 | | | | | | | | | | |
| | 5000 | 158 | 1 | 29.33 | 124.88 | 4,509.79 | 167.03 | 19,432 | 3,392 | 3,344 | | | | | 144 | | |
| SW-4 | 6000 | 28 | 1 | 25.00 | - | 700.00 | 25.93 | | | | | | | | | | |
| | 5000 | 174 | 1 | 25.00 | 26.67 | 4,323.33 | 160.12 | | | | | | | | | | |
| | 5000 | 37 | 1 | 19.75 | - | 730.75 | 27.06 | 27,412 | | 4,288 | | | | | | | |
| SW-5 | 6000 | 28 | 1 | 24.00 | - | 672.00 | 24.89 | | | | | | | | | | |
| | 5000 | 198 | 1 | 24.00 | 26.67 | 4,725.33 | 175.01 | | | | | | | | | | |
| | 5000 | 11.33 | 1 | 20.00 | - | 226.67 | 8.40 | 22,712 | 3,712 | 2,144 | | | | | | | |
| SW-6 | 7000 | 28 | 1.5 | 26.00 | 226.42 | 865.58 | 32.06 | | | | | | | | | | |
| | 5000 | 20 | 1.5 | 26.00 | 226.42 | 553.58 | 20.50 | | | | | | | | | | |
| | 5000 | 138 | 1 | 26.00 | - | 3,588 | 132.89 | | | | | | | | | | |
| | 5000 | 64 | 1 | 22.50 | 63.56 | 1,376.44 | 50.98 | 16,483 | 7,076 | 2,485 | 6,493 | 895 | 570 | | | | |
| SW-7 | 6000 | 28 | 1 | 12.67 | - | 354.67 | 13.14 | | | | | | | | | | |
| | 5000 | 158 | 1 | 12.67 | - | 2,001.33 | 74.12 | 10,609 | 1,959 | 3,552 | | | | | | | |
| SW-8 | 6000 | 28 | 1 | 23.00 | 20.25 | 623.75 | 23.10 | | | | | | | | | | |
| | 5000 | 20 | 1 | 23.00 | - | 460 | 17.04 | | | | | | | | | | |
| | 5000 | 138 | 1 | 19.33 | - | 2,668 | 98.81 | 21,000 | | 3,552 | | | | | | | |
| TOTAL | | | | | | | LF | 142,502 | 22,550 | 24,541 | 7,384 | 1,935 | 842 | | | | |
| | | | | | | | LBS | 95,476.56 | 23,451.5 | 3,681.1 | 15,063.4 | 5,167.34 | 2862.8 | | | | |
| | | | | | | | TON | 47.74 | 11.73 | 18.41 | 7.53 | 2.58 | 1.43 | | | | |

