



Environmental Assessments & Approvals

February 6, 2020

AEC 15-273

Loft Planning Inc.  
P.O. Box 246 STN MAIN  
Collingwood, Ontario  
L9Y 3Z5  
Attention: Kristine Loft, Planner/Principal

**Re: Peer Review Comments – Environmental Impact Study Marlwood Golf  
Course, Town of Wasaga Beach, County of Simcoe**

Dear Ms. Loft:

Following the submission of Azimuth Environmental Consulting, Inc.'s (Azimuth) Environmental Impact Study (EIS; September 29, 2017), the Town of Wasaga Beach retained WSP Canada Inc. (WSP) to conduct a peer review of the EIS (October 23, 2018) (Appendix A). The NVCA (Appendix B – June 26, 2018) and MNRF also provided review comments (Appendix C – June 27, 2018).

During a meeting with the NVCA (March 26, 2019) it was agreed that, as the WSP peer review identified the range of issues of concern to the NVCA and MNRF, it provided content and structure upon which to provide a comprehensive response to environmental issues associated with the proposed development. Therefore, this response letter is structured based on original comments from WSPas provided in *italics*, followed by Azimuth's response.

Azimuth's review comments address a revised plan (January 14, 2020 - Appendix D) configured to address concerns raised by WSP, NVCA and the MNRF with respect to water balance, habitat connectivity and other issues. The revised development plan (Appendix D) and approaches to servicing (Appendix E) include the following features:



- Revised draft plan includes 9 residential lots fronting onto Golf Course Road between existing residential development (Phase 1) and 51 lots associated with Street 'B' (Phase 2) constructed on golf course lands;
- In contrast to the previous plan, Street 'B' is no longer an extension from the cul-de-sac of Master's Lane but rather is connected to Golf Course Road. This revision establishes two Open Space Blocks (59, 60) between existing residential development and proposed development;
- The revised plan also shifts Street 'B' and associated residential lots and infrastructure to the north, maintaining a naturally vegetated wildlife corridor/habitat linkage within Open Space Block 55;
- The layout of existing golf course features has been revised to accommodate revisions to the draft plan; and,
- As per Functional Servicing Reports (FSR) (Burnside 2020 a,b), the approach to surface water management has been revised based on revisions to the draft plan and to achieve an effective pre- to post-development water balance *via* application of Low Impact Development (LID) approaches.

## WSP

*Comment 1a: As recognized in the EIS, there are a number of outstanding concerns related to the potential presence of Species At Risk (SAR) and their habitat on and /or adjacent to the property. The EIS notes that additional SAR surveys and / or consultation with the MNRF is ongoing to determine potential for impacts and implications under the Endangered Species Act (ESA) regarding Eastern Hog-nosed Snake, Blanding's Turtle, and SAR bats. It is recommended that planning approvals not be provided until this documentation is received and demonstrates that the development as proposed will not contravene the ESA. Specific concerns are identified below.*

## AZIMUTH

Azimuth has completed additional studies (SAR reptiles and bats, 2017) and has provided information to, and consulted with, the MNRF on a variety of issues related to SAR as per correspondence provided in Appendix C. The results of the information exchange and consultations revealed that the potential for impact to habitat of Eastern Hog-nosed Snake (THR) was the SAR issue of concern to the MNRF (Appendix C). As a result, the draft plan was revised to preserve the woodland cover on the southern section of the property inferred to function as a habitat linkage/wildlife movement corridor (Appendix D, G) of value to Eastern Hog-nosed Snake. The MNRF provided documentation on



March 8, 2019 that, with the change to the draft plan, the agency required no further consultation/actions related to SAR – i.e., no permitting/authorizations required under Ontario’s ESA related to the proposed development (Appendix C). Therefore, the proposed development has been deemed by the province to not contravene the ESA.

#### **WSP**

*Comment 1b: The development as proposed, could result in a barrier to a potential movement corridor for Blanding’s Turtle and Eastern Hog-nosed Snake. Additional documentation of consultation with MNRF is needed to confirm that this development can proceed as proposed without contravening the ESA regarding these species.*

#### **AZIMUTH**

As discussed above, the draft plan was revised to preserve the woodland cover on the southern section of the property inferred to function as a habitat linkage/wildlife movement corridor (Appendix D, G) of value to Eastern Hog-nosed Snake (MNRF’s concern). The corridor established on the revised plan is approximately 50m wide and preserves existing tree cover connected to woodland cover associated with the Marl Lake shoreline. The corridor maintains natural habitat potentially utilized by Eastern Hog-nosed Snake, Blanding’s Turtle and other terrestrial wildlife to move between Marl Lake and vacant lands (mix of open/successional farmland and woodland cover) located west of Golf Course Road. The MNRF has reviewed the revised draft plan maintaining this potential movement corridor confirming that the development as proposed can proceed without contravening the ESA as per correspondence provided in Appendix C.

Note: during the March 26, 2019 meeting, the NVCA expressed an interest in preserving a “secondary wildlife movement corridor/habitat linkage” through golf course land toward Golf Course Road leading to natural heritage cover of lands to the west. This secondary linkage is established in the plan through major realignment of Masters Lane (no longer an extension from the existing cul-de-sac) creating Open Space Blocks 59 and 60 on the revised draft plan (Appendix D) as shown on Figure 3 (Appendix G).

#### **WSP**

*Comment 1c: Similarly, confirmation is outstanding regarding the potential for the Study Area to provide habitat for Eastern Hog-nosed Snake, as no targeted surveys were completed, and the EIS notes the potential for foraging habitat associated with the golf*



*course ponds and upland forest. Documentation of consultation with the MNRF regarding the potential for habitat on the property is required.*

#### **AZIMUTH**

As discussed above, Eastern Hog-nosed Snake was the SAR of concern to the MNRF with respect to the proposed development. As per Azimuth's October 16, 2018 report to the MNRF (Appendix C), in keeping with the MNRF's request for completion visual encounter surveys for Eastern Hog-nosed Snake, visual encounter surveys were completed on nine days spaced between May 15 and September 25, 2017. Though no Eastern Hog-nosed Snake, Blanding's Turtle or other Endangered or Threatened reptiles were observed, a functional assessment of habitat of value to Eastern Hog-nosed Snake, under the assumption that they occur on and adjacent to the subject lands in the vicinity of Marl Lake, was completed. Azimuth and the MNRF concluded that maintenance of habitat connectivity through preservation of the existing strip of woodland cover on the southern section of the property was required as a means of avoiding habitat of Eastern Hog-nosed Snake. The proposed revision of the draft plan to preserve a wildlife movement corridor/habitat linkage on the southern section of the property was deemed as acceptable avoidance by the MNRF. With this plan revision the MNRF indicated it had no further concerns with respect to SAR/the ESA as per correspondence in Appendix C

#### **WSP**

*Comment 1d: The development as proposed could result in removal of SAR bat habitat. Additional documentation of consultation with MNRF is needed to confirm that this development can proceed as proposed without contravening the ESA for bat SAR.*

#### **AZIMUTH**

The MNRF confirmed that SAR bats are not a concern to the province with respect to the proposed development and hence that ESA permitting with respect to bats and bat habitat is not required as per correspondence in Appendix C.

#### **WSP**

*Comment 2 - Overall comments on the Appendix H, Water Balance Assessment:*

- *The conclusion of the water balance is a 1/3 reduction in infiltration.*





- *Due to the sensitivity and dependence of Marl Lake and the wetland to groundwater, it would be expected that the drainage should be designed to maintain the existing regime (i.e. match infiltration).*
- *Both the Marlwood Master's Lane (Phase 2) and Golf Course Road (Phase 1) developments are likely to be in the groundwater catchment for the Marl Lake and wetland. Any impact from either, should be considered compound, rather than in isolation.*
- *The conclusory sentence states: "the additional runoff into Marl Lake from the on Site SWM pond will likely offset any decrease in infiltration due to the proximity of the Site and subsurface connection to this feature". Consideration should be made to the differences in water discharging from groundwater and stormwater.*
  - *Groundwater would discharge at a much slower but continuous rate over a wider area than the proposed SWM pond. Interaction with soils will impact upon groundwater chemistry as it flows through. The impact of changing these characteristics on the sensitive ecology would need to be assessed to qualify this statement.*

## **AZIMUTH**

The water balance has been updated and is provided in a standalone Water Balance Assessment Report updated February 5, 2020. The report includes an updated water balance which incorporates both Phase 1 (9 lots) and Phase 2 (51 lots) of the development (considered in compound) based on the approach to surface water management (LID and SWM pond) proposed by Burnside (Burnside 2019a,b). In the revised water balance, the post-development with mitigation runoff contributions will increase, while the post-development with mitigation infiltration volume will not change. The pre- and post-development runoff pathways are relatively consistent, with the majority of runoff entering Marl Lake via the proposed SWM pond.

As noted above, when considering Phase 1 and Phase 2 together, there will be no decrease in the amount of infiltration contributing to Marl Lake post-development. When considering only Phase 2, there will be a slight (5%) decrease after development. This isolated deficit is not considered significant. The slight decrease (5%) in infiltration at Phase 2 will be offset by the increase in infiltration from Phase 1 (45%), and the increase in runoff contributions into Marl Lake from both Phase 1 and Phase 2. The SWM pond will outlet via an open channel constructed to terminate outside of the limits of wetland (see preliminary grading plan – Appendix E and Figure 3 [provided in Appendix G]) and designed with features to dissipate energy of flow prior to entering the adjacent wetland. Based on this assessment, no significant changes in the water level of Jack's Lake



Complex Provincially Significant Wetland (PSW) are anticipated as a result of the proposed development (Noting that water levels of Marl Lake are controlled by a dam at the outlet).

Since the proposed development and approach to servicing matches infiltration pre- to post-development, the existing groundwater regime is maintained and hence there will be no changes to water chemistry related to groundwater flow through soils to the lake. The proposed SWM pond is lined and hence surface waters conveyed to the pond will not infiltrate – no impact to chemistry of ground water. Also, the SWM pond is designed as a wet facility to MECP water quality requirements and hence sediment and associated nutrients, will be detained in the pond and not discharged to the adjacent wetland/lake – no negative impact to lake water chemistry resulting from overland flow derived from the development. There will be no significant changes to ground or surface water contributions to Marl Lake and associated wetlands and hence no impacts to lake water levels or water chemistry.

## **WSP**

*Comment 3 - Specific comments on the Appendix H, water balance approach and calculation:*

- *Detailed calculation sheets are not provided. And therefore, is difficult to confirm conclusions. It would be particularly useful to determine how surplus water has been determined.*

## **AZIMUTH**

The updated Water Balance Assessment report (Azimuth 2020) includes detailed water balance calculations. The surplus for any pervious area was determined using the Thornthwaite and Mather (1957) method using a continuous calculation over the period of record (1960-2010). The surplus for the impervious area was calculated as 80% of the precipitation.

- *Soil type is used to determine water surplus. It is unclear what soil type has been used (noting the discussion in Section 1.0 – Soil, regarding two different types of soil present at the site), and if a different type has been used to represent the distinct soil types at the site.*



## **AZIMUTH**

The WSP (2020) geotechnical report indicates the subsurface geology to be composed of topsoil overlying silty sand to sandy silt fill, overlying sand to silty sand and gravel. Marl was observed in six boreholes and extended up to 2.3mbgs. The soil variable factor was determined by taking into account information obtained from the regional geologic mapping, and the above geotechnical program. This information suggests that the dominant soil type in the area is sand, with some local marl deposits near Marl Lake. The soil is therefore considered a sandy loam for the purpose of the water balance assessment and is assigned a 0.4 infiltration factor component.

- *Very little justification is provided regarding the infiltration coefficients provided in Table 5:*
  - *For example, according to the preliminary grading plan provided in the Functional Servicing and Stormwater Management Report (Burnside, 2017), the gradient appears to be 2-3%, which would be Rolling Land, rather than Flat Land.*
  - *Consideration should be made as to the pre and post development topography.*

## **AZIMUTH**

Table 5 in the updated Water Balance report (Azimuth 2020) indicates the assumptions used for each infiltration factor assigned. The individual components (soil, topography, land cover) are also shown in the tables of the report. The existing and proposed grades for both Phase 1 and Phase 2 were reviewed as part of the water balance update. As noted above, the pre- and post-development grades for both Phase 1 and Phase 2 were assumed to be rolling. This is based on an assessment of the average topography of Phase 1 and Phase 2. The topography is assigned a 0.2 infiltration factor component which is consistent with rolling topography.

- *The Landscaped grass/Meadow row indicates a Runoff Coefficient of 0.3 and an Infiltration Coefficient of 0.75. As the coefficients partition water between runoff and infiltration, the sum of them cannot be more than 1 (this is 1.05). From the calculation in the post-development infiltration section, it is presumed that the Runoff Coefficient should be 0.25. In addition, according to their description the appropriate coefficients would be 0.8 for Infiltration and 0.2 for runoff.*



#### **AZIMUTH**

The updated water balance has adjusted the infiltration coefficients used in the calculation. The Runoff coefficient column has been removed.

