TO: Bert Meunier, Chief Administrative Officer

FROM: Terry Willing, Planning & Development Services, Acting Commissioner
Denis Leger, Corporate Services, Commissioner

PREPARED BY: Joseph E. Davis, Senior Project Manager
Patricia Carrol, Manager of Taxation & Revenue
Tony Fleming, Senior Legal Counsel

DATE PREPARED: February 24, 2004
DATE OF MEETING: March 9, 2004

SUBJECT: FAILED TAX SALE PROPERTIES/POLICY

RECOMMENDATION TO COMMITTEE OF THE WHOLE:

WHEREAS the City has a number of properties that have more than three years of taxes owing and have had a tax arrears certificate registered,

AND WHEREAS the Municipal Act requires the municipality to offer for sale properties that, at the end of the one-year period following the date of the registration of the tax arrears certificate, the cancellation price remains unpaid,

AND WHEREAS some properties will not sell through the tax sale process,

AND WHEREAS the Municipal Act does allow for the municipality to vest (take ownership) of properties after a tax sale has failed,

AND WHEREAS the City wishes to establish a policy to deal with properties that have not sold using the tax sale process,

AND WHEREAS the ERASE Task Force developed a plan employing a number of the tools necessary to encourage the remediation and redevelopment of brownfield sites,

AND WHEREAS Council has approved the ERASE Community Improvement Plan,

THEREFORE BE IT RESOLVED that Council endorses a policy to vest lands on a case-specific basis;

AND FURTHER BE IT RESOLVED that Council endorses a policy whereby if lands are considered to be surplus to the City’s needs, the City will dispose of the lands through a public sale/public tender process.
ORIGIN/PURPOSE:

Part XI of the Municipal Act, entitled Sale of Land for Tax Arrears provides municipalities with a complete process to follow in order to recover unpaid taxes. This process includes selling the properties for the value of the tax arrears. The purpose of this report is to deal specifically with properties that have gone through the tax sale process as defined in the Municipal Act and have not been sold. This policy will determine how the City will vest the property in itself or deal with the property if vesting is not in the interests of the City.

OPTIONS/DISCUSSION:

The reason most properties fail to be sold through the tax arrears process is because the cancellation price (total amount of tax arrears, costs and current taxes) exceeds the value of the property. In addition, many unsold properties have boarded up/derelict buildings and/or are perceived to be contaminated. The combination of the cancellation price and cost of clean-up makes these properties unattractive to prospective purchasers. Another factor in properties failing to sell by tax sale is if a crown lien exists on the property (usually through the Business Development Bank of Canada). The lien is carried with the property even through the tax arrears sales process. The Business Development Bank of Canada, as a Crown Corporation, is not affected by the tax sale process in the Municipal Act and therefore it maintains any claims it may have on a property. This therefore reduces the City’s ability to attract a willing purchaser. Purchasers will want the property clear of encumbrances. Staff has met on a number of occasions and would suggest a policy for Council’s endorsement.

Staff has compiled a flow chart of decisions that could be made once a tax sale has failed. This flow chart is attached as Appendix 1 of this report. One of the largest hurdles to overcome in the failed tax sale process is to negotiate with the Business Development Bank of Canada to release any lien it may have on the property. City staff has discussed this issue with staff at the Business Development Bank of Canada and have agreed that each property would be dealt with independently and that the Bank would be prepared, in certain circumstances, to remove any liens they may have on a property.

If the property does not have a lien on it, the process would be as follows:

Section 386.1(1) of the Municipal Act allows the municipality the power of entry on the lands that are subject to public sale. The municipality may, during the 12 months following the public sale referred to in subsection 379.5, enter upon and inspect the lands.

Section 386.1(2) indicates that the inspection of the land and permitted activities are as follows:

a) conduct surveys, examinations, investigations and tests of the land including the excavation of test pits and for this purpose to place equipment on the land for such period as the Municipality considers necessary,
b) take and remove samples or extracts,
c) make inquiries of any person, and
d) record or copy information by any method.

After the one-year period is over, the City can vest the property and undertake the following:

- Write off taxes completely. (Properties cannot be transferred with outstanding taxes)
• Determine whether the property is surplus to the City’s needs.
• Declare the property surplus or acquire the property and prepare for proper cleanup in the “Getting Our House in Order” program.
• Once the property is determined to be surplus, the City can determine whether to market it as a clean piece of property or a contaminated piece of property. If the property is to be sold as a contaminated property, its value is typically calculated as the value of the property, less its potential cleanup costs.
• The most important aspects of a sale of contaminated property are to ensure that the cleanup of the property is completed and that the purchaser indemnifies the City for any legal claims or regulatory orders associated with the property.
• After the market value of the property is determined, the City can begin the Request for Proposal process. This process will include a requirement that the property be cleaned up within five years. In addition, the proposal will allow the City some input into the future development plans for the lands.

