State of Utah

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Governor

GREGORY S. BELL
Lt. Governor

Department of Administrative Services
KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management
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Director

Addendum No. 1

Date:	January 4, 2013
To:	Consultants
From:	Rick James – Program Director
Reference:	Crocker Science Center at the George Thomas Building University of Utah – Salt Lake City, Utah DFCM Project No. 12337750
Subject:	**Addendum No. 1**

Pages	Addendum Cover Sheet	1	page
	Pre-Programming Study Update	66	pages
	Total	67	pages

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

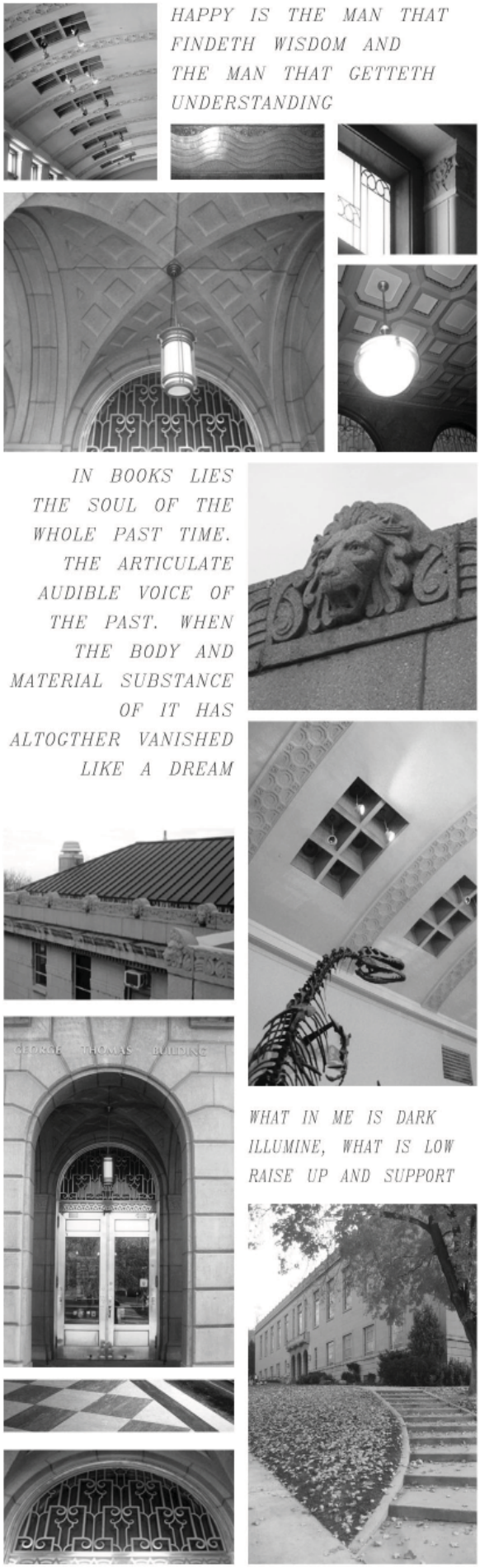
1.1 SCHEDULE CHANGES: There are no Project Schedule changes.

1.2 GENERAL ITEMS:

1.2.1 The attendees list has been added to the DFCM web site: dfcm.utah.gov.

1.2.2 There will be no tour of the existing Thomas Building during the selection process of the programming team.

1.2.3 See attached University of Utah Crocker Science Center Pro-Programming Study Update dated November 26, 2012.



CROCKER SCIENCE CENTER PRE-PROGRAMMING STUDY UPDATE

UNIVERSITY OF UTAH

PROJECT NUMBER: 20098

NOVEMBER 26, 2012

PREPARED BY:

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Salt Lake City, UT 84111
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UNIVERSITY OF UTAH REVIEW SIGNATURES

We have reviewed the Crocker Science Center Pre-Programming Update for the College of Science and warrant that it adequately represents our request for a facility to fulfill our mission and programmatic needs. All appropriate parties representing the University have reviewed it for approval.

Michael Hardman *(Interim SEnior Vice President for Academic Affairs)*	Date
Arnold B. Combe *(Vice President of Administrative Services)*	Date
Patti Ross *(Chief Strategy Officer)*	Date
Pierre V. Sokolsky *(Dean - College of Science)*	Date
Michael G. Perez *(Associate Vice President - Facilities Management)*	Date
John McNary *(Director - Campus Planning)*	Date
Cory Higgins *(Executive Director - Facility and Construcion Operation)*	Date
Eric Browning *(Campus Planner - Campus Planning)*	Date
Jennifer Still *(Campus Planner - Campus Planning)*	Date

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY
- Background
- Process
- Acknowlegments

2.0 UPDATED PROJECT VISION
- Components
- Updated Space Summary
- Cube/Loft Discussion

3.0 OPTION ANALYSIS
- Site Implications
- Cost Model
- Square Footage / Cost Options
- Phasing Strategies

4.0 SUMMARY

5.0 APPENDIX
- Education Committee Report
- Proposed Educational Programs
- Space Estimates and Priorities
- Vibration Performance Memo
- Meeting Minutes
- Cost Analysis (Shell Only)
- Cost Analysis (Total Building)
- FFE Analysis
- CBE Option Forms

1.0 EXECUTIVE SUMMARY

BACKGROUND

In the spring of 2010 EDA and Perkins + Will completed a pre-programming analysis and report for the renovation and expansion of the George Thomas Building (GTB). The purpose of the study was to assess the feasibility of relocating the College of Science and the new Center for Cell and Genome Science to the GTB. At the time, an overall project budget of $75 million was set as a target for the total work.

As the University furthered its efforts it became clear that the overall budget goal of $75 million would need to be adjusted to meet the current fiscal environment. An updated project budget of $50 million was established that represented a 30% reduction from the previous budgets in the initial facility renovation plan. EDA was contracted with the University to determine how this budget reduction would impact the original project vision, goals and space requirements previously identified.

PROCESS

A series of meetings were held with the University that included members of the College of Science, the Center for Cell and Genome Science, Campus Design + Construction, Interdisciplinary Visioning Committee, the Initiative for Math & Science Committee and the GTB Education Planning Committee. During these meetings the overall project vision was discussed and reevaluated based on the

adjusted budget. With this updated information the design team presented various options that explored how the cost reduction would impact this updated vision. In addition, the previous cost model was re-evaluated and adjusted based on additional information provided by University Campus Planning staff in regards to the project soft costs. What follows is a summary of the vision and cost options as it relates to the adjusted budget.

ACKNOWLEDGMENTS

COLLEGE OF SCIENCE BUILDING COMMITTEE
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David Goldenberg, College of Science
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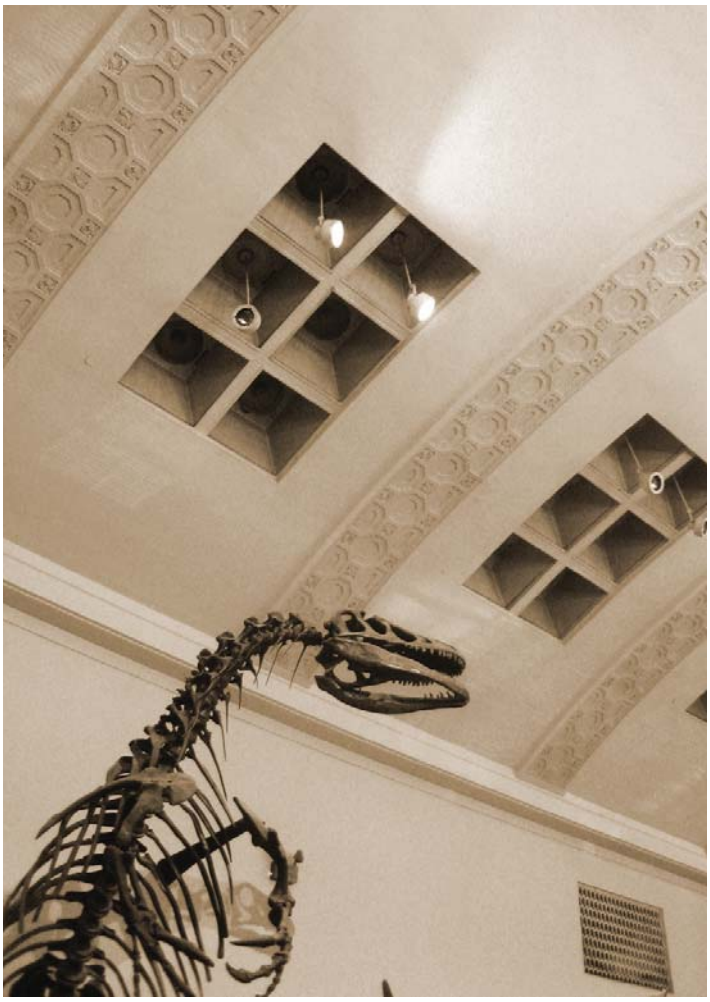


2.0 UPDATED PROJECT VISION

COMPONENTS

Since completing the Pre-Programming Study for the GTB (also referred to as the Crocker Science Center (CSC)), the College of Science has further developed its overall vision for the building. A number of reports generated over the past two years by the various committees are attached in the appendix of this report. Based on this additional information it is clear that the new CSC should include five main components:

Cell and Genome Center

As previously indicated in the 2010 report, the new Cell and Genome Center would centrally locate nine existing research/faculty members currently housed in various buildings around campus and allow for the addition of three future research/faculty members. The Center will also serve to educate undergraduate and graduate students in the emerging field of cell and genome science. The Cell and Genome Center is a key component in the new CSC and has been used as the basis for fund raising efforts.

Educational space

The focus of the teaching component in the new CSC is to create a diverse set of flexible rooms capable of adapting to various teaching pedagogies and programs. Rather than specialized spaces, these more flexible teaching spaces should be able to respond to the development of new teaching methodologies and future

programs. In addition, the building committee felt strongly that the building should incorporate a number of informal teaching areas (breakout spaces, conference rooms, cafes, study areas) that could add vibrancy to the building and establish a culture of learning and sense of community. Refer to the attached "Report form the GTB Education Planning Committee" for additional information.

Center for Science and Math Education

The CSME represents an important institutional effort combining science outreach, integrated science teaching, development and implementation of new pedagogical approaches and an opportunity to connect the college of science with the larger campus and community. This administrative space would act in conjunction with a K-12 education component assigned to be housed in the new Sorensen Education Building.

Incubator space

The incubator space represents a vision expressed by the lead donor to integrate research science with potential private sector business ventures. Although this component is largely undefined it could potentially house a small number of research labs and office spaces. There was some discussion by the committee to keep these spaces as flexible as possible to allow for the repurposing of these areas for different technological ventures. As noted in the "Space Estimate and Priorities" list included in the appendix, Research Park currently houses a number of incubator spaces and a cost/benefit analysis would need to be completed during programming to determine if it is advantageous to house any incubator space in the new CSC.

Administration (Dean's Suite)

As previously outlined in the 2010 report, the new CSC would eventually house an administration component that would accommodate the relocation of the College of Science Dean's suite from its current location in the James Talmage Building (JTB). The administration suite could potentially share program area with the CSME.

UPDATED SPACE SUMMARY

Based on information provided in the "Space Estimate and Priorities" document and information gathered in the various break out meetings, an updated space summary was compiled. During programming these various spaces will be further refined, verified and developed in greater detail.

BUILDING PRE-PROGRAM SUMMARY

	staff					*asf*	*comments*	*type of space*
Wet Bench PI Lab								
PI Office	1	1	@	150	=	150		*Office*
Tech/Admin/Special use	1	1	@	150	=	150		*Open Office*
Lockers		10	@	2.6	=	26	one 12"x36"x18"d locker per tech	*Office Support*
General Lab	8	1	@	990	=	990	17.5 lin ft per tech (4' desk, 6' bench, 1.25' sink, 5' common bench, 2.5' equip)	*Lab*
Fume Hood/Equip Alcove		1	@	110	=	110	one 6' fume hood per PI	*Lab Support*
Equipment Rm		1	@	220	=	220		*Lab Support*
Special Procedure Rm		1	@	220	=	220		*Lab Support*
Tissue Culture Room		2	@	110	=	220	may be combined with other TC rooms	*Lab Support*
Flexible Support		1	@	150	=	150	lab support or office space, window desireable	*Lab Support*
sub total	***10***					***2,236***		
asf per person						***224***		
Highly Instrumented PI Lab								
PI Office	1	1	@	150	=	150		*Office*
Tech/Admin/Special use	2	1	@	150	=	150		*Open Office*
Write up desks	8	8	@	42	=	336	5' write up desks in separate area (4 desks per area)	*Open Office*
Lockers		8	@	2.6	=	21	one 12"x36"x18"d locker per tech	*Office Support*
General Lab		1	@	660	=	660	about 22 lin ft of bench, one sink, about 70 lin ft of equipment space	*Lab*
Fume Hood/Equip Alcove		1	@	110	=	110	one 6' fume hood per PI	*Lab Support*
Equipment Rm		1	@	220	=	220		*Lab Support*
Flexible Support		1	@	150	=	150	lab support or office space, window desireable	*Lab Support*
sub total	***11***					***1,797***		
asf per person						***163***		
Chemistry PI Lab								
PI Office	1	1	@	150	=	150		*Office*
Tech/Admin/special use	2	1	@	150	=	150		*Open Office*
Write up desks	8	8	@	42	=	336	in separate area	*Open Office*
Lockers		8	@	2.6	=	21	one 12"x36"x18"d locker per tech	*Lab Support*
General Lab		1	@	1320	=	1,320	One 6' FH & 6' bench per tech, plus common bench, equip, sink space	*Lab*
Special Procedure Rm		2	@	220	=	440		*Lab Support*
Flexible Lab Support		1	@	150	=	150	lab support or office space, window desireable	*Lab Support*
sub total	***11***					***2,567***		
asf per person						***233***		
Computational PI Lab								
PI Office	1	1	@	150	=	150		*Office*
Tech Cubicals	9	9	@	110	=	990		*Open Office*
Work Room		1	@	220	=	220	like a conference room	*Lab Support*
Flexible Support		1	@	150	=	150	lab support or office space, window deireable	*Lab Support*
sub total	***10***					***1,510***		
asf per person						***151***		

University of Utah, College of Science
Crocker Science Center
Building Pre-Program
26-Sep-12

EDA / Perkins+Will

see *Space Estimates and Priorities* document (dated 27 Jul 12) for proposed phasing

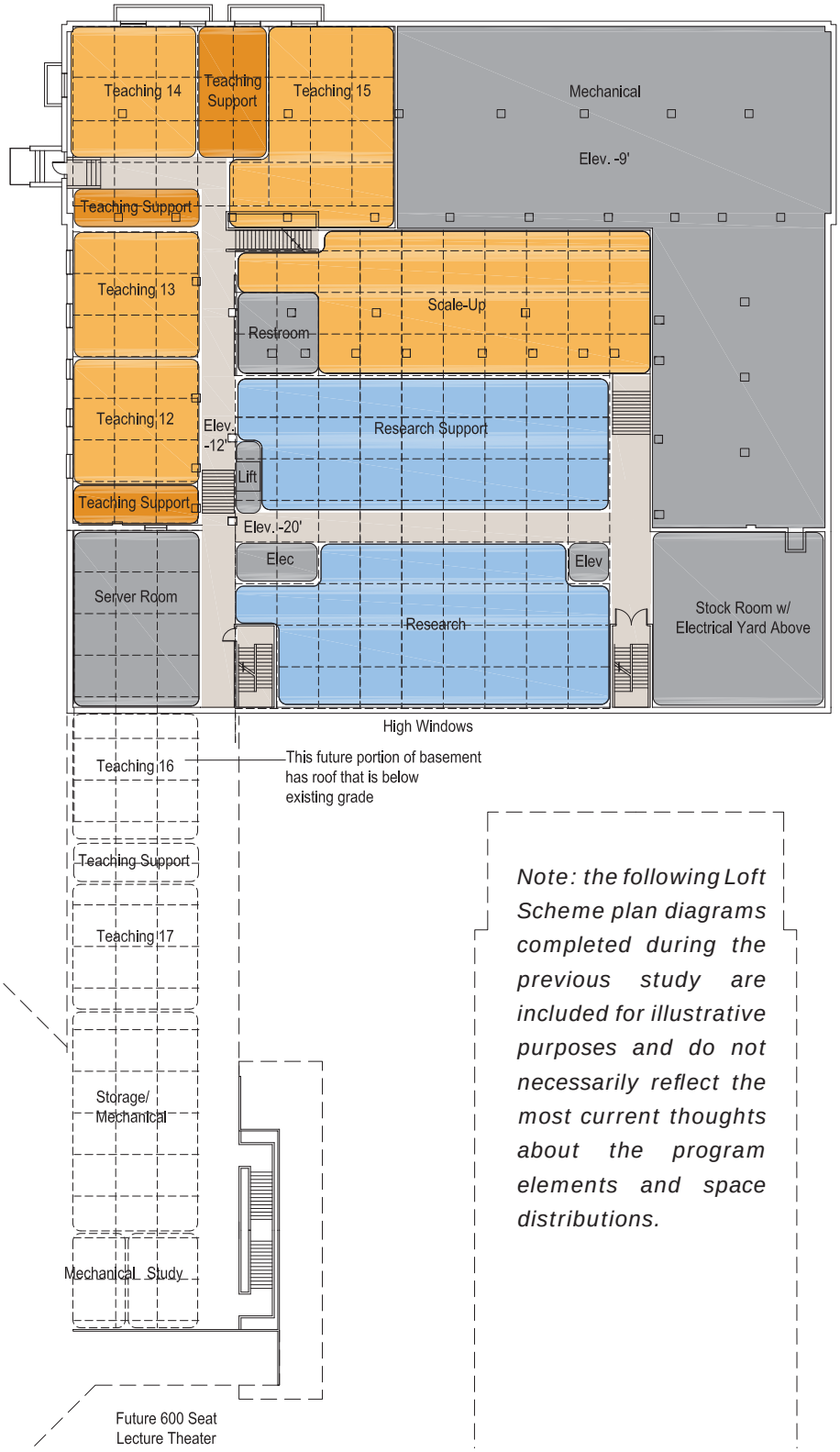
						asf	*asf*	*total people*	*comments*	*FHs*	*BSCs*
Cell and Genome Center											
Research PI Labs											
Wet PI Lab	6	@	2,236	=	13,416			60	Includes off, lab, & lab support (see attached sheet)	6	12
Highly Instrumented PI Lab	2	@	1,797	=	3,594			22	"	2	2
Chemistry PI Lab	2	@	2,567	=	5,134			22	"	16	
Computational PI Lab	2	@	1,510	=	3,020			20	"		
							25,163				
Shared Lab Support											
Temperature Control Rooms	4	@	150	=	600				one on each floor, use deli cases also		
Dark Rooms	2	@	100	=	200				one every other floor		
Radio-isotope Lab	1	@	150	=	150						
Freezer Farm	10	@	44	=	440				one chest freezer (44 asf) per wet/instru/chem PI		
Autoclave	4	@	110	=	440				one autoclave per floor		
Glass Wash	1	@	600	=	600			2			
Media Vending	1	@	200	=	200				four 3'x8' vending refrigerated cabinets		
							2,630				
Imaging Core											
Fluoresence Microscopy	4	@	110	=	440						
Confocal Microscopy	4	@	220	=	880						
Laser Lab	4	@	240	=	960						
ante room/gowning	1	@	252	=	252						
FACS (Flow Acitivated Cell Sorter)	1	@	220	=	220			1			
Prep Lab	1	@	110	=	110						
Other Modalities	2	@	110	=	220						
Equipment room	1	@	220	=	220						
Office	1	@	150	=	150			2			
Conference room	1	@	180	=	180						
							3,632				
Vivarium Core											
Holding Room (Rodent)	1	@	220	=	220						
Procedure Room	1	@	220	=	220						1
Washing Room (incl. trash)	1	@	60	=	60						
Feed/Bedding Storage	1	@	100	=	100						
Conference room	1	@	150	=	150						
							750				
Common Spaces											
Conference Rooms	3	@	500	=	1,500				one per floor		
Administrative offices	4	@	120	=	480				confirm required admin offices		
							1,980				
Total for Cell Genome Center Spaces							***34,155***				
Educational Spaces											
Interdisciplinary Education Spaces											
Lecture Room (flexible, 125 seats)	1	@	3,000	=	3,000				tables on tiers for group work		
Lecture Room (flexible, 50 seats)	4	@	1,500	=	6,000				round/octangonal tabes on flat floor		
Teaching Lab (25 students)	8	@	1,400	=	11,200				area includes 200 sf for prep and storage	8	
Undergrad Research Lab (15 students)	4	@	700	=	2,800					4	
Teaching Offices	8	@	200	=	1,600			8	one assicated with each undergrad lab, others distributed		
							24,600				
Center for Science and Math Education (suite)											
Offices											
Director's Office	1	@	191	=	191			1			
Assistant to Director	1	@	81	=	81			1			
Accountant	1	@	144	=	144			1			
Office Manager	1	@	100	=	100			1			
Program Manager	3	@	121	=	363			3			
Program Assistant	3	@	81	=	243			3			
Interns/Assistants	2	@	81	=	162			2			
Visiting Associate	1	@	100	=	100			1			
Grants Writer	1	@	121	=	121			1			
Communications Manager	1	@	121	=	121			1			
Common Spaces											
Mail and Copy Room	1	@	121	=	121						
Kitchen	1	@	100	=	100						
Conference Room (8 seats)	1	@	150	=	150						
Media/Video Room	1	@	225	=	225						
Cohort Rooms	3	@	121	=	363						
internal suite circulation (at .25)					646						
							3,231				
Common Spaces											
Conference Room (30 seats)	4	@	600	=	2,400						
Café	1	@	450	=	450						
Tutorial Center (100 students)	1	@	1,500	=	1,500				movable tables and chairs, acoustic damping		
							4,350				
Total for Educational Spaces							***32,181***				
Technology Incubator											
Wet Lab Space	1	@	1,000	=	1,000						
Office/Conference Space	1	@	600	=	600			4			
							1,600				
Total for Technology Incubator							***1,600***				
Building Support											
Lobby/Exhibit Space	1	@	1,500	=	1,500				at ground level		
Atrium	1	@	1,000	=	1,000				connects all four floors		
Connecting open stair	4	@	400	=	1,600				connects all four floors		
Break Area	3	@	250	=	750				one per floor (except ground)		
Pantry	3	@	100	=	300				one per floor (except ground)		
							5,150				
Server Room	1	@	1,000	=	1,000						
IT Offices	1	@	125	=	125			1			
IT cubes	2	@	80	=	160			2			
IT Work Room	1	@	315	=	315						
							1,600				
Showers for biker/joggers	2	@	400	=	800				male and female		
							800				
Dock											
Receiving Dock (large equip delivery)	1	@	200	=	600				one truck position		
Storage	2	@	400	=	800			1			
Mail Room	1	@	150	=	150						
Transfer Holding	1	@	200	=	200				lockable		
							1,750				
Total for Building Support							***9,300***				
					total asf		***77,236***		***total fume hoods and bi-safety cabinets***	***36***	***15***
					total people			***160***			
					assumed nasf/gsf efficiency		***0.65***				
					toal GSF		***118,825***				

