Kimberton Elementary School

East Pikeland Township, Chester County, Pennsylvania

Technical Report 2

Cost and Schedule Analysis

Consultant: Dr. John Messner

Friday October 24th, 2008

Ralph Gary Kreider

2009 Construction Option

http://www.engr.psu.edu/ae/thesis/portfolios/2009/rgk5000/

Kimberton Elementary School

East Pikeland Township, Chester County, Pennsylvania

Building Statistics:

- **Size:** 104,000 sq ft – Two Stories
- **Construction:** July 2008 – Jan 2010
- **Construction Cost:** $25.5 Million
- **Delivery Method:** Design-Bid- Build with Multiple Prime and CM Agency

Architecture:

- 650 students Elementary
- Two main wings: Classroom and Activities
- 30 750 SF classrooms
- 2 computer labs
- 3000 SF media center
- 650 seat auditorium/cafeteria
- 6000 SF gymnasium with full basketball and volleyball courts

Building Envelope:

- Masonry Veneer Exterior
- Split face block on first floor
- Green cementitious siding used on second floor
- Asphalt shingled gabled roof on top of the classrooms, media center, gymnasium, and entry
- White single-ply membrane flat roof on remainder of building

Structural:

- Structural Steel Building
- 1.5" 20 GA composite deck with 2.5" of NW concrete
- Classroom live load is 40 PSF
- Most columns are HSS8x8x1/2
- Spread footing support columns
- First floor is 4" cast-in-place concrete slab with 6x6 W2.9xW2.9 WWF

Mechanical:

- Water source heat pump
- Individual heat pumps for each classroom housed in the second floor mechanical room
- 6 water source heat recovery units manufactured by Des Champs housed on the roof
- Originally designed as geothermal heat pump

Electrical:

- Disturbed through building at 480/277V
- Supply Voltage is 33KV
- 5 Local Transformers step down to 208/120V
- Lighting uses 277V
- 125 KW Backup Generator
- 40 panel boards located throughout school

Lighting:

- 59 lighting types
- Classrooms use 3 32W T8 lamps
- Switching allows for 3 light levels
- The media center contains pendent and drop lights
- Gymnasium lighting is produced by high bay fluorescents
- Cafeteria/auditorium has dimmable metal halide lights

Project Team:

- **Owner:** Phoenixville Area School District
- **Construction Manger:** Foreman Program and Construction Managers
- **Architect:** Gilbert Architects
- **Structural:** Baker, Ingram, & Associates
- **M.E.P.:** Snyder Hoffman & Associates

Ralph Gary Kreider

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Executive Summary

Kimberton Elementary School for the Phoenixville Area School District was scheduled to mobilize July of 2008. The site closure plan would have taken place during the first 60 days of construction with the foundations beginning about halfway through the site closure plan. Structural steel would have followed with topping out occurring around mid February. The building would have been enclosed by July 20th. The building should be substantially complete around Christmas time 2009. The building would have been turned over for occupancy following the New Year with closeout items continuing for another 2 months. Overall, the schedule was not ideal and would have been better served if it could have been moved up about 4 months but because of construction delays that was not possible. The school however would have been ready for the middle school to be temporary relocated to it at the start of the spring semester in 2010.

The construction sequence would flow generally from the west to the east with most trades beginning around the main mechanical room. Each trade would work their way toward the classroom wing of the structure. All work would be scheduled to be completed about the same time to allow for a turn over around the first of the year 2010.

This technical report contains site plans for various phases of the building including existing, excavation, substructure, superstructure, exterior enclosure, interior finishes, and project completion. A temporary driveway will be built to access the site while the permanent drive way is completed. Overall the trailers and staging areas are placed on what will be the parking lot. The future soccer field will be used for soil stock piles.

The structural system of the building costs 2.5 million dollars and 24 dollars per square foot without profit and overhead. With profit and overhead, those numbers rise to about 3 million dollars and 29 dollars per square foot. The takeoff for the detailed structural estimate comes from the Revit model and the unit cost comes from RS Means 2007. The unit costs have been adjusted for time and location. Material accounts for about 77% of the total cost with about $2.2 million and $22 per square foot. The labor is about 19% of the total cost at about half a million dollars and $5 per square foot. The equipment is only about 4% of the cost with about a dollar per square foot totaling $100,000.

The general conditions estimate was derived from the FPCM GC conditions estimate. Using the items from this estimate, a separate GC estimate was preformed utilizing the RS Means 2007 unit costs. It is also adjust for time and location. The overall cost difference, before add-ons, is about $100,000 from the FPCM estimate. The general conditions cost about a million dollars or about $10 dollars per square foot. With profit and overhead, that number rises to about $1.2 million and $12 dollars per square foot.

The Pace Roundtable kicked off with a dinner on Wednesday night. Thursday was filled with breakout sessions about mentoring, LEED evolution, BIM strategies, energy and economy. There were also industry and student panels that fielded questions from the audience about the changing roles in industry and the challenges of the work-life balance. I was pleasantly surprised by the roundtable overall. I made numerous industry contacts that can help me in the future with my senior thesis.

Ralph Kreider
Construction Option: Messner

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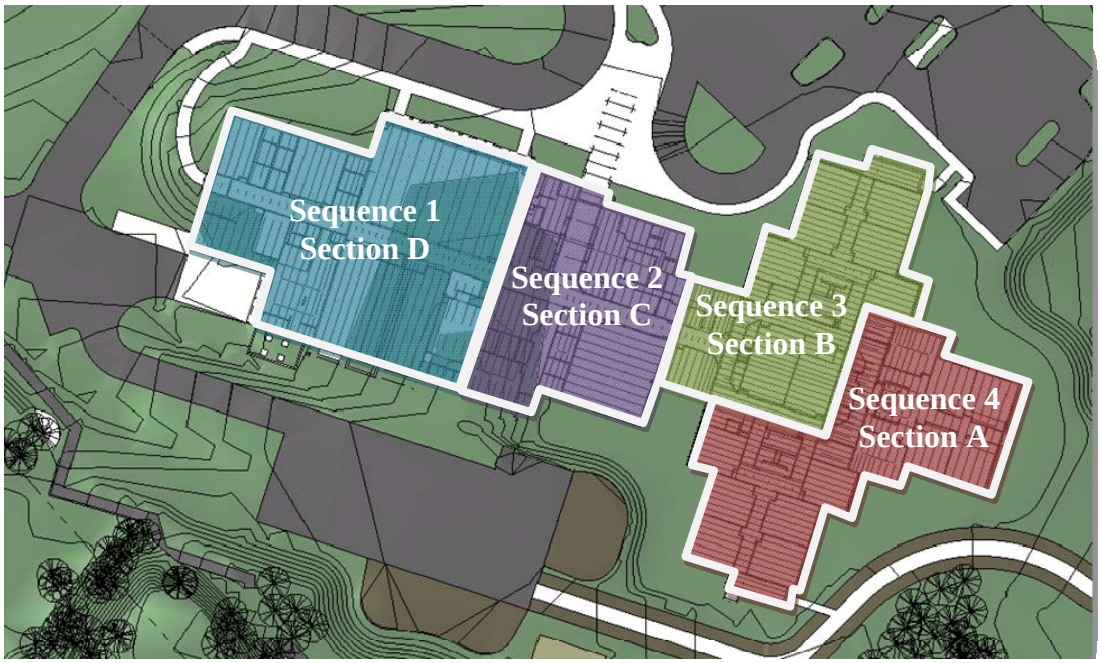
Detailed Project Schedule

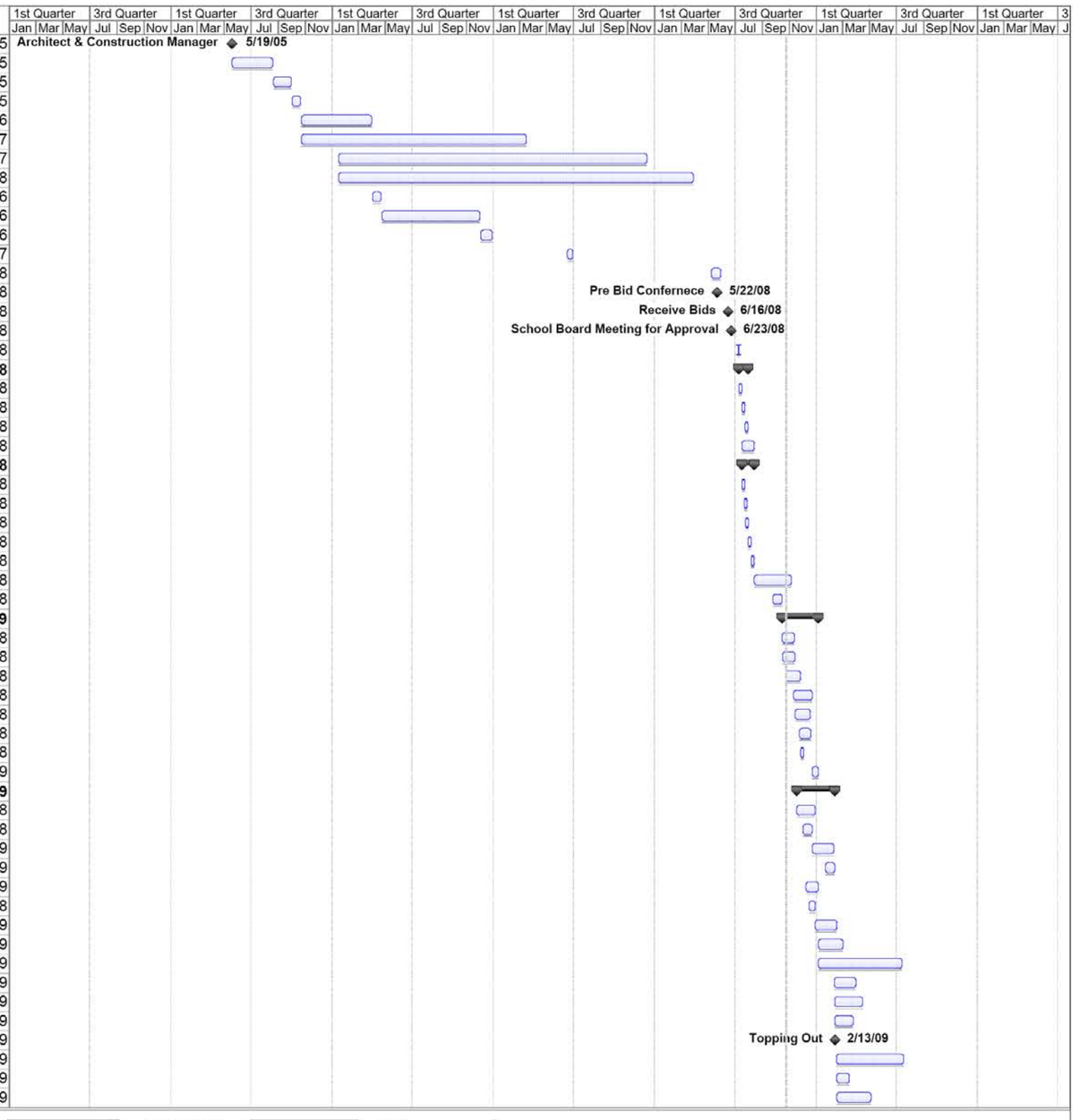
Summary of Schedule:
There was no detailed schedule for Kimberton Elementary constructed by the project manager. The following schedule was derived from the summary schedule and a similar project completed by Foreman Program and Construction Managers. The project was scheduled to mobilize Mid-July of 2008. The site closure plan will take place during the first 60 days of construction with the foundations beginning about halfway through the site closure plan. This is possible because most of the closure plan takes place away from the main building construction. After the foundation gets a few days ahead, the structural steel will follow with topping out occurring around mid February. The masonry walls, concrete slabs and metal studs follow the steel fairly closely. Next the specialty trades will begin to rough in all of the ductwork and piping while the masonry veneer and windows are being installed. The building should be enclosed by July 20th, 2009. Once the building is enclosed the finishing trades will follow. The building should be substantially complete around Christmas time 2009. (Note: according to this schedule it will actually occur on Christmas. This will not be the case.) The building will be turned over for occupancy following the New Year, 2010, with closeout items continuing for another 2 months. Overall the schedule is not ideal and would have been better served if it could have been moved up about 4 months but because of pre-construction delays that was not possible. Extra effort will have to be taken when pouring foundations as the weather gets colder. Some floor slabs are actually scheduled to be poured in December which is unfortunate. It would have also been ideal to be completing the rest of the site work during the summer and fall months so that the grass would have grown. The school however will be ready for the middle school to be temporary relocated to it at the start of the spring semester.

Construction Sequence:
In general, the construction processes will move from the west to the east for all trades. The mechanical room will be where most of the construction work will start and it will move to the classroom wing. For additional information on sequencing see technical report one. Below is a diagram of the purposed building sequencing.



Detailed Project Schedule

ID	Task Name	Duration	Start	Finish
1	Hire Architect & Construction Manager	0 days	Thu 5/19/05	Thu 5/19/05
2	Conceptual Planning Stage	66 days	Fri 5/20/05	Fri 8/19/05
3	Schematic Design Phase	30 days	Mon 8/22/05	Fri 9/30/05
4	Schematic Design Estimate	15 days	Mon 10/3/05	Fri 10/21/05
5	Design Development Phase	115 days	Mon 10/24/05	Fri 3/31/06
6	Land Development	365 days	Mon 10/24/05	Fri 3/16/07
7	PennDOT Approval	500 days	Mon 1/16/06	Fri 12/14/07
8	Governmental Agency Approvals	575 days	Mon 1/16/06	Fri 3/28/08
9	Design Development Phase	15 days	Mon 4/3/06	Fri 4/21/06
10	Construction Document Phase	160 days	Mon 4/24/06	Fri 12/1/06
11	Construction Document Estimate	20 days	Mon 12/4/06	Fri 12/29/06
12	Revise Construction Document Estimate	10 days	Mon 6/18/07	Fri 6/29/07
13	Bid Advertisement	15 days	Fri 5/9/08	Thu 5/29/08
14	Pre Bid Confernece	0 days	Thu 5/22/08	Thu 5/22/08
15	Receive Bids	0 days	Mon 6/16/08	Mon 6/16/08
16	School Board Meeting for Approval	0 days	Mon 6/23/08	Mon 6/23/08
17	Construction Start Up Meeting	1 day	Wed 7/9/08	Wed 7/9/08
18	**Contractors Mobilize**	**15 days**	**Thu 7/10/08**	**Wed 7/30/08**
19	Temporary Power to Trailers	5 days	Thu 7/10/08	Wed 7/16/08
20	Install Temporary Facilities & Controls	5 days	Thu 7/17/08	Wed 7/23/08
21	other mobilization activities	5 days	Thu 7/24/08	Wed 7/30/08
22	Clear and Grub Site	20 days	Thu 7/17/08	Wed 8/13/08
23	**Establish E&S Measures**	**20 days**	**Thu 7/17/08**	**Wed 8/13/08**
24	Install Temp. Swale	5 days	Thu 7/17/08	Wed 7/23/08
25	Install Temp. Storm Piping	5 days	Tue 7/22/08	Mon 7/28/08
26	Install Sedment Trap	5 days	Fri 7/25/08	Thu 7/31/08
27	Install Temporary Construction Entrance and Road	5 days	Thu 7/31/08	Wed 8/6/08
28	Install Stone Staging Area	5 days	Thu 8/7/08	Wed 8/13/08
29	**Preform Site Closure Plan Work**	60 days	Thu 8/14/08	Wed 11/5/08
30	**Develiop Building Pad**	15 days	Thu 9/25/08	Wed 10/15/08
31	**Building Foundations**	**58 days**	**Thu 10/16/08**	**Mon 1/5/09**
32	Foundation Excavation DC	20 days	Thu 10/16/08	Wed 11/12/08
33	Footings	20 days	Fri 10/17/08	Thu 11/13/08
34	Foundation CMU	24 days	Fri 10/24/08	Wed 11/26/08
38	Underslab Electrical	30 days	Tue 11/11/08	Mon 12/22/08
37	Install Underground Sanitary Piping and Foundation Drains	25 days	Fri 11/14/08	Thu 12/18/08
36	BackFill Foundations	20 days	Mon 11/24/08	Fri 12/19/08
35	Install Electrical Duct Bank & CATV	5 days	Thu 11/27/08	Wed 12/3/08
39	Install Stone Base	10 days	Tue 12/23/08	Mon 1/5/09
40	**Erect Steel**	**62 days**	**Tue 11/18/08**	**Wed 2/11/09**
41	Erect Steel DC	30 days	Tue 11/18/08	Mon 12/29/08
43	Joist and Decking DC	15 days	Tue 12/2/08	Mon 12/22/08
42	Erect Steel BA	35 days	Tue 12/23/08	Mon 2/9/09
44	Joist and Decking BA	15 days	Thu 1/22/09	Wed 2/11/09
47	Exterior Masonry	20 days	Tue 12/9/08	Mon 1/5/09
51	Vapor Barrier	10 days	Tue 12/16/08	Tue 12/30/08
50	Prep & Pour Slabs	35 days	Tue 12/30/08	Mon 2/16/09
48	Exterior Masonry	40 days	Tue 1/6/09	Mon 3/2/09
55	Electrical Rough In	135 days	Tue 1/6/09	Mon 7/13/09
49	Door Frames	35 days	Wed 2/11/09	Tue 3/31/09
58	EPDM Roofing	45 days	Thu 2/12/09	Wed 4/15/09
62	Install Stair Towers	30 days	Thu 2/12/09	Wed 3/25/09
45	**Topping Out**	0 days	Fri 2/13/09	Fri 2/13/09
46	**Building Envelope**	110 days	Mon 2/16/09	Fri 7/17/09
59	Install Plumbing Equipment and Rough In Mech Room	20 days	Tue 2/17/09	Mon 3/16/09
60	Install above Ceiling Plumbing	55 days	Tue 2/17/09	Mon 5/4/09



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Date: Thu 10/23/08

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Split | Milestone | Project Summary | External MileTask

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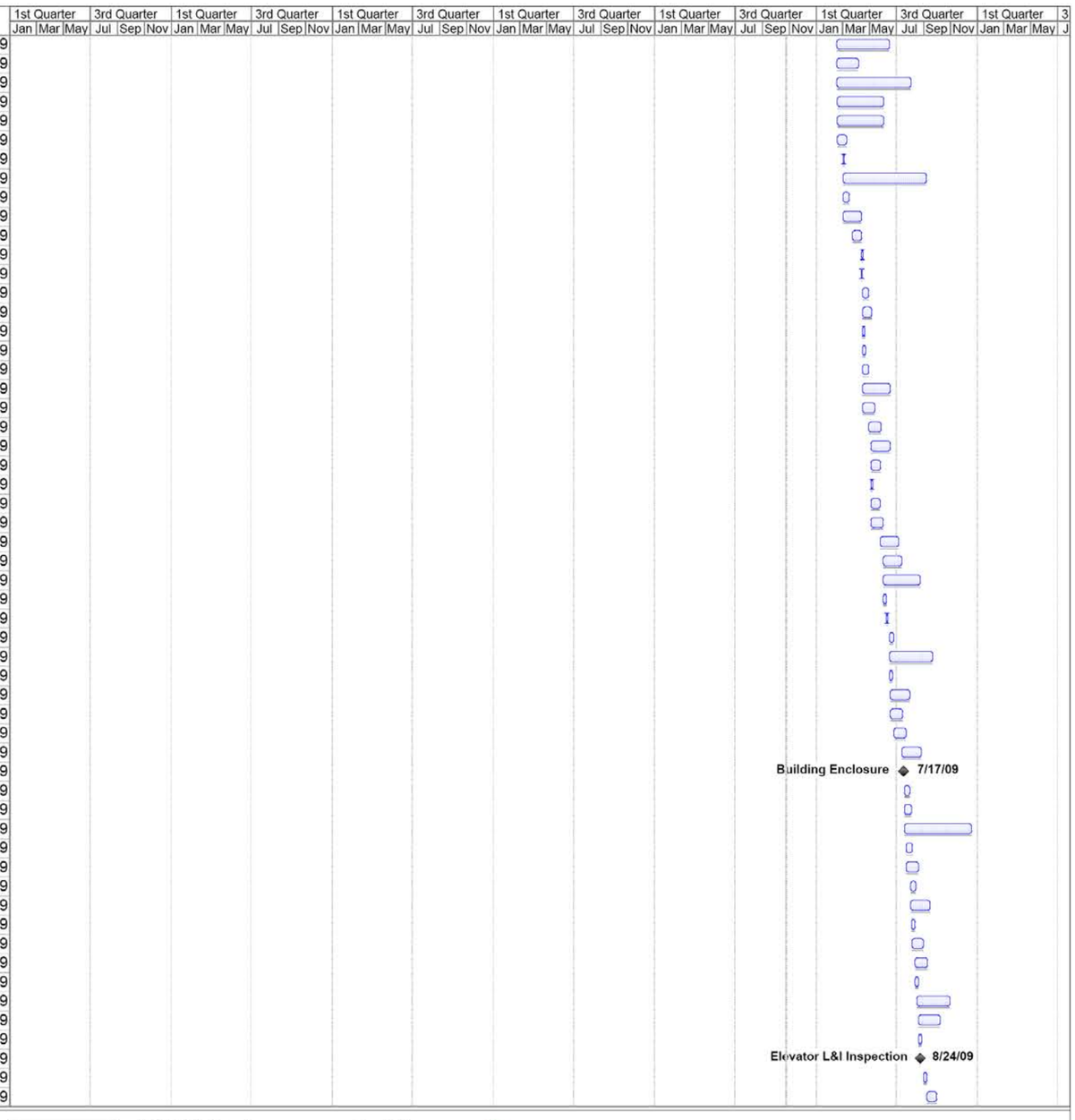
Kimberton Elementary School
East Pikeland Township, Chester County, PA
Ralph Kreider
Construction Option: Messner

Detailed Project Schedule

ID	Task Name	Duration	Start	Finish
64	Install Ductwork	85 days	Tue 2/17/09	Mon 6/15/09
74	Fire Protection Mains	35 days	Tue 2/17/09	Mon 4/6/09
75	Mechanical Piping	120 days	Tue 2/17/09	Mon 8/3/09
52	Interior Masonry Partitions	75 days	Wed 2/18/09	Tue 6/2/09
53	Plumbling Wall Rough In	75 days	Wed 2/18/09	Tue 6/2/09
54	Set Roof Curbs and Euipment	15 days	Wed 2/18/09	Tue 3/10/09
56	Install Generator Pad	3 days	Tue 3/3/09	Thu 3/5/09
57	Masonry Veneer	135 days	Tue 3/3/09	Mon 9/7/09
76	Install Interior metal Stud wall (admin area)	10 days	Tue 3/3/09	Mon 3/16/09
78	Install Exterior Metal Studs	30 days	Tue 3/3/09	Mon 4/13/09
77	Install Interior metal Studs Second Floor	15 days	Tue 3/24/09	Mon 4/13/09
83	Install Folding Partition Track	3 days	Tue 4/14/09	Thu 4/16/09
94	Test Piping	1 day	Tue 4/14/09	Tue 4/14/09
61	Install main Panels and Transformers	10 days	Thu 4/16/09	Wed 4/29/09
69	Install Boiler and Assoc. Equipment	15 days	Thu 4/16/09	Wed 5/6/09
79	Install Generator and Tranfer Switch	3 days	Thu 4/16/09	Mon 4/20/09
88	Install Standing Seam Roofing	5 days	Thu 4/16/09	Wed 4/22/09
89	Install Singles	10 days	Thu 4/16/09	Wed 4/29/09
95	Install HVAC Equipment	45 days	Thu 4/16/09	Wed 6/17/09
97	Insulate Mechanical Piping	20 days	Thu 4/16/09	Wed 5/13/09
63	Install Branch Panels and Transformers	20 days	Thu 4/30/09	Wed 5/27/09
66	Plumbing Insulation	32 days	Tue 5/5/09	Wed 6/17/09
84	Exterior Lovers	16 days	Tue 5/5/09	Tue 5/26/09
85	Exterior Building Letters	4 days	Tue 5/5/09	Fri 5/8/09
87	Install Concrete Siding	15 days	Tue 5/5/09	Mon 5/25/09
91	Install Windows	20 days	Tue 5/5/09	Mon 6/1/09
86	Install metal Fascia and Soffits	30 days	Tue 5/26/09	Mon 7/6/09
92	Install Store Fronts	30 days	Tue 6/2/09	Mon 7/13/09
99	Elevator	60 days	Tue 6/2/09	Mon 8/24/09
100	Install Walk in Freezer/Cooler Boxes	5 days	Tue 6/2/09	Mon 6/8/09
104	Install Kitchen Exhaust Hoods	3 days	Tue 6/9/09	Thu 6/11/09
68	Ductwork Testing	8 days	Tue 6/16/09	Thu 6/25/09
80	Fire Protection Branches	70 days	Tue 6/16/09	Mon 9/21/09
81	Install switch gear	5 days	Tue 6/16/09	Mon 6/22/09
102	HVAC Equipment Connections	32 days	Thu 6/18/09	Fri 7/31/09
103	HVAC Euipment Electrical Terminations	20 days	Thu 6/18/09	Wed 7/15/09
67	Insulate Ductwork	20 days	Fri 6/26/09	Thu 7/23/09
65	Install Feeder/Distribution Conduit	32 days	Tue 7/14/09	Wed 8/26/09
93	**Building Enclosure**	0 days	Fri 7/17/09	Fri 7/17/09
101	Install Drywall	10 days	Mon 7/20/09	Fri 7/31/09
150	underground site lighting conduit	12 days	Mon 7/20/09	Tue 8/4/09
165	Building Finishes	110 days	Mon 7/20/09	Fri 12/18/09
90	Fire Protection Riser & Feed main	10 days	Fri 7/24/09	Thu 8/6/09
96	Install Cable Tray	20 days	Fri 7/24/09	Thu 8/20/09
106	Install Rolling Dooring	10 days	Mon 8/3/09	Fri 8/14/09
107	Tape and Spackle Drywall	32 days	Mon 8/3/09	Tue 9/15/09
152	Install Site Light Bases	6 days	Wed 8/5/09	Wed 8/12/09
71	Install FA boxes/Conduit/wire	18 days	Thu 8/6/09	Mon 8/31/09
70	Pull Feeder and Distribution	20 days	Thu 8/13/09	Wed 9/9/09
153	Install Site Light Poles	6 days	Thu 8/13/09	Thu 8/20/09
110	Block Filler and Paint	55 days	Mon 8/17/09	Fri 10/30/09
98	Data Cabling Rough in	35 days	Fri 8/21/09	Thu 10/8/09
157	Install U/G Fiber Optic	5 days	Fri 8/21/09	Thu 8/27/09
111	Elevator L&I Inspection	0 days	Mon 8/24/09	Mon 8/24/09
73	Install Video Raceways/boxes	6 days	Tue 9/1/09	Tue 9/8/09
72	Install Security System Conduit/Boxes/cable	16 days	Wed 9/9/09	Wed 9/30/09



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Task · Split · Progress · Milestone · Summary · Project Summary · External Tasks · External MileTask · Split

Kimberton Elementary School
East Pikeland Township, Chester County, PA
Ralph Kreider
Construction Option: Messner

Detailed Project Schedule

ID	Task Name	Duration	Start	Finish
112	Electrical Devices	35 days	Mon 9/21/09	Fri 11/6/09
113	Install Ceiling Grid Start	10 days	Mon 9/21/09	Fri 10/2/09
115	Install Gym Equipment	8 days	Mon 9/21/09	Wed 9/30/09
116	Install Interior Doors and Hardware	50 days	Mon 9/21/09	Fri 11/27/09
117	Fire extinguishers & Cabinets	20 days	Mon 9/21/09	Fri 10/16/09
118	Install Acoustical Wall panels	10 days	Mon 9/21/09	Fri 10/2/09
120	Install Casework	33 days	Mon 9/21/09	Wed 11/4/09
119	Tele/Data Terminations	35 days	Mon 9/28/09	Fri 11/13/09
128	Terrazzo	60 days	Mon 9/28/09	Fri 12/18/09
82	Install Intercom conduit/cables	12 days	Thu 10/1/09	Fri 10/16/09
114	Finish Ceiling Grid Install	30 days	Mon 10/5/09	Fri 11/13/09
123	Install Light Fixtures	50 days	Mon 10/5/09	Fri 12/11/09
124	Sprinkler Heads	35 days	Mon 10/5/09	Fri 11/20/09
126	Install Grills, Registers and Defusers	35 days	Mon 10/5/09	Fri 11/20/09
105	Install Telecommunications/Data Racks	35 days	Fri 10/9/09	Thu 11/26/09
125	Install Fire Alarm Devices	12 days	Mon 10/12/09	Tue 10/27/09
127	Install Clock System	12 days	Mon 10/12/09	Tue 10/27/09
130	Install Security Devices	10 days	Mon 10/12/09	Fri 10/23/09
132	Install Intercom Devices	11 days	Mon 10/12/09	Mon 10/26/09
122	Install Countertops	20 days	Thu 10/15/09	Wed 11/11/09
136	Finish paint/Paint Touch up	25 days	Mon 10/19/09	Fri 11/20/09
133	Quarry Tile Floor	8 days	Mon 10/26/09	Wed 11/4/09
134	Ceramic Floor Tile	15 days	Mon 10/26/09	Fri 11/13/09
135	Install kitchen Equipment	14 days	Mon 10/26/09	Thu 11/12/09
139	Install Ceiling Tile	10 days	Mon 10/26/09	Fri 11/6/09
151	Install Lockers	5 days	Mon 10/26/09	Fri 10/30/09
154	Install Gym Floor	10 days	Mon 10/26/09	Fri 11/6/09
155	Install Cafeteria Floor	10 days	Mon 10/26/09	Fri 11/6/09
129	Install Casework Sinks	16 days	Thu 10/29/09	Thu 11/19/09
138	Ceramic Wall Tile	15 days	Thu 11/5/09	Wed 11/25/09
142	Install Projection Screens	20 days	Mon 11/9/09	Fri 12/4/09
144	Kitchen Equipment Mech, Plumbing, Elec Hook Up	5 days	Fri 11/13/09	Thu 11/19/09
121	Test and Label Data System	20 days	Mon 11/16/09	Fri 12/11/09
137	Install Plumbing Fixtures	25 days	Mon 11/16/09	Fri 12/18/09
146	Install VCT Flooring	30 days	Mon 11/16/09	Fri 12/25/09
149	Kitchen Equipment Startup	7 days	Fri 11/20/09	Mon 11/30/09
131	Sprinkler Line Pressure Test	12 days	Mon 11/23/09	Tue 12/8/09
140	Install Underground Water/Fire Protection Feeds	10 days	Mon 11/23/09	Fri 12/4/09
141	Toliet Partitions	15 days	Mon 11/23/09	Fri 12/11/09
143	Interior Glazing	8 days	Mon 11/23/09	Wed 12/2/09
108	Install Data Backbone Cabling	35 days	Fri 11/27/09	Thu 1/14/10
109	Tele/Data closet end cabling	20 days	Fri 11/27/09	Thu 12/24/09
147	Carpet	15 days	Mon 11/30/09	Fri 12/18/09
159	Install Folding Partition	5 days	Mon 11/30/09	Fri 12/4/09
161	Final Cleaning	15 days	Mon 12/7/09	Fri 12/25/09
156	Install Kiln	1 day	Wed 12/9/09	Wed 12/9/09
160	Install Stage Curtain	5 days	Wed 12/9/09	Tue 12/15/09
145	Toliet Accessories	6 days	Mon 12/14/09	Mon 12/21/09
148	Install Floor Base	15 days	Mon 12/14/09	Fri 1/1/10
158	Install Library Furniture	10 days	Mon 12/14/09	Fri 12/25/09
166	**Building Puchlisting and Closeout**	40 days	Mon 12/21/09	Fri 2/12/10
162	**Kitchen Health Dept. inspection**	0 days	Fri 12/25/09	Fri 12/25/09
163	**Preliminary L&I Inspection**	0 days	Fri 12/25/09	Fri 12/25/09
164	**Substantial Completion**	0 days	Fri 12/25/09	Fri 12/25/09
167	**Building Occupancy**	0 days	Mon 1/4/10	Mon 1/4/10

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Kimberton Elementary School
East Pikeland Township, Chester County, PA
Ralph Kreider
Construction Option: Messner

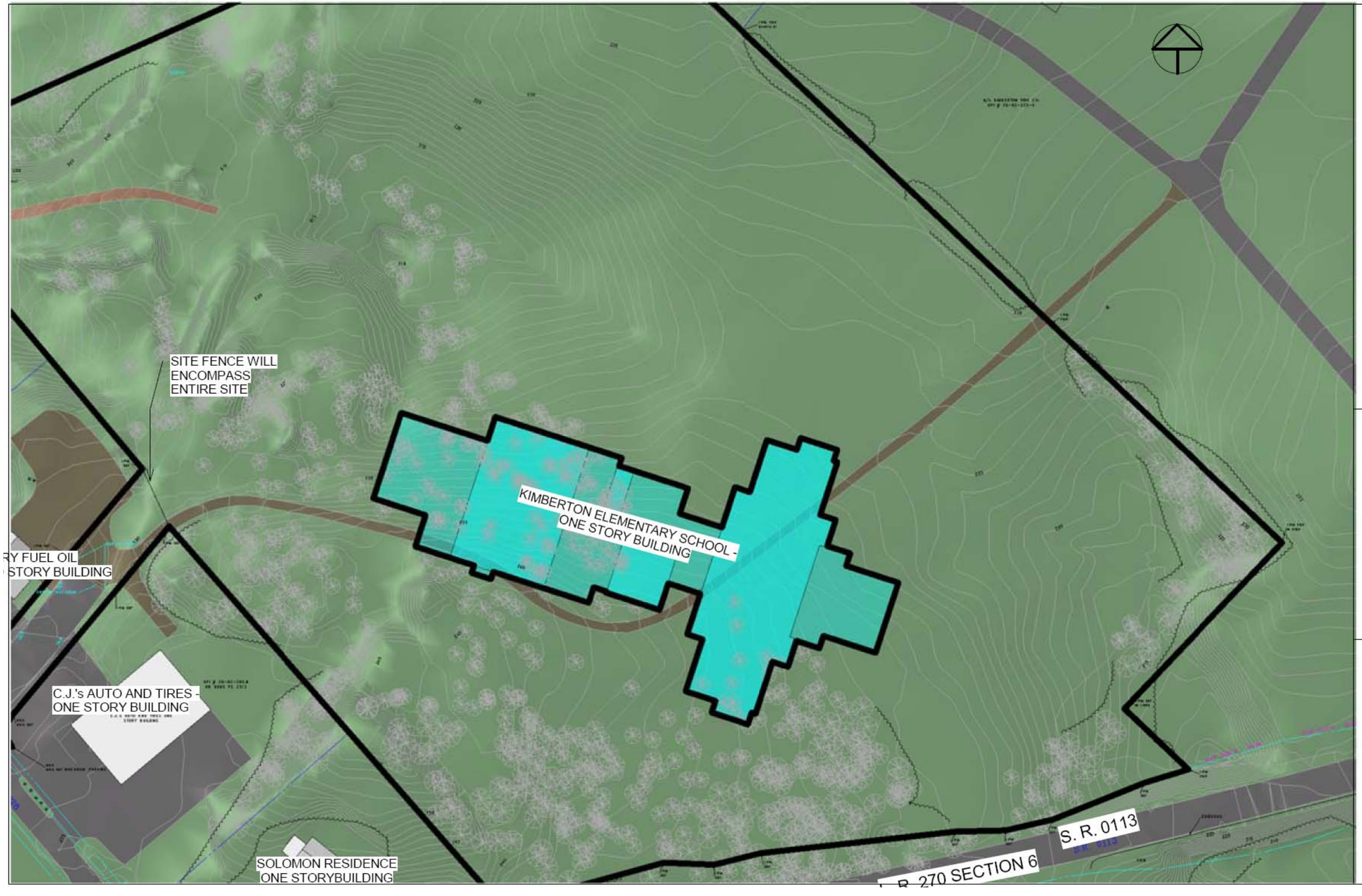
Site Layout Planning

Summary of Site Layout Plans

In general, all traffic enters the site via Route 113 to the south of the site. This construction entrance will be used at the permanent entrance once construction is complete. The job trailers will be located in the southeast corner of the future parking lot. This location was selected because they will not need to be moved for any task until the parking lot is ready to be paved. At that point a smaller job site office can be created inside the building. The porta-pots are also at this location. The main dumpsters will be located near the job trailers. This will allow for monitoring of those trailers. The each trade will be responsible for supplying their workers with trash cans through the site. The main lay down and staging areas are located on what will be future pavement – the large parking lot and the paved playground area. Lay down areas should not be a concern for this project. The site closure plan will mostly take place in the northwest corner of the site and should not interfere with most of construction. The soils that will be removed from this area will be hauled of site or if found suitable for fill stock piled on what will be the soccer field. A twenty foot wide temporary roadway will be constructed around the classroom wing during construction to allow for better movement around the building. The single crane will have four pick locations and is noted on the site plan as separate cranes. The storage containers will be located in the rear of the main lay down and storage area. Overall the site is not that difficult from a logistics stand point. There is plenty of room to move around the site and complete the construction as planned.

