

**2. OTTAWA RIVER ACTION PLAN – STATUS UPDATE**

**PLAN D'ACTION DE LA RIVIÈRE DES OUTAOUAIS – RAPPORT DE SITUATION**

**COMMITTEE RECOMMENDATION**

**That Council receive this report for information.**

**RECOMMANDATION DU COMITÉ**

**Que le Conseil municipal prenne connaissance de ce rapport présent.**

**DOCUMENTATION / DOCUMENTATION**

1. Steve Kanellakos, Deputy City Manager, City Operations report dated 8 January 2013 / Rapport du Directeur municipal adjoint, Opérations municipales daté du 8 janvier 2013 (ACS2013-COS-ESD-0002).
2. Extract of Draft Minute, 15 January 2013.

Report to/Rapport au :

Environment Committee  
Comité de l'environnement

and Council / et au Conseil

January 8, 2013  
8 janvier 2013

Submitted by/Soumis par :  
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CITY WIDE / À L'ÉCHELLE DE LA VILLE

Ref N°: ACS2013-COS-ESD-0002

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**SUBJECT: OTTAWA RIVER ACTION PLAN – STATUS UPDATE**

**OBJET : PLAN D'ACTION DE LA RIVIÈRE DES OUTAOUAIS – RAPPORT DE SITUATION**

**REPORT RECOMMENDATION**

That the Environment Committee and Council receive this report for information.

**RECOMMANDATION DU RAPPORT**

Que le Comité de l'environnement et le Conseil municipal prennent connaissance de ce rapport présent.

## BACKGROUND

Implementation of the Ottawa River Action Plan (ORAP) has progressed into its third year, and the purpose of this report is to provide a status update on all ORAP projects, after two years of implementation.

On February 24, 2010, Council approved the Ottawa River Action Plan (ORAP) which takes a watershed-based approach to protect and improve the quality of the Ottawa River with a spending plan of \$251.64 million (ACS2010-ICS-ESD-0007).

ORAP consists of 17 individual projects aimed at improving the health of the Ottawa River and protecting the health of Ottawa's water environment for future generations. The Plan considers all municipal impacts on the Ottawa River and addresses the impacts using a cost-effective approach.

The objectives of ORAP are to:

- Achieve and sustain compliance with provincial requirements, with a focus on combined sewer overflow (CSO) control;
- Optimize recreational use and economic development of the river, with a focus on reducing beach closures;
- Maintain a healthy aquatic ecosystem, with a focus on addressing challenges presented by existing infrastructure; and,
- Develop a long-term Water Environment Strategy.

To achieve the objectives, ORAP focuses on the following major elements:

- Reducing combined sewage overflows;
- Reducing stormwater impacts;
- Improving wastewater treatment; and,
- Measuring and monitoring our performance.

A report on the Year-1 status of all ORAP projects was received by Council for information on September 28, 2011 (ACS2011-ICS-ESD-0032). Significant progress has been made in the first two years of ORAP's implementation, with five projects already complete and most others well underway.

First and foremost, major progress has been made towards ORAP's primary objective of limiting Combined Sewer Overflows (CSOs) through the implementation of Real Time Control, with an approximate reduction of 58% in measured CSO volumes from 2010 to 2012.

With respect to stormwater, the Pinecrest Creek/Westboro Stormwater Retrofit Plan is complete, and its implementation will improve the longstanding impacts of uncontrolled

stormwater runoff, such as improving erosion in receiving watercourses and poor water quality at Westboro Beach. A similar plan is now underway in the East End.

In the area of wastewater treatment, the nearly-complete R.O. Pickard Environmental Centre effluent dechlorination facility will reduce chlorine levels within the treated wastewater effluent below federal regulation limits.

Work is also complete or substantially underway on the projects aimed at ongoing performance measurement and establishing long-term strategies to protect and preserve Ottawa's water environment. A series of reports will be coming forward to Environment Committee for approval over the next year. Details of individual projects are provided in the following sections of the report.

## DISCUSSION

After two complete years of implementation, all projects continue to move forward. To date, work has commenced on 16 of 17 ORAP projects, and five projects are complete. As presented in the Year-1 Update report, this progress update report is organized in accordance with the major elements of ORAP's focus.

