

Si View Aquatics Center

Schematic Design

August 20, 2019

18-01475



Prepared for Patano Studio Architecture

CUMMING
Building Value Through Expertise

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EXECUTIVE SUMMARY

1.1 Introduction

This estimate has been prepared, pursuant to an agreement between Patano Studio Architecture and Cumming, for the purpose of establishing a probable cost of construction at the schematic design stage.

The project scope encompasses pricing 2 options for the proposed aquatics center. The first option is to build 26,800 sf aquatics center on a 180,000 sf site with an add alterante to a new 20,000 sf extension. While the second option is to build 46,800 sf aquatics center on a 230,000 sf site in one phase. The site location is not yet specified so a greenfield leveled site was assumed.

1.2 Project Schedule (Assumed)

	Start	Finish	Duration
Option A- phase 1 & siteworks	Aug-21	Dec-22	17 months
Option A- phase 2	Aug-25	Aug-26	13 months
Option B	Aug-21	Aug-23	25 months

1.3 Key Assumptions & Exclusions

Key Assumptions

- Greenfield leveled site
- No sport light poles at Lap Pool
- Escalation
- Site areas as provided by architect

Key Exclusions

- Project Soft Costs
- AV Equipment
- HAZMAT Abatement
- Soil Contamination
- Demolition of any structures
- B&O Tax

Documents Used:

- Schematic Design Document, dated 07/18/2019
- Schematic Site Layouts
- Pool pricing received from Aquatics Design Group 08/07/2019

Bid Conditions: This estimate has been based upon competitive bid situations (minimum of 3 bidders) for all items of subcontracted work.

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 other projects of a similar nature.

Basis for Unit Costs: Unit costs as contained herein are based on current bid prices in Greater Seattle. Sub overheads and profit are included in each line item unit cost. Their overhead and profit covers each sub's cost for labor burden, materials, and equipment, sales taxes, field overhead, home office overhead, and profit. The general contractor's overhead is shown separately on the master summary.

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 Cumming's database.

SUMMARY

Element	Area	Cost / SF	Total
Option A- Build 26,800 sf - phase 1			
Aquatics Center - Phase 1	26,800	\$783.15	\$20,988,290
Site Option 1	180,000	\$33.57	\$6,043,374
Total Estimated Construction Cost - Phase 1 (Including WSST)	26,800	\$1,008.64	\$27,031,664
Add Alternate			
Aquatics Center - Phase 2 - assume construction starts 2025	20,000	\$969.43	\$19,388,630
Sitework due to phase 2 - demo existing landscape and site prep			\$95,961
Total Estimated Construction Cost - Phases 1 & 2 (Including WSST)	46,800	\$993.94	\$46,516,255
Option B - Build 46,800 sf in one phase			
Aquatics Center - one phase	46,800	\$779.13	\$36,463,058
Site Option 2	230,000	\$24.88	\$5,723,542
Total Estimated Construction Cost (Including WSST)	46,800	\$901.42	\$42,186,600

SUMMARY MATRIX

Element	Option A									Option B								
	Aquatics Center - Phase 1			Site Option 1			Aquatics Center - Phase 2 - Add Alternate			West Wing			East Wing			Site Option 2		
	26,800 SF			180,000 SF			20,000 SF			26,800 SF			20,000 SF			230,000 SF		
	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF
A) Shell (1-5)		\$5,455,688	\$203.57				\$4,072,451	\$203.62		\$4,998,285	\$186.50		\$3,759,449	\$187.97				
1 Foundations	\$1,077,727		\$40.21				\$807,408	\$40.37		\$1,064,791	\$39.73		\$757,408	\$37.87				
2 Vertical Structure	\$847,642		\$31.63				\$497,628	\$24.88		\$846,442	\$31.58		\$497,628	\$24.88				
3 Floor & Roof Structures	\$987,161		\$36.83				\$694,302	\$34.72		\$875,323	\$32.66		\$601,300	\$30.07				
4 Exterior Cladding	\$2,107,065		\$78.62				\$1,708,638	\$85.43		\$1,775,939	\$66.27		\$1,538,638	\$76.93				
5 Roofing and Waterproofing	\$436,094		\$16.27				\$364,476	\$18.22		\$435,790	\$16.26		\$364,476	\$18.22				
B) Interiors (6-7)		\$1,227,784	\$45.81				\$832,645	\$41.63		\$1,227,784	\$45.81		\$757,645	\$37.88				
6 Interior Partitions, Doors and Glazing	\$619,660		\$23.12				\$315,578	\$15.78		\$619,660	\$23.12		\$315,578	\$15.78				
7 Floor, Wall and Ceiling Finishes	\$608,124		\$22.69				\$517,067	\$25.85		\$608,124	\$22.69		\$442,067	\$22.10				
C) Equipment and Vertical Transportation (8-9)		\$2,627,658	\$98.05				\$2,038,799	\$101.94		\$2,625,930	\$97.98		\$2,038,799	\$101.94				
8 Function Equipment and Specialties	\$2,389,063		\$89.14				\$2,019,299	\$100.96		\$2,387,335	\$89.08		\$2,019,299	\$100.96				
9 Stairs and Vertical Transportation	\$238,595		\$8.90				\$19,500	\$0.98		\$238,595	\$8.90		\$19,500	\$0.98				
D) Mechanical and Electrical (10-13)		\$3,533,365	\$131.84	\$733,390	\$4.07		\$3,080,636	\$154.03		\$3,500,525	\$130.62		\$3,080,636	\$154.03		\$1,041,759	\$4.53	
10 Plumbing Systems	\$610,329		\$22.77				\$569,494	\$28.47		\$601,289	\$22.44		\$569,494	\$28.47				
11 Heating, Ventilation and Air Conditioning	\$2,045,094		\$76.31				\$1,778,361	\$88.92		\$2,027,894	\$75.67		\$1,778,361	\$88.92				
12 Electrical Lighting, Power and Communications	\$643,343		\$24.01	\$733,390	\$4.07		\$549,281	\$27.46		\$642,343	\$23.97		\$549,281	\$27.46	\$1,041,759		\$4.53	
13 Fire Protection Systems	\$234,600		\$8.75				\$183,500	\$9.18		\$229,000	\$8.54		\$183,500	\$9.18				
E) Site Construction (14-16)				\$2,965,057	\$16.47											\$1,921,441	\$8.35	
14 Site Preparation and Demolition				\$269,607	\$1.50											\$225,943	\$0.98	
15 Site Paving, Structures & Landscaping				\$2,485,748	\$13.81											\$1,469,662	\$6.39	
16 Utilities on Site				\$209,702	\$1.17											\$225,836	\$0.98	
Subtotal Cost		\$12,844,495	\$479.27	\$3,698,447	\$20.55		\$10,024,532	\$501.23		\$12,352,524	\$460.92		\$9,636,530	\$481.83		\$2,963,200	\$12.88	
General Conditions	7.0%	\$899,115	\$33.55	\$258,891	\$1.44		\$701,717	\$35.09		\$864,677	\$32.26		\$674,557	\$33.73		\$207,424	\$0.90	
General Requirements	3.0%	\$412,308	\$15.38	\$118,720	\$0.66		\$321,787	\$16.09		\$396,516	\$14.80		\$309,333	\$15.47		\$95,119	\$0.41	
Bonds & Insurance	2.0%	\$283,118	\$10.56	\$81,521	\$0.45		\$220,961	\$11.05		\$272,274	\$10.16		\$212,408	\$10.62		\$65,315	\$0.28	
Contractor's Fee	4.0%	\$577,561	\$21.55	\$166,303	\$0.92		\$450,760	\$22.54		\$555,440	\$20.73		\$433,313	\$21.67		\$133,242	\$0.58	
Design Contingency	10.0%	\$1,501,660	\$56.03	\$432,388	\$2.40		\$1,171,976	\$58.60		\$1,444,143	\$53.89		\$1,126,614	\$56.33		\$346,430	\$1.51	
Construction Contingency	3.0%	\$495,548	\$18.49	\$142,688	\$0.79		\$386,752	\$19.34		\$476,567	\$17.78		\$371,783	\$18.59		\$114,322	\$0.50	
Escalation to MOC		\$2,106,527	\$78.60	\$606,554	\$3.37		\$4,384,557	\$219.23		\$2,298,245	\$85.76		\$1,792,922	\$89.65		\$1,289,095	\$5.60	
WSST	8.9%	\$1,867,958	\$69.70	\$537,860	\$2.99		\$1,725,588	\$86.28		\$1,823,023	\$68.02		\$1,422,189	\$71.11		\$509,395	\$2.21	
Total Estimated Construction Cost		\$20,988,290	\$783.15	\$6,043,374	\$33.57		\$19,388,630	\$969.43		\$20,483,410	\$764.31		\$15,979,648	\$798.98		\$5,723,542	\$24.88	

Option A- Aquatics Center- Phase 1

SUMMARY - AQUATICS CENTER - PHASE 1

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)		\$5,455,688		\$203.57
1 Foundations	\$1,077,727		\$40.21	
2 Vertical Structure	\$847,642		\$31.63	
3 Floor & Roof Structures	\$987,161		\$36.83	
4 Exterior Cladding	\$2,107,065		\$78.62	
5 Roofing and Waterproofing	\$436,094		\$16.27	
B) Interiors (6-7)		\$1,227,784		\$45.81
6 Interior Partitions, Doors and Glazing	\$619,660		\$23.12	
7 Floor, Wall and Ceiling Finishes	\$608,124		\$22.69	
C) Equipment and Vertical Transportation (8-9)		\$2,627,658		\$98.05
8 Function Equipment and Specialties	\$2,389,063		\$89.14	
9 Stairs and Vertical Transportation	\$238,595		\$8.90	
D) Mechanical and Electrical (10-13)		\$3,533,365		\$131.84
10 Plumbing Systems	\$610,329		\$22.77	
11 Heating, Ventilation and Air Conditioning	\$2,045,094		\$76.31	
12 Electrical Lighting, Power and Communications	\$643,343		\$24.01	
13 Fire Protection Systems	\$234,600		\$8.75	
Subtotal		<u>\$12,844,495</u>		<u>\$479.27</u>
General Conditions	7.00%	\$899,115		\$33.55
Subtotal		<u>\$13,743,610</u>		<u>\$512.82</u>
General Requirements	3.00%	\$412,308		\$15.38
Subtotal		<u>\$14,155,918</u>		<u>\$528.21</u>
Bonds & Insurance	2.00%	\$283,118		\$10.56
Subtotal		<u>\$14,439,036</u>		<u>\$538.77</u>
Contractor's Fee	4.00%	\$577,561		\$21.55
Subtotal		<u>\$15,016,598</u>		<u>\$560.32</u>
Design Contingency	10.00%	\$1,501,660		\$56.03
Subtotal		<u>\$16,518,258</u>		<u>\$616.35</u>
Construction Contingency	3.00%	\$495,548		\$18.49
Subtotal		<u>\$17,013,805</u>		<u>\$634.84</u>
Escalation to MOC, 04/01/22	12.38%	\$2,106,527		\$78.60
Subtotal		<u>\$19,120,332</u>		<u>\$713.45</u>
WSST	8.90%	\$1,867,958		\$69.70

TOTAL ESTIMATED CONSTRUCTION COST		\$20,988,290		\$783.15
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Total Area: 26,800 SF

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
1 Foundations				
Earthwork				
Field staking/layout	26,800	gsf	\$0.15	\$4,020
Clear and grub site	26,800	gsf	\$0.12	\$3,216
Mass excavation	4,026	cy	\$10.78	\$43,399
Backfill	2,053	cy	\$17.13	\$35,161
Haul excess, 10 mile round trip	1,973	cy	\$19.39	\$38,263
Fine grading	26,800	gsf	\$0.35	\$9,380
Erosion control	26,800	gsf	\$0.06	\$1,608
Basement Excavation				
Mass excavation, basement	1,061	cy	\$10.78	\$11,436
Backfill, basement	341	cy	\$17.13	\$5,847
Export, assume 10 mile round trip	932	cy	\$19.39	\$18,066
Temporary shoring, assume needed	1,920	sf	\$42.14	\$80,909
Pools Earthwork				
Mass Excavation				
Swimming pool	729	cy	\$10.78	\$7,861
Surge tank	288	cy	\$16.93	\$4,876
Backfill				
Swimming pool			<i>Assume Not Required</i>	
Surge tank	237	cy	\$17.13	\$4,062
Haul Excess				
Swimming pool	875	cy	\$19.39	\$16,967
Surge tank	62	cy	\$19.39	\$1,205
Miscellaneous hauling, allowance	500	cy	\$19.39	\$9,695
Foundations				
Continuous Footings assumed 3' wide x 3' deep, at perimeter and basement walls				
Concrete, continuous footings, 4000 psi	447	cy	\$249.65	\$111,594
Formwork, continuous footings	7,320	sf	\$7.75	\$56,730
Foundation reinforcing, assume 150 #/cy	67,100	lbs	\$1.49	\$99,979
Excavation	904	cy	\$21.64	\$19,563
Backfill	500	cy	\$18.75	\$9,375
Haul excess	410	cy	\$19.39	\$7,950
Spread Footings				
Spread Footings allowance, excluding pool areas	22,200	gsf	\$5.00	\$111,000
Slab On Grade, excluding pool areas				
Concrete, slab on grade, 4000 psi	456	cy	\$242.06	\$110,379
Formwork, slab on grade	1,040	lf	\$8.17	\$8,497
Sand base, 4"	22,200	sf	\$2.03	\$45,066
Gravel sub base, 6"	22,200	sf	\$1.81	\$40,182
Slab on grade reinforcing, assumed 2.5 #/sf	61,600	lbs	\$1.49	\$91,784
Finish to slab	22,200	sf	\$0.84	\$18,648
Vapor barrier	22,200	sf	\$0.44	\$9,768
Concrete, slab on grade, add for thickened edges	64	cy	\$242.06	\$15,492

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Loading dock ramp and walls	1,030	sf	\$25.00	\$25,750
Total - Foundations				\$1,077,727

2 Vertical Structure

Concrete

Basement Walls

Concrete, basement walls 5000 psi	114	cy	\$266.24	\$30,351
Formwork, basement walls	5,600	sf	\$16.77	\$93,912
Basement wall reinforcing, assumed 250 #/cy	28,519	lbs	\$1.58	\$45,060
Waterproofing	2,800	sf	\$7.40	\$20,720
Finish to walls	2,800	sf	\$0.83	\$2,324

Stem Walls, assume 30" wide x 24" high

Concrete, walls 5000 psi	51	cy	\$266.24	\$13,578
Formwork, walls	1,000	sf	\$16.77	\$16,770
Wall reinforcing, assume 200 #/cy	10,185	lbs	\$1.58	\$16,092
Finish to walls	500	sf	\$0.83	\$415
Allow for bench finish, wood assumed	250	lf	\$150.00	\$37,500

Cast-In-Place Concrete Shear Walls, elevator walls, assume 30' high

Concrete, shear walls, 5000 psi	26	cy	\$266.24	\$6,922
Formwork, shear walls	1,260	sf	\$16.77	\$21,130
Wall reinforcing, assume 250 #/cy	6,420	lbs	\$1.58	\$10,144
Finish to walls	630	sf	\$0.83	\$523

Structural Steel

Vertical steel framing, allowance	26,800	gsf	\$15.00	\$402,000
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Metals

Miscellaneous bracing	10	loc	\$9,000.00	\$90,000
Miscellaneous metals	26,800	gsf	\$1.50	\$40,200

Total - Vertical Structure				\$847,642
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3 Floor & Roof Structures

Concrete

Cast-In-Place Concrete Slabs, Mezzanine, assume 8" thick

Concrete, elevated floor slabs, 5000 psi	60	cy	\$269.76	\$16,186
Formwork to soffit, elevated floor slabs	2,220	sf	\$10.05	\$22,311
Formwork slab edge, elevated floor slabs	260	sf	\$9.38	\$2,439
Elevated slab reinforcing, assume 5.5 #/sf	13,430	lbs	\$1.49	\$20,011
Finish to elevated floor slabs	2,220	sf	\$0.83	\$1,843

Cast-In-Place Concrete Slabs, Mechanical Room Roof, assume 8" thick

Concrete, elevated floor slabs, 5000 psi	63	cy	\$269.76	\$16,995
Formwork to soffit, elevated floor slabs	2,310	sf	\$10.05	\$23,216
Formwork slab edge, elevated floor slabs	200	sf	\$9.38	\$1,876

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Elevated slab reinforcing, assume 5.5 #/sf	13,976	lbs	\$1.49	\$20,824
Finish to elevated floor slabs	2,310	sf	\$0.83	\$1,917
Miscellaneous Concrete				
Concrete, elevator pit	1	ea	\$12,548.05	\$12,548
Rough Carpentry- Roof Framing				
30" x 8 3/4" glu-lam	1,020	lf	\$82.00	\$83,640
70" x 8 3/4" glu-lam	220	lf	\$191.00	\$42,020
Tie rod with 18" steel circular turnbuckle	1,020	lf	\$24.00	\$24,480
Horizontal wood framing, truss allowance	26,800	gsf	\$10.00	\$268,000
8" DLT roof panels	23,487	sf	\$18.00	\$422,766
Metals				
Light support, assume 10 #/lf	2,100	lb	\$2.90	\$6,090

Total - Floor & Roof Structures				\$987,161
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4 Exterior Cladding

Aquatics Center Building Envelope				
Exterior walls, densglass sheathing	13,062	sf	\$3.64	\$47,546
Rigid insulation, exterior walls	13,062	sf	\$1.83	\$23,903
Metal Panel Rainscreen System	8,571	sf	\$100.00	\$857,100
Random Rough Cedar Siding Rainscreen System	4,491	sf	\$80.00	\$359,280
Aluminum windows/storefront, vision glazing, generic	4,360	sf	\$121.06	\$527,822
Storefront with Rainscreen System	959	sf	\$181.59	\$174,145
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$5,485.63	\$5,486
Aluminum door sets, frames and hardware, glazed, double	2	pr	\$10,891.72	\$21,783
Storefront Entry Doors	1	pr	\$20,000.00	\$20,000
Coiling door at loading dock, 10' wide x 20' high assumed	1	ea	\$20,000.00	\$20,000
Louver allowance	1	ls	\$50,000.00	\$50,000

Total - Exterior Cladding				\$2,107,065
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5 Roofing and Waterproofing

Roofing				
Single ply membrane roofing	23,487	sf	\$7.84	\$184,138
Rigid roof insulation, poly iso insulation	23,487	sf	\$5.75	\$135,050
Flashing / Counterflashing				
Aluminum coping at parapets	524	lf	\$35.04	\$18,361
Base flashings at base of parapets	524	lf	\$37.65	\$19,729
Roof Accessories				
Aluminum gutters	218	lf	\$27.72	\$6,043
Aluminum downspouts	75	lf	\$27.72	\$2,079
Miscellaneous accessories	26,800	gsf	\$2.00	\$53,600
Miscellaneous				
Crickets	1,078	sf	\$6.41	\$6,910
Caulking allowance	26,800	gfa	\$0.03	\$804

