



CITY OF KINGSTON
INFORMATION REPORT TO COUNCIL

Report No.: 07-202

TO: Mayor and Members of Council

FROM: Glen Laubenstein, Chief Administrative Officer

RESOURCE STAFF: Hal Linscott, Director of Legal Services and City Solicitor
George Wallace, Director of Planning and Development

DATE OF MEETING: 2007-06-05

SUBJECT: Status Update – Council Request to Correctional Service Canada
to Relocate Portsmouth Community Care Centre

EXECUTIVE SUMMARY:

This Report is to provide an update on the status of discussions between City staff and Correctional Service Canada staff on the relocation of the Portsmouth Community Care Centre (the “Portsmouth Avenue Centre”) by Correctional Service Canada to a more appropriate location within the City.

At its meeting of September 5, 2006 City Council passed a motion that the Mayor contact the Minister of Public Safety to encourage the Government of Canada to relocate the Portsmouth Avenue Centre to a more appropriate location in the City that is not in close proximity to a school, playground, park or another area that children frequent.

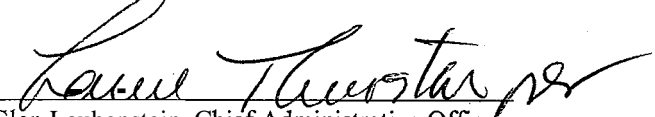
Following Council’s motion, the City’s Chief Administrative Officer and the Regional Deputy Commissioner, Correctional Service Canada (“CSC”), initiated discussions regarding the City’s relocation request. An initial meeting took place on September 26, following which a working group comprised of representatives from both the City and CSC have met on an ongoing basis, approximately every 4 – 6 weeks, for the purposes of furthering CSC’s relocation planning.

Much of the initial groundwork required to identify and understand the criteria that apply in determining a new location within the City for the Portsmouth Avenue Centre has been undertaken, details of which are provided further on in this report. Discussions have been positive and the working group representatives from both CSC and the City remain committed to achieving relocation of the facility.

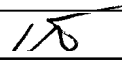
RECOMMENDATION:

This report is for information purposes only.

AUTHORIZING SIGNATURES:

 Glen Laubenstein, Chief Administrative Officer

CONSULTATION WITH THE FOLLOWING COMMISSIONERS:

Commissioner Beach, <i>Sustainability & Growth</i>	NR
Commissioner Segsworth, <i>Public Works & Emergency Services</i>	NR
Commissioner Hunt, <i>Finance & Corporate Performance</i>	NR
Commissioner Thurston, <i>Community Development Services</i>	
Commissioner Leger, <i>Corporate Services</i>	NR
Jim Keech, President, <i>Utilities Kingston</i>	NR

(NR indicates consultation not required)

OPTIONS/DISCUSSION:

Much of the initial groundwork required to identify and understand the criteria that apply in determining a new location within the City for the Portsmouth Avenue Centre has been undertaken.

CSC has explained the legal obligation that it has to provide facilities such as the Portsmouth Avenue Centre and that the residents, although under supervision, curfews, rules and other restrictions, are not legally in closed custody and therefore cannot be located in a setting akin to a penitentiary. In addition, since one of the purposes of the Portsmouth Avenue Centre is to provide an environment where residents can develop the skills necessary to integrate back into the community, a Centre should be located where services such as public transit, social services, grocery stores and employment are accessible.

Municipal staff has provided CSC with mapping information for the City that shows the location of schools as well as existing group homes and zoning in Kingston Centre. Under the former City of Kingston zoning by-law a facility like the Portsmouth Avenue centre is considered an open custody home which falls within the definition of a residential care facility. As such, the zoning by-law provides that there must be a minimum separation of 250 metres from other residential care facilities, community houses, crisis care centres and similar facilities. This requirement, in addition to the intent to maintain a separation distance from schools or parks, severely limits potential locations for a new Centre in the former City of Kingston. The zoning by-laws in Kingston West and East would require a zoning by-law amendment if a Centre were to be located in those areas.

Municipal staff has also provided CSC with a list of municipally owned properties that are for sale in the various city owned industrial parks or that have been identified as surplus, or might otherwise be available. Most properties do not meet the criteria noted above and are unlikely to be considered further. Should a municipally owned property be identified for further consideration as part of CSC's feasibility process, any sale would require Council approval.

CSC has existing land holdings within City boundaries and is considering which of those properties might warrant further consideration. CSC has also initiated contact with Ontario Realty Corporation to ascertain whether the Province of Ontario owns property within the City that might be considered.

Next steps will include CSC identifying a process that it will follow for community consultation and site selection. City staff will continue to work with CSC in support of its activities to relocate the Portsmouth Avenue Centre to a more suitable location within the City.

It must be recognized that the process involved in community consultation and site selection, potential requirements for zoning by-law amendments, land acquisition and construction will take a significant period of time.

EXISTING POLICY/BY LAW:

None

June 5, 2007

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NOTICE PROVISIONS:

It is anticipated that CSC's site selection process will involve stakeholder and community consultation. In the event that the Portsmouth Avenue Centre use on a particular site requires Official Plan or Zoning By-Law amendments, the City would follow the notice and public meeting requirements of the Planning Act and City procedures.

ACCESSIBILITY CONSIDERATIONS:

None at this stage of discussions.

FINANCIAL CONSIDERATIONS:

No municipal financial considerations at this point in time.

CONTACTS:

Glen Laubenstein, Chief Administrative Officer, 613-546-4291, ext. 1214
Hal Linscott, Director of Legal Services and City Solicitor, 613-546-4291, ext. 1296
George Wallace, Director of Planning and Development, 613-546-4291, ext. 3252

OTHER CITY OF KINGSTON STAFF CONSULTED:

None

EXHIBITS ATTACHED:

None



CITY OF KINGSTON

INFORMATION REPORT TO COUNCIL

Report No.: 07-213

TO: Mayor and Council

FROM: Gerard Hunt, Commissioner, Finance and Corporate Performance

RESOURCE STAFF: Janis Morrison, Purchasing Coordinator

DATE OF MEETING: 2007-06-19

SUBJECT: Tender and Contract Awards Subject to the Established Criteria
for Delegation of Authority for the Month of May 2007

EXECUTIVE SUMMARY:

This information report is to:

1. advise council of tenders/RFPs approved and contracts awarded greater than \$50,000 that meet the established criteria of delegated authority for the month of May 2007
2. report additional information on contracts awarded by senior staff between the \$20,000 and \$50,000 level for the month of May 2007

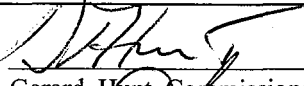
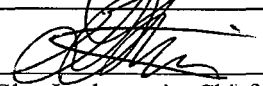
RECOMMENDATION:

This report is for information purposes only.

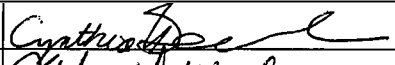
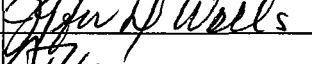
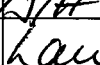
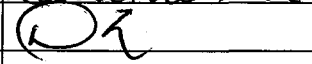

REPORT TO COUNCIL.

Report No.: 07-213

June 19, 2007
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 Gerard Hunt, Commissioner of Finance and Corporate Performance
 Glen Laubenstein, Chief Administrative Officer

CONSULTATION WITH THE FOLLOWING COMMISSIONERS:

Commissioner Beach, <i>Growth & Sustainability</i>	
Commissioner Segsworth, <i>Public Works & Emergency Services</i>	
Commissioner Hunt, <i>Finance & Corporate Performance</i>	
Commissioner Thurston, <i>Community Development Services</i>	
Commissioner Leger, <i>Corporate Services</i>	
Jim Keech, President, <i>Utilities Kingston</i>	N/R

(N/R indicates consultation not required)

OPTIONS/DISCUSSION:

OPTIONS/DISCUSSION:

Council has approved the delegation of authority to approve tenders and award contracts to the city commissioners, when all of the following conditions have been satisfied:

- there is sufficient approved budget;
- all procedures for the establishment of prices in by-law 2000-134 as amended, have been followed;
- the lowest tender is accepted;
- at least three tenders have been received.

As directed by the purchasing by-law, Schedule A to this report provides information on tenders/RFPs approved and contracts awarded greater than \$50,000 that meet the established criteria of delegated authority for the month of May 2007. The purchasing by-law requires that all awards and contracts in excess of \$50,000 not meeting these provisions are the subject of separate reports to council for award purposes.

As directed by council motion, Schedule B to this report provides additional information on contracts awarded by senior staff between the \$20,000 and \$50,000 level for the same period. Section 3.1 (iv) of the purchasing by-law identifies the annual budget as financial approval to proceed with a purchase. There is no authority to make purchases that are not within budget parameters. In addition, council receives budget variance reports on a quarterly basis including quarterly budget works-in-progress reports that provide an update on the status of capital works.

May 2007 procurement activities that are not included in this report are as follows:

- value of the purchase, if less than \$20,000
- tenders closing in this time frame that were approved separately by council at previous council meetings

EXISTING POLICY/BY LAW:

By-law 2000-134, A By-law to Establish Purchasing Policies and Procedures for the City of Kingston, as amended.

NOTICE PROVISIONS:

Not Applicable

ACCESSIBILITY CONSIDERATIONS:

The Ontario Disabilities Act is a consideration and forms part of the evaluation criteria of all Requests for Proposals administered by the City of Kingston.

