

FOUR SELECT VERTICAL EVACUATION SITE ESTIMATED COSTS

Table 1: Long Beach Berm

Scope	Cost
Site Utilities	\$49,814
Excavation-Backfill	\$289,512
Concrete	\$153,951
Landscaping	\$74,094
Construction Totals	\$567,370
Design Fees (8%)	\$45,390
General Conditions (10%)	\$56,737
Contractor Fees, O&P (15%)	\$85,106
Construction Contingency (5%)	\$28,369
Estimate/Design Contingency (10%)	\$56,737
Project Total	\$839,708

Site Utilities	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	6	EA			\$116.00	\$185.00	100.00%	\$1,806.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Domestic Water, Ductile Iron Class 250, MJ, 6" diameter	100	LF					108.20%		Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13, Excavating Trench
Install & Test, 6" Ductile Iron Piping, MJ	100	LF		\$14.60	\$10.70	\$2.72	108.20%	\$3,031.76	RSMeans, Building Construction Cost Data, 2011, 33 11 Water Utility Distribution Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.20%	\$259.68	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	75	LCY			\$0.50	\$1.05	108.20%	\$125.78	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Storm Drainage									Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator, 6'-10' deep	60	BCY			\$2.88	\$2.85	108.20%	\$371.99	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating, Trench
Install & Test, 12" Bituminous Coated	100	LF		\$11.50	\$8.30	\$1.53	108.20%	\$2,307.91	RSMeans, Building Construction Cost Data, 2011, 33 41 Storm Utility Drainage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.20%	\$259.68	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	60	LCY			\$0.50	\$1.05	108.20%	\$100.63	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Area Drains/Catch Basins									Assuming 6' Area Drains/Catch Basins on Site
Concrete, Precast, 4' ID riser, 4' deep	6	EA		\$1,425.00	\$1,200.00	\$0.00	108.20%	\$17,041.50	RSMeans Assemblies Cost Data, 2011, G3030 210, Manholes & Catch Basins (Equipment Cost included in Installation Cost)
Electrical									Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator, 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench
Install & Test PVC, type EB 4 @ 3" diameter	100	LF		\$2.00	\$8.05		108.20%	\$1,087.41	RSMeans, Building Construction Cost Data, 2011, 33 71 19 Electrical Underground Ducts and Manholes

Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	40	LCY		\$20.00	\$0.00	\$0.00	108.20%	\$865.60	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	40	LCY			\$7.64	\$14.10	108.20%	\$940.91	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	35	ECY			\$3.05	\$0.34	108.20%	\$128.38	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	44	LCY			\$0.50	\$1.05	108.20%	\$73.79	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Light Pole, Aluminum, 20' high, 1 arm bracket	8	EA		\$1,250.00	\$1,075.00	\$0.00	108.20%	\$20,125.20	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
								\$49,813.97	

Excavation-Backfill	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Site Preparation									
Clear & Grub	3	acres			\$320.00	\$525.00	108.20%	\$2,742.87	RSMeans Building Construction Cost Data, 2011, 31 13 13, Selective Clearing
Survey Site	3	acres		\$32.50	\$565.00	\$35.00	108.20%	\$2,053.10	RSMeans Building Construction Cost Data, 2011, 02 21 13 Site Surveys
Mobilization of Equipment	10	EA			\$69.00	\$116.00	100.00%	\$1,850.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Material Costs									
Fill Material, Select Structural Fill, 1 1/2" minus aggregate	5076	LCY		\$20.00	\$1.75	\$3.44	108.20%	\$138,349.32	RSMeans Building Construction Cost Data, 2011, 31 05 16, Aggregates for Earthwork, Select Structural Fill & Material Cost from Quigg Bros., Aberdeen, WA
Haul of Material, 40 MPH, cycle 40 MPH	5076	LCY			\$7.64	\$14.10	108.20%	\$119,401.12	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Placement of Material									
Compacting Backfill, 6"to 12" lifts, vibrating roller	4700	ECY			\$0.63	\$1.81	108.20%	\$12,408.38	RSMeans Building Construction Data, 2011, 31 23 23.13 Backfill
Stabilization Fabric, Polypropylene, 6oz/SY, 18" lifts, 5082 SF per lift	7340	SY		\$1.48	\$0.09	\$0.03	108.20%	\$12,707.01	RSMeans Building Construction Cost Data, 2011, 32 11 23 Aggregate Base Courses
								\$289,511.80	

Concrete	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment	Location Factor	Total Cost	Comments
Mobilization of Equipment	10	EA			\$116.00	\$185.00	100.00%	\$3,010.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Concrete Wall, 6' Deep, 88' in length									
Excavation, 6' deep	528	SF		\$0.00	\$5.30	\$0.00	108.20%	\$3,027.87	88' long wall, 6 feet deep, at base of berm stepped structure RSMeans Assemblies Cost Data, 2011, A2010 110 building Excavation & Backfill, 6' deep, sand, gravel, or common earth. (Equipment Cost included in Installation)
Walls, Cast in place, 6' deep, pumped, 12" thick, 88' long	88	LF		\$46.25	\$81.00	\$0.00	99.30%	\$11,119.61	RSMeans Assemblies Cost Data, 2011, A2020 110, Walls, Cast In Place, 10' pumped, 12" thick (Equipment Cost included in Installation)
Subdrainage Piping, 4" diameter, PVC, perforated	88	LF		\$2.04	\$3.77	\$0.00	99.30%	\$507.70	RSMeans Assemblies Cost Data, 2011, A 2020 220, Subdrainage Piping (Equipment Cost included in Installation)
Stepped Concrete Wall 4' high									
5' high wall, pumped, 8" thick, 88', 86, 82, 72, 60 length walls.	388	LF		\$33.75	\$77.00	\$0.00	99.30%	\$42,670.20	88', 86', 82', 72', 60' length walls, 12" thick, 5' high. RSMeans Assemblies Cost Data, 2011, A2020 110, Walls, Cast In Place, 6' pumped, 8" thick. Material costs have been increased 25% for additional reinforcing required for seismic event and tsunami. (Equipment Cost Included in Installation)
Subdrainage Piping, 4" diameter, PVC, perforated	388	LF		\$2.04	\$3.77	\$0.00	108.20%	\$2,439.13	RSMeans Assemblies Cost Data, 2011, A 2020 220, Subdrainage Piping (Equipment Cost included in Installation)

Stone Veneer, Ashlar Veneer, 4" thick, conc. Block backup 18" High Concrete Wall	1940	SF		\$13.75	\$24.50	\$0.00	109.20%	\$81,031.86	RSMeans Assemblies Cost Data, 2011, B2010 128 Stone Veneer (Equipment Cost included in Installation) Assume 80' LF curb, 18" high
Trenching, sand and gravel, 2' wide, 2' deep	80	LF		\$0.54	\$1.61	\$0.00	108.20%	\$186.10	RSMeans Assemblies Cost Data, 2011, G1030 807 Trenching Sand & Gravel (Equipment Cost included in Installation)
Concrete, Wood Forms, 6" x 18" radius Concrete Curb at Sand Play Area	80	LF		\$4.90	\$10.00	\$0.00	99.30%	\$1,183.66	RSMeans Building Construction Cost Data, 2011, 32 16 13.13 Cast-in Place Concrete Curbs and Gutters Assume 160' LF curb, 18" high
Trenching, sand and gravel, 2' wide, 2' deep	160	LF		\$0.54	\$1.61	\$0.00	108.20%	\$372.21	RSMeans Assemblies Cost Data, 2011, G1030 807 Trenching Sand & Gravel (Equipment Cost included in Installation)
Concrete, Wood Forms, 6" x 18" radius Concrete or Gravel Platform	160	LF		\$4.90	\$10.00	\$0.00	99.30%	\$2,367.31	RSMeans Building Construction Cost Data, 2011, 32 16 13.13 Cast-in Place Concrete Curbs and Gutters
Grade area	1866	SF				\$0.00	108.20%	\$0.00	
Asphaltic Concrete Paving, 6" stone base, 2" binder course, 1" topping	1866	SF		\$1.85	\$0.20	\$0.24	108.20%	\$4,623.54	RSMeans Building Construction Cost Data, 2011, 32 12 16.14 Asphaltic Concrete Paving
Haul of Material, 40 MPH, cycle 40 MPH Sidewalks	60	CY			\$7.64	\$14.10	108.20%	\$1,411.36	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Concrete Sidewalk, 6" thick with wire mesh		SF		\$3.60		\$0.00	99.30%	\$0.00	Unit SF price only, per RSMeans Square Foot Costs, Residential Modifications/Adjustments/Alternatives, Sidewalks, 3000 PSI with mesh (Equipment and Installation are included in the Material Cost)
\$153,950.56									

