# Environmental Management Plan

Terms of Reference

## 1. Description

An Environmental Management Plan (EMP) is a comprehensive environmental planning document intended to identify, evaluate, and mitigate the potential impacts of development on the natural environment and its ecological functions at the local planning stage.

The EMP will lay out the foundation for the future neighbourhood by defining the development constraints and limits, drainage patterns, and establishing mitigation recommendations, and measures for subsequent stages of the development.

### Hierarchy of Environmental Planning Documents

Environmental planning studies often take place on several levels, as shown in **Appendix A**, and are complementary to statutory planning documents such as the Official Plan and secondary plans. They inform and provide direction to the local plan and subsequent site development stages.

Watershed and / or subwatershed studies are often completed before an EMP is done, providing useful background information on the existing natural features of the watershed or subwatershed study area. In areas where these upper-level environmental planning studies are not available, the EMP will also need to address necessary information that would otherwise be found in such studies. Any area-specific requirements should be confirmed with City staff when determining the scope of the EMP.

**Appendix A** illustrates the hierarchy and relationship between land use planning documents and environmental studies.

### Scope of the EMP

This EMP Terms of Reference is intended to provide the general scope and contextual guidance for all EMPs. It needs to be used in conjunction with other applicable City guidelines and terms of reference where additional information and guidance may be available. The individual scope of each EMP will be determined by City staff in consultation with the local conservation authority based on the local study area's context and concerns, and considering other relevant studies, terms of reference, and guidance documents.

The scope may need to be revisited if any unexpected issues are encountered during the preparation of the EMP.

## 2. Authority To Request

*Planning Act*

Sections 4.7.1 and 12.2 of the Official Plan

## 3. When Required

As stated in Section 4.7.1 of the Official Plan, an EMP is required to support targeted Official Plan Amendments, either through the creation of a new local plan, an area specific policy or an amendment to a secondary plan (as per Section 12 of the parent Official Plan and Volume 2 of the Official Plan). An EMP must be updated if:

- There is significant change in the conditions upon which the study is based;
- There are proposed changes to planned infrastructure needed to service a subdivision that would have a significant impact on the infrastructure needs of another subdivision within the EMP study area; or
- The applicable class environmental assessment approval has expired.

As stated in Section 12.2 of the Official Plan, an EMP is required to be prepared in advance of the City initiating or amending a secondary plan (Official Plan amendment application) for lands in a Future Neighbourhood Overlay.

An EMP may not always be required when a subwatershed study is undertaken in support of the local planning process and provides the necessary direction for the implementation of the local plan. Where a study area is exempt from an EMP, the scope of the master servicing study may need to include additional assessments and analyses that would otherwise be accomplished through the EMP. The requirement for the EMP will be determined by City staff when determining the scope for each of these studies during the early stages of the local planning process.

## 4. Contents

An EMP shall contain and / or address the items identified by City staff in the scope at the beginning of the project. Content of the EMP can be structured to fit the area-specific needs but shall contain all the necessary information identified by staff. Other relevant documents such as the Environmental Impact Study Guidelines (EIS Guidelines) and Water Budget Assessment Terms of Reference prepared by the City shall be used as technical guidance when preparing the EMP.

## A. Introduction and Background

- **General Information** – summary of general information including:
  - A brief description of the associated development and / or the purpose of the EMP
  - A summary description of the methods used to acquire the information to formulate the EMP
  - Identification of any information gaps
  - Outline the consultation method and process including public consultation and technical consultation, if applicable
  - Landowner Group participants and responsibilities, if applicable, including a figure of ownership parcels.
- **Study Area description** – provide a clear delineation of the EMP area and general contextual review of the broader study area including lands adjacent to the EMP area to identify:
  - Major manmade features, and
  - Known or potential natural heritage features,
  - Known or potential natural hazards
  - Existing land cover review, and
  - A brief summary of historical land uses and activities within and adjacent to the EMP area.

## B. Policy and Other Planning and Technical Documents Review

- **Review of applicable policy documents and plans** - A review of the applicable policy documents and environmental plans including (but not limited to):
  - Provincial Policy Statement
  - City of Ottawa Official Plan and supporting master plans
  - Secondary plans
  - Other relevant documents including (but not limited to) Provincial and Federal laws and regulations, local municipal and conservation authority regulations, environmental planning documents and / or studies such as watershed and / or subwatershed studies, environmental assessments, environmental impact studies, climate vulnerability and risk assessments and resiliency strategy.

This section should identify and justify any areas of non-compliance. Any additional documents that need to be reviewed in this section will be confirmed by City staff when determining the EMP scope.

