York & Valley Road (HD016) Booster Water Pumping Station

Municipal Class Environmental Assessment Addendum

Online Public Information Centre

April 28, 2022
What is the Purpose of this Online PIC?

• Introduce you to the York & Valley Road (HD016) Booster Water Pumping Station Municipal Class Environmental Assessment Addendum Study

• Provide an overview of the Municipal Class Environmental Assessment Addendum planning process and current environmental setting

• Present the study’s problem and opportunities and evaluation of alternative Water Pumping Station Upgrade and Expansion Options, including the preliminary preferred solution

• Explain how potential impacts to the community and environment will be addressed

• Present the Project schedule and next steps

• Gather your feedback. Please fill out a comment card with your questions or concerns about this project
Study Area

- The study area is in the northwest area of the City in Ward 13
- The HD016 Pumping Station is located adjacent to the Borer’s Falls “Off Leash” Park at the intersection of York Road and Valley Road east of Dundas.
York & Valley Road (HD016) Booster Water Pumping Station

- Located at 501 York Road with a single driveway access from Valley Road

- Built in 1982, the station services local area residents, and the community of Waterdown

- Water is pumped out of the station via a 600 mm diameter trunk watermain which continues up the escarpment to the community of Waterdown (refer to figure)

- The station upgrades include a connection for a second discharge trunk main. Please refer to the Waterdown Trunk Watermain Twinning Municipal Class Environmental Assessment for more information on that project (excerpt from the project report shown at right):
York & Valley Road (HD016) Booster Water Pumping Station Needs

- Upgrade to 28 ML/d Firm Capacity to support Pressure Districts 16 and 24 (Waterdown Community)
- Add redundant systems for improved maintenance and reliability
- Replace aging equipment assets
- New permanent standby generator
- Update station design for improved health and safety
- New roof
- Improve driveway access for large vehicles, winter maintenance.
Why this Study?

• A Municipal Class Environmental Assessment (MCEA) Addendum for the York & Valley Road (HD016) Booster Water Pumping Station is being completed to update the previously obtained Schedule B EA that was completed via the City’s 2006 Water and Wastewater Master Plan MCEA study.

• Due to a lapse of time since the initial EA, an Addendum has been initiated to review the planning process for expansion of the station to meet the current demand projections.
This addendum involves reviewing the Schedule B planning process (Phases 1, 2 and 5 apply) followed from the 2006 Master Plan to ensure that the project and the mitigating measures are still valid.
Problem:

- Significant near and long-term growth is expected within the Waterdown settlement area. The City’s 2006 Water and Wastewater Master Plan (“the Master Plan”) followed the MCEA Master Plan Approach # 2 planning process and confirmed the need to increase the pumping capacity of the “York and Valley Road” Pumping Station (HD016) along with upgraded standby power to meet planned growth to 2031 and address security of supply.

- The proposed pumping station capacity increase was confirmed as a Schedule B MCEA project and was approved through the 2006 Water Master Plan. The 2006 Municipal Class Environmental Assessment recommended a firm capacity of 20.4 ML/d in 2031, however updated planning values estimate a required 28 ML/d firm capacity.

- The York and Valley Roads (HD016) Pumping Station is located adjacent to the Borer’s Falls Off Leash Dog Park and requires careful consideration on how the proposed upgrades are designed and constructed. This considers that the “small dog” leash free area is part of the pumping station property, which is required to construct the proposed upgrades.

- Recognizing the MCEA manual 10 Year Lapse of Time and that construction has not started within 10 years of the Master Plan filing in 2006 the City is required to complete a MCEA Addendum that will include a review of the planning and design process of the pumping station upgrade project as presented in the 2006 Master Plan in light of what has changed since 2006.
Problem (Continued)

- There are also operational concerns as the York and Valley Roads (HD016) Pumping Station is a critical to the Waterdown community and various pressure zones in the area. The City has also carried out condition assessments that have identified the need to update equipment assets within the existing facility.

- Proposed design approach will maintain operation through construction and will allow immediate upgrade of the system to maintain reliability of service and improve future accommodation of maintenance activities

Opportunity:

- Complete the MCEA Addendum planning process in consultation with key stakeholders, review agencies, Indigenous Communities and the public that will confirm the preferred solution and design concept for the proposed pumping station upgrades to meet the anticipated 2027 in-service date

- Coordinate the HD016 Pumping Station planning and design process with the current City of Hamilton Waterdown Feedermain Twinning Municipal Class Environmental Assessment study (upgraded HD016 Pumping Station will include a chamber for new feedermain)

- Confirm preferred design approach that will maintain operation through construction and will allow immediate upgrade of the system to maintain reliability of service and improve future accommodation of maintenance
Existing Conditions – Technical Environment