Si View Aquatics Center

North Bend, WA
Schematic Design

Project # 18-01475
08/20/19

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Miscellaneous				
Caulking & sealant allowance	26,800	gsf	\$0.35	\$9,380
Total - Roofing and Waterproofing				\$436,094

6 Interior Partitions, Doors and Glazing

Partition Walls

Suspended wall at Reception

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	48	sf	\$11.36	\$545
Bolt top stud channel to structure above incl. double top track	24	lf	\$24.65	\$592
Gypsum board, 5/8" thick, finished (I4), type X	96	sf	\$3.49	\$335

Partition wall 11' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	164	sf	\$11.36	\$1,863
Bolt top stud channel to structure above incl. double top track	14	lf	\$24.65	\$345
Bolt bottom stud channel to concrete floor	14	lf	\$12.73	\$178
Gypsum board, 5/8" thick, finished (I4), type X	328	sf	\$3.49	\$1,145
Sound batt insulation, unbacked	164	sf	\$1.34	\$220

Partition wall 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	3,431	sf	\$11.36	\$38,976
Bolt top stud channel to structure above incl. double top track	361	lf	\$24.65	\$8,899
Bolt bottom stud channel to concrete floor	361	lf	\$12.73	\$4,596
Gypsum board, 5/8" thick, finished (I4), type X	6,862	sf	\$3.49	\$23,948
Sound batt insulation, unbacked	3,431	sf	\$1.34	\$4,598

Partition wall - wet - 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	2,518	sf	\$11.36	\$28,604
Bolt top stud channel to structure above incl. double top track	265	lf	\$24.65	\$6,532
Bolt bottom stud channel to concrete floor	265	lf	\$12.73	\$3,373
Gypsum board, 5/8" thick, finished (I4), type X	2,386	sf	\$3.49	\$8,327
Sound batt insulation, unbacked	2,518	sf	\$1.34	\$3,374
Vapor barrier	2,915	sf	\$0.39	\$1,137
Backer board	2,650	sf	\$4.94	\$13,091
Ceramic tile, walls	2,650	sf	\$19.08	\$50,562

Partition wall - wet - one-sided 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	545	sf	\$11.36	\$6,191
Bolt top stud channel to structure above incl. double top track	57	lf	\$24.65	\$1,405
Bolt bottom stud channel to concrete floor	57	lf	\$12.73	\$726
Gypsum board, 5/8" thick, finished (I4), type X	805	sf	\$3.49	\$2,809
Sound batt insulation, unbacked	545	sf	\$1.34	\$730
Vapor barrier	314	sf	\$0.39	\$122
Backer board	285	sf	\$4.94	\$1,408
Ceramic tile, walls	285	sf	\$19.08	\$5,438

Si View Aquatics Center

North Bend, WA
Schematic Design

Project # 18-01475
08/20/19

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Partition wall - wet - plumbing chase 9' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	748	sf	\$11.36	\$8,497
Bolt top stud channel to structure above incl. double top track	79	lf	\$24.65	\$1,947
Bolt bottom stud channel to concrete floor	79	lf	\$12.73	\$1,006
Gypsum board, 5/8" thick, finished (I4), type X	353	sf	\$3.49	\$1,232
Gypsum board, 5/8" thick, unfinished	1,101	sf	\$2.55	\$2,808
Sound batt insulation, unbacked	748	sf	\$1.34	\$1,002
Vapor barrier	435	sf	\$0.39	\$170
Backer board	395	sf	\$4.94	\$1,951
Ceramic tile, walls	395	sf	\$19.08	\$7,537
Shaft wall				
Metal studs, 6" CH, 16 Ga., at 16" o.c.	1,476	sf	\$20.56	\$30,347
Bolt top stud channel to structure above incl. double top track	135	lf	\$24.65	\$3,328
Bolt bottom stud channel to concrete floor	135	lf	\$12.73	\$1,719
Gypsum board, 1" thick coreboard at shaft walls	1,476	sf	\$5.23	\$7,719
Gypsum board, 5/8" thick, finished (I4), type X	1,476	sf	\$3.49	\$5,151
Sound batt insulation, unbacked	1,476	sf	\$1.34	\$1,978
Interior of exterior walls				
Interior of exterior, 5/8" thick gypsum board X, finished	3,976	sf	\$3.49	\$13,876
Furring, on walls, 3/4" channel, 16" o.c.	1,594	sf	\$2.46	\$3,921
Interior Glazing				
Interior glazing				
Interior storefront - 9' 6" high	1,062	sf	\$87.59	\$93,021
Interior storefront - 11' 6" high	1,033	sf	\$87.59	\$90,480
Interior Openings				
Doors				
Aluminum door sets, frames and hardware, glazed, double	3	pr	\$10,891.72	\$32,675
Aluminum door sets, frames and hardware, glazed, single, tempered gla	7	ea	\$5,485.63	\$38,399
SC wood door incl. AL frame and hardware, single, 3' 0" x 7' 0"	7	ea	\$2,308.01	\$16,156
SC wood door incl. AL frame and hardware, double, 6' 0" x 7' 0"	5	pr	\$4,469.80	\$22,349
SC wood door incl. AL frame and hardware, double, 5' 0" x 7' 0"	1	pr	\$4,320.81	\$4,321
Hardware premium	32	leaves	\$250.00	\$8,000

Total - Interior Partitions, Doors and Glazing **\$619,660**

7 Floor, Wall and Ceiling Finishes

Element	Quantity	Unit	Unit Cost	Total
Flooring & Base				
Sealed concrete	3,474	sf	\$1.84	\$6,392
Floor prep/leveling	8,645	sf	\$9.62	\$83,165
Carpet tile	1,267	sf	\$5.09	\$6,449
Walk-off mat	92	sf	\$50.00	\$4,600
Ceramic tile	7,378	sf	\$18.49	\$136,419
Resilient base	1,518	lf	\$5.27	\$8,000
Ceramic tile, base	666	lf	\$18.45	\$12,288

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Element	Quantity	Unit	Unit Cost	Total
Ceiling				
Acoustical ceiling tile, suspended, includes suspension system	3,762	sf	\$5.06	\$19,036
Gypsum board ceilings, incl. framing	5,826	sf	\$11.12	\$64,785
Wood Slat Ceiling, allowance	2,900	sf	\$40.00	\$116,000
Wall finishes, misc.				
Allowance	16,282	sf	\$2.50	\$40,705
Painting and Coating				
Paint walls	16,282	sf	\$0.78	\$12,700
Paint ceilings	5,826	sf	\$0.89	\$5,185
Concrete pool epoxy deck paint	6,160	sf	\$15.00	\$92,400

Total - Floor, Wall and Ceiling Finishes				\$608,124
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8 Function Equipment and Specialties

Interior Specialties

Toilet Cubicles

Standard, stainless steel	33	ea	\$1,917.89	\$63,290
Handicap, stainless steel	4	ea	\$2,066.93	\$8,268

Toilet / Restroom Specialties

Bathroom mirrors	13	sf	\$39.65	\$515
Coat hook	7	ea	\$30.31	\$212
Grab bars	6	ea	\$203.72	\$1,222
Janitor mop sink rack	1	ea	\$136.15	\$136
Paper towel dispenser combo unit, recessed	7	ea	\$367.67	\$2,574
Seat cover dispenser	11	ea	\$139.12	\$1,530
Shower accessories, per stall	9	ea	\$1,053.35	\$9,480
Soap dispenser	13	ea	\$98.38	\$1,279
Toilet paper dispenser	11	ea	\$86.46	\$951

Storage Specialties

Lockers, 2-tier incl. concrete base	42	ea	\$263.33	\$11,060
Locker room benches	79	lf	\$150.00	\$11,850

Other Specialties

Handrail - free-standing	43	lf	\$250.00	\$10,750
Miscellaneous specialty allowance	26,800	sf	\$1.00	\$26,800
Interior signage, code	26,800	sf	\$0.15	\$4,020
Fire extinguisher and cabinet, allowance	8	ea	\$444.31	\$3,554
Exterior signage, allowance	1	ls	\$25,000.00	\$25,000

Rough Carpentry

Additional blocking, support backing, stiffeners, etc.	26,800	sf	\$1.01	\$27,068
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Casework

Café casework - 36"	59	lf	\$329.78	\$19,457
Reception desk - 36"	32	lf	\$800.00	\$25,600
Lifeguard casework bases - 30"	50	lf	\$311.46	\$15,573
Lifeguard casework - uppers - 14"	28	lf	\$210.43	\$5,892

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Lifeguard casework bases - 20"	24	lf	\$269.93	\$6,478
Group Room casework bases - 30"	79	lf	\$311.46	\$24,605
Restroom vanity counter - 24"	29	lf	\$191.93	\$5,566
Window Covering				
Mechoshades, motorized	3,461	sf	\$21.13	\$73,131
Furniture				
Café table	10	ea	\$350.00	\$3,500
Café chair	40	ea	\$150.00	\$6,000
<u>Pool Construction (Cost provided by Aquatics Design Group dated 8/8/2019)</u>				
Recreational pool, construction cost	4,600	sf	\$406.30	\$1,869,000
Recreational pool, equipment cost	4,600	sf	\$27.11	\$124,700

Total - Function Equipment and Specialties				\$2,389,063
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9 Stairs and Vertical Transportation

Elevators - Including Smoke Containment Curtain Assembly				
Passenger, 3500 lbs, hydraulic	3	stop	\$55,000.00	\$165,000
Elevator pit ladder	1	ea	\$1,844.55	\$1,845
Stairs				
Entrance Stairs, on grade	350	lf	\$65.00	\$22,750
Mechanical Room Stair				
Precast stair, 4' wide including steel stringers, assume	18	riser	\$320.00	\$5,760
Precast landing	40	sf	\$55.00	\$2,200
Handrail, assume 2 line pipe rail	16	lf	\$360.00	\$5,760
Mezzanine Stair				
Precast stair, 4' wide including steel stringers, assume	36	riser	\$320.00	\$11,520
Handrail, assume 2 line pipe rail	66	lf	\$360.00	\$23,760

Total - Stairs and Vertical Transportation				\$238,595
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10 Plumbing Systems

General plumbing				
Water heater, Double wall, plate and frame heat exchangers	1	ea	\$16,800.00	\$16,800
Circulating pump, duplex	1	ea	\$2,195.89	\$2,196
Expansion tank	1	ea	\$884.56	\$885
Local water heaters, electric	3	ea	\$1,280.00	\$3,840
Sewage ejector / Sump pump - allowance	1	ea	\$9,760.00	\$9,760
Grease / Sand / Oil interceptor	1	ea	\$15,000.00	\$15,000
Sanitary fixtures				
Water closet	12	ea	\$1,640.00	\$19,680
Urinal	4	ea	\$1,670.00	\$6,680
Lavatory	10	ea	\$1,588.00	\$15,880
Shower, exterior - next to the water	4	ea	\$1,630.00	\$6,520
Shower, enclosed - inside the locker room	8	ea	\$1,760.00	\$14,080

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Emergency Shower / Eyewash stations	1	ea	\$2,300.00	\$2,300
Drinking fountain, with bottle filling stations	2	ea	\$4,280.00	\$8,560
Sinks, Group rooms	4	ea	\$1,225.00	\$4,900
Hose bibs	12	ea	\$372.69	\$4,472
Floor drains	10	ea	\$657.00	\$6,570
Trench drains for pool area - corrosion resistant HDPE	20	ea	\$950.00	\$19,000
Rough ins				
Local rough-in at fixture	45	ea	\$917.00	\$41,265
Rough-in at floor sink or floor drain	30	ea	\$1,086.00	\$32,580
Rough-ins to OFCI commercial kitchen: cold and hot water, direct and	6	ea	\$1,000.00	\$6,000
Make up water for swimming pool	1	ea	\$6,500.00	\$6,500
Domestic water piping	26,800	gsf	\$3.80	\$101,840
Waste / vent piping	26,800	gsf	\$4.00	\$107,200
Roof / storm drainage				
RD/OD - Roof drain with Overhead drain	8	ea	\$715.00	\$5,720
3" pipe, ci, no-hub, in bldg	580	lf	\$54.96	\$31,877
4" pipe, ci, no-hub, in bldg	410	lf	\$64.45	\$26,425
Condensate drainage	26,800	gsf	\$0.50	\$13,400
Miscellaneous	26,800	gsf	\$3.00	\$80,400

Total - Plumbing Systems				\$610,329
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11 Heating, Ventilation and Air Conditioning

Wet side equipment: chiller, boiler, pumps etc.	26,800	gsf	\$12.00	\$321,600
Chilled water piping distribution	26,800	gsf	\$2.00	\$53,600
Hot water piping distribution	26,800	gsf	\$5.00	\$134,000
Air-Side Equipment				
AHU-1, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
AHU-2, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
FCU, Fan coil units for IDF / MDF rooms	2	ea	\$3,851.00	\$7,702
VAV terminal boxes, with reheat coil	24	ea	\$1,840.00	\$44,160
EF, Exhaust fan, inline, Greenheck	6,200	cfm	\$3.85	\$23,870
Air Distribution				
Ductwork, galv - protected with epoxy based paint	22,000	lb	\$12.50	\$275,000
Ductwork, stainless steel	3,000	lb	\$29.14	\$87,420
Duct insulation	12,000	sf	\$3.86	\$46,320
Combination fire / smoke damper	16	ea	\$950.00	\$15,200
Grilles, registers and diffusers, including dampers and flex duct	26,800	sf	\$2.50	\$67,000
Acoustical attenuation	2	ea	\$4,500.00	\$9,000
Ventilation premium for PHIUS+ requirements, allowance	1	ls	\$300,000.00	\$300,000
Miscellaneous testing & commissioning				
Test / balance HVAC	200	hr	\$153.14	\$30,628
Start-up/check-out	160	hr	\$121.93	\$19,509
Commissioning assist	160	hr	\$121.93	\$19,509
Piping identification: labels, arrows and valve tags	200	ea	\$27.60	\$5,520
Seismic and vibration requirements	1	ea	\$25,000.00	\$25,000

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
HVAC Controls				
DDC controls to plumbing systems	1	ls	\$5,000.00	\$5,000
DDC controls, air handlers	2	ea	\$14,800.00	\$29,600
DDC controls, vav box, reheat coils	24	ea	\$1,957.00	\$46,968
DDC controls, general exhaust fan	4	ea	\$1,314.00	\$5,256
DDC controls, smoke damper monitor	16	ea	\$952.00	\$15,232
DDC misc. items, training, integration	200	hr	\$140.00	\$28,000
DDC controls for pools	1	ls	\$30,000.00	\$30,000

Total - Heating, Ventilation and Air Conditioning			\$2,045,094
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12 Electrical Lighting, Power and Communications

Service & Distribution Equipment				
Main switchboard, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$47,909.94	\$47,910
Distribution board, 400 amp, 120/208v, 3ph, 4w	1	ea	\$20,358.56	\$20,359
Panelboard, 225 amp, 120/208v, 3ph, 4w	3	ea	\$2,578.77	\$7,736
Feeder, 225 amp, emt	125	lf	\$57.58	\$7,197
Feeder, 400 amp, emt	150	lf	\$105.75	\$15,862
Feeder, 1200 amp, PVC	50	lf	\$267.02	\$13,351
Conduit, 1 1/4" pvc	100	lf	\$6.75	\$675
Copper wire, #8 thhn	100	lf	\$1.00	\$100
Copper wire, #4 thhn	200	lf	\$1.78	\$355
HVAC & Equipment Connections				
AHU-1	1	ea	\$1,028.29	\$1,028
AHU-2	1	ea	\$1,028.29	\$1,028
FCU	2	ea	\$226.51	\$453
EF, Exhaust Fans	4	ea	\$191.67	\$767
Disconnect switch, 60/3 fused N1	2	ea	\$734.97	\$1,470
Disconnect switch, motor rated N3R	4	ea	\$418.91	\$1,676
Disconnect switch, 200/3 fused N3R	2	ea	\$2,273.14	\$4,546
Disconnect elevator switch, 60/3 fused N1	1	ea	\$2,443.87	\$2,444
Equipment feeder, 20 amp	950	lf	\$17.93	\$17,030
Equipment feeder, 60 amp	200	lf	\$21.25	\$4,251
Equipment feeder, 200 amp	225	lf	\$27.35	\$6,154
Convenience Power				
Duplex receptacle, 20 amp	47	ea	\$91.10	\$4,282
Double duplex receptacle, 20 amp	3	ea	\$121.42	\$364
Duplex receptacle, 20 amp GFCI	12	ea	\$107.07	\$1,285
Double duplex receptacle, 20 amp GFCI wp	2	ea	\$160.76	\$322
Branch power, 20 amp	2,250	lf	\$16.06	\$36,142
10/2 armored cable	1,400	lf	\$5.65	\$7,904
Lighting & Lighting Controls				
Down Lights Phase #1	283	ea	\$255.81	\$72,393
Pool Flood Light High Bay	50	ea	\$765.60	\$38,280
Mezzanine Lighting	20	ea	\$524.44	\$10,489
Exit Lighting	14	ea	\$294.00	\$4,116
Lighting control panel	1	ea	\$4,624.80	\$4,625

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Single pole switch	2	ea	\$94.64	\$189
Dimmer three way switch	8	ea	\$229.67	\$1,837
Occupancy sensor, ceiling mounted	8	ea	\$242.18	\$1,937
Occupancy sensor, wall mounted	8	ea	\$204.64	\$1,637
Lighting branch power, fixtures	3,530	lf	\$16.06	\$56,702
Lighting branch power, controls	110	lf	\$15.40	\$1,694
Fire Alarm System				
FA control panel	1	ea	\$10,818.26	\$10,818
FA annunciator panel	1	ea	\$2,538.97	\$2,539
FA beam sensor	2	ea	\$1,485.48	\$2,971
FA duct smoke detector	2	ea	\$635.84	\$1,272
FA flow switch	1	ea	\$550.84	\$551
FA heat detector	1	ea	\$319.54	\$320
FA pull station	2	ea	\$337.81	\$676
FA smoke detector	2	ea	\$320.96	\$642
FA tamper switch	1	ea	\$499.45	\$499
FA horn strobe unit, wall mount	8	ea	\$183.08	\$1,465
Conduit, 3/4" emt	3,150	lf	\$10.17	\$32,030
Fire alarm cable rated, 4C	3,150	lf	\$3.74	\$11,775
Telecommunications System				
Tele/data outlet, 2 port	14	ea	\$127.21	\$1,781
Wireless access point	6	ea	\$295.12	\$1,771
Fire treated plywood	1	ea	\$288.67	\$289
Main telecommunication grounding busbar	1	ea	\$1,494.17	\$1,494
Conduit, 3/4" emt	1,400	lf	\$10.17	\$14,236
CAT-6, 4 pair 23 AWG, UTP	1,400	lf	\$1.03	\$1,436
Public Address System				
Clock/speaker	4	ea	\$591.80	\$2,367
PA speaker	32	ea	\$194.31	\$6,218
Conduit, 3/4" emt	3,600	lf	\$10.17	\$36,606
PA system speaker cable	3,650	lf	\$1.06	\$3,855
Distributed Antenna System				
	26,800	gsf	\$1.25	\$33,500
Security, Access Control & CCTV Systems				
CCTV PTZ IP camera, outdoor	3	ea	\$3,330.81	\$9,992
CCTV fixed IP camera	6	ea	\$898.74	\$5,392
DVR, 4TB storage	1	ea	\$1,431.10	\$1,431
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CCTV cabling	600	lf	\$1.31	\$784
Access control system				
Access control panel	1	ea	\$5,066.69	\$5,067
Access control panel power supply	1	ea	\$515.99	\$516
Card reader, proximity type	6	ea	\$407.77	\$2,447
Alarm contact, flush mount	4	ea	\$175.86	\$703
Conduit, 3/4" emt	1,200	lf	\$10.17	\$12,202
Access control cable	1,200	lf	\$1.32	\$1,588

