



RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

March 6, 2024
RS# 2021-175

Eugene Shcolyar
Petrogold Inc.
18 Erica Road
Thornhill, ON, L4J 2G1

c/o Shyan Mirhassani Vahed, Associate Planner
Evans Planning
9212 Yonge Street, Unit 1
Richmond Hill, ON, L4C 7A2

via email: svahed@evansplanning.com

SUBJECT: Naturalization Plan, 77 Wallings Road, Head Lake, Municipality of Dysart et al., County of Haliburton

Dear Shyan,

We are pleased to provide the following report prepared by RiverStone Environmental Solutions Inc. (hereafter, RiverStone) outlining a naturalization plan for the property located at 77 Wallings Road on Head Lake, in the Municipality of Dysart et al. It is our understanding that your client is proposing to develop the property as a recreational glamping facility. During consultation with the Municipality of Dysart et al., a condition of approval includes the naturalization of the shoreline buffer in order to demonstrate a net ecological improvement for the property. The property is legally described as part of Lot 14, Concession 8, Municipality of Dysart et al., County of Haliburton (**Figure 1**).

The Naturalization Plan included in this letter has been prepared to revegetate the shoreline buffer.

APPROACH AND METHODS

The general approach and methods used to prepare this Naturalization Plan involved the following:

1. Gathering background information for the study area to become familiar with existing natural features prior to the site investigation.
2. Conducting a site investigation to field-verify the natural features and functions identified during background information gathering and to collect additional field data (e.g., vegetation, aquatic habitat, etc.) to assist with completing the Naturalization Plan.
3. Providing an overall plan that will remediate natural features within the area to a condition that is functional and reflects a natural shoreline.

RELEVANT POLICY

The approval of various municipal, provincial, and federal regulatory agencies may be required prior to the implementation of this Plan.

Section 2.155 of the Municipality of Dysart et al. Zoning By-law (2005-120) defines the shoreline vegetation buffer as:

A natural area, adjacent to the high water mark of a waterbody, maintained in a natural state with native vegetation, or where disturbed by past activities, reestablished and restored to a natural state using native vegetation. The general provisions for a shoreline vegetation buffer are outlined in Section 3 of this By-law.

The subject property is currently zoned as Rural Institutional (RI) and the zone provisions outlined in Section 6.2 of the Zoning By-law outline a minimum water setback of 30 m.

SITE ASSESSMENT/EXISTING CONDITIONS

Site Investigation

Background information gathered and site visits carried out on July 14 and September 21, 2021, by RiverStone ecologist, T. Robinson, has been used to inform this report. Data collection during the site investigation focused on: (1) reviewing existing conditions, (2) identifying areas for naturalization, and (3) developing options for restoration of the shoreline buffer.

General Site Conditions and Land-use

At the time of RiverStone's onsite assessment, the subject property contained four existing structures that were historically used as an MNR fire base, a parking area, driveway, and a small woodlot (**Figure 2**). The property is located on Head Lake and includes manicured lawn adjacent to the shoreline area with mature landscape tree species also noted throughout the property (**Photographs 1 to 5**). Most of the natural vegetation on the property was historically cleared to accommodate for the existing development. There was no evidence of recent site alteration except for general lawn maintenance and tree care. Further details regarding existing site conditions can be found in the Environmental Impact Study authored by RiverStone dated February 2024.

Vegetation observed on the subject property is typical of what can be found on adjacent shorelines along Head Lake and in the Haliburton region. The property included scattered mature trees, including in the shoreline buffer. Species in the canopy include Scots Pine (*Pinus sylvestris*), Red Pine (*Pinus resinosa*), Jack Pine (*Pinus banksiana*), White Ash (*Fraxinus americana*), and Black Cherry (*Prunus serotina*). The woodlot area on the property contains a mixed pine plantation with successional growth of American Basswood (*Tilia americana*) and White Ash (*Fraxinus americana*). Understory species include Canada Mayflower (*Maianthemum canadense*) and Northern Bracken Fern (*Pteridium aquilinum var. latiusculum*).

The shoreline of the subject property was lined with cobble and areas of in-water downed woody debris. Water depths were generally shallow with 1 metre at approximately 3 metres from shore. Abundant aquatic vegetation (submerged and floating) was noted including Water-milfoil Species (*Myriophyllum sp*), Pickerelweed (*Pontederia cordata*), White Water Lily (*Nymphaea odorata*), Watershield (*Brasenia schreberi*). Pondweed Species (*Potamogeton sp*) and Yellow Pond Lily (*Nuphar lutea*).



Photograph 1. View across shoreline portion of subject property looking south depicting existing vegetation conditions (July 14, 2021).



Photograph 2. View of existing conditions of shoreline buffer depicting manicured lawn and strip of groundcover (July 14, 2021).



Photograph 3. Existing conditions across shoreline buffer adjacent to Head Lake depicting cobble in nearshore with shallow slopes and aquatic vegetation growth (July 14, 2021).



Photograph 4 Existing conditions on the subject property within shoreline buffer (July 14, 2021).



Photograph 5. Existing conditions on subject property between existing structures and shoreline of Head Lake (July 14, 2021).

NATURALIZATION PLAN AND RECOMMENDATIONS

To improve the shoreline, a Naturalization Plan has been prepared based on existing conditions observed on site, and correspondence from the Municipality regarding requirements. In general, this plan involves a “soft” (bioengineering with trees and shrubs) approach.