• Small pumping station property with existing constraints, including being located within a utility corridor
• Unique pumping requirements
  – Station lifts water up to the Escarpment where Waterdown is located
  – Supplies pressure district (PD) 016 in the community of Waterdown and adjacent PD019, PD020, and PD024
• The existing pumping station must continue to run during construction
• The station will include a connection to the future Waterdown Trunk Watermain Twinning. A separate Municipal Class Environment Assessment process is underway for the watermain component as noted on a previous slide.
Existing Conditions – Land Use

• The Study Area is located within the City of Hamilton Rural Official Plan area

• Adjacent land uses around the station include:
  – Single family residential to the north
  – Royal Botanical Gardens lands – Barry Tract South / York Road Acreage Conservation Area to the northeast and southeast
  – Borer’s Falls “Off Leash” Park and Niagara Escarpment Development Control Area immediately to the west of the pumping station. The dog park includes a fenced area for both large dogs and smaller dogs

• Ray Lowes side trail extends southerly from the current parking lot at Borer’s Falls Dog Park where it provides access to the Borer’s Falls Conservation Area
There are no natural heritage features present on the existing HD016 Pumping Station property as it primarily consists of manicured open space with few planted trees. The manicured lawn extends into the dog park and a cultural woodland that is directly west of the property.

The western portion of the study area contains the Rock Chapel ANSI, Borer’s Falls Environmentally Significant Area (ESA), Significant Woodland and watercourses.

Conservation Halton Regulated area runs through the eastern portion of the study area and Hamilton Conservation Authority Regulated area runs through the western portion. The existing HD016 station is located outside of the regulated area.

The northeast portion of the study area consists of a cultural meadow community, Cootes Paradise ESA, unevaluated wetlands and watercourses.

The southeast area consists of cultural communities including a meadow, woodland and thicket. The area contains watercourses and Cootes Paradise ESA.
Existing Conditions – Natural Environment

Aquatic

- The northeast portion of the Study Area contains a drainage feature associated with an unevaluated wetland which may contribute to an unnamed watercourse on the south side of York Rd. Two unnamed watercourses that have records of aquatic Species at Risk (SAR) are present south of York Rd.

Wildlife

- Incidental wildlife observations were documented by AECOM during the field investigations conducted in April 2022:
  - Birds: American Robin, Song Sparrow, Blue Jay and Northern Cardinal
  - Mammals: Deer and Racoon tracks
- Habitat for wildlife was limited with species observations common to fragmented areas influenced by human disturbance
- Confirmed Deer Wintering Significant Wildlife Habitat and candidate Significant Wildlife habitat occurs in the Study Area
Species At Risk

• There are occurrence records of a total of 70 Species at Risk species that have been known to occur within or in the vicinity of the Study Area

• Potentially suitable habitats for 13 Species at Risk (Threatened or Endangered) were identified in the Study Area:
  – Bobolink (*Dolichonyx oryzivorus*), Threatened (THR)
  – Eastern meadowlark (*Sturnella magna*), THR
  – Loggerhead shrike (*Lanius ludovicianus*), Endangered (END)
  – Red-headed Woodpecker (*Melanerpes erythrocephalus*), END
  – Eastern Small-footed Myotis (*Myotis leibii*), END
  – Little Brown Myotis (*Myotis lucifugus*), END
  – Northern Myotis (*Myotis septentrionalis*), END
  – Tri-colored Bat (*Perimyotis subflavus*), END
  – American Columbo (*Frasera caroliniensis*), END
  – Butternut (*Juglans cinerea*), END
  – Red Mulberry (*Morus rubra*), END
  – Lilliput (*Toxolasma parvum*), THR
  – American Eel (*Anguilla rostrata*), END
Existing Conditions – Cultural Heritage

- The 2006 Master Plan did not include a review of cultural heritage resources
- A Stage 1 Archaeological Assessment has been completed as part of the Waterdown Watermain Trunk Twinning Municipal Class Environmental Assessment
- A Stage 2 archaeological assessment is required for the lands in the vicinity of the existing pumping station
- A Desktop Cultural Heritage Screening Memorandum has been completed through this current addendum
- There are four potential Built Heritage Resources and two potential Cultural Heritage Landscapes within the Study Area (refer to figure)
Phase 2: Alternative Solutions

- The Water Servicing Alternatives from the original 2006 Master Plan for the Waterdown Servicing Area concluded W-WS-3: Upgrade pumping capacity at the existing HD016 pumping station, and construct elevated storage as the preferred solution.

