RIVERWALK SUBDIVISION

7253 RAINHAM ROAD, HAMLET OF BYNG

HALDIMAND COUNTY

SCOPED ENVIRONMENTAL IMPACT STUDY

LUCCHETTA HOMES LTD.

SEPTEMBER 2020

MYLER ECOLOGICAL CONSULTING

INTRODUCTION

Myler Ecological Consulting was retained by Lucchetta Homes c/o T. Johns Consulting Group to prepare a Scoped Environmental Impact Study (EIS) for the proposed residential subdivision development at 7253 Rainham Road, in the Hamlet of Byng, Haldimand County, Ontario (the site).

The site is a small remnant farm of approximately 3.58 hectares in area that contains an existing home, a barn and outbuildings, a small artificial dugout pond and pasture/hayfield. The site fronts on Rainham Road, with the Byng Island Conservation Area to the north and west and residential properties to the east.

The proposed residential subdivision development will create thirteen new lots and will include extension of a municipal road into the site. The existing home will be retained as the fourteenth lot. The existing barn will be retained within the one of the new lots.

This Scoped EIS describes the environmental constraints at the site and identifies how they were considered in preparation of the development concept to ensure compliance with applicable policies and conservation objectives.

PRE-CONSULTATION AND SCOPING

At Pre-Consultation on 07 November 2018, the Grand River Conservation Authority (GRCA) requested preparation of a Scoped EIS, citing "the subject land contains floodplain and regulated allowance" within the proposed severed Lot 7. There is no regulated area elsewhere on the site.

Subsequent scoping discussion between Myler and GRCA (Nathan Garland, *pers. comm.*) confirmed GRCA's primary interest in the Scoped EIS involved the assessment of potential impacts on the regulated area and downstream fish habitat as a result of site stormwater management. GRCA identified additional secondary scope items including assessment of potential impacts on the Byng Island Conservation Area's Significant Woodland to the west of the site and screening for the potential occurrence of, and impacts to, Species at Risk (SAR) and Significant Wildlife Habitat (SWH).

Accordingly, Myler's investigation and assessment focused on determining the character and sensitivity of the regulated area and potential fisheries/aquatic impacts and included screening observations to address the Significant Woodland, SAR and SWH concerns.

PROPOSED DEVELOPMENT

The development concept is depicted on the T. Johns Consulting Group Draft Plan drawing DP1-1, attached, which shows the following key elements of the severances and residential development:

- A municipal road right-of-way will be extended northward from Rainham Road through the centre of the site, terminating in a cul-de-sac to permit vehicle turnaround near the northern site boundary.
- Thirteen (13) new single-family residential lots will be created within the site, of which Lots 1 through Lot 12 will front on the new municipal road internal to the site. The lot containing the retained home and Lot 13 will front upon and be accessed directly from Rainham Road.

- The existing home and attached garage will be retained.
- The existing barn will be retained within Lot 12. A shed and a detached garage will be removed from within Lot 12.
- The existing artificial dugout pond will be removed within Lot 13 (and a small portion of the lot containing the retained home).
- Tree removal will be limited to those few amenity trees that occur within the property. The woodland to the west and the hedgerow to the north of the site will not be affected as both are off-site features within the Byng Island Conservation Area.

The Functional Servicing Report (FSR) prepared by S. Llewellyn & Associates (July 2020) describes stormwater management, water and sanitary servicing for the proposed development. Key elements are depicted on the FSR's Preliminary Site Servicing Plan drawing C102 and the Notes and Details drawing C103 (both attached) and include:

- Quantity control is not required. The existing drainage pattern will be generally maintained, excepting a small portion at the site's eastern limit that drains eastward, with storm drainage directed to the swale within GRCA-regulated area at the northwest corner of the site.
- Drainage within the lots will be split to the front and rear of each lot. The front lot drainage and the municipal road extension will be captured at the road in catch basins with shield inserts to provide initial quality control and conveyed northward in a storm sewer beneath the road to an oil-grit separator (OGS) that will provide additional quality control prior to discharge to the swale at the site's northwest corner. The rear lot drainage will be captured in rear yard surface swales fitted with rock check dams to promote settling and infiltration prior to discharge to the existing swale at the site's northeast corner. Installation of rip-rap at the swale and OGS discharge points will prevent erosion within the existing swale at the site's northeast corner.
- There is no municipal watermain in the vicinity of the site, so water supply is proposed to be provided by on-site cisterns or private wells.
- There is no municipal sanitary sewer in the vicinity of the site, so sanitary service is proposed to be provided by on-site septic systems to be designed by others.

Modeling of storm flows outlined in the FSR included consideration of the contributions to the drainage swale from the developed site and from the larger balance of the catchment area within the Byng Island Conservation Area. It was determined that the existing 675 mm corrugated steel pipe (CSP) culvert beneath the Haldimand Trail roadway (within the Byng Island Conservation Area) is undersized for the conveyance of both current and post-development storm flows. The FSR recommended removal of the existing CSP culvert and installation of twin smooth-walled high density polyethylene (HDPE) 700 mm round pipe culverts, with modeling indicating that twin 700 mm culverts will be able to convey projected storm flows, including the 100-year storm.

NATURAL FEATURES, CONSTRAINTS, IMPACTS AND POLICY REQUIREMENTS

Existing Information Review

Existing mapping was reviewed to identify the extent of natural features that could represent constraints to development. Sources included the Haldimand County Official Plan (OP) schedules, online GRCA regulation mapping, online Natural Heritage Information Centre (NHIC) mapping and Department of Fisheries and Oceans (DFO) online aquatic SAR mapping.

OP Schedule C.3 (Figure 1, below) shows the site within the boundary of the Hamlet of Byng except for a small area where Riverine Hazard Lands associated with a small tributary watercourse extend from the Grand River across Byng Island Conservation Area lands and into the northwest corner of the site. Haldimand OP Schedule E.3 shows the Hamlet of Byng adjacent to the Grand River Marshes (designated in the OP as Natural Environment / Wetland Area #26) which includes the Grand River Marshes Provincially Significant Wetland Complex, Life Science Area of Natural and Scientific Interest and Environmentally Significant Area.

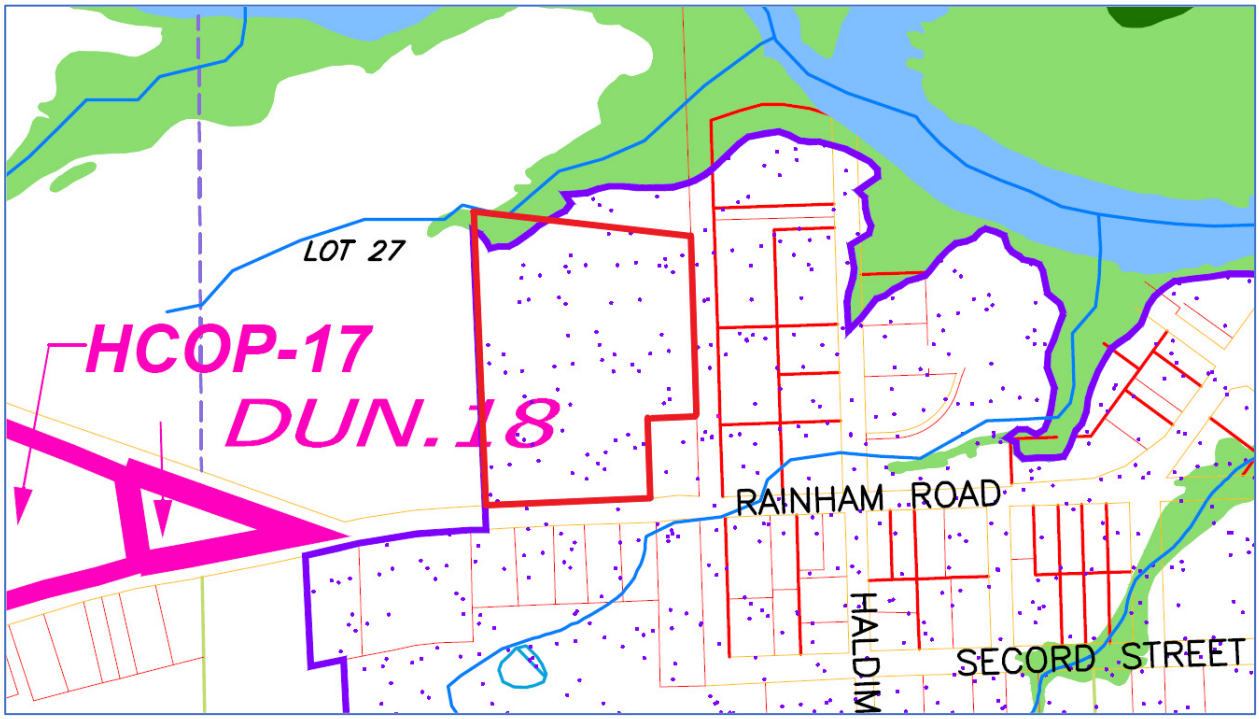


Figure 1: Haldimand OP Schedule C.3 excerpt with the site highlighted (thick red line), within the Hamlet of Byng (thick purple line), except for Riverine Hazard Lands (green fill) in the site's northwest corner.