Landscaping	Quantity	Unit	Cost per Unit	Material Costs	Installation Costs	Equipment Costs	Location Factor	Total Cost	Comments
Mobilization of Equipment Sand Play Area	6	EA			\$116.00	\$185.00	100.00%	\$1,806.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Filter Fabric	140	sy		\$2.00	\$0.00	\$0.00	108.20%	\$302.96	Plug number, based on previous estimate for material costs for filter fabric
Sand	10	CY		\$60.00	\$19.65	\$25.00	108.20%	\$1,132.31	Material & Equipment cost per estimator's best guess, Installation per RSMeans Building Construction Cost Data 31 23 23.13 Backfill.
Playground Equipment	1	EA		\$1,000.00	\$1,000.00	\$0.00	108.20%	\$2,164.00	Based on price of playground equipment from Home Depot and \$1000 assumed cost for labor and transportation.
Treated Wood Trellis Walkway 60' x 12'									
Wood, laminated type, complete in place, 60' span	720	SF		\$2.72	\$3.02	\$0.00	97.30%	\$4,021.21	RSMeans Assemblies Cost Data, 2011, B1010 266 Wood Deck (doubled material price to account for treated deck material not listed in RSMeans) & (Equipment Costs are included in Installation)
Cedar Wood, 2" thick, 40 PSF load at Maximum Span	720	SF		\$5.65	\$3.02	\$0.00	97.30%	\$6,073.86	RSMeans Assemblies Cost Data, 2011, B1010 266 Wood Deck (Equipment Costs are included in Installation)
Post & Beams	720	SF		\$9.10	\$4.17	\$0.00	97.30%	\$9,296.43	RSMeans Assemblies Cost Data, 2011, B1010 264 Wood Beam & Joist (Equipment Costs are included in Installation)
Berm Landscaping									
Top Soil	565	LCY		\$33.00	\$24.00	\$0.00	108.20%	\$34,845.81	RSMeans Building Construction Cost Data, 2011, 32 91 19.13 Top Dress by hand, 1 CY for 600 SF
Hydro-Seed	1400	SY		\$0.20	\$0.10	\$0.06	108.20%	\$545.33	Mechanical Seeding, 44lb/sy
Top Soil at Stepped Concrete Walls	85	LCY		\$33.00	\$24.00	\$0.00	108.20%	\$5,242.29	
Fencing at Top of Berm, chain link, 2" post, 1 5/8" rail, 9 ga. Galv. Wire 5' high	85	LF		\$17.65	\$4.82	\$0.00	95.40%	\$1,822.09	RSMeans Assemblies Cost Data, 2011, G2040 105 Fence & Guardrails (Equipment Costs are included in Installation)

Irrigation System	1164	SF		\$0.32	\$0.46	\$0.00	108.20%	\$982.37	RSMeans Building Construction Costs, 2011, 32 84 23.10, sprinkler irrigation system
Dock at Pond (Optional) (20' long, 5' wide bridge assumed)									
Wood, laminated type, complete in place	100	SF		\$65.50	\$10.05	\$3.23	97.30%	\$7,665.29	RSMeans Building Construction Costs, 2011, 32 34 20, Bridges, Pedestrian, 80' span
								\$74,093.96	

Table 2: Tokeland Farmers Market Tower

Scope	Cost
Site Utilities	\$15,257
Excavation-Backfill	\$13,034
Foundation	\$85,557
Structure	\$78,835
Roofing	\$20,540
Stairs/Ramps/Guardrails	\$55,734
Fire Protection	\$10,195
Total	\$279,151
Design Fees (8%)	\$22,332
General Conditions (10%)	\$27,915
Contractor Fees, O&P (15%)	\$41,873
Construction Contingency (5%)	\$13,958
Estimate/Design Contingency (10%)	\$27,915
Project Total	\$413,143

Site Utilities	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	10	EA			\$116.00	\$185.00	100.00%	\$3,010.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Fire Water, Ductile Iron Class 250, MJ, 4" diameter	50	LF		\$16.05					Assuming 50' distance from service at street
Excavate, 3/4 CY Excavator 4'-6' deep	35	BCY			\$2.16	\$2.13	108.20%	\$162.46	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13, Excavating Trench
Install & Test, 4" Ductile Iron Piping, MJ	50	LF		\$12.50	\$8.55	\$2.17	108.20%	\$1,256.20	RSMeans, Building Construction Cost Data, 2011, 33 11 Water Utility Distribution Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	6	LCY		\$20.00			108.20%	\$129.84	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	6	LCY			\$7.64	\$14.10	108.20%	\$141.14	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	5	ECY			\$3.05	\$0.34	108.20%	\$18.34	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	38	LCY			\$0.50	\$1.05	108.20%	\$63.73	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Storm Service									Assuming 50' distance from service at street
Excavate, 3/4 CY Excavator, 6'-10' deep	60	BCY			\$2.88	\$2.85	108.20%	\$371.99	RSMeans, Building Construction Cost Data, 201, 31 23 16.13 Excavating Trench
Install & Test, 8" Bituminous Coated	50	LF		\$10.70	\$5.25	\$0.97	108.20%	\$915.37	RSMeans, Building Construction Cost Data, 2011, 33 41 Storm Utility Drainage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	6	LCY		\$20.00			108.20%	\$129.84	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	6	LCY			\$7.64	\$14.10	108.20%	\$141.14	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	5	ECY			\$3.05	\$0.34	108.20%	\$18.34	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	38	LCY			\$0.50	\$1.05	108.20%	\$63.73	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Site Drainage/Area Drains/Catch Basins									Assume 1 area drain for structure
Concrete, Precast, 4' ID riser, 4' deep	1	EA		\$1,425.00	\$1,200.00	0.00%	108.20%	\$2,840.25	RSMeans Assemblies Cost Data, 2011, G3030 210, Manholes & Catch Basins
Electrical	50	LF							Assuming 50' distance from service at street
Electrical Service, includes service installation, breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 volts, 60 A	1	EA		\$960.00	\$920.00		100.50%	\$1,889.40	RSMeans Assemblies Cost Data, 2011, D 5010 120, Electric Service, 3 Phase - 4 Wire, equipment included in installation cost
Excavate, 3/4 CY Excavator, 4'-6' deep	35	BCY			\$2.16	\$2.13	108.20%	\$162.46	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench

Install & Test PVC, type EB 4 @ 3" diameter	50	LF		\$2.00	\$8.05		108.20%	\$543.71	RSMeans, Building Construction Cost Data, 2011, 33 71 19 Electrical Underground Ducts and Manholes
Wire, 600 volt, copper type THW, solid, #12	50	CLF		\$11.95	\$36.50	0	100.50%	\$2,434.61	RSMeans, Building Construction Cost Data, 2011, 26 05 19.90 Wire
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	19	LCY		\$20.00			108.20%	\$411.16	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	19	LCY			\$7.64	\$14.10	108.20%	\$446.93	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	19	ECY			\$3.05	\$0.34	108.20%	\$69.69	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	22	LCY			\$0.50	\$1.05	108.20%	\$36.90	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
								\$15,257.23	

