



The Regional Municipality of Durham

To: The Joint Finance & Administration, Health & Social Services, Planning & Economic Development, and Works Committee
From: C. Curtis, Commissioner of Works
Report: 2012-J-34
Date: October 18, 2012

SUBJECT:

The Class Environmental Assessment (EA) to Address Outfall Capacity Limitations at the York Durham Duffin Creek Water Pollution Control Plant, in the City of Pickering

RECOMMENDATIONS:

THAT the Finance and Administration, Health and Social Services, Planning and Economic Development, and Works Committee receives this report for information; and,

THAT this report be forwarded to the Ministry of Environment, the Toronto Region Conservation Authority, The City of Pickering, The Town of Ajax and The Regional Municipality of York.

REPORT:

1. PURPOSE

The purpose of this report is to update the Joint Committees on the status of the Class Environmental Assessment (EA) to address outfall capacity limitations at the Duffin Creek Water Pollution Control Plant (WPCP), in the City of Pickering.

2. BACKGROUND

The York Durham Sewage System (YDSS), which includes large-diameter trunk sewers, pumping stations, the Duffin Creek WPCP and outfall, was constructed by the Province of Ontario in the late 1970s to replace small sewage treatment plants on local waterways throughout the Regional Municipality of Durham (Durham) and the Regional Municipality of York (York). This was a successful strategy in that local water quality has improved significantly since the YDSS was completed. In 1997, ownership of the YDSS was transferred from the Province of Ontario to Durham and York Regions. Currently, the YDSS services the City of Pickering, the Town of Ajax and most of York with approximately 20 per cent of the sewage treated by the Duffin Creek WPCP originating in Durham and approximately 80 per cent originating in York.

In 2004, Durham and York initiated a Class EA to plan for additional process capacity at the Duffin Creek WPCP (Stage 3 EA). As a result of the Stage 3 EA, the Ministry of the Environment (MOE) approved the expansion of the Duffin Creek WPCP from a process capacity of 420 megalitres per day (ML/d) to 630 ML/d. However, it was during the Stage 3 EA that capacity limitations of the outfall were clarified. Based on the preliminary water quality modelling undertaken, the outfall was found to meet performance objectives to a flow of 560 ML/d. Since limited Lake Ontario data was available at the time of the Stage 3 EA to calibrate the water quality model, the MOE felt it prudent to reduce the discharge of effluent through the outfall to 520 ML/d, with the potential to increase discharge to 540 ML/d subject to further investigation.

With regard to treatment, the recommended solution for the Stage 3 EA was to employ step-feed nitrification, a significantly increased level of treatment, with the specific treatment modules to include the following:

- New headworks building for screening and grit removal;
- Six new primary treatment tanks;
- Six new three pass aeration tanks with step feed gates;
- Six new secondary treatment tanks; and,
- A new disinfection facility.

In addition to the treatment upgrades listed above, two new fluid bed reactors, energy recovery systems, new biosolids dewatering and handling systems, digester upgrades and a new boiler building were also included in the works.

As a result of the approved upgrades, the following strict new effluent criteria were included in the Certificate of Approval:

Parameter	Effluent Limits (before upgrades)	Effluent Limits (after upgrades)
Total Phosphorus (TP)	1.0 mg/L	0.8 mg/L*
TP Loading	420 kg/d	311 kg/d*
Total Ammonia Nitrogen		
May 1 to Oct 31	No limit	6 mg/L
Nov 1 to Apr 30	No limit	10 mg/L
Unionized Ammonia Nitrogen	No limit	0.2 mg/L

* Note that the stricter of the 0.8 mg/L or 311 kg/d criteria govern with respect to the discharge of total phosphorus. For example, at a flow of 630 ML/d, the discharge concentration of total phosphorus would have to be 0.5 mg/L (i.e. significantly less than 0.8 mg/L) to meet the total loading limit imposed by the MOE.

Design of the Stage 3 Process Expansion Projects commenced in 2005 with construction starting in 2007. The total capital investment for the Stage 3 expansion is \$627 million. Further, upgrades to the existing Stages 1 and 2 facilities are anticipated to cost an additional \$267 million. Once the upgrades are complete, the Duffin Creek WPCP will be one of the best water pollution control plants discharging to the open waters of Lake Ontario.

3. DUFFIN CREEK WPCP OUTFALL CLASS EA

In June 2008, Durham and York initiated a Class EA to address the Duffin Creek WPCP outfall capacity limitations identified during the previous 2004 Stage 3 EA. The existing Duffin Creek WPCP outfall is a 3-metre diameter pipe extending 1.1 kilometres under the lakebed into Lake Ontario. The current Outfall EA is focused on addressing capacity limitations of this infrastructure prior to flows reaching 520 ML/d and is being conducted by the Regions as a Schedule C undertaking. However, due to a higher level of local interest anticipated by the Regions, the following additional items over and above what is required for this type of EA have been included as part of the project:

- Presentation to Town of Ajax Council;
- Stakeholder Advisory Committee;
- Additional public meetings in Ajax and Pickering;
- Water quality workshop;
- Tour of the Duffin Creek WPCP;
- Peer Review Team; and,
- Dedicated project website for continual public consultation.

The problem/opportunity statement for the project is, "To identify and develop a preferred strategy to address the future capacity limitations of the existing outfall at the Duffin Creek WPCP that continues to protect the environment and human health." Both the problem/opportunity statement and the Study Area boundaries were developed with input from the Stakeholder Advisory Committee.

Water quality modelling of the outfall discharge is a significant portion of the Outfall EA. Since the Stage 3 EA, a significant increase in Lake Ontario data is now available for model calibration. As a result, the modelling undertaken as part of the Outfall EA has a much greater confidence level associated with it than previous modelling undertaken as part of the Stage 3 EA. Though, all modelling efforts undertaken thus far have provided very conservative results as water quality sampling shows the actual water quality in the area to be better than what is predicted by the model. Baseline modelling completed thus far also indicates that the effluent plume is consistent with, *Policies Guidelines Provincial Water Quality Objectives of the Ministry of Environment and Energy* (now the MOE.)

Baseline reports that assess geotechnical conditions, lake modelling and natural environment conditions have been completed. Further, these baseline reports have been made available to the public and other stakeholders and were also reviewed by the Peer Review team. Comments made by the Peer Review team have been incorporated as appropriate into each of the baseline reports.

Currently, the Outfall EA is in Phase 2 of the Municipal Class EA process. The list of alternatives to solve the problem/opportunity statement has been screened down to a short list of alternatives, which has been included below.

- Optimized operations;
- Modify existing outfall diffuser;
- Provide tertiary treatment;
- Extend existing outfall diffuser; and,
- New outfall.

Although the Duffin Creek WPCP outfall is a single piece of infrastructure, there are many associated issues that the Regions and stakeholders are interested in having investigated as part of the Outfall EA study. The following issues, to name a few, are being investigated as part of the Outfall EA:

- Local Water Quality;
- Flows at Duffin Creek WPCP;
- Cladophora Algae; and,
- Pharmaceuticals & Other Emerging Contaminants.

These items are being investigated and reported on as part of the Outfall EA and will be included in the final Environmental Study Report submitted to the MOE for this project.

The following provides upcoming Outfall EA activities include the following:

Upcoming Events	Schedule
Water Quality Workshop	November 2012
Stakeholder Advisory Committee No. 3	November 2012
Public Information Forums No. 3	January 2013

The entire Outfall EA is currently scheduled to be completed by December 2013 pending the progress of the study. For additional project information and updates on the schedule, interested stakeholders and other members of the public can visit the project website at, www.durham.ca/outfallEA or email the project team at info@outfallEA.com.

4. OTHER WATER QUALITY STUDIES

In recent years, a number of studies and investigations have examined water quality in both the nearshore and offshore environment in and around the Outfall EA study area. A few of these studies are ongoing. Both Durham and York Regions have and continue to participate in many of these studies with provincial (MOE, OPG), conservation (TRCA) and academic (University of Waterloo) agencies and authorities. Both the City of Pickering and the Town of Ajax have also been contributors to some of these studies and have also been active in the review process.

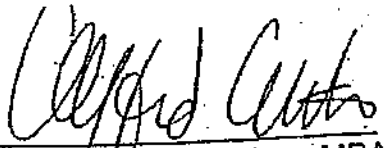
Some of these studies have investigated the impact local discharges have on nearshore water quality, however, not all of these studies have focused on the Duffin Creek WPCP. For instance, the Town of Ajax initiated a Stormwater (Retrofit) Master Plan which found that discharges from local stormwater outlets are having a deleterious effect on water quality and are, "forcing beach closures along the Ajax waterfront." Some but not all of the recommendations of this study are being implemented by the Town of Ajax.

A further research study investigating the impact local nutrient levels have on algae growth is currently being performed by Dr. Todd Howell of the MOE. The Regions encourage this research and continue to provide information to the MOE in support of this study. The MOE study has not been designed to evaluate the existing outfall. The Outfall EA timeline will not be deferred until the completion of this study. However, Dr. Howell has been invited by the Regions to give a presentation on his interim data and further discuss the study goals to the Outfall EA Stakeholder Advisory Committee.

5. CONCLUSION

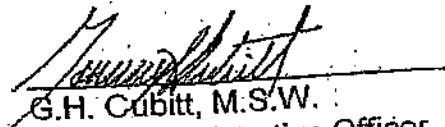
In conclusion, the Regional Municipalities of York and Durham are currently undertaking a Schedule C Class Environmental Assessment to address the Duffin Creek Water Pollution Control Plant outfall capacity limitations; though, many activities over and above what is required for this type of Environmental Assessment have been included as part of the project. As anticipated, there has been a high level of local interest in this project and as a result, the Regional Municipalities of York and Durham will continue to provide opportunities for input by local stakeholders and other members of the public into this important process.

This report has been reviewed by the Finance, Health and Social Services, Planning and Economic Development Departments.



Clifford Curtis, P.Eng., MBA
Commissioner of Works

Recommended for Presentation to Committee



G.H. Cubitt, M.S.W.
Chief Administrative Officer

EPS5/em/ms

The Duffin Creek WPCP, Outfall and Local Water Quality Issues



***Presentation to Joint Committee
October 18, 2012***

Agenda:

- ***Background on York-Durham Sewage System***
- ***Duffin Creek WPCP Expansion EA***
- ***Duffin Creek WPCP Outfall EA***
- ***Local Water Quality***
- ***Cladophora Algae & Past Studies***
- ***Other Lake Ontario Water Quality Studies***
- ***Pharmaceuticals & Other Emerging Contaminants***
- ***Recent Concerns***
- ***Next Steps...***

Background on YDSS:

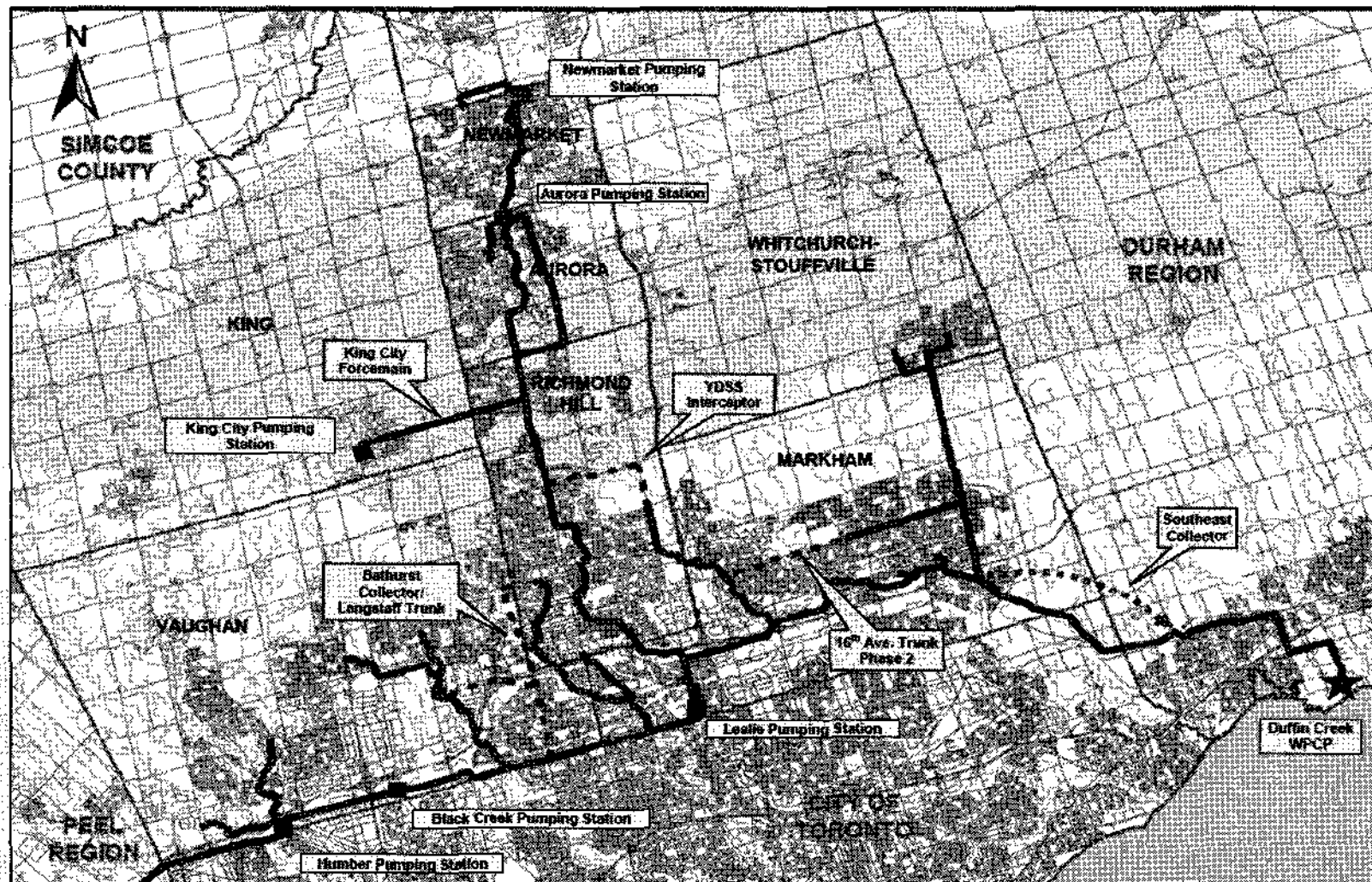


Figure: York Durham Sewage System

Background on YDSS:

- ***Replaced 12 water pollution control plants contaminating local waterways***
- ***Construction completed in late 1970's, operation in 1980's resulting in significant improvement in water quality***
- ***Built by Province of Ontario***
- ***Durham/York acquired system in 1997***
- ***Treats sewage: ~ 20% from Durham
~ 80% from York***

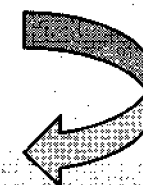
Duffin Creek WPCP Stage 3 Expansion EA:

- ***EA Started in 2004***
- ***Final MOE approval in 2007***
- ***Increase treatment capacity: 420 ML/d → 630 ML/d with enhanced phosphorus and ammonia removal***
- ***Preliminary outfall modelling undertaken:***
 - ***Outfall capacity limitations clarified***
 - ***Met MOE requirements to 560 ML/d***
 - ***Limited Lake Ontario data available for model calibration in Stage 3 Expansion EA so conservative assumptions made***

Duffin Creek WPCP Stage 3 Expansion EA:

- Strict legally-binding reduction in effluent parameters committed to by Regions:***

Effluent Limits before and after the Stage 3 Expansion		
Parameter	Effluent Limits (before)	Effluent Limits (after)
Total Phosphorus (TP)	1.0 mg/L	0.8 mg/L
TP Loading	420 kg/d	311 kg/d
Total Ammonia Nitrogen		
May 1 to Oct 31	No limit	6 mg/L
Nov 1 to Apr 30	No limit	10 mg/L
Unionized Ammonia Nitrogen	No limit	0.2 mg/L
E. coli	200 E. coli / 100 mL	200 E. coli / 100 mL



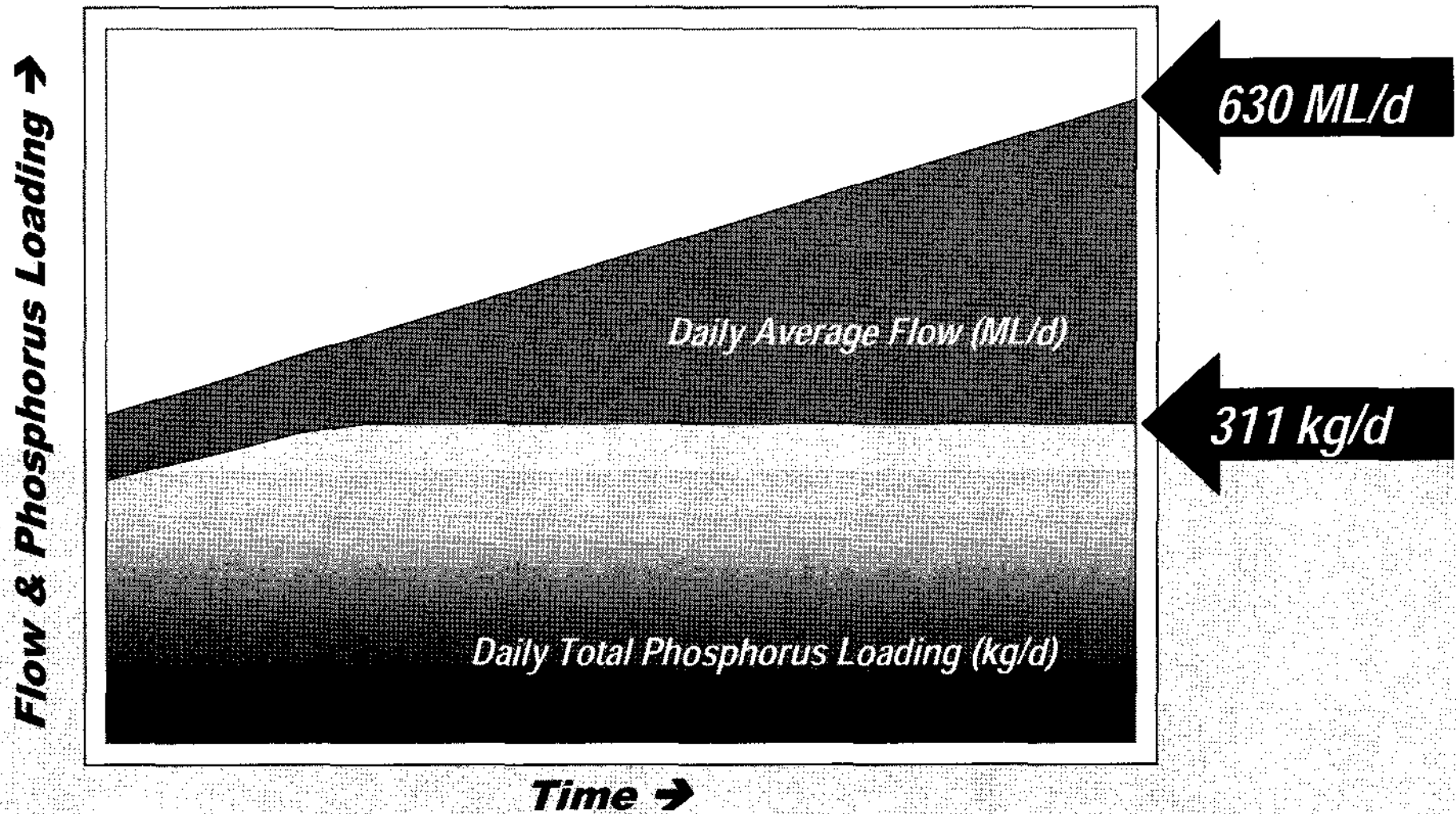
But limited to:

Duffin Creek WPCP Stage 3 Expansion EA:

- ***Strict legally-binding reduction in effluent parameters even at peak future flows:***
 - ***For Ammonia:***
 - ***No Limits → Seasonal Limits***
 - ***For Total Phosphorus:***
 - ***25% ↓ in total loading (i.e. kg/d)***
 - ***50% ↓ in concentration at capacity limits (i.e. 420 ML/d & 630 ML/d)***

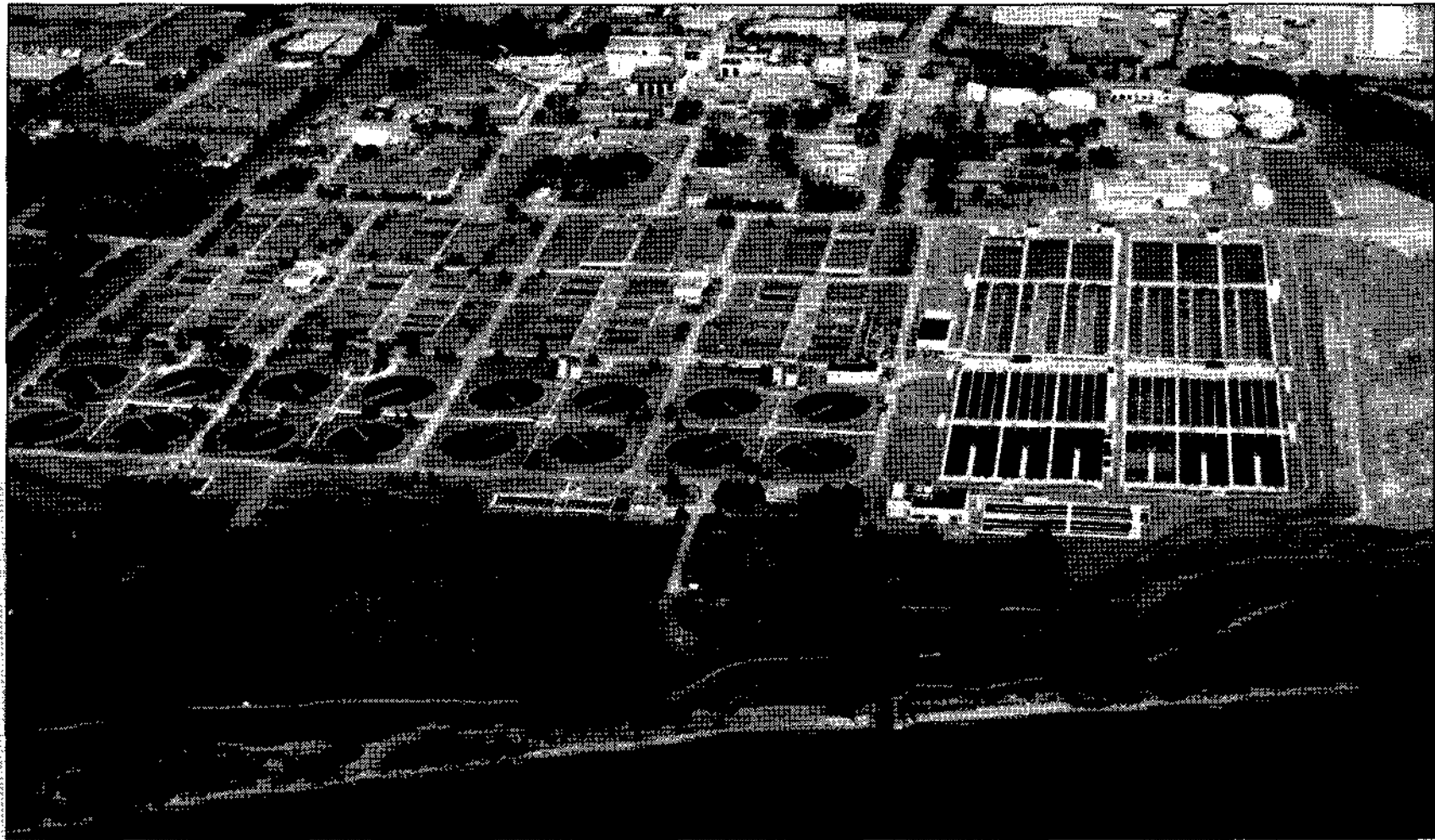
Duffin Creek WPCP Stage 3 Expansion EA:

Figure: Flow Increase with Total Phosphorus Limits



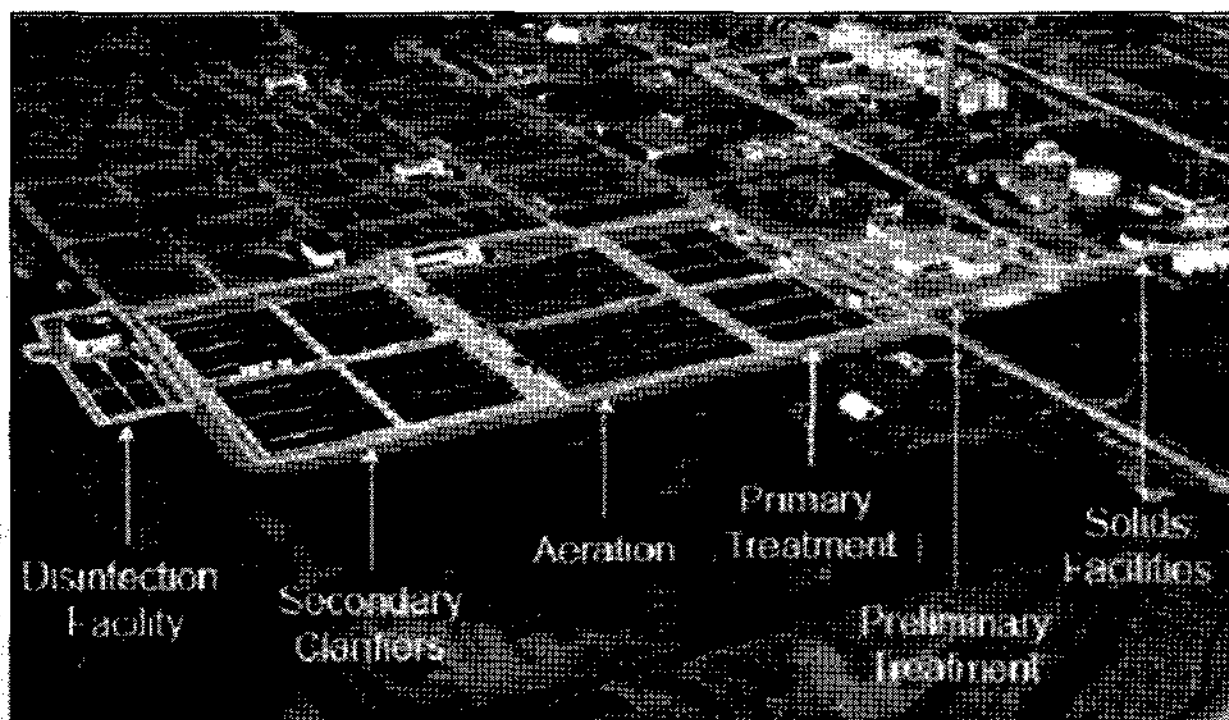
Duffin Creek WPCP Stage 3 Expansion EA:

Figure: Upgraded Duffin Creek WPCP



Duffin Creek WPCP Stage 3 Expansion EA:

Figure: Recently Built Treatment Facilities at the Duffin Creek WPCP



Stage 3 Expansion

- New Preliminary Treatment / Headworks
- 6 Primary Tanks
- 6 Aeration Tanks
- 6 Secondary Clarifiers
- Disinfection Facility
- Solids Facilities
- Electrical

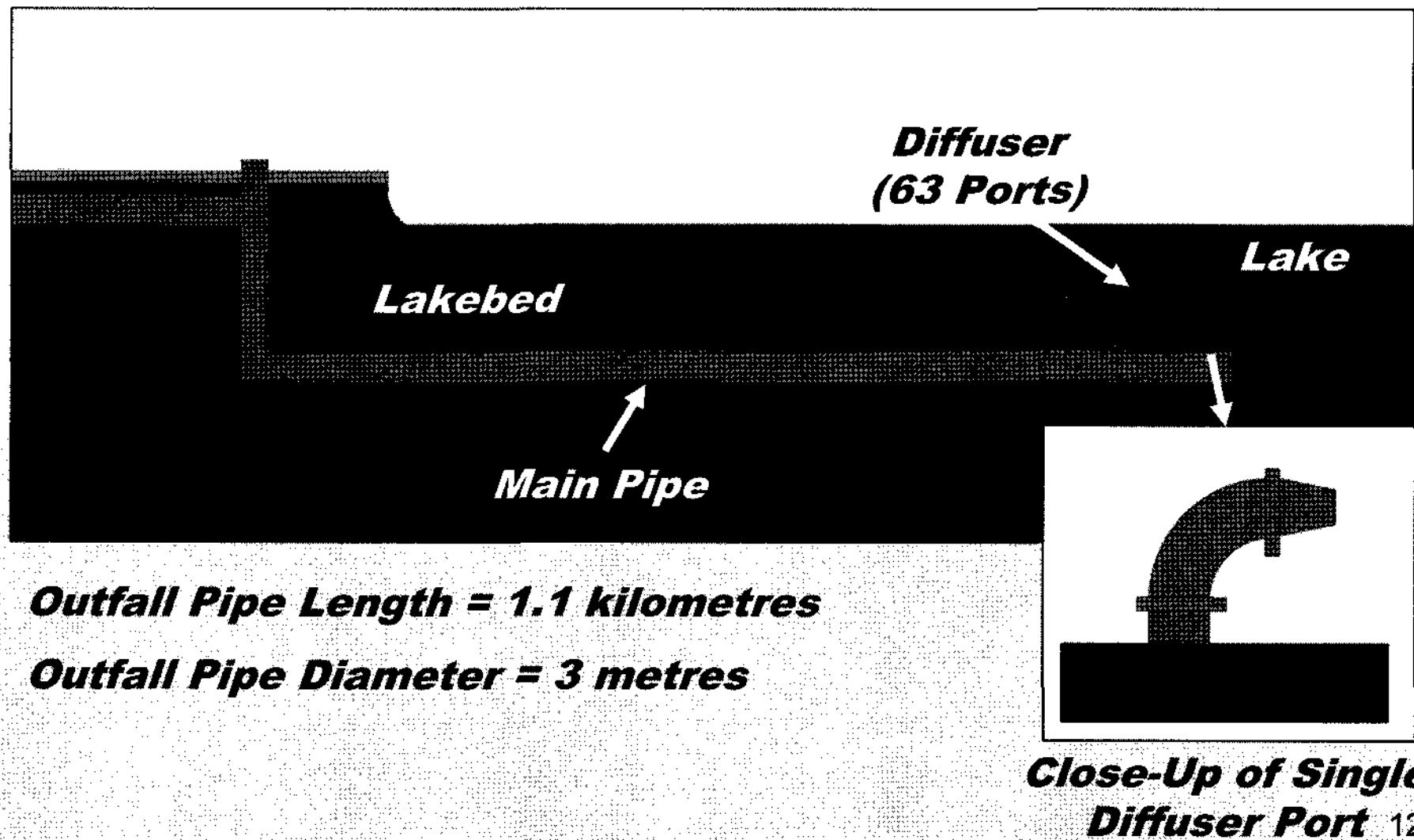
Duffin Creek WPCP Outfall EA:

Project Problem/Opportunity Statement:

To identify and develop a preferred strategy to address the future capacity limitations of the existing outfall at the Duffin Creek WPCP that continues to protect the environment and human health.

Duffin Creek WPCP Outfall EA:

Figure: Schematic of the Duffin Creek WPCP Outfall



Duffin Creek WPCP Outfall EA:

- ***Schedule 'C' Class EA (schedule type sets out project planning process)***
- ***'Above and beyond' activities:***
 - 1. Stakeholder Advisory Committee***
 - 2. Additional Ajax/Pickering public info meetings***
 - 3. Presentation to Town of Ajax Council***
 - 4. Tour of the Duffin Creek WPCP***
 - 5. Peer Review Team***
 - 6. Water quality workshop***
 - 7. Project-specific website***

Duffin Creek WPCP Outfall EA:

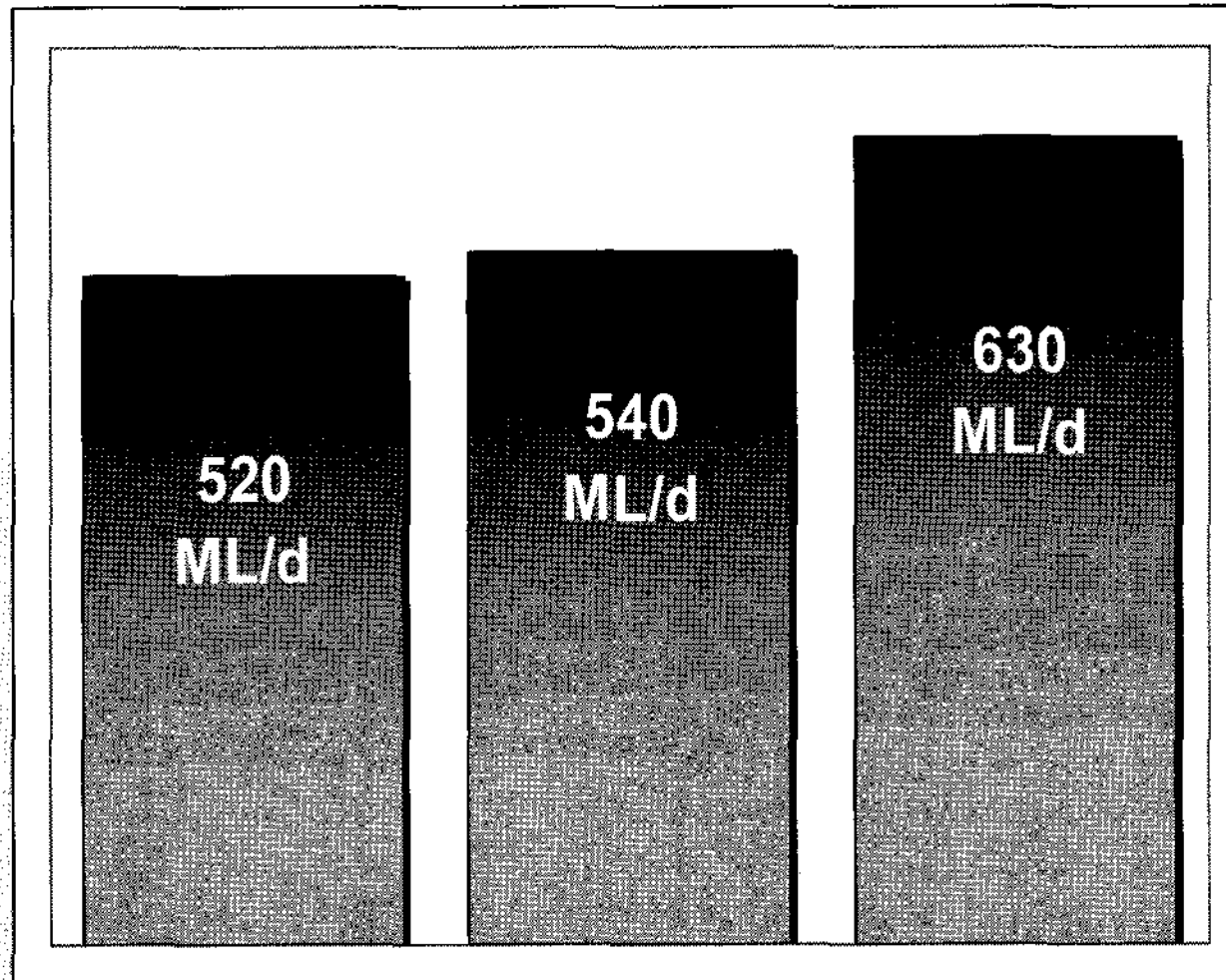
- ***Alternatives carried forward:***
 - ***Optimized operations***
 - ***Modify existing outfall diffuser***
 - ***Provide tertiary treatment***
 - ***Extend existing outfall diffuser***
 - ***New outfall***

Duffin Creek WPCP Outfall EA:

- ***Current treatment capacity = 630 ML/d***
- ***Duffin Creek WPCP current approval = 520 ML/d with an allowance to increase to 540 ML/d***
- ***All but one alternative (i.e. new outfall) would have a capacity of ~630 ML/d***
- ***New outfall capacity = 890 ML/d***
- ***But new EA would be required to expand plant discharge past 630 ML/d***

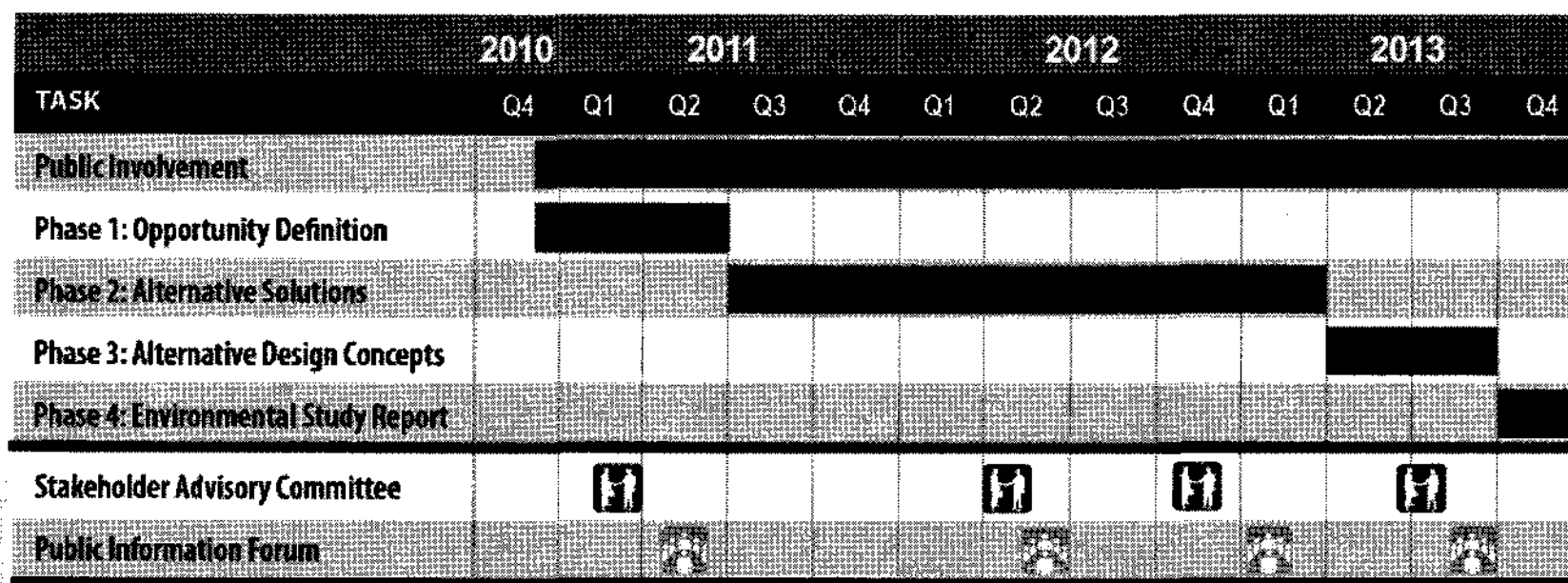
Duffin Creek WPCP Outfall EA:

- ***520 ML/d to 630 ML/d: 21 % increase in permitted capacity***
- ***540 ML/d to 630 ML/d: 17% increase in permitted capacity***