- *It would be usual practice to account for a degree of evaporation directly from hardstanding surfaces.*

#### **AZIMUTH**

Noted. The updated water balance incorporates 20% evaporation from hard surfaces.

#### **WSP**

*Comment 4a: A large number of natural heritage features and functions depend on the protection of Marl Lake and the adjacent wetland, including:*

- *Marl Lake Provincially Significant Life Science ANSI*
- *Jack Lake PSW*
- *Potential Habitat for several SAR*
- *Portions of Candidate Significant Woodland*
- *Seven Candidate Significant Wildlife Habitats*

*As a result, it is important that the potential for impacts to this feature have been thoroughly reviewed and mitigated.*

#### **AZIMUTH**

Table 1 (Appendix G) provides a summary of potential impacts to significant natural heritage features and functions identified within and adjacent to the subject lands as per revisions to the draft plan and approaches to surface water management which effectively achieve a balanced pre- to post-development water balance. Requirements for mitigation are considered and recommendations for mitigation are provided.

Potential impacts have been thoroughly reviewed and mitigated.



#### **WSP**

*Comment 4b: It is recognized that the wetland is protected from direct impacts (no wetland removal), but does not appear that it will be protected from indirect impacts as changes to the water balance are anticipated, therefore it does not appear that this application is in conformity with the PPS, and Town and County OPs. It is recommended that the SWM design be modified to maintain the existing water budget regime (i.e., match infiltration) to reduce potential impacts to retained wetlands and associated functions.*

#### **AZIMUTH**

The approach to surface water management has been modified based on a revised development plan. The updated Water Balance Assessment (Azimuth 2020) indicates that after incorporating LIDs, the pre- and post-development infiltration at the Site match. Please see the revised report, and the response to Comment 2 above.

#### **WSP**

*Comment 4c: It is noted that the EIS recognizes that further study is required to determine if the development will impact natural heritage features influenced by local hydrology. It would be beneficial if the EIS could identify the additional studies required to further assess impacts to the wetland feature and functions.*

#### **AZIMUTH**

Additional study has been completed in the form of refinements to the approach to surface water management such that infiltration is matched pre- to post-development (see above under Comments 2 and 3) as per Azimuth's updated Water Balance Assessment (Azimuth 2020).

#### **WSP**

*Comment 4d: Also, due to the apparent indirect impacts to the wetland, it is uncertain that there will be no negative impacts to the Significant Wildlife Habitat features associated with the wetland and therefore, it is not certain that this application is in conformity with the PPS, Town and County OPs, with respect to the protection of Significant Wildlife Habitat.*



## **AZIMUTH**

The results of hydrologic investigations indicate that the proposed development will not result in alterations to water levels in Marl Lake and/or seasonal dynamics of lake level fluctuations as there will be no reduction in the quantity of water reaching the lake via overland flow and shallow groundwater contributions (Note: lake levels under control of a man made outlet structure/dam). Wildlife habitat functions, and vegetation communities associated with wetland are influenced by lake levels. Since the proposed development has no capacity to affect water levels in Marl Lake, there will be no impact to the composition or structure of wetland vegetation communities that are aligned with the shoreline (i.e., swamp and marsh vegetation communities associated with the subject lands, shoreline fens elsewhere on the lake [a concern expressed by the NVCA]) and no negative impacts to associated wildlife habitat functions (i.e., no impact to Waterfowl Stopover and Staging, Turtle Wintering, Marsh Bird Breeding Habitat, Terrestrial Crayfish habitat). Therefore, the proposed development is consistent with sections Sections 2.1.5d and 2.1.8 of the PPS.

## **WSP**

*Comment 4e: The EIS notes that the PSW will be protected with a 30 m buffer; however, there is no discussion to demonstrate that a uniform 30 m buffer is appropriate for this particular situation. Additional rationale to demonstrate that a 30 m buffer is appropriate for the site conditions is requested, considering the level of sensitivity and numerous natural heritage features and functions related to the wetland. This rationale should reflect the sensitivity of the retained feature and the functions the buffer is intended to provide (e.g., water quality improvements, noise attenuation, reduced human disturbances, reduced introduction of invasive species, etc.). Consideration should also be given to additional protection of the feature by smoothing out the buffer limit to reduce the perimeter-to-area ratio of the buffer limit. In addition, the EIS should provide recommendations for a buffer treatment to achieve the intended buffer function (e.g., locations for plantings and / or naturalization).*

## **AZIMUTH**

The “30m Wetland Buffer” shown on Figure 3 of the 2017 EIS does not represent a “uniform 30m buffer”. For the most part, existing golf course land use occurs within lands between proposed residential development and the limits of wetlands establishing a separation distances of approximately 250m to Phase 1 land and varying between 30m and 200m for Phase 2 - the Street ‘B’ cul-de-sac and limits of the proposed pumping



station (Block 54) are setback 30m from adjacent wetland. This 30m setback area contains existing golf course fairways that will remain post-development. As golf course land uses will continue (see revised Golf Course design – Appendix D), and these occur between proposed residential development and protected/sensitive features (i.e., Jack's Lake PSW and related functions) - considerations of buffer functions as generally conceived (i.e., water quality improvements, noise attenuation, reduced human disturbances, reduced introduction of invasive species) are not germane to the proposed development and hence recommendations related to buffer treatment do not apply. As the most sensitive wildlife habitat functions of the area are associated with Marl Lake and its shoreline, it is worth considering that where residential development is proposed closest to the wetland boundary, the lakeshore is located over 150m to the northeast. This lakeshore setback area is treed throughout screening the lakeshore habitat from the proposed residential development (i.e., the wetland is adequately buffered to protect associated wildlife habitat functions).

#### **WSP**

***Comment 4f:** Given the sensitivity of the adjacent features, it is recommended that water quality and quantity monitoring of the effectiveness of the SWM features be undertaken and if targets are not being met, that additional mitigation be implemented. In order for this to be feasible, the development should be designed to allow for the application of additional mitigation (e.g., increasing infiltration, improving SWM function) if warranted by the monitoring results.*

#### **AZIMUTH**

Noted – Engineering considerations related to monitoring of SWM pond and LID functions.

#### **WSP**

***Comment 5a:** Regarding Section 4.2.2, page 9, 'Provincial Policy Statement', the EIS concludes that the woodland on the property is not significant according to the recommended evaluation criteria provided in the Natural Heritage Reference Manual (NHRM), as it does not meet the minimum area threshold, even though it does meet several other criteria. However, according to the Natural Heritage Reference Manual, "Woodlands that meet a suggested minimum standard for any one of the criteria listed in Table 7-2 should be considered significant." Therefore, it seems that this feature*



would be considered significant according to the NHRM criteria. Any Significant Woodland present, should be mapped on Figures 2 and 3.

## **AZIMUTH**

The property includes woodland cover that is connected to a large area of continuous wood cover (approximately 5.75km<sup>2</sup>) that surrounds Marl Lake and extends over much of the landscape to the southeast of the lake as shown in Appendix F. This woodland is significant by virtue of size and other characteristics according to provincial criteria (Natural Heritage Reference Manual Table 7-2). Figure 3 (Appendix G) depicts the limits of Significant Woodland on the property as delineated by Azimuth. Azimuth's depiction of Significant Woodland includes golf course lands recently cleared and now undergoing work to restore previous woodland conditions. Azimuth's delineation followed the guidelines for identification of Significant Woodlands as presented in provincial criteria related to gap separation [20m] and woodland connection by narrow strips of trees [3 X average linear treed area width] [ORMCP Technical Paper 7]). These gap and linear strip rules were particularly important to delineating the limits of Significant Woodland along the southern property limit. Azimuth evaluated woodland units adjacent to Golf Course Road (i.e., FOC1-2, FOC3-1, FOD5-8, FOC2-2, CUP3-1) and internal to the golf course lands (CUP3-1, FOC2-2) concluding that each was effectively disconnected from the area of Significant Woodland apparent on the subject and adjacent lands and well below size thresholds for consideration as significant on their own (i.e., according to LIO/SOLRIS Wooded Area data [2013], the Town of Wasaga Beach contains 59% woodland cover, provincial criteria indicates that in landscapes containing this amount of woodland cover, individual woodlands of 50ha or more should be considered significant).

## **WSP**

*Comment 5b: Regarding Section 7.3 and Section 9.1, the EIS acknowledges that there will be removal of approximately 2 ha (8%) of the Significant Woodland along the southern limit of the Study Area, and notes that the Town OP permits development and site alteration within Significant Woodlands, provided that the results of an EIS indicate that no negative impact will occur to the natural feature or ecological function. Additional discussion / rationale is required to clearly demonstrate compliance since negative impact to the feature and function may occur (i.e., removal of a portion of the woodland; and reduced/removed function as a corridor between significant areas [the PSW and ANSI to east and the Provincial Park to the west]).*





## **AZIMUTH**

The revised draft plan maintains an approximately 50m wide corridor of existing tree cover along the southern portion of the property identified as part of Significant Woodlands (Figure 3 [Appendix G]). The proposed development would remove approximately 0.5ha of tree cover from the overall 575ha+ Significant Woodland. The natural heritage function attributed to this area of woodland is that of providing a wildlife movement corridor/habitat linkage of value to Eastern Hog-nosed Snake in particular (inferred) and terrestrial wildlife in general (inferred). Two areas of Significant Woodland would be directly impacted – an approximately 0.44ha patch of woodland (FOD5-8) surrounded by golf course fairways, and an approximately 6m wide X 130m long strip of woodland edge trees (adjacent to golf fairway) (see Figure 3 [Appendix G]). The woodland patch (FOD5-8) is disconnected from woodlands inferred to function as a wildlife movement corridor by golf course land uses and hence do not contribute to potential corridor function. Therefore, loss of this woodland patch will not impact potential function of the retained 50m wide strip of forest cover along the southern property boundary as a habitat linkage. The encroachment into the edge of the habitat linkage is minor and would involve removal of a row or two of edge trees located adjacent to the golf fairway taking out approximately 0.08ha of Significant Woodland. This minor encroachment would result in no impedance of wildlife moving through the vegetated corridor post development and hence does not represent a negative impact to this potential habitat function. Lands immediately south of the woodland corridor maintained in the revised draft plan are developed (multi-unit residential/subdivision). Therefore, wildlife potentially utilizing the corridor established in the plan would be subject to the sights and sounds of existing development/human activity. Lands along the northern side of the corridor are developed as golf course lands and hence are already subject to human activity. Therefore, alignment of single-family dwelling along the northern side of the corridor will not introduce human activity new to the area and hence any wildlife movement through the area will continue post-development and no buffer/setback is required along the northern edge abutting proposed lots to maintain/provide for this habitat function –no cumulative impact on inferred wildlife movement corridor function (Note: the MNRF requested no buffer in review of draft plan revision designed to maintain the habitat linkage/wildlife movement corridor).



#### **WSP**

***Comment 6:** The impact assessment should address the full footprint of the works, including grading, SWM outlet, construction access etc. Maps/Figures of the location and extent of these works should be provided.*

#### **AZIMUTH**

Figure 3 (Appendix G) provides an overlay of the proposed residential development (as per the revised draft plan), proposed realignment of the existing golf course to accommodate the revised plan, plus grading required to install the proposed SWM pond as per the preliminary grading plan (Appendix E). Grading to install the proposed SWM pond outlet terminates 15m from the PSW boundary and recommendations are provided to control outlet velocity such that erosion within the PSW does not occur. No other aspects of the proposed residential development of golf course layout revision encroach into lands mapped as part of the PSW. All construction access would be from lands developed as golf course and hence would not involve encroachment into the PSW.

#### **WSP**

***Comment 7:** The EIS does not identify the Growth Plan for the Greater Golden Horseshoe (Growth Plan) 2017 in its planning context review. The Growth Plan was recently updated and took effect July 1, 2017. While the EIS Study Area is within the lands subject to the Growth Plan, the Growth Plan's Natural Heritage System is mapped outside of the EIS Study Area (east of Marl Lake, outside the Settlement limits), so the Growth Plan natural heritage policies do not apply to the Study Area. However, the designation should be identified as it may be relevant to consideration of natural feature linkages and connectivity.*

#### **AZIMUTH**

The NHS is mapped on lands located approximately 400m east of Marl Lake and over 1.4km east of the lands proposed for development as shown on mapping in Appendix F. The revised draft plan retains/maintains connectivity among natural area west and east of Marl Lake and hence to woodlands/wetlands located east of Marl Lake connecting to lands identified under the Growth Plan as Natural Heritage System.



