

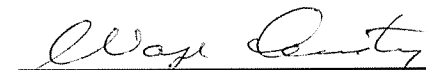
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PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Halifax Regional Council
February 14, 2006

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: 
Wayne Anstey, Acting Deputy Chief Administrative Officer

DATE: February 9, 2006

SUBJECT: Capital Projects Implementation

INFORMATION REPORT

ORIGIN

At the August 9, 2005 In Camera session Council raised two concerns: timely tendering of approved capital projects and completion of tenders within budget. In response, the Deputy Chief Administrative Officer indicated that staff would prepare the following report on construction tenders (buildings, roads, sidewalks, underground services, parks, playgrounds, etc.).

BACKGROUND AND DISCUSSION

Attached report outlines the progress of capital projects and the completion of tenders over the last two budgets years. HRM staff have improved its handling of tenders for capital project compared to the 2004/05 budget year but believe that the number of projects handled could increase and be more timely if a number of specific initiatives and actions move forward, namely:

- 1) estimates based upon detailed design;
- 2) **changes are made to the time when tenders are issued;**
- 3) reduce the time period between tender closing and award;
- 4) dollar limits for authorization by regional council and CAO;

- 5) scheduling projects to stagger with other projects of a similar nature; and
- 6) additional staff resources.

Staff will review the above initiatives and implement those which are within staff's authority and seek direction of Council on those for which Council's intervention is required.

BUDGET IMPLICATIONS

None.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

Not Applicable

ATTACHMENTS

Attachment A - Report from Finance

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/agenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared &
Approved by:

Wayne Anstey, Acting Deputy Chief Administrative Officer



PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

TO: Executive Management Team

SUBMITTED BY: *Dale MacLennan*
Dale MacLennan, Director of Finance

DATE: February 8, 2006

SUBJECT: Capital Projects Implementation

INFORMATION REPORT

ORIGIN

At the August 9, 2005 In Camera session Council raised two concerns: timely tendering of approved capital projects; and completion of tenders within budget. In response, the Deputy Chief Administrative Officer indicated that staff would prepare the following report on construction tenders (buildings, roads, sidewalks, underground services, parks, playgrounds, etc.).

BACKGROUND

The capital budget represents a major portion of the total annual expenditures of the HRM and has increased substantially over the last three years. The annual capital budget process begins each September when staff commences preparation of the capital budget submission. Capital projects are then proposed along with their estimated value. Through the fall and early winter this list is prioritized, and projects can be added or removed. The final budget is usually approved by Regional Council late in March. Once the capital program is approved by Regional Council, the tendering process begins. Attachment I, outlines the standard process for tendering a capital project.

DISCUSSION

Progress of Capital Projects

Construction projects can vary in size and complexity. The majority of projects are completed within one year. There are some projects which are completed over a number of years and all the funds associated with it are not intended to be spent in one year such as Herring Cove, Beaver Bank water and sewer, and Ellenville Run Drainage Improvements.

For the 2004/05 capital budget, approved in April 2004, \$62 million (exclusive of Harbour Solutions) was allocated for construction works. Of the total amount, approximately 40% was unspent by March of 2005 when Council approved it's 2005/06 capital budget. By November of 2005 only 15% was uncommitted. The bulk of these monies is accounted for in seven projects (Attachment II).

For the present budget year, 2005/06, \$70 million was approved for construction works (exclusive of Harbour Solutions). As of the end of November only 34% of these funds have not been spent or committed (contracted). Of the remaining monies the bulk of the expenditures can be accounted for in twenty projects (Attachment III).

The figures indicate that staff are further ahead on capital project spending than in the previous year despite the capital budget increasing by 12.9%. This increase was achieved with the same level of resources and staff addressing outstanding work from the 2004/05 budget year.

Completion of Tenders within Budget and on Time

Staff has reviewed a number of tenders issued over the last two years to compare the amount tendered versus the estimate for the work. Some variance from the estimate is expected due to most estimates being based upon preliminary designs. A variance of 30% +/- from the tender price is considered a reasonable level of variance.