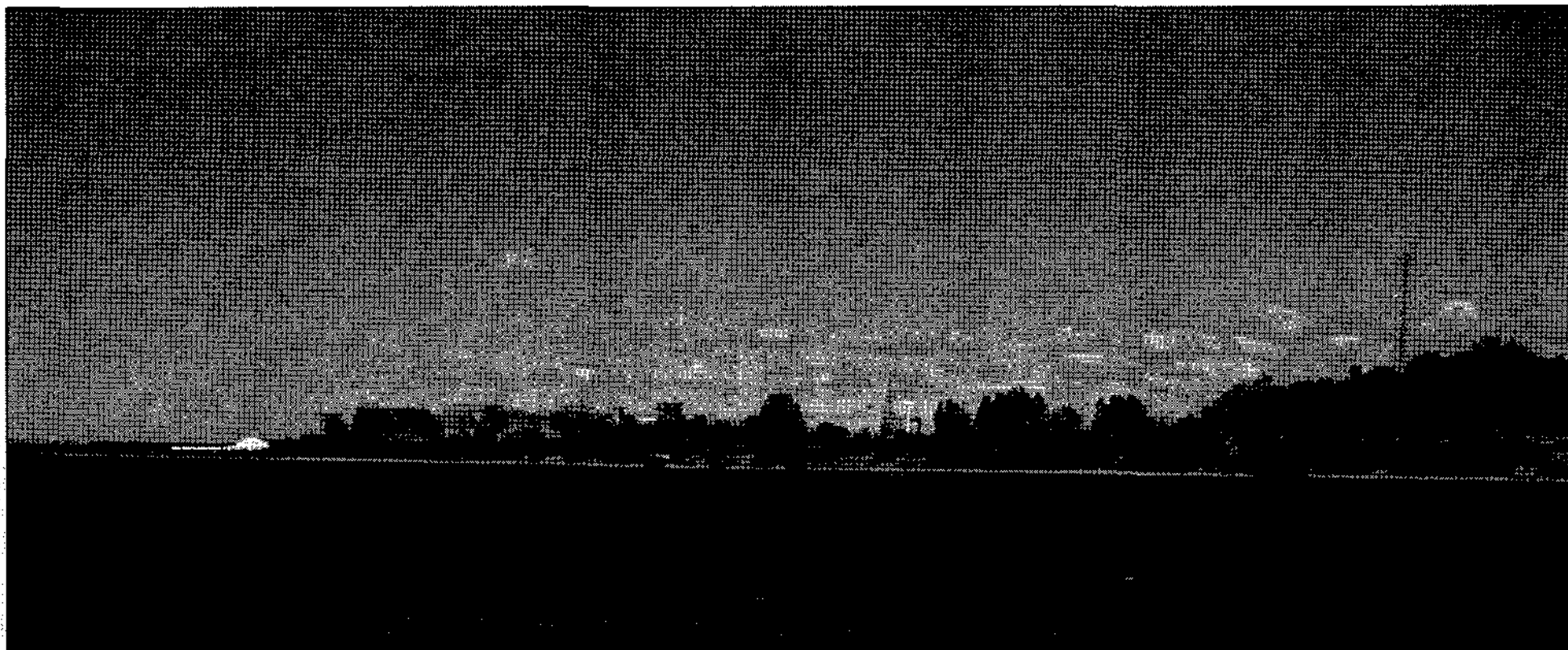
Duffin Creek WPCP Outfall EA:

Figure: Current EA Schedule



Local Water Quality:

Figure: Lake Ontario in Vicinity of Duffin Creek WPCP Outfall

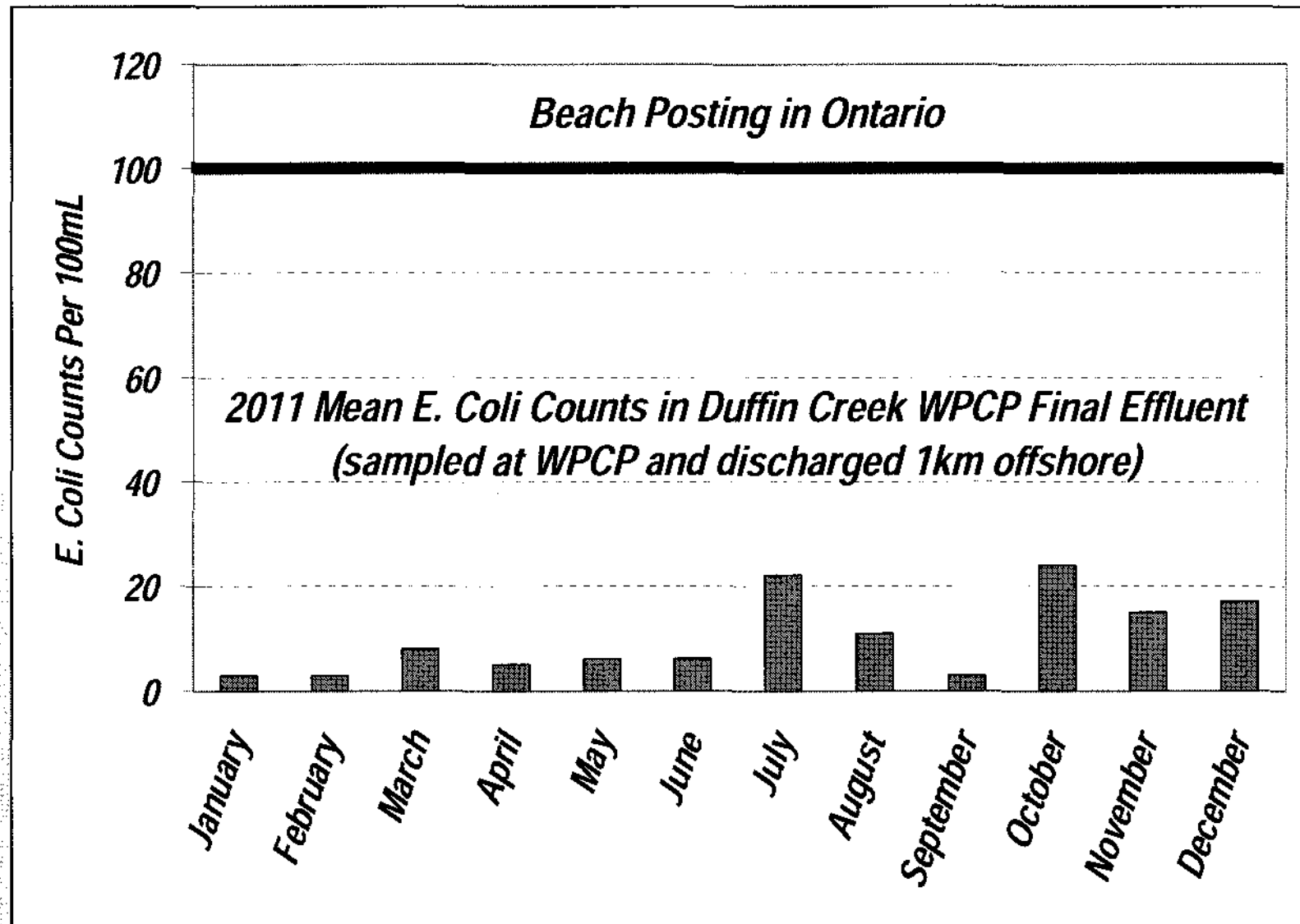


Local Water Quality:

- ***E. Coli is the critical health-related indicator***
- ***Ontario beaches posted at 100 counts E.Coli / 100mL***
- ***Samples of effluent and Lake water near the Duffin Creek WPCP Outfall have very low E.Coli counts***
- ***Most significant contributors of E.Coli are local stormwater discharges (rainstorms, snow melt etc. from stormwater pipes), surface runoff, animal feces and creek discharge***

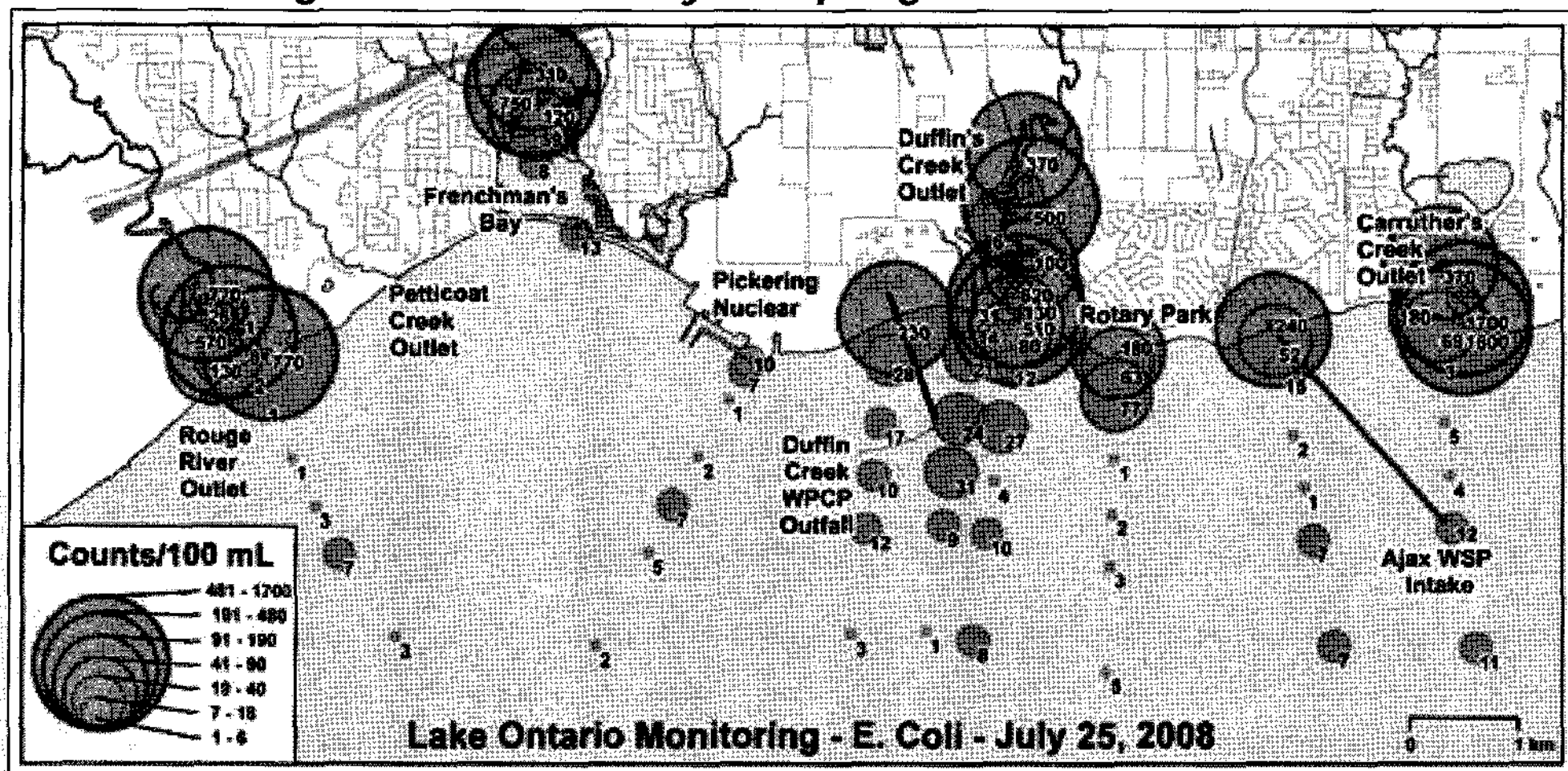
Local Water Quality:

Figure: E. Coli Levels - Beach Posting vs. 2011 Duffin Creek WPCP Effluent



Local Water Quality:

Figure: Water Quality Sampling Results for E. Coli



Stormwater contributions and tributaries are most significant sources of E. Coli (ie not WPCP)

Local Water Quality:

Figure: Discharge from Duffins Creek



This photo shows the naturally occurring discharge from Duffins Creek moving easterly – cloudy water is not related to the WPCP

Local Water Quality:

Figure: Discharge from Duffins Creek



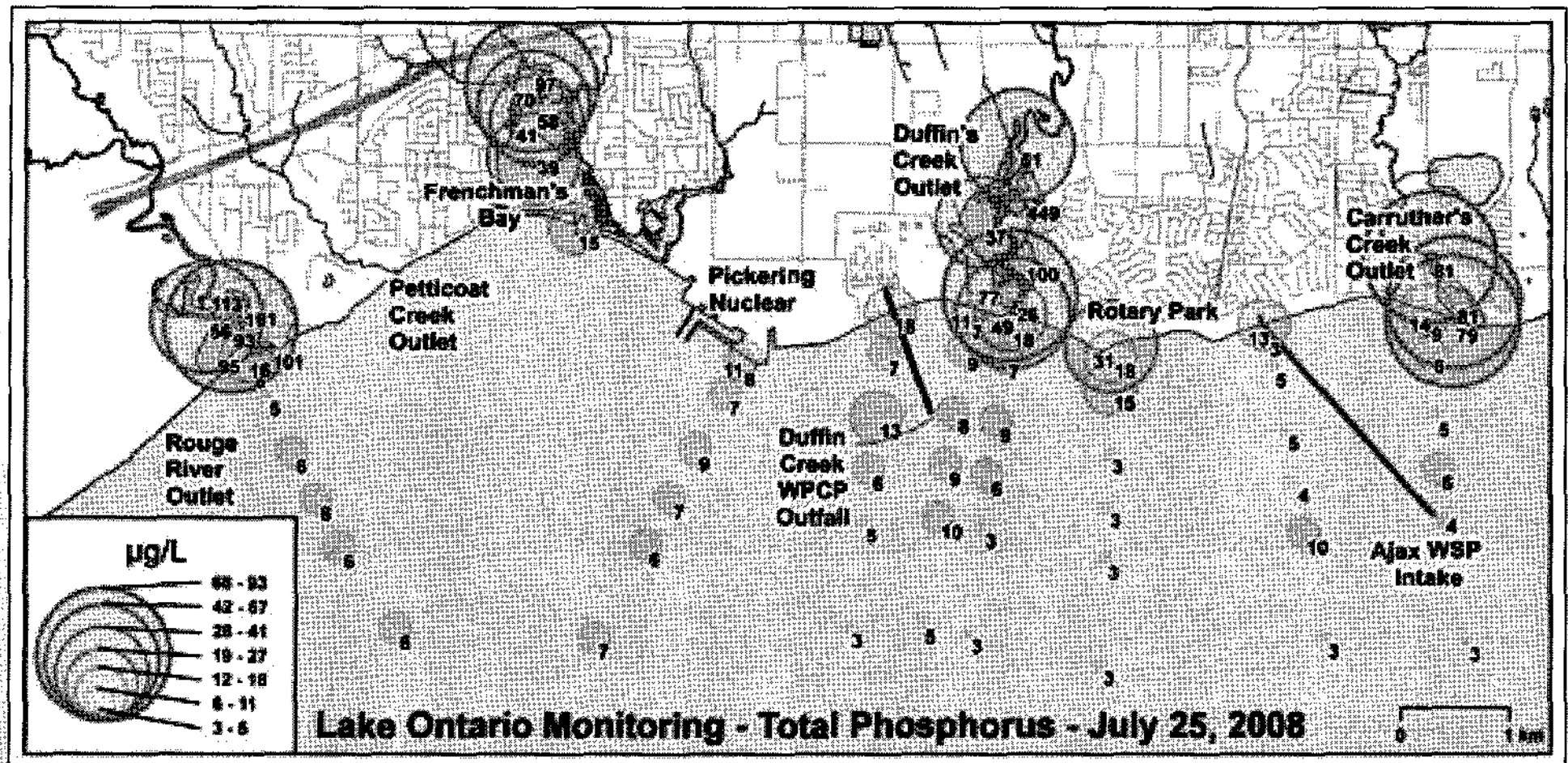
This photo shows the naturally occurring discharge from Duffins Creek moving westerly – cloudy water is not related to the WPCP

