

Penn
State
AE

Technical Report 2: The Dull Silver Lion



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Executive Summary

The Dull Silver Lion, a fictitious name, is a 20 stories luxury apartment building located in the mid-Atlantic at a major mass transit facility. Overall the building is approximately 808,000 SF, one third parking and two thirds residential apartments, with 450 apartment units that will be on the market by mid-year 2016 along with a small portion of retail space at ground level. The first 8 stories of the building are mostly parking garage with two cornering sides being a single layer of apartments. On top this pedestal is partially a green roof garden and the base of a 12 story tower comprised of apartments units and featuring a yoga room and pool on the pent house level. This project is part of a greater development plan that is comprised of 6 buildings to be built within ten years. This complex rests on top of a “mega-garage” for parking at a mass transit station that is a on both bus and train routes.

Development of this project is being done by Comstock Partners, Comstock, who is a developer in the mid-Atlantic that focuses on mixed used, office and residential, transit oriented developments. Comstock is developing the entirety previously described development complex. James G. Davis Construction is the general contract working in relation with Comstock. Davis also built the mega-garage on which the DSL stands. The construction cost for the project is estimated at \$92.3 million overall project cost is approximated at \$130 million.

In this report more accurate estimates of the structural system and MEP trades were developed, a detailed project schedule was created, a detailed site logistics plan was created, and an evaluation of LEED based on the Penn State approach was completed.

Estimates performed in this technical report were comprised of a detailed estimate of the structural system, an assemblies estimate of the MEP trades, and an estimate of the general conditions. The structural estimate, developed with the assistance of Baker DC, summed to approximately \$17.3 million dollars. The assemblies estimates of MEP trades were as follows; electrical at \$11 million, mechanical/plumbing at \$13.4 million, and the fire suppression systems at \$1.4 million. The general conditions estimate came to an appropriate price of \$4.5 million not including fees, insurance, and bonds and \$8.4 million with them.

The schedule and sequence of work resulted in a total construction duration of 28 months with a complete date of April 18th, 2016. The site logistic plans focused on three main phase of the construction process; Superstructure Phase I, Superstructure Phase II, and Interior Fit-Out.

The LEED goal for this project is settled at a comfortable Silver Certification. Using the Penn State approach for the LEED design requirements resulted in a plan that was very similar to the actual LEED checklist, but with a few more priorities than the actual plan. The results of this analysis showed that LEED Gold would be more desirable and achievable certification for this project, but the Silver rating is still a very appropriate rating.

TABLE OF CONTENTS

TECHNICAL REPORT II	1
EXECUTIVE SUMMARY.....	1
TABLE OF CONTENTS	2
ESTIMATES	3
<i>Structural Estimate</i>	3
<i>Assemblies Estimate</i>	3
<i>General Conditions Estimate</i>	4
SCHEDULE AND PHASE PLANNING.....	5
<i>Schedule Overview</i>	5
<i>Superstructure Phase I</i>	6
<i>Superstructure Phase II</i>	7
<i>Interior Fit-Out</i>	8
LEED EVALUTATION.....	10
<i>Sustainable Site</i>	11
<i>Water Efficiency</i>	12
<i>Energy and Atmosphere</i>	12
<i>Materials and Resources</i>	13
<i>Indoor Environmental Quality</i>	13
<i>Innovation and Design Process</i>	14
<i>Regional Priority</i>	14
<i>Conclusions on LEED</i>	15
ACKNOWLEDGEMENTS.....	15
APPENDIX.....	16
<i>A:Structural Detailed Estimate</i>	
<i>B:Assemblies Estimate</i>	
<i>C:General Conditions Estimate</i>	
<i>D:Project Schedule</i>	
<i>E:Superstructure Phase I Plan</i>	
<i>F:Superstructure Phase II Plan</i>	
<i>G:Interior Fit-Out Plan</i>	
<i>H:Project LEED Checklist</i>	
<i>I:Take Off Examples</i>	

Structural Estimate

The structural estimate for this report was calculated using the estimating data from Baker DC which is a local concrete contractor from the area that the project is being built. This estimate also incorporates pricing from actual suppliers and historical data from the area. The results of this estimate can be reviewed in table 1 where a breakdown of major components can be reviewed. The grand total of the structural estimate came out to be approximately \$17.3 million. This price represents the price a subcontractor would submit to a general contractor; includes general conditions, overhead, profit, and other expenses. The actual project cost came out to be \$16.3 million. This shows an accuracy within 6%. If compared to the other bids for the same package on the project it falls in line with the consistency of the other bids which averaged at \$17.5 million. For the complete estimate see Appendix A.

Structural Concrete Overview	
Phase	Cost
Foundations	\$30,040
Walls	\$853,231
Columns	\$700,516
Framed Slab	\$7,486,597
Rebar	\$3,410,194
Post Tension	\$1,911,740
Strip and Reshore	\$677,714
Grand Total:	\$17,300,000

Table 1: Structural Concrete Overview

Assemblies Estimate

In the development of an assemblies estimate RS Means cost data was utilized. The buildings were broken into various assemblies to help estimate MEP trades throughout the project. These assemblies consisted of; individual apartment types (studio, one bedroom, two bedroom, and three bedroom), common spaces (lighting and power in common spaces), parking areas, and other typical details within the systems. The unit costs of these trades can be reviewed in table 2. Though these units make up a large portion of the estimate they are not the only aspect of the assemblies estimate. For the complete estimate see Appendix B. The results of the MEP assemblies estimate can be seen in table 3.

Assemblies by Unit/Space Each				
Unit/Space	Electrical	Plumbing	Mechanical	Total Unit/\$
Studio Apartment	\$18,206	\$9,225	\$7,032	\$34,463
One Bedroom Apartment	\$16,818	\$9,225	\$7,146	\$33,189
Two Bedroom Apartment	\$21,822	\$15,125	\$14,564	\$31,811
Three Bedroom Apartment	\$30,196	\$18,475	\$17,982	\$66,653

R9-Penhtouse Common Area	\$56,394	--	\$9,800	\$66,194
P1-P8 Common Area	\$52,792	--	\$11,750	\$64,542

Table 2: Assemblies Estimate Unit Costs.

Assemblies Estimate Overview			
	Square Foot Estimate	Assemblies Estimate	Actual Project Cost
Electrical	\$9,800,000	\$11,035,000	\$9,800,000
Plumbing/Mechanical	\$21,600,000	\$13,400,000	\$14,300,000
Fire Suppression	\$2,400,000	\$1,366,000	\$1,318,000

Table 3: Overview of the assemblies estimate

The electrical estimate for the project, initially performed as a square foot estimate, was nearly identical to the actual project cost for the electrical trade. However, the assemblies estimate was 12% larger than the actual cost. This seems inconsistent with the normal range of accuracy, but comparing the estimated price with not just the winning bid but also the rest of the bids on the project it is actually within the field of bidders at \$11 million with two other bids at approximately \$11 million.

Surprisingly, the combination estimate of the plumbing and mechanical trades produced an assemblies estimate that was smaller than the actual cost to do the work. This may come from the limited number of assemblies available for creating this estimate. Pricing was based on assumptions on what it would cost to install the components of the systems at their unit prices. If a detail estimate was performed on this portion of the work the estimate would be inherently more accurate.

The fire suppression systems assemblies estimate of wet type sprinkler and dry type standpipes came resulted in a price that was within 4% of the actual cost of \$1,318,000 at \$1,366,000. This price is down from the square foot estimate price. This change in price may be most like a result of an economy of scale with the size of the buildings being much greater than the examples in RS Means cost database.

General Conditions Estimate

Personnel, as always, is the main driver in the general conditions, GC, of a construction project and the same holds true for the general conditions for this project. Personnel makes up 52% of the total GC costs at \$2.33 million. Of the remain portions equipment rental, mainly two tower cranes and a man/material hoist, makes up the other large portion of the pie at 29% or \$1.3 million. Other costs include temporary utilities and generic supplies & miscellaneous items. The total GC cost for the project excluding fees and insurance sums to approximately \$4.5 million which is relatively close to the actual project GCs of \$4.9 million. With fees and insurance the total comes to approximately \$8.42 million for the project as a whole. This data is represented graphically by figure 1 and is tabulated in table 4. For the complete GCs estimate see appendix C.

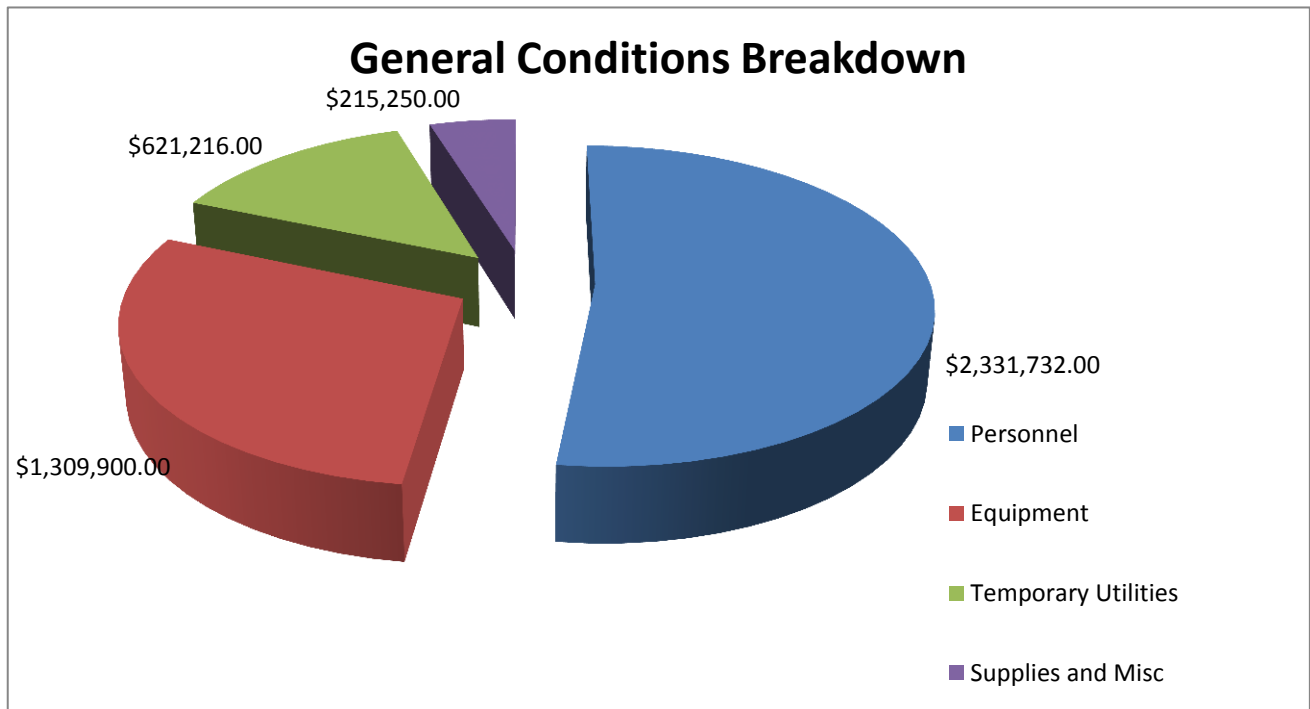


Figure 1: General Conditions Breakdown

General Conditions Estimate Overview	
Personnel	\$2,331,732
Equipment	\$1,309,900
Temporary Utilites	\$621,216
Supplies and Miscellaneous	\$215,250
Total Above:	\$4,478,098
Fees and Insurance	\$3,941,210
Grand Total:	\$8,419,308

Table 4: Overview of the general conditions estimate

Schedule and Phase Planning

Overview

Apart from the construction phases the schedule also considers the design, procurement, finalization of the GMP, and other minor phases. An overview of the schedule can be seen in table 5. For a complete schedule refer to Appendix D. Note that this schedule has considerably more activities than the originally suggested 250-300. However, it should be considered that vast majority of the activities on the schedule are not unique and are repeated from level to level. Following the organizational structure gives a better picture of the overall sequence of the project whereas the activities show the details and the logic behind those overarching phases which were incorporated for later analytical purposes.

Schedule Overview	
Begin Design	December 3 rd , 2012 (Estiamated)
GC Involvement	August 16 th , 2013
GMP Finalization	December 31 st , 2013
Start of Procurement	January 1 st , 2014
Start of Construction	January 15 th , 2014
Structure Complete	January 28 th , 2015
Façade Complete	July 29 th , 2015
100% Turnover	April 18 th , 2016

Table 5: Overview of the project schedule

Superstructure Phase I

Without a substructure phase of construction the first major phase of the project is superstructure starting on March 17th, 2014. The entire superstructure is concrete so the building is built level by level all the way to the penthouse. To accomplish this phase the construction team utilizes two tower cranes; one north of building project (crane one) and one south of the building (crane two). Crane two is primarily responsible for materials from the jobs major and only significant storage location which is within the foot print of the retail center that is to be built as part of the complex. Crane one is responsible for all deliveries to site. This crane must hand-off deliveries to crane two for storage. Crane one will also be responsible for concrete placement. See figure 2 for the plan of this phase. This phase is scheduled to be completed on July 24th, 2014 with a duration of 18 weeks.

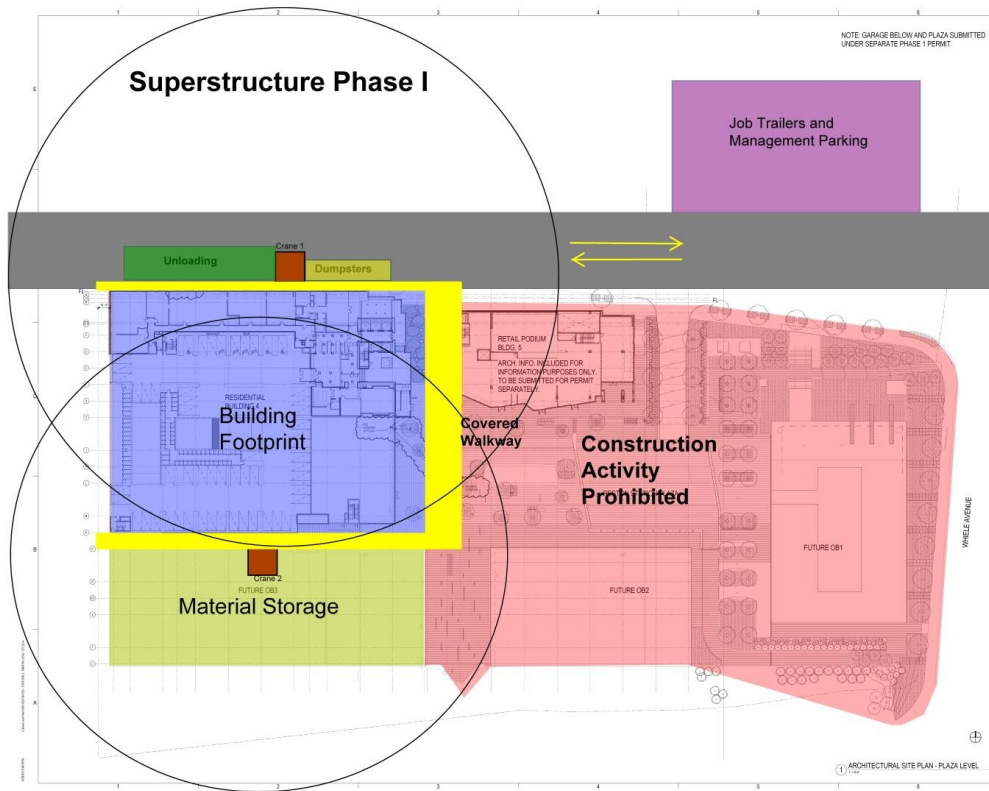


Figure 2: Superstructure Phase I

Superstructure Phase II

When all of the parking levels are complete crane two will be dismantled. This is due to its swing being impeded by the tower that is it rise from the podium that the lower parking levels create. This eliminates crane access to the storage area south of the building. However, since the upper level tower does not occupy the full footprint of the building storage space will be available in the courtyard of the R9 level. See figure 3 for the plan of this portion of work. After crane two is removed the main storage area for construction shifts to the parking garage spaces and access to them is via the material hoist which is added during this phase.

This phase is set to be complete on January 28th, 2015 with a total durations of 26 weeks.

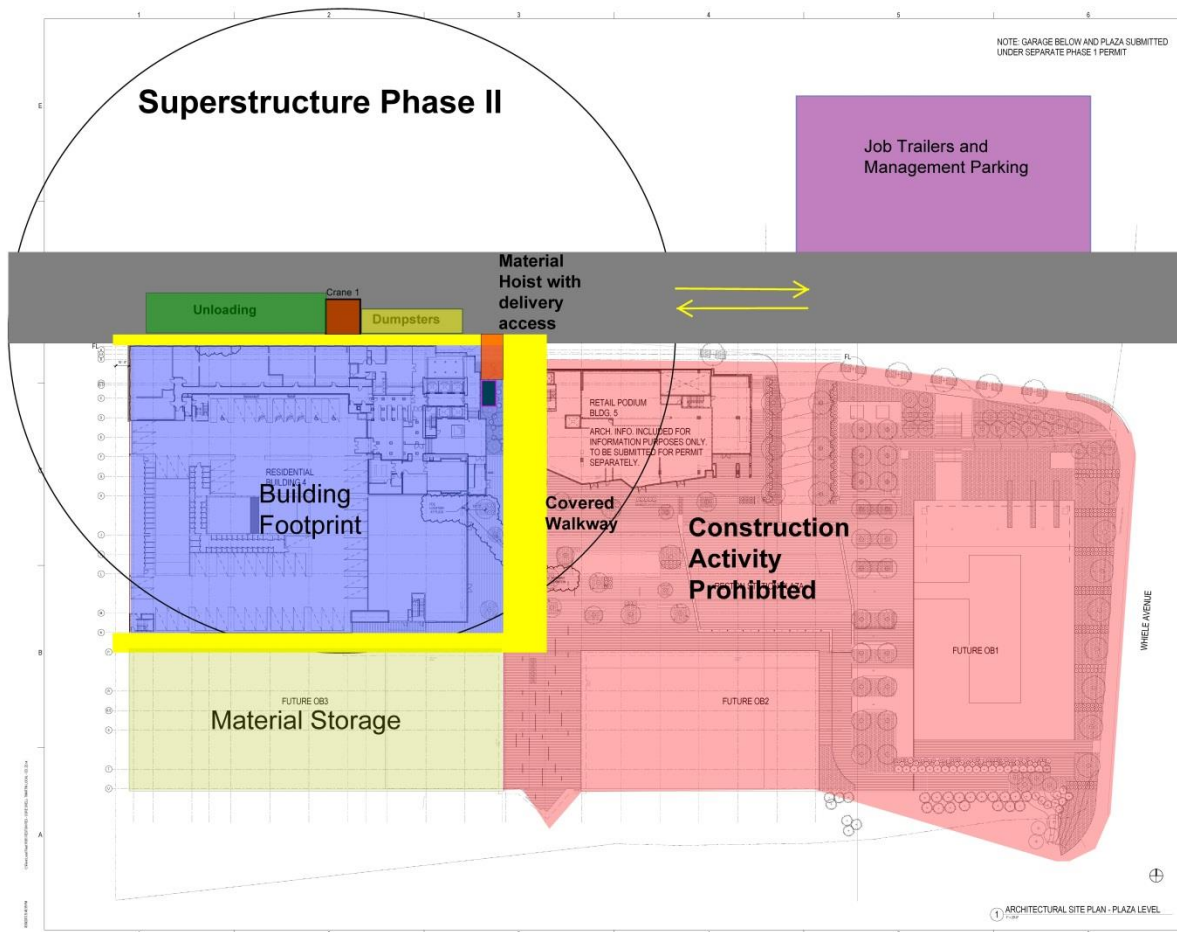


Figure 3: Superstructure Phase II

Façade and Roofing

Since the façade of the building is comprised of many components different systems will be utilized to install the various parts. 95% of the precast panels can be erected using crane one, but with the high demand of the tower crane during the busy parts of the day this portion of the façade will be install on night shift from 6:00 pm to 5:00 am. The rest of the façade will be place with a hanging boom system from the floor above and the rest of the materials for the façade will be moved to their respective floors via the material hoist. This phase is represented by *Superstructure Phase II*.

The façade will be installed in lifts of various amount of levels and will follow a clockwise pattern starting with the lowest levels of the western elevation and spiraling its way to the penthouse. The façade becomes slightly more intricate in the upper residential tower, levels R9-Penthouse, as it will increase from a simple façade over the parking garage levels, which only has a façade to cover residential units on its north and east facings and the rest being left open to the parking area, to a complete façade on all faces with two extra inside corners and two extra outside corners compared to the rectangular box

bellow. After all precast panels are set and its support is no longer needed crane one will be dismantled and removed from the project.

The roof is to be installed as it becomes available and is independent of the façade. With the spiral pattern of lifts the building will become weather tight and ready for the interiors finishes by floor. The major weather tight milestones are:

Weather Tight to Level R9 October 22, 2014

Weather Tight to Level R15 April 15, 2015

Weather Tight to Level Roof July 29th, 2015

100% Weather Tight July 29th, 2015

Interiors

As the buildings goes up interior fit-outs do the same. The phase of Interior Fit-out is comprised of the Parking Level Fit-Out, Framing and MEP, and Finishes. These phases are dependent on the man/material hoist. Material storage will be in the parking areas, P1-P8, and transported as needed to the upper levels by the material hoist. Materials for various trades can be separated on various levels. The interior phase of the project represents the last major phase of construction. See figure 4 for the *Interior Fit-Out Phase Plan*. When the use of the material hoist is no longer essential to the productivity of the project it will be dismantled and those units at the material hoist will be enclosed and finished.

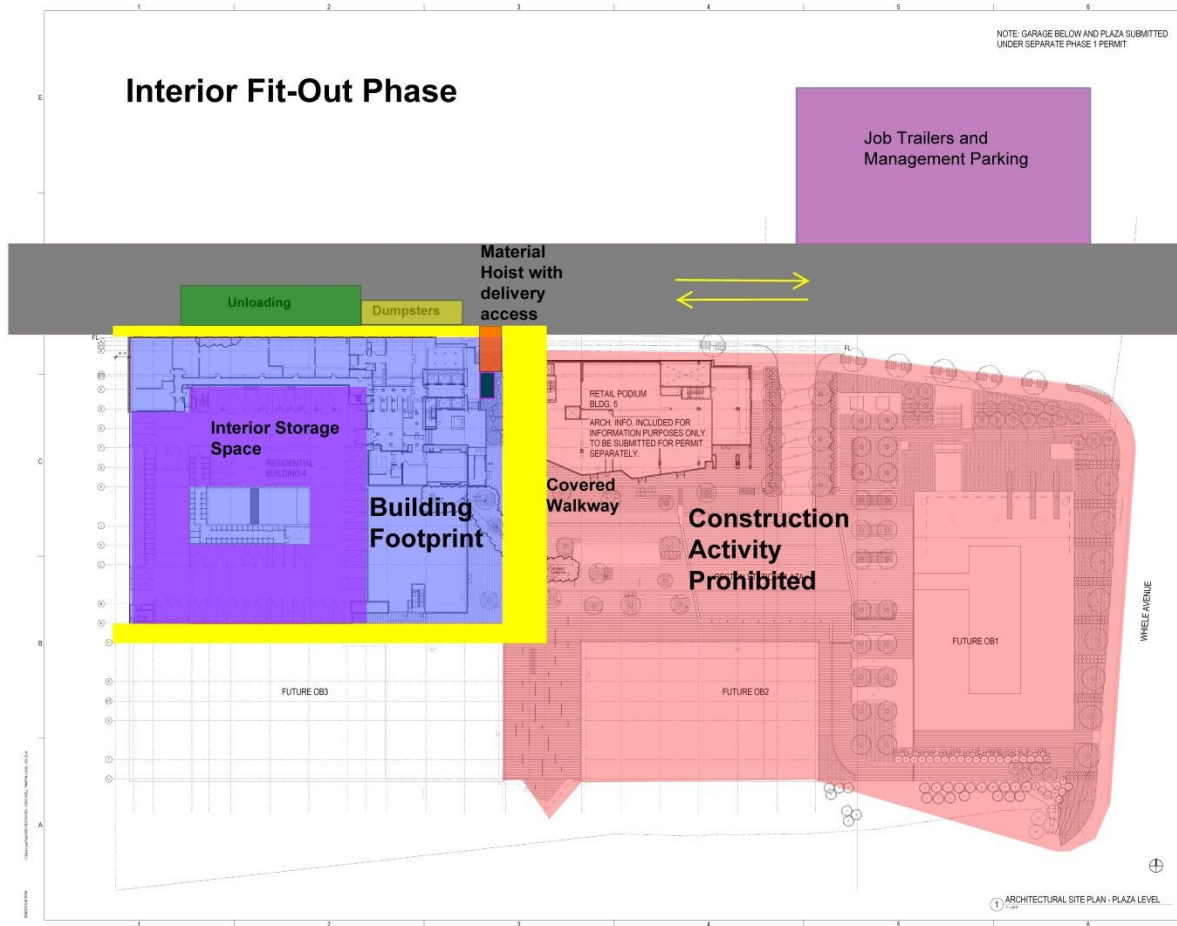


Figure 4: Interior Fit-Out Phase Plan

Individual levels will be ready for turnover as the project progresses towards completion and before construction is complete on the upper floors the lower levels will already be turned over to tenants. Major milestones for levels being ready for the owner inspections are as follows:

Ready for Turnover to P8 September 9th, 2015

Ready for Turnover to R15 December 16th, 2015

Ready for 100% Turnover April 18th, 2016

LEED

The Penn State approach to sustainability addresses the viability of each point with respect to the current initiatives for sustainability that are present in the university and other policies put in place by

the university that may make certain point relatively unachievable or out of the control of the designer. The way Penn State approaches LEED is based on a scale of effort for each point ranging from “Mandatory” to “Not Pursued”. The range of effort is as follows:

Mandatory: Compliance Required

Significant Effort: Proof of serious attempt required if points achieved

Minimal Effort: Investigation necessary but achievement non-critical

Not Pursued: Don’t bother unless it’s free

Using this method of classifying the importance of each point for the overall sustainability of the project creates a plan for designing with sustainability in mind. It must be noted that a point may be classified as minimal, but may easily be achieved. This method was implemented with the Dull Silver Lion project and is compared to the actual LEED checklist within the project documents. Each point section is reviewed. Note that the classification was determined before reviewing or considering the credits that are expected to be earned.