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 1

Element	Quantity	Unit	Unit Cost	Total
Miscellaneous				
Small tools	57	hr	\$80.30	\$4,577
Consumables	1	ls	\$8,281.00	\$8,281
Equipment rentals	1	ls	\$9,661.00	\$9,661
Testing/commissioning	1	ls	\$6,900.00	\$6,900

Total - Electrical Lighting, Power and Communications				\$643,343
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13 Fire Protection Systems

New hydraulically calculated wet pipe automatic fire sprinkler system

Wet-pipe fire sprinkler, complete	26,800	gsf	\$7.00	\$187,600
316 Stainless Steel piping, premium	1	ea	\$35,000.00	\$35,000
FM 200 preaction systems, Electrical / data rooms - allowance			Assume Not Needed	
Fire sprinkler for chemical storage room, premium	1	ea	\$12,000.00	\$12,000

Total - Fire Protection Systems				\$234,600
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Site Option 1

SUMMARY - SITE OPTION 1

Element	Subtotal	Total	Cost / SF	Cost / SF
D) Mechanical and Electrical (10-13)		\$733,390		\$4.07
12 Electrical Lighting, Power and Communications	\$733,390		\$4.07	
13 Fire Protection Systems				
E) Site Construction (14-16)		\$2,965,057		\$16.47
14 Site Preparation and Demolition	\$269,607		\$1.50	
15 Site Paving, Structures & Landscaping	\$2,485,748		\$13.81	
16 Utilities on Site	\$209,702		\$1.17	
Subtotal		<u>\$3,698,447</u>		<u>\$20.55</u>
General Conditions	7.00%	\$258,891		\$1.44
Subtotal		<u>\$3,957,339</u>		<u>\$21.99</u>
General Requirements	3.00%	\$118,720		\$0.66
Subtotal		<u>\$4,076,059</u>		<u>\$22.64</u>
Bonds & Insurance	2.00%	\$81,521		\$0.45
Subtotal		<u>\$4,157,580</u>		<u>\$23.10</u>
Contractor's Fee	4.00%	\$166,303		\$0.92
Subtotal		<u>\$4,323,883</u>		<u>\$24.02</u>
Design Contingency	10.00%	\$432,388		\$2.40
Subtotal		<u>\$4,756,272</u>		<u>\$26.42</u>
Construction Contingency	3.00%	\$142,688		\$0.79
Subtotal		<u>\$4,898,960</u>		<u>\$27.22</u>
Escalation to MOC, 04/01/22	12.38%	\$606,554		\$3.37
Subtotal		<u>\$5,505,514</u>		<u>\$30.59</u>
WSST	8.90%	\$537,860		\$2.99
TOTAL ESTIMATED CONSTRUCTION COST		\$6,043,374		\$33.57

Total Area: 180,000 SF

DETAIL ELEMENTS - SITE OPTION 1

Element	Quantity	Unit	Unit Cost	Total
12 Electrical Lighting, Power and Communications				
Site Electrical				
Distribution equipment				
Distribution board, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$38,964.49	\$38,964
Generator, diesel, 800kW, 480v, 3ph, 4w	1	ea	\$319,667.53	\$319,668
Automatic transfer switch, 1000/4	2	ea	\$19,221.11	\$38,442
Feeder, 2000 amp, PVC	150	lf	\$388.76	\$58,314
Lighting and lighting control				
Site Lighting Pole Lights	18	ea	\$3,898.27	\$70,169
Bollard Walk way lights	10	ea	\$1,964.76	\$19,648
Conduit, 1" pvc	3,100	lf	\$5.65	\$17,504
Copper wire, #10 thhn	10,000	lf	\$0.74	\$7,381
Site Lighting Trenching and backfill	3,100	lf	\$12.00	\$37,200
Site service and distribution				
Conduit, 4" pvc	650	lf	\$18.28	\$11,881
Pull box, 36x60x36	2	ea	\$6,192.56	\$12,385
Trenching, backfill and compaction	430	lf	\$67.76	\$29,137
Site communications				
Conduit, 4" pvc	600	lf	\$18.28	\$10,967
Pull box, 48"x72"x48" Telecommunication	2	ea	\$5,977.06	\$11,954
Miscellaneous				
Small tools	21	hr	\$80.30	\$1,686
Consumables	1	ls	\$16,030.00	\$16,030
Equipment rentals	1	ls	\$18,702.00	\$18,702
Testing/commissioning	1	ls	\$13,358.00	\$13,358

Total - Electrical Lighting, Power and Communications				\$733,390
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14 Site Preparation and Demolition

Demolition				
Demo & dispose existing structures	180,000	gsf	\$0.25	\$45,000
Grading				
Rough grading, cut and fill, based on balanced site	14,300	cy	\$5.84	\$83,512
Haul excess, 10 mile round trip, allow	500	cy	\$19.39	\$9,695
Proof roll site	180,000	sf	\$0.34	\$61,200
Fine grade	180,000	sf	\$0.35	\$63,000
Temporary erosion and sediment control, allowance	180,000	gsf	\$0.04	\$7,200

Total - Site Preparation and Demolition				\$269,607
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15 Site Paving, Structures & Landscaping

AC Paving				
Parking lot, 3" AC over 8" AB	52,517	sf	\$4.83	\$253,657
Hardscape				
Concrete paving, 4" thick, incl. sub base, reinforcement, and finish, assumed	15,082	sf	\$9.78	\$147,502

DETAIL ELEMENTS - SITE OPTION 1

Element	Quantity	Unit	Unit Cost	Total
Concrete Curbs				
Concrete curbs	2,757	lf	\$21.79	\$60,075
Concrete Ramps				
Curb cut concrete ramps	2	ea	\$1,362.83	\$2,726
Continuous concrete ramps incl. all concrete, reinforcement, sub base, edge forms, grooved finish, allow	560	sf	\$33.52	\$18,771
Concrete Stairs	50	sf	\$30.00	\$1,500
Parking Lot Striping / Signage, 140 parking stalls, directional signage, and striping	1	ls	\$2,800.00	\$2,800
Planting				
Lawn	3,430	sf	\$8.00	\$27,440
Shrubbery, allowance	133,669	sf	\$8.00	\$1,069,352
Shrub and turf irrigation	133,669	sf	\$1.67	\$223,227
Mulch to shrub area	133,669	sf	\$0.91	\$121,639
Tree Bubblers, allow 2 per tree	100	ea	\$150.00	\$15,000
Trees, 24" box	50	ea	\$650.00	\$32,500
Tree Guying, all trees	50	ea	\$175.00	\$8,750
Site Specialties				
Splash pad, allow	2,000	sf	\$212.50	\$425,000
Decking	1,856	sf	\$15.00	\$27,840
Bollards, 8" square steel, allow	12	ea	\$1,080.76	\$12,969
Miscellaneous site finishes	1	ls	\$35,000.00	\$35,000
Site Furniture				
Trash and recycling receptacles				FF&E
Chairs				FF&E
Tables, allow				FF&E
Benches				FF&E
Metal Canopy				NA
Mechanical Equipment Yard				NA

Total - Site Paving, Structures & Landscaping **\$2,485,748**

16 Utilities on Site

Domestic water				
4" domestic water meter	1	ea	\$21,995.78	\$21,996
4" water line, including trenching and backfill	250	lf	\$68.54	\$17,135
Gate valve, 4"	1	ea	\$776.86	\$777
4" to 8" water line tap	1	ea	\$350.00	\$350
Extend 6" (assumed) water line, including trenching and backfill	100	lf	\$77.24	\$7,724
Fire water				
6" fire line pipe	200	lf	\$105.73	\$21,146
Gate valve, 6"	1	ea	\$1,059.35	\$1,059
Fire hydrants, qty assumed	2	ea	\$6,757.59	\$13,515
6" fire department connection	1	ea	\$2,816.02	\$2,816
Sanitary sewer				
Grease interceptor, size TBD, allow	1	ea	\$15,000.00	\$15,000
4" (assumed) lift station	1	ea	\$5,000.00	\$5,000
4" (assumed) sanitary sewer line, including trenching and backfill	250	lf	\$82.26	\$20,565

DETAIL ELEMENTS - SITE OPTION 1

Element	Quantity	Unit	Unit Cost	Total
Natural gas				
2" (assumed) gas line, including trenching and backfill	200	lf	\$62.85	\$12,570
2" gas meter	1	ea	\$7,456.67	\$7,457
Storm water				
24" storm water pipe, including trenching and backfill	400	lf	\$156.48	\$62,592
Storm detention vault			Assumed	Not Needed

Total - Utilities on Site				\$209,702
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Aquatics Center - Phase 2 - Add Alternate

SUMMARY - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)		\$4,072,451		\$203.62
1 Foundations	\$807,408		\$40.37	
2 Vertical Structure	\$497,628		\$24.88	
3 Floor & Roof Structures	\$694,302		\$34.72	
4 Exterior Cladding	\$1,708,638		\$85.43	
5 Roofing and Waterproofing	\$364,476		\$18.22	
B) Interiors (6-7)		\$832,645		\$41.63
6 Interior Partitions, Doors and Glazing	\$315,578		\$15.78	
7 Floor, Wall and Ceiling Finishes	\$517,067		\$25.85	
C) Equipment and Vertical Transportation (8-9)		\$2,038,799		\$101.94
8 Function Equipment and Specialties	\$2,019,299		\$100.96	
9 Stairs and Vertical Transportation	\$19,500		\$0.98	
D) Mechanical and Electrical (10-13)		\$3,080,636		\$154.03
10 Plumbing Systems	\$569,494		\$28.47	
11 Heating, Ventilation and Air Conditioning	\$1,778,361		\$88.92	
12 Electrical Lighting, Power and Communications	\$549,281		\$27.46	
13 Fire Protection Systems	\$183,500		\$9.18	
Subtotal		\$10,024,532		\$501.23
General Conditions	7.00%	\$701,717		\$35.09
Subtotal		\$10,726,249		\$536.31
General Requirements	3.00%	\$321,787		\$16.09
Subtotal		\$11,048,037		\$552.40
Bonds & Insurance	2.00%	\$220,961		\$11.05
Subtotal		\$11,268,997		\$563.45
Contractor's Fee	4.00%	\$450,760		\$22.54
Subtotal		\$11,719,757		\$585.99
Design Contingency	10.00%	\$1,171,976		\$58.60
Subtotal		\$12,891,733		\$644.59
Construction Contingency	3.00%	\$386,752		\$19.34
Subtotal		\$13,278,485		\$663.92
Escalation to MOC, 01/30/26	33.02%	\$4,384,557		\$219.23
Subtotal		\$17,663,042		\$883.15
WSST	8.90%	\$1,725,588		\$86.28

TOTAL ESTIMATED CONSTRUCTION COST **\$19,388,630** **\$969.43**

Total Area: 20,000 SF

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
1 Foundations				
Earthwork				
Field staking/layout	20,000	gsf	\$0.15	\$3,000
Clear and grub site	20,000	gsf	\$0.12	\$2,400
Mass excavation	2,437	cy	\$10.78	\$26,276
Backfill, basement	1,212	cy	\$17.13	\$20,766
Haul excess, 10 mile round trip	1,225	cy	\$19.39	\$23,757
Fine grading	20,000	gsf	\$0.35	\$7,000
Erosion control	20,000	gsf	\$0.06	\$1,200
Pools Earthwork				
Mass Excavation				
Swimming pool	1,971	cy	\$10.78	\$21,244
Surge tank	288	cy	\$16.93	\$4,876
Backfill				
Swimming pool			<i>Assume Not Required</i>	
Surge tank	237	cy	\$17.13	\$4,062
Haul Excess				
Swimming pool	2,365	cy	\$19.39	\$45,854
Surge tank	62	cy	\$19.39	\$1,205
Miscellaneous hauling, allowance	500	cy	\$19.39	\$9,695
Foundations				
Underpinning existing phase 1 building	1	ls	\$50,000.00	\$50,000
Continuous Footings assumed 3' wide x 3' deep, at perimeter and basement walls				
Concrete, continuous footings, 4000 psi	301	cy	\$249.65	\$75,145
Formwork, continuous footings	4,920	sf	\$7.75	\$38,130
Foundation reinforcing, assume 150 #/cy	45,100	lbs	\$1.49	\$67,199
Excavation	607	cy	\$21.64	\$13,135
Backfill	334	cy	\$18.75	\$6,263
Haul excess	273	cy	\$19.39	\$5,293
Spread Footings				
Foundation, conventional, excluding pool areas	13,784	gsf	\$12.50	\$172,300
Slab On Grade, excluding pool areas				
Concrete, slab on grade, 4000 psi	281	cy	\$242.06	\$68,019
Formwork, slab on grade	590	lf	\$8.17	\$4,820
Sand base, 4"	13,784	sf	\$2.03	\$27,982
Gravel sub base, 6"	13,784	sf	\$1.81	\$24,949
Slab on grade reinforcing, assumed 2.5 #/sf	37,906	lbs	\$1.49	\$56,480
Finish to slab	13,784	sf	\$0.84	\$11,579
Vapor barrier	13,784	sf	\$0.44	\$6,065
Concrete, slab on grade, add for thickened edges	36	cy	\$242.06	\$8,714

Total - Foundations **\$807,408**

Si View Aquatics Center

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
2 Vertical Structure				
Stem Walls, assume 30" wide x 24" high				
Concrete, walls 5000 psi	47	cy	\$266.24	\$12,513
Formwork, walls	920	sf	\$16.77	\$15,428
Wall reinforcing, assume 200 #/cy	9,370	lbs	\$1.58	\$14,805
Finish to walls	460	sf	\$0.83	\$382
Allow for bench finish, wood assumed	230	lf	\$150.00	\$34,500
Structural Steel				
Vertical steel framing, allowance	20,000	gsf	\$15.00	\$300,000
Metals				
Miscellaneous bracing	10	loc	\$9,000.00	\$90,000
Miscellaneous metals	20,000	gsf	\$1.50	\$30,000

Total - Vertical Structure **\$497,628**

3 Floor & Roof Structures

Rough Carpentry- Roof Framing				
30" x 8 3/4" glu-lam	960	lf	\$82.00	\$78,720
70" x 8 3/4" glu-lam	110	lf	\$191.00	\$21,010
Tie rod with 18" steel circular turnbuckle	960	lf	\$24.00	\$23,040
Horizontal wood framing, truss allowance	20,000	gsf	\$10.00	\$200,000
8" DLT roof panels	20,254	sf	\$18.00	\$364,572
Metals				
Light support, assume 10 #/lf	2,400	lb	\$2.90	\$6,960

Total - Floor & Roof Structures **\$694,302**

4 Exterior Cladding

Aquatics Center Building Envelope				
Demolish phase 1 exterior wall, along gridline H	4,800	sf	\$25.00	\$120,000
Exterior walls, densglass sheathing	9,600	sf	\$3.64	\$34,944
Rigid insulation, exterior walls	9,600	sf	\$1.83	\$17,568
Metal Panel Rainscreen System	5,316	sf	\$100.00	\$531,600
Random Rough Cedar Siding Rainscreen System	4,284	sf	\$80.00	\$342,720
Aluminum windows/storefront, vision glazing, generic	3,193	sf	\$121.06	\$386,545
Storefront with Rainscreen System	755	sf	\$181.59	\$137,100
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$5,485.63	\$5,486
Aluminum door sets, frames and hardware, glazed, double	3	pr	\$10,891.72	\$32,675
Louver allowance	1	ls	\$50,000.00	\$50,000
Tie in phase 2 envelope to phase 1	1	ls	\$50,000.00	\$50,000

Total - Exterior Cladding **\$1,708,638**

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
5 Roofing and Waterproofing				
Roofing				
Single ply membrane roofing	20,254	sf	\$7.84	\$158,791
Rigid roof insulation, poly iso insulation	20,254	sf	\$5.75	\$116,461
Flashing / Counterflashing				
Aluminum coping at parapets	460	lf	\$35.04	\$16,118
Base flashings at base of parapets	460	lf	\$37.65	\$17,319
Roof Accessories				
Aluminum gutters	110	lf	\$27.72	\$3,049
Aluminum downspouts	50	lf	\$27.72	\$1,386
Miscellaneous accessories	20,000	gsf	\$2.00	\$40,000
Miscellaneous				
Crickets	584	sf	\$6.41	\$3,743
Caulking allowance	20,254	gfa	\$0.03	\$608
Miscellaneous				
Caulking & sealant allowance	20,000	gsf	\$0.35	\$7,000

Total - Roofing and Waterproofing **\$364,476**

6 Interior Partitions, Doors and Glazing

Partition Walls

Partition wall 11' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	934	sf	\$11.36	\$10,610
Bolt top stud channel to structure above incl. double top track	81	lf	\$24.65	\$1,997
Bolt bottom stud channel to concrete floor	81	lf	\$12.73	\$1,031
Gypsum board, 5/8" thick, finished (I4), type X	1,868	sf	\$3.49	\$6,519
Sound batt insulation, unbacked	934	sf	\$1.34	\$1,252

Partition wall 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	741	sf	\$11.36	\$8,418
Bolt top stud channel to structure above incl. double top track	78	lf	\$24.65	\$1,923
Bolt bottom stud channel to concrete floor	78	lf	\$12.73	\$993
Gypsum board, 5/8" thick, finished (I4), type X	1,482	sf	\$3.49	\$5,172
Sound batt insulation, unbacked	741	sf	\$1.34	\$993

Partition wall - wet - 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	2,566	sf	\$11.36	\$29,150
Bolt top stud channel to structure above incl. double top track	270	lf	\$24.65	\$6,656
Bolt bottom stud channel to concrete floor	270	lf	\$12.73	\$3,437
Gypsum board, 5/8" thick, finished (I4), type X	2,432	sf	\$3.49	\$8,488
Sound batt insulation, unbacked	2,566	sf	\$1.34	\$3,438
Vapor barrier	2,970	sf	\$0.39	\$1,158
Backer board	2,700	sf	\$4.94	\$13,338
Ceramic tile, walls	2,700	sf	\$19.08	\$51,516

