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Executive Summary

Some of the main features that have been analyzed and researched on the Harrisburg University of Science and Technology's Academic Center are: detailed construction schedule, construction site plan layouts, assemblies, detailed, and general conditions estimates relative to the construction of the project.

The contractual relationships are based on a CM at risk and joint venture delivery method. The project is also fast tracked so that construction can begin as soon as possible. Time and budget restraints in funding are the only concerns for the owner at this time. The schedule for construction indicates a start date of the beginning of January 2007 and completion date is set for November 25, 2008. Key milestone dates are also noted on the schedule as well. Early delays due to weather and improper placement of the tower crane have caused the schedule to vary, however the work is underway and on time.

The site plan developed is the one currently in use as the tower crane is located on site until early spring of 2008. Pictures have been taken to document the construction process as well.

Various estimates for the project have been assembled and have been thoroughly reviewed and analyzed to determine whether the Harrisburg University Academic Center is within budget. The assemblies estimate looks at the interior finishes of the building using RS Means data; the detailed estimate is of the electrical system using MC2 software; and the general conditions estimate was performed using Timerline software.

A. Detailed Project Schedule Summary

The Harrisburg University of Science and Technology had begun design work for their first building in August of 2005, not yet two years after the University opened its doors for students. It has been using office buildings within three blocks of the construction site of their Academic Center and will be occupying them until the winter semester of 2009. The project completion date is set for November 25, 2008.

Finish sequence milestones begin at the end of the first quarter in 2008-the middle of March with the first two floors clean-out scheduled. The next five floors (3-9) will be for a parking garage and therefore finishing of these levels will come near project completion. Floors 10 and 11 have a finish date of the beginning of April and finishes for the last (16th) floor where the HVAC system will be housed is scheduled for late October 2008.

For the core-shell package, interior work is completed in a sequence that allows for phased finishing by floor. Each crew works each floor start to finish and then moves on to the floor above to repeat the process. This sequencing method allows for the substantial completion of the building, the project to be fast-tracked, and have separate core-shell and fit-out packages with more than 60 contracts. The phased completion of each floor is in approximate two week increments, with some slight differences in the parking garage levels.

The following pages consist of the construction schedule, first of which is the preliminary overview schedule, continued by a detailed schedule with highlights of each floor. Due to the events of construction and the complexity of the project, many items were left out but the milestone dates and general durations are noted.

Activity Description	Days	Start	Finish	2008																	
				AUG 2003- DEC 06																	
				J	F	M	A	M	J	J	F	M	A	M	J	J	A	S	O	N	D
Design Phase	320	AUG 01 03	FEB 07 08																		
Procurement of Construction Services	381	SEP 19 06	FEB 27 08																		
Sitework	456	JAN 02 07	OCT 13 08																		
Foundation	84	MAR 01 07	JUL 18 07																		
Building Core and Shell	425	JAN 15 07	SEP 15 08																		
Steel	103	JUN 25 07	NOV 16 07																		
Begin Concrete Slabs	0	AUG 16 07	-																		
Concrete Slabs	127	AUG 16 07	FEB 18 08																		
Begin Erecting Precast	0	OCT 18 07	-																		
Precast	67	OCT 18 07	JAN 25 08																		
Fitout	255	OCT 18 07	OCT 20 08																		
Finish Erecting Steel	0	-	NOV 16 07																		
Substantial Completion	0	-	DEC 17 07																		
Finish Erecting Precast	0	-	JAN 25 08																		
Finish Concrete Slabs	0	-	FEB 18 08																		
Substantial Completion 1st & 2nd F] Finishes	0	-	MAR 10 08																		
Substantial Completion 10th & 11th F] Finishes	0	-	APR 07 08																		
Core and Shell Substantial Completion	0	-	SEP 15 08																		
Core and Shell Final Completion	0	-	OCT 20 08																		
Fit Out Substantial Completion	0	-	OCT 20 08																		
Project Complete	0	-	NOV 25 08																		
Project Close Out	21	NOV 26 08	DEC 29 08																		

◆ Represents key milestone dates as per discussion of project schedule with owner requirements for occupancy, especially completion.

HARRISBURG UNIVERSITY ACADEMIC CENTER

PRELIMINARY OVERVIEW SCHEDULE OF PRECONSTRUCTION & CONSTRUCTION ACTIVITIES

Activity Description		Days	Start	Finish	AUG 2005- DEC 06	2007												2008												
						J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
6th Floor	Erect Floor Detail and Deck	7	AUG 08 07	AUG 16 07																										
	Install Pipe and Duct Hangers	10	AUG 08 07	AUG 21 07																										
	Set Duct in Chases	5	OCT 03 07	OCT 09 07																										
	Erect Floor Columns and 7th Fl Structural	2	NOV 14 07	NOV 15 07																										
	Erect Floor Detail and Deck	7	AUG 17 07	AUG 27 07																										
7th Floor	Erect Precast Panels	10	SEP 12 07	SEP 25 07																										
	Stairway, Elev Shaft, Vert Chase Masonry	3	NOV 15 07	NOV 19 07																										
	Erect Floor Columns and 8th Fl Structural	6	NOV 27 07	DEC 04 07																										
	Erect Floor Detail and Deck	7	AUG 08 07	SEP 11 07																										
	Install Pipe and Duct Hangers	10	AUG 08 07	OCT 29 07																										
8th Floor	HVAC Piping	5	DEC 06 07	DEC 12 07																										
	Gas Piping	5	DEC 07 07	DEC 12 07																										
	Erect Floor Columns and 9th Fl Structural	1	SEP 07 07	SEP 07 07																										
	Erect Floor Detail and Deck	7	OCT 02 07	OCT 15 07																										
	Set Steel Stairways	10	OCT 23 07	OCT 30 07																										
9th Floor	Cable Rails	6	NOV 06 07	NOV 12 07																										
	Spray on Fireproofing	5	NOV 15 07	NOV 21 07																										
	Erect Floor Detail and Deck	5	SEP 18 07	OCT 01 07																										
	Erect Floor Columns and 10th Fl Structural	10	SEP 19 07	SEP 26 07																										
	Prep and Pour Floor Slab	6	OCT 23 07	OCT 29 07																										
Concrete Column Encasement	10	OCT 30 07	NOV 12 07																											
Temporary Handrails at Floor Openings	2	NOV 01 07	NOV 02 07																											

◆ Represents key milestone dates as per discussion of project schedule with owner requirements for occupancy, especially completion.

HARRISBURG UNIVERSITY ACADEMIC CENTER
 DETAILED PROJECT SCHEDULE

Activity Description Days Start Finish AUG 2005- DEC 06 2007 2008
 J F M A M J J A S O N D J F M A M J J A S O N D

Activity Description	Days	Start	Finish	AUG 2005- DEC 06	2007	2008
14th Floor						
Erect Floor Columns and 15th Fl Structural	5	OCT 31 07	NOV 06 07			
Erect Floor Detail and Deck	7	DEC 03 07	DEC 11 07			
Water Feature	5	JAN 29 08	FEB 04 08			
Waterproofing	2	FEB 05 08	FEB 06 08			
Stairway, Elev Shaft, Vert Chase Masonry	6	FEB 06 08	FEB 13 08			
15th Floor						
Erect Floor Columns and 16th Fl Structural	5	NOV 07 07	NOV 13 07			
Erect Floor Detail and Deck	7	NOV 19 07	NOV 30 07			
Weld Nelson Studs	2	DEC 03 07	DEC 04 07			
Prep and pour Floor Slabs	4	DEC 21 07	DEC 27 07			
Ductwork	15	FEB 18 08	MAR 07 08			
HVAC Piping	15	MAR 10 08	MAR 28 08			
16th Floor						
Erect Floor Columns and Roof Structural	3	NOV 14 07	NOV 16 07			
Erect Floor Detail and Deck	7	DEC 03 07	DEC 11 07			
Infill Steel and Slab Above Chiller	3	JAN 07 08	JAN 09 08			
Prep and pour Floor Slabs	4	JAN 10 08	JAN 15 08			
Erect Floor Perimeter Roof Structure	2	FEB 11 08	FEB 12 08			
Install Pipe and Duct Hangers	5	FEB 19 08	FEB 25 08			
Acid Vent Piping	5	APR 16 08	APR 22 08			
Erect Roof Deck	7	DEC 12 07	DEC 20 07			
Erect and Glaze North Curtain Wall	5	DEC 21 07	DEC 28 07			
Install Window Washer Tie-Off Anchors	5	DEC 21 07	DEC 28 07			
Roof Insulation	5	FEB 19 08	FEB 25 08			

◆ Represents key milestone dates as per discussion of project schedule with owner requirements, for occupancy, especially completion.

HARRISBURG UNIVERSITY ACADEMIC CENTER
 DETAILED PROJECT SCHEDULE

B. Site Layout Planning



Photo taken 08.15.2007 from Market Street, South corner of site

With a congested site area, project planning and utility of space is critical. The site for the Harrisburg University Academic Center is located on the West corner of the intersection of Market and North 4th Streets. Traffic patterns changed as one block of Market Street became one lane and a block of North 4th Street closed for the duration of the project. Site storage due to an alley not in use on the North façade of the building created an abundance for material storage, especially precast and glazing, which could also be protected. The office, crane, dumpster, entrances, fencing are located on the site plan on the following page. Not pictured are the portable toilets that are repositioned upon request to the crane operator who places them as needed on a set floor.

C. Assemblies Estimate Summary

For the atmosphere of the building, the architect considered many things for this building when designing. Today, most technology facilities for universities consist of vast open spaces and glazed curtain wall system. For this estimate, the finishes of the interior were chosen because of the large bid package and complexity of the interior.



