

# WATER AND WASTEWATER SERVICING OVERVIEW REPORT

# **UPPER WEST SIDE COMMUNITY PLAN**

CITY OF HAMILTON

PREPARED FOR: Upper West Side Landowners Group

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## 1.0 INTRODUCTION

The Hamilton Airport Employment Growth District (AEGD) Secondary Plan (Official Plan Amendment OPA 35) was approved on February 17, 2015 by the Ontario Municipal Board (OMB), based on the Minutes of Settlement signed by the City of Hamilton, Silvestri Investments, Upper West Side Landowners Group, and Craig Smith.

The AEGD is intended to provide a major business park development which effectively integrates with the existing John C. Munro Hamilton International Airport, the residential development abutting Garner Road / Twenty Road, as well as respects and enhances the prominent natural areas throughout the Secondary Plan Area.

The Upper West Side Lands (UWS) are located within the northern portion of the AEGD, bounded by Twenty Road West to the north, Glancaster Road to the west, Dickenson Road to the south and Upper James Street to the east.

Refer to Figure 100 for details.

The Upper West Side Landowners Group (UWSLG) is proposing a Secondary Plan within the AEGD lands described above. Additionally, the Secondary Plan includes lands that were added to the Urban Boundary of Hamilton by the Province in early 2023.. This report supports the proposed Secondary Plan.

The Secondary Plan and all future studies will follow the recommendations of the background studies listed below:

- AEGD Transportation Master Plan (June 2011)
- AEGD Transportation Master Plan-Implementation Update (December 2016)
- AEGD Water & Wastewater Servicing Master Plan (June 2011)
- AEGD Water & Wastewater Servicing Master Plan-Update (December 2016)
- AEGD Subwatershed Study & Stormwater Master Plan (June 2011):
- Part A: Subwatershed Study
- Part B: Stormwater Master Plan
- AEGD Subwatershed Study & Stormwater Master Plan Implementation Document Version 2.2 (April 2017)
- AEGD Eco-Industrial Design Guidelines (Draft May, 2010)
- AEGD Urban Design Guidelines (August, 2010)
- Airport Employment Growth District Secondary Plan (OPA 35, September 2017)
- City of Hamilton Stormwater Source Control Policy for Industrial, Commercial and Instructional (ICI) Land Uses (February, 2014)
- Stormwater Infrastructure Design (Philips Engineering Ltd., September 2007)
- Low Impact Development Stormwater Management Planning and Design Manual, Version 1.0 (CVC/TRCA, 2010)
- Stormwater Management Planning and Design Manual (MOE, March 2003)
- Twenty Mile Creek Watershed Plan (NPCA, 2006)



- Niagara Peninsula Conservation Authority (NPCA) Policies, Procedures and Guidelines for the Administration of Ontario Regulation 155/06 and Land Use Planning Policy Document (October 19, 2011)
- Low Impact Development Stormwater Management Guidance Manual (MOECC, 2017)
- City of Hamilton Comprehensive Development Guidelines and Financial Policies Manual (2017)
- Innovative Stormwater Source Control Policy for Industrial, Commercial and Institutional Land Uses (AMEC, April 2013)
- Preliminary Desktop Hydrogeological Investigation (Exp Services Inc., April 2018)
- Fluvial Geomorphological Assessment Upper West Side, City of Hamilton DRAFT (GeoMorphix, March 2018)
- Municipal Comprehensive Review Process Employment Land Review Meadows of Glanbrook (Corbett Land Strategies Inc, September 2017)
- Glanbrook Industrial Park, Hamilton Environmental Impact Study (Natural Resource Solutions Inc., March 2018)

Where modifications to the recommendations of the above sources are required due to the form of development, these will be detailed in this and subsequent applications. It is acknowledged that amendments to this document may be required at the time when the Draft Plan application(s) for the community are prepared.