## WSP

*Comment 8: Amphibian calling surveys were focused along the Jack's Lake PSW limit and no surveys were completed of the golf course water features. As these features will be impacted by the proposed works, it is recommended that amphibian calling surveys of these features also be completed, so that impacts can be sufficiently assessed, and appropriate mitigation be developed, if warranted.*

## AZIMUTH

Field observations indicated limited use of the golf course ponds by Leopard frog, American Toad, and Spring Peeper as is typical of most man made ponds including SWM ponds, etc. As manmade ponds, they do not represent any of the ELC Ecosite Codes identified in the SWH Ecoregion 6E criterion schedule as candidate habitat for consideration as SWH in regard to Amphibian Breeding Habitat (Wetlands). As per Figure 3 (Appendix G), the revised development plan retains the North Feature (pond) "as is" and the Central Feature with minor encroachments. The South Feature would be eliminated and replaced by a SWM pond containing a wet cell constructed just north of the current South Feature pond location. As there is every expectation that frogs and toads will colonize the SWM pond (typical behavior), the proposed development involves no loss of amphibian breeding habitat function associated with manmade ponds of the subject lands. Therefore, given that two of three pond features would be protected "as is"/with minor encroachments by the proposed development, and the SWM pond to be constructed will replace manmade pond habitat removed by the proposed development, there will be no overall impact to amphibian breeding associated with the subject lands. No additional calling amphibian surveys are required as there will be no loss of potential habitat as the result of the proposed development and no impact to ELC communities contemplated by the province for consideration as SWH.

## WSP

*Comment 9: The EIS states that candidate maternity roosting habitat for SAR bats have been surveyed according to the direction provided in the "Bats and Bat Habitats: Guidelines for wind Power Projects" (OMNR 2013). As MNRF direction on assessment of SAR habitat is evolving and varies across MNRF Districts it is recommended that the MNRF be consulted on guidance on the currently accepted approach to surveys and determination of impacts.*



## **AZIMUTH**

Azimuth completed detailed surveys related to SAR and non-SAR bats and bat habitat following provincial direction related to habitat analysis (snag tree density considerations) and acoustic monitoring. These data formed the basis of consultations with the MNRF (Midhurst District) with respect to impact to bats and bat habitat. The MNRF was content with the methods applied to address bats and bat habitat concluding that SAR bats were not an issue related to the proposed development (Appendix C).

## **WSP**

*Comment 10: Regarding Section 5.1, page 12, this section states that NatureServe rankings are provide for species S3 and lower, but they don't appear to have been provided.*

## **AZIMUTH**

As noted by WSP, NatureServe rankings of provincial and global rarity (S3/G3 or lower) were not provided within the EIS. The following provides this information as requested as it related to Section 5.1 of the report:

- Barn Swallow (G5; S4B)
- Blanding's Turtle (G4; S3)
- Butternut (G4; S2?)
- Eastern Hog-nosed Snake (G5; S3)
- Least Bittern (G4G5; S4B)
- Endangered Bat Species – Little brown Myotis (G3; S3), Northern Myotis (G1G2; S3), and Tri-colored bat (G2G3; S3?)
- Eastern Whip-poor-will (G5; S4B)

## **WSP**

*Comment 11: Regarding Section 5.1.6, page 13, this section states that "five communities contain high snag density (Figure 2b)." Figure 2b does not indicate the snag density of FOC3-1, but it appears that it may also qualify as high snag density. Please confirm.*

## **AZIMUTH**

Vegetation community FOC3-1 in the northern portion of the property was assessed as containing a 'high snag density' (i.e., >10 snags/ha).



## WSP

**Comment 12:** *Regarding Section 5.4.6, page 15, Turtle Nesting Areas, the EIS states that “exposed mineral soils are present throughout the study area, including within maintained portions of the golf course (sand traps)”. Please confirm whether these are located within areas for development. If so, are there any areas outside of the sandtraps that require additional mitigation to ensure turtle nests are not damaged during construction?*

## AZIMUTH

As per Figure 2b of the 2017 EIS turtle nesting was observed on managed golf course lands north of marsh wetland unit MAS3-1 east of the study area limits (over 200m from proposed residential development). Potential turtle nesting function was inferred for sand traps on the golf course, a small number of which would be impacted by the proposed residential development. Some sand traps will be impacted by the proposed realign of the golf course design to accommodate the revised draft plan. Mitigation recommended in the 2017 EIS regarding timing restriction for excavation of sand traps/areas of exposed mineral soils, and/or application of turtle exclusion fencing (see also Table 1 of these reply comments – Appendix G) would be applied to areas directly impacted by the proposed residential development and golf course realignments.

## WSP

**Comment 13:** *Regarding Section 7.4.2, Bat Maternity Colonies, as noted in the EIS additional survey results are required to confirm no negative impacts to SAR and non-SAR Bat Maternity colonies (i.e., Significant Wildlife Habitat). Results of these surveys are required to determine if the EIS conforms to the ESA, PPS, County and Town Ops.*

## AZIMUTH

Azimuth completed detailed surveys related to SAR and non-SAR bats and bat habitat following provincial direction related to habitat analysis (snag tree density considerations) and acoustic monitoring. These data formed the basis of consultations with the MNRF (Midhurst District) with respect to impact to bats and bat habitat. The plan under consideration during these consultations involved removal of most of the woodland cover of community FOD5-8 along the southern section of the property (as per Figure 3 of the 2017 EIS). The MNRF considered that development concept to not represent an impact to habitat of SAR bats, indicating that the SAR of concern with respect to the proposed development was Eastern Hog-nosed Snake (Appendix C). The revised development plan preserves most of community FOD5-8 and the potential bat maternity roost trees it contains – an improvement over the initial plan with respect to preservation of potential Bat Maternity Colony habitat. As the MNRF deemed the previous version of the development plan to be in conformity of the ESA with respect to Endangered bats and the plan has been revised to retain forest habitat of potential value to



non-SAR bats as Maternity Roost Habitat, it is clear that the revised plan does not impact significant habitat with respect to bats consistent with Sections 2.1.5d, 2.1.7 and 2.1.8 of the PPS.

**WSP**

***Comment 14:** Regarding Section 8.2.2, the EIS identified that if excavation of sand trap features must be completed during the June to April period, that exclusion fencing should be installed prior to May 1 in order to prevent nesting. As turtle hatchlings may have overwintered in the nest chamber the exclusion fencing should be designed to prevent adult turtles to enter, but permit hatchling turtles to exit. We agree with the timing window for sand trap excavation outside the turtle nesting season (i.e., June to April) and recommend that if possible, excavation occur between May 10 and May 20 to further reduce potential harm to turtle nests or hatchlings.*

**AZIMUTH**

Noted.

**WSP**

***Comment 15:** If a tree protection plan and arborist report has been completed for this property, it is recommended that the EIS refer to that report in Section 8.3 for additional details regarding tree protection requirements.*

**AZIMUTH**

A tree protection plan and/or arborist report has not been completed for this project. It is our understanding that a requirement for such report would become a condition of draft plan approval.

**WSP**

***Comment 16:** The EIS notes in Section 8.4 that the need for dewatering of the construction area is unknown. It is recommended that the impacts of any required dewatering be reviewed in subsequent design stages to ensure nonnegative impacts to natural heritage features or functions and the development of mitigation if required.*

**AZIMUTH**

Noted.

**WSP**

***Comment 17:** Regarding Section 8.6.1, it should also be noted that screening by an ecologist to ensure that the vegetation to be removed has been confirmed to be free of*



nesting prior to clearing is only to be applied to 'simple habitats' per the guidance of Environment and Climate Change Canada  
([https://www.canada.ca/en/environmentclimate-change/services/avoiding-harm-migratory-birds/technical-information-risk-factors.html#\\_03\\_1](https://www.canada.ca/en/environmentclimate-change/services/avoiding-harm-migratory-birds/technical-information-risk-factors.html#_03_1)).

#### **AZIMUTH**

Noted.

#### **WSP**

*Comment 18: Note that the timing restrictions regarding bat maternity roosting habitat would be pending further direction from the MNRF.*

#### **AZIMUTH**

Noted. The province (MNRF and now MECP) has been identifying the "bat active season" in this area of the province (i.e., Simcoe County) to extend from April 1 through October 31. Therefore, tree clearing should occur between November 1 and March 30.

#### **WSP**

*Comment 19: On page 25 the acronym 'SNHF' is used, but not defined in the report. It is assumed to mean Significant Natural Heritage Feature, please confirm.*

#### **AZIMUTH**

Correct – SNHF was used as an acronym from 'Significant Natural Heritage Features'.

#### **WSP**

*Comment 20: Vegetation unit along the wetland boundary is identified as FOC4-1, but the vegetation community type name does not correspond. Is the community type FOC4-1 or FOM4-1 or other?*

#### **AZIMUTH**

The FOC4-1 vegetation community is present within two separate polygons. Both polygons are characterized as 'Fresh-Moist White Cedar Coniferous Forest' – FOC4-1.

#### **WSP**

*Comment 21: Regarding the "County of Simcoe Schedule 5.1 – Land Use" map included in Appendix A, the red circle indicating the Property Location is in the wrong place. This does not alter any conclusions of the EIS as the circled location and the actual property location are both identified in gray, meaning "Settlement".*



**AZIMUTH**

Noted.

**WSP**

*Comment 22: There is a typo in Section 9.5 indicating that a permit under O. Reg. 172/08 will be required. It is assumed to mean O. Reg. 172/06.*

**AZIMUTH**

Noted.

If you have any questions regarding this project please do not hesitate to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Jim Broadfoot, H. B. Sc.  
Terrestrial Ecologist

Jennifer Millington, M.A.Sc., P.Geo.  
Hydrogeologist





## REFERENCES

- Azimuth. 2017. Environmental Impact Study Marlwood Golf Course Town of Wasaga Beach Ontario Simcoe County. Prepared for Prepared for Loft Planning Inc. by Azimuth Environmental Consulting Inc. September 2017.
- Azimuth. 2020. Water Balance Assessment 31 Marlwood Avenue Town of Wasaga Beach. Prepared for Loft Planning Inc. by Azimuth Environmental Consulting Inc. February 5, 2020.
- Burnside. 2020a. Functional Servicing and Stormwater Management Report Proposed 9 Lot Residential Development Golf Course Road. Prepared for TPC Marlwood Inc. by R.J. Burnside & Associates Limited (Collingwood). January 2020.
- Burnside. 2020b. Functional Servicing and Stormwater Management Report Residential Subdivision Extension of Masters Lane. Prepared for TPC Marlwood Inc. by R.J. Burnside & Associates Limited (Collingwood), January 2020.
- MNRF. 2015. Significant Wildlife Habitat criterion schedules for Ecoregion 6E. MNRF Regional Operations Division & Northeast Region Resources Section. 39pp.
- MNR. 2010. Natural heritage reference manual for Policy 2.3 of the provincial policy statement, 2005 (2<sup>nd</sup> Ed.). Ontario Ministry of Natural Resources, Toronto, ON.
- Town of Wasaga Beach. Office Consolidation February 29, 2016. Official Plan.



## APPENDIX A

### WSP Review Comments



October 23, 2018

Doug Herron  
Manager of Planning and Development, Town of Wasaga Beach  
30 Lewis Street  
Wasaga Beach, ON  
L9Z 1A1

**Subject: Peer Review of the Environmental Impact Study, Marlwood Golf Course (September 2017)  
Wasaga Beach, Ontario**

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WSP Canada Inc. (WSP) was retained by the Town of Wasaga Beach to complete a peer review of an Environmental Impact Study (EIS) for a property located on the Marlwood Golf Course, 31 Marlwood Avenue, Town of Wasaga Beach, County of Simcoe. The EIS was submitted in support of a request for Official Plan and Zoning By-law Amendment, and Draft Plan of Subdivision. The Official Plan Amendment application proposes to change portions of the Official Plan designation on the property from Open Space to Residential. The Zoning By-law Amendment application proposes to rezone portions of the lands from Open Space to Residential Type 1. The Plan of Subdivision will result in a total of 64 single detached lots in two Phases. Phase 1 involves nine lots fronting Golf Course Road in the north portion of the property. Phase 2 involved 55 lots along an extension of Masters Lane in the south portion of the property.

The purpose of this peer review is to undertake a review of the EIS to determine whether the EIS conforms with relevant natural heritage policy and regulations. This involved a desktop review of the EIS's technical methods, results, conclusions, recommendations, and policy conformity determinations. The EIS was reviewed by WSP Ecologists and the appended water balance assessment (Appendix H of the EIS) was reviewed by WSP Water Resources staff.

The document reviewed in detail as part of this peer review is:

- *Environmental Impact Study, Marlwood Golf Course, Town of Wasaga Beach, Ontario, Simcoe County* (Azimuth Environmental Consulting, Inc. September 2017)

Additional documents reviewed for supplemental context as they relate to the EIS are:

- *Functional Servicing and Stormwater Management Report, Proposed 9 Lot Residential Development Golf Course Road, TPC Marlwood Inc., 31 Marlwood Avenue Wasaga Beach ON L9Z 1S8* (R.J. Burnside and Associates Limited, September 27, 2017).
- *Functional servicing and Stormwater Management Report, Residential Subdivision, Extension of Masters Lane, TPC Marlwood Inc., 31 Marlwood Avenue Wasaga Beach ON L9Z 1S8* (R.J. Burnside and Associates Limited, July 6, 2017).

