

ACORN DEVELOPMENTS INC.

**TREE INVENTORY REPORT &
PRESERVATION PLAN**

**OFFICIAL PLAN AMENDMENT &
ZONING BY-LAW AMENDMENT
331 CLAIR ROAD.
GUELPH**

MAY, 2012

ACORN DEVELOPMENTS INC.

**331 CLAIR ROAD,
GUELPH**

TREE INVENTORY REPORT & PRESERVATION PLAN

**OFFICIAL PLAN AMENDMENT &
ZONING BY-LAW AMENDMENT**

May 2012

Prepared by:

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1.0 INTRODUCTION

Acorn Developments Ltd. has retained GSP Group on to prepare a Tree Inventory Report and Preservation Plan for 331 Clair Road in the City of Guelph as. The purpose of the study is to identify, assess and document all trees within 331 Clair Road East, (the "Site") as well as any trees with extensive canopy overhang onto the site. The report includes recommendations for preservation or removal of trees as required. This report supports the planning application being filed concurrently.

The Site is approximately 1.66 hectares (4.1 acres) in size and is located on the south side of Clair Road East in the south end of Guelph. The Site has 171. metres (563 feet) of frontage on Clair Road and is located approximately half way between Gordon and Victoria Road.

The Site is currently occupied a single small cottage style house, a multi vehicle garage large barn and abandoned concrete block farm structure. It has been recognized the some of the structures may have historical significance The Site has been consistently maintained as a working farm with some lawn area and open amenity space. Surrounding land uses are primarily multi-unit and estate residential.



2.0 ASSESSMENT OBJECTIVES

The goals of the Tree Inventory Report and Preservation Plan process were to:

1. Review all significant vegetation and evaluate each specimen.
2. Identify and recommend areas suitable for vegetation removal and retention.
3. Prescribe management recommendations for vegetation resources to be retained and assist in construction implementation strategies.

3.0 METHODOLOGY

The following outlines the methodology used for the general vegetative overview, analysis and tree management strategy.

3.1 Inventory

Richard Turner of the GSP Group conducted a site visit on April 27, 2012, to undertake the tree inventory. The inventory and assessment data collected is shown in Appendix C, Tree Inventory tables. A photographic inventory can be found in Appendix A

The Tree Inventory includes the following:

- tree tag number
- tree specimen (botanical and common names)
- diameter at breast height
- condition (as per the rating system described below)
- remarks & comments
- environment
- strategies and recommendations

3.2 Vegetation Type

All inventoried material will be identified by their Botanical and Common names and any addition information according to species.

3.3 Condition Categories

The condition of tagged specimen used the four main ratings (good, fair, poor and dead) and two intermediate ratings (fair to good and poor to fair) as the criteria for evaluation, the following ratings were utilized for the inventory and assessment of this study:

- **Good** - specimens will have less than 10% dead wood, strong indication of compartmentalization and healing of any wounds and good structural habit with no defects.
- **Fair to Good** - most physical characteristics illustrate a good specimen, but with minor indicators of stress.
- **Fair** - specimen has between 10% and 30% dead wood, size and the frequency of wounds are evident, minor structural defects and reduce crown size.
- **Poor to Fair** - Stronger display of Poor quality attributes, but with indication the specimen is not in total decline.

- **Poor** - tree has more than 30% dead wood, wounds are quite prevalent with greatly reduced evidence of healing (early leaf drop and evidence of insect and disease affliction) and major structural defects includes heavy suckering.
- **Dead** - tree no indicators of present or future growth.

3.4 Strategies and Recommendations

Each tagged specimen was rated based on current visual health and then a recommendation for each unit was determined whether to remain or to be removed based on the health and any conflict with construction activities. Refer to Appendix C for overall recommendations.