| Location | Type | Weight (PLF) | Length | LBS | TONS | |
|----------------|---------------|--------------|---------|-----------|----------|------|
| UB Catwalk | Wide Flange | | | | | |
| | W8x15 | 15 | 571.8 | 8,576.25 | 4.29 | |
| | W12x22 | 22 | 98.0 | 2,156.00 | 1.08 | |
| SE1-2 | W10x15 | 15 | 89.3 | 1,338.75 | 0.67 | |
| | W8x10 | 10 | 10.0 | 100.00 | 0.05 | |
| Atrium Roof | W18x65 | 65 | 32.0 | 2,080.00 | 1.04 | |
| | W16x26 | 26 | 38.8 | 1,007.50 | 0.50 | |
| | W18x50 | 50 | 32.0 | 1,600.00 | 0.80 | |
| | W12x16 | 16 | 32.0 | 512.00 | 0.26 | |
| | W14x22 | 22 | 34.0 | 748.00 | 0.37 | |
| | W10x12 | 12 | 24.5 | 294.00 | 0.15 | |
| | W18x40 | 40 | 576.0 | 23,040.00 | 11.52 | |
| | W8x10 | 10 | 117.0 | 1,170.00 | 0.59 | |
| | W18x55 | 55 | 56.3 | 3,093.75 | 1.55 | |
| | W18x35 | 35 | 1,852.5 | 64,837.50 | 32.42 | |
| | W8x15 | 15 | 1,512.8 | 22,691.25 | 11.35 | |
| | W18x40 | 40 | 640.0 | 25,600.00 | 12.80 | |
| | | Channels | | | | |
| | Stair 1 | C8x11.5 | 11.5 | 115.5 | 1,328.25 | 0.66 |
| SW3 | C8x11.5 | 11.5 | 416.5 | 4,789.75 | 2.39 | |
| 2nd N Collab | C4x4.5 | 4.5 | 29.5 | 132.75 | 0.07 | |
| | C8x11.5 | 11.5 | 29.5 | 339.25 | 0.17 | |
| SW8 | C8x11.5 | 11.5 | 40.5 | 465.75 | 0.23 | |
| Elev 3-6 | C8x11.5 | 11.5 | 180.0 | 2,070.00 | 1.04 | |
| Elev 1-2 | C8x11.5 | 11.5 | 436.5 | 5,019.75 | 2.51 | |
| | HSS Tubes | | | | | |
| Elev. 1-2 | HSS8x4x5/16 | 23.34 | 106.0 | 2,474.04 | 1.24 | |
| UB | HSS8x4x5/16 | 23.34 | 32.0 | 746.88 | 0.37 | |
| UB | HSS4x4x5/16 | 14.83 | 42.0 | 622.86 | 0.31 | |
| Tower Crane | HSS6x6x1/4 | 19.02 | 80.0 | 1,521.60 | 0.76 | |
| | HSS6x6x5/16 | 23.34 | 40.0 | 933.60 | 0.47 | |
| Elev. 3-6 | HSS8x4x5/16 | 23.34 | 16.5 | 385.11 | 0.19 | |
| Atrium | HSS6x4x1/4 | 15.62 | 520.0 | 8,122.40 | 4.06 | |
| | HSS6x6x5/16 | 23.34 | 192.0 | 4,481.28 | 2.24 | |
| | HSS5x5x5/16 | 19.08 | 96.0 | 1,831.68 | 0.92 | |
| Vestibule | HSS3x2x1/4 | 5.59 | 169.0 | 944.71 | 0.47 | |
| | HSS10x6x1/4 | 25.82 | 13.0 | 335.66 | 0.17 | |
| | HSS6x6x1/4 | 19.02 | 22.0 | 418.44 | 0.21 | |
| Walkway | HSS14x6x3/8 | 47.9 | 234.0 | 11,208.60 | 5.60 | |
| Elev 3-6 | HSS6x4x5/16 | 19.08 | 192.0 | 3,663.36 | 1.83 | |
| N Collab Twr | HSS6x6x3/8 | 27.48 | 33.8 | 927.45 | 0.46 | |
| | HSS8x6x3/8 | 32.58 | 120.7 | 3,931.32 | 1.97 | |
| | HSS6x6x3/8 | 27.48 | 196.0 | 5,386.08 | 2.69 | |
| Floor 6 | HSS6x6x5/8 | 42.3 | 14.7 | 620.54 | 0.31 | |
| | HSS6x6x5/16 | 23.34 | 240.2 | 5,606.27 | 2.80 | |
| | HSS6x6x3/8 | 27.48 | 15.0 | 412.20 | 0.21 | |
| Atrium Roof UP | HSS6x6x3/8 | 27.48 | 161.4 | 4,434.45 | 2.22 | |
| | HSS10x10x1/2 | 62.46 | 175.0 | 10,930.50 | 5.47 | |
| | HSS10x10x5/16 | 40.35 | 214.0 | 8,634.90 | 4.32 | |
| | HSS5x5x1/4 | 15.62 | 4.5 | 70.29 | 0.04 | |
| | HSS8x8x5/16 | 31.84 | 494.8 | 15,752.84 | 7.88 | |
| | HSS5x5x5/16 | 19.08 | 960.0 | 18,316.80 | 9.16 | |

| STEEL SUMMARY | | | |
|--------------------|----------|--------|-------|
| Type | LF | LBS | TONS |
| Wide Flange | | | |
| W8x10 | 127.00 | 1,270 | 0.64 |
| W8x15 | 2,084.50 | 31,268 | 15.63 |
| W10x12 | 24.50 | 294 | 0.15 |
| W10x15 | 89.25 | 1,339 | 0.67 |
| W12x16 | 32.00 | 512 | 0.26 |
| W12x22 | 98.00 | 2,156 | 1.08 |
| W14x22 | 34.00 | 748 | 0.37 |
| W16x26 | 38.75 | 1,008 | 0.50 |
| W18x35 | 1,852.50 | 64,838 | 32.42 |
| W18x40 | 1,216.00 | 48,640 | 24.32 |
| W18x50 | 32.00 | 1,600 | 0.80 |
| W18x55 | 56.25 | 3,094 | 1.55 |
| W18x65 | 32.00 | 2,080 | 1.04 |
| Channels | | LBS | TONS |
| C4x4.5 | 29.50 | 133 | 0.07 |
| C8x11.5 | 1,218.50 | 14,013 | 7.01 |
| HSS Tubes | | LBS | TONS |
| HSS3x2x1/4 | 169.00 | 945 | 0.47 |
| HSS4x4x5/16 | 42.00 | 623 | 0.31 |
| HSS5x5x1/4 | 4.50 | 70 | 0.04 |
| HSS5x5x5/16 | 1,056.00 | 20,148 | 10.07 |
| HSS6x4x1/4 | 520.00 | 8,122 | 4.06 |
| HSS6x4x5/16 | 192.00 | 3,663 | 1.83 |
| HSS6x6x1/4 | 102.00 | 1,940 | 0.97 |
| HSS6x6x5/16 | 472.20 | 11,021 | 5.51 |
| HSS6x6x3/8 | 406.12 | 11,160 | 5.58 |
| HSS6x6x5/8 | 14.67 | 621 | 0.31 |
| HSS8x4x5/16 | 154.50 | 3,606 | 1.80 |
| HSS8x6x3/8 | 120.67 | 3,931 | 1.97 |
| HSS8x8x5/16 | 494.75 | 15,753 | 7.88 |
| HSS10x6x1/4 | 13.00 | 336 | 0.17 |
| HSS10x10x5/16 | 214.00 | 8,635 | 4.32 |
| HSS10x10x1/2 | 175.00 | 10,931 | 5.47 |
| HSS14x6x3/8 | 234.00 | 11,209 | 5.60 |

