



The Regional Municipality of Durham

COUNCIL INFORMATION PACKAGE

September 30, 2016

Information Reports

- [2016-INFO-23](#) Commissioner of Works – re: Acquisitions of Real Property Interests and Lease Extensions During the 2016 Summer Recess of Regional Council
- [2016-INFO-24](#) Commissioner of Works – re: Use of Delegated Authority During the 2016 Summer Recess of Regional Council
- [2016-INFO-25](#) Commissioner of Works – re: Durham York Energy Centre: Abatement Plan Update
- [2016-INFO-26](#) Commissioner of Works – re: Durham York Energy Centre: Boiler Performance Comparison
- [2016-INFO-27](#) Commissioner of Planning and Economic Development – re: Durham Agricultural Advisory Committee, 2016 Farm Tour
- [2016-INFO-28](#) Commissioner of Finance – re: The Consolidated Budget Status Report to August 31, 2016 and Full Year Forecast

Early Release Reports

There are no Early Release Reports.

Staff Correspondence

1. [Memorandum from Hugh Drouin](#), Commissioner of Social Services – re: Wait List for Child Care Fee Subsidy
2. [Memorandum from Susan Siopis](#), Commissioner of Works – re: Durham York Energy Centre: Responses to Ms. Bracken and Ms. Gasser Delegations

Durham Municipalities Correspondence

1. [Town of Whitby](#) – Resolution adopted at their Council meeting held on September 19, 2016, regarding Town of Whitby Comments on Draft 2017 Region of Durham Road Program and 9-Year Forecast

Other Municipalities Correspondence/Resolutions (For Information)

1. [Town of Aurora](#) – writing to the Honourable Kathleen Wynne, Premier of Ontario, regarding a resolution adopted at their Council meeting held on September 13, 2016 with respect to Ontario Municipal Board (OMB) Reform Update.
2. [Halton Region](#) – circulating a resolution adopted at their Council meeting held on September 14, 2016 with respect to the Coordinated Provincial Plan Review.

Miscellaneous Correspondence (For Information)

1. [Ms. Linda Gasser](#), Whitby resident, e-mailing a copy of the Ministry of the Environment and Climate Change's (MOECC) response to 3 specific concerns re: Durham York Energy Centre Abatement Plan, Phase 2, and Boiler 1 Restart.
2. [Toronto and Region Conservation Authority \(TRCA\)](#) advising Resolution #A139/16 was approved at their meeting held on September 23, 2016, regarding the Provincial Four-Plan Review.
3. [Toronto and Region Conservation Authority \(TRCA\)](#) advising Resolution #AA142/16 was approved at their meeting held on September 23, 2016, regarding TRCA Wetland Balance Monitoring Protocol.

Advisory Committee Minutes (For Information)

1. Durham Agricultural Advisory Committee (DAAC) minutes – [September 6, 2016](#)

Action Items from Council (For Information Only)

Action Items from Committee of the Whole and Regional Council meetings - [click here](#)

Members of Council – Please advise the Regional Clerk at clerks@durham.ca by 9:00 AM on the Monday one week prior to the next regular Committee of the Whole meeting, if you wish to add an item from this CIP to the Committee of the Whole agenda.

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 3540.



The Regional Municipality of Durham Report

From: Commissioner of Works
Report: #2016-INFO-23
Date: September 30, 2016

Subject:

Acquisitions of Real Property Interests and Lease Extensions During the 2016 Summer Recess of Regional Council

Recommendation:

Receive for information

Report:

1. Purpose

1.1 This report provides details on the property acquisitions which concluded during the 2016 Regional Municipality of Durham (Region) Council summer recess period which exceeded \$50,000. The report also outlines lease extensions that were finalized and executed over the recess period. Dollar amounts followed by an asterisk (*) are before applicable taxes.

2. Background

2.1 Section 16 of the Region's Budget Management Policy details the delegation of authority during a recess of Regional Council. In accordance with the requirements of this section, a report providing the details of real property interests acquired and leases entered into, or extended, during the recess period is to be presented to the Committee of the Whole and Regional Council within 30 days after the recess period.

3. Land Acquisition During Council Recess

3.1 Section 16.6 of the Budget Management Policy authorizes the Commissioner of Works to approve the acquisition of real property interests exceeding the \$50,000 threshold, subject to the approval of the appropriate funding by the Commissioner of Finance.

Pringle Creek Water Pollution Control Plant (WPCP) Demolition Project – Victoria Street East, Town of Whitby

- 3.2 The vacant property is located on the north side of Victoria Street East, to the east of the Pringle Creek WPCP. To accommodate the decommissioning of the plant, the Region purchased 1.93 acres (7,810.43 square metres) from the Ministry of Transportation (MTO) to allow for the construction a 450 mm sanitary sewer through this property to connect to the existing sanitary sewerage infrastructure.
- 3.3 The subject property was valued using the current conservation and industrial land rates based on recent sales in the Region of Durham, resulting in a negotiated price of \$57,200*.

4. Lease Extensions During Council Recess

- 4.1 Section 16.5 of the Budget Management Policy states that to facilitate the negotiation and approval of leases considered to be material (i.e. extension beyond the terms and/or annual payments \$150,000 or greater) during a recess of Regional Council, the Commissioner of Finance is authorized to act on behalf of Regional Council, subject to the agreement of the applicable Department Head and Chief Administrative Officer and the availability of sufficient funding. The Commissioner of Finance is then authorized to execute any resultant leases required.

Michael and Dikran Kassadian, Region of Durham Paramedic Services, 9 St. George Street, Bowmanville

- 4.2 Region of Durham Paramedic Services (RDPS) has been operating out of the station located at 9 St. George Street in Bowmanville since 2006. The space contains an area of approximately 235.56 square metres (2,535.55 square feet). With the original lease set to expire on October 31, 2016 and the operation continuing to work well for both parties, RDPS wished to extend the Lease Agreement for a five year term commencing November 1, 2016 and ending October 31, 2021 with an option to renew for an additional three year term.
- 4.3 The rental rate for the term of the lease is \$27,891* per annum based on a rate of \$118.40* per square metre (\$11.00* per square foot) per annum. This represents an increase of \$1,902* per annum, or \$8.07* per square metre (\$0.75* per square foot). The Region will continue to be responsible for all operating costs for the building and the leased premises including 2/3 of the property taxes.

Central Lake Ontario Conservation Authority (CLOCA), Former Darlington Landfill Site

- 4.4 The former Darlington Landfill site is comprised of 20 acres (80,957.36 square metres) of land and is located on the north side of Regional Road 20, approximately 2.4 kilometres (1.5 miles) east of Regional Road 57. This site was officially closed as a landfill site on December 31, 1987. CLOCA has been leasing the former landfill site for a nominal sum since 1995 for recreational purposes.

- 4.5 The current Extension of Lease Agreement was valid until August 31, 2016 and CLOCA advised that it wished to extend the Agreement beyond this date. The Extension of Lease agreement with CLOCA will be for a two year term commencing September 1, 2016, and terminating on August 31, 2018.
- 4.6 CLOCA is responsible for all costs and expenses relating to the ongoing maintenance and operation of the site. The Extension of Lease Agreement also provides CLOCA with the right to license part of the site to a model airplane club.
- 4.7 The Region continues to be responsible for all costs and expenses arising from any previous landfill activity on the lands, with CLOCA indemnifying the Region against any claims which may arise as a result of their use of the lands. The Region has the right to terminate this Agreement upon six months prior written notice.

5. Financial Implications

Pringle Creek WPCP Demolition Project – Victoria Street East, Town of Whitby

- 5.1 Financing for this property purchase is available within the approved project budget (Project W1312).

Michael and Dikran Kassadian, Durham Region Paramedic Services, 9 St. George Street, Bowmanville

- 5.2 Financing of this Extension of Lease Agreement will continue to be provided within the Region of Durham Paramedic Services Operating Budget for this facility.

CLOCA, Former Darlington Landfill

- 5.3 CLOCA continues to lease this property from the Region for a nominal sum.

6. Conclusion

- 6.1 The land purchase for the Pringle Creek Water Pollution Control Plant Demolition Project and lease extensions described within this report were completed during the 2016 Regional Council summer recess.
- 6.2 This report has been reviewed by the Finance Department.

7. Attachments

Attachment #1: Map – Property of Interest, Pringle Creek Water Pollution Control Plant Demolition Project, Victoria Street East, Town of Whitby

Original signed by

Susan Siopis, P.Eng.
Commissioner of Works

401 Highway

N

Property of Interest

Victoria Street

**Attachment #1
Property of Interest
Pringle Creek Water Pollution
Control Plant Demolition Project
Victoria Street East
Town of Whitby**

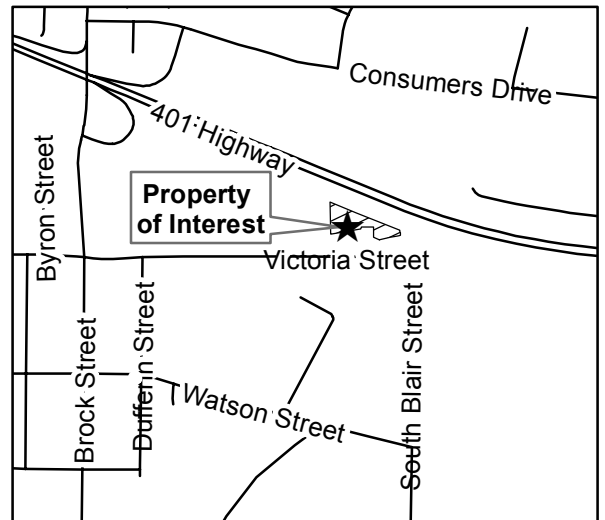


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Date: 9/14/2016

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The Regional Municipality of Durham Report

From: Commissioner of Works
Report: #2016-INFO-24
Date: September 30, 2016

Subject:

Use of Delegated Authority During the 2016 Summer Recess of Regional Council

Recommendations:

Receive for information

Report:

1. Purpose

1.1 This report provides details related to the use of delegated authorities during the 2016 Regional Council summer recess period in accordance with the Regional Municipality of Durham's (Region) Budget Management Policy.

2. Background

2.1 Section 16.0 of the Region's Budget Management Policy details the delegation of authority during a recess of Regional Council. In accordance with the requirements of this section, a report providing the details of the awards, amendments and unbudgeted capital acquisitions made during the recess period is to be presented to the Committee of the Whole within 30 days after the recess period. Dollar amounts followed by an asterisk (*) are before applicable taxes.

3. Requests for Additional Project Financing During Summer Recess

3.1 Section 16.1 of the Region's Budget Management Policy authorizes the Treasurer to recommend project financing to the Regional Chair and Chair or Vice Chair of the applicable Standing Committee for approval during a recess of Regional Council.

3.2 Section 16.2 of the Region's Budget Management Policy authorizes the Regional Chair or Chief Administrative Officer and the Chair or Vice-Chair of the applicable standing committee to approve the acquisition of unbudgeted capital over \$25,000

during a recess of Regional Council.

Additional Financing Required for the Replacement of a Sanitary Sewer within the West Shore area, in the City of Pickering

- 3.3 This project includes sanitary sewer upgrades to mitigate basement flooding in the West Shore neighbourhood. Due to deteriorating pavement conditions on the effected streets, the City of Pickering is cost sharing on this project to include full road reconstruction.
- 3.4 Bid submissions were reviewed for Contract D2016-016 and based on the results of the tender process additional financing of \$180,000 was required.
- 3.5 The additional financing was recommended by the Commissioners of Works and Finance to the Chief Administrative Officer and the Chair of the Works Committee who authorized this request.

Additional Financing Required for the Rehabilitation and Intersection Improvements on Regional Road 57, in the Municipality of Clarington

- 3.6 This project includes rehabilitation of Regional Road 57 from 160 metres north of Regional Road 3 to 260 metres north of Regional Road 20 and 250 metres east and west of Regional Road 57 on Regional Road 20/Concession 9. The intersection of Regional Road 57 and Regional Road 20 will be reconstructed to accommodate new traffic signals and dedicated left and right turn lanes in all directions.
- 3.7 Bid submissions were reviewed for Contract D2016-008 and based on the results of the tender process additional financing of \$200,000 was required to award this contract.
- 3.8 The additional financing was recommended by the Commissioners of Works and Finance to the Chief Administrative Officer and the Chair of the Works Committee who authorized this request.

Unbudgeted Sanitary Sewer Replacement in Conjunction with the Bus Rapid Transit Construction on Kingston Road (Regional Road 2) from West of Steeple Hill Plaza to Delta Boulevard, in the City of Pickering

- 3.9 As part of the design for the widening of Kingston Road to accommodate exclusive bus and bike lanes, it has been determined that the 200 millimetre sanitary sewer crossing Kingston Road at Delta Boulevard is in poor condition and close to failure. It is recommended that this portion of sanitary sewer be replaced prior to the reconstruction of the roadway.
- 3.10 The approved project budget did not include funding for the replacement of the sanitary sewer. Approval for the unbudgeted capital work was required to include this work in the contract for the reconstruction of the roadway.

- 3.11 The unbudgeted sewer replacement and related financing was recommended by the Commissioners of Works and Finance to the Chief Administrative Officer and the Chair of the Works Committee who authorized this request.

Additional Financing Required for Town of Whitby Contract to Replace Sanitary Sewers and Watermain along Watson Street, in the Town of Whitby

- 3.12 The Town of Whitby is reconstructing Watson Street from Brock Street to Dufferin Street in 2016. The sanitary sewer and watermain along Watson Street have experienced multiple breaks and are showing structural failures.
- 3.13 Funding for the replacement of the sanitary sewer and watermain along Watson Street was approved within the 2016 Water Supply and Sanitary Sewerage Capital budget.
- 3.14 Whitby Contract T-3-2016 was tendered in July 2016 and based on the result of the tender process additional financing in the amount of \$68,000 was required.
- 3.15 The additional financing was recommended by the Commissioners of Works and Finance to the Chief Administrative Officer and the Chair of the Works Committee who authorized this request.

Additional Financing Required for Reconstruction of Rossland Road from West of Civic Centre Drive to Garden Street, in the Town of Whitby

- 3.16 This project includes widening Rossland Road from a four-lane to a five-lane cross section to accommodate additional left turn lanes, construction of a new multi-use path, upgrading signals at the Regional Headquarters entrance, the augmentation of storm sewers and associated work.
- 3.17 The total estimated pre-tender cost for this project exceeded the approved project budget. Additional financing in the amount of \$1,280,000 was required to allow for tender and construction of this project in 2016.
- 3.18 The additional financing was recommended by the Commissioners of Works and Finance to the Chief Administrative Officer and the Regional Chair who authorized this request.

4. Amendments to Professional, Consulting, Engineering and Architectural Service Agreements During Summer Recess

- 4.1 Section 16.8 of the Region's Budget Management Policy authorizes the appropriate Department Head, the Commissioner of Finance and the Chief Administrative Officer to approve amendments to professional, consulting, engineering and/or architectural service agreements during the recess period, subject to the approval of the appropriate funding by the Commissioner of Finance in accordance with the established procedures and the provisions of the Purchasing By-Law.

Additional Engineering Services Awarded to GHD Limited for the John Mills Bridge Rehabilitation Project, in the Town of Ajax

- 4.2 The Region retained GHD Limited (GHD) as the consultant for the rehabilitation of John Mills Bridge. This work includes concrete deck overlay, superstructure replacement of the north half of the deck, constructing new barrier walls, replacing bearings and other associated work.
- 4.3 Additional consulting services are required to provide additional analysis and sampling to confirm structural integrity of five (5) steel girders and for additional design for a portion of the bridge where it was determined that the replacement was required instead of rehabilitation.
- 4.4 This additional work is necessary to allow this project to proceed to tender.
- 4.5 The original upset limit of \$119,340* has been increased by \$85,000*, resulting in a revised upset limit of \$204,340* including disbursements. The additional financing can be provided from within the approved project budget (Project R1528).
- 4.6 This amendment to the engineering services agreement with GHD was approved by the Commissioner of Finance and the Chief Administrative Officer.

5. Financial Implications

Additional Financing Required for the Replacement of a Sanitary Sewer within the West Shore area, in the City of Pickering (Project D1503)

- 5.1 Financing for Contract D2016-016 for sanitary sewer replacement within the West Shore area in the amount of \$180,000 was provided as follows:

Sanitary Sewerage Capital Budget

Harmony Creek WPCP Upgrades and P2 Plan Requirements (Project D1523)

Additional Financing Required for the Rehabilitation and Intersection Improvements on Regional Road 57, in the Municipality of Clarington (Project R1521)

- 5.2 Financing for Contract D2016-008 for road rehabilitation and intersection improvements on Regional Road 57 in the amount of \$200,000 was provided as follows:

2016 Roads Capital Budget

Item 109 – Road Resurfacing / Rehabilitation Other Locations (Project R1699)

Unbudgeted Sanitary Sewer Replacement in Conjunction with the Bus Rapid Transit Construction on Kingston Road (Regional Road 2) from West of Steeple Hill Plaza to Delta Boulevard, in the City of Pickering (Project H1031)

5.3 Financing in the amount of \$100,000 was provided as follows:

2016 Sanitary Sewerage Capital Budget

Item 17 – Works to rectify identified system deficiencies independent of road programs in various locations (Project M1699)

Additional Financing Required for Town of Whitby Contract to Replace the Sanitary Sewer and Watermain along Watson Street, in the Town of Whitby (Project W1699)

5.4 Financing in the amount of \$68,000 was provided as follows:

2016 Water Supply Capital Budget

Item 21i – Allowance for unknown requirements in conjunction with area municipality road program in various locations (Project M1603)	\$15,000
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2016 Sanitary Sewerage Capital Budget

Item 123 – Allowance for unknown requirements (Project M1609)	<u>\$53,000</u>
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Total Additional Financing	<u>\$68,000</u>
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Additional Financing Required for Reconstruction of Rossland Road from West of Civic Centre Drive to Garden Street, in the Town of Whitby (Project R1203)

5.5 Financing in the amount of \$1,280,000 was provided as follows:

Roads Capital Budget

Item 109 – Road Resurfacing/Rehabilitation Other Locations (Project R1699)	\$500,000
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Item 121 – Contingencies – Development Related (Project M1630)	\$300,000
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Item 111 – Signal Installation Program (Project M1621)	\$180,000
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Bayly Street – Shoal Point to Seaboard Gate (Project R0603)	<u>\$300,000</u>
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Total Additional Financing	<u>\$1,280,000</u>
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6. Conclusion

- 6.1 In accordance with the Regional Budget Management Policy, Committee of the Whole and Regional Council are to be advised of the award and amendment of professional, consulting, engineering and/or architectural services agreements, project financing, sole source negotiations and unbudgeted capital works during the 2016 summer recess period.
- 6.2 This report has been reviewed by the Finance Department.

Respectfully submitted,

Original signed by

Susan Siopis, P. Eng.,
Commissioner of Works



The Regional Municipality of Durham Information Report

From: Commissioner of Works
Report: #2016-INFO-25
Date: September 30, 2016

Subject:

Durham York Energy Centre: Abatement Plan Update

Recommendation:

Receive for information

Report:

1. Purpose

1.1 This report provides an update on the Durham York Energy Centre (DYEC) Abatement Plan implementation.

2. Background

2.1 On August 5, 2016, the Ministry of the Environment and Climate Change (MOECC) accepted that the DYEC Abatement Plan Phase One activities had been completed. The Abatement Plan, prepared by Covanta, and the technical report on the Abatement Plan Phase One status, prepared by the Owners' consultant, was provided to the MOECC. The MOECC acceptance allowed the Phase Two activities to begin, including the start-up of Boiler #1, which occurred that evening.

2.2 The Abatement Plan Phase Two investigation and diagnostics include further testing, inspections, and monitoring of several operating parameters which will provide additional insight into the conditions that created the dioxins and furans exceedence. The Owners have prepared the following tentative schedule for Phase Two activities with estimated timelines. However, this schedule will be dependent upon availability of consultants, laboratory schedules, and testing contractors.

3. Schedule for Phase 2

Ongoing Activities

- 3.1 An ongoing review and verification of the DYEC Standard Operating Procedures (SOPs) commenced with the start-up of Boiler # 1. These SOPs are also being applied to the Boiler #2 operations. All Abatement Plan SOPs are being followed as noted by the field checklists. Covanta continue to incorporate lessons learned and improvements into the SOPs.
- 3.2 The laboratory interference investigation by Maxxam (lab) and Covanta is ongoing and will be completed and any findings implemented prior to the start of the Compliance Source Test.

Completed Activities

- 3.3 Comprehensive Parametric Testing, which included the internal gas recirculation system, testing samples of Air Pollution Control (APC) residual ash, raw carbon, hydrated lime and the quenching tower spray water and wetting mixer for both Boilers #1 and #2 was completed August 23 through August 26. A new infrared camera was purchased and is now being utilized to review hopper temperatures for potential plugs.
- 3.4 The following inspections/cleaning was performed on Boiler #2 during the August 30 cleaning planned outage:
 - a. Quench tower spray lance was inspected and changed out (one plugged nozzle was found).
 - b. Quench tower was inspected and then cleaned.
 - c. Both fly ash recirculation wetting mixers were inspected and then cleaned.
 - d. Full baghouse inspection was completed and no pluggage was found.
 - e. Baghouse visolite inspection was completed and no bag leaks were detected.
 - f. Quench tower crusher was inspected and cleaned.
 - g. Reactor diverter gate was inspected (no issues found).
 - h. Reactor was inspected and cleaned.
 - i. Second pass hopper, super heaters, and economizer tubes were stick blasted.
 - j. Combustion air fan inlet screen (above the feed chute) was cleaned.
 - k. Boiler under fire air heaters was inspected (no plugging noted).
- 3.5 The Relative Accuracy Test Audit (RATA) of continuous emissions monitors on both Boilers #1 and #2 was completed September 11 through September 18.

- 3.6 Conducted diagnostic Source Test program, including two to three test runs at up to four selected operating conditions (testing at the inlet to the APC system and at the outlet to the stack), the weeks of September 19 and September 26. This testing was conducted on Boiler #1 and Boiler #2 for dioxins and furans.

Future Activities

- 3.7 Submit all diagnostic test samples as a single source test program to Maxxam for analysis (under expedited conditions, two weeks is required to complete the sample preparation and laboratory analysis): October 2 through October 16.
- 3.8 Once diagnostic source test demonstrates compliant results, then operating conditions will be selected which provide the best boiler performance and be applied to both Boiler #1 and Boiler #2.
- 3.9 Conduct full compliance test in conformance with Environmental Compliance Approval (ECA) requirements on both Boiler #1 and Boiler #2 the weeks of October 24 and October 31.
- 3.10 Following the compliance source testing, two weeks will be required for the laboratory analysis. This tentative schedule anticipates the receipt of the Source Test results by early November.
- 3.11 The fulfillment of the Abatement Plan will only be achieved with the successful completion of a Compliance Source Test.

4. Conclusion

- 4.1 As directed by Regional Council, the Regional Municipality of Durham's technical team will be monitoring the conducting of testing and laboratory analysis including the evaluation of the long term sampling system (AMESA) cartridges.
- 4.2 The cost of the Abatement Plan and Source Test activities are the responsibility of Covanta. Additional costs for the services of the Owners' technical experts for third party oversight and increased monitoring (ambient air and soil) total \$210,000. These costs were identified in the recent Durham York Energy Centre Construction Update Report (2016-COW-18).
- 4.3 Covanta must complete the Compliance Source Test within this calendar year in order to meet the Environmental Compliance Approval requirements. Therefore, there is little room for delay in the proposed schedule. Staff will report back to Regional Council once the Source Test report has been submitted for review.

4.4 This report has been reviewed by Corporate Services – Legal Services.

Respectfully submitted,

Original signed by

Susan Siopis, P.Eng.
Commissioner of Works



The Regional Municipality of Durham Information Report

From: Commissioner of Works
Report: #2016-INFO-26
Date: September 30, 2016

Subject:

Durham York Energy Centre: Boiler Performance Comparison

Recommendation:

Receive for information.

Report:

1. Purpose

1.1 This report provides information on the Durham York Energy Centre (DYEC) performance comparison between Boiler #1 and Boiler #2.

2. Background

2.1 HDR was tasked to review the operating history of the boilers at the DYEC to compare the performance of Boiler #1 to Boiler #2 since initial startup in February 2015.

2.2 As part of the analysis, HDR reviewed operations data from Covanta and focused on boiler downtime frequency and duration, steam production data, and environmental performance.

3. Boiler Performance Comparison Summary

- 3.1 The availability of Boilers #1 and #2 during the period analyzed was 79.3 per cent and 80 per cent, respectively. The availability in this case is defined as the actual hours a boiler/unit is available to process waste during a period divided by the total hours during that period.
- 3.2 The total unscheduled downtime for the two units is similar, at 800 hours for Boiler #1 and 740 hours for Boiler #2.
- 3.3 During this period, the total steam production for Boiler #1 was 279 mega tonnes compared to 281 mega tonnes for Boiler #2 (less than a one per cent difference).
- 3.4 When the boilers were online (based on a steam flow greater than 25 per cent MCR), the boiler steam flows averaged 31,864 kilograms/hour (kg/hr) for Boiler #1 and 31,791 kg/hr for Boiler #2 versus the design boiler maximum continuous rating (MCR) of 33,640 kg/hr.
- 3.5 During the online periods, the boiler outlet oxygen (O₂) was 8.36 per cent and 8.39 per cent for Boiler #1 and #2 respectively, indicating the overall combustion controls were similar.
- 3.6 Overall, the environmental performance related to the continuously monitored parameters is very similar.

4. Conclusion

- 4.1 Based on HDR's review, other boiler components are installed in a similar manner and the boilers would be expected to operate similarly. Typically HDR has observed that there can be (and typically are) subtle differences between "identical" operating units at a given facility.
- 4.2 HDR does not see any significant difference between Boiler #1 and Boiler #2 for either the causes or frequency of shutdowns. However, the high number of outages and low overall availability for both boilers does not meet HDR's expectations for a facility of this type and age (versus the contractual guarantee for availability of 90 per cent and the typical energy-from-waste industry average for availability of >90 per cent). While in the commercial operations phase, Covanta must meet their contractual obligation to ensure the DYEC operates at 90 per cent availability or higher.

5. Attachments

Attachment #1: Boiler #1 and Boiler #2 Performance Comparison Memo

Respectfully submitted,

Original signed by

Susan Siopis, P.Eng.
Commissioner of Works



Technical Memo

Date: Friday, September 23, 2016

Project: Durham York Energy Centre (DYEC)

To: Mirka Januszkiewicz, PEng, Regional Municipality of Durham

Laura McDowell, PEng, Regional Municipality of York

From: Bruce Howie, PE, HDR Corporation (HDR) -
John Clark, PE (HDR) -

Subject: **Durham York Energy Centre (DYEC)**
Boiler #1 and Boiler #2 Performance Comparison

HDR Corporation (HDR), as the technical consultant for the Regional Municipalities of Durham and York (the Regions) was asked to review the operating history of the boilers at the DYEC to compare the performance of Boiler #1 to Boiler #2 since initial startup in February 2015. Boiler #1 commenced operation on February 13, 2015; however, due to some data collection issues, the period for this analysis was February 23, 2015 through May 26, 2016. May 26, 2016 was selected as the end date for this analysis since this is the date Boiler #1 was shutdown after the results showing a dioxin/furan exceedance in this unit were validated. As part of our analysis, HDR reviewed operations data from Covanta and focused on boiler downtime frequency and duration, steam production data, and environmental performance.

Summary of Boiler Operating Performance

Based on HDR's review of the available data, there has been very little difference in the operating performance of Boiler #1 versus Boiler #2 during this period. Some of HDR's observations include the following:

- The availability of Boilers #1 and #2 during the period analyzed was 79.3% and 80.0%, respectively. The availability in this case is defined as the actual hours a boiler/unit is available to process waste during a period divided by the total hours during that period.
- The total unscheduled downtime for the two units is similar, at 800 hours for Boiler #1 and 740 hours for Boiler #2.
- During this period, the total steam production for Boiler #1 was 279 megatonnes compared to 281 megatonnes for Boiler #2 (less than a 1% difference).
- When the boilers were online (based on a steam flow greater than 25% MCR), the boiler steam flows averaged 31,864 kg/hr for Boiler #1 and 31,791 kg/hr for Boiler #2 versus the design boiler maximum continuous rating (MCR) of 33,640 kg/hr.
- During the online periods, the boiler outlet oxygen (O₂) was 8.36% and 8.39% for Boiler #1 and #2 respectively, indicating the overall combustion controls were similar.
- There are slight differences in the design of combustion control systems between the two units; specifically, the current Internal Gas Recirculation (IGR) port configurations (i.e. the VLN™ System) are slightly different. Boiler #1 has a "stitched" nozzle configuration with alternating nozzle diameters of 40 mm and 50 mm, while Boiler #2 has "stitched" nozzles with 40 mm and 70

mm diameter nozzles. This will change the velocity of the IGR entering the boiler (higher velocity on Boiler #1) and may have an impact on combustion control.

Based on HDR's review, other boiler components are installed in a similar manner and the boilers would be expected to operate similarly. Typically HDR has observed that there can be (and typically are) subtle differences between "identical" operating units at a given facility. A summary of the operating history is shown in Table 1:

TABLE 1 – Summary of DYEC Operating Data

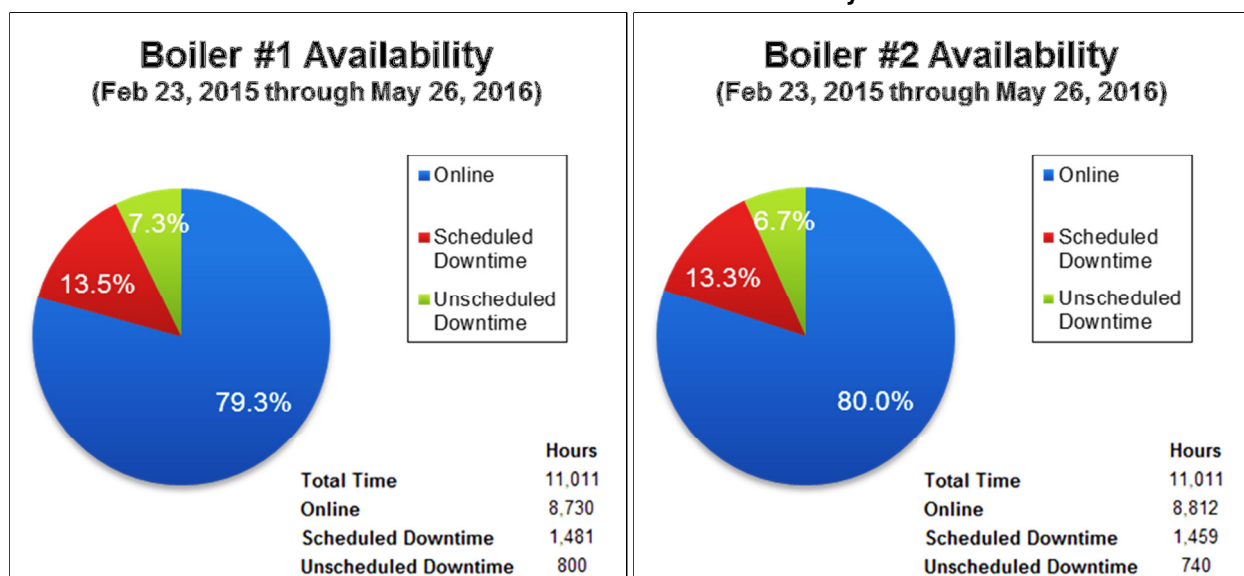
Operations Data Summary*	Unit 1	Unit 2
Total Hours Since 2/23/15	11,011	11,011
Total Time Online**	8,730	8,812
Total Downtime	2,281	2,199
Unit Availability**	79.3%	80.0%
Total Unscheduled Downtime	800	740
Total % Unscheduled Downtime	7.3%	6.7%
Total No. of Outages	27	21
Total Steam (megatonnes)	279	281
Total Online Steam (megatonnes)**	278	280
Average Online Steam (kg/hr)**	31,864	31,791
Avg. Online % Oxygen**	8.36%	8.39%

* Data for period from February 23, 2015 through May 26, 2016

** Criteria for "online" - Boiler Operations over 25% MCR

The percentage of unscheduled to scheduled downtime events was similar for both units. Scheduled downtime accounted for approximately two-thirds of the total downtime for both boilers, as shown in Figure 1.

FIGURE 1 – DYEC Boiler Availability



Major work completed during the scheduled outages included: the removal of the Convective Zone (CZ) tubes in the 3rd pass of both boilers and repairs to the Air Cooled Condenser (ACC) in July 2015, the replacement of waterwall tubes in the 1st pass of both boilers in November/December 2015, and the 2016 winter outages.

Unscheduled outages have accounted for approximately 800 hours of downtime on Boiler #1 and 740 hours on Boiler #2. Forced outages to clear CZ hopper pluggage, the hopper between the 2nd and 3rd pass, have been the leading cause of unscheduled boiler downtime for both boilers. For this analysis, outages associated with the Bypass Pressure Control Valve (PCV-003) and the rupture disc on the steam bypass line have been combined into a single downtime event, as these issues are closely related. The PCV-003/Rupture Disc was the second highest cause for unscheduled downtime on both units. The balance of the unscheduled outages is summarized in Table 2, and Figures 2 and 3 below.

TABLE 2 – DYEC Boiler Downtime Analysis

Boiler #1			Boiler #2		
	Hours			Hours	
Total Since 3/23/15	11,011		Total Since 3/23/15	11,011	
Online	8,730	79.3%	Online	8,812	80.0%
Total Downtime	2,281	20.7%	Total Downtime	2,199	20.0%
Scheduled	1,481	13.5%	Scheduled	1,459	13.3%
Unscheduled	800	7.3%	Unscheduled	740	6.7%

Downtime Event	Hours	% of Total Downtime	Downtime Event	Hours	% of Total Downtime
Scheduled outage	1,481	64.9%	Scheduled Outage	1,459	66.3%
CZ Hopper Pluggage	260	11.4%	CZ Hopper Pluggage	267	12.1%
Rupture Disc/PCV-003	173	7.6%	Rupture Disc/PCV-003	237	10.8%
Low Pit Inventory	75	3.3%	ACC Freeze	55	2.5%
Fly Ash Plug	58	2.5%	Fly Ash Plug	48	2.2%
ACC Freeze	57	2.5%	Unspecified	37	1.7%
Drum Gasket	53	2.3%	Steam Trap	32	1.5%
Unspecified	44	1.9%	Water Volume	29	1.3%
Grid Trip	43	1.9%	Ash Discharger Plug	24	1.1%
Steam Trap	24	1.1%	Grid Trip	11	0.5%
Staffing	13	0.6%			

FIGURE 2 – DYEC Boiler #1 Downtime Breakdown

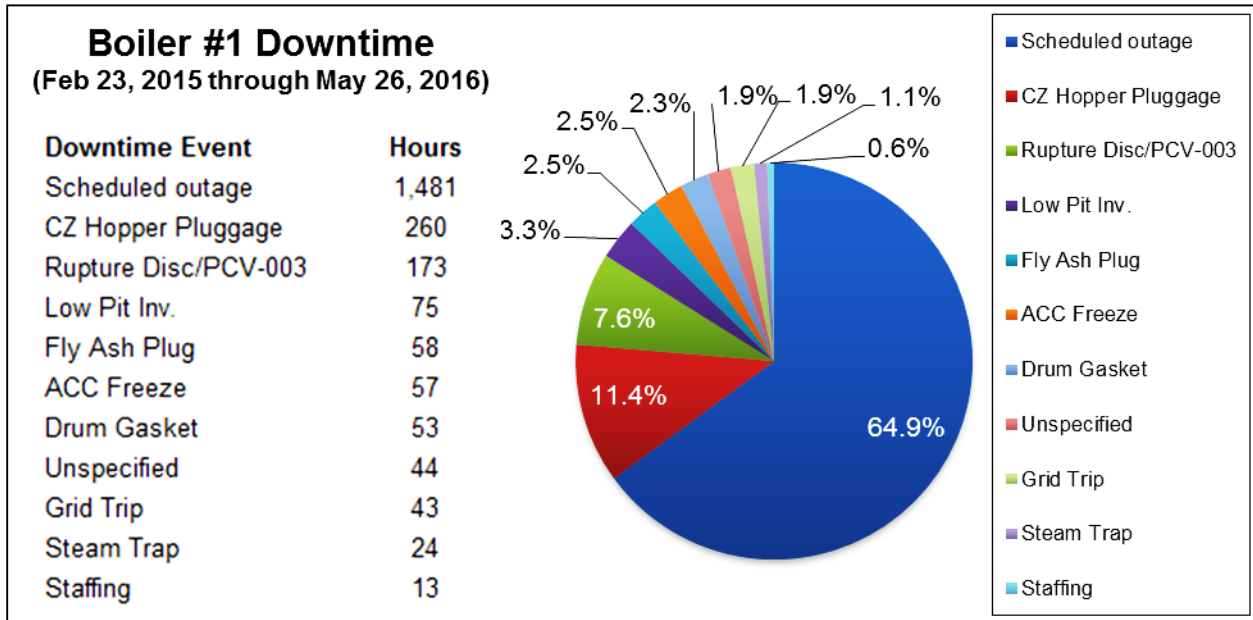
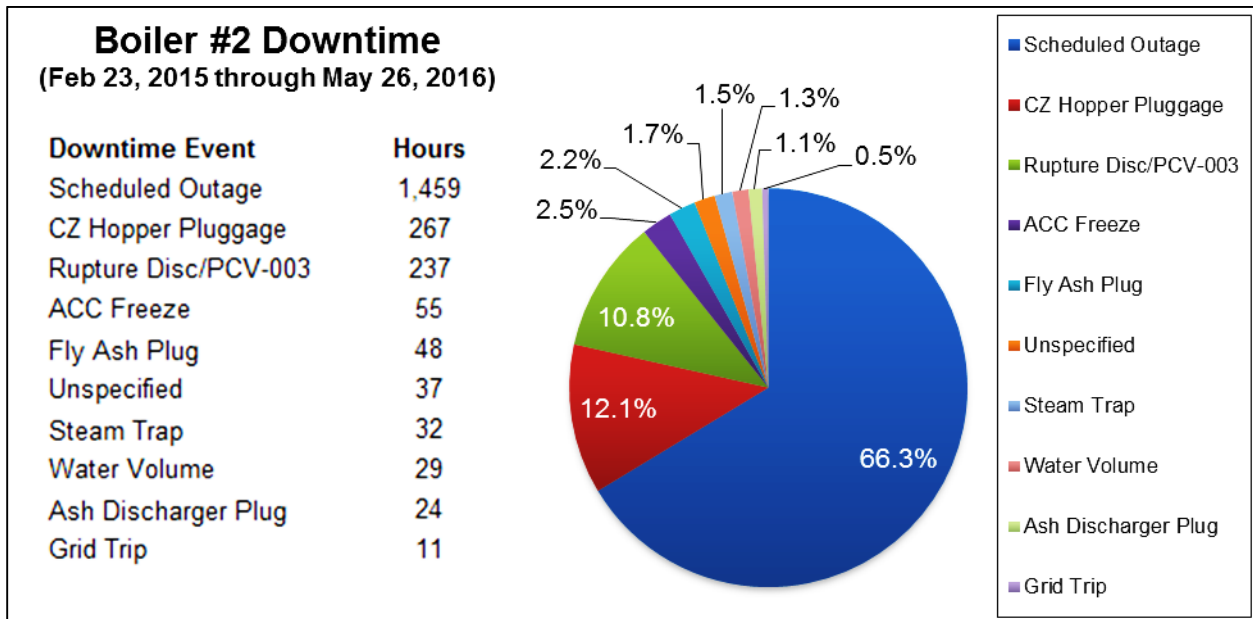


FIGURE 3 – DYEC Boiler #2 Downtime Breakdown



The boiler steam flow since February 23, 2015, based on a 24-hour average, is shown below in Figures 4 and 5. This data shows that the boilers have been cycled on and off line a high number of times during the first year and a half of operations. Based on this review, there were 48 boiler shutdowns, split between the two boilers. While some additional cycling is expected during the first year of operation due to commissioning activities, the forced shutdowns at the DYEC were higher than would be expected when compared to other operating energy from waste facilities. There were a number of trips associated with equipment not directly related to issues with the boilers, such as the 12 boiler shutdowns that were caused by PCV-003 and rupture disc issues, and other forced shutdowns due to fly ash and Air Pollution Control (APC) equipment related issues. The issues with PCV-003 were addressed by Covanta during the scheduled outages throughout this period. The main boiler related issue that has resulted in unscheduled boiler downtime on both boilers was associated with the CZ hopper plugging. Recently Covanta installed air cannons in the CZ hopper that send a pulse of high pressure air into the hopper to

keep ash flowing. A breakdown and description of the outages is included in Attachment A. In Attachment A, outages associated with PCV-003 and the Rupture Disc are shown separately. For the balance of this analysis, these events have been combined, since there is a close relationship between these outages.

FIGURE 4 – DYEC Boiler #1 Steam Flow

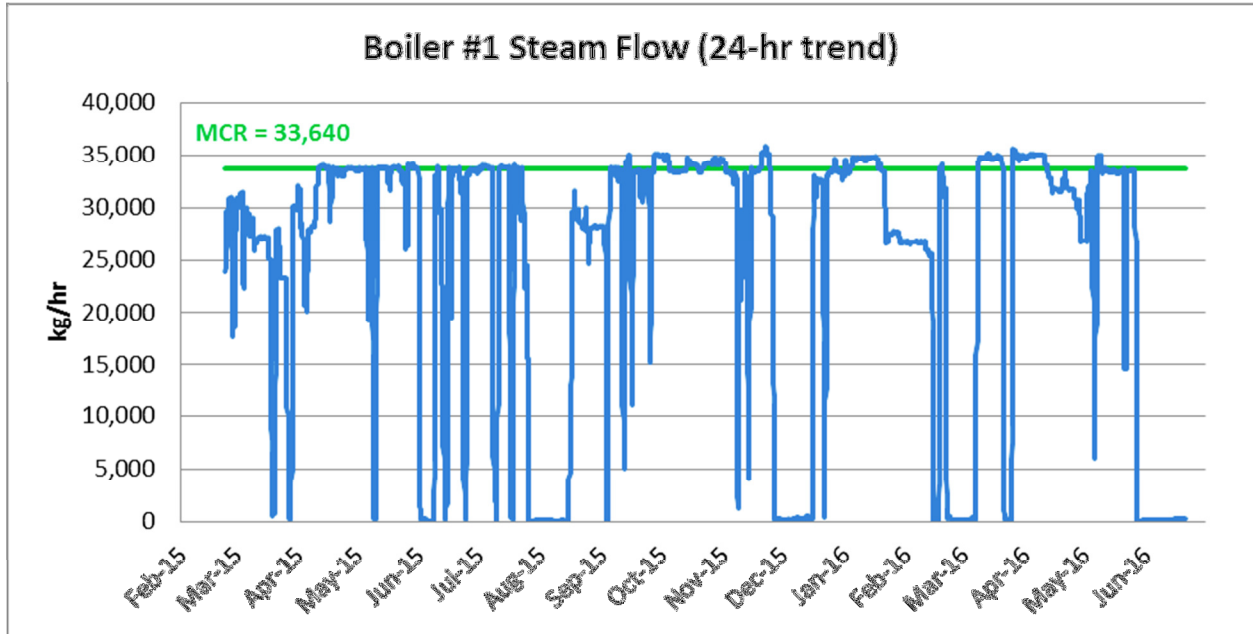
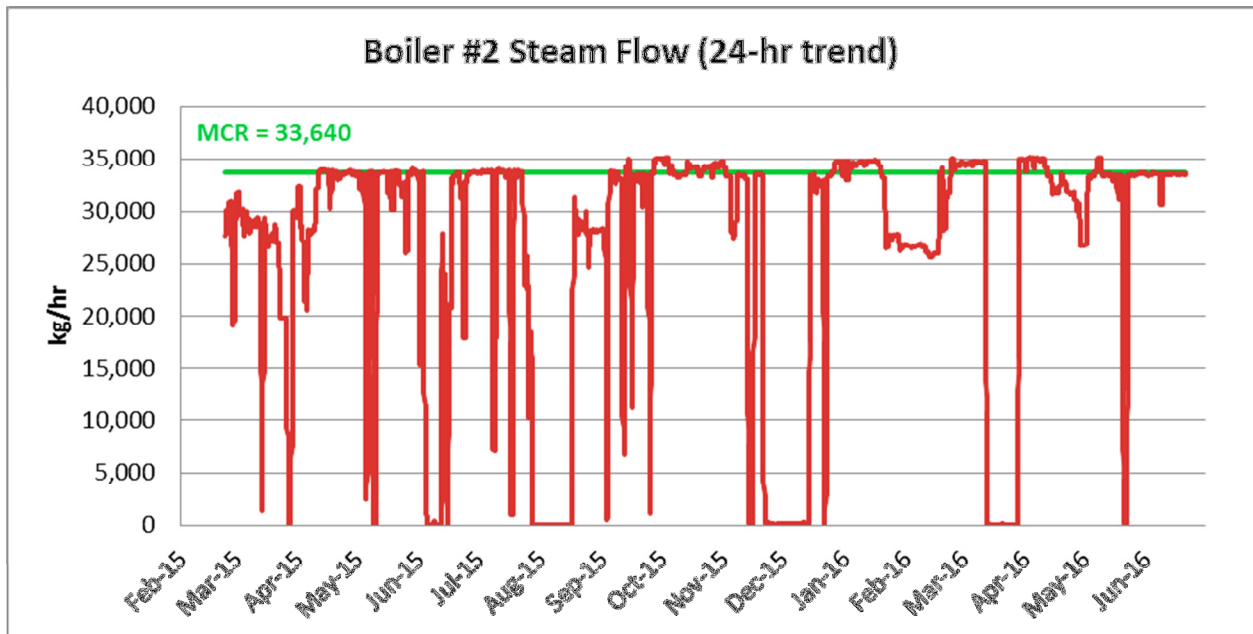


FIGURE 5 – DYEC Boiler #2 Steam Flow



It should be noted that the large dips and spikes in steam load are directly related to the scheduled or unscheduled outages identified previously. Figures 6 and 7 below show the steam flow as weekly running average and are annotated with some of the key events.

FIGURE 6 – DYEC Boiler #1 Steam Flow

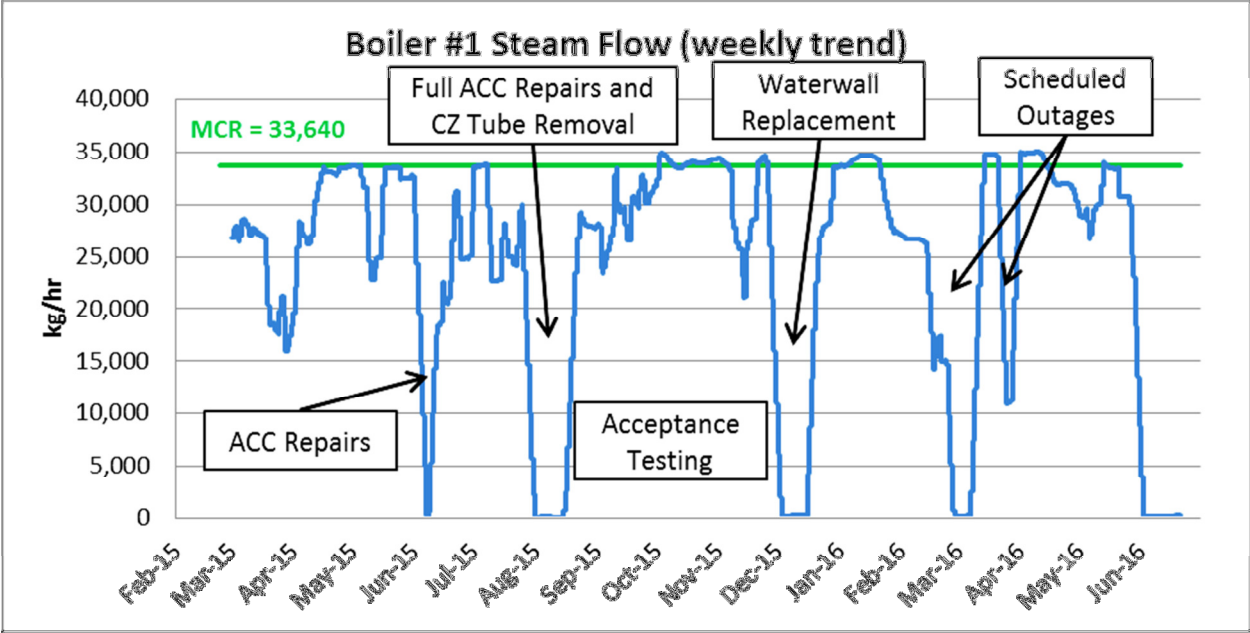
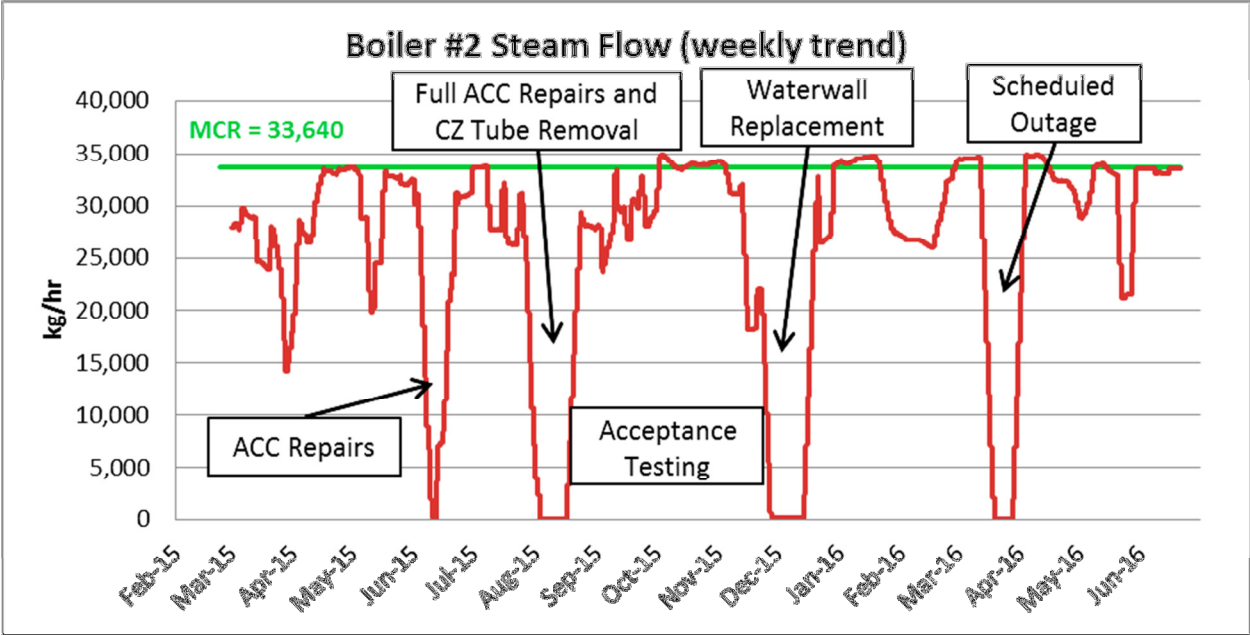


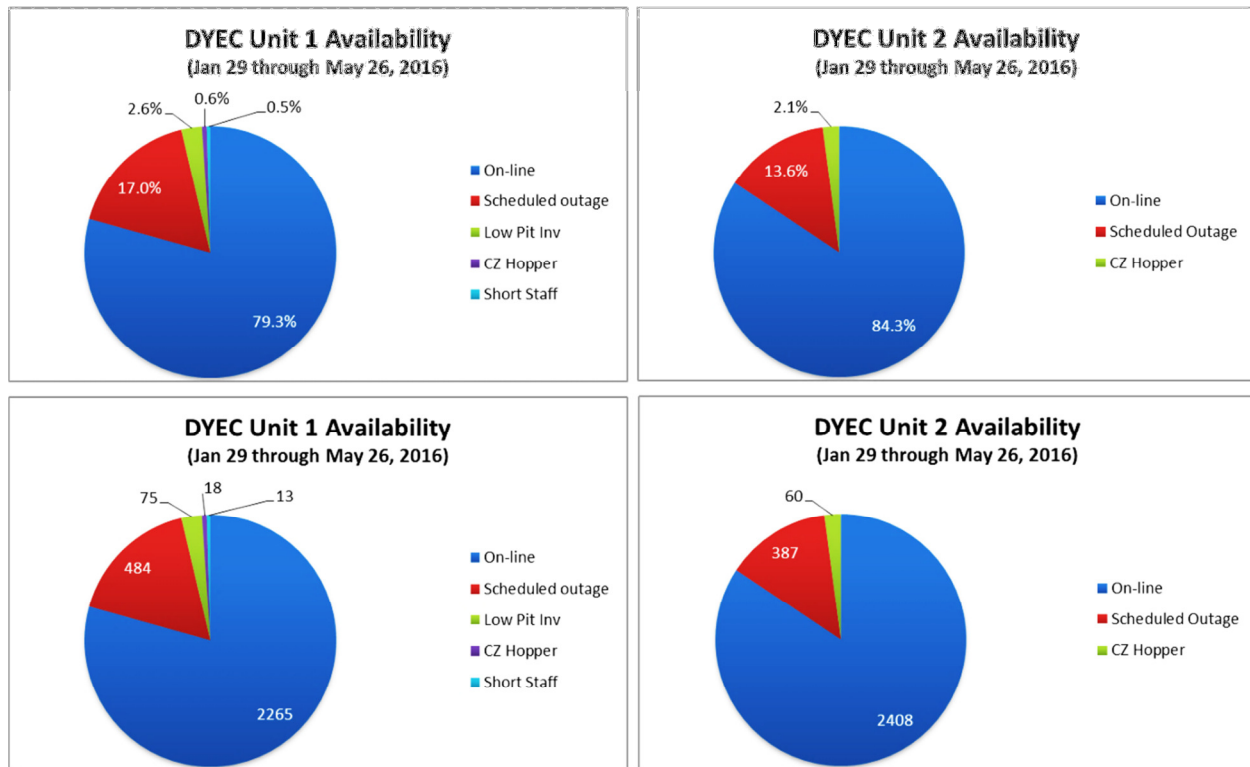
FIGURE 7 - DYEC Boiler #2 Steam Flow



Summary of Outages since Commercial Operations (January 29, 2015)

The availability and performance of the boilers has improved during the first 18 months of operation. For the period commencing on the Commercial Operation Date (January 29, 2016) and ending May 26, 2016, there were only three unscheduled outages (one on each boiler for Convective zone hopper plugs and one on Boiler #1 due to staffing issues). A breakdown of the outages and availability is shown in Figure 8.

Figure 8



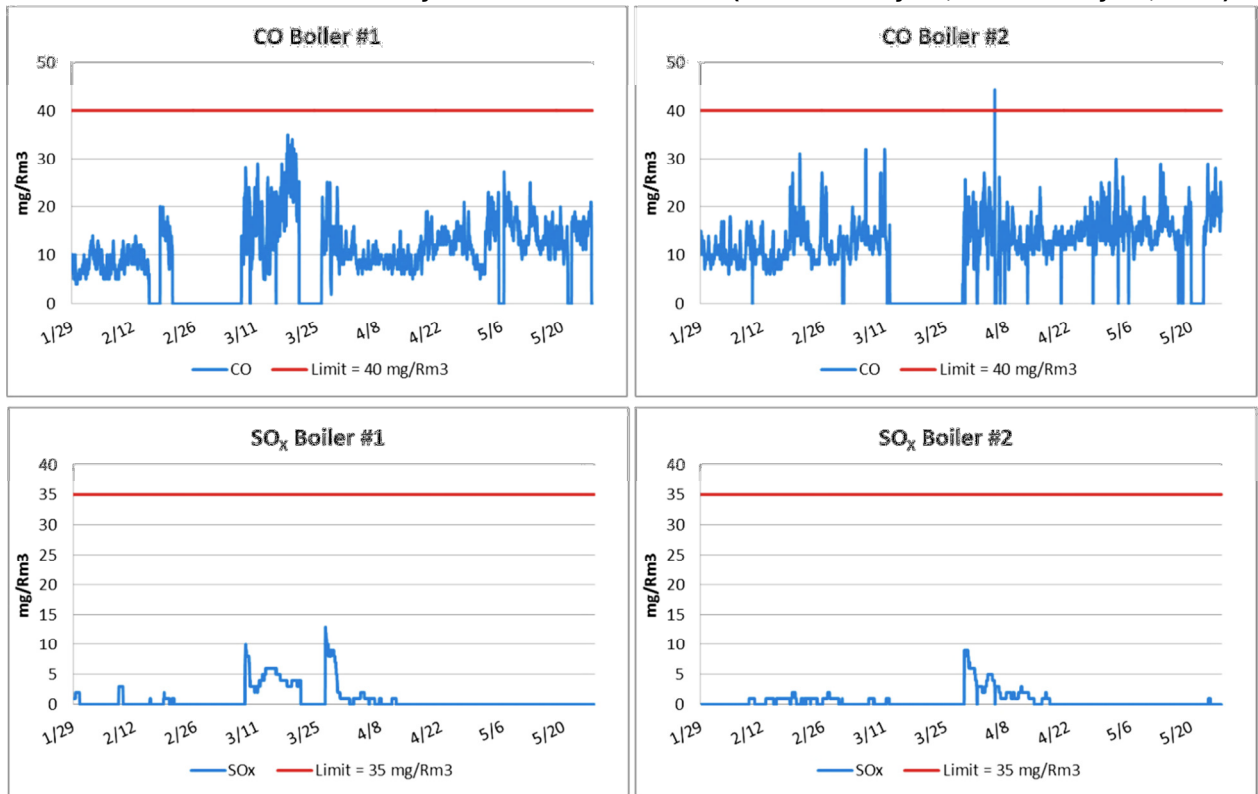
Summary of Boiler Environmental Performance

As part of our analysis, HDR also reviewed and compared the environmental performance of both boilers, including the continuously monitored air emission parameters (i.e. Carbon Monoxide (CO), Sulphur Oxides (SO_x), Nitrogen Oxides (NO_x), and Hydrogen Chloride (HCl)) since the start of commercial operations in January 2016 and the first two stack tests (October 2015 and May 2016). Based on this review, HDR has the following observations regarding the environmental performance of both boilers:

- Overall, the environmental performance related to the continuously monitored parameters is very similar. Figure 9 provides a summary of the continuously monitored parameters for the period between January 29, 2016 and May 26, 2016. On May 26th, Boiler #1 was shutdown to address the potential issues that resulted in a dioxin/furan exceedance during the Stack Testing.
- Figure 9 shows one spike for CO emissions on Boiler #2 during this period. This data represents all of the operating data and does not exclude data during upsets or outages. It should be noted that the ECA limit of 40 mg/Rm³ for CO is currently an operating limit but will become a compliance limit in October 2016.
- Figure 9 includes graphs for the furnace temperature for Boilers #1 and #2. This data represents all of the operating data and does not exclude data during outages. During this period, there have been no occurrences where the furnace temperature dropped below the limit (during normal operation).
- The DYEC features a selective non-catalytic reduction (SNCR) system with ammonia injection that is enhanced by the addition of Covanta's Very Low NO_x (VLNTM) system. In general, NO_x emissions at the DYEC are controlled to within 90% of the ECA limit (121 mg/Rm³), which is anticipated for the SNCR-type system deployed at the DYEC.

- Table 3 compares the results of the October 2015 and May 2016 stack tests to the ECA limits for the DYEC. Overall, the DYEC operates well below the ECA limits for all stack tested parameters, with the exception of the dioxin/furan exceedance on Boiler #1 that occurred in the May 2016 testing.

FIGURE 9 – DYEC Continuously Monitored Parameters (from January 29, 2016 to May 26, 2016)



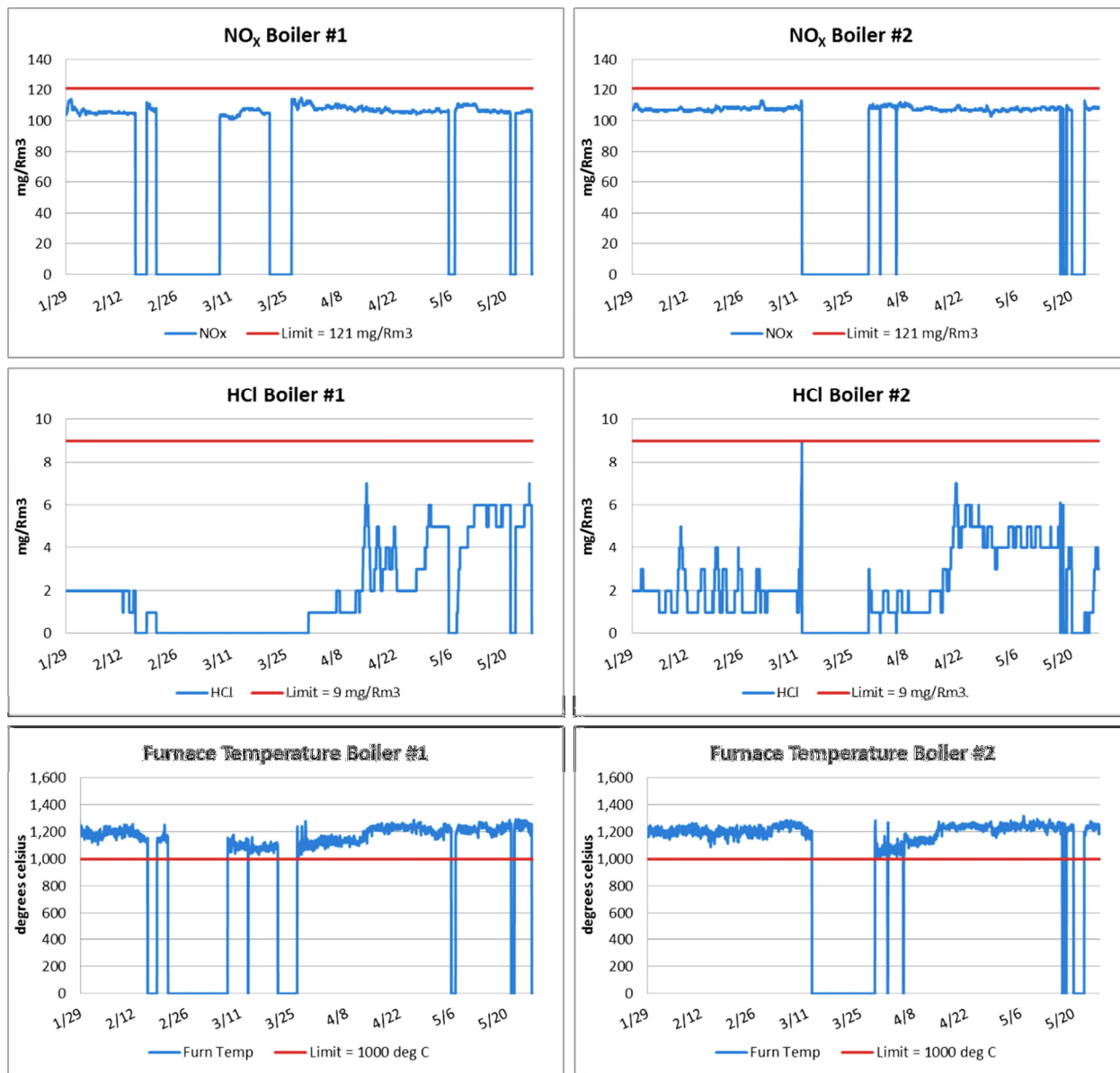


TABLE 3 – Comparison of Stack Test Results for Boilers #1 and #2

Parameter			October 2015 Stack Test				May 2016 Stack Test			
			Unit 1		Unit 2		Unit 1		Unit 2	
			Limit	Units	Results	% of Limit	Results	% of Limit	Results	% of Limit
TSP	9	mg/Rm ³	0.53	6%	<0.41	5%	<0.62	7%	<0.48	5%
Cadmium	7	µg/Rm ³	0.12	2%	0.15	2%	<0.043	1%	<0.043	1%
Lead	50	µg/Rm ³	0.57	1%	0.51	1%	0.27	1%	0.22	0%
Mercury	15	µg/Rm ³	1.16	8%	0.72	5%	0.44	3%	0.27	2%
HCl	9	mg/Rm ³	3.7	41%	4.1	46%	5.6	62%	5.4	60%
SO _x	35	mg/Rm ³	6.7	19%	1.8	5%	0.2	1%	0	0%
NO _x	121	mg/Rm ³	115	95%	115	95%	111	92%	111	92%
THC	50	ppm	2.4	5%	23.6	47%	0.8	2%	0.9	2%
CO	40	mg/Rm ³	24.4	61%	27	68%	22.5	56%	29.8	75%
Dioxin and Furans	60	pg TEQ/Rm ³	27	45%	22.2	37%	<818	1363%	<12.1	20%

Conclusions

HDR has reviewed the operating data between the period of February 23, 2015 through May 26, 2016 for Boilers #1 and #2. May 26, 2016 was selected as the end date for this analysis since this is the date Boiler #1 was shutdown to address the dioxin/furan exceedance that occurred during the May 2016 stack tests. HDR also reviewed the environmental data since the beginning of commercial operation on January 29, 2016. Based on our review, HDR does not see any significant difference between Boiler #1 and Boiler #2 for either the causes or frequency of shutdowns. However, the high number of outages and low overall availability for both boilers does not meet HDR's expectations for a facility of this type and age (versus the contractual guarantee for availability of 90% and the typical energy-from-waste industry average for availability of >90%). Consideration should be given to the fact this is the first year of operation for a facility that features the latest in boiler and APC design systems, so a slightly lower availability would be anticipated and should improve as commercial operations continue.



ATTACHMENT A

Unit 1			
Date off	Date on	Hours offline*	Issue/Comment
3/9/2015	3/9/2015	1	Feed Chute Plug
3/18/2015	3/20/2015	52	Hopper bridge
3/26/2015	3/28/2015	57	ACC Freeze
5/5/2015	5/6/2015	8	Boiler Trip
5/8/2015	5/10/2015	39	Rupture disc replaced
5/25/2015	5/25/2015	3	High HCl/SO2
6/1/2015	6/8/2015	190	Hopper bridge
6/11/2015	6/14/2015	48	Fly Ash Plug
6/16/2015	6/16/2015	10	Fly Ash Plug
6/23/2015	6/24/2015	43	Grid Trip
7/8/2015	7/10/2015	53	Gasket Leak
7/16/2015	7/18/2015	43	PCV-003
7/23/2015	8/16/2015	528	CZ tube removal and ACC
9/2/2015	9/4/2015	28	PCV-003
9/11/2015	9/12/2015	20	Rupture disc replaced
9/15/2015	9/16/2015	16	Rupture disc replaced
9/24/2015	9/25/2015	9	Rupture disc replaced
11/8/2015	11/9/2015	24	Convective Zone hopper
11/10/2015	11/11/2015	8	Convective Zone hopper
11/13/2015	11/14/2015	18	PCV-003
11/26/2015	12/16/2015	469	Outage and Waterwall work
12/21/2015	12/22/2015	24	Steam Trap
2/14/2016	2/17/2016	75	Low pit inventory
2/21/2016	3/7/2016	369	Scheduled Outage
3/21/2016	3/25/2016	115	Cold iron outage
5/5/2016	5/6/2016	18	Convective Zone hopper
5/21/2016	5/21/2016	13	Staff
27			
Total Downtime U1		2281	

* Based on Steam Flow less than 25% of MCR -

Unit 2			
Date off	Date on	Hours offline*	Issue/Comment
3/13/2015	3/14/2015	24	Ash Discharger Plug
3/26/2015	3/28/2015	55	ACC Freeze
5/4/2015	5/5/2015	22	CEMS Issues
5/8/2015	5/10/2015	42	Rupture disc replaced
5/25/2015	5/25/2015	3	High HCl/SO2
6/1/2015	6/1/2015	12	Black Plant
6/3/2015	6/12/2015	207	Hopper bridge
6/14/2015	6/16/2015	48	Fly Ash Plug
6/23/2015	6/23/2015	11	Grid Trip
7/8/2015	7/9/2015	29	Water Volume
7/16/2015	7/18/2015	35	PCV-003
7/23/2015	8/17/2015	510	CZ tube removal and ACC
9/2/2015	9/4/2015	26	PCV-003
9/11/2015	9/12/2015	18	Rupture disc replaced
9/15/2015	9/16/2015	16	Rupture disc replaced
9/24/2015	9/25/2015	24	Rupture disc replaced
11/13/2015	11/16/2015	76	PCV-003
11/21/2015	12/14/2015	562	Outage and Waterwall work
12/21/2015	12/22/2015	32	Steam Trap
3/12/2016	3/28/2016	387	Scheduled Outage
5/20/2016	5/22/2016	60	Convective Zone hopper

21

Total Downtime U2	2199
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* Based on Steam Flow less than 25% of MCR -



The Regional Municipality of Durham Information Report

From: Commissioner of Planning and Economic Development
Report: #2016-INFO-27
Date: September 21, 2016

Subject:

Durham Agricultural Advisory Committee, 2016 Farm Tour, File: A01-38-02

Recommendation:

Receive for information

Report:

1. On September 15, 2016, the Durham Agricultural Advisory Committee (DAAC) hosted its 14th annual farm tour in the City of Oshawa. The event was hosted by Loa-De-Mede Farms Ltd., a fourth generation family dairy farm, operated by the Werry family. Approximately eighty participants representing government, public agencies, educators and media attended the event and had the opportunity to engage in dialogue with farmers and agriculture-related staff. As has been the case in previous years, the annual tour highlighted the importance of Durham's diverse agricultural sector, as well as the issues and challenges faced by the industry.
2. The theme for this year's tour was "Agriculture Technology Soars in Durham Region", which focused on the extensive use of technology in modern farming. The event began with a luncheon featuring local food. Ministry of Agriculture, Food and Rural Affairs (OMAFRA) representative, Ian McDonald, delivered the keynote address, speaking about the technological advances in production agriculture. The presentation included information about the dynamics of agriculture in Ontario; the importance of solar energy; use of precision agriculture to increase yield and decrease waste; increase in the use of technology and the types of equipment available; challenges associated with synthesizing massive amounts of data; and the importance of the human interface and multi-generational farming.

3. The event included three presentations highlighting the following topics:
 - **Robotic milking barn** – John Werry took participants on a tour of the barn and the new robotic milking operation. In 2015, Mr. Werry installed the new machine which milks 75 registered Holstein cows using two MiOne GEA robots. The cows live in a climate-controlled environment and are housed on a compost-bedded pack, which mimics pasture. The new system has benefitted the farm operation by requiring fewer staff; increasing scheduling flexibility; increasing the cows' milk production and their quality of life. He also highlighted the substantial costs to start-up and expand a dairy operation; the need to keep up with technology; and the challenges with leasing developer-owned crop land in other parts of the region. As part of the farm operation, the Werry family crops 600 acres, growing corn, soybeans, wheat, barley, and hay.
 - **Use of technology in agriculture** – The keynote speaker was joined by Matt Porter from Trent University to deliver a talk and demonstration on some examples of modern technology. Participants viewed a “Soil Scan 360” machine as it sampled soil to determine nitrate rates. This process allows farmers to make informed decisions about the type and amount of fertilizer they need to apply on their fields. Participants were also able to see and learn about the use of drones in agriculture. Drones can be used to access and view hard to reach areas and view varied topography to assist in the development of management zones.
 - **Tile Drainage Installation** – Roy Walker of Walker Wright Drainage Inc. provided a demonstration on installing tile drainage from a technical perspective. DAAC member Hubert Schillings also shared his experiences as a farmer with tile drained lands. Their presentation focused on the benefits and importance of properly drained soils, including higher crop yield; less erosion and soil compaction; unifying moisture content in the soil; and adding cold water to creeks. Participants were able to view the machines that install drainage pipes in the ground.

4. Each year, participants are requested to complete a survey that is used by DAAC to evaluate the success of the tour, and help plan for subsequent events. Based on the responses, participants agreed that the tour met or exceeded their expectations. Some general comments were:
 - The opportunity to invest in technology is significant and should be encouraged;

- This tour increased my understanding of how policies and legislation affect farmers;
 - The importance of managing risks as they relate to drinking water source protection;
 - This event helps businesses understand the farmer's perspective; and
 - The live demonstrations were excellent learning opportunities.
5. Participants were asked what the "Take Home" message was for them. Responses included:
- There is a potential to increase agricultural production with technology, although greater use of technology may result in fewer farm jobs;
 - The technology and innovation in agriculture is amazing;
 - Technology is improving efficiency and effectiveness in farming across Ontario;
 - It's a fantastic opportunity to gain hands-on, first-hand knowledge of the industry;
 - Learned the importance of using technology to improve work-life balance;
 - Increased understanding of how government decision-making affects agriculture; and
 - Greater appreciation of where food comes from and what is necessary to produce it.
6. DAAC is commended for its continued efforts in advancing the knowledge of the agricultural industry in Durham. The tour continues to be a valuable element of the Council approved work plan for the DAAC.
7. A copy of this report will be forwarded to the Area Municipalities, the Durham Federation of Agriculture, the GTA Agricultural Action Committee, the Golden Horseshoe Food and Farming Alliance, and DAAC.

Respectfully submitted,

Original signed by

B.E. Bridgeman, MCIP, RPP
Commissioner of Planning and
Economic Development



The Regional Municipality of Durham Information Report

From: Commissioner of Finance
Report: #2016-INFO-28
Date: September 30, 2016

Subject:

The Consolidated Budget Status Report to August 31, 2016 and Full Year Forecast

Recommendation:

Receive for information.

Report:

1. Purpose

1.1 The following summary on the status of the 2016 Consolidated Budget and Full Year Forecast for the General Tax, Durham Region Transit (DRT), Water Supply, and Sanitary Sewer Operations is based upon information supplied by the Regional Departments, a review of the financial statements to August 31, 2016 and preliminary information forecasted to the end of the year.

2. Budget Status Summary - General Tax Operations

2.1 A surplus position is forecast for both the General Tax Operations and Durham Region Transit for 2016, as indicated in the following table.

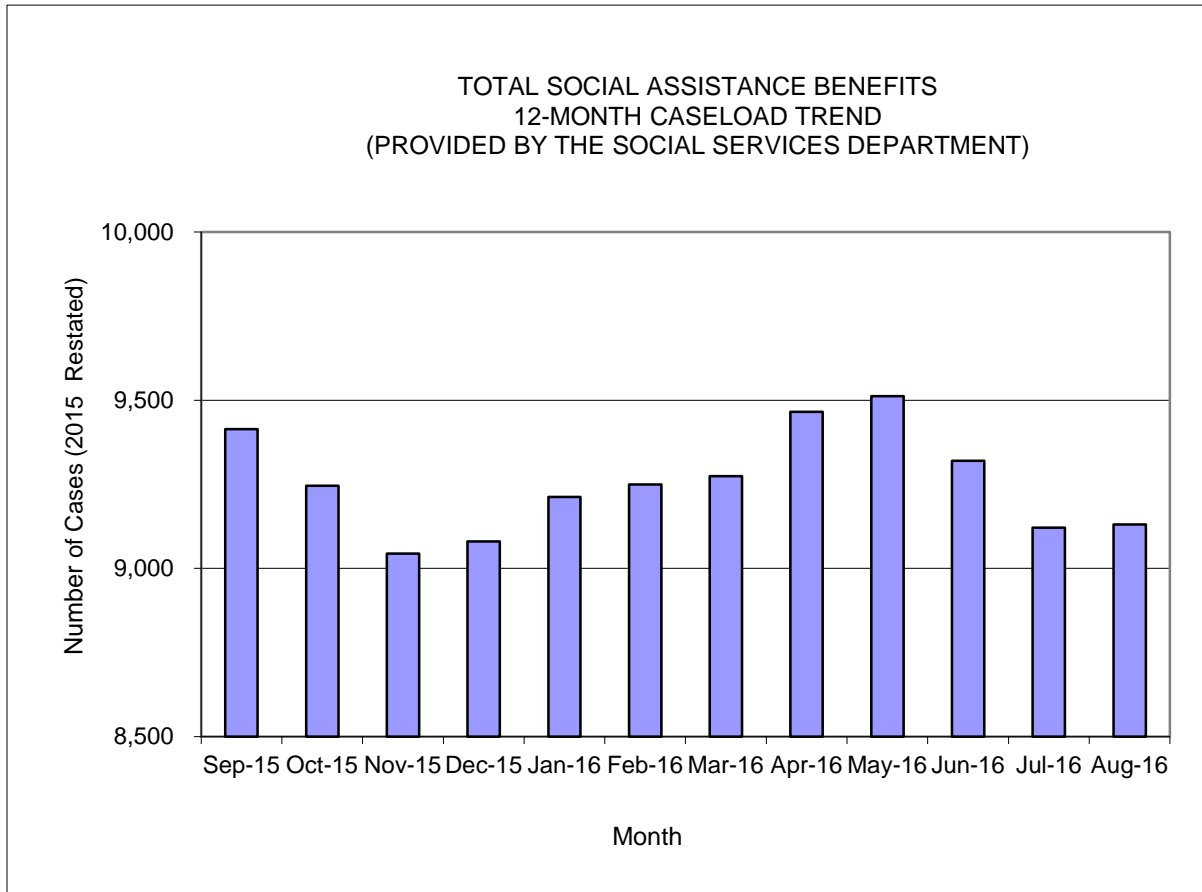
	<u>Surplus/(Deficit)</u>
	<u>\$</u>
General Tax Operations	
Social Services Department:	
Long-Term Care & Services for Seniors	(560,000)
Family Services	400,000
Income and Employment Support	1,050,000
Children's Services	<u>325,000</u>
Total Social Services Department	<u>1,215,000</u>
Health Department	
Public Health Programs	520,000
Works Department	
Roads and General Operations	300,000
Solid Waste Management	<u>165,000</u>
Total Works Department	<u>465,000</u>
Planning and Economic Development Department	500,000
Corporate Services – Information Technology	300,000
Finance Department	300,000
Provincial Download Program	400,000
Other Initiatives	<u>(377,000)</u>
General Tax Operations Projected Surplus	<u>3,323,000</u>
Durham Region Transit Projected Surplus	<u>500,000</u>

3. General Tax Operations

3.1 Social Services Department

- The Long-Term Care & Services for Seniors Division advises that as of the end of August overall revenue and expenditures are in a deficit position of approximately \$560,000. Factors contributing to this deficit position are:
 - An estimated deficit in utility costs of approximately \$260,000 (primarily electricity) at the new Fairview Lodge facility. The utility estimates for the first year of operation of the facility did not factor in the full building load for equipment and the actual results are coming in higher than initially projected.
 - Higher usage of temporary staff in all four Homes to ensure service levels are maintained. These callout situations are estimated to contribute approximately \$400,000 to the projected deficit.

-
- The Case Mix Index for 2016 is lower than that used for budget purposes and will result in an unfavourable variance of \$250,000 for per diem revenues across all four homes.
 - Preferred accommodation revenue at all four homes is expected to generate a surplus in the amount of \$150,000.
 - The Long-Term Care & Services for Seniors Division is reviewing all discretionary expenditures, as well as prioritization of capital expenditures, to mitigate the anticipated deficit position and expects to achieve approximately \$200,000 in savings at this time.
 - The Family Services Division reports that due to continuing staff vacancies in the Core Community Services and Employee Assistance programs, savings of approximately \$400,000 are anticipated for the year.
 - The Income and Employment Support Division is projecting an overall surplus of \$1,050,000 from the Ontario Works Program Delivery and Client Benefit programs, as noted below:
 - A) Ontario Works (OW) Program Delivery
 - The 2016 approved provincial subsidy is lower in comparison to the Region's subsidy budget and will result in a subsidy deficit of approximately \$100,000.
 - The expenditures in the OW Program Delivery are currently tracking below budget due to the duration of staff leaves and the timing for filling of vacancies, resulting in an estimated savings of \$1,500,000 for the year.
 - B) OW Client Benefits
 - Client Benefit payments are comprised of Mandatory benefits, subsidized at the rate of 94.2 per cent, and Discretionary benefits, subsidized to a maximum based on a combined OW and Ontario Disability Support caseload for the year.
 - So far this year, Mandatory benefit payments have been in a deficit position and Discretionary payments are expected to exceed the maximum subsidized amount. As a result, a deficit position of approximately \$350,000 is being projected for 2016.
 - C) Caseload
 - The average year to date caseload is 364 cases below the average of 9,650 cases budgeted for the year (3.8 per cent below budget). The rolling 12 Month Caseload Trend is presented in the following chart.



- The Children's Services Division is reporting that staff vacancies in the Directly Operated programs and Administration area are expected to contribute savings of approximately \$325,000 for the year. Provincial funding is expected to be fully utilized for 2016.
- The Housing Services Division reports that expenditures and revenues are in line with budgeted expectations. Expenditures on the Consolidated Homelessness Prevention Initiative are proceeding as planned in providing services that address the selected outcomes of At Home in Durham, the Durham Housing Plan 2014 – 2024. A break even position is projected for the year.
- Overall the Social Services Department is projecting a surplus of approximately \$1,215,000 for the year.

3.2 Health Department

- The approved Provincial subsidy for the Public Health programs is below the 2016 Regional budget expectations. However, staff leaves and the time lag associated with hiring of replacement staff is anticipated to provide savings in personnel expenditures, resulting in an overall net surplus of approximately \$520,000.

- The implementation of the provincial software for the immunization program is currently trending over budget; however, the Province has provided funding of \$191,400 which will offset the projected costs of this program.
- The Paramedic Services Division is reporting that payroll costs are in line with budgeted estimates. While there are savings in operational costs, including fuel costs, medical gases, and medical supplies, the approved provincial subsidies for 2016 are \$72,000 lower than Regional budget estimates. Consequently, a break even position is forecast for the Paramedic Services Division for the year.

3.3 Works Department

- A surplus position of approximately \$300,000 is forecast for the Roads and General Operations programs.
 - A) The Works Department has indicated that due to the number of winter storm events experienced in the early part of 2016, costs are tracking to budgeted estimates and a break-even position is anticipated. Year to date expenditures in the winter maintenance program are \$6,833,000 compared to the annual budget of \$9,574,000 or 71% of budgeted expenditures. The final status of the winter maintenance budget will be dependent upon actual winter storm events in the latter part of the year.
 - B) Staff leaves and vacancies in the engineering and staff support programs are anticipated to result in savings of approximately \$300,000.
- In the Solid Waste Management Operations, expenses are anticipated to result in an operating surplus of \$165,000, based on the following factors:
 - A) Personnel cost savings of approximately \$165,000 at Oshawa and Scugog Waste Management facilities due to savings in temporary staffing for the year.
 - B) As outlined in report 2016-COW-18, the 2016 net operating costs for the Durham York Energy Centre (DYEC) are under budget by approximately \$972,000. However, there are still cost uncertainties and consequently it is too early to declare a surplus position for the year.
 - C) Revenues from the sale of recycled materials are trending to budgeted levels and a break even position is forecast for Waste diversion revenues.

3.4 Planning and Economic Development Department

- The Planning and Economic Development Department is anticipating an overall surplus of \$500,000.
- Planning division revenues are trending to be \$50,000 higher than budget, and there are staff savings due to vacancies of \$300,000. At this time a surplus of approximately \$350,000 is projected.

- The Economic Development and Tourism Division is projecting a surplus of \$150,000 for the year due to savings from staffing vacancies.

3.5 Departments reporting to the Finance & Administration Committee

- The Corporate Services Information Technology division is currently anticipating savings of \$300,000 at year end due to staff vacancies and the timing of hiring replacements.
- The Finance Department is projecting a surplus of approximately \$300,000 for the year primarily attributable to staff turnover and the time required to fill vacant positions.
- The balance of the departments reporting to the Finance & Administration Committee advise that their revenues and expenditures to the end of August are in line with their year to date budget and are anticipating a break even position.

3.6 Police Services Board

- The Police Service report that they are proceeding with actions related to the strategic plan as identified in the 2016 business plan covering areas such as Community Safety, Crime Prevention through Law Enforcement and Organizational Excellence. DRPS currently anticipate some savings in personnel costs due to timing of filling vacancies and fuel savings due to lower than anticipated fuel prices. Operational savings are being offset by higher than anticipated professional/legal costs and benefit costs. As such a break even position is being projected at this time.

3.7 Provincial Download Program

- Payments to external social housing providers, a portion of the Provincial Download budget, are presently tracking approximately \$800,000 below budget due to lower than anticipated benchmarked operating costs, lower interest rates on mortgage renewals and property taxes. Payments for Rent Geared to Income subsidies are tracking to budget.
- The net costs of the Durham Regional Local Housing Corporation (DRLHC) are trending to a deficit of \$400,000. The projected overages arise primarily from utility costs (electricity) and property maintenance, reflecting the ongoing maintenance and rehabilitation of the aging assets.
- Overall, it is anticipated that the surplus in payments to external social housing providers and projected deficit in the DRLHC budget will result in a net surplus position of approximately \$400,000 in the Provincial Download Program for 2016.

3.8 Other Initiatives

- The following unbudgeted items were approved by Regional Council during the year and are financed from the 2016 projected surplus.

	\$
Additional financing for Oshawa North Paramedic Station	78,625
Property tax share related to update of Regional Transit Development Charges By-law and Background Study	38,260
Additional capital funding for carpet replacement at Regional Headquarters	185,000
Consulting services to assist in monitoring of Social Housing Improvement Program capital repairs and renovations	<u>75,000</u>
Total Other Initiatives	<u>376,885</u>

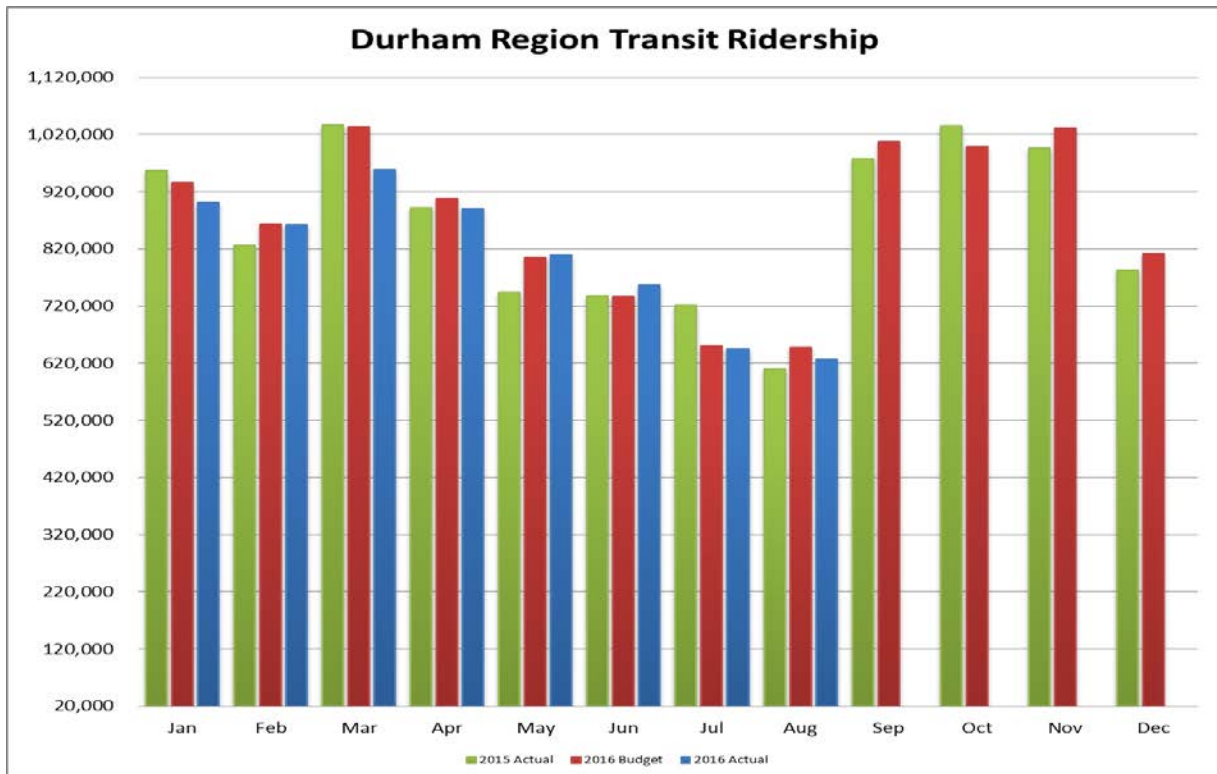
4. Durham Region Transit

- 4.1 At this time, an operating deficit of approximately \$1 million is expected for 2016 based upon a review of actual expenditures and revenues to date and forecasts to the end of the year, with the major variances shown in the following table.
- 4.2 However, there has been a material drop in fuel prices so far this year and a savings of approximately \$1.5 million will be realized from the actual price of fuel versus the budgeted price. As a result, the projected deficit in operations is offset by approximately \$1.5 million in fuel price savings, which results in a net operating surplus of \$0.5 million.

DRT Operating Budget Status

	<u>Detail</u>	<u>Surplus (Deficit) Variance to Budget</u>
	\$	\$
Fare Revenues		(325,000)
REVENUE PROGRAM SUMMARY		<u>(325,000)</u>
Operations	(500,000)	
Maintenance	(275,000)	
Specialized Services	100,000	(675,000)
EXPENDITURE PROGRAM SUMMARY		<u>(675,000)</u>
PROJECTED OPERATING DEFICIT		<u>(1,000,000)</u>
Fuel Price Variance - Conventional Service		<u>1,500,000</u>
NET OPERATING POSITION		<u>500,000</u>

- 4.3 Statistics available to the end of August indicate that overall conventional ridership is approximately 2.0 per cent, or approximately 126,000 riders, less than the budgeted ridership expectations. The graph below depicts total conventional ridership by month compared to budgeted and prior year, with ridership falling below budgeted levels in every month except for May and June.



5. Water Supply and Sanitary Sewer Operations

5.1 Water Supply System

- The Works Department projects that the current operational expenditures of the Water Supply System are anticipated to produce a surplus position by year end with the following significant variances:

	Surplus/ (Deficit) \$
Engineering & Staff Support – savings in personnel related costs and operating costs such as professional fees	600,000
Water Supply Plants – savings in chemicals, utilities and other operational expenses	<u>1,400,000</u>
Projected Surplus	<u><u>2,000,000</u></u>

- To the end of August, due to the extremely dry summer, water user revenues are tracking above budget and a surplus of \$1.75 million is projected at this time.

- Overall, a net surplus position of approximately \$3.75 million in the water supply system is anticipated at this time.

5.2 Sanitary Sewer System

- The Works Department projects that the current operational expenditures of the Sanitary Sewer System are anticipated to produce a surplus position by year end with the following significant variances:

	Surplus/ (Deficit) \$
Water Pollution Control Plants - savings in operational accounts and personnel related costs	300,000
Engineering & Staff Support - savings in personnel related costs	400,000
Duffin Creek Water Pollution Control Plant – Durham share of savings from plant operations	<u>200,000</u>
Projected Surplus	<u>900,000</u>

- Similar to water supply, sewer user revenues are tracking above budget and a surplus of \$2.6 million is projected at this time.
- Overall a net surplus position of approximately \$3.5 million is anticipated for the sanitary sewer system operations.

6. Summary

6.1 Based on the available information to the end of August, surplus positions are forecast for the General Tax Operations, Durham Region Transit, the Water Supply System and the Sanitary Sewer Operations for the year.

6.2 Regional staff will continue to monitor costs and provide budget status updates.

Respectfully submitted,

Original signed by

R.J. Clapp, CPA, CA
Commissioner of Finance



Social Services
Department

Interoffice Memorandum

TO: Committee of the Whole
FROM: Dr. Hugh Drouin, Commissioner of Social Services
DATE: September 28, 2016
RE: Wait List for Child Care Fee Subsidy

This memo was requested by the Committee of the Whole to provide some context regarding Durham's child care fee subsidy wait list and requested wait list data from surrounding Consolidated Municipal Service Managers (CMSM's).

There are many factors both provincially and regionally that impact how a Consolidated Municipal Service Manager is able to administer the child care fee subsidy program. While data has been provided from surrounding CMSM's regarding their wait lists, it is not possible to statistically compare them given that CMSM's manage their local systems and have some flexibility to establish local operational policies in response to their community needs.

The following chart shows how Durham's child population has changed along with the Licensed Capacity of child care spaces over the past five years. Full Day Kindergarten was implemented between 2010 and 2015. As a result there has been a significant increase in the number of licensed child care spaces on site in schools for kindergarten and school aged children.

Overview Fee Subsidy System and Licensed Child Care Capacity

	2012	2013	2014	2015	*2016
Child Population	96,625	96,728	97,283	97,845	98,763
Licensed Capacity	14,187	15,263	17,230	19,670	22,050
Fee Subsidy Children Served	2596	2629	2919	3209	3315
Children Waiting for Fee Subsidy	3150	3910	3706	3467	3848
Percentage of all children receiving Fee Subsidy	2.60%	2.71%	3.00%	3.27%	3.35%

Note: *2016 Data based on Second Quarter report

Durham's 0 – 12 population has steadily increased over the past five years.

Since 2010, the licensed capacity (number of spaces) has more than doubled. Durham now is at the provincial average of having enough licensed child care for 20% of the children aged 0 – 12 and we are still expanding. The majority of spaces have been created on site in schools.

The chart identifies that Durham has annually continued to increase the number of children served each year with child care fee subsidies. This is a direct result from the additional 100% provincial funding that comes from the Ministry of Education using a transparent funding formula based on demographics and various Stats Canada data. The data is updated regularly.

All families who reside in Durham are able to apply for child care fee subsidy, using our on-line process and they are automatically added to the wait list. The date they apply is their wait list date. There is no screening done at this time, so there may be families who do not qualify for subsidy if their family income calculation exceeds the cost of the child care they need. Some CMSM's do a level of screening during this initial application phase. Durham discontinued the pre-screening practice as the clients information was out of date by the time their names came up to the top of the list.

Families need to be working or going to school to qualify and be deemed eligible for child care fee subsidy. There are also many families on the wait list who do not require care at this time as they might not be working or going to school. However, they remain on the wait list until they do have an approved activity and there is funding available to them for a placement.

Durham follows a “first come, first served” approach to the wait list which aligns with the provincial direction. CMSM's have discretion to make placements to serve families with children who have special needs, or to support families fleeing domestic violence situations or to support the needs of child if their parent is unable to care for them, due to a medical issue.

The wait list for fee subsidy had continued to increase each year. Between 2013 and 2014, the waiting time had increased to almost three years, however additional provincial funding allowed for more children to be served and the wait list was reduced. Depending on demands and anticipated increases in Provincial funding in 2017, it is possible that the wait list for fee subsidy could be reduced further or at least not grow. Currently families at the top of our waiting list applied November 30, 2014. The wait time is just under two years. On average close to 100 children are added to the wait list each month. There was a significant increase in the number of applications in August 2016 with 140 applications in a two week period. This peak may have been triggered by the start of school and parents making their child care arrangements.

For 2016, the Region did receive additional one time funding from the Ministry of Education. Some of this to support children with special needs in licensed care settings and some funding went to support the operators through the General Operating program. The majority of the funding did support the Fee Subsidy program. The Ministry of Education has indicated we should know our 2017 allocations in November 2016.

Child Care Fee Subsidy Waiting Lists in the Barrie Region

Of the nine CMSM's in the Barrie Region, three other areas, including Durham have waiting lists for fee subsidy. There are many factors which impact a CMSM that create waiting lists. Operational policies, changing demographics, availability of licensed spaces, employment and growth, are all factors which impact a wait list.

CMSM's	Number of Children Waiting
The City of Peterborough	125 (approximately 5 months)
County of Simcoe	800 (approximately 5 months)
Regional Municipality of York	667 (1164 on a future care list – approximately 12 months)
Region of Durham	3848 (approximately 24 months)

Other CMSM'S With Waiting Lists for Child Care Fee Subsidy

CMSM's	Number of Children Waiting
City of Toronto	17,531(Ward system)
London	318 (Approximately 2 months)
Hamilton	303 (Approximately 5 months)
Halton	200 (Approximately 2 months)

Pressures that cause the wait list in Durham Region:

- Durham's population continues to grow and the number of new babies born here has been increasing for the last five years, and this trend is projected to continue.
- The daily cost of licensed child care is high particularly for Infant and Toddler care. An Infant space is on average \$53.32 per day and a Toddler space is approximately \$44.80 per day. Increased young families in our Region, means increased demand for fee subsidies. Many families struggle with these high costs for quality care and are applying for financial support of fee subsidies.

- Durham has a high number of Kindergarten and School Aged Children currently being served with fee subsidy for before and after-school care. The majority of these children require full day care during the summer and this significantly increases our fee subsidy costs during the summer. To afford these costs, we are not able to release people from the wait list until we have the funding to sustain these new placements.
- More licensed spaces across the Region gives families quality child care options, having spaces located on site at schools is convenient for families. Children's Services Division actively promotes quality licensed child care and families are aware of the opportunity to apply for fee subsidies.
- Families exiting Ontario Works are immediately placed under the fee subsidy stream, which means families on the wait list continue to wait. To date this year, 244 children have been placed as Ontario Works exits.

Summary

There are many factors that influence Durham's wait list for fee subsidy. Overall, Durham continues to serve more children every year in its child care fee subsidy program. However, the demand for services also continues to increase. Staff continue to identify the wait list as an operating pressure to the Ministry of Education and we will continue to highlight the needs of Durham's families.

Respectfully submitted,

Original signed by:

Dr. Hugh Drouin
Commissioner of Social Services



**Works
Department**

Interoffice Memorandum

TO: Roger Anderson, Regional Chair and CEO
All Members of Regional Council

FROM: **Susan Siopis, P. Eng., Commissioner of Works**

COPY: Garry Cubitt, Chief Administrative Officer
Department Heads

DATE: **September 30, 2016**

RE: Durham York Energy Centre: Responses to Ms. Bracken
and Ms. Gasser Delegations

As per our commitment made at the Regional Council meeting of June 29, 2016, please find attached staffs' responses to the delegations made by Ms. Bracken and Ms. Gasser.

Our responses are consistent with the Ministry of the Environment and Climate Change (MOECC) approach to the recent dioxins/furans excursion and where necessary are supported by referenced materials. With the exception of the dioxins/furans excursion, the Durham York Energy Centre (DYEC) has demonstrated performance in compliance with the Environmental Compliance Approval (ECA).

In relation to the air quality of the air shed in the vicinity of the DYEC, the monitoring results to-date demonstrate compliance with all parameters with the exception of benzo(a)pyrene. Concentrations of benzo(a)pyrene above the Ontario Ambient Air Quality Criteria are commonly measured throughout Ontario as benzo(a)pyrene is a combustion byproduct from many natural and man-made processes including motor vehicles, and therefore it is likely that background concentrations of benzo(a)pyrene contributed to these exceedances. In addition, based on the assessment of wind direction, it is unlikely that the DYEC contributed to these benzo(a)pyrene exceedances. We would also state that the recent Ministry of Transport and Ministry of the Environment and Climate Change ambient air monitoring results also support the observation of a compliant air shed.

