



**Utah State Prison
Draper Prison
Programming**

Enhanced Budget Analysis Rev2
February 3, 2015
Cumming Project No. 14-00900.00

Prepared for Rosser International

TABLE OF CONTENTS

	Page
1. Project Introduction / Qualifications	
a. Introduction.....	3
2. Cost Summaries	
a. Executive Summary.....	6
b. Sensitivity Analysis.....	7
c. Construction Cost Summary.....	8
d. Estimate Summary by Program.....	9
3. Control Areas	
a. Program Cost Modifications.....	11
b. Program Comparison.....	12
4. Construction Cost Back Up	
a. Sample Projects - Adjustments Matrix.....	13
b. Adjustments Summary by Category.....	14

INTRODUCTION

Project Description

The portion of work for this estimate involves the construction of a new State Prison in Draper, Utah. The project is approximately 1.3M square feet in program area with an overall site area of approximately 20M square feet. The program will include men and women's housing, administration, programs, kitchen and laundry, central plant, and medical program.

Basis of Analysis

This estimate is based on the Enhanced Budget Analysis Rev2 package prepared by Rosser International, along with verbal direction by the architect.

- 1 Space Outline Program dated 01/23/2015
- 2 Site Layout Diagram dated 01/08/2015
- 3 Industry Research

Construction Schedule

Costs included herein have been based upon a construction period of 37 months. Any costs for excessive overtime to meet accelerated schedule milestone dates are not included in this estimate.

Schedule

	Start Date	Finish Date	Duration		
Construction	Jun-16	Jun-19	1,095 Days	37 Months	3.0 Years

Methodology

The cost data contained within this report has been gathered through industry research. Included herein are direct construction costs for six distinct prisons across the United States constructed since the year 2001. The cost data has been normalized for time and location to reflect current market rates in the location of the Draper project. RSMeans Building Construction Cost Data and indexes have been used for these efforts. Escalation to the midpoint of construction has been added at the summary level, in accordance with the per-annum rates outlined below.

As the construction cost data is for bid projects all anticipated direct markups are included. This would include the following: general contractor supervision, general requirements, bonds and insurance, and design contingency. Other markups explicitly excluded from the scope of this exercise include the following: soft costs, construction contingency, project costs, FF&E, construction management, utility connection fees, and building permits.

The acquired construction cost data has been normalized as indicated above, and the average taken, to generate a base rate (in dollars per square foot of building) for the Draper project. The average cost has been modified based on program makeup as indicated on the Program Cost Modifications Page. The modifications are based on our research for this project, as well as Cummings own historical cost database.

The program data contained within this report has similarly been gathered through industry research. Findings are delineated below.

Where a breakout of site costs have not been provided we have assumed site costs to be 10% of the building costs. Where a breakout of site costs was provided we have calculated the cost as a percentage of the building costs. The average of these costs has been used to calculate the on-site development costs for the Draper project.

Central utility plant costs are included as core / shell costs only. The attributable cost for equipment has been included within each of the buildings.

INTRODUCTION

Construction procurement has been assumed as design-build. Architectural / Engineering fees associated with design-build procurement are included at 4.0% as indicated on the Summary Page.

Research

The following is a listing of confidential research contacts consulted for this analysis:

- Architecture Firm: (19) Offices in the United States, Arizona and Tennessee projects.
- Architecture Firm: (15) Offices in the United States, Alaska and Pennsylvania projects.
- General Contractor: (19) Offices in the United States, Arizona project.
- General Contractor: (3) Offices in the United States, Washington project.
- Utah Department of Transportation (Construction Cost Outlook and Recommended Inflation Projections).
- U.S. Federal Government General Accounting Office
- Tennessee State Department of Corrections, Department of Budget Personnel

Program Review

Detailed construction program is included for three of the six sample projects. The program generally adheres to that developed for the Draper State Prison with a few noted exceptions. Specific findings are as noted:

- Administration program lies within a range of 3.7%-9.3% of the total program area. The Draper program lies within this range.
- Housing program constitutes between 48%-61% of the total program area. The Draper program lies within this range.
- Medical program ranges from 2.8% to 15.4% of the total program area. The Draper program lies within this range.
- Recreation, program, and industries range from 7.5% to 23.9% of the total program area. The Draper program constitutes the upper boundary of this range, with the next highest at 21%.
- Kennel and execution programs are not explicitly included in the three sample projects - we were not able to verify inclusion of these programs in the programmatic breakdowns.
- Central utility program area is approximately 1% +/- of the total program across the two of the three sample projects. The Draper program is within this range.

INTRODUCTION

Escalation Allowance

All prices contained herein are reflective of current prices. Escalation has been included on the summary level to take through to a mid point of construction.