In addition to the detailed project summaries described in the following paragraphs Document 1 provides a quick indication of each project and its financial status.

### **Reducing Combined Sewage Overflows**

The following projects are focused on providing a service level for combined sewer overflows of zero overflows during the swimming season in the design year<sup>1</sup>:

- Project 1: Implementation of Real Time Controls (RTC) - Complete
- Project 2: Critical CSO and Storm Outfall Monitoring
- Project 3: CSO Storage in the Ultimate Combined Sewer Area
- Project 4: Review and Implement Sewer Interconnection Program
- Project 5: Sewer Separation Outside the Ultimate Combined Sewer Area
- Project 6: Development of a Wet Weather Infrastructure Management Plan –  
Complete, pending Council Approval
- Project 7: Implementation of the Wet Weather Infrastructure Management Plan
- Project 8: Installation of Floatable Traps in Combined Sewer Area Catchbasins -  
Complete

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<sup>1</sup> The Ontario Ministry of the Environment has accepted 1980 as the "design year" because it had "average" wet weather patterns for engineering design purposes. Overflows will continue to occur in years with more severe wet weather than what occurred in 1980. For example, in recent years, a system designed to the proposed service level would have experienced on average two (2) overflows per year. The existing system averages over thirty (30) overflows / year.

**Project 1: Implementation of Real Time Control (RTC)** was completed in 2011, and continues to improve the River by significantly reducing CSO volumes. The RTC project consisted of major upgrades to five CSO regulators, and continuous, real-time adjustment of gate positions at three of these regulators minimizes overflows from the existing sewer system.

The CSO volume for the 2011 Control Period<sup>2</sup> is estimated to be 230,000 cubic metres<sup>3</sup>, and the CSO volume for the 2012 Control Period is estimated to be 215,000 cubic metres<sup>4</sup>. Using a performance measurement of CSO volume per millimetre of rain, 2011 and 2012 saw about 58% less CSO volume per millimetre of rain than 2010, and about 68% less CSO volume per millimetre of rain than 2006 when CSO volumes were initially reported. It is anticipated that the capture of CSO volumes will stabilize in the future as the RTC system is optimized.

**Project 3: CSO Storage for the Ultimate Combined Sewage Area:** The Class Environmental Assessment study and functional design are complete and will be tabled at Environment Committee in January 2013. Further details can be found in the accompanying report entitled *Combined Sewage Storage Tunnel Environmental Assessment – Notice of Completion – Ottawa River Action Project No. 3 report (ACS2013-PAI-INF-0002)*.

The remaining ORAP projects focused on reducing combined sewer overflows and/or the amount of pollutants contained in CSOs are the following:

**Project 2: Critical CSO and Storm Outfall Monitoring;**  
**Project 4: Review and Implement Sewer Interconnection Program;**  
**Project 5: Sewer Separation Outside the Ultimate Combined Sewer Area; and,**  
**Project 8: Installation of Floatable Traps in Combined Sewer Area Catchbasins.**

Project 8: Installation of Floatable Traps is complete. Approximately 3,200 floatable traps have been installed in Combined Sewer Area catchbasins to capture floatable debris from the street (e.g. plastic bottles, cups, wrappers, and oil) and prevent it from entering the collection system and the natural environment. Although the original project objective is complete, staff is exploring the feasibility of expanding the floatable trap project to other urban areas. Projects 2, 4, and 5 continue to progress well and are not experiencing barriers to their success.

It is to be recognized that Project 5, sewer separation outside of the combined sewer area will continue for the next 20-30 years. As projects are completed, CSO volume and/or frequency will be reduced until the overall service level of zero over flows in the design year, is achieved.

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<sup>2</sup> The Control Period is defined from April 15 to November 15.

<sup>3</sup> [http://www.ottawa.ca/en/env\\_water/water\\_sewer/sewer\\_septic/collection/sewer\\_overflows/overflowactivity/index.htm#P251\\_6008](http://www.ottawa.ca/en/env_water/water_sewer/sewer_septic/collection/sewer_overflows/overflowactivity/index.htm#P251_6008)

<sup>4</sup> Estimated CSO volumes subject to detailed analysis and confirmation.