CUBE / LOFT DISCUSSION

As part of the pre-programming design process two schemes were developed, the Cube and the Loft. Both concepts were based on preserving and adaptively reusing the existing building to house the educational and administration components of the program. It is proposed that the existing library stacks be removed in both schemes to make way for a new infill piece that would be integral to the seismic upgrade of the building. The main difference between the two schemes is how this infill piece integrates with the existing building. The Cube provides a more compact 4-story addition while the Loft utilized more site area with a linear 3-story addition.

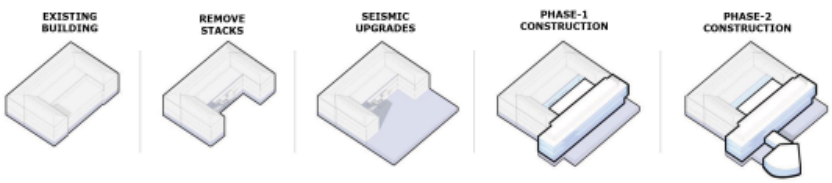
Although the direction was given in the previous 2010 report to focus on the Cube scheme, there has been a strong sentiment to focus future efforts on the Loft scheme. It is the feeling of the committee that there needs to be a critical mass of principal investigators (PIs) on each level in order to make the building a successful research facility. By switching from a 4-story Cube to a 3-story Loft scheme the larger floor plates will allow for better interaction and collaboration between PI labs.

During the reevaluation of the initial cost model the design team examined the impact of refocusing on the Loft scheme. Although the Loft scheme requires one less floor to construct, there is significantly more exterior building skin than the Cube scheme. Upon review it was determined that the change in scheme, in terms of dollars per square foot, resulted in a small increase in cost; however, the increase was small enough to be considered negligible given where the project stands in the design process. Therefore, the square foot costs used in the previous and current studies reflect the anticipated costs for either the Cube and Loft schemes.

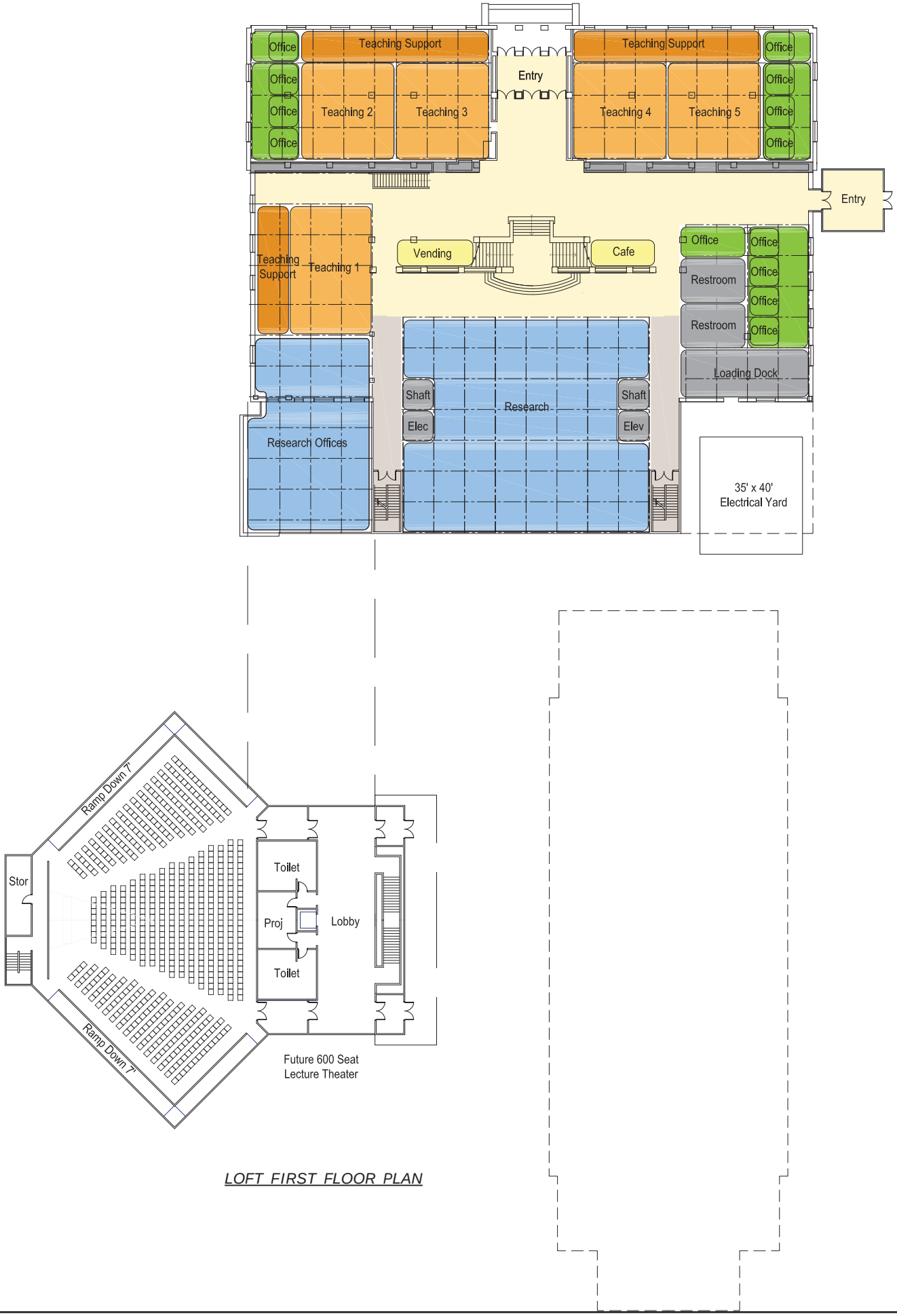


Note: the following Loft Scheme plan diagrams completed during the previous study are included for illustrative purposes and do not necessarily reflect the most current thoughts about the program elements and space distributions.

LOFT BASEMENT FLOOR PLAN

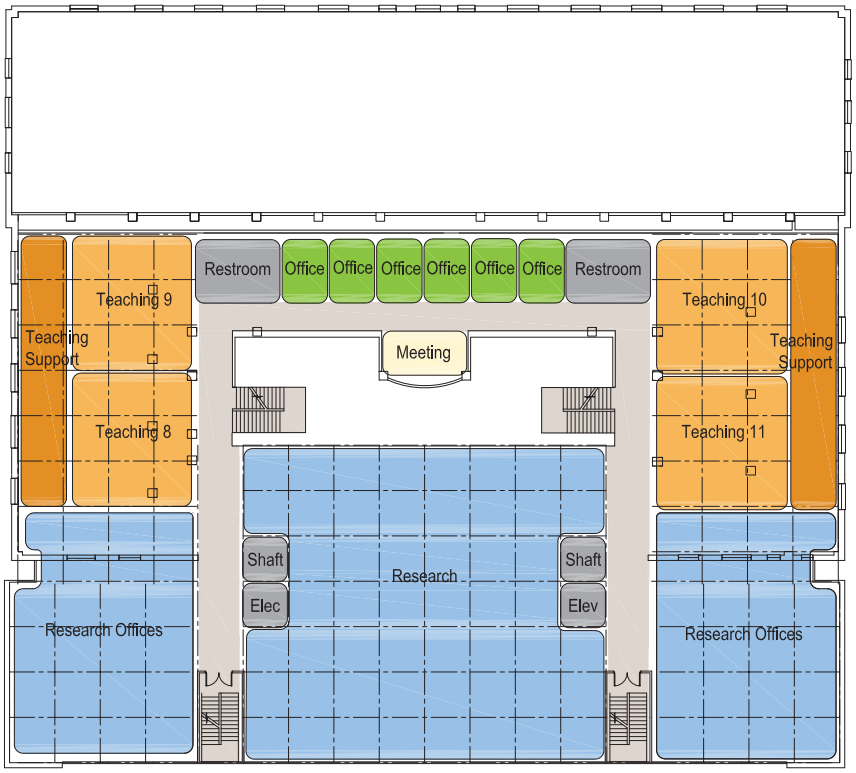


THE LOFT BUILDING PROGRESSION



LOFT FIRST FLOOR PLAN

LOFT SECOND FLOOR PLAN



LOFT THIRD FLOOR PLAN

3.0 OPTION ANALYSIS

As part of the re-evaluation process a number of options were considered to understand how the originally visioned building would be impacted, taking into consideration the reduction in project budget. These options examined how the building could be phased, what redesign opportunities were feasible, what program elements were critical to the success of the project and the overall cost impact of the reduced budget. What follows is an explanation of the various strategies considered within the framework of a $50 million total project budget.

SITE IMPLICATIONS

As previously outlined in the 2010 report, the location of the GTB presents many challenges and opportunities as it relates to site considerations. It is important to note that President's Circle on the north, Cottam's Gulch on the west, the William Stewart Building on the south and an access road on the east all limit the expansion possibilities of the GTB. There was some discussion regarding the long term use of the Stewart Building as it relates to potential GTB/CSC expansion to the south; however those conversations were tabled given the College's preference for the Loft scheme.

COST MODEL

As part of the reevaluation, the first step was to verify the previous cost models generated in 2010. Two revised

estimates are attached in the appendix that identify the estimated total construction cost for a shelled building and a completed building. The updated cost models reflects current construction costs and has been re-evaluated to ensure the building systems and architectural components meet current design and cost expectations. As noted previously, given where the building is in the design process there is negligible cost difference between the Loft and the Cube scheme.

During the previous 2010 study a Capital Budget Estimate (CBE) was generated by Campus Planning to establish a total project budget ($74,398,241). This CBE document accounted for the total construction cost, soft costs including FFE and an escalation factor. As part of the update to the cost models it became critical to understand not only the construction costs, but also the associated soft costs given that they represented nearly a third of the overall budget. Soft costs at the feasibility level are often mercurial. Taking a second look at the project the building committee has increased the specificity of the spaces allowing the design and campus planning teams to firm up budget numbers for furnishings and equipment. These soft costs, generally expressed in terms of a percentage of the hard cost bottom line, were also positively impacted through this reevaluation process.

SQUARE FOOTAGE / COST OPTIONS

The obvious first step to examine when cost becomes an issue is to review the overall amount of square footage being constructed. Using the $50 million as a target budget it became an exercise in understanding how much building can be built with the available funds.

Key to this discussion is the fact that there are four distinct building components within the project: Existing Shell - this represents the total work to demolish the existing library stacks including the floors, prep the remaining 'U' shape portion of the building and seismically retrofit the building. Existing Buildout - this represents the total work required to get the existing spaces ready for occupancy and would include all the interior finishes and mechanical/electrical systems. New Shell - this represents the construction necessary to add the new Loft building including the excavation, foundation, structure, core + shell, mechanical/electrical systems and exterior envelope. New Buildout - this represents the work necessary to get the new structure ready for occupancy and would include all the interior finishes and mechanical/electrical systems.

Given the range of construction activities and the associated costs, each of these four components were broken out in the following assignable cost per square foot.

Existing Shell	**$148.77**
Existing Buildout	**$233.88**
New Shell	**$211.04**
New Buildout	**$230.88**

These square footage costs were generated from historical cost data collected from multiple projects. The laboratory projects used to determine system allocations include: the Westminster College Meldrum Science Center, U of U Pharmacy building, Unified State Labs, and the UofU Thatcher Chemistry building addition. The historical renovation costs were collected from projects including: the renovation of the Ogden High School, auditorium, and gymnasium, Utah State Capital Renovation, and Park City History Museum. In conjunction with these historical costs, understandings of this projects intended scope and needs were determined and the cost model was adjusted accordingly.

With this cost per square foot information six approaches were evaluated on the basis of maximizing the project budget and defining what portions of the project could be completed with the available funds. Although there are numerous sub-options available, the building committee and design team felt that the following options were the most viable and could be used during programming as a starting point for future discussions. Five of these options were reviewed at a cost level that included an escalation factor (5% annually with an estimated bid date of 2015) and an updated CBE to arrive at a total project cost.

Option (1) - Complete Shell Only

This option reflects the associated costs to shell both the existing building and the new addition. Given that the total number falls below the $50 million budget, the remaining funds could then be allocated to finish some of the program spaces in either the existing or new structure.

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	0	$ 233.88	$ -
New Shell	52,500	$ 211.04	$ 11,079,600.00
New Buildout	0	$ 230.88	$ -
		Total	**$ 21,642,270.00**
		Escalation	**$ 2,935,369.00**
		Soft costs	**$ 4,076,118.00**
		Total	**$ 28,653,757.00**

Option (2) – Complete Existing Only

When the decision is made to renovate the existing GTB it will trigger a need to bring the building up to current seismic codes. This option represents the baseline for any work done to the GTB in regards to the existing building and its repurposing from its current function as a museum to an educational teaching space. The current plan to house teaching labs in the 'U' shaped portion of the existing building could be completed or flexible classrooms could be added to make the existing building usable while additional funds were raised for the completion of the visioned project.

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	71,100	$ 233.88	$ 16,628,868.00
New Shell	0	$ 211.04	$ -
New Buildout	0	$ 230.88	$ -
		Total	**$ 27,191,538.00**
		Escalation	**$ 3,646,999.00**
		Soft costs	**$ 6,480,332.00**
		Total	**$ 37,318,869.00**

Option (3) - Complete New Infill Only

This option suggests what is necessary to complete the required seismic upgrade of the existing building and then construct a new, complete Loft infill building. The advantage to this scheme is that it does provide a completed space for the Cell and Genome Center; however, it leaves vacant a significant amount of square footage in the existing building that would need to be funded and finished at a later date.

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	0	$ 233.88	$ -
New Shell	52,500	$ 211.04	$ 11,079,600.00
New Buildout	52,500	$ 230.88	$ 12,121,200.00
		Total	**$ 33,763,470.00**
		Escalation	**$ 4,547,655.00**
		Soft costs	**$ 7,316,709.00**
		Total	**$ 45,627,834.00**

Option (4) - Complete Everything

Based on updated information, including a more accurate CBE, an option was reviewed that examined the total costs of the project originally conceived. Although the number is substantially above the $50 million threshold it does give an indication of what additional funds would need to be raised for completion of the total project.

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	71,000	$ 233.88	$ 16,605,480.00
New Shell	52,500	$ 211.04	$ 11,079,600.00
New Buildout	52,500	$ 230.88	$ 12,121,200.00
		Total	**$ 50,368,950.00**
		Escalation	**$ 6,756,411.00**
		Soft Costs	**$ 11,345,630.00**
		Total	**$ 68,470,991.00**

Option (5) - Shell/Build Mix

This option looked at the possibility of shelling both the existing and the new building and then finishing out portions of both new and existing structures. This option represents the most fluid of all the options given that the square footage could be assigned to either the new or existing building based on the how the building is programmed. As outlined below, approximately 49% of the existing building and 57% of the new building could be completed in the first phase. Generally speaking this option was considered the most viable and was an indicator that a significant portion of the building could be constructed under the $50 million parameter.

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	35,000	$ 233.88	$ 8,185,800.00
New Shell	52,500	$ 211.04	$ 11,079,600.00
New Buildout	30,000	$ 230.88	$ 6,926,400.00
		Total	**$ 36,754,470.00**
		Escalation	**$ 4,945,499.00**
		Soft Costs	**$ 8,311,358.00**
		Total	**$ 50,011,327.00**

Option (6) – Research into Existing Building

A sixth option was considered that evaluated the ramifications of reducing the amount of program space to meet the current budget. As part of this option it became necessary to evaluate if the research program elements (planned to be housed in the new buildout) could be relocated to the existing building. The committee quickly determined that the existing structural system would place limitation on the type of program spaces that could be built out within the existing building. These limitations are based on the existing structural column bay spacing, vibration capacity of the building structure and the ability to run lab-based mechanical and electrical systems to various areas of the building due to ow floor to floor heights. In the end it was determined that the original separation of laboratory research program space in the new construction and teaching/administration program space in the existing building was the best scenario and should be pursued.

(Note - During the previous study there was some information provided in regards to the structural system as it related to vibration performance requirements. Additional information has been attached in the addendum as it relates to the various options.)

Option (7) – Shell/Build Mix (20% Max)

After completion of the report one final option was explored that looked to reduce the overall building square footage in an effort to limit the amount of unfinished shelled space to 20% of the total project. In order to hit this target and maintain a total project budget of $50 million the proposed building square footage must be reduced by approximately 14% or 17,500 square feet. Given the existing structure is a fixed 71,000 square feet, this reduction in overall square footage will need to come from the new addition (research component). This is also reinforced by the fact that current estimates place the existing building at $382.65/s.f. (shell + buildout) and the new addition at $441.92/s.f. (shell + buildout). Therefore, the greatest cost reduction can be achieved by limiting the size of new research addition. The trickle down effect of this reduction will likely require that some portions of the research component move into the existing building. Program components such as offices and conference rooms can easily be accommodated in the existing GTB but a detailed analysis will need to occur to evaluate the current vibration capacity of the existing structure in relation to the proposed research lab components if they are to be located in the existing building (refer to Option 6 for additional information).