GRCA regulation mapping was provided by GRCA at Pre-Consultation (Figure 2, below) that identified regulatory floodplain and regulation limit within the site's northwest corner. GRCA regulation mapping was subsequently revised (Figure 3, below) to extend the regulated watercourse into the hayfield in the site's northwest corner. The extent of a defined watercourse onto the site, versus ephemeral drainage swale, will be discussed later in this Scoped EIS.

Note that the GRCA regulation mapping also shows a distinct separation of the site from vegetated features

of the Conservation Area woodland to the west and from the hedgerow to the north.

Figure 2: Excerpt of GRCA Regulation Mapping that was provided by GRCA at Pre-Consultation 07 November 2018, showing floodplain (blue outline and diagonal hatching) and regulation limit (yellow line and shading) extending into the northwest corner of the site (red property boundary).

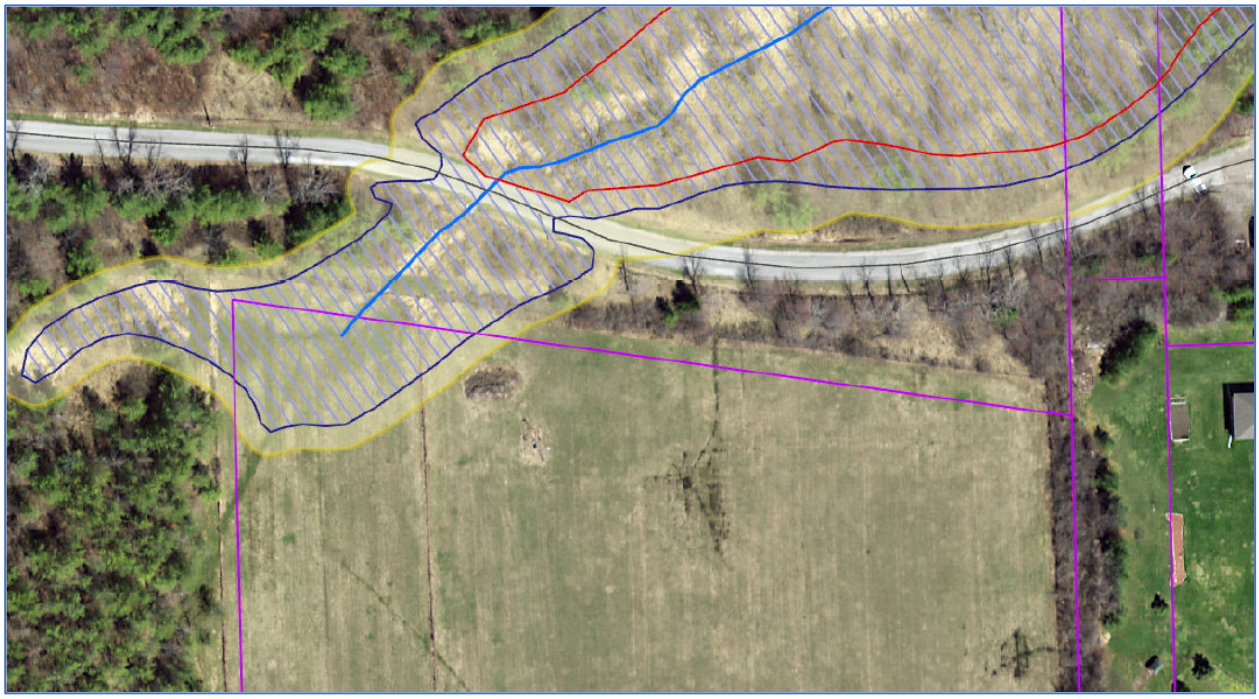


Figure 3: Excerpt of the GRCA Regulation Mapping downloaded 23 April 2019, showing extension of the regulated watercourse to a point in the hayfield approximately 5 metres into the site.

NHIC online mapping (Figure 4, below) shows the site far (~370 metres) from the nearest Provincially Significant Wetland which is within the Grand River. The wetland closest to the site is the Unevaluated (i.e., non-Provincially Significant) Wetland associated with the lowermost portion of the tributary swale and watercourse north of the site. The Unevaluated Wetland is >40 metres from the site. The tributary watercourse is not shown on NHIC mapping. NHIC mapping does show the extent of woodland on the Byng Island Conservation Area lands, including the woodland block west of the site.

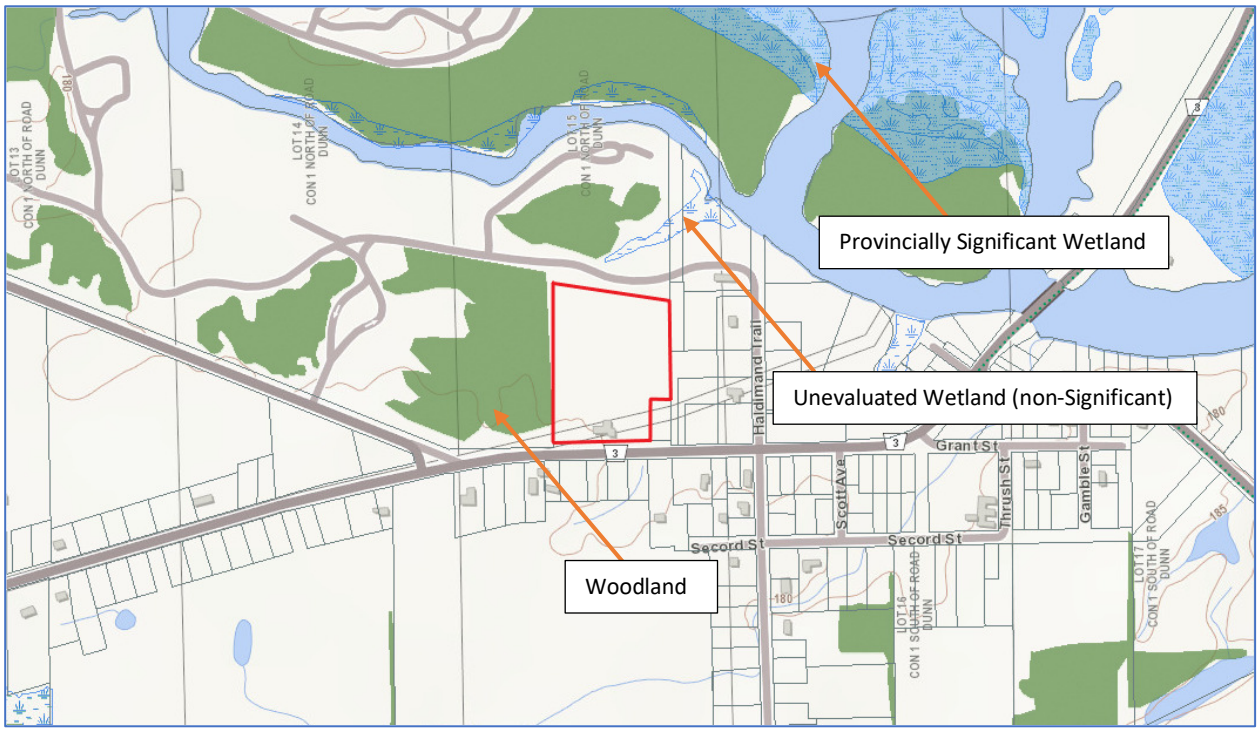


Figure 4: NHIC online mapping excerpt showing the site (red outline) in relation to distant Provincially Significant Wetland (light blue "vegetation" fill) in the main axis of the Grand River, Unevaluated Wetland (i.e., non-Provincially Significant Wetland) ("vegetation" fill without blue shading) along the tributary north of the site, and adjacent woodland (dark green fill) on Conservation Area lands west of the site.

DFO's online aquatic SAR mapping (Figure 5, below) indicates the potential occurrence of nine aquatic SAR, including 8 freshwater mussel SAR and one fish SAR, in the tributary north of the site. The mapping indicates that no critical habitat of aquatic SAR occurs within the tributary. It's worth noting that the DFO mapping produces the same SAR list for each of the nearby Grand River tributaries and within adjacent portions of the Grand River. As such, the aquatic SAR list generated for the tributary north of the site reflects *potential* aquatic SAR occurrence based on the connection with SAR occurrence in the Grand River and does not denote confirmed occurrence of those SAR or habitat suitable for their existence, within the tributary watercourse and swale. In other words, the DFO mapping is a trigger for SAR screening within the swale and watercourse, and not confirmation of the presence of each of the listed species.

