



Clarke Project Solutions, Inc.
Service-Disabled Veteran-Owned Small Business

**Emissions Testing Facility
California Air Resources Board
Southern California**

Rough Order of Magnitude Estimate - 3rd Revised
November 12, 2014
Clarke Project No. 14-00XXX.CC

INTRODUCTION

Purpose of Estimate

This revised estimate has been prepared, pursuant to an agreement between the IBI Group and Clarke Project Solutions, for the purpose of establishing a probable cost of construction prior to Conceptual Design.

Project Description

This estimate encompasses those costs related to the construction of a new emissions testing facility for the California Air Resources Board in Southern California. The project includes Buildings 1 through 5 of approximately 281,925 square feet, a Parking Garage of approximately 253,000 square feet, and related adjacent site development work (17.13 acres).

Basis of Estimate

In general, this estimate has been prepared from documents provided by the IBI Group and received by Clarke Project Solutions through November 11, 2014. These documents include:

Program Report, 67 pages, dated September 12, 2006
CARB Final Space Needs Analysis, 2 pages, dated October 30, 2014

Further information was obtained through discussions with the design team Architects, Engineers, and Consultants.

Estimate Format

A component cost classification format has been used for the preparation of this estimate. It classifies costs by building system, or element, rather than trade. Because building systems remain relatively consistent from building to building, regardless of functional use or type of construction, this component format provides the necessary means for cost planning. Efforts have been made to keep our format similar to that used by the general contractor, so that reconciliations can easily be done.

Construction Schedule

Costs as included herein have been based upon a reasonable construction period. Any costs for excessive overtime to meet stringent milestone dates are not included in this estimate.

Method of Procurement

It is our understanding that the cost of construction may be bid by qualified local general contractors.

Bid Conditions

This estimate has been based upon competitive bid situations (minimum of 3 bidders) for all items of subcontracted work. It is also based upon a minimum of 6 bids being received from general contractors.

Basis for Quantities

Wherever possible, this estimate has been based upon the actual measurement of different items of work. For the remaining items, parametric measurements were used in conjunction with references from other projects of a similar nature.

Basis for Unit Costs

Unit costs as contained herein are based on current bid prices in the Southern California area. Subcontractor's overhead and profit is included in each line item unit cost. This overhead and profit covers each subcontractor's cost for labor burden, field overhead, home office overhead, and profit. The general contractor's overhead and profit is shown separately on the Summary.

INTRODUCTION

Sources for Pricing

This estimate was prepared by a team of qualified cost consultants experienced in estimating construction costs at all stages of design. These consultants have used pricing data from Clarke Project Solutions' database for research facility construction, updated to reflect current conditions in the Southern California area. In some cases, quotes may have been solicited from outside sources to substantiate in-house pricing data.

Subcontractor's Mark-ups

As stated earlier, subcontractor's mark-ups have been included in each line item unit cost. Depending on the trade, these mark-ups can range from 25% to 35% of the raw cost for that particular item of work.

Design Allowances

An allowance for undeveloped design details will be added to this estimate in the project budget by the CARB. As the design of each system is further developed, details which historically increase cost became apparent and must be incorporated into the estimate. This allowance is intended to cover the cost of such details.

General Contractor's Overhead and Profit

Jobsite general conditions, home office overhead, profit, and bond are shown on the Summary of this estimate. It is our opinion that for this project, an additive rate of 17% is appropriate to cover these mark-ups.

Escalation Allowance

Prices included herein are reflective of current prices. They do not have escalation included to the midpoint of construction if the project were to be bid today.

Construction Contingency

It is prudent for all program budgets to include an allowance for change orders which occur during construction. These change orders normally increase the cost of the project. It is recommended that the Owner, in their program budget, carry a percentage of anywhere from 2% to 5% of the construction cost for this construction contingency.

Items Included in the Estimate

Items which are detailed in the backup to this estimate include the following:

- A Foundations, superstructure, exterior closure, roofing, interior construction, stairs, interior finishes, conveying, plumbing, HVAC, fire protection, electrical, equipment, site preparation, site improvements, and site utilities as detailed on plans and outline specifications referred to herein.
- B Subcontractor's and general contractor's mark-ups.
- C Design and inflation allowances.

Items Excluded from the Estimate

Items which are not included in this estimate are:

- A Professional fees, inspections, and testing.
- B Land acquisition and real estate fees.
- C Owner's field inspection costs.
- D Program or project manager's fees.
- E Costs of hazardous material surveys, abatements, and disposals unless noted in estimate.
- F Major site and building structures demolition unless noted in body of estimate.
- G Blasting or excavation of rock.
- H Buried utility relocation.
- I Below grade utility tunnels.
- J Costs of offsite construction unless noted in estimate (i.e. central plant upgrades, road improvements, etc.).

INTRODUCTION

- K Furnishings, fixtures, and equipment (FF&E) except built-in cabinets, counters, and other casework normally provided by a General Contractor.
- L Phone system.
- M Low voltage systems equipment and cabling (cable installation is included).
- N Artwork or public art.
- O Construction cost premiums for additional sustainable design (beyond existing design requirements).
- P Escalation beyond the anticipated midpoint of construction.
- Q Construction contingency costs.
- R Move-in costs or maintenance costs after move-in.

Items Affecting the Cost Estimate

Items which may change the estimated construction cost include, but are not limited to:

- A Modifications to the scope of work included in this estimate.
- B Unforeseen sub-surface conditions.
- C Restrictive technical specifications or excessive contract conditions.
- D Any specified item of equipment, material, or product that cannot be obtained from at least three different sources.
- E Any other non-competitive bid situations.
- F Bids delayed beyond the projected schedule.

Statement of Probable Cost

Clarke Project Solutions has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This opinion of the probable cost of construction is made on the basis of the experience, qualifications, and best judgment of a professional consultant familiar with the construction industry. Clarke Project Solutions, however, cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this or subsequent cost estimates.

Clarke Project Solutions has no control over the quality, completeness, intricacy, constructability, or coordination of design documents. Clarke Project Solutions also has no control over the amount of funds available for the project. We, therefore, cannot be responsible for any design revision costs incurred in the event that this estimate is in excess of the

Clarke Project Solutions' staff of professional cost consultants has prepared this estimate in accordance with generally accepted principles and practices. This staff is available to discuss its contents with any interested party.

Recommendations for Cost Control

Clarke Project Solutions recommends that the Owner and the Architect carefully review this entire document to insure that it reflects their design intent. Requests for modifications of any apparent errors or omissions to this document must be made to Clarke Project Solutions within ten days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted. If the project is over budget, or there are unresolved budgeting issues, alternate systems/schemes should be evaluated before proceeding into further design phases.

It is recommended that there are preparations of further cost estimates throughout design by Clarke Project Solutions to determine overall cost changes since the preparation of this rough order of magnitude estimate. These future estimates will have detailed breakdowns indicating materials by type, kind, and size, priced by their respective units of measure.

It is also recommended that a detailed construction schedule be developed to confirm that fact that the current schedule is a reasonable allowance for construction activities.