	SF	*Cost*	*Subtotal*
Existing Shell	71,000	$ 148.77	$ 10,562,670.00
Existing Buildout	56,000	$ 233.88	$ 13,097,280.00
New Shell	35,000	$ 211.04	$ 7,386,400.00
New Buildout	28,000	$ 230.88	$ 6,464,640.00
		Total	**$ 37,510,990.00**
		Escalation	**$ 4,945,499.00**
		Soft Costs	**$ 8,311,358.00**
		Total	**$ 50,767,847.00**

Although there are a number of sub-options available, the table above indicates one approach that splits the amount of unfinished space between the existing building (teaching component) and the new addition (research component). The indicated 35,000 GSF of new research facility (Cell Genome Center) at 80% build out and 65% net-to-gross efficiency would yield 18,200 ASF for research program area. This 18,200 ASF could accommodate 7 of the 12 PIs identified in the pre-program but would require the elimination of the vivarium core and the relocation of the conference rooms and offices into the existing building. The remaining 7,000 GSF of shelled space in the new Cell Genome Center would yield 4,550 ASF for future research expansion as funds become available and could potentially house 2 additional PIs. Per the current project vision/program, this would still leave 3 of the 12 PIs that would need to be housed either in the existing building or elsewhere on campus. If there is a desire to house all 12 PIs in the GTB to reinforce the notion of scientific collaboration then it will require eliminating a portion of the proposed educational program component in the existing building. Doing such would allow for all 12 PIs to be located in the CSC but this would also displace or eliminate an additional 7,500 asf of education space currently planned for the existing building. Accounting for the space already lost to the research admin/conference areas noted previously, this could potentially represent a 30% reduction in the education component for the Crocker Science Center as currently envisioned.

During the programming phase, it should be evaluated in detail how this 14% reduction in total square footage impacts the project vision both from the standpoint of education and research, and subsequently what program elements can potentially be cut from the overall project scope.

PHASING STRATEGIES

One of the key points of discussion in regards to the reduction of overall project funds is how this would impact the ability of the University to complete the total project as previously conceived. As outlined in the previous Square Footage/Cost Option section of the report, it is evident that there is a finite limit to the amount of square footage that can be built with the current $50 million budget. Therefore the project will need to look at various phasing strategies to complete the total building as currently envisioned.

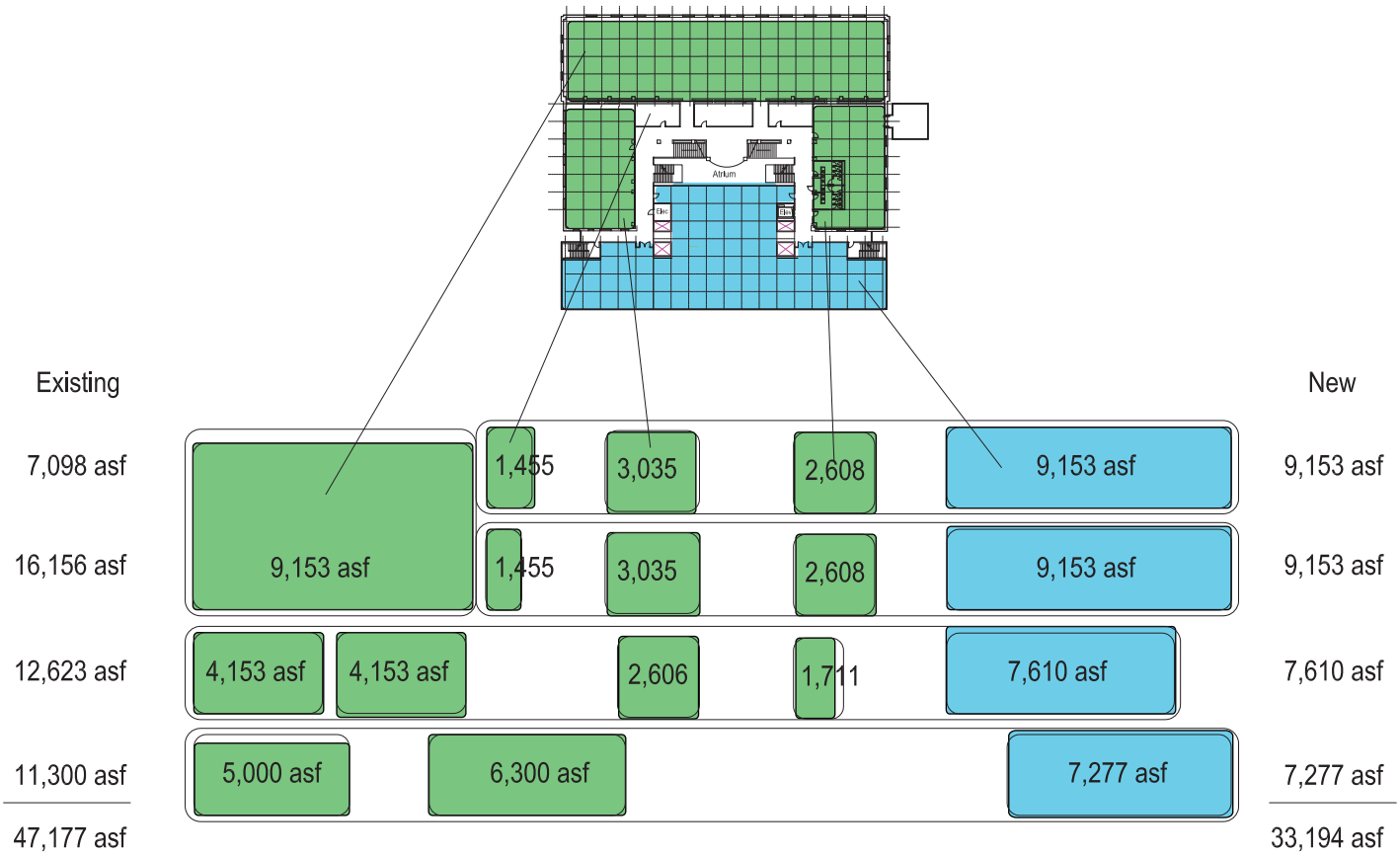
Attached in the appendix is the "Space Estimates and Priorities for the CSC" provided by the College of Science that summarizes the space requirements and phasing priorities as currently understood. During the programming of the new CSC this document should be evaluated to determine how each of these spaces fits within the existing and new construction floor plates.

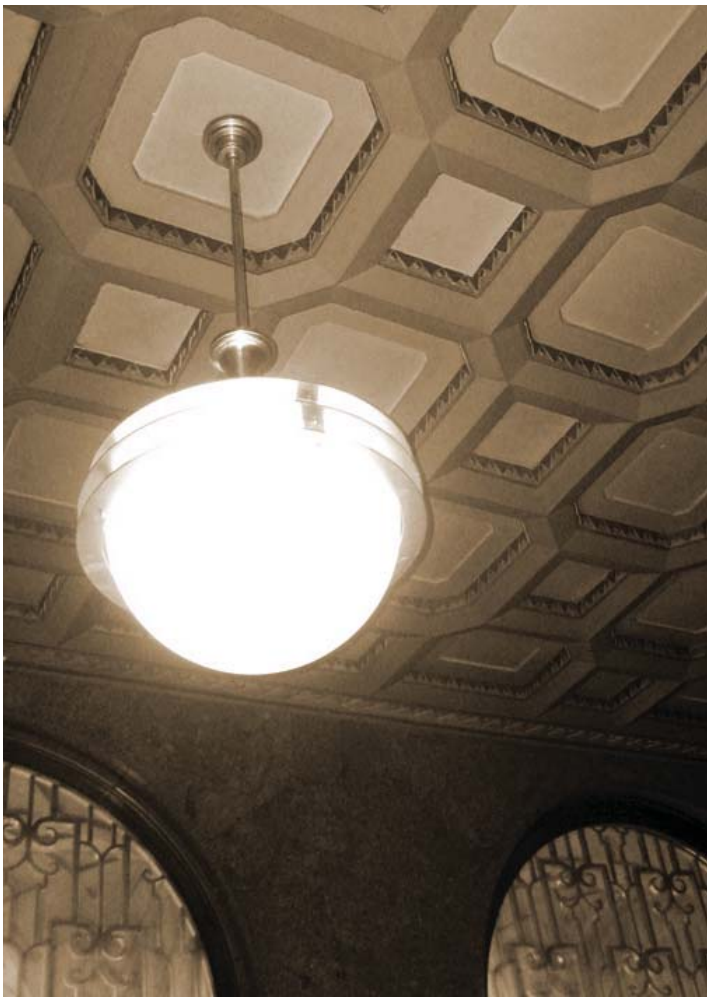
As focus shifted away from the Cube scheme towards the Loft scheme the overall phasing of the building becomes much simpler. Given the size of the new floor plates, the building naturally breaks out into sections consistent with the square footages outlined in Option 5. During Phase-1 the existing building could be shelled and the new infill piece constructed. The basement through the 2nd level could be completed in the infill piece and the basement through the 1st level could be completed in the existing building. All other work, including the restoration of the reading room, would occur in a future phase.

The diagram below illustrates the location and arrangement of assignable square footage throughout the Loft scheme. It is important to note that the following information does not account for circulation or common lobbies. Based on the current Loft scheme the net/gross space efficiency is approximately 65%.

Another item related to the phasing of the building would be how the future spaces are constructed within a newly completed building. During programming and design phases the entire building will need to be designed to account for any core + shell and mechanical/electrical infrastructure. Although this will front load some of the building costs, it will help avoid impacting newly finished spaces as future build out occurs. In addition, the location of the service entrance on the southeast corner of the building will allow for future construction work to utilize the back stairs/service lift to the upper level. This will allow future construction to occur while maintaining day-to-day operations in the rest of the facility.

ASSIGNABLE PROGRAM SQUARE FOOTAGE WITHIN EXISTING/NEW BUILDING





4.0 SUMMARY

It is the opinion of the design team and the building committee that the CSC can not be completed as originally visioned and identified in the preprogram document, assuming a total project budget of $50 million. However, based on the square footage / cost option analysis there are a number of phasing and cost scenarios that should allow the University to feel comfortable moving forward in the design process on the new Crocker Science Center. It has also become clear during the reevaluation that the Loft scheme is the preferred design option and should be used in future project development. The decisions made during programming will be critical to the success of the project as the College of Science, University and the design team work through the challenges and opportunities to help restore the George Thomas Building to its previous prominence.

5.0 APPENDIX

GTB EDUCATION PLANNING COMMITTEE REPORT

PROPOSED EDUCATIONAL PROGRAMS FOR CROCKER SCIENCE CENTER

SPACE ESTIMATES AND PRIORITIES FOR CROCKER SCIENCE CENTER

VIBRATION PERFORMANCE MEMO

MEETING MINUTES

COST ANALYSIS - SHELL ONLY

COST ANALYSIS - TOTAL BUILDING

FFE ANALYSIS

CBE OPTION FORMS

GTB EDUCATION PLANNING COMMITTEE REPORT

To: Piere Sokolsky, Dean of the College of Science

From: David Goldenberg, on behalf of the GTB Educational Planning Committee:
Charles Atwood (Chemistry and CSME), Aaron Bertram (Mathematics), Rosemary Gray (Biology), Jordan Gerton (Physics and Astronomy), Michael Morse (Chemistry), Nalini Nadkarni (Biology and CSME) and Jenna Whippen (undergraduate student representative)

Date: 9 January 2012

RE: Report from the GTB Education Planning Committee

Dear Pierre,

As the new semester begins, I am writing to report on the progress made by the committee charged with planning educational programs to be housed in the George Thomas Building following its renovation. The committee met regularly through the fall semester and has begun to formulate a set of ideas that we believe will form the foundation for exciting new approaches to undergraduate science education at the University of Utah. Though much work remains, we are hopeful that the ideas outlined below will facilitate the next phases of planning for both the building and the educational programs it will house.

General principles

The committee began its work last semester by examining new undergraduate science programs at a variety of other institutions. This survey provided not only specific ideas, but also focused our attention on the current challenges in undergraduate science education and how they might be best addressed at the University of Utah. In planning for the activities in the renovated George Thomas Building, we suggest that the following general principles be given high priority:

1. The primary focus for new undergraduate programs should be on the first and second years. For many students, these are critical years in which they decide whether to become science majors and, for those who do, the introductory courses serve as the foundation for future study. There is a strong sense among the College faculty that far too many students become discouraged during these years and that retention of the material taught in the introductory courses could be greatly improved.

2. Integration of the sciences should be a major theme in all of the new programs. It is widely recognized that science has become much more interdisciplinary in the past few decades, but there is little reflection of this trend in the undergraduate curriculum, especially in the first two years. We believe that integration early in the curriculum will help inspire students and, by reinforcing fundamental ideas that link the sciences, will strengthen the foundation for further study.

3. Undergraduates should become involved in research as early as possible. Research is known to be one of the most effective means of motivating and preparing students for scientific careers, but this experience is usually limited to those students who are already relatively far along in their studies. A novel program at the University of Texas offers a model for providing research experience for large numbers of first year students, and we believe that a version of this program could be successful implemented at the University of Utah.

4. The Thomas Building should serve as gathering place for College of Science students and faculty, as well as a place in which students and faculty from other disciplines interact with the sciences at a high level. Because so many of our students live or work off campus, it is often difficult for them to form cohorts, especially in the early years. By providing an environment for students with interests in the

sciences to interact, the Thomas Building can encourage enthusiasm and success. At the same time, offering general education science courses in this environment will help share the scientific outlook, and our enthusiasm for it, to a broader population.

5. The Thomas Building should be viewed as laboratory for teaching and learning, in which new ideas can be tested, refined or discarded as necessary. We propose below three distinct programs for the building, but these are not intended to be exclusive or, necessarily, permanent uses for the educational space. Especially with completion of the renovation at least a few years away, we are unlikely to be able to design entirely new courses and programs that would fully occupy the space, and we believe that trying to do so now would be counterproductive. Instead, a significant fraction of the space should, at this point, be left open for additional proposals, and all of the spaces should be designed for flexibility in course content and teaching styles.

Specific curriculum proposals

On the basis of the considerations outlined above, we propose three specific programs to inaugurate the undergraduate education activities in the Thomas Building:

1. **An integrated core science curriculum**, to be offered as an alternative track to the introductory courses required for the majors in the various departments. As presently conceived, this would be a two-year curriculum. The first year would be a double-effort course (8 credits per semester, including a laboratory) that integrates physics and chemistry, with extensive use of mathematics and the incorporation of examples from biology. The second year would likely include multiple options, but one would be a full-year biology class that emphasizes the applications of ideas and methodologies from the physical sciences and mathematics.

   This curriculum would be carefully designed to ensure that it prepares students for any of the science majors, as well as for pre-professional programs. We note that there is a growing national movement to shift the requirements for pre-medical education, especially, away from a list of specific courses and towards a demonstrated knowledge of basic scientific principles and their application. This trend promises to offer greater flexibility for many of our students (and science departments), and the program that we are proposing here is fully aligned with the goals of this movement.

   In order to justify the large faculty effort that will be required to develop these course, we believe that a minimal enrollment is about 100 students per year. Although this is much smaller than the total enrollment in first year science courses, it represents a large fraction of those who become science majors. By substantially enhancing the education of this group, we believe that the proposed program has the potential to make a major impact on the overall success of our science programs and the Utah scientific workforce.

2. **An introductory course designed to foster enthusiasm for science and enhance basic skills**, as preparation for either the traditional first-year science courses or the proposed integrated curriculum. Discussions with the Chemistry Department faculty, in particular, have highlighted the problem of students who enroll in the freshman courses with inadequate preparation. Many students appear to have difficulty with basic quantitative problems and, more generally, abstract reasoning. We propose developing a course that helps build those skills in the context of current scientific questions, especially those that highlight connections between the sciences. Different sections of the course might be taught by different faculty and would use different examples, but the overriding theme would be “learning to think like a scientist”, *i.e.* learning to look at a complex problem, formulate models and test those models quantitatively. In addition to helping prepare incoming students for the freshman science courses, this

course would also serve as a general education science course, thereby drawing a much broader group of students to the Thomas Building and the College of Science.

3. **Early research experience program.** This program would be modeled on the Freshman Research Initiative at the University of Texas at Austin. The key element of this program is the organization of undergraduates into research teams of 10–20 students. Rather than working in faculty research laboratories, the teams would have designated lab spaces and be supervised by post-doctoral associates. The projects would be derived from faculty research, but would be designed to be accessible to undergraduates early in their studies. Examples of such projects might include genetic screens, analysis of combinatorial libraries of chemical compounds or the analysis of large data sets. These would be long term projects with students joining and leaving the teams over multiple years.

   As we currently envision this program, students would enter it in the spring of their freshman year and take a special research techniques course (which may be tailored for different projects) before joining the research team in the summer or fall semester. Students would typically work in the research teams through the sophomore year. Some students would then be recruited as mentors for the following year, while others would likely join faculty research labs and undertake more advanced projects.

   We also envision participation by high school teachers and students, as well as undergraduates from other institutions, especially during the summers. These participants would extend the reach of the program and establish ties to a larger community.

Initial Responses from Faculty and Students

In the later part of the fall semester, as our ideas began to take shape, I made presentations to the faculty of the Biology and Chemistry Departments. From the Biology faculty, the responses were quite positive. This group was particularly enthused about a new approach to first-year chemistry and physics, reflecting a general consensus that many students do not learn or retain fundamental ideas from the current courses. There was also considerable interest in the proposed undergraduate research program.

The response from most of the Chemistry faculty I met with was frankly less encouraging. No doubt, some of this response reflected a failure on my part to convey the broader context of the proposed programs. None the less, the meeting generated a good deal of interest and discussion that has continued within the Chemistry Department and our committee. One particularly outcome from this discussion was an appreciation for the challenges that the Chemistry Department (and, presumably, the other departments) face in teaching very large introductory courses, with many students who are inadequately prepared. The proposal for a science preparation course is a direct response to this concern, and this idea has met with much enthusiasm so far.

We were also able to get a bit of initial feedback from students through an informal poll conducted by Prof. Morse. Using an audience response system in his freshman chemistry class, he asked approximately 250 students whether or not they would be interested in taking a double effort course that integrates physics and chemistry, as described above. Remarkably, 43% chose the statement that “Yes, it would be good to see these two subjects presented in a way that emphasizes how they are related.”; another 36% said that they would need to know more about the course, leaving only a small fraction who rejected the idea out of hand. It thus appears that there is a large potential clientele for a new approach to the introductory science courses.

As discussed near the end of this report, a major goal for the spring semester is to gain additional input from a broader segment of faculty and students.

Implications for Building Design

As per the charge given to us, the committee has focused on curriculum issues, rather than architectural details. None the less, the programs outlined above would have specific space requirements and implications for the overall design of the remodeled Thomas Building. In the coming semester, we plan to shift our attention to the general features of the required spaces, in anticipation of the programing phase of the building design process. At this time, we can offer the following thoughts regarding the design of the learning spaces:

1. Flexibility should be given high priority as design principle. It is difficult or impossible to anticipate how educational programs will evolve, and classrooms should be designed to allow multiple uses, recognizing, however, that there are trade offs between flexibility and costs.

2. The Pre-Programming Study of May 2010 anticipated devoting the majority of the educational space (approximately 24,000 ft^2) to interdisciplinary first year laboratory courses. The curriculum proposals described above represent a significant shift away from this plan, with laboratory courses playing a smaller role. Although there is still some support for the idea of interdisciplinary first-year lab courses, the committee presently favors the more ambitious goal of integrating the lecture courses as well as laboratories. Although this would initially reach a smaller number of students than the earlier plan might, we believe that the long term impact of the more fully integrated curriculum could be much greater. The implications for the building design are a shift towards fewer lab spaces and more classroom spaces, in a range of sizes.

3. The Pre-Programming Study also designated 7,300 ft^2 for a large lecture theater, with seating for 600, to be used for a large "science attractor" course and outreach activities. The courses proposed above, especially the integrated introductory courses and the science preparation course, would call for significantly smaller lecture rooms, with seating on the order of 100–150. In addition, we are excited by recent room designs that facilitate group work during lecture classes. Such designs require a greater space per student, on the order of 30–40 ft^2, but are reported to greatly enhance the opportunities for interactive learning. At present, we envision two to four such rooms in the Thomas Building.

4. We also propose including several medium-sized class rooms, for up to 50 students, that can be reconfigured for different classes. For some classes, rows of tablet desks would be appropriate, while for others tables for group work, including computing or small scale experiments, would be preferred. Two or more rooms might be placed adjacent to one another with movable partitions to accomodate larger classes. These rooms would be used for tutorial sessions and some labs in the lower-division classes, as well as upper division classes.

