

Kanata West Overall Monitoring Plan

Background

On November 24, 2009 the Ministry of Environment advised that the City of Ottawa (City) and the Kanata West Owner's Group (KWOG) had satisfied the requirements of Conditions 1 and 2 of the Minister's Order dated July 21, 2008. This clearance allowed the City and KWOG to make preparations to proceed to Condition 3 of the Minister's Order – revising and updating the Class EAs for the Carp River Restoration Project, the Master Servicing Study and the Transportation Master Plan. The Notice of Completion for these projects was posted on July 30, 2010. In response to the Notice of Completion, 88 Part II Order requests were received from local environmental groups, local community groups, and members of the public asking the City of Ottawa and Kanata West Owner's Group be required to prepare an individual environmental assessment for seven of the twenty-two disputed projects in the Kanata West *Transportation Master Plan Amendment*, the *Master Servicing Study* and the *Carp River, Poole Creek and Feedmill Creek Restoration* projects.

In its letter dated November 24, 2009 the Ministry requested that the City prepare and submit an Overall Monitoring Plan Report to the MOE's Ottawa District Office by April 1 of each year, with the first report submitted by April 1, 2010. Given the date of the letter and the winter season the first report largely reflected the commitments contained within the Kanata West Implementation Plan and a brief summary of the July 23-24, 2009 rainfall events. Annual results regarding stream flow and water level monitoring results are also posted on the Mississippi Valley Conservation (MVC) website. Additional flow monitors were installed in the spring of 2010 on Poole Creek near Maple Grove and the Carp River at Maple Grove in accordance with the recommendations of the Third Party Review.

Minister of Environment Decision

On March 30, 2011 the City and KWOG were notified that the Minister of Environment had decided that an individual environmental assessment was not required for the seven disputed projects. The Part II Order requests were denied and the following conditions were placed on the City and KWOG:

- 1) The City and KWOG shall implement all commitments made in the letter of October 15, 2009;
 - a) **Additional Stormwater Management Runoff Volume Controls and widening of Planned Restoration Corridor**

In response to Condition 1.1 of the Minister's Order, the City and KWOG committed to ensuring the provision of a worst case runoff volume identified in the Third Party Review – Carp River Restoration Plan through at source SWM controls of 120m³ per

hectare of development until the SWM models are validated or until monitoring and/or model validation indicates changes are necessary; and including the provision for 25% of the TPR worst case deficit volume be incorporated into the design of the Carp River, Poole Creek and Feedmill Creek Restoration project.

Status: No longer required - SWM Models have been validated confirming additional SWM Runoff Volume Controls are not required.

b) Municipal Planning Controls Regarding Floodplain Management

In response to Condition 1.2 of the Minister's Order, the City and KWOG committed to the application of municipal planning designations and controls with respect to floodplain policies as set out in the City's letter dated October 15, 2009 and in the *Implementation Plan Kanata West Development Area (Implementation Plan)*.

Status: Complete – Official Plan and Zoning By-law amendments were adopted by City Council on July 11, 2012 and are in full force and effect.

c) SWM Model Validation and Contingency Plan

In response to Condition 2.1 of the Minister's Order concerning Water Level and Flow Modeling Data, the City and KWOG committed to completing the validation of the SWM modeling, which includes the preparation of a Model Validation report and the implementation of a contingency plan, as outlined in the *Implementation Plan*.

Status: Complete - SWM Model Validation achieved and Model Validation Report completed in August 2011 and submitted to all agencies and posted on City's website.

d) Water Level and Flow Rate Monitoring Plan

In response to Condition 2.2 of the Minister's Order concerning Water Level and Flow Rate Monitoring Plan, the City and KWOG committed to implementing a long-term Water Level and Stream Flow Monitoring Program, as set out in the *Implementation Plan*.

Status: Ongoing – Monitoring Plan ongoing - will occur throughout the Restoration Project.

e) Development Phasing Plan, Restoration Project Phasing and Interim Development

In response to Condition 2.3 of the Minister's Order concerning the Development Phasing Plan relating to SWM, the City and KWOG committed to:

1. Adhering to development thresholds as specified in Table 1 of the *Implementation Plan*;

Status: Complete - Development Thresholds adhered to – no longer apply based on model validation.