Local Water Quality:

- ***Other parameters of interest:***
 - ***Phosphorus***
 - ***Ammonia***
- ***Phosphorus is a nutrient and can contribute to nuisance algae growth***
- ***Unionized Ammonia can be toxic to aquatic life***

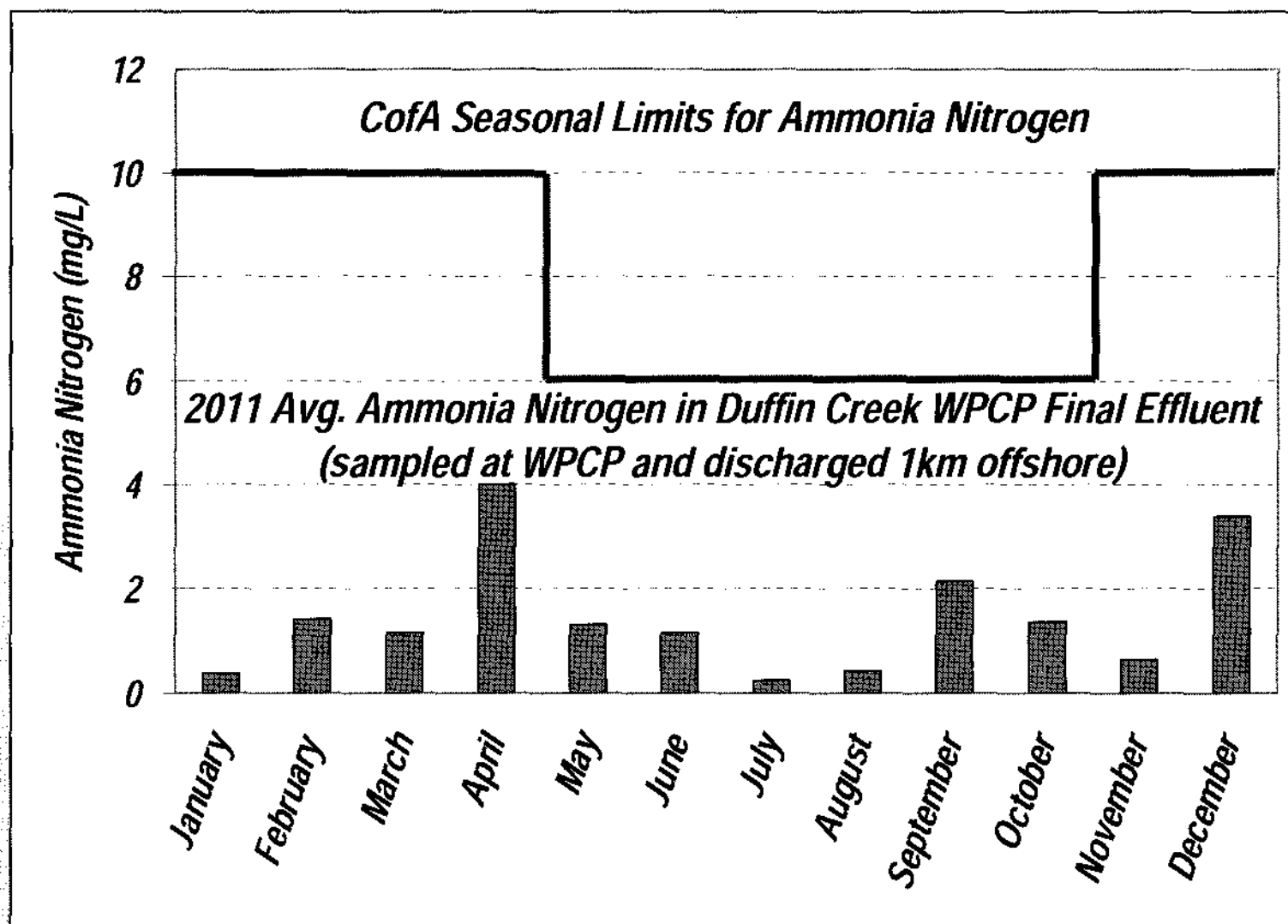
Local Water Quality:

Figure: Water Quality Results for Total Phosphorus



Local Water Quality:

Figure: Ammonia Nitrogen Levels – Seasonal Limits vs. 2011 Duffin Creek WPCP Effluent



Cladophora Algae & Past Studies:

- *Found all over the world*
- *Growth limited by light and nutrients*
- *Hard surface required for algae to attach to*
- *Past phosphorus reductions significantly reduced growth*
- *Resurgence in 1990's*
- *Mussels believed to be significant factor in resurgence*

Figure: Cladophora Algae



Cladophora Algae & Past Studies:

Recent studies on Cladophora & Ajax/Pickering:

- ***Urban influences on Cladophora blooms in Lake Ontario, Journal of Great Lakes Research (JGLR), 2012***
 - ***Based on sampling from April-Oct 2008 (Duffin Creek WPCP now has additional treatment for phosphorus)***
 - ***Cladophora blooms more likely in areas with higher local phosphorus inputs***
 - ***Both particulate and soluble phosphorus are potential food sources for Cladophora in nearshore waters***

Cladophora Algae & Past Studies:

Recent studies on Cladophora & Ajax/Pickering:

- *Monitoring, Modelling and Management of Nearshore Water Quality in the Ajax-Pickering Region of Lake Ontario, Dr. Martin Auer, 2011*
 - *Peer review of University of Waterloo study*
 - *Noted that Duffins Creek (not WPCP) is dominant source of E.Coli driving the local beach closures (pg. 4)*
 - *Limitations in the past monitoring program (water quality sampling) and past modelling efforts does not adequately resolve the phosphorus issue with respect to Cladophora growth*

Cladophora Algae & Past Studies:

Recent studies on Cladophora & Ajax/Pickering:

- ***Spatiotemporal patterns of water quality in Lake Ontario and their implications for nuisance growth of Cladophora, JGLR, 2010***
 - ***Study of Cladophora included Halton and Durham (Ajax-Pickering)***
 - ***Recent upsurge in nuisance Cladophora cannot be explained by phosphorus levels at these sites***
 - ***Notes that increases in water clarity on north shore has resulted in increased Cladophora production***

Cladophora Algae & Past Studies:

Recent studies on Cladophora & Ajax/Pickering:

- *Modelling and analysis of Cladophora dynamics and their relationship to local nutrient sources in a nearshore segment of Lake Ontario, UofWaterloo, 2009*
 - *Duffin Creek WPCP has relatively small influence on Cladophora growth*
 - *Duffin Creek WPCP input does not control whether algae will reach nuisance levels*
 - *Restriction of local sources of phosphorus would not eliminate Cladophora problems*

Cladophora Algae & Past Studies:

Recent studies on Cladophora & Ajax/Pickering:

- ***Research into the cause and possible control methods of increased growth of periphyton in the western basin of Lake Ontario, UofWaterloo/OCWA, 2009***
 - ***Study focused on Halton shoreline but also includes discussion of Pickering***
 - ***Cladophora surveys could not detect any impact from major streams, waste water treatment plants and storm sewers on Cladophora growth patterns***

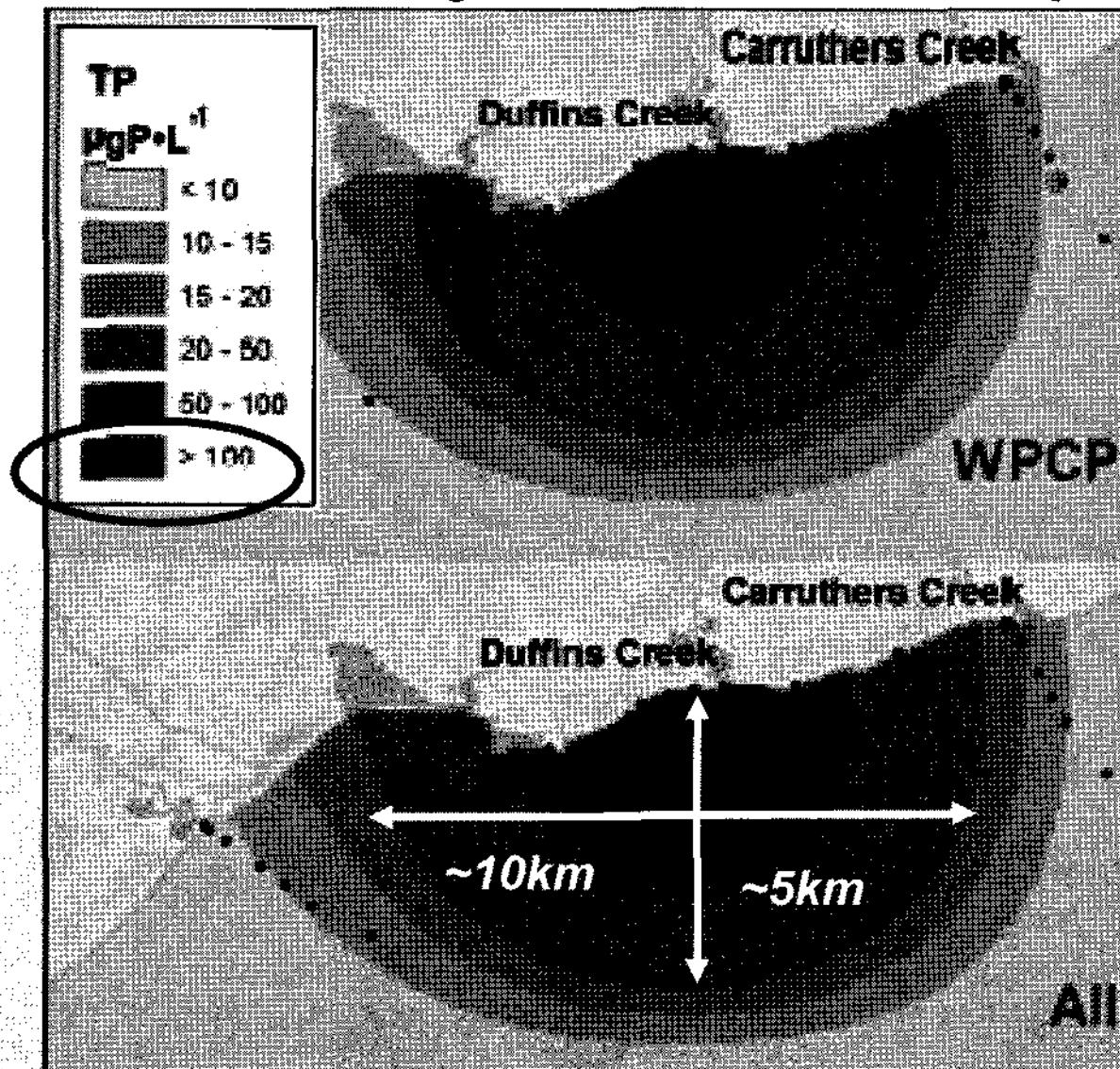
Cladophora Algae & Past Studies:

Further discussion of report by Dr. Martin Auer:

- With respect to 2D modelling carried out and reported on, "It would be concluded from this analysis that... the Duffin WPCP should be the management target with respect to phosphorus and attendant nuisance algal growth."***
- Dr. Auer's statement does not agree with updated EA model results nor sampling data (further discussion below)***