Excavation-Backfill	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization	8	EA	\$0.00	\$0.00	\$69.00	\$116.00	100.00%	\$1,480.00	RSMeans Building Construction Cost Data, 2011, 01 54 36 - Equipment Mobilization
Clear and Grub Site	0.25	ACRE	\$0.00	\$0.00	\$1,750.00	\$1,300.00	108.20%	\$825.03	Is clear and grub needed for structure in urban setting? RSMeans Building Construction Cost Data, 2011, 31 11 10.10 Clear and Grub Site
Excavation for Grade Beams	20	BCY	\$0.00	\$0.00	\$0.00	\$0.00	108.20%	\$0.00	Grade Beams, 3' wide, 3' deep, 568 lf. RSMeans Building Construction Cost Data, 2011, 31 23 16.16 3/4 CY bucket, (Price Included in grade beam foundation price)
Excavation for slab, subgrade and capillary break	100	BCY	\$0.00	\$0.00	\$7.20	\$7.17	108.20%	\$1,554.83	1225 SF mat, 2' deep. RSMeans Building Construction Cost Data, 2011, 31 23 16.16 3/4 CY bucket
Removal of Foundation Spoils, Haul of Material, 40 MPH, cycle 40 MPH	150	LCY			\$7.64	\$14.10	108.20%	\$3,528.40	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Backfill Slab, subgrade, capillary break	125	LCY		\$20.00			108.20%	\$2,705.00	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	125	LCY			\$7.64	\$14.10	108.20%	\$2,940.34	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
								\$13,033.60	

Foundation	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Piling									Piling needs to 2x the height of the structure which is 23-35'?
Mobilization for piling	1	EA	\$12,000.00	\$0.00	\$0.00	\$0.00	100.00%	\$12,000.00	Per phone conversation with Quigg Bros, Aberdeen, WA on June 29th, 2011
Battered Piles, 18" Diameter, 30'-40' Deep	12	EA	\$0.00	\$3,500.00	\$1,200.00	\$0.00	100.00%	\$56,400.00	Driven pipe piles 40' long, 18"x.5", per phone conversation with Quigg Bros, Aberdeen, WA on June 29th,2011. Equipment Included in Material/Labor Cost
Pile Caps, 3 Piles Per Cap, 6'-6" x 3'-6" x 37"	4	EA	\$0.00	\$370.00	\$540.00		99.30%	\$3,614.52	RSMeans Assemblies Cost Data 2011, A1010 250 Pile Caps (Equipment Costs are included in Installation Cost)
Foundation Cast-In-Place/Tower									
Grade Beams 30' span, 28" deep, 14" wide, 2 KLF load	120	LF		\$34.50	\$53.00		99.30%	\$10,426.50	RSMeans Assemblies Cost Data 2011, A 1020 210 Grade Beams (Equipment Cost is included in Installation Cost)
Foundation Cast-In-Place/ Footings for Ramp									Piling needs to 2x the height of the structure which is 23-35'?
Spread Footings, load 75K, soil capacity 6 KSF, 4'-0" sq x 12" deep	12	EA	\$0.00	\$94.50	\$167.00	\$0.00	99.30%	\$3,116.03	RSMeans Assemblies Cost Data, 2011, A1010 210, Spread Footings (Equipment Cost is included in Installation Cost)
								\$85,557.05	

Structure	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Costs	Location Factor	Total Cost	Comments
Mobilization of Equipment	10	EA			\$116.00	\$185.00	100.00%	\$3,010.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Concrete Structure								\$0.00	Beam and Column sizes are not determined and estimate takes in "best guess" to assume sizes for this project.
Concrete Columns, rated for 1000 K load, 20' high, 26" round, concrete strength, 6000 PSI	80	VLF		\$158.00	\$7.85	\$0.00	99.30%	\$13,175.12	RSMeans Assemblies Cost Data, 2011, B1010 201, CIP Column, Round Tied (Equipment Cost included in Installation Cost)
Slab-On-Grade, 6" thick, non-industrial, reinforced, Ground Floor	1225	SF		\$3.01	\$2.97		99.30%	\$7,274.22	RSMeans Assemblies Cost Data, 2011, A1030 120, Slab on Grade, Plain & Reinforced
Cast-In-Place Beam and Slab, Two Way, 30x30, 170 PSF, 9" thick slab, 1st Floor	900	LF		\$6.95	\$11.55		99.30%	\$16,533.45	RSMeans Assemblies Cost Data, 2011, B1010 213 Rectangular Precast Beams (Equipment Cost included in Installation Cost)
Cast-In-Place Beam and Slab, Two Way, 30x30, 351 PSF, 9" thick slab, 2nd Floor (evacuation level)	900	SF		\$8.95	\$13.60		99.30%	\$20,152.94	RSMeans Assemblies Cost Data, 2011, B1010 229 Precast Plank with No Topping (Equipment Cost included in Installation Cost)
Wood Structure									Wood structure, hip roof to support galvanized steel panels
Wood Columns 12"x12", 10' High, Select Structural	40	VLF		\$9.85	\$2.62		97.30%	\$485.33	Supply quote from Levee Lumber, Hoquiam, WA, RSMeans Assemblies Cost Data, 2011, B1020 102, Roof Construction, Wood/Flat or Pitched (Equipment Cost included in Installation Cost)
Perimeter Joists, 3 1/8"x12", GLM 30' span	120	LF		\$4.85	\$1.95	\$22.00	97.30%	\$3,362.69	Supply quote from Levee Lumber, Hoquiam, WA, RSMeans Building Construction Cost Data 2011, Glued-Laminated Beams 06 18 13.20
2x10 Wood Joist w/ 1/2" CDX, 12" OC	900	SF		\$2.02	\$2.05		97.30%	\$3,564.10	RSMeans Assemblies Cost Data, 2011, B1020 102, Roof Construction, Wood/Flat or Pitched (Equipment Cost included in Installation Cost)
Roof, wood/pitched, 3"x12" 12" OC w/ sheathing plywood on roof, 5/16" CDX	1260	SF		\$4.59	\$2.62		97.30%	\$8,839.32	RSMeans Assemblies Cost Data, 2011, B1020 102, Roof Construction, Wood/Flat or Pitched (Equipment Cost included in Installation Cost)
Weather Proofing/Coatings add 15% (Premium for PTS Wood)	\$16,251.44	%	15.00%					\$2,437.72	Assumed that PTS wood is 15% more compared on price difference shown in means
								\$78,834.88	

Roofing	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	4	EA			\$116.00	\$185.00	100.00%	\$1,204.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Roofing/Hip and Ridge Roof Steel Panels									Hip and ridge style roof, peak of roof 15'. (Equipment Cost is included in Installation Cost)
Flat Roof Steel Panels, Flat Seam, Copper, 1/4" min. slope, 20 oz, 1.2 PSF	1260	SF		\$9.50	\$5.80		100.30%	\$19,335.83	RSMeans Assemblies Cost Data, 2011, B3010 135, Formed Metal (Equipment Cost is included in Installation Cost)
								\$20,539.83	

Stairs/Ramps/Guardrails	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	6	EA			\$116.00	\$185.00	100.00%	\$1,806.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Exterior Ramp, Rises 20', 5' wide									Beam and Column sizes are not determined and estimate takes in "best guess" to assume sizes for this project.