2. Commencing the Restoration Project within 24 months of Class EA approval as per the *Implementation Plan*;
Status: Project commenced – first phase of project commenced March 2013.
3. Ensuring that each development application submitted to the City demonstrates through an interim analysis that any incremental changes to the floodplain/SWM Pond design will not increase water levels upstream or downstream in accordance with the *Implementation Plan*;
Status: Ongoing – part of review process. and
4. Phasing of the Restoration Project and development in such a manner that there will be no reduction in available flood storage capacity of the corridor as set out in the *Implementation Plan* and the City's response letter dated October 15, 2009.
Status: Ongoing – Requirement of the Official Plan Policy and Zoning that applies to the Carp River corridor and a requirement of the Carp River Restoration Project Design and associated permits.

f) Kanata West Overall Monitoring Plan and Report

With respect to Condition 2.3 of the Minister's Order the City and KWOG committed to providing an Overall Monitoring Plan as specified in the Implementation Plan that tracks and reports on all aspects of the servicing of the development area including the following:

1. The various monitoring programs contained in the *Implementation Plan*;
2. The status and Progress of development including conformance with the Development Phasing Plan;
3. The application of SWM controls and performance;
4. The results of all model validation efforts;
5. Construction phasing and progress on the Restoration Project;
6. Any contingency and adaptive management measures.

The City and KWOG have committed to preparing the overall Monitoring Plan report on an annual basis that will be submitted to the MOE on April 1st of each year and made available to the public and other review agencies. The 2016 report represents the required annual report with the first report having been submitted on April 1, 2010.

Model Validation Report

Initially the monitoring program stream flow and/or water levels will be assessed to validate the hydrologic and hydraulic models of existing/baseline conditions. Minor changes in land use data may occur in the model, depending on the pace of development, so that comparison of monitoring and modeling results are valid. Annual

results regarding stream flow and water level monitoring results will be posted on the MVC website.

The Third Party Review indicated one or two meaningful events plus smaller events can be used to validate the model of record. Meaningful events have been described as greater than 25 mm of rainfall within a two to six hour time period. The impact of such an event may also be tempered by the antecedent moisture conditions prior to the event as well.

A rainfall event on July 24, 2009 provided an opportunity to collect data for the Carp River. This monitoring undertaken includes water level data and will be used towards the development of rating curves for the purposes of model validation. City radar imagery was utilized and validated by five City rainfall gauges in the watershed. Water level information from one flow monitor has been provided by the MVC to the City for assessment within the model recognizing that rating curves are required prior to the event being used for validation. High-water marks were staked and surveyed in the field and are being input into the model. Two additional flow monitors were installed on Poole Creek and Maple Grove and Carp River at Maple Grove consistent with the recommendations of the Third Party Review. This event and subsequent rainfalls will be monitored and utilized by the City for validation purposes. Ultimate validation assessment will have to ensure and document that the monitored data received is sufficient and adequate for validation.

Since the completion of the Third Party Review the model has been updated with new/active developments. New stormwater management facilities have been updated from those in the original model. These and other updates will occur on an ongoing basis as part of the City's review role.

Condition 2 of the Minister's Decision of March 30, 2010 also indicated that the City and KWOG not implement SWM Ponds 1, 2, or 5 until such time as the City and KWOG have calibrated and validated the SWM models for the Upper Carp River watershed and prepared the associated Model Validation Report referenced in Condition 1.

In the event that the Model Validation Report identifies significant differences between the observed and simulated results that cannot be rationalized, Condition 3 of the Minister's decision requires the City and KWOG to implement the Contingency Plan (as required by Condition 1) and re-evaluate and determine the impact these changes may have on the *KWMSS* and the *Restoration Plan*.

Since the April 2010 report an adequate number of additional rainfall events were monitored in 2010 such that a *Model Validation Report* has been finalized. The report reviews the monitoring data that was collected between 2009 and 2011 and specifically addresses:

- Whether this data is sufficient to augment the original model calibration efforts and:

- Whether the adjusted calibrated models can validate the conditions being measured during subsequent events.