Sustainable Site

The Sustainable Site portion of this project is a portion that is somewhat constricted for this project. The site was predetermined and built on top of an already existing building which might not lend itself to many credits, but with some of driving factories behind the complex as a whole many of the points are achievable. A key aspect of this project, and of the complex that is a part of, is that it is mass transit orient by being located at a major transit station with access to both bus and train routes. This lead some of the credits based on alternative transportation to be prioritized and very achievable. Since parking is such a large portion of this project credit 4.4 was also important to pursue and is expected to be achieved. A credit that had was listed as significant importance where the categories that pertained to heat island effect. However, only half of these credits are expected to be achieved in the design; the roofing being missing factor. Despite the green roof on the courtyard level and penthouse the luxury roof top features such of the pool and yoga room don’t necessarily reduce the heat island effects from the roof. See **table ###** for the LEED plan for this category of credits.

Sustainable Site				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.0	Site Selection	Minimal	Site Predetermined	1/1
2.0	Development and Community connectivity	Mandatory	First Building of Community/Complex Based Project	5/5
3.0	Brownfield Redevelopment	Not Pursued	Impossible with Site	0/1
4.1	Alt. Transportation: Public Transportation Access	Mandatory	Project built at bus terminal and train station	6/6
4.2	Alt. Transportation: Bicycle Storage and Changing Rooms	Mandatory	Bikes in the basement and change in your apartment.	1/1
4.3	Alt. Transportation: Low	Minimal	Preferred Parking for such	3/3

	Emitting and Fuel Efficient Vehicles		vehicles	
4.4	Alt. Transportation: Parking Capacity	Significant	Minimum capacity and preferred sites	1/1
5.1	Site Development: Protect or Restore Habitat	Minimal	Not disturbing habitat	1/1
5.2	Site Development: Maximize Open Space	Minimal	Congested	1/1
6.1	Storm Water Design: Quantity Control	Minimal	Hard to achieve with impervious site	0/1
6.2	Storm Water Design: Quantity Control (Reduce Pollution)	Minimal	Hard to achieve with impervious site	0/1
7.1	Heat Island Effect: Non-Roof	Significant	Complex and energy benefits	1/1
7.2	Heat Island Effect: Roof	Significant	Complex and energy benefits	0/1
8.0	Light Pollution	Minimal	Reduced light pollution adds to tenant satisfaction	0/1

Table 6: Sustainable Site Checklist

Water Efficiency

Plants that are efficient with water were considered a priority for this project as nearly no plant will be connected to the earth; all are either in planters or part of a green roof. Surprisingly the water reduction credits are all expected to be earned despite what was perceived to be minimal priority. Innovation was not perceived as a priority for this project and the wastewater technologies shows that and is considered mainly to be a cost effect. See table 7 for the LEED plan for this category of credits.

Water Efficiency				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.0	Water Efficient Landscaping: Reduce by 50%	Significant	Roof gardens and planters	2/2
2.0	Innovative Wastewater Technologies	Not Pursued	Cost	0/2
3.0	Water Use Reduction: 30-40% Reduction	Minimal	Tenant use unpredictable	4/4

Table 7: Water Efficiency Checklist

Energy and Atmosphere

This category of credits may have the most long lasting effects in both sustainability and cost; however it can be considered some of the most costly to achieve and hardest to implement, hence the lack of emphasis in its classifications. This section did receive some points. Commissioning may have been the most valuable credits within this section as it directly related to tenant comfort and control and the performance of the buildings systems. See table 8 for the LEED plan for this category of credits.

Energy and Atmosphere				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.1-1.21	Optimize Energy Performance	Minimal	Cost/Return	4/19
2.1-2.7	On-Site Renewable Energy	Not Pursued	Minimal opportunity	0/7
3.0	Enhanced Commissioning	Significant	Proper functioning of systems	2/2
4.0	Enhance Refrigerant Management	Minimal	Non priority	2/2

5.1	Measurement and Verification-Base Building	Not Pursued	Non priority	0/3
6.0	Green Power	Minimal	Cost Allowing	0/2

Table 8: Energy and Atmosphere Checklist

Materials and Resources

If there is anywhere that the contractor gets to contribute to the sustainability effort it is in the Materials and Resources section where it gets the privilege of recycling and tracking the submittal on material contents and logging the data. These credits were considered mandatory whereas credits that pertain more to reusing materials and rapidly renewable sources were not considered priorities with this project being completely new construction and not of the type that may lend itself to wood construction or other renewable products. See table 9 for the LEED plan for this category of credits.

Materials and Resources				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.1	Building Reuse	Not Pursued	New Construction	0/3
1.2	Maintain Interior	Not Pursued	New Construction	0/1
2.1	Construction Waste Management: Diver 50-75% from Disposal	Mandatory		2/2
3.0	Materials Reuse: 5-10%	Not Pursued	Project Scale and Cost	0/2
4.0	Recycled Content: 10-20%	Mandatory	Easily Obtained	2/2
5.1	Regional Materials: 10-20%	Mandatory	Easily Obtained	2/2
6.0	Rapidly Renewable Materials	Minimal	Construction Type Construction	0/1
7.0	Certified Wood	Not Pursued	Limited wood products	0/1

Table 9: Materials and Resources

Indoor Environmental Quality

Healthy living environments lead to healthy lives and the indoors plays a big part in this. Being luxury apartments it would be expected to have a healthy living space and that is why this section may have the most “Significant” classifications. Many of these credits are met but it is surprising that the daylighting credits are not expected to be earned despite all units having multiple windows. See table 10 for the LEED plan for this category of credits.

Indoor Environmental Quality				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.0	Outdoor Air Delivery Method	Minimal	Cost	1/1
2.0	Increase Ventilation	Not Pursued		0/1
3.1	Construction IAQ Management Plan: During Construction	Significant	Indoor Air Quality for Tenants	1/1
3.2	Construction IAG Management Plan: Before Occupancy	Significant	Indoor Air Quality for Tenants	0/1
4.1	Low-Emitting Materials: Adhesives and Sealants	Significant	Indoor Air Quality for Tenants	1/0
4.2	Low-Emitting Materials: Paints and Coatings	Significant	Indoor Air Quality for Tenants	1/0
4.3	Low-Emitting Materials: Carpet	Significant	Indoor Air Quality for Tenants	1/0

	Systems			
4.4	Low-Emitting Materials: Composite Wood & Agrifiber Products	Minimal	Cost	0/1
4.5	Low-Emitting Materials: Furniture and Furnishings	Significant	Limit Furniture Quantity	Not Included in Project Version
4.6	Low-Emitting Materials: Ceiling and Wall System	Significant	Indoor Air Quality for Tenants	Not Included in Project Version
5.0	Indoor Chemical and Pollutant Source Control	Minimal		1/1
6.1	Controllability of Systems: Lighting	Minimal	Tenants Controlled	1/1
6.2	Controllability of Systems: Thermal Comfort	Minimal	Tenant Controlled	1/1
7.1	Thermal Comfort: Design	Minimal	Cost/Time	1/1
7.2	Thermal Comfort: Verification	Minimal	Cost/Time	0/1
8.1	Daylight and Views: Daylight	Significant	Windows in all units	0/1
8.2	Daylight and Views: Views	Significant	Windows in all units	0/1
9.0	Enhanced Acoustical Performance	Significant	Tenant privacy priority	Not Included in Project Version
10.0	Mold Prevention	Minimal	Cost	Not Included in Project Version

Table 10: Indoor Environmental Quality

Innovation and Design Process

Innovations and Design Process and Regional Priority or mainly comprised of double county credits from other sections and not discussed. See table 11 and table 12 for the LEED plan for these category of credits.

Innovation and Design Process				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.1	SS 7.1 Heat Island Non-Roof	Significant	Complex and energy benefits	1/1
1.2	SS 5.1 Site Development	Minimal	Not disturbing habitat	0/1
1.3	WE 3 45% Reduction	Minimal	Not disturbing habitat	0/1
1.4	Green Housekeeping	Significant	Tenant Comfort	1/1
1.5	Education	Significant	Always good	1/1
2	LEED Accredited Professional	Mandatory	Needed regardless	1/1

Table 11: Innovation and Design Process Checklist

Regional Priority

Regional Priority				
Credit No.	Credit Name	Classification	Explanation	Actual Expect
1.1	MR 2 Recycle/Salvage 50%	Significant	Non Priority	1/1
1.2	WE 3 40% Reduction	Minimal	Tenant use unpredictable	0/1
1.3	SS 6.1 Stormwater Design	Minimal	Hard to achieve with impervious site	0/1
1.4	Unexpected			0/1

Table 12 Regional Priority Checklist

Conclusions on LEED

This way of planning for LEED is a good practice for evaluating what needs to be a priority for the project teams. The plan developed for the Dull Silver Lion does not differ greatly from the actual LEED checklist and the points that are expected to be earned by the end of the project. This Checklist can be seen in appendix H. From conversation with the project team the emphasis of sustainability has taken the roll as standard procedure and the current goal of a LEED Silver rating is good standard to be at, but Gold would be better. Currently the project is expected to achieve 55 credits which would comfortably earn a Silver certification (50-59 credits). 5 more credits may be harder earn than one may perceive with the emphasis the owner puts on time, none-the-less it could be achieve. Overall, a Silver certification is an appropriate level for this project.

Acknowledgements

This report would not have been possible without the help of several key individuals from multiple organizations; Matthew Dabrowski from Davis Construction, Daniel Zartman from Davis Construction, John Nelson from Baker DC, Andrew Gilbert from Baker DC, Dana Southern from Harris Rebar. Cost data for estimate was based either on real cost data provided from contractors or the RS Means database. LEED information can be accredited to the Penn State Approach document. Take offs were accomplished using an on screen take of software and example data can be seen in Appendix I.

Appendix A: Structural Detailed Estimate

PROJECT: Dull Silver Lion			DATE - Fall 2014																																																										
SUBCONTRACTED WORK		\$1,569,036	<table border="1"> <thead> <tr> <th colspan="2">TOTAL CY</th> <th>34,481</th> </tr> </thead> <tbody> <tr> <td>TOTAL MAN HOURS</td> <td></td> <td>218,587</td> </tr> <tr> <td>ESTIMATED LABOR COST</td> <td></td> <td>\$4,568,746.81</td> </tr> <tr> <td>AVG. LABOR COST/MAN HR</td> <td></td> <td>\$20.90</td> </tr> <tr> <td>AVG. MNHR/ CY</td> <td></td> <td>6.34</td> </tr> <tr> <td>TOTAL PRICE/CY</td> <td></td> <td>\$500.97</td> </tr> <tr> <td>PERCENT OF PROFIT</td> <td></td> <td>3.00%</td> </tr> <tr> <td>SALES TAX</td> <td></td> <td>5.00%</td> </tr> <tr> <td>MISC.MATERIAL %</td> <td></td> <td>0.50%</td> </tr> <tr> <td>TOTAL SF SLAB ON GRADE</td> <td></td> <td>-</td> </tr> <tr> <td>TOTAL SF POURSTRIP</td> <td></td> <td>-</td> </tr> <tr> <td>TOTAL SF TILT UP PANEL</td> <td></td> <td>-</td> </tr> <tr> <td>MAT FOUNDATIONS</td> <td></td> <td>-</td> </tr> <tr> <td>TOTAL SF SLAB ON METAL DECK</td> <td></td> <td>-</td> </tr> <tr> <td>TOTAL SF FRAME SLAB</td> <td></td> <td>834,738</td> </tr> <tr> <td>UNIT \$/SF SLAB ON GRADE</td> <td></td> <td>\$0.00</td> </tr> <tr> <td>UNIT \$/ SF SLAB ON DECK</td> <td></td> <td>\$0.00</td> </tr> <tr> <td>UNIT \$/SF FRAME SLAB</td> <td></td> <td>\$20.69</td> </tr> <tr> <td>FRAME SLAB SF/WK</td> <td></td> <td>11,130</td> </tr> </tbody> </table>		TOTAL CY		34,481	TOTAL MAN HOURS		218,587	ESTIMATED LABOR COST		\$4,568,746.81	AVG. LABOR COST/MAN HR		\$20.90	AVG. MNHR/ CY		6.34	TOTAL PRICE/CY		\$500.97	PERCENT OF PROFIT		3.00%	SALES TAX		5.00%	MISC.MATERIAL %		0.50%	TOTAL SF SLAB ON GRADE		-	TOTAL SF POURSTRIP		-	TOTAL SF TILT UP PANEL		-	MAT FOUNDATIONS		-	TOTAL SF SLAB ON METAL DECK		-	TOTAL SF FRAME SLAB		834,738	UNIT \$/SF SLAB ON GRADE		\$0.00	UNIT \$/ SF SLAB ON DECK		\$0.00	UNIT \$/SF FRAME SLAB		\$20.69	FRAME SLAB SF/WK		11,130
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TOTAL MAN HOURS		218,587																																																											
ESTIMATED LABOR COST		\$4,568,746.81																																																											
AVG. LABOR COST/MAN HR		\$20.90																																																											
AVG. MNHR/ CY		6.34																																																											
TOTAL PRICE/CY		\$500.97																																																											
PERCENT OF PROFIT		3.00%																																																											
SALES TAX		5.00%																																																											
MISC.MATERIAL %		0.50%																																																											
TOTAL SF SLAB ON GRADE		-																																																											
TOTAL SF POURSTRIP		-																																																											
TOTAL SF TILT UP PANEL		-																																																											
MAT FOUNDATIONS		-																																																											
TOTAL SF SLAB ON METAL DECK		-																																																											
TOTAL SF FRAME SLAB		834,738																																																											
UNIT \$/SF SLAB ON GRADE		\$0.00																																																											
UNIT \$/ SF SLAB ON DECK		\$0.00																																																											
UNIT \$/SF FRAME SLAB		\$20.69																																																											
FRAME SLAB SF/WK		11,130																																																											
DIRECT MATERIALS		\$8,692,913																																																											
MISC.MATERIALS INCL.ABOVE		\$43,747																																																											
LABOR WITH FRINGE		\$4,568,747																																																											
EQUIPMENT RENTAL		\$56,522																																																											
P&F AND REBAR LABOR		\$644,659																																																											
TOTAL COSTS		\$15,575,624																																																											
	75.0 weeks																																																												
GENERAL CONDITIONS	7.67%	\$1,195,058																																																											
TOTAL COST & GEN. COND.		\$16,770,682																																																											
PROFIT		\$503,120																																																											
SUBTOTAL		\$17,273,802																																																											
CONTINGENCY		\$0																																																											
ADD FOR MBE PARTICIPATION		\$0																																																											
LESS ADD ALTERNATES		\$0																																																											
SUBTOTAL		\$17,273,802																																																											
BOND	\$ 137,417 0.80%																																																												
TOTAL		\$17,273,802																																																											
PROPOSAL % OVER COST		9.8%	FORMWORK CONTACT SF	1,087,023																																																									

GC: LATEST PRICING Fall 2014			
CONC:			
ESTIMATOR:	Alex Zartman	CONSTRUCTION TYPE	Drop Panel Parking Garage and PT Residential
DRAWING DATE:			

PHASE DESCRIPTIONS	UNIT	CY	MAN HR PER CY	UNIT PRICE	WEEKS PER PHASE	PRICE
A FOUNDATIONS	153	153	1.9	\$197.33	1.4	\$30,148
C SLAB ON GRADE	-	-	-	\$0.00	-	-
E WALLS	90,575	1,597	12.4	\$9.45	51.0	\$856,296
J MOBILE CRANE	2	-	71.0	\$9,012.96	1.8	\$15,998
K COLUMNS & PEDESTALS	86,992	2,136	5.6	\$8.08	37.7	\$703,032
L FRAMED SLAB	834,738	27,902	3.0	\$9.00	97.3	\$7,513,492
M TOWER CRANE	18	-	-	\$0.00	-	\$0
P FRAMED STAIRS	4,800	2,631	2.2	\$169.49	36.9	\$813,556
R CURB	1,287	58	13.7	\$23.05	4.0	\$29,666
T MEP PADS	5	5	6.4	\$408.83	0.2	\$2,044
U REBAR	2,115	-	-	\$1,618.09	101.5	\$3,422,444
W PT CABLE	539,400	-	-	\$3.56	103.6	\$1,918,608
X STRIP & RESHORE	834,738	-	29,461.3	\$0.81	49.1	\$680,149
Y PATCH & GRIND	834,738	-	10,335.2	\$0.37	64.6	\$309,787
Z SAFETY	834,738	-	9,450.0	\$0.42	13.1	\$347,306
AA COMPOSITE CLEAN-UP	834,738	-	15,000.0	\$0.45	75.0	\$375,507
BB OVERTIME	75	-	4,285.7	\$1,330.83	-	\$99,813
DD QUALITY CONTROL	1,832	-	1,379.2	\$45.86	145.3	\$84,012
HH TRAFFIC CONTROL	834,738	-	-	\$0.09	45.0	\$71,945
		34,481				\$17,273,802

PHASE: GENERAL CONDITIONS

7.67%

PROJECT: Dull Silver Lion

Job Duration = 75.0 Weeks 17.3 Months 12290.33333 LABOR COST PER WEEK

Phase Code	DESCRIPTION	QTY.	UNIT	UNIT PRICE	MATERIAL	LABOR	EQUIPMENT	SUB	TOTAL	P_C	WBS_4
GENERAL CONDITIONS LABOR											
091-01	CONSOLIDATED GC LABOR	75.0	week	\$12,290		\$921,775			\$921,775	901	
009-08	Shop Delivery Labor	48.8	week	\$650		\$31,688			\$31,688	908	
009-09	Shop Delivery Truck	48.8	week	\$125			\$6,094		\$6,094	909	
EQUIPMENT									SUBTOTAL	\$959,556	
009-11	Engineering Instruments		week	\$125			\$0		\$0	911	
009-11	Equipment Moves	5.0	each	\$250			\$1,250		\$1,250	911	
009-11	Generators	17.3	mnth	\$200			\$3,464		\$3,464	911	
009-11	Air Compressor	8.7	mnth	\$200			\$1,732		\$1,732	911	
009-11	Temporary Lights (2 towers)	15.0	week	\$200			\$3,000		\$3,000	911	
009-11	Vibrators	17.3	mnth	\$125			\$2,165		\$2,165	911	
MISC. MATERIAL / SERVICES									SUBTOTAL	\$11,611	
009-12	Lunch		Isum	\$200	\$0				\$0	912	
009-12	Blueprints	1.0	Isum	\$5,000	\$5,000				\$5,000	912	
009-12	Curing Box		Isum	\$300	\$0				\$0	912	
009-12	Dewatering/Pumps		week	\$500	\$0				\$0	912	
009-12	Drinking Water/Misc.	17.3	mnth	\$75	\$1,299				\$1,299	912	
009-12	Dumpsters in VA	-	pull	\$525	\$0				\$0	912	
009-12	Engineer Stamp	1.0	Isum	\$1,000				\$1,000	\$1,000	912	
009-12	Gross Receipts Tax	1.0	Isum	\$19,500	\$19,500				\$19,500	912	
009-12	Insurances		Isum	\$500	\$0				\$0	912	
009-12	Layout Supplies	1.0	Isum	\$300	\$300				\$300	912	
009-12	Miscellaneous	1.0	Isum	\$500	\$500				\$500	912	
009-12	Office Trailer & C CHEST	17.3	mnth	\$400	\$6,928				\$6,928	912	
009-12	Office Trailer set-up/Move in	1.0	Isum	\$600	\$600				\$600	912	
009-12	Oxy/Acetylene	75.0	week	\$40	\$3,000				\$3,000	912	
009-12	Photographs		Isum	\$20	\$0				\$0	912	
009-12	Small Tools	75.0	week	\$75	\$5,625				\$5,625	912	
009-12	Trailer Office Supplies	17.3	mnth	\$30	\$520				\$520	912	
009-12	Quality Control Materials	1.0	Isum	\$100	\$100				\$100	912	
VEHICLE EXPENSE									SUBTOTAL	\$44,372	
009-20	Crew Truck #1	75.0	week	\$125			\$9,375		\$9,375	920	
009-20	Crew Truck #2	75.0	week	\$125			\$9,375		\$9,375	920	
009-20	Crew Truck #3	75.0	week	\$125			\$9,375		\$9,375	920	
009-20	Crew Truck #4	-	week	\$125			\$0		\$0	920	
009-20	Crew Truck #5	-	week	\$125			\$0		\$0	920	
009-20	Crew Truck #6	-	week	\$125			\$0		\$0	920	
009-20	Engineer #1Truck	77.0	week	\$125			\$9,625		\$9,625	920	
009-20	Engineer #2Truck		week	\$125			\$0		\$0	920	
009-20	Management Car	22.5	week	\$125			\$2,813		\$2,813	920	
009-20	Parking Fees	1.0	Isum	\$75,000	\$75,000				\$75,000	920	
009-20	Project Manager Car	51.8	week	\$125			\$6,469		\$6,469	920	
009-20	Superintendent Truck	79.0	week	\$125			\$9,875		\$9,875	920	
009-20	Assistant Superintendent Truck	79.0	week	\$125			\$9,875		\$9,875	920	
009-20	Labor Resources Truck	-	week	\$125			\$0		\$0	920	
009-20	Quality Control Truck	52.5	week	\$125			\$6,563		\$6,563	920	
009-20	Toll Road	17.3	mnth	\$500				\$8,661	\$8,661	920	5
TELEPHONE / NEXTEL									SUBTOTAL	\$157,004	
009-21	Site Telephone	-	mnth	\$150			\$0		\$0	921	
009-21	BROADBAND	17.3	MNTH	\$100			\$1,732		\$1,732	921	
009-27	Engineers #1 Nextel	77.0	week	\$15			\$1,155		\$1,155	927	
009-27	Engineers #2 Nextel	77.0	week	\$15			\$1,155		\$1,155	927	
009-27	Foreman's Nextel	75.0	week	\$15			\$1,125		\$1,125	927	
009-27	Management Nextel	22.5	week	\$15			\$338		\$338	927	
009-27	Other Nextel (2)	75.0	week	\$30			\$2,250		\$2,250	927	
009-27	Project Manager Nextel	51.8	week	\$15			\$776		\$776	927	
009-27	Superintendent Nextel	79.0	week	\$15			\$1,185		\$1,185	927	
009-27	Assistant Superintendent Nextel	79.0	week	\$15			\$1,185		\$1,185	927	
009-27	Labor Resource Manager Nextel	-	week	\$15			\$0		\$0	927	
009-27	Quality Control Nextel	52.5	week	\$15			\$788		\$788	927	
TOOL & EQUIPMENT REPAIR EXPENSE									SUBTOTAL	\$11,688	
009-28	Equip. Repair	17.3	mnth	\$375			\$6,495		\$6,495	928	
009-29	Tool Repair	17.3	mnth	\$250			\$4,330		\$4,330	929	
					\$118,372	\$953,463	\$113,563	\$9,661	\$1,195,058		

PHASE COST AND PRODUCTION REPORT

K			K	
SUBCONTRACT COSTS		\$0	TOTAL CY	2,135.51
DIRECT MATERIAL COSTS		\$376,474	TOTAL SF	86,992
MISC. MATERIAL COSTS		\$1,882	TOTAL LF	-
LABOR WITH FRINGE		\$255,561	TOTAL EA	1,316
EQUIP. RENTAL		\$0	PHASE UNITS, EA	1,316
P&F LABOR		\$0	TOTAL DAYS	188.33
TOTAL COSTS		\$633,917	TOTAL MAN HOURS	12,053
GENERAL CONDITIONS		\$48,638	MAN HOURS PER CY	5.64
TOTAL COST + GEN. COND.		\$682,555	SF PER MAN HOUR	7.22
PROFIT		\$20,477	ESTIMATED LABOR COST	\$255,561
PHASE PRICE		\$703,032	LABOR COST PER CY	\$119.67
			LABOR COST PER SF	\$2.94
			LABOR COST / MAN HR	\$21.20
PERCENT OF PROFIT		3.00%	UNIT PRICE PER CY	\$296.85
SALES TAX	5.00%	5.00%	UNIT PRICE PER SF	\$7.29
MISC. MATERIAL %		0.50%	UNIT PRICE PER LF	\$0.00
			UNIT PRICE PER EA	\$481.70

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 4000 psi		348.5	\$99.50	cuyd	\$36,413	040-13	2
Concrete 6000 psi		613.6	\$119.50	cuyd	\$76,987	040-13	2
Concrete 8000 psi		881.0	\$134.50	cuyd	\$124,420	040-13	2
Concrete 10000 psi		292.4	\$204.50	cuyd	\$62,789	040-13	2
FORMWORK							
3/4" Chamfer		44,844.7	\$0.20	lnft	\$9,415	040-14	2
Column Formwork		86,992.1	\$0.70	sqft	\$63,711	040-14	2
Column Forms - Steel Type	(manual entry)	-	\$875.00	each	\$0	040-16	2
MISC. MATERIALS							
Form Oil		86,992.1	\$0.03	sqft	\$2,740	040-12	2
Diesel Fuel	Scissor Lift - 25 ft.	-	\$3.00	gal	\$0	040-18	2
Diesel Fuel	Pwr Buggie	day	\$3.00	gal	\$0	020-18	2
Pump Grout	(manual entry)	-	\$85.00	CY	\$0	040-13	2