**Projects 6 Development of a Wet Weather Infrastructure Management Plan**

(WWIMP) is complete. This project, focuses on managing excessive flows within pipe networks and overland in order to reduce impacts on people, property and the environment. Some of the issues addressed include basement and surface flooding, system operation and maintenance, capacity for intensification and growth and environmental protection. The WWIMP is scheduled to be tabled at Environment Committee in Q1 2013 in a report from the Infrastructure Services Department.

**Project 7: Implementation of the Wet Weather Infrastructure Management Plan** is scheduled to commence in 2013, following approval of the Plan by Committee and Council.

## Reducing Stormwater Impacts

The second major element of ORAP is reducing stormwater impacts in order to reduce beach closures and maintain healthy aquatic ecosystems. Projects 9, 10 and 11 are focused on stormwater management:

**Project 9: Pinecrest Creek / Westboro Stormwater Management Retrofit Plan**

**Project 10: Eastern Subwatersheds Stormwater Management Retrofit Plan**

**Project 11: Implementation of Stormwater Management Retrofit Plans**

**Project 9: The Pinecrest Creek / Westboro Stormwater Management Retrofit Plan** was completed in 2011 and will mitigate the impacts of uncontrolled stormwater runoff on Pinecrest Creek and the local reach of the Ottawa River. This project also serves as a pilot to develop a methodology to be applied to future stormwater management retrofit plans within the urban area.

**Project 10: Eastern Subwatersheds Stormwater Retrofit Study** includes Billberry, Voyageur, Taylor, and Green's Creeks subwatersheds. Work has begun on this study to identify a plan to mitigate the impacts of uncontrolled runoff on the receiving creeks, the Ottawa River and Petrie Island Beach. This study is scheduled for completion in December 2013.

**Project 11: Implementation of Retrofit Plans** is within the early planning phases, and consists of the following initiatives:

- Identification of retrofit opportunities on City owned properties and rights-of-way in concert with life-cycle replacements; and
- Feasibility study for an end of pipe stormwater management facility proposed at the northeast corner of Baseline Road and Woodroffe Avenue.

As retrofit plans are completed across the urban area (Eastern Subwatersheds, followed by the remaining urban area to complete a City-wide SWM Master Retrofit Plan), an inventory of retrofit opportunities on City rights-of way and other City properties will be assembled. Implementing these retrofits will be most cost-effective when completed in conjunction with life-cycle replacement projects. Also, it will be necessary to prioritize these and other retrofit initiatives on a City-wide basis. Therefore, it is proposed that capital funds requested for retrofit implementation be made available for retrofit projects within the entire (older) urban area (developed without stormwater management).

## Improving Wastewater Treatment

Wastewater Treatment Plant enhancements is the third component to achieve ORAP's objectives. **Project 12: R.O. Pickard Environmental Centre Effluent Dechlorination** is near completion and is focused on improving treated wastewater discharged to the

Ottawa River. The new dechlorination facility will reduce chlorine levels within the treated wastewater effluent below federal regulation limits. The Wastewater Systems Effluent Regulations came into force on June 29, 2012 (the date of registration), and will take effect through a phased approach. The effluent quality standard for total residual chlorine takes effect January 1, 2015.

The completion date of this project was extended to incorporate design modifications to the existing chlorination facility, thereby achieving construction efficiencies. Commissioning of the new facility is currently underway, and substantial completion is expected shortly.

### **Measuring and Monitoring Our Performance**

The last component of ORAP is measuring and monitoring the City's performance and developing a long term water environment strategy. The following projects are focused on these initiatives:

**Project 13: Develop and Implement a Water Environment Strategy**

**Project 14: Monitoring and Source Control Programs**

**Project 15: Wastewater and Drainage Environmental Quality Management System**

**Project 16: Updates to the Bacterial Water Quality Computer Model**

**Project 17: Public Outreach and Education**

The objectives of Projects 13, 15, and 17 are to develop long-term water environment strategies, improve the way we do business, and continue to engage and educate the public on the water environment in order to protect and preserve the City's water resources.