Evaluation of Contractors Layout Plan:

There was no actual site logistics plan created by the construction manager for this project. However the site engineer did approximate locations of various temporary structures. A large portion of the site will be hardscape once construction is complete so this area could be easily used for both access to the building and material lay down. Overall the site plan devised by the site engineer is fairly well planned out. For the most part, there will be few major changes from phase to phase. If the neighboring fire hall would have allowed access to the site it would have allowed for even more lay down and storage area. If I were the construction manager, I would have pushed more for this access. I would have also pushed more for a primary construction entrance between CJ Tire and Emery Oil - this would have allowed for less delays in construction is the access road to 113 was in use or being work on. As it stands now, I think many contractors would have probably ended up using the secondary entrance as their primary entrance anyway. Overall the site plan devised by the site engineer would have probably worked just fine and it would have been interesting to see the project come to completion.



Existing Site Plan

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker

C-03

Scale 1" = 100'-0"

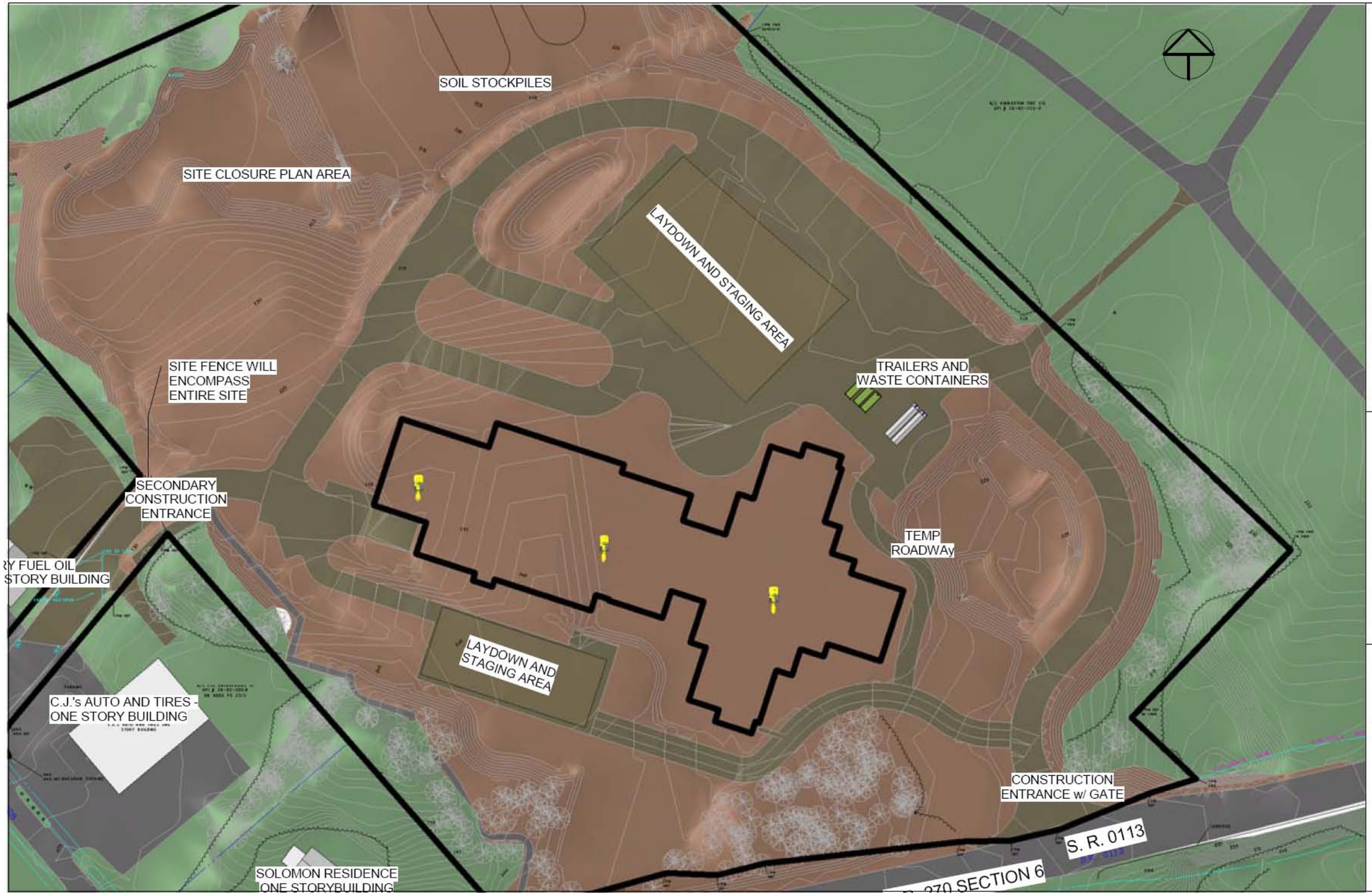
Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Site Layout Planning



Excavatoin Phasing Plan - 11x17

C-04

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale 1" = 100'-0"

Kimberton Elementary

Phoenixville School District

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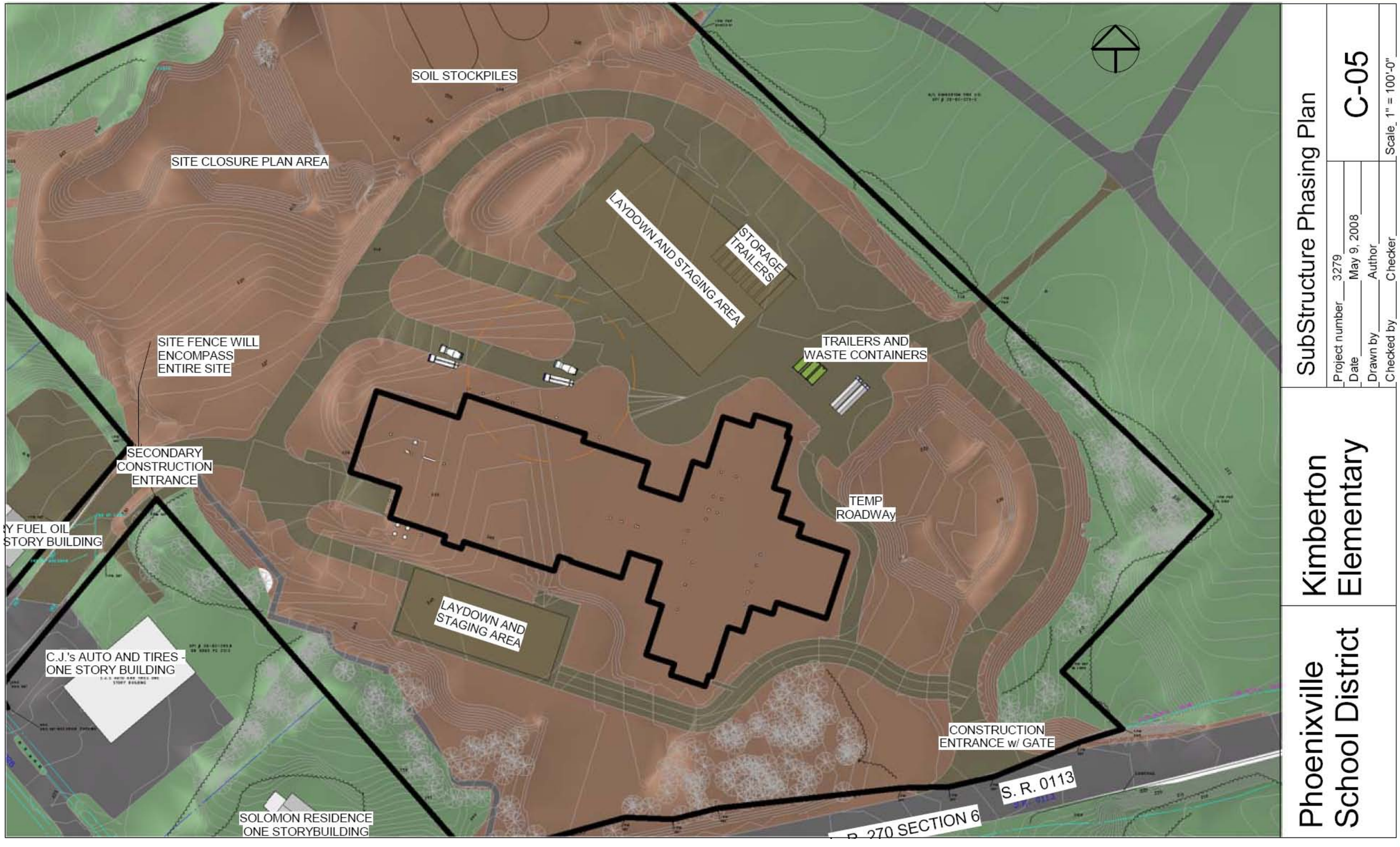
Ralph Kreider
Construction Option: Messner



SubStructure Phasing Plan

C-05

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale 1" = 100'-0"

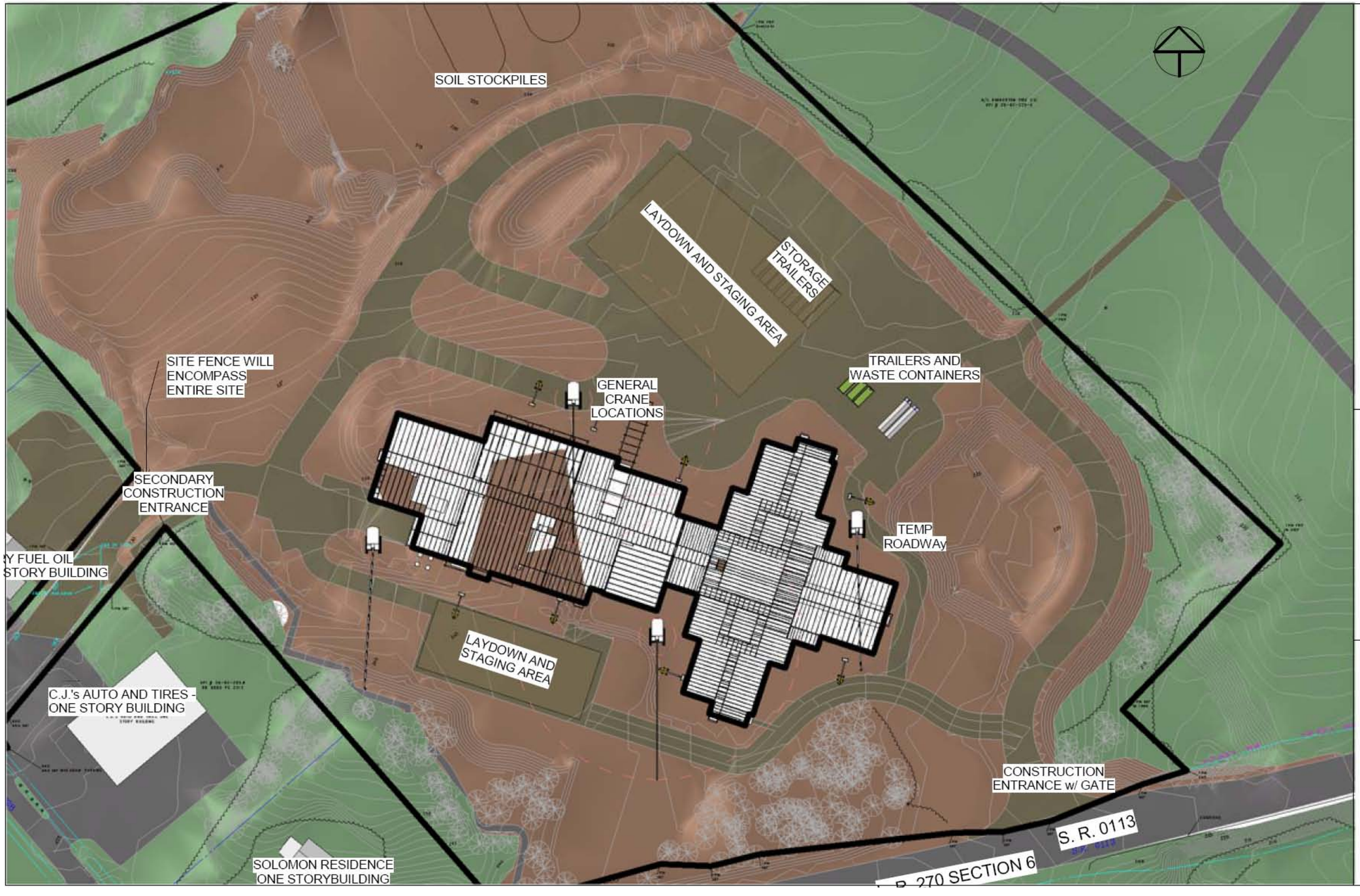
Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Site Layout Planning



SuperStructure Phasing Plan

C-06

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale 1" = 100'-0"

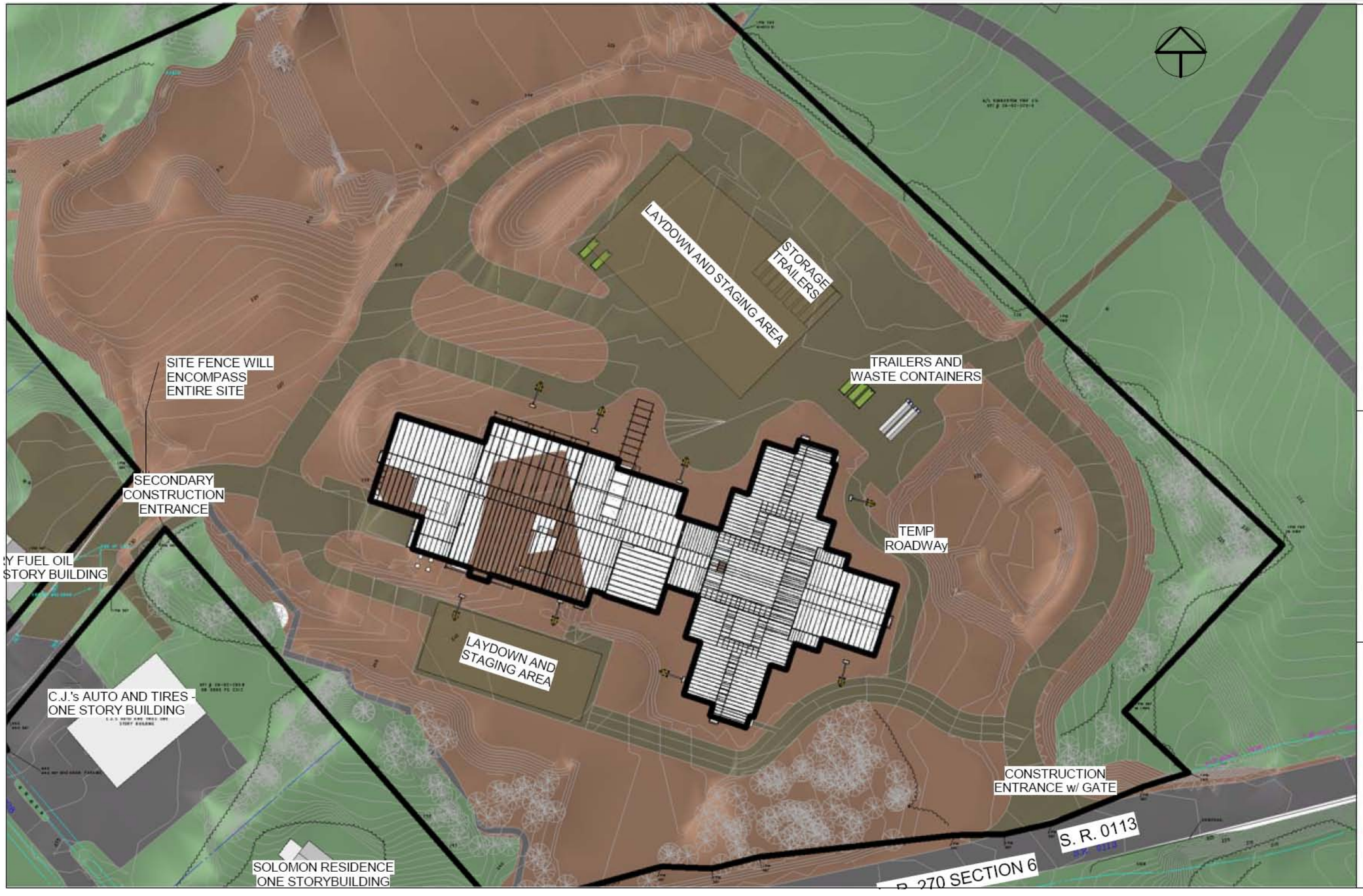
Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Site Layout Planning



Exterior Enclosure Phasing Plan

C-07

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale 1" = 100'-0"

Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Site Layout Planning

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Site Layout Planning

Project Completion Site Plan

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker

C-09

Scale 1" = 100'-0"

Kimberton Elementary

Phoenixville School District

Y FUEL OIL
STORY BUILDING

C.J.'s AUTO AND TIRES -
ONE STORY BUILDING

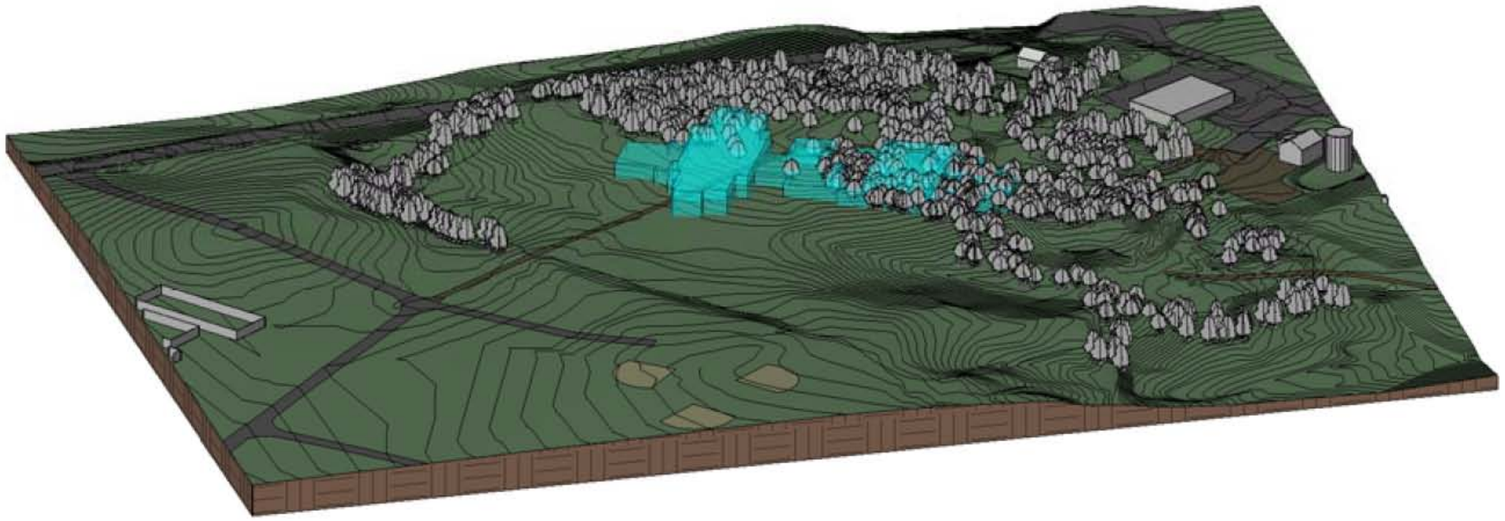
SOLOMON RESIDENCE
ONE STORYBUILDING

S. R. 0113

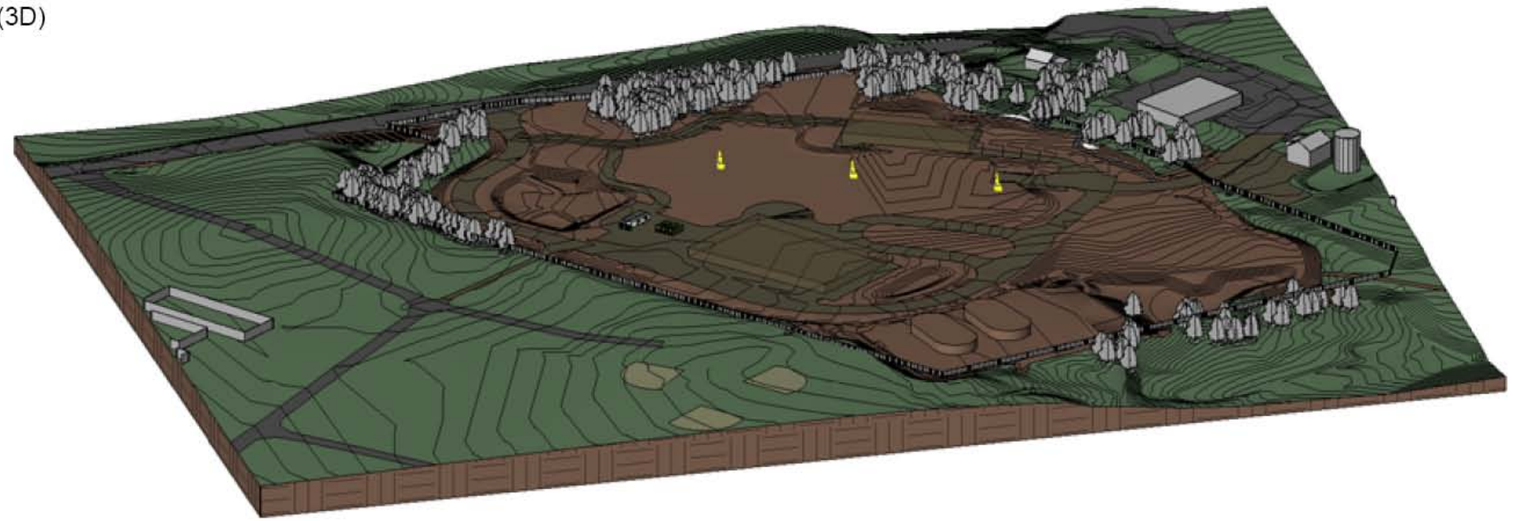
270 SECTION 6

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner



1 Existing Site (3D)



2 Excavtion Phasing Plan (3D)

Existing and Excavation

Project number	3279
Date	May 9, 2008
Drawn by	Author
Checked by	Checker
Scale	

3D-01

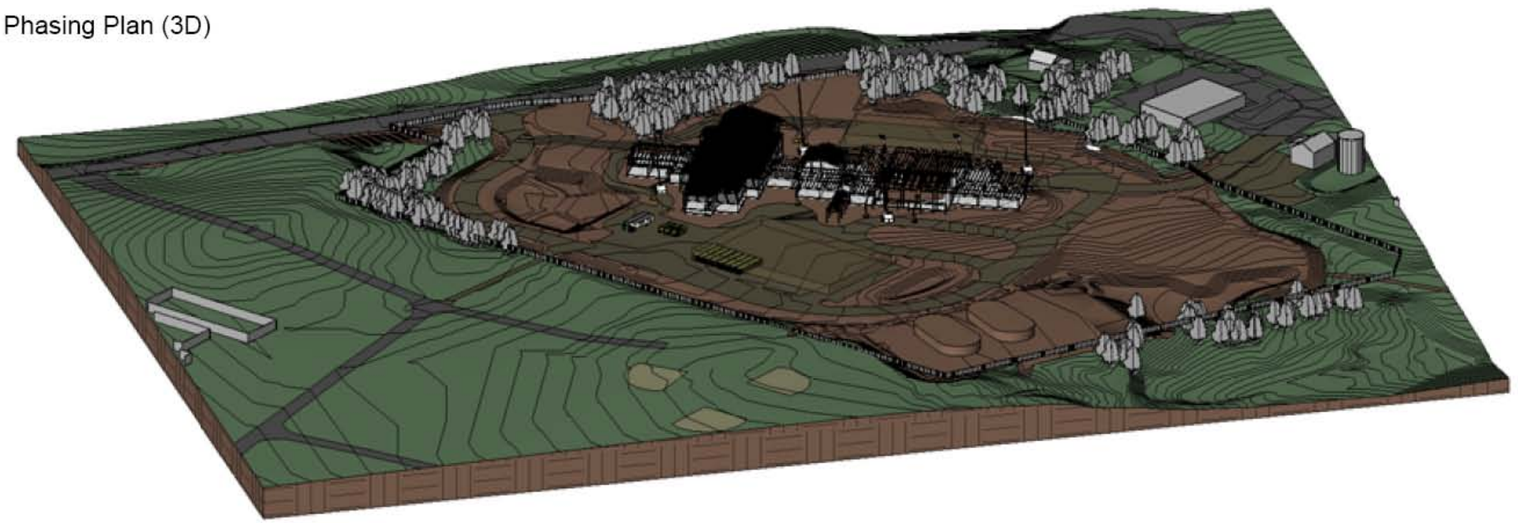
Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

1 Substructure Phasing Plan (3D)



2 SuperStructure Phasing Plan (3D)

Substructure and Superstructure

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale

3D-02

Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

1 Exterior Enclosure Phasing Plan (3D)

2 Interior Finishes Phasing Plan (3D)

Exterior and Interior

Project number	3279
Date	May 9, 2008
Drawn by	Author
Checked by	Checker
Scale	

3D-03

Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Project Completion Site Plan

Project number 3279
Date May 9, 2008
Drawn by Author
Checked by Checker
Scale

3D-04

Kimberton Elementary

Phoenixville School District

Kimberton Elementary School
East Pikeland Township, Chester County, PA

Ralph Kreider
Construction Option: Messner

Detailed Estimate

Detailed Structural Estimate Summary:

As one can see below, the majority of the structural system is the material cost. Most of that material is the cost of steel. The takeoff of the structural system estimate comes directly from the Revit model and therefore should be very accurate. For the most part Revit does well with structural quality takeoff. Detailed take off sheets are located in the appendix. The material, labor, equipment and total costs are taken from RS Means 2007. They are adjusted 1.08 for time and 1.069 for location. This is done on every unit cost throughout the estimate. In a few cases the unit cost or quality could not be obtained due to insufficient information. Either the detail information was not available because shop drawing were not created or R.S. Means did not have the proper items. In that case the Foreman estimate was used to fill in the gaps. This estimate is actually very comparable to the Foreman Program and Construction Managers estimate. It, however, is difficult to compare the two side by side because the foreman estimate includes other metals and concretes that are not a part of the structural system. However looking at each line the quantities and values are similar. Overall I am very confined in my estimate of the structural system for Kimberton Elementary School.

SUMMAY	COST PER SQUARE FOOT	TOTAL COST	PERCENTAGE
Total	$28.81	$2,955,054.44	100%
Labor Total	$21.63	$2,218,423.24	76.92%
Material Total	$5.43	$557,079.76	19.32%
Equipment Total	$1.06	$108,492.81	3.76%

Ralph Kreider
Construction Option: Messner

Phase	Description	Takeoff Quantity		Cost/Unit		Total Amount
	CONCRETE					
3114.00	**Forms –Walls**					
03 11 13.40 0020	Wall Forms	7566.64	SQ FT	$6.47	$/SQFT	$48,920.69
	Forms –Walls					
3126.00	**Forms – Piers**					
03 11 13.25 6550	Pier Forms	2688	Sq FT	$7.57	$/SQFT	$20,357.97
	Forms - Piers					
3206.00	**Rebar - Footing**					
03 21 10.60 0500	Footing Rebar (tons)	13.91	TONS	$1,708.69	$/TON	$23,773.84
	Rebar - Footing					
3231.00	**Rebar - Wiremesh**					
03 22 05.50 0300	WWM sheets- 6 x6 - W2.9 x W2.9	998.43	CSQFT	$49.41	$/CSQFT	$49,335.91
	Rebar - Wiremesh					
3306.00	**Conc - Footing**					
03 30 53.40 3935	Wall Footing Concrete - 3000 PSI	317.26	CY	$221.54	$/CY	$70,285.72
03 30 53.40 3850	Spread Column Footing Concrete - 3000 PSI	223.99	CY	$363.40	$/CY	$81,397.50
	Conc - Footing					
3309.00	**Conc - Piers**					
03 30 53.40 0920	Pier Concrete - 3000 PSI	49.78	CY	$988.27	$/CY	$49,193.84
	Conc - Piers					
3310.01	**Conc - Slabs on grade**					
03 30 53.40 4760	SOG Concrete - 4000 PSI - 4" inch	73698.32	SQ FT	$2.40	$/SQFT	$176,979.26
	Conc - Slabs on grade					
3313.00	**Slab on Metal Deck**					
03 30 53.40 3250	SOD Concrete - 4000 PSI	26144.74	SQ FT	$2.10	$/SQFT	$54,936.02
	Slab on Metal Deck					
						$575,180.75
	Structural Steel					
5110.01	Structural - Framing					
-	Pre Engineered Steel Trusses (ton)	46.00	ton	$3,108.20	$/TON	$123,841.00
-	Structural Plates (ton)	14.00	ton	$3,108.20	$/TON	$37,691.00
	Structural - Framing					**$161,532.00**
5110.10	**Structural - W Shapes**					
05 12 23.75 0300	W8X10	158.71	lnft	$20.38	$/lnft	$3,234.08
05 12 23.75 0320	W8X15	390.29	lnft	$26.84	$/lnft	$10,476.39
05 12 23.75 0350	W8X21	12.67	lnft	$34.46	$/lnft	$436.64
05 12 23.75 0360	W8X24	6.83	lnft	$39.16	$/lnft	$267.47
05 12 23.75 0500	W8X31	1194.96	lnft	$48.40	$/lnft	$57,833.05
05 12 23.75 1100	W12X14	3312.40	lnft	$23.24	$/lnft	$76,981.79
05 12 23.75	W12X16	124.03	lnft	$25.90	$/lnft	$3,211.87
05 12 23.75	W12X19	246.34	lnft	$29.88	$/lnft	$7,360.39
05 12 23.75 1300	W12X22	206.68	lnft	$33.86	$/lnft	$6,998.61
05 12 23.75 1500	W12X26	446.34	lnft	$39.06	$/lnft	$17,432.89
05 12 23.75 1900	W14X22	1064.71	lnft	$38.49	$/lnft	$40,982.49
05 12 23.75 2700	W16X26	1646.57	lnft	$38.46	$/lnft	$63,322.24
05 12 23.75 2900	W16X31	798.03	lnft	$45.29	$/lnft	$36,144.23
05 12 23.75	W16X36	161.34	lnft	$52.04	$/lnft	$8,396.03
05 12 23.75 3300	W18X35	1642.57	lnft	$51.53	$/lnft	$84,635.44
05 12 23.75 3500	W18X40: 70	2123.13	lnft	$57.88	$/lnft	$122,878.46
05 12 23.75 3520	W18X46: 8	153.09	lnft	$65.96	$/lnft	$10,097.47
05 12 23.75 4100	W21X44: 20	708.36	lnft	$62.49	$/lnft	$44,268.37
05 12 23.75 4300	W21X50: 5	156.17	lnft	$70.58	$/lnft	$11,021.82
05 12 23.75 4700	W21X68: 5	145.02	lnft	$93.80	$/lnft	$13,603.56

Phase	Description	Takeoff Quantity		Cost/Unit		Total Amount
05 12 23.75 4900	W24X55: 63	1591.21	lnft	$76.71	$/lnft	$122,055.85
05 12 23.75 5100	W24X62: 7	211.67	lnft	$85.94	$/lnft	$18,191.44
05 12 23.75 5500	W24X76: 1	36.67	lnft	$103.84	$/lnft	$3,807.72
05 12 23.75 5740	W24X104: 1	34.33	lnft	$140.49	$/lnft	$4,823.14
05 12 23.75 5800	W27X84: 50	1610.33	lnft	$113.89	$/lnft	$183,405.96
05 12 23.75 5900	W27X94: 3	88.67	lnft	$127.17	$/lnft	$11,276.20
05 12 23.75 6100	W30X90: 3	86.33	lnft	$134.05	$/lnft	$11,572.65
05 12 23.75 6100	W30X99: 1	36.67	lnft	$134.05	$/lnft	$4,915.66
	Structural - W Shapes					**$986,904.83**
5110.15	**HSS-Hollow Structural Section-Column**					
05 12 23.17 4550	HSS6X6X.3125: 30	303.72	lnft	$33.43	$/lnft	$10,154.26
05 12 23.17 4600	HSS8X8X.250: 159	3734.19	lnft	$55.75	$/lnft	$208,169.23
05 12 23.17 4600	HSS8X8X.375: 11	316.33	lnft	$55.75	$/lnft	$17,634.39
05 12 23.17 4600	HSS8X8X.500: 14	371.38	lnft	$55.75	$/lnft	$20,703.26
05 12 23.17 4600	HSS8X8X.3125: 14	393.00	lnft	$55.75	$/lnft	$21,908.50
05 12 23.17 4650	HSS12X8X.625: 2	51.18	lnft	$85.07	$/lnft	$4,354.07
	HSS-Hollow Structural Section-Column					**$282,923.71**
5110.60	**Structural - Steel Angles**					
05 12 23.40 0400	2L4X4X3/8: 177	30726.51	lb	$3.63	$/lb	$111,389.54
05 12 23.40 0400	2L5X5X1/2: 14	1658.23	lb	$3.63	$/lb	$6,011.41
	Structural - Steel Angles					**$117,400.95**
5210.01	**Structural Joist**					
05 21 19.10 0140	10K1: 9	120.01	lnft	$8.96	$/lnft	$1,075.18
05 21 19.10 0140	10K1: 9	120.05	lnft	$8.96	$/lnft	$1,075.54
05 21 19.10 0160	12K1: 7	116.70	lnft	$8.58	$/lnft	$1,001.06
05 21 19.10 0160	12K1: 7	119.03	lnft	$8.58	$/lnft	$1,021.05
05 21 19.10 0240	18K4: 1	27.34	lnft	$9.26	$/lnft	$253.15
05 21 19.10 0500	20K4: 56	1317.21	lnft	$9.55	$/lnft	$12,576.56
05 21 19.10 0540	22K4: 17	483.91	lnft	$10.01	$/lnft	$4,843.79
05 21 19.10	22K6: 12	352.10	lnft	$12.03	$/lnft	$4,235.80
05 21 19.10	24K7: 36	1168.66	lnft	$11.19	$/lnft	$13,074.15
05 21 19.10	26K7: 1	34.00	lnft	$11.85	$/lnft	$402.74
05 21 19.10	28K7: 22	850.95	lnft	$12.70	$/lnft	$10,806.83
	Structural Joist					**$50,365.84**
5210.20	Structural - Joist LH/DLH					
05 21 19.50 2500	44LH15: 13	940.33	lnft	$40.75	$/lnft	$38,322.73
05 21 16.50 2220	18LH09: 18	510.90	lnft	$21.47	$/lnft	$10,971.10
	Structural - Joist LH/DLH					**$49,293.84**
5312.10	Structural - Deck Roof/Floor					
05 31 13.50 3250	Metal Deck	76945.00	SQ FT	$2.41	$/SQFT	$185,664.19
05 31 23.50 2650	Metal Deck	25638.00	SQ FT	$2.08	$/SQFT	$53,279.25
	Structural - Deck Roof/Floor					**$238,943.44**
	Unit Cost adjusted 1.08 for time and 1.069 for location				**TOTAL**	**$2,462,545.36**
	Design Contingency			**1.50%**		**$36,938.18**
	Escalation Contingency			**3.50%**		**$86,189.09**
	Insurance			**3.00%**		**$73,876.36**
	Bonds			**2.00%**		**$49,250.91**
	Overhead & Profit			**10.00%**		**$246,254.54**
	Total	**$28.81** /SQ FT		**$2,955,054.44**		

General Conditions Estimate

General Conditions Estimate Summary:

The General Conditions estimate was derived from the FPCM GC conditions estimate. Using these items, a separate estimate was preformed utilizing the RS Means Unit Costs. The overall cost difference, before add-ons from the general conditions estimate, based on RS Means and the FPCM estimate is about 100,000 dollars. This is reasonable because of the cost escalation factor's that were included in the RS Means estimate. Each number of the estimate was based on a 78 week or 18 month schedule. The General Conditions cost about a million dollars or about $10 dollars per square foot. With profit and overhead that number rises to about $1.2 million and $12 dollars per square foot. Like most general conditions estimates the staffing of the project make up a large portion of the costs. In this case, the superintendent and project manager cost the project over $300,000. This does not include the added preconstruction costs for the project. Because the project was delayed the project management costs actually increase to more than this.