## 2.0 PROPOSED GRADING & ROADS

#### 2.1 GRADING CONSTRAINTS

The following grading constraints were identified for the Upper West Side lands and were considered in the development of the grading plans (refer to **Figure GRD1**, **GRD2**):

- The existing hydro corridor along the northern limit of the site.
- The setbacks and existing ground elevations along the existing woodlots and wetlands were maintained to ensure adequate protection of features and to maintain drainage patterns in / out of the natural areas.
- The proposed road alignments and storm drainage.
- The existing grades along the hazard limits (watercourse, meander belt, etc.).
- Future stormwater management facility elevations
- The existing and proposed elevations at the intersections with the boundary roads, namely Twenty Road West, Upper James Street, Dickenson Road West, and Glancaster Road are considered to be grading constraints since the proposed subdivision roads must tie into the existing / future road elevations.
- General grading constraints include conforming to the City's road grading and lot grading criteria, as well as ensuring that the minimum cover on the servicing infrastructure was maintained. The City's standard minimum road grade is 0.75% for all ROW types.
- Urban design guidelines for the AEGD have defined road sections for the area and consist of a minimum 3 m width at the edges of the road surface for swales and LID bioretention/infiltration features.
- At key locations side swales have been introduced to convey road drainage from the LIDs into the NHS, this will avoid the major system and road LID swales from exceeding their conveyance capacities.
- The roads have been graded to ensure positive drainage of minor flows to the swales/LID features and positive drainage of major system flows towards the SWM facilities/dry ponds. In general, the major system drainage can be directed overland to the SWM ponds via roadways and swales with the exception of Street A (the Garth Street extension). This road is considered an urban arterial road/emergency route and the depth of major overland flows may not exceed the elevation of the crown of the Road (Section 2.2.1 of the City's document 'Criteria and Guidelines for Stormwater Infrastructure Design' (September 2007).
- The outlet elevations for the Dry Ponds/SWM facilities were fixed based on the receiving outlet elevations



#### 2.2 ROADS

The approved Transportation Master Plan (TMP) for the Airport Employment Growth District (AEGD) lands assessed and recommended the collector road network and associated transportation infrastructure required to support the development of the Upper West Side lands. The TMP developed the alignment, cross-section and preliminary design plan for the collector roads and spine road (Street A/Garth Street). The TMP supported the Secondary Plan process.

RJ Burnside has been retained by the Upper West Landowners Group to prepare a TMP to assess the impacts of the proposed UWS Secondary Plan on the AEGD area and provide recommendations for the transportation network.

The internal road design will adhere to the City of Hamilton concepts presented in the AEGD and the updated TMP being prepared by Burnside. Given the unique and progressive stormwater management and LID concepts presented for the ROW areas, these alterative standards will need to be discussed further with City staff. The proposed layout of the collector roads generally conforms to the road layout concepts presented in the AEGD Transportation Master Plan with some minor differences. The road layout will be refined further in future submissions and in consultation with the City of Hamilton and the consultant team.

A geotechnical investigation has been completed for the proposed limits of the draft plan, including road alignments that will accommodate the deep sanitary trunk sewers. Future work for the remaining Upper West Side lands will be completed at a later date by others.



## 3.0 SANITARY SERVICING

The Upper West Side Community Plan will be tributary to the Woodward Avenue WWTP. Wastewater is conveyed to the WWTP by a series of existing gravity trunk sewers and Sanitary Pump Stations (SPS). Due to the change in land uses, the City's Master Servicing Plan will have to be updated to confirm what (if any)

The proposed wastewater servicing strategy is shown in **Figure SAN-1**. This strategy has been developed based on the following key inputs and objectives:

- Adherence to the intent of the AEGD Phase 2 Water and Wastewater Master Plan Update (December 2016), as shown in Figure SAN-2;
- Provide for a logical and efficient extension of services within the Upper West Side Community Plan;
- Optimize existing infrastructure capacities where possible;

Existing/proposed sanitary infrastructure available to service UWS include:

#### Existing Twenty Road SPS (HC018):

- Located at the northwest corner of Twenty Road West and Upper James Street;
- This SPS was upgraded in 2021 to increase the firm capacity from 590 L/s to 1000 L/s, making available additional capacity for lands including approximately 200 hectares of the AEGD as set out in the Phase 2 Water and Wastewater Master Plan Update (December 2016).

#### • Existing 750mm diameter sanitary trunk sewer on Upper James Street:

- Located between Twenty Road West and Dickenson Road;
- This sewer discharges into the Twenty Road SPS and has available capacity to service approximately 31.1 hectares of proposed development with frontage along Upper James Street.

