



STRYBOS BARRON KING
LANDSCAPE ARCHITECTURE

Appendix B to RPF-24-22

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ARBORIST REPORT

**PROPOSED INDUSTRIAL WAREHOUSE
4385 MAINWAY
CITY OF BURLINGTON**

**PREPARED FOR
MENKES BARNETT BURLINGTON II INC.
4711 YONGE STREET, SUITE 1400
TORONTO, ONTARIO
M2N 7E4**

**PREPARED BY:
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**ISA CERTIFIED ARBORIST
MATTHEW GEHRES ON-1114A
OUR PROJECT NO:
21-5649**

**April 1, 2022
July 11, 2022**

Revised as per City Forestry Comments – August 2, 2022

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Enclosed: full size V100 - *Tree Inventory & Preservation Plan*

ARBORIST REPORT
4385 Mainway, Burlington

Introduction

Strybos Barron King Ltd. was retained by Menkes Barnett Burlington II Inc. to prepare an Arborist Report for the subject property in accordance with City of Burlington guidelines.

Site Context

The subject site (4385 Mainway) is located on the northeast corner of Mainway and Corporate Drive, abutting, existing industrial properties to the north and east. An existing, engineered drainage channel occurs adjacent to the northeast and northwest property boundaries. Currently the property contains an existing agricultural field. The proposal for this property will see the construction of a new industrial warehouse including parking and loading areas. The subject property is nearly void of trees except for groupings of trees at the northeast corner. A row of existing boulevard trees flanks the Mainway right of way.

Plans Utilized

A proposed Site Plan prepared by Method Architects Inc. (formerly recognized as ACK Architects) as well as a topographic survey Prepared by Vujeva Surveys Limited were used as reference to determine the location of existing trees within and adjacent to the subject site in relation to the proposed development.

Tree Inventory *(refer to tables below)*

Trees were identified both within and immediately adjacent to the subject property during a site visit conducted by ISA Certified Arborist, Matthew Gehres of Strybos Barron King Ltd. (ISA #ON-1114A). The trees are described in terms of species and diameter at breast height (DBH – measured at 1.4m from grade). They have been assessed in terms of their general health from poor to good; **GOOD** – trees in good overall health and condition with desirable structure, **FAIR** – trees in moderate health and condition with less desirable structure, and **POOR** – trees displaying prominent health issues such as decay and disease and/or poor form and structure. All trees 10cm and greater have been inventoried as a part of this application (Refer to V100 – *Tree Inventory and Preservation Plan* for locations of and information pertaining to specific trees)

Tree Inventory Table Descriptions *(See Existing Tree Inventory - Pages 1 &2)*

Key#	This number refers to inventory number assigned to the tree on the plan.	
Species	The common names are provided for each tree.	
Caliper	This refers to diameter (in centimetres) at breast height and is measured at 1.4m above the ground for each tree.	
Crown	Canopy Width	An estimation of the average diameter of the tree canopy, in metres.
Health	The general assessed health of the tree.	
Structure	This is an assessment of the trees overall form.	
Comments	A general description of each tree's condition and/or pertinent characteristics is provided.	
Direction	This indicates either preservation or removal of the tree (as noted on the plan)	
Min. TPZ	Recommended Tree Preservation Zone (in metres).	

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Tree Inventory List

All trees greater than 10cm DBH have been inventoried

EXISTING TREE INVENTORY												
KEY	SPECIES	DBH	CROWN	HEALTH	STRUCTURE	COMMENTS	PRESERVATION	MIN. TPZ	CRITICAL ROOT ZONE	% OF CRITICAL ROOT ZONE IMPACT	OWNER	KEY
		IN (cm)	IN (m)	G/F/P			DIRECTION					
1	AMUR MAPLE	28.0	8.0	GOOD	MULTIPLE LEADERS	ELEVATED CROWN, DIEBACK ON LOWER BRANCHES	PRESERVE	2.4	4.0	0%	Public - ROW	1
2	SHAGBARK HICKORY	17.0	6.0	GOOD	DOUBLE STEM	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	2
3	SHAGBARK HICKORY	19.5	7.0	GOOD	DOUBLE STEM	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	3
4	SHAGBARK HICKORY	16.5	6.0	GOOD	DOUBLE LEADER	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	4
5	BASSWOOD	5-20	9.0	POOR	MULTI-STEMMED	BROAD FORM, DEAD LEADERS, DECLINING	REMOVE	2.4	4.0	100%	Private	5
6	SHAGBARK HICKORY	23-36	12.0	GOOD	ASYMMETRICAL FORM	MULTI-STEMMED, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	6
7	SHAGBARK HICKORY	18-24	10.0	FAIR	MULTI-STEMMED	CROWDING BY ADJACENT TREE, VINE ENTANGLED	REMOVE	2.4	4.0	100%	Private	7
8	HAWTHORN	5-19	10.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	8
9	SHAGBARK HICKORY	21.0	8.0	GOOD	NARROW FORM	CROWDING BY ADJACENT TREE, LOWER LIMBS VINE ENTANGLED	REMOVE	2.4	4.0	100%	Private	9
10	BASSWOOD	21.5	9.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, CROWDING BY ADJACENT TREE, DIEBACK ON LOWER BRANCHES	REMOVE	2.4	4.0	100%	Private	10
11	SHAGBARK HICKORY	22.5	7.0	GOOD	ONE SIDED FORM	CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	11
12	SHAGBARK HICKORY	18.0	6.0	GOOD	ONE SIDED FORM	CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	12
13	IRONWOOD	11-15	8.0	GOOD	MULTI-STEMMED	ONE SIDED FORM, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	13
14	HONEYLOCUST	11.0	4.5	GOOD	IRREGULAR FORM	SIGNIFICANT SUCKER GROWTH AT BASE	REMOVE	2.4	4.0	100%	Public - ROW	14
15	HONEYLOCUST	3-7	5.0	GOOD	MULTI-STEMMED	SIGNIFICANT SUCKER GROWTH AT BASE	REMOVE	1.8	1.8	100%	Public - ROW	15
16	IVORY SILK LILAC	19.0	5.0	GOOD	GOOD FORM	SIGNIFICANT SUCKERING LIMB AT BASE	REMOVE	2.4	4.0	100%	Public - ROW	16
17	IVORY SILK LILAC	8-18	5.0	POOR-FAIR	ONE SIDED FORM	DEAD LIMB AND SIGNIFICANT WOUND AND DECAY ALONG STEM	PRESERVE	2.4	4.0	0%	Public - ROW	17
18	IVORY SILK LILAC	18.0	5.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	2.4	4.0	0%	Public - ROW	18
19	IVORY SILK LILAC	17.0	5.0	GOOD	ASYMMETRICAL FORM	SLIGHT LEAN	PRESERVE	2.4	4.0	0%	Public - ROW	19
20	IVORY SILK LILAC	16.0	4.0	GOOD	ASYMMETRICAL FORM	SLIGHT LEAN	PRESERVE	2.4	4.0	0%	Public - ROW	20
21	AMUR MAPLE	22.0	6.0	POOR-FAIR	MULTI-STEMMED	SUCKER GROWTH THROUGHOUT, DIEBACK IN CROWN	PRESERVE	2.4	4.0	0%	Public - ROW	21
22	HONEYLOCUST	11.0	6.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, BRANCHING TO GRADE	PRESERVE	2.4	4.0	0%	Public - ROW	22
23	AMUR MAPLE	37.0	10.0	FAIR	IRREGULAR FORM	MULTIPLE LEADERS, EPICORMIC GROWTH AND WATER SPROUTS THROUGHOUT	PRESERVE	2.4	4.0	0%	Public - ROW	23
24	IVORY SILK LILAC	3.0	2.0	GOOD	GOOD FORM	BASAL DECAY	PRESERVE	1.8	1.8	0%	Public - ROW	24
25	IVORY SILK LILAC	7.0	2.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	1.8	1.8	0%	Public - ROW	25
26	ORNAMENTAL PEAR	8.0	3.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	1.8	1.8	0%	Public - ROW	26
27	ORNAMENTAL PEAR	6.0	3.0	GOOD	GOOD FORM	SUCKER GROWTH ON STEM	PRESERVE	1.8	1.8	0%	Public - ROW	27
28	WHITE ASH	WHIP-12	8.0	FAIR	MULTI-STEMMED	CROWDED BY ADJACENT VINES AND BUCKTHORN MASSES	REMOVE	2.4	4.0	100%	Private	28