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The EIS included a fairly complete field program and impact assessment. There are however, some deficiencies in the policy analysis, outstanding surveys and some clarifications required to determine conformity with relevant natural heritage policies.

**Key issues:**

1. Resolution of SAR compliance.
2. Mitigation of indirect impacts to retained wetlands.
3. Removal of and impacts to Significant Woodland.
4. Consideration of connectivity between large core areas to the east and west of the property, and demonstration of compliance with the local, regional and provincial policies.
5. Review of the full footprint of works, including grading, SWM outlet, access etc.

**Comments regarding the reviewed documents are provided below:**

**Comment 1a:** As recognized in the EIS, there are a number of outstanding concerns related to the potential presence of Species At Risk (SAR) and their habitat on and /or adjacent to the property. The EIS notes that additional SAR surveys and / or consultation with the MNRF is ongoing to determine potential for impacts and implications under the Endangered Species Act (ESA) regarding Eastern Hog-nosed Snake, Blanding's Turtle, and SAR bats. It is recommended that planning approvals not be provided until this documentation is received and demonstrates that the development as proposed will not contravene the ESA. Specific concerns are identified below.

**Comment 1b:** The development as proposed, could result in a barrier to a potential movement corridor for Blanding's Turtle and Eastern Hog-nosed Snake. Additional documentation of consultation with MNRF is needed to confirm that this development can proceed as proposed without contravening the ESA regarding these species.

**Comment 1c:** Similarly, confirmation is outstanding regarding the potential for the Study Area to provide habitat for Eastern Hog-nosed Snake, as no targeted surveys were completed, and the EIS notes the potential for foraging habitat associated with the golf course ponds and upland forest. Documentation of consultation with the MNRF regarding the potential for habitat on the property is required.

**Comment 1d:** The development as proposed could result in removal of SAR bat habitat. Additional documentation of consultation with MNRF is needed to confirm that this development can proceed as proposed without contravening the ESA for bat SAR.

**Comment 2 - Overall comments on the Appendix H, Water Balance Assessment:**

- The conclusion of the water balance is a 1/3 reduction in infiltration.
- Due to the sensitivity and dependence of Marl Lake and the wetland to groundwater, it would be expected that the drainage should be designed to maintain the existing regime (i.e. match infiltration).
- Both the Marlwood Master's Lane (Phase 2) and Golf Course Road (Phase 1) developments are likely to be in the groundwater catchment for the Marl Lake and wetland. Any impact from either, should be considered compound, rather than in isolation.
- The conclusory sentence states: "the additional runoff into Marl Lake from the on Site SWM pond will likely offset any decrease in infiltration due to the proximity of the Site and subsurface connection to this

feature". Consideration should be made to the differences in water discharging from groundwater and stormwater.

- Groundwater would discharge at a much slower but continuous rate over a wider area than the proposed SWM pond. Interaction with soils will impact upon groundwater chemistry as it flows through. The impact of changing these characteristics on the sensitive ecology would need to be assessed to qualify this statement.

**Comment 3** - Specific comments on the Appendix H, water balance approach and calculation:

- Detailed calculation sheets are not provided. And therefore, is difficult to confirm conclusions. It would be particularly useful to determine how surplus water has been determined.
- Soil type is used to determine water surplus. It is unclear what soil type has been used (noting the discussion in Section 1.0 – Soil, regarding two different types of soil present at the site), and if a different type has been used to represent the distinct soil types at the site.
- Very little justification is provided regarding the infiltration coefficients provided in Table 5:
  - For example, according to the preliminary grading plan provided in the Functional Servicing and Stormwater Management Report (Burnside, 2017), the gradient appears to be 2-3%, which would be Rolling Land, rather than Flat Land.
  - Consideration should be made as to the pre and post development topography.
  - The Landscaped grass/Meadow row indicates a Runoff Coefficient of 0.3 and an Infiltration Coefficient of 0.75. As the coefficients partition water between runoff and infiltration, the sum of them cannot be more than 1 (this is 1.05). From the calculation in the post-development infiltration section, it is presumed that the Runoff Coefficient should be 0.25. In addition, according to their description the appropriate coefficients would be 0.8 for Infiltration and 0.2 for runoff.
- It would be usual practice to account for a degree of evaporation directly from hardstanding surfaces.

**Comment 4a:** A large number of natural heritage features and functions depend on the protection of Marl Lake and the adjacent wetland, including:

- Marl Lake Provincially Significant Life Science ANSI
- Jack Lake PSW
- Potential Habitat for several SAR
- Portions of Candidate Significant Woodland
- Seven Candidate Significant Wildlife Habitats

As a result, it is important that the potential for impacts to this feature have been thoroughly reviewed and mitigated.

**Comment 4b:** It is recognized that the wetland is protected from direct impacts (no wetland removal), but does not appear that it will be protected from indirect impacts as changes to the water balance are anticipated, therefore it does not appear that this application is in conformity with the PPS, and Town and County OPs. It is



recommended that the SWM design be modified to maintain the existing water budget regime (i.e., match infiltration) to reduce potential impacts to retained wetlands and associated functions.

**Comment 4c:** It is noted that the EIS recognizes that further study is required to determine if the development will impact natural heritage features influenced by local hydrology. It would be beneficial if the EIS could identify the additional studies required to further assess impacts to the wetland feature and functions.

**Comment 4d:** Also, due to the apparent indirect impacts to the wetland, it is uncertain that there will be no negative impacts to the Significant Wildlife Habitat features associated with the wetland and therefore, it is not certain that this application is in conformity with the PPS, Town and County OPs, with respect to the protection of Significant Wildlife Habitat.

**Comment 4e:** The EIS notes that the PSW will be protected with a 30 m buffer; however, there is no discussion to demonstrate that a uniform 30 m buffer is appropriate for this particular situation. Additional rationale to demonstrate that a 30 m buffer is appropriate for the site conditions is requested, considering the level of sensitivity and numerous natural heritage features and functions related to the wetland. This rationale should reflect the sensitivity of the retained feature and the functions the buffer is intended to provide (e.g., water quality improvements, noise attenuation, reduced human disturbances, reduced introduction of invasive species, etc.). Consideration should also be given to additional protection of the feature by smoothing out the buffer limit to reduce the perimeter-to-area ratio of the buffer limit. In addition, the EIS should provide recommendations for a buffer treatment to achieve the intended buffer function (e.g., locations for plantings and / or naturalization).

**Comment 4f:** Given the sensitivity of the adjacent features, it is recommended that water quality and quantity monitoring of the effectiveness of the SWM features be undertaken and if targets are not being met, that additional mitigation be implemented. In order for this to be feasible, the development should be designed to allow for the application of additional mitigation (e.g., increasing infiltration, improving SWM function) if warranted by the monitoring results.

**Comment 5a:** Regarding Section 4.2.2, page 9, 'Provincial Policy Statement', the EIS concludes that the woodland on the property is not significant according to the recommended evaluation criteria provided in the Natural Heritage Reference Manual (NHRM), as it does not meet the minimum area threshold, even though it does meet several other criteria. However, according to the Natural Heritage Reference Manual, "Woodlands that meet a suggested minimum standard for any one of the criteria listed in Table 7-2 should be considered significant." Therefore, it seems that this feature would be considered significant according to the NHRM criteria. Any Significant Woodland present, should be mapped on Figures 2 and 3.

**Comment 5b:** Regarding Section 7.3 and Section 9.1, the EIS acknowledges that there will be removal of approximately 2 ha (8%) of the Significant Woodland along the southern limit of the Study Area, and notes that the Town OP permits development and site alteration within Significant Woodlands, provided that the results of an EIS indicate that no negative impact will occur to the natural feature or ecological function. Additional discussion / rationale is required to clearly demonstrate compliance since negative impact to the feature and function may occur (i.e., removal of a portion of the woodland; and reduced/removed function as a corridor between significant areas [the PSW and ANSI to east and the Provincial Park to the west]).

**Comment 6:** The impact assessment should address the full footprint of the works, including grading, SWM outlet, construction access etc.. Maps/Figures of the location and extent of these works should be provided.

**Comment 7:** The EIS does not identify the Growth Plan for the Greater Golden Horseshoe (Growth Plan) 2017 in its planning context review. The Growth Plan was recently updated and took effect July 1, 2017. While the EIS Study Area is within the lands subject to the Growth Plan, the Growth Plan's Natural Heritage System is mapped outside

of the EIS Study Area (east of Marl Lake, outside the Settlement limits), so the Growth Plan natural heritage policies do not apply to the Study Area. However, the designation should be identified as it may be relevant to consideration of natural feature linkages and connectivity.

**Comment 8:** Amphibian calling surveys were focused along the Jack's Lake PSW limit and no surveys were completed of the golf course water features. As these features will be impacted by the proposed works, it is recommended that amphibian calling surveys of these features also be completed, so that impacts can be sufficiently assessed, and appropriate mitigation be developed, if warranted.

**Comment 9:** The EIS states that candidate maternity roosting habitat for SAR bats have been surveyed according to the direction provided in the "Bats and Bat Habitats: Guidelines for wind Power Projects" (OMNR 2013). As MNRF direction on assessment of SAR habitat is evolving and varies across MNRF Districts it is recommended that the MNRF be consulted on guidance on the currently accepted approach to surveys and determination of impacts.

**Comment 10:** Regarding Section 5.1, page 12, this section states that NatureServe rankings are provide for species S3 and lower, but they don't appear to have been provided.

**Comment 11:** Regarding Section 5.1.6, page 13, this section states that "five communities contain high snag density (Figure 2b)." Figure 2b does not indicate the snag density of FOC3-1, but it appears that it may also qualify as high snag density. Please confirm.

**Comment 12:** Regarding Section 5.4.6, page 15, Turtle Nesting Areas, the EIS states that "exposed mineral soils are present throughout the study area, including within maintained portions of the golf course (sand traps)". Please confirm whether these are located within areas for development. If so, are there any areas outside of the sand traps that require additional mitigation to ensure turtle nests are not damaged during construction?

**Comment 13:** Regarding Section 7.4.2, Bat Maternity Colonies, as noted in the EIS additional survey results are required to confirm no negative impacts to SAR and non-SAR Bat Maternity colonies (i.e., Significant Wildlife Habitat). Results of these surveys are required to determine if the EIS conforms to the ESA, PPS, County and Town Ops.

**Comment 14:** Regarding Section 8.2.2, the EIS identified that if excavation of sand trap features must be completed during the June to April period, that exclusion fencing should be installed prior to May 1 in order to prevent nesting. As turtle hatchlings may have overwintered in the nest chamber the exclusion fencing should be designed to prevent adult turtles to enter, but permit hatchling turtles to exit. We agree with the timing window for sand trap excavation outside the turtle nesting season (i.e., June to April) and recommend that if possible, excavation occur between May 10 and May 20 to further reduce potential harm to turtle nests or hatchlings.

**Comment 15:** If a tree protection plan and arborist report has been completed for this property, it is recommended that the EIS refer to that report in Section 8.3 for additional details regarding tree protection requirements.

**Comment 16:** The EIS notes in Section 8.4 that the need for dewatering of the construction area is unknown. It is recommended that the impacts of any required dewatering be reviewed in subsequent design stages to ensure no negative impacts to natural heritage features or functions and the development of mitigation if required.

**Comment 17:** Regarding Section 8.6.1, it should also be noted that screening by an ecologist to ensure that the vegetation to be removed has been confirmed to be free of nesting prior to clearing is only to be applied to 'simple habitats' per the guidance of Environment and Climate Change Canada ([https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/technical-information-risk-factors.html#\\_03\\_1](https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/technical-information-risk-factors.html#_03_1)).



**Comment 18:** Note that the timing restrictions regarding bat maternity roosting habitat would be pending further direction from the MNRF.

**Comment 19:** On page 25 the acronym 'SNHF' is used, but not defined in the report. It is assumed to mean Significant Natural Heritage Feature, please confirm.

**Comment 20:** Vegetation unit along the wetland boundary is identified as FOC4-1, but the vegetation community type name does not correspond. Is the community type FOC4-1 or FOM4-1 or other?

**Comment 21:** Regarding the "County of Simcoe Schedule 5.1 – Land Use" map included in Appendix A, the red circle indicating the Property Location is in the wrong place. This does not alter any conclusions of the EIS as the circled location and the actual property location are both identified in gray, meaning "Settlement".

**Comment 22:** There is a typo in Section 9.5 indicating that a permit under O. Reg. 172/08 will be required. It is assumed to mean O. Reg. 172/06.

In conclusion, at this time conformity of the OPA and ZBA and Draft Plan to the ESA, and natural heritage-related policies of the PPS, Town OP, or County OP cannot be confirmed. Key concerns are summarized below.

