

RIDOH LAB OVERVIEW

Factor	Group	2014 (Available Study) GSF	2021 (Current Use) GSF
Biological Sciences	Administration (Office)	209	212
Biological Sciences	Microbiology	6,177	6,177
Biological Sciences	Cardiology	1,334	1,699
Biological Sciences	Imaging	1,274	1,609
Biological Sciences	Basic Lab & Bio-Processing	1,819	1,814
Subtotal Biological Sciences		10,813	10,911
Environmental Sciences	Analytics (Office)	121	121
Environmental Sciences	QC Testing Lab	128	128
Environmental Sciences	Water Microbiology	2,224	2,191
Environmental Sciences	Air Pollution	2,432	2,445
Environmental Sciences	Food & Nutrition Chemistry (Support)	2,692	2,662
Environmental Sciences	Organic Chemistry	3,227	3,493
Subtotal Environmental Sciences		11,224	11,619
Forensic Sciences	Analytics (Office)	209	210
Forensic Sciences	Biological WAGOODS	3,282	3,304
Forensic Sciences	Toxicology	2,264	2,291
Forensic Sciences	Drug Chemistry	2,417	2,472
Forensic Sciences	Biotech Analysis	128	127
Subtotal Forensic Sciences		9,100	9,394
Health Lab Administration		1,179	1,190
Health Lab Support (Office + Booth)		13,161	16,155
Outdoor Area (Top Floor Terrace)		546	1,007
Total NSF Proposed RIDOH Building		46,161	50,555
Building Support (Office + Storage)		7,563	6,113
Circulation (Horizontal + Vertical)		11,167	20,339
Total GGF Proposed RIDOH Building		64,891	76,907
Post-Designing (Complete + Sketch)		2,177	2,447
Total NSF Proposed RIDOH Building, NSF Base Cost		292	275
Parishouse (Building Support, not counted toward GGF)		7,463	7,570

Floor Plan - Level 1



EXHIBIT A

Floor Plan - Level 1

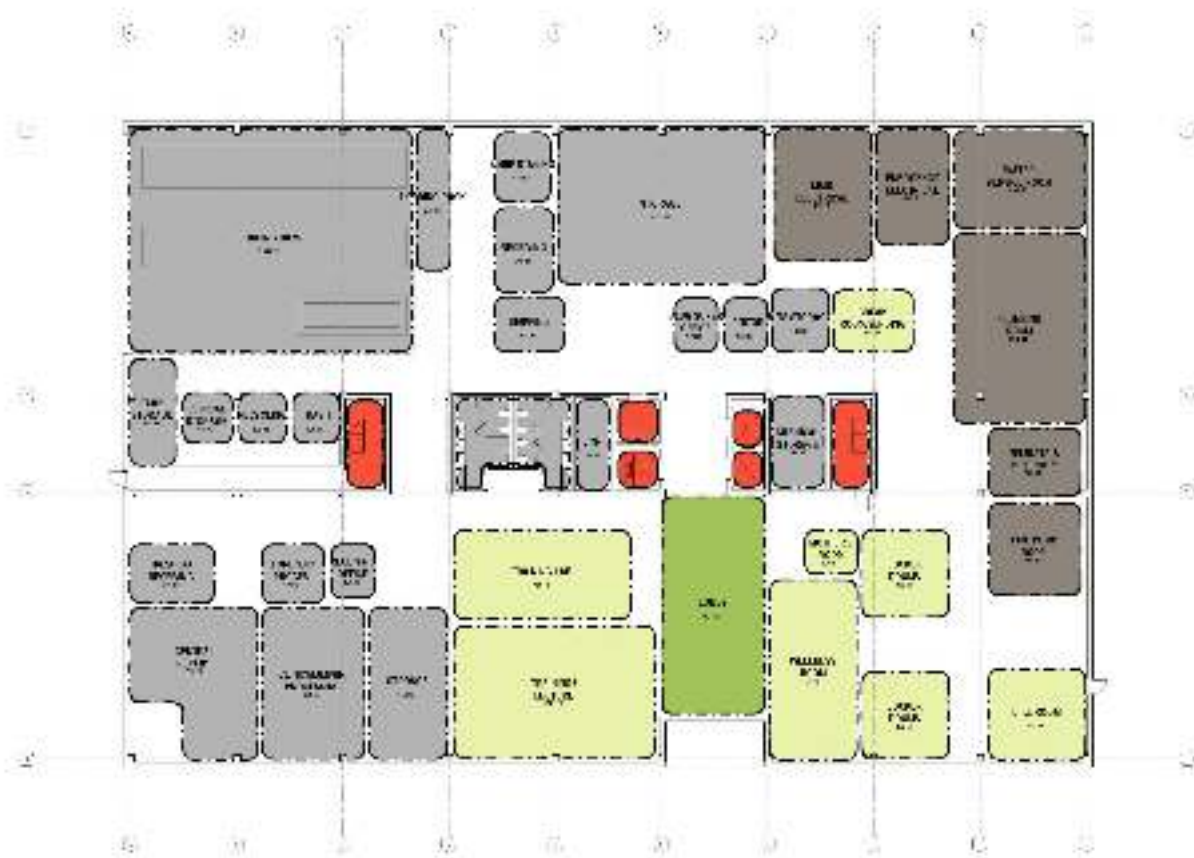
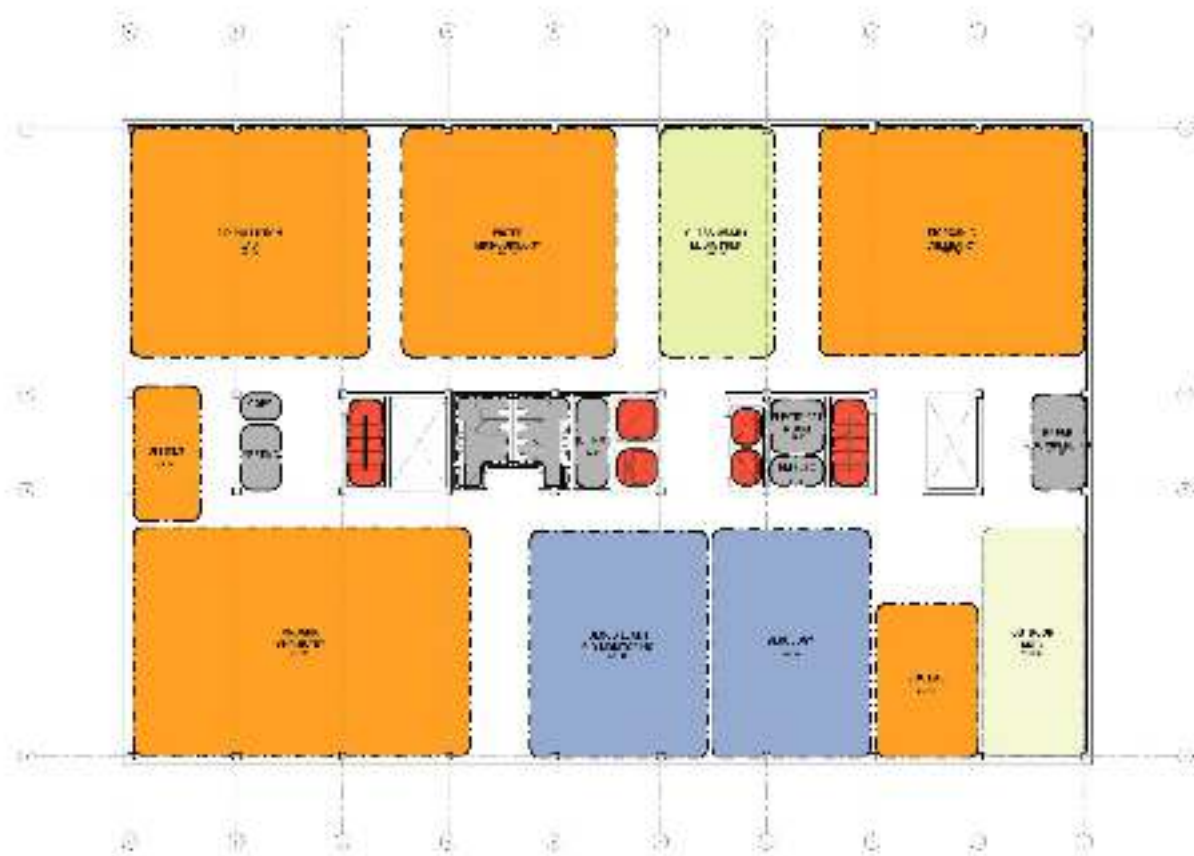