INTRODUCTION

Total Project Cost

Our opinion of the total cost of the project prior to design, based on all information stated herein, is:

\$189,989,661

Schedule of Areas & Control Quantities

Schedule of Areas	Buildings GSF	Total SF
Enclosed Areas		
Building 1	86,648 sf	
Building 2A	58,266 sf	
Building 2B	6,683 sf	
Building 3	45,290 sf	
Building 4	68,103 sf	
Building 5	16,935 sf	
Parking Structure	253,000 sf	
Subtotal, Enclosed Areas	534,925 sf	534,925
Total Gross Floor Area		<u>534,925</u>

BUILDINGS & SITE SUMMARY

Element	Area	Cost/SF	Total
1 Building 1 - Light Vehicle Testing	86,648 SF	\$487.05	\$42,201,863
2 Building 2A - Heavy Duty Testing	58,266 SF	\$650.75	\$37,916,728
3 Building 2B - PEMS Building	6,683 SF	\$382.17	\$2,554,036
4 Building 3 - Chemistry Building	45,290 SF	\$694.63	\$31,459,961
5 Building 4 - Office and Shared Building	68,103 SF	\$407.82	\$27,773,477
6 Building 5 - ASD Building	16,935 SF	\$259.23	\$4,390,065
SUBTOTAL - BUILDINGS	281,925 SF	\$518.92	\$146,296,131
7 Parking Structure	253,000 SF	\$78.37	\$19,828,866
8 Sitework	746,360 SF	\$31.97	\$23,864,664
TOTAL ESTIMATED CONSTRUCTION COST			<u>\$189,989,661</u>

Building 1 - Light Vehicle Testing Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$2,131,541	\$24.60
2 Substructure		\$1,282,390	\$14.80
3 Superstructure		\$3,509,244	\$40.50
4 Exterior Closure		\$6,039,366	\$69.70
5 Roofing		\$2,252,848	\$26.00
6 Interior Construction		\$7,144,128	\$82.45
7 Conveying		\$103,978	\$1.20
8 Mechanical		\$6,476,938	\$74.75
9 Electrical		\$4,540,355	\$52.40
10 General Conditions & Profit			
11 Equipment		\$2,391,485	\$27.60
12 Sitework			
Subtotal		\$35,872,272	\$414.00
General Conditions	12.0%	\$4,304,673	\$49.68
Subtotal		\$40,176,945	\$463.68
General Contractor OH & P	4.0%	\$1,607,078	\$18.55
Subtotal		\$41,784,022	\$482.23
Bonds & Insurance	1.0%	\$417,840	\$4.82
Subtotal		\$42,201,863	\$487.05
Design Contingency			
Subtotal		\$42,201,863	\$487.05
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$42,201,863	\$487.05

Total Area: 86,648 SF

Building 1 - Light Vehicle Testing Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$2,131,541		\$24.60
011 Standard Foundations	\$1,161,083		\$13.40	
012 Special Foundations	\$970,458		\$11.20	
2 Substructure		\$1,282,390		\$14.80
021 Slab on Grade	\$1,282,390		\$14.80	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$3,509,244		\$40.50
031 Floor Construction				
032 Roof Construction	\$3,487,582		\$40.25	
033 Stair Construction	\$21,662		\$0.25	
4 Exterior Closure		\$6,039,366		\$69.70
041 Exterior Walls	\$4,765,640		\$55.00	
042 Exterior Doors / Windows	\$1,273,726		\$14.70	
5 Roofing		\$2,252,848		\$26.00
050 Roofing	\$2,252,848		\$26.00	
6 Interior Construction		\$7,144,128		\$82.45
061 Partitions	\$2,937,367		\$33.90	
062 Interior Finishes	\$2,083,884		\$24.05	
063 Specialties	\$1,581,326		\$18.25	
064 Interior Doors & Windows	\$541,550		\$6.25	
7 Conveying		\$103,978		\$1.20
070 Conveying	\$103,978		\$1.20	
8 Mechanical		\$6,476,938		\$74.75
081 Plumbing	\$2,712,082		\$31.30	
082 HVAC	\$3,188,646		\$36.80	
083 Fire Protection	\$576,209		\$6.65	
084 Special Mechanical				
9 Electrical		\$4,540,355		\$52.40
091 Standard Electrical	\$4,540,355		\$52.40	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$2,391,485		\$27.60
111 Fixed / Movable Equipment	\$2,296,172		\$26.50	
112 Furnishings	\$95,313		\$1.10	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$35,872,272		\$414.00

Building 1 - Light Vehicle Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	86,648	sf	\$13.40	\$1,161,083
Total - 011 Standard Foundations				<u>\$1,161,083</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	86,648	sf	\$11.20	\$970,458
Total - 012 Special Foundations				<u>\$970,458</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	86,648	sf	\$14.80	\$1,282,390
Total - 021 Slab on Grade				<u>\$1,282,390</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing	86,648	sf	\$40.25	\$3,487,582
Total - 032 Roof Construction				<u>\$3,487,582</u>

Building 1 - Light Vehicle Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	86,648	sf	\$0.25	\$21,662
Total - 033 Stair Construction				<u>\$21,662</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	86,648	sf	\$55.00	\$4,765,640
Total - 041 Exterior Walls				<u>\$4,765,640</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	86,648	sf	\$14.70	\$1,273,726
Total - 042 Exterior Doors / Windows				<u>\$1,273,726</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	86,648	sf	\$26.00	\$2,252,848
Total - 050 Roofing				<u>\$2,252,848</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	86,648	sf	\$33.90	\$2,937,367
Total - 061 Partitions				<u>\$2,937,367</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	86,648	sf	\$11.00	\$953,128
Base Resilient base, wood, ceramic, etc.	86,648	sf	\$0.65	\$56,321

Building 1 - Light Vehicle Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	86,648	sf	\$5.85	\$506,891
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.	86,648	sf	\$6.45	\$558,880
Miscellaneous Unistrut, access panels, etc.	86,648	sf	\$0.10	\$8,665
Total - 062 Interior Finishes				<u>\$2,083,884</u>
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.	86,648	sf	\$18.25	\$1,581,326
Total - 063 Specialties				<u>\$1,581,326</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	86,648	sf	\$6.25	\$541,550
Total - 064 Interior Doors & Windows				<u>\$541,550</u>
070 Conveying				
Elevators Passenger, service elevators	86,648	sf	\$1.20	\$103,978
Total - 070 Conveying				<u>\$103,978</u>
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.	86,648	sf	\$31.30	\$2,712,082
Total - 081 Plumbing				<u>\$2,712,082</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.	86,648	sf	\$36.80	\$3,188,646

