TOWN OF AJAX
REPORT

REPORT TO:	Community Affairs & Planning Committee
SUBMITTED BY:	Paul Allore, MCIP, RPP Director of Planning and Development Services
PREPARED BY:	Barbara Hodgins, MCIP, RPP Senior Policy Planner
SUBJECT:	**Duffin Creek Water Pollution Control Plant Outfall Environmental Assessment-Status, Contract Awards and Next Steps**
WARD(S):	All
DATE OF MEETING:	June 18, 2012
REFERENCES:	Capital Account No. 928211 – Duffin Creek WPCP Outfall EA Staff Reports on Duffin Creek WPCP Outfall EA: GGC - May 5 & November 24, 2011 Staff Reports on Duffin Creek WPCP Stage 3 Expansion: GGC – November 24, 2005; April 20, July 6 & September 21, 2006; April 17, 2007; Council – September 25, 2006 Community Action Plan: Leader in Environmental Sustainability

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RECOMMENDATIONS:

1. **That the report to Community Affairs & Planning Committee, entitled "Duffin Creek Water Pollution Control Plant Outfall Environmental Assessment-Status, Contract Awards and Next Steps", dated June 18, 2012, be endorsed;**

2. **That the Regions of Durham and York be requested to adjust the Project Timeline for the Outfall EA to integrate the Ministry of the Environment's 2012-2013 study of Lake Ontario water quality along the Ajax-Pickering shoreline, in order to better understand the accumulating adverse environmental impacts of past and present effluent emissions from the Duffin Creek WPCP's existing Outfall-Diffuser, by more precisely determining the relative loads and concentrations from sources that contribute to the growth of nuisance *Cladophora* algae that fouls beaches and shorelines and clogs the intakes at the Pickering Nuclear Generating Station and Lake Ontario-based water supply plants;**

3. **That contracts be awarded to the following consultants to peer review and prepare comments on documents produced during the Outfall EA:**

a) Steven Rowe, Environmental Planner, regarding the Municipal Class Environmental Assessment process, in the amount of $10,000.00 inclusive of all taxes and disbursements;

b) EcoMetrix Incorporated, to review Lake Ontario modelling, wastewater engineering, aquatic ecology and ecotoxicology, in the amount of $35,000.00 inclusive of all taxes and disbursements; and,

c) Dr. Andrea Kirkwood of the University of Ontario Institute of Technology, regarding the effects of nutrients on algal growth, in the amount of $10,000.00 inclusive of all taxes and disbursements;

4. That the funding be allocated to Capital Account No. 928211 from the Capital Projects Reserve in the amount of $55,000.00; and,

5. That this staff report be sent to the Minister of the Environment, MOE Central Region Directors, York and Durham Regions, the City of Pickering, Ontario Power Generation, the members of the Stakeholder Advisory Committee, the Toronto and Region Conservation Authority, the Ajax Environmental Advisory Committee and all other persons who have requested to be kept notified.

BACKGROUND:

The purpose of this report is to:

i) Provide an update on the status of York and Durham Regions' Environmental Assessment (EA) to increase the amount of effluent that can be released into Lake Ontario from the expanded Duffin Creek Water Pollution Control Plant (WPCP) from an average daily amount of 520,000,000 to 540,000,000 million litres of effluent (520-540 MLD) to 630 MLD;

ii) Pursuant to Council's direction of May 9, 2011, present a cost estimate and recommendation for the Town to retain consultants to assist staff with reviewing and commenting on aspects of the Regions' consultants' technical models and analyses and whether the Outfall EA process is sufficiently rigorous and comprehensive for an undertaking of this scale and complexity; and,

iii) Identify the next steps in the Outfall EA process.

DISCUSSION:

The current Outfall extends from the onshore Duffin Creek Water Pollution Control Plant (WPCP) for a distance of approximately 1 kilometre offshore under the bed of Lake Ontario. The existing Outfall, with 63 diffuser pipes along the last 180 metres of the main pipe designed to force effluent at high pressure for mixing and dilution into Lake water, was installed in 1976. Currently, 37 pipes are open. The Outfall has a design lifetime of 75 to 100 years. The Regions' inspection of the Outfall in 2010 showed it to be in good condition. As the Outfall is currently about 35 years old, it still has an approximate useful lifetime of 40 to 65 more years.

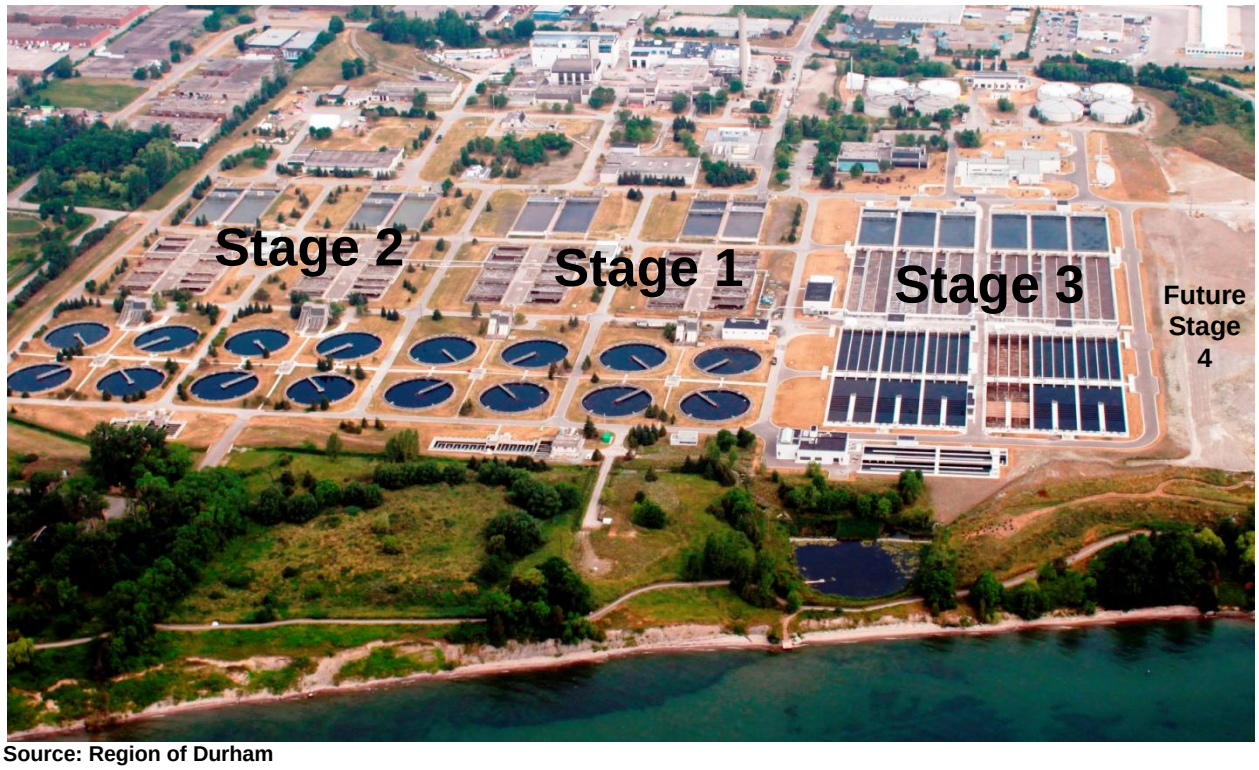
Current Ministry of the Environment (MOE) approvals allow effluent flows to be released up to a limit of 520 MLD. The Regions may be allowed to increase to 540 MLD if MOE's Central Region Director is satisfied that effluent limits set out in the Certificate of Approval (CofA) for

sewage works, including Total Phosphorus loading limits, can still be met, adequate reason is provided as to why the preferred solution to address the limitations of the Outfall-Diffuser has not yet been implemented, and provides written consent.

