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EXPERT OPINION

OMB TESTIMONY
LEGAL PROCEEDINGS
PEER REVIEW
RESEARCH
EDUCATION

January 17, 2022

Our Project No.: AA16-190B

Katie Nasswetter, Senior Development Planner
City of Guelph
1 Carden Street
Guelph, ON N1H 3A1

**Re: 35, 40 & 55 Silvercreek Parkway South
Scoped EIS Addendum Report**

Dear Ms. Nasswetter:

This report is to satisfy the requirement for an EIS Addendum as determined through the comments provided by the City of Guelph staff (dated March, 2021). Please review the EIS Addendum for approval of the 35, 40 & 55 Silvercreek Parkway Environmental Impact Study completed by Aboud & Associates Inc. (AA), November 4, 2020.

In preparing this addendum letter, the following documents were reviewed and should be read in conjunction with this report.

- 35, 40 & 55 Silvercreek Parkway South Environmental Impact Study (Aboud & Associates Inc. 2020)
- Silvercreek Guelph Developments Limited Grading Plan (R.J. Burnside, dated: November 2020), received December 16, 2021
- Silvercreek Junction Functional Servicing and Stormwater Management Report (R.J. Burnside & Associates Limited, December 2021)
- Draft Plan of Subdivision 23T-19001 Silvercreek Junction (Astrid J. Clos Planning Consultants, January 11, 2022).

1.0 Proposed Development

Silvercreek Guelph Developments Limited is proposing to develop the properties for various uses, including service commercial, corporate business, apartment blocks, community mixed-use and open space. The Draft Plan of Subdivision prepared by Astrid J. Clos (AJC) Planning Consultants (January 2022) details the proposed plan for the lands. The plan includes 2.77 ha of apartments consisting of 327 units, 3.88 ha of townhouses consisting of 172 units, 2.17 ha of mixed use consisting of 216 units, 2.96 ha of roadways, 2.48 ha of parkland, 0.41 ha of open space areas and 1.72 ha for stormwater management. A total of 16.52 ha is part of the development, all west of Howitt Creek.

2.0 Existing Land Use and Study Area

Silvercreek Guelph Developments Limited is submitting a Draft Plan of Subdivision application to implement the existing Official Plan designations and zoning for the properties at 35, 40 and 55 Silvercreek Parkway South in the City of Guelph. The property is bound by railways and residential development to the north and south with the Hanlon Parkway to the west and Howitt Creek and a City stormwater management facility to the east. This stormwater management area was previously owned by Silvercreek Guelph Developments Limited and has been conveyed to the City of Guelph. The properties form an irregular shaped parcel (178,253 m² measured electronically), approximately 450 metres by 615 metres at its deepest and widest points. The properties consist of a previous gravel pit and brownfield site which has had a Record of Site Condition filed with the Ministry of Environment (MOE).

3.0 Project Background and Context

Studies on the subject lands have been ongoing since 2005 when an Environmental Impact Study was conducted by North-South Environmental. Following the EIS, North-South Environmental completed four addenda (2006-2008) to address comments from the City of Guelph, City of Guelph Environmental Advisory Committee and the Grand River Conservation Authority (GRCA).

In 2019 an EIS Addendum was submitted by Aboud & Associates that addressed further comments provided by the City of Guelph Environmental Planning staff on October 17, 2017 and the GRCA as a result of the Development Review Committee Meeting on September 20, 2017.

An updated Scoped Environmental Impact Study, completed by Aboud & Associates (2020), addressed the comments from the Development Review Committee Meeting and City of Guelph technical review (April 14, 2020) of the complete application.

The following EIS Addendum report has been prepared in response to City of Guelph staff comments dated March 2021 regarding the Scoped Environmental Impact Study submitted by Aboud & Associates in November 2020.

4.0 EIS Addendum Items

Based on the comments from the City of Guelph staff, it was determined that the following items would be addressed within the EIS Addendum.

3.1 Development Engineering (March 4, 2021)

Comment #21

“Please coordinate updates with the Environmental Impact Study to ensure mitigation, if necessary, for the receiving system due to the proposed doubling of infiltration”

Acknowledged.

Comment #44

“Storm servicing to the urban square places the CB within (or very close) to the tree protection area: the grading (see below) and servicing design for this block should be reviewed and revised such that limited or no construction activities should take place within the tree protection area, including excavation required for servicing.”

The current Grading Plan provided by R.J. Burnside (dated: November 4, 2020) shows a 2 metre buffer from the tree’s dripline, acting as a grading limit. This is sufficient for tree protection.

Comment #45

“Additional details regarding grading design at the urban square should be assessed now to ensure protection of the oak tree: please provide additional preliminary grading details, including the extent and height of any retaining walls proposed, and cross sections through the square. The current grading design puts the Oak tree at (or very near) the low point of the square, which is not appropriate for the long-term viability of the tree. Drainage around the tree should mimic existing conditions, with no grade changes within the tree protection area, and the local low point should be sufficiently far from the tree to facilitate any required infrastructure without impact to the protected area.”

Grading is proposed no closer than 2 metres from the tree’s dripline. Sheetflow may cause more water to flow over the tree’s root zone and under the dripline than current conditions; the overall plan as shown would not be expected to result in pooling under the dripline.

3.2 Park Planning (March 9, 2021)

Comment #61

“Section 4.4 refers to the previous grading scheme with retaining wall adjacent to the large oak tree. Please coordinate the EIS text with the latest grading plans, which no longer propose a retaining wall.”

Proposed grading around the Bur Oak tree has been designed to maintain existing grading under the dripline and 2 metres beyond.

Comment #62

“Section 5.0 please confirm in first paragraph that the trail will be constructed in accordance with the Guelph Trail Master Plan and Facility Accessibility Design Manual standards. Please include more detail on the specific environmental impacts, if any, for the trail connection to Howitt Creek Flood Control Facility and any mitigation measures required. This should be based on consideration of grading requirements and Guelph Trail Master Plan standards. Please also include discussion of trail installation timing.”

The design for the proposed trail has not been finalized, thus specific environmental impacts cannot be discussed in detail. Any potential environmental impacts, recommended mitigation measures and timing of the trail installation are to be included within the Environmental Implementation Report completed at the detailed design stage.

Comment #64

“The City’s standard black vinyl chain link fence is required to demarcate the open space lot lines along the east edge of the development along Howitt Creek to protect the natural areas. Text in the EIS should contain reference to basic approach to demarcation for the subdivision and mention that the final configuration of fencing will be determined during the detailed design stage and presented in the Environmental Implementation Report, which will include a demarcation plan.”