**Project 13: Develop and Implement a Water Environment Strategy** is scheduled to be tabled at Environment Committee in Q1 2013, and will include goals, objectives, a five-year action plan and a coordinating framework.

**Project 15: Wastewater & Drainage Environmental Quality Management System (EQMS)** is complete for Wastewater Services, and implementation and continual improvement remains ongoing. The Wastewater EQMS allows the City to manage its wastewater business activities in a transparent and accountable manner, through the design and implementation of a system that conforms to the International ISO 14001 Environmental Management System Standard.

**Project 17: Public Outreach and Education** Work is ongoing on this project, with the objective of informing the public of the linkages between what they do and the health of the water environment, and increasing awareness of ORAP initiatives. For example, in 2012, information regarding the purification plants and the sewage



treatment plant were updated for Doors Open Ottawa, and a brochure *A River Runs Through Us* was prepared that describes the relationship between the city and the Ottawa River. As well, educational material was developed regarding the proper disposal of grease in kitchens. A long-term ORAP Communication Strategy and a Year-1 implementation plan were drafted and these initiatives are progressing.

**Project 14: Monitoring and Source Control Programs and Project 16: Updates to the Bacterial Water Quality Computer Model** are both ongoing initiatives that will continue over the duration of ORAP and beyond. The continued implementation of the City's Water Environment Protection Program will allow the City to assess trends in the water environment. The continued implementation of the Sewer Use Program will proactively seek out contamination at its source and prevent it from entering the water environment. Updates to the Ottawa River Model will enhance model calibration as well as using the model for parameters other than *E. coli*. This tool is imperative to assess CSO and stormwater inputs, as well as to identify priorities and evaluate improvement strategies. Both of these projects are progressing well and are not experiencing barriers to their success.

## Financial Status

The status of all ORAP projects, including a summary of the estimated five-year spending plan, approved budgets, future years forecasts, and spending to date is provided in Document 1. Five of the 17 projects have approved and/or forecasted expenditures that exceed the original five-year spending plan established in 2010. These projects are:

- Project 2: Critical CSO and and Storm Outfall Monitoring**
- Project 3: CSO Storage in the Ultimate Combined Sewer Area**
- Project 5: Sewer Separation Outside the Ultimate Combined Sewer Area**
- Project 14: Monitoring and Source Control Programs**
- Project 16: Updates to the Ottawa River Bacterial Water Quality Computer Model.**

**Project 2: Critical CSO and and Storm Outfall Monitoring** budget increased as detailed construction costs were defined for permanent flow monitoring sites.

As reported in the Year-1 ORAP Update, **Project 3: CSO Storage in the Ultimate Combined Sewer Area** is forecasted to exceed its original budget. The current planning level cost estimate is \$175million (2012 dollars) including allowances for construction, engineering, project delivery and land costs. Inflationary pressures could increase the project cost by \$15-\$20 million by the time the project is complete. The City continues to seek one-third funding contributions from both the Federal and Provincial governments for construction of the combined sewage storage tunnel, with

the City providing the final third. Further details can be found in the accompanying report entitled *Combined Sewage Storage Tunnel Environmental Assessment – Notice of Completion – Ottawa River Action Project No. 3 report (ACS2013-PAI-INF-0002.)*

**Project 5: Sewer Separation Outside the Ultimate Combined Sewer Area:** The spending plan for sewer separation projects was accelerated to align with the *Ottawa on the Move* program. As a result, 2013 and 2014 forecasted budgets were approved in 2012, therefore falling within ORAP's five year timeline and increasing the total budget for this project from \$47million to \$88million.

As reported in the Year-1 ORAP Update, **Project 14: Monitoring and Source Control Programs and Project 16: Updates to the Ottawa River Bacterial Water Quality Computer Model** budgets increased to initiate additional water quality modelling in the Eastern Subwatershed studies and to anticipate an increase in monitoring and source control within the Eastern Subwatersheds and in the balance of the community.

