

Appendix 'A': Executive Summary

EXECUTIVE SUMMARY

INTRODUCTION

This report has been prepared to present the completed Municipal Class Environmental Assessment (Class EA) study for the Kilally South, East Basin. This study was completed to update the previous Municipal Class EA for the Kilally South area. The previous study, *Kilally South Stormwater Management Study Municipal Class Environmental Assessment*, was completed in 2003 and addended to address the Kilally South, West Basin in 2014. The options and evaluation criteria included in the 2003 study are now outdated and focused on the stormwater management servicing solution for the Kilally South, West Basin”.

The intent of this Municipal Class EA study was to evaluate potential stormwater servicing alternatives that are focused on the Kilally South, East Basin catchment area. The updated strategy provides the required quantity control, surface water quality control, and erosion control to support existing and future development within the study area while considering water balance needs and ecological conditions.

This Class EA study was carried out as a Schedule 'B' project in accordance with the Ontario Municipal Engineers Association Municipal Class EA document of October 2000 and amended in 2015. This report documents the need and justification for the project, the planning process undertaken to select the preferred solution, and measures to mitigate impacts.

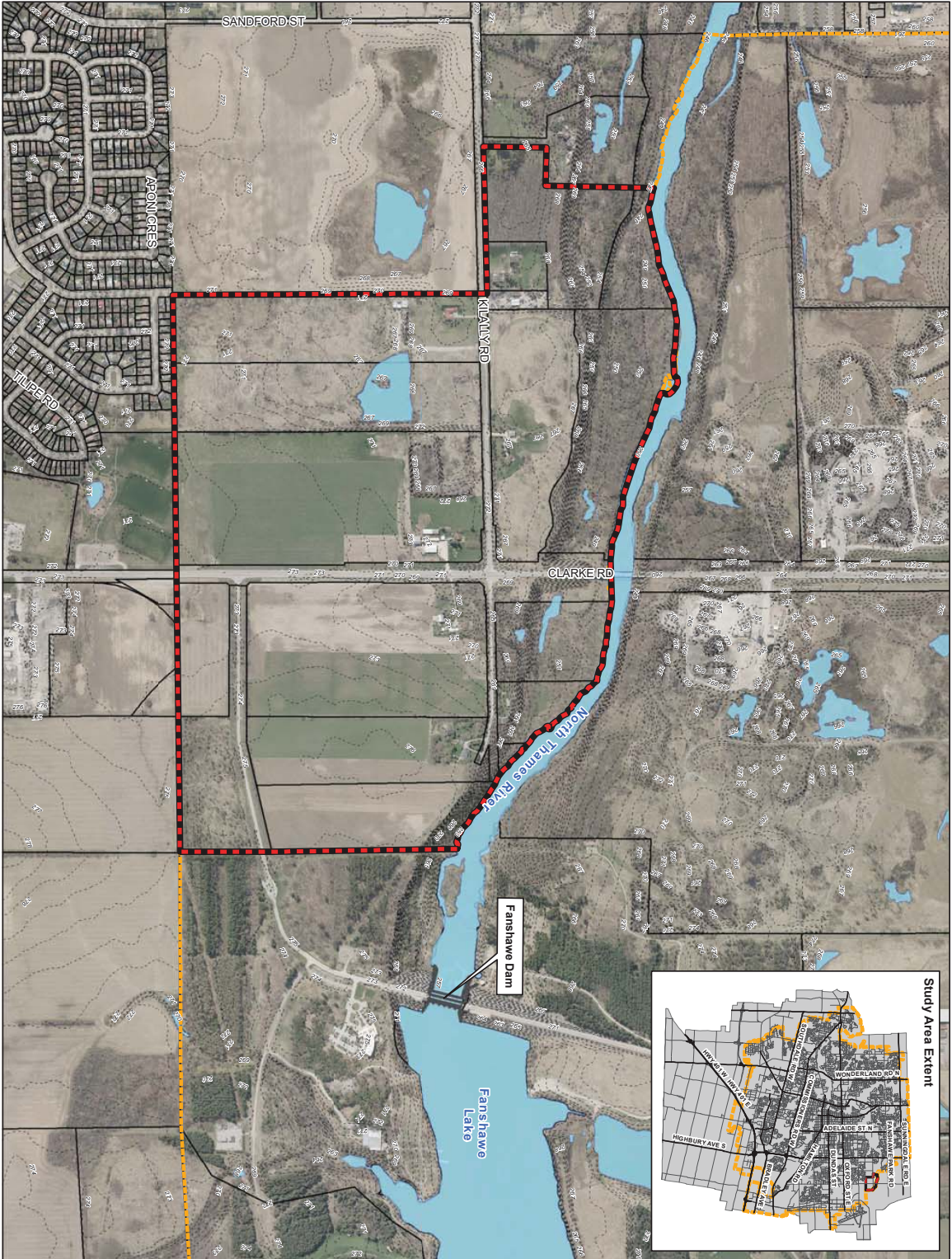
STUDY AREA

The study area (**Figure E-1**) is contained within the City's Kilally South Planning Area, which forms part of northeast London. This study area is bounded by the north branch of the Thames River to the north, Upper Thames River Conservation Authority (UTRCA) lands to the east, the future Huron Industrial Lands and existing residential development to the south, and agricultural lands and existing residential lands to the west. The lands to the west of the Study Area are serviced under the Kilally South, West Basin study area. The northern and eastern limits of this study area also border the City's Urban Growth Boundary.

The Kilally South East Basin study area measures approximately 124.4 ha in area which is predominantly agriculture with the balance of the lands generally used for rural residences and open space under existing conditions. Clarke Road bisects this study area in a north-south orientation, and Kilally Road extends through the study area in an east-west orientation.

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**Killy South, East Basin
Municipal Class EA**

**Figure E-1
Study Area**

Legend

-  City Boundary
-  Study Area
-  Urban Growth Boundary
-  Contour (1 m)
-  Waterbody



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PROFESSIONAL SERVICES

NAD 1983 UTM 17N
Project: 1830
Date: 2019/10
1:8,000

© 2019 Ecosystem Recovery Inc. 2019 Study Area
Property parcels, Urban growth boundary, Waterbody, Contours
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EXISTING SITE CONDITIONS