Phase	Description	Takeoff Quantity		Cost/Unit		Total Amount
1101.00	**Supervision**					
01 31 13.200.260	Superintendent/General Trades	78.00	Weeks	$1,904.96	$/WEEK	$148,586.72
	Supervision					
1131.00	**Project Management**					
01 31 13.20 0200	Project Manager/General Trades	78.00	Weeks	$2,049.27	$/WEEK	$159,843.29
	Project Management					
1500.00	**Construction Facilities**					
01 52 13.20 0550	Office Trailer	18.00	Month	$432.95	$/Month	$7,793.01
01 52 13.20 0450	Office Trailer	18.00	Month	$380.99	$/Month	$6,857.85
01 52 13.20 1350	Tool Trailers	18.00	Month	$116.61	$/Month	$2,098.92
-	First Aid Equipment	18.00	Month	$173.18	$/Month	$3,117.20
01 54 33.40 6410	Temp Toilet (Rent)	18.00	Month	$190.50	$/Month	$3,428.92
-	**Construction Facilities**					
1510.00	**Temporary Utilities**					
01 51 13.80 0600	Temporary Electricity	78.00	Week	$54.26	$/Week	$4,232.47
-	Fire Protection	18.00	month	$60.04	$/Month	$1,080.63
01 51 13.80 0100	Temp Heating, Cooling and Ventilating	6.00	months	$2,309.04	$/Month	$13,854.24
01 51 13.80 0350	Temp Lighting	1025.83	CSF	$14.99	$/CSF	$15,372.75
01 52 13.40 0140	Temp Phone Services	18.00	month	$242.45	$/Month	$4,364.09
01 51 13.80 0700	Temp Water	18.00	month	$71.58	$/Month	$1,288.44
	Temporary Utilities					
1550.00	**Vehicle Access & Parking**					
-	Construction Entrance	1.00	each	$2,886.30	$/each	$2,886.30
0 55 23.50 0100	Temporary Roads	5333.33	SY	$14.55	$/SY	$77,583.74
01 55 23.50 0100	Construction Lay Down Areas	6666.67	SY	$14.55	$/SY	$96,979.68
	Vehicle Access & Parking					
1560.00	**Temp Barriers & Enclosure**					
01 56 26.50 0250	Temp Fence (rent)	3500.00	lnft	$7.24	$/Month	$25,335.94
	Temp Barriers & Enclosure					

General Conditions Estimate

Phase	Description	Takeoff Quantity		Cost/Unit		Total Amount
1570.00	**Temp Controls - Erosion**					
31 25 13.10 1000	Sediment and Erosion Control	150000.00	LF	$0.73	$/LF	$109,102.14
	Temp Controls - Erosion					
1580.00	**Project Identification**					
01 58 13.50 0020	Project Sign	100.00	S.F.	$19.11	$/SF	$1,910.73
	Project Identification					
1591.00	**Project Equip. & Supplies**					
	General site signage	1.00	Lump Sum	$519.53	$/LS	$519.53
01 52 13.40 0100+0120	Office Supplies/Equipment	18.00	month	$282.86	$/Month	$5,091.43
	Project Equip. & Supplies					
1601.00	**Tools & Equipment**					
	Tools & Equipment	18.00	Month	$5.77	$/Month	$103.91
	Tools & Equipment (Repair)	18.00	Month	$240.14	$/Month	$4,322.52
	Oil & Fuel	18.00	Month	$1,394.66	$/Month	$25,103.88
	Tools & Equipment					
1701.00	**Layout**					
	Site and Building Layout	20.00	days	$748.13	$/day	$14,962.58
	Layout					
1725.00	**Punchlist, Etc**					
	Punchlist, Etc	2.00	each	$4,618.08	$/each	$9,236.16
	Punchlist, Etc					
1740.00	**Cleaning**					
01 74 13.20 0050	Progress Cleanup	8001.47	day*MSF	$28.48	$/day*MSF	$227,898.05
02 41 19.23 0840	Dumpsters	18.00	Months	$1,339.24	$/month	$24,106.38
01 74 13.20 0100	Final Cleanup	102.58	day*MSF	$58.63	$/MSF	$6,014.08
	Cleaning					
	General Requirements					**$1,003,075.61**
	Design Contingency			1.50%		$15,046.13
	Escalation Contingency			3.50%		$35,107.65
	Insurance			3.00%		$30,092.27
	Bonds			2.00%		$20,061.51
	Overhead & Profit			10.00%		$100,307.56
	Total		**11.73**	**/SQ FT**		**$1,203,690.73**

Unit Cost adjust 1.08 for time and 1.069 for location

Summary of Events:

Welcome Address and Banquet
This banquet was a time to spend talking to the contractors on a more casual basis than what we normally are able. The evening started with refreshments. Dr Riley and Dr Anumba introduced the evening and welcomed us to the event. At dinner, I sat with individuals from Southland, Hensel Phelps, Gilbane, and Truland. Most of the time was spent telling stories that had very little to do with construction but it improved our relationship with these individuals. The official part of the evening concluded with Dr. Riley giving a preview of Thursday's events.

Mixer: Mentoring Discussion
The morning began with Professor Holland introducing the mentoring discussion. Three students were to break out and sit down with an industry member to discuss Dr. Anumba's proposal for an architectural engineering mentoring program. This discussion focused on the benefits of the program for the students and for the professional, how the match would be made, how would the program be facilitated, and how would the program be assessed.

For this I was in a group with two individuals from Truland Systems, Chuck and Matt. As a collective group we discussed each topic. Some benefits we have for the students include: help selecting option, a one on one professional relationship, clarification on work, jobsite visits, easier to talk to than professors, and personal relationship. We thought that the professionals would benefit because it allows them to continue relationships with Penn State and the AE department, gives them a chance to give back, future employees and contacts, access to cutting edge research, level mindedness, helps keep them "young", help with newer technology, and new ideas often come from younger minds. To make a match we discussed, that there could be some kind of social where everyone gets together, the match should be made early in the college career, and that there needs to be a great deal of comfort level established for this to work well. Our group did not have much time to discuss logistic and assessment however we agreed that assessment should take place early so that a change could be made early if necessary.

When we returned to the main room, we found that most of our ideas were consistent with the other groups. A few additional student benefits are professional help with thesis, information on possible career paths, and a possible reference on a resume. Some additional industry member benefits include closing the age gap, ideas from peers and more trips to happy valley. A number of interesting methods were suggested for forming a match. Some desired a random match, some speed dating, while others suggested using the personality test. To facilitate the contact it was suggested that the first contact needs to be face to face, Mentee should do traveling, use new internet technologies, regularly schedule contact and a sharing of schedule with proper contacting time. To assess the mentoring it was reinforced that it should not be part of a class and some kind of survey should be filled out in the middle and end of the year of mentorship. Overall the mentoring conversation was very interesting and obtained my interest. I think it would have helped me early in my college career.

Technical Training Topics:

LEED Evolution:
The LEED break out session was a session I could not attend unfortunately. However, from the review I learned what they discussed. Early team integration, point changes, regional impacts, owner education, and cost evaluation were a few of the topics mentioned.

There are problems with the current LEED rating system. One is that there is no current standard for LEED during the Maintenance and operation phase of a building. Some LEED buildings are not efficient and it is difficult to know for sure what point will be obtained on a project. There seems to be extra cost for LEED projects that should not exist and the payback period is not understood. These problems will hopefully be fixed in the new LEED 2009 system. That will have regional points, a permanent system-level metering, ongoing commissioning, additional controls, and more performance-based than the previous versions of LEED.

There are a few major areas that need improvement. The integration of the team needs to happen earlier in projects. The project delivery method actually affects the LEED outcome and this early integration would allow for a more constructible LEED project and allow for better material selection. It is necessary to improve the education of the owner. The owner must understand their responsibility of the project. They need to understand how their decisions affect the project and the schedule. They should also have knowledge of what project information they would like turned over. There should also be a LEED point for the owner having LEED accreditation. There needs to be more point consistency. The regional impacts need to be considered because rural, suburban, and urban areas are very different. The cost of LEED needs to be considered. The LEED session talked about the problem with the current system and where there is room for improvement.

BIM Strategies:
This is the session I attended. We first went around the room and introduced ourselves and what level of BIM we were at. Most everyone in the room on the contractor side was a beginner; however there were a few intermediate level people and maybe an expert or two. The conversation in this session was divided originally into two sides: project level and organization level. We first discussed how it is used on a project currently. Most of the uses were MEP and one company talked about using a software program called Techila, for document control.

We then talked about what file formats the information is being transferred in. Most everything was being transferred currently as .dwgs and therefore would lose most of its intelligence. They define file type rather than software so that everyone could continue using a file type they were comfortable with and so that each contractor would not have to invest into new software. There was the question of using an IFC file format but the problem is that they do not always appear as desired. For example a revit model will not export and import the same when the IFC was used. So until the software catches up, this will not be standard. One individual however compared the IFC to the pdf of BIM. Basically the question was asked, “How do we avoid information loss from one software program to the next to avoid redundant work?”

Ralph Kreider
Construction Option: Messner

On the organization, the discussion revolved around, "How is the company setting up BIM?" What software, training and team properties were necessary?

The modeling its self was then discussed. Who should be doing the model so that there is not repeats. Should the modeling be done by the architect? What happens if you can't get the architects model? What level of detail should the contractor model? The overall consensus was that the architects model needs only to design intent and does not to be develop as far. There was also a desire that the manufacture actually is the one to design the equipment for the BIM model. This is something I believe should be done. Most manufactures probably already make at least a 3D model before they build something. Why not make these public? It would sell more and designers would be more likely to spec them.

I also question why people are so unwilling to share their models. The contractors responded by with that there is a lot of risk when something is created. Also they spent a lot of time developing the information and they have little incentive to share it. There is a lot of waste in the industry recreating a lot of the families in a BIM. I honestly believe that these should be shared amongst people freely.

Another topic is the transfer of model to the owner. Right now most contractors are just giving the model with no assistance. It cannot be transferred into their management software. It is a process that most contracts are working on a little but not whole heartedly. Overall I thought the BIM session was good because I got more of a prospective from the contractors, especially the contractors that are just starting up.

Energy and Economy:
The industry needs to change due to the current economy and energy situation the world currently faces. Right now material costs are going through the roof. Now it is more important to look into better systems that pay back over the life cycle of the equipment. There is more research into proven foreign technologies and better controls of systems. More subcontractors input into system.

Power System selection is key during this time. There are an increasing number of state rebates and manufacturer initiatives. They are a shift away from power inefficiencies.

The economy is a concern right now in construction. The renovation project will be a big market in the near future. Future markets include data centers, federal work, PPP, education, salvage jobs. These times will require a lot of experience, creativity and design/engineering will get a construction company through uncertain economic times.

Right now companies should be investing in good people. More time should be taken to become a construction expert. Investing in people is more than just about the bottom line because good people will allow the company to jump into market once there is a recovery. This should be a time to look into the companies and see its own flaws. Students should expand their horizons, do homework, think big and put their best foot forward.

Ralph Kreider
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Industry Panel: Changing Roles in the Industry:
The changing roles in industry questions posed to the panel were very interesting. The analogy that project integration is creating less silos is true. Project integration is the driving for of the change in roles. Design builds and design assists are becoming the norm. Clients are constantly becoming more demanding and this requires a more closely linked time. For example, the estimator needs to be able to tell the designer how much a change is going to cost right away. It is more essential now to have developed people skills. "Spend as much time teaching people skills as technical skills," was said by one of the participants. This is very true. It is the people that usually go the furthest. We need to develop this more. We should have more knowledge of personalities. Managing people takes a true leader. Team environment is more prevalent than ever and needs to be taught more. You can no longer sit in a cube and survive in the construction industry. Organizational skills will go a long way to success in the industry. We should challenge the standard order of protocol. We need to ask why the company is doing what it is doing. It is valuable to have renovation skills in this current economy. There was a question about what is happening in the next five years. This was answered with more improvement, prefabrication, more blurred lines between manufacturer, engineer, design, and CM, and more globalization. It was fascinating to observe industry members opinion on the changing roles of people in construction.

Student Panel: Challenges of Work-Life Balance:
This was interesting for me to observe. In my opinion, a lot of the students up front are trying to do too much but I am glad that is how they like it. I think however the industry members did not ask the right questions. Most of the questions had to deal with the amount of tasks they have. In college we have more opportunity do things besides school work. I think that a number of industry members only work. We should have showed how we require more than just a job as life. Today, more than ever, there is more going on in our lives besides school/careers. We are more social and stretched between different tasks than ever. I think that time when a career defined a person has now pasted. I wonder how companies will deal with the fact that we all do not want to work 80 hours a week. There should be more to life than a career.

Surprises about Discussion:
I was really surprised how open and easy it was to discuss anything with the professionals. They seem to genuinely care about us more than just recruiting us to work for their company. Most of the people I talked to did not even bring up what company they work for and their companies history. This was comforting. It also surprised me that I enjoyed the time talking as much as I did rest of the time. I did not want to go back and sit down because of the conversations I was having. This speaks to the quality of the people attending the conference. It also surprised me how much the contractors got along and shared. They are all competitors and they all enjoy hanging out. I guess some of that comes back to the Penn State Alum mentality. Half of the people graduated together. I was surprised with the quality of discussion in the sessions. I was also surprised and it made me feel good that I know more about BIM than most of the industry members at the conference.

Ralph Kreider
Construction Option: Messner

Issues that Affect or Apply:

Honestly I feel that all of the subjects talked about can be applied to my thesis. The BIM subjects are already being implemented in the creation of a Revit Model. I am not positive how I can handle mentoring in any of my work except that I will be the Mentee of individuals at the conference when I will most likely ask them question about my thesis. The LEED issues will be considered on my thesis. I will be applying both LEED and value engineering ideas therefore the flaws in LEED are of great interest. More importantly, is how it will minimize the impact of these flaws. It is important to consider energy and economy in all projects but in practicality how this project was affected by the economy now that it has to be completed on another site. There are a lot of extra costs due to the cancellation. There are also a lot of rooms for improvement in the design. The changing roles will be used to understand how a different project delivery method could have hurt or improved the decision made on the project. I can analyze the different methods to the cost, schedule, and complexity of the job. The suggestions of the student panel will be used to complete my work. Time management is a key to completing my thesis. I can use the knowledge gained at the roundtable on my thesis in my direct ways as well in many more indirectly.

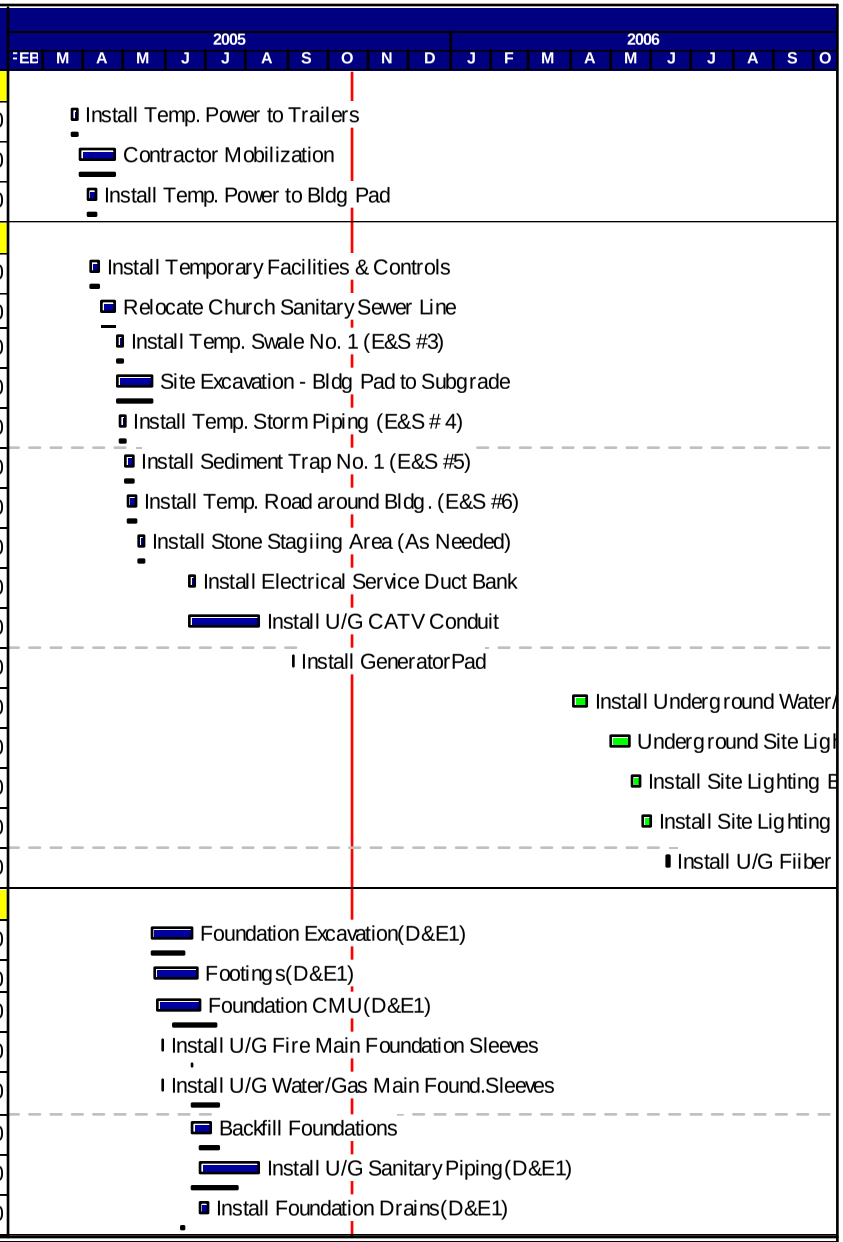
Key Contacts:

I made many contacts at the conference. Jason Reece from Balfour Beatty will be able to help me on almost any practical BIM question I have and also how BIM is really being used in the industry today. Also with Balfour Beatty, Mark Konchar will be able to answer question about a Ph.D. from an industry prospective. Mike Miller and Raj Vora from Southland will be able to answer most of the mechanical questions. Southland will also be assisting with my MCAA competition. Truland Systems also had two very outgoing individuals. Chuck Tomasco and Matt should be able to answer any electrical contracting question that I might have. It was also great to renew some of the previous contacts that I have made, like Benchmark and Barton Malow. I think that it is wonderful how tied to Penn State Architectural Engineering these individuals are. The Penn State AE Department must be doing something right to have these mostly former students willing to pay money to return to mentor the future graduates and sponsor PACE as well as it does.

Appendix Contents:

- **Original Schuylkill Elementary Schedule**
- **Erosion & Sediment Control Plans**
- **Structural Takeoff Sheets**
- **Original Foreman Estimate**

Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
General Conditions						
1090	ELECT	Install Temp. Power to Trailers	5	23MAR05 A	29MAR05 A	100
1080	GC	Contractor Mobilization	20	29MAR05 A	25APR05 A	100
1100	ELECT	Install Temp. Power to Bldg Pad	5	05APR05 A	11APR05 A	100
Sitework						
1010	GC	Install Temporary Facilities & Controls	5	07APR05 A	13APR05 A	100
1020	GC	Relocate Church Sanitary Sewer Line	8	14APR05 A	25APR05 A	100
1030	GC	Install Temp. Swale No. 1 (E&S #3)	5	26APR05 A	02MAY05 A	100
1070	GC	Site Excavation - Bldg Pad to Subgrade	20	26APR05 A	23MAY05 A	100
1040	GC	Install Temp. Storm Piping (E&S # 4)	5	28APR05 A	04MAY05 A	100
1050	GC	Install Sediment Trap No. 1 (E&S #5)	5	03MAY05 A	09MAY05 A	100
1060	GC	Install Temp. Road around Bldg. (E&S #6)	5	05MAY05 A	11MAY05 A	100
1120	GC	Install Stone Stagiing Area (As Needed)	5	12MAY05 A	18MAY05 A	100
1150	ELECT	Install Electrical Service Duct Bank	5	20JUN05 A	24JUN05 A	100
2300	ELECT	Install U/G CATV Conduit	5	20JUN05 A	11AUG05 A	100
1390	ELECT	Install GeneratorPad	3	05SEP05 A	07SEP05 A	100
1860	GC	Install Underground Water/Fire Protection Feeds	10	03APR06 *	14APR06	0
1260	ELECT	Underground Site Lighting Conduit	12	01MAY06 *	16MAY06	0
1440	ELECT	Install Site Lighting Bases	6	17MAY06	24MAY06	0
1450	ELECT	Install Site Lighting Poles	6	25MAY06	01JUN06	0
2290	ELECT	Install U/G Fiiber Optic Conduit	5	12JUN06 *	16JUN06	0
Areas D & E 1st Floor						
DE1000	GC	Foundation Excavation(D&E1)	20	23MAY05 A	23JUN05 A	100
DE1010	GC	Footings(D&E1)	20	24MAY05 A	27JUN05 A	100
DE1020	GC	Foundation CMU(D&E1)	24	26MAY05 A	29JUN05 A	100
DE1040	FIRE	Install U/G Fire Main Foundation Sleeves	2	30MAY05 A	01JUN05 A	100
DE1050	PLUMB	Install U/G Water/Gas Main Found.Sleeves	15	30MAY05 A	01JUN05 A	100
DE1080	GC	Backfill Foundations	10	22JUN05 A	07JUL05 A	100
DE1030	PLUMB	Install U/G Sanitary Piping(D&E1)	15	27JUN05 A	11AUG05 A	100
DE1060	GC	Install Foundation Drains(D&E1)	3	27JUN05 A	05JUL05 A	100



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Phoenixville Area School District
Schuylkill Elementary School
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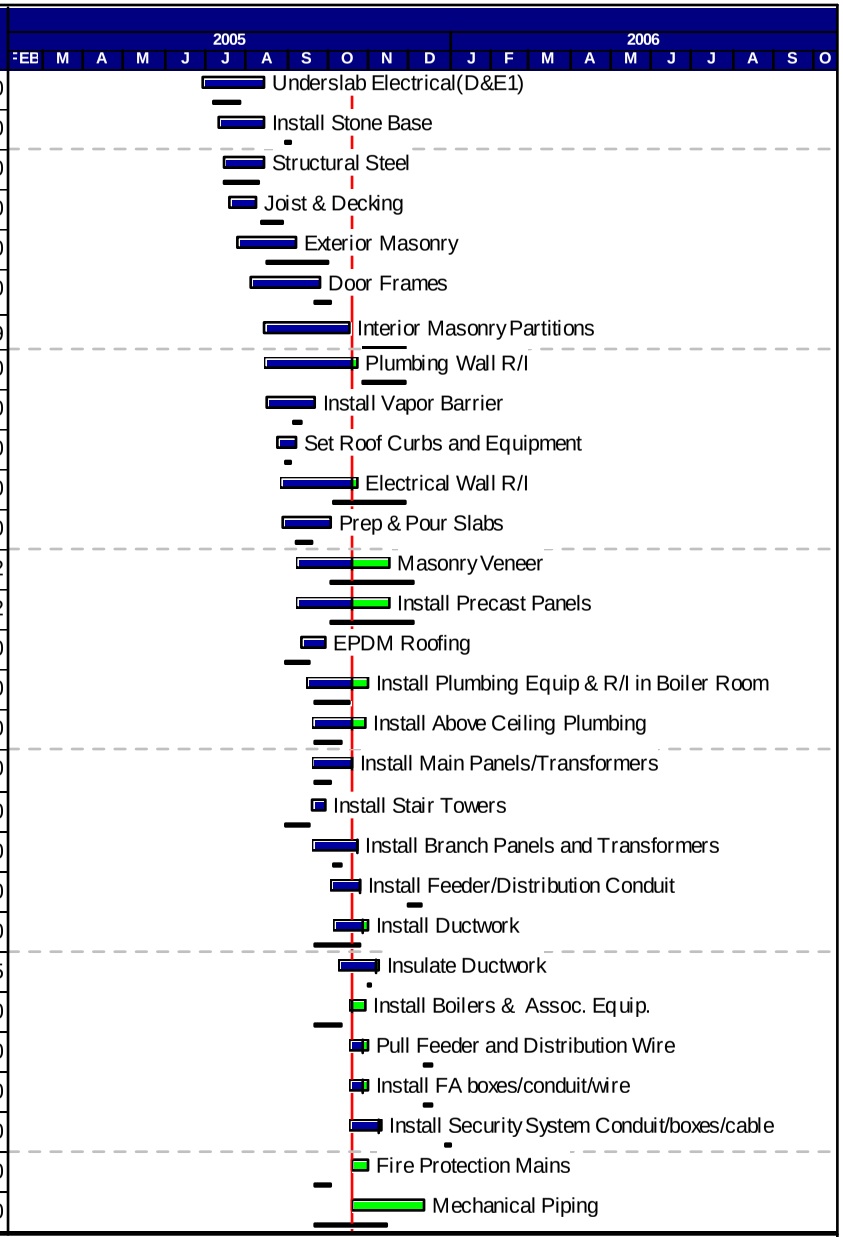
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
DE1070	ELECT	Underslab Electrical(D&E1)	15	29JUN05 A	15AUG05 A	100
DE1130	GC	Install Stone Base	5	11JUL05 A	16AUG05 A	100
DE1090	GC	Structural Steel	20	15JUL05 A	16AUG05 A	100
DE1120	GC	Joist & Decking	12	20JUL05 A	10AUG05 A	100
DE1140	GC	Exterior Masonry	35	26JUL05 A	09SEP05 A	100
DE1210	GC	Door Frames	10	05AUG05 A	26SEP05 A	100
DE1350	GC	Interior Masonry Partitions	25	15AUG05 A	19OCT05	99
DE1360	PLUMB	Plumbing Wall R/I	25	15AUG05 A	24OCT05	90
DE1180	GC	Install Vapor Barrier	5	16AUG05 A	22SEP05 A	100
DE1170	HVAC	Set Roof Curbs and Equipment	5	25AUG05 A	08SEP05 A	100
DE1300	ELECT	Electrical Wall R/I	40	26AUG05 A	25OCT05	90
DE1190	GC	Prep & Pour Slabs	10	29AUG05 A	04OCT05 A	100
DE1330	GC	Masonry Veneer	45	08SEP05 A	18NOV05	52
DE1340	GC	Install Precast Panels	45	08SEP05 A	18NOV05	52
DE1150	ROOF	EPDM Roofing	15	12SEP05 A	30SEP05 A	100
DE1280	PLUMB	Install Plumbing Equip & R/I in Boiler Room	20	15SEP05 A	02NOV05	50
DE1230	PLUMB	Install Above Ceiling Plumbing	15	19SEP05 A	31OCT05	50
DE1240	ELECT	Install Main Panels/Transformers	10	19SEP05 A	21OCT05	80
DE1290	GC	Install Stair Towers	15	19SEP05 A	30SEP05 A	100
DE1310	ELECT	Install Branch Panels and Transformers	5	19SEP05 A	24OCT05	90
DE1430	ELECT	Install Feeder/Distribution Conduit	8	03OCT05 A	26OCT05	90
DE1220	HVAC	Install Ductwork	25	05OCT05 A	02NOV05	80
DE1390	HVAC	Insulate Ductwork	5	10OCT05 A	10NOV05	25
DE1270	HVAC	Install Boilers & Assoc. Equip.	15	17OCT05 A	31OCT05	50
DE1510	ELECT	Pull Feeder and Distribution Wire	5	17OCT05 A	01NOV05	30
DE1530	ELECT	Install FA boxes/conduit/wire	5	17OCT05 A	01NOV05	20
DE1620	ELECT	Install Security System Conduit/boxes/cable	4	17OCT05 A	11NOV05	20
DE1250	FIRE	Fire Protection Mains	10	19OCT05 A	01NOV05	10
DE1260	HVAC	Mechanical Piping	40	20OCT05 A	14DEC05	0



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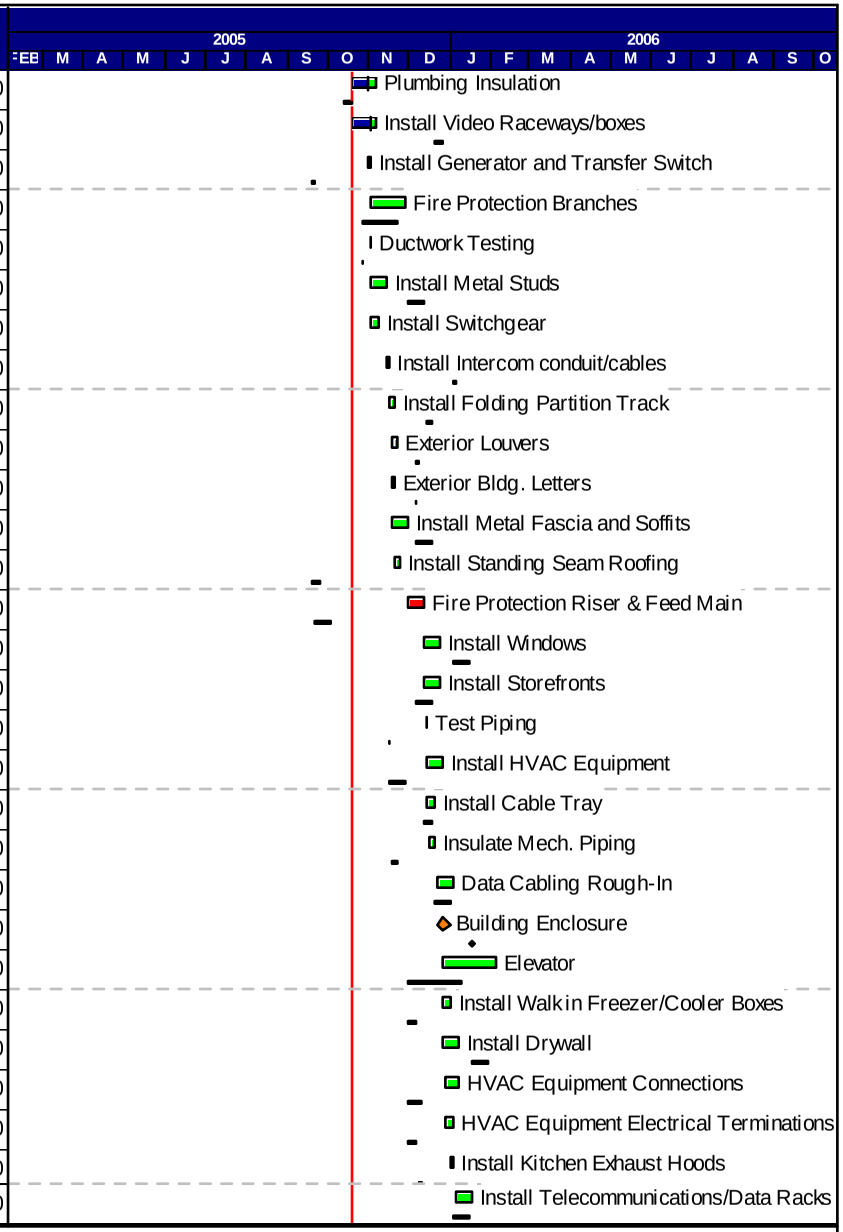
DE1320	PLUMB	Plumbing Insulation	6	20OCT05 A	07NOV05	10
DE1560	ELECT	Install Video Raceways/boxes	6	20OCT05 A	08NOV05	10
DE1100	ELECT	Install Generator and Transfer Switch	3	01NOV05 *	03NOV05	0
DE1370	FIRE	Fire Protection Branches	20	03NOV05	30NOV05	0
DE1380	HVAC	Ductwork Testing	2	03NOV05	04NOV05	0
DE1440	PDAC	Install Metal Studs	10	03NOV05	16NOV05	0
DE2000	ELECT	Install Switchgear	5	03NOV05 *	09NOV05	0
DE1650	ELECT	Install Intercom conduit/cables	4	14NOV05	17NOV05	0
DE1540	GC	Install Folding Partition Track	3	17NOV05	21NOV05	0
DE1580	GC	Exterior Louvers	4	18NOV05	24NOV05	0
DE1590	GC	Exterior Bldg. Letters	2	18NOV05	22NOV05	0
DE1610	ROOF	Install Metal Fascia and Soffits	10	18NOV05	02DEC05	0
DE1200	ROOF	Install Standing Seam Roofing	5	21NOV05	25NOV05	0
DE1160	FIRE	Fire Protection Riser & Feed Main	10	01DEC05 *	14DEC05	0
DE1550	WIND	Install Windows	10	12DEC05	26DEC05	0
DE1600	WIND	Install Storefronts	10	12DEC05	26DEC05	0
DE1400	HVAC	Test Piping	1	15DEC05	15DEC05	0
DE1410	HVAC	Install HVAC Equipment	10	15DEC05	28DEC05	0
DE1520	ELECT	Install Cable Tray	5	15DEC05	21DEC05	0
DE1420	HVAC	Insulate Mech. Piping	5	16DEC05	22DEC05	0
DE1570	DATA	Data Cabling Rough-In	10	22DEC05	04JAN06	0
DE1630		Building Enclosure	0		26DEC05	0
DE1450	GC	Elevator	30	26DEC05	06FEB06	0
DE1470	FOOD	Install Walk in Freezer/Cooler Boxes	5	26DEC05	02JAN06	0
DE1640	PDAC	Install Drywall	10	26DEC05	09JAN06	0
DE1480	HVAC	HVAC Equipment Connections	8	29DEC05	09JAN06	0
DE1490	ELECT	HVAC Equipment Electrical Terminations	5	29DEC05	04JAN06	0
DE1500	FOOD	Install Kitchen Exhaust Hoods	3	02JAN06	05JAN06	0
DE1660	DATA	Install Telecommunications/Data Racks	10	05JAN06	18JAN06	0



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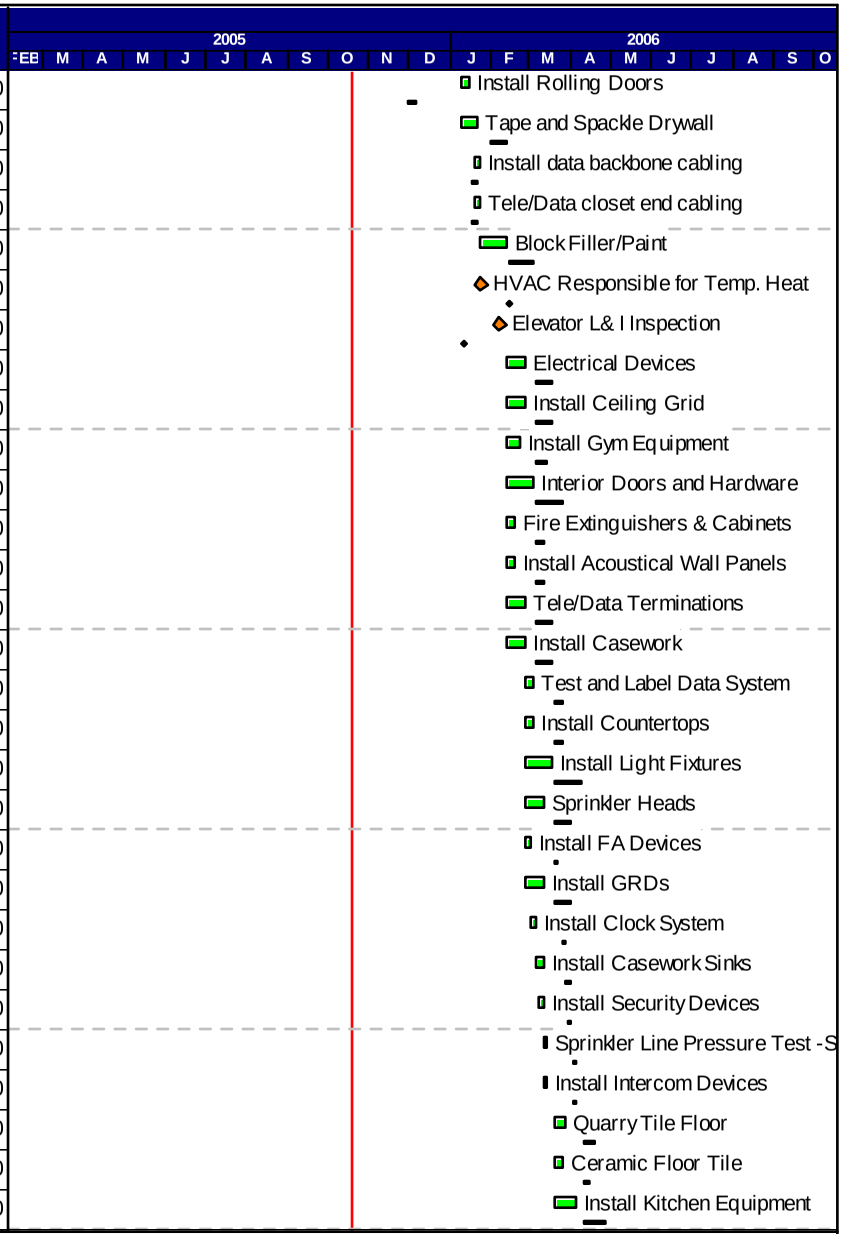
DE1460	GC	Install Rolling Doors	5	09JAN06	16JAN06	0
DE1670	PDAC	Tape and Spackle Drywall	10	09JAN06	23JAN06	0
DE1675	DATA	Install data backbone cabling	5	19JAN06	25JAN06	0
DE1680	DATA	Tele/Data closet end cabling	5	19JAN06	25JAN06	0
DE1690	PAINT	Block Filler/Paint	15	23JAN06	13FEB06	0
DE1645	HVAC	HVAC Responsible for Temp. Heat	0	24JAN06		0
DE1665	GC	Elevator L& I Inspection	0		06FEB06	0
DE1700	ELECT	Electrical Devices	10	13FEB06	27FEB06	0
DE1710	PDAC	Install Ceiling Grid	10	13FEB06	27FEB06	0
DE1720	GC	Install Gym Equipment	8	13FEB06	23FEB06	0
DE1730	GC	Interior Doors and Hardware	15	13FEB06	06MAR06	0
DE1740	GC	Fire Extinguishers & Cabinets	5	13FEB06	20FEB06	0
DE1750	PDAC	Install Acoustical Wall Panels	5	13FEB06	20FEB06	0
DE1760	DATA	Tele/Data Terminations	10	13FEB06	27FEB06	0
DE1770	CASE	Install Casework	10	13FEB06	27FEB06	0
DE1765	DATA	Test and Label Data System	5	27FEB06	06MAR06	0
DE1780	CASE	Install Countertops	5	27FEB06	06MAR06	0
DE1790	ELECT	Install Light Fixtures	15	27FEB06	20MAR06	0
DE1810	FIRE	Sprinkler Heads	10	27FEB06	13MAR06	0
DE1820	ELECT	Install FA Devices	4	27FEB06	03MAR06	0
DE1825	HVAC	Install GRDs	10	27FEB06	13MAR06	0
DE1840	ELECT	Install Clock System	3	03MAR06	08MAR06	0
DE1830	PLUMB	Install Casework Sinks	5	06MAR06	13MAR06	0
DE1850	ELECT	Install Security Devices	3	08MAR06	13MAR06	0
DE1860	FIRE	Sprinkler Line Pressure Test -Sys. #1	3	13MAR06	16MAR06	0
DE1870	ELECT	Install Intercom Devices	3	13MAR06	16MAR06	0
DE1880	TILE	Quarry Tile Floor	8	20MAR06	30MAR06	0
DE1890	TILE	Ceramic Floor Tile	5	20MAR06	27MAR06	0
DE1900	FOOD	Install Kitchen Equipment	14	20MAR06	07APR06	0