SQUARE COLUMNS

Dull Silver Lion

CONCRETE TOTAL = 1,757.3

QUANTITY 1,116

FORMWORK 84,764.7

TOTAL EMBEDS -

ENTER "1" IN CHAMFER COLUMN TO GET CHAMFER ON COLUMN AND ALSO ADDS PATCH & RUB SINCE COLUMNS ARE EXPOSED

SQUARE COLUMNS

COLUMN MARK	PSI	QUANTITY	(in)	(in)	(ft)	(ft)	(in)	(in)	(ft)	4 SIDES	CY - CONCRETE TOTAL	
			COLUMN WIDTH #1	COLUMN WIDTH #2	BOTTOM OF COLUMN	TOP OF SLAB ABOVE	SLAB THICKNESS ABOVE	BEAM OR DROP THICKNESS	COLUMN HEIGHT - EACH	SF - FORMWORK TOTAL		
16x16 4k	4	5	16.00	16.00	0.00	9.67	9.0	4.0	8.59	228.98	2.83	
16x24 6k	6	8	16.00	24.00	0.00	9.67	9.0	4.0	8.59	457.96	6.78	
16x24 8k	8	6	16.00	24.00	0.00	9.67	9.0	4.0	8.59	343.47	5.09	
18x24 10k	10	1	18.00	24.00	0.00	9.67	9.0	4.0	8.59	60.11	0.95	
18x24 4k	4	12	18.00	24.00	0.00	9.67	9.0	4.0	8.59	721.28	11.45	
18x24 6k	6	6	18.00	24.00	0.00	9.67	9.0	4.0	8.59	360.64	5.72	
18x24 8k	8	5	18.00	24.00	0.00	9.67	9.0	4.0	8.59	300.53	4.77	
18x26 4k	4	19	18.00	26.00	0.00	9.67	9.0	4.0	8.59	1196.41	19.64	
18x32 10k	10	1	18.00	32.00	0.00	9.67	9.0	4.0	8.59	71.56	1.27	
18x32 4k	4	119	18.00	32.00	0.00	9.67	9.0	4.0	8.59	8515.11	151.38	
18x32 6k	6	104	18.00	32.00	0.00	9.67	9.0	4.0	8.59	7441.78	132.30	
18x32 8k	8	46	18.00	32.00	0.00	9.67	9.0	4.0	8.59	3291.56	58.52	
18x36 10k	10	2	18.00	36.00	0.00	9.67	9.0	4.0	8.59	154.56	2.86	
18x36 4k	4	23	18.00	36.00	0.00	9.67	9.0	4.0	8.59	1777.44	32.92	
18x36 6k	6	50	18.00	36.00	0.00	9.67	9.0	4.0	8.59	3864.00	71.56	
18x36 8k	8	60	18.00	36.00	0.00	9.67	9.0	4.0	8.59	4636.80	85.87	
20x24 10k	10	2	20.00	24.00	0.00	9.67	9.0	4.0	8.59	125.94	2.12	
20x24 4k	4	5	20.00	24.00	0.00	9.67	9.0	4.0	8.59	314.84	5.30	
20x24 6k	6	3	20.00	24.00	0.00	9.67	9.0	4.0	8.59	188.91	3.18	
22x24 4k	4	5	22.00	24.00	0.00	9.67	9.0	4.0	8.59	329.16	5.83	
22x24 6k	6	3	22.00	24.00	0.00	9.67	9.0	4.0	8.59	197.49	3.50	
24x24 10k	10	6	24.00	24.00	0.00	9.67	9.0	4.0	8.59	412.16	7.63	
24x24 4k	4	76	24.00	24.00	0.00	9.67	9.0	4.0	8.59	5220.69	96.68	
24x24 6k	6	91	24.00	24.00	0.00	9.67	9.0	4.0	8.59	6251.09	115.76	
24x24 8k	8	46	24.00	24.00	0.00	9.67	9.0	4.0	8.59	3159.89	58.52	
24x30 10k	10	1	24.00	30.00	0.00	9.67	9.0	4.0	8.59	77.28	1.59	
24x30 6k	6	8	24.00	30.00	0.00	9.67	9.0	4.0	8.59	618.24	12.72	
24x30 8k	8	14	24.00	30.00	0.00	9.67	9.0	4.0	8.59	1081.92	22.26	
24x32 10k	10	21	24.00	32.00	0.00	9.67	9.0	4.0	8.59	1682.99	35.62	
24x32 6k	6	71	24.00	32.00	0.00	9.67	9.0	4.0	8.59	5690.10	120.43	
24x32 8k	8	74	24.00	32.00	0.00	9.67	9.0	4.0	8.59	5930.52	125.51	
24x36 10k	10	5	24.00	36.00	0.00	9.67	9.0	4.0	8.59	429.33	9.54	
24x36 6k	6	12	24.00	36.00	0.00	9.67	9.0	4.0	8.59	1030.40	22.90	
24x36 8k	8	31	24.00	36.00	0.00	9.67	9.0	4.0	8.59	2661.87	59.15	
24x38 10k	10	5	24.00	38.00	0.00	9.67	9.0	4.0	8.59	443.64	10.07	
24x40 10k	10	5	24.00	40.00	0.00	9.67	9.0	4.0	8.59	457.96	10.60	
24x40 8k	8	9	24.00	40.00	0.00	9.67	9.0	4.0	8.59	824.32	19.08	
24x42 10k	10	5	24.00	42.00	0.00	9.67	9.0	4.0	8.59	472.27	11.13	
24x42 6k	6	4	24.00	42.00	0.00	9.67	9.0	4.0	8.59	377.81	8.90	
24x42 8k	8	16	24.00	42.00	0.00	9.67	9.0	4.0	8.59	1511.25	35.62	
24x48 10k	10	10	24.00	48.00	0.00	9.67	9.0	4.0	8.59	1030.40	25.44	
24x48 8k	8	54	24.00	48.00	0.00	9.67	9.0	4.0	8.59	5564.16	137.39	
26x26 6k	6	5	26.00	26.00	0.00	9.67	9.0	4.0	8.59	372.09	7.46	
30x30 10k	10	7	30.00	30.00	0.00	9.67	9.0	4.0	8.59	601.07	13.91	
30x30 8k	8	6	30.00	30.00	0.00	9.67	9.0	4.0	8.59	515.20	11.93	
30x42 8k	8	4	30.00	42.00	0.00	9.67	9.0	4.0	8.59	412.16	11.13	
32x32 10k	10	1	32.00	32.00	0.00	9.67	9.0	4.0	8.59	91.59	2.26	
32x32 8k	8	6	32.00	32.00	0.00	9.67	9.0	4.0	8.59	549.55	13.57	
36x24 10K	10	7	36.00	24.00	0.00	9.67	9.0	4.0	8.59	601.07	13.36	
40x60 10k	10	2	40.00	60.00	0.00	9.67	9.0	4.0	8.59	286.22	10.60	
16x26 Hanging	6	14	16.00	26.00	0.00	9.67	9.0	4.0	8.59	841.49	12.86	
16x34 Hanging	6	9	16.00	34.00	0.00	9.67	9.0	4.0	8.59	644.00	10.81	
20X20 Hanging	6	6	20.00	20.00	0.00	9.67	9.0	4.0	8.59	343.47	5.30	
		1116	22.60	31.40					AVE. HEIGHT =	8.59	84764.71	1673.58
		QTY. AVE. WIDTH		AVE. WIDTH						TOTAL HEIGHT =	455.09	% WASTE = 5%
										TOTAL HEIGHT =	455.09	1757.3

ROUND COLUMNS

Dull Silver Lion

CONCRETE TOTAL = 9.0

QUANTITY 10
TOTAL EMBEDS -

FORMWORK 480.0

ROUND COLUMNS

COLUMN MARK	PSI	QUANTITY	DIAMETER (in)	BOTTOM OF COLUMN (ft)	TOP OF SLAB ABOVE (ft)	SLAB THICKNESS FLOOR ABOVE (in)	BEAM OR DROP THICKNESS (in)	COLUMN HEIGHT - EACH (ft)	CIRCUM.	CY - CONCRETE TOTAL
16 Round 4k	4	8	16.00	0.00	10.00	8.0	2.0	9.17	307.18	3.79
36 Round 10k	10	2	36.00	0.00	10.00	8.0	2.0	9.17	172.79	4.80
		10	19.10					9.17	479.97	8.59
QTY.		QTY.	AVE. WIDTH	TOTAL EMBEDS			0.0	AVE. HEIGHT	% WASTE =	5%
								91.67		9.0
								TOTAL HEIGHT		

SLOPED COLUMNS

Dull Silver Lion

ENTER "1" IN CHAMFER COLUMN TO GET CHAMFER ON COLUMN AND ALSO ADDS PATCH & RUB SINCE COLUMNS ARE EXPOSED

CONCRETE TOTAL = 369.2 QUANTITY TOTAL EMBEDS 190 FORMWORK 1,747.4

SLOPED COLUMNS

COLUMN MARK	PSI	QUANTITY	(in) COLUMN WIDTH #1	(in) COLUMN WIDTH #2	(ft) BOTTOM OF COLUMN	(ft) TOP OF SLAB ABOVE	(in) SLAB THICKNESS FLOOR ABOVE	(in) BEAM OR DROP THICKNESS	(ft) COLUMN HEIGHT - EACH	4 SIDES SF - FORMWORK TOTAL	CY - CONCRETE TOTAL	CHAMFER - ENTER # OF EDGES	
12x32 Slpd 4k	4	1	12.00	32.00	0.00	9.67	9.0	4.0	8.59	62.97	0.85	4	
18x32 Slpd 6k	6	11	18.00	32.00	0.00	9.67	9.0	4.0	8.59	71.56	13.99	4	
18x32 Slpd 8k	8	11	18.00	32.00	0.00	9.67	9.0	4.0	8.59	71.56	13.99	4	
18x36 Slpd 6k	6	3	18.00	36.00	0.00	9.67	9.0	4.0	8.59	77.28	4.29	4	
18x36 Slpd 8k	8	3	18.00	36.00	0.00	9.67	9.0	4.0	8.59	77.28	4.29	4	
24x24 Slpd 10k	10	2	24.00	24.00	0.00	9.67	9.0	4.0	8.59	68.69	2.54	4	
24x24 Slpd 4k	4	1	24.00	24.00	0.00	9.67	9.0	4.0	8.59	68.69	1.27	4	
24x24 Slpd 6k	6	3	24.00	24.00	0.00	9.67	9.0	4.0	8.59	68.69	3.82	4	
24x24 Slpd 8k	8	3	24.00	24.00	0.00	9.67	9.0	4.0	8.59	68.69	3.82	4	
24x30 Slpd 8k	8	2	24.00	30.00	0.00	9.67	9.0	4.0	8.59	77.28	3.18	4	
24x32 Slpd 10k	10	3	24.00	32.00	0.00	9.67	9.0	4.0	8.59	80.14	5.09	4	
24x32 Slpd 6k	6	13	24.00	32.00	0.00	9.67	9.0	4.0	8.59	80.14	22.05	4	
24x32 Slpd 8k	8	34	24.00	32.00	0.00	9.67	9.0	4.0	8.59	80.14	57.67	4	
24x32 Slpd10k	10	17	24.00	32.00	0.00	9.67	9.0	4.0	8.59	80.14	28.83	4	
24x36 Slpd 10k	10	23	24.00	36.00	0.00	9.67	9.0	4.0	8.59	85.87	43.89	4	
24x36 Slpd 8k	8	4	24.00	36.00	0.00	9.67	9.0	4.0	8.59	85.87	7.63	4	
24x40 Slpd 8k	8	7	24.00	40.00	0.00	9.67	9.0	4.0	8.59	91.59	14.84	4	
24x42 Slpd 10k	10	8	24.00	42.00	0.00	9.67	9.0	4.0	8.59	94.45	17.81	4	
24x42 Slpd 8k	8	4	24.00	42.00	0.00	9.67	9.0	4.0	8.59	94.45	8.90	4	
24x48 Slpd 10k	10	6	24.00	48.00	0.00	9.67	9.0	4.0	8.59	103.04	15.27	4	
24x48 Slpd 8k	8	30	24.00	48.00	0.00	9.67	9.0	4.0	8.59	103.04	76.33	4	
30x30 Slpd 10k	10	1	30.00	30.00	0.00	9.67	9.0	40.0	5.59	55.87	1.29	4	
		190	22.64	33.82					8.45	1747.44	351.65		

QTY. AVE. WIDTH AVE. WIDTH TOTAL CHAMFER = 6,514 AVE. HEIGHT % WASTE = 5%
TOTAL EMBEDS 185.91 TOTAL HEIGHT 369.2

PHASE COST AND PRODUCTION REPORT

E			E	
SUBCONTRACT COSTS	\$0		TOTAL CY	1,596.72
DIRECT MATERIAL COSTS	\$343,278		TOTAL SF	90,575
MISC. MATERIAL COSTS	\$1,716		TOTAL LF	7,032
LABOR WITH FRINGE	\$422,719		TOTAL EA	-
EQUIPMENT RENTAL	\$0		PHASE UNITS, LF	7,032
P&F LABOR	\$4,400		TOTAL DAYS	255.09
TOTAL COSTS	\$772,114		TOTAL MAN HOURS	19,732
			MAN HOURS PER CY	12.36
GENERAL CONDITIONS	\$59,241		SF PER MAN HOUR	4.59
TOTAL COST + GEN. COND.	\$831,355		ESTIMATED LABOR COST	\$422,719
PROFIT	\$24,941		LABOR COST PER CY	\$264.74
PHASE PRICE	\$856,296		LABOR COST PER SF	\$4.67
			LABOR COST / MAN HR	\$21.42
			UNIT PRICE PER CY	\$483.56
PERCENT OF PROFIT		3.00%	UNIT PRICE PER SF	\$8.52
SALES TAX	5.00%	5.00%	UNIT PRICE PER LF	\$109.80
MISC. MATERIAL %		0.50%	UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 4000 psi		274.4	\$99.50	cuyd	\$28,672	030-13	2
Concrete 5000 psi		194.5	\$109.50	cuyd	\$22,359	030-13	2
Concrete 6000 psi		648.0	\$119.50	cuyd	\$81,308	030-13	2
Concrete 8000 psi		420.8	\$134.50	cuyd	\$59,426	030-13	2
Concrete 10000 psi		59.0	\$204.50	cuyd	\$12,674	030-13	2
FORMWORK							
3/4" Chamfer		14,446.0	\$0.20	lnft	\$3,033	030-14	2
Reveal		-	\$0.40	lnft	\$0	030-14	2
Bulkhead/Construction Joints		2,145.0	\$1.50	lnft	\$3,378	030-14	2
Beam Pockets, etc.	(manual entry)	-	\$20.00	each	\$0	030-14	2
Blockouts		1,262.0	\$1.50	lnft	\$1,988	030-14	2
Brickshelf		2,061.8	\$1.00	sqft	\$2,165	030-14	2
Wall Ply-Form 0 to 4 ft. high		14,707.0	\$0.85	sqft	\$13,165	030-14	2
Wall Gangform 8 - 16 ft. high		73,123.1	\$1.16	sqft	\$89,256	030-14	2
Wall Sleeves- PVC		2,744.7	\$0.45	each	\$1,297	030-14	2
SMART-FORM		-	\$0.98	sqft	\$0	030-14	2
MISC. MATERIALS							
Wall Ties 8"		45.4	\$67.20	each	\$3,204	030-12	2
Wall Ties 10"		49.0	\$74.20	each	\$3,818	030-12	2
Wall Ties 12"		93.0	\$78.40	each	\$7,656	030-12	2
Wall Ties 18"		25.3	\$112.50	each	\$2,989	030-12	2
Wall Ties 24"		3.7	\$114.00	each	\$444	030-12	2
Wall Ties 30"		3.1	\$172.50	each	\$568	030-12	2
Form Oil		186,618.4	\$0.03	sf	\$5,878	030-12	2
EQUIPMENT & SUBCONTRACT							
Place & Finish- Top of Parapets & Retaining walls		2,933.0	\$1.50	lnft	\$4,400	030-19	7

WALLS

Park Chelsea

IF YOU HAVE BLOCK-OUTS, ENTER THEM NORMALLY EXCEPT ENTER QUANTITY AS A NEGATIVE LENGTH

BLOCKOUTS MUST BE ENTERED ON THE NEXT ROW FOLLOWING THE WALL WHICH HAS THE BLOCKOUT IN IT!

CONCRETE TOTAL = **1,596.72** ONE SIDE = (SF) **43,915.06** 87830.12 TOTAL LENGTH = **7,032.13** BULKHEADS = **2,144.40**
 TOTAL EMBEDS **1,758**

SHEAR WALLS

Construction Joint Spacing - **20.00**

#	COLUMN LINE	PSI	QTY (ea)	LENGTH (ft)	THK (in)	BOW (ft)	TOW (ft)	SLAB ABOVE (in)	HEIGHT (ft)	FACE AREA (sf)	TOTAL CSF (2 Sides)	VOL (cy)	BRICKSHELF (sf)	BLOCKOUT (lf)
X1	P2	8	1	24.34	12.00	0.00	9.50	9.00	8.75	212.98	425.95	7.89	0.00	0.00
X1	P3-P8	6	6	24.34	12.00	0.00	9.50	9.00	8.75	1277.85	2555.70	47.33	0.00	0.00
X1	R9-RPH	4	11	13.75	12.00	0.00	9.67	8.00	9.00	1361.75	2723.51	50.44	0.00	0.00
X2	P2-P8	8	7	25.00	12.00	0.00	9.50	8.00	8.83	1545.83	3091.67	57.25	0.00	0.00
X2	R9-R17	6	9	25.00	12.00	0.00	9.67	8.00	9.00	2025.75	4051.50	75.03	0.00	0.00
X3	P2-P8	8	7	30.00	12.00	0.00	9.50	9.00	8.75	1837.50	3675.00	68.06	0.00	0.00
X4	P2-P8	8	7	30.00	8.00	0.00	9.50	8.00	8.83	1855.00	3710.00	45.80	0.00	0.00
X5	P2-P8	6	7	80.00	10.00	0.00	9.50	9.00	8.75	4900.00	9800.00	151.23	0.00	0.00
X5	P2-P9	6	-14	9.25	10.00	3.50	9.50	9.00	-5.25			-20.98	679.88	406.00
X6	P2-P9	6	7	80.00	10.00	0.00	9.50	9.00	8.75	4900.00	9800.00	151.23	0.00	0.00
X6	P2-P9	6	-14	9.25	10.00	3.50	9.50	9.00	-5.25			-20.98	679.88	406.00
Y1	P2-P6	8	5	19.00	12.00	0.00	9.50	8.00	8.83	839.17	1678.33	31.08	0.00	0.00
Y1	P7-R14	6	8	19.00	12.00	0.00	9.65	8.00	8.98	1365.47	2730.93	50.57	0.00	0.00
Y1	R15-R20	4	6	19.00	12.00	0.00	11.00	8.00	10.33	1178.00	2356.00	43.63	0.00	0.00
Y2	P2-P6	8	5	19.00	12.00	0.00	9.50	8.00	8.83	839.17	1678.33	31.08	0.00	0.00
Y2	P7-R14	6	8	19.00	12.00	0.00	9.67	8.00	9.00	1368.51	2737.01	50.69	0.00	0.00
Y2	R15-TOR	4	7	19.00	12.00	0.00	11.00	8.00	10.33	1374.33	2748.67	50.90	0.00	0.00
Y3	P2-P6	8	5	13.50	12.00	0.00	9.50	8.00	8.83	596.25	1192.50	22.08	0.00	0.00
Y3	P7-R14	6	8	13.50	12.00	0.00	9.67	8.00	9.00	972.36	1944.72	36.01	0.00	0.00
Y3	R15-TOR	4	7	13.50	12.00	0.00	11.00	8.00	10.33	976.50	1953.00	36.17	0.00	0.00
Y4	P2-P6	8	5	29.00	18.00	0.00	9.50	8.00	8.83	1280.83	2561.67	71.16	0.00	0.00
Y4	P7-R14	6	8	29.00	18.00	0.00	9.67	8.00	9.00	2088.77	4177.55	116.04	0.00	0.00
Y4	R15-TOR	4	7	29.00	18.00	0.00	9.00	8.00	8.33	1691.67	3383.33	93.98	0.00	0.00
Y4	P2-P6	8	-5	6.50	18.00	3.00	9.00		-6.00			-10.83	195.00	125.00
Y4	P7-R14	6	-8	6.50	18.00	3.00	9.00		-6.00			-17.33	312.00	200.00
Y4	R15-TOR	4	-5	6.50	18.00	3.00	9.00		-6.00			-10.83	195.00	125.00
Y5	P2-P8	8	7	11.50	12.00	0.00	9.50	9.00	8.75	704.38	1408.75	26.09	0.00	0.00

3933.13 AVG HGT = **8.95** 35192.06 70384.12 1232.77 2061.75 1262.00
 TOTAL EMBEDS **983.3** BULKHEAD = **1,760** Enter inches of waste = **1/2**
1,287.08

PARAPET / KNEE WALLS

Construction Joint Spacing - **20.00**

#	COLUMN LINE	PSI	QTY (ea)	LENGTH (ft)	THK (in)	BOW (ft)	TOW (ft)	SLAB ABOVE (in)	HEIGHT (ft)	FACE AREA (sf)	TOTAL CSF (2 Sides)	VOL (cy)	BRICKSHELF (sf)	BLOCKOUT (lf)
16/S5.0	P2-P8	5	7	413.00	8.00	0.00	2.50		2.50	7227.50	14455.00	178.46	0.00	0.00
9/S5.0	Penthouse	5	3	14.00	12.00	0.00	3.00		3.00	126.00	252.00	4.67	0.00	0.00
													0.00	0.00
													0.00	0.00

Figures place and finish of top of wall (lf) - **2933.00** AVG HGT = **2.51** 7353.50 14707.00 183.12 0.00 0.00
 TOTAL EMBEDS **733.3** BULKHEAD = **368** Enter inches of waste = **1/2**
194.47

OTHER WALLS

Construction Joint Spacing - **80.00**

#	COLUMN LINE	PSI	QTY (ea)	LENGTH (ft)	THK (in)	BOW (ft)	TOW (ft)	SLAB ABOVE (in)	HEIGHT (ft)	FACE AREA (sf)	TOTAL CSF (2 Sides)	VOL (cy)	BRICKSHELF (sf)	BLOCKOUT (lf)
	H Line 7.5-10	10	1	76.00	30.00		8.25		8.25	627.00	1254.00	58.06	0.00	0.00
	9 Line H-K	8	1	45.00	24.00		8.25		8.25	371.25	742.50	27.50	0.00	0.00
	9 Line L-N	8	1	45.00	24.00		8.25		8.25	371.25	742.50	27.50	0.00	0.00
													0.00	0.00

166.00 AVG HGT = **8.25** 1369.50 2739.00 113.06 0.00 0.00
 TOTAL EMBEDS **41.5** BULKHEAD = **17** Enter inches of waste = **1/2**
115.17

	QTY (ea)	LENGTH (ft)	THK (in)	BOW (ft)	TOW (ft)	SLAB ABOVE (in)	HEIGHT (ft)	FACE AREA (sf)	TOTAL CSF (2 Sides)	VOL (cy)	BRICKSHELF (sf)	BLOCKOUT (lf)
TOTALS		7032.13						43915.06	87830.12	1596.7	2061.75	1262.00

PHASE: FRAMED SLAB
 PROJECT: Dull Silver Lion
 PHASE: FRAMED SLAB

Fall 2014

Studrail Labor in this phase

3	- # OF USES FOR DECKING PLYWOOD
2	- # OF USES FOR BEAM PLYWOOD
2	- # OF USES FOR DROP HEAD PLYWOOD

PHASE COST AND PRODUCTION REPORT

L			L	
SUBCONTRACT COSTS	\$853,443	TOTAL CY	27,902	
DIRECT MATERIAL COSTS	\$3,765,641	TOTAL SF	834,738	
MISC. MATERIAL COSTS	\$18,828	TOTAL LF	-	
LABOR WITH FRINGE	\$1,760,670	TOTAL EA	-	
EQUIP. RENTAL	\$0	PHASE UNITS, SF	834,738	
P&F LABOR	\$376,262	TOTAL DAYS	486.50	
TOTAL COSTS	\$6,774,844	TOTAL MAN HOURS	83,905	
GENERAL CONDITIONS	\$519,808	MAN HOURS PER CY	3.01	
TOTAL COST + GEN. COND.	\$7,294,652	SF PER MAN HOUR	9.95	
PROFIT	\$218,840	ESTIMATED LABOR COST	\$1,760,670	
PHASE PRICE	\$7,513,492	LABOR COST PER CY	\$63.10	
PERCENT OF PROFIT	3.00%	LABOR COST PER SF	\$2.11	
SALES TAX	5.00%	LABOR COST / MAN HR	\$20.98	
MISC. MATERIAL %	0.50%	UNIT PRICE PER CY	\$242.81	
		UNIT PRICE PER SF	\$8.12	
		UNIT PRICE PER LF	\$0.00	
		UNIT PRICE PER EA	\$0.00	

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 5000 psi		25,009.4	\$109.50	cuyd	\$2,875,452	024-13	2
Concrete 6000 psi		2,892.4	\$119.50	cuyd	\$362,929	024-13	2
CONCRETE ADDITIVES							
3750 @ 3 days		11,026.7	\$7.50	CY	\$82,700	024-13	4
Mid-Range		-	\$3.00	CY	\$0	024-13	2
High-Range		-	\$6.00	CY	\$0	024-13	2
FORMWORK							
Formed Construction Joints		3,650.0	\$1.00	Inft	\$3,833	024-14	2
Edge Form		21,455.0	\$0.75	Inft	\$16,896	024-14	2
Hung Depression Form - LF		500.0	\$1.25	Inft	\$656	024-14	2
3/4" Plywood SLABS	1	8,696.0	\$34.66	each	\$316,455	024-14	2
3/4" Plywood Beam Bottom		-	\$34.66	each	\$0	024-14	2
3/4" Plywood Beam Sides		235.4	\$34.66	each	\$8,565	024-14	2
3/4" Plywood Drop Sides		920.7	\$34.66	each	\$33,506	024-14	2
3/4" Plywood Drop Bottom		1,940.1	\$34.66	each	\$70,601	024-14	2
3/4" Chamfer exposed beams		18,274.8	\$0.20	Inft	\$3,837	024-14	2
3/4" Chamfer exposed drops		58,926.0	\$0.20	Inft	\$12,371	024-14	2
MISC. MATERIALS & FUEL							
Form Oil		861,805.4	\$0.03	sqft	\$27,147	024-12	2
Curing Compound		75.9	\$325.00	drum	\$25,896	024-12	2
Pump Grout Pour Size =	10,000	84.0	\$85.00	CY	\$7,497	024-13	2
EQUIPMENT & SUBCONTRACT							
SUBOUT ALUMA SHORING		834,738.2	\$0.75	SF	\$626,054	024-16	1
47 Meter Pump (cuyd)	1	27,901.8	\$2.55	CY	\$71,150	024-15	1
47 Meter Pump (hour)		1,008.0	\$155.00	hour	\$156,240	024-15	1
Place & Finish		834,738.2	\$0.45	sqft	\$375,632	024-19	7
Place & Finish isolated beams		315.0	\$2.00	sqft	\$630	024-19	7

FRAME SLABS

Dull Silver Lion

TOTAL CONCRETE = 23,000

TOTAL SLAB AREA = 834,738

Parking SLABS <=12'

	LEVEL	PSI	QTY	LENGTH LF	WIDTH LF	THICKNESS INCHES	SF	TOTAL SF	CY
Parking Garage Levels	P3-P8	5	6.0	36,200.00	1.00	9.0	36,200.0	217,200.0	6,033.3
P2 Parking	P2	5	1.0	29,500.00	1.00	9.0	29,500.0	29,500.0	819.4
						9.0		246,700.0	6,852.8
ENTER INCHES OF WASTE =									3/8
									7,138.31