4.0 OBSERVATIONS

4.1 General

The vegetation on the Site consists of a low to intermediate quality, hardwood and softwood unit's predominantly successional specimens (Manitoba Maple, Poplar, White Cedar, Domestic Apple, Red Maple, Burr Oak, Willow and Norway Maple) and typical hedge row under storey.

4.2 Vegetation Units

The following vegetative units were observed within the study limits of 331 Clair Road, Guelph and found in Appendix B;

V1 –Deciduous and Coniferous Plantation (successional and ornamentally)

The trees of this unit include a mix of deciduous and coniferous mature and maturing native and non indigenous hardwood and softwoods in generally fair to good condition. Native species include White Ash, Basswood, White Cedar, Sugar Maple, Red Maple, Bur Oak and Black Walnut with a manicured turf under storey. Non native species include Domestic Apple, Manitoba Maple, Buckthorn and Norway Maple.

V2 –Successional and Ornamentally Planted Hedgerow

The trees of this unit include a mix of deciduous semi-mature to over-mature native and non native hardwoods in generally fair condition with crowded canopies and a dense under storey. The dominant species is Manitoba Maple with Red Maple, Willow, Trembling Aspen, Grey Dogwood, Buckthorn and Honeysuckle. The Hedgerows primarily follow the east west and south property lines.

V3 –Depression- Lowland Forest

The trees of this unit consist of a mix of deciduous semi-mature to over-mature specimens. The mostly non native softwoods are in generally fair condition with various signs of wind damage and deadwood which is common to planting groups growing in these conditions. The dominant species include Manitoba Maple with Buckthorn, Honeysuckle and Lilac.

V4 –Open Meadow

There are no trees in this unit which consists of either manicure turf grass or prairie grass fields for farm animal grazing.

4.3 Individual Species Identification

Refer to Appendix C & E for identification table and mapping.

4.4 Significance of Vegetation

4.4.1 Provincially Significant

No provincially significant plant species were found.

4.4.2 Regionally Significant

At the time of this report no regionally significant species have been identified. (Although, following any additional heritage review this evaluation may change.)

5.0 RECOMMENDATIONS & IMPLEMENTATION

5.1 Retention & Removals Recommendations

Appendix C includes the summary of the inventory and observations of the individual trees within 331 Clair Road East and adjacent lands. Of the total eighty-six (86) were identified and assessed, (73) seventy-three are situated on 331 Clair Road property limits which were tagged, and (13) thirteen are located on the adjacent lands which were tagged.

The majority of the trees identified for removal are being removed to facilitate entrance drive, services and building envelopes. Trees located on the adjacent lands will not experience any prolonged disturbance due to any construction activity.

The following table is a summary of the recommendations for removals or preservation, based on the tree condition, proposed servicing/road construction, site grading as well as proposed future

works.

Summary Table #1

Retention & Removals	331 Clair Road	Adjacent Lands	Totals
1.1 Total Trees being Removed due to Condition	1	0	1
1.2 Total Trees being Removed due to Grading/Road Construction	8	0	8
1.3 Total Trees being Removed due to Building Envelopes	44	0	44
1.4 Total Trees being Removed due to Future Construction	0	0	0
1.5 Total Trees being Removed	53	0	53
1.6 Total Trees being Retained	20	13	33
Total Trees in Study Area :	73	13	86

The following is a description of the categories listed in the summary table.

- 1.1 Total trees required for removal due to poor condition (as described in 3.3 Condition Categories);
- 1.2 Total trees which will be impacted by all site construction including entrance drive; these trees are in fair to good condition;
- 1.3 Total trees required for removal to establish building envelope;
- 1.4 Total trees being remove for future construction or anticipated future removals
- 1.5 Grand total of trees recommended for removal
- 1.6 Grand total of trees recommended for retention

All trees recommended for retention will not be impacted by the proposed development either below or above grade.