The results indicate that HRM staff were more accurate in their estimates in 2005 compared to the previous year as outlined in Table A. In 2004, 65.3% of the tenders were within 30% of budget. In 2005, the percentage of tenders within 30% of the budget increased to 74%.

Table A - Range of Pricing vs Estimate.

Tender Price vs. Budget	2004	2005
Within 10% +/- of budget	37.3%	35.6%
Within 20% +/- of budget	51.3%	59.6%
Within 30% +/- of budget	65.3%	74%

A major problem for staff in estimating tender prices is the rising costs of construction. Staff has held discussions with a number of contractors and they generally conclude that costs have increased for the following reasons: increase in fuel and steel, safety regulations, and adoption of Provincial requirements to compensate for overtime. Some of these factors are volatile and difficult to estimate.

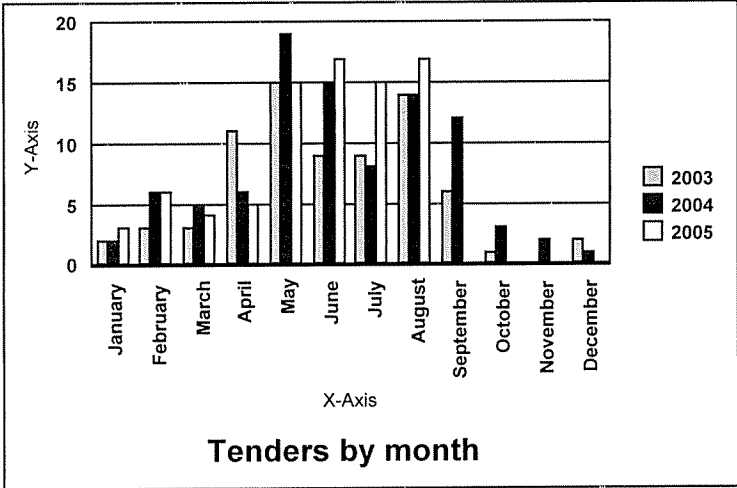
Despite more projects being within 30%+/- of budget in 2005, HRM staff believe that the variance between the budget cost and the actual tendered price can be reduced and the overall bid price would be lower if a number of specific initiatives and actions move forward, namely:

1) Estimates Based upon Detailed Design:

To improve the accuracy of the estimate, ideally, detailed design should be completed before the estimate is finalized and presented to Regional Council. However the cycle that has been established in some business units provides for preliminary review in the fall, followed by development of the capital budget with detailed design occurring after budget approval. Detailed design normally occurs during the spring and summer months. Staff are currently reviewing this process with the intent of developing a true multi-year capital plan for Council approval. This proposed plan should enable the design team to focus more effectively on projects with the ultimate goal of producing detailed designs and associated estimates prior to submission of the capital program.

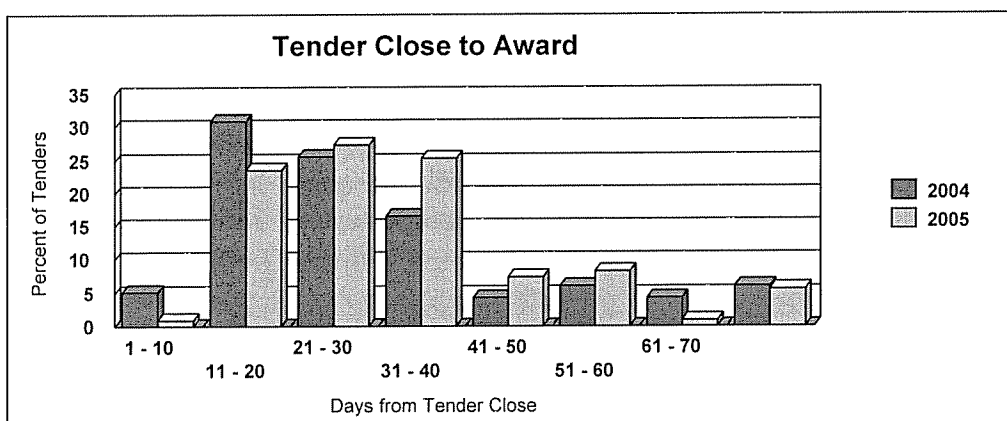
2) Changes Are Made to the Time When Tenders Are Issued:

