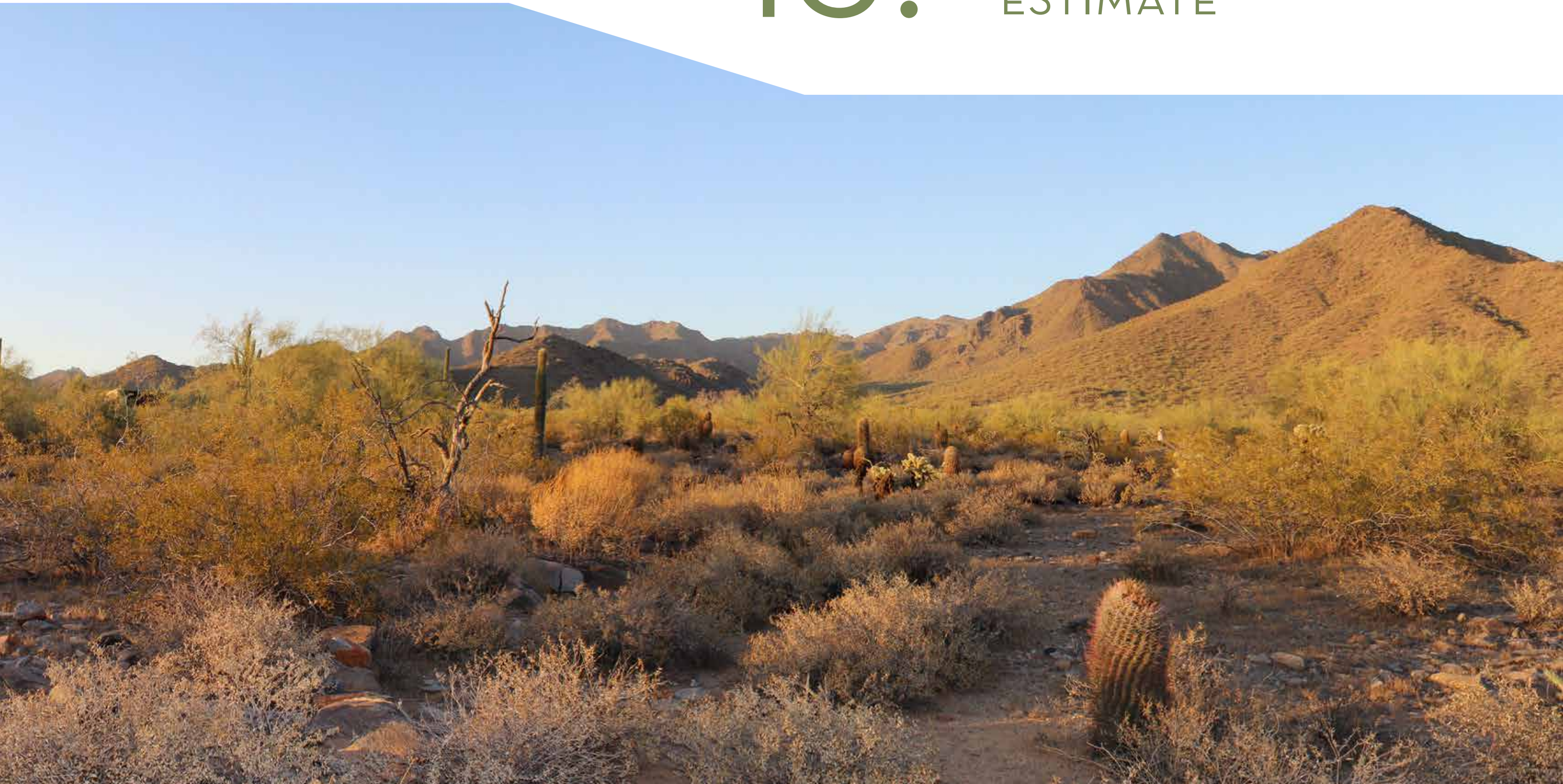


13.

CONCEPTUAL COST  
ESTIMATE



# CONCEPTUAL COST ESTIMATE



**Desert Discovery Center**  
Scottsdale, AZ

Conceptual  
July 18, 2017  
Cumming Project No. 17-00349

**Desert Discovery Center**  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

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Allowances Included

Prepared for Swaback Partners

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Prepared by CUMMING

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

## EXECUTIVE SUMMARY

### 1.1 Introduction

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

The project scope encompasses the construction of multiple pavilions across a signalr site, totalling 50,000gsf

### 1.2 Cost Estimation Breakdown

The total estimated project cost within our cost report is summarized below:

Description	Building	Exhibiton	Total
Construction	\$33,533,443	Excluded	\$33,533,443
<b>Total Project Cost</b>	<b>\$33,533,443</b>		<b>\$33,533,443</b>

### 1.3 Project Schedule

	Start	Finish	Duration
Design & Engineering	TBD	TBD	TBD
Construction	TBD	TBD	TBD

### 1.4 Key Assumptions & Exclusions

This document should be read in association with Appendices 1 - 2 which outline assumptions & project understanding

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

## PROJECT SUMMARY MATRIX

Description	Building			Exhibitions			Total		
	Area	Original	Cost per sf	Area	Original	Cost per sf	Area	Original Budget	Cost per sf
<b>1.0 Construction</b>	<b>58,153</b>	<b>33,533,443</b>	<b>576.65</b>				<b>58,153</b>	<b>33,533,443</b>	<b>576.65</b>
1.1 Net Construction Cost	58,153	20,276,583	348.68						
1.2 Sitework / External Work 10.00%	58,153	6,965,538	119.78						
1.3 Design Contingency 10.00%	58,153	2,724,212	46.85						
1.4 Escalation 10.00%	58,153	2,996,633	51.53						
1.5 Loose Furniture 5.00%	26,985	570,477	21.14						
<b>Project Total</b>		<b>33,533,443</b>						<b>33,533,443</b>	

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

Element	SUMMARY MATRIX														
	Pavilion A 6,045 SF			Pavilion B 2,131 SF			Pavilion C 5,862 SF			Pavilion D 12,947 SF			Pavilion E 3,999 SF		
	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF
<b>A) Shell (1-5)</b>					<b>\$791,666</b>	<b>\$371.50</b>		<b>\$1,663,559</b>	<b>\$283.79</b>		<b>\$3,544,785</b>	<b>\$273.79</b>		<b>\$1,070,877</b>	<b>\$267.79</b>
1 Foundations				\$12,386		\$5.81	\$21,113		\$3.60	\$46,925		\$3.62	\$12,391		\$3.10
2 Vertical Structure				\$46,697		\$21.91	\$128,454		\$21.91	\$283,709		\$21.91	\$87,630		\$21.91
3 Floor & Roof Structures				\$78,940		\$37.04	\$214,687		\$36.62	\$475,098		\$36.70	\$146,631		\$36.67
4 Exterior Cladding				\$621,579		\$291.68	\$1,221,920		\$208.45	\$2,567,749		\$198.33	\$771,348		\$192.89
5 Roofing and Waterproofing				\$32,064		\$15.05	\$77,384		\$13.20	\$171,305		\$13.23	\$52,878		\$13.22
<b>B) Interiors (6-7)</b>		<b>\$27,594</b>	<b>\$4.56</b>		<b>\$83,343</b>	<b>\$39.11</b>		<b>\$91,145</b>	<b>\$15.55</b>		<b>\$268,148</b>	<b>\$20.71</b>		<b>\$23,482</b>	<b>\$5.87</b>
6 Interior Partitions, Doors and Glazing							\$40,658		\$6.94	\$190,603		\$14.72			
7 Floor, Wall and Ceiling Finishes	\$27,594		\$4.56	\$83,343		\$39.11	\$50,487		\$8.61	\$77,545		\$5.99	\$23,482		\$5.87
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$91,421</b>	<b>\$15.12</b>		<b>\$146,934</b>	<b>\$68.95</b>		<b>\$119,567</b>	<b>\$20.40</b>		<b>\$252,187</b>	<b>\$19.48</b>		<b>\$70,922</b>	<b>\$17.74</b>
8 Function Equipment and Specialties		\$91,421	\$15.12	\$146,934		\$68.95	\$119,567		\$20.40	\$252,187		\$19.48	\$70,922		\$17.74
9 Stairs and Vertical Transportation															
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$362,821</b>	<b>\$60.02</b>		<b>\$124,152</b>	<b>\$58.26</b>		<b>\$404,641</b>	<b>\$69.03</b>		<b>\$804,029</b>	<b>\$62.10</b>		<b>\$233,733</b>	<b>\$58.45</b>
10 Plumbing Systems							\$53,711		\$9.16	\$41,663		\$3.22			
11 Heating, Ventilation and Air Conditioning	\$75,079		\$12.42	\$22,716		\$10.66	\$89,702		\$15.30	\$155,374		\$12.00	\$42,629		\$10.66
12 Electrical Lighting, Power and Communications	\$267,189		\$44.20	\$94,190		\$44.20	\$241,298		\$41.16	\$562,972		\$43.48	\$176,756		\$44.20
13 Fire Protection Systems	\$20,553		\$3.40	\$7,245		\$3.40	\$19,931		\$3.40	\$44,020		\$3.40	\$14,348		\$3.59
<b>E) Site Construction (14-16)</b>															
14 Site Preparation and Demolition															
15 Site Paving, Structures & Landscaping															
16 Utilities on Site															
<b>F) Off-Site Facility</b>															
Subtotal Cost		\$481,835	\$79.71		\$1,146,094	\$537.82		\$2,278,912	\$388.76		\$4,869,149	\$376.08		\$1,399,015	\$349.84
General Conditions	8.0%	\$38,547	\$6.38	\$91,688	\$43.03	\$182,313	\$31.10	\$389,532	\$30.09	\$111,921	\$27.99	\$27.99	\$111,921	\$27.99	\$27.99
General Requirements	3.5%	\$18,213	\$3.01	\$43,322	\$20.33	\$86,143	\$14.70	\$184,054	\$14.22	\$52,883	\$13.22	\$13.22	\$52,883	\$13.22	\$13.22
Bonds & Insurance	2.6%	\$12,528	\$2.07	\$29,798	\$13.98	\$59,252	\$10.11	\$126,598	\$9.78	\$36,374	\$9.10	\$9.10	\$36,374	\$9.10	\$9.10
Subguard Insurance	1.0%	\$4,818	\$0.80	\$11,461	\$5.38	\$22,789	\$3.89	\$48,691	\$3.76	\$13,990	\$3.50	\$3.50	\$13,990	\$3.50	\$3.50
Contractor's Fee	3.5%	\$19,458	\$3.22	\$46,283	\$21.72	\$92,029	\$15.70	\$196,631	\$15.19	\$56,496	\$14.13	\$14.13	\$56,496	\$14.13	\$14.13
Design Contingency	10.0%	\$57,540	\$9.52	\$136,865	\$64.23	\$272,144	\$46.43	\$581,465	\$44.91	\$167,068	\$41.78	\$41.78	\$167,068	\$41.78	\$41.78
Escalation to MOC, 09/15/17	10.0%	\$63,294	\$10.47	\$150,551	\$70.65	\$299,358	\$51.07	\$639,612	\$49.40	\$183,775	\$45.96	\$45.96	\$183,775	\$45.96	\$45.96
<b>Total Estimated Construction Cost</b>		<b>\$696,233</b>	<b>\$115.18</b>	<b>\$1,656,062</b>	<b>\$777.13</b>	<b>\$3,292,940</b>	<b>\$561.74</b>	<b>\$7,035,732</b>	<b>\$543.43</b>	<b>\$2,021,522</b>	<b>\$505.51</b>	<b>\$505.51</b>	<b>\$2,021,522</b>	<b>\$505.51</b>	<b>\$505.51</b>

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

Element	SUMMARY MATRIX														
	Pavilion H 4,252 SF			Pavilion K 3,305 SF			Pavilion L 9,045 SF			Exterior Improvements 33,067 SF			Overall Totals 58,153		
	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF	Subtotal	Total	Cost/SF
<b>A) Shell (1-5)</b>		<b>\$1,460,151</b>	<b>\$343.40</b>		<b>\$1,066,972</b>	<b>\$322.84</b>		<b>\$2,704,205</b>	<b>\$298.97</b>					<b>\$12,302,214</b>	<b>\$211.55</b>
1 Foundations	\$18,771		\$4.41	\$12,831		\$3.88	\$42,537		\$4.70	\$166,953		\$2.87			
2 Vertical Structure	\$93,174		\$21.91	\$72,423		\$21.91	\$198,204		\$21.91	\$910,291		\$15.65			
3 Floor & Roof Structures	\$157,370		\$37.01	\$121,620		\$36.80	\$334,470		\$36.98	\$1,528,815		\$26.29			
4 Exterior Cladding	\$1,133,148		\$266.50	\$815,344		\$246.70	\$2,005,553		\$221.73	\$9,136,641		\$157.12			
5 Roofing and Waterproofing	\$57,688		\$13.57	\$44,755		\$13.54	\$123,441		\$13.65	\$559,515		\$9.62			
<b>B) Interiors (6-7)</b>		<b>\$58,020</b>	<b>\$13.65</b>		<b>\$19,346</b>	<b>\$5.85</b>		<b>\$167,550</b>	<b>\$18.52</b>					<b>\$738,627</b>	<b>\$12.70</b>
6 Interior Partitions, Doors and Glazing	\$21,226		\$4.99				\$113,834		\$12.59	\$366,321		\$6.30			
7 Floor, Wall and Ceiling Finishes	\$36,794		\$8.65	\$19,346		\$5.85	\$53,716		\$5.94	\$372,305		\$6.40			
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$93,727</b>	<b>\$22.04</b>		<b>\$61,049</b>	<b>\$18.47</b>		<b>\$167,905</b>	<b>\$18.56</b>					<b>\$1,003,712</b>	<b>\$17.26</b>
8 Function Equipment and Specialties	\$93,727		\$22.04	\$61,049		\$18.47	\$167,905		\$18.56	\$1,003,712		\$17.26			
9 Stairs and Vertical Transportation															
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$283,872</b>	<b>\$66.76</b>		<b>\$193,170</b>	<b>\$58.45</b>		<b>\$528,489</b>	<b>\$58.43</b>		<b>\$557,515</b>	<b>\$16.86</b>		<b>\$3,492,423</b>	<b>\$60.06</b>
10 Plumbing Systems	\$40,459		\$9.52							\$135,833		\$2.34			
11 Heating, Ventilation and Air Conditioning	\$49,005		\$11.53	\$35,231		\$10.66	\$95,061		\$10.51	\$564,798		\$9.71			
12 Electrical Lighting, Power and Communications	\$179,273		\$42.16	\$146,081		\$44.20	\$399,789		\$44.20	\$492,669	\$14.90	\$2,560,217	\$44.03		
13 Fire Protection Systems	\$15,135		\$3.56	\$11,858		\$3.59	\$33,639		\$3.72	\$64,846	\$1.96	\$231,575	\$3.98		
<b>E) Site Construction (14-16)</b>											<b>\$3,375,374</b>	<b>\$102.08</b>		<b>\$3,375,374</b>	<b>\$58.04</b>
14 Site Preparation and Demolition															
15 Site Paving, Structures & Landscaping										\$3,309,594	\$100.09	\$3,309,594	\$56.91		
16 Utilities on Site										\$65,780	\$1.99	\$65,780	\$1.13		
<b>F) Off-Site Facility</b>											<b>\$1,900,000</b>	<b>\$300.00</b>		<b>\$1,900,000</b>	<b>\$300.00</b>
Subtotal Cost		\$1,895,770	\$445.85		\$1,340,537	\$405.61		\$3,568,148	\$394.49		\$5,832,890	\$176.40		\$22,812,350	\$392
General Conditions	8.0%	\$151,662	\$35.67	\$107,243	\$32.45	\$285,452	\$31.56	\$466,631	\$14.11	\$1,824,988	\$31.38				
General Requirements	3.5%	\$71,660	\$16.85	\$50,672	\$15.33	\$134,876	\$14.91	\$220,483	\$6.67	\$862,307	\$14.83				
Bonds & Insurance	2.6%	\$49,290	\$11.59	\$34,854	\$10.55	\$92,772	\$10.26	\$151,655	\$4.59	\$593,121	\$10.20				
Subguard Insurance	1.0%	\$18,958	\$4.46	\$13,405	\$4.06	\$35,681	\$3.94	\$58,329	\$1.76	\$228,123	\$3.92				
Contractor's Fee	3.5%	\$76,557	\$18.00	\$54,135	\$16.38	\$144,093	\$15.93	\$235,550	\$7.12	\$921,231	\$15.84				
Design Contingency	10.0%	\$226,390	\$53.24	\$160,085	\$48.44	\$426,102	\$47.11	\$696,554	\$21.07	\$2,724,212	\$46.85				
Escalation to MOC, 09/15/17	10.0%	\$249,029	\$58.57	\$176,093	\$53.28	\$468,712	\$51.82	\$766,209	\$23.17	\$2,996,633	\$51.53				
<b>Total Estimated Construction Cost</b>		<b>\$2,739,315</b>	<b>\$644.24</b>	<b>\$1,937,024</b>	<b>\$586.09</b>	<b>\$5,155,837</b>	<b>\$570.02</b>	<b>\$8,428,300</b>	<b>\$254.89</b>	<b>\$32,962,965</b>	<b>\$566.84</b>				