5. The undergraduate research program will require designated laboratory spaces. Again, flexibility should be a priority in the design, but some specialization may be appropriate. For instance, some rooms might contain a large number of fume hoods for projects involving lots of chemistry, while others might require extra utilities for large instruments.

6. In addition to the specific programs under discussion, labs and classrooms in the Thomas Building should be made available to other College of Science courses, at all levels, with priority given to interdisciplinary courses and those that employ alternative teaching methods.

7. The importance of informal gather spaces for students and faculty should not be underestimated. As noted earlier, a major role of the building should be to provide a gathering place where students can share and cultivate their enthusiasm for the sciences. At the conference on the design of science buildings that I recently attended, I learned that a current guideline suggests that approximately 10% of the programmed space be devoted to informal areas. I also learned that strategic placement of these spaces is critical for

their success and that they can help promote interactions with the larger community. (For instance by providing a publicly accessible cafe or gallery)

Other Requirements for Successful Use of the Thomas Building

The successful renovation of the Thomas Building will provide a truly "once in a lifetime" opportunity to revolutionize undergraduate science education at the University of Utah, with consequences that could extend well beyond our own campus. The building alone, however, will not guarantee success of these endeavors, which will require major commitments from the University faculty and Administration. As we proceed with plans for both the building and curricula, it is critical that the requirements for new resources be identified and administrative structures be established to foster the hard work ahead. Some initial issues to be considered are:

1. Developing and teaching new interdisciplinary courses will require a great deal of faculty time and effort. While we believe that there are many faculty members in the College of Science who might be interested in such a challenge, very few are likely to participate if it requires a substantial increase in their total teaching efforts. In order to develop new curricula while maintaining the old, some increase in staff will be necessary. This could include both regular tenure-track or auxiliary faculty.

2. Mechanisms must be found to ensure that departments do not suffer, individually or collectively, from the implementation of interdisciplinary programs. Faculty efforts must be appropriately credited to the Departments, with appropriate accounting for the extra work required to develop new courses involving faculty from multiple departments.

3. Support, including thoughtful advising and tutoring, for students undertaking the new programs will be critical to success. A major goal of the building and programs should be the inclusion of a wider segment of the Utah population, especially women and underrepresented minorities. For these students especially, advising and tutoring will be critical, and these resources should be established at the outset. In addition, financial aid will be an important factor for many students undertaking the challenging programs proposed here, and new sources of support should be sought.

4. The research program proposed here will depend on a staff of post-doctoral associates who will have primary responsibility for the day-to-day supervision of the research teams. We cannot expect post-docs to take on these responsibilities on top of their work in faculty research labs (or for faculty to support this activity without some financial adjustment). A new funding mechanism and resources will be necessary, perhaps involving joint support for teaching and research activities.

5. The laboratories for both courses and student research will require substantial investments in equipment and supplies.

6. New mechanisms will be necessary for the administration of interdepartmental courses and the assignment of teaching spaces in the Thomas Building. We believe that the Center for Science and Math Education should play a central role in these activities.

Committee Goals for Spring Semester, 2012

The committee feels that we have made a good start in defining the educational goals for programs to be housed in the Thomas Building and in outlining an initial set of programs to accomplish these goals. Our initial plans for the spring semester, pending further direction from you of course, are to:

1. Continue discussions with a broader segment of the College of Science faculty. As described earlier, we have held initial discussions with the faculty of the Biology and Chemistry Departments. Although the responses were not entirely positive, these discussions demonstrated that there is strong interest in new approaches to undergraduate education, and we have already begun to incorporate some of the comments into our proposals. In the coming semester, we plan to meet with the Physics and Astronomy Department and the Math Department for similar discussions. As things progress, we will consult further with faculty across the College.

2. Engage in discussions with current students. We have been very fortunate to have an excellent undergraduate representative, Jenna Whippen, on our committee. She has done some canvassing of other undergraduates, but it is clear that we need input from a broader cross section of students. One of our goals for the semester is to hold a town-hall style meeting in order to present our initial ideas and seek feedback and new ideas. We hope to hold this meeting early in the semester and will likely be seeking help from the College staff.

3. Outline specific space requirements for the programs currently under discussion, as well as provide for initially unassigned space and future flexibility. This will be particularly important as the programming phase of the design project begins.

4. Expand our discussions with other groups engaged in planning the building and its financing. Thus far, the education planning committee has worked largely in isolation of other groups, including the Center for Cell and Genome Science and the College development staff. We strongly believe that it is now time for broader communication.

   As noted above, establishing successful programs in the Thomas Building will require substantial investments beyond the building costs. At the same time, however, we believe that the work our committee is doing can help support the ongoing development efforts. We are anxious to discuss our plans with the development staff and with those involved in working with the State Legislature. We would like to hear their perspectives on community needs and the kinds of programs most likely to garner support.

Finally, we thank you for the opportunity to participate in this exciting project.

David Goldenberg and the Committee

PROPOSED EDUCATIONAL PROGRAMS (MARCH 2012)

I. Major goals

A. Enhance the science eduction of University of Utah undergraduates, particularly in the freshman and sophomore years.

B. Promote interdisciplinary teaching and learning.

C. Prepare entering students for success as science, math and engineering majors.

D. Engage non-science majors in scientific activities and thinking.

E. Create a gathering place for science students and faculty

F. Provide a science education "laboratory" in which new approaches to teaching methods and content can be tested and refined.

II. Programs

A. Integrated science core curriculum

- Alternative first and second year curriculum for any of the College of Science majors.
- Courses integrate chemistry, physics, math and biology
- Emphasize quantitative and computational approaches

B. Early undergraduate research

- Allow a larger number of undergraduates to participate in research, and at an earlier stage in their education
- Projects based on faculty research programs, but carried out in designated undergraduate research labs
- Groups of 10–20 students led by post-doctoral level scientists

C. Science explorations

- Targeted to entering freshman science majors and non-science majors
- Explore selected current topics chosen to illustrate opportunities in the sciences and "how to think like a scientist".
- Develop skills for continued study of science or life as an informed citizen

D. Science plus

- Interdisciplinary courses, linking science to the arts, humanities and social sciences
- Engage non-science majors in the sciences through interests in other areas
- Enable science majors to develop broader views of the roles of science in society

III. Facilities

A. Large lecture hall, for 200–250 students

B. Rooms for 100–150 students with flexible tiered seating to facilitate group work as well as more traditional lecture-style teaching.

C. Rooms for 25–100 students, with flexible seating for multiple teaching styles.

D. Teaching laboratories

E. Undergraduate research laboratories

F. Offices and conference rooms for CSME and other interdepartmental programs

G. Tutoring center, where students can find help for science and math classes, as well as aid in developing learning skills.

H. Cafe and gallery

SPACE ESTIMATES AND PRIORITIES (JULY 2012)

Space Estimates and Priorities for Crocker Science Center

Jordan Gerton (with input from David Goldenberg, Villu Maricq, and Erik Jorgensen)

27 July 2012

Intent:

This document summarizes the space requirements and priorities for the Crocker Science Center for the purpose of informing the architects and building planners.

Cell and Genome Center Space Needs:

Space estimates for the Cell and Genome Center are based on the preprogramming document of May, 2010 as well as recent communications from Profs. Villu Maricq and Erik Jorgensen. Prof. Maricq has expressed a preference for the "Loft" (Slab) design so that PI labs are spread over only three floors instead of four, thus promoting better interactivity and collaboration. With this design, it may be possible to fully build out the basement and first two floors for existing faculty (excluding Maricq and Jorgensen) during stage 1 and leave the top floor shelled for three future hires as well as Profs. Maricq and Jorgensen. In this context, each of the three PI floors (excepting basement) should have a large conference room (~500 sq. ft.), as well as adequate administrative office space (not determined). Finally, it is likely best to place the imaging core facility in the basement for the most favorable vibrational and acoustic conditions.

		Description (unit asf)	Stage 1 units	Stage 2 units	Stage 1 asf	Stage 2 asf
PI Laboratory Modules	Wet	Laboratory - 1 hood, typical bio (990) Office (326) Support (920)	3	3	2,970 978 2,760	2,970 978 2,760
	Instr	Laboratory - highly instrumented (660) Office (657) Support (480)	2	0	1,320 1,314 960	0
	Chem	Laboratory - multi hoods, chem (1,320) Office (657) Support (590)	2	0	2,640 1,314 1,180	0
	Comp	Laboratory - computational (990) Office (150) Support (370)	0	2	0	1,980 300 740
Cores		Vivarium – mixed as per preprogramming	1	0	750	0
		Imaging – mixed as per preprogramming	1	0	3,270	0
		Shared lab support – mixed as per preprog.	1	0	2,630	0
COM		Conference rooms: 1 per floor (500)	2	1	1,000	500
		Administrative offices (?)	?	?	?	?
		Utilities/bathrooms/etc. (?)	?	?	?	?
Total Required ASF					**23,086**	**10,228**

Educational Needs:

Space estimates for the educational space are based on detailed documents produced by the CSC Curriculum Development Committee over the past year as well as recent communications with Profs. David Goldenberg and Nalini Nadkarni. Prof. Goldenberg is leading the CSC curriculum development efforts, while Prof. Nadkarni is Director of the Center for Science and Math Education (CSME), which will have many of its programmatic initiatives hosted in the CSC. (The CSME has another 2,500 asf of space assigned in the Sorensen Education building for its k-12 educational initiatives.)

It may be necessary to add a moderate amount of space to the estimate below for a Technology Incubator (TI), an idea supported by Gary Crocker. Preliminary discussions indicate that wet-lab space totaling about 1,000 asf, with an additional 600 asf of office/conference space should be sufficient to serve the intended purpose. However, some initial inquiries have also revealed that the Technology Commercialization Office has a substantial amount of incubator space already available in Research Park, so a cost/benefit analysis for adding a modest TI within the CSC needs to be performed.

		Description (unit asf)	Stage 1 units	Stage 2 units	Stage 1 asf	Stage 2 asf
Interdisciplinary Education		**Flexible Lecture Hall (3,000)** 125 seats: with tables arranged on tiers for group work	1	0	3,000	0
		Flexible Class Room (1,500) 50 seats: arranged around round/octagonal tables on a flat floor	2	2	3,000	3,000
		Teaching Laboratory (1,400) For 25 students: outfitted appropriately. Includes 200 asf for storage and prep.	4	4	5,600	5,600
		Undergrad Research Laboratory (700) For 15 students: outfitted with project-dependent instrumentation and hoods	2	2	1,400	1,400
		Teaching offices (150) Each UG research lab should have an associated office. Remainder distributed appropriately.	4	4	600	600
CSME (Suite)	Offices	Director (196)	1	0	1,046	585
		Accountant (144)	1	0		
		Office manager (100)	1	0		
		Program manager (121)	3	0		
		Program assistant (81)	2	1		
		Interns/assistants (81)	1	1		
		Assistant to Director (81)	0	1		
		Visiting associate (100)	0	1		
		Grants writer (121)	0	1		
		Communications manager (121)	0	1		
	COM	Mail & Copy room (121)	1	0	371	225
		Kitchen (100)	1	0		
		Conference room (150)	1	0		
		Media/video room (225)	0	1		
		Cohort room (121)	0	3	0	363
COM		**Conference Rooms (300)**	4	0	1,200	0
		Café (450)	1	0	450	0
		Tutorial Center (1,500) For 100 students: movable tables and chairs ideally arranged in former reading room and near café. Acoustic damping a priority.	1	0	1,500	0
Total Required ASF					**18,167**	**11,773**

VIBRATION PERFORMANCE MEMO

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GEORGE THOMAS BUILDING
The University of Utah

Floor Vibration Performance Options

Existing floor systems for the George Thomas Building are comprised of 15 inch deep pan joists supported by interior and exterior unreinforced masonry bearing walls. Systems of this nature typically provide satisfactory vibration performance for most applications and may be satisfactory for the proposed programmatic uses of the spaces in question. This notwithstanding, there may be functions occupying such spaces that require increased floor stiffness so as to enable effective operation of sensitive equipment (e.g. microscopes). Options for enabling improved performance in this regard include:

1. The use of vibration isolation tables which effectively de-couple sensitive equipment from flooring systems thereby filtering vibrations that may cause and adverse affect.
2. Reinforcing existing floor slabs in-situ to improve their stiffness and expected vibration properties.
3. Supplementing the existing structural frame by adding intermediate framing or bearing walls to reduce spans of existing floor joists thereby improving their stiffness.
4. Structuring the programming process to locate sensitive equipment at spaces where vibrations are not anticipated to be problematic.

Option 1 is relatively straightforward and does not require the explicit alteration or improvement of the existing structure to address the vibration concern. For this approach, it simply becomes prudent to include a budgetary allowance for vibration isolation tables. The specific properties and vibrational requirements of each table will depend upon the vibrational properties of the floor, which can be measured using relatively simple methods, as well as the vibrational requirements and properties of the specific equipment under consideration.

Option 2 is relatively invasive and requires complete access to the bottom side of the existing structure to construct reinforcements. For this approach, adding new structural elements in the form of steel shapes or reinforced concrete can be used to increase the depth and stiffness of the existing floors thereby enabling improvements to the expected vibration performance. While this approach adds stiffness to the floors, it brings the consequence of added dead load which must be traced through bearing walls, columns and foundations, all of which may require reinforcement.

For **Option 3**, improvements to floor stiffness become realized through shortening the spans of existing floor joists. Beam stiffness is primarily a function of beam span and reducing spans can make a major difference in floor stiffness. To achieve this, beams placed strategically at midpoints of bays or even adding bearing walls can provide the support needed to reduce spans. For such elements, loads must be tracked to the foundations, likely requiring improvements and strengthening of existing columns, walls and footings.

Option 4, like Option 2 is a minimally invasive procedure that would not require the alteration of the existing structure, but it does require strategic layout of proposed sensitive equipment. Even on floors deemed unsatisfactory for vibration performance, equipment can be located away from areas of greatest vibration. Such areas are typically associated with the bearing points of floor systems such as columns, walls and girders. When equipment can be located at or near such bearing elements, vibration performance improves without the rigors of incorporating a structural retrofit, the major drawback being that this approach does not provide nearly the latitude of Options 1-3.

MEETING MINUTES

Meeting Minutes #1 (6.22.12) – Kick Off Meeting

- John McNary, Pierre Sokolsky, David Goldenberg, Jordan Gerton, Suzy Redkin, Villu Maricq, Jennifer Still, Denise, Peter Emerson, Scott Later, Tully Shelley, Kris Larson, Jerod Johnson
- Introduction (Pierre)
  - GTB represents the #1 priority from the University – target approval for programming 2013 legislative session
  - Board of trustees approved the project and it is moving to the board of regents
  - 30 million the max amount funded through state
  - Gary Crocker committed to $10 million and will be key promoter for future fundraising and donation
  - (5) key component of GTB
    - Cell genome center
    - Center for science and math education
    - Teaching labs
    - Incubator space
    - Administration (dean's suite)
- Funding
  - Need a complete understand of costs (construction + soft)
    - Review previously completed CBE and reexamine assumptions for FFE
  - Based on $50 million assumption construction budget = $35 million
  - Thatcher building = $500/sf; Pharmacy = $400/sf
  - Dean feels that cost needs to be cut at min by $10 to bring into realistic range
- Vision for Education Component (David Goldenberg)
  - Diverse set of flexible rooms rather than specialized spaces
  - Open space for gathering and meetings
  - Center for science and math a key component
    - Need to duplicate @ min what they currently have
- Incubator spaces
  - Not a specialized space, flexible for future development/uses
  - Dean to follow up w/ Crocker to determine expectations
- General Notes
  - Green space around building is positive – look for community opportunities
  - Reexamine loft scheme as primary scheme
    - Provides for better critical mass of PIs
  - Reading Room is a benefit to the entire campus and needs to be looked at in that light
  - Is there potential to expand to south into Stewart building?
  - What can we build now and how is it going to be used?

Meeting Minutes #2 (??????) – Academic Committee Meeting

- David Goldenberg, Jordan Gerton, Peter Emerson
- Lecture Hall (250 seats/3000 sf)
  - Provide bench space
  - Not a high priority
  - Benefit for college in general
- Flexible Lecture Room
  - Conventional lecture hall converts to croup learning
  - 30-40 sf/person
  - Terraced floor
- Flexible Class Room (50 student)
  - Dry activities = power only for infrastructure

    - A/V on multiple walls
    - Overlaps w/ scale up rooms
    - Potential to open up to other classrooms to create larger space
    - Need storage space for small electronics and equipment
- Scale-up rooms (2,500 sf)
    - Technology intensive
    - Do students bring their own computers? Plug and play concept w/ wifi
    - Not a high priority
- Teaching Labs – Freshmen/Sophomore (1,200 sf + 200 sf prep)
    - Space for storage and prep
    - Integration of the sciences
    - (2) fume hoods per lab
    - (8) total but could consider some reduction in the number of teaching labs
- Research Program for Undergrads
    - 10-20 students per group
    - Water/electrical/DI water/no gas/fume hoods
    - (4) total labs + (1) office/lab
- Tutoring Center (1,500 sf)
    - Perhaps in reading room
- Center for Science and Math
    - Office suite for (6) staff – director + 4 faculty
    - Outreach space
    - Potential to share functions w/ dean's suite?
- Common spaces
    - Gathering areas
    - Study nooks
    - Café
    - Gallery (video projection)
-

Meeting Minutes #3 (8.1.12) – Working Session

- John McNary, Pierre Sokolsky, David Goldenberg, Jordan Gerton, Suzy Redkin, Marcus Babst, Jennifer Still, Peter Emerson, Scott Later, Tully Shelley, Kris Larson, Jerod Johnson, Nalini Nadkarni
- Review of 5 cost options
    - Schemes based on ratio of new/existing building + shell/buildout ratio
    - Updated CBE provided by Jennifer Still
    - Strong directive to hit $50 million mark = scheme 5
    - Look at option 6 that reduces total research space and uses existing building
        - what is the impact based on vibration requirements, mechanical, extra cost
- Phasing
    - Examine program based on what is phasing (i.e., what can we afford in phase-1)
    - Dean's suite would push to Phase-2
- Need to review loft/cube cost comparison
    - Option to complete 2/3 floors in loft scheme to get critical mass of PIs
- Programming
    - University approaching legislature this year for approval to begin programming
    - Plan to take entire building up to DD level and then focus on Phase-1 design
    - Jordan to provide additional program/curriculum info based on previous committee discussions
        - Look at ad hoc committee for common spaces
        - Establish student advisory committee assist in programming
    - Not a good idea to interchange incubator and teaching labs
        - Donor okay w/ flexible labs

    - Really wants conference + (2) wet labs + offices
- Hard to determine future emphasis of cell center staff = provide flexible space
- Provide interaction between research and teaching
- Look at reading room as potential fund raising opportunity
    - Vision = magnet for student interaction and community

Meeting Minutes #4 (11.5.12) – Wrap up Meeting

- John McNary, Pierre Sokolsky, David Goldenberg, Jordan Gerton, Suzy Redkin, Holly, Kurt, Glenda Woods, Justin Perme; Jennifer Still, Denise, Peter Emerson, Scott Later, Tully Shelley, Kris Larson
- approval granted via building board to move forward w/ programming
    - building will be designed completely during programming
    - phasing will be identified as part of programming
- clarification why cost/s.f. has been divided between new/existing & shell/build-out
    - existing building cost slightly higher than typical given historic nature of building/finishes
- confirmed that teaching labs will not require a high vibration requirement
- EDA recommended having the university team internally confirm all the information gathered prior to engaging in the programming effort
- need to classify commons spaces such that they are included in the overall building efficiency (net/gross) and do not get cut from the program based on efficiency requirements dictated by building board
- discussion in regards to completing shelled spaces during construction or after
    - typically a yearly escalation factor of 3% = longer spaces remained unfinished the more expensive it will be to finish
    - although there will be some markup if the work is completed as a change order there will be an economy of scales that could represent a 3-15% reduction in the finish work
- look at the option for multiple PIs in single research lab
- need to maintain sustainability of building through flexibility of spaces
    - potentially break research components up by floor and speciality (bio, chemistry, instrumentation)
- no serious objections to information included in report
    - EDA will submit finalized document to Campus Planning