- There are several outstanding SAR concerns that could result in contravention of the ESA. Documentation of additional surveys and consultation with the MNRF is required to confirm whether the development can proceed without contravention of the ESA.
- Indirect impacts to the Provincially Significant Wetland (and associated ANSI, potential SAR habitat and Significant Wildlife Habitat) are anticipated as it has not been demonstrated that a water balance will be achieved to match infiltration. In addition, there is no rationale for the provision of a 30 m buffer to the wetland as sufficient / appropriate to protect the wetland and associated natural features. As a result the development does not demonstrate conformity with the ESA, PPS, Town OP, County OP, or O. Reg. 172/06.
- Removal of Significant Woodland may result in negative impacts to the feature and function, and therefore may not conform to the PPS, Town OP or County OP.
- Consideration of the need for natural heritage linkages has not been sufficiently reviewed. As the proposed development results in a barrier between the significant natural features to the east and west, it is important to review this as part of this EIS while there is an opportunity to maintain and / or enhance the linkage between these features.
- The full footprint of works (e.g., grading, SWM outlet, access etc.) has not been reviewed in the impact assessment to confirm the extent of works outside the lot limits and potential impacts to retained features.



Sincerely,  
WSP Canada Inc.

Prepared by:



Rebecca Hay, B.E.S., Dip. Hort.  
Senior Ecologist



Simon Dale-Lace, B.Sc. M.Sc. C.WEM APMP  
Senior Project Coordinator, Water Resources

Reviewed by:

Jeff Gross, M.Sc.  
Project Manager / Senior Ecologist

James Michener, P. Eng.  
Project Engineer, Water Resources



## APPENDIX B

### NVCA Review Comments



**Nottawasaga Valley  
Conservation Authority**

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25 June 2018

Mr. Doug Herron MCIP, RPP, MPA  
Manager of Planning  
Town of Wasaga Beach  
30 Lewis Street  
WASAGA BEACH, ON  
L9Z 1A1

Dear Mr. Herron,

**RE: TPC at Marlwood  
Official Plan Amendment – OP02/17  
Zoning By-law Amendment – Z11/17  
Draft Plan of Subdivision – PS01/17  
31 Marlwood Avenue, Town of Wasaga Beach  
(NVCA ID# 29199)**

The Nottawasaga Valley Conservation Authority (NVCA) is in receipt of a formal circulation of applications to amend the Town of Wasaga Beach Official Plan and Zoning By-law and an application for Draft Plan of Subdivision for the above noted property.

NVCA staff understand that the proposal would facilitate the development of a residential plan of subdivision consisting of 65 single detached residential lots on a 55 hectare [ha] parcel of land. The proposed lots would be developed on full municipal services and in two phases. Phase one proposes 10 lots on the existing Golf Course road and phase two proposes 55 lots on a new extension of Masters Lane.

The subject property is designated 'Open Space', and Natural Hazards' on Schedules 'A-6 and A-7' Land Use Plan(s) of the Town of Wasaga Beach Official Plan and zoned 'Open Space' and 'Rural' on Schedule 'P' and 'Q' of the September 2014 Office Consolidation of The Town of Wasaga Beach Comprehensive Zoning By-law 2003-60.

The subject property is partially regulated pursuant to Ontario Regulation 172/06, the Authority's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation. Permits are required from NVCA prior to construction or grading in regulated portions of this property.

NVCA staff have reviewed the following documents provided in support of the applications:

- Loft Planning Inc. "Planning Justification Report" dated July 10 2017
- Loft Planning Inc. "Supplementary Planning Justification Report" dated September 27 2017
- Azimuth Environmental Consulting Inc. "Environmental Impact Study" dated September 2017

- R.J. Burnside & Associates Limited "Functional Servicing and Stormwater Management Report - Proposed 9 Lot Residential Development Golf Course Road" dated September 27, 2017
- R.J. Burnside & Associates Limited "Draft Plan for 55 lots on Masters Lane Extension" dated June 24, 2017
- Rudy Mak Surveying Ltd "Draft Plan for 10 lots on Golf Course Road" dated June 23, 2017

Based upon our review of the above noted materials, we offer the following comments:

## **ENGINEERING**

### **Natural Hazards**

In our pre-consultation comments dated March 3, 2016, NVCA staff requested that the following information be provided as part of a complete application. We have not been provided with this information and are unable to provide comment on the limits to development as a result. We request that the applicant provide this information at their earliest convenience.

1. A site survey should be completed in order to determine if further flood information needs to be provided.
2. Hazardous soil - At this location there could be a risk of hazardous soils (peat or marl). This should be addressed by a geotechnical engineer and a report provided for review.

### **Stormwater Management**

3. A stormwater management report and associated plans have been submitted and are being reviewed by technical staff. Comments will be provided under separate cover.

## **ECOLOGY**

4. The Environmental Impact Study [EIS] determines that the woodlands on the development site are not significant due to a 50 ha minimum sizing criteria based on watershed forest cover. NVCA staff disagree with this conclusion.
  - Town of Wasaga Beach Official Plan Section 13.4.10.4(c) – Significant Woodlands, states that woodlands can be significant if larger than 20ha.
  - The Natural Heritage Reference Manual [NHRM] Ecological Function Criteria (Table 7-2), shows that the woodlands meet the criteria for "Proximity to Other Woodlands or Other Habitats". The woodlands on the subject property about the significant features: Wasaga Beach Provincial Park ANSI, the Marl Lake Earth Science ANSI, and the Jacks Lake Swamp Complex (JLSC) Provincially Significant Wetland (PSW).
  - The NHRM (Table 7-2) also shows that woodlands on the property, namely the southern woodlot, meet "linkage" criteria as it connects the three significant features named above.
5. The Town of Wasaga Beach Official Plan Section 13.4.10.4(f) states that development should be directed away from significant woodlands, unless an EIS properly accounts for the impacts to the feature. The EIS fails to recognize the significance of the

- woodlands on the property and neglects to properly account for impacts and mitigation to their values and functions. The EIS needs to add sections on the consideration for the protection of the significant woodlands and their functions especially as corridors for species at risk [SAR] snakes and turtles. Failing that, an assessment of the impacts and mitigation to the significant woodlands and their values and functions, especially as corridors, needs to be added.
6. The EIS mentions no impacts arising from the development on animal movement corridors/habitat linkages, significant woodlands, provincially significant woodlands and ANSIs. NVCA staff disagree and feel that the removal of the southern forest block would have significant impacts on all of the components mentioned above, in contradiction to the Provincial Policy Statement.
  7. The EIS is incomplete in that it does not include final mitigation plans following discussions with MNR with respect to bat maternity roosts, reptile species and habitat. These need to be added.
  8. Amphibian and turtle surveys should have been completed in the golf course ponds, especially since the EIS considers these features to be potential spawning, breeding and overwinter habitats.
  9. The removal or alteration of the golf course ponds and sand traps effectively removes or alters amphibian and turtle spawning, breeding and overwintering habitats, as per the EIS. However, there is no mention of recreating these habitat functions elsewhere in the local landscape.
  10. The EIS fails to mention or account for the non-permitted removal of wetland habitat by the applicant along the shoreline of the JLSC PSW. ELC mapping calls the disturbed areas THMM1-1 (*Dry-Fresh Native Mixed Regeneration Thicket Type*), however it should be noted in the EIS that prior to the wetland clearing the vegetation community would likely have been akin to the SWM1-1 (*White Cedar-Hardwood Organic Mixed Swamp*).
    - a. These activities were also not mentioned when discussing significant wildlife habitat. It is very likely that prior to clearing the SWM1-1 habitat may have supported various amphibian, reptile, crayfish and raptor life stages. Also missing is discussion of recreating these habitat features.
  11. Significant crayfish habitat is referenced as being unaffected by the development proposal through the retention of the SWM1-1 habitat. Impacts arising from the wetland clearing should be mentioned and mitigated for as part of the EIS.
  12. The *Mapping of Environmental Features* (Figure 2a) map is incomplete, as it does not properly map the wetland communities of the JLSC PSW. Cedar swamp communities (SWM1-1) existed along the western edge of Marl Lake (east edge of the study area) prior to their clearing. The wetland boundary and development buffer remain planning and regulatory features despite the clearing.
  13. The water balance calculations show that development will result in a loss of approximately 1/3 (7,415 m<sup>3</sup>) of the quantity of infiltrated water pre-to-post, with a similar increase in surface runoff. This equates to a local lowering of the water table

by 25 mm to 50 mm. The additional surface runoff will exit the development as stormwater discharge directly to Marl Lake. The EIS concludes that the development will have no impact on the form or function of the JLSC PSW. NH staff have concerns that hasty conclusions were made about the long term health of the wetland based on insufficient data.

- More detailed information is required to properly review the impacts of the development on the JLSC PSW. Modeling and/or monitoring data about the specific changes to the water balance of the wetlands along the western shore of Marl Lake (former SWM1-1 communities, now mapped THMM1-1) and the SWM1-1 wetland lobe is required. Note: modeling data can only be used if sufficient monitoring data already exists.
  - The modeling and/or monitoring data should be used along with scientific literature/ecology publications to demonstrate that any changes in water balance are acceptable to the specific communities and species that live within the SWM1-1 community in particular and JLSC PSW in general.
  - As the changes to the wetland water balance suggested in the EIS water balance document are unclear and potentially harmful, NVCA staff suggest implementing a monitoring program to establish a feature based pre-development water balance and to monitor the post-development water balance to ensure no negative impacts to the wetland. The details of the monitoring program (length of monitoring, number of stations, etc.) should be determined through pre-consultation with the NVCA.
14. More information is required about the potential construction dewatering program. NVCA staff have concerns that a dewatering program may contribute to concentrated flow and erosion across the SWM1-1 community.
15. The EIS fails to mention anything about the impacts of stormwater discharge on the water quality and habitat of Marl Lake and the surrounding JLSC PSW. A section needs to be added that shows how stormwater discharge to the Lake will meet the Provincial Water Quality Objective for phosphorus in lake environments and the Guideline for the Protection of Aquatic Life for the nitrate and chloride ions.

## **Conclusion**

NVCA staff notes that insufficient information has been submitted in support of the above noted applications in order to determine the limits to development. The applicant should provide this additional information at their earliest convenience in order that fulsome comments on the proposed development, including development limits, can be provided.

TPC at Marlwood  
Official Plan Amendment – OP02/17  
Zoning By-law Amendment – Z11/17  
Draft Plan of Subdivision – PS01/17  
31 Marlwood Avenue, Town of Wasaga Beach  
(NVCA ID# 29199)

25 June 2018

Please feel free to contact the undersigned at [lbull@nvca.on.ca](mailto:lbull@nvca.on.ca) or ext. 231 should you require any further information or clarification on any matters contained herein.

Sincerely,



Lee J. Bull, MCIP, RPP  
Manager, Planning Services

Copy: Ms. Tiffany Thompson, County of Simcoe  
Ms. Kristine Loft, Loft Planning Inc.



## APPENDIX C

### MNRF Correspondence



## Stephanie Casutt

---

**From:** Mott, Ken (MNRF) [ken.mott@ontario.ca]  
**Sent:** 07-12-2018 11:28  
**To:** Stephanie Casutt  
**Subject:** RE: AEC17-415 Background Information Request

Hi Stephanie;  
Apologies for the delay in getting back to you on this.

Yes I have spoken with Graham and Jodi on the Marlwood application and they have confirmed that, given the nature of the woodland in question, the primary SAR concern is for Eastern Hog-nosed Snake, not bats.

Regards  
Ken

---

### Ken Mott

District Planner | Midhurst District | Ministry of Natural Resources and Forestry | Bruce, Grey, Simcoe and Dufferin Counties  
(705) 725-7546 | (705) 725-7584 | [ken.mott@ontario.ca](mailto:ken.mott@ontario.ca) |

---

**From:** Stephanie Casutt [<mailto:scasutt@azimuthenvironmental.com>]  
**Sent:** July-12-18 11:21 AM  
**To:** Mott, Ken (MNRF) <[ken.mott@ontario.ca](mailto:ken.mott@ontario.ca)>  
**Subject:** RE: AEC17-415 Background Information Request

Thanks for letting me know Ken. Will do!

Any chance you've consulted with Graham regarding MNRF's comments for the Marlwood EIS?