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Observations

The trees inventoried within and immediately adjacent to the site are described as primarily immature to semi-mature groupings of trees as well as planted boulevard trees. Most of the trees internal to the site occur along the northeast corner of the property. An existing row of boulevard trees occurs along the Mainway right of way.

The groupings of trees are composed mostly of immature to semi-mature Shagbark Hickory, Basswood and dead Ash trees. These groupings are crowded by dense clusters of Buckthorn and Hawthorn trees as well as Wild Grape Vines. With the exception of a few, most of these trees are in generally good health and condition. The boulevard trees are composed of Honey Locust, Ivory Silk Lilac, Amur Maple and Ornamental Pear. These trees are in generally fair to good health; however, significant suckering and basal decay have been observed on many.

Discussion

Based on the proposed construction, grading and servicing requirements, all the trees within the subject property will require removal. In addition, to facilitate a new driveway accessed off Mainway, three municipal boulevard trees, Tree #14, #15 & #16 will require removal as they are currently located within the driveway footprint. This proposed driveway is restricted to its current location due to the existing utilities including an existing FH and Hydro Pole. As such, conflicts would arise if the driveway were shifted further down not only from a utility perspective, but as well as it would require the removal of additional City trees. In addition, the access would no longer be feasible from an operation perspective should the driveway be moved further south; the Mainway access is the only entrance/exit for the trucks to access the rear loading area, and the trucks require sufficient space for turning movements in/out of the site. (*Refer to Appendix B – Mainway Entrance Detail*)

Further to the point above, there are three existing driveways adjacent to the subject property. The proposed driveway is therefore positioned in between to help better align with the existing driveway. Per the appended Mainway Entrance detail, it is also demonstrated that a 20m wide driveway is better supported versus a 15m driveway as the 15m driveway creates a dangerous ROW. Please refer to the Mainway entrance detail that was submitted as part of the site plan submission package on April 4, 2022. In addition, this report also appends the original comments matrix as prepared by Menkes and submitted to the City on April 4, 2022.

Menkes has explored alternative driveway layout and location options and has offered the City of Burlington Forestry Department this explanation for the proposed driveway location that was provided within the April 4th submission package:

“Our design team has reviewed the City’s suggestion to reduce the driveway from 20m to 15m in hopes of retaining 1 City tree and potentially a private tree. From a landscape perspective, with introducing the additional 7.5 regulatory area per CH’s comments, the driveway has naturally had to shift further south in order to accommodate this new setback. As such, 3 municipal trees (and various private trees) are unfortunately still required for removal. In an effort to reduce the driveway to 15m to save the 3rd City tree (tree #16), the Arborist has reviewed this revision and tree #16 would not be able to be preserved as the tree protection zone wouldn’t be able to properly shield the tree due to the future driveway/curb cut. In addition to this, our arborist has revisited the site on March 29th and found that the City trees in questions were not mature nor were they in great condition. As such, our proposal seeks to improve and upgrade the streetscape within proximity to the site and municipal ROW”.

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Finally, as Menkes discussed with Forestry; City Planning, Transportation and Engineering do not have any concerns as it relates to the size and location of the proposed driveway. We trust the justification and supporting materials within this report are acceptable for the removal of City Trees 14, 15 & 16.

Separate from this, the proposal includes the planting of 68 new trees, which exceeds the compensation requirements. We trust this can sufficiently address the removal of the private trees within the site limits. Please refer to the response memo prepared by Strybos Barron King Landscape Architecture dated April 1, 2022”

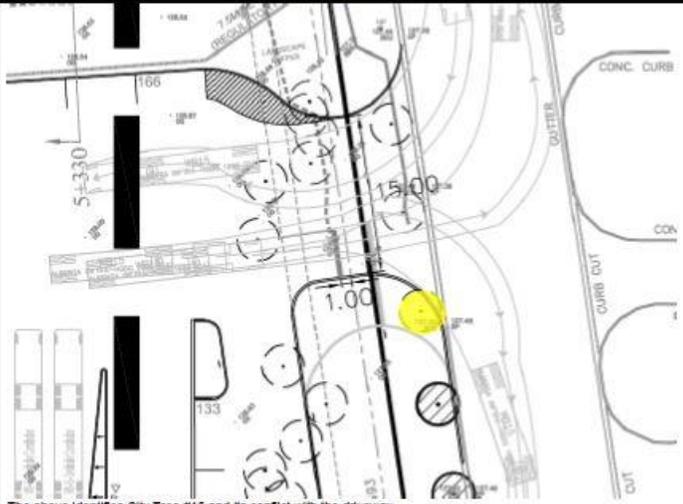
Table 1 – Excerpt from Menkes’ Response Matrix (April 4, 2022)