- This addendum is reviewing the following new alternatives associated with W-WS-3:
  - **W-WS-3a**: Upgrade pumping capacity with expansion of the building within existing City property limits (right-of-way)
  - **W-WS-3b**: Upgrade pumping capacity with expansion on property to the northeast of the existing HD016 pumping station
  - **W-WS-3c**: Upgrade pumping capacity with expansion on property to the east of the existing pumping station
## Summary of Evaluation Results

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Option W-WS-3a</th>
<th>Option W-WS-3b</th>
<th>Option W-WS-3c</th>
<th>Summary of Constraint Ranking Rationale</th>
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<tbody>
<tr>
<td><strong>LAND USE</strong></td>
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<tr>
<td>• Potential effects on existing or approved/planned land uses</td>
<td>Low Constraints (More Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
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<td>• Potential for conforming with approved plans and policies</td>
<td>Anticipated Site Plan approval and Land Acquisition Considerations</td>
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<td><strong>TECHNICAL</strong></td>
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<td>• Constructability</td>
<td>Low Constraints (More Preferred)</td>
<td>High Constraints (Less Preferred)</td>
<td>High Constraints (Less Preferred)</td>
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<tr>
<td>• Impact on operations and maintenance</td>
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<td>• Access and maintenance</td>
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<td>• Future infrastructure coordination opportunities or implementation risks</td>
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<td>• Implementation timing-ability to meet fast in-service date</td>
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<td>• Traffic impacts during construction</td>
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<td><strong>CLIMATE CHANGE</strong></td>
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<td>• Potential carbon footprint</td>
<td>Low Constraints (More Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
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<td>• Potential resilience to extreme weather events</td>
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<td><strong>NATURAL ENVIRONMENT</strong></td>
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<td>• Potential effects on terrestrial habitat and species</td>
<td>Low Constraints (More Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>High Constraints (Less Preferred)</td>
<td>• Option W-WS-3a consists of mowed lawn with scattered trees located largely within the Borer’s Falls Dog Park</td>
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<tr>
<td>• Potential effects on aquatic habitat and species</td>
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<td>• Option W-WS-3b is undergoing meadow naturalization and contains an unevaluated wetland and potential for candidate Significant Wildlife Habitat</td>
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<td>• Potential effects on Species at Risk (SAR) and their habitat</td>
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<td>• Option W-WS-3c consists of a cultural woodland, cultural thicket and cultural meadow and has potential to contain candidate Significant Wildlife Habitat</td>
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<td>• Potential effects on surface and groundwater</td>
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<td>• Option W-WS-3a is located contiguous with, but outside of the Hamilton Conservation Regulated Area. Options W-WS-3b and W-WS-3c are in the Halton Region Conservation Authority regulated area</td>
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<td>• Potential to encounter soil and water contamination</td>
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<td>• Option W-WS-3a has no potential Species at Risk habitat within its boundary. There may be Species at Risk affected by the expansion of sites for Options W-WS-3b and W-WS-3c</td>
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<tr>
<td>• Anticipated environmental permitting and approval considerations</td>
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<td></td>
<td>• Option W-WS-3a has more straightforward environmental permits and approvals compared to Options W-WS-3b and W-WS-3c</td>
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<td><strong>SOCIO-ECONOMIC ENVIRONMENT</strong></td>
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<td>• Disruption to residences, institutions, businesses, recreational facilities (e.g., dog park) during construction (noise, vibration, dust, access)</td>
<td>High Constraints (Less Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>• Option W-WS-3a causes the most disruption with displacement of the small dog park area during and after construction</td>
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<td>• Similar level of disruption anticipated for Options W-WS-3b and W-WS-3c as these are conservation lands</td>
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<td>• Option W-WS-3b is located directly across from a residential property</td>
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<tr>
<td>CULTURAL ENVIRONMENT</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>Medium Constraints (Moderately Preferred)</td>
<td>• All options are equivalent – require Stage 2 archaeological assessment with no adverse impacts anticipated to Built Heritage Resources and Cultural Heritage Landscapes in the Study Area</td>
</tr>
<tr>
<td>• Potential effects on archaeological resources</td>
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<tr>
<td>• Potential effects on Built Heritage Resources and Cultural Heritage Landscapes</td>
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</tbody>
</table>
| COST                                | Low Constraints (More Preferred)      | High Constraints (Less Preferred)      | High Constraints (Less Preferred)      | • Option W-WS-3a has the lowest estimated overall cost of all upgrade and expansion siting options:  
  • W-WS-3a: $12M (no property acquisition)  
  • W-WS-3b: $16M (plus property acquisition)  
  • W-WS-3c: $16M (plus property acquisition)  
• Option W-WS-3a has the lowest overall operation/maintenance cost compared to Options W-WS-3b and W-WS-3c                                                                 |
| COST                                | Low Constraints (More Preferred)      | Medium Constraints (Moderately Preferred) | Medium Constraints (Moderately Preferred) |                                                                                                                                                                                                                                   |
| COST                                | Low Constraints (More Preferred)      | Medium Constraints (Moderately Preferred) | Medium Constraints (Moderately Preferred) | • The Preliminary Preferred Solution is Option W-WS-3a: Upgrade pumping capacity with expansion within existing property limits at the existing HD016 pumping station                                                                                                                                 |
| OVERALL POTENTIAL CONSTRAINT RANKING | Low Constraints (More Preferred)      | Medium Constraints (Moderately Preferred) | Medium Constraints (Moderately Preferred) |                                                                                                                                                                                                                                   |
Preliminary Preferred Solution: W-WS-3a