Estimated start date: Jun-16
Estimated completion date: Jun-19
Midpoint of construction: Nov-17

Year	Rates		
	Minimum	Average	Maximum
2015	2.0%	4.5%	8.50%
2016	2.0%	5.0%	9.00%
2017	2.5%	5.0%	9.00%
2018	1.5%	4.0%	7.50%
2019	1.0%	4.0%	7.00%
2020	3.5%	3.5%	3.50%
2021	3.5%	3.5%	3.50%
2022	3.5%	3.5%	3.50%
2023	3.5%	3.5%	3.50%
2024	3.5%	3.5%	3.50%
2025	3.5%	3.5%	3.50%

EXECUTIVE SUMMARY

Element	Min	Average	Maximum
Draper Prison			
Building, Site, and Escalation to Midpoint of Construction	\$422,000,000	\$547,000,000	\$678,000,000

The following scope is excluded from the above:

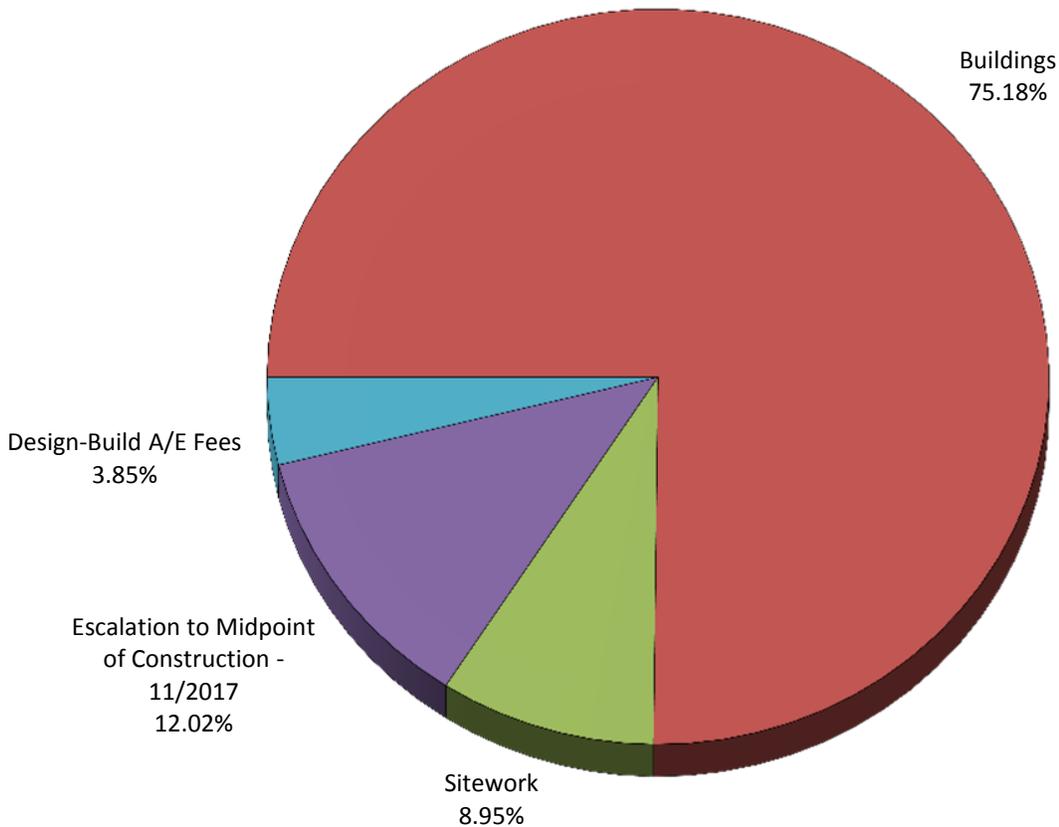
- *Soft Cost or Project Cost Markups
- *Premiums Associated with Public-Private-Partnership Delivery

SENSITIVITY ANALYSIS

Element	Area	\$/SF			Total		
		Min	Average	Max	Min	Average	Max
Draper Prison							
1. Buildings	1,332,713	\$261.60	\$308.01	\$333.53	\$348,632,668	\$410,492,903	\$444,496,811
2. Sitework					\$34,863,267	\$48,868,203	\$63,499,544
3. Escalation to MOC - 11/2017		6.23%	14.29%	27.08%	\$23,883,662	\$65,647,622	\$137,584,365
4. Design-Build Fees		3.50%	4.00%	5.00%	\$14,258,286	\$21,000,349	\$32,279,036
TOTAL ESTIMATED CONSTRUCTION COST					\$422,000,000	\$547,000,000	\$678,000,000

CONSTRUCTION COST SUMMARY

Element	Area	Cost / SF	Total
Draper Prison			
1. Buildings	1,332,713	\$308.01	\$410,492,903
2. Sitework			\$48,868,203
3. Escalation to Midpoint of Construction - 11/2017	14.29%		\$65,647,622
4. Design-Build A/E Fees	4.00%		\$21,000,349
TOTAL ESTIMATED CONSTRUCTION COST	1,332,713 SF	\$409.70 / SF	\$546,009,077