EXHIBIT A

Floor Plan - Level 3



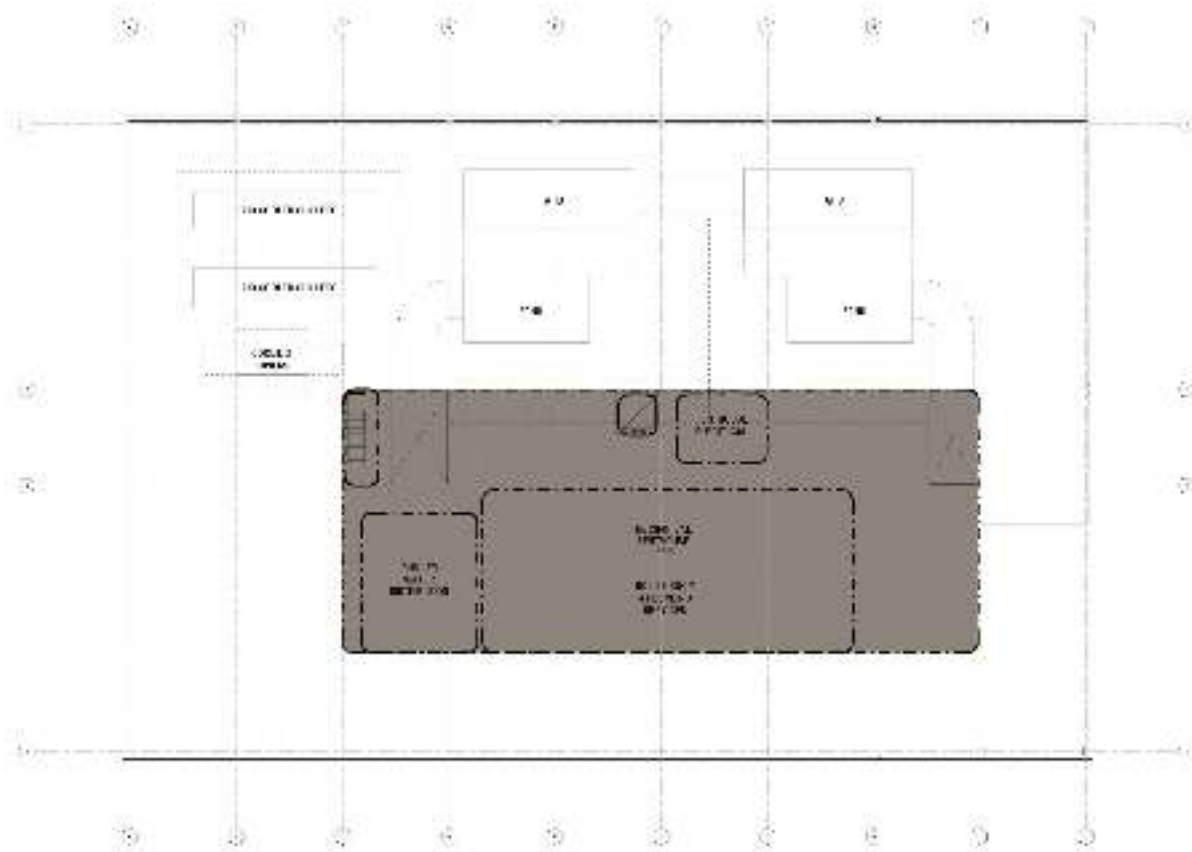
- PROGRAM**
- PUBLIC
 - HEALTH LAB SUPPORT
 - HEALTH LAB ADMINISTRATION
 - BUILDING SUPPORT
 - MECHANICAL SPACE
 - CIRCULATION
 - PHYSIOLOGICAL SCIENCES
 - FORENSIC SCIENCES
 - ENVIRONMENTAL SCIENCES
 - FUTURE TENANT

EXHIBIT A

Key MEP Requirements

1. **Durability:** 50 year durability
2. **Sustainability:** LEED Silver
3. **Mechanical Penthouse & Roof Configuration:**
 - i. Assume a fully enclosed mechanical penthouse (not just a screen), provided it does not trigger high-rise code
 - ii. To reduce the area of enclosed penthouse space and costs, the RIDOH Lab Working RIDOH is ok with roof-mounted, high quality supply air handling units and heat recovery air handling units with enclosed service/piping areas designed into them.
4. **Ground-Level Mechanical Equipment:**
 - i. Pad-mounted electric transformers are acceptable
 - ii. Preference is for exterior standby generators to be on the ground floor for accessibility and vibration safety. Roof-mounted exterior standby generators are not a preferred solution.
 - iii. Look into the cost of elevating the generator along with any other exterior ground-level essential equipment to increase building resiliency.

Roof MEP Spaces



- PROGRAM**
- PLUMBING
 - HEALTH LAB SUPPORT
 - HEALTH LAB ADMINISTRATION
 - BUILDING SUPPORT
 - MECHANICAL SPACE
 - CIRCULATION
 - PHYSIOLOGICAL SCIENCES
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 - FUTURE TENANT

ADDITIONAL INFORMATION

Massing:

Given the program that includes both the base laboratory and building support spaces and the potential 25,000sf to 40,000sf of tenant lab space, the developer should be able to provide a realistic massing study whose floor plate can accommodate a beneficial “lab module” to allow for flexibility and expansion without sacrificing facility functionality. The proper structural bay spacing, (that accommodate depth of benches and aiseways in both directions) along with the flexible location of the main corridors on each floors of the buildings floors addresses some of the two-dimensional considerations.

Proper floor to floor heights is critical in addressing three-dimensional considerations. They should include, but not be limited to overhead utility service carriers, vertical risers, elevators, stairwells and utility shafts.

Site:

While reviewing site options consideration should be given to the need for various public and private access points to the building. The building siting will need to maintain security access to the state laboratories while allowing for access to the tenant spaces. Service, deliveries, and parking for both the employees and visiting entities should be accounted for and arranged in a manner that allows for easy maintenance and management.

Total parking	142 spaces
Staff and Public parking:	131 spaces
Delivery parking:	11 spaces
Loading dock capacity:	48 high able to accommodate two full tractor trailers

FFE

Minimum of 34 chemical fume hoods (ducted)

Minimum of 13 biosafety hoods (re-circulating)

Approximately 2500 LF of cabinetry (upper and lower)

Centralized glassware / sterilizer washroom

Centralized water purification and distribution system

Centralized gas storage and distribution system

Centralized security/ card access system

Centralized camera system

BSL III lab

Narrative of design:

LEED (credit opportunities)

50-year building

Location and transportation

Sustainable sites

Water efficiency

Shell & Structure (applied RI Stretch code for Commercial Construction)

Opaque walls, U-factor U-0.057, LGMF with continuous insulation and rain-screen cladding

Back ventilated rainscreen cladding

Mechanical penthouse to be clad in same material

Window-wall ratio: 40%, with U-factor U-0.34

Insulated- thermally broken doors and windows with tint and custom colors

Roof: white TPO membrane with U-factor U-0.028

HVAC

Specialized systems to accommodate laboratory design including BSL III lab.

ELECTRICAL

Systems to accommodate laboratory design, including emergency backup power system (min 750kW) diesel generator with sound attenuated weatherproof enclosure.

Experience in developing scientific laboratory buildings:

All the criteria listed above imply that it is important that the developer has experience with this specific building type. Their submission should include examples and identifies their role of successfully implemented similar projects. The developer should identify of the various professional entities such as architects, engineers, and construction managers that they intend to collaborate with to implement this laboratory project.

LEVEL 2 ELEMENTAL SUMMARY	\$/sf	Element \$	%	01 Core/Shell		02 Fit-out: support & ci		03 Fit-Out: Lab space		04 Sitework	05 Area Adjust		
GROSS FLOOR AREA		86,506 sf		\$/sf	86,506	\$/sf	36,837	\$/sf	32,707	\$/sf	0	\$/sf	-69,5
A1 SUBSTRUCTURE	21.93	1,896,818	3%	21.93	1,896,818	0.00	0	0.00	0	0	0		
A2 STRUCTURE	56.95	4,926,140	7%	56.95	4,926,140	0.00	0	0.00	0	0	0		
A3 ENCLOSURE	107.55	9,304,007	14%	107.55	9,304,007	0.00	0	0.00	0	0	0		
B1 PARTITIONS & DOORS	26.25	2,270,636	3%	5.32	460,538	31.78	1,170,662	19.55	639,436		0		
B2 FINISHES	38.55	3,334,762	5%	4.73	409,265	35.24	1,298,124	49.76	1,627,373		0		
B3 FITTINGS & EQUIPMENT	53.13	4,595,800	7%	9.36	810,000	25.59	942,750	86.92	2,843,050		0		
C1 MECHANICAL	125.76	10,879,358	16%	70.01	6,056,527	58.94	2,171,326	81.07	2,651,505		0		
C2 ELECTRICAL	74.66	6,458,503	10%	32.47	2,808,888	54.61	2,011,546	50.08	1,638,069		0		
D1 SITE WORK	16.89	1,461,276	2%	0.00	0	0.00	0	0.00	0		1,461,276		
DIRECT CONSTRUCTION COST	521.67	45,127,299	68%	308.33	26,672,183	206.16	7,594,408	287.38	9,399,432		1,461,276		
Z1 GENERAL REQUIREMENTS	121.03	10,469,534	16%	71.53	6,187,947	47.83	1,761,903	66.67	2,180,668		339,016		
Z2 CONTINGENCIES	119.98	10,379,279	16%	70.92	6,134,602	47.42	1,746,714	66.10	2,161,869		336,094		
INDIRECT CONSTRUCTION COST													
TOTAL CONSTRUCTION COST	762.68	65,976,111	100%	450.77	38,994,732	301.41	11,103,025	420.15	13,741,969		2,136,386		