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
 Scottsdale, AZ  
 Conceptual

Project # 17-00349  
 07/18/17

## SCHEDULE OF AREAS

Schedule of Areas SF

### 1. Enclosed Areas

Pavilion	SF
Pavilion A	6,045
Pavilion B	2,131
Pavilion C	5,862
Pavilion D	12,947
Pavilion E	3,999
Pavilion H	4,252
Pavilion K	3,305
Pavilion L	9,045

**Total Gross Floor Area** 47,586

### 2. Unenclosed Areas

Pavilion	SF
Pavilion A	500
Pavilion B	1,890
Pavilion F	3,134
Pavilion G	4,804
Pavilion H	1,001
Pavilion I	5,160
Pavilion J	1,907
Pavilion K	1,263
Pavilion L	1,474

**Total Unenclosed** 21,133

**Total** 58,153

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## SUMMARY - EXTERIOR IMPROVEMENTS

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>				
1 Foundations				
2 Vertical Structure				
3 Floor & Roof Structures				
4 Exterior Cladding				
5 Roofing and Waterproofing				
<b>B) Interiors (6-7)</b>				
6 Interior Partitions, Doors and Glazing				
7 Floor, Wall and Ceiling Finishes				
<b>C) Equipment and Vertical Transportation (8-9)</b>				
8 Function Equipment and Specialties				
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>				
12 Electrical Lighting, Power and Communications	\$492,669		\$14.90	
13 Fire Protection Systems	\$64,846		\$1.96	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping	\$3,309,594		\$100.09	
32 Exterior Improvements	\$65,780		\$1.99	
<b>F) Off-site Facility</b>				
		\$1,900,000		\$300.00
Subtotal		\$5,832,890		\$176.40
General Conditions	8.00%	\$466,631		\$14.11
Subtotal		\$6,299,521		\$190.51
General Requirements	3.50%	\$220,483		\$6.67
Subtotal		\$6,520,004		\$197.18
Bonds & Insurance	2.60%	\$151,655		\$4.59
Subtotal		\$6,671,659		\$201.76
Subguard Insurance	1.00%	\$58,329		\$1.76
Subtotal		\$6,729,988		\$203.53
Contractor's Fee	3.50%	\$235,550		\$7.12
Subtotal		\$6,965,538		\$210.65
Design Contingency	10.00%	\$696,554		\$21.07
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$8,428,300</b>		<b>\$254.89</b>

Total Area: 33,067 SF

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - EXTERIOR IMPROVEMENTS

Element	Quantity	Unit	Unit Cost	Total
<b>12 Electrical Lighting, Power and Communications</b>				
Site service and distribution				
Site service and distribution	48,566	sf	\$6.00	\$291,396
Emergency power/Generator provisions	48,566	sf	\$1.00	\$48,566
Site Lighting	48,566	sf	\$0.35	\$16,998
Site Power	48,566	sf	\$0.35	\$16,998
Site Comm	48,566	sf	\$0.08	\$3,885
Site Security	48,566	ea	\$1.75	\$84,991
Miscellaneous				
Electrical Work				
Power and Lighting				
Service and distribution	675	sf	\$5.50	\$3,713
Emergency Service and Distribution	675	sf	\$3.50	\$2,363
HVAC & Equipment	675	sf	\$0.80	\$540
Convenience Power	675	sf	\$3.00	\$2,025
Lighting & Lighting Controls	675	sf	\$15.00	\$10,125
Low Voltage/Communication Systems				
Phone/data system				
Voice/Data System (Raceways Only)	675	sf	\$2.30	\$1,553
Voice/Data System	675	sf	\$4.50	\$3,038
Clock, PA, speaker system				
Clock, PA, Speaker System (Conduit Only)	675	sf	\$0.75	\$506
Clock, PA, Speaker System	675	sf	\$0.50	\$338
Security, access control system				
Security & Access Control System (Conduit Only)	675	sf	\$1.10	\$743
Security & Access Control System	675	sf	\$0.75	\$506
CCTV System (Conduit Only)	675	sf	\$0.75	\$506
CCTV System	675	sf	\$2.00	\$1,350
Electroinic Safety and Security Systems Work				
Fire alarm system	675	sf	\$3.75	\$2,531

Total - Electrical Lighting, Power and Communications \$492,669

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - EXTERIOR IMPROVEMENTS

Element	Quantity	Unit	Unit Cost	Total
<b>13 Fire Protection Systems</b>				
Additional Fire Protection Requirements				
Fire water c/w meter, double check valve assembly	1	ea	\$30,850.00	\$30,850
Supervision	48,566	sf	\$0.20	\$9,713
Design/engineering, rentals, tagging & identification	48,566	sf	\$0.50	\$24,283
<b>Total - Fire Protection Systems</b>				<b>\$64,846</b>
<b>15 Site Paving, Structures &amp; Landscaping</b>				
AC Paving				
Fire access, 4" AC over 12" AB	32,000	sf	\$8.94	\$286,080
Decomposed Granite paving(3") for parking	100,000	sf	\$2.66	\$266,000

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - EXTERIOR IMPROVEMENTS

Element	Quantity	Unit	Unit Cost	Total
<b>Concrete Curbs</b>				
Concrete curbs & gutter	6,190	lf	\$27.77	\$171,896
<b>Parking Lot Striping / Signage</b>				
Standard stall	642	ea	\$22.59	\$14,503
Handicap symbols	13	ea	\$67.78	\$870
Concrete wheel stops	642	ea	\$47.06	\$30,213
Directional signage	14	ea	\$124.14	\$1,738
Hatched striping	3,000	sf	\$4.46	\$13,380
<b>Landscape</b>				
Planting				
Shrubbery, allowance	1	al	\$250,000.00	\$250,000
Decomposed granite paving (3") incl. fabric	45,000	sf	\$2.66	\$119,700
<b>Site Walls</b>				
CIP colored concrete seatwalls, 1.5' high	2,500	lf	\$195.28	\$488,200
<b>Site Specialties</b>				
Metal bridge	1	al	\$100,000.00	\$100,000
Open Exhibits- Prep & foundation	21,133	sf	\$25.00	\$528,325
Exterior Sunshades	1	al	\$152,820.00	\$152,820
Exterior light weight canopy system	5,000	sf	\$125.00	\$625,000
Premium: add photovoltaic panels to canopy system	3,478	sf	\$75.00	\$260,870
<b>Total - Site Paving, Structures &amp; Landscaping</b>				<b>\$3,309,594</b>
<b>16 Utilities on Site</b>				
Sanitary Sewer				
6" Sanitary sewer line, incl. trenching & backfill	1,000	lf	\$65.78	\$65,780
<b>Total - Utilities on Site</b>				<b>\$65,780</b>
<b>Off - Site Facility</b>				
Facility for additional administration & overflow parking	6334	sf	\$300.00	\$1,900,000



# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## SUMMARY - PAVILION A

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>				
1 Foundations				
2 Vertical Structure				
3 Floor & Roof Structures				
4 Exterior Cladding				
5 Roofing and Waterproofing				
<b>B) Interiors (6-7)</b>		<b>\$27,594</b>		<b>\$4.56</b>
6 Interior Partitions, Doors and Glazing				
7 Floor, Wall and Ceiling Finishes	\$27,594		\$4.56	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$91,421</b>		<b>\$15.12</b>
8 Function Equipment and Specialties	\$91,421		\$15.12	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$362,821</b>		<b>\$60.02</b>
10 Plumbing Systems				
11 Heating, Ventilation and Air Conditioning	\$75,079		\$12.42	
12 Electrical Lighting, Power and Communications	\$267,189		\$44.20	
13 Fire Protection Systems	\$20,553		\$3.40	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$481,835		\$79.71
General Conditions	8.00%	\$38,547		\$6.38
Subtotal		\$520,382		\$86.08
General Requirements	3.50%	\$18,213		\$3.01
Subtotal		\$538,595		\$89.10
Bonds & Insurance	2.60%	\$12,528		\$2.07
Subtotal		\$551,123		\$91.17
Subguard Insurance	1.00%	\$4,818		\$0.80
Subtotal		\$555,941		\$91.97
Contractor's Fee	3.50%	\$19,458		\$3.22
Subtotal		\$575,399		\$95.19
Design Contingency	10.00%	\$57,540		\$9.52
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$696,233</b>		<b>\$115.18</b>

Total Area: 6,045 SF

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION A

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>			Repurpose existing	
<b>Total - Foundations</b>				
<b>2 Vertical Structure</b>			Repurpose existing	
<b>Total - Vertical Structure</b>				
<b>3 Floor &amp; Roof Structures</b>			Repurpose existing	
<b>Total - Floor &amp; Roof Structures</b>				
<b>4 Exterior Cladding</b>			Repurpose Existing	
<b>Total - Exterior Cladding</b>				
<b>5 Roofing and Waterproofing</b>			Repurpose Existing	
<b>Total - Roofing and Waterproofing</b>				
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions			Assume open space (no fixed interior walls)	
Moveable walls			To Desert Great Room only	
Interior Glazing			Assume open space (no fixed interior walls)	
Interior glazing				
Door sidelights or transom				
Interior Doors			Assume not required	
<b>Total - Interior Partitions, Doors and Glazing</b>				

### 7 Floor, Wall and Ceiling Finishes

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Desert Discovery Center  
Scottsdale, AZ  
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Project # 17-00349  
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## DETAIL ELEMENTS - PAVILION A

Element	Quantity	Unit	Unit Cost	Total
Interior Finishes				
Floors				
Integral color Concrete	6,045	sf	\$2.44	\$14,750
Base				
Wood base, 4"	271	sf	\$11.04	\$2,991
Walls				
Paint walls	1,620	sf	\$0.57	\$923
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	6,045	sf	\$0.65	\$3,929
<b>Total - Floor, Wall and Ceiling Finishes</b>				<b>\$27,594</b>
<b>8 Function Equipment and Specialties</b>				
Toilet Cubicles				not required
Building Specialties				
Storage cabinets				included in building casework
Fire extinguisher and cabinet, allowance	2	ea	\$372.85	\$746
Window Covering				
Mechoshades, manual				not required
Building Casework (allowance)	6,045	sf	\$15.00	\$90,675
<b>Total - Function Equipment and Specialties</b>				<b>\$91,421</b>
<b>9 Stairs and Vertical Transportation</b>				
Stairs				Assume not required
<b>Total - Stairs and Vertical Transportation</b>				
<b>10 Plumbing Systems</b>				not required
<b>Total - Plumbing Systems</b>				

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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05/04/17

## DETAIL ELEMENTS - PAVILION A

Element	Quantity	Unit	Unit Cost	Total
<b>11 Heating, Ventilation and Air Conditioning</b>				
Air-Side Equipment	6,045	sf	\$4.27	\$25,812
Air Distribution	6,045	sf	\$5.28	\$31,918
HVAC Controls	6,045	sf	\$2.37	\$14,327
Additional mechanical requirements	6,045	sf	\$0.50	\$3,023

**Total - Heating, Ventilation and Air Conditioning** **\$75,079**

### 12 Electrical Lighting, Power and Communications

#### Electrical Work

##### Power and Lighting

Service and distribution	6,045	sf	\$5.50	\$33,248
Emergency Service and Distribution	6,045	sf	\$3.50	\$21,158
HVAC & Equipment	6,045	sf	\$0.80	\$4,836
Convenience Power	6,045	sf	\$3.00	\$18,135
Lighting & Lighting Controls	6,045	sf	\$15.00	\$90,675

#### Low Voltage/Communication Systems

##### Phone/data system

Voice/Data System (Raceways Only)	6,045	sf	\$2.30	\$13,904
Voice/Data System	6,045	sf	\$4.50	\$27,203

##### Clock, PA, speaker system

Clock, PA, Speaker System (Conduit Only)	6,045	sf	\$0.75	\$4,534
Clock, PA, Speaker System	6,045	sf	\$0.50	\$3,023

##### Security, access control system

Security & Access Control System (Conduit Only)	6,045	sf	\$1.10	\$6,650
Security & Access Control System	6,045	sf	\$0.75	\$4,534
CCTV System (Conduit Only)	6,045	sf	\$0.75	\$4,534
CCTV System	6,045	sf	\$2.00	\$12,090

#### Electroinic Safety and Security Systems Work

Fire alarm system	6,045	sf	\$3.75	\$22,669
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**Total - Electrical Lighting, Power and Communications** **\$267,189**

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
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## DETAIL ELEMENTS - PAVILION A

Element	Quantity	Unit	Unit Cost	Total
<b>13 Fire Protection Systems</b>				
Automatic Sprinkler System	6,045	sf	\$3.40	\$20,553