Partition wall - wet - one-sided 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	812	sf	\$11.36	\$9,224
Bolt top stud channel to structure above incl. double top track	86	lf	\$24.65	\$2,120

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
Bolt bottom stud channel to concrete floor	86	lf	\$12.73	\$1,095
Gypsum board, 5/8" thick, finished (I4), type X	1,194	sf	\$3.49	\$4,167
Sound batt insulation, unbacked	812	sf	\$1.34	\$1,088
Vapor barrier	473	sf	\$0.39	\$184
Backer board	430	sf	\$4.94	\$2,124
Ceramic tile, walls	430	sf	\$19.08	\$8,204
Interior of exterior walls				
Interior of exterior, 5/8" thick gypsum board X, finished	1,264	sf	\$3.49	\$4,411
Interior Glazing				
Interior glazing				
Interior storefront - 9' 6" high	1,027	sf	\$87.59	\$89,955
Interior storefront - 11' 6" high	31	sf	\$87.59	\$2,715
Interior Openings				
Doors				
Aluminum door sets, frames and hardware, glazed, single, tempered gla:	2	ea	\$5,485.63	\$10,971
SC wood door incl. AL frame and hardware, single, 3' 0" x 7' 0"	5	ea	\$2,308.01	\$11,540
SC wood door incl. AL frame and hardware, double, 6' 0" x 7' 0"	2	pr	\$4,469.80	\$8,940
Hardware premium	11 leaves		\$250.00	\$2,750

Total - Interior Partitions, Doors and Glazing \$315,578

7 Floor, Wall and Ceiling Finishes

Make good finishes at phase 1 & phase 2 intersection	1	ls	\$75,000.00	\$75,000
Flooring & Base				
Sealed concrete	1,151	sf	\$1.84	\$2,118
Floor prep/leveling	4,250	sf	\$9.62	\$40,885
Rubber athletic flooring	2,330	sf	\$13.81	\$32,177
Carpet tile	179	sf	\$5.09	\$911
Ceramic tile	4,071	sf	\$18.49	\$75,273
Resilient base	519	lf	\$5.27	\$2,735
Ceramic tile, base	626	lf	\$18.45	\$11,550
Ceiling				
Acoustical ceiling tile, suspended, includes suspension system	3,096	sf	\$5.06	\$15,666
Gypsum board ceilings, incl. framing	3,423	sf	\$11.12	\$38,064
Wood Slat Ceiling, allowance	3,000	sf	\$40.00	\$120,000
Wall finishes, misc.				
Allowance	8,240	sf	\$2.50	\$20,600
Painting and Coating				
Paint walls	8,240	sf	\$0.78	\$6,427
Paint ceilings	3,423	sf	\$0.89	\$3,046
Concrete pool epoxy deck paint	4,841	sf	\$15.00	\$72,615

Total - Floor, Wall and Ceiling Finishes \$517,067

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
8 Function Equipment and Specialties				
Interior Specialties				
Toilet Cubicles				
Standard, stainless steel	25	ea	\$1,917.89	\$47,947
Handicap, stainless steel	5	ea	\$2,066.93	\$10,335
Toilet / Restroom Specialties				
Bathroom mirrors	16	sf	\$39.65	\$634
Coat hook	7	ea	\$30.31	\$212
Grab bars	8	ea	\$203.72	\$1,630
Janitor mop sink rack	1	ea	\$136.15	\$136
Paper towel dispenser combo unit, recessed	11	ea	\$367.67	\$4,044
Seat cover dispenser	16	ea	\$139.12	\$2,226
Shower accessories, per stall	10	ea	\$1,053.35	\$10,534
Soap dispenser	16	ea	\$98.38	\$1,574
Toilet paper dispenser	16	ea	\$86.46	\$1,383
Storage Specialties				
Lockers, 2-tier incl. concrete base	18	ea	\$263.33	\$4,740
Locker room benches	39	lf	\$150.00	\$5,850
Other Specialties				
Handrail - free-standing	43	lf	\$250.00	\$10,750
Miscellaneous specialty allowance	20,000	sf	\$1.00	\$20,000
Interior signage, code	20,000	sf	\$0.15	\$3,000
Fire extinguisher and cabinet, allowance	8	ea	\$444.31	\$3,554
Rough Carpentry				
Additional blocking, support backing, stiffeners, etc.	20,000	sf	\$1.01	\$20,200
Casework				
Exercise Room casework - 36"	60	lf	\$329.78	\$19,787
Restroom vanity counter - 24"	52	lf	\$191.93	\$9,980
Window Covering				
Mechoshades, motorized	3,117	sf	\$21.13	\$65,862
<u>Pool Construction (Cost provided by Aquatics Design Group dated 8/8/2019)</u>				
Recreational pool, construction cost	6,216	sf	\$253.85	\$1,577,920
Recreational pool, equipment cost	6,216	sf	\$29.76	\$185,000
Spectator Seating				
Permanent bleachers	80	seat	\$150.00	\$12,000

Total - Function Equipment and Specialties **\$2,019,299**

9 Stairs and Vertical Transportation

Entrance Stairs, on grade	300	lf	\$65.00	\$19,500
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Total - Stairs and Vertical Transportation **\$19,500**

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
10 Plumbing Systems				
General plumbing				
Water heater, Double wall, plate and frame heat exchangers	1	ea	\$16,800.00	\$16,800
Circulating pump, duplex	1	ea	\$2,195.89	\$2,196
Expansion tank	1	ea	\$884.56	\$885
Local water heaters, electric	1	ea	\$1,280.00	\$1,280
Sewage ejector / Sump pump - allowance	1	ea	\$9,760.00	\$9,760
Grease / Sand / Oil interceptor	1	ea	\$15,000.00	\$15,000
Sanitary fixtures				
Water closet	15	ea	\$1,640.00	\$24,600
Urinal	4	ea	\$1,670.00	\$6,680
Lavatory	16	ea	\$1,588.00	\$25,408
Shower, exterior - next to the water	4	ea	\$1,630.00	\$6,520
Shower, enclosed - inside the locker room	10	ea	\$1,760.00	\$17,600
Emergency Shower / Eyewash stations	1	ea	\$2,300.00	\$2,300
Drinking fountain, with bottle filling stations	2	ea	\$4,280.00	\$8,560
Sink, Janitor	1	ea	\$1,025.00	\$1,025
Hose bibs	10	ea	\$372.69	\$3,727
Floor drains	10	ea	\$657.00	\$6,570
Trench drains for pool area - corrosion resistant HDPE	30	ea	\$950.00	\$28,500
Rough ins				
Local rough-in at fixture	53	ea	\$917.00	\$48,601
Rough-in at floor sink or floor drain	40	ea	\$1,086.00	\$43,440
Rough-ins to OFCI Flex room / Exercise: cold and hot water, direct and indirect drain	2	ea	\$1,000.00	\$2,000
Make up water for swimming pool	1	ea	\$10,000.00	\$10,000
Domestic water piping	20,000	gsf	\$4.00	\$80,000
Waste / vent piping	20,000	gsf	\$4.20	\$84,000
Roof / storm drainage				
RD/OD - Roof drain with Overhead drain	6	ea	\$715.00	\$4,290
3" pipe, ci, no-hub, in bldg	530	lf	\$54.96	\$29,129
4" pipe, ci, no-hub, in bldg	320	lf	\$64.45	\$20,624
Condensate drainage	20,000	gsf	\$0.50	\$10,000
Miscellaneous	20,000	gsf	\$3.00	\$60,000

Total - Plumbing Systems				\$569,494
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11 Heating, Ventilation and Air Conditioning

Wet side equipment: chiller, boiler, pumps etc.	20,000	gsf	\$12.00	\$240,000
Chilled water piping distribution	20,000	gsf	\$2.00	\$40,000
Hot water piping distribution	20,000	gsf	\$5.00	\$100,000
Air-Side Equipment				
AHU-1, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
AHU-2, Air handling unit, outdoor, vav, modular	15,000	cfm	\$10.00	\$150,000
FCU, Fan coil units for IDF / MDF rooms	1	ea	\$3,851.00	\$3,851

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
VAV terminal boxes, with reheat coil	22	ea	\$1,840.00	\$40,480
EF, Exhaust fan, inline, Greenheck	6,000	cfm	\$3.85	\$23,100
Air Distribution				
Ductwork, galv - protected with epoxy based paint	20,000	lb	\$12.50	\$250,000
Ductwork, stainless steel	3,000	lb	\$29.14	\$87,420
Duct insulation	11,500	sf	\$3.86	\$44,390
Combination fire / smoke damper	14	ea	\$950.00	\$13,300
Grilles, registers and diffusers, including dampers and flex duct	20,000	sf	\$2.50	\$50,000
Acoustical attenuation	2	ea	\$4,500.00	\$9,000
Ventilation premium for PHIUS+ requirements, allowance	1	ls	\$300,000.00	\$300,000
Miscellaneous testing & commissioning				
Test / balance HVAC	160	hr	\$153.14	\$24,502
Start-up/check-out	120	hr	\$121.93	\$14,632
Commissioning assist	120	hr	\$121.93	\$14,632
Piping identification: labels, arrows and valve tags	160	ea	\$27.60	\$4,416
Seismic and vibration requirements	1	ea	\$20,000.00	\$20,000
HVAC Controls				
DDC controls to plumbing systems	1	ls	\$5,000.00	\$5,000
DDC controls, air handlers	2	ea	\$14,800.00	\$29,600
DDC controls, vav box, reheat coils	22	ea	\$1,957.00	\$43,054
DDC controls, general exhaust fan	4	ea	\$1,314.00	\$5,256
DDC controls, smoke damper monitor	14	ea	\$952.00	\$13,328
DDC misc. items, training, integration	160	hr	\$140.00	\$22,400
DDC controls for pools	1	ls	\$30,000.00	\$30,000

Total - Heating, Ventilation and Air Conditioning **\$1,778,361**

12 Electrical Lighting, Power and Communications

Service & Distribution Equipment

Main switchboard, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$47,909.94	\$47,910
Pool Eq. Distribution board, 400 amp, 120/208v, 3ph, 4w	1	ea	\$20,358.56	\$20,359
Panelboard, 225 amp, 120/208v, 3ph, 4w	3	ea	\$2,578.77	\$7,736
Feeder, 225 amp, emt	125	lf	\$57.58	\$7,197
Feeder, 400 amp, emt	150	lf	\$105.75	\$15,862
Feeder, 1200 amp, PVC	50	lf	\$267.02	\$13,351
Conduit, 1 1/4" pvc	100	lf	\$6.75	\$675
Copper wire, #8 thhn	100	lf	\$1.00	\$100
Copper wire, #4 thhn	200	lf	\$1.78	\$355

HVAC & Equipment Connections

AHU-1	1	ea	\$1,028.29	\$1,028
AHU-2	1	ea	\$1,028.29	\$1,028
FCU	2	ea	\$226.51	\$453
EF, Exhaust Fans	4	ea	\$191.67	\$767
Disconnect switch, 60/3 fused N1	2	ea	\$734.97	\$1,470
Disconnect switch, motor rated N3R	4	ea	\$418.91	\$1,676
Disconnect switch, 200/3 fused N3R	2	ea	\$2,273.14	\$4,546
Disconnect elevator switch, 60/3 fused N1	1	ea	\$2,443.87	\$2,444

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DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
Equipment feeder, 20 amp	950	lf	\$17.93	\$17,030
Equipment feeder, 60 amp	200	lf	\$21.25	\$4,251
Equipment feeder, 200 amp	225	lf	\$27.35	\$6,154
Convenience Power				
Duplex receptacle, 20 amp	42	ea	\$91.10	\$3,826
Double duplex receptacle, 20 amp	3	ea	\$121.42	\$364
Duplex receptacle, 20 amp GFCI	8	ea	\$107.07	\$857
Double duplex receptacle, 20 amp GFCI wp	2	ea	\$160.76	\$322
Branch power, 20 amp	1,870	lf	\$16.06	\$30,038
10/2 armored cable	1,269	lf	\$5.65	\$7,164
Lighting & Lighting Controls				
Down Lights Phase #1	196	ea	\$255.81	\$50,138
Pool Flood Light High Bay	58	ea	\$765.60	\$44,405
Exit Lighting	8	ea	\$294.00	\$2,352
Lighting control panel	1	ea	\$4,624.80	\$4,625
Single pole switch	2	ea	\$94.64	\$189
Occupancy sensor, ceiling mounted	8	ea	\$242.18	\$1,937
Occupancy sensor, wall mounted	8	ea	\$204.64	\$1,637
Lighting branch power, fixtures	3,530	lf	\$16.06	\$56,702
Lighting branch power, controls	110	lf	\$15.40	\$1,694
Fire Alarm System				
FA control panel	1	ea	\$10,818.26	\$10,818
FA annunciator panel	1	ea	\$2,538.97	\$2,539
FA beam sensor	2	ea	\$1,485.48	\$2,971
FA duct smoke detector	2	ea	\$635.84	\$1,272
FA flow switch	1	ea	\$550.84	\$551
FA heat detector	1	ea	\$319.54	\$320
FA pull station	2	ea	\$337.81	\$676
FA smoke detector	2	ea	\$320.96	\$642
FA tamper switch	1	ea	\$499.45	\$499
FA horn strobe unit, wall mount	4	ea	\$183.08	\$732
Conduit, 3/4" emt	2,450	lf	\$10.17	\$24,913
Fire alarm cable rated, 4C	2,450	lf	\$3.74	\$9,158
Telecommunications System				
Tele/data outlet, 2 port	4	ea	\$127.21	\$509
Wireless access point	2	ea	\$295.12	\$590
Fire treated plywood	1	ea	\$288.67	\$289
Main telecommunication grounding busbar	1	ea	\$1,494.17	\$1,494
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CAT-6, 4 pair 23 AWG, UTP	600	lf	\$1.03	\$615
Public Address System				
Clock/speaker	4	ea	\$591.80	\$2,367
PA speaker	20	ea	\$194.31	\$3,886
Conduit, 3/4" emt	2,400	lf	\$10.17	\$24,404
PA system speaker cable	2,400	lf	\$1.06	\$2,535
Distributed Antenna System	20,000	gsf	\$1.25	\$25,000
Security, Access Control & CCTV Systems				
CCTV PTZ IP camera, outdoor	3	ea	\$3,330.81	\$9,992
CCTV fixed IP camera	6	ea	\$898.74	\$5,392

DETAIL ELEMENTS - AQUATICS CENTER - PHASE 2 - ADD ALTERNATE

Element	Quantity	Unit	Unit Cost	Total
DVR, 4TB storage	1	ea	\$1,431.10	\$1,431
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CCTV cabling	600	lf	\$1.31	\$784
Access control system				
Access control panel	1	ea	\$5,066.69	\$5,067
Access control panel power supply	1	ea	\$515.99	\$516
Card reader, proximity type	3	ea	\$407.77	\$1,223
Alarm contact, flush mount	3	ea	\$175.86	\$528
Conduit, 3/4" emt	850	lf	\$10.17	\$8,643
Access control cable	850	lf	\$1.32	\$1,125
Miscellaneous				
Small tools	45	hr	\$80.30	\$3,614
Consumables	1	ls	\$7,114.00	\$7,114
Equipment rentals	1	ls	\$8,300.00	\$8,300
Testing/commissioning	1	ls	\$5,928.00	\$5,928

Total - Electrical Lighting, Power and Communications **\$549,281**

13 Fire Protection Systems

New hydraulically calculated wet pipe automatic fire sprinkler system				
Wet-pipe fire sprinkler, complete	20,000	gsf	\$7.00	\$140,000
316 Stainless Steel piping, premium	1	ea	\$35,000.00	\$35,000
FM 200 preaction systems, Electrical / data rooms - allowance			Assume Not Needed	
Fire sprinkler for chemical storage room, premium	1	ea	\$8,500.00	\$8,500

Total - Fire Protection Systems **\$183,500**

Option B- West Wing

SUMMARY - WEST WING

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)		\$4,998,285		\$186.50
1 Foundations	\$1,064,791		\$39.73	
2 Vertical Structure	\$846,442		\$31.58	
3 Floor & Roof Structures	\$875,323		\$32.66	
4 Exterior Cladding	\$1,775,939		\$66.27	
5 Roofing and Waterproofing	\$435,790		\$16.26	
B) Interiors (6-7)		\$1,227,784		\$45.81
6 Interior Partitions, Doors and Glazing	\$619,660		\$23.12	
7 Floor, Wall and Ceiling Finishes	\$608,124		\$22.69	
C) Equipment and Vertical Transportation (8-9)		\$2,625,930		\$97.98
8 Function Equipment and Specialties	\$2,387,335		\$89.08	
9 Stairs and Vertical Transportation	\$238,595		\$8.90	
D) Mechanical and Electrical (10-13)		\$3,500,525		\$130.62
10 Plumbing Systems	\$601,289		\$22.44	
11 Heating, Ventilation and Air Conditioning	\$2,027,894		\$75.67	
12 Electrical Lighting, Power and Communications	\$642,343		\$23.97	
13 Fire Protection Systems	\$229,000		\$8.54	
Subtotal		<u>\$12,352,524</u>		<u>\$460.92</u>
General Conditions	7.00%	\$864,677		\$32.26
Subtotal		<u>\$13,217,201</u>		<u>\$493.18</u>
General Requirements	3.00%	\$396,516		\$14.80
Subtotal		<u>\$13,613,717</u>		<u>\$507.97</u>
Bonds & Insurance	2.00%	\$272,274		\$10.16
Subtotal		<u>\$13,885,991</u>		<u>\$518.13</u>
Contractor's Fee	4.00%	\$555,440		\$20.73
Subtotal		<u>\$14,441,431</u>		<u>\$538.86</u>
Design Contingency	10.00%	\$1,444,143		\$53.89
Subtotal		<u>\$15,885,574</u>		<u>\$592.75</u>
Construction Contingency	3.00%	\$476,567		\$17.78
Subtotal		<u>\$16,362,141</u>		<u>\$610.53</u>
Escalation to MOC, 08/01/22	14.05%	\$2,298,245		\$85.76
Subtotal		<u>\$18,660,386</u>		<u>\$696.28</u>
WSST	8.90%	\$1,823,023		\$68.02
TOTAL ESTIMATED CONSTRUCTION COST		\$20,483,410		\$764.31