Building 1 - Light Vehicle Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$3,188,646</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	86,648	sf	\$6.65	\$576,209
Total - 083 Fire Protection				<u>\$576,209</u>
091 Standard Electrical				
Service and Distribution Service and distribution	86,648	sf	\$20.25	\$1,754,622
Lighting and Power Fixtures and fittings	86,648	sf	\$17.80	\$1,542,334
Special Systems Fire alarm, telephone/data, etc.	86,648	sf	\$14.35	\$1,243,399
Total - 091 Standard Electrical				<u>\$4,540,355</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	86,648	sf	\$26.50	\$2,296,172
Total - 111 Fixed / Movable Equipment				<u>\$2,296,172</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	86,648	sf	\$1.10	\$95,313
Total - 112 Furnishings				<u>\$95,313</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 1 - Light Vehicle Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Building 2A - Heavy Duty Testing Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$1,966,478	\$33.75
2 Substructure		\$1,444,997	\$24.80
3 Superstructure		\$2,587,010	\$44.40
4 Exterior Closure		\$4,072,793	\$69.90
5 Roofing		\$1,602,315	\$27.50
6 Interior Construction		\$6,281,075	\$107.80
7 Conveying		\$113,619	\$1.95
8 Mechanical		\$6,097,537	\$104.65
9 Electrical		\$5,436,218	\$93.30
10 General Conditions & Profit			
11 Equipment		\$2,627,797	\$45.10
12 Sitework			
Subtotal		\$32,229,838	\$553.15
General Conditions	12.0%	\$3,867,581	\$66.38
Subtotal		\$36,097,418	\$619.53
General Contractor OH & P	4.0%	\$1,443,897	\$24.78
Subtotal		\$37,541,315	\$644.31
Bonds & Insurance	1.0%	\$375,413	\$6.44
Subtotal		\$37,916,728	\$650.75
Design Contingency			
Subtotal		\$37,916,728	\$650.75
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$37,916,728	\$650.75

Total Area: 58,266 SF

Building 2A - Heavy Duty Testing Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$1,966,478		\$33.75
011 Standard Foundations	\$1,176,973		\$20.20	
012 Special Foundations	\$789,504		\$13.55	
2 Substructure		\$1,444,997		\$24.80
021 Slab on Grade	\$1,444,997		\$24.80	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$2,587,010		\$44.40
031 Floor Construction				
032 Roof Construction	\$2,563,704		\$44.00	
033 Stair Construction	\$23,306		\$0.40	
4 Exterior Closure		\$4,072,793		\$69.90
041 Exterior Walls	\$3,268,723		\$56.10	
042 Exterior Doors / Windows	\$804,071		\$13.80	
5 Roofing		\$1,602,315		\$27.50
050 Roofing	\$1,602,315		\$27.50	
6 Interior Construction		\$6,281,075		\$107.80
061 Partitions	\$2,627,797		\$45.10	
062 Interior Finishes	\$1,806,246		\$31.00	
063 Specialties	\$1,599,402		\$27.45	
064 Interior Doors & Windows	\$247,631		\$4.25	
7 Conveying		\$113,619		\$1.95
070 Conveying	\$113,619		\$1.95	
8 Mechanical		\$6,097,537		\$104.65
081 Plumbing	\$2,173,322		\$37.30	
082 HVAC	\$3,525,093		\$60.50	
083 Fire Protection	\$399,122		\$6.85	
084 Special Mechanical				
9 Electrical		\$5,436,218		\$93.30
091 Standard Electrical	\$5,436,218		\$93.30	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$2,627,797		\$45.10
111 Fixed / Movable Equipment	\$2,435,519		\$41.80	
112 Furnishings	\$192,278		\$3.30	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$32,229,838		\$553.15

Building 2A - Heavy Duty Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	58,266	sf	\$20.20	\$1,176,973
Total - 011 Standard Foundations				<u>\$1,176,973</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	58,266	sf	\$13.55	\$789,504
Total - 012 Special Foundations				<u>\$789,504</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	58,266	sf	\$24.80	\$1,444,997
Total - 021 Slab on Grade				<u>\$1,444,997</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing	58,266	sf	\$44.00	\$2,563,704
Total - 032 Roof Construction				<u>\$2,563,704</u>

Building 2A - Heavy Duty Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	58,266	sf	\$0.40	\$23,306
Total - 033 Stair Construction				<u>\$23,306</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	58,266	sf	\$56.10	\$3,268,723
Total - 041 Exterior Walls				<u>\$3,268,723</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	58,266	sf	\$13.80	\$804,071
Total - 042 Exterior Doors / Windows				<u>\$804,071</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	58,266	sf	\$27.50	\$1,602,315
Total - 050 Roofing				<u>\$1,602,315</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	58,266	sf	\$45.10	\$2,627,797
Total - 061 Partitions				<u>\$2,627,797</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	58,266	sf	\$13.20	\$769,111
Base Resilient base, wood, ceramic, etc.	58,266	sf	\$0.60	\$34,960

Building 2A - Heavy Duty Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	58,266	sf	\$5.85	\$340,856
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.	58,266	sf	\$11.00	\$640,926
Miscellaneous Unistrut, access panels, etc.	58,266	sf	\$0.35	\$20,393
Total - 062 Interior Finishes				<u>\$1,806,246</u>
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.	58,266	sf	\$27.45	\$1,599,402
Total - 063 Specialties				<u>\$1,599,402</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	58,266	sf	\$4.25	\$247,631
Total - 064 Interior Doors & Windows				<u>\$247,631</u>
070 Conveying				
Elevators Passenger, service elevators	58,266	sf	\$1.95	\$113,619
Total - 070 Conveying				<u>\$113,619</u>
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.	58,266	sf	\$37.30	\$2,173,322
Total - 081 Plumbing				<u>\$2,173,322</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.	58,266	sf	\$60.50	\$3,525,093

Building 2A - Heavy Duty Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$3,525,093</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	58,266	sf	\$6.85	\$399,122
Total - 083 Fire Protection				<u>\$399,122</u>
091 Standard Electrical				
Service and Distribution Service and distribution	58,266	sf	\$37.15	\$2,164,582
Lighting and Power Fixtures and fittings	58,266	sf	\$35.80	\$2,085,923
Special Systems Fire alarm, telephone/data, etc.	58,266	sf	\$20.35	\$1,185,713
Total - 091 Standard Electrical				<u>\$5,436,218</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	58,266	sf	\$41.80	\$2,435,519
Total - 111 Fixed / Movable Equipment				<u>\$2,435,519</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	58,266	sf	\$3.30	\$192,278
Total - 112 Furnishings				<u>\$192,278</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 2A - Heavy Duty Testing Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Building 2B - PEMS Building Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$77,523	\$11.60
2 Substructure		\$92,225	\$13.80
3 Superstructure		\$256,961	\$38.45
4 Exterior Closure		\$415,683	\$62.20
5 Roofing		\$147,026	\$22.00
6 Interior Construction		\$424,705	\$63.55
7 Conveying			
8 Mechanical		\$413,009	\$61.80
9 Electrical		\$240,922	\$36.05
10 General Conditions & Profit			
11 Equipment		\$102,918	\$15.40
12 Sitework			
Subtotal		\$2,170,973	\$324.85
General Conditions	12.0%	\$260,517	\$38.98
Subtotal		\$2,431,489	\$363.83
General Contractor OH & P	4.0%	\$97,260	\$14.55
Subtotal		\$2,528,749	\$378.39
Bonds & Insurance	1.0%	\$25,287	\$3.78
Subtotal		\$2,554,036	\$382.17
Design Contingency			
Subtotal		\$2,554,036	\$382.17
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$2,554,036	\$382.17