FRAME RAMPS

AUTO-CALCULATES ACTUAL LENGTH OF SLOPED SLAB

	LEVEL	PSI	QTY	LENGTH LF	WIDTH LF	HEIGHT LF	THICKNESS INCHES	SF	TOTAL SF	CY
Garage Ramps	P1-P8	5	6.0	92.00	28.00	9.5	9.0	2589.7	15,538.2	431.6
							9.0		15,538.2	431.6
ENTER INCHES OF WASTE =									3/8	
									449.60	

HIGH STORY >12'

	LEVEL	PSI	QTY	LENGTH LF	WIDTH LF	THICKNESS INCHES	SF	TOTAL SF	CY
Garage High Deck	P3	5	1.0	6,300.00	1.00	9.0	6,300.0	6,300.0	175.0
Residential High Deck	P3	5	1.0	8,000.00	1.00	8.0	8,000.0	8,000.0	197.5
						8.5		14,300.0	372.5
ENTER INCHES OF WASTE =									3/8
									389.08

TYPICAL SLABS <=12'

	LEVEL	PSI	QTY	LENGTH LF	WIDTH LF	THICKNESS INCHES	SF	TOTAL SF	CY
P3-P8 Residential 5 ksi	P3-P8	6	6.0	14,200.00	1.00	8.0	14,200.0	85,200.0	2,103.7
P3-P8 Residential 6 ksi	P3-P8	6	6.0	4,000.00	1.00	8.0	4,000.0	24,000.0	592.6
P2 Residential 5 ksi	P2	5	1.0	10,500.00	1.00	8.0	10,500.0	10,500.0	259.3
Courtyard Slab 5 ksi	R9	5	1.0	26,800.00	1.00	12.0	26,800.0	26,800.0	992.6
R9 Residential	R9	5	1.0	30,200.00	1.00	8.0	30,200.0	30,200.0	745.7
Tower Residential Ea Level	R10-R20	5	11.0	29,500.00	1.00	8.0	29,500.0	324,500.0	8,012.3
							0.0	0.0	
						8.7		501,200.0	12,706.2
ENTER INCHES OF WASTE =									3/8
									13,286.27

PHR - EMR - STAIR ROOF

	LEVEL	PSI	QTY	LENGTH LF	WIDTH LF	THICKNESS INCHES	SF	TOTAL SF	CY
Main Roof Slab w/ Pool	RHP	5	1.0	29,800.00	1.00	12.0	29,800.0	29,800.0	1,103.7
Main Roof Topper Slab Light Weight	RHP	5	1.0	12,200.00	1.00	4.0	12,200.0	12,200.0	150.6
PH Roof	PH	5	1.0	15,000.00	1.00	9.0	15,000.0	15,000.0	416.7
							0.0	0.0	
						8.3		57,000.0	1,671.0
ENTER INCHES OF WASTE =									3/8
									1,736.96

DROP HEADS

Dull Silver Lion

IRREGULAR SHAPED DROP FORMWORK MUST BE CALCULATED AND ENTERED MANUALLY

CONCRETE TOTAL = 4,436.1

FORM SIDES 58,926.0

DROP HEADS

SQUARE/RECTANGLE

Column	PSI	QTY.	(ft) Width #1	(ft) Width #2	(in) Thickness	4 SIDES contact SF	4 SIDES LF	CY
P1	5	24	10.00	10.00	5.50	440.00	960.00	40.74
P2-P8 (29ea)	5	203	10.00	10.00	5.50	3721.67	8120.00	344.60
R9	5	24	10.00	10.00	5.50	440.00	960.00	40.74
Long 50x10	5	30	10.00	50.00	5.50	1650.00	3600.00	254.63
Long 95x10	5	30	10.00	95.00	5.50	2887.50	6300.00	483.80
Long 58x10	5	3	10.00	58.00	7.25	246.50	408.00	38.94
Long 52x10	5	9	10.00	52.00	5.50	511.50	1116.00	79.44
Long 38x10	5	7	10.00	38.00	5.50	308.00	672.00	45.15
Long 55x10	5	3	10.00	55.00	5.50	178.75	390.00	28.01
Long 130x10	5	130	10.00	130.00	5.50	16683.33	36400.00	2868.83
		463	22.90	22.90	5.68	27067.25	58926.00	4224.88
		QTY.	AVE. WIDTH (FT)	AVE. WIDTH (FT)	AVE. HEIGHT (IN)	% WASTE =		5%
								4436.1

BEAMS
Dull Silver Lion

CONCRETE TOTAL = 465.5

FORM SIDES 15,062.8

TOTAL EMBEDS -

BEAMS - TYP FRAME SLAB

BEAMS - TYP FRAME SLAB 1

DESIGNATION	PSI	QTY	DIMENSIONS			SLAB THICKNESS (in)	VOLUME CF	CONCRETE		FORMWORK		
			BEAM SIZE					CONCRETE CY/BEAM	CONCRETE TOTAL(CY)	BOTTOM SF	SIDES SF	TOTAL SF
			LENGTH (ft)	WIDTH (in)	DEPTH (in)							
2FB-01	5	1	27.50	16.00	20.00		61.11	2.26	2.26	36.67	91.67	128.33
2FB-02	5	2	17.00	30.00	8.00	8.00	0.00	0.00	0.00	85.00	0.00	85.00
3FB-01	5	3	25.00	8.00	16.00	9.00	9.72	0.36	1.08	50.00	87.50	137.50
3FB-02	5	1	8.67	8.00	16.00		7.71	0.29	0.29	5.78	23.12	28.90
9FB-01A&B	5	22	17.67	18.00	24.00	8.00	35.34	1.31	28.80	583.11	1,036.64	1,619.75
19/20FB-01A&B	5	2	21.50	10.00	18.00	8.00	14.93	0.55	1.11	35.83	71.67	107.50
19/20FB-02	5	2	9.50	12.00	18.00	8.00	7.92	0.29	0.59	19.00	31.67	50.67
19/20FB-03	5	2	4.50	12.00	18.00	8.00	3.75	0.14	0.28	9.00	15.00	24.00
20FB-01	5	1	9.75	10.00	24.00	12.00	8.13	0.30	0.30	8.13	19.50	27.63
PFB-01	5	2	30.67	12.00	72.00	9.00	161.02	5.96	11.93	61.34	644.07	705.41
PFB-02	5	2	8.67	10.00	72.00	9.00	37.93	1.40	2.81	14.45	182.07	196.52
PFB-03	5	2	29.00	12.00	30.00	8.00	53.17	1.97	3.94	58.00	212.67	270.67
RFB-01	5	3	25.66	36.00	18.00	12.00	38.49	1.43	4.28	230.94	76.98	307.92
TFB-01	5	11	10.50	10.00	12.00	9.00	2.19	0.08	0.89	96.25	57.75	154.00
TFB-01	5	9	9.25	10.00	12.00	8.00	2.57	0.10	0.86	69.38	55.50	124.88
TFB-01	5	2	9.50	8.00	12.00	8.00	2.11	0.08	0.16	12.67	12.67	25.33
TFB-02	5	40	8.50	8.00	12.00	8.00	1.89	0.07	2.80	226.67	226.67	453.33
TFB-03	5	8	9.50	10.00	16.00	8.00	5.28	0.20	1.56	63.33	101.33	164.67
TFB-XX	5	3	21.50	10.00	16.00	12.00	5.97	0.22	0.66	53.75	43.00	96.75
TFB-03	5	9	9.25	10.00	16.00	8.00	5.14	0.19	1.71	69.38	111.00	180.38
TFB-04	5	8	16.50	10.00	16.00	8.00	9.17	0.34	2.72	110.00	176.00	286.00
TFB-04	5	9	16.90	12.00	16.00	8.00	11.27	0.42	3.76	152.10	202.80	354.90
TFB-05	5	6	14.00	12.00	16.00	9.00	8.17	0.30	1.81	84.00	98.00	182.00
TFB-05	5	14	14.50	12.00	16.00	9.00	8.46	0.31	4.39	203.00	236.83	439.83
TFB-06	6	7	15.00	12.00	16.00	9.00	8.75	0.32	2.27	105.00	122.50	227.50
TFB-06	5	18	14.00	10.00	14.50	9.00	5.35	0.20	3.56	210.00	231.00	441.00
TFB-07A&B	5	7	20.00	16.00	20.00	9.00	24.44	0.91	6.34	186.67	256.67	443.33
TFB-08	5	7	13.50	24.00	14.50	9.00	12.38	0.46	3.21	189.00	86.63	275.63
TFB-09	5	6	28.12	12.00	30.00	9.00	49.21	1.82	10.94	168.72	590.52	759.24
TFB-10	5	36	28.00	36.00	16.00	9.00	49.00	1.81	65.33	3,024.00	1,176.00	4,200.00
TFB-11	5	10	9.50	10.00	18.00		11.88	0.44	4.40	79.17	285.00	364.17
		255	9.37	13.74	20.74				175.01	6,300.32	6,562.41	12,862.72
BEAM			AVE. LENGTH	AVE. WIDTH	AVE. THICKNESS				% WASTE =	PLYWOOD	PLYWOOD	PLYWOOD
			4,044.1	-ACTUAL LENGTH					5%	196.88	205.08	401.96
										183.8		

1x4x16 Carrier	2022.07
2x4x16 Whalers	505.52
3/4 Plywood Beam Bottom	196.88
3/4 Plywood Beam Sides	205.08
3x4x16 Ribs	1013.57
3x6x16 Stringers	505.52
4x4 Ellis Clamps	5055.18
4x4x10 Ellis Jacks	2527.59
4x4x10 Reshores	1011.04

TWO RUNS OF 3/4" CHAMFER FOR BEAM BOTTOM 8,088
SF PATCH & RUB BEAM SIDES 6,562

BEAMS - TYP FRAME SLAB 2

DESIGNATION	PSI	QTY	DIMENSIONS			SLAB THICKNESS (in)	VOLUME CF	CONCRETE		FORMWORK		
			BEAM SIZE					CONCRETE CY/BEAM	CONCRETE TOTAL(CY)	BOTTOM SF	SIDES SF	TOTAL SF
			LENGTH (ft)	WIDTH (in)	DEPTH (in)							
2PTB-01	5	1	26.25	48.00	16.00	8.00	70.00	2.59	2.59	105.00	35.00	140.00
2PTB-02	5	1	45.00	16.00	36.00	8.00	140.00	5.19	5.19	60.00	210.00	270.00
2PTB-03	5	1	32.75	12.00	12.00	8.00	10.92	0.40	0.40	32.75	21.83	54.58
2PTB-04	5	1	32.75	10.00	18.00	8.00	22.74	0.84	0.84	27.29	54.58	81.88
3PTB-01	5	1	27.00	12.00	32.00	9.00	51.75	1.92	1.92	27.00	103.50	130.50
3PTB-02	5	1	28.00	36.00	14.50	9.00	38.50	1.43	1.43	84.00	25.67	109.67
3PTB-03	5	1	23.00	36.00	14.50	9.00	31.63	1.17	1.17	69.00	21.08	90.08
9PTB-01	5	11	30.50	10.00	24.00	8.00	33.89	1.26	13.81	279.58	894.67	1,174.25
9PTB-02	5	11	28.00	36.00	12.00	8.00	28.00	1.04	11.41	924.00	205.33	1,129.33
19/20PTB-01	5	3	32.00	24.00	12.00	8.00	21.33	0.79	2.37	192.00	64.00	256.00
20PTB-02				18.00	16.00					0.00	0.00	0.00
PPTB-01	5	2	33.75	12.00	72.00	9.00	177.19	6.56	13.13	67.50	708.75	776.25
PPTB-02	5	2	30.00	12.00	72.00	9.00	157.50	5.83	11.67	60.00	630.00	690.00

RPTB-01A&B	5	2	40.00	24.00	40.00	12.00	186.67	6.91	13.83	160.00	373.33	533.33	
RPTB-01B				24.00	60.00					0.00	0.00	0.00	
RPTB-02	5	1	40.00	36.00	36.00	8.00	280.00	10.37	10.37	120.00	186.67	306.67	
RPTB-03A&B&C	5	1	40.00	24.00	60.00	12.00	320.00	11.85	11.85	80.00	320.00	400.00	
RPTB-03B				24.00	60.00					0.00	0.00	0.00	
RPTB-03C				24.00	60.00					0.00	0.00	0.00	
RPTB-04A&B&C	5	1	40.00	24.00	60.00	12.00	320.00	11.85	11.85	80.00	320.00	400.00	
RPTB-04B				24.00	60.00					0.00	0.00	0.00	
RPTB-04C				24.00	60.00					0.00	0.00	0.00	
TPTB-01	5	52	32.75	12.00	12.00	8.00	10.92	0.40	21.02	1,703.00	1,135.33	2,838.33	
TPTB-02	5	20	32.75	10.00	18.00	8.00	22.74	0.84	16.85	545.83	1,091.67	1,637.50	
TPTB-03	5	38	30.75	36.00	12.00	8.00	30.75	1.14	43.28	3,505.50	779.00	4,284.50	
TPTB-04	5	6	30.00	36.00	14.50	9.00	41.25	1.53	9.17	540.00	165.00	705.00	
TPTB-05A				18.00	16.00					0.00	0.00	0.00	
TPTB-05B				18.00	16.00					0.00	0.00	0.00	
	157		6.62	22.86	33.41				204.13	8,662.46	7,345.42	16,007.88	
BEAM			AVE. LENGTH	AVE. WIDTH	AVE. THICKNESS				% WASTE =	5%	PLYWOOD	PLYWOOD	PLYWOOD
			4,988.3	-ACTUAL LENGTH	TOTAL EMBEDS				214.3	270.70	229.54	500.25	

1x4x16 Carrier	2494.13
2x4x16 Whalers	623.53
3/4 Plywood Beam Bottom	270.70
3/4 Plywood Beam Sides	229.54
3x4x16 Ribs	1250.19
3x6x16 Stringers	623.53
4x4 Ellis Clamps	6235.31
4x4x10 Ellis Jacks	3117.66
4x4x10 Reshores	1247.06

TWO RUNS OF 3/4" CHAMFER FOR BEAM BOTTOM 9,977
SF PATCH & RUB BEAM SIDES 7,345

Transfer Girders

DESIGNATION	MARK	PSI	QTY	DIMENSIONS			SLAB THICKNESS (in)	CONCRETE			FORMWORK		
				BEAM SIZE				VOLUME CF	CONCRETE CY/BEAM	CONCRETE TOTAL(CY)	BOTTOM SF	SIDES SF	TOTAL SF
LENGTH (ft)	WIDTH (in)	DEPTH (in)											
10 Line H-N	6	1	105.00	36.00	66.00	0.00	1,732.50	64.17	64.17	315.00	1,155.00	1,470.00	
										0.00	0.00	0.00	
										0.00	0.00	0.00	
										0.00	0.00	0.00	
			1	105.00	36.00	66.00				64.17	315.00	1,155.00	1,470.00
BEAM			AVE. LENGTH	AVE. WIDTH	AVE. THICKNESS				% WASTE =	5%	PLYWOOD	PLYWOOD	PLYWOOD
			105.0	-ACTUAL LENGTH	TOTAL EMBEDS				67.4	9.84	36.09	45.94	

1x4x16 Carrier	52.50
2x4x16 Whalers	13.13
3/4 Plywood Beam Bottom	9.84
3/4 Plywood Beam Sides	36.09
3x4x16 Ribs	26.32
3x6x16 Stringers	13.13
4x4 Ellis Clamps	131.25
4x4x10 Ellis Jacks	65.63
4x4x10 Reshores	26.25

TWO RUNS OF 3/4" CHAMFER FOR BEAM BOTTOM 210
SF PATCH & RUB BEAM SIDES 1,155

PHASE: CURB
 PROJECT: Dull Silver Lion
 PHASE: CURB

Fall 2014

This will include curbs/small walls up to 12" high. Higher than that goes in Wall phase.

PHASE COST AND PRODUCTION REPORT

R			R	
SUBCONTRACT COSTS		\$0	TOTAL CY	57.83
DIRECT MATERIAL COSTS		\$7,960	TOTAL SF -ONE SIDE ONLY	1,737.00
MISC. MATERIAL COSTS		\$40	TOTAL LF	1,287.0
LABOR WITH FRINGE		\$16,819	TOTAL EA	-
EQUIP. RENTAL		\$0	PHASE UNITS, LF	1,287
P&F LABOR		\$1,931	TOTAL DAYS	19.80
TOTAL COSTS		\$26,750	TOTAL MAN HOURS	792
GENERAL CONDITIONS		\$2,052	MAN HOURS PER CY	13.70
TOTAL COST + GEN. COND.		\$28,802	LF PER MAN HOUR	2.19
PROFIT		\$864	ESTIMATED LABOR COST	\$16,819
PHASE PRICE		\$29,666	LABOR COST PER CY	\$290.84
			LABOR COST PER SF	\$9.68
			LABOR COST / MAN HR	\$21.24
PERCENT OF PROFIT		3.00%	UNIT PRICE PER CY	\$462.57
SALES TAX	5.00%	5.00%	UNIT PRICE PER SF	\$15.40
MISC. MATERIAL %		0.50%	UNIT PRICE PER LF	\$20.78
			UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 2500 psi		-	\$89.50	cuyd	\$0	027-13	2
Concrete 3000 psi		57.8	\$94.50	cuyd	\$5,738	027-13	2
FORMWORK							
3/4" Chamfer		2,574.0	\$0.20	lnft	\$540	027-14	2
Curb Formwork		3,474.0	\$0.45	sqft	\$1,641	027-14	2
MISC. MATERIALS & FUEL							
Form Oil		1,287.0	\$0.03	sqft	\$41	027-12	2
EQUIPMENT & SUBCONTRACT							
Place & Finish		1,287.0	\$1.50	lnft	\$1,931	027-19	7
Power Buggies		-	\$100.00	day	\$0	027-11	5
Drill Rental		-	\$225.00	week	\$0	027-11	5

CURBS

Dull Silver Lion

L = LIGHTWEIGHT
R = REGULAR
CURB ON GRADE

TOTAL CONCRETE = 57.8 TOTAL LENGTH = 1,287.0
TOTAL FORMWORK = 3,474.0

#	MARK	PSI	LENGTH (ft)	WIDTH (in)	HEIGHT (in)	AREA (sf)	VOL (cy)
						0.00	0.00
Total Length =			0	Total Height =		0.00	% WASTE = 5%
							0.0

CURB ON DECK

#	MARK	L/R	PSI	LENGTH (ft)	WIDTH (in)	HEIGHT (in)	AREA (sf)	VOL (cy)
	Roof Edge	R	3	987.00	12.00	12.00	1974.00	36.56
	Planter Walls	R	3	300.00	8.00	30.00	1500.00	18.52
							3474.00	55.07
Total Length =			1287	Total Height =		42.00	% WASTE = 5%	
							57.8	

PHASE COST AND PRODUCTION REPORT

U			U	
SUBCONTRACT COSTS	\$601,639	TOTAL CY	1.00	
DIRECT MATERIAL COSTS	\$2,471,987	TOTAL SF	-	
MISC. MATERIAL COSTS	\$12,360	TOTAL LF	-	
LABOR WITH FRINGE	\$0	TOTAL EA	-	
EQUIP. RENTAL	\$0	PHASE UNITS, TONS	2,115.1	
REBAR LABOR	\$0	TOTAL DAYS	507.45	
TOTAL COSTS	\$3,085,986	TOTAL MAN HOURS	-	
GENERAL CONDITIONS	\$236,776	MAN HOURS PER TON	-	
TOTAL COST + GEN. COND.	\$3,322,761	SF PER MAN HOUR	-	
PROFIT	\$99,683	ESTIMATED LABOR COST	\$601,639	
PHASE PRICE	\$3,422,444	LABOR COST PER CY	\$601,638.56	
		LABOR COST PER TON	\$285.00	
		LABOR COST / MAN HR	\$0.00	
PERCENT OF PROFIT	3.00%	UNIT PRICE PER TON	\$1,459.02	
SALES TAX	5.00%	UNIT PRICE PER SF	\$0.00	
MISC. MATERIAL %	0.50%	UNIT PRICE PER LF	\$0.00	
		UNIT PRICE PER EA	\$0.00	

ENTER MATERIAL AND LABOR PRICING AT UPPER RIGHT

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
MISC. MATERIALS & FUEL							
Rebar - Black Tie Wire		401.7	\$69.00	each	\$29,103	073-12	2
Rebar - Epoxy Tie Wire		75.9	\$109.25	each	\$8,701	073-12	2
Rebar - Shop drawings	(manual entry)	-	\$1,044.00	ton	\$0	073-12	2
Rebar - Burke Shops (Mat.)		-	\$0.00	ton	\$0	073-12	2
Rebar - Misc. Extras	(manual entry)	-	\$1,044.00	ton	\$0	073-12	2
Rebar - Epoxy	(manual entry)	303.4	\$1,255.00	ton	\$399,805	073-12	2
Rebar - Black - Concrete Frame	(manual entry)	1,794.2	\$1,044.00	ton	\$1,966,802	073-12	2
Rebar - Black - Steel Frame	(manual entry)	-	\$1,044.00	ton	\$0	073-12	2
Rebar - Masonry	(manual entry)	4.1	\$1,044.00	ton	\$4,494	073-12	2
Rebar - Caissons	(manual entry)	-	\$1,044.00	ton	\$0	073-12	2
Rebar - Tower crane footing(s)		12.5	\$1,044.00	ton	\$13,703	073-12	2
Rebar Escalation Premium	(manual entry)	-	\$30.00	ton	\$0	073-12	2
Protective End Caps	(manual entry)	1,000.0	\$0.95	each	\$998	073-12	2
Wall & Column Spacers		9,057.5	\$0.95	each	\$9,035	073-12	2
Rebar Accessories	(manual entry)	-	\$0.00	isum	\$0	073-12	2
Rebar - Framed slab const. jts.		0.9	\$1,044.00	ton	\$1,000	073-12	2
Rebar - Steel frame const. jts.		-	\$1,044.00	ton	\$0	073-12	2
Rebar - Tower crane blackout steel	Black Steel	-	\$1,044.00	ton	\$0	073-12	2
Rebar - Post-tension backup bars	(manual entry)	-	\$1,409.40	ton	\$0	073-12	2
Couplers	(manual entry)	742.0	\$48.68	each	\$37,927	073-12	2
#57 Stone		20.0	\$20.00	ton	\$420	073-17	2
EQUIPMENT & SUBCONTRACT							
COUPLER PRESS RENTAL	(manual entry)	-	\$950.00	month	\$0	073-11	2
Mobile Crane - 30 Ton	Unload Rebar	71.0	\$125.00	hour	\$8,875	073-11	4
Coupler Labor		742.0	\$12.00	each	\$8,904	073-19	7

PHASE: PT CABLE
PROJECT: Dull Silver Lion
PHASE: PT CABLE & PATCHING GROMMETS
 Studrails in this Phase

Fall 2014

PHASE COST AND PRODUCTION REPORT

W			W	
SUBCONTRACT COSTS		\$0	TOTAL CY	1.00
DIRECT MATERIAL COSTS		\$1,130,938	TOTAL SF	539,400.00
MISC. MATERIAL COSTS		\$5,655	TOTAL LF	-
LABOR WITH FRINGE		\$593,398	TOTAL EA	13,593
EQUIP. RENTAL		\$0	PHASE UNITS, LBS	566,370
P.T. LABOR		\$0	TOTAL DAYS	518.11
TOTAL COSTS		\$1,729,991	TOTAL MAN HOURS	22,284
GENERAL CONDITIONS		\$132,736		
TOTAL COST + GEN. COND.		\$1,862,726	ESTIMATED LABOR COST	\$593,398
PROFIT		\$55,882	LABOR COST PER LB	\$1.05
PHASE PRICE		\$1,918,608	LABOR COST PER SF	\$1.10
			LABOR COST / MAN HR	\$26.63
			UNIT PRICE PER CY	\$1,729,990.66
PERCENT OF PROFIT		3.00%	UNIT PRICE PER SF	\$3.21
SALES TAX	5.00%	5.00%	UNIT PRICE PER LB	\$3.05
MISC. MATERIAL %		0.50%	UNIT PRICE PER GROMMET	\$127.27

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
MISC. MATERIALS & FUEL							
Post-Tension Patch Grommets		680.0	\$7.00	bag	\$4,998	083-12	2
Post-Tension Material	(manual entry)	539,400.0	\$1.30	lb	\$736,281	083-12	2
Post-Tension Misc. Extras		26,970.0	\$1.30	lb	\$36,814	083-12	2
Post-Tension Misc. Repairs	Oxygen & Acet.	1.0	\$24,542.70	ls	\$25,770	083-12	2
Stud Rails	(manual entry)	8,900.0	\$35.00	each	\$327,075	083-12	2

PHASE: FOUNDATIONS
PROJECT: Dull Silver Lion
PHASE: FOUNDATIONS

Fall 2014

PHASE COST AND PRODUCTION REPORT

A			A
	\$0		TOTAL CY 152.78
DIRECT MATERIAL COSTS	\$20,735		TOTAL SF - SURFACE AREA -
MISC. MATERIAL COSTS	\$104		TOTAL SF - FORMWORK -
LABOR WITH FRINGE	\$6,346		TOTAL EA -
EQUIP. RENTAL	\$0		PHASE UNITS, CY 153
P&F LABOR	\$0		TOTAL DAYS 7.12
TOTAL COSTS	\$27,184		TOTAL MAN HOURS 297
			MAN HOURS PER CY 1.95
GENERAL CONDITIONS	\$2,086		SF PER MAN HOUR -
TOTAL COST + GEN. COND.	\$29,270		ESTIMATED LABOR COST \$6,346
			LABOR COST PER CY \$41.54
PROFIT	\$878		LABOR COST PER SF \$0.00
PHASE PRICE	\$30,148		LABOR COST / MAN HR \$21.34
			UNIT PRICE PER CY \$177.93
PERCENT OF PROFIT	3.00%		EQUIP. & OPERATOR PER CY #DIV/0!
SALES TAX	5.00%	5.00%	UNIT PRICE PER LF \$0.00
MISC. MATERIAL %	0.50%	0.50%	UNIT PRICE PER EA \$0.00

If Footings are formed - - CY
 Ftg. Excavation Base Volume - - CY

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 5000 psi	Tower crane footing(s)	152.8	\$109.50	cuyd	\$17,566	010-13	2