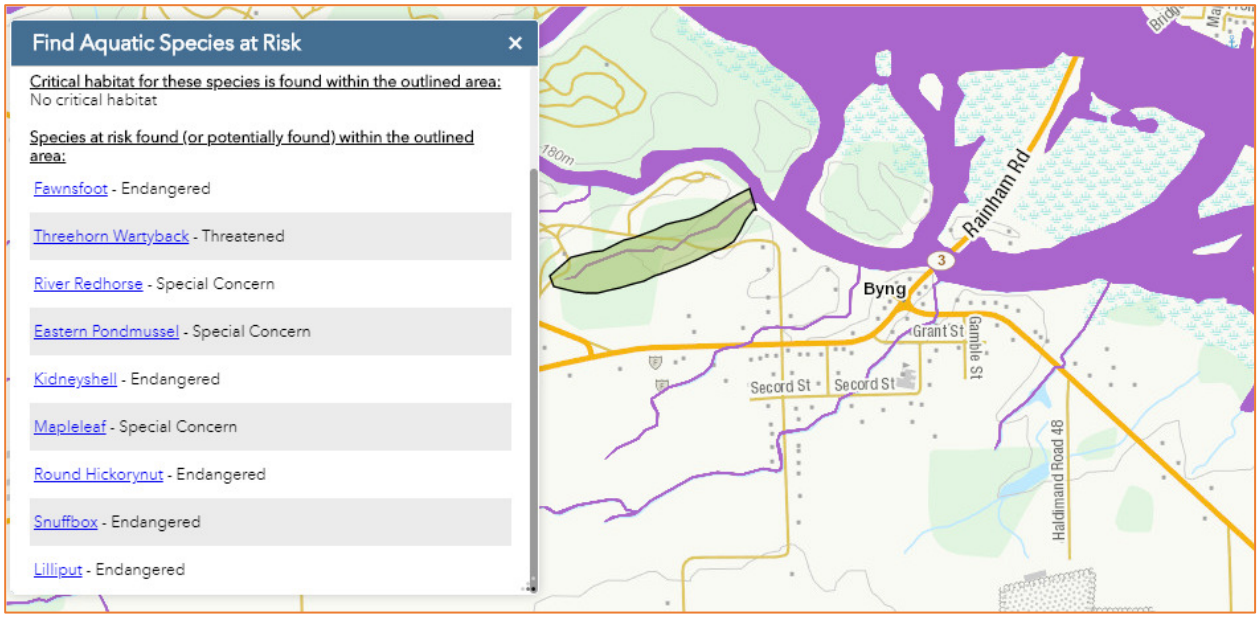


Figure 5: Excerpt of DFO's online Aquatic SAR mapping showing the 9 aquatic SAR, including 1 fish and 8 mussel species, listed for the tributary watercourse north of the site (and all other nearby Grand River tributaries and adjacent portions of the Grand River).

Site Observations

Myler conducted site visits on 13 May 2019 and 10 July 2019 to observe the condition of the site and immediate vicinity, including the GRCA-regulated drainage feature and the adjacent GRCA-owned significant woodland, and to screen for the occurrence of SAR / SAR habitat and SWH.

Myler observed the site as containing an existing home, barn and associated outbuildings, manicured area and farm fields (see Figure 6, below, and attached representative photos). There are no natural vegetation features on the site. Manicured area surrounds the existing home and outbuildings in the southern portion of the site. The manicured area includes planted shade trees and a small artificial dugout pond that is isolated from and not connected to any watercourse. The rest of the site is an active agricultural field, a hayfield/pasture, that was observed to be in a deeply ploughed condition on Myler's visits because of the archaeological investigation.

The woodland in the Byng Island Conservation Area was observed to be conifers that were planted set back from the boundary fence by approximately 3-5 metres in most places. Some tree branches overhang the site boundary, but only by a few metres.

A shrubby hedgerow of varying width occurs north of the fence along the site's north boundary. Review of mapping indicated that the fence and hedgerow appear to occur just outside of the site on GRCA's Conservation Area lands.

Site topography was observed to be fairly flat, with a gentle descent towards the low swale in the northwest corner.

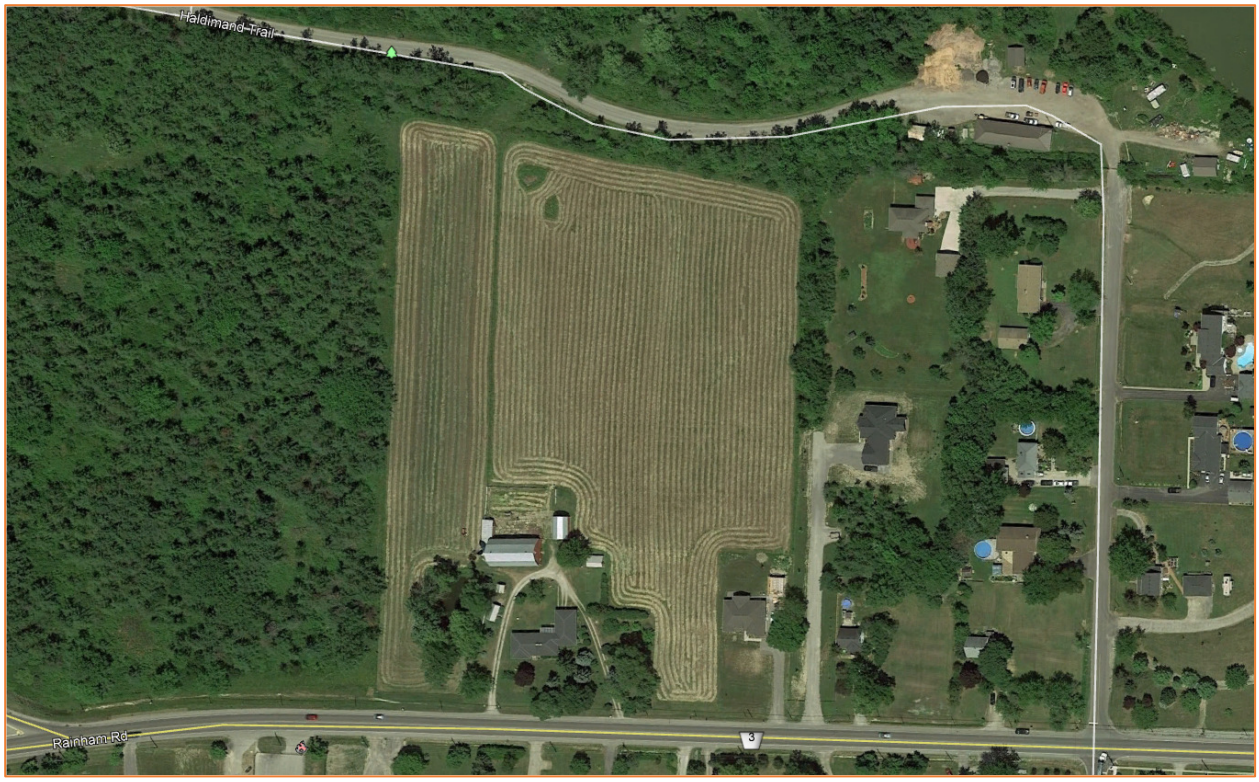


Figure 6: Air photo of the site (excerpt of Google Earth 2018 image) showing the existing home, outbuildings, manicured area and agricultural fields. GRCA woodland is visible to the west. The GRCA-regulated swale/floodplain in the northwest corner is invisible, but windrows of cut hay are evident.

Features representing potential environmental constraints to the development were therefore determined to be limited to the on-site GRCA-regulated floodplain and watercourse in the site's northwest corner and the off-site woodland, subject to SAR and SWH screening.

Natural Hazard – Floodplain

The sole natural hazard on the site is the GRCA-regulated floodplain. Both the mapped floodplain limit and the 6 metre floodplain setback specified in GRCA policy are contained entirely within the proposed Lot 7, with space within Lot 7 for a new home and associated water and septic services outside of the regulated area. As such, no new development, including even the creation of a new property boundary, will occur within the regulated floodplain natural hazard and the associated 6 metre setback.

Natural Heritage Features – Fish Habitat & Significant Woodland

Fish Habitat

Myler's observations at the site and north across the fence onto the Byng Island Conservation Area confirmed that an ephemeral swale occurs in the northwest corner of the site. The swale is entirely vegetated

by upland hayfield/pasture and does not contain a defined stream channel, pools or other features of aquatic habitat. The swale therefore does not possess fish habitat or habitat of freshwater mussel and fish SAR. Review of aerial imagery taken prior to the archaeological ploughing shows hayfield and hay harvest extending uninterrupted across the swale area into the northwest corner of the site. The swale is barely distinguishable in the aerial photographs.

As the swale does not possess fish habitat, the aquatic natural heritage and aquatic SAR concerns are limited to conveyance and contribution of flow to habitat that is located off-site and downstream within the receiving tributary watercourse and ultimately within the Grand River.

The swale is protected as a conveyance feature through the avoidance of development within regulated floodplain natural hazard feature and its associated 6 metre setback. The mapped floodplain and regulated setback together confer a >20 metre setback from the swale centreline (including the watercourse segment that was extended onto the site in GRCA mapping), which more than satisfies the Haldimand County OP policy of a 15 metre buffer from a warmwater stream or Type 2 and Type 3 fish habitat (none of which actually occur within the swale).

Significant Woodland

The Haldimand County OP defines *significant* in regard to woodlands as:

"*…an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to its site quality, species composition, or past management history*"

The Byng Island Conservation Area woodland that is west of the site may be considered Significant Woodland due to the conservation management stand history as well as its size, connectivity and proximity to the Grand River and associated natural areas including other forested areas within the Conservation Area and on Byng Island. Myler's observations of the adjacent woodland, which is dominated by planted conifers, revealed no obvious importance attributable to species composition or age of trees, however some measure of ecological importance is assumed on at least a precautionary basis due to its proximity to and connection with the broader Grand River natural area.

As noted above, the eastern edge of the woodland adjacent to the site is clearly contained within the Conservation Area, making it an off-site feature. Most of the trees are set back from the existing post and wire fence and with only minor overhang of some tree branches above the western edge of the hayfield.

As the woodland is off-site, there will be no intrusion within or removal of existing woodland for the development. As the adjacent woodland will be next to the rear yards of Lots 7 – 12 and the side yard of Lot 13, there will be a substantial setback between the woodland and the homes on those lots. Minor grading to create the rear yard drainage swale within the site will not affect the woodland. As such, there will be no direct impact on the woodland.