Staff recommends that the City make an initial decision as to whether the property in question is surplus or needed for municipal uses when the property has not successfully been sold through the tax sale process.

Once a property is declared surplus, the City would put out a Request for Proposals for the clean up, divesting and redevelopment of the property.

If a property is required for municipal purposes, staff recommends an environmental site assessment be conducted and based on the findings of that study, an additional determination can be made to continue with the plan to acquire the property for City purposes, or divest through the RFP process.

EXISTING POLICY/BY-LAW:

There is no existing policy or by-law.

LINK TO THE STRATEGIC PLAN:

This initiative has a strong tie to the Strategic Plan inasmuch as it has centered on the FOCUS Kingston document where priorities have been established for immediate attention. The remediation and redevelopment of brownfield sites scored high in both the economic prosperity priority area and the environmental priority area. The area of economic prosperity to marketing these properties for further investment and redevelopment ranked high as providing employment and sustainable development through the use of lands currently serviced. In the area of the environment, quality of life was stressed with a need to improve quality of land and establish an inventory and program to develop a brownfields strategy that would positively impact both the physical health of the community and the environmental health of the municipality.

FINANCIAL CONSIDERATIONS:

At this point there are no financial considerations.
CONTACTS:

Tony Fleming, Senior Legal Counsel, 546-4291, ext. 1293  
Patricia Carrol, Manager, Taxation & Revenue, 546-4291, ext. 2468  
Joseph E. Davis, Senior Project Manager, 384-1770, ext. 3125

DEPARTMENTS/OTHERS CONSULTED AND AFFECTED:

Finance Division  
Legal Services Division

APPENDICES:

Appendix 1 – Failed Tax Sale Flow Chart

Terry Willing, Acting Commissioner  
Planning & Development Services

Denis Leger, Commissioner  
Corporate Services

Bert Meufier  
Chief Administrative Officer
FAILED TAX SALE FLOWCHART

If lien by Crown, negotiate interest

Failed Tax Sale

Is property needed for City purposes?

City acquisition for specific use and/or "Getting Our House in Order" program

Environmental Assessment

Management Decision

Assessment Acceptable?

Report to Council

Approval by Council?

YES

Vest and cancel taxes

NO

Clean up, if necessary, use for City purposes

Tax sale Process begins again

Cancel all or part of taxes

RFP (within 1 year vesting per by-law)

Vest and cancel taxes

Declare surplus (under by-law, an appraisal is necessary)

Agreement to sell requires clean up within 5 years of City vesting

Vest and cancel taxes

Liability to new owner

Enter agreement of purchase and sale (conditional)

Award RFP

RFP Process

NO
TO: Bert Meunier, Chief Administrative Officer

FROM: Lance Thurston, Commissioner, Department of Community Services

PREPARED BY: Mark Fluhrer, Manager, Policy & Support Services, Office of the Commissioner

DATE OF MEETING: 2004-03-09

SUBJECT: Centre 70 Twinning Project: Initial Design Options - LEED Cost Benefit Analysis

RECOMMENDATION TO COMMITTEE OF THE WHOLE:
It is recommended that, subject to favourable 2004 budget consideration, Council:

1. Adopts Design Concept “C” for the twinning of Centre 70, as outlined in Report No. 04-067, at a total cost of approximately $4.5 Million, it being understood that staff will bring forward a project financing plan for consideration at budget time;

2. Authorizes staff to undertake an appropriate competitive bid process consistent with the City’s purchasing policies, to finalize cost estimates for the twinning project;

3. Endorses up to $400,000 in structural, building systems and site design features that will qualify the Centre 70 twinning project for certification under the Leadership in Energy and Environmental Design (LEED) program;

4. Authorizes staff to apply for LEED certification for the twinning project and apply through the Green Municipal Investment Fund (GMIF) for a loan of 25% of the project costs at an interest rate of 1.5% below the Canada Bond Rate;

5. Authorizes staff to apply for a GMIF grant of up to 25% of the project costs, if available; and

6. Appoints two or three of its members to a public fund raising development committee, the purpose of which is to work with staff and interested members of the public in developing and recommending a strategy for fulfilling Council’s direction that at least $300,000 be raised in the community towards the cost of this project.
ORIGIN AND PURPOSE:
At its meeting on September 23, 2003 Council passed a resolution authorizing staff "to undertake a thorough cost/benefit analysis of a Leadership in Energy & Environmental Design (LEED) designation for the Centre 70 Twinning project, it being understood that staff will bring back its findings as part of its report to Council concerning the design/construction options for the twinning project."

