




PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Halifax Regional Council
August 1, 2006

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:


Brad Anguish, Director, Environmental Management Services

DATE: July 17, 2006

SUBJECT: Harbour Solutions Project - Quarterly Report (April to June/06)

INFORMATION REPORT

ORIGIN

This report originates from the Council session of October 22, 2002 when staff was authorized to submit quarterly reports for the duration of the project.

BACKGROUND

HRM has entered into four contracts to date for the implementation of the Halifax Harbour Solutions Project, namely:

- an infrastructure development agreement for the construction of the three Wastewater Collection Systems on October 15, 2003 with Dexter Construction
- a development agreement for the construction of three advanced primary Wastewater Treatment Plants on June 15, 2004 with D&D Water Solutions, Inc.; and
- a development agreement for the construction of a Biosolids Processing Facility on November 30, 2004 with SGE Acres Limited, and
- an operating and maintenance agreement for the Biosolids Processing Facility on November 30, 2004, with N-Viro Systems Canada Inc.

DISCUSSION

Halifax

The wastewater collection system (WCS) work during the first quarter of 2006 concentrated on the remaining mechanical and electrical work, carpentry, miscellaneous metals work, etc., at the various pumping stations and flow diversion chambers. The Duke/Salter sewer separation work package was substantially completed and temporarily reinstated until the completion of the final connection to the tunnel drop shaft, which is expected to take place in late fall after the wet commissioning of the Halifax wastewater treatment plant.

Regarding the wastewater treatment plant (WTP) work, mechanical, electrical, concrete, masonry and architectural work is progressing well. Major equipment continues to arrive and be installed such as raw water pumps, raw water riser pipes, and climber screen.

During the major rain event in June, the collapse of an existing retaining wall on the south end of the site damaged some sections of the climber screen, that were stored beside the wall. These sections have been sent back to the manufacturer for repair. At the moment, the impact is still being assessed; however, it appears that there will be no scheduling delay as a result. The wet commissioning of the WTP is anticipated to start in late January 2007 with full completion and operation expected by April 2007.

Dartmouth

The construction of wastewater collection system (WCS) work continued with four crews performing interceptor pipe installation work in a number of areas including Ferguson Road to Wallace Street, Dartmouth Cove to Dartmouth Sewage Treatment Plant, Jamieson Street to Lyle Street, Lyle Street to Park Avenue, and Cuisack Street to Woodside Ferry Terminal.

The Dartmouth WTP outfall and the Maitland Street outfall were also installed during the last quarter.

Regarding the wastewater treatment plant (WTP) work, concrete formwork accelerated and approximately 50% of the concrete work has been completed.

Completion of the Dartmouth wastewater collection system and wastewater treatment plant is expected by March and August 2007, respectively.

Herring Cove

Design engineering work for the wastewater collection system (WCS) work is approximately 55% complete and real estate acquisition activities continue. Drilling and blasting is underway on the plant access road.

Regarding the wastewater treatment plant (WTP) work, the site plan has been completed with the location and elevation of the building finalized.

Completion of the Herring Cove WCS and WTP is expected by March and June 2008 respectively.

Biosolids Processing Facility

The Biosolids Processing Facility is approximately 80% complete and is expected to be ready to process biosolids when the Halifax wastewater treatment plant starts to operate.

The specialty trailers for the transportation of dewatered biosolids from the three Harbour Solutions Project Plants are currently being designed.

Safety

There were no lost-time incidents on the sites during the quarter. Five NSDEL occupational health and safety inspections were undertaken with five compliance orders received. These orders were complied with within the time frame specified by NSDEL.

Summary

The overall Harbour Solutions Project remains on schedule and within budget. The Halifax wastewater treatment plant remains on track for the revised completion date of April 24, 2007.

BUDGET IMPLICATIONS

The Harbour Solutions Project has spent \$10.38 million in fiscal year 06/07 and a total of \$150.34 million to June 30, 2006. Projections to meet the capital budget of \$332.7 million are still on target.