| Columns (LF) | | | | | | | | | Column Rebar | | | Stirrup |
|--------------|---------|-----------|------|------|-----|-------|-------|--------|--------------|--------|--------|---------|
| Name | Floors | f'c (psi) | L | W | H | SFCA | Perim | TOT CF | #8 LF | #11 LF | #10 LF | #4 LF |
| A1.5 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A2 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A3 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A4 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A5 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A6 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A7 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A7.5 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A8 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A9 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A10 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| A11.5 | LB-1 | 5,000 | 2 | 2 | 48 | 384 | 8 | 192 | 384 | - | - | 432 |
| B1.5 | LB-UP | 5,000 | 2 | 2 | 226 | 1,808 | 8 | 904 | 1,872 | 576 | - | 2,712 |
| B2 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,872 | 576 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B3 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,552 | 1,296 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B4 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 1,296 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 1,296 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B6 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 1,296 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B7 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 1,296 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B7.5 | LB-UB | 6,000 | 2 | 2.33 | 28 | 243 | 9 | 131 | 1,477 | 1,296 | - | 476 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B8 | LB-UB | 6,000 | 2 | 2.33 | 28 | 243 | 9 | 131 | 1,221 | 1,552 | - | 476 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B9 | LB-1 | 6,000 | 2.67 | 2.00 | 48 | 448 | 9 | 256 | 1,392 | 1,728 | - | 912 |
| | 2-UP | 5,000 | 2 | 2 | 178 | 1,424 | 8 | 712 | | | - | 1,602 |
| B10 | LB-1 | 6,000 | 2.33 | 2.67 | 48 | 480 | 10 | 299 | 1,296 | 1,792 | - | 936 |
| | 2-UP | 5,000 | 2 | 2 | 178 | 1,424 | 8 | 712 | | | - | 1,602 |
| B11 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 720 | 576 | - | 336 |
| | 2-UP | 5,000 | 2 | 2 | 178 | 1,424 | 8 | 712 | | | - | 1,602 |
| B11.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,931 | 976 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| B1-1.5 | LB-2 | 5,000 | 2 | 2 | 65 | 523 | 8 | 261 | - | 976 | - | 784 |
| B1-2 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-3 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-4 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-5 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-6 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-7 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-7.5 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-8 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-9 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-10 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-11 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 |
| B1-11.5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 976 | - | 476 |
| | 1-2 | 5,000 | 2.33 | 2 | 37 | 324 | 9 | 174 | | | - | 635 |
| B1-12 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 1,931 | - | - | 1,692 |
| C1 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 1,931 | - | - | 1,692 |
| C1.5 | LB-2 | 7,000 | 4 | 2.33 | 65 | 828 | 13 | 610 | - | 1,789 | - | 1,895 |
| C2 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,867 | 224 | - | 336 |
| | 1,3-10 | 5,000 | 2 | 2 | 141 | 1,125 | 8 | 563 | | | - | 1,266 |