Presently many of the HRM tenders are issued during the period April through September. Through discussions with contractors, the contractors indicated that, although there are no guarantees, HRM may experience more favourable tender prices if the tenders are issued earlier in the year (January - March) than currently (see graph below). By doing this, it enables contractors to plan appropriately for the upcoming season and commence construction earlier in the year. In some cases additional work has a premium when contractor resources are at capacity and additional workers, or equipment, are difficult to obtain. This is one of the reasons that staff, have, in the past several years, brought Advance Capital Project approval reports to Council in the mid and late winter months. Continuing and expanding this practise, would require more Capital approval in the fall or earlier, with design and tendering through the winter months.



3) Reduce the Time Period Between Tender Closing and Award:

The contractors also indicate that the approval process, from tender closing to Regional Council awards, is too long and if streamlined, may produce lower tender prices. This is related to scheduling. If contractors know that the award will be in close proximity of the tender close they may take a chance on a lower price to fill a window in scheduling. They bid multiple jobs with different firms in the hope of getting some of the work. Any delay increases their risk and they submit a price accordingly. The graph below shows the distribution of the percent of tender awards by time period. Note that the award time for the majority of the tenders has increased between 2004 and 2005. One factor in this increase is the growing capital program and unchanged staff resources.



4) Dollar Limits for Authorization by Regional Council and CAO:

As was outlined in a report to Council last fall, the lower the level of CAO authorization for the award of tenders, the higher the volume of awards which must be approved by Council, thus increasing the time between tender close and award. Council could revisit this authorization level.

5) Scheduling Projects to Stagger with Other Projects of a Similar Nature:

The HRM also competes with the private sector and other governments in this market. Contractors have suggested that HRM take into account other projects in the market. For some types of work there are a limited number of contractors or subcontractors. Timing our projects to stagger with other projects of a similar nature would mean more competition, lower pricing and a longer construction season for those firms. Similarly, there is an issue related to large capital works projects (like Harbour Solutions) using up contractor capacity in HRM, resulting in higher tender prices. As well certain companies with a basic monopoly on supplies and materials can result in higher prices.

6) Additional Staff Resources:

Human resources levels are a factor. As outlined earlier in the report the capital budget has increased in recent years with little or no increase to staff levels in areas supporting and managing the design, management and tendering of project work. Certain HRM business units

have gone through some restructuring or have had difficulty in hiring or retaining trained staff for specialized jobs. As only one example, more resources, such as design and environment engineers would be a benefit, and is being proposed in the EMS budget.

BUDGET IMPLICATIONS

None.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

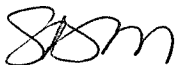
Not Applicable

ATTACHMENTS

- Attachment I - HRM Tendering Process
- Attachment II - Capital Analysis 2004/2005
- Attachment III - Capital Analysis 2005/2006

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Peter Ross, Finance
Dave Hubley, Transportation and Public Works
John Sheppard, Environmental Management Services
Phil Townsend, Real Property and Asset Management
Jennifer Church, Governance

Report Approved by: 
Dale MacLennan, Director of Finance

Attachment I

HRM Tendering Process

Once the capital program is approved by Regional Council, the tendering of capital items proceeds as follows:

- 1) Tender Estimate: Prior to approval, a project typically undergoes a preliminary review process which includes: upfront scoping, site investigations, coordination with other departments and/or outside agencies such as utilities, sampling and analysis of materials, review of existing infrastructure components and surveying. **Generally speaking the estimate that is produced for the Capital Budget submission is based on this preliminary assessment.**
- 2) Creation of Tender Document: Once the detailed specifications and drawings are completed they are used to create a tender document. This document is typically prepared by the business unit (unless the project is being completed by a consultant) and sent to Procurement.
- 3) Procurement Process: Procurement advertises and issues the tenders. The contractors normally have two weeks to submit a tender (more time is allocated for larger or more complex projects). This time may be extended if the tender is amended. The tenders are received and opened as per HRM's procurement policies, reviewed for the statutory requirements and sent to the relevant business unit for final documentation.
- 4) Approval of Tenders: If acceptable, a report is prepared for approval by the C.A.O. or Regional Council. Internal control checks are then completed. There can be 5-6 persons approving the report before the tender is put forward for award. Tenders under \$100,000 can be approved by the C.A.O. but tenders exceeding \$100,000 must be approved by Regional Council.
- 5) Execution of Tender: Once approved, the contractor provides the required documentation (bonds, insurance, safety plans, etc.). Staff then conducts a preconstruction meeting to discuss the scope of the work, procedures for payment, schedules, etc. After the preconstruction meeting has been held, the work can proceed.