FINANCIAL CONSIDERATIONS:

Not Applicable

June 19, 2007

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CONTACTS:

Gerard Hunt, Commissioner, Finance and Corporate Performance Ext. 2205
Desiree Kennedy, Director, Financial Services Ext. 2220
Janis Morrison, Purchasing Coordinator Ext. 2229

OTHER CITY OF KINGSTON STAFF CONSULTED AND AFFECTED:

Cynthia Beach, Commissioner, Growth & Sustainability
Mark Segsworth, Commissioner, Public Works & Emergency Services
Lance Thurston, Community Development Services
Denis Leger, Commissioner, Corporate Services

EXHIBITS ATTACHED:

Schedule A – Tender/RFP/Contract Summary, May 2007.
Schedule B – Signed Contract Summary (\$20,000 - \$50,000), May 2007

TENDER/RFP/CONTRACT SUMMARY, MAY 2007

Tender CS-AM-2007-1 Closing Date – May 9, 2007
Roof Repair – Utility Building, 1211 John Counter Blvd.

Supplier/Service Provider	Part A	Part B	Part C	Part D
(Prices Exclude Applicable Taxes)				
Ricardo Roofing Limited	\$ 36,303	\$ 38,303	\$ 36,303	\$ 38,303
Covertite Roofing	\$ 45,300	\$ 49,500	\$ 42,800	\$ 49,500
Amherst Roofing	\$ 44,393	\$ 51,144	\$ 41,736	\$ 51,804

Tender CS-FL-2007-08 Closing Date – May 30, 2007
2008 Tandem Axle Flatbed Truck

Supplier/Service Provider	Bids Received (Including Taxes)
Edwards Ford – Bid B, D.E.L. Equipment	\$ 165,721.80
GM Strongco Crane	\$ 172,006.62
Edwards Ford – Bid A, Atlas Polar	\$ 173,076.96
Kingston Truck Centre	\$ 176,101.44
Surgenor Truck Centre	\$ 185,587.44

Contract 2007-04W Closing Date – May 30, 2007
Sanitary Sewer and Road Restoration – Dalton Ave and Sir John A MacDonald

Supplier/Service Provider	Bids Received (Excluding Taxes)
Len Corcoran Excavating Limited	\$ 60,910.00
L. A. Knapp Inc..	\$ 83,498.50
G. Harrison Excavating	\$ 85,855.00

SIGNED CONTRACT SUPPLIERS (\$20,000-\$50,000) MAY 2007

Purchase Order Date	Project	Successful Vendor	Value (No Taxes)	Group/Department
April 5, 2007	Project Management and Site Support	PMX	\$ 50,000	Sustainability & Growth, Administration
April 12, 2007	Voice and Inter Working Needs Analysis	Bell Canada	\$ 23,000	Sustainability & Growth, Administration
May 11, 2007	Repairs to Bus 0627	Leeds Transit Inc	\$ 25,000	Corporate Services/Fleet
May 14, 2007	Bus Seating	Otaco Seating	\$ 31,800	Corporate Services/Fleet
May 23, 2007	Radio Advertising	FLY FM	\$ 30,420	Sustainability & Growth, Strategy, Environment & Communications



CITY OF KINGSTON
INFORMATION REPORT TO COUNCIL

Report No.: 07-220

TO: Mayor & Council

FROM: Cynthia Beach, Commissioner, Sustainability & Growth Group

RESOURCE STAFF: Speros Kanellos, Director, Growth & Initiatives
Barclay Mayhew, Director, Project Development
Lanie Hurdle, Director, Project Development

DATE OF MEETING: **2007-06-19**

SUBJECT: PROJECT STATUS REPORTS:
Grand Theatre Building Improvement Project
Multiplex Community Centre
Kingston Regional Sports & Entertainment Centre

EXECUTIVE SUMMARY:

In response to Council's request for monthly project status reports for each of the Group of Seven projects, staff in Sustainability & Growth have prepared status reports for the Grand Theatre Building Improvement Project, the Multiplex Community Centre Project and the Kingston Regional Sports & Entertainment Centre project for the month of May 2007. These reports are attached as Exhibits A, B and C to this report.


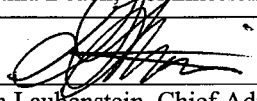
RECOMMENDATION:

There is no recommendation as this report is provided for information only.

June 19, 2007

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AUTHORIZING SIGNATURES:

 Cynthia Beach, Commissioner, Sustainability & Growth Group
 Glen Laubenstein, Chief Administrative Officer

Commissioner Beach, <i>Sustainability & Growth</i>	✓
Commissioner Segsworth, <i>Public Works & Emergency Services</i>	N/R
Commissioner Hunt, <i>Finance & Corporate Performance</i>	JH
Commissioner Thurston, <i>Community Development Services</i>	Laubenstein
Commissioner Leger, <i>Corporate Services</i>	OK
Jim Keech, President, <i>Utilities Kingston</i>	N/R

(N/R indicates consultation not required)

OPTIONS/DISCUSSION:

On a monthly basis, Project Status Reports for each of the Group of Seven projects in which Sustainability & Growth Group is involved will be provided to Council for their information.

EXISTING POLICY/BY LAW:

There is no existing policy/by-law.

NOTICE PROVISIONS:

There are no notice provisions to be considered with this report.

ACCESSIBILITY CONSIDERATIONS:

There are no accessibility considerations with this report.

FINANCIAL CONSIDERATIONS:

There are no financial considerations with this report.

CONTACTS:

Cynthia Beach, P.Eng., MCIP, RPP, Commissioner, Sustainability & Growth (613-546-4291, ext. 1150)
Speros Kanellos, Director, Growth & Initiatives Department (613-546-4291, ext. 3133)
Barclay Mayhew, Director, Project Development (613-546-4291, ext. 1350)
Lanie Hurdle, Director, Project Development (613-546-4291, ext. 1231)

OTHER CITY OF KINGSTON STAFF CONSULTED:

Gerard Hunt, Commissioner, Finance & Corporate Performance
Denis Leger, Commissioner, Corporate Services
Lance Thurston, Commissioner, Community Development Services
Desiree Kennedy, Director, Financial Services

EXHIBITS ATTACHED:

Exhibit A – Grand Theatre Building Improvement Project “Project Status Report – May 2007”
Exhibit B – Multiplex Community Centre “Project Status Report – May 2007”
Exhibit C – Kingston Regional Sports & Entertainment Centre “Project Status Report – May 2007”

EXHIBIT A



Project Status Report

Project Name: Grand Theatre Building Improvement Project
Department: Sustainability and Growth Group
Period: May 1, 2007 to May 31, 2007

Prepared By: Speros Kanellos, Director, Growth & Initiatives

Document Owner(s)	Project/Organization Role
Cynthia Beach	Project Sponsor
Speros Kanellos	Project Director

Project Status Report
Grand Theatre Building Improvement Project
May 1, 2007 to May 31, 2007

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Project Status Report
Grand Theatre Building Improvement Project
May 1, 2007 to May 31, 2007

1 PROJECT STATUS REPORT PURPOSE

The Project Status Report is a document used as a means of formal monthly reporting on the status of a project to key project stakeholders, including the Council members, Project Sponsor, and CMT.

2 PROJECT STATUS REPORT

2.1 Executive Summary

Construction activities remain on time, on schedule and on budget.

Four main issues currently being mitigated include:

- a) Vandalism: the building has been the target of repeated vandalism. Kingston Police is investigating the matter and the general contractor and building neighbours are working closely to prevent further vandalism.
- b) Encroachments: Discussions with all affected parties has occurred. The project team is currently drafting formal encroachment agreements.
- c) Business and operations plan: the City's Culture and Recreation Department has retained the services of Novita, a Theatre consulting firm, to assist in this endeavour and ensure that the Grand Theatre is run in an efficient and effective manner that will improve the quality of life for Kingston residents.
- d) Labourers' strike: Across Ontario, members of the Labourers' International Union are striking. The strike is being closely monitored. The strike could impact masonry work at the Grand Theatre if it goes beyond the middle of June.

Project Status Report
Grand Theatre Building Improvement Project
May 1, 2007 to May 31, 2007

2.2 Project Status Report Details

Progress of Activities from May 1, 2007 until May 31, 2007

A) Construction Update

The overall project construction is proceeding on schedule. Construction completion date remains March 28, 2008 (grand opening date yet to be determined).

Work Completed in May

- J Interior Stage North wall re-pointing 100% complete
- J Interior Stage North wall top rebuilding 75% complete
- ✓ Auditorium catwalks installed - 99% complete
- J Courtyard slab on grade poured
- J Courtyard steel structure spray fireproofing installed
- J Promenade steel structure spray fireproofing installed
- J Removal of existing Flytower North mansard roof complete
- J Scaffolding erected on the Princess Street elevation
- J Ductwork installed in Auditorium
- J Steel studs installed through ground floor
- ✓ General heating and plumbing lines installed throughout
- ✓ Electrical conduit and ductwork installed in Baby Grand
- ✓ Roof top ductwork enclosures installed
- ✓ Exterior South Auditorium top of wall removal and re-build continuing.

Work Planned For June:

- Completion of South side masonry re-pointing and re-build
- Finish re-pointing of exterior East side of flytower
- Re-pointing of masonry on Princess Street elevation
- Continue roofing removals and installation of new roofing system
- Erection of steel in the flytower / Stage area
- General electrical and plumbing throughout

Project Status Report
 Grand Theatre Building Improvement Project
 May 1, 2007 to May 31, 2007

B) Change Orders

The Grand Theatre Project Office (managed by Speros Kanellos) has the authority to approve changes up to \$50K given that they do not increase the total project budget above the amount approved by Council (\$17,077,400) and they do not affect the final completion date.

The Grand Theatre Project Management Committee has the authority to approve changes from \$50K up to \$200K given that they do not increase the total project budget above the amount approved by Council (\$17,077,400) and they do not affect the final completion date.

Changes above \$200,000 will be directed to Council for review, complete with a recommendation from the Project Management Committee.

There were 8 Project Office approved Change Orders for May 2007. These Change Orders totaled approximately \$58K. The work for these change orders is pending and the city has yet to be invoiced for the changes.

The Project Management Committee did not approve any change orders in May 2007.