Standard black vinyl chain link fence is to be installed to demarcate the open space lot lines along the east edge of the development along Howitt Creek per the City of Guelph Linear Infrastructure Standards 2021 (2021). The final configuration of fencing, basic approach to demarcation, and mitigation recommendations will be included within the Environmental Implementation Report completed at the detailed design stage.

Comment #65

“Please note in the EIS that the City standard stormwater management signs (per Design Principles for Stormwater Management Facilities) will be provided for the storm water management facility and their locations will be shown in the Environmental Implementation Report”.

Requirement noted and will be included at detailed design as part of the Environmental Implementation Report.

3.3 Environmental Planning (March 8, 2021)

3.3.1 Environmental Impact Study

Comment #71

“Section 3.1.2 discusses natural hazards associated with the subject lands in relation to significant valley lands. That said this section seems to conflate the City’s natural heritage requirements and natural hazards requirements in addition to those of the GRCA. It is unclear why this information is included here as it does not relate to Significant Valley land requirements.

Please note that the City’s Significant Valley lands include undeveloped areas within the regulatory floodplain areas, riverine flooding hazards, riverine erosion hazards, as identified by the GRCA.

Given that it has been agreed to with the GRCA that the “erosion hazard” be removed (as shown on Figure 1 in the EIS) as a result of the previous land uses on the site, staff agree that this feature is not part of the Significant Valley land associated with Howitt Creek as it does not represent an “undeveloped portion” of the regulated area as per 4.1.3.7.1 of the Official Plan.

Please clarify the revised Significant Valley land limit on a map. Figure one shows components but is unclear as to the feature limit.”

Figure 1 has been revised to include the Significant Valleyland Limit and its components.

Comment #72

“Staff note that the EIS (Section 3.1.3) confirms Silvercreek (aka West Willow Creek) is a warm water tributary and its buffer does not intersect the subject lands. Based on the impact analysis provided, please clarify:

Under which storm events the SWM pond will discharge and convey via the culvert?”

Per Section 4.3.7 of the Stormwater Management Report (R.J. Burnside & Associates Limited, 2021), flows will be safely conveyed through the SWM facility, as required by the City of Guelph, via a spill weir located in the main cell at the 100-year water level of 317.

“Are there ways to further minimize the heat sink within the SWM design? Could this include recommendations to emphasize the use of deciduous plantings, including for the overland flow route and the outlet, in addition to the pond as part of the design approach?”

Deciduous tree and shrub plantings installed within the overland flow routes and the inlet and outlet structures to the SWM facility may help to dissipate flows further minimizing the heat sink. Similar to the plantings within the Compensation Plan (AA, 2020) between the proposed development and Howitt Creek, plantings surrounding the SWM facility would aid in the regulation of water temperature and quality. To be most effective, native plant species with appropriate tolerances to soil moisture and the potential range of conditions should be selected. Successional planting using a mixture of fast-growing species as well as shade-tolerance species will allow for rapid development of shaded conditions around the SWM facility, as well as long-lasting cover well into the future (CVC, 2011). A landscape plan will be submitted as part of the Environmental Implementation Report during the detailed design stage detailing the above recommendations.

“The EIS also states that pond discharge temperatures will also be offset by combining with overland flows from uncontrolled areas. However, these uncontrolled areas continue to include untreated road runoff- how is this appropriate?”

Per Section 4.3.3.2 of the Silvercreek Junction Functional Servicing and Stormwater Management Report (R.J. Burnside, December 2021), the uncontrolled north portion of Silvercreek Parkway will be treated by an ETV verified OGS unit, which will provide an 83% TSS removal efficiency rate. Additional water quality treatment will be provided as part of a treatment train for this area in the form of an enhanced grass swale located

downstream of the OGS unit at the outlet of the bypass sewer. The combination of the OGS unit and the downstream enhanced grass swale will provide an 88% TSS removal rate. Additionally, it is noted that uncontrolled areas which drain offside are vegetated. The Compensation Plan (Aboud & Associates, 2020) includes a mixture of native trees and shrubs that are suited to the existing moisture and soil conditions. The installment of the plantings along the northern, eastern and southern limits between the proposed development and property limit will aid in dissipation of the uncontrolled flows.

“Staff generally agree that based on the stormwater management (SWM) design for the pond and given that the Silvercreek/West Willow Creek is a flashy engineered, warm water tributary; that discharge from the SWM pond during storm events should not negatively impact the stream. That said, staff disagree that warm water fish species cannot be impacted because of temperature spikes as stated in the EIS. Rather, given the flow regime of the creek, the stormwater discharge entering the stream will be mixing with other stormwater flows from the rest of the drainage area (given that the bulk of the stream flow is SWM) and should cause little additional elevation in temperature.”

“Staff note that water quantity and quality considerations from the flow contributions from the bypass and the FDC sewer as proposed do not appear to have been considered. Given that the current proposal includes untreated road runoff this is of concern, please clarify.”

Similar to above, Section 4.3.3.2 of the Silvercreek Junction Functional Servicing and Stormwater Management Report (R.J. Burnside, December 2021) provide stormwater quality treatment measures for the proposed development as it relates to the bypass and FDC sewer. Furthermore, Aboud & Associates agrees with the assessment that discharge will result in little additional elevation in temperature.

Comment #73

“The EIS confirms the location of the top of bank for the western bank of Howitt Creek and establishes a minimum 30m buffer which is incorporated on the draft plan into blocks 20 and 23. This fulfills the minimum requirements in the City’s Official Plan for cool water streams. That said no analysis (as part of the impact assessment) of the buffer approach of recommendations for the design of the buffers is included in the EIS. This should include:

- An analysis as to how a greater than the minimum buffer is not warranted for protection of Howitt Creek and its ecological or hydrological functions.*

- *The intended overall approach for the buffer design, recognizing that including of some compensation plantings are proposed, but additional plantings may also be necessary depending on the intent of the buffer plantings. Please clarify.*
- *A clear map showing not only the feature limit (per Figure 2 of the EIS) but also the 30m buffer.*

The implementation of a 30m buffer to Howitt Creek was recommended based on the findings of field investigations completed in the previous EIS reports and Addenda, buffer guidelines and the planting and compensation plan. Findings by North-South Environmental (2006) noted that although Howitt Creek is a cool-water system, it is a highly altered and degraded watercourse that only supports one species (Creek Chub), and has numerous barriers downstream. The Grand River Fisheries Management Plan (OMNRF & GRCA, 2005) also recognizes that the water quality and fish habitat within Howitt Creek have been affected by urban land-use practices. Based on the lack of sensitive features or species, and degraded nature of the watercourse, a larger buffer is not warranted for the protection of this feature.