Rendering by Burt,Hill of the conference gallery

NEW CONSTRUCTION (University Only)
 220,000 SQFT
 TOTAL SF

RM #	Original sort	ROOM NAME	ROOM NAME	ROOM NAME	PERIMETER	AREA	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	WALL AREA	COMMENTS
100	1	Retail	Retail	Retail	182	2042	SC	Rubber	Paint	Exposed	14	2548	
101	2	Private Counseling Area	Private Counseling Area	Poffce1	52	162	Carpet1	Rubber	Paint	ACT2	10	520	
102	3	Private Counseling Area	Private Counseling Area	Poffce1	51	154	Carpet1	Rubber	Paint	ACT2	10	510	
103	4	Private Counseling Area	Private Counseling Area	Poffce1	52	160	Carpet1	Rubber	Paint	ACT2	10	520	
104	5	Presentation	Private Counseling Area	CONF2	81	359	Carpet2	Rubber	WB Paint	ACT2	10	810	
105	6	Private Counseling Area	Private Counseling Area	Poffce1	52	148	Carpet1	Rubber	Paint	ACT2	10	520	
106	7	Cashier	Private Counseling Area	Poffce1	52	148	Carpet1	Rubber	Paint	ACT2	10	520	
108	8	Reception/ Waiting	Reception/ Waiting	OOfc2	93	303	CarpetTile1	Rubber1	WB Paint	ACT3	10	930	
109	9	Vestibule	Vestibule	Vestibule	44	117	EM	Stone1	WB Paint	ACT5	10	440	
110	10	Vestibule	Vestibule	Vestibule	44	117	EM	Stone1	WB Paint	ACT5	10	440	
111	11	Vestibule	Vestibule	Vestibule	44	117	EM	Stone1	WB Paint	ACT5	10	440	
112	12	Hyd Elev	Hyd Elev	Car 5	37	82						0	
113	13	Media Center	Media Center	Med Cnt	204	1718	Cork	Stone1	WB Paint	ACT6	10	2040	
114	14	Media Center Reception	Media Center Reception		50	152	Carpet1	Rubber	Paint	ACT2	10	500	
115	15	Coat Room	Coat Room		45	121	Carpet1	Rubber	Paint	ACT2	10	450	
116	16	Help Desk	Help Desk	GFSR	76	290	Carpet1	Rubber	Paint	ACT2	10	760	
117	17	IT Assistance	IT Assistance	Storage	57	200	Linoleum	Rubber	WB Paint	Exposed	14	798	
118	18	Kitchenette	Kitchenette	Kitc	58	199	Linoleum	Rubber	WB Paint	ACT2	10	580	
120	19	Grand Public Lobby	Grand Public Lobby	Lobby	570	4625	Stone Tiles	Stone1	70%Wd/St	Wood75%	11	6270	30% Storefront
120	19	Ground Floor Elev Lobby	Ground Floor Elev Lobby	Lobby	57	820	Stone Tiles	Stone1	70%Wd/St	Wood75%	11	616	70% Wood/Stone
119	19	Vestibule	Vestibule	Vestibule	36	86	EM	Stone1	WB Paint	ACT5	10	370	
121	20	Security	Security		40	94	Carpet1	Rubber	Paint	ACT2	10	400	
122	21	Egress Stair 1	Egress Stair 1	STAIR	84	366	Seal/RT	Rubber	Paint	ACT2	14	1176	
123	22	F.C.C.	F.C.C.	Poffce1	64	166	Carpet1	Rubber	Paint	ACT2	10	640	
124	23	Elec Rm	Elec Rm	Mech	125	760	SC	Rubber	WB Paint	Exposed	14	1750	
125	24	Gravl Space	Gravl Space		76	336						0	
126	25	Mechanical Room	Mechanical Room	Mech	213	2602	SC	Rubber	WB Paint	Exposed	10	2130	
127	26	Fire Pump	Fire Pump	Mech	73	267	SC	Rubber	WB Paint	Exposed	14	1022	
128	27	Loading/ Receiving	Loading/ Receiving	Rc	187	970	SC	Rubber	Paint1	Exposed	14	2618	
129	28	BM Supervisor	BM Supervisor	Poffce1	54	178	Carpet1	Rubber	Paint	ACT2	10	540	
130	29	BM Staff	BM Staff	Poffce1	55	183	Carpet1	Rubber	Paint	ACT2	10	550	
131	30	Building Storage	Building Storage	Storage	52	160	Linoleum	Rubber	WB Paint	Exposed	14	728	
132	31	Telecom Rm	Telecom Rm	Mech	51	150	SC	Rubber	WB Paint	Exposed	10	510	
133	32	Chem Storage	Chem Storage	CH ST	85	320	SC	Rubber	WB Paint	Exposed	10	850	
134	33	University Storage	University Storage	Storage	54	216	Linoleum	Rubber	WB Paint	Exposed	10	540	
135	34	Fright Elev	Fright Elev	Car 1	37	86						0	
136	35	Mens Public Toilet	Mens Public Toilet	Toilet 1	50	168	Ceramic	Ceramic	Ceramic	Paint	10	500	
137	36	Corridor	Corridor	Coridmr	68	182	CarpetTile1	Stone1	WB Paint	ACT2	10	680	Stone Border
138	37	Freight Lobby	Freight Lobby	Storage	53	172	Linoleum	Rubber	WB Paint	Exposed	14	742	
139	38	Womens Public Toilet	Womens Public Toilet	Toilet 1	50	168	Ceramic	Ceramic	Ceramic	Paint	10	500	
140	39	Storage	Storage	Storage	42	107	Linoleum	Rubber	WB Paint	Exposed	14	588	
141	40	Kitchenette	Kitchenette	Kitc	35	71	Linoleum	Rubber	WB Paint	ACT2	10	350	
142	41	Room	Room	Poffce1	56	195	Carpet1	Rubber	Paint	ACT2	10	560	
143	42	Director of Admissions	Director of Admissions	Poffce2	56	186	Carpet2	Rubber	Paint	ACT2	10	560	
144	43	Director of Registration and Records	Director of Registration and Records	Poffce2	56	186	Carpet2	Rubber	Paint	ACT2	10	560	

RM #	Original sort	ROOM NAME	SORT	PERIMETER	AREA	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	WALL AREA	COMMENTS
301	94	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
302	95	Garage Elevator Lobby	Lob2	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
303	96	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
304	97	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
305	98	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
400	99	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
401	100	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
402	101	Garage Elevator Lobby	Lob3	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
403	102	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
404	103	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
405	104	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
500	105	Egress Stair 2	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
501	106	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
502	107	Garage Elevator Lobby	Lob4	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
503	108	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
504	109	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
505	110	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
600	111	Egress Stair 2	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
601	112	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
602	113	Garage Elevator Lobby	Lob5	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
603	114	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
604	115	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
605	116	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
701	117	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
702	118	Garage Elevator Lobby	Lob6	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
703	119	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
704	120	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
705	121	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
800	122	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
801	123	Mechanical	Mech	71	200	SC	Rubber	WB Paint	Exposed	10	710	
802	124	Garage Elevator Lobby	Lob7	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
803	125	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
804	126	Mechanical	Mech	72	145	SC	Rubber	WB Paint	Exposed	10	720	
805	127	Elec Rm	Mech	38	48	SC	Rubber	WB Paint	Exposed	10	380	
900	128	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
901	129	Garage Elevator Lobby	Lob8	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
902	130	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
1000	131	Egress Stair 2	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	10	680	
1001	132	Garage Elevator Lobby	Lob9	49	884	Interface	Rubber6"	Paint2	Exposed	10	490	
1002	133	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
1100	134	Egress Stair 2	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	14	952	
1101	135	Garage Elevator Lobby	Lob10	49	884	Interface	Rubber6"	Paint2	ACT1	10	490	
1102	136	Egress Stair 1	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	10	620	
1200	137	Greenhouse	Grn HS	23	334	SC					0	
1201	138	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	14	868	
1202	139	Elevator Lobby	Lob3	103	899	Stone1	Stone1	30%Wd/St	Wood75%	10	1030	30%Wood/Stone
1203	140	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1	Exposed	14	952	
1300	141	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1	Exposed	14	868	

RM #	Original sort	ROOM NAME	SORT	PERIMETER	AREA	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	WALL AREA	COMMENTS
1301	142	Elevator Lobby	Lob3	103	899	Stone1	Stone1	30%Wd/St	Wood75%	10	1030	30%Wood/Stone
1302	143	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1		14	952	
1400	144	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1		14	868	
1401	145	Conference	CONF	76	270	Carpet1	Rubber	WB Paint	ACT2	ACT3	ACT4	
1402	146	Faculty Office	Pofice1	51	151	Carpet1	Rubber	Paint	ACT2	10	510	
1403	147	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1404	148	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1405	149	LE-3	Seminar	101	614	Linoleum	Rubber	WB Paint	ACT2	10	1010	
1406	150	Faculty Office	Pofice1	50	151	Carpet1	Rubber	Paint	ACT2	10	500	
1407	151	Filing or Records Storage Area	Oofc1	78	227	Carpet1	Rubber1	WB Paint	ACT2	10	780	
1408	152	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1409	153	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1410	154	Minor Corridor	Cordmnr	396	1310	Linoleum	Rubber	WB Paint	ACT2	10	3960	
1411	155	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1412	156	LE-3	Seminar	93	567	Linoleum	Rubber	WB Paint	ACT2	10	930	
1413	157	LB-1	Lab	140	1154	Linoleum	Rubber	WB Paint	ACT1	10	1400	
1414	158	Faculty Office	Pofice1	50	152	Carpet1	Rubber	Paint	ACT2	10	500	
1415	159	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1416	160	Faculty Office	Pofice1	48	145	Carpet1	Rubber	Paint	ACT2	10	480	
1417	161	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1418	162	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1419	163	Storage	Storage	35	55	Linoleum	Rubber	WB Paint	Exposed	14	490	
1420	164	Storage	Storage	40	88	Linoleum	Rubber	WB Paint	Exposed	14	560	
1421	165	Faculty Office	Pofice1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1422	166	Faculty Office	Pofice1	49	138	Carpet1	Rubber	Paint	ACT2	10	490	
1423	167	LB-1	Lab	143	1092	Linoleum	Rubber	WB Paint	ACT2	10	1430	
1424	168	LE-2	Seminar	120	852	Linoleum	Rubber	WB Paint	ACT2	10	1200	
1425	169	Elevator Lobby	Lob3	40	88	Stone1	Stone1	30%Wd/St	Wood75%	10	400	30%Wood/Stone
1426	170	Main Corridor	CordrMn	232	1754	Carpet1	Stone1	WB Paint	ACT2G	10	2320	Stone Border
1427	171	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1		14	952	
1428	172	Data Room	Mech	35	72	SC	Rubber	WB Paint	Exposed	10	350	
1429	173	LE-2	Seminar	148	1210	Linoleum	Rubber	WB Paint	ACT2	10	1480	
1430	174	Team Meeting	CONF1	61	222	Carpet1	Rubber	WB Paint	ACT2	10	610	
1431	175	Elec Rm	Mech	55	173	SC	Rubber	WB Paint	Exposed	14	770	
1432	176	LE-4	Seminar	126	932	Linoleum	Rubber	WB Paint	ACT2	10	1260	
1433	177	LE-1	Seminar	181	1948	Linoleum	Rubber	WB Paint	ACT2	10	1810	
1434	178	Minor Corridor	Cordmnr	347	1056	Linoleum	Rubber	WB Paint	ACT2	10	3470	
1435	179	LE-4	Seminar	70	300	Linoleum	Rubber	WB Paint	ACT2	10	700	
1436	180	LE-2	Seminar	132	1002	Linoleum	Rubber	WB Paint	ACT2	10	1320	
1437	181	Team Meeting	CONF1	68	285	Carpet1	Rubber	WB Paint	ACT2	10	680	
1438	182	Mens Room	Toilet 2	92	247	Ceramic	Ceramic	Ceramic	Paint	10	920	
1439	183	Jan Rm	Storage	34	60	Linoleum	Rubber	WB Paint	Exposed	14	476	
1440	184	Elev Vestibule	Elev V	50	148	Carpet1	Rubber	WB Paint	ACT2	10	500	
1441	185	Womans Room	Toilet 2	104	290	Ceramic	Ceramic	Ceramic	Paint	10	1040	
1442	186	Open Learning Environment	2SIS	221	2,297	Carpet1	Stone1	AcPan25%	Wood75%	10	2210	Border Stone
1500	187	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1		14	868	
1501	188	Adjunct Faculty	Pofice1	75	267	Carpet1	Rubber	Paint	ACT2	10	750	
1502	189	Faculty Office	Pofice1	51	152	Carpet1	Rubber	Paint	ACT2	10	510	