Approved Change Orders - 31/05/ 2007	Number	Amount	Impact on Contingency
Project Office Approved Change Orders	26	\$163,003	\$163,003
Project Committee Approved Change Orders	1	\$92,175	\$92,175
Council Approved Change Orders	0	\$0	\$0
Total	27	\$255,178	\$255,178

As at May, 31, 2007, change orders in the amount of approximately \$125K have been invoiced and included in actual costs to date.

Project Status Report
 Grand Theatre Building Improvement Project
 May 1, 2007 to May 31, 2007

C) Management & Operations

The City's Culture and Recreation Department has retained the services of Novita, a theatre specialist consulting firm.

Novita will develop a Critical Path and Business Plan for the theatre, addressing the following:

- Mission, vision and value statement;
- Community Needs/Industry Trends;
- Operating Policies;
- Human Resources;
- Program design; and
- Financial Plan

D) Budget

The following table provides a financial snapshot of the approved budget, the actual costs-to-date as at May 31, 2007 and the balance remaining for the project. It should be noted that the AP is still open for May and there will still be invoices that come in after the date of this report that are charged against May costs.

As at May 31, 2007 the City had spent approximately \$6.9M. This is equivalent to about 40% of the project's approved budget.

Budget Items	Approved Budget	Actual Costs	Balance	% Budget Spent to Date
Phase 1	3,512,000	3,512,000	0	100%
Phase 2 Construction costs	10,328,000	2,838,463	7,489,537	27%
City Administration	586,450	107,746	478,704	18%
Contracted Services	916,500	238,424	678,076	26%
Contingency	1,734,450	186,206*	1,548,244	11%
TOTAL	\$17,077,400	\$6,882,840	\$10,194,560	40%

Project Status Report
 Grand Theatre Building Improvement Project
 May 1, 2007 to May 31, 2007

**As at May 31, 2007, \$186,206 of Contingency has been spent. Contingency expenditure is comprised of the following items:*

Expended Contingency	Amount
Change Orders	\$125,251
Phase 1 Overrun	\$54,302
Other	\$6,653
Total	\$186,206

E) Risk Management – Mitigated and Potential Risks

The City has established some procedures and control for the project including a written process to control any contemplated changes to the approved construction tender. An internal invoice tracking system has been developed and coordinated with Finance Department accounts. All invoices are reconciled with the Finance Department on a monthly basis.

The Grand Theatre Project office has a risk management plan that includes risk management tasks and responsibilities. The project office maintains and updates the risk registry database. Each risk is categorized with an opening date, description, probability and importance. The risks also have a mitigation plan that outlines how each particular risk is handled. Risks and mitigation strategies can change throughout the project. Best practices include the identification of risks and documentation of mitigation.

A summary of key risks facing the project currently include:

1. Vandalism: the building has been the target of repeated vandalism.

Mitigation Update: The Kingston police force is investigating the matter and the general contractor and building neighbours are working closely to prevent further vandalism.

2. Ongoing Operations: The city is exploring potential business and operating models to ensure the Grand Theatre is run in an efficient and effective manner and in such a way that the optimum balance can be achieved between access to funding from senior governments and providing community benefit through the theatre facility.

Project Status Report
Grand Theatre Building Improvement Project
May 1, 2007 to May 31, 2007

Mitigation Update: The City's Culture and Recreation Department has retained the services of Novita, a theatre specialist to develop a policy, administrative, and financial framework as well as programming design for the theatre. The theatre specialist is also assisting the city in developing a job description and recruitment to hire a full time theatre manager.

3. Hotel Dieu Hospital/Chown Parking Expansion: Challenges have arisen as a Design Build/Operate RFP has been issued by Hotel Dieu Hospital to expand the Chown parking garage. There is potential conflict if construction of both projects overlap. Communications are being led by the City's Transportation Group to avoid conflicts.

Mitigation Update: This issue is being monitored by the Project Office. The Project Office has articulated the challenges of this issue to the City's Transportation Group and Hotel Dieu Hospital. The Project Office has requested that a Project Office member be part of future correspondence on this matter.

4. Montreal Street was excavated as required to extend the new storm sewer line to the existing combined sewer line. During this excavation the existing combined line was not found. Old records of the storm sewer on Montreal St. have been found to be incorrect. Utility crews were mobilized to determine the existing infrastructure on Montreal St. There is no combined sewer directly adjacent to the newly installed storm sewer on Montreal St. A test excavation will be conducted to determine exact location of the existing stone box sewer.

Mitigation Update: Quote for this work has been submitted. The Project Office is currently reviewing the cost.

F) Major Changes

No major changes in scope to report.

Project Status Report
 Grand Theatre Building Improvement Project
 May 1, 2007 to May 31, 2007

2.3 Project Status Report

Project Name			
Prepared By: Siperos Kanellos	Date: May 31, 2007	Reporting Period: May 1, 2007 to May 31, 2007	
Project Overall Status: Construction is on schedule. Costs are within established budget. Scope has not changed.			
Milestone Deliverables performance reporting			
Milestone Deliverables	Due Date	% Completed	Deliverable Status
• Finish ductwork in Auditorium	25/05/2007	100%	Completed
• Finish masonry work in Auditorium	14/05/2007	100%	Completed
• Auditorium Roof Replacement	24/05/2007	65%	Behind Schedule – However this item is not on the Critical Path and does not impact the overall schedule
Milestone Deliverables scheduled for June ■ – June 30, 2007			
Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 1 – Masonry and Structural Repairs			
• Finish of Masonry Work in Auditorium	06/05/07	85%	Onschedule
• Start of Erection of Steel at Flytower/Stage	06/05/07	30%	Ahead of Schedule
• Install Air/VB on Auditorium masonry	06/04/07	0%	On Schedule
Milestone 2 – Exterior Front of Building Work			
• Canopy Removal	06/11/07	100%	Ahead of Schedule
• Scaffolding Installed	06/14/07	25%	Ahead of Schedule
• Facade repair	06/28/07	0%	On Schedule

Project Status Report
 Grand Theatre Building Improvement Project
 May 1, 2007 to May 31, 2007

Project impact of milestones success or failure for project remainder				
No scope changes to report.				
Project Risk Management Status				
Risk and Description	Risk Chance	Risk Impact	Risk Priority	Change from Last Review
Operations • Development of business plan and operating model is needed.	Probable	High	High	Culture and Recreation have retained the services of Novita, a Theatre Consulting Company that specializes in business and operating plans.
Political/Social • Encroachments with neighbours abutting to Grand Theatre Property completion.	Possible	Moderate	Moderate	Discussions with all affected parties have occurred. The project team is currently drafting formal encroachment agreements.
Political/Social • Vandalism occurring within building at night and on weekends.	Highly probable	Moderate	High	The building has repeatedly been vandalized. The Kingston police force has been notified and a detective has been assigned to the case.

3 PROJECT STATUS REPORT APPROVALS

Prepared by 
 Speros Kanellos, Project Director

Approved by 
 Cynthia Beach, Commissioner
 Project Sponsor



Project Status Report

Project Name: Multiplex Community Centre
Department: Sustainability and Growth Group
Period Covered: May 1,2007-May 31,2007

Prepared By: Barclay Mayhew, Director Project Development

Document Owner(s)	Project/Organization Role
Cynthia Beach	Project Sponsor
Christine Hannaford	Project Coordinator

Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

May 1-May 31, 2007

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Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

May 1-May 31, 2007

1 PROJECT STATUS REPORT PURPOSE

The Project Status Report is a document used as a means of formal monthly reporting on the status of a project to key project stakeholders, including the Council members, Project Sponsor, and CMT.

2 PROJECT STATUS REPORT

2.1 Executive Summary

The Multiplex Community Centre project continues to be on schedule to meet the substantial completion date of March 29, 2008.

The first change order has been issued and approved by the Project Management Committee for the grounding system and will be covered by the contingency.

2.2 Project Status Report Details

Progress of Activities from May 1st until May 31st

A) Design & Construction

Storm and sanitary services are complete including the construction of the storm water pond. Administration walls have begun to be formed and are expected to be complete by the second week in June. Conventional steel, precast concrete trades and structural slab forming materials are scheduled to be on site by the second week of June.

East Side

Electrical and plumbing rough-ins are well underway. Masons continue with both interior and exterior block work. Sprayed insulation has started on interior cavity wall.

Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

May 1-May 31, 2007

West Side

Interior foundations are approximately 30% complete and electrical and plumbing rough-ins are well underway

Staff have reviewed and finalized the colour selections for the facility, including interior flooring and paint for the facility.

B) Operations, Marketing & Naming Rights

The business plan and related policies continue to be reviewed and updated by staff to be provided to Council in September.

The advertising and issuance of the RFP for concessions has been delayed while staff investigate how the use of healthy food choices and the use of locally produced food will be evaluated.

Staff have proceeded with advertising the RFP for the Pro-shop.

C) Budget

The following table provides a financial overview of the recently approved budget, the actuals as of May 31, 2007, the amounts committed to the project until May 31 and the balance remaining for the project.

Budget Items	Approved Budget	Actuals May 31, 07	Invoices to be processed	Balance	Committed
Base Building	\$26,353,030	\$8,101,289	\$1,190,437	\$17,061,308	\$17,061,308
Repurposing	\$50,000	\$14,286	\$0	\$35,714	\$0
Professional Fees	\$912,000	\$410,295	\$0	\$501,705	\$51,300
Contingencies	\$2,502,500	\$0	\$21,500	\$2,481,000	\$651,659
Permits & Fees	\$1,938,370	\$1,802,418	\$0	\$ 135,952	\$0
Furniture, Fixtures & Equipment	\$971,850	\$0	\$0	\$971,850	\$0
Land Acquisition	\$880,000	\$880,000	\$0	\$0	\$0
Total	\$33,607,750	\$11,208,288	\$1,211,937	\$21,187,525	\$17,764,267

Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

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Budget Analysis

Based on the Finance Department's monthly report, the actual amount spent as of May 31 is \$11,208,288. This provides for a total of \$12,420,255 spent as of May 31. This amount includes Peaks May invoice which is currently being processed. The City has spent about 37% of the overall budget. This cost covers design work, site, concrete, masonry, pre-engineered buildings, mechanical, refrigeration pipe fittings, electrical site services and an initial cost for the grounding.