ELEMENTAL SUMMARY	Level 3 Elemental \$	\$/sf	01 Core/Shell		2 Fit-out: support & ci		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
			\$/sf	86,506	\$/sf	36,837	\$/sf	32,707	\$/sf	0	\$/sf	-69,544
GROSS FLOOR AREA												
A1 SUBSTRUCTURE												
A11 Foundations	985,643	11.39	11.39	985,643	0.00	0	0.00	0	0	0	0	0
A12 Building Excavation	911,175	10.53	10.53	911,175	0.00	0	0.00	0	0	0	0	0
A2 STRUCTURE												
A21 Lowest Floor Structure	432,946	5.00	5.00	432,946	0.00	0	0.00	0	0	0	0	0
A22 Upper Floor Structure	3,433,518	39.69	39.69	3,433,518	0.00	0	0.00	0	0	0	0	0
A23 Roof Structure	1,059,676	12.25	12.25	1,059,676	0.00	0	0.00	0	0	0	0	0
A3 ENCLOSURE												
A32 Walls Above Grade	4,137,000	47.82	47.82	4,137,000	0.00	0	0.00	0	0	0	0	0
A33 Windows & Entrances	2,119,500	24.50	24.50	2,119,500	0.00	0	0.00	0	0	0	0	0
A34 Roof Covering	1,116,170	12.90	12.90	1,116,170	0.00	0	0.00	0	0	0	0	0
A35 Projections	1,931,337	22.33	22.33	1,931,337	0.00	0	0.00	0	0	0	0	0
B1 PARTITIONS & DOORS												
B11 Partitions	1,733,736	20.04	2.96	256,138	25.32	932,662	16.66	544,936	0	0	0	0
B12 Doors	536,900	6.21	2.36	204,400	6.46	238,000	2.89	94,500	0	0	0	0
B2 FINISHES												
B21 Floor Finishes	1,503,135	17.38	1.50	129,808	16.26	599,023	23.67	774,305	0	0	0	0
B22 Ceiling Finishes	1,123,522	12.99	1.87	162,040	11.00	405,094	17.01	556,388	0	0	0	0
B23 Wall Finishes	708,105	8.19	1.36	117,417	7.98	294,008	9.07	296,680	0	0	0	0
B3 FITTINGS & EQUIPMENT												
B31 Fittings	3,860,800	44.63	0.87	75,000	25.59	942,750	86.92	2,843,050	0	0	0	0
B33 Conveying Systems	735,000	8.50	8.50	735,000	0.00	0	0.00	0	0	0	0	0
C1 MECHANICAL												
C11 Plumbing & Drainage	1,863,683	21.54	4.44	384,133	21.38	787,500	21.16	692,050	0	0	0	0
C12 Fire Protection	629,530	7.28	7.28	629,530	0.00	0	0.00	0	0	0	0	0
C13 HVAC	7,186,505	83.08	50.83	4,397,409	29.57	1,089,138	51.98	1,699,959	0	0	0	0
C14 Controls	1,199,640	13.87	7.46	645,456	8.00	294,688	7.93	259,496	0	0	0	0
C2 ELECTRICAL												
C21 Service & Distribution	2,352,585	27.20	20.79	1,798,401	8.00	294,688	7.93	259,496	0	0	0	0
C22 Lighting & Devices	2,418,776	27.96	3.19	275,712	30.00	1,105,080	31.74	1,037,984	0	0	0	0
C23 Systems	1,687,142	19.50	8.49	734,775	16.61	611,778	10.41	340,589	0	0	0	0
D1 SITE WORK												
D11 Site Development	809,276	9.36	0.00	0	0.00	0	0.00	0	809,276	0	0	0
D12 Mechanical Site Services	280,000	3.24	0.00	0	0.00	0	0.00	0	280,000	0	0	0
D13 Electrical Site Services	372,000	4.30	0.00	0	0.00	0	0.00	0	372,000	0	0	0



ELEMENTAL SUMMARY	Level 3 Elemental \$	\$/sf	01 Core/Shell \$/sf	86,506	02 Fit-out: support & cir \$/sf	36,837	03 Fit-Out: Lab space \$/sf	32,707	04 Sitework \$/sf	0	05 Area Adjust \$/sf	-69,544
GROSS FLOOR AREA												
DIRECT CONSTRUCTION COST												
Z1 GENERAL REQUIREMENTS												
Z11 General Requirements	20.2%	9,115,715	105.38	62.28	5,387,781	41.64	1,534,070	58.05	1,898,685	295,178		0
Z12 Fee	3.0%	1,353,819	15.65	9.25	800,166	6.18	227,832	8.62	281,983	43,838		0
Z2 CONTINGENCIES												
Z21 Design Contingency	15.0%	6,769,095	78.25	46.25	4,000,828	30.92	1,139,161	43.11	1,409,915	219,191		0
Z22 Escalation Contingency	3.0%	1,353,819	15.65	9.25	800,166	6.18	227,832	8.62	281,983	43,838		0
Z23 Construction Contingency	5.0%	2,256,365	26.08	15.42	1,333,609	10.31	379,720	14.37	469,972	73,064		0
TOTAL CONSTRUCTION COST		762.68	65,976,111 100%	450.77	38,994,732	301.41	11,103,025	420.15	13,741,969	2,136,386		0



ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
Description	Trade	Quantity	Rate	\$	Quantity	Quantity	Quantity	Quantity	Quantity
GROSS FLOOR AREA									
Level 1		26,639	sf		26,639	19,486			-19,486
Level 2		26,834	sf		26,834	8,398	17,068		-25,466
Level 3		25,690	sf		25,690	8,953	15,639		-24,592
Penthouse		7,343	sf		7,343				
TOTAL GROSS FLOOR AREA		86,506	sf		86,506	36,837	32,707	0	-69,544

REPORT NOTES

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ.		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
A1 SUBSTRUCTURE														
A11 Foundations														
Foundations														
foundations, allow for conventional strip & pad footings, assumes normal bearing capacity soil and galvanized rebar	+	26,639 sf	37.00	985,643	26,639	985,643		0		0		0		0
Subtotal Foundations		26,639 sf	37.00	985,643	26,639	985,643		0	0	0	0	0	0	0
Total A11 Foundations		86,506 sf	11.39	985,643	11.39	985,643		0.00	0	0.00	0	#Num!	0	0.00
A12 Building Excavation														
Earthwork														
foundation excavation & haul away, 4' dp premium for contaminated soils removal	+	3,971 cy	30.00	119,130	3,971	119,130		0		0		0		0
imported backfill		5,956 ton	60.00	357,360	5,956	357,360		0		0		0		0
rock excavation - allow 50%		3,164 cy	40.00	126,560	3,164	126,560		0		0		0		0
dewatering & obstruction removal		1,985 cy	125.00	248,125	1,985	248,125		0		0		0		0
		60,000 ls	1.00	60,000	60,000	60,000		0		0		0		0
Subtotal Earthwork		3,971 cy	229.46	911,175	3,971	911,175		0	0	0	0	0	0	0
Total A12 Building Excavation		86,506 sf	10.53	911,175	10.53	911,175		0.00	0	0.00	0	#Num!	0	0.00
TOTAL A1 SUBSTRUCTURE				1,896,818	1,896,818			0	0	0	0	0	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
A2 STRUCTURE														
A21 Lowest Floor Structure														
On Grade														
slab on grade - 6" allow	+	26,639 sf	8.00	213,112	26,639	213,112		0		0		0		0
underslab insulation/ vapor barrier		26,639 sf	5.00	133,195	26,639	133,195		0		0		0		0
elevator pits		4 no	15,000.00	60,000	4	60,000		0		0		0		0
pits, pads, detailing		26,639 sf	1.00	26,639	26,639	26,639		0		0		0		0
Subtotal On Grade		26,639 sf	16.25	432,946	26,639	432,946		0	0	0	0	0	0	0
Total A21 Lowest Floor Structure		86,506 sf	5.00	432,946	5.00	432,946		0.00	0	0.00	0	#Num!	0	0.00
A22 Upper Floor Structure														
Floor Structure														
concrete topping		59,866 sf	7.00	419,062	59,866	419,062		0		0		0		0
metal deck	+	59,866 sf	4.00	239,464	59,866	239,464		0		0		0		0
structural steel - 18psf		540 ton	4,000.00	2,160,000	540	2,160,000		0		0		0		0
fireproofing		59,866 sf	3.00	179,598	59,866	179,598		0		0		0		0
Subtotal Floor Structure		59,866 sf	50.08	2,998,124	59,866	2,998,124		0	0	0	0	0	0	0
Stairs, Miscellaneous														
egress stairs		6 no	16,000.00	96,000	6	96,000		0		0		0		0
sealing, safig		86,505 sf	0.75	64,879	86,505	64,879		0		0		0		0
service stair at PH		1 no	15,000.00	15,000	1	15,000		0		0		0		0
miscellaneous metals	+	86,505 sf	3.00	259,515	86,505	259,515		0		0		0		0
Subtotal Stairs, Miscellaneous		86,505 sf	5.03	435,394	86,505	435,394		0	0	0	0	0	0	0
Total A22 Upper Floor Structure		86,506 sf	39.69	3,433,518	39.69	3,433,518		0.00	0	0.00	0	#Num!	0	0.00
A23 Roof Structure														