COST ANALYSIS - SHELL ONLY

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	7/3/2012

PROJECT NAME.....UOFU GEORGE THOMAS BUILDING
LOCATION.....SALT LAKE CITY, UTAH
ARCHITECT.....EDA — Total Bldg SF 123,250
STAGE OF DESIGN.....PROGRAMMING

CSI #	DESCRIPTION	RENOVATION	ADDITION	TOTAL
	BUILDING A COST SUMMARY			
02	SITEWORK & DEMOLITION	$ 194,755	$ 1,173,394	$ 1,368,149
03	CONCRETE	$ 24,787	$ 792,070	$ 816,857
04	MASONRY	$ 146,340	$ 574,822	$ 721,162
05	METALS	$ 73,412	$ 1,952,151	$ 2,025,563
06	WOODS & PLASTICS	$ 75,070	$ 55,577	$ 130,647
07	THERMAL & MOISTURE PROTECTION	$ 573,983	$ 592,849	$ 1,166,832
08	DOORS & WINDOWS	$ 1,370,896	$ 668,956	$ 2,039,852
09	FINISHES	$ 1,105,147	$ 406,592	$ 1,511,739
10	SPECIALTIES	$ 46,500	$ 46,500	$ 93,000
11	EQUIPMENT	$ -	$ -	$ -
12	FURNISHINGS	$ 5,580	$ 5,580	$ 11,160
13	SPECIAL CONSTRUCTION	$ 1,770,500	$ -	$ 1,770,500
14	CONVEYING SYSTEMS	$ 200,000	$ 420,000	$ 620,000
15	MECHANICAL	$ 1,713,844	$ 1,287,157	$ 3,001,001
16	ELECTRICAL	$ 995,021	$ 736,642	$ 1,731,663
	SUBTOTAL	$ 8,295,834	$ 8,712,290	$ 17,008,124
	GENERAL CONDITIONS	$ 663,667	$ 696,983	$ 1,360,650
	OVERHEAD & PROFIT	$ 331,833	$ 348,492	$ 680,325
	DESIGN CONTINGENCY	$ 1,244,375	$ 1,306,843	$ 2,551,219
	TOTAL CONSTRUCTION COST	$ 10,535,709	$ 11,064,608	$ 21,600,317

PROJECT ESTIMATE **CONSTRUCTION CONTROL CORPORATION** **7/3/2012**

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	BUILDING A COST SUMMARY			
02	**SITEWORK & DEMOLITION**		$ 2.75	$ 194,755
03	**CONCRETE**		$ 0.35	$ 24,787
04	**MASONRY**		$ 2.07	$ 146,340
05	**METALS**		$ 1.04	$ 73,412
06	**WOODS & PLASTICS**		$ 1.06	$ 75,070
07	**THERMAL & MOISTURE PROTECTION**		$ 8.10	$ 573,983
08	**DOORS & WINDOWS**		$ 19.36	$ 1,370,896
09	**FINISHES**		$ 15.61	$ 1,105,147
10	**SPECIALTIES**		$ 0.66	$ 46,500
11	**EQUIPMENT**		$ -	$ -
12	**FURNISHINGS**		$ 0.08	$ 5,580
13	**SPECIAL CONSTRUCTION**		$ 25.00	$ 1,770,500
14	**CONVEYING SYSTEMS**		$ 2.82	$ 200,000
15	**MECHANICAL**		$ 24.20	$ 1,713,844
16	**ELECTRICAL**		$ 14.05	$ 995,021
	SUBTOTAL		$ 117.14	8,295,834
	GENERAL CONDITIONS	8%	$ 9.37	663,667
	OVERHEAD & PROFIT	4%	$ 4.69	331,833
	DESIGN CONTINGENCY	15%	$ 17.57	1,244,375
	TOTAL CONSTRUCTION COST		$ 148.77	$ 10,535,709

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/3/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
02	**SITEWORK & DEMOLITION**			
	Demolition			
	Selective Interior Demolition	70820 SF	$ 2.75	$ 194,755
	Subtotal for Demolition			**$ 194,755**
	TOTAL SITEWORK & DEMOLITION			**$ 194,755**
03	**CONCRETE**			
	Floor Patching	70820 SF	$ 0.35	$ 24,787
	TOTAL CONCRETE			**$ 24,787**
04	**MASONRY**			
	Touch up Terracotta exterior	29268 SF	$ 5.00	$ 146,340
	TOTAL MASONRY			**$ 146,340**
05	**METALS**			
	Miscellaneous Steel	70820 SF	$ 0.38	$ 26,912
	Renovate Railing	372 LF	$ 125.00	$ 46,500
	TOTAL METALS			**$ 73,412**
06	**WOOD & PLASTICS**			
	Carpentry:			
	Wood Plates & Blocking	70820 SF	$0.31	$ 21,955
	Subtotal for Carpentry			**$ 21,955**
	Millwork	70820 SF	$0.75	**$ 53,115**
	TOTAL WOOD & PLASTICS			**$ 75,070**
07	**THERMAL & MOISTURE PROTECTION**			
	R-19 Insulation at Exterior Walls	39024 SF	$0.72	$ 28,098
	Rigid Roof Insulation	21423 SF	$2.55	$ 54,629
	Sound Batt	19138 SF	$0.48	$ 9,187
	Roof Garden	3000 SF	$15.00	$ 45,000
	Standing Seam Metal Roof	16067 SF	$9.00	$ 144,606
	Single Ply membrane	5356 SF	$2.65	$ 14,193
	Soffit	4134 SF	$30.00	$ 124,020
	Metal Wall Cap	1278 LF	$7.65	$ 9,777
	Building Fireproofing	70820 SF	$1.65	$ 116,853
	Fire Stopping/ Caulking	70820 SF	$0.18	$ 12,748
	Caulking & Sealants	70820 SF	$0.21	$ 14,873
	TOTAL THERMAL & MOISTURE PROTECTION			**$ 573,983**
08	**DOORS & WINDOWS**			
	Doors	70820 SF	$2.00	$ 141,640
	Replace Exterior Glazing w/ steel windows-	11707 SF	$105.00	$ 1,229,256
	TOTAL DOORS & WINDOWS			**$ 1,370,896**
09	**FINISHES**			
	Exterior Metal Stud Furring	39024 SF	$2.25	$ 87,804
	Interior Metal Stud Partitions	19138 SF	$2.25	$ 43,060
	Gyp Board Walls	77300 SF	$1.30	$ 100,490
	Ceiling	70820 SF	$8.65	$ 612,593
	Historic Finish Restoration	10000 SF	$6.00	$ 60,000
	Flooring	10000 SF	$12.65	$ 126,500
	Wall Coverings	10000 SF	$7.47	$ 74,700
	TOTAL FINISHES			**$ 1,105,147**
10	**SPECIALTIES**			
	Specialties	10000 SF	$4.65	$ 46,500

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/3/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	TOTAL SPECIALTIES			**$ 46,500**
11	**EQUIPMENT- Not Included**			
12	**FURNISHINGS**			
	Walk-Off Mats	400 SF	$13.95	$ 5,580
	TOTAL EQUIPMENT			**$ 5,580**
13	**SPECIAL CONSTRUCTION**			
	Seismic Upgrade	70820 SF	$25.00	$ 1,770,500
	TOTAL SPECIAL CONSTRUCTION			**$ 1,770,500**
14	**CONVEYING SYSTEMS**			
	Replace Existing Elevator4-stop	1 EA	$180,000.00	$ 180,000
	ADA Lift at basement	1 EA	$20,000.00	$ 20,000
	TOTAL CONVEYING SYSTEMS			**$ 200,000**
15	**MECHANICAL**			
	HVAC:- Shell Only	70820 SF	$20.00	**$ 1,416,400**
	Fire Protection:	70820 SF	$2.55	**$ 180,591**
	Plumbing Shell Only	70820 SF	$1.65	**$ 116,853**
	TOTAL MECHANICAL			**$ 1,713,844**
16	**ELECTRICAL**			
	Service & Distribution:	70820 SF	$5.65	**$ 400,133**
	Power:	70820 SF	$1.95	**$ 138,099**
	Lighting:	70820 SF	$2.00	**$ 141,640**
	Telecommunication System:	70820 SF	$0.95	**$ 67,279**
	Fire/Smoke System:	70820 SF	$1.95	**$ 138,099**
	Special Systems:	70820 SF	$1.55	**$ 109,771**
	TOTAL ELECTRICAL			**$ 995,021**

PROJECT ESTIMATE **CONSTRUCTION CONTROL CORPORATION** **7/3/2012**

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	BUILDING A COST SUMMARY			
02	**SITEWORK & DEMOLITION**		$ 22.38	$ 1,173,394
03	**CONCRETE**		$ 15.11	$ 792,070
04	**MASONRY**		$ 10.96	$ 574,822
05	**METALS**		$ 37.23	$ 1,952,151
06	**WOODS & PLASTICS**		$ 1.06	$ 55,577
07	**THERMAL & MOISTURE PROTECTION**		$ 11.31	$ 592,849
08	**DOORS & WINDOWS**		$ 12.76	$ 668,956
09	**FINISHES**		$ 7.75	$ 406,592
10	**SPECIALTIES**		$ 0.89	$ 46,500
11	**EQUIPMENT**		$ -	$ -
12	**FURNISHINGS**		$ 0.11	$ 5,580
14	**CONVEYING SYSTEMS**		$ 8.01	$ 420,000
15	**MECHANICAL**		$ 24.55	$ 1,287,157
16	**ELECTRICAL**		$ 14.05	$ 736,642
	SUBTOTAL		$ 166.17	8,712,290
	GENERAL CONDITIONS	8%	$ 13.29	696,983
	OVERHEAD & PROFIT	4%	$ 6.65	348,492
	DESIGN CONTINGENCY	15%	$ 24.93	1,306,843
	TOTAL CONSTRUCTION COST		$ 211.04	$ 11,064,608

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/3/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
02	**SITEWORK & DEMOLITION**			
	Demolition			
	Demolition Existing Building Stacks	352800 CF	$ 0.29	$ 102,312
	Site Clearing	45000 SF	$ 0.89	$ 40,050
	Subtotal for Demolition			**$ 142,362**
	Earthwork- In Parking Structure			
	Building Excavation	6214 CY	$ 6.00	$ 37,284
	Backfill and Compaction w/ imported fills	1553 CY	$ 19.65	$ 30,526
	Remove Spoil	6214 CY	$ 7.00	$ 43,497
	Underpinning at existing	1 LS	$ 100,000.00	$ 100,000
	Building Grading	10486 SF	$ 0.69	$ 7,235
	Gravel under Slab	416 TNS	$ 30.00	$ 12,490
	Subtotal for Earthwork			**$ 231,032**
	Site Utilities			
	Site Utilities	1 LS	$ 150,000.00	$ 150,000
	Hi Temp Water line at site	1 LS	$ 75,000.00	$ 75,000
	Chilled Water at site	1 LS	$ 75,000.00	$ 75,000
	Subtotal for Site Utilities			**$ 300,000**
	Site Improvments	50000 SF	$ 10.00	**$ 500,000**
	TOTAL SITEWORK & DEMOLITION			**$ 1,173,394**
03	**CONCRETE**			
	Footings	1165 CY	$ 275.00	$ 320,406
	Foundation Wall	9040 SF	$ 24.00	$ 216,960
	Slab on Grade	10486 SF	$ 5.69	$ 59,665
	Topping Slab	41944 SF	$ 4.65	$ 195,040
	TOTAL CONCRETE			**$ 792,070**
04	**MASONRY**			
	CMU at Stair Enclosure	9600 SF	$ 15.28	$ 146,688
	Masonry Exterior	26758 SF	$ 16.00	$ 428,134
	TOTAL MASONRY			**$ 574,822**
05	**METALS**			
	Miscellaneous Steel	52430 SF	$ 0.38	$ 19,923
	Metal Floor Deck	41944 SF	$ 2.75	$ 115,346
	Metal Roof Deck	10486 SF	$ 1.95	$ 20,448
	Floor Structure 19#/SF	796936 LB	$ 1.55	$ 1,235,251
	Roof Structure- 7#/SF	73402 LB	$ 1.55	$ 113,773
	Atrium Stair	1140 SF	$ 89.00	$ 101,460
	Decorative Railing	723 LF	$ 300.00	$ 216,900
	Concrete Filled Stair Pans	1350 SF	$ 59.00	$ 79,650
	Free Standing Railing	260 LF	$ 125.00	$ 32,500
	Wall Mounted Handrail	260 LF	$ 65.00	$ 16,900
	TOTAL METALS			**$ 1,952,151**
06	**WOOD & PLASTICS**			
	Carpentry:			
	Wood Plates & Blocking	52430 SF	$0.31	$ 16,254
	Subtotal for Carpentry			**$ 16,254**
	Millwork	52430 SF	$0.75	**$ 39,323**
	TOTAL WOOD & PLASTICS			**$ 55,577**
07	**THERMAL & MOISTURE PROTECTION**			
	R-19 Insulation at Exterior Walls	28928 SF	$0.72	$ 20,829
	3" Rigid at Building Exterior	28928 SF	$2.95	$ 85,338
	Rigid Roof Insulation	10486 SF	$2.55	$ 26,739
	Sound Batt	14168 SF	$0.48	$ 6,801
	Wall Sheathing	26758 SF	$1.65	$ 44,151

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/3/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION SHELL OPTION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	Vapor Barrier	26758 SF	$1.25	$ 33,448
	Waterproofing at underground structure	4000 SF	$8.00	$ 32,000
	Single Ply membrane	10486 SF	$2.65	$ 27,788
	Soffit	4134 SF	$30.00	$ 124,020
	Metal Wall Cap	1278 LF	$7.65	$ 9,777
	Connection at existing Building	600 LF	$125.00	$ 75,000
	Building Fireproofing	52430 SF	$1.65	$ 86,510
	Fire Stopping/ Caulking	52430 SF	$0.18	$ 9,437
	Caulking & Sealants	52430 SF	$0.21	$ 11,011
	TOTAL THERMAL & MOISTURE PROTECTION			**$ 592,849**
08	**DOORS & WINDOWS**			
	Doors	52430 SF	$2.00	$ 104,860
	Exterior Glazing Aluminum (30% of Exterior)	8678 SF	$65.00	$ 564,096
	TOTAL DOORS & WINDOWS			**$ 668,956**
09	**FINISHES**			
	Exterior Metal Stud Framing	28928 SF	$3.20	$ 92,570
	Interior Metal Stud Partitions	14168 SF	$2.25	$ 31,879
	Gyp Board Walls	57265 SF	$1.30	$ 74,444
	Ceiling	10000 SF	$5.65	$ 56,500
	Flooring	10000 SF	$7.65	$ 76,500
	Wall Coverings	10000 SF	$7.47	$ 74,700
	TOTAL FINISHES			**$ 406,592**
10	**SPECIALTIES**			
	Specialties	10000 SF	$4.65	$ 46,500
	TOTAL SPECIALTIES			**$ 46,500**
11	**EQUIPMENT- Not Included**			
12	**FURNISHINGS**			
	Walk-Off Mats	400 SF	$13.95	$ 5,580
	TOTAL EQUIPMENT			**$ 5,580**
14	**CONVEYING SYSTEMS**			
	Elevator- 5 Stop	2 EA	$210,000.00	$ 420,000
	TOTAL CONVEYING SYSTEMS			**$ 420,000**
15	**MECHANICAL**			
	HVAC: Shell Only	52430 SF	$20.00	**$ 1,048,600**
	Fire Protection:	52430 SF	$2.55	**$ 133,697**
	Plumbing- Shell Only	52430 SF	$2.00	**$ 104,860**
	TOTAL MECHANICAL			**$ 1,287,157**
16	**ELECTRICAL**			
	Service & Distribution:	52430 SF	$5.65	**$ 296,230**
	Power:	52430 SF	$1.95	**$ 102,239**
	Lighting:	52430 SF	$2.00	**$ 104,860**
	Telecommunication System:	52430 SF	$0.95	**$ 49,809**
	Fire/Smoke System:	52430 SF	$1.95	**$ 102,239**
	Special Systems:	52430 SF	$1.55	**$ 81,267**
	TOTAL ELECTRICAL			**$ 736,642**

COST ANALYSIS - TOTAL BUILDING

PROJECT ESTIMATE	CONSTRUCTION CONTROL CORPORATION	7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA — Total Bldg SF 123,250
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	RENOVATION	ADDITION	TOTAL
	BUILDING A COST SUMMARY			
02	SITEWORK & DEMOLITION	$ 194,755	$ 1,173,394	$ 1,368,149
03	CONCRETE	$ 24,787	$ 792,070	$ 816,857
04	MASONRY	$ 146,340	$ 574,822	$ 721,162
05	METALS	$ 73,412	$ 1,952,151	$ 2,025,563
06	WOODS & PLASTICS	$ 1,130,288	$ 836,784	$ 1,967,072
07	THERMAL & MOISTURE PROTECTION	$ 656,658	$ 699,056	$ 1,355,714
08	DOORS & WINDOWS	$ 2,339,581	$ 1,489,969	$ 3,829,550
09	FINISHES	$ 3,529,132	$ 1,906,308	$ 5,435,440
10	SPECIALTIES	$ 329,313	$ 243,800	$ 573,113
11	EQUIPMENT	$ 1,416,400	$ 1,048,600	$ 2,465,000
12	FURNISHINGS	$ 48,311	$ 37,256	$ 85,567
13	SPECIAL CONSTRUCTION	$ 1,770,500	$ -	$ 1,770,500
14	CONVEYING SYSTEMS	$ 200,000	$ 420,000	$ 620,000
15	MECHANICAL	$ 6,858,917	$ 5,130,276	$ 11,989,193
16	ELECTRICAL	$ 2,619,632	$ 1,939,386	$ 4,559,018
	SUBTOTAL	$ 21,338,025	$ 18,243,872	$ 39,581,897
	GENERAL CONDITIONS	$ 1,707,042	$ 1,459,510	$ 3,166,552
	OVERHEAD & PROFIT	$ 853,521	$ 729,755	$ 1,583,276
	DESIGN CONTINGENCY	$ 3,200,704	$ 2,736,581	$ 5,937,285
	TOTAL CONSTRUCTION COST	$ 27,099,292	$ 23,169,718	$ 50,269,010

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	BUILDING A COST SUMMARY			
02	**SITEWORK & DEMOLITION**		$ 2.75	$ 194,755
03	**CONCRETE**		$ 0.35	$ 24,787
04	**MASONRY**		$ 2.07	$ 146,340
05	**METALS**		$ 1.04	$ 73,412
06	**WOODS & PLASTICS**		$ 15.96	$ 1,130,288
07	**THERMAL & MOISTURE PROTECTION**		$ 9.27	$ 656,658
08	**DOORS & WINDOWS**		$ 33.04	$ 2,339,581
09	**FINISHES**		$ 49.83	$ 3,529,132
10	**SPECIALTIES**		$ 4.65	$ 329,313
11	**EQUIPMENT**		$ 20.00	$ 1,416,400
12	**FURNISHINGS**		$ 0.68	$ 48,311
13	**SPECIAL CONSTRUCTION**		$ 25.00	$ 1,770,500
14	**CONVEYING SYSTEMS**		$ 2.82	$ 200,000
15	**MECHANICAL**		$ 96.85	$ 6,858,917
16	**ELECTRICAL**		$ 36.99	$ 2,619,632
	SUBTOTAL		$ 301.30	21,338,025
	GENERAL CONDITIONS	8%	$ 24.10	1,707,042
	OVERHEAD & PROFIT	4%	$ 12.05	853,521
	DESIGN CONTINGENCY	15%	$ 45.19	3,200,704
	TOTAL CONSTRUCTION COST		$ 382.65	$ 27,099,292