PHASE: TRAFFIC CONTROL
 PROJECT: Dull Silver Lion
 PHASE: TRAFFIC CONTROL

Fall 2014

PHASE TO BE USED IN HIGH URBAN ENVIRONMENTS
 LINKED TO THE FRAMED SLAB PHASE

PHASE COST AND PRODUCTION REPORT

HH			HH	
SUBCONTRACT COSTS		\$0	TOTAL CY	-
DIRECT MATERIAL COSTS		\$0	TOTAL SF FRAMED SLAB	834,738.18
MISC. MATERIAL COSTS		\$0	TOTAL LF	-
LABOR WITH FRINGE		\$64,872	TOTAL EA	-
EQUIP. RENTAL		\$0	PHASE UNITS, SF	834,738
P&F LABOR		\$0	TOTAL DAYS	225.00
TOTAL COSTS		\$64,872	TOTAL MAN HOURS	3,600
GENERAL CONDITIONS		\$4,977	MAN HOURS PER CY	-
TOTAL COST + GEN. COND.		\$69,849	SF PER MAN HOUR	231.87
PROFIT		\$2,095	ESTIMATED LABOR COST	\$64,872
PHASE PRICE		\$71,945	LABOR COST PER CY	\$0.00
			LABOR COST PER SF	\$0.08
			LABOR COST / MAN HR	\$18.02
			UNIT PRICE PER CY	\$0.00
PERCENT OF PROFIT		3.00%	UNIT PRICE PER SF	\$0.09
SALES TAX	5.00%	5.00%	UNIT PRICE PER LF	\$0.00
MISC. MATERIAL %		0.50%	UNIT PRICE PER EA	\$0.00

PHASE: STRIP & RESHORE
PROJECT: Dull Silver Lion
PHASE: STRIP & RESHORE

Fall 2014

PHASE COST AND PRODUCTION REPORT

X			X	
SUBCONTRACT COSTS		\$83,474	TOTAL CY	1.00
DIRECT MATERIAL COSTS		\$5,715	TOTAL SF	834,738
MISC. MATERIAL COSTS		\$114	TOTAL LF	-
LABOR WITH FRINGE		\$506,971	TOTAL EA	-
EQUIP. RENTAL		\$17,010	PHASE UNITS, SF	834,738
P&F LABOR		\$0	TOTAL DAYS	245.51
TOTAL COSTS		\$613,284	TOTAL MAN HOURS	29,461
			MAN HOURS PER CY	29,461.35
GENERAL CONDITIONS		\$47,055	SF PER MAN HOUR	28.33
TOTAL COST + GEN. COND.		\$660,339	ESTIMATED LABOR COST	\$506,971
			LABOR COST PER CY	\$506,971
PROFIT		\$19,810	LABOR COST PER SF	\$0.61
PHASE PRICE		\$680,149	LABOR COST / MAN HR	\$17.21
			UNIT PRICE PER CY	\$613,284
PERCENT OF PROFIT		3.00%	UNIT PRICE PER SF	\$0.73
SALES TAX	5.00%	5.00%	UNIT PRICE PER LF	\$0.00
MISC. MATERIAL %		0.50%	UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
MISC. MATERIALS & FUEL							
Diesel Fuel	Scissor Lift - 25 ft.	1,814.4	\$3.00	gal	\$5,715	082-18	2
EQUIPMENT & SUBCONTRACT							
Scissor Lift - 25 ft.	QTY = 1	11.3	\$1,500.00	mnth	\$17,010	082-11	5
RESHORE MATERIAL INCL IN FRAME SLAB		834,738.2	\$0.10	LSUM	\$83,474	082-16	1

PHASE: COMPOSITE CLEAN-UP
 PROJECT: Dull Silver Lion
 PHASE: COMPOSITE CLEAN-UP

Fall 2014

PHASE COST AND PRODUCTION REPORT

AA			AA	
SUBCONTRACT COSTS		\$0	TOTAL CY	1.00
DIRECT MATERIAL COSTS		\$98,638	TOTAL SF	834,738
MISC. MATERIAL COSTS		\$493	TOTAL LF	-
LABOR WITH FRINGE		\$239,460	TOTAL EA	-
EQUIP. RENTAL		\$0	PHASE UNITS, SF	834,738
P&F LABOR		\$0	TOTAL DAYS	375.00
TOTAL COSTS		\$338,591	TOTAL MAN HOURS	15,000
GENERAL CONDITIONS		\$25,979	MAN HOURS PER CY	15,000.00
TOTAL COST + GEN. COND.		\$364,569	SF PER MAN HOUR	55.65
PROFIT		\$10,937	ESTIMATED LABOR COST	\$239,460
PHASE PRICE		\$375,507	LABOR COST PER WEEK	\$3,193
PERCENT OF PROFIT		3.00%	LABOR COST PER SF	\$0.29
SALES TAX	5.00%	5.00%	LABOR COST / MAN HR	\$15.96
MISC. MATERIAL %		0.50%	UNIT PRICE PER CY	\$375,507
			UNIT PRICE PER SF	\$0.45
			UNIT PRICE PER LF	\$0.00
			UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
MISC. MATERIALS & FUEL							
Composite Clean up Materials	(manual entry)		\$1,000.00		\$0	086-12	2
Diesel Fuel BobCat	mnth	-	\$3.00	gal	\$0	086-18	2
EQUIPMENT & SUBCONTRACT							
BobCat / Month	0	-	\$1,190.75	Month	\$0	086-11	5
BobCat Broom Attachment		-	\$425.00	Month	\$0	086-11	5
Composite Clean up Equipment		-	\$0.00		\$0	086-11	5
Dumpster pulls per week =	2						
Enter state code in TJB cell H12		150.0	\$500.00	Pull	\$78,850	086-12	2
Dumpsters for Washout		37.5	\$500.00	Pull	\$19,788	086-12	2
Flusher Truck (Manual Entry)		-	\$2,000.00	Month	\$0	086-12	2

PHASE COST AND PRODUCTION REPORT

P			P		
SUBCONTRACT COSTS		\$0	TOTAL CY		2,631
DIRECT MATERIAL COSTS		\$328,622	TOTAL SF		58,012
MISC. MATERIAL COSTS		\$1,643	TOTAL LF RISER		4,800.0
LABOR WITH FRINGE		\$142,257	TOTAL AVG. SETS (17R/SET)		77
EQUIP. RENTAL		\$0	PHASE UNITS, LF		4,800
P&F LABOR		\$261,054	TOTAL DAYS		184.62
TOTAL COSTS		\$733,576	TOTAL MAN HOURS		5,908
GENERAL CONDITIONS		\$56,284	MAN HOURS PER CY		2.25
TOTAL COST + GEN. COND.		\$789,861	SF PER MAN HOUR		9.82
PROFIT		\$23,696	ESTIMATED LABOR COST		\$142,257
PHASE PRICE		\$813,556	LABOR COST PER CY		\$54.07
PERCENT OF PROFIT		3.00%	LABOR COST PER LF RISER		\$29.64
SALES TAX	5.00%	5.00%	LABOR COST / MAN HR		\$24.08
MISC. MATERIAL %		0.50%	UNIT PRICE PER CY		\$278.81
			UNIT PRICE PER SF		\$12.65
			UNIT PRICE PER LF RISER		\$152.83
			UNIT PRICE PER AVG. SET		\$9,534.96

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
Concrete 5000 psi		2,631.1	\$109.50	cuyd	\$302,513	024-13	2
FORMWORK							
2"x12"-16' Mud Sills	(manual entry)	-	\$29.33	each	\$0	024-14	2
Frame Stair Riser		4,800	\$4.50	lnft	\$22,680	024-14	2
Steel Stair Form	(manual entry)	-	\$5,000.00	lsum	\$0	024-14	2
4x4x10 Ellis Jacks	(manual entry)	-	\$13.34	each	\$0	024-14	2
MISC. MATERIALS & FUEL							
Form Oil		70,748.6	\$0.03	sqft	\$2,229	024-12	2
Curing Compound		3.5	\$325.00	drum	\$1,200	024-12	2
Non-split Aggregate		-	\$0.60	sqft	\$0	024-12	2
Floor Sealer		-	\$700.00	drum	\$0	024-12	2
Pump Grout		-	\$85.00	CY	\$0	024-13	2
EQUIPMENT & SUBCONTRACT							
Place & Finish Frame Stair		58,012.0	\$4.50	sqft	\$261,054	024-19	7

FRAME STAIRS

Dull Silver Lion

ENTER INTERMEDIATE LANDING FLAT SLAB LENGTH, WIDTH & THICKNESS AND QTY.. NEXT, ENTER TREAD/RISER LENGTH DEPTH, HEIGHT AND QTY.. BASED ON RISER INFO AND SLAB THICKNESS, THE VOLUME OF SLAB UNDER TREADS IS AUTOMATICALLY CALCULATED AND ADDED TO THE RISER VOLUME. IF THERE ARE THICKENINGS AND TURNDOWNS ENTER THEM SEPARATELY IN ROWS PROVIDED USING COLUMNS C, D, E, & H.

TOTAL CONCRETE = 2,631.1
FORMWORK CONTACT AREA = 70,748.6

FINISH AREA = 58,012
LF OF RISER = 4,800

STAIR A

	PSI	QTY	LANDING OR RISER WIDTH LF	TREAD DEPTH LF	RISER HEIGHT IN	SLAB WIDTH LF	SLAB THICKNESS IN	CONCRETE CY
LANDING	5	20	9.00	*****	*****	4.00	8.00	17.78
LANDING				*****	*****			0.00
LANDING				*****	*****			0.00
RISERS	5	360	4.00	11.00	7.00	*****	8.00	733.88
RISERS						*****		0.00
RISERS						*****		0.00
SLAB THICKENING					*****	*****		0.00
SLAB TURNDOWN					*****	*****		0.00
								751.66
LF OF RISERS			1,440.00	TOTAL FINISH AREA		17,400.00	% WASTE =	5%
								789.2

STAIR B

	PSI	QTY	LANDING OR RISER WIDTH LF	TREAD DEPTH LF	RISER HEIGHT IN	SLAB WIDTH LF	SLAB THICKNESS IN	CONCRETE CY
LANDING	5	7	9.00	*****	*****	4.00	8.00	6.22
LANDING				*****	*****			0.00
LANDING				*****	*****			0.00
RISERS	5	120	4.00	11.00	7.00	*****	8.00	244.63
RISERS						*****		0.00
RISERS						*****		0.00
SLAB THICKENING					*****	*****		0.00
SLAB TURNDOWN					*****	*****		0.00
								250.85
LF OF RISERS			480.00	TOTAL FINISH AREA		5,812.00	% WASTE =	5%
								263.4

STAIR C

	PSI	QTY	LANDING OR RISER WIDTH LF	TREAD DEPTH LF	RISER HEIGHT IN	SLAB WIDTH LF	SLAB THICKNESS IN	CONCRETE CY
LANDING	5	20	9.00	*****	*****	4.00	8.00	17.78
LANDING				*****	*****			0.00
LANDING				*****	*****			0.00
RISERS	5	360	4.00	11.00	7.00	*****	8.00	733.88
RISERS						*****		0.00
RISERS						*****		0.00
SLAB THICKENING					*****	*****		0.00
SLAB TURNDOWN					*****	*****		0.00
								751.66
LF OF RISERS			1,440.00	TOTAL FINISH AREA		17,400.00	% WASTE =	5%
								789.2

STAIR D

	PSI	QTY	LANDING OR RISER WIDTH LF	TREAD DEPTH LF	RISER HEIGHT IN	SLAB WIDTH LF	SLAB THICKNESS IN	CONCRETE CY
LANDING	5	20	9.00	*****	*****	4.00	8.00	17.78
LANDING				*****	*****			0.00
LANDING				*****	*****			0.00
RISERS	5	360	4.00	11.00	7.00	*****	8.00	733.88
RISERS						*****		0.00
RISERS						*****		0.00
SLAB THICKENING					*****	*****		0.00
SLAB TURNDOWN					*****	*****		0.00
								751.66
LF OF RISERS			1,440.00	TOTAL FINISH AREA		17,400.00	% WASTE =	5%
								789.2

Enter Testing Frequency => **100**

PHASE COST AND PRODUCTION REPORT

DD					DD
SUBCONTRACT COSTS		\$27,480	TOTAL CY		1.00
DIRECT MATERIAL COSTS		\$0	TOTAL SF		-
MISC. MATERIAL COSTS		\$0	TOTAL LF		-
LABOR WITH FRINGE - (091-01)		\$48,273	TOTAL EA		1,832
EQUIP. RENTAL		\$0	PHASE UNITS, EA		1,832
P&F LABOR		\$0	TOTAL DAYS		726.26
TOTAL COSTS		\$75,753	TOTAL MAN HOURS		1,379
GENERAL CONDITIONS		\$5,812	MAN HOURS PER CY		1,379.23
TOTAL COST + GEN. COND.		\$81,565	SF PER MAN HOUR		-
PROFIT		\$2,447	ESTIMATED LABOR COST		\$48,273
PHASE PRICE		\$84,012	LABOR COST PER CY		\$48,273.08
			LABOR COST PER SF		\$0.00
			LABOR COST / MAN HR		\$35.00
			UNIT PRICE PER CY		\$84,011.89
PERCENT OF PROFIT		3.00%	UNIT PRICE PER SF		\$0.00
SALES TAX	5.00%	5.00%	UNIT PRICE PER LF		\$0.00
MISC. MATERIAL %		0.50%	UNIT PRICE PER EA		\$45.86

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
CONCRETE							
FORMWORK & MATERIALS							
EQUIPMENT & SUBCONTRACT							
Extra 6 Stripping Cylinders		1,832.0	\$15.00	each	\$27,480	091-19	1

PHASE: SAFETY
 PROJECT: Dull Silver Lion

Fall 2014

PHASE: SAFETY This phase includes Temporary rails, cables, and safety supervision

PHASE COST AND PRODUCTION REPORT

			Z
SUBCONTRACT COSTS	\$0	TOTAL CY	1.00
DIRECT MATERIAL COSTS	\$99,482	TOTAL SF	834,738.18
MISC. MATERIAL COSTS	\$506	TOTAL LF	-
LABOR WITH FRINGE	\$211,374	TOTAL EA	-
EQUIP. RENTAL	\$1,800	PHASE UNITS, WEEKS	75
P&F LABOR	\$0	TOTAL DAYS	65.25
TOTAL COSTS	\$313,163	TOTAL MAN HOURS	9,450
GENERAL CONDITIONS	\$24,028	MAN HOURS PER CY	9,450.00
TOTAL COST + GEN. COND.	\$337,191	SF PER MAN HOUR	88.33
PROFIT	\$10,116	ESTIMATED LABOR COST	\$211,374
PHASE PRICE	\$347,306	LABOR COST PER WEEK	\$2,818
PERCENT OF PROFIT	3.00%	LABOR COST PER SF	\$0.25
SALES TAX	5.00%	LABOR COST / MAN HR	\$22.37
MISC. MATERIAL %	0.50%	UNIT PRICE PER CY	\$313,163
		UNIT PRICE PER SF	\$0.38
		UNIT PRICE PER LF	\$0.00
		UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
FORMWORK							
2"x4"-16'		1,537.0	\$6.67	each	\$10,756	093-14	2
1"x4"-16'		447.0	\$4.67	EACH	\$2,190	093-14	2
ELLIS JACK POSTS	safey cables	10.0	\$20.01	each	\$210	093-14	2
MISC. MATERIALS & FUEL							
Blue Snow Safety Fence 100' Roll		268.0	\$80.00	ROLL	\$22,512	093-12	2
2"x4"-16' ToeBoard for Safety Fence		1,340.9	\$6.67	each	\$9,384	093-14	2
PVC safey cables	(manual entry)		\$400.00	LS	\$0	093-12	2
CLAMPS/EYEBOLTS	safey cables	30	\$3.50	each	\$110	093-12	2
1/2" CABLE	safey cables	2,000.0	\$0.30	LF	\$630	093-12	2
SAFETY EQUIPMENT & SUBCONTRACT							
Safety Equip.		834,738.2	\$0.03	sf	\$26,294	093-11	2
Harness & Lanyard	(manual entry)	40.0	\$226.00	each	\$9,492	093-11	2
Positioning Chains	(manual entry)	-	\$68.00	each	\$0	093-11	2
10' Scorpion Retractable	(manual entry)	30.0	\$105.00	each	\$3,308	093-11	2
30' Scorpion Retractable	(manual entry)	-	\$400.00	each	\$0	093-11	2
Rescue Mats (In Crane)	(manual entry)	-	\$1,200.00	each	\$0	093-11	2
Stretchers (In Trailer)	(manual entry)	-	\$1,100.00	each	\$0	093-11	2
1st Aid Supplies	(manual entry)	-	\$3,000.00	Isum	\$0	093-11	2
Fire Extinguishers (10lb)		84.0	\$45.00	each	\$3,969	093-11	2
Fire Extinguishers (20lb)		56.0	\$90.00	each	\$5,292	093-11	2
Caution Tape, Signs, Misc.	(manual entry)	1.0	\$3,500.00	Isum	\$3,675	093-11	2
Clear Safety Glasses - Initial	(manual entry)	75.0	\$1.70	each	\$134	093-11	2
Dark Safety Glasses - Initial	(manual entry)	75.0	\$1.90	each	\$150	093-11	2
Clear Replacements	(manual entry)	250.0	\$1.70	each	\$446	093-11	2
Dark Replacements	(manual entry)	250.0	\$1.90	each	\$499	093-11	2
Hard Hats - Initial	(manual entry)	20.0	\$7.80	each	\$164	093-11	2
Hard Hats - Replacements	(manual entry)	5.0	\$7.80	each	\$41	093-11	2
Initial Drug Test	(manual entry)	10.0	\$13.50	each	\$142	020-19	2
Random Drug Testing	(manual entry)	6.0	\$13.50	each	\$85	020-19	2
REQUIRED FOREMEN SAFETY TRAINING							
General Superintendent	(manual entry)	-	\$600.00	each	\$0	093-11	5
Superintendents	(manual entry)	1.0	\$600.00	each	\$600	093-11	5
Project Manager	(manual entry)	1.0	\$600.00	each	\$600	093-11	5
Field Manager	(manual entry)	-	\$600.00	each	\$0	093-11	5
Foremen - 1 per 50 workers (350)	(manual entry)	1.0	\$600.00	each	\$600	093-11	5
Foremen - Turnover	(manual entry)	-	\$600.00	each	\$0	093-11	5

PHASE: OVERTIME
 PROJECT: Dull Silver Lion
 PHASE: OVERTIME

Fall 2014

PHASE COST AND PRODUCTION REPORT

BB			BB	
SUBCONTRACT COSTS		\$0	TOTAL CY	1.00
DIRECT MATERIAL COSTS		\$0	TOTAL SF	834,738.18
MISC. MATERIAL COSTS		\$0	TOTAL LF	-
LABOR WITH FRINGE		\$90,000	TOTAL EA	-
EQUIP. RENTAL		\$0	PHASE UNITS, WEEKS	75.0
P&F LABOR		\$0	TOTAL DAYS	-
TOTAL COSTS		\$90,000	TOTAL MAN HOURS	4,286
GENERAL CONDITIONS		\$6,905	MAN HOURS PER CY	4,285.71
TOTAL COST + GEN. COND.		\$96,905	SF PER MAN HOUR	194.77
PROFIT		\$2,907	ESTIMATED LABOR COST	\$0
PHASE PRICE		\$99,813	LABOR COST PER WEEK	\$0.00
			LABOR COST PER SF	\$0.00
			LABOR COST / MAN HR	\$0.00
PERCENT OF PROFIT		3.00%	UNIT PRICE PER CY	\$99,812.52
SALES TAX	5.00%	5.00%	UNIT PRICE PER SF	\$0.12
MISC. MATERIAL %		0.50%	UNIT PRICE PER LF	\$0.00
			UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
EQUIPMENT & SUBCONTRACT							
Overtime Labor		75.0	\$1,200.00		\$90,000	092-01	6
Paid Holidays (enter dollars if required on Wage s		-			\$0	092-01	6

PHASE COST AND PRODUCTION REPORT

Y			Y	
SUBCONTRACT COSTS		\$0	TOTAL CY	1.00
DIRECT MATERIAL COSTS		\$43,328	TOTAL SF	834,738
MISC. MATERIAL COSTS		\$361	TOTAL LF	-
LABOR WITH FRINGE		\$206,807	TOTAL EA	-
EQUIP. RENTAL		\$28,836	PHASE UNITS, SF	1,098,114
P&F LABOR		\$0	TOTAL DAYS	322.97
TOTAL COSTS		\$279,332	TOTAL MAN HOURS	10,335
GENERAL CONDITIONS		\$21,432	MAN HOURS PER CY	10,335.19
TOTAL COST + GEN. COND.		\$300,764	SF PER MAN HOUR	80.77
PROFIT		\$9,023	ESTIMATED LABOR COST	\$206,807
PHASE PRICE		\$309,787	LABOR COST PER CY	\$206,807
			LABOR COST PER SF	\$0.25
			LABOR COST / MAN HR	\$20.01
PERCENT OF PROFIT		3.00%	UNIT PRICE PER CY	\$279,332
SALES TAX	5.00%	5.00%	UNIT PRICE PER SF	\$0.33
MISC. MATERIAL %		0.50%	UNIT PRICE PER LF	\$0.00
			UNIT PRICE PER EA	\$0.00

Materials	Qty/On/Off	Quantity	Unit Price	Unit	Total Price	Phase Code	Category
MISC. MATERIALS & FUEL							
Patch & Rub	WALLS	17,446.0	\$0.03	sqft	\$550	026-12	2
Patch & Rub	SHEAR WALLS	70,384.1	\$0.03	sqft	\$2,217	026-12	2
Patch & Rub	SINGLE SIDED WALLS	-	\$0.10	sqft	\$0	026-12	2
Patch & Rub	COLUMNS & PEDESTALS	86,992.1	\$0.03	sqft	\$2,740	026-12	2
Patch & Rub	CURB	3,474.0	\$0.03	sqft	\$109	026-12	2
Patch & Rub	BEAMS	-	\$0.03	sqft	\$0	026-12	2
Patch & Rub	DROPS	27,067.3	\$0.03	sqft	\$853	026-12	2
Patch & Rub	FRAME SLABS	834,738.2	\$0.03	sqft	\$26,294	026-12	2
Patch & Rub	Stair on Grade	-	\$0.05	sqft	\$0	026-12	2
Patch & Rub	Frame Stairs	58,012.0	\$0.05	sqft	\$3,046	026-12	2
Diesel Fuel	Scissor Lift - 25 ft.	2,386.9	\$3.00	gal	\$7,519	082-18	2
EQUIPMENT & SUBCONTRACT							
Grinders, stones, etc...		64.6	\$100.00	week	\$6,459	026-11	5
LIFT	QTY = 1	14.9	\$1,500.00	mnth	\$22,377	026-11	5

LOCAL WAGE RATES

Over 3 Floors

Updated 2/9/2007

Latest rates

QTY	PERSONNEL	HOURS	BASE RATE	FRINGE	BURDEN	\$/HOUR	PERSONNEL	BASE RATE	FRINGE	BURDEN	\$/HOUR
1	FOREMAN	8	\$ 22.50	\$ 5.58	\$ 3.46	\$ 31.54	Foreman	\$ 24.00	\$ 5.58	\$ 3.46	\$ 33.05
1	SKILLED LABORER	8	\$ 12.50	\$ 3.46	\$ 2.06	\$ 18.02	Skilled Laborer	\$ 13.50	\$ 3.46	\$ 2.06	\$ 19.02
1	CARPENTER	8	\$ 17.00	\$ 3.69	\$ 2.69	\$ 23.38	Carpenter	\$ 18.50	\$ 3.69	\$ 2.69	\$ 24.88
1	ASST. ENGINEER	8	\$ 15.50	\$ 3.61	\$ 2.48	\$ 21.59	Asst. Engineer	\$ 17.00	\$ 3.61	\$ 2.48	\$ 23.09
1	LABORER	8	\$ 10.50	\$ 3.31	\$ 1.64	\$ 15.45	Laborer	\$ 10.50	\$ 3.31	\$ 1.64	\$ 15.45
1	RODMAN	8	\$ 17.50	\$ 3.71	\$ 2.76	\$ 23.97	Rodman	\$ 19.00	\$ 3.71	\$ 2.76	\$ 25.47
1	FINISHER	8	\$ 18.00	\$ 3.74	\$ 2.83	\$ 24.57	Finishers	\$ 19.00	\$ 3.74	\$ 2.83	\$ 25.57
1	EQUIP. OPERATOR	8	\$ 16.00	\$ 3.64	\$ 2.55	\$ 22.19	Equipment Oper	\$ 17.50	\$ 3.64	\$ 2.55	\$ 23.69
1	CRANE OPERATOR	8	\$ 27.00	\$ 4.19	\$ 4.09	\$ 35.28	Crane Operator	\$ 27.50	\$ 4.19	\$ 4.09	\$ 35.78
1	ENGINEER/SUPER	8	\$ 33.00	\$ 6.20	\$ 4.44	\$ 40.15	Engineer/Super	\$ 30.00	\$ 6.20	\$ 4.44	\$ 40.65

Health	Life/STD	V. H. S	Unemp Taxes	WC and GL	FICA
\$ 3.33	\$ 0.13	\$ 2.12	\$ 0.10	\$ 1.53	\$ 1.84
\$ 2.66	\$ 0.10	\$ 0.70	\$ 0.10	\$ 0.89	\$ 1.07
\$ 2.66	\$ 0.10	\$ 0.93	\$ 0.10	\$ 1.18	\$ 1.42
\$ 2.66	\$ 0.10	\$ 0.85	\$ 0.10	\$ 1.08	\$ 1.30
\$ 2.66	\$ 0.10	\$ 0.55	\$ 0.10	\$ 0.70	\$ 0.84
\$ 2.66	\$ 0.10	\$ 0.95	\$ 0.10	\$ 1.21	\$ 1.45
\$ 2.66	\$ 0.10	\$ 0.98	\$ 0.10	\$ 1.24	\$ 1.49
\$ 2.66	\$ 0.10	\$ 0.88	\$ 0.10	\$ 1.11	\$ 1.34
\$ 2.66	\$ 0.10	\$ 1.43	\$ 0.10	\$ 1.81	\$ 2.18
\$ 3.33	\$ 0.13	\$ 2.74	\$ 0.10	\$ 1.97	\$ 2.37