Site Preparation and Restoration

The extent for this naturalization plan includes the 30 m shoreline setback from Head Lake as illustrated on **Figure 2**. Details regarding recommendations for the area illustrated on **Figure 2** are outlined below. Proper sediment and erosion control measures must be installed prior to any work on the property. Please see **Figure 2** for location of sediment and erosion control fencing and refer to **Appendix 2** for details regarding installation.

To prepare the area for planting, in areas where soil depths need to be enhanced, RiverStone recommends a native clay-loam soil be added to the area to provide substrates for restoration planting as outlined on **Figure 2**. RiverStone recognizes that planted trees will need to be field fitted to accommodate for the existing vegetation. Additional details on proper planting technique and tree care are included in **Appendix 1** and should be followed to increase potential of survivability. No pruning, mowing, or manicuring is to occur within this area on the subject property once naturalization has been completed.

To meet the requirements outlined by Municipal staff, the recommendations outlined below should be followed. Specific recommendations regarding revegetation are outlined in the following section.

- **A properly installed sediment and erosion control fence is required along the shoreline edge of Head Lake. It should be constructed of heavy material and solid posts to ensure integrity. It must be erected prior to any work being done and be maintained while the restoration plan work is underway and until planting is complete and the site has greened up. See Figure 2 for location of sediment and erosion control fence and Appendix 2 for installation details and best management practices (TRCA, March 2019).**

- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (i.e., proper installation is not the only action necessary to satisfy the mitigation requirements).**
- **Sediment fencing is to be monitored daily and repaired as repair is required especially after heavy rain events and prior to and periodically during the spring melt.**
- **Additional fencing is to be installed if adequate sediment and erosion control is not being provided.**
- **Inspections of sediment and erosion control measures must be completed within 24 hours of the onset of a storm event.**
- **Sediment control measures must be maintained in good working order until vegetation has been established on the exposed soils.**
- **Any new fill material required must be locally sourced native soil and rock that are suitable for use in and near water. Compaction of the fill should be avoided to provide optimal conditions for plant growth of the existing and new vegetation.**
- **Stockpiles/storage of aggregate materials must be located away from the shoreline during construction. A suitable area would be in the parking area of the subject property. All stockpiled materials must be stored in a fashion that does not allow run-off into the lake.**
- **Following installation of restoration plantings outlined on Figure 2, any exposed soils should be vegetated and mulched immediately to prevent erosion.**
- **An access pathway to the shoreline is permitted and should be 1.8 m in width and constructed of permeable materials to allow for proper water infiltration.**

Revegetation

Bioengineering with native trees and shrubs is recommended to stabilize the shoreline and protect nearshore water quality. Details of the shoreline restoration plan are outlined and illustrated on **Figure 2**.

- **All tree saplings should be planted 3 m apart to increase rooting and provide stabilization. A total of 45 trees and 186 shrubs should be selected for the landscaped areas of the property.**
- **All shrubs should be installed 1 m apart to increase rooting and provide better stabilization.**
- **All installed woody plants (i.e., trees and shrubs) should be native to Muskoka and suitable to site conditions (e.g., light regime, moisture regime, etc.). Table 1 below lists tree species native to Haliburton.**
- **All installed woody plants (i.e., trees and shrubs) and are to be field fit to avoid existing established vegetation.**
- **All installed trees are recommended to be a minimum of 1.8 m (~6 ft) in height with a sufficiently developed root ball to sustain planting. Selecting trees of a variety of heights is strongly suggested.**
- **All tree installations should include rodent guards that are flush with the ground surface.**
- **All installed shrubs are recommended to consist of potted material in 1-3 gallon pots.**

- Any woody plant root defects (e.g., girdling) should be corrected prior to installation.
- All woody plants should be installed such that the root crown/trunk flare is exposed above the soil surface to ensure proper oxygenation of the rooting zone (see Appendix 1 for Planting Guide).
- All installed woody plants should be watered (deep soaking) following installation.
- The optimal time for woody plant installations is the spring (i.e., May) or fall (i.e., mid-September to early-October).
- Groundcover planting pods are illustrated on Figure 2. They must be planted with recommended species with a minimum of 6 plants per square meter.
- The re-vegetated areas are to be planted so that seasonal maintenance is not required, and these areas will be left to naturalize through succession.
- Once the plants are in place, a composted hardwood or pine mulch must be used to protect all unplanted areas and placed to a depth of approximately 3-5 cm.

Table 1. Native Plant List. Species selected for planting should match the moisture regime and light level in the location of planting (highlighted species are recommended for subject property).