Steel Columns, 20' high, Wide Flanged, 6", 12 locations	240	VLF		\$26.50	\$7.85	\$0.00	95.40%	\$7,864.78	RSMeans Assemblies Cost Data, 2011, B1010, 208 Steel Columns (Equipment Cost is included in Installation Cost)
W Shape Beams and Girders, bay size 15X20,, Total Load 263 PSF.	900	SF		\$11.70	\$3.82	\$1.50	95.40%	\$14,613.37	RSMeans Building Construction Cost Data, 2011, Structural Steel Framing, 05 12 23.17
Floor Construction, Metal Deck/Concrete Fill, Deck Span 6 ft, 150 PSF Superimposed Load	900	SF		\$2.38	\$2.38		95.40%	\$4,086.94	RSMeans Assemblies Cost Data, 2011, B1010 258, Metal Deck/Concrete Fill (Equipment Cost is included in Installation Cost)
Weather Proofing/Coatings (Galvanized)	7.5	Tons	\$400.00	\$0.00	0	0	95.40%	\$2,862.00	RSMeans Building Construction Cost Data, 2011, 05 05 13.50, Paints and Protective Coatings
Hand Rail/Guard Rail	270	LF		\$32.50	\$9.80		95.40%	\$10,895.63	Galvanized, 2 Rail, 1 1/2" diameter, RSMeans Building Construction Cost Date 2011, 05 52 Metal Railings
Ladders/Stairs									
Steel ladder to attic space 20" wide bolted to concrete without cage	10	VLF		\$65.00	\$31.50	\$2.18	95.40%	\$920.61	RSMeans Building Construction Cost Data 2011, 05 51 33 - Vertical Metal Ladders
Accordion Ladder for Escape after Tsunami, Disappearing Stairs, Heavy duty, 16'-0" ceiling	2	ea		\$1,400.00	\$172.00		95.40%	\$2,999.38	RSMeans Building Construction Cost Data 2011, 11 33 10.10, Disappearing Stairway
Platform Perimeters Railing (120 LF for each platform, 2 locations)									
Hand Rail/Guard Rail	240	LF		\$32.50	\$9.80		95.40%	\$9,685.01	Galvanized, 2 Rail, 1 1/2" diameter, RSMeans Building Construction Cost Date 2011, 05 52 Metal Railings
								\$55,733.71	

Fire Protection									
	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Cost	Location Factor	Total Cost	Comments
Fire Protection, Wet Pipe System									
Mobilization	4	EA		\$69.00	\$116.00		100.00%	\$740.00	RSMeans Building Construction Cost Data, 2011, 01 54 36 - Equipment Mobilization
First Floor, 2000 SF, Light Hazard	900	SF		\$4.50	\$3.04		97.00%	\$6,582.42	RSMeans Square Foot Costs, 2011, D4010 410, Wet Pipe Sprinkler Systems (Equipment Cost included in Installation Cost)
Second Floor, 2000 SF, Light Hazard	900	SF		\$1.21	\$2.08		97.00%	\$2,872.17	RSMeans Square Foot Costs, 2011, D4010 410, Wet Pipe Sprinkler Systems (Equipment Cost included in Installation Cost)
								\$10,194.59	

Table 3: Grayland Fire Station

Scope	Cost
Site Utilities	\$36,509
Excavation-Backfill	\$26,578
Foundation	\$254,012
Structure	\$188,273
Exterior Walls	\$96,042
Roofing	\$14,094
Stairs	\$54,727
Interior Finishes	\$36,786
Mechanical	\$74,647
Electrical	\$35,482
Plumbing	\$44,934
Fire Protection	\$19,155
Landscaping	\$53,903
Total	\$935,144
Design Fees (8%)	\$74,811
General Conditions (10%)	\$93,514
Contractor Fees, O&P (15%)	\$140,272
Construction Contingency (5%)	\$46,757
Estimate/Design Contingency (10%)	\$93,514
Project Total	\$1,384,013

Site Utilities	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment	Location Factor	Total Cost	Comments
Mobilization of Equipment	8	EA			\$116.00	\$185.00	100.00%	\$2,408.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Domestic Water, Ductile Iron Class 250, MJ, 6" diameter	100	LF							Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13, Excavating Trench
Install & Test, 6" Ductile Iron Piping, MJ	100	LF		\$14.60	\$10.70	\$2.72	108.20%	\$3,031.76	RSMeans, Building Construction Cost Data, 2011, 33 11 Water Utility Distribution Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.80%	\$261.12	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	75	LCY			\$0.50	\$1.05	108.20%	\$125.78	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Fire Water, Ductile Iron Class 250, MJ, 6" diameter	100	LF							Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13, Excavating Trench
Install & Test, 6" Ductile Iron Piping, MJ	100	LF		\$14.60	\$10.70	\$2.72	108.20%	\$3,031.76	RSMeans, Building Construction Cost Data, 2011, 33 11 Water Utility Distribution Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.80%	\$261.12	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	75	LCY			\$0.50	\$1.05	108.20%	\$125.78	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Sewage									Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator, 6'-10' deep	120	BCY			\$2.88	\$2.85	108.20%	\$743.98	RSMeans, Building Construction Cost data, 2011, 31 23 16.13 Excavating Trench

Install & Test, 8" SDR 35, B&S	100	LF		\$7.60	\$2.75		108.20%	\$1,119.87	RSMeans, Building Construction Cost Data, 2011, 33 31 Sanitary Utility Sewerage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.80%	\$261.12	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	138	LCY			\$0.50	\$1.05	108.20%	\$231.44	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Storm Service									Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator, 6'-10' deep	120	BCY			\$2.88	\$2.85	108.20%	\$743.98	RSMeans, Building Construction Cost Data, 201, 31 23 16.13 Excavating Trench
Install & Test, 8" Bituminous Coated	100	LF		\$10.70	\$5.25	\$0.97	108.20%	\$1,830.74	RSMeans, Building Construction Cost Data, 2011, 33 41 Storm Utility Drainage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	12	LCY		\$20.00			108.80%	\$261.12	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	12	LCY			\$7.64	\$14.10	108.20%	\$282.27	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.20%	\$36.68	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	138	LCY			\$0.50	\$1.05	108.20%	\$231.44	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Site Drainage									Perimeter of the building + 25%
Excavate, 3/4 CY Excavator, 6'-10' deep	140	BCY			\$2.88	\$2.85	108.20%	\$867.98	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating, Trench
Install & Test, 8" Bituminous Coated	224	LF		\$10.70	\$5.25	\$0.97	108.20%	\$4,100.87	RSMeans, Building Construction Cost Data, 2011, 33 41 Storm Utility Drainage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	25	LCY		\$20.00			108.80%	\$544.00	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	25	LCY			\$7.64	\$14.10	108.20%	\$588.07	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	20	ECY			\$3.05	\$0.34	108.20%	\$73.36	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	150	LCY			\$0.50	\$1.05	108.20%	\$251.57	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Electrical									Assuming 100' distance from service at street
Electrical Service, includes service installation, breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 volts, 60 A	1	EA		\$960.00	\$920.00		100.50%	\$1,889.40	RSMeans Assemblies Cost Data, 2011, D 5010 120, Electric Service, 3 Phase - 4 Wire, equipment included in installation cost
Excavate, 3/4 CY Excavator, 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench
Install & Test PVC, type EB 4 @ 3" diameter	100	LF		\$2.00	\$8.05		108.20%	\$1,087.41	RSMeans, Building Construction Cost Data, 2011, 33 71 19 Electrical Underground Ducts and Manholes
Wire, 600 volt, copper type THW, solid, #12	100	CLF		\$11.95	\$36.50	0	100.50%	\$4,869.23	RSMeans, Building Construction Cost Data, 2011, 26 05 19.90 Wire
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	38	LCY		\$20.00			108.80%	\$826.88	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	38	LCY			\$7.64	\$14.10	108.20%	\$893.86	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	35	ECY			\$3.05	\$0.34	108.20%	\$128.38	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	44	LCY			\$0.50	\$1.05	108.20%	\$73.79	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Natural Gas									Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator, 4'-6' deep	70	BCY			\$2.16	\$2.13	108.20%	\$324.92	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench
Install and test 60 PSI 40' joints with coupling, 3" diameter SDR 11	100	LF		\$5.35	\$4.19	\$1.06	108.20%	\$1,146.92	RSMeans, Building Construction Cost Data, 2011, 33 51 13.10 Piping, Gas Service and Distribution

Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	38	LCY		\$20.00			108.80%	\$826.88	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	38	LCY			\$7.64	\$14.10	108.20%	\$893.86	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	35	ECY			\$3.05	\$0.34	108.20%	\$128.38	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	44	LCY			\$0.50	\$1.05	108.20%	\$73.79	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
								\$36,509.16	

Excavation-Backfill	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization	4	EA	\$0.00	\$0.00	\$69.00	\$116.00	100.00%	\$740.00	RSMeans Building Construction Cost Data, 2011, 01 54 36 - Equipment Mobilization
Clear and Grub Site	0.53	ACRE	\$0.00	\$0.00	\$1,750.00	\$1,300.00	108.20%	\$1,749.05	Assumed site area to be 4X building pad, RSMeans Building Construction Cost Data, 2011, 31 11 10.10 Clear and Grub Site
Excavation for Grade Beams	0	BCY	\$0.00	\$0.00	\$7.20	\$7.17	108.20%		Included in grade beam foundation price Grade Beams, 3' wide, 3' deep, 568 lf. RSMeans Building Construction Cost Data, 2011, 31 23 16.16 3/4 CY bucket, (Price Included in grade beam foundation price)
Excavation for slab, subgrade and capillary break	250	BCY	\$0.00	\$0.00	\$7.20	\$7.17	108.20%	\$3,887.09	3360 SF mat, 2' deep. RSMeans Building Construction Cost Data, 2011, 31 23 16.16 3/4 CY bucket
Haul of Spoils, 40 MPH, cycle 40 MPH	311	LCY			\$7.64	\$14.10	108.20%	\$7,315.55	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Fill Material for Capillary Break	270	BCY		\$20.00			108.80%	\$5,875.20	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Compacting Backfill, 6"to 12" lifts, vibrating roller	250	ECY			\$0.63	\$1.81	108.20%	\$660.02	RSMeans Building Construction Data, 2011, 31 23 23.13 Backfill
Haul of Material, 40 MPH, cycle 40 MPH	270	CY			\$7.64	\$14.10	108.20%	\$6,351.12	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
								\$26,578.04	

Foundation	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Piling									
Piles, 18" Diameter, 30'-40' Deep	1680	LF	\$0.00	\$55.00	\$15.00	\$0.00	100.00%	\$117,600.00	Driven pipe piles 40' long, 16"x.5", Condon Johnson Quote, Equipment Included in Material/Labor Cost (Equipment Cost included in Installation Cost)
Pile Caps, 3 Piles Per Cap, 6'-6" x 3'-6" x 37"	6	EA	\$0.00	\$370.00	\$540.00		99.90%	\$5,454.54	RSMeans Assemblies Cost Data 2011, A1010 250 Pile Caps (Equipment Cost included in Installation Cost)
Pile Caps, 2 Piles Per Cap, 6'-6" x 3'-6" x 37"	12	EA	\$0.00	\$375.00	\$540.00		99.90%	\$10,969.02	RSMeans Assemblies Cost Data 2011, A1010 250 Pile Caps (Equipment Cost included in Installation Cost)
Mobilization for Piling	1	EA	\$35,000.00					\$35,000.00	Condon Johnson Quote
Foundation/ Footings for Ramp									
Spread Footings, load 75K, soil capacity 6 KSF, 4'-0" sq x 12" deep	12	EA	\$0.00	\$94.50	\$167.00	\$0.00	99.90%	\$3,134.86	RSMeans Assemblies Cost Data, 2011, A1010 210, Spread Footings (Equipment Cost included in Installation Cost)
Grade Beams 40' span, 40" deep, 12" wide, 2 KLF load	416	LF		\$29.50	\$56.00		99.90%	\$35,532.43	RSMeans Assemblies Cost Data 2011, A 1020 210 Grade Beams (Equipment Cost included in Installation Cost)
Ground Floor Slab, 8" thick, Heavy Industrial, Reinforced	3360	SF		\$5.70	\$8.10		99.90%	\$46,321.63	RSMeans Assemblies Cost Data, 2011, A 1030 120, Slab On Grade (Equipment Cost included in Installation Cost)
								\$254,012.49	

Structure	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Costs	Location Factor	Total Cost	Comments
Mobilization of Equipment	6	EA			\$116.00	\$185.00	100.00%	\$1,806.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Sheer Walls, Assume Cast In Place Concrete Wall, 12" thick, 5000 psi, plaine finish.	2368	SF		\$7.25	16.25		99.90%	\$55,592.35	Four walls identified, 2 @ 24'x16', 2 @ 40'x20', RSMeans Assemblies Cost Data, 2011, B2010 101, Cast In Place Concrete (Equipment Cost included in Installation Cost)
Steel Columns, 500K load, 20' high, 12" diameter	360	VLF		\$158.00	7.85	0	95.40%	\$56,959.52	RSMeans Assemblies Cost Data, 2011, B1010 Steel Columns (Equipment Cost included in Installation Cost)
Bay Size (ft) 20x25, Beam x Gird, Superimposed Load (PSF) 200, to take on anticipated seismic event and safe haven platform	2560	SF		\$13.95	4.48		95.40%	\$45,010.48	RSMeans Assemblies Cost Data, 2011, B1010 241 W 3500 Shape Beams & Girders (Equipment Cost included in Installation Cost)
Bay Size (ft) 20x25, Beam x Gird, Superimposed Load (PSF) 40 for roof above office space/attic/common area	960	SF		\$5.35	2.19		95.40%	\$6,905.43	RSMeans Assemblies Cost Data, 2011, B1010 241 W 2900 Shape Beams & Girders (Equipment Cost included in Installation Cost)
Wood framed floor for attic space above offices/common area, 2x12 joists at 12" OC	960	SF		\$2.32	2.07		97.30%	\$4,100.61	RSMeans Assemblies Cost Data, 2011, B1010 261, Wood Joists, included 1/2" CDX floor (Equipment Cost included in Installation Cost)
Roof Concrete Floor, at safe haven platform includes pan decking, concrete, wire mesh, finish floor, 8' deck span, 200 superimposed load, PSF, 4" thick	3520	SF		\$2.60	2.49		99.90%	\$17,898.88	RSMeans Assemblies Cost Data, 2011, B1010 258 Metal Deck/Concrete Fill (Equipment Cost included in Installation Cost)
								\$188,273.29	

Exterior Walls	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Split Block Exterior Facing, Regular Weight, No Core Fill, 8x8x16, Un-Reinforced	2912	SF		\$4.16	8.35		109.20%	\$39,780.60	RSMeans Assemblies Cost Data, 2011, B2010 117, Split Face Block Wall, Regular Weight, Entire enclosure surrounding bays that store the fire trucks (20' high) and half the height of the common area (8' high). Remove the SF of the garage doors. (Equipment Cost included in Installation Cost)
Wood Siding, 3-5/8" metal studs, 16 GA. 24" OC insulation wall, 1"x6" cedar drop siding	864	SF		\$7.20	5.5		97.30%	\$10,676.53	RSMeans Assemblies Cost Data, 2011, B2010 148, Panel Shingle & Lap Siding, Upper 8' of Common Area portion of building (Equipment Cost included in Installation Cost)
Exterior Doors	960	SF	\$4.25				101.80%	\$4,153.44	RSMeans Square Foot Costs, 2011, Exterior Enclosure, 2030 Exterior Doors, includes common area only (Material, Installation and Equipment Cost included in Cost per Unit)
Exterior Windows	960	SF	\$1.92				101.80%	\$1,876.38	RSMeans Square Foot Costs, 2011, Exterior Enclosure, 2020 Exterior Windows, includes common area only (Material, Installation and Equipment Cost included in Cost per Unit)
Garage Doors, Steel 24 Ga. Overhead, Sectional, Electric Operation, 12'x18'	8	EA		\$3,561.00	\$1,296.00		101.80%	\$39,555.41	Cost of door based on 12'x12' garage door RSMeans, Assemblies Cost Data, 2011, B2030 220, Exterior Doors, 8 doors total, front and rear loading (Equipment Cost included in Installation Cost). Cost per square foot for the materials of a 12'x12' door was used for a 12'x18' door. \$6 a square foot was used for installation.
								\$96,042.36	