The Compensation Plan (AA, 2020) along the western edge of Howitt Creek is primarily composed of deciduous trees and shrubs, which are to be planted amongst the existing trees to be retained. The species within the Compensation Plan include locally appropriate native tree and shrub species to complement habitat functions of the adjacent reach of Howitt Creek. Per the Ecological Buffer Guideline Review (Beacon Environmental, 2012), vegetated buffers, particularly those vegetated with shrubby or woody vegetation, can screen impacts associated with anthropogenic activities, such as noise, and the disturbance of wildlife by the presence of housing and associated human activities on adjacent lands. Furthermore, research indicates that buffers between 10m and 30m in width vegetated with woody species can help maintain cooler temperatures watercourses that are relatively narrow and whose primary water sources are from surface rather than ground water (Beacon Environmental, 2012).

Figure 2 has been updated accordingly to show the limit of Howitt Creek within the property boundaries as well as the 30m buffer.

Comment #74

"Please provide one map that shows the confirmed limits for all of the natural heritage features and areas, along with their buffers. This map should represent the final/protected NHS proposed through the application."

Figure 1 provides the confirmed limits for all the natural heritage features and areas as well as their respective buffers.

3.3.2 Trees

Comment #75

“Per previous staff comments- thank you for clarifying in Section 4 of the EIS and with the separate Tree Plans that the detailed planting plans for compensation warrant revisions and that the buffers to Howitt Creek in addition to the rail corridor along the southern limit of the site, will provide for sufficient additional space to accommodate these plantings. As noted in previous staff comments the detailed planting plans will be required through a future EIR to address the specific updated details for the plantings- this remains the case and as such, detailed comments regarding the compensation plan drawings are not being provided at this time. This will be addressed comprehensively through the EIR as part of the draft plan registration process.”

Noted.

Comment #76

“Per the submitted tree plan and as discussed in Section 4.2 of the EIS Staff acknowledge the new/additional tree removals are required because of the acquisition of the adjacent property, and that the current plan proposes to use this area for a combination of SWM and an apartment block. Please confirm how many trees are being proposed for removal. TP3 shows 11 (which corresponds with the 125mm tree caliper compensation note on TP4), but the tree table includes 19 recommended for removal- including some shared ownership trees. Do these other 7 trees warrant discussion with the City regarding their removal? Please clarify.”

The Tree Preservation Plan (*Appendix 1*) has been updated to clarify the recommendations regarding offsite and share trees in poor or dead condition. Trees that will not be affected by the work are either boundary or offsite should be retained and managed at the owner's discretion. The updated plan will show 11 trees to be removed due to development, 9 of which will require compensation.

Comment #77

“With respect to protection of the Bur Oak staff recognize and appreciate that the tree is being incorporated into an urban square which allows for insitu protection while also providing for future public enjoyment of this specimen tree. Staff also note that the updated analysis in the EIS addresses the retaining walls along Silvercreek with respect

to tree protection, however the updated grading plans have removed the retaining walls and are now proposing grading within the PRA and possibly in the TPZ. That said, City staff continue to have concerns regarding the overall mitigation proposed for the tree through construction and in addition to permanent drainage changes, including:

- Please identify the potential rooting area (PRA) (per the City's TTM) and commit to implementing appropriate mitigation measures for any works within the PRA and not only within the dripline/TPZ- this should include root sensitive excavation such as using an air spade for all excavations within the PRA. Final details regarding specific measures will be finalized through the EIR."*
- "The grading limits must be pulled back out of the TPZ and the PRA, likely requiring retaining walls. Staff agree with the EIS that the retaining wall option may have better avoided road runoff from being directed towards the tree and thus it should be reconsidered. Please revise and coordinate the grading plans and tree protection measures as part of a resubmission."*
- "The EIS acknowledges that there is potential for more water to collect around the Oak, which is further confirmed by the grading plans as they show that virtually all the drainage from the urban square is proposed to drain towards the oak, which is further reinforced by the need for the SWM catch basin proposed at the edge of the dripline of the tree. The EIS however does not establish the existing drainage area for the tree or address the changes to the drainage area because of the proposed development. Please clarify."*
- "The grading plan should also be revised to maintain the existing drainage patterns (generally) for the Oak tree and move the catch basin so that it is relocated outside of the PRA for the Oak. Depending on the degree of change with respect to the drainage area of the tree, it may be appropriate to split the drainage up within the urban square into multiple basins to avoid oversaturation of the tree."*
- "As part of detailed design staff will also be looking for the following as part of the EIR:*
 - An updated investigation and assessment of the Oak completed by a certified arborist (including recommendations for maintenance- e.g. pruning)*

- *Pre- to Post- construction maintenance plans (e.g., mulching, compost/feeding, watering).*
- *Design considerations (e.g., permanent fencing) to integrate the Oak into the urban square design and avoid hazard concerns as the Oak continues to age.”*

Aboud will reassess the Bur Oak tree, taking into consideration its current condition and risk rating. The proposed grading achieves several key objectives toward protecting the tree during construction and they will be evaluated against the updated tree assessment (including the updated PRA, dripline and TPZ) to confirm their compatibility with the tree's preservation. We will prescribe methods to employ during construction to mitigate tree injury, which may include excavation with air-spade. We will also provide a post-construction maintenance plan. This assessment and review will be provided during detailed design and included as part of the EIR.

Permanent fencing will be reviewed and discussed at the detailed design stage.

3.3.3 Trails

Comment #78

“Environmental Planning staff agree with the comments from parks planning regarding additional detail needing to be provided within the EIS for the mitigation approaches for trail construction.”

Acknowledged. Detailed mitigation measures will be provided in the Environmental Implementation Report to be completed at the detailed design stage.

Comment #79

“Staff also agree that the details pertaining to signage, and demarcation can be addressed through the EIR.”

Acknowledged.

Comment #80

“Section 6 of the EIS speaks to LID measures as part of the proposal. It is understood that targets have been assigned to the blocks that will be required to provide infiltration through future site plan approvals to meet the overall water balance for the site. Staff also note that no additional LID is proposed through the subdivision- with all other infiltration being proposed through the SWM pond design.

It is also understood that the overall SWM design for the pond will provide an integrated treatment trail, quantity storage and infiltration basin system as part of the overall design based on a review of the functional servicing and stormwater management report. Staff note the addition of the forebay is intended to provide an enhanced level of water quality treatment, prior to flows entering the main cell and the infiltration basin. Can you please clarify in the EIS under which events the main cell and infiltration basin would convey flows to the culvert- is it only the region and 100 year events? How does this consider the discharge from the bypass sewer which is not currently going to the pond?"