The completion of capital projects on time can be delayed for a variety of reasons such as:

Pre Construction Process (Predesign, design, tendering)

- 1) amount budgeted for the project is exceeded and/or the scope of work is modified;
- 2) complicated land issues;
- 3) long regulatory approval process;
- 4) community consultation;
- 5) public hearing process;
- 6) demand to add capital and non-capital projects during the year (ie. sewer collapses); and
- 7) existing staff levels limit the number of projects that can be worked on at the same time.

Construction Process:

- 1) Time sensitivity
of projects: - asphalt plants do not open until mid May and close by Oct 31;
- work done near schools (starts after July 1 and ends by Aug. 31); and
- work adjacent to watercourses (starts after June 1 and ends by Sept 31).
- 2) Availability of contractors;
- 3) Weather; and
- 4) Unforeseen Geological Conditions; and
- 5) Changes in scope of work

Attachment II

Capital analysis for 2004/2005 fiscal year Update on spending to Oct and Nov 2005		Approved 2004/05 budget with adjustments	Unspent of 04/05 plan up to March 05	Unspent as a % of plan	Unspent/Uncommitted of 04/05 plan up to Nov 05	Unspent as a % of plan	Comment
ENVIRONMENTAL MANAGEMENT SERVICES Total		7,419,704	6,624,830	89.29%	3,576,052	48.20%	
Significant contributors CGU00645	Heming Cove Sewer & Water Phase 1A	3,106,200	3,031,361	97.59%	3,031,361	97.59%	This is a multi-year project. Phase 1 is completed and property owners are now serviced. There are two funding accounts and no funding has yet been required from this account.
CGU00646	Prince's Lodge Sewer & Water Servicing	1,617,000	1,581,550	97.81%	148,093	9.16%	most funds are spent, system fully operational and construction nearly complete, fully complete summer 2005
% of total unspent/uncommitted		4,612,911 68.63%			3,179,454 88.91%		
REAL PROPERTY AND ASSET MANAGEMENT Total		19,474,246	7,096,509	36.44%	1,201,813	6.17%	
Significant contributors CG300743	Bayers Lake Infill and Ragged Lake Dev	1,100,000	1,100,000	100.00%	1,100,000	100.00%	A preliminary cost study has led to a redirection in strategy that is currently being developed.
% of total unspent/uncommitted			15.50%		91.53%		
PUBLIC WORKS & TRANSPORTATION Total		35,261,557	8,503,052	24.11%	2,216,554	6.29%	
Significant contributors CJU00557 CRU00584 (note 1)	New Sidewalks 2004/05 Other Related Road Works 2004/05	1,985,106 890,174	756,274 742,478	38.10% 83.41%	259,042 548,265	13.05% 61.59%	All tenders have been tendered \$145,000 remains for one capital project (to be tendered prior to April/06) remaining funds for Operations.
CYU00563 CZU00585	Paving Renewal 2004/05 Resurfacing Various Locations 2004/05	4,740,475 7,596,368	1,685,530 2,142,380	35.56% 28.20%	645,294 355,924	13.61% 4.68%	All tenders have been tendered All tenders have been tendered
% of total unspent/uncommitted		5,326,663 62.64%			1,808,525 81.59%		
Grand Totals		62,155,506.45	22,224,390.81	35.76%	6,994,419.42	11.25%	

Note 1
In January 2006 a portion of this project was reallocated to new project CRU00792.
For this analysis the two projects have been combined so as to be comparable to the March 05 numbers.