RM #	Original sort	ROOM NAME	SORT	PERIMETER	AREA	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	WALL AREA	COMMENTS
1608	238	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1609	239	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1610	240	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1611	241	Minor Corridor	Cordmnr	396	1310	Linoleum	Rubber	WB Paint	ACT2	10	3960	
1612	242	Storage	Storage	39	62	Linoleum	Rubber	WB Paint	Exposed	14	546	
1613	243	LE-3	Seminar	93	567	Linoleum	Rubber	WB Paint	ACT2	10	930	
1614	244	LB-1	Lab	140	1154	Linoleum	Rubber	WB Paint	ACT1	10	1400	
1615	245	Faculty Office	Poffce1	50	152	Carpet1	Rubber	Paint	ACT2	10	500	
1616	246	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1617	247	Faculty Office	Poffce1	48	145	Carpet1	Rubber	Paint	ACT2	10	480	
1618	248	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1619	249	Faculty Office	Poffce1	50	144	Carpet1	Rubber	Paint	ACT2	10	500	
1620	250	Faculty Office	Poffce1	49	138	Carpet1	Rubber	Paint	ACT2	10	490	
1621	251	Storage	Storage	35	55	Linoleum	Rubber	WB Paint	Exposed	14	490	
1622	252	Storage	Storage	40	88	Linoleum	Rubber	WB Paint	Exposed	14	560	
1623	253	Lab Equipment	Lab	49	138	Linoleum	Rubber	WB Paint	ACT1	10	490	
1624	254	LB-1	Lab	143	1082	Linoleum	Rubber	WB Paint	ACT1	10	1430	
1625	255	LE-2	Seminar	120	852	Linoleum	Rubber	WB Paint	ACT2	10	1200	
1626	256	Major Corridor	CordrMn	232	1754	CarpetTile1	Stone1	WB Paint	ACT2G	10	2320	Stone Border
1627	257	Elevator Lobby	Lob3	40	88	Stone1	Stone1	30%Wd/St	Wood75%	10	400	30%Wood/Stone
1628	258	Elevator	Elev								0	
1629	259	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1		14	952	
1630	260	Data Room	Mech	35	72	SC	Rubber	WB Paint	Exposed	10	350	
1631	261	LE-2	Seminar	148	1210	Linoleum	Rubber	WB Paint	ACT2	10	1480	
1632	262	Team Meeting	CONF1	61	222	Carpet1	Rubber	WB Paint	ACT2	10	610	
1633	263	Elec Rm	Mech	55	173	SC	Rubber	WB Paint	Exposed	14	770	
1634	264	LE-4	Seminar	126	932	Linoleum	Rubber	WB Paint	ACT2	10	1260	
1635	265	LE-1	Seminar	181	1948	Linoleum	Rubber	WB Paint	ACT2	10	1810	
1636	266	Minor Corridor	Cordmnr	347	1056	Linoleum	Rubber	WB Paint	ACT2	10	3470	
1637	267	LE-4	Seminar	70	300	Linoleum	Rubber	WB Paint	ACT2	10	700	
1638	268	LE-2	Seminar	132	1002	Linoleum	Rubber	WB Paint	ACT2	10	1320	
1639	269	Team Room/Conference	CONF1	68	285	Carpet1	Rubber	WB Paint	ACT2	10	680	
1640	270	Mens Room	Toilet 2	92	247	Ceramic	Ceramic	Ceramic	Paint	10	920	
1641	271	Jan Rm	Storage	34	60	Linoleum	Rubber	WB Paint	Exposed	14	476	
1642	272	Elev Vestibule	Storage	50	148	CarpetTile1	Rubber	WB Paint	ACT2	10	500	
1643	273	Womans Room	Toilet 2	104	290	Ceramic	Ceramic	Ceramic	Paint	10	1040	
1644	274	Open Learning Environment	2SIS	221	2,297	CarpetTile1	Stone1	AcPan25%	Wood75%	10	2210	Border Stone
191	275	Breakout Area	Oofc1	233	1410	CarpetTile1	Rubber1	WB Paint	ACT2	10	2330	
1701	276	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1		14	868	
1702	277	Adjunct Faculty	Poffce1	75	267	Carpet1	Rubber	Paint	ACT2	10	750	
1703	278	Faculty Office	Poffce1	51	152	Carpet1	Rubber	Paint	ACT2	10	510	
1704	279	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1705	280	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1706	281	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1707	282	Faculty Office	Poffce1	50	151	Carpet1	Rubber	Paint	ACT2	10	500	
1708	283	LE-3	Seminar	99	597	Linoleum	Rubber	WB Paint	ACT2	10	990	
1709	284	Office Services	Oofc1	78	248	CarpetTile1	Rubber1	WB Paint	ACT2	10	780	
1710	285	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	

RM #	Original sort	ROOM NAME	SORT	PERIMETER	AREA	FLOOR	BASE	WALLS	CEILING	CEILING HIEGHT	WALL AREA	COMMENTS
1711	286	LE-3	Seminar	96	547	Linoleum	Rubber	WB Paint	ACT2	10	960	
1712	287	Storage	Storage	38	75	Linoleum	Rubber	WB Paint	Exposed	14	532	
1713	288	Minor Corridor	Corrdmnr	280	930	Linoleum	Rubber	WB Paint	ACT2	10	2800	
1714	289	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1715	290	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1716	291	Secretarial Pool	Ofc1	55	294	CarpetTile1	Rubber1	WB Paint	ACT2	10	550	
1717	292	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1718	293	Faculty Office	Poffce1	50	138	Carpet1	Rubber	Paint	ACT2	10	500	
1719	294	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1720	295	Storage	Storage	39	85	Linoleum	Rubber	WB Paint	Exposed	14	546	
1721	296	Kitchenette	Kitc	36	64	Linoleum	Rubber	WB Paint	ACT2	10	360	
1722	297	Faculty Office	Poffce1	50	148	Carpet1	Rubber	Paint	ACT2	10	500	
1723	298	Lab Equipment	Lab	49	140	Linoleum	Rubber	WB Paint	ACT1	10	490	
1724	299	LB-1	Lab	142	1070	Linoleum	Rubber	WB Paint	ACT1	10	1420	
1725	300	LE-3	Seminar	120	829	Linoleum	Rubber	WB Paint	ACT2	10	1200	
1726	301	LB-1	Lab	138	1102	Linoleum	Rubber	WB Paint	ACT1	10	1380	
1727	302	Main Corridor	CorrdMn	362	2364	Stone1	Stone1	WB Paint	ACT4	10	3620	Stone Border
1728	303	Elevator Lobby	Elobupf	112	750	Stone1	Stone1	WB Paint	ACT4	10	1120	
1729	304	Data Room	Mech	35	74	SC	Rubber	WB Paint	Exposed	10	350	
1730	305	Egress Stair 1	STAIR	68	233	Seal/RT	Rubber	Paint1		14	952	
1731	306	LE-2	Seminar	146	1200	Linoleum	Rubber	WB Paint	ACT2	10	1460	
1732	307	Team Meeting	CONF1	60	223	Carpet1	Rubber	WB Paint	ACT2	10	600	
1733	308	Elec Rm	Mech	55	172	SC	Rubber	WB Paint	Exposed	14	770	
1734	309	LE-4	Seminar	126	956	Linoleum	Rubber	WB Paint	ACT2	10	1260	
1735	310	LE-1	Seminar	180	1855	Linoleum	Rubber	WB Paint	ACT2	10	1800	
1736	311	Minor Corridor	Corrdmnr	359	1065	Linoleum	Rubber	WB Paint	ACT2	10	3590	
1737	312	LE-4	Seminar	69	297	Linoleum	Rubber	WB Paint	ACT2	10	690	
1738	313	LE-2	Seminar	132	1006	Linoleum	Rubber	WB Paint	ACT2	10	1320	
1739	314	Mens Room	Toilet 2	92	247	Ceramic	Ceramic	Ceramic	Paint	10	920	
1740	315	Womans Room	Toilet 2	104	290	Ceramic	Ceramic	Ceramic	Paint	10	1040	
1741	316	Jan Rm	Storage	34	60	Linoleum	Rubber	WB Paint	Exposed	14	476	
1742	317	Team Room/Conference	CONF1	68	286	Carpet1	Rubber	WB Paint	ACT2	10	680	
1743	318	Elev Vestibule	Storage	50	148	CarpetTile1	Rubber	WB Paint	ACT2	10	500	
1801	319	Egress Stair 2	STAIR	62	203	Seal/RT	Rubber	Paint1		14	868	
1802	320	Institutional Research Coordinator	Poffce2	53	172	Carpet2	Rubber	Paint	ACT2	10	530	
1803	321	Human Resources	Poffce1	60	176	Carpet2	Rubber	Paint	ACT2	10	600	
1804	322	Presidents Office	Poffce3	80	384	Carpet3	Stone1	VWC/WD	ACT2	10	800	
1805	323	Associate VP Admin and Finance	Poffce2	54	173	Carpet2	Rubber	Paint	ACT2	10	540	
1806	324	VP Admin and Finance	Poffce2	73	282	Carpet2	Rubber	Paint	ACT2	10	730	
1807	325	Administrative Assistants (Open Office Sp	OOfc6	34	467	CarpetTile1	Stone1	WB Paint	ACT4	10	340	
1807a	326	Minor Corridor	Poffce2	285	1015	CarpetTile1	Rubber	WB Paint	ACT2	10	2850	
1809	327	Associate VP Academic and Student Affai	Poffce2	54	173	Carpet2	Rubber	Paint	ACT2	10	540	
1810	328	VP of Academic and Student Affairs	Poffce2	70	288	Carpet2	Rubber	Paint	ACT2	10	700	
1811	329	VP University Advancement	Poffce2	69	284	Carpet2	Rubber	Paint	ACT2	10	690	
1812	330	Communication and Marketing Specialist	Poffce2	54	176	Carpet2	Rubber	Paint	ACT2	10	540	
1813	331	Grants Management Specialist	Poffce2	54	176	Carpet2	Rubber	Paint	ACT2	10	540	
1814	332	Development Pro 1	Poffce2	50	154	Carpet2	Rubber	Paint	ACT2	10	500	
1815	333	Kitchenette	Kitc	46	116	Linoleum	Rubber	WB Paint	ACT2	10	460	

FLOORS				WALLS			
FLOOR	DESCRIPTION	AREA		WALLS	DESCRIPTION	AREA	
VCT	VCT	0		Paint1	Masonry Paint	32,754	
Carpet1	Carpet "Urban"	16,531		VWC/WD	Wood Paneling	800	
Stone1	Stone	9,964		30%Wd/St	30% Wood Stone	3,980	
Ceramic	Ceramic Tile	3,288		70%Wd/St	70% Wood Stone	14,556	
SC	Sealed Concrete	22,453		AcPan25%	25% Acoustical Panels 75% Zolatone	4,420	
Linoleum	Linoleum	53,564		Ceramic	Ceramic Tile	11,510	
Carpet2	Carpet "Elysian Tip"	4,293		WB Paint	Water Based Zolatone Coating	200,606	
Carpet3	Carpet "Favola"	2,064		VW	Vinyl Wall Covering	2,260	
CarpetTile1	Carpet Tile "Metamorphic"	29,618		Paint2	Epoxy Paint	4,410	
EM	Entrance Mat	437		Paint	General Paint	71,598	
Cork	Cork	1,718					
Seal/RT	Sealed Concrete - Landing/Rubber Treads	8,243					
Interface	"SuperFlor"	7,956					
StoneTiles	Stone Tile Flooring	5,445					
	No Flooring	504					
		0					
		0					
TOTAL FLOOR AREA		166,178		TOTAL WALL AREA		346,894	

CEILINGS				BASE			
CEILING	DESCRIPTION	AREA		BASE	DESCRIPTION	BASE	
C-1	ACOUSTIC CEILING 2X2	0		B-1	RUBBER BASE	0	
C-2	ACOUSTIC CEILING 2X2 High End	0		wood	Wood Base	355	
Paint	Painted GYP	3,288		Stone1	6" Polished Stone	4,314	
Wood	Linear Wood Panels 75%	16,889		Ceramic	Ceramic Base	1,151	
Exposed	Paint Exposed	33,447		Rubber6"	6" Vulcanized Rubber Base	441	
ACT1	2x4 15/16 Grid/"Fine Fissured"/Med Tex	10,118		Rubber1	4" Straight Base	2,128	
ACT2G	2x2 9/16 Grid/"Ultima" 25% Gypboard	5,872		Rubber	4" Vulcanized	23,881	
ACT2	2x2 9/16 Grid/"Ultima" Fine Texture	75,140			No Base	173	
ACT3	"Floating" & 2x2 9/16 Grid/Ultima Fine Texture	3,329					
ACT4	2x2 15/16 Grid/"Wood Veneer Tiles	7,062					
ACT5	Linear Aluminum Panels	437					
ACT6	Ecoresin Panels	1,718					
	No Ceiling	8,878					
TOTAL CEILING AREA		166,178		TOTAL LENGTH		32,443	

Item	Quantity	Labor		Material		Subcontract	Total
		Unit Cost	Amount	Unit Cost	Amount		
<i>Rubber Base 4"</i>	6900 lf	.95/lf	9226	.65/lf	6305		30094
<i>Carpet</i>	1360 sy	5.00/sy	7850	.37/sy	56735		90898
<i>Special Flooring-Cork</i>						17200	17200
<i>Paint Walls</i>						65000	65000
<i>Paint Ceilings</i>						25500	25500
<i>Epoxy Coating</i>	31000 sf	.75/sf	22654	.50/sf	15450		39093
<i>Wall Covering-Vinyl</i>						27700	27700
<i>Flooring Linoleum</i>						65750	65750
<i>Ceramic and Glazed Tile</i>						711939	711939
<i>2x2 Ceiling Panels</i>						295650	295650
<i>4x4 Ceiling Panels</i>	2300 sf	1.23/sf	54.79				63854
<i>Sound Absorbing Ceiling</i>			90.7			70200	70200

Total Finish Contract Value: \$2,026,558

D. Detailed Electrical Systems Estimate

An estimate for the electrical system was done using MC2 software. Due to the technical nature of the project, a university of science and technology, a detailed cost analysis of the electrical was found most appropriate.