Inflation remains the most significant financial risk of the project. History of the Halifax Non-Residential Construction Index over the past twenty years shows average annual inflation of just over 2%. Staff conservatively estimated annual inflation at 2.8% for budget purposes, while fiscal years 2004/05 and 2005/06 brought inflation of 7.87% and 4.31% respectively. In the first quarter of 2006/07, annual inflation was 5.41%. Staff have revised the inflation estimate to 6% per year over the life of the contract and has committed a substantial portion of the \$18.2 million contingency to address this issue.

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


N/A

ATTACHMENTS

Halifax Harbour Solutions Project - 1st Quarterly Report - From April 1, 2006 to June 30, 2006, Attachment 1.

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.

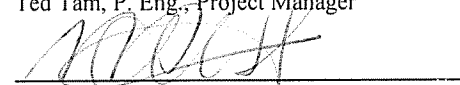
Report Prepared by :



Ted Tam, P. Eng., Project Manager

490-6130


Financial Review :



Marlies van der Horst, Financial Consultant

490-4446

Report Approved by:



Brad Anguish, Director, EMS

490-4825

August 2006

Halifax Harbour Solutions Project

**First Quarterly Report
April 1, 2006 to June 30, 2006**

Introduction

The intent of this document is to provide Council and staff with a general overview of the Harbour Solutions Project Quarterly Report covering the period between April 1/06 and June 30, 2006.

It is presented in sections:

Section 1 - Wastewater Collection Systems

Section 2 - Wastewater Treatment Plants

Section 3 - Biosolids Processing Facility

Section 4 - Pollution Prevention Program

Section 5 - Water Quality Sampling Program

Section 6 - Financial Information

Section 7 - Public Involvement and Information Program

Section 8 - Construction Safety

Section 1

Wastewater Collection Systems

Halifax Wastewater Collection System

Work during the first quarter of 2006 was limited to completing the remaining mechanical and electrical work, carpentry, miscellaneous metals work, etc., at the various regulation structures. The Duke/Salter sewer separation work package was substantially completed and temporarily reinstated until the completion of the final connection to the tunnel drop shaft, which is expected to take place in late fall after the wet commissioning of the Halifax wastewater treatment plant.

The remaining work will be focussed on the installation of diversion piping that connects the mainline interceptors and the pump stations and CSOs to the Halifax WTP. This work will occur during the 2nd and 3rd quarters of 2006 as will the remaining Duffus Street Pump Station modification work which has recently started. Completion of these work elements is dependent on the ability of the Halifax STP to accept the flows. Planning and coordination of this work continues.

Dartmouth Wastewater Collection System

Real estate acquisition continues to progress as a number of property acquisition agreements were finalized during the quarter. Regulatory approvals are also keeping pace with the work progress.

Engineering design work continued during the quarter with all design packages being completed with the exception of the King Street CSO which will be completed in July.

Construction work continued with four crews performing interceptor pipe installation work in a number of areas including Ferguson Road to Wallace Street, Dartmouth Cove to Dartmouth Sewage Treatment Plant, Jamieson Street to Lyle Street, Lyle Street to Park Avenue, and Cuisack Street to Woodside Ferry Terminal.

Work continued at a number of regulation structures, including the Jamieson Street Pump Station, Melva Street Pump Station, Wallace Street CSO, Ferguson Road CSO, and Lyle Street CSO.

The Dartmouth WTP outfall and the Maitland Street outfall were also installed during the quarter.

Herring Cove Wastewater Collection System

Design engineering work is approximately 55% complete and real estate acquisition activities continue.

Drilling and blasting is underway on the Herring Cove STP Access Road.

Section 2

Wastewater Treatment Plants

Halifax Wastewater Treatment Plant

During the 1st quarter of 2006 concrete placement work continued with solid progress being made and masonry, architectural (i.e., door frames, etc.), miscellaneous metals work (i.e., stairway installation) continues.

Mechanical and electrical work is progressing in several areas of the WTP, with piping and cabling activities underway. Major equipment continues to arrive and be installed such as the raw water pumps, raw water riser pipes, and the climber screen, all in the wet well.