Contingency Fund

In accordance with the April report the contingency fund is being used to cover the cost of the grounding system required. The budget sheet above shows \$651,659 committed with an initial amount of \$21,500 being spent from the contingency fund.

Commitments:

Refer to all outstanding contractual commitments held by the City, including purchase orders. They include the following:

1. Peak Engineering & Construction Ltd.: Original contract amount of \$26,353,030. This amount is reduced by the costs already incurred for this contract and it does not include any change orders as they were not part of the original contract.
2. Professional Fees: \$70,000 includes the following amounts on purchase orders:
 - a. Griffiths Rankin Cook/Genivar – up to \$50,000 to complete compliance and peer review of Structural, Foundation, Mechanical, Electrical and Design Plans submitted by design builder.
 - b. K.C. Kelly and Associates – up to \$18,000 for review of monthly progress draws, contemplated change orders and site support.

Multiplex Community Centre
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3. Change Orders: Change order No. 001 has been issued for the installation of the grounding system in the amount of \$651,659 to be drawn from the contingency fund. This will use approximately 26% of the full contingency established for the project. The balance of the contingency remaining will be \$1.8M. The Multiplex project is 33% complete and the total budget spent to date is 33%.

D) Risk Management – mitigated and potential risks

Repurposing – the business plan for the Multiplex is dependent on repurposing older arenas for uses other than ice and programming the Multiplex to full capacity. Council has directed staff to develop a program for ice use at the Wally Elmer arena that benefits the residents of the local community. Repurposing of Cook Brothers and Harold Harvey arenas for other than ice use is critical to the success of the Multiplex business plan.

RFP – Food Concession – The timelines to advertise and issue the RFP for food concessions has been delayed to investigate with the Health Unit the delivery of healthy food choices as a priority in the provision of food service delivery program. This may have an impact on the budget projections and the schedule for awarding the contract.

E) Major Changes

There are no major changes to date.

G) Issues

There were no issues in May.

Multiplex community Centre
Sustainability and Growth Group
Project Status Report

May 1-May 31,2007

Project Status Report

Project Name: Multiplex Community Centre Project			
Prepared By: Barclay Mayhew	Date: 06/04/2007	Reporting Period: May 1,2007 to May 31,2007	
<p>Project Overall Status: The Multiplex project continues to be on schedule to meet the substantial completion date of March 29, 2008. The east and west roof are complete and foundation walls have begun for the administration area. The report on the award of the supply and delivery of beverages is going to Council on June 5.</p>			
Milestone Deliverables performance reporting			
Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 1 – Construction			
• Mechanical	03/21/2008	12.8%	On Schedule
• Structural Steel	08/03/2007	50%	On Schedule
• Sprinklers	11/02/2007	27%	On Schedule
• Refrigeration	02/15/2008	11%	On Schedule
• Electrical	03/21/2008	14%	On Schedule
• Masonry	09/07/2007	11.9%	Onschedule
Milestone 2 – Querations			
• RFI – External Signage	09/30/2007	20%	On Schedule
• Report on Sports Tourism	09/30/2007	30%	On Schedule
• Naming Rights – Sales & Marketing Plan	12/30/2007	20%	On Schedule
• Policies- Ice Allocation, Community Storage and User Group Offices/Meetings Rooms	12/30/2007	5%	On Schedule
• FF & E ordering	12/30/2007	20%	On Schedule

Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

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Milestone Deliverables scheduled for completion over next period			
Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 1 – Construction			
• Site Work	04/26/2007	96.7%	Not significantly behind schedule – no impact on project completion schedule
• Foundations	05/02/2007	94%	Not significantly behind schedule – no impact on project completion schedule
Milestone 2 – Operations			
• Schedule for Procurement of FF & E	06/30/2007	90%	On Schedule
• Finalize Business Plan	06/30/2007	50%	On Schedule
• RFP Concession	05/30/2007	75%	Behind Schedule due to research being done on Healthy Choices and Local Preference
• RFP Pro Shop	05/30/2007	100%	On Schedule (advertised June 5/2007)
• RFP Fitness Centre	05/30/2007	25%	Behind Schedule – does not impact project completion schedule
• Report on Success by Six Compliance	06/30/2007	25%	On Schedule
Project impact of milestone success or failure for project remainder			
None at this point.			

Multiplex Community Centre
Sustainability and Growth Group
Project Status Report

May 1-May 31, 2007

3 PROJECT STATUS REPORT APPROVALS

Prepared by 
Barclay Mayhew, Project Director

Approved by 
Cynthia Beach, Commissioner
Project Sponsor

4 APPENDICES

There are no appendices to this report.



Project Status Report

Project Name: Kingston Regional Sports and Entertainment Centre

Department: Sustainability and Growth Group

Period: May 1, 2007 – May 31, 2007

Prepared By: Lanie Hurdle, Director of Project Development

Document Owner(s)	Project/Organization Role
Cynthia Beach	Project Sponsor
Lanie Hurdle	Project Director

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

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Project Status Report
Kingston Regional Sports and Entertainment Centre
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1. PROJECT STATUS REPORT PURPOSE

The Project Status Report is a document used as a means of formal monthly reporting on the status of a project to key project stakeholders, including Council members, Project Sponsor, and CMT.

2. PROJECT STATUS REPORT

2.1 Executive Summary

The Operating Engineers went on strike for approximately one week in May which has affected the erection of structural steel; EllisDon has not yet advised the City of delays to the completion date due to the strike. The labourers are also now on strike as of June 4, 2007. Structural steel, mechanical and electrical trades are still continuing.

Current schedule is still showing a structural steel completion by July 24th. This is four weeks behind baseline schedule. The City has requested a mitigation plan of sub trades including mechanical and electrical work. The project team is concerned that there is not sufficient time in the schedule from the steel erection date to substantial completion to allow sub trades to complete their work.

The contingency fund is at 98% remaining and there is an outstanding environmental cost of about \$250,000 which will be drawn from the contingency. This will reduce the contingency to about 80%. There are currently no other changes under review that would affect the contingency fund.

Some activities are currently behind schedule.

2.2 Project Status Report Details

Progress of Activities from May 1 to May 31

A) Design & Construction

1000 Seats

Staff is still waiting for some detailed information on the revised price for the slab/infill. This information should be received by mid June.

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

Interior Design

Parkin Consultants has submitted its compliance review of architectural, structural, electrical and mechanical drawings. Staff, PMX and Arcturus/SMG are currently reviewing comments to be forwarded to EllisDon.

BBB has produced layouts for sports cafe, restaurant, club lounge, administration offices, main concourse and Frontenacs' dressing room and offices. Staff and BBB are currently in the process of colour and material selection.

Staff, Arcturus/SMG and BBB are also working on signage type and location within the building. Comments from accessibility consultant will be incorporated in wayfinding design.

Interior Acoustics

Valcoustics has submitted the peer review report in late May which was forwarded to all members of council. The report suggests that there is information outstanding in order to determine the actual reverberation time within the facility. The report also suggests that reverberation time should be around 2 seconds for this type of facility. Based on information available, the reverb time in the State of the Art Acoustik report is at 2.8 seconds. The report also provided recommendations to improve the acoustic system.

In its proposal, EllisDon indicated that they are taking the same design approach for the Sports and Entertainment Centre as they did for the John Labatt Centre, the Air Canada Centre and General Motors Place. EllisDon is still reviewing what was provided in the John Labatt Centre to ensure it is equivalent to what is being proposed at the Sports and Entertainment Centre. City staff are also currently involved in the process of comparing both systems.

Staff have been meeting with members of the community to discuss the acoustics concerns.

Staff will continue to update council and community members as new information is received.

Child Friendly – Appendix 4.3 provides a list of child friendly tips that will be included in the facility and its operations.

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

Contemplated Change Notice

There were no new change orders issued in May 2007. There were a few anticipated change orders added in May. See Appendix 4.1 for all change orders issued and anticipated. The last environmental cost contemplated change order will have an impact on the contingency fund.

Construction

The Operating Engineers were on strike in May. The strike lasted one week. EllisDon has not yet advised the City of any delays to the completion date due to the strike. The labourers are also on strike as of June 4th. There was an average of 25 labourers on site the last week of May. This number fluctuates depending on the work done on site. There is a labour component to the masonry, formwork, slab pours and finishing, excavation and backfill. All those activities stop with the labourers' strike. The structural steel, mechanical and electrical trades are able to continue as long as a picket line is not set up. If a picket line is set up, the site would be completely shut down.

The current schedule is still showing that the structural steel should be completed by July 24th. This is four weeks behind the baseline schedule issued in January 2007. The City has not been notified of a delay in completion date due to the Operating Engineers' strike.

The City has requested a mitigation plan from EllisDon and the sub trades including mechanical and electrical work. This mitigation plan is to provide details on level of manpower per trade and shift work that may be required to meet substantial completion date of December 14th, 2007. EllisDon is to provide this information by June 14, 2007. The project team is concerned that there is currently not sufficient time in the schedule to allow sub trades to complete their work by the substantial completion date. Staff will continue to update Council on a weekly basis.

B) Site Plan

Noise Studies

Both Mechanical and concert noise studies were presented to residents of the Frontenac Village Condominium Corporation. Some concerns were expressed regarding the mechanical noise study. Staff is preparing information to respond to residents. Minutes of the meeting were provided to council members. Both reports were peer

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reviewed by Valcoustics Canada and resubmitted to the Planning Department. Mechanical noise report has noise levels lower than MOE regulation. Concert noise is regulated by City by-law.