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
02	**SITEWORK & DEMOLITION**			
	Demolition			
	Selective Interior Demolition	70820 SF	$ 2.75	$ 194,755
	Subtotal for Demolition			**$ 194,755**
	TOTAL SITEWORK & DEMOLITION			**$ 194,755**
03	**CONCRETE**			
	Floor Patching	70820 SF	$ 0.35	$ 24,787
	TOTAL CONCRETE			**$ 24,787**
04	**MASONRY**			
	Touch up Terracotta exterior	29268 SF	$ 5.00	$ 146,340
	TOTAL MASONRY			**$ 146,340**
05	**METALS**			
	Miscellaneous Steel	70820 SF	$ 0.38	$ 26,912
	Renovate Railing	372 LF	$ 125.00	$ 46,500
	TOTAL METALS			**$ 73,412**
06	**WOOD & PLASTICS**			
	Carpentry:			
	Wood Plates & Blocking	70820 SF	$0.31	$ 21,955
	Subtotal for Carpentry			**$ 21,955**
	Millwork	70820 SF	$15.65	**$ 1,108,333**
	TOTAL WOOD & PLASTICS			**$ 1,130,288**
07	**THERMAL & MOISTURE PROTECTION**			
	R-19 Insulation at Exterior Walls	39024 SF	$0.72	$ 28,098
	Rigid Roof Insulation	21423 SF	$2.55	$ 54,629
	Sound Batt	191378 SF	$0.48	$ 91,862
	Roof Garden	3000 SF	$15.00	$ 45,000
	Standing Seam Metal Roof	16067 SF	$9.00	$ 144,606
	Single Ply membrane	5356 SF	$2.65	$ 14,193
	Soffit	4134 SF	$30.00	$ 124,020
	Metal Wall Cap	1278 LF	$7.65	$ 9,777
	Building Fireproofing	70820 SF	$1.65	$ 116,853
	Fire Stopping/ Caulking	70820 SF	$0.18	$ 12,748
	Caulking & Sealants	70820 SF	$0.21	$ 14,873
	TOTAL THERMAL & MOISTURE PROTECTION			**$ 656,658**
08	**DOORS & WINDOWS**			
	Doors	70820 SF	$10.03	$ 710,325
	Replace Exterior Glazing w/ steel windows-	11707 SF	$105.00	$ 1,229,256
	Interior Glazing	10000 SF	$40.00	$ 400,000
	TOTAL DOORS & WINDOWS			**$ 2,339,581**
09	**FINISHES**			
	Exterior Metal Stud Furring	39024 SF	$2.25	$ 87,804
	Interior Metal Stud Partitions	191378 SF	$2.25	$ 430,601
	Gyp Board Walls	421781 SF	$1.30	$ 548,315
	Ceiling	70820 SF	$8.65	$ 612,593
	Historic Finish Restoration	70820 SF	$6.00	$ 424,920
	Flooring	70820 SF	$12.65	$ 895,873
	Wall Coverings	70820 SF	$7.47	$ 529,025
	TOTAL FINISHES			**$ 3,529,132**
10	**SPECIALTIES**			

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **RENOVATION**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 70,820 SF
STAGE OF DESIGN……PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	Specialties	70820 SF	$4.65	$ 329,313
	TOTAL SPECIALTIES			**$ 329,313**
11	**EQUIPMENT**	70820 SF	$20.00	**$ 1,416,400**
12	**FURNISHINGS**			
	Walk-Off Mats	400 SF	$13.95	$ 5,580
	Blinds	11707 SF	$3.65	$ 42,731
	TOTAL EQUIPMENT			**$ 48,311**
13	**SPECIAL CONSTRUCTION**			
	Seismic Upgrade	70820 SF	$25.00	$ 1,770,500
	TOTAL SPECIAL CONSTRUCTION			**$ 1,770,500**
14	**CONVEYING SYSTEMS**			
	Replace Existing Elevator4-stop	1 EA	$180,000.00	$ 180,000
	ADA Lift at basement	1 EA	$20,000.00	$ 20,000
	TOTAL CONVEYING SYSTEMS			**$ 200,000**
15	**MECHANICAL**			
	HVAC:	70820 SF	$80.00	**$ 5,665,600**
	Fire Protection:	70820 SF	$2.55	**$ 180,591**
	Plumbing	70820 SF	$12.65	**$ 895,873**
	Lab Gas System	70820 SF	$1.65	**$ 116,853**
	TOTAL MECHANICAL			**$ 6,858,917**
16	**ELECTRICAL**			
	Service & Distribution:	70820 SF	$8.34	**$ 590,639**
	Power:	70820 SF	$7.65	**$ 541,773**
	Lighting:	70820 SF	$8.00	**$ 566,560**
	Telecommunication System:	70820 SF	$4.35	**$ 308,067**
	Fire/Smoke System:	70820 SF	$3.00	**$ 212,460**
	Special Systems:	70820 SF	$5.65	**$ 400,133**
	TOTAL ELECTRICAL			**$ 2,619,632**

PROJECT ESTIMATE **CONSTRUCTION CONTROL CORPORATION** **7/9/2012**

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION CUBE SCHEME**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	BUILDING A COST SUMMARY			
02	**SITEWORK & DEMOLITION**		**$ 22.38**	**$ 1,173,394**
03	**CONCRETE**		**$ 15.11**	**$ 792,070**
04	**MASONRY**		**$ 10.96**	**$ 574,822**
05	**METALS**		**$ 37.23**	**$ 1,952,151**
06	**WOODS & PLASTICS**		**$ 15.96**	**$ 836,784**
07	**THERMAL & MOISTURE PROTECTION**		**$ 13.33**	**$ 699,056**
08	**DOORS & WINDOWS**		**$ 28.42**	**$ 1,489,969**
09	**FINISHES**		**$ 36.36**	**$ 1,906,308**
10	**SPECIALTIES**		**$ 4.65**	**$ 243,800**
11	**EQUIPMENT**		**$ 20.00**	**$ 1,048,600**
12	**FURNISHINGS**		**$ 0.71**	**$ 37,256**
14	**CONVEYING SYSTEMS**		**$ 8.01**	**$ 420,000**
15	**MECHANICAL**		**$ 97.85**	**$ 5,130,276**
16	**ELECTRICAL**		**$ 36.99**	**$ 1,939,386**
	SUBTOTAL		**$ 347.97**	**18,243,872**
	GENERAL CONDITIONS	**8%**	**$ 27.84**	**1,459,510**
	OVERHEAD & PROFIT	**4%**	**$ 13.92**	**729,755**
	DESIGN CONTINGENCY	**15%**	**$ 52.19**	**2,736,581**
	TOTAL CONSTRUCTION COST		**$ 441.92**	**$ 23,169,718**

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION CUBE SCHEME**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
02	**SITEWORK & DEMOLITION**			
	Demolition			
	Demolition Existing Building Stacks	352800 CF	$ 0.29	$ 102,312
	Site Clearing	45000 SF	$ 0.89	$ 40,050
	Subtotal for Demolition			**$ 142,362**
	Earthwork- In Parking Structure			
	Building Excavation	6214 CY	$ 6.00	$ 37,284
	Backfill and Compaction w/ imported fills	1553 CY	$ 19.65	$ 30,526
	Remove Spoil	6214 CY	$ 7.00	$ 43,497
	Underpinning at existing	1 LS	$ 100,000.00	$ 100,000
	Building Grading	10486 SF	$ 0.69	$ 7,235
	Gravel under Slab	416 TNS	$ 30.00	$ 12,490
	Subtotal for Earthwork			**$ 231,032**
	Site Utilities			
	Site Utilities	1 LS	$ 150,000.00	$ 150,000
	Hi Temp Water line at site	1 LS	$ 75,000.00	$ 75,000
	Chilled Water at site	1 LS	$ 75,000.00	$ 75,000
	Subtotal for Site Utilities			**$ 300,000**
	Site Improvments	50000 SF	$ 10.00	**$ 500,000**
	TOTAL SITEWORK & DEMOLITION			**$ 1,173,394**
03	**CONCRETE**			
	Footings	1165 CY	$ 275.00	$ 320,406
	Foundation Wall	9040 SF	$ 24.00	$ 216,960
	Slab on Grade	10486 SF	$ 5.69	$ 59,665
	Topping Slab	41944 SF	$ 4.65	$ 195,040
	TOTAL CONCRETE			**$ 792,070**
04	**MASONRY**			
	CMU at Stair Enclosure	9600 SF	$ 15.28	$ 146,688
	Masonry Exterior	26758 SF	$ 16.00	$ 428,134
	TOTAL MASONRY			**$ 574,822**
05	**METALS**			
	Miscellaneous Steel	52430 SF	$ 0.38	$ 19,923
	Metal Floor Deck	41944 SF	$ 2.75	$ 115,346
	Metal Roof Deck	10486 SF	$ 1.95	$ 20,448
	Floor Structure 19#/SF	796936 LB	$ 1.55	$ 1,235,251
	Roof Structure- 7#/SF	73402 LB	$ 1.55	$ 113,773
	Atrium Stair	1140 SF	$ 89.00	$ 101,460
	Decorative Railing	723 LF	$ 300.00	$ 216,900
	Concrete Filled Stair Pans	1350 SF	$ 59.00	$ 79,650
	Free Standing Railing	260 LF	$ 125.00	$ 32,500
	Wall Mounted Handrail	260 LF	$ 65.00	$ 16,900
	TOTAL METALS			**$ 1,952,151**
06	**WOOD & PLASTICS**			
	Carpentry:			
	Wood Plates & Blocking	52430 SF	$0.31	$ 16,254
	Subtotal for Carpentry			**$ 16,254**
	Millwork	52430 SF	$15.65	**$ 820,530**
	TOTAL WOOD & PLASTICS			**$ 836,784**
07	**THERMAL & MOISTURE PROTECTION**			
	R-19 Insulation at Exterior Walls	28928 SF	$0.72	$ 20,829
	3" Rigid at Building Exterior	28928 SF	$2.95	$ 85,338
	Rigid Roof Insulation	10486 SF	$2.55	$ 26,739
	Sound Batt	141683 SF	$0.48	$ 68,008
	Wall Sheathing	26758 SF	$1.65	$ 44,151

PROJECT ESTIMATE CONSTRUCTION CONTROL CORPORATION 7/9/2012

PROJECT NAME……..…..UOFU GEORGE THOMAS BUILDING **ADDITION CUBE SCHEME**
LOCATION……..……..SALT LAKE CITY, UTAH
ARCHITECT…..……..…EDA Project Size 52,430 SF
STAGE OF DESIGN……..PROGRAMMING

CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
	Vapor Barrier	26758 SF	$1.25	$ 33,448
	Waterproofing at underground structure	4000 SF	$8.00	$ 32,000
	Roof Garden	3000 SF	$15.00	$ 45,000
	Single Ply membrane	10486 SF	$2.65	$ 27,788
	Soffit	4134 SF	$30.00	$ 124,020
	Metal Wall Cap	1278 LF	$7.65	$ 9,777
	Connection at existing Building	600 LF	$125.00	$ 75,000
	Building Fireproofing	52430 SF	$1.65	$ 86,510
	Fire Stopping/ Caulking	52430 SF	$0.18	$ 9,437
	Caulking & Sealants	52430 SF	$0.21	$ 11,011
	TOTAL THERMAL & MOISTURE PROTECTION			**$ 699,056**
08	**DOORS & WINDOWS**			
	Doors	52430 SF	$10.03	$ 525,873
	Exterior Glazing Aluminum (30% of Exterior)	8678 SF	$65.00	$ 564,096
	Interior Glazing	10000 SF	$40.00	$ 400,000
	TOTAL DOORS & WINDOWS			**$ 1,489,969**
09	**FINISHES**			
	Exterior Metal Stud Framing	28928 SF	$3.20	$ 92,570
	Interior Metal Stud Partitions	141683 SF	$2.25	$ 318,786
	Gyp Board Walls	312293 SF	$1.30	$ 405,982
	Ceiling	52430 SF	$5.65	$ 296,230
	Flooring	52430 SF	$7.65	$ 401,090
	Wall Coverings	52430 SF	$7.47	$ 391,652
	TOTAL FINISHES			**$ 1,906,308**
10	**SPECIALTIES**			
	Specialties	52430 SF	$4.65	$ 243,800
	TOTAL SPECIALTIES			**$ 243,800**
11	**EQUIPMENT**	52430 SF	$20.00	**$ 1,048,600**
12	**FURNISHINGS**			
	Walk-Off Mats	400 SF	$13.95	$ 5,580
	Blinds	8678 SF	$3.65	$ 31,676
	TOTAL EQUIPMENT			**$ 37,256**
14	**CONVEYING SYSTEMS**			
	Elevator- 5 Stop	2 EA	$210,000.00	$ 420,000
	TOTAL CONVEYING SYSTEMS			**$ 420,000**
15	**MECHANICAL**			
	HVAC:	52430 SF	$80.00	**$ 4,194,400**
	Fire Protection:	52430 SF	$2.55	**$ 133,697**
	Plumbing	52430 SF	$12.65	**$ 663,240**
	Lab Gas System	52430 SF	$2.65	**$ 138,940**
	TOTAL MECHANICAL			**$ 5,130,276**
16	**ELECTRICAL**			
	Service & Distribution:	52430 SF	$8.34	**$ 437,266**
	Power:	52430 SF	$7.65	**$ 401,090**
	Lighting:	52430 SF	$8.00	**$ 419,440**
	Telecommunication System:	52430 SF	$4.35	**$ 228,071**
	Fire/Smoke System:	52430 SF	$3.00	**$ 157,290**
	Special Systems:	52430 SF	$5.65	**$ 296,230**
	TOTAL ELECTRICAL			**$ 1,939,386**

FFE ANALYSIS

College of Science
University of Utah George Thomas Building
FF&E budgeting
5-Jul-12

						asf	Furnishings cost	Equipment Cost	comments
Administrative Offices									
Dean's Suite									
Reception/Waiting	1	@	200	=	200		$ 15,000.00		3 lounge chairs, 1 side table
Dean's Office	1	@	200	=	200		$ 10,000.00		
Private Offices	3	@	150	=	450		$ 30,000.00		Generally private offices cost out at 10k
Open cubicles	5	@	80	=	400		$ 25,000.00		Generally cubicals cost out at 5k
Conference Room (25 seats at table)	1	@	500	=	500		$ 18,000.00		
Kitchenette/Pantry	1	@	100	=	100			$ 700.00	Fridge would be the only non-built in
Copy Machine Alcove	1	@	110	=	110				
Interal circulation (at .25)					490				
			sub total for dean's suite			*2,450*			
Research Program									
Private Office	4	@	150	=	600		$ 40,000.00		
Existing & New Faculty									
Private Office	12	@	150	=	1,800		$ 120,000.00		
			Total for Administrative Offices			***4,850***	**$ 258,000.00**	**$ 700.00**	
Research PI Labs									
Wet PI Lab	6	@	2,236	=	13,416		$ 114,000.00	$ 47,493.00	Lab stools, PI office and Tech/admin/special use
Highly Instrumented PI Lab	2	@	1,797	=	3,594		$ 128,000.00	$ 12,723.00	
Chemistry PI Lab	2	@	2,567	=	5,134		$ 128,000.00	$ 27,416.00	
Computational PI Lab	2	@	1,510	=	3,020		$ 128,000.00	$ 10,691.00	
						25,163	**$ 498,000.00**	**$ 98,323.00**	
Shared Lab Support									
Temperature Control Rooms	4	@	150	=	600			$ 2,124.00	Hard cost
Dark Rooms	2	@	100	=	200			$ 708.00	Hard cost
Radio-isotope Lab	1	@	150	=	150			$ 531.00	General Lab equipment = 3.54 per sf.
Freezer Farm	10	@	44	=	440			$ 40,000.00	Allowance of 10k per freezer
Autoclave	4	@	110	=	440				
Glass Wash	1	@	600	=	600				
Media Vending	1	@	200	=	200				
						2,630	**$ 2,700.00**	**$ 43,363.00**	9 lab stools at $300
Imaging Core									
Fluoresence Microscopy	4	@	110	=	440			$ 1,558.00	
Confocal Microscopy	4	@	220	=	880			$ 3,115.00	
Laser Lab	4	@	240	=	960			$ 3,398.40	
ante room/gowning	1	@	252	=	252			$ 892.00	
FACS	1	@	220	=	220			$ 779.00	
Prep Lab	1	@	110	=	110			$ 389.00	
Other Modalities	2	@	110	=	220			$ 779.00	
Equipment room	1	@	220	=	220			$ 779.00	
Office	1	@	150	=	150		$ 10,000.00		
Conference room	1	@	180	=	180		$ 10,000.00		
						3,632	**$ 20,000.00**	**$ 11,689.40**	
Vivarium Core									
Holding Room (Rodent)	1	@	220	=	220		$ 600.00	$ 80,000.00	Caging? Allowance for 2 lab stools
Procedure Room	1	@	220	=	220		$ 600.00	$ 778.80	Surgical equipment/lighting ? Allowance for 2 lab stools
Washing Room (incl. trash)	1	@	60	=	60				
Feed/Bedding Storage	1	@	100	=	100			$ 1,000.00	Shelving built in or movable?
Conference room	1	@	150	=	150		$ 10,000.00		
						750	**$ 11,200.00**	**$ 81,778.80**	
			Total for Research Space			***32,175***	**$ 531,900.00**	**$ 235,154.20**	
Educational Spaces									
Lecture Hall (250 seats)	0	@	3,000	=	0				
Lecture Room (flexible, 125 seats)	1	@	3,000	=	3,000		$ 20,000.00		
Classroom (flexible, 25-50 seats)	4	@	1,500	=	6,000		$ 20,000.00		
SCALE UP Group Learning Center	0	@	2,500	=	0				
Teaching Lab (25 students)	8	@	1,400	=	11,200		$ 5,000.00	$ 39,648.00	
Undergrad Research Lab (15 students)	4	@	700	=	2,800		$ 3,000.00	$ 9,912.00	
Tutoring Center	1	@	1,500	=	1,500		$ 20,000.00		
Conference room (12 students)	4	@	600	=	2,400		$ 10,000.00		
Offices	8	@	200	=	1,600		$ 80,000.00		
Café	1	@	450	=	450		$ 5,000.00		
			Total for Educational Spaces			***28,950***	**$ 163,000.00**	**$ 49,560.00**	
Meeting Spaces									
Lobby/Exhibit Space	1	@	1,500	=	1,500		$ 5,000.00		
Atrium	1	@	1,000	=	1,000				
Connecting open stair	4	@	400	=	1,600				
						4,100			
Conference Room (12-24 seats)	4	@	340	=	1,360		$ 70,000.00		
Conference Room (12-18 seats)	4	@	310	=	1,240		$ 40,000.00		
Conference Room (6-8 seats)	2	@	150	=	300		$ 10,000.00		
Small Conf/video Conf (4 seats)	4	@	80	=	320		$ 20,000.00	$ 15,000.00	typical monitor/camera vc system
Break Area	4	@	250	=	1,000		$ 18,000.00		Assume 3 four tops each at 4500 total
Pantry	4	@	100	=	400			$ 700.00	
						4,620	**$ 163,000.00**	**$ 15,700.00**	
			Total for Meeting Spaces			***8,720***	**$ 163,000.00**	**$ 15,700.00**	
Building Support									
Server Room	1	@	1,000	=	1,000		$ 300.00		
IT Offices	1	@	125	=	125		$ 10,000.00		
IT cubes	2	@	80	=	160		$ 10,000.00		
IT Work Room	1	@	315	=	315		$ 2,000.00		
						1,600			
Showers for biker/joggers	2	@	400	=	800				
						800			
Dock									
Receiving Dock (large equip delivery)	1	@	200	=	600		$ 300.00		
Storage	2	@	400	=	800			$ 3,000.00	shelving
Mail Room	1	@	150	=	150				
Transfer Holding	1	@	200	=	200				
						1,750			
			Total for Building Support			***4,150***	**$ 22,600.00**	**$ 3,000.00**	
					Total FF&E		***$ 1,138,500.00***	***$ 304,114.20***	***total fume hoods and bi-safety cabinets***
					Total New building		***$ 531,900.00***	***$ 235,154.20***	
					Total Old building		***$ 606,600.00***	***$ 68,960.00***	

CBE OPTION FORMS

Capital Development Projects

Capital Budget Estimate (CBE)

Project Name: Option 1 -Science Center at GTB
Agency/Institution: University of Utah
Project Manager: Jennifer Still