Total Area: 26,800 SF

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
1 Foundations				
Earthwork				
Field staking/layout	26,000	gsf	\$0.15	\$3,900
Clear and grub site	26,000	gsf	\$0.12	\$3,120
Mass excavation	3,878	cy	\$10.78	\$41,802
Backfill	1,976	cy	\$17.13	\$33,841
Haul excess, 10 mile round trip	1,902	cy	\$19.39	\$36,884
Fine grading	26,000	gsf	\$0.35	\$9,100
Erosion control	26,000	gsf	\$0.06	\$1,560
Basement Excavation				
Mass excavation, basement	1,061	cy	\$10.78	\$11,436
Backfill, basement	341	cy	\$17.13	\$5,847
Export, assume 10 mile round trip	932	cy	\$19.39	\$18,066
Temporary shoring, assume needed	1,920	sf	\$42.14	\$80,909
Pools Earthwork				
Mass Excavation				
Swimming pool	729	cy	\$10.78	\$7,861
Surge tank	288	cy	\$16.93	\$4,876
Backfill				
Swimming pool				
Surge tank	237	cy	\$17.13	\$4,062
Haul Excess				
Swimming pool	875	cy	\$19.39	\$16,967
Surge tank	62	cy	\$19.39	\$1,205
Miscellaneous hauling, allowance	500	cy	\$19.39	\$9,695
Slab on grade, excluding pool areas	21,400	gsf		
Foundations				
Continuous Footings assumed 3' wide x 3' deep, at perimeter and basement walls				
Concrete, continuous footings, 4000 psi	447	cy	\$249.65	\$111,594
Formwork, continuous footings	7,320	sf	\$7.75	\$56,730
Foundation reinforcing, assume 150 #/cy	67,100	lbs	\$1.49	\$99,979
Excavation	904	cy	\$21.64	\$19,563
Backfill	500	cy	\$18.75	\$9,375
Haul excess	410	cy	\$19.39	\$7,950
Spread Footings				
Spread Footings allowance, excluding pool areas	21,400	gsf	\$5.00	\$107,000
Slab On Grade, excluding pool areas				
Concrete, slab on grade, 4000 psi	456	cy	\$242.06	\$110,379
Formwork, slab on grade	1,040	lf	\$8.17	\$8,497
Sand base, 4"	21,400	sf	\$2.03	\$43,442
Gravel sub base, 6"	21,400	sf	\$1.81	\$38,734
Slab on grade reinforcing, assumed 2.5 #/sf	61,600	lbs	\$1.49	\$91,784
Finish to slab	21,400	sf	\$0.84	\$17,976
Vapor barrier	21,400	sf	\$0.44	\$9,416
Concrete, slab on grade, add for thickened edges	64	cy	\$242.06	\$15,492

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Loading dock ramp and walls	1,030	sf	\$25.00	\$25,750
Total - Foundations				\$1,064,791

2 Vertical Structure

Concrete

Basement Walls

Concrete, basement walls 5000 psi	114	cy	\$266.24	\$30,351
Formwork, basement walls	5,600	sf	\$16.77	\$93,912
Basement wall reinforcing, assumed 250 #/cy	28,519	lbs	\$1.58	\$45,060
Waterproofing	2,800	sf	\$7.40	\$20,720
Finish to walls	2,800	sf	\$0.83	\$2,324

Stem Walls, assume 30" wide x 24" high

Concrete, walls 5000 psi	51	cy	\$266.24	\$13,578
Formwork, walls	1,000	sf	\$16.77	\$16,770
Wall reinforcing, assume 200 #/cy	10,185	lbs	\$1.58	\$16,092
Finish to walls	500	sf	\$0.83	\$415
Allow for bench finish, wood assumed	250	lf	\$150.00	\$37,500

Cast-In-Place Concrete Shear Walls, elevator walls, assume 30' high

Concrete, shear walls, 5000 psi	26	cy	\$266.24	\$6,922
Formwork, shear walls	1,260	sf	\$16.77	\$21,130
Wall reinforcing, assume 250 #/cy	6,420	lbs	\$1.58	\$10,144
Finish to walls	630	sf	\$0.83	\$523

Structural Steel

Vertical steel framing, allowance	26,800	gsf	\$15.00	\$402,000
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Metals

Miscellaneous bracing	10	loc	\$9,000.00	\$90,000
Miscellaneous metals	26,000	gsf	\$1.50	\$39,000

Total - Vertical Structure				\$846,442
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3 Floor & Roof Structures

Concrete

Cast-In-Place Concrete Slabs, Mezzanine, assume 8" thick

Concrete, elevated floor slabs, 5000 psi	60	cy	\$269.76	\$16,186
Formwork to soffit, elevated floor slabs	2,220	sf	\$10.05	\$22,311
Formwork slab edge, elevated floor slabs	260	sf	\$9.38	\$2,439
Elevated slab reinforcing, assume 5.5 #/sf	13,430	lbs	\$1.49	\$20,011
Finish to elevated floor slabs	2,220	sf	\$0.83	\$1,843

Cast-In-Place Concrete Slabs, Mechanical Room Roof, assume 8" thick

Concrete, elevated floor slabs, 5000 psi	63	cy	\$269.76	\$16,995
Formwork to soffit, elevated floor slabs	2,310	sf	\$10.05	\$23,216
Formwork slab edge, elevated floor slabs	200	sf	\$9.38	\$1,876

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Elevated slab reinforcing, assume 5.5 #/sf	13,976	lbs	\$1.49	\$20,824
Finish to elevated floor slabs	2,310	sf	\$0.83	\$1,917
Miscellaneous Concrete				
Concrete, elevator pit	1	ea	\$12,548.05	\$12,548
Rough Carpentry- Roof Framing				
30" x 8 3/4" glu-lam	1,020	lf	\$82.00	\$83,640
70" x 8 3/4" glu-lam	220	lf	\$191.00	\$42,020
Tie rod with 18" steel circular turnbuckle	1,020	lf	\$24.00	\$24,480
Horizontal wood framing, truss allowance	26,000	gsf	\$10.00	\$260,000
T&G wood decking, flat roof, 5/8"	7,417	sf	\$4.00	\$29,668
8" DLT roof panels	16,070	sf	\$18.00	\$289,260
Metals				
Light support, assume 10 #/lf	2,100	lb	\$2.90	\$6,090

Total - Floor & Roof Structures				\$875,323
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4 Exterior Cladding

Aquatics Center Building Envelope				
Exterior walls, densglass sheathing	10,936	sf	\$3.64	\$39,807
Rigid insulation, exterior walls	10,936	sf	\$1.83	\$20,013
Metal Panel Rainscreen System	6,445	sf	\$100.00	\$644,500
Random Rough Cedar Siding Rainscreen System	4,491	sf	\$80.00	\$359,280
Aluminum windows/storefront, vision glazing, generic	3,477	sf	\$121.06	\$420,926
Storefront with Rainscreen System	959	sf	\$181.59	\$174,145
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$5,485.63	\$5,486
Aluminum door sets, frames and hardware, glazed, double	2	pr	\$10,891.72	\$21,783
Storefront Entry Doors	1	pr	\$20,000.00	\$20,000
Coiling door at loading dock, 10' wide x 20' high assumed	1	ea	\$20,000.00	\$20,000
Louver allowance	1	ls	\$50,000.00	\$50,000

Total - Exterior Cladding				\$1,775,939
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5 Roofing and Waterproofing

Roofing				
Single ply membrane roofing	23,487	sf	\$7.84	\$184,138
Rigid roof insulation, poly iso insulation	23,487	sf	\$5.75	\$135,050
Flashing / Counterflashing				
Aluminum coping at parapets	524	lf	\$35.04	\$18,361
Base flashings at base of parapets	524	lf	\$37.65	\$19,729
Roof Accessories				
Aluminum gutters	218	lf	\$27.72	\$6,043
Aluminum downspouts	75	lf	\$27.72	\$2,079
Miscellaneous accessories	26,800	gsf	\$2.00	\$53,600

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Miscellaneous				
Crickets	1,078	sf	\$6.41	\$6,910
Caulking allowance	26,000	gfa	\$0.03	\$780
Miscellaneous				
Caulking & sealant allowance	26,000	gsf	\$0.35	\$9,100

Total - Roofing and Waterproofing				\$435,790
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6 Interior Partitions, Doors and Glazing

Partition Walls

Suspended wall at Reception

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	48	sf	\$11.36	\$545
Bolt top stud channel to structure above incl. double top track	24	lf	\$24.65	\$592
Gypsum board, 5/8" thick, finished (I4), type X	96	sf	\$3.49	\$335

Partition wall 11' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	164	sf	\$11.36	\$1,863
Bolt top stud channel to structure above incl. double top track	14	lf	\$24.65	\$345
Bolt bottom stud channel to concrete floor	14	lf	\$12.73	\$178
Gypsum board, 5/8" thick, finished (I4), type X	328	sf	\$3.49	\$1,145
Sound batt insulation, unbacked	164	sf	\$1.34	\$220

Partition wall 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	3,431	sf	\$11.36	\$38,976
Bolt top stud channel to structure above incl. double top track	361	lf	\$24.65	\$8,899
Bolt bottom stud channel to concrete floor	361	lf	\$12.73	\$4,596
Gypsum board, 5/8" thick, finished (I4), type X	6,862	sf	\$3.49	\$23,948
Sound batt insulation, unbacked	3,431	sf	\$1.34	\$4,598

Partition wall - wet - 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	2,518	sf	\$11.36	\$28,604
Bolt top stud channel to structure above incl. double top track	265	lf	\$24.65	\$6,532
Bolt bottom stud channel to concrete floor	265	lf	\$12.73	\$3,373
Gypsum board, 5/8" thick, finished (I4), type X	2,386	sf	\$3.49	\$8,327
Sound batt insulation, unbacked	2,518	sf	\$1.34	\$3,374
Vapor barrier	2,915	sf	\$0.39	\$1,137
Backer board	2,650	sf	\$4.94	\$13,091
Ceramic tile, walls	2,650	sf	\$19.08	\$50,562

Partition wall - wet - one-sided 9' 6" high

Metal studs, 3 5/8", 20 Ga., at 16" o.c.	545	sf	\$11.36	\$6,191
Bolt top stud channel to structure above incl. double top track	57	lf	\$24.65	\$1,405
Bolt bottom stud channel to concrete floor	57	lf	\$12.73	\$726
Gypsum board, 5/8" thick, finished (I4), type X	805	sf	\$3.49	\$2,809
Sound batt insulation, unbacked	545	sf	\$1.34	\$730
Vapor barrier	314	sf	\$0.39	\$122
Backer board	285	sf	\$4.94	\$1,408
Ceramic tile, walls	285	sf	\$19.08	\$5,438

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Partition wall - wet - plumbing chase 9' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	748	sf	\$11.36	\$8,497
Bolt top stud channel to structure above incl. double top track	79	lf	\$24.65	\$1,947
Bolt bottom stud channel to concrete floor	79	lf	\$12.73	\$1,006
Gypsum board, 5/8" thick, finished (I4), type X	353	sf	\$3.49	\$1,232
Gypsum board, 5/8" thick, unfinished	1,101	sf	\$2.55	\$2,808
Sound batt insulation, unbacked	748	sf	\$1.34	\$1,002
Vapor barrier	435	sf	\$0.39	\$170
Backer board	395	sf	\$4.94	\$1,951
Ceramic tile, walls	395	sf	\$19.08	\$7,537
Shaft wall				
Metal studs, 6" CH, 16 Ga., at 16" o.c.	1,476	sf	\$20.56	\$30,347
Bolt top stud channel to structure above incl. double top track	135	lf	\$24.65	\$3,328
Bolt bottom stud channel to concrete floor	135	lf	\$12.73	\$1,719
Gypsum board, 1" thick coreboard at shaft walls	1,476	sf	\$5.23	\$7,719
Gypsum board, 5/8" thick, finished (I4), type X	1,476	sf	\$3.49	\$5,151
Sound batt insulation, unbacked	1,476	sf	\$1.34	\$1,978
Interior of exterior walls				
Interior of exterior, 5/8" thick gypsum board X, finished	3,976	sf	\$3.49	\$13,876
Furring, on walls, 3/4" channel, 16" o.c.	1,594	sf	\$2.46	\$3,921
Interior Glazing				
Interior glazing				
Interior storefront - 9' 6" high	1,062	sf	\$87.59	\$93,021
Interior storefront - 11' 6" high	1,033	sf	\$87.59	\$90,480
Interior Openings				
Doors				
Aluminum door sets, frames and hardware, glazed, double	3	pr	\$10,891.72	\$32,675
Aluminum door sets, frames and hardware, glazed, single, tempered gla	7	ea	\$5,485.63	\$38,399
SC wood door incl. AL frame and hardware, single, 3' 0" x 7' 0"	7	ea	\$2,308.01	\$16,156
SC wood door incl. AL frame and hardware, double, 6' 0" x 7' 0"	5	pr	\$4,469.80	\$22,349
SC wood door incl. AL frame and hardware, double, 5' 0" x 7' 0"	1	pr	\$4,320.81	\$4,321
Hardware premium	32	leaves	\$250.00	\$8,000

Total - Interior Partitions, Doors and Glazing				\$619,660
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7 Floor, Wall and Ceiling Finishes

Flooring & Base				
Sealed concrete	3,474	sf	\$1.84	\$6,392
Floor prep/leveling	8,645	sf	\$9.62	\$83,165
Carpet tile	1,267	sf	\$5.09	\$6,449
Walk-off mat	92	sf	\$50.00	\$4,600
Ceramic tile	7,378	sf	\$18.49	\$136,419
Resilient base	1,518	lf	\$5.27	\$8,000
Ceramic tile, base	666	lf	\$18.45	\$12,288

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Ceiling				
Acoustical ceiling tile, suspended, includes suspension system	3,762	sf	\$5.06	\$19,036
Gypsum board ceilings, incl. framing	5,826	sf	\$11.12	\$64,785
Wood Slat Ceiling, allowance	2,900	sf	\$40.00	\$116,000
Wall finishes, misc.				
Allowance	16,282	sf	\$2.50	\$40,705
Painting and Coating				
Paint walls	16,282	sf	\$0.78	\$12,700
Paint ceilings	5,826	sf	\$0.89	\$5,185
Concrete pool epoxy deck paint	6,160	sf	\$15.00	\$92,400

Total - Floor, Wall and Ceiling Finishes				\$608,124
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8 Function Equipment and Specialties

Interior Specialties

Toilet Cubicles

Standard, stainless steel	33	ea	\$1,917.89	\$63,290
Handicap, stainless steel	4	ea	\$2,066.93	\$8,268

Toilet / Restroom Specialties

Bathroom mirrors	13	sf	\$39.65	\$515
Coat hook	7	ea	\$30.31	\$212
Grab bars	6	ea	\$203.72	\$1,222
Janitor mop sink rack	1	ea	\$136.15	\$136
Paper towel dispenser combo unit, recessed	7	ea	\$367.67	\$2,574
Seat cover dispenser	11	ea	\$139.12	\$1,530
Shower accessories, per stall	9	ea	\$1,053.35	\$9,480
Soap dispenser	13	ea	\$98.38	\$1,279
Toilet paper dispenser	11	ea	\$86.46	\$951

Storage Specialties

Lockers, 2-tier incl. concrete base	42	ea	\$263.33	\$11,060
Locker room benches	79	lf	\$150.00	\$11,850

Other Specialties

Handrail - free-standing	43	lf	\$250.00	\$10,750
Miscellaneous specialty allowance	26,000	sf	\$1.00	\$26,000
Interior signage, code	26,000	sf	\$0.15	\$3,900
Fire extinguisher and cabinet, allowance	8	ea	\$444.31	\$3,554
Exterior signage, allowance	1	ls	\$25,000.00	\$25,000

Rough Carpentry

Additional blocking, support backing, stiffeners, etc.	26,000	sf	\$1.01	\$26,260
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Casework

Café casework - 36"	59	lf	\$329.78	\$19,457
Reception desk - 36"	32	lf	\$800.00	\$25,600
Lifeguard casework bases - 30"	50	lf	\$311.46	\$15,573
Lifeguard casework - uppers - 14"	28	lf	\$210.43	\$5,892

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Lifeguard casework bases - 20"	24	lf	\$269.93	\$6,478
Group Room casework bases - 30"	79	lf	\$311.46	\$24,605
Restroom vanity counter - 24"	29	lf	\$191.93	\$5,566
Window Covering				
Mechoshades, motorized	3,461	sf	\$21.13	\$73,131
Furniture				
Café table	10	ea	\$350.00	\$3,500
Café chair	40	ea	\$150.00	\$6,000
<u>Pool Construction (Cost provided by Aquatics Design Group dated 8/8/2019)</u>				
Recreational pool, construction cost	4,600	sf	\$406.30	\$1,869,000
Recreational pool, equipment cost	4,600	sf	\$27.11	\$124,700

Total - Function Equipment and Specialties				\$2,387,335
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9 Stairs and Vertical Transportation

Elevators - Including Smoke Containment Curtain Assembly				
Passenger, 3500 lbs, hydraulic	3	stop	\$55,000.00	\$165,000
Elevator pit ladder	1	ea	\$1,844.55	\$1,845
Stairs				
Entrance Stairs, on grade	350	lf	\$65.00	\$22,750
Mechanical Room Stair				
Precast stair, 4' wide including steel stringers, assume	18	riser	\$320.00	\$5,760
Precast landing	40	sf	\$55.00	\$2,200
Handrail, assume 2 line pipe rail	16	lf	\$360.00	\$5,760
Mezzanine Stair				
Precast stair, 4' wide including steel stringers, assume	36	riser	\$320.00	\$11,520
Handrail, assume 2 line pipe rail	66	lf	\$360.00	\$23,760

Total - Stairs and Vertical Transportation				\$238,595
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10 Plumbing Systems

General plumbing				
Water heater, Double wall, plate and frame heat exchangers	1	ea	\$16,800.00	\$16,800
Circulating pump, duplex	1	ea	\$2,195.89	\$2,196
Expansion tank	1	ea	\$884.56	\$885
Local water heaters, electric	3	ea	\$1,280.00	\$3,840
Sewage ejector / Sump pump - allowance	1	ea	\$9,760.00	\$9,760
Grease / Sand / Oil interceptor	1	ea	\$15,000.00	\$15,000
Sanitary fixtures				
Water closet	12	ea	\$1,640.00	\$19,680
Urinal	4	ea	\$1,670.00	\$6,680
Lavatory	10	ea	\$1,588.00	\$15,880
Shower, exterior - next to the water	4	ea	\$1,630.00	\$6,520