Presently, approval for the Regions to operate the WPCP above 540 MLD cannot be granted by MOE until the Regions have implemented a Preferred Alternative to address the Outfall-Diffuser limitations associated with the recent Stage 3 Expansion to the WPCP (Stage 3 Expansion).

Through the Outfall EA process, the Regions are requesting to be allowed to release 630 MLD. The Town's principle concern with increasing the WPCP's Outfall capacity is the potential increase in the growth of *Cladophora* algae and its adverse impact on the Town's waterfront.

The Outfall EA comprises three stages and commenced in June 2008. The Project Timelines as of February 2012 indicate that the Environmental Study Report (ESR) will be released and forwarded to the MOE for approval by March 2014 (see Attachment 1).



Source: Region of Durham

Figure 1 – Aerial View of Expanded Duffin Creek WPCP

Local Water Quality Studies

In October 2009, a water quality study was completed by the University of Waterloo for OPG, and subsequently peer reviewed by Dr. Martin Auer of Michigan Technological University for the Regions, the Town and the Toronto and Region Conservation Authority. In Spring 2012, a more detailed study that builds on the University of Waterloo study and Dr. Auer's review was initiated by MOE Great Lakes researchers. MOE's fieldwork is expected to be completed in 2013, followed by analyses and a final report.

MOE's study will provide a better understanding of local Lake conditions, the Duffin Creek WPCP's effluent and other potential point sources causing excessive *Cladophora* growth. Each successive study has helped improve our understanding and focus better on potential causes, particularly the Duffin Creek WPCP's emissions into Lake Ontario from the existing Outfall-Diffuser. The MOE study presently underway is anticipated to fill information gaps and help inform the best practical management decisions about the WPCP and its Outfall-Diffuser, as well as other sources that could result in improved shoreline conditions and nearshore water quality for swimming and other uses.

a) University of Waterloo Cladophora Study for OPG

Ontario Power Generation has been and continues to experience costly problems with *Cladophora* algae clogging the water intake screens at the Pickering Nuclear Generating Station located west of the Duffin Creek WPCP. OPG installed a net across the entrance to the Generating Station's intake channel in Lake Ontario, which catches some but not all of the *Cladophora* biomass after it detaches from the lakebed and begins to decay during the summer months.

To try to find a solution to this recurring problem, OPG funded the University of Waterloo study to examine potential local factors supporting *Cladophora* growth along the Ajax-Pickering shoreline.

The major findings of the University of Waterloo Report completed in 2009 are as follows:

- Current levels of nutrient loadings from the WPCP are not the cause of *Cladophora* growth along the nearshore. Waterloo's model predicted that algal growth to high levels could be supported without any local inputs. Observations and modeling from 2008 indicated that *Cladophora* could be reduced below nuisance levels even when local catchment inputs were increased and loadings from the WPCP were maintained. These results point to the importance of in-lake nutrient sources and of other (non-nutrient) aspects of the environment in regulating nuisance algae;

- The WPCP Outfall-Diffuser is easily detectable as a feature in the nutrient distribution field, but dilution is rapid with distance from the Diffuser;

- Of the local influences examined (thermal effluent from the Pickering Nuclear Generating Station, Duffin Creek and the WPCP), only the WPCP had an appreciable effect on seasonal accumulation of algal biomass in the study area, according to the model. Removing its influence decreased the predicted biomass accumulation by about 10% in 2007, a year of severe algal fouling;

- The study lacked true offshore reference points that could be used with confidence to assess how different nearshore boundary waters that were sampled might be from true offshore waters;

- The in-lake nutrient supply may be from medium to long distance transport along the northern shoreline of Lake Ontario, rather than from offshore sources, but could not be examined based on the observations collected in the study;

- Further study is required to determine the importance of mussel activity and the thermal bar on the production of *Cladophora*; and,

- Proposed or inadvertent changes of Phosphorus inputs into the study area from external sources (tributaries, stormwater outlets, WPCP outfalls) should receive careful study to ensure they do not exacerbate the *Cladophora* problem.

The Waterloo study was reviewed and found by Dr. Auer (refer to b) below) to be limited in scope, so conclusive results were not produced.

Dr. Luis Leon, co-author of the University of Waterloo Report, recently advised Town staff that a scientific paper produced from the study is soon to be released in the Journal of Great Lakes Research. It concludes that more attention needs to be given to the effect that emissions from the Duffin Creek WPCP's Outfall-Diffuser(s) have on *Cladophora* growth.

Excessive *Cladophora* growth is an ongoing problem along the Ajax-Pickering shoreline. In 2010, OPG had to shut down a Pickering Nuclear Generating Station reactor for approximately 4 days, at a cost of $500,000 per day, to clear *Cladophora* off the intake screens. In 2011, power production had to be reduced (to 98%) to allow the algae to fall away from the intake screen, resulting in lost revenue to OPG.

b) Dr. Martin Auer's Independent Review

In 2010, the Town, the Regions of York and Durham and the Toronto and Region Conservation Authority (TRCA), in partnership and with pooled funds, retained Dr. Martin Auer, Professor of Civil & Environmental Engineering at Michigan Technological University to conduct an independent peer review of local water quality data collected during local studies and Lake current modeling, including the above-noted Waterloo study.

Dr. Auer reviewed water quality data collected from three tributaries (Rouge River, Duffins Creek and Carruther's Creek), 18 coastal marsh stations, and 56 offshore stations (monitored from the land and by boat) along 8 transects extending straight from the shoreline out into Lake Ontario. Several indicators of water quality were measured in each sample (e.g., Total Phosphorus, Soluble Reactive Phosphorus or SRP, Total Suspended Solids, *E. Coli* and conductivity). Laboratory analyses of the levels (loads and concentrations) of these substances in water samples can indicate whether they pose threats to public health or lakefront aesthetics (e.g., turbidity or cloudiness (TSS) and nuisance algal growth (P)), which are called "beneficial use impairments".

Dr. Auer's work focused on beneficial use impairments being experienced in the Ajax-Pickering nearshore: beach postings; excessive nuisance *Cladophora* growth; unsightly algae making the shoreline bright green and slippery; and odours from rotting algae decreasing people's enjoyment of the Ajax waterfront. Taken together, these impairments are undermining the Town's investment in its open, publicly-accessible Waterfront.

Dr. Auer's review identified local point sources of nutrients (Phosphorus and SRP) into Lake Ontario and quantified (measured) their relative contributions to impaired water quality and algal growth/decay. Dr. Auer's work also identified that effective actions can be taken to effectively reduce the major source of water quality impairment (that is, by acquiring and installing proven, commercially-available wastewater treatment technology in the Duffin Creek WPCP).

Dr. Auer's 2011 report[1] identified the following key findings:

- Duffins Creek WPCP releases 97% of the SRP load from local sources;
- Overwhelmingly, Phosphorus loadings from the WPCP's Outfall dominate much smaller, intermittent nutrient inputs from local creeks and untreated stormwater;
- The WPCP's Outfall-Diffuser and Carruthers Creek release much smaller loads of Total Suspended Solids than the mouth of Duffins Creek (which contributes 76% of TSS loads locally during summer months);
- The greatest inputs of *E. Coli* (94%) are released via the mouth of Duffins Creek and the rural but urbanizing Duffins Creek watershed, while Carruthers Creek and stormwater contribute small, localized, short term elevations in levels in the vicinity of where they are released into Lake Ontario but only after wet weather events and during snowmelt;
- On its own, SRP levels in offshore waters surrounding the study area would not support the extensive *Cladophora* growth found offshore along the Ajax-Pickering shoreline;
- The 'benchmark' SRP number for offshore waters used in the Waterloo study was higher than actual readings; and,
- There is need to develop a more detailed model of local Lake currents.