Roofing	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Cost	Location Factor	Total Cost	Comments
Built-Up Roof Covering, Asphalt base sheets & 3 plies #15 asphalt felt, mopped	3520	SF		\$0.91	\$1.66		100.30%	\$9,073.54	RSMeans Assemblies Cost Data, 2011, B3010 105, Built Up Roofing (Equipment Cost included in Installation Cost)

Roof Opening, skylights, roof hatches	3520	SF		\$0.14				101.80%	\$501.67	RSMeans Square Foot Costs, 2011, M.220, Fire Station, B30 Roofing (Equipment Cost included in Installation Cost)
Guardrail, fence, chain link, 2" post, 1 5/8" rail, 9 ga. Galve wire, 5' high	208	LF		\$17.95	\$4.82			95.40%	\$4,518.30	RSMeans Assemblies Cost Data, 2011, G2040 105, Fence & Guardrails, surrounding the safe haven area. (Equipment Cost included in Installation Cost)
									\$14,093.51	

Stairs/Ramps	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments	
Interior Stairs, 2 flights, 16 risers, with landing, steel, grate type w/nosing & rails	1	Each		\$7,875.00	\$1,975.00	\$0.00	95.40%	\$9,396.90	RSMeans Assemblies Cost Data, 2011, C2010 110, Stairs	
Exterior Ramp, Rises 20', 6' wide									Beam and Column sizes are not determined and estimate takes in "best guess" to assume sizes for this project.	
Steel Columns, 20' high, Wide Flanged, 6", 12 locations	240	VLF		\$26.50	\$7.85	\$0.00	95.40%	\$7,864.78	RSMeans Assemblies Cost Data, 2011, B1010, 208 Steel Columns (Equipment Cost included in Installation Cost)	
W Shape Beams and Girders, bay size 15X20,, Total Load 263 PSF.	900	SF		\$11.70	\$3.82	\$1.50	95.40%	\$14,613.37	RSMeans Building Construction Cost Data, 2011, Structural Steel Framing, 05 12 23.17	
Floor Construction, Metal Deck/Concrete Fill, Deck Span 6 ft, 150 PSF Superimposed Load	900	SF		\$2.38	\$2.38		99.30%	\$4,254.01	RSMeans Assemblies Cost Data, 2011, B1010 258, Metal Deck/Concrete Fill (Equipment Cost included in Installation Cost)	
Weather Proofing/Coatings (Galvanized)	7.5	Tons	\$400.00	\$0.00	0	0	95.40%	\$2,862.00	RSMeans Building Construction Cost Data, 2011, 05 05 13.50, Paints and Protective Coatings	
Hand Rail/Guard Rail	270	LF		\$32.50	\$9.80		95.40%	\$10,895.63	Galvanized, 2 Rail, 1 1/2" diameter, RSMeans Building Construction Cost Date 2011, 05 52 Metal Railings	
Ladders/Stairs For Post-Tsunami Escape										
Steel ladder attached to exterior 20" wide bolted to concrete without cage	20	VLF		\$65.00	\$31.50	\$2.18	95.40%	\$1,841.22	RSMeans Building Construction Cost Data 2011, 05 51 33 - Vertical Metal Ladders	
Accordion Ladder for Escape after Tsunami, Disappearing Stairs, Heavy duty, 16'-0" ceiling	2	ea		\$1,400.00	\$172.00		95.40%	\$2,999.38	RSMeans Building Construction Cost Data 2011, 11 33 10.10, Disappearing Stairway	
									\$54,727.29	

Interior Finishes	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments	
Interior Walls	1920	SF	\$8.84				103.40%	\$17,549.88	RSMeans Square Foot Costs, 2011M.230 Fire Station, Interiors, Common Space and Upstairs Only (Materials, Installation and Equipment Cost included in Cost per Unit)	
Painting	1920	SF	\$3.26				93.30%	\$5,839.83	RSMeans Square Foot Costs, 2011M.230 Fire Station, Interiors (Materials, Installation and Equipment Cost included in Cost per unit)	
Flooring	1920	SF	\$2.25				106.40%	\$4,596.48	RSMeans Square Foot Costs, 2011M.230 Fire Station, Interiors (Materials, Installation and Equipment Cost included in Cost per Unit)	
Ceiling Finishes	1920	SF	\$2.20				103.30%	\$4,363.39	RSMeans Square Foot Costs, 2011M.230 Fire Station, Interiors (Materials, Installation and Equipment Cost included in Cost per Unit)	
Interior Doors	1920	SF	\$2.27				101.80%	\$4,436.85	RSMeans Square Foot Costs, 2011M.230 Fire Station, Interiors (Materials, Installation and Equipment Cost included in Cost per Unit)	
									\$36,786.43	

Mechanical	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mechanical	3520	SF	\$21.84				97.10%	\$74,647.37	RSMeans Square Foot Costs, 2011, M.220, D30, HVAC (Material, Installation and Equipment Cost included in Cost per Unit)
HVAC Equipment								Included	
Rough-In								Included	
Finish Trim								Included	
Testing/Commissioning								Included	
								\$74,647.37	

Electrical	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Electrical		SF							
Electrical Service/Distribution, 400 amp service, panel board and feeders	3520	SF	\$1.44				100.50%	\$5,094.14	RSMeans Square Foot Costs, 2011, M.220, Fire Station, D50, Electrical (Material, Installation and Equipment Cost included in Cost per Unit)
Lighting & Branch Wiring	3520	SF	\$6.46				100.50%	\$22,852.90	RSMeans Square Foot Costs, 2011, M.220, Fire Station, D50, Electrical (Material, Installation and Equipment Cost included in Cost per Unit)
Communications & Security	3520	SF	\$1.88				100.50%	\$6,650.69	RSMeans Square Foot Costs, 2011, M.220, Fire Station, D50, Electrical (Material, Installation and Equipment Cost included in Cost per Unit)
Emergency generator, 15 kW	3520	SF	\$0.25				100.50%	\$884.40	RSMeans Square Foot Costs, 2011, M.230, Fire Station, D50, Electrical (Material, Installation and Equipment Cost included in Cost per Unit)
								\$35,482.13	

Plumbing	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Plumbing									
Plumbing Fixtures	3520	SF	\$9.33				97.00%	\$31,856.35	RSMeans Square Foot Costs, 2011, M.220 Fire Station, D20 Plumbing (Material, Installation and Equipment Cost included in Cost per Unit)
Gas fired water heater	3520	SF	\$2.65				97.00%	\$9,048.16	RSMeans Square Foot Costs, 2011, M.220 Fire Station, D20 Plumbing (Material, Installation and Equipment Cost included in Cost per Unit)
Roof Drain System	3520	SF	\$1.18				97.00%	\$4,028.99	RSMeans Square Foot Costs, 2011, M.220 Fire Station, D20 Plumbing (Material, Installation and Equipment Cost included in Cost per Unit)
								\$44,933.50	

Fire Protection	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Fire Protection									
Sprinklers	3520	SF	\$4.38				97.00%	\$14,955.07	RSMeans Square Foot Costs, 2011, M.230 Fire Station, Fire Protection (Material, Installation and Equipment Cost included in Cost per Unit)
Standpipes, wet, class III	3520	SF	\$1.23				97.00%	\$4,199.71	RSMeans Square Foot Costs, 2011, M.230 Fire Station, Fire Protection (Material, Installation and Equipment Cost included in Cost per Unit)
								\$19,154.78	

Landscaping	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Costs	Location Factor	Total Cost	Comments
Landscaping									
Mobilization	4	EA	\$0.00	\$0.00	\$69.00	\$116.00	108.20%	\$800.68	RSMeans Building Construction Cost Data, 2011, 01 54 36 - Equipment Mobilization