**Total - Fire Protection Systems** **\$20,553**

**14 Site Preparation and Demolition** not required

**Total - Site Preparation and Demolition**

**15 Site Paving, Structures & Landscaping** see Exterior

**Total - Site Paving, Structures & Landscaping**

**16 Utilities on Site** see Exterior

**Total - Utilities on Site**

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## SUMMARY - PAVILION B

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$791,666</b>		<b>\$371.50</b>
1 Foundations	\$12,386		\$5.81	
2 Vertical Structure	\$46,697		\$21.91	
3 Floor & Roof Structures	\$78,940		\$37.04	
4 Exterior Cladding	\$621,579		\$291.68	
5 Roofing and Waterproofing	\$32,064		\$15.05	
<b>B) Interiors (6-7)</b>		<b>\$83,343</b>		<b>\$39.11</b>
6 Interior Partitions, Doors and Glazing				
7 Floor, Wall and Ceiling Finishes	\$83,343		\$39.11	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$146,934</b>		<b>\$68.95</b>
8 Function Equipment and Specialties	\$146,934		\$68.95	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$124,152</b>		<b>\$58.26</b>
10 Plumbing Systems				
11 Heating, Ventilation and Air Conditioning	\$22,716		\$10.66	
12 Electrical Lighting, Power and Communications	\$94,190		\$44.20	
13 Fire Protection Systems	\$7,245		\$3.40	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$1,146,094		\$537.82
General Conditions	8.00%	\$91,688		\$43.03
Subtotal		\$1,237,782		\$580.85
General Requirements	3.50%	\$43,322		\$20.33
Subtotal		\$1,281,104		\$601.18
Bonds & Insurance	2.60%	\$29,798		\$13.98
Subtotal		\$1,310,902		\$615.16
Subguard Insurance	1.00%	\$11,461		\$5.38
Subtotal		\$1,322,363		\$620.54
Contractor's Fee	3.50%	\$46,283		\$21.72
Subtotal		\$1,368,646		\$642.26
Design Contingency	10.00%	\$136,865		\$64.23
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$1,656,062</b>		<b>\$777.13</b>

Total Area: 2,131 SF

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation			assume not required	
Concrete layout	2,131	sf	\$0.18	\$384
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 8 footings in total				
Concrete, spread footings, 4000 psi	1	cy	\$225.14	\$267
Formwork, spread footings	48	lf	\$5.66	\$272
Foundation reinforcing 180# / cy)	213	lbs	\$1.26	\$269
Excavation	1	cy	\$14.79	\$19
Backfill	0	cy	\$12.79	\$2
Haul excess	1	cy	\$13.43	\$16
Continuous Footings			assume not required	
Grade Beams, assume 1ft x 2ft x 1ft	150	lf		
Concrete, grade beams, 4000 psi	11	cy	\$225.14	\$2,502
Formwork, grade beams	300	lf	\$4.90	\$1,470
Foundation reinforcing (180# / cy)	2,000	lbs	\$1.26	\$2,520
Excavation	12	cy	\$14.79	\$181
Backfill	1	cy	\$12.79	\$14
Haul excess	11	cy	\$13.43	\$149
Pile Foundations (Including Mobilization):			assume not required	
Miscellaneous				
Concrete, elevator pit			assume not required	
Perimeter foundation drain	150	lf	\$28.82	\$4,323
<b>Total - Foundations</b>				<b>\$12,386</b>

### 2 Vertical Structure

Structural Steel (Non-OSHDP Pricing), assume 12lbs/sf	13	t	\$3,272.61	\$41,844
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	13	t	\$379.57	\$4,853
<b>Total - Vertical Structure</b>				<b>\$46,697</b>

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Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	33	cy	\$225.71	\$7,482
Formwork, slab on grade 5" thick, 3000 psi	150	lf	\$5.32	\$798
Sand base, 4"	2,131	sf	\$1.84	\$3,921
Gravel sub base, 6"	2,131	sf	\$1.68	\$3,580
Slab on grade reinforcing (#2 / sf)	4,262	lbs	\$1.26	\$5,370
Finish to slab	2,131	sf	\$0.51	\$1,087
Vapor barrier	2,131	sf	\$0.28	\$597
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	3	cy	\$221.42	\$734
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	2,557	sf	\$5.53	\$14,141
Finish to concrete deck	2,557	sf	\$0.51	\$1,304
Roof Decking				
3", 20 Ga. metal deck	2,131	sf	\$6.11	\$13,020
Overhangs, allow 20% of area	426	sf	\$6.11	\$2,604
Deck edging, 16 Ga.	170	lf	\$11.20	\$1,904
Miscellaneous				
Expansion joint/cover	2,131	sf	\$0.15	\$320
Miscellaneous metals, allowance	2,131	sf	\$1.00	\$2,131
Rough Carpentry, allowance	2,131	sf	\$1.00	\$2,131
Framing, 2" x 6", ceilings	2,131	sf	\$5.50	\$11,721
Plywood Sheathing				
Roof sheathing, 1/2"	2,131	sf	\$2.20	\$4,688
Exterior soffits (20% overhang)	426	sf	\$2.50	\$1,066
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	2,131	sf	\$0.08	\$170
Miscellaneous rough hardware	2,131	sf	\$0.08	\$170
<b>Total - Floor &amp; Roof Structures</b>				<b>\$78,940</b>

### 4 Exterior Cladding

Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	2,533	sf	\$14.55	\$36,860
Sheathing				
Exterior walls, densglass sheathing	2,533	sf	\$3.09	\$7,828
Exterior Wall Insulation				
Sound batt insulation, unbacked				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	2,533	sf	\$1.44	\$3,648

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

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05/04/17

## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
Gypsum Board to Interior of Exterior Interior of exterior, 5/8" thick gypsum board X, finished	2,533	sf	\$2.76	\$6,992
Exterior Rammed Earth Wall	167	cy	\$750.00	\$125,000
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	2,533	sf	\$8.14	\$20,621
Add for steel troweled finish, hand applied (smooth)	2,533	sf	\$2.21	\$5,599
Exterior Glazing				
Kawneer framed curtainwall incl. all support framework, laminated glazing with tran	900	sf	\$75.00	\$67,500
Framed curtainwall with bi-folding system	900	sf	\$356.24	\$320,616
Exterior Doors				
Aluminum door sets, frames and hardware, glazed, double	2	pr	\$9,771.48	\$19,543
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set	1	ea	\$4,269.75	\$4,270
Aluminum Sunshades / Roof canopies				
Exterior sunshades	1	al	see Exterior	
Miscellaneous				
Firesafing at perimeter walls	150	lf	\$8.13	\$1,220

**Total - Exterior Cladding** **\$621,579**

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	2,557	sf	\$4.98	\$12,735
Roof Insulation				
Rigid roof insulation, poly iso insulation	2,557	sf	\$4.81	\$12,300
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	150	lf	\$19.75	\$2,963
Aluminum downspouts	180	lf	\$19.75	\$3,555
Access hatch				assume not required
Miscellaneous				
Caulking allowance	2,557	sf	\$0.20	\$511

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

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## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Roofing and Waterproofing</b>				<b>\$32,064</b>
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions				Assume open space (no fixed interior walls)
Moveable walls				To Desert Great Room only
Interior Glazing				Assume open space (no fixed interior walls)
Interior glazing				
Door sidelights or transom				
Interior Doors				

**Total - Interior Partitions, Doors and Glazing**

### 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Integral color Concrete	2,131	sf	\$2.44	\$5,200
Base				
Wood base, 4"	150	lf	\$11.04	\$1,656
Walls				
Fabric wrapped acoustic wall panels	2,533	sf	\$11.79	\$29,868
Paint walls	2,533	sf	\$0.57	\$1,444
Allowance for feature / premium finishes	1		\$15,000.00	\$15,000
Ceiling				
Fiber wrapped feature ceiling panels	2,131	sf	\$14.16	\$30,175

**Total - Floor, Wall and Ceiling Finishes** **\$83,343**

### 8 Function Equipment and Specialties

Toilet Cubicles				not required
Building Specialties				
Storage cabinets				included with building casework
Fire extinguisher and cabinet, allowance	1	ea	\$372.85	\$373
Window Covering				
Mechoshades, manual	900	sf	\$8.94	\$8,046
Building Casework (allowance)	2,131	sf	\$65.00	\$138,515

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Function Equipment and Specialties</b>				<b>\$146,934</b>
<b>9 Stairs and Vertical Transportation</b>				
Stairs				Assume not required
<b>Total - Stairs and Vertical Transportation</b>				
<b>10 Plumbing Systems</b>				N/A
<b>Total - Plumbing Systems</b>				
<b>11 Heating, Ventilation and Air Conditioning</b>				
Air-Side Equipment	2,131	sf	\$4.17	\$8,886
Air Distribution	2,131	sf	\$5.28	\$11,252
HVAC Controls	2,131	sf	\$0.72	\$1,534
Additional mechanical requirements	2,131	sf	\$0.49	\$1,044
<b>Total - Heating, Ventilation and Air Conditioning</b>				<b>\$22,716</b>
<b>12 Electrical Lighting, Power and Communications</b>				
Electrical Work				
Power and Lighting				
Service and distribution	2,131	sf	\$5.50	\$11,721
Emergency Service and Distribution	2,131	sf	\$3.50	\$7,459
HVAC & Equipment	2,131	sf	\$0.80	\$1,705
Convenience Power	2,131	sf	\$3.00	\$6,393
Lighting & Lighting Controls	2,131	sf	\$15.00	\$31,965
Low Voltage/Communication Systems				
Phone/data system				
Voice/Data System (Raceways Only)	2,131	sf	\$2.30	\$4,901
Voice/Data System	2,131	sf	\$4.50	\$9,590
Clock, PA, speaker system				
Clock, PA, Speaker System (Conduit Only)	2,131	sf	\$0.75	\$1,598
Clock, PA, Speaker System	2,131	sf	\$0.50	\$1,066

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION B

Element	Quantity	Unit	Unit Cost	Total
Security, access control system				
Security & Access Control System (Conduit Only)	2,131	sf	\$1.10	\$2,344
Security & Access Control System	2,131	sf	\$0.75	\$1,598
CCTV System (Conduit Only)	2,131	sf	\$0.75	\$1,598
CCTV System	2,131	sf	\$2.00	\$4,262
Electronic Safety and Security Systems Work				
Fire alarm system	2,131	sf	\$3.75	\$7,991
<b>Total - Electrical Lighting, Power and Communications</b>				<b>\$94,190</b>
<b>13 Fire Protection Systems</b>				
Automatic Sprinkler System	2,131	sf	\$3.40	\$7,245
<b>Total - Fire Protection Systems</b>				<b>\$7,245</b>
<b>14 Site Preparation and Demolition</b>				see Exterior
<b>Total - Site Preparation and Demolition</b>				
<b>15 Site Paving, Structures &amp; Landscaping</b>				see Exterior
<b>Total - Site Paving, Structures &amp; Landscaping</b>				
<b>16 Utilities on Site</b>				see Exterior
<b>Total - Utilities on Site</b>				

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## SUMMARY - PAVILION C

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$1,663,559</b>		<b>\$283.79</b>
1 Foundations	\$21,113		\$3.60	
2 Vertical Structure	\$128,454		\$21.91	
3 Floor & Roof Structures	\$214,687		\$36.62	
4 Exterior Cladding	\$1,221,920		\$208.45	
5 Roofing and Waterproofing	\$77,384		\$13.20	
<b>B) Interiors (6-7)</b>		<b>\$91,145</b>		<b>\$15.55</b>
6 Interior Partitions, Doors and Glazing	\$40,658		\$6.94	
7 Floor, Wall and Ceiling Finishes	\$50,487		\$8.61	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$119,567</b>		<b>\$20.40</b>
8 Function Equipment and Specialties	\$119,567		\$20.40	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$404,641</b>		<b>\$69.03</b>
10 Plumbing Systems	\$53,711		\$9.16	
11 Heating, Ventilation and Air Conditioning	\$89,702		\$15.30	
12 Electrical Lighting, Power and Communications	\$241,298		\$41.16	
13 Fire Protection Systems	\$19,931		\$3.40	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$2,278,912		\$388.76
General Conditions	8.00%	\$182,313		\$31.10
Subtotal		\$2,461,225		\$419.86
General Requirements	3.50%	\$86,143		\$14.70
Subtotal		\$2,547,368		\$434.56
Bonds & Insurance	2.60%	\$59,252		\$10.11
Subtotal		\$2,606,620		\$444.66
Subguard Insurance	1.00%	\$22,789		\$3.89
Subtotal		\$2,629,409		\$448.55
Contractor's Fee	3.50%	\$92,029		\$15.70
Subtotal		\$2,721,438		\$464.25
Design Contingency	10.00%	\$272,144		\$46.43
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$3,292,940</b>		<b>\$561.74</b>

Total Area: 5,862 SF



# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation			assume not required	
Concrete layout	5,862	sf	\$0.18	\$1,055
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 10 footings in total				
Concrete, spread footings, 4000 psi	1.5	cy	\$225.14	\$334
Formwork, spread footings	80	lf	\$5.66	\$453
Foundation reinforcing 180# / cy)	267	lbs	\$1.26	\$336
Excavation	1.6	cy	\$14.79	\$24
Backfill	0.1	cy	\$12.79	\$2
Haul excess	1.5	cy	\$13.43	\$20
Continuous Footings			assume not required	
Grade Beams, assume 1ft x 1ft x 1ft	370	lf		
Concrete, grade beams, 4000 psi	13.7	cy	\$225.14	\$3,085
Formwork, grade beams	740	lf	\$4.90	\$3,626
Foundation reinforcing (180# / cy)	2,467	lbs	\$1.26	\$3,108
Excavation	15	cy	\$14.79	\$223
Backfill	1	cy	\$12.79	\$18
Haul excess	14	cy	\$13.43	\$184
Pile Foundations (Including Mobilization):			assume not required	
Miscellaneous				
Concrete, elevator pit			assume not required	
Perimeter foundation drain	300	lf	\$28.82	\$8,646
<b>Total - Foundations</b>				<b>\$21,113</b>

### 2 Vertical Structure

Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	35.2	t	\$3,272.61	\$115,104
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	35.2	t	\$379.57	\$13,350
<b>Total - Vertical Structure</b>				<b>\$128,454</b>

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	91	cy	\$225.71	\$20,582
Formwork, slab on grade 5" thick, 3000 psi	300	lf	\$5.32	\$1,596
Sand base, 4"	5,862	sf	\$1.84	\$10,786
Gravel sub base, 6"	5,862	sf	\$1.68	\$9,848
Slab on grade reinforcing (#2 / sf)	11,724	lbs	\$1.26	\$14,772
Finish to slab	5,862	sf	\$0.51	\$2,990
Vapor barrier	5,862	sf	\$0.28	\$1,641
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	9	cy	\$221.42	\$2,019
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	7,034	sf	\$5.53	\$38,900
Finish to concrete deck	7,034	sf	\$0.51	\$3,588
Roof Decking				
3", 20 Ga. metal deck	5,862	sf	\$6.11	\$35,817
Overhangs, allow 20% of area	1,172	sf	\$5.55	\$6,507
Deck edging, 16 Ga.	360	lf	\$11.20	\$4,032
Miscellaneous				
Expansion joint/cover	5,862	sf	\$0.15	\$879
Miscellaneous metals, allowance	5,862	sf	\$1.00	\$5,862
Rough Carpentry, allowance	5,862	sf	\$1.00	\$5,862
Framing, 2" x 6", ceilings	5,862	sf	\$5.50	\$32,241
Plywood Sheathing				
Roof sheathing, 1/2"	5,862	sf	\$2.20	\$12,896
Exterior soffits (20% overhang)	1,172	sf	\$2.50	\$2,931
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	5,862	sf	\$0.08	\$469
Miscellaneous rough hardware	5,862	sf	\$0.08	\$469
<b>Total - Floor &amp; Roof Structures</b>				<b>\$214,687</b>