Total Area: 6,683 SF

Emissions Testing Facility
Building 2B - PEMS Building
Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Building 2B - PEMS Building Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$77,523		\$11.60
011 Standard Foundations	\$76,186		\$11.40	
012 Special Foundations	\$1,337		\$0.20	
2 Substructure		\$92,225		\$13.80
021 Slab on Grade	\$92,225		\$13.80	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$256,961		\$38.45
031 Floor Construction				
032 Roof Construction	\$235,242		\$35.20	
033 Stair Construction	\$21,720		\$3.25	
4 Exterior Closure		\$415,683		\$62.20
041 Exterior Walls	\$330,809		\$49.50	
042 Exterior Doors / Windows	\$84,874		\$12.70	
5 Roofing		\$147,026		\$22.00
050 Roofing	\$147,026		\$22.00	
6 Interior Construction		\$424,705		\$63.55
061 Partitions	\$204,166		\$30.55	
062 Interior Finishes	\$117,621		\$17.60	
063 Specialties	\$74,181		\$11.10	
064 Interior Doors & Windows	\$28,737		\$4.30	
7 Conveying				
070 Conveying				
8 Mechanical		\$413,009		\$61.80
081 Plumbing	\$175,763		\$26.30	
082 HVAC	\$205,836		\$30.80	
083 Fire Protection	\$31,410		\$4.70	
084 Special Mechanical				
9 Electrical		\$240,922		\$36.05
091 Standard Electrical	\$240,922		\$36.05	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$102,918		\$15.40
111 Fixed / Movable Equipment	\$95,567		\$14.30	
112 Furnishings	\$7,351		\$1.10	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$2,170,973		\$324.85

Building 2B - PEMS Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	6,683	sf	\$11.40	\$76,186
Total - 011 Standard Foundations				<u>\$76,186</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	6,683	sf	\$0.20	\$1,337
Total - 012 Special Foundations				<u>\$1,337</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	6,683	sf	\$13.80	\$92,225
Total - 021 Slab on Grade				<u>\$92,225</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing	6,683	sf	\$35.20	\$235,242
Total - 032 Roof Construction				<u>\$235,242</u>

Building 2B - PEMS Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	6,683	sf	\$3.25	\$21,720
Total - 033 Stair Construction				<u>\$21,720</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	6,683	sf	\$49.50	\$330,809
Total - 041 Exterior Walls				<u>\$330,809</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	6,683	sf	\$12.70	\$84,874
Total - 042 Exterior Doors / Windows				<u>\$84,874</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	6,683	sf	\$22.00	\$147,026
Total - 050 Roofing				<u>\$147,026</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	6,683	sf	\$30.55	\$204,166
Total - 061 Partitions				<u>\$204,166</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	6,683	sf	\$4.80	\$32,078
Base Resilient base, wood, ceramic, etc.	6,683	sf	\$0.65	\$4,344

Building 2B - PEMS Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	6,683	sf	\$5.85	\$39,096
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.	6,683	sf	\$6.20	\$41,435
Miscellaneous Unistrut, access panels, etc.	6,683	sf	\$0.10	\$668
Total - 062 Interior Finishes				<u>\$117,621</u>
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.	6,683	sf	\$11.10	\$74,181
Total - 063 Specialties				<u>\$74,181</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	6,683	sf	\$4.30	\$28,737
Total - 064 Interior Doors & Windows				<u>\$28,737</u>
070 Conveying				
Elevators Passenger, service elevators				N/A
Total - 070 Conveying				
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.	6,683	sf	\$26.30	\$175,763
Total - 081 Plumbing				<u>\$175,763</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.	6,683	sf	\$30.80	\$205,836

Building 2B - PEMS Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$205,836</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	6,683	sf	\$4.70	\$31,410
Total - 083 Fire Protection				<u>\$31,410</u>
091 Standard Electrical				
Service and Distribution Service and distribution	6,683	sf	\$12.95	\$86,545
Lighting and Power Fixtures and fittings	6,683	sf	\$13.75	\$91,891
Special Systems Fire alarm, telephone/data, etc.	6,683	sf	\$9.35	\$62,486
Total - 091 Standard Electrical				<u>\$240,922</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	6,683	sf	\$14.30	\$95,567
Total - 111 Fixed / Movable Equipment				<u>\$95,567</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	6,683	sf	\$1.10	\$7,351
Total - 112 Furnishings				<u>\$7,351</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 2B - PEMS Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Building 3 - Chemistry Building Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$722,376	\$15.95
2 Substructure		\$824,278	\$18.20
3 Superstructure		\$3,238,235	\$71.50
4 Exterior Closure		\$5,070,216	\$111.95
5 Roofing		\$1,245,475	\$27.50
6 Interior Construction		\$6,356,452	\$140.35
7 Conveying			
8 Mechanical		\$5,486,884	\$121.15
9 Electrical		\$3,093,307	\$68.30
10 General Conditions & Profit			
11 Equipment		\$704,260	\$15.55
12 Sitework			
Subtotal		\$26,741,481	\$590.45
General Conditions	12.0%	\$3,208,978	\$70.85
Subtotal		\$29,950,458	\$661.30
General Contractor OH & P	4.0%	\$1,198,018	\$26.45
Subtotal		\$31,148,476	\$687.76
Bonds & Insurance	1.0%	\$311,485	\$6.88
Subtotal		\$31,459,961	\$694.63
Design Contingency			
Subtotal		\$31,459,961	\$694.63
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$31,459,961	\$694.63

Total Area: 45,290 SF

Building 3 - Chemistry Building Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$722,376		\$15.95
011 Standard Foundations	\$715,582		\$15.80	
012 Special Foundations	\$6,794		\$0.15	
2 Substructure		\$824,278		\$18.20
021 Slab on Grade	\$824,278		\$18.20	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$3,238,235		\$71.50
031 Floor Construction				
032 Roof Construction	\$3,188,416		\$70.40	
033 Stair Construction	\$49,819		\$1.10	
4 Exterior Closure		\$5,070,216		\$111.95
041 Exterior Walls	\$4,245,938		\$93.75	
042 Exterior Doors / Windows	\$824,278		\$18.20	
5 Roofing		\$1,245,475		\$27.50
050 Roofing	\$1,245,475		\$27.50	
6 Interior Construction		\$6,356,452		\$140.35
061 Partitions	\$2,552,092		\$56.35	
062 Interior Finishes	\$1,372,287		\$30.30	
063 Specialties	\$2,239,591		\$49.45	
064 Interior Doors & Windows	\$192,483		\$4.25	
7 Conveying				
070 Conveying				
8 Mechanical		\$5,486,884		\$121.15
081 Plumbing	\$2,187,507		\$48.30	
082 HVAC	\$2,989,140		\$66.00	
083 Fire Protection	\$310,237		\$6.85	
084 Special Mechanical				
9 Electrical		\$3,093,307		\$68.30
091 Standard Electrical	\$3,093,307		\$68.30	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$704,260		\$15.55
111 Fixed / Movable Equipment	\$647,647		\$14.30	
112 Furnishings	\$56,613		\$1.25	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$26,741,481		\$590.45