Per the Functional Servicing and Stormwater Management Report (R.J. Burnside & Associates Limited, 2021), the majority of the site will be served by a local storm sewer that outlets to a centralized SWM facility which ultimately discharges to the southwest outlet. The local storm sewer has two 100-year capture areas to avoid overland flow crossing Silvercreek Parkway and to prevent flows from discharging to the underpass/bypass storm sewer.

The bypass sewer is sized to convey 100-year flows from the underpass on Silvercreek Parkway to the southwest outlet, with a foundation drain collector sewer system being proposed to collect all foundation drain flows from townhouse blocks. Based on preliminary inlet capacity calculations, two double catchbasins are sufficient to capture the 100-year storm event with 0.1m of ponding.

Comment #83

"Section 6.3 of the EIS speaks to the water balance presented in the WSP memo and the functional servicing and SWM report. This analysis lacks ecological consideration, as comparing the mitigative and unmitigated increases in runoff is not appropriate or effective in this context. The purpose of the water balance in an EIS context is to examine the hydrological change and related potential impacts ecologically. To this end staff note the following:

- The initial Hydrogeological Report prepared by WSP provided groundwater flow directions, which were generally away from Howitt Creek and also confirmed that there appears to be no groundwater contributing to baseflow (discharge) within Howitt Creek attributed to the site (in fact this reach of the creek appears to contribute to recharge). As such it is understood that a reduction of infiltration from the site should not result in a reduction in baseflow to Howitt Creek.*
- Furthermore, the overall infiltration approach proposed will support the continuation of broader hydrological functions of the water resource system as it*

pertains to recharge functions.

- *Finally, as the Willow West Channel is a flashy, highly engineered tributary generally designed for the conveyance of storm flows, the increase in runoff volumes, via a controlled outlet to mitigation the rate of discharge to avoid erosion and scour concerns is generally accessible. This is due to the hydrological functions attributed to the channel itself and that the proposed increase is not expected to result in a change to its hydrological regime.*
- *Staff note that additional clarification is requested in comment 2 above regarding thermal considerations and water quality.*

AA acknowledges the City's points. As noted, Howitt Creek within the limits of the property does not have any groundwater inputs contributing to baseflow. As such, the reduction of infiltration should not result in a reduction in baseflow. In regards to comment point #4, the Compensation Plan (AA, 2020) will provide mitigative measures to minimize any fluctuations in the thermal regime and water quality within the reach of Howitt Creek in the limits of the subject property. The plants selected for inclusion within the Compensation Plan (AA, 2020), were chosen in part based on their tolerances for fluctuation in soil moisture and quality conditions. The installation of native plantings of trees and shrubs within the 30m buffer to Howitt Creek will aid in the dissipation of overland flow which in turn will reduce the potential for substances that may have a negative impact on the water quality to enter the watercourse.

3.3.4 Impact Assessment

Comment #84

"The EIS should recognize education of new residents as a mitigation approach for indirect impacts resulting from the development. This includes access to the City's digital environmental resources. On a related note, staff have completed an update to the resident's handbook (or enviro guide) by taking it online. Going forward magnets directing residents to the City's environmental resources will replace distributing of hard copy guidebooks."

Acknowledged. Residents to be directed to City's handbook in Environmental Implementation Report.

Comment #85

“Are there other recommendations coming from the proposed mitigation to include/address part of detailed design/ through the EIR? This should include construction monitoring (e.g, ESC) and effectiveness monitoring recommendations (e.g., SWM and buffer design). Per the City’s EIS guideline a complete list of recommendations should be included in the EIS in order to inform conditions for the subdivision as well as the scope of the EIR directly.”

Based on comments provided by City of Guelph staff, a future EIR will be completed to support the detailed design process and incorporate recommendations of the EIS. Items to be included within the EIR include, but are not limited to:

- A detailed sediment and erosion control plan per the Erosion & Sediment Control Guideline for Urban Construction (TRCA, 2019).
- A detailed construction monitoring plan focused on erosion and sediment control measures, tree preservation and establishment of landscaping/compensation plantings.
- Post-construction program to monitor buffer plantings.

4.0 Summary and Conclusion

The above responses are intended to satisfy the comments provided by City of Guelph staff pertaining to the proposed development at 35, 40 & 55 Silvercreek Parkway South. It is our opinion that implementation of the recommendations within the 35, 40 & 55 Silvercreek Parkway South EIS and the above addendum will ensure that there will be no negative impacts to the surrounding natural heritage features. This conclusion excludes items where information was not available at the time of writing and conclusions regarding these impacts will be discussed in a future EIR.

Prepared by:

ABOUD & ASSOCIATES INC.



Shannon Davison, B. Env., Eco. Rest. Cert. CERPIT #0499

Ecologist

MNRF Certified Ecological Land Classification

MNRF Certified Wetland Evaluation

Attachments:

Figure 1. Natural Features and Associated Buffers

Figure 2. Howitt Creek and Associated Buffer

Appendix 1. Tree Preservation Plan

S:\A+A Projects\2016\16-190B Silvercreek EIS\Report\Latest\2021 EIS Addendum\AA16-190B 35, 40 & 55 Silver Creek Parkway South EIS Addendum.docx

References:

Aboud & Associates. 2020. 35, 40 & 55 Silvercreek Parkway South, City of Guelph, Ontario Scoped Environmental Impact Study.

Astrid J. Clos Planning Consultants. 2022. Draft Plan of Subdivision 23T-19001 Silvercreek Junction. January 11, 2022.

Beacon Environmental. 2012. Ecological Buffer Guideline Review. December 2012.