During the major rain event in June, the collapse of an existing retaining wall on the south end of the site damaged some sections of the climber screen, that were stored beside the wall. These sections have been sent back to the manufacturer for repair. At the moment, the impact is still being assessed; however, it appears that there will be no scheduling delay as a result. The wet commissioning of the WTP is anticipated to start in late January 2007 with full completion and operation expected by April 2007.

All key procurement decisions have been completed including the important supervisory control and data acquisition system (SCADA).

Dartmouth Wastewater Treatment Plant

Concrete formwork accelerated during the 1st quarter of 2006. Clarifier / thickener tank walls (Densadeg), slabs, and walls and columns were placed. Approximately 50% of the concrete work has been completed.

Mechanical and electrical work was limited to underground piping and conduit following along with the structural work.

Herring Cove Wastewater Treatment Plant

The site plan has been completed with the location and elevation of the building finalized. Site preparation work has been started with the drilling and blasting work well underway.

Section 3

Biosolids Processing Facility

The Biosolids Processing Facility is progressing well and is expected to be ready to process biosolids when the Halifax Wastewater Treatment Plant starts operation.

The specialty trailers for the transportation of dewatered biosolids from the three Harbour Solutions Wastewater Treatment Plants are being designed.

Section 4

Pollution Prevention Program

In support of the Harbour Solutions Project and as a requirement of provincial legislation, HRM initiated a Source Control Strategy, now referred to as the Pollution Prevention (P2) Program. This program has been designed and implemented to reduce the levels of organic and inorganic compounds, toxins and other matter currently entering the municipal stormwater and wastewater sewer systems, and ultimately, freshwater and marine environments including Halifax Harbour.

At the Regional Council meeting of July 17, 2001 (Item No. 9.1), Council approved the adoption of By-Law W-101 respecting the "Discharge of Wastewater into Public Sewers". This by-law regulates the discharge of specified substances that may comprise paints, inks, solvents and other hazardous, metal-rich and toxic products and wastes to the municipal sewer systems. The P2 program requires compliance with the Wastewater Discharge By-Law through planning, education, inspections and monitoring at the source of these discharges from all industrial, commercial and institutional locations within HRM. Additionally, educational information is provided through various mediums for the residential sector to allow direct participation by the public in the protection of our natural marine and freshwater resources. Staff previously provided updates to Council on the status of this program. Since the last update provided to Regional Council at its meeting of June 13, 2006, activities that P2 staff have undertaken or completed include the following:

- Staff, during this reporting period, have continued with inspections of businesses within the Dartmouth WTP sewershed for compliance with HRM's By-Law W-101. These inspections were initiated within the Burnside Business Park area and will extend to all businesses within the Dartmouth sewershed. It is the intent of staff to have this phase of activities completed prior to the completion and commissioning of the Dartmouth WTP. To date, 364 inspections in Dartmouth have been completed.
- P2 staff responded to 23 environmental incidents or related investigations since the previous report.

- Staff from Technical and Underground Services have continued to observe and report a reduction in the number of sewer problems such as blockages or accumulations related to fat, oil, and grease. This reduction is attributed to P2 activities in the food preparation sector. Reduction of the amount of fat, oil and grease that is discharged to municipal sewer systems will correspond to a reduction in Soluble and Total BOD influent loadings to the Harbour Solution Project's wastewater treatment plants and may result in a reduction of system operation and maintenance costs.
- As a result of inspections conducted to date, a number of industries and businesses within HRM have been identified to be in non-compliance with HRM's By-Law W-101. In order to achieve compliance, these locations are undertaking significant financial expenditures and physical modifications to existing processes to meet compliance with the provisions of the by-law. A program to recognise and document significant undertakings by industry is being developed and will be reported in a subsequent report.
- P2 staff initiated an inter-governmental pollution prevention project entitled "HRM Best Management Practices (BMP's) for Industry" for 12 industrial sectors located in HRM which will involve HRM's P2 staff, Environment Canada, Department of Environment and the Canadian Centre for Pollution Prevention. The on-going development of these BMP's will provide businesses with the identification of wastewater characteristics and methodologies to undertake to assist them with by-law compliance.