Actual Electrical Package: \$6,986,981
SF Electrical: \$18.83

The differences in cost are due to the fact that the detailed estimate performed did not include contractor mark-ups and fees and city permits that were in the bid package. The parking garage and electrical sub-grade were also not taken into account in the estimate.

Detailed Estimate of Materials: \$2,434,576
SF Estimate of Materials: \$10.14

From a conversation with the field superintendent during August of 2007, a general rule of thumb for the labor in the Harrisburg area for electrical work is 85-90% of material costs. With this in consideration, labor for the project at 85% of the cost added to the cost of materials would be \$4,382,237.

Detailed Electrical Estimate: \$4, 382,237
SF Detailed Electrical: \$18.25

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16010.028	CU WIRE THHN-THWN-14 AWG	8,435.01	LNFT	36,400 M	307,034
16010.029	CU WIRE THHN-THWN-12 AWG	88,366.74	LNFT	84,200 M	7,440,480
16010.029	CU WIRE THHN-THWN-12 AWG	261,883.39	LNFT	84,200 M	22,050,582
16010.029	CU WIRE THHN-THWN-12 AWG	238,281.64	LNFT	84,200 M	20,063,314
16010.030	CU WIRE THHN-THWN-10 AWG	8,314.51	LNFT	130,000 M	1,080,886
16010.030	CU WIRE THHN-THWN-10 AWG	56,394.05	LNFT	130,000 M	7,331,226
16010.030	CU WIRE THHN-THWN-10 AWG	6,828.34	LNFT	130,000 M	887,684
16010.030	CU WIRE THHN-THWN-10 AWG	5,047.00	LNFT	130,000 M	656,110
16010.031	CU WIRE THHN-THWN-8 AWG	8,972.45	LNFT	130,000 M	1,166,419
16010.031	CU WIRE THHN-THWN-8 AWG	200.00	LNFT	249,900 M	49,980
16010.032	CU WIRE THHN-THWN-6 AWG	1,723.35	LNFT	377,100 M	649,800
16010.033	CU WIRE THHN-THWN-4 AWG	672.00	LNFT	593,800 M	399,034
16010.034	CU WIRE THHN-THWN-3 AWG	4,194.62	LNFT	744,100 M	3,121,217
16010.035	CU WIRE THHN-THWN-2 AWG	7,828.46	LNFT	934,500 M	7,315,699
16010.037	CU WIRE THHN-THWN-1/0 AWG	4,530.80	LNFT	1,340,200 M	6,072,183
16010.037	CU WIRE THHN-THWN-1/0 AWG	4,643.24	LNFT	1,340,200 M	6,222,874
16010.038	CU WIRE THHN-THWN-2/0 AWG	9,914.56	LNFT	1,674,600 M	16,602,918
16010.039	CU WIRE THHN-THWN-3/0 AWG	4,845.12	LNFT	2,098,900 M	10,169,429
16010.040	CU WIRE THHN-THWN-4/0 AWG	17,081.30	LNFT	2,630,800 M	44,937,490
16010.040	CU WIRE THHN-THWN-4/0 AWG	544.00	LNFT	2,630,800 M	1,431,155
16010.045	CU WIRE THHN-THWN-500 MCM	717.80	LNFT	5,944,200 M	4,266,723
16010.046	CU WIRE THHN-THWN-600 MCM	2,243.11	LNFT	7,139,600 M	16,014,926
16010.046	CU WIRE THHN-THWN-600 MCM	436.00	LNFT	7,139,600 M	3,112,866
16010.046	CU WIRE THHN-THWN-600 MCM	2,144.00	LNFT	7,139,600 M	15,307,302
16070.251	CABLE TYPE MC (METAL CLAD)	2,422.56	LNFT	9,210.100 M	22,312,034
16070.253	2C-CU-#12 AWG,SPND-CLNG	11,215.56	LNFT	336,400 M	3,772,915
16070.302	3C-CU-#12 AWG,SPND-CLNG	15,421.40	LNFT	526,600 M	8,120,909
16070.478	Cat 6 Plenum Cable	222,500.00	LNFT	443.100 M	98,589,750
16070.576	CABLE M.COND PLST JCK		****		
16070.576	CABLE M.COND PLST JCK		****		
16070.631	18/2 AWG ,SPND-CLNG	29,440.85	LNFT	112,000 M	3,297,375
16070.631	18/2 AWG ,SPND-CLNG	19,627.23	LNFT	112,000 M	2,198,250
16070.635	18/6 AWG ,SPND-CLNG	280.39	LNFT	351,000 M	98,417
16070.661	16/2 AWG	39,500.00	LNFT	281,000 M	11,099,500
16070.701	14/2 AWG ,SPND-CLNG	22,431.13	LNFT	259,100 M	5,811,905
16070.701	14/2 AWG ,SPND-CLNG	11,215.56	LNFT	259,100 M	2,905,952
16070.821	TV CABLE RG6 ,SPND-CLNG	8,411.67	LNFT	225,000 M	1,892,626
16080.003	INSUL GRND WIRE CU 10 AWG	562.33	LNFT	130,000 M	73,103
16080.003	INSUL GRND WIRE CU 10 AWG	50.00	LNFT	130,000 M	6,500
16080.004	INSUL GRND WIRE CU 8 AWG	981.36	LNFT	249,900 M	245,242
16080.004	INSUL GRND WIRE CU 8 AWG	150.00	LNFT	249,900 M	37,485
16080.005	INSUL GRND WIRE CU 6 AWG	1,510.27	LNFT	377,100 M	569,522
16080.005	INSUL GRND WIRE CU 6 AWG	6,807.85	LNFT	377,100 M	2,567,239
16080.006	INSUL GRND WIRE CU 4 AWG	4,270.33	LNFT	593,800 M	2,535,719
16080.006	INSUL GRND WIRE CU 4 AWG	136.00	LNFT	593,800 M	80,757
16080.007	INSUL GRND WIRE CU 3 AWG	179.45	LNFT	744,100 M	133,528
16080.009	INSUL GRND WIRE CU 1 AWG	536.00	LNFT	1,181,900 M	633,498
16080.010	INSUL GRND WIRE CU 1/0 AWG	560.78	LNFT	1,340,200 M	751,555
16080.013	INSUL GRND WIRE CU 4/0 AWG	605.64	LNFT	2,630,800 M	1,593,319
16080.018	INSUL GRND WIRE CU 500 MCM	1,272.00	LNFT	5,944,200 M	7,561,022
16080.034	BARE GRND WIRE CU 4/0 AWG	700.97	LNFT	2,630,800 M	1,844,119
16080.900	PULL WIRE	1,519.71	LNFT	55,000 M	83,584
16090.013	TERMIN LUGS-CU WIRE 4/0AWG	5.61	EACH	1,445,000 C	81,032
16100.099	GALVANIZED RIGID STEEL-GRS	180.75	****		
16100.099	GALVANIZED RIGID STEEL-GRS	321.33	****		

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16100.100	GALVANIZED RIGID STEEL-GRS	976.05	****		
16100.100	GALVANIZED RIGID STEEL-GRS		****		
16100.115	COND IN SLAB - 1"	321.33	LNFT	172,060 C	552,887
16100.118	COND IN SLAB - 2"	964.00	LNFT	347,440 C	3,349,324
16100.126	COND-OHEAD/WALL 3/4"	180.75	LNFT	96,450 C	174,334
16100.166	ELBOW - 2"	12.05	EACH	850,000 C	102,425
16100.170	ELBOW - 4"	33.65	EACH	4,035,000 C	1,357,644
16100.180	STAND COUPLING 2"	12.05	EACH	218,000 C	26,269
16100.184	STAND COUPLING 4"	33.65	EACH	875,000 C	294,409
16100.802	RIGID C LOCKNUT 3/4"	72.30	EACH	6,000 C	4,338
16100.803	RIGID C LOCKNUT 1"	8.03	EACH	11,000 C	0,884
16100.806	RIGID C LOCKNUT 2"	24.10	EACH	31,000 C	7,471
16100.810	RIGID C LOCKNUT 4"	5.61	EACH	182,000 C	10,206
16100.903	PLASTIC BUSHING 1"	4.02	EACH	9,000 C	0,362
16100.906	PLASTIC BUSHING 2"	12.05	EACH	29,000 C	3,495
16100.926	INSUL GRNDG BUSHING 3/4"	18.08	EACH	341,000 C	61,636
16100.934	INSUL GRNDG BUSHING 4"	11.22	EACH	2,220,000 C	248,985
16110.099	ELECT METALLIC TUBING-EMT	2,112.77	****		
16110.099	ELECT METALLIC TUBING-EMT	34,519.26	****		
16110.099	ELECT METALLIC TUBING-EMT	1,198.98	****		
16110.099	ELECT METALLIC TUBING-EMT	1,626.75	****		
16110.099	ELECT METALLIC TUBING-EMT	3,466.39	****		
16110.099	ELECT METALLIC TUBING-EMT		****		
16110.099	ELECT METALLIC TUBING-EMT		****		
16110.099	ELECT METALLIC TUBING-EMT		****		
16110.099	ELECT METALLIC TUBING-EMT		****		
16110.099	ELECT METALLIC TUBING-EMT		****		
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16110.100	ELECT METALLIC TUBING-EMT		****		
16110.100	ELECT METALLIC TUBING-EMT		****		
16110.126	COND O'HEAD/WALL 3/4"	1,847.67	LNFT	35,810 C	661,650
16110.126	COND O'HEAD/WALL 3/4"	30,165.19	LNFT	35,810 C	10,802,155
16110.126	COND O'HEAD/WALL 3/4"	1,064.42	LNFT	35,810 C	381,168
16110.126	COND O'HEAD/WALL 3/4"	1,405.83	LNFT	35,810 C	503,429
16110.126	COND O'HEAD/WALL 3/4"	1,606.67	LNFT	35,810 C	575,348
16110.126	COND O'HEAD/WALL 3/4"	3,420.75	LNFT	35,810 C	1,224,969
16110.126	COND O'HEAD/WALL 3/4"	52,376.68	LNFT	35,810 C	18,756,088
16110.126	COND O'HEAD/WALL 3/4"	52,937.46	LNFT	35,810 C	18,956,903
16110.126	COND O'HEAD/WALL 3/4"	1,205.67	LNFT	35,810 C	431,752
16110.126	COND O'HEAD/WALL 3/4"	2,243.11	LNFT	35,810 C	803,259
16110.127	COND O'HEAD/WALL 1"	8,720.10	LNFT	62,580 C	5,457,039
16110.127	COND O'HEAD/WALL 1"	50.00	LNFT	115,700 C	57,850
16110.128	COND O'HEAD/WALL 1-1/4"	2,888.01	LNFT	95,750 C	2,765,267
16110.128	COND O'HEAD/WALL 1-1/4"	150.00	LNFT	168,000 C	252,000
16110.129	COND O'HEAD/WALL 1-1/2"	1,486.17	LNFT	117,800 C	1,750,706
16110.130	COND O'HEAD/WALL 2"	3,504.86	LNFT	137,450 C	4,817,435
16110.131	COND O'HEAD/WALL 2-1/2"	4,850.73	LNFT	205,920 C	9,988,625
16110.131	COND O'HEAD/WALL 2-1/2"	100.00	LNFT	361,300 C	361,300
16110.132	COND O'HEAD/WALL 3"	112.16	LNFT	258,530 C	289,956
16110.134	COND O'HEAD/WALL 4"	925.28	LNFT	374,700 C	3,467,039
16110.134	COND O'HEAD/WALL 4"	392.54	LNFT	374,700 C	1,470,865
16110.134	COND O'HEAD/WALL 4"	500.00	LNFT	672,600 C	3,363,000
16110.163	ELBOW - 1"	4.00	EACH	240,410 C	9,616