Species at Risk Screening

SAR screening was conducted through observation of the built and manicured features of the site. The site contains no natural habitat features.

DFO Aquatic SAR mapping is described above, in relation to the potential occurrence of freshwater mussel and fish SAR in the tributary watercourse downstream of the site, and further downstream in the Grand River. There is no suitable habitat for mussel and fish SAR in the on-site ephemeral swale that drains towards the watercourse. As such, the aquatic SAR occurrence is an off-site, downstream consideration, that is addressed by measures to protect water quality and prevent erosion.

Natural Heritage Information Centre (NHIC) online Element Occurrence information was reviewed for the occurrence of SAR in the area at and around the site. This information was used to determine whether interactions with SAR are likely to occur as a result of the development.

NHIC Element Occurrences included most of the aquatic SAR listed by DFO along with records of the following SAR including two birds and three turtles:

- Eastern Meadowlark (Threatened), a ground-nesting songbird of prairie, meadow and hayfields.
- Wood Thrush (Special Concern), a forest songbird related to the common American Robin.
- Common Snapping Turtle (Special Concern), inhabits a broad range of aquatic habitats including lakes, marshes, rivers and even small streams and ponds.
- Midland Painted Turtle (Special Concern), similarly inhabits a broad range of aquatic habitats.
- Northern Map Turtle (Special Concern), inhabits rivers, lakeshores and bays and is not typically found in small streams and ponds.

No Eastern Meadowlark were observed on the site by Myler. The hayfield/pasture on site is small, and is closely bordered by woodland, hedgerow and residential uses. Eastern Meadowlark prefers large open areas with long uninterrupted sightlines.

There is no woodland on site for Wood Thrush, and the planted conifer woodland on the adjacent Conservation Area does not match the Wood Thrush's habitat of mature deciduous or mixed conifer/deciduous woodland.

Common Snapping Turtle and Midland Painted Turtle were not observed on site, but individual specimens, particularly of the Snapping Turtle, could occur within the small dugout pond on site. The extensive aquatic habitat required by Northern Map Turtle is absent from the site. The ephemeral drainage swale in the site's northwest corner does not offer habitat for these turtle species.

The potential occurrence of additional SAR not listed by NHIC was screened in consideration of site characteristics:

- Endangered Bat Species: Use of the residential amenity trees as roosts by Endangered Bat species is unlikely given the good condition of the trees and a lack of peeling bark and hollow cavities. Bats may roost seasonally within the existing home, barn and outbuildings.

- Barn Swallow, a Threatened bird species, is often associated with barns (hence the common name). Signs of historical nesting were observed within the barn, which is to be retained. Even so, the nest remnants appeared to be quite old and no active nests were observed during either site visit. At the time of the site visits the barn did not house livestock of any sort. Myler has observed discontinuation of nesting by Barn Swallow in other agricultural buildings, at other sites, once the buildings were no longer used to house livestock. Myler has observed the most active nesting by Barn Swallow at sites where barns are in active use to house horses, cattle, sheep or chickens.

SAR screening confirmed an absence of Threatened and Endangered SAR and associated habitat at the site, except for the possible occurrence of Endangered Bat species in existing buildings and evidence of historical nesting by Threatened Barn Swallow in the existing barn. The existing home and barn will be retained, along with the potential for future use of the barn by Barn Swallow and either or both of those structures by Bats. Removal of the existing detached garage and shed outbuildings does not involve potential Barn Swallow nesting habitat and may be accomplished outside of Bat roosting season such that no Bats will be harmed.

There is an unconfirmed potential for occurrence of one or a few Common Snapping Turtle, and less likely Midland Painted Turtle, within the artificial dugout pond on site. The origin of any such turtles would be the nearby Grand River. Removal of the pond may be accomplished during the spring or summer when turtles are active and the pond water can be pumped out (with the use of appropriate screen) such that any turtles may be salvaged and relocated safely back to the Grand River for release.

The development will therefore comply with the Endangered Species Act in that no SAR or SAR habitat will be affected.

Significant Wildlife Habitat Screening

Review of the Significant Wildlife Habitat Criterion Schedules for Ecoregion 7E against observed site characteristics indicates the following conclusions for the presence/absence of SWH:

- Seasonal Concentration Areas of Animals:
  - a) Waterfowl Stopover and Staging Areas (Terrestrial): Site lacks evidence of spring season sheet water flooding.
  - b) Waterfowl Stopover and Staging Areas (Aquatic): Site lacks marsh and swamp vegetation communities.
  - c) Shorebird Migratory Stopover Area: Site lacks shoreline habitat.
  - d) Raptor Wintering Area: Site does not meet the >15 hectare significance criterion for field/meadow.
  - e) Bat Hibernacula: Site lacks caves, mine shafts, underground foundations and karsts.
  - f) Bat Maternity Colonies: Site lacks forest habitat. Although bats may roost in buildings, buildings are not considered to be SWH.
  - g) Turtle Overwintering Areas: Artificial ponds are not considered SWH.
  - h) Reptile Hibernaculum: Site lacks features that would give snakes access below frost line. No snakes

were observed on site.

i) Colonially-Nesting Bird Breeding Habitat (Bank and Cliff): Site lacks banks and cliffs.

j) Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs): Site lacks the tree/shrub swamp habitat necessary for heron/egret nesting.

k) Colonially-Nesting Bird Breeding Habitat (Ground): Site lacks the open rocky island/peninsula for gulls and terns and lacks the "close proximity to watercourses in open fields or pastures with scattered trees or shrubs" for Brewer's Blackbird.

l) Migratory Butterfly Stopover Areas: Site is >5km from Lake Erie and does not meet the minimum area criterion for significance of >10 hectares.

m) Landbird Migratory Stopover Areas: Site is >5km from Lake Erie and lacks woodlot/forest.

n) Deer Winter Congregation Areas: Site lacks woodlot/forest.

- Rare Vegetation Communities: None of the listed vegetation communities occur on site. The site lacks natural vegetation communities.
- Specialized Habitat for Wildlife:

a) Waterfowl Nesting Area: No ducks were observed on site.

b) Bald Eagle and Osprey Nesting, Foraging and Perching Habitat: Site lacks woodland/forest.

c) Woodland Raptor Nesting Habitat: Site lacks woodland.

d) Turtle Nesting Areas: Site lacks the necessary exposed mineral soil areas.

e) Seeps and Springs: No seeps or springs were observed, and there is none of the necessary forest vegetation community type that defines this SWH.

f) Amphibian Breeding Habitat (Woodland): Site lacks woodland and woodland wetland, pond or pool habitat. The artificial dugout pond, although within 120 metres of the adjacent GRCA woodland, does not quite meet the minimum area criterion for significance of >500 square metres, and only a few individuals of Green Frog and Leopard Frog were observed in the sparse cover around the pond, and no tadpoles or newts were observed.

g) Amphibian Breeding Habitat (Wetlands): Site lacks wetland.

h) Woodland Area-Sensitive Bird Breeding Habitat: Site lacks woodland vegetation community type.

- Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species):

a) Marsh Bird Breeding Habitat: Site lacks marsh vegetation community type.

b) Open Country Bird Breeding Habitat: The site's hayfield/pasture does not satisfy the >30 hectare area criterion for significance.

c) Shrub/Early Successional Bird Breeding Habitat: Site lacks shrubby successional vegetation community type.

d) Terrestrial Crayfish: No terrestrial crayfish burrows or chimneys were observed on site.

e) Special Concern and Rare Wildlife Species: Special Concern turtle species (Common Snapping

Turtle and Midland Painted Turtle) could possibly occur incidentally as one or a few individuals in the artificial dugout pond. Such an occurrence, in a very small artificial feature, would not be considered significant habitat for either species.

- Animal Movement Corridors:
  a) Amphibian Movement Corridors: No significant amphibian breeding habitat occurs at the site, and the site neither contains amphibian summer habitat nor occurs between summer habitat and potential breeding habitat.

Results of the SWH screening indicate the absence of SWH on the site. The development will therefore not include SWH.

Policy Compliance Summary

GRCA Policy

Compliance with GRCA policy for the regulated floodplain and watercourse will be achieved through avoidance of development within the regulated area (floodplain plus 6 metre setback, which will be entirely contained within Lot 7), provision of on-site stormwater management treatment train, and installation of twin HDPE 700 mm culverts to replace the existing 675 mm CSP culvert beneath the Haldimand to correct the current and projected shortfall in storm flow conveyance at that crossing.

Haldimand County OP and the Provincial Policy Statement (2020)

Compliance with the Haldimand County OP policies respecting the adjacent off-site significant woodland are achieved through demonstration of no negative impact as described in this Scoped EIS.

The ephemeral drainage swale was confirmed not to possess fish habitat, and so should not require a fish habitat buffer. No part of the development will occur within fish habitat. However, to the extent that a small portion of the swale centreline is nevertheless mapped as a watercourse by GRCA, compliance with the Haldimand OP policy requiring a 15 metre setback from warmwater fish habitat and Type 2 or Type 3 fish habitat will be achieved through the development setback from the mapped floodplain and regulated 6 metre floodplain setback, totalling >20 metres.

Potential impacts on off-site downstream fish habitat and aquatic SAR will be prevented through the use of erosion and sedimentation controls during construction and integrated treatment-train stormwater management.