| Columns (LF) | | | | | | | | | Column Rebar | | | Stirrup |
|--------------|--------|-----------|------|------|-----|-------|-------|--------|--------------|--------|--------|---------|
| Name | Floors | f'c (psi) | L | W | H | SFCA | Perim | TOT CF | #8 LF | #11 LF | #10 LF | #4 LF |
| C3 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,707 | 1,200 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C4 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,296 | 976 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,296 | 976 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C6 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,296 | 976 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,296 | 976 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C7.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,477 | 720 | - | 336 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C8 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,477 | 720 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C9 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,296 | 976 | - | 476 |
| | 1-10 | 5,000 | 2 | 2 | 158 | 1,264 | 8 | 632 | | | - | 1,422 |
| C10 | LB-1 | 6,000 | 2.33 | 2 | 48 | 416 | 9 | 224 | 1,072 | 1,200 | - | 816 |
| | 2-10 | 5,000 | 2 | 2 | 138 | 1,104 | 8 | 552 | | | - | 1,242 |
| C11 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,355 | 243 | - | 336 |
| | 3-10 | 5,000 | 2 | 2 | 121 | 965 | 8 | 483 | | | - | 1,086 |
| C11.5 | LB-2 | 7,000 | 4 | 2.33 | 65 | 828 | 13 | 610 | - | 1,789 | - | 1,895 |
| C12 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 1,931 | - | - | 1,692 |
| D1 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 2,005 | - | - | 1,692 |
| D1.5 | LB-2 | 7,000 | 4 | 2.33 | 65 | 828 | 13 | 610 | - | 1,789 | - | 1,895 |
| D2 | LB-1 | 6,000 | 2 | 2 | 48 | 384 | 8 | 192 | 1,493 | 1,323 | - | 576 |
| | 3 | 5,000 | 2.33 | 2 | 15 | 127 | 9 | 68 | | | - | 249 |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 |
| D3 | LB-UB | 6,000 | 2 | 2.58 | 28 | 257 | 9 | 145 | 2,088 | 1,296 | - | 518 |
| | 1-UP | 5,000 | 2 | 2.58 | 198 | 1,815 | 9 | 1,023 | | | - | 3,663 |
| D4 | LB-1 | 6,000 | 2.33 | 2.33 | 48 | 448 | 9 | 261 | 1,573 | 1,749 | - | 672 |
| | 2-3 | 5,000 | 2.33 | 2 | 32 | 277 | 9 | 149 | | | - | 312 |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 |
| D5 | LB-1 | 6,000 | 2.33 | 2.33 | 48 | 448 | 9 | 261 | 1,573 | 1,568 | - | 672 |
| | 2-3 | 5,000 | 2.33 | 2 | 32 | 277 | 9 | 149 | | | - | 544 |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 |
| D6 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,053 | 720 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 2,376 |
| D7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,573 | 1,824 | - | 476 |
| | 1-3 | 5,000 | 2.33 | 2 | 52 | 451 | 9 | 243 | | | - | 884 |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 |
| D7.5 | LB-UB | 6,000 | 2 | 2.33 | 28 | 243 | 9 | 131 | 1,531 | 1,344 | - | 476 |
| | 2-3 | 5,000 | 3 | 2.33 | 32 | 341 | 11 | 224 | | | - | 688 |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 |
| D8.2 | LB-UB | 6,000 | 1 | 2 | 28 | 168 | 6 | 56 | 2,256 | - | - | 378 |
| | 1-UP | 5,000 | 1 | 2 | 198 | 1,188 | 6 | 396 | | | - | 2,673 |
| D9.2 | LB-UB | 6,000 | 1 | 2 | 28 | 168 | 6 | 56 | 2,304 | - | - | 378 |
| | 1-10 | 5,000 | 1 | 2 | 158 | 948 | 6 | 316 | | | - | 2,133 |
| | LP-UP | 5,000 | 1.5 | 1.5 | 40 | 240 | 8 | 90 | | | - | 420 |
| D10 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,936 | 720 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| D11 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,144 | 672 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| D11.5 | LB-2 | 7,000 | 4 | 2.33 | 65 | 828 | 13 | 610 | - | 1,789 | - | 1,895 |
| D12 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 1,419 | 448 | - | 1,692 |
| D.5-5.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,872 | - | - | 336 |
| | 1-2 | 5,000 | 1.33 | 2 | 37 | 249 | 7 | 100 | | | - | 523 |
| | 3-10 | 5,000 | 1 | 2 | 121 | 724 | 6 | 241 | | | - | 1,629 |
| D.5-6.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,872 | - | - | 336 |
| | 1-2 | 5,000 | 1.33 | 2 | 37 | 249 | 7 | 100 | | | - | 523 |
| | 3-10 | 5,000 | 1 | 2 | 121 | 724 | 6 | 241 | | | - | 1,629 |
| E1 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 2,005 | - | - | 1,692 |