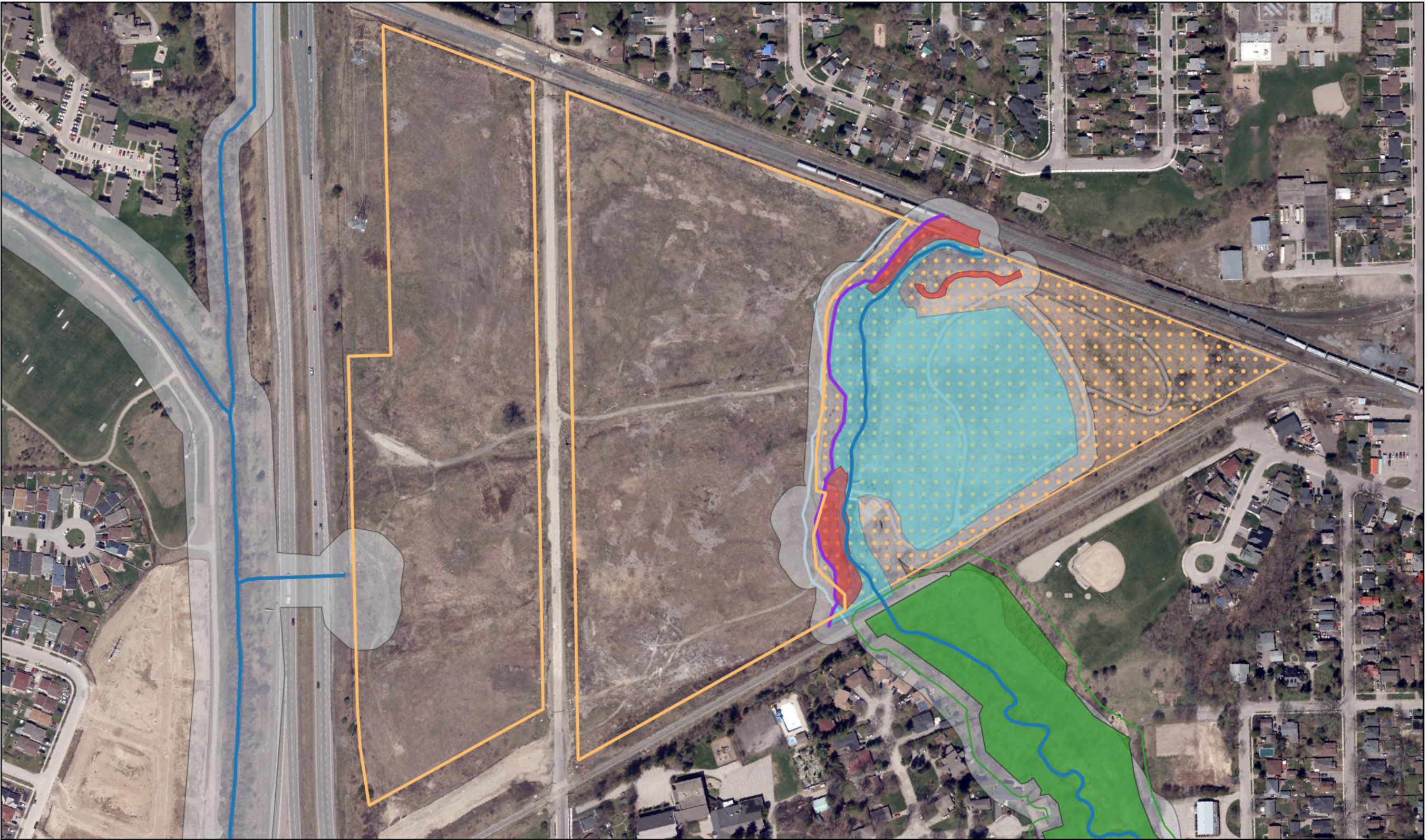
City of Guelph. 2021. Linear Infrastructure Standards 2021. March 2021.

CVC. 2011. Credit Valley Conservation. Study Report: Thermal Impacts of Urbanization including Preventative and Mitigation Techniques.

OMNRF & GRCA. 1998, 2005. Ontario Ministry of Natural Resources & Grand River Conservation Authority. A Community-based Approach to Fisheries Management in the Grand River Watershed. September 1998, September 2005.

R.J. Burnside & Associates. 2021. Silvercreek Junction Functional Servicing and Stormwater Management Report. December 2021.

FIGURES



LEGEND

- | | | |
|------------------|----------------------|---|
| SUBJECT LANDS | RESTORATION AREA | SIGNIFICANT VALLEYLAND LIMIT |
| WATERCOURSE | SIGNIFICANT WOODLAND | UNDEVELOPED PORTIONS OF REGULATORY FLOODPLAIN |
| REGULATION LIMIT | WOODLAND BUFFER | OTHER VALLEYLANDS |
| | HOWITT CREEK BUFFER | |

Information Sources:

1. Regulatory Floodplan, Slope Erosion Hazard and Watercourses provided by GRCA, December 2021
2. Creek Buffer provided by VanHarten Surveying Inc., September 2020
3. Woodlands from MNR/Land Information Ontario
4. Orthophotography provided by First Base Solutions Accessed December 2021

Title:

NATURAL FEATURES AND ASSOCIATED BUFFERS

Project:

35, 40 & 55 SILVERCREEK PARKWAY GUELPH, ON

Date: JANUARY 2022

Project: AA16-190B


Scale: 1 : 3000


ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects
190 Nicklin Road, Guelph, Ontario, N1H 7L5, 519.822.6839, www.aboudinc.com


Figure No: **1**



LEGEND

 SUBJECT LANDS

 HOWITT CREEK

 HOWITT CREEK 30M BUFFER

Information Sources:.


- 1. Orthophotography provided by First Base Solutions, Accessed December 2021
- 2. Watercourse provided by Grand River Conservation Authority, September 2020

Title:

HOWITT CREEK & ASSOCIATED BUFFER

Project:

35, 40 & 55 SILVERCREEK PARKWAY GUELPH, ON



Date: JANUARY 2022

Project: AA16-190B

Scale: 1 : 1500



ABOUD & ASSOCIATES INC.