Additionally, Dr. Auer suggested in his report that acquiring and using more effective treatment technology in the Duffin Creek WPCP onshore facility, and/or extending the WPCP's Outfall-Diffuser substantially farther offshore (3 km or more), to water depths where sunlight does not penetrate to the lakebed, could result in more successful diffusion of lesser amounts of Phosphorus and SRP in Lake Ontario without promoting nuisance *Cladophora* growth fouling Ajax's shoreline and beaches.

Further, in his report, Dr. Auer specifically identified the successful reduction of nutrients from a WPCP of a similar size to the Duffin Creek WPCP across Lake Ontario in Syracuse, New York, where Actiflo® treatment technology has been used successfully for several years to remove substantial amounts of SRP from effluent, at a cost to acquire/install of approximately $11.9 million.

Need to Integrate MOE's Present Water Quality Study into Outfall EA

Dr. Todd Howell of the MOE Great Lakes research section is currently conducting an in-depth study of the Ajax-Pickering nearshore that is expected to be completed and reported on in 2014. In staff's view, it is very important that the Regions, under the direction of MOE staff if necessary, conduct the Outfall EA process over a slightly longer period of time, so as to receive and consider the findings of Dr. Howell's study - before a short list of alternatives has been selected.

[1] Link to Report: http://www.ajax.ca/en/doingbusinessinajax/PDENG_D_Report_by_Dr_Martin_Auer.asp

Dr. Howell designed this study to encompass the West Durham Waterfront, among other areas, with focus on the vicinity of existing Outfall. The Study extends distances farther offshore from Ajax than previously studied and uses advanced monitoring equipment and applied analytical techniques.

Dr. Howell's study commenced in April 2012, and is anticipated to produce scientific findings in 2014. In staff's view, this study and its findings must be incorporated into the Outfall EA process and considered prior to selection of a Short-List of Alternatives and a Preferred Alternative to better inform the process. This may require a slight extension to the Regions' Project Timetable for the Outfall EA, now expected to be completed in March 2014. Such an extension could be formalized by senior MOE staff through a further MOE Control Order or an amendment to the latest Certificate of Approval (Sewage Works) for the Duffin Creek WPCP.

In this MOE study, water quality data would be obtained from a nutrient gradient, including Lake background levels, regional background levels, as well as locally elevated nutrient levels along the waterfronts of urbanized watersheds. This data would be used to analyze *Cladophora* growth in various parts of selected local and regional study areas. Additionally, detailed field measurements of *Cladophora* biomass and physiology would be used to test predictions of biomass development for the various areas.

MOE's study will also identify variations in the spatial distribution of nutrients and those physical factors affecting *Cladophora* growth by using advanced equipment and more sophisticated offshore monitoring approaches (rather than simple transects from the shore and limited, random grab samples) to accurately measure:

- background levels of SRP in Lake water just above the zebra/quagga mussel beds; and
- background (ambient) SRP levels in offshore Lake water.

Staff note that Dr. Howell's study is being funded solely by MOE. Its scientific findings will be shared with the Regions and the Town to improve our collective knowledge of nearshore conditions. Town and Regional staff were given opportunity to review Dr. Howell's Draft Study Outline and provided comments that were subsequently addressed.

On February 5, 2012, following months of Town staff advocating for integration of Dr. Howell's study findings into the Outfall EA with senior Regional staff, the Town received a letter from senior Regional staff stating that while the Regions support MOE's work, the study is considered to be separate from the Outfall EA process for the following reasons: the timing of Dr. Howell's study would not fit into the project timeline for the Outfall EA (i.e., the Outfall EA would be completed earlier), and the Outfall EA must be continued to meet MOE's regulatory requirement and timing for implementation of a Preferred Alternative (by the time average flows to the Duffin Creek WPCP reach 520 MLD).

In early March, Town staff advised senior Regional staff that the Regions' position to keep Dr. Howell's study separate from the Outfall EA process was very disappointing. Town staff were disappointed because, based on the University of Waterloo study and Dr. Auer's review, questions about the WPCP's role in supporting algal growth in Lake Ontario along the West Durham Waterfront remain unanswered. As Dr. Howell's study was designed to bridge that scientific gap, Town staff stated that the Outfall EA process should not be finalized until this gap has been addressed.

In staff's opinion, while this MOE study was not specifically designed as part of the Outfall EA process, the MOE data and results should be used to better inform selection of Alternatives and the Preferred Alternative for the existing WPCP and its Outfall through the subject Outfall EA.

Subsequent to Council's consideration of this staff report, a meeting will be arranged with senior MOE and Regional representatives to discuss how this matter can be satisfactorily resolved.

Wastewater Servicing for Upper York Region

Separate from the Outfall EA, York Region is undertaking other EAs to determine wastewater infrastructure delivery for other communities north of the Oak Ridges Moraine, including parts of Aurora, Newmarket, East Gwillimbury and Holland Landing. Potential solutions under consideration include:

1) New connections to the Big Pipe, per York Region's 2009 Water and Wastewater Infrastructure Master Plan, and

2) An advanced Water Reclamation Centre on Lake Simcoe, as supported by the MOE, which would use "the best available technology to remove the vast majority of pharmaceuticals and personal care products from wastewater and provide treatment far superior to any WPCP in Ontario"[2].

Additionally, Durham Region is undertaking a separate Class EA to service the Seaton community in Pickering plus ROPA 128 ("Growing Durham") landholdings in Northeast Pickering and elsewhere that will direct wastewater/sewage flows to the Duffin Creek WPCP.

Town Reviewed York Region's Short-Term Sewage Forecast

The York Official Plan indicates that over the next 25 years, its population will grow to 1.5 million persons, with 780,000 jobs and 510,000 households, which will generate wastewaters requiring treatment. It is reasonable to anticipate these numbers will continue to increase after that period.

MOE's Certificate of Approval (Sewage Works) for the expanded Duffin Creek WPCP limits incoming sewage flows to a maximum daily average of 520 MLD. While the expanded WPCP now has sufficient capacity for 630 MLD, flows up to 540 MLD may be permitted by MOE before the Preferred Alternative for the Outfall has been implemented.

However, based on York Region's growth planning and infrastructure strategies and reports, staff were concerned that York and Durham Region are basing the estimated timing of when the Outfall's Preferred Alternative would need to be constructed and in operation based on historic average wastewater flows to the Duffin Creek WPCP, rather than actual lower flows measured in recent years. The Regions have used historic average flows, which are higher than actual measured flows provided to MOE in Annual Performance Reports. Under this scenario, it appears the Preferred Alternative needs to be constructed and in operation by **2018-2019**.

[2] York Region Staff Report, entitled "Upper York Servicing Solutions Update", dated November 23, 2011: http://www.york.ca/NR/rdonlyres/oc2ss2ym5hpwcpcm5smqjt753lk33ztcm6fvlap45cl7dvv2pojjgywz6it4ded3tbzq6cvyveal2kgm3g7h65nhnc/rpt+2+cls+3.pdf

During the Outfall EA process, York Region provided forecasts beyond the Provincial planning horizon to 2051, suggesting a need to service a total population of 3 million in York Region. In Stage 1, the population of 3 million for York Region has been reduced to 2.3 million.

In April 2012, staff retained McNaughton Hermsen Britton Clarkson (MHBC) Planning Consultants to review York Region's population forecasts to determine if the forecasts used to identify projected short- to mid-term wastewater flows to the Duffin Creek WPCP to 2051 are reasonable. MHBC considered CH2MHill's Final Draft Interim Report as part of their work.
York Region forecasts an average daily flow of 520 MLD by approximately 2018. The York Region Water and Wastewater Master Plan Update (2009) states that long term future population and employment growth will produce wastewater flows that will exceed the plant capacity of 630 MLD by approximately 2036. Future expansion of the Duffin Creek WPCP to 900 MLD is expected to serve forecast growth to 2051.