EllisDon submitted the generator noise report to the City in May which was peer reviewed by Valcoustics. Noise levels are below MOE regulations. All site plan information has now been submitted to Planning Department. Site plan approval should be provided within the first week of June.

C) Management & Operations

Suite Sale

There are currently two **(2)** suites remaining to lease. Arcturus/SMG has been in contact with companies and individuals to secure a commitment for the last two suites.

Programming

Arcturus/SMG has received a 95% OHL schedule and is currently speaking to promoters to confirm dates for other events. Aside from the traditional sports and concert events being pursued, Arcturus/SMG is actively engaged in serious discussion for first-year events in the following categories:

- Two consumer shows
- Two family shows
- Two equine events
- Two motorsports events
- One major youth conference
- One major international academic conference
- One major speaker's event
- One corporate event
- One comedy event

Naming Rights

Wakeham and Associates has continued work on Naming Rights. Wakeham has contacted over 90 companies and is proceeding to the next stage with at least fifteen qualified candidates. It is expected that Wakeham will submit a report to the City in August/September 2007.

Security Plan

Arcturus/SMG and the Project Director held the first of several upcoming meetings with the Kingston Police to perform an ongoing

Project Status Report
Kingston Regional Sports and Entertainment Centre
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plan and review for the management of crowds, traffic and emergency procedures.

Fundraising Campaign

Staff and DVA Navion are completing all promotional items for the campaign including the case for support which will be used for major gifts. Brochures and magnets have been distributed to a number of businesses. Magnets are being sold at \$5 each.

A few local businesses have held their own campaign related events. Dover's Men's Wear had a promotion through which they donated 15% of regular price sales during four days. The Beauty Academy also organized a day during which they provided mini pedicure, manicure and facials for \$5 each. Proceeds were donated to the Sports and Entertainment Centre fundraising campaign.

Other businesses and community organizations are in the process of planning events during the summer and fall. The Kingston Whig Standard has also agreed to provide the campaign with free space on a weekly basis. The first campaign advertisement was published on June 4th. Advertisement will feature donors to the campaign and upcoming events to support the campaign.

The City currently has a total of \$368,470 in donations and pledges to the project. Donations can be made at the campaign office which is located on the main floor of City Hall.

D) Budget

The following table provides a financial overview of the recently approved budget, the actuals as of May 31, 2007, the amounts committed to the project until May 31 and the balance remaining for the project.

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

Budget Items	Approved Budget	Actuals May 31	Invoices to be processed	Balance	Commitments
Base Building (including LEED, catwalk & flygrid)	\$32,838,500	\$9,297,652	\$0	\$23,540,848	\$22,651,348
City Fees	\$1,241,600	\$1,241,600	\$0	\$0	\$0
Site Services	\$2,518,700	\$2,243,933	\$0	\$274,767	\$253,000
Furniture, Fixtures & Equipment	\$5,589,670	\$0	\$0	\$5,589,670	\$85,000
Admin. Construction Mgmt. & Pre-opening	\$2,543,230	\$1,105,805	\$21,564	\$1,415,861	\$642,773
Honoraria	\$150,000	\$150,000	\$0	\$0	\$0
Contingency Base Building	\$1,500,000	\$0	\$37,181	\$1,462,819	\$0
Accessible Parking	\$50,000	\$0	\$0	\$50,000	\$0
Operator Contribution	\$(300,000)	\$0	\$0	\$(300,000)	\$0
TOTAL	\$46,116,000	\$14,038,990	\$58,745	\$32,033,965	\$23,632,121

Budget Analysis

Based on the Finance Department's monthly report, the actual amount spent as of May 31 is \$14,038,990. There is another \$58,745 in invoices received for work completed but not yet processed. This provides for a total of \$14,097,735 spent as of May 31. This amount does not include EllisDon's May invoice which has not yet been submitted but is expected to be about \$1.3 Million. The City has spent about 33% of the overall budget.

Commitments

Commitments refer to all outstanding contractual commitments held by the City, including purchase orders. They include the following:

1. Base Building: \$31,949,000 which includes base contract amount of \$29,949,000 with \$1,200,000 for LEED Silver and an additional \$800,000 for the catwalk and flygrid. This amount has been reduced by the costs already incurred for this contract and it does not include any change orders as they were not part of the original contract.
2. Site Services: \$253,000 for work to be completed by Utilities Kingston.

Project Status Report
Kingston Regional Sports and Entertainment Centre
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3. FF&E: \$85,000 covers the procurement fee to be paid to Arcturus/SMG for all arena and food and beverage furniture, equipment and fixtures. This amount is part of the Arcturus/SMG contract.

4. Admin. Costs and Pre-Opening: \$642,773 includes the following outstanding amounts on purchase orders and invoices:

a. Griffith Rankin Cooks/Genivar - \$15,000 outstanding. Purchase order with a total value of \$15,000 to conduct LEED peer review.

b. DVA Navion - \$5,325 outstanding. Purchase order with a total value of \$36,000 to develop a campaign plan and establish campaign leadership. Phase 1 of fundraising campaign.

c. PMX Inc. - \$27,071 outstanding. Purchase order with a total value of \$50,000 for phase 3 of project management including procedure implementation and site support.

d. Parkin Architects - \$28,000 outstanding. Purchase order with a maximum value of \$50,000 for compliance review of drawings.

e. Valcoustics Engineering - \$3,800 outstanding. Purchase order with a total value of \$3,800 for an ambient sound modelling as recommended by Planning Department.

f. BM Dodo Strategic Design - \$5,814 outstanding. Purchase order with a maximum value of \$11,680 for design and production for the fundraising campaign.

g. Arcturus/SMG – Pre-opening contract provides for a total of \$688,000. There has been \$156,237 spent from that contract, therefore there is an amount of \$531,763 outstanding.

h. Bell Canada Convergence Consulting Services - \$23,300 outstanding. Purchase order with a value of \$23,300 for voice and internetworking needs analysis.

Project Status Report
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i. Valcoustics Engineering - \$2,000 outstanding.
Purchase order with a value of \$2,000 for peer review of interior acoustics study. This amount could change if scope of work is expanded.

j. Valcoustics Engineering - \$1,000 outstanding.
Purchase order with a value of \$1,000 for a peer review of the generator noise report.

Contingency Fund

There is currently a cost of \$37,181 charged against the contingency fund. This expenditure is related to outside legal advice provided to council in January and February related to the cancellation of the project. The total contingency fund is now at \$1,462,819. The contingency will be further impacted by final environmental costs which are estimated at \$250,000 based on information provided by EllisDon. A change order has not yet been issued. This would reduce the contingency fund to \$1,212,819.

E) Risk Management – mitigated and potential risks

- The Operating Engineers were on strike for about one week in May. The City has not yet been notified of a delay in completion date due to the strike. Labourers are also on strike as of June 4th. The duration of the strike could have an impact on the schedule.
- City is working with Arcturus/SMG to review the benchmark and identify options for the Sports Cafe and restaurant areas and report back to council. This work will continue over the next months. Staff are currently also exploring the possibility of reviewing the yearly benchmark based on purchased FF&E. Any adjustments to the business plan will be reported back to Council.
- The final report for site plan approval was submitted to the Planning Department. Site plan approval has to be issued in order for full building permit to be issued by the Building Department. Certificates of Approval are both required for the mechanical and generator noise.

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

F) Major Changes

The only change in scope is related to legal fees for service rendered in January and February. These costs are related to the review of cancelling the project. Legal fees are covered by the contingency fund.

G) Issues

City staff and Arcturus/SMG are reviewing options and opportunities for a third party operator of the restaurant and sports cafe areas. Arcturus/SMG is currently working on developing appropriate criteria that will be part of the selection process which will be provided to council prior to a final recommendation.

2.3 Project Status Report Template

Project Name: Kingston Regional Sports & Entertainment Centre		
Prepared By: Lanie Hurdle	Date: 06/01/2007	Reporting Period: 05/01/2007 to 05/31/2007
<p>Project Overall Status:</p> <p>The Operating Engineers went on strike for approximately one week in May which has affected the erection of structural steel; EllisDon has not yet advised the City of delays to the completion date due to the strike. The labourers are also now on strike as of June 4, 2007. Structural steel, mechanical and electrical trades are still continuing.</p> <p>Current schedule is still showing a structural steel completion by July 24th. This is four weeks behind baseline schedule. The City has requested a mitigation plan of sub trades including mechanical and electrical work. The project team is concerned that there is not sufficient time in the schedule from the steel erection date to substantial completion to allow sub trades to complete their work.</p> <p>The contingency fund is at 98% remaining and there is an outstanding environmental cost of about \$250,000 which will be drawn from the contingency. This will reduce the contingency to about 80%. There are currently no other expected changes that would affect the contingency fund.</p> <p>Some activities are currently behind schedule.</p>		

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

Milestone Deliverables performance reporting - For the Period of May 2007			
Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 1 – Construction & Design			
• Site Plan Approval & Final Building Permit	05/31/2007	98%	Behind schedule. Last item submitted to Planning Department. Awaiting approval. Received approval from BCC.
• Meetings and process for interior design	05/31/2007	90%	On schedule. Layouts for F&B areas have been provided. Collecting feedback.
• Structural steel	07/24/2007	45%	Behind schedule. This item is about 4 weeks behind schedule. This is a critical path item.
• Precast seating bowl	08/22/2007	5%	Behind schedule.
■ Complete archaeological monitoring on site	06/31/2007	100%	Ahead of revised schedule.
Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 2 – Operations			
• Report to council on 1000 additional seats	05/01/2007	80%	Behind schedule. Staff still require some detailed info on pricing.
• Initiate public consultation on draft policy for community suite allocation	05/31/2007	90%	On schedule. Internal feedback obtained. Draft policy to be circulated publicly.
• Peer Review of Acoustics Report	05/25/2007	100%	On schedule
• Selection criteria and process for restaurant and sports cafe	05/31/2007	30%	Behind schedule