The existing conditions of the study area with respect to the environment, storm drainage, hydrogeology, archaeology and built heritage was summarized in this report. The information will be used to scope further technical studies, confirm and update the design considerations, and evaluate potential stormwater servicing alternatives.

Existing Storm Drainage

The existing storm drainage infrastructure is comprised primarily of roadside ditches and culverts on Clarke Road and Kilally Road.

Drainage from the study area primarily outlets from the site directly northward to the North Thames River Valley. Smaller catchment areas drain eastward into the Fanshawe Conservation Area, southward into the Huron Industrial Lands development area and Ted Early Park, and a small catchment drains westward into the existing residential parcels fronting the north side of Kilally Road.

Natural Environment

A Subject Lands Status Report was completed by North-South Environmental to study and characterize the existing natural heritage features and functions of the Kilally South, East Basin study area. Field investigations included three season vegetation survey, migratory waterfowl and breeding bird surveys, and amphibian call surveys. Incidental wildlife observations were documented while undertaking field visits.

The existing land cover of the study area is identified as largely natural including the forested North Thames River floodplain and valley slope. Other naturalized areas including old fields, pastures, and aggregate pits are present and in an early stage of natural succession. A small portion of the study area is actively farmed and there are several residential properties in the study area.

Key observations of the Subject Lands Status Report include:

- Significant wildlife habitat was identified in the form of wetlands, woodlands, and a specialized habitat of seeps and springs.
- A former aggregate extraction pit south of Kilally Road was identified as an unevaluated wetland and determined to be significant amphibian breeding habitat and providing migratory bird stopover and breeding habitat.
- The largest wetland in the study area occupies the Old River Channel at the base of the valley slope, consisting of a shallow marsh community.
- Groundwater discharge features were observed in the form of seeps and springs along the valley slope south of the North Thames River and are ecologically important.
- The North Thames River is the primary hydrologic feature in the study area and contains a diversity of warm and cool water fish species.
- The most ecologically significant vegetation communities were predominately located in the North Thames River floodplain.

Hydrogeological

A hydrogeological assessment of the study area was completed by BluMetric Environmental Inc. to study the surficial soil characteristics, groundwater table elevations and flow directions, and the groundwater interaction with surface water features. A field investigation was completed with 12 monitoring wells, with six monitoring wells completed by AECOM on behalf of Sifton Properties Ltd. as part of their ongoing hydrogeological study.