Building 3 - Chemistry Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	45,290	sf	\$15.80	\$715,582
Total - 011 Standard Foundations				<u>\$715,582</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	45,290	sf	\$0.15	\$6,794
Total - 012 Special Foundations				<u>\$6,794</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	45,290	sf	\$18.20	\$824,278
Total - 021 Slab on Grade				<u>\$824,278</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing	45,290	sf	\$70.40	\$3,188,416
Total - 032 Roof Construction				<u>\$3,188,416</u>

Building 3 - Chemistry Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	45,290	sf	\$1.10	\$49,819
Total - 033 Stair Construction				<u>\$49,819</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	45,290	sf	\$93.75	\$4,245,938
Total - 041 Exterior Walls				<u>\$4,245,938</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	45,290	sf	\$18.20	\$824,278
Total - 042 Exterior Doors / Windows				<u>\$824,278</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	45,290	sf	\$27.50	\$1,245,475
Total - 050 Roofing				<u>\$1,245,475</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	45,290	sf	\$56.35	\$2,552,092
Total - 061 Partitions				<u>\$2,552,092</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	45,290	sf	\$11.00	\$498,190
Base Resilient base, wood, ceramic, etc.	45,290	sf	\$0.65	\$29,439

Building 3 - Chemistry Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes				
Paint walls, ceramic tile, acoustical panels, etc.	45,290	sf	\$5.85	\$264,947
Ceiling Finishes				
Paint structure above, drywall, acoustical tile, etc.	45,290	sf	\$12.70	\$575,183
Miscellaneous				
Unistrut, access panels, etc.	45,290	sf	\$0.10	\$4,529
Total - 062 Interior Finishes				<u>\$1,372,287</u>
063 Specialties				
Specialties				
Millwork, bath accessories, lockers, etc.	45,290	sf	\$49.45	\$2,239,591
Total - 063 Specialties				<u>\$2,239,591</u>
064 Interior Doors & Windows				
Interior Doors				
Doors, frames, and hardware	45,290	sf	\$4.25	\$192,483
Total - 064 Interior Doors & Windows				<u>\$192,483</u>
070 Conveying				
Elevators				
Passenger, service elevators				N/A
Total - 070 Conveying				
081 Plumbing				
Plumbing				
Rough in, fixtures, water, drainage, etc.	45,290	sf	\$48.30	\$2,187,507
Total - 081 Plumbing				<u>\$2,187,507</u>
082 HVAC				
HVAC				
Equipment, ductwork, controls, etc.	45,290	sf	\$66.00	\$2,989,140

Building 3 - Chemistry Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$2,989,140</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	45,290	sf	\$6.85	\$310,237
Total - 083 Fire Protection				<u>\$310,237</u>
091 Standard Electrical				
Service and Distribution Service and distribution	45,290	sf	\$30.15	\$1,365,494
Lighting and Power Fixtures and fittings	45,290	sf	\$28.80	\$1,304,352
Special Systems Fire alarm, telephone/data, etc.	45,290	sf	\$9.35	\$423,462
Total - 091 Standard Electrical				<u>\$3,093,307</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	45,290	sf	\$14.30	\$647,647
Total - 111 Fixed / Movable Equipment				<u>\$647,647</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	45,290	sf	\$1.25	\$56,613
Total - 112 Furnishings				<u>\$56,613</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 3 - Chemistry Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Building 4 - Office and Shared Building Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$789,995	\$11.60
2 Substructure		\$313,274	\$4.60
3 Superstructure		\$1,675,338	\$24.60
4 Exterior Closure		\$6,285,907	\$92.30
5 Roofing		\$561,850	\$8.25
6 Interior Construction		\$5,523,153	\$81.10
7 Conveying		\$330,300	\$4.85
8 Mechanical		\$5,369,922	\$78.85
9 Electrical		\$2,458,518	\$36.10
10 General Conditions & Profit			
11 Equipment		\$299,653	\$4.40
12 Sitework			
Subtotal		\$23,607,909	\$346.65
General Conditions	12.0%	\$2,832,949	\$41.60
Subtotal		\$26,440,858	\$388.25
General Contractor OH & P	4.0%	\$1,057,634	\$15.53
Subtotal		\$27,498,492	\$403.78
Bonds & Insurance	1.0%	\$274,985	\$4.04
Subtotal		\$27,773,477	\$407.82
Design Contingency			
Subtotal		\$27,773,477	\$407.82
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		<u>\$27,773,477</u>	\$407.82

Total Area: 68,103 SF

Emissions Testing Facility
Building 4 - Office and Shared Building
Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Building 4 - Office and Shared Building Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$789,995		\$11.60
011 Standard Foundations	\$776,374		\$11.40	
012 Special Foundations	\$13,621		\$0.20	
2 Substructure		\$313,274		\$4.60
021 Slab on Grade	\$313,274		\$4.60	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$1,675,338		\$24.60
031 Floor Construction	\$749,137		\$11.00	
032 Roof Construction	\$749,133		\$11.00	
033 Stair Construction	\$177,068		\$2.60	
4 Exterior Closure		\$6,285,907		\$92.30
041 Exterior Walls	\$5,046,432		\$74.10	
042 Exterior Doors / Windows	\$1,239,475		\$18.20	
5 Roofing		\$561,850		\$8.25
050 Roofing	\$561,850		\$8.25	
6 Interior Construction		\$5,523,153		\$81.10
061 Partitions	\$1,825,160		\$26.80	
062 Interior Finishes	\$2,063,521		\$30.30	
063 Specialties	\$1,120,294		\$16.45	
064 Interior Doors & Windows	\$514,178		\$7.55	
7 Conveying		\$330,300		\$4.85
070 Conveying	\$330,300		\$4.85	
8 Mechanical		\$5,369,922		\$78.85
081 Plumbing	\$1,648,093		\$24.20	
082 HVAC	\$3,255,323		\$47.80	
083 Fire Protection	\$466,506		\$6.85	
084 Special Mechanical				
9 Electrical		\$2,458,518		\$36.10
091 Standard Electrical	\$2,458,518		\$36.10	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$299,653		\$4.40
111 Fixed / Movable Equipment	\$224,740		\$3.30	
112 Furnishings	\$74,913		\$1.10	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$23,607,909		\$346.65

Building 4 - Office and Shared Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	68,103	sf	\$11.40	\$776,374
Total - 011 Standard Foundations				<u>\$776,374</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	68,103	sf	\$0.20	\$13,621
Total - 012 Special Foundations				<u>\$13,621</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	22,701	sf	\$13.80	\$313,274
Total - 021 Slab on Grade				<u>\$313,274</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction	45,402	sf	\$16.50	\$749,137
Total - 031 Floor Construction				<u>\$749,137</u>
032 Roof Construction				
Roof Construction Roof framing	22,701	sf	\$33.00	\$749,133
Total - 032 Roof Construction				<u>\$749,133</u>

