



12-2017

Robb Garden Building

Joseph Cliscagne
University of the Pacific

Joseph Prescott
University of the Pacific

Tamara Turton
University of the Pacific

Saima Uz-Zaman
University of the Pacific

Follow this and additional works at: https://scholarlycommons.pacific.edu/bim_projects

 Part of the [Architectural Engineering Commons](#), [Civil Engineering Commons](#), [Engineering Education Commons](#), [Other Engineering Commons](#), and the [Urban, Community and Regional Planning Commons](#)

Recommended Citation

Cliscagne, Joseph; Prescott, Joseph; Turton, Tamara; and Uz-Zaman, Saima, "Robb Garden Building" (2017). *Building Information Modeling Final Projects*. 4.

https://scholarlycommons.pacific.edu/bim_projects/4

This Digital Project is brought to you for free and open access by the School of Engineering and Computer Science at Scholarly Commons. It has been accepted for inclusion in Building Information Modeling Final Projects by an authorized administrator of Scholarly Commons. For more information, please contact mgibney@pacific.edu.



Robb Garden Building

Joseph Cliscagne, Joseph Prescott, Tamara Turton, Saima Uz-Zaman



Customer Needs: Update

- Increased Library area, decreased shed area
- Store/shed
- Swing double doors on shed
- Added windows onto garden
- Larger outdoor sink



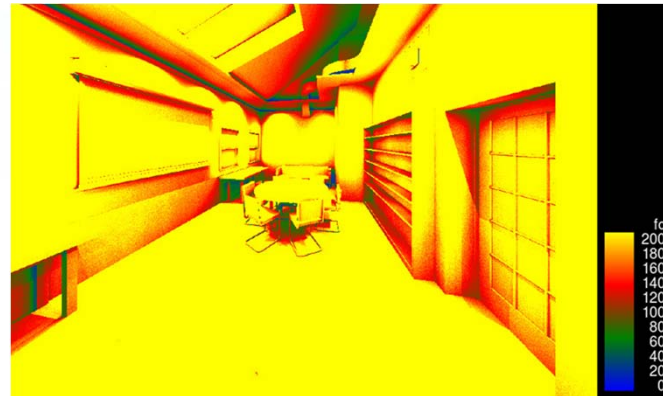
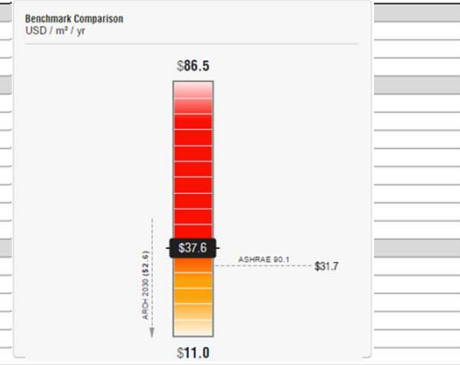
Architecture



Lighting & Energy Efficiency

Building Summary

Inputs		Benchmark Comparison USD / m ² / yr
Building Type	Office	
Area (SF)	473	
Volume (CF)	4,726.03	
Calculated Results		
Peak Cooling Total Load (Btu/h)	14,549.2	
Peak Cooling Month and Hour	July 4:00 PM	
Peak Cooling Sensible Load (Btu/h)	13,940.5	
Peak Cooling Latent Load (Btu/h)	608.6	
Maximum Cooling Capacity (Btu/h)	14,460.7	
Peak Cooling Airflow (CFM)	618	
Peak Heating Load (Btu/h)	7,231.4	
Peak Heating Airflow (CFM)	197	
Checksums		
Cooling Load Density (Btu/(h-ft ²))	30.79	
Cooling Flow Density (CFM/SF)	1.31	
Cooling Flow / Load (CFM/ton)	510.12	
Cooling Area / Load (SF/ton)	389.80	
Heating Load Density (Btu/(h-ft ²))	15.30	
Heating Flow Density (CFM/SF)	0.42	



The background of the slide is a photograph of a peach orchard. The trees are filled with green leaves and several ripe, reddish-orange peaches are visible. A banner is overlaid on the top portion of the image. The banner has a green section on the left and a black section on the right. The text "Construction Process" is written in red, bold, sans-serif font across the black part of the banner.

Construction Process

Cost Estimates

TOTAL: \$114,743

Example of spreadsheet:

WBS/RBS	Price	Comments	Group1	Group2	Group3	Group4	Item	Resource
1			Architecture					
1.1			Architecture	Walls				
1.1.1			Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.1	3,273.750		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.2	2,688.889		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.3	5,214.696		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.4	3,468.750		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.5	6,031.250		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.6	6,458.056		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.7	4,671.250		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.8	4,337.500		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.9	10,509.167		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.10	5,567.159		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.1.1.11	6,395.593		Architecture	Walls			Exterior - Brick and CMU on MTL. Stud	
1.2			Architecture	Flooring				
1.2.1			Architecture	Flooring			Wood Joist 10" - Wood Finish	
1.2.1.1	6,011.019		Architecture	Flooring			Wood Joist 10" - Wood Finish	
1.2.2			Architecture	Flooring			Generic - 12"	
1.2.2.1	2,365.002		Architecture	Flooring			Generic - 12"	



Navisworks Walkthrough



SWOT

- **Strengths**
 - Natural Lighting
- **Weaknesses**
 - Limited Space
- **Opportunities**
 - Wall Space
- **Threats**
 - Requested shed windows-break ins
 - Structural Analysis incomplete