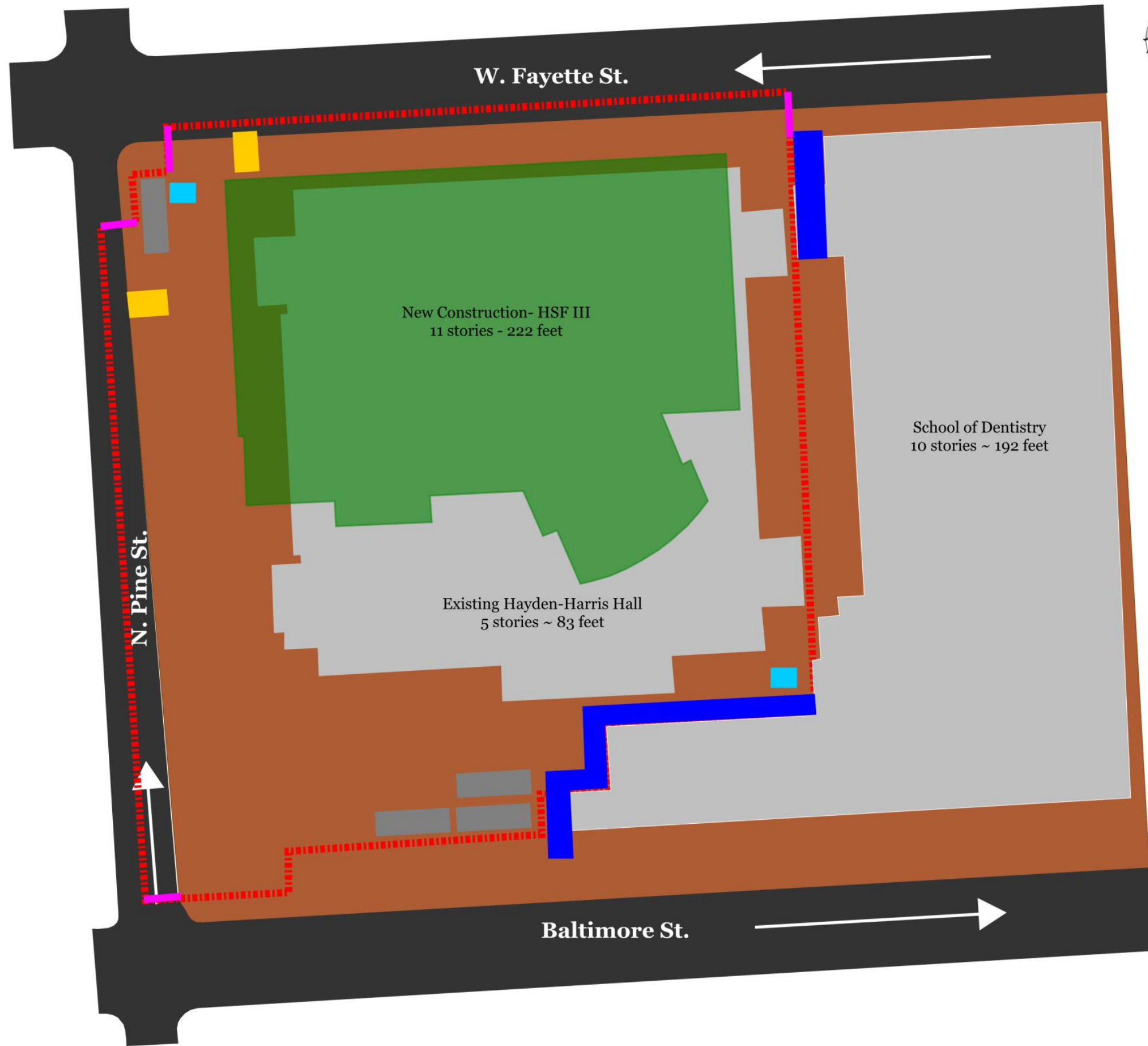
| Columns (LF) | | | | | | | | | | Column Rebar | | | Stirrup |
|--------------|---------|-----------|------|------|-----|-------|-------|--------|-------|--------------|--------|-------|---------|
| Name | Floors | f'c (psi) | L | W | H | SFCA | Perim | TOT CF | #8 LF | #11 LF | #10 LF | #4 LF | |
| E1.5 | LB-2 | 7,000 | 3 | 2 | 65 | 653 | 10 | 392 | | 1,627 | - | 1,372 | |
| E2 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,587 | | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E3 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,717 | 976 | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E4 | LB-1 | 6,000 | 2.33 | 2.33 | 48 | 448 | 9 | 261 | 1,269 | 1,888 | - | 672 | |
| | 2-3 | 5,000 | 2.33 | 2.33 | 32 | 299 | 9 | 174 | | | - | 448 | |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 | |
| E5 | LB-1 | 6,000 | 2.33 | 2.33 | 48 | 448 | 9 | 261 | 1,269 | 1,888 | - | 672 | |
| | 2-3 | 5,000 | 2.33 | 2.33 | 29 | 274 | 9 | 160 | | | - | 411 | |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 | |
| E6 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,973 | 720 | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E7 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,493 | 1,664 | - | 392 | |
| | 1-3 | 5,000 | 2.33 | 2 | 52 | 451 | 9 | 243 | | | - | 884 | |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 | |
| E7.5 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,493 | 1,424 | - | 392 | |
| | 1-3 | 5,000 | 2.33 | 2 | 52 | 451 | 9 | 243 | | | - | 884 | |
| | 4-UP | 5,000 | 2 | 2 | 146 | 1,168 | 8 | 584 | | | - | 1,314 | |
| E8 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,085 | 720 | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E9 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,973 | 720 | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E10 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,717 | 976 | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E11 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,587 | | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| E11.5 | LB-2 | 7,000 | 4 | 2 | 65 | 784 | 12 | 523 | - | 1,627 | - | 1,176 | |
| E12 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 2,005 | - | - | 1,692 | |
| E.5-1 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 2,005 | - | - | 1,692 | |
| E.5-1.5 | LB-2 | 5,000 | 2 | 2 | 65 | 523 | 8 | 261 | - | 976 | - | 784 | |
| E.5-2 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-3 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-4 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-5 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-6 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-7 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-7.5 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-8 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-9 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-10 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-11 | parapet | 5,000 | 2 | 2 | 27 | 219 | 8 | 109 | 251 | - | - | 246 | |
| E.5-11.5 | LB-2 | 6,000 | 2 | 2 | 65 | 523 | 8 | 261 | - | 976 | - | 784 | |
| E.5-12 | 3-Par | 5,000 | 2 | 2 | 188 | 1,504 | 8 | 752 | 1,931 | - | - | 1,692 | |
| F1.5 | LB-UP | 5,000 | 2 | 2 | 226 | 1,808 | 8 | 904 | 2,256 | - | - | 2,034 | |
| F2 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,368 | | - | 336 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F3 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 2,400 | | - | 476 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F4 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 2,400 | | - | 476 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 2,400 | | - | 476 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F6 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 2,400 | | - | 476 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 2,400 | | - | 476 | |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 | |
| F7.5 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,381 | 1,424 | - | 392 | |
| | 1-2 | 5,000 | 2.33 | 2 | 37 | 324 | 9 | 174 | | | - | 635 | |
| | 3-UP | 5,000 | 2 | 2 | 161 | 1,285 | 8 | 643 | | | - | 1,446 | |