Council, at its meeting of February 03, 2004, received the Arena Capacity and Expansion Study Report and directed staff to bring the study report, staff recommendations and public input back to the Committee of the Whole for consideration.

The purpose of this report is to advise Council of the findings of the LEED cost/benefit analysis for the Centre 70 Twinning project as directed, and to present initial design options and construction estimates to Council for consideration.

OPTIONS/DISCUSSION:
As part of the 2002 budget, Council directed staff to proceed with the development of a second ice pad at the Centre 70 community centre, it being understood that the additional ice pad would be designed to accommodate the basic needs of community ice users within a budget envelope of $3 million. The following is an outline of steps and progress on the design component of the Centre 70 twinning project to date:

Public Meeting:
On January 30, 2003 staff held a public meeting seeking input from the various user groups and interested members of the public. Approximately fifty (50) people took part in the public meeting. One or two representatives from each user group, some Council members and Cultural Services staff where in attendance at this first public meeting. A list of requests, including what was considered by those user groups in attendance as ‘minimum standard requirements’ for an ice pad in this location were received that evening. Staff recorded all feedback and, additionally, received written submissions from many of the user groups.

Initial Design Concepts Developed:
NORR Architects was hired to prepare initial design concept plans having regard for: Council's direction to construct a “no frills” ice pad; detailed site requirements; technical building and systems requirements; the desires expressed by user groups and the general public, and staff comments. In addition to the Council direction for a “no frills’ ice pad, 3 alternative concept plans were developed, “A”, “B” and “C”.

Original “No Frills” Direction
Council’s stated directions called for the construction of a basic “no frills” ice pad that largely replicates the Spartan nature of the existing Centre 70 facility. This plan was based on general estimates provided by a cursory staff analysis of current facilities and 5 recent arena construction projects in the province. Public consultation and expert opinion suggest however, that this would not be an acceptable design option as it would be repeating many mistakes of the past and not taking advantage of advances in arena design, local experience over the last 30 years, or the
changing needs of facility users. For example, the existing dressing rooms are considered inadequate both in number and size for today’s users. Respectful of Council’s direction, staff has retained this option for comparison purposes although it would not result in a desirable facility.

This option also included high level estimates of only very basic and absolutely essential site works. It was staff’s intention, as a means of containing initial costs, to incorporate other site work into the operating and capital budgets for the Cultural Services Division as money was available to complete the work required. So for example, only minimal paving and landscaping (planting grass) was considered at that time. Subsequent analysis indicates that substantially more site work will be required even if we maintain the intention of developing only what is absolutely essential at the outset.

**Alternative “A” (refer to Appendix 1 for drawing)**
This design option endeavors to accommodate within reason the expressed wishes of the user groups and general public, as well as providing for complete and high quality site work. This option includes high-end asphalt paving, curbing, storm water considerations, enhanced landscaping, etc. It also incorporates the architect’s experienced approach and recommended vision. In the opinion of staff and the architect, this design option is the most appealing twinning concept of the two. The ‘T’ floor layout maximizes efficiencies and more fully accommodates user group requirements. This includes a new lobby, larger dressing rooms, more efficient layout, and a number of technical design enhancements.

**Alternative “B”**
This design alternative is a slight variation on Alternative “C” and ultimately was eliminated from consideration by staff in order to streamline the review process, reduce review time and contain design costs.

**Alternative “C” (refer to Appendix 2 for drawing)**
This option is as close to the original direction of Council for a “no frills” ice pad as could reasonably be attained while meeting certain minimal design and technical requirements. Such enhancements or upgrades include: better connectivity between the two buildings; increased number and size of dressing rooms; and a new mechanical and operations area. These enhanced features are deemed necessary for the new ice pad to function effectively and serve the needs of its users adequately. They increase the overall building square footage, and therefore the cost.

Cost estimates for site work were reduced from those included in Alternative “A”, based on an analysis done by City staff. Some works would be deferred to future years as part of the Cultural Services Division budget, where possible.

**Environmental Design Considerations:**
As part of the staff review, staff of the Environmental Services Division suggested that serious consideration be given to incorporating environmentally friendly or “green” technology and design features into this project. Initial research by staff suggested substantial long-term operating efficiencies, appreciable reduced green house gas emissions and significant energy cost savings with an enviable pay back on initial investment in “green” technology and design elements.
In September 2003, staff brought this matter to Council’s attention and sought direction, recommending that we take the time to investigate the merits of environmental design considerations, before proceeding to finalize the design options for the project. Environmental Services staff recommended that Council undertake detailed research into a specific program called LEED; short for Leadership in Energy and Environment Design.