Our responses also collaborates the assertion that the contribution of the DYEC to the Nano particulate levels in the ambient air is minor in comparison to other sources.

We will continue to provide updates on the progress of the Abatement Plan implementation to Regional Council and the public.

Original signed by

Susan Siopis, P.Eng.
Commissioner of Works

Attachment: Responses to Ms. Bracken and Ms. Gasser delegations
made at Regional Council on June 29, 2016

Comments on 2016-WR-8

Attachment 1: AMESA Evaluation Summary AMESA and Stack Results Vary Widely

Attachment #1: AMESA Evaluation Summary

Summary of Final D&F TEQ Results - Dry Adjusted Concentration Using NATO TEF's

Unit No.	Test No.	AMESA with Probe Rinse pg TEQ/Rm ³ *	AMESA without Probe Rinse pg TEQ/Rm ³ *	Stack Test pg TEQ/Rm ³ *
1	1	<869	<430	<1169
1	2	<283	<61.3	<678
1	3	<62.0	<24.3	<606
1	Avg	<399	<172	<818
2	1	<150	<12.4	<14.0
2	2	<44.6	<7.54	<9.63
2	3	<93.4	<8.93	<12.6
2	Avg	<97.9	<9.62	<12.1

* At 25°C and 1 atm, adjusted to 11% oxygen

These are the results as reported in the Source Test report.

The full set of results are provided as Appendix 32 (140 pages) of the Source Test Report

The probe rinse data was not analyzed in detail in the WR-8 report because that report focused on comparing May results with those from earlier tests where there was no probe rinse data.

Concern with Modifications

- Discussion at Works regarding Probe Rinse
- Probe rinse discussion is not included in written report; Why is it being considered? Is it done in Europe?
- Also discussion of new material for probe
- Does AMESA manufacturer approve and has AMESA has been certified for these modifications?
- No written explanation of why AMESA/stack test reconciliation is more problematic compared to Europe

Probe Rinsing is a technical protocol necessary to remove material which sticks to the probe.

Probe Rinse procedure and material modifications are being considered as a result of the data analysis of the probe rinse levels and discussion with the manufacturer.

We are following the standard procedures that are also used in Europe.

We are currently in discussion with the manufacturer of the AMESA.

Mr. Chandler's Analysis

- Is the "signature data" analysis used in report an EPA/CCME/Ontario **approved method** for analyzing/comparing stack and AMESA results?
- Actual lab results for each dioxin/furan member were not given and would be very helpful to compare as they are the raw data
- Was Mr. Chandler's report sent to AMESA manufacturer?

The comparison of the distribution of PCDD/F isomers in samples is a well recognized scientific method for identifying contributors to environmental levels of persistent chemicals.

The data referred to in WR-8 was taken directly from the tables provided in Appendix 32 of the May testing report.

The WR-8 report was sent to the manufacturer and a full copy of the test report was also forwarded to them. Mr. Chandler is in on-going discussions with the manufacturer.

Mr. Chandler's Recommendations: More Data Needed

Recommendations

The uncertainty in both the direction of the differences and the magnitude of the differences between the Method 23 and AMESA data requires that more data be collected in an attempt to establish the factors that influence the AMESA results.

The procedure established for validating the AMESA at DYEC needs to be followed to its conclusion, the collection of 12 comparative samples using consistent methods, before the efficacy of the system can be determined.

So Once Again...

- Monitoring equipment cannot tell what the incinerator is emitting for dioxins and furans
- More analysis won't be done until September 2016 – 1.5 years after start-up -with no guarantee of reconciling AMESA and stack test
- AMESA LTSS was condition of ECA (7.3) and EA Condition of Approval 12.2 states all monitoring systems had to be operational at start-up
- We're operating blindly and the public is being told that there is no health risk

The DYEC AMESA results show trends in PCDD/F emissions even if they cannot be directly compared to the Regulatory results. **None** of the jurisdictions that currently mandate that long term PCDD/F samplers be installed in facilities use the results for regulatory enforcement.

The Region, its consultants, the operator, and MOECC personnel are all actively engaged in planning a strategy to improve the quality of the AMESA data.

Responses to Dioxins Exceedances

Linda Gasser
June 29, 2016

**BOTH Boilers failed dioxins stack tests
October 1 & 2, 2015**

		Unit 1		Unit 2	
Date	Run		TEQ		TEQ
Oct 1	1		212		121
Oct 2	2		188		74
	3		278		106
	Average		226		100.3

2

These results were previously presented to Council and the MOECC. They were determined to be invalid by the MOE.

Fall 2015 exceedance-notification

- Dioxins exceedance conveyed to Works October 21, 2015 –Mr. Curtis indicated he was giving pols. heads up i.e. this was already in public realm.
- Revealing emails Oct 19-21 between Covanta & MoECC in Appendix 7 Nov. 2015 Source Test report. Durham staff copied on Oct. 19th email.
- At Nov. 4th council Comm. Curtis stated no protocol in place re communicating exceedances.

3

Preliminary results provided to Councilors and the MOECC

The Owners have a protocol which they follow to report results to the MOECC. Staff developed the communications protocol for Durham.

**Closed meeting political decision to grant
Accept. Cert. Jan. 27, 2016- despite problems**

- Covanta's story of alleged "interference" - ultimately present on all stack tests including those they passed.
- Was there ANY investigation of conflicting lab results by Owners before granting AC??
- Did Covanta investigate as per specific suggestions from MoECC in Oct. 20th email?? Were any findings to either owners or MoECC?

Owners received advice on the impacts of interference and the potential quantification of interference from both labs (ALS and SGS).

Covanta investigated the potential causes of the interference and implemented an additional stripping process during the sample preparation.

Durham councillors who voted to grant
Acceptance Cert. Jan 27, 2016:

- **Aker, Ashe, Ballinger, Carter, Chapman, Drumm, McQuaid-England, Grant, Henry, Jordan, McLean, Mitchell, O'Connor, Pickles, Pidwerbecki, Chair Anderson**
- Durham only now investigating what should have been done BEFORE Acceptance Certificate granted. Current focus on Boiler 1. BOTH boilers had D & F problems in October

5

These results were previously presented to Council and the MOECC. They were determined to be invalid.

May 2016 Exceedance -notifications

- Owners' stack testing conducted May 2-11
- Mirka J. indicated D staff notified Friday May 20th re dioxins exceedance. By phone &/or written confirmation???
- AVERAGE of 3 test runs was 818pg, **13.6 times** ECA limit of 60 pg (3 Runs 1169, 678, 606)
- Massive exceedance of unknown duration

6

On Friday , May 20 M.Januszkiewicz received a verbal notification.

Delay in shutting down Boiler 1

- Whom did D-staff notify on May 20 on even a preliminary basis of exceedance? E.g. Regional Chair/Council, Ministry/Spills Action Ctr, Clarington, Co-owner York Region, Covanta?
- Tuesday May 24 Dr. Kyle in email to Works staff indicated surprise Boiler 1 was not shut down.
- Thursday May 26 Durham staff notified Quad Committee. Was this the first notification to Durham & Clarington councillors?

7

As a preliminary notification, the Region's senior personnel were notified; Chair, CAO, Commissioner of Corporate Services and Commissioner of Works.

Councillors were notified at the Quad Committee on May 26

Process to shut down Boiler 1

- On May 26 Mirka J. advised that Owners' Management Committee (MC) would meet that afternoon. MC=Senior D & Y staff.
- On May 30th at Clarington, Chair Anderson confirmed he had met with Covanta on May 26th and **requested** they shut down Boiler 1.
- Covanta shut down Boiler 1 May 26th evening.
- If D staff notified May 20, took 6 days to shut Boiler 1 down=unacceptable risk to community

8

Validated results were received late May 25.

May 26: Quad committee, the MOECC and Management Committee were updated and the decision to shut down Boiler #1 implemented

When was MoECC first notified?

- D staff indicated they received confirmed lab results Wednesday May 25th.
- Staff reported at Quad May 26th that Covanta again attempted to advance contaminated sample/lab problem/ So Covanta must have known test results before May 26th meeting.
- D staff indicated that they would be meeting with MoECC that afternoon after Quad Committee –When was MoECC first notified?

9

Validated results were received late May 25.

May 26: Quad committee, the MOECC and Management Committee were updated and the decision to shut down Boiler #1 implemented

EPA requirements to notify

- EPA Part X section [92. \(1\)](#) Every person having control of a pollutant that is spilled and every person who spills or causes or permits a spill of a pollutant **shall forthwith** notify the following persons of the spill, of the circumstances thereof, and of the action that the person has taken or intends to take with respect thereto,
 - (a) the Ministry;
 - (b) any municipality within the boundaries of which the spill occurred or, if the spill occurred within the boundaries of a regional municipality, the regional municipality;

10

Durham reported the excursion in accordance with the EPA requirements

Page 8 D-Y Spills Cont. Plan

- 4) All Spills as defined in the EPA shall be **immediately reported to the Ministry's Spills Action Centre at 1-800-268-6060** and shall be recorded in the log book as to the nature of the emergency situation, and the action taken for clean-up, correction and prevention of future occurrences. Section 11 – Spills

11

Durham reported the excursion in accordance with the EPA requirements.

Was May exceedance, “spill” reportable?

- Section 92 of the EPA states that every spill of a pollutant must be reported.
- However O. Reg. 675/98 provides a number of exemptions to section 92.
- If spill was reportable, to whom and when?

12

This was a reportable spill and it was reported in accordance with our protocols and the EPA requirements.

It was reported to District Office and the Standards Section on May 26

DYEC Spills Contingency & Response Plan Notification protocol –pg 15

- Does NOT appear set out notification requirements IF owners are the first party aware of spill e.g. contacted by lab.
- Durham MUST develop Owners spills notification protocol & post.
- Public must know who is supposed to do what and when and be notified asap.

13

The communications protocol was amended

Nagging Questions around Boiler 2

- While Boiler 1 registered latest exceedance on May stack test, BOTH boilers failed October 2015 stack tests for dioxins for all 3 runs.
- Without Amesa LTSS data, won't know if either boiler below ECA limit, other than on test dates?
- Operators can't seem to detect when D & F exceedances occurring.
- BOTH boilers need thorough review

14

As part of the Abatement Plan, both boilers are being operated and inspected in accordance with the SOPs

Has MoECC approved Boiler 1 Restart?

Staff should:

- implement Owners' spills protocol & follow up communications plan consistent with **your** obligation to protect public.
- Notify owners and public in advance of Boiler 1 restart & MoECC/Owner conditions, if any.
- Advise owners & public of **preliminary test results if failed** –lab wouldn't notify staff if not reasonably certain of failed test result.

15

Public was notified in advance of Boiler #1 restart on August 5, 2016

The lab indicated that these were preliminary results and needed to be validated prior to use.

Thank you.

Questions?

**May 2016 Dioxins exceedance –
now what?**

Report 2016 WR-7 & related
June 29, 2016. Linda Gasser

Dioxins violations =penalties & more testing in U.S.

http://www.thestar.com/news/cta/2011/08/16/us_fine_reignites_anger_over_durhams_incinerator_plans.html

By CAROLA VYHNAK Urban Affairs Reporter Tues., Aug. 16, 2011

.....the builder has been **fined \$400,000** for polluting the air at one of its U.S. plants.....Covanta Energy Corp. was fined by the state of Connecticut last month with **stern warnings to “get it right” after the second such violation in four years.**

Its critics have previously warned the region about a history of violations at plants run by Covanta, the world’s largest incinerator operator. ...The company was cited in July **for releasing dioxin at levels 250 per cent higher than the allowable limit at its plant in Wallingford,,,**

Officials with the state Department of Energy and Environmental Protection took the violation “very seriously” **and ordered more rigorous testing in future.** The pollution was detected during an annual test.“There is no margin for error here — Covanta must get it right,” said Commissioner Daniel Esty. The New Jersey-based company **was also fined \$355,000 for air emissions violations at two Connecticut plants in 2007.**

2

This was previously reported to Council and Covanta responded to the circumstances surrounding these events

October 2015 Dioxins exceedances

- Boiler 1 average: 226 pg = **376%** of limit
- Boiler 2 average: 100.3 pg = **167%** of limit

- Were Covanta/Owners charged or fined? No!
- Gullible regulator bought Covanta's story and granted request for "do-over" stack tests.
- Durham papered over a big problem.

3

The MOECC has requested the completion and implementation of an Abatement Plan. Any further action by the MOECC will be determined by the results achieved with the implementation of the Abatement Plan.

May 2016 Source Test Page 58

Unit No.	Test No.	AMESA with Probe Rinse (pg TEQ/Rm ^{3*})	AMESA without Probe Rinse (pg TEQ/Rm ^{3*})	Stack Test (pg TEQ/Rm ^{3*})
1	1	<869	<430	<1169
1	2	<265	<61.3	<678
1	3	<62.0	<24.3	<606
1	Average	<399	<172	<818
2	1	<150	<12.4	<14.0
2	2	<44.6	<7.54	<9.63
2	3	<99.4	<8.93	<12.6
2	Average	<97.9	<9.62	<12.1

* at 25°C and 1 atmosphere, adjusted to 11% oxygen by volume

4

Previously reported to Council

DYEC May exceedance

- Boiler 1 average: 818 pg = **1,360%** of ECA limit
- Has MoECC indicated there any charges &/or fines? Any additional monitoring & testing?
- No penalty = no deterrent = no lessons learned by operator/owners and no accurate record of violations history.
- Ongoing nightmare for polluted communities.

5

The MOECC has requested the completion and implementation of an Abatement Plan. Any further action by the MOECC will be determined by the results achieved with the implementation of the Abatement Plan.

HDR June 15, 2015 memo-Boiler 1

- Equipment repairs needed
- Operational issues & maintenance practices
- Extensive staff training required
- Carbon Monoxide excursions
- Several maintenance outages over last year.
- **Multiple possible causes**, no “smoking gun”
- Worst type of problem to have

Each issue was addressed in the Abatement Plan which was approved by the MOECC

HDR June 15 memo page 3

- Other potential causes for the high D&F include the PAC distribution within the baghouse, flue gas residence time in the 250°C to 400°C range, **certain NOx Reduction System operating parameters such as VLN system nozzle condition and recirculated gas flow**, SNCR system ammonia consumption, fly ash recirculation rates and moisture addition in the conditioning mixers, ash extractor level control, and combustion control among other parameters.

7

The VLN system is an integral part of the overall combustion control system and as such would be a potential contributing factor if it is determined the combustion controls are contributing to the dioxin problems. By design, the VLN Gas injected into the upper furnace creates additional turbulence and results in a more thorough mixing of the flue gas in this zone, reducing any stratification and zones of poor combustion. Based on the information reviewed to date, combustion control does not appear to be a major contributing factor to dioxin emissions at the DYEC.

Is VLN working as promoted?

- Covanta's Very Low Nox (VLN) technology-was it "proven" over long term when Covanta selected in 2009, i.e. operating with no unintended tradeoffs?
- Covanta's DYEC NoX Stack Test emissions high (111) =95% of ECA limit – CEMS 24 hour averages up to 114. Limit = 121 mg/m³.
- VLN identified as potential problem by citizens in August 2010 letter to MoECC-copy of relevant section provided to Mirka J. June 8th, 2016.

8

No exceedences of the NO₂ levels reported to-date.

The VLN system is evaluated during the abatement plan.

The NO_x limit is very stringent.

Semi-annual costs update delayed to September

- Jan 2016 COW-1 –total construction costs at that date: **\$296.05 million** vs \$272.5 2009 budget
- On June 15th Comm. Curtis indicated Bypass Waste provision being disputed by Covanta.
- Estimates for proposed fixes and who would pay for what.
- Covanta will dispute everything possible. Have more experience and DR already backed down.
- For consultants & lawyers it's like winning the lottery.

9

The contractual costs for the Design, Build and Operate paid to Covanta were originally approved as \$252M and the projected actual costs remain as \$252M

The additional costs were not associated with the Covanta portion of the project.

DY burner a money pit & political headache

- Will Owners and/or Covanta fix absolutely everything that has been identified so far in Phase 1 and still to be identified in Phase 2? Or cherry pick and cross your fingers?
- Legal and consulting costs approved in 2016 COW-1 won't be enough to address Abatement Plan and related.
- You cannot wait until September semi-annual update –money will be spent over summer.

10

The Abatement Plan will be fully implemented.

Potential Phase 1 fixes and proposed Phase 2 timeline

- Phase 1 potential fixes identified. Estimated cost & time required?
- Approx. how long needed to i.d. Phase 2 fixes after boiler restart?
- Should prepare to hold special summer meeting. Imagine dealing with this at your September C.O.W. meeting.

11

Phase 1 costs for any works completed on the DYEC are a Covanta responsibility.

Schedule of Phase 2 activities provided to Council and public.

The Phase 2 activities will be completed with the demonstration of a compliance Source Test which is currently schedule in October , 2016

Durham's share: \$223++ million up in smoke

- Covanta & burner -performing as citizens expected i.e. consistent with Covanta's operating & violations history
- Lack of due diligence by Durham have put local food, public health & finances at risk.
- York must weigh in -how much more will they be willing to pay?

12

The DYEC monitoring program includes source testing, ambient air monitoring, groundwater and surface water monitoring, soil testing, noise and odour testing.

Status of MoECC approval to restart Boiler 1? Any changes to AP & related?

- Council must be notified prior to Boiler 1 restart, review AP & MoECC conditions, if any and require at **timely** updates.
- Public **MUST** be notified of **in advance** of Boiler 1 restart so they could choose to take protective measures.
- Which parties will monitor restart & Phase 2?
- What is Durham's Plan B if things go wrong after restart, prior to stack testing?

13

Council and the public were notified of the Boiler#1 restart on August 5th

Durham and York staff, HDR and Airzone will monitor both the diagnostic source testing and the compliance source testing.

In the event that either the diagnostic or compliance source tests fail to demonstrate compliance then we will shut down the boiler and initiate discussions with the MOECC on the way forward.

Durham must develop an exit strategy.

- Covanta will continue to disappoint.
- Politicians tend to do the right thing **AFTER** they have exhausted all options.
- You require **INDEPENDENT** legal counsel.

Thank you for your attention.
Questions?

May Source Test Results

Table is taken from HDR Report, 2016-WR-7, Attachment 2
(highlighting is mine)

Parameter			Unit 1		Unit 2	
	Limit	Units	Result*	% of Limit	Result*	% of Limit
TSP	9	mg/Rm ³	<0.62	7	<0.48	5
Cadmium	7	µg/Rm ³	<0.043	1	<0.043	1
Lead	50	µg/Rm ³	0.27	1	0.22	0
Mercury	15	µg/Rm ³	0.44	3	0.27	2
HCl	9	mg/Rm ³	5.6	62	5.4	60
SOx	35	mg/Rm ³	0.2	1	0	0
NOx	121	mg/Rm ³	111	92	111	92
THC	50	ppm	0.8	2	0.9	2
CO	40	mg/Rm ³	22.5	56	29.8	75
Dioxins and Furans	60	pg TEQ/Rm ³	<818	1363	<12.1	20

These results were previously reported to Council.

The MOECC has directed Covanta to prepare and implement an Abatement Plan to address the noncompliance with the ECA.

Process Upsets During Stack Testing: Samples Discarded

Page 6 and 7 of Attachment 2, AirZOne Report

Problems

- **May 4th: During the start of the second traverse, the CO concentration in Boiler 1 spiked. This was followed by a spike in CO concentrations in Boiler 2. Ortech was in the middle of finishing up traverse one for both stacks. They paused the sampling and removed the probes from the stack as soon as they heard about the excursions from the control room. The probes were capped. After Covanta discussed the spiked, it was decided to eliminate the two samples. Ortech cleaned up their equipment and recovered the trains.**

May 5th: The second set of SVOC tests started smoothly. At approximately the midpoint of the test, a message came up from the control room that the hopper had bridged. This caused the garbage to stop flowing into the incinerator and the flames to extinguish. Ortech removed the probe from the stack and capped it. Covanta discussed the issue and decided to suspend sampling on Boiler 1 since it would take several hours to get the system up and running again. It was also decided to clean out the incinerator and therefore Boiler 1 would not be sampling on May 6th.

Covanta followed the protocol (SOP) approved by the MOECC which lists what action is to take place in the event of a CO spike. Since this required the introduction of Natural Gas to the combustion process, the test was invalidated.

In order for the stack test to be valid, the facility must be operating under normal operational conditions which means that combustion must occur without the introduction of natural gas.

Some Interference Detected Again: Brings To Question Permission to Re-do after First Failed Stack Test During Acceptance Testing

outside the target retention time windows of the furan congeners and the data processing technician was easily able to identify and flag the peaks. The peaks corresponding to DPEs were easily identified and flagged as such. Their total contribution was relatively modest at less than 15% or less of the furan amounts. Thus initially, if flagged the peak is identified as an interfering compound and not included in the total dioxin/furan mass quantified. However, the peaks are included, when converted to TEQ equivalents for the POI (Point of Impingement) calculations and thus yield a more conservative value of the TEQ for determination of acceptability of the results. Finally, the data, baseline determinations, and

The MOECC made a decision , after the review of technical data, to permit the re-do the lab analysis.

The investigation carried out by Regional Staff clarified the impact of interference.

The Abatement Plan requires that a collaborative effort be initiated with the lab, the Regions and the third party specialists to review the conduct and results of the testing.

From HDR Report, WR-7, Attachment 2
High Condensable Particulate Matter (CPM) Emissions

Discussion of Condensable Particulate Matter Emissions

Although the ECA does not contain a limit for CPM, but does require quantification of CPM during each stack test program. Regions personnel raised a question regarding the perceived high condensable particulate matter (CPM) results summarized in the ORTECH report and whether or not there was any connection to the high dioxin and furan results for Unit 1.

The condensable particulate matter levels were similar for both boilers. Therefore, there is no direct correlation between the dioxin and furan levels and the condensable particulate matter.

From Manual on Emissions Reporting

5.1.1 Filterable versus Condensable PM

Filterable PM is particles that are directly emitted as a solid or liquid at stack or release conditions and captured on the filter of a stack test train. Filterable PM may be PM₁₀ or PM_{2.5}. Condensable PM is material that is in the vapor phase at stack conditions but condenses and/or reacts upon cooling and dilution in the ambient air to form a solid or a liquid particulate immediately after discharge from the stack. Condensable PM is almost always PM_{2.5} or less.

Combustion sources typically emit both filterable and condensable emissions. Examples include boilers, furnaces and kilns, and both reciprocating internal combustion engines and turbines. Fugitive dust sources emit filterable emissions only. Examples of fugitive dust sources include storage piles and unpaved roads at industrial sites.

The Total Suspended Particulate (TSP) values for filterable Particulate Matter is in compliance with the ECA limits. (for a source test)

ECA limit TSP: 9 mg/Rm³

Source Test:

Boiler #1: <0.62 mg/Rm³;

Boiler #2: <0.48 mg/Rm³

The Ambient Air results for TSP includes the combined particulate resulting from the filterable and condensable portions.

The results of the testing indicate compliance with the regulatory limits.

High CPM + High Dioxin/Furan Increased Health Risk

CPM

Unit	DYEC		Plant 1	Plant 2	Plant 3	Plant 4
	Fall 2015	Spring 2016	2012	2011	2012	2011-2015
1	0.79 *	<9.15	2.41	19.87		0.50 - 3.14
2	0.55 *	10.16	3.43	18.54		0.35 - 3.18
3					6.25	

NOTE: All results are in units of mg/Rm³ corrected to 11% O₂.
* Includes only the organic fraction. The inorganic fraction was compromised by the analytical lab.

Dioxins and Furans

Unit	DYEC		Plant 1	Plant 2	Plant 3	Plant 4
	Fall 2015	Spring 2016	2012	2011	2012	2011-2015
1	<27.0 - <36.0	<818	6.72	12.61		14.8 - 41.3
2	<22.2 - <32.4	<12.1		65.83		2.5 - 23.4
3					14.05	

NOTES:

- All results are in units of pg 1-TEQ/Rm³ corrected to 11% O₂.
- The Plant 2, Unit 2 dioxin results are skewed high because of the results of a single run. The CPM measured during the same run was the lowest of the three CPM runs.

The PM_{2.5} measured at the ambient air stations includes the condensable portion of Particulate Matter and is in compliance.

The dioxin and furan levels measured at the ambient air stations is also in compliance.

These are the indicators of regulatory compliance.

HDR Technical Memo

June 15, 2016

- **Very long list of possible causes** (build-up of residue in hopper, build-up of residue between bags, flue gas residence time could be factor in denovo D/F formation, VLN system nozzle condition and recirculated gas flow, ammonia consumption, fly ash recirculation rates, ash extraction level control, combustion control, ...)
- Don't really know what caused it
Why weren't these issues and maintenance problems identified by Covanta and HDR earlier??
Is it a design problem??

HDR monitors the maintenance and equipment condition in accordance with the operations contract.

Covanta conducts maintenance in accordance with the approved annual and five-year maintenance plans.

Whether the cause was a design issue will be answered as part of the Abatement plan diagnostics.

Is this a well maintained facility?

HDR



Photo 31 - Spray Nozzle - 3 of 5 Nozzles Plugged - PM Program Lacking

This photo is from HDR who monitors the maintenance and equipment condition in accordance with the operations contract.

Covanta conducts maintenance in accordance with the approved annual and five-year maintenance plans.

HDR

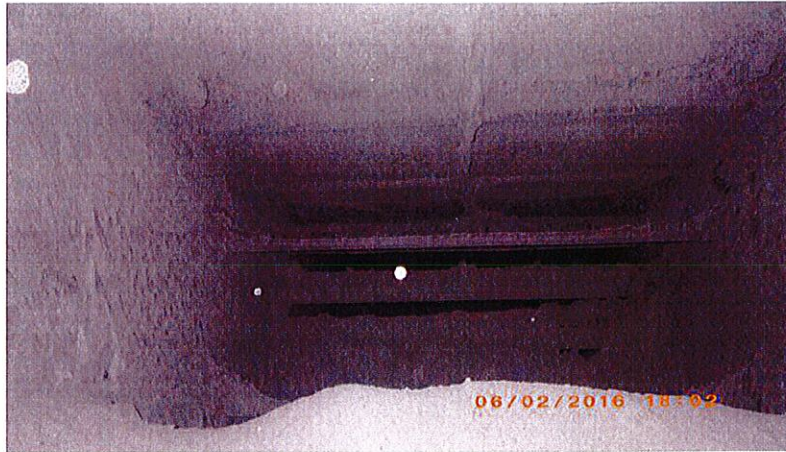


Photo 37 - Inlet To Baghouse Inlet Duct - Baffle Screens at Far End Plugged (as found)

HDR monitors the maintenance and equipment condition in accordance with the operations contract.

Covanta conducts maintenance in accordance with the approved annual and five-year maintenance plans.

HDR



Photo 24 - View Looking Through Hole in Tubesheet - Shows Plugging Between Bags - NOT TYPICAL

HDR monitors the maintenance and equipment condition in accordance with the operations contract.

Covanta conducts maintenance in accordance with the approved annual and five-year maintenance plans.

Concerns With Abatement Plan

- Cause of exceedance still unknown
- Operational data did not detect problem
- Only reason for detection of this extreme exceedance was the stack test
- Owners and regulator should not allow Covanta to start up without a more thorough and conclusive investigation
- **Independent expert academic investigation and input is needed from respected research scientists and medical toxicologists instead of involving only engineering analysis**
- Thorough review and consideration of current academic research
- Abatement plan does not identify a new set of more stringent operating limits and systematic plan that would ensure all emission limits are not exceeded – if that is not possible, it should not be operating!!

The diagnostic testing will help to identify modifications necessary to improve the performance of the plant.

Operational data provides information on the performance of the DYEC

The Abatement Plan was approved by the MOECC and we are currently in Phase 2 of implementation (both boilers operating)

Is VLN one of the root causes?

- Clues: more CO, more D/F, more ash
- Relies on minimal excess oxygen (but permit requires minimum 6%)
- Requires precise control, made more difficult by unknown properties of burn material
- More sites for dioxins/furans re-synthesis
- VLN is a cheaper alternative to catalytic process, but is it good enough?

The VLN system is an integral part of the overall combustion control system and as such would be a potential contributing factor if it is determined the combustion controls are contributing to the dioxin problems. By design, the VLN Gas injected into the upper furnace creates additional turbulence and results in a more thorough mixing of the flue gas in this zone, reducing any stratification and zones of poor combustion. Based on the information reviewed to date, combustion control does not appear to be a major contributing factor to dioxin emissions at the DYEC.

Currently, as part of the Abatement Plan investigation Covanta is evaluating performance of VLN system.

Inadequate Monitoring

- This project has demonstrated that incinerators are incapable of detecting when limits are exceeded for dioxins/furans, mercury, lead, PM_{2.5}, PAHs, and many other toxins
- Exceedances can go undetected for long periods of time between stack tests
- Exposures to humans and environment are not quantifiable so increased risk is unknown
- Bottom line: INCINERATION SHOULD BE BANNED

We have demonstrated that the levels for mercury, lead, PM_{2.5}, PAHs and the other monitored parameter were well within the compliance levels of the regulatory standards

**A Moratorium is Needed;
RESTART is Not Acceptable Given Evidence, Lack of
Thorough Academic Study of Causes and Risk to Public**

- Dioxins and Furans are deadly pollutants
- Public has been exposed to high emissions for unknown duration
- Acceptance Stack Test failed by wide margin and discarded without proper investigation
- AMESA and Stack Test results do not align
- May stack test emissions are 1,363% of the regulatory limit!
- HOW CAN YOU ALLOW A RESTART WITHOUT KNOWING CAUSE AND WITHOUT BEING ABLE TO DETECT EXCEEDANCE DURING OPERATION?
- Public health cannot be sacrificed while you and Covanta experiment to figure this out! Enough is enough!!!

Any diagnostics and correction of potential problems can not be done through theoretical academic studies.

The approved MOECC abatement plan outlines the necessary steps to address compliance.

2016 – WR – 06

Ambient Air Monitoring Plan Update

What confidence can we have with the AAMP , and with the consultants (Stantec) who designed it, when the plan **discontinued ambient air monitoring of dioxins/furan, heavy metals and PAHs during commissioning?**

Deliberately ceasing ambient air monitoring of these parameters during commissioning was not in the public interest.

The Ambient Air Monitoring Plan was developed in consultation with and approved by the MOECC and was based on MOECC requirements specific to the DYEC. The MOECC did not require any sampling to be conducted during commissioning, however, the Region (on the advice of Stantec) decided to voluntarily continue continuous monitoring during this period, which exceeded the MOECC requirements.

Stantec is a certified consulting agency with professional personnel whom must meet the strict requirements of their respective certifying agency and regulatory bodies. The laboratories which analyze the samples must also meet strict requirements of the certifying agency.

WR-06 Attachment 2

Attachment #2 – The table below provides a summary of measured parameters at the ambient monitoring stations.

Monitored Media	Testing	Location
Ambient Air (full station)	Continuous monitoring (PM _{2.5} , NO _x , SO ₂)	Upwind (Courtice WPCP) Downwind (Rundle Road) Downwind (Crago site)
	Non-continuous: Metals (every 6 days); Polycyclic Aromatic Hydrocarbons (PAHs) (every 12 days) Dioxins and Furans (every 24 days)	
Ambient Air (partial station)	Non-continuous: Total Suspended Particulate (TSP) and Metals (every 6 days)	Site Boundary

The frequencies at which non-continuous parameters are sampled are not arbitrary, but instead are specified by the MOECC and follow a North American wide sampling schedule adhered to by all Canadian provinces and the United States.

Ambient Air Monitoring of Dioxins/Furans Is Very Limited

Feb 2015 to Oct 21 2016: **0%** of time

Oct 21 2015 to Jan 25 2016: **less than 10%** of time

Rundle and Crago Stations 9 out of 95 days

Courtice WPCP Station 7 out of 95 days

- Furthermore, some of those monitoring days the incinerator boiler(s) were offline/not operating
- The Stantec report (Attachment 4) does not adequately discuss these limitations

The Stantec quarterly and annual reports discuss the equipment availability and sampling schedule. These reports are sent to the MOECC for their review and comments.

Ambient monitoring for dioxins and furans is done on a set sampling schedule (specified by the MOECC). The sampling schedule is set completely independent of the operating conditions of the facility. Section 3.1 of each quarterly report discusses the frequency at which each parameter is sampled.

Of Limited Data Collected...

Maximum measured D/F concentration

0.044 pg TEQ per cubic metre at Courtice WPCP
on January 25, 2016

which is **44 % of the MOECC criteria** of 0.1 pg TEQ per cubic metre

This monitoring value is in compliance with the MOECC ambient air quality criteria which is set to be protective of the environment and human health.

**Meeting Ambient Air Quality Criteria
and/or Regulatory Standards**

≠

Protection of Public Health

Many standards/guidelines:

- are not health-based
- are not current
- **do not reflect the current state of knowledge**

The regulatory agencies are responsible for the current ambient air criteria as well as the development and implementation of new/updated standards. This is the responsibility of the MOECC, not the Region.



Stantec Consulting Ltd.
100-401 Wellington Street West, Toronto ON M5V 1E7

Table 1 Summary of the 98th Percentile Daily Average PM_{2.5} Concentrations Measured to Date (µg/m³)

Period	98 th Percentile (µg/m ³)	CAAQs (µg/m ³)
June 2013 - June 2014 (Year 1)	22.6	23.5
July 2014 - June 2015 (Year 2)	23.4	26.6
July 2015 - December 2015 (Year 3)	26.8	25.7

Attachment #6: PM_{2.5} 98th Percentile Summary

Table 1 Summary of the 98th Percentile Daily Average PM_{2.5} Concentrations Measured to Date (µg/m³)

Period	98 th Percentile (µg/m ³)
November 2014 - October 2015 (Year 1)	20.5
November 2015 - December 2015 (2-months of data)	42.9 ¹

Notes: 1 - the 98th percentile of two months of measurement data is not comparable to the CAAQS

The ambient air quality standards are being met at all the monitoring stations with the exception of a few exceedances of the Benzo(a)pyrene limit.

The DYEC has not been identified as being the source of benzo(a)pyrene. Concentrations of B(a)P above its criteria are commonly measured throughout Ontario.

Stantec Summary on PM_{2.5} Emissions Attachment 5

In summary, there is no evidence in the data reviewed to suggest that the DYEC operations were the cause of the changes in measured ambient PM_{2.5} levels. The stack emissions from the facility (based on the ORTECH assessment) are predicted to be insignificant relative to background levels and the ambient monitoring data shows that the highest measured PM_{2.5} concentrations occurred from directions for which the DYEC could not be a source - indicating that other sources in the general area are the dominant contributors.

This statement accurately reflects the Stantec assessment of the DYEC impact to the ambient air PM_{2.5} levels.

“The stack emissions from the facility (DYEC) based on the ORTECH assessment are predicted to be insignificant relative to background levels”

What Is Missing From the Analysis

- Well accepted that fine and ultra-fine particulate matter are the most dangerous particulate emissions yet these PM_{2.5} and ultra-fines remain unregulated;
- Mass-based model is severely flawed; it does not evaluate/consider the **number** and **size of particulates** nor the **availability of toxins which can adsorb onto them**
- Incinerator emissions are especially concerning; the Regions and the MOECC failed to adequately consider current research on ultrafine particulates during EA despite repeated and multiple requests from the public

The monitoring network measures Total Suspended Particles (TSP) and the metals that are adsorbed to them as well as PM_{2.5}. No exceedances have been measured. The pie chart below demonstrates that the source contribution of ultra-fine particulate (UFP) from an EFW only represents about 1% of the total contribution into a typical air shed.

Taken from the paper: *“Understanding the Health Effects of Ambient Ultrafine Particles”*, HEI Review Panel on Ultrafine Particles: Health Effects Institute: Boston, Massachusetts

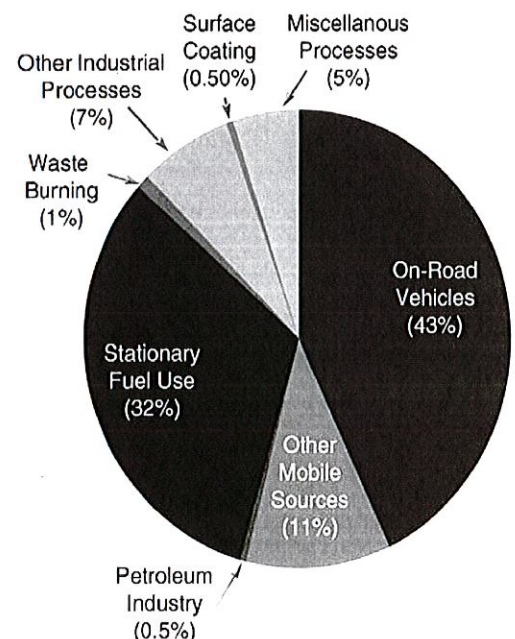


Figure 2. Source contributions to UFP emissions in California's south coast air basin (1996) that surrounds Los Angeles. Total PM_{0.1} emissions were 13.25 metric tons per day. (Adapted from Cass et al. 2000, Figure 3a, with permission from the Royal Society.)

Statement of Evidence

Particulate Emissions and Health

**Proposed Ringaskiddy
Waste-to-Energy Facility**

Professor C. Vyvyan Howard MB, ChB, PhD, FRCPath.

June 2009

Professor C. Vyvyan Howard MB, ChB, PhD, FRCPath.

Vyvyan Howard is a medically qualified toxic-pathologist specialising in the problems associated with the action of toxic substances on the fetus and the infant. He is Professor of Histochemistry at the University of Ulster and has written a number of papers and book chapters and spoken in a variety of forums to draw attention to the threat posed by environmental pollutants to the developing fetus.

He is a Fellow of the Royal College of Pathologists, Past President of the Royal Microscopical Society, Member of the British Society of Toxic-Pathologists, Immediate Past President of the International Society of Doctors for the Environment and Member of the European Teratology Society. He has just completed 6 years as a toxicologist on the UK Government DEFRA Advisory Committee on Pesticides.

A large part of Professor Howard's current research is the investigation of the fate toxicology of nanoparticles. His research team is in receipt of two large EU grants; 'NanoInteract' and 'NeuroNano'. He has co-edited a book entitled 'Particulate Matter: Properties and Effects upon Health' published in September 1999 [1].

Vyvyan Howard has sat on two EU expert groups considering the threats and benefits posed by nanotechnology and recently addressed the House of Lords Select Committee on Science and Technology investigating the use of nanotechnology in food.

Statement of Evidence, Particulate Emissions and Health
page 7

Size (µm)	Contribution*	
	Number	Mass
Ultrafine particles		
NC _{0.01-0.01}	88%	3%
NC _{0.02-0.05}		
NC _{0.05-0.1}		
Fine particles		
MC _{0.1-0.5}	12%	97%
MC _{0.5-1.0}		
MC _{1.0-2.5}		
Total ultrafine and fine particles		
0.01-2.5	100%	100%
Coarse particles		
PM _{10-2.5}	—	20%
TSP-PM ₁₀	—	30%

* Based on the data from Erfurt 1995 to 1998: contribution of ultrafine and fine particles to number and mass in the size range of 0.01-2.5 µm and contribution of coarse particles to mass of total aerosol size distribution.

Size Ranges and Contribution to Number and Mass Concentration (23)

In comparison to other sources of ultrafine particulate, the particles per minute rate of

From the paper: “Ultrafine particle emission of waste incinerators and comparison to the exposure of urban citizens”

Giorgio Buonanno a,b,* , Lidia Morawska b

Table 2
Ultrafine particle emission factor of outdoor and indoor sources.

Source	Emission factor (part min ⁻¹)	References
<i>Waste incinerator</i>	9.1×10^{12}	Maguhn et al. (2003) Zeuthen et al. (2007) Buonanno et al. (2009a) Buonanno et al. (2010a) Buonanno et al. (2011b) Ragazzi and Rada (2012) Ozgen et al. (2012) Cernuschi et al. (2012) Buonanno et al. (2012b)
<i>Traffic</i>		
Fleet	6.1×10^{14} ^a	Keogh et al. (2010)
High duty vehicle	5.4×10^{15a}	
EURO 6 vehicle	5.0×10^{11b}	
<i>Cooking</i>	1×10^{12}	He et al. (2004) Buonanno et al. (2011c)
<i>Incense and candles</i>	1.7×10^{12}	Pagels et al. (2009) Stabile et al. (2002)
<i>Smoking</i>		
Sidestream tobacco cigarette	1.9×10^{11}	He et al. (2004)
Mainstream tobacco cigarette	4.7×10^{12}	Fuoco et al. (2014)
Mainstream e-cigarette	6.6×10^{12}	
<i>Welding in automotive plants</i>	2.8×10^{15}	Buonanno et al. (2011d)

^a The emission factor represents the value for a single vehicle with a cruise velocity of 50 km h⁻¹.

^b The emission factor represents the value for a single vehicle with a cruise velocity of 50 km h⁻¹ that verify the imposed limit imposed by the Commission Regulation (EC) N. 692/2008 of 6.0 × 10¹¹ part km⁻¹ min⁻¹.

**emission is comparable to activities such
as cooking or smoking cigarettes**

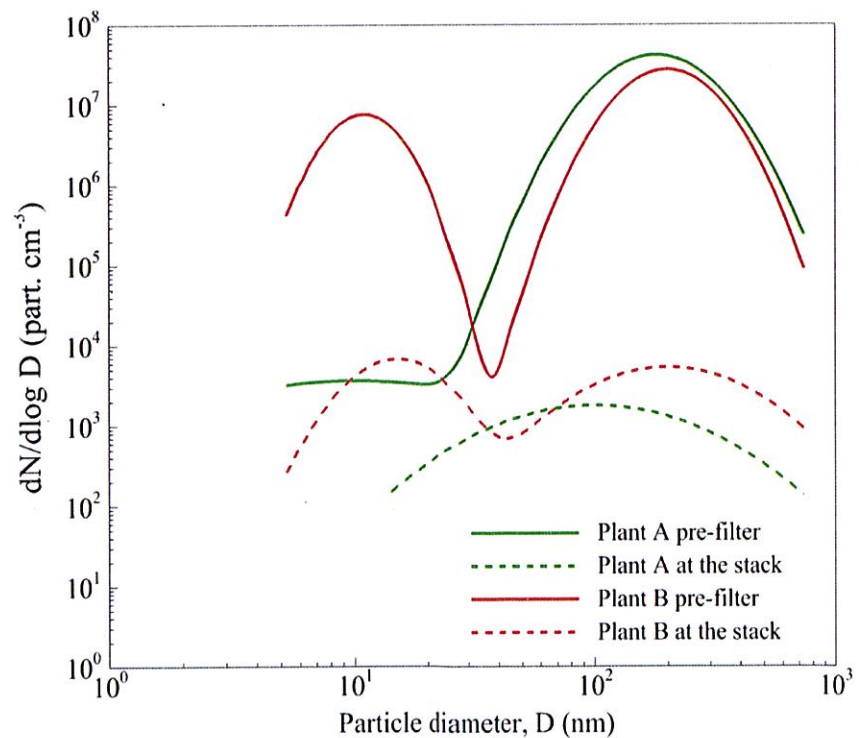
Statement of Evidence, Particulate Matter and Health
page 21

Waste incinerators with the most modern bag filter technology for clean-up of flue gases still emit an aerosol of ultrafine particles, unlimited by legislation [78-81].

Collection efficiencies for particles < 2.5 µm are between 5 and 30% before the filters become coated with lime and activated carbon.

Particle size	Collection efficiency
PM10's	between 95% and 98%
PM 2.5's	between 65% and 70%
PM below 2.5	between 5% and 30%

With respect to the efficiency of the baghouse to remove ultrafine particulate (UFP), "Comparison amongst distribution measured at the stack and before the fabric-filter indicates that filtration efficiency of both the fabric filters (in terms of UFPs) is higher than 99.99%!!!



From the presentation titled "AIR EMISSIONS FROM WASTE-TO-ENERGY PLANTS: FINE AND ULTRAFINE PARTICLES" by Prof. GIORGIO BUONANNO PhD.

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page 25

4.6 Speciation – volatile and organic components

Out of over 11 million known chemicals, about 100,000 are being produced on industrial scale and about 1,000-2,000 new chemical entities are being introduced each year [97]. Any of these industrial chemicals may be disposed of by incineration and there is a near infinite number of possible combustion and incomplete combustion products that may be emitted either as particulate matter or by adsorption onto or reaction on the surface of particulates. Even if these emissions were monitored, and the vast majority are not, then little or nothing is known about the possible health impacts of the bulk of these emissions.

Volatile chemicals condense on particle surfaces as the incinerator exhaust gases cool. Their concentration on smaller particles is higher, being related to surface area rather than particle mass. This has been subject to particular studies for dioxin and dioxin-like chemicals, but is likely to be similar for many others e.g. [98]. It also holds for volatile chemicals that incinerator UFPs pick up from urban air, specifically the PAHs from vehicle emissions. These cannot penetrate into the body as gases, but if attached firmly to UFPs can be carried through the lung epithelium.

The monitoring network measures Total Suspended Particulate (TSP) and the metals that are adsorbed to them at the stack and at the ambient air monitoring stations.

No exceedances have been measured.

Statement of Evidence - Particulate Emissions and Health
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Ultrafine particles have been found to be chemically highly reactive, even when originating from a relatively unreactive bulk material [25]. The massive surface area associated with a small mass of nanometre-sized particles can act as a catalytic surface for the secondary formation of organic compounds such as the *de novo* synthesis of dioxins.

The relative toxicity of ultrafine particles arising from different processes remains un-researched. The levels of heavy and transition metal inputs in municipal solid waste are very much higher than with conventional fuels. Such increases must inevitably be associated with an increase in toxicity and consequently the likelihood of adverse health effects among the local receptors.

The monitoring network measures Total Suspended Particulate (TSP) and the metals that are adsorbed to them at the stack and the ambient air monitoring stations.

PAHs are also measured.

No exceedances have been recorded.

Statement of Evidence, Particulate Matter and Health
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Chao [103] comments that even though a large number of atmospheric dispersion models exist and are readily available for use, the risk assessor is generally faced with little or no data on the atmospheric particle size distribution of PCDD/Fs. Lohman and Seigneur [111] conclude that "it is essential to obtain accurate characterizations of the particle size distribution of particulate PCDD/F because the dry deposition flux is very sensitive to the particle size distribution". Without such data accurate risk assessment is not possible and yet there is no evidence that it has been collected or used in relation to this application.

The particle size distribution from the stack emissions was included as part of the ORTEC report.

The distribution of the Total Suspended Particles (TSP) is:

PM₁₀ ~ 80%

PM_{2.5} ~ 40%

All values for TSP were in compliance

Other Concerns with Ambient Air Reports

- Consecutive hours of very high PM_{2.5} concentrations
- Benzopyrene exceedances continue
- Zero “0” entries for numerous hours valid?
- Invalidation of numerous high PM_{2.5} readings (for example July to September 2015)

The assessment of compliance cannot be based on PM_{2.5} individual hourly readings.

The DYEC has not been identified as being the source of any of the measured benzo(a)pyrene exceedances. All measured ambient B(a)P levels remain below the upper risk threshold.

All the ambient air monitoring data is reviewed and independently validated by MOECC who have not had any issues with the data invalidation conducted for any of the quarterly reports. Ambient monitors are sensitive instruments whose readings may at times be affected by unusual meteorological conditions or other influences – reviewing the data, identifying these instances and invalidating them is a standard procedure for any ambient monitoring program.

**Please View the Ambient Air Reports
In Context of These Major Limitations**

- Sound public health decisions and analysis are not based on *compliance*, especially when standards don't reflect current science and are not precautionary
- Current methods could be completely missing the mark in assessing human health risk
- Understand the **very significant limits of the ambient air monitoring and modelling**
- The most direct measure is the STACK TEST
- **Non-continuous ambient air monitoring for dioxins/furans must be re-evaluated**

The MOECC has stated that the determination of risk to Human Health and the environment is based on regulatory standards. The regulatory standards for dioxins and furans in ambient air were recently made stricter.

The region adheres to the MOECC approved plan for ambient air monitoring.

Monitoring in the area is also conducted by the Ministry of Transportation and demonstrates compliance.



Town of Whitby
Office of the Town Clerk
 575 Rossland Road East, Whitby
 www.whitby.ca

C.S. - LEGISLATIVE SERVICES

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	Take Appr. Action

September 22, 2016

Debi Wilcox, Regional Clerk
 Regional Municipality of Durham
 605 Rossland Road East
 Whitby ON L1N 6A3

Re: Public Works Department Report, PW 30-16
 Town Comments on Draft 2017 Region of Durham Road Program and 9-Year
 Forecast

Please be advised that at a meeting held on September 19, 2016, the Council of the Town of Whitby adopted the following recommendation:

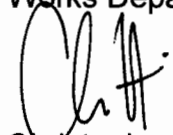
1. That the Clerk circulates report PW 30-16 to the Region of Durham;
2. That the Region be requested to include sufficient funds in their 2017 and 9-Year Capital Roads Program to complete the following projects in 2017:
 - a. Cochrane Street intersection improvements at Rossland Road for construction in 2017 (advanced from 2021);
 - b. Cochrane Street rehabilitation from Ferguson Street to Vernon Street for construction in 2017 (advanced from 2020).

Completion of the above projects would eliminate barriers along the north-south priority cycling network connecting the Waterfront Trail and Greenbelt Cycling Route;

- c. Initiate an Environmental Assessment in 2017 for Lake Ridge Road from Dundas Street to Highway 407 (expand existing project limits between Dundas Street and Rossland Road) associated with the opening of the Highway 401 and 407 interchanges at Lake Ridge Road;
- d. Initiate an Environmental Assessment in 2017 for Thickson Road from Taunton Road to Winchester Road associated with the opening of the Highway 407/412 project;
- e. Initiate an Environmental Assessment in 2017 for improvements to Victoria Street between Gordon Street and Brock Street, including the assessment of new/improved pedestrian and cycling opportunities for crossing Victoria Street; and,

- f. Initiate an Environmental Assessment in 2017 for Lake Ridge Road to review the realignment of Columbus Road and Concession 7 (in Pickering) to eliminate the existing offset intersections and provide a safe east-west vehicular and cycling connection between Municipalities.
3. That the Region ~~be requested to include~~ sufficient funds in their 2017 and 9-Year Capital Roads Program to complete the following projects in 2018:
 - a. Initiate an Environmental Assessment in 2018 for the widening of Hopkins Street and ~~CP Rail Grade Separation~~ from Consumers Drive to Dundas Street to improve cycling and pedestrian accommodation and support development of the Port Whitby area; and,
 - b. Taunton Road and Anderson Street intersection improvements project for construction in 2018 to address existing traffic capacity and cycling deficiencies on Anderson Street.
4. That the Region be requested to include sufficient funds in their 2017 and 9-Year Capital Roads Program to advance the Hopkins Street Overpass at Highway 401 for construction in 2021 (advanced from 2025) to improve cycling and pedestrian accommodation and support development of the Port Whitby area;
5. That the Region consider deferring funds in their 2017 and 9-Year Capital Roads Program for the following projects in order to accommodate the advancement request of the above noted projects:
 - a. Champlain Avenue rehabilitation from Consumers Drive to Thornton Road (construction in 2019 from 2017); and,
 - b. Thickson Road widening from Wentworth Street to CN Rail (construction in 2023 from 2020).
6. That the Region be requested to establish a 10-Year watermain and sanitary sewer replacement program, to allow coordination with municipal road projects and consider preventative infrastructure maintenance needs;
7. That the Region be requested to establish a 10-Year cycling facility implementation program to allow coordination with municipal projects; and,
8. That Town staff meet with Regional staff to discuss who does what regarding street lighting on Regional Roads and report back to Town Council.

Should you require further information, please do not hesitate to contact the Public Works Department at 905-430-4307.



Christopher Harris
Town Clerk

Copy: S. Beale, Commission of Public Works

Attach



Town of Whitby Report

Report to: Operations Committee
Date of meeting: September 12, 2016
Department: Public Works Department

Report Number: PW 30-16
File Number(s): RMD-RO-1

Report Title: Town Comments on Draft 2017 Region of Durham Road Program and 9-Year Forecast - Revised

1. Recommendation:

- 1. That the Clerk circulates report PW 30-16 to the Region of Durham.**
- 2. That the Region be requested to include sufficient funds in their 2017 and 9-Year Capital Roads Program to complete the following projects in 2017;**
 - a. Cochrane Street intersection improvements at Rossland Road for construction in 2017 (advanced from 2021).**
 - b. Cochrane Street rehabilitation from Ferguson Street to Vernon Street for construction in 2017 (advanced from 2020).**

Completion of the above projects would eliminate barriers along the north-south priority cycling network connecting the Waterfront Trail and Greenbelt Cycling Route.

- c. Initiate an Environmental Assessment in 2017 for Lake Ridge Road from Dundas Street to Highway 407 (expand existing project limits between Dundas Street and Rossland Road) associated with the opening of the Highway 401 and 407 interchanges at Lake Ridge Road.**

7. That the Region be requested to establish a 10-Year cycling facility implementation program to allow coordination with municipal projects.

8. That Town staff meet with Regional staff to discuss who does what regarding street lighting on Regional Roads and report back to Town Council.

2. **Executive Summary:**

N/A

3. **Origin:**

Public Works Report PW 30-16 originates from a request from the Region of Durham Works Department to provide comment on their Regional Road Program for consideration during their 2017 budget process.

4. **Background:**

Each year the Region of Durham requests Town staff to provide input into their capital road program. The information provided to Town staff as the basis for comment, was the Regional Council approved, 2016 Capital Budget and Nine Year Forecast (see Attachment 1). Highlighted in this report is a summary of staff comments pertaining to the Region's forecasted 2016-2025 road construction program.

In addition, this report also includes recommendations pertaining to the need for the development of a similar 10-year program for watermain, sanitary sewer and polybutylene water service replacements and a 5-year program for cycling facility implementation projects. These requested forecast programs will allow for better coordination with the Town's long-term planning and asset management program and improve active transportation opportunities within Durham Region. The report also includes recommendations for staff to meet and discuss with the Region street lighting roles and responsibilities on Regional Roads and report back to Council.

5. **Discussion/Options:**

5.1 Regional Road Program

Provided in Attachment 2 is a summary of the Region's 2017 Draft Capital Budget and Nine Year Forecast for roads within Whitby along with Town staff recommendations and comments.

While Town staff are appreciative of the Region's commitment to road works within the Town and are in general agreement with the timing, there remain a few critical locations where adjustments in the schedule or commitments to a time frame are recommended. The rationale for these recommendations is primarily based on the following factors:

- The opening of the Highway 401 interchange at Lake Ridge Road (fall 2016), Highway 407 and 412 in July 2016 and resultant traffic flows to the surrounding road network.
- Existing area wide congestion levels.
- Recognition that Highway 401 will not likely be widened in the near term.
- Areas where near term development is anticipated/planned.
- To eliminate barriers in the primary north-south cycling route connecting two Provincial cycling facilities: Waterfront Trail and Greenbelt Route.
- To improve coordination and efficiencies of infrastructure projects, transportation planning, and asset management and maintenance between the two levels of government.

Recommendations for timing changes include the following:

- The need to coordinate and advance the below projects with appropriate staging to reduce construction impacts and delays to users, and to address existing operational, capacity and safety concerns.

Region Project	Draft 2017 Budget Construction Year	Town Requested Construction Year	Notes
Rossland/Cochrane Intersection Improvements	2021	2017	Advance timing to accommodate on road cycling lanes and connect to existing facilities at the north and south limits of this project.
Cochrane Street Rehabilitation between Ferguson and Vernon	2020	2017	Same as above
Taunton/Anderson Intersection Improvements	2021	2018	Advance timing to coordinate with Town projects and accommodate on road cycling lanes on Anderson through Taunton intersection and improve safety.

Region Project	Draft 2017 Budget Construction Year	Town Requested Construction Year	Notes
Hopkins Street Widening between Consumers and Dundas	Beyond 2025	To Be Determined by EA	Advance timing to improve cycling and pedestrian accommodation and support development of the Port Whitby area.
Hopkins Street Overpass at Highway 401	2025	2021	Same as above

- The need to initiate Environmental Assessments (EAs) in 2017 along with implementation of any required improvements by 2019 for the following:
 - Lake Ridge Road from north of Victoria Street to Highway 407.
 - Thickson Road from Taunton Road to Winchester Road.

The need for this advanced planning and required upgrades is based on: the anticipated traffic flows related to the opening of the Highway 401 and 407 interchanges at Lake Ridge Road, opening of Highway 407 and 412, the lack of high capacity alternative north-south routes, and recognition that Garrard Road is terminated at Highway 407.

- The need to initiate an Environmental Assessment (EA) in 2017 for Lake Ridge Road to review the realignment of Columbus Road and Concession 7 (in Pickering) to eliminate the existing offset T-intersections. Implementation of any required improvements to be completed in 2018 with the existing rehabilitation project on Lake Ridge Road from 1.6km north of Highway 7 to Conc. 9.

The need for this advanced planning and required upgrades is based on the current preliminary design details which includes cycling lanes on Lake Ridge Road between Columbus Road and Concession 7 (in Pickering). The EA should review the realignment of the two offset T-intersections, approximately 400 metres apart, to provide a safe east-west vehicular and cycling connection between Municipalities. This would eliminate the need for cycling facilities on the high speed and volume Lake Ridge Road. Columbus Road and Concession 7 is a key east-west cycling route connecting north Pickering and Brooklin.

- Other comments generally pertain to construction staging to minimize traffic impacts and opportunities for the Town/Region to coordinate internal design and construction works.

5.2 Region of Durham Capital Watermain and Sanitary Sewer Replacement Program

While Town staff appreciate the financing challenges associated with undertaking significant infrastructure improvements and deciding priorities, there remains the desire to enhance coordination of Town road resurfacing projects with Regional watermain and sanitary sewer repairs and replacements.

While there are generally sufficient Regional water and sanitary sewer funds being allocated to Town roads that require full reconstruction, there are minimal funds being allocated to Town roads with resurfacing needs. In addition, it is our understanding that the Region's current water and sanitary sewer maintenance program is mainly based on the number of reported breaks alone. As such, preventive maintenance opportunities in coordination with the Town's road program have on occasion been missed.

It should be noted that over the past few years, concentrated efforts by both the Region and Town have been undertaken to focus on coordination of the Region's polybutylene water service replacement program and the Town's resurfacing program. The Region's development of a 10 year polybutylene water service replacement program is much appreciated and has allowed successful coordination. As such, it is requested that the Region establish a similar 10 year watermain and sanitary sewer program. This will allow the Region and Town staff to optimize coordination of road resurfacing and underground works more effectively thereby saving tax dollars, and reducing inconveniences to agencies, utility companies and the public.

5.3 Region of Durham Capital Cycling Facility Implementation Program

Durham Region Council approved an updated plan focusing on the development of a broader Region-wide cycling network, providing links between the Region's urban and rural communities. Within this approved plan, Network Phasing was provided in two ranges: 2012 to 2016 and 2017 to 2032. There remains concern regarding the existing challenges of coordinating Town cycling facility implementation projects with planned Regional cycling projects.

As such, it is requested that the Region establish a 10-year detailed cycling facility implementation program. This will allow Region and area municipal staff to coordinate cycling projects to provide Region-wide cycling opportunities, and reduce inconveniences to agencies, utility companies and the public.

5.4 Region of Durham Capital Streetlight Implementation Program

Roadway lighting, when properly designed, installed, and maintained reduces vehicle collisions, improves safety for cyclists and pedestrians, and enhances personal security. For these reasons, streetlights are installed adjacent to roadways throughout the Town and the road authority owner typically has control of what street lighting is in place and/or required on their right-of-way.

Currently, the Town of Whitby performs operational maintenance and pays for the energy on 1,555 street lights on Regional roads, this is in addition to the Town owned and maintained 10,293 streetlights. The total streetlight inventory consists of a variety of types and styles of poles, lamps and bulbs with an estimated value of approximately \$25 million. The Town collects DC monies for streetlight related road expansion for the Region but does not budget for capital maintenance (above ground/underground plant), relocations or upgrades to the infrastructure .

In the past, the Town has undertaken the operational maintenance for the streetlights on Regional roads as part of the assumption process for new developments and paid the full costs of energy consumption. Although there was never a formal agreement between the Town and the Region on streetlights, the Town like other lower tier municipalities within Durham Region has undertaken the operational maintenance responsibilities and contributed in various forms of cost sharing of capital expenditures associated with streetlights within Regional right-of-ways since the formation of the Region.

The Town has a limited role in the planning, design and programming for Regional street lighting on Regional Roads. Staff have been challenged to establish meaningful cost estimates and budgets for streetlights without the full knowledge of the projects and their scope. In addition, whenever there are project scope/construction timing changes relating to the Regional road program, it makes it more difficult for the Town to track and co-ordinate appropriately. In general, the Town's role has been limited to operational maintenance and collection of DC monies for Regional streetlights on Regional road widening projects.

Town staff are of the opinion that streetlights on Regional roads are a Regional asset and it is recommended that staff meet and discuss with regional staff on who does what, asset ownership and responsibilities. Town staff will then report back to Town Council to present a clear understanding of roles and responsibilities between the Region and Town and requirements.

6. Public Communications/Plan:

The Town's staff will continue to discuss and coordinate infrastructure projects with the Region of Durham

7. Considerations:

7.1. Public

N/A

7.2. Financial

Based on the Town's suggested modifications to the Draft 2017 Region of Durham Road Program and 9-Year Forecast, the below is a summary of

financial impact (construction only) on an annual basis. Refer to **Attachment 2** for more details related to the construction cost for each project.

Budget Year (Construction)	Financial Impact (Construction Only) Based on Town Recommendations to the Draft 2017 Region Road Program
2017	Decrease by \$2.6 million
2018	Increase by \$0.8 million
2019	Increase by \$5.8 million
2020	Decrease by \$1.5 million
2021	Increase by \$12.8 million*
2022	No change
2023	Decrease by \$1.5 million
2024	No change
2025	Decrease by \$13.8 million
Total	No Change

*excludes Increase for the widening of Hopkins Street between Consumers and Dundas because it is outside the 9-Year forecast, and budget amount is unknown

7.3. Impact on and input from other Departments/Sources

N/A

7.4. Corporate and/or Department Strategic Priorities

Town of Whitby Council Goals 2014-2018:

To ensure Whitby is clearly seen by all stakeholders to be business- and investment-friendly and supportive; and to strive to continuously improve the effectiveness and efficiency of service delivery.

8. Summary and Conclusion:

The proposed Region of Durham 10-Year Road Program will provide greatly needed road infrastructure improvements for our community. The Town appreciates the opportunity to provide input on the draft road program.

9. Attachments:

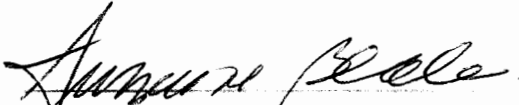
Attachment 1: Region of Durham 2016 Capital Budget and 9-Year Forecast

Attachment 2: Summary of Region Road Program within Whitby and Recommendations and Comments

For further information contact:

Michael May, Project Engineer, x2249

Greg Hardy, Manager of Engineering and Infrastructure Services, x2259



Suzanne Beale, Commissioner of Public Works, 4311



Robert Petrie, Chief Administrative Officer, x2211



**REGION OF DURHAM
WORKS DEPARTMENT
REGIONAL ROAD PROGRAM
2016 CAPITAL BUDGET
AND NINE YEAR FORECAST**

NOTES:

- Regional Council has only approved the financing for 2016.
- Timing for projects shown for the 2017 – 2025 period is only tentative and is subject to change.
- Factors which may influence the forecasted timing for projects include:
 - Changes in anticipated development charge receipts.
 - Emerging priorities.
 - Potential delays in project preparatory works (ie. E.A. bump-ups, difficulties with land acquisition or utility relocations).

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2018	2018 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS		
								2017	2018	2019	2020	2021	2022	2023	2024			2025	
1	<u>Reg. Rd. 1</u> Brock Rd. from Taunton Rd. to 5th Concession Rd. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering	R0701	1.4	1.7	2,350	500				240	8,800							Phase I: 2018. Culvert extensions and other preliminary works. Phase II: 2019. Widen road from 2 to 4 lanes.
																			2,350 0 500 0 0 9,040 11,890
2	<u>Reg. Rd. 1</u> Brock Rd. / 7th Concession Rd. Intersection Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		1.2	N/A	0					150	100	150	2,300					Intersection modifications
																			0 0 150 100 150 2,300 2,700
3	<u>Reg. Rd. 1</u> Brock Rd. / Goodwood Rd. Intersection Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge		1.3	N/A	0					300	100	100	2,500					Reconstruct and modify intersection.
																			0 0 300 100 100 2,500 3,000
4	<u>Reg. Rd. 1</u> Conc. Rd. 7 from Reg. Rd. 11 to Ashworth Rd. Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1501	O 10	2.7	100	100 200				300	4,000							Road rehabilitation/reconstruction.
																			100 0 100 200 300 4,000 4,700
5	<u>Reg. Rd. 1</u> Conc. Rd. 7 from Foster Dr. to south limit of Leaskdale Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge		O 10	1.4	0					200	200	100	2,200					Road rehabilitation/reconstruction.
																			0 0 200 200 100 2,200 2,700
6	<u>Reg. Rd. 26</u> Centre St. from Elgin St. to King St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1601	O 10	0.7	0	200				50	50	3,000						Road reconstruction
																			0 0 200 50 50 3,000 3,300 Associated Works Water Supply - \$710,000 Sanitary Sewer - \$800,000
7	<u>Reg. Rd. 2</u> Simcoe St. from Rossland Rd. to Russett Ave. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1502	O 10	1.9	150	50 50 100				4,100								Road reconstruction including sanitary sewer and watermain replacement from Rossland Rd. to Robert St. and road rehabilitation from Robert St. to Russett Ave.
																			150 150 0 50 50 100 4,100 4,450 Associated Works Water Supply - \$1,107,000 Sanitary Sewage - \$1,345,000

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024		
8	<u>Reg. Rd. 2</u> Simcoe St. from north of Conlin Rd. to Winchester Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1201	2.1	2.0												Phase I: 2016 reconstruct and modify Simcoe St./Winchester Rd. Intersection in partnership with the MTO (\$5 M). Phase II: 2017 Widen road from 2 to 5 lanes.
						10,200											10,200 0 0 0 0 13,600 23,800
9	<u>Reg. Rd. 2</u> Simcoe St. from south of King St. to south of Greenway Blvd. Scugog Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scugog		2.2	0.6												Beyond forecast widen from 2 to 3 lanes.
						0											0 200 0 0 0 0 200
10	<u>Reg. Rd. 2</u> Simcoe St. from Beech St. to Reach St. (Reg. Rd. 8). Scugog Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scugog	R1602	O.10	0.3												Road rehabilitation including intersection modifications at Regional Road 8
						0	100										0 0 100 0 100 1,200 1,400
11	<u>Reg. Rd. 3</u> Winchester Rd. from Baldwin St. to Garrard Rd. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R0802	3.1	2.4												Phase I: 2016 Winchester Rd. / Thickson Rd. Intersection modifications and widen to 5 lanes from Thickson Rd. to Garrard Rd. Phase II: 2016 widen to 3/4 lanes from Baldwin St. to Thickson Rd. including structure widening.
						100	1,700										1,700 0 700 50 100 13,600 16,150
12	<u>Reg. Rd. 3</u> Columbus Rd. E. from Grandview St. N. to Townline Rd. N. Oshawa/Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa/Clarington		O.10	0.8												Road rehabilitation/reconstruction
						0		100	100	100	2,000						0 0 100 100 100 2,000 2,300
13	<u>Reg. Rd. 3</u> Columbus Rd. E. from Townline Rd. N. to Enfield Rd. (Reg. Rd. 34) Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		O.10	2.0												Road rehabilitation/reconstruction
						0		100	150	100	4,000						0 0 100 150 100 4,000 4,350
14	<u>Reg. Rd. 3</u> Reg. Rd. 3 (Concession 8) / Region Road 57 Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1003	1.40	1.00												Reconstruct to roundabout
						0	500	300		1,500							0 0 500 300 300 1,500 2,600

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS	
								2017	2018	2019	2020	2021	2022	2023	2024			2025
15	Reg. Rd. 4 Taunton Rd. / Anderson St. Intersection Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		1.9	N/A		0				100		100	800				Intersection modifications. 0 0 100 0 100 800 <u>1,000</u>
16	Reg. Rd. 4 Taunton Rd. from east of Townline Rd. to west of Enfield Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1402	1.11 0.11	2.0		600											2017: Taunton Rd. / Enfield Rd. intersection modifications 2018: Road rehabilitation from east of Townline Rd. to west of Enfield Rd. 600 0 200 100 400 3,400 2,000 <u>6,700</u>
17	Reg. Rd. 4 Taunton Rd / Courtoice Rd. Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		1.12	N/A		0			200	100		200	2,900				Reconstruct and modify intersection. 0 0 200 100 200 2,900 <u>3,400</u>
18	Reg. Rd. 4 Taunton Rd. from 0.4km west of Solina Rd. to Reg. Rd. 57 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1608	0.30	4.6		350		50	50	50	50	50	50	1,500			Road rehabilitation 0 0 350 200 200 200 1,500 <u>6,750</u>
19	Reg. Rd. 4 Taunton Rd. / Region Rd. 57 Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1609	1.13	N/A		0	1,500	150	300	250	300		6,000				Reconstruct and modify intersection and replace and widen bridge on west leg of intersection. 0 150 300 250 300 6,000 <u>7,000</u>
20	Reg. Rd. 4 Taunton Rd. / Region Rd. 42 Darlington/Clarke Townline Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		1.34	N/A		0				160	200	100	1,000				Reconstruct and modify intersection 0 0 160 200 100 1,000 <u>2,060</u>
21	Reg. Rd. 9 Ganaraska Rd. from 2km east of Maynard Rd. to 0.4km east of Newtonville Rd. (Reg. Rd. 18) Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		0.10	1.5		0			50		50	1,000					Road rehabilitation/reconstruction 0 0 50 0 50 1,000 <u>1,100</u>

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST									TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024	2025		
22	<u>Reg. Rd. 11</u> Sandford Rd. from Conc. 6 to Conc. 7 (Reg. Rd. 1) Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1610	O.10	1.8		1,000											Road rehabilitation 0 0 0 0 0 1,000 <u>1,000</u>
23	<u>Reg. Rd. 12/23</u> Reg. Rd. 12 / Lake Ridge Rd. Intersection Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock	R1403	I21	N/A		300											Reconstruct to roundabout. 300 0 0 200 300 1,800 <u>2,600</u>
24	<u>Reg. Rd. 12</u> Region Road 12 from east limit of Wilfred Rd. to 3.0km west of Hwy. 12 Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock		O.10	3.9		0											Road rehabilitation/reconstruction. 0 0 0 0 0 3,900 <u>3,900</u>
25	<u>Reg. Rd. 13</u> Zephyr Rd. from Scott Conc. 3 (Reg. Rd. 39) to Conc. 4 Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1503	O.10	2.0		100											Road rehabilitation 100 0 0 100 100 800 <u>1,100</u>
26	<u>Reg. Rd. 13</u> Zephyr Rd. from 0.1km east of Conc. 5 to Conc. 6 Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1509	O.10	2.0		100											Road rehabilitation 100 0 0 0 0 700 <u>800</u>
27	<u>Reg. Rd. 13</u> 3rd Concession from Lake Ridge Rd. to 1.5 km west of Highway 7/12 Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock	R0901	O.9 1.20	3.9		3,000											Road rehabilitation/reconstruction including modifications to the profile and modifications to the Lake Rd. intersection. Phase I: 2017 road reconstruction from west Sideroad 17 to 1.5km west of Hwy 7/12 Phase II: 2018 intersection modifications at Reg. Rd. 13/23 & road reconstruction from east of Lake Ridge Rd. to west of Sideroad 17 3,000 0 590 325 0 17,340 <u>21,175</u>
28	<u>Reg. Rd. 14</u> Liberty St from Baseline Rd. to King St Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R0503	I-1-1			656											Widen road from 2 to 3 lanes Associated Works Water Supply - \$1,600,000 Sanitary Sewage - \$1,650,000 656 0 0 400 400 8,300 <u>7,756</u>

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024		
29	<u>Reg. Rd. 16</u> Ritson Rd. / Beatrice St. Intersection Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		1.15	N/A						100	250	50	700			Intersection modifications: 0 0 100 250 50 700 <u>1,100</u>
30	<u>Reg. Rd. 16</u> Ritson Rd. from north of Taunton Rd. to Conlin Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		16.1	2.0						500	500	100	100	12,800		Widen road from 2/3 to 5 lanes. 0 500 500 100 100 12,800 <u>14,000</u> Associated Works
31	<u>Reg. Rd. 16</u> Ritson Rd. from Maine St. to Winchester Rd. (Reg. Rd. 3) Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1510	O.10	2.1			1,350									Road reconstruction and alignment shift. 1,350 0 0 0 0 4,900 <u>6,250</u> Associated Works Water Supply - \$530,000 Sanitary Sewage - \$400,000
32	<u>Reg. Rd. 17</u> Main St. from Winter Rd. to Station St. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		O.10	1.6							100	100	300	2,000		Road rehabilitation/reconstruction. 0 0 100 100 300 2,000 <u>2,500</u>
33	<u>Reg. Rd. 17</u> Main St. from Mill St. to Taunton Rd. (Reg. Rd. 4) Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1511	O.10	1.5			100				50	500				Road rehabilitation. 100 0 0 50 500 2,800 <u>3,450</u> Associated Works Water Supply - \$1,270,000
34	<u>Reg. Rd. 19</u> Shirley Rd. from 0.5km east of Graham Rd. to Old Scougog Rd. Scougog Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scougog		O.10	5.3								200	200	100	100	Beyond forecast road reconstruction 0 0 0 400 200 0 <u>600</u>
35	<u>Reg. Rd. 22</u> Bayly St. / Sandy Beach Rd. Intersection Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		1.10	N/A						150	100	100	700			Intersection modifications: 0 0 150 100 100 700 <u>1,050</u>

2016 CAPITAL BUDGET AND NINE YEAR FORECAST

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST									TOTAL PROJECT COST	DESCRIPTION AND REMARKS	
								2017	2018	2019	2020	2021	2022	2023	2024	2025			
36	<p><u>Reg. Rd. 22</u> Bayly St. / Church St. Intersection Pickering</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Pickering	R1611	1.88	N/A	0	100		150	1,000								1,250	Intersection modifications.
37	<p><u>Reg. Rd. 22</u> Bayly St. / Westney Rd. Intersection Ajax</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Ajax	R1617	1.88	N/A	0	550											550	Intersection modifications. Add east bound right turn lane at intersection.
38	<p><u>Reg. Rd. 22</u> Bayly St. from Westney Rd. to Harwood Ave. Ajax</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Ajax		22.2	1.4	0					400	400	400	250	13,000		14,450	Widen road from 5 to 7 lanes.	
39	<p><u>Reg. Rd. 22</u> Victoria St. from Halls Rd. to Seaboard Gt. Whitby</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Ajax/ Whitby	R1310	22.3	1.5	19,750	7,600										27,350	Reconstruct and widen road to 4 lanes	
40	<p><u>Reg. Rd. 22</u> Victoria St. / Brock St. Intersection Whitby</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Whitby		1.51	N/A	0				220	300	200	3,500				4,220	Intersection modifications.	
41	<p><u>Reg. Rd. 22</u> Victoria St. from South Blair St. to west of Thickson Rd. Whitby</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Whitby	R1102	22.4	1.6	2,522	670		8,900								12,092	Construct new alignment and widen road to 5 lanes	
42	<p><u>Reg. Rd. 22</u> Victoria St./Bloor St. from east of Thickson Rd. to west of Stevenson Rd Whitby / Oshawa</p> <p>Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction</p>	Whitby/ Oshawa	R08C3	22.5	1.8	100	750		800	9,400							11,850	Widen road from 2/3 to 4/5 lanes	

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
43	<u>Reg. Rd. 22</u> Bloor St. from Harmony Rd. to Grandview St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		228	1.0													Construct new alignment or widen existing to 4/5 lanes with new C.P. Rail grade separation and bridge crossing of Farewell Creek. Associated Works Water Supply - \$770,000 (Grandview St. to Amante Cr.) work to be completed in 2013
						0				400	400		600	400		21,000		0 400 400 600 400 21,000 22,800
44	<u>Reg. Rd. 22</u> Bloor St. from Prestonvale Rd. to Courtice Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		229	1.8													Widen road to 3 lanes and modify profile. Associated Works Water Supply - Feedermain - \$5,400,000 Sanitary Sewer - Trunk Sewer \$57,600,000
						0				300		200		300		400	12,000	0 300 200 300 400 12,000 13,200
45	<u>Reg. Rd. 23</u> Lake Ridge Rd. from Bayly St. to Kingston Rd./Dundas St. Ajax / Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax/ Whitby	R0207	231	2.0		360											Widen from 2 to 4/5 lanes
								300	100	100	3,000							360 0 300 100 100 3,000 3,800
46	<u>Reg. Rd. 23</u> Lake Ridge Rd. from Kingston Rd./Dundas St. to Roseland Rd. Ajax / Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax/ Whitby		232	2.0													Widen from 2 to 4/5 lanes
						0			250	200	300	400	7,600					0 250 200 300 400 7,600 8,750
47	<u>Reg. Rd. 23</u> Lake Ridge Rd. from 1.6km north of Hwy. 7 to south of Conc 9 (Reg. Rd. 5) Pickering/Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering/ Whitby	R1517	010	3.3		200											Road rehabilitation
								75	150	4,000								200 0 0 75 150 4,000 4,425
48	<u>Reg. Rd. 23</u> Lake Ridge Rd. from north of Reg. Rd. 5 to south of Chalk Lake Rd. Whitby/Scugog/Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby/ Scugog/ Uxbridge		010	3.7													Road rehabilitation
						0		150	150	100	4,500							0 0 150 150 100 4,500 4,900
49	<u>Reg. Rd. 23</u> Lake Ridge Rd. from Chalk Lake Rd. to 1.5km north of Chalk Lake Rd. Scugog/Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scugog/ Uxbridge	R1618	010	1.5													Road rehabilitation
						0	150	50	100	2,200								0 0 150 50 100 2,200 2,500

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
50	<u>Reg. Rd. 23</u> Mara Rd. from south of Main St. to north of Franklin St. Brock	Brock	R1518	O.10	0.8													Road reconstruction including watermain replacement.
	Total Prior Budget Allocations					300												300
	E.A.																	0
	Design																	0
	Property Acquisition																	0
	Utility Relocation																	0
	Construction						3,100											3,100
																		3,400
51	<u>Reg. Rd. 25</u> Consumers Dr. extension from east of Thickson Rd. to Thornton Rd. Whitby/Oshawa	Whitby/Oshawa	R1320	25.3	1.7													Phase I: 2016, Consumers Dr. extension, grading, pre-loading and two culverts. Phase II: 2017, 3 lane urban extension of Consumers Dr. easterly to Thornton Rd.
	Total Prior Budget Allocations					980												980
	E.A.																	0
	Design						80											80
	Property Acquisition						150											150
	Utility Relocation						175											175
	Construction						7,900	9,700										17,600
																		18,985
52	<u>Reg. Rd. 25</u> Champlain Ave. from east of Thickson Rd. to Thornton Rd. Whitby/Oshawa	Whitby/Oshawa	R1407	1.99 O.10	1.1													Signalize and modify Champlain Ave. / Thornton Rd. intersection including rehabilitation of Champlain Ave. from 0.8 km east of Thickson to west of Thornton Rd. Includes reconstruction and widening of Thornton Rd. from Champlain Ave. northerly to south of C.P.R. tracks.
	Total Prior Budget Allocations					500												500
	E.A.																	0
	Design						200											200
	Property Acquisition						100											100
	Utility Relocation						200											200
	Construction						100	5,800										6,000
																		6,000
53	<u>Reg. Rd. 26</u> Thickson Rd. from Wentworth St. to C.N. Rail Kingston Whitby	Whitby	R0710	26.1	0.8													Reconstruct and widen road to 4 lanes.
	Total Prior Budget Allocations					350												350
	E.A.																	0
	Design																	0
	Property Acquisition																	100
	Utility Relocation																	50
	Construction																	50
																		2,000
																		2,550
54	<u>Reg. Rd. 26</u> Thickson Rd. / Burns St. Intersection Whitby	Whitby		1.58	N/A													Intersection modifications.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	50
	Property Acquisition																	0
	Utility Relocation																	50
	Construction																	600
																		700
55	<u>Reg. Rd. 26</u> Thickson Rd. / Roseland Rd. Intersection Whitby	Whitby		1.22	N/A													Reconstruct and modify intersection.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	150
	Property Acquisition																	150
	Utility Relocation																	150
	Construction																	3,500
																		3,900
56	<u>Reg. Rd. 26</u> Thickson Rd. from Taunton Rd. to Hwy 407 Whitby	Whitby		26.6	1.7													Widen road to 4/5 lanes.
	Total Prior Budget Allocations					0												0
	E.A.																	500
	Design																	500
	Property Acquisition																	500
	Utility Relocation																	1,000
	Construction																	18,800
																		21,300

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST									TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024	2025		
57	<u>Reg. Rd. 28</u> Rossland Rd. / Cochrane St. Intersection Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		1.24	N/A		0				50		50	175			0 0 50 0 50 175 <u>275</u>	Intersection modifications.
58	<u>Reg. Rd. 28</u> Rossland Rd. / Brock St. (Reg. Hwy. 12) Intersection Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1610	112.1	N/A		0										0 0 200 400 200 <u>6,150</u> 6,950	Intersection modifications.
59	<u>Reg. Rd. 28</u> Rossland Rd. from west of Civic Centre Dr. to west of Garden St. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1203	1.99 0.10	0.5		100										100 0 0 0 50 1,900 <u>1,900</u> 2,050	Widen road from 4 to 5 lanes.
60	<u>Reg. Rd. 28</u> Rossland Rd. / Garden St. Intersection Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1620	1.25	N/A		100										0 0 100 50 150 2,200 <u>2,500</u>	Intersection modifications at Garden St.
61	<u>Reg. Rd. 28</u> Rossland Rd. from Ritson Rd. to Harmony Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		28.1	1.7		0										0 500 500 100 300 11,500 <u>12,900</u>	Widen road to 5 lanes.
62	<u>Reg. Rd. 28</u> Rossland Rd. from Harmony Rd. to east of Townline Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R0804	28.2	1.5		100										100 0 500 500 500 500 0 <u>1,600</u>	Beyond forecast: construct new alignment to 3 lanes, including new bridge crossing of Harmony Creek tributary
63	<u>Reg. Rd. 28</u> Liverpool Rd. from south of Kingston Rd. to south of Pickering Parkway Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		29.1	0.25		0										0 200 100 100 200 2,500 <u>3,100</u>	Modify N/S lane alignment on Liverpool Rd., including intersection modifications at Pickering Parkway.

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
64	Reg. Rd. 30 Townline Rd. from Reg. Rd. 8 to Vivian Rd. Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1525	O.10 1.28	0.75	50	50		100	1,300							50 0 50 0 100 1,300 <u>1,500</u>	Road rehabilitation including intersection modifications at Region Rd. 8
65	Reg. Rd. 30 Townline Rd. from Vivian Rd. to 0.2 km south of Davis Dr. Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1526	O.10 1.29	1.9	50	100		1,575								50 0 0 0 100 1,575 <u>1,725</u>	Road rehabilitation including intersection modifications at Vivian Rd.
66	Reg. Rd. 30 Townline Rd. from north of Davis Dr. to 1.1km north of Sandford Rd. Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge	R1527	O.10 1.30	3.1	100	2,300										100 0 0 0 0 2,300 <u>2,400</u>	Road rehabilitation including intersection modifications at Sandford Rd.
67	Reg. Rd. 31 Westney Rd. from Finley Ave. to Harwood Ave. Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax		O.10 1.31 1.32 1.33	0.95	0				250	100	300	4,800				0 0 250 100 300 4,800 <u>5,450</u>	Road rehabilitation including intersection modifications at Finley Ave., Monarch Ave., and Harwood Ave.
68	Reg. Rd. 31 Westney Rd. from Bayly St. to Hwy 401 Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax		31.1	1.0	0				200	200	300	300	300	6,700		0 200 200 300 300 6,700 <u>7,700</u>	Widen from 5 to 7 lanes
69	Reg. Rd. 31 Westney Rd. from Hwy 401 to south of Kingston Rd. Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax		31.2	0.9	0				200	300	300	300	350	4,600		0 200 300 300 350 4,600 <u>5,750</u>	Widen from 5 to 7 lanes, including structure widening and intersection modifications at Ritchie Ave.
70	Reg. Rd. 31 Westney Rd. from north of Rosland Rd. to Taunton Rd. Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax	R1021	31.3	2.0	0	200		300	300	8,500						0 0 0 200 600 8,500 <u>9,300</u>	Widen road to 4 lanes

2016 CAPITAL BUDGET AND NINE YEAR FORECAST

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024		
71	<u>Reg. Rd. 31</u> Westley Rd. from south to north of Greenwood Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering	R0805	31.5	2.4		650				400	1,500	500	10,000			Construct new 2 lane Greenwood by-pass. 050 0 400 1,500 500 10,000 13,050
72	<u>Reg. Rd. 33</u> Harmony Rd. from Rosland Rd. to Taunton Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R0716	33.3	2.0		1,100	600		8,800							Widen road to 4/5 lanes. Associated Works Water Supply - \$290,000 Sanitary Sewer - \$445,000 1,100 0 0 0 600 8,800 10,500
73	<u>Reg. Rd. 33</u> Harmony Rd. from Taunton Rd. to Conlin Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1532	33.4	2.0		3,202	1,350	350	5,400							Phase I: 2016 Intersection modifications at Coldstream Dr. including additional southbound lane to Taunton Rd. Phase II: 2019 widen from 2/3 to 5 lanes from Coldstream Dr. to Conlin Rd. 3,202 0 0 0 350 6,750 10,302
74	<u>Reg. Rd. 35</u> Hopkins St. Overpass Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R0807	401.3	0.9		385					500	400	400	13,800		Construct new Hopkins St. overpass. 385 0 500 400 400 13,800 15,485
75	<u>Reg. Rd. 37</u> Finch Ave. from Altona Rd. to Brock Rd. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		37.1	5.8		0			500	500	500	1,000	22,500			Widen from 2 to 3 lanes. 0 500 500 500 1,000 22,500 26,000
76	<u>Reg. Rd. 38</u> Whites Rd. from north and south of Kingston Rd. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering	R1307	38.1 & 38.2 0.4	0.4		1,300	2,600									Widen Whites Rd. 200m north and south of Kingston Rd. in conjunction with BRT Hwy 2 project. 1,300 0 0 0 0 2,600 3,900
77	<u>Reg. Rd. 38</u> Whites Rd. from north of Kingston Rd. to Finch Ave Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		38.1			0			200	200	300	300	19,800			Widen road from 5 to 7 lanes. 0 200 200 300 300 19,800 20,800

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
78	<u>Reg. Rd. 41</u> Salem Rd. / Mandrake St. Intersection Ajax	Ajax	R1308	1.38	N/A													Add south bound right turn lane at intersection.
	Total Prior Budget Allocations					90											90	
	E.A.																0	
	Design																0	
	Property Acquisition																0	
	Utility Relocation																0	
	Construction						450										450	
																	540	
79	<u>Reg. Rd. 41</u> Salem Rd. / Rosland Rd. Intersection Ajax	Ajax		1.23	N/A													Intersection modifications.
	Total Prior Budget Allocations					0											0	
	E.A.																0	
	Design																100	
	Property Acquisition								100								0	
	Utility Relocation																100	
	Construction									100							1,800	
																	1,800	
80	<u>Reg. Rd. 43</u> Cochrane St. from Dundas St. west to Ferguson St. Whitby	Whitby	R1519	0.10	0.4													Road rehabilitation/reconstruction.
	Total Prior Budget Allocations					1,550											1,550	
	E.A.																0	
	Design																0	
	Property Acquisition																0	
	Utility Relocation																0	
	Construction						300										300	
																	1,850	
81	<u>Reg. Rd. 43</u> Cochrane St. from Ferguson St. to 0.4km north of Vernon St. Whitby	Whitby		0.10	1.2													Road rehabilitation/reconstruction.
	Total Prior Budget Allocations					0											0	
	E.A.																0	
	Design																0	
	Property Acquisition																0	
	Utility Relocation																0	
	Construction							200		100		200					3,000	
																	3,500	
																	0	Associated Works
																	0	Water Supply - \$875,000
																	200	Sanitary Sewer - \$650,000
																	100	
																	200	
																	3,000	
																	3,500	
82	<u>Reg. Rd. 52</u> Thornton Rd. from Consumers Dr. to King St. Oshawa	Oshawa		52.1	1.4													Widen from 2 to 3 lanes, with new CPR grade separation
	Total Prior Budget Allocations					0											0	
	E.A.																500	
	Design																500	
	Property Acquisition																100	
	Utility Relocation																100	
	Construction																12,000	
																	13,200	1.2
83	<u>Reg. Rd. 53</u> Stevenson Rd. / Philip Murray Ave. Intersection Oshawa	Oshawa		1.39	N/A													Intersection modifications.
	Total Prior Budget Allocations					0											0	
	E.A.																0	
	Design																70	
	Property Acquisition																0	
	Utility Relocation																50	
	Construction																400	
																	520	
84	<u>Reg. Rd. 53</u> Stevenson Rd. from CPR Belleville to Bond St. Oshawa	Oshawa		53.1	1.2													Widen road from 4 to 5 lanes.
	Total Prior Budget Allocations					0											0	
	E.A.																250	
	Design																500	
	Property Acquisition																200	
	Utility Relocation																400	
	Construction																7,300	
																	8,050	

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS	
								2017	2018	2019	2020	2021	2022	2023	2024			2025
85	Reg. Rd. 53 Stevenson Rd. from Bond St. to Rossland Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		53.2	2.0													Widen road from 3/4 to 5 lanes. Associated Works 0 Water Supply - \$1,300,000 250 Sanitary Sewer - \$1,300,000 500 100 400 100 13,000 14,250 1.3
86	Reg. Rd. 55 Townline Rd. / Pebblestone Rd. Intersection Oshawa/Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa/ Clarington	R1622	1.41	N/A													Intersection modifications. 0 0 50 50 100 400 600
87	Reg. Rd. 56 Farewell St. from Harbour Rd. to Bloor St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O.10	1.6													Road rehabilitation/reconstruction 0 0 100 0 0 3,000 3,100
88	Reg. Rd. 57 Martin Rd. from Baseline Rd. to Nash Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1309	57.1	2.1		1,000											PH I: 2018 Intersection modifications at Reg. Hwy. 2 and Stevens Rd. PH II: 2019 widen road to 4 lanes from Baseline Rd. to Hwy 2, including structure widening. PH III: Beyond forecast widen road from Stevens Rd. to Nash Rd. 1,000 Associated Works 0 Water Supply - \$125,000 0 Sanitary Sewer - \$2,980,000 50 300 12,500 13,850
89	Reg. Rd. 57 Region Rd. 57 from Taunton Rd. to Hwy 407 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		O.10	2.1													Road rehabilitation/reconstruction. 0 0 50 0 0 1,500 1,550
90	Reg. Rd. 57 Region Rd. 57 from Old Scugog to 0.13km north of Concession Rd. 4 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1520	O.10	2.2		100											Road rehabilitation/reconstruction 100 0 50 0 100 2,500 2,750
91	Reg. Rd. 57 Region Rd. 57 / Concession Rd. 7 Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		1.44	N/A													Intersection modifications 0 0 100 100 100 100 1,700 2,000

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024		
92	Reg. Rd. 57 Region Rd. 57 from north of Region Rd. 3 to Region Rd. 20 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1521	0.10 1.16	1.9		100 4,800									100 0 0 0 0 4,800 4,900	Road rehabilitation from north of Reg. Rd. 3 to Reg. Rd. 20 (Mosport Rd.) including intersection modifications at Region Rd. 20
93	Reg. Rd. 57 Region Rd. 57 from 0.9km N/E of St. Christopher to E. of View Lake Rd. Scugog Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scugog	R1522	0.10	1.9	1,800	800									1,800 0 0 0 0 800 2,600	Road rehabilitation/reconstruction
94	Reg. Rd. 58 Manning Rd. / Brock St. Intersection Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1523	1.52	N/A	150	100 50	200 150	2,000							150 0 100 50 200 2,150 2,950	Intersection modifications.
95	Reg. Rd. 58 Manning Rd. / Adelaide Ave. Interconnection from Garrard Rd. to Thomson Rd. Whitby / Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby/ Oshawa	R0517	58.1	0.5	660		500	800	100	12,000					660 0 500 300 100 12,000 14,060	Construct new road to 3 lanes with new crossing of Corbett Creek. Associated Works Water Supply - \$720,000 Associated Works Water Supply - \$840,000
96	Reg. Rd. 58 Adelaide Ave. from Townline Rd. to Trulls Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R0806	58.2	2.0	900						500	5,000	250	20,600	600 0 500 5,000 250 20,600 26,950	Construct new bridge crossing of Farewell Creek and construct new 3 lane road Associated Works Sanitary Sewer - \$13,200,000
97	Reg. Rd. 59 Gibb St. from east of Stevenson Rd. to Simcoe St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R0004	59.1	1.4	0,250			350 1,250	900 750	1,000 1,100			9,150		0,250 0 1,250 3,000 1,100 9,650 21,250	PH I: 2019 Glazier Medical Centre parking lot reconstruction. PH II: 2021 widen road from 3 to 4 lanes Associated Works Water Supply - \$625,000 Sanitary Sewer - \$250,000
98	Reg. Rd. 59 Gibb St. / Olive Ave. Interconnection from Simcoe St. to Ritson Rd Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R0110	59.2	1.6	0,588				1,000 1,000	500	700 550		950	9,200	0,588 0 700 3,050 950 9,200 20,488	Construct new road and widen existing from 2/3 to 4/5 lanes. Associated Works Water Supply - \$165,000 Sanitary Sewer - \$165,000

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
99	Reg. Rd. 89 Wentworth St. from Simcoe St. to Farewell St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		10	1.5		0				100							Road rehabilitation/reconstruction Associated Works Water Supply - \$1,250,000
																		0 0 100 0 0 2,500 2,000
100	Reg. Hwy. 2 King St. from Townline Rd. to Courice Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		102	2.9		0						400		200			Beyond forecast modify corridor Associated Works
															200			0 400 200 0 0 200 0 800
101	Reg. Hwy. 2 King St. / Maple Grove Rd. Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1524	147	N/A		70											Intersection modifications
							1,700											70 0 0 0 0 1,700 1,770
102	Reg. Hwy. 2 King St. / Lambs Rd. Intersection Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		148	N/A		0			100		50		100		1,150		Intersection modifications
																		0 0 100 50 100 1,150 1,400
103	Reg. Hwy. 12 Brock St. from north of Rossland Rd. to Taunton Rd. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R0419	112.1	1.9		100											Widen road from 3 to 5 lanes
							175 25 500 275		10,300									100 0 175 25 500 10,575 11,375
104	Reg. Hwy. 12 Baldwin St. from 0.35 km north of Taunton Rd. to Garden St. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1623	112.2	3		0	500		500	500	1,400	13,000					Widen road from 2 to 4/5 lanes
								500		500	500	1,400	13,000					0 500 500 500 1,400 13,000 15,900
105	Reg. Hwy. 57 Region Hwy 47 / Concession 6 Intersection Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge		139	N/A		0				100	50		100	1,200			Intersection modifications
																		0 0 100 50 100 1,200 1,450
Widenings, New Connections and Intersection / Corridor modifications Totals							72,891	82,635	70,700	72,830	55,200	88,790	88,995	65,550	83,000	83,850	85,000	727,411

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2018	2018 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024		
Other Capital Program Items																	
106	Miscellaneous Road and Storm Sewer Reconstruction Projects		M1653	O.9		390	420	350	350	450	400	400	400	400	400	3,970	Oshawa: Roseland Rd / Mary St. retaining wall Clarington: Region Rd. 57 cycling facility Uxbridge: Retaining Wall
107	Road Resurfacing and Rehabilitation Preparatory Activities Allowance		R1697	O.10		950	334	352	350	350	350	350	350	350	350	3,488	Allowance for resurfacing/rehabilitation projects preparatory activities (design/property/utility relocation).
108	Road Resurfacing and Rehabilitation Program		R1698	O.10		1,450	0	0	2,938	3,083	3,407	3,545	3,742	3,582	4,000	28,196	
109	Road Resurfacing/Rehabilitation Other Locations		R1699	O.10		15,145	2,610	6,642	1,262	20,068	11,293	20,506	24,108	26,568	24,542	164,258	
110	Bridge and Pavement Management Program		M1654	O.1		200	250	200	200	200	200	200	200	200	200	2,050	Allowance for annual inventory updates and needs analysis.
111	Signal Installation Program		M1621	O.99		1,575	1,600	1,600	1,650	1,650	1,675	1,700	1,700	1,755	1,755	16,840	New traffic signals, rebuilds and underground infrastructure modifications.
112	Signal Modernization Program		M1622	O.14		620	700	1,350	1,350	700	700	700	700	700	700	8,300	Operational modifications and life-cycle upgrades.
113	Accessible Pedestrian Signals Program		T1646	O.14		300	450	500	500	500	500	500	500	500	500	4,950	Audible buttons and infrastructure modifications to conform with AODA.
114	ATMS Upgrade Program		T1641	O.14		100	100	320	100	100	170	170	530	100	230	1,920	System replacement, display wall upgrades, infrastructure modifications
115	Road Safety Protection Program		M1652	O.15		600	600	600	600	600	600	600	600	600	600	6,000	New installations and upgrades of guide rail systems: Road Safety Strategic Plan.
116	Intelligent Transportation System Projects		T1640	O.6		570	600	570	670	725	555	455	480	425	460	5,270	Traveler Information, Integration, Traffic & Emergency Management
117	Miscellaneous Engineering Activities		M1655	O.1		450	400	450	450	450	450	450	450	450	450	4,450	Allowance for growth related staff and consultant engineering work required at locations not identified in current capital program.
118	Miscellaneous Property Acquisition		M1628	O.2		100	100	100	100	100	100	100	100	100	100	1,000	Allowance for growth related land purchases at locations not identified in current capital program.
119	Miscellaneous Landscaping Projects		M1629	O.3		70	150	150	150	150	150	150	150	150	150	1,500	Allowance for boulevard enhancements (i.e. tree planting).
120	Transportation Master Plan Studies		R1009	O.5		1,500	100	100	100	100	500	100	100	100	100	2,900	Allowance to address TMP recommended actions.
121	Contingencies (Development Related)		M1630	O.4		300	300	100	300	300	300	300	300	300	300	2,800	
122	Contingencies (Non-Development Related)		M1631	O.9		86	75	100	100	100	100	100	100	100	100	975	
123	Regional Share - Development Related Projects		M1610	O.8		300	300	100	300	300	300	300	300	300	300	2,800	Allowance for Region's share of road and storm infrastructure costs associated with development.
Other Capital Program Items Totals						24,706	9,089	13,584	11,470	29,925	21,280	31,025	34,450	37,110	35,115	37,115	261,893

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								2017	2018	2019	2020	2021	2022	2023	2024	2025			
Structure Rehabilitations and Replacements																			
124	Deck Condition Surveys Program	Various	R1604	O.12		375	45	125	125	125	125	125	125	125	125	125	1,545	Allowance to complete detailed deck condition surveys.	
125	Miscellaneous Spall Repair and Deck Waterproofing Projects	Various	R1605	O.12		450	200	365	365	365	365	365	365	365	365	365	3,935	Allowance to address spall repairs and deck waterproofing at various locations.	
126	Expansion Joint / Bearing Replacement Program	Various	R1606	O.12		220	60	60	60	60	60	60	60	60	60	60	820	Allowance to replace expansion joints/bearings.	
127	Construct Concrete Head Walls Program	Various	R1607	O.12		50	60	60	60	60	0	0	0	0	0	0	260	Allowance to construct/replace/repair concrete head walls.	
128	<u>Reg. Rd. 1</u> Brook Rd. Over Duffins Creek Bridge, 0.5 km south of Major Caks Rd. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		O.12	N/A		0			125							1,500	1,625	Bridge rehabilitation.
129	<u>Reg. Rd. 2</u> Simcoe St. / Oshawa Creek Bridge, 0.75 km north of Taunton Rd. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1624	O.12	N/A		0	150			50	900					900	1,100	Bridge rehabilitation.
130	<u>Reg. Rd. 2</u> Seagrave Bridge, 0.55 km south of Saintfield Rd. Scugog Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Scugog		O.12	N/A		0			150							1,000	1,150	Bridge rehabilitation.
131	<u>Reg. Rd. 3</u> Bickle Bridge, 1.1 km east of Thickson Rd. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		O.12	N/A		0						125		1,200		1,200	1,325	Bridge rehabilitation.
132	<u>Reg. Rd. 3</u> Enniskillen Bridge, 2.1 km west of Scugog Rd., Reg. Rd. 57 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		O.12	N/A		0				200						1,200	1,400	Bridge rehabilitation.
133	<u>Reg. Rd. 4</u> W.A. Twelvetress Bridge, 0.3 km east of Whites Rd., Reg. Rd. 38 Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		O.12	N/A		0								300	2,500	2,500	2,800	Bridge rehabilitation of existing 4 lane structure. Timing subject to coordination with future widening of structure.