5.2 Tree Protection

Protective fencing and signage, as shown on figure 1 to figure 3, Appendix D will be installed prior to construction. The limit of fencing will be in accordance with The City of Guelph Tree Protection Policies and Guidelines, 2008, and the Tree Preservation & Protective Measure for Trees Affected by Construction Policy. A combination of fencing and signage will identify the tree preservation areas. These limits will be staked in the field a minimum of one metre outside of the dripline.

The following tree protection practices are presented below as the recommended approach to protect trees that are to be retained. With these practices in place, it is reasonable to expect that the trees to be retained will survive and improve in health.

5.3 Pre-Construction:

All trees to be retained and removed will be reviewed on-site with the contractor and the consultants.

Trees marked for removal must be carefully felled away from the tree retention areas into the construction/development area. Removed trees in the engineering/building/ROW areas only will be grubbed to allow for site grading operations and boulevard finishing. Otherwise, stumps will be removed to grade and the below-grade portion left.

Damaged branches of retained trees are to be pruned or removed depending on the extent of damage. This work shall be completed by a qualified arborist following standard horticultural practices.

After the removals, tree protection fencing will be installed prior to grading operations. The tree protection measures are to be maintained throughout the entire construction period. No equipment storage, storage of spoil or construction debris is to occur in the tree protection areas.

5.4 Post-Construction:

The tree protection fencing and signage is to be removed only after all of the construction has ended and all of the equipment has been removed.

Trees that have been root pruned should be fertilized in the spring immediately following construction and in August of the same year. It is recommended that "Nutrite Supersafe" 21- 5- 15 fertilizer be applied under the dripline of the retained trees to improve post-development tree survival.

Any additional damaged branches of retained trees are to be pruned or removed depending on the extent of the damage. This work shall be completed by a qualified arborist following standard horticultural practices. Manually remove all construction debris (i.e. scraps of aluminium siding, caulking tubes, insulation, etc.) from within the tree preservation zone prior to landscaping adjacent to the tree retention zone.

A final inspection of the retained trees should be undertaken-any wounds caused during construction should be cleaned (remove loose tissue), neatly trimmed and allowed to heal naturally. The removal of trees with excessive root damage that may pose a potential liability concern/hazard should be reviewed prior to construction close-out.

6.0 CONCLUSIONS

There are eighty-six (86) trees identified in the study area, both within the property limits of # 331 Clair Road and adjacent lands. The majority of trees to be preserved have been ornamentally planted and are in generally good to fair-good condition and will help the severed site retain a mature appearance. In total, fifty-three (53) trees are proposed to be removed due to proposed road construction and servicing, site grading and building envelope clearing. Most of the trees

slated for removal are non native species Manitoba Maple in a large grouping as per the image below.



APPENDIX A
Tree Inventory Images



Guelp, ON N1L 1H1, Canada

Clair Road

CLAIR

ROAD

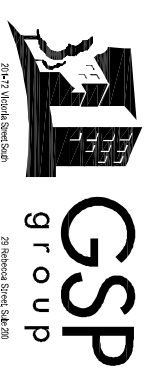


PHOTO INVENTORY
 331 Clair Road
 Guelp, ON

Date: May 31, 2012
 Scale: N.T.S.
 Project No.: 1280

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APPENDIX B
Vegetative Overview