The report was finalized and reviewed by Conservation Authority and the City of Ottawa. The final version of this report dated July 13, 2011 was submitted to the Ministry of Environment and posted on the City's website in August 2011(<http://ottawa.ca/en/residents/water-and-environment/air-land-and-water/carp-river-model-calibration-validation-exercise>)

2016 Modeling Update

In 2014 the City initiated an update to the Carp River Subwatershed Model. The update model was completed in late 2015 and reviewed/approved by Mississippi Valley Conservation (MVC) and Greenland International Consulting Ltd. Greenland was the City's Third Party Review consultant that was engaged in response to a 2008 Order issued by the Minister of the Environment to review stormwater management modeling of the Carp River watershed. This exercise led to the development of a "model of record" in 2011 that was subsequently used to support the design and approval of the Carp River Restoration Project (CRRP).

The updated Model involved a detailed review and conversion of the previous multi-platform model(s) of record to a single PCSWMM platform that could be used as a practical management tool to facilitate development review in the upper watershed. The conversion to single modeling platform was one of the key recommendations of the Third Party Review. The new model generates results consistent with the original model of record. The City's update of the model was limited to the reach between the upstream limit of the watershed and the Huntmar Drive Crossing (See Figure 2).

The existing and future condition PCSWMM models with supporting documentation are now available on request, The year 2010 is defined as the "existing condition" while the "future condition" represents the full build out of the remaining development areas within the Upper Carp River subwatershed as per the City's Official Plan, including implementation of the CRRP.

With the completion of the updated model in 2015, the "Model Keeper" role has transitioned back from Greenland to City Staff in Infrastructure Planning.

Thresholds

The Third Party Review identified a worst case volume of runoff that should be accommodated in advance of the models being validated with monitored results. Based on the Model Validation in 2011 and subsequent modeling, these at source controls are no longer applicable or required. Modelling since the TPR confirms lower water levels. The 1983 MVC water elevation has also been applied to provide an additional level of protection that will meet the City's requirements for the maximum volume in the corridor at any time.

The City has used the updated model to assess constraints on development with respect to the phasing of the project. The results of this assessment demonstrate that any works requiring the filling of the existing floodplain (SWM facilities, development etc) must maintain total flood storage and this may require an equivalent cut until such time as the CCRP is completed and verified in accordance with the approved restoration design. This requirement is in accordance with the Minister's Order, The City's Official Plan and Zoning policies for the CRRP, and MVC regulation policies.

Stormwater Management Monitoring

The City provides on-going monitoring of stormwater management facilities for suspended solids, phosphorous, and temperature (if required by the classification of the receiver). Visual inspections of SWM facilities occur after each large event (15 mm or greater) and debris is removed as necessary to ensure proper functioning of the facility. Routine inspections of inlets/outlets and the depth of sediment are carried out at the same time.

Construction inspection staff regularly checks these facilities prior to the City assuming the facilities after 80% build-out and identify any remedial measures required to be implemented by the developer to ensure the protection of the receiving stream. An operation and maintenance manual must be prepared and provided to the City prior to assumption of the facility.

The following represents a standardized SWM monitoring program for the Kanata West Area:

Monitoring Program:

1. The stormwater monitoring program shall be implemented for a minimum of two years and shall continue to be implemented until such time that the MOE's Ottawa District Office provides written notice that the program may be discontinued;
2. Monitoring will be provided during the period between May 1st and October 31st for water quality and water level as well as general performance. Water quality would be established for both baseflow and rainfall event conditions;
3. Routine operational inspections would be conducted over the life of the facility, to confirm: general site conditions (erosion/landscaping); ensure monitoring equipment is functioning appropriately; and that orifices and weirs are not clogged with debris. Routine cleaning of any blockages would be done during the inspections, if required;

4. Pond water levels would be monitored to determine drawdown characteristics of the facility (typically 24 - 48 hours). No flow monitoring is proposed in this program;
5. Water quality samples would consist of composite samples (collected utilizing automated equipment or by grab sampling) taken at the facility inlet and outlet during/after specified rainfall events. The routine inspection would typically be conducted coincident with sample collection activities;
6. Water quality parameters would include the Total Suspended Solids (TSS) and Total Phosphorous (TP) and Water Temperature (spot measurement);
7. The sample collection, preservation, handling and analytical methods including detection limits, would be documented. Sample analysis to be conducted per Standard Methods or approved equivalent at a CALA certified laboratory. Field and lab QA/QC procedures would reflect standard sampling protocols (i.e. samples delivered within 12 hours to lab following collection);
8. Provide monitoring (sampling, water levels) during the following events over a two year period to ensure that the facility is performing as designed:
 - Two small rainfall events (less than 7mm)
 - Two medium rainfall events (7-15mm)
 - Three large rainfall events (greater than 15mm)
9. The requirement is for a minimum of the 7 noted events of the size specified. Monitoring activities would typically capture a number of other events during the process, as the amount of rainfall from an event is not predictable in advance. All events that are monitored/sampled are to be reported in the annual reports. The sampling of all the events within a one year period, although possible, is not acceptable as the intent is a two year program;
10. Rainfall measurements should be obtained from the nearest available City of Ottawa rain gauge(s) to the facility;
11. A topographic/bathymetric survey should be undertaken after 3-5 years of operation to determine sediment deposition and sediment deposition rates. This would allow for more concise forecast of forebay cleanout frequency; either confirming or revising the frequency in final SWM report.