Building 4 - Office and Shared Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	68,103	sf	\$2.60	\$177,068
Total - 033 Stair Construction				<u>\$177,068</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	68,103	sf	\$74.10	\$5,046,432
Total - 041 Exterior Walls				<u>\$5,046,432</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	68,103	sf	\$18.20	\$1,239,475
Total - 042 Exterior Doors / Windows				<u>\$1,239,475</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	22,701	sf	\$24.75	\$561,850
Total - 050 Roofing				<u>\$561,850</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	68,103	sf	\$26.80	\$1,825,160
Total - 061 Partitions				<u>\$1,825,160</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	68,103	sf	\$11.00	\$749,133
Base Resilient base, wood, ceramic, etc.	68,103	sf	\$0.65	\$44,267

Building 4 - Office and Shared Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	68,103	sf	\$5.85	\$398,403
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.	68,103	sf	\$12.70	\$864,908
Miscellaneous Unistrut, access panels, etc.	68,103	sf	\$0.10	\$6,810
Total - 062 Interior Finishes				<u>\$2,063,521</u>
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.	68,103	sf	\$16.45	\$1,120,294
Total - 063 Specialties				<u>\$1,120,294</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	68,103	sf	\$7.55	\$514,178
Total - 064 Interior Doors & Windows				<u>\$514,178</u>
070 Conveying				
Elevators Passenger, service elevators	68,103	sf	\$4.85	\$330,300
Total - 070 Conveying				<u>\$330,300</u>
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.	68,103	sf	\$24.20	\$1,648,093
Total - 081 Plumbing				<u>\$1,648,093</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.	68,103	sf	\$47.80	\$3,255,323

Building 4 - Office and Shared Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$3,255,323</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	68,103	sf	\$6.85	\$466,506
Total - 083 Fire Protection				<u>\$466,506</u>
091 Standard Electrical				
Service and Distribution Service and distribution	68,103	sf	\$14.65	\$997,709
Lighting and Power Fixtures and fittings	68,103	sf	\$12.20	\$830,857
Special Systems Fire alarm, telephone/data, etc.	68,103	sf	\$9.25	\$629,953
Total - 091 Standard Electrical				<u>\$2,458,518</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	68,103	sf	\$3.30	\$224,740
Total - 111 Fixed / Movable Equipment				<u>\$224,740</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	68,103	sf	\$1.10	\$74,913
Total - 112 Furnishings				<u>\$74,913</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 4 - Office and Shared Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Building 5 - ASD Building Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$171,890	\$10.15
2 Substructure		\$206,607	\$12.20
3 Superstructure		\$465,713	\$27.50
4 Exterior Closure		\$928,038	\$54.80
5 Roofing		\$335,313	\$19.80
6 Interior Construction		\$601,193	\$35.50
7 Conveying			
8 Mechanical		\$519,905	\$30.70
9 Electrical		\$475,027	\$28.05
10 General Conditions & Profit			
11 Equipment		\$27,943	\$1.65
12 Sitework			
Subtotal		\$3,731,627	\$220.35
General Conditions	12.0%	\$447,795	\$26.44
Subtotal		\$4,179,423	\$246.79
General Contractor OH & P	4.0%	\$167,177	\$9.87
Subtotal		\$4,346,599	\$256.66
Bonds & Insurance	1.0%	\$43,466	\$2.57
Subtotal		\$4,390,065	\$259.23
Design Contingency			
Subtotal		\$4,390,065	\$259.23
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$4,390,065	\$259.23

Total Area: 16,935 SF

Building 5 - ASD Building Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$171,890		\$10.15
011 Standard Foundations	\$168,503		\$9.95	
012 Special Foundations	\$3,387		\$0.20	
2 Substructure		\$206,607		\$12.20
021 Slab on Grade	\$206,607		\$12.20	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$465,713		\$27.50
031 Floor Construction				
032 Roof Construction	\$465,713		\$27.50	
033 Stair Construction				
4 Exterior Closure		\$928,038		\$54.80
041 Exterior Walls	\$745,140		\$44.00	
042 Exterior Doors / Windows	\$182,898		\$10.80	
5 Roofing		\$335,313		\$19.80
050 Roofing	\$335,313		\$19.80	
6 Interior Construction		\$601,193		\$35.50
061 Partitions	\$260,799		\$15.40	
062 Interior Finishes	\$221,849		\$13.10	
063 Specialties	\$83,828		\$4.95	
064 Interior Doors & Windows	\$34,717		\$2.05	
7 Conveying				
070 Conveying				
8 Mechanical		\$519,905		\$30.70
081 Plumbing	\$164,270		\$9.70	
082 HVAC	\$287,048		\$16.95	
083 Fire Protection	\$68,587		\$4.05	
084 Special Mechanical				
9 Electrical		\$475,027		\$28.05
091 Standard Electrical	\$475,027		\$28.05	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment		\$27,943		\$1.65
111 Fixed / Movable Equipment	\$18,629		\$1.10	
112 Furnishings	\$9,314		\$0.55	
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$3,731,627		\$220.35

Building 5 - ASD Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	16,935	sf	\$9.95	\$168,503
Total - 011 Standard Foundations				<u>\$168,503</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	16,935	sf	\$0.20	\$3,387
Total - 012 Special Foundations				<u>\$3,387</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	16,935	sf	\$12.20	\$206,607
Total - 021 Slab on Grade				<u>\$206,607</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing	16,935	sf	\$27.50	\$465,713
Total - 032 Roof Construction				<u>\$465,713</u>

Building 5 - ASD Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.				N/A
Total - 033 Stair Construction				
041 Exterior Walls				
Exterior Wall System Framing and walls	16,935	sf	\$44.00	\$745,140
Total - 041 Exterior Walls				<u>\$745,140</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	16,935	sf	\$10.80	\$182,898
Total - 042 Exterior Doors / Windows				<u>\$182,898</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.	16,935	sf	\$19.80	\$335,313
Total - 050 Roofing				<u>\$335,313</u>
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.	16,935	sf	\$15.40	\$260,799
Total - 061 Partitions				<u>\$260,799</u>
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.	16,935	sf	\$4.40	\$74,514
Base Resilient base, wood, ceramic, etc.	16,935	sf	\$0.45	\$7,621

Building 5 - ASD Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	16,935	sf	\$3.65	\$61,813
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.	16,935	sf	\$4.50	\$76,208
Miscellaneous Unistrut, access panels, etc.	16,935	sf	\$0.10	\$1,694
Total - 062 Interior Finishes				<u>\$221,849</u>
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.	16,935	sf	\$4.95	\$83,828
Total - 063 Specialties				<u>\$83,828</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	16,935	sf	\$2.05	\$34,717
Total - 064 Interior Doors & Windows				<u>\$34,717</u>
070 Conveying				
Elevators Passenger, service elevators				N/A
Total - 070 Conveying				
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.	16,935	sf	\$9.70	\$164,270
Total - 081 Plumbing				<u>\$164,270</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.	16,935	sf	\$16.95	\$287,048