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
134	<u>Reg. Rd. 4</u> Hampton Bridge, 1.0 km west of Reg. Rd. 57. Clarington	Clarington		O.12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design								100									100
	Property Acquisition																	0
	Utility Relocation																	0
	Construction									700								700
																		800
135	<u>Reg. Rd. 4</u> Soper Creek Bridge, 2.97 km east of Liberty St. Clarington	Clarington		O.12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	125
	Property Acquisition																	0
	Utility Relocation																	0
	Construction													1,300				1,300
																		1,425
136	<u>Reg. Rd. 4</u> Wimot Creek Bridge, 1.3 km east of Region Road 42 Clarington	Clarington		O.12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	120
	Property Acquisition																	0
	Utility Relocation																	0
	Construction									120								1,200
																		1,320
137	<u>Reg. Rd. 4</u> Taunton Rd. Culvert, 0.2 km east of Main St. at Orono Creek Clarington	Clarington	R1025	O.12	N/A													Culvert extension
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	0
	Property Acquisition																	0
	Utility Relocation																	0
	Construction						350											350
																		350
138	<u>Reg. Rd. 6</u> Saintfield Rd. Bridge, 4 km east of Highway 12 Scugog	Scugog	R1625	O.11	N/A													Replace bridge over Layton River.
	Total Prior Budget Allocations					0												0
	E.A.						150											150
	Design							200										200
	Property Acquisition								50									50
	Utility Relocation																	50
	Construction										1,500							1,500
																		1,950
139	<u>Reg. Rd. 8</u> Siloam Bridge, 0.75 km west of Uxbridge Township Concession Rd. 3 Uxbridge	Uxbridge	R1409	O.11	N/A													Replace bridge
	Total Prior Budget Allocations					300												300
	E.A.																	0
	Design																	200
	Property Acquisition																	50
	Utility Relocation									50								50
	Construction										2,400							2,400
																		2,800
140	<u>Reg. Rd. 8</u> Nonquon Bridge, 0.45 km west of Highway 12 Scugog	Scugog		O.11	N/A													Replace bridge over Nonquon River
	Total Prior Budget Allocations					0												0
	E.A.																	200
	Design																	200
	Property Acquisition																	50
	Utility Relocation																	50
	Construction											1,200						1,200
																		1,700

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								2017	2018	2019	2020	2021	2022	2023	2024			2025
141	Req. Rd. 11 Smith Bridge, 1.1 km west of Uxbridge Township Concession Rd. 3 Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge		O.11	N/A		0		200		200	50	50	1,900				Replace bridge over Pefferlaw Brook 0 200 200 50 50 1,900 <u>2,400</u>
142	Req. Rd. 12 Cobson Bridge, 0.2 km east of McRae St Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock		O.12	N/A		0				150		1,100					Bridge rehabilitation 0 0 150 0 0 1,100 <u>1,250</u>
143	Req. Rd. 13 Laurie Bridge, Zephyr Rd., 0.95 km west of Concession Rd. V1 Uxbridge Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Uxbridge		O.11	N/A		0			200	200	50	50	1,500				Replace bridge over Pefferlaw Brook 0 200 200 50 50 1,500 <u>2,000</u>
144	Req. Rd. 15 Beaverton River Bridge, 0.1 km west of Highway 12 Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock	R1628	O.12	N/A		0	200							1,500			Bridge rehabilitation 0 200 0 0 0 1,500 <u>1,700</u>
145	Req. Rd. 15 McRae Bridge, 1.0 km west of Thorah Sideroad Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock		O.12	N/A		0				200		1,200					Bridge rehabilitation 0 0 200 0 0 1,200 <u>1,400</u>
146	Req. Rd. 19 Ritson Rd. / CP Overpass, 0.2 km south of Olive Ave Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1629	O.12	N/A		0	150				50	2,250					Bridge rehabilitation 0 0 150 0 50 2,250 <u>2,450</u>
147	Req. Rd. 16 Ritson Rd. / CNR Overhead, 0.2 km south of Bloor St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa	R1411	O.12	N/A		240											Bridge rehabilitation 50% of costs to be recovered from C.N.R. as per Board Order No. 98034 240 0 0 0 0 2,000 <u>2,240</u>

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								2017	2018	2019	2020	2021	2022	2023	2024		
148	<u>Reg. Rd. 18</u> Kendal Bridge, 1.18 km south of Genaraska Rd. Clarington	Clarington		O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					0											0
	E.A.																0
	Design											150					150
	Property Acquisition																0
	Utility Relocation																0
	Construction													1,200			1,200
																	<u>1,350</u>
149	<u>Reg. Rd. 22</u> John Mills Bridge, 0.4 km west of Westney Rd. Ajax	Ajax	R1528	O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					200											200
	E.A.																0
	Design																0
	Property Acquisition																0
	Utility Relocation																0
	Construction						1,800										1,800
																	<u>2,000</u>
150	<u>Reg. Rd. 22</u> Bloor St. West Over Oshawa Creek, 0.2 km west of Simcoe St. south Oshawa	Oshawa		O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					0											0
	E.A.																0
	Design											200					200
	Property Acquisition																0
	Utility Relocation																0
	Construction																1,800
																	<u>2,000</u>
151	<u>Reg. Rd. 22</u> Bloor St. E. Over Farewell Creek Bridge, 0.5 km east of Harmony Rd. Oshawa	Oshawa		O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					0											0
	E.A.																0
	Design																150
	Property Acquisition																0
	Utility Relocation																0
	Construction																1,200
																	<u>1,350</u>
152	<u>Reg. Rd. 23</u> Beaverton Bridge, 50 m north of Simcoe St. Brock	Brock	R1209	O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					200											200
	E.A.																0
	Design																0
	Property Acquisition																0
	Utility Relocation																0
	Construction																1,500
																	<u>1,700</u>
153	<u>Reg. Rd. 28</u> Rossland Rd. Over Oshawa Creek, 0.45 km east of Park Rd. Oshawa	Oshawa		O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					0											0
	E.A.																0
	Design																180
	Property Acquisition																0
	Utility Relocation																0
	Construction																2,000
																	<u>2,180</u>
154	<u>Reg. Rd. 28</u> Rossland Rd. East Bridge, 0.15 km east of Camelot Dr. Oshawa	Oshawa		O.12	N/A												Bridge rehabilitation
	Total Prior Budget Allocations					0											0
	E.A.																0
	Design																150
	Property Acquisition																0
	Utility Relocation																0
	Construction																1,200
																	<u>1,350</u>

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS	
								2017	2018	2019	2020	2021	2022	2023	2024			2025
155	<u>Reg. Rd. 29</u> Liverpool Rd. Over CNR Bridge, 0.1 km north of Bayly St. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering	R1630	O.12	N/A		100											Bridge rehabilitation 0 0 100 0 0 300 <u>400</u>
156	<u>Reg. Rd. 31</u> Westney Rd. CPR Overhead, 0.4 km north of Taunton Rd. Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax		O.12	N/A			150										Bridge rehabilitation 0 0 150 0 0 1,800 <u>1,950</u>
157	<u>Reg. Rd. 31</u> Bayles Bridge, 2.8 km east of Brock Rd. Ajax Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Ajax		O.12	N/A			100										Bridge rehabilitation 0 0 100 0 0 950 <u>1,050</u>
158	<u>Reg. Rd. 33</u> Harmony Rd. Over CPR Overhead, 0.2 km south of Olive Ave. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O.12	N/A							200			1,800			Bridge rehabilitation 0 0 200 0 0 1,800 <u>2,000</u>
159	<u>Reg. Rd. 33</u> Hoskin Bridge, 0.55 km north of Rossland Rd. E. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O.12	N/A									150		1,400		Bridge rehabilitation 0 0 150 0 0 1,400 <u>1,550</u>
160	<u>Reg. Rd. 35</u> Wilson Rd. North Pedestrian Underpass, 0.89 km north of Rossland Rd. E. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O.12	N/A							50						Bridge rehabilitation 0 0 50 0 0 400 <u>450</u>
161	<u>Reg. Rd. 38</u> Whites Rd. / CNR Overpass, 0.47 km north of Kingston Rd. Pickering Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Pickering		O.12	N/A													Bridge rehabilitation 0 0 150 0 0 600 <u>750</u>

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST								TOTAL PROJECT COST	DESCRIPTION AND REMARKS	
								2017	2018	2019	2020	2021	2022	2023	2024			2025
162	<u>Reg. Rd. 43</u> Cochrane St / CP Overpass, 0.7 km south of Rosland Rd. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1420	O 12	N/A	150	1,500										150 0 0 0 0 1,500 1,650	Bridge rehabilitation.
163	<u>Reg. Rd. 45</u> Henry St. CNR Overpass, 0.4 km north of Victoria St. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		O 12	N/A	0					200		1,200				0 0 200 0 0 1,200 1,400	Bridge rehabilitation
164	<u>Reg. Rd. 46</u> Brock St Over Pringle Creek Bridge, 0.15 km south of Front St. Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		O 12	N/A	0			60			700					0 0 60 0 0 700 760	Bridge rehabilitation.
165	<u>Reg. Rd. 46</u> Brock St. CNR Overpass Bridge, 0.1 km south of Hwy. 401 Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby		O 12	N/A	0							100		1,000		0 0 100 0 0 1,000 1,100	Bridge rehabilitation.
166	<u>Reg. Rd. 50</u> Morgan Bridge, 3.1 km east of Reg. Rd. 51 Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock		O 12	N/A	0			200		1,200						0 0 200 0 0 1,200 1,400	Bridge rehabilitation. This boundary bridge is a partnership project with Simcoe County 50% of costs to be recovered by Simcoe County.
167	<u>Reg. Rd. 50</u> Trent Canal Overpass, 5.3 km east of Reg. Rd. 51 Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock	R1631	O 12	N/A	0	100			900							0 0 100 0 0 900 1,000	Bridge rehabilitation. This boundary bridge is a partnership project with Simcoe County 50% of costs to be recovered by Simcoe County.
168	<u>Reg. Rd. 51</u> Gamebridge Bridge, 0.1 km north of Portage Rd. Brock Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Brock	R1632	O 12	N/A	0	200		50		1,750						0 0 200 0 50 1,750 2,000	Bridge replacement/rehabilitation. This boundary bridge is a partnership project with Simcoe County 50% of costs to be recovered by Simcoe County.

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								2017	2018	2019	2020	2021	2022	2023	2024		
169	Reg. Rd. 53 Stevenson Rd. CNR Overpass. 0.9 km north of Wentworth St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O 12	N/A								200		1,600		Bridge rehabilitation 0 0 200 0 0 1,600 1,800
170	Reg. Rd. 53 Stevenson Rd. Over CPR Overpass. 0.4 km north of Lavelle St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O 12	N/A												Bridge rehabilitation 0 0 200 0 0 1,900 2,100
171	Reg. Rd. 54 Park Rd. CPR Overpass. 0.48 km south of Gibb St. Oshawa Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Oshawa		O 12	N/A									100	500		Bridge rehabilitation 0 0 100 0 0 500 600
172	Reg. Rd. 57 Bowmanville Creek Bridge. 1.9 km north of Region Highway 2 Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1529	O 12	N/A	150										1,800	Bridge rehabilitation 150 0 0 0 0 1,800 1,950
173	Reg. Rd. 57 Robins Bridge. 0.77 km north of Taunton Rd. Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington		O 12	N/A								125		1,400		Bridge rehabilitation 0 0 125 0 0 1,400 1,525
174	Reg. Rd. 57 Burkelon Overpass Bridge. 3.3 km south of Shirley Rd Clarington Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Clarington	R1633	O 12 O 11	N/A		50		200	50	100				2,500		2016 Interim repairs 2022 Bridge Replacement 0 0 250 50 100 2,850 3,050
175	Reg. Rd. 58 Manning Rd. Culvert. 0.3 km east of Thicksen Rd Whitby Total Prior Budget Allocations E.A. Design Property Acquisition Utility Relocation Construction	Whitby	R1634	O 12	N/A		25									300	Culvert rehabilitation 0 0 25 0 0 300 325

ITEM No.	LOCATION AND COST COMPONENT	Municipality	Program Number	DC Item #	LENGTH (km)	BUDGET PRIOR TO 2016	2016 CAPITAL BUDGET	NINE YEAR FORECAST									TOTAL PROJECT COST	DESCRIPTION AND REMARKS
								2017	2018	2019	2020	2021	2022	2023	2024	2025		
176	<u>Reg. Rd. 58</u> Adelaide Rd. West Over Oshawa Creek Bridge, 0.6 km west of Simcoe St. Oshawa	Oshawa		O 12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design								150									150
	Property Acquisition																	0
	Utility Relocation																	0
	Construction									1,100								1,100
																		<u>1,250</u>
177	<u>Reg. Rd. 59</u> Gibb St. Over Oshawa Creek Bridge, 0.4 km east of Park Rd. Oshawa	Oshawa		O 12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design									120								120
	Property Acquisition																	0
	Utility Relocation																	0
	Construction										840							840
																		<u>960</u>
178	<u>Reg. Hwy 2</u> Kingston Rd. Over Duffins Creek, 0.6 km west of Church St. Ajax	Ajax		O 12	N/A													Bridge rehabilitation.
	Total Prior Budget Allocations					0												0
	E.A.																	0
	Design																	100
	Property Acquisition																	0
	Utility Relocation																	0
	Construction									100								100
																		<u>800</u>
																		900
179	<u>Reg. Hwy 47</u> Uxbridge Brook Culvert	Uxbridge	R 1035	O 12	N/A													Replace stone masonry arch culvert. Project construction timing will be coordinated with the Town of Uxbridge downtown storm water channel project.
	Uxbridge																	
	Total Prior Budget Allocations					0												0
	E.A.						250											250
	Design																	0
	Property Acquisition																	0
	Utility Relocation																	0
	Construction									2,500								2,500
																		<u>2,750</u>
Structure Rehabilitations and Replacements Totals						2,335	5,540	7,900	13,730	7,640	11,425	10,745	9,950	5,675	5,825	5,750	88,375	
GRAND TOTAL						99,905	77,264	92,244	98,030	92,765	101,495	108,765	109,950	105,785	104,590	107,865	1,098,858	



Region of Durham Road Program: 2017 Draft Capital Budget and Nine Year Forecast (Roads within the Town of Whitby)

Region Road	Road Name	From	To	Draft 2017 Budget Const. Year	Town Requested Const. Year	Town of Whitby Comments
3	Winchester Widening	Baldwin	Hickson	2019 (\$5.5m)	2019	<ul style="list-style-type: none"> Complete additional traffic analysis following completion and opening of Highway 407 to determine impact on Winchester Road and reaffirm improvement requirements and any applicable EA amendments. Review opportunities for modern roundabouts along corridor, including at the St. Thomas/Queen St. junctions. Include cycling and pedestrian amenities throughout corridor.
4	Taunton Intersection Improvements	Anderson		2021 (\$0.8m)	2018	<ul style="list-style-type: none"> Advance timing to complete in conjunction with Town projects. Cycling improvements required, dedicated bike lane across Taunton. Intersection improvements to facilitate the safe egress/ingress from Fawcett Ave, Solmar Ave, Sinclair H.S., and Durham EMS

Region Road	Road Name	From	To	Draft 2017 Budget Cont. Year	Town Requested Cont. Year	Town of Whitby Comments
22	Victoria Intersection Improvements	Blair St		2017 (\$9.5m)	2020	<ul style="list-style-type: none"> • Advance timing for safety and safety improvements including upgrades to Brock Street intersection. • Complete following reconstruction of Henry (2017) and Brock (2018) overpasses at Hwy 401 by MTO.
22	Victoria 5 lane Realign	South Blair	Thickson	2018 (\$8.9m)	2018	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout corridor.
22	Victoria 5 lane widen	East of Thickson	Oshawa	2019 (\$9.4m)	2019	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout corridor.
23	Lake Ridge 4/5 lane widen	Victoria	Dundas	2020 (\$3.0m)	2017 EA	<ul style="list-style-type: none"> • Complete an update on the traffic analysis following opening of Hwy 401 interchange, and Hwy 407/412. EA required between Victoria and Hwy 401 interchange that was not included as part of the Hwy 407 EA.
23	Lake Ridge Widen	Dundas	Rossland	2022 (\$7.6m)	2017 EA	<ul style="list-style-type: none"> • Initiate EA for operational/ capacity upgrades – following opening of Hwy 401 interchange, and Hwy 407/412. • Complete construction in

Region Road	Road Name	From	To	Draft 2017 Budget Const. Year	Town Requested Const. Year	Town of Whitby Comments
						combination with above, Victoria to Dundas project.
23	Lake Ridge Widen	Rosland	Hwy 407	Beyond 2025	2017 EA	<ul style="list-style-type: none"> Initiate EA for operational/ capacity upgrades – following opening of 401 interchange and Hwy 407/412.
23	Lake Ridge Rehab	1.6km North of Hwy 7	Conc. 9	2018 (\$4.0m)	2017 EA	<ul style="list-style-type: none"> Initiate EA for realignment of Columbus/Conc. 7 (Pickering) to improve safety and provide east-west cycling route without using the high speed/volume Lake Ridge Road.
23	Lake Ridge Rehab	Myrtle (RR#5)	Chalk Lake	2020 (\$4.5m)	2020	
25	Consumers 4 lane widen	Thickson	Thornton	2017 (\$9.7m)	2017	<ul style="list-style-type: none"> To accommodate economic development in the area Include cycling and pedestrian amenities throughout corridor.
25	Champlain Rehab	Consumers	Thornton	2017 (\$5.8m)	2019	<ul style="list-style-type: none"> Delay timing. Completion of other projects within Whitby are of higher priority in order to provide required traffic capacity and to facilitate growth and economic

Region	Road Name	Town	Other	Start 2017 Budget Cons. Year	Year Required/Completed	Town of Whitby Comments
						development.
26	Thickson 4 lane widen	Wainworth	CN Rail	2020 (\$2.0m)	2023	<ul style="list-style-type: none"> • Delay timing. Completion of other projects within Whitby are of higher priority in order to provide required traffic capacity and to facilitate growth and economic development. • Include cycling and pedestrian amenities throughout corridor.
26	Thickson Intersection Improvements	Burns		2021 (\$0.6m)	2021	<ul style="list-style-type: none"> • Do not preclude future Burns Street extension to the west, review utilities, etc. • Include cycling and pedestrian amenities throughout project.
26	Thickson Intersection Improvements	Rosland		2021 (\$3.5m)	2021	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout project.
26	Thickson 4 lane widen	Taunton	Winchester	2022 (\$18.8m)	2017 EA	<ul style="list-style-type: none"> • Initiate EA for operational/ capacity upgrades – following opening of Hwy 407/412. • Include cycling and pedestrian amenities throughout corridor.
28	Rosland Intersection	Brock		2018	2018	<ul style="list-style-type: none"> • Coordinate with projects in the vicinity to minimize impacts and

Region Road	Road Name	From	To	Draft 2017 Budget Const. Year	Town Requested Const. Year	Town of Whitby Comments
				(\$6.0m)		delays.
28	Rossland Intersection Improvements	Garden		2020 (\$2.2m)	2020	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout project.
28	Rossland Intersection Improvements	Cochrane		2021 (\$0.2m)	2017	<ul style="list-style-type: none"> • Advance timing and coordinate with Cochrane rehabilitation from Ferguson to Vernon, including construction of cycling lanes to complete north-south priority route between Waterfront Trail and Greenbelt Cycling Route.
36	Hopkins 4/5 lane widen	Consumers	Dundas	Beyond 2025	2020	<ul style="list-style-type: none"> • Include CP Rail grade separation. • To accommodate economic development in the area. • Advance timing and coordinate with new Hwy 401 grade separation. • Include cycling and pedestrian amenities throughout corridor.
36	Hopkins Overpass at Highway 401	Hwy 401		2025 (\$13.8m)	2021	<ul style="list-style-type: none"> • To accommodate economic development in the area. • Advance timing and coordinate with Hopkins widening between Consumers and Dundas.

Region Road	Road Name	From	To	Draft 2017 Budget (\$m)	Town Requested Year	Town of White Comments
						<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout corridor.
43	Cochrane Rehabilitation	Ferguson	Vernon	2020 (\$3.0m)	2017	<ul style="list-style-type: none"> • Advance timing and coordinate with Cochrane rehabilitation from Ferguson to Vernon, including construction of cycling lanes to complete north-south priority route between Waterfront Trail and Greenbelt Cycling Route.
58	Manning Intersection Improvements	Brock		2018 (\$2.0m)	2018	<ul style="list-style-type: none"> • Coordinate with projects in the vicinity to minimize impacts and delays (Brock/Rossland intersection improvements)
58	Manning/ Adelaide interconnection	Garrard	Oshawa	2020 (\$12.0m)	2020	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout corridor.
Hwy 12	Brock 5 lane widen	Rossland	Taunton	2017 (\$10.3m)	2017	<ul style="list-style-type: none"> • Include cycling and pedestrian amenities throughout corridor.
Hwy12	Baldwin 4 lane widen	Taunton	Hwy 407	2020 (\$13.0m)	2020	<ul style="list-style-type: none"> • Provide construction stages that allow for lanes to remain open during construction.



SEP 26 '16 AM8:04

Legislative Services
Lisa Lyons
905-726-4771
townclerk@aurora.ca

Town of Aurora
100 John West Way, Box 1000
Aurora, ON L4G 6J1

September 23, 2016

DELIVERED BY E-MAIL TO:

kwynne.mpp.co@liberal.ola.org

The Honourable Kathleen Wynne
Premier of Ontario
Legislative Building, Queen's Park
Toronto, ON M7A 1A1

Dear Premier:

**Re: Town of Aurora Council Resolution of September 13, 2016
Report No. CS16-020 – Ontario Municipal Board (OMB) Reform Update**

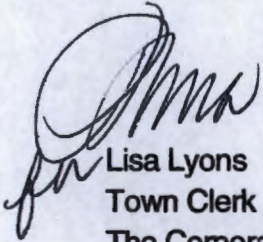
Please be advised that this matter was considered by Council at its Council meeting held on September 13, 2016, and in this regard Council adopted the following resolution:

1. **That Report No. CS16-020, and the attached Municipal Summit OMB Reform: Process & Powers Recommendations, be received; and**
2. **That Council endorse the recommendation contained in Attachment 1 to Report No. CS16-020, being:**
 - a) **That the jurisdiction of the Ontario Municipal Board (OMB) be limited to questions of law or process and, specifically, when considering appeals, that the OMB be required to uphold any planning decision(s) of municipal councils unless said decision(s) is contrary to the processes and rules set out in legislation; and**
3. **That a copy of the recommendation be sent to the Honourable Kathleen Wynne, Premier of Ontario, the Honourable Bill Mauro, Minister of Municipal Affairs, Mr. Patrick Brown, Leader of the Progressive Conservative Party, Ms. Andrea Horwath, Leader of the New Democratic Party, and all Members of Provincial Parliament in the Province of Ontario; and**
4. **That a copy of the recommendation be sent to the Association of Municipalities of Ontario (AMO), all Ontario municipalities, and the York Regional Chair for consideration.**

The Honourable Kathleen Wynne, Premier of Ontario
Re: Town of Aurora Council Resolution of September 13, 2016
September 23, 2016
Page 2 of 2

The above is for your consideration and any attention deemed necessary.

Yours sincerely,



Lisa Lyons
Town Clerk
The Corporation of the Town of Aurora

LL/lb

Attachment (Municipal Summit OMB Reform: Process & Powers Recommendations)

Copy: The Honourable Bill Mauro, Minister of Municipal Affairs
Mr. Patrick Brown, Leader of the Progressive Conservative Party
Ms. Andrea Horwath, Leader of the New Democratic Party
All Members of Provincial Parliament in Ontario
Association of Municipalities of Ontario
All Ontario Municipalities
Mr. Wayne Emmerson, York Region Chairman and CEO

Attachment 1

MUNICIPAL SUMMIT

OMB REFORM: PROCESS & POWERS



RECOMMENDATIONS

MUNICIPAL SUMMIT ON OMB REFORM: PROCESS AND POWERS

While each community is indeed unique, when it comes to planning matters, many of our communities encounter the same issues. When considering development proposals within the context of approved Official Plans – there is on-going pressure to alter their Official Plans to approve project-specific amendment requests. Repeated appeals to the OMB of Municipal councils' planning decisions to uphold their Official Plans and deny project-specific amendment requests, results in multiple communities fighting the same fight - wasting untold taxpayer dollars in the process. It is a lengthy, costly, and frustrating process and one that is clearly not working.

Discussions around the need for OMB reform are not new. As an issue it has jumped from the back burner to the front burner and back again many times over the past two decades. However, despite the many years of discussion, there has been little material change to the scope of powers, procedures or predictability of decision making of the OMB. This had led to frustration for the key stakeholders in the process – Municipal leaders, the development community and - most important - the residents and communities affected by planning decisions and OMB rulings regarding same.

OMB processes and scope of power have not kept pace with the changes in municipal planning necessitated by the explosion of growth in our communities. Effective planning requires certainty and predictability in the processes that govern it. What is needed, therefore, is clarity of the role and scope of power of all those with the authority for decision making.

In light of the pending Provincial review of the OMB, this is an opportune time for elected representatives – those decision-makers on the front lines of municipal planning - to work together and advocate for appropriate and effective reform(s) of the OMB.

Elected officials from across the Province have been asking for change for a long time and now, as a result of the **Summit on OMB Reform – Process and Powers** have come together to identify common goals and common solutions and to advocate for those changes in planning legislation. With reform, it is hoped that Municipalities will have more authority and predictability in local planning decisions.

Background

The impetus for the Municipal Summit on OMB Reform came from a motion brought forward by Councillor Tom Mrakas to Aurora Town Council in January of 2016 that spoke to the need to address the scope and powers of the OMB. Subsequent to that, and within the context of the need for OMB reform, an additional motion was put forward jointly by Councillor Michael Thompson and Councillor Tom Mrakas that spoke to the specific planning issue of development of open space/parkland and the need for criteria against which both municipalities and the OMB can consider when reviewing said development requests.

It was in the context of these two unanimously supported motions that the idea for a Municipal Summit on OMB reform was born. Following quickly on the heels of the passing of both motions, a Municipal Summit Planning Working Group was created to begin the work of creating the Summit. The event, held in the Markham Civic Centre on May 14th, was the result of months of hard work by this dedicated group of 17 elected officials from 12 municipalities across the GTA.

The Municipal Summit was a unique event; a grass roots gathering of elected officials from every corner of our Province, working together towards the common goal of affecting real change in the decision-making processes that affect how our communities are planned.

The daylong event featured a number of important speakers including Ms. Helen Cooper, Former Mayor of Kingston, Chair of the Ontario Municipal Board, AMO President; Mr. John Chipman, Author "Law Unto Itself", former editor of the Ontario Municipal Board Reports; Ms. Valerie Shuttleworth Chief Planner for York Region; Mr. Leo Longo, Senior Partner Aird & Berlis LLP and Mr. Joe Vaccaro, CEO of the Ontario Home Builders Association. The panelists engaged attendees and solicited their input directly through breakout groups. Our guest Moderator, Mr. Bill Hogg, brought together the outcome of both the broader discussions as well as the break out groups so as to identify common themes that would inform the proposed recommendation(s)

Recommendations

At the outset, the purpose of the Summit was to identify common themes and common principles of reform that would modernize the process and procedures of the OMB. The purpose of which is to ensure that decisions of the Board reflect and respect the uniqueness of every community. In reviewing the comments of the attendees and the panelists as well as the municipal leaders that have weighed in through emails and other communication, and taking into consideration the over 100 municipalities that have endorsed the motion(s) advocating reform, the consensus view spoke to a clear need to review the scope of powers of the OMB.

Thus, the recommendations of the Summit can be boiled down to one overarching recommendation:

Limit the jurisdiction of the OMB to questions of law or process. Specifically, when considering appeals, require the OMB to uphold any planning decision(s) of Municipal Councils unless said decision(s) is contrary to the processes and rules set out in legislation.

A decision by a Municipal Council to uphold their Official Plan – a Plan that conforms to provincial legislation and is approved by the Province through the delegated authority of the relevant Regional government - should not be subject to appeal unless that decision is contrary to the processes and rules set out in legislation. Further, OMB decision-making processes/procedures should be predicated on the principle that planning

decisions of a local Municipal Council as they relate to their Official Plan will be upheld unless they are contrary to the processes and rules set out in legislation.

The recent changes to the Planning Act (Bill 73) as they speak to limits on appeals – namely that Official Plans cannot be appealed within the first two years of adoption - are a good first step, but they don't go far enough. The consensus of attendees was that appeals should be strictly limited. Some felt that amendment requests should not be allowed to be put forward at all unless proponents can demonstrate that the proposed changes to the Official Plan or zoning by-law fulfill a changing community need or in some way better the community. The onus should be on the applicant to demonstrate to the local Municipal Council that the changes to the Official Plan necessitated by a proposed project or development benefit the community and/or enhance it. If a Council sees that there is a clear benefit to the community then it is within the Councils authority to grant the amendments. However, if a Council feels that the application does not somehow better the community, then Council has full authority to deny the application without it being subject to appeal.

There should be consistency in the scope of authority of Municipal Councils. Any other decision by a Municipal Council is only subject to appeal through a judicial review the scope of which is errors in process or law. The question then is - why are planning decisions different? The answer is they should not.

As it stands now, Municipalities are required to review application after application, requesting amendment after amendment; considering each in isolation as opposed to the integrated whole. Piecemeal planning negates the utility and functionality of Official Plans. Multiple changes to a Municipal Plan required by multiple project-specific amendment requests compromises the integrity of the Official Plan and indeed the planning process as a whole.

Municipal planning is a complex process. But the current legislation does not recognize or reflect that complexity. The legislation does not adequately address what can be appealed, who can put forward an appeal, and the relative weight that Municipal Council decisions will be given in the adjudication of appeals. Similarly, vague terminology – such as "...due consideration" – significantly impacts the predictability of decision making processes of the Board. Even timelines for decision-making are unworkable. Despite the fact that even mildly contentious development proposals require considerable amount of time to compile the information necessary for informed Council decisions, a decision must be rendered within 180 days or face appeal. This is not good planning. This is ineffective and inefficient public planning.

Clearly there does still need to be a degree of flexibility in the decision making processes. It is not the expectation that Official Plans are carved in stone. However, the drivers of community change should be the community itself. Planning legislation – including the OMB Act - should outline in very specific and very limited terms the basis upon which a Municipal Council decision to refuse an amendment to its Official Plan or zoning bylaw can be appealed. Concomitantly, decisions by the OMB when considering appeals of local Council planning decisions should reflect and respect the vision of the communities as defined in their Official Plans.

In closing, we recognize that our communities are dynamic. They continue to grow and evolve over time. But with that evolution comes a very real pressure to manage that growth in a way that is respectful of the unique character of the affected communities.

Through necessary legislative reform and the clarification of the scope of power and authority of all decision making bodies – both elected and appointed - predictable, appropriate decision-making processes can be achieved.

We thank the panelists, our moderator, our sponsors and most of all everyone who participated in this process, for the incredible input and hard work that has been undertaken.

Sincerely,

The Members of the OMB Reform Summit Working Group:

Councillor Tom Mrakas, Chair (Aurora)
Councillor Michael Thompson (Aurora).
Councillor Marianne Meed Ward (Burlington)
Councillor Nicholas Ermeta (Cambridge)
Councillor Frank Sebo (Georgina)
Councillor Cathy Downer (Guelph)
Councillor Yvonne Fernandes (Kitchener)
Councillor Karen Rea (Markham)
Regional Councillor Nirmala Armstrong (Markham)
Councillor Don Hamilton (Markham)
Councillor Christina Bisanz (Newmarket)
Councillor Karen Cilevitz (Richmond Hill)
Councillor David West (Richmond Hill)
Councillor & Deputy Mayor Pat Molloy (Uxbridge)
Councillor Marilyn Iafrate (Vaughan)
Councillor Alan Shefman (Vaughan)
Councillor Mary Ann Grimaldi (Welland)
Councillor Steve Yamada (Whitby)



SEP 27 '16 AM 11:35

VIA EMAIL

Legislative & Planning Services
Department
Office of the Regional Clerk
1151 Bronte Road
Oakville, ON L6M 3L1
LEGISLATIVE SERVICES

September 19, 2016

Ministry of Municipal Affairs, Cindy Tan
Ministry of Natural Resources and Forestry, Ala Boyd
Eleanor McMahon, MPP, Burlington
Indira Naidoo-Harris, MPP, Halton
Kevin Flynn, MPP, Oakville
Ted Amott, MPP, Wellington-Halton Hills
Niagara Escarpment Commission, Kim Peters
City of Burlington, Angela Morgan
Town of Halton Hills, Suzanne Jones
Town of Milton, Troy McHarg
Town of Oakville, Vicki Tytaneck
Association of Municipalities of Ontario, Pat Vanini
All Municipalities within the Greater Golden Horseshoe Growth Plan

Original
To: CIP
Copy
To: B. Bridgeman (via email)
C.C. S.C.C. File
Take Appr. Action

Please be advised that at its meeting held Wednesday, September 14, 2016, the Council of the Regional Municipality of Halton adopted the following resolution:

RESOLUTION: LPS106-16 - Supplementary Report - Coordinated Provincial Plan Review

1. THAT Regional Council endorse the Supplementary Report – Coordinated Provincial Plan Review.
2. THAT the Regional Clerk forward a copy of Report No. LPS106-16 with Report No. LPS79-16 to the Ministry of Municipal Affairs, the Ministry of Natural Resources and Forestry, Halton’s MPPs, the Niagara Escarpment Commission, the City of Burlington, the Town of Halton Hills, the Town of Milton, the Town of Oakville, the Association of Municipalities and all municipalities within the Greater Golden Horseshoe Growth Plan area for their information.

Included please find a copy of Report No. LPS106-16 for your information.

Regional Municipality of Halton

HEAD OFFICE: 1151 Bronte Rd, Oakville, ON L6M 3L1
905-825-6000 | Toll free: 1-866-442-5866

If you have any questions please contact me at extension 7110 or the e-mail address below.

A handwritten signature in blue ink, appearing to read 'G. Milne', enclosed within a faint, light blue circular stamp or watermark.

Graham Milne
Deputy Clerk and Supervisor of
Council & Committee Services
graham.milne@halton.ca



The Regional Municipality of Halton

Report To:	Regional Chair and Members of Regional Council
From:	Mark G. Meneray, Commissioner, Legislative & Planning Services and Corporate Counsel
Date:	September 14, 2016
Report No. - Re:	LPS106-16 - Supplementary Report - Coordinated Provincial Plan Review

RECOMMENDATION

1. THAT Regional Council endorse the Supplementary Report – Coordinated Provincial Plan Review.
2. THAT the Regional Clerk forward a copy of Report No. LPS106-16 with Report No. LPS79-16 to the Ministry of Municipal Affairs, the Ministry of Natural Resources and Forestry, Halton’s MPPs, the Niagara Escarpment Commission, the City of Burlington, the Town of Halton Hills, the Town of Milton, the Town of Oakville, the Association of Municipalities and all municipalities within the Greater Golden Horseshoe Growth Plan area for their information.

REPORT

Executive Summary

- At its meeting of September 7, 2016, Halton Region Planning and Public Works Committee requested that a supplemental report to Report No. LPS79-16 be prepared outlining five additional comments and recommendations to contribute to the Halton Area Planning Partnership (HAPP) Report on the Coordinated Provincial Plans Review.

Regional Council Additional Comments

1. Limitation of Official Plan Amendment Applications and Appeals to Change Established Municipal Urban Structure

The current Growth Plan for the Greater Golden Horseshoe (Growth Plan) requires a Municipal Comprehensive Review (MCR) to be completed to address where and how a community is to grow. The Growth Plan requires an MCR to be completed for any urban boundary expansion and also restricts private initiated urban boundary expansions. The same restriction does not exist on private initiated applications that

would change the urban structure of a community. As part of an MCR, municipalities establish an urban structure, including intensification growth nodes and corridors based on policy direction in the Growth Plan and the Regional Official Plan. This urban structure is not offered any protection from privately initiated Official Plan amendments.

Halton Region recommends that restrictions be placed on the initiation of private Official Plan Amendments' large-scale proposals outside of designated Urban Structure (Designated Greenfield Area and Build Boundary Area) as established through a Municipal Comprehensive Review (MCR) process. Restricting these amendments outside of an MCR process will strengthen the ability of municipalities to plan for, finance and service growth in accordance with the planned urban structure of their Official Plans.

2. Remove Appeal of Regional Official Plan Amendments that Implement the Growth Plan

The Region of Halton has spent the past six years defending its Official Plan before the Ontario Municipal Board (OMB) in the implementation of the Growth Plan. The proposed amendments to the Growth Plan establishes new targets of 60% intensification and 80 people and jobs per hectare, which if no transition is provided would require the Region to start over and turn the clock back on implementation of the Growth Plan and be faced with duplicating the same process before the OMB. The HAPP submission strongly suggests that transition is needed to ensure we are moving forward and not turning the clock back. The implementation of the Growth Plan has been significantly delayed due to the number of appeals to the (OMB).

The Region of Halton recommends that all Regional Official Plans and amendments that implement the Growth Plan and have been approved by the Province be sheltered from any appeals to the OMB.

3. Development Charges Update

The Growth Plan has an underlying principle that growth should pay for growth. The current Development Charges Act does not allow for the full cost of growth to be recovered through development charges.

Halton Region continues to strongly recommend that the Province amend the Development Charges Act to enable municipalities to fully recover the cost of all growth-related services associated with implementing the Provincial Plans.

4. Provincial Funding and Need for Provincial Plan Secretariat

The implementation of the Growth Plan requires significant investment in infrastructure from all three levels of government: Provincial, Regional and Municipal. The Regional and Municipal levels of government are required to plan for capital infrastructure required to accommodate growth; this is the basis for Capital planning

and Development Charges. The Province needs to establish Capital Plans being a minimum forecast period of 10 years to address Provincial investment in infrastructure required to implement the Growth Plan.

The Region recommends that the Province develop a Provincial Secretariat comprised of all Ministries involved in the delivery of community infrastructure to support implementation of the Provincial Plans. The Secretariat would be responsible for capital planning, coordinating the funding and timely delivery of provincial infrastructure such as schools, hospitals and transportation/transit to ensure that municipalities have appropriate infrastructure and services in place to build complete communities, as envisioned in the Growth Plan and implementing Official Plans.

5. Climate Change and Net Zero Communities

Halton Region requests that the Province provide additional details, information, and clarification regarding the policies addressing Climate Change and the development of Net Zero Communities in the proposed updated Provincial Plans. In addition, the Region is requesting that the Province consider making amendments to the Ontario Building Code to enable municipalities to enhance energy efficiency and lower-carbon standards in new construction to implement these policies.

6. Affordability and Single Family Homes

In addition to the comments provided for Growth Plan Policy 2.2.1 in the HAPP submission, Halton Regional Council has requested that the following comment be considered:

“Restricting supply of single detached homes must drive up the price of this form of housing by failing to meet the demand for this form of housing.”

FINANCIAL/PROGRAM IMPLICATIONS

The cost of preparing the joint HAPP submission on the 2016 Co-ordinated Plans Review has been financed through the Legislative and Planning Services approved 2016 operating budget.

Respectfully submitted,



Ron Glenn
Director, Planning Services and
Planning Official



Mark G. Meneray
Chief Commissioner, Legislative & Planning
Services and Corporate Counsel

Approved by



Jane MacCaskill
Chief Administrative Officer

If you have any questions on the content of this report,
please contact:

Ron Glenn
Dan Tovey
Brooke Marshall

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Attachments: None



The Regional Municipality of Halton

Report To:	Chair and Members of the Planning and Public Works Committee
From:	Mark G. Meneray, Commissioner, Legislative & Planning Services and Corporate Counsel
Date:	September 7, 2016
Report No. - Re:	LPS79-16 - Co-ordinated Provincial Plans Review, HAPP Comments and Recommendations

RECOMMENDATION

1. THAT Regional Council endorse the Halton Area Planning Partnership's 2016 Coordinated Plan Review Joint Submissions on the Proposed Growth Plan, Proposed Greenbelt Plan and Proposed Niagara Escarpment Plan to the Ministry of Municipal Affairs, provided as Attachments #1-3 to Report No. LPS79-16.
2. THAT the Regional Clerk forward a copy of Report No. LPS79-16 to the Ministry of Municipal Affairs, the Ministry of Natural Resources and Forestry, Halton's MPPs, the Niagara Escarpment Commission, the City of Burlington, the Town of Halton Hills, the Town of Milton and the Town of Oakville for their information.

REPORT

Executive Summary

- On May 10, 2016, as a second phase of consultation on the Co-ordinated Plan Review initiative, the Province of Ontario released the proposed revised provincial land use plans for the Greater Golden Horseshoe: 1) Growth Plan for the Greater Golden Horseshoe; 2) Greenbelt Plan; 3) Niagara Escarpment Plan; and 4) Oak Ridges Moraine Conservation Plan.
- Halton Area Planning Partnership's (HAPP) joint submission focuses on the three land use plans that are applicable to Halton Region: 1) Growth Plan, 2) Greenbelt Plan and 3) Niagara Escarpment Plan.
- The nine most significant recommendations to the Province identified as part of the HAPP review of the Growth Plan, Greenbelt Plan and Niagara Escarpment Plan are: 1) Harmonization and Alignment; 2) Intensification and Density Targets; 3) Guidelines, Impact Assessment and Criteria Development; 4) Provincial Funding 5) Agriculture Systems, Supportive, Related and Diversified Policies; 6) Mapping Updates to the Plans; 7) Urban River Valleys, 8) Climate Change and Net-Zero Communities, and 9) Site Specific Recommendations.

- The deadline to respond to the Province has been extended to October 31, 2016.

Co-ordinated Plans 2016 Review Background

The Province initiated the Co-ordinated Plan Review of the four provincial land use plans in 2015 and received extensive feedback following this initial round of consultations with stakeholders and the public. Halton Region and its local municipalities provided input on the initial consultation through a joint Halton Area Planning Partnership (HAPP) submission that was endorsed by Regional Council through Report No. LPS56-16. An Advisory Panel also provided its recommendations in December 2015 in their report “Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015 – 2041”.

The Province of Ontario has now reviewed and considered all feedback received during the first round of consultation and on May 10, 2016 has released revisions to the proposed land use plans to the public for consideration and consultation.

As noted in Report No. LPS62-16, Regional staff identified the main policy changes to the proposed revised plans, outlined the Province’s public engagement strategy on the plans and set out the Region’s approach to reviewing the plans in consultation with Regional departments and local staff and the preparation of a joint HAPP submission for Council’s consideration and endorsement. This report provides HAPP’s comments and recommended changes to the provincial land use plans for consideration by Council in advance of the Province’s October 31, 2016 deadline.

The following discussion outlines the main changes to the proposed revised plans and highlights HAPP’s most significant recommended revisions.

Discussion

Proposed Changes to the Plans

The proposed Growth Plan contains increases to intensification and density targets, policies to address climate change and the introduction of a natural heritage system for the entire Greater Golden Horseshoe area.

The proposed Greenbelt Plan contains the introduction of an Agricultural System and Agricultural Support Network, proposals for the introduction of impact assessments and classification methodologies to identify special land use areas and key landscape features which have not been consistently identified at this time.

The proposed Niagara Escarpment Plan contains changes that bring the plan closer to harmonization with these other plans while strengthening the “environment first” principle of the Niagara Escarpment Plan.

Significant HAPP Recommendations on the Proposed Revised Plans.

Several considerations are common across the plans and constitute the most significant recommendations developed by HAPP in the development of the Joint Responses found in Appendices #1 – 3 of this report. The Appendices contain a discussion of recommendations, as well as both general and policy-specific comments directed at each plan individually/independently.

Having said this, the nine items discussed below represent the key recommendations identified by HAPP which constitute the most significant commentary to be submitted to MMAH in response to the proposed revised Growth Plan, Greenbelt Plan and Niagara Escarpment Plan.

1. Harmonization and Alignment

Although efforts have been made to harmonize definitions across the Plans, further harmonization is required. The coordination of provincial plans in the Greater Toronto and Hamilton Area (GTHA) provides strength and consistency but each plan would benefit from being structured as independent policy documents to ensure each plan can be read independently or in conjunction with the other plans. Ensuring that the definitions and methodologies for assessing key features are aligned among the plans is integral to balancing the requirements of each plan and achieving consistent implementation throughout the Greater Golden Horseshoe (GGH) and beyond.

2. Intensification and Density Targets

HAPP is generally supportive of the increased density and intensification targets in the proposed Growth Plan. Although the 60 per cent intensification target is generally supported, HAPP recommends that it should be phased in commencing at 2031 and be measured over the 2031 to 2041 time period, at the upper-tier level. Measuring the target from 2031 to 2041 will give municipalities time to determine the appropriate locations for intensification and build the infrastructure required to support it.

All HAPP members feel strongly that the 80 people and jobs per hectare target should only apply to unplanned and undeveloped areas of the “designated greenfield area” (DGA). The DGA is defined by the proposed revised Growth Plan as the “area within a settlement area that is required to accommodate forecasted growth to the horizon of this Plan and is not built-up area”. Applying this target to the entire DGA implies that area-specific plans currently in progress should be revised to meet the new target and that unplanned areas will need to be planned at very high densities in order to balance-out previously planned land. The 80 people and jobs per hectare target should exclude all employment areas, land used for infrastructure and portions of the DGA planned under a prior existing policy regime. This will result in a measure that accurately reflects Halton Region’s efforts to increase DGA densities.

3. Guidelines, Impact Assessment and Criteria Development

The proposed plans identify several yet undeveloped provincial guidelines, impact assessment methodologies, as well as system and key feature identification criteria. Development of a land budget methodology is of particular priority. HAPP recommends that these tools be developed quickly and in consultation with municipalities to reflect and respect existing criteria and processes, be harmonized across provincial plans and continue to permit municipalities with more restrictive requirements to continue to be more restrictive. HAPP notes that a greater commitment is needed from all Provincial ministries and agencies in advancing the objectives of the Plans. Capital investments must align with the goals of the Plans.

4. Provincial Funding

New Provincial funding models and financial tools are required to implement all three Plans. The base assumptions for municipal revenue streams should be reviewed and updated so that new, innovative tools can provide sustainable funding for municipalities within the GGH. Given the Growth Plan's intensification target of 60 per cent and 80 people and jobs target, there is an urgent need for the Province to provide stable, predictable, long-term funding to improve aging infrastructure, invest in transit and community infrastructure and to manage growth to achieve thriving, livable, compact, pedestrian friendly and "complete communities to meet the people's needs for daily living throughout an entire lifetime". Funds are also required to combat climate change, build agricultural support networks and develop community hubs.

5. Agriculture Systems, Supportive, Related and Diversified Policies

The plans provide greater support for agriculture and the agricultural community by introducing and allowing for agriculture-related and on-farm diversified uses. However, it is requested that clarification regarding issues of compatibility, identification of an agricultural system and the implementation of an agricultural support network be provided.

6. Mapping Updates to the Plans

Clarification on the methods and data utilized in the development of mapping updates in both the Niagara Escarpment and Greenbelt Plans is requested. Greater consultation with municipalities and the public on the proposed mapping changes is needed to better understand the potential implications and to ensure that the most locally relevant and rigorous data available are used in the updating of provincial mapping.

Additionally, an appropriate municipal response to site specific requests to modify land use in the NEP would require Official Plan Amendment (OPA) applications to be submitted to the relevant municipalities for review. Additional information and an application submission to Regional and Local OPA processes would be required, prior

to a municipal comprehensive review of the proposed changes in the Niagara Escarpment Plan.

7. Urban River Valleys

It is requested that Fourteen Mile Creek below the Queen Elizabeth Way Highway to Lake Ontario be included in the Urban River Valley mapping. Use of municipal mapping of urban river valleys is requested to ensure the consistency of location, valley widths and public owned lands. Additionally, it is requested that all symbols, colours and boundaries used on the maps comprising the Greenbelt Plan include complete and thorough accompanying legends.

8. Climate Change and Net-Zero Communities

The introduction of policies addressing climate change and the concept of net-zero communities has been done without any accompanying clarification of definitions or explanatory guidance to assist municipalities in understanding the implications or application of these policies.

9. Site Specific Recommendations

Two site specific recommendations are being supported by HAPP for inclusion in the Greenbelt Plan area. It is requested that the approved Glen Williams boundary contained in the Halton Hills Official Plan be used to define the boundaries of the Greenbelt Plan Protected Countryside area. Additionally, it is requested that the Cootes to Escarpment EcoPark receive recognition in the Greenbelt Plan, similar to the manner in which the Rouge River Watershed has been recognized.

Conclusion

HAPP generally supports the modifications proposed in the updated Growth Plan, Greenbelt Plan and the Niagara Escarpment Plan. Commencement of the drafting of new guidelines, systems identification and impact assessment methodologies identified in the Plans is anticipated, and HAPP are seeking to participate in these processes. Regional staff will continue to monitor and apprise Council of any changes resulting from the Proposed Co-ordinated Plans consultation process, and on the development and consultation on the proposed methodologies as they become available.

FINANCIAL/PROGRAM IMPLICATIONS

The cost of preparing the joint HAPP submission on the 2016 Co-ordinated Plans Review has been financed through the Legislative and Planning Services approved 2016 operating budget.

Respectfully submitted,



Ron Glenn
Director, Planning Services and
Planning Official



Mark G. Meneray
Chief Commissioner, Legislative & Planning
Services and Corporate Counsel

Approved by



Jane MacCaskill
Chief Administrative Officer

If you have any questions on the content of this report,
please contact:

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Attachments: Attachment #1 - HAPP Proposed Growth Plan Joint Submission (under separate cover)
Attachment #2 - HAPP Proposed Greenbelt Plan Joint Submission (under separate cover)
Attachment #3 - HAPP Proposed Niagara Escarpment Plan Joint Submission (under separate cover)

Halton Area Planning Partnership (HAPP)

2016 Coordinated Plan Review

Proposed Growth Plan

Joint Submission

September 2016



Introduction

The Halton Area Planning Partnership (HAPP) is comprised of Halton Region and the following Local Municipalities: the City of Burlington, the Town of Halton Hills, the Town of Milton, and the Town of Oakville.

This submission represents HAPP's response to the document "Proposed Growth Plan (2016), May 2016" (Proposed Plan) which was placed on the Environmental Registry as a Policy Proposal Notice (EBR Registry Number: 012-7194) on May 10, 2016.

Proposed changes to the Growth Plan include increases to intensification and density targets, policies to address climate change and the introduction of a natural heritage system for the entire Greater Golden Horseshoe.

The Halton Area Planning Partnership (HAPP) now takes this opportunity to have its collective voice heard by responding to the Proposed Growth Plan. HAPP's submission provides comments on the Growth Plan's proposed changes and provides HAPP's key recommendations in this letter.

HAPP's response includes:

1. This letter, which contains:
 - a. HAPP's Key Points regarding the whole of the document;
2. Appendix 1, which contains:
 - a. General comments regarding the whole of the Proposed Plan;
 - b. Comments specific to individual policies within the Proposed Plan

Background

A co-ordinated review of the four Provincial land use plans was undertaken in 2015. The Government of Ontario received extensive feedback after the initial round of consultations with stakeholders and the public. An Advisory Panel also provided its recommendations in December 2015 in their report, "Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015 – 2041".

The Government of Ontario has reviewed and considered all feedback received from stakeholders, the public, Indigenous communities and the Advisory Panel's recommendations. The government is now proposing changes to the four plans. The following Key Points outline the general policy comments developed collaboratively among the members of HAPP for the province's consideration before completion of the Coordinated Plans review.



Key Points of HAPP's Response

1. Harmonization and Alignment

Although efforts have been made to harmonize definitions across the Plans and with the PPS, opportunities still exist to better harmonize terminology, definitions and, where appropriate, policies. For example the Growth Plan provides definitions for key hydrologic areas, key hydrologic features, and key natural heritage features but the definitions differ from those found in the Greenbelt Plan. Aligning these elements is integral to balancing the requirements of each plan and achieving consistent implementation throughout the Greater Golden Horseshoe (GGH) and beyond.

HAPP members note that efficiencies can be gained by aligning the review of Growth Plan policies with the review of the Schedule 3 population and employment forecasts. Density and intensification targets affect strategies to accommodate population and employment forecasts. Informed discussions on the total amount of people and jobs a given municipality can accommodate cannot take place without considering how the totals will be accommodated – the reverse is also true. Aligning these elements will ensure that municipalities and other stakeholders have access to all relevant information when commenting on proposed changes to the Plans.

The Growth Plan should also be harmonized with other Provincial plans, such as the Ministry of Transportation Greater Golden Horseshoe Multi-Modal Transportation Plan and the Metrolinx Regional Transportation Plan. Within these plans, capital investments should be closely tied to policies – if a project has funding, municipalities can be certain that improvements to provincial or federal infrastructure will be made. The Growth Plan cannot be successfully implemented without harmonized plans at the provincial level.

2. Provincial Funding

Growth Plan implementation will not happen without stable, predictable, Provincial funding. Given the Growth Plan's proposed intensification target of 60 per cent, the need for funds to incentivize intensification, improve aging infrastructure and invest in transit is critical. Municipalities will also require funds for other components of the Growth Plan, such as community energy plans, agricultural support networks and community hubs. Expecting municipalities to pay for these additional community elements without providing additional revenue through funding or funding tools is unrealistic and will lead to stalled (or non-existent) implementation.

New funding models and financial tools are required to implement the Growth Plan's vision of "complete communities." The base assumptions for municipal revenue streams should be reviewed and updated so that new, innovative tools can provide sustainable funding for municipalities within the GGH. The proposed Growth Plan will ultimately change the way that communities are planned and built, however without corresponding changes to the ways in which infrastructure, community services and amenities are financed and delivered, municipalities will not be able to successfully



implement the policies of the proposed plan. In order to achieve vibrant, compact, pedestrian friendly, complete communities for all people at all stages of life as envisioned in the plan, appropriate Provincial funding is required

3. Transitioning to the Intensification and Density Targets

HAPP is generally supportive of the increased density and intensification targets in the proposed Growth Plan subject to Provincial support of the following qualifiers and additional comments found in Appendix 1. These include consideration of municipal need for time to transition from the existing targets to the proposed targets. Several land use planning initiatives are underway and will continue as planned while Growth Plan conformity exercises are completed.

A significant portion of Halton's growth is directed to its Designated Greenfield Area (DGA). Though HAPP is supportive of excluding Prime Employment Areas from density calculations, there are a number of low density features that should also be excluded, such as all roads and non-linear infrastructure that cannot be built more compactly (like sewage treatment plants). As well, schools and parks are important elements of complete communities that are also difficult to develop more compactly and as a result, should also be excluded from the 80 residents/ha target. The new target should only be measured over residential / mixed use areas (not employment areas).

All HAPP members feel strongly that the 80 people and jobs per hectare target should only apply to unplanned and undeveloped areas of the Designated Greenfield Area (DGA). Applying this target to the entire DGA implies that in progress area-specific plans should be revised to meet the new target, and that unplanned areas will have to be planned at very high densities in order to balance out previously planned land. HAPP suggests that the Province develop a new term and definition for the "developed portion" of the DGA applicable at date of adoption of this amendment to the Plan.

Though HAPP members generally support the 60 per cent intensification target, it should be phased in commencing at 2031, and be measured over the 2031 to 2041 time period, at the upper-tier level. Measuring the target from 2031 to 2041 will give municipalities time to determine the appropriate locations for intensification and build the infrastructure required to support it. Applying the target at the upper-tier level ensures that intensification is directed to areas in Halton that can adequately support it (such as areas served by transit).

4. Agriculture, Agricultural System and Agricultural Support Network

The Proposed Growth Plan provides greater support for agriculture and the agricultural community by introducing and allowing for agriculture-related and on-farm diversified uses, which is supported. However, HAPP's previous submission noted the need for policies that would support a 'systems' approach for agricultural processes, which was not fully addressed in any of the plans.



The concept of an 'Agricultural Support Network' has been introduced into both the Greenbelt Plan and the Growth Plan. The definition for 'Agricultural Support Network' does not separate economic development supporting goals and land uses throughout rural municipalities. The vague nature of the definition and implied land use implications of this network may create confusion about how the economic, community and social support systems that are part of rural communities and lands may be supported by municipalities.

Furthermore, the definition for 'Agricultural Support Network' suggests that it includes elements such as "regional agricultural infrastructure". Given that "infrastructure" is also a defined term, it is not clear what the intent of "regional agricultural infrastructure" is. It is critical that municipalities understand the implications of this. In addition, the policy direction for municipalities as it relates to the 'Agricultural Support Networks' is unclear, as the language used throughout the Greenbelt Plan is inconsistent (i.e., shall versus encourage).

5. Guidelines, Impact Assessments, Performance Indicators and Identification Criteria

The Greenbelt Plan and the Growth Plan both refer to a number of forthcoming provincial guidelines and systems mapping initiatives (e.g., watershed planning guidelines, agricultural system mapping, natural heritage systems mapping). As well, reference is frequently made to yet undeveloped classification systems (LEAR, Key Natural Heritage Systems, and Agricultural Systems), identification criteria (Natural Heritage Features), and impact assessment requirements (Agricultural Impact Assessments) throughout the plans.

HAPP is supportive of the development of Provincial guidelines and methodologies to support the municipal implementation of Growth Plan policies. HAPP members are looking forward to a full consultation process on the standardized land needs methodology and watershed planning guidelines (particularly as it relates to settlement boundary expansions). Among other considerations, the Province should consider that HAPP recognizes the land budget methodology and guidelines are required as a prerequisite to implementation of the amended Growth Plan. Therefore, HAPP requests that the standardized land needs assessment methodology be prioritized accordingly.

These tools should be developed quickly, and in consultation with municipalities. It is recommended that the new tools reflect and respect existing criteria and processes in place at the municipal level, be harmonized across provincial plans, and continue to permit municipalities with the opportunity to be more restrictive.

Municipalities and other public agencies frequently have sound, detailed data used in the development of their own mapping, which reflects local conditions and have resulted in the development of a comprehensive and refined product. These methodologies and



resulting mapping are locally significant and should be used in the development of potential provincial land use system mapping changes.

Greater clarity is needed with regard to the expectations of municipalities and other public bodies as it relates to developing and reporting on performance indicators. Guidance and support from the Province to undertake this work is critical.

6. Implementation

When contemplating the development of the land needs assessment, consideration must be given to distinguishing between Designated Greenfield Areas and Built-Up Areas. Furthermore, there needs to be methodology to assist in forecasting job growth/redevelopment capacity within existing employment areas. Doing so would recognize that all municipalities within the Greater Golden Horseshoe are at different stages of development and a single greenfield oriented land needs assessment is not appropriate in all cases. HAPP members also recommend that the Growth Plan defer to municipal positions, and / or municipal Official Plans concerning the designation of Prime Employment Areas and Priority Transit Corridors, as well as the mapping of Natural Heritage and Agricultural Systems.

Since the release of the Growth Plan in 2006, Halton has been subject to a number of Provincial projects that conflict with Growth Plan principles. For example, GO Transit built a large parking structure at a key intersection in the Midtown Oakville Urban Growth Centre. Provincial policy and funding formulas for school boards does not mandate or facilitate compact school design and community hubs. These examples underscore that in order to ensure that the Growth Plan is implemented successfully, all Provincial ministries must adhere to Growth Plan policies.

HAPP notes that a greater commitment is needed from all Provincial ministries and agencies in advancing the objectives of the Growth Plan. Capital investments must align with the goals of the Growth Plan. Provincial reviews of Growth Plan supportive infrastructure should be prioritized. Partnerships between municipalities and Provincial agencies need to be fostered to accelerate the development of community facilities.

Finally, the Province should support municipalities' efforts to implement the Growth Plan by sheltering official plan conformity amendments from appeals to the Ontario Municipal Board, expediting the appeal process, or providing funds for municipalities' defense. Significant changes to the built-form in the GGH cannot occur without significant changes to underlying processes.

7. Climate Change and Net-Zero Communities

The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities understanding the implications or



application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed, are required.

Conclusion

HAPP is supportive of the general principles put forward in the Proposed Growth Plan, and appreciates the work that has gone into harmonizing the Growth Plan with the Greenbelt Plan. The success of the Growth Plan's implementation is dependent on long-term stable and predictable funding and funding tools from the Province for transit and infrastructure (particularly in intensification areas). HAPP members anticipate a full consultation on guidelines and methodologies developed by the Province to aid in implementation (particularly the standardized land needs assessment).

Thank you for providing the Region and its Local Municipalities the opportunity to comment on the development of these policy changes.

Respectfully submitted,

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APPENDIX 1a: Joint HAPP Response to Proposed Changes to the *Growth Plan* (May 2016)

Co-ordinated Land Use Planning Review - *Halton Region, City of Burlington, Town of Oakville, Town of Halton Hills, and Town of Milton*

Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
<p>1. Harmonization and Alignment</p>	<p>Although efforts have been made to harmonize definitions across the Plans and with the PPS, opportunities still exist to better harmonize terminology, definitions and, where appropriate, policies. For example the Growth Plan provides definitions for key hydrologic areas, key hydrologic features, and key natural heritage features but the definitions differ from those found in the Greenbelt Plan. Aligning these elements is integral to balancing the requirements of each plan and achieving consistent implementation throughout the Greater Golden Horseshoe (GGH) and beyond.</p> <p>HAPP members note that efficiencies can be gained by aligning the review of Growth Plan policies with the review of the Schedule 3 population and employment forecasts. Density and intensification targets affect strategies to accommodate population and employment forecasts. Informed discussions on the total amount of people and jobs a given municipality can accommodate cannot take place without considering how the totals will be accommodated – the reverse is also true. Aligning these elements will ensure that municipalities and other stakeholders have access to all relevant information when commenting on proposed changes to the Plans.</p> <p>The Growth Plan should also be harmonized with other Provincial plans, such as the Ministry of Transportation Greater Golden Horseshoe Multi-Modal Transportation Plan and the Metrolinx Regional Transportation Plan. Within these plans, capital investments should be closely tied to policies – if a project has funding, municipalities can be certain that improvements to provincial or federal infrastructure will be made. The Growth Plan cannot be successfully implemented without harmonized plans at the provincial level.</p>	<p>Terminology and definitions should be consistent between the Growth Plan, the Greenbelt Plan, the Niagara Escarpment Plan and the Provincial Policy Statement.</p> <p>Growth Plan policies and the population and employment forecasts found in Schedule 3 must be updated together.</p> <p>Timing between the Growth Plan, the Big Move and other Provincial plans should be aligned.</p>

APPENDIX 1a: Joint HAPP Response to Proposed Changes to the *Growth Plan* (May 2016)

Co-ordinated Land Use Planning Review - *Halton Region, City of Burlington, Town of Oakville, Town of Halton Hills, and Town of Milton*

Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
2. Provincial Funding	<p>Growth Plan implementation will not happen without stable, predictable, Provincial funding. Given the Growth Plan's proposed intensification target of 60 per cent, the need for funds to incentivize intensification, improve aging infrastructure and invest in transit is critical. Municipalities will also require funds for other components of the Growth Plan, such as community energy plans, agricultural support networks and community hubs. Expecting municipalities to pay for these additional community elements without providing additional revenue through funding or funding tools is unrealistic and will lead to stalled (or non-existent) implementation.</p> <p>New funding models and financial tools are required to implement the Growth Plan's vision of "complete communities." The base assumptions for municipal revenue streams should be reviewed and updated so that new, innovative tools can provide sustainable funding for municipalities within the GGH. The proposed Growth Plan will ultimately change the way that communities are planned and built, however without corresponding changes to the ways in which infrastructure, community services and amenities are financed and delivered, municipalities will not be able to successfully implement the policies of the proposed plan. In order to achieve vibrant, compact, pedestrian friendly, complete communities for all people at all stages of life as envisioned in the plan, appropriate Provincial funding is required</p>	<p>Municipalities require funding to incentivize intensification and build the infrastructure to support it (including transit).</p> <p>Municipalities will not be able to build "complete communities" without changes to the base assumptions used for municipal revenue streams, or new funding tools that guarantee sustainable, long term funding.</p>
3. Transitioning to the Intensification and Density Targets	<p>HAPP is generally supportive of the increased density and intensification targets in the proposed Growth Plan subject to Provincial support of the following qualifiers and additional comments found in Appendix 1. These include consideration of municipal need for time to transition from the existing targets to the proposed targets. Several land use planning initiatives are underway and will continue as planned while Growth Plan conformity exercises are completed.</p>	

APPENDIX 1a: Joint HAPP Response to Proposed Changes to the *Growth Plan* (May 2016)

Co-ordinated Land Use Planning Review - *Halton Region, City of Burlington, Town of Oakville, Town of Halton Hills, and Town of Milton*

Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
	<p>A significant portion of Halton’s growth is directed to its Designated Greenfield Area (DGA). Though HAPP is supportive of excluding Prime Employment Areas from density calculations, there are a number of low density features that should also be excluded, such as all roads and non-linear infrastructure that cannot be built more compactly (like sewage treatment plants). As well, schools and parks are important elements of complete communities that are also difficult to develop more compactly and as a result, should also be excluded from the 80 residents/ha target. The new target should only be measured over residential / mixed use areas (not employment areas).</p> <p>All HAPP members feel strongly that the 80 people and jobs per hectare target should only apply to unplanned and undeveloped areas of the Designated Greenfield Area (DGA). Applying this target to the entire DGA implies that in progress area-specific plans should be revised to meet the new target, and that unplanned areas will have to be planned at very high densities in order to balance out previously planned land. HAPP suggests that the Province develop a new term and definition for the “developed portion” of the DGA applicable at date of adoption of this amendment to the Plan.</p> <p>Though HAPP members generally support the 60 per cent intensification target, it should be phased in commencing at 2031, and be measured over the 2031 to 2041 time period, at the upper-tier level. Measuring the target from 2031 to 2041 will give municipalities time to determine the appropriate locations for intensification and build the infrastructure required to support it. Applying the target at the upper-tier level ensures that intensification is directed to areas in Halton that can adequately support it (such as areas served by transit).</p>	<p>The density target should exclude all employment areas, lands used for inherently non-compact infrastructure and portions of the DGA planned under a prior policy regime.</p> <p>The Growth Plan should include a new term and definition for the developed portions of the DGA.</p> <p>The intensification target should be measured across Halton, from 2031 to 2041.</p>

APPENDIX 1a: Joint HAPP Response to Proposed Changes to the *Growth Plan* (May 2016)

Co-ordinated Land Use Planning Review - Halton Region, City of Burlington, Town of Oakville, Town of Halton Hills, and Town of Milton

Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
<p>4. Agriculture, Agricultural System and Agricultural Support Network</p>	<p>The Proposed Growth Plan provides greater support for agriculture and the agricultural community by introducing and allowing for agriculture-related and on-farm diversified uses, which is supported. However, HAPP’s previous submission noted the need for policies that would support a ‘systems’ approach for agricultural processes, which was not fully addressed in the any of the plans.</p> <p>The concept of an ‘Agricultural Support Network’ has been introduced into both the Greenbelt Plan and the Growth Plan. The definition for ‘Agricultural Support Network’ does not separate economic development supporting goals and land uses throughout rural municipalities. The vague nature of the definition and implied land use implications of this network may create confusion about how the economic, community and social support systems that are part of rural communities and lands may be supported by municipalities.</p> <p>Furthermore, the definition for ‘Agricultural Support Network’ suggests that it includes elements such as “regional agricultural infrastructure”. Given that “infrastructure” is also a defined term, it is not clear what the intent of “regional agricultural infrastructure” is. It is critical that municipalities understand the implications of this. In addition, the policy direction for municipalities as it relates to the ‘Agricultural Support Networks’ is unclear, as the language used throughout the Greenbelt Plan is inconsistent (i.e., shall versus encourage).</p>	<p>HAPP members would appreciate more information on how municipalities can bolster the economic, community and social supports in the agricultural community.</p> <p>Terms such as “regional agricultural infrastructure” must be defined to provide clarity for municipalities and other stakeholders.</p>
<p>5. Guidelines, Impact Assessments, Performance Indicators and Identification Criteria</p>	<p>The Greenbelt Plan and the Growth Plan both refer to a number of forthcoming provincial guidelines and systems mapping initiatives (e.g., watershed planning guidelines, agricultural system mapping, natural heritage systems mapping). As well, reference is frequently made to yet undeveloped classification systems (LEAR, Key Natural Heritage Systems, and Agricultural Systems), identification criteria (Natural Heritage Features), and impact assessment requirements (Agricultural Impact Assessments) throughout</p>	<p>HAPP members expect a full consultation process on the materials prepared by the Province to assist in the</p>

APPENDIX 1a: Joint HAPP Response to Proposed Changes to the *Growth Plan* (May 2016)

Co-ordinated Land Use Planning Review - *Halton Region, City of Burlington, Town of Oakville, Town of Halton Hills, and Town of Milton*

Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
	<p>the plans.</p> <p>HAPP is supportive of the development of Provincial guidelines and methodologies to support the municipal implementation of Growth Plan policies. HAPP members are looking forward to a full consultation process on the standardized land needs methodology and watershed planning guidelines (particularly as it relates to settlement boundary expansions). Among other considerations, the Province should consider that HAPP recognizes the land budget methodology and guidelines are required as a prerequisite to implementation of the amended Growth Plan. Therefore, HAPP requests that the standardized land needs assessment methodology be prioritized accordingly.</p> <p>These tools should be developed quickly, and in consultation with municipalities. It is recommended that the new tools reflect and respect existing criteria and processes in place at the municipal level, be harmonized across provincial plans, and continue to permit municipalities with the opportunity to be more restrictive.</p> <p>Municipalities and other public agencies frequently have sound, detailed data used in the development of their own mapping, which reflects local conditions and have resulted in the development of a comprehensive and refined product. These methodologies and resulting mapping are locally significant and should be used in the development of potential provincial land use system mapping changes.</p> <p>Greater clarity is needed with regard to the expectations of municipalities and other public bodies as it relates to developing and reporting on performance indicators. Guidance and support from the Province to undertake this work is critical.</p>	<p>implementation of the Growth Plan.</p> <p>The Growth Plan should defer to local, detailed, mapping and data where it exists.</p>
<p>6. Implementation</p>	<p>When contemplating the development of the land needs assessment, consideration must be given to distinguishing between Designated Greenfield Areas and Built-Up Areas.</p>	<p>The land needs assessment must consider municipal positions and / or Official Plans and recognize that Greater Golden Horseshoe municipalities are at different stages in</p>

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Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
	<p>Furthermore, there needs to be methodology to assist in forecasting job growth/redevelopment capacity within existing employment areas. Doing so would recognize that all municipalities within the Greater Golden Horseshoe are at different stages of development and a single greenfield oriented land needs assessment is not appropriate in all cases. HAPP members also recommend that the Growth Plan defer to municipal positions, and / or municipal Official Plans concerning the designation of Prime Employment Areas and Priority Transit Corridors, as well as the mapping of Natural Heritage and Agricultural Systems.</p> <p>Since the release of the Growth Plan in 2006, Halton has been subject to a number of Provincial projects that conflict with Growth Plan principles. For example, GO Transit built a large parking structure at a key intersection in the Midtown Oakville Urban Growth Centre. Provincial policy and funding formulas for school boards does not mandate or facilitate compact school design and community hubs. These examples underscore that in order to ensure that the Growth Plan is implemented successfully, all Provincial ministries must adhere to Growth Plan policies.</p> <p>HAPP notes that a greater commitment is needed from all Provincial ministries and agencies in advancing the objectives of the Growth Plan. Capital investments must align with the goals of the Growth Plan. Provincial reviews of Growth Plan supportive infrastructure should be prioritized. Partnerships between municipalities and Provincial agencies need to be fostered to accelerate the development of community facilities.</p> <p>Finally, the Province should support municipalities' efforts to implement the Growth Plan by sheltering official plan conformity amendments from appeals to the Ontario Municipal Board, expediting the appeal process, or providing funds for municipalities' defense. Significant changes to the built-form in the GGH cannot occur without significant</p>	<p>their development.</p> <p>Provincial ministries must conform with the Growth Plan in order to implement it.</p> <p>All Provincial ministries must support the Growth Plan through capital investment, timely reviews of plans and collaboration.</p> <p>Municipalities should not be forced to bear the fiscal burden of defending Growth Plan conformity amendments to Official Plans at Ontario Municipal Board hearings.</p>

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Proposed Growth Plan	HAPP Comments	Recommendations or Improvement
	changes to underlying processes.	
7. Climate Change and Net-Zero Communities	The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities understanding the implications or application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed, are required.	Municipalities need further guidance on implementing policies related to climate change net-zero communities.

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Numeric Reference	Policy Text	Comments
2.2 Policies for Where and How to Grow		
2.2.1 Managing Growth		
	<p>3. Applying the policies of this Plan will support the achievement of <i>complete communities</i> that:</p> <ul style="list-style-type: none"> a) feature a diverse mix of land uses, including residential and employment uses, and convenient access to local stores, services and <i>public service facilities</i>; b) provide for a diverse range and mix of housing, including secondary suites and <i>affordable</i> housing, to accommodate people at all stages of life, and to accommodate the needs of all household sizes and incomes; c) integrate and sustain the viability of transit services, where such services are planned or available; d) support overall quality of life, including human health, for people of all ages and abilities through the planning for and provision of: <ul style="list-style-type: none"> i. a range of transportation options, including options for the safe, comfortable and convenient use of <i>active transportation</i>; ii. a <i>compact built form</i> that reduces dependence on the automobile; iii. <i>public service facilities</i>, co-located and integrated in community hubs, that are accessible by <i>active transportation</i> and transit; iv. convenient access to local, healthy and affordable food options, including through urban agriculture; and v. a supply of parks, trails and other recreation facilities needed to support planned population and employment growth in a timely manner, particularly as <i>built-up areas</i> are intensified, 	<p>Higher density housing forms will be required to meet the DGA density targets. This will negatively affect the affordability of single detached homes.</p> <p>Currently, parks are included in DGA density calculations. It is requested that these areas be excluded form density calculations to facilitate implementation of policy direction.</p>

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	<p>4. Upper- and single-tier municipalities will each develop an integrated approach to planning and managing growth to the horizon of this Plan, which will be implemented through a municipal comprehensive review and other supporting documents and will:</p>	<p>It is recommended that this policy be modified to ensure that an MCR within existing settlement areas should continue to apply to all municipalities (lower tier).</p>
2.2.2 Built-up Areas		
	<p>3. All upper- and single-tier municipalities will, at the time of their next <i>municipal comprehensive review</i>, increase their minimum intensification target such that a minimum of 60 per cent of all residential development occurring annually within each upper- and single-tier municipality will be within the <i>built-up area</i>.</p>	<p>Measuring the intensification target annually is inappropriate given the time lag between development approvals and occupancy. This policy should direct municipalities to achieve the intensification target from 2031 to 2041, with detailed implementation policies specified in Official Plans.</p> <p>Alternatively, the Province could provide transition policies to address the change in intensification targets.</p>
2.2.3 Urban Growth Centres	<p>2. <i>Urban growth centres</i> will be planned:</p> <p>a) as focal areas for investment in regional <i>public service facilities</i>, as well as commercial, recreational, cultural and entertainment uses;</p> <p>b) to accommodate and support the transit network at the regional scale and provide connection points for inter- and intra-regional transit;</p> <p>c) to serve as high-density major employment centres that will attract provincially, nationally or internationally significant employment uses; and</p> <p>d) to accommodate significant population and employment growth.</p>	<p>Clarification is required on how this transit network will be established and how coordination will occur as it requires alignment between Provincial, Regional, and local services providers.</p>
2.2.4 Transit Corridors and Station Areas	<p>1. <i>Priority transit corridors</i> will be delineated in official plans.</p>	<p>These corridors are multi-jurisdictional, and inclusion in Official Plans will require direction from the province to clarify who is responsible to identify and protect these areas.</p>

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	<p>3. Upper- and single-tier municipalities, in consultation with lower-tier municipalities, will determine the size and shape of <i>major transit station areas</i> and delineate their boundaries in official plans.</p>	<p>This process should be led by lower-tier municipalities (not upper- and single tier municipalities).</p>
	<p>4. <i>Major transit station areas</i> will be planned and designed to be <i>transit-supportive</i> and to achieve <i>multimodal</i> access to stations and connections to nearby <i>trip generators</i> by providing, where appropriate:</p> <ul style="list-style-type: none"> a) connections to local and regional transit services to support <i>transit service integration</i>; b) <i>infrastructure</i> to support <i>active transportation</i>, including sidewalks, bicycle lanes and secure bicycle parking; and c) commuter pick-up/drop-off areas. 	<p>It is requested that multi-purpose trails be included in this definition.</p>
	<p>5. <i>Major transit station areas</i> will be planned to achieve, by 2041 or earlier, a minimum gross density target of:</p> <ul style="list-style-type: none"> a) 200 residents and jobs combined per hectare for those that are served by subways; b) 160 residents and jobs combined per hectare for those that are served by light rail transit or bus rapid transit; or c) 150 residents and jobs combined per hectare for those that are served by express rail service on the GO Transit network. 	<p>It is requested that land used for transit stations and associated parking be considered to be excluded from this density calculation.</p>

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Numeric Reference	Policy Text	Comments
	<p>10. The Province may identify additional <i>priority transit corridors</i> or <i>mobility hubs</i> and planning requirements for <i>priority transit corridors</i> or <i>mobility hubs</i>, to support the optimization of transit investments across the <i>GGH</i>, which may specify:</p> <ol style="list-style-type: none"> 1) the timeframes for implementation of the planning requirements; 2) the boundaries of the planning area that will be subject to the planning requirements; and 3) any additional requirements that may apply in relation to these areas. 	<p>The Province should identify additional priority transit corridors in consultation with municipalities.</p>
2.2.5 Employment		
	<p>4) The Minister may identify other <i>prime employment areas</i>.</p>	<p>The Minister should take heed of local Council positions and land use plans when identifying prime employment areas. This process should be fully transparent and consultative.</p> <p>More clarity is requested on the need and purpose of prime employment areas based on land needs assessment. The list of permitted uses appears to be limited to low density employment uses, such as logistics and warehousing, and could preclude the evolution of such areas over time to other higher employment generating uses without undertaking significant additional study.</p>
2.2.7 Designated Greenfield Areas		
	<p>2. The <i>designated greenfield area</i> of each upper- or single-tier municipality will be planned to achieve a minimum density target that is not less than 80 residents and jobs combined per hectare within the horizon of this Plan.</p>	

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	<p>3. The minimum density target will be measured over the entire <i>designated greenfield area</i> of each upper- or single-tier municipality, excluding the following:</p> <ul style="list-style-type: none"> a) <i>natural heritage features and areas, natural heritage systems and floodplains</i>, provided <i>development</i> is prohibited in these areas; b) rights-of-way for: <ul style="list-style-type: none"> i. electricity transmission lines; ii. <i>energy transmission pipelines</i>; iii. <i>freeways</i>, as defined by and mapped as part of the Ontario Road Network; and iv. railways; and c) <i>prime employment areas</i> that have been designated in official plans in accordance with policy 2.2.5.5. 	<p>This target should exclude all employment lands, lands used for infrastructure and portions of the DGA planned through a prior policy regime.</p> <p>A new term and definition should be created to refer to developed DGA lands.</p>
2.2.8 Settlement Area Boundary Expansions		
	<p>2. Where the need for a <i>settlement area</i> boundary expansion has been justified in accordance with policy 2.2.8.1, the <i>municipal comprehensive review</i> will determine the feasibility of a <i>settlement area</i> boundary expansion and identify the most appropriate location based on the following:</p> <ul style="list-style-type: none"> a) there are existing or planned <i>infrastructure</i> and <i>public services facilities</i> to support proposed growth and the development of <i>complete communities</i>; b) the <i>infrastructure</i> and <i>public service facilities</i> needed would be financially viable over the full life cycle of these assets, based on mechanisms such as asset management planning and revenue generation analyses; c) the proposed expansion aligns with a water and wastewater master plan or equivalent that has been completed in accordance with the policies in subsection 3.2.6; d) the proposed expansion aligns with a <i>stormwater master plan</i> or equivalent that has been completed in 	<p>Requirements b) through g), and i) are typically completed at the Secondary or Area-Specific Plan stage. As written, this policy implies that the entire “whitebelt” of a municipality must be studied prior to determining where the settlement area expansion will go.</p> <p>Clarification on the scale of these studies at the settlement expansion stage is requested. Some of these concepts are vague, or are used to describe a specific process used by lower tiers of government.</p> <p>The use of vague language such as “where possible” when referring to the protection of Natural Heritage and Agricultural Systems implies that settlement areas trump these systems. These elements should be balanced.</p>

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	<p>accordance with the policies in subsection 3.2.7;</p> <p>e) a <i>subwatershed plan</i> or equivalent has demonstrated that the proposed expansion, including the associated servicing, would not negatively impact the <i>water resource system</i>, including the <i>quality and quantity of water</i>;</p> <p>f) <i>key hydrologic areas</i> and <i>natural heritage systems</i> should be avoided where possible;</p> <p>g) for <i>settlement areas</i> that receive their water from or discharge their sewage to inland lakes, rivers or groundwater, a completed environmental assessment for new or expanded services has identified how expanded water and wastewater treatment capacity would be addressed in a manner that is fiscally and environmentally sustainable;</p> <p>h) <i>prime agricultural areas</i> should be avoided where possible. Where <i>prime agricultural areas</i> cannot be avoided, an <i>agricultural impact assessment</i> will be used in determining the location of the expansion based on minimizing and mitigating the impact on the <i>agricultural system</i> and evaluating alternative locations across the upper-or single-tier municipality in accordance with the following:</p> <ul style="list-style-type: none"> i. the lands do not comprise <i>specialty crop areas</i>; ii. there are no reasonable alternatives that avoid <i>prime agricultural areas</i>; and iii. there are no reasonable alternatives on lower priority agricultural lands in <i>prime agricultural areas</i>; <p>i) the <i>settlement area</i> to be expanded is in compliance with the <i>minimum distance separation formulae</i>;</p> <p>j) any impacts on agricultural operations and on the <i>agricultural support network</i> from expanding <i>settlement areas</i> would be avoided or, if avoidance is not possible,</p>	

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	<p>minimized and to the extent feasible mitigated as determined through an <i>agricultural impact assessment</i>;</p> <p>k) the policies of Sections 2 (Wise Use and Management of Resources) and 3 (Protecting Public Health and Safety) of the PPS are applied;</p> <p>l) the proposed expansion would meet any applicable requirements of the Greenbelt, Oak Ridges Moraine Conservation, Niagara Escarpment and Lake Simcoe Protection Plans and any applicable source protection plan; and</p> <p>m) within the Protected Countryside in the <i>Greenbelt Area</i>:</p> <ul style="list-style-type: none"> i. the <i>settlement area</i> to be expanded is identified in the Greenbelt Plan as a Town/Village; ii. the proposed expansion would be modest in size; iii. the proposed expansion would be serviced by <i>municipal water and wastewater systems</i>; and iv. expansion into the Natural Heritage System that has been identified in the Greenbelt Plan is prohibited. 	

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3 Infrastructure to Support Growth		
3.2 Policies for Infrastructure to Support Growth		
3.2.1 Integrated Planning	5. The Province will work with public sector partners, including Metrolinx, to identify strategic <i>infrastructure</i> needs to support the implementation of this Plan through multi-year <i>infrastructure</i> planning for the <i>transportation system</i> and <i>public service facilities</i> .	<p>The province must take the lead and demonstrate its commitment to the Growth Plan itself by focusing its investment in public service facilities in a manner consistent with this Plan.</p> <p>This section should state that the Province will prioritize and expedite reviews of Environmental Assessments for Growth Plan required infrastructure.</p>
3.2.6 Water and Wastewater Systems		
	<p>3. For <i>settlement areas</i> that are serviced by rivers, inland lakes or groundwater, municipalities will not be permitted to extend water or wastewater services from a Great Lakes source unless:</p> <ul style="list-style-type: none"> a) the extension is required for reasons of public health and safety, in which case, the capacity of the water or wastewater services provided in these circumstances will be limited to that required to service the affected <i>settlement area</i>, including capacity for planned development within the approved <i>settlement area</i> boundary; b) in the case of an upper- or single-tier municipality with an <i>urban growth centre</i> outside of the <i>Greenbelt Area</i>, the need for the extension has been demonstrated and the extension: <ul style="list-style-type: none"> i. will service only the growth allocated to the <i>settlement area</i> with the <i>urban growth centre</i>; and ii. has been approved under an environmental assessment; or c) the extension had all necessary approvals as of 	<p>It is requested that the Province provide clarity on the intent of this policy. Guidance on how settlement areas can transition between groundwater use (more rural development) to lake based water use (more urban development) is requested.</p>

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	[placeholder for effective date] and is only to service growth within a <i>settlement area</i> boundary that was approved and in effect as of that date.	
3.2.7 Stormwater Management	<p>1. Municipalities will develop <i>stormwater master plans</i> or equivalent for serviced <i>settlement areas</i> that:</p> <ul style="list-style-type: none"> a) are informed by <i>watershed planning</i>; b) examine the cumulative environmental impacts of stormwater from existing and planned development, including an assessment of how extreme weather events will exacerbate these impacts; c) incorporate appropriate <i>low impact development</i> and <i>green infrastructure</i>; d) identify the need for stormwater retrofits, where appropriate; e) identify the full life cycle costs of the stormwater <i>infrastructure</i>, including maintenance costs, and develop options to pay for these costs over the long-term; and f) include an implementation and maintenance plan. 	Provincial direction on assessing the effects of extreme weather events is required to support municipalities.
	<p>2. Proposals for large-scale <i>development</i> proceeding by way of secondary plans, plans of subdivision and vacant land plans of condominium, and proposals for resort <i>development</i>, will be supported by a <i>stormwater management plan</i> or equivalent, that:</p> <ul style="list-style-type: none"> b) uses an integrated approach that includes <i>low impact development</i> and <i>green infrastructure</i> 	It is requested that this policy be revised: “...will be supported where appropriate ” – some soil types/topography are not suitable for LID.
3.2.8 Public Service Facilities	2. <i>Public service facilities</i> and public services should be co-located in community hubs and integrated to promote cost-effectiveness.	It is requested that school boards and other public service providers be brought into the process of identifying and working to develop community hubs, with the province, to bring these initiatives into compliance with the land use densities and directions of this plan.

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4 Protecting What is Valuable		
4.2 Policies for Protecting What is Valuable		
4.2.1 Water Resource Systems	3. Decisions on allocation of growth and planning for water, wastewater and stormwater <i>infrastructure</i> will be informed by <i>watershed planning</i> . Decisions on <i>settlement area</i> boundary expansions and secondary plans for <i>designated greenfield areas</i> will be informed by a <i>subwatershed plan</i> or equivalent.	<p>Watershed planning is large scale and multi-jurisdictional. This policy appears to imply that watershed plans will be needed to allocate growth. The level of detail typically gleaned from a watershed plan is not consistent with what would be needed to inform a boundary expansion.</p> <p>Clarification regarding the timing, agency responsible and intended implementation of this policy be provided to ensure that growth allocations may be initiated prior to completion of full watershed plans.</p>
4.2.2 Natural Heritage Systems	1. A comprehensive, integrated and long-term approach will be implemented to maintain, restore or enhance the diversity and connectivity of natural heritage features and areas in a given area, and their long-term ecological functions.	It is requested that the entirety of the Natural Heritage Systems policies (4.2.2) be made more consistent with those in the Greenbelt Plan.
	2. Official plans will incorporate a <i>natural heritage system</i> as mapped by the Province, and will apply appropriate designations and policies to maintain, restore or improve the diversity and connectivity of the system and the long-term ecological or <i>hydrologic functions</i> of the features and areas as set out in the policies in this subsection and the policies in subsections 4.2.3 and 4.2.4.	It is requested that where a municipality has a natural heritage system in place, that natural heritage system should be referenced instead of the Provincial version.
	3. In implementing policy 4.2.2.2, a municipality may refine the boundaries of the <i>natural heritage system</i> in a manner that is consistent with this Plan as well as the upper-tier official plan, where applicable.	<p>It is requested that this policy be replaced with the following:</p> <p>“Where an upper tier municipality has already mapped a natural heritage system in their Official Plan and has existing protection and enhancement policies in force as of [placeholder for the date this plan comes into effect], the Official Plan policies and mapping should be deemed to conform to the NHS as mapped by the Province.”</p>

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	<p>4. Within the <i>natural heritage system</i> identified in accordance with policy 4.2.2.2:</p> <ul style="list-style-type: none"> a) the full range of existing and new <i>agricultural uses, agriculture-related uses, on-farm diversified uses</i> and normal farm practices are permitted, subject to policy 4.2.2.4 c); b) a proposal for <i>development or site alteration</i> will demonstrate that: <ul style="list-style-type: none"> i. there will be no negative impacts on <i>key hydrologic features or key natural heritage features</i> and their functions; ii. connectivity for the movement of plants and animals along the <i>natural heritage system</i>, and between <i>key natural heritage features</i> and <i>key hydrologic features</i> located within 240 metres of each other will be maintained and, where possible, enhanced; 	<p>The addition of the distance of 240m or less separation between features is intended to provide clarity to this policy. However, it is requested that the source or justification of the distance chosen be provided either in this plan or in a guidelines document.</p> <p>Clarification is requested on whether there are intended to be limits to the number or extent of features to be connected as a result of this policy (e.g., certain number of metres away from core features).</p> <p>Some level of flexibility must be applied to development that occurs within the 240 metre connectivity area. There will be many cases where existing development (e.g. farm clusters, roads and other infrastructure) exist within the 240 metre area. Achieving connectivity in these areas may not be possible, and it would be more appropriate to direct new development to the areas that are already disturbed (e.g. new agricultural buildings or additions within an existing farm cluster).</p>
<p>4.2.3 Key Hydrologic Features, Key Hydrologic Areas and Key Natural Heritage Features</p>	<p>1. <i>Development or site alteration</i> is not permitted in <i>key hydrologic features or key natural heritage features</i>, with the exception of:</p> <ul style="list-style-type: none"> a) forest, fish and wildlife management; b) conservation and flood or erosion control projects, but only if the projects have been demonstrated to be necessary, and after all alternatives have been considered; c) activities that create or maintain <i>infrastructure</i> authorized under an environmental assessment process; d) <i>mineral aggregate operations</i> and wayside pits and quarries; e) existing uses as of [placeholder for effective date], subject to the following criteria: 	<p>The similar policy in the Greenbelt Plan is found in 3.2.2 Natural Heritage System Policies, and it is requested in the GBP that the policies include Key Hydrological features/areas as is done in the Growth Plan.</p> <p>It is requested that the Growth Plan and the Greenbelt Plan be harmonized.</p>

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	<ul style="list-style-type: none"> i. expansions to existing buildings and structures, accessory structures and uses, and conversions of legally existing uses which bring the use more into conformity with this Plan are permitted subject to a demonstration that the use does not expand into the <i>key hydrologic feature</i> or <i>key natural heritage feature</i> or its associated <i>vegetation protection zone</i>, unless there is no other alternative in which case any expansion shall be limited in scope and kept within close geographical proximity to the existing structure; and ii. expansions to existing buildings and structures for <i>agricultural uses, agriculture-related uses, on-farm diversified uses</i> and residential dwellings may be considered within <i>key hydrologic features</i> or <i>key natural heritage features</i> and their associated <i>vegetation protection zones</i> if it is demonstrated that there is no alternative, and the expansion in the feature is minimized and mitigated and, in the <i>vegetation protection zone</i>, is directed away from the feature to the maximum extent possible; and f) small scale structures for recreational uses, including boardwalks, footbridges, fences, docks and picnic facilities, if measures are taken to minimize negative impacts. 	
	<ul style="list-style-type: none"> 2. Within a <i>key hydrologic area</i>, large-scale <i>development</i> proceeding by way of secondary plans, plans of subdivision and vacant land plans of condominium, and resort <i>development</i> may be permitted where it is demonstrated that <i>hydrologic functions</i> will be protected and that the <i>development</i> will maintain, improve, or restore the <i>quality and quantity of water</i>, such that: <ul style="list-style-type: none"> a) in relation to <i>significant groundwater recharge areas</i>, 	<p>It is recommended that is policy be harmonized or made more consistent with the similar policy in the Greenbelt Plan 3.2.4 and 3.2.5.</p>

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	<p>pre-development infiltration on the site will be maintained, improved, or restored;</p> <p>b) in relation to <i>highly vulnerable aquifers</i>, the quality of water infiltrating the site will be maintained; and</p> <p>c) in relation to <i>significant surface water contribution areas</i>, the <i>quality and quantity of water</i>, including baseflow, will be protected.</p>	
	<p>4. Policy 4.2.3.1 does not apply to <i>key natural heritage features</i> that are not in the <i>natural heritage system</i> identified in accordance with policy 4.2.2.2, but policy 2.1 of the PPS, 2014 will continue to apply.</p>	<p>It is recommended that this sub-policy should be moved to the beginning of the policy to enhance clarity about the intended application of the policies.</p>
<p>4.2.4 Lands Adjacent to Key Hydrologic Features and Key Natural Heritage Features</p>	<p>1. A proposal for <i>development</i> or <i>site alteration</i> within 120 metres of a <i>key natural heritage feature</i> or <i>key hydrologic feature</i> will require a natural heritage evaluation or hydrologic evaluation that identifies a <i>vegetation protection zone</i>. The <i>vegetation protection zone</i> for <i>key hydrologic features</i>, <i>fish habitat</i>, and <i>significant woodlands</i> will be no less than 30 metres wide. The <i>vegetation protection zone</i> will be established to achieve and be maintained as natural, self-sustaining vegetation.</p>	<p>Clarification is requested regarding the intention of requiring inclusion of a 30m VPZ which is not also extended to all Key Natural Heritage and Key Hydrological Features.</p>
	<p>5. Policies 4.2.4.1, 4.2.4.2, 4.2.4.3, 4.2.4.4 and 4.2.4.5 do not apply, but policies 2.1 and 2.2 of the PPS, 2014 will continue to apply, to:</p> <p>a) <i>key hydrologic features</i> that are within a <i>settlement area</i> boundary;</p> <p>b) <i>key natural heritage features</i> that are within a <i>settlement area</i> boundary;</p> <p>c) <i>key natural heritage features</i> that are outside a <i>settlement area</i> boundary but are not in the <i>natural heritage system</i> identified in accordance with policy 4.2.2.2.</p>	<p>It is recommended that this sub-policy should be moved to the beginning of the policy to enhance clarity about the intended application of the policies.</p>
<p>4.2.6 Agricultural System</p>	<p>1. The Province will identify the <i>agricultural system</i> for</p>	<p>In municipalities where agricultural systems have been</p>

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	the <i>GGH</i> .	identified and mapped, these more detailed and locally scaled systems should be referenced by the province.
	4. The geographic continuity of the agricultural land base and the functional and economic connections to the <i>agricultural support network</i> will be maintained and enhanced.	<p>This policy is not consistent with the policy below (4.2.6.6) where the language related to “maintain and enhance” the agricultural support network is not as strong (“encourage” is used instead of “will”).</p> <p>It is requested that the language be changed to encourage for consistency and to reflect lack of available tools to guarantee maintenance of an agricultural support network under the <i>Planning Act</i>.</p>
	<p>6. Municipalities are encouraged to implement strategies and other approaches to sustain and enhance the <i>agricultural system</i> and the long-term economic prosperity and viability of the agri-food sector, including the maintenance and improvement of the <i>agricultural support network</i> by:</p> <ul style="list-style-type: none"> a) providing opportunities to support local food, urban and near-urban agriculture, and promoting the sustainability of agricultural, agri-food and agri-product businesses through protecting agricultural resources and minimizing land use conflicts; b) considering the <i>agricultural support network</i> in planning decisions to protect or enhance critical agricultural assets. Where negative impacts on the <i>agricultural system</i> are unavoidable, they will be assessed and mitigated to the extent feasible; c) undertaking long-term planning for agriculture, integrating agricultural economic development, <i>infrastructure</i>, goods movement and freight considerations with land use planning; d) preparing regional agri-food strategies or establishing or consulting with agricultural advisory committees or liaison officers; and 	<p>No specific definition is provided in either this plan or the Greenbelt Plan for Agriculture-supportive infrastructure, and the definition for infrastructure does not support the protection of agriculture as is intended in both plans.</p> <p>A specific definition for agriculture-supportive infrastructure is requested.</p>

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	<ul style="list-style-type: none"> e) maintaining, improving and providing opportunities for agriculture-supportive <i>infrastructure</i> both on and off farms. 	
4.2.7 Cultural Heritage Resources	<ul style="list-style-type: none"> 1. <i>Cultural heritage resources</i> will be conserved in accordance with the policies in the PPS, to foster a sense of place and benefit communities, particularly in <i>strategic growth areas</i>. 	There is a similar policy in the Greenbelt Plan that quotes the PPS policy (instead of referencing it). It is requested that PPS policy references are made consistently in both plans.
4.2.8 Mineral Aggregate Resources		
	<ul style="list-style-type: none"> 3. Notwithstanding the policies of subsections 4.2.2, 4.2.3 and 4.2.4, within the <i>natural heritage system</i> identified in accordance with policy 4.2.2.2, <i>mineral aggregate operations</i> and wayside pits and quarries are subject to the following: <ul style="list-style-type: none"> a) no new <i>mineral aggregate operation</i> and no wayside pit and quarry, or any ancillary or accessory use thereto will be permitted in the following <i>key natural heritage features</i> and <i>key hydrologic features</i>: <ul style="list-style-type: none"> i. <i>significant wetlands</i>; ii. <i>habitat of endangered species and threatened species</i>; and iii. <i>significant woodlands</i> unless the <i>woodland</i> is occupied by young plantation or early successional habitat, as defined by the Province, in which case, the application must demonstrate that policies 4.2.8.5 b) and c) and 4.2.8.6 c) have been addressed and that they will be met by the operation; b) an application for a new <i>mineral aggregate operation</i> or new wayside pit and quarry may only be permitted in <i>key natural heritage features</i> and <i>key hydrologic features</i> not identified in 4.2.8.3 a) and any <i>vegetation protection zone</i> associated with such features where the application demonstrates: <ul style="list-style-type: none"> i. how the <i>water resource system</i> will be protected or enhanced; and 	

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	<ul style="list-style-type: none"> ii. that policies 4.2.8.5 b) and c) and 4.2.8.6 c) have been addressed, and that they will be met by the operation; and c) any application for a new <i>mineral aggregate operation</i> will be required to demonstrate: <ul style="list-style-type: none"> i. how the connectivity between <i>key hydrologic features</i> and <i>key natural heritage features</i> will be maintained before, during and after the extraction of <i>mineral aggregate resources</i>; ii. how the operator could immediately replace any habitat that would be lost from the site with equivalent habitat on another part of the site or on adjacent lands; and iii. how the <i>water resource system</i> will be protected or enhanced; 	<p>4.2.8.3 c) ii While this requirement is generally supported, further clarity on exactly what is meant by this clause and how it can be demonstrated in an application should be provided.</p>
	<p>4. In <i>prime agricultural areas</i>, applications for new <i>mineral aggregate operations</i> will be supported by an <i>agricultural impact assessment</i> and, where possible, will seek to maintain or improve connectivity of the <i>agricultural system</i>.</p>	<p>It is requested that the province provide guidelines that describe how a mineral aggregate operation can maintain or improve the connectivity of the agricultural system.</p>
4.2.9 A Culture of Conservation		
	<p>3) Municipalities and industry will use best practices for the management of excess soil and fill generated during any <i>development</i> or <i>site alteration</i>, including <i>infrastructure</i> development, so as to ensure that:</p> <ul style="list-style-type: none"> a) any excess soil or fill is reused on-site or locally to the maximum extent possible; and b) fill received at a site will not cause an adverse effect with regard to the current or proposed use of the property or the natural environment. 	<p>It is requested that the site alteration best practices referenced in this policy be developed by the province for consistency.</p> <p>If a municipality has already developed a set of requirements for soil management during site alteration, then existing criteria should be considered and retain the ability to be more stringent than those developed by the province should that be the outcome.</p>
4.2.10 Climate Change		
	<p>2. In planning to reduce greenhouse gas emissions and address the impacts of climate change, municipalities</p>	<p>It is requested that the province develop metrics and methodologies which will assist in the development of GHG</p>

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	<p>are encouraged to:</p> <ul style="list-style-type: none"> a) develop strategies to reduce greenhouse gas emissions and to improve resilience to climate change through land use planning, planning for <i>infrastructure</i>, including transit and energy, and the conservation objectives in policy 4.2.9.1; b) develop greenhouse gas inventories for transportation, buildings, waste management and municipal operations; and c) establish municipal interim and long-term greenhouse gas emission reduction targets that support provincial targets and reflect consideration of the goal of <i>net-zero communities</i>, and monitor and report on progress made towards the achievement of these targets. 	<p>inventories and in the determination of communities as ‘net-zero’.</p>

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5 Implementation and Interpretation		
5.2.2 Supplementary Direction	<p>1. In order to implement this Plan, the Minister will, where appropriate, identify, establish or update the following:</p> <ul style="list-style-type: none"> a) the <i>built boundary</i>; b) the size and location of the <i>urban growth centres</i>; c) a standard methodology for land needs assessment; d) <i>prime employment areas</i>, where necessary; and e) data standards for monitoring implementation of this Plan. 	<p>Provincial guidance is also requested for natural heritage and hydrologic evaluations.</p> <p>Updates to the Built Boundary should be made on a predictable, scheduled basis.</p> <p>The standardized land needs assessment should factor in the range and mix of employment types.</p>
	<p>2. In order to implement this Plan, the Province will, where appropriate, identify, establish or update the following:</p> <ul style="list-style-type: none"> a) <i>priority transit corridors</i> and planning requirements for <i>priority transit corridors</i>; b) mapping of the <i>agricultural system</i> for the <i>GGH</i> and related guidance; c) mapping of the <i>natural heritage system</i> for the <i>GGH</i>; and d) guidance on <i>watershed planning</i>. 	<p>Municipal participation is essential for identifying, establishing or updating these items.</p> <p>Provide clarification on whether priority transit corridors may include local transit corridors.</p> <p>It is requested that mapping of the agricultural and natural heritage systems reflect the more detailed and locally relevant mapping undertaken by municipalities, should these maps have already been developed through a local process.</p>
	<p>3. Where this Plan indicates that supplementary direction will be provided for implementation but the direction has not yet been issued, all relevant policies of this Plan continue to apply, and any policy that relies on supplementary direction should be implemented to the fullest extent possible.</p>	<p>Municipalities should be consulted in the development of these items, as some will have land budget impacts.</p>
5.2.3 Co-ordination	<p>2. Upper-tier municipalities, in consultation with lower-tier municipalities, will, through a <i>municipal comprehensive review</i>, provide policy direction to</p>	<p>A consistent methodology is required for the determination of capacity in built-up areas, which acknowledges the challenges of increasing density in built up areas.</p>

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	<p>implement the policies of this Plan, including:</p> <ul style="list-style-type: none"> a) identifying minimum intensification targets for lower-tier municipalities based on the capacity of <i>built-up areas</i>, including the applicable minimum density targets for <i>strategic growth areas</i> in this Plan, to achieve the minimum intensification target in this Plan; b) identifying minimum density targets for <i>strategic growth areas</i> in accordance with this Plan; c) identifying minimum density targets for the <i>designated greenfield areas</i> of the lower-tier municipalities, to achieve the minimum density target for <i>designated greenfield areas</i> in this Plan; d) allocating forecasted growth to the horizon of this Plan to the lower-tier municipalities; and e) providing policy direction on matters that cross municipal boundaries. 	
5.2.5 Targets	<p>3. A lower-tier municipality with an <i>urban growth centre</i> will have a minimum intensification target that is equal to or higher than the minimum intensification target for the corresponding upper-tier municipality.</p>	<p>Studies are required to determine whether Milton can accommodate the 60 per cent target, though there is support for this target at the Regional level.</p>
5.2.7 Schedules and Appendices	<p>1. The Minister will review the schedules in this Plan, including the forecasts contained in Schedule 3, at least every five years in consultation with municipalities, and may revise the schedules, where appropriate.</p>	<p>This section is silent on updates to the policies in the Growth Plan. All forecasts, targets, schedules and policies should be updated comprehensively, ideally every ten years.</p>

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7 Definitions		
Active Transportation	Human-powered travel, including but not limited to, walking, cycling, inline skating and travel with the use of mobility aids, including motorized wheelchairs and other power-assisted devices moving at a comparable speed. (PPS, 2014)	It is requested that references to “non-motorized” forms of transportation are removed in other areas of this plan to ensure consistency with this definition.
Agricultural Impact Assessment	A study that evaluates the potential impacts of non-agricultural development on agricultural operations and the <i>agricultural system</i> and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts.	<p>Clarification needs to be provided by the province through guidelines, terms of reference or other criteria to assist in determining impacts on the Agricultural System, which includes the support network in addition to the agricultural land base.</p> <p>If municipalities have existing AIA criteria, these municipalities should be consulted in the development of provincial criteria, and maintain the ability to be more stringent than potential provincial guidance.</p>
Built Heritage Resource	A building, structure, monument, installation or any manufactured remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Aboriginal community. <i>Built heritage resources</i> are generally located on property that has been designated under Parts IV or V of the Ontario Heritage Act, or included on local, provincial and/or federal registers. (PPS, 2014)	It is recommended that this definition be modified to reference local heritage registers (Sec. 4.2.7.1)
Compact Built Form	A land use pattern that encourages the efficient use of land, walkable neighbourhoods, mixed land uses (residential, retail, workplace and institutional) all within one neighbourhood, proximity to transit and reduced need for <i>infrastructure</i> . <i>Compact built form</i> can include detached and semi-detached houses on small lots as well as townhouses and walk-up apartments, multi-storey commercial developments, and apartments or offices above retail. Walkable neighbourhoods can be characterized by roads laid out in a well-connected network, destinations that are easily accessible by <i>active transportation</i> , sidewalks with minimal interruptions for vehicle	Compact Built Form may reduce infrastructure requirements in the long term. However, intensification for the purposes of increasing the compact form of development may require retrofitting/ upsizing of existing infrastructure to ensure that increased demand is accommodated when higher than initial infrastructure design.