### 4 Exterior Cladding

Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	5,067	sf	\$14.55	\$73,720
Sheathing				
Exterior walls, densglass sheathing	5,067	sf	\$3.09	\$15,656
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backin	5,067	sf	\$1.44	\$7,296

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	5,067	sf	\$2.76	\$13,984
Exterior Rammed Earth Wall	333	cy	\$750.00	\$250,000
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	5,067	sf	\$8.14	\$41,243
Add for steel troweled finish, hand applied (smooth)	5,067	sf	\$2.21	\$11,197
Exterior Glazing				
Framed curtainwall with bi-folding system	1,800	sf	\$356.24	\$641,232
Kawneer framed curtainwall incl. all support framework, laminated glazing with	1,800	sf	\$75.00	\$135,000
Exterior Doors				
HM door sets, HM frames and hardware, single	2	ea	\$2,228.80	\$4,458
Aluminum door sets, frames and hardware, glazed, double	2	pr	\$9,771.48	\$19,543
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set	1	ea	\$4,269.75	\$4,270
Aluminum Sunshades / Roof canopies				
Exterior sunshades			see Exterior	
Miscellaneous				
Firesafing at perimeter walls	300	lf	\$8.13	\$2,439

**Total - Exterior Cladding** **\$1,221,920**

### 5 Roofing and Waterproofing

Waterproofing			assume not required	
Roofing				
Single ply membrane roofing	7,034	sf	\$4.98	\$35,031
Roof Insulation				
Rigid roof insulation, poly iso insulation	7,034	sf	\$4.81	\$33,835
Pedestal Paver System			assume not required	
Skylights			assume not required	
Roof Accessories				
Aluminum gutters	300	lf	\$19.75	\$5,925
Aluminum downspouts	60	lf	\$19.75	\$1,185
Access hatch			assume not required	
Miscellaneous				
Caulking allowance	7,034	sf	\$0.20	\$1,407

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Roofing and Waterproofing</b>				<b>\$77,384</b>
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions				
Interior Metal Studs				
Metal studs, 6", 16 Ga., at 16" o.c.	2,100	sf	\$11.62	\$24,402
Gypsum Board				
Gypsum board, 5/8" thick, finished (I4), type X	2,100	sf	\$2.76	\$5,796
Interior Wall Insulation				
Sound batt insulation, unbacked	2,100	sf	\$1.01	\$2,121
Interior Doors				
SC wood door incl. AL frame and hardware, single	1	ea	\$2,135.60	\$2,136
SC wood door incl. AL frame and hardware, double with vision panels	1	ea	\$4,275.57	\$4,276
Premiums				
Panic hardware, per leaf	2	ea	\$964.04	\$1,928

**Total - Interior Partitions, Doors and Glazing** **\$40,658**

### 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Ceramic tile, floor	1,224	sf	\$13.12	\$16,059
Integral color Concrete	4,638	sf	\$2.44	\$11,317
Base				
Ceramic tile, base	60	lf	\$12.35	\$741
Wood base, 4"	290	lf	\$11.04	\$3,202
Walls				
Ceramic tile, walls	480	sf	\$13.64	\$6,547
Paint walls	6,687	sf	\$0.57	\$3,811
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	5,862	sf	\$0.65	\$3,810

**Total - Floor, Wall and Ceiling Finishes** **\$50,487**

### 8 Function Equipment and Specialties

# CONCEPTUAL COST ESTIMATE

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Scottsdale, AZ  
Conceptual

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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
<b>Toilet Cubicles</b>				
Standard, stainless steel	4	ea	\$1,585.07	\$6,340
Handicap, stainless steel	2	ea	\$1,714.80	\$3,430
Urinal screen, stainless steel	2	ea	\$535.33	\$1,071
<b>Toilet / Restroom Specialties</b>				
Bathroom mirrors	16	sf	\$33.79	\$541
Coat hook	4	ea	\$23.97	\$96
Grab bars	2	ea	\$165.28	\$331
Janitor mop sink rack	1	ea	\$108.87	\$109
Napkin dispenser / disposal, surface mounted	2	ea	\$476.64	\$953
Paper towel dispenser combo unit, recessed	2	ea	\$307.99	\$616
Sanitary napkin dispenser	1	ea	\$346.91	\$347
Sanitary napkin disposal	2	ea	\$153.99	\$308
Seat cover dispenser	2	ea	\$115.07	\$230
Soap dispenser	2	ea	\$78.41	\$157
Toilet paper dispenser	4	ea	\$68.03	\$272
<b>Building Specialties</b>				
Storage cabinets	1	al	included in building casework	
Fire extinguisher and cabinet, allowance	2	ea	\$372.85	\$746
<b>Window Covering</b>				
Mechoshades, manual	1,800	sf	\$8.94	\$16,092
Building Casework (allowance)	5,862	sf	\$15.00	\$87,930

**Total - Function Equipment and Specialties \$119,567**

### 9 Stairs and Vertical Transportation

Stairs Assume not required

**Total - Stairs and Vertical Transportation**

### 10 Plumbing Systems

Water heater-Electric	1	ea	\$5,409.71	\$5,410
HW rough-in at water heater	1	ea	\$754.66	\$755
<b>Sanitary Fixtures</b>				
Water closet, floor, sensor FV	6	ea	\$1,007.99	\$6,048
Urinal, sensor FV	1	ea	\$1,177.71	\$1,178

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
Lavatory, wall, sensor faucet	6	ea	\$1,118.84	\$6,713
Mop sink	1	ea	\$519.58	\$520
Drinking fountain	1	ea	\$2,424.75	\$2,425
Floor drain	2	ea	\$225.15	\$450
Hose bibb	1	ea	\$119.50	\$120
Rough-ins	1,224	sf	\$12.31	\$15,062
Domestic Water	1,224	sf	\$5.66	\$6,928
Waste/Vent	1,224	sf	\$3.12	\$3,816
Roof Drainage	1,224	sf	\$1.24	\$1,521
Additional plumbing requirements	1,224	sf	\$2.26	\$2,767

**Total - Plumbing Systems \$53,711**

### 11 Heating, Ventilation and Air Conditioning

<b>Public space:</b>				
Air-Side Equipment	4,638	sf	\$5.21	\$24,164
Condensate Drainage	4,638	sf	\$0.73	\$3,386
Air Distribution	4,638	sf	\$5.28	\$24,489
HVAC Controls	4,638	sf	\$2.97	\$13,775
Additional mechanical requirements	4,638	sf	\$0.92	\$4,267
<b>Restroom</b>				
Air-Side Equipment	1,224	sf	\$4.24	\$5,190
Air Distribution	1,224	sf	\$5.60	\$6,855
HVAC Controls	1,224	sf	\$4.87	\$5,965
Additional mechanical requirements	1,224	sf	\$1.32	\$1,612

**Total - Heating, Ventilation and Air Conditioning \$89,702**

### 12 Electrical Lighting, Power and Communications

<b>Electrical Work</b>				
<b>Power and Lighting</b>				
Service and distribution	5,862	sf	\$5.50	\$32,241
Emergency Service and Distribution	5,862	sf	\$3.50	\$20,517
HVAC & Equipment	5,862	sf	\$0.80	\$4,690
Convenience Power	5,862	sf	\$3.00	\$17,586
Lighting & Lighting Controls	5,862	sf	\$15.00	\$87,930

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# CONCEPTUAL COST ESTIMATE

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Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
Low Voltage/Communication Systems				
Phone/data system				
Voice/Data System (Raceways Only)	4,638	sf	\$2.30	\$10,667
Voice/Data System	4,638	sf	\$4.50	\$20,871
Clock, PA, speaker system				
Clock, PA, Speaker System (Conduit Only)	4,638	sf	\$0.75	\$3,479
Clock, PA, Speaker System		sf	\$0.50	
Security, access control system				
Security & Access Control System (Conduit Only)	4,638	sf	\$1.10	\$5,102
Security & Access Control System	4,638	sf	\$0.75	\$3,479
CCTV System (Conduit Only)	4,638	sf	\$0.75	\$3,479
CCTV System	4,638	sf	\$2.00	\$9,276
Electronic Safety and Security Systems Work				
Fire alarm system	5,862	sf	\$3.75	\$21,983
<b>Total - Electrical Lighting, Power and Communications</b>				<b>\$241,298</b>

### 13 Fire Protection Systems

Public Space:				
Automatic Sprinkler System	4,638	sf	\$3.40	\$15,769
Restroom				
Automatic Sprinkler System	1,224	sf	\$3.40	\$4,162

**Total - Fire Protection Systems** **\$19,931**

### 14 Site Preparation and Demolition

not required

**Total - Site Preparation and Demolition**

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## DETAIL ELEMENTS - PAVILION C

Element	Quantity	Unit	Unit Cost	Total
<b>15 Site Paving, Structures &amp; Landscaping</b>				see Exterior
<b>Total - Site Paving, Structures &amp; Landscaping</b>				
<b>16 Utilities on Site</b>				see Exterior
<b>Total - Utilities on Site</b>				

# CONCEPTUAL COST ESTIMATE

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## SUMMARY - PAVILION D

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$3,544,785</b>		<b>\$273.79</b>
1 Foundations	\$46,925		\$3.62	
2 Vertical Structure	\$283,709		\$21.91	
3 Floor & Roof Structures	\$475,098		\$36.70	
4 Exterior Cladding	\$2,567,749		\$198.33	
5 Roofing and Waterproofing	\$171,305		\$13.23	
<b>B) Interiors (6-7)</b>		<b>\$268,148</b>		<b>\$20.71</b>
6 Interior Partitions, Doors and Glazing	\$190,603		\$14.72	
7 Floor, Wall and Ceiling Finishes	\$77,545		\$5.99	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$252,187</b>		<b>\$19.48</b>
8 Function Equipment and Specialties	\$252,187		\$19.48	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$804,029</b>		<b>\$62.10</b>
10 Plumbing Systems	\$41,663		\$3.22	
11 Heating, Ventilation and Air Conditioning	\$155,374		\$12.00	
12 Electrical Lighting, Power and Communications	\$562,972		\$43.48	
13 Fire Protection Systems	\$44,020		\$3.40	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$4,869,149		\$376.08
General Conditions	8.00%	\$389,532		\$30.09
Subtotal		\$5,258,680		\$406.17
General Requirements	3.50%	\$184,054		\$14.22
Subtotal		\$5,442,734		\$420.39
Bonds & Insurance	2.60%	\$126,598		\$9.78
Subtotal		\$5,569,332		\$430.16
Subguard Insurance	1.00%	\$48,691		\$3.76
Subtotal		\$5,618,024		\$433.92
Contractor's Fee	3.50%	\$196,631		\$15.19
Subtotal		\$5,814,654		\$449.11
Design Contingency	10.00%	\$581,465		\$44.91
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$7,035,732</b>		<b>\$543.43</b>

Total Area: 12,947 SF

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation			assume not required	
Concrete layout	12,947	sf	\$0.18	\$2,330
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 26 footings in total				
Concrete, spread footings, 4000 psi	3.9	cy	\$225.14	\$867
Formwork, spread footings	208	lf	\$5.66	\$1,177
Foundation reinforcing 180# / cy)	693	lbs	\$1.26	\$874
Excavation	4.2	cy	\$14.79	\$63
Backfill	0.4	cy	\$12.79	\$5
Haul excess	3.9	cy	\$13.43	\$52
Continuous Footings			assume not required	
Grade Beams, assume 1ft x 1ft x 1ft	840	lf		
Concrete, grade beams, 4000 psi	31.1	cy	\$225.14	\$7,004
Formwork, grade beams	1,680	lf	\$4.90	\$8,232
Foundation reinforcing (180# / cy)	5,600	lbs	\$1.26	\$7,056
Excavation	34.2	cy	\$14.79	\$506
Backfill	3.1	cy	\$12.79	\$40
Haul excess	31.1	cy	\$13.43	\$418
Pile Foundations (Including Mobilization):			assume not required	
Miscellaneous				
Concrete, elevator pit			assume not required	
Perimeter foundation drain	635	lf	\$28.82	\$18,301
<b>Total - Foundations</b>				<b>\$46,925</b>
<b>2 Vertical Structure</b>				
Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	77.7	t	\$3,272.61	\$254,223
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	77.7	t	\$379.57	\$29,486

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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Vertical Structure</b>				<b>\$283,709</b>
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	201	cy	\$225.71	\$45,457
Formwork, slab on grade 5" thick, 3000 psi	635	lf	\$5.32	\$3,378
Sand base, 4"	12,947	sf	\$1.84	\$23,822
Gravel sub base, 6"	12,947	sf	\$1.68	\$21,751
Slab on grade reinforcing (#2 / sf)	25,894	lbs	\$1.26	\$32,626
Finish to slab	12,947	sf	\$0.51	\$6,603
Vapor barrier	12,947	sf	\$0.28	\$3,625
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	20	cy	\$221.42	\$4,459
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	15,536	sf	\$5.53	\$85,916
Finish to concrete deck	15,536	sf	\$0.51	\$7,924
Roof Decking				
3", 20 Ga. metal deck	12,947	sf	\$6.11	\$79,106
Overhangs, allow 20% of area	2,589	sf	\$6.11	\$15,821
Deck edging, 16 Ga.	762	lf	\$11.20	\$8,534
Miscellaneous				
Expansion joint/cover	12,947	sf	\$0.15	\$1,942
Miscellaneous metals, allowance	12,947	sf	\$1.00	\$12,947
Rough Carpentry, allowance	12,947	sf	\$1.00	\$12,947
Framing, 2" x 6", ceilings	12,947	sf	\$5.50	\$71,209
Plywood Sheathing				
Roof sheathing, 1/2"	12,947	sf	\$2.20	\$28,483
Exterior soffits (20% overhang)	2,589	sf	\$2.50	\$6,474
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	12,947	sf	\$0.08	\$1,036
Miscellaneous rough hardware	12,947	sf	\$0.08	\$1,036
<b>Total - Floor &amp; Roof Structures</b>				<b>\$475,098</b>
<b>4 Exterior Cladding</b>				
Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	10,724	sf	\$14.55	\$156,041