#### Proposed Dickenson Road Wastewater Trunk Sewer:

- o Proposed from Upper James Street to Regional Road 56;
- This wastewater trunk sewer is proposed to service the balance of the AEGD as set out in the Phase 2 Water and Wastewater Master Plan Update (December 2016).
- o Sewer currently anticipated to be commissioned in Q4 2026/Q1 2027.

The population densities referenced in the AEGD / Master Servicing Plans are approximately 37.5 people per hectare. This contrasts with the City's typical values of 125 to 750 people per hectare for industrial land use. With respect to planned or available capacities in these sewers for the subject lands, it is understood that the flow capacity is based on the lower population density, and on the *gross* area contributing to each sanitary outlet. It is understood that through refinement of the sanitary drainage plans and development limits, the actual sanitary catchment areas will decrease but the total allowable flow will remain constant, translating into a higher population density that would be more in line with the City's standards.



Due to the proposed changes in land use it is understood that the City's Master Servicing Plan will have to be updated in order to confirm if further downstream capital improvements are required. The Upper West Side Landowner Group will work with the City in this exercise.

It is recognized that further coordination with the City is required to determine how to best accommodate/phase the proposed flows and development.

Further, we understand an update to the AEGD Servicing Strategy/Master Servicing Plan is underway.

#### 3.1 PROPOSED DEVELOPMENT CHARGE INFRASTRUCTURE

The AEGD Phase 2 Water and Wastewater Master Plan Update (December 2016) identifies 'Development Charge' wastewater infrastructure projects required to service the greater AEGD area:

- Proposed 600mm & 750 mm diameter Dickenson Trunk Sewer (MH11-S-14 & MH10-S-14) and Pumping Station These sewer projects extend from the Dickenson Road Wastewater Trunk Sewer at Upper James Street westerly along Dickenson Road, providing wastewater conveyance for the AEGD Secondary Plan Area including generally the southern half of UWS. These sewer projects are subject to a Class EA being undertook by the City for the widening of Dickenson Road from Upper James Street to Book Road. We understand this Class EA is scheduled for completion shorty (end of 2021).
- Proposed 375 mm diameter Twenty Road West sewer (MH1-S-14) This sewer project
  extends westerly along Twenty Road West from the existing 750 mm diameter sewer on
  Upper James Street to approximately future Street C. This sewer will service lands between
  Twenty Road West, Glancaster, Upper James and the east-west NHS, generally the
  northern half of UWS. This sewer project is subject to a Class EA for the widening of Twenty
  Road West.

# 4.0 WATER SERVICING

This section describes the existing and planned water infrastructure servicing the Upper West Side Community Plan, as well as the proposed services required for the UBE area.

The Upper West Side lands are located within Pressure District 6. The proposed water servicing strategy is shown in **Figure WM-1**. This strategy has been developed based on the following key inputs and objectives:

- Adhere to the intent of the AEGD Phase 2 Water and Wastewater Master Plan Update (December 2016), as shown in Figure WM-2
- Provide for a logical and efficient extension of services within the Twenty Road Lands.
- Optimize existing infrastructure capacities where possible.



 Facilitate the Garth Street Extension from Twenty Road to Dickenson Road, and surrounding development.

The existing water infrastructure available to service the UBE area includes:

- 600mm watermain on Glancaster Road from Dickenson Road to Twenty Road West.
- 600mm, 400mm and 300mm watermains on Twenty Road West between Glancaster Road and Upper James Street.
- 400mm watermain on Upper James Street from Twenty Road West to Dickenson Road.
- 300mm watermain on Dickenson Road from Upper James Street to approximately 1100m west.

The AEGD Phase 2 Water and Wastewater Master Plan Update (December 2016) confirms that the Upper West lands can be serviced by connections to the existing watermains on the perimeter roads.

Construction of a new 400mm watermain from Twenty Road West to Dickenson Road West in conjunction with the Garth Street Extension, and extension of the existing watermain on Dickenson Road to the Garth Street Extension, will provided adequate water supply for the initial stages of development for the Upper West lands. Subsequent development is easily serviced from the existing perimeter watermains. This is consistent with the phased servicing strategy shown in the AEGD Phase 2 Water and Wastewater Master Plan Update (December 2016).

It is understood that the proposed changes in land use will require the City to update their Water Master Servicing Plan to determine what (if any) additional capital projects are required to service the subject lands.

Sincerely,

Urbantech® Consulting

Rob Merwin, P.Eng. Senior Associate