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	access, and a pedestrian friendly environment along roads to encourage <i>active transportation</i> .	
Frequent Transit	A public transit service that runs at least every 15 minutes in both directions throughout the day and into the evening every day of the week.	It is recommended that this definition be changed to include: “...service that <u>typically</u> runs at least.....”
Key Hydrologic Features	Permanent streams, intermittent streams, inland lakes, seepage area and springs and <i>wetlands</i> . The identification and delineation of <i>key hydrologic features</i> will be informed by <i>watershed planning</i> , and other evaluations and assessments.	It is recommend that a definition for the term ‘intermittent stream’ be provided as its interpretation could be varied (i.e. does it include ‘ephemeral streams’?). The Evaluation, Classification and Management of Headwater Drainage Feature Guidelines January 2014 provide useful definitions for ‘intermittent flow’ and ‘ephemeral flow’.
Major Transit Station Area	The area including and around any existing or planned <i>higher order transit</i> station or stop within a <i>settlement area</i> ; or the area including and around a major bus depot in an urban core. <i>Major transit station areas</i> generally are defined as the area within an approximate 500m radius of a transit station, representing about a 10-minute walk.	There is an inconsistency in this definition with the Mobility Hub Guidelines, which state that it takes only 8 minutes to walk 500m. It is recommended that the words “or stop” be removed from this definition to ensure that only those areas which are identified as major transit station areas are considered for application of the intensification target of 150 people/jobs per Ha.
Municipal Comprehensive Review	A new official plan, or an official plan amendment, initiated by an upper- or single-tier municipality under section 26 of the Planning Act that comprehensively applies the policies and schedules of this Plan.	This definition appears to exclude lower-tier municipalities from initiating MCRs. It is requested that this be corrected to be inclusive of local municipalities.
Natural Heritage System	A system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. These systems can include <i>key natural heritage features</i> , federal and provincial parks and conservation	This definition uses <u>significant wetlands</u> and <u>significant ANSIs</u> whereas the definition of Key Natural Heritage Features and Key Hydrologic Features does not include <u>significant</u> for these terms. It is recommended that the reference to significant wetlands/ANSIs is not creating a conflict with the

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	reserves, other natural heritage features and areas, lands that have been restored or have the potential to be restored to a natural state, associated areas that support <i>hydrologic functions</i> , and working landscapes that enable ecological functions to continue. (Based on PPS, 2014 and modified for this Plan)	definitions/policies in this plan which address Key Hydrologic Features and Key Natural Heritage Features.
Sand Barren	<p>Land (not including land that is being used for agricultural purposes or no longer exhibits sand barren characteristics) that:</p> <ul style="list-style-type: none"> a) has sparse or patchy vegetation that is dominated by plants that are: <ul style="list-style-type: none"> i. adapted to severe drought and low nutrient levels; and ii. maintained by severe environmental limitations such as drought, low nutrient levels and periodic disturbances such as fire; b) has less than 25 per cent tree cover; c) has sandy soils (other than shorelines) exposed by natural erosion, depositional process or both; and d) has been further identified, by the Ministry of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time. <p>(Proposed Greenbelt Plan, 2016)</p>	<p>It is recommended that the specific MNR evaluation procedures be referenced and used to identify Sand Barrens when the process is more generally referenced in sub-clause d).</p> <p>Additionally, this definition would only capture a subset of the ELC sand barrens which may lead to confusion. A more thorough and accurate definition should be included in this plan and the Greenbelt Plan.</p>
Savannah	<p>Land (not including land that is being used for agricultural purposes or no longer exhibits savannah characteristics) that:</p> <ul style="list-style-type: none"> a) has vegetation with a significant component of non-woody plants, including <i>tallgrass prairie</i> species that are maintained by seasonal drought, periodic disturbances such as fire, or both; 	<p>It is recommended that the specific MNR evaluation procedures be referenced and used to identify Savannahs when the process is more generally referenced in sub-clause d).</p> <p>It is noted that this definition for Savannah is different than the Ecological Land Classification manual (1998) that is MNR's current 'evaluation procedure' for identifying these features</p>

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	<p>b) has from 25 per cent to 60 per cent tree cover;</p> <p>c) has mineral soils; and</p> <p>d) has been further identified, by the Ministry of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time.</p> <p>(Proposed Greenbelt Plan, 2016)</p>	<p>which may lead to confusion.</p> <p>Should this definition be modified to reflect the Ecological Land Classification manual, then the definition in the Greenbelt Plan should be modified to match.</p>
Significant Woodland	<p>A <i>woodland</i> which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Province. (Based on PPS, 2014 and modified for this Plan)</p>	<p>At this time, no provincially established criteria for the identification of Significant Woodland has been created, instead guidelines have been developed with municipalities tasked with generating criteria based on the guidelines. Given this, municipal criteria should be recognized in this definition, or provincial criteria should be developed.</p>
Tallgrass Prairies	<p>Land (not including land that is being used for agricultural purposes or no longer exhibits tallgrass prairie characteristics) that:</p> <p>a) has vegetation dominated by non-woody plants, including tallgrass prairie species that are maintained by seasonal drought, periodic disturbances such as fire, or both;</p> <p>b) has less than 25 per cent tree cover;</p> <p>c) has mineral soils; and</p> <p>d) has been further identified, by the Minister of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time.</p>	<p>It is recommended that the specific MNRF evaluation procedures be referenced and used to identify Tallgrass Prairies when the process is more generally referenced in sub-clause d).</p>

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	(Proposed Greenbelt Plan, 2016)	
Transportation System	A system consisting of facilities, corridors and rights-of-way for the movement of people and goods, and associated transportation facilities including transit stops and stations, sidewalks, cycle lanes, bus lanes, high occupancy vehicle lanes, rail facilities, parking facilities, park-and-ride lots, service centres, rest stops, vehicle inspection stations, inter-modal facilities, harbours, airports, marine facilities, ferries, canals and associated facilities such as storage and maintenance. (PPS, 2014)	The definition is requested to include reference to multi-use paths in addition to sidewalks.
Trip Generators	Destinations with high population densities or concentrated activities which generate a large number of trips (e.g., <i>urban growth centres</i> and other downtowns, <i>major office</i> and <i>office parks</i> , <i>major retail</i> , <i>employment areas</i> , community hubs and other <i>public service facilities</i> and other mixed-use areas)	The definition is requested to be revised to: “...with high population <u>and/or employment</u> densities..”
Wetlands	Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of <i>wetlands</i> are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit <i>wetland</i> characteristics are not considered to be <i>wetlands</i> for the purposes of this definition. (PPS, 2014)	It is requested that this definition be modified to include the final piece of the definition in the Greenbelt Plan: “Wetlands are further identified by the Ministry of Natural Resources and Forestry, or by any other person, according to valuation procedures established by the Ministry of Natural resources and Forestry, as amended from time to time.” If it is considered to not be appropriate to include this additional section of the definition, clarification is requested to provide the rationale for the difference.

Halton Area Planning Partnership (HAPP) 2015 Coordinated Plan Review Proposed Greenbelt Plan Joint Submission

September 2016



Introduction

The Halton Area Planning Partnership (HAPP) is comprised of Halton Region and the following Local Municipalities: the City of Burlington, the Town of Halton Hills, the Town of Milton, and the Town of Oakville.

This submission represents HAPP's response to the document "Proposed Greenbelt Plan (2016), May 2016" (Proposed Plan) which was placed on the Environmental Registry as a Policy Proposal Notice (EBR Registry Number: 012-7195) on May 10, 2016. The Greenbelt Plan is being reviewed in a co-ordinated manner along with three other provincial land use plans, two of which apply in Halton Region – The Growth Plan for the Greater Golden Horseshoe and The Niagara Escarpment Plan. This is an opportunity to address challenges with the plans in a cohesive way.

Proposed changes to the Greenbelt Plan include changes to policies and mapping within the Plan, the introduction of Agricultural System and Agricultural Support Network, proposals for the introduction of impact assessments and classification methodologies to identify special land use areas and key landscape features which have not been consistently identified to this time.

The Halton Area Planning Partnership (HAPP) now takes this opportunity to have its collective voice heard by responding to the Proposed Plan. HAPP's submission provides comments on the Greenbelt Plan's proposed changes and provides HAPP's key recommendations in this letter.

HAPP's response includes:

1. This letter, which contains:
 - a. HAPP's Key Points regarding the whole of the document;
2. Appendix 1, which contains:
 - a. General comments regarding the whole of the Proposed Plan;
 - b. Comments specific to individual policies within the Proposed Plan

Background

A co-ordinated review of the four Provincial land use plans was undertaken in 2015. The Government of Ontario received extensive feedback after the initial round of consultations with stakeholders and the public. An Advisory Panel also provided its recommendations in December 2015 in their report, "Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015 – 2041".

The Government of Ontario has reviewed and considered all feedback received from stakeholders, the public, Indigenous communities and the Advisory Panel's recommendations. The government is now proposing changes to the four plans. The

following Key Points outline the general policy comments developed collaboratively among the members of HAPP for the province's consideration before completion of the Coordinated Plans review.

Key Points of HAPP's Response

1. Harmonization and Alignment

Although efforts have been made to harmonize definitions across the Plans and with the PPS, opportunities still exist to better harmonize terminology, definitions and, where appropriate, policies. For example the Greenbelt Plan provides definitions for key hydrologic areas, key hydrologic features, and key natural heritage features, but these definitions differ from those found in the Growth Plan. As well, natural heritage system and natural heritage areas are referred to in the Greenbelt Plan but are not defined within the plan. Aligning these elements is integral to balancing the requirements of each plan and achieving consistent implementation throughout the Greater Golden Horseshoe (GGH) and beyond.

Consistent development and application of key terms and definitions are again requested among the provincial plans. This includes careful attention to be paid to the development of the content, use, location and referencing of definitions of key terms across the Coordinated Plans. The inclusion of policies and feature identification criteria within definitions, or the inclusion of definitions within policies, detracts from clear interpretation and implementation of the plans. Definitions should be found in the definitions sections, policies in the policy sections, and methodologies and identification criteria established in secondary implementation documents.

2. Agriculture, Agricultural System and Agricultural Support Network

The draft Greenbelt Plan provides greater support for agriculture and the agricultural community by introducing and allowing for agriculture-related and on-farm diversified uses in the Greenbelt Plan Area, which is supported. However, HAPP's previous submission noted the need for policies that would support a 'systems' approach for agricultural processes, which was not fully addressed in the Greenbelt Plan.

The concept of an 'Agricultural Support Network' has been introduced into both the Greenbelt Plan and the Growth Plan. The definition for 'Agricultural Support Network' does not separate economic development supporting goals and land uses throughout rural municipalities. The vague nature of the definition and implied land use implications of this network may create confusion about how the economic, community and social support systems that are part of rural communities and lands may be supported by municipalities.

Furthermore, the definition for 'Agricultural Support Network' suggests that it includes elements such as "regional agricultural infrastructure". Given that "infrastructure" is also

a defined term, it is not clear what the intent of “regional agricultural infrastructure” is. It is critical that municipalities understand the implications of this. In addition, the policy direction for municipalities as it relates to the ‘Agricultural Support Network’s is unclear, as the language used throughout the Greenbelt Plan is inconsistent (i.e., shall versus encourage).

3. Guidelines, Impact Assessments, Performance Indicators, Identification and Environmental Quality Criteria

The Greenbelt Plan and the Growth Plan both refer to a number of forthcoming provincial guidelines and systems mapping initiatives (e.g., watershed planning guidelines, agricultural system mapping, natural heritage systems mapping). As well, reference is frequently made to yet undeveloped classification systems (LEAR, Key Natural Heritage Systems, and Agricultural Systems), identification criteria (Natural Heritage Features), and impact assessment requirements (Agricultural Impact Assessments) throughout the plans.

These tools should be developed quickly, and in consultation with municipalities. It is recommended that the new tools reflect and respect existing criteria and processes in place at the municipal level, be harmonized across provincial plans, and continue to permit municipalities with more restrictive requirements to be more restrictive. In addition, the Province’s proposal to lead a process to identify areas to be added to the Protected Countryside must be done in consultation with municipalities.

Municipalities and other public agencies frequently have sound, detailed data used in the development of their own mapping, which reflects local conditions and have resulted in the development of a comprehensive and refined product. These methodologies and resulting mapping are locally significant and should be used in the development of potential provincial land use system mapping changes.

Greater clarity is needed with regard to the expectations of municipalities and other public bodies as it relates to developing and reporting on performance indicators. Guidance and support from the Province to undertake this work is critical.

4. Provincial Systems Mapping

As part of the second round of consultation on the provincial plans, the province has indicated that GTHA scale mapping is intended to be undertaken to identify and establish, or update Natural Heritage Systems, Natural Systems, Agricultural System, Prime Agricultural Areas, and Urban River Valley connections. These initiatives will occur at a higher scale than those that have been undertaken by many municipalities in these areas.

These initiatives appear to provide consistent identification of these important land use systems and features as part of the Greenbelt Plan update. However, methodologies for these initiatives are not yet established, nor are the relative application of municipal land

use and system identification maps which have already been determined and brought into force in Official Plans. It is requested that municipal data and mapping be used to refine provincial maps as they are revised or developed.

5. Site Specific Recommendations

It is requested that the Cootes to Escarpment EcoPark receive recognition in the Greenbelt Plan similar to the way in which the Rouge River Watershed has been recognized. This would include the introduction of general policies regarding the Province's commitment to support and protect this significant area. We strongly encourage the Province to incorporate the policies provided in draft in Appendix 1.b Section 3.2.8.

It is requested that the approved Glen Williams boundary (which pre-dated the Greenbelt Plan) contained in the Halton Hills Official Plan be used to define the boundaries of the Greenbelt Plan Protected Countryside, including adding into the Protected Countryside an area to east of Glen Williams paralleling Tenth Line and removing from the Greenbelt Plan Protected Countryside, the lots on the west side of Confederation Street.

6. Urban River Valleys

Fourteen Mile Creek Valley is proposed to be added to the Urban River Valley (URV) designation; however the addition is mapped on Schedule 1 only as far south as the QEW. To achieve consistency with the proposed mapping of the other rivers added to the URV and the intent of the URV designation to show connections to Lake Ontario, consider adding the remaining portion of the Fourteen Mile Creek Valley down to Lake Ontario.

It is unclear how the widths for the Urban River Valleys were determined, as they do not appear to reflect the actual valley widths, hazard lands or municipally identified Natural Heritage System mapping. Use of municipal mapping of urban river valleys is requested to ensure consistency of location, valley widths and public owned lands.

Additionally, it is requested that all symbols, colours and boundaries used on the maps of the Greenbelt Plan are included in complete and thorough accompanying legends.

7. Climate Change and Net-Zero Communities

The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities in understanding the implications or application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed, are required.

Conclusion

Thank you for providing the Region and its local municipalities the opportunity to comment on the development of these policy changes.

Respectfully submitted,

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Proposed Greenbelt Plan	HAPP Recommendations
Harmonization and Alignment Between Plans	<p>Consistency in the use, location and referencing of definitions of key terms in the Greenbelt Plan and the Growth Plan are requested.</p>
Agriculture and Agricultural Systems	<p>Clarification is requested regarding the applicability of Agricultural Impact Assessments for the introduction of Agriculture Related and On Farm Diversified uses on agricultural lands. As well, consultation on the determination of triggers would be applied to require these assessments are required.</p> <p>Clarification of what is and is not included in the Agriculture Support Network is requested to assist in determining the boundaries and limits of this network. This will assist municipalities in determining how to best support and encourage the Agricultural Support Network.</p> <p>As well, clarification of the intended role of municipalities to support of what appear to be economic development goals (Agricultural Support Network) when support of the network is required (Shall protect). Policies addressing this should be modified to change "...shall be maintained and protected..." to "...encourage the maintenance and protection of ..." throughout the Greenbelt Plan.</p> <p>Additionally, the use of the term 'Agricultural-supportive Infrastructure' needs to be defined in the Plan. The existing definition of infrastructure identifies "physical structures that form the foundation for development", which would make the introduction of policies related to agricultural-supportive infrastructure unsupportable if it is used to justify extension of municipal water and sanitary services outside the Urban Area.</p>
Guidelines, Impact Assessments, Performance Indicators, Identification and Environmental Quality Criteria	<p>The Province's proposal to lead a process to identify areas to be added to the Protected Countryside is requested to be undertaken in consultation with municipalities. Additionally, municipalities are requesting to be consulted during the development of any proposed criteria developed for the purposes of identifying land use, agricultural or natural systems, or significant areas to be added to the Greenbelt, under this plan.</p> <p>It is requested that the provincial plans clarify the use of existing municipal impact assessment, identification criteria, or mapping methods, which may be more detailed than those to be developed by the province, to be able to continue to apply the more comprehensive approach, and support more stringent measures used in Official Plans by municipalities.</p> <p>Additionally, greater clarity is needed with regard to the expectations of municipalities and other public bodies as it relates to development and implementation of performance indicators and monitoring requirements. Guidance and support from the Province to undertake this work is critical.</p>

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Provincial Systems Mapping	<p>Where municipal refinement of Prime Agriculture, Natural Heritage or land use map layers have been completed, it is requested that the Province update their maps to reflect the more detailed and refined local data and mapping.</p> <p>This request includes consideration of the implications of proposed mapping changes, and the opportunity to use existing mapping and systems identification undertaken by municipalities to bring the province into sync with municipal analysis, data and municipal scale mapping.</p>
Site Specific Recommendations	<p>It is requested that the Cootes to Escarpment EcoPark receive recognition in the Greenbelt Plan similar to the way in which the Rouge River Watershed has been recognized. This would include the introduction of general policies regarding the Province's commitment to support and protect this significant area. We strongly encourage the Province to incorporate the policies provided in draft in Appendix 1.b Section 3.2.8 of this submission.</p> <p>It is requested that the approved Glen Williams boundary (which pre-dated the Greenbelt Plan) contained in the Halton Hills Official Plan be used to define the boundaries of the Greenbelt Plan Protected Countryside, including adding into the Protected Countryside an area to east of Glen Williams paralleling Tenth Line and removing from the Greenbelt Plan Protected Countryside, the lots on the west side of Confederation Street.</p>
Urban River Valleys	<p>Fourteen Mile Creek Valley is proposed to be added to the Urban River Valley designation; however the addition is mapped on Schedule 1 only as far south as the QEW. To achieve consistency with the proposed mapping of the other rivers added to the URV and the intent of the URV designation to show connections to Lake Ontario, consider adding the remaining portion of the Fourteen Mile Creek Valley down to Lake Ontario.</p> <p>It is unclear how the widths for the Urban River Valleys were determined, as they do not appear to reflect the actual valley widths, hazard lands or municipally identified Natural Heritage System mapping. Use of municipal mapping of urban river valleys is requested to ensure consistency of location, valley widths and public owned lands.</p> <p>Additionally, it is requested that all symbols, colours and boundaries used on the maps of the Greenbelt Plan are included in complete and thorough accompanying legends.</p>
Climate Change and Net-Zero Communities	<p>The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities in understanding the implications or application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed, are required.</p>

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Numeric Reference	Policy Text	Comments and Recommendations
1 Introduction		
1.1 Context	<p>Ontario’s Climate Change Strategy, 2015 reaffirms the government’s commitment to meet its long-term targets to reduce greenhouse gas emissions. Protecting agricultural lands, water resources and natural areas, and building compact and <i>complete communities</i> that are walkable and transit-supportive where appropriate will help reduce greenhouse gas emissions and will work toward the long-term goal of <i>net-zero communities</i>. Greenhouse gas emissions can be offset by “carbon sinks” found in natural areas such as the Greenbelt that also includes agricultural lands, <i>green infrastructure</i> and other greenspaces.</p>	<p>The carbon sink function of natural areas largely already exists (as their associated vegetation is largely already on the landscape) and therefore so does their associated emission offsetting. Climate change is happening despite this existing function therefore it is not clear how emissions can be offset by natural areas as only the conversion of more land into natural area through the Plan would achieve this.</p> <p>To be more accurate and to ensure that the protection of natural areas will not be incorrectly construed as providing additional climate change mitigation it is suggested that the wording be revised to:</p> <p>“Greenhouse gas emissions <u>reduction as currently provided by</u> natural areas such as the Greenbelt that also includes agricultural lands, green infrastructure and other greenspaces.”</p>
	<p>The <i>Agricultural System</i> is a group of inter-connected elements that collectively create a viable, thriving agricultural sector and is made up of <i>specialty crop areas, prime agricultural areas and rural lands</i>. The <i>Natural System</i> identifies lands that support both natural heritage and hydrologic features and functions. Both systems maintain connections to the broader agricultural and natural systems of southern Ontario.</p>	<p>This context statement should be amended to replace “collectively create” with “are necessary to create”. The components of a system do not in themselves create a viable system, but the collected components are needed to create a viable system.</p>
1.2 Vision and Goals		
1.2.1 Vision	<p>The Greenbelt is a broad band of permanently protected land which:</p> <ul style="list-style-type: none"> • Protects against the loss and fragmentation of the agricultural land base and supports agriculture as the predominant land use; • Gives permanent protection to the natural heritage and water resource systems that sustain ecological and human health and 	<p>It is recommended that this be revised to:</p> <p>“<u>Contribute to</u> resilience and <u>mitigation of the effects of</u> climate change.”</p>

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	<p>that form the environmental framework around which major urbanization in south-central Ontario will be organized;</p> <ul style="list-style-type: none"> • Provides for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses; and • Builds resilience to and mitigates climate change. 	
<p>1.2.2 Protected Countryside Goals</p>	<p>To enhance our urban and rural areas and overall quality of life by promoting the following matters within the Protected Countryside:</p>	<p>“rural areas” is not a defined term in this document – the term should be changed to “rural lands” to reflect the definition and how the rest of the document has been amended.</p>
	<p>2. Environmental Protection</p> <p>a) Protection, maintenance and enhancement of natural heritage, hydrologic and <i>landform features</i>, areas and functions, including protection of habitat for flora and fauna and particularly species at risk;</p> <p>b) Protection and restoration of natural and open space connections between the Oak Ridges Moraine, the Niagara Escarpment, Lake Ontario, Lake Simcoe and the major river valley lands, while also maintaining connections to the broader natural systems of southern Ontario beyond the <i>GGH</i> such as the Great Lakes Coast, the Carolinian Zone, the Lake Erie Basin, the Kawartha Highlands and the Algonquin to Adirondacks Corridor;</p> <p>c) Protection, improvement or restoration of the quality and quantity of ground and surface water and the hydrological integrity of watersheds; and</p> <p>d) Provision of long-term guidance for the management of natural heritage and water resources when contemplating such matters as watershed/subwatershed and stormwater management planning, water and wastewater servicing, development, <i>infrastructure</i>, open space planning and management, aggregate rehabilitation and private or public</p>	<p>1.2.2.2 a) This policy does not reflect a systems approach. It is recommended that this be revised to include natural heritage systems and linkages to hydrologic system as follows:</p> <p>“Protection, maintenance and enhancement of natural heritage, hydrologic and landform features, <u>areas, functions and systems</u>, including protection of <u>connectivity as well as</u> habitat for flora and fauna and particularly species at risk”</p>

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	stewardship programs.	
	<p>6. Climate Change</p> <p>a) Integrating climate change considerations into planning and managing the <i>Agricultural System</i>, Natural Heritage System and Water Resource System to improve resilience and protect carbon sequestration potential, recognizing that the Natural Heritage System is also a component of <i>green infrastructure</i>; and</p> <p>b) Integrating climate change considerations into planning and managing growth by incorporating techniques to reduce greenhouse gas emissions in resilient <i>settlement areas</i> and <i>infrastructure</i> located within the Greenbelt.</p>	1.2.2.6 b) A definition of resilient needs to be provided in this plan and in the Growth Plan.
1.2.3 Urban River Valley Goals		
1.4.2 Structure of the Plan	<p>The Greenbelt Plan consists of:</p> <p>Section 1.0 – Introduction: Describes the context for the Greenbelt Plan in southern Ontario and introduces the Plan’s Vision and Goals. The legislative authority for the Plan and how it is to be used and applied within the land use planning system are also set out in this section.</p>	
	<p>The <i>Agricultural System</i> is comprised of the agricultural land base (<i>specialty crop areas, prime agricultural areas and rural lands</i>) and the <i>Agricultural Support Network</i>. The <i>Agricultural Support Network</i> is a collection of elements that support agricultural viability, but is not a designation with a list of permitted uses. While the Greenbelt Plan identifies the boundaries of the <i>specialty crop areas</i>, it relies on official plans to further delineate the <i>prime agricultural area and rural lands</i></p>	<p>Identification of Prime Agricultural Areas in Official Plans through LEAR studies locally determined refinements of the provincial LEAR Prime Agricultural Areas.</p> <p>The policy should be revised to replace “further delineate” with “refine”.</p>
	<p><i>Settlement Areas</i> are comprised of Towns/Villages and Hamlets. Although this Plan shows boundaries for Towns/Villages, Hamlets are only shown as symbols. In both cases, this Plan defers to official plans for the detailed delineation of <i>settlement area</i></p>	<p>This paragraph has been slightly modified for additional clarity. For additional clarity, it would be useful to be specific on the circumstances under which the plan does apply to lands outside Towns/Villages and Hamlets (i.e. per external connections and urban river valley policies).</p>

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	<p>boundaries. Generally, this Plan does not apply to lands within the boundaries of Towns/Villages and Hamlets. Official plans will continue to govern land use within these <i>settlement areas</i>. However, where expansions to <i>settlement areas</i> are proposed in the Greenbelt, the policies of both this Plan and the Growth Plan apply to such expansions.</p>	<p>It is recommended that this be revised to:</p> <p>“...However, where expansions to <i>settlement areas</i> are proposed in the Greenbelt, <u>and where land use decisions are made in relation to lands designated as urban river valley on Schedules 1 and 2</u>, the policies of both this Plan and the Growth Plan apply.”</p>
	<p>Lands in the Protected Countryside will be within one of the following policy areas: the agricultural land base (<i>specialty crop areas, prime agricultural areas, rural lands</i>), Towns/Villages, Hamlets or Shoreline Built-up Areas. In addition, lands may also be subject to the policies of the Natural Heritage System, Water Resource System, <i>key hydrologic areas, key natural heritage features</i> and <i>key hydrologic features</i>.</p> <p>Also described in this section are policies regarding parkland, open space and trails in the Greenbelt.</p>	<p>The use of “Shoreline Built-up Areas” is not consistent with the use of “Developed Shoreline” in Section 4.1.3 Developed Shoreline Policies later in this plan.</p> <p>This policy is recommended to be revised to:</p> <p>“Hamlets or <u>Developed Shorelines</u>....”</p>
	<p>Section 6.0 – Urban River Valley Policies: Sets out policies for the Urban River Valley designation that applies to publicly owned urban river valley lands brought into the Greenbelt by amendment after approval of the Plan in 2005.</p>	<p>The Urban River Valley Policies are not appropriately placed in this plan. These policies should precede Section 4 – General Policies in the Protected Countryside. As well, Urban River Valley policies, and the features that they address, are external connections beyond the Greenbelt, which suggests that the external connections policies of Section 3.2.6 should be referenced.</p>
1.4.3 How to use this Plan	<p>The following is a brief description of how this Plan, read in its entirety, affects a specific area, land use or <i>development / infrastructure</i> /resource proposal.</p>	
	<p>1. Refer to Schedule 1 to determine if the lands are located within the NEP Area or the Oak Ridges Moraine Area. If the property is located in either of these areas, the policies of the NEP or the ORMCP continue to apply as set out in section 2.0. If the lands are located in the Protected Countryside designation, then the entirety of the Greenbelt Plan’s relevant policies apply. Determine if the lands are located within the Parkway Belt West Plan. If so, the policies of the Parkway Belt West Plan continue to apply as set out in section 2.0. Determine if the lands are located within the Urban River</p>	<p>Section 3.2.6 External Connections policies should be referenced in this section. As well, direction to apply the provisions in Section 3.2.6 that address lands adjacent to the lands designated as Urban River Valley.</p> <p>The policy is recommended to be revised to:</p> <p>“Determine if the lands are located within <u>or adjacent to</u> the Urban River Valley designation on Schedule 1. If so, the specific policies set out in <u>sections 3.2.6</u></p>

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	<p>Valley designation on Schedule 1. If so, the specific policies set out in section 6.0 for the designation apply.</p>	<p>and 6.0 for the designation apply.”</p>
	<p>2. If lands are within the Protected Countryside, determine which of the Geographic Specific Policies apply as described in section 3.0. This is accomplished by a series of steps.</p> <p>Refer to Schedules 1, 2 and 3 of this Plan to determine if the lands are located within a <i>specialty crop area</i> or a Town/Village or Hamlet. If lands are located in a <i>specialty crop area</i>, refer to the policies of this Plan. If lands are located in a Town/Village or Hamlet, refer to official plans.</p> <p>If the lands are not in a <i>specialty crop area</i> or Town/Village or Hamlet, determine in which municipality the lands are located and refer to the official plans that are in effect to determine if the lands are designated prime agricultural area or <i>rural lands</i> (or a similar designation). Once this determination is made, refer to the <i>Agricultural System</i> policies of this Plan (section 3.1) to determine if there are any additional restrictions or requirements relating to <i>prime agricultural areas</i> or <i>rural lands</i>.</p> <p>Refer to Schedule 4 of this Plan to determine if the lands are located within the Natural Heritage System. If so, refer to the Natural System policies of section 3.2, which is an overlay on top of the agricultural land base designations of the <i>Agricultural System</i> within official plans.</p> <p>Refer to official plans, data or information on natural features from provincial, municipal and agency (e.g. conservation authority) sources, and conduct a preliminary assessment of the property to determine if there are any <i>key natural heritage features</i>, <i>key hydrologic features</i>, or <i>key hydrologic areas</i> on the lands. If so, refer to the policies of sections 3.2.4 and 3.2.5 of this Plan.</p>	<p>Clarification is needed to make this instruction on how to read the plan consistent with that in section 1.4.2 (3rd section).</p> <p>A definition of the Agricultural Land Base needs to be added to this plan and if there is the intent to use this term, to consistently apply it.</p> <p>There is no inclusion of reference to adjacent lands. To resolve this, it is recommended to be revised to:</p> <p>“...key hydrologic areas <u>on or within 120m of key features.</u>”</p>

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2 Greenbelt Plan		
2.3 Lands within the Parkway Belt West Plan Area	The requirements of the Parkway Belt West Plan, deemed to be a development plan under the Ontario Planning and Development Act, 1994 continue to apply to lands within the Parkway Belt West Plan Area and the Protected Countryside policies do not apply with the exception of sections 3.2 and 3.3.	It is recommended that the following addition be made: “...with the exception of sections 3.1 , 3.2 and 3.3.”
2.5 Lands within the Urban River Valley Area	Lands within the Urban River Valley designation, as shown on Schedule 1, are subject to the policies of section 6.0 and the Protected Countryside policies do not apply except as set out in that section.	These comments are similar to those in section 1.4.3.1. Section 3.2.6 External Connections policies should be referenced in this section. As well, direction to apply the provisions in Section 3.2.6 that address lands adjacent to the lands designated as Urban River Valley. The policy is recommended to be revised to: “Determine if the lands are located within or adjacent to the Urban River Valley designation on Schedule 1. If so, the specific policies set out in sections 3.2.6 and 6.0 for the designation apply.”

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3 Geographic Specific Policies in the Protected Countryside		
	<p>Prime agricultural areas, are those lands designated as such within official plans.</p> <p>Rural lands are those lands outside of <i>settlement areas</i> which are not <i>prime agricultural areas</i> and which are generally designated as rural or open space within official plans.</p> <p>At the time of a municipal comprehensive review under the Growth Plan, upper and single-tier municipalities may have to amend their official plan designations for <i>prime agricultural areas</i> and <i>rural lands</i> in accordance with the policies of section 5.3.</p>	<p>The definition of Prime Agricultural Areas is provided in the Definition Section of this plan, and is unnecessary in this section of this plan.</p> <p>The definition of rural lands is provided in Definition Section of this plan, and is unnecessary in this section of this plan.</p> <p>As well, this definition/statement is an expansion of the other definition and this may lead to confusion.</p>
3.1.2 Speciality Crop Area Policies	For lands falling within the <i>specialty crop area</i> of the Protected Countryside the following policies shall apply:	
	<p>1. <i>Normal farm practices</i> and a full range of <i>agricultural, agriculture-related</i> and <i>on-farm diversified uses</i> are supported and permitted. Proposed <i>agriculture-related uses</i> and <i>on-farm diversified uses</i> shall be compatible with and shall not hinder surrounding agricultural operations. Criteria for these uses shall be based on provincial Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas.</p>	<p>Clarification of the role and applicability of municipally developed guidelines and the ability of municipalities to be more restrictive than the province are requested.</p> <p>Additionally, the finalization of the Draft Permitted Uses in Prime Agricultural Areas Guidelines is requested.</p>
	<p>5. Land use compatibility shall be promoted to avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on the <i>Agricultural System</i>, where <i>agricultural uses</i> and non-agricultural uses interface, based on provincial guidance.</p>	<p>This policy implies that potential impacts of non-agricultural uses on any part of or on the entire agricultural system need to be determined when changes to land use are being considered. This is too vague, as the agricultural system is composed of both agricultural land base and the support network, it is unclear how areas of impact would be determined.</p> <p>This policy is recommended to be clarified through the application of a scale or range of potential influence, indication if Agricultural Impact Assessments are required, and the mechanism to identify the boundaries of the Agricultural System.</p> <p>Guidance from the province is necessary to address these issues. This appears</p>

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		to introduce the concept of buffering / edge planning between agricultural lands and proposed non-compatible land uses.
	6. The geographical continuity of the agricultural land base and the functional and economic connections to the <i>Agricultural Support Network</i> shall be maintained and enhanced.	This statement appears to be a goal or objective, instead of a policy. This statement is not implementable as written and is not consistent with the softer language in policy 3.1.5. It is recommended that this be revised to: “...Agricultural Support Network be encouraged to be maintained and enhanced. “
3.1.3 Prime Agricultural Area Policies	For lands falling within the <i>prime agricultural area</i> of the Protected Countryside the following policies shall apply:	
	1. <i>Normal farm practices</i> and a full range of <i>agricultural, agriculture-related</i> and <i>on-farm diversified uses</i> are supported and permitted. Proposed <i>agriculture-related uses</i> and <i>on-farm diversified uses</i> shall be compatible with and shall not hinder surrounding agricultural operations. Criteria for these uses shall be based on provincial Guidelines on Permitted Uses in Ontario’s Prime Agricultural Areas.	Clarification of the role and applicability of municipally developed guidelines and the ability of municipalities to be more restrictive than the province, are requested. Additionally, the finalization of the Draft Permitted Uses in Prime Agricultural Areas Guidelines is requested.
	3. Non-agricultural uses may be permitted subject to the policies of sections 4.2 to 4.6. These uses are generally discouraged in <i>prime agricultural areas</i> and may only be permitted after the completion of an <i>agricultural impact assessment</i> .	This policy is too flexible to be implemented, including the use of “may be” and “generally discouraged”. Establishment of clear direction on the need for, content of and establishment of a baseline standard to be achieved for consideration of approval for proposed non-agricultural uses are necessary from the province. The application of a no negative impact standard for the introduction of a non-agricultural use would contribute to the quality of AIAs undertaken. It is recommended that municipalities be included in the development and review of proposed guidelines.
	5. Land use compatibility shall be promoted to avoid, or if avoidance is not possible, minimize and mitigate adverse	This policy implies that potential impacts of non-agricultural uses on any part of or on the entire agricultural system need to be determined when changes

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	impacts on the <i>Agricultural System</i> , where <i>agricultural uses</i> and non-agricultural uses interface, based on provincial guidance.	<p>to land use are being considered. This is too vague, as the agricultural system is composed of both agricultural land base and the support network, it is unclear how areas of impact would be determined.</p> <p>This policy is recommended to be clarified through the application of a scale or range of potential influence, indication if Agricultural Impact Assessments are required, and the mechanism to identify the boundaries of the Agricultural System.</p> <p>Guidance from the province is necessary to address these issues. This appears to introduce the concept of buffering / edge planning between agricultural lands and proposed non-compatible land uses.</p>
	6. The geographical continuity of the agricultural land base and the functional and economic connections to the <i>Agricultural Support Network</i> shall be maintained and enhanced.	<p>This statement appears to be a goal or objective, instead of a policy. This statement is not implementable as written and is not consistent with the softer language in policy 3.1.5.</p> <p>It is recommended that this be revised to:</p> <p>“...Agricultural Support Network be encouraged to be maintained and enhanced.”</p>
3.1.4 Rural Lands Policies	For lands falling within the <i>rural lands</i> of the Protected Countryside the following policies shall apply:	
	2. <i>Rural lands</i> may contain existing agricultural operations and provide important linkages between <i>prime agricultural areas</i> as part of the overall <i>Agricultural System</i> . <i>Normal farm practices</i> and a full range of <i>agricultural, agriculture-related</i> and <i>on-farm diversified uses</i> are supported and permitted. Proposed <i>agriculture-related uses</i> and <i>on-farm diversified uses</i> should be compatible with and should not hinder surrounding agricultural operations. Criteria for these uses shall be based on provincial Guidelines on Permitted Uses in Ontario’s Prime Agricultural Areas.	<p>Clarification of the role and applicability of municipally developed guidelines and the ability of municipalities to be more restrictive than the province, are requested.</p> <p>Additionally, the finalization of the Draft Permitted Uses in Prime Agricultural Areas Guidelines is requested.</p> <p>Remove “existing” agricultural operations, as rural lands should allow for existing or future agricultural uses.</p> <p>In the case where criteria have been developed by municipalities, municipal guidelines/policies will also need to be considered.</p>
	4. Other uses may be permitted subject to the policies of sections 4.1 to 4.6. Where non-agricultural uses are proposed, the completion of an <i>agricultural impact</i>	Clarification of this policy is recommended through the establishment of clear, consistent Agricultural Impact Assessment procedures. This would include the establishment of direction on the need for, content of and

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	<p><i>assessment</i> should be considered.</p>	<p>establishment of a baseline standard to be achieved for consideration of approval for proposed non-agricultural uses are necessary from the province</p> <p>Guidance from the province is necessary to address these issues. This appears to introduce the concept of buffering / edge planning between agricultural lands and proposed non-compatible land uses.</p>
5.	<p><i>New multiple lots or units for residential development</i>, (e.g. estate residential subdivisions and adult lifestyle or retirement communities), whether by plan of subdivision, condominium or severance, shall not be permitted in <i>rural lands</i>. Notwithstanding this policy, official plans may be more restrictive than this Plan with respect to residential severances. Official plans shall provide guidance for the creation of lots within <i>rural lands</i> not addressed in this Plan. Regardless, new lots for any use shall not be created if the creation would extend or promote strip development.</p>	<p>Some confusion has been encountered in the past relating to whether this policy would apply to new retirement community and/or long term care communities not requiring lot creation; and therefore not triggering a plan of subdivision, condominium, group home or severance application. It is noted that the impact on the agricultural land base may be comparable for such land uses. It is recommended that this policy be rewritten to eliminate this confusion.</p>
7.	<p>Land use compatibility shall be promoted to avoid, or if avoidance is not possible, minimize and mitigate adverse impacts on the <i>Agricultural System</i>, where <i>agricultural uses</i> and non-agricultural uses interface, based on provincial guidance.</p>	<p>This policy implies that potential impacts of non-agricultural uses on any part of or on the entire agricultural system need to be determined when changes to land use are being considered. This is too vague, as the agricultural system is composed of both agricultural land base and the support network, it is unclear how areas of impact would be determined.</p> <p>This policy is recommended to be clarified through the application of a scale or range of potential influence, indication if Agricultural Impact Assessments are required, and the mechanism to identify the boundaries of the Agricultural System.</p> <p>Guidance from the province is necessary to address these issues. This appears to introduce the concept of buffering / edge planning between agricultural lands and proposed non-compatible land uses.</p>
8.	<p>The geographical continuity of the agricultural land base and the functional and economic connections to the <i>Agricultural Support Network</i> shall be maintained and enhanced.</p>	<p>This statement appears to be a goal or objective, instead of a policy. This statement is not implementable as written and is not consistent with the softer language in policy 3.1.5.</p>

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		<p>It is recommended that this be revised to:</p> <p>“...Agricultural Support Network be encouraged to be maintained and enhanced. “</p>
	<p>9. Where <i>public service facilities</i> exist on <i>rural lands</i>, consideration should be given to maintaining and adapting these as community hubs where feasible, to meet the needs of the community.</p>	<p>Public service facilities include a large range of uses and structures and this policy wants to see these uses/sites (which may be legal non-conforming) expand to be community hubs which is not a defined term in this document.</p> <p>Additionally, this appears to contradict the provincial direction of directing growth to Settlement Areas, and this will need to be addressed. Community hubs should be directed to Settlement Areas, however the policies must also recognize that there will be circumstances where a new public service facility must be provided outside of a settlement area (e.g. fire and ambulance services, road maintenance facilities).</p> <p>The development of community hub guidelines, and these future guidelines should be referenced similarly to other proposed guidelines in this plan.</p>
3.1.5 Agricultural Support Network	<p>Planning authorities are encouraged to implement strategies and other approaches to sustain and enhance the <i>Agricultural System</i> and the long-term economic prosperity and viability of the agri-food sector, including the maintenance and improvement of the <i>Agricultural Support Network</i> by:</p>	<p>This policy encourages agricultural economic development but the responsibility for maintenance and improvement of the network is unclear, and could have financial implications for municipalities beyond regular economic development responsibilities.</p> <p>Focus on Agri-food instead of agriculture in general is limiting and may encourage less attention to be paid to the protection and support for non-food related agriculture.</p> <p>It is recommended that this be revised to replace agri-food with agriculture.</p> <p>It is recommended that the role and responsibility of municipalities to maintain and improve the Agricultural Support Network be clearly outlined.</p>
	<p>e) Providing opportunities for agriculture-supportive <i>infrastructure</i> both on and off farms.</p>	<p>There is no definition of “agriculture-supportive infrastructure”, and a definition is necessary to clarify what is intended.</p> <p>The definition of infrastructure identifies physical structures that form the foundation for development, which would make this policy unsupportable if it is used to justify extension of municipal water and sanitary services outside the Urban Area.</p>

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3.1.6 Agricultural System Connections	The <i>Agricultural System</i> is connected both functionally and economically to the agricultural land base and agri-food sector beyond the boundaries of the Greenbelt. Agriculture is the predominant land use in the Greenbelt and is an important economic factor in the quality of life for communities in and beyond the Greenbelt.	Focus on Agri-food instead of agriculture in general is limiting and may encourage less attention to be paid to the protection and support for non-food related agriculture. It is recommended that this be revised to replace agri-food with agriculture.
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3.2 Natural System		
3.2.1 Description		
	<p>The Natural System within the Protected Countryside functions at three scales:</p> <p>3. The system is supported by a multitude of natural and hydrologic features and functions found within the GGH but outside of the NEP and the ORMCP. In particular, the numerous watersheds, subwatersheds and groundwater resources, including the network of tributaries that support the major river systems identified in this Plan, are critical to the long-term health and sustainability of water resources and biodiversity and overall ecological integrity. Official plans and related resource management efforts by conservation authorities and others shall continue to assess and plan for these natural and hydrologic features in a comprehensive and integrated manner, through the identification and protection of natural systems, building upon and supporting the natural systems identified within the Greenbelt.</p> <p>The Natural System is made up of a Natural Heritage System and a Water Resource System that often coincide given ecological linkages between terrestrial and water based functions.</p>	<p>3.2.1.3 Natural systems do not stop at the boundaries of the Niagara Escarpment or Oak Ridges Moraine and this policy needs to be clarified.</p> <p>It is recommended that this policy be revised to remove “outside of the NEP and the ORMCP”.</p> <p>Definitions, (natural system definition) should be moved to the definition section of this plan and be consistent among the provincial plans.</p>
	<p>The Natural Heritage System includes core areas and linkage areas of the Protected Countryside with the highest concentration of the most sensitive and/or <i>significant</i> natural features and functions. These areas need to be managed as a connected and integrated natural heritage system given the functional inter-relationships between them, and the fact this system builds upon the natural systems contained in the NEP and the ORMCP (see Schedule 4) and will connect with the Natural Heritage System that will be identified through the Growth Plan. Together, these</p>	<p>Consistency of the content and location of definitions among the provincial plans, including referencing of the Provincial Policy Statement, if the source of the definition, should be applied throughout this and the other plans.</p>

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	<p>systems will comprise and function as a connected natural heritage system.</p>	
<p>3.2.2 Natural Heritage System Policies</p>	<p>For lands within the Natural Heritage System of the Protected Countryside the following policies shall apply:</p>	
	<p>3. New <i>development or site alteration</i> in the Natural Heritage System (as permitted by the policies of this Plan) shall demonstrate that:</p> <p>a) There will be no negative effects on <i>key natural heritage features</i> or <i>key hydrologic features</i> or their functions;</p> <p>b) <i>Connectivity</i> along the system and between <i>key natural heritage features</i> and <i>key hydrologic features</i> located within 240 metres of each other, is maintained, or where possible, enhanced for the movement of native plants and animals across the landscape;</p> <p>c) The removal of other natural features not identified as <i>key natural heritage features</i> and <i>key hydrologic features</i> should be avoided. Such features should be incorporated into the planning and design of the proposed use wherever possible;</p> <p>d) The disturbed area, including any buildings and structures, of any site does not exceed 25 per cent (40 per cent for golf courses);</p> <p>e) The impervious surface does not exceed 10 per cent of the total developable area, except for uses described in and governed by sections 4.1.2 and 4.3.2;</p> <p>f) The compatibility of the project with the natural surroundings is optimized; and</p> <p>g) At least 30 per cent of the <i>total developable area</i> of the site will remain or be returned to <i>natural self-sustaining vegetation</i>, recognizing that section 4.3.2 establishes specific standards for the uses described there.</p>	<p>3.2.2.3 b) The addition of the distance of 240m or less separation between features is intended to provide clarity to this policy. However, it is requested that the source or justification of the distance chosen be provided either in this plan or in a guidelines document.</p> <p>Clarification is requested on whether there are intended to be limits to the number or extent of features to be connected as a result of this policy (e.g., certain number of metres away from core features).</p> <p>Some level of flexibility must be applied to development that occurs within the 240 metre connectivity area. There will be many cases where existing development (e.g. farm clusters, roads and other infrastructure) exist within the 240 metre area. Achieving connectivity in these areas may not be possible, and it would be more appropriate to direct new development to the areas that are already disturbed (e.g. new agricultural buildings or additions within an existing farm cluster).</p> <p>f) This policy is very weak and does not provide direction on how to determine “compatibility”, “optimization” and does not clarify what is intended by “project”.</p> <p>Presumably, an incompatible “project” would have significant implications and should be reconsidered or rejected during a permitting or design process.</p> <p>This policy should be removed or revised to address the issues above.</p>

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<p>3.2.3 Water Resource System Policies</p>	<p>The following Water Resource System policies apply throughout the Protected Countryside:</p>	
	<p>1. All planning authorities shall provide for a comprehensive, integrated and long-term approach for the protection, improvement or restoration of the quality and quantity of water. Such an approach shall consider all hydrologic features and functions and include a systems approach to the inter-relationships between and/or among recharge/discharge areas, shorelines, aquifers, headwaters and surface waters (i. e. <i>Lakes, rivers and streams, including intermittent streams</i>).</p>	<p>It is unclear if these policies apply to settlement areas. 3.2.2.5 NHS does not apply in existing boundaries of settlement areas, but this provision is not in this section. The language should be consistent with NHS policies and with policies in Growth Plan.</p>
	<p>2. Watersheds are the most meaningful scale for hydrological planning, and municipalities together with conservation authorities shall ensure that <i>watershed planning</i> is completed to inform decisions on growth, development, <i>settlement area</i> boundary expansions and planning for water, wastewater and stormwater <i>infrastructure</i>.</p>	<p>This policy has been strengthened with the change from “should” to “shall”, but this may lead to confusion about the need and mechanism to require a watershed plan.</p> <p>Guidance and funding to support municipalities are requested from the province for the development of these plans.</p> <p>Given the scale of watershed plans, and the number of municipal and conservation authority jurisdictions that could be involved, the province should provide clear guidance on which agencies should lead development of these plans. As well, provincial direction is requested regarding determination of triggers for their watershed study initiation, content, process and baseline standards to be met.</p>
	<p>3. Cross-jurisdictional and cross-watershed impacts need to be considered in the development of <i>watershed plans</i>. The development of <i>watershed plans</i> and watershed management approaches in the Protected Countryside shall be integrated with watershed planning and management in the NEP, the ORMCP and the Growth Plan.</p>	<p>Watershed and water-related policies of draft Niagara Escarpment Plan do not align with similar policies of draft Greenbelt Plan. Greater harmonization is requested.</p>

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3.2.4 Key Hydrologic Areas		
	<p>For lands within a key hydrologic area in the Protected Countryside, the following policies apply:</p> <p>1. <i>Major development</i> may be permitted where it is demonstrated that:</p> <p>a) The hydrologic functions of these areas shall be protected and, where possible, improved or restored through;</p> <p>i. The identification of planning, design and construction practices and techniques; and</p> <p>ii. Meeting other criteria and direction set out in the <i>watershed or subwatershed plan</i>.</p>	<p>3.2.4.1 a) ii) It is recommended that this be revised to read:</p> <p>“Meeting other criteria and direction set out in the watershed or subwatershed plan <u>where one exists.</u>”</p> <p>Clarification is requested to confirm whether key hydrologic areas must include all three areas (sig groundwater recharge areas, highly vulnerable aquifers <u>and</u> sig surface water features), or just one of three to be considered a key hydrologic area.</p>
	<p>5. A proposal for new <i>development</i> or <i>site alteration</i> within 120 metres of a <i>key natural heritage feature</i> within the Natural Heritage System or a <i>key hydrologic feature</i> anywhere within the Protected Countryside requires a natural heritage evaluation or a hydrological evaluation, which identify a <i>vegetation protection zone</i> which:</p>	<p>The identification or inclusion of a vegetation protection zone is not always possible in the types of development and site alteration permitted within Key Hydrologic Features and Key Natural Heritage Features as per Section 3.2.5.1.</p> <p>It is recommended that this policy be revised to:</p> <p>requires a natural heritage evaluation or a hydrological evaluation, which identify a vegetation protection zone which:</p>
	<p>8. Notwithstanding the policies of section 3.2.5.5, a natural heritage evaluation or hydrologic evaluation is not required for new buildings and structures for <i>agricultural, agriculture-related</i> and <i>on-farm diversified uses</i> located within 120 metres of a <i>key natural heritage feature</i> and/or <i>key hydrologic feature</i>, provided the features and their functions are protected from the impacts of the proposed building or structure by meeting the following requirements:</p> <p>f) The municipality or other approval authority has also considered the following in relation to determining any potential impacts of the proposal:</p>	<p>8. f) This policy is not clear when referring to other approval authority. It is recommended that this be revised to:</p> <p>“The municipality or other approval authority, <u>as appropriate, ...</u>”</p>

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3.2.6 External Connections	The Natural Heritage System is connected to local, regional and provincial scale natural heritage, water resource and agricultural systems beyond the boundaries of the Greenbelt and includes those areas designated as Urban River Valley in the Plan.	This policy limits consideration of Urban River Valleys to those that have been designated. At this time, there is only 1 designated URV. This may limit consideration of protection and support for URVs that have been identified on Schedules 1 and 4, but not yet designated.
	To support the connections between the Greenbelt’s Natural System and the local, regional and broader scale natural heritage systems of southern Ontario, such as the Lake Ontario shoreline, including its remaining coastal <i>wetlands</i> , the Great Lakes Coast, Lake Simcoe, the Kawartha Highlands, the Carolinian Zone and the Algonquin to Adirondack Corridor, the federal government, municipalities, conservation authorities, other agencies and stakeholders should:	Clarification is required to provide direction on the process and trigger for involvement of representatives from each level of government and stakeholders identified in this policy.
	<p>The river valleys that run through existing or approved urban areas and connect the Greenbelt to inland <i>lakes</i> and the Great Lakes, including areas designated as Urban River Valley, are a key component of the long-term health of the Natural System. In recognition of the function of the urban river valleys, municipalities and conservation authorities should:</p> <p>3. Integrate <i>watershed planning</i> and management approaches for lands both within and beyond the Greenbelt taking into consideration the goals and objectives of protecting, improving and restoring the Great Lakes.</p>	<p>It is recommended that this be revised to :</p> <p>“The river valleys that run through existing or approved urban areas (the Blue Urban River Valley Lines on Schedule 4) and connect the Greenbelt to inland <i>lakes</i> and the Great Lakes (the Green Dashed River Valley Connect Lines on 4), including areas designated as Urban River Valley, are a key component of the long-term health of the Natural System. In recognition of the function of the urban river valleys, municipalities and conservation authorities should:”</p> <p>3. It would be beneficial to reference the specific geographic areas being discussed in this policy.</p>
	These external connections are generally depicted by a dotted green line on Schedules 1 to 4, but are not within the regulated boundary of the Greenbelt Plan. Many of the external connections shown on Schedules 1, 2 and 4 at the time of the Plan’s approval in 2005 have been added to the Greenbelt Plan as Urban River Valley areas and are subject to the policies of section 6.0 of this Plan.	<p>The identified Urban River Valleys do not appear to reflect the physical width of the actual valleys, hazard lands, or NHS that may have been identified by municipalities or CAs.</p> <p>The Plan proposes to replace the dashed green line in urban areas with a new Blue Urban River Valley line.</p> <p>The policy reference should be expanded to include a reference to the policies in section 3.2.6.</p>

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Recommended Section 3.2.8:

As included to recognize the Rouge River Watershed, it is recommended that the Cootes to Escarpment EcoPark System be identified in the Introduction to Section 3.2 'Natural System' of The Greenbelt Plan with the inclusion of a new Sub-Section 3.2.8 entitled 'Cootes to Escarpment EcoPark System'.

The following text is suggested for inclusion in Section 3.2.8 (or similar):

"The Cootes to Escarpment EcoPark System is recognized as a collaboration of nine land-owning agencies and organizations in the Hamilton-Burlington area that is working to protect and restore natural lands and establish ecological corridors or connection between existing partner lands in an area that is one of the most biologically rich areas in Canada.

This current Cootes to Escarpment EcoPark System partner lands cover approximately 3,900 hectares in the Hamilton-Burlington area at the western end of Lake Ontario. These lands stretch from the western terminus of the Desjardins Canal in Hamilton (to the west) to Brant Street in Burlington (to the east) and from the Niagara Escarpment (to the north) and the south shore of Cootes Paradise, Royal Botanical Gardens and Highway 403 (to the south).

The Cootes to Escarpment EcoPark System is a parks and open space system, rather than a single park. While lands remain in the ownership of the partner agencies and organizations, the partners are united in their defined mission which is to collaboratively continue preserving and enhancing the natural lands using a sustainable approach that balances natural ecosystem health with responsible human appreciation and activities.

Land use planning and resource management within those portions of the Cootes to Escarpment EcoPark System within the Protected Countryside shall comply with the provisions of this Plan.

The Province should, in partnership with the Cootes to Escarpment EcoPark System partners:

- a. Recognize the Cootes to Escarpment EcoPark System as an outstanding example of a collaborative initiative to expand the Province's parks and open space system.
- b. Encourage and support the further development and management of the Cootes to Escarpment EcoPark System and its associated open space recreational infrastructure and trails network.
- c. Promote good stewardship practices for public and private lands within and adjacent to the Cootes to Escarpment EcoPark System.
- d. Consider the Cootes to Escarpment EcoPark System and other similar collaborative efforts to expand the Province's Open Space System as priority areas for annual funding by the Province in relation to land securement, open space infrastructure development and management, and private lands stewardship activities."

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3.3 Parkland, Open Space and Trails		
3.3.1 Description	<p>A system of parklands, open spaces, water bodies, and trails across the Greenbelt is necessary to provide opportunities for recreation, tourism, and appreciation of cultural heritage and natural heritage. They serve as an important component of <i>complete communities</i> and provide important benefits to support environmental protection, improved air quality and climate change mitigation. This system currently supports a variety of passive and active uses, as well as health, economic and other quality of life benefits within the Greenbelt.</p> <p>A system of parklands, open spaces, water bodies, and trails helps address the causes and impacts of climate change by capturing and storing carbon, recharging aquifers and protecting biodiversity and sensitive areas.</p>	<p>Existing parklands, open spaces, agricultural practices and natural heritage features and systems contribute to an existing level of carbon sequestration that is part of the existing carbon emissions balance. No additional sequestration will be added by existing ecosystems, only the creation of new natural areas, such as woodlands, forests, will contribute additional carbon sequestration.</p>
3.3.2 Parkland, Open Space and Trail Policies		
	<p>2. Encourage the development of a trail plan and a coordinated approach to trail planning and development in the Greenbelt to enhance key existing trail networks and to strategically direct more intensive activities away from sensitive landscapes; and</p>	<p>It is recommended that a definition be provided for sensitive landscapes in this plan and the other provincial plans as appropriate.</p>
3.3.3 Municipal Parkland, Open Space and Trail Strategies		
	<p>4. Include the following considerations in municipal trail strategies:</p> <p>g) Ensuring the protection of the sensitive key natural heritage features and key hydrologic features and functions of the landscape.</p>	<p>It is recommended that trails be encouraged to connect residential areas and community amenities and services:</p> <p><u>h) Encourage trail connections to be created between residential areas, community amenities and services to enhance mobility throughout communities.</u></p>

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3.4 Settlement Areas		
3.4.1 Description	<p><i>Settlement areas</i> within the Greenbelt support and provide significant economic, social and commercial functions to <i>prime agricultural areas</i> and <i>rural lands</i>. They are an integral part of the long-term economic and social sustainability of the Greenbelt and this Plan envisions that they continue to evolve and grow in keeping with their rural and/or existing character.</p> <p>Land use patterns within <i>settlement areas</i> shall support the development of <i>complete communities</i> that support the long-term goal of becoming <i>net-zero communities</i>. The development of <i>complete communities</i> shall in part be achieved by facilitating the development of community hubs that involve the co-location of public services to address local community needs in convenient locations that are accessible by <i>active transportation</i> and, where available, transit.</p>	<p>Policies that stress land use patterns within settlement areas are somewhat out of place in the Greenbelt Plan.</p> <p>Promotion of community hubs in all settlement areas may not be appropriate. Further clarification of community hubs, including a definition, should be provided by the province.</p>
3.4.2 General Settlement Area Policies	<p>For lands within Towns/Villages and Hamlets in the Protected Countryside, the following policies shall apply:</p> <ol style="list-style-type: none"> 1. <i>Settlement areas</i> outside the Greenbelt are not permitted to expand into the Greenbelt. 2. Municipalities shall incorporate policies in their official plans to facilitate the development of community hubs that: <ol style="list-style-type: none"> a) enable the co-location of public services to promote cost-effectiveness and service integration; b) facilitate access through locations served by a range of transportation options including <i>active transportation</i> and, where available, transit; c) give priority to existing <i>public service facilities</i> within settlement areas as the preferred location, where appropriate; and d) enable the adaptive reuse of existing facilities and 	<p>The policies included in this section appear to be outside the scope of the Greenbelt Plan. While issues of soil and fill management are environmental management policies, community hub location, active transportation and facility use policies are better suited to the Growth Plan.</p> <p>If these policies are to remain in the Greenbelt Plan, the following requests and recommendations are proposed:</p> <p>Further clarification of community hubs is requested to reduce the opportunity for misinterpretation.</p> <p>This policy appears to be out of place in the Greenbelt Plan. This could simply be a Growth Plan policy and removed from this plan.</p> <p>To ensure a consistent provincial approach, it is recommended that the MOECC Soil Management Framework (under development) be referenced here (3.4.2.6).</p>

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	<p>spaces in <i>settlement areas</i>, where appropriate.</p> <ol style="list-style-type: none"> 3. Municipalities shall collaborate and consult with service planning, funding and delivery sectors to facilitate the co-ordination and planning of community hubs and other <i>public service facilities</i>. 4. Municipalities shall integrate climate change considerations into planning and managing growth in <i>settlement areas</i> in accordance with policy 4.2.10 of the Growth Plan. 5. Municipalities are encouraged to develop soil re-use strategies as part of planning for growth and to integrate sustainable soil management practices into planning approvals. 6. Municipalities and industry shall use best practices for the management of excess soil and fill generated during any <i>development</i> or <i>site alteration</i>, including <i>infrastructure</i> development, so as to ensure that: <ol style="list-style-type: none"> a) Any excess soil or fill is re-used on-site or locally, to the maximum extent possible; b) Fill received at a site will not cause an adverse effect with regard to the current or proposed use of the property or the natural environment. 	
<p>3.4.5 Additional Policies for Settlement Area Expansion</p>	<p>For <i>settlement areas</i> within the Protected Countryside, notwithstanding the policies of section 5.2.1, the following additional policies apply to municipally initiated <i>settlement area</i> expansion proposals:</p> <ol style="list-style-type: none"> 1. Where a municipality had initiated the consideration of a <i>settlement area</i> expansion prior to the date this Plan came into effect, such an expansion may be considered through the municipality’s exercise to bring its official plan into conformity with this Plan as described in the municipal implementation policies of section 5.3. The proposed expansion shall: 	<p>The language “prior to the date this Plan came into effect” needs to be changed so it is clear if the policy refers to the 2005 Plan or the new Plan. For example, in section 4.3.2.9, the date is provided, which makes the interpretation very clear.</p>

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4 General Policies for the Protected Countryside		
4.1.1 General Non-Agricultural Use Policies		
	<p>2. Proposals for non-agricultural uses must demonstrate that:</p> <p>c) There are no negative impacts on key natural heritage features and for key hydrologic features or their functions; and</p>	<p>It is recommended that Section 4.1.1.2 c) be revised to include:</p> <p>“... functions, <u>as well as to linkages between these features...</u>”</p>
	<p>For non-agricultural uses, the following policies apply:</p> <p>3. Where non-agricultural uses are proposed in <i>rural lands</i>, the completion of an <i>agricultural impact assessment</i> should be considered.</p>	<p>This policy should be strengthened to require an Agricultural Impact Assessment, with a baseline standard that needs to be met before approval of a permit for a non-agricultural use to be in keeping with the policies protecting the Agricultural System.</p> <p>It is recommended that this policy be revised to:</p> <p>"...<u>must be considered before approval of a permit for a non-agricultural use. The AIA must demonstrate that it is in keeping with the policies protecting the Agricultural System</u>"</p>
4.1.3 Developed Shoreline Area Policies	<p>Policy 4.2.4.5 of the Growth Plan applies to shoreline areas within the Protected Countryside.</p>	<p>A definition of a Developed Shoreline is required in this plan to provide clarity.</p> <p>Policy 4.2.4.5 of the Growth Plan, as referenced in this policy should be included in this plan to alleviate the need to move between plans to understand the policies.</p>
4.2.1 General Infrastructure Policies		
	<p>2. The location and construction of infrastructure and expansions, extensions, operations and maintenance of infrastructure in the Protected Countryside, are subject to the following:</p> <p>g) Where infrastructure crosses specialty crop areas and prime agricultural areas, an agricultural impact assessment shall be undertaken.</p>	<p>4.2.1.2) g) Clarification of the content, methodology and criteria for consideration to introduce infrastructure into specialty crop and prime agricultural areas is required. The establishment of a no negative impact standard, or its equivalent, would be of assistance.</p>
	<p>3. <i>Infrastructure</i> serving the agricultural sector, such as agricultural irrigation systems, may need certain elements to be located within</p>	<p>Infrastructure to support agriculture needs to be clearly defined in this plan to assist in determining the types of infrastructure intended, and</p>

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	<p>the <i>vegetation protection zone</i> of a <i>key natural heritage feature</i> or <i>key hydrologic feature</i>. In such instances, these elements of the <i>infrastructure</i> may be established within the feature itself or its associated <i>vegetation protection zone</i> but all reasonable efforts shall be made to keep such <i>infrastructure</i> out of <i>key natural heritage features</i> or <i>key hydrologic features</i> or the <i>vegetation protection zones</i>.</p>	<p>not suggest that all forms of infrastructure be extended beyond settlement areas.</p>
<p>4.2.3 Stormwater Management and Resilient Infrastructure Policies</p>	<p>In addition to the policies of section 4.2.1, for stormwater management <i>infrastructure</i> in the Greenbelt Plan the following policies shall apply:</p> <ol style="list-style-type: none"> 1. Stormwater management ponds are prohibited in <i>key natural heritage features</i> or <i>key hydrologic features</i> or their <i>vegetation protection zones</i>, except for those portions of the Protected Countryside that define the major river valleys that connect the Niagara Escarpment and Oak Ridges Moraine to Lake Ontario. In these areas, naturalized stormwater management ponds are permitted provided they are located a minimum of 30 metres away from the edge of the river/stream and outside the <i>vegetation protection zones</i> of any <i>key natural heritage features</i> or <i>key hydrologic features</i>. 	<p>This general prohibition should apply to all Storm Water Management infrastructure, with the exception of conveyance pipes and outlet structures where necessary, and subject to no negative impacts to Key Natural Heritage Features and Key Hydrologic Features.</p>
<p>4.3.2 Non-Renewable Resource Policies</p>	<p>For lands within the Protected Countryside, the following policies shall apply:</p>	
	<ol style="list-style-type: none"> 2. Non-renewable resources are those non-agriculture-based natural resources that have a finite supply, including mineral aggregate resources. Aggregates, in particular, provide significant building materials for our communities and <i>infrastructure</i>, and the availability of aggregates close to market is important both for economic and environmental reasons. 	<p>This is not a policy and should be removed from this section. This would be appropriate in an introductory or descriptive section at the beginning of the natural resources policy section (4.3).</p>
	<ol style="list-style-type: none"> 3. Notwithstanding the Natural System policies of section 3.2 of this Plan, within the Natural Heritage System, <i>mineral aggregate operations</i> and wayside pits and quarries are subject to the following: <ol style="list-style-type: none"> c) Any application for a new <i>mineral aggregate operation</i> shall be 	

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	<p>required to demonstrate:</p> <ul style="list-style-type: none"> i. How the <i>connectivity</i> between <i>key natural heritage features</i> and <i>key hydrologic features</i> will be maintained before, during and after the extraction of mineral aggregates; ii. How the operator could immediately replace any habitat that would be lost from the site with equivalent habitat on another part of the site or on adjacent lands; and iii. How the Water Resource System will be protected or enhanced; and <p>d) An application to expand an existing <i>mineral aggregate operation</i> may be permitted in the Natural Heritage System, including in <i>key natural heritage features</i>, <i>key hydrologic features</i> and in any associated <i>vegetation protection zones</i>, only if the related decision is consistent with the PPS and satisfies the rehabilitation requirements of this section</p>	<p>c) ii) A definition needs to be provided for “adjacent lands. This policy should include language to ensure that requirements are ecologically reasonable and maintain existing features.</p> <p>d) This policy should reference requirements of new operations as established in the ARA.</p>
	<p>5. New and existing <i>mineral aggregate operations</i> and wayside pits and quarries, within the Protected Countryside shall ensure that:</p> <ul style="list-style-type: none"> a) Rehabilitated area will be maximized and disturbed area minimized on an ongoing basis during the life-cycle of an operation; b) Progressive and final rehabilitation efforts will contribute to the goals of the Greenbelt Plan; c) Any excess disturbed area above the maximum allowable disturbed area as determined by the Ministry of Natural Resources and Forestry will be rehabilitated. For new operations the total disturbed area shall not exceed an established maximum allowable disturbed area; and d) The applicant demonstrates that the quantity and quality of groundwater and surface water will be maintained as per Provincial Standards under the <i>Aggregate Resources Act</i>. 	<p>5) b) This policy should be strengthened through inclusion of reference to municipal Ops.</p> <p>It is recommended that this be revised to:</p> <p>“...goals of the Greenbelt Plan and existing municipal and provincial policies.”</p>
	<p>6. When operators are undertaking rehabilitation of <i>mineral aggregate operation</i> sites in the Protected Countryside, the</p>	<p>Does this imply that existing ARA licences will be reviewed and amended where necessary to ensure that the objectives below are</p>

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	<p>following policies apply:</p> <ul style="list-style-type: none"> a. The disturbed area of a site shall be rehabilitated to a state of equal or greater <i>ecological value</i>, and for the entire site, long-term ecological integrity shall be maintained or restored, and to the extent possible, improved; b. If there are <i>key natural heritage features</i> or <i>key hydrologic features</i> on the site, or if such features existed on the site at the time of an application: <ul style="list-style-type: none"> i. The health, diversity and size of these <i>key natural heritage features</i> and <i>key hydrologic features</i> shall be maintained or restored and, to the extent possible, improved; and ii. Any permitted extraction of mineral aggregates that occurs in a feature shall be completed, and the area shall be rehabilitated, as early as possible in the life of the operation; 	<p>addressed? Has this happened? It should be clarified whether this policy applies to existing or future rehabilitation plans, or both.</p> <p>6) a) It is recommended that this be revised to: “...<u>connectivity is maintained and</u> long term ecological integrity...”</p> <p>6) b) ii) It is recommended that this be revised to: “ ... shall be rehabilitated <u>to its pre-extraction state as much as possible or subject to d) below</u>, as early as possible...”</p>
	<p>7. Final rehabilitation for new <i>mineral aggregate operations</i> in the Natural Heritage System shall meet these additional policies:</p> <ul style="list-style-type: none"> a. Where there is no underwater extraction, an amount of land equal to that under natural vegetated cover prior to extraction, and no less than 35% of the land subject to each license in the Natural Heritage System, is to be rehabilitated to forest cover, which shall be representative of the natural ecosystem in that particular setting or ecodistrict; b. Where there is underwater extraction, no less than 35% of the non-aquatic portion of the land subject to each license in the Natural Heritage System is to be rehabilitated to forest cover, which shall be representative of the natural ecosystem in that particular setting or ecodistrict; and c. Rehabilitation shall be implemented so that the connectivity of the <i>key natural heritage features</i> and the <i>key hydrologic features</i> on the site and on adjacent lands shall be maintained or restored, and to the extent possible, improved. 	<p>Any application, whether for brand new or expansion requires a new licence.</p> <p>6) a) It is recommended that this be revised to: “Where there is <u>no extraction below the water table...</u>”</p> <p>6) b) It is recommended that this be revised to: “Where there is <u>no extraction below the water table...</u>”</p> <p>6) c) It is recommended that this be revised to: “...to the extent possible, improved <u>in keeping with municipal Official Plan Natural Heritage System.</u>”</p>

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<p>4.4 Cultural Heritage Resources</p>	<p>For lands within the Protected Countryside, the following policies shall apply:</p> <ol style="list-style-type: none"> 1. <i>Significant cultural heritage resources</i> including <i>built heritage resources, cultural heritage landscapes</i> and <i>archaeological resources</i> shall be <i>conserved</i> in order to foster a sense of place and benefit communities. 3. Municipalities are encouraged to consider the Greenbelt’s vision and goals in preparing archaeological management plans and municipal cultural plans in their decision-making. 	<p>1) Does this policy imply that archaeological resources can be removed to allow for development? This needs to be clarified and as does the definition of Conserved.</p> <p>3) This policy requires clarification regarding whether municipalities are to consider the Greenbelt’s vision in plan preparation <u>and</u> decision-making.</p>
<p>4.6 Lot Creation</p>	<p>For lands falling within the Protected Countryside, the following policies shall apply:</p> <ol style="list-style-type: none"> 1. Lot creation is discouraged and may only be permitted for: <ol style="list-style-type: none"> a) outside the <i>specialty crop area</i> and <i>prime agricultural area</i>, the range of uses permitted by the policies of this Plan; b) within the <i>specialty crop area</i> and <i>prime agricultural area</i>, <ol style="list-style-type: none"> i. <i>agricultural uses</i> where the severed and retained lots are intended for <i>agricultural uses</i> and provided the minimum lot size is 16 hectares (or 40 acres) within <i>specialty crop areas</i> and 40 hectares (or 100 acres) within <i>prime agricultural areas</i>; and ii. <i>agriculture-related uses</i>, provided that any new lot shall be limited to the minimum size needed to accommodate the use and appropriate sewage and water services; 	<p>a) Clarification to ensure that municipalities can retain the ability to be more restrictive through official plan policies is requested.</p> <p>b) This policy appears to encourage further fragmentation of lots in prime agricultural areas. There is no mechanism to maintain properties in agriculture-related uses over time. Clarification to ensure that municipalities can retain the ability to be more restrictive through official plan policies is requested.</p> <p>Conversely, this policy could be removed from the Greenbelt Plan to alleviate the possibility of confusion and fragmentation.</p>

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5 Implementation		
5.3 Municipal Implementation of Protected Countryside Policies		
	<p>The province, in collaboration with the municipalities, shall undertake an exercise to provide consistent identification, mapping and protection of the <i>Agricultural System</i> across the <i>GGH</i>. Within the Protected Countryside, upper-tier and single-tier municipalities shall refine official plan mapping to bring <i>prime agricultural areas, specialty crop areas, and rural lands</i> into conformity with provincial mapping through a municipal comprehensive review under the Growth Plan. These refinements shall only be carried out where there are inconsistencies at municipal boundaries or discrepancies between provincial and municipal mapping that are significant. Aside from addressing these issues, municipalities shall continue to retain existing designations for <i>prime agricultural areas</i> within the Protected Countryside.</p>	<p>This policy is recommended to be amended to recognize the mapping done by municipalities that are more detailed and reflective of local conditions. This is especially true of Prime Agriculture where the results of LEAR studies are refinements of provincial land use identification processes.</p> <p>It is recommended that this be revised to:</p> <p><u>“...upper-tier and single-tier municipalities shall collaborate with provincial ministries to refine mapping to ensure that provincial maps reflect municipal refinements of local mapping. This shall be done in keeping with provincial methodologies and guidance. This would apply to prime agricultural areas, specialty crop areas, and rural lands.”</u></p>
	<p>Policies to support the <i>Agricultural Support Network</i> do not require separate land use designations in official plans. Municipalities are expected to provide policies to maintain and enhance the <i>Agricultural Support Network</i> and to identify the physical location of elements in the <i>Agricultural Support Network</i> in collaboration with the province. This work will assist with the long-term viability of the agri-food sector by planning for agriculture and the rural economy.</p>	<p>This could be a massive exercise and it will be difficult to know how far to take it, especially related to the agri-food sector. How does the province intend to keep the “physical location of elements in the Agricultural Support Network” current, given the wide reach of the system over such a large geographic area?</p> <p>It is recommended that this be revised to:</p> <p><u>“... provide planning policies to encourage and enhance the Agricultural Support Network...”</u></p>
5.7.1 Growing the Greenbelt		
5.7.1.4 Municipal Requests	<p>The Province shall also consider requests from municipalities to grow the Greenbelt with the Protected Countryside and/or Urban River Valley designations. In considering municipal requests, the province shall be guided by criteria which were developed for municipalities through a public consultation</p>	<p>Consider clarifying the means by which requests to grow the Greenbelt may be made:</p>

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	<p>process and released in 2008. These criteria include:</p> <ul style="list-style-type: none"> • Providing supportive council resolutions; • Demonstrating how the proposed lands connect physically or functionally to the Greenbelt; and • Demonstrating that a proposal would complement the Growth Plan and support other related provincial initiatives such as the Great Lakes Strategy and Climate Change Strategy and Action Plan. 	<p>“... requests from <u>single, upper and lower tier</u> municipalities to grow the Greenbelt”</p> <p>“... requests from <u>any municipality</u> to grow the Greenbelt”</p>
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6 Urban River Valley Policies		
6.1 Description	<p>The Urban River Valley designation as shown on Schedule 1 applies to lands within the main corridors of river valleys connecting the rest of the Greenbelt to the Great Lakes and inland lakes. The lands in this designation comprise river valleys and associated lands and are generally characterized by being:</p> <ul style="list-style-type: none"> • Lands containing natural and hydrologic features, including coastal wetlands; and/or • Lands designated in official plans for uses such as parks, open space, recreation, conservation and environmental protection. 	<p>Mapping of these Urban River Valleys show a designation limit of 60 metres from either side of the Water’s Edge. This approach does not reflect the natural changes to river channels due to natural processes.</p> <p>Top of bank should be referenced for the identification of any delineation of the urban river valleys, or their potential future corridor buffers.</p>
6.2 Policies	<p>1. Only publicly owned lands are subject to the policies of the Urban River Valley designation. Any privately owned lands within the boundary of the Urban River Valley area are not subject to the policies of this designation. For the purposes of this section, publicly owned lands means lands in the ownership of the province, a municipality, or a local board, including a conservation authority.</p>	<p>Only publicly owned lands are subject to the policies of the Urban River Valley designation. However, the policies of this designation may be applied to privately owned lands within the boundary of the Urban River Valley area at the discretion of a municipality. For the purposes of this section, publicly owned lands means lands in the ownership of the province, a municipality, or a local board, including a conservation authority.</p>

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Definitions		
<i>Agricultural Impact Assessment</i>	Means a study that evaluates the potential impacts of non-agricultural development on agricultural operations and the <i>Agricultural System</i> and recommends ways to avoid, or if avoidance is not possible, minimize and mitigate adverse impacts.	Clarification needs to be provided through guidelines, terms of reference or other criteria to assist in determining impacts on the Agricultural System, which includes the support network in addition to the agricultural land base.
<i>Agricultural Support Network</i>	Means within the <i>Agricultural System</i> , a network that includes elements important to the viability of the agri-food sector such as: regional agricultural infrastructure and transportation networks, on-farm buildings and infrastructure, agricultural services, farm markets, distributors and first-level processing, and vibrant, agriculture-supportive communities.	<p>The Agri-food sector reference should be revised to be the Agricultural sector.</p> <p>The concept of an ‘Agricultural Support Network’ has been introduced into both the Greenbelt Plan and the Growth Plan. The definition for ‘Agricultural Support Network’ suggests that it includes elements such as “regional agricultural infrastructure”.</p> <p>Given that “infrastructure” is also a defined term, it is not clear what the intent of “regional agricultural infrastructure” is. It is critical that municipalities understand the implications of this.</p> <p>In addition, the policy direction for municipalities as it relates to the ‘Agricultural Support Network’ is unclear, as the language used throughout the Greenbelt Plan is inconsistent (i.e., shall versus encourage).</p>
Agricultural System	Means a group of inter-connected elements that collectively create a viable, thriving agricultural sector. It has two components: 1) an agricultural land base comprised of <i>prime agricultural areas</i> including <i>specialty crop areas</i> and <i>rural lands</i> that together create a continuous, productive land base for agriculture; 2) an <i>Agricultural Support Network</i> , which includes <i>infrastructure</i> , services and agri-food assets important to the viability of the sector.	<p>This definition should be revised to replace “<u>agri-food assets</u>” with “<u>agricultural</u>” assets to ensure that all agricultural activity is included.</p> <p>As well, the use of “continuous” may not support near urban and urban agricultural lands from being considered part of a productive land base for agricultural production. Local food production on smaller, often isolated lands in and adjacent to urban development can be very productive.</p> <p>It is recommended that this be revised to” “...create a <u>continuous</u> productive land base...”</p>
Cultural Heritage	<i>Built heritage resources, cultural heritage landscapes</i> and	This definition should have the word “Means” at the beginning, to be

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Resources	<i>archaeological resources.</i>	consistent with the other definition formats.
Highly Vulnerable Aquifers	Means aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect.	<p>This term comes straight from the Source Water Protection exercises, yet there is no reference to the mapping of the highly vulnerable aquifers in the definition.</p> <p>This definition should reference the policies in the PPS 2014, the Clean Water Act and identification of these areas should be in keeping with Highly Vulnerable Aquifers mapping as revised from time to time.</p>
Key hydrologic areas	Means a <i>key hydrologic area</i> as described in section 3.2.4.	The definition found in the Growth Plan should be included in this definition section for consistency and to eliminate the need to have both plans to understand the content of this plan.
Key hydrologic features	Means a <i>key hydrologic feature</i> as described in section 3.2.5.	<p>The definition found in the Growth Plan should be included in this definition section for consistency and to eliminate the need to have both plans to understand the content of this plan.</p> <p>Regulated floodplains are included in the RNHS as key features but not included in the Greenbelt (and others) policies as key hydrologic features, and should be included in the Greenbelt Plan, or referenced as part of watershed/sub-watershed plans.</p>
Key natural heritage features	Means a <i>key natural heritage feature</i> as described in section 3.2.5.	The definition found in the Growth Plan should be included in this definition section for consistency and to eliminate the need to have both plans to understand the content of this plan.
Prime agricultural lands	<p>Means:</p> <p>a) <i>specialty crop areas</i>, and/or</p> <p>b) Canada Land Inventory Class 1, 2 or 3 lands, as amended from time to time, in this order of priority for protection (PPS, 2014).</p>	<p>This definition is a modification of the PPS 2014 Prime Agricultural Area definition. This definition should be consistent with the PPS and consistent with the Prime Agricultural Area definitions included in the other Provincial Plans.</p> <p>This definition has also been modified in the Growth Plan to include the Agricultural Lands definition as part of the Prime Agricultural Area definition.</p>

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		Consistency needs to be applied.
Sand barrens	<p>Means land (not including land that is being used for agricultural purposes or no longer exhibits sand barrens characteristics) that:</p> <ul style="list-style-type: none"> a) Has sparse or patchy vegetation that is dominated by plants that are: <ul style="list-style-type: none"> i. Adapted to severe drought and low nutrient levels; and ii. Maintained by severe environmental limitations such as drought, low nutrient levels and periodic disturbances such as fire; b) Has less than 25 per cent tree cover; c) Has sandy soils (other than shorelines) exposed by natural erosion, depositional process or both; and <p>Has been further identified, by the Ministry of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time.</p>	<p>The specific document which contains the necessary methodology for identification of sand barrens, or the criteria themselves, should be included in the policy to ensure consistent standards and approaches to classification and identification are used throughout the province.</p> <p>If the appropriate applicable methodology is to be used from the ELC (Ecological Land Classification) Manual, please include a reference to the document specifically, recognizing that the methodology may be amended from time to time.</p>
Savannah	<p>Means land (not including land that is being used for agricultural purposes or no longer exhibits savannah characteristics) that:</p> <ul style="list-style-type: none"> a) Has vegetation with a significant component of non-woody plants, including tallgrass prairie species that are maintained by seasonal drought, periodic disturbances such as fire, or both; b) Has from 25 per cent to 60 per cent tree cover; c) Has mineral soils; and d) Has been further identified, by the Ministry of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time. 	<p>The specific document which contains the necessary methodology for identification of savannahs, or the criteria themselves, should be included in the policy to ensure consistent standards and approaches to classification and identification are used throughout the province.</p> <p>If the appropriate applicable methodology is to be used from the ELC (Ecological Land Classification) Manual, please include a reference to the document specifically, recognizing that the methodology may be amended from time to time</p>

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	Resources and Forestry, as amended from time to time.	
Significant	<p>Means:</p> <p>a) In regard to <i>wetlands and life science areas of natural and scientific interest</i>, an area identified as provincially significant using evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time;</p> <p>b) In regard to <i>woodlands</i>, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. The Province (Ministry of Natural Resources and Forestry) identifies criteria relating to the forgoing;</p> <p>c) In regard to other features and areas in section 3.2.4 of this Plan, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of the Natural Heritage System. The Province (Ministry of Natural Resources and Forestry) identifies criteria relating to the forgoing; and</p> <p>d) In regard to <i>cultural heritage resources</i>, resources that have been determined to have cultural heritage value or interest for the important contribution they make to our understanding of the history of a place, an event, or a people.</p> <p>While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation.</p>	<p>A specific document which contains the necessary methodology for identification of woodlands, or the criteria themselves, should be included in the policy to ensure consistent standards and approaches to classification and identification are used throughout the province.</p> <p>Although guidelines for their identification have been provided by the Province in the Natural Heritage Reference Manual, specific criteria has not been provided by the Province to date.</p> <p>Rather, municipalities provide identification criteria based on the provincial guidelines. Recognizing this, it is unclear how Significant Woodlands under this plan will be identified. It is recommended that municipal criteria consistent with the Natural Heritage Reference Manual be invoked in the definition</p>
Tallgrass prairies	Means land (not including land that is being used for	Recommend stating the specific MNRF evaluation procedures to be used to

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	<p>agricultural purposes or no longer exhibits tallgrass prairie characteristics) that:</p> <ul style="list-style-type: none">a) Has vegetation dominated by non-woody plants, including tallgrass prairie species that are maintained by seasonal drought, periodic disturbances such as fire, or both;b) Has less than 25 per cent tree cover;c) Has mineral soils; andd) Has been further identified, by the Minister of Natural Resources or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time.	<p>identify Tallgrass Prairies as referenced in sub-clause d) that are acceptable for their identification.</p>
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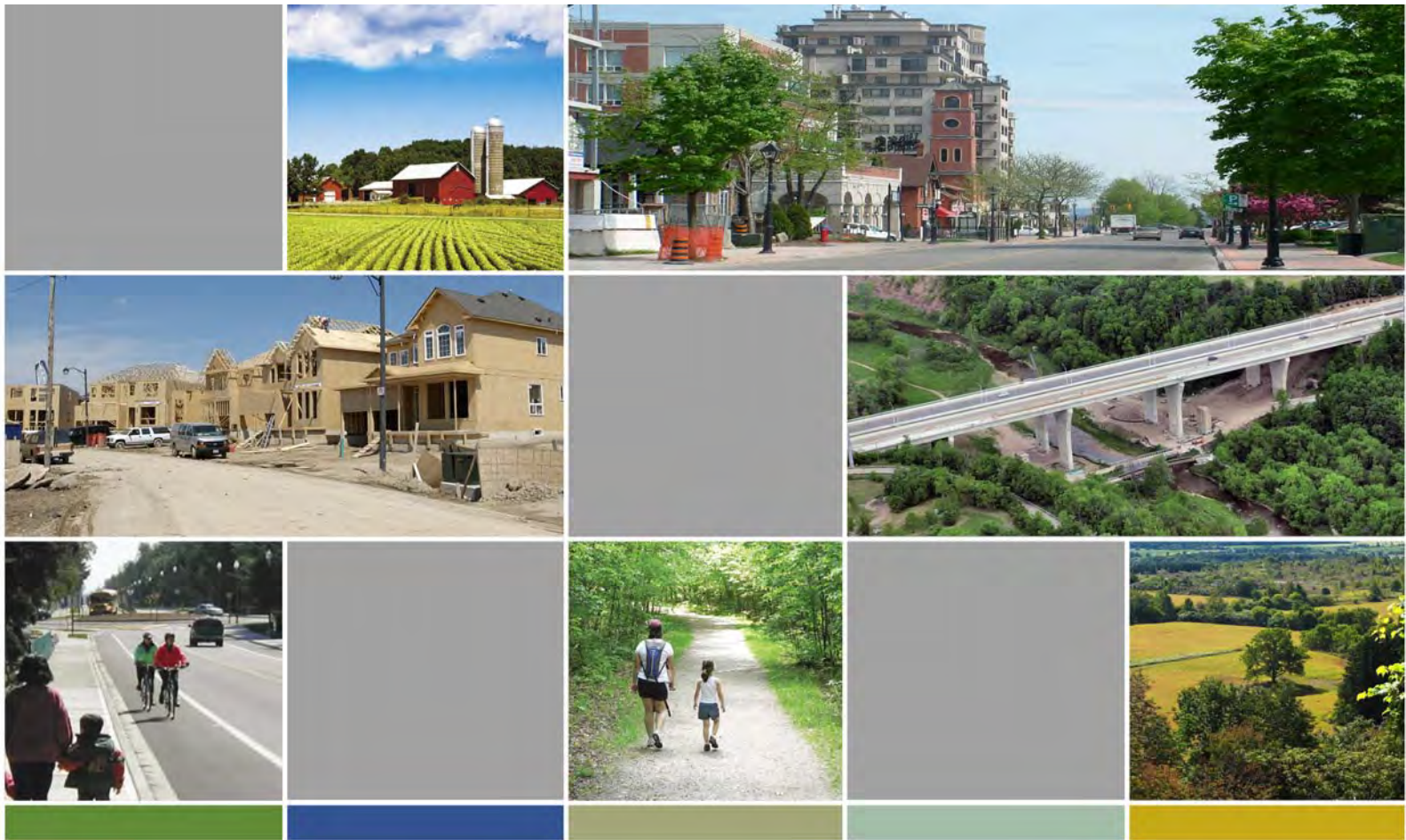
Halton Area Planning Partnership (HAPP)

2015 Coordinated Plan Review

Draft Niagara Escarpment Plan

Joint Submission

September 2016



Introduction

The Halton Area Planning Partnership (HAPP) is comprised of Halton Region and the following Local Municipalities: the City of Burlington, the Town of Halton Hills, the Town of Milton, and the Town of Oakville. The Town of Oakville has reviewed and is supportive of the principles embodied in the Joint Response, however, since no part of the Niagara Escarpment Plan Area is included within the Town of Oakville, the Town has not specifically commented on this review.

This submission represents HAPP's response to the document "Proposed Niagara Escarpment Plan (2016), May 2016" (Proposed Plan) which was placed on the Environmental Registry as a Policy Proposal Notice (EBR Registry Number: 012-7228) on May 10, 2016. The Niagara Escarpment Plan (NEP) is being reviewed in a co-ordinated manner along with three other provincial land use plans – The Growth Plan for the Greater Golden Horseshoe, The Greenbelt Plan and The Oak Ridges Moraine Conservation Plan. This is an opportunity to address challenges with the plans in a cohesive way.