APPENDIX C
Tree Inventory Tables

TREE MANAGEMENT CHART

331 Clair Road, Guelph, ON

Site Visit Date: April 27 and May 3 and May 23, 2012

Site Visit By: Richard Turner

TREE#	BOTANICAL NAME	COMMON NAME	SIZE (mm. DBH)	CONDITION	COMMENTS	ENVIRONMENT	RECOMMENDATIONS
601	Juglans nigra	Black Walnut	225	Good	Uniform specimen	Co-dominant	Retain
602	Juglans nigra	Black Walnut	100	Good	Irregular crown	Co-dominant	Retain
603	Catalpa	Weeping Catalpa	80/60/100	Good	Mature specimen	Dominant	Retain
604	Juglans nigra	Black Walnut	90	Good	Uniform Crown	Dominant	Retain
605	Juglans nigra	Black Walnut	125	Good	Uniform Crown	Dominant	Retain
606	Fraxinus	Ash	150	Fair to good	Irregular crown	Dominant	Retain
607	Catalpa	Weeping Catalpa	90	Good	Mature specimen	Dominant	Retain
608	Craetagus	Hawthorn	150/125	Good	Over grown	Dominant	Retain
609	Juglans nigra	Black Walnut	80/90/80	Good	Clump uniform	Dominant	Retain
610	Juglans nigra	Black Walnut	100/125	good	Clump uniform	Dominant	Retain
611	Sorbus aucuparia	Mountain Ash	125	Fair to good	Clump, moderate deadwood	Dominant	Retain
612	Juglans nigra	Black Walnut	125	Fair	Major wind damage	Dominant	Remove - construction
613	Juglans nigra	Black Walnut	225	Good	Uniform specimen	Dominant	Remove - construction
614	Fraxinus	Ash	3@100, 3@90	Good	Clump uniform	Dominant	Remove - construction
615	Juglans nigra	Black Walnut	200	Good	Uniform	Dominant	Remove - construction
616	Salix	Willow	100/90/80/125/50	Good	Uniform specimen	Co-dominant	Retain
617	Quecus macrocarpa	Burr Oak	400	Good	Uniform	Co-dominant	Remove - construction
618	Malus	Apple	125	Good	Uniform	Co-dominant	Retain
619	Fraxinus	Ash	200	Poor	Less than 50% crown	Dominant	Remove - construction
620	Acer saccharum	Sugar Maple	200/100	Fair to good	Irregular crowns	Co-dominant	Retain
621	Salix	Willow	100/90/80/125/50	Good	Clump	Dominant	Retain
622	Salix	Willow	100/90/80/125/50	Good	Clump	Dominant	Retain
623	Salix	Willow	100/90/80/125/50	Good	Clump	Dominant	Retain
624	Salix	Willow	100/90/80/125/50	Good	Clump	Dominant	Retain
625	Salix	Willow	100/90/80/125/50	Good	Clump	Dominant	Retain
626	Acer negundo	Manitoba Maple	300/400	Good	Clump	Dominant	Retain
627	Acer negundo	Manitoba Maple	400/250/300	Good	Clump	Dominant	Retain
628	Tilia	Basswood	400	Good	High crown	Co-dominant	Retain
629	Tilia	Basswood	275	Good	High crown	Co-dominant	Retain
630	Acer saccharum	Sugar Maple	650	Fair	Heavy deadwood	Dominant	Retain
631	Acer negundo	Manitoba Maple	80/90/70	Good	Clump	Co-dominant	Remove - construction
632	Acer negundo	Manitoba Maple	125	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
633	Acer negundo	Manitoba Maple	90	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
634	Acer negundo	Manitoba Maple	150	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
635	Acer negundo	Manitoba Maple	125	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
636	Acer negundo	Manitoba Maple	175	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
637	Acer negundo	Manitoba Maple	90	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
638	Acer negundo	Manitoba Maple	250	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
639	Acer negundo	Manitoba Maple	90	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction

TREE #	BOTANICAL NAME	COMMON NAME	SIZE (mm. DBH)	CONDITION	COMMENTS	ENVIRONMENT	RECOMMENDATIONS
640	Acer negundo	Manitoba Maple	300/225	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
641	Acer negundo	Manitoba Maple	250	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
642	Acer negundo	Manitoba Maple	125	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
643	Acer negundo	Manitoba Maple	300	Dead	Dead	Co-dominant	Remove - construction
644	Acer negundo	Manitoba Maple	200	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
645	Acer negundo	Manitoba Maple	125	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
646	Acer negundo	Manitoba Maple	250	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
647	Acer negundo	Manitoba Maple	175	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
648	Acer negundo	Manitoba Maple	250	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
649	Acer negundo	Manitoba Maple	90	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
650	Acer negundo	Manitoba Maple	300	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
651	Acer negundo	Manitoba Maple	175	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
652	Acer negundo	Manitoba Maple	350	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
653	Acer negundo	Manitoba Maple	200	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
654	Acer negundo	Manitoba Maple	250	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
655	Acer negundo	Manitoba Maple	200	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
656	Acer negundo	Manitoba Maple	150	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
657	Acer negundo	Manitoba Maple	100	Fair to good	Large grouping, irregular crowns	Co-dominant	Remove - construction
658	Acer negundo	Manitoba Maple	350	Good	Uniform specimen, poor branch structure	Co-dominant	Remove - construction
659	Acer negundo	Manitoba Maple	200	Good	Uniform specimen, poor branch structure	Co-dominant	Remove - construction
660	Acer negundo	Manitoba Maple	300	Good	Uniform specimen, poor branch structure	Co-dominant	Remove - construction
661	Acer negundo	Manitoba Maple	400	Good	Uniform specimen, poor branch structure	Co-dominant	Remove - construction
662	Acer negundo	Manitoba Maple	450	Good	Uniform specimen, poor branch structure	Co-dominant	Remove - construction
663	Rhamnus	Buckthorn	6x80	Good	Clump	Co-dominant	Remove - construction
664	Fraxinus americana	White Ash	250	Good	Uniform	Co-dominant	Remove - construction
665	Thuja occidentalis	White Cedar	125/100/80	Good	Clump	Co-dominant	Remove - construction
666	Thuja occidentalis	White Cedar	225	Good	Clump	Co-dominant	Remove - construction
667	Thuja occidentalis	White Cedar	175/200/100/100/80	Good	Clump	Co-dominant	Remove - construction
668	Acer saccharum	Sugar Maple	375	Good	Some deadwood	Co-dominant	Remove - construction
669	Acer rubrum	Red Maple	200	Fair	Drought damage	Co-dominant	Remove - construction
670	Acer negundo	Manitoba Maple	100/200/60	Good	Uniform clump	Dominant	Remove - construction
671	Juglans nigra	Black Walnut	200	Good	Uniform specimen	Dominant	Remove - construction
672	Populus	Poplar	100/40	Good	Uniform	Co-dominant	Remove - construction
673	Acer negundo	Manitoba Maple	100	Fair to good	Irregular crown	Co-dominant	Remove - construction
674	Populus	Poplar	60/80	Good	Uniform	Co-dominant	Remove - construction
675	Quercus macrocarpa	Burr Oak	450	Good	Uniform	Dominant	Retain
676	Juglans nigra	Black Walnut	150	Fair	Moderate deadwood	Dominant	Remove - construction
677	Juglans nigra	Black Walnut	125	Fair to good	Irregular crown	Dominant	Remove - construction
678	Juglans nigra	Black Walnut	225	Good	Uniform	Dominant	Remove - construction
679	Juglans nigra	Black Walnut	275	Good	Uniform crown	Dominant	Remove - construction
680	Juglans nigra	Black Walnut	90	Good	Uniform crown	Co-dominant	Retain
681	Juglans nigra	Black Walnut	90	Good	Uniform crown	Co-dominant	Retain
682	Juglans nigra	Black Walnut	100	Good	Uniform crown	Co-dominant	Retain
683	Juglans nigra	Black Walnut	175	Good	Minor deadwood	Co-dominant	Remove - construction
684	Juglans nigra	Black Walnut	175	Good	Uniform specimen	Co-dominant	Remove - construction
685	Acer negundo	Manitoba Maple	325	Good	Uniform specimen	Dominant	Retain
686	Prunus nigra	Black Cherry	450	Fair-poor	Moderate dieback	Co-dominant	Retain