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Shower, enclosed - inside the locker room	8	ea	\$1,760.00	\$14,080
Emergency Shower / Eyewash stations	1	ea	\$2,300.00	\$2,300
Drinking fountain, with bottle filling stations	2	ea	\$4,280.00	\$8,560
Sinks, Group rooms	4	ea	\$1,225.00	\$4,900
Hose bibs	12	ea	\$372.69	\$4,472
Floor drains	10	ea	\$657.00	\$6,570
Trench drains for pool area - corrosion resistant HDPE	20	ea	\$950.00	\$19,000
Rough ins				
Local rough-in at fixture	45	ea	\$917.00	\$41,265
Rough-in at floor sink or floor drain	30	ea	\$1,086.00	\$32,580
Rough-ins to OFCI commercial kitchen: cold and hot water, direct and indirect	6	ea	\$1,000.00	\$6,000
Make up water for swimming pool	1	ea	\$6,500.00	\$6,500
Domestic water piping	26,000	gsf	\$3.80	\$98,800
Waste / vent piping	26,000	gsf	\$4.00	\$104,000
Roof / storm drainage				
RD/OD - Roof drain with Overhead drain	8	ea	\$715.00	\$5,720
3" pipe, ci, no-hub, in bldg	580	lf	\$54.96	\$31,877
4" pipe, ci, no-hub, in bldg	410	lf	\$64.45	\$26,425
Condensate drainage	26,000	gsf	\$0.50	\$13,000
Miscellaneous	26,000	gsf	\$3.00	\$78,000

Total - Plumbing Systems \$601,289

11 Heating, Ventilation and Air Conditioning

Wet side equipment: chiller, boiler, pumps etc.	26,000	gsf	\$12.00	\$312,000
Chilled water piping distribution	26,000	gsf	\$2.00	\$52,000
Hot water piping distribution	26,000	gsf	\$5.00	\$130,000
Air-Side Equipment				
AHU-1, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
AHU-2, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
FCU, Fan coil units for IDF / MDF rooms	2	ea	\$3,851.00	\$7,702
VAV terminal boxes, with reheat coil	24	ea	\$1,840.00	\$44,160
EF, Exhaust fan, inline, Greenheck	6,200	cfm	\$3.85	\$23,870
Air Distribution				
Ductwork, galv - protected with epoxy based paint	22,000	lb	\$12.50	\$275,000
Ductwork, stainless steel	3,000	lb	\$29.14	\$87,420
Duct insulation	12,000	sf	\$3.86	\$46,320
Combination fire / smoke damper	16	ea	\$950.00	\$15,200
Grilles, registers and diffusers, including dampers and flex duct	26,000	sf	\$2.50	\$65,000
Acoustical attenuation	2	ea	\$4,500.00	\$9,000
Ventilation premium for PHIUS+ requirements, allowance	1	ls	\$300,000.00	\$300,000
Miscellaneous testing & commissioning				
Test / balance HVAC	200	hr	\$153.14	\$30,628
Start-up/check-out	160	hr	\$121.93	\$19,509

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Commissioning assist	160	hr	\$121.93	\$19,509
Piping identification: labels, arrows and valve tags	200	ea	\$27.60	\$5,520
Seismic and vibration requirements	1	ea	\$25,000.00	\$25,000
HVAC Controls				
DDC controls to plumbing systems	1	ls	\$5,000.00	\$5,000
DDC controls, air handlers	2	ea	\$14,800.00	\$29,600
DDC controls, vav box, reheat coils	24	ea	\$1,957.00	\$46,968
DDC controls, general exhaust fan	4	ea	\$1,314.00	\$5,256
DDC controls, smoke damper monitor	16	ea	\$952.00	\$15,232
DDC misc. items, training, integration	200	hr	\$140.00	\$28,000
DDC controls for pools	1	ls	\$30,000.00	\$30,000

Total - Heating, Ventilation and Air Conditioning				\$2,027,894
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12 Electrical Lighting, Power and Communications

Service & Distribution Equipment

Main switchboard, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$47,909.94	\$47,910
Distribution board, 400 amp, 120/208v, 3ph, 4w	1	ea	\$20,358.56	\$20,359
Panelboard, 225 amp, 120/208v, 3ph, 4w	3	ea	\$2,578.77	\$7,736
Feeder, 225 amp, emt	125	lf	\$57.58	\$7,197
Feeder, 400 amp, emt	150	lf	\$105.75	\$15,862
Feeder, 1200 amp, PVC	50	lf	\$267.02	\$13,351
Conduit, 1 1/4" pvc	100	lf	\$6.75	\$675
Copper wire, #8 thhn	100	lf	\$1.00	\$100
Copper wire, #4 thhn	200	lf	\$1.78	\$355

HVAC & Equipment Connections

AHU-1	1	ea	\$1,028.29	\$1,028
AHU-2	1	ea	\$1,028.29	\$1,028
FCU	2	ea	\$226.51	\$453
EF, Exhaust Fans	4	ea	\$191.67	\$767
Disconnect switch, 60/3 fused N1	2	ea	\$734.97	\$1,470
Disconnect switch, motor rated N3R	4	ea	\$418.91	\$1,676
Disconnect switch, 200/3 fused N3R	2	ea	\$2,273.14	\$4,546
Disconnect elevator switch, 60/3 fused N1	1	ea	\$2,443.87	\$2,444
Equipment feeder, 20 amp	950	lf	\$17.93	\$17,030
Equipment feeder, 60 amp	200	lf	\$21.25	\$4,251
Equipment feeder, 200 amp	225	lf	\$27.35	\$6,154

Convenience Power

Duplex receptacle, 20 amp	47	ea	\$91.10	\$4,282
Double duplex receptacle, 20 amp	3	ea	\$121.42	\$364
Duplex receptacle, 20 amp GFCI	12	ea	\$107.07	\$1,285
Double duplex receptacle, 20 amp GFCI wp	2	ea	\$160.76	\$322
Branch power, 20 amp	2,250	lf	\$16.06	\$36,142
10/2 armored cable	1,400	lf	\$5.65	\$7,904

Si View Aquatics Center

North Bend, WA
Schematic Design

Project # 18-01475
08/20/19

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Lighting & Lighting Controls				
Down Lights Phase #1	283	ea	\$255.81	\$72,393
Pool Flood Light High Bay	50	ea	\$765.60	\$38,280
Mezzanine Lighting	20	ea	\$524.44	\$10,489
Exit Lighting	14	ea	\$294.00	\$4,116
Lighting control panel	1	ea	\$4,624.80	\$4,625
Single pole switch	2	ea	\$94.64	\$189
Dimmer three way switch	8	ea	\$229.67	\$1,837
Occupancy sensor, ceiling mounted	8	ea	\$242.18	\$1,937
Occupancy sensor, wall mounted	8	ea	\$204.64	\$1,637
Lighting branch power, fixtures	3,530	lf	\$16.06	\$56,702
Lighting branch power, controls	110	lf	\$15.40	\$1,694
Fire Alarm System				
FA control panel	1	ea	\$10,818.26	\$10,818
FA annunciator panel	1	ea	\$2,538.97	\$2,539
FA beam sensor	2	ea	\$1,485.48	\$2,971
FA duct smoke detector	2	ea	\$635.84	\$1,272
FA flow switch	1	ea	\$550.84	\$551
FA heat detector	1	ea	\$319.54	\$320
FA pull station	2	ea	\$337.81	\$676
FA smoke detector	2	ea	\$320.96	\$642
FA tamper switch	1	ea	\$499.45	\$499
FA horn strobe unit, wall mount	8	ea	\$183.08	\$1,465
Conduit, 3/4" emt	3,150	lf	\$10.17	\$32,030
Fire alarm cable rated, 4C	3,150	lf	\$3.74	\$11,775
Telecommunications System				
Tele/data outlet, 2 port	14	ea	\$127.21	\$1,781
Wireless access point	6	ea	\$295.12	\$1,771
Fire treated plywood	1	ea	\$288.67	\$289
Main telecommunication grounding busbar	1	ea	\$1,494.17	\$1,494
Conduit, 3/4" emt	1,400	lf	\$10.17	\$14,236
CAT-6, 4 pair 23 AWG, UTP	1,400	lf	\$1.03	\$1,436
Public Address System				
Clock/speaker	4	ea	\$591.80	\$2,367
PA speaker	32	ea	\$194.31	\$6,218
Conduit, 3/4" emt	3,600	lf	\$10.17	\$36,606
PA system speaker cable	3,650	lf	\$1.06	\$3,855
Distributed Antenna System	26,000	gsf	\$1.25	\$32,500
Security, Access Control & CCTV Systems				
CCTV PTZ IP camera, outdoor	3	ea	\$3,330.81	\$9,992
CCTV fixed IP camera	6	ea	\$898.74	\$5,392
DVR, 4TB storage	1	ea	\$1,431.10	\$1,431
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CCTV cabling	600	lf	\$1.31	\$784

DETAIL ELEMENTS - WEST WING

Element	Quantity	Unit	Unit Cost	Total
Access control system				
Access control panel	1	ea	\$5,066.69	\$5,067
Access control panel power supply	1	ea	\$515.99	\$516
Card reader, proximity type	6	ea	\$407.77	\$2,447
Alarm contact, flush mount	4	ea	\$175.86	\$703
Conduit, 3/4" emt	1,200	lf	\$10.17	\$12,202
Access control cable	1,200	lf	\$1.32	\$1,588
Miscellaneous				
Small tools	57	hr	\$80.30	\$4,577
Consumables	1	ls	\$8,281.00	\$8,281
Equipment rentals	1	ls	\$9,661.00	\$9,661
Testing/commissioning	1	ls	\$6,900.00	\$6,900

Total - Electrical Lighting, Power and Communications				\$642,343
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13 Fire Protection Systems

New hydraulically calculated wet pipe automatic fire sprinkler system				
Wet-pipe fire sprinkler, complete	26,000	gsf	\$7.00	\$182,000
316 Stainless Steel piping, premium	1	ea	\$35,000.00	\$35,000
FM 200 preaction systems, Electrical / data rooms - allowance				Assume Not Needed
Fire sprinkler for chemical storage room, premium	1	ea	\$12,000.00	\$12,000

Total - Fire Protection Systems				\$229,000
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Option B- East Wing

SUMMARY - EAST WING

Element	Subtotal	Total	Cost / SF	Cost / SF
A) Shell (1-5)		\$3,759,449		\$187.97
1 Foundations	\$757,408		\$37.87	
2 Vertical Structure	\$497,628		\$24.88	
3 Floor & Roof Structures	\$601,300		\$30.07	
4 Exterior Cladding	\$1,538,638		\$76.93	
5 Roofing and Waterproofing	\$364,476		\$18.22	
B) Interiors (6-7)		\$757,645		\$37.88
6 Interior Partitions, Doors and Glazing	\$315,578		\$15.78	
7 Floor, Wall and Ceiling Finishes	\$442,067		\$22.10	
C) Equipment and Vertical Transportation (8-9)		\$2,038,799		\$101.94
8 Function Equipment and Specialties	\$2,019,299		\$100.96	
9 Stairs and Vertical Transportation	\$19,500		\$0.98	
D) Mechanical and Electrical (10-13)		\$3,080,636		\$154.03
10 Plumbing Systems	\$569,494		\$28.47	
11 Heating, Ventilation and Air Conditioning	\$1,778,361		\$88.92	
12 Electrical Lighting, Power and Communications	\$549,281		\$27.46	
13 Fire Protection Systems	\$183,500		\$9.18	
Subtotal		\$9,636,530		\$481.83
General Conditions	7.00%	\$674,557		\$33.73
Subtotal		\$10,311,087		\$515.55
General Requirements	3.00%	\$309,333		\$15.47
Subtotal		\$10,620,420		\$531.02
Bonds & Insurance	2.00%	\$212,408		\$10.62
Subtotal		\$10,832,828		\$541.64
Contractor's Fee	4.00%	\$433,313		\$21.67
Subtotal		\$11,266,141		\$563.31
Design Contingency	10.00%	\$1,126,614		\$56.33
Subtotal		\$12,392,755		\$619.64
Construction Contingency	3.00%	\$371,783		\$18.59
Subtotal		\$12,764,538		\$638.23
Escalation to MOC, 08/01/22	14.05%	\$1,792,922		\$89.65
Subtotal		\$14,557,459		\$727.87
WSST	8.90%	\$1,422,189		\$71.11
TOTAL ESTIMATED CONSTRUCTION COST		\$15,979,648		\$798.98

Total Area: 20,000 SF

DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
1 Foundations				
Earthwork				
Field staking/layout	20,000	gsf	\$0.15	\$3,000
Clear and grub site	20,000	gsf	\$0.12	\$2,400
Mass excavation	2,437	cy	\$10.78	\$26,276
Backfill, basement	1,212	cy	\$17.13	\$20,766
Haul excess, 10 mile round trip	1,225	cy	\$19.39	\$23,757
Fine grading	20,000	gsf	\$0.35	\$7,000
Erosion control	20,000	gsf	\$0.06	\$1,200
Pools Earthwork				
Mass Excavation				
Swimming pool	1,971	cy	\$10.78	\$21,244
Surge tank	288	cy	\$16.93	\$4,876
Backfill				
Swimming pool				
Surge tank	237	cy	\$17.13	\$4,062
Haul Excess				
Swimming pool	2,365	cy	\$19.39	\$45,854
Surge tank	62	cy	\$19.39	\$1,205
Miscellaneous hauling, allowance	500	cy	\$19.39	\$9,695
Foundations				
Continuous Footings assumed 3' wide x 3' deep, at perimeter and basement walls				
Concrete, continuous footings, 4000 psi	301	cy	\$249.65	\$75,145
Formwork, continuous footings	4,920	sf	\$7.75	\$38,130
Foundation reinforcing, assume 150 #/cy	45,100	lbs	\$1.49	\$67,199
Excavation	607	cy	\$21.64	\$13,135
Backfill	334	cy	\$18.75	\$6,263
Haul excess	273	cy	\$19.39	\$5,293
Spread Footings				
Foundation, conventional, excluding pool areas	13,784	gsf	\$12.50	\$172,300
Slab On Grade, excluding pool areas				
Concrete, slab on grade, 4000 psi	281	cy	\$242.06	\$68,019
Formwork, slab on grade	590	lf	\$8.17	\$4,820
Sand base, 4"	13,784	sf	\$2.03	\$27,982
Gravel sub base, 6"	13,784	sf	\$1.81	\$24,949
Slab on grade reinforcing, assumed 2.5 #/sf	37,906	lbs	\$1.49	\$56,480
Finish to slab	13,784	sf	\$0.84	\$11,579
Vapor barrier	13,784	sf	\$0.44	\$6,065
Concrete, slab on grade, add for thickened edges	36	cy	\$242.06	\$8,714

Total - Foundations				\$757,408
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DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
2 Vertical Structure				
Concrete				
Stem Walls, assume 30" wide x 24" high				
Concrete, walls 5000 psi	47	cy	\$266.24	\$12,513
Formwork, walls	920	sf	\$16.77	\$15,428
Wall reinforcing, assume 200 #/cy	9,370	lbs	\$1.58	\$14,805
Finish to walls	460	sf	\$0.83	\$382
Allow for bench finish, wood assumed	230	lf	\$150.00	\$34,500
Structural Steel				
Vertical steel framing, allowance	20,000	gsf	\$15.00	\$300,000
Metals				
Miscellaneous bracing	10	loc	\$9,000.00	\$90,000
Miscellaneous metals	20,000	gsf	\$1.50	\$30,000
Total - Vertical Structure				\$497,628

3 Floor & Roof Structures				
Rough Carpentry- Roof Framing				
30" x 8 3/4" glu-lam	960	lf	\$82.00	\$78,720
70" x 8 3/4" glu-lam	110	lf	\$191.00	\$21,010
Tie rod with 18" steel circular turnbuckle	960	lf	\$24.00	\$23,040
Horizontal wood framing, truss allowance	20,000	gsf	\$10.00	\$200,000
T&G wood decking, flat roof, 5/8"	6,643	sf	\$4.00	\$26,572
8" DLT roof panels	13,611	sf	\$18.00	\$244,998
Metals				
Light support, assume 10 #/lf	2,400	lb	\$2.90	\$6,960
Total - Floor & Roof Structures				\$601,300

4 Exterior Cladding				
Aquatics Center Building Envelope				
Exterior walls, densglass sheathing	9,600	sf	\$3.64	\$34,944
Rigid insulation, exterior walls	9,600	sf	\$1.83	\$17,568
Metal Panel Rainscreen System	5,316	sf	\$100.00	\$531,600
Random Rough Cedar Siding Rainscreen System	4,284	sf	\$80.00	\$342,720
Aluminum windows/storefront, vision glazing, generic	3,193	sf	\$121.06	\$386,545
Storefront with Rainscreen System	755	sf	\$181.59	\$137,100
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$5,485.63	\$5,486
Aluminum door sets, frames and hardware, glazed, double	3	pr	\$10,891.72	\$32,675
Louver allowance	1	ls	\$50,000.00	\$50,000
Total - Exterior Cladding				\$1,538,638

DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
5 Roofing and Waterproofing				
Roofing				
Single ply membrane roofing	20,254	sf	\$7.84	\$158,791
Rigid roof insulation, poly iso insulation	20,254	sf	\$5.75	\$116,461
Flashing / Counterflashing				
Aluminum coping at parapets	460	lf	\$35.04	\$16,118
Base flashings at base of parapets	460	lf	\$37.65	\$17,319
Roof Accessories				
Aluminum gutters	110	lf	\$27.72	\$3,049
Aluminum downspouts	50	lf	\$27.72	\$1,386
Miscellaneous accessories	20,000	gsf	\$2.00	\$40,000
Miscellaneous				
Crickets	584	sf	\$6.41	\$3,743
Caulking allowance	20,254	gfa	\$0.03	\$608
Miscellaneous				
Caulking & sealant allowance	20,000	gsf	\$0.35	\$7,000

Total - Roofing and Waterproofing				\$364,476
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6 Interior Partitions, Doors and Glazing

Partition Walls				
Partition wall 11' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	934	sf	\$11.36	\$10,610
Bolt top stud channel to structure above incl. double top track	81	lf	\$24.65	\$1,997
Bolt bottom stud channel to concrete floor	81	lf	\$12.73	\$1,031
Gypsum board, 5/8" thick, finished (I4), type X	1,868	sf	\$3.49	\$6,519
Sound batt insulation, unbacked	934	sf	\$1.34	\$1,252
Partition wall 9' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	741	sf	\$11.36	\$8,418
Bolt top stud channel to structure above incl. double top track	78	lf	\$24.65	\$1,923
Bolt bottom stud channel to concrete floor	78	lf	\$12.73	\$993
Gypsum board, 5/8" thick, finished (I4), type X	1,482	sf	\$3.49	\$5,172
Sound batt insulation, unbacked	741	sf	\$1.34	\$993
Partition wall - wet - 9' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	2,566	sf	\$11.36	\$29,150
Bolt top stud channel to structure above incl. double top track	270	lf	\$24.65	\$6,656
Bolt bottom stud channel to concrete floor	270	lf	\$12.73	\$3,437
Gypsum board, 5/8" thick, finished (I4), type X	2,432	sf	\$3.49	\$8,488
Sound batt insulation, unbacked	2,566	sf	\$1.34	\$3,438
Vapor barrier	2,970	sf	\$0.39	\$1,158
Backer board	2,700	sf	\$4.94	\$13,338
Ceramic tile, walls	2,700	sf	\$19.08	\$51,516
Partition wall - wet - one-sided 9' 6" high				
Metal studs, 3 5/8", 20 Ga., at 16" o.c.	812	sf	\$11.36	\$9,224