LEED is a holistic economically and environmentally responsible approach to building design. It was first developed by the US Green Buildings Council as a means to standardize green building design. The Canadian Green Building Council has been formed and has developed LEED Canada. There are a number of Federal Buildings that have been designed to LEED standard. LEED certification can make a project eligible for reduced-rate financing and grants.

The Environmental Services Division, with Council’s authorization, hired LEED specialists, Enermodel Engineering, to work with a staff team in examining these opportunities. This technical team identified a number of design features that could enhance the environmental design of the project leading to significant operating savings and a short pay back period for the initial required capital investment. For more detail on the various components of LEED certification and project analysis, please refer to Appendix ‘3’.

The identified LEED design considerations were applied to each of the alternative design concepts and cost/benefit estimates prepared. Appendix ‘4’ contains a summary of the LEED cost/benefit analysis. The values being used are based on estimates only.

Final and accurate numbers can only be determined once the final design has been selected, prices quoted as a result of a competitive bid process are in hand, associated grants and/or loans that may be available are determined, and inflation and the ultimate price for financing the project are determined.

**A Quick Summary of LEED Savings** (see Appendix ‘3’ for more detail)

- A capital investment of $400,000 would provide LEED certification for the Centre 70 Twinning Project and would be expected to result in energy savings of up to **$2.1 million** over a 25 year period. Assuming the additional $400,000 investment was financed by debt, the net savings over the twenty five (25) year period life span of the building would be approximately **$1.4 million**.

- Exceptional reduced rate financing may be available for this LEED certified arena through the Green Municipal Investment Fund (GMIF) administered by the Federation of Canadian Municipalities. This is one of the primary reasons for seeking LEED certification. Obtaining a GMIF loan for 25% of the project cost at 1.5% below the Canada Bond Rate is a distinct possibility in obtaining if the project meets LEED certification. With this additional savings the total expected yielded savings would be between **$1.6 million** (Alternative ‘A’) and **$2.1 million** (Alternative ‘C’).
GMIF grants may be available as well; however that is not a certainty and therefore is not being factored into this analysis.

Assuming annual operating savings would be in the order of $73,000, the pay back on the LEED investment would be approximately 7 years. Annual energy savings calculations were based on the estimated energy consumption of the new facility design (Alternative’s ‘A’ and ‘C’), without the LEED enhancements, compared to the energy consumption of the new facility design including the LEED elements. The new arena design (in comparison to the existing facility) will be larger, and, will operate twelve (12) months of the year compared to six (6) months of operation of the present Centre 70 facility. This payback estimate is based on a 79% reduction in gas consumption and 14% reduction in electrical consumption.

Both in the immediate future and over the life of the project such grants, loans and operational cost savings will reduce the overall project cost, and allow the city to re-invest operational savings back into the arena maintenance program. Additionally, in obtaining a LEED designation for this project, the City of Kingston would take a significant step forward in meeting strategic planning objectives.

**LEED Premiums of $400K Includes:**

- **Erosion & sediment control**: (storm water management; light pollution reduction; bicycle racks; premium lighting fixtures) - $87,000
- **Water efficiency**: (not irrigating site; innovative waste water technologies – premium plumbing features) - $10,000
- **Energy & Atmosphere**: (Optimize energy performance – high efficiency light fixtures interior for new and existing) - $38,000
- **Materials and Resources**: (Construction waste management; use recycled steel; grind and reuse existing asphalt materials; material specifications) - $95,000
- **Indoor Environmental Quality**: (add CO2 monitoring devices; sealants; paint specifications; carpet specifications – low emissions in the interior) - $25,000
- **Innovative and Design Process**: (cascaded energy recovery from innovative ice making system; necessary upgrades to mechanical systems to accommodate new system; using a LEED accredited professional) - $145,000
Design Cost Estimates
Initial cost estimates for each design alternative were obtained from a professional estimator. It must be stressed that these estimates are at reasonably high level. These were then subject to the LEED analysis to yield the summary of cost estimates below for the three Alternatives.