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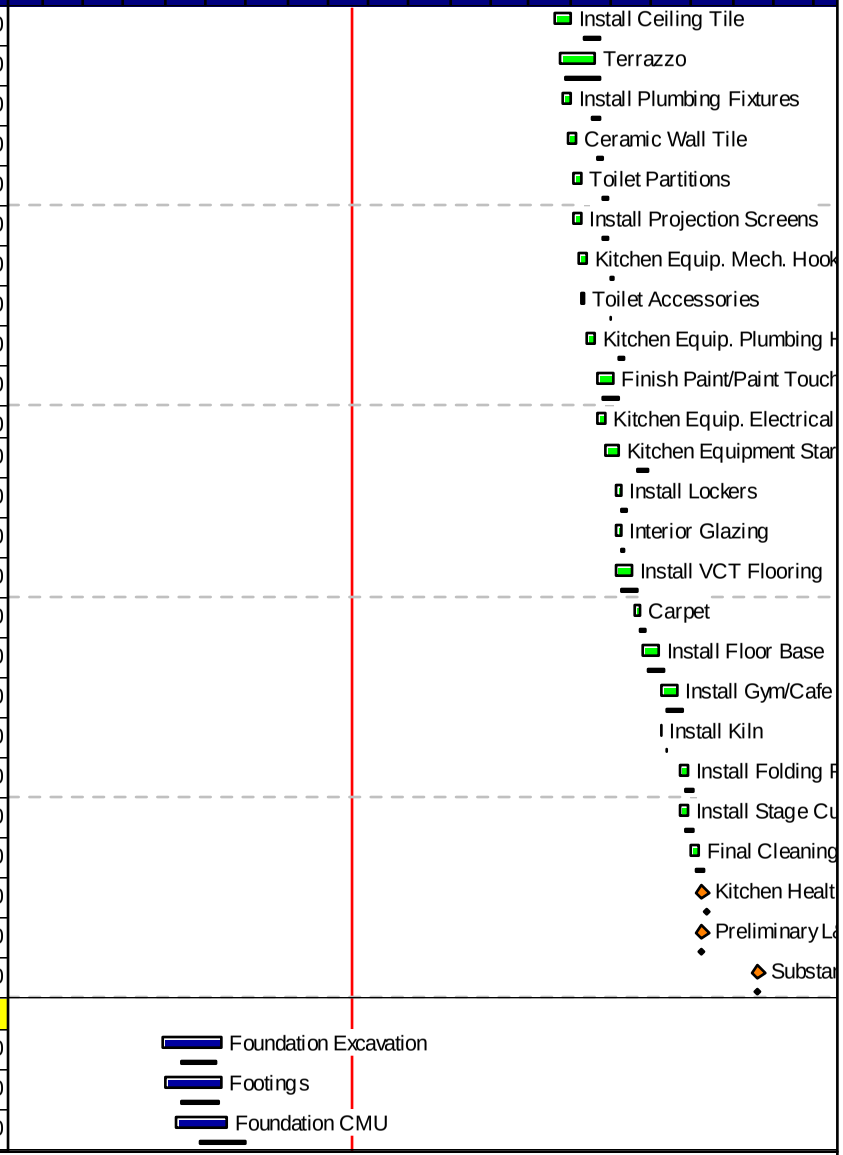
DE1910	PDAC	Install Ceiling Tile	10	20MAR06	03APR06	0
DE1800	TILE	Terrazzo	20	24MAR06	20APR06	0
DE1940	PLUMB	Install Plumbing Fixtures	5	27MAR06	03APR06	0
DE1945	TILE	Ceramic Wall Tile	5	30MAR06	06APR06	0
DE1950	GC	Toilet Partitions	5	03APR06	10APR06	0
DE1955	GC	Install Projection Screens	5	03APR06	10APR06	0
DE1960	HVAC	Kitchen Equip. Mech. Hook Up	5	07APR06	14APR06	0
DE1965	GC	Toilet Accessories	2	10APR06	12APR06	0
DE1970	PLUMB	Kitchen Equip. Plumbing Hook Up	5	14APR06	21APR06	0
DE1930	PAINT	Finish Paint/Paint Touch Up	10	21APR06	04MAY06	0
DE1975	ELECT	Kitchen Equip. Electrical Hook up	5	21APR06	28APR06	0
DE1991	FOOD	Kitchen Equipment Start up	7	28APR06	09MAY06	0
DE1980	GC	Install Lockers	5	05MAY06	11MAY06	0
DE1985	GC	Interior Glazing	4	05MAY06	10MAY06	0
DE1990	FLOOR	Install VCT Flooring	10	05MAY06	18MAY06	0
DE1992	FLOOR	Carpet	5	19MAY06	25MAY06	0
DE1993	FLOOR	Install Floor Base	10	26MAY06	08JUN06	0
DE1920	FLOOR	Install Gym/Cafe Floor	10	09JUN06	22JUN06	0
DE1994	GC	Install Kiln	1	09JUN06	09JUN06	0
DE1995	GC	Install Folding Partition	5	23JUN06	29JUN06	0
DE1996	GC	Install Stage Curtain	5	23JUN06	29JUN06	0
DE1997	GC	Final Cleaning	5	30JUN06	07JUL06	0
DE1998	FOOD	Kitchen Health Dept. Inspection	0		07JUL06	0
DE1999		Preliminary L&I Inspection	0		07JUL06	0
DE19999		Substantial Completion	0		18AUG06 *	0
Areas A, B & C 1st Floor						
ABC1000	GC	Foundation Excavation	20	31MAY05 A	15JUL05 A	100
ABC1010	GC	Footings	20	02JUN05 A	15JUL05 A	100
ABC1020	GC	Foundation CMU	24	09JUN05 A	18JUL05 A	100



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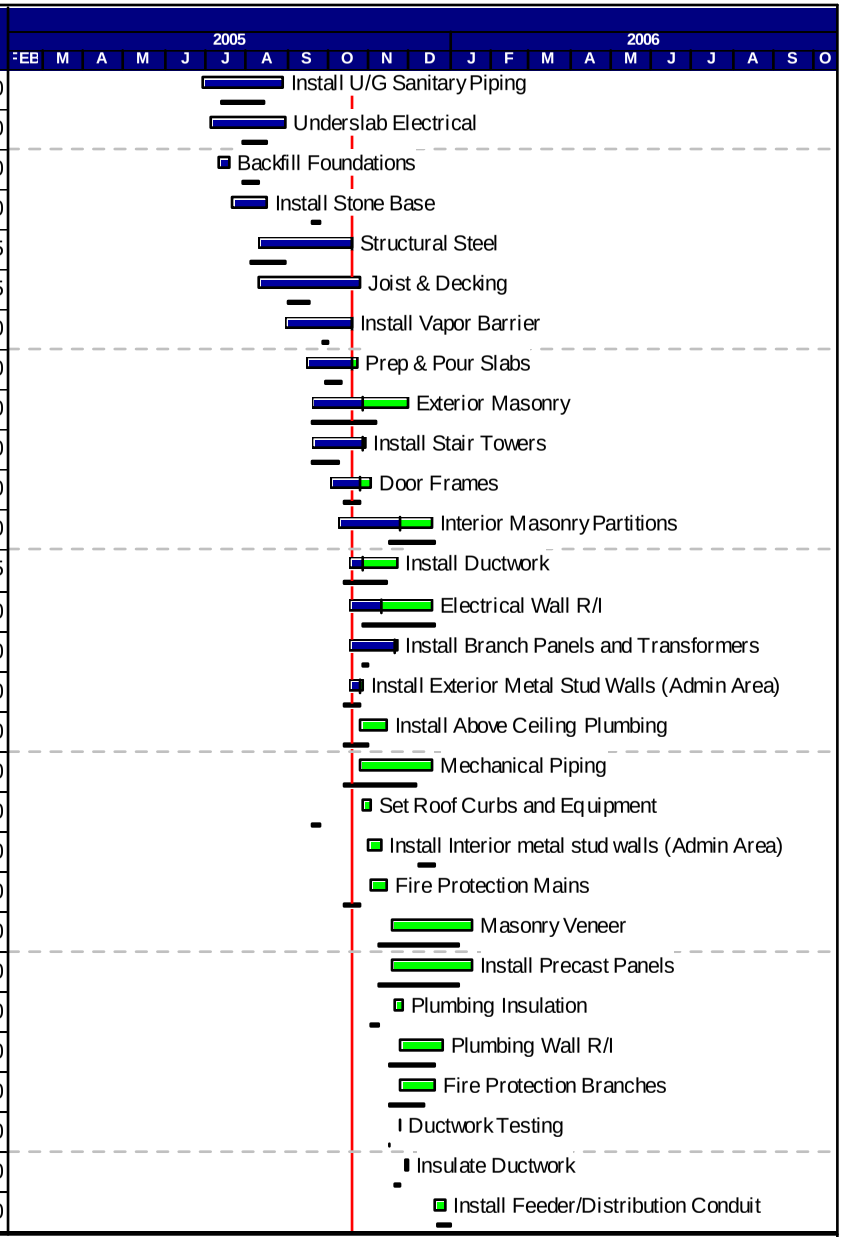
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC1030	PLUMB	Install U/G Sanitary Piping	25	29JUN05 A	29AUG05 A	100
ABC1040	ELECT	Underslab Electrical	15	05JUL05 A	31AUG05 A	100
ABC1050	GC	Backfill Foundations	10	11JUL05 A	21JUL05 A	100
ABC1080	GC	Install Stone Base	5	21JUL05 A	18AUG05 A	100
ABC1060	GC	Structural Steel	20	10AUG05 A	20OCT05	95
ABC1070	GC	Joist & Decking	12	11AUG05 A	27OCT05	95
ABC1130	GC	Install Vapor Barrier	5	31AUG05 A	21OCT05	60
ABC1140	GC	Prep & Pour Slabs	10	15SEP05 A	25OCT05	60
ABC1090	GC	Exterior Masonry	35	19SEP05 A	01DEC05	30
ABC1120	GC	Install Stair Towers	15	19SEP05 A	31OCT05	90
ABC1160	GC	Door Frames	10	04OCT05 A	03NOV05	30
ABC1260	GC	Interior Masonry Partitions	25	10OCT05 A	19DEC05	30
ABC1170	HVAC	Install Ductwork	25	17OCT05 A	23NOV05	25
ABC1210	ELECT	Electrical Wall R/I	40	17OCT05 A	19DEC05	30
ABC1220	ELECT	Install Branch Panels and Transformers	5	17OCT05 A	24NOV05	20
ABC1145	PDAC	Install Exterior Metal Stud Walls (Admin Area)	10	18OCT05 A	28OCT05	70
ABC1180	PLUMB	Install Above Ceiling Plumbing	15	26OCT05	15NOV05	0
ABC1200	HVAC	Mechanical Piping	40	26OCT05	20DEC05	0
ABC1110	HVAC	Set Roof Curbs and Equipment	5	28OCT05	03NOV05	0
ABC1490	PDAC	Install Interior metal stud walls (Admin Area)	10	31OCT05	11NOV05	0
ABC1190	FIRE	Fire Protection Mains	10	02NOV05	15NOV05	0
ABC1240	GC	Masonry Veneer	45	18NOV05	19JAN06	0
ABC1250	GC	Install Precast Panels	45	18NOV05	19JAN06	0
ABC1230	PLUMB	Plumbing Insulation	6	21NOV05	28NOV05	0
ABC1270	PLUMB	Plumbing Wall R/I	25	24NOV05	28DEC05	0
ABC1280	FIRE	Fire Protection Branches	20	24NOV05	21DEC05	0
ABC1290	HVAC	Ductwork Testing	2	24NOV05	25NOV05	0
ABC1300	HVAC	Insulate Ductwork	5	28NOV05	02DEC05	0
ABC1340	ELECT	Install Feeder/Distribution Conduit	8	20DEC05	29DEC05	0



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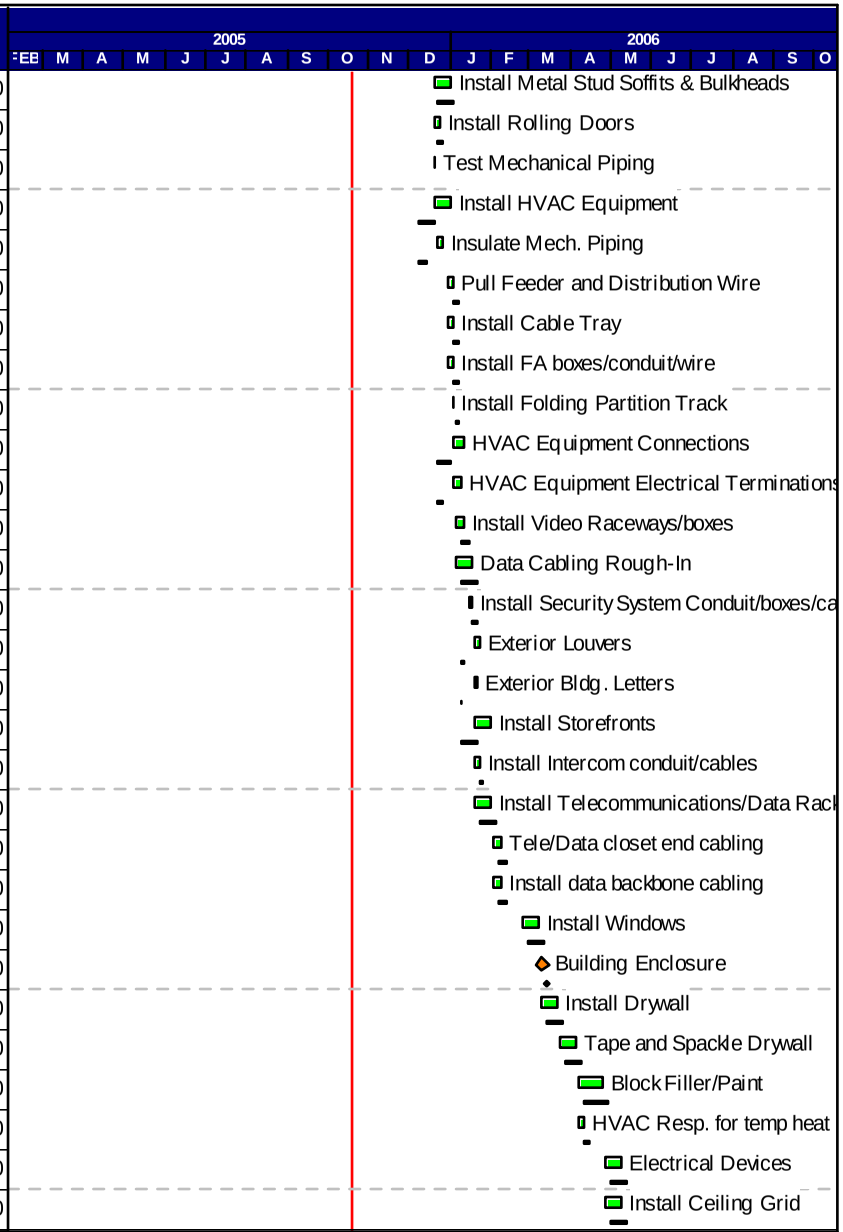
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC1350	PDAC	Install Metal Stud Soffits & Bulkheads	10	20DEC05	02JAN06	0
ABC1360	GC	Install Rolling Doors	5	20DEC05	26DEC05	0
ABC1310	HVAC	Test Mechanical Piping	1	21DEC05	21DEC05	0
ABC1320	HVAC	Install HVAC Equipment	10	21DEC05	03JAN06	0
ABC1330	HVAC	Insulate Mech. Piping	5	22DEC05	28DEC05	0
ABC1390	ELECT	Pull Feeder and Distribution Wire	5	30DEC05	05JAN06	0
ABC1400	ELECT	Install Cable Tray	5	30DEC05	05JAN06	0
ABC1410	ELECT	Install FA boxes/conduit/wire	5	30DEC05	05JAN06	0
ABC1420	GC	Install Folding Partition Track	3	03JAN06	05JAN06	0
ABC1370	HVAC	HVAC Equipment Connections	8	04JAN06	13JAN06	0
ABC1380	ELECT	HVAC Equipment Electrical Terminations	5	04JAN06	10JAN06	0
ABC1440	ELECT	Install Video Raceways/boxes	6	06JAN06	13JAN06	0
ABC1450	DATA	Data Cabling Rough-In	10	06JAN06	19JAN06	0
ABC1500	ELECT	Install Security System Conduit/boxes/cable	4	16JAN06	19JAN06	0
ABC1460	GC	Exterior Louvers	4	20JAN06	25JAN06	0
ABC1470	GC	Exterior Bldg. Letters	2	20JAN06	23JAN06	0
ABC1480	WIND	Install Storefronts	10	20JAN06	02FEB06	0
ABC1530	ELECT	Install Intercom conduit/cables	4	20JAN06	25JAN06	0
ABC1540	DATA	Install Telecommunications/Data Racks	10	20JAN06	02FEB06	0
ABC1560	DATA	Tele/Data closet end cabling	5	03FEB06	09FEB06	0
ABC1920	DATA	Install data backbone cabling	5	03FEB06	09FEB06	0
ABC1430	WIND	Install Windows	10	24FEB06	09MAR06	0
ABC1510		Building Enclosure	0		09MAR06	0
ABC1520	PDAC	Install Drywall	10	10MAR06	23MAR06	0
ABC1550	PDAC	Tape and Spackle Drywall	10	24MAR06	06APR06	0
ABC1570	PAINT	Block Filler/Paint	15	07APR06	27APR06	0
ABC1880	HVAC	HVAC Resp. for temp heat	5	07APR06	13APR06	0
ABC1580	ELECT	Electrical Devices	10	28APR06	11MAY06	0
ABC1590	PDAC	Install Ceiling Grid	10	28APR06	11MAY06	0



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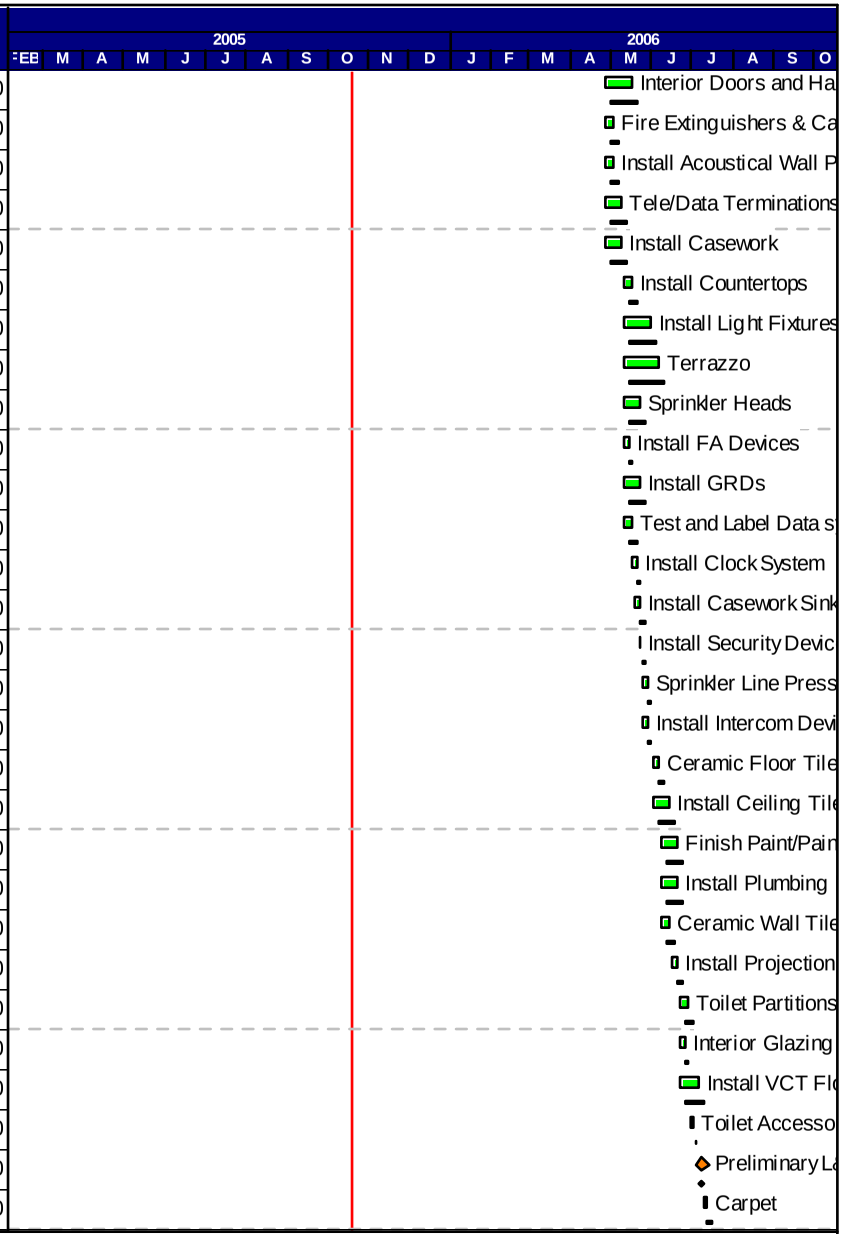
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC1600	GC	Interior Doors and Hardware	15	28APR06	18MAY06	0
ABC1610	GC	Fire Extinguishers & Cabinets	5	28APR06	04MAY06	0
ABC1620	PDAC	Install Acoustical Wall Panels	5	28APR06	04MAY06	0
ABC1630	DATA	Tele/Data Terminations	10	28APR06	11MAY06	0
ABC1640	CASE	Install Casework	10	28APR06	11MAY06	0
ABC1650	CASE	Install Countertops	5	12MAY06	18MAY06	0
ABC1660	ELECT	Install Light Fixtures	15	12MAY06	01JUN06	0
ABC1670	TILE	Terrazzo	20	12MAY06	08JUN06	0
ABC1680	FIRE	Sprinkler Heads	10	12MAY06	25MAY06	0
ABC1690	ELECT	Install FA Devices	4	12MAY06	17MAY06	0
ABC1890	HVAC	Install GRDs	10	12MAY06	25MAY06	0
ABC1930	DATA	Test and Label Data system	5	12MAY06	18MAY06	0
ABC1710	ELECT	Install Clock System	3	18MAY06	22MAY06	0
ABC1700	PLUMB	Install Casework Sinks	5	19MAY06	25MAY06	0
ABC1720	ELECT	Install Security Devices	3	23MAY06	25MAY06	0
ABC1730	FIRE	Sprinkler Line Pressure Test -Sys. #2	3	26MAY06	30MAY06	0
ABC1740	ELECT	Install Intercom Devices	3	26MAY06	30MAY06	0
ABC1750	TILE	Ceramic Floor Tile	5	02JUN06	08JUN06	0
ABC1760	PDAC	Install Ceiling Tile	10	02JUN06	15JUN06	0
ABC1770	PAINT	Finish Paint/Paint Touch Up	10	09JUN06	22JUN06	0
ABC1780	PLUMB	Install Plumbing Fixtures	10	09JUN06	22JUN06	0
ABC1790	TILE	Ceramic Wall Tile	5	09JUN06	15JUN06	0
ABC1810	GC	Install Projection Screens	5	16JUN06	22JUN06	0
ABC1800	GC	Toilet Partitions	5	23JUN06	29JUN06	0
ABC1830	GC	Interior Glazing	4	23JUN06	28JUN06	0
ABC1840	FLOOR	Install VCT Flooring	10	23JUN06	07JUL06	0
ABC1820	GC	Toilet Accessories	2	30JUN06	03JUL06	0
ABC1900		Preliminary L&I Inspection	0		07JUL06	0
ABC1850	FLOOR	Carpet	5	10JUL06	14JUL06	0



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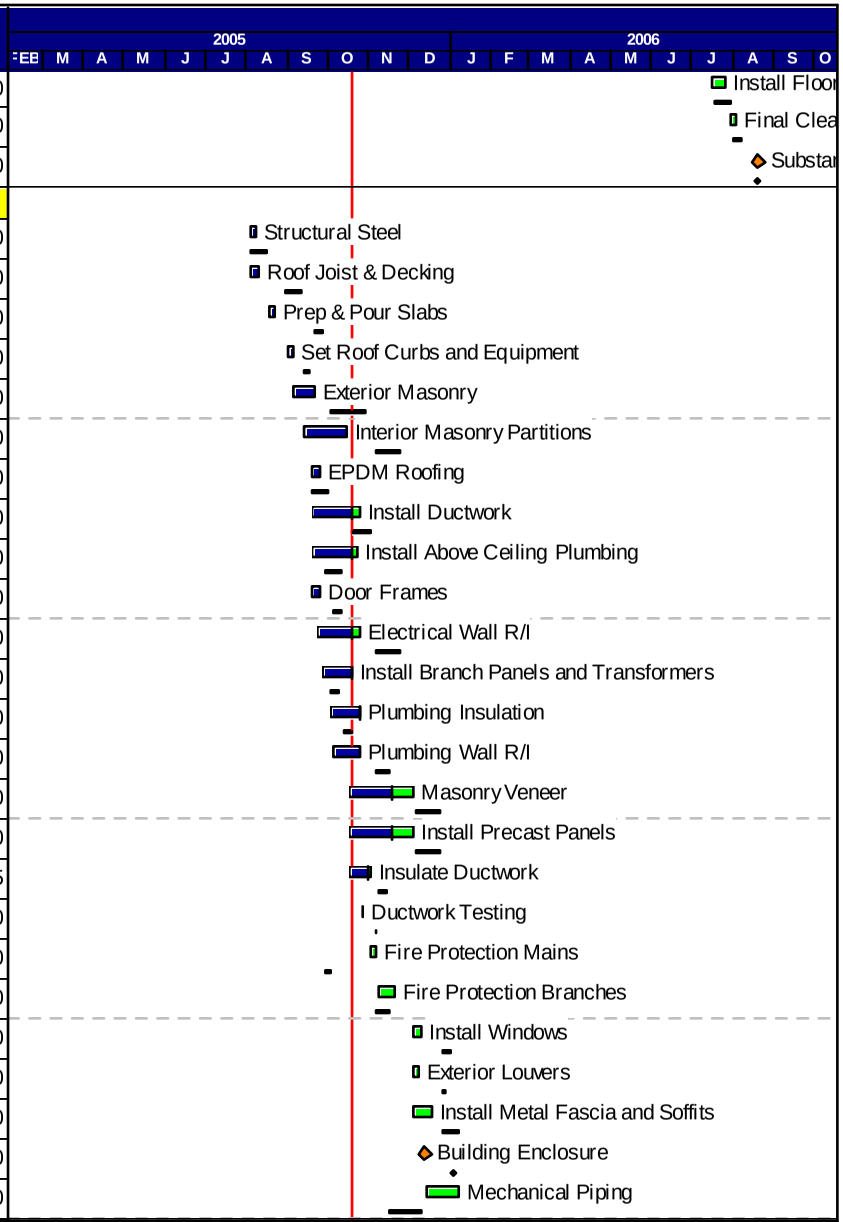
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC1860	FLOOR	Install Floor Base	10	17JUL06	28JUL06	0
ABC1870	GC	Final Cleaning	5	31JUL06	04AUG06	0
ABC1910		Substantial Completion	0		18AUG06 *	0
Areas D & E 2nd Floor						
DE2020	GC	Structural Steel	10	04AUG05 A	10AUG05 A	100
DE2030	GC	Roof Joist & Decking	10	05AUG05 A	12AUG05 A	100
DE2080	GC	Prep & Pour Slabs	5	18AUG05 A	24AUG05 A	100
DE2060	HVAC	Set Roof Curbs and Equipment	5	01SEP05 A	07SEP05 A	100
DE2040	GC	Exterior Masonry	20	05SEP05 A	22SEP05 A	100
DE2180	GC	Interior Masonry Partitions	15	14SEP05 A	17OCT05 A	100
DE2050	ROOF	EPDM Roofing	10	19SEP05 A	27SEP05 A	100
DE2100	HVAC	Install Ductwork	12	19SEP05 A	26OCT05	60
DE2110	PLUMB	Install Above Ceiling Plumbing	10	19SEP05 A	25OCT05	60
DE2090	GC	Door Frames	5	19SEP05 A	27SEP05 A	100
DE2160	ELECT	Electrical Wall R/I	15	23SEP05 A	27OCT05	60
DE2155	ELECT	Install Branch Panels and Transformers	5	28SEP05 A	21OCT05	60
DE2170	PLUMB	Plumbing Insulation	6	03OCT05 A	27OCT05	60
DE2190	PLUMB	Plumbing Wall R/I	10	05OCT05 A	27OCT05	90
DE2230	GC	Masonry Veneer	15	17OCT05 A	05DEC05	30
DE2240	GC	Install Precast Panels	15	17OCT05 A	05DEC05	30
DE2220	HVAC	Insulate Ductwork	5	18OCT05 A	03NOV05	15
DE2210	HVAC	Ductwork Testing	2	27OCT05	28OCT05	0
DE2120	FIRE	Fire Protection Mains	5	02NOV05	08NOV05	0
DE2200	FIRE	Fire Protection Branches	10	09NOV05	22NOV05	0
DE2380	WIND	Install Windows	5	05DEC05	12DEC05	0
DE2410	GC	Exterior Louvers	4	05DEC05	09DEC05	0
DE2430	ROOF	Install Metal Fascia and Soffits	10	05DEC05	19DEC05	0
DE2450		Building Enclosure	0		12DEC05	0
DE2130	HVAC	Mechanical Piping	18	15DEC05	09JAN06	0



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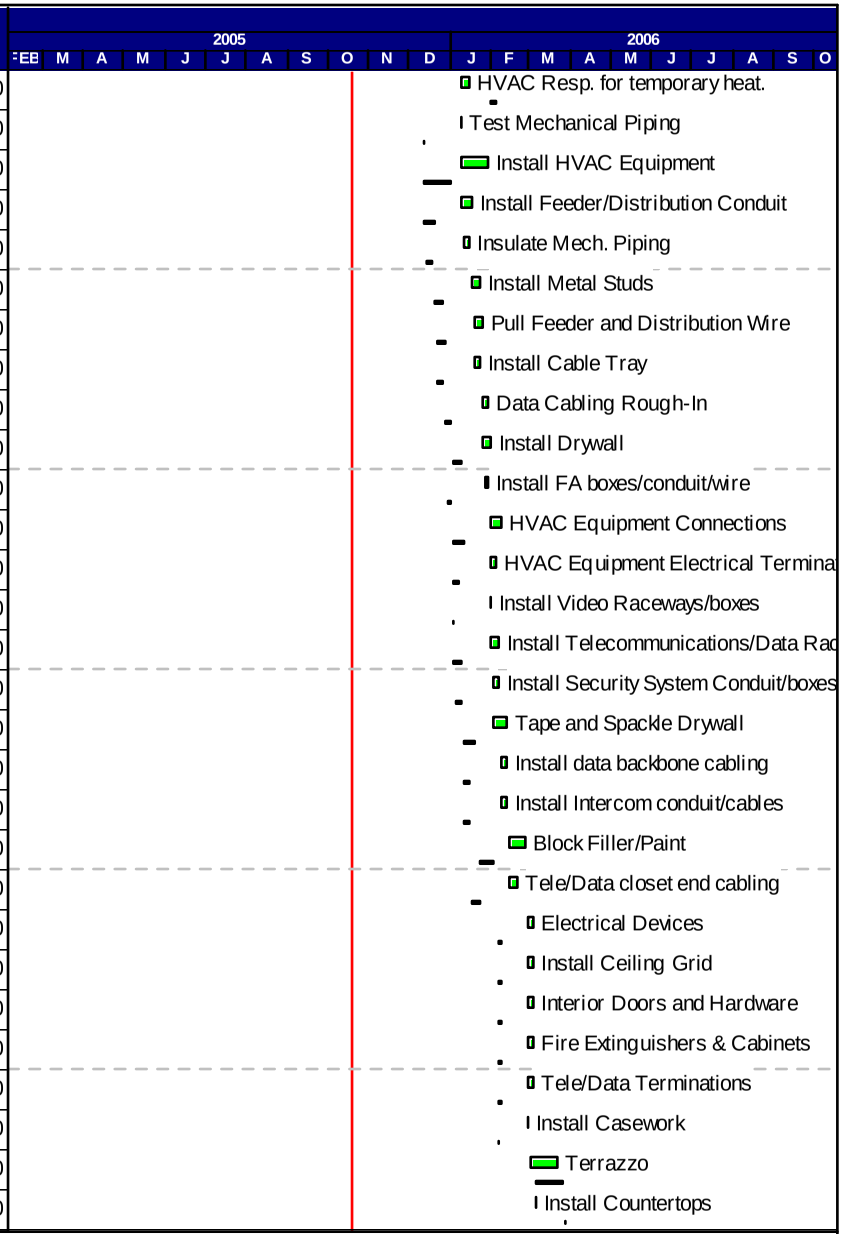
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
DE2480	HVAC	HVAC Resp. for temporary heat.	5	09JAN06	16JAN06	0
DE2250	HVAC	Test Mechanical Piping	1	10JAN06	10JAN06	0
DE2260	HVAC	Install HVAC Equipment	15	10JAN06	30JAN06	0
DE2280	ELECT	Install Feeder/Distribution Conduit	8	10JAN06	19JAN06	0
DE2270	HVAC	Insulate Mech. Piping	5	11JAN06	17JAN06	0
DE2290	PDAC	Install Metal Studs	5	18JAN06	24JAN06	0
DE2320	ELECT	Pull Feeder and Distribution Wire	5	20JAN06	26JAN06	0
DE2330	ELECT	Install Cable Tray	3	20JAN06	24JAN06	0
DE2360	DATA	Data Cabling Rough-In	5	25JAN06	31JAN06	0
DE2460	PDAC	Install Drywall	7	25JAN06	02FEB06	0
DE2340	ELECT	Install FA boxes/conduit/wire	3	27JAN06	31JAN06	0
DE2300	HVAC	HVAC Equipment Connections	8	31JAN06	09FEB06	0
DE2310	ELECT	HVAC Equipment Electrical Terminations	5	31JAN06	06FEB06	0
DE2350	ELECT	Install Video Raceways/boxes	2	01FEB06	02FEB06	0
DE2680	DATA	Install Telecommunications/Data Racks	5	01FEB06	07FEB06	0
DE2370	ELECT	Install Security System Conduit/boxes/cable	4	03FEB06	08FEB06	0
DE2470	PDAC	Tape and Spackle Drywall	7	03FEB06	13FEB06	0
DE2700	DATA	Install data backbone cabling	5	08FEB06	14FEB06	0
DE2390	ELECT	Install Intercom conduit/cables	4	09FEB06	14FEB06	0
DE2490	PAINT	Block Filler/Paint	10	14FEB06	27FEB06	0
DE2710	DATA	Tele/Data closet end cabling	5	15FEB06	21FEB06	0
DE2500	ELECT	Electrical Devices	5	28FEB06	06MAR06	0
DE2510	PDAC	Install Ceiling Grid	5	28FEB06	06MAR06	0
DE2520	GC	Interior Doors and Hardware	5	28FEB06	06MAR06	0
DE2530	GC	Fire Extinguishers & Cabinets	5	28FEB06	06MAR06	0
DE2540	DATA	Tele/Data Terminations	5	28FEB06	06MAR06	0
DE2550	CASE	Install Casework	3	28FEB06	02MAR06	0
DE2560	TILE	Terrazzo	15	03MAR06	23MAR06	0
DE2570	CASE	Install Countertops	2	06MAR06	08MAR06	0