Annual Stormwater Monitoring Report

The Annual Stormwater monitoring report shall be prepared and submitted to the District Manager, Ottawa District Office of MOE within six months following the end of

the monitoring period. The Annual Stormwater Monitoring Report shall also be provided to the City of Ottawa's Planning and Growth Management Department so that the City can review and include results in its annual Overall Monitoring Report in accordance with the *Implementation Plan Kanata West Development Area*; the Report is to contain the following:

- a) A description of the physical works, its location, and how it is designed to function;
- b) A tabulation, interpretation and summary of all monitoring data with an assessment of the performance of the facility based on TSS removal including comparison of the water quality data with applicable criteria such as the Provincial Water Quality Objectives (PWQO's);
- c) An evaluation of the pond's performance and its ability to meet the design performance criteria of 70% TSS removal (during the monitoring period) and ability to achieve an appropriate draw down time (24 – 48 hours);
- d) A description of any operating problems encountered and corrective actions taken during the reporting period and the need for further investigation in the following reporting period for pond refinements or ways of improving the performance of the facility to meet the performance target;
- e) Any need for modifications of the monitoring program and/or the work plan;
- f) A summary of any complaints received during the reporting period and any steps taken to address the complaints;
- g) Appendices of inspection logs and facility photos;
- h) Any other information that is deemed to have been obtained by the Owner pursuant to the requirements of the Certificate of Approval that the MOE District Manager requires for inclusion in the reports.

Monitoring for Interim Stormwater Management Facilities

SWMP monitoring requirements for each facility will be identified in the Ministry of the Environment's Certificate of Approval for each facility. The City and MVC requires a comprehensive monitoring program to ensure the Carp River, Poole Creek and Feedmill Creek restoration project and preferred stormwater management solutions identified in the Master Servicing Plan operate and perform to the specifications and standards described in the Class Environmental Assessment documents.

Stream flow monitoring will form an important component of the monitoring program. The City and the MVC are committed to implementing a long-term stream flow monitoring program for the Upper Carp River Watershed. The program will support the mandate of the MVC, including flood forecasting. It will also be utilized, by the City of Ottawa to confirm the current hydrologic and hydraulic models that have been developed for the Upper Carp River Watershed. The current models contain stormwater management proposals, including at source, stormwater management ponds and conveyance systems that meet the water management objectives of the City of Ottawa, the MVC, MNR, MOE and MTO. The City, along with MVC and provincial agencies, has a vested interest in ensuring water management objectives for the Carp River system is met.

The following additional requirements for interim SWM facilities shall be provided in addition to the above Stormwater Management Monitoring Program requirements:

- The stormwater monitoring program shall be implemented for a minimum of two years and shall continue to be implemented until such time that the Ministry of Environment provides written notice that the program may be discontinued;
- An annual stormwater monitoring report shall be prepared and submitted to the Ministry of Environment (Ottawa District Office) than March 31st of each and every year. The annual reports shall cover the monitoring period for the previous year,
- The annual monitoring reports and associated data are also to be provided to the City of Ottawa, so that the municipality can review and include the results in its annual Overall Monitoring Report in accordance with the *Implementation Plan* for the Kanata West Development Area; and
- All annual monitoring reports shall include the following additional information for the reporting period
 - an estimate of baseflow from the facility;
 - an estimate of the percentage of build out for the contributing drainage area of the facility; and
 - A description of any considerations that may need to be implemented upon transition and/or decommissioning of the interim facility once an ultimate SWM facility is provided.