Common Name	Scientific Name	Form	Moisture Regime – Light Level
Tree Species			
Eastern White Pine	<i>Pinus strobus</i>	Conifer Tree	Dry to Moist – shade-sun
Red Pine	<i>Pinus resinosa</i>	Conifer Tree	Dry to Fresh - sun
Eastern White Cedar	<i>Thuja occidentalis</i>	Conifer Tree	Fresh to Moist – shade to sun
Eastern Hemlock	<i>Tsuga canadensis</i>	Conifer Tree	Fresh to Moist - shade
White Spruce	<i>Picea glauca</i>	Conifer Tree	Dry to Fresh – sun
Balsam Fir	<i>Abies balsamea</i>	Conifer Tree	Fresh to Moist - shade
Tamarack	<i>Larix laricina</i>	Conifer Tree	Fresh to Moist – sun
White Birch	<i>Betula papyrifera</i>	Deciduous Tree	Dry to Moist – sun
Red Maple	<i>Acer rubra</i>	Deciduous Tree	Dry to Moist – all
Red Oak	<i>Quercus rubra</i>	Deciduous Tree	Dry to Fresh – sun
White Oak	<i>Quercus alba</i>	Deciduous Tree	Dry to Fresh – sun
Yellow Birch	<i>Betula alleghaniensis</i>	Deciduous Tree	Fresh to Moist - shade
Sugar Maple	<i>Acer saccharinum</i>	Deciduous Tree	Dry to Moist – shade
Black Cherry	<i>Prunus serotina</i>	Deciduous Tree	Dry to Fresh – sun
Trembling Aspen	<i>Populus tremuloides</i>	Deciduous Tree	Dry to Fresh – sun
Shrub Species			
Nannyberry	<i>Viburnum lentago</i>	Shrub	Moist to Wet - all
Northern Wild Raisin	<i>Viburnum cassinoides</i>	Shrub	Moist to Wet – sun
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>	Shrub	Fresh to Moist - shade
Common Ninebark	<i>Physocarpus opulifolius</i>	Shrub	Dry to Wet –all
Serviceberry	<i>Amelanchier spp</i>	Shrub	Dry to Fresh - all
Red-osier Dogwood	<i>Cornus stolonifera</i>	Shrub	Dry to Wet –all
Staghorn Sumac	<i>Rhus hirta</i>	Shrub	Dry to Fresh - all
Choke Cherry	<i>Prunus virginiana</i>	Shrub	Dry to Moist – sun
Common Elderberry	<i>Sambucus canadensis</i>	Shrub	Fresh to Moist – sun
Speckled Alder	<i>Alnus incana</i>	Shrub	Fresh to Moist - sun
Bush honeysuckle	<i>Diervilla lonicera</i>	Shrub	Dry to Fresh - all
Sweetgale	<i>Myrica gale</i>	Shrub	Damp to Moist - sun

Common Name	Scientific Name	Form	Moisture Regime – Light Level
Narrow-leaved Meadowsweet	<i>Spiraea alba</i>	Shrub	Dry to Moist – any
Ground Juniper	<i>Juniperus communis</i>	Shrub	Dry to Moist - sun
Lowbush Blueberry	<i>Vaccinium angustifolium</i>	Shrub	Dry to Moist - all
Leatherleaf	<i>Chamaedaphne calyculata</i>	Shrub	Fresh to Moist - all

Table 3. Recommended Native Groundcover Species

Common Name	Scientific Name
Wild Sarsaparilla	<i>Aralia nudicaulis</i>
Canada Mayflower	<i>Maianthemum canadense</i>
Spinulose Wood Fern	<i>Dryopteris carthusiana</i>
Northern Bracken Fern	<i>Pteridium aquilinum</i>
Northern Starflower	<i>Trientalis borealis</i>
Trillium Species	<i>Trillium sp</i>
Bearberry	<i>Arctostaphylos uva-ursi</i>
Wintergreen	<i>Pyrola americana</i>

To increase the likelihood of plant establishment and survival, RiverStone has provided a site preparation and planting guide with this report (see **Appendix 1**).