RESPONSE MATRIX
4385 Mainway, Burlington
File No: 535-010/21
Date: April 4, 2022

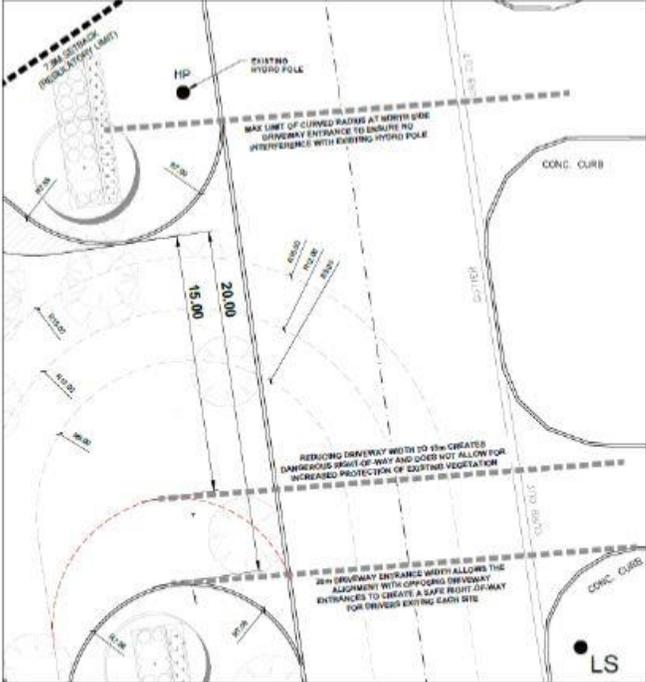
ITEM	COMMENT	RESPONSE
PLANNING BY ANDREAS HOULIOS, DATED JANUARY 14, 2022		
1	Show/confirm how roof top mechanical is being screened.	Please refer to diagrams 3 on plan A101 which demonstrates that the roof top units are sufficiently setback from the parapet wall, and therefore show sufficient screen-level from the public view. We understand this item can be cleared.
2	Confirm the colours being used.	Please refer to A300 – BUILDING ELEVATIONS for detailed descriptions of exterior finishes and other site plan & elevation related items (overhead doors, bollards, signage, etc.) We understand this item can be cleared.
3	Ensure that the Hydro transformer pad location complies with zoning (i.e. not in landscape buffer).	Please refer to the revised site plan drawing; the transformer is not surrounded by any landscape nor is it within the landscape buffer. We understand this item can be cleared.
4	Suggest complying with parking requirements.	Based on the revised building GFA, the required parking is 162 spaces, which has been calculated using the Warehouse (and Logistics) parking rate (1.5 spaces per 100m2 of GFA) seeing as the development is less than 4 industrial/office uses. The proposed development conforms with the parking requirement. We understand this item can be cleared.
ZONING – PLANNING DEPT BY MARK DALRYMPLE, DATED SEPT 3, 2021		
1	Site plan to be updated to show the deemed width of Mainway and apply all applicable zoning regulations from the deemed width (excerpt from Site Engineering’s comments below):	It is understood that the right-of-way width requirements for Mainway is 30m. Following various conversations with municipal staff including Andreas Houlios, Nickolas Pongetti and Mark Dalrymple, our land surveyor completed a field review of Mainway to determine the ROW requirements. Based on the updated survey, a 15m measurement has been established from the CL (Centerline) on Mainway in order to depict the possible road widening. As such, a ~1.91m widening has been identified and is shown on all revised plans. Please advise next steps to facilitate this requirement, including the r-plan requirement. We understand this item can be cleared.

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ITEM	COMMENT	RESPONSE
15	The photometrics plan identified lighting. Where are the fixtures located? Provide catalogue cuts for the fixtures.	Please refer to the updated photometrics plan that identifies multiple wallpacks lighting fixtures affixed to the building façade, as well as 1 light standard. Please also refer to the Luminaire Detail Plan and cut sheets for greater details. In addition, the elevation and site plan drawings identify the wallpack locations and single light standard. We understand this item can be cleared.
16	Is a pylon sign being proposed?	Signage is not being shown on the site plan at this time.
17	Is the proposed snow storage area large enough to accommodate the entire site?	In times of heavy precipitation, excess snow removal will be provided through a private snow removal service in addition to the proposed dedicated areas for on-site snow storage. Please refer to the site plan drawing for the snow storage area, including a note regarding how the snow removal will be handled privately with a future contractor. We understand this item can be cleared.
18	The North-East driveway entrance is very wide. Per OPSD 350.010, assuming Heavy Industrial, the appropriate widths are 9.0m - 15.0m for two-way traffic.	As discussed with Forestry and Planning Departments on March 11, since the last submission was made, Menkes has had to demonstrate an additional 7.5m regulatory limit on all plans to address Conservation Halton's (CH) comments. Within this regulatory area, development/structures aren't permitted. As a result, the drive aisle and associated parking that was once located on the northern limits of the site has been removed to accommodate the additional 7.5m setback. In light of this revision, the only entrance/exit for trucks to utilize is from Mainway. Our design team has reviewed the City's suggestion to reduce the driveway from 20m to 15m in hopes of retaining 1 City tree and potentially a private tree. From a landscape perspective, with introducing the additional 7.5 regulatory area per CH's comments, the driveway has naturally had to shift further south in order to accommodate this new setback. As a such, 3 municipal trees (and various private trees) are unfortunately still required for removal. In an effort to reduce the driveway to 15m to save the 3 rd City Tree (tree #16), the arborist has reviewed this revision and per the enclosed sketch (below), Tree #16 tree would not be able to be preserved as the tree protection zone wouldn't be able to properly shield the tree due to the future driveway/curb cut. In addition to this, our arborist has revisited the site on March 29 th and found that the City trees in question were no mature nor where they in great condition. As such, our proposal seeks to improve and upgrade the streetscape within proximity to the site and municipal ROW. Separate from this, the proposal includes the planting of 70 new trees, which exceeds the compensation requirement. We trust this can sufficiently address the removal of the private trees within the site limits. Please refer to the response memo prepared by Strybos Barron King Landscape Architecture dated April 1, 2022. Pleas also refer to the "Discussions" Section and related photos, and the "Calculation of Tree Removal Compensation" section within the Arborist Report, all of which speak to this driveway review.