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16110.164	ELBOW - 1-1/4"	78.51	EACH	201.000 C	157.803
16110.164	ELBOW - 1-1/4"	12.00	EACH	201.000 C	24.120
16110.165	ELBOW - 1-1/2"	16.07	EACH	261.000 C	41.934
16110.166	ELBOW - 2"	89.72	EACH	395.000 C	354.412
16110.167	ELBOW - 2-1/2"	137.39	EACH	955.000 C	1,312.081
16110.167	ELBOW - 2-1/2"	8.00	EACH	955.000 C	76.400
16110.168	ELBOW - 3"	11.22	EACH	1,422.000 C	159.485
16110.170	ELBOW - 4"	50.47	EACH	2,240.000 C	1,130.529
16110.170	ELBOW - 4"	33.65	EACH	2,240.000 C	753.686
16110.170	ELBOW - 4"	8.00	EACH	2,240.000 C	179.200
16110.202	COMPR COUPLING 3/4"	184.77	EACH	36.000	66.516
16110.202	COMPR COUPLING 3/4"	3,016.52	EACH	36.000	1,085.947
16110.202	COMPR COUPLING 3/4"	106.44	EACH	36.000	38.319
16110.202	COMPR COUPLING 3/4"	140.58	EACH	36.000	50.610
16110.202	COMPR COUPLING 3/4"	160.67	EACH	36.000	57.840
16110.202	COMPR COUPLING 3/4"	5,237.67	EACH	36.000	1,885.560
16110.202	COMPR COUPLING 3/4"	5,295.15	EACH	36.000	1,906.253
16110.202	COMPR COUPLING 3/4"	224.31	EACH	36.000	80.752
16110.203	COMPR COUPLING 1"	9.00	EACH	54.470	4.902
16110.204	COMPR COUPLING 1-1/4"	27.00	EACH	95.160	25.693
16110.204	COMPR COUPLING 1-1/4"	367.31	EACH	109.000	400.368
16110.205	COMPR COUPLING 1-1/2"	164.68	EACH	160.000	263.494
16110.206	COMPR COUPLING 2"	440.21	EACH	204.000	898.030
16110.207	COMPR COUPLING 2-1/2"	18.00	EACH	492.990	88.738
16110.207	COMPR COUPLING 2-1/2"	622.46	EACH	531.000	3,305.282
16110.208	COMPR COUPLING 3"	22.43	EACH	612.000	137.278
16110.210	COMPR COUPLING 4"	58.00	EACH	912.360	529.169
16110.210	COMPR COUPLING 4"	143.00	EACH	979.000	1,399.955
16110.210	COMPR COUPLING 4"	72.90	EACH	979.000	713.702
16110.226	COMPR CONNECTOR 3/4"	80.33	EACH	32.000 C	25.707
16110.226	COMPR CONNECTOR 3/4"	1,337.55	EACH	32.000 C	428.016
16110.226	COMPR CONNECTOR 3/4"	28.12	EACH	32.000 C	8.997
16110.226	COMPR CONNECTOR 3/4"	80.33	EACH	32.000 C	25.707
16110.226	COMPR CONNECTOR 3/4"	32.13	EACH	32.000 C	10.283
16110.226	COMPR CONNECTOR 3/4"	5,302.16	EACH	32.000 C	1,696.690
16110.226	COMPR CONNECTOR 3/4"	7,060.20	EACH	32.000 C	2,259.263
16110.226	COMPR CONNECTOR 3/4"	695.36	EACH	32.000 C	222.517
16110.226	COMPR CONNECTOR 3/4"	229.92	EACH	32.000 C	73.574
16110.226	COMPR CONNECTOR 3/4"	56.08	EACH	32.000 C	17.945
16110.227	COMPR CONNECTOR 1"	872.01	EACH	50.000 C	436.005
16110.228	COMPR CONNECTOR 1-1/4"	38.25	EACH	91.000 C	35.722
16110.229	COMPR CONNECTOR 1-1/2"	16.07	EACH	117.000 C	18.798
16110.230	COMPR CONNECTOR 2"	44.86	EACH	185.000 C	82.995
16110.231	COMPR CONNECTOR 2-1/2"	72.90	EACH	388.000 C	282.856
16110.232	COMPR CONNECTOR 3"	11.22	EACH	502.000 C	56.302
16110.234	COMPR CONNECTOR 4"	4.00	EACH	684.360 C	27.374
16110.234	COMPR CONNECTOR 4"	84.12	EACH	772.000 C	649.381
16110.234	COMPR CONNECTOR 4"	22.43	EACH	772.000 C	173.168
16110.378	3FT MOTOR CONN 1"	2.00	SET	7.084	14.168
16110.380	3FT MOTOR CONN 1-1/2"	2.00	SET	14.440	28.880
16110.382	3FT MOTOR CONN 2-1/2"	2.00	SET	35.026	70.052
16110.499	FLEXIBLE ALUMINUM CONDUIT	32.13	****		
16110.499	FLEXIBLE ALUMINUM CONDUIT	64.27	****		
16110.502	COND-O'HEAD/WALL 1/2"	24.10	LNFT	37.000 C	8.917
16110.502	COND-O'HEAD/WALL 1/2"	48.20	LNFT	37.000 C	17.834
16110.513	FLEX CONNECTOR 1/2"	8.03	EACH	30.000 C	2.410

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16110.513	FLEX CONNECTOR 1/2"	16.07	EACH	30.000 C	4.820
16120.200	PVC SCHED 40 CONDUIT		****		
16120.200	PVC SCHED 40 CONDUIT		****		
16120.210	COND IN TRENCH 4"	1,317.83	LNFT	110.000 C	1,449.611
16120.210	COND IN TRENCH 4"	800.00	LNFT	120.700 C	965.600
16120.210	COND IN TRENCH 4"	1,200.00	LNFT	139.000 C	1,668.000
16120.270	ELBOW - 4"	20.00	EACH	1,123.000 C	224.600
16120.310	PVC STAND COUPLING 4"	20.00	EACH	1.710	34.200
16120.346	PVC FEMALE ADAPTER 4"	33.65	EACH	2.780	93.538
16120.358	PVC BELL FITTINGS 4"	33.65	EACH	2.040	68.639
16120.358	PVC BELL FITTINGS 4"	20.00	EACH	2.040	40.800
16130.001	CONDUIT HANGER-1/2-3/4-1"	230.96	EACH	0.450	103.931
16130.001	CONDUIT HANGER-1/2-3/4-1"	3,793.74	EACH	0.450	1,707.185
16130.001	CONDUIT HANGER-1/2-3/4-1"	134.56	EACH	0.450	60.551
16130.001	CONDUIT HANGER-1/2-3/4-1"	176.73	EACH	0.450	79.530
16130.001	CONDUIT HANGER-1/2-3/4-1"	200.83	EACH	0.450	90.375
16130.001	CONDUIT HANGER-1/2-3/4-1"	6.25	EACH	0.450	2.813
16130.001	CONDUIT HANGER-1/2-3/4-1"	6,547.08	EACH	0.500	3,273.542
16130.001	CONDUIT HANGER-1/2-3/4-1"	6,618.93	EACH	0.500	3,309.467
16130.001	CONDUIT HANGER-1/2-3/4-1"	392.54	EACH	0.500	196.272
16130.001	CONDUIT HANGER-1/2-3/4-1"	133.18	EACH	0.500	66.592
16130.001	CONDUIT HANGER-1/2-3/4-1"	280.39	EACH	0.500	140.195
16130.002	CONDUIT HANGER 1.25-1.5-2"	186.78	EACH	0.750	140.081
16130.002	CONDUIT HANGER 1.25-1.5-2"	18.75	EACH	0.700	13.125
16130.002	CONDUIT HANGER 1.25-1.5-2"	799.11	EACH	1.250	998.886
16130.003	CONDUIT HANGER 2-1/2,3,4"	75.00	EACH	1.000	75.000
16130.003	CONDUIT HANGER 2-1/2,3,4"	115.66	EACH	1.500	173.491
16130.003	CONDUIT HANGER 2-1/2,3,4"	669.43	EACH	1.500	1,004.143
16140.299	COND BODIES-EMT-SET-SCREW	10.04	****		
16140.299	COND BODIES-EMT-SET-SCREW	110.46	****		
16140.299	COND BODIES-EMT-SET-SCREW	8.03	****		
16140.299	COND BODIES-EMT-SET-SCREW	10.04	****		
16140.326	TYPE LB- TWO HUB 3/4"	6.03	EACH	8.270	49.827
16140.326	TYPE LB- TWO HUB 3/4"	38.16	EACH	8.270	315.570
16140.326	TYPE LB- TWO HUB 3/4"	4.02	EACH	8.270	33.218
16140.326	TYPE LB- TWO HUB 3/4"	6.03	EACH	8.270	49.827
16140.362	TYPE T-THREE HUB 3/4"	4.02	EACH	10.610	42.617
16140.362	TYPE T-THREE HUB 3/4"	72.30	EACH	10.610	767.104
16140.362	TYPE T-THREE HUB 3/4"	4.02	EACH	10.610	42.617
16140.362	TYPE T-THREE HUB 3/4"	4.02	EACH	10.610	42.617
16140.520	4" OCTAGON BOX 1-1/2" DEEP	501.90	EACH	82.500 C	414.065
16140.520	4" OCTAGON BOX 1-1/2" DEEP	440.21	EACH	82.500 C	363.174
16140.529	4" SQ BOX, 2-1/8" DEEP	546.76	EACH	118.000 C	645.175
16140.529	4" SQ BOX, 2-1/8" DEEP	72.90	EACH	118.000 C	86.023
16140.529	4" SQ BOX, 2-1/8" DEEP	84.12	EACH	118.000 C	99.258
16140.530	4" SQUARE BOX 1-1/2" DEEP	80.33	EACH	67.200 C	53.984
16140.530	4" SQUARE BOX 1-1/2" DEEP	12.05	EACH	67.200 C	8.098
16140.530	4" SQUARE BOX 1-1/2" DEEP	48.20	EACH	67.200 C	32.390
16140.530	4" SQUARE BOX 1-1/2" DEEP	12.05	EACH	67.200 C	8.098
16140.530	4" SQUARE BOX 1-1/2" DEEP	3,426.35	EACH	84.000 C	2,878.138
16140.530	4" SQUARE BOX 1-1/2" DEEP	1,609.43	EACH	84.000 C	1,351.924
16140.533	4" SQUARE BOX BLANK COVER	8.03	EACH	30.400 C	2.442
16140.533	4" SQUARE BOX BLANK COVER	1,194.46	EACH	38.000 C	453.894
16140.533	4" SQUARE BOX BLANK COVER	566.39	EACH	38.000 C	215.227
16140.533	4" SQUARE BOX BLANK COVER	100.94	EACH	38.000 C	38.357
16140.533	4" SQUARE BOX BLANK COVER	33.65	EACH	38.000 C	12.786