Cost Estimate for Centre 70 Twinning Project Based on Consultant’s Estimated Values:

<table>
<thead>
<tr>
<th></th>
<th>Council’s Original ‘No-Frills’ Concept</th>
<th>Alternative ‘A’ (includes significant upgrades/efficiencies)</th>
<th>Alternative ‘C’ (Original Concept with modifications)</th>
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<tbody>
<tr>
<td>Building Design Estimate</td>
<td>$2,700,000</td>
<td>$3,820,000</td>
<td>$3,330,000</td>
</tr>
<tr>
<td>Lobby Feature</td>
<td>n/a</td>
<td>$550,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Site Work</td>
<td>$300,000</td>
<td>$1,000,000</td>
<td>$750,000</td>
</tr>
<tr>
<td></td>
<td>(only basic work in Yr. 1 with remainder completed over subsequent years)</td>
<td>(many upgrades)</td>
<td>(minimum required based on known site requirements)</td>
</tr>
<tr>
<td>Subtotal Project</td>
<td>$3,000,000</td>
<td>$5,370,000</td>
<td>$4,080,000</td>
</tr>
<tr>
<td>LEED Incremental Cost</td>
<td>(not included in the process)</td>
<td>$400,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Total Project</td>
<td>$3,000,000</td>
<td>$5,770,000</td>
<td>$4,480,000</td>
</tr>
</tbody>
</table>

Please note: The above numbers are estimates only. They are not quoted values from contractors willing to provide competitive market values based on the concept designs we are requesting. The competitive contractor bid process will give Council accurate and current market costs related to the various concepts and approaches. Since the original concept did not adequately reflect the needs of stakeholders, it was not included in the professional estimations process, nor the LEED cost benefit analysis. The original concept is being used in the table as a reference point.

Prequalification Process Undertaken:
Staff and the consultant have concluded a pre-qualification process for prospective contractors for this project, thus identifying potential contractors best suited and qualified to undertake a Request For Proposals for a project of this type.

EXISTING POLICY/BY-LAW:

LINK TO STRATEGIC PLAN:
Culture, (broadly defined to include parks/open space, recreation, sport, leisure, arts, entertainment, heritage programming and museums) has been identified as one of Kingston’s eight (8) priority
areas within our Strategic Planning Process. One of the specific action plans within the Cultural plan is “Assets and Opportunities”, which addresses the community needs and demands for cultural facilities and services. The arena capacity and expansion study, along with the expansion of Centre 70 are essential components of the action plan.

LEED Initiatives Link To Strategic Plan: On April 17, 2001 the City of Kingston endorsed participation in the Federation of Canadian Municipalities (FCM) Partners in Climate Protection (PCP) program to reduce greenhouse gas emissions. On May 21, 2002 Council endorsed support for the ratification of the ‘Kyoto Accord’. The Strategic Plan for the City of Kingston also identifies air quality and climate change (greenhouse gas reduction) as priorities for the City of Kingston.

FINANCIAL CONSIDERATIONS:
It is being recommended that the Centre 70 twinning design include LEED Certification standard. The energy models indicates that the LEED design will result in a reduction in natural gas and electricity consumption of 79% and 14% respectively from the base design that is not LEED certified (that is not LEED certified). Based on these consumption estimates, net forecasted savings beyond the payback period are estimated to accumulate to between $1.4 million and $2.1 million depending on the energy market during the 25 year period. A more comprehensive financial analysis is recommended once final project proposals are known and grant or loan sources are determined.

Incorporating environmental design elements into either Alternatives “A” or “C” sufficient to achieve LEED certification, and therefore eligibility for reduced capital financing through a reduced rate GMIF loan, would be expected to add approximately $400,000 to the capital cost of the Centre 70 Twinning project. This would be expected to yield operating savings in excess of $70,000 per year on the expanded facility; meaning the payback period for the incremental capital investment would be 7-8 years.

Council approved $2.7 million to the Centre 70 Twinning project from its 2003 capital budget. An additional $300,000 dollars for this project was to be realized through community fund raising efforts. Council approved a financing plan based on these amounts. The additional costs associated with either design alternative “A” or “C” will require the development of a revised financial strategy, which will be presented as part of the 2004 budget deliberations.

Staff recommends that Council adopt Concept “C”, which will, when designed to LEED certification standard, require the financing of an additional $1.5 Million above the already approved project envelope. This matter therefore must be considered as part of the 2004 budget deliberations.

According to the Finance Division, opportunities exist to develop financial solutions that consider potential financing sources from Development Charges, savings from the energy costs resulting from the LEED Certification of the project, GMIF financing tools, and the possible redirection or repackaging of budgeted funds related to the recommendations of the Arena Capacity and Expansion Study recently received by Council.

Evolving Context
Since the twinning project was approved by Council in 2002 the context for this project has evolved considerably. A new Council has been elected, the Arena Capacity and Expansion Study has been
completed and a Mayor’s Task Force has embarked on the consideration of developing a Large Venue Entertainment Centre to replace the aging Memorial Centre. These issues are coming together in time as Council is about to consider its 2004 budget challenges and longer-term financial strategies.

Given the evolving context for this project, staff re-examined the reasoning for proceeding with the twinning project in the first place, and remains convinced that the original rationale remains sound. That is, that the City needs to develop an additional ice pad immediately to provide the capacity to take another rink out of service for major repairs as are necessary, or otherwise to meet the unsatisfied demand in the community for additional ice time.