Thanks,

STEPHANIE CASUTT  
Terrestrial Ecologist

Azimuth Environmental Consulting, Inc.  
642 Welham Road, Barrie, ON, L4N 9A1  
office: (705)721-8451 ext.204  
cell: (705)305-8582  
[scasutt@azimuthenvironmental.com](mailto:scasutt@azimuthenvironmental.com)  
[www.azimuthenvironmental.com](http://www.azimuthenvironmental.com)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*

---

**From:** Mott, Ken (MNRF) [<mailto:ken.mott@ontario.ca>]  
**Sent:** 07-12-2018 11:05  
**To:** Stephanie Casutt; MIDHURSTINFO (MNRF)  
**Cc:** Benner, Kim (MNRF)  
**Subject:** RE: AEC17-415 Background Information Request

## Jim Broadfoot

---

**From:** Mott, Ken (MNRF) <ken.mott@ontario.ca>  
**Sent:** March-08-19 2:12 PM  
**To:** Jim Broadfoot; Alan Wiebe  
**Cc:** Alan Wiebe; Benvenuti, Jodi (MNRF); Lee Bull  
**Subject:** RE: 037815\_190215\_DP-PRELIMINARY DRAFT PLAN (002).pdf  
**Attachments:** 037815\_190215\_DP-PRELIMINARY DRAFT PLAN (002).pdf

Hi Jim;

Based on the revised plans for the Marlwood proposal that retains the woodland on the southern portion of the property, in its entirety, to maintain connectivity function for Eastern Hog-nosed Snake, MNRF has no further comment on this application.

Regards,  
Ken

---

### **Ken Mott**

District Planner | Midhurst District | Ministry of Natural Resources and Forestry | Bruce, Grey, Simcoe and Dufferin Counties  
(705) 725-7546 | (705) 725-7584 | [ken.mott@ontario.ca](mailto:ken.mott@ontario.ca) |

---

**From:** Jim Broadfoot <[Jim@AzimuthEnvironmental.Com](mailto:Jim@AzimuthEnvironmental.Com)>  
**Sent:** March-04-19 3:23 PM  
**To:** Mott, Ken (MNRF) <[ken.mott@ontario.ca](mailto:ken.mott@ontario.ca)>  
**Cc:** [kristine@loftplanning.com](mailto:kristine@loftplanning.com)  
**Subject:** FW: 037815\_190215\_DP-PRELIMINARY DRAFT PLAN (002).pdf

Hello Ken,

Any ETA re: the MNRF's letter related to the revised plan?

Thanks

J b'foot

Jim Broadfoot, Terrestrial Ecologist

Azimuth Environmental  
**642 Welham Road**  
Barrie, ON  
L4N 9A1  
(705) 721-8451 x 206  
Mobile (705) 623-1161 (**NOTE: NEW MOBILE #**)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*

---

**From:** Jim Broadfoot  
**Sent:** February-19-19 12:37 PM  
**To:** [ken.mott@ontario.ca](mailto:ken.mott@ontario.ca)  
**Cc:** [kristine@loftplanning.com](mailto:kristine@loftplanning.com)  
**Subject:** FW: 037815\_190215\_DP-PRELIMINARY DRAFT PLAN (002).pdf

Ken Mott, District Planner  
MNRF Midhurst District

Hello Ken:

As discussed, revised draft plan for Marlewood (Wasaga) retaining habitat connection attached for your reference.

Please do not hesitate to call to discuss.

Thank you,

J b'foot

Jim Broadfoot, Terrestrial Ecologist

Azimuth Environmental  
**642 Welham Road**  
Barrie, ON  
L4N 9A1  
(705) 721-8451 x 206  
Mobile (705) 623-1161 (**NOTE: NEW MOBILE #**)

*Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering*

---

**From:** [kristine@loftplanning.com](mailto:kristine@loftplanning.com) [<mailto:kristine@loftplanning.com>]  
**Sent:** February-19-19 10:53 AM  
**To:** Jim Broadfoot  
**Subject:** 037815\_190215\_DP-PRELIMINARY DRAFT PLAN (002).pdf

Jim,  
Attached is amended draft plan to forward to MNR.

Kristine

Kristine Loft  
Loft Planning Inc.

308 Hurontario Street  
Collingwood, Ontario  
L9Y 3Y9

O 705.446.1168  
F 866.391.9771  
C 705.888.4710

[www.loftplanning.com](http://www.loftplanning.com)





Environmental Assessments & Approvals

October 16, 2018

AEC 15-273

Ministry of Natural Resources and Forestry  
Midhurst District  
2284 Nursery Road, Ontario  
L0L 1Y2

Attention: Ken Mott, District Planner

**Re: Natural Heritage Review Comments – Environmental Impact Study  
Marlwood Golf Course, Town of Wasaga Beach, County of Simcoe**

Dear Mr. Mott:

Following the submission of Azimuth Environmental Consulting, Inc.'s (Azimuth) Environmental Impact Study (EIS; September 29, 2017), comments were received from the Ministry of Natural Resources and Forestry (MNRF; June 29, 2018) to be addressed as part of the Plan of Subdivision, Zoning By-law Amendment, and Official Plan Amendment Application for the property described above (Study Area).

Azimuth's EIS concluded that further study was required to determine if the development will impact natural heritage features utilized by Species at Risk (SAR), including Eastern Hog-nosed Snake (EHNS; Threatened) and Butternut (Endangered). This letter provides further information as it relates to potential EHNS habitat within the Study Area and provides an assessment of potential impacts to the species and its habitat in accordance with Section 9 and 10 of the *Endangered Species Act*, 2007 (ESA).

**MNRF**

*In the context of species at risk, the woodland located along the southern portion of the study area is especially important as this woodland provides a natural linkage and travel corridor between known woodland habitat for Eastern Hog-nosed Snake (Threatened) on the west side of Golf Course road to potential woodland habitat to the east, south of Marl Lake. We note that the proponent has also identified at least one butternut tree in this portion of the woodland.*



## **AZIMUTH**

### Eastern Hog-nosed Snake

The EHNS is listed as Threatened on the Species at Risk in Ontario List. Threatened species as well as their habitats are protected under Section 9 and 10 of the ESA. EHNS currently has general habitat protection. Azimuth's EIS acknowledges that:

*"Habitat adjacent to the Study Area is potentially suitable for this species' nesting requirements, i.e. sandy, oak forests in the Provincial Park. The property is situated in an area with high potential for use as supporting habitat for this species, and the Study Area may provide opportunities for foraging."*

The EIS further states that:

*"...the proposed development will may introduce a barrier within a potential movement corridor for the species, as they move between the candidate overwintering habitat provided by wetland communities of Marl Lake/Jack's Lake PSW and the candidate nesting habitat provided by the dune matrix of Wasaga Beach Provincial Park. Further, the upland deciduous forest habitat may provide foraging habitat for the species (COSEWIC, 2007). Additional surveys for the species and consultation with the MNRF are ongoing to determine potential implications of the development."*

As requested by MNRF staff during a meeting which occurred on Azimuth staff (M. Fuller, S. Casutt, & J. Broadfoot) completed a total of ten (10) Visual Encounter Surveys (VES) throughout the Study Area, following the Survey Protocol for Ontario's Species at Risk Snakes (MNRF, 2016). The surveys were conducted to assess the potential use of the Study Area by EHNS such as movement corridor and/or nesting. Surveys were generally focused on the naturalized portions of the Study Area, however the ponds and sandy areas were also targeted during the surveys. The following table presents the findings.



Table 1. SAR Snake Surveys

Survey Date	Species Observed (number of individuals)	Observation Notes
05-15-2017	Painted Turtle (40)	Majority of individuals observed within Marl Lake, basking. Individuals also observed within man-made ponds throughout the Study Area and adjacent lands to the north.
	Northern Watersnake (1)	Observed within the 'South Feature' man-made pond.
05-20-2017	Painted Turtle (44)	Majority of individuals observed within Marl Lake, basking. Individuals also observed within man-made ponds throughout the Study Area and adjacent lands to the north.
	Snapping Turtle (3)	Two individuals observed at a man-made pond north of the Study Area. One individual observed within Marl Lake.
05-30-2017	Painted Turtle (27)	Majority observed basking on Marl Lake, however individuals also observed within the man-made ponds on and adjacent to the Study Area. One dead individual observed along the shore of the South Feature.
	Milksnake (1)	Observed at the south shore of Marl Lake.
	Northern Watersnake (1)	Observed at a man-made pond north of the Study Area.
	Eastern Gartersnake (1)	Observed at the south shore of Marl Lake.
06-14-2017	Painted Turtle (16)	
	Snapping Turtle (1)	Observed within man-made pond north of the Study Area.
06-21-2017	No observations	N/A
08-10-2017	No observations	N/A
08-25-2017	No observations	N/A
09-14-2017	No observations	N/A
09-25-2017	No observations	N/A



No Endangered or Threatened reptile species including EHNS were observed throughout the course of the 2017 field surveys. Azimuth notes, however, that EHNS is known to be a cryptic species with low detectability rates and given known populations of this species in the Wasaga Beach area, presence should generally be assumed.

The majority of the portion where development is proposed is comprised of a highly manicured Golf Course which generally would be considered not suitable for this species given the high mortality risks associated with human activity (*i.e.*, lawn mowing, vehicle traffic). In addition, available literature does not suggest that this species is known to favour man-made areas contrary to other species.

The naturalized portions of the property include the large complexes of Marl Lake and the Jacks Lake Swamp Complex (JLSC) PSW. These are large and contiguous areas that may provide various life cycle functions for EHNS including overwintering, nesting, and foraging.

As per the Recovery Strategy for the EHNS in Ontario (Kraus. 2011), snake use of habitat was clustered in areas that provided a diverse habitat mosaic encompassing open natural areas such as open woods, brushland, and meadows; forest and forest edge; rock barrens; and sandy areas such as beach and beach dunes (Seburn. 2009). Critical habitat elements to consider when evaluating habitat for the EHNS include: foraging; nesting; and hibernation. It is presumed that the mosaic of wetland (Marl Lake) and the JLSC PSW would provide those critical habitat elements.

Small natural areas (*i.e.*, <1.5 ha) are present within the development area including the FOD5-8 vegetation community which is partly contiguous with the larger woodland complex and encompasses the JLSC PSW. This community may act as a 'linkage' or 'movement corridor' for EHNS, however the contiguous feature is separated by Golf Course road which would act as a partial barrier for EHNS. It is recognized, however in the Recovery Strategy (Kraus. 2011) that if both sides of the road are contiguous areas of natural habitat, and/or contain a hibernation or oviposition site, the road may not act as a complete barrier.

The Site Plan has been modified to allow for a 15 metre wide woodland retention area along the southern property boundary as illustrated within the updated Figure 3 appended here. This area would maintain potential connectivity function of the woodland and therefore any individual EHNS migrating between habitats would not be impacted by the development. Furthermore, mitigation measures specific to EHNS are provided below to be undertaken pre and post-construction.





## Mitigation Measures

### *General*

In order to prevent negative impact associated with the species and its associated habitat, Azimuth recommends that the following measures be taken:

- Tree and vegetation removal should take place outside the active season for EHNS;
- Control of invasive species should be considered as a stewardship initiative; and,
- A Homeowners guide “Stewardship Guide” should be considered to ensure that property owners are aware of the sensitivities associated with the neighboring natural areas associated with the property.

### *Fencing*

Installation of an appropriate temporary exclusion fence along the retained FOD5-8 woodland area should be included in the detailed design to ensure that snakes cannot enter the proposed development area prior to construction activities. Following construction activities, a permanent fence should be installed along the same boundary to ensure that and people/pets will be deterred from entering the natural area. Details of the fence should follow the Reptile and Amphibian Exclusion Fencing Best Practices Technical Note (MNRF, 2013).

### *Worker Training*

Worker training could be beneficial to assist the on-site workers in the identification of the SAR with potential to occur in the area. Workers should be instructed to stop work immediately and contact the local MNRF office immediately if any SAR are encountered within the work area. Individuals working on site should ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles or other equipment.

The contractor should seek to ensure that all personnel are educated to ensure that, if identified, the individuals are not wantonly injured or killed, and to ensure that damage to features which could constitute habitat is avoided. Information conveyed through this education should include:

- Species habitat and identification;
- Requirements under the ESA including avoidance of harm to the species and damage to relevant habitat;
- Appropriate action to take if the species is encountered;
- How to record sightings and encounters; and
- That care should be taken when undertaking construction activities in order to avoid harming the species or damaging/destroying habitat.



The expert should be a qualified biologist with knowledge of SAR in Ontario.

#### Butternut

As stated within the EIS:

*“Five Butternut were identified within the Study Area, as shown on Figures 2a, 2b and 3. Four of the Butternut were assessed as "non-retainable" (Appendix G) and thus, as per Section 23.7 of O. Reg. 242/08, no additional consideration of these individuals is required. One additional tree was observed within a forest community >50m east of the development limit - no impact to this tree is anticipated as a result of the proposed development. Thus, there is no expectation that the proposed development would result in contravention of the ESA as it relates to the species or its potential habitat.”*

For reference, Figures 2a and 3 are provided as an attachment.

The Butternut Health Assessments were submitted to the MNRF on August 9, 2016. No response was received from MNRF during the 30 day period therefore the assessments are considered accepted.

#### **CLOSURE**

We trust the information provided address the concerns outlined by the MNRF. We request that the information outlined herein be considered in conjunction with reports and background information submitted to date.

Thank you very much for your assistance in this matter.



If you have any questions regarding this project please do not hesitate to contact the undersigned.