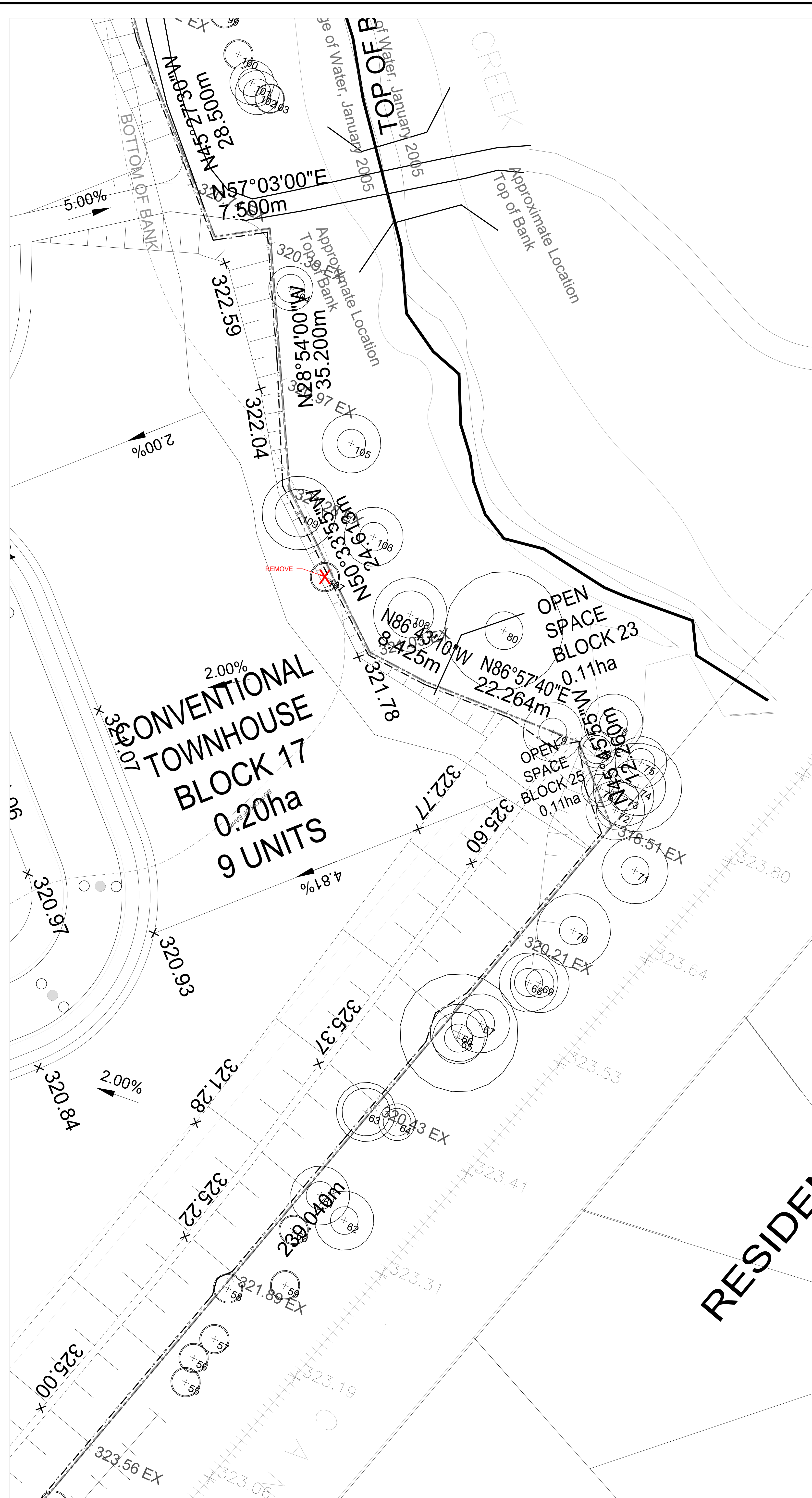
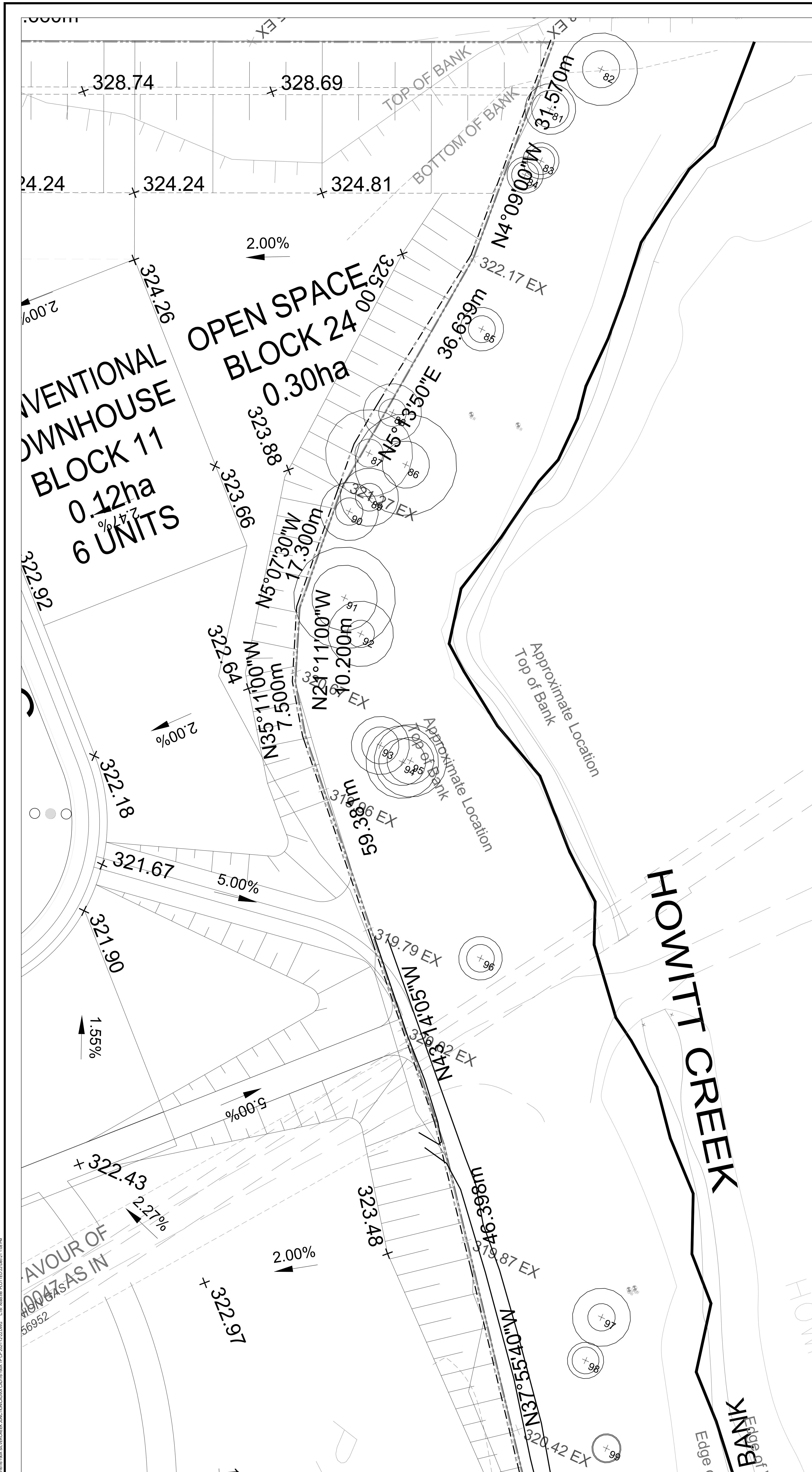
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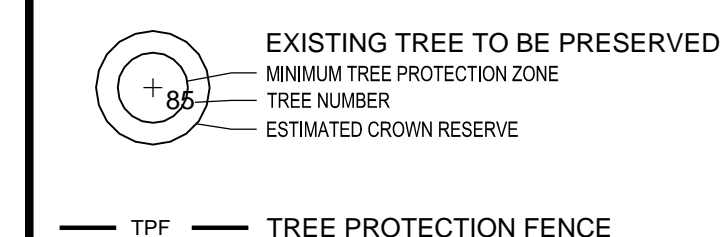
Figure No: **2**

APPENDIX 1

Tree Inventory and Preservation Plan



LEGEND:



PRIOR TO COMMENCEMENT OF
EARTHWORKS. REVIEW AND REPAIR
EXISTING TREE PROTECTION FENCING
INSTALLED IN 2017. ADJUST FENCING AND
ROOT SENSITIVE MITIGATION MEASURES AS
REQUIRED PER DETAILED SITE, GRADING
AND SERVICING DESIGN

5	Revised per City Comments	MGN	07 JAN-
4	Revised Subject Land Plantings	MGN	04 NOV-
3	Issued for Bidding - City Lands	NH	08 AUG-
2	Revised per City Comments	MGN	02 JUN-
1	Revised per City Comments	MGN	03 MAY-
0	Application to Injure or Destroy Trees	MGN	13 FEB-
No.	Description	By	Date

REVISIONS: All previous issues of this drawing are superseded.