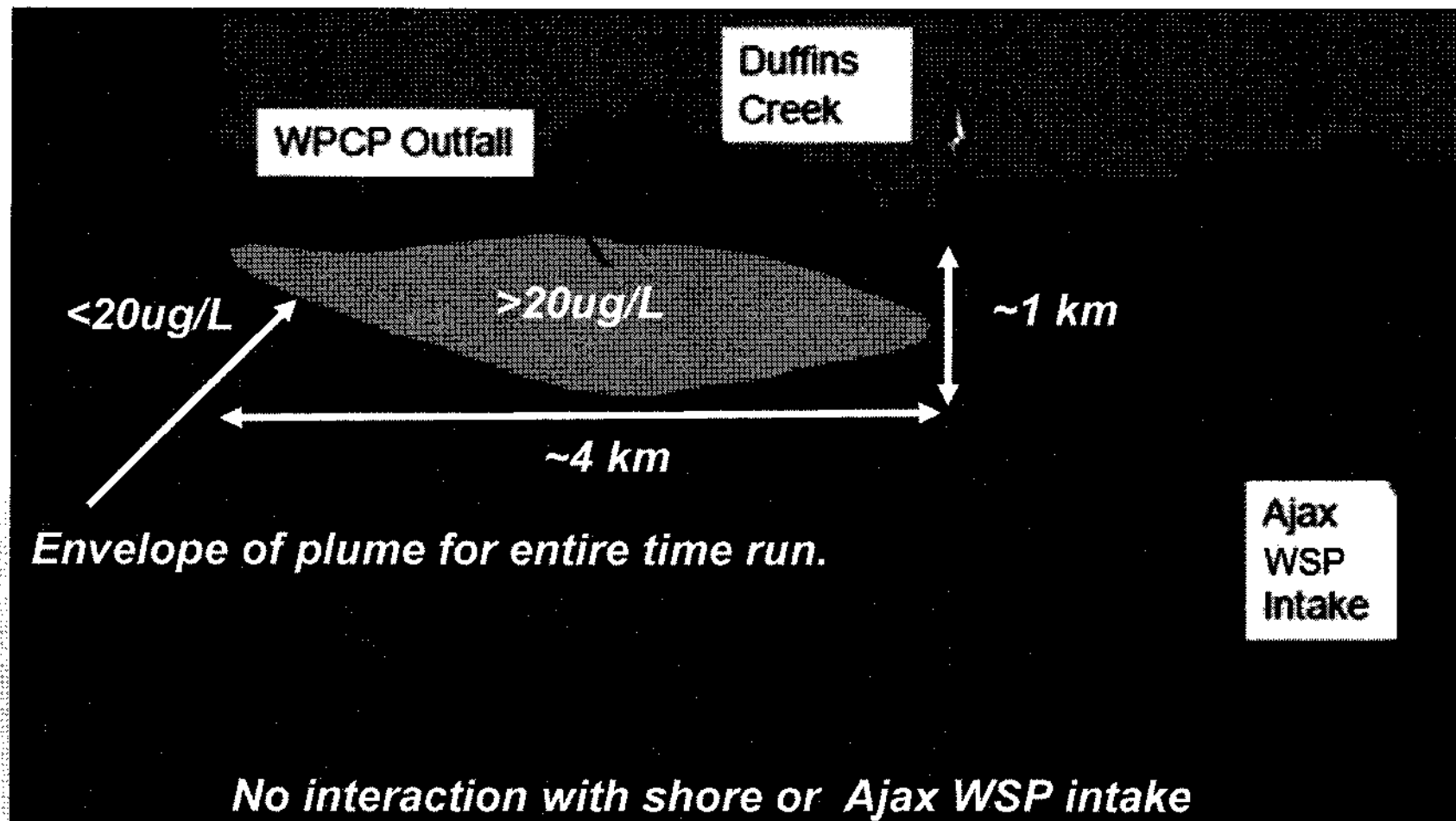
Cladophora Algae & Past Studies:

Figure: Auer Modelling Results for Total Phosphorus



Cladophora Algae & Past Studies:

Figure: Baseline (520 ML/d) 3D Modelling Results for Total Phosphorus



3D Model used in Outfall EA is accepted by MOE

Cladophora Algae & Past Studies:

- *Auer 2D modelling is NOT consistent with recent Outfall EA modelling*
- *Auer 2D modelling is NOT consistent with 2007-2009 sampling in Lake Ontario near outfall*
 - *Highest single Total Phosphorus = 67 ug/L*
 - *Majority Total Phosphorus < 20 ug/L*

Other Lake Ontario Water Quality Studies:

- ***Ongoing Research by Dr. Todd Howell***
 - ***Investigating how localized and regional nutrients affect the biomass of Cladophora***
 - ***Durham and York Regions are providing data and assistance as participating stakeholders in study***
 - ***Dr. Howell and MOE staff confirm, "the proposed study was not developed with the intention of addressing the WPCP's outfall limitation issues."***
 - ***2012 data gathered as part of this study is being presented by Dr. Howell to the Stakeholder Advisory Committee –this data will be referenced in the Outfall EA report***

Other Lake Ontario Water Quality Studies:

- ***Tributary phosphorus loading to Lake Ontario, JGLR, 2012.***
 - ***TRCA contributing author***
 - ***Tributary phosphorus load to Lake Ontario was 234% higher than Canadian and American wastewater treatment plants***
 - ***"The impact of tributaries on water chemistry and ecology of the nearshore and embayments of Lake Ontario is potentially great and is being increasingly recognized as a driver of nearshore conditions."***

Other Lake Ontario Water Quality Studies:

- ***Town of Ajax Master Plan Stormwater Retrofit Study, 2011.***
 - ***Considered impacts of 14 urban sewer sheds within Ajax***
 - ***Provided recommended strategies to address impacts of stormwater discharges on nearshore water quality***
 - ***In order to improve water quality, recommended end-of-pipe stormwater management works need to be implemented***

Pharmaceuticals & Other Emerging Contaminants:

- *Pharmaceuticals and other emerging contaminants are trace amounts of substances originating from medications, fragrances, sunscreens, hormones, cosmetics, detergents, veterinary pharmaceuticals, illicit drugs, food supplements etc.*
- *Wastewater treatment processes remove or degrade many of these substances entering the plant (Canadian Institute for Environmental Law and Policy, 2006)*

Pharmaceuticals & Other Emerging Contaminants:

Northeast Ohio Regional Sewer District Findings:

<i>Substance</i>	<i>WPCP <u>Effluent</u> Required for One Dose</i>
<i>Caffeine</i>	<i>74,000 L</i>
<i>Codeine</i>	<i>580,000 L</i>
<i>Diazepam (aka Valium)</i>	<i>2,000,000 L</i>
<i>Ibuprofen</i>	<i>11,000,000 L</i>

Taken from May 2011 WE&T Magazine, Water Environment Federation

Pharmaceuticals & Other Emerging Contaminants:

World Health Organization 2011 Report:

"The increase in reported detections of very low concentrations of pharmaceuticals... is mainly attributable to technological advances in the sensitivity and accuracy of detection equipment and analytical methods"

Pharmaceuticals & Other Emerging Contaminants:

World Health Organization:

"The current levels of exposure to pharmaceuticals in drinking-water also suggest that the development of formal guideline values for pharmaceuticals in the WHO Guidelines for Drinking-water Quality is unwarranted."

and,

"Trace quantities of pharmaceuticals in drinking-water are very unlikely to pose risks to human health..."

Pharmaceuticals & Other Emerging Contaminants:

***Ontario Ministry of the Environment 2005-2006 study,
"Survey of the Occurrence of Pharmaceuticals and
Other Emerging Contaminants...":***

***"We selected a suite of compounds for analysis based
on what labs are technically able to analyze, and
collected over 100 surface and drinking water
samples across Ontario. Of the 46 compounds
analyzed, most were either not detected or rarely
(less than 10 per cent of the time) detected in source
water and drinking water samples."***

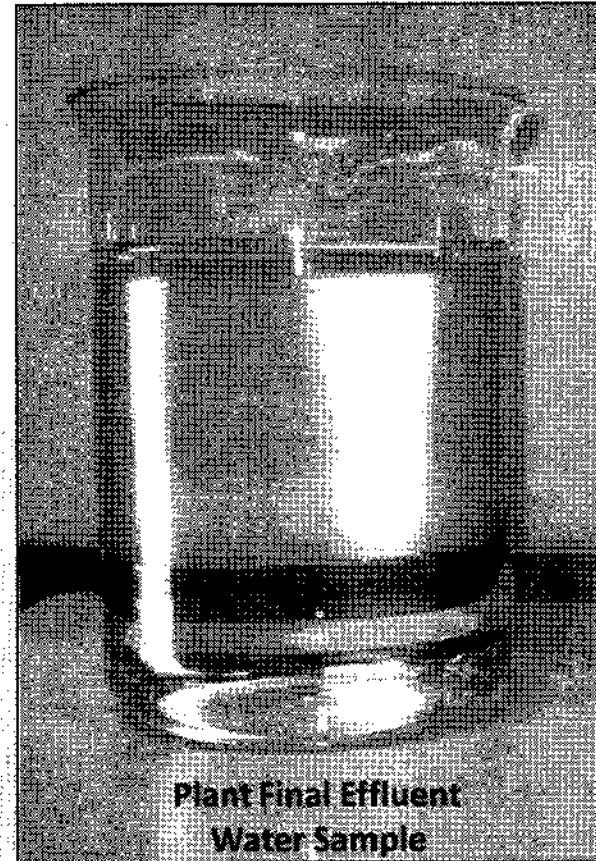
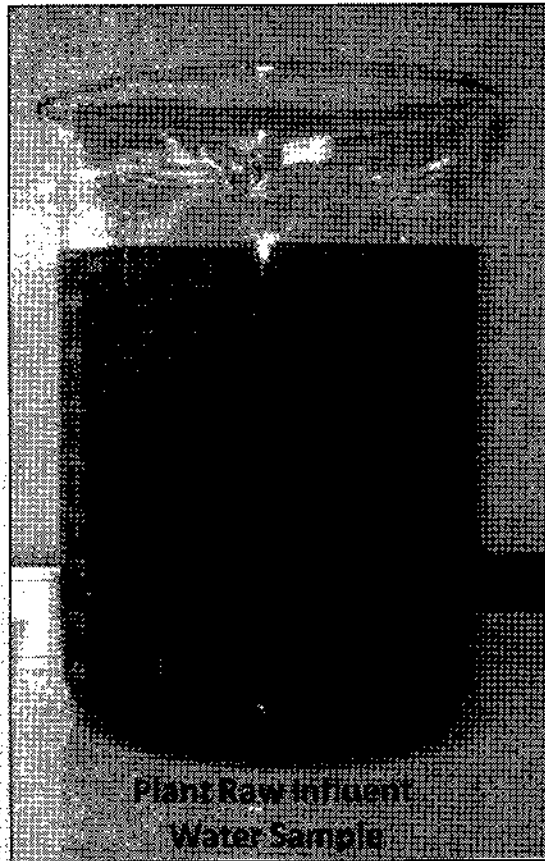
Pharmaceuticals & Other Emerging Contaminants:

Ontario Ministry of the Environment:

"Levels of these compounds were in the parts per trillion or nanogram per litre (ng/L) range, which were well below any maximum acceptable daily intake for drinking water... an individual would have to drink thousands of glasses (250 ml) of drinking water a day to exceed an acceptable daily intake."

Recent Concerns:

- *Sewage is not discharged into Lake Ontario!*



Recent Concerns:

"Right now the Region is meeting the minimum requirements..."

However, the facts are...

- ***\$900 Million to upgrade the Duffin Creek WPCP***
- ***Duffin Creek WPCP is one of the most advanced facilities on open waters of Lake Ontario***
- ***Even lower discharge levels of phosphorus, ammonia and pharmaceuticals***
- ***Outfall EA modelling and ongoing sampling demonstrates minimal impact on water quality***

Recent Concerns:

"...many chemicals found in wastewater, such as personal care products, are not removed through treatment."

However, the facts are...

- Most wastewater treatment plants reduce concentrations of these compounds***
- Recently commissioned nitrification process at Duffin Creek WPCP being found even more effective at significantly lowering pharmaceuticals and other emerging contaminants***

Recent Concerns:

"...recent fast-tracking of the [Outfall EA] study..."

However, the facts are...

- ***The Regions are not fast-tracking EA process as original 2008 schedule estimated February 2013 end date***
- ***The following additional activities have also been included:***
 - ***Presentation to Town of Ajax Council***
 - ***Stakeholder advisory committee***
 - ***Additional Ajax/Pickering public meetings***
 - ***Water quality workshop***
 - ***Peer Review***
 - ***Tour of the Duffin Creek WPCP facility***

Next Steps:

- *Upcoming Outfall EA Events:*

<i>Water Quality Workshop</i>	<i>Nov. 2012</i>
<i>Stakeholder Advisory Committee Meeting #3</i>	<i>Nov. 2012</i>
<i>Pickering & Ajax Public Information Forums</i>	<i>Jan 2013</i>

Summary:

- *Duffin Creek WPCP is one of the most advanced on open waters of Lake Ontario*
- *Duffin Creek WPCP Schedule C Outfall EA not fast-tracked*
- *Duffin Creek WPCP is not the primary cause of nuisance Cladophora algae*
- *Dr. Auer peer review findings are not consistent with most up-to-date information*
- *Dr. Howell 2012 sampling to be included in Outfall EA*
- *Trace amounts of pharmaceuticals & other compounds significantly reduced by upgraded Duffin Creek WPCP*

Questions?

The Regional Municipality of Durham

MINUTES

**FINANCE & ADMINISTRATION, HEALTH & SOCIAL SERVICES,
PLANNING & ECONOMIC DEVELOPMENT AND WORKS COMMITTEES**

THURSDAY, OCTOBER 18, 2012

A Joint meeting of the Finance & Administration, Health & Social Services, Planning & Economic Development and Works Committees was held on Thursday, October 18, 2012, in the Lower Level Boardroom (LL-C), Regional Headquarters Building, 605 Rossland Road East, Whitby, Ontario at 9:30 a.m.

Present: Councillor Mitchell, Chair, Finance & Administration Committee
Councillor Chapman, Vice-Chair, Finance & Administration Committee
Councillor Collier
Councillor Diamond attended the meeting at 9:32 a.m.
Councillor Drew
Councillor Foster
Councillor O'Connell

Councillor Coe, Chair, Health & Social Services Committee, left the meeting at 11:15 a.m. due to municipal business
Councillor Clayton left the meeting at 12:30 p.m.
Councillor Neal
Councillor Parish
Councillor Rodrigues
Councillor Woo left the meeting at 1:32 p.m.