CONCLUSION

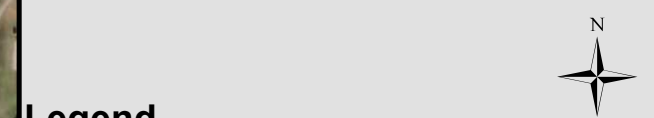
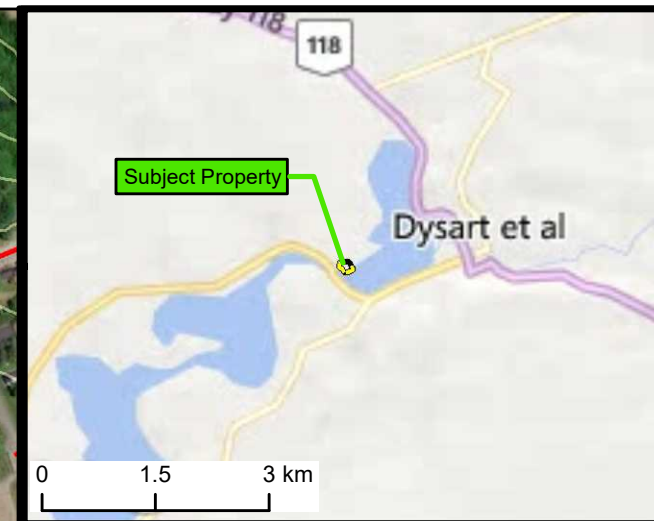
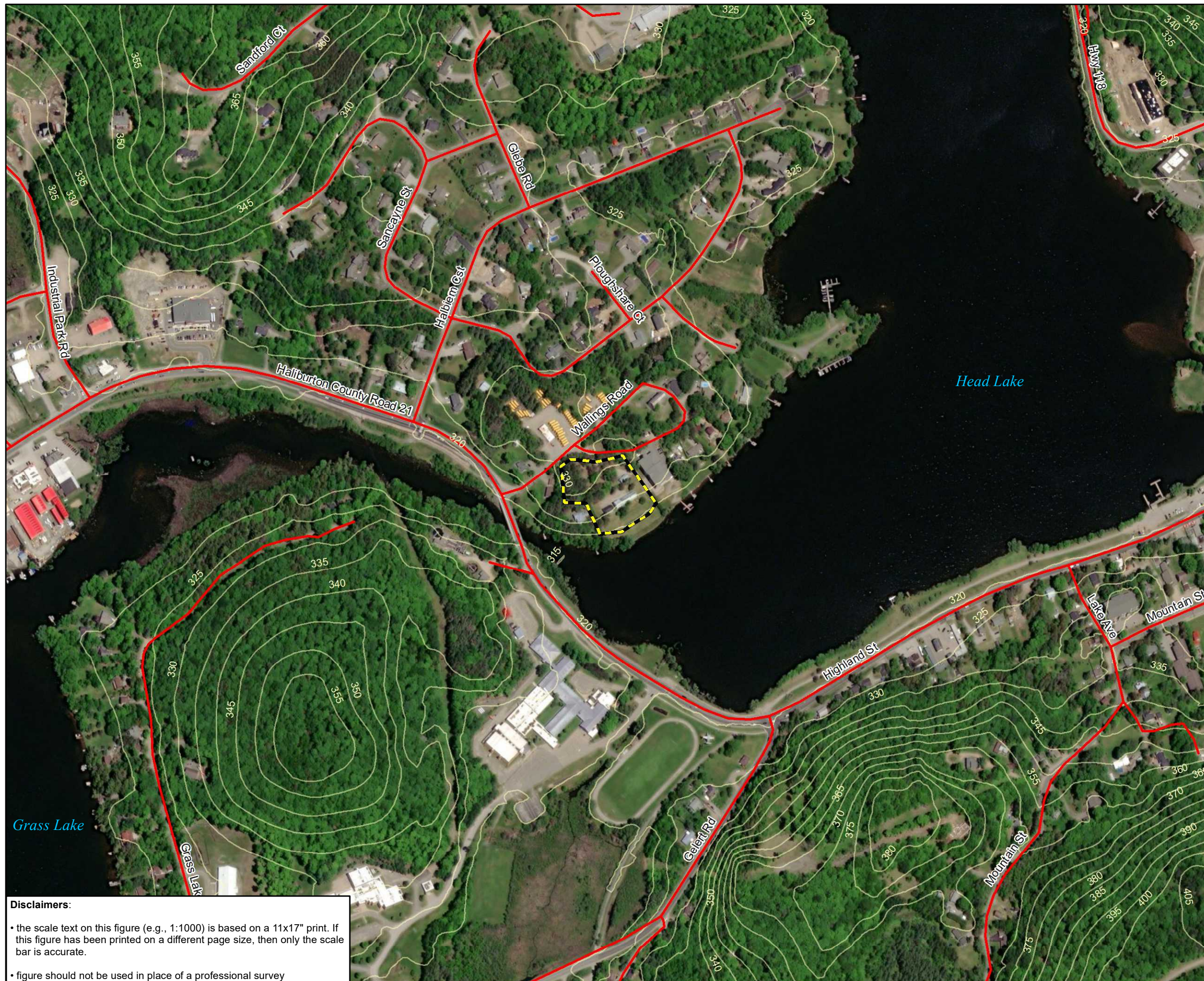
Based upon the restoration and naturalization details provided herein, it is the opinion of RiverStone that upon completion of the above recommendations, the requirements of the development application to restore the shoreline buffer on the property will be satisfied.

We trust that the information provided in this letter report satisfies your requirements and provides useful recommendations to protect the site’s significant natural features. Please contact me if there are any questions regarding the above, or if further information is required.

RiverStone Environmental Solutions Inc.
Per:



Bev Wicks, Ph.D.
Senior Ecologist / Principal



- Legend**
- Ontario Base Mapping (OBM)**
- Roads
 - 5 m Contours
- Planning Boundaries**
- ▭ Subject Property

Orthorectified aerial photo - n.d.

Scale	RS Project No.	Date Last Updated	By
1:5,000	2021-175	Feb 05, 2024	JG



Figure 1. Location Of Subject Property
 77 Wallings Road, Part of Lot 14, Concession 8,
 Municipality of Dysart et al., County of Haliburton,
 Town of Haliburton

Prepared for: Mr. Eugene Shcolyar

Inset: General Location Of Subject Property

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Revegetation Species List:

Trees

- To - Eastern White Cedar (*Thuja occidentalis*) x 6
- As - Sugar Maple (*Acer saccharum*) x 9
- Bp - White Birch (*Betula pendula*) x 6
- Ps - Eastern White Pine (*Pinus strobus*) x 12
- Pg - White Spruce (*Picea glauca*) x 8
- P - Black cherry (*Prunus serotina*) x 6