ITEM	COMMENT	RESPONSE
		 <p>The above identifies City Tree #16 and its conflict with the driveway</p> <p>In addition to above, our architect has also reviewed the potential reduction to 15m and had tried to shift the driveway north to accommodate City Tree #16. However, in doing so, the driveway will a) no longer be aligned with the adjacent 3 driveways which was a request made by Transportation Services to ensure the driveways properly aligned; b) this will create an encroachment (i.e. radius) into the 7.5m regulatory area, which is not permitted by CH; and, c) this will create a conflict with the exiting utilities to the north as the radius for this driveway, which is needed to accommodate the only entrance/exit for truck traffic within this site, would interfere with the Hydro Pole. Please refer to the detail below, which is identified as Detail #2 on the site plan drawing</p>

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ITEM	COMMENT	RESPONSE
		 <p>Having said the above, the driveway width is continuing to be designed to 20m. We trust this analysis by our retained design consultants is sufficient to identify the obstacles and resolution for this matter.</p>

Tree Removals

In determining the tree preservation recommendations for the site, the criteria noted below were considered:

- Overall tree health, form, size, species and predicated longevity.
- Anticipated impact from construction of buildings and proposed landscape features, road works, site servicing and grading.

Each tree was assigned a Minimum Tree Preservation Zone (MTPZ) as per City of Burlington standard requirements (Refer to Table1-Tree Protection Zones).

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Table 2 - Tree Protection Zones

Table 1 – Minimum Tree Protection Zones

Trunk Diameter (DBH) ²	Minimum Tree Protection Zone (MTPZ) Distances Required ³	Critical Root Zone (CRZ) Distances Required ^{3&4}
< 10 cm	1.8 m	1.8 m
11 - 40 cm	2.4 m	4.0 m
41 - 50 cm	3.0 m	5.0 m
51 - 60 cm	3.6 m	6.0 m
61 - 70 cm	4.2 m	7.0 m
71 - 80 cm	4.8 m	8.0 m
81 - 90 cm	5.4 m	9.0 m
91 - 100+ cm	6.0 m	10.0 m

Trees are recommended for preservation or removal based on proximity of the TPZ to the limit of construction, in conjunction with the overall tree health, size and anticipated ability to withstand root or crown impacts.

City of Burlington Private Tree Bylaw

The City of Burlington’s Private Tree Bylaw prohibits the removal of all trees found on private property of 20cm DBH (Diameter at Breast Height) or greater or the removal of more than five trees of greater than 10cm DBH and less than 20cm DBH in one calendar year without a permit to do so.

The provisions of this bylaw do not apply to the injury, destruction or removal of trees where the removal of the tree is for the purpose of satisfying condition to the approval of a site plan, or a plan of subdivision. However, the City of Burlington’s tree compensation requirement does apply.

Tree Compensation Requirements

In accordance with the City Site Plan guidelines, tree replacement requirements apply to trees greater than or equal to 15cm. The city uses an aggregate caliper method for determination of replacement requirements and looks for replacements at 50mm caliper size.

If sufficient planting area is not available to accommodate the required compensation planting, the City will accept cash in-lieu of planting for 5cm trees. The amount per tree is to be confirmed by the City.

Trees 2 to Tree 13 all meet the criteria for replacement requirements. The city prefers 50mm caliper size trees for replacements. Based on the proposed Landscape PIn L100 – a total of 39 deciduous trees (mixture of 70mm and 50mm caliper), and 29 coniferous are proposed for a total of 68 trees. The city has deemed the plantings as proposed on the L100 Landscape Plan by Strybos barron King dated July 12, 2021 satisfy the private tree replacement quantities.

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Tree Preservation and Construction Mitigation Recommendations

The following tree protection measures are recommended to be undertaken by the owner to successfully preserve the trees noted on the Tree Preservation Plan.

Pre-Construction

Tree Protection Hoarding

- All trees to be preserved will be protected with City approved tree protection hoarding. This hoarding shall be maintained for the duration of site construction. It shall not be removed until authorized by the Consulting Arborist and the City. The hoarding shall be constructed at the location as noted on the Tree Inventory & Preservation Plan (V100).
- Once installed, the limits of protection hoarding shall be approved in the field by the Consulting Arborist.

During Construction

- Areas within the protection hoarding shall remain undisturbed for the duration of site construction and shall not be used for the storage of excavated fill, building materials, structures, or equipment.
- No cables of any type shall be wrapped around or installed in trees to be preserved. No contaminants will be dumped or flushed where feeder roots of trees exist.
- Where limbs or portions of trees require pruning to remove deadwood or accommodate construction, they will be removed by a qualified Arborist in accordance with acceptable arboricultural practice.

Post-Construction

- Following construction, the limits of the "Tree Protection Zone" shall be inspected by the Consulting Arborist. Any pruning, watering, fertilization, or replacement requirements will be determined at that time.
- Tree protection hoarding may be removed to facilitate final landscape fine grading and tree planting. This must be completed under the review of the Consulting Arborist.

To ensure that the above measures are properly implemented, the Consulting Arborist shall be involved at the following stages of construction:

1. Upon layout and installation of protective hoarding and root protection layer
2. Periodically during construction to ensure that hoarding remains in place and no damage occurs to trees to be preserved
3. Upon fine grading of site or other landscape works
4. Upon completion of construction activities

**ARBORIST REPORT
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Conclusion

Strybos Barron King Ltd. was retained by Menkes Barnett Burlington II Inc. to prepare an Arborist Report for the subject property in accordance with City of Burlington requirements. The report summarizes the trees inventoried within and immediately adjacent to the site and provides recommendations for retention and removal in context with the proposed site plan. The *V100 – Tree Inventory & Preservation Plan* should be used as a reference with this report for detailed information pertaining to existing trees.

The owner is proposing to construct a new warehouse facility including parking and loading areas on the property. Due to the constraints of the proposed limits of construction, all trees internal to the site and three, city owned boulevard trees will require removal. The three municipal trees all exhibit significant sucker growth at the base. In all, twelve trees 15cm DBH and greater will require removal. All trees to be preserved are to be preserved and protected using City approved tree protection hoarding.