| Columns (LF) | | | | | | | | | Column Rebar | | | Stirrup |
|--------------|--------|-----------|------|------|-----|-------|-------|--------|--------------|--------|--------|---------|
| Name | Floors | f'c (psi) | L | W | H | SFCA | Perim | TOT CF | #8 LF | #11 LF | #10 LF | #4 LF |
| F8 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,531 | 1,200 | - | 392 |
| | 1 | 5,000 | 2.33 | 2 | 20 | 173 | 9 | 93 | | | - | 340 |
| | 2-UP | 5,000 | 2 | 2 | 178 | 1,424 | 8 | 712 | | | - | 1,602 |
| F9 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,531 | 1,200 | - | 392 |
| | 1 | 5,000 | 2.33 | 2 | 20 | 173 | 9 | 93 | | | - | 340 |
| | 2-UP | 5,000 | 2 | 2 | 178 | 1,424 | 8 | 712 | | | - | 1,602 |
| F10 | LB-UB | 6,000 | 2.33 | 2.33 | 28 | 261 | 9 | 152 | 1,531 | 1,200 | - | 392 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| F11 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 720 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| F11.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,392 | 720 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| G2 | LB-UB | 6,000 | 2.33 | 2.17 | 28 | 252 | 9 | 142 | 288 | - | - | 483 |
| G3 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,216 | 432 | - | 476 |
| | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | | | - | 732 |
| G4 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| G4.5 | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | 1,216 | - | - | 732 |
| G5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| G5.5 | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | 811 | - | - | 732 |
| G6 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| G7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 811 | 432 | - | 476 |
| | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | | | - | 732 |
| G7.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,605 | 976 | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| F.6-11.8 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| G3-11.8 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| H2 | LB-UB | 6,000 | 2.33 | 2.17 | 28 | 252 | 9 | 142 | - | - | 288 | 483 |
| H3 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,216 | 432 | - | 476 |
| | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | | | - | 732 |
| H4 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| H4.5 | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | 1,216 | - | - | 732 |
| H5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| H5.5 | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | 1,216 | - | - | 732 |
| H6 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| H7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 811 | 432 | - | 476 |
| | 1-5 | 5,000 | 2 | 2 | 81 | 651 | 8 | 325 | | | - | 732 |
| H7.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,605 | - | - | 336 |
| | 1-UP | 5,000 | 2 | 2 | 198 | 1,584 | 8 | 792 | | | - | 1,782 |
| H.2-10 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 288 | - | - | 336 |
| H.2-10.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | - | 432 | - | 336 |
| H.2-11.8 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| I2 | LB-UB | 6,000 | 2.33 | 2.17 | 28 | 252 | 9 | 142 | - | - | 288 | 483 |
| I3 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | - | 432 | - | 336 |
| I4 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| I5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| I6 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| I7 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 576 | - | 476 |
| I7.5 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 576 | - | 476 |
| I8 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 576 | - | 476 |
| I9 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | - | 432 | - | 476 |
| I10 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | - | 432 | - | 336 |
| I11.8 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 432 | - | - | 336 |
| I10.5 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 288 | - | - | 336 |
| AA102 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,208 | 240 | - | 336 |
| | 1 | 5,000 | 1.33 | 2.33 | 20 | 147 | 7 | 62 | | | - | 320 |
| | 2-UP | 5,000 | 1 | 2 | 178 | 1,068 | 6 | 356 | | | - | 1,202 |
| AA103 | 1 | 5,000 | 1.17 | 2 | 20 | 127 | 6 | 47 | 2,016 | - | - | 275 |
| | 2-UP | 5,000 | 1 | 2 | 178 | 1,068 | 6 | 356 | | | - | 1,202 |
| AA104 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,776 | 672 | - | 336 |
| | 1 | 5,000 | 1.33 | 2.33 | 20 | 147 | 7 | 62 | | | - | 320 |
| | 2-UP | 5,000 | 1 | 2 | 178 | 1,068 | 6 | 356 | | | - | 2,403 |