Stream Flow and Fisheries Monitoring

The City of Ottawa is undertaking a comprehensive monitoring program to ensure the Carp River, Poole Creek and Feedmill Creek restoration projects operate and perform to the specifications and standards described in the Class Environmental Assessment documents. An integrated monitoring program has been developed and implemented that will include but not be limited to:

- Semi-annual fisheries and terrestrial monitoring/reporting to DFO
- Stream Flow monitoring

Semi-annual fisheries and terrestrial monitoring/reporting to DFO

This monitoring will include assessment of erosion and deposition through the system as well as any erosion/scour at major crossings including Highway 417. Observations will be documented with field measurements and photos depicting the stabilization process of the restoration features. In the event that specific areas demonstrate the need for remedial action, repair or restoration will be made accordingly. The reports would be circulated to other agencies as required. Two kinds of monitoring of the aquatic environment are particularly relevant:

- (1) Construction monitoring to ensure that the new channel and ponds are constructed as per specifications; and
- (2) Post-construction monitoring to determine whether the newly constructed channels and ponds have indeed improved aquatic habitats.

Construction monitoring of the fish habitat compensations will be carried out to demonstrate that proposed activities have been implemented.

- Biologists, environmental inspectors, or experienced contractors will inspect the compensation works during and after completion and will collect photographic evidence to show that the works were completed as agreed upon in the plan and for the purpose of an authorization under Section 35 of the *Fisheries Act*.

Sediment and erosion control measures will be inspected regularly and maintained in proper working order until all areas are fully stabilized.

The City of Ottawa currently monitors water quality, fish and benthic invertebrates in the Carp River system on a frequent basis, and it is anticipated that the City will continue to do so following construction. The City has extensive pre-construction data – the most recent version of the report can be found at the link below:

http://ottawa.ca/sites/default/files/carp_feedmill_poole_habitat_restoration_monitoring_report_2012_2.pdf

- Monitoring will be conducted in years 1 and 2 after full construction, then at 2 year intervals until the system is demonstrated to be stabilized. The information gained from this monitoring will be useful for determining the success of the plan, and may provide insight for future restoration activities in the Carp River and elsewhere.
- Monitoring will include indicators of the physical and chemical environment, as well as of the biological responses (fish and benthos).

CRRP Construction Monitoring

Phase 1 (Richardson Side Road to Highway 417) of the CRRP commenced in January 2016. Karson Konstruction was awarded the tender for Phase 1. Phase 1 is scheduled to be completed in May 2017 with Phase 2 (Highway 417 to Hazeldean Road) scheduled for completion in early 2018.

Table 1 below represents the testing and monitoring undertaken during construction.

Table 1 - Testing and Monitoring		
Test/Monitoring Required	Frequency	Responsibility
Visual monitoring of ESC measures	Daily	Karson
Turbidity/TSS testing upstream & downstream of construction site	Weekly	Golders
Turbidity testing downstream of active construction site	Daily	Karson
In stream monitoring of fish/turtle/amphibian salvage program	As needed	Golderies/Fisheries Specialist
Wildlife Species monitoring	Daily	Karson
Wildlife Species monitoring	Weekly	Terrestrial/Aquatic Specialist

During construction periods monthly water quality monitoring reports and Erosion and Sediment Control Inspection reports are prepared by Golder and sent to the contractor (Karson), MVC, KWOOG and the City. The monthly monitoring reports summarize recent activities, identify upcoming activities, identify any critical issues and solutions, present the weekly water quality testing results and provide onsite photos of recent activity.

During years 1 and 2 (Post Construction), the stability of the banks, and streambed will be assessed and any features that are determined to not be functioning as intended will be corrected. Additional plantings and/or seeding will be applied where the establishment of vegetation is insufficient to meet soil stability.

Stream Flow monitoring

The City and MVC are committed to implementing a long-term streamflow monitoring program for the Upper Carp River Watershed. The program will support the mandate of the MVC, including flood forecasting and warning. Annual results will be posted on the MVC website.

Continuous monitoring of water level and streamflow (year round) will occur at three locations in the Upper Carp River Watershed including the Carp River and Poole Creek.