Si View Aquatics Center

North Bend, WA
Schematic Design

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DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
Bolt top stud channel to structure above incl. double top track	86	lf	\$24.65	\$2,120
Bolt bottom stud channel to concrete floor	86	lf	\$12.73	\$1,095
Gypsum board, 5/8" thick, finished (I4), type X	1,194	sf	\$3.49	\$4,167
Sound batt insulation, unbacked	812	sf	\$1.34	\$1,088
Vapor barrier	473	sf	\$0.39	\$184
Backer board	430	sf	\$4.94	\$2,124
Ceramic tile, walls	430	sf	\$19.08	\$8,204
Interior of exterior walls				
Interior of exterior, 5/8" thick gypsum board X, finished	1,264	sf	\$3.49	\$4,411
Interior Glazing				
Interior glazing				
Interior storefront - 9' 6" high	1,027	sf	\$87.59	\$89,955
Interior storefront - 11' 6" high	31	sf	\$87.59	\$2,715
Interior Openings				
Doors				
Aluminum door sets, frames and hardware, glazed, single, tempered gla	2	ea	\$5,485.63	\$10,971
SC wood door incl. AL frame and hardware, single, 3' 0" x 7' 0"	5	ea	\$2,308.01	\$11,540
SC wood door incl. AL frame and hardware, double, 6' 0" x 7' 0"	2	pr	\$4,469.80	\$8,940
Hardware premium	11	leaves	\$250.00	\$2,750

Total - Interior Partitions, Doors and Glazing				\$315,578
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7 Floor, Wall and Ceiling Finishes

Flooring & Base				
Sealed concrete	1,151	sf	\$1.84	\$2,118
Floor prep/leveling	4,250	sf	\$9.62	\$40,885
Rubber athletic flooring	2,330	sf	\$13.81	\$32,177
Carpet tile	179	sf	\$5.09	\$911
Ceramic tile	4,071	sf	\$18.49	\$75,273
Resilient base	519	lf	\$5.27	\$2,735
Ceramic tile, base	626	lf	\$18.45	\$11,550
Ceiling				
Acoustical ceiling tile, suspended, includes suspension system	3,096	sf	\$5.06	\$15,666
Gypsum board ceilings, incl. framing	3,423	sf	\$11.12	\$38,064
Wood Slat Ceiling, allowance	3,000	sf	\$40.00	\$120,000
Wall finishes, misc.				
Allowance	8,240	sf	\$2.50	\$20,600
Painting and Coating				
Paint walls	8,240	sf	\$0.78	\$6,427
Paint ceilings	3,423	sf	\$0.89	\$3,046
Concrete pool epoxy deck paint	4,841	sf	\$15.00	\$72,615

Total - Floor, Wall and Ceiling Finishes				\$442,067
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DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
8 Function Equipment and Specialties				
Interior Specialties				
Toilet Cubicles				
Standard, stainless steel	25	ea	\$1,917.89	\$47,947
Handicap, stainless steel	5	ea	\$2,066.93	\$10,335
Toilet / Restroom Specialties				
Bathroom mirrors	16	sf	\$39.65	\$634
Coat hook	7	ea	\$30.31	\$212
Grab bars	8	ea	\$203.72	\$1,630
Janitor mop sink rack	1	ea	\$136.15	\$136
Paper towel dispenser combo unit, recessed	11	ea	\$367.67	\$4,044
Seat cover dispenser	16	ea	\$139.12	\$2,226
Shower accessories, per stall	10	ea	\$1,053.35	\$10,534
Soap dispenser	16	ea	\$98.38	\$1,574
Toilet paper dispenser	16	ea	\$86.46	\$1,383
Storage Specialties				
Lockers, 2-tier incl. concrete base	18	ea	\$263.33	\$4,740
Locker room benches	39	lf	\$150.00	\$5,850
Other Specialties				
Handrail - free-standing	43	lf	\$250.00	\$10,750
Miscellaneous specialty allowance	20,000	sf	\$1.00	\$20,000
Interior signage, code	20,000	sf	\$0.15	\$3,000
Fire extinguisher and cabinet, allowance	8	ea	\$444.31	\$3,554
Rough Carpentry				
Additional blocking, support backing, stiffeners, etc.	20,000	sf	\$1.01	\$20,200
Casework				
Exercise Room casework - 36"	60	lf	\$329.78	\$19,787
Restroom vanity counter - 24"	52	lf	\$191.93	\$9,980
Window Covering				
Mechoshades, motorized	3,117	sf	\$21.13	\$65,862
Pool Construction (Cost provided by Aquatics Design Group dated 8/8/2019)				
Recreational pool, construction cost	6,216	sf	\$253.85	\$1,577,920
Recreational pool, equipment cost	6,216	sf	\$29.76	\$185,000
Spectator Seating				
Permanent bleachers	80	seat	\$150.00	\$12,000

Total - Function Equipment and Specialties				\$2,019,299
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9 Stairs and Vertical Transportation				
Entrance Stairs, on grade	300	lf	\$65.00	\$19,500

Total - Stairs and Vertical Transportation				\$19,500
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DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
10 Plumbing Systems				
General plumbing				
Water heater, Double wall, plate and frame heat exchangers	1	ea	\$16,800.00	\$16,800
Circulating pump, duplex	1	ea	\$2,195.89	\$2,196
Expansion tank	1	ea	\$884.56	\$885
Local water heaters, electric	1	ea	\$1,280.00	\$1,280
Sewage ejector / Sump pump - allowance	1	ea	\$9,760.00	\$9,760
Grease / Sand / Oil interceptor	1	ea	\$15,000.00	\$15,000
Sanitary fixtures				
Water closet	15	ea	\$1,640.00	\$24,600
Urinal	4	ea	\$1,670.00	\$6,680
Lavatory	16	ea	\$1,588.00	\$25,408
Shower, exterior - next to the water	4	ea	\$1,630.00	\$6,520
Shower, enclosed - inside the locker room	10	ea	\$1,760.00	\$17,600
Emergency Shower / Eyewash stations	1	ea	\$2,300.00	\$2,300
Drinking fountain, with bottle filling stations	2	ea	\$4,280.00	\$8,560
Sink, Janitor	1	ea	\$1,025.00	\$1,025
Hose bibs	10	ea	\$372.69	\$3,727
Floor drains	10	ea	\$657.00	\$6,570
Trench drains for pool area - corrosion resistant HDPE	30	ea	\$950.00	\$28,500
Rough ins				
Local rough-in at fixture	53	ea	\$917.00	\$48,601
Rough-in at floor sink or floor drain	40	ea	\$1,086.00	\$43,440
Rough-ins to OFCI Flex room / Exercise: cold and hot water, direct and indire	2	ea	\$1,000.00	\$2,000
Make up water for swimming pool	1	ea	\$10,000.00	\$10,000
Domestic water piping	20,000	gsf	\$4.00	\$80,000
Waste / vent piping	20,000	gsf	\$4.20	\$84,000
Roof / storm drainage				
RD/OD - Roof drain with Overhead drain	6	ea	\$715.00	\$4,290
3" pipe, ci, no-hub, in bldg	530	lf	\$54.96	\$29,129
4" pipe, ci, no-hub, in bldg	320	lf	\$64.45	\$20,624
Condensate drainage	20,000	gsf	\$0.50	\$10,000
Miscellaneous	20,000	gsf	\$3.00	\$60,000

Total - Plumbing Systems				\$569,494
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11 Heating, Ventilation and Air Conditioning				
Wet side equipment: chiller, boiler, pumps etc.	20,000	gsf	\$12.00	\$240,000
Chilled water piping distribution	20,000	gsf	\$2.00	\$40,000
Hot water piping distribution	20,000	gsf	\$5.00	\$100,000
Air-Side Equipment				
AHU-1, Air handling unit, outdoor, vav, modular	20,000	cfm	\$10.00	\$200,000
AHU-2, Air handling unit, outdoor, vav, modular	15,000	cfm	\$10.00	\$150,000

Si View Aquatics Center

North Bend, WA
Schematic Design

Project # 18-01475
08/20/19

DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
FCU, Fan coil units for IDF / MDF rooms	1	ea	\$3,851.00	\$3,851
VAV terminal boxes, with reheat coil	22	ea	\$1,840.00	\$40,480
EF, Exhaust fan, inline, Greenheck	6,000	cfm	\$3.85	\$23,100
Air Distribution				
Ductwork, galv - protected with epoxy based paint	20,000	lb	\$12.50	\$250,000
Ductwork, stainless steel	3,000	lb	\$29.14	\$87,420
Duct insulation	11,500	sf	\$3.86	\$44,390
Combination fire / smoke damper	14	ea	\$950.00	\$13,300
Grilles, registers and diffusers, including dampers and flex duct	20,000	sf	\$2.50	\$50,000
Acoustical attenuation	2	ea	\$4,500.00	\$9,000
Ventilation premium for PHIUS+ requirements, allowance	1	ls	\$300,000.00	\$300,000
Miscellaneous testing & commissioning				
Test / balance HVAC	160	hr	\$153.14	\$24,502
Start-up/check-out	120	hr	\$121.93	\$14,632
Commissioning assist	120	hr	\$121.93	\$14,632
Piping identification: labels, arrows and valve tags	160	ea	\$27.60	\$4,416
Seismic and vibration requirements	1	ea	\$20,000.00	\$20,000
HVAC Controls				
DDC controls to plumbing systems	1	ls	\$5,000.00	\$5,000
DDC controls, air handlers	2	ea	\$14,800.00	\$29,600
DDC controls, vav box, reheat coils	22	ea	\$1,957.00	\$43,054
DDC controls, general exhaust fan	4	ea	\$1,314.00	\$5,256
DDC controls, smoke damper monitor	14	ea	\$952.00	\$13,328
DDC misc. items, training, integration	160	hr	\$140.00	\$22,400
DDC controls for pools	1	ls	\$30,000.00	\$30,000

Total - Heating, Ventilation and Air Conditioning **\$1,778,361**

12 Electrical Lighting, Power and Communications

Service & Distribution Equipment

Main switchboard, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$47,909.94	\$47,910
Pool Eq. Distribution board, 400 amp, 120/208v, 3ph, 4w	1	ea	\$20,358.56	\$20,359
Panelboard, 225 amp, 120/208v, 3ph, 4w	3	ea	\$2,578.77	\$7,736
Feeder, 225 amp, emt	125	lf	\$57.58	\$7,197
Feeder, 400 amp, emt	150	lf	\$105.75	\$15,862
Feeder, 1200 amp, PVC	50	lf	\$267.02	\$13,351
Conduit, 1 1/4" pvc	100	lf	\$6.75	\$675
Copper wire, #8 thhn	100	lf	\$1.00	\$100
Copper wire, #4 thhn	200	lf	\$1.78	\$355

HVAC & Equipment Connections

AHU-1	1	ea	\$1,028.29	\$1,028
AHU-2	1	ea	\$1,028.29	\$1,028
FCU	2	ea	\$226.51	\$453
EF, Exhaust Fans	4	ea	\$191.67	\$767

DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
Disconnect switch, 60/3 fused N1	2	ea	\$734.97	\$1,470
Disconnect switch, motor rated N3R	4	ea	\$418.91	\$1,676
Disconnect switch, 200/3 fused N3R	2	ea	\$2,273.14	\$4,546
Disconnect elevator switch, 60/3 fused N1	1	ea	\$2,443.87	\$2,444
Equipment feeder, 20 amp	950	lf	\$17.93	\$17,030
Equipment feeder, 60 amp	200	lf	\$21.25	\$4,251
Equipment feeder, 200 amp	225	lf	\$27.35	\$6,154
Convenience Power				
Duplex receptacle, 20 amp	42	ea	\$91.10	\$3,826
Double duplex receptacle, 20 amp	3	ea	\$121.42	\$364
Duplex receptacle, 20 amp GFCI	8	ea	\$107.07	\$857
Double duplex receptacle, 20 amp GFCI wp	2	ea	\$160.76	\$322
Branch power, 20 amp	1,870	lf	\$16.06	\$30,038
10/2 armored cable	1,269	lf	\$5.65	\$7,164
Lighting & Lighting Controls				
Down Lights Phase #1	196	ea	\$255.81	\$50,138
Pool Flood Light High Bay	58	ea	\$765.60	\$44,405
Exit Lighting	8	ea	\$294.00	\$2,352
Lighting control panel	1	ea	\$4,624.80	\$4,625
Single pole switch	2	ea	\$94.64	\$189
Occupancy sensor, ceiling mounted	8	ea	\$242.18	\$1,937
Occupancy sensor, wall mounted	8	ea	\$204.64	\$1,637
Lighting branch power, fixtures	3,530	lf	\$16.06	\$56,702
Lighting branch power, controls	110	lf	\$15.40	\$1,694
Fire Alarm System				
FA control panel	1	ea	\$10,818.26	\$10,818
FA annunciator panel	1	ea	\$2,538.97	\$2,539
FA beam sensor	2	ea	\$1,485.48	\$2,971
FA duct smoke detector	2	ea	\$635.84	\$1,272
FA flow switch	1	ea	\$550.84	\$551
FA heat detector	1	ea	\$319.54	\$320
FA pull station	2	ea	\$337.81	\$676
FA smoke detector	2	ea	\$320.96	\$642
FA tamper switch	1	ea	\$499.45	\$499
FA horn strobe unit, wall mount	4	ea	\$183.08	\$732
Conduit, 3/4" emt	2,450	lf	\$10.17	\$24,913
Fire alarm cable rated, 4C	2,450	lf	\$3.74	\$9,158
Telecommunications System				
Tele/data outlet, 2 port	4	ea	\$127.21	\$509
Wireless access point	2	ea	\$295.12	\$590
Fire treated plywood	1	ea	\$288.67	\$289
Main telecommunication grounding busbar	1	ea	\$1,494.17	\$1,494
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CAT-6, 4 pair 23 AWG, UTP	600	lf	\$1.03	\$615

DETAIL ELEMENTS - EAST WING

Element	Quantity	Unit	Unit Cost	Total
Public Address System				
Clock/speaker	4	ea	\$591.80	\$2,367
PA speaker	20	ea	\$194.31	\$3,886
Conduit, 3/4" emt	2,400	lf	\$10.17	\$24,404
PA system speaker cable	2,400	lf	\$1.06	\$2,535
Distributed Antenna System	20,000	gsf	\$1.25	\$25,000
Security, Access Control & CCTV Systems				
CCTV PTZ IP camera, outdoor	3	ea	\$3,330.81	\$9,992
CCTV fixed IP camera	6	ea	\$898.74	\$5,392
DVR, 4TB storage	1	ea	\$1,431.10	\$1,431
Conduit, 3/4" emt	600	lf	\$10.17	\$6,101
CCTV cabling	600	lf	\$1.31	\$784
Access control system				
Access control panel	1	ea	\$5,066.69	\$5,067
Access control panel power supply	1	ea	\$515.99	\$516
Card reader, proximity type	3	ea	\$407.77	\$1,223
Alarm contact, flush mount	3	ea	\$175.86	\$528
Conduit, 3/4" emt	850	lf	\$10.17	\$8,643
Access control cable	850	lf	\$1.32	\$1,125
Miscellaneous				
Small tools	45	hr	\$80.30	\$3,614
Consumables	1	ls	\$7,114.00	\$7,114
Equipment rentals	1	ls	\$8,300.00	\$8,300
Testing/commissioning	1	ls	\$5,928.00	\$5,928

Total - Electrical Lighting, Power and Communications **\$549,281**

13 Fire Protection Systems

New hydraulically calculated wet pipe automatic fire sprinkler system				
Wet-pipe fire sprinkler, complete	20,000	gsf	\$7.00	\$140,000
316 Stainless Steel piping, premium	1	ea	\$35,000.00	\$35,000
Fire sprinkler for chemical storage room, premium	1	ea	\$8,500.00	\$8,500

Total - Fire Protection Systems **\$183,500**

Site Option 2

SUMMARY - SITE OPTION 2

Element	Subtotal	Total	Cost / SF	Cost / SF
D) Mechanical and Electrical (10-13)		\$1,041,759		\$4.53
12 Electrical Lighting, Power and Communications	\$1,041,759		\$4.53	
13 Fire Protection Systems				
E) Site Construction (14-16)		\$1,921,441		\$8.35
14 Site Preparation and Demolition	\$225,943		\$0.98	
15 Site Paving, Structures & Landscaping	\$1,469,662		\$6.39	
16 Utilities on Site	\$225,836		\$0.98	
Subtotal		<u>\$2,963,200</u>		<u>\$12.88</u>
General Conditions	7.00%	\$207,424		\$0.90
Subtotal		<u>\$3,170,624</u>		<u>\$13.79</u>
General Requirements	3.00%	\$95,119		\$0.41
Subtotal		<u>\$3,265,742</u>		<u>\$14.20</u>
Bonds & Insurance	2.00%	\$65,315		\$0.28
Subtotal		<u>\$3,331,057</u>		<u>\$14.48</u>
Contractor's Fee	4.00%	\$133,242		\$0.58
Subtotal		<u>\$3,464,300</u>		<u>\$15.06</u>
Design Contingency	10.00%	\$346,430		\$1.51
Subtotal		<u>\$3,810,730</u>		<u>\$16.57</u>
Construction Contingency	3.00%	\$114,322		\$0.50
Subtotal		<u>\$3,925,051</u>		<u>\$17.07</u>
Escalation to MOC	32.84%	\$1,289,095		\$5.60
Subtotal		<u>\$5,214,147</u>		<u>\$22.67</u>
WSST	8.90%	\$509,395		\$2.21
TOTAL ESTIMATED CONSTRUCTION COST		\$5,723,542		\$24.88

Total Area: 230,000 SF

DETAIL ELEMENTS - SITE OPTION 2

Element	Quantity	Unit	Unit Cost	Total
12 Electrical Lighting, Power and Communications				
Site Electrical				
Distribution equipment				
Distribution board, 1200 amp, 120/208v, 3ph, 4w	1	ea	\$38,964.49	\$38,964
Generator, diesel, 800kW, 480v, 3ph, 4w	1	ea	\$319,667.53	\$319,668
Automatic transfer switch, 1000/4	2	ea	\$19,221.11	\$38,442
Feeder, 70 amp, PVC	700	lf	\$388.76	\$272,133
Feeder, 2000 amp, PVC	150	lf	\$388.76	\$58,314
Lighting and lighting control				
Site Lighting Pole Lights	28	ea	\$3,898.27	\$109,152
Bollard Walk way lights	10	ea	\$1,964.76	\$19,648
Conduit, 1" pvc	3,500	lf	\$5.65	\$19,762
Copper wire, #10 thhn	10,000	lf	\$0.74	\$7,381
Site Lighting Trenching and backfill	3,800	lf	\$12.00	\$45,600
Demolition	80	hr	\$80.30	\$6,424
Site service and distribution				
Conduit, 4" pvc	310	lf	\$18.28	\$5,666
Pull box, 36x60x36	2	ea	\$6,192.56	\$12,385
Trenching, backfill and compaction	310	lf	\$67.76	\$21,006
Site communications				
Conduit, 4" pvc	300	lf	\$18.28	\$5,484
Pull box, 48"x72"x48" Telecommunication	2	ea	\$5,977.06	\$11,954
Miscellaneous				
Small tools	21	hr	\$80.30	\$1,686
Consumables	1	ls	\$16,030.00	\$16,030
Equipment rentals	1	ls	\$18,702.00	\$18,702
Testing/commissioning	1	ls	\$13,358.00	\$13,358