| Columns (LF) | | | | | | | | | Column Rebar | | | Stirrup |
|--------------|--------|-----------|------|---|-----|-------|-------|--------|--------------|--------|--------|---------|
| Name | Floors | f'c (psi) | L | W | H | SFCA | Perim | TOT CF | #8 LF | #11 LF | #10 LF | #4 LF |
| BB102 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,496 | - | - | 336 |
| | 1 | 5,000 | 1.17 | 2 | 20 | 127 | 6 | 47 | | | - | 275 |
| | 2-UP | 5,000 | 1 | 2 | 178 | 1,068 | 6 | 356 | | | - | 2,403 |
| BB103 | 1-UP | 5,000 | 1 | 2 | 198 | 1,188 | 6 | 396 | 1,968 | - | - | 2,673 |
| BB104 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,400 | - | - | 336 |
| | 1-2 | 5,000 | 1.33 | 2 | 37 | 249 | 7 | 100 | | | - | 523 |
| | 3-UP | 5,000 | 1 | 2 | 161 | 964 | 6 | 321 | | | - | 2,169 |
| CC101 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,507 | - | - | 336 |
| | 1-6 | 5,000 | 2 | 2 | 96 | 768 | 8 | 384 | | | - | 864 |
| | 7-Par | 5,000 | 1.67 | 2 | 129 | 948 | 7 | 431 | | | - | 1,875 |
| CC102 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,400 | - | - | 336 |
| | 1-2 | 5,000 | 1.33 | 2 | 37 | 249 | 7 | 100 | | | - | 523 |
| | 3-UP | 5,000 | 1 | 2 | 161 | 964 | 6 | 321 | | | - | 2,169 |
| CC103 | 1 | 5,000 | 1.33 | 2 | 20 | 133 | 7 | 53 | 1,968 | - | - | 280 |
| | 2-7 | 5,000 | 1.17 | 2 | 91 | 574 | 6 | 212 | | | - | 1,247 |
| | 8-UP | 5,000 | 1 | 2 | 87 | 524 | 6 | 175 | | | - | 1,179 |
| CC104 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 2,400 | - | - | 336 |
| | 1-2 | 5,000 | 1.33 | 2 | 37 | 249 | 7 | 100 | | | - | 523 |
| | 3-Par | 5,000 | 1 | 2 | 188 | 1,128 | 6 | 376 | | | - | 2,538 |
| CC105 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 1,109 | 432 | - | 476 |
| | 1-7 | 5,000 | 2 | 2 | 111 | 885 | 8 | 443 | | | - | 996 |
| DD102 | 7-LP | 5,000 | 1.5 | 2 | 78 | 546 | 7 | 234 | 468 | - | - | 1,112 |
| DD103 | 7-LP | 5,000 | 1.5 | 3 | 78 | 702 | 9 | 351 | 468 | - | - | 1,580 |
| EE101 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,365 | 432 | 224 | 336 |
| | 1-7 | 5,000 | 2 | 2 | 111 | 885 | 8 | 443 | | | - | 996 |
| EE103 | LB-UB | 6,000 | 2.33 | 2 | 28 | 243 | 9 | 131 | 821 | 720 | 480 | 476 |
| | 1-7 | 5,000 | 2 | 2 | 111 | 885 | 8 | 443 | | | - | 996 |
| EE105 | LB-UB | 6,000 | 2 | 2 | 28 | 224 | 8 | 112 | 1,797 | - | 224 | 336 |
| | 1-7 | 5,000 | 2 | 2 | 111 | 885 | 8 | 443 | | | - | 996 |

| TOTAL | CF | CY | |
|-------|---------|---------|-----|
| 5000 | 67,567 | 2,502 | |
| 6000 | 13,655 | 506 | |
| 7000 | 3,354 | 124 | |
| | LF | LBS | Ton |
| #8 | 175,648 | 468,980 | 234 |
| #11 | 78,973 | 419,348 | 210 |
| #10 | 1,504 | 6,467 | 3 |
| #4 | 234,327 | 156,999 | 78 |

Appendix C



Legend

- Existing Building
- New Construction
- Site Fence
- Fire Hydrant
- Covered Walkway
- Site Trailers
- Wheel Wash
- Site Entrance
- Port-a-John

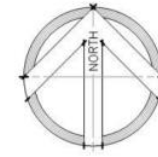
PHASE 1



Legend

- Existing Building
- New Construction
- Site Fence
- Fire Hydrant
- Covered Walkway
- Site Trailers
- Wheel Wash
- Site Entrance
- Port-a-John
- Ramp
- Excavation Hole
- Material Staging
- Dewatering Main Station

PHASE 2



| Legend | |
|--------|-------------------------|
| | Existing Building |
| | New Construction |
| | Site Fence |
| | Fire Hydrant |
| | Covered Walkway |
| | Site Trailers |
| | Wheel Wash |
| | Site Entrance |
| | Port-a-John |
| | Material Hoist |
| | Tower Crane |
| | Material Staging |
| | Dewatering Main Station |

PHASE 3

Appendix D



LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Health Sciences Facility III
Date: 10/15/2014