The 2011 population estimates from the Economic and Development Review Report 2011, the draft Vision 2051 document and the 2011 Census (when a 4% undercount is included) are very similar. The estimated total 2011 population of approximately 1,073,000 (2011 Census with undercount) is slightly greater than the population forecast of approximately 1,060,000 provided by the Growth Plan for the Greater Golden Horseshoe, the York Regional Official Plan and other documents.

The estimated 2011 actual employment for York Region, as shown in the Region's Economic and Development Review 2011 Report, confirms that 2011 employment was less than forecast. The report identifies that 2011 year-end employment was estimated to be 521,000 jobs, or 69,000 jobs less than the Places to Grow forecast. The 2011 Census data for employment had not been released when MHBC completed this review.

The Region of York's 2011 Water and Wastewater Supply and Demand Monitoring Report indicates that some areas within the York-Durham Sewer System catchment area are growing faster than forecast. Most of the areas that are growing faster than expected are in the urban areas in the south part of the Region. The 2011 York Region Water and Wastewater Supply and Demand Monitoring Report indicates that the actual average daily wastewater flow at the Duffin Creek WPCP is less than forecast. Table 1 below is taken from the 2011 Monitoring Report.

Table 1 – Assumed versus Recorded Average Daily Sewage Flows to Duffin Creek WPCP

Year	Average Daily Flow to Duffin Creek WPCP from YDSS (MLD)		Peel Diversion Average Daily Flow (MLD)	
	Master Plan Assumption	Recorded Flow	Master Plan Assumption	Recorded Diversion
2006	338	373	0	1.4
2007	358	316	8	26.9
2008	379	354	16	29.1
2009	400	352	24	31.5
2010	420	326	32	32
2011*		337*		

Source: Region of York 2011 Water and Wastewater Supply and Demand Monitoring Report
* Source: Table B, Durham Region Duffin Creek Water Pollution Control Plant Annual Performance Report 2011

Table 1 shows the actual average daily wastewater flows versus the average daily wastewater flows that were projected by the 2009 Water and Wastewater Master Plan. From 2007 to 2010, actual flows have been less than the forecasted flows. The 2011 Monitoring Report suggests that the discrepancy is "likely attributed to reduced wastewater generation rates" - meaning that conservation and other measures are contributing to lower flows even though population growth continues to occur. The diversion of some flows to Peel Region also plays a role.

As shown in Table 1, approximately 32 MLD of average daily flows were directed to Peel Region for treatment in 2010.

Lower Average Flows Extend Time before Additional Outfall Capacity is Needed

MHBC identified that the forecast average daily flows shown in the York Region 2009 Water and Wastewater Master Plan are based on wastewater generation rates of 386 litres per capita per day (386 lpcd). The average 386 lpcd is based on historical recorded flows up to 2005.

The recently released CH2MHill Final Draft Interim Report identifies that wastewater generation rates from 2006 to 2011 were much lower and averaged approximately 330 lpcd. Said Interim Report compares future average daily flows based on the two wastewater generation rates.

As shown in Table 2 below, based on the population projections for the Duffin Creek WPCP catchment area and using a wastewater generation rate of 386 lpcd, the average daily flow to the Duffin Creek WPCP is estimated to be 544 MLD by 2021, 630 MLD by 2031 and 890 MLD by 2081.

In comparison, also shown in Table 2, the CH2MHill report states that using an average wastewater generation rate of 330 lpcd would result in average daily flows of 465 MLD by 2021, 540 MLD by 2031 and 760 MLD by 2081.

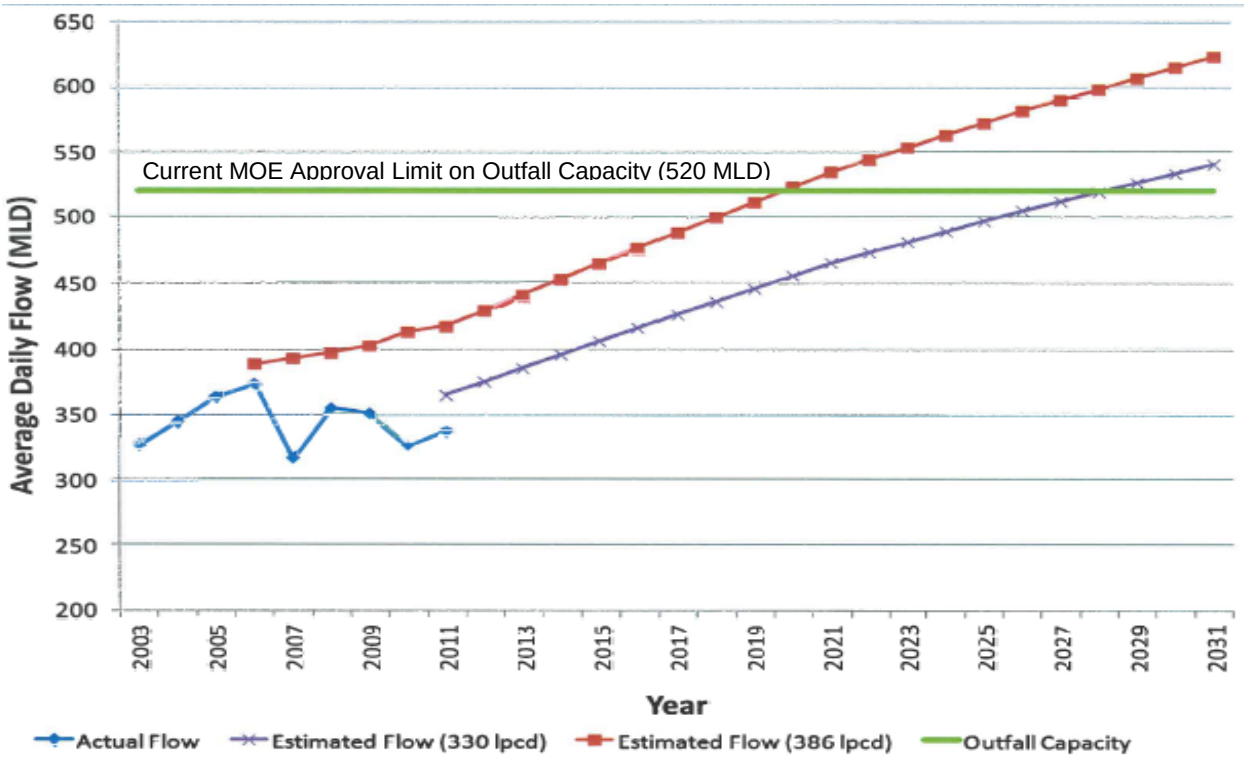
Table 2 – Project Sewage Flows Based on Two Wastewater Generation Scenarios

Year	Projected Population for the Duffin Creek WPCP Catchment Area	Estimated Average Daily Flow (MLD) to Duffin Creek WPCP Based on Wastewater Generation Rate of 386 lpcd	Estimated Average Daily Flow (MLD) to Duffin Creek WPCP Based on Wastewater Generation Rate of 330 lpcd
2021	1,408,812	544	465
2031	1,637,227	630	540
2081	2,300,000	890	760

Source: Table 10-2 CH2MHILL Schedule C Class Environmental Assessment to Address the Limitations of the Duffin Creek WPCP Outfall Interim Report, April 2012

The information from Table 2 is also shown on the graph on Figure 2 below, which was taken from CH2MHill's report. If the more current actual average wastewater generation rate of 330 lpcd is used, the time until the WPCP would reach 520 MLD (MOE's present limit on effluent discharges from the existing Outfall-Diffuser) would be extended (by 9 to 10 years) to **2028**.