Shrubs

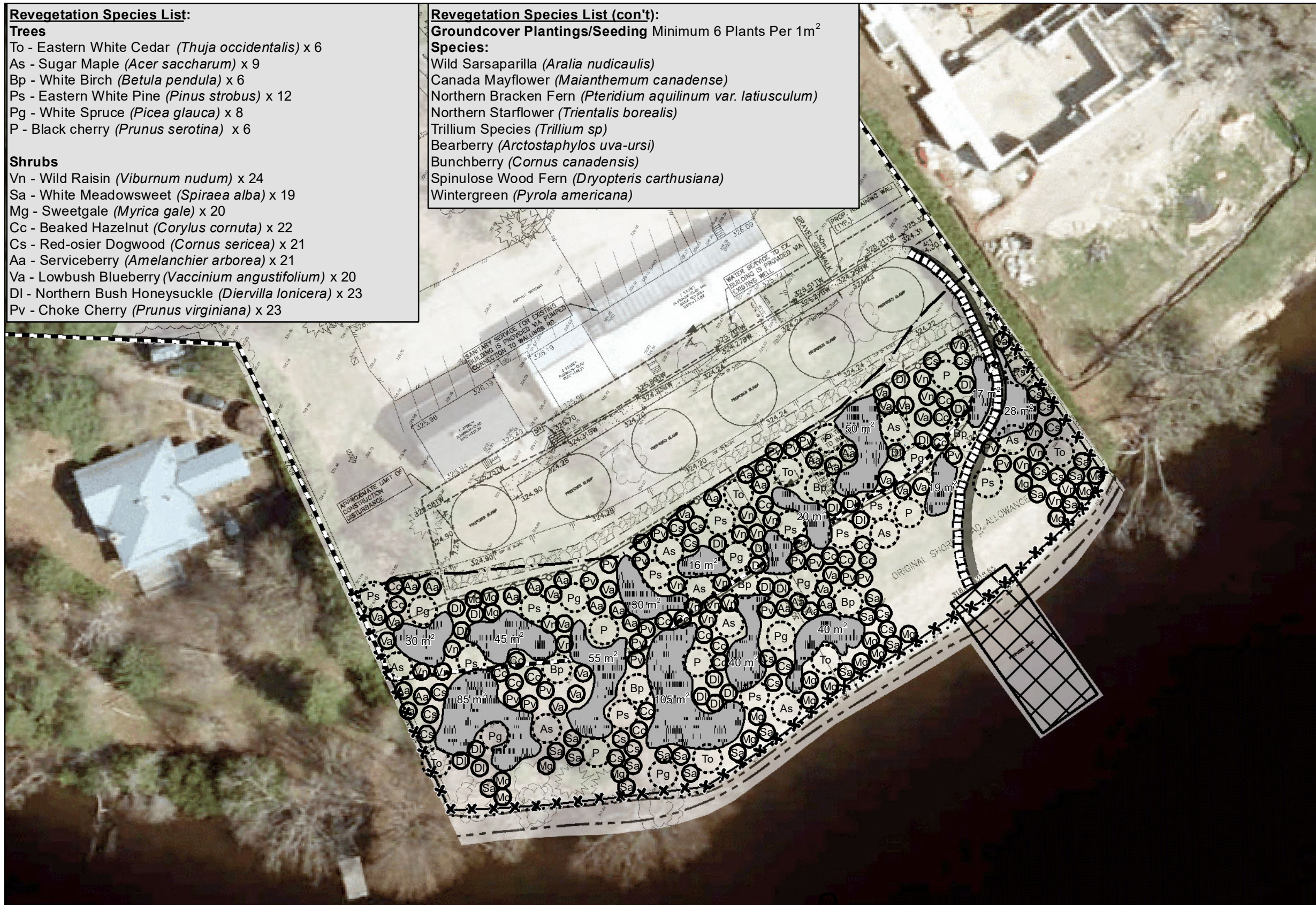
- Vn - Wild Raisin (*Viburnum nudum*) x 24
- Sa - White Meadowsweet (*Spiraea alba*) x 19
- Mg - Sweetgale (*Myrica gale*) x 20
- Cc - Beaked Hazelnut (*Corylus cornuta*) x 22
- Cs - Red-osier Dogwood (*Cornus sericea*) x 21
- Aa - Serviceberry (*Amelanchier arborea*) x 21
- Va - Lowbush Blueberry (*Vaccinium angustifolium*) x 20
- DI - Northern Bush Honeysuckle (*Diervilla lonicera*) x 23
- Pv - Choke Cherry (*Prunus virginiana*) x 23

Revegetation Species List (con't):

Groundcover Plantings/Seeding Minimum 6 Plants Per 1m²

Species:

- Wild Sarsaparilla (*Aralia nudicaulis*)
- Canada Mayflower (*Maianthemum canadense*)
- Northern Bracken Fern (*Pteridium aquilinum var. latiusculum*)
- Northern Starflower (*Trientalis borealis*)
- Trillium Species (*Trillium sp*)
- Bearberry (*Arctostaphylos uva-ursi*)
- Bunchberry (*Cornus canadensis*)
- Spinulose Wood Fern (*Dryopteris carthusiana*)
- Wintergreen (*Pyrola americana*)



Legend

Planning Boundaries

Subject Property

Features Taken from Existing Survey

Permeable Pathway (< 1.8 m Wide)

Water's Edge As Surveyed On June 13, 2021

Development Setbacks Required by Relevant Approval Authorities

30m Shoreline Setback (5.3.6.2 County of Haliburton Official Plan) / Minimum Water Setback (Comprehensive Zoning Municipality of Dysart et al Zoning By-law 2005-120)

Measures Recommended by RiverStone to Prevent and/or Reduce Impacts

Erosion And Sediment Control Fencing

Dock Envelope

Planting Plan

Groundcover

Shrub

Tree

Site Plan:

APLIN MARTIN

Aplin And Martin Consultants Ltd
2784805 Ontario Inc.
Proposed Glamping Development
Site Grading And Servicing Site
Date: November, 2023
Project No: 21-7010

Survey:

VLADIMIR DOSEN SURVEYING
Surveyors Real Report
Part of Lot 14 Concession 8
Township of Dysart et al, County of Haliburton,
Ontario
Job No:21239, File 21-090
Survey Completed June 13, 2021

Orthorectified aerial photo - spring 2018.