The Arena Study findings confirm that twinning Centre 70 is a recommended course of action in the short term regardless of decisions made regarding the Memorial Centre or other arenas. While Council and community wrestle with the issues surrounding community ice needs, the Memorial Centre and the LVEC, an important process that will not yield new ice facilities for at least 2 to 3 years, adding an additional ice pad at Centre 70 in the short term remains a good business decision.

CONTACTS:
Mark Fluhrer, Manager, Policy & Support Services, Office of the Commissioner, Department of Community Services 546-4291 ext. 1342
Paul MacLatchy, Manager, Environment Division, 384 1770
Beth Sills, Environment Division, 384 - 1770
Mike Richardson, Capital & Grants Projects Coordinator, Cultural Services, 544 – 4442 ext. 1807
Gerard Hunt, Manager of Finance, Corporate Services Department

DEPARTMENTS/OTHERS CONSULTED AND AFFECTED:
Finance Division; Cultural Services Division; Environmental Services Division; Engineering Division; Planning Division

NOTICE PROVISIONS:
N/A

APPENDICES:
Appendix ‘1’ - Alternative ‘A’ Design concept – Architect’s drawings
Appendix ‘2’ - Alternative ‘C’ Design concept – Architect’s drawings
Appendix ‘3’ - LEED Background Information
Appendix ‘4’ - LEED Cost/ Benefit Analysis detailed Chart
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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</thead>
<tbody>
<tr>
<td>Lance Thurston</td>
<td>Commissioner, Department of Community Services</td>
</tr>
<tr>
<td>Bert Meunier</td>
<td>Chief Administrative Officer</td>
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</tbody>
</table>
Leadership in Energy and Environment Design (LEED)

Background:
Leadership in Energy and Environmental Design (LEED) is a holistic economically and environmentally responsible approach to building design. LEED is divided into 6 components; water efficiency, sustainable sites, energy and atmosphere, materials and resources, indoor environmental quality site selection, innovation and design. Depending on the number of design attributes selected in each category a building can be designated as either certified, silver, gold or platinum.

LEED was first developed by the US Green Building Councils as a means to standardize green building design. The Canadian Green Building Council has been formed and has developed LEED Canada. There are a number of Federal Buildings that have been designated to LEED standard.

Overview of the Potential Financial Impact of a LEED Design to the Centre 70 Twin Project:

If the project design and specifications include the necessary elements and infrastructure in order to obtain a LEED designation the project may be eligible for funding through the Federation of Canadian Municipalities (FCM) Green Municipal Implementation fund (GMIF). A LEED design will have the following projected financial effect on the project:

- Initial $400,000 additional capital funding will be required to incorporate LEED infrastructure components.
- Potential grant and loan monies are available through the Federation of Municipalities Green Municipal Implementation Fund (GMIF). The funding opportunities available are as follows:
  - GMIF Loan: Offers a loan valued at up to 25% of the total capital cost of the project at a borrowing rate of 1.5% below the Canada Bond Rate.
  - GMIF Pilot: Offers up to 50% of the total capital cost of the project in a combination of grant (limited to 25% of the capital cost of the project) and loan (offered at 25% below the Canada Bond Rate). To be considered as a pilot project the project must demonstrate a high level of innovation and opportunity for replication.

- This potential awarding of grant and loan will be applied to the project, thus reducing project costs overall. The GMIF grant and loan selection process that identifies a project as 'innovative' and thus eligible for GMIF Grant and Loan Funding is a very subjective process. Staff are fairly confident that this project has the potential to receive a loan, but, cannot with any certainty suggest that this project will receive ANY grant funding. Therefore financial projections have only been considered for a GMIF loan.

- Annual operational energy cost savings realized over the 25 year life of the project can be re-invested into identified arena maintenance requirements.
Detailed Review of the Methodology Applied to Estimate the Energy Savings of A LEED (Scheme A or Scheme C) Design:

1. Selection of LEED design features:
   A design charrette chaired by Enermodal Engineering was conducted on July 15, 2003 and involved City of Kingston staff (Finance, Environmental, Arenas) and Norr. During this session possible LEED attributes to address energy efficiency and the other 5 components of LEED were selected for review. To assess refrigeration options the design team met with manufactures, participated in a site tour and conducted a strength and weaknesses exercise.