Proposed changes to the Niagara Escarpment Plan include changes to policies and mapping within the Plan, several proposed site specific, urban boundary and urban use amendments as well as additions of land to the Niagara Escarpment Plan Area.

The Halton Area Planning Partnership now takes this opportunity to have its collective voice heard by responding to the Proposed Plan. HAPP's submission provides comments on the Proposed Plan's proposed changes and provides HAPP's key recommendations in this letter.

HAPP's response includes:

1. This letter, which contains:
 - a. HAPP's Key Points regarding the whole of the document;
2. Appendix 1, which contains:
 - a. General comments regarding the whole of the Proposed Plan;
 - b. Comments specific to individual policies within the Proposed Plan

Background

A co-ordinated review of the four Provincial land use plans was undertaken in 2015. The Government of Ontario received extensive feedback after the initial round of consultations with stakeholders and the public. An Advisory Panel also provided its recommendations in December 2015 in their report, "Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015 – 2041".

The Government of Ontario has reviewed and considered all feedback received from stakeholders, the public, Indigenous communities and the Advisory Panel's



recommendations. The government is now proposing changes to the four plans. In this, the second round of consultation, the NEC must review and assess all comments received, and will provide its final recommendations to the government in accordance with the Niagara Escarpment Planning and Development Act. The government will consider these recommendations in making final changes to the NEP, including any decisions regarding site-specific amendments and additions to the NEP Area.

Key Points of HAPP's Response

1. Harmonization and Alignment

Although efforts have been made to harmonize definitions in the NEP with the other Provincial Plans, opportunities still exist to better harmonize terminology, definitions and policies. In particular, the water resource and natural heritage-related terminology, definitions and policies in the draft NEP are not consistent with the Greenbelt Plan or PPS. In some cases, NEP policies are less stringent or are not as clear as similar policies of the Greenbelt Plan (e.g. key hydrologic feature, key natural heritage feature) (refer to Parts 2.6 and 2.7).

While an opportunity exists to better align the Plans, the purpose and objectives of the NEP should not be compromised. HAPP's previous submission noted support for retaining and strengthening the NEP as an "environment first" plan and recommended that additional development criteria relating to natural heritage systems, key environmental features, linkages and buffers be included in the Plan.

2. "Escarpment Environment"

The use of the term "Escarpment environment" is problematic throughout the NEP. The definition for "Escarpment environment" includes physical and natural heritage features and cultural heritage and scenic resources, which as individual components are required to meet different tests under other policies of the Plan or PPS. For some components (e.g. scenic resources), it may not be appropriate or possible to demonstrate "no negative impact". In other cases, "minimal negative impact" or "substantial negative impact" conflicts with other policies in the Plan and the test is not strong enough (i.e. some natural heritage features are required to meet the test of no negative impact). This could lead to conflict and challenges as it relates to Plan interpretation.

3. Natural Heritage System

The Niagara Escarpment Plan uses a confusing array of terminology to describe natural heritage and other environmental features, functions and systems e.g. natural system, Escarpment environment, Escarpment features, natural heritage system, natural environment, landscape approach, environmentally sensitive, environmentally



significant, significant natural areas, and natural features. That terminology is found throughout the Plan, but only “natural environment” and “Escarpment environment” are defined. The “Landscape Approach” section within the Introduction should more clearly describe the natural heritage system approach, how it is related to the Greenbelt Plan and when mapping will be available showing key natural heritage features, enhancements to the key features, linkages, buffers or vegetation protection zones, watercourses and wetlands.

The existing “Landscape Approach” is based on a 1974 study. This study must be updated today to reflect changes to science and policy, including natural heritage system and cultural heritage landscaping planning.

Sections 2.6 and 2.7, Development Affecting Water Resources and Development Affecting Natural Heritage respectively, should be linked together in the same manner as in the Greenbelt Plan.

4. Agriculture and Agricultural System

The draft NEP provides greater support for agriculture and the agricultural community by introducing agriculture-related and on-farm diversified uses as permitted uses in the NEP Area, which is supported. However, HAPPs previous submission also noted the need for policies that would support a ‘systems’ approach for agricultural processes, which was not addressed in the NEP. Better support for an ‘agricultural systems’ approach in the NEP, as well as clarifying some of the agriculture policies in Part 2 of the NEP is needed.

There is an opportunity to enhance the support of an agricultural system by embracing the Agricultural Support Network policies of the Proposed Greenbelt Plan. Agricultural lands on the Escarpment are an integral part of the economic, social, cultural heritage and visual identity components of the landscape. From a social and resource point of view, it is imperative that the Agricultural System is sustained and enhanced through the creation of an Agricultural Support Network that is integrated with municipal strategies.

5. Proposed Mapping Changes

HAPPs’ previous submission recommended that the NEP be brought up-to-date by incorporating advances in science and planning into the Plan. Although updated mapping, based on current and rigorously tested data, is supported, it is not immediately clear how the maps were updated (i.e., updates were not only based on current designation criteria but it also included a change to the definition of “Escarpment related landforms”). In addition, it is not clear what sources or scales of data were used to inform the mapping changes. As a result, there is insufficient information for HAPP to comment on the proposed mapping changes, and consultation with municipalities and the public is needed to better understand the potential implications of the



changes. Municipal mapping may also need to be amended as a result of changes to the NEP. Municipalities and other public agencies may have better and more detailed data to support mapping changes.

6. Qualifying language

Although qualifying language has been reduced when compared to the current NEP, the draft NEP still contains numerous instances of vague and unclear language. For example, the following adjectives are used throughout the Plan: “proportionate”, “minimal”, “minor” and “substantial”. The use of these adjectives, without clear criteria or guidelines, leads to inconsistent application of policy and interpretation challenges.

7. Additions to the NEP

No additions to the NEP were proposed for Halton, as none of the parcels in Halton met the criteria to be considered for addition. In the case of publically owned lands, where a willing public agency exists, it is not clear why the land could not be added to the NEP Area.

8. Proposed Site Specific, Urban Boundary and Urban Use Amendments

There is insufficient information for HAPP to comment on the site specific, urban boundary or urban use amendment requests that have been submitted to the Province for evaluation. Many of the proposals would require amendments to Regional and Local Official Plans, which would require the submission of detailed planning studies, comprehensive municipal evaluation and public consultation.

9. Criteria for Designation

Several criteria are considered when mapping out the boundaries for each designation. It is unclear how the criteria are applied, and to what degree they are applied, as well as whether all or some of the criteria are considered when designating lands. It would be beneficial if a document detailing “Application of Criteria for Designation Guidelines” was included to explain the process and offer added transparency.

10. Less Restrictive

Recognizing that the Niagara Escarpment Plan is an “environment first” Plan, it is incongruous that there are sections within the Proposed NEP that appear to be less restrictive than the Greenbelt Plan. For instance, in section 2.7.5, the vegetation protection zone does not prescribe a minimum buffer area whereas the Greenbelt Plan prescribes a 30m minimum for certain key natural heritage and key hydrologic features.



The qualifier “small scale” has been removed from policy language in several instances. In many cases, there seems to be a reliance on language that ties back to other qualifiers (e.g. escarpment environment definition) that are in place ostensibly to prevent unwanted results of development. In order to preserve the Escarpment landscape, controls must be put in place to preserve the visual and environmental components and to minimize the impacts of development on the landscape.

11. Climate Change and Net Zero Communities

The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities in understanding the implications or application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed are required.

Conclusion

HAPP is generally supportive of the revisions to the Niagara Escarpment Plan. However, there remain gaps in policy, especially with harmonization with the other Provincial Plans, which need to be addressed. As a response to the immense pressures that intensification strategies will have on Southern Ontario, there remains an opportunity to advance the status of the Niagara Escarpment Plan as a true “environment first” plan that is required for the permanent preservation of this UNESCO World Biosphere Reserve.

Thank you for providing the Region and its local municipalities, through HAPP, the opportunity to comment on the development of these policy changes.

Respectfully submitted,

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General Comments	
1. Harmonization and Alignment	<p>Although efforts have been made to harmonize definitions in the NEP with the other Provincial Plans, opportunities still exist to better harmonize terminology, definitions and policies. In particular, the water resource and natural heritage-related terminology, definitions and policies in the draft NEP are not consistent with the Greenbelt Plan or PPS. In some cases, NEP policies are less stringent or are not as clear as similar policies of the Greenbelt Plan (e.g. key hydrologic feature, key natural heritage feature) (refer to Parts 2.6 and 2.7).</p> <p>While an opportunity exists to better align the Plans, the purpose and objectives of the NEP should not be compromised. HAPPs previous submission noted support for retaining and strengthening the NEP as an “environment first” plan and recommended that additional development criteria relating to natural heritage systems, key environmental features, linkages and buffers be included in the Plan.</p>
2. “Escarpment Environment”	<p>The use of the term “Escarpment environment” is problematic throughout the NEP. The definition for “Escarpment environment” includes physical and natural heritage features and cultural heritage and scenic resources, which as individual components are required to meet different tests under other policies of the Plan or PPS. For some components (e.g., scenic resources), it may not be appropriate or possible to demonstrate “no negative impact”. In other cases, “minimal negative impact” or “substantial negative impact” conflicts with other policies in the Plan and the test is not strong enough (i.e., some natural heritage features are required to meet the test of no negative impact). This could lead to conflict and challenges as it relates to Plan interpretation.</p>
3. Natural Heritage System	<p>The Niagara Escarpment Plan uses a confusing array of terminology to describe natural heritage and other environmental features, functions and systems e.g. natural system, Escarpment environment, Escarpment features, natural heritage system, natural environment, landscape approach, environmentally sensitive, environmentally significant, significant natural areas, and natural features. That terminology is found throughout the Plan, but only “natural environment” and “Escarpment environment” are defined. The “Landscape Approach” section within the Introduction should more clearly describe the natural heritage system approach, how it is related to the Greenbelt Plan and when mapping will be available showing key natural heritage features, enhancements to the key features, linkages, buffers or vegetation protection zones, watercourses and wetlands.</p> <p>Sections 2.6 and 2.7, Development Affecting Water Resources and Development Affecting Natural Heritage respectively, should be linked together in the same manner as in the Greenbelt Plan.</p>
4. Agriculture and Agricultural System	<p>The draft NEP provides greater support for agriculture and the agricultural community by introducing agriculture-related and on-farm diversified uses as permitted uses in the NEP Area, which is supported. However, HAPPs previous submission also noted the need for policies that would support a ‘systems’ approach for agricultural processes, which was not addressed in the NEP. Better support for an ‘agricultural systems’ approach in the NEP, as well as clarifying some of the agriculture policies in Part 2 of the NEP is needed.</p> <p>The Niagara Escarpment Commission has an opportunity to enhance its support of an agricultural system by embracing the Agricultural Support Network policies of the Proposed Greenbelt Plan. Agricultural lands on the Escarpment are an integral part of the economic, social, cultural heritage and visual identity components of the landscape. From a social and resource point of view, it is imperative that the Agricultural System is sustained and enhanced through the creation of an Agricultural Support Network that is integrated with municipal strategies.</p>

5. Proposed Mapping Changes	HAPPs previous submission recommended that the NEP be brought up-to-date by incorporating advances in science and planning into the Plan. Updated mapping, based on up-to-date and rigorously tested data, is supported. However, it is not immediately clear how the maps were updated (i.e., updates were not only based on current designation criteria but it also included a change to the definition of ‘Escarpment related landforms’). In addition, it is not clear what sources or scales of data were used to inform the mapping changes. Greater consultation with municipalities and the public on the proposed mapping changes is needed to better understand the potential implications. Municipal mapping may also need to be amended as a result of changes to the NEP. Municipalities and other public agencies may have better and more detailed data to support mapping changes.
6. Qualifying Language	Although qualifying language has been reduced when compared to the current NEP, the draft NEP still contains numerous instances of vague and unclear language. For example, the following adjectives are used throughout the Plan: “proportionate”, “minimal”, “minor” and “substantial”. The use of these adjectives, without clear criteria or guidelines, leads to inconsistent application of policy and interpretation challenges.
7. Additions to the NEP	No additions to the NEP were proposed for Halton, as none of the parcels in Halton met the criteria to be considered for addition. In the case of publically owned lands, where a willing public agency exists, it is not clear why the land could not be added to the NEP Area.
8. Site Specific, Urban Boundary and Urban Use Amendments	There is insufficient information for HAPP to comment on the site specific, urban boundary or urban use amendment requests that have been submitted to the Province for evaluation. Many of the proposals would require amendments to Regional and Local Official Plans, which would require the submission of detailed planning studies, comprehensive evaluation and public consultation.
9. Criteria for Designation	Several criteria are considered when mapping out the boundaries for each designation. It is unclear how the criteria are applied, and to what degree they are applied, as well as whether all or some of the criteria are considered when designating lands. It would be beneficial if a document detailing “Application of Criteria for Designation Guidelines” was included to explain the process and offer added transparency.
10. Less Restrictive	<p>Recognizing that the Niagara Escarpment Plan is an “environment first” Plan, it is incongruous that there are sections within the Proposed NEP that appear to be less restrictive than the Greenbelt Plan. For instance, in section 2.7.5, the vegetation protection zone does not prescribe a minimum buffer area whereas the Greenbelt Plan prescribes a 30m minimum for certain key natural heritage and key hydrologic features.</p> <p>The qualifier “small scale” has been removed from policy language in several instances. In many cases, there seems to be a reliance on language that ties back to other qualifiers (e.g. escarpment environment definition) that are in place ostensibly to prevent unwanted results of development. In order to preserve the Escarpment landscape, controls must be put in place to preserve the visual and environmental components and to minimize the impacts of development on the landscape.</p>
11. Climate Change and Net Zero Communities	The introduction of policies addressing climate change and the concept of net-zero communities has been done without accompanying clarification of definitions or explanatory guidance to assist municipalities in understanding the implications or application of these policies. Further information and clear guidance on the goals of these policies and infrastructure changes which will be needed are required.

Numeric Reference	Policy Text	Comments
Introduction		
The Niagara Escarpment Plan	<p>The particular combination of geological and ecological features along the Niagara Escarpment results in a landscape unequalled in Canada. The natural areas found across the Niagara Escarpment act to clean the air, provide drinking water and support recreational activities that benefit public health and overall quality of life, in addition to helping to address and mitigate the effects of climate change. In addition, the region’s cultural heritage, including <i>Aboriginal</i> and European settlement, is visible on the Escarpment landscape. These resources need to be protected over the long-term to ensure that the connection to our shared past is maintained and that quality of life is not diminished as growth takes place.</p>	<p>Please consider adding agriculture to the features list:</p> <ul style="list-style-type: none"> - It is also an area rich in agricultural resources and includes one of the largest wine producing regions in Canada, e.g. Tender fruit speciality crop area, etc. - Agricultural areas also help contribute to the mitigation of climate change and can act as carbon sinks.
	<p>Human impact on the <i>Escarpment environment</i> is reflected in a variety of ways. The Escarpment area is the site of a large mineral aggregate extraction industry. Demand for permanent and seasonal residences in many areas is intense. Farming ranges from the cultivation of tender fruit and other specialty crops in the Niagara Peninsula to the raising of beef cattle in Bruce County and providing local food to Ontario’s largest population centres nearby. The proximity of that large population also makes the Escarpment a popular tourist destination.</p>	<p>An agricultural systems approach should be identified here and the Escarpment’s agricultural strengths should be included:</p> <ul style="list-style-type: none"> - Provides food stability/security and economic development. - Provides local food and other commodities such as ornamentals (horticulture) nutraceuticals, fibre products, biomass, etc.
	<p><i>The Greenbelt Act, 2005</i> authorized the preparation of the Greenbelt Plan, which was first approved in February, 2005. The Greenbelt Plan identifies where urbanization should not occur in order to provide permanent protection of the agricultural land and the ecological features and functions occurring in the Greenbelt Plan Area, which includes the Niagara Escarpment Plan Area, as well as the Oak Ridges Moraine Conservation Plan Area, and the Protected Countryside of the Greenbelt Plan. The Greenbelt Plan provides that the policies of the Niagara Escarpment Plan are the policies of the Greenbelt Plan for the Niagara Escarpment Plan Area and the Protected Countryside policies do not apply with the exception of section 3.3 (Parkland, Open Space and Trails).</p>	<p>“...permanent protection of the agricultural land...” – remove “the”.</p>

Landscape Approach	<p>The landscape approach of the Niagara Escarpment Plan compliments the other natural systems as identified within the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan. The Natural Systems are made up of natural heritage features and hydrologic features that often coincide, given ecological linkages between terrestrial and water-based functions.</p>	<p>The NEC recognizes the natural environment throughout but has policies that can impact agricultural production in a negative manner. Given that agricultural lands are a finite non-renewable resource, the NEC should recognize the importance of this resource and its contribution to the quality of life of Ontarians, and the role that farmers play with respect to stewardship.</p> <p>The document guides farming but does not recognize its importance in any way.</p>
	<p>The natural system in the Niagara Escarpment Plan is managed as a connected and integrated landscape, given the functional inter-relationships between them and the fact that this system complements the natural systems contained in the Greenbelt and the Oak Ridges Moraine Conservation Plan. Together with the surrounding landscape, these systems work towards functioning as a connected natural heritage system.</p>	<p>There needs to be a fuller explanation of what the Natural Heritage System is composed of.</p>
How to Read a Provincial Plan	<p>The Niagara Escarpment Plan builds upon the policy foundation provided by the Provincial Policy Statement and provides additional land use planning policies for the maintenance of the Niagara Escarpment and land in its vicinity, substantially as a continuous <i>natural environment</i> and to ensure that only such development occurs as is <i>compatible</i> with that <i>natural environment</i>. The Niagara Escarpment Plan is to be read in conjunction with the Provincial Policy Statement but shall take precedence over the policies of the Provincial Policy Statement to the extent of any conflict. Where the Niagara Escarpment Plan is silent on policies contained within the Provincial Policy Statement, the policies of the Provincial Policy Statement continue to apply, where relevant.</p>	<p>The NEC does not seem to balance the needs of the natural heritage system with the needs of the agricultural system. It should be stated clearly that agriculture is supported as a complementary and compatible use outside of the Key Features of the natural heritage system.</p>
How to Read this Plan	<p>Part 3: This section describes describes the Niagara Escarpment Parks and Open Space System.</p>	<p>Remove second “describes”.</p>

Performance Indicators and Monitoring	In coordination with the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Growth Plan for the Greater Golden Horseshoe, and consistent with the Provincial Policy Statement, performance indicators will be developed and performance monitoring will be undertaken as follows:	Monitoring objectives appear to have changed away from environmental monitoring towards policy implementation. It should be made clear that environmental monitoring will continue to ensure the permanence of the natural heritage features and system. We suggest the original objectives should still be relevant. Monetary resources should be allocated to the tasks of monitoring. Collaboration with agencies (e.g. municipalities and conservation authorities) in the sharing of available data should be recognized and encouraged.
Part 1 Land Use Policies		
1.2.2 Amendments for Mineral Extraction	2. In considering applications for amendments to the Niagara Escarpment Plan to re-designate Escarpment Rural Area to Mineral Resource Extraction Area designation, the demonstration of need for <i>mineral aggregate resources</i> , including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of <i>mineral aggregate resources</i> locally or elsewhere.	The Region and its local municipalities have, and continue to argue (through Aggregate Resources Act consultation) that the demonstration of need is very necessary.

	<p>3. In evaluating applications for amendments to the Niagara Escarpment Plan to redesignate Escarpment Rural Area to Mineral Resource Extraction Area, the following matters, in addition to any other policies of the Plan, will be considered:</p> <p>a) <i>Protection of the Escarpment environment</i>, namely:</p> <ul style="list-style-type: none"> i. key natural heritage features and other natural features in accordance with Part 2.7 ii. key hydrologic features and areas in accordance with Part 2.6 iii. <i>cultural heritage resources</i> in accordance with Part 2.10 iv. <i>scenic resources</i> in accordance with Part 2.13 v. adjacent Escarpment Natural, Protection and Rural Areas vi. adjacent <i>Escarpment Related Landforms</i>, and vii. existing and Optimum Routes of the Bruce Trail <p>b) Opportunities for achieving the objectives of Section 8 of the <i>Niagara Escarpment Planning and Development Act</i> through the final rehabilitation of the site;</p> <p>c) The <i>protection of prime agricultural areas and specialty crop areas</i> and the capability of the land for <i>agricultural uses</i> and its potential for rehabilitation for <i>agricultural uses</i>; and</p> <p>d) Opportunities to include rehabilitated lands in the Niagara Escarpment Parks and Open Space System.</p>	<p>A systems approach should be articulated here as per the PPS.</p> <p>Subsection a) - Please add “enhancement” to the policy e.g. “Protection and enhancement...”.</p> <p>Subsection a) - The use of the term “Escarpment environment” is problematic throughout the Plan. The definition for “Escarpment environment” includes physical and natural heritage features, cultural and scenic resources, which all need to meet different tests under the Plan or PPS. It may not be appropriate to demonstrate “minimal negative impact” on all elements of the Escarpment environment, as some natural heritage features are required to meet different tests (e.g., no negative impact) while others (e.g. cultural and scenic resources) do not.</p> <p>Subsection c) - The protection of the agricultural system should be the focus here to keep this policy in line with the Growth Plan.</p>
	<p>4. Amendment applications must be accompanied by:</p> <p>a) information on the location of the site in relation to the Escarpment and to the Escarpment Rural, Protection and Natural Area designations;</p> <p>b) information to support the requirements of this Plan, along with information submitted to meet the requirements of the <i>Aggregate Resources Act</i>, including site plans submitted under Section 8 and reports</p>	<p>Public and agency input should also be evaluated and used in a determination of whether an application should be advanced.</p>

	<p>submitted under Section 9 of that Act; and</p> <p>e) information on the ultimate use of the site in conformity with the Escarpment Rural, Protection or Natural Area designations.</p>	
<p>1.2.3 Exceptions</p>	<p>An amendment to the Niagara Escarpment Plan will not be required to:</p> <ul style="list-style-type: none"> a) change the numbering or ordering of the Niagara Escarpment Plan, provided sections are not added or deleted; b) consolidate amendments into the Niagara Escarpment Plan where such amendments have been approved under the provisions of the <i>Niagara Escarpment Planning and Development Act</i>; c) correct grammatical or typing errors that do not affect the intent of the Niagara Escarpment Plan's policies or Maps or Appendices; d) correct references to municipal names, names of ministries or agencies, or the names of park and open space areas in the Niagara Escarpment Plan where names have been changed; e) correct references to legislation or regulations in the Niagara Escarpment Plan where the legislation or regulations have been replaced or changed; f) change measurement to different units of measure in the Niagara Escarpment Plan provided the measurement remains the same; g) make a boundary interpretation where such an interpretation is made under Part 1.1 of the Niagara Escarpment Plan; h) acquire and dispose of public land and add parks or open space to the Niagara Escarpment Parks and Open Space System in accordance with Parts 3.4 and 3.5, the policies that govern the acquisition and disposal of public land, and the addition of parks and open space under the Niagara Escarpment Plan; i) change the Niagara Escarpment Parks and Open Space 	

	<p>System descriptions in Appendix 1 of the Niagara Escarpment Plan;</p> <ul style="list-style-type: none"> j) add properties to Appendix 3, the Residential Protected Heritage Properties Listing of the Niagara Escarpment Plan, in accordance with Part 2.10.5; k) add properties to Appendix 4, the Nature Preserve Properties Listing of the Niagara Escarpment Plan, in accordance with Parts 2.2.1 (c) and Part 2.4.14; l) make a change to the list of Nodal Parks identified in Part 3 of this Plan, in accordance with Part 3.1.2, Nodal Parks; m) when a Minor Urban Centre is deleted as a designated rural settlement area by a municipality in an approved <i>official plan</i> and/or <i>secondary plan</i>, it may be removed from the list of Minor Urban Centres and the Maps of the Niagara Escarpment Plan modified accordingly; n) make a revision to the boundary of a Listed Minor Urban Centre, only if the boundary has been redefined to reduce the area of a Minor Urban Centre by within the area of the former boundary a municipality, in an approved <i>official plan</i> and/or <i>secondary plan</i>; o) permit new Mineral Resource Extraction Areas producing less than 20,000 tonnes (22,000 tons) annually in the Escarpment Rural Area without an amendment to the Plan; or p) add properties to Appendix 5, the <i>Agricultural Purposes Only lot</i> Property Listing, in accordance with Part 2.2. (d) and 2.4.27 of this Plan. 	<p>Subsection n) needs to be re-worded – fractured sentence structure.</p>
1.3 Escarpment Natural Area	<p>Escarpment features that are in a relatively natural state and associated <i>valleylands</i>, <i>wetlands</i> and forests that are relatively undisturbed are included within this designation. These areas contain important <i>cultural heritage resources</i>, in addition to <i>wildlife habitat</i> and geological and natural heritage features that provide essential ecosystem services, including water storage, water and air filtration, biodiversity, crop pollination, carbon storage and resilience to climate change. These are the most significant natural and <i>scenic resources</i> of the Escarpment and resemble the core areas of a Natural Heritage System. The policies aim to maintain and enhance these natural areas.</p>	<p>The second sentence should also reference natural heritage functions.</p> <p>In the second last sentence, “resemble” should not be used. Not all Escarpment Natural areas will be the same as the NHS, and the ecological functions within the Escarpment Natural area may not be the same either. This sentence could be used to say that if the features and functions of the Escarpment Natural area do not meet or resemble the NHS features and functions, it can be determined that the area should not be designated as Escarpment Natural area.</p>

		<p>There should be an explanation as to how the land use designations work together to create a NHS.</p> <p>There should also be a way of identifying the difference between natural occurring features and man-made features e.g. reservoirs – irrigation ditches in Niagara compared to natural ponds.</p>
1.3.1 Objectives	<p>1. To recognize and protect the natural heritage system associated with the Niagara Escarpment Plan area and maintain the most natural Escarpment features, <i>valleylands</i>, <i>wetlands</i> and related significant natural areas.</p>	<p>Please change to “To recognize, protect and enhance the...”.</p>
1.3.3 Permitted Use	<p>4. recreation uses, such as nature viewing and <i>trail activities</i>, except motorized vehicle trails or the use of motorized trail vehicles. Golf facilities and <i>accessory uses</i> and facilities to golf facilities, ski hills, hotel and resort uses are not permitted;</p>	<p>Non-intensive and passive uses should remain as the descriptor of this policy.</p> <p>It may be risky to list examples in this way. “Non-intensive recreation” should be used and defined instead.</p>
	<p>7. <i>infrastructure</i> where the project has been deemed necessary to the public interest after all other alternatives have been considered;</p>	<p>Is a study (e.g. EA) required for a use/project to be deemed necessary to public interest as in the case of municipal infrastructure?</p>
	<p>8. <i>accessory uses</i>, including <i>accessory facilities</i> (e.g., a garage, swimming pools or tennis courts) and <i>signs</i>, and the site alterations required to accommodate them;</p>	<p>Examples aren’t necessary if the terms are defined.</p>
	<p>11. essential <i>watershed management</i> and flood and erosion control projects carried out or supervised by a <i>public agency</i>;</p>	<p>How is “essential” defined and determined? HAPP recommends that a definition such as the following be added: “Essential means that which is deemed necessary to the public interest after all alternatives have been considered and, where applicable, as determined through the Environmental Assessment process.”</p>
	<p>12. limited expansion of the existing small sandstone <i>quarries</i> subject to Part 2.9;</p>	<p>What does “limited” mean? This seems open to interpretation. Also, the cumulative effects of successive expansions must be considered.</p>
	<p>14. notwithstanding the policies of subsection 3 of this section, no <i>single dwellings</i> shall be permitted in those parts of Lots 7, 8 and the West Half of Lot 9, Concession 2, Municipality of Grey Highlands (formerly Euphrasia Township) designated Escarpment Natural Area (see Amendment 19);</p>	<p>All site specific permitted uses should be listed after the general list of permitted uses.</p>

	17. a second <i>single dwelling</i> on a <i>property</i> and subject to a <i>heritage conservation easement agreement</i> , provided it is compatible with the terms of the <i>easement agreement</i> ;	Should the heritage designation be one that is listed in the OHA instead of an easement? It may be beneficial to use similar cultural heritage related language that is used in the Greenbelt and Growth Plan e.g. Built heritage resources (definition).
1.3.4 New Lots	<ol style="list-style-type: none"> 1. Provided no new building <i>lot(s)</i> is created, a severance may be permitted: <ol style="list-style-type: none"> a) for the purpose of <i>correcting conveyances</i>, provided the correction does not include the recreation of merged <i>lots</i>; b) for the purpose of enlarging existing <i>lots</i>; c) as part of, or following, the acquisition of lands by a <i>public body</i>; or 1. as part of, or following, the acquisition of lands by an approved <i>conservation organization</i> for the purpose of establishing a <i>nature preserve</i>. 	<p>Subsection a) - “recreation” should be “re-creation”.</p> <p>It may be beneficial to stipulate here that such lot line adjustments should not result in increased fragmentation of the natural heritage and hydrologic features and functions of the escarpment environment.</p>
1.4 Escarpment Protection Area	<p>Escarpment Protection Areas are important because of their visual prominence and their environmental significance, including increased resilience to climate change through the provision of essential ecosystem services. They are often more visually prominent than Escarpment Natural Areas. Included in this designation are <i>Escarpment related landforms</i> and natural heritage and hydrologic features that have been significantly modified by land use activities, such as agriculture or residential development, and include lands needed to buffer Escarpment Natural Areas and natural areas of regional significance. These areas also resemble the core areas of a Natural Heritage System.</p>	<p>What is “regional significance”? Does it refer to ESAs or ANSIs as per 1.4.2.3? This should be clarified and/or defined.</p> <p>In the last sentence, “resemble” should not be used. Not all Escarpment Protection areas will be the same as the NHS, and the functions within the Escarpment Protection area may not be the same either. This sentence could be used to say that if the features and functions of the Escarpment Protection area do not meet or resemble the NHS features and functions, it can be determined that the area should not be designated as Escarpment Protection area.</p> <p>The second sentence should also reference natural heritage functions.</p> <p>There should be an explanation as to how the land use designations work together to create a NHS.</p>
	The policies aim to maintain and enhance the remaining natural heritage and hydrologic features and the <i>open landscape character</i> of the Escarpment and lands in its vicinity.	Add “and functions” after “features”.
1.4.1 Objectives	3. To recognize and protect the natural heritage system	Please change to “To recognize, protect and enhance the...”.

	associated with the Niagara Escarpment Plan area and maintain natural areas of regional significance.	
	6. To protect the agricultural lands, including <i>prime agricultural areas</i> and <i>specialty crop areas</i> .	Agricultural uses should be protected as well as land.
1.4.3 Permitted Uses	6. in non- <i>prime agricultural areas</i> and non- <i>specialty crop areas</i> , recreational uses, such as picnic sites, day use sites, unserviced camp sites, and trail uses. Golf facilities and <i>accessory uses</i> to golf facilities, courses ski hills, hotel and resort uses are not permitted;	It may be risky to list examples in this way. “Non-intensive recreation” should be used and defined instead.
	9. <i>infrastructure</i> , however, only linear facilities will be permitted in <i>prime agricultural areas</i> and <i>specialty crop areas</i> ;	Is a study (e.g. EA) required to for a use/project to be deemed necessary to public interest as in the case of municipal infrastructure?
	10. <i>accessory uses</i> , including <i>accessory facilities</i> (e.g., a garage, swimming pool or tennis court) and <i>signs</i> , and the site alterations required to accommodate them;	Examples aren’t necessary if the terms are defined.
	11. in non- <i>prime agricultural areas</i> , and non- <i>specialty crop areas</i> , <i>institutional uses</i> ;	“small scale” should be left in and should be defined.
	15. limited expansion of the existing small sandstone <i>quarries</i> , subject to Part 2.9;	What does “limited” mean? This seems open to interpretation. Also, the cumulative effects of successive expansions must be considered.
	18. notwithstanding the policies of subsections 3 and 4 of this section and of Part 2.2.3, a maximum of eight <i>single dwellings</i> (including those accessory to an agricultural operation) are permitted within those parts of Lots 7, 8 and the West Half of Lot 9, Concession 2, Municipality of Grey Highlands (formerly Euphrasia Township) designated Escarpment Protection Area on Map 1 attached to Amendment No. 19 to the Niagara Escarpment Plan. No new <i>single dwellings</i> are permitted within the said Escarpment Protection Area unless they are located within the “Development Area” shown on Map 1 (see Amendment 19);	All site specific permitted uses should be listed after the general list of permitted uses.
	20. recycling depots for paper, glass and cans etc., serving the local community;	“small scale” should be left in and should be defined.
	24. a second <i>single dwelling</i> on an <i>existing lot of record</i> where there is an existing <i>single dwelling</i> on a <i>property</i> subject to a <i>heritage conservation easement agreement</i> ,	Should the heritage designation be one that is listed in the OHA instead of an easement? HAPP recommends the use of similar cultural heritage related language that is used in the Greenbelt

	provided it is compatible with the terms of the <i>easement agreement</i> ;	and Growth Plan e.g. Built heritage resources (definition).
1.4.4 New lots	<ol style="list-style-type: none"> 1. Provided no new building <i>lot(s)</i> is created, a severance may be permitted: <ol style="list-style-type: none"> a) for the purpose of <i>correcting conveyances</i>, provided the correction does not include the recreation of merged lots; b) for the purpose of enlarging existing <i>lots</i>; c) as part of, or following, the acquisition of lands by a <i>public body</i>; or d) as part of, or following, the acquisition of lands by an approved <i>conservation organization</i> for the purpose of establishing a <i>nature preserve</i>. 	<p>Subsection a) - “recreation” should be “re-creation”.</p> <p>It may be beneficial to stipulate here that such lot line adjustments should not result in increased fragmentation of the natural heritage and hydrologic features and functions of the escarpment environment.</p>
1.5 Escarpment Rural Area	Escarpment Rural Areas are an essential component of the Escarpment corridor, including portions of the Escarpment and lands in its vicinity. They provide a buffer to the more ecologically sensitive areas of the Escarpment and resemble the linkage areas of a Natural Heritage System.	<p>In the last sentence, “resemble” should not be used. Not all Escarpment Rural areas will be the same as the NHS linkage and/or enhancement areas, and the functions within the Escarpment Rural area may not be the same either. This sentence could be used to say that if the features and functions of the Escarpment Rural area do not meet or resemble the NHS features and functions of linkages and/or enhancement areas, it can be determined that the area should not be designated as Escarpment Rural area.</p> <p>The second sentence should also reference natural heritage functions.</p> <p>There should be an explanation as to how the land use designations work together to create a NHS.</p>
1.5.1 Objectives	5. To protect the agricultural lands, including <i>prime agricultural areas</i> and <i>specialty crop areas</i> .	<p>Remove “the”.</p> <p>Agricultural uses should be protected as well as land.</p>
	7. To provide for the consideration of the designation of new Mineral Resource Extraction Areas which can be accommodated by an amendment to the Niagara Escarpment Plan.	If they can be considered, they don’t need to be accommodated Change to “...which requires an amendment...”.
1.5.2 Criteria for Designation	4. Lands that have potential for enhanced ecological values	Add “to” between “due” and “their”.

	through natural succession processes or due their proximity to other ecologically or hydrologically significant lands, areas or features.	
1.5.3 Permitted Uses	10. <i>infrastructure</i> , however, only linear facilities may be permitted in <i>prime agricultural areas</i> and <i>specialty crop areas</i> ;	Is a study (e.g. EA) required to for a use/project to be deemed necessary to public interest as in the case of municipal infrastructure?
	11. <i>accessory uses</i> , including <i>accessory facilities</i> (e.g., a garage, swimming pools or tennis courts) and <i>signs</i> , and the site alterations required to accommodate them;	Examples aren't necessary if the terms are defined.
	12. non-farm ponds;	HAPP has concerns with permitting non-farm ponds without a list of restrictions and/or a hydrologic study. Restrictions and/or a hydrologic study should include: size and placement e.g. number of square metres, off-line, not within NHS features, must not have a negative impact to surface and/or groundwater resources. There should be development criteria added.
	13. in non- <i>prime agricultural areas</i> and non- <i>specialty crop areas</i> , <i>institutional uses</i> ;	"small scale" should be left in and should be defined.
	23. recycling depots for paper, glass and cans etc., serving the local community;	"small scale" should be left in and should be defined.
1.5.4 New Lots	<ol style="list-style-type: none"> 1. Provided no new building <i>lot(s)</i> is created, a severance may be permitted: <ol style="list-style-type: none"> a) for the purpose of <i>correcting conveyances</i>, provided the correction does not include the recreation of merged lots; b) for the purpose of enlarging existing lots; c) as part of, or following, the acquisition of lands by a public body; or 1. as part of, or following, the acquisition of lands by an approved <i>conservation organization</i> for the purpose of establishing a <i>nature preserve</i>. 	<p>Subsection a) - "recreation" be "re-creation"?</p> <p>It may be beneficial to stipulate here that such lot line adjustments should not result in increased fragmentation of the natural heritage and hydrologic features and functions of the escarpment environment.</p>
1.6.8 Development and Growth Objectives	4. Development and growth should avoid Escarpment Protection Areas, and be directed to Escarpment Rural Areas in a manner consistent with Escarpment Rural Area Objectives and Part 2, the Development Criteria of this Plan.	Will guidance be provided to municipalities regarding how to entrench these provisions in a zoning by-law?
	9. Growth and development in Minor Urban Centres shall be compatible with and provide for:	Are studies required?

	<ul style="list-style-type: none"> a) the <i>protection</i> of the <i>Escarpment environment</i>; b) the <i>protection</i> of natural heritage features and functions; c) the <i>protection</i> of hydrologic features and functions; d) the <i>protection</i> of the agricultural lands, including <i>prime agricultural areas</i> and <i>specialty crop areas</i>; e) the <i>conservation of cultural heritage resources</i>; f) considerations for reductions in greenhouse gas emissions and improved resilience to the impacts of a changing climate; g) sustainable use of water resources for ecological and servicing needs; and h) compliance with the targets, criteria and recommendations of applicable water, wastewater and stormwater master plans, approved watershed planning and/or subwatershed plan in land use planning. 	<p>Subsection d) - Remove “the” before agricultural lands</p>
	<p>11. Adequate public access to the Escarpment should be provided by such means as parking areas, walkways or pedestrian trails (e.g., the Bruce Trail).</p>	<p>It is not clear how this provision is to be implemented or enforced and who the responsible body is.</p>
<p>1.7.5 Development Objectives</p>	<p>1. All development shall be of an urban design <i>compatible</i> with the <i>scenic resources</i> of the Escarpment. Where appropriate, provision for maximum <i>heights</i>, adequate setbacks and screening are required to minimize the visual impact of urban development on the <i>Escarpment environment</i>.</p>	<p>Guidance for this provision should be made available to municipalities.</p>
	<p>2. Development within Urban Centres should encourage reduced energy consumption, improved air quality, reduced greenhouse gas emissions (consistent with provincial reduction targets to 2030 and 2050) and work towards the long-term goal of net-zero communities and increased resilience to climate change, including through maximizing opportunities for the use of <i>green infrastructure</i>.</p>	<p>Guidance for this provision should be made available to municipalities.</p>
<p>1.8.2 Criterion for Designation</p>	<p>1. Established, identified or approved recreation areas (e.g., ski areas, lakeshore cottage areas, and resort development areas).</p>	<p>Why “ski areas” and not “ski centres” as above? What is the difference?</p>

1.8.3 Permitted Uses	18. Non-farm ponds.	HAPP has concerns with permitting non-farm ponds without a list of restrictions and/or a hydrologic study. Restrictions and/or a hydrologic study should include: size and placement e.g. number of square metres, off-line, not within NHS features, must not have a negative impact to surface and/or groundwater resources. There should be development criteria added.
1.9.3 Permitted Uses	4. the recycling and re-processing of materials originally produced from aggregate, that is accessory and subordinate to the <i>mineral extraction operation</i> licensed pursuant to the <i>Aggregate Resources Act</i> ;	There should be additional controls such as: <ol style="list-style-type: none"> 1. “provided that the facilities are directly associated with the extraction of mineral aggregate resources from an integrated mineral aggregate operation, which may consist of more than one <i>Aggregate Resources Act</i> Licence; 2. Designed to be temporary and not to be utilized after extraction has ceased; and 3. Located in a manner that does not affect the final rehabilitation or enhancement of the site in accordance with an approved
	13. a portable asphalt plant in an above water table location in Part of Lot 28, Concession 10, Township of Georgian Bluffs (formerly Township of Keppel), County of Grey under Amendment 167 to this Plan may be permitted for a period not to exceed December 31, 2014 for part of Township Lots 26, 27 and 28, Concession 10, Township of Georgian Bluffs (formerly Township of Keppel), County of Grey;	Site specific uses should be listed at the end of the permitted uses list.
	14. <i>single dwellings, secondary dwelling units</i> and associated <i>accessory uses</i> (e.g., a garage or storage building) once the licence has been surrendered;	The site should be re-designated to the appropriate designation before this use is permitted (subject to 1.9.5). As the <i>Aggregate Resources Act</i> identifies that a licence may be surrendered or revoked, “or revoked” should be added.

1.9.5 After Uses	Following the surrender of the licence issued pursuant to the <i>Aggregate Resources Act</i> , an amendment to the Niagara Escarpment Plan is required to change the land use designation of the <i>lot</i> from Mineral Resource Extraction Area to a land use designation that has designation criteria <i>compatible</i> with the rehabilitation completed on the <i>property</i> , adjacent land uses and the purpose and objectives of the Niagara Escarpment Plan.	<p>“...compatible with the rehabilitation completed”? What if it’s abandoned before rehab?</p> <p>“Surrender” is an ARA term specific to the owner completing rehab and surrendering the licence. The licence could also be “revoked” where the owner may or may not have completed rehab.</p> <p>Is this applicant or NEC initiated? When is it done? Individual application or at time of Plan review? The NEC should initiate the amendment in a reasonable time frame.</p>
Part 2 Development Criteria		
2.1 Introduction	The development criteria will also be used as minimum standards for assessing the conformity of local <i>official plans, secondary plans</i> and, where applicable, zoning bylaws and for administering site-plan control approvals. If an <i>official plan, secondary plan, zoning by-law, or other planning approval</i> is silent on one or more development criteria included in this Plan, the development criteria of this Plan still apply.	This should read “the development criteria of this Plan apply”, rather than “still apply”

<p>2.2 General Development Criteria</p>	<p>1. Permitted uses may be allowed, provided that:</p> <ul style="list-style-type: none"> a) the long-term ecological function and biodiversity of the site is maintained, restored or, where possible, improved having regard to single, multiple or successive development that have or are likely to occur; b) the site is not prone to natural hazards, and the development will not impact the control of these natural hazards including <i>flooding hazards, erosion hazards, or other water-related hazards</i> and hazard events associated with unstable soil or unstable bedrock; c) notwithstanding the provisions of subsections a) and b) above, a <i>property</i> listed as a <i>nature preserve</i> in Appendix 4 of this Plan, acquired by an approved <i>conservation organization</i>, shall not be used as a <i>building lot</i> or for any other purpose inconsistent with the maintenance and <i>protection</i> of the natural features and values for which the <i>nature preserve</i> was established; or d) notwithstanding the provisions of sub-sections a), b) and c) above, a <i>property</i> listed as an <i>APO lot</i> in Appendix 5 of this Plan, when associated with a <i>farm consolidation</i>, shall not be used as a residential <i>building lot</i> or for any other purpose inconsistent with an <i>agricultural use</i>. Permitted agricultural development on such <i>lots</i> shall be limited to existing <i>agricultural uses, existing agriculture-related uses</i> and existing <i>on-farm diversified uses</i>, but excluding <i>wineries, equestrian centres, and commercial, industrial, institutional, warehousing, office, manufacturing</i> and similar uses that may serve or be related to agriculture. 	<p>What about lands adjacent to the site?</p> <p>Subsection a) - “regard to single, multiple or successive development that have or are likely to occur;” – it is challenging to predict what development is likely to occur.</p> <p>Subsection b) - “the site is not prone to natural hazards...”- this language is not consistent with PPS (“development shall be directed to areas outside” and “development will not create new or aggravate existing hazards”</p>
	<p>3. Any development permitted should be designed and located in such a manner as to promote design and orientation that:</p> <ul style="list-style-type: none"> a) maximizes energy efficiency and conservation and 	<p>Will Provincial Guidelines be developed as it relates to climate change and land use planning?</p> <p>It can be inferred that this policy relates to climate change;</p>

	<p>considers the mitigating effects of vegetation;</p> <p>b) maximizes opportunities for the use of renewable energy systems and alternative energy systems; and</p> <p>c) reduces greenhouse gas emissions so that the development is contributing to the goal of net-zero communities in Minor Urban Centres, Urban Areas, and Escarpment Recreation Areas.</p>	<p>however, it should be more explicit.</p> <p>Subsection a) - See above comment - “and considers the mitigating effects of vegetation” – as it relates to climate change (not noise, for example)</p> <p>Subsection c) - “net zero communities” is a defined term in the other draft Plans so should be defined in the NEP.</p> <p>How can this be achieved via the NEP if municipal official plans/zoning applies in these areas? Further direction to be provided?</p>
	<p>5. <i>Institutional uses</i> permitted in Escarpment Protection Areas and Escarpment Rural Areas shall have no <i>negative impact</i> on the <i>Escarpment environment</i>.</p>	<p>The use of the term “Escarpment environment” is problematic throughout the Plan. The definition for “Escarpment environment” includes physical and natural heritage features, cultural and scenic resources, which all need to meet different tests under the Plan or PPS. In this case, it may not be appropriate to demonstrate “no negative impact” on all elements of the Escarpment environment.</p>
<p>Home Occupations and Home Industries</p>	<p>7. <i>Home occupations</i> and <i>home industries</i> in Urban Areas, Minor Urban Centres and Escarpment Recreation Areas are subject to the policies for such uses as set out in the municipal <i>official plan</i> and/or zoning by-law. In the case of all other land use designations, the following provisions apply to <i>home occupations</i> and <i>home industries</i> as defined by this Plan:</p> <p>a) in the Escarpment Natural Area designation, <i>home occupations</i> shall be located in the <i>single dwelling</i> or in an addition to the dwelling;</p> <p>b) in the Escarpment Protection Area, Escarpment Rural Area and Mineral Resource Extraction Area designations, <i>home occupations</i> and <i>home industries</i> shall be located in the <i>single dwelling</i> or in an addition to the dwelling, unless the need to locate it within an <i>accessory facility</i> can be justified;</p> <p>c) <i>home occupations</i> or <i>home industries</i> should normally be limited to one per <i>lot</i>;</p>	<p>Subsection c) – it is clear how “should normally be limited” could be implemented in subsection c).</p>

	<p>d) where the <i>home occupations</i> or <i>home industries</i> is located within the <i>single dwelling</i> or in an addition to the dwelling, not more than 25 per cent of the total floor area, including any addition to the dwelling, shall be devoted to the use to a maximum of 100 square metres (1,075 square feet);</p> <p>e) where the <i>home occupation</i> or <i>home industry</i> is located in an <i>accessory facility</i>, not more than 100 square metres (1,075 square feet) of the building shall be devoted to the use;</p> <p>f) in no instance shall there be more than 125 square metres (1,345 square feet) devoted to the use, where the <i>home occupation</i> or <i>home industry</i> is located within the <i>single dwelling</i> or in an addition to the dwelling and an <i>accessory facility</i>;</p> <p>g) the total floor area requirements set out in sub-sections d), e) and f) above shall apply where there is more than one <i>home occupation</i> or <i>home industry</i> on a <i>lot</i>;</p> <p>h) Where the <i>home occupation</i> or <i>home industry</i> is located in an <i>accessory facility</i>, the following apply:</p> <ol style="list-style-type: none"> i. the use of a common driveway; and ii. the use of shared residential services where possible (e.g., septic system for domestic waste only, well, parking). <p>i) <i>Home occupations</i> and <i>home industries</i> shall:</p> <ol style="list-style-type: none"> i. be secondary to the primary residential or <i>agricultural use</i> on the lot; ii. be operated by residents of the <i>household</i> on the <i>lot</i>; and iii. be located in a manner that considers potential land use compatibility issues, such as noise, odour and dust, with adjacent more sensitive uses (e.g., residential, daycare). <p>j) Municipal <i>official plan</i> policies and standards (e.g., lot size, parking, floor area, retail space) must be</p>	<p>Subsection i) - "Home occupations and home industries shall....or agricultural use on the lot" – Is this policy intended to apply to On Farm Diversified Uses?</p> <p>Subsection k) - Is this policy intended for other uses, as well?</p> <p>Subsection k) - Flood and fill regulation refers to the previous Conservation Authority regulation.</p>
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	<p>met;</p> <p>k) municipal and agency permit, licensing and approval requirements must be satisfied (e.g., building, access, health, safety, flood and fill regulations); or</p> <p>l) where a Development Permit is required for a <i>home occupation</i> or <i>home industry</i>, such a Permit is only transferable to a new owner where the purpose of the <i>home occupation</i> or <i>home industry</i> remains the same.</p>	
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<p>Secondary Dwelling Units</p>	<p>8. The following provisions apply to secondary <i>dwelling units</i>:</p> <ul style="list-style-type: none"> a) a single secondary <i>dwelling unit</i> may be permitted per <i>existing lot of record</i>; b) notwithstanding the above, a secondary <i>dwelling unit</i> shall not be permitted on an <i>existing lot of record</i> where there is more than one <i>single dwelling</i>, including any dwelling approved under Part 2.2.4 b) of this Plan; c) the secondary <i>dwelling unit</i> shall be contained entirely within a <i>single dwelling</i> or in an addition to a single dwelling and shall not be permitted in a detached <i>accessory facility</i>; d) the floor area of a secondary <i>dwelling unit</i> shall be proportionate in size to the <i>single dwelling</i> and shall have minimal <i>negative impact</i> on the <i>Escarpment environment</i>; e) where municipal <i>official plan</i> policies permit secondary <i>dwelling units</i>, the municipal standards (e.g., lot size, parking requirements, maximum floor area, licencing) shall be met, and adequate municipal servicing shall be available to accommodate the secondary <i>dwelling unit</i> (including septic and water), to the satisfaction of the municipality and the <i>implementing authority</i>; f) secondary <i>dwelling units</i> shall not be permitted in a <i>group home</i> or a <i>single dwelling</i> containing a <i>bed and breakfast</i>; and g) a <i>home occupation</i> or <i>home industry</i> shall not be permitted within a secondary <i>dwelling unit</i>. 	<p>Subsection d) - It is not clear what “proportionate in size” means in subsection d) and will be difficult to regulate – for consistency in policy implementation, a maximum size should be established.</p> <p>Subsection d) - “and shall have minimal <i>negative impact</i> on the <i>Escarpment environment</i>” - The use of the term “Escarpment environment” is problematic throughout the Plan. The definition for “Escarpment environment” includes physical and natural heritage features, cultural and scenic resources, which all need to meet different tests under the Plan or PPS. In this case, it may not be appropriate to demonstrate “minimal negative impact” on all elements of the Escarpment environment, as some natural heritage features are required to meet different tests (e.g., no negative impact).</p> <p>Subsection e) - “municipal servicing”: this should simply read “servicing” as municipal services (urban water/wastewater services) may not be permitted in the rural area.</p>
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2.3 Existing Uses	<p>3. Where an <i>existing use</i> has a substantial <i>negative impact</i> on the <i>Escarpment environment</i>, the property owner shall be encouraged to bring the use into closer conformity with the objectives of the applicable designation of the Niagara Escarpment Plan (e.g., erect a fence around a wrecking yard or install manure storage facilities).</p>	<p>As noted above, the use of the term “Escarpment environment” is problematic throughout the Plan. What does “substantial negative impact” mean in the context of each of the elements considered under “Escarpment environment”?</p>
	<p>4. An expansion or enlargement of a building, structure or facility associated with an <i>existing use</i> shall be minor in proportion to the size and scale of the use, building or structure, including its related buildings and structures at the time it became an <i>existing use</i> as defined by the Plan. An expansion or enlargement to a building, structure or facility associated with an <i>existing use</i> will be considered minor where the expansion or enlargement is no more than 25 per cent of the original development footprint, unless it can be demonstrated that a greater expansion or enlargement will have minimal <i>negative impact</i> on the <i>Escarpment environment</i>.</p>	<p>It is not clear what “minor in proportion” means.</p> <p>See comments above with respect to the use of the term “Escarpment environment” and “minimal negative impact”</p>
	<p>5. An expansion or enlargement of a building, structure or facility associated with an <i>existing use</i> must be <i>compatible</i> with surrounding land uses, have minimal <i>negative impact</i> on the <i>Escarpment environment</i> and be consistent with the relevant Development Criteria in Part 2.</p>	<p>This new policy contradicts subsection 2.3.2 above which requires expansions to demonstrate no negative impacts (rather than minimal). As such, it should be deleted.</p> <p>See comments above with respect to the use of the term “Escarpment environment” and “minimal negative impact”</p>
Existing Waste Related Facilities	<p>6. On existing <i>waste disposal sites</i> in the Escarpment Natural, Escarpment Protection, Escarpment Rural Areas and Mineral Resource Extraction Area designations, the following municipal <i>waste-related</i> facilities may be permitted without an amendment to the Plan provided the impact to the <i>Escarpment environment</i> is minimal and it can be demonstrated that the objectives and development criteria of the Plan are met:</p> <ul style="list-style-type: none"> a) recycling and/or compost facilities, serving the local community; b) temporary storage of household wastes (paint, etc.) serving the local community; 	<p>Subsection a) “small scale” should be left in and should be defined.</p>

	<p>c) containers and weight scales; and</p> <p>d) other <i>accessory uses</i> normally associated with the <i>waste disposal site</i>, serving the local community.</p> <p>But does not include:</p> <p>e) any expansion or alteration to an existing <i>waste disposal site</i> from what has been approved under the <i>Niagara Escarpment Planning and Development Act</i> and the <i>Environmental Protection Act</i> and/or the <i>Environmental Assessment Act</i> (including any expansion in area or height of a landfill or any change in the type of <i>waste</i> material being disposed of, such as a change from non-hazardous solid industrial waste to municipal waste);</p> <p>f) incineration facilities (including energy from <i>waste</i> facilities); and</p> <p>g) packer and/or recycling plants or similar uses.</p> <p>Notwithstanding the criteria above, land filling on the <i>property</i> of an existing operating <i>waste disposal site</i> or an existing closed <i>waste disposal site</i> may be permitted if it is determined that such filling is consistent with the Environmental Compliance Approvals under the <i>Environmental Protection Act</i> or is required for site remediation or decommissioning. The fill must be inert or of a quality and condition deemed suitable for the site by the Ministry of the Environment and Climate Change. Where possible, such activities will be consistent with maintaining and enhancing the <i>scenic resources</i> of the Escarpment.</p>	<p>Should require a hydro-geological study and should show that fill will not adversely affect private wells.</p> <p>This is not in-keeping with an “environment first” philosophy.</p> <p>“Where possible, such activities will be consistent with maintaining and enhancing the <i>scenic resources</i> of the Escarpment.” – how can this be achieved? Are guidelines forthcoming?</p>
2.4 Lot Creation	<p>5. New lots must:</p> <p>a) maintain and enhance the existing community character and/or <i>open landscape character</i> of the <i>Escarpment environment</i>; and</p> <p>b) maintain and enhance existing natural heritage and hydrologic features and functions.</p>	<p>It would not always be feasible to enhance the existing community character and/or open landscape character of the Escarpment environment through the creation of a new lot. As such, this clause should be revised as follows (or similar):</p> <p>Subsection a) - “maintain and enhance, where feasible, the existing community character and/or open landscape character of the Escarpment environment”</p>

		<p>Again, it is problematic to use “Escarpment environment” as it is worded in this policy.</p> <p>Subsection b) - It would not always be feasible to enhance <u>all</u> existing natural heritage and hydrologic features and functions through a lot creation, especially if they are far removed from the proposed development. As such, this clause could be revised as follows (or similar):</p> <p>“maintain and enhance, <u>where feasible</u>, the features <u>and</u> functions of the Escarpment environmental within or adjacent to the proposed new lot”.</p> <p>It may be beneficial to include a policy here that restricts the size of the lot to the minimum size required to accommodate the use and appropriate sewage and water services and prohibits increased fragmentation of natural heritage and hydrologic features and areas to further protect the escarpment environment. This would be consistent with polices regarding lot creation in the protected countryside of the Greenbelt Plan.</p> <p>“maintain and enhance existing natural heritage and hydrologic features and functions.” – This conflicts with other policies in this Plan and PPS; some features are required to meet the no negative impact test.</p>
	<p>6. Prior to commenting upon <i>new lots</i>, the <i>implementing authority</i> shall consider:</p> <ul style="list-style-type: none"> a) the number, distribution and density of vacant <i>lots</i> in the area; b) the additional <i>lots</i> that may be created in conformity with the Plan; c) the consequences of the development of the <i>lots</i> with regard to the objectives of the designation; and d) providing for or protecting public access to the Niagara Escarpment, including the <i>Bruce Trail corridor</i>. 	<p>Subsection c) - What does “consequences of the development” mean?</p>
	<p>15. Where more than one <i>single dwelling</i> exists on the same <i>lot</i>, a <i>new lot</i> may be created for the additional</p>	

	<p>dwelling(s) provided that:</p> <ul style="list-style-type: none"> a) neither the dwelling on the <i>new lot</i> nor the dwelling(s) to be retained were approved on the basis that they would be for temporary use or as a <i>dwelling unit</i> accessory to agriculture; b) all the dwellings on the <i>property</i> are <i>existing uses</i> as defined in this plan and have received approval from the municipality; c) both the dwelling on the <i>new lot</i> and the dwelling retained are in a reasonable standard for habitation and have been used as a <i>dwelling unit</i> within the year before making application to sever; and d) severance of existing dwelling shall not conflict with Part 2.4.17 a) below. <p>Notwithstanding the above, a <i>new lot</i> shall not be created for a mobile or portable <i>dwelling unit</i>.</p>	<p>Subsection d) – There is no 2.4.17 a), just 2.4.17</p>
	<p>19. Lot creation in <i>prime agricultural areas</i> is discouraged and may only be permitted for:</p> <ul style="list-style-type: none"> a) <i>agricultural uses</i>, provided that the <i>lots</i> satisfy the New Lots provisions in Part 1 of the Plan, are of a size appropriate for the type of <i>agricultural uses(s)</i> common in the area, and are sufficiently large to maintain flexibility for future changes in the type or size of agricultural operations; b) <i>agriculture-related uses</i>, provided that the <i>lot</i> satisfies the New Lots provisions in Part 1 of the Plan and have minimal impact on the <i>Escarpment environment</i>; c) a <i>residence surplus to a farm operation</i>, as a result of a <i>farm consolidation</i> as provided for in this Plan; or 	<p>Do these policies belong under the heading “Farm Consolidations, Surplus Residences and APO Lots”?</p> <p>Subsection b) - See comments above regarding “minimal impact” and Escarpment environment.</p> <p>Subsection d) - How is “deemed necessary” determined? By way of an Environmental Assessment?</p>
<p>Farm Consolidations, Surplus Residences and APO Lots</p>	<p>21. The <i>lot</i> associated with the residence that has been rendered surplus to an agricultural operation through a <i>farm consolidation</i> may be severed provided the following criteria are met:</p> <ul style="list-style-type: none"> a) the <i>lot</i> shall be limited to the minimum size needed to 	

	<p>accommodate the use and appropriate sewage and water services;</p> <p>b) the <i>implementing authority</i> ensures that new residential dwellings are prohibited on any <i>remnant lot</i> of farmland created by the severance using the approach recommended by the Province, or based on municipal approaches that achieve the same objective;</p> <p>c) the <i>Lot(s)</i> shall not limit the agricultural viability or use of the <i>remnant APO lot</i> because of the location of the surplus residence or existing buildings (e.g., key-hole lot situations);</p> <p>d) the proposed surplus residence was not originally approved on the basis that it was for temporary use or as a <i>dwelling unit</i> accessory to agriculture;</p> <p>e) the proposed surplus residence is an <i>existing use</i>, as defined in this plan, and has been determined to be habitable under the provisions of the Ontario Building Code at the time of the application for severance;</p> <p>f) the proposed surplus residence has been built and occupied for not less than ten (10) years, at the time of the application for severance;</p> <p>g) the application for severance of the surplus residence must occur within two (2) years of the date that the lands were acquired as part of a <i>farm consolidation</i>; and</p> <p>h) a <i>lot</i> supporting a mobile or portable dwelling or as a <i>dwelling unit</i> accessory to agriculture shall not be severed as <i>property</i> with a surplus residence.</p>	<p>Subsection e) - “...as defined in this plan...” not necessary if existing use is a defined term.</p>
<p>2.5 Development Affecting Steep Slopes and Ravines</p>	<p>The objective is to ensure that development affecting steep slopes (e.g., Escarpment slopes, rock faces, <i>talus slopes</i>) and ravines does not result in <i>negative impacts</i> to the <i>Escarpment environment</i> or in unsafe conditions.</p>	<p>To achieve greater harmony with the other Plans and PPS, it may be worthwhile to rename this section “natural hazards” and include policies related to flooding and erosion hazards under this section.</p> <p>Again, the use of “negative impacts” and “Escarpment environment” is problematic.</p>
	<p>1. The crest or brow and toe of the slope or ravine shall be</p>	<p>Plotted on development plan by a surveyor?</p>

	<p>established by means of a site inspection by the <i>implementing authority</i>, and these lines will be plotted on proposed development plans.</p>	
	<p>2. The <i>implementing authority</i> will establish a minimum development setback from the brow or crest and toe of a slope or ravine, and no disturbance of grades or vegetation below the crest or brow and above the toe shall occur.</p>	<p>Based on a geotechnical assessment? Is there a minimum setback? Guidelines would be helpful.</p>
	<p>3. Where this setback cannot be achieved on an <i>existing lot of record</i> on a steep slope or ravine, the setback may be varied or eliminated to the satisfaction of the <i>implementing authority</i>.</p>	<p>See comments above.</p>
<p>2.6 Development Affecting Water Resources</p>	<p>The objective is to ensure that development affecting hydrologic features will have no <i>negative impacts</i> on the features or their <i>hydrologic functions</i>, or on supporting natural heritage features and functions at the local and watershed level.</p> <p>Development shall only be permitted where it will ensure the <i>protection</i> of vulnerable surface water features and groundwater features from development that may adversely affect the quality and quantity of ground and surface waters in the vicinity of the Escarpment.</p> <p>The following are key hydrologic features within the meaning of the Plan:</p> <ul style="list-style-type: none"> • <i>permanent and intermittent streams</i>; • <i>lakes</i> (and their littoral zones); • <i>seepage areas and springs</i>; and <i>wetlands</i>. 	<p>Again, to achieve greater harmony with the other Plans and PPS, it may be worthwhile to rename this section “Water Resource System Policies”</p> <p>“Key Hydrologic Areas” – HAPP recommends that the same concepts be introduced into the NEP as it has been with the other Plans.</p>
	<p>The following policies apply to key hydrologic features throughout the Niagara Escarpment Plan Area:</p>	<p>The term “key hydrologic features” is used here. Does it mean the same as in the other provincial plans? It is not defined in the draft NEP. See comments regarding 2.6.2 below.</p>
	<p>1. <i>Development</i> is not permitted in key hydrologic features with the exception of the following, which may be permitted, subject to compliance with all other relevant development criteria:</p> <p>a) development of a <i>single dwelling</i> and <i>accessory facilities</i> outside of a <i>wetland</i> on an <i>existing lot of record</i>, provided there is no <i>negative impact</i> to the feature or its</p>	<p>Subsection a) - A study (e.g. an Environmental Impact Assessment, hydrologic evaluation) should be required to make a determination of development potential.</p>

	<p>functions;</p> <p>b) <i>forest, fisheries and wildlife management</i>, provided <i>negative impacts</i> on the <i>Escarpment environment</i> will be minimal;</p> <p>c) <i>conservation</i> and flood or erosion control projects, but only after all alternatives have been considered;</p> <p>d) hiking trails or boardwalks on parks and open space lands that are in an approved Niagara Escarpment Parks and Open Space Master/Management Plan; or <i>infrastructure</i>, but only where the project has been deemed necessary to the public interest after all other alternatives have been considered.</p> <p>e) <i>Infrastructure</i>, but only where the project has been deemed necessary to the public interest after all other alternatives have been considered.</p>	<p>Subsection a) - Again, problematic to use Escarpment environment and state that negative impacts will be minimal.</p> <p>Subsection c) - How is this determined? By way of an Environmental Assessment?</p> <p>Subsection e) - How is “deemed necessary” determined? By way of an Environmental Assessment?</p>
	<p>2. If, in the opinion of the <i>implementing authority</i>, a proposal for <i>development</i> within 120 metres of a key hydrologic feature has the potential to result in a <i>negative impact</i> to the feature and/or its functions, a hydrologic evaluation will be required that:</p> <p>a) Demonstrates that the development, including any alteration of the natural grade or drainage, will have no <i>negative impact</i> on:</p> <ol style="list-style-type: none"> i. the key hydrologic feature or on the <i>hydrologic functions</i> of that feature, including ground and surface water quality and quantity, natural <i>streams</i> or drainage patterns; ii. the overall water budget for the watershed, including existing and planned municipal drinking water systems, or the quality, quantity or character of ground and surface water supplies; and iii. key natural heritage features. <p>b) Identifies planning, design and construction practices that will minimize erosion, sedimentation</p>	<p>The Province and/or NEC should develop a guideline for hydrologic evaluations in consultation with municipalities to assist in the implementation of this policy.</p> <p>It would also be helpful to stipulate that the implementing authority will consult with other relevant agencies with respect to this determination. As such, the following revision is suggested (or similar):</p> <p>“If, in the opinion of the implementing authority, <u>in</u> consultation with municipalities and other relevant agencies, a proposal for <i>development</i> within 120 metres of a key hydrologic feature has the potential to result in a <i>negative impact</i> to the feature and/or its functions, a hydrologic evaluation will be required that:”</p> <p>This differs from 3.2.5.5 of the Greenbelt Plan.</p> <p>Subsection i) - Key hydrologic feature is a defined term in the Greenbelt Plan and Growth Plan; recommend that it be defined in the same manner as the Growth Plan.</p> <p>Subsection a) ii - Does this mean a water budget analysis may be</p>

	<p>and the introduction of nutrients or pollutants and maintain, and where possible, improve or restore the health, diversity and size of the key hydrologic feature, including:</p> <ul style="list-style-type: none"> i. natural features should be preserved; ii. temporary vegetation and/or mulching should be used to protect critical areas exposed during development; iii. <i>topsoil</i> should not be removed from the site, but rather, should be stored and redistributed as a suitable base for seeding and planting; iv. sediment control devices should be installed to remove sediment from run-off due to changed soil surface conditions during and after construction; and v. construction in or across a <i>watercourse</i> or <i>wetland</i> should be appropriately timed to minimize impacts on <i>fish</i> and <i>wildlife habitat</i>. <p>c) Determines the minimum <i>vegetation protection zone</i> required to maintain and enhance the key hydrologic feature and its functions.</p>	<p>required for a single residential dwelling? Are agricultural, agriculture-related or on-farm diversified uses exempt from the need for these evaluations subject to criteria?</p> <p>Subsection b) - Sediment and erosion control guidelines or best management practices should be made available.</p> <p>Subsection b) - There may be other methods that may be just as appropriate.</p>
	<p>4. In the case of <i>permanent</i> and <i>intermittent streams</i> and <i>seepage areas and springs</i>, the determination of the <i>vegetation protection zone</i> shall include, without limitation, an analysis of land use, soil type and slope class. Criteria established by the Government of Ontario, as amended from time to time, can be used to assist with this.</p>	<p>This is not clear. "...can be used to assist with this" is not proper policy language and should be re-worded.</p>
	<p>5. New buildings and structures for <i>agricultural uses</i> are not required to establish a condition of <i>natural self-sustaining vegetation</i> within a <i>vegetation protection zone</i> if the land is, and will continue to be, used for agricultural purposes. Despite this exemption, <i>agricultural uses</i> should pursue best management practices to protect and/or restore key hydrologic features and functions.</p>	<p>This differs from sections 3.2.5.7 and 3.2.5.8 of the draft Greenbelt Plan. Those Greenbelt Plan policies should be used here.</p>
<p>Sewage Systems</p>	<p>6. Notwithstanding Part 2.6.2 above, no sewage system shall be allowed closer than 30 metres (approximately</p>	<p>"the distance may be varied...to the satisfaction of the implementing authority" – Based on what criteria? Will</p>

	100 feet) from a key hydrologic feature. Where the setback cannot be achieved on an <i>existing lot of record</i> , the distance may be varied depending upon the sensitivity of the feature, to the satisfaction of the <i>implementing authority</i> .	guidelines be established? There is too much room for inconsistent application and interpretation of policy.
Water Quality and Quantity	7. Changes to the natural drainage should be avoided.	Is this title necessary or just put all water policies together under one section?
	8. No alteration of natural <i>streams</i> or drainage patterns shall occur within the <i>vegetation protection zone</i> , where, in the opinion of the <i>implementing authority</i> , such action would negatively impact the quality and quantity of groundwater features and/or surface water features.	"in the opinion of the implementing authority" - Based on what criteria? Will guidelines be established? Too much room for inconsistent application and interpretation of policy.
	9. Permitted Uses that involve water taking or undertake <i>stream</i> diversions must be demonstrated to be an essential part of their operation and shall be of a scale and intensity that will not adversely affect water quality, quantity and the <i>Escarpment environment</i> . Water taking must be accessory to the principle use except in the case of municipal water supply facilities. Increasing the capacity of existing water taking as a principle use shall not be permitted except for municipal water supply facilities.	How is this demonstrated? What sort of study would be required? Reference potential water taking restrictions associated with source protection plan policies (i.e. where consumptive water taking represents a significant threat).
Source Protection	10. The <i>Implementing Authority</i> shall protect vulnerable surface and groundwater areas from development that may negatively impact the quality and quantity of groundwater features and surface water features, including through consideration of source protection plans developed under the <i>Clean Water Act</i> .	"...consideration of source protection plans" – Language must be stronger than "consideration", must be consistent with the approved source protection plan for the area. Vulnerable is a defined term in the PPS and Greenbelt Plan.
	11. Notwithstanding Part 2.6.1, a pond on the Escarpment slope is permitted on the <i>property</i> shown on Schedule A to Amendment PD 170 07, located at Part of the East Half of Lots 9 and 10, Concession 5 E.H.S. (Town of Mono).	Is this related to source protection? Not clear why this site specific policy is under this heading. Should it be moved under another heading?
2.7 Development Affecting Natural Heritage	The objective is to ensure that development affecting natural heritage features will have no <i>negative impacts</i> on the features or their functions, or on the supporting hydrologic features and functions, in order to maintain the diversity and connectivity of the broader Natural System.	Again, to achieve greater harmony with the other Plans and PPS, it may be worthwhile to rename this section "Natural Heritage System Policies" In general, this section is confusing.
	1. Any development within the Escarpment Natural Area,	

	<p>the Escarpment Protection Area or the Escarpment Rural Area land use designations permitted by the policies of this plan shall be required to demonstrate that:</p> <ol style="list-style-type: none"> a) the diversity and connectivity between key natural heritage features and key hydrologic features located within 240 metres of each other is maintained, or where possible, enhanced for the movement of native plants and animals across the landscape; and b) the removal of other natural features not identified as key natural heritage features or key hydrologic features should be avoided. Such features should be incorporated into the planning and design of the proposed use, wherever possible. 	<p>Subsection a) - 240m is also the value referenced in the current Greenbelt Plan (3.2.2.4) and draft Greenbelt Plan and Growth Plan. Where does the value of 240m come from? Has a minimum corridor width been established for this connection or is this to be done via an EIS, SWS or similar study? Is there a limit to when features are to be connected? (e.g., certain number of metres away from core features). Some level of flexibility must be applied to development that occurs within the 240 metre connectivity area. There will be many cases where existing development (e.g. farm clusters, roads and other infrastructure) exist within the 240 metre area. Achieving connectivity in these areas may not be possible, and it would be more appropriate to direct new development to the areas that are already disturbed (e.g. new agricultural buildings or additions within an existing farm cluster).</p> <p>Subsection b) - What are “other natural features”?</p>
	<p>2. Where policies or standards of other <i>public agencies/bodies</i> or levels of government exceed the policies related to key natural heritage features or key hydrologic features in this Plan, such as may occur with <i>habitat of endangered species and threatened species</i> under the <i>Endangered Species Act, 2007</i>, with natural hazards where section 28 regulations of the <i>Conservation Authorities Act</i> apply, or with fisheries under the <i>Federal Fisheries Act</i>, the most restrictive provision or standard applies.</p>	<p>If examples are to be included here it would be useful to include municipal tree removal and site alteration by-laws as examples also. Alternatively, examples could be removed from the policy.</p>
	<p>The following are key natural heritage features within the meaning of the Plan:</p> <ul style="list-style-type: none"> • <i>Wetlands</i> • <i>Habitat of endangered species and threatened species</i> • <i>Fish habitat</i> • <i>Life Science Areas of Natural and Scientific Interest</i> 	<p>This should be listed before the policies for this section start.</p> <p>Natural heritage features is a defined term in the Greenbelt Plan and Growth Plan; recommend that the NEP contain the same definition.</p>

	<ul style="list-style-type: none"> • Earth Science <i>Areas of Natural and Scientific Interest</i> • <i>Significant valleylands</i> • <i>Significant woodlands</i> • <i>Significant wildlife habitat</i> 	
	<p>3. <i>Development</i> is not permitted in key natural heritage features with the exception of the following, which may be permitted, subject to compliance with all other relevant development criteria:</p> <ol style="list-style-type: none"> a) development of a <i>single dwelling</i> and <i>accessory facilities</i> outside a <i>wetland</i> on an <i>existing lot of record</i>, provided there is no <i>negative impact</i> to the feature or its functions; b) <i>forest, fisheries</i> and <i>wildlife management</i>, provided impacts on the <i>Escarpment environment</i> will be minimized; c) <i>conservation</i> and flood or erosion control projects, but only after all alternatives have been considered; d) hiking trails or boardwalks on parks and open space lands that are in an approved Park and Open Space System Master/Management Plan; e) <i>infrastructure</i>, but only where the project has been deemed necessary to the public interest and there is no other alternative; and f) <i>mineral aggregate operations</i>, subject to all relevant Development Criteria, including Part 2.9. 	<p>Subsection c) - How is this determined? By way of an Environmental Assessment?</p> <p>Subsection e) - How is “deemed necessary” determined? By way of an Environmental Assessment?</p> <p>Subsection f) - Does this set up unrealistic expectations to list as an exception?</p>
	<p>4. If, in the opinion of the <i>implementing authority</i>, a proposal for development within 120 metres of a key natural heritage feature has the potential to result in a <i>negative impact</i> to the feature and/or its functions, a natural heritage evaluation will be required that:</p> <ol style="list-style-type: none"> a) demonstrates that the development, including any alteration of the natural grade or drainage, will have no <i>negative impact</i> on the key natural heritage feature or on the related functions of that feature; b) identifies planning, design and construction 	<p>The Province and/or NEC should develop a guideline for natural heritage evaluations in consultation with municipalities to assist in the implementation of this policy.</p> <p>If an application triggers both a Natural Heritage Evaluation and a Hydrologic Evaluation, the two studies should be amalgamated where feasible. As currently written, the separate policies could be interpreted to preclude this as a possibility.</p> <p>It would be helpful to stipulate that the implementing authority</p>

	<p>practices that will minimize erosion, sedimentation and the introduction of nutrients or pollutants and maintain, and where possible, improve or restore the health, diversity and size of the key natural heritage feature; and</p> <p>c) determines the minimum <i>vegetation protection zone</i> required to maintain and enhance the key natural heritage feature and its functions.</p>	<p>will consult with other relevant agencies with respect to this determination. As such, the following revision is suggested (or similar):</p> <p>If, in the opinion of the <i>implementing authority</i>, in consultation with municipalities and other relevant agencies, a proposal for development within 120 metres of a key natural heritage feature has the potential to result in a <i>negative impact</i> to the feature and/or its functions, a natural heritage evaluation will be required that:</p> <p>The Greenbelt Plan policies appear to be more restrictive than draft NEP.</p>
	<p>5. A <i>vegetation protection zone</i> shall:</p> <p>a) be of sufficient width to protect the key natural heritage feature and its functions from the impacts of the proposed change and associated activities that may occur before, during, and after, construction, and where possible, restore or enhance the feature and/or its function;</p> <p>b) be established to achieve, and be maintained as <i>natural self-sustaining vegetation</i>; and</p> <p>c) in the case of <i>areas of natural and scientific interest</i> (earth science and life science), include without limitation, an analysis of land use, soil type and slope class, using criteria established by the Government of Ontario, as amended from time to time.</p>	<p>Subsection a) - The Greenbelt Plan and Growth Plan require, under many circumstances, a minimum VPZ of 30m. The 30m VPZ should also be included, but could also add that the 30m VPZ is a minimum.</p>
	<p>6. Notwithstanding Parts 2.7.3, 2.7.4 and 2.7.5 above, development within the <i>habitat of endangered species and threatened species</i>:</p> <p>a) located within Escarpment Natural Areas and Escarpment Protection Areas, except for development referred to in Parts 2.7.3 a) b) c) d) or e), will not be permitted; and</p> <p>b) located within Escarpment Rural Areas, Mineral Resource Extraction Areas, Urban Areas, Minor Urban Centres and</p>	<p>It is recommended that for the permitted uses (2.7.3 a) b) c) d) or e)) a clause be added that approval is still "pursuant to and subject to the policies of the Endangered Species Act, 2007 and all other relevant policies of the Plan.". The inclusion of this clause in 2.7.6 b) but not here may cause confusion or misinterpretation.</p> <p>Approvals from the MNRF may still be required for the proposed use/development. In this case, proponent may still be required</p>

	Escarpment Recreation Areas may be permitted pursuant to and subject to the policies of the <i>Endangered Species Act, 2007</i> and all other relevant policies of the Plan.	to meet the requirements of the ESA and associated regulation. What if ESA changes? Include "...as amended...?"
Development with other Natural Features	8. Development within all other natural features, including <i>valleylands</i> , <i>woodlands</i> and <i>wildlife habitat</i> , may be permitted only if the impact of the development on the natural feature and its functions is minimal.	It is recommended that a definition be provided for 'minimal' as this could be widely interpreted. While 2.7.9 provides some clarification in this regard, those policies relate mainly to woodlands and tree-cutting but don't speak to valleylands and wildlife habitat specifically. The term "ravines" is used in 2.5 but the term "valleylands" is used in this section; recommend that valleylands be used throughout the Plan to be consistent with PPS. Development may not be permitted within these features according to other legislation or regulations. How will impact be determined? Is a study required?
	9. Development in all <i>woodlands</i> should maintain and enhance the <i>woodland</i> and associated <i>wildlife habitats</i> . All development involving the cutting of trees requires approval from the <i>implementing authority</i> , subject to the following criteria: a) cutting of trees shall be limited to the minimum necessary to accommodate the permitted use; b) using tree-cutting methods designed to minimize <i>negative impacts</i> on the <i>natural environment</i> , including surface drainage and groundwater; c) minimizing disruption of <i>wildlife habitat</i> in the area; d) retaining the diversity of native tree species; e) aiming over the long term to retain or enhance the quality, appearance and biodiversity of the <i>woodland</i> ; f) cutting of trees within highly sensitive areas, such as steep slopes, unstable soils, stream valleys, <i>wetlands</i> and areas of <i>significant</i> groundwater recharge and discharge shall be avoided and only	Subsection b) - "minimize negative impacts on the natural environment" How is this achieved given how broad the definition of natural environment is? Negative impacts are defined relative to specific features and not necessarily one in the same with the definition for natural environment. Subsection c) - How is this achieved? Will guidelines be produced? Subsection e) - "...quality and appearance" seem unsuitable descriptors here. Suggested revision: "aiming over the long term to maintain and enhance the biodiversity of the woodland;" Previous comments related to no negative impact and

	<p>permitted where necessary to accommodate permitted uses and where it has been demonstrated that there will be no <i>negative impact</i> on the <i>Escarpment environment</i>;</p> <p>g) protecting of trees to be retained by acceptable means during construction; and</p> <p>h) maintaining of existing tree cover or other stabilizing vegetation, on steep slopes in excess of 25 per cent (1:4 slope).</p>	<p>escarpment environment are applicable.</p>
2.8 Agriculture	<p>The objective is to encourage <i>agricultural uses</i> in agricultural areas, especially in <i>prime agricultural areas</i> and <i>specialty crop areas</i>, to protect such areas, to permit uses that are compatible with farming and to encourage <i>accessory uses</i> that directly support continued <i>agricultural use</i>.</p>	<p>There are no provisions in this section for non-agricultural uses in prime agricultural or specialty crop areas. There are provisions in the PPS and draft Greenbelt Plan.</p> <p>The draft Greenbelt Plan makes reference to Permitted Use Guidelines; the NEP should also make reference to these Guidelines.</p>
Water Quality and Quantity Source Protection	<p>3. <i>Topsoil</i> augmentation on pasture or cropland may be permitted if it is in accordance with Part 2.13 (Scenic resources and <i>Landform Conservation</i>) and if it is supported by a report from a <i>certified agrologist</i> or agricultural engineer establishing that the development serves to enhance the agricultural capability of the site. A fill management plan may be required at the discretion of the <i>implementing authority</i>, depending upon the quantity of fill and the ecological and landscape sensitivity of the site. Placement of fill that does not meet the definition of <i>topsoil</i> will not be permitted on pasture or cropland.</p>	<p>The definition for “topsoil” seems weak. This section could be exploited by applicants such that it may be used to augment the applicant’s bottom line. HAPP suggests adding the following criteria to be met by the applicant:</p> <ol style="list-style-type: none"> 1. “...to enhance the agricultural capability...” should be strengthened by perhaps ensuring that the topsoil is <u>required</u> to bring the agricultural capability to a capability level equal to or better than the surrounding soils in the area and on the site through a justification report by a certified agrologist. 2. Any fill imported onto a site must meet or exceed existing on-site soil quality conditions. The objective is that imported <i>topsoil</i> shall meet Table 1 of the Soil and Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, R.S.O 1990, c.E.19, unless, at the discretion of the implementing authority, a different Table Standard is deemed safe and appropriate. This assessment will be based upon site conditions, the quantity of fill/topsoil proposed and a consideration of possible impacts on human health and the environment.

		<p>3. The augmentation operation and outcome does not have a negative impact on surrounding properties.</p> <p>4. Must adhere to the MOECC policy framework and Guide for Best Management Practices for Excess Soil Management.</p>
	<p>4. New development adjacent to <i>prime agricultural areas</i> and <i>specialty crop areas</i> should only be permitted where the new development incorporates suitable methods to minimize land use conflicts.</p>	<p>The draft Greenbelt Plan and Growth Plan make reference to the need for AIAs; the NEP should also make reference to AIAs.</p> <p>See comments above regarding non- agricultural uses. Does new development infer non-agricultural?</p>
<p>Agriculture-related Uses</p>	<p>6. <i>Agriculture-related uses</i> may be permitted, provided the following criteria are met:</p> <ul style="list-style-type: none"> a) the use is a farm-related commercial or farm-related industrial use; b) the use is compatible with and does not hinder surrounding agricultural operations; c) the use is directly related to farm operations in the area; d) the use supports agriculture; e) the use provides direct products and/or services to farm operations as a primary activity; f) the use benefits from being in close proximity to farm operations; g) the use results in no <i>negative impact</i> on the <i>Escarpment environment</i>; h) existing buildings, structures or facilities on the property should be used, where possible; i) all buildings, structures and facilities, including parking areas, associated with the use shall be designed and located to have minimal impact on the adjacent land uses and the Escarpment’s <i>open landscape character</i>; and j) the land supporting an <i>agriculture-related use</i> shall not be severed from a farm lot exclusively for the 	<p>The draft Greenbelt Plan makes reference to Permitted Use Guidelines; the NEP should also make reference to these Guidelines.</p> <p>Should there be size restrictions for agriculture-related uses?</p> <p>Subsection a) - This is in the definition of agriculture-related use; therefore, it is not necessary to include as a policy.</p> <p>Subsection c) -This is in the definition of agriculture-related use; therefore, it is not necessary to include as a policy.</p> <p>Subsections e) and f) -This is in the definition of agriculture-related use; therefore, it is not necessary to include as a policy.</p> <p>Subsection e) - It is not clear what is meant by “as a primary activity”.</p> <p>See previous comments re: no negative impact and Escarpment environment.</p> <p>Subsection j) - “exclusively for the purposes of the <i>agriculture-related use</i>.” Should be deleted;</p>

	<p>purposes of the <i>agriculture-related use</i>.</p>	<p>Also, see earlier comments related to APO lots and inconsistent policies throughout the Plan.</p>
<p>On-farm Diversified Uses</p>	<p>7. <i>On-farm diversified</i> uses may be permitted, provided the following criteria are met:</p> <ul style="list-style-type: none"> a) the use is located on the farm <i>property</i>; b) the use is secondary to the principal <i>agricultural use</i> on the farm <i>property</i>; c) the use is compatible with and does not hinder surrounding agricultural operations; d) the use is limited in area to up to two per cent of a farm <i>lot</i>, to a maximum of one hectare (10,000 m²); e) the use includes, but is not limited to, <i>home occupations, home industries, agri-tourism uses</i> and uses that produce value-added agricultural products; f) the use results in no <i>negative impact</i> on the <i>Escarpment environment</i>; g) existing buildings, structures or facilities on the <i>property</i> should be used, where possible; h) all buildings, structures and facilities, including parking areas, associated with the use shall be designed and located to have minimal impact on the principal <i>agricultural use</i>, adjacent land uses and the <i>Escarpment's open landscape character</i>; i) restaurants, hotels and similar uses shall not be permitted as an <i>on-farm diversified use</i>. Development permits for occasional special events may be permitted; and j) the land supporting the use shall not be severed from the farm lot exclusively for the <i>on-farm diversified use</i>. 	<p>The draft Greenbelt Plan makes reference to Permitted Use Guidelines; should the NEP also make reference to these Guidelines?</p> <p>Should there be a total area/size limit for agriculture-related and on-farm diversified uses combined on one lot?</p> <p>Subsection d) - The 2% requirement allows larger farms to get larger buildings. There are many smaller farm parcels that will be penalized. It is more important that the uses are in keeping with the scale and footprint of the existing farm cluster of buildings.</p> <p>Many of the criteria proposed for agriculture-related and on-farm diversified uses are the same; therefore, could be combined into one to avoid duplication.</p> <p>Subsection f) - See previous comments re: no negative impact and Escarpment environment.</p> <p>Subsection i) - Guidelines identified café's, small restaurants, cooking classes and local stores as examples – should be consistent!</p> <p>Subsection i) – Event facilities, banquet halls and conference facilities should not be permitted.</p>

		If agri-tourism is to be promoted, facilities should be permitted to order food at a small scale so that visitors can stay the whole day.
Wineries	8. <i>Wineries are permitted as an agriculture-related use and/or on-farm diversified use.</i>	It is not clear how wineries can be considered an agriculture-related <u>and/or</u> an on-farm diversified use. Who determines whether it will be considered an agriculture-related vs. an on-farm diversified use? It is likely that the proponent will choose the least restrictive use (i.e., agriculture -related). Are wineries subject to the agriculture -related and on-farm diversified use policies, in addition to those noted below?
2.9 Mineral Aggregate Resources	The objective is to minimize the impact of <i>mineral aggregate operations</i> and their <i>accessory uses</i> on the <i>Escarpment environment</i> and to support a variety of approaches to rehabilitation to restore the <i>Escarpment environment</i> and provide for re-designation to land use designations <i>compatible</i> with the adjacent land uses.	The Region and its local municipalities have, and continue to, argue (through Aggregate Resources Act consultation) that the demonstration of need is very necessary.
	1. No new <i>mineral aggregate operation</i> and no <i>wayside pits and quarries</i> , or any <i>accessory use</i> thereto, will be permitted in the following key natural heritage features and any <i>vegetation protection zone</i> associated therewith: a) <i>wetlands</i> ; and b) <i>significant woodlands</i> , unless the <i>woodland</i> is occupied by young plantation or early successional habitat (as defined by the Ministry of Natural Resources and Forestry).	What about expansions to existing operations? Would the woodland be deemed significant if it's a young plantation? Subsection b) - Provide a definition and criteria for "significant woodland".
	2. No new <i>mineral aggregate operation</i> and no <i>wayside pits and quarries</i> , or any <i>accessory use</i> thereto will be permitted in the any other key natural heritage feature, natural feature or key hydrologic feature, or any <i>vegetation protection zone</i> associated therewith, unless it has been demonstrated that there will be no <i>negative impacts</i> on the feature or its functions or the <i>Escarpment environment</i> .	"No negative impact" and "Escarpment environment" comments apply here.
	3. Extractive operations including <i>wayside pits and quarries</i> and haul routes shall be required to: a) demonstrate how all other natural heritage features and functions will be protected or enhanced before,	Subsection a) - What about other key hydrologic features and functions –they should also be addressed in this policy.

	<p>during and after extraction;</p> <ul style="list-style-type: none"> b) demonstrate how <i>cultural heritage resources</i> will be <i>conserved</i>. c) demonstrate how the Escarpment's <i>scenic resources</i> and <i>open landscape character</i> will be maintained or enhanced, before, during and after the extraction; d) demonstrate how key hydrological features will be protected or enhanced before, during and after extraction, including the maintenance of the groundwater and surface water quantity and quality; e) demonstrate how the connectivity between key natural heritage features and key hydrologic features will be maintained before, during and after the extraction of mineral aggregates; f) in <i>prime agricultural areas</i>, a new or expanding <i>mineral aggregate operation</i>, will undertake an Agricultural Impact Assessment to determine how to avoid, minimize and mitigate impacts on agricultural lands and operations. g) Minimize <i>negative impacts</i> of mineral aggregate operations and their <i>accessory uses</i> on surrounding land uses; h) complete progressive and final rehabilitation of the licensed site to provide equal or greater ecological values, including utilizing native species, in order to accommodate subsequent land use designations <i>compatible</i> with the surrounding land uses; i) within the licensed area but outside of the area of extraction, protect the <i>Escarpment environment</i> during periods of extraction and rehabilitation; and j) minimize <i>negative impacts</i> of mineral aggregate operations and their <i>accessory uses</i> on parks, open space and the existing and optimum routes of the Bruce Trail. 	<p>Subsection f) - Unclear how to "avoid, minimize and mitigate impacts".</p>
	<p>5. The mineral aggregate operation shall be screened while</p>	<p>Please re-word to say: "The licenced mineral aggregate operation</p>

	<p>it is in progress and, where possible, prior to extraction in a manner compatible with the surrounding <i>Escarpment environment</i>.</p>	<p>shall be screened while it is in progress and, where possible, prior to extraction in a manner compatible with the surrounding Escarpment environment.”</p>
	<p>7. <i>Progressive rehabilitation</i> may include the use of off-site material, where on-site material is not available. Minimal amounts of off-site material that may be required to stabilize and revegetate disturbed areas shall not include any major regrading toward a planned after-use with the deposition of off-site material.</p>	<p>Bringing in off-site materials should be subject to a Development Permit so that the public can be consulted and advised of potential truck traffic, noise and dust effects.</p> <p>Change “revegetate” to “re-vegetate” and “regrading” to “re-grading”.</p>
<p>2.8 Agriculture</p>	<p>9. The use of off-site material shall not be permitted unless it is determined through appropriate environmental, technical and planning studies that doing so will achieve greater long-term ecological and land use compatibility (e.g., the importation of <i>topsoil</i> to improve site capability for agriculture, forestry or habitat diversity) and the <i>implementing authority</i> is satisfied that the use of off-site material does not constitute a commercial fill or landfill operation.</p>	<p>It would be beneficial if this policy placed a volumetric restriction on the quantity of fill to be imported.</p>

	<p>11. Rehabilitation shall incorporate the following:</p> <ul style="list-style-type: none"> a) natural heritage and hydrologic features and functions shall be restored or enhanced; b) aquatic areas remaining after extraction shall be rehabilitated as representative of the natural ecosystem in that particular setting or ecodistrict, and the combined terrestrial and aquatic rehabilitation shall maintain and enhance the ecological value of the site; c) excess <i>topsoil</i> and overburden are to be retained and stabilized for future rehabilitation; d) all excavated <i>pit</i> and <i>quarry</i> walls are to be sloped and rehabilitated in accordance with best practices. On sites where a higher standard of rehabilitation is justified (e.g., to improve land use compatibility) or on sites where <i>topsoil</i> and/or land fill material is scarce, alternative approaches to slope standards may be applied. Sections of <i>pit</i> or <i>quarry</i> faces may be left exposed for aesthetic or educational purposes or to create habitat diversity in an approved rehabilitation plan; e) vegetation, including seeding, crops, trees and shrubs, shall be planted as soon as possible as part of <i>progressive rehabilitation</i> of the <i>pit</i> or <i>quarry</i>; f) rehabilitation on the site shall contribute to the <i>open landscape character</i> and the surrounding <i>Escarpment environment</i>; g) within <i>prime agricultural areas</i>, Mineral Resource Extraction Areas are to be returned or rehabilitated to a condition in which substantially the same areas and same average soil capability for agriculture to be restored; h) in <i>specialty crop areas</i>, Mineral Resource Extraction Areas are to be returned or rehabilitated to a condition in which substantially the same areas and same average soil capability for agriculture to be 	<p>Subsection a) – should read “enhanced, where feasible.”</p> <p>These rehabilitation policies should also address other ecological protection and enhancement concepts such as: net ecological gain, mitigation of negative impacts from past operations to the extent feasible (see PPS 2014, sec. 2.5.3.1), and consideration of comprehensive rehabilitation planning where there is a concentration of mineral aggregate operations (see PPS 2014, sec. 2.5.3.2).</p> <p>Subsection g) - This must meet the same standards and expectations as 2.9.7 above.</p> <p>Subsection i) – “rehabilitation” should be “rehabilitation”</p>
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	<p>restored, the same range and productivity of specialty crops common in the area can be achieved, and, where applicable, the microclimate on which the site and surrounding area may be dependent for specialty crop production will be maintained or restored;</p> <p>i) within <i>prime agricultural areas or specialty crop areas</i>, where rehabilitation to the conditions set out in (g) and (h) above is not possible or feasible due to the depth of planned extraction or due to the presence of a substantial deposit of high quality <i>mineral aggregate resources</i> below the water table warranting extraction, agricultural rehabilitation in the remaining areas will be maximized as a first priority; and</p> <p>j) in areas below water table extraction, mineral aggregate operations requiring perpetual water management after rehabilitation is complete should be avoided except where it can be demonstrated that such actions would support other public water management needs.</p>	<p>Subsection j) - Long term maintenance and cost implications for public agencies that end up acquiring these lands needs to be addressed.</p> <p>What are “other public water management needs”? If unavoidable, perpetual water management costs should be fully borne by the proponent.</p>
2.10 Cultural Heritage	<p>The objective is to conserve the Escarpment’s cultural heritage resources, including significant built heritage resources, cultural heritage landscapes, and archaeological resources.</p>	<p>Built heritage resources is a defined term in the draft Greenbelt Plan and PPS; however, “significant built heritage resources” is not.</p>
	<p>1. The objective is to <i>conserve</i> the Escarpment’s <i>cultural heritage resources</i>, including <i>significant built heritage resources</i>, <i>cultural heritage landscapes</i>, and <i>archaeological resources</i>.</p>	<p>Recommend that this be worded the same as 4.4.1 of the draft Greenbelt Plan.</p>
2.11 Recreation	<p>The objective is to minimize any <i>negative impact of recreational development on the Escarpment environment</i>.</p>	<p>See previous comments regarding “negative impact” and “Escarpment environment”.</p>
	<p>3. In Escarpment Rural Areas, permitted recreation uses shall have minimal <i>negative impact</i> on the <i>Escarpment environment</i>.</p>	<p>See previous comments regarding “negative impact” and “Escarpment environment”.</p>
	<p>4. Where they may be permitted, golf courses shall be designed and maintained to minimize impact on the <i>Escarpment environment</i>. This shall include provision for the <i>protection</i> of hydrologic and natural heritage</p>	<p>What BMPs? Are there Provincial Guidelines to be developed? Industry BMPs? This is not clear.</p> <p>See previous comments regarding “negative impact” and</p>

	features and functions, minimizing the application of pesticides and fertilizers, and to minimize regrading, land contour changes, and the placement or excavation of fill, in accordance with best management practices.	“Escarpment environment”.
	7. Trails will be located and designed to avoid, wherever possible, steep slopes, <i>wetlands</i> , erosion-prone soils, <i>prime agricultural areas</i> and ecologically sensitive areas, such as deer-wintering yards, <i>significant wildlife habitat</i> and <i>Areas of Natural and Scientific Interest</i> .	Please add “Active transportation facilities including” to the beginning of the first sentence.
2.12 Infrastructure	The objective is to design and locate <i>infrastructure</i> corridors and facilities so that the least possible impact occurs in the <i>Escarpment environment</i> and to encourage <i>green infrastructure</i> , where appropriate.	See previous comments regarding “least possible impact” and “Escarpment environment”
	1. All new and expanded <i>infrastructure</i> corridors and facilities shall be demonstrated to have been planned in an integrated fashion, to ensure the most value out of existing <i>infrastructure</i> and that the most cost-effective and sustainable <i>infrastructure</i> alternatives have been identified.	“corridors and facilities” is in the definition of infrastructure; therefore, it is not necessary to include in this policy For municipal infrastructure include reference to Municipal Class EA Process
	2. All new and expanded <i>infrastructure</i> corridors and facilities shall be sited and designed to minimize the <i>negative impact</i> on the <i>Escarpment environment</i> and be consistent with the objectives of this Plan. Examples of such siting and design considerations include, but are not limited to the following: a) blasting, grading and tree removal should be minimized where possible through realignment and utilization of devices, such as curbs and gutters, retaining walls and tree wells; b) finished slopes should have grades no steeper than 50 per cent (1:2 slope) and be planted; large cuts should be terraced to minimize surface erosion and slope failure; c) site rehabilitation should use native species of vegetation and maintain and enhance the <i>Escarpment environment</i> ; d) a development setback from the Escarpment brow	See previous comments regarding “minimize the negative impact” and “Escarpment environment”.