SAR and SWH screening confirmed that the development would not occur within or negatively impact the significant habitat of Threatened and Endangered Species or SWH.

Accordingly, the development will comply with natural environment policies in the Haldimand County OP and with the Provincial Policy Statement (2020) policy of no negative impact to natural heritage features and their ecological function.

Fisheries Act and Federal Species at Risk Act

Federal Fisheries Act compliance will be achieved through avoidance of development within fish habitat. Measures to protect fish and fish habitat downstream of the site, including aquatic SAR with federal Species at Risk Act protection, include avoidance of development within the regulatory floodplain, erosion and sedimentation controls, and provision of integrated treatment-train stormwater management.

Endangered Species Act

Aquatic SAR downstream of the site also enjoy protection under the provincial Endangered Species Act, for which compliance will be achieved through avoidance of development within the regulatory floodplain, erosion and sedimentation controls, and provision of integrated treatment-train stormwater management.

Screening for terrestrial SAR did not confirm presence of Threatened or Endangered species on the site. However, precautionary consideration of potential future Barn Swallow nesting in the existing barn identifies no potential impact as the barn will be retained. Precautionary consideration of the potential occurrence of Endangered Bat species during the spring and summer maternal roost season triggers recommendations for seasonal timing of removals of outbuildings and trees to avoid harming any incidental occurrence of roosting bats and their young. As such, Endangered Species Act compliance will be achieved.

Migratory Birds Convention Act

Federal Migratory Birds Convention Act compliance is indicated for vegetation clearing (i.e., tree, shrub and meadow) during site preparation and construction. Tree and vegetation clearing is recommended to avoid the active bird nesting season from late March to late August and thereby comply with the prohibition on "incidental take" of migratory birds and with the requirement to exercise due diligence to avoid/minimize the risk of incidental take.

Impact Assessment Summary

The subdivision does not include development within Natural Hazard or Natural Heritage features. There are no Natural Heritage features on site.

The sole on-site Natural Hazard (i.e., GRCA-regulated floodplain) and its 6 metre setback will be contained entirely within Lot 7, with sufficient room within Lot 7 to site a home and private services outside of the regulated area. Stormwater management and proposed replacement of the existing Haldimand Trail CSP culvert with twin HDPE culverts will prevent flooding, erosion and water quality impacts on the site and on the neighbouring Byng Island Conservation Area.

Erosion and sedimentation controls during construction, and stormwater management permanently installed in the subdivision, will protect fish habitat and aquatic SAR in the tributary watercourse downstream of the site.

There will be no intrusion within the Conservation Area's woodland west of the site or hedgerow north of

the site. Homes in Lots 7 – 13 will be set back from the woodland by the considerable depth of the rear yards (side yard in the case of Lot 13) and will be physically separated from the woodland by the existing fence, which, along with the presence of Conservation Area staff, will deter encroachment and dumping. There is sufficient internal setback of the Conservation Area's planted coniferous trees from the boundary fence that a formal woodland buffer is neither required nor recommended. External lighting on the homes will be downward facing to avoid light intrusion into the woodland.

Residual potential impacts relate to wildlife (i.e., turtles, birds and bats) that may occur in association with the on-site artificial dugout pond, amenity trees and other vegetation, and outbuildings that are to be removed. Recommended avoidance and mitigation measures are provided below.

RECOMMENDATIONS

As natural hazard and natural heritage policy compliance and conservation objectives will be satisfactorily addressed, the proposed development plan is recommended for approval, subject to a few key recommended mitigation measures, described below:

- Install erosion and sedimentation controls around the GRCA-regulated drainage swale prior to site preparation to mitigate water quality and sedimentation impacts to off-site fish habitat and aquatic SAR downstream of the site's swale drainage feature.
- Pump out the artificial dugout pond using a screened pump inlet to prevent entrainment/impingement of aquatic wildlife and to allow for the salvage (i.e., capture and live release in appropriate nearby habitat) of any incidentally occurring Common Snapping Turtle or Midland Painted Turtle.
- Time the preparatory removal of amenity trees and shrubs and general clearing/mowing of hayfield/pasture vegetation during September – March, outside of bird nesting season (defined on Canadian Wildlife Service nesting calendar for Zone C1 as late March to late August) to maintain Migratory Birds Convention Act compliance. If site clearing must occur during the April – August period, a qualified biologist should conduct a search for active nests and provide advice on avoidance of any such nests that are discovered.
- Time the preparatory removal of amenity trees and outbuildings to avoid any potential incidental occurrence of roosting Bats during the mid-May to mid-August maternal roost season. If trees and/or outbuildings must be removed during the active Bat maternal roost season, a qualified biologist should conduct an evening search for bats using an ultrasonic microphone and detector and provide advice on avoidance if bats appear to be associated with certain trees or outbuildings.

Implementation of these mitigation measures is intended to maintain compliance with applicable policies and legislation.

CONCLUSION

Development of the proposed subdivision will avoid and manage the on-site floodplain natural hazard and will not impact off-site natural heritage features including the adjacent significant woodland and

downstream habitat of fish and aquatic SAR. Recommended mitigation measures will prevent impacts to nesting birds and SAR wildlife that may occur incidentally among the built, manicured and agricultural features of the site.

The development complies with applicable GRCA, Haldimand County and Provincial Policy Statement (2020) natural hazard and natural heritage policies. Compliance with the provincial Endangered Species Act, federal Species at Risk Act, federal Fisheries Act and federal Migratory Birds Convention Act will be achieved through implementation of recommended mitigation measures.

Accordingly, the development is recommended for approval by GRCA and Haldimand County.

REPRESENTATIVE SITE PHOTOGRAPHS

Photo 1: Existing home and manicured area fronting on Rainham Road.

Photo 2: Barn, detached garage and surrounding manicured area.

Photo 3: Artificial dugout pond and surrounding shade trees within the site's manicured area.

Photo 4: Western limit of the site, looking across hayfield/pasture northward along the edge of the Conservation Area woodland. Planted coniferous woodland trees are set back from the site behind the boundary paige-wire fence.

Photo 5: Facing into the site's northwest corner. The ephemeral drainage swale and GRCA-regulated floodplain occupies the low area just beyond the fence (centre-rear).

Photo 6: Facing southwest over the fence from the Conservation Area at the ephemeral swale in the site's northwest corner. Very wet spring conditions caused standing water in furrows and flow within the swale, but no defined channel was evident on either site of the site boundary.

Photo 7: Facing southwest up the swale from the Haldimand Trail crossing within the Conservation Area. Flow was diffuse within the vegetated swale, with no defined watercourse channel.

Photo 8: Facing northeast down the swale from the Haldimand Trail crossing in the Conservation Area. A broad vegetated floodplain area occurs downstream of the culvert with no distinct channel and no habitat suitable for the listed aquatic SAR fish and freshwater mussels.

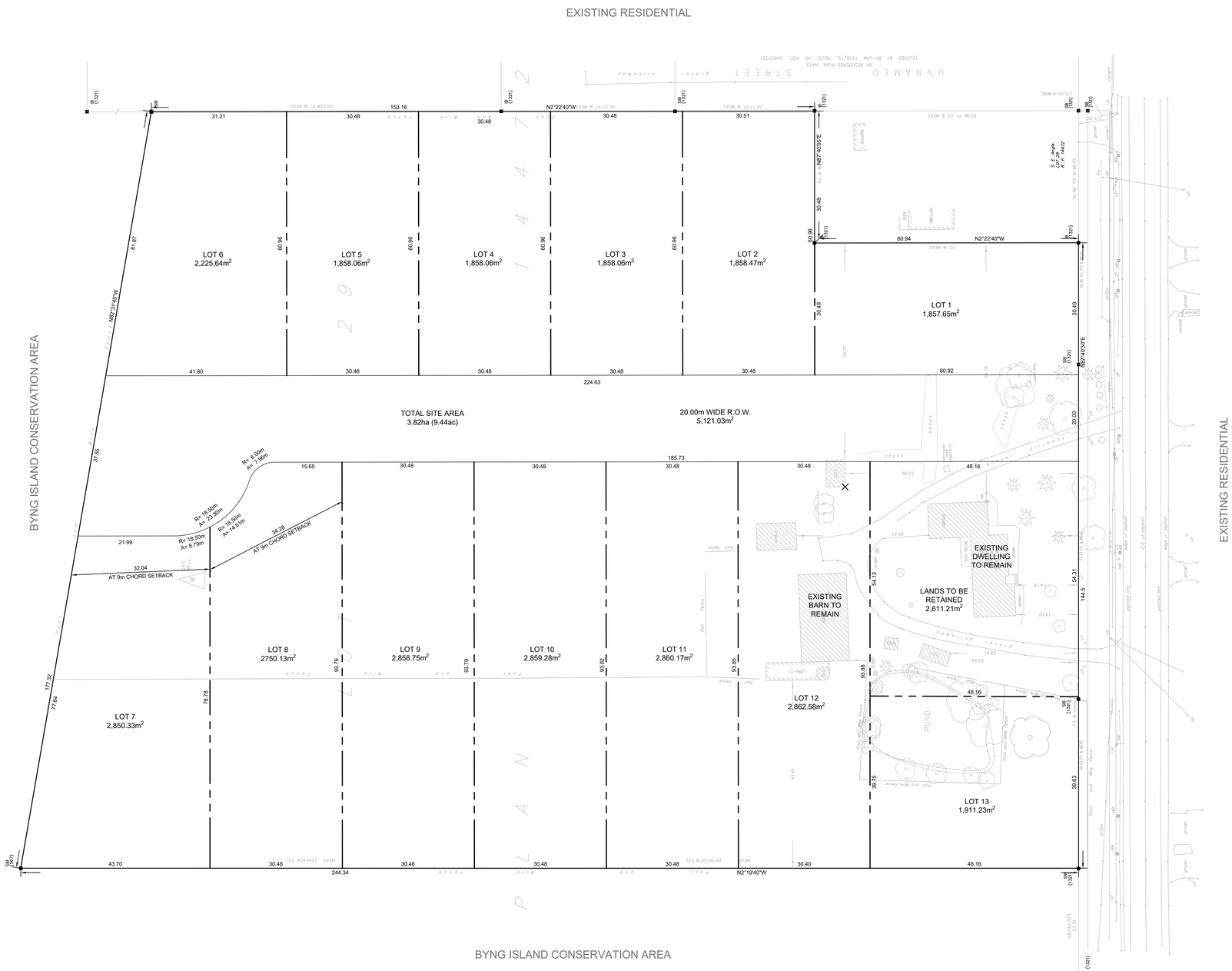
Photo 9: Facing north across the site's hayfield/pasture area, with hedgerow and trees of Byng Island Conservation Area visible in the background.