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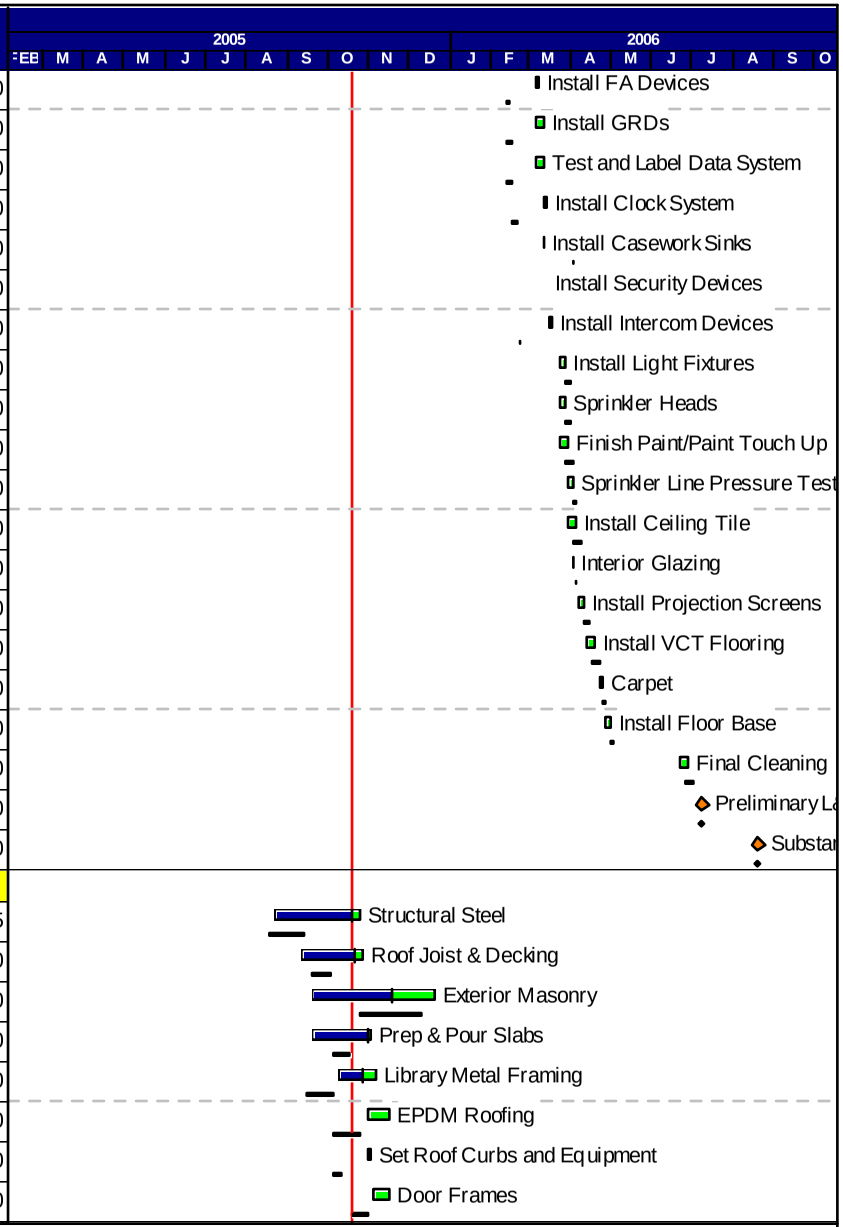
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
DE2600	ELECT	Install FA Devices	4	07MAR06	10MAR06	0
DE2610	HVAC	Install GRDs	5	07MAR06	13MAR06	0
DE2740	DATA	Test and Label Data System	5	07MAR06	13MAR06	0
DE2620	ELECT	Install Clock System	3	13MAR06	15MAR06	0
DE2630	PLUMB	Install Casework Sinks	1	13MAR06	14MAR06	0
DE2640	ELECT	Install Security Devices	1	16MAR06	16MAR06	0
DE2660	ELECT	Install Intercom Devices	2	17MAR06	20MAR06	0
DE2580	ELECT	Install Light Fixtures	5	24MAR06	30MAR06	0
DE2590	FIRE	Sprinkler Heads	5	24MAR06	30MAR06	0
DE2670	PAINT	Finish Paint/Paint Touch Up	6	24MAR06	31MAR06	0
DE2650	FIRE	Sprinkler Line Pressure Test -Sys. #1	3	31MAR06	04APR06	0
DE2690	PDAC	Install Ceiling Tile	5	31MAR06	06APR06	0
DE2720	GC	Interior Glazing	2	03APR06	04APR06	0
DE2750	GC	Install Projection Screens	5	07APR06	13APR06	0
DE2730	FLOOR	Install VCT Flooring	6	14APR06	21APR06	0
DE2770	FLOOR	Carpet	3	24APR06	26APR06	0
DE2780	FLOOR	Install Floor Base	4	27APR06	02MAY06	0
DE2790	GC	Final Cleaning	5	23JUN06	29JUN06	0
DE2800		Preliminary L&I Inspection	0		07JUL06	0
DE2810		Substantial Completion	0		18AUG06 *	0
Areas A, B & C 2nd Floor						
ABC2000	GC	Structural Steel	20	22AUG05 A	26OCT05	75
ABC2010	GC	Roof Joist & Decking	12	12SEP05 A	28OCT05	50
ABC2020	GC	Exterior Masonry	35	19SEP05 A	22DEC05	30
ABC2060	GC	Prep & Pour Slabs	10	19SEP05 A	03NOV05	60
ABC2760	PDAC	Library Metal Framing	15	10OCT05 A	08NOV05	40
ABC2030	ROOF	EPDM Roofing	15	31OCT05	18NOV05	0
ABC2040	HVAC	Set Roof Curbs and Equipment	5	31OCT05	04NOV05	0
ABC2080	GC	Door Frames	10	04NOV05	17NOV05	0



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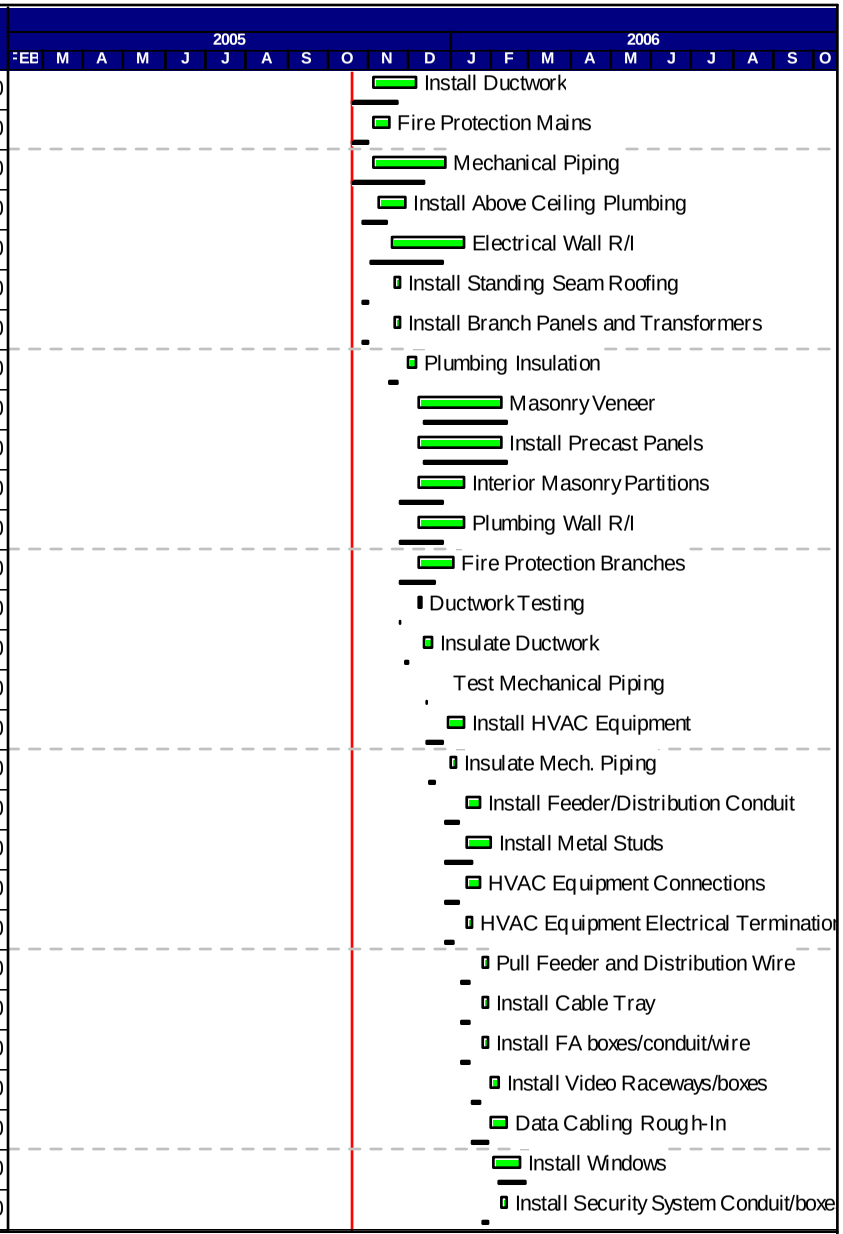
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC2090	HVAC	Install Ductwork	25	04NOV05	08DEC05	0
ABC2110	FIRE	Fire Protection Mains	10	04NOV05	17NOV05	0
ABC2120	HVAC	Mechanical Piping	40	04NOV05	29DEC05	0
ABC2100	PLUMB	Install Above Ceiling Plumbing	15	09NOV05	29NOV05	0
ABC2130	ELECT	Electrical Wall R/I	40	18NOV05	12JAN06	0
ABC2070	ROOF	Install Standing Seam Roofing	5	21NOV05	25NOV05	0
ABC2140	ELECT	Install Branch Panels and Transformers	5	21NOV05	25NOV05	0
ABC2150	PLUMB	Plumbing Insulation	6	30NOV05	07DEC05	0
ABC2160	GC	Masonry Veneer	45	09DEC05	09FEB06	0
ABC2170	GC	Install Precast Panels	45	09DEC05	09FEB06	0
ABC2180	GC	Interior Masonry Partitions	25	09DEC05	12JAN06	0
ABC2190	PLUMB	Plumbing Wall R/I	25	09DEC05	12JAN06	0
ABC2200	FIRE	Fire Protection Branches	20	09DEC05	05JAN06	0
ABC2210	HVAC	Ductwork Testing	2	09DEC05	12DEC05	0
ABC2220	HVAC	Insulate Ductwork	5	13DEC05	19DEC05	0
ABC2230	HVAC	Test Mechanical Piping	1	30DEC05	30DEC05	0
ABC2240	HVAC	Install HVAC Equipment	10	30DEC05	12JAN06	0
ABC2250	HVAC	Insulate Mech. Piping	5	02JAN06	06JAN06	0
ABC2260	ELECT	Install Feeder/Distribution Conduit	8	13JAN06	24JAN06	0
ABC2270	PDAC	Install Metal Studs	15	13JAN06	02FEB06	0
ABC2280	HVAC	HVAC Equipment Connections	8	13JAN06	24JAN06	0
ABC2290	ELECT	HVAC Equipment Electrical Terminations	5	13JAN06	19JAN06	0
ABC2300	ELECT	Pull Feeder and Distribution Wire	5	25JAN06	31JAN06	0
ABC2310	ELECT	Install Cable Tray	5	25JAN06	31JAN06	0
ABC2320	ELECT	Install FA boxes/conduit/wire	5	25JAN06	31JAN06	0
ABC2340	ELECT	Install Video Raceways/boxes	6	01FEB06	08FEB06	0
ABC2350	DATA	Data Cabling Rough-In	10	01FEB06	14FEB06	0
ABC2330	WIND	Install Windows	15	03FEB06	23FEB06	0
ABC2390	ELECT	Install Security System Conduit/boxes/cable	4	09FEB06	14FEB06	0



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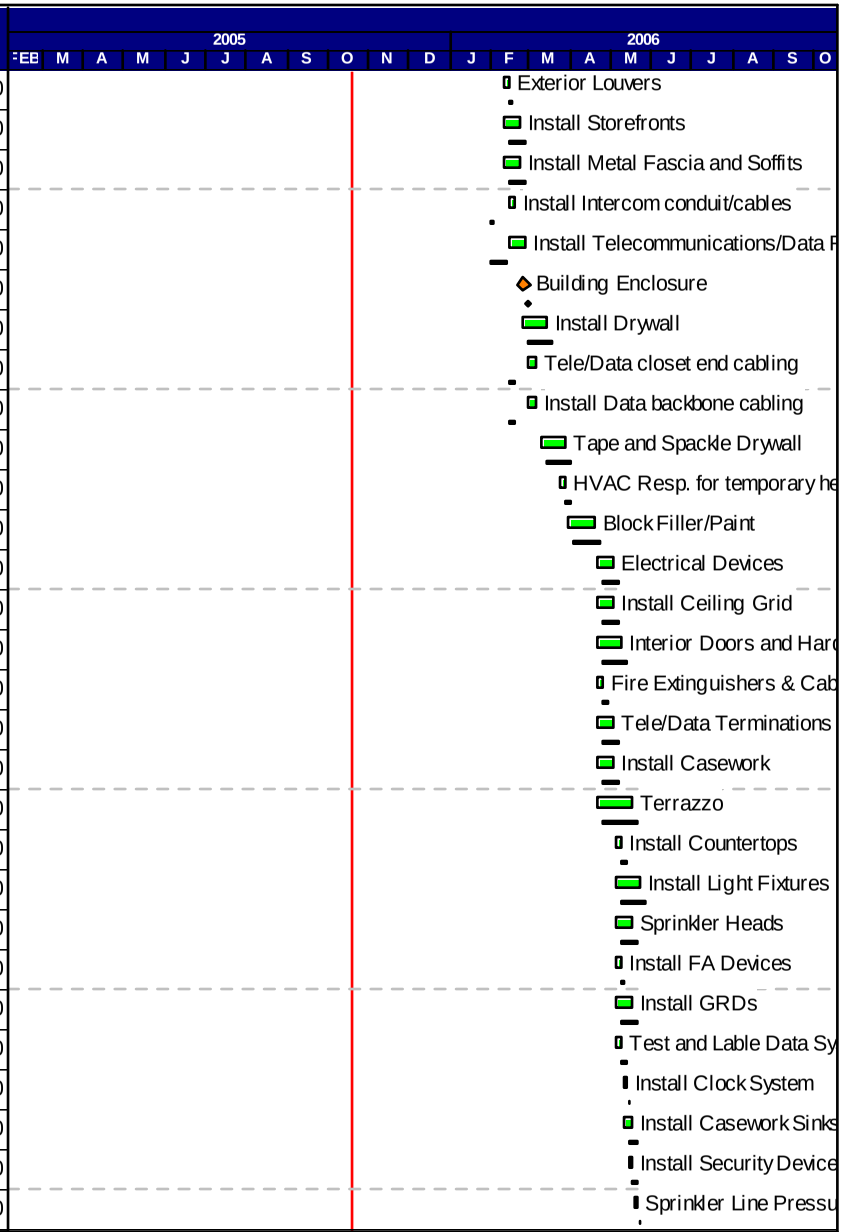
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC2360	GC	Exterior Louvers	4	10FEB06	15FEB06	0
ABC2370	WIND	Install Storefronts	10	10FEB06	23FEB06	0
ABC2380	ROOF	Install Metal Fascia and Soffits	10	10FEB06	23FEB06	0
ABC2420	ELECT	Install Intercom conduit/cables	4	15FEB06	20FEB06	0
ABC2430	DATA	Install Telecommunications/Data Racks	10	15FEB06	28FEB06	0
ABC2400		Building Enclosure	0		23FEB06	0
ABC2410	PDAC	Install Drywall	15	24FEB06	16MAR06	0
ABC2450	DATA	Tele/Data closet end cabling	5	01MAR06	07MAR06	0
ABC2790	DATA	Install Data backbone cabling	5	01MAR06	07MAR06	0
ABC2440	PDAC	Tape and Spackle Drywall	15	10MAR06	30MAR06	0
ABC2415	HVAC	HVAC Resp. for temporary heat.	5	24MAR06	30MAR06	0
ABC2460	PAINT	Block Filler/Paint	15	31MAR06	20APR06	0
ABC2470	ELECT	Electrical Devices	10	21APR06	04MAY06	0
ABC2480	PDAC	Install Ceiling Grid	10	21APR06	04MAY06	0
ABC2490	GC	Interior Doors and Hardware	15	21APR06	11MAY06	0
ABC2500	GC	Fire Extinguishers & Cabinets	5	21APR06	27APR06	0
ABC2510	DATA	Tele/Data Terminations	10	21APR06	04MAY06	0
ABC2520	CASE	Install Casework	10	21APR06	04MAY06	0
ABC2550	TILE	Terrazzo	20	21APR06	18MAY06	0
ABC2530	CASE	Install Countertops	5	05MAY06	11MAY06	0
ABC2540	ELECT	Install Light Fixtures	15	05MAY06	25MAY06	0
ABC2560	FIRE	Sprinkler Heads	10	05MAY06	18MAY06	0
ABC2570	ELECT	Install FA Devices	4	05MAY06	10MAY06	0
ABC2780	HVAC	Install GRDs	10	05MAY06	18MAY06	0
ABC2820	DATA	Test and Lable Data System	5	05MAY06	11MAY06	0
ABC2590	ELECT	Install Clock System	3	11MAY06	15MAY06	0
ABC2580	PLUMB	Install Casework Sinks	5	12MAY06	18MAY06	0
ABC2600	ELECT	Install Security Devices	3	16MAY06	18MAY06	0
ABC2610	FIRE	Sprinkler Line Pressure Test -Sys. #2	3	19MAY06	23MAY06	0



Early bar
Target bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Phoenixville Area School District
Schuylkill Elementary School
As Planned Construction Schedule

Date	Revision	Checked	Approved
20OCT05	Update#10		
06OCT05	Update #9		
22SEP05	Update #8		
08SEP05	Update #7		

Start date	11FEB05
Must finish date	15AUG06
Data date	20OCT05
Page number	13A
Page count	14A
Percent complete	26

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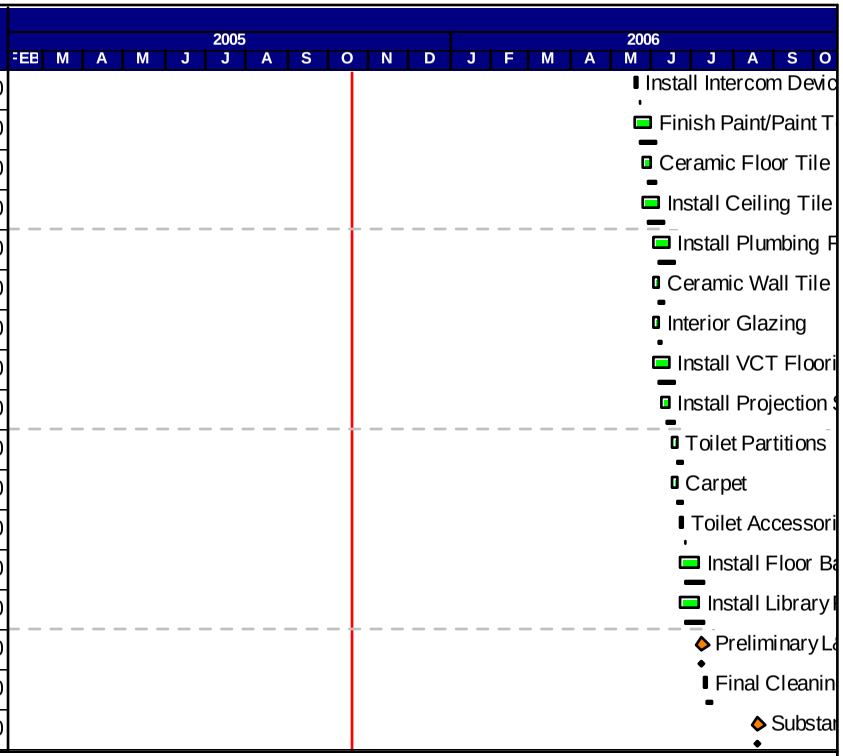
Act ID	Resp.	Description	Orig Dur	Start	Finish	% Comp
ABC2620	ELECT	Install Intercom Devices	3	19MAY06	23MAY06	0
ABC2650	PAINT	Finish Paint/Paint Touch Up	10	19MAY06	01JUN06	0
ABC2630	TILE	Ceramic Floor Tile	5	26MAY06	01JUN06	0
ABC2640	PDAC	Install Ceiling Tile	10	26MAY06	08JUN06	0
ABC2660	PLUMB	Install Plumbing Fixtures	10	02JUN06	15JUN06	0
ABC2670	TILE	Ceramic Wall Tile	5	02JUN06	08JUN06	0
ABC2710	GC	Interior Glazing	4	02JUN06	07JUN06	0
ABC2720	FLOOR	Install VCT Flooring	10	02JUN06	15JUN06	0
ABC2690	GC	Install Projection Screens	5	09JUN06	15JUN06	0
ABC2680	GC	Toilet Partitions	5	16JUN06	22JUN06	0
ABC2730	FLOOR	Carpet	5	16JUN06	22JUN06	0
ABC2700	GC	Toilet Accessories	2	23JUN06	26JUN06	0
ABC2740	FLOOR	Install Floor Base	10	23JUN06	07JUL06	0
ABC2770	LIB	Install Library Furniture	10	23JUN06	07JUL06	0
ABC2800		Preliminary L&I Inspection	0		07JUL06	0
ABC2750	GC	Final Cleaning	5	10JUL06	14JUL06	0
ABC2810		Substantial Completion	0		18AUG06 *	0



Early bar
Target bar
Progress bar
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Phoenixville Area School District
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KIMBERTON ROAD
PHOENIXVILLE PIKE
LIMIT OF DISTURBANCE
AREA CONTROLLED BY DEP CLOSURE PLAN
NPDES BOUNDARY
SF18
SF30
SSF
SF18
SF30
SSF
SAN
SAN
SAN

SPECIAL PROTECTION WATERSHED NOTES

1. THIS PROJECT IS IN A SPECIALLY PROTECTED HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHED. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.
2. BECAUSE THIS PROJECT IS IN A SPECIALLY PROTECTED HIGH QUALITY OR EXCEPTIONAL VALUE WATERSHED, EARTH DISTURBANCE ACTIVITIES MUST BE MINIMIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION IMMEDIATELY STABILIZED.

E & S LEGEND

Existing	Description	Proposed
	ROCK OUTLET PROTECTION	
	TOPSOIL STOCKPILE	
	INLET PROTECTION	
	EROSION CONTROL BLANKET	
	ROCK CONSTRUCTION ENTRANCE	
SF18 / SF30 / SSF	SILT FENCING	
	LIMIT OF DISTURBANCE	
	NPDES BOUNDARY	
	ROCK ACCESS DRIVE	
—I—I—	TREE PROTECTION / ORANGE CONSTRUCTION FENCE	

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO PENNSYLVANIA ACT 187 OF 1996 AS AMENDED, CONTRACTORS MUST NOTIFY THE ONE CALL SYSTEM, INC. (1-800-242-1776) TO VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO. 3643539.

STOP PENNSYLVANIA ONE CALL SYSTEM, INC. DIG YOU CALL BEFORE 1-800-242-1776

REVISION NO.	DATE	REVISION
6	03/12/08	PLANS REVISED PER TOWNSHIP AND CCCD REVIEW LETTERS
5	12/05/07	PLANS REVISED PER TOWNSHIP AND CCCD REVIEW LETTERS
4	03/19/07	PLANS REVISED PER TOWNSHIP ENGINEER REVIEW LETTER
3	12/01/06	PLANS REVISED PER VALLEY FORGE SEWER AUTHORITY REVIEW
2	10/05/06	PLANS REVISED PER TOWNSHIP ENGINEER REVIEW LETTER
1	06/21/06	PLANS REVISED PER TOWNSHIP ENGINEER REVIEW LETTER
0	01/30/06	PLAN ORIGINATION DATE

SEE GENERAL INFORMATION SHEET FOR ALL PERTINENT NOTES AND LEGEND INFORMATION.

50 0 50 100
GRAPHIC SCALE IN FEET

G. GLENN HARRIS
REGISTERED LANDSCAPE ARCHITECT, PA. LIC. No. 756-R

REGISTERED PENNSYLVANIA LANDSCAPE ARCHITECT G. GLENN HARRIS REGISTRATION NUMBER 756-R

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EROSION & SEDIMENT CONTROL PHASE 1 PLAN

NEW:
KIMBERTON ELEMENTARY SCHOOL
PHOENIXVILLE AREA SCHOOL DISTRICT
EAST PIKELAND TOWNSHIP, CHESTER COUNTY, PA

gilbert

Gilbert Architects Inc.
626 North Charlotte Street Lancaster, PA17603
P: 717.291.1077 F: 717.392.3923
501 Silverside Road Wilmington, DE 19809
P: 302.791.0522 F: 302.791.9095
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P: 410.356.8856 F: 410.654.8802
127 Route 206 Suite 26A Hamilton, NJ 08610
P: 609.581.5400 F: 609.581.5404

BID DOCUMENTS
MAY 9, 2008

CMX
ARIZONA · FLORIDA · MARYLAND · NEVADA · NEW JERSEY
NEW YORK · PENNSYLVANIA · MEXICO
1555 BUSTARD ROAD , SUITE 507 , P.O. BOX 304 , KULPSVILLE, PA 19443
TEL 215.361.6050 , FAX 215.361.6160

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CMX PROJECT NO. 04044775
SCALE 1" = 50'
DRAWN BY JAC
DESIGNED BY SAL / MRS
PROJECT NO. 0512
SHEET NO. 16 of 35
DATE 05/09/2006

C7.2

S.R. 1028
PIKE SPRINGS ROAD
L.R. 270 SECTION 6
S.R. 0113
PROPOSED BUILDING
SEGREGATION STOCKPILE AREA
CONSTRUCTION LAYDOWN AND STAGING AREA #1
CONSTRUCTION LAYDOWN AND STAGING AREA #2
TEMPORARY 20' WIDE ROCK CONSTRUCTION ACCESS DRIVE
TEMPORARY BARREL/RISER SEDIMENT TRAP (ST-01)
TEMPORARY BARREL/RISER SEDIMENT TRAP (ST-02)
TEMPORARY SEDIMENT BASIN (SB-A7)
DIVERSION CHANNEL DC-1
DIVERSION CHANNEL DC-2
DIVERSION CHANNEL DC-3
DIVERSION CHANNEL DC-4
DIVERSION CHANNEL DC-5
SITE BENCHMARK
EROSION CONTROL BLANKET (TYP.)
LIMIT OF DISTURBANCE
NPDES BOUNDARY
ISOLATE INFILTRATION BASIN AREAS USING ORANGE CONSTRUCTION FENCE (TYP.)
TREE PROTECTION FENCE (TYP.)
PERMANENT RIPRAP
PERMANENT PIPE 701-705
PERMANENT PIPE 705-706
PERMANENT PIPE 602-606
PERMANENT PIPE 604-605
PERMANENT PIPE 104-105
PERMANENT PIPE 518-519
TEMP. RISER
TEMP. PIPE
TEMP. STUB
TOP OF BERM = 234.50
BAFFLE #1
BAFFLE #2
BAFFLE #3
BAFFLE #4
BAFFLE #5
SF18
SF16
SP1
SP2
SP3
SP4
SP5
SP6
SP7
SP8
SP9
SP10
SP11
SP12
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SP14
SP15
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SP31
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SP35
SP36
SP37
SP38
SP39
SP40

Group	Phase	Description	Takeoff Quantity		Cost/Unit		Total Amount	
3000		CONCRETE						
	3114.00	Forms -Walls						
	03 11 13.45 0020	Wall Forms	7566.64	SQ FT	$5.60	$6.47 $/SQFT	$48,920.69	
		Forms -Walls						
	3126.00	Forms - Piers						
	03 11 13.25 6550	Pier Forms	2688	Sq FT	$6.56	$7.57 $/SQFT	$20,357.97	
		Forms - Piers						
	3206.00	Rebar - Footing						
	03 21 10.60 0500	Footing Rebar (tons)	13.91	TONS	$1,480.00	$1,708.69 $/TON	$23,773.84	
		Rebar - Footing						
	3231.00	Rebar - Wiremesh						
	03 22 05.50 0300	WWM sheets- 6 x6 - W2.9 x W2.9	998.43	CSQFT	$42.80	$49.41 $/CSQFT	$49,335.91	
		Rebar - Wiremesh						
	3306.00	Conc - Footing						
	03 30 53.40 3935	Wall Footing Concrete - 3000 PSI	317.26	CY	$191.89	$221.54 $/CY	$70,285.72	
	03 30 53.40 3850	Spread Column Footing Concrete - 3000 PSI	223.99	CY	$314.76	$363.40 $/CY	$81,397.50	
		Conc - Footing						
	3309.00	Conc - Piers						
	03 30 53.40 0920	Pier Concrete - 3000 PSI	49.78	CY	$856.00	$988.27 $/CY	$49,193.84	
		Conc - Piers						
	3310.01	Conc - Slabs on grade						
	03 30 53.40 4760	SOG Concrete - 4000 PSI - 4" inch	73698.32	SQ FT	$2.08	$2.40 $/SQFT	$176,979.26	
		Conc - Slabs on grade						
	3313.00	Slab on Metal Deck						
	03 30 53.40 3250	SOD Concrete - 4000 PSI	26144.74	SQ FT	$1.82	$2.10 $/SQFT	$54,936.02	
		Slab on Metal Deck						**$575,180.75**
	5110.01	Structural - Framing						
	-	Pre Engineered Steel Trusses (ton)	46.00	ton	$2,692.20	$3,108.20 $/TON	$123,841.00	
	-	Structural Plates (ton)	14.00	ton	$2,692.20	$3,108.20 $/TON	$37,691.00	
		Structural - Framing						**161,532**
	5110.10	Structural - W Shapes						
	05 12 23.75 0300	W8X10	158.71	lnft	$17.65	$20.38 $/lnft	$3,234.08	
	05 12 23.75 0320	W8X15	390.29	lnft	$23.25	$26.84 $/lnft	$10,476.39	
	05 12 23.75 0350	W8X21	12.67	lnft	$29.85	$34.46 $/lnft	$436.64	
	05 12 23.75 0360	W8X24	6.83	lnft	$33.92	$39.16 $/lnft	$267.47	
	05 12 23.75 0500	W8X31	1194.96	lnft	$41.92	$48.40 $/lnft	$57,833.05	
	05 12 23.75 1100	W12X14	3312.40	lnft	$20.13	$23.24 $/lnft	$76,981.79	
	05 12 23.75	W12X16	124.03	lnft	$22.43	$25.90 $/lnft	$3,211.87	
	05 12 23.75	W12X19	246.34	lnft	$25.88	$29.88 $/lnft	$7,360.39	
	05 12 23.75 1300	W12X22	206.68	lnft	$29.33	$33.86 $/lnft	$6,998.61	
	05 12 23.75 1500	W12X26	446.34	lnft	$33.83	$39.06 $/lnft	$17,432.89	
	05 12 23.75 1900	W14X22	1064.71	lnft	$33.34	$38.49 $/lnft	$40,982.49	
	05 12 23.75 2700	W16X26	1646.57	lnft	$33.31	$38.46 $/lnft	$63,322.24	
	05 12 23.75 2900	W16X31	798.03	lnft	$39.23	$45.29 $/lnft	$36,144.23	
	05 12 23.75	W16X36	161.34	lnft	$45.07	$52.04 $/lnft	$8,396.03	
	05 12 23.75 3300	W18X35	1642.57	lnft	$44.63	$51.53 $/lnft	$84,635.44	
	05 12 23.75 3500	W18X40: 70	2123.13	lnft	$50.13	$57.88 $/lnft	$122,878.46	
	05 12 23.75 3520	W18X46: 8	153.09	lnft	$57.13	$65.96 $/lnft	$10,097.47	
	05 12 23.75 4100	W21X44: 20	708.36	lnft	$54.13	$62.49 $/lnft	$44,268.37	
	05 12 23.75 4300	W21X50: 5	156.17	lnft	$61.13	$70.58 $/lnft	$11,021.82	
	05 12 23.75 4700	W21X68: 5	145.02	lnft	$81.25	$93.80 $/lnft	$13,603.56	
	05 12 23.75 4720	W21X83: 2	64.00	lnft	$98.43	$113.64 $/lnft	$7,272.92	
	05 12 23.75 4900	W24X55: 63	1591.21	lnft	$66.44	$76.71 $/lnft	$122,055.85	
	05 12 23.75 5100	W24X62: 7	211.67	lnft	$74.44	$85.94 $/lnft	$18,191.44	
	05 12 23.75 5500	W24X76: 1	36.67	lnft	$89.94	$103.84 $/lnft	$3,807.72	
	05 12 23.75 5740	W24X104: 1	34.33	lnft	$121.69	$140.49 $/lnft	$4,823.14	
	05 12 23.75 5800	W27X84: 50	1610.33	lnft	$98.65	$113.89 $/lnft	$183,405.96	
	05 12 23.75 5900	W27X94: 3	88.67	lnft	$110.15	$127.17 $/lnft	$11,276.20	
	05 12 23.75 6100	W30X90: 3	86.33	lnft	$116.11	$134.05 $/lnft	$11,572.65	
	05 12 23.75 6100	W30X99: 1	36.67	lnft	$116.11	$134.05 $/lnft	$4,915.66	
		Structural - W Shapes						**$986,904.83**
	5110.15	HSS-Hollow Structural Section-Column						
	05 12 23.17 4550	HSS6X6X.3125: 30	303.72	lnft	$28.96	$33.43 $/lnft	$10,154.26	
	05 12 23.17 4600	HSS8X8X.250: 159	3734.19	lnft	$48.29	$55.75 $/lnft	$208,169.23	
	05 12 23.17 4600	HSS8X8X.375: 11	316.33	lnft	$48.29	$55.75 $/lnft	$17,634.39	
	05 12 23.17 4600	HSS8X8X.500: 14	371.38	lnft	$48.29	$55.75 $/lnft	$20,703.26	
	05 12 23.17 4600	HSS8X8X.3125: 14	393.00	lnft	$48.29	$55.75 $/lnft	$21,908.50	
	05 12 23.17 4650	HSS12X8X.625: 2	51.18	lnft	$73.69	$85.07 $/lnft	$4,354.07	
		HSS-Hollow Structural Section-Column						**$282,923.71**
	5110.60	Structural - Steel Angles						
	05 12 23.40 0400	2L4X4X3/8: 177	30726.51	lb	$3.14	$3.63 $/lb	$111,389.54	
	05 12 23.40 0400	2L5X5X1/2: 14	1658.23	lb	$3.14	$3.63 $/lb	$6,011.41	
		Structural - Steel Angles						**$117,400.95**
	5210.01	Structural Joist						
	05 21 19.10 0140	10K1: 9	120.01	lnft	$7.76	$8.96 $/lnft	$1,075.18	
	05 21 19.10 0140	10K1: 9	120.05	lnft	$7.76	$8.96 $/lnft	$1,075.54	
	05 21 19.10 0160	12K1: 7	116.70	lnft	$7.43	$8.58 $/lnft	$1,001.06	
	05 21 19.10 0160	12K1: 7	119.03	lnft	$7.43	$8.58 $/lnft	$1,021.05	
	05 21 19.10 0240	18K4: 1	27.34	lnft	$8.02	$9.26 $/lnft	$253.15	
	05 21 19.10 0500	20K4: 56	1317.21	lnft	$8.27	$9.55 $/lnft	$12,576.56	
	05 21 19.10 0540	22K4: 17	483.91	lnft	$8.67	$10.01 $/lnft	$4,843.79	
	05 21 19.10	22K6: 12	352.10	lnft	$10.42	$12.03 $/lnft	$4,235.80	
	05 21 19.10	24K7: 36	1168.66	lnft	$9.69	$11.19 $/lnft	$13,074.15	
	05 21 19.10	26K7: 1	34.00	lnft	$10.26	$11.85 $/lnft	$402.74	
	05 21 19.10	28K7: 22	850.95	lnft	$11.00	$12.70 $/lnft	$10,806.83	
		Structural Joist						**$50,365.84**
	5210.20	Structural - Joist LH/DLH						
	05 21 19.50 2500	44LH15: 13	940.33	lnft	$35.30	$40.75 $/lnft	$38,322.73	
	05 21 16.50 2220	18LH09: 18	510.90	lnft	$18.60	$21.47 $/lnft	$10,971.10	
		Structural - Joist LH/DLH						**$49,293.84**
	5312.10	Structural - Deck Roof/Floor						
	05 31 13.50 3250	Metal Deck	76945.00	SQ FT	$2.09	$2.41 $/SQFT	$185,664.19	
	05 31 23.50 2650	Metal Deck	25638.00	SQ FT	$1.80	$2.08 $/SQFT	$53,279.25	
		Structural - Deck Roof/Floor						**$238,943.44**
		Unit Cost adjust 1.08 for time and 1.069 for location			$24.01	**TOTAL**	$2,462,545.36	
		Design Contingency			1.50%			**$36,938.18**
		Escalation Contingency 782,869 3.500 %			3.50%			**$86,189.09**
		Insurance 770,133 3.000 %			3.00%			**$73,876.36**
		Bonds 447,354 2.000 %			2.00%			**$49,250.91**
		Overhead & Profit			10.00%			**$246,254.54**
		Total		**$28.81**	**/SQ FT**	**/SQ FT**	**$2,955,054.44**	