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16140.538 4"	SO BOX, 1G TILE RING	80.33	EACH	60.000 C	48.200
16140.538 4"	SO BOX, 1G TILE RING	12.05	EACH	60.000 C	7.230
16140.538 4"	SO BOX, 1G TILE RING	48.20	EACH	60.000 C	28.920
16140.538 4"	SO BOX, 1G TILE RING	2,231.90	EACH	75.000 C	1,673.923
16140.538 4"	SO BOX, 1G TILE RING	863.60	EACH	75.000 C	647.699
16140.538 4"	SO BOX, 1G TILE RING	445.82	EACH	75.000 C	334.364
16140.538 4"	SO BOX, 1G TILE RING	72.90	EACH	75.000 C	54.676
16140.538 4"	SO BOX, 1G TILE RING	28.04	EACH	75.000 C	21.029
16140.539 4"	SO BOX, 2G TILE RING	185.06	EACH	134.000 C	247.976
16140.540 4-11/16"	SO BOX, 1-1/2"DEEP	6.03	EACH	151.200 C	9.110
16140.540 4-11/16"	SO BOX, 1-1/2"DEEP	34.14	EACH	151.200 C	51.822
16140.540 4-11/16"	SO BOX, 1-1/2"DEEP	6.03	EACH	151.200 C	9.110
16140.541 4-11/16"	SO BOX, 2-1/8"DEEP	872.01	EACH	206.000 C	1,796.341
16140.543 4-11/16"	SO BOX BLANK COV	6.03	EACH	43.200 C	2.603
16140.543 4-11/16"	SO BOX BLANK COV	34.14	EACH	43.200 C	14.749
16140.543 4-11/16"	SO BOX BLANK COV	6.03	EACH	43.200 C	2.603
16140.547 4-11/16"	SO BOX, 1G TILE RING	872.01	EACH	212.000 C	1,848.661
16140.563 3-GANG SW BOX, 4-1/2"X1-5/8"		19.63	EACH	910.050 C	178.818
16140.565 3-GANG BOX PLAST/TILE RING		19.63	EACH	559.100 C	109.736
16140.566 4-GANG SW BOX, 4-1/2"X1-5/8"		11.22	EACH	2,437.350 C	273.363
16140.568 4-GANG BOX PLAST/TILE RING		11.22	EACH	605.050 C	67.860
16140.569 5-GANG SW BOX, 4-1/2"X1-5/8"		8.41	EACH	3,191.650 C	268.471
16140.571 5-GANG BOX PLAST/TILE RING		8.41	EACH	386.600 C	32.520
16140.591 BAR HANGER W/STUD-NON-ADJ		501.90	EACH	200.000 C	1,003.793
16140.591 BAR HANGER W/STUD-NON-ADJ		440.21	EACH	200.000 C	880.422
16140.595 OUTLET BOX CLAMP		4.02	EACH	0.500	2.008
16140.595 OUTLET BOX CLAMP		3,426.35	EACH	0.500	1,713.177
16140.595 OUTLET BOX CLAMP		1,648.69	EACH	0.500	824.344
16140.595 OUTLET BOX CLAMP		872.01	EACH	0.500	436.005
16140.595 OUTLET BOX CLAMP		445.82	EACH	0.500	222.909
16140.595 OUTLET BOX CLAMP		72.90	EACH	0.500	36.451
16140.595 OUTLET BOX CLAMP		33.65	EACH	0.500	16.823
16140.701 FS BOX, 3/4"		46.19	EACH	8.140	376.000
16140.701 FS BOX, 3/4"		6.03	EACH	8.140	49.044
16150.340 PANEL ENCLOSURE - STEEL		4.02	****		
16150.429 NEMA-12, 16H-12W-6D		2.01	EACH	97.040	194.889
16150.432 NEMA-12, 24H-20W-6D		2.01	EACH	111.680	224.291
16150.847 1/2" ANTI-SHORT BUSHING		3,224.47	EACH	2.160	69.649
16150.876 CON. STRAIGHT AC/MC 1/2"		3,224.47	EACH	62.000 C	1,999.174
16170.004 BACKHOE EXCAV & BKFL		109.92	CUYD		
16170.004 BACKHOE EXCAV & BKFL		160.17	CUYD		
16170.050 BACKFILL COMPACTION		74.10	CUYD		
16170.060 **DISPOSE OF EXCESS DIRT**		23.06	CUYD		
16170.100 CONCRETE FOR DUCTBANK		22.43	CUYD	60.000	1,345.868
16170.100 CONCRETE FOR DUCTBANK		5.91	CUYD	60.000	354.714
16170.100 CONCRETE FOR DUCTBANK		11.98	CUYD	100.000	1,197.766
16170.200 UG COND SUPPORTS & SPACERS		****			
16170.200 UG COND SUPPORTS & SPACERS		****			
16170.210 BASE SPACER-4" COND		101.64	EACH	0.950	96.559
16170.210 BASE SPACER-4" COND		100.00	EACH	0.950	95.000
16170.222 INTERMED SPACER-4"COND		63.09	EACH	0.950	59.933
16170.222 INTERMED SPACER-4"COND		100.00	EACH	0.950	95.000
16170.302 PRE-CAST PULL BOX 18" X18"		2.01	EACH	185.000	371.542
16170.401 MANHOLE UP TO 5' DEEP		1.00	EACH		
16170.401 MANHOLE UP TO 5' DEEP		1.00	EACH		
16210.061 PLUG-IN BUSWAY-3W-AL-2500A		600.00	LNFT	18,522.00 C	111,132.000

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16210.081 BUSWAY FLOOR FLANGE		42.00	EACH	105.300	4,422.600
16220.006 BD-ELBOW FTG-3W-1600-2500A		6.00	EACH	287.300	1,723.800
16220.010 BD-CBL FEED -3W-1600-2500A		2.00	EACH	623.350	1,246.700
16220.026 BD-EXPAN FTG-3W-1600-2500A		12.00	EACH	945.750	11,349.000
16220.029 BD-END CLOSURE- 1600-2500A		2.00	EACH	84.500	169.000
16220.090 BD-FUSED SW TAPOFF-3P-600A		1.00	EACH	685.100	685.100
16220.099 **BUSWAY HANGERS REQUIRED		75.00	NOTE		
16230.006 BD-P/I FUSE SW-3W/3F-600A		1.00	EACH	4,320.000	4,320.000
16230.007 BD-P/I FUSE SW-3W/3F-800A		2.00	EACH	5,760.000	11,520.000
16230.009 BD-P/I FUSE SW-3W/3F-1200A		2.00	EACH	8,640.000	17,280.000
16230.010 BD-P/I FUSE SW-3W/3F-1600A		2.00	EACH	14,400.000	28,800.000
16260.000 ALUMINUM CABLE TRAY		****			
16260.021 12" WIDE STRAIGHT SECTION		2,355.27	LNFT	4.880	11,493.709
16260.022 12" ELL, 90DEG, FLAT		11.22	EACH	43.000	482.269
16260.025 12" TEE, HORIZONTAL		11.22	EACH	99.000	1,110.341
16260.125 DIVIDER - STRAIGHT		2,355.27	LNFT	1.150	2,708.558
16260.126 DIVIDER - ELL, FLAT		22.43	EACH	4.400	98.697
16260.871 CABLETRAY TRAPEZE,UNISTRUT		294.41	EACH	7.500	2,208.064
16320.000 MAIN SWITCHBOARD		2.80	EACH	27,500.000	77,106.994
16320.001 METERBASE		2.80	EACH	145.000	406.564
16320.002 PANEL 800 AMP		3.15	EACH	4,250.000	13,366.640
16320.003 PANEL 400 AMP		5.61	EACH	3,255.000	18,253.328
16320.004 PANEL 100 AMP		19.63	EACH	375.000	7,360.213
16320.005 PANEL 150 AMP		22.43	EACH	415.000	9,308.917
16320.006 PANEL 200 AMP		14.02	EACH	463.000	6,491.007
16320.007 PANEL 225 AMP		22.43	EACH	522.000	11,709.048
16320.008 DISCONNECT / STARTERS		1.13	LOT	2,500.000	2,828.784
16320.008 DISCONNECT / STARTERS		1.10	LOT	4,500.000	4,949.240
16320.009 POSSIBLE PANELS NEEDED		0.57	LOT	7,500.000	4,294.094
16320.009 POSSIBLE PANELS NEEDED		1.13	LOT		
16320.009 POSSIBLE PANELS NEEDED		0.57	LOT	4,500.000	2,576.456
16330.000 L. V. SWITCHBOARD MSWB		1.00	EACH	50,000.000	50,000.000
16330.500 SWITCHBOARD MSWB RIGGING		1.00	EACH		
16360.000 LV MTR CONTROL CTR MCC CHIL		1.00	EACH	10,000.000	10,000.000
16360.500 LV-MCC MCC CHILLER		1.00	EACH		
16390.102 TRAN 480-208V, 3PH- 10KVA		2.01	EACH	700.000	1,405.835
16400.003 COPPERWELD GR ROD 3/4"X10'		16.82	EACH	17.570	295.586
16400.104 CU GROUND BAR 1/4"X4"		44.86	LNFT	18.200	816.493
16400.203 CW PIPE CLAMP 4"		8.41	EACH	10.040	84.453
16400.302 THERMOWELD CON-1 TO 4(DAWG		16.82	EACH	9.000	151.410
16410.000 GENERATOR EQUIPMENT QUOTE		2.80	LOT	123,225.0	345,509.432
16410.001 GAS GENERATOR 200 KW		2.80	EACH		
16410.002 ATS SWITCH		5.61	EACH		
16410.003 ANNUNCIATOR		2.80	EACH		
16410.004 MISC CONNECTIONS		2.80	LOT		
16410.005 SYSTEM START-UP		2.80	LOT		
16410.006 EXHAUST PIPING		2.80	LOT		
16410.007 RIGGING / CRANE		2.80	LOT		
16430.000 FIXTURE A1		381.58	EACH	180.000	68,685.057
16430.000 LIGHTING FIXTURE / LAMP QUOTE		1.10	LOT	314,374.0	345,758.340
16430.000 LIGHTING FIXTURE / LAMP QUOTE		1.13	LOT	325,274.0	368,051.955
16430.000 Lighting Fixture Quotation		1.00	Each	16,000.000	16,000.000
16430.000 Lighting Fixture Quotation		1.00	Each	82,000.000	82,000.000
16430.000 Lighting Fixture Quotation		1.00	Each	213,000.000	213,000.000
16430.000 Lighting Fixture Quotation (Some Spe		1.00	Each	150,000.000	150,000.000
16430.001 FIXTURE A1E		140.58	EACH	222.000	31,209.526

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16430.001	FIXTURE R-1	319.64	EACH		
16430.002	FIXTURE A-2	8.03	EACH	1,150.000	9,238.341
16430.002	FIXTURE R-1A	53.27	EACH		
16430.003	FIXTURE A-3	2.01	EACH	515.000	1,034.293
16430.003	FIXTURE R-2	148.61	EACH		
16430.004	FIXTURE A-3E	24.10	EACH	557.000	13,423.711
16430.004	FIXTURE R-2A	44.86	EACH		
16430.005	FIXTURE A-4	4.02	EACH	675.000	2,711.252
16430.005	FIXTURE R-3	53.27	EACH		
16430.006	FIXTURE A-4E	6.03	EACH	717.000	4,319.929
16430.006	FIXTURE R-4	58.88	EACH		
16430.007	FIXTURE B-1E	4.02	EACH	35.000	140.583
16430.007	FIXTURE R-5	2.80	EACH		
16430.008	FIXTURE B-2E	96.40	EACH	125.000	12,050.010
16430.008	FIXTURE R-6	19.63	EACH		
16430.009	FIXTURE B-3E	4.02	EACH	60.000	241.000
16430.009	FIXTURE R-6A	11.22	EACH		
16430.010	FIXTURE B-4E	36.15	EACH	65.000	2,349.752
16430.010	FIXTURE R-7	42.06	EACH		
16430.011	FIXTURE B-5E	2.01	EACH	250.000	502.084
16430.011	FIXTURE R-9	5.61	EACH		
16430.012	FIXTURE R-10	11.22	EACH		
16430.012	FIXTURE X-1	24.10	EACH	115.000	2,771.502
16430.013	FIXTURE R-12	39.25	EACH		
16430.014	FIXTURE R-13	154.21	EACH		
16430.014	REMOVE EX STAIR FIXTURES	72.30	EACH		
16430.015	FIXTURE R-13A	114.96	EACH		
16430.015	MODIFY EX STAIR WIRING	4.02	LOT	100.000	401.667
16430.016	FIXTURE R-14	25.24	EACH		
16430.017	FIXTURE R-15	50.47	EACH		
16430.018	FIXTURE S-1	3,241.30	LNFT		
16430.019	FIXTURE S-1 DROPS / WHIPS	196.27	EACH		
16430.020	FIXTURE S-2	44.86	EACH		
16430.021	FIXTURE S-3	19.63	EACH		
16430.021	FIXTURE S-3A	28.04	EACH		
16430.022	FIXTURE S-4 (12' LONG)	5.61	EACH		
16430.023	FIXTURE S-5	403.76	LNFT		
16430.024	FIXTURE S-5 DROPS / WHIPS	11.22	EACH		
16430.025	FIXTURE S-8	25.24	EACH		
16430.026	FIXTURE S-9	128.98	EACH		
16430.027	FIXTURE S-10	137.39	EACH		
16430.028	FIXTURE S-11	187.86	EACH		
16430.029	FIXTURE S-12 TRACK	336.47	LNFT		
16430.030	FIXTURE S-12 TRACK HEAD	56.08	EACH		
16430.031	FIXTURE W-1	42.06	EACH		
16430.032	FIXTURE W-2	44.86	EACH		
16430.033	FIXTURE W-2A	56.08	EACH		
16430.034	FIXTURE W-3 @ 26" STRAIGHT	22.43	EACH		
16430.035	FIXTURE W-3 @ 12" STRAIGHT	22.43	EACH		
16430.036	FIXTURE W-3 @ 10" STRAIGHT	5.61	EACH		
16430.037	FIXTURE W-3 @ 8" STRAIGHT	33.85	EACH		
16430.038	FIXTURE W-4	448.62	EACH		
16430.039	FIXTURE W-5	11.22	EACH		
16430.040	FIXTURE W-6	134.59	EACH		
16430.041	FIXTURE W-7	16.82	EACH		
16430.042	FIXTURE W-8	19.63	EACH		