## C. Existing Conditions Assessment

The description of existing conditions should be based on available background information (see Appendix B for a list of base data available from the City) and field investigations. Discrepancies between the background information and the results of field investigations should be discussed with staff and addressed in the report appropriately. City guidance documents and other terms of reference shall be used as technical guidance for this section (e.g., EIS Guidelines and Water Budget Assessment Terms of Reference). This section should include the following components:

- **Field Investigation** - Describe field investigations undertaken and any relevant information of site visits including:
    - Date, time and duration of all site visits and personnel involved, weather conditions, and purpose of each visit
    - Photo documents of site condition (this can be provided as an appendix, with selected photos used to illustrate points in the text).
- **Landforms, Soils and Geology** - Describe the physical character of the Study Area. In a brief overview, the following items should be included:
    - Bedrock and surficial geology
    - Overall landforms and unique landform features
    - Soil character
- **Surface and Groundwater Features** – Identify and describe any surface water features, groundwater features, and relationship between these features, using methods and terms consistent with:
    - Headwater drainage features assessment
    - Geomorphological assessment
    - Fish habitat assessment
    - Source Protection Plans
    - Water Budget Assessment Terms of Reference
    - Ontario Wetland Evaluation System (where identified as a requirement for the study area)
    - Hydrogeological and Terrain Analysis Guidelines
- **Vegetation Cover** – Map and describe the existing tree canopy and other vegetation cover, using the provincial Ecological Land Classification methodology to characterize vegetation communities. Identify any plant species at risk (within data sensitivity limits). Base canopy cover data may be available on the City's open data platform.

- **Wildlife (terrestrial and aquatic)** – Provide information on species of wildlife known or anticipated to occur in the area based on available habitat and observations. Identify any species at risk and specific habitat features (within data sensitivity limits). Habitat for endangered or threatened species, fish habitat and / or significant wildlife habitat should be addressed in the discussion of natural heritage features below.

## D. Opportunities and Constraints

Analyse the existing conditions information and provide direction on factors that will need to be considered when planning the development concept for the area. Opportunities may include, but are not limited to, areas suitable for tree planting, ecological enhancement and restoration, and / or low impact development. Consideration of future climate conditions and existing and planned development of the surrounding area shall also be included.

This section should address:

- **Natural Heritage Features** - Identify and confirm the extent of any natural heritage features as defined in the Official Plan and the EIS Guidelines. This should include but not be limited to any study-specific features identified during pre-consultation or during field investigations.
- **Natural Heritage System** – Describe and confirm the limits of any natural heritage system elements, as per the Official Plan including:
    - Core natural areas within or adjacent to the study area,
    - Natural linkage areas within or adjacent to the study area
- **Development Limits** – In accordance with Official Plan policies and other applicable regulations or guidelines, identify physical and environmental constraints, natural or climate related hazards, and delineate development limits and areas of conservation including (but not limited to):
    - Geotechnical constraints including assessment of erosion hazards and the potential for retrogressive landslides
    - Management recommendations and setbacks to surface water features
    - Regulatory event flood plain and climate change flood vulnerable areas
    - Hydrogeological sensitive areas
    - Wellhead protection areas
    - Natural heritage features, core natural areas and natural linkage areas, as well as any required setbacks.
    - Areas of tree retention and required setbacks.

- Other constraints identified by staff, as appropriate.

- **Development Concept** – Describe the proposed development concept, at the community development level, specifically in relation to the environmental features and development limits identified above. If applicable, provide rationale for any non-compliance with relevant overarching policy and guidance documents. Furthermore, this section should also identify any required regulatory approval process(es).

## E. Stormwater Management

- **Existing Drainage Analysis** - Identify and describe existing drainage for the local plan area including catchment areas, existing stormwater management infrastructure and facilities in or adjacent to the study area and areas of potential concerns including wetlands, flooding and erosion. This should include a review of any relevant studies.
- **Hydrologic and Hydraulic Model** - Preparation or updating of existing / pre-development and post-development conditions hydrologic and hydraulic models for watercourses within and downstream of the local plan area will be required for assessing stormwater management requirements. Additional flow data collection may be required to inform this analysis. The scope of the required data collection, modelling and downstream limits of assessments will be confirmed when preparing the specific scope for the study.
- **Stormwater Management Objectives and Criteria** – Establish stormwater management objectives and criteria. Key considerations should include habitat protection, hazard management, erosion control, and water budget targets, and implementation of any best management practices. If applicable, recommendations from relevant technical studies and documents should be reflected in the EMP. Future climate conditions should also be considered when establishing the stormwater management objectives and criteria.
- **Stormwater Management Options** – Identify and analyse viable stormwater management options and evaluate each option against evaluation criteria and targets identified above. Analysis should also consider the development limits identified in Section D - Opportunities and Constraints and any work required to achieve legal outlet for the stormwater management option.
- **Post-development Condition** - Identify post-development conditions based on the evaluation criteria and stormwater management options identified above and select the preferred approach. Identify the location of stormwater management facilities, any required diversion / enhancement, any flood or erosion mitigation work / controls (instream or other), necessary technical

studies, and the applicable regulatory framework. Identify any projects required to achieve legal outlet for the Local Plan area, including concept plans and functional designs.