P2 staff produced and delivered a recent pollution prevention television advertisement and four radio advertisements which have recently aired. Additionally, newspaper articles including regular use of HRM's Naturally Green newsletter, public presentations and industry seminars to educate and promote pollution prevention to ICI locations and to the general public have been ongoing. Educational information will continue to be provided through related media opportunities to provide for public education and enhanced stewardship of our surface water resources.

Section 5

Water Quality Sampling Program

The Harbour water quality monitoring program was initiated June 2004. Samples are collected at 35 stations in the harbour, from the head of Bedford Basin to the harbour mouth past McNabs Island. Stations are located down the centre of the harbour, and at various additional points including areas of recreational use such as the yacht clubs. Samples are collected at the surface and 10 metre depth, and analysed weekly for bacterial levels, and bi-weekly for chemistry and nutrients. The data are compiled into weekly and quarterly summary reports. Preliminary results indicate for example that bacterial levels throughout the inner Harbour exceed the recreational guideline limits, particularly in winter months. Testing for metals, oils, and biochemical oxygen demand (a measure of organic constituents in the water) has been discontinued at regular sampling sites due to levels which are

routinely below detection limits. Methods for more sensitive detection of metals are being investigated. The program remains on schedule and below budget.

The purpose of the program is to establish existing baseline water quality conditions in the harbour, and to track changes as each of the three new treatment plants is commissioned in 2007 (Halifax and Dartmouth) and 2008 (Herring Cove). The program is scheduled to continue through 2009. Water quality objectives have been established for various portions of the Harbour, and the sampling program will allow assessment of progress toward those objectives as sewage discharge to the Harbour becomes treated.

Quarterly reports and weekly data reports and spreadsheets are available online at:
<http://www.halifax.ca/harboursol/waterqualitydata.html>.

Section 6

Financial Information

As of June 2006, the Harbour Solutions Project has spent \$150.34 million of its \$332.7 million capital budget. Spending for the quarter just completed was \$10.38 million which is largely comprised of \$3.61 million for the Wastewater Collection System, \$4.39 million for the Wastewater Treatment Plants, and \$0.75 million for the new Biosolids Processing Facility. Contract management, the Public Involvement & Information Program, Aggressive Pollution Prevention, water quality monitoring, inflation, and administration totalled \$0.99 million. The remaining \$0.64 million was attributed to the Community Liaison Committees.

In October 2002, Council granted approval in principle to commence a series of increases, not to exceed \$0.29, to the Environmental Protection Charge as a means of funding the Harbour Solutions Project. The first \$0.05 increase was implemented in October 2003. In January 2005, Council approved the schedule of remaining increases necessary to fund the Project. The second and third \$0.05 increases became effective in March 2005 and October 2005, respectively. The next increase of \$0.05 will become effective in October 2006. The table below shows the implementation dates for the increases totalling \$0.29 for the Harbour Solutions Project:

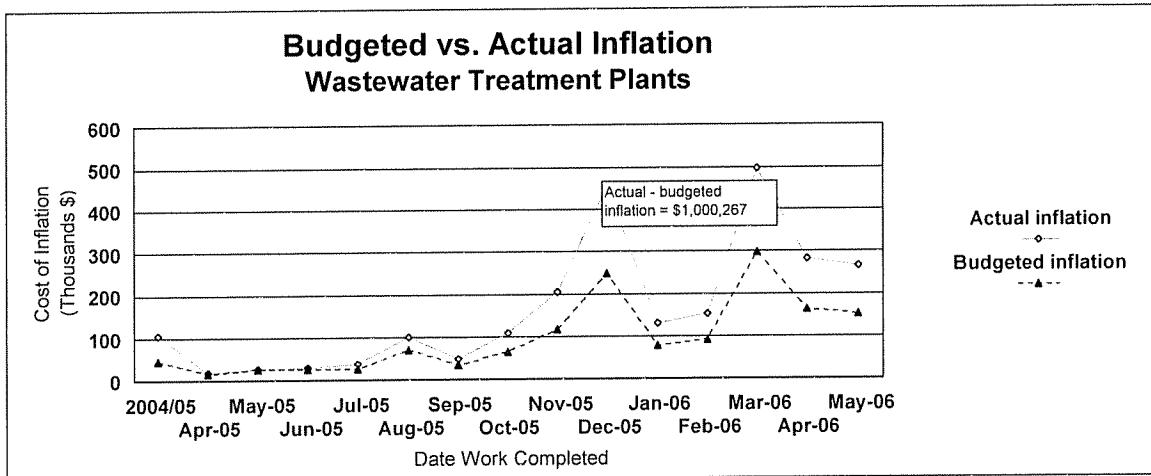
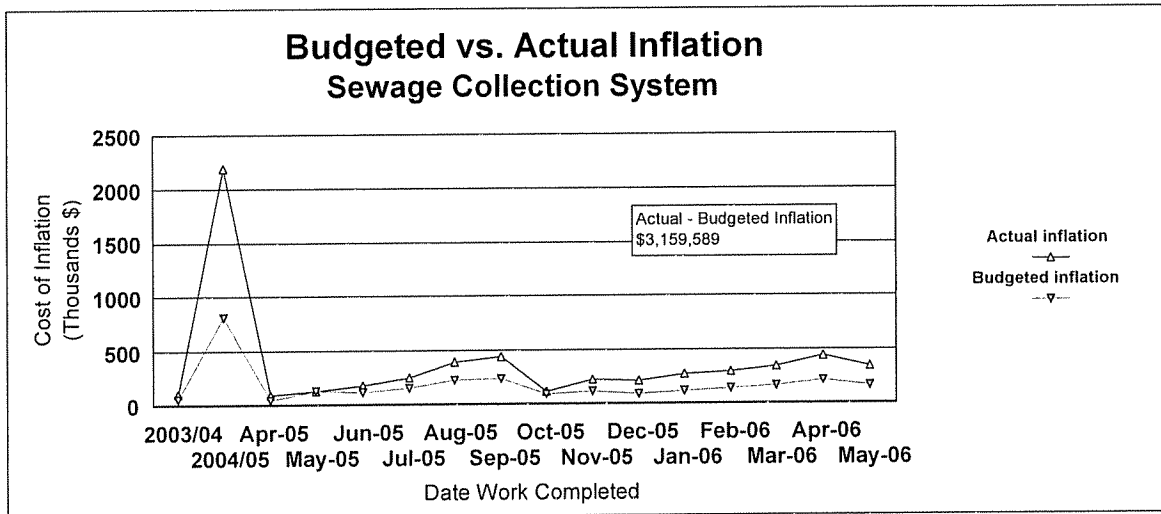
Date	Environmental Protection Charge-HSP portion	Increase
October 2003	\$0.42	\$0.05
March 2005	\$0.47	\$0.05
October 2005	\$0.52	\$0.05
October 2006	\$0.57	\$0.05
October 2007	\$0.66	\$0.09
Total Increase		\$0.29

The above rates attributable to Harbour Solutions are just one portion of the Environmental Protection Charge. The charge also funds expenses associated with already existing infrastructure. All revenues collected are recorded in the Environmental Protection Reserve. Staff maintains an administrative split of reserve balances.

Inflation

Although 2004/05 was an extraordinary year for construction-related inflation in HRM in terms of its strong increase, the inflation trend for the year 2005/06 has stabilized somewhat, and is lower than the revised inflation projection of 6% (7.87% vs. 4.31%). The first quarter of 2006/07 saw inflation of 5.41%. At this time, however, it is still too soon to revise estimates over the Project's life down from the projected 6% annual inflation. More data is required to determine whether this downward swing will be a continuing trend.

The impact of inflation in terms of dollars is demonstrated in the two charts on the next page for the Wastewater Collection System and the Wastewater Treatment Plants. The difference between the actual and budgeted inflation represents the amount which must be taken from the contingency funds. As of June 2006, \$4.16 million over and above budgeted inflation has been spent on these two contracts.