Site Paving		SF					108.20%		
Flagpoles, on grade, aluminum, tapered, 20' high	1	EA		\$970.00	\$585.00		108.20%	\$1,682.51	RSMeans Assemblies Cost Data, 2011, G2040 810, Flagpoles, (Equipment Cost included in Installation Cost)
Driveways, 8" thick, 24' wide, bituminous conc. Paving	200	LF		\$138.00	\$63.00		108.20%	\$43,496.40	RSMeans Assemblies Cost Data, 2011, G2010 210 Roadway Pavement (Equipment Cost included in Installation Cost)
Concrete Sidewalks, 4" thick, 4" gravel base, 4' wide	150	LF		\$8.45	\$13.25		108.20%	\$3,521.91	RSMeans Assemblies Cost Data, 2011, G2030 120, Concrete Sidewalk (Equipment Cost included in Installation Cost)
Planting		SF							
Irrigation, residential system, custom, 1" supply	3000	SF		\$0.32	\$0.46		108.20%	\$2,531.88	RSMeans Building Construction Cost Data, 2011, 32 84 23.10, Sprinkler Irrigation System
Furnish and place, truck dumped, screened, 4" deep	333	SY		\$4.13	\$0.38	\$0.25	108.20%	\$1,715.06	RSMeans Building Construction Cost Data, 2011, 32 91 19.13 Topsoil Placement and Grading
Mechanical Seeding, 44 lb/MSY	333	SY		\$0.20	\$0.14	\$0.09	108.20%	\$154.93	RSMeans Building Construction Cost Data, 2011, 32 92 19.13 Mechanical Seeding
								\$53,903.37	

Table 4: Spinnaker Park Berm

Scope	Cost
Site Utilities	\$55,725
Excavation-Backfill	\$385,762
Concrete Retaining Wall Surrounding Berm	\$173,072
Landscaping Concrete	\$100,323
Stairs/Ramps/Guardrails	\$11,498
Landscaping	\$59,612
Construction Totals	\$785,995
Design Fees (8%)	\$62,880
General Conditions (10%)	\$78,599
Contractor Fees, O&P (15%)	\$117,899
Construction Contingency (5%)	\$39,300
Estimate/Design Contingency (10%)	\$78,599
Project Total	\$1,163,272

Site Utilities	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment	Location Factor	Total Cost	Comments
Mobilization of Equipment	8	EA			\$116.00	\$185.00	100.00%	\$2,408.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Domestic Water, Ductile Iron Class 250, MJ, 6" diameter	100	LF							Assuming 100' distance from service at street
Excavate, 3/4 CY Excavator 4'-6' deep	85	BCY			\$2.16	\$2.13	108.80%	\$396.74	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13, Excavating Trench
Install & Test, 6" Ductile Iron Piping, MJ	100	LF		\$14.60	\$10.70	\$2.72	108.80%	\$3,048.58	RSMeans, Building Construction Cost Data, 2011, 33 11 Water Utility Distribution Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	11	LCY		\$20.00			108.80%	\$239.36	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	11	LCY			\$7.64	\$14.10	108.20%	\$258.75	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	10	ECY			\$3.05	\$0.34	108.80%	\$36.88	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	94	LCY			\$0.50	\$1.05	108.80%	\$158.52	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Storm Service									Assuming 200' of storm piping needed
Excavate, 3/4 CY Excavator, 6'-10' deep	250	BCY			\$2.88	\$2.85	108.80%	\$1,558.56	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench
Install & Test, 8" Bituminous Coated	200	LF		\$10.70	\$5.25	\$0.97	108.80%	\$3,681.79	RSMeans, Building Construction Cost Data, 2011, 33 41 Storm Utility Drainage Piping
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	25	LCY		\$20.00			108.80%	\$544.00	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011.
Haul of Material, 40 MPH, cycle 40 MPH	25	LCY			\$7.64	\$14.10	108.20%	\$588.07	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	23	ECY			\$3.05	\$0.34	108.80%	\$84.83	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Backfill, General Fill By Dozer, No Compaction	284	LCY			\$0.50	\$1.05	108.80%	\$478.94	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Site Drainage/Area Drains/Catch Basins									Assume 4 area drains for structure
Concrete, Precast, 4' ID riser, 4' deep	4	EA		\$1,425.00	\$1,200.00	0.00%	108.80%	\$11,424.00	RSMeans Assemblies Cost Data, 2011, G3030 210, Manholes & Catch Basins (Equipment Cost included in Installation Cost)
Electrical	100	LF							Assuming 100' distance from service at street
Electrical Service, includes service installation, breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 volts, 60 A	1	EA		\$960.00	\$920.00		100.50%	\$1,889.40	RSMeans Assemblies Cost Data, 2011, D 5010 120, Electric Service, 3 Phase - 4 Wire, equipment included in installation cost
Excavate, 3/4 CY Excavator, 4'-6' deep	85	BCY			\$2.16	\$2.13	108.80%	\$396.74	RSMeans, Building Construction Cost Data, 2011, 31 23 16.13 Excavating Trench

Install & Test PVC, type EB 4 @ 3" diameter	100	LF		\$2.00	\$8.05		108.80%	\$1,093.44	RSMeans, Building Construction Cost Data, 2011, 33 71 19 Electrical Underground Ducts and Manholes
Wire, 600 volt, copper type THW, solid, #12	100	CLF		\$11.95	\$36.50	0	100.50%	\$4,869.23	RSMeans, Building Construction Cost Data, 2011, 26 05 19.90 Wire
Utility Bedding, For Pipe & Conduit, Not Incl. Compaction	46	LCY		\$20.00			108.80%	\$1,000.96	Quote per Quigg Bros, Aberdeen, WA, phone conversation on June 29th, 2011
Haul of Material, 40 MPH, cycle 40 MPH	46	LCY			\$7.64	\$14.10	108.20%	\$1,082.04	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Compacting Bedding In Trench	43	ECY			\$3.05	\$0.34	108.80%	\$158.60	RSMeans, Building Construction Cost Data, 2011, 31 23 23.16 Fill By Borrow & Utility Bedding
Light Pole, Aluminum, 20' high, 1 arm bracket	8	EA		\$1,250.00	\$1,075.00	\$0.00	108.80%	\$20,236.80	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
Backfill, General Fill By Dozer, No Compaction	54	LCY			\$0.50	\$1.05	108.80%	\$91.07	RSMeans, Building Construction Cost Data, 2011, 31 23 23.17 General Fill
								\$55,725.29	

Excavation-Backfill	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment	Location Factor	Total Cost	Comments
Mobilization	8	EA	\$0.00	\$0.00	\$69.00	\$116.00	100.00%	\$1,480.00	RSMeans Building Construction Cost Data, 2011, 01 54 36 - Equipment Mobilization
Clear and Grub Site	1	ACRE	\$0.00	\$0.00	\$1,750.00	\$1,300.00	108.20%	\$3,300.10	Is clear and grub needed for structure in urban setting? RSMeans Building Construction Cost Data, 2011, 31 11 10.10 Clear and Grub Site
Survey Site	1	ACRE		\$32.50	\$565.00	\$35.00	108.20%	\$684.37	RSMeans Building Construction Cost Data, 2011, 02 21 13 Site Surveys
Fill Material for Berm									
Fill Material, Select Structural Fill, 1 1/2" minus aggregate	6100	LCY		\$20.00	\$1.75	\$3.44	108.20%	\$166,259.04	RSMeans Building Construction Cost Data, 2011, 31 05 16, Aggregates for Earthwork, Select Structural Fill & Material Cost from Quigg Bros., Aberdeen, WA
Compacting Backfill, 6"to 12" lifts, vibrating roller	5647	ECY			\$0.63	\$1.81	108.20%	\$14,908.53	RSMeans Building Construction Data, 2011, 31 23 23.13 Backfill
Haul of Material, 40 MPH, cycle 40 MPH	6100	LCY			\$7.64	\$14.10	108.20%	\$143,488.35	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Stabilization Fabric, Polypropylene, 6oz/SY, 18" lifts, 5082 SF per lift	12000	SY		\$1.48	\$0.09	\$0.03	108.20%	\$20,774.40	RSMeans Building Construction Cost Data, 2011, 32 11 23 Aggregate Base Courses
Fill Material at Landscape Walls									
Fill Material, Top Soil	484	LCY		\$20.00	\$1.75	\$3.44	108.20%	\$13,191.70	RSMeans Building Construction Cost Data, 2011, 31 05 16, Aggregates for Earthwork, Select Structural Fill & Material Cost from Quigg Bros., Aberdeen, WA
Compacting Backfill, by hand, no compaction, light soil	484	LCY			\$19.65	\$0.00	108.20%	\$10,290.47	RSMeans Building Construction Data, 2011, 31 23 23.13 Backfill
Haul of Material, 40 MPH, cycle 40 MPH	484	LCY			\$7.64	\$14.10	108.20%	\$11,384.98	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
								\$385,761.93	