Cost Summary		$ Amount	Cost Per SF	Notes
Facility Cost	$	24,520,988	$198.55	
Utility Fee Cost	$	56,651	$0.46	
Additional Construction Cost	$	-	$0.00	
Site Cost	$	-	$0.00	
High Performance Building	$	-	$0.00	
Total Construction Cost	**$**	**24,577,639**	**$199.01**	
Soft Costs:				
Hazardous Materials	$	183,750		
Pre-Design/Planning	$	255,210		
Design	$	1,720,435		
Property Acquisition	$	-		
Furnishings & Equipment	$	-		
Information Technology:	$	-		
Utah Art (1% of Construction Budget)	$	-		
Testing & Inspection	$	243,319		
Contingency	$	1,297,383		
Moving/Occupancy	$	-		
Builder's Risk Insurance (0.15% of Construction Budget)	$	36,866		
Legal Services (0.1% of Construction Budget)	$	24,578		
DFCM Management	$	64,578		
User Fees	$	225,000		
Commissioning	$	-		
Other Costs	$	25,000		
Total Soft Costs	**$**	**4,076,118**	**$33.01**	
TOTAL PROJECT COST	**$**	**28,653,757**	**$232.01**	
Previous Funding	**$**	**-**		
Other Funding Sources	$	-		
REQUEST FOR STATE FUNDING	**$**	**28,653,757**		

Project Information

Gross Square Feet	123,500	Base Cost Date	3-Jul-12
Net Square Feet	-	Estimated Bid Date	1-Mar-15
Net/Gross Ratio	0%	Est. Completion Date	0-Jan-00
		Last Modified Date	0-Jan-00
Capital Development CBE Form 5-5-11		Print Date	7/9/2012

Capital Development Projects
CBE Details

Project Name:	**Option 1 -Science Center at GTB**				
Agency/Institution:	**University of Utah**				
Project Manager:	**Jennifer Still**				
Description	**Explanation**	**Units**	**Unit Cost**	**Cost**	**Escalated Cost**
Facility Cost		**GSF**			
New Facility Cost Details:					
Shell the addition		52,500	$ 211.04	$ 11,079,600	$ 12,553,339
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - New Facility Costs		**52,500**		**$ 11,079,600**	**$ 12,553,339**
Remodel Facility Cost Details:					
Shell the existing		71,000	$ 148.77	$ 10,562,670	$ 11,967,650
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - Remodel Facility Costs		**71,000**		**$ 10,562,670**	**$ 11,967,650**
TOTAL FACILITY COST		**123,500**		**$ 21,642,270**	**$ 24,520,988**
Utility Cost Details:					
Water Utility Fee				$ -	$ -
Sewer Utility Fee				$ -	$ -
Electricity Utility Fee				$ -	$ -
Storm Sewer Utility Fee				$ -	$ -
Connection Fees				$ -	$ -
	Allowance for all of the above	1	$ 50,000	$ 50,000	$ 56,651
				$ -	$ -
TOTAL UTILITY FEE COST				**$ 50,000**	**$ 56,651**
Additional Construction Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL ADDITIONAL CONSTRUCTION COST				**$ -**	**$ -**
Site Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL SITE COST				**$ -**	**$ -**
HIGH PERFORMANCE BUILDING	If N/A, change YES to NO. To supercede 1-1/2% calculation enter amount in unit cost	**no**		**$ -**	**$ -**
TOTAL CONSTRUCTION COST				**$ 21,692,270**	**$ 24,577,639**
OTHER PROJECT INFORMATION:					
Total Net Square Feet:			**To add rows, copy a row and insert it**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Base Cost Date:	**7/3/2012**		**in the same section above the last detail**		
Estimated Bid Date:	**3/1/2015**		**row in that section.**		
Estimated Completion Date:					
Last Modified Date:					
Inflation Escalation Factor Included:	**5.00%**				
Location Factor Included:	**0.00%**				
Hazardous Materials Cost Details:					
Pre-Construction Survey		1	$ 5,000	$ 5,000	$ 5,250
				$ -	$ -
Plan and Monitoring		1	$ 20,000	$ 20,000	$ 21,000
				$ -	$ -
Abatement/Removal		1	$ 150,000	$ 150,000	$ 157,500
				$ -	$ -
TOTAL HAZARDOUS MATERIALS COST				**$ 175,000**	**$ 183,750**
Pre-Design/Planning:					
Planning Fund Reimbursement	DFCM use only			$ -	
				$ -	
Programming		24,520,988	1%	$ 245,210	
				$ -	
Environmental Assessment				$ -	
				$ -	
Geotechnical Investigation/Surveys		1	$ 10,000	$ 10,000	
				$ -	
TOTAL PRE-DESIGN/PLANNING COST				**$ 255,210**	
Design Costs:					
A/E Design Fees					
		$ 24,577,639	7.00%	$ 1,720,435	
				$ -	
				$ -	
				$ -	
				$ -	
Total A/E Design Fees				$ 1,720,435	
Additional Printing Costs				$ -	
High Performance Design	If N/A, change YES to NO. To supercede 1/4% calculation enter amount in unit cost	**no**		**$ -**	
Value Management Costs				$ -	
				$ -	
TOTAL DESIGN COST				**$ 1,720,435**	
Property Acquisition:					
				$ -	
				$ -	
				$ -	
				$ -	
TOTAL PROPERTY ACQUISITION COST				**$ -**	
Furnishings & Equipment Costs:					
Furnishings Detail:					
	Nothing is furnished		$ -	$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Furnishings				$ -	
Equipment Detail:					
	No moveable equipment is purchased			$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Equipment				$ -	
FF&E Design Costs			0.00%	$ -	
				$ -	
TOTAL FURNISHINGS & EQUIPMENT COSTS				**$ -**	

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Information Technology Costs:					
	No teledata wiring will be done			$	-
				$	-
				$	-
				$	-
				$	-
TOTAL INFORMATION TECHNOLOGY COST				**$**	**-**
UTAH ART	If N/A, change YES to NO. To supercede 1% calculation enter amount in unit cost	**no**		**$**	**-**
Testing & Inspection Costs:					
Building Code Inspection		24,577,639	0%	$	81,106
				$	-
Material Testing		24,577,639	0.3%	$	81,106
				$	-
Special Inspections		24,577,639	0.3%	$	81,106
				$	-
TOTAL TESTING & iNSPECTION COSTS				**$**	**243,319**
Moving/Occupance Costs:					
	No one moves in			$	-
				$	-
				$	-
				$	-
				$	-
TOTAL MOVING/OCCUPANCY COSTS				**$**	**-**
DFCM Management:					
		1	$ 64,578	$	64,578
				$	-
TOTAL DFCM MANAGEMENT				**$**	**64,578**
User Fees:	Fee for "nonstate funding" as defined				
PM Fee Based on UofU Policy	in the UofU policy			$	-
		1	$ 225,000	$	225,000
				$	-
				$	-
TOTAL USER FEES				**$**	**225,000**
Commissioning:					
				$	-
				$	-
				$	-
				$	-
TOTAL COMMISSIONING COSTS				**$**	**-**
Other Costs:					
Energy Study	$10K if withing RMP area, $25K otherwise			$	-
Integrated Modeling	Energy modeling for LEED and full building analysis			$	-
Security System	no new security wiring included			$	-
Keying	None			$	-
Signage/branding	No signage as part of the shelling			$	-
Shutdowns & Campus Orders		1	$ 25,000	$	25,000
				$	-
TOTAL OTHER COSTS				**$**	**25,000**
Previous Funding:					
(Only show state appropriated funding & include costs covered by that funding in appropriate category.)					
				$	-
				$	-
TOTAL PREVIOUS FUNDING				**$**	**-**
Other Funding Sources:					
(List and describe each source)					
				$	-
				$	-
				$	-
				$	-
TOTAL OTHER FUNDING SOURCES				**$**	**-**

DFCM Form Date 8/09/05

Capital Development Projects

Capital Budget Estimate (CBE)

Project Name: Option 2 -Science Center at GTB
Agency/Institution: University of Utah
Project Manager: Jennifer Still

Cost Summary		$ Amount	Cost Per SF	Notes
Facility Cost	$	30,781,886	$433.55	
Utility Fee Cost	$	56,651	$0.80	
Additional Construction Cost	$	-	$0.00	
Site Cost	$	-	$0.00	
High Performance Building	$	-	$0.00	
Total Construction Cost	**$**	**30,838,537**	**$434.35**	
Soft Costs:				
Hazardous Materials	$	183,750		
Pre-Design/Planning	$	317,819		
Design	$	2,158,698		
Property Acquisition	$	-		
Furnishings & Equipment	$	829,753		
Information Technology:	$	142,000		
Utah Art (1% of Construction Budget)	$	-		
Testing & Inspection	$	305,302		
Contingency	$	1,861,337		
Moving/Occupancy	$	100,000		
Builder's Risk Insurance (0.15% of Construction Budget)	$	46,258		
Legal Services (0.1% of Construction Budget)	$	30,839		
DFCM Management	$	64,578		
User Fees	$	225,000		
Commissioning	$	150,000		
Other Costs	$	65,000		
Total Soft Costs	**$**	**6,480,332**	**$91.27**	
TOTAL PROJECT COST	**$**	**37,318,869**	**$525.62**	
Previous Funding	**$**	**-**		
Other Funding Sources	$	-		
REQUEST FOR STATE FUNDING	**$**	**37,318,869**		

Project Information

Gross Square Feet	71,000	Base Cost Date	3-Jul-12
Net Square Feet	-	Estimated Bid Date	1-Mar-15
Net/Gross Ratio	0%	Est. Completion Date	0-Jan-00
		Last Modified Date	0-Jan-00
Capital Development CBE Form 5-5-11		Print Date	7/9/2012

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Project Name:	**Option 2 -Science Center at GTB**				
Agency/Institution:	**University of Utah**				
Project Manager:	**Jennifer Still**				
Description	**Explanation**	**Units**	**Unit Cost**	**Cost**	**Escalated Cost**
Facility Cost		**GSF**			
New Facility Cost Details:					
Addition not built				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - New Facility Costs		**-**		**$ -**	**$ -**
Remodel Facility Cost Details:					
Existing builidng completely built out.		71,000	$ 382.65	$ 27,168,150	$ 30,781,886
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - Remodel Facility Costs		**71,000**		**$ 27,168,150**	**$ 30,781,886**
TOTAL FACILITY COST		**71,000**		**$ 27,168,150**	**$ 30,781,886**
Utility Cost Details:					
Water Utility Fee				$ -	$ -
Sewer Utility Fee				$ -	$ -
Electricity Utility Fee				$ -	$ -
Storm Sewer Utility Fee				$ -	$ -
Connection Fees				$ -	$ -
	Allowance for all of the above	1	$ 50,000	$ 50,000	$ 56,651
				$ -	$ -
TOTAL UTILITY FEE COST				**$ 50,000**	**$ 56,651**
Additional Construction Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL ADDITIONAL CONSTRUCTION COST				**$ -**	**$ -**
Site Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL SITE COST				**$ -**	**$ -**
HIGH PERFORMANCE BUILDING	If N/A, change YES to NO. To supercede 1-1/2% calculation enter amount in unit cost	**no**		**$ -**	**$ -**
TOTAL CONSTRUCTION COST				**$ 27,218,150**	**$ 30,838,537**
OTHER PROJECT INFORMATION:					
Total Net Square Feet:			**To add rows, copy a row and insert it**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Base Cost Date:	**7/3/2012**		**in the same section above the last detail**			
Estimated Bid Date:	**3/1/2015**		**row in that section.**			
Estimated Completion Date:						
Last Modified Date:						
Inflation Escalation Factor Included:	**5.00%**					
Location Factor Included:	**0.00%**					
Hazardous Materials Cost Details:						
Pre-Construction Survey		1	$ 5,000	$ 5,000	$ 5,250	
				$ -	$ -	
Plan and Monitoring		1	$ 20,000	$ 20,000	$ 21,000	
				$ -	$ -	
Abatement/Removal		1	$ 150,000	$ 150,000	$ 157,500	
				$ -	$ -	
TOTAL HAZARDOUS MATERIALS COST				**$ 175,000**	**$ 183,750**	
Pre-Design/Planning:						
Planning Fund Reimbursement	DFCM use only			$ -		
				$ -		
Programming		30,781,886	1%	$ 307,819		
				$ -		
Environmental Assessment				$ -		
				$ -		
Geotechnical Investigation/Surveys		1	$ 10,000	$ 10,000		
				$ -		
TOTAL PRE-DESIGN/PLANNING COST				**$ 317,819**		
Design Costs:						
A/E Design Fees						
		$ 30,838,537	7.00%	$ 2,158,698		
				$ -		
				$ -		
				$ -		
				$ -		
Total A/E Design Fees				$ 2,158,698		
Additional Printing Costs				$ -		
High Performance Design	If N/A, change YES to NO. To supercede 1/4% calculation enter amount in unit cost	**no**		**$ -**		
Value Management Costs				$ -		
				$ -		
TOTAL DESIGN COST				**$ 2,158,698**		
Property Acquisition:						
				$ -		
				$ -		
				$ -		
				$ -		
TOTAL PROPERTY ACQUISITION COST				**$ -**		
Furnishings & Equipment Costs:						
Furnishings Detail:						
	Allowance	1	$ 606,600	$ 606,600		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
Total Furnishings				$ 606,600		
Equipment Detail:						
	Allowance	1	$ 68,960	$ 68,960		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
Total Equipment				$ 68,960		
FF&E Design Costs		30,838,537	0.50%	$ 154,193		
				$ -		
TOTAL FURNISHINGS & EQUIPMENT COSTS				**$ 829,753**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Information Technology Costs:					
	Basic wiring in hard cost per new DFCM req.			$	-
	Cell booster costs	71,000	$ 2	$	142,000
				$	-
				$	-
				$	-
TOTAL INFORMATION TECHNOLOGY COST				**$**	**142,000**
UTAH ART	If N/A, change YES to NO. To supercede 1% calculation enter amount in unit cost	**no**		**$**	**-**
Testing & Inspection Costs:					
Building Code Inspection		30,838,537	0%	$	101,767
				$	-
Material Testing		30,838,537	0.3%	$	101,767
				$	-
Special Inspections		30,838,537	0.3%	$	101,767
				$	-
TOTAL TESTING & iNSPECTION COSTS				**$**	**305,302**
Moving/Occupance Costs:					
	Allowance	1	$ 100,000	$	100,000
				$	-
				$	-
				$	-
				$	-
TOTAL MOVING/OCCUPANCY COSTS				**$**	**100,000**
DFCM Management:					
		1	$ 64,578	$	64,578
				$	-
TOTAL DFCM MANAGEMENT				**$**	**64,578**
User Fees:	Fee for "nonstate funding" as defined				
PM Fee Based on UofU Policy	in the UofU policy			$	-
		1	$ 225,000	$	225,000
				$	-
				$	-
TOTAL USER FEES				**$**	**225,000**
Commissioning:					
	Allowance	1	$ 150,000	$	150,000
				$	-
				$	-
				$	-
TOTAL COMMISSIONING COSTS				**$**	**150,000**
Other Costs:					
Energy Study	$10K if withing RMP area, $25K otherwise	1	$ 10,000	$	10,000
Integrated Modeling	Energy modeling for LEED and full building analysis	1	$ 5,000	$	5,000
Security System	Included in hard cost			$	-
Keying	None			$	-
Signage/branding	Included in Hard cost			$	-
Shutdowns & Campus Orders		1	$ 50,000	$	50,000
				$	-
TOTAL OTHER COSTS				**$**	**65,000**
Previous Funding:					
(Only show state appropriated funding & include costs covered by that funding in appropriate category.)					
				$	-
				$	-
TOTAL PREVIOUS FUNDING				**$**	**-**
Other Funding Sources:					
(List and describe each source)					
				$	-
				$	-
				$	-
				$	-
TOTAL OTHER FUNDING SOURCES				**$**	**-**

DFCM Form Date 8/09/05

Capital Development Projects

Capital Budget Estimate (CBE)

Project Name: Option 3 -Science Center at GTB
Agency/Institution: University of Utah
Project Manager: Jennifer Still

Cost Summary		$ Amount	Cost Per SF	Notes
Facility Cost	$	38,254,474	$309.75	
Utility Fee Cost	$	56,651	$0.46	
Additional Construction Cost	$	-	$0.00	
Site Cost	$	-	$0.00	
High Performance Building	$	-	$0.00	
Total Construction Cost	**$**	**38,311,125**	**$310.21**	
Soft Costs:				
Hazardous Materials	$	183,750		
Pre-Design/Planning	$	392,545		
Design	$	2,681,779		
Property Acquisition	$	-		
Furnishings & Equipment	$	958,610		
Information Technology:	$	105,000		
Utah Art (1% of Construction Budget)	$	-		
Testing & Inspection	$	379,280		
Contingency	$	1,915,390		
Moving/Occupancy	$	100,000		
Builder's Risk Insurance (0.15% of Construction Budget)	$	57,467		
Legal Services (0.1% of Construction Budget)	$	38,311		
DFCM Management	$	64,578		
User Fees	$	225,000		
Commissioning	$	150,000		
Other Costs	$	65,000		
Total Soft Costs	**$**	**7,316,709**	**$59.24**	
TOTAL PROJECT COST	**$**	**45,627,834**	**$369.46**	
Previous Funding	**$**	**-**		
Other Funding Sources	$	-		
REQUEST FOR STATE FUNDING	**$**	**45,627,834**		

Project Information

Gross Square Feet	123,500	Base Cost Date	3-Jul-12
Net Square Feet	-	Estimated Bid Date	1-Mar-15
Net/Gross Ratio	0%	Est. Completion Date	0-Jan-00
		Last Modified Date	0-Jan-00
Capital Development CBE Form 5-5-11		Print Date	7/9/2012

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Project Name:	**Option 3 -Science Center at GTB**				
Agency/Institution:	**University of Utah**				
Project Manager:	**Jennifer Still**				
Description	**Explanation**	**Units**	**Unit Cost**	**Cost**	**Escalated Cost**
Facility Cost		**GSF**			
New Facility Cost Details:					
Complete build out of new addition		52,500	$ 441.92	$ 23,200,800	$ 26,286,824
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - New Facility Costs		**52,500**		**$ 23,200,800**	**$ 26,286,824**
Remodel Facility Cost Details:					
Existing building is shelled.		71,000	$ 148.77	$ 10,562,670	$ 11,967,650
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - Remodel Facility Costs		**71,000**		**$ 10,562,670**	**$ 11,967,650**
TOTAL FACILITY COST		**123,500**		**$ 33,763,470**	**$ 38,254,474**
Utility Cost Details:					
Water Utility Fee				$ -	$ -
Sewer Utility Fee				$ -	$ -
Electricity Utility Fee				$ -	$ -
Storm Sewer Utility Fee				$ -	$ -
Connection Fees				$ -	$ -
	Allowance for all of the above	1	$ 50,000	$ 50,000	$ 56,651
				$ -	$ -
TOTAL UTILITY FEE COST				**$ 50,000**	**$ 56,651**
Additional Construction Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL ADDITIONAL CONSTRUCTION COST				**$ -**	**$ -**
Site Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL SITE COST				**$ -**	**$ -**
HIGH PERFORMANCE BUILDING	If N/A, change YES to NO. To supercede 1-1/2% calculation enter amount in unit cost	**no**		**$ -**	**$ -**
TOTAL CONSTRUCTION COST				**$ 33,813,470**	**$ 38,311,125**
OTHER PROJECT INFORMATION:					
Total Net Square Feet:			**To add rows, copy a row and insert it**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Base Cost Date:	**7/3/2012**		**in the same section above the last detail**		
Estimated Bid Date:	**3/1/2015**		**row in that section.**		
Estimated Completion Date:					
Last Modified Date:					
Inflation Escalation Factor Included:	**5.00%**				
Location Factor Included:	**0.00%**				
Hazardous Materials Cost Details:					
Pre-Construction Survey		1	$ 5,000	$ 5,000	$ 5,250
				$ -	$ -
Plan and Monitoring		1	$ 20,000	$ 20,000	$ 21,000
				$ -	$ -
Abatement/Removal		1	$ 150,000	$ 150,000	$ 157,500
				$ -	$ -
TOTAL HAZARDOUS MATERIALS COST				**$ 175,000**	**$ 183,750**
Pre-Design/Planning:					
Planning Fund Reimbursement	DFCM use only			$ -	
				$ -	
Programming		38,254,474	1%	$ 382,545	
				$ -	
Environmental Assessment				$ -	
				$ -	
Geotechnical Investigation/Surveys		1	$ 10,000	$ 10,000	
				$ -	
TOTAL PRE-DESIGN/PLANNING COST				**$ 392,545**	
Design Costs:					
A/E Design Fees					
		$ 38,311,125	7.00%	$ 2,681,779	
				$ -	
				$ -	
				$ -	
				$ -	
Total A/E Design Fees				$ 2,681,779	
Additional Printing Costs				$ -	
High Performance Design	If N/A, change YES to NO. To supercede 1/4% calculation enter amount in unit cost	**no**		**$ -**	
Value Management Costs				$ -	
				$ -	
TOTAL DESIGN COST				**$ 2,681,779**	
Property Acquisition:					
				$ -	
				$ -	
				$ -	
				$ -	
TOTAL PROPERTY ACQUISITION COST				**$ -**	
Furnishings & Equipment Costs:					
Furnishings Detail:					
	Allowance	1	$ 531,900	$ 531,900	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Furnishings				$ 531,900	
Equipment Detail:					
	Allowance	1	$ 235,154	$ 235,154	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Equipment				$ 235,154	
FF&E Design Costs		38,311,125	0.50%	$ 191,556	
				$ -	
TOTAL FURNISHINGS & EQUIPMENT COSTS				**$ 958,610**	