- Carp River at Richardson Side Road
- Carp River at Maple Grove Road
- Poole Creek at Maple Grove Road

All of these streamflow monitoring stations are permanent gauges as part of the ongoing MVCA long-term monitoring program. Water level data is currently being collected and stage-discharge rating curves are being developed for each location. The Carp River gauges closely relate to flows at MTO's 417 bridge structure. Gauges located at Richardson Side Road and two on Maple Grove Road (one at the Carp and one at the Poole crossing) will provide appropriate information as the flows from Feedmill are intermittent and can be inferred from the other locations. Palladium Drive was also considered as a replacement for Maple Grove Road location at the Carp River which would not be affected by the future changes to Maple Grove but not selected by the MVC for access and safety reasons. The results from the streamflow monitoring are detailed in the Model Validation Report.

The City of Ottawa's Water Environment Protection Program provides up to date information on the condition of Ottawa's surface water resources. As far as existing monitoring sites within Kanata West the City have the following in the Baseline program:

- Carp River @ Richardson Side Rd - water quality data for 10 years;
- Carp River @ Huntmar - baseflow in 2009; biological monitoring added in 2010;
- Poole Creek upstream of Stittsville - baseflow in 2009; added as part of expanded program in 2010 for water quality and biological; fish community information since 2005; and
- Feedmill Creek – stream habitat assessment completed in 2004 for three areas between the Carp River and Highway 417 (includes habitat, fish and benthos community, thermal stability information).

The City has initiated further monitoring of the aquatic environment in the vicinity of the restoration efforts on the Carp River, Feedmill Creek and Poole Creek to determine restoration effectiveness. Key concepts of the Project Outline include:

- Quantitative assessments to determine restoration effectiveness;
- Pre-construction monitoring to document condition of aquatic indicators before restoration and develop restoration effectiveness criteria
- Post construction monitoring to document condition of aquatic indicators after restoration for comparison to criteria; and
- Post-monitoring analysis to determine changes in aquatic indicators and level of restoration effectiveness.

Fieldwork occurred between March and November. Fish habitat assessments, benthos community assessments, fish community sampling and assessment were carried out as well as water chemistry sampling and water temperature monitoring. The results of the previous work programs are provided on the City's website and form part of the Annual Monitoring report process (see Appendix 1). A report was not produced for 2014-15 as the City has adequate pre-construction data to evaluate against post-construction conditions. Additional information on the City's Baseline Water Quality Monitoring Program can be found at the following link:

ottawa.ca/calendar/ottawa/citycouncil/pec/2007/08-28/ACS2007-PWS-UTL-0014%20-%20ENG.htm

Water Demand Monitoring

A regular water demand monitoring program will be required to accurately identify the timing of the construction of upgrades to the sub-pressure zones. All infrastructure will be included in the City infrastructure management program. Infrastructure under developer warranty will not be included in this program.

The watermains are associated with the area arterial and collector roadway construction and watermain looping needs to service adjacent and proposed development. The timing of the proposed transmission watermains is subject to the timing of the local developments they serve and the construction timing of the transportation network. Looping of the watermain is required in the lands south of the 417 at 1000 units and north of the 417 at 500 units. Design and construction for both the north and south watermain looping has been completed

Sanitary Monitoring

A regular flow monitoring program will be performed by the City to accurately identify the timing of the various upgrades to the Signature Ridge Pumping Station (SRPS) required to facilitate the development of Area "A" (Kanata West Master Servicing Plan - MSS). The hydraulic analysis in Master Servicing Study uses current City design guidelines to demonstrate that Phase IA can build out within the design capacity of the upgraded SRPS. A minor upgrade including overflow for the Signature Ridge Pump Station has been constructed.

Area "B" as shown on the MSS includes the area within Kanata West which will be tributary to the new pumping station to be built on Maple Grove Road west of the Carp River. This pumping station will drain to the Stittsville Collector Sewer on an interim basis via a temporary forcemain in Maple Grove Road, Huntmar Road and Iber Road. All of Area "B" will not be able to be tributary to the Stittsville Collector on an interim basis and a regular flow monitoring program is required to determine the exact amount of development which will be allowed into the Stittsville system on an interim basis.

A regular flow monitoring program is in place for the Stittsville system to accurately identify development needs and capacity use.

The new Kanata West Pump Station and associated forcemains and overflow are currently under construction which is scheduled to be completed in 2018.