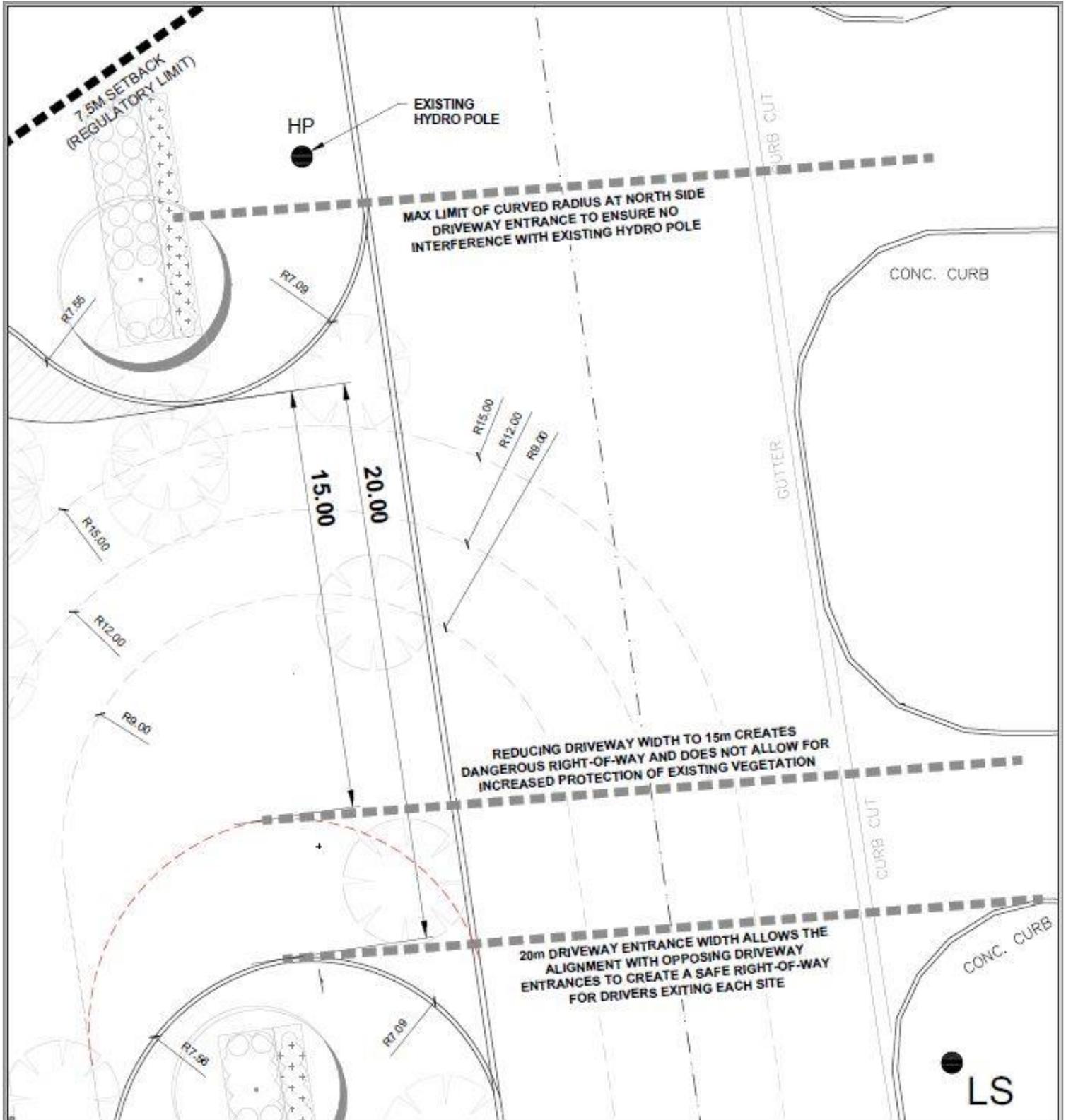
Prepared By:
STRYBOS BARRON KING LTD.



Matthew Gehres
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Senior Landscape Technologist
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Appendix B – MAINWAY ENTRANCE DETAIL



**ARBORIST REPORT
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Appendix C – SITE PHOTOGRAPHS



Northwest corner of site – view northeast



Northeast corner of site – View north



Tree#s 2-13



Mainway Blvd. Trees – View South

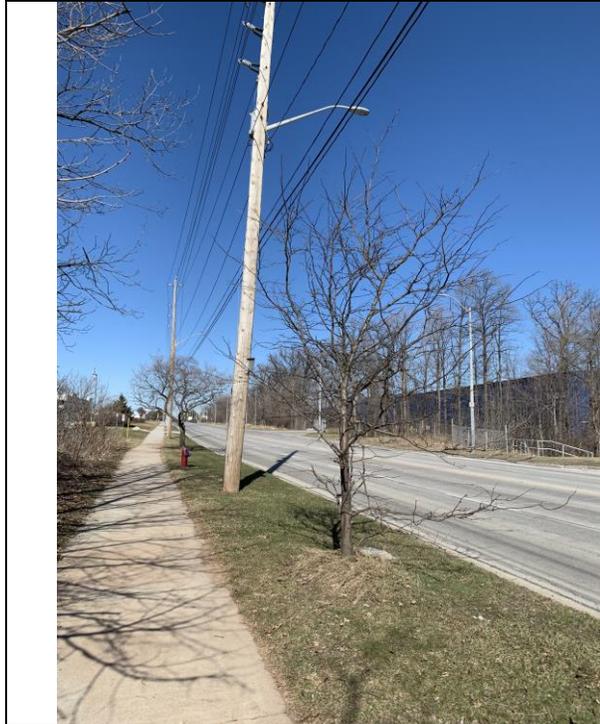


Mainway Blvd. Trees – View South



South corner of site – View East

ARBORIST REPORT
1770 Appleby Line, Burlington



Tree# 14



Tree# 15



Tree# 16 (view north)



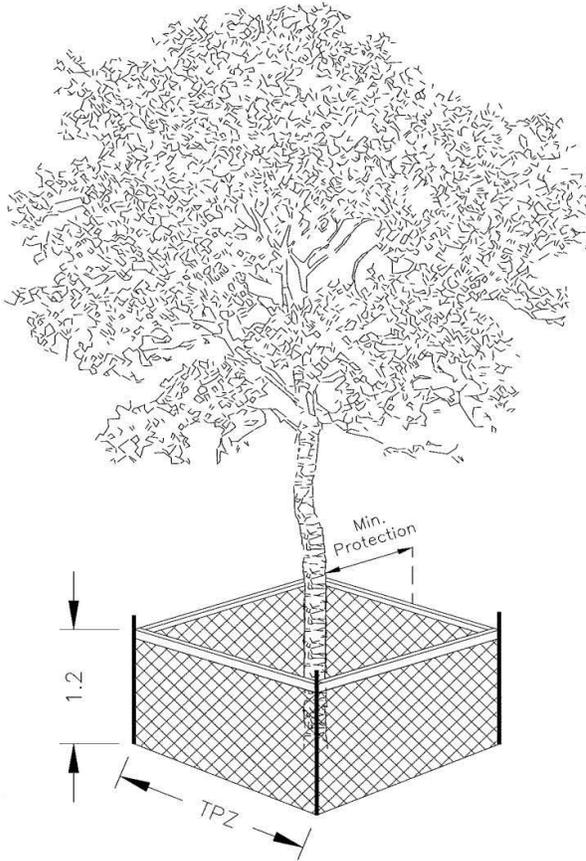
Tree# 16 (view south)

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Appendix C – TREE PROTECTION HOARDING DETAIL

Tree Protection and Preservation
Specification No.: SS12A

Detail TP-1 – Tree Protection Detail.