	<p>shall be established by the <i>implementing authority</i> to minimize <i>visual impacts</i>; and</p> <p>a) <i>visual impacts</i> on the <i>Escarpment environment</i> from <i>infrastructure</i> corridors and facilities should be minimized by siting, structural design, colouration and landscape planting and/or vegetation screening.</p>	
	<p>5. New and expanded <i>infrastructure</i> corridors and facilities shall avoid Escarpment Natural Areas, unless the project has been deemed necessary to the public interest after all other alternatives have been considered.</p>	<p>Please add “where appropriate and feasible” to the end of the sentence.</p>
	<p>6. New and expanded <i>infrastructure</i> corridors and facilities should avoid <i>Prime Agricultural Areas</i> and <i>Specialty Crop Areas</i>, wherever possible, and will be required to demonstrate, through the completion of an Agricultural Impact Assessment, how <i>prime agricultural areas</i> and <i>specialty crop areas</i> will be protected or enhanced, including an examination of alternative locations that would better protect the agricultural land base. Where avoidance is not possible, only linear facilities shall be permitted in <i>prime agricultural areas</i> and <i>specialty crop areas</i>.</p>	<p>Permitted uses listed in Part 1 state that only linear infrastructure is permitted in prime agricultural and specialty crop areas.</p> <p>At what stage? Municipal Class EA?</p>
	<p>7. Municipal or Private Communal servicing, including stormwater management ponds and sewage and water services, shall not be located in or extended into Escarpment Natural Area, Escarpment Protection Area, Escarpment Rural Area, or Mineral Resource Extraction Area, unless such servicing is required to address failed individual on-site sewage or water services, or to ensure the protection of public health where it has been determined by a medical officer of health (or health authority) that there is a public health concern associated with the existing services. The capacity of services provided in these circumstances will be restricted to that required to service the affected area, and shall not allow for growth or development beyond what is permitted in this Plan.</p>	<p>There may be justification beyond health but still relates to public safety (e.g., fire). Recommend that this policy be expanded to include “public health and safety”.</p>
2.13 Scenic Resources and Landform Conservation	The objective is to ensure that development shall have minimal <i>negative impact</i> on the <i>scenic resources</i> of the Escarpment.	How is this reasonably achieved or measured?

	<p>1. Development shall ensure the <i>protection</i> of the <i>scenic resources</i> of the Escarpment.</p>	<p>It would be more appropriate to use “should” rather than “shall”. It is challenging to ensure the protection of scenic resources, given its definition.</p>
	<p>2. Where a <i>visual impact</i> on the <i>scenic resources</i> is identified as a concern by the <i>implementing authority</i>, a <i>visual impact assessment</i> shall be required.</p>	<p>Please add “where appropriate and feasible” to the end of the sentence.</p>
	<p>4. Appropriate siting and design measures shall be used to minimize the impact of development on the <i>scenic resources</i> of the Escarpment, including:</p> <ul style="list-style-type: none"> a) setbacks and maximum building <i>heights</i>; b) orientation and <i>height</i> of built form to reduce visibility and <i>skylining</i>; c) clustering of buildings where appropriate; d) minimizing the development footprint and changes to the existing topography and vegetation; e) use of natural topography and vegetation as screening for visual mitigation; f) where there is minimal existing screening or vegetation that cannot be retained, providing new planting (native species) to screen development; g) use of non-reflective materials on roofs and walls along with measures to reduce reflectivity associated with windows; and h) minimize the effect from exterior lighting (e.g., lighting directed downward). 	<p>It would be more appropriate to use “should” rather than “shall”. It may be challenging to meet all of these requirements (e.g., non-reflective materials).</p>
<p>2.14 The Bruce Trail</p>	<p>1. The Trail shall be designed and located within the corridor so as to:</p> <ul style="list-style-type: none"> a) ensure no <i>negative impact</i> on the <i>Escarpment environment</i>; b) minimize potential conflicts with adjacent private landowners and surrounding land uses (e.g., agriculture, housing); and c) comply with municipal <i>official plans</i> and by-laws (where applicable). 	<p>See previous comments re: no negative impact and Escarpment environment.</p>

	<p>2. All uses within the corridor shall be designed to minimize the need for environmental change (e.g., tree removal).</p>	<p>Is this policy necessary, given others in this section?</p>
	<p>3. All <i>Trail activities</i> shall be <i>compatible</i> with the <i>Escarpment environment</i> and community character of the area, avoiding, wherever possible the, need for major engineering works and site alteration over the long term.</p>	<p>See previous comments re: no negative impact/compatible and Escarpment environment.</p>
	<p>4. In locations that are particularly sensitive to foot traffic, or that experience heavy use, periodic reroutes of the Trail may be necessary to allow for natural regeneration and minimize <i>negative impacts to the Escarpment environment</i>.</p>	<p>See previous comments re: minimize negative impact and Escarpment environment.</p>

Bruce Trail Access Points	<p>8. Secondary <i>Bruce Trail access points</i> may occur between Escarpment Parks or Open Spaces, provided the following design standards can be met:</p> <ul style="list-style-type: none"> a) secondary <i>Bruce Trail access points</i> should generally be located within 500 metres (1,650 feet) of the Bruce Trail and be connected by a side trail; b) secondary <i>Bruce Trail access points</i> should be located a minimum of 50 metres (164 feet) from residences, sensitive features or other adjacent uses (e.g., agriculture) that may be adversely affected by increased access; c) secondary <i>Bruce Trail access points</i> should be limited in size to minimize impacts on the <i>Escarpment environment</i>; d) where necessary, secondary <i>Bruce Trail access points</i> parking areas should be fenced and visually buffered with <i>berms</i> and/or vegetative screening; e) secondary <i>Bruce Trail access points</i> shall not be established in remote areas, or near sensitive areas or features where the <i>Escarpment environment</i> might be endangered or compromised by increased public access; and f) the location and design of secondary <i>Bruce Trail access points</i> shall satisfy all municipal and provincial road access requirements (e.g., sight-lines, drainage). 	<p>Subsection c) - See previous comments re: no negative impact and Escarpment environment.</p> <p>Subsection e) - Not clear what “the <i>Escarpment environment</i> might be endangered” means.</p>
3.1 The Niagara Escarpment Parks and Open Space System	<p><i>Public agencies/bodies</i> and approved <i>conservation organizations</i> that own and manage lands within NEPOSS (“<i>NEPOSS agencies</i>”) must comply with the policies in Part 3 of this Plan.</p> <p>The Ministry of Natural Resources and Forestry coordinates the development and administration of the NEPOSS, including approval of Master/Management Plans. The Niagara Escarpment Commission works collaboratively with the Ministry of Natural</p>	<p>Recommend that “must comply” be reworded to state that public agencies that own or manage lands within NEPOSS are encouraged to follow the NEPOSS Management/Master Plan process and any development/activities proposed within NEPOSS parks or open spaces shall comply with the policies of the Plan.</p> <p>This paragraph should make clear whether the NEC will or will not provide recommendations on the approval of the Master/Management Plan to the MNRF.</p>

	Resources and Forestry to ensure that recreational activities and development within NEPOSS are consistent with the objectives and policies of this Plan.	
	The System in its entirety is shown on Map 10. Maps 1 to 9 identify Public Land (in the Niagara Escarpment Parks and Open Space System) as an overlay, including lands owned/managed by the Bruce Trail Conservancy acquired specifically to protect the <i>Bruce Trail corridor</i> . This overlay is part of the Niagara Escarpment Plan but is not a land use designation.	Map 10 has not been provided for our review.
3.1.1 Objectives	NEPOSS is a provincially coordinated system that secures and protects <i>significant</i> Escarpment features and scenic landscapes and provides the public with opportunities for <i>compatible</i> recreation in a manner that satisfies the broad park and open space objectives set out in this Plan. NEPOSS also helps to improve resilience, provide for <i>green infrastructure</i> , and mitigate the impacts of climate change by capturing and storing carbon, recharging aquifers and protecting biodiversity and sensitive areas across the Escarpment. In this context, the objectives of NEPOSS are:	This preamble to the objectives here refers to significant escarpment features. It would be beneficial to refer to these as key natural heritage and key hydrologic features for accuracy. Not clear what would be considered “compatible recreation”. Is there opportunity for the Objectives and Policies of NEPOSS to better support active transportation?
	1. to protect the Niagara Escarpment’s natural heritage resources and <i>cultural heritage resources</i> ;	Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.
	6. to maintain and enhance the <i>natural environment</i> of the Niagara Escarpment, including the <i>protection</i> of natural heritage and hydrologic features and functions;	Definition for “natural environment” is very broad. It may be not be possible to maintain and enhance all elements included in definition.
3.1.2 Parks and Open Space System Concept	The System, which is linear in nature, is based on public lands acquired to protect natural heritage resources and <i>cultural heritage resources</i> along the Escarpment. The System focuses on environmental <i>protection</i> while providing opportunities for public access, appreciation, education, and <i>compatible</i> outdoor recreation.	See comment above regarding the use of “compatible outdoor recreation”. Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.
3.1.2.1 NEPOSS Council	The NEPOSS Council, which is comprised of representatives from <i>NEPOSS agencies</i> as defined in Appendix 2 of this Plan, is intended to advance NEPOSS objectives. The Council will provide advice to the Ministry of Natural Resources and Forestry and the Niagara Escarpment Commission on NEPOSS policies, programs and issues.	“as defined in Appendix 2 of this Plan” is not necessary given that <i>NEPOSS agencies</i> is italicized and defined.
3.1.2.2 NEPOSS Planning Manual	The NEPOSS Planning Manual (“the Manual”) was developed by	Is there an update schedule for this manual?

	<p>the Ministry of Natural Resources and Forestry in consultation with the Niagara Escarpment Commission and <i>NEPOSS agencies</i>. The Manual, in conjunction with Part 3, provides minimum standards and a consistent approach for the development of Master/Management Plans for lands within NEPOSS. The Manual provides more detailed guidelines for park and open space classifications and zones.</p>	<p>Will the NEPOSS Manual need to be revised once the NEP is finalized?</p>
3.1.3 Nodal Parks	<p>To promote the Escarpment’s diverse environments for public benefit and to provide destination and starting points within the NEPOSS, the following nine focal areas (Nodal Parks) have been selected:</p> <ul style="list-style-type: none"> • Bruce Peninsula National Park • Inglis Falls Conservation Area • Mono Cliffs Provincial Park • Terra Cotta Conservation Area • Crawford Lake Conservation Area • Cootes Paradise Sanctuary • Dundas Valley Conservation Area • Ball’s Falls Conservation Area • Queenston Heights (Brock’s Monument) 	<p>The Province should consider recognizing the Cootes to Escarpment EcoPark System in The Greenbelt Plan and The Niagara Escarpment Plan in the same way that the Greenbelt Plan describes and encourages support for the development of the Rouge Park.</p> <p>The Cootes to Escarpment EcoPark System could be considered as being listed as a Nodal Park within Section 3.1.3. A short description of the Cootes to Escarpment EcoPark System in Section 3.1.3 could include the following text:</p> <p>“The Cootes to Escarpment EcoPark System has parallels with the Niagara Escarpment Parks and Open Space System and is an example of interagency cooperation involving nine land-owning partners who are working to protect, connect and restore more than 3,900 hectares at the western end of Lake Ontario. The Cootes to Escarpment EcoPark System includes lands both within and outside the Niagara Escarpment Plan area. Land classification within the Niagara Escarpment Plan area is completed in accordance with NEPOSS guidelines.”</p>
3.1.3.1 Administrative Role of Nodal Parks	<p>Each geographic segment of the Escarpment is to include one or more Nodal Parks based on areas that are most representative. Administratively, Nodal Parks perform the following functions:</p> <ul style="list-style-type: none"> • orientation – to tell visitors where they are in relation to other parks, open spaces, trails, natural features and points of interest; • education – to stimulate an understanding of the Niagara Escarpment and its natural heritage resources and <i>cultural heritage resources</i> (e.g., UNESCO <i>Biosphere Reserve</i> designation); 	<p>Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.</p>

	<ul style="list-style-type: none"> • interpretation – to familiarize visitors with the features of a park or open space; and • recreation – to identify and provide information on how to participate in nearby Escarpment recreational activities. <p>As permitted in Part 3.1.6.2, a Nodal Park may contain buildings or facilities (e.g., visitor centre, administrative office space) appropriately scaled for the site to support uses directly related to its educational and administrative role in NEPOSS. In addition, to support and enhance their role in the System, Nodal Parks may include special purpose buildings with meals and overnight accommodations, in accordance with Part 3.1.6.4. Literature promoting the Niagara Escarpment UNESCO World <i>Biosphere Reserve</i>, the Niagara Escarpment Plan and NEPOSS should be available at the Nodal Parks in order to promote the distinctiveness and visual identity of the System. While not all Nodal Parks may include visitor reception or related facilities, the long-term goal is to have fully operational Nodal Parks that are representative of the unique geographic regions of the Niagara Escarpment.</p>	<p>What does “appropriately scaled” mean? How is this determined? Will criteria be developed? Needs to be clear and transparent.</p> <p>Not clear what is intended or expected of NEPOSS agencies by the statement: “...the long-term goal is to have fully operational Nodal Parks that are representative of the unique geographic regions of the Niagara Escarpment.”</p>
<p>3.1.3.2 Modifications to the List of Nodal Parks</p>	<p>New Nodal Parks may be added to the list or existing Nodal Parks replaced without requiring an amendment to the Niagara Escarpment Plan, provided the Ministry of Natural Resources and Forestry and the Niagara Escarpment Commission are satisfied, following public and stakeholder consultation, that the addition would be consistent with NEPOSS Objectives in Part 3.1.1 and the Nodal Park concept in Part 3.1.3.</p>	<p>If new Nodal Parks are added to the list of existing nodal parks, without an amendment to the NEP, will this approved new list be publically available? This section should clarify this matter and indicate where the approved new list can be reviewed.</p>
<p>3.1.4 Parks and Open Space Classification Policy</p>	<p>Parks and open spaces in NEPOSS will be assigned a classification based on the predominant characteristics of the <i>property</i>. The recreational potential or intended use is a secondary consideration. The classification is based on the natural heritage resources and <i>cultural heritage resources</i> and will guide the management of the park or open space. The classification will be subject to confirmation when a Master/Management Plan is prepared or revised. Exceptions to the classification policy include: (i) lands owned by Ontario Parks, (ii) lands owned by Parks Canada, (iii) lands owned by Transport Canada and (iv) lands acquired specifically for the <i>Bruce Trail corridor</i> not listed in Appendix 1 of</p>	<p>It is not clear who will confirm the park classification, nor who will approve the classification. This section should be revised to specify that the confirmation of classifications will occur by the owner of the park(s) when a Master/Management Plan is prepared or revised to the satisfaction of the NEC.</p> <p>Is there an approach for park systems, where multiple parks exist in proximity to one another in a specific geographic area and are managed by multiple land owners?</p>

	<p>this Plan.</p> <p>Park and open space classifications will ensure the maintenance of diversity in the System.</p> <p>There are six park and open space classes:</p> <ul style="list-style-type: none"> • Nature Reserve • Natural environment • Recreation • Cultural Heritage • Escarpment Access • Resource Management Area <p>Brief descriptions of the park classification within NEPOSS are outlined below:</p>	<p>In such areas, there is more than one property, and more than one classification. Could the owners coordinate with one another to develop one management plan—to reduce costs involved?</p> <p>“The classification is based on the natural heritage resources and cultural heritage resources...” - Should scenic resources also be included? Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.</p>
Nature Reserve	<p>These areas represent and protect the most <i>significant</i> natural heritage features and landforms along the Niagara Escarpment, such as provincially significant <i>wetlands</i> and provincially significant <i>Areas of Natural and Scientific Interest</i>. Management practices will ensure that the features and values for which the reserve was established are protected.</p> <p>Access to these areas will not be widely promoted and activities will be limited to those that can further scientific understanding and education (i.e., scientific research, natural history interpretation, and trails). The minimum amount of facilities necessary to support these activities will be provided.</p>	<p>The term “natural heritage features” is used in this section but not consistently used elsewhere throughout the Plan.</p> <p>Both Life and Earth Science ANSIs?</p>
Natural Environment	<p>These lands are characterized by, and serve to protect, a variety of outstanding natural heritage resources and <i>cultural heritage resources</i>, and <i>scenic resources</i>.</p> <p>Activities may range from back-country hiking in the interior of these areas to car-camping and day use activities in more developed or accessible areas.</p>	<p>See comment above regarding nomenclature and the use of the term natural heritage resources.</p>
Recreation	<p>These are some of the best recreational environments along the Escarpment that occur naturally or can be developed to provide a</p>	<p>Not clear what is intended by “supporting infrastructure for recreational activities, where appropriate”. Will criteria be</p>

	<p>variety of outdoor recreational opportunities in attractive Escarpment surroundings. Recreation parks or open spaces may include day-use activities, outdoor recreational activities, which may include hiking, mountain biking, <i>rock climbing</i>, <i>zip lines</i> and athletic fields, and supporting <i>infrastructure</i> for recreational activities where appropriate. Facilities for overnight camping may also be provided, including <i>campgrounds</i>, temporary yurts, tents, lean-to's and unserviced camper's cabins. Special purposes buildings that include overnight accommodations and meals for guests may also be permitted in accordance with Part 3.1.6.4.</p>	<p>developed? Infrastructure for recreational uses would differ than what the definition for "infrastructure" in the Plan currently suggests. Infrastructure for recreational purposes may include lighting, fencing, irrigation, maintenance/storage buildings, servicing, etc.</p>
Escarpment Access	<p>These generally small areas will complement the larger, and in some cases, more developed parks or open spaces by providing opportunities for public access to the Niagara Escarpment. These areas may provide modest facilities to support day use activities at points of interest (e.g., trailheads, picnic sites, scenic areas, fishing areas, beaches).</p>	<p>What does "generally small" mean?</p>
Resource Management Access	<p>This classification includes certain public lands that are managed primarily to provide resource related benefits, such as forest products, fish and wildlife, or flood control.</p> <p>These areas also provide recreation opportunities and protect natural heritage resources and <i>cultural heritage resources</i>. In most cases, these areas will include more resource management activities relative to other classifications in the System.</p>	<p>Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.</p>
3.1.5 Parks and Open Space Zone Policy	<p>An inventory of natural heritage resources and <i>cultural heritage resources</i> is essential to develop park and open space zones, with consideration given to the underlying land use designation(s) of the Niagara Escarpment Plan. The development of zone mapping and zone policies is required for orderly planning, <i>compatible</i> development and effective management of a park or open space. Zones recognize that every park or open space includes a particular combination of <i>significant</i> natural heritage resources and <i>cultural heritage resources</i> and potential or existing development. Zones will assign uses to lands based on their significance for <i>protection</i> and their potential for recreation within the context of the Park and Open Space Classification Policy in Part 3.1.4. It is anticipated</p>	<p>How is an "inventory of natural heritage resources and cultural heritage resources" accomplished? Via what sort of study?</p> <p>Natural heritage features, functions and areas are the terms used in the other Plans and PPS. Recommend that natural heritage resources be amended to be more consistent with the nomenclature of other Provincial documents.</p>

3.1.5.1 Master/Management Planning Policy		<p>Could one management plan be undertaken for systems of parks (like the Cootes to Escarpment EcoPark System)?</p> <p>Is a Master Plan required for a park and open space? How does the MNRF intend to require this of agencies/municipalities?</p>
3.1.5.2 Aboriginal Engagement and Public Stakeholder Consultation	<ol style="list-style-type: none"> Public and stakeholder consultation will be undertaken by a <i>NEPOSS agency</i> during the Master/Management planning process, in accordance with the Manual and respective <i>NEPOSS agency</i> policies, procedures and guidelines. Comments received through the consultation process will be considered in the development of the Master/Management Plan. 	It should be “required” to engage/consult?
3.1.6 Recreation and Commercial Uses in Parks and Open Spaces	<ol style="list-style-type: none"> Permitted uses and the recreational experience within a park or open space are closely linked to the area’s values and objectives. Where permitted by the park and open space classification, recreational uses and development will be incidental or secondary to the <i>protection</i> of natural heritage resources and <i>cultural heritage resources</i>. 	What is meant by “recreational uses and development”? Different from the listed uses in 3.1.6.3?
	<ol style="list-style-type: none"> Notwithstanding Part 3.1.6.3, special purpose buildings designed and operated to support environmental, cultural and/or UNESCO World <i>Biosphere Reserve</i> programming that include meals and overnight accommodations for specific park user groups (e.g., school boards, youth organizations, hiking clubs) may be permitted as an <i>accessory use</i> in Nodal parks or Recreation parks if appropriately scaled for the site and identified in the Development Zone of an approved Master/Management Plan. 	Again, what does “appropriately scaled” mean?
	<ol style="list-style-type: none"> <i>Rock climbing</i> may be permitted in other park and open space classes, where a climbing management plan to address and minimize environmental impacts is developed by the <i>NEPOSS agency</i> in consultation with the Niagara Escarpment Commission and the Ministry of Natural Resources and Forestry. 	The policy should stipulate that Rock climbing is prohibited in nature reserve areas, as defined in Part 3.1.4.

	<p>9. The establishment of a new trail within a Nature Reserve or Nature Reserve Zone as defined in Parts 3.1.4 and 3.1.5 respectively may be permitted if, in consultation with the Niagara Escarpment Commission and Ministry of Natural Resources and Forestry:</p> <ul style="list-style-type: none"> a) the use is approved by the landowner after a detailed environmental review; or b) the use is required for human safety (e.g., emergency access) where there is no feasible alternative; or c) the use has been appropriately identified in an approved Master/Management Plan, and a detailed environmental review has been conducted. 	<p>Subsection a) - Criteria or specific study requirements for “detailed environmental review”?</p>
	<p>10. Off-road vehicles, as defined in the <i>Off-Road Vehicles Act</i>, are not permitted in Nature Reserve or Natural Environment parks or Nature Reserve Zones. The use of off-road vehicles may be permitted (e.g., for hazardous tree removal, maintenance or emergency access), provided there are no feasible alternatives.</p>	<p>This policy contains internal contradictions. We suggest the following revisions to eliminate contradictions (or similar): “Off-road vehicles, as defined in the <i>Off-Road Vehicles Act</i>, are not permitted in Nature Reserve or Natural Environment parks or Nature Reserve Zones for recreational purposes. The use of off-road vehicles by the implementing authority or authorized agency/contractor may be permitted for non-recreational purposes to assist in parks and open space operations/management (e.g., for hazardous tree removal, maintenance or emergency access), provided there are no feasible alternatives.”</p>
	<p>12. Motorized snow vehicles may be permitted in other park and open space classes and zones in an approved Master/Management Plan, except where the use is restricted to Ontario Federation of Snowmobile Club trails managed in partnership with the <i>NEPOSS agency</i> to ensure environmentally responsible and sustainable use.</p>	<p>What is intended by “environmentally responsible and sustainable use”?</p>
<p>3.3 Municipal Parks and Open Space</p>	<p>Municipal parks and open spaces not identified in Appendix 1 or on Map 10 may, upon request by the municipality and with agreement of the Ministry of Natural Resources and Forestry and the Niagara Escarpment Commission, be included in NEPOSS.</p>	<p>Earlier in Part 3 it can be inferred that it is not optional (i.e., if land is owned/managed by a public agency in the NEP it must be part of NEPOSS).</p>

7 Definitions	The following definitions have been compiled to assist the reader with the interpretation of the Niagara Escarpment Plan. Where indicated, there are a number of the terms that are used in this glossary that originated in the Provincial Policy Statement, 2014. For convenience, these definitions have been reproduced in this glossary with the same meaning and definition as in the Provincial Policy Statement, 2014.	Normal Farm Practices is defined in the other Plans and is referenced in the NEP; therefore, recommend that it be included in this Plan. The definition for “Bruce Trail” should not be deleted.
Accessory Facility	A detached building, structure or other installation that is not used for human habitation and for which the use of is naturally and normally incidental subordinate, and exclusively devoted to a principal use located on the same lot.	What does this term mean in the context of parks/open spaces?
Accessory Use	The use of any land, building, structure or facility that is naturally and normally incidental, subordinate and exclusively devoted to the principal use located on the same lot.	What does this term mean in the context of parks/open spaces?
Compatible	Where the building, structure, activity or use blends, conforms or is harmonious with the <i>Escarpment environment</i> .	The use of this term throughout the Plan is problematic. Not clear how compatible will be determined; requires clear and consistent criteria.
Conserve/conserved/conservation	In a cultural heritage context means the identification, <i>protection</i> , management and use of <i>built heritage resources, cultural heritage landscapes and archaeological resources</i> in a manner that ensures their <i>cultural heritage value or interest</i> is retained under the <i>Ontario Heritage Act</i> . This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment. Mitigative measures and/or alternative development approaches can be included in these plans and assessments (Provincial Policy Statement, 2014).	The PPS only refers to the term “conserved”.
Conservation Organization	A non-government conservation body that includes a land trust, conservancy or similar not-for-profit agency governed by a charter or articles of incorporation or letters patent, and with by-laws and objectives that support the protection of the natural environment of the Niagara Escarpment. Such an organization must have registered charitable status. <i>A conservation organization shall be considered to have an “approved” status under this Plan once the Ministry of Natural Resources and Forestry and Niagara Escarpment Commission have been satisfied that a conservation organization has an</i>	Does the NEC have a separate policy that would provide guidance on the conservation organization approval criteria and the approval process? We understand one was approved by the NEC on June 15, 2006, but are unsure whether it is still applicable. If it is still applicable, this policy should be referenced specifically in this definition. Please also specify where the list of “approved” conservation organizations can be viewed by the public.

	environmental purpose consistent with the purpose, objectives and policies of the Niagara Escarpment Plan. This would include commitment, public support, organizational ability, sustained activity in the interests of conservation over several years and a legally binding arrangement to ensure that all lands acquired or held as nature preserves remain protected should the organization cease to exist.	
Cultural heritage value or interest	A <i>property</i> may be determined to have <i>cultural heritage value or interest</i> if it meets one or more of the criteria found in Ontario Regulation 9/06 under the <i>Ontario Heritage Act</i> . A <i>property</i> may be determined to have <i>cultural heritage value or interest</i> of provincial significance if it meets one or more of the criteria found in Ontario Regulation 10/06 under the <i>Ontario Heritage Act</i> .	Regulations are subject to change; therefore, recommend that this definition refer more generally to the parent legislation or include “as amended from time to time”.
Endangered Species	Means a species that is classified as an <i>endangered species</i> in Ontario Regulation 230/08 (Species at Risk in Ontario List) made under the <i>Endangered Species Act, 2007</i> , as it may be amended from time to time.	Definition in PPS for this term; therefore, the definition in the NEP should be harmonized.
Escarpment environment	The physical and natural heritage features and cultural heritage and <i>scenic resources</i> associated with the Escarpment landscape.	<p>The use of the term “Escarpment environment” is problematic throughout the Plan. The definition for “Escarpment environment” includes physical and natural heritage features, cultural and scenic resources, which all need to meet different tests under the Plan or PPS. It may not be appropriate to demonstrate “minimal negative impact” on all elements of the Escarpment environment, as some natural heritage features are required to meet different tests (e.g., no negative impact) while others (e.g. cultural and scenic resources) do not.</p> <p>As noted above, the use of the term “Escarpment environment” is problematic throughout the Plan. What does “substantial negative impact” (2.3.3) mean in the context of each of the elements considered under “Escarpment environment”?</p> <p>“minimize negative impacts on the natural environment”. How is this achieved given how broad the definition of natural environment is? Negative impacts is defined relative to specific features and not necessarily one in the same with the definition for natural environment.</p> <p>The revised definition should be expanded to include natural</p>

		heritage areas, key hydrologic features, natural heritage systems, and the ecological functions associated with each.
Event	In the case of a <i>winery</i> , this means an <i>event</i> that is accessory to the principal use of the <i>property</i> .	It may be worthwhile to expand this definition to account for events that are unrelated to wineries (that would require a Development Permit).
Forest Management	The sustainable management of forests for the production of wood and wood products, and to provide outdoor recreation, to maintain, restore or enhance environmental conditions for wildlife, and for the <i>protection</i> and production of water supplies.	Should be made clear how this differs or relates to woodland management.
Heritage Conservation Easement Agreement	Means a covenant or agreement that may be entered into by the owner of real <i>property</i> and either a municipality or the Ontario Heritage Trust, is registered on title and executed with the primary purpose of preserving, conserving and maintaining a cultural heritage feature or resource, or preventing its destruction, demolition or loss. A heritage conservation easement may be entered into under either Parts II (Section 10) or IV (Section 37) of the <i>Ontario Heritage Act</i> .	Should the buildings not be designated?
Home Industry	A use, providing a service primarily to the rural or farming community and that is accessory to a <i>single dwelling</i> or agricultural operation, performed by one or more residents of the <i>household</i> on the same <i>property</i> . A <i>home industry</i> may be conducted in whole or in part in an <i>accessory facility</i> and may include an animal kennel, carpentry shop, a metal working shop, a welding shop, an electrical shop or blacksmith's shop, etc., but does not include an auto repair or paint shop, or furniture stripping.	The definition should continue to refer to the use as "small scale".
Infrastructure	Means physical structures (facilities and corridors) that form the foundation for development. <i>Infrastructure</i> includes <i>green infrastructure</i> and <i>utilities</i> as defined in this Plan, in addition to transportation corridors and facilities, including rights-of-way for the movement of people and goods.	Do any other of the examples provided in the PPS definition for infrastructure apply to the NEP?
Institutional Use	Use of land, building or structure for some public or social purpose that may include governmental, religious, educational, charitable, philanthropic, hospital or other similar use, including cemeteries, to serve the immediate community.	Would a privately owned cemetery be considered an institutional use?
Negative Impact	Means <ul style="list-style-type: none"> a) in regard to water, degradation to the quality or quantity of surface or ground water, key hydrologic features and their related <i>hydrologic functions</i>, due to single, multiple 	The use of the term "Escarpment environment" is problematic throughout the Plan. The definition for "Escarpment environment" includes physical and natural heritage features, cultural and scenic resources, which all need to meet different

	<p>or successive development;</p> <p>b) in regard to key and other natural heritage features, degradation that threatens the health and integrity of the natural features or <i>ecological functions</i> for which an area is identified due to single, multiple or successive development;</p> <p>c) in regard to <i>fish habitat</i>, any permanent alteration to, or destruction of <i>fish habitat</i>, except where, in conjunction with the appropriate authorities, it has been authorized under the <i>Fisheries Act</i>;</p> <p>d) in regard to <i>scenic resources</i>, a degradation to the quality of the <i>visual impact</i>; and</p> <p>e) in regard to <i>cultural heritage resources</i>, degradation or destruction of <i>built heritage resources</i>, <i>cultural heritage landscapes</i>, <i>archaeological resources</i>, including a <i>visual impact</i>, when <i>heritage attributes</i> include the visual setting of a <i>cultural heritage resource</i> and other features of <i>significant cultural heritage value or interest</i>, including heritage and archaeological sites of critical importance to Aboriginal peoples.</p>	<p>tests under the Plan or PPS. It may not be appropriate to demonstrate “minimal negative impact” on all elements of the Escarpment environment, as some natural heritage features are required to meet different tests (e.g., no negative impact) while others (e.g. cultural and scenic resources) do not.</p> <p>What does “substantial negative impact” (2.3.3) mean in the context of each of the elements considered under “Escarpment environment”?</p> <p>“minimize negative impacts on the natural environment”. How is this achieved given how broad the definition of natural environment is? “Negative impacts” is defined relative to specific features and not necessarily one in the same with the definition for natural environment.</p> <p>Subsection d) - How will degradation of the quality of the visual impact be determined?</p>
NEPOSS agency	<i>Public agencies/bodies</i> and approved conservation organizations that own/manage land within NEPOSS.	The term “conservation organizations” should be italicized as it is a defined term.
Scenic quality	A reference to the scenic rankings derived from the Niagara Escarpment Plan: A Landscape Evaluation Study and updates to the study. There are six rankings: Very Attractive, Attractive, Average, Low and Very Low.	The definition for scenic quality refers to items that are not referenced anywhere within the NEP (external old study/guidelines). HAPP recommends that the definition be updated to reflect current terminology.
Significant	Means <p>a) in regard to <i>wetlands</i> and <i>areas of natural and scientific interest</i>, an area identified as provincially significant by the Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time;</p> <p>b) in regard to <i>woodlands</i>, an area that is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the</p>	Subsection b) - This definition should be revised to specify what to do when no MNRF criteria exists, or where a municipality has opted to develop its own criteria that goes above and beyond the MNRF criteria.

	<p>amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Ministry of Natural Resources and Forestry;</p> <p>c) in regard to other features and areas, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. These are to be identified using criteria established by the Ministry of Natural Resources and Forestry; and</p> <p>d) in regard to cultural heritage and archaeology, resources that have been determined to have <i>cultural heritage value or interest</i> for the important contribution they make to our understanding of the history of a place, an event, or a people.</p> <p>Criteria for determining significance for the resources identified in sections c) and d) are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used.</p> <p>While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation.</p>	
Stream/watercourse	A feature having defined bed and banks, through which water flows at least part of the year.	This is not the same definition used in CA Act/regulation – that definition should be used.
Threatened species	Means a species that is classified as a <i>threatened species</i> in Ontario Regulation 230/08 (Species at Risk in Ontario List) made under the <i>Endangered Species Act, 2007</i> , as it may be amended from time to time.	Recommend that this definition be harmonized with PPS definition.
Trail activities	Recreation oriented to trails, (e.g., horseback riding, cross-country skiing, hiking, snowmobiling).	HAPP recommends that “cycling” be added.
Vegetation protection zone	A vegetated buffer area surrounding a key natural heritage feature or key hydrologic feature within which only those land uses permitted within the feature itself are permitted. The width of the <i>vegetation protection zone</i> is to be determined when new development occurs within 120 metres of a key natural heritage	Why is the 2005 Greenbelt Plan referenced? Recommend that the Greenbelt Plan, Growth Plan and NEP all use the same definition. No need to cross-reference other Plans.

	feature or key hydrologic feature, and is to be of sufficient size to protect the feature and its functions from the impacts of the proposed change and associated activities that will occur before, during, and after, construction, and where possible, restore or enhance the feature and/or its function (Greenbelt Plan, 2005).	
Waste disposal site	<p>Any land or land covered by water, upon, into or through which, or building or structure in which <i>waste</i> is deposited, stored and processed and includes such sites defined and classified in regulations under the <i>Environmental Protection Act</i>, as amended, including derelict motor vehicles sites, transfer or container stations or incineration sites, but does not include:</p> <ul style="list-style-type: none"> a) a structure that is wholly utilized for the temporary collection of <i>waste</i> (e.g., commercial and industrial dumpsters associated with an <i>existing use</i>); b) domestic storage and composting of waste sites; c) existing hospital incinerators; d) agricultural waste sites (e.g., agricultural manure and disposal); e) on-site incinerators at the site of a crematorium within the meaning of the <i>Cemeteries Act</i>; f) on-site incinerators at the site of a veterinary hospital/clinic; g) recycling depots for paper, glass and cans etc., serving the local community; and disposal of domestic sewage sludge on farmland. 	Subsection g) - The definition should continue to refer to the use as "small scale".

From: Linda Gasser	Linda Gasser <gasserlinda@gmail.com>
Sent: Copy	September-26-16 5:41 PM
To: To:	Clerks; Cheryl Bandel
Cc:	Mirka Januszkiewicz; Susan Siopis
Subject:	copy of MoECC response -to 3 specific concerns re D-Y incinerator Abatement Plan Phase 2 and Boiler 1 restart
Attachments:	2016-07-12 DYEC Phase II Evaluation Matrix.pdf; 2016-08-08 MOECC Response to July 4 Email.pdf; July 4 2016 to Celeste Dugas MoECC D-Y District Office final .pdf; L. Bertrand VLN slides (2016-07-04).Attch 1 to MoECC letter 4.07.16.pdf; November_2015_Source_Test_Report Ortech - Appendix 7 Correspondence (2).pdf
C.C. S.C.C. File	
Take Appr. Action	
Importance:	High

Good afternoon:

At one of the recent meetings I mentioned the attached MoECC letter dated August 8th and attachment to council, which responded to our letter of July 4th (plus 2 attachments). I indicated that I would send it so that councillors would have it for information. Mirka was copied with the response to our letter as she was with our letter to MoECC.

Given the procedural change i.e. COW structure I have no idea if and when this will be provided to councillors.

If Clerks plan to provide this to council in a CIP could it be in the CIP for Sept. 30th as I intend to speak to the diagnostic stack tests as described in the correspondence at the COW Oct. 5th meeting and some of this might be relevant to whatever update staff provide to COW.

Related matters came up at the Sept. 21st EFW WMAC meeting so if those minutes were included in the Sept. 30th CIP it might be useful for councillors to review these items at same time as the letter/MoECC response.

Thank you.

Linda Gasser
Whitby

From: Dugas, Celeste (MOECC) [<mailto:Celeste.Dugas@ontario.ca>]
Sent: Monday, August 08, 2016 3:01 PM
To: gasserlinda@gmail.com; louis@bertrandtech.ca; ksam2@rogers.com
Cc: Goyette, Dolly (MOECC); Hussain, Lubna I. (MOECC); Azocar, Guillermo (MOECC); Dunn, Philip (MOECC); Thomas, Sandra (MOECC); Mirka Januszkiewicz (Mirka.Januszkiewicz@Durham.ca)
Subject: Re: 3 specific concerns re D-Y incinerator Abatement Plan Phase 2 and Boiler 1 restart
Importance: High

Dear Ms. Gasser, Mr. Bertrand, Ms. Meydam

Thank you for your email of July 4, 2016 regarding concerns related to the Durham York Energy Centre. Technical staff with the Ministry of Environment and Climate Change have conducted a thorough review of the information you have provided and the attached response has been prepared.

Please refer to the attached letter and the attached copy of the Phase II Diagnostic Evaluation Source Testing Procedures document prepared by Covanta.

Sincerely,

Celeste Dugas
District Manager
York Durham District Office

Ministry of Environment and Climate Change
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DYEC Phase II Diagnostic Evaluation and Source Testing Procedures: 2016.07.12

1.0 Overview

The Abatement Plan establishes the requirement for a comprehensive system-wide equipment evaluation that include Phase I “offline” inspections and Phase II “online” observations. The Abatement Plan therefore included an initial Phase II Inspection Checklist with several areas of investigation; namely: Operational Considerations, Operating Parameter and Reagent Addition Rates, SOP Verification, Training, and Testing. The efforts proposed herein provide additional detail to the Checklist and also identifies the Phase II diagnostic evaluation procedures.

The goal of Phase II is to evaluate the performance of equipment and operating trends with a focus on parameters commonly understood to be related to Dioxin and Furan (PCDD/F) formation and control. These parameters include: combustion zone temperatures, carbon monoxide concentration (as an indicator of combustion efficiency), flue gas temperatures, differential pressure across the air pollution control (APC) system, fabric filter operating conditions and carbon injection rates.

2.0 Phase II Inspection Checklist

Unit 1 re-start will only occur after Covanta has received written approval from the MOECC. Unit 1 startup will be conducted in accordance with all Standard Operating Procedures (SOP). Following startup, the Phase II Inspection Checklist will be completed as provided in the Abatement Plan and here as Table 1.

The Phase II Inspection Checklist includes activities which are either addressed by previous SOP’s or new SOP’s developed in response to Phase I investigations. These new SOP’s include:

- Second Pass Hopper Air Cannon Operation,
- Second Pass Hopper Temperatures and Level monitoring,
- IGR Nozzle Pluggage Monitoring,
- Second Pass Hopper Blast Cleaning,
- Baghouse Operation, Start up, Shutdown, Offline Operation, and
- High Baghouse Hopper Alarm Action.

Operational Considerations identified in the checklist reflect inspections of equipment performance.

SOP verification and training identified in the checklist is intended to document the proper implementation of the new procedures.

3.0 Operating Parameter Monitoring

Key operating parameters will be monitored using trends generated by CITECT software which allows data evaluation to be conducted both onsite and offsite. Table 2 below presents monitored parameter groups. All operating parameters are recorded and available for evaluation.

Table 1

Phase II: Unit #1 Inspection Checklist

TASK	RESPONSIBLE	STATUS	START DATE	DUE DATE	% COMPLETE	DONE?	NOTES
PHASE 2 - Post-Start Up Checks							
OPERATING PARAMETERS AND REAGENT ADDITION RATES							
Review selective non-catalytic reduction system and ammonia injection rate	Technical	In Progress	May 30, 2016			25%	
Review fresh lime rate addition rates and controls	Technical	In Progress	May 30, 2016			50%	
Review fresh carbon rate addition rates and controls	Technical	Complete	May 30, 2016	June 13, 2016		100%	☑ run at 5.1 kg/hr; diagnostic test at 7.5 kg/hr
Review fly ash recirculation system rate and amount of recirculated residue	Technical	In Progress	May 30, 2016			50%	
Review baghouse differential pressure and pulsing system settings	Technical	In Progress	May 30, 2016			75%	
Review and verify sootblower operating schedule to optimize boiler cleanliness	Technical	In Progress	May 30, 2016			25%	
TESTING							
Outlet sample filters will be examined for particulate loading during the diagnostic testing to ensure	Technical	Not Started				0%	on start up
A sample of powdered activated carbon will be tested to ensure that it exhibits properties consistent with purchase specification	Env. Spec	Complete	May 30, 2016	June 15, 2016		100%	☑ results received. Carbon condition is good per PAC test suite.
Samples of APC residual ash will be tested once per shift during the seasoning phase of the boiler re-start	Shift Supervisor	Not Started				0%	on start up
Samples of raw carbon, hydrated lime, quench tower spray water, wetting mixer water and APC residual ash will be collected during both the diagnostic and source testing periods	Shift Supervisor	Not Started				0%	on start up
OPERATIONAL CONSIDERATIONS							
Sootblowers in good working order, no steam leakage into boiler; verify blower steam pressure (once unit re-started)	Shift Supervisor	Not Started				0%	on start up
Combustion appearance good – proper UFA flow & distribution, no evidence of fuel piling, appropriate bed depth	Shift Supervisor	Not Started				0%	on start-up
Ash discharger running at appropriate speed; good seal and level control; ensure good transition chute door seal	Shift Supervisor	Not Started				0%	on start up
Proper furnace draft – minimal setting to avoid going positive and minimize in leakage	Shift Supervisor	Not Started				0%	on start up
No excessive slag in furnace	Shift Supervisor	Not Started				0%	on start up
Stable operation – consistent crane operations, consistent bed depth, good fuel mix	Shift Supervisor	Not Started				0%	on start up
Proper bed thickness	Shift Supervisor	Not Started				0%	on start up
Low and stable CO means (low products of incomplete combustion)	Shift Supervisor	Not Started				0%	on start up
All ash hoppers flowing properly	Shift Supervisor	Not Started				0%	on start up
All Plattco flop gates and rotary valves operating correctly	Shift Supervisor	Not Started				0%	on start up
Ensure fuel is well mixed and pit management SOP is adhered to	Shift Supervisor	Not Started				0%	on start up
Confirm sootblowing schedule	Shift Supervisor	Not Started				0%	on start up
Ensure good communication within Shift personnel	Shift Supervisor	Not Started				0%	on start up
Track boiler ash hopper temperatures (as measured at the Plattco valves) as a predictive measure for plugging	Shift Supervisor	Not Started				0%	on start up
SOP VERIFICATION AND TRAINING SIGN-OFF							
2nd pass hopper Air Cannon - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
2nd pass hopper Air Cannon - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
2nd Pass Hopper Level - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
2nd pass hopper Level - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Hopper Plattco Temp - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Hopper Plattco Temp - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
IGR Air Nozzle Pluggage Monitoring - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
IGR Air Nozzle Pluggage Monitoring - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Plugged Nozzles in Evaporator Tower - Verify PM & Schedule	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Hopper Cleaning - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Hopper Cleaning - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Baghouse Operation - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Baghouse Operation - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Baghouse High Hopper Alarm Response - Train Operators on SOP	Shift Supervisor	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
Baghouse High Hopper Alarm Response - Verify SOP and Training	Owners Engineer	Complete	June 7, 2016	June 15, 2016		100%	☑ Complete
TRAINING CONSIDERATIONS							
Train 3 Auxiliary Operators to the point where they can relieve for CRO vacancies	Chief Engineer	In Progress	June 7, 2016	September 30, 2016		30%	Using Covanta OQP program + Specialized emissions mitigation training
Train Shift Supervisors to the point where they can relieve for CRO vacancies	Chief Engineer	In Progress	June 7, 2016	September 30, 2016		15%	Using Covanta OQP program + Specialized emissions mitigation training

Phase II: Unit #1 Inspection Checklist






TASK	RESPONSIBLE	STATUS	START DATE	DUE DATE	% COMPLETE	DONE?	NOTES
PHASE 2 - Post-Start Up Checks							
Implement and complete Operator Training Program (OQP)	Chief Engineer	In Progress	May 1, 2016	December 31, 2016		15%	Continue implementation of "Operator Qualification Program" (OQP) specific for Durham York. Scope includes specific modules that address safety, environmental (with specific training on emissions mitigation), boiler and auxiliary system training. This training is highly tailored to Waste to Energy facilities, and incorporates learnings from Covanta's fleet of 41 North American facilities. Advance individual training plan for each Operator that is tracked on a comprehensive database with oversight by the Corporate Training Group. Plan includes for both technical training modules and field experience using a pre-qualified pool of personnel. In addition to OQP, the Operators are required to study for, achieve and maintain provincially mandated Steam Engineer licenses. This is administered by the Technical Standards and Safety Authority (TSSA). All Operators have tickets appropriate for their position
MAINTENANCE CONSIDERATIONS							
Baghouse hoppers - evaluate best combination of hopper vibrators and level probes	Maintenance Sup	In Progress	June 1, 2016	September 1, 2016		10%	Prevent false positive high level alarms
Change out Roof and Sidewall thermocouples	Maintenance Sup	In Progress	June 1, 2016	October 15, 2016		75%	Sidewall thermocouples changed out. 2 of 3 roof thermocouples changed out. Remaining one will be done in Fall, 2016 outage.
Evaluate options for clearing IGR nozzles on the run	Maintenance Sup	In Progress	October 15, 2016	October 30, 2016		100%	50% of #1 Boiler IGR nozzles now have rod out ports installed to permit on the run cleaning.
Review 2nd pass hopper platform and rod out ports	Maintenance Sup	In Progress	June 1, 2016	October 30, 2016		50%	Review current access platforms and rod out port locations (including cannon location). Determine if additional upgrades are required to be installed on next boiler outages.

Table 2 – Monitored Parameters for Trending

GROUP/PARAMETER
FABRIC FILTER PERFORMANCE
FABRIC FILTER CLEANING PULSE FREQUENCY
FILTER DIFFERENTIAL PRESSURE
FABRIC FILTER PULSE AIR PRESSURE
COMBUSTION AIR FLOW
WETTING MIXER ROTARY VALVE SPEED
CEMS FLOW OUTLET DRY
STEAM FLOW
ACID GAS CONTROL
WETTING MIXER PROCESS WATER FLOW
LIME FEED RATE
CEMS SO ₂ INLET
CEMS O ₂ OUTLET
CEMS HCl OUTLET
CEMS SO ₂ OUTLET
CARBON FEEDRATE
FLUE GAS TEMPERATURE CONTROL
QUENCH WATER FLOW CONTROLLER OUTPUT
QUENCH WATER FLOW CONTROLLER PRESSURE
QUENCH WATER FLOW CONTROLLER SET POINT
QUENCH CHAMBER WTR FLOW
ECONOMIZER OUT TEMPERATURE
ECON BYPASS TEMP CONTROLLER SET POINT
ECON BYPASS TEMP CONTROLLER OUTPUT
COMBUSTION
STEAM FLOW SET POINT
CEMS CO OUTLET
CEMS O ₂ INLET
MARTIN IR PYROMETER TEMPERATURE
IR TEMPERATURE SETPOINT
FEEDER STROKE LENGTH SCALER
O ₂ CONTROLLER AUTO SETPOINT FEEDBACK
IGR PRESS/FLOW/TEMP
IGR-FAN FLUE GAS INLET POSITION
IGR FAN INLET FLUE GAS RECIRCULATION TEMPERATURE
IGR FAN TEMP CONTROLLER SETPOINT
IGR FAN INLET DAMPER POSITION
IGR FAN OUTLET TEMPERATURE
IGR DISCHARGE FLOW
IR CAMERA TEMPERATURE

4.0 Testing Matrix

In addition to the Phase II Inspection Checklist and comprehensive monitoring and reporting on facility performance as noted above, the Diagnostic Phase II Testing Matrix Evaluation Methodology, presented as Table 3, has been prepared to provide additional detail on how each of the two units will be evaluated during Phase II operations. Several activities identified in this test matrix (items 1, 4 and 5, evaluation of combustion air flows, standard operating procedures, laboratory investigation) will be initiated within the first several weeks to establish the operating conditions which will be subsequently utilized during the Diagnostic Source Test Program.

Laboratory issues have been added as a separate effort because of the persistent presence of diphenyl ether interference and the need for removing it to obtain a true and accurate assessment of actual PCDD/F emission rates. Lastly, a proximate schedule is added to illustrate the general schedule of known activities, however, the scope of activities and schedule is subject to adjustment to reflect lessons learned as Phase II activities progress.

Items 1 through 3 inclusive of the test matrix on Table 3 apply to both units. The following information is provided to explain those activities.

4.1 Combustion Air and IGR

Combustion air rates will be parametrically evaluated and adjusted as necessary to achieve stable and steady state operating conditions. Combustion air flow conditions will be monitored and evaluated within each boiler and for a comparison between the two units. Parameters will include total air flow, internal gas recirculation air flow, oxygen content and air temperature (ambient and preheated air).

Covanta will use CEMS data to observe changes to oxygen (O₂), carbon monoxide (CO), total hydrocarbons (THC) and flue gas temperature in the combustion zone. That data will ensure that we are complying with relevant ECA limitations while also enabling a comparison of Unit 1 and Unit 2. Sampling and analysis of PCDD/F at the economizer may be implemented to enable a comparison of these scenarios, however, the scope of this testing will depend on initial CEMS results and other observations and considerations.

4.2 Carbon Feed Rate and Carbon in Recirculated Residue

The dry recirculation APC includes three major components; 1) evaporative tower, 2) reagent system and recirculation system and 3) baghouse. The evaporative tower has been effectively maintaining the flue gas temperature set point of 144°C +/- 1 C which is below the temperature of 200°C recommended for control of gas phase PCDD/F. Further control of gas phase PCDD/F occurs from adsorption onto carbon, therefore, Covanta plans to optimize the amount of carbon in the filter cake for adsorption. The total amount of carbon is due to both the fresh dosage rate and the recirculation rate of residue. The plan is to test two rates of fresh carbon dosage and to measure the amount of carbon in the recirculated residue. Carbon content of the recirculated residue will confirm the impact of adding additional fresh carbon.

Table 3 – Diagnostic Phase II Testing Matrix Evaluation Methodology

Item	Parameter	Activity	Evaluation Methodology
1	Combustion air	Evaluate air and IGR flows in both units	<ol style="list-style-type: none"> 1. Total air flow 2. Oxygen, CO and THC CEMS results 3. Combustion zone temperature 4. IGR Temperature 5. Optional APC inlet sampling of PCDD/F^(a)
2	Carbon rate	Adjust carbon rate from 5 to 7.5 kg/hr per unit.	Measure carbon in recirculated residue at 5 kg/hr and 7.5 kg/hr injection rate in both Unit 1 and Unit 2.
3	Baghouse cleaning frequency	Evaluate frequency along with other parameters	<ol style="list-style-type: none"> 1. Adjust Unit 1 to have same baghouse pulsing frequency as Unit 2 2. Evaluate along with recirculation rate and differential pressure
	APC Residue recirculation rate	Verify recirculation rate to design	Verify set points and equipment operating conditions at full load, measure carbon in recirculated residue.
4	Standard Operating Procedures (SOP)	Implement new SOPs and record findings	Compare findings with expected result.
5	Laboratory interference	Initiate review of interference and options going forward	Evaluate existing procedures and compare with alternatives used by other laboratories, Analyze duplicate samples, use alternative procedures to minimize laboratory interference

Notes:

- (a) Sampling duration and number of test runs to be determined during parametric evaluation.

4.3 Baghouse Cleaning Frequency and Differential Pressure Drop

The total amount of carbon available for adsorption is a function of the carbon in the recirculated residue and the amount on the bags. Pressure drop is a surrogate for the amount of filter cake on the bags. Therefore, pressure drop combined with carbon in the residue indicates the total amount of carbon for adsorption.

The pulse frequency is defined as the amount of time between pulsing of the same row of filter bags. Less frequent pulsing is considered optimum because it maintains a steady state condition in the filter bag with fewer events for solid particulate to break through the filter bag. Covanta believes that the current method of operation in Unit 2 is optimum as demonstrated by achieving the lowest PCDD/F results to date, but will monitor and evaluate both Unit 1 and Unit 2.

5.0 Laboratory Issues

Test results from at least two Ontario certified laboratories, ALS and Maxxam and one U.S. certified laboratory, SGS, have documented interference from other organic compounds that prevents an accurate measurement of the actual emission factor for PCDD/F. That interference warrants investigation in principle but also because the PCDD/F stack limit of 60 pg TEQ/RM³ is very low relative to the quantification and detection limits of the sample train and laboratory analysis. A collaborative effort will be initiated with a Maxxam, the Regions consultants and a specialist.

6.0 Diagnostic Source Test Program

Once all Phase II parametric evaluations have been completed and inlet APC dioxin test results have been received, the scope of a singular Diagnostic Source Test Program will be established. The conduct of this Diagnostic Source Test Program will include simultaneous sampling at both the inlet and outlet of the APC system. The duration of the test program will be dependent on several factors: namely the number of process conditions which will be evaluated, (up to four), the number of replicate test runs for each selected operating condition (2-3), the time period to establish stable operations between switching between the selected operating conditions and the availability of the source test team and general flexibility. Each diagnostic source test run will be conducted using the methodology of EPS 23 with a 240 minute sampling duration.

7.0 Schedule

The general schedule for implementation of the Testing Matrix Evaluation and Diagnostic Source Test Program is;

- Startup and initial review of combustion parameters: Weeks 1-3
- Conduct parametric evaluation (Items 1, 2 and 3) of operating conditions and inlet APC source testing: Weeks 2-6
- Conduct diagnostic test program including 2 to 3 test runs at up to four selected operating conditions: Weeks 7-8 (and week 9 if required)
- Submit all diagnostic test samples as a single source test program to Maxxam for analysis
- SOP verification and review: Immediately upon startup of Unit 1. Already in effect for Unit 2.
- Laboratory interference: Ongoing

- Facility prepared to conduct full compliance test in conformance with ECA requirements on both Unit 1 and Unit 2: One month following the conclusion of the diagnostic testing program

8.0 Contingency Plan

In the event that any diagnostic test results are outside the ECA limitation for PCDD/F, the Diagnostic Testing Contingency Plan, as attached, will be utilized to consult with the MOECC.

DYEC will provide weekly updates to MOECC of results and evolving plans.

9.0 Responses to MOECC Comments

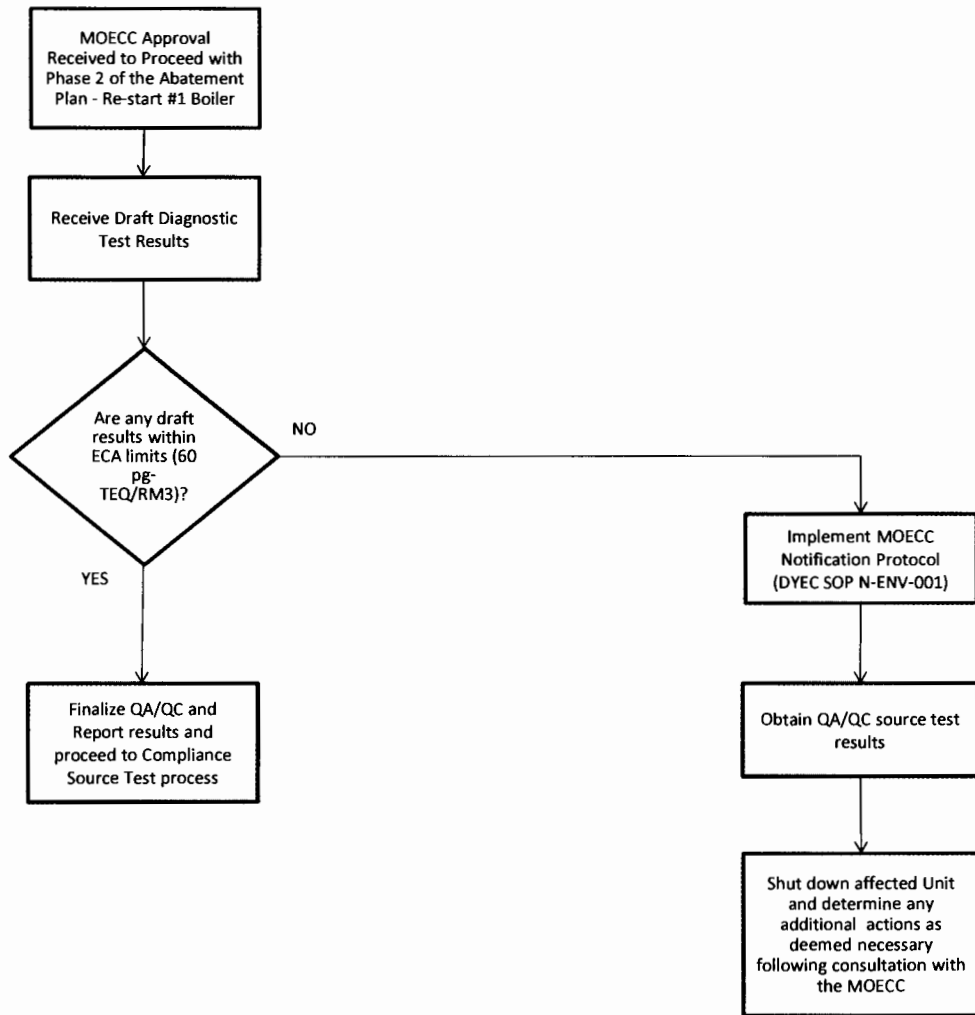
The following Table 4 was prepared to be responsive to MOECC comments /questions on Phase I of the Abatement Plan as transmitted via email of June 24, 2016 from Sandra Thomas.

Table 4: Response to MOECC Questions

Question	Response
Baghouse	
<p>1. There are concerns with regards to HDR's recommendation to switch from PTFE coated filter bags to PTFE membrane filter bags. Covanta should conduct analysis to determine that adequate mechanical wear capabilities are maintained to ensure that the properties of the proposed filter bag material actually improve the efficiency of the baghouse.</p>	<p>The installed filter bags are constructed of PPS felt with a glazed surface. Individual fibers are treated with PTFE to minimize abrasion and facilitate cleaning. Emission test results for particulate matter demonstrate that this bag material is functioning well under normal operating conditions with very high particulate removal efficiency. The ability to maintain differential pressure drop in a desired range is also evidence that the bags are working effectively with the bag cleaning system. Test results of filter bag integrity and particle penetration have also demonstrated that the bags are structurally sound and performing as planned. Covanta does not intend to change the bag type that is currently in use.</p>
<p>2. Consider the installation of a bag leak detection system to improve monitoring of baghouse performance. The hole discovered in one of the bags (reported under inspection task 70) may not have been found if not for this unplanned system review.</p>	<p>Covanta agrees with this proposal. A Tribo-Dynamic type dust monitoring probe (e.g. Filter Sense EM 30T or PCME Stack 990) will be installed in each unit's baghouse outlet flue duct and the output signal will be displayed in the control room to alert the operator of potential bag leaks. We expect the system to be installed by the end of Sept, 2016 on both Units. Covanta will be conducting enhanced bag house visual inspections (as noted in the response to question 4) during the period that this equipment is being procured, installed and commissioned.</p>
<p>3. Does Covanta record how the monitored baghouse differential pressure compares with the recommended target operating differential pressure? What are the actions taken to address deviations?</p>	<p>The differential pressure drop is continuously measured across the baghouse with a target range of 12 to 20 mbar as a daily average however that range is not absolute and we expect short term variations above 20 mbar. In accordance with the newly implemented Standard Operating Procedure, one compartment of each baghouse will be individually inspected on a weekly frequency for evidence of material buildup between the bags.</p>
<p>4. Consider increasing the baghouse inspection frequency in the Standard Operating Procedure.</p>	<p>One compartment on each baghouse will be inspected each week, with a complete cycle being completed every 6 weeks.</p>

Baghouse (continued)	
<p>5. The baghouse filter bag performance is considered a factor in the elevated dioxin and furan emission concentrations however, only field observations of the filter bags were undertaken. In future, to properly assess baghouse efficiency the replaced filter bags should be assessed for permeability, material strength, and a microscopic analysis.</p>	<p>Representative bags will be sent out for analysis in order to track and trend bag performance properties. Bags were removed and analysed during the August, 2015 and March 2016 outages.</p>
Boiler	
<p>1. Verify that the new Standard Operating Procedures will be effective in monitoring those system components that are not accessible for visual inspection during boiler operation. (eg. ash build-up in hoppers, boiler tubes etc.) The SOPs should also identify increased frequency for complete boiler system inspection and cleaning. This comment applies to Boiler #2 as well.</p>	<p>The new SOP's include specific to monitor IGR nozzles, boiler hoppers and baghouse condition. IGR nozzles now have periodic temperature measurements to identify plugging and Unit 1 has IGR clean out ports installed (Unit 2 to follow). Boiler hoppers are monitored for pluggage through periodic temperature and draft checks. Baghouse bags and hoppers are monitored for pluggage via pressure differential and level detectors with periodic visual inspection to verify condition of bags and hoppers. We will continue to perform semi-annual outages, during which time both boilers will be cleaned and inspected. Any additional cleaning outages will depend on our observations of key operating parameters that are out of range.</p>
Testing	
<p>1. Consider diagnostic testing for dioxin/furans at the economizer and baghouse outlets to assess removal efficiency.</p>	<p>Diagnostic testing, which includes inlet and outlet testing, will be completed as part of phase two activities as enumerated herein.</p>
SOP and Training Records	
<p>1. Submit the revised Standard Operating Procedures for the boiler #1 treatment train and staff training for our review.</p>	<p>The revised SOP's and staff training records have been included under separate cover to the MOECC.</p>
Contingency Plan	
<p>1. Provide a contingency plan in the event of an exceedance during the Phase 2 diagnostic testing and/or source testing.</p>	<p>The Contingency Plan is included as referenced in Section 8.0.</p>

Diagnostic Testing Contingency Plan - Dioxin/Furans



**Ministry
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August 8, 2016

Sent Via Email to:

gasserlinda@gmail.com
louis@bertrandtech.ca
ksam2@rogers.com

Dear Ms. Gasser, Mr. Bertrand, Ms. Meydam:

Thank you for your email of July 4, 2016 and its attachments. Ministry technical staff have conducted a thorough review of the information provided and the following responses have been prepared to address your questions in the order in which they were presented. The response to question 1 (page 2) and question 1 (page 3) have been combined since they both relate to the operation of the Very Low NO_x (VLN) system.

Question: Is Covanta's Very Low NO_x (VLN) system contributing to the dioxins problems? How much De Novo synthesis occurs in the VLN gas duct? That gas (as explained) is relatively cooler.

Response: The ministry is confident that the design of the VLN system takes into consideration boiler operating temperatures >1000 C and an oxygen level of 6%. There should not be an impact on the efficiency of the VLN system when maintaining excess oxygen in the 6% range. More of a concern would be starved oxygen conditions that could lead to incomplete combustion.

In a combustion process elevated carbon monoxide (CO) is an indication of incomplete combustion that could support an environment for the formation and reformation of dioxins and furans in the combustion and post combustion zones of the boiler.

During diagnostic source testing at the inlet to the air pollution control system, the measurement of dioxins and furans have demonstrated that combustion controls, including VLN, should not contribute to conditions that will create elevated concentrations of dioxins and furans. Average VLN gas temperatures range between 126^oC and 205^oC, which is lower than the 250^oC to 400^oC temperature range that may support reformation (De Novo synthesis) of dioxins and furans. The consistently low concentration of dioxins and furans in the emissions from boiler # 2 is evidence that the boiler and VLN system can operate as designed.

Additional sampling during the Phase II evaluation process at the inlet to the air pollution control system will be completed to further assess the relationship between combustion parameters and operational variables (i.e. carbon feed rates) on the generation and control of dioxins and furans.

Question: Do Covanta's internal diagnostic tests provide reliable information on which Phase 2 conclusions/action plans could be developed?

Response: The diagnostic tests completed to date have followed ministry approved procedures and are considered a reliable initial indicator of boiler and air pollution control performance. The procedures for diagnostic source testing are the same as for compliance source testing, with the exception that the duration of the diagnostic testing maybe shorter (typically between 2 to 4 hours). All future diagnostic source tests will follow ministry approved procedures and durations for compliance testing (4 hour duration).

Ministry staff have reviewed the abatement plan and technical memorandum prepared by HDR Corporation and we are confident the Phase II diagnostic program, including the diagnostic source testing, will provide reliable results and information that will be used by Covanta to determine optimal operating conditions for boiler # 1.

I've attached a copy of the Phase II Diagnostic Evaluation Source Testing Procedures document prepared by Covanta to explain in more detail the diagnostic assessments, including the diagnostic source testing that will be completed as part of Phase II activities.

All parameters and conditions in the boiler and air pollution control equipment that may be related to the formation and control of dioxins and furans such as flue gas temperatures, combustion efficiency (carbon monoxide concentration), baghouse conditions and differential pressure and rates of carbon injection, will be evaluated throughout the Phase II diagnostic program.

Question: Furnace temperatures and residence time – are the readings accurate?

Response: The ministry is confident that Covanta is following the approved Time and Temperature protocol when correlating combustion and post combustion zone temperatures. Temperature data continues to demonstrate that combustion temperatures in the boiler are in compliance with the Environmental Compliance Approval (ECA) limit.

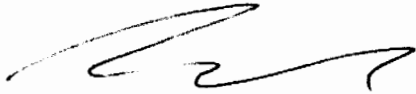
Question: The idea behind placing a reducing zone above the grate is to form CO that then combines with the NOx to produce N2 (harmless nitrogen) and CO2 (less harmful than either NOx or CO). This seems to require a fine balance between conflicting chemical processes: excess O2 leads to more NOx but less CO, and a deficit of O2 leads to less NOx but more CO. However, excess O2 is a requirement of the permit and is a measured parameter, presumably designed to ensure complete combustion (oxidation). Thus there is a limitation on the effectiveness of the VLN process that could be mitigated by increasing the amount of ammonia injected in the flue gases, or retrofitting a catalytic (SCR) scrubber.

Response: The requirement in the ECA to maintain a specific oxygen level in the combustion process should not reduce the effectiveness of the VLN system or compromise the control of NOx. The DYEC's staged combustion design considers the balance required to achieve low CO and NOx in boiler emissions. The staged combustion process is commonly used to control NOx emissions.

And, as I indicate above in my response to your first question, the consistently low concentration of dioxins and furans in the emissions from boiler # 2 is evidence that the boiler and VLN system can operate as designed.

Should you have any further questions or concerns, please contact Philip Dunn at philip.dunn@ontario.ca or 905 427 5627.

Regards,



Celeste Dugas
District Manager
Ministry of the Environment and Climate Change
York Durham District Office

c: Mirka Januszkiewicz, P.Eng., Director, The Regional Municipality of Durham
Dolly Goyette, Director, MOECC Central Region
Lubna Hussain, Manager, MOECC Standards Development Branch
Guillermo Azocar, Source Assessment Specialist, MOECC Standards Development Branch
Phil Dunn, Environmental Officer, MOECC York Durham District
Sandra Thomas, Issues Project Coordinator, MOECC York Durham District

Via email to: celeste.dugas@Ontario.ca

July 4, 2016

Celeste Dugas, Manager,
York Durham District Office
Ministry of the Environment and Climate Change .
230 Westney Road South, Floor 5
Ajax, ON L1S7J5

Dear Ms. Dugas:

**RE: Concerns re Boiler 1 Restart & Durham York Energy Centre (DYEC)
Abatement Plan**

The work that MoECC is requiring of Covanta now, after their May stack test failure for dioxins and furans, should have been required last October when Covanta failed an early October 2015 stack test for those same parameters.

Instead, Covanta floated a story about the failed results –captured in their October 19, 2015 email to you as well as others at MoECC (see Nov. Source test Appendix 7 attached)) as follows: *“The ECA source test results are unusual and at present are not considered to be representative relative to both the September results and the emissions data from other energy-from-waste facilities”*. Covanta indicated they wanted to re-test the next day.

Covanta had arranged for the ALS lab (Canada) to ship duplicate samples to the SGS lab (U.S.). SGS lab arrived at different conclusions than did ALS. However we can find no evidence that either MoECC or Durham-York Regions investigated the lab results further. We have no idea what Covanta did, if anything.

In his October 20th response to Covanta’s Leon Brasowski, Mr. Azocar wrote:
*“I believe that you should undertake additional dioxins testing **only after** (emphasis added) you get the results from SGS, had time to compare to ALS results, check combustion gas temperatures, combustion chamber residence time (based on measured flows), baghouses inlet temperatures, combustion excess oxygen, rate of time and carbon injection(adsorption potential), particulate matter results (for potential presence of ionized carbon particles), HCl results, and the operation of the SNCR system operation and ammonia injection rate as a potential reduction of dioxins and furans by oxidation, that may impact even precursors (such as chlorophenols) before they are formed.”*

On October 21st, in an email to Covanta, MoECC Manager Technical Standards Section Lubna Hussain supported Covanta's request to retest that day, essentially dismissing Mr. Azocar's comments to being suggestions as "*further investigation as needed.*" Covanta then managed to pass the two subsequent stack tests i.e. the "do-overs" granted by MoECC, using more reagents than in the previous failed test.

After the May 2016 dioxins stack test failure, perhaps some of Mr. Azocar's suggested actions from October may finally be undertaken by Covanta and thoroughly reviewed by MoECC.

Given the above-described mishandling of the October 2015 failed dioxins stack test, with the Owners choosing to rely on MoECC's opinion rather than conducting their own investigation prior to granting Covanta an Acceptance Certificate, please understand how concerned we are given what has transpired.

Not having access to additional information other than what Durham's consultant HDR identified in their June 15, 2016 memo, it seems any number of issues could be contributing to dioxins well above the ECA limit, which is hardly a new problem for Covanta. As you should know, the Wallingford, Connecticut incinerator that Covanta operated for many years and ultimately bought, was cited for dioxins 250% above the limit, with fines levied, additional testing and repairs required. That facility no longer operates as an incinerator. There are numerous media stories about this matter but one from August 2011 captures comments attributed to that regulator, which may be of interest.

https://www.thestar.com/news/gta/2011/08/16/us_fine_reignites_anger_over_durhams_incinerator_plans.html

Given that MoECC appears poised to grant Covanta permission to move into Phase 2 of the Abatement Plan, we have the following immediate concerns. 1) is Covanta's Very Low Nox (VLN) system contributing to the dioxins problems? 2) do Covanta's internal diagnostic tests provide reliable information on which Phase 2 conclusions/action plans could be developed? 3) furnace temperatures and residence time – are the readings accurate?

First, in August 2010, Louis Bertrand, Wendy Bracken and Linda Gasser wrote to MoE's Keven French, raising the concern that perhaps there were tradeoffs with the VLN system. Below we expand on our 2010 comments:

<http://www.seas.columbia.edu/earth/wtert/sofos/nawtec/nawtec17/nawtec17-2372.pdf>

Proceedings of the 17th Annual North American Waste-to-Energy Conference,
May 18-20, 2009, Chantilly, Virginia, USA
NEW PROCESS FOR ACHIEVING VERY LOW NOX Co-authored by Covanta
and Martin GmbH

The paper describes the system and the results in reducing NOx but does not consider any other pollutants.

If you look at figure 1 (p2), you can see that some of the hot air from the grate is siphoned off and reinjected higher up. The zone above the grate is where the gases emitted from the burning waste mix with the secondary air and continue burning. There is a "reducing" zone above the grate where the gasses are starved for oxygen, thus pulling the oxygen back out of the nitrogen oxides to lower the NOx production. The reducing agent is CO. The extra oxygen atoms reduced from the NOx combine with the CO to produce CO2. The paper also claims that blowing in less of the cold secondary air maintains a higher combustion temperature. This process relies on careful minute-by-minute control of the three gaseous inputs (primary and secondary air, and VLN gas) and the speed of the grate, depending on what is being burned at the moment. This might explain some of the required extra operator training.

Item 2: marketing from Martin GmbH:

<http://www.martingmbh.de/en/nox-reduction.html>

This describes the burning process with and without the VLN.

Two questions are:

1) How much de novo synthesis occurs in the VLN gas duct? That gas (as explained) is relatively cooler.

2) The idea behind placing a reducing zone above the grate is to form CO that then combines with the NOx to produce N2 (harmless nitrogen) and CO2 (less harmful than either NOx or CO). This seems to require a fine balance between conflicting chemical processes: excess O2 leads to more NOx but less CO, and a deficit of O2 leads to less NOx but more CO. However, excess O2 is a requirement of the permit and is a measured parameter, presumably designed to ensure complete combustion (oxidation). Thus there is a limitation on the effectiveness of the VLN process that could be mitigated by increasing the amount of ammonia injected in the flue gases, or retrofitting a catalytic (SCR) scrubber.

The VLN system appears not to have been “proven” technology i.e. proven as operating as promoted over the long term, at the time Durham-York submitted their EA, which MoE approved in November 2010.

Attached are recently prepared PowerPoint slides that Louis Bertrand has developed to expand on our 2010 concerns.

Second, Covanta’s diagnostic tests, conducted before last October’s and last May’s stack tests, indicated dioxins emissions were under the ECA limit yet both times they failed the stack test shortly thereafter. Given this track record i.e. two failed stack tests for dioxins, how reliable are Covanta’s diagnostic tests? Are they conducted under identical conditions as the stack testing? What explanation(s) does Covanta offer that their diagnostic tests are not accurately predicting stack testing results?

Third, there remains a concern around the accuracy of furnace temperature readings and residence time. This was raised by a number of parties after the failed October stack test. In an HDR Acceptance Testing Review report dated April 20, 2016, that was only posted in early June 2016 to the D-Y project website, on page 20, HDR wrote:

One clarification on the internal MOECC evaluation relates to a reference to combustion temperatures being below the ECA requirement of 1,000oC. Based on HDR’s review of the operating and CEMS data recorded by the facility’s DCS, during the referenced 96-hour period, there was only one hour when the operating (combustion) temperature dropped below the required 1,000oC $\pm 0.015\%$ (hour ending 6:00 AM on October 2). However, during that hour, the data reported by Covanta for compliance was 1121oC. The combustion temperature being reported for compliance is a calculated value and is based on steam flow and a temperature measured with an infrared (IR) camera at a fixed elevation in the boiler. HDR has reviewed the November 2015 Time and Temperature Correlation submittal and agrees with the calculations and derivation of the correlation contained in that document. There appear to be discrepancies related to the correlated temperature and the data reported in the DCS and on the CEMS reports. However, it is not clear from the reported data if the correlation was properly input into the DCS and CEMS recordings. Covanta should confirm that the values from the Correlation report are being properly corrected and reported. Based on the information provided to us, HDR is of the opinion that the 1,000oC is being complied with at the DYEC.

Any discrepancies/concerns around temperature must be investigated and addressed before Boiler 1 restart.

We would appreciate an immediate confirmation of receipt of our letter and a timely response indicating that these concerns have been considered by MoECC prior to allowing the Boiler 1 restart.

Yours truly,

Linda Gasser
Co-Founder, Zero Waste 4 Zero Burning
111 Ferguson Street
Whitby ON L1N 2X7
Email: gasserlinda@gmail.com

Louis Bertrand
Co-Founder, Zero Waste 4 Zero Burning
124 Liberty St. North
Bowmanville, ON L1B 1G3
Email: louis@bertrandtech.ca

Kerry Meydam
Founder, Durham Environment Watch
3828 Trulls Road
Courtice ON L1E 2L3
Email: ksam2@rogers.com

Cc: Dolly Goyette, MoECC Director, Central Region c/o D.Spagnuolo, Doreen (MOECC) <Doreen.Spagnuolo@ontario.ca>
Lubna Hussain, MoECC Manager, Technology Standards Section
Guillermo Azocar, MoECC Source Assess. Specialist, Standards Dev. Branch
Sandra Thomas, MoECC Issues Project Coordinator, Y-D District Office
Phillip Dunn, Senior MoECC Environmental Officer, Y-D District Office
Cliff Curtis, Durham Region, Works Commissioner
Mirka Januskiewicz, Durham Region, Director Waste Management

Enclosures: November Source Test report Appendix 7
VLN PPT slides (10)

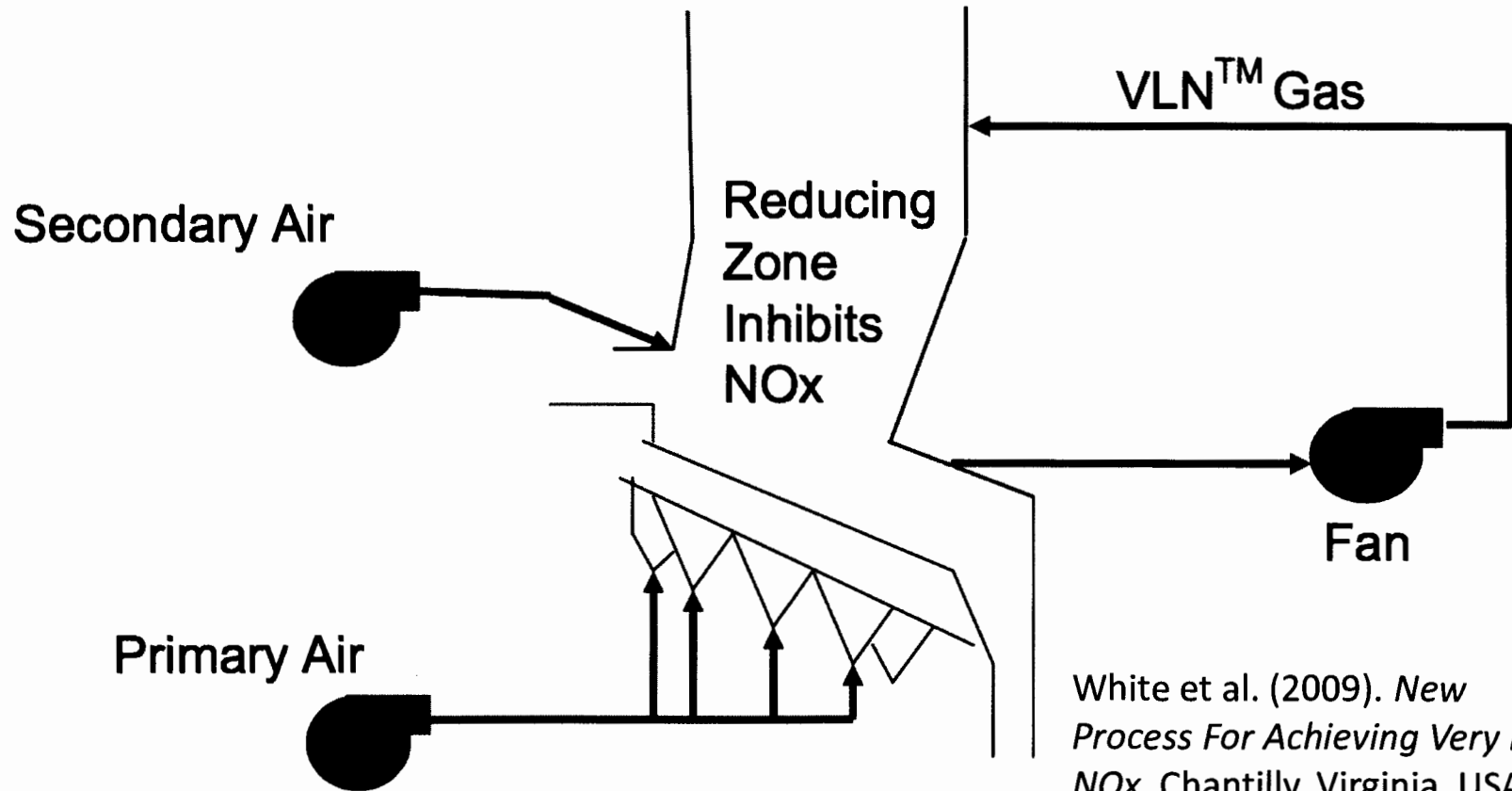
Trade-offs on the road to lower NO_x

- Limit excess oxygen → less oxygen available to combine with nitrogen
 - Incomplete combustion, more carbon monoxide (CO)
- Limit peak flame temperature → NO_x is produced at high temperatures
 - Difficulty meeting temperature requirement
 - Lower boiler temperature, less electricity production
- Use catalytic process (SCR) to remove NO_x
 - More expensive process (equipment + maintenance)

Chemistry 101

- Air = 78% nitrogen, 21% oxygen, etc.
- When you heat nitrogen and oxygen together, you get NO_x – oxides of nitrogen
- If you heat NO_x in the absence of excess O₂ oxygen (and with CO as a reducing agent), the oxygen is separated from the NO_x and combined with the CO to form CO₂ – this is called the reducing reaction (reverse of oxidizing)

Covanta VLN Diagram

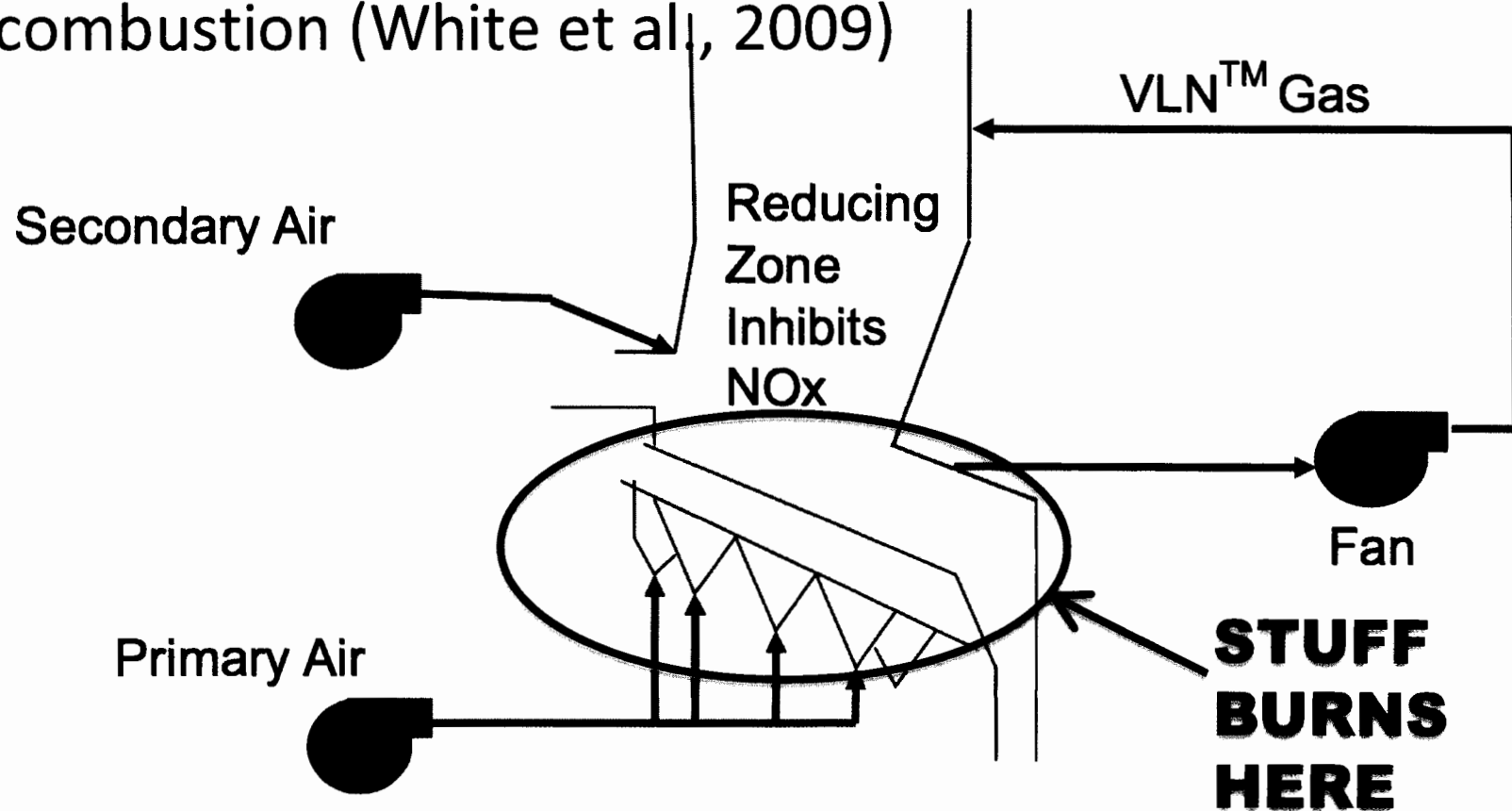


White et al. (2009). *New Process For Achieving Very Low NOx*. Chantilly, Virginia, USA: NAWTEC17

Burning on the grate:

Primary air to dry material and feed the flame;

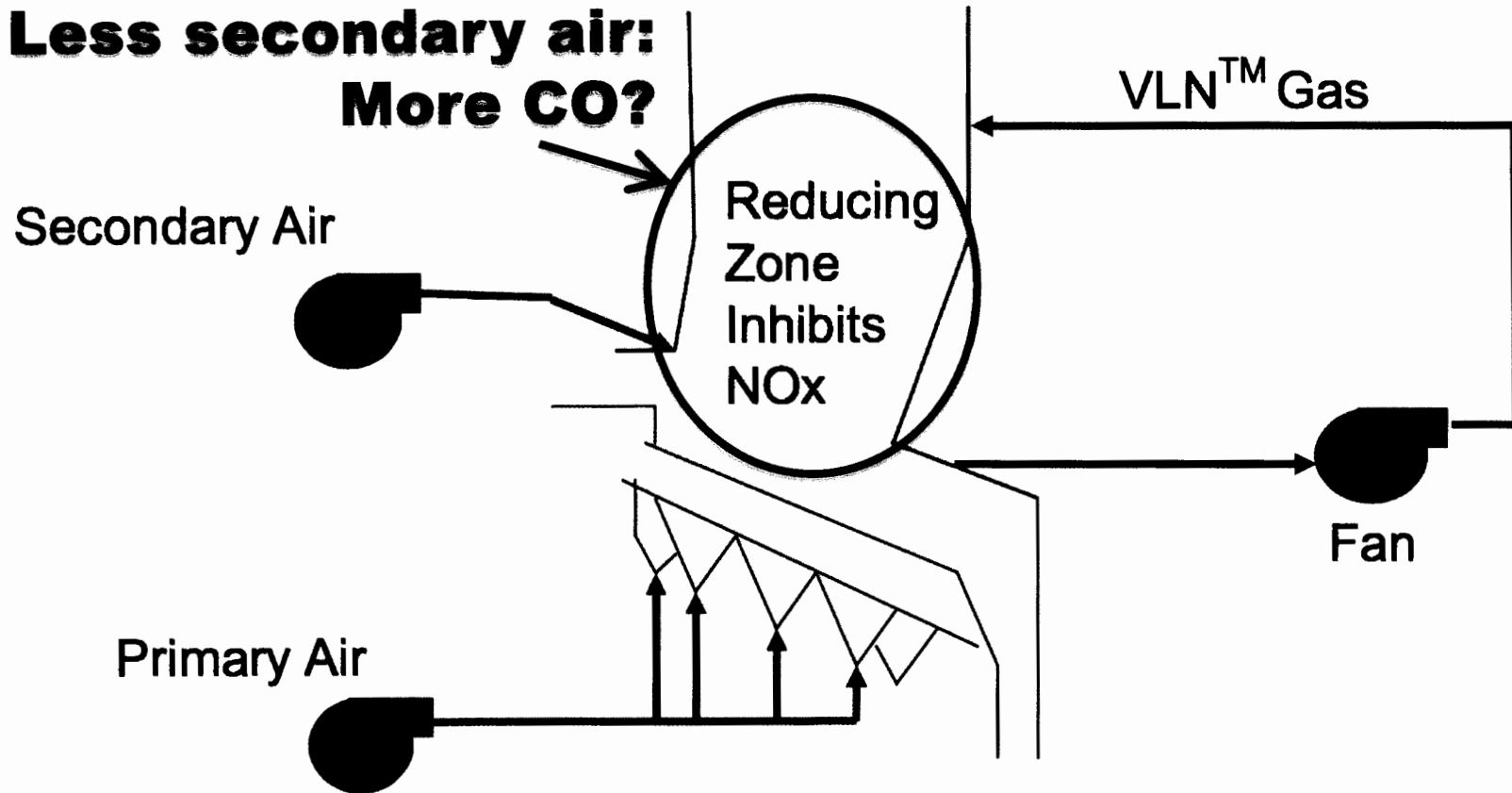
Minimal excess oxygen, just enough to ensure good combustion (White et al., 2009)



Above the grate: "Reducing zone"

Reduce secondary air to keep temperatures high;
Intentional deficit of oxygen; Exact mix required.

**Less secondary air:
More CO?**

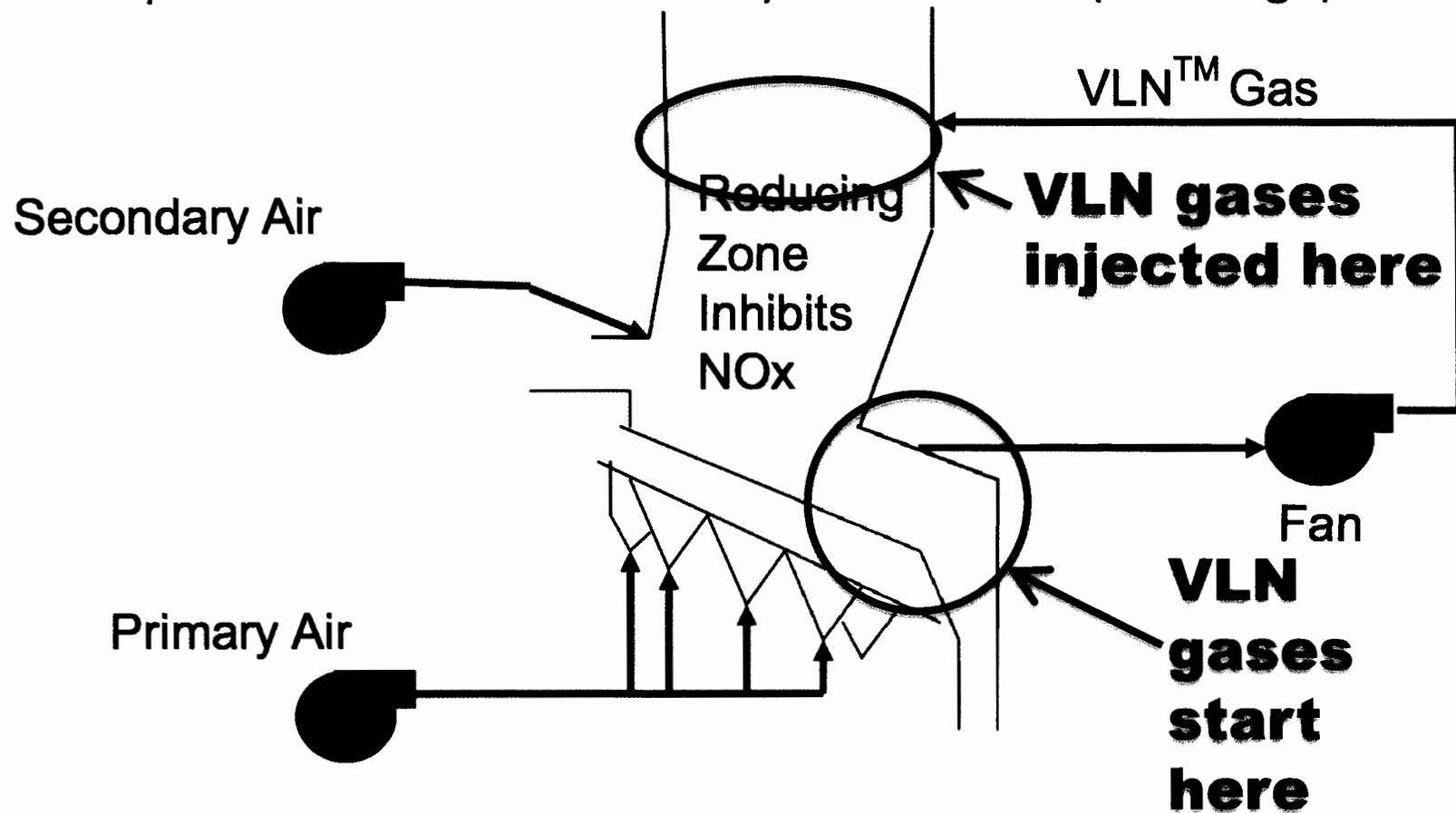


Injecting VLN gases:

Limit peak temperature while ensuring complete combustion;

Process requires precise control (White et al.);

Is this precise control consistently achievable? (Training?)



Redox Trade-off: NO_x or CO?

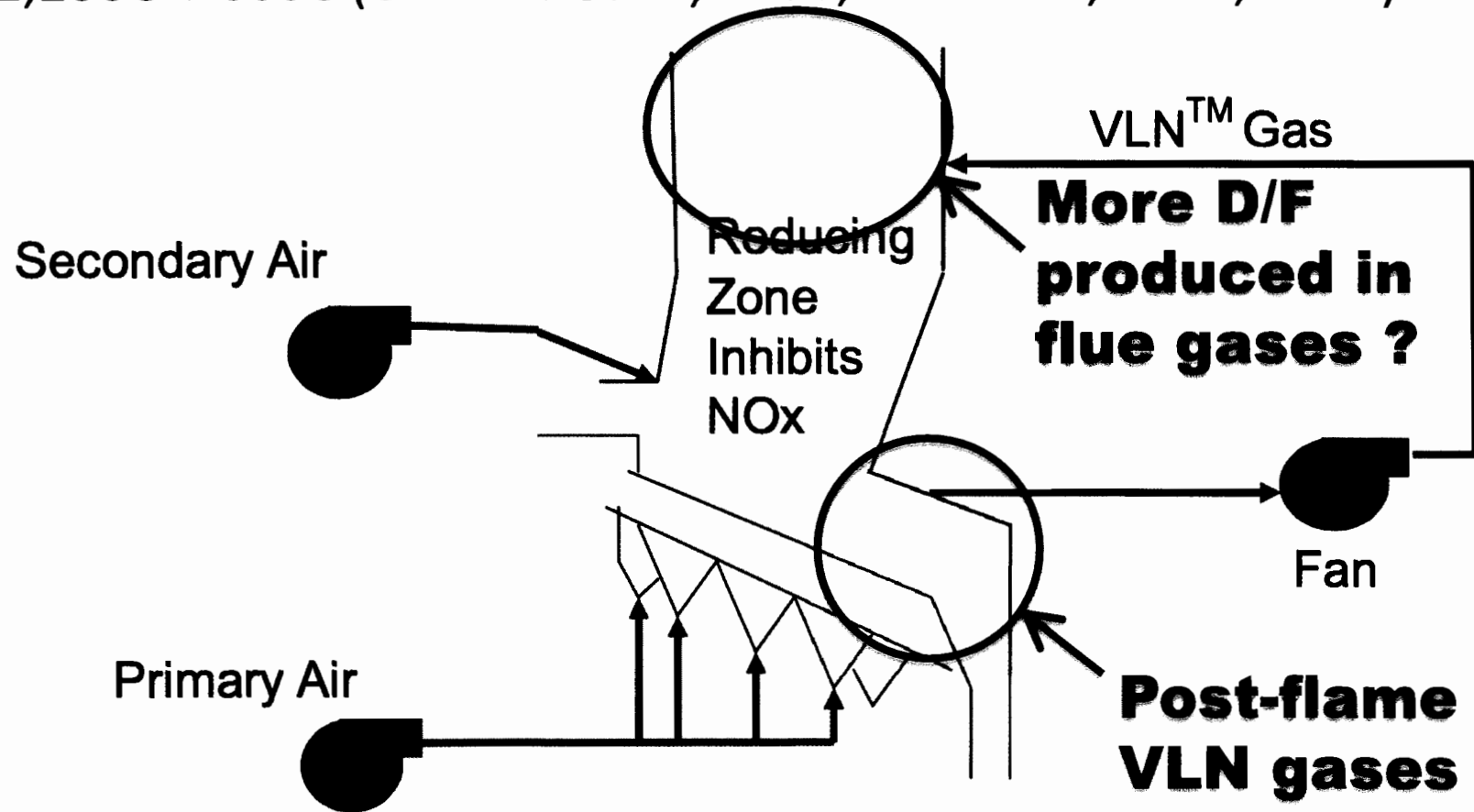
- Reducing: Starved for O₂
 - Excess CO as a reducing agent, less NO_x
 - NO_x reduced to N₂, CO oxidized to CO₂
- Oxidizing: Excess O₂
 - Complete oxidation of N₂ into NO_x, less CO
- Is this balance achievable on an industrial scale with uncontrolled burn materials?

Impact of VLN on dioxins + furans production is unknown: Covanta (White et al., 2009) only measured NO_x abatement; no before-after of dioxins or CO.

- Dioxins are re-synthesized in post-flame phase, 1,200C → 600C, from highly reactive combustion by-products (Cormier et al., 2006)
- EFW plants produce more dioxins compared to conventional incinerators due to longer flue gas residency time in critical temperature range while heating boilers (Kim et al., 2007; 2013)

Dioxins + Furans production:

Longer time of flue gases in post-flame for re-synthesis,
1,200C → 600C (Cormier et al., 2006; Kim et al., 2007; 2013)



Is VLN one of the root causes?

- Clues: more CO, more D/F, more ash
- Relies on minimal excess oxygen
(but permit requires minimum 6%)
- Requires precise control, made more difficult
by unknown properties of burn material
- More sites for dioxins/furans re-synthesis
- VLN is a cheaper alternative to catalytic
process, but is it good enough?

References

- Cormier, S. A., Lomnicki, S., Backes, W., & Dellinger, B. (2006). Origin and Health Impacts of Emissions of Toxic By-Products and Fine Particles from Combustion and Thermal Treatment of Hazardous Wastes and Materials. *Environmental Health Perspectives*, 114(6), 810–817. <http://doi.org/10.1289/ehp.8629>
- Kim, S.-C., Lee, K.-C., Kim, K.-H., Kwon, M.-H., & Song, G.-J. (2007). Enrichment of PCDDs/PCDFs in the cooling system of municipal solid waste incineration plants. *Waste Management*, 27(11), 1593 – 1602. <http://doi.org/10.1016/j.wasman.2006.07.007>
- Kim, S.-C., Song, G.-J., Seok, K.-S., Ko, Y.-H., & Hunsinger, H. (2013). Enrichment of PCDDs/PCDFs in peripheral utilities of the municipal solid waste incineration facility. *Waste Management*, 33(5), 1158 – 1164. <http://doi.org/10.1016/j.wasman.2013.01.005>
- White, M., Goff, S., Deduck, S., & Gohlke, O. (2009). New Process For Achieving Very Low NOx. In *Proceedings of the 17th Annual North American Waste-to-Energy Conference* (pp. 83–87). Chantilly, Virginia, USA: ASME. <http://doi.org/10.1115/NAWTEC17-2372>

APPENDIX 7

**Pre-Test Plan Acceptance Letter and
Amended Environmental Compliance Approval (Air) No. 7306-8FDKNX
(90 pages)**

Tina Sanderson

From: Hussain, Lubna I. (MOECC) <Lubna.I.Hussain@ontario.ca>
Sent: October-21-15 2:57 PM
To: Brasowski, Leon
Cc: Azocar, Guillermo (MOECC); Neild, Matthew; Huxter, Amanda; Dunn, Philip (MOECC); Thomas, Sandra (MOECC); Dugas, Celeste (MOECC)
Subject: RE: Preliminary DYEC Source Test Results

Hello Leon,

Thank you for this e-mail update. To confirm the MOECC does support your decision to move forwards with a repeat of the source testing for dioxins and furans beginning today.