Project Status Report
 Kingston Regional Sports and Entertainment Centre
 May 1, 2007 – May 31, 2007

• Tendering schedule of FF&E for arena and F&B	05/07/2007	100%	On schedule
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Milestone Deliverables	Due Date	% Completed	Deliverable Status
Milestone 1 – Construction & Design			
• Site Plan Approval & Final Building Permit	05/31/2007	98%	All info provided. Awaiting approval.
• Selection of finishes and furniture	06/18/2007	60%	On schedule
• Structural steel	07/24/2007	65%	Behind Schedule. 4 weeks behind schedule.
• Precast seating bowl	08/22/2007	20%	Behind schedule. Work was scheduled to start in late April.
Milestone 2 – Operations			
• Report to council on 1000 additional seats	07/10/2007	60%	Behind schedule. City awaiting last details.
• Conduct public consultation on draft policy for community suite allocation	08/17/2007	65%	On schedule
• Certificate of Approval Application	07/06/2007	20%	On schedule
• Selection criteria and process for restaurant and sports cafe operations	06/22/2007	30%	Behind schedule

Project Status Report
Kingston Regional Sports and Entertainment Centre
May 1, 2007 – May 31, 2007

3 PROJECT STATUS REPORT APPROVALS

Prepared by



Lanie Hurdle, Project Director

Approved by



Cynthia Beach, Commissioner
Project Sponsor

4 APPENDICES

Appendix 4.1 : Change Orders Log

Appendix 4.2 Success by Six - Child Friendly Tips

Appendix 4.3: Generator Noise Study – State of the Art Acoustik Inc.

EXHIBIT C

APPENDIX 4.1 - KRSEC CHANGE ORDERS LOG

CCO #	DESCRIPTION	APPROVED/ISSUED	ANTICIPATED/ ESTIMATED	APPROVED BUDGET	CONTINGENCY DRAW DOWN	NOTE
1	Catwalk & Flygrid	\$800,000		\$800,000	\$0	
2	Interior Design - Including marketing perspective	\$94,363		\$108,000	\$0	
3	Environmental work - November 2006	\$159,629		\$305,000	\$0	
4	Environmental work - December 2006	\$340,000		\$505,000	\$0	This CCO #004 does not cover all environmental costs. Total paid for environmental is \$499,629.
5	Mechanical and electrical design fees for the concessions and kitchen fit out	\$87,780		\$88,000	\$0	
6	Installation of underground services to the concessions					Value to be determined
7	Webcam allowance		(\$6,500)	(\$6,500)	\$0	Credit to be provided to the City
8	Ecology units		\$132,360	\$140,000	\$0	Estimate. CO to be issued when number is finalized.
9	155 TR ice plant upgrade		\$12,000	\$12,000	\$0	
10	Add two follow spots		\$7,500	\$7,500	\$0	
11	Reduction in lighting levels for the ice surface from 200-220 to 125 foot candles					Value to be determined.
12	Environmental work - December - February		\$250,000	\$0	\$250,000	Draw down on contingency
13	Deletion of dumbwaiter					Credit to the City.
14	Rough ins - Hall of Fame Office				\$0	Value to be determined.
	TOTAL	\$1,481,779	\$205,260	\$3,450,000	\$250,000	Value to be determined

SUCCESS BY SIX TIPS TO HELP MAKE FACILITIES CHILD-FRIENDLY

- 1) Emphasize that the facility is for people of all ages – including children. Communicate this in all public relations materials, signage, etc.
The Operator (Arcturus/SMG) is in dialogue with a number of family show promoters, Arcturus/SMG expects to be able to attract events such as Disney On Ice, Clifford the Big Red Dog, Sesame Street Live, The Wiggles, Dora The Explorer Live, Barney, etc. Promotion for events will be advertised in local media.
- 2) Make it easy for parents with kids in strollers to use the facilities. Automatic doors, elevators or ramps instead of steps and storage areas where strollers can be stored are all helpful.
Entry is at ground level. There are four elevators in the facility and elevators are able to access all levels of the facility. Ramps are provided in many areas of the facility. Automatic doors will be provided at the all public entrances.
- 3) Consider signage with pictures that children can understand too.
With the exception of specific advertising, most facility signage is basic in nature and includes images.
- 4) Ask children what they would like to see in public buildings. Hold focus groups with parents and their children of all ages.
Community input to programming and other aspects of the facility will be sought through surveys and other forums. Arcturus/SMG will use the web and partner with local media to get information on children and family needs,
- 5) Acknowledge that children are small and see at a lower level. This means having things for them to look at, touch and feel at their level. Bright colours and/or art on the lower parts of the walls, art work that is low enough to be seen, windows into arena areas, etc. should all be accessible to young children too.
If there are any suggestions in this regard that will complement the existing plan for advertising, Sports Hall of Fame and the overall design, we would investigate the concepts with interest. Any design elements would have to be discussed and implemented with BBB.
- 6) Install handrails at 2 levels – lower for young kids and higher for older kids/adults.
There will be a lower rail for children in the seating bowl. See attached details.
- 7) Have an area where young children can run around or play, preferably both inside and outside.
As this is a public assembly facility, parents are encouraged to keep a close eye on their children. Site limitations will also prohibit this type of activity.
- 8) Ensure that there are options for nourishing food, ample water (e.g. fountains or sinks), high chairs/booster chairs and space in eating areas for strollers.
Food options will be provided. Arcturus/SMG will be conducting, by way of media and other contact methods, surveys to solicit opinions regarding food choices. Members of the public are encouraged to participate in these forums.

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- 9) An area where parents with wee ones can “picnic” may also be welcome – include option to their heat own food/bottles.
Site limitations will prohibit the provision of an area to “picnic”. Generally, outside food & beverages will not be permitted in the facility. However, should parents require assistance with heating baby formulas, etc. they can contact a member of the event or concession staff for assistance.
- 10) Offer child portions in restaurants and plastic cups, etc.
The restaurant and concessions will offer smaller portions or child items.
- 11) Provide floor mats to kids who want to sit on the floor.
Fire code for facilities stipulates aisle ways be defined and clear for exit purposes. Due to the large numbers of people expected at events, we often sell reserved seating to ensure proper distribution and placement of crowds. Also, due to the public nature of the facility and the exposure to a variety of surfaces and environments, we would not recommend sitting on the floor. The facility will not be providing floor mats unless the event promoter specifically provides them (i.e. child fitness event, etc.).
- 12) Provide baby changing facilities in male and female washrooms and ensure stalls will accommodate parents with strollers.
Baby change tables will be provided in both male and female public washrooms in the facility as well as family change rooms.
- 13) Consider having some sinks/toilets installed at children’s height and/or flip-down children’s toilet seat. Have diapers available (for purchase?) on site.
There will be sinks and urinals at accessible height in public washrooms as required by code. Arcturus/SMG is currently not planning on selling diapers at the facility, This is based on previous experience where parents usually bring their own diapers.
- 14) Consider family change rooms.
There are three (3) family change rooms in the facility. One (1) on the main concourse and two on the Club level (3rd floor).
- 15) Provide quiet breastfeeding areas.
The first-aid room would be made available on a first-come, first-served basis.
- 16) Provide reduced rates for children and family rates so that it’s family friendly. Allow re-entry so that families with young children can come and go if they need to. Allow for one parent and multiple children, not just 2 adults and 2 children.
Many shows have special pricing for children; however this is at the discretion of event promoters. Re-entry to the facility is not generally allowed, however, facility staff will consider each case based upon individual merits.
- 17) Have dedicated days when activities are geared toward families or children.
As mentioned above, family shows will be prominent in the event programming. Other events will be sought, such as consumer shows, for their family focus.

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- 18) Cover electrical outlets that are in public access zones.

This item still needs to be confirmed.

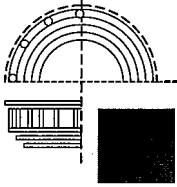
- 19) Have a lost child policy in place.

A lost child policy and active search effort procedures will be a part of the facility security plan and staff training. Kingston Police will be consulted when formulating these plans.

- 20) Make a quiet room available for children who find the main activities too noisy or intimidating. Provide onsite day care.

Parents should educate themselves as to whether the event environment is suitable for their children. This should take place prior to purchasing tickets. The facility website and facility telephone reception are good sources of information about specific event conditions. For example, during monster truck shows, noise levels inside the arena can be quite loud and not suitable for small children. These circumstances would typically be posted on the website.

Based on Arcturus/SMG's experience, on-site daycare is not feasible for these types of facilities. However, if an outside party was to come forward with a potential partnership, Arcturus/SMG would investigate opportunities.



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**Generator Environmental Noise Study
Revised**

Kingston Regional Sports and Entertainment Centre

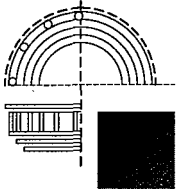
for

EllisDon Project Management

Prepared by
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Appendix A – Acoustic Calculations

1. EXECUTIVE SUMMARY

1.1 Project Background and Scope

Further to our report of September 20th, 2006, we have now received shop drawings for the generator at the Kingston Regional Sports and Entertainment Center. The generator specified in the shop drawings is of a different make and model from that used in our original report. We have revised our acoustic simulations of the generator noise to reflect the data provided in the shop drawings and to include the architectural details of the building's parapets and equipment screens which have also been revised since the time of our original report. The description below and attached graphs summarize our findings. The graphs show the noise at two different heights above grade, 5 feet and 25 feet; heights chosen by EllisDon Project Management to represent a receiver standing at grade level or on a second storey. Disregard the sound levels inside the arena's perimeters on the graphs and only consider the noise levels outside the exterior building faces. Our findings show that if the currently selected generator, a Generac SD350, is installed as shown on electrical drawing M-600, the noise levels to the surrounding neighbourhood in several directions will be within the Ministry of the Environment (MOE) guidelines.