Labor Rates by Phase

WALLS

SHEAR WALLS			8'-0" - 15'-11"			PARAPET / KNEE WALLS			OTHER WALLS			WALL EMBEDS		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8	FOREMAN		8	FOREMAN		8	FOREMAN		0
SKILLED LABORER		16	SKILLED LABORER		16	SKILLED LABORER		16	SKILLED LABORER		16	SKILLED LABORER		8
CARPENTER		32	CARPENTER		32	CARPENTER		32	CARPENTER		32	CARPENTER		16
ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		8
LABORER		16	LABORER		16	LABORER		16	LABORER		16	LABORER		0
RODMAN		0	RODMAN		0	RODMAN		0	RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		8	EQUIP. OPERATOR		8	EQUIP. OPERATOR		8	EQUIP. OPERATOR		8	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	10	80	TOTALS	10	80	TOTALS	10	80	TOTALS	4	32	TOTALS	4	32
SHEAR WALLS			8'-0" - 15'-11"			PARAPET / KNEE WALLS			OTHER WALLS			WALL EMBEDS		
TOTAL CY		1,368	TOTAL CY		194	TOTAL CY		115	TOTAL CY		1.0	TOTAL CY		1.0
TOTAL SF		70,384	TOTAL SF		14,707	TOTAL SF		2,739	TOTAL SF		-	TOTAL SF		-
TOTAL LF		3,933	TOTAL LF		2,933.00	TOTAL LF		166.00	TOTAL LF		-	TOTAL LF		-
TOTAL EA		-	TOTAL EA		-	TOTAL EA		-	TOTAL EA		1,758.03	TOTAL EA		1,758.03
PHASE UNITS, LF		3,933	PHASE UNITS, LF		2,933	PHASE UNITS, LF		166	PHASE UNITS, EA		1,758.0	PHASE UNITS, EA		1,758.0
TOTAL DAYS		157.33	TOTAL DAYS		73.33	TOTAL DAYS		10.38	TOTAL DAYS		14.06	TOTAL DAYS		14.06
TOTAL MAN HOURS		12,586	TOTAL MAN HOURS		5,866	TOTAL MAN HOURS		830	TOTAL MAN HOURS		450	TOTAL MAN HOURS		450
MAN HOURS PER CY		9.20	MAN HOURS PER CY		30.16	MAN HOURS PER CY		7.21	MAN HOURS PER CY		450.06	MAN HOURS PER CY		450.06
SF PER MAN HOUR		5.59	SF PER MAN HOUR		2.51	SF PER MAN HOUR		3.30	SF PER MAN HOUR		-	SF PER MAN HOUR		-
ESTIMATED LABOR COST	\$	269,580	ESTIMATED LABOR COST	\$	125,644	ESTIMATED LABOR COST	\$	17,778	ESTIMATED LABOR COST	\$	9,718	ESTIMATED LABOR COST	\$	9,718
LABOR COST PER CY	\$	197	LABOR COST PER CY	\$	646	LABOR COST PER CY	\$	154	LABOR COST PER CY	\$	9,717.84	LABOR COST PER CY	\$	9,717.84
LABOR COST PER SF	\$	3.83	LABOR COST PER SF	\$	8.54	LABOR COST PER SF	\$	6.49	LABOR COST PER EA	\$	5.53	LABOR COST PER EA	\$	5.53
LABOR COST / MAN HR	\$	21.42	LABOR COST / MAN HR	\$	21.42	LABOR COST / MAN HR	\$	21.42	LABOR COST / MAN HR	\$	21.59	LABOR COST / MAN HR	\$	21.59
LF / DAY		25.0	LF / DAY		40.0	LF / DAY		16.0	EMBEDS / DAY		125.0	EMBEDS / DAY		125.0

Tower Crane Foundations

TOWER CRANE FOOTING(S)			EXCAVATE TOWER CRANE FOOTING(S)		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8
SKILLED LABORER		8	SKILLED LABORER		8
CARPENTER		24	CARPENTER		0
ASST. ENGINEER		0	ASST. ENGINEER		0
LABORER		16	LABORER		8
RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		8
CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	7	56	TOTALS	4	32
TOWER CRANE FOOTING(S)			EXCAVATE TOWER CRANE FOOTING(S)		
TOTAL CY		152.8	TOTAL CY		152.8
TOTAL SF - SURFACE AREA		-	TOTAL SF - SURFACE AREA		-
TOTAL SF - FORMWORK		-	TOTAL SF - FORMWORK		-
TOTAL EA		-	TOTAL EA		-
PHASE UNITS, CY		152.8	PHASE UNITS, CY		153
TOTAL DAYS		2.55	TOTAL DAYS		2.55
TOTAL MAN HOURS		143	TOTAL MAN HOURS		81
MAN HOURS PER CY		0.93	MAN HOURS PER CY		0.53
SF PER MAN HOUR		-	SF PER MAN HOUR		-
ESTIMATED LABOR COST	\$	3,068	ESTIMATED LABOR COST	\$	1,776
LABOR COST PER CY	\$	20.08	LABOR COST PER CY	\$	11.63
LABOR COST PER SF	\$	-	LABOR COST PER EA	\$	-
LABOR COST / MAN HR	\$	21.51	LABOR COST / MAN HR	\$	21.80
CY / DAY		60.0	UNIT / DAY		60.0

Columns

COLUMNS LESS THAN 12'			ROUND COLUMNS LESS THAN 12'			SLOPED COLUMNS		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8	FOREMAN		8
SKILLED LABORER		0	SKILLED LABORER		0	SKILLED LABORER		0
CARPENTER		24	CARPENTER		24	CARPENTER		24
ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		8
LABORER		24	LABORER		24	LABORER		24
RODMAN		0	RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	8	64	TOTALS	8	64	TOTALS	8	64
COLUMNS LESS THAN 12'			ROUND COLUMNS LESS THAN 12'			SLOPED COLUMNS		
TOTAL CY		1,757	TOTAL CY		9	TOTAL CY		369
TOTAL SF		84,765	TOTAL SF		480	TOTAL SF		1,747
TOTAL LF		-	TOTAL LF		-	TOTAL LF		-
TOTAL EA		1,116	TOTAL EA		10	TOTAL EA		190
PHASE UNITS, EA		1,116	PHASE UNITS, EA		10	PHASE UNITS, EA		190
TOTAL DAYS		124.00	TOTAL DAYS		1.00	TOTAL DAYS		63.33
TOTAL MAN HOURS		7,936	TOTAL MAN HOURS		64	TOTAL MAN HOURS		4,053
MAN HOURS PER CY		4.52	MAN HOURS PER CY		7.09	MAN HOURS PER CY		10.98
SF PER MAN HOUR		10.68	SF PER MAN HOUR		7.50	SF PER MAN HOUR		0.43
ESTIMATED LABOR COST	\$	168,263	ESTIMATED LABOR COST	\$	1,357	ESTIMATED LABOR COST	\$	85,941
LABOR COST PER CY	\$	95.75	LABOR COST PER CY	\$	150.41	LABOR COST PER CY	\$	232.75
LABOR COST PER SF	\$	1.99	LABOR COST PER SF	\$	2.83	LABOR COST PER SF	\$	49.18

LABOR COST / MAN HR	\$ 21.20	LABOR COST / MAN HR	\$ 21.20	LABOR COST / MAN HR	\$ 21.20
COLUMNS / DAY	9.0	COLUMNS / DAY	10.0	COLUMNS / DAY	3.0

Framed Slab

Parking SLABS <=12'			FRAME RAMPS			HIGH STORY >12'			SHORING HIGH STORY SLABS		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8	FOREMAN		8	FOREMAN		8
SKILLED LABORER		72	SKILLED LABORER		72	SKILLED LABORER		72	SKILLED LABORER		72
CARPENTER		104	CARPENTER		104	CARPENTER		104	CARPENTER		104
ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		8
LABORER		24	LABORER		24	LABORER		24	LABORER		24
DECK MONITOR		8	DECK MONITOR		8	DECK MONITOR		8	DECK MONITOR		8
FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	28	224	TOTALS	28	224	TOTALS	28	224	TOTALS	28	224
Parking SLABS <=12'			FRAME RAMPS			HIGH STORY >12'			SHORING HIGH STORY SLABS		
TOTAL CY	7,138		TOTAL CY	450		TOTAL CY	389		TOTAL CY	1	
TOTAL SF	246,700		TOTAL SF	15,538		TOTAL SF	14,300		TOTAL SF	14,300	
TOTAL LF	-		TOTAL LF	-		TOTAL LF	-		TOTAL LF	-	
TOTAL EA	-		TOTAL EA	-		TOTAL EA	-		TOTAL EA	-	
PHASE UNITS, SF	246,700		PHASE UNITS, SF	15,538		PHASE UNITS, SF	14,300		PHASE UNITS, SF	14,300	
TOTAL DAYS	123.35		TOTAL DAYS	7.77		TOTAL DAYS	4.77		TOTAL DAYS	0.72	
TOTAL MAN HOURS	27,630		TOTAL MAN HOURS	1,740		TOTAL MAN HOURS	1,068		TOTAL MAN HOURS	160	
MAN HOURS PER CY	3.87		MAN HOURS PER CY	3.87		MAN HOURS PER CY	2.74		MAN HOURS PER CY	160.16	
SF PER MAN HOUR	8.93		SF PER MAN HOUR	8.93		SF PER MAN HOUR	13.39		SF PER MAN HOUR	89.29	
ESTIMATED LABOR COST	\$ 581,788		ESTIMATED LABOR COST	\$ 36,643		ESTIMATED LABOR COST	\$ 22,482		ESTIMATED LABOR COST	\$ 3,372	
LABOR COST PER CY	\$ 81.50		LABOR COST PER CY	\$ 81.50		LABOR COST PER CY	\$ 57.78		LABOR COST PER CY	\$ 3,372.34	
LABOR COST PER SF	\$ 2.36		LABOR COST PER SF	\$ 2.36		LABOR COST PER SF	\$ 1.57		LABOR COST PER SF	\$ 0.24	
LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06	
SF / DAY	2,000.0		SF / DAY	2,000.0		SF / DAY	3,000.0		SF / DAY	20,000.0	
TYPICAL SLABS <=12'			BEAMS - TYP FRAME SLAB			Transfer Girders			DROP HEADS		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8	FOREMAN		8	FOREMAN		8
SKILLED LABORER		72	SKILLED LABORER		72	SKILLED LABORER		72	SKILLED LABORER		72
CARPENTER		104	CARPENTER		104	CARPENTER		104	CARPENTER		104
ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		8
LABORER		24	LABORER		24	LABORER		24	LABORER		24
DECK MONITOR		8	DECK MONITOR		8	DECK MONITOR		8	DECK MONITOR		8
FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	28	224	TOTALS	28	224	TOTALS	28	224	TOTALS	28	224
TYPICAL SLABS <=12'			BEAMS - TYP FRAME SLAB			Transfer Girders			DROP HEADS		
TOTAL CY	13,286		TOTAL CY	398		TOTAL CY	67		TOTAL CY	4,436	
TOTAL SF	501,200		TOTAL SF	13,908		TOTAL SF	1,470		TOTAL SF	-	
TOTAL LF	-		TOTAL LF	9,032.39		TOTAL LF	105.00		TOTAL LF	58,926.00	
TOTAL EA	-		TOTAL EA	412.00		TOTAL EA	1.00		TOTAL EA	-	
PHASE UNITS, SF	501,200		PHASE UNITS, SF	13,908		PHASE UNITS, SF	1,470		PHASE UNITS, LF	58,926	
TOTAL DAYS	147.41		TOTAL DAYS	4.64		TOTAL DAYS	2.45		TOTAL DAYS	21.05	
TOTAL MAN HOURS	33,020		TOTAL MAN HOURS	1,038		TOTAL MAN HOURS	549		TOTAL MAN HOURS	4,714	
MAN HOURS PER CY	2.49		MAN HOURS PER CY	2.61		MAN HOURS PER CY	8.15		MAN HOURS PER CY	1.06	
SF PER MAN HOUR	15.18		SF PER MAN HOUR	13.39		SF PER MAN HOUR	2.68		SF PER MAN HOUR	-	
ESTIMATED LABOR COST	\$ 695,276		ESTIMATED LABOR COST	\$ 21,866		ESTIMATED LABOR COST	\$ 11,556		ESTIMATED LABOR COST	\$ 99,260	
LABOR COST PER CY	\$ 52.33		LABOR COST PER CY	\$ 54.93		LABOR COST PER CY	\$ 171.51		LABOR COST PER CY	\$ 22.38	
LABOR COST PER SF	\$ 1.39		LABOR COST PER SF	\$ 1.57		LABOR COST PER SF	\$ 7.86		LABOR COST PER LF	\$ 1.68	
LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06	
SF / DAY	3,400.0		SF / DAY	3,000.0		SF / DAY	600.0		LF / DAY	2,800.0	
PHR - EMR - STAIR ROOF			SLAB DEPRESSIONS/TURNDOWNS			STUD RAILS			EMBEDS		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		8	FOREMAN		0	FOREMAN		0
SKILLED LABORER		72	SKILLED LABORER		72	SKILLED LABORER		1	SKILLED LABORER		8
CARPENTER		104	CARPENTER		104	CARPENTER		1	CARPENTER		16
ASST. ENGINEER		8	ASST. ENGINEER		8	ASST. ENGINEER		0	ASST. ENGINEER		8
LABORER		24	LABORER		24	LABORER		1	LABORER		8
DECK MONITOR		8	DECK MONITOR		8	RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	28	224	TOTALS	28	224	TOTALS	3	24	TOTALS	5	40
PHR - EMR - STAIR ROOF			SLAB DEPRESSIONS/TURNDOWNS			STUD RAILS			EMBEDS		
TOTAL CY	1,737		TOTAL CY	-		TOTAL CY	-		TOTAL CY	-	1.0
TOTAL SF	57,000		TOTAL SF TURNDOWN	-		TOTAL SF	-		TOTAL SF	-	-
TOTAL LF	-		TOTAL LF DEPRESSION	500.00		TOTAL LF	-		TOTAL LF	-	-
TOTAL EA	-		TOTAL EA	-		TOTAL EA	-		TOTAL EA	-	2,681.88
PHASE UNITS, SF	57,000		PHASE UNITS	500		TOTAL RAILS - Enter in P.T.	8,900		PHASE UNITS, EA	2,681.9	
TOTAL DAYS	47.50		TOTAL DAYS	0.28		TOTAL DAYS	111.25		TOTAL DAYS	15.33	
TOTAL MAN HOURS	10,640		TOTAL MAN HOURS	62		TOTAL MAN HOURS	2,670		TOTAL MAN HOURS	613	
MAN HOURS PER CY	6.13		MAN HOURS PER CY	-		MAN HOURS PER CY	-		MAN HOURS PER CY	613.00	
SF PER MAN HOUR	5.36		SF PER MAN HOUR	8.04		SF PER MAN HOUR	-		SF PER MAN HOUR	-	
ESTIMATED LABOR COST	\$ 224,037		ESTIMATED LABOR COST	\$ 1,310		ESTIMATED LABOR COST	\$ 50,596.50		ESTIMATED LABOR COST	\$ 12,483	
LABOR COST PER CY	\$ 128.98		LABOR COST PER CY	\$ -		LABOR COST PER CY	\$ -		LABOR COST PER CY	\$ 12,483.13	
LABOR COST PER SF	\$ 3.93		LABOR COST PER SF/LF	\$ 2.62		LABOR COST PER RAIL	\$ 5.69		LABOR COST PER EA	\$ 4.65	
LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 21.06		LABOR COST / MAN HR	\$ 18.95		LABOR COST / MAN HR	\$ 20.36	
SF / DAY	1,200.0		SF-LF / DAY	1,800.0		EMBEDS / DAY	80.0		EMBEDS / DAY	175.0	

Framed Stair

Curb

PT Cables

STAIR A	CURB ON DECK	SET ANCHORS AND GROUT	PLACE PT CABLE
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PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		0	FOREMAN		0	FOREMAN		8
SKILLED LABORER		8	SKILLED LABORER		16	SKILLED LABORER		16	SKILLED LABORER		0
CARPENTER		16	CARPENTER		24	CARPENTER		0	CARPENTER		0
ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		8
LABORER		0	LABORER		0	LABORER		8	LABORER		0
DECK MONITOR		0	RODMAN		0	RODMAN		0	RODMAN		48
FINISHER		0	FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	4	32	TOTALS	5	40	TOTALS	3	24	TOTALS	8	64
STAIR A			CURB ON DECK			SET ANCHORS AND GROUT			PLACE PT CABLE		
TOTAL CY		2,631	TOTAL CY		58	TOTAL CY		1	TOTAL CY		1
TOTAL SF		58,012	TOTAL SF - ONE SIDE ONLY		1,737.00	TOTAL SF		-	TOTAL SF		-
TOTAL LF OF RISER		4,800.00	TOTAL LF		1,287.00	TOTAL LF		-	TOTAL LF		-
TOTAL AVG. SETS (17R/SET)		76.94	TOTAL EA		1,287.00	TOTAL EA		13,593	TOTAL LBS		-
PHASE UNITS, LF RISER		4,800	PHASE UNITS, LF		1,287	PHASE UNITS, LBS		13,593	PHASE UNITS, LBS		566,370
TOTAL DAYS		184.62	TOTAL DAYS		19.80	TOTAL DAYS		271.86	TOTAL DAYS		246.25
TOTAL MAN HOURS		5,908	TOTAL MAN HOURS		792	TOTAL MAN HOURS		6,525	TOTAL MAN HOURS		15,760
MAN HOURS PER CY		2.25	MAN HOURS PER CY		13.70	MAN HOURS PER CY		6,524.58	MAN HOURS PER CY		-
SF PER MAN HOUR		9.82	LF PER MAN HOUR		1.63	SF PER MAN HOUR		-	LB PER MAN HOUR		35.94
ESTIMATED LABOR COST		\$ 142,257	ESTIMATED LABOR COST		\$ 16,819	ESTIMATED LABOR COST		\$ 111,984	ESTIMATED LABOR COST		\$ 481,415
LABOR COST PER CY		\$ 54.07	LABOR COST PER CY		\$ 290.84	LABOR COST PER CY		\$ 111,983.58	LABOR COST PER CY		\$ 481,414.50
LABOR COST PER LF RISER		\$ 29.64	LABOR COST PER LF		\$ 13.07	LABOR COST PER EA		\$ 8.24	LABOR COST PER LB		\$ 0.85
LABOR COST / MAN HR		\$ 24.08	LABOR COST / MAN HR		\$ 21.24	LABOR COST / MAN HR		\$ 17.16	LABOR COST / MAN HR		\$ 24.62
LF RISER / DAY		26.0	UNIT / DAY		65.0	GROMMETS / DAY		50.0			

Strip & Reshore

Patch & Grind

Clean Up

STRIP & RESHORE			PATCH & GRIND			COMPOSITE CLEAN-UP CREW		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		8	FOREMAN		0	FOREMAN		0
SKILLED LABORER		32	SKILLED LABORER		0	SKILLED LABORER		8
CARPENTER		0	CARPENTER		0	CARPENTER		0
ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		0
LABORER		80	LABORER		16	LABORER		32
RODMAN		0	RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		16	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	15	120	TOTALS	4	32	TOTALS	5	40
STRIP & RESHORE			PATCH & GRIND			COMPOSITE CLEAN-UP CREW		
TOTAL CY		1	TOTAL CY		1	TOTAL CY		1
TOTAL SF		834,738	TOTAL SF OF DECK		834,738	TOTAL SF		834,738.18
TOTAL LF		-	TOTAL LF		-	TOTAL LF		-
TOTAL EA		-	TOTAL EA		-	TOTAL EA		-
PHASE UNITS, SF		834,738	PHASE UNITS, SF		1,098,114	PHASE UNITS, WEEKS		75
TOTAL DAYS		245.51	TOTAL DAYS		322.97	TOTAL DAYS		375.00
TOTAL MAN HOURS		29,461	TOTAL MAN HOURS		10,335	TOTAL MAN HOURS		15,000
MAN HOURS PER CY		29,461.35	MAN HOURS PER CY		10,335.19	MAN HOURS PER CY		15,000.00
SF PER MAN HOUR		28.33	SF PER MAN HOUR		80.77	SF PER MAN HOUR		55.65
ESTIMATED LABOR COST		\$ 506,971	ESTIMATED LABOR COST		\$ 206,807	ESTIMATED LABOR COST		\$ 239,460.00
LABOR COST PER CY		\$ 506,971	LABOR COST PER CY		\$ 206,807	LABOR COST PER CY		\$ 239,460.00
LABOR COST PER SF		\$ 0.61	LABOR COST PER SF DECK		\$ 0.25	LABOR COST PER SF		\$ 0.29
LABOR COST / MAN HR		\$ 17.21	LABOR COST / MAN HR		\$ 20.01	LABOR COST / MAN HR		\$ 15.96
SF / DAY		3,400.00	SF / DAY		3,400.0	DAYS / WEEK		5.0

Safety

SAFETY CREW			SAFETY INSPECTOR			SAFETY DIRECTOR		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY
FOREMAN		0	SAFETY DIRECTOR		0	SAFETY DIRECTOR		8
SKILLED LABORER		16	SKILLED LABORER		0	SKILLED LABORER		0
CARPENTER		16	CARPENTER		8	CARPENTER		0
ASST. ENGINEER		0	ASST. ENGINEER		0	ASST. ENGINEER		0
LABORER		0	LABORER		0	LABORER		0
RODMAN		0	RODMAN		0	RODMAN		0
FINISHER		0	FINISHER		0	FINISHER		0
EQUIP. OPERATOR		0	EQUIP. OPERATOR		0	EQUIP. OPERATOR		0
CRANE OPERATOR		0	CRANE OPERATOR		0	CRANE OPERATOR		0
TOTALS	4	32	TOTALS	1	8	TOTALS	1	8
SAFETY CREW			SAFETY INSPECTOR			SAFETY DIRECTOR		
TOTAL CY		1	TOTAL CY		1	TOTAL CY		1
TOTAL SF		834,738.18	TOTAL SF		-	TOTAL SF		834,738.18
TOTAL LF		-	TOTAL LF		75.00	TOTAL LF		-
TOTAL EA		-	TOTAL EA		-	TOTAL EA		-
PHASE UNITS, WEEKS		75	PHASE UNITS, WEEKS		75	PHASE UNITS, WEEKS		75
TOTAL WEEKS		45.00	TOTAL DAYS		225.00	TOTAL DAYS		56.25
TOTAL MAN HOURS		7,200	TOTAL MAN HOURS		1,800	TOTAL MAN HOURS		450
MAN HOURS PER CY		7,200.00	MAN HOURS PER CY		1,800.00	MAN HOURS PER CY		450.00
SF PER MAN HOUR		115.94	SF PER MAN HOUR		-	SF PER MAN HOUR		1,854.97
ESTIMATED LABOR COST		\$ 149,040.00	ESTIMATED LABOR COST		\$ 42,084.00	ESTIMATED LABOR COST		\$ 20,250.00
LABOR COST PER CY		\$ 149,040.00	LABOR COST PER CY		\$ 42,084.00	LABOR COST PER CY		\$ 20,250.00
LABOR COST PER SF		\$ 0.18	LABOR COST PER LF		\$ 561.12	LABOR COST PER DAY		\$ 360.00
LABOR COST / MAN HR		\$ 20.70	LABOR COST / MAN HR		\$ 23.38	LABOR COST / MAN HR		\$ 45.00
DAYS / WEEK		3.00	DAYS / WEEK		3.00	AVG. DAYS / WEEK		0.75

Quality Control

Traffic Control

TECHNICIANS LABOR			TRAFFIC CONTROL		
PERSONNEL	QTY	HOURS/DAY	PERSONNEL	QTY	HOURS/DAY

FOREMAN		0	FOREMAN	0	0
SKILLED LABORER		0	SKILLED LABORER	2	16
CARPENTER		0	CARPENTER	0	0
ASST. ENGINEER		0	ASST. ENGINEER	0	0
LABORER		0	LABORER	0	0
RODMAN		0	RODMAN	0	0
FINISHER		0	FINISHER	0	0
EQUIP. OPERATOR		0	EQUIP. OPERATOR	0	0
TECHNICIANS		2	CRANE OPERATOR	0	0
TOTALS	0	2	TOTALS	2	16
TECHNICIANS LABOR			TRAFFIC CONTROL		
TOTAL CY		-	TOTAL CY		-
TOTAL SF		-	TOTAL SF FRAMED SLAB		834,738
TOTAL LF		-	TOTAL LF		-
TOTAL EA		-	TOTAL EA		-
TOTAL PROJECT CY		34,481	TOTAL WEEKS		75
TOTAL DAYS		689.62	TOTAL DAYS		225.00
TOTAL MAN HOURS		1,379	TOTAL MAN HOURS		3,600
MAN HOURS PER CY		-	MAN HOURS PER CY		-
SF PER MAN HOUR		-	SF PER MAN HOUR		231.87
ESTIMATED LABOR COST	\$	48,273	ESTIMATED LABOR COST	\$	64,872
LABOR COST PER CY	\$	1.40	LABOR COST PER WEEK	\$	864.96
LABOR COST PER TEST	\$	965.46	LABOR COST PER SF	\$	0.08
LABOR COST / MAN HR	\$	35.00	LABOR COST / MAN HR	\$	18.02
CY/TEST		50.0	DAYS/ WEEK		3.0

