



INVESTIGATION & REPORT - COSTING

New Embrun Branch Library

Russell Township

Project:C0790-22085

ISSUED FOR REVIEW

Project No: L+D 22.206

August 3rd, 2023

A. INTRODUCTION

Following the submission of 30% drawings and specifications for the New Embrun Branch Library project, complete with Class D Costing, Lalande + Doyle Architects were tasked with preparing and investigation and report to review different options that would help reduce the cost of the project. This report is to review the following:

1. Different options for scope changes/reductions, costs, advantages & disadvantages,
2. Potential areas of savings (energy, operational, rentals, etc.),
3. Elements that are either required or not required by the building code, or items that are required or not required by the accessibility standards.
4. Specific elements of the project that have a significant impact on the costs.

The Municipality of Russell had preliminary concepts and costing, prepared by JMC, to present to City Council for approval to proceed with the funding for the project. This concept and costing were included in the RFP for Architectural, Civil, Structural, Mechanical & Electrical consultants for the design and construction of the project.

B. PRELIMINARY CONCEPT BUDGET COSTS:

The JMC estimate was included under Schedule G of the RFP that was issued in December 2022 and listed the following:

1. FURNITURE (& NEW SHELVING) BUDGET COST: \$ 433,378.54
2. CONSTRUCTION BUDGET COST: \$ 1,926,375.00

L+D have the following comments with regards to the costing that was presented:

1. There was no detailed breakdown provided for the costs presented and it is unknown how JMC arrived at their proposed costs.
2. At the preliminary concept stage, no Building Code review was undertaken - many upgrades are directly related to building Code requirements for building envelope, HVAC, lighting and accessibility.
3. It does not appear that any costs were included for the demolition of building and site elements

In addition, the Addendum 04 that was issued during the RFP process stated:

TOTAL PROJECT BUDGET COST INCLUDING INTERIOR AND EXTERIOR CONSTRUCTION, CONSULTANT FEES OR ANY OTHER ASSOCIATED HARD/SOFT COSTS: \$ 2,356,753.54

C. CLASS D COST ESTIMATE - PREPARED AT 35% SUBMISSION:

L+D and their consultants prepared and submitted a detailed Class D (cost per m²) construction estimate, which includes the contractor's overhead & profit and a 25% contingency.

The total sum of this Class D estimate is: \$3,875,015.14

This estimate does not include:

- HST (which is an additional 13%)
- Asbestos Abatement (costs unknown)
- Furniture procurement (\$500,000.00)
- Consultant fees (\$142,000.00)
- Overtime and night work (\$400,000.00)
- Moving costs (TBD)
- Any acoustical measures for the bowling alley (TBD)

D. POSSIBLE REASONS FOR INCREASE IN COSTS

1. A detailed Building Code Review established that the washroom requirements were double of that which was indicated in the Concept plan; additional fixtures increase the footprint, the cost and the energy use. However, mitigations for energy use are being applied.
2. M&E costs were only known once the consultants were able to prepare a detailed energy model and then develop their design in accordance with the energy model's stipulations. HVAC requirements were reduced through the refecton of the building envelope.
3. Refecton of the building's envelope plays a large part in the energy model as a more efficient envelope will reduce the HVAC requirements and costs. This includes:
 - 3.1. Removing the existing cladding and flammable insulation; adding new mineral wool insulation, air barrier and cladding to the exterior walls.
 - 3.2. Removing the existing ceiling complete with asbestos-containing insulation; adding new spray-in-place insultation/vapour barrier to the underside of the existing roof.
 - 3.3. Removing the existing window and installing new thermally efficient windows and adding more windows to bring in additional natural light.
 - 3.4. Removing the existing doors that are the wrong dimensions and installing new, thermally efficient doors.
4. Addition of four (4) new skylights to bring natural light into the centre of the building.
5. Addition of new small roof canopies were added to each entrance/exit to protect users from rain & snow.
6. The Front entrance ramp & stairs require to be demolished and new code-compliant ramp & stairs installed - a new canopy, covering the ramp & stairs in their entirety is proposed. The code requires covering over any exterior ramp to protect users from the weather.
7. A large raised steel structure with stairs was requested to support the two new HVAC units at the rear of the building.
8. Addition of a second means of egress from the basement bowling alley - this is required by Code.