Attachment III

Capital analysis for 2005/2006 fiscal year Spending including commitments		Approved 2005/06 budget with adjustments	Unspent/Uncommitted of 05/06 plan up to Nov 05	Unspent/Uncommitted as a % of plan	Comment
ENVIRONMENTAL MANAGEMENT SERVICES Total					
Significant contributors CSU00116	Fairview Overpass Combined Sewer Cleaning	5,502,219	1,343,117	24.41%	negotiations with CN rail took longer than expected, will proceed 2006
CGI00615	Eilenvale Run-Drainage Improvements	448,259	448,259	100.00%	1 phase tendered, delayed to 2006 - environmental concerns; 2nd phase delayed due to regulatory approval
CSU00110	Wastewater Treatment Plants Upgrades	500,000	269,852	53.97%	Upgrade work or study is being proposed at a number of plants. Study work has started and specifications have been proposed for most of the proposed work.
		243,000	243,000	100.00%	
% of total unspent/uncommitted			961,111 71.56%		
REAL PROPERTY AND ASSET MANAGEMENT Total					
Significant contributors CB100091	Mainland Commons Recreation Facility	24,055,080	12,098,137	50.29%	Multi-year project. Ongoing community consultation has delayed the detailed design of the project. An action committee is being formed to bring community needs and fundraising to a focus.
CQ300747	Intersection/Traffic Improvments Burnside	7,212,000	5,693,713	78.95%	This project is funded by the Business Parks reserve and is part of a larger TPW project on hold pending study of impact of Dartmouth Crossing development.
CB200453	East Dartmouth Recreation Facility	250,000	250,000	100.00%	Multi-year project. Preliminary design is underway. Awaiting confirmation of federal funding. This project is about 1 year ahead of anticipated schedule.
CB200454	District 2 Recreation Centre	1,000,000	1,000,000	100.00%	Multi-year project. Consultant selection underway. This project is currently slated for completion in 2007/08.
CB300555	Major Facilities Upgrade 2004/05	900,000	900,000	100.00%	These funds are provided as reimbursement to HRM's major facilities as they carry out major capital repairs. Project schedule is dependent upon the individual facility.
CB300627	New Penthorn Fire Station	850,000	664,233	78.15%	Multi-year project. Detailed design has begun. It is slated for construction in 2007/2008.
CPG00581	Dartmouth Artificial Sportsfield	1,067,000	819,390	76.79%	First phase of project, base preparation is worth \$3M and is almost complete. The second phase of project, supply and installation of artificial turf is scheduled for tender early in the spring of 2006.
CBR00750	200 Illsley Ave. - Safety Upgrades	700,000	700,000	100.00%	The next phase of hoist replacement at Metro Transit garage is slated for tender early in 2006.
CB300771	Metro Transit E P C	300,000	300,000	100.00%	Multi-year project has begun and invoices are being processed.
% of total unspent/uncommitted		650,625	10,977,961 90.74%		
PUBLIC WORKS & TRANSPORTATION Total					
Significant contributors CJU00719 CJV00724	New Sidewalks 2005/06 Highfield to Burnside Pedestrian Overpass	40,311,775	5,454,376	13.53%	One project remaining to be tendered Currently in transportation for initial design
		2,089,000	406,446	19.46%	
		400,000	400,000	100.00%	

CFU00701	Other Related Road Works (D&C)	750,000	328,180	43.76%	One project to be tendered prior to April06
CTU00530	HWY 111/Portland St. Interchange	10,135,661	551,084	5.44%	Currently under construction
CTV00725	Lacewood Four Lane/Fairview Interchange	829,999	828,929	99.87%	Currently in transportation for initial design
CTV00732	Rotary Conversion/Chebucto Reversion Lane	600,000	592,410	98.74%	Initial planning stage recently completed, detail design started
CXU00585	New Paving Subdivision Streets Outside Core	1,000,000	926,971	92.70%	All work completed awaiting invoices from Province
CYU00716	Paving Renewal 2005/06	4,675,972	551,866	11.80%	One project remaining to be tendered will tender 06/07
% of total unspent/uncommitted			4,585,886		
			84.08%		
Grand Totals		69,869,074	18,895,630	27.04%	