Figure 2 – Estimated Year When Flows to WPCP Will Reach 520 MLD



Source: Figure 10-1 CH2MHILL Schedule C Class Environmental Assessment to Address the Limitations of the Duffin Creek WPCP Outfall Interim Report, April 2012

Lower than expected average wastewater flows to the Duffin Creek WPCP may be a result of lower average generation rates, which could be due to increased water conservation and possible improvements in reducing inflow and infiltration to the YDSS. MHBC suggests this may also be related, in part, to lower than expected levels of employment in York Region.

This ongoing trend in reduced wastewater generation - reduced average daily flows, even in an environment of continued population growth – indicates that there may be need to have the Preferred Alternative for the Outfall constructed and operating by 2028. According to MHBC's analysis, there is ample time available to undertake and complete a more comprehensive, thorough Outfall EA process, integrating Dr. Howell's study and allowing for greater input from the SAC and other stakeholders as well as Ajax residents, before reaching the existing Outfall's capacity threshold date (the date when the Regions forecast average daily flows of 520 MLD are expected).

It is crucial that MOE and the Regions receive and take into account the findings of Dr. Howell's study along the Ajax-Pickering waterfront as a key component of the Outfall EA. Clearly, there is ample time for the Regions to integrate the study findings into the evaluation of a Preferred Alternative within a slightly extended timeline for the Outfall EA process without compromising or delaying growth and development in the YDSS service area.

Stakeholder Advisory Committee

At the recent SAC meeting, staff learned that the Regions were intending to proceed with the second Public Information Forum (PIF#2) in Ajax some time in June, despite not having made available on the Regions' Project Website all of the background technical information completed to date for review and comments from SAC members and the public - prior to the subject SAC meeting. For example the findings of offshore borehole drilling activities and the Regions' Independent Reviewers' reports from their evaluation of technical reports prepared to date have not been disclosed.

From preliminary perusal of the Final Draft Interim Report, several concerns were identified:

- Neither of the Town's staff reports on the Outfall EA nor Council's recommendations had been identified or included under "Consultation with the Town of Ajax";

- Public submissions from Ajax and Pickering residents received by Town staff and forwarded to the Regions Project Managers and to the Outfall EA contact address (info@OutfallEA.com), as required, were not documented or properly summarized;

- Baseline condition studies assume average daily flows of 520 MLD, although the WPCP has a rated capacity of 630 MLD, may be allowed by MOE to increase to 540 MLD without having determined and implemented the Preferred Alternative for the Outfall, and even though the Final Draft Interim Report indicates the Regions are seeking a Preferred Alternative that would accommodate future flows of 890 MLD forecasted to be reached by 2051; and,

- Fundamental technical modeling and analyses conducted by CH2MHill of lakeshore currents in the vicinity of the existing Outfall-Diffuser depicting the geographic extent of mixing zones for substances such as Un-Ionized Ammonia and Total Phosphorus in treated effluent to be discharged from the Outfall and whether the applicable Provincial Water Quality Objectives would be achieved at the edge of the defined mixing zone should be reviewed by independent consulting experts retained by the Town in order to fully define and document issues and concerns with these complex, specialized matters.

As a result, the Regions and CH2MHill have been advised the Town will need additional time to complete a comprehensive review of the Interim Report and prepare/submit written comments.

SAC members also expressed shared issues/concerns about several aspects of the information presented at the May 23rd meeting:

- that a new offshore "Local Study Area" (spanning 2 km along the shoreline and extending 3 km offshore) as well as a more extensive offshore "Regional Study Area" have been defined that includes the intake for Durham Region's Ajax Water Supply Plant but fails to include the Pickering Beach area, where the Town is investing in bringing back a safe public swimming beach;

- that the constant outflow of large volumes of warmed water from the Pickering Nuclear Generating Station, situated due west of the WPCP's Outfall, will continue up to and possibly beyond 2020, and is driving local Lake water currents, yet the water quality data input to the model does not determine the impacts of changes in local Lake current speed

and direction on whether MOE's required 20:1 Dilution Ratio for mixing WPCP effluent can be met when the Pickering Nuclear Generating Station is decommissioned (i.e., during the lifespan of the Outfall); and,

- that the Regions appear to be focused on moving forward into the next stage of the Outfall EA by selecting and evaluating a short list of alternatives before comments from SAC members and the public have been received and considered.

Staff suggested that the Final Draft Interim Report not be finalized until some time after the Town's comments, SAC comments and public submissions have been received, considered and addressed in a manner satisfactory to the Town.

Town Representatives Added to Stakeholder Advisory Committee

On November 28, 2011, Council passed a resolution requesting the Regions add three individuals to the Stakeholder Advisory Committee (SAC) to enhance the Town's participation and independent scientific knowledge of potential impacts on fish and the aquatic environment.

This spring, Regional staff added Mr. Paul Kuebler, an Ajax resident who is an environmental engineer, and Professor Douglas Holdway from the UOIT as a member at large, but declined to include a second representative from the Town who participates on Ajax's Environmental Advisory Committee. The Regions have not offered a tour of the expanded WPCP to SAC members and municipal representatives, which could be accommodated this summer.

On May 23, 2012, Town staff and SAC members advised the Regions that another SAC meeting (#2.5) is needed in the Fall of 2012 to discuss the information tabled and yet available at the SAC meeting, as too little time (1/2 day) was set aside to consider the numerous important items on the SAC Agenda.

For example, only a brief overview of proposed Long-Listed and Short-Listed alternatives was provided. Weighting criteria was not fully explained, yet was to be revised and distributed to SAC members and two Regional representatives afterwards, to be completed individually and returned to CH2MHill to be tallied to produce a Short List of Alternatives.

The Outfall EA process, as it stands, does not allow for more group discussion or debate among SAC members and Regional representatives on potential alternatives. Staff noted that tertiary treatment was listed, but not new, effective membrane filtration technology presently being applied in other WPCPs.

Also, the offshore geotechnical borehole report and the findings of the Regions' Independent Review panel on that and other reports produced to date were not available.

An additional SAC meeting is needed at the end of this summer to allow for further discussion and debate of all of the reports and peer reviews before the Outfall EA process moves forward to make decisions. Staff also solicited comments on the SAC#2 presentation made by CH2MHill from a long-time Ajax resident, and have forwarded them to the Regions to assist them to fine-tune it for PIF#2.

Evaluate Effluent's Impacts on Aquatic Environment and Fish

There is a longstanding notion that WPCP effluent and untreated surface water discharges from creeks and stormwater outlets mix well into nearshore Lake Ontario water and are efficiently carried far offshore for dilution in deeper water.

From the 2008 Binational Study of Lake Ontario that took a close look at water quality along the Ajax-Pickering waterfront, MOE's Dr. Paul Helm and Dr. Todd Howell, in conjunction with Trent University and University of Waterloo researchers, published a scientific paper[3] identifying the presence of pharmaceuticals and personal care products or PPCPs (i.e., chemicals used for prevention and treatment of illness and for individual hygiene) in the effluent plume discharging at near the Ajax-Pickering shoreline from the Duffin Creek WPCP (e.g. ibuprofen, caffeine and carbamazepine).

These MOE researchers found that Lake Ontario currents along the Ajax waterfront carry contaminants parallel to or generally along the shoreline, rather than transporting them offshore into deeper Lake water for dilution. Monitoring of the Lake's dynamics showed that effluent and other such pollutants from sources along the shoreline tend to remain close to the shoreline in Lake water and lakebottom sediments.

Further, according to Dr. Auer's review, depending on the type of contaminant (e.g., Un-ionized Ammonia versus SRP), some pollutants discharged from the WPCP's Outfall are not mixing and diluting as well in Lake Ontario water as efficiently as presumed by MOE's Water Policy, procedures and Provincial Water Quality Objectives.

Researchers at the University of Ontario Institute of Technology (UOIT), in response to growing concern about pharmaceuticals and personal care products or PPCPs, are focusing their studies on the potential impacts of short-term and long-term exposure of fish and other aquatic organisms to very low levels of anti-inflammatory drugs from WPCP effluent in surface water.