Appendix B: Assemblies Estimate

MEP Assemblies Estimate: Dull Silver Lion

Description	QTY	UNIT	MAT UNIT COST	TOTAL MAT	INSTALL UNIT	TOTAL LABOR	LINE TOTAL
Apartment Type							
Studio							
Plumbing							
Three Fixture Bathroom	1	ea	\$3,400.00	\$3,400.00	\$2,500.00	\$2,500.00	\$5,900.00
Dish Washer Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Washer/Drier Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Sink Bowl Kitchen Sink	1	ea	\$1,100.00	\$1,100.00	\$785.00	\$785.00	\$1,885.00
Electrical							
Fixture A Recessed Flr 20W	4	ea	\$95.00	\$380.00	\$131.00	\$524.00	\$904.00
Fixture B Recessed Flr 25W	3	ea	\$95.00	\$285.00	\$131.00	\$393.00	\$678.00
Fixture C Sconce Flr TS 20W	1	ea	\$225.00	\$225.00	\$194.00	\$194.00	\$419.00
Fixture E Under Counter 50W	1	ea	\$380.00	\$380.00	\$20.00	\$20.00	\$400.00
Fixture G Pendant 50W	12	ea	\$110.00	\$1,320.00	\$100.00	\$1,200.00	\$2,520.00
Duplex	20	ea	\$45.00	\$900.00	\$225.00	\$4,500.00	\$5,400.00
GFI Duplex	5	ea	\$81.00	\$405.00	\$225.00	\$1,125.00	\$1,530.00
Dish Washer Connection	1	ea	\$90.00	\$90.00	\$225.00	\$225.00	\$315.00
Washer/Drier Connection	1	ea	\$90.00	\$90.00	\$225.00	\$225.00	\$315.00
Switches	10	ea	\$47.50	\$475.00	\$225.00	\$2,250.00	\$2,725.00
Panelboard	1	ea	\$1,400.00	\$1,400.00	\$1,600.00	\$1,600.00	\$3,000.00
Mechanical							
WSHP	1	ea	\$2,600.00	\$2,600.00	\$700.00	\$700.00	\$3,300.00
SA Ductwork	26	lb	\$0.60	\$15.60	\$4.46	\$115.96	\$131.56
EA Ductwork	16	lb	\$0.60	\$9.60	\$4.46	\$71.36	\$80.96
Duct Fittings	20	%		\$5.04		\$37.46	\$42.50
Condensor Supply/Return	85	lf	\$15.40	\$1,309.00	\$25.50	\$2,167.50	\$3,476.50
subtotal:				\$15,189.24		\$19,273.28	\$34,462.52
Quantity of Studio Apartments total:	101						\$3,480,714.92
Plumbing				\$535,300.00		\$396,425.00	\$931,725.00
Electrical				\$600,950.00		\$1,237,856.00	\$1,838,806.00
Mechanical				\$397,863.24		\$312,320.68	\$710,183.92
One Bedroom							
Plumbing							
Three Fixture Bathroom	1	ea	\$3,400.00	\$3,400.00	\$2,500.00	\$2,500.00	\$5,900.00
Dish Washer Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Washer/Drier Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Sink Bowl Kitchen Sink	1	ea	\$1,100.00	\$1,100.00	\$785.00	\$785.00	\$1,885.00
Electrical							
Fixture A Recessed Flr 20W	5	ea	\$95.00	\$475.00	\$131.00	\$655.00	\$1,130.00
Fixture B Recessed Flr 25W	1	ea	\$95.00	\$95.00	\$131.00	\$131.00	\$226.00
Fixture C Sconce Flr TS 20W	1	ea	\$225.00	\$225.00	\$194.00	\$194.00	\$419.00
Fixture E Under Counter 50W	1	ea	\$380.00	\$380.00	\$20.00	\$20.00	\$400.00
Fixture G Pendant 50W	3	ea	\$110.00	\$330.00	\$100.00	\$300.00	\$630.00
Duplex	22	ea	\$45.00	\$990.00	\$225.00	\$4,950.00	\$5,940.00
GFI Duplex	5	ea	\$81.00	\$405.00	\$225.00	\$1,125.00	\$1,530.00
Panelboard	1	ea	\$1,400.00	\$1,400.00	\$1,600.00	\$1,600.00	\$3,000.00
Switches	13	ea	\$47.50	\$617.50	\$225.00	\$2,925.00	\$3,542.50
Mechanical							
WSHP	1	ea	\$2,600.00	\$2,600.00	\$700.00	\$700.00	\$3,300.00
SA Ductwork	58	lb	\$0.60	\$34.80	\$4.30	\$249.40	\$284.20
EA Ductwork	5	lb	\$0.60	\$3.00	\$4.30	\$21.50	\$24.50
RA Ductwork		lb					
Duct Fittings	20	%		\$7.56		\$54.18	\$61.74
Condensor Supply/Return	85	lf	\$15.40	\$1,309.00	\$25.50	\$2,167.50	\$3,476.50
subtotal:				\$14,171.86		\$19,017.58	\$33,189.44
Quantity of One Bedroom Apartments total:	225						\$7,467,624.00
Plumbing				\$1,192,500.00		\$883,125.00	\$2,075,625.00
Electrical				\$1,106,437.50		\$2,677,500.00	\$3,783,937.50
Mechanical				\$889,731.00		\$718,330.50	\$1,608,061.50
Two Bedroom							
Plumbing							
Three Fixture Bathroom	2	ea	\$3,400.00	\$6,800.00	\$2,500.00	\$5,000.00	\$11,800.00
Single Bowl Kitchen Sink	1	ea	\$1,100.00	\$1,100.00	\$785.00	\$785.00	\$1,885.00
Dishwasher Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Washer/Drier Connection	1	ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Electrical							
Fixture A Recessed Flr 20W	7	ea	\$95.00	\$665.00	\$131.00	\$917.00	\$1,582.00
Fixture B Recessed Flr 25W	2	ea	\$95.00	\$190.00	\$131.00	\$262.00	\$452.00
Fixture C Sconce Flr TS 20W	2	ea	\$225.00	\$450.00	\$194.00	\$388.00	\$838.00
Fixture E Under Counter 50W	1	ea	\$380.00	\$380.00	\$20.00	\$20.00	\$400.00
Fixture G Pendant 50W	3	ea	\$110.00	\$330.00	\$100.00	\$300.00	\$630.00

Ceiling Fan	2 ea	\$250.00	\$500.00	\$80.00	\$160.00	\$660.00
Duplex	31 ea	\$45.00	\$1,395.00	\$225.00	\$6,975.00	\$8,370.00
GFI Duplex	5 ea	\$81.00	\$405.00	\$225.00	\$1,125.00	\$1,530.00
Switches	16 ea	\$47.50	\$760.00	\$225.00	\$3,600.00	\$4,360.00
Panel Board	1 ea	\$1,400.00	\$1,400.00	\$1,600.00	\$1,600.00	\$3,000.00
Wiring						
Wiring						
Mechanical						
WSHP	1 ea	\$8,500.00	\$8,500.00	\$2,000.00	\$2,000.00	\$10,500.00
SA Ductwork	60 lb	\$0.60	\$36.00	\$4.30	\$258.00	\$294.00
EA Ductwork	20 lb	\$0.60	\$12.00	\$4.30	\$86.00	\$98.00
RA Ductwork	20 lb	\$0.60	\$12.00	\$4.30	\$86.00	\$98.00
Duct Fittings	20 %		\$12.00		\$86.00	\$98.00
Condensor Supply/Return	85 lf	\$15.40	\$1,309.00	\$25.50	\$2,167.50	\$3,476.50
subtotal:			\$18,256.00		\$21,455.50	\$51,511.50
Quantity of Two Bedroom Apartments	120					
total:			\$2,190,720.00		\$2,574,660.00	\$6,181,380.00
Plumbing			\$1,044,000.00		\$771,000.00	\$1,815,000.00
Electrical			\$777,000.00		\$1,841,640.00	\$2,618,640.00
Mechanical			\$1,185,720.00		\$562,020.00	\$1,747,740.00
Three Bedroom						
Plumbing						
Three Fixture Bathroom	2 ea	\$3,400.00	\$6,800.00	\$2,500.00	\$5,000.00	\$11,800.00
Two Fixture Bathroom	1 ea	\$1,600.00	\$1,600.00	\$1,750.00	\$1,750.00	\$3,350.00
Single Bowl Kitchen Sink	1 ea	\$1,100.00	\$1,100.00	\$785.00	\$785.00	\$1,885.00
Dishwasher Connection	1 ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Washer/Drier Connection	1 ea	\$400.00	\$400.00	\$320.00	\$320.00	\$720.00
Electrical						
Fixture A Recessed Flr 20W	12 ea	\$95.00	\$1,140.00	\$131.00	\$1,572.00	\$2,712.00
Fixture B Recessed Flr 25W	5 ea	\$95.00	\$475.00	\$131.00	\$655.00	\$1,130.00
Fixture C Sconce Flr TS 20W	5 ea	\$225.00	\$1,125.00	\$194.00	\$970.00	\$2,095.00
Fixture D Incand Pendant	2 ea	\$75.00	\$150.00	\$127.00	\$254.00	\$404.00
Fixture E Under Counter 50W	1 ea	\$380.00	\$380.00	\$20.00	\$20.00	\$400.00
Fixture G Pendant 50W	1 ea	\$110.00	\$110.00	\$100.00	\$100.00	\$210.00
Ceiling Fan	3 ea	\$250.00	\$750.00	\$80.00	\$240.00	\$990.00
Duplex	40 ea	\$45.00	\$1,800.00	\$225.00	\$9,000.00	\$10,800.00
GFI Duplex	5 ea	\$81.00	\$405.00	\$225.00	\$1,125.00	\$1,530.00
Floor Mounted Duplex	5 ea	\$70.00	\$350.00	\$225.00	\$1,125.00	\$1,475.00
Panelboard	1 ea	\$1,400.00	\$1,400.00	\$1,600.00	\$1,600.00	\$3,000.00
Switches	20 ea	\$47.50	\$950.00	\$225.00	\$4,500.00	\$5,450.00
Mechanical						
WSHP	1 ea	\$10,000.00	\$10,000.00	\$2,800.00	\$2,800.00	\$12,800.00
SA Ductwork	250 lb	\$0.60	\$150.00	\$4.30	\$1,075.00	\$1,225.00
EA Ductwork	20 lb	\$0.60	\$12.00	\$4.30	\$86.00	\$98.00
RA Ductwork	20 lb	\$0.60	\$12.00	\$4.30	\$86.00	\$98.00
Duct Fittings	20 %		\$34.80		\$249.40	\$284.20
Condensor Supply/Return	85 lf	\$15.40	\$1,309.00	\$25.50	\$2,167.50	\$3,476.50
subtotal:			\$30,852.80		\$35,799.90	\$66,652.70
Quantity of Three Bedroom Apartments	10					
total:			\$308,528.00		\$357,999.00	\$666,527.00
Plumbing			\$103,000.00		\$81,750.00	\$184,750.00
Electrical			\$90,350.00		\$211,610.00	\$301,960.00
Mechanical			\$115,178.00		\$64,639.00	\$179,817.00
Common Spaces by Levels						
Parking/Residential Levels						
Lighting/Electrical						
BO Hanging Flr 50W	6 ea	\$87.00	\$522.00	\$59.00	\$354.00	\$876.00
BR Linear LED w/ Drvr 60W	1 ea	\$180.00	\$180.00	\$95.00	\$95.00	\$275.00
BY Surface Flr 60W	32 ea	\$225.00	\$7,200.00	\$93.00	\$2,976.00	\$10,176.00
BZ Linear LED Tape	17 ea	\$180.00	\$3,060.00	\$93.00	\$1,581.00	\$4,641.00
CD LED Pinhole	18 ea	\$175.00	\$3,150.00	\$62.00	\$1,116.00	\$4,266.00
Exits Signs	21 ea	\$80.00	\$1,680.00	\$60.00	\$1,260.00	\$2,940.00
GA Fixture 52X7x6" (2)TS 52W	42 ea	\$70.00	\$2,940.00	\$55.00	\$2,310.00	\$5,250.00
HB 4' Flr TS 62W Fiberglass	1 ea	\$75.00	\$75.00	\$55.00	\$55.00	\$130.00
HH 4' Flr TS 62W Steel	1 ea	\$75.00	\$75.00	\$55.00	\$55.00	\$130.00
XG 4' Linear LED	1 ea	\$150.00	\$150.00	\$80.00	\$80.00	\$230.00
20 Amp Branch Wiring	3000 lf	\$1.26	\$3,780.00	\$6.10	\$18,300.00	\$22,080.00
Duplex	20 ea	\$45.00	\$900.00	\$225.00	\$4,500.00	\$5,400.00
Mechanical						
Ductwork	2000 lb	\$0.60	\$1,200.00	\$4.30	\$8,600.00	\$9,800.00
subtotal:			\$24,912.00		\$41,282.00	\$66,194.00
Quantity of Levels:	12					
total:			\$298,944.00		\$495,384.00	\$794,328.00
Plumbing			\$0.00		\$0.00	\$0.00
Electrical			\$284,544.00		\$392,184.00	\$676,728.00
Mechanical			\$14,400.00		\$103,200.00	\$117,600.00
Residential Tower Levels						
CD LED Pinhole	17 ea	\$175.00	\$2,975.00	\$62.00	\$1,054.00	\$4,029.00

BZ Linear LED Tape	30 ea	\$180.00	\$5,400.00	\$93.00	\$2,790.00	\$8,190.00
BY Surface Flr 60W	34 ea	\$175.00	\$5,950.00	\$93.00	\$3,162.00	\$9,112.00
EXIT	8 ea	\$80.00	\$640.00	\$60.00	\$480.00	\$1,120.00
BO Hanging Flr 50W	6 ea	\$87.00	\$522.00	\$59.00	\$354.00	\$876.00
BR Linear LED w/ Drvr 60W	1 ea	\$180.00	\$180.00	\$95.00	\$95.00	\$275.00
HH 4' Flr T5 62W Steel	1 ea	\$75.00	\$75.00	\$55.00	\$55.00	\$130.00
XG 4' Linear LED	1 ea	\$150.00	\$150.00	\$80.00	\$80.00	\$230.00
20 Amp Branch Wiring	3000 lf	\$1.26	\$3,780.00	\$6.10	\$18,300.00	\$22,080.00
Duplex	25 ea	\$45.00	\$1,125.00	\$225.00	\$5,625.00	\$6,750.00
Mechanical						
Ductwork OA	2500 lb	\$0.40	\$1,000.00	\$4.30	\$10,750.00	\$11,750.00
subtotal:			\$21,797.00		\$42,745.00	\$64,542.00
Quantity of Levels:	7					
total:			\$152,579.00		\$299,215.00	\$451,794.00
Plumbing			\$0.00		\$0.00	\$0.00
Electrical			\$145,579.00		\$223,965.00	\$369,544.00
Mechanical			\$7,000.00		\$75,250.00	\$82,250.00
Plumbing						
Misc						
Floor Drains (12 per parking level)	84 ea	\$1,750.00	\$147,000.00	\$1,075.00	\$90,300.00	\$237,300.00
Roof Drains	55 ea	\$1,750.00	\$96,250.00	\$1,075.00	\$59,125.00	\$155,375.00
Penthouse Public WC	3 ea	\$4,250.00	\$12,750.00	\$1,175.00	\$3,525.00	\$16,275.00
PH Public Bath Sinks	2 ea	\$645.00	\$1,290.00	\$755.00	\$1,510.00	\$2,800.00
R9 Public WC	2 ea	\$4,250.00	\$8,500.00	\$1,175.00	\$2,350.00	\$10,850.00
R9 Public Bath Sinks	4 ea	\$645.00	\$2,580.00	\$755.00	\$3,020.00	\$5,600.00
Drinking Fountian	4 ea	\$1,350.00	\$5,400.00	\$495.00	\$1,980.00	\$7,380.00
Custodian Fixtures	10 ea	\$1,000.00	\$10,000.00	\$810.00	\$8,100.00	\$18,100.00
Two Fixture Bathroom	2 ea	\$1,750.00	\$3,500.00	\$2,075.00	\$4,150.00	\$7,650.00
Domestic Water Service						
Booster Bump 600 GPM (200 ea)	3 ea	\$14,100.00	\$42,300.00	\$850.00	\$2,550.00	\$44,850.00
6" Piping	300 lf	\$53.00	\$15,900.00	\$50.00	\$15,000.00	\$30,900.00
Domestic Hot Water						
Water Heater 1,000 MBH ea	3 ea	\$60,000.00	\$180,000.00	\$6,000.00	\$18,000.00	\$198,000.00
650 Gallon Storage Tank 125 psi	2 ea	\$17,500.00	\$35,000.00	\$300.00	\$600.00	\$35,600.00
Recirculating System 2 1/2"	400 lf	\$38.50	\$15,400.00	\$21.50	\$8,600.00	\$24,000.00
Expansion Tank 105 Gal	1 ea	\$1,550.00	\$1,550.00	\$168.00	\$168.00	\$1,718.00
Distribution 1-1/2"	400 lf	\$17.15	\$6,860.00	\$14.20	\$5,680.00	\$12,540.00
Distribution 2-1/2"	400 lf	\$38.50	\$15,400.00	\$21.50	\$8,600.00	\$24,000.00
Distribution 3"	300 lf	\$52.50	\$15,750.00	\$23.50	\$7,050.00	\$22,800.00
Distribution 4"	300 lf	\$88.00	\$26,400.00	\$33.50	\$10,050.00	\$36,450.00
Distribution 6"	150 lf	\$244.00	\$36,600.00	\$55.00	\$8,250.00	\$44,850.00
Dom Water Risers Copper(4680)						
2-1/2"(20%)	1200 lf	\$42.50	\$51,000.00	\$21.50	\$25,800.00	\$76,800.00
2"(20%)	1200 lf	\$27.50	\$33,000.00	\$17.75	\$21,300.00	\$54,300.00
1-1/2"(20%)	1200 lf	\$17.55	\$21,060.00	\$14.20	\$17,040.00	\$38,100.00
1"(20%)	1200 lf	\$11.40	\$13,680.00	\$10.75	\$12,900.00	\$26,580.00
3/4"(20%)	1200 lf	\$8.55	\$10,260.00	\$9.60	\$11,520.00	\$21,780.00
Circulating Pumps						
4200 GPM 150 Head	3 ea	\$40,000.00	\$120,000.00	\$1,200.00	\$3,600.00	\$123,600.00
2100 GPM 35 Head	2 ea	\$30,000.00	\$60,000.00	\$1,000.00	\$2,000.00	\$62,000.00
85 GPM HW Circulating	1 ea	\$7,000.00	\$7,000.00	\$500.00	\$500.00	\$7,500.00
Sanitary Risers/Vents (15% for Fitting)						
4" Sanitary	8000 lf	\$20.50	\$164,000.00	\$23.00	\$184,000.00	\$348,000.00
3" Sanitary	8000 lf	\$16.50	\$132,000.00	\$21.50	\$172,000.00	\$304,000.00
2" Sanitary	1750 lf	\$12.50	\$21,875.00	\$20.50	\$35,875.00	\$57,750.00
8" Sanitary	350 lf	\$52.00	\$18,200.00	\$46.00	\$16,100.00	\$34,300.00
Condensor Water						
Piping (15% for fitting)	18000 lf	\$15.40	\$277,200.00	\$25.50	\$459,000.00	\$736,200.00
Plumbing Total			\$1,607,705.00		\$1,220,243.00	\$2,827,948.00
Electrical						
Transformers 45 KVA	8 ea	\$1,400.00	\$11,200.00	\$1,075.00	\$8,600.00	\$19,800.00
Transformers 225 KVA	2 ea	\$5,000.00	\$10,000.00	\$1,600.00	\$3,200.00	\$13,200.00
Unit Meters 125A	465 ea	\$400.00	\$186,000.00	\$50.00	\$23,250.00	\$209,250.00
2000 Amp Feeder	220 lf	\$293.00	\$64,460.00	\$234.00	\$51,480.00	\$115,940.00
1600 Amp Feeder	600 lf	\$238.00	\$142,800.00	\$178.00	\$106,800.00	\$249,600.00
1200 Amp Feeder	225 lf	\$182.00	\$40,950.00	\$150.00	\$33,750.00	\$74,700.00
1000 Amp Feeder	900 lf	\$147.00	\$132,300.00	\$117.00	\$105,300.00	\$237,600.00
Lighting Panels	16 ea	\$2,000.00	\$32,000.00	\$2,500.00	\$40,000.00	\$72,000.00
Switch Gear 480/277V 1000A	2 ea	\$22,500.00	\$45,000.00	\$7,100.00	\$14,200.00	\$59,200.00
Switch Gear 208/120V 2000A	2 ea	\$40,000.00	\$80,000.00	\$7,100.00	\$14,200.00	\$94,200.00
1000 Amp Termination Cabinets	17 ea	\$8,000.00	\$136,000.00	\$3,000.00	\$51,000.00	\$187,000.00
250 kW Gas Generators	500 kw	\$197.00	\$98,500.00	\$30.00	\$15,000.00	\$113,500.00

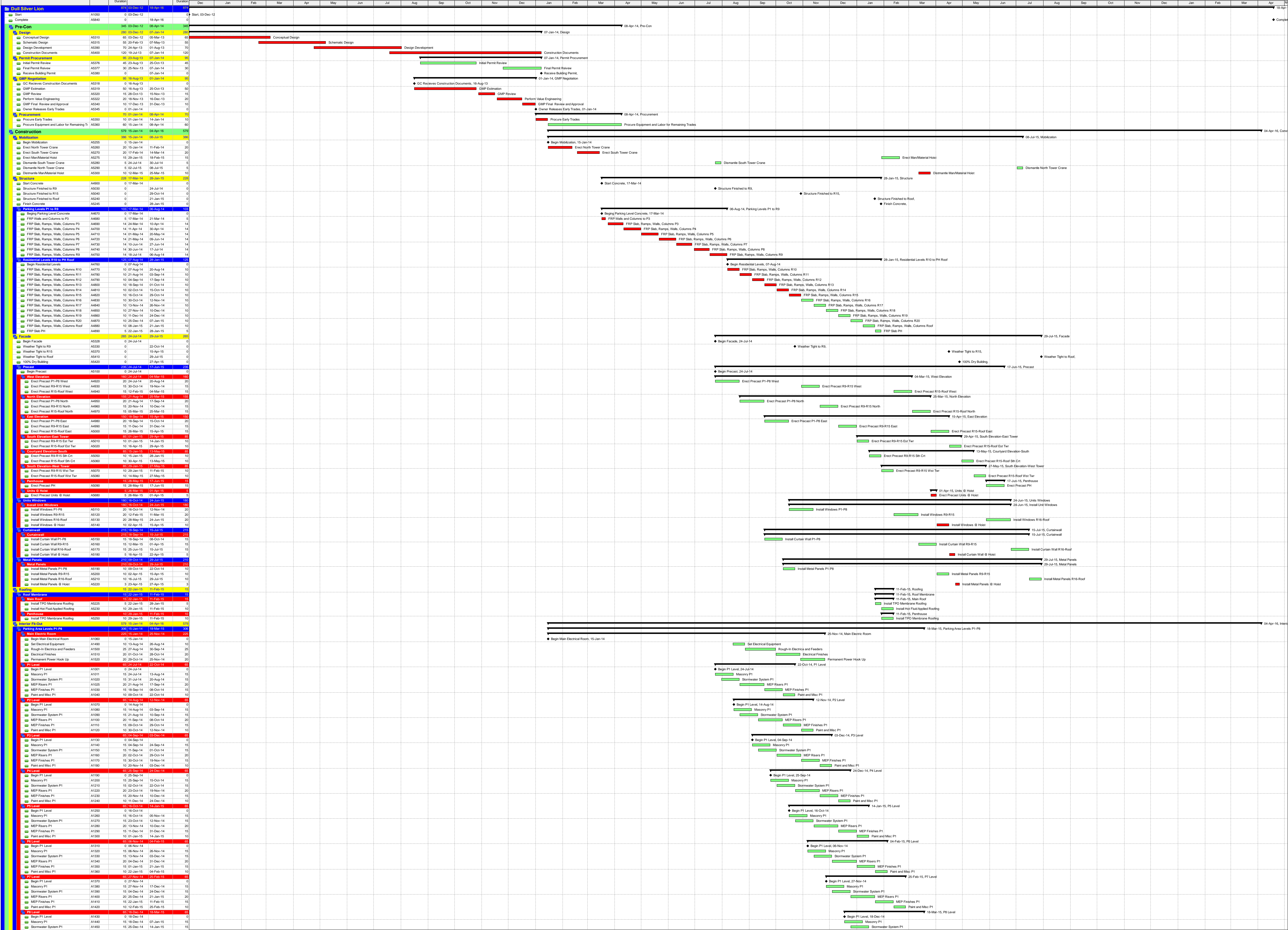
Electrical Equip Total:			\$979,210.00		\$466,780.00	\$1,445,990.00
Mechanical						
Central HVAC System						
ERV	3 ea	\$28,000.00	\$84,000.00	\$2,000.00	\$6,000.00	\$90,000.00
WSHP Common Space	15 ea	\$12,000.00	\$180,000.00	\$25,000.00	\$375,000.00	\$555,000.00
Cooling Tower	2 ea	\$38,000.00	\$76,000.00	\$4,000.00	\$8,000.00	\$84,000.00
Boiler Gas 3000MBH	2 ea	\$44,000.00	\$88,000.00	\$15,000.00	\$30,000.00	\$118,000.00
Natural Gas Piping 3"	1500 lf	\$13.60	\$20,400.00	\$10.65	\$15,975.00	\$36,375.00
Exhaust Fans 400 CFM	11 ea	\$1,300.00	\$14,300.00	\$350.00	\$3,850.00	\$18,150.00
Exhaust Fans 1200 CFM	2 ea	\$1,900.00	\$3,800.00	\$500.00	\$1,000.00	\$4,800.00
Exhaust Fans 8,000 CFM	3 ea	\$4,000.00	\$12,000.00	\$800.00	\$2,400.00	\$14,400.00
Exhaust Fans 11,000 CFM	2 ea	\$5,300.00	\$10,600.00	\$1,000.00	\$2,000.00	\$12,600.00
Pressurized Stairs						
Ductwork	28000 lb	\$0.60	\$16,800.00	\$4.30	\$120,400.00	\$137,200.00
Baseboard Auxillary Heaters						
Baseboard Auxillary Heaters 5-10 kW	28 ea	\$900.00	\$25,200.00	\$100.00	\$2,800.00	\$28,000.00
Total Misc Mechanical:			\$531,100.00		\$567,425.00	\$1,098,525.00
Fire Suppression						
Ordinary Hazard Grooved Steel						
Res Tower 30,000 SF ea w/ 12	360000 sf	\$0.75	\$270,000.00	\$1.00	\$360,000.00	\$630,000.00
Base Res 18,000 SF ea w/ 8	144000 sf	\$0.75	\$108,000.00	\$1.00	\$144,000.00	\$252,000.00
8" First Floor	3 ea	\$9,700.00	\$29,100.00	\$5,900.00	\$17,700.00	\$46,800.00
8" Additional Floor	29 ea	\$3,000.00	\$87,000.00	\$2,025.00	\$58,725.00	\$145,725.00
6" First Floor	3 ea	\$6,100.00	\$18,300.00	\$4,850.00	\$14,550.00	\$32,850.00
6" Additional Floor	43 ea	\$1,975.00	\$84,925.00	\$1,650.00	\$70,950.00	\$155,875.00
Booster Pumps 8"	2 ea	\$45,000.00	\$90,000.00	\$6,500.00	\$13,000.00	\$103,000.00
total:			\$687,325.00		\$678,925.00	\$1,366,250.00
Grand Totals						
			Material		Labor	Total
Electrical			\$3,984,070.50		\$7,051,535.00	\$11,035,605.50
Mechanical/Plumbing			\$7,623,497.24		\$5,755,728.18	\$13,379,225.42
Fire Suppression			\$687,325.00		\$678,925.00	\$1,366,250.00