Yours truly,  
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Stephanie Casutt, HBES  
Terrestrial Ecologist



## REFERENCES

- Kraus, T. 2011. Recovery Strategy for the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. i + 6 pp + Appendix vi + 24 pp. Adoption of the Recovery Strategy for the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Canada (Seburn, 2009).
- OMNR. 2013. Reptile and Amphibian Exclusion Fencing: best Practices, Version 1.0. Species at Risk Branch Technical Note. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. 11 pp.
- Seburn, D. 2009. Recovery Strategy for the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Canada. Species at Risk Act Recovery Strategy Series. Parks Canada Agency, Ottawa. vi + 24pp.



**LEGEND:**

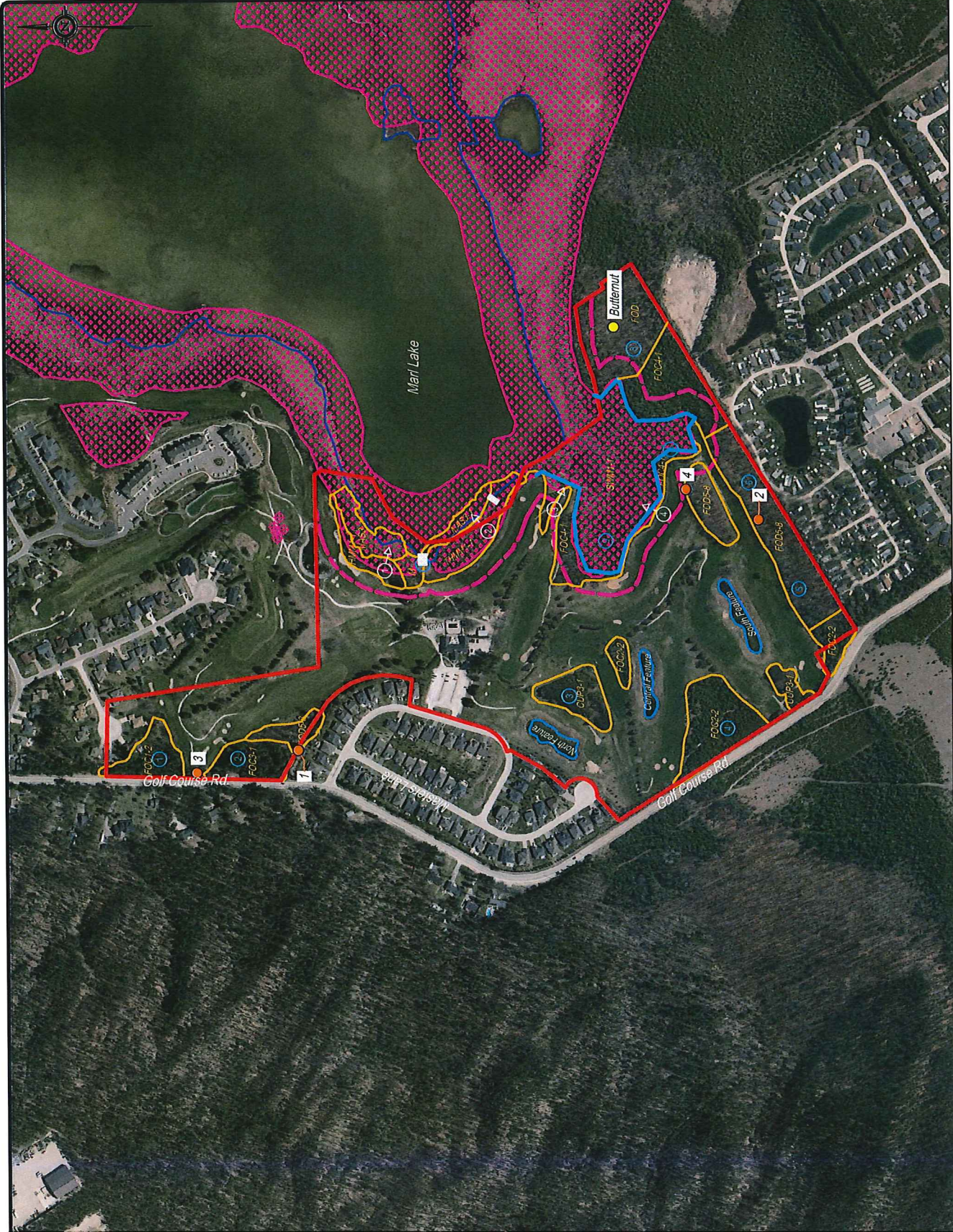
- Approx. Study Area
- Lake
- Offline Water Hazard Feature
- Jack's Lake PSW (LIO)
- Jack's Lake PSW Limit (MNRFF, Dec. 2016)
- 30m Wetland Buffer
- + Snapping Turtle Nests
- Not Assessed Butternut Locations
- Non-Retainable Butternut Locations
- + Bird Survey Stations
- + Amphibian Survey Stations (white)
- Vegetation Communities
- CUP3-1 Red Pine Coniferous Plantation
- FOC1-2 Dry-Fresh White Pine-Red Pine Coniferous Forest Type
- FOC2-2 Dry-Fresh White Cedar Coniferous Forest
- FOC3-1 Fresh-Moist Hemlock Coniferous Forest
- FOC4-1 Fresh-Moist White Cedar Coniferous Forest Type
- FOD Deciduous Forest Type
- FOD5-4 Dry-Fresh Sugar Maple-White Ash Deciduous Forest Type
- MAS3-1 Cattail Organic Shallow Marsh
- M Maintained Lands
- SWM1-1 White Cedar-Hardwood Organic Mixed Swamp
- THMM1-1 Dry-Fresh Native Mixed Regeneration Thicket Type



**Environmental Features**

Golf Course Rd.,  
Wasaga Beach, ON

DATE ISSUED:	March 2017	Figure No.	2a
CREATED BY:	JLM		
PROJECT NO.:	15-273		
REFERENCE:	First Base Solutions		





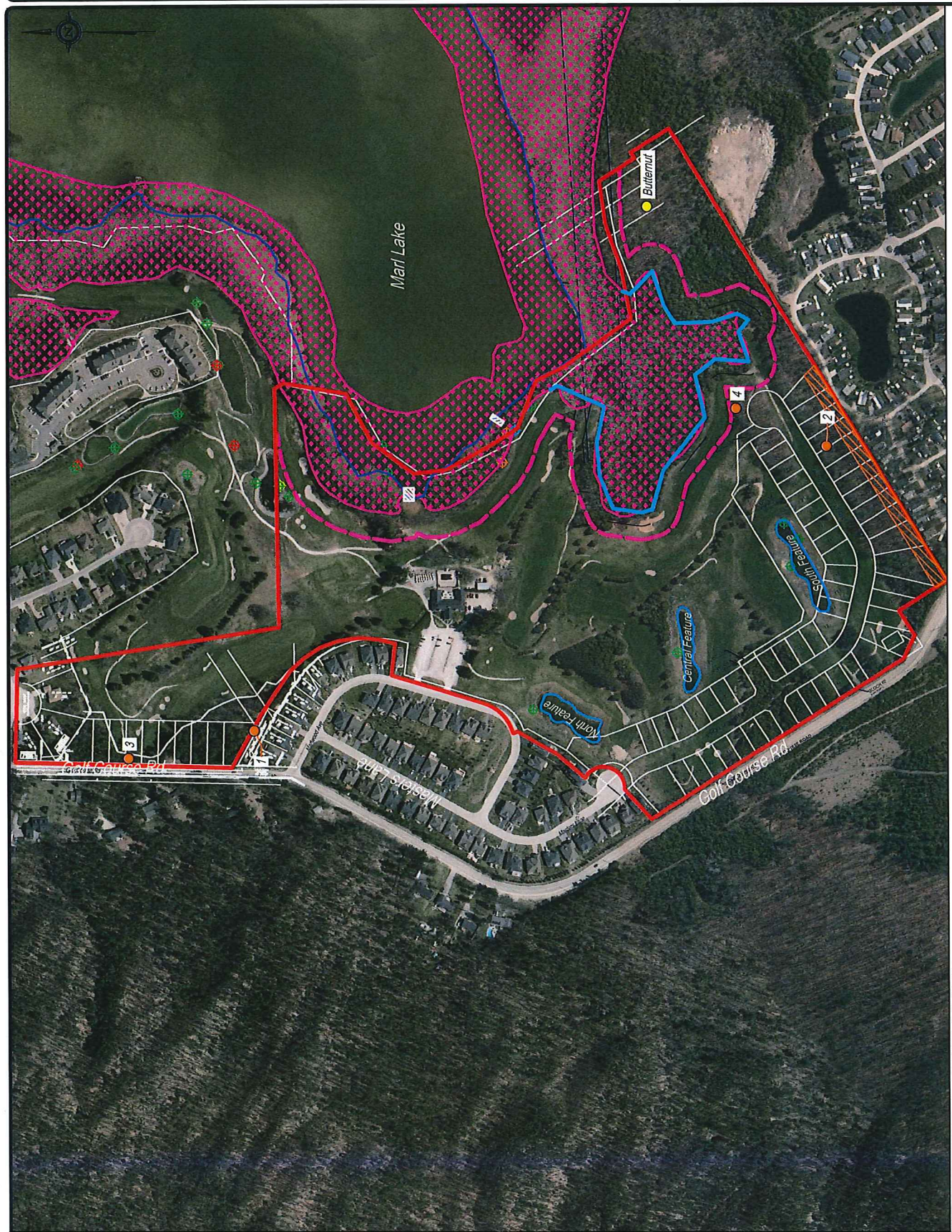
- LEGEND:**
- Approx. Study Area
  - Lake
  - Offline Water Hazard Feature
  - Jack's Lake PSW (LIO)
  - Jack's Lake PSW Limit (MNRF, Dec. 2016)
  - 30m Wetland Buffer
  - Not Assessed Butternut Locations
  - Non-Retainable Butternut Locations
  - 15m Setback
  - Basking Areas (white)
  - Reptile Sightings
  - Snapping Turtle Nests
  - Snapping Turtle
  - Midland Painted Turtle
  - Milksnake
  - Garter Snake
  - Northern Watersnake



Proposed Development

Golf Course Rd.,  
Wasaga Beach, ON

DATE ISSUED:	July 2017	Figure No.	3
CREATED BY:	JLM		
PROJECT NO.:	15-273		
REFERENCE:	First Base Solutions		



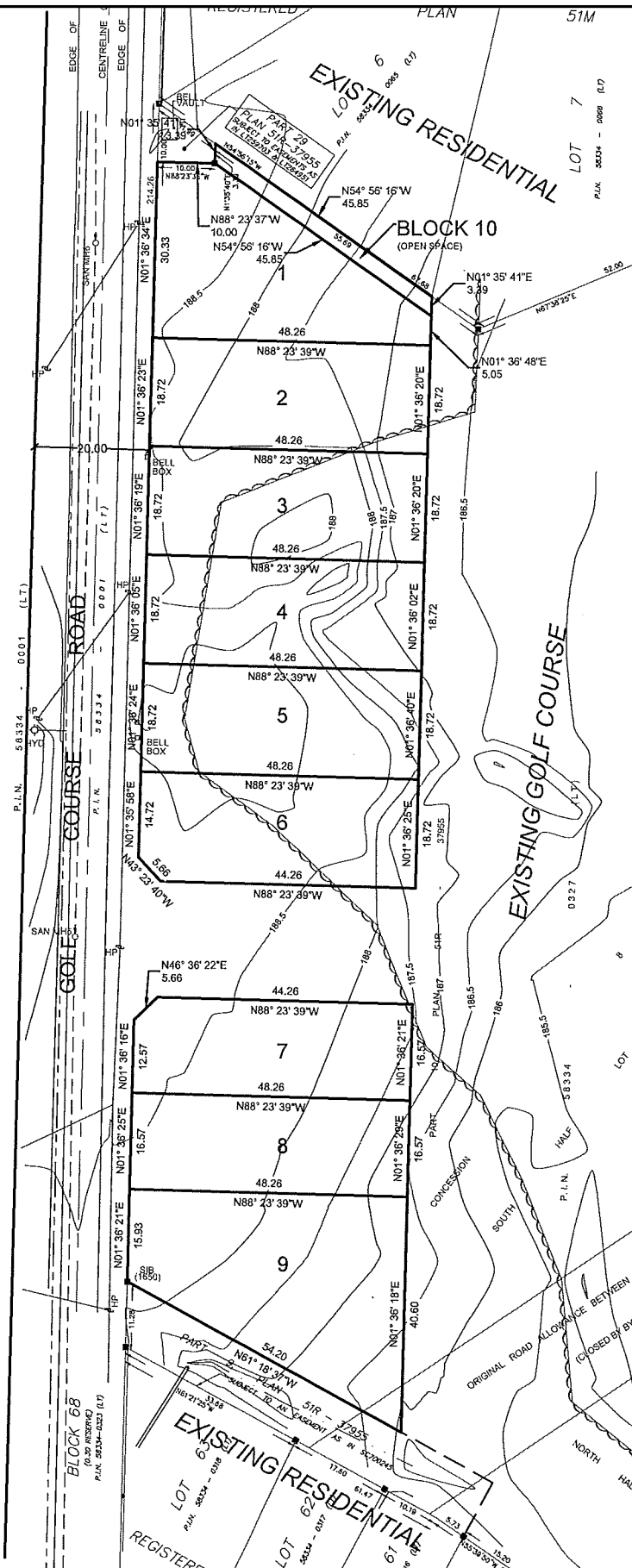




## APPENDIX D

Revised Draft Plans  
Revised Golf Course Design

EXISTING RESIDENTIAL



**KEY PLAN** SUBJECT PROPERTY  
N.T.S. ADDITIONAL LANDS OWNED BY APPLICANT

### ADDITIONAL INFORMATION

As required under Section 51(17) of the Planning Act.