Key observations of the hydrogeological assessment include:

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City of London

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Executive Summary

- The surficial geology of the study area includes three main regions, including sand and gravelly deposits on the tablelands west of Clarke Road, silty sand till on the tablelands east of Clarke Road, and modern alluvium deposits from the North Thames River located below the tablelands.
- The source of the observed seeps and springs along the valley slope of the North Thames River were determined. The upper seeps and springs are likely sustained by discharge of a surficial aquifer while the lower seeps and springs at the foot of the slopes are likely sustained by the local overburden aquifer.
- Approximate infiltration rates across the study area have been interpreted in order to assess the feasibility of LIDs.

Archeology, Built Heritage and Cultural Heritage Landscape

A Stage 1 Archeology Assessment and a Built Heritage and Cultural Landscape Assessment was completed by Archaeological Research Associates Ltd.

Key recommendations of the Archeology Assessment, and Built Heritage and Cultural Landscape Assessment include:

- All identified areas of archeological potential that would be impacted by the preferred project alternatives be subject to a Stage 2 archaeological property assessment.
- Avoiding cultural heritage resources where possible and locating construction staging areas away from identified built heritage and cultural heritage features.
- A Heritage Impact Assessment is recommended to be completed at 2112 Kilally Road in conjunction with the detailed design of the preferred alternative.

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STORMWATER MANAGEMENT STRATEGY

Relevant standards and design guidelines used in the development of the stormwater management strategy (SWM) include:

- The London Plan (2016);
- The Ontario Ministry of the Environment Stormwater Management Planning and Design Manual (2003);
- The City of London Private Permanent Systems Policy (2010);
- The City of London Design Standards (Updated: 2019); and
- Low Impact Development Stormwater Management Planning and Design Guide (TRCA and CVC, 2010).

Stormwater Management Criteria

SWM criteria have been defined for the study area considering potential impacts to the downstream receiver. The considerations include water balance, surface water and groundwater quality, water quantity control, erosion control, and flow conveyance capacity. The stormwater objectives are summarized in the following table.

Table E-1: Summary of Proposed Stormwater Design Criteria

Stormwater Objective	Preferred Design Criteria
Stormwater Quality Control	<ul style="list-style-type: none">• Level 1 (Enhanced) 80% long-term suspended solids removal, per Thames Valley Areas Study
Stormwater Quantity Control	<ul style="list-style-type: none">• Ensure peak flows do not increase flood risk and mitigate existing flood risk where feasible.• No peak flow control is required for discharges to North Thames River, per Thames Valley Areas Study
Erosion Control	<ul style="list-style-type: none">• Ensure that conveyance of post-development stormwater discharge does not create or exacerbate stream stability issues.• No erosion control is required for discharges to North Thames River, per Thames Valley Areas Study
Water Balance	<ul style="list-style-type: none">• Mimic a natural hydrologic response to rainfall and protect groundwater dependent natural features by implementing infiltration where appropriate.
Source Water Protection	<ul style="list-style-type: none">• Infiltration based stormwater management infrastructure is not to infiltrate runoff from high risk areas, including areas of high chloride loading.