Scale	RS Project No.	Date Last Updated	By
1:500	2021-175	Mar 05, 2024	JG

0 7.5 15 Metres

Figure 2. Naturalization Plan
77 Wallings Road, Part of Lot 14, Concession 8,
Municipality of Dysart et al., County of Haliburton,
Town of Haliburton.

Prepared for: Mr. Eugene Shcolyar

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•this figure is based on best available information and should not be used in place of a professional survey

Attention

Soils on the historical grade should be amended with a clay-loam mixture for planting. No additional clearing should occur within the identified disturbed areas on the subject property

Figure should be interpreted with review of complete Naturalization Plan report

**APPENDIX 1: SITE PREPARATION AND PLANTING
GUIDE FOR RE-VEGETATION PROJECTS**



SITE PREPARATION AND PLANTING GUIDE

There are several steps you can take to successfully implement your re-vegetation plan and ensure that your plants are ecologically functional. The following information will guide you through good site preparation, selection of healthy plants, and proper planting techniques to increase the chance of successful establishment of your new plants.

Soil Improvement and Selection

Where a structure or vegetation has been removed from the property, new soil must be brought in for planting. A clay-loam soil is preferred to triple mix along shorelines as it has less nutrients and less risk of contaminating a neighboring water body. Imported topsoil should be locally sourced to avoid importing noxious weeds. Large garden and aggregate centers can often supply soils in bulk and delivery may be available to your site. When bringing new soil into a planting area, it is best to dump it on the new site, rake it out slightly above the preferred grade level, and let it settle for 1-3 days. Do not let exposed soils sit for more than a week as you increase the chance of recruiting weeds. If working with native soils, remove grass and other non-native vegetation from the re-vegetation area. Most plant roots grow horizontally over a distance 2-3 times the width of the root ball. As such, it is important to amend the soil adjacent to a planting site as well, if required.

Plant Selection

Look for species that have full, healthy foliage with no obvious signs of pest damage or disease when choosing plants for your project. For container stock, carefully remove the container and check to make sure that the roots appear full and healthy. The roots should not be entwined in the bottom of the container; this is a sign that the plant is “root bound” and it will be very difficult to get the plant to establish in the ground. Containerized plants are preferred to burlap wrapped or bare roots trees. You will often have a higher rate of establishment and faster growth. At times, transplanting trees and shrubs from natural areas or areas that are going to be destroyed may be an appropriate source for plant material. Plants should never be removed from the riparian area of a lake or stream and should only be from private land on which there is consent. Deciduous trees and shrubs should be transplanted in the early spring before the leaves come out, or in the fall after leaves have dropped. Transplanting of conifers should be limited to the spring. Trees and shrubs no larger than 60 cm in height should be selected, as larger, more established trees often do not transplant well. Extra care should be taken when digging trees to ensure the entire root ball and native soil is retained. Herbaceous material may be transplanted as well, but do not transplant while plants are in flower and they must be planted in similar conditions to what they were growing in.

Timing

Fall and spring are the best times of year to install new plants as soil temperatures are cool and there are often regular rains to water new plants. Environmental timing restrictions for your project may restrict plant installation to a less desirable period, such as midsummer. Plants installed during midsummer will need to be watered more regularly.

Table 1. When to plant new stock

Vegetation Type	Material Type	Time of Year (April to November)							
		April	May	June*	July*	August*	September	October	November
Trees & Shrubs	Bareroot		■	■					
	Potted or Burlap		■	■	■	■	■	■	■
Seed	Dormant Wildflower Seed		■	■	■				
	Dormant Native Grass Seed							■	■
Herbaceous Plants	Seedling Plugs		■	■	■		■	■	■
	Potted Mature Plants		■	■	■	■	■	■	■

*Caution should be used when planting during high summer temperature months due to extra watering requirements.

Table adapted from *Conservation Halton Landscaping and Tree Preservation Guidelines (April 2010)*

Planting Techniques

Container stock can be planted at any time throughout the growing season; however, if it is planted during the summer months, extra watering will be required. The following planting instructions are applicable to trees, shrubs, and perennials.

Remove the soil in the planting area to create a hole that is twice as wide and at least as deep as the root ball of the plant. If the native topsoil has been removed from the area or if the planting site has been filled with subsoil material such as sand or fill, amend the area with at least 30 cm of clay-loam soil or local topsoil.

When working with container plants invert the container and hold the stem of the plant with one hand and gently pull the lip of the container. You may need to tap the sides of the container with a shovel to free it from the root ball. For larger containers, cut the container on two sides from the lip to the bottom and trim broken or circling roots from the base of plant. When working with balled or bur lapped trees and shrubs, cut the top string and roll the burlap halfway down the root ball. If the root ball has a wire basket, fold or cut the wire loops so that the remaining wire will be below ground level. It is not necessary to remove the entire wire basket.

Fill the bottom half of the hole with your soil. Position the plant so that the top of its root ball is at or slightly above grade. If the surrounding soils offer poor drainage, it is important to keep the top of the root ball above grade. Bury half of the root ball with planting mix and add a handful of bonemeal for average size plants in 2 gallon pots. Water the hole and let the soil settle before finishing to backfill the root ball. Create a deep basin of soil around the plant to encourage water retention. Water the area heavily but slowly on planting day to charge the soil and allow for settling prior to mulching.