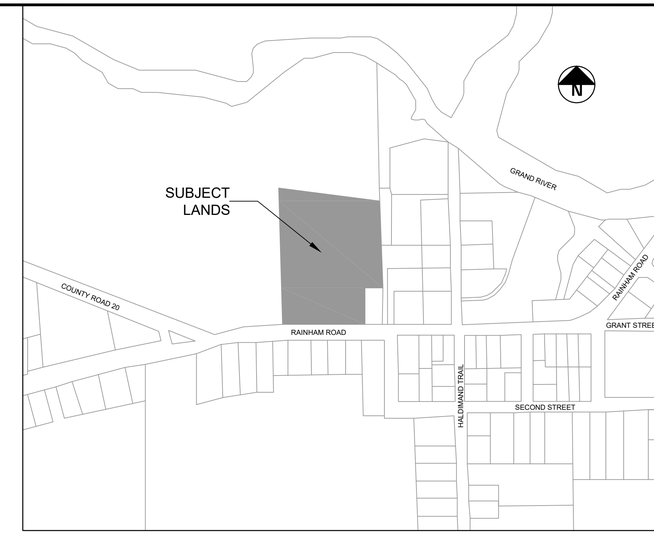
Photo 10: Facing southeast across the site's hayfield/pasture towards the recently constructed neighbouring home within the lot and to other Rainham Road homes in the background.

DRAFT PLAN

and

PRELIMINARY SITE SERVICING PLAN





KEY PLAN
1:5,000

LEGAL DESCRIPTION

PART OF LOT 29 PLAN 14472, HALDIMAND COUNTY

MUNICIPAL ADDRESS:
7253 RAINHAM ROAD
DUNVILLE, ONTARIO
N1A 2W8

LEGEND

PLANNING ACT

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT. OF ONTARIO RS0 1990

a SEE PLAN
b) SEE PLAN
c) SEE PLAN AND KEY PLAN
d) SEE PLAN AND LAND USE SCHEDULE
e) SEE PLAN
f) SEE PLAN
g) SEE PLAN
h) MUNICIPAL DOMESTIC WATER SUPPLY
i) SOIL TYPE 'NOT MAPPED'
j) SEE PLAN
k) PRIVATE SEPTIC, PUBLIC WATER SUPPLY, STORM OVER LAND FLOW/DITCH
l) SEE PLAN

METRIC NOTE

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE

ROY S. KIRKUP, O.L.S.
KIRKUP + MASCOE + URE SURVEYING LTD.

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE T. JOHNS CONSULTING GROUP LTD. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF _____ TO THE CITY OF _____ FOR APPROVAL.

DATE

CLIENT NAME
CLIENT COMPANY

LAND USE SCHEDULE

LOT	DESCRIPTION	FRONTAGE (m) @ 9.0m CHORD	AREA (m²)	PERCENT (%)
1	SINGLE DETACHED DWELLING	30.4900	1,857.6500	4.86
2	SINGLE DETACHED DWELLING	30.4800	1,858.4700	4.87
3	SINGLE DETACHED DWELLING	30.4800	1,856.0600	4.86
4	SINGLE DETACHED DWELLING	30.4800	1,858.0600	4.86
5	SINGLE DETACHED DWELLING	30.4800	1,858.0600	4.86
6	SINGLE DETACHED DWELLING	41.8000	2,225.6400	5.83
7	SINGLE DETACHED DWELLING	32.0400	2,850.3300	7.46
8	SINGLE DETACHED DWELLING	34.2800	2,750.1300	7.20
9	SINGLE DETACHED DWELLING	30.4900	2,858.7500	7.48
10	SINGLE DETACHED DWELLING	30.4800	2,859.2800	7.49
11	SINGLE DETACHED DWELLING	30.4800	2,860.1700	7.49
12	SINGLE DETACHED DWELLING	30.4900	2,862.5800	7.49
13	SINGLE DETACHED DWELLING	39.6300	1,911.2300	5.00
SUBTOTAL		422.1000	30466.4100	
	LANDS TO BE RETAINED	54.3100	2,611.2100	6.84
	RIGHT OF WAY	20.0000	5,121.0300	13.41
TOTAL		496.41	38198.65	100.00

REVISIONS

REV.	DESCRIPTION	DATE	INIT.
C	REVIEW	12-JULY-2019	JB
B	PRE-CONSULTATION	16-OCT-2018	JW
A	REVIEW	11-OCT-2018	JW

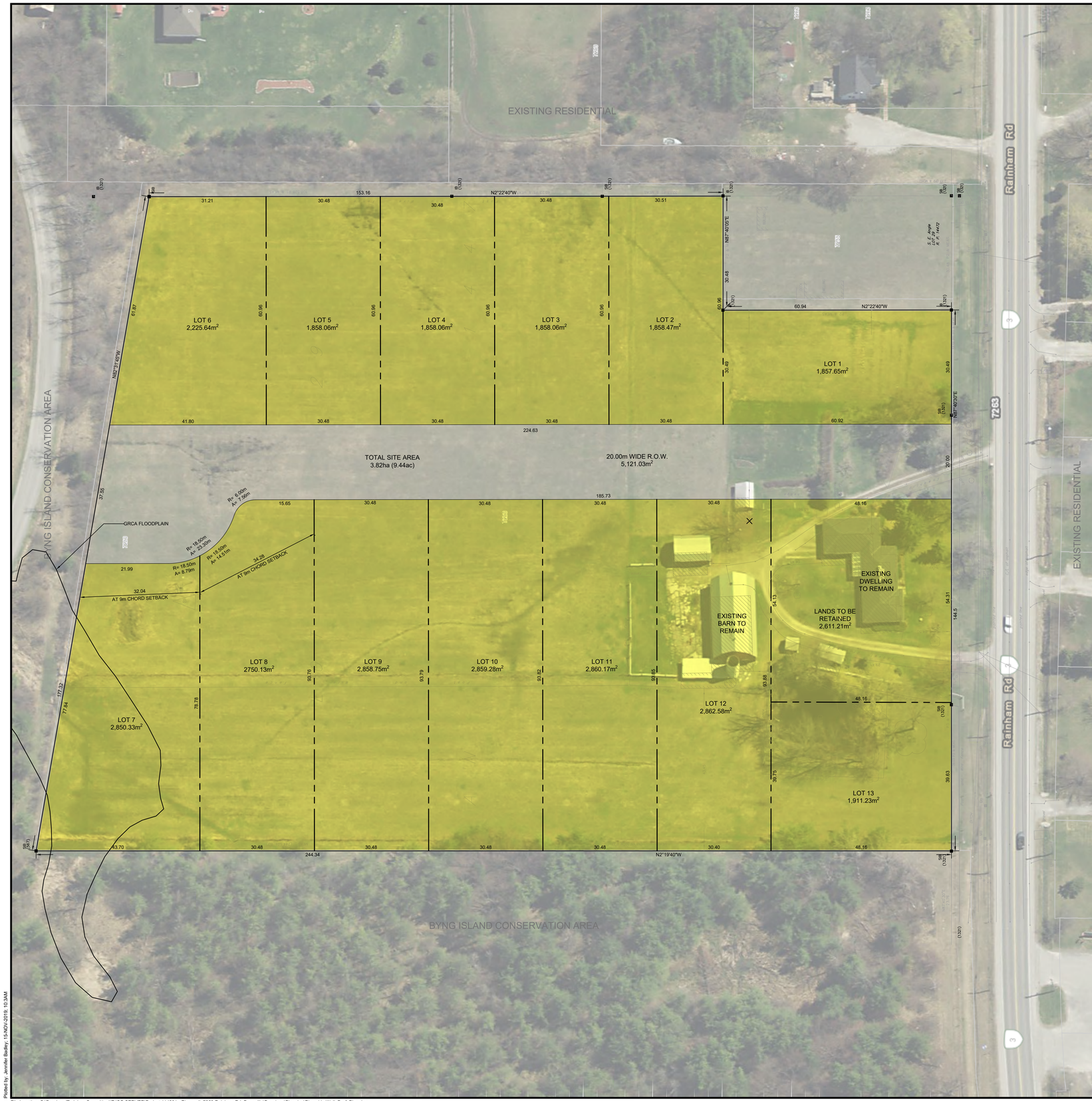
T. JOHNS CONSULTING GROUP
URBAN PLANNING | DESIGN | PROJECT MANAGEMENT
310 LIMERIDGE ROAD WEST, SUITE 6
HAMILTON ONTARIO, L9C 2V2
P 905-574-1993
F 905-527-9559

