Barrel Yards, Stage 4 – Site-Specific SPA Submission Package

The following components will be incorporated into the study and associated report.

1.0 INTRODUCTION/BACKGROUND

- Study area description and current status:
    - Provide a description of the study area for context (including a site plan map), including why the site-specific SPA approval is needed and why it is being sought in advance of the City's comprehensive review.
    - Summarize the current status of buildout on the Barrel Yards site, including a summary of the Master Plan approach.
    - Reference Barrel Yards Stage 4 Drawings, Auburn Developments, December 2024.
- Floodplain/SPA history:
    - Provide background information on the Laurel Creek floodplain and Special Policy Area (SPA) history for Uptown Waterloo in general and the Barrel Yards site specifically.
    - Summarize how the SPA is modeled (i.e., floodway-flood fringe approach that accounts for all lands outside the floodway as fully obstructed).
    - Reference and summarize the following documents:
        - City of Waterloo Request for Special Policy Area Status, Report to The Regional Municipality of Waterloo Commissioner of Planning & Development, September 3, 1985.
        - City of Waterloo Official Plan (OP) Flood Plain Policies May 1989. SPA-specific policies were carried forward when the City adopted a new OP in 2012.
        - Procedures for Approval of New Special Policy Areas (SPAs) and Modifications to Existing SPAs Under the Provincial Policy Statement, 2005, Policy 3.1.3 – Natural Hazards – Special Policy Areas, Ontario Ministry of Natural Resources, January 2009.
        - Barrel Yards Master Plan review (Master Servicing Stormwater Management Report, Stantec, July 2009).
- Roles and Responsibilities:
    - Provide a description of the roles and responsibilities for the various participants in this process and the timing expectations for agency review through the process:
        - Auburn Developments
        - City of Waterloo
        - Grand River Conservation Authority
        - Province of Ontario

2.0 TECHNICAL INFORMATION

2.1 FLOOD RELATED CHARACTERISTICS

- Obtain/confirm the latest floodplain mapping model from Grand River Conservation Authority (GRCA).
- Summarize/extract existing floodplain information at various cross sections through the Barrel Yards site from the model. Specific focus will be on the cross section closest to the proposed site changes. Information will include (likely in table format):
    - Regulated Flood Elevation (RFE).
    - Depth.
    - Velocity.
    - Access/egress routes.
    - Provide mapping illustrating floodplain conditions through the area, including cross-section locations and floodplain elevations.

2.2 ANALYSIS OF FLOOD CONDITIONS

- Describe the implications of the proposed land use changes on the following parameters (note: floodplain modeling already considers that the flood fringe areas are developed and therefore there will be no impact on floodplain conditions as a result of the proposed development):
    - Flood storage.
    - Velocity.
    - Depth.
    - Flow patterns.
- Confirm the minimum acceptable level of flood protection identified in the SPA policies.

2.3 PROPOSED FLOOD PROOFING MEASURES

- Describe proposed “dry”/”passive” flood proofing measures proposed for the Barrel Yards Stage 4 area, including:
    - Finished floor elevations.
    - Building structure/configuration.
    - Access to parking garage(s).
- Provide mapping illustrating flood proofing measures relative to floodplain conditions.
- Confirm that “active”/”wet” floodproofing not anticipated.

2.4 SAFE ACCESS/EGRESS

- Describe how safe pedestrian and vehicular access/egress will be provided for Stage 4 and how they fit into the overall site Master Plan.
- Provide a map showing access/egress routes.

2.5 STRUCTURAL INTEGRITY

- Professional (Structural) engineer will provide a letter (to be appended to the report) confirming the structural integrity of the building/structure and materials under flood conditions in general, including any situations where the building could be flooded, i.e., openings below the RFE.

2.6 MUNICIPAL EMERGENCY MANAGEMENT

- Confirm that emergency services staff from the City (Fire Rescue Services) and the Region (Emergency Management Office, Paramedic Services, and Police) will be engaged early in the application process.
- Confirm that if and when the City and Region are in a position to support the proposed development, the City and Region will under separate cover, either separately or jointly, prepare an emergency services letter to acknowledge the proposal, confirm acceptability of the proposal in the context of emergency response to flood hazards, and outline the plans in place to address flood-related emergencies.

3.0 RISK ASSESSMENT

- Bring together information from Section 2 to **demonstrate that there is no increase in risk of loss of life or property due to the proposed development**:
    - Confirm number of persons and property value at risk and compare existing (existing is the current approved situation) with proposed conditions.
- Summarize the following information:
    - Floodproofing measures (elevation of residential/commercial space, access/egress routes, etc. relative to RFE), including reference to the applicable OP policies.
    - Refer to OBC floodplain provisions for structural integrity and flood damage resistant material.
    - Confirm/illustrate other risk mitigation measures:
        - Location of fire hydrants to demonstrate they are accessible.
        - Electrical utilities to meet code for wet locations (located above RFE).
        - Plumbing to have backflow prevention valves.
        - Ducts to be above RFE.
        - Signage within the buildings to facilitate flood-related evacuation routes.
        - Building-specific flood emergency plans.
    - Document flood warning systems based on input from existing City/GRCA programs.

- Rely on industry flood damage assessment guidance to assess impacts as required:
    - Provincial [Alberta] Flood Damage Assessment Study, IBI Group, 2015 - https://open.alberta.ca/dataset/807b9710-0867-453e-8fa7-50c239bcd7d0/resource/f2d0a88c-b04b-4a39-af76-0aa8cd1e880b/download/pfdasalberta-main.pdf.
    - Toronto Flood Risk Ranking, IBI Group, 2019 - https://trcaca.s3.ca-central-1.amazonaws.com/app/uploads/2021/04/13132621/TRCA-FloodRiskAssessment_forweb-updated04_13_2021.pdf.
    - Federal Flood Damage Estimation Guidelines for Buildings and Infrastructure, NRCAN, 2021 - https://publications.gc.ca/collections/collection_2021/rncan-nrcan/M45-124-2021-eng.pdf.

4.0 LAND USE PLANNING

- Land Use Planning Report (to be appended) will include:
    - A summary of existing SPA policies and schedules in the Official Plan (OP).
    - An explanation of the proposed Official Plan Amendment (OPA) policy changes to the land use policies (changes to the SPA-specific policies in Chapter 8 of the City's OP are not proposed).
    - Confirmation of what change is being requested to the OP and Zoning By-law Amendment (ZBA) including proposed densities, units, additional infrastructure requirements, etc.).
    - Demonstration of how the proposal is consistent with the Provincial Policy Statement (PPS).