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Information Technology Costs:					
	Basic wiring in hard cost per new DFCM req.			$	-
	Cell booster costs	52,500	$ 2	$	105,000
				$	-
				$	-
				$	-
TOTAL INFORMATION TECHNOLOGY COST				**$**	**105,000**
UTAH ART	If N/A, change YES to NO. To supercede 1% calculation enter amount in unit cost	**no**		**$**	**-**
Testing & Inspection Costs:					
Building Code Inspection		38,311,125	0%	$	126,427
				$	-
Material Testing		38,311,125	0.3%	$	126,427
				$	-
Special Inspections		38,311,125	0.3%	$	126,427
				$	-
TOTAL TESTING & iNSPECTION COSTS				**$**	**379,280**
Moving/Occupance Costs:					
	Allowance	1	$ 100,000	$	100,000
				$	-
				$	-
				$	-
				$	-
TOTAL MOVING/OCCUPANCY COSTS				**$**	**100,000**
DFCM Management:					
		1	$ 64,578	$	64,578
				$	-
TOTAL DFCM MANAGEMENT				**$**	**64,578**
User Fees:	Fee for "nonstate funding" as defined				
PM Fee Based on UofU Policy	in the UofU policy			$	-
		1	$ 225,000	$	225,000
				$	-
				$	-
TOTAL USER FEES				**$**	**225,000**
Commissioning:					
	Allowance	1	$ 150,000	$	150,000
				$	-
				$	-
				$	-
TOTAL COMMISSIONING COSTS				**$**	**150,000**
Other Costs:					
Energy Study	$10K if withing RMP area, $25K otherwise	1	$ 10,000	$	10,000
Integrated Modeling	Energy modeling for LEED and full building analysis	1	$ 5,000	$	5,000
Security System	Included in hard cost			$	-
Keying	None			$	-
Signage/branding	Included in Hard cost			$	-
Shutdowns & Campus Orders		1	$ 50,000	$	50,000
				$	-
TOTAL OTHER COSTS				**$**	**65,000**
Previous Funding:					
(Only show state appropriated funding & include costs covered by that funding in appropriate category.)					
				$	-
				$	-
TOTAL PREVIOUS FUNDING				**$**	**-**
Other Funding Sources:					
(List and describe each source)					
				$	-
				$	-
				$	-
				$	-
TOTAL OTHER FUNDING SOURCES				**$**	**-**

DFCM Form Date 8/09/05

Capital Development Projects

Capital Budget Estimate (CBE)

Project Name:	Option 4 -Science Center at GTB
Agency/Institution:	University of Utah
Project Manager:	Jennifer Still

Cost Summary		**$ Amount**	**Cost Per SF**	**Notes**
Facility Cost	$	57,068,710	$462.09	
Utility Fee Cost	$	56,651	$0.46	
Additional Construction Cost	$	-	$0.00	
Site Cost	$	-	$0.00	
High Performance Building	$	-	$0.00	
Total Construction Cost	**$**	**57,125,361**	**$462.55**	
Soft Costs:				
Hazardous Materials	$	183,750		
Pre-Design/Planning	$	580,687		
Design	$	3,998,775		
Property Acquisition	$	-		
Furnishings & Equipment	$	1,728,241		
Information Technology:	$	247,000		
Utah Art (1% of Construction Budget)	$	-		
Testing & Inspection	$	565,541		
Contingency	$	3,044,244		
Moving/Occupancy	$	200,000		
Builder's Risk Insurance (0.15% of Construction Budget)	$	85,688		
Legal Services (0.1% of Construction Budget)	$	57,125		
DFCM Management	$	64,578		
User Fees	$	225,000		
Commissioning	$	300,000		
Other Costs	$	65,000		
Total Soft Costs	**$**	**11,345,630**	**$91.87**	
TOTAL PROJECT COST	**$**	**68,470,991**	**$554.42**	
Previous Funding	**$**	**-**		
Other Funding Sources	$	-		
REQUEST FOR STATE FUNDING	**$**	**68,470,991**		

Project Information

Gross Square Feet	123,500	Base Cost Date	3-Jul-12
Net Square Feet	-	Estimated Bid Date	1-Mar-15
Net/Gross Ratio	0%	Est. Completion Date	0-Jan-00
		Last Modified Date	0-Jan-00
Capital Development CBE Form 5-5-11		Print Date	7/9/2012

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Project Name:	**Option 4 -Science Center at GTB**				
Agency/Institution:	**University of Utah**				
Project Manager:	**Jennifer Still**				
Description	**Explanation**	**Units**	**Unit Cost**	**Cost**	**Escalated Cost**
Facility Cost		**GSF**			
New Facility Cost Details:					
Build out new addition		52,500	$ 441.92	$ 23,200,800	$ 26,286,824
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - New Facility Costs		**52,500**		**$ 23,200,800**	**$ 26,286,824**
Remodel Facility Cost Details:					
Full Build out of existing building		71,000	$ 382.65	$ 27,168,150	$ 30,781,886
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - Remodel Facility Costs		**71,000**		**$ 27,168,150**	**$ 30,781,886**
TOTAL FACILITY COST		**123,500**		**$ 50,368,950**	**$ 57,068,710**
Utility Cost Details:					
Water Utility Fee				$ -	$ -
Sewer Utility Fee				$ -	$ -
Electricity Utility Fee				$ -	$ -
Storm Sewer Utility Fee				$ -	$ -
Connection Fees				$ -	$ -
	Allowance for all of the above	1	$ 50,000	$ 50,000	$ 56,651
				$ -	$ -
TOTAL UTILITY FEE COST				**$ 50,000**	**$ 56,651**
Additional Construction Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL ADDITIONAL CONSTRUCTION COST				**$ -**	**$ -**
Site Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL SITE COST				**$ -**	**$ -**
HIGH PERFORMANCE BUILDING	If N/A, change YES to NO. To supercede 1-1/2% calculation enter amount in unit cost	**no**		**$ -**	**$ -**
TOTAL CONSTRUCTION COST				**$ 50,418,950**	**$ 57,125,361**
OTHER PROJECT INFORMATION:					
Total Net Square Feet:			**To add rows, copy a row and insert it**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Base Cost Date:	**7/3/2012**		**in the same section above the last detail**		
Estimated Bid Date:	**3/1/2015**		**row in that section.**		
Estimated Completion Date:					
Last Modified Date:					
Inflation Escalation Factor Included:	**5.00%**				
Location Factor Included:	**0.00%**				
Hazardous Materials Cost Details:					
Pre-Construction Survey		1	$ 5,000	$ 5,000	$ 5,250
				$ -	$ -
Plan and Monitoring		1	$ 20,000	$ 20,000	$ 21,000
				$ -	$ -
Abatement/Removal		1	$ 150,000	$ 150,000	$ 157,500
				$ -	$ -
TOTAL HAZARDOUS MATERIALS COST				**$ 175,000**	**$ 183,750**
Pre-Design/Planning:					
Planning Fund Reimbursement	DFCM use only			$ -	
				$ -	
Programming		57,068,710	1%	$ 570,687	
				$ -	
Environmental Assessment				$ -	
				$ -	
Geotechnical Investigation/Surveys		1	$ 10,000	$ 10,000	
				$ -	
TOTAL PRE-DESIGN/PLANNING COST				**$ 580,687**	
Design Costs:					
A/E Design Fees					
		$ 57,125,361	7.00%	$ 3,998,775	
				$ -	
				$ -	
				$ -	
				$ -	
Total A/E Design Fees				$ 3,998,775	
Additional Printing Costs				$ -	
High Performance Design	If N/A, change YES to NO. To supercede 1/4% calculation enter amount in unit cost	**no**		**$ -**	
Value Management Costs				$ -	
				$ -	
TOTAL DESIGN COST				**$ 3,998,775**	
Property Acquisition:					
				$ -	
				$ -	
				$ -	
				$ -	
TOTAL PROPERTY ACQUISITION COST				**$ -**	
Furnishings & Equipment Costs:					
Furnishings Detail:					
	Allowance	1	$ 1,138,500	$ 1,138,500	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Furnishings				$ 1,138,500	
Equipment Detail:					
	Allowance	1	$ 304,114.20	$ 304,114	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Equipment				$ 304,114	
FF&E Design Costs		57,125,361	0.50%	$ 285,627	
				$ -	
TOTAL FURNISHINGS & EQUIPMENT COSTS				**$ 1,728,241**	

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Information Technology Costs:					
	Basic wiring in hard cost per new DFCM req.			$	-
	Cell booster costs	123,500	$ 2	$	247,000
				$	-
				$	-
				$	-
TOTAL INFORMATION TECHNOLOGY COST				**$**	**247,000**
UTAH ART	If N/A, change YES to NO. To supercede 1% calculation enter amount in unit cost	**no**		**$**	**-**
Testing & Inspection Costs:					
Building Code Inspection		57,125,361	0%	$	188,514
				$	-
Material Testing		57,125,361	0.3%	$	188,514
				$	-
Special Inspections		57,125,361	0.3%	$	188,514
				$	-
TOTAL TESTING & iNSPECTION COSTS				**$**	**565,541**
Moving/Occupance Costs:					
	Allowance	1	$ 200,000	$	200,000
				$	-
				$	-
				$	-
				$	-
TOTAL MOVING/OCCUPANCY COSTS				**$**	**200,000**
DFCM Management:					
		1	$ 64,578	$	64,578
				$	-
TOTAL DFCM MANAGEMENT				**$**	**64,578**
User Fees:	Fee for "nonstate funding" as defined				
PM Fee Based on UofU Policy	in the UofU policy			$	-
		1	$ 225,000	$	225,000
				$	-
				$	-
TOTAL USER FEES				**$**	**225,000**
Commissioning:					
	Allowance	1	$ 300,000	$	300,000
				$	-
				$	-
				$	-
TOTAL COMMISSIONING COSTS				**$**	**300,000**
Other Costs:					
Energy Study	$10K if withing RMP area, $25K otherwise	1	$ 10,000	$	10,000
Integrated Modeling	Energy modeling for LEED and full building analysis	1	$ 5,000	$	5,000
Security System	Included in hard cost			$	-
Keying	None			$	-
Signage/branding	Included in Hard cost			$	-
Shutdowns & Campus Orders		1	$ 50,000	$	50,000
				$	-
TOTAL OTHER COSTS				**$**	**65,000**
Previous Funding:					
(Only show state appropriated funding & include costs covered by that funding in appropriate category.)					
				$	-
				$	-
TOTAL PREVIOUS FUNDING				**$**	**-**
Other Funding Sources:					
(List and describe each source)					
				$	-
				$	-
				$	-
				$	-
TOTAL OTHER FUNDING SOURCES				**$**	**-**

DFCM Form Date 8/09/05

Capital Development Projects

Capital Budget Estimate (CBE)

Project Name: Option 5 -Science Center at GTB
Agency/Institution: University of Utah
Project Manager: Jennifer Still

Cost Summary		$ Amount	Cost Per SF	Notes
Facility Cost	$	41,643,318	$337.19	
Utility Fee Cost	$	56,651	$0.46	
Additional Construction Cost	$	-	$0.00	
Site Cost	$	-	$0.00	
High Performance Building	$	-	$0.00	
Total Construction Cost	**$**	**41,699,969**	**$337.65**	
Soft Costs:				
Hazardous Materials	$	183,750		
Pre-Design/Planning	$	426,433		
Design	$	2,918,998		
Property Acquisition	$	-		
Furnishings & Equipment	$	1,006,512		
Information Technology:	$	247,000		
Utah Art (1% of Construction Budget)	$	-		
Testing & Inspection	$	412,830		
Contingency	$	2,207,007		
Moving/Occupancy	$	150,000		
Builder's Risk Insurance (0.15% of Construction Budget)	$	62,550		
Legal Services (0.1% of Construction Budget)	$	41,700		
DFCM Management	$	64,578		
User Fees	$	225,000		
Commissioning	$	300,000		
Other Costs	$	65,000		
Total Soft Costs	**$**	**8,311,358**	**$67.30**	
TOTAL PROJECT COST	**$**	**50,011,327**	**$404.94**	
Previous Funding	**$**	**-**		
Other Funding Sources	$	-		
REQUEST FOR STATE FUNDING	**$**	**50,011,327**		

Project Information

Gross Square Feet	123,502	Base Cost Date	3-Jul-12
Net Square Feet	-	Estimated Bid Date	1-Mar-15
Net/Gross Ratio	0%	Est. Completion Date	0-Jan-00
		Last Modified Date	0-Jan-00
Capital Development CBE Form 5-5-11		Print Date	7/9/2012

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Project Name:	**Option 5 -Science Center at GTB**				
Agency/Institution:	**University of Utah**				
Project Manager:	**Jennifer Still**				
Description	**Explanation**	**Units**	**Unit Cost**	**Cost**	**Escalated Cost**
Facility Cost		**GSF**			
New Facility Cost Details:					
Build out new addition	Exterior	52,500	$ 211.04	$ 11,079,600	$ 12,553,339
	Interior - only 30,000 s.f.	1	$6,926,400.00	$ 6,926,400	$ 7,847,706
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - New Facility Costs		**52,501**		**$ 18,006,000**	**$ 20,401,045**
Remodel Facility Cost Details:					
	Exterior basic work	71,000	$ 148.77	$ 10,562,670	$ 11,967,650
	Interior - only 35,000 s.f.	1	$8,185,800.00	$ 8,185,800	$ 9,274,624
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
Subtotal - Remodel Facility Costs		**71,001**		**$ 18,748,470**	**$ 21,242,273**
TOTAL FACILITY COST		**123,502**		**$ 36,754,470**	**$ 41,643,318**
Utility Cost Details:					
Water Utility Fee				$ -	$ -
Sewer Utility Fee				$ -	$ -
Electricity Utility Fee				$ -	$ -
Storm Sewer Utility Fee				$ -	$ -
Connection Fees				$ -	$ -
	Allowance for all of the above	1	$ 50,000	$ 50,000	$ 56,651
				$ -	$ -
TOTAL UTILITY FEE COST				**$ 50,000**	**$ 56,651**
Additional Construction Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL ADDITIONAL CONSTRUCTION COST				**$ -**	**$ -**
Site Cost Details:					
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
				$ -	$ -
TOTAL SITE COST				**$ -**	**$ -**
HIGH PERFORMANCE BUILDING	If N/A, change YES to NO. To supercede 1-1/2% calculation enter amount in unit cost	**no**		**$ -**	**$ -**
TOTAL CONSTRUCTION COST				**$ 36,804,470**	**$ 41,699,969**
OTHER PROJECT INFORMATION:					
Total Net Square Feet:			**To add rows, copy a row and insert it**		

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Base Cost Date:	**7/3/2012**		in the same section above the last detail		
Estimated Bid Date:	**3/1/2015**		row in that section.		
Estimated Completion Date:					
Last Modified Date:					
Inflation Escalation Factor Included:	**5.00%**				
Location Factor Included:	**0.00%**				
Hazardous Materials Cost Details:					
Pre-Construction Survey		1	$ 5,000	$ 5,000	$ 5,250
				$ -	$ -
Plan and Monitoring		1	$ 20,000	$ 20,000	$ 21,000
				$ -	$ -
Abatement/Removal		1	$ 150,000	$ 150,000	$ 157,500
				$ -	$ -
TOTAL HAZARDOUS MATERIALS COST				**$ 175,000**	**$ 183,750**
Pre-Design/Planning:					
Planning Fund Reimbursement	DFCM use only			$ -	
				$ -	
Programming		41,643,318	1%	$ 416,433	
				$ -	
Environmental Assessment				$ -	
				$ -	
Geotechnical Investigation/Surveys		1	$ 10,000	$ 10,000	
				$ -	
TOTAL PRE-DESIGN/PLANNING COST				**$ 426,433**	
Design Costs:					
A/E Design Fees					
		$ 41,699,969	7.00%	$ 2,918,998	
				$ -	
				$ -	
				$ -	
				$ -	
Total A/E Design Fees				$ 2,918,998	
Additional Printing Costs				$ -	
High Performance Design	If N/A, change YES to NO. To supercede 1/4% calculation enter amount in unit cost	**no**		**$ -**	
Value Management Costs				$ -	
				$ -	
TOTAL DESIGN COST				**$ 2,918,998**	
Property Acquisition:					
				$ -	
				$ -	
				$ -	
				$ -	
TOTAL PROPERTY ACQUISITION COST				**$ -**	
Furnishings & Equipment Costs:					
Furnishings Detail:					
	50% of Existing building	606,600	50%	$ 303,300	
	60% of New building	531,900	60%	$ 319,140	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Furnishings				$ 622,440	
Equipment Detail:					
	50% of Existing	68,960	50%	$ 34,480	
	60% of New	235,154	60%	$ 141,092	
				$ -	
				$ -	
				$ -	
				$ -	
				$ -	
Total Equipment				$ 175,572	
FF&E Design Costs		41,699,969	0.50%	$ 208,500	
				$ -	
TOTAL FURNISHINGS & EQUIPMENT COSTS				**$ 1,006,512**	

DFCM Form Date 8/09/05

Capital Development Projects
CBE Details

Information Technology Costs:					
	Basic wiring in hard cost per new DFCM req.			$	-
	Cell booster costs	123,500	$ 2	$	247,000
				$	-
				$	-
				$	-
TOTAL INFORMATION TECHNOLOGY COST				**$**	**247,000**
UTAH ART	If N/A, change YES to NO. To supercede 1% calculation enter amount in unit cost	**no**		**$**	**-**
Testing & Inspection Costs:					
Building Code Inspection		41,699,969	0%	$	137,610
				$	-
Material Testing		41,699,969	0.3%	$	137,610
				$	-
Special Inspections		41,699,969	0.3%	$	137,610
				$	-
TOTAL TESTING & iNSPECTION COSTS				**$**	**412,830**
Moving/Occupance Costs:					
	Allowance	1	$ 150,000	$	150,000
				$	-
				$	-
				$	-
				$	-
TOTAL MOVING/OCCUPANCY COSTS				**$**	**150,000**
DFCM Management:					
		1	$ 64,578	$	64,578
				$	-
TOTAL DFCM MANAGEMENT				**$**	**64,578**
User Fees:	Fee for "nonstate funding" as defined				
PM Fee Based on UofU Policy	in the UofU policy			$	-
		1	$ 225,000	$	225,000
				$	-
				$	-
TOTAL USER FEES				**$**	**225,000**
Commissioning:					
	Allowance	1	$ 300,000	$	300,000
				$	-
				$	-
				$	-
TOTAL COMMISSIONING COSTS				**$**	**300,000**
Other Costs:					
Energy Study	$10K if withing RMP area, $25K otherwise	1	$ 10,000	$	10,000
Integrated Modeling	Energy modeling for LEED and full building analysis	1	$ 5,000	$	5,000
Security System	Included in hard cost			$	-
Keying	None			$	-
Signage/branding	Included in Hard cost			$	-
Shutdowns & Campus Orders		1	$ 50,000	$	50,000
				$	-
TOTAL OTHER COSTS				**$**	**65,000**
Previous Funding:					
(Only show state appropriated funding & include costs covered by that funding in appropriate category.)					
				$	-
				$	-
TOTAL PREVIOUS FUNDING				**$**	**-**
Other Funding Sources:					
(List and describe each source)					
				$	-
				$	-
				$	-
				$	-
TOTAL OTHER FUNDING SOURCES				**$**	**-**

DFCM Form Date 8/09/05