Mulching and Weed Control

The use of organic mulch will enhance the health of your project area by retaining water, reducing evaporation, and limiting irrigation requirements. Mulch also supports a variety of beneficial insects and soil organisms that control pests and disease and allow for better nutrient and water uptake. Most weeds are pioneer species in bare

soil and the use of mulch can greatly reduce weed seed germination. It is standard practice to apply a 4-7 cm layer of bark mulch around the base of the plant. Be sure to keep mulch away from the stem to prevent decay and rodent damage. Composted pine mulch is recommended over a cedar or coloured mulch. In areas where weeds are a bigger concern, lay overlapping sheets of cardboard or newspaper around the base of the plant and soak them with water prior to applying the mulch layer. This technique, commonly referred to as “sheet mulching”, prevents existing weed seeds and roots from sprouting. The paper fiber will break down in a year or so, adding humus to the soil. Imported topsoil can sometimes have a “seed bank” of non-native grasses and herbs. When a garden is first established it may have a flush of weeds in the first growing season. Hand weeding in the first and second year before weeds go to seed, will increase the success of your plant material and reduce maintenance in the future.

Tree Planting Diagram

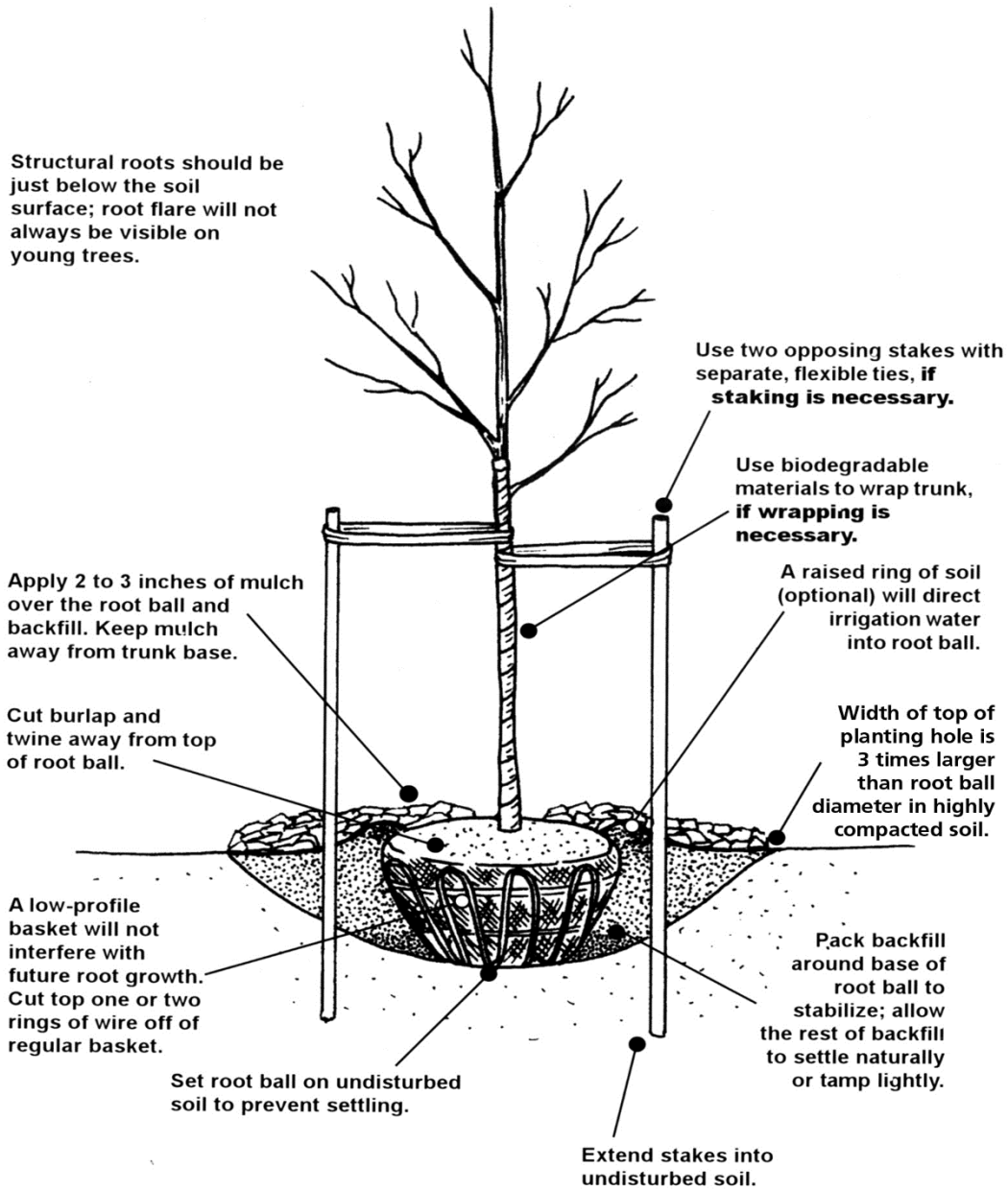


Figure 1. Diagram for planting container or burlap wrapped trees and shrubs. Source (http://chicagorainharvesting.files.wordpress.com/2011/05/trees_mortonarbdiagram.jpg)

Watering

The most important plant care activity throughout the first growing season is regular watering. Even the most drought tolerant plants can die during extended dry periods if the roots are not established. During the first summer, water plants at least once weekly under normal weather conditions. More frequent watering may be required during very hot seasons; depending on the soil type and exposure of your site you may need to water thoroughly every 3-4 days. To verify whether your soil needs watering, pull back some of the mulch in the planting area and assess the topsoil; if the topsoil is dry, watering is required. Ensure that water is filtering down into the soil and that it is reaching to the roots. Regular watering during the first growing season encourages deep root growth. When plants are deeply rooted, they are better able to draw moisture from the soil in times of drought.