Trunk Diameter (DBH) ²	Minimum Tree Protection Zone (MTPZ) Distances Required ³	Critical Root Zone (CRZ) Distances Required ^{3&4}
< 10 cm	1.8 m	1.8 m
11 - 40 cm	2.4 m	4.0 m
41 - 50 cm	3.0 m	5.0 m
51 - 60 cm	3.6 m	6.0 m
61 - 70 cm	4.2 m	7.0 m
71 - 80 cm	4.8 m	8.0 m
81 - 90 cm	5.4 m	9.0 m
91 - 100+ cm	6.0 m	10.0 m

NOTES:

¹ The roots of a tree can extend from the trunk to approximately 2-3 times the distance of the drip line.

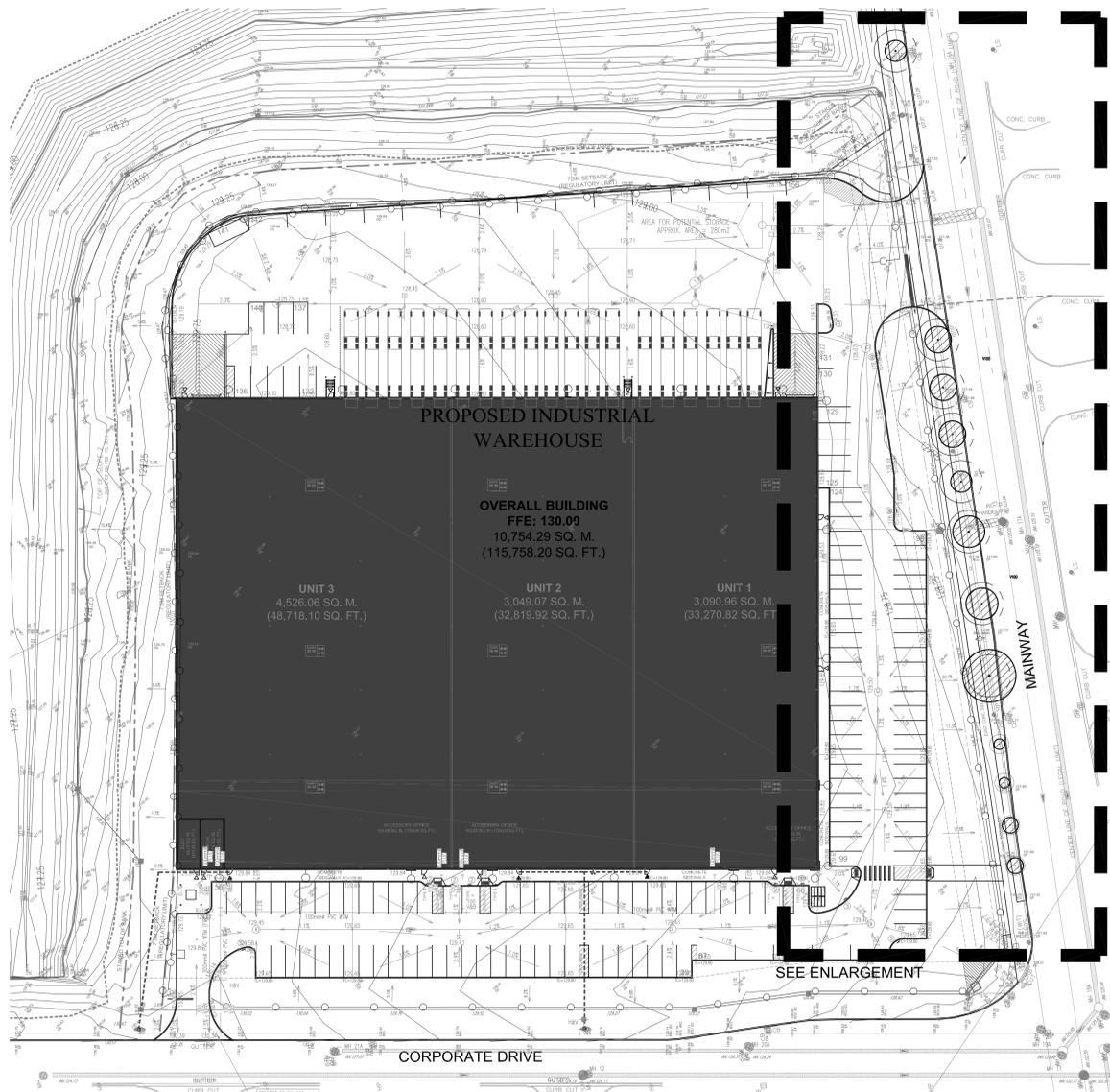
² Diameter at breast height (DBH) is the measurement of tree trunk taken at 1.4 metres above ground.

³ Minimum Tree Protection Zone and Critical Root Zone distances are to be measured from the outside edge of the tree base towards the drip line and may be limited by an existing paved surface, provided the existing paved surface remains intact throughout the construction work and is subject to Section 6 of this specification.

⁴ Where work is being performed beyond the Minimum Tree Protection Zone but within the Critical Root Zone the works are subject to Section 8 of this specification.

TREE PROTECTION BARRIER

1. The required barrier is a 1.2 metre (4 ft) high orange plastic web snow fencing on 2" x 4" frame. Where orange plastic web snow fencing creates a restriction to sightlines, page wire fencing with reflective tape can be used.
2. Tree protection barriers are to be erected prior to the commencement of any construction or grading activities on the site and are to remain in place throughout the entire duration of the project. The barriers shall be maintained erect and in good repair throughout the duration of construction operations with breaks and unsupported sections repaired immediately. Tree protection may not be removed prior to the completion of construction without written authorization from the City Arborist.
3. All supports and bracing used to safely secure the barrier should be located outside the MTPZ. All supports and bracing should minimize damage to roots.
4. Where some fill or excavated material must be temporarily located near a MTPZ, a wooden barrier with silt fencing must be used to ensure no material enters the MTPZ.
5. No materials or fill may be stored within the MTPZ.
6. Equipment or vehicles shall not be operated, parked, repaired, or refueled within the MTPZ.
7. No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the MTPZ without written authorization from the City Arborist.
8. A laminated Minimum Tree Protection Zone sign (See Detail TP-3 – Minimum Tree Protection Zone Sign) must be attached to the side of the Tree Protection where it will be visible by persons entering the site. Minimum size must be 10"x14".