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Roof Structure														
concrete topping		26,834 sf	7.00	187,838	26,834	187,838		0		0		0		0
metal deck	+	26,834 sf	4.00	107,336	26,834	107,336		0		0		0		0
structural steel - 12psf		161 ton	4,000.00	644,000	161	644,000		0		0		0		0
fireproofing		26,834 sf	3.00	80,502	26,834	80,502		0		0		0		0
steel dunnage		1 ls	40,000.00	40,000	1	40,000		0		0		0		0
Subtotal Roof Structure		26,834 sf	39.49	1,059,676	26,834	1,059,676		0	0	0	0	0	0	0
Total A23 Roof Structure		86,506 sf	12.25	1,059,676	12.25	1,059,676		0.00	0	0.00	0	#Num!	0	0.00
TOTAL A2 STRUCTURE				4,926,140		4,926,140		0	0	0	0	0	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
A3 ENCLOSURE														
A32 Walls Above Grade														
Cladding														
metal panel (65%) + 15% articulation	+	29,550 sf	100.00	2,955,000	29,550	2,955,000		0		0		0		0
Subtotal Cladding		29,550 sf	100.00	2,955,000	29,550	2,955,000		0	0	0	0	0	0	0
Backup														
backup	+	29,550 sf	40.00	1,182,000	29,550	1,182,000		0		0		0		0
Subtotal Backup		29,550 sf	40.00	1,182,000	29,550	1,182,000		0	0	0	0	0	0	0
Total A32 Walls Above Grade		86,506 sf	47.82	4,137,000	47.82	4,137,000		0.00	0	0.00	0	#Num!	0	0.00
A33 Windows & Entrances														
Windows														
glazing - (35%)	+	14,000 sf	140.00	1,960,000	14,000	1,960,000		0		0		0		0
custom ceramic frit		7,000 sf	15.00	105,000	7,000	105,000		0		0		0		0
Subtotal Windows		14,000 sf	147.50	2,065,000	14,000	2,065,000		0	0	0	0	0	0	0
Entrances														
glazed entrances	*	5 no	6,000.00	30,000	5	30,000		0		0		0		0
hollow metal entrances	*	5 no	2,500.00	12,500	5	12,500		0		0		0		0
auto door openers		2 no	6,000.00	12,000	2	12,000		0		0		0		0
Subtotal Entrances		10 no	5,450.00	54,500	10	54,500		0	0	0	0	0	0	0
Total A33 Windows & Entrances		86,506 sf	24.50	2,119,500	24.50	2,119,500		0.00	0	0.00	0	#Num!	0	0.00
A34 Roof Covering														

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Roofing														
roof membrane	+	26,834 sf	25.00	670,850	26,834	670,850		0		0		0		0
rooftop pavers		10,626 sf	25.00	265,650	10,626	265,650		0		0		0		0
flashing, blocking and accessories		26,834 sf	5.00	134,170	26,834	134,170		0		0		0		0
parapets		2,275 sf	20.00	45,500	2,275	45,500		0		0		0		0
Subtotal Roofing		26,834 sf	41.60	1,116,170	26,834	1,116,170		0		0		0		0
Total A34 Roof Covering		86,506 sf	12.90	1,116,170	12.90	1,116,170		0.00		0.00		0	#Num!	0.00
A35 Projections														
Projections - Area Based														
miscellaneous projections (allow for sunshading, canopy, etc.)	+	43,550 sf	20.00	871,000	43,550	871,000		0		0		0		0
screenwalls @ RT - cladding	+	5,485 sf	100.00	548,500	5,485	548,500		0		0		0		0
screenwalls @ RT - structure		5,485 sf	40.00	219,400	5,485	219,400		0		0		0		0
building soffit	+	190 sf	150.00	28,500	190	28,500		0		0		0		0
Level 3 Terrace														
concrete topping		1,067 sf	7.00	7,469	1,067	7,469		0		0		0		0
metal deck		1,067 sf	4.00	4,268	1,067	4,268		0		0		0		0
structural steel - 12psf		7 ton	4,000.00	28,000	7	28,000		0		0		0		0
roofing membrane		1,067 sf	25.00	26,675	1,067	26,675		0		0		0		0
concrete pavers		1,067 sf	25.00	26,675	1,067	26,675		0		0		0		0
railings		72 lf	150.00	10,800	72	10,800		0		0		0		0
soffit @ terrace		1,067 sf	150.00	160,050	1,067	160,050		0		0		0		0
Subtotal Projections - Area Based		49,225 sf	39.23	1,931,337	49,225	1,931,337		0		0		0		0
Total A35 Projections		86,506 sf	22.33	1,931,337	22.33	1,931,337		0.00		0.00		0	#Num!	0.00
TOTAL A3 ENCLOSURE				9,304,007	9,304,007		0		0		0		0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
B1 PARTITIONS & DOORS														
B11 Partitions														
Partitions														
gyp assemblies	+	90,574 sf	14.00	1,268,036	11,867	166,138	39,783	556,962	38,924	544,936		0		0
glazed assemblies	+	4,420 sf	85.00	375,700		0	4,420	375,700		0		0		0
Subtotal Partitions		94,994 sf	17.30	1,643,736	11,867	166,138	44,203	932,662	38,924	544,936		0	0	0
Railings														
egress stairs - painted metal handrail	+	360 lf	250.00	90,000	360	90,000		0		0		0		0
Subtotal Railings		360 lf	250.00	90,000	360	90,000		0	0	0		0	0	0
Total B11 Partitions		86,506 sf	20.04	1,733,736	2.96	256,138	25.32	932,662	16.66	544,936		#Num!	0	0.00
B12 Doors														
Doors, Frames, Hardware														
vestibule entries	+	4 no	5,350.00	21,400	4	21,400		0		0		0		0
typical door - core/shell	*	60 no	2,200.00	132,000	60	132,000		0		0		0		0
typical - fit-out	*	45 no	2,100.00	94,500		0		0	45	94,500		0		0
lab and lab support	*	85 no	2,800.00	238,000		0	85	238,000		0		0		0
auto-openers		10 no	5,100.00	51,000	10	51,000		0		0		0		0
Subtotal Doors, Frames, Hardware		194 no	2,767.53	536,900	64	204,400	85	238,000	45	94,500		0	0	0
Total B12 Doors		86,506 sf	6.21	536,900	2.36	204,400	6.46	238,000	2.89	94,500		#Num!	0	0.00
TOTAL B1 PARTITIONS & DOORS				2,270,636	460,538	1,170,662	639,436	0	0					

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
B2 FINISHES														
B21 Floor Finishes														
Flooring														
core/shell	+	5,000 sf	8.00	40,000	5,000	40,000		0		0		0		0
lobby flooring	+	1,576 sf	45.00	70,920	1,576	70,920		0		0		0		0
lab and lab support	+	32,437 sf	21.00	681,177		0		0	32,437	681,177		0		0
fit-out	+	35,585 sf	14.00	498,190		0	35,585	498,190		0		0		0
washrooms	+	612 sf	30.00	18,360		0	612	18,360		0		0		0
stair treads and risers rubber	+	639 sf	13.00	8,307		0	639	8,307		0		0		0
moisture mitigation		74,598 sf	1.50	111,897	6,576	9,864	35,585	53,378	32,437	48,656		0		0
Subtotal Flooring		75,849 sf	18.84	1,428,851	6,576	120,784	36,836	578,235	32,437	729,833		0	0	0
Base														
tile	+	224 lf	27.00	6,048		0	224	6,048		0		0		0
resinous	+	2,616 lf	17.00	44,472		0		0	2,616	44,472		0		0
rubber	+	5,941 lf	4.00	23,764	2,256	9,024	3,685	14,740		0		0		0
Subtotal Base		8,781 lf	8.46	74,284	2,256	9,024	3,909	20,788	2,616	44,472		0	0	0
Total B21 Floor Finishes		86,506 sf	17.38	1,503,135	1.50	129,808	16.26	599,023	23.67	774,305	#Num!	0	0.00	0
B22 Ceiling Finishes														
Ceilings														
exposed for mechanical spaces	+	5,000 sf	2.00	10,000	5,000	10,000		0		0		0		0
gyp ceiling	+	11,440 sf	15.00	171,600		0	5,440	81,600	6,000	90,000		0		0
gyp detailing - bulkheads, soffits		8,581 sf	27.50	235,978	2,256	62,040	3,709	101,998	2,616	71,940		0		0
acoustical tile	+	27,687 sf	8.00	221,496		0	27,687	221,496		0		0		0
acoustical tile - labs	+	24,653 sf	16.00	394,448		0		0	24,653	394,448		0		0
lobby ceiling	+	1,500 sf	60.00	90,000	1,500	90,000		0		0		0		0
Subtotal Ceilings		70,280 sf	15.99	1,123,522	6,500	162,040	33,127	405,094	30,653	556,388		0	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ.		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Total B22 Ceiling Finishes		86,506 sf	12.99	1,123,522	1.87	162,040	11.00	405,094	17.01	556,388	#Num!	0	0.00	0
B23 Wall Finishes														
Wall Finishes														
paint - assume 15'	+	80,950 sf	1.50	121,425	18,278	27,417	62,672	94,008		0		0		0
washrooms tile	+	3,000 sf	25.00	75,000		0	3,000	75,000		0		0		0
epoxy paint	+	68,672 sf	2.50	171,680		0		0	68,672	171,680		0		0
lobby wall finish	+	1,500 sf	60.00	90,000	1,500	90,000		0		0		0		0
upgrades - allow		10,000 sf	25.00	250,000		0	5,000	125,000	5,000	125,000		0		0
Subtotal Wall Finishes		154,122 sf	4.59	708,105	19,778	117,417	65,672	294,008	68,672	296,680		0		0
Total B23 Wall Finishes		86,506 sf	8.19	708,105	1.36	117,417	7.98	294,008	9.07	296,680	#Num!	0	0.00	0
TOTAL B2 FINISHES				3,334,762		409,265		1,298,124		1,627,373		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ.		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
B3 FITTINGS & EQUIPMENT														
B31 Fittings														
Casework														
casework general	+	200 lf	450.00	90,000	100	45,000	100	45,000	0	0	0	0	0	0
Subtotal Casework		200 lf	450.00	90,000	100	45,000	100	45,000	0	0	0	0	0	0
Casework - Lab														
Lab Fitout (benches)		1 ls	711,500.00	1,711,500	0	0	0	0	1	1,711,500	0	0	0	0
FFE Labs		1 ls	104,550.00	1,104,550	0	0	0	0	1	1,104,550	0	0	0	0
FFE - building		1 ls	834,750.00	834,750	0	0	1	834,750	0	0	0	0	0	0
Subtotal Casework - Lab				3,650,800	0	0	0	834,750	0	2,816,050	0	0	0	0
Fittings - Misc														
specialties - accessories,lockers, visual display, wall protection, blinds, fireprotection, signage	*	80 rm	1,500.00	120,000	20	30,000	42	63,000	18	27,000	0	0	0	0
Subtotal Fittings - Misc		80 rm	1,500.00	120,000	20	30,000	42	63,000	18	27,000	0	0	0	0
Total B31 Fittings		86,506 sf	44.63	3,860,800	0.87	75,000	25.59	942,750	86.92	2,843,050	#Num!	0	0.00	0
B33 Conveying Systems														
Elevators														
passenger - 3	*	9 stp	55,000.00	495,000	9	495,000	0	0	0	0	0	0	0	0
service - 1	*	4 stp	60,000.00	240,000	4	240,000	0	0	0	0	0	0	0	0
Subtotal Elevators		13 stp	56,538.46	735,000	13	735,000	0	0	0	0	0	0	0	0
Total B33 Conveying Systems		86,506 sf	8.50	735,000	8.50	735,000	0.00	0	0.00	0	#Num!	0	0.00	0



ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
Description	Trade	Quantity	Rate	\$	Quantity	Quantity	Quantity	Quantity	Quantity
					\$	\$	\$	\$	\$
TOTAL B3 FITTINGS & EQUIPMENT				4,595,800	810,000	942,750	2,843,050	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
C1 MECHANICAL														
C11 Plumbing & Drainage														
Equipment														
water meter - 6"		1 no	8,000.00	8,000	1	8,000		0		0		0		0
duplex reduced pressure backflow preventor - 6", domestic water		1 no	13,500.00	13,500	1	13,500		0		0		0		0
reduced pressure backflow preventor - 1/2", makeup water		1 no	4,000.00	4,000	1	4,000		0		0		0		0
triplex domestic water booster pump - (3) 7.5 hp		1 no	30,000.00	30,000	1	30,000		0		0		0		0
duplex gas fired hot water heaters		1 no	40,000.00	40,000	1	40,000		0		0		0		0
hot water recirculation pump		1 no	4,000.00	4,000	1	4,000		0		0		0		0
thermostatic mixing valve		1 no	3,530.00	3,530	1	3,530		0		0		0		0
elevator sump pumps		4 no	3,750.00	15,000	4	15,000		0		0		0		0
natural gas meter		1 no	5,000.00	5,000	1	5,000		0		0		0		0
misc equipment, BIM coordination		86,505 sf	0.50	43,253	86,505	43,253		0		0		0		0
Subtotal Equipment				166,283	0	166,283		0	0	0	0	0	0	0
Major Domestic Fixtures														
water closets	*	18 no	1,700.00	30,600		0	18	30,600		0		0		0
urinals	*	6 no	1,600.00	9,600		0	6	9,600		0		0		0
lavatories	*	18 no	1,300.00	23,400		0	18	23,400		0		0		0
mop sinks	*	3 no	1,500.00	4,500		0	3	4,500		0		0		0
electric water coolers	*	3 no	3,300.00	9,900		0	3	9,900		0		0		0
fixtures not shown (increase per new sf)	*	25 no	1,500.00	37,500		0	25	37,500		0		0		0
Subtotal Major Domestic Fixtures		73 no	1,582.19	115,500	0	0	73	115,500	0	0	0	0	0	0
Minor Domestic Fixtures														
roof drains (including overflow)	*	20 no	930.00	18,600	20	18,600		0		0		0		0
hose bibs, floor drains, wall hydrants, etc.	*	15 no	500.00	7,500		0	15	7,500		0		0		0
Subtotal Minor Domestic Fixtures		35 no	745.71	26,100	20	18,600	15	7,500	0	0	0	0	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Piping														
domestic water	+	5,500 lf	65.00	357,500	500	32,500	5,000	325,000		0		0		0
waste & vent	+	5,350 lf	70.00	374,500	500	35,000	4,850	339,500		0		0		0
rainwater (storm)	+	850 lf	85.00	72,250	850	72,250		0		0		0		0
natural gas - (plumbing & hvac equipment)	+	850 lf	70.00	59,500	850	59,500		0		0		0		0
Subtotal Piping		12,550 lf	68.82	863,750	2,700	199,250	9,850	664,500	0	0	0	0	0	0
Med/Lab Equipment														
duplex reduced pressure backflow preventor - 4", lab water		1 no	8,500.00	8,500		0		0	1	8,500		0		0
duplex gas fired lab water heater		1 no	40,000.00	40,000		0		0	1	40,000		0		0
lab hot water recirculation pump		1 no	4,000.00	4,000		0		0	1	4,000		0		0
thermostatic mixing valve		1 no	3,530.00	3,530		0		0	1	3,530		0		0
RODI system		1 no	60,000.00	60,000		0		0	1	60,000		0		0
pH neutralization system - 1000 gal		2 no	40,000.00	80,000		0		0	2	80,000		0		0
duplex air compressor skid - 120 psi		1 no	50,000.00	50,000		0		0	1	50,000		0		0
triplex vacuum pump - 20"-24" Hg		1 no	65,000.00	65,000		0		0	1	65,000		0		0
Subtotal Med/Lab Equipment				311,030	0	0	0	0	0	311,030	0	0	0	0
Med/Lab Fixtures														
lab sink connections, fumehood connections, lab bench connections	*	110 no	515.00	56,650		0		0	110	56,650		0		0
Subtotal Med/Lab Fixtures		110 no	515.00	56,650	0	0	0	0	110	56,650	0	0	0	0
Med/Lab Piping														
lab piping (lab water, RODI, lab waste, air, vac, gas, speciality gasses)	+	32,437 sf	10.00	324,370		0		0	32,437	324,370		0		0
Subtotal Med/Lab Piping		32,437 sf	10.00	324,370	0	0	0	0	32,437	324,370	0	0	0	0
Total C11 Plumbing & Drainage		86,506 sf	21.54	1,863,683	4.44	384,133	21.38	787,500	21.16	692,050	#Num!	0	0.00	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
C12 Fire Protection														
Sprinklers														
fire department connection		1 no	2,500.00	2,500	1	2,500		0		0		0		0
fire pump w/ jockey pump - 750 gpm		1 no	45,000.00	45,000	1	45,000		0		0		0		0
double check valve assemblies		1 no	10,000.00	10,000	1	10,000		0		0		0		0
standpipes		7 no	2,500.00	17,500	7	17,500		0		0		0		0
fire department valves		7 no	1,500.00	10,500	7	10,500		0		0		0		0
complete sprinkler coverage	+	86,505 sf	6.00	519,030	86,505	519,030		0		0		0		0
specialty systems		25,000 ls	1.00	25,000	25,000	25,000		0		0		0		0
Subtotal Sprinklers		86,505 sf	7.28	629,530	86,505	629,530		0	0	0	0	0	0	0
Total C12 Fire Protection		86,506 sf	7.28	629,530	7.28	629,530		0.00	0	0.00	0	#Num!	0	0.00
C13 HVAC														
Air Handling Units														
AHU-1	+	45,000 cf	12.00	540,000	45,000	540,000		0		0		0		0
AHU-2	+	45,000 cf	12.00	540,000	45,000	540,000		0		0		0		0
EAHU-1,2 - 45000cfm each		90,000 cf	6.00	540,000	90,000	540,000		0		0		0		0
VFDs		16 no	5,000.00	80,000	16	80,000		0		0		0		0
sound attenuation		90,000 cf	0.30	27,000	90,000	27,000		0		0		0		0
Subtotal Air Handling Units		90,000 cfm	19.19	1,727,000	90,000	1,727,000		0	0	0	0	0	0	0
Fans														
VOC exhaust fan	+	2,000 cf	6.00	12,000	2,000	12,000		0		0		0		0
virology exhaust fan	+	2,000 cf	6.00	12,000	2,000	12,000		0		0		0		0
chemical waste storage room exhaust fan	+	2,000 cf	6.00	12,000	2,000	12,000		0		0		0		0
organic chemistry exhaust fans	+	7,200 cf	7.00	50,400	7,200	50,400		0		0		0		0
BSL3 exhaust fan	+	5,000 cf	6.00	30,000	5,000	30,000		0		0		0		0
VFDs		10 no	5,000.00	50,000	10	50,000		0		0		0		0
general/misc exhaust, loading dock exhaust, etc		86,505 sf	0.50	43,253	86,505	43,253		0		0		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Subtotal Fans		18,200 cfm	11.52	209,653	18,200	209,653	0	0	0	0	0	0	0	0
Heating Plant														
gas fired condensing boiler - 2500mbh each	+	7,500 mb	50.00	375,000	7,500	375,000		0		0		0		0
boiler pumps		3 no	12,500.00	37,500	3	37,500		0		0		0		0
hot water distribution pumps		3 no	12,500.00	37,500	3	37,500		0		0		0		0
VFDs		6 no	5,500.00	33,000	6	33,000		0		0		0		0
boiler breeching		3 no	5,500.00	16,500	3	16,500		0		0		0		0
glycol hot water system		25,000 ls	1.00	25,000	25,000	25,000		0		0		0		0
balance of plant (air separators, expansion tank, etc)		25,000 ls	1.00	25,000	25,000	25,000		0		0		0		0
Subtotal Heating Plant		7,500 mbh	73.27	549,500	7,500	549,500		0		0		0		0
Cooling Plant														
air cooled chillers - 300tons each	+	600 ton	335.00	201,000	600	201,000		0		0		0		0
CT-1 cooling tower		100 ton	250.00	25,000	100	25,000		0		0		0		0
process chiller		100 ton	335.00	33,500	100	33,500		0		0		0		0
heat exchanger		1 no	40,000.00	40,000	1	40,000		0		0		0		0
process heat exchangers		3 no	25,000.00	75,000	3	75,000		0		0		0		0
chilled water pumps		3 no	15,000.00	45,000	3	45,000		0		0		0		0
secondary chilled water pumps		3 no	10,000.00	30,000	3	30,000		0		0		0		0
condenser pumps		3 no	20,000.00	60,000	3	60,000		0		0		0		0
process condenser water pumps		3 no	1,000.00	3,000	3	3,000		0		0		0		0
VFDs		12 no	5,000.00	60,000	12	60,000		0		0		0		0
glycol feed tank		15,000 ls	1.00	15,000	15,000	15,000		0		0		0		0
balance of plant		45,000 ls	1.00	45,000	45,000	45,000		0		0		0		0
Subtotal Cooling Plant		600 ton	1,054.17	632,500	600	632,500		0		0		0		0
Air Distribution														
ductwork	+	130,000 lbs	14.00	1,820,000	60,000	840,000	20,000	280,000	50,000	700,000		0		0
SS ductwork	+	10,000 lbs	24.00	240,000		0		0	10,000	240,000		0		0
fiberglass ductwork for specialized hood venting		7,000 ls	1.00	7,000		0		0	7,000	7,000		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
insulation		47,500 sf	4.00	190,000	12,000	48,000	13,500	54,000	22,000	88,000		0		0
diffusers, grilles, dampers, plenums, air mixing boxes, etc - core/shell		17,232 sf	1.00	17,232	17,232	17,232		0		0		0		0
diffusers, grilles, dampers, plenums, air mixing boxes, etc - fit-out		69,273 sf	2.00	138,546		0	36,836	73,672	32,437	64,874		0		0
Subtotal Air Distribution		140,000 lbs	17.23	2,412,778	60,000	905,232	20,000	407,672	60,000	1,099,874		0	0	0
Terminal Units														
terminal units - core/shell	+	17,232 sf	2.00	34,464	17,232	34,464		0		0		0		0
terminal units - fitout	+	69,273 sf	4.00	277,092		0	36,836	147,344	32,437	129,748		0		0
Subtotal Terminal Units		86,505 sf	3.60	311,556	17,232	34,464	36,836	147,344	32,437	129,748		0	0	0
Piping														
HVAC piping - core/shell	+	17,232 sf	16.00	275,712	17,232	275,712		0		0		0		0
HVAC piping - fit-out	+	69,273 sf	14.00	969,822		0	36,836	515,704	32,437	454,118		0		0
Subtotal Piping		86,505 sf	14.40	1,245,534	17,232	275,712	36,836	515,704	32,437	454,118		0	0	0
Miscellaneous														
generator accessories		750 kw	50.00	37,500	750	37,500		0		0		0		0
testing, balancing, coordination, as-builts& 3rd party assist commissioning	+	69,273 sf	0.50	34,637		0	36,836	18,418	32,437	16,219		0		0
testing, balancing, coordination, as-builts& 3rd party assist commissioning	+	17,232 sf	1.50	25,848	17,232	25,848		0		0		0		0
Subtotal Miscellaneous		86,505 sf	1.13	97,985	17,232	63,348	36,836	18,418	32,437	16,219		0	0	0
Total C13 HVAC		86,506 sf	83.08	7,186,505	50.83	4,397,409	29.57	1,089,138	51.98	1,699,959		#Num!	0	0.00
C14 Controls														
Controls														
Building Automation AHUs	*	60 pts	1,800.00	108,000	60	108,000		0		0		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
EAHUs	*	40 pts	1,800.00	72,000	40	72,000		0		0		0		0
fans	*	20 pts	1,800.00	36,000	20	36,000		0		0		0		0
heating plant	*	52 pts	1,800.00	93,600	52	93,600		0		0		0		0
cooling plant	*	90 pts	1,800.00	162,000	90	162,000		0		0		0		0
misc plumbing & electrical	*	20 pts	1,800.00	36,000	20	36,000		0		0		0		0
Terminal Units														
fan coil units, reheat coils, heat pump terminals, perimeter radiation, etc		86,505 sf	8.00	692,040	17,232	137,856	36,836	294,688	32,437	259,496		0		0
Subtotal Controls		282 pts	4,254.04	1,199,640	282	645,456	0	294,688	0	259,496	0	0	0	0
Total C14 Controls		86,506 sf	13.87	1,199,640	7.46	645,456	8.00	294,688	7.93	259,496	#Num!	0	0.00	0
TOTAL C1 MECHANICAL				10,879,358		6,056,527		2,171,326		2,651,505		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
C2 ELECTRICAL														
C21 Service & Distribution														
Normal Service & Distribution														
pad mounted transformer & switch		1 no	175,000.00	175,000	1	175,000		0		0		0		0
main switchboard	+	3,000 A	55.00	165,000	3,000	165,000		0		0		0		0
distribution boards		8 no	14,500.00	116,000	8	116,000		0		0		0		0
transformers		2 no	12,500.00	25,000	2	25,000		0		0		0		0
panelboards		4 no	4,875.00	19,500	4	19,500		0		0		0		0
panelboards, 84ccts		3 no	9,795.00	29,385	3	29,385		0		0		0		0
feeder - core/shell		17,232 sf	5.00	86,160	17,232	86,160		0		0		0		0
feeder - fit-out		69,273 sf	3.50	242,456		0	36,836	128,926	32,437	113,530		0		0
grounding		20,000 ls	1.00	20,000	20,000	20,000		0		0		0		0
metering		20,000 ls	1.00	20,000	20,000	20,000		0		0		0		0
misc electrical		50,000 ls	1.00	50,000	50,000	50,000		0		0		0		0
incoming MV feeder		200 lf	175.00	35,000	200	35,000		0		0		0		0
Subtotal Normal Service & Distribution		3,000 A	327.83	983,501	3,000	741,045		0	128,926	0	113,530		0	0
Emergency Service & Distribution														
emergency diesel generator w/ weather enclosure	+	750 kw	765.00	573,750	750	573,750		0		0		0		0
emergency switchboard		2,000 A	50.00	100,000	2,000	100,000		0		0		0		0
automatic transfer switches		3 no	15,875.00	47,625	3	47,625		0		0		0		0
storm switch		1 no	25,000.00	25,000	1	25,000		0		0		0		0
distribution boards		7 no	14,500.00	101,500	7	101,500		0		0		0		0
transformers		3 no	12,500.00	37,500	3	37,500		0		0		0		0
panelboards		7 no	4,875.00	34,125	7	34,125		0		0		0		0
feeder - core/shell		17,232 sf	4.00	68,928	17,232	68,928		0		0		0		0
feeder - fit-out		69,273 sf	2.50	173,183		0	36,836	92,090	32,437	81,093		0		0
Subtotal Emergency Service & Distribution		750 kw	1,548.81	1,161,611	750	988,428		0	92,090	0	81,093		0	0
Motor Wiring & Control														
motor wiring - core/shell		17,232 sf	4.00	68,928	17,232	68,928		0		0		0		0
motor wiring - fit-out		69,273 sf	2.00	138,546		0	36,836	73,672	32,437	64,874		0		0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Subtotal Motor Wiring & Control				207,474	0	68,928	0	73,672	0	64,874	0	0	0	0
Total C21 Service & Distribution		86,506 sf	27.20	2,352,585	20.79	1,798,401	8.00	294,688	7.93	259,496	#Num!	0	0.00	0
C22 Lighting & Devices														
Lighting														
lighting - core/shell	+	17,232 sf	12.00	206,784	17,232	206,784		0		0		0		0
lighting - fit-out	+	36,836 sf	19.00	699,884		0	36,836	699,884		0		0		0
lighting - lab space	+	32,437 sf	21.00	681,177		0		0	32,437	681,177		0		0
lighting controls - core/shell		17,232 sf	1.00	17,232	17,232	17,232		0		0		0		0
lighting controls - fit-out		36,836 sf	3.00	110,508		0	36,836	110,508		0		0		0
lighting controls - lab space		32,437 sf	3.00	97,311		0		0	32,437	97,311		0		0
Subtotal Lighting		86,505 sf	20.96	1,812,896	17,232	224,016	36,836	810,392	32,437	778,488	0	0	0	0
Devices														
duplex receptacles, junction boxes, special purpose receptacels, floor boxes, etc	+	17,232 sf	3.00	51,696	17,232	51,696		0		0		0		0
duplex receptacles, junction boxes, special purpose receptacels, floor boxes, etc	+	69,273 sf	8.00	554,184		0	36,836	294,688	32,437	259,496		0		0
Subtotal Devices		86,505 sf	7.00	605,880	17,232	51,696	36,836	294,688	32,437	259,496	0	0	0	0
Total C22 Lighting & Devices		86,506 sf	27.96	2,418,776	3.19	275,712	30.00	1,105,080	31.74	1,037,984	#Num!	0	0.00	0
C23 Systems														
Fire Alarm														
addressable fire alarm system	+	86,505 sf	4.00	346,020	86,505	346,020		0		0		0		0
Subtotal Fire Alarm		86,505 sf	4.00	346,020	86,505	346,020	0	0	0	0	0	0	0	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Tel/Data														
tel/data - complete system, core shell	+	17,232 sf	4.00	68,928	17,232	68,928		0		0		0		0
tel/data - complete system, fit-out	+	69,273 sf	6.00	415,638		0	36,836	221,016	32,437	194,622		0		0
IT closet fitout		100,000 ls	1.00	100,000		0	100,000	100,000		0		0		0
active equipment		125,000 ls	1.00	125,000		0	125,000	125,000		0		0		0
Subtotal Tel/Data		86,505 sf	8.20	709,566	17,232	68,928	36,836	446,016	32,437	194,622	0	0	0	0
Security Systems														
complete security system - core/shell	+	17,232 sf	3.00	51,696	17,232	51,696		0		0		0		0
complete security system - fit-out	+	69,273 sf	4.00	277,092		0	36,836	147,344	32,437	129,748		0		0
Subtotal Security Systems		86,505 sf	3.80	328,788	17,232	51,696	36,836	147,344	32,437	129,748	0	0	0	0
Other Systems														
A/V - conduit only		86,505 sf	0.50	43,253	17,232	8,616	36,836	18,418	32,437	16,219		0		0
lightning protection		86,505 sf	0.50	43,253	86,505	43,253		0		0		0		0
miscellaneous electrical + coordination		86,505 sf	2.00	173,010	86,505	173,010		0		0		0		0
bidirectional antenna system		86,505 sf	0.50	43,253	86,505	43,253		0		0		0		0
Subtotal Other Systems				302,768	0	268,131	0	18,418	0	16,219	0	0	0	0
Total C23 Systems		86,506 sf	19.50	1,687,142	8.49	734,775	16.61	611,778	10.41	340,589	#Num!	0	0.00	0
TOTAL C2 ELECTRICAL				6,458,503		2,808,888		2,011,546		1,638,069		0		0

ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust			
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
D1 SITE WORK												
D11 Site Development												
Site Preparation												
strip and prepare	+	47,023 sf	5.00	235,115	0	0	0	0	47,023	235,115	0	0
fine and rough grading		23,302 sf	1.00	23,302	0	0	0	0	23,302	23,302	0	0
erosion control		47,023 sf	0.75	35,267	0	0	0	0	47,023	35,267	0	0
Subtotal Site Preparation		47,023 sf	6.25	293,684	0	0	0	0	47,023	293,684	0	0
Paving & Structure												
concrete pavement	+	6,270 sf	10.00	62,700	0	0	0	0	6,270	62,700	0	0
granite curb - allow		1,000 lf	80.00	80,000	0	0	0	0	1,000	80,000	0	0
premium for pavers		1 ls	75,000.00	75,000	0	0	0	0	1	75,000	0	0
Subtotal Paving & Structure		6,270 sf	34.72	217,700	0	0	0	0	6,270	217,700	0	0
Improvements												
miscellaneous improvement (trash receptacles, benches, etc.)		150,000 ls	1.00	150,000	0	0	0	0	150,000	150,000	0	0
Subtotal Improvements				150,000	0	0	0	0	0	150,000	0	0
Planting												
plantings	+	3,118 sf	10.00	31,180	0	0	0	0	3,118	31,180	0	0
sod, allow	+	13,914 sf	1.00	13,914	0	0	0	0	13,914	13,914	0	0
planting soil, allow 12"		630 cy	75.00	47,250	0	0	0	0	630	47,250	0	0
trees		12 no	2,500.00	30,000	0	0	0	0	12	30,000	0	0
irrigation, allow		17,032 sf	1.50	25,548	0	0	0	0	17,032	25,548	0	0
Subtotal Planting		17,032 sf	8.68	147,892	0	0	0	0	17,032	147,892	0	0
Total D11 Site Development		86,506 sf	9.36	809,276	0.00	0	0.00	0	#Div/0!	809,276	0.00	0

ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust			
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$		
D12 Mechanical Site Services												
Building Services												
water		65,000 ls	1.00	65,000	0	0	0	0	65,000	65,000		
sanitary		40,000 ls	1.00	40,000	0	0	0	0	40,000	40,000		
gas		25,000 ls	1.00	25,000	0	0	0	0	25,000	25,000		
Subtotal Building Services				130,000	0	0	0	0	0	130,000	0	0
Site Drainage & Services												
storm		150,000 ls	1.00	150,000	0	0	0	0	150,000	150,000		
Subtotal Site Drainage & Services				150,000	0	0	0	0	0	150,000	0	0
Total D12 Mechanical Site Services		86,506 sf	3.24	280,000	0.00	0	0.00	0	#Div/0!	280,000	0.00	0
D13 Electrical Site Services												
Building Services												
electrical ductbank		400 lf	180.00	72,000	0	0	0	0	400	72,000		
miscellaneous site electrical		100,000 ls	1.00	100,000	0	0	0	0	100,000	100,000		
telecom service		50,000 ls	1.00	50,000	0	0	0	0	50,000	50,000		
Subtotal Building Services				222,000	0	0	0	0	0	222,000	0	0
Site Lighting & Services												
site lighting		150,000 ls	1.00	150,000	0	0	0	0	150,000	150,000		
Subtotal Site Lighting & Services				150,000	0	0	0	0	0	150,000	0	0
Total D13 Electrical Site Services		86,506 sf	4.30	372,000	0.00	0	0.00	0	#Div/0!	372,000	0.00	0
TOTAL D1 SITE WORK				1,461,276	0	0	0	0	1,461,276	0		

ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
Description	Trade	Quantity	Rate	\$	Quantity	Quantity	Quantity	Quantity	Quantity
DIRECT CONSTRUCTION COST				45,127,299	26,672,183	7,594,408	9,399,432	1,461,276	0

Z1 GENERAL REQUIREMENTS

Z11 General Requirements

General Requirements

Temporary Facilities

Access: Temporary roads, staging, storage and parking areas, signage and traffic control.

Accommodation: Temporary offices and sheds, temporary toilets, telephone, office and first aid supplies, camp facilities, mobilization and maintenance.

Expenses, Reimbursables: Layout and preparation, documents and photographs, mockups and samples, printing and duplication.

Protection: Temporary fences, hoardings and barricades; Scaffolding, ramps and runways, guard rails, stairs and ladders, temporary partitions and dust screens, wind bracing, temporary fire protection, site protection including sidewalks, curbs, trees, etc.

Temporary Services: Water, power, heat, site drainage.

Equipment: mobile and tower cranes, hoists and temporary elevators, forklifts, trucking, buggies, disposal chutes, other equipment rental and associated costs such as fuel, oil and consumables.

Winter Conditions: Winter concrete premium, snow and ice clearing, tarpaulins, insulation mats, enclosures, etc.

Clean-up: Daily and final cleanup, glass cleaning, dumpster rental and dumping charges.