### F. Recommendations / Mitigations

Provide coordinated recommendations and mitigation measures to support the development of the area. The recommendations and mitigation measures need to reflect opportunities and constraints and stormwater management options identified above. Future climate conditions need to be explicitly considered. This section should address:

- **Natural Heritage System Management Strategy** – Recommendations to address any anticipated impacts of the proposed development on the natural heritage system, natural heritage features and their ecological functions. Identify areas for protection (including development setbacks) and conveyance to the City as per the relevant policies of the Official Plan. This should also address cumulative impacts of the proposal in context with existing and planned development nearby, areas for enhancements and / or restoration, and any required regulatory framework.
- **Natural Heritage Feature Mitigation** - Provide direction on mitigation measures to address any anticipated impacts of the proposed development on natural features and as a result of the stormwater management strategy. Any specific directions regarding the scope of necessary technical studies required to support subsequent development stages (e.g., environmental impact study, tree conservation report) should also be identified.
- **Canopy Cover Preservation, Protection, Restoration** – Establish a strategy to contribute to the goal of 40 per cent urban forest canopy cover in accordance with the City's Official Plan, through the retention of existing trees and the planting of new trees. This strategy would then be reflected in the subsequent development stages through the tree conservation report and landscape plan.
- **Stormwater Management Recommendations and Mitigation** – Identify best management practices, required mitigation measures, enhancement and restoration measures, as well as any necessary technical study to accompany subsequent development stages.
- **Stormwater Management Solution** – Describe the preferred approach to stormwater management facilities and required protection and enhancement / upgrades. Summarize regulatory requirements to support the subsequent

development stages. Describe the preferred approach to stormwater management facilities and required protection and enhancement / upgrades.

### G. Conclusion / Implementation

- **Phasing and Implementation** – Identify implementation strategies including staging, actions, approvals, and responsibilities. If applicable, identify required interim solutions.
- **Monitoring** – Establish monitoring framework including, but not limited to, approval requirements for subsequent development stages or triggers for identified projects (such as instream erosion mitigation work). If applicable identify process and requirement to accommodate changes in the subsequent development stage.
- **Professional Opinion** – The lead author(s) shall sign a conclusion stating their professional opinions regarding the overall plan and its recommendations. Any limitations or caveats regarding changes to the plan should be noted.

### H. Maps and Figures

All maps in the EMP shall be presented at a legible scale with all the necessary components and information including, but not limited to, title, scale bar, north arrow, key plan, legend, and applicable notes. All figures should be legible and appropriately sourced. All maps and figures should identify the source and date of any applicable baseline data. All maps, figures and tables should be appropriately referenced in the EMP.

Digital data along with the approved maps and figures shall be submitted as part of the approved EMP.

### I. References and Appendices

A complete list of references shall be included, and all supporting documents (figures, tables, maps, models, and field assessment notes) shall be included in the appendices to the report.

## 5. Evaluation Criteria

The EMP will be evaluated based on its compliance and conformity with applicable policy and guidance documents, as well as any relevant technical studies available at the time of the review.