Total - Electrical Lighting, Power and Communications **\$1,041,759**

14 Site Preparation and Demolition

Demolition				
Demo & dispose existing structures	130,944	gsf	\$0.25	\$32,736
Grading				
Site cut / Excavate	11,611	cy	\$5.84	\$67,805
Haul excess, 10 mile round trip, allow	1,333	cy	\$19.39	\$25,851
Proof roll site	130,944	sf	\$0.34	\$44,521
Fine grade	130,944	sf	\$0.35	\$45,830
Temporary erosion and sediment control, allowance	230,000	sf	\$0.04	\$9,200

Total - Site Preparation and Demolition **\$225,943**

15 Site Paving, Structures & Landscaping

AC Paving				
Parking lot, 3" AC over 8" AB	53,716	sf	\$4.83	\$259,448

DETAIL ELEMENTS - SITE OPTION 2

Element	Quantity	Unit	Unit Cost	Total
Hardscape				
Concrete paving, 4" thick, incl. sub base, reinforcement, and finish	9,373	sf	\$9.78	\$91,668
Concrete Curbs				
Concrete curbs	2,561	lf	\$21.79	\$55,804
Concrete Ramps				
Curb cut concrete ramps	2	ea	\$1,362.83	\$2,726
Continuous concrete ramps incl. all concrete, reinforcement, sub base, edge forms, grooved finish, allow	260	sf	\$33.52	\$8,715
Concrete Stairs	100	sf	\$30.00	\$3,000
Site Walls, allow				
CIP colored concrete seatwalls, 18" high	95	lf	\$225.00	\$21,375
Retaining walls, 18" average	400	lf	\$200.00	\$80,000
Parking Lot Striping / Signage, 97 parking stalls, directional signage, and striping	1	ls	\$4,000.00	\$4,000
Planting				
Stormwater planted areas	6,677	sf	\$8.00	\$53,416
Shrubbery, allowance	35,612	sf	\$8.00	\$284,896
Shrub and turf irrigation	35,612	sf	\$1.67	\$59,472
Mulch to shrub area	35,612	sf	\$0.91	\$32,407
Tree Bubblers, allow 2 per tree	100	ea	\$150.00	\$15,000
Trees, 24" box	50	ea	\$650.00	\$32,500
Tree Guying, all trees	50	ea	\$175.00	\$8,750
Site Specialties				
Splash pad, allow	2,000	sf	\$212.50	\$425,000
Bollards, 8" square steel, allow	6	ea	\$1,080.76	\$6,485
Miscellaneous site finishes	1	ls	\$25,000.00	\$25,000
Site Furniture				
Trash and recycling receptacles				FF&E
Chairs				FF&E
Tables, allow				FF&E
Benches				FF&E
Metal Canopy				NA

Total - Site Paving, Structures & Landscaping

\$1,469,662

16 Utilities on Site

Domestic water				
4" domestic water meter	1	ea	\$21,995.78	\$21,996
4" water line, including trenching and backfill	200	lf	\$68.54	\$13,708
Gate valve, 4"	1	ea	\$776.86	\$777
4" to 8" water line tap	1	ea	\$350.00	\$350
Extend 6" (assumed) water line, including trenching and backfill	300	lf	\$77.24	\$23,172
Fire water				
6" fire line pipe	200	lf	\$105.73	\$21,146
Gate valve, 6"	1	ea	\$1,059.35	\$1,059
Fire hydrants, qty assumed	2	ea	\$6,757.59	\$13,515
6" fire department connection	1	ea	\$2,816.02	\$2,816

DETAIL ELEMENTS - SITE OPTION 2

Element	Quantity	Unit	Unit Cost	Total
Sanitary sewer				
Grease interceptor, size TBD, allow	1	ea	\$15,000.00	\$15,000
4" (assumed) lift station	1	ea	\$5,000.00	\$5,000
4" (assumed) sanitary sewer line, including trenching and backfill	300	lf	\$82.26	\$24,678
Natural gas				
2" (assumed) gas line, including trenching and backfill	200	lf	\$62.85	\$12,570
2" gas meter	1	ea	\$7,456.67	\$7,457
Storm water				
24" storm water pipe, including trenching and backfill	400	lf	\$156.48	\$62,592
Storm detention vault				Assumed Not Needed

Total - Utilities on Site				\$225,836
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APPENDIX 1 - SCOPE ASSUMPTIONS

Description	Assumed Scope
General Project Info	<ul style="list-style-type: none"> - Escalation included as shown in introduction. - Local GC laydown / compound area within proximity. - Local trade parking available both onsite (partial) and offsite. - All sub trades to be competitively bid. - Labor pool from Seattle / Tacoma.
Detailed Assumptions	
1. Substructure / Foundations	<ul style="list-style-type: none"> - Mass excavation and off haul. - Assume no soil import is needed - Conventional continuous footings / spread footings. - Concrete slab on grade - 6" thick.
2. Structure	<ul style="list-style-type: none"> - Wood & Steel framed building: glue lam beams & steel columns. - Incidental steel supports allowance. - T&G wood decking and 8" DLT roof panels.
3. Envelope / Roofing	<ul style="list-style-type: none"> - Exterior substrate of metal studs, densglas sheathing, spray applied insulation. - Blend of double glazed curtain wall (50%) and composite metal panel systems (50%). - Aluminum framed curtain wall with insulated spandrel panels. - Metal paneling comprises 50% of total envelope. - Single ply roofing with insulation at roof. - Soffits at overhangs.
4. Interiors	<ul style="list-style-type: none"> - Metal stud framed interior construction. - Aluminum framed interior storefront. - SC interior door sets. - Floors: sealed concrete, carpet, and porcelain tile. - Ceilings / soffits: ACT and gypsum board. - Walls: paint and porcelain tile. - Phenolic restroom cubicles and fixed RR specialties, prefab shower units. - P-lam finished casework, storage, and display casings. - Code required signage. - Equipment - OFCI, CFCl (minimal), loading dock, equipment bracing.
5. Plumbing	<ul style="list-style-type: none"> - Full plumbing system including all sanitary fixtures, condensate drainage

APPENDIX 1 - SCOPE ASSUMPTIONS

Description	Assumed Scope
6. HVAC	<ul style="list-style-type: none"> - Full HVAC system including new localized chillers / cooling towers, air handling units - Chilled / hot water and steam distribution, vertical and horizontal galvanized duct - Distribution, DDC sole sourced controls, and premium isolation ventilation. - Central Utility Plant assumed to have the following: <ul style="list-style-type: none"> - Cooling system - Heating system
7. Electrical	<ul style="list-style-type: none"> - Main primary and secondary power. - LED lighting,. - Full fire alarm system. - Rough in of all low voltage systems (T/D, CCTV, security, nurse call, panic, emergency) - phone).
8. Fire Protection	<ul style="list-style-type: none"> - Wet pipe sprinklers throughout. - Fire sprinkler for chemical storage room, premium.
9. Sitework	<ul style="list-style-type: none"> - Demolish existing 1 story height structures. - On site grading / cut and fill, erosion control measures. - New surface parking and roadway. - Pedestrian circulation - natural color paving. - Pedestrian plazas. - Reduced landscaping (seeding and mulch to outlying areas). - Excluded water features, fixed amenities, signage. - Allowed for site walls. - New wet utility distribution and connections. - Excluded Off site adjustments / connections. - Site areas as provided by Architect.
11. Exclusions	<ul style="list-style-type: none"> - Low voltage devices / cable - Play structures. - Monument signage.

8

8.7 PREFERRED ALTERNATIVE 100% SCHEMATIC DESIGN AQUATICS BASIS OF DESIGN

Pool Design Criteria:

Competition Pool Water Surface Area-	6,216 square feet
Competition Pool Perimeter-	324 linear feet
Competition Pool Depths-	3'-6" to 13'-0"
Competition Pool Volume-	384,881 gallons
Competition Pool Turnover-	1,069 GPM (6-hour turnover)
Recreation Pool Water Surface Area-	4,127 square feet
Recreation Pool Perimeter-	277 linear feet
Recreation Pool Depths-	0'-0" - 6'-3"
Recreation Pool Volume-	105,659 gallons
Recreation Pool Turnover-	587 GPM (4-hour turnover)
Splashpad Surface Area-	2,000 square feet
Splashpad Depth-	0'-0"
Splashpad Volume-	4,000 gallons
Splashpad Turnover-	133 GPM (30-minute turnover)
Water Slide Volume-	2400 gallons
Water Slide Turnover-	80 GPM (30-minute turnover)

Pool Design Narratives:

Overall Facility:

The new Si View Aquatic Center will feature four distinct aquatic amenities: a indoor competition pool, a indoor recreation pool, an outdoor splashpad, and a slide that starts indoor before exiting the building and coming back indoors. The Competition Pool will be a 25-meter x 25-yard pool (82' x 75'). The Recreation Pool will have a 25-yard lane lap area, a river current with water features and sprays, and a beach entry area with interactive water features. The Splashpad will have a variety of water and spray features as well as age appropriate zones. The Water Slide will be a body slide that leaves the building and returns. Having multiple pools allows for variable temperatures and more clearly defined programs to be run simultaneously without concern of overlapping or interference. Another benefit of multiple pools is that if for any reason one pool needs to be shut down, the other pool can remain open and potentially accommodate overlapping programs. Having 25-yard lap lanes in the Recreation Pool will also allow for warm up and warm down when competitions are being held in the Competition Pool. The Recreation Pool offers diverse and fun amenities for young children and bathers of all ages. The Splashpad serves children of all ages and swimming abilities. The Water Slide offers a fun option for adults and children of all swimming abilities. The pools are situated in a manner that will allow for a phased approach if necessary. The Competition Pool is located in a separate part of the building from the other pools to facilitate disparate programs and enhance air quality and user experience.

Competition Pool:

The Competition Pool is designed to support the competitive swimming, diving, and water polo as well as being utilized for fitness swimming and aquatic programs and recreational programs when not being used for traditional lap swimming. It is designed to accommodate the following programs:

- 25-yard Competitive Swimming
- Regulation Fixed Cage 25-Yard Water Polo
- Practice Floating Cage 25-Yard Water Polo
- Fitness Swimming
- Lap / Recreational Swimming
- Masters Swimming
- Inner Tube Water Polo
- Competitive Diving
- Recreational Diving
- Inner Tube Basketball
- Kayak Lessons
- Battleship
- Paddle Board Lessons
- Paddle Board Yoga
- Scuba Lessons
- Lifeguard Training
- Red Cross Training
- Public Safety Training
- Deep Water Therapy Programs
- Deep Water Physiology Programs
- Climbing Wall
- Inflatable Open Recreation Programs

The pool shall feature nine regulation 25-yard lanes plus have an additional 25-yard practice lane. The pool shall feature eight 25-meter lanes. All lanes shall be 8' in width. Pool water shall be designed to be maintained in the 78-82 degree range. Permanent tile lane markings on the bottom and ends of the pool shall be provided per competitive requirements. The pool shall have two 1-meter springboard diving boards and a climbing wall which can be removed when not in use.

Pool water depth shall be 3'-6" at the west end of the pool in the south corner with accessible stairs, extend to 4'-0", and then graduate to 13'-0" at the east end of the pool where the springboard diving boards and climbing wall sit. The pool perimeter overflow system shall be a deep competition gutter with the concrete pool deck cantilevered over the top.

The pool will have a fixed accessible lift as a primary means of ADA access and ADA accessible stairs as the secondary means of ADA access. The accessible stairs and lift will be at the west end of the pool.

Recreation Pool:

The Recreation Pool is designed to maximize the uses of community recreation swimming programming. With a beach entry area and water features, this pool is friendly for swimmers or bathers of all ability levels. The pool shall also feature two sets of walk-out stairs to facilitate easy access and programs for younger children and those with mobility constraints. The pool shall also feature a river current and a 3-lane 25-yard lap area. There will also be underwater benches in the pool to allow people to relax while in the pool as well as serving as a place where parents can sit and watch their kids play. The pool is designed to accommodate the following programs.

- Aquatic Play
- Recreational Water Activities
- Kinesiology Programs
- Therapy Programs
- Physiology Programs
- Recreational Programs (aerobics, aqua zumba, etc.).
- Swim Lessons
- Lounging
- Social Interaction
- Dive-in-Movies

Pool water shall be designed to be maintained in the 84-88 degree range. Pool water depth shall range from 0'-0" to 6'-3". The perimeter overflow system shall feature rim-flow / deck-level gutters.

The pool will have a permanent zero-depth entry and an ADA compliant accessible lift as the primary means of ADA access. Walkout stairs serve as an additional secondary means of ADA access.

Splashpad:

The Splashpad is designed to maximize aquatic recreation for children of all ages regardless of swimming ability. This circular amenity will contain a themed variety of features. With both ground sprays and overhead features the Splashpad will provide interactive, learning based opportunities for play suitable for kids of all ages from toddlers to older children.

Located outdoors the Splashpad will be capable of providing fun play during busy summer months as well as being available during nice weather in late spring and early fall. With no standing water the Splashpad does not require lifeguards and provides a safe amenity for children who are either not comfortable in water or cannot swim.

The recirculated water shall be capable of being heated and maintained in the 84-88 degree range.

Water Slide:

The Water Slide shall be a 14' high and 109' long body flume (no raft required). The Water Slide is designed to leave the building and return and can be used without the need to pass a swim test as the ride will stop in a run-out flume with 8" of water as opposed to landing in a swimming pool. This aquatic amenity will maximize aquatic recreation for both adults and children of all swimming abilities. Recirculated water shall be heated and capable of being maintained in the 84-88 degree range.

Pool Construction Methods:

All pools shall be machine excavated and hand trimmed, where permitted by soil conditions. If soil conditions are not suitable for using the excavation as a form, pool shall be over-excavated and formed (one-sided formwork). Upon completion of pool structure curing period, forms shall be stripped, and engineered backfill shall be compacted to 95% maximum density provided to pool deck sub-grade elevation.

Finish sub-grade elevation of pool floors shall be lowered by a minimum of 18" (450 millimeters) to accommodate a layer of drain rock within the excavation and provide a working mat during construction. If required by geotechnical conditions, perforated pipes and a sounding well with submersible pump(s) will be provided to mitigate potential ground water migration into the excavation during construction phase, and hydrostatic relief valves shall be installed within pool main drain sumps (minimum of 2 each) to mitigate potential for hydrostatic pressure when pool is drained post-construction.

Pool structures shall be steel reinforced, pneumatically-applied concrete (shotcrete) with a minimum compressive strength of 3,000 pounds per square inch (207 bar). Shotcrete finish shall be compatible with installation of pool interior waterproof finishes.

Competition Pool finishes shall consist of a cantilever gutter spanning over a continuous perimeter gutter system, a 6" band of ceramic tile below waterline, 12" wide unglazed ceramic mosaic tile lane lines and targets on the pool floor and walls, and white quartz based pool plaster for all other interior pool finishes. Recreation Pool finishes shall consist of a rim-flow gutter spanning over a continuous perimeter gutter system, a 6" band of ceramic tile below waterline, 12" wide unglazed ceramic mosaic tile lane lines and targets on the pool floor and walls, and white quartz based pool plaster for all other interior pool finishes.

Pool Equipment:

Pool safety equipment, maintenance equipment, fittings, and deck equipment shall be installed in strict accordance with pertinent codes and regulations and the manufacturer's published recommendations, anchoring firmly and securely for long life under hard use.

Pool mechanical equipment shall conform to the following design criteria:

- Circulation pumps shall be horizontally mounted end suction centrifugal pumps, bronze fitted, stainless steel shaft, with fuse coat epoxy on all wetted surfaces. Motors shall be totally enclosed, fan cooled, premium efficiency, 1,150 RPM.
- Filtration systems shall be hi-rate sand with a flow rate not to exceed 15 gallons per minute / square foot of filter area. Filtration system shall be furnished complete with influent piping manifold, effluent piping manifold, backwash piping manifold, and all necessary valves and fittings as required for normal filtration and automated backwash operations. Influent and effluent pressure gauges, pool water temperature gauges and flow meter with paddlewheel flowsensor shall also be provided as part of a fully integrated system.
- Pool water heating systems shall incorporate the use of multiple natural gas fired pool heaters piped to dedicated cupro-nickel pool heat exchangers with minimum 97% thermal efficiency, sized to provide a 25 degree Fahrenheit temperature rise within twenty-four hours, and shall be furnished with electronic ignitions, integral recirculating pumps, and cupro-nickel heat exchangers. A pair of tees with blind flanges on outlet side shall be provided downstream of the filtration system (but upstream of pool water heating system) to allow for installation of thermal solar heating system in the future if ever desired.
- Chemical treatment systems shall utilize sodium hypochlorite (Liquid Chlorine). The oxidant feed system shall be capable of providing a constant in-tank chlorine residual of 1-15 parts per million. The pH shall be controlled to a reading of 7.2 - 7.8 through the combination of carbon dioxide and muriatic acid. Both chemical feed systems shall be automatically controlled by a single chemical controller with the capacity of monitoring and continually adjusting ORP, PPM, and pH.
- U/V (Ultra Violet sterilization) will also be used on all pools, the splashpad, and the water slide. The addition of a UV system will further reduce the risk of pathogens in the water as well as help control chloramines, which can irritate eyes, skin, and throats.

Pool Mechanical:

All pool mechanical piping shall consist of Schedule 40 PVC for all below grade piping and Schedule 80 PVC for all above grade piping. Piping shall be sized for velocities not to exceed 6 feet per second (1.8 meters per second) for suction (return) piping and 8 feet per second (2.4 meters per second) for discharge (supply) piping. All underground piping shall have a minimum of 18" (450 millimeters) of earth cover. Provisions shall be made for automated filling of pool to compensate for water loss due to filter backwash operations and evaporation.

Pool Electrical:

All pool electrical work shall include: conduit, conductors and breakers for all single phase electrical equipment; conduit, conductors and motor starters for all three phase electrical equipment; and control circuitry and interface between circulation

pump(s), filtration microprocessor, Pool water heater recirculating pumps, water chemistry controller and water level controller. LED lighting fixtures shall be utilized for underwater lighting of the pool, which shall provide an 85% reduction in installed underwater lighting watts (one 70 watt LED fixture takes the place of one 450 watt incandescent fixture). In addition, the LED fixtures are rated for 50,000 hours of service, versus 3,000 hours for incandescent fixtures.