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
Sheathing				
Exterior walls, denglass sheathing	10,724	sf	\$3.09	\$33,139
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	10,724	sf	\$1.44	\$15,443
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	10,724	sf	\$2.76	\$29,599
Exterior Rammed Earth Wall	706	cy	\$750.00	\$529,166
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	10,724	sf	\$8.14	\$87,297
Add for steel troweled finish, hand applied (smooth)	10,724	sf	\$2.21	\$23,701
Exterior Glazing				
Framed curtainwall with bi-folding system	3,810	sf	\$356.24	\$1,357,274
Kawneer framed curtainwall incl. all support framework, laminated glazing with tr	3,810	sf	\$75.00	\$285,750
Exterior Doors				
HM door sets, HM frames and hardware, single	2	ea	\$2,228.80	\$4,458
HM door sets, HM frames and hardware, double	2	pr	\$4,412.46	\$8,825
Aluminum door sets, frames and hardware, glazed, single, tempered glass	2	ea	\$4,908.31	\$9,817
Aluminum door sets, frames and hardware, glazed, double	1	pr	\$9,771.48	\$9,771
Premiums				
Panic hardware, per leaf	4	ea	\$941.47	\$3,766
Automatic door opening, per double leaf set	2	ea	\$4,269.75	\$8,540
Aluminum Sunshades / Roof canopies				
Exterior sunshades			see Exterior	
Miscellaneous				
Firesafing at perimeter walls	635	lf	\$8.13	\$5,163

**Total - Exterior Cladding** **\$2,567,749**

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	15,536	sf	\$4.98	\$77,371
Roof Insulation				
Rigid roof insulation, poly iso insulation	15,536	sf	\$4.81	\$74,730
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	635	lf	\$19.75	\$12,541
Aluminum downspouts	180	lf	\$19.75	\$3,555

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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
Access hatch				assume not required
Miscellaneous				
Caulking allowance	15,536	sf	\$0.20	\$3,107
<b>Total - Roofing and Waterproofing</b>				<b>\$171,305</b>

### 6 Interior Partitions, Doors and Glazing

Interior Partitions				
Interior Metal Studs				
Metal studs, 6", 16 Ga., at 16" o.c.	6,150	sf	\$11.62	\$71,463
Gypsum Board				
Gypsum board, 5/8" thick, finished (I4), type X	6,150	sf	\$2.76	\$16,974
Interior Wall Insulation				
Sound batt insulation, unbacked	6,150	sf	\$1.01	\$6,212
Fiberglass batt insulation, unbacked				
Mineral wool insulation, unbacked				
Moveable walls	1	al	\$75,000.00	\$75,000
Interior Doors				
SC wood door incl. AL frame and hardware, single	2	ea	\$2,135.60	\$4,271
SC wood door incl. AL frame and hardware, double with vision panels	3	ea	\$4,275.57	\$12,827
Premiums				
Panic hardware, per leaf	4	ea	\$964.04	\$3,856

**Total - Interior Partitions, Doors and Glazing** **\$190,603**

### 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Ceramic tile, floor	590	sf	\$13.12	\$7,741
Integral color Concrete	12,357	sf	\$2.44	\$30,151
Base				
Ceramic tile, base	60	lf	\$12.35	\$741
Wood base, 4"	870	lf	\$11.04	\$9,605
Walls				

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# CONCEPTUAL COST ESTIMATE

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Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
Ceramic tile, walls	480	sf	\$13.64	\$6,547
Paint walls	16,394	sf	\$0.57	\$9,345
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	12,947	sf	\$0.65	\$8,416

**Total - Floor, Wall and Ceiling Finishes \$77,545**

### 8 Function Equipment and Specialties

Toilet Cubicles				
Standard, stainless steel	6	ea	\$1,585.07	\$9,510
Handicap, stainless steel	2	ea	\$1,714.80	\$3,430
Urinal screen, stainless steel	2	ea	\$535.33	\$1,071
Toilet / Restroom Specialties				
Bathroom mirrors	48	sf	\$33.79	\$1,622
Coat hook	8	ea	\$23.97	\$192
Grab bars	2	ea	\$165.28	\$331
Janitor mop sink rack	1	ea	\$108.87	\$109
Napkin dispenser / disposal, surface mounted	4	ea	\$476.64	\$1,907
Paper towel dispenser combo unit, recessed	4	ea	\$307.99	\$1,232
Sanitary napkin dispenser	1	ea	\$346.91	\$347
Sanitary napkin disposal	4	ea	\$153.99	\$616
Seat cover dispenser	4	ea	\$115.07	\$460
Soap dispenser	4	ea	\$78.41	\$314
Toilet paper dispenser	8	ea	\$68.03	\$544
Building Specialties				
Storage cabinets			included in building casework	
Fire extinguisher and cabinet, allowance	6	ea	\$372.85	\$2,237
Window Covering				
Mechoshades, manual	3,810	sf	\$8.94	\$34,061
Building Casework (allowance)	12,947	sf	\$15.00	\$194,205

**Total - Function Equipment and Specialties \$252,187**

### 9 Stairs and Vertical Transportation

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Conceptual

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## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
Stairs				Assume not required

**Total - Stairs and Vertical Transportation**

### 10 Plumbing Systems

Water heater-Electric	1	ea	\$5,409.71	\$5,410
HW rough-in at water heater	1	ea	\$754.66	\$755
Sanitary Fixtures				
Water closet, floor, sensor FV	6	ea	\$1,007.99	\$6,048
Urinal, sensor FV	1	ea	\$1,177.71	\$1,178
Lavatory, wall, sensor faucet	6	ea	\$1,118.84	\$6,713
Mop sink	1	ea	\$519.58	\$520
Drinking fountain	1	ea	\$2,424.75	\$2,425
Floor drain	2	ea	\$225.15	\$450
Hose bibb	1	ea	\$119.50	\$120
Rough-ins	734	sf	\$12.31	\$9,032
Domestic Water	734	sf	\$5.66	\$4,154
Waste/Vent	734	sf	\$3.12	\$2,288
Roof Drainage	734	sf	\$1.24	\$912
Additional plumbing requirements	734	sf	\$2.26	\$1,659

**Total - Plumbing Systems \$41,663**

### 11 Heating, Ventilation and Air Conditioning

ASU field stations:				
Air-Side Equipment	4,229	sf	\$4.13	\$17,466
Air Distribution	4,229	sf	\$5.28	\$22,311
HVAC Controls	4,229	sf	\$0.63	\$2,675
Additional mechanical requirements	4,229	sf	\$0.47	\$1,993

Restroom				
Air-Side Equipment	734	sf	\$4.24	\$3,112
Air Distribution	734	sf	\$5.60	\$4,111
HVAC Controls	734	sf	\$4.87	\$3,577
Additional mechanical requirements	734	sf	\$1.32	\$966



# CONCEPTUAL COST ESTIMATE

## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
Service areas & Desert Room:				
Air-Side Equipment	7,984	sf	\$4.27	\$34,092
Air Distribution	7,984	sf	\$5.28	\$42,156
HVAC Controls	7,984	sf	\$2.37	\$18,922
Additional mechanical requirements	7,984	sf	\$0.50	\$3,992

**Total - Heating, Ventilation and Air Conditioning** **\$155,374**

### 12 Electrical Lighting, Power and Communications

#### Electrical Work

##### Power and Lighting

Service and distribution	12,947	sf	\$5.50	\$71,209
Emergency Service and Distribution	12,947	sf	\$3.50	\$45,315
HVAC & Equipment	12,947	sf	\$0.80	\$10,358
Convenience Power	12,947	sf	\$3.00	\$38,841
Lighting & Lighting Controls	12,947	sf	\$15.00	\$194,205

#### Low Voltage/Communication Systems

##### Phone/data system

Voice/Data System (Raceways Only)	12,213	sf	\$2.30	\$28,090
Voice/Data System	12,213	sf	\$4.50	\$54,959

##### Clock, PA, speaker system

Clock, PA, Speaker System (Conduit Only)	12,213	sf	\$0.75	\$9,160
Clock, PA, Speaker System	12,213	sf	\$0.50	\$6,107

##### Security, access control system

Security & Access Control System (Conduit Only)	12,213	sf	\$1.10	\$13,434
Security & Access Control System	12,213	sf	\$0.75	\$9,160
CCTV System (Conduit Only)	12,213	sf	\$0.75	\$9,160
CCTV System	12,213	sf	\$2.00	\$24,426

#### Electroinic Safety and Security Systems Work

Fire alarm system	12,947	sf	\$3.75	\$48,551
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**Total - Electrical Lighting, Power and Communications** **\$562,972**

## DETAIL ELEMENTS - PAVILION D

Element	Quantity	Unit	Unit Cost	Total
<b>13 Fire Protection Systems</b>				
ASU field stations:				
Automatic Sprinkler System	4,229	sf	\$3.40	\$14,379
Restroom:				
Automatic Sprinkler System	734	sf	\$3.40	\$2,496
Service areas & Desert Room:				
Automatic Sprinkler System	7,984	sf	\$3.40	\$27,146

**Total - Fire Protection Systems** **\$44,020**

**14 Site Preparation and Demolition** not required

**Total - Site Preparation and Demolition**

**15 Site Paving, Structures & Landscaping** see site section

**Total - Site Paving, Structures & Landscaping**

**16 Utilities on Site** see site section

**Total - Utilities on Site**

# CONCEPTUAL COST ESTIMATE

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## SUMMARY - PAVILION E

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$1,070,877</b>		<b>\$267.79</b>
1 Foundations	\$12,391		\$3.10	
2 Vertical Structure	\$87,630		\$21.91	
3 Floor & Roof Structures	\$146,631		\$36.67	
4 Exterior Cladding	\$771,348		\$192.89	
5 Roofing and Waterproofing	\$52,878		\$13.22	
<b>B) Interiors (6-7)</b>		<b>\$23,482</b>		<b>\$5.87</b>
6 Interior Partitions, Doors and Glazing				
7 Floor, Wall and Ceiling Finishes	\$23,482		\$5.87	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$70,922</b>		<b>\$17.74</b>
8 Function Equipment and Specialties	\$70,922		\$17.74	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$233,733</b>		<b>\$58.45</b>
10 Plumbing Systems				
11 Heating, Ventilation and Air Conditioning	\$42,629		\$10.66	
12 Electrical Lighting, Power and Communications	\$176,756		\$44.20	
13 Fire Protection Systems	\$14,348		\$3.59	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$1,399,015		\$349.84
General Conditions	8.00%	\$111,921		\$27.99
Subtotal		\$1,510,936		\$377.83
General Requirements	3.50%	\$52,883		\$13.22
Subtotal		\$1,563,818		\$391.05
Bonds & Insurance	2.60%	\$36,374		\$9.10
Subtotal		\$1,600,193		\$400.15
Subguard Insurance	1.00%	\$13,990		\$3.50
Subtotal		\$1,614,183		\$403.65
Contractor's Fee	3.50%	\$56,496		\$14.13
Subtotal		\$1,670,679		\$417.77
Design Contingency	10.00%	\$167,068		\$41.78
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$2,021,522</b>		<b>\$505.51</b>

Total Area: 3,999 SF

# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation			assume not required	
Concrete layout	3,999	sf	\$0.18	\$720
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 8 footings in total				
Concrete, spread footings, 4000 psi	1.2	cy	\$225.14	\$267
Formwork, spread footings	64	lf	\$5.66	\$362
Foundation reinforcing 180# / cy)	213	lbs	\$1.26	\$269
Excavation	1.3	cy	\$14.79	\$19
Backfill	0.1	cy	\$12.79	\$2
Haul excess	1.2	cy	\$13.43	\$16
Continuous Footings			assume not required	
Grade Beams, assume 1ft x 1ft x 1ft	190	lf		
Concrete, grade beams, 4000 psi	7.0	cy	\$225.14	\$1,584
Formwork, grade beams	380	lf	\$4.90	\$1,862
Foundation reinforcing (180# / cy)	1,267	lbs	\$1.26	\$1,596
Excavation	7.7	cy	\$14.79	\$114
Backfill	0.7	cy	\$12.79	\$9
Haul excess	7.0	cy	\$13.43	\$95
Pile Foundations (Including Mobilization):			assume not required	
Miscellaneous				
Concrete, elevator pit			assume not required	
Perimeter foundation drain	190	lf	\$28.82	\$5,476
<b>Total - Foundations</b>				<b>\$12,391</b>

### 2 Vertical Structure

Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	24.0	t	\$3,272.61	\$78,523
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	24.0	t	\$379.57	\$9,107

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Vertical Structure</b>				<b>\$87,630</b>
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	62	cy	\$225.71	\$14,041
Formwork, slab on grade 5" thick, 3000 psi	190	lf	\$5.32	\$1,011
Sand base, 4"	3,999	sf	\$1.84	\$7,358
Gravel sub base, 6"	3,999	sf	\$1.68	\$6,718
Slab on grade reinforcing (#2 / sf)	7,998	lbs	\$1.26	\$10,077
Finish to slab	3,999	sf	\$0.51	\$2,039
Vapor barrier	3,999	sf	\$0.28	\$1,120
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	6	cy	\$221.42	\$1,377
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	4,799	sf	\$5.53	\$26,537
Finish to concrete deck	4,799	sf	\$0.51	\$2,447
Roof Decking				
3", 20 Ga. metal deck	3,999	sf	\$6.11	\$24,434
Overhangs, allow 20% of area	800	sf	\$6.11	\$4,887
Deck edging, 16 Ga.	228	lf	\$11.20	\$2,554
Miscellaneous				
Expansion joint/cover	3,999	sf	\$0.15	\$600
Miscellaneous metals, allowance	3,999	sf	\$1.00	\$3,999
Rough Carpentry, allowance	3,999	sf	\$1.00	\$3,999
Framing, 2" x 6", ceilings	3,999	sf	\$5.50	\$21,995
Plywood Sheathing				
Roof sheathing, 1/2"	3,999	sf	\$2.20	\$8,798
Exterior soffits (20% overhang)	800	sf	\$2.50	\$2,000
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	3,999	sf	\$0.08	\$320
Miscellaneous rough hardware	3,999	sf	\$0.08	\$320
<b>Total - Floor &amp; Roof Structures</b>				<b>\$146,631</b>

### 4 Exterior Cladding

Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	3,209	sf	\$14.55	\$46,689

# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
Sheathing				
Exterior walls, densglass sheathing	3,209	sf	\$3.09	\$9,915
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	3,209	sf	\$1.44	\$4,621
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	3,209	sf	\$2.76	\$8,857
Exterior Rammed Earth Wall	211	cy	\$750.00	\$158,333
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	3,209	sf	\$8.14	\$26,120
Add for steel troweled finish, hand applied (smooth)	3,209	sf	\$2.21	\$7,092
Exterior Glazing				
Kawneer framed curtainwall incl. all support framework, laminated glazing with tr	1,140	sf	\$75.00	\$85,500
Framed curtainwall with bi-folding system	1,140	sf	\$356.24	\$406,114
Exterior Doors				
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$4,908.31	\$4,908
Aluminum door sets, frames and hardware, glazed, double	1	pr	\$9,771.48	\$9,771
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set		ea	\$4,269.75	
Aluminum Sunshades / Roof canopies				
Exterior sunshades			see Exterior	
Miscellaneous				
Firesafing at perimeter walls	190	lf	\$8.13	\$1,545
<b>Total - Exterior Cladding</b>				<b>\$771,348</b>