2. Consumption Estimates:
   Enermodal Engineering used Natural Resources Canada (NRCan) model EE Wizard to assess the electricity consumption of the Base Design and the LEED (Scheme A or C) design. Since the preferred refrigeration system could not be modeled by the EE Wizard, Enermodal Engineering and NORR assessed it by comparing it to a system with similar expected energy efficiencies taking into account performance data provided by the manufacturer. On this basis, the consumption of electricity and natural gas for the Base design and the LEED (Scheme A and Scheme C) design was provided. The comparison of energy consumption between the Base Design and LEED (Scheme A and C) is considered to be more accurate that the absolute energy consumption of the Base or LEED (Scheme A or Scheme C) designs.

3. Energy Cost Estimates:
   Electricity:
   The energy market has changed considerably since the Centre 70 Report to Council in September, 2003 requesting LEED consideration. At that time there was a cap on electricity of 4.3 cents/kilowatt hour. Therefore, the energy scenarios presented to Council were as follows:
   • A. Energy price freeze of $0.043/kwh until 2023, with an escalation in Natural Gas prices.
   • B. Energy price freeze of $0.043/kwh changing to $0.06/kwh price freeze in 2006 to 2023, with Natural Gas escalating at market value.
   • C. Energy price freeze of $0.043/kwh changing to $0.06/kwh in 2006 and escalating annually at 2.5%, with Natural Gas at market price.
   Starting April 1, 2004 the current price cap of 4.3 cents/kwh will be removed and an interim pricing structure will be implemented that better reflects the true price of electricity. Under the interim plan the first 750kwh consumed in any month will be priced at 4.7cents/kwh. Consumption above that level will be priced at 5.5 cents/kwh. This interim pricing will stay in place until the independent regulator, the Ontario Energy Board (OEB) develops a clear and transparent mechanism for setting prices in the future. The OEB’s new pricing mechanism will be implemented as soon as possible and no later than May 1, 2005.

To anticipate the whole sale average commodity price for electricity when the market opens in May 1, 2005 GAIA Power has conducted an analysis of the hourly OEB spot market pricing for the year 2002. Based on this analysis it is anticipated that when the market opens on or before May 1, 2005 that the commodity price of electricity will be 6 cents/kwh. From the Hydro One website the additional charges applied to consumption are 1.32cents/kwh. These additional charges are made up of 0.62cents/kwh for the cost to deliver the electricity and 0.7cents/kwh
for the debt retirement charge. Therefore the anticipated consumption charge of 7.32 cents/kwh is anticipated for the Center 70 arena.

In addition to consumption charges there are demand charges which accommodate for when the energy is consumed (peak charge or demand charge). Using the NRCan model Enermodal estimated the peak demand for each month for the Base Design and a LEED design that was adjusted to accommodate for the preferred Refrigeration system. Enermodal used this modeled peak demand and the demand rate structure provided on the Hydro One website. On this basis a rate of $11.40/kW was applied to the estimated demand (kW). This charge is composed of $8.32/kW charge by volume and $3.08/kW for the cost to deliver the electricity.

Natural Gas:
The natural gas rates applied to the natural gas consumption was derived from the cost structure provided on the Union Gas website [www.uniongas.com/aboutus/regulatory/rates/summary/2003southratem2com03.pdf](http://www.uniongas.com/aboutus/regulatory/rates/summary/2003southratem2com03.pdf).

These rates are $0.42/m3 for the Base Design and $0.44 for the LEED design. The rates for natural gas are provided in blocks.

4. Estimated Energy Cost Projections

Electricity:
An annual electricity price escalation of 2.5% was provided by GAIA Power. GAIA Power obtained this escalation rate from the RETSCREEN program administered and developed by the Energy Branch of Natural Resources Canada.

Natural Gas:
A natural gas price escalation of 28% over the next 20 years was obtained by GAIA Power from the Energy Information Administration administered by the US department of Energy.

5. Estimated Energy Savings

Based on the consumption estimates provided by Enermodal and peer reviewed by NORR and the applied consumption and demand charges it is estimated that the LEED design (Scheme A and Scheme C) will result in an annual energy savings of approximately $73,000 in year 1. The anticipated life of the arena is 25 years. Using the escalation rate estimates of electricity and natural gas it is estimated that this annual energy savings (for the same consumption) will increase to $200,000 on the 25th year of operation. The estimated cumulated energy savings over the 25 year life of the arena is estimated to be 2.2 Million dollars.

As discussed in the limitation of the model provided in bullet 8, because of the nature of inputs into the model (ie. weather, number of occupants, scheduling) there is a higher degree of confidence between the comparison of the Base Design and the LEED design than that for the individual absolute value of either the Base Design or the LEED design. There is a higher degree of confidence between the relationship of consumption demonstrated between the Base design and the LEED design. It is anticipated that the LEED design will result in a decrease in consumption of electricity and natural gas of approximately 14% and 79% respectively over the base design.

