Construction-Project Cost Estimating Guideline

Below is a building new construction/renovation cost estimating guideline developed to assist grant and development authorities as well as all other University departments in the preparation of project estimates for funding applications and/or proposed construction. The procedure and line item guidelines are only approximate, and any final project budgeting would need to be developed by the Facilities Management Design and Construction Services staff.

### Budget Breakdown

<table>
<thead>
<tr>
<th>Description</th>
<th>New</th>
<th>Renovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Construction – labor and material (includes demolition, utility connections, landscaping, parking lots, telecom systems, fixed equipment, building costs, etc., and would go up if any contingency funds below were spent on construction or other material items. - Approx. 65% Total Project Cost)</td>
<td>$115/GSF</td>
<td>$85/GSF</td>
</tr>
<tr>
<td>1a. Administration/offices</td>
<td>$115/GSF</td>
<td>$100/GSF</td>
</tr>
<tr>
<td>1b. Classrooms</td>
<td>$180/GSF</td>
<td>$180-$225/GSF</td>
</tr>
<tr>
<td>1c. Wet Laboratories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Contingency – held at 10% through project design and bidding. Typically allowed to go down to no less than 5% at award of construction to cover unforeseen construction problems.</td>
<td></td>
<td>10% Construction</td>
</tr>
<tr>
<td>3. Fees – consultant fees on overall design, utilities, furnishings and equipment, building systems, site work, roadways and lots, any contingency expenditures, site representative, reimbursable expenses, etc. (Varies with the construction complexity and cost.)</td>
<td>6.75% Construction</td>
<td>9% Construction</td>
</tr>
<tr>
<td>4. Moveable Equipment and Furniture – building Construction non-fixed furnishings, etc. - does not include telecom support electronics, decorating, computers, etc.</td>
<td>5% Construction</td>
<td>4.5%</td>
</tr>
<tr>
<td>5. Computers –occupant computer equip. (optional) Construction</td>
<td>1% Construction</td>
<td>0.5%</td>
</tr>
<tr>
<td>6. Remote Utilities – replacement costs for utility Construction capacity utilized in the building, etc.</td>
<td>4% Construction</td>
<td>2.5%</td>
</tr>
<tr>
<td>7. University Project Administration – Facilities</td>
<td>1.25% All Invoices</td>
<td></td>
</tr>
</tbody>
</table>
Management construction administration fees.
(\% of invoices of items 1, 2, 3, and 4 above)

8. Other Costs – non-energy utilities (water, sewer
Construction
systems, etc.), trash, special systems (A/V, security,
telephone, TV, etc.), advertising, construction
surveying, testing, soil borings, custodial equipment,
telecom support electronics, etc.

9. Moving Costs – moving occupants or related shifting
Construction
of personnel.

10. Project Escalation – 3\% per year from date of estimate
on construction, furniture, and other costs.

11. \textbf{Total Project Cost} = (1 - 10)

\begin{center}
\begin{tabular}{lcc}
\hline
& 1\% Construction & 1.5\% \\
\hline
8. Other Costs & \textbf{.75\%} & \\
9. Moving Costs & \textbf{1.5\%} & \\
10. Project Escalation & \textbf{3\% Per Year Total Project Cost} & \\
\hline
\end{tabular}
\end{center}

\begin{center}
\textbf{12. Capital Renewal Endowment} – facility replacement
funding
\textbf{25\% Construction}
\end{center}

\begin{center}
\textbf{13. Financing Costs} (5\% for 20 years)
\textbf{5\% Total Project Cost}
\end{center}

\begin{center}
\textbf{14. Total Bond Amount}
\textbf{All above costs (11 – 13) added together.}
\end{center}

\begin{center}
\textbf{15. Annual Debt Service} (5\% for 20 years)
\textbf{$80,000 per Million $ Debt}
\end{center}

\begin{center}
\textbf{Sample Project Total Budgets}
\end{center}

A. Construction of a new 35,778 GSF laboratory building to be bid in 4 years.

\begin{center}
\begin{tabular}{lcc}
\textbf{1. Construction} (wet laboratories - $180/GSF) & \textbf{$6,440,040} \\
\textbf{2. Contingency} (10\% Construction) & \textbf{644,004} \\
\textbf{3. Fees (6.75\% Construction)} & \textbf{434,703} \\
\textbf{4. Moveable Equipment and Furniture} (5\% Construction) & \textbf{322,002} \\
\textbf{5. Computers} (1\% Construction) & \textbf{64,400} \\
\textbf{6. Remote Utilities} (4\% Construction) & \textbf{257,602} \\
\textbf{7. University Project Administration} (1.25\% items 1, 2, 3, and 4 above) & \textbf{98,009} \\
\textbf{8. Other Costs} (1\% Construction) & \textbf{64,400} \\
\textbf{9. Moving Costs} (1\% Construction) & \textbf{64,400} \\
\textbf{10. Project Escalation} & \textbf{1,144,031} \\
\hline
\end{tabular}
\end{center}

\begin{center}
\textbf{11. Total Project Cost} (All above costs added together.)
\textbf{$9,533,591}
\end{center}

\begin{center}
\textbf{12. Capital Renewal Endowment} (25\% Construction)
\textbf{1,610,010}
\end{center}

\begin{center}
\textbf{13. Financing Costs} (5\% Total Projects Cost)
\textbf{476,680}
\end{center}
14. **Total Bond Amount** (items 11 thru 13 added together) $11,620,281
15. Annual Debt Service ($80,000 per Million $ Debt) $929,600

**B. Renovation of 6440 GSF of classroom spaces in a building to be started in 1 year.**

1. Construction (classrooms - $100/GSF) $644,000
2. Contingency (10% Construction) 64,400
3. Fees (9% Construction) 57,960
4. Moveable Equipment and Furniture (4.5% Construction) 28,980
5. Computers (0.5% Construction) 3,220
6. Remote Utilities (2.5% Construction) 16,100
7. University Project Administration (1.25% items 1, 2, 3, and 4 above) 9,942
8. Other Costs (0.75% Construction) 4,830
9. Moving Costs (1.5% Construction) 9,660
10. Project Escalation 

   \[
   \text{[(total items 1 thru 9 above)/(1 - .03x1 yr}) - (total items 1 thru 9 above)]}
   \]
   25,951

11. **Total Project Cost** (All above costs added together.) $865,043
12. Capital Renewal Endowment (25% Construction) 161,000
13. Financing Costs (5% Total Projects Cost) 43,252
14. **Total Bond Amount** (items 11 thru 13 added together) $1,069,295
15. Annual Debt Service ($80,000 per Million $ Debt) $85,544

December 4, 2003