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	4,799	sf	\$4.98	\$23,898
Roof Insulation				
Rigid roof insulation, poly iso insulation	4,799	sf	\$4.81	\$23,082
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	190	lf	\$19.75	\$3,753
Aluminum downspouts	60	lf	\$19.75	\$1,185
Access hatch				assume not required
Miscellaneous				

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
Caulking allowance	4,799	sf	\$0.20	\$960
<b>Total - Roofing and Waterproofing</b>				<b>\$52,878</b>
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions				not required
Moveable walls				To Desert Great Room only
Interior Doors				not required

### Total - Interior Partitions, Doors and Glazing

### 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Integral color Concrete	3,999	sf	\$2.44	\$9,758
Base				
Wood base, 4"	180	lf	\$11.04	\$1,987
Walls				
Paint walls	7,259	sf	\$0.57	\$4,138
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	3,999	sf	\$0.65	\$2,599

### Total - Floor, Wall and Ceiling Finishes

\$23,482

### 8 Function Equipment and Specialties

Toilet Cubicles				not required
Building Specialties				
Storage cabinets				included with building casework
Fire extinguisher and cabinet, allowance	2	ea	\$372.85	\$746

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# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
Window Covering				
Mechoshades, manual	1,140	sf	\$8.94	\$10,192
Building Casework (allowance)	3,999	sf	\$15.00	\$59,985

**Total - Function Equipment and Specialties** **\$70,922**

### 9 Stairs and Vertical Transportation

Stairs Assume not required

**Total - Stairs and Vertical Transportation**

**10 Plumbing Systems** not required

**Total - Plumbing Systems**

### 11 Heating, Ventilation and Air Conditioning

Air-Side Equipment	3,999	sf	\$4.17	\$16,676
Air Distribution	3,999	sf	\$5.28	\$21,115
HVAC Controls	3,999	sf	\$0.72	\$2,879
Additional mechanical requirements	3,999	sf	\$0.49	\$1,960

**Total - Heating, Ventilation and Air Conditioning** **\$42,629**

### 12 Electrical Lighting, Power and Communications

Electrical Work

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
Power and Lighting				
Service and distribution	3,999	sf	\$5.50	\$21,995
Emergency Service and Distribution	3,999	sf	\$3.50	\$13,997
HVAC & Equipment	3,999	sf	\$0.80	\$3,199
Convenience Power	3,999	sf	\$3.00	\$11,997
Lighting & Lighting Controls	3,999	sf	\$15.00	\$59,985

### Low Voltage/Communication Systems

Phone/data system				
Voice/Data System (Raceways Only)	3,999	sf	\$2.30	\$9,198
Voice/Data System	3,999	sf	\$4.50	\$17,996

### Clock, PA, speaker system

Clock, PA, Speaker System (Conduit Only)	3,999	sf	\$0.75	\$2,999
Clock, PA, Speaker System	3,999	sf	\$0.50	\$2,000

### Security, access control system

Security & Access Control System (Conduit Only)	3,999	sf	\$1.10	\$4,399
Security & Access Control System	3,999	sf	\$0.75	\$2,999
CCTV System (Conduit Only)	3,999	sf	\$0.75	\$2,999
CCTV System	3,999	sf	\$2.00	\$7,998

### Electroinic Safety and Security Systems Work

Fire alarm system	3,999	sf	\$3.75	\$14,996
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**Total - Electrical Lighting, Power and Communications** **\$176,756**

### 13 Fire Protection Systems

Automatic Sprinkler System	3,999	sf	\$3.59	\$14,348
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**Total - Fire Protection Systems** **\$14,348**

### 14 Site Preparation and Demolition

not required

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# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION E

Element	Quantity	Unit	Unit Cost	Total
Total - Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				see Exterior
Total - Site Paving, Structures & Landscaping				
16 Utilities on Site				see Exterior
Total - Utilities on Site				

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# CONCEPTUAL COST ESTIMATE

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## SUMMARY - PAVILION H

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$1,460,151</b>		<b>\$343.40</b>
1 Foundations	\$18,771		\$4.41	
2 Vertical Structure	\$93,174		\$21.91	
3 Floor & Roof Structures	\$157,370		\$37.01	
4 Exterior Cladding	\$1,133,148		\$266.50	
5 Roofing and Waterproofing	\$57,688		\$13.57	
<b>B) Interiors (6-7)</b>		<b>\$58,020</b>		<b>\$13.65</b>
6 Interior Partitions, Doors and Glazing	\$21,226		\$4.99	
7 Floor, Wall and Ceiling Finishes	\$36,794		\$8.65	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$93,727</b>		<b>\$22.04</b>
8 Function Equipment and Specialties	\$93,727		\$22.04	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$283,872</b>		<b>\$66.76</b>
10 Plumbing Systems	\$40,459		\$9.52	
11 Heating, Ventilation and Air Conditioning	\$49,005		\$11.53	
12 Electrical Lighting, Power and Communications	\$179,273		\$42.16	
13 Fire Protection Systems	\$15,135		\$3.56	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$1,895,770		\$445.85
General Conditions	8.00%	\$151,662		\$35.67
Subtotal		\$2,047,432		\$481.52
General Requirements	3.50%	\$71,660		\$16.85
Subtotal		\$2,119,092		\$498.38
Bonds & Insurance	2.60%	\$49,290		\$11.59
Subtotal		\$2,168,382		\$509.97
Subguard Insurance	1.00%	\$18,958		\$4.46
Subtotal		\$2,187,339		\$514.43
Contractor's Fee	3.50%	\$76,557		\$18.00
Subtotal		\$2,263,896		\$532.43
Design Contingency	10.00%	\$226,390		\$53.24
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$2,739,315</b>		<b>\$644.24</b>

Total Area: 4,252 SF

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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation				assume not required
Concrete layout	4,252	sf	\$0.18	\$765
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 10 footings in total				
Concrete, spread footings, 4000 psi	1.5	cy	\$225.14	\$334
Formwork, spread footings	80	lf	\$5.66	\$453
Foundation reinforcing 180# / cy	267	lbs	\$1.26	\$336
Excavation	1.6	cy	\$14.79	\$24
Backfill	0.1	cy	\$12.79	\$2
Haul excess	1.5	cy	\$13.43	\$20
Continuous Footings				assume not required
Grade Beams, assume 1ft x 1ft x 1ft	310	lf		
Concrete, grade beams, 4000 psi	11.5	cy	\$225.14	\$2,585
Formwork, grade beams	620	lf	\$4.90	\$3,038
Foundation reinforcing (180# / cy)	2,067	lbs	\$1.26	\$2,604
Excavation	13	cy	\$14.79	\$187
Backfill	1	cy	\$12.79	\$15
Haul excess	25	cy	\$13.43	\$339
Pile Foundations (Including Mobilization):				assume not required
Miscellaneous				
Concrete, elevator pit				assume not required
Perimeter foundation drain	280	lf	\$28.82	\$8,070
<b>Total - Foundations</b>				<b>\$18,771</b>
<b>2 Vertical Structure</b>				
Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	25.5	t	\$3,272.61	\$83,491
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	25.5	t	\$379.57	\$9,684

# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Vertical Structure</b>				<b>\$93,174</b>

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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi Concrete, slab on grade	66	cy	\$225.71	\$14,929
Formwork, slab on grade 5" thick, 3000 psi	280	lf	\$5.32	\$1,490
Sand base, 4"	4,252	sf	\$1.84	\$7,824
Gravel sub base, 6"	4,252	sf	\$1.68	\$7,143
Slab on grade reinforcing (#2 / sf)	8,504	lbs	\$1.26	\$10,715
Finish to slab	4,252	sf	\$0.51	\$2,169
Vapor barrier	4,252	sf	\$0.28	\$1,191
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	7	cy	\$221.42	\$1,465
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	5,102	sf	\$5.53	\$28,216
Finish to concrete deck	5,102	sf	\$0.51	\$2,602
Roof Decking				
3", 20 Ga. metal deck	4,252	sf	\$6.11	\$25,980
Overhangs, allow 20% of area	850	sf	\$6.11	\$5,196
Deck edging, 16 Ga.	336	lf	\$11.20	\$3,763
Miscellaneous				
Expansion joint/cover	4,252	sf	\$0.15	\$638
Miscellaneous metals, allowance	4,252	sf	\$1.00	\$4,252
Rough Carpentry, allowance	4,252	sf	\$1.00	\$4,252
Ceiling Framing				
Framing, 2" x 6", ceilings	4,252	sf	\$5.50	\$23,386
Plywood Sheathing				
Roof sheathing, 1/2"	4,252	sf	\$2.20	\$9,354
Exterior soffits (20% overhang)	850	sf	\$2.50	\$2,126
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	4,252	sf	\$0.08	\$340
Miscellaneous rough hardware	4,252	sf	\$0.08	\$340
<b>Total - Floor &amp; Roof Structures</b>				<b>\$157,370</b>
<b>4 Exterior Cladding</b>				
Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	4,729	sf	\$14.55	\$68,805
Sheathing				

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
Exterior walls, denglass sheathing	4,729	sf	\$3.09	\$14,612
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	4,729	sf	\$1.44	\$6,810
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	4,729	sf	\$2.76	\$13,052
Exterior Rammed Earth Wall	311	cy	\$750.00	\$233,333
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	4,729	sf	\$8.14	\$38,493
Add for steel troweled finish, hand applied (smooth)	4,729	sf	\$2.21	\$10,451
Exterior Glazing				
Framed curtainwall with bi-folding system	1,680	sf	\$356.24	\$598,483
Kawneer framed curtainwall incl. all support framework, laminated glazing with trar	1,680	sf	\$75.00	\$126,000
Exterior Doors				
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$4,908.31	\$4,908
Aluminum door sets, frames and hardware, glazed, double	1	pr	\$9,771.48	\$9,771
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set	1	ea	\$4,269.75	\$4,270
Aluminum Sunshades / Roof canopies				
Exterior sunshades			see Exterior	
Miscellaneous				
Firesafing at perimeter walls	280	lf	\$8.13	\$2,276

**Total - Exterior Cladding** **\$1,133,148**

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	5,102	sf	\$4.98	\$25,410
Roof Insulation				
Rigid roof insulation, poly iso insulation	5,102	sf	\$4.81	\$24,543
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	280	lf	\$19.75	\$5,530
Aluminum downspouts	60	lf	\$19.75	\$1,185
Access hatch				assume not required
Miscellaneous				
Caulking allowance	5,102	sf	\$0.20	\$1,020

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Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Roofing and Waterproofing</b>				<b>\$57,688</b>
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions				
Interior Metal Studs				
Metal studs, 6", 16 Ga., at 16" o.c.	900	sf	\$11.62	\$10,458
Gypsum Board				
Gypsum board, 5/8" thick, finished (I4), type X	900	sf	\$2.76	\$2,484
Interior Wall Insulation				
Sound batt insulation, unbacked	900	sf	\$1.01	\$909
Interior Doors				
SC wood door incl. AL frame and hardware, single	1	ea	\$2,135.60	\$2,136
SC wood door incl. AL frame and hardware, double with vision panels	1	ea	\$4,275.57	\$4,276
Panic hardware, per leaf	1	ea	\$964.04	\$964

**Total - Interior Partitions, Doors and Glazing** **\$21,226**

### 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Ceramic tile, floor	685	sf	\$12.76	\$8,741
Integral color Concrete	3,567	sf	\$2.44	\$8,703
Base				
Ceramic tile, base	52	lf	\$12.35	\$642
Wood base, 4"	253	lf	\$11.04	\$2,793
Walls				
Ceramic tile, walls	416	sf	\$12.45	\$5,179
Paint walls	5,213	sf	\$0.57	\$2,971
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	4,252	sf	\$0.65	\$2,764

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Floor, Wall and Ceiling Finishes</b>				<b>\$36,794</b>
<b>8 Function Equipment and Specialties</b>				
Toilet Cubicles				
Standard, stainless steel	4	ea	\$1,585.07	\$6,340
Handicap, stainless steel	2	ea	\$1,714.80	\$3,430
Toilet / Restroom Specialties				
Bathroom mirrors	16	sf	\$33.79	\$541
Coat hook	6	ea	\$23.97	\$144
Grab bars	2	ea	\$165.28	\$331
Janitor mop sink rack	1	ea	\$108.87	\$109
Napkin dispenser / disposal, surface mounted	2	ea	\$476.64	\$953
Paper towel dispenser combo unit, recessed	2	ea	\$307.99	\$616
Sanitary napkin dispenser	1	ea	\$346.91	\$347
Sanitary napkin disposal	3	ea	\$153.99	\$462
Seat cover dispenser	3	ea	\$115.07	\$345
Soap dispenser	2	ea	\$78.41	\$157
Toilet paper dispenser	6	ea	\$68.03	\$408
Building Specialties				
Storage cabinets			included in building casework	
Fire extinguisher and cabinet, allowance	2	ea	\$372.85	\$746
Window Covering				
Mechoshades, manual	1,680	sf	\$8.94	\$15,019
Building Casework (allowance)	4,252	sf	\$15.00	\$63,780

**Total - Function Equipment and Specialties** **\$93,727**

### 9 Stairs and Vertical Transportation

Stairs Assume not required

**Total - Stairs and Vertical Transportation**

### 10 Plumbing Systems

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Desert Discovery Center  
Scottsdale, AZ  
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Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
Water heater-Electric	1	ea	\$5,409.71	\$5,410
HW rough-in at water heater	1	ea	\$754.66	\$755
Sanitary Fixtures				
Water closet, floor, sensor FV	6	ea	\$1,007.99	\$6,048
Urinal, sensor FV	1	ea	\$1,177.71	\$1,178
Lavatory, wall, sensor faucet	6	ea	\$1,118.84	\$6,713
Mop sink	1	ea	\$519.58	\$520
Drinking fountain	1	ea	\$2,424.75	\$2,425
Floor drain	2	ea	\$225.15	\$450
Hose bibb	1	ea	\$119.50	\$120
Rough-ins	685	sf	\$12.31	\$8,429
Domestic Water	685	sf	\$5.66	\$3,877
Waste/Vent	685	sf	\$3.12	\$2,135
Roof Drainage	685	sf	\$1.24	\$851
Additional plumbing requirements	685	sf	\$2.26	\$1,549

**Total - Plumbing Systems** **\$40,459**

### 11 Heating, Ventilation and Air Conditioning

Restroom				
Air-Side Equipment	685	sf	\$4.24	\$2,904
Air Distribution	685	sf	\$5.60	\$3,837
HVAC Controls	685	sf	\$4.87	\$3,338
Additional mechanical requirements	685	sf	\$1.32	\$902
Pavilion				
Air-Side Equipment	3,567	sf	\$4.17	\$14,874
Air Distribution	3,567	sf	\$5.28	\$18,834
HVAC Controls	3,567	sf	\$0.72	\$2,568
Additional mechanical requirements	3,567	sf	\$0.49	\$1,748