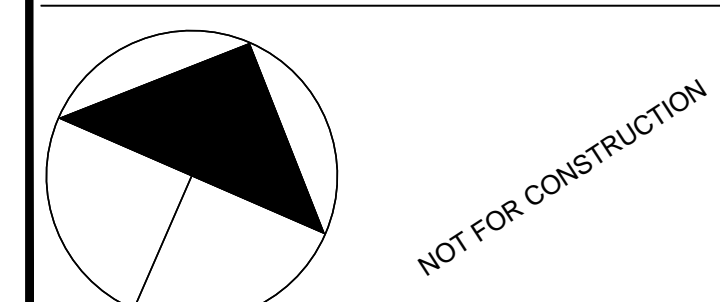


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Title:
**TREE INVENTORY AND
PRESERVATION PLAN
ENLARGEMENTS**

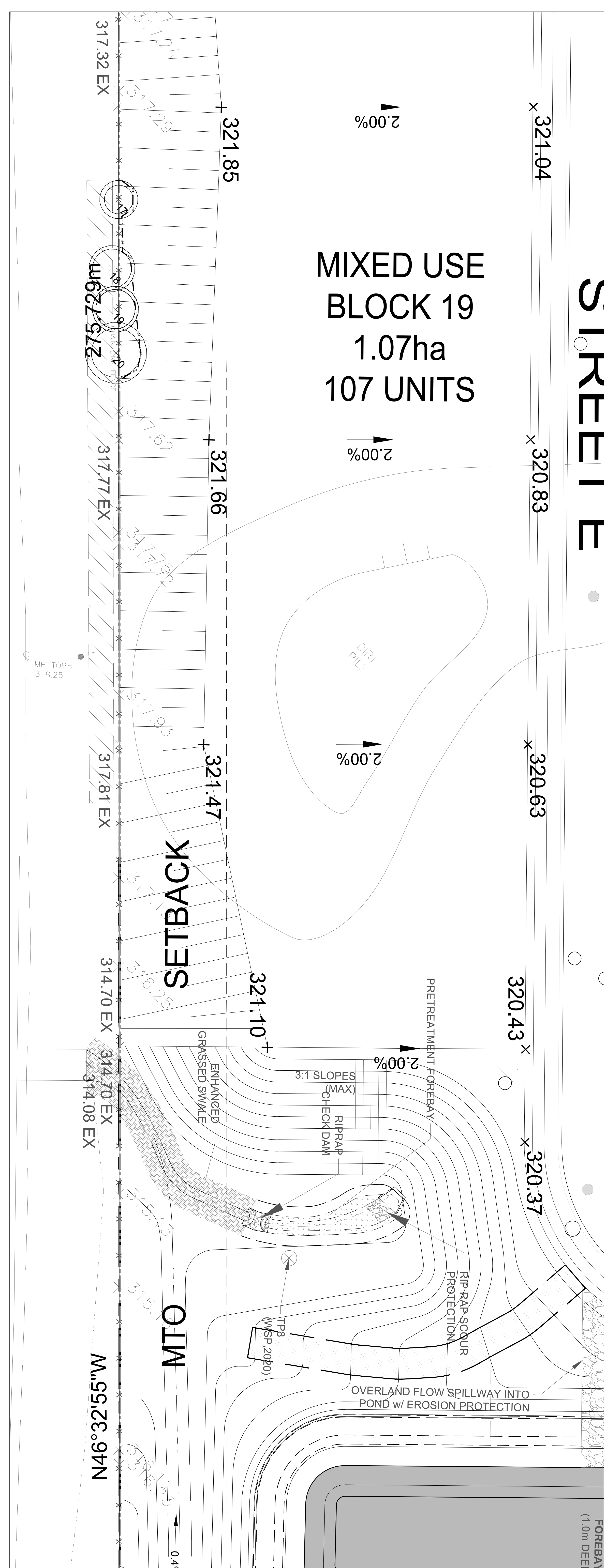
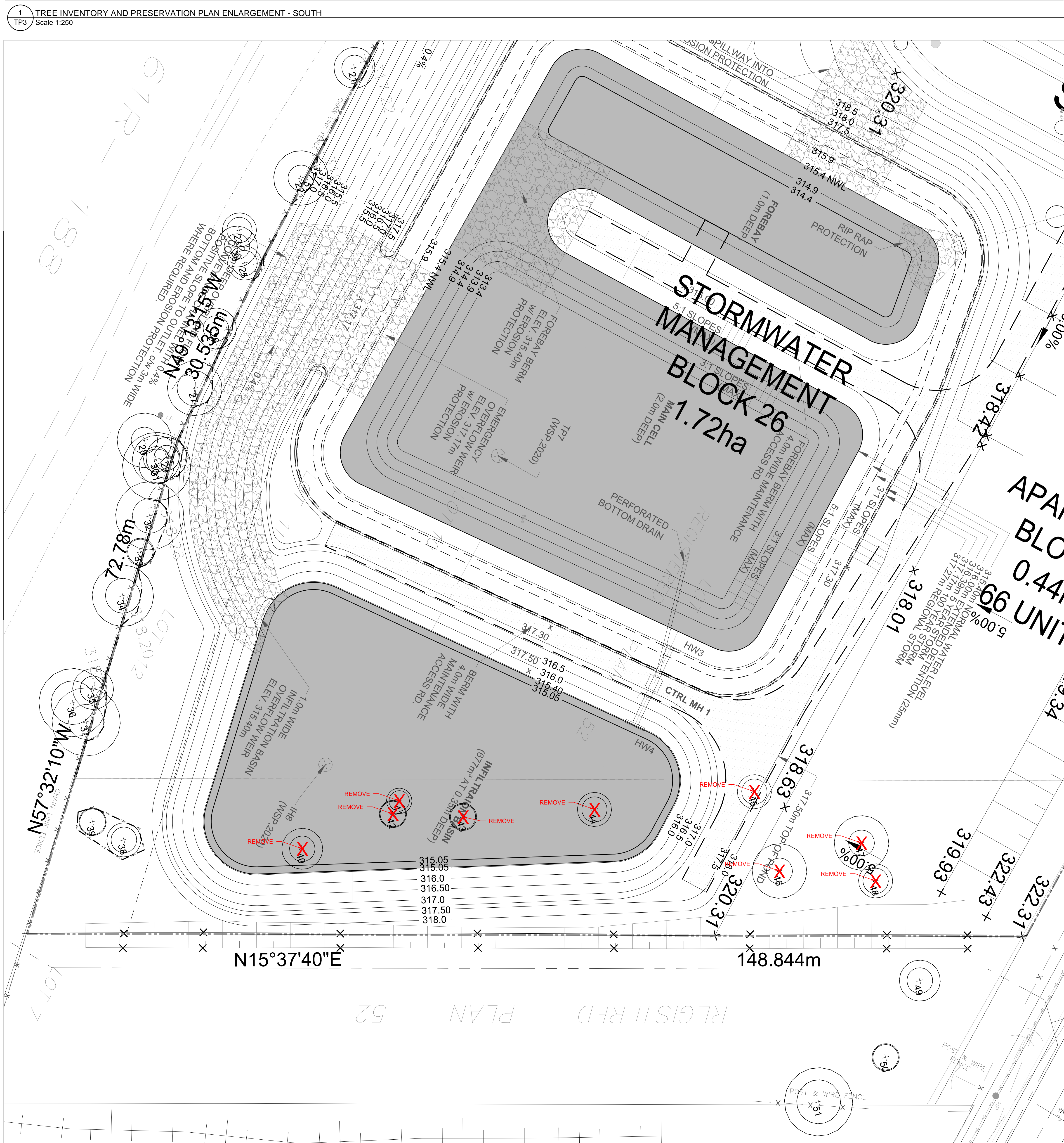
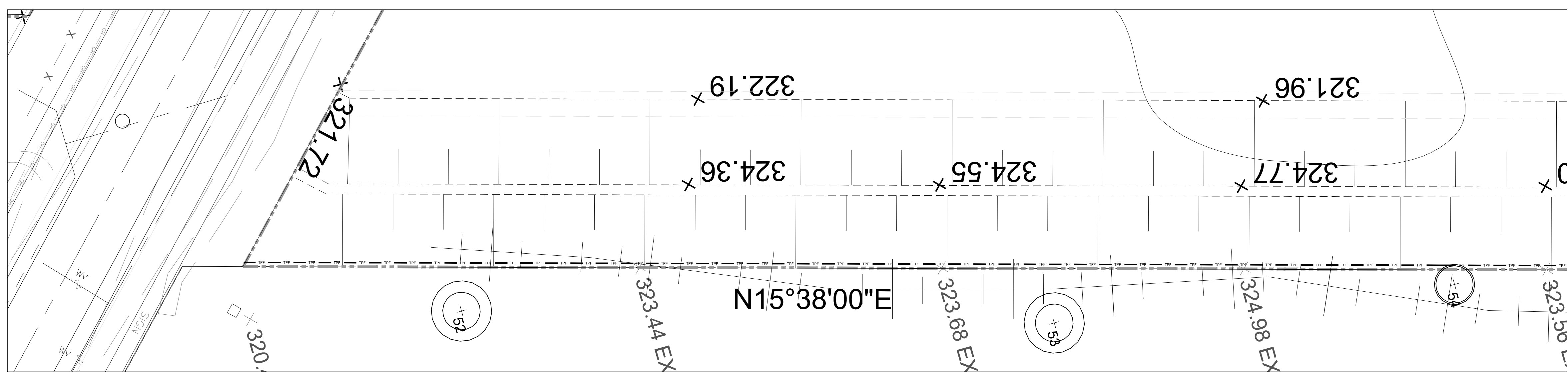
Project:
**23T-19001
SILVERCREEK JUNCTION**
GUELPH, ONTARIO
SILVERCREEK GUELPH DEVELOPMENTS LIMITED