Protection

In some areas, you may need to protect trees and shrubs from rodent and/or beaver damage. In the winter, rodents can severely damage young trees and shrubs by chewing the bark at the base the plant. A plastic mesh tube buried to a depth of 3-5 cm will generally help reduce this type of damage. For beaver protection, pound stakes into the ground outside of the root zone and fence the area off with chicken wire to a height of at least 1 m. Deer will also browse on young trees and shrubs, making it very difficult to provide protection. In the winter months, young conifer species can be wrapped with burlap until they exceed typical browsing height. It is very difficult to exclude deer during the summer months; therefore, the best protection is to use plant species that the deer do not favor. Talk to your consultant or a local supplier about deer resistant plant species.

APPENDIX 2: DESIGN DETAIL FOR SEDIMENT CONTROL FENCE (TRCA, MARCH 2019)



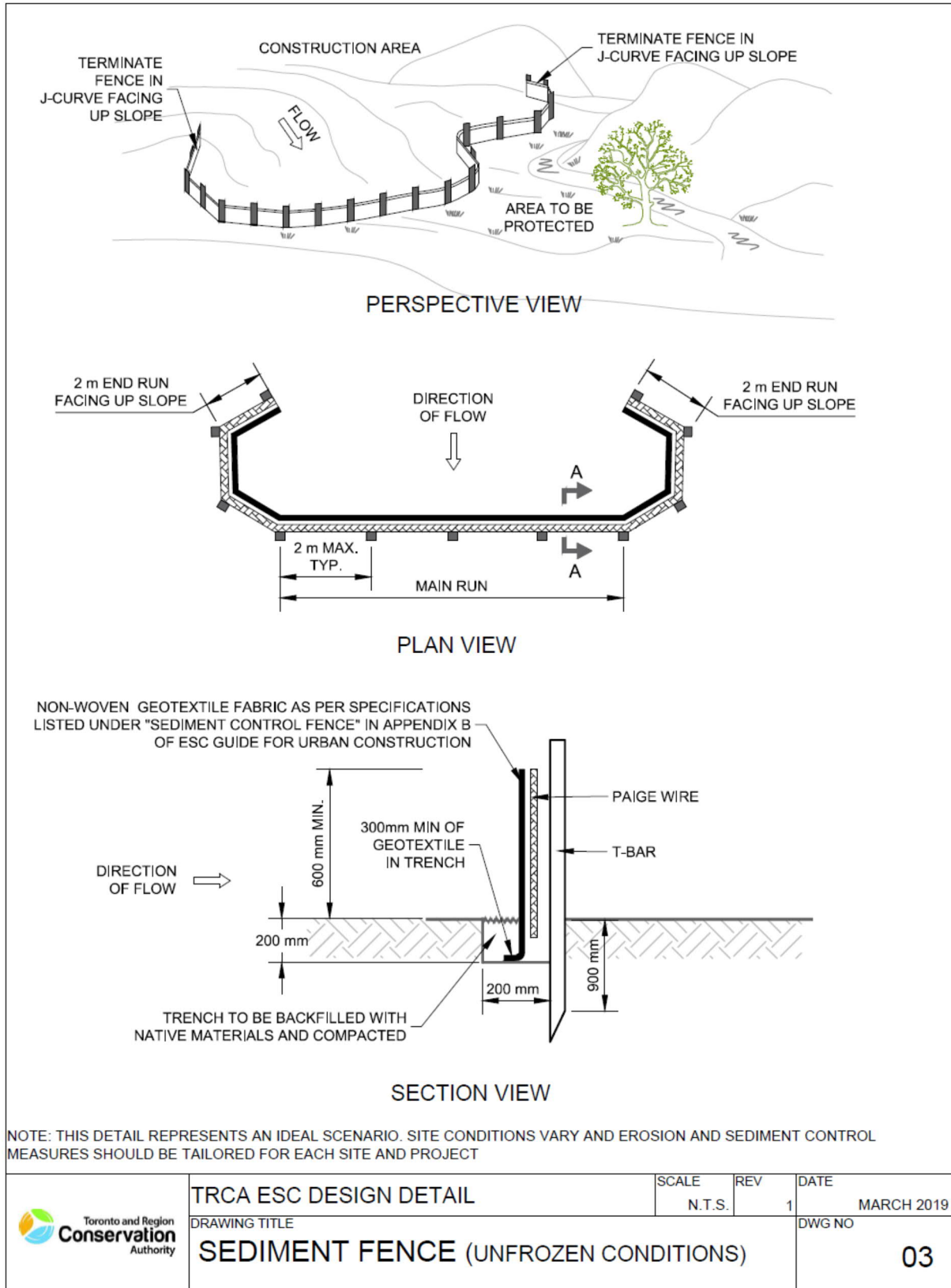


Figure B2-3a: Design detail for sediment control fence (unfrozen conditions).