1 V100 EXISTING TREE INVENTORY AND PRESERVATION PLAN – CONTEXT PLAN – 1 : 500

ALL TREES 10cm and GREATER HAVE BEEN INVENTORIED AS A PART OF THIS APPLICATION

KEY SPECIES	DBH IN (cm)	CROWN IN (m)	HEALTH G/F/P	STRUCTURE	COMMENTS	PRESERVATION DIRECTION	MIN. TPZ	CRITICAL ROOT ZONE	% OF CRITICAL ROOT ZONE IMPACT	OWNER	KEY
1 AMUR MAPLE	28.0	8.0	GOOD	MULTIPLE LEADERS	ELEVATED CROWN, DIEBACK ON LOWER BRANCHES	PRESERVE	2.4	4.0	0%	Public - ROW	1
2 SHAGBARK HICKORY	17.0	6.0	GOOD	DOUBLE STEM	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	2
3 SHAGBARK HICKORY	19.5	7.0	GOOD	DOUBLE STEM	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	3
4 SHAGBARK HICKORY	16.5	6.0	GOOD	DOUBLE LEADER	CROWDING BY ADJACENT TREE, ONE SIDED FORM	REMOVE	2.4	4.0	100%	Private	4
5 BASSWOOD	5.20	9.0	POOR	MULTI-STEMMED	BROAD FORM, DEAD LEADERS, DECLINING	REMOVE	2.4	4.0	100%	Private	5
6 SHAGBARK HICKORY	23.36	12.0	GOOD	ASYMMETRICAL FORM	MULTI-STEMMED, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	6
7 SHAGBARK HICKORY	18.24	10.0	FAIR	MULTI-STEMMED	CROWDING BY ADJACENT TREE, VINE ENTANGLED	REMOVE	2.4	4.0	100%	Private	7
8 HAWTHORN	5.19	10.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	8
9 SHAGBARK HICKORY	21.0	8.0	GOOD	NARROW FORM	CROWDING BY ADJACENT TREE, LOWER LIMBS VINE ENTANGLED	REMOVE	2.4	4.0	100%	Private	9
10 BASSWOOD	21.5	9.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, CROWDING BY ADJACENT TREE, DIEBACK ON LOWER BRANCHES	REMOVE	2.4	4.0	100%	Private	10
11 SHAGBARK HICKORY	22.5	7.0	GOOD	ONE SIDED FORM	CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	11
12 SHAGBARK HICKORY	18.0	6.0	GOOD	ONE SIDED FORM	CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	12
13 IRONWOOD	11.15	8.0	GOOD	MULTI-STEMMED	ONE SIDED FORM, CROWDING BY ADJACENT TREE	REMOVE	2.4	4.0	100%	Private	13
14 HONEYLOCUST	11.0	4.5	GOOD	IRREGULAR FORM	SIGNIFICANT SUCKER GROWTH AT BASE	REMOVE	2.4	4.0	100%	Public - ROW	14
15 HONEYLOCUST	3.7	5.0	GOOD	MULTI-STEMMED	SIGNIFICANT SUCKER GROWTH AT BASE	REMOVE	1.8	1.8	100%	Public - ROW	15
16 IVORY SILK LILAC	19.0	5.0	GOOD	GOOD FORM	SIGNIFICANT SUCKERING LIMB AT BASE	REMOVE	2.4	4.0	100%	Public - ROW	16
17 IVORY SILK LILAC	8.18	5.0	POOR-FAIR	ONE SIDED FORM	DEAD LIMB AND SIGNIFICANT WOUND AND DECAY ALONG STEM	PRESERVE	2.4	4.0	0%	Public - ROW	17
18 IVORY SILK LILAC	18.0	5.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	2.4	4.0	0%	Public - ROW	18
19 IVORY SILK LILAC	17.0	5.0	GOOD	ASYMMETRICAL FORM	SLIGHT LEAN	PRESERVE	2.4	4.0	0%	Public - ROW	19
20 IVORY SILK LILAC	16.0	4.0	GOOD	ASYMMETRICAL FORM	SLIGHT LEAN	PRESERVE	2.4	4.0	0%	Public - ROW	20
21 AMUR MAPLE	22.0	6.0	POOR-FAIR	MULTI-STEMMED	SUCKER GROWTH THROUGHOUT, DIEBACK IN CROWN	PRESERVE	2.4	4.0	0%	Public - ROW	21
22 HONEYLOCUST	11.0	6.0	GOOD	MULTI-STEMMED	ASYMMETRICAL FORM, BRANCHING TO GRADE	PRESERVE	2.4	4.0	0%	Public - ROW	22
23 AMUR MAPLE	37.0	10.0	FAIR	IRREGULAR FORM	MULTIPLE LEADERS, EPICORMIC GROWTH AND WATER SPROUTS THROUGHOUT	PRESERVE	2.4	4.0	0%	Public - ROW	23
24 IVORY SILK LILAC	3.0	2.0	GOOD	GOOD FORM	BASAL DECAY	PRESERVE	1.8	1.8	0%	Public - ROW	24
25 IVORY SILK LILAC	7.0	2.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	1.8	1.8	0%	Public - ROW	25
26 ORNAMENTAL PEAR	8.0	3.0	GOOD	GOOD FORM	SUCKER GROWTH AT BASE	PRESERVE	1.8	1.8	0%	Public - ROW	26
27 ORNAMENTAL PEAR	6.0	3.0	GOOD	GOOD FORM	SUCKER GROWTH ON STEM	PRESERVE	1.8	1.8	0%	Public - ROW	27
28 WHITE ASH	WHP-12	8.0	FAIR	MULTI-STEMMED	CROWDED BY ADJACENT VINES AND BUCKTHORN MASSES	REMOVE	2.4	4.0	100%	Private	28

2 V100 EXISTING TREE INVENTORY

Burlington

TREE PROTECTION ZONE (TPZ)

No equipment or vehicles shall be operated, parked, repaired or refueled within the Tree Protection Zone.

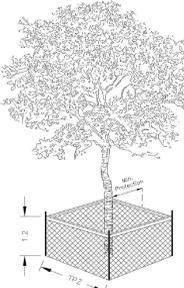
No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

No materials or fill may be stored within the Tree Protection Zone.

This tree protection barrier must not be removed prior to the completion of construction without written authorization from the City of Burlington, Urban Forestry Department.