6. Cost of Borrowing Money

The Federation of Canadian Municipalities (FCM) Green Municipal Implementation Fund (GMIF) provides a potential option to borrow up to 25% of the capital costs of the project at a
rate of 1.5% below the Canada Bond Rate. The 10 year Canada Bond Rate applied for the calculation was 4.92% (http://www.bank-banque-canada.ca/).
The cost of borrowing for the City of Kingston is 7% over 20 years (provided by the Finance Division).

The following three financial scenarios were developed:
Base Design: The City borrows the capital at a rate of 7% for 20 years. The City does not receive any funding from the FCM.

1) LEED (Scheme A and Scheme C): The City borrows the capital at a rate of 7% for 20 years. The City does not receive any funding from the FCM.
2) GMIF – 25% loan: The City borrows 25% of the capital from the FCM at a rate of 1.5% below the Canada Bond Rate for a period of 10 years and the remaining 75% of capital at a rate of 7% for a period of 20 years.

7.0 Net LEED Savings
The estimated cost of the LEED design (Scheme A or Scheme C) is $400,000. This estimate has been provided by the cost consultants A.W.Hooker who were retained by Norr. The Net LEED savings incorporates the estimated cost of borrowing capital and the estimated energy savings. The estimated total LEED energy savings is 2.2 Million over the 25 years.

Taking into account the cost of borrowing capital for both Scheme A and Scheme C and assuming that the project does NOT receive any funding from the FCM it is estimated that the Net Savings (Energy Savings – Cost of Capital) for both scenarios over the 25 years is 1.4 Million.

Taking into account the cost of borrowing capital for both Scheme A and Scheme C and assuming that the project DOES receive a 25% loan from the FCM it is estimated that the 25 year Net Savings will be approximately 1.6 Million and 2.1 Million respectively. Therefore the estimated range of savings based on the energy model and energy market estimates is 1.4 Million to 2.1 Million over the 25 year life of the arena. The model indicates that the LEED design will result in a 14% reduction in the consumption of electricity and a 79% reduction in the consumption of natural gas over the Base design.

8.0 Constraints of the Model
There is more confidence in the comparison of the Base to the LEED consumption values that there is for the independent values of the Base or LEED consumption. Based on the model results provided by Enernodal the LEED design is expected to be 14% more efficient in electricity and 79% more efficient in natural gas. The model makes assumptions related to weather conditions, building occupancy rates, and facility use schedules that may differ from the actual.
LEED Cost Benefit Analysis Summary Chart:
Based on energy savings calculated to be approximately $73,000 in year one with escalation to approximately $200,000 (based on energy cost assumptions as outlined earlier due to predicted energy markets within the 25 year period.

<table>
<thead>
<tr>
<th>Original Concept</th>
<th>Alternative 'A'</th>
<th>Alternative 'C'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Base Project Cost (no LEED)</td>
<td>$3,000,000</td>
<td>$5,370,000</td>
</tr>
<tr>
<td>*no lobby</td>
<td>*lobby &amp; enhanced site work</td>
<td>*no lobby</td>
</tr>
<tr>
<td>Estimated Incremental LEED Cost (consultant)</td>
<td>(not included in the assessment)</td>
<td>$400,000</td>
</tr>
<tr>
<td>Subtotal Estimated Building Cost (including LEED)</td>
<td>(not included in the assessment)</td>
<td>$5,770,000</td>
</tr>
<tr>
<td>Estimated LEED Energy Savings (over a 25 years period)</td>
<td>(not included in the assessment)</td>
<td>$2.2 million (Payback - 7 years)</td>
</tr>
<tr>
<td>Estimated LEED net savings over 25 years (including debenture costs)</td>
<td>(not included in the assessment)</td>
<td>$1.4 million</td>
</tr>
<tr>
<td>No GMIF Funding</td>
<td>Estimated LEED net savings over 25 years (including debenture costs)</td>
<td>$1.6 million (projected savings)</td>
</tr>
<tr>
<td>with 25% GMIF Loan</td>
<td>Estimated LEED net savings over 25 years (including debenture costs)</td>
<td>*unknown</td>
</tr>
<tr>
<td>With GMIF Grant</td>
<td>Total Potential Net Savings LEED Certification over 25 years (grant not included)</td>
<td>$1.6 million</td>
</tr>
</tbody>
</table>

- note: it is quite likely this project would be eligible for a GMIF loan; however, due to the subjectivity of the process to determine if a project is to be considered as ‘innovative’ (thus worthy of grant consideration) staff cannot with any certainty indicate to Council or other stakeholders that this project is eligible or would be awarded a ‘grant’. It is for this reason we have not calculated as a portion of the LEED cost/benefit analysis on the basis that we ‘may’ be eligible or be awarded a grant.