Building 5 - ASD Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				<u>\$287,048</u>
083 Fire Protection				
Fire Protection Automatic sprinkler system	16,935	sf	\$4.05	\$68,587
Total - 083 Fire Protection				<u>\$68,587</u>
091 Standard Electrical				
Service and Distribution Service and distribution	16,935	sf	\$10.80	\$182,898
Lighting and Power Fixtures and fittings	16,935	sf	\$11.20	\$189,672
Special Systems Fire alarm, telephone/data, etc.	16,935	sf	\$6.05	\$102,457
Total - 091 Standard Electrical				<u>\$475,027</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment	16,935	sf	\$1.10	\$18,629
Total - 111 Fixed / Movable Equipment				<u>\$18,629</u>
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.	16,935	sf	\$0.55	\$9,314
Total - 112 Furnishings				<u>\$9,314</u>
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Building 5 - ASD Building Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Construction Cost Summary

Element		Total	Cost / SF
1 Foundations		\$3,238,400	\$12.80
2 Substructure		\$776,710	\$3.07
3 Superstructure		\$2,934,800	\$11.60
4 Exterior Closure		\$2,555,300	\$10.10
5 Roofing			
6 Interior Construction		\$543,950	\$2.15
7 Conveying		\$442,750	\$1.75
8 Mechanical		\$1,505,350	\$5.95
9 Electrical		\$4,857,600	\$19.20
10 General Conditions & Profit			
11 Equipment			
12 Sitework			
Subtotal		\$16,854,860	\$66.62
General Conditions	12.0%	\$2,022,583	\$7.99
Subtotal		\$18,877,443	\$74.61
General Contractor OH & P	4.0%	\$755,098	\$2.98
Subtotal		\$19,632,541	\$77.60
Bonds & Insurance	1.0%	\$196,325	\$0.78
Subtotal		\$19,828,866	\$78.37
Design Contingency			
Subtotal		\$19,828,866	\$78.37
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$19,828,866	\$78.37

Total Area: 253,000 SF

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations		\$3,238,400		\$12.80
011 Standard Foundations	\$3,200,450		\$12.65	
012 Special Foundations	\$37,950		\$0.15	
2 Substructure		\$776,710		\$3.07
021 Slab on Grade	\$776,710		\$3.07	
022 Basement Excavation				
023 Basement Walls				
3 Superstructure		\$2,934,800		\$11.60
031 Floor Construction	\$2,580,600		\$10.20	
032 Roof Construction				
033 Stair Construction	\$354,200		\$1.40	
4 Exterior Closure		\$2,555,300		\$10.10
041 Exterior Walls	\$2,504,700		\$9.90	
042 Exterior Doors / Windows	\$50,600		\$0.20	
5 Roofing				
050 Roofing				
6 Interior Construction		\$543,950		\$2.15
061 Partitions				
062 Interior Finishes	\$379,500		\$1.50	
063 Specialties	\$139,150		\$0.55	
064 Interior Doors & Windows	\$25,300		\$0.10	
7 Conveying		\$442,750		\$1.75
070 Conveying	\$442,750		\$1.75	
8 Mechanical		\$1,505,350		\$5.95
081 Plumbing	\$392,150		\$1.55	
082 HVAC				
083 Fire Protection	\$1,113,200		\$4.40	
084 Special Mechanical				
9 Electrical		\$4,857,600		\$19.20
091 Standard Electrical	\$4,857,600		\$19.20	
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment				
111 Fixed / Movable Equipment				
112 Furnishings				
113 Special Construction				
12 Sitework				
121 Site Preparation				
122 Site Improvements				
123 Site Utilities				
124 Off-Site Work				
Total Net Cost		\$16,854,860		\$66.62

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.	253,000	sf	\$12.65	\$3,200,450
Total - 011 Standard Foundations				<u>\$3,200,450</u>
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.	253,000	sf	\$0.15	\$37,950
Total - 012 Special Foundations				<u>\$37,950</u>
021 Slab on Grade				
Slab on Grade Lowest floor construction	50,600	sf	\$15.35	\$776,710
Total - 021 Slab on Grade				<u>\$776,710</u>
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction	151,800	sf	\$17.00	\$2,580,600
Total - 031 Floor Construction				<u>\$2,580,600</u>
032 Roof Construction				
Roof Construction Roof framing				N/A
Total - 032 Roof Construction				

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.	253,000	sf	\$1.40	\$354,200
Total - 033 Stair Construction				<u>\$354,200</u>
041 Exterior Walls				
Exterior Wall System Framing and walls	253,000	sf	\$9.90	\$2,504,700
Total - 041 Exterior Walls				<u>\$2,504,700</u>
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows	253,000	sf	\$0.20	\$50,600
Total - 042 Exterior Doors / Windows				<u>\$50,600</u>
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.				N/A
Total - 050 Roofing				
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.				N/A
Total - 061 Partitions				
062 Interior Finishes				
Floor Finishes Sealed concrete	253,000	sf	\$0.70	\$177,100
Base Resilient base, wood, ceramic, etc.				N/A

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.	253,000	sf	\$0.80	\$202,400
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.				N/A
Miscellaneous Unistrut, access panels, etc.				N/A
Total - 062 Interior Finishes				<u>\$379,500</u>
063 Specialties				
Specialties Traffic controls, etc.	253,000	sf	\$0.55	\$139,150
Total - 063 Specialties				<u>\$139,150</u>
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware	253,000	sf	\$0.10	\$25,300
Total - 064 Interior Doors & Windows				<u>\$25,300</u>
070 Conveying				
Elevators Passenger, service elevators	253,000	sf	\$1.75	\$442,750
Total - 070 Conveying				<u>\$442,750</u>
081 Plumbing				
Plumbing Drainage, etc.	253,000	sf	\$1.55	\$392,150
Total - 081 Plumbing				<u>\$392,150</u>
082 HVAC				
HVAC Equipment, ductwork, controls, etc.				N/A

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				
083 Fire Protection				
Fire Protection Automatic sprinkler system	253,000	sf	\$4.40	\$1,113,200
Total - 083 Fire Protection				<u>\$1,113,200</u>
091 Standard Electrical				
Service and Distribution Service and distribution	253,000	sf	\$7.45	\$1,884,850
Lighting and Power Fixtures and fittings	253,000	sf	\$9.00	\$2,277,000
Special Systems Fire alarm, telephone/data, etc.	253,000	sf	\$2.75	\$695,750
Total - 091 Standard Electrical				<u>\$4,857,600</u>
111 Fixed / Movable Equipment				
Equipment Fixed and movable equipment				N/A
Total - 111 Fixed / Movable Equipment				
112 Furnishings				
Furnishings Furniture and furnishings, window blinds, etc.				N/A
Total - 112 Furnishings				
121 Site Preparation				
Demolition Remove pavings, utilities, fixtures, etc.				N/A