Concrete Retaining Wall Surrounding Berm	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	8	EA			\$116.00	\$185.00	100.00%	\$2,408.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Reinforced Concrete Wall									
Mobilization of Equipment	1	EA			\$116.00	\$185.00	95.40%	\$287.15	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Excavation 6 deep', common earth, 4000 SF	1620	SF		\$5.30	\$0.00	\$0.00	108.20%	\$9,290.05	RSMeans Assemblies Cost Data, 2011, A 2010 110 Building Excavation & Backfill

Concrete Wall, below grade section, 6' high, 16" thick, pumped concrete	270	LF		\$58.75	\$84.50	\$0.00	99.30%	\$38,406.76	RSMeans Assemblies Cost Data, 2011, A 2020 110, Walls, Cast-in-Place, add 25% to material cost to include for additional reinforcing (Equipment included in installation cost)
Concrete Wall, above grade section, 16' high, 16" thick, pumped concrete	270	LF		\$155.00	\$225.00	\$0.00	99.30%	\$101,881.80	RSMeans Assemblies Cost Data, 2011, A 2020 110, Walls, Cast-in-Place, add 25% to material cost to include for additional reinforcing (Equipment included in installation cost)
Drainage piping, 6" diameter, PVC, perforated,	270	LF		\$4.05	\$4.04		108.20%	\$2,363.41	RSMeans Assemblies Cost Data, 2011, A 2020 220, Subdrainage Piping (Equipment included in installation cost)
Aesthetic Treatments for Exposed Concrete									
Sandblast Concrete Heavy Treatment	3510	SF		\$1.46	\$3.31	\$0.52	99.30%	\$18,437.92	RSMeans Building Construction Cost Data, 2011, 03 35 29.60
								\$173,075.10	

Landscaping Concrete	Quantity	Unit	Cost per Unit	Material Cost	Installation Cost	Equipment	Location Factor	Total Cost	Comments
Stepped Concrete Wall 4' high									
Length of walls 330' and 320'									
4' high walls, cast-in-place, 8" thick, pumped concrete	650	LF		\$18.10	\$51.50	\$0.00	99.30%	\$44,923.32	RSMeans Assemblies Cost Data, 2011, A 2020 110, Walls, Cast-in-Place (Equipment included in installation cost)
Subdrainage Piping, 4" diameter, PVC, perforated	650	LF		\$2.04	\$3.77	\$0.00	108.20%	\$4,086.17	RSMeans Assemblies Cost Data, 2011, A 2020 220, Subdrainage Piping (Equipment Cost included in Installation Cost)
Aesthetic Treatments for Exposed Concrete									
Sandblast Concrete Heavy Treatment	2000	SF		\$1.46	\$3.31	\$0.52	99.30%	\$10,505.94	RSMeans Building Construction Cost Data, 2011, 03 35 29.60
Concrete or Gravel Platform									
Asphaltic Concrete Paving, 6" stone base, 2" binder course, 1" topping	5750	SF		\$1.85	\$0.20	\$0.24	108.20%	\$14,247.24	RSMeans Building Construction Cost Data, 2011, 32 12 16.14 Asphaltic Concrete Paving
Haul of Material, 40 MPH, cycle 40 MPH	160	CY			\$7.64	\$14.10	108.20%	\$3,763.63	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Landscaping Stairs Up Berm									
Stairs 10' wide, cast on ground, 24 steps	240	LF Nose		\$4.28	\$16.30	\$0.18	95.40%	\$4,712.00	RSMeans Building Construction Cost Data 2011, 03 30 53.40, Concrete in Place
Stair Landing, cast on ground	200	SF		\$3.29	\$4.29	\$0.05	95.40%	\$1,446.26	RSMeans Building Construction Cost Data 2011, 03 30 53.40, Concrete in Place
Stair Handrail, 1 1/4" diameter, galvanized	60	LF		\$57.20	\$14.89	\$1.04	95.40%	\$4,126.15	RSMeans Building Construction Cost Data 2011, 05 52 13.50 Railings, Pipe (add 30% to price for stair handrail)
Sidewalks									
Flatwork in front of ground floor of tower, 6" thick with wire mesh	3500	SF	\$3.60	\$0.00		\$0.00	99.30%	\$12,511.80	Unit SF price only, per RSMeans Square Foot Costs, Residential Modifications/Adjustments/Alternatives, Sidewalks, 3000 PSI with mesh (Material, Installation and Equipment Cost included in Cost per Unit)
								\$100,322.50	

Stairs/Ramps/Guardrails	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Cost	Location Factor	Total Cost	Comments
Mobilization of Equipment	2	EA			\$116.00	\$185.00	100.00%	\$602.00	RSMeans, Building Construction Cost Data, 2011, 01 54 36.50 Mobilization
Platform Perimeters Railing (Top wall at Berm)									
Hand Rail/Guard Rail, Galvanized, 2 rail, 1 1/2" diameter	270	LF		\$32.50	\$9.80		95.40%	\$10,895.63	Galvanized, 2 Rail, 1 1/2" diameter, RSMeans Building Construction Cost Date 2011, 05 52 Metal Railings
								\$11,497.63	

Landscaping	Quantity	Unit	Cost per Unit	Material Cost	Installation Costs	Equipment Costs	Location Factor	Total Cost	Comments
Treated Wood Trellis Walkway 60' x 12'									
Cedar Wood, 2" thick, 40 PSF load at Maximum Span	720	SF		\$5.65	\$3.02	\$0.00	97.30%	\$6,073.86	RSMeans Assemblies Cost Data, 2011, B1010 266 Wood Deck (Equipment Cost included in Installation Cost)
Post & Beams	720	SF		\$9.10	\$4.17	\$0.00	97.30%	\$9,296.43	RSMeans Assemblies Cost Data, 2011, B1010 264 Wood Beam & Joist (Equipment Cost included in Installation Cost)
Berm/Site Landscaping									
Top Soil	330	LCY		\$33.00	\$24.00	\$0.00	108.20%	\$20,352.42	RSMeans Building Construction Cost Data, 2011, 32 91 19.13 Top Dress by hand, 1 CY for 600 SF
Haul of Material, 40 MPH, cycle 40 MPH	330	LCY			\$7.64	\$14.10	108.20%	\$7,762.48	RSMeans Building Construction Cost Data, 2011, 31 05 16, 31 23 23.20 Hauling
Mechanical Seeding, 44 lb/MSY	2000	SY		\$0.20	\$0.14	\$0.09	108.80%	\$935.68	RSMeans Building Construction Cost Data, 2011, 32 92 19.13 Mechanical Seeding
Irrigation System	18000	SF		\$0.32	\$0.46	\$0.00	108.20%	\$15,191.28	RSMeans Building Construction Costs, 2011, 32 84 23.10, sprinkler irrigation system
								\$59,612.15	