At the second SAC meeting, Dr. Doug Holdway advised members of a recent UOIT study revealing that exposure of rainbow trout to ibuprofen (a common anti-inflammatory drug), even at minute concentrations, was found to adversely affect rainbow trout (malformed jaws)[4]. The study explains how PPCPs pass through wastewater treatment plants and are either released into Lake water or may be dispersed on agricultural land in WPCP sludge and make its way in surface runoff and tributaries to Lake Ontario.

Additionally, Dr. Holdway advises that membrane filtration technology being installed in other WPCPs is generally more effective at removing chemicals from wastewater than traditional wastewater treatment technologies. The above-noted UOIT study explains the factors influencing the removal of PPCPs from sewage/wastewater, such as WPCPs and the bacteria used to degrade pollutants were not designed for and have not faced the greater numbers of chemicals passing through from today's society.

The UOIT study refers to a study in Finland measuring seasonal concentrations of several drugs, including Ibuprofen, in WPCP effluent. Researchers found during winter months that

[3] Helm, Paul A., et al., Influence of nearshore dynamics on the distribution of organic wastewater-associated chemicals in Lake Ontario determined using passive samplers, Journal of Great Lakes Research (2012), doi: 10.1016/j.glr.2012.01.05.

[4] Robichaud, M., Effects of Ibuprofen on Rainbow Trout (*Onchorhynchus mykiss*) Following Acute and Chronic Waterborne Exposures. Faculty of Science, University of Ontario Institute of Technology, August 2011.

drug removal was significantly reduced, which resulted in, depending on the pharmaceutical, up to a 5-fold increase in their concentrations.

As a consequence, the 2006 desktop fisheries and aquatic habitat evaluation prepared by LGL Limited for the Regions during the Stage 3 Expansion EA, re-introduced by the Regions as Outfall EA documentation but not yet posted on the Project Website, needs to be supplemented. A more in-depth evaluation of potential environmental impacts on fisheries and the aquatic environment along the Ajax-Pickering nearshore, including detailed fisheries information available from the TRCA, is required. This point was raised by Town and TRCA staff at the recent SAC meeting.

NEXT STEPS:

Review Interim Report on First Stage of Outfall EA Process

On May 3, 2012, the Regions' consultants (CH2MHill) posted a Final Draft Interim Report[5] on the Project website to provide a summary of the activities, process, feedback, technical findings and municipal and public consultation from the first stage of the Outfall EA. The timing provided staff and SAC members with only two weeks to review and provide comments on the 150-page document and its appendices prior to the next SAC meeting.

Regional staff have advised that comments may be submitted up until completion of this Class EA process; however, by then, the Report will have been finalized and become part of the ESR filed with MOE.

The Final Draft Interim Report contains highly technical information and consultation summaries in appendices from which the direction of the Report itself is derived, such as complex, highly technical Lake modelling. While the Report only provides some of the important geotechnical investigations undertaken at the shoreline and offshore, Regional staff have committed to providing the details of borehole excavations and sediment quality soon.

From a preliminary review by staff, several gaps in the Interim Report that need to be filled have been identified, as well as further technical information, including modeling of local Lake currents and maps of the extent of the Outfall`s mixing zone and local sources of pollutants prepared by CH2MHill, need to be reviewed. For example, the Interim Report does not include the Town`s two Staff Reports and Council resolutions submitted in May 2011 and November 2011.

Additionally, some public comments submitted to CH2MHill and Regional staff, which were also received or forwarded by Town Staff, are not included. Attachment 2 to this staff report offers a list of public submissions received to date by Town staff. Staff have requested that the Final Draft Interim Report be revised to include this missing information and be re-posted.

This Final Draft Interim Report, once finalized, will form a chapter of the Environmental Study Report (ESR) that must be completed and submitted by the Regions/CH2MHill to the MOE upon completing the Outfall EA. Notice of Completion of the EA process and filing of the ESR, the ESR is typically subject to a 30-day review period during which Part II Order (Bump-Up) Requests may be filed with the Minister. As a result, it is important that Town complete a review of the Final Draft Interim Report expeditiously, with assistance from consulting expertise.

[5] http://www.durham.ca/works.asp?nr=/departments/works/duffincreek/reports.htm&setFooter=/includes/duffinFooter.inc

Some of the technical information in the Final Draft Interim Report is beyond staff's ability to fully review. Staff are recommending that EcoMetrix Incorporated be retained to conduct a review of portions of the Final Draft Interim Report and prepared written comments. EcoMetrix similarly assisted with a review of Lake modeling produced during the Stage 3 WPCP Expansion. The expertise in determining the capacity of receiving water bodies to assimilate/dilute effluent, effluent dispersion and plume modeling, risk assessment for effluent releases, effluent monitoring, wastewater research and methodologies, and the development of cost-effective risk management solutions that EcoMetrix' specialists bring to the table will better inform the Outfall EA and possibly lead to consideration of alternatives not yet identified by the Regions.

The Regions are now proceeding with the second phase of the Outfall EA.

Next Public Information Forum in Ajax - June 27, 2012

As part of the Outfall EA, a second Public Information Forum (PIF #2) will be held at the McLean Community Centre's Banquet Hall, 95 Magill Drive (southeast corner of Westney Road and Magill Drive) in Ajax on Wednesday, June 27, 2012 from 5-8 p.m. A formal presentation will be provided by Regional representatives at 7 p.m., followed by a Question & Answer session.

This timing will not give Ajax residents much time to review technical documents and formulate comments for the public meeting. Also, the Regions' Independent Peer Review findings on draft technical reports and final reports, that were to be completed in April 2012 based on the Project Timeline, have not been made available to the SAC or the public for review and comment.

Staff and other SAC members suggested PIF#2 be rescheduled to September 2012 to give residents a reasonable amount of time over the summer to review and formulate questions and comments. The Regions would not agree to reschedule PIF#2.

Additionally, the Regions are holding a PIF on Tuesday June 26th from 5-8 pm in the Pickering Recreation Complex, Rooms 1 and 2.

Evaluating Short-Listed Alternatives and Selecting the Preferred Alternative

York Region staff indicate during this Class EA that there is opportunity to revisit existing and expanding wastewater treatment technologies in the Duffin Creek WPCP, but not in as much detail as when the future WPCP's Stage 4 Expansion EA is initiated. At the recent SAC meeting, tertiary treatment was on the short list.

The Regions have prepared a Short List of alternatives for the Outfall. Staff feel that review/comment periods of at least 60 days should be offered, followed by discussion and debate.

The Project Timeline shows subsequent Stage III of this Class EA (Phase 3 – Identification and Evaluation of Design Alternatives) and Phase 4 (ESR/CEAA Documentation) are scheduled to be completed by March 2014 (formerly September 2013). At that time, the Regions may no longer be required to seek approval of this project from the Federal government under the *Canadian Environmental Assessment Act*.

Need to Retain Consultants to Peer Review Reports

Based on lessons learned from the Town's participation in the Duffin Creek WPCP Stage 3 Expansion Class EA, and the nature of the supporting documents produced as part of the subject Outfall EA (e.g., the Regions are relying on documents produced for the Stage 3 Expansion EA and virtually the same Independent Peer Review Team), staff suggest it is necessary and appropriate to retain consultants with appropriate environmental expertise to assist with reviewing and commenting on reports and the Outfall EA process.

Now that CH2MHill's Final Draft Interim Report on the first stage of the Outfall EA is available, and in anticipation of the release of the findings of the offshore geologic drilling program and the Regions' Independent Peer Review Team's comments on these documents, it is time for the Town to prepare comments and submit them to the Regions and MOE staff - before they proceed much farther with the next phase in the Outfall EA decision-making process.