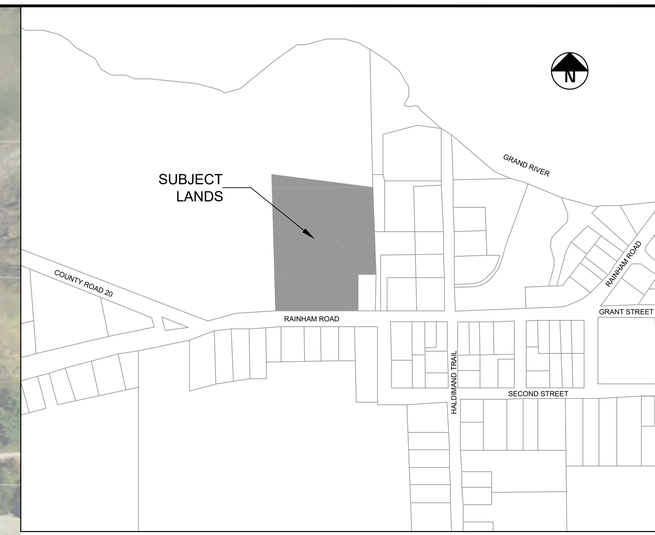
PROJECT TITLE
7253 RAINHAM ROAD
HAMILTON, ONTARIO

DRAWING TITLE
DRAFT PLAN

DRAWN BY	DESIGNED BY
JB	JW
PRINT DATE 15-JUL-2019	PROJECT NUMBER 14201
REVISION C	DRAWING NUMBER DP1-1
SCALE 1:500	

Plotted by: Jennifer Bailey, 15-JUL-2019, 1:43PM
File Location: C:\Dropbox (T. Johns Consulting)\TJCG SERVER\Projects\14201 - Riverside Walk 7253 Rainham Rd, Dunnville\Drawings\Planning\Riverside Walk Draft Plan.dwg





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MUNICIPAL ADDRESS:
7253 RAINHAM ROAD
DUNVILLE, ONTARIO
N1A 2W8

LEGEND

FUTURE RESIDENTIAL LOTS

PLANNING ACT

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT. OF ONTARIO R$0 1990

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F 905-527-9559

PROJECT TITLE
7253 RAINHAM ROAD
HAMILTON, ONTARIO

DRAWING TITLE
DRAFT PLAN

DRAWN BY	DESIGNED BY
JB	JW
PRINT DATE 15-NOV-2019	PROJECT NUMBER 14201
REVISION C	DRAWING NUMBER DP1-1
SCALE 1:500	

Plotted by: Jennifer Buckley; 15-NOV-2019; 10:34AM
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DWG No.: 18117 –C101
SITE SERVICING PLAN
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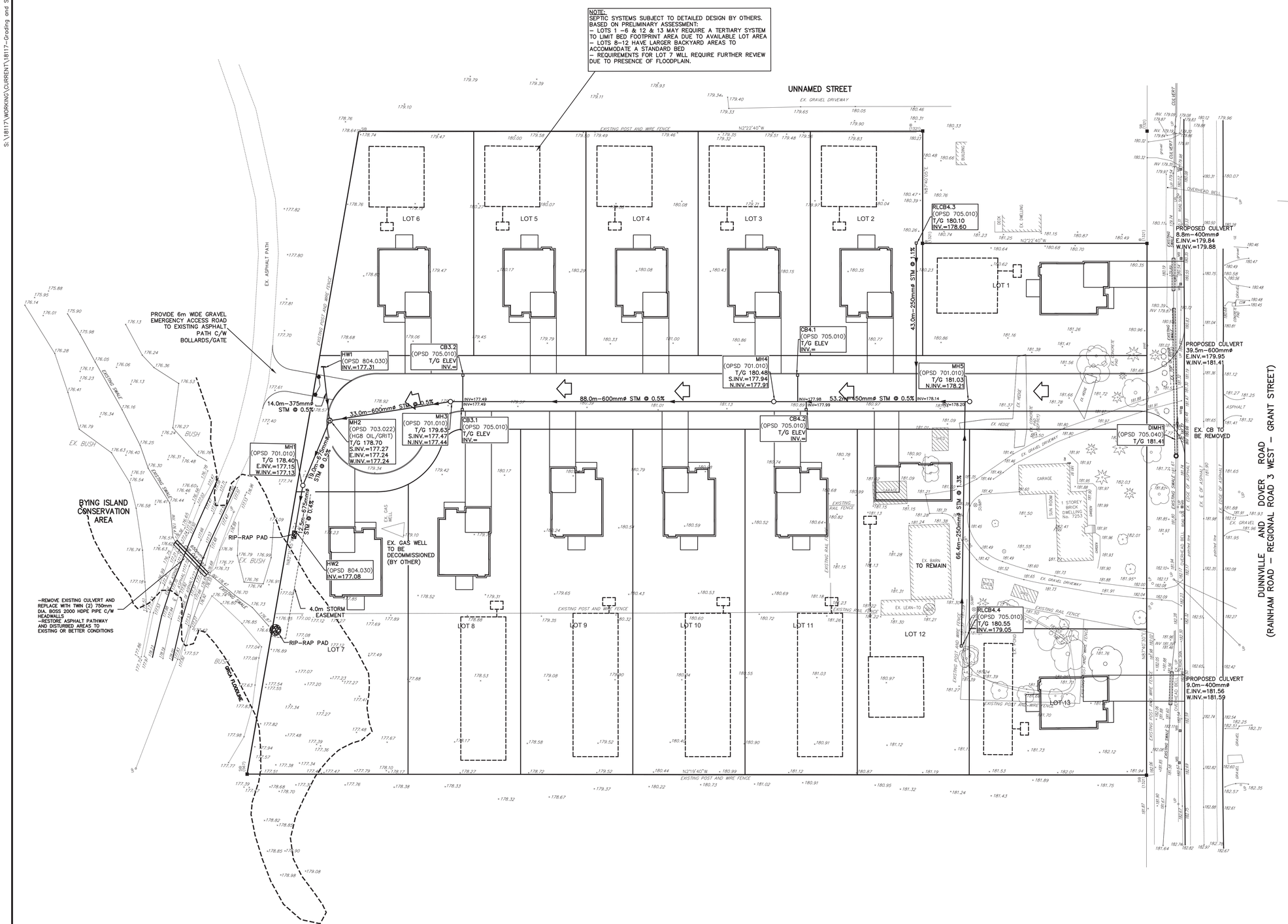

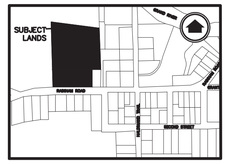

KEY MAP
N.T.S.

LEGEND:

- EXISTING CATCHBASIN
- EXISTING STORM/SANITARY MANHOLE
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED CATCHBASIN
- PROPOSED STORM/SANITARY MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CURB STOP/GATE VALVE
- PROPOSED WATER METER
- PROPOSED BACKFLOW PREVENTOR
- PROPOSED SUMP PUMP
- PROPOSED DOUBLE CATCHBASIN MANHOLE
- RLCB — PROPOSED REAR LOT CATCHBASIN
- PROP. HYD — PROPOSED HYDRANT

BENCH MARK NOTE:

BEARING HERON ARE GRID, UTM ZONE 17, (NAD 83–CSRS (EPOCH 2010)), DERIVED USING THE CAN–NET VRS NETWORK AND ARE REFERRED TO THE CENTRAL MERIDIAN OF UTM ZONE 17 (81° WEST LONGITUDE).

ELEVATIONS ARE GEODETIC DATUM AND WERE DERIVED FROM HORIZONTAL CONTROL STATION 0011965U210, HAVING A PUBLISHED ELEVATION OF 197.187 METRES.