Based on our conversation yesterday, I understand that you would like to re-test as there is indication that some of the samples from the October 1 and October 2 sampling are potentially contaminated.

To provide further context on the e-mail from Guillermo below, the steps outlined are suggestions for your further investigation as needed, but we do support your decision to begin testing today.

Please do let me know if you have any questions.

Regards,
Lubna

Lubna Hussain P.Eng.
Manager – Technology Standards Section
Standards Development Branch
Ministry of the Environment and Climate Change
E-mail : Lubna.I.Hussain@ontario.ca
Phone: 416-212-0081

From: Brasowski, Leon [mailto:LBrasowski@covanta.com]
Sent: October-21-15 10:52 AM
To: Hussain, Lubna I. (MOECC)
Cc: Azocar, Guillermo (MOECC); Neild, Matthew; Huxter, Amanda
Subject: RE: Preliminary DYEC Source Test Results

Good Morning Lubna!

Covanta certainly appreciated your time yesterday to further discuss the preliminary DYEC Source Test Results following my initial email to you and Covanta's desires to prioritize and expediently demonstrate compliance for all ECA performance standards. As a result, Covanta intends to start source testing for Dioxin/Furans this afternoon as early as 2 pm. This source testing program will likely end by Friday October 23rd, but may continue into early the following week as conditions warrant. Source testing and analysis of results will be conducted by ORTECH with analysis by ALS, consistent with initial testing and analysis.

The decision to expediently repeat Dioxins/Furans testing at this time was made with the understanding that ALS Life Sciences noted on the cover page of their Dioxin Analyses, attached, which states that "Despite additional work, there were still peaks at the diphenylether monitoring mass indicating the possibility that the results for 1,2,3,4,7,8 HxCDF and 1,2,3,6,7,8 HxDCF may be elevated." This in conjunction with our initial findings noted to you below regarding mass, TEQ and ratio results reflect these are not representative relative to both the September test results and emission data from other Energy-from-Waste facilities. We would also like to point out that upon review of the draft DYEC Source Test result report received yesterday – we have also found that there was contamination in the samples for acetaldehyde and formaldehyde. That means that two separate and independent sample trains had either contamination or interference issues.

We understood from our conversation that MOECC supports a decision to expediently move forward with a repeat source test program for Dioxin/Furans. Covanta will utilize this program to further our understanding of the initial results and be able to more fully respond to Guillermo's questions noted by his email below of October 20th. An initial review of process data between September and October is inconclusive. Furthermore, at this time we are still awaiting QA/QC regarding the duplicate extracts being analyzed by SGS. We will continue to work with you in a transparent fashion, as our expectation is that DYEC will demonstrate among the lowest emissions of Energy-from Waste facilities worldwide.

Should you have any questions, please do not hesitate to call.

Leon Brasowski
Director, Environmental Engineering



445 South Street
Morristown, NJ 07960
Tel: 862-345-5306
Fax: 862-345-5210
Cell: 201-913-9915
Email: lbrasowski@covanta.com
<http://covanta.com>

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From: Azocar, Guillermo (MOECC) [<mailto:Guillermo.Azocar@ontario.ca>]
Sent: Tuesday, October 20, 2015 5:14 PM
To: Brasowski, Leon <LBrasowski@covanta.com>
Cc: Hussain, Lubna I. (MOECC) <Lubna.I.Hussain@ontario.ca>
Subject: RE: Preliminary DYEC Source Test Results

Hi Leon,

Is it possible to get the ALS' dioxins/furans lab report, to check the reported data and any flagging done by the lab on the results?

Did you get the analysis from Covanta's dioxin monitor? If so, how do they compare to ALS/ORTECH results?

I believe that you should undertake additional dioxins testing only after you get the results from SGS, had time to compare to ALS results, check combustion gas temperatures, combustion chamber residence time (based on measured flows), baghouses inlet temperature, combustion excess oxygen, rate of lime and carbon injection (adsorption potential), particulate matter results (for potential presence of ionized carbon particles), HCl results, and the operation of the SNCR system operation and ammonia injection rate as a potential reduction of dioxins of furans by oxidation, that may impact even precursors (such as chlorophenols) before they are formed.

How do all these process/emissions parameters compare to the operation of unit 1 in September?

Regards,

Guillermo Azocar
Source Assessment Specialist.-

From: Brasowski, Leon [<mailto:LBrasowski@covanta.com>]
Sent: October 19, 2015 6:33 PM
To: Dugas, Celeste (MOECC); Dunn, Philip (MOECC); Hussain, Lubna I. (MOECC); Azocar, Guillermo (MOECC); Thomas, Sandra (MOECC)
Cc: 'Giuseppe Anello'; 'Mirka Januszkiewicz (Mirka.Januszkiewicz@durham.ca)'; Neild, Matthew; Huxter, Amanda
Subject: Preliminary DYEC Source Test Results

As discussed today with Phil Dunn, the following information is provided as an interim summary of preliminary test results at the Durham York Energy Centre for source testing conducted between September 10th and October 2nd.

Preliminary test results for all constituents identified by the MOECC approved Source Test Plan as required by the ECA for testing conducted between September 28th and October 2nd have just been made available today to Covanta. A cursory review of this information indicates mostly passing results, however, preliminary dioxin and furan results warrant discussion at this time. Prior to the conduct of the ECA required source tests, Covanta conducted dioxin testing on Unit #2 on September 10th to verify the ability of the DYEC to meet the obligations of the ECA. The table below provides an overview of results from dioxin source testing in September and October of 2015:

		Unit 1			Unit 2		
Date	Run	Mass (a)	TEQ (b)	Ratio (c)	Mass (a)	TEQ (b)	Ratio (c)
Sept 10	1	---	---	---	1,244	25.7	48.5
	2	---	---	---	1,770	32.5	54.4
	Average	---	---	---	1,507	29.1	51.4
Oct 1	1	7,105	212	33.5	2,433	121	20.1
Oct 2	2	6,413	188	34.1	1,551	74	21.0
	3	10,165	278	36.6	2,275	106	21.5

Average	7,894	226	34.7	2,086	100.3	20.8
---------	-------	-----	------	-------	-------	------

NOTES:

- (a) Units expressed as picograms per reference cubic meter at 11% O₂, dry gas basis.
- (b) Units expressed as picograms of toxic equivalence when applying WHO 2005 isomer specific toxicity factors to the isomer distribution associated with the mass emission factor.
- (c) The TEQ ratio is the mass factor divided by the TEQ factor and is an indicator of the isomer distribution.

The test program in September was conducted by ORTECH, the same firm that conducted the ECA mandated source testing. In each case the field samples were analyzed by ALS Laboratory.

The September 10th results were consistent with Covanta's expectations when considering both the mass, TEQ and ratio results. The ECA source test results are unusual and at present are not considered to be representative relative to both the September results and emission data from other Energy-from-Waste facilities. Covanta requested ALS to ship their duplicates to a second lab (SGS) to validate the preliminary results. SGS has received the duplicates.

ORTECH has calculated that the stack concentrations of dioxin emissions from both units in October will result in an impingement concentration of 0.0072 pg TEQ/m³, well below the allowable impingement concentration of 1 pg TEQ/m³ as established by Regulation 419.

We are currently implementing a comprehensive review of all operational data and will begin additional testing tomorrow to evaluate these preliminary results from which Covanta will develop the scope and schedule of an evaluation program. Our expectation is that we will have SGS results to review against the preliminary ALS data on Wednesday, October 21st.

Should you have any questions, please contact me.

Leon Brasowski
 Director, Environmental Engineering



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 Morristown, NJ 07960
 Tel: 862-345-5306
 Fax: 862-345-5210
 Cell: 201-913-9915
 Email: lbrasowski@covanta.com
<http://covanta.com>

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From: Kathy Stranks <KStranks@trca.on.ca>
Sent: September-27-16 9:41 AM
To: jeffrey.abrams@vaughan.ca; Larry.Clay@ontario.ca; gcollier@richmondhill.ca; martin.derond@townofajax.com; mark@townofmono.com; ClerksOffice@townofmono.com; peter.fay@brampton.ca; kgavine@conservationontario.ca; carey.degorter@caledon.ca; crystal.greer@mississauga.ca; bkane@adjtos.ca; michele.kennedy@townofws.ca; kkitteringham@markham.ca; jleal.mpp.co@liberal.ola.org; jleal.mpp@liberal.ola.org; dleroux@town.uxbridge.on.ca; kathryn.lockyer@peelregion.ca; llyons@aurora.ca; bmauro.mpp.co@liberal.ola.org; bmauro.mpp@liberal.ola.org; kmcgarry.mpp@liberal.ola.org; kmcgarry.mpp.co@liberal.ola.org; kmoyle@king.ca; gmurray.mpp.co@liberal.ola.org; gmurray.mpp@liberal.ola.org; dshields@cityofpickering.com; clerks@pickering.ca; clerk@toronto.ca; uwatkis@toronto.ca; Clerks
Cc: David Burnett
Subject: Provincial Four-Plan Review
Attachments: Provincial Four-Plan Review - Authority Res#A139-16.pdf

Please see attached resolution and staff report from Toronto and Region Conservation Authority in regard to the Provincial Four-Plan Review.

Thanks

Kathy Stranks
 Senior Manager, Corporate Secretariat
 CEO's Office
 Toronto and Region Conservation
 tel: 416-661-6600 ext. 5264
 cell: 416-723-7330
 fax: 416-661-6898
 email: kstranks@trca.on.ca
 website: <http://www.trca.on.ca/>
 Visit us on Facebook at <https://www.facebook.com/TorontoConservation?ref=>

Mailing Address: 5 Shoreham Drive, Downsview, ON M3N 1S4
 Location Address: 101 Exchange Avenue, Vaughan, ON L4K 5R6

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 Thank you."



September 27, 2016

Sent via email

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At Authority Meeting #7/16, of Toronto and Region Conservation Authority (TRCA), held on September 23, 2016, amended Resolution #A139/16 in regard to the Provincial Four-Plan Review was approved as follows:

WHEREAS the Province of Ontario is undertaking a 10 year review of the provincial land use plans for the Oak Ridges Moraine, the Greenbelt, the Niagara Escarpment and the Growth Plan for the Greater Golden Horseshoe;

AND WHEREAS Toronto and Region Conservation Authority (TRCA) supported many of the recommendations for amendments to the four plans as detailed in the report entitled "Planning for Health, Prosperity and Growth" as produced by the provincially appointed "Crombie" Advisory Panel on the Coordinated Review of the Four Plans;

AND WHEREAS many of the Advisory Panel recommendations and prior TRCA comments have been incorporated into the proposed amendments to the four plans;

THEREFORE LET IT BE RESOLVED THAT the Authority recommends to the Province that:

1. *the policies for Building Complete Communities be amended such that:*
 - *the definition of "Complete Communities" be revised to add an environmental component;*
 - *the policies for restricting development and infrastructure in areas of natural hazards be strengthened;*
 - *Growth Plan sections 2.2.1 Managing Growth, 2.2.2 Built-up Areas and 2.2.3 Urban Growth Centres be amended with a stronger emphasis on flood management, remediation and their integration with green infrastructure and low impact development techniques for existing Flood Vulnerable Areas; and*
 - *new policies be added requiring the completion of an urban Master Environmental Servicing Plan for areas of major urban redevelopment and revitalization to comprehensively address in an integrated manner, issues such as urban flooding and natural hazard remediation, water balance, infrastructure risk assessments and the incorporation of ecological design principles to integrate green infrastructure into an enhanced open space system;*

2. *the policies for Supporting Agriculture be revised, clarified and harmonized such that:*
 - *the potential natural heritage/hydrologic evaluation (NHE/HE) requirements of other approval authorities be recognized;*

- *clear direction be provided as to what constitutes a “demonstration” of compliance with the criteria that must be met to be exempt from an NHE/HE; and*
 - *on-farm diversified uses, large scale buildings and structures that meet the threshold for “major development” and the placement/dumping of large amounts of fill (i.e. > 500 m³) should continue to be subject to a full NHE/HE, when proposed adjacent to KNHF/KHF;*
3. *the policies for Protecting Natural Heritage and Water be revised such that:*
- *the definition, scope and content of Watershed and Subwatershed Plans is harmonized among the four plans and that they be integrated with clear goals for the protection, enhancement and restoration of natural heritage systems;*
 - *the role and expertise of conservation authorities in undertaking watershed plans be acknowledged, especially as it relates to stormwater management and the protection from and remediation of natural hazards;*
 - *Growth Plan policies for Natural Heritage Systems, Key Natural Heritage and Key Hydrologic Features and Lands Adjacent to those Key Features be simplified as much as possible and that provincial guidance for understanding and implementing these policies be prepared as soon as possible; and*
 - *Excess Soil and Fill policies be strengthened to prohibit filling within Key Natural Heritage and Key Hydrologic Features, and that a natural heritage/hydrologic evaluation be required for filling adjacent to these features;*
4. *the policies for Growing the Greenbelt be amended such that:*
- *areas of shallow groundwater and high artesian pressure be included as components of Key Hydrologic Areas to be assessed through watershed planning for additions to the Greenbelt;*
 - *headwater areas of the rivers and creeks within TRCA watersheds be designated as Greenbelt lands, especially those areas that are almost fully surrounded by other Greenbelt lands, such as those in the headwaters of the Carruthers Creek and the Rouge and Humber rivers watersheds;*
 - *conservation authorities be recognized as critical partners in the Greater Golden Horseshoe (GGH) for providing trails and outdoor recreational opportunities and that flexibility is provided for the enhancement to facilities and uses permitted on conservation authority lands, to meet the needs of a growing population, accessibility standards and financial sustainability;*
5. *the policies for Addressing Climate Change be amended such that Growth Plan section 4.2.10:*
- *is strengthened to require official plan policy implementation;*
 - *consolidates, integrates and/or cross-references all other climate change related policies and actions in the four plans;*
 - *identifies the role integrated watershed planning should play in planning for climate change mitigation and adaptation;*
 - *ensures coordination with other provincial climate change documents, programs and activities;*

6. *the policies for Integrating Infrastructure be amended such that:*
 - *a new policy be added to the Growth Plan requiring the applicable recommendations, standards or targets within a subwatershed plan and water budgets are complied with;*
 - *policies for green infrastructure and low impact development be clarified to state that these techniques should be considered on both private and public lands;*
 - *infrastructure policies be strengthened to require restoration and enhancement plans to offset negative impacts and that accessory uses to infrastructure corridors be located outside of key environmental features and hazardous lands;*
 - *infrastructure policies are clarified with respect to implementation roles and legislative authorities;*
 - *policies be clarified and strengthened to increase restoration and enhancement requirements and limit the types and amounts of stormwater management and other infrastructure uses allowed in the connecting major river valley “fingers” and Natural Heritage System of the Greenbelt Protected Countryside;*

7. *the policies in the four plans be amended and other means for Improving Plan Implementation be addressed such that:*
 - *the role of conservation authorities in implementing the four plans be more strongly identified in the plans as well as in the concurrent review of the Conservation Authorities Act;*
 - *municipal official plan conformity amendments to implement the four plans be shielded from appeals to the Ontario Municipal Board (OMB);*
 - *the transition provisions in the Oak Ridges Moraine Conservation Plan (ORMCP) and Act be strengthened and that the lapsing provisions included in the Growth Plan for approved but unbuilt plans of subdivision, also be included in the Greenbelt and Oak Ridges Moraine plans;*
 - *strong guidance materials and requirements for the content, timing and completeness of technical reports in support of development applications be developed by the Province and adhered to during an OMB process;*
 - *Advisory Panel recommendations to create guidance materials and technical bulletins to improve clarity and consistency in plan implementation be acted upon immediately, with involvement from implementation partners, including conservation authorities;*

8. *the applicable recommendations from the Advisory Panel report for Measuring Performance, Promoting Awareness and Increasing Engagement be acted on by the Province as quickly as possible, with involvement from and building on similar programs undertaken by conservation authorities;*

9. *the definitions included in the four plans be amended to be consistent among each of the plans and that they be refined or corrected as identified in the attached table of detailed comments (Attachment 2);*

THAT the staff report be sent to the Province as TRCA’s comments on the proposed amendments to the four provincial plans;

AND FURTHER THAT Conservation Ontario, TRCA's municipal partners and the provincial ministries of Natural Resources and Forestry, Municipal Affairs and Housing, Environment and Climate Change, Agriculture and Rural Affairs and the Ontario Growth Secretariat be so advised.

Enclosed for your information and any action deemed necessary is the report as approved by the Authority. If you have any questions or require additional information, please contact David Burnett at 416-661-6600 extension 5361, dburnett@trca.on.ca.

Sincerely



Kathy Stranks
Senior Manager, Corporate Secretariat
CEO's Office

cc. David Burnett, Senior Manager, Provincial And Regional Policy, TRCA

/Encl.

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Section I – Items for Authority Action

RES.#A139/16 - PROVINCIAL FOUR-PLAN REVIEW

TRCA Comments on the Four Plan Review. Toronto and Region Conservation Authority comments in response to the coordinated review of the Growth Plan for the Greater Golden Horseshoe, Greenbelt Plan, Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan (EBR Notice #s: 012-7194, 012-7195, 012-7197, 012-7228)

Moved by: Colleen Jordan
Seconded by: Glenn De Baeremaeker

WHEREAS the Province of Ontario is undertaking a 10 year review of the provincial land use plans for the Oak Ridges Moraine, the Greenbelt, the Niagara Escarpment and the Growth Plan for the Greater Golden Horseshoe;

AND WHEREAS Toronto and Region Conservation Authority (TRCA) supported many of the recommendations for amendments to the four plans as detailed in the report entitled “Planning for Health, Prosperity and Growth” as produced by the provincially appointed “Crombie” Advisory Panel on the Coordinated Review of the Four Plans;

AND WHEREAS many of the Advisory Panel recommendations and prior TRCA comments have been incorporated into the proposed amendments to the four plans;

THEREFORE LET IT BE RESOLVED THAT the Authority recommends to the Province that:

- 1. the policies for Building Complete Communities be amended such that:**
 - the definition of “Complete Communities” be revised to add an environmental component;
 - the policies for restricting development and infrastructure in areas of natural hazards be strengthened;
 - Growth Plan sections 2.2.1 Managing Growth, 2.2.2 Built-up Areas and 2.2.3 Urban Growth Centres be amended with a stronger emphasis on flood management, remediation and their integration with green infrastructure and low impact development techniques for existing Flood Vulnerable Areas; and
 - new policies be added requiring the completion of an urban Master Environmental Servicing Plan for areas of major urban redevelopment and revitalization to comprehensively address in an integrated manner, issues such as urban flooding and natural hazard remediation, water balance, infrastructure risk assessments and the incorporation of ecological design principles to integrate green infrastructure into an enhanced open space system;

- 2. the policies for Supporting Agriculture be revised, clarified and harmonized such that:**
 - the potential natural heritage/hydrologic evaluation (NHE/HE) requirements of other approval authorities be recognized;
 - clear direction be provided as to what constitutes a “demonstration” of compliance with the criteria that must be met to be exempt from an NHE/HE; and
 - on-farm diversified uses, large scale buildings and structures that meet the threshold for “major development” and the placement/dumping of large amounts of fill (i.e. > 500 m³) should continue to be subject to a full NHE/HE, when proposed adjacent to KNHF/KHF;

3. the policies for Protecting Natural Heritage and Water be revised such that:
 - the definition, scope and content of Watershed and Subwatershed Plans is harmonized among the four plans and that they be integrated with clear goals for the protection, enhancement and restoration of natural heritage systems;
 - the role and expertise of conservation authorities in undertaking watershed plans be acknowledged, especially as it relates to stormwater management and the protection from and remediation of natural hazards;
 - Growth Plan policies for Natural Heritage Systems, Key Natural Heritage and Key Hydrologic Features and Lands Adjacent to those Key Features be simplified as much as possible and that provincial guidance for understanding and implementing these policies be prepared as soon as possible; and
 - Excess Soil and Fill policies be strengthened to prohibit filling within Key Natural Heritage and Key Hydrologic Features, and that a natural heritage/hydrologic evaluation be required for filling adjacent to these features;
4. the policies for Growing the Greenbelt be amended such that:
 - areas of shallow groundwater and high artesian pressure be included as components of Key Hydrologic Areas to be assessed through watershed planning for additions to the Greenbelt;
 - headwater areas of the rivers and creeks within TRCA watersheds be seriously considered for additions to the Greenbelt, especially those areas that are almost fully surrounded by other Greenbelt lands, such as those in the headwaters of the Carruthers Creek and the Rouge and Humber rivers watersheds;
 - conservation authorities be recognized as critical partners in the Greater Golden Horseshoe (GGH) for providing trails and outdoor recreational opportunities and that flexibility is provided for the enhancement to facilities and uses permitted on conservation authority lands, to meet the needs of a growing population, accessibility standards and financial sustainability;
5. the policies for Addressing Climate Change be amended such that Growth Plan section 4.2.10:
 - is strengthened to require official plan policy implementation;
 - consolidates, integrates and/or cross-references all other climate change related policies and actions in the four plans;
 - identifies the role integrated watershed planning should play in planning for climate change mitigation and adaptation;
 - ensures coordination with other provincial climate change documents, programs and activities;
6. the policies for Integrating Infrastructure be amended such that:
 - a new policy be added to the Growth Plan requiring the applicable recommendations, standards or targets within a subwatershed plan and water budgets are complied with;
 - policies for green infrastructure and low impact development be clarified to state that these techniques should be considered on both private and public lands;
 - infrastructure policies be strengthened to require restoration and enhancement plans to offset negative impacts and that accessory uses to infrastructure corridors be located outside of key environmental features and hazardous lands;
 - infrastructure policies are clarified with respect to implementation roles and legislative authorities;

- policies be clarified and strengthened to increase restoration and enhancement requirements and limit the types and amounts of stormwater management and other infrastructure uses allowed in the connecting major river valley “fingers” and Natural Heritage System of the Greenbelt Protected Countryside;
7. the policies in the four plans be amended and other means for Improving Plan Implementation be addressed such that:
 - the role of conservation authorities in implementing the four plans be more strongly identified in the plans as well as in the concurrent review of the *Conservation Authorities Act*;
 - municipal official plan conformity amendments to implement the four plans be shielded from appeals to the Ontario Municipal Board (OMB);
 - the transition provisions in the *Oak Ridges Moraine Conservation Plan (ORMCP)* and *Act* be strengthened and that the lapsing provisions included in the Growth Plan for approved but unbuilt plans of subdivision, also be included in the Greenbelt and Oak Ridges Moraine plans;
 - strong guidance materials and requirements for the content, timing and completeness of technical reports in support of development applications be developed by the Province and adhered to during an OMB process;
 - Advisory Panel recommendations to create guidance materials and technical bulletins to improve clarity and consistency in plan implementation be acted upon immediately, with involvement from implementation partners, including conservation authorities;
 8. the applicable recommendations from the Advisory Panel report for *Measuring Performance, Promoting Awareness and Increasing Engagement* be acted on by the Province as quickly as possible, with involvement from and building on similar programs undertaken by conservation authorities;
 9. the definitions included in the four plans be amended to be consistent among each of the plans and that they be refined or corrected as identified in the attached table of detailed comments (Attachment 2);

THAT the staff report be sent to the Province as TRCA’s comments on the proposed amendments to the four provincial plans;

AND FURTHER THAT Conservation Ontario, TRCA’s municipal partners and the provincial ministries of Natural Resources and Forestry, Municipal Affairs and Housing, Environment and Climate Change, Agriculture and Rural Affairs and the Ontario Growth Secretariat be so advised.

AMENDMENT
RES.#A140/16

Moved by: Colleen Jordan
Seconded by: Glenn De Baeremaeker

THAT the second bullet of item #4 be amended to read as follows:

- headwater areas of the rivers and creeks within TRCA watersheds be designated as Greenbelt lands, especially those areas that are almost fully surrounded by other Greenbelt lands, such as those in the headwaters of the Carruthers Creek and the Rouge and Humber rivers watersheds;

THE AMENDMENT WAS CARRIED

THE MAIN MOTION, AS AMENDED, WAS CARRIED

THE RESULTANT MOTION READS AS FOLLOWS:

WHEREAS the Province of Ontario is undertaking a 10 year review of the provincial land use plans for the Oak Ridges Moraine, the Greenbelt, the Niagara Escarpment and the Growth Plan for the Greater Golden Horseshoe;

AND WHEREAS Toronto and Region Conservation Authority (TRCA) supported many of the recommendations for amendments to the four plans as detailed in the report entitled “Planning for Health, Prosperity and Growth” as produced by the provincially appointed “Crombie” Advisory Panel on the Coordinated Review of the Four Plans;

AND WHEREAS many of the Advisory Panel recommendations and prior TRCA comments have been incorporated into the proposed amendments to the four plans;

THEREFORE LET IT BE RESOLVED THAT the Authority recommends to the Province that:

- 1. the policies for Building Complete Communities be amended such that:**
 - the definition of “Complete Communities” be revised to add an environmental component;
 - the policies for restricting development and infrastructure in areas of natural hazards be strengthened;
 - Growth Plan sections 2.2.1 Managing Growth, 2.2.2 Built-up Areas and 2.2.3 Urban Growth Centres be amended with a stronger emphasis on flood management, remediation and their integration with green infrastructure and low impact development techniques for existing Flood Vulnerable Areas; and
 - new policies be added requiring the completion of an urban Master Environmental Servicing Plan for areas of major urban redevelopment and revitalization to comprehensively address in an integrated manner, issues such as urban flooding and natural hazard remediation, water balance, infrastructure risk assessments and the incorporation of ecological design principles to integrate green infrastructure into an enhanced open space system;
- 2. the policies for Supporting Agriculture be revised, clarified and harmonized such that:**
 - the potential natural heritage/hydrologic evaluation (NHE/HE) requirements of other approval authorities be recognized;
 - clear direction be provided as to what constitutes a “demonstration” of compliance with the criteria that must be met to be exempt from an NHE/HE; and
 - on-farm diversified uses, large scale buildings and structures that meet the threshold for “major development” and the placement/dumping of large amounts of fill (i.e. > 500 m³) should continue to be subject to a full NHE/HE, when proposed adjacent to KNHF/KHF;

3. the policies for Protecting Natural Heritage and Water be revised such that:
 - the definition, scope and content of Watershed and Subwatershed Plans is harmonized among the four plans and that they be integrated with clear goals for the protection, enhancement and restoration of natural heritage systems;
 - the role and expertise of conservation authorities in undertaking watershed plans be acknowledged, especially as it relates to stormwater management and the protection from and remediation of natural hazards;
 - Growth Plan policies for Natural Heritage Systems, Key Natural Heritage and Key Hydrologic Features and Lands Adjacent to those Key Features be simplified as much as possible and that provincial guidance for understanding and implementing these policies be prepared as soon as possible; and
 - Excess Soil and Fill policies be strengthened to prohibit filling within Key Natural Heritage and Key Hydrologic Features, and that a natural heritage/hydrologic evaluation be required for filling adjacent to these features;

4. the policies for Growing the Greenbelt be amended such that:
 - areas of shallow groundwater and high artesian pressure be included as components of Key Hydrologic Areas to be assessed through watershed planning for additions to the Greenbelt;
 - headwater areas of the rivers and creeks within TRCA watersheds be designated as Greenbelt lands, especially those areas that are almost fully surrounded by other Greenbelt lands, such as those in the headwaters of the Carruthers Creek and the Rouge and Humber rivers watersheds;
 - conservation authorities be recognized as critical partners in the Greater Golden Horseshoe (GGH) for providing trails and outdoor recreational opportunities and that flexibility is provided for the enhancement to facilities and uses permitted on conservation authority lands, to meet the needs of a growing population, accessibility standards and financial sustainability;

5. the policies for Addressing Climate Change be amended such that Growth Plan section 4.2.10:
 - is strengthened to require official plan policy implementation;
 - consolidates, integrates and/or cross-references all other climate change related policies and actions in the four plans;
 - identifies the role integrated watershed planning should play in planning for climate change mitigation and adaptation;
 - ensures coordination with other provincial climate change documents, programs and activities;

6. the policies for Integrating Infrastructure be amended such that:
 - a new policy be added to the Growth Plan requiring the applicable recommendations, standards or targets within a subwatershed plan and water budgets are complied with;
 - policies for green infrastructure and low impact development be clarified to state that these techniques should be considered on both private and public lands;
 - infrastructure policies be strengthened to require restoration and enhancement plans to offset negative impacts and that accessory uses to infrastructure corridors be located outside of key environmental features and hazardous lands;
 - infrastructure policies are clarified with respect to implementation roles and legislative authorities;

- policies be clarified and strengthened to increase restoration and enhancement requirements and limit the types and amounts of stormwater management and other infrastructure uses allowed in the connecting major river valley “fingers” and Natural Heritage System of the Greenbelt Protected Countryside;
7. the policies in the four plans be amended and other means for Improving Plan Implementation be addressed such that:
 - the role of conservation authorities in implementing the four plans be more strongly identified in the plans as well as in the concurrent review of the *Conservation Authorities Act*;
 - municipal official plan conformity amendments to implement the four plans be shielded from appeals to the Ontario Municipal Board (OMB);
 - the transition provisions in the *Oak Ridges Moraine Conservation Plan (ORMCP) and Act* be strengthened and that the lapsing provisions included in the Growth Plan for approved but unbuilt plans of subdivision, also be included in the Greenbelt and Oak Ridges Moraine plans;
 - strong guidance materials and requirements for the content, timing and completeness of technical reports in support of development applications be developed by the Province and adhered to during an OMB process;
 - Advisory Panel recommendations to create guidance materials and technical bulletins to improve clarity and consistency in plan implementation be acted upon immediately, with involvement from implementation partners, including conservation authorities;
 8. the applicable recommendations from the Advisory Panel report for *Measuring Performance, Promoting Awareness and Increasing Engagement* be acted on by the Province as quickly as possible, with involvement from and building on similar programs undertaken by conservation authorities;
 9. the definitions included in the four plans be amended to be consistent among each of the plans and that they be refined or corrected as identified in the attached table of detailed comments (Attachment 2);

THAT the staff report be sent to the Province as TRCA’s comments on the proposed amendments to the four provincial plans;

AND FURTHER THAT Conservation Ontario, TRCA’s municipal partners and the provincial ministries of Natural Resources and Forestry, Municipal Affairs and Housing, Environment and Climate Change, Agriculture and Rural Affairs and the Ontario Growth Secretariat be so advised.

BACKGROUND

On February 27, 2015, the Province initiated a coordinated review of the Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan and Growth Plan for the Greater Golden Horseshoe. An Advisory Panel led by Mr. David Crombie was appointed to coordinate this review and recommend necessary plan amendments. TRCA staff developed strategic recommendations in response to the discussion questions posed by the Province and submitted formal comments on May 28, 2015, as approved by Resolution #A99/15 at Authority Meeting #6/15, held on June 26, 2015. The Advisory Panel provided recommendations to the Province on December 7, 2015 through a report entitled, “Planning for Health, Prosperity and Growth in the Greater Golden Horseshoe: 2015-2041”. TRCA staff reported on the recommendations from the

Advisory Panel at Authority Meeting #11/15, held on January 8, 2016, as approved by Resolution #A245/15.

Provincial staff assessed the Advisory Panel's report and released proposed amendments to the four plans on May 10, 2016, for a further round of public and agency consultation. Of the Panel's 87 total recommendations, all 56 of the core recommendations were incorporated into the revised plans, to varying degrees. TRCA staff provided a summary of the key themes of the amended plans and identified important changes warranting additional analysis prior to the issuance of formal comments, as approved by Resolution #A119/16 at Authority Meeting #6/16, held on July 22, 2016. In particular, staff highlighted policy changes related to: integrating natural heritage systems in watershed planning; sustainable management of large-scale fill; the transition provisions of the ORMC Plan and Act; agricultural exemptions for natural heritage evaluations; climate change; provincial plan implementation; defining complete communities; recognizing the role of conservation authorities; and, complementary recommendations from the Advisory Panel report that must be addressed outside the plans.

The Province initially set a September 30, 2016 deadline for feedback on the proposed plans. However, due to high interest in the review and in response to requests made by several municipalities and stakeholder organizations (including TRCA, as per Resolution #A119/16 approved at Authority Meeting #6/16) the deadline has been extended to October 31, 2016.

RATIONALE

Many of TRCA's previous comments are reflected in the four amended plans and the enhanced policies and concepts espoused generally align well with TRCA's 10 Year Strategic Plan (2013-2022) and The Living City Policies documents. In particular, the following key issues previously raised by TRCA, have been addressed to varying degrees in the plans:

- Recognizing the value of, and strengthening requirements for watershed planning to ensure growth occurs in a sustainable manner;
- New policy language promoting a "systems approach" to natural heritage and water resource planning, including the addition of a new class of features to be identified, managed and protected as "Key Hydrologic Areas";
- Harmonized terminology across the four plans and with the Provincial Policy Statement;
- Increased support for agricultural lands and related rural uses;
- Stronger policy requirements for integrating infrastructure and land use planning;
- New policies to help ensure large-scale fill activities are sustainably managed;
- New policies to reduce greenhouse gas emissions and address climate change; and
- New policies to incorporate the use of green infrastructure and low impact development techniques.

TRCA staff generally support the proposed policy changes. However, staff does have recommendations that staff believes, if implemented, could further strengthen and support the progressive intent of the plans. Of these, staff identified the following issues to be paramount and strongly advocate that they be incorporated into the Province's amended plans immediately:

1. New policies are needed to require the completion of an "urban MESP (municipal environmental servicing plan)" for areas of major urban redevelopment, especially in flood vulnerable areas;

2. The Climate Change policies in the Growth Plan must require official plan implementation and should be enhanced to tie-back the policies to other climate change references throughout the plans, especially to highlight the role that watershed planning can play in developing mitigation and adaptation strategies;
3. The definition, scope and content of watershed and subwatershed plans needs to be harmonized and fully integrated among the four plans, with clear goals to protect, enhance, and restore natural heritage and water resource systems; and
4. The role of conservation authorities in implementing the plans should be more clearly recognized and conservation authority expertise fully utilized and leveraged in the creation of guidance materials for plan implementation, as well as for monitoring and measuring performance of the plans in achieving their environmental objectives.

The attached comment letter (Attachment 1) and table of detailed comments (Attachment 2), expand upon these recommendations as part of TRCA's formal response to the Province's (Environmental Bill of Rights Registry) EBR postings regarding the coordinated ten-year review of the plans. This response reflects knowledge gained from provincial technical workshops and open houses; discussions with various provincial, municipal and conservation authority staff; and, internal consultations with senior management, planning and technical staff to assess the integration of previous comments, identify new changes relevant to TRCA and formulate new recommendations for enhancing the policies in the plans.

FINANCIAL DETAILS

Staff is engaged in this policy analysis work as per the normal course of their duties. No additional funding is proposed.

DETAILS OF WORK TO BE DONE

- Incorporate feedback, if any, from the Authority meeting on September 23, 2016 into formal comments;
- Submit formal comments to the Province, in accordance with their deadline of October 31, 2016;
- Review the final amendments to the four plans and report back to the Authority in 2017.

Report Prepared by: Jeff Thompson, extension 5386

Emails: jthompson@trca.on.ca

For Information contact: David Burnett, extension 5361

Emails: dburnett@trca.on.ca

Date: September 6, 2016

Attachments: 2

Attachment 1



September 9, 2016

Land Use Planning Review
Ministry of Municipal Affairs and Housing
Ontario Growth Secretariat
777 Bay Street,
Toronto, ON M5G 2E5

emailed to:
landuseplanningreview@ontario.ca

Re: Toronto and Region Conservation Authority Comments in Response to the Co-ordinated Review of the Growth Plan for the Greater Golden Horseshoe, Greenbelt Plan, Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan (EBR Notice #s: 012-7194, 012-7195, 012-7197 & 012-7228)

Thank you for the opportunity to provide comments in response to the EBR posting regarding the ten-year review of the four Provincial Plans (the Plans). The Toronto and Region Conservation Authority (TRCA) has been active in the ten-year review process from its beginning in several ways including partnering with the Conservation Authorities Moraine Coalition to produce the *Report Card on the Environmental Health of the Oak Ridges Moraine and Adjacent Greenbelt Lands* (www.morainecoalition.ca). The *Report Card* demonstrates the strengths and weaknesses of the Plans for those landscapes, based on the monitoring programs of the conservation authorities (CAs) and found degraded water quality in almost half of the streams monitored. TRCA also responded in May 2015 to the initial consultation questions posed by the province and expressed our views directly to Advisory Panel members and provincial staff on several occasions. We appreciate the opportunities provided to TRCA to contribute to the four Plans review and, in general, we are pleased that our comments have been heard and that many of them have been reflected in the proposed amendments.

We note further that many of the policies and concepts align well with The Living City Policies, TRCA's own policy document that guides staff in its roles in land use and infrastructure planning and the TRCA's regulatory permitting process. The proposed changes to the four Plans help to advance our collective efforts to reduce sprawl, maximize our infrastructure investments, develop compact, transit supportive complete communities, protect valuable natural and agricultural lands and address climate change. CAs provide significant support for the implementation of the four provincial Plans. CAs help the Province and municipalities to reach the objectives of the provincial Plans through their delegated responsibilities around flooding and other natural hazards; their resource management agency role; as plan review service providers to municipalities; as a public commenting body for applications under the *Planning and Environmental Assessment Acts*; and, as one of the largest landowners in Ontario. We are pleased to note the following issues previously raised by TRCA that have been addressed to varying degrees in the proposed amendments:

- Recognizing the value of, and strengthening the requirements for watershed planning to ensure that growth occurs in an environmentally sustainable manner;
- Adding into the Greenbelt Plan and Growth Plan a new class of features, "Key Hydrologic Areas", to be identified, managed and protected as part of the Water Resource System;

- Harmonization of terminology;
- Increased support for agricultural lands and related rural uses;
- Strengthened policy requirements for integrating infrastructure and land use planning;
- Addition of policies to manage large-scale fill activities;
- Addition of policies for the use of Green Infrastructure and Low Impact Development (LID) techniques; and
- Recognition of the need and direction to be planning for climate change adaptation and mitigation.

Comments are based on TRCA's extensive experience working within the framework of the four provincial Plans that are under review. CAs are the experts when it comes to watershed planning and management. The Province is urged to recognize this expertise and increase the integration of CAs in the implementation of these Plans. This is particularly important for: facilitating watershed planning; defining natural heritage systems; natural hazard delineation and mapping under individual CA regulations; stormwater management (including green infrastructure and low impact development); protection of municipal drinking water sources; protection of environmentally sensitive lands; and, partnering and providing technical advice to planning authorities and the Province. Conservation authorities add value to the growth planning process by bringing a regional perspective to cross boundary/watershed issues and across legislative review and approval processes (high level through to detailed design for both development and infrastructure).

Our comments are also informed by formal and informal discussions with staff from other conservation authorities, Conservation Ontario and municipalities. Due to the harmonization of the plans done to date, many of the comments are applicable to more than one plan. The attached table also provides supplementary detailed comments and plan-specific references as to where the theme comments from this letter apply. The key themes for TRCA's comments follow a format similar to that used in the provincial guide to the proposed changes to the four Plans – *Shaping Land Use in the Greater Golden Horseshoe*:

1. Building Complete Communities
2. Supporting Agriculture
3. Protecting Natural Heritage and Water
4. Growing the Greenbelt
5. Addressing Climate Change
6. Integrating Infrastructure
7. Improving Plan Implementation
8. Measuring Performance, Promoting Awareness and Increasing Engagement
9. Definitions

1) Building Complete Communities

TRCA supports the proposed policy direction for building complete communities with increased transit-supportive densities and increased intensification targets, as this helps to decrease pressures to expand the urban footprint further into rural, agricultural and natural areas. We also appreciate the clarification provided in the Growth Plan (GP) stating that, despite provincial direction for intensification, "growth should be generally directed away from hazardous areas, including those that have been identified as special policy areas in accordance with the PPS". Further, we strongly support the proposed policies for settlement area boundary expansion that require the preparation of master plans for water, wastewater and stormwater, as informed by watershed planning, in order to demonstrate that the proposed expansion and associated servicing would not negatively impact the water resource system.

Complete Communities

TRCA generally supports the phrase in the definition that “Complete communities may take different shapes and forms appropriate to their context”. This is particularly appropriate given the great diversity of settlement areas in TRCA watersheds ranging from major cities to rural hamlets. We believe, however, that this definition is too narrow in scope. The definition of “Complete Communities” should be expanded to include an environmental component that describes the aspects of healthy and sustainable communities such as public health and safety, and the contributions of a healthy environment (clean air and water; resilient natural systems; access to a low-carbon lifestyle) to the overall health and well-being of residents.

Protection from Natural Hazards

TRCA is supportive of increased intensification targets in the Growth Plan to assist Ontario in reaching its climate change objectives as outlined in the Climate Change Strategy, 2015 as well as to build complete communities. However, stronger policies are required to ensure that increasing intensification targets do not lead to increased pressure to develop lands adjacent to or within natural heritage or natural hazard areas or drinking water vulnerable areas in order to meet the density targets. Further, the policies should address mitigation and remediation requirements for redevelopment and intensification where buildings and infrastructure are already located within hazardous lands. For example, the context section of GP 2.1 has greater clarity and detail than the policy itself (2.2.1.2 j), which states only that growth should be generally directed away from hazardous lands. Other than unavoidable crossings for public infrastructure, there should be no further new development or new infrastructure approved within hazardous lands, as this will only compound future risks from climate change and make infrastructure less resilient. Where historical development and infrastructure already exist in hazardous lands, and these vulnerable areas are proposed for redevelopment and expanded infrastructure, risk assessments should be required to demonstrate that new hazards are not created and existing hazards are not aggravated, consistent with PPS policy 3.1.7 c. The Growth Plan policy should be strengthened and amended accordingly.

Greenfield v Urban Redevelopment

The policy focus on managing for settlement area boundary expansions through the various master plan studies noted above is entirely appropriate, as the upstream protection of natural heritage and water resource systems is critical to downstream flood protection and mitigation of cumulative impacts. We still have concerns, however, that the GP is too focused on “greenfield” development and that sufficient policy direction is lacking for the need to manage the impacts of intensification and redevelopment in the existing urban areas. We are now reaching a threshold capacity in TRCA watersheds where communities, in particular redeveloping communities in urban growth centres and built-up areas, will increasingly be put at risk from the combined impacts of intensification, new growth in headwaters areas and climate change. The GP needs to be strengthened with additional policies for continuous improvement in how we manage stormwater and invest in infrastructure and hazard remediation for redevelopment and intensification areas. These policies need to include direction for incorporating ecological design in the restoration and enhancement of the natural heritage system and water resources system and other urban green infrastructure, to provide an enhanced open space system and reduce the risk of flooding and erosion where it currently occurs in existing flood vulnerable areas.

Urban MESP and Flood Vulnerable Areas

Given provincial direction for intensification levels moving to 60%, TRCA sees advantage to applying the Master Environmental Servicing Plan (MESP) concept to large urban redevelopment areas through a Growth Plan mandated "urban MESP". The secondary planning process for large areas of existing

development undergoing urban revitalization is often challenged by disparate land ownership, uncoordinated timing and the need to remediate flooding and erosion hazards and to restore and expand natural areas to provide resilience for a growing population. These lands could especially benefit from a municipally-led urban MESP process that advances ecological design and a systems approach to natural heritage restoration and natural hazard remediation on a comprehensive (sub)watershed basis. The proposed policies for Built-up Areas and Urban Growth Centres are too strictly focused on targets for density and intensification. These areas also need to be liveable, with high quality urban design that addresses stormwater retrofits, urban flood and hazard management and which seeks to mitigate future climate change impacts by planning for a system of open space, urban forest and the incorporation of green building technologies and green infrastructure. The urban MESP approach would be an ideal mechanism to achieve integrated planning for water and hazard management, infrastructure renewal, climate change adaptation and mitigation and natural heritage systems restoration at the broader scale with the implementation of green infrastructure and low impact development at the local scale.

The TRCA jurisdiction has a number of flood vulnerable areas (FVA) of existing development that are designated for redevelopment in accordance with the Growth Plan. Through the urban MESP process, opportunities for remediation need to be actively sought and planned for, to manage the risk that comes with more intensification in these FVA. To just "generally direct development away from hazardous lands" is not a realistic option in these situations.

TRCA recommends that policies for Building Complete Communities be amended such that:

- **The definition of "Complete Communities" be revised to add an environmental component;**
- **The policies for restricting development and infrastructure in areas of natural hazards be strengthened;**
- **Growth Plan sections 2.2.1 Managing Growth, 2.2.2 Built-up Areas and 2.2.3 Urban Growth Centres be amended with a stronger emphasis on urban flood management, remediation and the integration with green infrastructure and low impact development techniques for existing Flood Vulnerable Areas; and**
- **New policies be added requiring the completion of an urban Master Environmental Servicing Plan for areas of major urban redevelopment and revitalization to comprehensively address in an integrated manner, issues such as urban flooding and natural hazard remediation, water balance, infrastructure risk assessments and the incorporation of ecological design principles to integrate green infrastructure into an enhanced open space system.**

2) Supporting Agriculture

TRCA has previously commented on the need for increased flexibility for the agricultural community to promote and enhance rural livelihoods, as well as the need to harmonize the definitions of agriculture and its related activities, with the language used in the Provincial Policy Statement (PPS) 2014. We are pleased to see that this has largely been captured in the proposed plan amendments, along with other policies to strengthen the viability of the agricultural industry, such as adding new policies for: the identification by the Province of the agricultural system for the Greater Golden Horseshoe (GGH); the identification and promotion of an agricultural support system; and recognizing and providing opportunities to support local food, urban and near-urban agriculture.

Clarify the Policy Framework regarding Agricultural Uses and Natural Heritage/Hydrologic Evaluation Exclusions

CAs have regulatory requirements where NHE/HE or environmental impact studies could still be required to demonstrate compliance with permit applications submitted under section 28 of the *Conservation Authorities Act*. These study requirements benefit the farmer by helping to ensure that a farmer's investment in new buildings is protected from natural hazards such as flooding and erosion. Similarly, Source Protection Plans under the Clean Water Act, 2006 may also require hydrological and hydrogeological assessments for certain future development and buildings, which helps to ensure the safety and quality of public drinking water systems. The policies of the four Plans need to clearly state that requirements of other regulatory agencies may still require environmental studies to be completed. Policies in the Greenbelt Plan that address this need to be added into the Growth Plan.

In reviewing the details of the proposed policies, we find that some of the wording and concepts as written, especially in the Growth Plan, are very complex and may lead to unintended consequences and challenges during implementation (policies 4.2.2, 4.2.3, 4.2.4). In particular, we have identified several issues with respect to the policies that appear to exempt new buildings or structures for *agricultural uses, agriculture-related uses and on-farm diversified uses* that are proposed within the NHS and/or adjacent to key hydrologic features or key natural heritage features, from the requirements of completing a natural heritage evaluation or hydrologic evaluation (NHE/HE). Those uses appear to be subject to demonstrating compliance with a number of criteria, but this too poses several problems.

The policies require "demonstration" that a number of criteria be met in order to be exempt from completing an NHE/HE, but no direction is provided on how compliance with the criteria is to be demonstrated. The Province needs to clarify if the required "demonstration" of meeting the criteria is to be achieved through submission of a scoped environmental study, a detailed site plan or some other means.

Including *on-farm diversified uses* in this policy is problematic in that these uses are secondary to the principal agricultural use of the property, and may be totally unrelated to the agricultural operations. TRCA has seen instances of environmental impacts taking place from non-agricultural uses such as structures for the storage of heavy machinery or landscaping equipment. The policies that exempt requirements to complete an NHE/HE should be limited to *agricultural uses* and *agriculture-related uses*. *On-farm diversified uses* should not be included in this exemption.

TRCA recommends that the policies for Supporting Agriculture be revised, clarified and harmonized such that:

- **The potential natural heritage/hydrologic evaluation requirements of other approval authorities be recognized;**
- **Clear direction be provided as to what constitutes a "demonstration" of compliance with the criteria that must be met to be exempt from an NHE/HE; and**
- **On-farm diversified uses, large scale buildings and structures that meet the threshold for "major development" and the placement/dumping of large amounts of fill (i.e. > 500 m³) should continue to be subject to a full NHE/HE, when proposed adjacent to KNHF/KHF.**

3) Protecting Natural Heritage and Water

TRCA strongly supports the additional text in the Context section of the Growth Plan, Chapter 4 Protecting What is Valuable, which identifies the importance of water resource systems, natural heritage systems and the agricultural system in providing essential ecological goods and services and resilience to climate change. TRCA also strongly supports the new policies requiring municipalities to undertake

watershed planning to identify and protect a water resources system, including both *key hydrologic features* and the newly introduced *key hydrologic areas*.

Watershed Plans – Definition and scope need to be clarified and made more robust

We find that some of the wording and concepts as written, may lead to unintended consequences and challenges during implementation, and could benefit from refinement, clarity and/or strengthening of the language in various policies. Watershed plans can not only inform the protection of water resources and stormwater management plans, but also help to inform the creation of complete communities by integrating planning for the protection and enhancement of natural heritage systems and addressing climate change mitigation and adaptation strategies. Further, watershed plans can identify vulnerable infrastructure and development at risk from flooding and erosion hazards, and inform the creation of strategies to reduce risk and protect the investments made in provincial and municipal infrastructure and private developments.

The definitions for *watershed plans*, *watershed planning* and *subwatershed plan* need to be harmonized and integrated equally into all four of the documents under review. Most importantly, this needs to include the integration of natural heritage systems (NHS) into all scales of watershed planning. Some definitions are included in some plans and not others. Where definitions are included in multiple plans, they are not always consistent, which may lead to confusion and challenges in implementation. In particular, we are most concerned that the definition for watershed planning does not reference the need to integrate natural heritage systems, as does the definition for subwatershed plan. The identification and integration of natural heritage systems must be done at multiple scales – first at a landscape scale (new proposed policies assign this task to the province, likely to be done as a desk-top level analysis); then refined at the watershed scale (to be done by municipalities in partnership with conservation authorities) based on more detailed assessments including scientific modelling of various natural systems and climate change impacts; and then at the subwatershed scale based on detailed fieldwork and refinement and testing of models for various development scenarios. The identification, protection and enhancement of natural heritage systems and the relationship to natural hazards (flooding and erosion) must be integrated into all scales of watershed planning.

There is also a need to recognize the benefits of the NHS in managing water resources and cross-reference to its role in providing green infrastructure and climate resiliency. There should be greater clarity and consistency provided for the expected goals and outcomes of watershed and subwatershed plans, such as requiring the identification of thresholds for unacceptable impacts related to climate change or future growth. The existing language for the goals for watershed plans should be consistent and harmonized across all four Plans to “protect, enhance and restore” the natural environment. There should also be greater recognition of the role of CAs in undertaking the plans and a strengthening of implementation actions through a requirement for provincial approval of watershed plans and municipal approval of subwatershed plans. There is a need for the watershed planning process to recognize the importance of monitoring in adaptively responding to the results of implementation actions. We recognize that some of these suggestions can be addressed within the four Plans, while others may be best addressed in the guideline documents to be prepared by the province. In any event, CAs have a wealth of experience in undertaking integrated watershed plans. We would be pleased to assist the province in the preparation of the guidance documents for integrated watershed planning.

Complex Policy Framework for Natural Heritage Systems

Sections 4.2.2 (Natural Heritage Systems), 4.2.3 (Key Hydrologic Features, Key Hydrologic Areas and Key Natural Heritage Features) and 4.2.4 (Lands Adjacent to Key Hydrologic Features and Key Natural

Heritage Features) appear to be overly complex, confusing and filled with multiple exemptions, alternative approaches and cross-references to multiple other policies. We recommend that these sections be simplified as much as possible and/or that provincial guidance documents address these policies as soon as possible.

As an example, Growth Plan policy 4.2.3.2 permits large scale development such as secondary plans, plans of subdivision and condominiums within key hydrologic areas, based on meeting various tests and criteria. However, this policy is then negated by policy 4.2.3.3 which states that the above policy does not apply within settlement area boundaries. It is not clear if this policy relates back to GP policy 2.2.9 Rural Areas, and begs the question as to why new plans of subdivision and condominiums are being permitted outside of settlement areas. Never-the-less, further policy direction is needed when large-scale development is being proposed in key hydrologic areas or natural heritage systems, such that the siting of more pervious land uses in these areas (i.e. parks, schools, open space, natural heritage system enhancement and restoration) is actively considered.

It appears that the Ministry of Natural Resources and Forestry (MNRF) is assigned the task of mapping a natural heritage system for the Greater Golden Horseshoe. Much of this work, at least in the inner ring, has already been completed by a number of municipalities and conservation authorities. TRCA would be pleased to share our data and hope to have the opportunity to collaborate with MNRF during this process. We would also appreciate confirmation that provincial staff will be available to defend this provincial system should it be challenged at the OMB.

Excess Soil and Fill

The proposed policies that “encourage” municipalities to develop soil reuse strategies and integrate sustainable soil management practices into planning approvals, as well as require the use of best practices for the management of excess fill, amount to the status quo. This continues to be a serious issue for municipalities and CAs alike due to the potential for related environmental, social and traffic impacts, and consideration should be given to strengthening these proposed policies. We understand that the Ministry of Environment and Climate Change (MOECC) has been studying this issue and developing a regulatory framework or guidelines to assist planning authorities. This should be completed as soon as possible to assist in dealing with this issue and incorporated into strengthened policy direction in the four Plans. Further, clarity should be provided if the placing of excess fill on agricultural lands would be classified as an *on-farm diversified use*, and thus be exempt from an NHE/HE, which would be contrary to the new proposed policy. Fill placement should require some means to determine that the activity will cause no adverse environmental effects.

TRCA recommends that the policies for Protecting Natural Heritage and Water be revised such that:

- **The definition, scope and content of Watershed and Subwatershed Plans is harmonized among the four Plans and that they be amended to include clear goals for the protection, enhancement and restoration of Natural Heritage Systems;**
- **The role and expertise of conservation authorities in undertaking watershed plans be acknowledged, especially as it relates to stormwater management and the protection from and remediation of natural hazards;**
- **Growth Plan policies for Natural Heritage Systems, Key Natural Heritage and Key Hydrologic Features and Lands Adjacent to those Key Features be simplified as much as possible and that**

provincial guidance for understanding and implementing these policies be prepared as soon as possible; and

- **Excess Soil and Fill policies be strengthened to prohibit filling within Key Natural Heritage and Key Hydrologic Features, and that a natural heritage/hydrologic evaluation be required for filling adjacent to these features.**

4) Growing the Greenbelt

TRCA supports the proposal to grow the Greenbelt by adding coastal wetlands, in addition to the 21 urban river valleys added to the Greenbelt. Further, we support an ongoing process to identify and add additional ecologically and hydrologically significant lands to the Greenbelt, as identified through watershed planning. Currently within TRCA watersheds, growth and development is moving further and further up into the headwaters of our major rivers and creeks, with potential serious implications resulting.

Downstream Impacts from Headwaters Development

Increased impervious surfaces result from continued growth in the upper watersheds, which leads to increased flows in watercourses during major storm events. This in turn increases the risk to downstream communities and infrastructure from natural hazards such as flooding and erosion. We have experienced severe storms, which are likely to increase in frequency due to climate change. These storms have eroded the bed and banks of watercourses, exposing buried gas and oil pipelines, water mains and sanitary sewers. Once exposed, this infrastructure is vulnerable to surface flows and potential damage and rupture from in-stream rocks and other objects moving in the strong current. Rupture of and subsequent spills from these pipelines and sewers can cause environmental degradation, contamination of drinking water or the potential for gas line explosions or fires. Streams in the upper reaches of watersheds have limited ability to assimilate the additional flow generated by urbanization. Flood lines downstream are likely to expand due to the increased flows, increasing the number of homes, people, and businesses at risk from the higher depths and velocities of flood flows included within the expanded areas subject to flooding.

Areas of Shallow Groundwater

Some areas of current growth in the upper reaches of watersheds are vulnerable to shallow groundwater levels of the aquifer that are present near the toe of the south slope of the Oak Ridges Moraine. Because shallow groundwater is often not identified until later planning stages (i.e. site plan, building permit), these new developments often require permanent dewatering to limit the interaction between groundwater and basements, foundations or underground parking structures. When groundwater issues are only identified at these late planning stages, permanent dewatering of the aquifer is usually the only feasible solution. Permanent dewatering is a wasteful use of the valuable groundwater resource, and can also increase flooding and erosion downstream as the groundwater is pumped and discharged to surface streams. Further, the lowered water tables that result from permanent dewatering can affect the water availability in the rooting zone of natural features such as woodlands and wetlands, resulting in ecological degradation.

Parks, Open Space and Trails

TRCA is a leader in the development of trail systems in its watersheds. We currently have developed more than 700 km of trails linking parks, valley systems, the waterfront and communities. This trail system, along with trails of other CAs, should form the foundation of a GGH trail system. These trails provide outdoor recreation linking people to nature and promote healthy lifestyles. Trails should be included as a component of “Complete Communities”.

The Plans should also provide flexibility for CA lands to respond to changing demands for nature-based recreation and tourism uses, including education and eco-tourism opportunities. Many CA facilities are aging and in need of refurbishment and upgrades to meet new accessibility standards and increased demands from a growing population. CAs require flexibility in the ability to offer public uses complementary to its objectives, in order to generate revenues and achieve financial sustainability to maintain and upgrade its facilities to ensure they operate at the highest standards for environmental protection and accessibility to people of all abilities.

TRCA recommends that policies for Growing the Greenbelt be amended such that:

- **Areas of shallow groundwater and high artesian pressure be included as components of Key Hydrologic Areas to be assessed through watershed planning for additions to the Greenbelt; and**
- **Headwater areas of the rivers and creeks within TRCA watersheds be seriously considered for additions to the Greenbelt, especially those areas that are almost fully surrounded by other Greenbelt lands, such as those in the headwaters of the Carruthers Creek and the Rouge and Humber River watersheds; and**
- **Conservation authorities are recognized as critical partners in the GGH for providing trails and outdoor recreational opportunities and that flexibility is provided for the enhancement to facilities and uses permitted on CA lands, to meet the needs of a growing population, accessibility standards and financial sustainability.**

5) Addressing Climate Change

TRCA strongly supports the integration of climate change and the related policies throughout the amended Plans. We are pleased to see the proposed policies that require municipalities to incorporate climate change policies in their official plans and undertake comprehensive stormwater management (SWM) planning for settlement areas. We also support the proposed policies that encourage municipalities to increase infrastructure resiliency, use green infrastructure and LID techniques and develop greenhouse gas inventories, emission reduction and adaptation strategies and related targets and performance measures. We also support including as an additional purpose of the Natural Core and Natural Linkage Area designations in the amended ORMCP, the protection and restoration of natural areas to help mitigate and reduce the impacts of climate change.

Climate Change Section of Growth Plan Needs Strengthening

We note in section 4.2.10 of the Growth Plan that municipalities are required to develop official plan policies addressing climate change mitigation and adaptation, but only encouraged to actually implement them, which creates a potential gap in effective implementation. Further, given the importance the province is placing on climate change adaptation and mitigation, resiliency planning and risk vulnerability assessments, section 4.2.10 appears to be too brief and minimizes, rather than adds to the provincial messaging around climate change. There are many policy references to climate change in the amended Plans which would have more power and urgency if they were to be consolidated into this section and integrated in a comprehensive manner.

Need to Integrate Watershed Planning with Climate Change Resilience

There is a need to align and coordinate the strategies outlined in Ontario's Climate Change Action Plan (CCAP) 2016 - 2020, with the GP requirements for watershed planning. There also needs to be a stronger link made in the four Plans between watershed planning and climate resiliency (e.g. Growth Plan 4.2.10).

For example, watershed planning will identify strategies to help address the impacts of extreme weather events. In addition, watershed planning can play an important role in identifying land-based carbon sequestration and storage opportunities, and in protecting lands with high potential for supporting carbon offset projects through the Province's Climate Change Action Plan, such as land based carbon sequestration in forests, wetlands, grasslands and agricultural areas. These linkages between watershed planning and climate resiliency need to be made much stronger in the proposed policies.

Additionally, GP section 4.2.10 appears to emphasize mitigation actions over adaptation actions. A reference to the forthcoming Ontario Climate Adaptation Strategy, Climate Ready, would help to remedy this imbalance.

TRCA recommends that policies for Addressing Climate Change be amended such that Growth Plan section 4.2.10:

- **Is strengthened to require official plan policy implementation;**
- **Consolidates, integrates and/or cross-references all other climate change related policies and actions in the four Plans;**
- **Identifies the role integrated watershed planning should play in planning for climate change mitigation and adaptation; and**
- **Ensures coordination with other provincial climate change documents, programs and activities.**

6) Integrating Infrastructure

TRCA supports the proposed amendments to the Greenbelt Plan section 4.2.3 Stormwater Management and Resilient Infrastructure Policies. This section promotes the use of LID and provides the strong direction that *applicable recommendations, standards or targets within a subwatershed plan or equivalent and water budgets are complied with* (4.2.3.4 c). Similarly, we support the proposed amendments to the ORMCP that require infrastructure studies to assess actions to reduce greenhouse gas emissions and to adapt to climate change impacts, and which also references the need to implement erosion and sediment controls during construction. We also strongly support the proposed new Growth Plan policies for integrated planning for infrastructure that require: vulnerability risk assessments; developing stormwater master plans informed by watershed planning, including examining the cumulative environmental impacts; incorporating LID and green infrastructure; and considering the impacts of climate change. The hydrologic modelling and floodplain mapping of Conservation authorities will be very useful to municipalities for these assessments.

Minimizing Impacts from Infrastructure

It has been TRCA's experience that the mission of all infrastructure providers is ultimately the same: to provide a public service. These providers look to CAs as partners to ensure their environmental risks are managed. TRCA also views the natural heritage system as an essential public service with equal weight and value among all of the considerations that are a part of city building. The introduction to the Growth Plan speaks to the importance of adapting communities and infrastructure to be more resilient to the impacts of climate change. Policies in the Plan encourage green infrastructure and low impact development in order to move toward resilience. Therefore, adding greater emphasis in the Plan on the environmental and climate change risks associated with infrastructure, as well as development, on both private and public lands, is appropriate and needed for meeting the intent of the Growth Plan as outlined in its introduction, principles and policies.

TRCA supports the hierarchy identified in Growth Plan policy 3.2.5.1 d related to infrastructure corridor development and impacts to natural heritage and hydrologic features and systems – avoid, minimize, mitigate. Unfortunately, it has been our experience that residual negative impacts and outright net losses to natural heritage and water resources features and functions continue to occur. We are starting to see a number of progressive municipalities and other infrastructure providers recognize these residual net negative impacts and incorporate a restoration component into their infrastructure plans. A similar policy should be included in each of the four Plans, with a fourth component to be added to the hierarchy – to compensate for, or offset the residual negative impacts through a restoration and enhancement plan as part of the infrastructure development.

Following on the point above, we suggest that the permissiveness given to infrastructure corridors regarding impacts to natural heritage/hydrologic features and systems be applicable only to the corridor itself, due to its limited locational flexibility. The accessory uses to the corridor (i.e. parking lots, pumping stations, transmission towers, transit stations, highway interchanges, etc.) have greater flexibility in their location and should be held to a higher standard. TRCA suggests that a policy be added to the Growth Plan that is similar to ORMCP policy 41 (3), which exclude the accessory uses to the infrastructure corridor from being located in the most environmentally sensitive areas.

Implementation Clarity for Infrastructure

Although integrating infrastructure with land use planning is an imperative for sustainable growth management, the implementation challenge is that infrastructure falls under an array of legislative processes and is under the purview of a number of different approval authorities. Therefore, the Growth Plan should be clear in its references to infrastructure, development, and environmental assessment, distinguishing between and to where it applies: i.e. public infrastructure that falls under an *Environmental Assessment Act* process; privately constructed infrastructure that falls within the *Planning Act* process; or where it applies to both. The policies should also be clear as to which proponent(s) the implementation of the policies rest with: the Province (e.g., MOECC, Metrolinx), municipalities (e.g., upper, single or lower tier) or both; and in the case of conflict, be specific about which body's plans prevail, (e.g., Metrolinx, versus upper tier municipal master plans, versus lower tier municipal master plans). GP policy 5.2.3.1 states that a coordinated approach will be taken to implement the Plan among all public agencies for issues that cross municipal boundaries. We suggest that coordination is also needed across different legislative processes that affect growth such as the *Planning Act*, the *Environmental Assessment Act* and the section 28 regulations of the *Conservation Authorities Act*. Growth Plan implementation would further benefit from specific reference in 5.2.3 to coordination across these processes. It is important to point out that under section 14 (1) of the *Places to Grow Act*, decisions pursuant to the *Environmental Assessment Act* must conform to the Growth Plan.

Stormwater Management in the Connecting Major River Valleys of the Greenbelt Protected Countryside

TRCA sees policy 4.2.3.3 in the Greenbelt Plan, regarding the location of stormwater management ponds, as unclear and which would benefit from further guidance, including locational mapping, as well as much stronger policy direction. We believe that the lands subject to this policy are the Greenbelt “fingers” which extend through the “whitebelt” lands of potential future urban areas. These lands are differentiated from Urban River Valley (URV) lands in that they are designated as Protected Countryside and are almost fully overlaid by the Natural Heritage System. On the ground, these lands include the major connecting river valleys as well as additional lands on either side of the natural feature, which are currently often active agricultural lands. We understand the purpose of these important Greenbelt “finger” natural corridors is for several reasons: protection of the existing features and functions; connecting the Greenbelt to the Lake Ontario shoreline; restoration opportunities to enhance the natural system and buffer it from

future adjacent urban development; and, to increase resilience to both the natural system and the downstream communities from potential flooding and erosion impacts due to climate change and urban development in headwater areas.

In the way that GB policy 4.2.3.3 is currently being interpreted and implemented, these additional GB natural heritage system lands adjacent to the valley feature, are facing increasing pressures to accommodate uses such as stormwater ponds and their outfalls, trails, low impact development facilities, access roads and infrastructure crossings, most of which require significant amounts of grading and compaction of soils. The Greenbelt is a landscape where urban development is not supposed to take place. TRCA suggests that it is necessary to place limits on the type and amount of accessory infrastructure uses and facilities serving the adjacent future urban development that can/should be permitted in these major river valley corridors. We suggest that this policy be revised and clarified to require the majority of these natural heritage system lands to be restored and enhanced to natural self-sustaining vegetation; and to specify that stormwater pond locations are subject to siting criteria such as being located above the stable top of bank and outside of KNHF, KHF and their vegetation protection zones and hazardous lands.

TRCA recommends that policies for Integrating Infrastructure be amended such that:

- **A new policy be added to the Growth Plan requiring the applicable recommendations, standards or targets within a subwatershed plan and water budgets are complied with;**
- **Policies for green infrastructure and low impact development are clarified to state that these techniques should be considered on both private and public lands;**
- **Infrastructure policies are strengthened to require restoration and enhancement plans to offset negative impacts and that accessory uses to infrastructure corridors be located outside of key environmental features and hazardous lands;**
- **Infrastructure policies are clarified with respect to implementation roles and legislative authorities; and**
- **Policies are clarified and strengthened to increase restoration and enhancement requirements and limit the types and amounts of stormwater management and other infrastructure uses allowed in the connecting major river valley “fingers” and Natural Heritage System of the Greenbelt Protected Countryside.**

7) Improving Plan Implementation

TRCA generally supports the harmonization that has been done among the four Plans and the PPS as this will help to create consistency and minimize confusion in policy interpretation where the geography of several Plans overlaps. We also support the intention by the province to produce guidance materials for several topics including watershed planning, stormwater management, identification of Key Hydrologic Areas and for developing greenhouse gas inventories, targets and emissions reduction strategies.

TRCA believes that there are a number of additional changes needed both within the four Plans and to other legislation to facilitate effective implementation of the Plans. This includes recognizing within the four Plans the roles of Conservation Authorities in Plan implementation. It also requires changes to other Acts and the implementation of the “complementary recommendations” from the provincially appointed Advisory Panel.

Recognizing the Role of Conservation Authorities in Plan Implementation

The role of conservation authorities in helping to deliver various aspects of the implementation of the four Provincial Plans is not specifically stated. CAs are active in: facilitating watershed planning; defining natural heritage systems, natural hazards and mapping under individual Regulations; climate change

vulnerability risk assessments; stormwater management, flood and erosion management, and the protection of environmentally sensitive lands and aquatic systems. In addition, the role of CAs in facilitating collaborative watershed planning through all of its phases (building partnerships, watershed characterization, impact assessment, developing mitigation and implementation strategies, monitoring, evaluating and updating) should be recognized. Conservation Authorities should be specifically identified as partners in helping to implement these Plans.

As an example, Growth Plan *section 4.2 Policies for Protecting What is Valuable* should recognize the role that CAs play in natural heritage and hazard protection, and acknowledge that it is a shared responsibility and not solely undertaken by municipalities. The Growth Plan provides one reference to conservation authorities (section 4.2.1 Water Resource Systems) indicating that “*municipalities, partnering with conservation authorities as appropriate, will ensure that watershed planning is undertaken...*” As numerous amendments will impact the operational roles of CAs, CA expertise and information will be increasingly relied upon to implement these Plans. To ensure better integration and operationalization of the plans, the role of Conservation Authorities should be clearly acknowledged throughout the four Plans.

The Province is encouraged to consider and acknowledge the CAs in the Greater Golden Horseshoe (GGH) as partners in achieving the complex and integrated objectives of the four Plans, and to leverage CA knowledge and expertise for greater efficiencies in Plan implementation. Further, conservation authorities have close and unique relationships with the municipal governments and communities of the GGH, which the GGH CAs can utilize to support implementation of the four plans through outreach activities. The GGH CAs can support the Government of Ontario in implementing both the objectives outlined in the amended Plans, as well as many of the recommendations in the Advisory Panel Report that need to be operationalized in other ways. In this context, some examples of activities that GGH CAs could lead on behalf of the province include the following:

- Design and implementation of monitoring programs to measure outcomes of the four plans, and analysis of monitored data;
- Reporting and communication regarding the outcomes of the four plans including inventorying activities being undertaken towards plan outcomes;
- Development of technical guidance for activities and innovations prescribed in the plans, such as watershed planning, innovative stormwater management and Low Impact Development, green infrastructure, and natural heritage systems; and
- Delivery of outreach and education programs to various groups and audiences on the intent, interpretation and application of the four plans, including municipal governments, community groups and stakeholder organizations.

Amendments to Other Acts, Plans

As described above, many of the proposed amendments to the Plans focus on, and will rely on, conservation authority knowledge and expertise. It is important that the current review of the *Conservation Authorities Act* results in recognizing and supporting CAs as one of the valuable implementation agents of the four Plans. The concurrent review of the *CA Act* and the four Plans (as well as the upcoming review of the environmental assessment process) presents an ideal opportunity to harmonize policy and regulation frameworks to most effectively facilitate the outcomes that the Provincial Plan revisions intend.

Further, CAs have an interest in ensuring that the proposed enhanced policy direction in the Provincial Plans related to watershed planning, ecological and hydrological protection, natural hazards and climate change adaptation and mitigation are implemented efficiently and without the need to participate in costly and potentially numerous Ontario Municipal Board hearings. As the proposed Provincial Plan amendments will not be appealable, municipal conformity amendments to incorporate the policies into Official Plans and zoning by-laws should be similarly shielded from appeal.

The transition provisions of the ORMC Plan and Act need to be amended. Applications submitted under the *Planning Act* prior to the promulgation of the ORMCP (2001), where no decision has been made, should no longer be exempt from complying with the full suite of policies in the ORMCP. More importantly, the *ORMC Act* should also be amended to require that approvals issued prior to the ORMCP coming into effect and not yet acted upon, be revised and subject to the full Plan, or at minimum the section 48 prescribed provisions. Examples continue to arise across the ORM of subdivisions approved in the 1970s, '80s and '90s that permit development in wetlands and other significant environmental features.

Further to the above point, policies 5.2.8.2 and 5.2.8.3 of the Growth Plan contain provisions for including a “lapsing date” for draft plans of subdivision approved under the *Planning Act* and for deeming approved plans not to be a registered plan after eight years if they remain unbuilt and do not meet the growth management objectives of the Growth Plan. A similar policy should be included in the ORM and Greenbelt Plans, and applied retroactively, requiring plans to be deemed not to be a registered plan of subdivision, and to amend site-specific designations and zoning accordingly, if the environmental objectives of those Plans are not met.

Additionally, strong provincial guidance is required related to the timing, submission and integration of technical reports necessary to support the approval of *Planning Act* applications in accordance with the four Plans and the PPS. We are finding increasingly that technical report submissions are incomplete, uncoordinated or deferred to later stages in the planning process where decisions have already been made, with little opportunity to address the environmental issues associated with an application. This rushed timeline for approvals, that often leads to “planning by OMB”, without sufficient technical detail to understand the environmental issues associated with an application and to recommend alternative solutions, undermines public faith in the development approvals process and leads to preventable, future remediation costs being borne by public agencies.

Addressing Advisory Panel “Complementary” Recommendations

TRCA appreciates that the Province has made serious efforts to address in some manner all of the primary recommendations from the Crombie Advisory Panel report. Recognizing that many of the other recommendations will need to be made outside of the policies of the four Plans, we strongly recommend that the Province act as quickly as possible to implement the “complementary” recommendations from the Advisory Panel report. Significant Provincial support is required for effective and consistent Plan implementation. CAs have considerable experience in many of these areas and we strongly recommend that the Province involves and consults with CAs in acting on these complementary recommendations. Topic areas of greatest urgency to address include the creation and issuance by the Province of: “Practitioners Guidance” to assist with implementation and interpretation challenges; technical bulletins and guidelines, particularly with regard to watershed planning, natural heritage and water resources system identification, mapping and policy interpretation; and, guidance for alternative development standards for both greenfield and intensification lands, including the incorporation of green infrastructure and low impact development techniques on both private and public lands.

TRCA recommends that policies in the four Plans be amended and other means for Improving Plan Implementation be addressed such that:

- **The role of Conservation Authorities in implementing the four Plans is more strongly identified in the Plans as well as in the concurrent review of the *Conservation Authorities Act*;**
- **Municipal official plan conformity amendments to implement the four Plans be shielded from appeals to the Ontario Municipal Board;**
- **The transition provisions in the *Oak Ridges Moraine Conservation Plan and Act* be strengthened and that the lapsing provisions included in the Growth Plan for approved but unbuilt plans of subdivision, also be included in the Greenbelt and ORM Plans;**
- **Strong guidance materials and requirements for the content, timing and completeness of technical reports in support of development applications be developed by the Province and adhered to during an OMB process; and**
- **Advisory panel recommendations to create guidance materials and technical bulletins to improve clarity and consistency in Plan implementation be acted upon immediately, with involvement from implementation partners, including Conservation Authorities.**

8) Measuring Performance, Promoting Awareness and Increasing Engagement

TRCA agrees strongly with the need to measure performance of the policies in the Plans, including for the outcomes of policy implementation such as changes to environmental quality. We also agree with the need to promote awareness of the Plan policies, as well as the impacts of growth and the measures needed to achieve complete, sustainable and healthy communities. We further agree that all segments of civil society need to be engaged in the implementation of the Plans and the monitoring of outcomes.

Many Conservation Authorities have considerable experience in monitoring environmental conditions and delivering outreach, education and locally tailored stewardship and engagement programs to multiple client groups. Provincial programs for the four Plans should build on existing monitoring and outreach efforts being undertaken by Conservation Authorities, including CA watershed report cards. These programs should also include provincial funding and be consistent across the geography of the four Plans. TRCA would be pleased to offer our assistance and experience to the Province in the development and implementation of these types of programs.

TRCA recommends that the applicable recommendations from the Advisory Panel report for Measuring Performance, Promoting Awareness and Increasing Engagement be acted on by the Province as quickly as possible, with involvement from and building on similar programs undertaken by Conservation Authorities.

9) Definitions

Clear, concise and accurate definitions are critical to ensure the Plans are implemented as intended. It is also very important that the terminology be consistent across all four Plans, in order to eliminate confusion and challenges to policy interpretation at the OMB. In that regard, we have identified in the attached table of detailed comments a number of problematic definitions, along with suggested revisions.

TRCA recommends that the definitions included in the four Plans be amended to be consistent among each of the Plans and that they be refined or corrected as identified in the attached table of detailed comments.

Further information and specific recommendations relating to the comments above are detailed in the attached table. Should you have any questions or require clarification on any of the comments submitted, please contact David Burnett, at 416-661-6600, ext. 5361, or email to dburnett@trca.on.ca.

Sincerely,

Carolyn Woodland, OALA, FCSLA, MCIP, RPP
Senior Director, Planning, Greenspace and Communications
Toronto and Region Conservation Authority

Urban Master Environmental Servicing Plans (MESPs)
<ul style="list-style-type: none"> • TRCA recommends applying the MESP concept for large-scale development in existing urban areas through a Growth Plan mandated “urban MESP”. Many of the (sub)watershed and stormwater management (SWM) plan requirements (GBP 3.2.3.2; GP 3.2.1, 3.2.6.2c, 3.2.71a, 4.2.1; ORMCP 24) appear to be directed toward greenfield areas and not the existing <i>built-up areas</i> subject to provincial intensification targets. Many intensifying urban areas are within flood hazards and will need significant infrastructure upgrades to accommodate growth, including flood remediation and SWM. An urban MESP would be an ideal mechanism to integrate planning for water and hazard management, infrastructure renewal and natural heritage systems at a broader scale with green infrastructure and low impact development (LID) implementation at the local scale. Sections 2.2.1, 2.2.2 and 2.2.3 of the Growth Plan should be amended to emphasize that flood management and remediation (including integration with green infrastructure, natural heritage system enhancements and LID) are needed in many intensifying urban areas. Furthermore, additional policies should be included within these sections to require an urban MESP for large-scale development in these areas.
Broadening the definition of "Complete Communities"
<ul style="list-style-type: none"> • The definition of <i>Complete Communities</i> should include references to natural heritage and water systems. Both systems are fundamental components of complete communities in that the ecosystem services they provide are essential to a high quality of life, particularly in urban and urbanizing areas. Other considerations that could be incorporated include: green infrastructure, greenspace, walkability and transit access, low carbon lifestyles, food security, etc. • The relationship between <i>Complete Communities</i> and <i>Net Zero Communities</i> needs to be clarified. A community should not be considered "complete" unless it can meet its energy demands through low-carbon or carbon-free forms of energy sourced as much as possible from local renewable energy installations. Although both terms are important and must be captured within the text of the plans, the definitions should be integrated or cross-referenced.
Protection from Natural Hazards
<ul style="list-style-type: none"> • The Growth Plan requires enhanced policy direction to ensure its intensification targets do not translate into increased development pressure within or adjacent to natural features and their associated hazard lands or in areas of high drinking water vulnerability. Whereas s. 2.1 clarifies the importance of locating growth outside of hazard lands to protect public safety and mitigate flood risk (including special policy areas [SPAs], in accordance with the PPS), policy 2.2.1.2j states only that growth should be generally directed away from hazardous lands. We recommend the policy be amended to state that, other than unavoidable crossings for public infrastructure approved within hazardous lands, new development and infrastructure should not be permitted within hazardous lands, including those designated as SPAs in accordance with the PPS. – GP 2.1, 2.2.1.2j
Eco-Business Zones and Eco-Industrial Areas
<ul style="list-style-type: none"> • The policies in s. 2.2.5 of the Growth Plan should encourage the adoption of new planning paradigms for employment lands such as eco-business zones and eco-industrial areas in growth centres and other urban areas. Eco-business zones are areas of employment and/or industrial activity that promote environmental quality, economic vitality and social benefits through the continuum of planning, design, construction, long-term operations and deconstruction. Such developments improve inter-business collaboration and synergies, which lead to enhanced low-carbon transportation options for employees, material exchanges, district scale infrastructure projects, green technologies, and resource efficient and resilient employment areas.

Agricultural Exemptions for Natural Heritage and Hydrologic Evaluations (NHE/HE)

- **The Plans need to ensure that the policies align with TRCA’s regulatory authority, pursuant to the Conservation Authorities Act (CAA).** CAs have regulatory requirements where NHEs/HEs or environmental impact studies (EIS) may still be required to demonstrate compliance with permit submissions under the CAA. Many CAs also have established policies prohibiting new development (and certain forms of redevelopment) within hazardous lands associated with KNHFs/HSFs. As written, the policy language may cause confusion and frustration for landowners and CA staff alike. **TRCA staff recommends revising the policies to acknowledge that CAs have regulations that may apply within the area of influence of KNHFs/HSFs which must be considered in relation to these policies.** - GP 4.2.4.4c; ORMCP 22.4, 22.5, 26.(4.1), 26.(4.2); GBP 3.2.5.8
- Further to the above point, **GBP policy 3.2.2.6 and text from policy 5.4, paragraph 6, should be added to sections 4.2 and 5.2.1 of the Growth Plan.**
- In associated policies exempting agricultural uses from NHE/HE requirements, part of the policy properly reflects that other approval authorities may have requirements which need to be met (ORMCP 22.[5] 6 and 26.[4.2] 6; GBP 3.2.5.8f). This phrase “or other approval authority” is missing in the similar policy in the Growth Plan and should be added to GP 4.2.4.4 c) vi.
- The policies require “demonstration” that a number of criteria be met in order to be exempt from completing an NHE/HE. No direction is provided on how compliance with the criteria is to be demonstrated. This would almost seem to require a scoped natural heritage/hydrologic evaluation to justify the exemption, thus defeating the purpose of the policy. **The Province needs to clarify if the required “demonstration” of meeting the criteria is to be achieved through submission of a scoped environmental study, a detailed site plan or some other means.** - GBP 3.2.5.8; GP 4.2.4.4c; ORMCP 22.4, 22.5, 26.(4.1), 26.(4.2)
- **GBP 3.2.5.8, GP 4.2.4.4 c) and ORMCP 22.5 and 26.(4.2) need to have text added to clarify that “all of” the following requirements must be met to be exempt from completing a NHE/HE.**
- **Including on-farm diversified uses in the NHE/HE exemption policy is problematic** in that these uses are secondary to the principal agricultural use of the property, and may be totally unrelated to the agricultural operations. TRCA has seen instances of environmental impacts taking place from non-agricultural uses such as structures for the storage of heavy machinery or landscaping equipment. The policies that exempt requirements to complete an NHE/HE should be limited to agricultural uses and agriculture-related uses. **On-farm diversified uses should not be included in this exemption.**
- The policies exempting agricultural (and related) uses and associated structural development from NHEs (GP 4.2.4.4c; ORMCP 22.4, 22.5, 26.[4.1], 26.[4.2]; GBP 3.2.5.8) should be revised to emphasize that, in accordance with applicable source protection plans under the *Clean Water Act (2006)*, hydrogeological assessments may still be required and development prohibitions could still apply.

Integrating Natural Heritage Systems (NHS) in Watershed Planning

- Best practices require *subwatershed plans* to be integrated with NHS protection, however, this linkage is not reflected in the definitions of *watershed plan* or *watershed planning*. **The NHS has a critical role in water (and ecosystem) management and should be integrated into each scale of watershed planning, including their associated definitions.** This integration should also recognize the benefits of the NHS in managing water resources and cross-reference to its role as a form of green infrastructure. - GP 4.1, 4.2.1, 4.2.2; ORMCP 24.3, GBP 3.2, 3.2.3.2
- Policies 5.2.2.2c and 5.2.2.2d of the Growth Plan indicate that the Province will identify, establish, or update NHS mapping and will provide guidance on watershed planning. However, it is not clear whether mapping of the NHS (GP 4.2.2, 5.2.2.2c) will be integrated into the (sub) watershed planning processes (GP 4.2.1). As emphasized in the GBP (3.2.1.3), ecological linkages exist between terrestrial and water-based functions and are joint components of the Natural System (3.2.1.3). Given this synergistic relationship, **NHS mapping should form an integral part of watershed planning.**

- The language used in the Water Resources Policies section of the GBP (3.2.3), i.e., that, "all planning authorities shall provide for a comprehensive, integrated and long-term approach for the protection, improvement, or restoration of the quality and quantity of water" could be integrated into the Natural Heritage Policies section (3.2.2), because water resource systems are dependent on the integrity of the natural system (and vice versa). - GBP 3.2.2, 3.2.3

Watershed Planning Scope, Implementation and Adaptive Management

- (Sub)watershed planning is required to "inform" decisions on growth, development, settlement area boundary expansions, and planning for water, wastewater and stormwater infrastructure (GBP 3.2.3.2; GP 3.2.1, 3.2.6.2c, 3.2.7.1a, 4.2.1; ORMCP 24). **Clearer goals and outcomes for (sub)watershed plans are needed to demonstrate their intended use, including stronger language and consistent thresholds for unacceptable impacts.** In the Growth Plan, certain policies speak to a goal of 'no negative impact' (4.2.1.2), while others seek to 'protect, enhance or restore' (3.2.6.4, 4.2.1.1) and, in some, a goal is not identified (3.2.1.2, 3.2.7.1a, 4.2.5viii). **We recommend a consistent goal be established for (sub)watershed plans to "protect, enhance and restore" and this goal be applied where (sub)watershed plans inform land use planning decisions.** - GP 3.2.1.2, 3.2.6.4, 3.2.7.1a, 3.2.7.2a, 4.2.1.1, 4.2.1.2, 4.2.1.3, 4.2.3.2, 4.2.4.5viii

- It is not clear what role the Province will play in (sub)watershed plan funding, approval and implementation. **Stronger implementation actions that require provincial approval of watershed plans and municipal approval of subwatershed plans are needed.** These actions could be incorporated as additional policies within the respective "Implementation" sections of the plans (i.e., s. 5.2 of the GP). The Province should also describe the funding mechanisms that will enable (sub)watershed plans to be undertaken and implemented throughout the entire planning cycle and consider providing financial support to CAs and municipalities to fund the development and implementation of these plans.

- **The role of CAs in the development of (sub) watershed plans should be clarified and acknowledged. CAs have the knowledge, experience, data and watershed jurisdictions required to support municipalities in effectively implementing the plans, as referenced in Growth Plan (4.2.1) and GBP (3.2.3.2).** As noted in policy 3.2.3.3 of the GBP, cross-jurisdictional and watershed impacts need to be considered in the development of watershed plans. A single municipality will have difficulty developing a watershed plan because watershed boundaries generally traverse multiple municipalities, whereas CAs are well-positioned to consider cumulative effects and can facilitate upstream and downstream collaboration. Policy 5.2.2.2d of the Growth Plan indicates that the Province will prepare watershed planning guidance documents. We would like to assist the Province in the development of guidance documents.

- The full adaptive cycle of Integrated Watershed Management (IWM) was emphasized by the Advisory Panel (Recommendation 41) but has not been explicitly referenced in the definition or apparent intent of (sub) watershed planning in the amended plans. IWM brings together all the components needed to make informed land use planning decisions based on a comprehensive understanding of the impacts of those decisions. IWM considers NHS planning and sustainability, climate change, natural hazard management and other related issues. Watershed plans are updated based on lessons learned from previous plans and are adjusted if previous objectives and targets are not achieved, a cycle that is critical to effective watershed planning. **The definition of watershed planning should reflect the full adaptive cycle of IWM, including planning, implementation, monitoring, reporting, and adjustments.**

Complex NHS Policy Framework

- Sections 4.2.2, 4.2.3, and 4.2.4 of the Growth Plan are very complex as they are filled with multiple exemptions, alternative approaches, and cross-references to various policies. For instance, Growth Plan policy 4.2.3.2 permits large scale development (i.e., secondary plans, subdivisions, condominiums) within Key Hydrologic Areas (KHAs), provided various tests are met. However, this policy is negated by 4.2.3.3 which states that it doesn't apply in *settlement areas*. This gives rise to the question of whether, in fact, new subdivisions, etc. are permitted outside *settlement areas*.

- Further to the comment above, additional policy direction is needed regarding large-scale development in KHAs or NHS, such that more pervious land uses in these areas (i.e. parks, open space, NHS enhancement/restoration) is considered.

- The Province needs to clarify if the required "demonstration" of meeting the criteria is to be achieved through submission of a scoped environmental study, a detailed site plan or some other means; **GBP 3.2.5.8; GP 4.2.4.4c; ORMCP 22.4, 22.5, 26.(4.1), 26.(4.2);**

- **GBP 3.2.5.8, GP 4.2.4.4 c) and ORMCP 22.5 and 26.(4.2) need to have text added to clarify that "all of" the following requirements must be met to be exempt from completing a NHE/HE.**

- In associated policies exempting agricultural uses from NHE/HE requirements, part of the policy properly reflects that other approval authorities may have requirements which need to be met (ORMCP 22. (5) 6 and 26. (4.2) 6); Greenbelt Plan 3.2.5.8 f). This phrase “**or other approval authority**” is missing in the similar policy in the Growth Plan and should be **added to GP 4.2.4.4 c) vi**.

Excess Soil/Large-Scale Fill

- The policies encouraging municipalities to develop soil reuse strategies and integrate sustainable soil management practices amount to the status quo (ORMCP 36.1; GP 4.2.9.3, 4.2.9.4; GBP 3.4.2.5, 3.4.2.6). **Policy language must be strengthened to prohibit large-scale fill within KNHFs/KHF; “require” soil reuse strategies; and/or, include a clear legislative provision requiring compliance for large-scale fill operations (i.e., CA permits, Site Plan approval).**
- Clarification is needed to confirm if placing fill on agricultural lands qualifies as an *on-farm diversified use* and, if so, whether it could be exempt from requiring an NHE/HE, as per the policies in 4.2.4.4c of the Growth Plan; 22.4, 22.5, 26.(4.1), 26.(4.2) of the ORMCP and 3.2.5.8 of the GBP. This could potentially contravene policies 4.2.4.4c (i-v) of the Growth Plan and 3.2.5.8 (a-f) of the GBP and may not align well with the new policies requiring best practices for excess soil and fill management to ensure environmental impacts are minimized (ORMCP 36.1; GP 4.2.7.3; GBP 3.4.2.5, 3.4.2.6). Depending on site-specific circumstances, the placement of “large-scale fill” (i.e., >500m³) should continue to be subject to a full NHE/HE.

Planning and Implementing a Natural Heritage and Green Infrastructure Support Network

- As LID and green infrastructure are to be incorporated into plans for SWM and *major recreational uses* (GP 3.2.7.1c, 3.2.7.2b; ORMCP 38.2f, 41.1.2d, 45.02b), guidance materials should be produced immediately to assist with implementation. Additionally, a sustainable funding model is needed to support municipal investment in the maintenance, renewal and improvement of green infrastructure and other flood remediation measures. Opportunities to incent municipalities to embrace these measures should also be explored (e.g., development charge levies, Planning Act s. 37 benefits).
- By definition, the NHS is recognized as a component of green infrastructure. Moreover, municipalities are now required to develop SWM plans for *settlement areas* “informed” by watershed planning (GP 3.2.7.1a; GBP 4.2.3.1; ORMCP 45.02a) and incorporate green infrastructure (Growth Plan 3.2.7.1c; GBP 4.2.3.1; ORMCP 41.1.2d, 45.0.2b). If the intent is to incorporate green infrastructure into (sub)watershed planning processes, clarification is needed to identify the most appropriate level of implementing green infrastructure (i.e., through watershed and/or subwatershed planning).

Ecological Enhancement/Compensation

- A substantial portion of natural cover (and ecosystem services) throughout the GGH has been impacted or significantly depleted. The loss of any feature through development and site alteration should, therefore, be taken very seriously. Removal of natural features not identified as KNHFs/KHFs can still have a negative impact on the broader Natural System. In some instances, a viable option is to compensate for the lost feature through ecological restoration or compensation elsewhere. **We recommend policies 4.2.2.4 b)iii of the Growth Plan and 3.2.2.3 of the GBP be revised to emphasize that, where removal of natural features not identified as KNHFs/HSFs cannot be avoided, restoration and/or compensation is encouraged and should be considered.**
- Policies 4.2.3 of the Growth Plan, 21-23 of the ORMCP, and 3.2.2, 3.2.5 of the GBP focus on the identification and protection of existing ecologically “significant” features within the NHS. **The plans should provide stronger protection for natural heritage features that are outside the NHS such that they should be protected, restored and enhanced.**
- Growth Plan policies 4.2.4.1 should clarify that vegetation protection zones extend 30m outward from their defined limits, in accordance with provincial guidance materials established to delineate their extent (i.e., MNRF’s Natural Heritage Reference Manual).
- Weak language for the protection of KHAs and the NHS in s. 2 of the Growth Plan through the use of phrases such as “where possible” (2.2.8.2f) and “provided development is prohibited in these areas” (2.2.7.3a) potentially undermines the stronger environmental protection policies of s. 4 of the Growth Plan (i.e., “no negative impacts” [4.2.2.4bi] and “not permitted” [4.2.3.1]). This may create confusion in policy interpretation and set the stage for OMB challenges.

Urban River Valleys (URVs)

- Exempting private lands from URV policies will lead to a discontinuous patchwork of lands becoming the external river valley connections from the Greenbelt to Lake Ontario. This approach does not align with the "systems" approach to NHS protection advocated throughout the PPS and GBP. As the intent of this amendment is to recognize and protect these external valley corridors as a key component of the Natural System, **TRCA recommends the URV designation includes both public and private lands.** - GBP 6.2.1
- As a result of continued growth in the upper watersheds of TRCA's jurisdiction, increased impervious surface has led to higher depths and velocities of flow through watercourses during major storms, translating into greater flood and erosion risk and higher infrastructure costs for downstream communities. Section 5.7.1 of the GBP indicates that the Province is exploring opportunities to grow the Greenbelt. **We recommend headwater areas of the rivers and creeks within TRCA watersheds be considered for inclusion into the Greenbelt, particularly those headwater areas that are almost fully surrounded by other Greenbelt lands, such as in the Carruthers Creek and Rouge and Humber River watersheds.**

Areas of Shallow Groundwater and High Artesian Pressure

- GBP policies 5.7.1.1 and 5.7.1.2 indicate that the Province will build upon the systems approach of the plans and lead a process of potentially expanding the Greenbelt by working with CAs to identify areas that could provide additional protection to sensitive areas from development pressures. **TRCA staff recommend that, prior to this process being undertaken, s. 3.2.4 be amended to identify areas of shallow groundwater and high artesian pressure as KHAs; and, that s. 5.7.1 be amended to include these areas, as assessed through watershed planning, for additions to the Greenbelt.**

Parks, Open Spaces and Trails - Developing a Comprehensive Trail Plan for the Greenbelt

- In accordance with complementary recommendations # 4 of the Advisory Panel report, a trail plan for the GBP should be developed to provide direction on locations, connections, uses and community benefits, including those in URV lands. As one of the largest title holders of natural areas within the plan areas, TRCA would be pleased to assist the Province in this work.
- Many proposed URV lands traverse urban areas that are degraded from multiple uses (i.e., parks, trails, overuse, etc.). The GBP recognizes that parks, open spaces and trails are components of *complete communities*, however the broad objectives of the GBP aimed at protecting natural systems may not be as effective within a specific urban context. In accordance with complementary recommendations # 45 and 87 of the Advisory Panel report, management plans should be developed for these areas that include funding for programs, local stewardship, and educational materials to promote their protection, enhancement, and wise use.
- S. 4.2.5 of the Growth Plan encourages municipalities, CAs and non-governmental organizations to develop public open spaces. The language within this section could be strengthened by including policies similar to those provided in s. 3.3.2 and 3.3.3 of the GBP.

Integrating Climate Change Throughout the Plans

- **The policies in s. 4.2.10 (Climate Change) of the Growth Plan should be amended to "require" municipal implementation.** Although municipal Official Plans must contain climate change policies that will reduce greenhouse gas emissions and address climate change adaptation goals, municipalities are only "encouraged" to implement them, thus creating a potential implementation gap.
- **Given the emphasis on climate change mitigation and adaptation throughout the plans, s. 4.2.10 appears to be too brief and vague.** The importance and urgency of climate change mitigation and adaptation would be evoked further if tied back to the policies in this section. For example, the term 'resilient/resiliency' is frequently mentioned with regard to infrastructure, LID, SWM, and the protection of natural systems, yet these important policy references are largely absent in GP 4.2.10. - GP 1.1, 1.2.1, 3.1, 4.1, 4.2.10; GBP 1.2.2, 4.2.

- By definition, the Growth Plan considers ‘climate change impacts and severe weather events’, however, the importance of watershed planning in climate change resiliency does not resonate in s. 4.2.10. Watershed planning plays a pivotal role in identifying land-based carbon sequestration and storage opportunities, and in protecting lands with the potential to support projects that off-set carbon through the Province’s Climate Change Action Plan (CCAP) 2016-2020. The linkages between watershed planning, climate resiliency and the strategies outlined in the CCAP should be evident in s. 4.2.10.

- Policy 4.2.10.2 could be expanded to incorporate actions that go beyond reducing greenhouse gas emissions, such as low impact landscape-based SWM design, to help manage increased rainfall and frequency of storm events; retrofitting of SWM ponds; enhancing and restoring the NHS; mitigation of risks from hazardous where there is existing development in hazardous lands, etc.

- Growth Plan policy 5.2.2.1 should be expanded to include guidance on climate change information, requirements, modelling and decision-making.

Policy Requirements for Infrastructure Activities

- As noted above, enhanced policy direction mandating urban MESP is needed for large-scale development and associated infrastructure in existing urban areas to ensure *built-up areas* benefit from comprehensive and integrated planning to address SWM and climate change impacts. **The phrase “or their equivalent” should be amended to require urban MESP as a component of integrated planning (i.e., GP 2.2.8.2c,d,e, 3.2.6c,, 3.2.7.1, 3.2.7.2, 4.2.1.3; GBP 3.2.3.5, 4.2.3.4c).**

- The permissive policies for Infrastructure Corridors in s. 3.2.5 of the Growth Plan regarding impacts to natural heritage/hydrologic features and systems should only apply to the corridor itself. Accessory uses (i.e. parking lots, pump stations, transmission towers, transit stations, highway interchanges) have greater flexibility in their location and should be held to more restrictive criteria, similar to those in policy 41.3 of the ORMCP. Furthermore, a fourth component should be added to the “avoid, minimize, mitigate” hierarchy of unavoidable environmental impacts identified in policy 3.2.5.1d of the Growth Plan – to “compensate for” or “offset” residual negative impacts through restoration and enhancement.