Pursuant to Council's direction of May 9, 2011, staff have developed a cost estimate for retaining specialized consultants through to March 2014. Two of the firms for which contract awards have been recommended (EcoMetrix Incorporated and Steven Rowe Environmental Planner) contributed to the Town's 2006 Bump-Up Request regarding the Duffin Creek WPCP Stage 3 Expansion.

EcoMetrix personnel's experience with wastewater modeling, the MIKE and CORMIX models used by CH2MHill to prepare new Lake current modeling defining the spatial extent of near-field mixing zones for Total Phosphorus and Un-Ionized Ammonia and far-field areas of dispersion beyond the mixing zones are needed by staff.

For example, discussion at the recent SAC meeting revealed that the Lake's ability to disperse discharged effluent from the Outfall depends on the speed and direction of Lake currents. Apparently, CH2MHill's model assumes the Pickering Nuclear Generating Station will continue to operate throughout the duration of the life of the Outfall's Preferred Alternative, propelling local currents at "artificially" higher speeds and against the predominant direction of the alongshore current (i.e., from east to west, instead of west to east). Allowing this type of modeling assumption to stand unchallenged would be misguided and yield an inaccurate picture of potential impacts of effluent discharges on the Ajax-Pickering shoreline, Rotary Park Beach, Pickering Beach, etc.

Steven Rowe Environmental Consultant was instrumental in identifying important issues with how the Stage 3 Expansion Class EA was conducted. His advice when staff are preparing comments at certain junctures in the Outfall EA process may be required.

As the issue of chemical pollutants has surfaced as a concern, staff have included a modest amount of funding to enable the Town to submit technically sound comments from a Senior Ecotoxicologist (with expertise in risk assessment for effluent releases, modelling and monitoring) from EcoMetrix, and Dr. Andrea Kirkwood, an aquatic ecologist and professor at UOIT (with expertise on nutrients and algal growth in nearshore Lake Ontario and nutrient removal in Ajax's stormwater ponds).

Input from these experts may lead to the Ministry and the Regions considering and acquiring commercially-available, proven membrane filtration technology for the Duffin Creek WPCP. Staff note that this technology is being installed to improve the environmental performance and

reduce the negative impacts of other WPCPs (e.g., in Hamilton) in order to sustain healthy human and aquatic communities.

FINANCIAL IMPLICATIONS:

In April 2012, staff retained McNaughton Hermsen Britton Clarkson (MHBC) Planning Consultants to review York Region's population forecasts to determine if the forecasts used to identify projected short- to mid-term wastewater flows to the Duffin Creek WPCP to 2051 are reasonable. The total cost of the contract was $11,272.88, inclusive of HST and disbursements, which was funded from the Planning & Development Services 2012 Consulting Budget.

Further to Council's direction of May 11, 2011, staff recommend that the amount of $55,000, (exclusive of HST and disbursements) in Unbudgeted Funds be allocated to retain the aforementioned consultants through scheduled completion of the Outfall EA in March 2014.

The estimated cost does not include the potential future cost of retaining outside legal counsel and extending contracts with the recommended consultants to prepare and submit a Bump-Up Request to the Minister of the Environment (within 30 days of the Regions' issuance of a Notice of Project Completion for the Outfall EA process and posting of a Final Environmental Study Report).

COMMUNICATION ISSUES:

The Regions have a standalone Project Website for the Outfall EA (www.durham.ca/OutfallEA) accessed on both Regions' websites: www.durham.ca and www.york.ca. Staff and SAC members are encouraging the Regions to post documentation pertaining to the YDSS, Wastewater Master Plans and all documents from the prior Stage 3 WPCP Expansion and ongoing Odour Monitoring and Mitigation activities on the Outfall EA prior to the next PIFs.

The Town's website has been revised to provide links under "Environmental Assessments" to other information and studies relevant to the subject Outfall EA from Ajax's perspective, such as the Town's Bump-Up Request regarding the Duffin Creek WPCP Stage 3 Expansion and Dr. Martin Auer's Independent Peer Review Report and photos of the WPCP and Ajax waterfront:

http://www.ajax.ca/en/doingbusinessinajax/environmentalassessments.asp

Communications staff will ensure the community is advised of the next Public Information Forum (PIF#2). Residents and members of the Town's Advisory Committees, including the Ajax Environmental Advisory Committee are being encouraged to attend, sign in and submit comments/questions to the Regions

The Regions' response to an email from the public contained CH2MHill's Final Draft Interim Report indicates that emails received on the Outfall EA's main contact (info@OutfallEA.com) sent by an individual will not be responded to if the submitter does not identify a home address. The Project Managers and the Project Website itself should make this requirement clear on the Project Website to all persons considering submitting comments via email. If the person who submitted comments via email cannot be identified, said comments will be discounted and not included or replied to in Interim Reports and the ESR.

Additionally, none of the Town's staff reports and Council resolutions submitted formally to the Regions as part of the Outfall EA process have been incorporated into the Final Draft Interim

Report under the "Consultation with the Town of Ajax" section. Staff have requested that the final version of the Interim Report reflect all input from Council, staff and interested parties.

CONCLUSION:

As the Town learned from the previous Duffin Creek WPCP Stage 3 Expansion EA, there can be substantial benefits from actively participating in the Outfall EA. Due diligence is reflected in the retention of consultants to review selected technical information and prepare comments and monitor how the Municipal Class EA process is being conducted. Ajax's goal is to promote selection of a Preferred Alternative for the Outfall-Diffuser serving the WPCP that may better protect Lake Ontario nearshore water quality.

The Outfall EA offers the only opportunity for the Town and the public to contribute to decisions being made by the Regions regarding the WPCP and its Outfall. The Outfall EA should be conducted at a somewhat slower pace to allow the community to better understand the positive and negative impacts of this WPCP facility and its Outfall, and what actions should be taken to increase the positive impacts while reducing the negative ones.

Also, from the Town's review of York Region's growth forecasts, it is evident that there is an ongoing trend to reduced average daily sewage flows to the Duffin Creek WPCP, even while population growth continues, likely attributable to increased water conservation and possible improvements in reducing inflow and infiltration to the YDSS. This would suggest that a review of the 2018-2019 capacity threshold date (the date at which average daily flows of 520 MLD are presently expected) and the timing of required Outfall construction should be reconsidered.

As a result, the Regions appear to have the option of slightly extending the Project Timeline for the Outfall EA in order to receive and integrate the findings of MOE's 2012-2013 study presently underway along the Ajax-Pickering (West Durham) waterfront, to make the best possible management decision regarding this critical, large-scale infrastructure project. Once the Preferred Alternative for the Outfall has officially been selected by the Regions, it will be designed, constructed and operated to release increasing amounts of effluent, primarily from continued population and employment growth in York Region communities, during its 100-year lifespan (e.g., future flows of 540 MLD, 630 MLD and up to and beyond 900 MLD).

Therefore, it is recommended that Council authorize staff to retain consultants to assist staff with focused reviews and commenting to the Regions and their consultants. Town comments will also be sent to MOE staff. These consulting services and their findings are needed early in Stage 2 of the Outfall EA, before alternatives are short-listed.

The Regions intend to conclude the Outfall EA in March 2014, at which time they would send an ESR identifying the Preferred Alternative to MOE. Should the Regions do this without having waited for and properly considered the findings of the aforementioned 2012-2014 MOE Water Quality Study along the West Durham Waterfront to the Town's satisfaction, the Town may need to consider preparing and filing a Bump-Up Request.

Following Council's consideration of this staff report, the intent is to arrange a meeting with senior MOE and Regional representatives to discuss how the matter of integrating Dr. Howell's study into the Outfall EA process can be satisfactorily addressed.

Staff will continue to provide Committee and Council with status updates on the Outfall EA.