NO.	DATE	BY	REVISIONS

NOTES TO CONTRACTOR:

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DESIGN	JO	CHK'D	JO	DATE
DRAWN	SD	CHK'D	JO	SEPT. 29, 2019

SCALE 1:500 — 0 5 10 25 50

APPROVALS

STAMP

S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS
Tel. (905) 631–6978
Fax (905) 631–8927
email: info@sla.on.ca
3228 South Service Road, Suite #105 East Wing, Burlington, Ont., L7N 3H8

CLIENT
LUCCHETTA HOMES LTD.
402 RICE RD, WELLAND, ON

PROJECT NAME
7253 RAINHAM ROAD
DUNNVILLE, ONTARIO

TITLE
PRELIMINARY SITE SERVICING PLAN

PROJECT No.	DRAWING No.
18117	C102

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Plotted: Monday, July 20, 2020 3:21:05 PM By: Stephanie Duffin

DWG No.: 18117–C102
NOTES AND DETAILS
S:\18117\WORKING\CURRENT\18117–Grading and Servicing Plan.dwg

SEWERS

1. STORM SEWERS
   - A. CONSTRUCTION OF STORM SEWERS & PRIVATE DRAINS SHALL BE IN ACCORDANCE WITH HALDIMAND COUNTY DESIGN CRITERIA (LATEST EDITION) AND MINISTRY OF ENVIRONMENT (MOE) GUIDELINES (LATEST EDITION).
   - B. COVER AND BEDDING MATERIAL FOR CONCRETE PIPE SHALL BE GRANULAR 'A' MATERIAL AS PER OPSD 802.030 OR 802.033, CLASS 'B' BEDDING.
   - C. COVER AND BEDDING MATERIAL FOR PVC PIPE SHALL BE GRANULAR 'A' MATERIAL AS PER OPSD 802.010 OR 802.013.
   - D. ALL SEWERS TO BE VIDEO INSPECTED.
   - E. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
   - F. MANHOLE FRAMES AND COVERS SHALL BE AS PER OPSD STANDARDS.
   - G. STORM SEWERS 250mm TO 600mm IN DIAMETER SHALL BE PVC PIPE, CSA B182.2, SDR–35.
   - H. STORM SEWERS GREATER THAN 600mm IN DIAMETER SHALL BE CONCRETE PIPE, CSA A257.2 (AS SPECIFIED).
   - I. ALL PVC SEWERS (SANITARY AND STORM) ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. SANITARY SEWERS SHALL ALSO BE TESTED FOR LEAKAGE (LOW AIR PRESSURE). PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.
2. PRIVATE DRAINS
   - A. SANITARY PRIVATE DRAINS TO BE MINIMUM 100mmø PVC SDR28 PIPE FOR DETACHED AND SEMI–DETACHED RESIDENTIAL DWELLINGS. FOR ALL OTHER PURPOSES, MINIMUM 150mmø PVC SDR28 PIPE SHALL BE USED. SANITARY PRIVATE DRAINS SHALL BE GREEN.
   - B. STORM PRIVATE DRAINS ARE TO BE MINIMUM 125mmø PVC SDR28 PIPE FOR DETACHED AND SEMI–DETACHED RESIDENTIAL DWELLINGS. FOR ALL OTHER PURPOSES, MINIMUM 250mmø PVC SDR28 PIPE SHALL BE USED. STORM PRIVATE DRAINS SHALL BE WHITE.
   - C. COVER AND BEDDING MATERIAL FOR PRIVATE DRAINS SHALL BE GRANULAR 'A' INSTALLED AS PER OPSD 802.010 OR 802.013.
   - D. TOP OF SANITARY PRIVATE DRAINS AT STREET LINE TO BE 2.2M (MIN.) BELOW CENTERLINE ROAD ELEVATION AT THAT POINT OR AS DETAILED.
   - E. TOP OF STORM PRIVATE DRAINS SHALL NOT BE LESS THAN 1.3M (MIN.) BELOW FINISHED GRADE.
   - F. BUILDING RAINWATER LEADERS SHALL NOT BE CONNECTED TO THE STORM PRIVATE DRAIN BUT SHALL DISCHARGE ONTO THE GROUND SURFACE VIA SPLASH PADS.
   - G. SUMP PUMPS SHALL BE INSTALLED TO PUMP THE BUILDING FOUNDATION DRAINS TO THE STORM PRIVATE DRAINS, OR TO GRADE VIA SPLASH PADS. THE SUMP OUTLET SHALL BE AS PER HALDIMAND COUNTY DRAWINGS I1A AND I1B.

COMPACTION REQUIREMENTS

UNLESS OTHERWISE NOTED OR DIRECTED BY THE GEOTECHNICAL CONSULTANT, THE FOLLOWING SHALL APPLY:

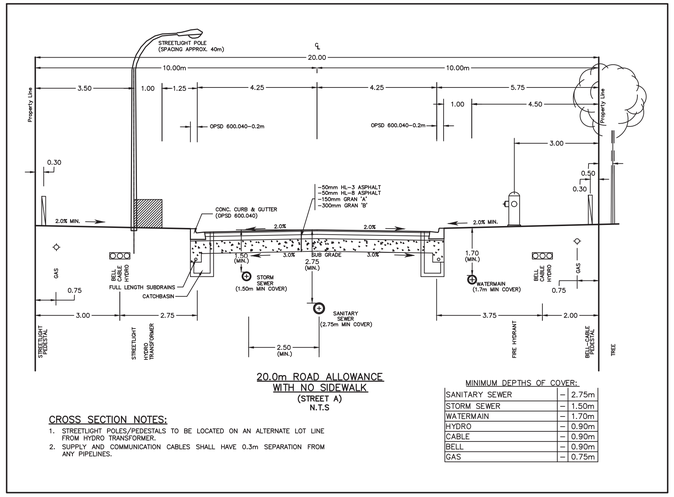
- A. ALL BEDDING AND BACKFILL MATERIAL, ROAD SUB–GRADES AND GENERALLY ALL MATERIAL USED FOR LOT GRADING AND FILL SECTIONS, ETC., SHALL BE COMPACTED TO MIN. 98% SPD. ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS.
- B. ALL GRANULAR ROAD BASE MATERIALS SHALL BE COMPACTED TO 98% SPD.
- C. FOR ALL SEWERS AND WATERMAINS IN FILL SECTIONS, THE COMPACTION SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO LAYING OF PIPE.

SILTATION AND EROSION CONTROL

- A. SILTATION CONTROL BARRIERS SHALL BE PLACED AS DETAILED.
- B. ALL SILTATION CONTROL MEASURES SHALL BE CLEANED AND MAINTAINED AFTER EACH RAINFALL AS DIRECTED AND TO THE SATISFACTION OF THE CITY OF HAMILTON AND/OR THE HAMILTON CONSERVATION AUTHORITY.
- C. ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE ENGINEER, COUNTY, OR CONSERVATION AUTHORITY

GRADING NOTES

- A. ALONG ADJOINING PROPERTIES GRADE TO MEET EXISTING OR PROPOSED ELEVATIONS WITH SODDED SLOPES (MIN. 3H TO 1V) AND/OR RETAINING WALLS AS SPECIFIED.
- B. ALL RETAINING WALLS 1.0M OR HIGHER SHALL BE DESIGNED BY A P.ENG.
- C. RETAINING WALLS 0.6M IN HEIGHT OR GREATER REQUIRE CONSTRUCTION OF A FENCE OR GUARD RAIL AT THE TOP OF THE REAR OF THE WALL. GUARDS FOR RETAINING WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF EXTERIOR GUARDS AS CONTAINED IN THE ONTARIO BUILDING CODE.
- D. TOP OF FOUNDATION WALLS FOR BUILDINGS SHALL BE 150MM (MIN) ABOVE FINISHED GRADE.
- E. ALL FILL PLACED ON LOTS SHALL BE COMPACTED TO A MINIMUM 95% SPD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS.
- F. IF GRADING IS REQUIRED ON LANDS ADJACENT TO THE DEVELOPMENT WHICH ARE NOT OWNED BY THE DEVELOPER, THEN THE DEVELOPER MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNER TO ALLOW THE DEVELOPER TO GRADE ON THE ADJACENT LANDS, OTHERWISE RETAINING WALLS MUST BE USED.
- G. THE WRITTEN PERMISSION REQUIRED FROM THE ADJACENT LANDOWNER SHALL BE OBTAINED PRIOR TO ENTERING THE LANDS. SHOULD PERMISSION NOT BE OBTAINED OR IS WITHDRAWN PRIOR TO COMMENCING THE WORK, THEN THE DEVELOPER SHALL LIMIT HIS ACTIVITIES TO THE LIMITS OF THE DEVELOPMENT SITE.
- H. DRIVEWAY AND DRIVEWAY APPROACHES SHALL BE LOCATED SUCH THAT HYDRO VAULTS AND OTHER STREET FURNITURE ARE A MIN. OF 1.2m FROM THE PROJECTIONS OF THE OUTSIDE GARAGE WALLS.
- I. ANY CHANGES IN GRADES AND CATCH BASINS REQUIRE THE APPROVAL OF THE ENGINEER AND COUNTY.



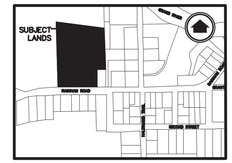
20.0m ROAD ALLOWANCE WITH NO SIDEWALK
(STREET A)
N.T.S

CROSS SECTION NOTES:

1. STREETLIGHT POLES/PEDESTALS TO BE LOCATED ON AN ALTERNATE LOT LINE FROM HYDRO TRANSFORMER.
2. SUPPLY AND COMMUNICATION CABLES SHALL HAVE 0.3m SEPARATION FROM ANY PIPELINES.

MINIMUM DEPTHS OF COVER:

SANITARY SEWER	–	2.75m
STORM SEWER	–	1.50m
WATERMAIN	–	1.70m
HYDRO	–	0.90m
CABLE	–	0.90m
BELL	–	0.90m
GAS	–	0.75m



KEY MAP
N.T.S.

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NO.	DATE	BY	REVISIONS

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DESIGN	DB	CHK'D	SL	DATE
DRAWN	DB	CHK'D	SL	SEPT. 29, 2019

SCALE 1:500 — 0 5 10 25 50

APPROVALS

STAMP

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CLIENT

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402 RICE RD, WELLAND, ON

PROJECT NAME

7253 RAINHAM ROAD
DUNNVILLE, ONTARIO

TITLE

NOTES AND DETAILS

PROJECT No.	DRAWING No.
18117	C103