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16430.043	FIXTURE W-9	44.86	EACH		
16430.044	FIXTURE W-10	5.61	EACH		
16430.045	FIXTURE WX-1	53.27	EACH		
16430.046	FIXTURE CX-1	25.24	EACH		
16430.047	FIXTURE CX-2	22.43	EACH		
16430.048	ELEVATOR PIT LIGHT	5.61	EACH	85.000	476.661
16430.049	MISSING LIGHT FIXTURE ALLOWA	2.80	LOT	25,000.00	70,097.268
16430.100	EXTERIOR WALL / CANOPY FIXTU	28.04	EACH	825.000	23,132.098
16430.101	HARRISBURG STREET LIGHT	5.61	EACH		
16430.800	Decor Site Fixture 14' 200w	6.00	EACH	4,200.000	25,200.000
16450.000	RECEPTACLES-STRAIGHT BLADE	46.19	****		
16450.000	RECEPTACLES-STRAIGHT BLADE	****			
16450.020	HEAVY DUTY GRADE	****			
16450.046	NEMA 14-20R,SINGLE,BROWN	22.43	EACH	1,497.600 C	335.929
16450.070	SPECIFICATION GRADE	****			
16450.074	NEMA 5-20R,DUPLEX,IVORY	2,815.11	EACH	342.000 C	9,627.663
16450.140	SPECIAL OUTLETS	46.19	****		
16450.140	SPECIAL OUTLETS	****			
16450.154	NEMA 5-20R GFCI,BROWN	46.19	EACH	950.000 C	438.821
16450.155	NEMA 5-20R GFCI,IVORY	162.63	EACH	1,050.000 C	1,707.569
16450.600	FIRE RTD POKE-THRU DEVICES	****			
16450.605	POWER POKE-THRU	375.72	EACH	136.500	51,285.965
16450.606	TELE/DATA POKE-THRU	92.53	EACH	125.000	11,566.049
16450.614	POWER POLE	22.43	EACH	185.000	4,149.758
16460.000	GENERAL PURPOSE SWITCHES	6.03	****		
16460.000	GENERAL PURPOSE SWITCHES	****			
16460.200	SPECIFICATION GRADE	6.03	****		
16460.200	SPECIFICATION GRADE	****			
16460.205	SWITCH,SPST,20A,BROWN	6.03	EACH	307.000 C	18.497
16460.206	SWITCH,SPST,20A,IVORY	510.31	EACH	307.000 C	1,566.646
16460.224	SWITCH,3-WAY,20A,IVORY	238.33	EACH	339.000 C	807.941
16460.233	SWITCH,4-WAY,20A,IVORY	5.61	EACH	916.000 C	51.367
16460.300	SPECIAL PURPOSE SWITCHES	4.02	****		
16460.341	MOTOR STARTING SWITCH,2P	4.02	EACH	2,850.000 C	114.475
16460.702	DUPLEX RECEPT PL,302,STAIN	2,046.84	EACH	75.000 C	1,535.130
16460.722	SINGLE RECEPT PL,302,STAIN	22.43	EACH	157.000 C	35.217
16460.762	GFCI REC PLATE,302 STAINL	162.63	EACH	72.000 C	117.090
16460.773	GFCI RECEPT COVER, W.P.	46.19	EACH	1,056.000 C	487.784
16460.818	1G SWITCH PLATE,302 STAINL	6.03	EACH	72.000 C	4.338
16460.818	1G SWITCH PLATE,302 STAINL	238.33	EACH	72.000 C	171.598
16460.819	2G SWITCH PLATE,302 STAINL	185.06	EACH	107.000 C	198.011
16460.820	3G SWITCH PLATE,302 STAINL	19.63	EACH	252.000 C	49.461
16460.821	4G SWITCH PLATE,302 STAINL	11.22	EACH	401.000 C	44.974
16460.822	5G SWITCH PLATE,302 STAINL	8.41	EACH	486.000 C	40.881
16460.890	1G SWITCH PLATE,4"SQ BOX	4.02	EACH	77.500 C	3.113
16470.004	ENCL CB,240/3/50AF,NEMA-1	2.01	EACH	214.000	429.784
16480.095	D/S NEMA-1 480V-3P/3F-200A	4.02	EACH	600.000	2,410.002
16480.117	D/S NEMA3R 480V-3P/3F- 60A	2.00	EACH	223.720	447.440
16480.118	D/S NEMA3R 480V-3P/3F-100A	2.00	EACH	349.180	698.360
16480.119	D/S NEMA3R 480V-3P/3F-200A	2.00	EACH	480.690	961.380
16500.231	FUSE,CLASS RK-5,600V, 200A	12.05	EACH	1,841.000	221.841
16500.299	FUSE,CLASS K-1,600V, 600A	3.00	EACH	74.200	222.600
16500.301	FUSE, CLASS L, 600V, 800A	6.00	EACH	196.300	1,177.800
16500.303	FUSE, CLASS L, 600V, 1200A	6.00	EACH	196.300	1,177.800
16500.306	FUSE, CLASS L, 600V, 1600A	6.00	EACH	264.490	1,586.940
16510.040	MOTOR CONN-480V/3P, 20 HP	2.00	EACH	5.830	11.660

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16510.044	MOTOR CONN-480V/3P, 50 HP	2.00	EACH	8.570	17.140
16560.000	EF-1 PENN VENT BB24	2.01	EACH	1,200.000	2,410.002
16560.000	EQUIPMENT CONNECTIONS	2.80	lot	21,400.00	60,003.261
16560.001	RELIEF DAMPER	2.01	EACH	300.000	602.501
16560.002	UNIT HEATER	2.01	EACH	450.000	903.751
16560.003	THERMOSTAT	2.01	EACH	82.000	164.683
16560.005	EXISTING ELEC PNL CONNECT	2.01	LOT		
16560.006	ELEVATOR CONTROL CONNECT	4.02	EACH		
16560.007	MODIFY EX CHANGE BOOTH	2.01	EACH	25.000	50.208
16560.008	NEW CHANGE BOOTH CONNECT	2.01	EACH	25.000	50.208
16560.009	SW GEAR 150A 3P BREAKER	4.02	EACH	800.000	3,213.336
16560.010	SW GEAR 30A 3P BREAKER	2.01	EACH	550.000	1,104.584
16560.011	SIZE 00 MOTOR STARTER	2.01	EACH	395.000	793.292
16560.012	EX STAEFA CONTROLLER CONN	2.01	EACH	75.000	150.625
16620.100	STANDARD CONTACTOR	12.05	****		
16620.100	STANDARD CONTACTOR		****		
16620.455	20A/6P MECH-HELD (OPEN)	4.02	EACH	296.000	1,188.934
16620.458	20A/12P MECH-HELD (OPEN)	8.03	EACH	550.000	4,418.337
16620.461	20A/6P MECH-HELD NEMA 1	2.80	EACH	299.400	839.485
16620.725	CONTACTOR FACTORY MODIFIC.	36.15	****		
16620.726	H-O-A SELECTOR SWITCH	12.05	EACH	36.000	433.800
16620.727	PILOT LIGHT	12.05	EACH	10.830	130.502
16620.810	TIME SWITCH-INDOOR ENCLSRE		****		
16620.845	DPDT ASTRO W/SKIP-A-DAY	2.80	EACH	157.270	440.968
16620.932	PHOTO-ELECTRIC CELL	2.80	EACH	13.330	37.376
16640.000	LIGHTNING PROTECTION ROUGH	2.80	LOT	2,000.000	5,607.781
16660.000	TEMPORARY ELECTRIC	2.01	LOT	2,500.000	5,020.838
16660.000	TEMPORARY POWER	2.80	LOT	4,500.000	12,617.508
16660.001	LIFTS	2.01	LOT		
16660.002	ELECTRIC INSPECTION	2.01	LOT		
16660.002	ELECTRIC INSPECTION / PERMIT	2.80	LOT		
16660.003	FOREMAN LAYOUT	2.80	LOT		
16660.003	WALL/FLOOR PENETRATIONS	2.01	LOT	250.000	502.084
16660.004	LAYOUT	2.01	LOT		
16660.005	MISC HARDWARE	2.01	LOT	1,000.000	2,008.335
16660.005	MISC HARDWARE	2.80	LOT	2,000.000	5,607.781
16660.006	NUTS / BOLTS / ETC	2.01	LOT	500.000	1,004.168
16660.006	NUTS / BOLTS / ETC	2.80	LOT	750.000	2,102.918
16660.007	MISC STEEL	2.80	LOT	850.000	2,383.307
16660.007	MISC STEEL / UNISTRUT	2.01	LOT	150.000	301.250
16660.008	WIRENUTS	3,514.59	EACH	0.090	316.313
16660.008	WIRENUTS	43,460.31	EACH	0.090	3,911.428
16660.009	FIRESTOP	12.05	EACH	12.500	150.625
16660.009	FIRESTOP	67.29	EACH	12.500	841.167
16660.010	TAPE	257.96	EACH	2.000	515.916
16660.010	WIREMARKERS	10.04	EACH	22.000	220.917
16660.011	WIREMARKERS	106.55	EACH	22.500	2,397.327
16660.012	MISC EXCAVATION	2.01	LOT		
16660.012	TAGS	2.80	LOT	125.000	350.486
16660.013	SWITCHBOARD CONCRETE PAD	2.80	EACH		
16660.014	SAW-CUT / PATCH FLOOR	2.80	LOT		
16660.015	PENETRATE EXISTING MANHOLE	2.80	LOT	150.000	420.584
16660.016	WALL / FLOOR PENETRATIONS	2.80	LOT	225.000	630.875
16660.017	AS BUILD / COORDINATION DRAWI	2.80	LOT		
16800.912	PHONE B'BOARD-PAINTED-4X8'	11.22	EACH	35.000	392.545
16900.000	FIRE ALARM EQUIPMENT QUOTE	2.80	LOT	38,800.00	108,790.959