ATTACHMENTS:

ATT-1: Duffin Creek Water Pollution Control Plant Outfall EA Project Timelines as of February 2012
ATT 2: Community Feedback/Comments as of June 2012

Barbara Hodgins, MCIP, RPP
Senior Policy Planner

Gary Muller, MCIP, RPP
Manager of Planning

Paul Allore, MCIP, RPP
Director of Planning and Development Services

ATTACHMENT 1

Duffin Creek Water Pollution Control Plant Outfall Class EA
Project Timelines as of February 2012

(Note: The project timelines are target dates that will be updated periodically based on the progress of the study)

Project Staging	Class EA Phase	Activity	Timelines
Stage I	Phase 1: Problem Definition	• Regional Council approval to award project	Jun 2008
		• Refine work plan • Assemble and review background information NOTE: Public consultation program was on hold pending resolution of the Southeast Collector Trunk Sewer IEA issues.	Jul 2008 – Feb 2010

		• Develop and calibrate hydraulic model
		• Desktop inventory of existing conditions:
		  ○ Aquatic
		  ○ Terrestrial
		• Undertake preliminary lake profiling
			Mar 2009 – Dec 2010

		• Initiate geotechnical Investigations	Jul 2010 – Aug 2010
		• Initiate Public and First Nations Consultation: Issue Notice of Study Commencement • Establish project website	Dec 2010
		• Undertake archeological investigations	Aug 2011 – Sep 2011
		• Complete geotechnical investigations	Mar 2011 – Sep 2011
		• Stakeholders Advisory Committee Meeting #1 – Review of existing conditions	Mar 2011
		• Public Information Forum #1 – Problem Definition and input into consultation program	May 2011
	Phase 2: Identification of Alternatives	• Identify alternatives • Confirm evaluation methodology • Establish evaluation criteria	Mar 2011 – Aug 2011
		• Stage I Assessment Report	Sep 2011 – Apr/May 2012
		• Finalization of Stage II Work Plan	Nov 2011
		• Stage II Regional Council approval	Jan 2012

Stage II	Phase 2: Evaluation of Alternatives and Development of Preferred Alternative	• Peer Review of Draft Technical Reports and Report finalization (Geotechnical, Modelling, Natural Environment)	Mar 2012 – Apr 2012
		• Short-Listing Alternatives	Feb 2012 – Jun 2012
		• Medium-Term Alternatives Memo	Feb 2012 – Apr 2012
		• Weighting the Evaluation Criteria	Apr 2012 – Jun 2012
		• Stakeholders Advisory Committee Meeting #2	May 2012
		• Public Information Forum #2	June 2012
		• Applying Evaluation Criteria to Short List of Alternatives	Jul 2012 – Nov 2012
		• Stakeholders Advisory Committee Meeting # 3	Nov 2012
		• Public Information Forum #3	Jan 2013
		• Peer Review – Stage II	Dec 2012 – Jan 2013
		• Prepare and issue Stage II Assessment Report	Feb 2013 – May 2013
		• Finalization of Stage III Work Plan and Regional Council approval	Jul 2013
Stage III	Phase 3: Identification and Evaluation of Design Alternatives	• Develop Preferred Alternative Conceptual Design	Aug 2013 – Dec 2013
		• Peer Review of Preferred concept and mitigation	Jan 2014
		• Stakeholders Advisory Committee Meeting #4 – Conceptual design and mitigation	Jan 2014
		• Public Information Forum #4 - Conceptual design and mitigation	Feb 2014
	Phase 4: Environmental Study Report	• Prepare and issue Environmental Study Report	Jan 2014 – Mar 2014
	CEAA Documentation	• File for Canadian Environmental Assessment Agency approval	Mar 2014

ATTACHMENT 2

Community Feedback/Comments

Community feedback/comments received directly by Town staff were sent to the Regions representatives to ensure they were considered and responses would be provided. As of the writing of this staff report, the feedback/comments can be summarized as follows:

Public Comments – Summary of Issues
The Outfall pipe is too small and the expanding WPCP will put so much more effluent into Lake Ontario that the Regions will not be able to meet Provincial standards for waste dilution in the Lake. All of Ajax will be affected because the existing Outfall pipe is too close to Ajax's drinking water intake pipe, so our drinking water will be over-polluted. Also this is affecting our shoreline, but the Regions blame geese and dogs, and not the release of 420 million litres of treated sewage. Soon, the WPCP will be releasing 520 million litres per day and up to 630 million litres per day of 90% clean sewage.
The WPCP is located on the southeast corner of Pickering, so Pickering and the Regions do not seem to care – it's Ajax's problem.
The Town should fight harder to protect our drinking water by getting the Regions to build a larger, longer pipe that takes sewage (from as far away as Newmarket) several more kilometres out into Lake Ontario, rather than the current one kilometre pipe.
If the Regions dump all of their sewage at Ajax's doorstep and ruin our drinking water, it will destroy our property values and make Ajax a less desirable place to live and do business.
How can we "Bring Back the Beach" for swimming and recreation when the Ministry of the Environment (MOE) has approved an increase of the size for the WPCP? The two projects just don't seem compatible. There are odour and water quality issues every year. The combination of factors (effluent discharges, sediments, chemicals and goose droppings) makes the thought of swimming repulsive and unhealthy.
There have been all kinds of water quality studies done. Are the people making the decisions about the Outfall going to make the best decisions for now and the future?
Having participated in the EA process for the Ajax Water treatment plant in the early 90's, my contribution to the current EA process will not only add value but will ultimately facilitate a solution. We must ensure that we will continue to produce quality drinking water for every family utilizing the Lake Ontario water resource.

Investigating alternatives is time-consuming and costly, but once a decision is made, it has long-lasting effects. I am concerned.
Living near the Ajax shoreline (one of the most desired places to live in the Greater Toronto Area), I am disgusted to hear about expanding the WPCP's flows into Lake Ontario, and also expanding the Outfall pipe to allow increasing sewage flows for the next 70 years now, so the Regions don't have to spend any more money to improve it for the next 70 years – Have you ever heard of Walkerton?
The Problem/Opportunity Statement should include consideration of a comprehensive range of alternatives that do not involve making adjustments to the size, structure or configuration of the outfall pipe and related components and/or enhanced treatment processes at the WPCP. Such alternatives could eliminate or significantly reduce flows into Lake Ontario and/or possibly treatment at locations other than this WPCP. The Statement must also fully consider all other environmental impacts, such as impacts to air and water caused by the incineration of sewage solids which are extracted as part of the treatment process.
The potential solutions to the problem should not be limited to the list of alternatives provided at PIF#1, which are primarily oriented to finding ways to dump more partially treated effluent into Lake Ontario, particularly through this WPCP. The background information identifies future growth in York and Durham Regions as the impetus for the higher treatment capacity requirements. Local treatment facilities should be developed within these yet to be built communities and, to the extent that some of the locally treated effluent still needs to be released into Lake Ontario, this WPCP could be used for final polishing. Greater treatment at source would provide many benefits, including fairer allocation of costs (infrastructure costs to be borne by developers and future taxpayers of yet to be built communities, rather than current taxpayers), lower ongoing costs of existing and approved infrastructure (e.g., reduced loads on existing and approved odour control facilities and corrosion control facilities) and fairer distribution of environmental impacts (rather than off-loading these to Pickering and Ajax).
Serious consideration should be given to significantly reducing the need to pollute Lake Ontario (or any other waterway) with the partially treated effluent. For example, California has refined its waste water management process so as to divert a significant amount of the treated water to irrigate crops, golf courses, etc. In short, Ontario needs to ensure that it is living up to its claims of being a leader in the green movement.
This project is about long term planning for future outcomes and therefore should not confine itself to old thinking (that is, dump sewage into the lake after meeting a minimum treatment standard).
Decision-makers should put more money into protecting our environment.
Without clean water, nothing grows or develops.