Contingency Spending:

The contingency budget of \$18.20 million is largely set aside for addressing inflation beyond budgeted levels. The contingency is also being used to fund small items that have arisen through the contract amendments. Actual and planned spending of contingency funds is as follows (shown in millions):

Realized inflation in excess of budget	\$4.16
Projected inflation in excess of budget	10.51
Contract amendments	0.50
Proposed undergrounding power to Dartmouth STP	0.50
Uncommitted	<u>2.53</u>
Total	\$18.20

Harbour Solutions Project
1st Quarter 2006/07
(in millions of dollars)

	1st Quarter	Year to Date	Project Total	Budget
Firm Price Contracts				
Sewage Collection System	3.61	3.61	78.01	112.3
Sewage Treatment Plants	4.39	4.39	40.40	136.9
Biosolids Processing Facility	0.75	0.75	4.70	12.5
Net HST	-	-	-	9.6
Community Liaison Committees	0.64	0.64	3.31	7.0
Land	-	-	4.92	4.8
Pre-Construction Contract	-	-	7.11	7.1
Total Firm Price Costs	9.39	9.39	138.45	290.20
Variable Costs				
Admin., Contract Mgmt., Communication	0.03	0.03	4.78	12.0
Contingency	-	-	-	18.2
Inflation	0.97	0.97	7.12	12.3
Total Variable Costs	0.99	0.99	11.90	42.5
Harbour Solutions Project				
Total Cost	10.38	10.38	150.34	332.7
Funding				
EP Reserve Levies	22.67	22.67	117.98	160.2
Long-term debt:				
N.S. Municipal Finance Corporation	-	-	110.00	110.0
Federation of Canadian Municipalities	-	-	20.0	20.0
Cost Sharing:				
Province*	-	-	4.01	10.0
Canada Strategic Infrastructure Fund	-	-	20.1	30.0
Potential short-term debt	-	-	-	2.5
Total Funding	22.67	22.67	272.13	332.7

- The Province of Nova Scotia has committed \$30 million to the Project over a 15 year span. The \$10 million shown above in the table represents the portion that will be received during the construction period.

Section 7

Public Information and Involvement Program

The Marketing, Design and Print Services section of the Corporate Communications Office assumed responsibility for the Public Information and Involvement Program for the Harbour Solutions Project in the fall of 2003.

Public Messaging

Harbour Solutions continues to be a major player in the Naturally Green Newsletter. This environmentally focussed in-house produced newsletter is distributed to approximately 162,000 households in HRM. The latest edition was released in May 2006. The next edition is scheduled for October 2006.

Corporate Communications has another edition of the award winning "Special Harbour Edition of Naturally Green" scheduled for release in early September.

Corporate Communications recently completed production and airing of a 30 second Harbour Solutions TV advertisement on ATV. The ad has been very well received and continues to make the link between the Harbour Solutions Project and Pollution Prevention Program. Corporate Communications is currently designing a user-friendly map that will outline the various harbour related activities that will be possible once the wastewater treatment plants are up and running.

Community Liaison Committees (CLC)

The Halifax CLC and the Herring Cove CLC continue to meet regularly to deal with the integration of the wastewater treatment plants into their communities.

The Herring Cove CLC, working with Councillor Adams, Corporate Communications, EMS and HRWC staff, brought the long awaited first phase of municipal services to parts of Herring Cove. The next phase is scheduled to get underway later this year. The Herring Cove CLC is now focussing its efforts on the WTP exterior design and landscaping. Corporate Communications staff will continue to regularly attend meetings to help this process move along.

HRM staff continue to liaise with and attend Halifax meetings when requested by the CLC. The Halifax CLC continues to look at a proposal for the Community Integration Fund. The Halifax CLC has forwarded an outline of their proposed Community Development Corporation (CDC) proposal to HRM staff. HRM legal staff have reviewed the proposal and determined that the activities that can be carried out under the concept of CDC are limited, due to legislative restrictions/risks under the Municipal Government Act. The Halifax CLC is interested in further exploring the CDC option despite the limitations on the CIF fund expenditures. As soon as sufficient information is gathered, HRM staff will bring this item to Regional Council to ensure Councillors are kept aware of any developments.