Development – Timing and Phasing

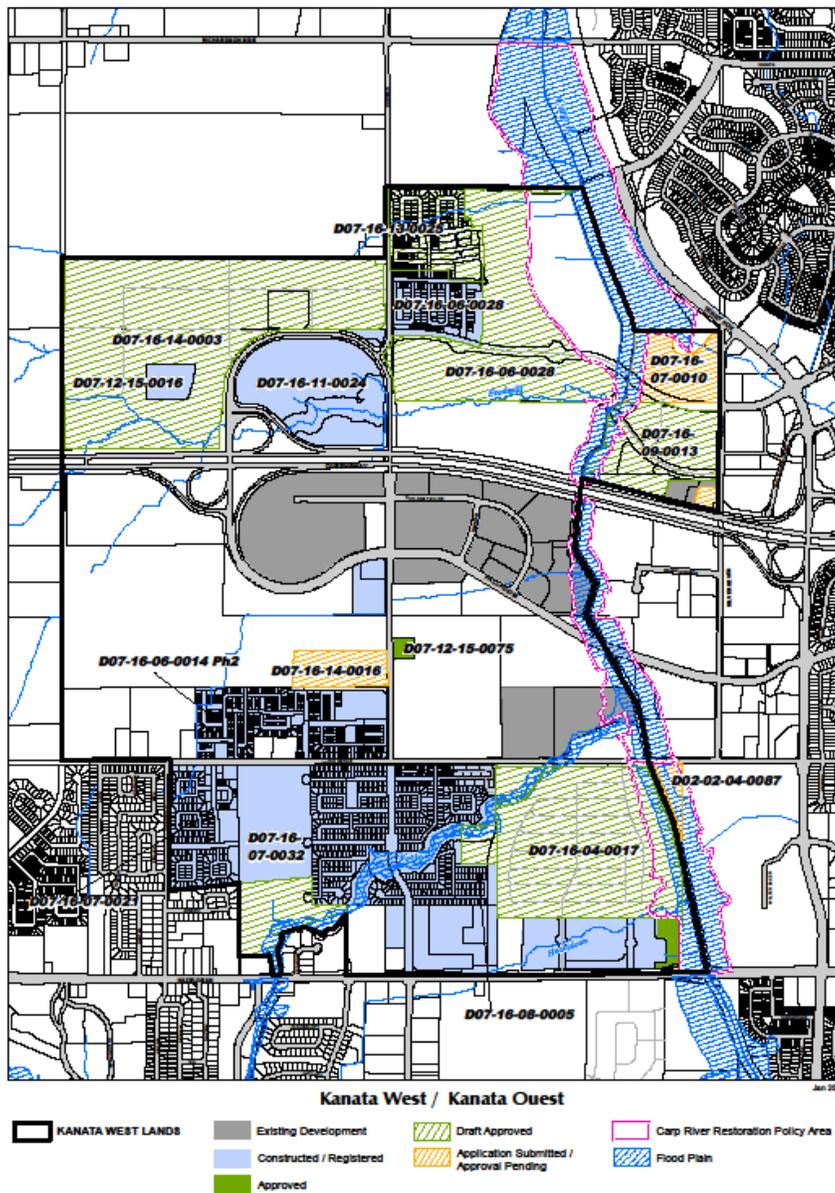
As of April 1 2016, a limited amount of development within Kanata West has commenced. Figure 1 illustrates the status of developments in Kanata West. Given the

delays incurred throughout the Kanata West Environmental Assessment process and based on existing sanitary sewer capacity constraints and significant land and SWM ponds tied to the Carp River Restoration, there has been limited development in the Kanata West area to date.

The Kanata West Area is comprised of approximately 722 hectares of urban land. A total of approximately 73 hectares of land represents “existing development” (i.e. Scotiabank Place, Palladium Auto Park, Maple Grove Works Yards, and the Bridge Church). A total of 161 hectares is made up of constructed or registered residential lots including the retail areas along Hazeldean Road and north of Highway 417 and the Fairwinds North and South subdivisions along Maple Grove Road and the Arcadia subdivision to the north. An additional 2.6 hectares of land has been approved but not yet constructed. In terms of constructed, registered and ready to develop land, a total of 164 hectares exists in Kanata West which represents approximately 23% of the total land area. In addition, a further 204 hectares of development land has been draft approved. Much of this land cannot be developed until the Kanata West Pump Station has been commissioned or the Carp River Restoration Project has been completed. In terms of draft approved and registered lands a total of 368 hectares exists within Kanata West representing 51% of the total land area in Kanata West.