- Where possible, active transportation utilizing open space and trail systems should be incorporated into infrastructure corridors to strengthen intermodality (e.g., multi-use trails along highway corridors that link to other trail systems). - GP 3.2.5

- Policies 3.2.5.1d of the Growth Plan and 4.2.1.2e of the GBP should be revised so that once the mitigation hierarchy (i.e., avoid, minimize, mitigate) has been exhausted, environmental impacts from infrastructure development are compensated for through ecological restoration. - GP 3.2.5.1d; GBP 4.2.1.2e

- **The Growth Plan could further integrate infrastructure and land use planning by having some policies that currently apply only to development, apply to infrastructure as well.** For example, policy 2.2.1.2j could be expanded to generally direct development and infrastructure away from hazardous lands, in accordance with s. 3.1.3 of the PPS. We recognize that some development has historically existed within the NHS and some linear infrastructure must often cross the natural system, which can lead to unavoidable risk associated with natural hazards. As such, we recommend a policy be added to ensure that, where development and infrastructure must be located within hazardous lands, risk is avoided, minimized or mitigated in accordance with s. 3.1.7c of the PPS.

- Policy 41.2.2i of the ORMCP indicates that a pre-requisite of approval for infrastructure in or on land in *natural linkage areas* is demonstrating best efforts to ensure "right of way widths will be kept to the minimum that is consistent with meeting other objectives such as SWM and erosion and sediment control". The exact intent of the policy is unclear and makes no mention of LID as a method of SWM. The policy could be revised as follows, "Right of way widths will be minimized to the greatest extent possible to be consistent with: i) erosion and sediment controls and LID techniques for SWM; and, ii) locating as much infrastructure uses within a single corridor as possible".

- **The policy requirements for infrastructure activities in s. 41 of the ORMCP should have clearer direction regarding how to "demonstrate the need" for infrastructure projects and "no reasonable alternative",** key tests to allow infrastructure in *natural core/linkage areas*. An increasing number of Environmental Assessments (EAs) for large infrastructure projects (e.g., major highways, pipelines) potentially cut across natural features. These projects must be thoroughly assessed for need, location and alternatives to minimize environmental impacts and reduce urban sprawl. Additionally, policy requirements should be added to provide enhancement and ecological compensation when KNHFs/HSFs are impacted by infrastructure planning/siting.

• Policy 4.2.3.3 in the GBP, regarding the location of SWM ponds in Greenbelt “fingers” is unclear and would benefit from further guidance, including locational mapping, as well as stronger policy direction. These GB natural heritage system lands adjacent to the valley feature, are facing increasing pressures to accommodate uses such as stormwater ponds and their outfalls, trails, LID facilities, access roads and infrastructure crossings, most of which require significant amounts of grading and compaction of soils. There should be limits on the type and amount of accessory infrastructure uses and facilities serving the adjacent future urban development that can/should be permitted in these major river valley corridors. We suggest that this policy be revised and clarified to require the majority of these NHS lands to be restored and enhanced to natural self-sustaining vegetation – we suggest 75%; and to specify that stormwater pond locations are subject to siting criteria such as being located above the stable top of bank and outside of KNHF, KHF and their vegetation protection zones and hazardous lands. The policy should specify what uses are permitted in the remaining 25% and could include:

- a. Stormwater pond Outfalls;
- b. Facilities required to convey and release flows to maintain water balance to natural features; and
- c. Trails for low intensity recreational uses.

• Infrastructure falls under various legislative processes and is under the purview of multiple approval authorities. The Growth Plan should be clear in its references to infrastructure, development, and EAs, distinguishing where it applies to: public infrastructure under an EA process; privately constructed infrastructure under the Planning Act; or both. The plans should also clarify which proponent policy implementation rests with: the Province (e.g., MOECC, Metrolinx), municipalities (e.g., upper, single or lower tier) or both; and, in the case of conflict, specify which plans prevail (e.g., Metrolinx, versus upper tier municipal master plans, versus lower tier municipal master plans). In this regard, we suggest the following policy revisions to the Growth Plan:

- Policy 2.2.4.4 should clarify what plans prevail, where conflict exists between municipal, Provincial or Metrolinx plans;
- Policy 3.2.5.1d should be expanded to capture infrastructure that is part of private development, given that EAs are distinct to public infrastructure review;
- Policy 4.2.3c conflicts with 3.2.5.1d, given that infrastructure is exempt from the prohibition of development and site alteration in KNHFs/HSFs through EAs;
- Policy 5.2.3.1 states that a coordinated approach will be taken to plan implementation among all public agencies for issues that cross municipal boundaries. Coordination is also needed across different legislative processes that affect growth such as the Planning Act, the EA Act and CAA. Please note that under s. 14 (1) of the Places to Grow Act, decisions pursuant to the EA Act must conform to the Growth Plan.

• Section 3.2 of the Growth Plan should incorporate policy 4.2.3.4c from the GBP, which promotes the strong direction that “applicable recommendations, standards or targets within a subwatershed plan or equivalent and water budgets are complied with”.

• The preamble portion of policy 41.1.2 in the ORMCP should make specific reference to the NHE/HE requirements described in s. 22 and 26.

• ORMCP policies 41.2.3 and 41.2.5 should reference the Ministry of Transportation’s *Environmental Guide for Wildlife Mitigation* that is currently out for review on the Environmental Registry (EBR# 012-7980), an important tool when looking at infrastructure and NHS connectivity.

Green Infrastructure

• **The plans should better distinguish “infrastructure” from “green infrastructure”.** This relationship is further convoluted when considering the important role of LID on the NHS and the NHS as a component of green infrastructure. The interconnectedness of these important concepts should be emphasized in the contextual preambles preceding the “Infrastructure” sections of each plan and reinforced in their respective definitions.

• The incorporation of green infrastructure and LID are frequently referenced as requirements throughout the plans (GP 2.2.1.3f, 3.2.7.1c, 3.2.7.2b; ORMCP 38.2f, 41.1.2d; 45.0.2b). In our experience, however, municipalities rarely utilize advanced green infrastructure and LID techniques, which are typically only implemented on private lands. The policies would be strengthened by encouraging green infrastructure and LID techniques on both private and public lands. Additionally, we note that no tests, targets or goals are identified to indicate the extent of green infrastructure and LID required to be incorporated. Supplementary provincial guidance is needed, otherwise minimal implementation will result.

Low Carbon Transportation/Driverless Cars

- The newly emerging concept of autonomous vehicles could be acknowledged and incorporated into the Growth Plan. These vehicles could radically change the need for parking and for transportation planning to be focused on the peak hours. - GP Introduction, 3.2.2

“Grandfathered” Applications:

- The transition provisions of the ORMCP Plan and Act need to be reviewed. **Applications submitted under the Planning Act prior to the promulgation of the ORMCP (2001) where no decision has been made should no longer be exempt from complying with the full suite of policies in the ORMCP. The ORMCP Act should also be amended to require that approvals issued prior to the ORMCP coming into effect and not yet acted upon, be revised and subject to the full Plan, or at minimum the s. 48 provisions.** Examples continue to arise across the ORM of subdivisions approved in the 1970s, ‘80s and ‘90s that permit developments in wetlands and other significant environmental features. - ORMCP 48
- Growth Plan policies 5.2.8.2 and 5.2.8.3 contain provisions for including a “lapsing date” for draft plans of subdivision approved under the Planning Act and for deeming approved plans not to be a registered plan if, after eight years, no development occurs and they no longer meet the objectives of the Growth Plan. A similar policy should be incorporated into the ORMCP and GBP, and applied retroactively if the environmental objectives of those plans are not met.

CA Recognition and Integration

- **As plan amendments will impact the operational roles and regulation of CAs, and CA expertise and information will be relied upon to implement the plans, the role of CAs should be more directly acknowledged and further integrated into revised policies.** We welcome the inclusion of policies requiring watershed planning to be undertaken by municipalities, partnering with CAs (Growth Plan 4.2.1; GBP 3.2.3), however, the role CAs have in facilitating and delivering watershed plans should be explicit. Additionally, the plans make no specific reference to CA’s role in defining and mapping natural heritage and water systems; mitigating natural hazards; and, managing stormwater effectively through green infrastructure and LID. These roles should be referenced throughout the plans (i.e., Natural System, Protecting What is Valuable) as they are within the “Water Resources System” policies.
- The GBP states that where regulations or standards of other agencies or government related to environmental protection are more restrictive than the plans, they take precedence. (GBP 3.2.2.6, 5.4). Similar wording should be applied to s. 4.2 of the Growth Plan.
- S. 5.2 of the Growth Plan should be revised to acknowledge the regulatory role of CAs, as done so in 3.2.2.6 and 5.4 of the GBP.
- The Growth Plan acknowledges the municipal role in climate change adaptation and mitigation (4.2.10) but not CAs. CAs’ strengths in adaptive watershed and ecosystem management, natural hazard mitigation, monitoring and reporting of environmental quality, and leadership in green infrastructure, sustainable building design and LID can help municipalities implement plan policies to align with the Ontario Climate Change Strategy and should, therefore, be referenced.
- Regarding coordination of plan implementation among the various agencies and approval authorities, policy 5.2.3.8 should be expanded to indicate that CAs and municipalities are to collaborate in the monitoring of natural heritage and water systems.
- The review of the Conservation Authorities Act that is currently ongoing should also reflect the roles of CAs in implementing the four Plans.

Supplementary Provincial Support

- As enhanced policy direction is to be implemented by municipalities (partnering with CAs) through a municipal comprehensive review, supplementary provincial support is needed. It is our understanding that provincial guidance documents will be issued to assist planning authorities and decision-makers beginning in 2018 (GP 4.1, 5.2.2.2, ORMCP – Implementation). **To help ensure consistency with the broader planning and regulatory frameworks of the GGH, and to capitalize on existing data, mapping, and technical expertise, CAs should be consulted during the formulation of guidance materials pertaining to watershed planning, natural heritage and water resource systems, LID and green infrastructure.** More specifically, CAs should be consulted prior to the creation of guidelines related to the following enhanced policy directions: Watershed planning guidance documents to support sections 4.2.1 of the Growth Plan and 3.2.3 of the GBP; sustainable management of excess soil/fill (ORMCP 36.1; Growth Plan 4.2.7.3; GBP 3.4.2.5, 3.4.2.6); provincial NHS mapping (GP 4.2.2.2), including if and/or how existing mapping will be incorporated, what scale mapping will be undertaken, and, if existing documents and criteria for identifying

KNHFs/HSFs will be updated (GP 4.2.2.2, GBP 5.3); actions that will reduce greenhouse gas emissions and address climate change adaptation goals (GP 4.2.10); and, incorporation of LID and green infrastructure (GP 3.2.7.1c, 3.2.7.2b; ORMCP 38.2f, 41.1.2d, 45.02b).

- The plans should reference tools that support their day-to-day implementation, including permits under the CAA, by-laws under the Municipal Act, land, tree cutting by-laws, fill by-laws, and erosion and sediment controls, as well as acquisition projects, private land stewardship, environmental farm plans (as per complementary recommendation # 45 of the Advisory Panel report). In particular, the ORMCP and Growth Plan should reference permits under the CAA as they are in s. 5.4 and 3.2.2.6 of the GBP.

Addressing Advisory Panel Recommendations

- Some of the issues brought forward from sections 9.4 and 9.5 of the Advisory Panel report have either not yet been addressed or have not been incorporated in sufficient detail. **A Provincial Secretariat should be established to coordinate and facilitate implementation of the plans (recommendation #85); An oversight forum should be created to monitor and report on implementation (recommendation # 86); additional provincial programs, technical guidelines, stakeholder involvement and funding mechanisms should be developed (recommendation # 87); and, municipal Official Plan conformity amendments should be shielded from OMB appeals to reduce the time and cost burden placed on municipalities to defend provincial policies (complementary recommendation # 77).** We recognize that, due to their nature, these recommendations may need to be addressed outside of the Plans themselves; however, we continue to express our desire to have them addressed immediately.

Mapping

- **Additional information is needed regarding the municipal incorporation of an NHS, "as mapped by the province" (Growth Plan 4.2.2.2).** Throughout the GGH, many CAs and municipalities have, at great effort and expense, collected scientific data and mapped the NHS at various scales (municipal, watershed, and subwatershed). This work has been guided by the PPS, 2014, under the definition of NHS. It is unclear if and/or how existing mapped areas will be incorporated into provincial mapping and at what scale/level. If mapping is done at too high a scale for local decision making to be effective, environmental protections could be weakened. It also is unclear whether the existing technical documents and criteria for identifying KNHFs/HSFs in the NHS will be updated. Municipalities and CAs should be consulted to ensure proposed mapping will be consistent with existing mapping. - GP 4.2.2.2, GBP 5.3
- Existing mapping of hydrologic features undertaken by CAs in accordance with the *Clean Water Act (2006)* should be consistent with the mapping requirements for KHAs established in sections 5.3 of the GBP and 4.2.1 of the Growth Plan, to support a consistent approach to water protection across Ontario.
- Under-utilized school and municipal sites should be kept in public ownership and used as public parkland. The Province should map all public open spaces owned by all public bodies (including utilities) to provide a full picture of these lands and what can be connected.

Special Policy Areas (SPAs)

- Policy 5.2.5.4a of the Growth Plan is confusing and could be misinterpreted. It should be revised to be more in keeping with the clear and concise wording used in the second bullet in the explanatory text, which states, "the intent of this policy is to clarify that intensification and density targets would not require or enable growth beyond what is permitted under the PPS for SPAs and other hazardous lands".

Monitoring/Data

- S. 5.2.6 indicates that the Province may require CAs to provide data to the Province. More details on the type of data and information potentially requested should be provided. TRCA has undertaken extensive long-term efforts to develop regional monitoring programs, which are supported by our partner municipalities. It is important that we confirm whether any changes or additions to these programs are anticipated.

Complete Communities: The definition should reference natural heritage and water systems. The relationship between *complete communities* and *net zero communities* should also be clarified as a community should not be considered "complete" if it cannot meet its energy demands through low-carbon or carbon-free forms of energy. Although both need to be captured within the text of the plans, the definitions should be integrated or explicitly cross-referenced.

Ecological Integrity: The definition includes hydrological integrity, which appears to support the NHS as a component of watershed planning. If integration is to be considered, "ecological integrity" should replace "integrity" within the context of demonstrating "no negative impacts" on KNHFs/KHFs and their functions.

Extreme Weather Event: The term is used (GP 3.2.7.1, GBP 4.2) yet no definition is provided. "Extreme weather" means different things to different groups (i.e., anything from a 2-year storm to Hurricane Hazel event). Furthermore, what is "extreme" under current climatic conditions may not remain constant as climate change continues to have worsening impacts. We recommend defining and quantifying the term.

Green Infrastructure: The definition should include soils since soils are a critical component of green infrastructure needed to manage water resources.

Intermittent streams: The definition does not describe which times of year intermittent streams are dry and for how long. It is, therefore, insufficient to guide their identification since stream permanency is a continuum from perennial to intermittent and then to ephemeral streams. We suggest that either ephemeral streams be included in the suite of *KHFs* or the broader term "headwater drainage features" be used to cover both intermittent and ephemeral streams. We recommend incorporating definitions from the *Evaluation, Classification and Management Guideline for Headwater Drainage Features Guidelines* developed by TRCA and the Credit Valley CA.

Key Hydrologic Areas (KHAs): Areas of shallow groundwater and high artesian pressure should be added to the suite of KHAs to protect below-grade development from interaction with groundwater, and to prevent the wasteful discharge of groundwater when permanent dewatering is required.

Key Hydrologic Features (KHFs): Ephemeral streams are not identified as KHFs but should be to protect their hydrologic functions. By definition, their identification and delineation will be informed by watershed planning and "other evaluations and assessments". Please consider clarifying what these other evaluations/assessments will be and who will be doing them. The *Evaluation, Classification and Management Guideline for Headwater Drainage Features Guidelines* developed by TRCA and CVC could help provide a consistent approach to assessing, clarifying and managing stream types according to their function.

Low Impact Development (LID): The definition should note that LID must be implemented within a treatment train approach in order to optimize resiliency.

Net-Zero Communities: The definition should include references to locally-sourced renewable and/or district energy sources and should stipulate that a net-zero community meets its energy demand (including transportation, electricity and heating) through a mix of carbon-free and/or low carbon energy sources such that net annual greenhouse gas emissions from the community are nil.

Public Open Spaces: No definition is provided. If a definition is provided, it could include trails, parks, and conservation areas as defining elements.

Significant Groundwater Recharge Area (SGRA): There should be standard thresholds for what constitutes SGRAs and highly vulnerable aquifers so the terms are consistently applied throughout the plans.

Significant Surface Water Contribution Areas (SSWCAs): The definition does not capture the full suite of functions associated with headwater drainage features (HDFs) and seems rather indistinguishable from "ecologically significant groundwater recharge areas" (as used in the GBP). 90% of the flow within streams can be derived from catchment headwaters; however, individually, HDFs may not contribute significantly to the baseflow volume of streams. We are concerned that this definition may be interpreted as providing protection to all or none of the HDFs within a watershed. Also, baseflow provision, as included in the definition of SSWCAs, is only one function of HDFs. Other functions such as productivity, sediment transport, water quality improvement, erosion protection, and flood attenuation should be considered. To protect these functions, the HDF features themselves need to be considered, not just the broader headwater areas.

Stable Top of Bank: The term does not appear to be accurately defined in the context in which is used. The definition of "Top of (valley) Bank (staked or physical)" used in TRCA's Living City Policies document could be incorporated.

Storm Water Management Plan: The definition provided in the Growth Plan (and policy 4.2.3.5 of the GBP) could be expanded beyond "impacts to receiving watercourse" to include impacts to natural features like wetlands and species that depend on them or could be adversely impacted by changes in land use that alter the seasonal hydroperiod, impact the quality of water entering the wetland or cause erosion.

Total Developable Area (GP and GBP)/Net Developable Area (ORMCP): The definitions are not consistent with the Growth Plan policies that exclude natural hazards and heritage features from development lands (2.2.1.2j, 2.2.7.3) and should be revised to net out hazardous lands and natural heritage features. Net Developable Area must also exclude vegetative buffers associated with KNHFs/HSFs (amend ORMCP).

Vulnerability Risk Assessment (VRA): A definition should be provided and guidance materials should be provided for their implementation. A potential definition of a VRA could be, "The analysis of the expected impacts, risks and the adaptive capacity of a region or sector to the effects of climate change".

Watershed Planning, Watershed Plan and Watershed: *Subwatershed plans* are identified as being integrated with natural heritage protection; however, this linkage is not iterated in the definitions of watershed plan or watershed planning. The definitions should be expanded to collectively incorporate the full adaptive cycle of IWM, which includes consideration of both the natural heritage and water resource systems. The definitions should also speak to the fact that subwatershed plans should nest within watershed plans.

SEP 27 '16 PM 12:04

Original
To: CIP
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Take Appr. Action



Toronto and Region
Conservation
for The Living City

September 27, 2016

SEE DISTRIBUTION LIST

Sent via email

At Authority Meeting #7/16, of Toronto and Region Conservation Authority (TRCA), held on September 23, 2016, amended Resolution #AA142/16 in regard to TRCA Wetland Balance Monitoring Protocol was approved as follows:

WHEREAS Toronto and Region Conservation Authority (TRCA) staff review and provide advice on applications for development and site alteration affecting wetlands under the planning, environmental assessment and permitting processes;

WHEREAS in 2014 and 2015, in response to requests from the development industry for more technical guidance, TRCA staff developed the draft Wetland Water Balance Monitoring Protocol to articulate TRCA objectives and study requirements for establishing a water balance monitoring program for the protection of wetland hydrology through the development process;

AND WHEREAS in 2015, TRCA staff sought input on the draft Protocol from partner municipalities, provincial agencies, the Building Industry and Land Development Association (BILD), consulting firms, and neighbouring conservation authorities, and have now finalized the Protocol based on the input received;

THEREFORE LET IT BE RESOLVED THAT the Authority endorse the TRCA Wetland Water Balance Monitoring Protocol for use by proponents of development and infrastructure, consultants, and TRCA staff in the planning and development submission, review and approval process;

THAT staff report back after two years on the results of the monitoring;

AND FURTHER THAT the Ministry of Natural Resources and Forestry, Ministry of Transportation, Ministry of the Environment and Climate Change, Ministry of Municipal Affairs and Housing, regional and local municipalities in TRCA's jurisdiction, Conservation Ontario, and neighbouring conservation authorities be so advised.

Enclosed for your information and any action deemed necessary is the report as approved by the Authority. If you have any questions or require additional information, please contact Laura Del Giudice at 416-661-6600 extension 5334, ldelgiudice@trca.on.ca.

Sincerely



Kathy Stranks
Senior Manager, Corporate Secretariat
CEO's Office

cc. Laura Del Giudice, Manager, Watershed Planning, TRCA

/Encl.

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Gayle Wood, Chief Administrative Officer, Nottawasaga Valley Conservation Authority

RES.#A142/16 -

TRCA WETLAND BALANCE MONITORING PROTOCOL

Authority approval of TRCA's Wetland Water Balance Monitoring Protocol, a technical guideline developed to support *Appendix D: Water Balance for Protection of Natural Features* of TRCA's Stormwater Management (SWM) Criteria document (2012) and The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority.

Moved by: Jennifer Innis
Seconded by: Jack Heath

WHEREAS Toronto and Region Conservation Authority (TRCA) staff review and provide advice on applications for development and site alteration affecting wetlands under the planning, environmental assessment and permitting processes;

WHEREAS in 2014 and 2015, in response to requests from the development industry for more technical guidance, TRCA staff developed the draft Wetland Water Balance Monitoring Protocol to articulate TRCA objectives and study requirements for establishing a water balance monitoring program for the protection of wetland hydrology through the development process;

AND WHEREAS in 2015, TRCA staff sought input on the draft Protocol from partner municipalities, provincial agencies, the Building Industry and Land Development Association (BILD), consulting firms, and neighbouring conservation authorities, and have now finalized the Protocol based on the input received;

THEREFORE LET IT BE RESOLVED THAT the Authority endorse the TRCA Wetland Water Balance Monitoring Protocol for use by proponents of development and infrastructure, consultants, and TRCA staff in the planning and development submission, review and approval process;

AND FURTHER THAT the Ministry of Natural Resources and Forestry, Ministry of Transportation, Ministry of the Environment and Climate Change, Ministry of Municipal Affairs and Housing, regional and local municipalities in TRCA's jurisdiction, Conservation Ontario, and neighbouring conservation authorities be so advised.

AMENDMENT

RES.#A143/16

Moved by: Jennifer Innis
Seconded by: Jack Heath

THAT the following be inserted before the last paragraph of the main motion:

THAT staff report back after two years on the results of the monitoring;

THE AMENDMENT WAS

CARRIED

THE MAIN MOTION, AS AMENDED, WAS

CARRIED

THE RESULTANT MOTION READS AS FOLLOWS:

WHEREAS Toronto and Region Conservation Authority (TRCA) staff review and provide advice on applications for development and site alteration affecting wetlands under the planning, environmental assessment and permitting processes;

WHEREAS in 2014 and 2015, in response to requests from the development industry for more technical guidance, TRCA staff developed the draft Wetland Water Balance Monitoring Protocol to articulate TRCA objectives and study requirements for establishing a water balance monitoring program for the protection of wetland hydrology through the development process;

AND WHEREAS in 2015, TRCA staff sought input on the draft Protocol from partner municipalities, provincial agencies, the Building Industry and Land Development Association (BILD), consulting firms, and neighbouring conservation authorities, and have now finalized the Protocol based on the input received;

THEREFORE LET IT BE RESOLVED THAT the Authority endorse the TRCA Wetland Water Balance Monitoring Protocol for use by proponents of development and infrastructure, consultants, and TRCA staff in the planning and development submission, review and approval process;

THAT staff report back after two years on the results of the monitoring;

AND FURTHER THAT the Ministry of Natural Resources and Forestry, Ministry of Transportation, Ministry of the Environment and Climate Change, Ministry of Municipal Affairs and Housing, regional and local municipalities in TRCA's jurisdiction, Conservation Ontario, and neighbouring conservation authorities be so advised.

BACKGROUND

At Authority Meeting #7/12, held on September 28, 2012, Resolution #A173/12 was approved, endorsing the TRCA Stormwater Management Criteria document. In accordance with provincial guidance and TRCA's Living City Policies, applications under TRCA review are required to meet TRCA's four SWM criteria: water quantity; water quality; erosion; and water balance. The Wetland Water Balance Monitoring Protocol is a TRCA technical guideline that will help applicants fulfill the water balance SWM criterion when their proposal for development or infrastructure affects a wetland. The SWM criterion for water balance is explained in a section and in an appendix of the SWM Criteria document; the appendix entitled "Water Balance for the Protection of Natural Features", provides guidance on TRCA's requirements for maintaining hydrologic functions of natural features that have been recommended for protection through the planning or environmental assessment processes. The scope of the water balance criterion includes considerations for the protection of water balance, or balancing water inflows and outflows within an area, for three types of natural features: wetlands; woodlands; and watercourses. The analysis that informs this criterion is also important in safeguarding municipal infrastructure and minimizing risks and liability associated with nuisance flooding, which may become problematic when water balance for natural features is not given due consideration.

During the external consultation process for the SWM Criteria document, TRCA was asked by members of the consulting and development industries to develop further guidance around the water balance study requirements for the protection of natural features. In response to these comments, TRCA staff established an External Stakeholder Committee (ESC), with representatives from municipalities, BILD, the consulting industry, Credit Valley Conservation and other conservation authorities to collaborate on the development of tools that would provide this more detailed guidance. One such tool is the Wetland Water Balance Monitoring Protocol, which has been developed by TRCA staff based on current scientific understanding and knowledge garnered through practical application. TRCA staff will be developing other tools for wetlands as well as tools for woodlands and watercourses collaboratively with the ESC in the coming years.

The draft Monitoring Protocol was thoroughly vetted through senior technical and planning staff, directors, and the ESC. The draft document was then circulated more broadly for comment to all of TRCA's partner municipalities, relevant provincial agencies, neighbouring conservation authorities, BILD and the consulting industry. TRCA staff has revised the draft Monitoring Protocol based on the feedback received through this consultation process, and it is now finalized for use by development proponents, consultants and TRCA staff.

The final Monitoring Protocol for wetlands provides more specific direction around developing a pre- and post-development monitoring program to inform and confirm the results of a wetland water balance analysis required under the SWM Criteria document and The Living City Policies. The Monitoring Protocol will help to clarify and streamline the water balance data/information and analysis requirements to support applications made through the planning and development processes. Copies of the Monitoring Program are available upon request.

RATIONALE

Conservation authorities (CAs) regulate wetlands under section 28 of the *Conservation Authorities Act* due to their importance in maintaining watershed hydrology and ecology. CAs also advocate for the protection of wetlands in their commenting roles under the planning and environmental assessment review processes. The Living City Policies provide the official guidance to TRCA planning and development staff in carrying out these roles. In this regard, the Monitoring Protocol is consistent with The Living City Policies' objectives for natural hazard and natural heritage protection and management, and is aligned with provincial and municipal partner policies and objectives.

A key TRCA objective is resilience of watersheds and communities to cope with future weather extremes. Wetlands help to improve watershed resiliency to the impacts of climate change and other stressors by contributing a variety of important hydrological and related ecological functions. These include water storage and reduction of downstream flooding and erosion, protection of groundwater recharge, provision of habitat for plants and animals, and provision of baseflow and food sources for aquatic species.

The hydrology of a wetland refers to the various pathways by which water reaches and leaves the wetland. The term "hydroperiod" is used to describe the seasonal pattern of water level fluctuation within a wetland, and is considered to be the wetland's hydrologic signature. Ecological processes are dependent on the wetland's hydroperiod, and these processes can be disrupted when the balance of water flowing into and out of a wetland, or its "water balance", is altered through urban development. These changes can also have significant implications on municipal infrastructure and hazard risk management.

Where wetlands are identified for protection/conservation through the planning and development process, effort should be made to ensure the long-term protection of these important hydrological and related ecological functions. These wetland functions may be affected when the surface and groundwater contributing flows are modified in terms of volume, duration or timing. These changes can result from changes in drainage patterns or increases in runoff due to impermeable surfaces associated with development or through water taking.

TRCA has documented a number of instances where insufficient wetland water balance considerations created nuisance flooding problems on neighbouring private lots and back-up of water into municipal stormwater infrastructure. These hazards and risks are very difficult to mitigate after-the-fact, and the monitoring data collected as part of this Monitoring Protocol are critical in their up-front identification and mitigation. Hazards and risks are usually avoided or minimized by balancing post-development to pre-development flow volumes, which is made possible through analysis of the monitoring data. For example, by calculating the amount, duration and timing of clean roof water required from the proposed development, the wetland's water balance can be maintained by using low impact development (or green infrastructure) measures to direct flows toward or away from the wetland. These calculations are made using models that are calibrated (adjusted) with the collected pre-development monitoring data as directed through this Monitoring Protocol. The Monitoring Protocol also sets out the guidance for developing a post-construction monitoring program to confirm the wetland hydrology has been protected, as predicted through the modelling, or to direct implementation of additional mitigation measures should that not be the case. This iterative, adaptive approach to wetland management is critical as climate change may further shift the hydrologic regime that supports wetland water balance, beyond what is predicted by the model using current conditions.

The guidance provided within this Monitoring Protocol will ensure that TRCA will have the data needed to inform the development of appropriate water management strategies to protect wetland hydrology and to minimize hazards from the effects of both urbanization and climate change when contemplating future development applications. This knowledge is critical to the setting of appropriate development limits, reducing liability, and protecting the vital ecosystem services that wetlands provide to ensure resilience in the face of a changing climate.

Content of the Monitoring Protocol

The Wetland Water Balance Monitoring Protocol outlines TRCA's preferred procedures for collecting baseline (pre-development) and post-development wetland monitoring data in order to determine the wetland's water balance and to confirm that the results of the water balance analysis were correct. Guidance is provided on technical issues around monitoring specific components of the water balance, and also on when monitoring, reporting, and various analyses are to take place within the planning and development process.

The Monitoring Protocol is comprised of the following sections:

- **Introduction**: Provides an overview of the context, rationale, and the scenarios in which the Monitoring Protocol applies or does not apply. The steps involved in completing a wetland water balance are outlined alongside the corresponding stage of the planning and development process where each step is expected to take place.
- **Wetland Water Balance Equation**: Lists the hydrological components of a water balance and provides a definition of the hydroperiod as the basic unit of analysis against which to measure any changes in water levels.

- Designing a Wetland Water Balance Monitoring Program: Outlines the types of monitoring questions that may be asked in a monitoring program and the data needed to answer these questions. A list of background information required for the design of a monitoring program is provided. Technical guidance on instrumenting wetlands to measure the different water balance components is also included here.
- Post-Planning Monitoring Phases: Outlines the monitoring process during and after construction, and when post-development monitoring may begin. The need for defining triggers for remedial action in consultation with the conservation authority is also discussed.
- Reporting: Emphasizes the importance of reporting to the conservation authority at key stages of development and of post-development reporting in particular, as this information is invaluable to the effective evaluation of water balance mitigation strategies.
- Technical Appendices: Two appendices are contained in the document; one is a summary of the six steps listed in the SWM Criteria document (2012) for conducting a water balance analysis for the protection of natural features, while the other provides guidance on correcting automated water level measurements using manual measurements.

Comments Received on Draft Document

External commentators were generally supportive of the intent and content of the draft version of the Monitoring Protocol that was circulated, and most comments consisted of requests for clarification of terms and of applicability of the Protocol to specific development scenarios. A detailed list of comments received and TRCA's response to each is provided in Attachment 1, while a condensed summary is provided below.

Province: The Ministry of Transportation (MTO) was the only provincial ministry to comment on the Monitoring Protocol. MTO's concerns were limited to whether the requirements for completing a wetland water balance would apply to linear infrastructure (roads and railways) in general and to their work in particular. TRCA responded that generally a water balance analysis would not be required for roads and railways. TRCA would identify situations where the project could significantly impact the water balance for a wetland (e.g. truncating the surface catchment) and seek mitigation commitments, as needed, through the environmental assessment process. We would also promote that MTO incorporate design practices that minimize hydrological impacts of road construction on wetlands, such as equalization culverts or micro-drainage culverts.

Municipalities: Many municipalities commented that they understood the value and intent of the Monitoring Protocol, and that they appreciated the opportunity to provide feedback. The majority of the concerns raised by municipal staff fell into one of the following categories:

- clarification of the duration of baseline monitoring required to characterize the pre-development wetland conditions;
- applicability or inapplicability of the Monitoring Protocol and water balance process to wetlands within existing fully-developed urban areas as opposed to greenfield developments;
- frequency with which the water balance process may be required for development applications affecting smaller wetlands, or for small-scale development applications;

- purpose of flora and fauna monitoring within the Monitoring Protocol; or
- duration of post-construction monitoring and mechanisms of enforcement to ensure post-development monitoring and reporting occur.

TRCA staff revised the draft Monitoring Protocol to further clarify the intent of each of the monitoring requirements, the development scenarios to which the document would or would not apply, and the specific details of monitoring durations and data requirements. Staff reiterated that the Monitoring Protocol would only apply to wetlands identified for protection and requiring a water balance analysis as determined and scoped through the planning and development review process in consultation with the conservation authority and the municipality. Staff also addressed the limitations of the Monitoring Protocol in setting the terms and conditions for post-development monitoring, noting that this would necessarily be an outcome negotiated within the larger development context.

Other Conservation Authorities: Staff at Credit Valley Conservation Authority (CVC) and Central Lake Ontario Conservation Authority (CLOCA) expressed support for both the intent and content of the Monitoring Protocol. Many of the comments received concerned minor technical adjustments to the ecological and hydrological data required for background site characterization and monitoring, which were addressed by TRCA staff in their revisions.

Consulting Industry: Comments were largely editorial in nature or were minor clarifications, although additional clarity was requested around the applicability of the Monitoring Protocol to wetlands that may be influenced by groundwater dewatering activities such as aggregate extraction. TRCA staff confirmed that the Monitoring Protocol does apply to such situations although the focus of the document is largely on activities influencing patterns of surficial drainage, such as residential development.

Building Industry and Land Development Association (BILD): TRCA received no formal written comments from BILD members. However, BILD representatives actively participate on the ESC. They have been satisfied with the level of engagement by their consulting industry representatives in collaborating on the development of the Monitoring Protocol.

FINANCIAL DETAILS

The development of the Monitoring Protocol was supported by capital funding from the regional municipalities of York and Peel. TRCA staff also secured external funding in the form of grants from the Great Lakes Sustainability Fund and the Toronto Remedial Action Plan. These grants, together with funding from the regions of York and Peel, also support continued wetland water balance monitoring in the jurisdiction being led by TRCA and CVC, and the development of other tools to guide the completion of water balance analyses for the protection of natural features, as discussed further below.

DETAILS OF WORK TO BE DONE

The Monitoring Protocol will be implemented through the Planning, Greenspace and Communications Division in review of *Planning Act* applications, environmental assessment and master planning, and through TRCA's own permitting process. TRCA planners, engineers, and ecologists reviewing applications will continue to work with proponents of development and consultants to streamline the review process while striving for the best possible outcome for environmental and growth management objectives. TRCA's Planning and Development Procedural Manual, Environmental Impact Study Guidelines, and Stormwater Management

Criteria document will all be updated to reflect the existence of the Monitoring Protocol and the information contained therein. The Monitoring Protocol will also be updated from time to time to reflect the development of other tools supporting the water balance for natural features criterion as these become available.

TRCA is monitoring a number of wetlands throughout the jurisdiction and in the Credit River watershed in partnership with CVC as part of the Wetland Water Balance Study. This study is evaluating changes to the water balance of wetlands located in catchments currently or soon to be impacted by development, as well as wetlands in catchments not undergoing development. Through this study, TRCA hopes to improve the understanding of how best to instrument wetlands, how to best model wetland hydroperiods and potential impacts to wetlands, and what ecological thresholds may exist in wetlands in response to hydrological changes. Staff at TRCA and Credit Valley Conservation, as well as academic partners at the University of Guelph, are using the data produced from the study to determine the impacts of development on wetland hydrology and to evaluate the effectiveness of different green infrastructure designs in mitigating these impacts. This knowledge will inform the development of other tools to support and streamline water balance analyses for the protection of natural features.

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Attachments: 1

Attachment 1

TRCA Response to Comments on the draft Wetland Water Balance Monitoring Protocol, September 4, 2015 version

Commentator	Section	Comment	TRCA Response	Revisions Required?
City of Toronto, Basement Flooding	Editorial comments	Although the introductory section says the protocol has been produced to provide consistent guidance to proponents of urban development, infrastructure or water extraction applications, most of the subsequent sections of the document focus on requirements for urban development.	The introduction has been revised to indicate the applicability of the protocol to a variety of development application types. The requirements for wetland monitoring would not change substantially for different application types, as the water balance must still be quantified.	Y
City of Toronto, Basement Flooding	Editorial comments	Case studies are just "there" with no mention in text as to what value they represent.	Case studies have been re-named "examples" or "figures" to better illustrate their purpose. References to these items in the text have been inserted in several places.	Y
City of Toronto, Toronto Water	Editorial comments	The use of the term case study seems inappropriate at times, simply using the term example may suffice.	We agree; case studies have been re-titled as either examples or as figures.	Y
City of Markham	General comments	This important document provides valuable guidance for protection of wetlands through proper planning and monitoring. It integrates wetland monitoring within the planning approval process, details the phasing and timing of the monitoring, and also provides specific data collection and instrumentation requirements. We understand that wetlands in general are regulated by TRCA and that the suggested monitoring program could have impacts on the City and developers.	Noted. We appreciate the comment.	N

City of Markham	General comments	A Wetland Risk Evaluation, which was referenced in the above noted water balance monitoring document, is currently under development by TRCA and CVC to determine the need for, and scope of wetland water balance monitoring requirements. While this concept is appreciated, we need to see the actual evaluation document as this will determine the need for and the scope of the monitoring.	References to the Risk Evaluation Tool have been removed from the document, and instead the current process of consulting with TRCA to scope monitoring requirements for a development proposal is cited. The Risk Evaluation Tool, which we expect to complete in the near future, will undergo a separate external stakeholder consultation process. This tool will provide clear guidance on when a water balance is required and the scope of monitoring and modelling effort required for different development scenarios.	Y
City of Markham	General comments	Although TRCA states that a water balance monitoring will be required for both Locally and Provincially Significant Wetlands, a distinction has to be established between the level of monitoring effort required for each of these two type of wetlands. We expect PSW require more detailed and longer period of monitoring compared with the local ones.	Text has been revised in Section 1.2, Early Stage, to clarify when the 3 years of baseline monitoring are to take place within the planning process. The Risk Evaluation Tool, currently under development, will provide additional guidance on the duration and extent of baseline monitoring for different scenarios. For now, the process of consulting with TRCA will remain the method of scoping monitoring requirements.	Y
City of Markham	General comments	TRCA did not provide details regarding typical cost and time implications of this wetland monitoring requirement on proponents. So, we are concerned about cost and delays (especially to establish baseline monitoring data for small scale developments) impacts on current and future development applications.	It is not our intention to require a full water balance analysis for every single wetland, but rather to use a risk-based approach that considers feature sensitivity and scale of water balance alteration proposed by an application (e.g. percentage of imperviousness within the wetland catchment) to determine monitoring scope. At present, monitoring requirements will continue to be scoped in consultation with TRCA, but we intend to release the Risk Evaluation Tool in the near future which provides guidance on scoping for different development scenarios. Modelling and monitoring requirements are and will continue to be commensurate with the level of risk to the wetland.	N

City of Markham	General comments	To benefit from the monitoring program, if the post construction monitoring shows deficiencies in the water balance (more or less water to a wetland), what are the next steps?	In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y
City of Mississauga, Infrastructure Dept.	General comments	This draft Protocol document references the Water Balance for the Protection of Natural Features criteria. Appendix D.3 of the SWM Criteria document should correspondingly be amended to reference the Wetland Water Balance Monitoring Protocol document for ease of access and awareness of the improved monitoring guidelines.	Updates to the SWM Criteria document will be made comprehensively within the next several years. The Monitoring Protocol will be referenced in our forthcoming updated EIS Guideline document and in other documents as they are updated.	N
City of Mississauga, Planning Dept.	General comments	Overall the document is well written and informative which should provide good guidance to proponents of urban development and infrastructure projects. It would be useful to include the requirement for a water balance study in the generic Municipal and Conservation Authority Environmental Impact Study terms of reference to inform that this type of study may be required.	The Monitoring Protocol will be added to the technical guidelines under the Procedural Manual and referred to in the forthcoming updated EIS Guideline. It will also be cited in future updates to the Stormwater Management Criteria Guidelines.	N
City of Toronto, Basement Flooding	General comments	Overall [the Protocol] provides guidelines that will make proponents of development aware of what their obligations are for monitoring. But it is not prescriptive enough to be of use for practitioners that will developing and conducting the monitoring program.	Based on our experience, the information is suitable to the audience and that the Protocol should not be overly prescriptive due to the wide variety of potential scenarios (development forms, wetland types) that the Protocol could apply to. Qualified consultants should find the level of guidance appropriate to assist them in developing and undertaking a monitoring program.	N

City of Toronto, Basement Flooding	General comments	With respect to the post-construction monitoring time-frame of three (3) years, there is no mention of the mechanism that will be used to ensure that developers fulfill their obligations and to ensure that they will be follow through on taking corrective action in the event that monitoring identifies issues with the water balance.	Ideally, post-development monitoring should take place for a minimum of 5 years. The length of monitoring negotiated will depend to some extent on the site-specific wetland conditions, the anticipated scale of impacts and the larger development context. In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. The design and length of the monitoring is normally a negotiated outcome; design for water balance and the stormwater system needs to be developed in consultation with the municipality as they will ultimately take responsibility for the infrastructure. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y
City of Toronto, Basement Flooding	General comments	There is no mention of the requirement for an additional period of monitoring if corrective action is taken, and similar to the previous point, the mechanism that would be used to ensure that developers fulfill the expanded obligations.	Ideally, post-development monitoring should take place for a minimum of 5 years. The length of monitoring negotiated will depend to some extent on the site-specific wetland conditions, the anticipated scale of impacts and the larger development context. In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. The design and length of the monitoring is normally a negotiated outcome; design for water balance and the stormwater system needs to be developed in consultation with the municipality as they will ultimately take responsibility for the infrastructure. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y

City of Toronto, Basement Flooding	General comments	The document mentions that the Wetland Risk Evaluation [WRE] is currently under development. It seems premature to be issuing a monitoring protocol that is dependent on the WRE to define scope.	References to the Risk Evaluation Tool have been removed from the document, and instead the current process of consulting with TRCA to scope monitoring requirements for a development proposal is cited. The Risk Evaluation Tool, which we expect to complete in the near future, will undergo a separate external stakeholder consultation process. This tool will provide clear guidance on when a water balance is required and the scope of monitoring and modelling effort required for different development scenarios.	Y
City of Toronto, Basement Flooding	General comments	Although not necessary for completing a water balance assessment, data on water chemistry and temperature could be collected using protocols put in place for collecting water balance monitoring data. This data could provide additional insight in the event that wetland characteristics are negatively impacted.	The addition of water chemistry data into the monitoring requirements may make the Protocol more complex than is desirable. Technical reviewers will ensure that water used for mitigation is derived primarily from "clean" sources, such as roof stormwater. We intend to conduct more research in the future on the relative effectiveness of different mitigation technologies in achieving wetland water balance.	N
City of Toronto, Basement Flooding	General comments	Being aware of protocol will assist City of Toronto staff when reviewing and processing development applications.	Noted.	N
City of Toronto, Basement Flooding	General comments	Will impact Basement Flooding Protection Program and other infrastructure improvement contracts when there are existing and/or new storm outfalls to designated wetland features. In the case of infrastructure upgrades upstream of an existing outfall, there will be limitations on what can be done to take corrective action in the event that monitoring identifies that the water balance of a wetland feature has been altered.	The determination of whether the wetland can be retained on the landscape will be made through the EA and planning process prior to any application of this protocol. This protocol mostly applies to greenfield development; however, there may be opportunities to restore lost functions to wetlands in existing urban areas. In these instances, a "best efforts" approach should be followed. Monitoring and modelling are likely not required, although there may be tools used to identify wetland baseline (i.e. current) conditions and targets to use in wetland restoration or creation projects.	N
City of Toronto, Basement Flooding	General comments	From City perspective, three (3) years of pre-construction monitoring should be possible given time frame for infrastructure improvement projects moving from planning to construction.	Noted. We appreciate the comment.	N

City of Toronto, Basement Flooding	General comments	Although monitoring could be done for three (3) years after the completion of construction, two (2) year warranty period on construction contracts will make it difficult to implement contingency measures in the event that corrective action is required.	Ideally, post-development monitoring should take place for a minimum of 5 years. The length of monitoring negotiated will depend to some extent on the site-specific wetland conditions, the anticipated scale of impacts and the larger development context. In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. The design and length of the monitoring is normally a negotiated outcome; design for water balance and the stormwater system needs to be developed in consultation with the municipality as they will ultimately take responsibility for the infrastructure. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y
City of Toronto, Toronto Water	General comments	The protocol document is thorough, and describes the process well. It will be a valuable document. It is not proscriptive and we understand its direction.	Noted. We appreciate the comment.	N
City of Toronto, Toronto Water	General comments	This document focuses on the data that needs to be collected and provides upfront definitions of lengths of time that monitoring needs to be carried out for the different stages of land use changes and impacts on a wetland. This is extremely valuable because it will define how much funding that a Developer / Proponent needs to spend and should assist Consultants in their cost-proposal interactions with a Proponent.	Noted. We appreciate the comment.	N

City of Toronto, Toronto Water	General comments	The protocol document is used to support Appendix D of the Stormwater Document. It would be useful to append a two page precis of Appendix D to this document (perhaps at its end) because quite likely, a reader will only pick up this document and try to use it, but miss key information in Appendix D. Your little drop box re Appendix D on page 1 is useful, but insufficient. In addition, this Protocol document infers that revisions are now needed to Appendix D. Hopefully these edits will be completed in the near future.	A summary of the major steps outlined in Appendix D of the SWM Criteria Guideline has been included at the end of the document. We will be updating the SWM Criteria document in the next few years and will include updates such as this at that time. In the meantime, Appendix D in its current form remains the reference that proponents should use and refer to when developing a monitoring program.	Y
City of Toronto, Toronto Water	General comments	Since we use percent imperviousness as a general index to define impacts on receiving waters including wetlands, we understand the generality of the 'changes in wetland hydrology' mentioned on page 1. But we do not see at what scale of wetland and type of wetland that runoff from an urban area is an impact of concern that requires this level of monitoring. For a wetland dominated by flow from a defined watershed which urbanizes, the literature indicates that at 10 to 20 % imperviousness, wetlands are significantly altered by urban runoff. But this may not be that influential for wetlands which are dominated by floodplane hydrology and receive a portion of their inflow from an upland channel. Additional guidance on this point is essential.	It is not our intention to require a full water balance analysis for every single wetland, but rather to use a risk-based approach that considers feature sensitivity and scale of water balance alteration proposed by an application (e.g. percentage of imperviousness within the wetland catchment) to determine monitoring scope. At present, monitoring requirements will continue to be scoped in consultation with TRCA, but we intend to release the Risk Evaluation Tool in the near future which provides guidance on scoping for different development scenarios. Modelling and monitoring requirements are and will continue to be commensurate with the level of risk to the wetland.	N
City of Toronto, Toronto Water	General comments	Points 3 and 4 above are additional needed information which will assist the Consultant in classifying the sensitivity of a specific wetland to a specific type of hydrology, - - -needed info to develop their conceptual model and to develop a cost –effective monitoring program.	We recognize that the sensitivities of different wetland types to hydrological changes can vary widely. The Risk Evaluation Tool that we are currently developing and expect to release in the near future will provide guidance on the scope of monitoring/modelling effort required using a risk-based approach that considers wetland sensitivity and the degree of water balance alteration. In the meantime, this will continue to be assessed by TRCA and municipal experts on a case-by-case basis.	N

City of Toronto, Toronto Water	General comments	Wetland Classification. There is a vast literature and I recall textbooks on the sensitivity of wetlands to different types of hydrological perturbations (floodplane, Direct and only runoff from a watershed, airborne, etc) Where is this information consolidated in these documents?	This Monitoring Protocol draws on a literature review that TRCA conducted several years ago. This review, entitled "The Impacts of Urbanization on the Hydrology of Wetlands: A Literature Review", can be found at www.sustainabletechnologies.ca . We recognize that the sensitivities of different wetland types to hydrological changes can vary widely. The Risk Evaluation Tool that we are currently developing and expect to release in the near future will provide guidance on the scope of monitoring/modelling effort required using a risk-based approach that considers wetland sensitivity and the degree of water balance alteration proposed.	N
City of Toronto, Toronto Water	General comments	Lots of examples are provided, but no examples are provided with regards to the effectiveness of mitigation measures (LID).	We intend to conduct more research in the future on the relative effectiveness of different mitigation technologies in achieving wetland water balance. It would be premature to provide more detailed guidance at this point. However, it is our intent to provide this guidance on mitigation measures at some point in the near future.	N
City of Toronto, Toronto Water	General comments	A sample water balance calculation sheet may inform the proponent of the level of effort required as part of this work.	The scope of work to be undertaken in the wetland water balance will be outlined in greater detail in the Risk Evaluation Tool, currently under development and scheduled for release in the near future. Scope of monitoring and modelling effort required will vary depending on scale of proposed water balance alterations and sensitivity of the wetland in question.	N

City of Toronto, Toronto Water	General comments	<p>This protocol is primarily geared to greenfield development in the suburbs and not that relevant to previously developed areas. We presume that it will have very limited applicability within the City of Toronto. As the City is building additional stormwater infrastructure and outfalls to assist in basement flooding relief projects, we'd appreciate receiving from TRCA a screening the hydrological sensitivity of all know wetlands within the City of Toronto from TRCA as a atsrtng point to address this potential issue. In addition we would note that where there existing or potentially new stormsewer outlets to areas where wetland currently exist, particularly in stream valleys, the City would be looking to taking over a portion of the existing wetland and turn it into an opportunity for water quality improvement.</p>	<p>The determination of whether the wetland can be retained on the landscape will be made through the EA and planning process prior to any application of this protocol.</p> <p>This protocol mostly applies to greenfield development; however, there may be opportunities to restore lost functions to wetlands in existing urban areas. In these instances, a "best efforts" approach should be followed. Monitoring and modelling are likely not required, although there may be tools used to identify wetland baseline (i.e. current) conditions and targets to use in wetland restoration or creation projects.</p> <p>Regarding screening of wetlands, we reccommend that where a specific project is identified within the catchment of a wetland in the City of Toronto, opportunities to remediate or restore wetland hydrology be considered. This should be done in consultation with TRCA staff, and our staff can provide the location of known wetlands. We understand that the City is also developing their Environmentally Significant Areas Study, which would include areas where this type of work should be considered.</p> <p>TRCA would typically not support the use of existing wetlands for water quality improvement, but instead would generally support the construction of new wetlands for this purpose, where appropriate. However, we strongly recognize the integrated benefits of considering wetlands and their hydrology in helping to address other water-related concerns, such as water quality issues and flooding.</p>	N
City of Toronto, Toronto Water	General comments	<p>It possibly appropriate that some text could be added to existing developed areas, with an emphasis on restoring or creating wetlands as elements of green ravine infrastructure in order to improve ecosystem services and their delivery</p>	<p>TRCA would generally support the construction of new wetlands for this purpose, where appropriate. However, this falls outside the scope of this Monitoring Protocol.</p>	N

City of Toronto, Toronto Water	General comments	It would be useful to provide a section describing monitoring for newly created wetlands for existing areas of full urban development to lessen the impression that this protocol is only for greenfield developments; on the other hand we understand that the need for this document is for areas of new urban development, and can accept that its focus is single-mindedly toward areas of new development. If that is the case, then some text that speaks to the limits of this document for assessing wetlands in areas of existing urban development, should be included, or a statement made that this document does not apply to areas of exiting urban development.	The determination of whether the wetland can be retained on the landscape will be made through the EA and planning process prior to any application of this protocol. This protocol mostly applies to greenfield development; however, there may be opportunities to restore lost functions to wetlands in existing urban areas. In these instances, a "best efforts" approach should be followed. Monitoring and modelling are likely not required, although there may be tools used to identify wetland baseline (i.e. current) conditions and targets to use in wetland restoration or creation projects.	N
CLOCA	General comments	The document identifies the varying phases/stages of development (early, intermediate and late) as well as the required studies which clearly set out the scale and scope of work that is expected in each stage of development. Providing this information is quite helpful in establishing / confirming expectations. Figure 1 is an excellent schematic for explaining the study considerations at the three stages of development. Well done!!!	Noted. We appreciate the comment.	N
CLOCA	General comments	Monitoring time periods - reference in the document is made to 1-3 years of monitoring. It is suggested that the word "minimum" be added immediately before the 1-3 year timeframe mentioned.	Monitoring requirements are consistent with what we have indicated in our Stormwater Management Criteria document, which states a minimum of 3 years. We have revised the text to ensure that this is reflected throughout.	N

CVC (Dec. 18, 2015)	General comments	Overall CVC would like to commend TRCA on this document. It provides an excellent high-level overview of the Conservation Authorities expectation. ...We would find the document a lot more helpful if there was more guidance around specific recommendations rather than statements like 'it could be'. For example rather than saying some post monitoring surveys are needed, which could be 5 years after project completion, I'd prefer to see lists of what CA's generally ask for.	We feel that the Protocol should not be overly prescriptive due to the wide vairyety of potential scenarios (development forms, wetland types) that the Protocol could apply to.	N
CVC (Dec. 18, 2015)	General comments	Indicate that three years of baseline will be required, that ultimately we're looking for a normal, wet and dry year. And that at the very least, they should be able to define what they have captured (they mention at the end of the report that context should be provided). If monitoring less than 3 years a precautionary approach to establishing requirements should be undertaken.	Text has been revised in Section 1.2, Early Stage, to clarify when the 3 years of baseline monitoring are to take place within the planning process. Note also that the following sentences have been added to the text in Section 3, Step 5: "If it is a climatologically extreme year, effort should be made to understand how the wetland would function in an average year. This can be done using baseline meteorological data provided by TRCA and based on the conceptual model of the wetland's hydrology, or using a calibrated model where one has been developed."	Y
CVC (Dec. 18, 2015)	General comments	Often, the post monitoring duration becomes a sticking point. Should provide guidance about what this time period should be and how frequent the surveys should be during this period.	Ideally, post-development monitoring should take place for a minimum of 5 years. The length of monitoring negotiated will depend to some extent on the site-specific wetland conditions, the anticipated scale of impacts and the larger development context. In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. The design and length of the monitoring is normally a negotiated outcome. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y

CVC (Dec. 18, 2015)	General comments	In our opinion all the Natural heritage variables should be listed if you are going include them in the report (e.g. amphibian monitoring, vegetation)	A list has been included in the revised text of Section 3, Step 2 that outlines the requested variables.	Y
MTO	General comments	It appears the document is not written with linear types of development (i.e. the provincial highway system) in mind, with typically singular points of water input, but rather is municipally oriented where an impacted wetland is within a development area.	The protocol only applies to wetlands where it has been determined through the Environmental Assessment and planning processes that the feature will remain on the landscape. A paragraph has been added to the introduction clarifying the applicability of the protocol to different forms of development and types of wetlands. We recognize that the mitigation options for linear infrastructure may generally be better addressed through use of best practice (e.g. inclusion of equalization culverts or micro-drainage culverts).	Y
MTO	General comments	If the intent is that the protocol apply to MTO work within TRCA's jurisdiction, MTO will need to discuss the implications with you in detail. The scope and cost of monitoring if applied to our work could be quite substantial with very little benefit. MTO data collected would be point sensitive and therefore would not reflect the overall health and status of the wetland.	MTO would not typically be required to apply the protocol to their projects. However, TRCA would identify situations where the project could significantly impact the water balance for a wetland (e.g. truncating the surface catchment) and would seek mitigation commitments, as needed, through the environmental assessment process. TRCA would also promote that MTO incorporate road designs that minimize hydrological impacts of road construction on wetlands, such as equalization culverts or microdrainage culverts.	N
MTO	General comments	MTO has directives that guide our involvement and input into the development of sub watershed plans. We do not initiate them but are stakeholders representing provincial transportation interests.	Noted.	N

Peel Region	General comments	In general, the draft Protocol provides a useful guide for practitioners in preparing urban development, infrastructure and/or water extraction applications in which a wetland water balance analysis is required. We also recognize that the Protocol is intended to provide further details on expectations when completing Steps 2 and 6 of Appendix D.3 of the Stormwater Management Criteria (2012).	Noted. We appreciate the comment.	N
Richmond Hill	General comments	The report integrates the protocol methodology with information on technical methods and equipment. Separating these two sections into different chapters would be beneficial. For those who have experience with the equipment and use, they will be able to focus on the methodology and requirements for submission. For those who need extra technical guidance on equipment and monitoring tips, they can consult an appendix.	We feel that the protocol is straightforward as written, and that a qualified consultant will be able to interpret the monitoring requirements without additional technical guidance. We have vetted the protocol with a number of consultants on our External Stakeholder Committee and they have not raised any issues in this regard. We have provided much of the more technical information in text boxes, which can be easily skipped if it is not relevant information to the reader.	N
Richmond Hill	General comments	As background information is vital to a successful monitoring program, the document should emphasize the need to determine if wetland monitoring is necessary during a pre-consultation process, and the need to commence the monitoring program as soon as possible.	Agreed. Text has been added to explicitly state this in Section 1.2.	Y
Richmond Hill	General comments	The document could indicate that pre-consultation with TRCA is recommended/required to determine the scope of the study and ensure the information provided is valuable and complete.	Agreed. Text has been added to explicitly state this in Section 1.2.	Y
Richmond Hill	General comments	Surface water and groundwater catchments for a specific feature may differ. Additionally, development outside the surface water drainage area for a feature may have drastic impacts on wetland hydrology. Please provide additional technical guidance on this matter in the document.	Text has been clarified throughout to reflect the difference between surface water and groundwater catchments and the inclusion of these respective elements within the NHS.	Y

Town of Ajax	General comments	Details on how high, medium and low risk projects are defined should be within the report	References to the Risk Evaluation Tool have been removed from the document, and instead the current process of consulting with TRCA to scope monitoring requirements for a development proposal is cited. The Risk Evaluation Tool, which we expect to complete in the near future, will undergo a separate external stakeholder consultation process. This tool will provide clear guidance on when a water balance is required and the scope of monitoring and modelling effort required for different development scenarios.	Y
Town of Ajax	General comments	How long should post-development monitoring go on for? If results of the post development monitoring are not favourable, what mechanism exists for the authority to implement any further mitigation measures? If permits have been issued and registration has already happened, then the CA has no way to enforce changes in mitigation measures. Furthermore, the CA has no way of ensuring that the post development monitoring occurs at all. Does the CA envision municipalities collecting securities related to monitoring to ensure compliance by developers?	Ideally, post-development monitoring should take place for a minimum of 5 years. The length of monitoring negotiated will depend to some extent on the site-specific wetland conditions, the anticipated scale of impacts and the larger development context. In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. The design and length of the monitoring is normally a negotiated outcome; design for water balance and the stormwater system needs to be developed in consultation with the municipality as they will ultimately take responsibility for the infrastructure. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y
York Region	General comments	Generally, York Region endorses the principles within the Protocol and the York Region Official Plan supports the protection of wetlands and ensures that any development adjacent to wetlands will not result in any negative impacts to these features.	Noted. We appreciate the comment.	N

York Region	General comments	York Region Planning staff has no issues with the Protocol and compliments TRCA staff on their initiative, particularly the objective of clarifying steps within the Stormwater Management Criteria. We trust that the Protocol will be applied with discretion depending on the nature and scale of the application involved given the pre and post monitoring requirements.	It is not our intention to require a full water balance analysis for every single wetland, but rather to use a risk-based approach that considers feature sensitivity and scale of water balance alteration to determine monitoring scope. At present, monitoring requirements will continue to be scoped in consultation with TRCA, but we intend to release the Risk Evaluation Tool in the near future which provides guidance on scoping for different development scenarios. Monitoring and modelling are and will continue to be commensurate with the level of risk to the wetland posed by the proposed development.	N
RJ Burnside	Section 1, Figure 1	Diagram is really helpful and if it came earlier and was used to guide the text that would be helpful	Agreed; Figure 1 has been moved to earlier within the section.	Y
RJ Burnside	Section 1, Introduction	Water taking and pits don't include the impervious cover noted in this section	A sentence has been added here clarifying that factors other than changes in impervious cover may also lead to alteration of wetland hydrology.	Y
RJ Burnside	Section 1, Introduction	[In regards to the intended uses of the pre-development data] - Not sure how this fits in within the intro	We feel that including the intended uses of pre-development data is both necessary and strongly related to the introductory text.	N
City of Toronto, Toronto Water	Section 1, Page 1	Page 1 paragraph 1 and hereafter. Please emphasize that this protocol is for 'Natural Wetlands', particularly for Provincial Significant Wetlands or Locally Significant Wetlands and especially for landscape significant wetlands, but not for Constructed Urban or Rural Stormwater Management Wetlands.	Agreed. A statement has been added to the introduction to clarify the intended application of the protocol to natural wetlands.	Y
Peel Region	Section 1.1	We note in Section 1.1 reference to the Protocol as being a living document and hope that you will take the opportunity to continue to engage with municipalities and the development industry in wetland protection, and on its application ensuring further refinement and development of the protocol.	We will continue to engage our municipal and industry partners and our fellow CA's in the development of tools and protocols relating to wetland water balance, including through our External Stakeholder Committee that has been established for that exact purpose.	N

City of Toronto, Basement Flooding	Section 1.2	Consideration should be given to changing section heading to "Wetland Water Balance in the Planning Process". The use of the word "development" in the context of Section 1.2 may be confusing to readers as later in the document the term "development" is used to refer to construction.	As this section outlines the timing of monitoring phases throughout the planning process, including before and after construction, it is appropriate to retain the title "Wetland Water Balance in the Planning and Development Process".	N
City of Toronto, Basement Flooding	Section 1.2	Consideration should be given to moving the development of the mitigation plan from the Late State to the Intermediate Stage. Mitigation measures need to be identified and their preliminary design completed as part of functional servicing studies as there are typically land use commitments for these measures that need to be known before proceeding with detailed design. By the time the Late Stage is reached in the planning process, it becomes difficult to start adding substantive mitigation measures to the environmental mitigation and stormwater management strategies.	Agreed. Text has been revised to indicate that mitigation measures should be considered as early as reasonably possible within the planning and design process in order to be accommodated in functional servicing studies, typically the Intermediate Stage.	Y
Peel Region	Section 1.2	Section 1.2 which deals with Wetland Water Balance in the Planning and Development Process, there is mention under the sub-head Early Stage where it is stated natural heritage system (NHS) will be established based on features and functions identified earlier on. It is not clear what is meant by "earlier on" i.e. from Official Plans, or from pre-consultation with the developers and the CAs? We suggest inserting some wording to reflect the fact that for the most part the NHS will be established based on provincial, regional and local municipal official plan policy.	Text has been revised to clarify that it is the early stage of the planning process that is referred to here, which can include the official plan. Differences in the planning process between different municipalities preclude a more precise definition of the timeline than that provided.	Y

Peel Region	Section 1.2	Mention is made in the same section about Wetland Risk Evaluation (under development by TRCA and CVC) being undertaken to determine the need for and scope of wetland(s) water balance monitoring requirements. This would make application of the monitoring protocol seem premature if it has not yet been established which wetland(s) would require this monitoring. It would be useful if some of the preliminary thinking with respect to the risk evaluation is mentioned along with some projected future date for its release.	References to the Risk Evaluation Tool have been removed from the document, and instead the current process of consulting with TRCA to scope monitoring requirements for a development proposal is cited. The Risk Evaluation Tool, which we expect to complete in the near future, will undergo a separate external stakeholder consultation process. This tool will provide clear guidance on when a water balance is required and the scope of monitoring and modelling effort required for different development scenarios.	Y
RJ Burnside	Section 1.2	In my mind this should be elevated to a section of its own	We feel that Section 1.2 is not long enough nor substantially different enough from the rest of Section 1 to merit elevating this to its own section.	N
RJ Burnside	Section 1.2	[three years of baseline data] is a rigid statement. Is it a minimum of three years?	Monitoring requirements are consistent with what we have indicated in our Stormwater Management Criteria document, which states a minimum of 3 years. We have revised the text to ensure that this is reflected throughout.	Y
CLOCA	Section 1.2, Early stage	This protocol suggests on page 2 that the limits of the NHS include the surface and groundwater catchment areas for sensitive features. Groundwater recharge zones may be quite far removed from the wetland features and located far beyond the development area, for instance, on the ORM. Identifying the entire catchment area as part of the NHS may be the theoretical preference, but in an urban and/or urbanizing area, this cannot realistically be achieved. It is recommended that rather than referring to the catchment as NHS, it could be referenced as "important contributing zone" or wording to that effect. In addition, opportunities to incorporate avoidance and/or mitigation tools and techniques within these zones could also be included.	Text has been clarified throughout to reflect the difference between surface water and groundwater catchments and the inclusion of these respective elements within the NHS. We agree that including the entire groundwater catchment will not be feasible where wetlands are connected to large aquifer systems, but have indicated that proponents should strive to include groundwater recharge areas contributing significant quantities of water to features within the NHS, particularly if they will be impacted by the proposed development.	Y

CLOCA	Section 1.2, Early stage	On page 3, the last sentence of the 1st paragraph states, "We note that water balance modeling and monitoring can be avoided by eliminating or reducing development or water extraction/discharge activities within the <i>wetland's catchment</i> ." Reference to wetland catchment should state whether this is surface water or groundwater catchment, or both.	Text has been clarified throughout to reflect the difference between surface water and groundwater catchments and the inclusion of these respective elements within the NHS.	Y
CVC (Sept. 30, 2015)	Section 1.2, Early stage	This is confusing. Do you mean to say: "...however, consideration will need to be given to ways of maintaining overall water balance for the site and watershed-level ecosystem service for the wetland will need to be maintained or enhanced".	Revised text reads: "consideration will need to be given to maintaining overall water balance for the site, and watershed-level ecosystem services for the wetland (e.g. groundwater recharge) will need to be maintained or enhanced."	Y
CVC (Sept. 30, 2015)	Section 1.2, Early stage	It is not immediately clear that 1-3 years of monitoring refers to what is completed in the "Early Stage" – suggest clarification as noted	Text has been revised in Section 1.2, Early Stage, to clarify when the 3 years of baseline monitoring are to take place within the planning process. The Risk Evaluation Tool, currently under development, will provide additional guidance on the duration and extent of baseline monitoring for different scenarios. For now, the process of consulting with TRCA will remain the method of scoping monitoring requirements.	Y
CVC (Sept. 30, 2015)	Section 1.2, Early stage	Consider: "These data are used as inputs for the preliminary modelling work conducted as part of the initial impact assessment."	Revised text reads as suggested.	Y
RJ Burnside	Section 1.2, Early stage	Phase 1 is not well defined.. text suggests that Phase 1 is related to MESP	Text has been revised to clarify that it is the early stage of the planning process that is referred to here, which can include the official plan. Differences in the planning process between different municipalities preclude a more precise definition of the timeline than that provided.	Y
RJ Burnside	Section 1.2, Early stage	"Next, the natural heritage system (NHS) will be established based on the features and functions identified earlier on." - should try and make these timelines clear... what is earlier on?	Text has been revised to clarify that it is the early stage of the planning process that is referred to here, which can include the official plan. Differences in the planning process between different municipalities preclude a more precise definition of the timeline than that provided.	Y

CLOCA	Section 1.2, Early stage	Also on page 3 in the 2nd paragraph the meaning of the second sentence is unclear.	Text has been revised in Section 1.2, Early Stage, to clarify when the 3 years of baseline monitoring are to take place within the planning process. The Risk Evaluation Tool, currently under development, will provide additional guidance on the duration and extent of baseline monitoring for different scenarios. For now, the process of consulting with TRCA will remain the method of scoping monitoring requirements.	Y
RJ Burnside	Section 1.2, Intermediate stage	"If a water balance is required for the wetland, as determined by the level of risk, a minimum of one year of monitoring is required." - how does this relate to the 3 years previously mentioned?	Text has been revised in Section 1.2, Early Stage, to clarify when the 3 years of baseline monitoring are to take place within the planning process. Monitoring requirements are consistent with what we have indicated in our Stormwater Management Criteria document, which states a minimum of 3 years.	Y
City of Toronto, Toronto Water	Section 1.2, Intermediate/Late stage	Page 3 Intermediate Stage/Late Stage, it is our opinion that mitigation measures should be part of the intermediate stage, because the results of the water balance analysis should inform the functional servicing report. Leaving this all to detailed design may result in a limited mitigation plan being shoehorned in at the final stage. We can appreciate why it is shown as at the final stage (because small wetland projects may skip the Intermediate stage when it makes it way to TRCA, but point out that it really needs to be at the earlier stage.	Text has been revised to indicate that mitigation measures should be considered as early as reasonably possible within the planning and design process in order to be accommodated in functional servicing studies, typically at the Intermediate Stage.	Y
CLOCA	Section 2	Description of the wetland water balance equation on pages 4 and 5 is at a pretty course level. There are more advanced tools available. Is there a reason why mention is not made regarding other tools for determining water balance equations?	We do not see how the existence of other tools affects the basic structure of the water balance equation. We feel that qualified consultants will be able to interpret the monitoring requirements for water balance without additional technical guidance in this document.	N

CVC (Dec. 18, 2015)	Section 2	On page 4, box indicates 5 components of the wetland hydroperiod but text 7 components to a water balance.	Yes, the numbers are different for water balance components and hydroperiod, but these are two different things. The hydroperiod components characterize the pattern of changes in water level within the wetland, while the water balance components are the various inflows and outflows that produce these water level changes. A new figure, Figure 2, has been added to Section 2 to visually illustrate the hydroperiod.	Y
CVC (Sept. 30, 2015)	Section 2, Water balance equation	What is "residual"? Is it necessary to include this, since any residual would automatically become ΔS ? If not, it would be worth defining alongside the other variables.	The residual term has been removed; this term represents cumulative error across the water balance components, but we feel it would be more valuable to attempt to quantify error within each term.	Y
CVC (Dec. 18, 2015)	Section 3	A table that lists the questions from section 3 and how proponents would go about answering them would be a nice, clean way of providing guidance that can easily be followed. In my experience I notice that sometimes people do not implement the appropriate procedures to answer the proposed questions. If they have a table to refer to, this may make the process of developing a monitoring plan much easier.	The addition of such a table may be interpreted by readers as the only correct approach to answering the research questions, and we would prefer to avoid being overly prescriptive in outlining approaches while still maintaining clarity on what information is required. It would be very difficult to present this table in a way that anticipated all of the possible methods of answering the research questions according to different potential scenarios while keeping it concise and useful.	Y
CVC (Dec. 18, 2015)	Section 3	Table 1 does not match Figure 3.	Table 1 matches Figure 3, as far as we are able to discern.	N
CVC (Sept. 30, 2015)	Section 3, Examples of equipment (p. 11)	Figures 2 and 3 are not referenced in the text	References to these figures have been added in the revised text.	Y
City of Toronto, Toronto Water	Section 3, Page 12 - Case study, data collection and instrumentation	Page 12 case study, word missing. Should read 'Monitoring wells should be distributed around the wetland to establish the direction of groundwater flow'	This has been addressed in revisions.	Y

CVC (Dec. 18, 2015)	Section 3, Step 1	Page 5 – should the question be asked included wetland functions e.g. sensitive species, wildlife habitat.	The list has been revised to include this item.	Y
CVC (Sept. 30, 2015)	Section 3, Step 1	Results of groundwater modelling may be required (i.e. for groundwater taking/quarries below water table) for gw-fed wetlands whose surficial drainage area falls outside the development area, but are still within the zone of influence.	Text has been clarified throughout to reflect the difference between surface water and groundwater catchments and the inclusion of these respective elements within the NHS.	Y
RJ Burnside	Section 3, Step 1 (framing the questions)	Would be nice if you provided an indication of how these questions will impact the monitoring program	The questions outlined in Section 3, Step 1 are intended to generally frame the questions that need to be answered in the design of the monitoring program. We have revised the title of this step to make this intent clearer.	Y
CVC (Dec. 18, 2015)	Section 3, Step 2	Mention characterizing fauna and flora. Because ELC is mentioned in Chapter/Section 3 Step 2, should also pinpoint amphibian MMP (frog/toad surveys) as ultimately this seems to be an important piece of information for any wetland work.	The requirements for characterizing site flora and fauna have been clarified in a list in Section 3, Step 4. Flora and fauna have been removed from the mandatory wetland water balance monitoring requirements due to the difficulties of using these as indicators of hydrologic alteration within a wetland (i.e. their absence may be due to other factors not related to hydrological alteration). These data may still be collected as part of a broader monitoring program and can be used to help demonstrate the success of a mitigation strategy at achieving a particular goal, however hydroperiod will be the main factor determining impacts of hydrologic alteration. Note that flora and fauna data are still required as part of the site characterization as indicated in Figure 1 of the Protocol.	Y
CVC (Sept. 30, 2015)	Section 3, Step 3	If the intent of the “residual” term is to help balance the equation through iterative convergence, it should be noted where the ΔS equation is first presented.	The residual term has been removed; this term represents cumulative error across the water balance components, but we feel it would be more valuable to attempt to quantify error within each term.	Y

City of Toronto, Basement Flooding	Section 3, Step 4	(From mark-up) There is no mention of flora or fauna monitoring requirements as part of the water balance assessment presented in Appendix D or the rest of this document. Recommend removing it or at least scaling down the discussion.	The requirements for characterizing site flora and fauna have been clarified in a list in Section 3, Step 4. Flora and fauna have been removed from the mandatory wetland water balance monitoring requirements due to the difficulties of using these as indicators of hydrologic alteration within a wetland (i.e. their absence may be due to other factors not related to hydrological alteration). These data may still be collected as part of a broader monitoring program and can be used to help demonstrate the success of a mitigation strategy at achieving a particular goal, however hydroperiod will be the main factor determining impacts of hydrologic alteration. Note that flora and fauna data are still required as part of the site characterization as indicated in Figure 1 of the Protocol.	Y
CLOCA	Section 3, Step 4	In the 2nd paragraph on page 9 it is recommended that the monitoring stations be flagged <i>and surveyed</i> .	This paragraph has been removed from the revised document, as requirements for ecological monitoring have been largely removed from the protocol.	Y
CVC (Dec. 18, 2015)	Section 3, Step 4	Page 8 last paragraph is dealing with wildlife rather than hydrology. Does TRCA want the document to deal with only hydrology is this Protocol? When getting flora and fauna data there is a need to describe if the data collection is for inventorying or monitoring. In many cases data for monitoring is not collected as part of development proposals.	The requirements for characterizing site flora and fauna have been clarified in a list in Section 3, Step 4. Flora and fauna have been removed from the mandatory wetland water balance monitoring requirements due to the difficulties of using these as indicators of hydrologic alteration within a wetland (i.e. their absence may be due to other factors not related to hydrological alteration). These data may still be collected as part of a broader monitoring program and can be used to help demonstrate the success of a mitigation strategy at achieving a particular goal, however hydroperiod will be the main factor determining impacts of hydrologic alteration. Note that flora and fauna data are still required as part of the site characterization as indicated in Figure 1 of the Protocol.	Y
CVC (Sept. 30, 2015)	Section 3, Step 5	"...effort should be made to understand how the wetland would function in an average year based on the one-year baseline data by the TRCA. " - How?	Revised text reads: "If it is a climatologically extreme year, effort should be made to understand how the wetland would function in an average year. This can be done using baseline meteorological data provided by TRCA and based on the conceptual model of the wetland's hydrology, or using a calibrated model where one has been developed."	Y

RJ Burnside	Section 3, Step 5	TRCA would do this? [would provide monitoring data where single year of data is climatologically extreme]	Revised text reads: "If it is a climatologically extreme year, effort should be made to understand how the wetland would function in an average year. This can be done using baseline meteorological data provided by TRCA and based on the conceptual model of the wetland's hydrology, or using a calibrated model where one has been developed."	Y
City of Toronto, Toronto Water	Section 3, Steps 1-3	The protocol proposes (pages 7 to 9) that a conceptual model of the wetland should be developed at Step 3. We disagree, but see why it is written up this way. A knowledgeable consultant will be able to read the current wetland system and develop a mental model of the effects of runoff on the wetland in Step 1, meaning that Step 3 would then be confirmation of the conceptual model hypothesized in Step 1. Please consider this point in your regigging your write-up	We feel that, naturally, any investigator will develop early-on a rough conceptual hydrological model of the wetland. However, certain features of the "mental" model, particularly the quantity of groundwater inputs and the rate of infiltration across the site, can only be reasonably included after some investigation. Note that no computer modelling occurs at this stage--the conceptual model is the hypothesized "mental" model that is confirmed during Step 3 of the SWM Criteria Document Appendix D "Developing the Existing Conditions Water Budget Model".	N
City of Toronto, Basement Flooding	Section 3, Step 4	The amount of text dedicated to describing this aspect of monitoring seems excessive given that it is not mentioned in the "Water Balance for Protection of Natural Features" document or other sections of the "Wetland Water Balance Monitoring Balance Protocol" document.	The requirements for characterizing site flora and fauna have been clarified in a list in Section 3, Step 4. Flora and fauna have been removed from the mandatory wetland water balance monitoring requirements due to the difficulties of using these as indicators of hydrologic alteration within a wetland (i.e. their absence may be due to other factors not related to hydrological alteration). These data may still be collected as part of a broader monitoring program and can be used to help demonstrate the success of a mitigation strategy at achieving a particular goal, however hydroperiod will be the main factor determining impacts of hydrologic alteration. Note that flora and fauna data are still required as part of the site characterization as indicated in Figure 1 of the Protocol.	Y
City of Toronto, Basement Flooding	Section 3, Step 4	Change in the water balance is only one factor of many that could lead to changes in flora and fauna in a wetland setting.	See above comment	Y

City of Toronto, Basement Flooding	Section 3, Step 4	Typically collection of data on flora and fauna would be required to satisfy other environmental commitments, but it wouldn't be specifically required as part of a water balance monitoring program.	See above comment	Y
CLOCA	Section 3, Table 1	Table 1 offers a summary of monitoring equipment. It would be beneficial to add a column that identifies those instruments which are best used for monitoring specific types of wetlands.	We feel that, given the variety of ways of categorizing wetlands and the possibility of exceptions to any categorization scheme, this is best determined by the consultant according to the specific site characteristics.	N
CVC (Sept. 30, 2015)	Section 3, Table 1	Guidance on installation location? i.e., staff gauge installations within pools/deep points	Additional guidance/text has been added into Table 1.	Y
RJ Burnside	Section 3, Table 1	Need to link instrumentation section to Table 1. Table seems to be parachuted in with no link to rest of document	References to figures/tables within text have been added in revised document.	Y

CLOCA	Section 4	Page 14, having an implementation mechanism to provide for remedial works in the event monitoring results indicate a negative or unanticipated impact to the feature/function has been noticed/identified would be a positive addition to the protocol.	In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.	Y
Peel Region	Section 4	Section 4 which deals with Post-Planning Monitoring Phases (3rd paragraph) mentions groundwater or surface water catchment being altered prior to the implementation of mitigation measures and therefore interim mitigation measures may have to be initiated. The possibility of this scenario occurring should have been captured in any evaluative study of the proposal (EIA) with appropriate mitigation measures identified, rather than it being	Interim measures may be necessary because the surface water catchment size and runoff conveyance systems may be dynamic during construction and it is hard to anticipate all the possible effects this could have on natural features. Therefore, we feel it is appropriate to mention interim measures in the Protocol. These may be triggered by significant changes in wetland water levels or other attributes identified from monitoring during construction.	N
RJ Burnside	Section 4, Case study, phasing and timing	This figure is very helpful	Noted. We appreciate the comment.	Y
CLOCA	Section 4, Development phase	Page 14, the 3rd paragraph speaks to the disruption of catchment area services during construction. Is this consistent with the catchment areas being included within the limits of the NHS as identified on page 2? Recommendations regarding temporary or interim mitigation to protect the wetland are provided on page 14; however, it is unclear as to how this provision could be implemented.	Yes, this is consistent with the surface water catchment and the important groundwater recharge contributing areas referred to on pg. 2. Interim mitigation measures would be initiated based on monitoring triggers identified prior to the construction phase in consultation with TRCA; implementation would have to be a negotiated process. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s).	N

CVC (Sept. 30, 2015)	Section 4, Development phase	"Triggers" isn't defined in the text. Consider adding a sentence that explains how remedial or mitigation activities are triggered when pre-determined environmental indicators exceed or cross a threshold value.	The development of triggers and thresholds for mitigation activities is outside the scope of this document. Consultation with CA staff will be required to address this issue, and triggers and mitigation plans will be based on expert judgement. We are currently investigating various tools that will help proponents to define triggers based on baseline monitoring data and wetland characteristics, which would reduce the need for consultation on this issue.	N
City of Mississauga, Infrastructure Dept.	Section 4, Development-phase monitoring	I don't believe ", but" is necessary here. The sentence should continue "...has been altered, prior to the..."	Revised text reads: "On large construction projects, there is often a substantial amount of time when a wetland's groundwater or surface water catchment has been altered, but mitigation measures have not yet been implemented"	Y
City of Toronto, Toronto Water	Section 4, Page 15 - Case study, phasing and timing	Page 15 case study, under development phase bubble, the 3rd and 4th bullet say the same thing, delete one or the other; under post-development phase bubble, arrow overlaps text.	This has been addressed in revisions.	Y

City of Mississauga, Infrastructure Dept.	Section 4, Post-development phase	<p>If supplemental roof drainage is required to provide a subject feature with surface water inflow, the remaining portion (15-20)% of development that is not yet built-out may be a significant portion, or potentially all, of the planned clean water collection roof area.</p> <p>A statement providing the following two clarification points should be made: 1) Supplemental clean roof drainage is considered as a mitigation measure, and</p>	Text has been modified to clarify purpose and timing of post-development monitoring. Supplemental clean roof drainage is recommended as a mitigation measure in Appendix D of the TRCA SWM Criteria.	Y
City of Mississauga, Infrastructure Dept.	Section 4, post-development phase	Although the current (Sept, 2015) Draft Protocol states "...post-development data collection may begin... as long as all mitigation measures designed to protect wetland hydrology have been implemented.", more clarity such as that provided above would aid in preventing future improper applications of this policy.	Text has been revised to clarify at what phase of development the post-development monitoring may begin.	Y
CVC (Dec. 18, 2015)	Section 5	The reporting section is so high-level I'm not sure what we'd expect proponents to take away from it. I guess it's trying to balance providing some guidance without being too prescriptive. At the very least I would like to see that reports should follow a certain format with the following sections and pieces?	We feel that the Protocol should not be overly prescriptive due to the wide variety of potential scenarios (development forms, wetland types) that the Protocol could apply to. A site-specific Terms of Reference for the monitoring program, including reporting requirements, should be developed in consultation with the conservation authority and municipality.	N

CVC (Sept. 30, 2015)	Section 5	<p>"Development phase reporting will vary from project to project. For example, if triggers for action during construction have been deemed necessary, development phase reporting frequency may be more intensive" - Any requirements for notification if triggers are enacted and mitigation required?</p>	<p>In current practice, a monitoring plan is negotiated through the planning process in consultation with TRCA, the proponent and the municipality prior to draft plan approval. Post-development monitoring could be a condition of TRCA permits or part of the subdivision agreement tied to the phases of development. Securities could be held in order to take remedial action if deemed necessary through the monitoring, either by the municipality under the subdivision or site plan agreement, or by the CA under the permit (s). Text has been added to Sections 3 and 4 to clarify the process for post-planning monitoring, as well as the definition of triggers for remedial action.</p>	Y
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If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2097.

The Regional Municipality of Durham

MINUTES

DURHAM AGRICULTURAL ADVISORY COMMITTEE

September 6, 2016

A regular meeting of the Durham Agricultural Advisory Committee was held on Tuesday, September 6, 2016 at the Durham College Centre for Food, 1604 Champlain Avenue, Whitby, at 7:31 PM

Present: D. Risebrough, Member at Large, Chair
Z. Cohoon, Federation of Agriculture, Vice-Chair
F. Puterbough, Member at Large, Vice-Chair attended the meeting at 7:44 PM
I. Bacon, Member at Large
J. Henderson, Oshawa
B. Howsam, Member at Large
K. Kemp, Scugog
K. Kennedy, Member at Large attended the meeting at 7:44 PM
H. Schillings, Whitby
T. Watpool, Brock

Absent: D. Bath, Member at Large
E. Bowman, Clarington
R. Cox, Uxbridge
G. O'Connor, Regional Councillor
B. Winter, Ajax

Staff

Present: K. Allore, Project Planner, Department of Planning and Economic Development
N. Rutherford, Manager, Agriculture and Rural Affairs, Department of Planning and Economic Development
N. Prasad, Committee Clerk, Corporate Services – Legislative Services

1. Adoption of Minutes

Moved by H. Schillings,
That the minutes of the Durham Agricultural Advisory Committee meeting held on June 7, 2016 be adopted.
CARRIED

2. Declarations of Interest

There were no declarations of interest.

3. Presentation and Facility Tour

A) Susan Todd, Executive Dean, Durham College, re: Food and Farming Program

S. Todd, Executive Dean, Durham College provided a program overview of the Food and Farming Program at Durham College as well as a tour of the facility. She stated that the program is a two-year diploma program that offers students a hands-on opportunity to become familiar with the concepts of local food production. She also stated that students gain the skills that prepare them for career options such as developing new products for food companies; owning a farm or greenhouse; or operating a garden centre.

4. Discussion Items

A) Changes to Regional Committee Reporting Structure

K. Allore advised that the Region of Durham has implemented a Committee of the Whole pilot program. She advised that the Region previously used a Standing Committee structure made up of Finance & Administration, Planning & Economic Development, Health & Social Services and Works Committees. She stated that the Committee of the Whole replaces the four standing committees and is comprised of all members of Regional Council and the Regional Chair.

B) Coordinated Provincial Plan Review Update

At the meeting held on June 7, 2016, the Committee agreed to submit their comments on the Coordinated Provincial Plan Review to staff by July 22nd for consideration in the preparation of a staff report to be presented to the Committee of the Whole. K. Allore advised that no comments were provided and as such, it was the consensus of the Committee to re-submit their comments from their 2014 submission as they best captured the main comments and concerns of the Committee. K. Allore stated that the Province has extended the public commenting deadline to October 31, 2016.

N. Rutherford stated that the Golden Horseshoe Food and Farming Alliance (GHFFA) working group is preparing comments to be provided to the Province with regards to the Coordinated Provincial Plan Review. She provided the Committee with a handout dated August 31, 2016 that outlined the working group's draft comments for the GHFFA's consideration at their upcoming meeting.

C) Surplus Farm Dwelling Severance Policy Review, DAAC Position

D. Risebrough stated that the subcommittee consisting of B. Winter, H. Schillings, F. Puterbough, K. Kemp and D. Risebrough met on June 27, 2016 to discuss the Surplus Farm Dwelling Severance Policy Review. He advised that the opinions were diverse in nature but the recommendations to retain the farm severance policies as stated in previous discussions remain the same.

Moved by H. Schillings,

That the Durham Agricultural Advisory Committee provide the following comments to Planning and Economic Development staff for their consideration in the review of Report #2016-P-18 of the Commissioner of Planning and Economic Development regarding the Region's Surplus Farm Dwelling Severance policies:

- That DAAC supports the recommendation to retain the abutting farm severance policy, with appropriate revisions to apply to "farm operations"; and
- That DAAC does not support the recommendation to delete the non-abutting policy.

CARRIED

D) Durham Community Energy Plan

A copy of correspondence dated July 7, 2016 from Brian Kelly, Manager of Sustainability, Office of the CAO, was provided as Attachment #2 to the Agenda.

D. Risebrough explained that the Region of Durham, in partnership with the eight local area municipalities and five local energy utilities, is undertaking a 2-year process to develop a Durham Community Energy Plan designed to guide energy development and use in Durham until 2050.

It was the consensus of the Committee that D. Risebrough attend the Stakeholder Consultation scheduled for September 20 at the Brooklin Community Centre and Library as the DAAC representative.

E) Central Lake Ontario Conservation Authority, Working Group Invitation

K. Allore advised that the subcommittee consisting of F. Puterbough, H. Schillings and E. Bowman met with C. Darling and C. Jones of the Central Lake Ontario Conservation Authority (CLOCA) to discuss ways CLOCA can better understand the farmer's perspective. The sub-committee communicated their desire for agricultural representation on the CLOCA Board of Directors. K. Allore advised that CLOCA will continue to attend DAAC meetings and consult with members to gain an agricultural perspective.

K. Allore reminded the Committee that at their meeting on June 7, 2016, it was the consensus of the Committee to submit their comments on the Conservation Authorities (CA) Act Review to staff by July 22, 2016, for consideration in the preparation of a staff report to be presented to the Committee of the Whole. She advised that the comments provided to her were in regards to agricultural representation on Conservation Authority Board of Directors. A copy of Report #2016-COW-12 was provided to them for their information via email. K. Allore stated that the public commenting deadline closes on September 9, 2016.

Discussion ensued with regards to the need for farming representation on Conservation Authority Board of Directors in order to increase knowledge and awareness of agricultural issues. It was the consensus of the Committee that a subcommittee consisting of Z. Cohoon, H. Schillings, and F. Puterbough be struck to meet and formulate a statement regarding DAAC's position on having agriculture representation on the Board of Directors. The committee requested that the subcommittee report at the next meeting with this statement, to be presented to the Committee of the Whole and subsequently to Regional Council for consideration.

F) DAAC Farm Tour 2016

Z. Cohoon provided an update on the Farm Tour. He advised that the picnic tables should be moved on the Wednesday before the tour and requested members volunteer to assist. He stated that the assembly of the tent will also take place on the Wednesday. H. Schillings confirmed that he will provide two trailers; F. Puterbough confirmed that he is arranging for milk; and K. Allore advised that she will arrange for coolers.

Discussion ensued with regards to the number of area municipal staff and councillors planning on attending. It was requested that K. Allore provide an email to Committee members with regards to the councillors planning to attend.

G) DAAC Pickering Representative

Discussion ensued regarding the vacancy for the City of Pickering representative. K. Allore advised that she will start the posting process and requested that the Committee advise her of any Pickering farmers that may be interested.

H) Durham Farm Connections, Celebrate Agriculture Awards

A copy of the Celebrate Agriculture Award 2016 Nomination Form was provided as Attachment #3 to the Agenda.

D. Risebrough stated that the Nomination Form has to be submitted by September 15, 2016 and requested suggestions from the Committee for any of the three awards: Family Farm; Spirit of Agriculture; or Leadership. K. Kemp advised that he will submit the Found Family for the Family Farm award on behalf of the Committee.

I) Private Member's Bill on Certified Crop Advisors

A copy of correspondence dated August 26, 2016 from Lisa Thompson, MPP, Huron-Bruce regarding a Private Member's Bill on eliminating the limitations placed on Certified Crop Advisors was provided via email.

K. Allore advised that the matter is directly connected to the proposal for pollinator health and reducing the use of neonicotinod pesticides in Ontario, previously considered by the Committee. She advised that the limitations were not previously identified in DAAC's comments to the Province.

Detailed discussion ensued with regards to the limitations placed on Certified Crop Advisors with respect to their employment opportunities. It was the consensus of the Committee that the appropriate organizations be advised that DAAC does not support the limitations placed on Certified Crop Advisors.

Moved by Z. Cohoon,

That the Durham Agricultural Advisory Committee (DAAC) recommends to the Committee of the Whole for approval and subsequent recommendation to Regional Council:

- A) That DAAC is not in support of the limitations placed on Certified Crop Advisors with respect to their employment opportunities under ON Reg. 139/15;
- B) That the DAAC is in support of allowing farmers the freedom to work with whomever they choose and expanding a network that is being increasingly constricted;

- C) That the following resolution on Supporting Agricultural Experts in Their Fields be endorsed:

“Whereas, Ontario-grown corn, soybean and wheat crops generate \$9 billion in economic output and are responsible for over 40,000 jobs; and

Whereas, Ontario farmers are stewards of the land and understand the importance of pollinators to our environment and ecosystems; and

Whereas, the Ontario government is implementing changes to ON Reg. 63/09 that would prevent any Certified Crop Advisor (CCA) from carrying out a pest assessment if they receive financial compensation from a manufacturer or retailer of a Class 12 pesticide; and

Whereas, Ontario’s 538 Certified Crop Advisors are capable of and willing to conduct pest assessments will be reduced to 80 should the proposed changes to the definition of professional pest advisor be implemented in August 2017; and

Whereas, the reduction in CCAs would force corn and soybean farmers to terminate the relationships that they have built with experts that understand their unique crop requirements, soil types, and field conditions, placing undue delays on planting crops;

Therefore, be it resolved that the Council of the Regional Municipality of Durham supports the efforts of the Members of Provincial Parliament for Huron-Bruce to eliminate barriers to employment opportunities for CCAs, and allow Ontario farmers the freedom to engage in business with the expert of their choice; and

That a copy of this resolution be forwarded to all Members of Parliament and municipalities”; and

- D) That this resolution be forwarded to the Minister of Agriculture, Food and Rural Affairs; the Minister of the Environment and Climate Change; Local Provincial Members of Parliament; Local Federal Members of Parliament; Area Municipalities; the Clarington Agricultural Advisory Committee; the Greater Toronto Area Agricultural Action Committee (GTAAC); the York Region Agricultural Advisory Committee; and the Halton Agricultural Advisory Committee.

CARRIED

J) Rural and Agricultural Economic Development Update

N. Rutherford provided an update on the following matters:

- The Region will host a local food workshop on November 17, 2016 in Sunderland in partnership with the Township of Brock Economic Development Advisory Committee. Participation in the workshop will include the Business Advisory Centre Durham and OMAFRA.
- The Golden Horseshoe Food and Farming Alliance asset mapping project has been put into place to establish an understanding of agri-foods assets and help municipalities gather data on the agri-food value chain. The tool is very useful and is available to participating municipalities.
- With respect to local food initiatives, Durham Region is part of a local food procurement pilot and has partnered with the cafeteria at Durham Region headquarters and Homes for the Aged.
- The University of Ontario Institute of Technology (UOIT) Agriculture Leadership Certificate Program starts again in January 2017.
- The Farmers of Uxbridge event held on August 25, 2016 was a huge success and brought in over 350 visitors.
- N. Rutherford was invited to a meeting with Ontario Federation of Agriculture (OFA) and Association of Municipalities Ontario (AMO) representatives with regards to value added farming. She advised that she will share the minutes from the meeting when available.

5. Information Items

A) Information Report #2016-INFO-4: Carruthers Creek Watershed Plan Update

A copy of Information Report #2016-INFO-4 regarding Carruthers Creek Watershed Plan Update was provided as Attachment #4 to the Agenda.

B) Clean Farms Ontario

A copy of the Ontario Clean Farms information notice was provided as Attachment #5 to the Agenda.

C) Notice of Study Commencement, Longworth Ave. Extension

A copy of the Notice of Study Commencement regarding the Longworth Avenue Extension was provided as Attachment #6 to the Agenda.

D) Information Report #2016-INFO-11: Agriculture and Rural Affairs Economic Development Update

A copy of Information Report #2016-INFO-11: Agriculture and Rural Affairs Economic Development Update was provided via email.

E) Commissioner's Report #2016-COW-12: Durham Region's response to the Province's Conservation Authorities Act Review Consultation Document, "Conserving our Future, Proposed Priorities for Renewal", Environmental Bills of Rights Registry NO. 012-7583, File: L14-15

A copy of Commissioner's Report #2016-COW-12: Durham Region's response to the Province's Conservation Authorities Act Review Consultation Document, "Conserving our Future, Proposed Priorities for Renewal", Environmental Bills of Rights Registry NO. 012-7583 was provided via email.

6. Other Business

A) Stakeholder Advisory Meeting for Transportation Master Plan

D. Risebrough advised that he attended the Stakeholder Advisory Meeting in June 2016.

B) Surplus Farm Dwelling Severance Policy Review – Consultation Updates

K. Allore advised that she provided presentations to the Township of Scugog's agricultural community and to the Durham Region Federation of Agriculture with regards to the Surplus Farm Dwelling Severance Policy Review. She advised that she received valuable feedback from those groups which will assist the Region in its review of these policies.

7. Date of Next Meeting

The next regular meeting of the Durham Agricultural Advisory Committee will be held on Tuesday, October 4, 2016 starting at 7:30 PM in Boardroom 1-B, Level 1, 605 Rossland Road East, Whitby.

8. Adjournment

Moved by Z. Cohoon,
That the meeting be adjourned.
CARRIED

The meeting adjourned at 9:52 PM

D. Risebrough, Chair, Durham
Agricultural Advisory Committee

N. Prasad, Committee Clerk

Action Items Committee of the Whole and Regional Council

Meeting Date	Request	Assigned Department(s)	Anticipated Response Date
September 7, 2016 Committee of the Whole	Staff requested to provide a report outlining how the \$100,000 in additional child poverty funds is being allocated.	Social Services	October 5, 2016
September 7, 2016 Committee of the Whole	Councillor Diamond questioned when the report regarding speeding on Liberty Street in Bowmanville will be brought to Committee of the Whole. Staff advised a report would be considered at the October 5 th Committee of the Whole meeting.	Works	October 5, 2016
September 7, 2016 Committee of the Whole	Business Case for Projects Managed Directly by the Region – Increasing the number of projects which are managed directly by the Region, whether through employees or contracted staff – referred to the 2017 budget process.	Works	2017 Budget Process
September 7, 2016 Committee of the Whole	It was requested that a copy of Ms. Gasser's delegation questions be referred to staff and that a report be presented to the Committee of the Whole with answers to Ms. Gasser's concerns.	Works	October 5, 2016
September 7, 2016 Committee of the Whole	Staff was requested to provide a report on the correspondence from the City of Pickering with respect to the Notice of Motion adopted at their Council meeting held on June 27, 2016, re: residential tax relief to eligible low income seniors and low income disabled persons (Pulled from August 19, 2016 Council Information Package)	Finance / Social Services	

Meeting Date	Request	Assigned Department(s)	Anticipated Response Date
September 7, 2016 Committee of the Whole	Staff was requested to provide information on the possibility of an educational campaign designed to encourage people to sign up for subsidized housing at the next Committee of the Whole meeting. (Region of Durham's Program Delivery and Fiscal Plan for the 2016 Social Infrastructure Fund Program) (2016-COW-19)	Social Services / Economic Development	October 5, 2016
September 7, 2016 Committee of the Whole	Section 7 of Attachment #1 to Report #2016-COW-31, Draft Procedural By-law, as it relates to Appointment of Committees was referred back to staff to review the appointment process.	Legislative Services	