Upgrade pumping capacity by expanding the HD016 pumping station within City property (W-WS-3a) was selected as the preliminary preferred solution based on the following key factors:

- Minimal vegetation and tree removal is anticipated
- No potential Species at Risk habitat within the limits of this siting option based on the desktop findings
- The upgrades to the existing HD016 PS site will not result in adverse impacts to built heritage resources or cultural heritage landscapes
- Lowest Capital Cost: Does not require the purchase of additional property or re-routing of critical watermains
- Schedule: Provides the fastest in-service date for the pumping station and replacement of critical assets
- Lowest operation and maintenance cost by remaining at the existing site as one single station
The figure shown above is for conceptual purposes only. A site plan will be developed during the design phase of the Project. The area identified by a blue line east of station is proposed for contractor laydown (storage etc.) during construction.

Project Description

• The preliminary preferred solution involves:
  – Upgrades to the existing Pumping Station facility, including new valve chambers, primary electrical power and standby power generator
  – Addition of a new building extension to accommodate the installation of new pumps, valves, and ancillary equipment for increased capacity
  – Increasing the firm capacity from 18 ML/d to 28 ML/d for future demand
  – Providing redundancy in pumping systems and connections for the proposed future water main
  – Extension of the station yard to the south to accommodate additional equipment, valve chambers, and an improved access to the station
• Preliminary estimated construction cost: $12M
• Anticipated in-service date: 2027
How will Potential Impacts be Addressed?

**Socio-Economic Environment**

- The **small dog** area of the Borer’s Falls off Leash Park will be closed during construction while the upgrades and expansion are being completed.

- The **large dog** area of the Borer’s Falls off Leash Park is not anticipated to be closed during construction for extended periods.

- Permanent extension of the station yard to the south is required to accommodate additional equipment, valve chambers, and improved access to the station for operations and maintenance. As such, the existing small dog park area will be displaced. The City is currently reviewing opportunities to permanently relocate the small dog park to maintain this feature for park users.

- General project information and updates will be provided through the City’s website with advanced notification prior to construction anticipated to commence in 2025.
How will Potential Impacts be Addressed?

Natural Environment

- Prepare Tree Protection Plan, if required
- Protect any vegetation identified for preservation by fencing during construction. All disturbed areas will be restored to agreed upon conditions
- Ensure any tree and vegetation removals are completed outside of the typical breeding bird period of April 1 to August 31
- Implement erosion and sediment control measures to prevent sediment from entering neighbouring properties and natural areas during construction
- Authorization under the Endangered Species Act, 2007 may be required if impacts to terrestrial and aquatic Species at Risk and their habitats cannot be avoided

Cultural Heritage

- Complete a Stage 2 Archaeological Assessment, as required
- The preferred solution is not anticipated to directly impact Built Heritage Resources and Cultural Heritage Landscapes within the Study Area
Next Steps

Public Information Centre – Spring 2022
- Consider all questions and comments received from this Public Information Centre
- Finalize the Preferred Solution and draft addendum report

Municipal Class Environmental Assessment Addendum Report – Summer/Fall 2022
- Presentation to Public Works Committee for approval
- Addendum report is made available for 30-day public review

Preliminary and Detailed Design – Winter 2023
- Following approval of the Municipal Class Environmental Assessment Addendum phase, the City can proceed to the preliminary design and detailed design phases starting as early as Winter 2023, including securing permits and approvals

Construction – 2025
- Construction is to commence in 2025
- Station Online in 2027

Timing is subject to Council approval and funding
Thank you for Participating!

• Join our mailing list – leave us an email or mailing address to receive future notifications

• We encourage you provide your feedback by May 12, 2022. Please complete the fillable comment card located on the City’s website: hamilton.ca/yorkvalleystationEA

• All comments will be reviewed and considered by the Project Team

• To submit additional questions, comments or to be added to the project mailing list, please contact:

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