Date: JANUARY 2017	Designer: MGN
Project: AA16-190A	Drawn: MGN
Scale: AS SHOWN	Checked: MGN



Drawing No. _____

TP2



LEGEND:

- EXISTING TREE TO BE PRESERVED
- EXISTING TREE TO BE REMOVED
- TREE PROTECTION FENCE

PRIOR TO COMMENCEMENT OF EARTHWORKS, REVIEW AND REPAIR EXISTING TREE PROTECTION FENCING INSTALLED IN 2017. ADJUST FENCING AND ROOT SENSITIVE MITIGATION MEASURES AS REQUIRED PER DETAILED SITE, GRADING AND SERVICING DESIGN

No.	Description	By	Date
5	Revised per City Comments	MGN	07 JAN-22
4	Revised Subject Land Plantings	MGN	04 NOV-20
3	Issued for Bidding - City Lands	NH	08 AUG-17
2	Revised per City Comments	MGN	02 JUN-17
1	Revised per City Comments	MGN	03 MAY-17
0	Application to Injure or Destroy Trees	MGN	13 FEB-17

REVISIONS:

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Tree:
TREE INVENTORY AND PRESERVATION PLAN ENLARGEMENTS

Project:
23T-19001
SILVERCREEK JUNCTION
GUELPH, ONTARIO
SILVERCREEK GUELPH DEVELOPMENTS LIMITED

Date: JANUARY 2017
Project: AA16-190A
Scale: AS SHOWN

Designer: MGN
Drawn: MGN
Checked: MGN

NOT FOR CONSTRUCTION

TP3

1. DBH (Diameter at breast height): Measurement of tree stem diameter at 1.4 meters above ground.
2. Tree Protection Zones, Table 1 City of Guelph Tree Technical Manual (December 2019)
3. Compensation calculation based on Aggregate Caliper Formula as requested by City of Guelph's Tree Technical Manual. Aggregated size of trees removed is 100 cm, which yields 17 compensation trees to be planted (compensation = 100cm removed/6cm for each compensation tree) = 16.67 compensation trees).

PRIOR TO COMMENCEMENT OF
EARTHWORKS. REVIEW AND REPAIR
EXISTING TREE PROTECTION FENCING
INSTALLED IN 2017. ADJUST FENCING AND
ROOT SENSITIVE MITIGATION MEASURES AS
REQUIRED PER DETAILED SITE, GRADING
AND SERVICING DESIGN

REVISIONS: All previous issues of this drawing are superceded

Project:

23T-19001
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Drawing No:

TP4

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