



September 20, 2007

City of Ottawa
100 Constellation Drive
Ottawa, Ontario
K2G 6J8

Attention: Richard Davis, C.E.T.

Dear Rick,

**Re: Lower South Side Stands – Lansdowne Park
Retrofit – “Ball Park” Cost Estimates
Our Reference No. 3061-27**

As requested at the meeting of September 14, 2007, Adjeleian Allen Rubeli Ltd. has examined “ballpark” cost estimates for the two options presented in the structural assessment report for the Lower South Side Stands at Frank Clair Stadium within Lansdowne Park, issued September 2007.

In addition we were asked to identify a ball park cost estimate to construct a new facility of similar size and capacity as the existing facility that could be the after math of the demolition option.

1. Structural Retrofit:

The following, in our opinion, is a summary of the structural repair requirements:

- Repair to the raker beams will entail the removal of areas of the precast seating panels. This is required to undertake both the concrete repairs and strengthening of the rakers.
- Raker beam flexural and shear cracks are to be epoxy injected.
- Raker beams will require temporary shoring that will extend into the service building rooms, requiring reworking locally of mechanical, electrical and finishes. Shoring will be required for lateral support to suit partial removal of precast seating.
- Raker beams are to be structurally strengthened with a comprehensive composite strengthening system of fabric and/or strips, placed around and over the top of the raker beams below seating panels, to ensure compliance with current codes and standards.
- Structural strengthening areas that extend to within the service buildings will require fireproofing.

- Reinstate precast seating which will likely result in substantial replacement as deteriorated precast panels may not be salvageable. The removal and replacement crane requirement with reference to the sport field is such that work is required from the ends of the stand with a crane having as substantial lift range.
- Concrete repairs to columns. The columns along grid line A will require removal and replacement of finishes.
- Ramp panels to be shored to facilitate the repairs to ramps and beams.
- Construction of new support walls and columns to support the ramps.
- Repairs to ramp block guardrails.
- Concrete repairs to the precast seating panels.
- Repairs to the stadium seating steel guardrails.
- Design and construction of a seismic bracing system for the Lower South Side Stands with local reinforcing of structure. This will include new foundation work within the service buildings.
- Environment tipping fees at landfill sites to dispose of removed materials.

A detailed condition survey and quantity survey were not undertaken and, as such, this ball park cost estimate is based on typical conditions, as noted, which were extrapolated to apply to the full structure. This repair work would assume an 8 to 10 year period until new concrete repairs, in our opinion, would be required. Based on above a ball park cost for this work is anticipated to be in the range of \$5.0 million ±.

Demolition:

The following is a summary, in our opinion, of the assumed requirements to demolish and remove the Lower South Side Stand:

- Remove and salvage all finishes, mechanical and electrical as required.
- The requirement for maintaining either electrical service or underground service within the Lower South Side Stand which are either part of or service for other areas of the complex, could not be assessed within the allotted time for this cost assessment.
- Provisions to provide public access to the areas of the field and Upper South Side Stands directly adjacent to areas during the demolish has not been fully assessed for possible cost impact.
- Demolish structural concrete, steel and masonry including footings.
- Separate on site for environmental disposal, all materials.
- Environmental tipping fees at landfill sites to dispose of demolished materials.

- No environmental assessment of the site was undertaken to determine if control materials exist and as such no associated costs are included.
- Area to be levelled with no reinstatement of a dress grading or finished allowed.

The demolition ball park estimate is anticipated to be in the range of \$1.2 million± plus the additional items as noted above.

New Stands:

The following is a summary, in our opinion, of the assumed construction requirements for a new Lower Stands with similar seating and service areas:

- Structural concrete frame with either cast in place or precast seating step and ramps with similar structural details to the Upper Stands.
- Exposed load bearing masonry and structural steel service building.
- No LEED buildings costs have been assessed with the limited timeline given.
- Asphalt concourses on grade.

The ball park estimate for a new structure to replace the existing, excluding site services and demolition, is anticipated to be in the range of \$5.0 million ±.plus the above items.

The ball park estimates as noted above are preliminary from consultation with representatives in the industry and based on current pricing trends. These prices do not include fees associated with engineering, permits and GST. The preparation of a detailed cost estimate for each option above, in our opinion, would require time, a full condition survey with a quantity survey, design concepts of possible reinforcing options and a new facility concept.

Yours truly,

ADJELEIAN ALLEN RUBELI LIMITED



Garry Vopni, C.E.T.

cc: Michael Allen, Adjeleian Allen Rubeli Ltd