

July 22, 2020

Donna Jerry, Health Care Administrator  
Green Mountain Care Board  
114 State St  
Montpelier, VT 05620

***RE: Questions from Green Mountain Care Board provided on June 19, 2020 related to Docket No. GMCB-019-19con CON application to modernize SVMC's emergency department and hospital main entrance***

Dear Donna Jerry,

Below find responses to questions posed in the letter dated June 19, 2020 from the Green Mountain Care Board.

**Architectural**

**1. Provide a digital plan with dimensions for all individual rooms within the scope of the project.**

Attached is the digital plan including dimensions of individual rooms. The file name is SVMC ED CON DIM PLAN 2019-06-16.PDF

**2. Provide a detailed FGI chart showing compliance with each individual requirement and any waiver(s) sought and reason(s) for the waiver(s).**

SVMC will comply with all FGI guidelines. SVMC, the architectural firm, and the construction management partner consider the FGI guidelines important standards. SVMC will not seek a waiver for any of the FGI guidelines. The Green Mountain Care Board staff instructed SVMC's staff to not submit a grid showing every FGI standard because the project will comply with all FGI standards.

**3. The cost per square foot for 6,700 square feet of new construction is approximately \$1,278. Our consulting architect advises that the average cost per square foot for new construction is more in the range of \$700. to \$900. Provide more detailed information that explains how you arrived at the construction cost per square foot.**

Every healthcare construction project is unique, especially complex projects that include additions to and renovations of existing facilities. A detailed understanding of the project's scope, schedule and phasing, and infrastructure elements is required to properly estimate the cost of the project and thereby the cost per square foot. The SVMC emergency department modernization project is a complex project including new construction and renovation of existing space, a protracted schedule with multiple phases, installation of critical infrastructure, and several other project specifics that add to the project's complexity and cost. The following describes the methodology employed by PC Construction, Lavallee/Brensinger Architects, and the SVMC design team to develop the schematic cost estimate for the project:

1. Through a series of meetings the team developed the project's scope and program requirements. The team created options for the overall floor plan and identified infrastructure requirements. These efforts culminated in a schematic level design and support documents.
2. Leveraging schematic documents, program specifications, and infrastructure needs, PC Construction completed an initial cost estimate organized by CSI16 divisions;
  - a. PC's Agetek software was used to complete the site work take offs and Planswift software to complete the architectural take offs. An initial schematic level cost estimate was created with reasonable assumptions and contingencies.
  - b. The project team refined the project plan and cost estimate by modifying project components, considering temporary and enabling scopes of work, and integrating collateral effort required to maintain operations during construction.
  - c. The project specific quantities of construction supplies and labor were loaded into PC's MC2 estimating software and unit costs applied. Unit costs were based on historic unit costs vetted against PC's reference projects. All reference projects were recently completed in the northeast region, and thereby reflect the best cost estimate for construction at Southern Vermont Medical Center. These include:
    - i. CVPH Adult Mental Health Unit Relocation

- ii. CVPH Emergency Care Center
  - iii. University of Vermont Medical Center – NICU and ED Renovation
  - iv. University of Vermont Medical Center, Moses Ludington Hospital ED Renovation Project
  - v. Dartmouth Hitchcock Medical Center Hospice Addition
  - vi. CVPH Musculoskeletal & Cardio Renovations
  - vii. 193 Tilley Drive Medical Office Building
  - viii. Northwestern Medical Center Additions and Renovations
  - ix. Southern Maine Medical Behavioral Unit
- d. Appropriate general conditions, general requirements, time inflation, permit and insurance costs, construction management fees and contingencies were calculated as a percent of the construction cost.
3. The overall project schedule and phasing was updated and reviewed with the project team.
  4. The detailed schematic cost estimate was reviewed by the project team. Value engineering options were considered. Project features and associated costs were adjusted. Final development of the schematic layout and cost reflect the best balance of meeting the project needs and managing project costs.

The emergency department modernization project requires several specific elements that increase the cost of the project (and thereby the \$/ sq ft). Typically, project elements are not segmented from the overall project cost. However, to provide reassurance that the construction cost aligns with benchmarks, PC extrapolated a rough order of magnitude cost for some of the unique project specific elements. The cost of these project specific elements does not represent "stand alone" cost to implement, rather the rough order of magnitude cost reflects implementation of the elements within the broader project.

Element	Cost	\$/6,700 sq ft
<b>"Base" Estimated Construction Costs for ED Addition</b>	<b>\$5,330,009</b>	<b>\$796</b>
Drop Off Entrance Canopy	\$400,000	
Ledge Removal Allowance	\$200,000	
Pneumatic Tube Allowance	\$115,000	
Utility Relocations & Upgrades	\$180,000	
Lodge Building Demolition & Lot Restoration	\$60,000	
Existing Stair Tower Envelope Improvements	\$225,000	
Temporary Patient Entrance Safety Tunnel	\$105,000	
Specialized Automatic Exam Room Doors, Infectious Control Mitigation	\$255,000	
Basement (3,500 SF x \$230/SF)	\$805,000	
Project Inflation Allowance Between Estimate and Build	\$750,000	
<b>Total Estimated Construction Costs for New ED Addition</b>	<b>\$8,425,009</b>	<b>\$1,257</b>

Leveraging PC's MC2 estimating software and reference unit costs, the "base" cost for the new construction portion of the emergency department project was determined to be \$796/ sq ft. This value is within the range of industry benchmarks as noted in the question from the GMCB. The addition of elements specific to this project (for example, ledge removal), increase the project costs. In aggregate, the cost of elements unique to this project is more-than \$3,000,000 and increase the \$/ sq ft to \$1,257. Refined cost estimates will be obtained upon completion of the design development phase, post obtaining the certificate of need.

As indicated in the opening paragraph, the \$/ sq ft calculation should consider the complexity of the project. SVMC's emergency department modernization is a complex project involving multiple phases and several project specific elements. The overall scope and scale of the project is sensible and the \$/ sq ft is logically based and reasonable.

**4. The cost per square foot for 7,700 square feet of renovation to the existing Emergency Department is approximately \$752. Provide more detailed information that explains how you arrived at the renovation cost per square foot.**

The construction costs for the renovation portion of the emergency department is estimated at \$5,366,191 for 7,700 sq ft or approximately \$697/ sq ft. As noted in the response to question #3 above, PC construction completed a detailed cost estimate based on the schematic design and program specifics. The costs for the renovation portion of the project was derived from the overall project estimate and accounted for phasing, project management, general conditions, and general requirements. PC vetted the renovation cost against comparable projects. Below shows how project specific elements impact the cost of the renovation portion of the project.

Element	Cost	\$/7,700 sq ft
<b>"Base" Estimated Construction Costs for ED Renovation</b>	<b>\$4,583,234</b>	<b>\$595</b>
Schedule, Phasing, & Maintaining Operations Allowance	\$300,000	
Project Inflation Allowance Between Estimate and Build	\$482,957	
<b>Total Estimated Construction Costs for ED Renovation</b>	<b>\$5,366,191</b>	<b>\$697</b>

The \$/ sq ft for the renovation portion of the emergency department modernization project is logically based, of reasonable scale, and within the range of industry benchmarks.

We thank the Green Mountain Care Board for considering this important project.



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