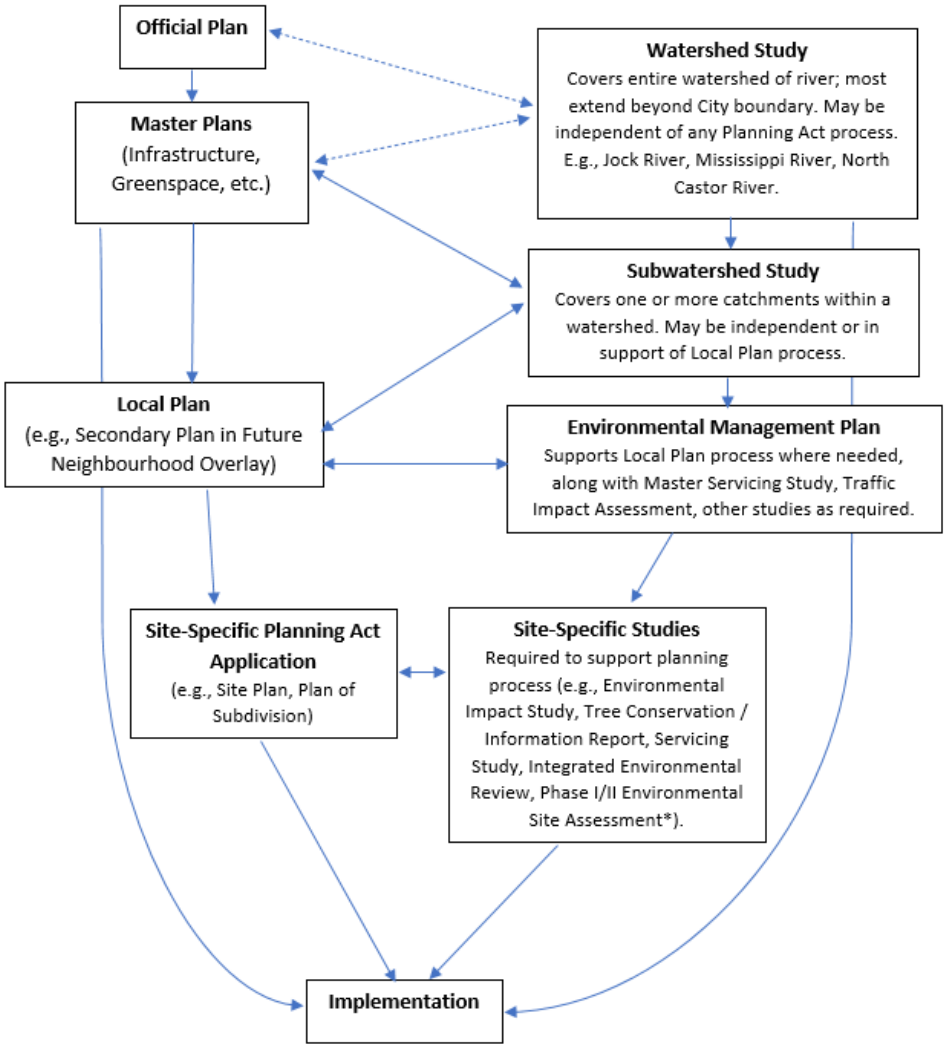
When preparing the EMP for the study area, the most current technical documents shall be used.

## 6. Roles and Responsibilities / Qualifications

The EMP shall be prepared by a multidisciplinary team of qualified professionals including, but not limited to, a Biologist and a Licensed Professional Engineer. All necessary field assessments are to be conducted by qualified professionals as per applicable guidelines.

The EMP shall be signed, and, if applicable, stamped by the qualified professional who prepared the report. Where applicable, technical appendices shall be signed and stamped by a qualified professional.

## 7. Appendix A – Relationship between land use & environmental planning studies




* Phase I / II Environmental Site Assessments are used to identify potential contamination issues based on past uses / activities at a site. They are required for health and safety / liability purposes, not natural heritage protection. They may provide useful background information for environmental planning, however. Sites requiring extensive remediation may present additional challenges to the protection of trees and natural features.

# 8. Appendix B – Data availability

## List of data that may be available

This list is subject to change from time to time to reflect any updates and / or as more data become available. The list of available data should be discussed and confirmed with City staff when determining the scope of the EMP.

- Aerial photography (latest available; earlier photos may also be available upon request, depending on location)
- Official Plan land-use designations
- Comprehensive Zoning By-law
- Roads and pathways
- Soils, including hydrologic soil groups
- Surficial geology
- Depth of overburden / drift
- Bedrock types
- Physiographic information
- Surface water quality
- Water wells
- Stream network and municipal drains
- Waterbodies / watercourses
- Evaluated wetlands
- Unevaluated wetlands (City of Ottawa mapping)
- Areas of Natural and Scientific Interest
- Vegetation polygons (note that these high-level polygons provide background information only, and do not replace Ecological Land Classification field studies)
- Forest canopy cover mapping
- Significant woodlands mapping
- Significant valleylands mapping
- Natural heritage system (cores and linkages) mapping
- Species at risk occurrence data (from Natural Heritage Information Centre, in accordance with data sensitivity restrictions)
- City of Ottawa and National Capital Commission. 2020. Climate projections for the National Capital Region.
- Flood plain mapping*

** Regulatory hazard land mapping should be obtained from the appropriate conservation authority, along with other regulation limits. Climate related flood vulnerable area should be obtained from the City of Ottawa.*

Some of this information can be obtained via the City's Open Data portal. Otherwise, a data license may need to be signed by the recipient of the data. A fee may be administered to cover reproduction and distribution costs.