Applications have been received for a further 19 hectares of land for which draft approvals have not been granted and final approval/construction will be some time based on servicing constraints (Sanitary Pump Stations, SWM ponds).

Figure 1



Status of EA Projects

There were 22 projects approved through the three Environmental Assessment Studies, seven of which were subject to Part II Order requests in response to the June 2006 Notice of Completion. The other 15 were deemed to be approved and could proceed to construction in accordance with the Class EA process. In July of 2010 a new Notice of Completion was filed for the 7 disputed projects and the four roadway projects that had not as of yet commenced. On March 30, 2011 the Minister of Environment issued a

decision dismissing the subsequent Part II Order requests to the July 2011 Notice of Completion. Table 2 lists the 22 projects, provides an indication of their current status and when the deadline for commencement of the project is based on the date of the corresponding Environmental Assessment Process (10 years from 2006 or 2011).

TABLE 2

Project	Implementation Status	Deadline for Project Commencement before EA Update Required
Master Servicing Study		
Water Projects		
Watermains in Huntmar Road Extension from Halzeldean Road to Maple Grove Rd.	Watermain in Huntmar Road constructed	N/A construction started
Watermains in Huntmar Road Widening from Maple Grove Road to Campeau Drive	Part of project started in 2013 completion in 2015	N/A construction started
Watermains in Campeau Drive from Didsbury Road to North South Arterial	Construction Completed	N/A construction started
Watermain in Maple Grove Road from Stittsville Main Street to Terry Fox Drive	Watermain in Maple Grove Road partially constructed	N/A construction started
Watermains in North-South Arterial from Hazeldean Road to Campeau Drive Extension	Not started	2016
Watermains in Stittsville Main Street Extension from Maple Grove Road to Palladium Drive	Not started	2016
Stormwater Projects		
Stormwater Management Pond # 1 and associated storm sewers	Partial Trunk Sewer Constructed	N/A construction started
Stormwater Management Pond # 2 and associated storm sewers	Design Started	2021
Stormwater Management Pond # 3 and associated storm sewers	Construction Completed	N/A
Stormwater Management Pond # 4 and associated storm sewers	Partial trunk storm sewer along Maple Grove constructed, Partial SWM Pond constructed	N/A
Stormwater Management Pond # 5 and associated storm sewers	Design Started	2021
Stormwater Management Pond # 6 and associated storm sewers	Construction Completed	N/A
Stormwater Management Pond # 7 and associated storm sewers	Not started	2021
Sanitary Projects		
Signature Ridge Pump Station Upgrade and associated gravity	Construction Completed	N/A

sanitary sewers		
Kanata West Pumping Station and associated gravity sanitary sewers <ul style="list-style-type: none"> - Permanent Twinned Force main to the Tri Party Collector - Trunk Sanitary from Silver Seven, & along Carp River between Maple Grove Road and Palladium Drive 	Under Construction – project completion 2018	N/A construction started
Transportation Master Plan		
Huntmar Road Extension from Halzeldean Road to Maple Grove Road	Construction Complete	N/A construction completed
Campeau Drive from Didsbury Road to North-South Arterial	Construction commenced – eastern leg constructed	N/A construction started
Huntmar Road Widening from Maple Grove Road to Campeau Drive	Not started	2021
Maple Grove Road Widening from west of Huntmar Road to Terry Fox Drive	Not started	2021
North-South Arterial from Hazeldean Road to Campeau Drive Extension	Not started	2021
Stittsville Main Street Extension from Maple Grove Road to North-South Arterial	Not started	2021
Transitway	Transitway EA completed	N/A no expiry for TPAP
Carp River, Poole Creek and Feedmill Creek Restoration		
Carp River, Poole Creek and Feedmill Creek Restoration	Project Commenced March 2013.	N/A construction started

Timing of Annual Report

This reporting will occur on an annual basis (April 1st). The report will be sent to the local MOE office and posted on the City’s website at the following link:

<http://ottawa.ca/en/residents/water-and-environment/carp-river-watershedsubwatershed-study>

Note: Due to its technical nature, this report is available in English only. The City of Ottawa may translate this report or parts thereof on request. Requests for translation should be forwarded to Don Herweyer at 613-580-2424, ext. 28311 or to the French Language Services Division at DSF-FLSD@ottawa.ca or 613-580-2424, ext. 21536.