Material	Total Material	Labor	Total Labor	Equipment	Total Equipment
$2.64	$19,975.93	$2.96	$22,397.25		
$1.41	$3,790.08	$5.15	$13,843.20		
$850.00	$11,826.47	$630.00	$8,765.50		
$19.80	$19,768.93	$23.00	$22,963.90		$0.00
$120.00	$38,071.02	$71.50	$22,683.98	$0.39	$123.73
	$0.00		$0.00		
$400.00	$19,911.11	$415.00	$20,657.78	$41.00	$2,040.89
$1.37	$100,966.70	$0.70	$51,588.82	$0.01	$736.98
$0.88	$23,007.37	$0.68	$17,778.42	$0.26	$6,797.63
$2,070.89	$95,260.92	$520.02	$23,921.06	$101.28	$4,658.67
$2,070.89	$28,992.45	$520.02	$7,280.32	$101.28	$1,417.86
$11.30	$1,793.42	$3.77	$598.34	$2.58	$409.47
$16.90	$6,595.90	$3.77	$1,471.39	$2.58	$1,006.95
$23.50	$297.75	$3.77	$47.77	$2.58	$32.69
$27.00	$184.41	$4.11	$28.07	$2.81	$19.19
$31.50	$37,641.24	$4.11	$4,911.29	$2.81	$3,357.84
$15.80	$52,335.92	$2.57	$8,512.87	$1.76	$5,829.82
$18.10	$2,244.94	$2.57	$318.76	$1.76	$218.29
$21.55	$5,308.63	$2.57	$633.09	$1.76	$433.56
$25.00	$5,167.00	$2.57	$531.17	$1.76	$363.76

$29.50	$13,167.03	$2.57	$1,147.09	$1.76	$785.56
$29.50	$31,408.95	$2.28	$2,427.54	$1.56	$1,660.95
$29.50	$48,573.82	$2.26	$3,721.25	$1.55	$2,552.18
$35.00	$27,931.05	$2.51	$2,003.06	$1.72	$1,372.61
$40.32	$6,505.95	$2.82	$454.98	$1.93	$311.39
$39.50	$64,881.52	$3.40	$5,584.74	$1.73	$2,841.65
$45.00	$95,540.85	$3.40	$7,218.64	$1.73	$3,673.01
$52.00	$7,960.68	$3.40	$520.51	$1.73	$264.85
$49.50	$35,063.82	$3.07	$2,174.67	$1.56	$1,105.04
$56.50	$8,823.61	$3.07	$479.44	$1.56	$243.63
$76.50	$11,094.03	$3.15	$456.81	$1.60	$232.03
$93.50	$5,984.00	$3.27	$209.28	$1.66	$106.24
$62.00	$98,655.02	$2.94	$4,678.16	$1.50	$2,386.82
$70.00	$14,816.90	$2.94	$622.31	$1.50	$317.51
$85.50	$3,135.29	$2.94	$107.81	$1.50	$55.01
$117.00	$4,016.61	$3.11	$106.77	$1.58	$54.24
$94.50	$152,176.19	$2.75	$4,428.41	$1.40	$2,254.46
$106.00	$9,399.02	$2.75	$243.84	$1.40	$124.14
$112.00	$9,668.96	$2.72	$234.82	$1.39	$120.00
$112.00	$4,107.04	$2.72	$99.74	$1.39	$50.97
$23.08	$7,010.87	$3.50	$1,063.02	$2.38	$721.34
$42.86	$160,036.71	$3.21	$12,002.75	$2.58	$9,646.66
$42.86	$13,557.00	$3.21	$1,016.78	$2.58	$817.19
$42.86	$15,916.29	$3.21	$1,193.72	$2.58	$959.40
$42.86	$16,842.86	$3.21	$1,263.21	$2.58	$1,015.25
$68.75	$3,518.63	$2.94	$150.34	$2.00	$102.36
$0.59	$18,128.64	$2.29	$70,363.72	$0.26	$7,988.89
$0.59	$978.36	$2.29	$3,797.35	$0.26	$431.14
$3.56	$427.24	$2.72	$326.43	$1.48	$177.61
$3.56	$427.38	$2.72	$326.54	$1.48	$177.67
$4.06	$473.80	$2.18	$254.41	$1.19	$138.87
$4.06	$483.26	$2.18	$259.49	$1.19	$141.65
$5.50	$150.37	$1.63	$44.56	$0.89	$24.33
$5.75	$7,573.96	$1.63	$2,147.05	$0.89	$1,172.32
$6.15	$2,976.05	$1.63	$788.77	$0.89	$430.68

$7.90	$2,781.59	$1.63	$573.92	$0.89	$313.37	
$7.39	$8,636.40	$1.49	$1,741.30	$0.81	$946.61	
$7.96	$270.64	$1.49	$50.66	$0.81	$27.54	
$8.90	$7,573.46	$1.36	$1,157.29	$0.74	$629.70	
$33.00	$31,030.89	$1.49	$1,401.09	$0.81	$761.67	
$15.00	$7,663.50	$2.33	$1,190.40	$1.27	$648.84	
$1.71	$131,575.95	$0.35	$26,930.75	$0.03	$2,308.35	
$1.45	$37,175.10	$0.32	$8,204.16	$0.03	$769.14	
	$1,848,686.03		$464,233.13		$90,410.68	$2,403,329.84
$18.02	75.07%	$4.53	18.85%	$0.88	3.67%	97.60%
	76.92%		19.32%		3.76%	
	$27,730.29		$6,963.50		$1,356.16	
	$64,704.01		$16,248.16		$3,164.37	
	$55,460.58		$13,926.99		$2,712.32	
	$36,973.72		$9,284.66		$1,808.21	
	$184,868.60		$46,423.31		$9,041.07	
	$2,218,423.24		$557,079.76		$108,492.81	
$21.63	75.07%	$5.43	18.85%	$1.06	3.67%	

18.2	1688.27
32.4	51.18

10.2625

Structural Framing Schedule

Assembly Code	Assembly Description	Family	Type	Length	Count
B10	Superstructure	LL-Double Angle	2L4X4X3/8	14.97	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	8.35	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.08	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	7.42	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	4.73	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.08	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	14.97	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	9.04	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.08	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	7.56	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	5.92	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.07	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	14.97	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	8.35	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.08	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	7.42	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	4.73	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.08

B10	Superstructure	LL-Double Angle	2L4X4X3/8	5.92	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	11.07	1
B10	Superstructure	LL-Double Angle	2L4X4X3/8	6.3	1
2L4X4X3/8: 177				1688.27	177
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.6	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.33	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.33	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.33	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.33	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.33	1
B10	Superstructure	LL-Double Angle	2L5X5X1/2	64.6

B1010350	Joists - Steel	K-Series Bar Joist-Rod Web	28K7	38.68	1
B1010350	Joists - Steel	K-Series Bar Joist-Rod Web	28K7	38.68	1
B1010350	Joists - Steel	K-Series Bar Joist-Rod Web	28K7	38.68	1
28K7: 22				850.95	22
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
B1010350	Joists - Steel	LH-Series Bar Joist	44LH15	72.33	1
44LH15: 13				940.33	13
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	6.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	10.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	6.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	10.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	6.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	6.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	12.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	12.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	30.33	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	30.33	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.16	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	12.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	12.67	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.14	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.17	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	9.33	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.13	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.13	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	9.33	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.04	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.04	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	7.5	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	9.33	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.13	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	8.13	1
B10	Superstructure	HSS-Hollow Structural Secti	HSS6X6X.3125	9.33	1
HSS6X6X.3125: 30				303.72	30
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	8.01	1
B10	Superstructure	W-Wide Flange	W8X10	8.01	1
B10	Superstructure	W-Wide Flange	W8X10	8.01	1
B10	Superstructure	W-Wide Flange	W8X10	8.01	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	4.67	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	4.67	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	4.67	1
B10	Superstructure	W-Wide Flange	W8X10	8.17	1
B10	Superstructure	W-Wide Flange	W8X10	4.67	1
B10	Superstructure	W-Wide Flange	W8X10	12.67	1
B10	Superstructure	W-Wide Flange	W8X10	6.83	1
B10	Superstructure	W-Wide Flange	W8X10	6.83	1
W8X10: 21				158.71	21
B10	Superstructure	W-Wide Flange	W8X15	18.67	1
B10	Superstructure	W-Wide Flange	W8X15	18.67	1
B10	Superstructure	W-Wide Flange	W8X15	13.33	1
B10	Superstructure	W-Wide Flange	W8X15	13.33	1
B10	Superstructure	W-Wide Flange	W8X15	17	1
B10	Superstructure	W-Wide Flange	W8X15	17	1
B10	Superstructure	W-Wide Flange	W8X15	16.67	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	34	1
B10	Superstructure	W-Wide Flange	W8X15	6.67	1
B10	Superstructure	W-Wide Flange	W8X15	6.68	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	8.99	1
B10	Superstructure	W-Wide Flange	W8X15	9.01	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	8.96	1
B10	Superstructure	W-Wide Flange	W8X15	9.04	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	8.99	1
B10	Superstructure	W-Wide Flange	W8X15	9.01	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	6.66	1
B10	Superstructure	W-Wide Flange	W8X15	9.82	1
B10	Superstructure	W-Wide Flange	W8X15	6.67	1
B10	Superstructure	W-Wide Flange	W8X15	6.67	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	9	1
B10	Superstructure	W-Wide Flange	W8X15	9	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	8.97	1
B10	Superstructure	W-Wide Flange	W8X15	9.03	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	9	1
B10	Superstructure	W-Wide Flange	W8X15	9	1
B10	Superstructure	W-Wide Flange	W8X15	4.67	1
B10	Superstructure	W-Wide Flange	W8X15	6.67	1
B10	Superstructure	W-Wide Flange	W8X15	15.81	1
B10	Superstructure	W-Wide Flange	W8X15	16.67	1
W8X15: 40				390.29	40
B10	Superstructure	W-Wide Flange	W8X21	16.5	1
B10	Superstructure	W-Wide Flange	W8X21	16.58	1
B10	Superstructure	W-Wide Flange	W8X21	16.58	1
B10	Superstructure	W-Wide Flange	W8X21	16.58	1
B10	Superstructure	W-Wide Flange	W8X21	16.58	1
B10	Superstructure	W-Wide Flange	W8X21	16.5	1
B10	Superstructure	W-Wide Flange	W8X21	18	1
B10	Superstructure	W-Wide Flange	W8X21	18	1
B10	Superstructure	W-Wide Flange	W8X21	18	1
B10	Superstructure	W-Wide Flange	W8X21	12.67	1
W8X21: 10				166	10
B10	Superstructure	W-Wide Flange	W8X24	6.83	1
W8X24: 1				6.83	1
B10	Superstructure	W-Wide Flange	W8X31	12.7	1
B10	Superstructure	W-Wide Flange	W8X31	26.33	1
B10	Superstructure	W-Wide Flange	W8X31	26.33	1
B10	Superstructure	W-Wide Flange	W8X31	26.33	1
B10	Superstructure	W-Wide Flange	W8X31	26.33	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	37.26	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	37.26	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	37.26	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	37.26	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	37.26	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
B10	Superstructure	W-Wide Flange	W8X31	18.61	1
B10	Superstructure	W-Wide Flange	W8X31	37.4	1
B10	Superstructure	W-Wide Flange	W8X31	18.6	1
B10	Superstructure	W-Wide Flange	W8X31	3.58	1
W8X31: 51				1194.96	51
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	13.34	1
B10	Superstructure	W-Wide Flange	W12X14	88	1
B10	Superstructure	W-Wide Flange	W12X14	88	1
B10	Superstructure	W-Wide Flange	W12X14	13.34	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1

B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.5	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	6.01	1
B10	Superstructure	W-Wide Flange	W12X14	6.01	1
B10	Superstructure	W-Wide Flange	W12X14	6.01	1
B10	Superstructure	W-Wide Flange	W12X14	6.01	1
B10	Superstructure	W-Wide Flange	W12X14	6.01	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1

B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.5	1
B10	Superstructure	W-Wide Flange	W12X14	12.5	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	12.7	1
B10	Superstructure	W-Wide Flange	W12X14	16.68	1
B10	Superstructure	W-Wide Flange	W12X14	16.68	1
B10	Superstructure	W-Wide Flange	W12X14	16.68	1
B10	Superstructure	W-Wide Flange	W12X14	16.68	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	16.01	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	5.6	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	17	1
B10	Superstructure	W-Wide Flange	W12X14	17	1
B10	Superstructure	W-Wide Flange	W12X14	1.83	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1

B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	15.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	15.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.5	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	9	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	15.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.66	1
B10	Superstructure	W-Wide Flange	W12X14	16.66	1
B10	Superstructure	W-Wide Flange	W12X14	16.66	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	8.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	15.34	1
B10	Superstructure	W-Wide Flange	W12X14	10	1

B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	15.33	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	15.33	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	10.67	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	9.34	1
B10	Superstructure	W-Wide Flange	W12X14	9	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.5	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	10	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.33	1
B10	Superstructure	W-Wide Flange	W12X14	9.5	1
B10	Superstructure	W-Wide Flange	W12X14	12.67	1
B10	Superstructure	W-Wide Flange	W12X14	4.65	1
B10	Superstructure	W-Wide Flange	W12X14	4.67	1
B10	Superstructure	W-Wide Flange	W12X14	4.67	1
B10	Superstructure	W-Wide Flange	W12X14	4.68	1
B10	Superstructure	W-Wide Flange	W12X14	16.66	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	16.67	1
B10	Superstructure	W-Wide Flange	W12X14	17	1

W12X14: 295				3312.4	295
B10	Superstructure	W-Wide Flange	W12X16	12.66	1
B10	Superstructure	W-Wide Flange	W12X16	24.01	1
B10	Superstructure	W-Wide Flange	W12X16	15.34	1
B10	Superstructure	W-Wide Flange	W12X16	24.01	1
B10	Superstructure	W-Wide Flange	W12X16	24.01	1
B10	Superstructure	W-Wide Flange	W12X16	24	1
W12X16: 6				124.03	6
B10	Superstructure	W-Wide Flange	W12X19	15.33	1
B10	Superstructure	W-Wide Flange	W12X19	15.33	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	15.33	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	15.33	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	16.67	1
B10	Superstructure	W-Wide Flange	W12X19	17	1
B10	Superstructure	W-Wide Flange	W12X19	16.96	1
B10	Superstructure	W-Wide Flange	W12X19	17	1
B10	Superstructure	W-Wide Flange	W12X19	17.04	1
B10	Superstructure	W-Wide Flange	W12X19	17	1
W12X19: 15				246.34	15
B10	Superstructure	W-Wide Flange	W12X22	10.5	1
B10	Superstructure	W-Wide Flange	W12X22	8.67	1
B10	Superstructure	W-Wide Flange	W12X22	16

B10	Superstructure	W-Wide Flange	W16X31	18.34	1
B10	Superstructure	W-Wide Flange	W16X31	17.33	1
B10	Superstructure	W-Wide Flange	W16X31	17.33	1
B10	Superstructure	W-Wide Flange	W16X31	10	1
B10	Superstructure	W-Wide Flange	W16X31	15.34	1
B10	Superstructure	W-Wide Flange	W16X31	15.34	1
B10	Superstructure	W-Wide Flange	W16X31	27.99	1
B10	Superstructure	W-Wide Flange	W16X31	18.33	1
B10	Superstructure	W-Wide Flange	W16X31	18.33	1
B10	Superstructure	W-Wide Flange	W16X31	25.33	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	24	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	28	1
B10	Superstructure	W-Wide Flange	W16X31	24.33	1
B10	Superstructure	W-Wide Flange	W16X31	25.33	1
B10	Superstructure	W-Wide Flange	W16X31	25.33	1
B10	Superstructure	W-Wide Flange	W16X31	24.33	1
W16X31: 33				798.03	33
B10	Superstructure	W-Wide Flange	W16X36	13.34	1
B10	Superstructure	W-Wide Flange	W16X36	18	1
B10	Superstructure	W-Wide Flange	W16X36	18.02	1
B10	Superstructure	W-Wide Flange	W16X36	17.98	1
B10	Superstructure	W-Wide Flange	W16X36	13.33	1
B10	Superstructure	W-Wide Flange	W16X36	13.33	1
B10	Superstructure	W-Wide Flange	W16X36	18	1
B10	Superstructure	W-Wide Flange	W16X36	18	1
B10	Superstructure	W-Wide Flange	W16X36	18	1
B10	Superstructure	W-Wide Flange	W16X36	13.33	1
W16X36: 10				161.34	10
B10	Superstructure	W-Wide Flange	W18X35	13.33	1
B10	Superstructure	W-Wide Flange	W18X35	12	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	12.67	1
B10	Superstructure	W-Wide Flange	W18X35	12.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1

B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	24.67	1
B10	Superstructure	W-Wide Flange	W18X35	13.33	1
B10	Superstructure	W-Wide Flange	W18X35	12	1
B10	Superstructure	W-Wide Flange	W18X35	25.33	1
B10	Superstructure	W-Wide Flange	W18X35	24.34	1
B10	Superstructure	W-Wide Flange	W18X35	25.34	1
B10	Superstructure	W-Wide Flange	W18X35	25.34	1
B10	Superstructure	W-Wide Flange	W18X35	28.34	1
B10	Superstructure	W-Wide Flange	W18X35	24.34	1
B10	Superstructure	W-Wide Flange	W18X35	34	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	27.99	1
B10	Superstructure	W-Wide Flange	W18X35	31.99	1
B10	Superstructure	W-Wide Flange	W18X35	27.99	1
B10	Superstructure	W-Wide Flange	W18X35	31.99	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	28	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	28.01	1
B10	Superstructure	W-Wide Flange	W18X35	28.01	1
B10	Superstructure	W-Wide Flange	W18X35	28.01	1
B10	Superstructure	W-Wide Flange	W18X35	28.01	1
B10	Superstructure	W-Wide Flange	W18X35	32	1
B10	Superstructure	W-Wide Flange	W18X35	32.15	1
B10	Superstructure	W-Wide Flange	W18X35	32.15	1
B10	Superstructure	W-Wide Flange	W18X35	20.9	1
B10	Superstructure	W-Wide Flange	W18X35	19.39	1
B10	Superstructure	W-Wide Flange	W18X35	16.86	1
B10	Superstructure	W-Wide Flange	W18X35	26.58	1
B10	Superstructure	W-Wide Flange	W18X35	27.63	1
B10	Superstructure	W-Wide Flange	W18X35	27.87	1
B10	Superstructure	W-Wide Flange	W18X35	10.33	1
B10	Superstructure	W-Wide Flange	W18X35	2.33	1
B10	Superstructure	W-Wide Flange	W18X35	7	1
B10	Superstructure	W-Wide Flange	W18X35	7	1
W18X35: 67				1642.57	67
B10	Superstructure	W-Wide Flange	W18X40	32	1

B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	17.33	1
B10	Superstructure	W-Wide Flange	W24X55	17.33	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	32	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	32	1
B10	Superstructure	W-Wide Flange	W24X55	22.33	1
B10	Superstructure	W-Wide Flange	W24X55	18.33	1
B10	Superstructure	W-Wide Flange	W24X55	18.33	1
B10	Superstructure	W-Wide Flange	W24X55	22.33	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	15.33	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	24	1
B10	Superstructure	W-Wide Flange	W24X55	35.67	1
B10	Superstructure	W-Wide Flange	W24X55	35.67	1
B10	Superstructure	W-Wide Flange	W24X55	32	1
B10	Superstructure	W-Wide Flange	W24X55	25.33	1
B10	Superstructure	W-Wide Flange	W24X55	41.33	1
B10	Superstructure	W-Wide Flange	W24X55	37.33	1
B10	Superstructure	W-Wide Flange	W24X55	37.33	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	21.17	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	36.67	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	28	1
B10	Superstructure	W-Wide Flange	W24X55	36.67	1
B10	Superstructure	W-Wide Flange	W24X55	38.68	1
B10	Superstructure	W-Wide Flange	W24X55	38.68	1
B10	Superstructure	W-Wide Flange	W24X55	36.67	1
B10	Superstructure	W-Wide Flange	W24X55	26.32	1
B10	Superstructure	W-Wide Flange	W24X55	18.68	1
B10	Superstructure	W-Wide Flange	W24X55	26.32	1
B10	Superstructure	W-Wide Flange	W24X55	32.97	1
B10	Superstructure	W-Wide Flange	W24X55	18.74	1
B10	Superstructure	W-Wide Flange	W24X55	19.53	1
B10	Superstructure	W-Wide Flange	W24X55	2.77	1
B10	Superstructure	W-Wide Flange	W24X55	36.02	1
W24X55: 63				1591.21	63
B10	Superstructure	W-Wide Flange	W24X62	32	1
B10	Superstructure	W-Wide Flange	W24X62	37.33	1
B10	Superstructure	W-Wide Flange	W24X62	34.33	1
B10	Superstructure	W-Wide Flange	W24X62	36.67	1
B10	Superstructure	W-Wide Flange	W24X62	26.33	1
B10	Superstructure	W-Wide Flange	W24X62	18.67	1
B10	Superstructure	W-Wide Flange	W24X62	26.33	1
W24X62: 7				211.67	7
B10	Superstructure	W-Wide Flange	W24X76	36.67	1
W24X76: 1				36.67	1
B10	Superstructure	W-Wide Flange	W24X104	34.33	1
W24X104: 1				34.33	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	32	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	32	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	28	1
B10	Superstructure	W-Wide Flange	W27X84	32

S2.1 - Foundation Plan	Concrete-Rectangular-Column	24 x 24	2	1

S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.250	23.83	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.250	23.83	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.250	19.17	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.250	18.73	1
HSS8X8X.250: 159			3734.19	159
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.42	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.42	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.42	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.42	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.375	28.67	1
HSS8X8X.375: 11			316.33	11
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	19.17	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	20.71	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	19.17	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	20.99	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	30	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.500	29.33	1
HSS8X8X.500: 14			371.38	14
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	23.83	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	29.33	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	28.67	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS8X8X.3125	23.17	1
HSS8X8X.3125: 14			393	14
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS12X8X.625	25.59	1
S2.1 - Foundation Plan	HSS-Hollow Structural Section-Column	HSS12X8X.625	25.59	1
HSS12X8X.625: 2			51.18	2
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	14.94	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	14.94	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	14.94	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	14.94	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	14.94	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	16.27	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	16.27	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	16.27	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	16.27	1
S2.1 - Foundation Plan	W-Wide Flange-Column	W8X24	12	1
W8X24: 19			262.71	19

Floor Schedule

Type	Description	Area	Volume	Count	Estimated I	Perimeter
4" Slab on Grade						
4" Slab on Grade		6151.08	2050.36	1	18.98	326
4" Slab on Grade		842.94	280.98	1	2.73	118
4" Slab on Grade		843.43	281.14	1		118
4" Slab on Grade		842.86	280.95	1		118
4" Slab on Grade		843.35	281.12	1		118
4" Slab on Grade		7804.45	2601.48	1		707
4" Slab on Grade		2736.76	912.25	1		215
4" Slab on Grade		842.94	280.98	1		118
4" Slab on Grade		844.37	281.46	1		118
4" Slab on Grade		842.86	280.95	1		118
4" Slab on Grade		445.61	148.54	1		102
4" Slab on Grade		843.03	281.01	1		118
4" Slab on Grade		843.52	281.17	1		118
4" Slab on Grade		550.99	183.66	1		154
4" Slab on Grade		930.66	310.22	1		131
4" Slab on Grade		4.84	1.61	1		9
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		1122.25	374.08	1		137
4" Slab on Grade		2794.27	931.42	1		365
4" Slab on Grade		2488.08	829.36	1		218
4" Slab on Grade		1789.87	596.62	1		189
4" Slab on Grade		842.41	280.8	1		118
4" Slab on Grade		845.1	281.7	1		119
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		446.65	148.88	1		102
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		550.16	183.39	1		153
4" Slab on Grade		842.86	280.95	1		118
4" Slab on Grade		843.35	281.12	1		118
4" Slab on Grade		1122.73	374.24	1		137
4" Slab on Grade		4.43	1.48	1		11
4" Slab on Grade		3018.08	1006.03	1		226
4" Slab on Grade		4495.27	1498.42	1		306
4" Slab on Grade		160.3	53.43	1		53
4" Slab on Grade		1056.63	352.21	1		168
4" Slab on Grade		263.63	87.88	1		76
4" Slab on Grade		5214.06	1738.02	1		324
4" Slab on Grade		138.86	46.29	1		53
4" Slab on Grade		41.58	13.86	1		27
4" Slab on Grade		2871.74	957.25	1		319
4" Slab on Grade		248.89	82.96	1		64
4" Slab on Grade		231.71	77.24	1		82
4" Slab on Grade		88.83	29.61	1		44
4" Slab on Grade		21.3	7.1	1		19
4" Slab on Grade		694.97	231.66	1		139
4" Slab on Grade		2132.46	710.82	1		188
4" Slab on Grade		4.42	1.47	1		11
4" Slab on Grade		1395.24	465.08	1		150
4" Slab on Grade		454.55	151.52	1		98
4" Slab on Grade		1327.91	442.64	1		247
4" Slab on Grade		1502.44	500.81	1		272
4" Slab on Grade		4.43	1.48	1		11
4" Slab on Grade		1174.36	391.45	1		141
4" Slab on Grade		2147.15	715.72	1		209
4" Slab on Grade		853.79	284.6	1		116
4" Slab on Grade		2356.85	785.62	1		225
4" Slab on Grade: 58		72013.23	24004.41	58	21.71	8196
5" Slab on Grade						
5" Slab on Grade		1515.39	631.41	1		233
5" Slab on Grade		46.61	19.42	1		29
5" Slab on Grade		48.25	20.1	1		29
5" Slab on Grade		74.83	31.18	1		39
5" Slab on Grade: 4		1685.09	702.12	4	0	330
F1						
F1		4162.56	1387.52	1		270
F1		453.85	151.28	1		109
F1		1398.78	466.26	1		154
F1		4313.67	1437.89	1		410
F1		1902.04	634.01	1		232
F1		4163.32	1387.77	1		270
F1		909.32	303.11	1		122
F1		453.85	151.28	1		109
F1		161.43	53.81	1		53
F1		415.95	138.65	1		83
F1		161.46	53.82	1		53
F1		142.67	47.56	1		49
F1		367.54	122.51	1		79
F1		142.8	47.6	1		49
F1		748.33	249.44	1		174
F1		2859.11	953.04	1		220
F1		495.42	165.14	1		95
F1		755.76	251.92	1		153
F1		745.11	248.37	1		173
F1		304.44	101.48	1		85
F1		304.22	101.41	1		85
F1		783.11	261.04	1		115
F1: 22		26144.74	8714.91	22	0	3143