ItemCode	Description	Quantity	UM	Material	MaterialTotalCost
16900.000	FIRE ALARM SYSTEM QUOTE	2.01	LOT		
16900.001	FA MAIN PANEL W/ PAGING	2.80	EACH		
16900.001	PULL STATION	12.05	EACH		
16900.002	HORN/STROBE	24.10	EACH		
16900.002	SIGNAL PANEL	11.22	EACH		
16900.003	ANNUNCIATOR PANEL	2.80	EACH		
16900.003	SMOKE DETECTOR	14.06	EACH		
16900.004	PULL STATION	47.67	EACH		
16900.004	TAMPER SWITCH	6.03	EACH		
16900.005	EX FA PANEL CONNECT	2.01	LOT	250.000	502.084
16900.005	SMOKE DETECTOR	95.33	EACH		
16900.006	HEAT DETECTOR	33.65	EACH		
16900.006	SYSTEM START-UP	2.01	LOT		
16900.007	DUCT DETECTOR	39.25	EACH		
16900.008	REMOTE INTERFACE MODULE	16.82	EACH		
16900.008	TAMPER / FLOW SWITCH	44.86	EACH		
16900.009	STROBE	395.35	EACH		
16900.009	SYSTEM START-UP	2.80	LOT		
16900.010	FA CEILING SPEAKER	305.62	EACH		
16900.011	MISC MODULES	2.80	LOT		
16900.012	SYSTEM START-UP	2.80	LOT		
16910.000	SECURITY ACCESS SYSTEM QUO	2.80	LOT	16,800.00	47,105.364
16910.001	INTRUSION PANEL	2.80	EACH		
16910.002	ACCESS PANEL	2.80	EACH		
16910.003	CARDREADER	16.82	EACH		
16910.004	DOOR CONTACT	39.25	EACH		
16910.005	REQUEST TO EXIT DEVICE	16.82	EACH		
16910.006	ELECTRIC STRIKE CONNECTION	16.82	EACH		
16950.000	CCTV SECURITY CAMERA QUOTE	2.80	LOT	41,000.00	114,959.519
16950.001	CCTV PANEL / RACKS	2.80	LOT		
16950.002	CCTV MONITORS	5.61	EACH		
16950.003	DIGITAL RECORDING EQUIPMENT	2.80	LOT		
16950.004	FIXED CAMERA	28.04	EACH		
16950.005	PTZ CAMERA	8.41	EACH		
16950.006	SYSTEM START-UP	2.80	LOT		
16990.000	Mechanical Space	11,111.00	SQ/FT		
16990.001	Mechanical Room Roof	16,800.00	SQ/FT		

E. General Conditions Estimate

A General Conditions Estimate was done using Timberline software and cost data reports obtained from Reynolds Construction Management. It includes project staffing costs as well as unit and lump sum costs incurred by the construction manager. Their on-site office will be the first two floors with temporary utilities during the winter of 2007/2008 until project closing, reducing mobilization costs.

Approximate total for General Conditions: \$2.5 million.



Temporary office trailer on the East corner of the project site, facing Market Street.

**Harrisburg University Academic Center
General Conditions**

Project name	Harrisburg Univ 4th & Market Harrisburg PA
Client	Harrisburg Univ.
Architect	Burt Hill Kosar
Engineer	B-HKR
Document	Design Development
Labor rate table	LOCAL
Equipment rate table	Equipment
Report format	Sorted by 'Group phase/Phase' 'Detail' summary

Item	Description	Takeoff Qty	Labor	Material	Subcontract	Equipment	Total
			Unit Cost	Unit Cost	Amount	Amount	Amount
1000.000 GENERAL CONDITIONS							
1025.000	General Conditions						
10	Pay Architect to review Submittals	1.00 ls	-	-	10,000	-	10,000
20	Mobilization & Set-Up	1.00 ls	5,000.00 /ls	10,000.00 /ls	-	-	15,000
	General Conditions		6,000	10,000	10,000	-	26,000
1060.100	Permits						
10	Building Permit by Owner						
1065.100	Insurance						
12	Excess and General Liability Insurance @ .7% of Total						
16	Subguard - Subcontractors						
16	Harrisburg Merchantile Tax						
1080.100	Documents						
10	Prints & Copies During Construction	1.00 ls	-	30,000.00 /ls	-	-	30,000
10	Prints & Specifications for bloding by owner	0.00 NIC	-	0.00	-	-	-
	Documents			30,000			30,000
1085.100	Surveys						
10	Survey & Layout Surveys	1.00 ls	8,000.00 /ls	1,000.00 /ls	6,000	-	15,000
	Surveys		8,000	1,000	6,000		16,000
1070.100	Photos						
10	Project Photos by GC	22.00 mo	75.00 /mo	150.00 /mo	-	-	4,950
	Photos		1,650	3,300			4,950
1075.100	Signs						
12	Project Signs	1.00 ea	1,106.53 /ea	4,000.00 /ea	-	-	5,107
15	Job Site Signage - Safety and Directional	1.00 ea	1,499.97 /ea	1,500.00 /ea	3,000	-	6,000
	Signs		2,607	5,500	3,000		11,107
1100.100	Project Management						
12	Project Executive 30% full time	30.00 wk	2,800.00 /wk	-	-	0	84,000
13	Senior Project Manager Full Time	108.00 wk	2,300.00 /wk	-	-	0	248,400
14	Assistant Project Manager Full Time MBE	104.00 wk	2,120.00 /wk	-	-	0	220,480
18	Architectural Estimating	1,000.00 hr	60.00 /hr	-	-	-	60,000
18	MEP Estimating / Inspections	400.00 hr	53.00 /hr	-	-	-	21,200
18	Technology Coordination / Inspections	400.00 hr	53.00 /hr	-	-	-	21,200
18	F & E Coordinator	500.00 mh	32.00 /mh	-	-	-	16,000
	Project Management		11,960.00				871,280
	Labor hours		4,650.00				
	Equipment hours						
1102.100	Site Supervision						
12	Senior Superintendent	104.00 wk	2,439.82 /wk	-	-	0	253,741
12	Superintendent for FF-Out	60.00 wk	2,000.00 /wk	-	-	-	120,000

Item	Description	Takeoff City	Unit Cost	Labor	Material	Subcontract	Equipment	Total
				Amount	Unit Cost	Amount	Amount	Amount
	Site supervision 4,983.214 Labor hours			373,741				373,741
1108.100	Clientel Staff 20 Project Coordinator MBE Clientel Staff 6,332.19 Labor hours	104.00 wk	1,519.76 /wk	158,055	-	-	-	158,055
				168,066				168,066
1110.100	Travel 15 Project Truck Travel	104.00 wk	-	-	125.00 /wk	-	-	13,000
					13,000			13,000
1260.100	Offices 14 Construction Office Offices	24.00 mo	-	-	-	-	28,800	28,800
							28,800	28,800
1265.100	Supplies & Equip 32 Jobsite Postage expense 33 Postage expense Office 40 Fax Machine & Line (Job Site) 45 Faxes (from office) 50 Drinking Water (Job Site) 100 Office Supply & Equip -GC Supplies & Equip	14.00 mo	-	-	150.00 /mo	-	-	2,100
					200.00 /mo			4,800
					250.00 /mo			3,500
					500.00 /mo			12,000
					150.00 /mo			3,600
					600.00 /mo			14,400
					40,400			40,400
1280.100	Utilities 02 DSL or Cable for Computer 05 Temporary Sewer 10 Water Charges 14 Electric Power 17 Telephone Charges (Cell Phones) 18 Telephone Charges (Field Trailer) 20 Temporary Toilets (4) Utilities	14.00 mo	-	-	250.00 /mo	-	-	3,500
					300.00 /mo			1,200
					200.00 /mo			4,800
					4,000.00 /mo			96,000
					350.00 /mo			8,400
					300.00 /mo			7,200
					500.00 /mo			12,000
					133,100			133,100
1270.100	O&H & safety 10 Safety Officer O&H & safety 416.00 Labor hours	104.00 wk	180.00 /wk	18,720	-	-	-	18,720
				18,720				18,720
1272.100	Safety Protection 54 Barriers & Enclosures Maintenance 54 Temporary Protection Temporary Partitions Safety Protection	1.00 ls	10,000.00 /ls	10,000	7,500.00 /ls	12,500	-	30,000
					-	-	-	-
					7,600	12,600		30,000
1274.100	Fire Protection 10 Fire Extinguishers Fire Protection 160.00 Labor hours	80.00 ea	20.00 /ea	1,600	50.00 /ea	-	-	5,600
				1,800	4,000			6,800
1300.100	Project Clean Up 11 Rubbish Chute 12 Weekly Cleaning (16 hrs average per wk) 14 Final Cleaning Conditioned Space (By SQFT) 14 Final Cleaning Garage (By SQFT) 40 Dumpster Rental/Pick up	104.00 wk	450.02 /wk	46,802	50.00 /wk	-	-	52,002
				36,000	1,800			37,800
				15,280	1,910			17,190
					114,400			114,400

Item	Description	Takeoff Qty	Labor		Unit Cost	Material		Subcontract	Equipment	Total
			Amount	Amount		Amount	Amount			
	Project Clean Up 1,563.91 Labor hours			88,882		123,310				221,382
1350.100	Tools & Equipment									
10	Misc Tools Weekly	104.00 wk	-	-	200.00 /wk	20,800	-	-	-	20,800
20	Temporary Scaff Rental	1.00 ls	-	-	-	20,000	-	-	-	20,000
	Tools & Equipment					20,800				40,800
1370.100	Scheduling									
10	Scheduling Expense	800.00 HR	42.00 /HR	33,600	0.00	0	-	-	-	33,600
10	Cost Loading Is NIC	0.00 hr	0.00	0	-	-	-	-	-	-
	Scheduling			33,800						33,800
1380.100	Punch List									
12	Punch List by MH	500.00 mh	45.00 /mh	22,500	-	-	-	-	-	22,500
	Punch List			22,800						22,800
1400.100	Misco. Labor Expense									
10	Misc. Labor Expense	96.00 wk	800.00 /wk	76,800	-	-	-	-	-	76,800
	Misco. Labor Expense			78,800						78,800
1480.100	Testing									
10	Misc Test & Inspection for Q.A	1.00 ls	-	-	-	-	30,000	-	-	30,000
10	Testing Is By Owner (NIC)	0.00 NIC	-	-	-	-	0	-	-	0
	Testing						30,000			30,000
1470.100	Winter Conditions									
20	Heating Equipment	5.00 mo	2,000.00 /mo	10,000	4,000.00 /mo	20,000	-	-	-	30,000
30	Winter Heat Fuel	5.00 mo	-	-	8,500.00 /mo	42,500	-	-	-	42,500
	Winter Conditions			10,000		62,600				72,600
1480.100	Snow Removal									
10	Snow Shovel Ground Level	150.00 mh	30.00 /mh	4,500	-	-	-	-	-	4,500
	Snow Removal			4,600						4,600
1485.100	Hoists/Staging									
10	Personnel/Material Hoist	1.00 ls	-	-	-	-	170,000	-	-	170,000
18	Lift Operator Laborer w Overtime	56.00 wk	2,500.00 /wk	140,000	-	-	-	-	-	140,000
	Hoists/Staging			140,000			170,000			310,000
1550.000	Vehicle Access & Parking									
10	Parking Meter Rental for Staging / Construction	24.00 mo	-	-	-	-	30,000	-	-	30,000
10	Parking Spaces for Onsite Staff	24.00 mo	-	-	-	-	24,000	-	-	24,000
10	Traffic Regulation	24.00 mo	-	-	-	-	48,000	-	-	48,000
	Vehicle Access & Parking						102,000			102,000
1620.100	Trucking									
10	Warehouse Trucking	104.00 wk	125.00 /wk	13,000	-	-	-	-	-	13,000
	Trucking			13,000						13,000
1630.100	Off Load & Storage									
10	Off Load Misc Deliveries	500.00 hr	28.00 /hr	14,000	-	-	-	-	-	14,000

Item Description	Takeoff Qty	Labor		Material		Subcontract		Equipment		Total Amount
		Unit Cost	Amount	Unit Cost	Amount	Amount	Name	Amount	Amount	
Off Load & Storage										
500.00 Labor hours			14,000							14,000
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GENERAL CONDITIONS			1,663,134		454,410		353,500		28,800	2,499,844
36,890.690 Labor hours										
6,900.00 Equipment hours										

Estimate Totals

Description	Amount	Totals
Labor	1,663,134	
Material	454,410	
Subcontract	353,500	
Equipment	28,800	
Other	<u>2,499,844</u>	2,499,844
Total		2,499,844