Emissions Testing Facility

Parking Structure

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Parking Structure Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				
122 Site Improvements				
Site Improvements Pavings, landscaping, etc.				N/A
Total - 122 Site Improvements				
123 Site Utilities				
Site Utilities Underground utilities, electrical, etc.				N/A
Total - 123 Site Utilities				
123 Offsite				
Offsite Work Offsite improvements and utilities				N/A
Total - 123 Offsite				

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Construction Cost Summary

Element		Total	Cost / SF
1 Foundations			
2 Substructure			
3 Superstructure			
4 Exterior Closure			
5 Roofing			
6 Interior Construction			
7 Conveying			
8 Mechanical			
9 Electrical			
10 General Conditions & Profit			
11 Equipment			
12 Sitework		\$20,285,354	\$27.18
Subtotal		\$20,285,354	\$27.18
General Conditions	12.0%	\$2,434,242	\$3.26
Subtotal		\$22,719,596	\$30.44
General Contractor OH & P	4.0%	\$908,784	\$1.22
Subtotal		\$23,628,380	\$31.66
Bonds & Insurance	1.0%	\$236,284	\$0.32
Subtotal		\$23,864,664	\$31.97
Design Contingency			
Subtotal		\$23,864,664	\$31.97
Escalation			
SUBTOTAL - ESTIMATED CONSTRUCTION COST		\$23,864,664	\$31.97

Total Area: 746,360 SF

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Component Summary

Element	Subtotal	Total	Cost / SF	Cost / SF
1 Foundations				
011 Standard Foundations				
012 Special Foundations				
2 Substructure				
021 Slab on Grade				
022 Basement Excavation				
023 Basement Walls				
3 Superstructure				
031 Floor Construction				
032 Roof Construction				
033 Stair Construction				
4 Exterior Closure				
041 Exterior Walls				
042 Exterior Doors / Windows				
5 Roofing				
050 Roofing				
6 Interior Construction				
061 Partitions				
062 Interior Finishes				
063 Specialties				
064 Interior Doors & Windows				
7 Conveying				
070 Conveying				
8 Mechanical				
081 Plumbing				
082 HVAC				
083 Fire Protection				
084 Special Mechanical				
9 Electrical				
091 Standard Electrical				
092 Special Electrical				
10 General Conditions and Overhead & Profit				N/A
100 General Conditions and Overhead & Profit (Included at Summary Level)			N/A	
11 Equipment				
111 Fixed / Movable Equipment				
112 Furnishings				
113 Special Construction				
12 Sitework		\$20,285,354		\$27.18
121 Site Preparation	\$1,044,904		\$1.40	
122 Site Improvements	\$16,665,508		\$22.33	
123 Site Utilities	\$2,574,942		\$3.45	
124 Off-Site Work				
Total Net Cost		\$20,285,354		\$27.18

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Detail Elements

Element	Quantity	Unit	Unit Cost	Total
011 Standard Foundations				
Standard Foundations Footings, foundations , thickened slabs, etc.				N/A
Total - 011 Standard Foundations				
012 Special Foundations				
Special Foundations Elevator pits, sump pits, etc.				N/A
Total - 012 Special Foundations				
021 Slab on Grade				
Slab on Grade Lowest floor construction				N/A
Total - 021 Slab on Grade				
023 Basement Walls				
Basement Walls Walls, framing, etc.				N/A
Total - 023 Basement Walls				
031 Floor Construction				
Elevated Floors and Framing Floor construction				N/A
Total - 031 Floor Construction				
032 Roof Construction				
Roof Construction Roof framing				N/A
Total - 032 Roof Construction				

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Detail Elements

Element	Quantity	Unit	Unit Cost	Total
033 Stair Construction				
Stair Construction Stairs, handrails, etc.				N/A
Total - 033 Stair Construction				
041 Exterior Walls				
Exterior Wall System Framing and walls				N/A
Total - 041 Exterior Walls				
042 Exterior Doors / Windows				
Exterior Doors Exterior doors and windows				N/A
Total - 042 Exterior Doors / Windows				
050 Roofing				
Roofing, Including Insulation Roofing, insulation, sheet metal, etc.				N/A
Total - 050 Roofing				
061 Partitions				
Interior Partitions CMU, drywall partitions, etc.				N/A
Total - 061 Partitions				
062 Interior Finishes				
Floor Finishes Sealed concrete, resilient, carpet, ceramic, etc.				N/A
Base Resilient base, wood, ceramic, etc.				N/A

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Wall Finishes Paint walls, ceramic tile, acoustical panels, etc.				N/A
Ceiling Finishes Paint structure above, drywall, acoustical tile, etc.				N/A
Miscellaneous Unistrut, access panels, etc.				N/A
Total - 062 Interior Finishes				
063 Specialties				
Specialties Millwork, bath accessories, lockers, etc.				N/A
Total - 063 Specialties				
064 Interior Doors & Windows				
Interior Doors Doors, frames, and hardware				N/A
Total - 064 Interior Doors & Windows				
070 Conveying				
Elevators Passenger, service elevators				N/A
Total - 070 Conveying				
081 Plumbing				
Plumbing Rough in, fixtures, water, drainage, etc.				N/A
Total - 081 Plumbing				
082 HVAC				
HVAC Equipment, ductwork, controls, etc.				N/A

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 082 HVAC				
083 Fire Protection				
Fire Protection				
Automatic sprinkler system				N/A
Total - 083 Fire Protection				
091 Standard Electrical				
Service and Distribution				
Service and distribution				N/A
Lighting and Power				
Fixtures and fittings				N/A
Special Systems				
Fire alarm, telephone/data, etc.				N/A
Total - 091 Standard Electrical				
111 Fixed / Movable Equipment				
Equipment				
Fixed and movable equipment				N/A
Total - 111 Fixed / Movable Equipment				
112 Furnishings				
Furnishings				
Furniture and furnishings, window blinds, etc.				N/A
Total - 112 Furnishings				
121 Site Preparation				
Demolition				
Remove pavings, utilities, fixtures, etc.	746,360	sf	\$1.40	\$1,044,904

Emissions Testing Facility

Sitework

Rough Order of Magnitude Estimate - 3rd Revised

11/12/14

Sitework Detail Elements

Element	Quantity	Unit	Unit Cost	Total
Total - 121 Site Preparation				<u>\$1,044,904</u>
122 Site Improvements				
Site Improvements				
Landscape, parking, paved areas, fencing, tank storage, etc.	406,672	sf	\$15.00	\$6,100,080
Solar panels on buildings	85,000	sf	\$50.00	\$4,250,000
On grade parking structured covering	50,500	sf	\$75.00	\$3,787,500
Solar panels on parking covers	50,500	sf	\$50.00	\$2,525,000
Bicycle lockers	12	ea	\$244.00	\$2,928
Total - 122 Site Improvements				<u>\$16,665,508</u>
123 Site Utilities				
Site Utilities				
Underground utilities, electrical, etc.	746,360	sf	\$3.45	\$2,574,942
Total - 123 Site Utilities				<u>\$2,574,942</u>
123 Offsite				
Offsite Work				
Offsite improvements and utilities				N/A
Total - 123 Offsite				