**Total - Heating, Ventilation and Air Conditioning** **\$49,005**

### 12 Electrical Lighting, Power and Communications

Electrical Work				
Power and Lighting				
Service and distribution	4,252	sf	\$5.50	\$23,386
Emergency Service and Distribution	4,252	sf	\$3.50	\$14,882

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
HVAC & Equipment	4,252	sf	\$0.80	\$3,402
Convenience Power	4,252	sf	\$3.00	\$12,756
Lighting & Lighting Controls	4,252	sf	\$15.00	\$63,780
Low Voltage/Communication Systems				
Phone/data system				
Voice/Data System (Raceways Only)	3,567	sf	\$2.30	\$8,204
Voice/Data System	3,567	sf	\$4.50	\$16,052
Clock, PA, speaker system				
Clock, PA, Speaker System (Conduit Only)	3,567	sf	\$0.75	\$2,675
Clock, PA, Speaker System	3,567	sf	\$0.50	\$1,784
Security, access control system				
Security & Access Control System (Conduit Only)	3,567	sf	\$1.10	\$3,924
Security & Access Control System	3,567	sf	\$0.75	\$2,675
CCTV System (Conduit Only)	3,567	sf	\$0.75	\$2,675
CCTV System	3,567	sf	\$2.00	\$7,134
Electronic Safety and Security Systems Work				
Fire alarm system	4,252	sf	\$3.75	\$15,945

**Total - Electrical Lighting, Power and Communications** \$179,273

### 13 Fire Protection Systems

Restroom				
Automatic Sprinkler System	685	sf	\$3.40	\$2,329
Pavilion				
Automatic Sprinkler System	3,567	sf	\$3.59	\$12,806

**Total - Fire Protection Systems** \$15,135

**14 Site Preparation and Demolition** not required

Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION H

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Site Preparation and Demolition</b>				
<b>15 Site Paving, Structures &amp; Landscaping</b>				see Exterior
<b>Total - Site Paving, Structures &amp; Landscaping</b>				
<b>16 Utilities on Site</b>				see Exterior
<b>Total - Utilities on Site</b>				

# CONCEPTUAL COST ESTIMATE

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**Desert Discovery Center**  
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## SUMMARY - PAVILION K

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$1,066,972</b>		<b>\$322.84</b>
1 Foundations	\$12,831		\$3.88	
2 Vertical Structure	\$72,423		\$21.91	
3 Floor & Roof Structures	\$121,620		\$36.80	
4 Exterior Cladding	\$815,344		\$246.70	
5 Roofing and Waterproofing	\$44,755		\$13.54	
<b>B) Interiors (6-7)</b>		<b>\$19,346</b>		<b>\$5.85</b>
6 Interior Partitions, Doors and Glazing				
7 Floor, Wall and Ceiling Finishes	\$19,346		\$5.85	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$61,049</b>		<b>\$18.47</b>
8 Function Equipment and Specialties	\$61,049		\$18.47	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$193,170</b>		<b>\$58.45</b>
10 Plumbing Systems				
11 Heating, Ventilation and Air Conditioning	\$35,231		\$10.66	
12 Electrical Lighting, Power and Communications	\$146,081		\$44.20	
13 Fire Protection Systems	\$11,858		\$3.59	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$1,340,537		\$405.61
General Conditions	8.00%	\$107,243		\$32.45
Subtotal		\$1,447,780		\$438.06
General Requirements	3.50%	\$50,672		\$15.33
Subtotal		\$1,498,452		\$453.39
Bonds & Insurance	2.60%	\$34,854		\$10.55
Subtotal		\$1,533,306		\$463.94
Subguard Insurance	1.00%	\$13,405		\$4.06
Subtotal		\$1,546,712		\$467.99
Contractor's Fee	3.50%	\$54,135		\$16.38
Subtotal		\$1,600,847		\$484.37
Design Contingency	10.00%	\$160,085		\$48.44
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$1,937,024</b>		<b>\$586.09</b>

Total Area: 3,305 SF

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation			assume not required	
Concrete layout	3,305	sf	\$0.18	\$595
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 8 footings in total				
Concrete, spread footings, 4000 psi	1.2	cy	\$225.14	\$267
Formwork, spread footings	64	lf	\$5.66	\$362
Foundation reinforcing 180# / cy)	213	lbs	\$1.26	\$269
Excavation	1.3	cy	\$14.79	\$19
Backfill	0.1	cy	\$12.79	\$2
Haul excess	1.2	cy	\$13.43	\$16
Continuous Footings			assume not required	
Grade Beams, assume 1ft x 1ft x 1ft	200	lf		
Concrete, grade beams, 4000 psi	7.4	cy	\$225.14	\$1,668
Formwork, grade beams	400	lf	\$4.90	\$1,960
Foundation reinforcing (180# / cy)	1,333	lbs	\$1.26	\$1,680
Excavation	8.1	cy	\$14.79	\$121
Backfill	0.7	cy	\$12.79	\$9
Haul excess	7.4	cy	\$13.43	\$99
Pile Foundations (Including Mobilization):			assume not required	
Miscellaneous				
Concrete, elevator pit			assume not required	
Perimeter foundation drain	200	lf	\$28.82	\$5,764
<b>Total - Foundations</b>				<b>\$12,831</b>

### 2 Vertical Structure

Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	19.8	t	\$3,272.61	\$64,896
Steel columns, WF			included above	
Steel columns, tube steel			included above	
Brace framing			included above	
Miscellaneous bolts and connections			included above	
Fireproofing to steelwork	19.8	t	\$379.57	\$7,527
<b>Total - Vertical Structure</b>				<b>\$72,423</b>

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	51	cy	\$225.71	\$11,604
Formwork, slab on grade 5" thick, 3000 psi	200	lf	\$5.32	\$1,064
Sand base, 4"	3,305	sf	\$1.84	\$6,081
Gravel sub base, 6"	3,305	sf	\$1.68	\$5,552
Slab on grade reinforcing (#2 / sf)	6,610	lbs	\$1.26	\$8,329
Finish to slab	3,305	sf	\$0.51	\$1,686
Vapor barrier	3,305	sf	\$0.28	\$925
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	5	cy	\$221.42	\$1,138
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	3,966	sf	\$5.53	\$21,932
Finish to concrete deck	3,966	sf	\$0.51	\$2,023
Roof Decking				
3", 20 Ga. metal deck	3,305	sf	\$6.11	\$20,194
Overhangs, allow 20% of area	661	sf	\$5.55	\$3,669
Deck edging, 16 Ga.	240	lf	\$11.20	\$2,688
Miscellaneous				
Expansion joint/cover	3,305	sf	\$0.15	\$496
Miscellaneous metals, allowance	3,305	sf	\$1.00	\$3,305
Rough Carpentry, allowance	3,305	sf	\$1.00	\$3,305
Framing, 2" x 6", ceilings	3,305	sf	\$5.50	\$18,178
Plywood Sheathing				
Roof sheathing, 1/2"	3,305	sf	\$2.20	\$7,271
Exterior soffits (20% overhang)	661	sf	\$2.50	\$1,653
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	3,305	sf	\$0.08	\$264
Miscellaneous rough hardware	3,305	sf	\$0.08	\$264
<b>Total - Floor &amp; Roof Structures</b>				<b>\$121,620</b>

### 4 Exterior Cladding

Exterior Walls And Parapets				
Exterior Metal Studs				
Metal stud framing, 6" 18 Ga. at 16" o.c.	3,378	sf	\$14.55	\$49,147
Sheathing				
Exterior walls, densglass sheathing	3,378	sf	\$3.09	\$10,437
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	3,378	sf	\$1.44	\$4,864
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	3,378	sf	\$2.76	\$9,323

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
Exterior Rammed Earth Wall	222	cy	\$750.00	\$166,667
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	3,378	sf	\$8.14	\$27,495
Add for steel troweled finish, hand applied (smooth)	3,378	sf	\$2.21	\$7,465
Exterior Glazing				
Framed curtainwall with bi-folding system	1,200	sf	\$356.24	\$427,488
Kawneer framed curtainwall incl. all support framework, laminated glazing with trar	1,200	sf	\$75.00	\$90,000
Exterior Doors				
Aluminum door sets, frames and hardware, glazed, single, tempered glass	1	ea	\$4,908.31	\$4,908
Aluminum door sets, frames and hardware, glazed, double	1	pr	\$9,771.48	\$9,771
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set	1	ea	\$4,269.75	\$4,270
Aluminum Sunshades / Roof canopies				
Exterior sunshades				see Exterior
Miscellaneous				
Firesafing at perimeter walls	200	lf	\$8.13	\$1,626

**Total - Exterior Cladding** **\$815,344**

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	3,966	sf	\$4.98	\$19,751
Roof Insulation				
Rigid roof insulation, poly iso insulation	3,966	sf	\$4.81	\$19,076
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	200	lf	\$19.75	\$3,950
Aluminum downspouts	60	lf	\$19.75	\$1,185
Access hatch				assume not required
Miscellaneous				
Caulking allowance	3,966	sf	\$0.20	\$793

**Total - Roofing and Waterproofing** **\$44,755**

### 6 Interior Partitions, Doors and Glazing

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
Interior Partitions				Assume open space (no fixed interior walls)
Moveable walls				To Desert Great Room only
Interior Glazing				Assume open space (no fixed interior walls)
Interior glazing				
Door sidelights or transom				
Interior Doors				Assume not required

**Total - Interior Partitions, Doors and Glazing**

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# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
<b>7 Floor, Wall and Ceiling Finishes</b>				
Interior Finishes				
Floors				
Integral color Concrete	3,305	sf	\$2.44	\$8,064
Base				
Wood base, 4"	200	sf	\$11.04	\$2,208
Walls				
Paint walls	3,378	sf	\$0.57	\$1,925
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	3,305	sf	\$0.65	\$2,148

**Total - Floor, Wall and Ceiling Finishes** \$19,346

### 8 Function Equipment and Specialties

Toilet Cubicles				N/A
Building Specialties				
Storage cabinets			included with building casework	
Fire extinguisher and cabinet, allowance	2	ea	\$372.85	\$746
Window Covering				
Mechoshades, manual	1,200	sf	\$8.94	\$10,728
Building Casework (allowance)	3,305	sf	\$15.00	\$49,575

**Total - Function Equipment and Specialties** \$61,049

### 9 Stairs and Vertical Transportation

Stairs				Assume not required
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**Total - Stairs and Vertical Transportation**

### 10 Plumbing Systems

N/A

Desert Discovery Center  
Scottsdale, AZ  
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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Plumbing Systems</b>				
<b>11 Heating, Ventilation and Air Conditioning</b>				
Air-Side Equipment	3,305	sf	\$4.17	\$13,782
Air Distribution	3,305	sf	\$5.28	\$17,450
HVAC Controls	3,305	sf	\$0.72	\$2,380
Additional mechanical requirements	3,305	sf	\$0.49	\$1,619

**Total - Heating, Ventilation and Air Conditioning** \$35,231

### 12 Electrical Lighting, Power and Communications

Electrical Work				
Power and Lighting				
Service and distribution	3,305	sf	\$5.50	\$18,178
Emergency Service and Distribution	3,305	sf	\$3.50	\$11,568
HVAC & Equipment	3,305	sf	\$0.80	\$2,644
Convenience Power	3,305	sf	\$3.00	\$9,915
Lighting & Lighting Controls	3,305	sf	\$15.00	\$49,575
Low Voltage/Communication Systems				
Phone/data system				
Voice/Data System (Raceways Only)	3,305	sf	\$2.30	\$7,602
Voice/Data System	3,305	sf	\$4.50	\$14,873
Clock, PA, speaker system				
Clock, PA, Speaker System (Conduit Only)	3,305	sf	\$0.75	\$2,479
Clock, PA, Speaker System	3,305	sf	\$0.50	\$1,653
Security, access control system				
Security & Access Control System (Conduit Only)	3,305	sf	\$1.10	\$3,636
Security & Access Control System	3,305	sf	\$0.75	\$2,479
CCTV System (Conduit Only)	3,305	sf	\$0.75	\$2,479
CCTV System	3,305	sf	\$2.00	\$6,610
Electroinic Safety and Security Systems Work				
Fire alarm system	3,305	sf	\$3.75	\$12,394

# CONCEPTUAL COST ESTIMATE

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## DETAIL ELEMENTS - PAVILION K

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Electrical Lighting, Power and Communications</b>				<b>\$146,081</b>
<b>13 Fire Protection Systems</b>				
Automatic Sprinkler System	3,305	sf	\$3.59	\$11,858
<b>Total - Fire Protection Systems</b>				<b>\$11,858</b>
<b>14 Site Preparation and Demolition</b>				not required
<b>Total - Site Preparation and Demolition</b>				
<b>15 Site Paving, Structures &amp; Landscaping</b>				see Exterior
<b>Total - Site Paving, Structures &amp; Landscaping</b>				
<b>16 Utilities on Site</b>				see Exterior
<b>Total - Utilities on Site</b>				

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## SUMMARY - PAVILION L

Element	Subtotal	Total	Cost / SF	Cost / SF
<b>A) Shell (1-5)</b>		<b>\$2,704,205</b>		<b>\$298.97</b>
1 Foundations	\$42,537		\$4.70	
2 Vertical Structure	\$198,204		\$21.91	
3 Floor & Roof Structures	\$334,470		\$36.98	
4 Exterior Cladding	\$2,005,553		\$221.73	
5 Roofing and Waterproofing	\$123,441		\$13.65	
<b>B) Interiors (6-7)</b>		<b>\$167,550</b>		<b>\$18.52</b>
6 Interior Partitions, Doors and Glazing	\$113,834		\$12.59	
7 Floor, Wall and Ceiling Finishes	\$53,716		\$5.94	
<b>C) Equipment and Vertical Transportation (8-9)</b>		<b>\$167,905</b>		<b>\$18.56</b>
8 Function Equipment and Specialties	\$167,905		\$18.56	
9 Stairs and Vertical Transportation				
<b>D) Mechanical and Electrical (10-13)</b>		<b>\$528,489</b>		<b>\$58.43</b>
10 Plumbing Systems				
11 Heating, Ventilation and Air Conditioning	\$95,061		\$10.51	
12 Electrical Lighting, Power and Communications	\$399,789		\$44.20	
13 Fire Protection Systems	\$33,639		\$3.72	
<b>E) Site Construction (14-16)</b>				
14 Site Preparation and Demolition				
15 Site Paving, Structures & Landscaping				
16 Utilities on Site				
Subtotal		\$3,568,148		\$394.49
General Conditions	8.00%	\$285,452		\$31.56
Subtotal		\$3,853,600		\$426.05
General Requirements	3.50%	\$134,876		\$14.91
Subtotal		\$3,988,476		\$440.96
Bonds & Insurance	2.60%	\$92,772		\$10.26
Subtotal		\$4,081,248		\$451.22
Subguard Insurance	1.00%	\$35,681		\$3.94
Subtotal		\$4,116,929		\$455.16
Contractor's Fee	3.50%	\$144,093		\$15.93
Subtotal		\$4,261,022		\$471.09
Design Contingency	10.00%	\$426,102		\$47.11
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$5,155,837</b>		<b>\$570.02</b>