Appendix C: General Conditions Estimate

General Condition Estimate

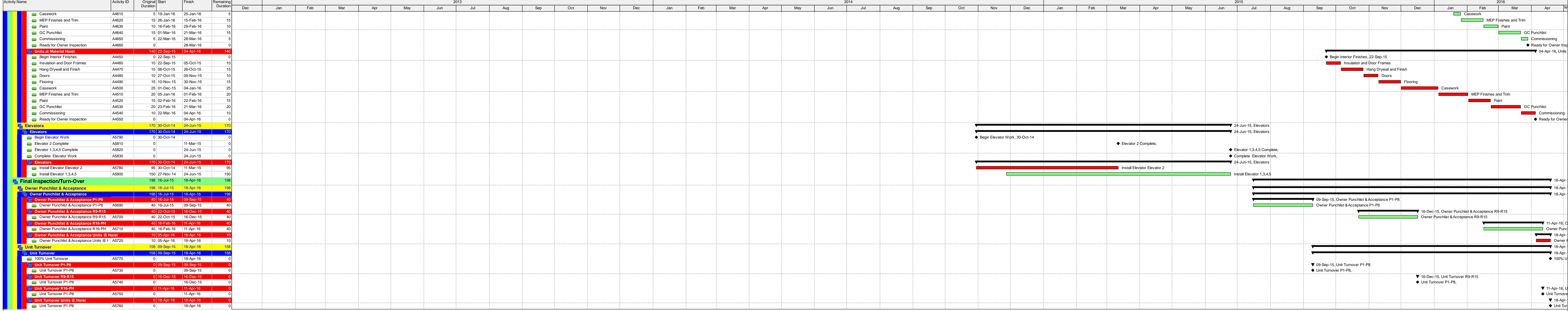
Description	QTY	UNIT	MAT UNIT COST	TOTAL MAT	INSTALL UNIT	TOTAL LABOR	EQUIP RATE	TOTAL EQUIP	LINE TOTAL
Personnel									
Vice President (Ron) 130k		28 Month		\$0.00	\$10,900.00	\$305,200.00			\$305,200.00
Senior Superintendent (Dave) 130k		28 Month		\$0.00	\$10,900.00	\$305,200.00			\$305,200.00
Superintendent (Josh) 92k		19 Month		\$0.00	\$7,600.00	\$144,400.00			\$144,400.00
Superintendent (Blake) 92k		20 Month		\$0.00	\$7,600.00	\$152,000.00			\$152,000.00
Assistant Superintendent (Travis) 70k		21 Month		\$0.00	\$5,830.00	\$122,430.00			\$122,430.00
Assistant Superintendent (TBD) 70k		13 Month		\$0.00	\$5,830.00	\$75,790.00			\$75,790.00
Assistant Superintendent (TBD) 70k		22 Month		\$0.00	\$5,831.00	\$128,282.00			\$128,282.00
Layout Engineer (Ricardo) 115k		15 Month		\$0.00	\$9,580.00	\$143,700.00			\$143,700.00
Assittant Layout Engineer 80k		15 Month		\$0.00	\$6,666.00	\$99,990.00			\$99,990.00
Project Executive (Steve) 115k		28 Month		\$0.00	\$9,580.00	\$268,240.00			\$268,240.00
Project Manager (Matt) 76k		26 Month		\$0.00	\$6,330.00	\$164,580.00			\$164,580.00
Project Manager (Tim) 76k		24 Month		\$0.00	\$6,330.00	\$151,920.00			\$151,920.00
Project Engineer (Gjon) 60k		22 Month		\$0.00	\$5,000.00	\$110,000.00			\$110,000.00
Project Engineer (Andrea) 60k		20 Month		\$0.00	\$5,000.00	\$100,000.00			\$100,000.00
Project Engineer (Kevin) 60k		12 Month		\$0.00	\$5,000.00	\$60,000.00			\$60,000.00
Total:									\$2,331,732.00
Supplies and Misc									
Fencing		5000 lf	\$20.00	\$100,000.00		\$0.00			\$100,000.00
Office Supplies		27 Month	\$350.00	\$9,450.00		\$0.00			\$9,450.00
Technology		27 Month	\$1,500.00	\$40,500.00		\$0.00			\$40,500.00
Safety Supplies		27 Month	\$350.00	\$9,450.00		\$0.00			\$9,450.00
Drinking Water		27 Month	\$150.00	\$4,050.00		\$0.00			\$4,050.00
Project Signage		27 Month	\$200.00	\$5,400.00		\$0.00			\$5,400.00
Waste Removal		108 Week	\$300.00	\$32,400.00		\$0.00			\$32,400.00
Surveying		1 LS		\$0.00	\$14,000.00	\$14,000.00			\$14,000.00
Total:									\$215,250.00
Equipment									
Tower Crane 1		17 Month		\$0.00	\$8,850.00	\$150,450.00	\$25,000.00	\$425,000.00	\$575,450.00
Tower Crane 2		9 Month		\$0.00	\$8,850.00	\$79,650.00	\$25,000.00	\$225,000.00	\$304,650.00
Triple Wide Office Trailer		28 Month		\$0.00		\$0.00	\$800.00	\$22,400.00	\$22,400.00
Double Wide Field Trailer		28 Month		\$0.00		\$0.00	\$500.00	\$14,000.00	\$14,000.00
Material Hoist		14 Month		\$0.00		\$0.00	\$28,100.00	\$393,400.00	\$393,400.00
Total:									\$1,309,900.00
Temporary Utilities									
Temporary Toilets (12)		27 Month		\$0.00		\$0.00	\$2,000.00	\$54,000.00	\$54,000.00
Temporary Lighting		8080 CSF	\$3.85	\$31,108.00	\$20.00	\$161,600.00			\$192,708.00
Temporary Electricity		8080 CSF	\$4.35	\$35,148.00	\$10.00	\$80,800.00			\$115,948.00
Temporary Heat		8080 CSF	\$28.00	\$226,240.00	\$4.00	\$32,320.00			\$258,560.00
Total:									\$621,216.00
Grand Total Less Fees and Insurance									\$4,478,098.00
Fees and Insurance									
Contractors Fee		3.00% % Total	\$92,300,000.00	\$2,769,000.00		\$0.00			\$2,769,000.00
Insurance		0.17% % Total	\$92,300,000.00	\$156,910.00		\$0.00			\$156,910.00
Performance and Payment Bond		0.70% % Total	\$92,300,000.00	\$646,100.00		\$0.00			\$646,100.00
General Liability Insurance		0.40% % Total	\$92,300,000.00	\$369,200.00		\$0.00			\$369,200.00
Total:									\$3,941,210.00
Grand Total:									\$8,419,308.00

Appendix D: Project Schedule









Actual Level of Effort Remaining Work Milestone
Actual Work Critical Remaining Work Summary

Appendix E: Superstructure Phase I

NOTE: GARAGE BELOW AND PLAZA SUBMITTED UNDER SEPARATE PHASE 1 PERMIT

Superstructure Phase I

Job Trailers and Management Parking

Unloading

Crane 1

Dumpsters

RESIDENTIAL BUILDING 4
Building Footprint

RETAIL PODIUM BLDG. 5
 ARCH. INFO. INCLUDED FOR INFORMATION PURPOSES ONLY. TO BE SUBMITTED FOR PERMIT SEPARATELY.

Covered Walkway

Construction Activity Prohibited

Crane 2
 FUTURE OB3
Material Storage

FUTURE OB1

FUTURE OB2

WHIELE AVENUE

DATE	DESCRIPTION
08/27/2011	100% SCHEMATIC DESIGN SET
04/11/2011	100% PRELIMINARY DEVELOPMENT
08/09/2012	08E SET
08/29/2012	08E SET
08/29/2012	PERMIT COMMENTS 2
08/29/2012	PERMIT COMMENTS 1

DRAWING TITLE
ARCHITECTURAL SITE PLAN
 STAMP

PROJECT NO.
 11001.00
 DRAWN BY:
 Author
 SCALE:
 1" = 20'-0"
 DATE:
 23 AUGUST 2013
 DWG. NO.

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Appendix F: Superstructure Phase II

NOTE: GARAGE BELOW AND PLAZA SUBMITTED UNDER SEPARATE PHASE 1 PERMIT

Superstructure Phase II

Job Trailers and Management Parking

Material Hoist with delivery access

Unloading

Crane 1

Dumpsters

RESIDENTIAL BUILDING 4

Building Footprint

RETAIL PODIUM BLDG. 5

ARCH. INFO. INCLUDED FOR INFORMATION PURPOSES ONLY. TO BE SUBMITTED FOR PERMIT SEPARATELY.

Covered Walkway

Construction Activity Prohibited

FUTURE OB1

FUTURE OB2

FUTURE OB3

Material Storage

WHIELE AVENUE

DATE	DESCRIPTION
08/27/2011	100% SCHEMATIC DESIGN SET
08/27/2011	100% PERMIT DEVELOPMENT SET
08/29/2012	08/29/2012 08/29/2012 08/29/2012 08/29/2012
08/29/2012	PERMIT COMMENTS 2
08/29/2012	PERMIT COMMENTS 1
08/29/2012	PERMIT COMMENTS 1

ARCHITECTURAL SITE PLAN

PROJECT NO. 11001.00
 DRAWN BY: Author
 SCALE: 1" = 20'-0"
 DATE: 23 AUGUST 2013
 DWG. NO.

C:\Users\lucif\OneDrive\Documents\Hickok Cole\Projects\Reston Metro Plaza\CD_2014

Appendix G: Interior Fit-Out Plan

NOTE: GARAGE BELOW AND PLAZA SUBMITTED UNDER SEPARATE PHASE 1 PERMIT

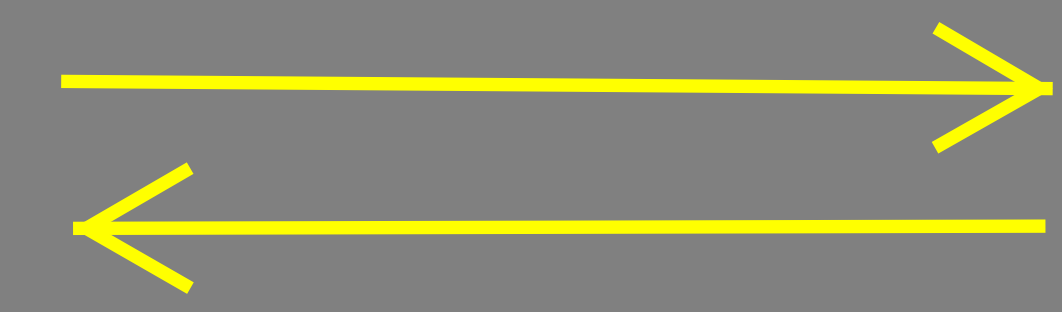
Interior Fit-Out Phase

Job Trailers and Management Parking

Unloading

Dumpsters

Material Hoist with delivery access



Interior Storage Space

RESIDENTIAL BUILDING 4

Building Footprint

Covered Walkway

RETAIL PODIUM BLDG. 5
ARCH. INFO. INCLUDED FOR INFORMATION PURPOSES ONLY. TO BE SUBMITTED FOR PERMIT SEPARATELY.

Construction Activity Prohibited

FUTURE OB1

FUTURE OB3

FUTURE OB2

WHIELE AVENUE

DATE	DESCRIPTION
08/27/2011	100% SCHEMATIC DESIGN SET
08/11/2011	100% PRELIMINARY DEVELOPMENT
08/09/2012	08% SET
08/29/2012	08% SET
08/29/2013	PERMIT COMMENTS 2
08/29/2013	PERMIT COMMENTS 1
08/29/2013	100% PERMIT SET

RESTON STATION BUILDINGS 4 & 5
1008 RESTON METRO PLAZA
RESTON, VA

DRAWING TITLE
ARCHITECTURAL SITE PLAN
STAMP

PROJECT NO.
11001.00
DRAWN BY:
Author
SCALE:
1" = 20'-0"
DATE:
23 AUGUST 2013
DWG. NO.

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Appendix H: Project LEED Checklist

21 3 2 Sustainable Sites Possible Points: 26

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1	0	0	Credit 1	Site Selection	1
5	0	0	Credit 2	Development Density & Community Connectivity	5
0	0	1	Credit 3	Brownfield Redevelopment	1
6	0	0	Credit 4.1	Alternative Transport--Public Transportation Access	6
1	0	0	Credit 4.2	Alt. Transport--Bicycle Storage & Changing Rooms	1
3	0	0	Credit 4.3	Alt. Transport--Low-Emitting & Fuel-Efficient Vehicles	3
2	0	0	Credit 4.4	Alternative Transportation--Parking Capacity	2
1	0	0	Credit 5.1	Site Development-Protect or Restore Habitat	1
1	0	0	Credit 5.2	Site Development-Maximize Open Space	1
0	1	0	Credit 6.1	Stormwater Design--Quantity Control	1
0	1	0	Credit 6.2	Stormwater Design--Quality Control	1
1	0	0	Credit 7.1	Heat Island Effect--Non-roof	1
0	1	0	Credit 7.2	Heat Island Effect--Roof	1
0	0	1	Credit 8	Light Pollution Reduction	1

6 0 4 Water Efficiency Possible Points: 10

Y	?	N			
Y			Prereq 1	Water Use Reduction--20% Reduction	
2	0	2	Credit 1	Water Efficient Landscaping	2 to 4
0	0	2	Credit 2	Innovative Wastewater Technologies	2
4	0	0	Credit 3	Water Use Reduction	2 to 4

8 6 21 Energy and Atmosphere Possible Points: 35

Y	?	N			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
4	1	14	Credit 1	Optimize Energy Performance	1 to 19
0	0	7	Credit 2	On-Site Renewable Energy	1 to 7
2	0	0	Credit 3	Enhanced Commissioning	2
2	0	0	Credit 4	Enhanced Refrigerant Management	2
0	3	0	Credit 5	Measurement and Verification	3
0	2	0	Credit 6	Green Power	2

6 1 7 Materials and Resources Possible Points: 14

Y	?	N			
Y			Prereq 1	Storage and Collection of Recyclables	
0	0	3	Credit 1.1	Building Reuse--Maintain Existing Walls, Floors, & Roof	1 to 3
0	0	1	Credit 1.2	Building Reuse--Maintain 50% Interior Non-Structure	1
2	0	0	Credit 2	Construction Waste Management	1 to 2
0	0	2	Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	?	N			
2	0	0	Credit 4	Recycled Content	1 to 2
2	0	0	Credit 5	Regional Materials	1 to 2
0	0	1	Credit 6	Rapidly Renewable Materials	1
0	1	0	Credit 7	Certified Wood	1

9 2 4 Indoor Environmental Quality Possible Points: 15

Y	?	N			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1	0	0	Credit 1	Outdoor Air Delivery Monitoring	1
0	0	1	Credit 2	Increased Ventilation	1
1	0	0	Credit 3.1	Construction IAQ Management Plan--During Construction	1
1	0	0	Credit 3.2	Construction IAQ Management Plan--Before Occupancy	1
1	0	0	Credit 4.1	Low-Emitting Materials--Adhesives and Sealants	1
1	0	0	Credit 4.2	Low-Emitting Materials--Paints and Coatings	1
1	0	0	Credit 4.3	Low-Emitting Materials--Flooring Systems	1
0	1	0	Credit 4.4	Low-Emitting Materials--Composite Wood & Agrifiber	1
1	0	0	Credit 5	Indoor Chemical and Pollutant Source Control	1
1	0	0	Credit 6.1	Controllability of Systems--Lighting	1
1	0	0	Credit 6.2	Controllability of Systems--Thermal Comfort	1
1	0	0	Credit 7.1	Thermal Comfort--Design	1
0	0	1	Credit 7.2	Thermal Comfort--Verification	1
0	0	1	Credit 8.1	Daylight and Views--Daylight	1
0	1	0	Credit 8.2	Daylight and Views--Views	1

4 2 0 Innovation and Design Process Possible Points: 6

Y	?	N			
1	0	0	Credit 1.1	SS Cr 7.1 - Heat Island Effect - Non-Roof	1
0	1	0	Credit 1.2	SS Cr 5.1 - Site Development - Protect or Restore Habitat	1
0	1	0	Credit 1.3	WE Cr 3 - 45% Reduction	1
1	0	0	Credit 1.4	Green Housekeeping	1
1	0	0	Credit 1.5	Education	1
1	0	0	Credit 2	LEED Accredited Professional	1

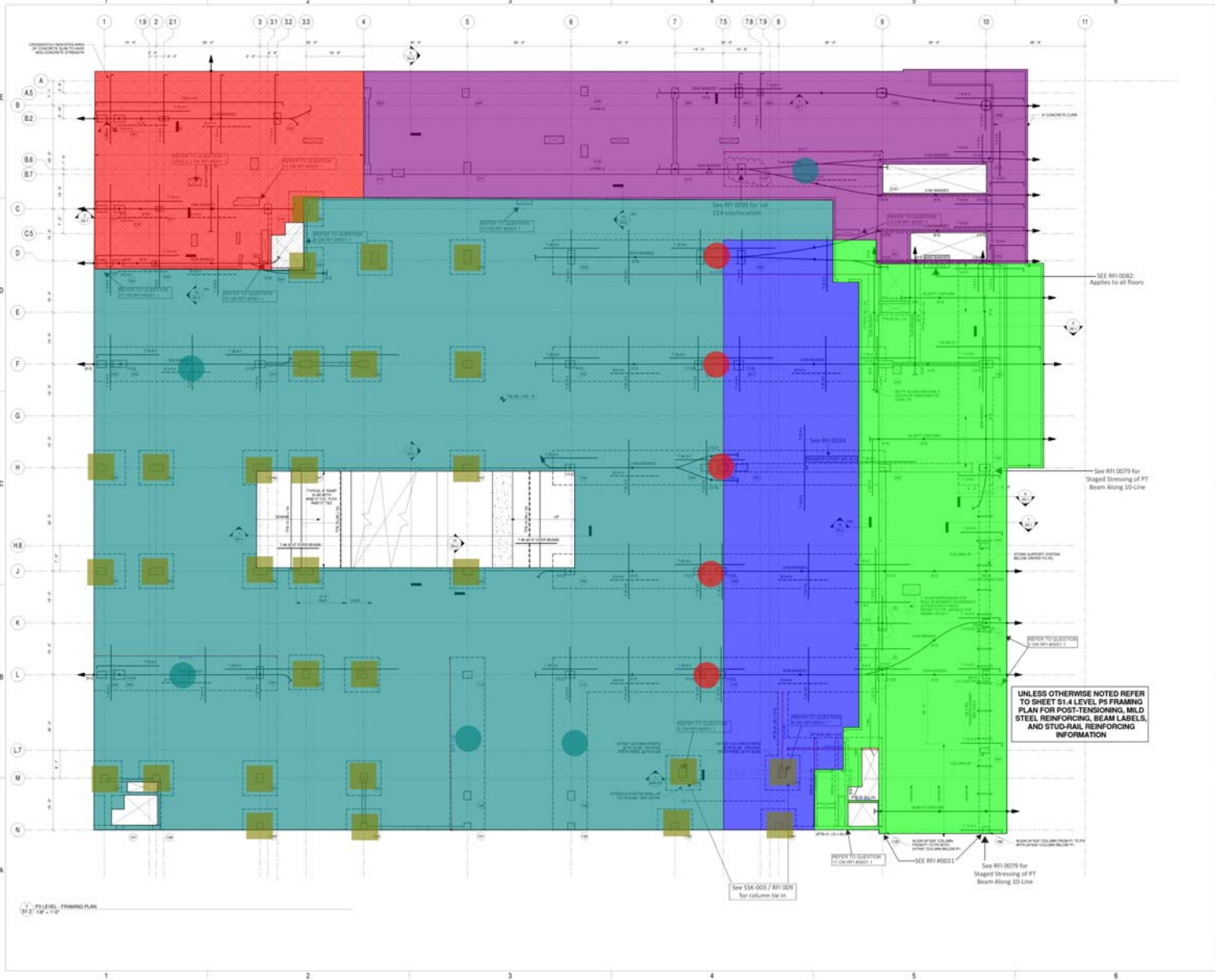
1 2 1 Regional Priority Credits Possible Points: 4

Y	?	N			
1	0	0	Credit 1.1	MR Cr 2 - Recycle/Slavage 50%	1
0	1	0	Credit 1.2	WE Cr 3 - 40% Reduction	1
0	1	0	Credit 1.3	SS Cr 6.1 - Stormwater Design - Quantity Control	1
0	0	1	Credit 1.4	ENTER NAME	1

55 16 39 Total: SILVER Possible Points: 110

Certified 40 to 49 points - Silver 50 to 59 points - Gold 60 to 79 points - Platinum 80 to 110

Appendix I: Take Off Data Examples



P5 LEVEL FRAMING PLAN
10-1-17

UNLESS OTHERWISE NOTED REFER TO SHEET S14 LEVEL P5 FRAMING PLAN FOR POST-TENSIONING, MLD STEEL REINFORCING, BEAM LABELS, AND STUD-RAIL REINFORCING INFORMATION

See SSK-003 / RFI 009 for column tie in

REFER TO QUESTIONnaire 10-1-17-0021

SEE RFI 40031

See RFI 0029 for Staged Stressing of PT Beam Along ID-Line

See RFI 0029 for Staged Stressing of PT Beam Along ID-Line

SEE RFI 0082 Applies to all floors



10250 Timber Run, Suite 100
Manassas, VA 20108
703.767.2879
703.767.2880
www.hickokcole.com

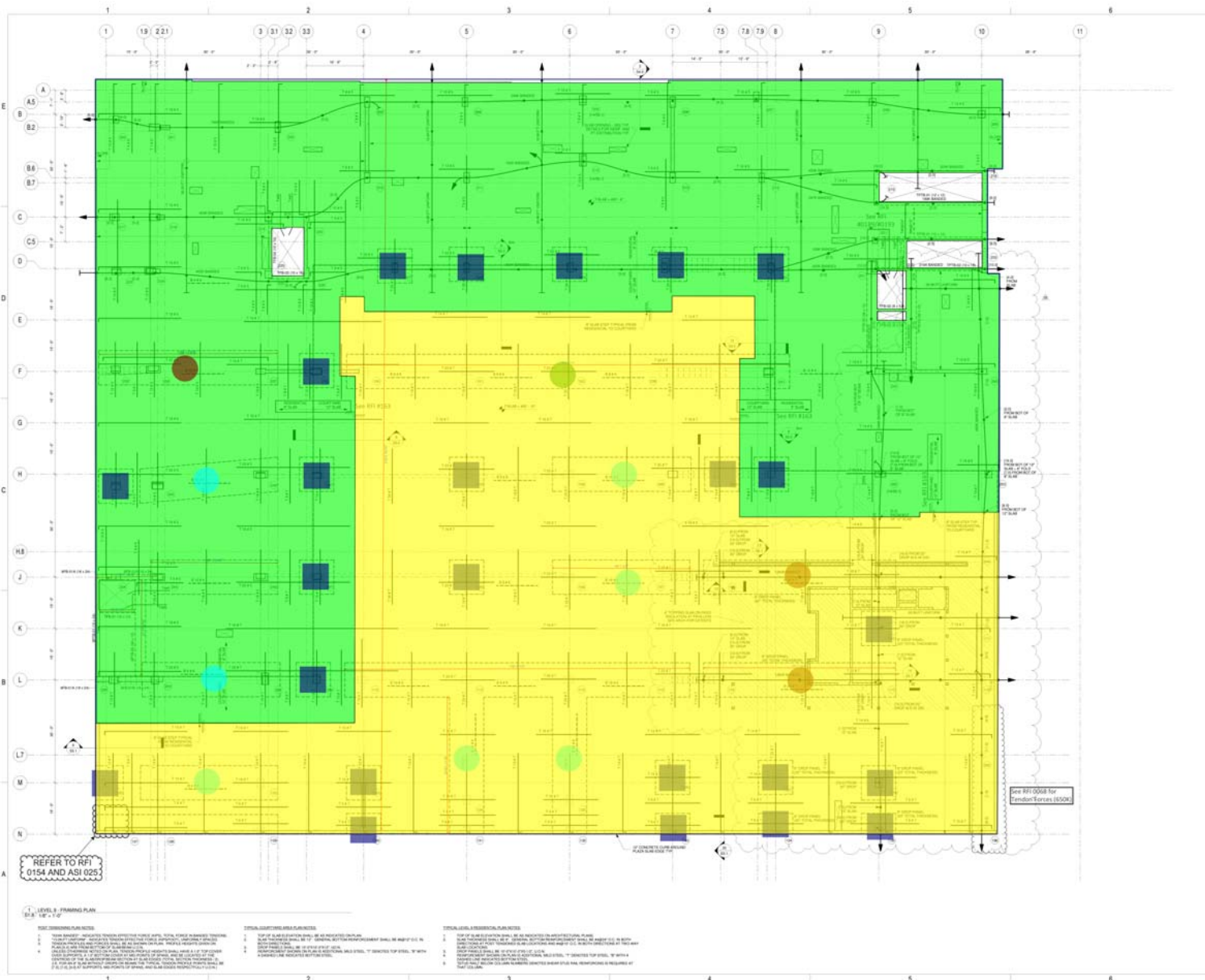


RESTON STATION BUILDING 4
NEW RESTON VILLAGE
RESTON, VA

REVISION	DATE	DESCRIPTION
1	10/1/17	ISSUED FOR PERMIT
2	10/1/17	REVISED PER COMMENTS
3	10/1/17	REVISED PER COMMENTS
4	10/1/17	REVISED PER COMMENTS
5	10/1/17	REVISED PER COMMENTS
6	10/1/17	REVISED PER COMMENTS
7	10/1/17	REVISED PER COMMENTS
8	10/1/17	REVISED PER COMMENTS
9	10/1/17	REVISED PER COMMENTS
10	10/1/17	REVISED PER COMMENTS

P5 LEVEL FRAMING PLAN

PROJECT: RESTON STATION BUILDING 4
LOCATION: NEW RESTON VILLAGE
DATE: 10-1-17
SCALE: AS SHOWN
DRAWN: [Name]
CHECKED: [Name]



NO.	REVISION	DATE
1	ISSUED FOR PERMIT	08/14/2014
2	ISSUED FOR PERMIT	08/14/2014
3	ISSUED FOR PERMIT	08/14/2014
4	ISSUED FOR PERMIT	08/14/2014
5	ISSUED FOR PERMIT	08/14/2014
6	ISSUED FOR PERMIT	08/14/2014
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8	ISSUED FOR PERMIT	08/14/2014
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47	ISSUED FOR PERMIT	08/14/2014
48	ISSUED FOR PERMIT	08/14/2014
49	ISSUED FOR PERMIT	08/14/2014
50	ISSUED FOR PERMIT	08/14/2014

NO.	REVISION	DATE
1	ISSUED FOR PERMIT	08/14/2014
2	ISSUED FOR PERMIT	08/14/2014
3	ISSUED FOR PERMIT	08/14/2014
4	ISSUED FOR PERMIT	08/14/2014
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37	ISSUED FOR PERMIT	08/14/2014
38	ISSUED FOR PERMIT	08/14/2014
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