Structural Foundation Schedule

Area	Family	Foundation	Length	Volume	Type	Perimeter	Lev	Count	
73.85	Foundation Slab			73.85	1' Footer	51.33	S2.:	1	117.10
14.99	Foundation Slab			14.99	1' Footer	18.99	S2.:	1	23.77
6	Foundation Slab		2	6	1' Footer	10	S2.:	1	9.51
12.67	Foundation Slab			12.67	1' Footer	23.33	S2.:	1	20.09
1.33	Foundation Slab		0.67	1.33	1' Footer	5.33	S2.:	1	2.11
6.75	Foundation Slab			6.75	1' Footer	12	S2.:	1	10.70
23.77	Foundation Slab			23.77	1' Footer	29.02	S2.:	1	37.69
4.52	Foundation Slab		2	4.52	1' Footer	8.52	S2.:	1	7.17
3.14	Foundation Slab		1.57	3.14	1' Footer	7.14	S2.:	1	4.98
9.1	Foundation Slab			9.1	1' Footer	21.33	S2.:	1	14.43
9.1	Foundation Slab			9.1	1' Footer	21.33	S2.:	1	14.43
6.8	Foundation Slab			6.8	1' Footer	12.83	S2.:	1	10.78
6.8	Foundation Slab			6.8	1' Footer	12.83	S2.:	1	10.78
23.77	Foundation Slab			23.77	1' Footer	29.02	S2.:	1	37.69
3.33	Foundation Slab			3.33	1' Footer	14	S2.:	1	5.28
3.33	Foundation Slab			3.33	1' Footer	14	S2.:	1	5.28
9.75	Foundation Slab			9.75	1' Footer	19	S2.:	1	15.46
9.75	Foundation Slab			9.75	1' Footer	19	S2.:	1	15.46
90.28	Foundation Slab			90.28	1' Footer	50.67	S2.:	1	143.15
12.08	Foundation Slab			12.08	1' Footer	17.33	S2.:	1	19.15
3.83	Foundation Slab			3.83	1' Footer	10.5	S2.:	1	6.07
4.4	Foundation Slab		2.2	4.4	1' Footer	8.4	S2.:	1	6.98
2.27	Foundation Slab		1.13	2.27	1' Footer	6.27	S2.:	1	3.60
3.83	Foundation Slab			3.83	1' Footer	10.5	S2.:	1	6.07
8.08	Foundation Slab			8.08	1' Footer	16	S2.:	1	12.81
40	Foundation Slab		6	40	1' Footer	25.33	S2.:	1	63.42
4.71	Foundation Slab		6	4.71	1' Footer	13.57	S2.:	1	7.47
3.29	Foundation Slab		0.55	3.29	1' Footer	13.1	S2.:	1	5.22
21.23	Foundation Slab			21.23	1' Footer	28.33	S2.:	1	33.66
4.67	Foundation Slab		2	4.67	1' Footer	8.67	S2.:	1	7.40
10	Foundation Slab		3.33	10	1' Footer	12.67	S2.:	1	15.86
2.57	Foundation Slab		1.28	2.57	1' Footer	6.57	S2.:	1	4.07
3.43	Foundation Slab		2	3.43	1' Footer	7.43	S2.:	1	5.44
1.33	Foundation Slab		2	1.33	1' Footer	5.33	S2.:	1	2.11
12.67	Foundation Slab		2	12.67	1' Footer	16.67	S2.:	1	20.09
1.33	Foundation Slab			1.33	1' Footer	5.33	S2.:	1	2.11
1.33	Foundation Slab		0.67	1.33	1' Footer	5.33	S2.:	1	2.11
1.33	Foundation Slab		0.67	1.33	1' Footer	5.33	S2.:	1	2.11
6.67	Foundation Slab			6.67	1' Footer	10.67	S2.:	1	10.58
7.67	Foundation Slab		2	7.67	1' Footer	11.67	S2.:	1	12.16
7.67	Foundation Slab		3.83	7.67	1' Footer	11.67	S2.:	1	12.16
6.67	Foundation Slab		2	6.67	1' Footer	10.67	S2.:	1	10.58
11.75	Foundation Slab			11.75	1' Footer	17	S2.:	1	18.63
13	Foundation Slab		2	13	1' Footer	17	S2.:	1	20.61
11.36	Foundation Slab			11.36	1' Footer	16.33	S2.:	1	18.01
12.67	Foundation Slab		6.33	12.67	1' Footer	16.67	S2.:	1	20.09
3.15	Foundation Slab		2	3.15	1' Footer	7.15	S2.:	1	4.99
3.52	Foundation Slab		1.76	3.52	1' Footer	7.52	S2.:	1	5.58
2.03	Foundation Slab		0.76	2.03	1' Footer	6.86	S2.:	1	3.22
5.97	Foundation Slab		2.24	5.97	1' Footer	9.81	S2.:	1	9.47
13.33	Foundation Slab			13.33	1' Footer	15.33	S2.:	1	21.14
1.33	Foundation Slab		0.67	1.33	1' Footer	5.33	S2.:	1	2.11
13.42	Foundation Slab		2.33	13.42	1' Footer	16.17	S2.:	1	21.28
7.78	Foundation Slab		2.33	7.78	1' Footer	11.33	S2.:	1	12.34
14.1	Foundation Slab			14.1	1' Footer	20	S2.:	1	22.36
20	Foundation Slab		6	20	1' Footer	18.67	S2.:	1	31.71
1.31	Foundation Slab		1.97	1.31	1' Footer	5.27	S2.:	1	2.08
4	Foundation Slab		2	4	1' Footer	8	S2.:	1	6.34
3.5	Foundation Slab		1.75	3.5	1' Footer	7.5	S2.:	1	5.55
1.31	Foundation Slab		1.97	1.31	1' Footer	5.27	S2.:	1	2.08
1.33	Foundation Slab		2	1.33	1' Footer	5.33	S2.:	1	2.11
3.5	Foundation Slab		1.75	3.5	1' Footer	7.5	S2.:	1	5.55
5.33	Foundation Slab			5.33	1' Footer	12	S2.:	1	8.45
5.94	Foundation Slab			5.94	1' Footer	17.5	S2.:	1	9.42
5.94	Foundation Slab			5.94	1' Footer	17.5	S2.:	1	9.42
3.33	Foundation Slab			3.33	1' Footer	14	S2.:	1	5.28
3.33	Foundation Slab			3.33	1' Footer	14	S2.:	1	5.28
4.06	Foundation Slab		2.03	4.06	1' Footer	8.06	S2.:	1	6.44
3.61	Foundation Slab		1.8	3.61	1' Footer	7.61	S2.:	1	5.72
9.78	Foundation Slab		3.67	9.78	1' Footer	12.67	S2.:	1	15.51
6.25	Foundation Slab		2.5	6.25	1' Footer	10	S2.:	1	9.91
0.11	Foundation Slab		0.33	0.11	1' Footer	1.33	S2.:	1	0.17
686.2		0' - 0"	92.1	686.16		985.74		72	1087.98
20	Footing-Rectangular		2	16	24" x 24" x 48"		S2.:	1	31.71
20		0' - 0"	2	16		0		1	
									approx reba
	Wall Foundation	1' - 0"	3.67	4.02	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	13	26	Bearing Footing - 24" x 12"			1	51.53
	Wall Foundation	1' - 0"	5.32	12	Bearing Footing - 24" x 12"			1	21.09
	Wall Foundation	1' - 0"	2	4	Bearing Footing - 24" x 12"			1	7.93
	Wall Foundation	1' - 0"	5.36	1.33	Bearing Footing - 24" x 12"			1	21.25
	Wall Foundation	1' - 0"	0.68	4	Bearing Footing - 24" x 12"			1	2.70
	Wall Foundation	1' - 0"	26	46.67	Bearing Footing - 24" x 12"			1	103.06
	Wall Foundation	1' - 0"	1.65		Bearing Footing - 24" x 12"			1	6.54
	Wall Foundation	1' - 0"	5.5	5.63	Bearing Footing - 24" x 12"			1	21.80
	Wall Foundation	1' - 0"	15.87	34.37	Bearing Footing - 24" x 12"			1	62.91
	Wall Foundation	1' - 0"	3.32	4	Bearing Footing - 24" x 12"			1	13.16
	Wall Foundation	1' - 0"	0.35		Bearing Footing - 24" x 12"			1	1.39
	Wall Foundation	1' - 0"	26	46.17	Bearing Footing - 24" x 12"			1	103.06
	Wall Foundation	1' - 0"	1.67		Bearing Footing - 24" x 12"			1	6.62
	Wall Foundation	1' - 0"	3.67	4	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	3.67	4	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	3.67	4.02	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	13	26	Bearing Footing - 24" x 12"			1	51.53
	Wall Foundation	1' - 0"	4.68	12	Bearing Footing - 24" x 12"			1	18.55
	Wall Foundation	1' - 0"	1.32		Bearing Footing - 24" x 12"			1	5.23
	Wall Foundation	1' - 0"	2	4	Bearing Footing - 24" x 12"			1	7.93
	Wall Foundation	1' - 0"	0.33		Bearing Footing - 24" x 12"			1	1.31
	Wall Foundation	1' - 0"	26	46.67	Bearing Footing - 24" x 12"			1	103.06
	Wall Foundation	1' - 0"	3.67	4	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	1.65		Bearing Footing - 24" x 12"			1	6.54
	Wall Foundation	1' - 0"	16.68	28	Bearing Footing - 24" x 12"			1	66.12
	Wall Foundation	1' - 0"	5.32	12	Bearing Footing - 24" x 12"			1	21.09
	Wall Foundation	1' - 0"	2.68	4	Bearing Footing - 24" x 12"			1	10.62
	Wall Foundation	1' - 0"	0.35		Bearing Footing - 24" x 12"			1	1.39
	Wall Foundation	1' - 0"	26	46.17	Bearing Footing - 24" x 12"			1	103.06
	Wall Foundation	1' - 0"	3.67	4	Bearing Footing - 24" x 12"			1	14.55
	Wall Foundation	1' - 0"	4.67	4	Bearing Footing - 24" x 12"			1	18.51
	Wall Foundation	1' - 0"	3.33	2.83	Bearing Footing - 24" x 12"			1	13.20
	Wall Foundation	1' - 0"	3.33	2.33	Bearing Footing - 24" x 12"			1	13.20
	Wall Foundation	1' - 0"	10	15.67	Bearing Footing - 24" x 12"			1	39.64
	Wall Foundation	1' - 0"	10.17	16	Bearing Footing - 24" x 12"			1	40.31
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	10.67	12	Bearing Footing - 24" x 12"			1	42.30
	Wall Foundation	1' - 0"	9.83	13.33	Bearing Footing - 24" x 12"			1	38.97
	Wall Foundation	1' - 0"	18.67	31	Bearing Footing - 24" x 12"			1	74.01
	Wall Foundation	1' - 0"	3.32	8	Bearing Footing - 24" x 12"			1	13.16
	Wall Foundation	1' - 0"	2.68	4	Bearing Footing - 24" x 12"			1	10.62
	Wall Foundation	1' - 0"	4.85	4.04	Bearing Footing - 24" x 12"			1	19.23
	Wall Foundation	1' - 0"	10.5	16.63	Bearing Footing - 24" x 12"			1	41.62
	Wall Foundation	1' - 0"	16	23.33	Bearing Footing - 24" x 12"			1	63.42
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	15.32	24.81	Bearing Footing - 24" x 12"			1	60.73
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	15.32	24.81	Bearing Footing - 24" x 12"			1	60.73
	Wall Foundation	1' - 0"	26.67	47.5	Bearing Footing - 24" x 12"			1	105.72
	Wall Foundation	1' - 0"	4.67	4	Bearing Footing - 24" x 12"			1	18.51
	Wall Foundation	1' - 0"	17.57	29.25	Bearing Footing - 24" x 12"			1	69.65
	Wall Foundation	1' - 0"	13.79	22.25	Bearing Footing - 24" x 12"			1	54.66
	Wall Foundation	1' - 0"	6.93	13.86	Bearing Footing - 24" x 12"			1	27.47
	Wall Foundation	1' - 0"	6.93	13.86	Bearing Footing - 24" x 12"			1	27.47
	Wall Foundation	1' - 0"	15.39	24	Bearing Footing - 24" x 12"			1	61.01
	Wall Foundation	1' - 0"	9.75	19.51	Bearing Footing - 24" x 12"			1	38.65
	Wall Foundation	1' - 0"	5.33	4.49	Bearing Footing - 24" x 12"			1	21.13
	Wall Foundation	1' - 0"	1.18		Bearing Footing - 24" x 12"			1	4.68
	Wall Foundation	1' - 0"	24.49	44.11	Bearing Footing - 24" x 12"			1	97.08
	Wall Foundation	1' - 0"	3.53	2.39	Bearing Footing - 24" x 12"			1	13.99
	Wall Foundation	1' - 0"	12.05	19.77	Bearing Footing - 24" x 12"			1	47.77
	Wall Foundation	1' - 0"	3.95	3.57	Bearing Footing - 24" x 12"			1	15.66
	Wall Foundation	1' - 0"	6.17	8	Bearing Footing - 24" x 12"			1	24.46
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	4.5	4.67	Bearing Footing - 24" x 12"			1	17.84
	Wall Foundation	1' - 0"	11.33	12	Bearing Footing - 24" x 12"			1	44.91
	Wall Foundation	1' - 0"	12.67	15.67	Bearing Footing - 24" x 12"			1	50.22
	Wall Foundation	1' - 0"	24	37.33	Bearing Footing - 24" x 12"			1	95.14
	Wall Foundation	1' - 0"	3.33	2.33	Bearing Footing - 24" x 12"			1	13.20
	Wall Foundation	1' - 0"	3.33	2.83	Bearing Footing - 24" x 12"			1	13.20
	Wall Foundation	1' - 0"	10.5	16.67	Bearing Footing - 24" x 12"			1	41.62
	Wall Foundation	1' - 0"	16	23.33	Bearing Footing - 24" x 12"			1	63.42
	Wall Foundation	1' - 0"	3.5	4	Bearing Footing - 24" x 12"			1	13.87
	Wall Foundation	1' - 0"	2.68	8	Bearing Footing - 24" x 12"			1	10.62
	Wall Foundation	1' - 0"	7.32	12	Bearing Footing - 24" x 12"			1	29.02
	Wall Foundation	1' - 0"	14.67	23.5	Bearing Footing - 24" x 12"			1	58.15
	Wall Foundation	1' - 0"	26.67	47.5	Bearing Footing - 24" x 12"			1	105.72
	Wall Foundation	1' - 0"	2.68	8	Bearing Footing - 24" x 12"			1	10.62
	Wall Foundation	1' - 0"	7.33	12	Bearing Footing - 24" x 12"			1	29.06
	Wall Foundation	1' - 0"	15.64	24.5	Bearing Footing - 24" x 12"			1	62.00
	Wall Foundation	1' - 0"	8.25	16.5	Bearing Footing - 24" x 12"			1	32.70
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	6.68	16	Bearing Footing - 24" x 12"			1	26.48
	Wall Foundation	1' - 0"	3.32	4	Bearing Footing - 24" x 12"			1	13.16
	Wall Foundation	1' - 0"	9.54	13.25	Bearing Footing - 24" x 12"			1	37.82
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	5.12	6.25	Bearing Footing - 24" x 12"			1	20.30
	Wall Foundation	1' - 0"	5.5	8	Bearing Footing - 24" x 12"			1	21.80
	Wall Foundation	1' - 0"	3.98	7.96	Bearing Footing - 24" x 12"			1	15.78
	Wall Foundation	1' - 0"	5.18	7.37	Bearing Footing - 24" x 12"			1	20.53
	Wall Foundation	1' - 0"	5.5	8	Bearing Footing - 24" x 12"			1	21.80
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	3.83	4.67	Bearing Footing - 24" x 12"			1	15.18
	Wall Foundation	1' - 0"	2.68	8	Bearing Footing - 24" x 12"			1	10.62
	Wall Foundation	1' - 0"	7.32	12	Bearing Footing - 24" x 12"			1	29.02
	Wall Foundation	1' - 0"	14.67	23.5	Bearing Footing - 24" x 12"			1	58.15
	Wall Foundation	1' - 0"	6.67	8	Bearing Footing - 24" x 12"			1	26.44
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	16.5	33	Bearing Footing - 24" x 12"			1	65.41
	Wall Foundation	1' - 0"	4.19	3.5	Bearing Footing - 24" x 12"			1	16.61
	Wall Foundation	1' - 0"	10.41	16.48	Bearing Footing - 24" x 12"			1	41.27
	Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"			1	15.86
	Wall Foundation	1' - 0"	3.26	2.18	Bearing Footing - 24" x 12"			1	12.92
	Wall Foundation	1' - 0"	3.54	2.76	Bearing Footing - 24" x 12"			1	14.03

Wall Foundation	1' - 0"	10	20	Bearing Footing - 24" x 12"		1	39.64
Wall Foundation	1' - 0"	4.12	3.91	Bearing Footing - 24" x 12"		1	16.33
Wall Foundation	1' - 0"	5.67	6	Bearing Footing - 24" x 12"		1	22.48
Wall Foundation	1' - 0"	3.02	8.67	Bearing Footing - 24" x 12"		1	11.97
Wall Foundation	1' - 0"	6.67	8	Bearing Footing - 24" x 12"		1	26.44
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86
Wall Foundation	1' - 0"	11.75	23.5	Bearing Footing - 24" x 12"		1	46.58
Wall Foundation	1' - 0"	7.73	16.83	Bearing Footing - 24" x 12"		1	30.64
Wall Foundation	1' - 0"	2.68	4	Bearing Footing - 24" x 12"		1	10.62
Wall Foundation	1' - 0"	17.67	23.67	Bearing Footing - 24" x 12"		1	70.04
Wall Foundation	1' - 0"	12	14.33	Bearing Footing - 24" x 12"		1	47.57
Wall Foundation	1' - 0"	5.17	5.5	Bearing Footing - 24" x 12"		1	20.49
Wall Foundation	1' - 0"	4.83	9.67	Bearing Footing - 24" x 12"		1	19.15
Wall Foundation	1' - 0"	4.33	1.83	Bearing Footing - 24" x 12"		1	17.16
Wall Foundation	1' - 0"	3.32	8	Bearing Footing - 24" x 12"		1	13.16
Wall Foundation	1' - 0"	10.02	12.83	Bearing Footing - 24" x 12"		1	39.72
Wall Foundation	1' - 0"	14.67	23.5	Bearing Footing - 24" x 12"		1	58.15
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86
Wall Foundation	1' - 0"	6.67	8	Bearing Footing - 24" x 12"		1	26.44
Wall Foundation	1' - 0"	6.33	7.33	Bearing Footing - 24" x 12"		1	25.09
Wall Foundation	1' - 0"	2.35	7.33	Bearing Footing - 24" x 12"		1	9.32
Wall Foundation	1' - 0"	2	4	Bearing Footing - 24" x 12"		1	7.93
Wall Foundation	1' - 0"	1.32	4	Bearing Footing - 24" x 12"		1	5.23
Wall Foundation	1' - 0"	1.32	4	Bearing Footing - 24" x 12"		1	5.23
Wall Foundation	1' - 0"	4.17	3	Bearing Footing - 24" x 12"		1	16.53
Wall Foundation	1' - 0"	17.5	29.67	Bearing Footing - 24" x 12"		1	69.37
Wall Foundation	1' - 0"	17.63	29.92	Bearing Footing - 24" x 12"		1	69.89
Wall Foundation	1' - 0"	4.04	2.74	Bearing Footing - 24" x 12"		1	16.01
Wall Foundation	1' - 0"	40.67	73	Bearing Footing - 24" x 12"		1	161.22
Wall Foundation	1' - 0"	14.67	22.34	Bearing Footing - 24" x 12"		1	58.15
Wall Foundation	1' - 0"	9	16	Bearing Footing - 24" x 12"		1	35.68
Wall Foundation	1' - 0"	2.33	1.33	Bearing Footing - 24" x 12"		1	9.24
Wall Foundation	1' - 0"	2.33	1.33	Bearing Footing - 24" x 12"		1	9.24
Wall Foundation	1' - 0"	6.48	12.96	Bearing Footing - 24" x 12"		1	25.69
Wall Foundation	1' - 0"	2.68	8	Bearing Footing - 24" x 12"		1	10.62
Wall Foundation	1' - 0"	3.84	5.04	Bearing Footing - 24" x 12"		1	15.22
Wall Foundation	1' - 0"	14.69	26	Bearing Footing - 24" x 12"		1	58.23
Wall Foundation	1' - 0"	1.91	2.49	Bearing Footing - 24" x 12"		1	7.57
Wall Foundation	1' - 0"	5.34	10.69	Bearing Footing - 24" x 12"		1	21.17
Wall Foundation	1' - 0"	2.76	8.16	Bearing Footing - 24" x 12"		1	10.94
Wall Foundation	1' - 0"	7.32	12	Bearing Footing - 24" x 12"		1	29.02
Wall Foundation	1' - 0"	0.95	1.9	Bearing Footing - 24" x 12"		1	3.77
Wall Foundation	1' - 0"	2.37	6.1	Bearing Footing - 24" x 12"		1	9.39
Wall Foundation	1' - 0"	6.35	11.33	Bearing Footing - 24" x 12"		1	25.17
Wall Foundation	1' - 0"	8.06	16.12	Bearing Footing - 24" x 12"		1	31.95
Wall Foundation	1' - 0"	2.94	2.55	Bearing Footing - 24" x 12"		1	11.65
Wall Foundation	1' - 0"	8	11.33	Bearing Footing - 24" x 12"		1	31.71

Wall Foundation	1' - 0"	12.02	19.67	Bearing Footing - 24" x 12"		1	47.65
Wall Foundation	1' - 0"	7.32	12.67	Bearing Footing - 24" x 12"		1	29.02
Wall Foundation	1' - 0"	6	12	Bearing Footing - 24" x 12"		1	23.78
Wall Foundation	1' - 0"	14.67	29.33	Bearing Footing - 24" x 12"		1	58.15
Wall Foundation	1' - 0"	11	22	Bearing Footing - 24" x 12"		1	43.60
Wall Foundation	1' - 0"	12.02	24.05	Bearing Footing - 24" x 12"		1	47.65
Wall Foundation	1' - 0"	21.35	38	Bearing Footing - 24" x 12"		1	84.63
Wall Foundation	1' - 0"	16.33	26	Bearing Footing - 24" x 12"		1	64.73
Wall Foundation	1' - 0"	16.33	32.33	Bearing Footing - 24" x 12"		1	64.73
Wall Foundation	1' - 0"	2.67	5.33	Bearing Footing - 24" x 12"		1	10.58
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86
Wall Foundation	1' - 0"	1.68	2	Bearing Footing - 24" x 12"		1	6.66
Wall Foundation	1' - 0"	3.67	3.5	Bearing Footing - 24" x 12"		1	14.55
Wall Foundation	1' - 0"	18.02	28.33	Bearing Footing - 24" x 12"		1	71.43
Wall Foundation	1' - 0"	4.67	5.5	Bearing Footing - 24" x 12"		1	18.51
Wall Foundation	1' - 0"	5.32	12	Bearing Footing - 24" x 12"		1	21.09
Wall Foundation	1' - 0"	2.03	5.33	Bearing Footing - 24" x 12"		1	8.05
Wall Foundation	1' - 0"	1.32	4	Bearing Footing - 24" x 12"		1	5.23
Wall Foundation	1' - 0"	1.33	2.67	Bearing Footing - 24" x 12"		1	5.27
Wall Foundation	1' - 0"	0.67	0.78	Bearing Footing - 24" x 12"		1	2.66
Wall Foundation	1' - 0"	7.67	11.56	Bearing Footing - 24" x 12"		1	30.40
Wall Foundation	1' - 0"	8.67	17.33	Bearing Footing - 24" x 12"		1	34.37
Wall Foundation	1' - 0"	11.67	23.33	Bearing Footing - 24" x 12"		1	46.26
Wall Foundation	1' - 0"	2.68	4.33	Bearing Footing - 24" x 12"		1	10.62
Wall Foundation	1' - 0"	1.15	3.67	Bearing Footing - 24" x 12"		1	4.56
Wall Foundation	1' - 0"	1.7	3.59	Bearing Footing - 24" x 12"		1	6.74
Wall Foundation	1' - 0"	3.09	2.84	Bearing Footing - 24" x 12"		1	12.25
Wall Foundation	1' - 0"	24.26	43.66	Bearing Footing - 24" x 12"		1	96.17
Wall Foundation	1' - 0"	5.5	8	Bearing Footing - 24" x 12"		1	21.80
Wall Foundation	1' - 0"	3.5	7	Bearing Footing - 24" x 12"		1	13.87
Wall Foundation	1' - 0"	7.91	15.81	Bearing Footing - 24" x 12"		1	31.36
Wall Foundation	1' - 0"	2.43	4.85	Bearing Footing - 24" x 12"		1	9.63
Wall Foundation	1' - 0"	2.24	4.48	Bearing Footing - 24" x 12"		1	8.88
Wall Foundation	1' - 0"	4.09	4.36	Bearing Footing - 24" x 12"		1	16.21
Wall Foundation	1' - 0"	1.43	6.17	Bearing Footing - 24" x 12"		1	5.67
Wall Foundation	1' - 0"	3.36	8.48	Bearing Footing - 24" x 12"		1	13.32
Wall Foundation	1' - 0"	27.33	45.67	Bearing Footing - 24" x 12"		1	108.34
Wall Foundation	1' - 0"	22	42.67	Bearing Footing - 24" x 12"		1	87.21
Wall Foundation	1' - 0"	10.07	17.5	Bearing Footing - 24" x 12"		1	39.92
Wall Foundation	1' - 0"	8.33	12.33	Bearing Footing - 24" x 12"		1	33.02
Wall Foundation	1' - 0"	4.17	4	Bearing Footing - 24" x 12"		1	16.53
Wall Foundation	1' - 0"	2.08	4.17	Bearing Footing - 24" x 12"		1	8.25
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86
Wall Foundation	1' - 0"	3.25	4	Bearing Footing - 24" x 12"		1	12.88
Wall Foundation	1' - 0"	2.67	1	Bearing Footing - 24" x 12"		1	10.58
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86
Wall Foundation	1' - 0"	4	8	Bearing Footing - 24" x 12"		1	15.86

Wall Foundation	1' - 0"	16.5	33	Bearing Footing - 24" x 12"		1	65.41
Wall Foundation	1' - 0"	4.17	3.5	Bearing Footing - 24" x 12"		1	16.53
0	204' - 0"	1570.04	2607.85		0	##	6223.64
Wall Foundation	1' - 0"	15.01	28.08	Bearing Footing - 26" x 12"		1	59.50
Wall Foundation	1' - 0"	14.67	27.53	Bearing Footing - 26" x 12"		1	58.15
Wall Foundation	1' - 0"	5.8	6.14	Bearing Footing - 26" x 12"		1	22.99
0	3' - 0"	35.48	61.75		0	3	140.64
Wall Foundation	1' - 0"	16.67	33.64	Bearing Footing - 28" x 12"		1	66.08
Wall Foundation	1' - 0"	17.35	35.39	Bearing Footing - 28" x 12"		1	68.78
Wall Foundation	1' - 0"	2.67	1.75	Bearing Footing - 28" x 12"		1	10.58
Wall Foundation	1' - 0"	2.21	5.16	Bearing Footing - 28" x 12"		1	8.76
Wall Foundation	1' - 0"	4.13	5.15	Bearing Footing - 28" x 12"		1	16.37
Wall Foundation	1' - 0"	17.35	32.67	Bearing Footing - 28" x 12"		1	68.78
Wall Foundation	1' - 0"	4.02	1.56	Bearing Footing - 28" x 12"		1	15.94
Wall Foundation	1' - 0"	17.33	32.67	Bearing Footing - 28" x 12"		1	68.70
Wall Foundation	1' - 0"	4	1.56	Bearing Footing - 28" x 12"		1	15.86
Wall Foundation	1' - 0"	4.35	9.33	Bearing Footing - 28" x 12"		1	17.24
Wall Foundation	1' - 0"	4.02	1.56	Bearing Footing - 28" x 12"		1	15.94
Wall Foundation	1' - 0"	17.35	32.67	Bearing Footing - 28" x 12"		1	68.78
Wall Foundation	1' - 0"	4.02	1.56	Bearing Footing - 28" x 12"		1	15.94
Wall Foundation	1' - 0"	5.02	7.78	Bearing Footing - 28" x 12"		1	19.90
Wall Foundation	1' - 0"	5.02	7.97	Bearing Footing - 28" x 12"		1	19.90
Wall Foundation	1' - 0"	24.35	51.72	Bearing Footing - 28" x 12"		1	96.52
Wall Foundation	1' - 0"	23.42	49.58	Bearing Footing - 28" x 12"		1	92.84
Wall Foundation	1' - 0"	4	9.33	Bearing Footing - 28" x 12"		1	15.86
Wall Foundation	1' - 0"	5.25	9.33	Bearing Footing - 28" x 12"		1	20.81
0	19' - 0"	182.53	330.36		0	19	723.55
							0.00
Wall Foundation	1' - 0"	14.67	31.67	Bearing Footing - 30" x 12"		1	58.15
0	1' - 0"	14.67	31.67		0	1	58.15
Wall Foundation	1' - 0"	24	54.44	Bearing Footing - 32" x 12"		1	95.14
Wall Foundation	1' - 0"	12.67	24.89	Bearing Footing - 32" x 12"		1	50.22
Wall Foundation	1' - 0"	7.55	17.46	Bearing Footing - 32" x 12"		1	29.93
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4.45	4.98	Bearing Footing - 32" x 12"		1	17.64
Wall Foundation	1' - 0"	11.33	24.89	Bearing Footing - 32" x 12"		1	44.91
Wall Foundation	1' - 0"	27.33	64	Bearing Footing - 32" x 12"		1	108.34
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	10.67	21.78	Bearing Footing - 32" x 12"		1	42.30
Wall Foundation	1' - 0"	28.33	69.56	Bearing Footing - 32" x 12"		1	112.30
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06

Wall Foundation	1' - 0"	28.35	69.56	Bearing Footing - 32" x 12"		1	112.38
Wall Foundation	1' - 0"	26	62.67	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	16	31.78	Bearing Footing - 32" x 12"		1	63.42
Wall Foundation	1' - 0"	26	60	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	26	61.33	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	11.33	23.11	Bearing Footing - 32" x 12"		1	44.91
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	7.33	14.22	Bearing Footing - 32" x 12"		1	29.06
Wall Foundation	1' - 0"	11.02	21.11	Bearing Footing - 32" x 12"		1	43.68
Wall Foundation	1' - 0"	9.56	19.01	Bearing Footing - 32" x 12"		1	37.90
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	5.12	13.66	Bearing Footing - 32" x 12"		1	20.30
Wall Foundation	1' - 0"	5.12	13.66	Bearing Footing - 32" x 12"		1	20.30
Wall Foundation	1' - 0"	20.88	50.34	Bearing Footing - 32" x 12"		1	82.77
Wall Foundation	1' - 0"	26	60	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	16	31.78	Bearing Footing - 32" x 12"		1	63.42
Wall Foundation	1' - 0"	26	61.33	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	13.33	25.56	Bearing Footing - 32" x 12"		1	52.84
Wall Foundation	1' - 0"	35	79.55	Bearing Footing - 32" x 12"		1	138.74
Wall Foundation	1' - 0"	7.33	12	Bearing Footing - 32" x 12"		1	29.06
Wall Foundation	1' - 0"	26.67	62.22	Bearing Footing - 32" x 12"		1	105.72
Wall Foundation	1' - 0"	4.5	9.33	Bearing Footing - 32" x 12"		1	17.84
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	13.5	33.34	Bearing Footing - 32" x 12"		1	53.51
Wall Foundation	1' - 0"	23.33	56.89	Bearing Footing - 32" x 12"		1	92.48
Wall Foundation	1' - 0"	8	9.78	Bearing Footing - 32" x 12"		1	31.71
Wall Foundation	1' - 0"	21.92	55.79	Bearing Footing - 32" x 12"		1	86.89
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.66	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	2.41	3.1	Bearing Footing - 32" x 12"		1	9.55
Wall Foundation	1' - 0"	36.33	86.44	Bearing Footing - 32" x 12"		1	144.01
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	14.7	36.51	Bearing Footing - 32" x 12"		1	58.27
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	5.96	15.91	Bearing Footing - 32" x 12"		1	23.63
Wall Foundation	1' - 0"	4.04	8.07	Bearing Footing - 32" x 12"		1	16.01
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	18.31	38.16	Bearing Footing - 32" x 12"		1	72.58

Wall Foundation	1' - 0"	4.61	12.3	Bearing Footing - 32" x 12"		1	18.27
Wall Foundation	1' - 0"	5	13.33	Bearing Footing - 32" x 12"		1	19.82
Wall Foundation	1' - 0"	10	26.67	Bearing Footing - 32" x 12"		1	39.64
Wall Foundation	1' - 0"	3.39	6.34	Bearing Footing - 32" x 12"		1	13.44
Wall Foundation	1' - 0"	26	66.67	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	5	10.67	Bearing Footing - 32" x 12"		1	19.82
Wall Foundation	1' - 0"	15.14	35.11	Bearing Footing - 32" x 12"		1	60.01
Wall Foundation	1' - 0"	6.17	7.56	Bearing Footing - 32" x 12"		1	24.46
Wall Foundation	1' - 0"	15	34.56	Bearing Footing - 32" x 12"		1	59.46
Wall Foundation	1' - 0"	14.68	33.89	Bearing Footing - 32" x 12"		1	58.19
Wall Foundation	1' - 0"	7.23	16.61	Bearing Footing - 32" x 12"		1	28.66
Wall Foundation	1' - 0"	10.53	28.08	Bearing Footing - 32" x 12"		1	41.74
Wall Foundation	1' - 0"	12.93	34.48	Bearing Footing - 32" x 12"		1	51.25
Wall Foundation	1' - 0"	3.98	7.28	Bearing Footing - 32" x 12"		1	15.78
Wall Foundation	1' - 0"	7.68	10.02	Bearing Footing - 32" x 12"		1	30.44
Wall Foundation	1' - 0"	8.11	18.97	Bearing Footing - 32" x 12"		1	32.15
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4.55	9.48	Bearing Footing - 32" x 12"		1	18.04
Wall Foundation	1' - 0"	6	13.36	Bearing Footing - 32" x 12"		1	23.78
Wall Foundation	1' - 0"	11.39	27.71	Bearing Footing - 32" x 12"		1	45.15
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	11.94	29.18	Bearing Footing - 32" x 12"		1	47.33
Wall Foundation	1' - 0"	8.67	17.78	Bearing Footing - 32" x 12"		1	34.37
Wall Foundation	1' - 0"	14.67	33.78	Bearing Footing - 32" x 12"		1	58.15
Wall Foundation	1' - 0"	15	31.11	Bearing Footing - 32" x 12"		1	59.46
Wall Foundation	1' - 0"	33.67	79.56	Bearing Footing - 32" x 12"		1	133.47
Wall Foundation	1' - 0"	2	2	Bearing Footing - 32" x 12"		1	7.93
Wall Foundation	1' - 0"	14.67	25.56	Bearing Footing - 32" x 12"		1	58.15
Wall Foundation	1' - 0"	26	61.33	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	14.67	31.78	Bearing Footing - 32" x 12"		1	58.15
Wall Foundation	1' - 0"	27.33	60	Bearing Footing - 32" x 12"		1	108.34
Wall Foundation	1' - 0"	26	60.67	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	30.68	72	Bearing Footing - 32" x 12"		1	121.62
Wall Foundation	1' - 0"	11.33	21.11	Bearing Footing - 32" x 12"		1	44.91
Wall Foundation	1' - 0"	7.33	14.22	Bearing Footing - 32" x 12"		1	29.06
Wall Foundation	1' - 0"	26	64	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	11.03	23.11	Bearing Footing - 32" x 12"		1	43.72
Wall Foundation	1' - 0"	2.67		Bearing Footing - 32" x 12"		1	10.58
Wall Foundation	1' - 0"	26	61.33	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	26	62.67	Bearing Footing - 32" x 12"		1	103.06
Wall Foundation	1' - 0"	5.16	7.99	Bearing Footing - 32" x 12"		1	20.45
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	5.25	10.67	Bearing Footing - 32" x 12"		1	20.81
Wall Foundation	1' - 0"	20.75	52	Bearing Footing - 32" x 12"		1	82.25
Wall Foundation	1' - 0"	8.5	17.56	Bearing Footing - 32" x 12"		1	33.69

Wall Foundation	1' - 0"	37.7	96.89	Bearing Footing - 32" x 12"		1	149.44
Wall Foundation	1' - 0"	3.09	3.14	Bearing Footing - 32" x 12"		1	12.25
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	4	10.67	Bearing Footing - 32" x 12"		1	15.86
Wall Foundation	1' - 0"	3.24	8.64	Bearing Footing - 32" x 12"		1	12.84
Wall Foundation	1' - 0"	5	8.22	Bearing Footing - 32" x 12"		1	19.82
Wall Foundation	1' - 0"	14.83	39.56	Bearing Footing - 32" x 12"		1	58.79
Wall Foundation	1' - 0"	6.34	19.63	Bearing Footing - 32" x 12"		1	25.13
Wall Foundation	1' - 0"	2.96	5.26	Bearing Footing - 32" x 12"		1	11.73
Wall Foundation	1' - 0"	2.02	4.33	Bearing Footing - 32" x 12"		1	8.01
Wall Foundation	1' - 0"	21.17	56.42	Bearing Footing - 32" x 12"		1	83.92
Wall Foundation	1' - 0"	5.68	8.67	Bearing Footing - 32" x 12"		1	22.52
Wall Foundation	1' - 0"	4.92	13.12	Bearing Footing - 32" x 12"		1	19.50
0	121' - 0"	1534.05	3564.51		0	##	6080.97

Wall Foundation	1' - 0"	5.59	13.01	Bearing Footing - 36" x 12"		1	22.16
Wall Foundation	1' - 0"	5.75	14.24	Bearing Footing - 36" x 12"		1	22.79
Wall Foundation	1' - 0"	2.67	2	Bearing Footing - 36" x 12"		1	10.58
Wall Foundation	1' - 0"	16	42	Bearing Footing - 36" x 12"		1	63.42

24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
24	Footing-Rectangular		4	16	F4.0	S2.:	1	33.38
2616		0' - 0"	436	1744		0	##	3637.98
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	16.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
29.25	Footing-Rectangular		4.5	20.25	F4.5	S2.:	1	46.935
672.8		0' - 0"	103.5	461.75		0	23	1079.505
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
36.67	Footing-Rectangular		5	29.17	F5.0	S2.:	1	52.15
1320		0' - 0"	180	1050		0	36	1877.4
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
44.92	Footing-Rectangular		5.5	40.33	F5.5	S2.:	1	68.838
359.3		0' - 0"	44	322.67		0	8	550.704
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
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52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
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52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
52	Footing-Rectangular		6	48	F6.0	S2.:	1	100.128
1144		0' - 0"	132	1056		0	22	2202.816
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
61.75	Footing-Rectangular		6.5	63.38	F6.5	S2.:	1	117.156
494		0' - 0"	52	507		0	8	937.248
72.33	Footing-Rectangular		7	81.67	F7.0	S2.:	1	147.196
72.33	Footing-Rectangular		7	81.67	F7.0	S2.:	1	147.196
144.7		0' - 0"	14	163.33		0	2	294.392
81.25	Footing-Rectangular		7.5	93.75	F7.5	S2.:	1	183.96
81.25	Footing-Rectangular		7.5	93.75	F7.5	S2.:	1	183.96
81.25	Footing-Rectangular		7.5	93.75	F7.5	S2.:	1	183.96
325		0' - 0"	30	375		0	4	735.84
73.67	Footing-Rectangular		6	88	F8.0 x 6.0	S2.:	1	378.504
73.67	Footing-Rectangular		6	88	F8.0 x 6.0	S2.:	1	378.504
73.67	Footing-Rectangular		6	88	F8.0 x 6.0	S2.:	1	378.504
73.67	Footing-Rectangular		6	88	F8.0 x 6.0	S2.:	1	378.504
294.7		0' - 0"	24	352		0	4	1514.016
	Wall Foundation	1' - 0"	2.67	0.22	Retaining Footing - 24" x 12" x 12"		1	
0		1' - 0"	2.67	0.22		0	1	

CONSTRUCTION DOCUMENT ESTIMATE
September 2006
Foreman Program & Construction Managers

Project name	Kimberton E.S.(DRAFT) East Pikeland Township Chester County PA
Client	Phoenixville Area SD 1120 Gay Street Phoenixville PA 19460-4417
Architect	Gilbert Architects
Labor rate table	Standard
Equipment rate table	Standard
Job size	102976 sqft
Duration	18 mnth
Report format	Sorted by 'Group phase/Phase' 'Detail' summary

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
1100.00		**GENERAL REQUIREMENTS**			
	1101.00	**Supervision**			
		Superintendent / General Trades	78.00 week	1,820.00	141,960
		Supervision			**141,960**
	1131.00	**Project Management**			
		Project Manager / General Trades	78.00 week	1,591.20	124,114
		Project Management			**124,114**
	1500.00	**Construction Facilities**			
		Office Trailer	18.00 mnth	600.00	10,800
		Office Trailer	18.00 mnth	450.00	8,100
		Tool Trailers	18.00 mnth	124.80	2,246
		First Aid Equip	18.00 mnth	150.00	2,700
		Temp Toilet (Rent)	18.00 mnth	100.00	1,800
		Construction Facilities			**25,646**
	1510.00	**Temp - Utilities**			
		Temp Electricity	18.00 mnth	250.00	4,500
		Fire Protection	18.00 mnth	52.00	936
		Temp Heating, Cooling and Ventilating	6.00 mnth	2,000.00	12,000
		Temp Lighting	12.00 mnth	350.00	4,200
		Temp Phone Service	18.00 mnth	250.00	4,500
		Temp Water	18.00 mnth	250.00	4,500
		Temp - Utilities			**30,636**
	1550.00	**Vehicle Access & Parking**			
		Construction Entrance	1.00 each	2,500.00	2,500
		Temp Roads	48,000.00 sqft	2.50	120,000
		Construction Lay Down Areas	60,000.00 sqft	2.50	150,000
		Vehicle Access & Parking			**272,500**
	1560.00	**Temp Barriers & Enclosure**			
		Temp Fence (rent)	3,500.00 lnft	7.50	26,250
		Temp Barriers & Enclosure			**26,250**
	1570.00	**Temp Controls - Erosion**			
		Sediment and Erosion Control	1.00 ls	100,000.00	100,000
		Temp Controls - Erosion			**100,000**
	1580.00	**Project Identification**			
		Project Sign	2.00 each	780.00	1,560
		Project Identification			**1,560**
	1591.00	**Project Equip. & Supplies**			
		General site signage	1.00 LS	450.00	450
		Office Supplies/Equipment	18.00 mnth	275.00	4,950
		Project Equip. & Supplies			**5,400**
	1601.00	**Tools & Equipment**			
		Tools & Equipment	18.00 mnth	500.00	9,000
		Tools & Equipment (Repair)	18.00 mnth	208.00	3,744
		Oil & Fuel	18.00 mnth	1,208.00	21,744
		Tools & Equipment			**34,488**
	1701.00	**Layout**			
		Site and Building Layout	1.00 each	13,640.00	13,640
		Layout			**13,640**
	1725.00	**Punchlist, Etc**			
		Punchlist, etc	2.00 each	4,000.00	8,000
		Punchlist, Etc			**8,000**
	1740.00	**Cleaning**			
		Progress Cleanup	78.00 week	650.00	50,700
		Dumpsters	78.00 each	450.00	35,100