For information contact:
City of Burlington, Development and Infrastructure Division,
905-335-7642

Tree Protection and Preservation Specification No. SS12A



TREE PROTECTION BARRIER

- The required barrier is a 1.2 metre (4 ft) high orange plastic web snow fencing on a 2" x 4" frame. Where orange plastic web snow fencing criteria is restrictive to sightlines, page wire fencing with reflective tape can be used.
- Tree protection barriers are to be erected prior to the commencement of any construction or grading activities on the site and are to remain in place throughout the entire duration of the project. The barriers shall be maintained erect and in good repair throughout the duration of construction operations with breaks and unsupported sections repaired immediately. Tree protection may be not be removed prior to the completion of construction without written authorization from the City of Burlington.
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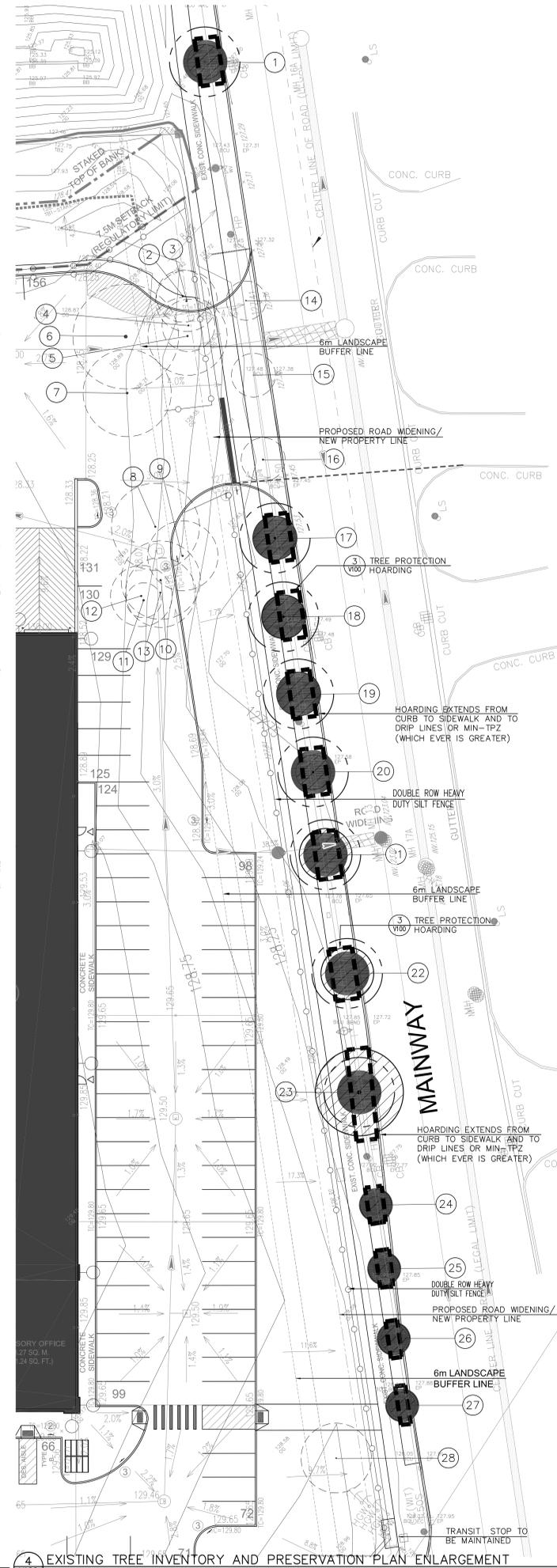
3 V100 TREE PROTECTION HOARDING AND SIGNAGE

Detail TP-1 - Tree Protection Detail.

Trunk Diameter (DBH)	Minimum Tree Protection Zone (MTPZ) Distances Required ¹	Critical Root Zone (CRZ) Distances Required ²
< 30 cm	1.8 m	1.3 m
31 - 40 cm	2.4 m	4.0 m
41 - 50 cm	3.0 m	5.0 m
51 - 60 cm	3.6 m	6.0 m
61 - 70 cm	4.2 m	7.0 m
71 - 80 cm	4.8 m	8.0 m
81 - 90 cm	5.4 m	9.0 m
91 - 100 cm	6.0 m	10.0 m

NOTES:

- The roots of a tree can extend from the trunk to approximately 2.5 times the distance of the drip line.
- Diameter at breast height (DBH) is the measurement of tree trunk taken at 1.4 metres above ground.
- Minimum Tree Protection Zone and Critical Root Zone distances are to be measured from the outside edge of the tree base towards the drip line and may be limited by an existing paved surface, provided the existing paved surface remains intact throughout the construction work and is subject to Section 6 of this specification.
- Where work is being performed beyond the Minimum Tree Protection Zone but within the Critical Root Zone the works are subject to Section 6 of this specification.

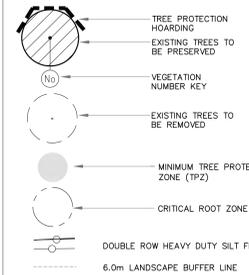


4 V100 EXISTING TREE INVENTORY AND PRESERVATION PLAN ENLARGEMENT

GENERAL NOTES

- VERIFY ALL DIMENSIONS.
- DO NOT SCALE DRAWINGS.
- REPORT ANY DISCREPANCIES, DISCOVERED ERRORS, OR OMISSIONS TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING.
- IT IS ADVISED THAT CONTRACTORS CONTACT THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION TO ENSURE THE USE OF THE LATEST REVISED DRAWINGS.
- DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE LANDSCAPE ARCHITECT.

KEY MAP LEGEND



Matt Gehres

Certified Arborist #CN-1144
Date: JULY 06, 2022

ISA

No.	DATE	REVISION	BY
6	AUG 2, 2022	ISSUED TO FORESTRY	MG
5	JULY 06, 2022	TREE PRESERVATION FOR SITE ALTERATION	SV
4	JUNE 11, 2022	ISSUED FOR REVIEW	SV
3	APR 01, 2022	ISSUED FOR RESUBMISSION	SV
2	AUG 04, 2021	AS PER LATEST SITEPLAN	SV
1	JULY 23, 2021	ISSUED FOR SUBMISSION	SV

It is the responsibility of the Contractor and/or Owner to ensure that the drawings with the latest revisions are used for construction.



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STRYBOS BARRON KING
LANDSCAPE ARCHITECTURE

PROJECT: PROPOSED INDUSTRIAL WAREHOUSE
4385 MAINWAY, BURLINGTON

DRAWING TITLE: EXISTING TREE INVENTORY AND PRESERVATION PLAN

SCALE:	PROJECT No.
AS SHOWN	5649
DATE:	DRAWING No.
JULY 12, 2021	V100
DRAWN BY:	CHECKED BY:
SS	SV