Councillor O'Connor, Chair, Planning & Economic Development Committee
Councillor Aker, Vice-Chair, Planning & Economic Development Committee
Councillor Bath
Councillor Drumm left the meeting at 11:50 a.m.
Councillor Henry left the meeting at 10:27 a.m. and returned at 1:02 p.m. due to municipal business
Councillor Novak

Councillor Pidwerbecki, Chair, Works Committee
Councillor Mercier, Vice-Chair, Works Committee, left the meeting at 1:10 p.m. and returned at 1:34 p.m.
Councillor Ballinger
Councillor Jordan
Councillor Marimpietri attended the meeting at 9:32 a.m.
Councillor McLean
Councillor Perkins attended the meeting at 9:32 a.m.

Regional Chair Anderson

Absent: Councillor England was absent on municipal business
Councillor Ryan was absent on municipal business

Staff

Present: G.H. Cubitt, Chief Administrative Officer
R.J. Clapp, Commissioner of Finance
C. Curtis, Commissioner of Works
C. Bandel, Committee Clerk, Clerk's Department
D. Bowen, Deputy Clerk, Clerk's Department
N. Chornobay, Director, Strategic Planning, Department of Planning and
Economic Development
J. Demanuele, Director of Support Services, Works Department
L. Fleury, Committee Clerk, Clerk's Department
M. Gaskell, Commissioner of Corporate Services
K. Gorman, Director, Environmental Health, Health Department
V. Guerreiro, Economic Analyst, Finance Department
R.J. Kyle, Commissioner & Medical Officer of Health
B. Laverick, Project Engineer, Works Department
S. Munns, Director of Corporate Communications
A. Naeem, Solicitor, Legal Department
J. Paquette, Manager, Communications (Works)
J. Presta, Director, Environmental Services, Works Department
B. Roy, Regional Solicitor
M. Seppala, Systems Support Specialist, Corporate Services Department
M. Simpson, Director of Financial Planning and Procurement, Finance Department
S. Siopis, Director of Transportation & Field Services, Works Department
T. Sloley, Manager, Plant Operations, Works Department
T. Fraser, Committee Clerk
C. Tennisco, Committee Clerk

Councillor Pidwerbecki, Chair of the Works Committee, assumed the Chair.

1. DECLARATIONS OF INTEREST

There were no declarations of interest.

2. PRESENTATIONS

- a) JOHN PRESTA, DIRECTOR, ENVIRONMENTAL SERVICES, REGARDING
THE DUFFIN CREEK WATER POLLUTION CONTROL PLANT, OUTFALL
AND LOCAL WATER QUALITY ISSUES

John Presta, Director of Environmental Services, Works Department, provided a PowerPoint presentation regarding the Duffin Creek Water Pollution Control Plant (WPCP) Outfall and Local Water Quality Issues. A copy of his presentation was provided as a handout.

J. Presta provided a brief overview of the history of the York Durham Sewage System (YDSS). He advised that the YDSS services the Regional Municipality of York and the City of Pickering and Town of Ajax in the Regional Municipality of Durham. He also advised that the YDSS replaced 12 water pollution control plants that were discharging into local waterways. He further advised that the YDSS was constructed in the 1970's, with operation starting in the 1980's, and resulted in significant improvement of the water quality in local waterways. J. Presta explained that the YDSS was built by the Province of Ontario and was acquired by Durham and York Regions in 1997 under the *Municipal Water and Sewage Transfer Act*. He also explained that generally 20% percent of the sewage treated is from Durham Region and 80% is from York Region.

J. Presta advised that the Stage 3 Expansion Environmental Assessment (Stage 3 EA) for the Duffin Creek WPCP was started in 2004 and received final approval from the Ministry of the Environment in 2007. He explained that the approval increased treatment capacity from 420 megalitres per day (ML/d) to 630 megalitres per day (ML/d) with enhanced phosphorus and ammonia removal. He also explained that the preliminary outfall modeling undertaken for the Stage 3 EA clarified the outfall capacity limitations and found the outfall met the Ministry of the Environment requirements to 560 ML/d. He noted that due to the limited Lake Ontario data available at that time for model calibration in the Stage 3 Expansion EA, the Ministry of the Environment made some conservative assumptions and reduced the discharge of effluent through the outfall to 520 ML/d. J. Presta outlined the effluent limits included in the Certificate of Approval before and after the Stage 3 Expansion. He stated that for ammonia previously there were no limits and now there are seasonal limits and for total phosphorus there is a 25% reduction in total loading and a 50% reduction in concentration at capacity limits. He added that a cap was put in place for daily total phosphorus loading of 311 kilograms per day (kg/d). He also displayed a photo of the recently built treatment facilities at the Duffin Creek WPCP.

J. Presta further advised that when the Ministry of the Environment issued the Certificate of Approval for the Stage 3 EA, there was a condition that the Regions of Durham and York were required to undertake an Outfall Environmental Assessment (EA). He explained that as part of the EA and in consultation with the Stakeholder Advisory Committee the following problem/opportunity statement was produced for the project:

"To identify and develop a preferred strategy to address the future capacity limitations of the existing outfall at the Duffin Creek WPCP that continues to protect the environment and human health."

J. Presta displayed a schematic of the Duffin Creek WPCP outfall and he advised that the existing outfall pipe is 1.1 kilometres in length and 3 metres in diameter. He explained that the Schedule C Municipal Class EA process which is being followed for the Outfall EA is very similar to the environmental assessments completed for other Water Pollution Control Plants. He also explained that activities above and beyond what is required for this type of EA include:

- A Stakeholder Advisory Committee
- Additional public information meetings in Ajax and Pickering
- Presentation to the Town of Ajax Council
- Tour of the Duffin Creek WPCP for all stakeholders
- Peer Review Team
- A proposed water quality workshop
- A project-specific website

J. Presta also advised that the list of the alternatives being carried forward include:

- Optimizing operations of the WPCP
- Modifying the existing outfall diffuser
- Providing tertiary treatment
- Extending the existing outfall diffuser
- Constructing a new outfall

J. Presta further advised that the current treatment capacity at the Duffin Creek WPCP is 630 ML/d and the current approval allows 520 ML/d with an allowance to increase to 540 ML/d. He stated that all of the alternatives would have a capacity of 630 ML/d, however if the alternative of constructing a new outfall is selected, the Region would have to make an allowance for future consideration of a Stage 4 expansion of the Duffin Creek WPCP which would increase the allowance to 890 ML/d. He also stated that a new EA would be required to expand the plant discharge beyond 630 ML/d. J. Presta outlined the percentage increase in capacity to 630 ML/d and he displayed a copy of the current Outfall EA schedule. He noted that the Outfall EA started in 2010 and completion is currently anticipated in the end of 2013.

J. Presta provided information related to local water quality and he explained that in terms of recreational beaches, E. Coli is the critical health-related indicator. He stated that Ontario beaches are posted when levels are above 100 counts of E.Coli per 100mL. He also stated that samples of effluent and

lake water near the Duffin Creek WPCP outfall have very low E. Coli counts and the most significant contributors of E. Coli are local stormwater discharges, surface runoff, animal feces and creek discharge. He displayed a graph of the 2011 results from the Duffin Creek WPCP and he noted that the levels are significantly below the beach posting in Ontario. He also displayed a map of the water quality sampling results for E. Coli conducted along the lakeshore of Ajax and Pickering in July 2008 and photos of the discharge from Duffins Creek. J. Presta further stated that other parameters of interest include phosphorus and ammonia. He explained that phosphorus is a nutrient and can contribute to nuisance algae growth, and un-ionized ammonia can be toxic to aquatic life. He displayed a map of the water quality results for total phosphorus along the lakeshore of Ajax and Pickering in July 2008. He also displayed a graph of the ammonia nitrogen levels versus the 2011 Duffin Creek WPCP effluent and he noted that the Duffin Creek WPCP is discharging below limits.

J. Presta advised that Cladophora algae is found all over the world. He also advised that its growth is limited by light and nutrients and it needs a hard surface to attach to. He further advised that past phosphorus reductions significantly reduced the growth of Cladophora algae and there was a resurgence in the 1990's. He added that Zebra Mussels are believed to be a significant factor in the resurgence of Cladophora algae.

J. Presta outlined recent studies regarding Cladophora including:

- *Urban influences on Cladophora blooms in Lake Ontario, Journal of Great Lakes Research, 2012;*
- *Monitoring, Modelling and Management of Nearshore Water Quality in the Ajax-Pickering Region of Lake Ontario, Dr. Martin Auer, 2011;*
- *Spatiotemporal patterns of water quality in Lake Ontario and their implications for nuisance growth of Cladophora, Journal of Great Lakes Research, 2010;*
- *Modelling and analysis of Cladophora dynamics and their relationship to local nutrient sources in a nearshore segment of Lake Ontario, University of Waterloo, 2009; and*
- *Research into the cause and possible control methods of increased growth of periphyton in the western basin of Lake Ontario, University of Waterloo/Ontario Clean Water Agency, 2009.*

J. Presta also advised that in the report by Dr. Martin Auer with respect to 2D modelling it states "It would be concluded from this analysis that... the Duffin WPCP should be the management target with respect to phosphorus and attendant nuisance algal growth". J. Presta added that Dr. Auer's statement does not agree with updated EA model results or the sampling data. He also displayed the modelling results for total phosphorus by Dr. Auer and the

baseline 3D modelling results for total phosphorus used in the Outfall EA which is accepted by the Ministry of the Environment. J. Presta stated that Dr. Auer's 2D modelling is not consistent with the recent Outfall EA modelling and is not consistent with the 2007-2009 sampling in Lake Ontario near the Duffin Creek WPCP outfall.

J. Presta further advised that there is a study currently underway by Dr. Todd Howell from the Ministry of the Environment. He explained that Dr. Howell is investigating how localized and regional nutrients affect the biomass of *Cladophora*. He stated that Durham and York Regions are providing data and assistance as participating stakeholders in the study. He also stated that Dr. Howell and Ministry staff have confirmed that the proposed study was not developed with the intention of addressing the Duffin Creek WPCP's outfall limitation issues. He further stated that the 2012 data gathered as part of this study is being presented by Dr. Howell to the Stakeholder Advisory Committee in November and will be referenced in the Outfall EA report. J. Presta also advised that other recent Lake Ontario water quality studies include: *Tributary phosphorus loading to Lake Ontario, Journal of Great Lakes Research, 2012*; and *Town of Ajax Master Plan Stormwater Retrofit Study, 2011*.

J. Presta also provided information related to pharmaceuticals and other emerging contaminants. He explained that pharmaceuticals and other emerging contaminants are at very low levels and wastewater treatment processes can remove or degrade many of these substances entering the WPCP. He also explained that in terms of human health risks, various studies have been undertaken and he displayed a chart of the Northeast Ohio Regional Sewer District Findings from the May 2011 WE&T Magazine, Water Environment Federation. He further advised that the World Health Organization 2011 Report states "The increase in reported detections of very low concentrations of pharmaceuticals... is mainly attributable to technological advances in the sensitivity and accuracy of detection equipment and analytical methods". He added that the World Health Organization has also stated "The current levels of exposure to pharmaceuticals in drinking-water also suggest that the development of formal guideline values for pharmaceuticals in the WHO Guidelines for Drinking-water Quality is unwarranted" and "Trace quantities of pharmaceuticals in drinking-water are very unlikely to pose risks to human health...". J. Presta also outlined statements from the Ontario Ministry of the Environment 2005-2006 study and the Ontario Ministry of the Environment.

J. Presta further spoke to recent concerns. He stated that sewage is not discharged into Lake Ontario and he displayed photos of raw influent to the WPCP and final effluent from the WPCP. He advised that \$900 million has or will be invested to upgrade the Duffin Creek WPCP. He also advised that

the Duffin Creek WPCP is one of the most advanced facilities on the open waters of Lake Ontario and will have even lower discharge levels of phosphorus, ammonia and pharmaceuticals from the Stage 3 EA. He further advised that the Outfall EA modeling and ongoing sampling demonstrates minimal impact on water quality. J. Presta also stated that the Regions are not fast-tracking the Outfall EA process and he noted that the original 2008 schedule estimated completion of the Outfall EA in February 2013. He added that additional activities have also been included in the Outfall EA.

J. Presta concluded by advising that upcoming Outfall EA events include a water quality workshop in November; Stakeholder Advisory Committee meeting #3 in November; and public information forums in Ajax and Pickering in January 2013. He also stated that in summary the Duffin Creek WPCP is one of the most advanced facilities on open waters of Lake Ontario; the Duffin Creek WPCP Outfall EA has not been fast-tracked; the Duffin Creek WPCP is not the primary cause of nuisance Cladophora algae; Dr. Auer's peer review findings are not consistent with most up-to-date information; Dr. Howell's 2012 sampling will be included in the Outfall EA; and trace amounts of pharmaceuticals and other compounds are significantly reduced by the upgraded Duffin Creek WPCP.

Staff responded to questions of the Committee with respect to the average flows coming from York and Durham to the Duffin Creek WPCP; the cost sharing agreement with York Region; sources of funding for the Duffin Creek WPCP; the size of the Duffin Creek WPCP and amount of effluent discharged in comparison to other WPCPs in Canada; the existing outfall pipe length; whether technology exists that would further reduce the loadings into Lake Ontario; the Stage 3 expansion effluent limits for the Duffin Creek WPCP; the Upper York Sewage Solution EA; the use of Actiflo treatment technology; if the Region is a member of the Great Lakes and St. Lawrence Cities Initiative; whether the Great Lakes and St. Lawrence Cities Initiative is concerned with Cladophora algae; whether other sources of pollution into Lake Ontario are being addressed; the use of stormwater management ponds; and whether a delay on the Duffin Creek WPCP Outfall EA will have any impact on the Port Perry water and wastewater master plan.