Total Area: 9,045 SF

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
<b>1 Foundations</b>				
Basement Excavation				assume not required
Concrete layout	9,045	sf	\$0.18	\$1,628
Spread Footings, assume 2ft x 2ft x 1ft, 15ft o/c, 22 footings in total				
Concrete, spread footings, 4000 psi	3.3	cy	\$225.14	\$734
Formwork, spread footings	132	lf	\$5.66	\$747
Foundation reinforcing 180# / cy)	587	lbs	\$1.26	\$739
Excavation	3.6	cy	\$14.79	\$53
Backfill	0.3	cy	\$12.79	\$4
Haul excess	3.3	cy	\$13.43	\$44
Continuous Footings				assume not required
Grade Beams, assume 1ft x 1ft x 1ft	790	lf		
Concrete, grade beams, 4000 psi	29.3	cy	\$225.14	\$6,587
Formwork, grade beams	1,580	lf	\$4.90	\$7,742
Foundation reinforcing (180# / cy)	5,267	lbs	\$1.26	\$6,636
Excavation	32	cy	\$14.79	\$476
Backfill	3	cy	\$12.79	\$37
Haul excess	29	cy	\$13.43	\$393
Pile Foundations (Including Mobilization):				assume not required
Precast, prestressed - 14" square				
Precast, prestressed - 18" square				
Piles, steel H-section, 12" x 12" x 74#				
Miscellaneous				
Concrete, elevator pit				assume not required
Perimeter foundation drain	580	lf	\$28.82	\$16,716
<b>Total - Foundations</b>				<b>\$42,537</b>
<b>2 Vertical Structure</b>				
Structural Steel (Non-OSHPD Pricing), assume 12lbs/sf	54.3	t	\$3,272.61	\$177,605
Steel columns, WF				included above
Steel columns, tube steel				included above
Brace framing				included above
Miscellaneous bolts and connections				included above
Fireproofing to steelwork	54.3	t	\$379.57	\$20,599

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Vertical Structure</b>				<b>\$198,204</b>
<b>3 Floor &amp; Roof Structures</b>				
Slab On Grade 5" Thick, 3000 psi				
Concrete, slab on grade	141	cy	\$225.71	\$31,757
Formwork, slab on grade 5" thick, 3000 psi	580	lf	\$5.32	\$3,086
Sand base, 4"	9,045	sf	\$1.84	\$16,643
Gravel sub base, 6"	9,045	sf	\$1.68	\$15,196
Slab on grade reinforcing (#2 / sf)	18,090	lbs	\$1.26	\$22,793
Finish to slab	9,045	sf	\$0.51	\$4,613
Vapor barrier	9,045	sf	\$0.28	\$2,533
Concrete, slab on grade, add for thickened edges, allow 10% of concrete	14	cy	\$221.42	\$3,115
Roof Deck Fill				
3 1/2" thick normal weight concrete deck topping, 3000 psi, incl. reinforcing	10,854	sf	\$5.53	\$60,023
Finish to concrete deck	10,854	sf	\$0.51	\$5,536
Roof Decking				
3", 20 Ga. metal deck	9,045	sf	\$6.11	\$55,265
Overhangs, allow 20% of area	1,809	sf	\$6.11	\$11,053
Deck edging, 16 Ga.	696	lf	\$11.20	\$7,795
Miscellaneous				
Expansion joint/cover	9,045	sf	\$0.15	\$1,357
Miscellaneous metals, allowance	9,045	sf	\$1.00	\$9,045
Rough Carpentry, allowance	9,045	sf	\$1.00	\$9,045
Framing, 2" x 6", ceilings	9,045	sf	\$5.50	\$49,748
Plywood Sheathing				
Roof sheathing, 1/2"	9,045	sf	\$2.20	\$19,899
Exterior soffits (20% overhang)	1,809	sf	\$2.50	\$4,523
Miscellaneous Rough Carpentry				
Miscellaneous blocking/strapping and backing	9,045	sf	\$0.08	\$724
Miscellaneous rough hardware	9,045	sf	\$0.08	\$724
<b>Total - Floor &amp; Roof Structures</b>				<b>\$334,470</b>

### 4 Exterior Cladding

Exterior Walls And Parapets  
Exterior Metal Studs

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
Metal stud framing, 6" 18 Ga. at 16" o.c.	9,796	sf	\$14.55	\$142,525
Sheathing				
Exterior walls, densglass sheathing	9,796	sf	\$3.09	\$30,268
Exterior Wall Insulation				
R-19 batt insulation, exterior walls and returns, semi-rigid incl. foil backing	9,796	sf	\$1.44	\$14,106
Gypsum Board to Interior of Exterior				
Interior of exterior, 5/8" thick gypsum board X, finished	9,796	sf	\$2.76	\$27,036
Exterior Rammed Earth Wall	644	sf	\$248.29	\$160,009
Exterior Plaster, Machine Finish				
Exterior plaster, machine finish, walls, 3 color	9,796	sf	\$8.14	\$79,736
Add for steel troweled finish, hand applied (smooth)	9,796	sf	\$2.21	\$21,648
Exterior Glazing				
Framed curtainwall with bi-folding system	3,480	sf	\$356.24	\$1,239,715
Kawneer framed curtainwall incl. all support framework, laminated glazing with l	3,480	sf	\$75.00	\$261,000
Exterior Doors				
HM door sets, HM frames and hardware, single	2	ea	\$2,228.80	\$4,458
HM door sets, HM frames and hardware, double	1	pr	\$4,412.46	\$4,412
Aluminum door sets, frames and hardware, glazed, double	1	pr	\$9,771.48	\$9,771
Premiums				
Panic hardware, per leaf	2	ea	\$941.47	\$1,883
Automatic door opening, per double leaf set	1	ea	\$4,269.75	\$4,270
Aluminum Sunshades / Roof canopies				
Exterior sunshades				see Exterior
Miscellaneous				
Firesafing at perimeter walls	580	lf	\$8.13	\$4,715
<b>Total - Exterior Cladding</b>				<b>\$2,005,553</b>

### 5 Roofing and Waterproofing

Waterproofing				assume not required
Roofing				
Single ply membrane roofing	10,854	sf	\$4.98	\$54,053
Roof Insulation				
Rigid roof insulation, poly iso insulation	10,854	sf	\$4.81	\$52,208
Pedestal Paver System				assume not required
Skylights				assume not required
Roof Accessories				
Aluminum gutters	580	lf	\$19.75	\$11,455
Aluminum downspouts	180	lf	\$19.75	\$3,555

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
Access hatch				assume not required
Miscellaneous				
Caulking allowance	10,854	sf	\$0.20	\$2,171
<b>Total - Roofing and Waterproofing</b>				<b>\$123,441</b>
<b>6 Interior Partitions, Doors and Glazing</b>				
Interior Partitions				
Interior Metal Studs				
Metal studs, 6", 16 Ga., at 16" o.c.	6,300	sf	\$11.62	\$73,206
Gypsum Board				
Gypsum board, 5/8" thick, finished (I4), type X	6,300	sf	\$2.76	\$17,388
Interior Wall Insulation				
Sound batt insulation, unbacked	6,300	sf	\$1.01	\$6,363
Moveable walls				not required
Interior Glazing				not required
Interior Doors				
SC wood door incl. AL frame and hardware, single	5	ea	\$2,135.60	\$10,678
HM door in HM frame, incl. hardware, single	2	ea	\$2,135.60	\$4,271
Premiums				
Panic hardware, per leaf	2	ea	\$964.04	\$1,928
<b>Total - Interior Partitions, Doors and Glazing</b>				<b>\$113,834</b>

## 7 Floor, Wall and Ceiling Finishes

Interior Finishes				
Floors				
Integral color Concrete	9,045	sf	\$2.44	\$22,070
Base				
Wood base, 4"	1,050	lf	\$11.04	\$11,592
Walls				
Paint walls	16,096	sf	\$0.57	\$9,174
Allowance for feature / premium finishes	1	al	\$5,000.00	\$5,000
Ceiling				
Paint gypsum board ceilings/soffit drops	9,045	sf	\$0.65	\$5,879

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Desert Discovery Center  
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## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Floor, Wall and Ceiling Finishes</b>				<b>\$53,716</b>
<b>8 Function Equipment and Specialties</b>				
Toilet Cubicles				not required
Building Specialties				
Storage cabinets				included with building casework
Fire extinguisher and cabinet, allowance	3	ea	\$372.85	\$1,119
Window Covering				
Mechoshades, manual	3,480	sf	\$8.94	\$31,111
Building Casework (allowance)	9,045	sf	\$15.00	\$135,675
<b>Total - Function Equipment and Specialties</b>				<b>\$167,905</b>
<b>9 Stairs and Vertical Transportation</b>				
Stairs				Assume not required
<b>Total - Stairs and Vertical Transportation</b>				
<b>10 Plumbing Systems</b>				
<b>Total - Plumbing Systems</b>				not required
<b>11 Heating, Ventilation and Air Conditioning</b>				
Air-Side Equipment	9,045	sf	\$4.13	\$37,356
Air Distribution	9,045	sf	\$5.28	\$47,720
HVAC Controls	9,045	sf	\$0.63	\$5,722
Additional mechanical requirements	9,045	sf	\$0.47	\$4,263

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# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
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Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Heating, Ventilation and Air Conditioning</b>				<b>\$95,061</b>

### 12 Electrical Lighting, Power and Communications

#### Electrical Work

##### Power and Lighting

Service and distribution	9,045	sf	\$5.50	\$49,748
Emergency Service and Distribution	9,045	sf	\$3.50	\$31,658
HVAC & Equipment	9,045	sf	\$0.80	\$7,236
Convenience Power	9,045	sf	\$3.00	\$27,135
Lighting & Lighting Controls	9,045	sf	\$15.00	\$135,675

#### Low Voltage/Communication Systems

##### Phone/data system

Voice/Data System (Raceways Only)	9,045	sf	\$2.30	\$20,804
Voice/Data System	9,045	sf	\$4.50	\$40,703

##### Clock, PA, speaker system

Clock, PA, Speaker System (Conduit Only)	9,045	sf	\$0.75	\$6,784
Clock, PA, Speaker System	9,045	sf	\$0.50	\$4,523

##### Security, access control system

Security & Access Control System (Conduit Only)	9,045	sf	\$1.10	\$9,950
Security & Access Control System	9,045	sf	\$0.75	\$6,784
CCTV System (Conduit Only)	9,045	sf	\$0.75	\$6,784
CCTV System	9,045	sf	\$2.00	\$18,090

#### Electronic Safety and Security Systems Work

Fire alarm system	9,045	sf	\$3.75	\$33,919
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<b>Total - Electrical Lighting, Power and Communications</b>				<b>\$399,789</b>
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### 13 Fire Protection Systems

Automatic Sprinkler System	9,045	sf	\$3.40	\$30,753
Backflow preventer, red press	9,045	sf	\$0.32	\$2,886

Desert Discovery Center  
Scottsdale, AZ  
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Project # 17-00349  
05/04/17

## DETAIL ELEMENTS - PAVILION L

Element	Quantity	Unit	Unit Cost	Total
<b>Total - Fire Protection Systems</b>				<b>\$33,639</b>

### 14 Site Preparation and Demolition

not required

#### Total - Site Preparation and Demolition

### 15 Site Paving, Structures & Landscaping

see Exterior

#### Total - Site Paving, Structures & Landscaping

### 16 Utilities on Site

see Exterior

#### Total - Utilities on Site

# CONCEPTUAL COST ESTIMATE

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

## APPENDIX 1 - SCOPE ASSUMPTIONS

Description	Assumed Scope
<b>General Project Info</b>	<ul style="list-style-type: none"> <li>- Escalation included</li> <li>- Local GC laydown / compound area within proximity.</li> <li>- Local trade parking available both onsite (partial) and offsite.</li> <li>- All sub trades to be competitively bid.</li> <li>- Labor pool from Scottsdale / Phoenix</li> </ul>
<b>Detailed Assumptions</b>	
1. Substructure / Foundations	<ul style="list-style-type: none"> <li>- Mass excavation and haul excess</li> <li>- Temporary shoring and dewatering excluded</li> <li>- Conventional continuous footings / spread footings.</li> <li>- Sub slab drainage.</li> </ul>
2. Structure	<ul style="list-style-type: none"> <li>- Structural steel system with brace frames - 12 lb / sf. with fireproofing</li> <li>- Concrete slab on grade - 5" thick</li> <li>- 3" 20 Ga. Metal roof deck with overhangs</li> </ul>
3. Envelope / Roofing	<ul style="list-style-type: none"> <li>- Exterior substrate of metal studs, densglas sheathing &amp; R-19 batt insulation (20%)</li> <li>- 40% of premium envelope such as rammed earth wall</li> <li>- Exterior glazing comprises 40% of total envelope.</li> <li>- Aluminum framed curtain wall with insulated spandrel panels.</li> </ul>
4. Interiors	<ul style="list-style-type: none"> <li>- Metal stud framed interior construction for combined pavilions</li> <li>- SC, HM interior door sets in service buildings as required</li> <li>- Floors: Flooring considered is sealed concrete for all areas &amp; ceramic tiles for restrooms</li> <li>- Ceilings / soffits: regular paint and acoustical fabric for desert time pavilion</li> <li>- Walls: regular paint and acoustical fabric wrapped wall panels for desert time pavilion</li> <li>- Base: Wood base 4" for all pavilions</li> <li>- Stainless steel restroom cubicles and fixed RR specialties</li> <li>- Mecoshades window covering</li> </ul>
6. Plumbing	<ul style="list-style-type: none"> <li>- Full plumbing system including all sanitary fixtures</li> <li>- Internal roof drainage.</li> </ul>
7. HVAC	<ul style="list-style-type: none"> <li>- Stand alone HVAC systems for each pavilion</li> </ul>
8. Electrical	<ul style="list-style-type: none"> <li>- Main primary and secondary power upgrade.</li> <li>- Emergency generator</li> <li>- LED lighting</li> <li>- Full fire alarm system.</li> <li>- Rough in of all low voltage systems (CCTV, security)</li> <li>- phone.</li> </ul>
9. Fire Protection	<ul style="list-style-type: none"> <li>- Wet pipe sprinklers throughout.</li> </ul>
10. Sitework	<ul style="list-style-type: none"> <li>- 4" AC paving for access roads</li> <li>- Decomposed granite paving 3" for existing &amp; future parking</li> <li>- Parking stripes, curbs stopper &amp; signage for future parking</li> </ul>

Desert Discovery Center  
Scottsdale, AZ  
Conceptual

Project # 17-00349  
07/18/17

## APPENDIX 1 - SCOPE ASSUMPTIONS

Description	Assumed Scope
	<ul style="list-style-type: none"> <li>- CIP colored 1.5' high seat walls</li> <li>- Prep &amp; foundation for open exhibits</li> <li>- Temporary path of travel, traffic management, and utility re-routes.</li> <li>- Decomposed granite paving for pathway</li> <li>- New sewage utility distribution connected to Gateway trailhead</li> </ul>
11. Exclusions	<ul style="list-style-type: none"> <li>- Cost for exhibits</li> </ul>