Four of the 17 ORAP projects will continue beyond 2013 and will subsequently require further capital funding beyond this date. These projects are:

- Project 3: CSO Storage in the Ultimate Combined Sewer Area**
- Project 5: Sewer Separation Outside the Ultimate Combined Sewer Area**
- Project 7: Implementation of the Wet Weather Infrastructure Management Plan**
- Project 11: Implementation of Stormwater Management Retrofit Plans**

The full extent of all future funding commitments beyond the current ORAP agreements is unknown at this time, future funding commitments and any requests for increased funding will be detailed in subsequent reports to Committee and Council.

Both the Federal and Provincial governments have collectively provided \$66 million of funding to support various ORAP projects. As mentioned above, the City is pursuing 1/3 funding commitments from the Federal and Provincial governments for the construction of the combined sewage storage tunnel project.

### RURAL IMPLICATIONS

There are no rural implications associated with any of the recommendations in this report.

### CONSULTATION

Public consultation is not required.

### COMMENTS BY THE WARD COUNCILLOR(S)

This is a City-wide report.

### LEGAL IMPLICATIONS

There are no legal impediments to receiving this report.

### RISK MANAGEMENT IMPLICATIONS

There are no risk management impediments to receiving this report.

### FINANCIAL IMPLICATIONS

The financial status of the various ORAP Projects at October 31, 2012 is reported at Document 1. The financial implications regarding the funding requirements for the Combined Sewage Storage Tunnel have been included in Report ACS2013-PAI-INF-002.

### ACCESSIBILITY IMPACTS

There are no accessibility implications associated with this report.

### ENVIRONMENTAL IMPLICATIONS

Both the *Ottawa River Action Plan* and the longer-term *Water Environmental Strategy* will reduce the impact of discharges to the Ottawa River, and will assist in fulfilling the goals of City's *Environmental Strategy* for protection of the water environment. Combined, Projects 1, 3, and 5 will allow the City to achieve full compliance with MOE *Procedure F-5-5*, and significantly reduce the City's discharge of E coli to the Ottawa River.

### TECHNOLOGY IMPLICATIONS

There are no direct technical implications associated with this report.

### TERM OF COUNCIL PRIORITIES

ORAP will directly impact Environmental Stewardship, which is one of the 2010-2014 Term of Council Strategic Priorities, by reducing combined sewage overflows, reducing stormwater impacts, and improving wastewater treatment.

This initiative relates to all three Strategic Objectives within Environmental Stewardship:

- ES1 – Improve stormwater management,
- ES2 – Enhance and protect natural systems, and,
- ES3 – Reduce environmental impact.

**SUPPORTING DOCUMENTATION**

Document 1 ORAP Project and Financial Status

**DISPOSITION**

That Committee and Council receive this report for information.

EXTRACT OF DRAFT  
MINUTES 22  
15 JANUARY 2013

EXTRAIT DE L'ÉBAUCHE  
DU PROCÈS-VERBAL 22  
LE 15 JANVIER 2013

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**OTTAWA RIVER ACTION PLAN – STATUS UPDATE  
PLAN D'ACTION DE LA RIVIÈRE DES OUTAOUAIS – RAPPORT DE  
SITUATION**

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The **Ottawa River Action Plan – Status Update and the Combined Sewage Storage Tunnel Environmental Assessment – Notice of Completion – Ottawa River Action Project No. 3** were considered concurrently.

Dixon Weir, General Manager of Environmental Services introduced the following staff:

- Wayne Newell, General Manager of Infrastructure Services,
- Alain Gonthier, Manager of Asset Management,
- Ryan Polkinghorne, Service Water Management Branch, and
- Hana Nader-Maher, Legal Services.

Messrs. Polkinghorne and Gonthier spoke to a PowerPoint presentation, a copy of which is held on file with the City Clerk.

Following the presentation, Councillors questioned staff regarding various issues and provided a direction to staff, which is listed below.

The report recommendations for items 5 and 6 (Ottawa River Action Plan – Status Update and Combined Sewage Storage Tunnel Environmental Assessment – Notice Of Completion – Ottawa River Action Project No. 3) were then put to Committee and were RECEIVED, as presented.

**DIRECTION TO STAFF:**

Staff to report back to Finance and Economic Development Committee (and/or the Environment Committee) and Council with an overview of an enhanced cost estimating process.