Note: all of the improvements to the building envelope and systems will also increase the life of the building for possibly an additional 30 years +.

E. POSSIBLE OPTIONS FOR COST-CUTTING

	Item	Cost Savings	Advantage/Disadvantage
1	Delete the raised steel platform and stairs at the rear of the building and place the new Mechanical Unit on a concrete pad at grade	\$25,000.00	none
2	New Ramp: consider using wood framing and helical piles	\$8,000.00	none
3	Delete the proposed new skylights	\$45,000.00	Loss of natural light in the centre of the library
4	Consider the use of conventional wood framing for the entrance roof	\$8,000.00	Less interesting design
5	Change the two new mechanical units to one single unit, which would include savings in controls, installation, etc.	\$92,000.00	Single point zoning
6	Delete the new small roof canopies.	\$12,500.00	Loss of protection from the elements
7	Delete the new elevator	\$70,000.00	
7	Delete the new electric fireplace	\$5,000.00	Loss of fun/comfort design element
8	Delete the new moss wall	\$10,000.00	Loss of fun/comfort design element
	TOTAL	\$275,500,00	

As many of the improvements to the building are required under the Ontario Building Code, there are not many elements that can be removed from the scope of the project.

F. CODE REQUIREMENTS

a. Elements required by Ontario Building Code:

1. Envelope upgrade (exterior walls, roof, windows and doors) required to meet Code standards.
2. Washroom counts (number of washrooms required)
3. HVAC - systems required to meet Code standards
4. Electrical - systems required to meet Code standards

b. Element required by the accessibility standards :

1. Accessible and universal washrooms
2. Larger width doors
3. Exterior ramp with proper slope

c. Elements not required by Code or for Accessibility:

1. New skylights
2. New small canopy roofs over entrances/exits
3. New electric fireplace
4. New moss wall

G. CAPITAL COSTS VS OPERATIONAL COSTS

1. Improvements to the building’s existing envelope (insulation, windows & doors) will reduce the long-term operational costs for heating & cooling.
2. New HVAC units are more energy efficient and will reduce the long-term operational costs for heating & cooling.
3. New lighting is all to be LED - low energy costs and long-life fixtures will reduce the long-term energy operational costs.

Suppose 100 fixtures with 2 tubes per fixture:
Fluorescent Operation
Annual Energy Consumption: 75,336 kWh
Annual Operating Costs: \$8,286.96
LED Operation
Annual Energy Consumption: 28, 032 kWh
Annual Operating Costs: \$3,083.52
Savings
Annual Energy Savings: 47, 304 kWh
Annual Operating Savings: \$5,203.44

In addition - Canada's Department of the Environment and Department of Health have proposed amendments to the 1999 Canadian Environmental Protection Act that would effectively phase out the manufacture of most fluorescent lamps by the end of 2023 and ban the sale of most fluorescent lamps by the end of 2026. Therefore, replacement fluorescent bulbs will no longer be available.

4. New plumbing fixtures are all low-flow and low- energy reducing water costs and the long-term operational costs.
5. Additional windows and skylights will reduce the need for artificial light, reducing long-term operational costs.

H. POSSIBLE OPTIONS FOR REVENUE

1. Rental of the new large meeting room that can be accessed from the side entrance and access to the library closed off. This includes a kitchenette and a washroom. In reviewing the Russell Township’s room rentals, we estimate that the facility could be rented for +/- \$200.00 per event. If up to a 150 events per year were to be rented out, the funds could amount to +/- \$30,000.00 per year. Over a period of 30 years, that could bring in approximately \$900,000.00.

END