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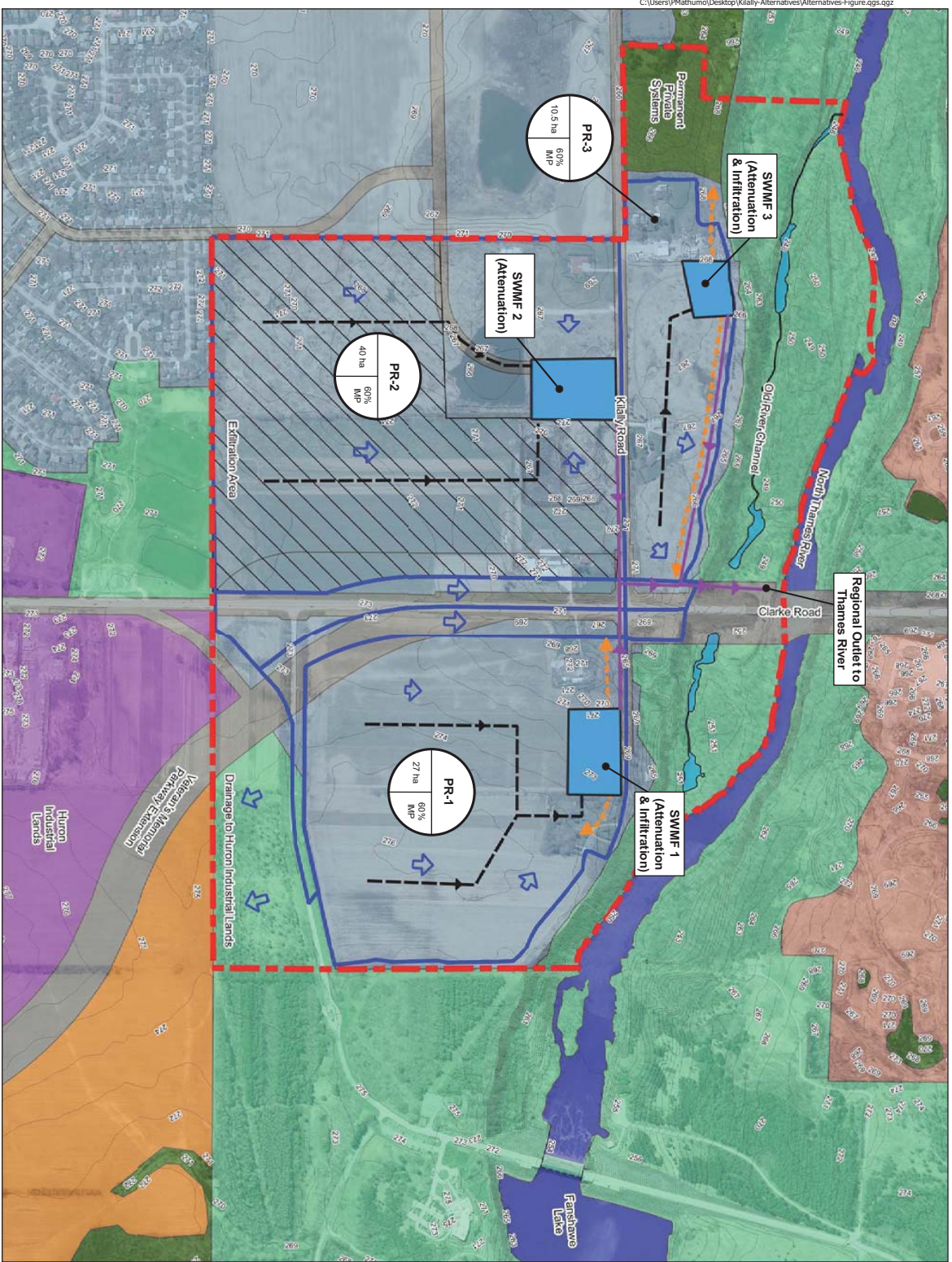
PREFERRED STORM DRAINAGE AND STORMWATER MANAGEMENT STRATEGY

Based on the evaluation of alternative solutions, the preferred stormwater management strategy is **Alternative 8: Two infiltration and attenuation SWM facilities and one dry attenuation SWM facility with LIDs.**

The preferred stormwater management solution includes the following components, and is included in **Figure E-2:**

- **Regional Stormwater Outfall:** A regional stormwater management outfall to Thames River will be located on the west side of the Clarke Road right-of-way and bridge embankment. The stormwater outfall will be constructed as a combination of sewer and open channel sections where appropriate and will convey discharge from all proposed development areas within the Kilally South, East Basin study area.
- **SWM Facility 1:** A dry infiltration pond stormwater management facility providing water quantity and water balance control to all proposed residential development lands east of Clarke Road within the Kilally South, East Basin Class EA study area. This facility will discharge to a new outlet sewer conveying outflows westward under Clarke Road and Kilally Road to the regional stormwater outlet.
- **SWM Facility 2:** A dry pond stormwater management facility providing water quantity control to all proposed residential development lands west of Clarke Road and south of Kilally Road within the Kilally South, East Basin Class EA study area. This facility will discharge to a new outlet sewer conveying outflows eastward along Kilally Road to the regional stormwater outlet.
- **SWM Facility 3:** A dry infiltration pond stormwater management facility providing water quantity and water balance control to all proposed residential development lands west of Clarke Road and north of Kilally Road within the Kilally South, East Basin Class EA study area. This facility will discharge to a new outlet channel conveying outflows eastward to the regional stormwater outlet.
- **Exfiltration Pipe:** An exfiltration pipe LID system implemented on local streets west of Clarke Road and south of Kilally Road within the Kilally South, East Basin Class EA study area to provide water balance control for the road right-of-way (ROW).
- **Minor System:** A storm sewer network collecting minor system flows from the proposed development areas to the local stormwater management facilities.
- **Oil and Grit Separators (OGS):** OGS units where necessary to provide pre-treatment and/or Level 1 water quality control for the Kilally South, East Basin Class EA study area.