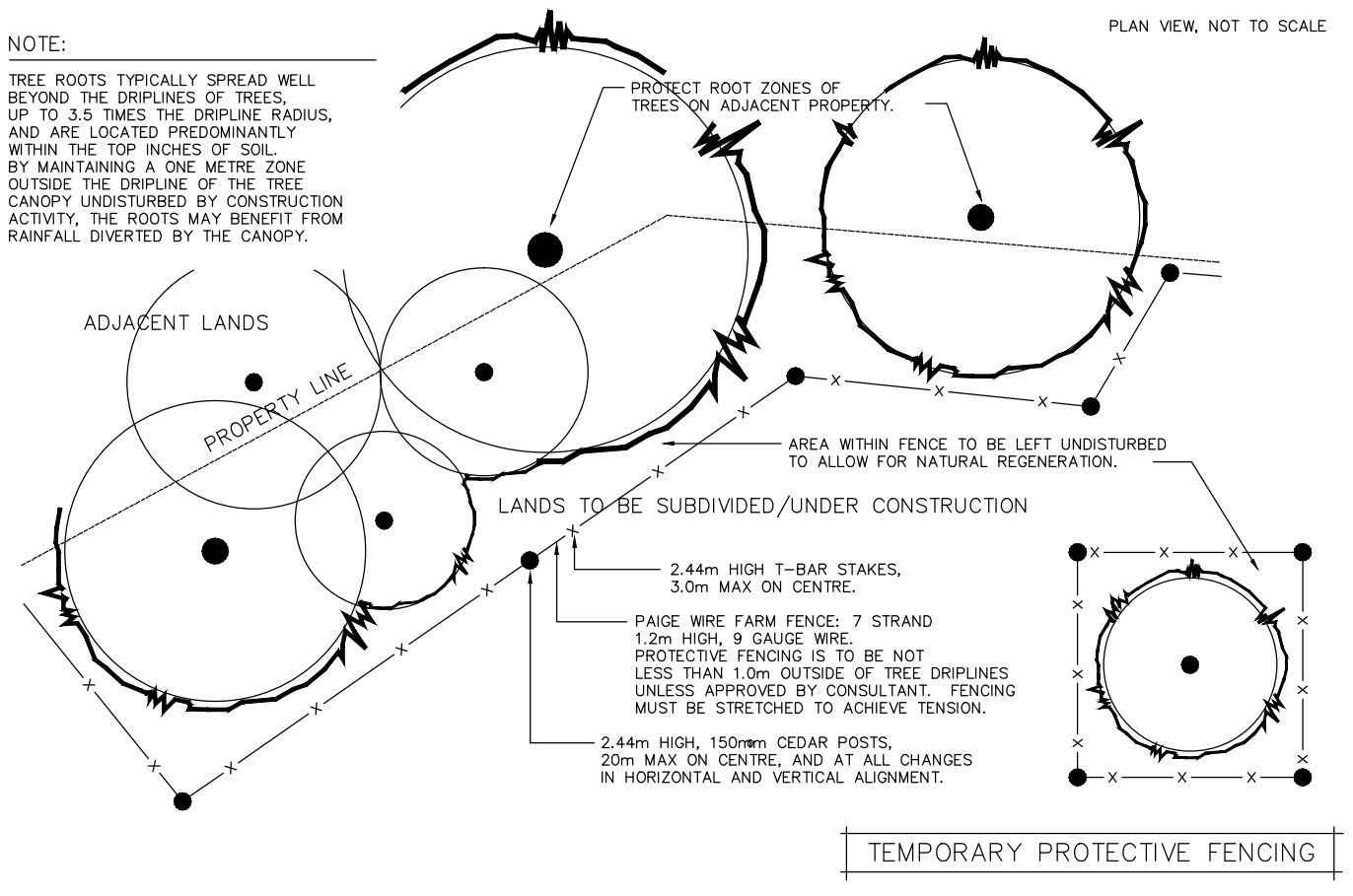
APPENDIX D

Tree Management Details

PLAN VIEW, NOT TO SCALE

NOTE:

TREE ROOTS TYPICALLY SPREAD WELL BEYOND THE DRIPLINES OF TREES, UP TO 3.5 TIMES THE DRIPLINE RADIUS, AND ARE LOCATED PREDOMINANTLY WITHIN THE TOP INCHES OF SOIL. BY MAINTAINING A ONE METRE ZONE OUTSIDE THE DRIPLINE OF THE TREE CANOPY UNDISTURBED BY CONSTRUCTION ACTIVITY, THE ROOTS MAY BENEFIT FROM RAINFALL DIVERTED BY THE CANOPY.



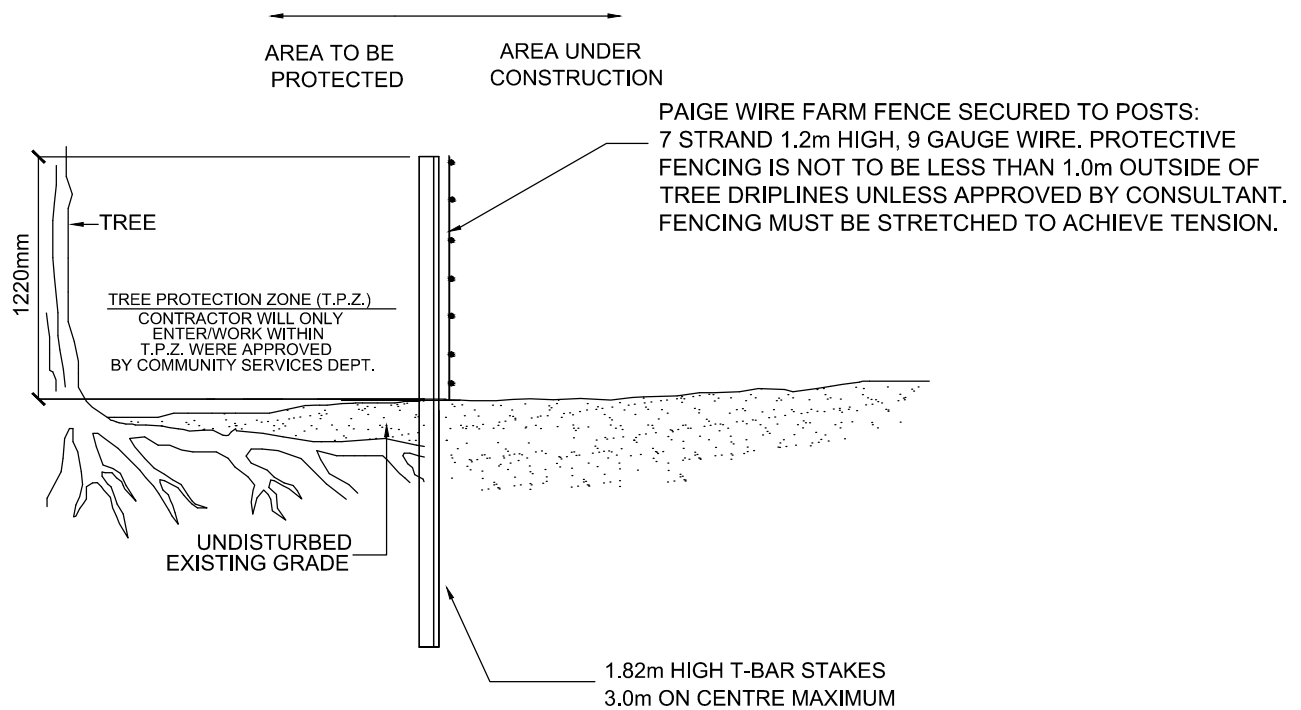
TEMPORARY PROTECTIVE FENCING

N.T.S.