1.2 Methodology

The Kingston By-law does not adequately define the type of noise produced by a generator, nor does it set a maximum decibel level for stationary mechanical equipment noise. As such, we have used the MOE publication NPC-205 "Sound Level Limits for Stationary

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Sources in Class 1 & 2 Areas (Urban)” as a guideline for acceptable noise levels in the areas surrounding the new arena. Table 205-1 of this report gives the following L(eq) (equivalent level) sound pressure levels for the 24 hour period:

One Hour L(eq) (dBA)		
Time of Day	Class 1 Area	Class 2 Area
0700-1900	50	50
1900-2300	47	45
2300-0700	45	45

Figure 1 – MOE guidelines for sound pressure levels from stationary sources.

As typically generators are tested during the daytime hours (0700-1900) we have used 50dBA as an acceptable level for the generator noise to the surrounding neighbourhood.

The MOE Publication NPC-205, defines Point of Reception as:

“...any point on the premises of a person where sound or vibration originating from other than those premises is received.

For the purpose of approval of new sources, including verifying compliance with Section 9 of the Environmental Protection Act, the point of reception may be located on any of the following existing or zoned for future use premises: permanent or seasonal residences, hotels/motels, nursing/retirement homes rental residences, hospitals, camp grounds, and noise sensitive buildings such as schools and places of worship.”

In this report, we have used the statement above as a reference for those areas that will be affected by noise above the MOE guidelines.

2. ACOUSTIC SIMULATIONS

2.1 Description of Equipment

The generator used in this simulation is Generac brand; Model SD350, a 350kW, 60Hz diesel powered generator with a manufacturer supplied Series 2000 sound attenuated enclosure. The Generator houses a Generac 1600TA, V-8, turbocharge/aftercooled engine. The sound enclosure is complete with:

- 14 gauge steel construction
- Acoustic panels manufactured with mechanical retention pins
- Self-enclosed exhaust system

The Manufacturer has provided Sound Pressure Levels (SPL) in dBA of the housed generator measured at 4 points around the unit at a distance of 7m (23ft). This data is as follows:

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Microphone Position	Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
1	53	42	54	65	55	60	66	70
2	51	51	66	62	55	59	64	69
3	56	36	46	65	58	60	66	65
4	55	46	60	65	57	56	65	66

Table 2 – A-weighted octave band sound pressure levels (SPL) at 4 points around the enclosure, measured at 7m (23ft) as provided by Generac.

Using the data above we first removed the A-weighting factor from the spectra to give us SPL in dB. This is provided below:

Microphone Position	Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
1	79.2	58.2	62.7	68.2	55	58.8	65	71.1
2	77.2	67.2	74.7	65.2	55	57.8	63	70.1
3	82.2	52.2	54.7	68.2	58	58.8	65	66.1
4	81.2	62.2	68.7	68.2	57	54.8	64	67.1
Average SPL	80.3	62.9	69.9	67.6	56.4	57.8	64.3	69.1

Table 3 – Calculated sound pressure levels (SPL) with the A-weighting factor removed at 4 points around the enclosure at 7m (23ft).

From the data in Table 3, we have converted the Sound Pressure Levels to Sound Power Levels (SWL) as needed for our calculations:

Generator Size	Frequency (Hz)								Overall dBA
	63	125	250	500	1000	2000	4000	8000	
350kW	105	88	95	93	81	83	89	94	97

Table 4 – Calculated Sound Power Levels (SWL) of the Generac enclosure.

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For reference, the generator previously chosen and analyzed in our original Generator Noise Study of September 20th, 2007 was a Cummins 350DFEG 60Hz complete with a Weather enclosure, which had the following sound power levels:

Generator Size	Frequency (Hz)								Overall dBA
	63	125	250	500	1000	2000	4000	8000	
350kW	102	108	102	106	108	107	104	98	113

The originally specified generator did not have a sound attenuated enclosure. The actual generator, as specified in the shop drawings, has a sound power level of 97dBA which is a result of the Series 2000 sound enclosure being supplied. The actual generator has a sound power level of 16dB less than the original generator proposed.

2.2 Results

Our simulations take into account the sound power level of the selected generator, its location, the varying roof heights of the new arena and the high parapet walls with equipment screens. These simulations do not include any noise from the mechanical equipment which is also regulated under the MOE guidelines. This simulation also does not include noise from arena events, such as a concert, as this noise is regulated by the City of Kingston. Both the noise from the mechanical units and concert events were analyzed in separate reports. In the event of an emergency, the generator's noise is not subject to the MOE noise restrictions; however the noise made by the generator during testing is regulated by MOE. The graphs attached at the end of this report

map the noise levels in dBA created by the generator for approximately 200 feet in all directions from the site.

Neighbouring the site to the North, across Place d'Armes, are residential townhouses and a low-rise commercial building. Located on the East, across Ontario Street, are the Royal Military College residences. In the South direction, across Barrack Street, there is a Police Station and parking lot. The Police Station is scheduled to be moved prior to the opening of the Arena. A Liquor Store is located to the South-West. Across King Street, to the West, are a Grocery Store and its parking lot; and to the North-West is a 5-storey OHIP office building.

Graph No. AK01 shows the noise levels from the currently specified generator at 5 feet above grade. We can see in this graph that at no location on the surrounding properties is the generator's noise above the MOE guidelines. This is due to the reduced overall sound power of the unit in comparison to the previously chosen generator and the effect of the solid equipment screens which are acting as a noise barrier.

Graph No. AK02 further demonstrates the same noise levels at 25 feet above grade. Again, there are no reception points in the area with sound levels above the MOE guidelines.

2.3 Conclusion

Based on the generator shop drawings provided by the Electrical Contractor and the added Architectural details of the solid equipment screens shielding the noise from the generator, we can conclude that the generator's noise impact to the surrounding neighbourhood will be within the MOE recommended levels. We suggest that testing of the generator be performed during regular

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business hours, as this time frame provides the maximum decibel limit for noise from the generator and will minimize disturbance to local residents.

In order to ensure that the equipment screens function as a proper noise barrier and to ensure the noise levels we have predicted are met, 25mm (or two layers of 13mm) of solid plywood must be provided behind the equipment screens without gaps. The screens must also reach or exceed the highest point on the generator, which is typically the gas exhaust pipe.

Should you have any questions, please do not hesitate to contact us.

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APPENDIX A

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swl input table (11 cells wide) is a collection of line vectors, each line representing data for one noise source. Columns 0 to 7 carry the sound power levels of each center frequency of the 111 octave spectrum. Columns 8 to 10 carry the (x,y,z) imperial coordinates of each noise source.
NOTE: Before filling-up this table choose an origin for the coordinates system. Be sure to have all the dimensions in feet, relative to the coordinates system. Pay attention to the sound data. Be sure you have the linear sound power level data in 1/1 octave bands.

swl :=

	0	1	2	3	4	5	6	7	8	9	10
0	105	88	95	93	81	83	89	94	5.8	22.1	41
1											

ns := rows(swl) these two rows calculate and display the total number of sources

ns = 1

B :=

	0	1	2	3	4
0	46.9	176.3	33.5	189.7	52.5
1	33.5	189.7	33.5	220.1	52.5

B input table (5 cells wide) is a collection of line vectors that describe barriers. They can be vertical walls of the building, other vertical walls, existing or imposed barriers. Columns 0 and 1 have the x and y coordinates of the start point of the barrier, columns 2 and 3 have the x and y coordinates of the end point of the barrier and column 4 has the height of the barrier.

NOTE: All dimensions are in feet.

swl :=

	0	1	2	3	4	5	6	7	8	9	10
0	105	88	95	93	81	83	89	94	6	22	41

nb := rows(B) these two rows calculate and display the total number of barriers
 nb = 57

ff :=

63
125
250
500
1000
2000
4000
8000

Center frequencies for 1/1 octave band spectrum

aw :=

-24
-35
-3
0
i
i

1/1 octave band A-weighting coefficients

	0	1	2	3	4
0	47	176	34	190	53
1	34	190	34	220	53
2	34	220	153	220	53
3	153	220	153	232	53
4	153	232	183	232	53

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xmin := -2W.1
 ymin := -200.1
 grid := 50
 zplan := 5
 n := 17
 m := 13

These are the last input data. They characterize the receiver grid. The receivers are located in a horizontal plane of height "zplan". They are evenly spread over the two axis with step "grid". The lower leftmost receiver has the coordinates "xmin", "ymin". The number of vertical (y) gridlines is m, and n is the number of horizontal (x) gridlines.