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**Killy South, East Basin
Municipal Class EA**

Figure E-2
Preferred Alternative

Legend

- SWMF Outlet
- Minor System Collection
- Major System Flow
- Subcatchments
- SWM Facility
- Old River Channel
- Potential TYP Connection
- Contour (1m)
- Place Types (The London Plan)
- Transportation Corridor
- Water
- Environmental Review
- Open Space
- Neighbourhood
- Light Industrial
- Heavy Industrial
- Farmland



0 100 200 m

EP5G26917
Project Name: Killy Class
EA
Date: 6/2020



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IMPLEMENTATION

The proposed SWM facilities are required to provide stormwater servicing for the Kilally South, East Basin future development lands. The design and construction of the individual SWM facilities will be triggered by development applications within the catchment and will be phased according to development proceedings.

The proposed SWM strategy is anticipated to be implemented as follows:

- | | |
|----------------|--|
| Phase 1 | Design and Construction of SWMF 1 (east of Clarke Road) and regional stormwater outlet to the Thames River. 2022 (Five-year project, 2019-2023) |
| Phase 2 | Design and construction of SWMF 2 (west of Clarke Road, south of Kilally Road) and associated outlet sewer connecting to the regional outlet as development applications proceed in the catchment. Timing uncertain (10+ year project, 2029 and beyond). |
| Phase 3 | Design and construction of SWMF 3 (north of Kilally Road) and associate outlet connecting to the regional outlet as development applications proceed in the catchment. Timing uncertain (10+ year project, 2029 and beyond). |

Property acquisition will be required by the City for the proposed SWM facilities. A total of 4 ha will be required for the three SWM facilities.

Implementation of the preferred works will be subject to the following written approvals and permits:

- **Ontario Ministry of the Environment, Conservation, and Parks (MECP)**

An Environmental Compliance Approval (ECA) will be required from the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for the proposed stormwater management facility and sewer works. Guidance and consultation from the MECP will also be required in dealing with construction work near and within natural heritage features, including SAR habitat.

- **Upper Thames River Conservation Authority (UTRCA)**

A permit for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses is required from the Upper Thames River Conservation Authority (UTRCA) before any stormwater management facility work or outlet works.

- **Ontario Ministry of Culture, Tourism, and Sport (MCTS)**

A Stage 2 Archaeological Property Assessment will be required for all sites identified as having archaeologic potential from the Stage 1 property assessment. Identified areas include the location of SWMF 2 and SWMF 3, which will need to be further assessed under a Stage 2 assessment and filed with the MCTS.

- **Department of Fisheries and Oceans Canada (DFO)**

A DFO Request for Review will be required for the proposed construction works of the regional outfall to the Thames River.

- **Ontario Ministry of Natural Resources and Forestry (MNRF)**

Guidance and consultation from the MNRF will be required where trees are proposed to be removed for construction. An Overall Benefit Permit may be required to undertake tree removal or disturbance of habitat.

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CONSULTATION

As a key component of the Municipal Class EA process, consultation was completed throughout the Class EA study process. Consultation included sharing of information with government review agencies, key stakeholder, and the local community.

Consultation activities included:

- The Notice of Commencement published in *The Londoner* and mailed to comprehensive list of agency staff, property owners, and Indigenous Communities.
- A Public Information Center (PIC) was held at the Beacock Branch of the London Public Library to inform the public about the project proceedings, draft alternative solution, and gather comments and information from local residents and project stakeholders.
- A Notice of Project Update will be completed in response to refinements done to the preferred alternative since the PIC. The Notice of Project Update will be published in *The Londoner*.
- The Notice of Project Completion will be published in *The Londoner* and mailed to the list of project stakeholders, agency staff, and property owners.

CONCLUSION

The preferred alternative for the Kilally South, East Basin stormwater management strategy includes the construction of three stormwater management facilities and regional stormwater outfall to the Thames River.

Following the filing and clearance of this Project File Report, it is recommended that the City proceed to the detailed design and implementation phase of the proposed SWM facilities in phase with development proceedings in the catchment.

The detailed design phase will include securing the required permits and clearances from the relevant agencies and ongoing consultation with project stakeholders within the study area.

The total estimated cost for implementation of the preferred solution is in the amount of approximately \$12.9M, including engineering and contingency costs (excluding HST).