Figure 1
Temporary Protective Fence
Plan

DETAIL: PROTECTIVE FENCING TO BE APPLIED TO ALL CITY OF WATERLOO TREES



NOTE:

FENCE TO BE INSPECTED ON A REGULAR BASIS AND MAINTAINED BY CONTRACTOR IN PROPER CONDITION UNTIL LOT IS SODDED.

N.T.S.



Figure 2
Temporary Protective Fence
Elevation

TREE PROTECTION AREA
BEYOND THIS POINT



NO DUMPING
STORAGE OF MATERIALS
TREE REMOVAL
DISTURBANCE OF ANY KIND

CONTACT: Developer's name and telephone number
Consultant's name and telephone number

CITY OF GUELPH: Community Design and Development
Services

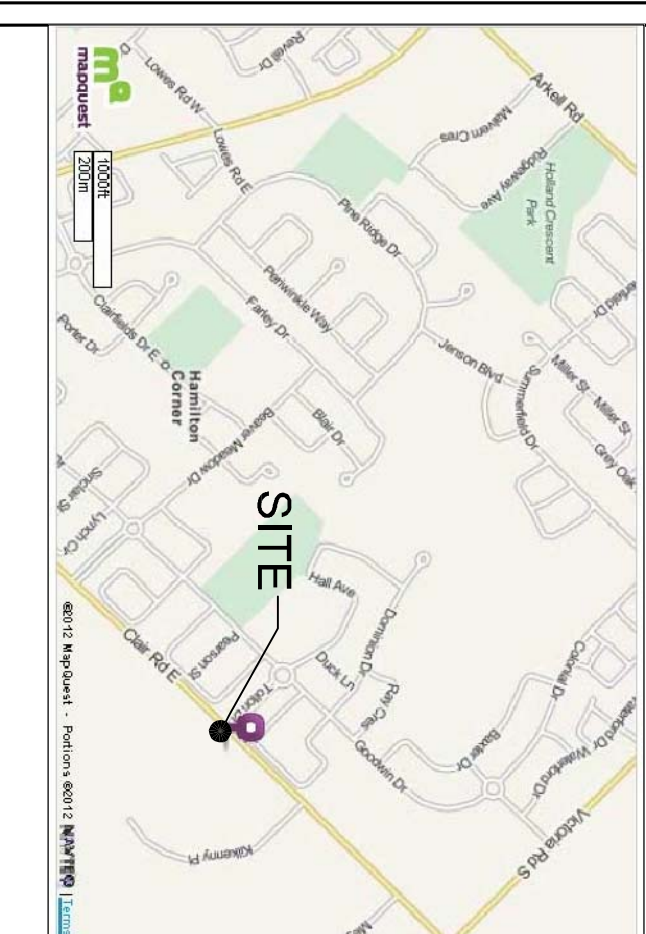
(519) 837-5616



Figure 3
Tree Preservation Area
Signage Sample

APPENDIX E
Tree Inventory Mapping

KEY PLAN
N.T.S.



General Notes

1. Drawings not to be used for construction unless authorized by the Landscape Architect
2. Contractor shall report any discrepancies between the drawings and site conditions prior to commencement of the work
3. All utility locations are the responsibility of the Contractor. Hand dig within the limits contemplated by the site plan utility utilities. All Proposed tree locations shall be reported immediately to the Landscape Architect
4. Base drawing provided by GSP Group and Shaver.

Legend

- EXISTING TREE TO REMAIN
- ⊗ EXISTING TREE TO BE REMOVED
- TREE PROTECTION FENCING
- 23 TREE IDENTIFICATION NUMBER

TREE INVENTORY REPORT AND PRESERVATION PLAN

331 Clair Road
Guelph, ON

DATE	ISSUE	BY

DATE	REVISIONS	BY

GSP GROUP
2040 Lakeshore Blvd. East
Guelph, ON N1L 7A5
www.gspgroup.ca

TMP1

Date: May 31, 2012
Scale: 1"=20'