In Dartmouth, construction continues on the wastewater collection system (WCS), wastewater treatment plant (WTP) and trail. Residents continue to be kept informed of work in their specific area through notices delivered door-to-door. Residents are also kept up to date on the overall project through publications such as Naturally Green and the Harbour Solutions Project website. HRM staff have recently devoted considerable time and energy researching numerous underground power supply scenarios for the Dartmouth WTP. At least 12 options have been investigated. The current option is to have the power going through Tupper Street. Further details on this option are currently being investigated.

Staff from Real Property and Asset Management, Harbour Solutions, and Corporate Communications continue to work with the Harbourfront Trails Association, area Councillors and residents on the waterfront trail running through the Woodside area. The trail section immediately adjacent to the Dartmouth WTP is roughed in and gravelled.

In April, a community information session was held to discuss HSP related topics. Councillor Kent recently formed a community group to deal with a wide range of area issues. Corporate Communications staff will attend as required when HSP related matters are on the agenda.

Corporate Communications staff also continue to work with Councillor Becky Kent to keep area residents informed of activities regarding the Dartmouth WTP. Local construction notices are delivered door-to-door to residents in the area where construction is scheduled to take place.

Communication Plan

PIIP staff developed and continue to implement a detailed communication plan for the Project.

Presentations

Presentations are developed on an on-going basis for conferences, workshops and community groups. The presentations are updated regularly to correspond with project progress. These presentations have all been made available on compact discs as well.

Three new Harbour Solutions display units have been developed for use at public meetings, trade/home shows and other events. The new display units focus on the positive message of the project, stewardship and integrating of messaging with HRM's Pollution Prevention Program. They were on display in Historic Properties for the months of April, May and part of June. Corporate Communications and Pollution Prevention staff also attended Oceans Day events in early June with the display units.

As part of our presentation materials, Mayflower Models has been contracted to construct 3 scale models of the new wastewater treatment plants. These will prove a valuable tool in explaining the advanced primary treatment process. The Halifax WTP, the first model, is now complete. HRM staff are planning to meet with staff from the Halifax North Memorial Public Library to have the model displayed, along with accompanying information literature, on site.

Harbour Solutions Website

The Harbour Solutions website has been redesigned to provide a “user friendly” up to date source of information on the Project. PIIP staff continue to maintain the site for Harbour Solutions. The site features a large photo gallery, reference materials, construction notices informing residents of any possible traffic impacts, a large collection of information related to the wastewater collection systems, wastewater treatment plants and the biosolids processes.

Construction Communications

A PIIP staff member attends the Harbour Solutions construction meetings weekly to liaise with contractors Dexter and D&D, as well as, other HRM departments to stay informed about construction that could impact the public/businesses, and ensure communications are developed to address these impacts. A PIIP member also attends, where required, meetings with businesses and residents that may be directly impacted by HSP related construction activity.

Weekly construction updates continue to be emailed to stakeholders and posted on the website, along with notices of impending construction and their impacts. Newspaper and radio ads, media releases and web postings continue to be developed for construction that may impact on traffic.

A media tour of the Halifax and Dartmouth WTP sites was conducted in April. All local media were in attendance. More events are planned for the future.

Signage

PIIP staff liaised with the federal and provincial governments to design, produce and install signage for the sites of the three Wastewater Treatment Plants. More detailed signage is being developed for the three WTP sites.

Correspondence

As requested/required, letters and e-mails are drafted to address concerns/enquiries from citizens regarding the Project. PIIP staff also regularly respond to numerous requests for HSP information from the general public, interest groups, media, HRM Councillors, staff and others. Letters are also drafted for the CLC's and other levels of government.

Section 8

Construction Safety

There were no lost-time incidents on the sites during the quarter. Five NSDEL occupational health and safety inspections were undertaken with five compliance orders received. These orders were complied with within the time frame specified by NSDEL.