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	1740.00	Cleaning			
		Final Cleanup	102,976.00 sqft	0.26	26,774
		Cleaning			112,574
		GENERAL REQUIREMENTS			896,768
2050.00		DEMOLITION			
	2071.00	Clear Site			
		Clear and grub site w/trees	10.00 acre	10,000.00	100,000
		Envinronmental Remediations	1.00 allo	300,000.00	300,000
		Clear Site			400,000
		DEMOLITION			400,000
2100.00		SITEWORK			
	2144.10	Gravel at Slabs			
		Gravel At Slab - 4" deep	1,290.00 cuyd	42.01	54,191
		Gravel At Sidewalks - 6" deep	351.00 cuyd	42.01	14,745
		Gravel At Soft Play Area - 4" deep	76.00 cuyd	42.01	3,193
		Gravel at Slabs			72,129
	2145.00	Dewater - Filter Fabric			
		Filter Fabric (Basins)	85,064.00 sqft	0.48	40,695
		Dewater - Filter Fabric			40,695
	2201.00	Excav - Remove Topsoil			
		Remove Topsoil	25,925.00 cuyd	2.08	53,924
		Excav - Remove Topsoil			53,924
	2210.25	Excav - Excavation & Fill			
		Trench Excavation Pipe General(Storm)	3,193.00 cuyd	5.20	16,604
		Trench Excavation Pipe General(Water & Fire)	504.00 cuyd	5.20	2,621
		Trench Excavation Pipe General(Gas)	109.00 cuyd	5.20	567
		Trench Excavation Pipe General(Data & Electric)	439.00 cuyd	5.20	2,283
		Trench Excavation Pipe General(Infiltration Beds)	7,914.00 cuyd	5.20	41,153
		Trench Excavation Pipe General(Sewer)	378.00 cuyd	5.20	1,966
		Trench Excavation Backfill(Storm)	752.00 cuyd	6.72	5,053
		Trench Excavation Backfill(Water & Fire)	325.00 cuyd	6.72	2,184
		Trench Excavation Backfill(Gas)	72.00 cuyd	6.72	484
		Trench Excavation Backfill(Data & Electric)	80.00 cuyd	6.72	538
		Trench Excavation Backfill(Inflitration Beds)	2,822.00 cuyd	6.72	18,964
		Trench Excavation Backfill(Sewer)	220.00 cuyd	6.72	1,478
		Bed Matrl: 1-1/2" Crushed Rock(Storm)	796.00 cuyd	5.20	4,139
		Bed Matrl: 1-1/2" Crushed Rock(Water & Fire)	266.00 cuyd	5.20	1,383
		Bed Matrl: 1-1/2" Crushed Rock(Gas)	60.00 cuyd	5.20	312
		Bed Matrl: Concrete Encasement(Data & Electric)	30.00 cuyd	106.20	3,186
		Bed Matrl: 1-1/2" Crushed Rock(Inflitration Beds)	8,988.00 cuyd	5.20	46,738
		Bed Matrl: 1-1/2" Crushed Rock(Sewer)	106.00 cuyd	5.20	551
		Rock Excavation Allowance	1.00 allo	25,000.00	25,000
		Excav - Excavation & Fill			175,203
	2220.01	Excav - Bulk Cut			
		Bulk Cut	55,537.00 cuyd	3.43	190,492
		Excav - Bulk Cut			190,492
	2220.10	Excav - Bulk Fill			
		Bulk Fill	55,537.00 cuyd	3.60	199,933
		Bulk Fill(Borrow)	16,389.00 cuyd	12.50	204,863
		Bulk Fill (Roadway)	1,900.00 cuyd	3.60	6,840
		Excav - Bulk Fill			411,636
	2220.15	Excav - Dispose Surplus			
		Dispose Surplus(From Site Utilities)	9,274.00 cuyd	6.05	56,108

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Excav - Dispose Surplus			**56,108**
	2220.25	**Excav - Footings (Mach)**			
		Excavate Footing By Machine(Spread Footings)	1,437.00 cuyd	12.50	17,963
		Excavate Footing By Machine(Foundation Mats)	859.00 cuyd	12.50	10,738
		Excavate Footing By Machine(Frost Walls)	91.00 cuyd	12.50	1,138
		Excav - Footings (Mach)			**29,838**
	2220.40	**Excav - Shape & Grade**			
		Shape & Grade Footing	150.00 sqs	10.40	1,560
		Excav - Shape & Grade			**1,560**
	2220.45	**Excav - Fine Grade**			
		Fine Grade	1,029.00 sqs	26.00	26,754
		Excav - Fine Grade			**26,754**
	2220.50	**Backfill - Footing**			
		Backfill Footings	1,779.00 cuyd	11.60	20,629
		Backfill - Footing			**20,629**
	2511.00	**Paving Asphalt**			
		Asphalt Paving complete-(BusLoop & Driveways)	9,424.00 sqyd	26.00	245,024
		Asphalt Paving complete-(Asphalt Pathways on SD Prop)	1,600.00 sqyd	24.00	38,400
		Asphalt Paving complete-(Parking Lots & Parent Drop off)	8,771.00 sqyd	24.00	210,504
		Asphalt Paving complete-(Driveway from Rt. 113)	1,613.00 sqyd	33.00	53,229
		Turf Paver Blocks	490.00 sqyd	9.45	4,631
		Topcoat over existing macadum(mill and topcoat Rt. 113)	4,800.00 sqyd	14.70	70,560
		Paving Asphalt			**622,348**
	2513.00	**Paving Concrete**			
		Concrete Sidewaks - complete	18,987.00 sqft	7.10	134,855
		Concrete Stoops	480.00 sqft	7.10	3,409
		ConcretePads(Dumpster & Loading Dock Area)	5,729.32 sqft	7.82	44,783
		Paving Concrete			**183,048**
	2527.00	**Paving Concrete Curb**			
		Concrete Deep Curbs - complete	3,647.41 lnft	144.68	527,692
		Paving Concrete Curb			**527,692**
	2584.00	**Paving Parking Lines**			
		Parking Lines	1.00 lsum	7,500.00	7,500
		Paving Parking Lines			**7,500**
	2611.00	**Pipe - Corrugated Plastic**			
		15" HDPEP	2,520.00 lnft	36.50	91,980
		18" HDPEP	405.00 lnft	42.63	17,265
		24" HDPEP	3,125.00 lnft	52.24	163,250
		36" HDPE	113.00 lnft	96.15	10,865
		48" HDPEP	110.00 lnft	136.15	14,977
		12" HDPEP	180.00 lnft	31.50	5,670
		6" RW" HDPEP	2,143.00 lnft	9.75	20,894
		36" HDPEP(Infiltration Bed A2)	600.00 lnft	96.15	57,690
		36" HDPEP(Inflitration Bed A3)	624.00 lnft	96.15	59,998
		36" HDPEP(Inflitration Bed A4)	624.00 lnft	96.15	59,998
		48" HDPEP(Inflitration Bed A5)	1,036.00 lnft	136.15	141,051
		36" HDPEP(Inflitration Bed A6)	1,370.00 lnft	96.15	131,726
		24" HDPEP(Inflitration Bed B1)	633.00 lnft	52.24	33,068
		36" HDPEP(Inflitration Bed B2)	395.00 lnft	96.15	37,979
		36" HDPEP(Inflitration Bed B3)	903.00 lnft	96.15	86,823
		36" HDPEP(Inflitration Bed B4)	722.00 lnft	96.15	69,420
		36" HDPEP(Inflitration Bed B5)	314.00 lnft	96.15	30,191
		6" Pavement Base Drain	1,031.00 lnft	9.75	10,052
		Pipe - Corrugated Plastic			**1,042,897**
	2612.00	**Pipe - Conc Bell & Spig**			

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	2612.00	**Pipe - Conc Bell & Spig**			
		Pipe Conc Bell & Spig 18"	137.85 lnft	11.73	1,616
		Pipe Conc Bell & Spig 14"x23"	193.91 lnft	18.28	3,545
		Pipe - Conc Bell & Spig			**5,161**
	2615.00	**Pipe - Ductile Iron**			
		Pipe Duct Iron Mech Jnt 4" (Gas Service)	550.00 lnft	24.26	13,344
		Pipe Duct Iron Mech Jnt 4" (Domestic Water)	245.00 lnft	24.26	5,944
		Pipe Duct Iron Mech Jnt 6" (Domestic Water Main)	568.00 lnft	29.26	16,621
		Pipe Duct Iron Mech Jnt 6" (Fire Main)	1,350.00 lnft	29.26	39,504
		Pipe - Ductile Iron			**75,413**
	2668.00	**Distrib Line- Reg. Water**			
		Water Meter Pit 15' X 6' X 7'	1.00 each	12,250.00	12,250
		Distrib Line- Reg. Water			**12,250**
	2723.00	**Drainage Site Inlets**			
		Type M Inlets	25.00 each	1,071.50	26,788
		Type M Inlets (Roadway)	6.00 each	1,071.50	6,429
		Type C Inlets	26.00 each	1,071.50	27,859
		Inlet Grate Conc Basin 2' Deep(Yard Drains)	22.00 each	506.58	11,145
		Drainage Site Inlets			**72,220**
	2726.00	**Drainage Site Manholes**			
		Manhole Precast 8'deep (Storm/Sewer Manholes)	33.00 each	2,500.00	82,500
		Grease Interceptor	1.00 each	8,010.00	8,010
		Storm Water Cleanouts	40.00 each	255.00	10,200
		Sanitary Sewer Cleanouts	15.00 each	555.00	8,325
		Drainage Site Manholes			**109,035**
	2729.00	**Drainage Site Head Wall**			
		Wingwalls	15.00 each	1,200.00	18,000
		Drainage Site Head Wall			**18,000**
	2831.00	**Fence - Chain Link**			
		Fence ChainLink Complete	607.61 lnft	14.85	9,023
		Split Rail Wood Fencing w/wire mesh fencing	1,570.68 lnft	17.25	27,094
		Baseball Backstop	1.00 each	3,675.00	3,675
		Fence - Chain Link			**39,792**
	2842.00	**Barrier - Pipe Bollards**			
		Pipe Bollard Steel Pipe 6"	12.00 each	294.00	3,528
		Double Wide Control Gate	1.00 each	1,000.00	1,000
		Barrier - Pipe Bollards			**4,528**
	2843.00	**Barrier - Guard Rails**			
		Guard Rail Timber 4"x 8"	786.00 lnft	33.50	26,331
		Barrier - Guard Rails			**26,331**
	2860.01	**Site Equip-Playing Fields**			
		Baseball Field/Softball	1.00 lsum	67,600.00	67,600
		Soccer	2.00 lsum	67,600.00	135,200
		Site Equip-Playing Fields			**202,800**
	2863.00	**Site Equip-Rec Facilities**			
		Soft Play Surface	6,173.51 sqft	14.25	87,973
		Playground Equipment Allowance	1.00 allo	45,000.00	45,000
		Site Equip-Rec Facilities			**132,973**
	2900.01	**Landscape-General**			
		Site restoration after const.	302,316.47 sqft	1.04	314,409
		Segmented Block Retaining Walls per sf	1,975.00 sqft	22.00	43,450
		Erosion Control Mating	178,217.00 sqyd	1.30	231,682
		Concrete Retaining wall	513.55 lnft	154.40	79,292

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Landscape-General			**668,833**
	2950.01	**Landscape-Planting**			
		General Landscaping	1.00 allo	350,000.00	350,000
		Landscape-Planting			**350,000**
		SITEWORK			**5,179,788**
3000.00		**CONCRETE**			
	3114.00	**Forms - Walls**			
		Wall Forms	2,520.00 sqft	7.81	19,673
		Forms - Walls			**19,673**
	3126.00	**Forms - Piers**			
		Pier Forms	3,142.00 sqft	5.61	17,627
		Forms - Piers			**17,627**
	3160.01	**Forms - Screeds**			
		Screeds	1,045.00 sqs	5.26	5,499
		Forms - Screeds			**5,499**
	3206.00	**Rebar - Footings**			
		Footing Rebar (tons)	21.00 ton	2,275.25	47,780
		Rebar - Footings			**47,780**
	3231.00	**Rebar - Wiremesh Lump Sum**			
		WWM Sheets 6x6 10/10	1,045.00 sqs	48.39	50,563
		Rebar - Wiremesh Lump Sum			**50,563**
	3306.00	**Conc - Footings**			
		Footing Conc 3000 psi(Mat Foundations)	234.00 cuyd	214.49	50,191
		Footing Conc 3000 psi(Spread Footers)	324.00 cuyd	214.49	69,495
		Conc - Footings			**119,685**
	3307.00	**Conc - Walls**			
		Wall Conc 3000 psi	46.00 cuyd	242.25	11,144
		Conc - Walls			**11,144**
	3309.00	**Conc - Piers**			
		Pier Conc 3000 psi	46.00 cuyd	245.35	11,286
		Conc - Piers			**11,286**
	3310.01	**Conc - Slabs On Grade**			
		S.O.G. Conc 4000 psi	975.00 cuyd	192.60	187,785
		Conc - Slabs On Grade			**187,785**
	3313.00	**Conc - Suspended Slab**			
		Susp Slab Conc 4000 psi	336.00 cuyd	212.96	71,555
		Conc - Suspended Slab			**71,555**
	3314.00	**Conc - Stairs & Steps**			
		Stair/Step Conc 4000 psi	4.67 cuyd	202.84	947
		Stair/Step Conc 4000 psi	2.22 cuyd	202.84	451
		Conc - Stairs & Steps			**1,397**
	3375.00	**Finish - Protect & Cure**			
		CS 309 Curing Compound	1,045.00 sqs	11.62	12,138
		Finish - Protect & Cure			**12,138**
	3380.01	**Finish - General**			
		Trowel Finish	104,471.00 sqft	0.90	94,055
		Finish - General			**94,055**
	3400.40	**Precast Concrete**			
		Concrete Precast Curbs (each)	9.00 each	81.54	734
		Precast Concrete			**734**
	3610.10	**Grout & Seal For Joints**			
		Conc Joint Sealant (all Types)	4,977.00 lnft	1.30	6,470

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Grout & Seal For Joints			**6,470**
	3940.01	**Saw Concrete**			
		Saw New Concrete	4,977.00 lnft	1.35	6,729
		Saw Concrete			**6,729**
	3951.00	**Set Grade Pins**			
		Set Grade Pins at Footing	3,344.00 lnft	0.36	1,217
		Set Grade Pins			**1,217**
		CONCRETE			**665,339**
4000.00		**MASONRY**			
	4050.01	**Misc - Masonry Layout**			
		Masonry Layout Allowance	1.00 allo	20,000.00	20,000
		Misc - Masonry Layout			**20,000**
	4158.00	**Reinforce: Horizontl Wall**			
		Misc. Wall Reinf. Allow.	1.00 allo	30,000.00	30,000
		Reinforce: Horizontl Wall			**30,000**
	4221.10	**Conc. Block - 12"**			
		Complete block wall w/reinf.(Ext. Found. Walls)	650.00 sqft	11.91	7,742
		Complete block wall w/reinf.(Ext. Cavity Walls)	2,816.00 sqft	11.91	33,539
		Complete block wall w/reinf.(Interior Walls)	4,388.00 sqft	11.91	52,261
		Conc. Block - 12"			**93,541**
	4221.15	**Conc. Block - 8"**			
		Complete block wall w/reinf.(Ext. Found. Walls)	11,448.00 sqft	9.86	112,877
		Complete block wall w/reinf.(Ext. Cavity Walls)	37,471.00 sqft	9.86	369,464
		Complete block wall w/reinf.(Interior Walls)	89,707.00 sqft	9.86	884,511
		Complete block wall w/reinf.(Interior Found. Walls)	2,550.00 sqft	9.86	25,143
		Conc. Block - 8"			**1,391,995**
	4221.30	**Conc. Block - Split Face**			
		4" Blk Split Face wall complete	20,660.00 sqft	10.59	218,707
		4" Ground Face block wall complete	8,816.00 sqft	11.72	103,324
		4" Ground Face block wall complete(Interior)	1,544.00 sqft	11.72	18,096
		4" Scored ground face	702.00 sqft	12.34	8,663
		Conc. Block - Split Face			**348,789**
	4222.20	**Unit Masonry Sound Absorb**			
		Block, accoustical 12" (slotted)	5,410.00 sqft	20.00	108,200
		Unit Masonry Sound Absorb			**108,200**
	4410.01	**Precast Pieces**			
		Sill Precast 8"	1,820.00 lnft	28.58	52,016
		Date Stone	1.00 each	325.00	325
		Precast Pieces			**52,341**
	4730.01	**Scaffolds - Bents**			
		Scaffolding	124,089.00 sqft	1.02	126,571
		Scaffolds - Bents			**126,571**
	4731.50	**Grout Fill Concrete**			
		Vertical Grout Fill	2,200.00 lnft	16.50	36,304
		Grout Fill Concrete			**36,304**
		MASONRY			**2,207,741**
5000.00		**METALS**			
	5110.01	**Structural - Framing**			
		Pre Engineered Steel Trusses (ton)	46.00 ton	2,692.20	123,841
		Structural Plates (ton)	14.00 ton	2,692.20	37,691
		Structural - Framing			**161,532**
	5110.10	**Structural - W Shapes**			

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	5110.10	**Structural - W Shapes**			
		W Shape W 8x10	76.00 lnft	18.44	1,401
		W Shape W 8x15	408.00 lnft	16.19	6,606
		W Shape W 8x40	861.00 lnft	32.59	28,062
		W Shape W 12x14	2,456.00 lnft	21.03	51,653
		W Shape W 12x22	477.00 lnft	27.21	12,980
		W Shape W 12x26	324.00 lnft	32.16	10,420
		W Shape W 14x26	2,026.00 lnft	32.16	65,155
		W Shape W 16x26	1,197.00 lnft	34.60	41,413
		W Shape W 16x31	1,014.00 lnft	38.34	38,881
		W Shape W 18x35	1,575.00 lnft	46.54	73,294
		W Shape W 18x40	2,113.00 lnft	49.48	104,543
		W Shape W 18x46	156.00 lnft	56.90	8,876
		W Shape W 21x44	887.00 lnft	54.42	48,274
		W Shape W 21x83	175.00 lnft	52.12	9,120
		W Shape W 24x55	1,442.00 lnft	68.03	98,099
		W Shape W 24x55	222.00 lnft	68.03	15,103
		W Shape W 24x62	72.00 lnft	76.69	5,522
		W Shape W 24x68	240.00 lnft	84.11	20,186
		W Shape W 24x104	34.00 lnft	128.64	4,374
		W Shape W 27x84	1,585.00 lnft	103.90	164,681
		W Shape W 27x94	107.00 lnft	116.27	12,441
		W Shape W 30x99	73.00 lnft	122.45	8,939
		W Shape W 8x24	389.00 lnft	29.57	11,502
		Structural - W Shapes			**841,523**
	5110.15	**Structural - TS Shapes**			
		TS Shape TS 6" x 6"x1/4"x12'	14.00 each	378.53	5,299
		TS Shape TS 12" x 8"x1/2"x12'	4.00 each	1,274.70	5,099
		TS Shape TS 8" x 8"x1/4"x14'	316.00 each	730.28	230,767
		TS Shape TS 8" x 8"x1/4"x14'	28.00 each	730.28	20,448
		TS Shape TS 8" x 8"x1/4"x14'	22.00 each	730.28	16,066
		TS Shape TS 8" x 8"x1/4"x14'	24.00 each	730.28	17,527
		Structural - TS Shapes			**295,205**
	5110.60	**Structural - Steel Angles**			
		Angle 4x4x 3/8	2,265.00 lnft	13.50	30,584
		Angle 6 x 3½ x 3/8	1,750.00 lnft	16.79	29,382
		Structural - Steel Angles			**59,966**
	5210.01	**Structural Joist**			
		K-Series 10 K 1 Joist	252.00 lnft	10.07	2,538
		K-Series 12 K 3 Joist	313.00 lnft	9.94	3,110
		K-Series 20 K 5 Joist	1,359.00 lnft	10.20	13,861
		K-Series 24 K 6 Joist	1,990.00 lnft	12.11	24,104
		K-Series 28 K 8 Joist	728.00 lnft	15.58	11,341
		Structural Joist			**54,954**
	5210.20	**Structural - Joist LH/DLH**			
		LH-Series 44 LH16 Joist	1,432.00 lnft	49.42	70,768
		Structural - Joist LH/DLH			**70,768**
	5210.25	**Structural Joist - CS**			
		28CS5	116.00 lnft	15.12	1,754
		Structural Joist - CS			**1,754**
	5210.30	**Structural Special Truss**			
		T1 Trusses in Gym	5.00 each	17,117.10	85,586
		T2 Trusses in Gym	8.00 each	17,117.10	136,937
		Structural Special Truss			**222,522**
	5312.10	**Structural - Deck Roof/Fl**			
		Metal Roof Deck	91,894.00 sqft	2.36	217,100

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	5312.10	**Structural - Deck Roof/Fl**			
		Acoustical exposed decking	8,316.00 sqft	8.74	72,649
		Structural - Deck Roof/Fl			**289,748**
	5510.05	**Misc - Lintels**			
		Steel Lintels 4x4x3/8	20.00 each	27.30	546
		Misc - Lintels			**546**
	5510.50	**Misc - Roof Opening Frame**			
		Roof Open Frames	each		22,500
		Misc - Roof Opening Frame	**30.00 each**	**750.00**	**22,500**
	5510.61	**Misc - Ladders**			
		Ladders	2.00 each	735.00	1,470
		Misc - Ladders			**1,470**
	5510.70	**Misc - Misc Metals**			
		Misc Metals	1.00 allo	26,250.00	26,250
		Misc - Misc Metals			**26,250**
	5510.80	**Stair & Stair Parts**			
		Stairs Metal Landing Conc Fill	568.00 sqft	29.12	16,540
		Stair Railing	72.00 lnft	18.67	1,344
		Stair & Stair Parts			**17,884**
	5517.20	**Stair - Platforms**			
		Stair Tower and Railing - 2 story	2.00 each	14,277.00	28,554
		Platforms	4.00 each	572.00	2,288
		Stair - Platforms			**30,842**
	5810.01	**Expansion Joint**			
		Embedded Floor Joint	144.00 lnft	2.60	374
		Embedded Wall Expansion Joint	112.00 lnft	2.60	291
		Joint Cover Expan 1" Alum	72.00 lnft	15.18	1,093
		Expansion Joint			**1,759**
		METALS			**2,099,224**
6000.00		**WOOD & PLASTICS**			
	6117.00	**Plywd - Roof Sheathing**			
		Roof Sheathing 3/4 "	52,526.00 sqft	1.35	71,015
		Plywd - Roof Sheathing			**71,015**
	6122.00	**Blocking - Roof Nailers**			
		Roof Nailers	19.00 mbf	2,080.00	39,520
		Blocking - Roof Nailers			**39,520**
	6193.00	**HeavyFrame - Wood Trusses**			
		Wood Trusses (all sizes)	11.00 each	2,310.00	25,410
		HeavyFrame - Wood Trusses			**25,410**
	6450.14	**I Trim - Misc Int. Trim**			
		Misc. Int. Trim Solid Surf. Sills	605.00 lnft	40.38	24,430
		Misc. Int. Wood Trim	1.00 LS	45,250.00	45,250
		I Trim - Misc Int. Trim			**69,680**
		WOOD & PLASTICS			**205,625**
7000.00		**THERMAL & MOISTURE PROT.**			
	7111.00	**Waterproof - Bituminous**			
		Bituminous Asphalt Waterproofing-2 coat	150.00 sqft	1.19	179
		Waterproof - Bituminous			**179**
	7192.00	**Vapor Barrier**			
		Moistop Vapor Barrier	770.00 sqs	103.91	80,011
		Vapor Barrier			**80,011**
	7212.00	**Insulation - Board**			

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	7212.00	Insulation - Board			
		Insul Board Polystyrene 2"(Foundations)	6,580.00 sqft	1.16	7,651
		Insulation - Board			7,651
	7215.00	Insulation - Sprayed On			
		Insul Sprayd-on Urethane 2"(Masonry Walls)	29,827.00 sqft	2.66	79,411
		Insul Sprayd-on Urethane 2"(Siding)	18,424.00 sqft	2.66	49,052
		Insulation - Sprayed On			128,463
	7312.00	Shingles - Fiberglas			
		Asphalt Shingle Roof complete system	52,526.00 sqft	6.16	323,744
		Shingles - Fiberglas			323,744
	7420.01	Siding - Metal			
		Cementitious Siding	19,424.00 sqft	5.42	105,278
		Cementitious Siding(interior Lobby)	1,200.00 sqft	5.42	6,504
		Siding - Metal			111,782
	7531.00	EPDM Roofing			
		EPDM Roof system / complete	32,500.00 sqft	10.51	341,575
		EPDM Roofing			341,575
	7531.40	Traffic Pavers			
		Rubber Walkways	165.00 each	30.94	5,105
		Traffic Pavers			5,105
	7630.10	Sheetmetal - Vents/Accsry			
		Ridge Vent Strips	650.00 lnft	2.86	1,860
		Roof Hatch	1.00 each	2,575.00	2,575
		Sheetmetal - Vents/Accsry			4,435
	7910.01	Sealant - Jt Filler Gaskt			
		Caulking Allowance	1.00 allo	30,000.00	30,000
		Sealant - Jt Filler Gaskt			30,000
		THERMAL & MOISTURE PROT.			**1,032,945**
8000.00		**DOORS & WINDOWS**			
	8110.01	Doors -With Frames/wd/stl			
		Door with frame-Closer-Knob	134.00 each	1,827.00	244,818
		Dble door/frame/Closer/knob	25.00 each	2,436.00	60,900
		Steel Door w/ hardware	15.00 each	1,496.00	22,440
		Doors -With Frames/wd/stl			328,158
	8305.00	Doors - Access			
		Door Ceiling Access Panel	35.00 each	315.12	11,029
		Door Wall Access Panel	30.00 each	315.12	9,454
		Doors - Access			20,483
	8340.01	Doors - Coiling Grilles			
		Door Coiling Grille	1.00 each	1,402.96	1,403
		Doors - Coiling Grilles			1,403
	8361.00	Doors - Overhead			
		Door OH Sectional Steel	1.00 each	2,340.00	2,340
		Doors - Overhead			2,340
	8391.10	Aluminum Entrance Doors			
		Al. ent. doors w/ frame, hw and glazing & lites	1,443.00 sqft	39.78	57,403
		Aluminum Entrance Doors			57,403
	8510.01	Windows - Steel			
		H.M. Frames & Glazing(Interior)	1,250.00 sqft	28.20	35,250
		Windows - Steel			35,250
	8520.01	Windows - Aluminum			
		Commercial Aluminum Windows	3,309.00 sqft	49.00	162,141

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Windows - Aluminum			**162,141**
		DOORS & WINDOWS			**607,177**
9000.00		**FINISHES**			
	9252.00	**GWB - Interior Framing**			
		FurrDwn Random Lngth 3-5/8 25g(Siding)	10,276.00 lnft	2.10	21,621
		GWB - Interior Framing			**21,621**
	9260.01	**GWB - Wall Board Systems**			
		Gypsum Wallbd Studs 1 Layr 5/8	12,210.00 sqft	6.97	85,067
		Gypsum Wallbd Wall system with 2 layers of 5/8 drywall/2 sides	140.00 sqft	8.65	1,211
		Drywall Bulkheads	685.00 lnft	30.80	21,098
		Drywall Soffit Allowance	1.00 allo	25,000.00	25,000
		GWB - Wall Board Systems			**132,376**
	9310.01	**Ceramic Tile**			
		Ceramic Tile Floor Grade 1	2,644.00 sqft	9.83	25,987
		Ceramic Tile Wall Grade 1	448.00 sqft	11.18	5,007
		Ceramic Trim: Cove Base	891.00 lnft	14.74	13,133
		Ceramic Tile			**44,127**
	9330.01	**Floor - Quarry Tile**			
		Complete Floor thinset method	2,182.00 sqft	18.10	39,494
		Tile Quarry Shape Cove Base 1/2" Thick	400.00 lnft	7.81	3,124
		Floor - Quarry Tile			**42,618**
	9510.50	**Ceiling - 2x4 Tile**			
		Kitchen ceiling tile/vinyl gyp	2,547.00 sqft	3.50	8,907
		Cast SqEdge Std 2x4 3/4"	66,874.00 sqft	2.19	146,250
		Ceiling - 2x4 Tile			**155,156**
	9510.60	**Ceiling - 2x2 Tile**			
		Cast SqEdge Std 2x2 3/4"	7,106.00 sqft	2.54	18,031
		Ceiling - 2x2 Tile			**18,031**
	9535.00	**Acoustic Panels**			
		Fabric covered acoust. panels	968.00 sqft	9.01	8,718
		Floating Ceiling Panels	2,140.00 sqft	11.09	23,724
		Acoustic Panels			**32,442**
	9560.01	**Wood Flooring**			
		Painted Wood Flooring (Stage)	975.00 sqft	9.36	9,126
		Wood Flooring(Stage Front)	214.00 sqft	10.50	2,247
		Wood Flooring			**11,373**
	9561.01	**Sport Flooring**			
		Poured epoxy floor	6,113.00 sqft	7.58	46,337
		Sport Flooring			**46,337**
	9660.01	**Flooring Resilient Tile**			
		Seal Concrete floor as finish	7,451.00 sqft	0.50	3,726
		Floor Resil Vinyl Tile(1st Floor)	19,397.00 sqft	2.50	48,415
		Floor Resil Vinyl Tile(2nd Floor)	9,930.00 sqft	2.50	24,785
		Floor Resil Base 4"	11,755.00 lnft	0.83	9,780
		Rubber stair treads	240.00 lnft	15.02	3,604
		Rubber flooring/landings ect..	6,433.00 sqft	4.25	27,340
		Flooring Resilient Tile			**117,650**
	9680.01	**Terrazzo**			
		Terrazzo - Complete system(1st Floor)	14,201.00 sqft	21.00	298,221
		Terrazzo - Complete system(2nd Floor)	5,014.00 sqft	21.00	105,294
		Terrazzo			**403,515**
	9685.00	**Flooring Carpet**			

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	9685.00	Flooring Carpet			
		Carpet Commercial(1st Floor)	1,408.00 sqyd	29.69	41,807
		Carpet Commercial(2nd Floor)	358.00 sqyd	29.69	10,630
		Flooring Carpet			52,437
	9920.01	Painting - Interior			
		Fog Spray exposed ceilings	15,439.00 sqft	0.60	9,263
		Paint Wd Door & Metal Frame	159.00 each	28.50	4,531
		interior paint/sf of floor	102,976.00 sqft	1.34	137,988
		Painting - Interior			151,782
	9960.01	Wall Covering			
		Tackable Wall Materials	324.00 sqft	6.42	2,079
		Wall Covering			2,079
		FINISHES			1,231,545
10000.00		SPECIALTIES			
	10125.00	Display Cases			
		Standard display cases	82.00 lnft	26.00	2,132
		Display Cases			2,132
	10160.01	Toilet Partitions			
		Toilet Partit Plast Floor Mntd	18.00 each	900.00	16,200
		ADA Toilet Partit Plast Floor Mntd inc. Grab Bars	12.00 each	1,100.00	13,200
		Urinal Screens Wall Mounted	2.00 each	275.00	550
		Toilet Partitions			29,950
	10190.01	Hospital Cubicles			
		Cubicle Hosp Track Ceil Mntd	27.00 lnft	6.40	173
		Cubicle Hosp Curtain 8' ceiling height	27.00 lnft	8.28	224
		Hospital Cubicles			396
	10350.01	Flagpoles			
		Flagpole	1.00 each	4,681.00	4,681
		Flagpoles			4,681
	10410.01	Chalk, Mark & Tack Boards			
		Chalk, Marker & Tackboards	6,556.00 sqft	20.78	136,234
		Tack strips	1,044.00 lnft	7.85	8,197
		Chalk, Mark & Tack Boards			144,431
	10420.01	Plaques			
		Cast Plaque 30" X 30" up to 450 letters	2.00 each	1,300.00	2,600
		Plaques			2,600
	10430.01	Signs			
		Room idenification signs	143.00 each	56.04	8,014
		Signs			8,014
	10505.90	Lockers			
		Locker Box Double Tier	8.00 each	115.00	920
		Lockers			920
	10523.00	Fire Extinguishers			
		Fire Ext Dry Chem 5 lb	18.00 each	150.01	2,700
		Fire Ext Cab Steel	18.00 each	250.01	4,500
		Fire Extinguishers			7,200
	10552.00	Mail Boxes			
		Faculty Mailslots	102.00 each	58.24	5,940
		Mail Boxes			5,940
	10618.00	Partitions Operable wall			
		Operable room dividing walls(LGIs)	1,218.00 sqft	68.00	82,824
		Operable room dividing walls(Cafe)	1,134.00 sqft	68.00	77,112

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Partitions Operable wall			**159,936**
	10800.01	**Misc Toilet/Bath Equip**			
		Complete accessories for single toilet	19.00 each	260.00	4,940
		Complete Accessories for Public toilet rooms / mid size	2.00 each	936.00	1,872
		Misc Toilet/Bath Equip			**6,812**
	10900.01	**Wardrobe Specialties**			
		Hat & Coat Rack	6.00 lnft	76.23	457
		Wardrobe Specialties			**457**
		SPECIALTIES			**373,470**
11000.00		**EQUIPMENT**			
	11060.01	**Equip - Stage**			
		Large projection screen/elec.	1.00 each	3,120.00	3,120
		Stage curtian assembly	1.00 each	20,800.00	20,800
		Equip - Stage			**23,920**
	11161.10	**Dock Equip**			
		Dock Bumpers	9.00 each	78.00	702
		Dock Equip			**702**
	11405.00	**Kitchen**			
		Kitchen Lump Sum	1.00 lsum	295,000.00	295,000
		Kitchen			**295,000**
	11490.01	**Equip - Gym**			
		Basketball Backboard	6.00 each	3,640.00	21,840
		Volleyball equipment	3.00 each	3,120.00	9,360
		Backstop Hoist	2.00 each	780.00	1,560
		Equip - Gym			**32,760**
		EQUIPMENT			**352,382**
12000.00		**FURNISHINGS**			
	12302.00	**Casework**			
		7' tall Teachers coat & storage unit	162.00 lf	286.00	46,332
		Base cabinet/ open shelving	552.00 lf	120.64	66,593
		30" Plastic laminated tops	1,156.00 lf	68.64	79,348
		Base cabinets w/ doors	415.00 lf	156.00	64,740
		Wall cabinets w/ doors	886.00 lf	143.52	127,159
		Fume Hoods	4.00 lnft	816.40	3,266
		Wood Classroom Lockers (Student Cubbies)	348.00 lnft	182.00	63,336
		Two Drawer file cabinet	17.00 each	130.00	2,210
		Horizontal poster shelfs	21.00 lnft	41.60	874
		Wood shelving units w/out doors	12.00 LF	98.80	1,186
		Kiln	1.00 each	2,600.00	2,600
		Sink Enclosures	144.00 lnft	25.00	3,600
		Keyboard Tray	119.00 each	100.00	11,900
		Tall Open Shelving	105.00 lnft	254.80	26,754
		Music Instrument Storage	25.00 lnft	300.00	7,500
		Receptionists Desk	1.00 each	10,000.00	10,000
		Casework			**517,397**
	12302.01	**Library Furnishings**			
		Reading Tables	10.00 each	1,040.00	10,400
		Chairs	48.00 each	286.00	13,728
		Charging desk	1.00 each	10,400.00	10,400
		Atlas/Dictionary Stand	1.00 each	858.00	858
		Book Shelving	324.00 lnft	286.00	92,664
		Computer Carrels	13.00 each	780.00	10,140
		Book Depository	1.00 each	780.00	780
		Book Carts	2.00 each	450.00	900

Group	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
	12302.01	**Library Furnishings**			
		Reading Chairs	4.00 each	500.00	2,000
		Library Furnishings			**141,870**
	12530.01	**Window Accessories**			
		Window Blinds	3,309.00 sqft	7.00	23,163
		Window Accessories			**23,163**
		FURNISHINGS			**682,430**
14000.00		**CONVEYING SYSTEMS**			
	14001.00	**Elevators**			
		Elevator Hydraulic	1.00 each	65,000.00	65,000
		Wheel Chair Lift	1.00 each	16,700.00	16,700
		Elevators			**81,700**
		CONVEYING SYSTEMS			**81,700**
15000.00		**MECHANICAL**			
	15001.00	**Summary Square Foot Price**			
		HVAC Only New ES	102,976.00 SF	24.76	2,549,686
		PLBG Only New ES	102,976.00 SF	9.60	988,570
		Fire Protection per SF of Floor	102,976.00 SF	2.95	303,779
		Summary Square Foot Price			**3,842,035**
		MECHANICAL			**3,842,035**
16000.00		**ELECTRICAL**			
	16001.00	**Electrical Complete**			
		Electrical per sqft of floor	102,976.00 sqft	21.67	2,231,490
		Data Cabling per Square Foot of Floor	102,976.00 sqft	2.70	278,035
		Electrical Complete			**2,509,525**
		ELECTRICAL			**2,509,525**

Estimate Totals

Labor	3,789,808		12,479.940	ch
Material	6,531,417			
Subcontract	10,111,266			
Equipment	775,749		15,893.957	ch
Other	1,159,453			
	22,367,693	**22,367,693**		
Design Contingency	335,515		1.500 %	
Escalation Contingency	782,869		3.500 %	
Insurance	770,133		3.000 %	
Overhead & profit	967,545		10.000 %	
Bonds	447,354		2.000 %	
	Total	***25,671,110***	***249.292 /sqft***	