Staff also responded to questions with respect to the Outfall EA timeline; the possibility of extending the Outfall EA timeline; the timelines if a Part II Order is granted by the Minister; the Outfall EA list of alternatives; the new outfall alternative; the possibility of moving the outfall closer to nearshore; the possibility of extending the outfall out 3 kilometres; the public information meetings and whether any public input has been implemented in the EA process; and whether financial considerations are a part of the process.

Staff responded to further questions with respect to the 3D Model used in the Outfall EA; the study currently underway by Dr. Todd Howell of the Ministry of the Environment and how it will be included in the Outfall EA; the 2011 study completed by Dr. Martin Auer; whether there has been any study on the long-term health effects related to fish consumption; water quality sampling for E. Coli and total phosphorus; whether the increased capacity will have an impact on Cladophora growth and E. Coli levels; issues created by Cladophora; whether the Canada goose population is a contributing factor to E. Coli; regulation of the significant contributors to E. Coli; whether anything is being done to combat zebra mussels; the levels of pharmaceuticals and other contaminants in effluent; and the source of information related to pharmaceutical findings.

C. Curtis and J. Presta also responded to questions with respect to a proposed motion circulated by Councillor Jordan; what would be required to undertake a assimilative capacity and cumulative effects study; and the number of meetings held with the Town of Ajax and City of Pickering since the commencement of the Outfall EA.

Councillor Drumm suggested the possibility of Council receiving a tour of the Region's water and wastewater treatment plants.

Councillor Pidwerbecki vacated the Chair at 10:33 a.m. and resumed the Chair at 10:36 a.m. Councillor Mitchell chaired the meeting in his absence.

3. DELEGATIONS

- a) MR. BRUCE RODGERS, SENIOR ENVIRONMENTAL ENGINEER, ECOMETRIX INCORPORATED AND MR. PAUL ALLORE, DIRECTOR OF PLANNING DEVELOPMENT SERVICES, TOWN OF AJAX, REGARDING THE TOWN OF AJAX COMMENTS ON THE YORK DURHAM DUFFIN CREEK WATER POLLUTION CONTROL PLANT ENVIRONMENTAL ASSESSMENT

Mr. Bruce Rodgers, Senior Environmental Engineer, Ecometrix Incorporated, provided a PowerPoint presentation regarding the Duffin Creek Water Pollution Control Plant (WPCP) Outfall Environmental Assessment (EA). A copy of his presentation was provided as a handout. Mr. Paul Allore, Director of Planning Services, Town of Ajax, was also in attendance.

Mr. Allore advised that Mr. Rodgers has been retained by the Town of Ajax to peer review the technical reports related to the Duffin Creek WPCP Outfall EA. He also advised that Mr. Rodgers is an expert in water quality assessment and will be making the presentation on the Town of Ajax's behalf.

Mr. Rodgers advised that they wish to present their views on the material released to date and to present a case for more studies and more collaboration between the Town and Region. He also advised that a technical report has been prepared and will be released by the Town of Ajax on October 22, 2012. He stated that the report identifies 10 key issues which have been broken up into two categories, phosphorus related and process related. He explained that they see phosphorus as the key issue and in regards to process their issue is not having enough information or review, to participate in a collaborative way in the process. He also explained that on the technical side the report is looking at phosphorus and the interpretation of how the Ministry's policy objectives for phosphorus management are being addressed. Mr. Rodgers identified the following 10 key issues:

Phosphorus Related

- Mixing Zone Model – "Baseline"
- Reliance on 20:1 Dilution Ratio Criteria
- Substances in Effluent in Mixing Zone Impair Water Quality
- Odorous, Slippery Algae Fouling Shoreline
- WPCP Effluent is the Dominant Local Source of Phosphorus (Dr. Auer)
- No Provincial Nutrient Management Policy
- No Finite "Maximum Limit" on Capacity of WPCP

Process Related

- No Urgent Need to Finalize Outfall EA
- Piecemealing of EA
- EA Undertaking is Not Clear

Mr. Rodgers stated that it is well known that Cladophora is fouling the shorelines in Ajax and Durham. He also stated that scientists have determined that one of the significant factors affecting Cladophora growth is soluble reactive phosphorus (SRP). He added that they believe the decision on the outfall and discharge should be based on the best available science.

MOVED by Councillor Parish,

"THAT the Rules of Procedure be suspended in order to permit the delegation to speak for an additional 5 minutes.

CARRIED on a 2/3rds Vote

Mr. Rodgers further advised that there are two main water quality studies available to date, a 2009 University of Waterloo Study and 2011 Peer Review of Local Water Quality Data by Dr. Auer. He stated that the two studies have polarized views as to the cause of the problem and the Town feels the issue needs to be resolved and that time is required to resolve the difference. He

also advised that it is hoped that the Ministry of the Environment study of Lake Ontario currently underway will help inform the decision. He added that they also feel an assimilative capacity and cumulative effects study, specifically relating to soluble reactive phosphorus and the effects on Cladophora growth, should be part of the evaluation.

Mr. Rodgers also stated that Dr. Auer's study has presented that the vast majority of soluble reactive phosphorus that is released to the nearshore environment is directly attributed to the wastewater treatment plant. He added that the figure shows that 97% of the total soluble reactive phosphorus is attributed to the Duffin Creek WPCP, 2% is from Duffins Creek, and 1% is from all other sources.

Mr. Rodgers further stated that they think there is time available to complete these studies and for the Ministry of the Environment to complete their work and allow the information to inform this decision. He added that if the Ministry of the Environment study is not sufficient, they feel there are other studies that should be undertaken concurrently. Mr. Rodgers displayed a graph from CH2M Hill's Interim Report and he stated that the forecasted sewage flows show that the current capacity limit will not be reached until 2028.

Mr. Rodgers concluded by making the following two requests:

1. That staff meet with Town of Ajax representatives to establish a mutually-agreeable approach to resolving the Town's issues as part of the Outfall EA and report back to Joint Committee before the end of January 2013.
2. That the Outfall EA timeline be extended to ensure the Ministry of the Environment's current water quality study and the preparation of a comprehensive Assimilative Capacity and Cumulative Effects Study be completed and the findings be used to determine the best scientifically possible preferred alternative for the Duffin Creek WPCP outfall diffuser.

Mr. Rodgers and Mr. Allore responded to questions of the Committee.

The Committee recessed for lunch at 12:39 p.m. and reconvened at 1:02 p.m.

4. CORRESPONDENCE

- a) SC #2012-124 FROM MS. DEBBIE SHIELDS, CITY CLERK, CITY OF PICKERING, WRITING TO REGIONAL CLERK, PAT MADILL AND MR. DENNIS KELLY, REGIONAL CLERK, THE REGIONAL MUNICIPALITY OF YORK, ADVISING THAT AT THEIR MEETING HELD ON OCTOBER 15,

2012, THE COUNCIL OF THE CITY OF PICKERING ADOPTED THE FOLLOWING MOTION:

"WHEREAS THE CURRENT OUTFALL OF THE DUFFIN CREEK WATER POLLUTION CONTROL PLANT (WPCP) EXTENDS FROM THE ONSHORE FOR A DISTANCE OF APPROXIMATELY 1 KILOMETRE OFFSHORE UNDER THE BED OF LAKE ONTARIO; AND

WHEREAS CURRENT MINISTRY OF THE ENVIRONMENT (MOE) APPROVALS ALLOW EFFLUENT FLOWS TO BE RELEASED UP TO A LIMIT OF 520 MLD, AND DURHAM AND YORK REGIONS (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; AND

WHEREAS 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; AND

WHEREAS THROUGH THE OUTFALL EA PROCESS, THE REGIONS ARE REQUESTING TO BE ALLOWED TO RELEASE 630 MLD; AND

WHEREAS 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; AND

WHEREAS 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; AND

WHEREAS 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.

NOW THEREFORE BE IT RESOLVED THE COUNCIL FOR THE CORPORATION OF THE CITY OF PICKERING REQUEST THE REGIONS OF DURHAM AND YORK 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;

AND THAT COPY OF THIS RESOLUTION BE SENT TO THE MINISTRY OF THE ENVIRONMENT AND MPP JOE DICKSON AND MPP TRACY MACCHARLES."

MOVED by Councillor Perkins,

"THAT Standing Committee Correspondence Item SC #2012-124 from Ms. Debbie Shields, City Clerk, City of Pickering, be referred to staff for inclusion in the Environmental Assessment process."

CARRIED

5. COMMISSIONER'S REPORTS

- a) THE CLASS ENVIRONMENTAL ASSESSMENT (EA) TO ADDRESS OUTFALL CAPACITY LIMITATIONS AT THE YORK DURHAM DUFFIN CREEK WATER POLLUTION CONTROL PLANT, IN THE CITY OF PICKERING (2012-J-34)
-

Report #2012-J-34 from C. Curtis, Commissioner of Works, was received. A presentation was heard earlier in the meeting. [See Item 2. a) on pages 2 to 8 of these minutes.] A delegation was heard earlier in the meeting. [See Item 3. a) on pages 8 to 10 of these minutes.]

Councillor Jordan commented on the value of the Lake Ontario waterfronts and the steps taken by the Town of Ajax to improve and preserve the Ajax waterfront. She also spoke to the questions regarding Cladophora and she noted that the Town of Ajax would like to work collaboratively with the Region to resolve their issues.

Regional Chair Anderson indicated his support of having Regional staff continue to meet with the Town of Ajax during the EA process. He also expressed concern with respect to extending the timeline for the Outfall EA.

MOVED by Councillor Perkins,
"THAT we recommend to Council:

- a) THAT Joint Report #2012-J-34 of the Commissioner of Works be received for information; and
 - b) THAT a copy of Joint Report #2012-J-34 be forwarded to the Ministry of Environment, the Toronto Region Conservation Authority, the City of Pickering, the Town of Ajax, and the Regional Municipality of York."
- CARRIED AS AMENDED LATER IN THE
MEETING
(See Following Motions)

MOVED by Councillor Jordan,
"THAT the foregoing motion of Councillor Perkins be amended by re-lettering part b) to d) and adding new parts b) and c) which read as follows:

- 'b) THAT Regional staff meet with representatives of the Town of Ajax to establish a mutually-agreeable approach to resolving the Town's issues with the Duffin Creek WPCP Outfall Environmental Assessment and report back to Joint Committee before the end of January 2013;
- c) THAT the Outfall EA timeline be extended to ensure that the Ministry of Environment's current water quality study and the preparation of a comprehensive 'Assimilative Capacity and Cumulative Effects Study' be completed and that these findings be used to determine the best scientifically possible Preferred Alternative for the Duffin Creek WPCP's Outfall diffuser."

PART b) CARRIED AS AMENDED AND
PART c) DEFERRED LATER IN THE
MEETING
(See Following Motions)

MOVED by Regional Chair Anderson,
"THAT the foregoing motion of Councillor Jordan be amended by:

- i) Adding in new part b) the words 'continue to' before the word 'meet' and the words 'and City of Pickering' following the words 'Town of Ajax';

- ii) Replacing in new part b) the words 'establish a mutually-' with the words 'try to reach an' before the words 'agreeable approach'; and
- iii) Deleting new part c) in its entirety."
PARTS i) AND ii) CARRIED AND PART iii)
DEFERRED LATER IN THE MEETING
(See Following Motions)

Discussion ensued with respect to the amendments proposed by Councillor Jordan and Regional Chair Anderson.

MOVED by Councillor Parish,

"THAT the foregoing motion of Regional Chair Anderson be divided so as to allow voting on part iii) separately from the remainder."

CARRIED

The amending motion of Regional Chair Anderson [with the exception of part iii)] was then put to a vote and CARRIED.

MOVED by Councillor Parish,

"THAT the following new part c) be deferred until the report back to Joint Committee in 2013:

- 'c) THAT the Outfall EA timeline be extended to ensure that the Ministry of Environment's current water quality study and the preparation of a comprehensive 'Assimilative Capacity and Cumulative Effects Study' be completed and that these findings be used to determine the best scientifically possible Preferred Alternative for the Duffin Creek WPCP's Outfall diffuser.'."

CARRIED

The amending motion of Councillor Jordan [with the exception of new part c)] was then put to a vote and CARRIED AS AMENDED.

The main motion of Councillor Perkins was then put to a vote and CARRIED AS AMENDED.

The main motion, as amended, now reads as follows:

- a) THAT Joint Report #2012-J-34 of the Commissioner of Works be received for information;

- b) THAT Regional staff continue to meet with representatives of the Town of Ajax and City of Pickering to try to reach an agreeable approach to resolving the Town's issues with the Duffin Creek WPCP Outfall Environmental Assessment and report back to Joint Committee before the end of January 2013; and
- c) THAT a copy of Joint Report #2012-J-34 be forwarded to the Ministry of Environment, the Toronto Region Conservation Authority, the City of Pickering, the Town of Ajax, and the Regional Municipality of York."

This matter will be presented to Regional Council on Wednesday, October 31, 2012 as Item #1 of the 12th Report of the Joint Committees.

6. OTHER BUSINESS

There was no other business to consider.

7. ADJOURNMENT

MOVED by Councillor Collier,
"THAT the meeting be adjourned."
CARRIED

The meeting adjourned at 1:54 p.m.

T. Fraser, Committee Clerk

N. Pidwerbecki, Chair
Works Committee