Y ? N

| Y | ? | N | Credit | Integrative Process | 1 |
|--|---|---|--------|---|----------|
| 11 0 4 Location and Transportation 16 | | | | | |
| | | 0 | Credit | LEED for Neighborhood Development Location | 16 |
| 1 | | | Credit | Sensitive Land Protection | 1 |
| | | 2 | Credit | High Priority Site | 2 |
| 4 | | | Credit | Surrounding Density and Diverse Uses | 5 |
| 5 | | | Credit | Access to Quality Transit | 5 |
| 1 | | | Credit | Bicycle Facilities | 1 |
| | | 1 | Credit | Reduced Parking Footprint | 1 |
| | | 1 | Credit | Green Vehicles | 1 |
| 6 0 2 Sustainable Sites 10 | | | | | |
| Y | | | Prereq | Construction Activity Pollution Prevention | Required |
| 1 | | | Credit | Site Assessment | 1 |
| | | 2 | Credit | Site Development - Protect or Restore Habitat | 2 |
| 1 | | | Credit | Open Space | 1 |
| 2 | | | Credit | Rainwater Management | 3 |
| 1 | | | Credit | Heat Island Reduction | 2 |
| 1 | | | Credit | Light Pollution Reduction | 1 |
| 5 0 2 Water Efficiency 11 | | | | | |
| Y | | | Prereq | Outdoor Water Use Reduction | Required |
| Y | | | Prereq | Indoor Water Use Reduction | Required |
| Y | | | Prereq | Building-Level Water Metering | Required |
| 1 | | | Credit | Outdoor Water Use Reduction | 2 |
| 3 | | | Credit | Indoor Water Use Reduction | 6 |
| | | 2 | Credit | Cooling Tower Water Use | 2 |
| 1 | | | Credit | Water Metering | 1 |
| 13 0 5 Energy and Atmosphere 33 | | | | | |
| Y | | | Prereq | Fundamental Commissioning and Verification | Required |
| Y | | | Prereq | Minimum Energy Performance | Required |
| Y | | | Prereq | Building-Level Energy Metering | Required |
| Y | | | Prereq | Fundamental Refrigerant Management | Required |
| 6 | | | Credit | Enhanced Commissioning | 6 |
| 5 | | | Credit | Optimize Energy Performance | 18 |
| | | 1 | Credit | Advanced Energy Metering | 1 |
| | | 2 | Credit | Demand Response | 2 |
| 2 | | | Credit | Renewable Energy Production | 3 |
| | | 1 | Credit | Enhanced Refrigerant Management | 1 |
| | | 1 | Credit | Green Power and Carbon Offsets | 2 |

| Y | ? | N | Credit | Materials and Resources | 13 |
|--|---|---|--------|---|----------|
| 10 0 0 Materials and Resources 13 | | | | | |
| Y | | | Prereq | Storage and Collection of Recyclables | Required |
| Y | | | Prereq | Construction and Demolition Waste Management Planning | Required |
| 3 | | | Credit | Building Life-Cycle Impact Reduction | 5 |
| 1 | | | Credit | Building Product Disclosure and Optimization - Environmental Product Declarations | 2 |
| 2 | | | Credit | Building Product Disclosure and Optimization - Sourcing of Raw Materials | 2 |
| 2 | | | Credit | Building Product Disclosure and Optimization - Material Ingredients | 2 |
| 2 | | | Credit | Construction and Demolition Waste Management | 2 |

| Y | ? | N | Credit | Indoor Environmental Quality | 16 |
|---|---|---|--------|---|----------|
| 13 0 2 Indoor Environmental Quality 16 | | | | | |
| Y | | | Prereq | Minimum Indoor Air Quality Performance | Required |
| Y | | | Prereq | Environmental Tobacco Smoke Control | Required |
| 2 | | | Credit | Enhanced Indoor Air Quality Strategies | 2 |
| 3 | | | Credit | Low-Emitting Materials | 3 |
| 1 | | | Credit | Construction Indoor Air Quality Management Plan | 1 |
| 2 | | | Credit | Indoor Air Quality Assessment | 2 |
| 1 | | | Credit | Thermal Comfort | 1 |
| | | 2 | Credit | Interior Lighting | 2 |
| 2 | | | Credit | Daylight | 3 |
| 1 | | | Credit | Quality Views | 1 |
| 1 | | | Credit | Acoustic Performance | 1 |

| Y | ? | N | Credit | Innovation | 6 |
|---------------------------|---|---|--------|------------------------------|---|
| 1 0 5 Innovation 6 | | | | | |
| | | 5 | Credit | Innovation | 5 |
| 1 | | | Credit | LEED Accredited Professional | 1 |

| Y | ? | N | Credit | Regional Priority | 4 |
|----------------------------------|---|---|--------|------------------------------------|---|
| 0 4 0 Regional Priority 4 | | | | | |
| | | 1 | Credit | Regional Priority: Specific Credit | 1 |
| | | 1 | Credit | Regional Priority: Specific Credit | 1 |
| | | 1 | Credit | Regional Priority: Specific Credit | 1 |
| | | 1 | Credit | Regional Priority: Specific Credit | 1 |

59 4 20 TOTALS Possible Points: **110**
Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110