Element	1. Draper Prison 1,332,713 sf		
	Area	\$/gsf	Total
Program			
Administration - Complex	18,620	\$274.00	\$5,101,912
Administration - Facility	40,110	\$274.00	\$10,990,209
Visitation	26,429	\$269.31	\$7,117,662
Staff Training	4,907	\$267.95	\$1,314,829
Security Administration	21,409	\$391.14	\$8,374,022
Probation and Parole	5,726	\$391.14	\$2,239,696
Reception, Transfers, and Releases	21,785	\$335.51	\$7,309,017
Housing - Male	581,260	\$345.03	\$200,549,996
Housing - Female	99,529	\$345.03	\$34,340,124
Programs	150,875	\$273.01	\$41,190,685
Recreation	11,844	\$291.28	\$3,449,900
Industries	156,103	\$181.44	\$28,323,592
Kitchen	24,817	\$480.46	\$11,923,613
Laundry	9,414	\$373.83	\$3,519,203
Warehouse	38,330	\$220.57	\$8,454,278
Mail Room	777	\$307.99	\$239,307
Plant Maintenance	45,444	\$220.57	\$10,023,382
Medical	58,734	\$373.83	\$21,956,326
Central Utility Plant	11,000	\$220.57	\$2,426,221
Execution	3,640	\$307.99	\$1,121,077
Kennel	1,960	\$269.31	\$527,853
Subtotal Cost	1,332,713	\$308.01	\$410,492,903
Sitework - 11.9% of Building Cost	11.9%	\$410,492,903	\$48,868,203
Subtotal Cost			\$459,361,106
General Contractor Markups			Included Above
Design Contingency			Included Above
Escalation to MOC, 11/30/17	14.3%		\$65,647,622
Design-Build A/E Fees	4.0%		\$21,000,349
Total Construction Cost			<u>\$546,009,077</u>

Schedule of Areas and Control Quantities

Schedule of Areas	Total Square Footage	% of Total \$/GSF	Adjusted \$/gsf
1. Program Cost Allocation		100%	\$307.99
Administration - Complex	18,620	89%	\$274.00
Administration - Facility	40,110	89%	\$274.00
Visitation	26,429	87%	\$269.31
Staff Training	4,907	87%	\$267.95
Security Administration	21,409	127%	\$391.14
Probation and Parole	5,726	127%	\$391.14
Reception, Transfers, and Releases	21,785	109%	\$335.51
Housing - Male	581,260	112%	\$345.03
Housing - Female	99,529	112%	\$345.03
Programs	150,875	89%	\$273.01
Recreation	11,844	95%	\$291.28
Industries	156,103	59%	\$181.44
Kitchen	24,817	156%	\$480.46
Laundry	9,414	121%	\$373.83
Warehouse	38,330	72%	\$220.57
Mail Room	777	100%	\$307.99
Plant Maintenance	45,444	72%	\$220.57
Medical	58,734	121%	\$373.83
Central Utility Plant	11,000	72%	\$220.57
Execution	3,640	100%	\$307.99
Kennel	1,960	87%	\$269.31
Total Enclosed	1,332,713		\$308.01 /gsf

Utah State Prison
Program Comparison
Enhanced Budget Analysis Rev2

02/03/15

Schedule of Areas	Draper		SCI Pheonix		Confidential WA		Tennessee	
	Total Square Footage	% of Total						
1. Program Comparison								
Administration - Complex	18,620	1.4%	-		22,812	4.5%	17,122	3.7%
Core Building	-		-		-		102,960	22.4%
Vehicle Sallyport	-		-		-		572	0.1%
Armory	-		-		-		1,348	0.3%
Administration - Facility	40,110	3.0%	39,359	3.7%	4,218	0.8%	25,549	5.6%
Visitation	26,429	2.0%	-		14,490	2.8%		
Staff Training	4,907	0.4%	-		-			
Security Administration	21,409	1.6%	-		-			
Probation and Parole	5,726	0.4%	-		-			
Reception, Transfers, Releases	21,785	1.6%	1,272	0.1%	5,653	1.1%		
Housing - Male	581,260	43.6%	578,790	54.8%	310,542	60.7%	224,733	48.9%
Housing - Female	99,529	7.5%	-		-			
Programs	150,875	11.3%	138,492	13.1%	31,586	6.2%	34,384	7.5%
Recreation	11,844	0.9%	-		14,664	2.9%		
Industries	156,103	11.7%	83,341	7.9%	24,000	4.7%		
Kitchen	24,817	1.9%	-		28,950	5.7%		
Laundry	9,414	0.7%	-		-			
Warehouse	38,330	2.9%	-		19,634	3.8%	46,058	10.0%
Mail Room	777	0.1%	-		-			
Plant Maintenance	45,444	3.4%	40,705	3.9%	17,710	3.5%		
Medical	58,734	4.4%	162,306	15.4%	14,400	2.8%		
Central Utility Plant	11,000	0.8%	11,652	1.1%	2,658	0.5%		
Geothermal Pump House	-		-		-		1,539	0.3%
Tunnel	-		-		-		4,765	1.0%
Field Toilet	-		-		-		87	0.0%
Execution	3,640	0.3%	-		-			
Kennel	1,960	0.1%	-		-			
Total Enclosed	1,332,713	100%	1,055,917	100%	511,317	100%	459,117	100%