These numbers would create a chart stating at -5, -10 to +5, +10 due to $x_{max} = 5 = -x_{min}(-5) + grid \cdot (n-1)$
 $y_{max} = 10 = -y_{min}(-10) + grid \cdot (m-1)$
 $x_{span} = x_{max} - x_{min} = 5 - (-5) = 10$
 $y_{span} = y_{max} - y_{min} = 10 - (-10) = 20$

Next, the calculation engine

$$\min(a,b) := \begin{cases} a & \text{if } a < b \\ b & \text{otherwise} \end{cases} \quad \max(a,b) := \begin{cases} a & \text{if } a > b \\ b & \text{otherwise} \end{cases}$$

$$a1(a) := \begin{cases} \frac{B_{a,3} - B_{a,1}}{0.0000001} & \text{if } |B_{a,2} - B_{a,0}| \leq 0.0000001 \\ \frac{B_{a,3} - B_{a,1}}{B_{a,2} - B_{a,0}} & \text{otherwise} \end{cases}$$

$$b1(a) := \begin{cases} \frac{B_{a,1} \cdot B_{a,2} - B_{a,3} \cdot B_{a,0}}{0.0000001} & \text{if } |B_{a,2} - B_{a,0}| \leq 0.0000001 \\ \frac{B_{a,1} \cdot B_{a,2} - B_{a,3} \cdot B_{a,0}}{B_{a,2} - B_{a,0}} & \text{otherwise} \end{cases}$$

$$a2(x1,y1,x2,y2) := \begin{cases} \frac{y2 - y1}{0.0000001} & \text{if } |x2 - x1| \leq 0.000001 \\ \frac{y2 - y1}{x2 - x1} & \text{otherwise} \end{cases}$$

$$b2(x1,y1,x2,y2) := \frac{y1 \cdot x2 - y2 \cdot x1}{\dots} \text{ if } |x2 - x1| \leq 0.000001$$

2	183	232	229	225	25
6	224	225	253	214	53
7	253	214	273	203	53
8	273	203	291	190	53
9	291	190	308	173	53
10	308	173	322	155	53
11	322	155	334	136	53
12	334	136	344	115	53
13	344	115	351	94	53
14	351	94	357	62	53
15	357	62	357	30	53
16	357	30	349	30	53
17	349	30	349	10	53
18	349	10	312	10	53
19	312	10	312	-1	53
20	312	-1	29	-1	53
21	29	-1	29	11	53
22	29	11	34	11	53
23	34	11	34	31	53
24	34	31	47	46	53
25	47	46	47	176	53
26	0	11	0	220	43
27	0	220	34	220	43
28	34	220	34	190	43
29	34	190	47	176	43
30	17	176	47	46	43
31	47	46	34	31	43
32	34	31	34	11	43
33	34	11	0	11	43
34	47	46	291	46	78
35	291	46	291	176	78
36	291	176	47	176	78
37	47	176	47	46	78
38	0	57	0	220	55
39	0	57	0	11	58
40	0	11	29	11	57
41	29	11	29	-1	57
42	29	-1	312	-1	57
43	312	-1	312	10	57
44	312	10	340	10	60
45	340	10	349	10	57
46	349	10	349	16	57

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$$xi(a, x1, y1, x2, y2) := \begin{cases} \frac{y1 \cdot x2 - y2 \cdot x1}{x2 - x1} & \text{otherwise} \end{cases}$$

$$xi(a, x1, y1, x2, y2) := \begin{cases} \left(\frac{bz(x1, y1, x2, y2) - bl(a)}{0.0000001} \right) & \text{if } |a2(x1, y1, x2, y2) - al(a)| \leq 0.0000001 \\ \left(\frac{bz(x1, y1, x2, y2) - bl(a)}{a2(x1, y1, x2, y2) - al(a)} \right) & \text{otherwise} \end{cases}$$

$$yi(a, x1, y1, x2, y2) := \begin{cases} \left(\frac{a2(x1, y1, x2, y2) \cdot bl(a) - bz(x1, y1, x2, y2) \cdot al(a)}{0.0000001} \right) & \text{if } |a2(x1, y1, x2, y2) - al(a)| \leq 0.0000001 \\ \left(\frac{a2(x1, y1, x2, y2) \cdot bl(a) - bz(x1, y1, x2, y2) \cdot al(a)}{a2(x1, y1, x2, y2) - al(a)} \right) & \text{otherwise} \end{cases}$$

$$cond(a, b, c) := \begin{cases} (|b - a| \leq 0.01) & \text{if } a = c \\ [(a \leq b) \wedge (b \leq c)] & \text{otherwise} \end{cases}$$

$$dis(x1, y1, z1, x2, y2, z2) := \sqrt{(x2 - x1)^2 + (y2 - y1)^2 + (z2 - z1)^2}$$

$$x(i) := xmin + i \cdot grid$$

$$y(i) := ymin + i \cdot grid$$

$$PLD(i, j, s, k) := \begin{cases} co \leftarrow cond(\min(B_{k,0}, B_{k,2}), xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), \max(B_{k,0}, B_{k,2})) \right) \\ co \leftarrow co-cond(\min(swl_{s,8}, x(i)), xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), \max(swl_{s,8}, x(i))) \right) \\ co \leftarrow co-cond(\min(B_{k,1}, B_{k,3}), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), \max(B_{k,1}, B_{k,3})) \right) \\ co \leftarrow co-cond(\min(swl_{s,9}, y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), \max(swl_{s,9}, y(j))) \right) \\ co \leftarrow co-cond \left(\frac{dis(x(i), y(j), 0, xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), 0) \cdot |swl_{s,10} - zplan|}{dis(swl_{s,8}, swl_{s,9}, 0, xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), 0) + dis(x(i), y(j), 0, xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), 0)) + \min(zplan, swl_{s,10}), B_{k,4}} \right) \\ \delta \leftarrow dis(swl_{s,8}, swl_{s,9}, swl_{s,10}, xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), B_{k,4}) + dis(x(i), y(j), zplan, xi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), yi(k, swl_{s,8}, swl_{s,9}, x(i), y(j)), B_{k,4}) - dis(swl_{s,8}, swl_{s,9}, swl_{s,10}, x(i), y(j)) \\ \delta \leftarrow \delta \cdot co \end{cases}$$

47	349	16	349	30	60
48	349	30	357	30	60
49	357	30	357	58	60
50	223	225	215	228	67
51	215	228	201	230	76
52	201	2130	183	233	67
53	183	233	153	232	59
54	34	220	153	220	57
55	153	220	153	232	57
56	34	220	0	220	55

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$$\text{PLDmax}(i, j, s) := \begin{cases} \delta_{\text{max}} \leftarrow 0 \\ \text{for } \text{inb} \in 0..nb - 1 \\ \delta_{\text{max}} \leftarrow \text{max}(\delta_{\text{max}}, \text{PLD}(i, j, s, \text{inb})) \end{cases}$$

$$\text{SSPL}(i, j, s) := \begin{cases} \text{spl} \leftarrow 0 \\ \text{PLDmax}(i, j, s) \\ \text{for } I \in 0..7 \\ \begin{cases} N \leftarrow \frac{1}{562.5} \cdot \text{ff}_I \cdot \text{PLDmax}(i, j, s) \\ \text{att} \leftarrow \begin{cases} 5 + 20 \cdot \log \left(\frac{\sqrt{N \cdot 2 \cdot \pi}}{\tanh(\sqrt{N \cdot 2 \cdot \pi})} \right) & \text{if } (N > 0) \\ 0 & \text{otherwise} \end{cases} \\ \text{att} \leftarrow \begin{cases} 20 & \text{if } (\text{att} > 20) \\ \text{att} & \text{otherwise} \end{cases} \\ \text{spl} \leftarrow \left(\text{swl}_{s, f} + 3 + \text{aw}_f - 20 \cdot \log \left(\frac{\text{dis}(\text{swl}_{s, 8}, \text{swl}_{s, 9}, \text{swl}_{s, 10}, x(i), Y(j), z(\text{plan}))}{0.9252} \right) \right) - \text{att} & \text{if } f = 0 \end{cases} \end{cases}$$

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$$\left[\left[\left[\left[\left(\frac{swl_{k,r} + 3 + swl_{r-20} \log \left(\frac{dist(swl_{k,g}, swl_{k,g}, swl_{k,g}, swl_{k,10}, x(i), y(j), zplan)}{0.9252} \right) - att}{10} \right) \right] \right] \right] + 10 \frac{spl}{10} \right] \text{ otherwise}$$

$$i := 0..n-1 \quad j := 0..m-1$$

$$sp_{i,j} := 10 \log \left[\sum_{s=0}^{ns-1} \left(10 \frac{SSPL(i,j,s)}{10} \right) \right]$$

sp =

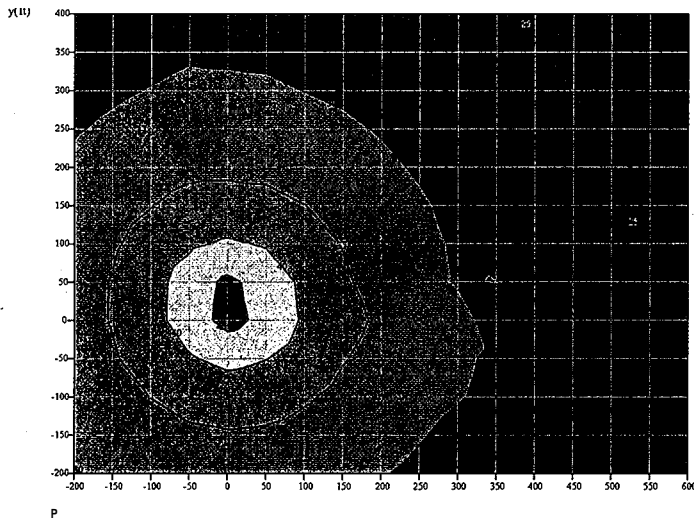
	0	1	2	3	4	5	6	7	8	9
0	30	31	32	33	33	33	32	32	31	30
1	31	32	33	35	35	35	34	33	32	31
2	32	33	35	37	38	38	37	35	33	32
3	32	34	37	40	42	42	39	36	34	32
4	32	35	37	41	47	46	41	37	34	32
5	32	34	37	40	44	43	40	36	34	32
6	32	34	36	38	39	39	37	35	33	31
7	31	32	34	35	36	36	35	33	32	31
8	30	31	32	33	34	33	33	32	31	30
9	29	30	31	32	33	31	31	30	30	29
10	28	29	30	31	31	30	30	29	28	28
11	28	28	29	30	29	30	28	26	27	27
12	27	28	28	29	28	27	27	27	27	26
13	26	27	28	28	27	26	26	26	26	25
14	26	27	27	27	26	26	25	25	25	25
15	26	26	26	27	26	25	25	25	24	24

SPL mapping

5/9/2007

STATE OF THE ART ACOUSTIK INC.

Kingston Arena Generator rev.mcd



Receiver plan
height - 5 ft

Gridline spacing = 50 ft

Figure 1

51912007