General Requirements	+	17.0% Is	7,671,642	17.0%	4,534,272	17.0%	1,291,049	17.0%	1,597,904	17.0%	248,417	0
Subtotal General Requirements		0 Is	7,671,642	0	4,534,272	0	1,291,049	0	1,597,904	0	248,417	0
Bond												
Bond	+	1.2% Is	541,528	1.2%	320,066	1.2%	91,133	1.2%	112,793	1.2%	17,535	0
Subtotal Bond		0 Is	541,528	0	320,066	0	91,133	0	112,793	0	17,535	0
Insurance												
Insurance	+	2.0% Is	902,546	2.0%	533,444	2.0%	151,888	2.0%	187,989	2.0%	29,226	0
Subtotal Insurance		0 Is	902,546	0	533,444	0	151,888	0	187,989	0	29,226	0

ELEMENTAL ESTIMATE					01 Core/Shell		02 Fit-out: support & circ		03 Fit-Out: Lab space		04 Sitework		05 Area Adjust	
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$	Quantity	\$
Total Z11 General Requirements		86,506	sf	9,115,715	62.28	5,387,781	41.64	1,534,070	58.05	1,898,685	#Div/0!	295,178	0.00	0
Z12 Fee														
Profit/Fee/Risk														
Z121 Profit/Fee: Head office overhead, construction manager's fee, general contractors profit.														
Z122 Risk: Warranties, guarantees and liquidated damages. Labour restrictions & requirements; Strike or lockout delays. Bidding restrictions and requirements.														
Profit/Fee/Risk	+	3.0%	ls	1,353,819	3.0%	800,166	3.0%	227,832	3.0%	281,983	3.0%	43,838		0
Subtotal Profit/Fee/Risk		0	ls	1,353,819	0	800,166	0	227,832	0	281,983	0	43,838	0	0
Total Z12 Fee		86,506	sf	1,353,819	9.25	800,166	6.18	227,832	8.62	281,983	#Div/0!	43,838	0.00	0
TOTAL Z1 GENERAL REQUIREMENTS				10,469,534	6,187,947	1,761,903	2,180,668	339,016	0					

ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust		
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	
Z2 CONTINGENCIES											
Z21 Design Contingency											
Design Stage Contingency											
Design contingency covers unanticipated changes during design and is absorbed as design progresses and more detailed information becomes available and is normally reduced to zero for final documents.											
Z211 Documentation											
Covers errors and omissions in design documents, definition of lump sum allocations (unmeasured items), development and definition of measured elements, development and definition of details and assemblies.											
Z212 Estimating											
Covers estimating errors and omissions.											
Z213 Program											
Covers unforeseen site conditions, program and user scope changes, owner directed design changes, design changes caused by regulatory bodies (excluded - typically with project contingency).											
Design Stage Contingency	+	15.0% ls	6,769,096		15.0% 4,000,828		15.0% 1,139,161		15.0% 1,409,915	15.0% 219,191	0
Subtotal Design Stage Contingency		0 ls	6,769,096		0 4,000,828		0 1,139,161		0 1,409,915	0 219,191	0 0
Total Z21 Design Contingency		86,506 sf	6,769,096		46.25 4,000,828		30.92 1,139,161		43.11 1,409,915	#Div/0! 219,191	0.00 0
Z22 Escalation Contingency											
Escalation											
Escalation	+	3.0% ls	1,353,819		3.0% 800,166		3.0% 227,832		3.0% 281,983	3.0% 43,838	0
Subtotal Escalation		0 ls	1,353,819		0 800,166		0 227,832		0 281,983	0 43,838	0 0
Total Z22 Escalation Contingency		86,506 sf	1,353,819		9.25 800,166		6.18 227,832		8.62 281,983	#Div/0! 43,838	0.00 0
Z23 Construction Contingency											

ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ.	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust		
Description	Trade	Quantity	Rate	\$	Quantity	\$	Quantity	\$	Quantity	\$	
Construction Contingency											
Construction contingency covers changes during construction.											
Z231 Documentation											
Covers extra costs during construction due to unforeseen site conditions, errors and omissions in documentation or construction management, etc. (typically included).											
Z232 Program											
Covers extra costs during construction due to program and user scope modifications, changes caused by regulatory bodies, overrun of cash allowances, etc (excluded - typically with project contingency).											
Construction Contingency	+	5.0% Is	2,256,365		5.0% 1,333,609		5.0% 379,720		5.0% 469,972	5.0% 73,064	0
Subtotal Construction Contingency		0 Is	2,256,365		0 1,333,609		0 379,720		0 469,972	0 73,064	0
Total Z23 Construction Contingency		86,506 sf	2,256,365		15.42 1,333,609		10.31 379,720		14.37 469,972	#Div/0! 73,064	0.00
TOTAL Z2 CONTINGENCIES			10,379,279		6,134,602		1,746,714		2,161,869	336,094	0



ELEMENTAL ESTIMATE					01 Core/Shell	02 Fit-out: support & circ	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
Description	Trade	Quantity	Rate	\$	Quantity	Quantity	Quantity	Quantity	Quantity
INDIRECT CONSTRUCTION COST				20,848,813	12,322,549	3,508,617	4,342,538	675,110	0
TOTAL COSTS				\$65,976,112	\$38,994,732	\$11,103,025	\$13,741,969	\$2,136,386	\$0

LEVEL 2 ELEMENTAL SUMMARY	\$/sf	Element \$	%	01 Core/Shell	2 Fit-out: support & ci	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
GROSS FLOOR AREA		86,506 sf		\$/sf 86,506	\$/sf 36,837	\$/sf 32,707	\$/sf 0	\$/sf -69,544
A1 SUBSTRUCTURE	21.93	1,896,818	3%	21.93 1,896,818	0.00 0	0.00 0	0	0
A2 STRUCTURE	56.95	4,926,140	7%	56.95 4,926,140	0.00 0	0.00 0	0	0
A3 ENCLOSURE	107.55	9,304,007	14%	107.55 9,304,007	0.00 0	0.00 0	0	0
B1 PARTITIONS & DOORS	26.25	2,270,636	3%	5.32 460,538	31.78 1,170,662	19.55 639,436	0	0
B2 FINISHES	38.55	3,334,762	5%	4.73 409,265	35.24 1,298,124	49.76 1,627,373	0	0
B3 FITTINGS & EQUIPMENT	53.13	4,595,800	7%	9.36 810,000	25.59 942,750	86.92 2,843,050	0	0
C1 MECHANICAL	125.76	10,879,358	16%	70.01 6,056,527	58.94 2,171,326	81.07 2,651,505	0	0
C2 ELECTRICAL	74.66	6,458,503	10%	32.47 2,808,888	54.61 2,011,546	50.08 1,638,069	0	0
D1 SITE WORK	16.89	1,461,276	2%	0.00 0	0.00 0	0.00 0	1,461,276	0
DIRECT CONSTRUCTION COST	521.67	45,127,299	68%	308.33 26,672,183	206.16 7,594,408	287.38 9,399,432	1,461,276	0
Z1 GENERAL REQUIREMENTS	121.03	10,469,534	16%	71.53 6,187,947	47.83 1,761,903	66.67 2,180,668	339,016	0
Z2 CONTINGENCIES	119.98	10,379,279	16%	70.92 6,134,602	47.42 1,746,714	66.10 2,161,869	336,094	0
INDIRECT CONSTRUCTION COST								
TOTAL CONSTRUCTION COST	762.68	65,976,111	100%	450.77 38,994,732	301.41 11,103,025	420.15 13,741,969	2,136,386	0

LEVEL 2 ELEMENTAL SUMMARY	\$/sf	Element \$	%	01 Core/Shell	2 Fit-out: support & ci	03 Fit-Out: Lab space	04 Sitework	05 Area Adjust
GROSS FLOOR AREA		86,506 sf		\$/sf 86,506	\$/sf 36,837	\$/sf 32,707	\$/sf 0	\$/sf -69,544
A1 SUBSTRUCTURE	21.93	1,896,818	3%	21.93 1,896,818	0.00 0	0.00 0	0	0
A2 STRUCTURE	56.95	4,926,140	7%	56.95 4,926,140	0.00 0	0.00 0	0	0
A3 ENCLOSURE	107.55	9,304,007	14%	107.55 9,304,007	0.00 0	0.00 0	0	0
B1 PARTITIONS & DOORS	26.25	2,270,636	3%	5.32 460,538	31.78 1,170,662	19.55 639,436	0	0
B2 FINISHES	38.55	3,334,762	5%	4.73 409,265	35.24 1,298,124	49.76 1,627,373	0	0
B3 FITTINGS & EQUIPMENT	53.13	4,595,800	7%	9.36 810,000	25.59 942,750	86.92 2,843,050	0	0
C1 MECHANICAL	125.76	10,879,358	16%	70.01 6,056,527	58.94 2,171,326	81.07 2,651,505	0	0
C2 ELECTRICAL	74.66	6,458,503	10%	32.47 2,808,888	54.61 2,011,546	50.08 1,638,069	0	0
D1 SITE WORK	16.89	1,461,276	2%	0.00 0	0.00 0	0.00 0	1,461,276	0
DIRECT CONSTRUCTION COST	521.67	45,127,299	68%	308.33 26,672,183	206.16 7,594,408	287.38 9,399,432	1,461,276	0
Z1 GENERAL REQUIREMENTS	121.03	10,469,534	16%	71.53 6,187,947	47.83 1,761,903	66.67 2,180,668	339,016	0
Z2 CONTINGENCIES	119.98	10,379,279	16%	70.92 6,134,602	47.42 1,746,714	66.10 2,161,869	336,094	0
INDIRECT CONSTRUCTION COST								
TOTAL CONSTRUCTION COST	762.68	65,976,111	100%	450.77 38,994,732	301.41 11,103,025	420.15 13,741,969	2,136,386	0