Element	1.		2.		3.		4.		5.		6.		METRICS - 4 PRISONS		
	SCI Pheonix 1,055,917 sf		Confidential Project - Washington State 511,317 sf		Tennessee 459,117 sf		Arizona Expansion 109,120 sf		Delaware 419,000 sf		Goose Creek 450,000 sf				
	Building Cost	Site Cost	Building Cost	Site Cost	Building Cost	Site Cost	Building Cost	Site Cost	Building Cost	Site Cost	Building Cost	Site Cost	Low	Average	High
TOTAL Direct Construction Cost Subsection Cost*	\$360,000,000		\$160,000,000		\$143,810,161		\$40,000,000		\$96,600,000		\$205,500,000				
	\$327,272,727	\$32,727,273	\$140,000,000	\$20,000,000	\$130,736,510	\$13,073,651	\$36,363,636	\$3,636,364	\$87,818,182	\$8,781,818	\$186,818,182	\$18,681,818			
Historical Cost Adjustment	0.06		0.28		0.08		0.01		0.65		0.08				
Historical Cost Adjustment - \$	\$20,349,435	\$2,034,943	\$38,629,630	\$5,518,519	\$10,598,410	\$1,059,841	\$319,446	\$31,945	\$57,281,884	\$5,728,188	\$15,144,779	\$1,514,478			
Adjusted Subtotals	\$347,622,162	\$34,762,216	\$178,629,630	\$25,518,519	\$141,334,920	\$14,133,492	\$36,683,083	\$3,668,308	\$145,100,065	\$14,510,007	\$201,962,961	\$20,196,296			
Location Adjustment	(0.21)		(0.10)		0.03		(0.01)		(0.16)		(0.26)				
Location Adjustment - \$	(\$71,420,553)	(\$7,142,055)	(\$17,844,567)	(\$2,549,224)	\$3,649,493	\$364,949	(\$291,466)	(\$29,147)	(\$22,689,392)	(\$2,268,939)	(\$53,255,608)	(\$5,325,561)			
Adjusted Totals	\$276,201,609	\$27,620,161	\$160,785,063	\$22,969,295	\$144,984,413	\$14,498,441	\$36,391,617	\$3,639,162	\$122,410,673	\$12,241,067	\$148,707,353	\$14,870,735			
Metrics	\$261.58 /gsf	10.0% of Building Cost	\$314.45 /gsf	14.3% of Building Cost	\$315.79 /gsf	10.0% of Building Cost	\$333.50 /gsf	10.0% of Building Cost	\$292.15 /gsf	10.0% of Building Cost	\$330.46 /gsf	10.0% of Building Cost	\$261.58 /gsf	\$307.99 /gsf	\$333.50 /gsf

Utah State Prison
 Programming
 Adjustments Summary by Category
 Enhanced Budget Analysis Rev2

02/03/15

Element	1. HISTORICAL COST ADJUSTMENTS - RSMEANS							2. LOCATION COST ADJUSTMENTS - RSMEANS						
	July 1, 2000	July 1, 2001	July 1, 2006	July 1, 2011	July 1, 2012	July 1, 2014	July 1, 2015	Anchorage, AK	Dover, DE	Richland, WA	Norristown, PA	Chattanooga, TN	Salt Lake City, UT	
HISTORICAL COST INDEXES	120.90	125.10	162.00	191.20	194.60	204.90	206.70							
July 1, 2000	120.90						0.71							
July 1, 2001	125.10						0.65							
July 1, 2006	162.00						0.28							
July 1, 2011	191.20						0.08							
July 1, 2012	194.60						0.06							
July 1, 2014	204.90						0.01							
July 1, 2015	206.70													
LOCATION - RSMEANS								118.70	103.60	97.10	110.00	88.10	85.20	87.40
Anchorage, AK	118.70													
Dover, DE	103.60													
Richland, WA	97.10													
Norristown, PA	110.00													
Pheonix, AZ	88.10													
Chattanooga, TN	85.20													
Salt Lake City, UT	87.40							(0.26)	(0.16)	(0.10)	(0.21)	(0.01)	0.03	