- a), b), e), f), g) & j) - on plan
- c) - on key plan
- d) - see statistics
- h) - piped water to be installed by developer
- i) - sandy
- k) - all municipal services to be made available
- l) - DO WE HAVE TO INCLUDE THE BELL EASEMENT AND DRAINAGE BLOCK TO THE SOUTH IN THIS DRAFT PLAN

### STATISTICS

PROPOSED LAND USE	LOT/BLOCK	AREA
SINGLE DETACHED RESIDENTIAL	1-9	0.84ha
OPEN SPACE	10	0.01ha

APPROVED SUBJECT TO CONDITIONS IN ACCORDANCE WITH SECTION 51(31) OF THE PLANNING ACT, RSO, CAP. P.13, AS AMENDED,

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_

DIRECTOR OF PLANNING, DEVELOPMENT AND TOURISM,  
COUNTY OF SIMCOE

### OWNER'S CERTIFICATE

We authorize LOFT Planning Inc. to prepare and submit this Plan of Subdivision for approval.

\_\_\_\_\_  
A.S.O. \_\_\_\_\_ date  
TPC MARLWOOD INC.

### SURVEYOR'S CERTIFICATE

I hereby certify that the boundaries of the lands being subdivided and their relationship to the adjacent lands are accurately and correctly shown.

\_\_\_\_\_  
RUDY MAK SURVEYING LTD. \_\_\_\_\_ date

### I-T-0003 DRAFT PLAN OF SUBDIVISION

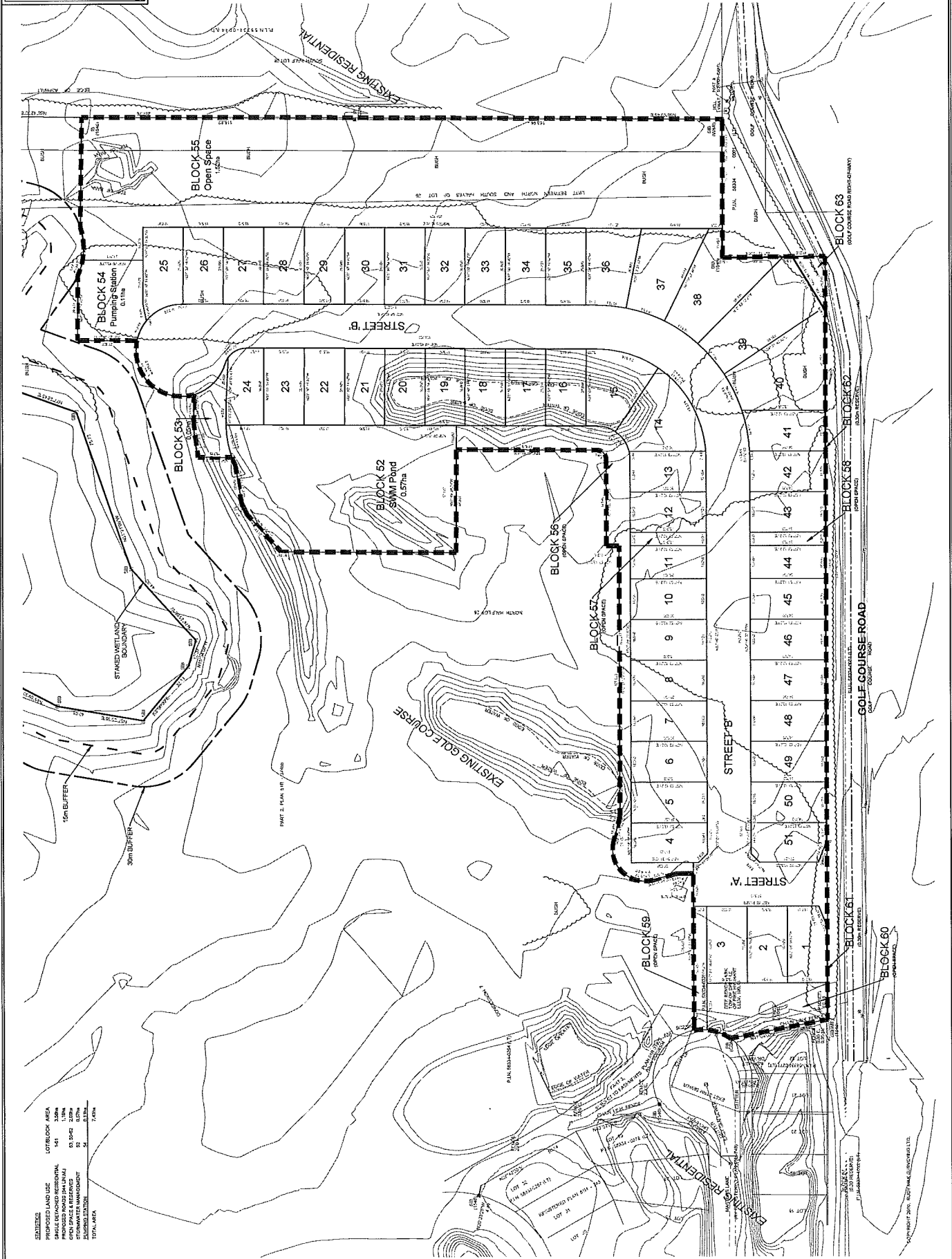
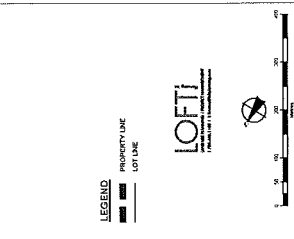
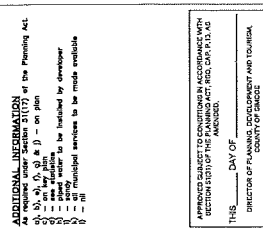
Part of south half of Lot 26  
Concession 7  
Town of Wasaga Beach  
County of Simcoe  
(Geographic Township of Flos)



Date: January 14, 2020







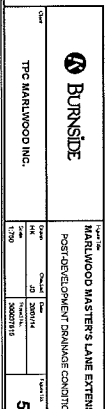


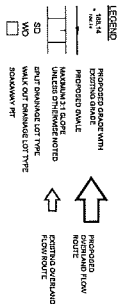



## APPENDIX E

### Revised Engineering Drawings (Burnside 2020)





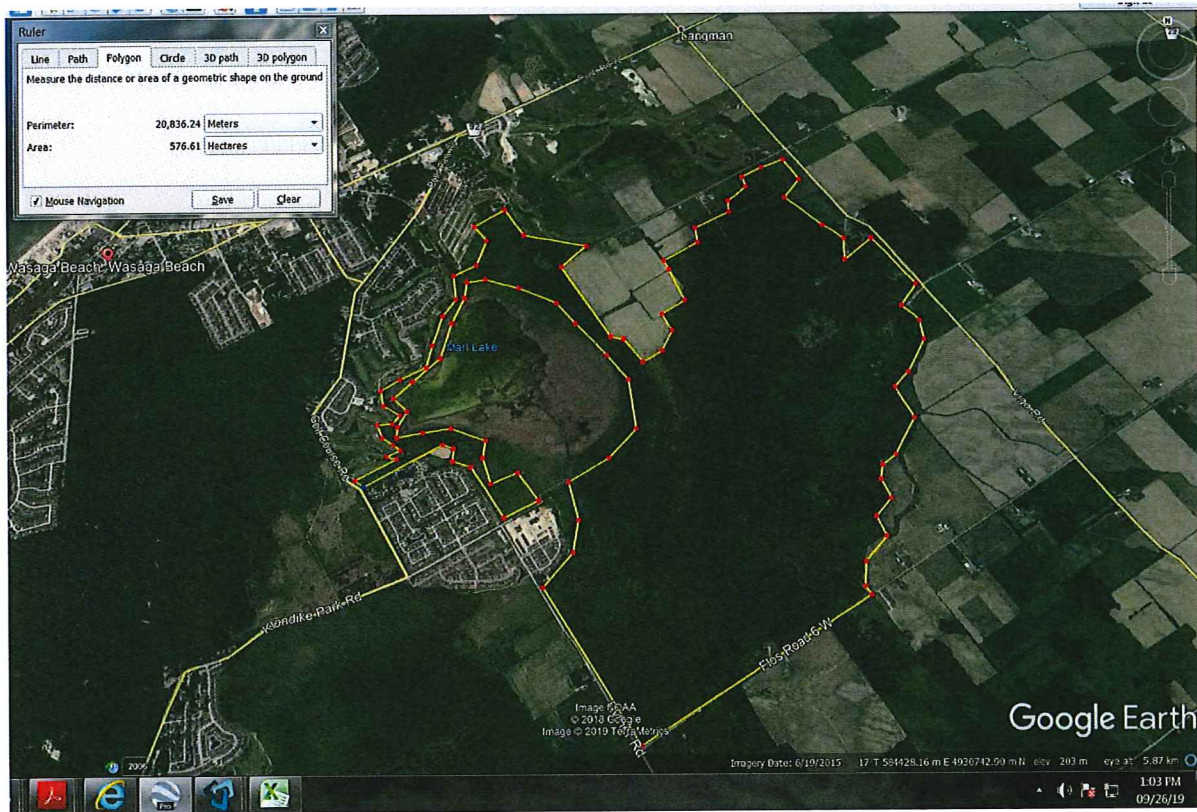


 <b>BURNSIDE</b>		<b>MARLOWOOD MASTERS' LANE EXTENSION</b> PRELIMINARY GRADING	
<b>Client</b> TPC MARLOWOOD INC.	<b>Drawn</b> J.D.	<b>Checked</b> J.D.	<b>Date</b> 05/20/14
	<b>Scale</b> 1"=40'	<b>Sheet No.</b> 000002816	<b>Total Sheets</b> 6



## APPENDIX F

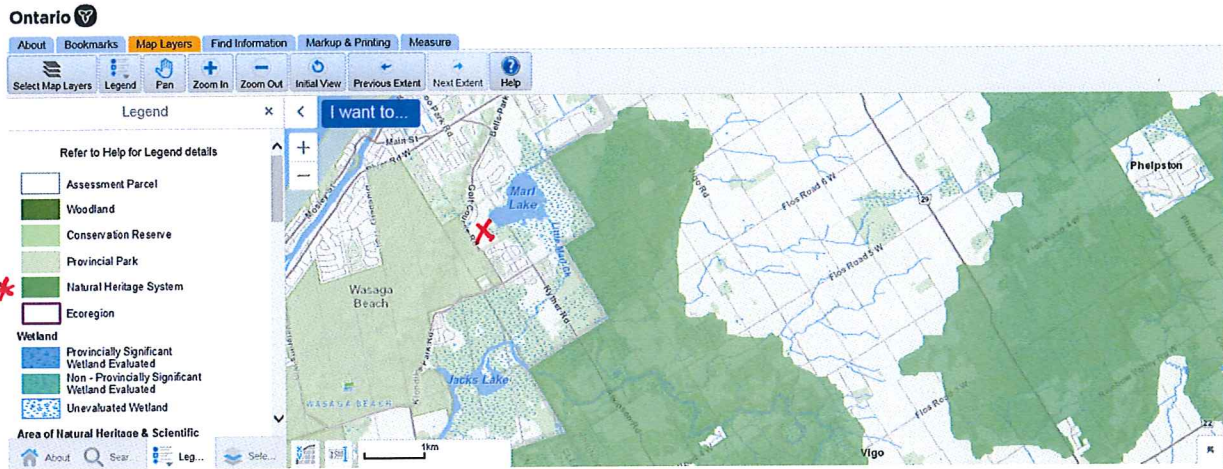
### Background Mapping: Continuous Woodland Area (Azimuth) Growth Plan NHS



Continuous woodland area (Source map Google Earth – 2015 image)



## Make A Map: Natural Heritage Areas



[https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US) – Accessed September 26, 2019



## APPENDIX G

Table 1 – Azimuth Response to WSP Comment 4a

Figure 3 – Updated Development Plan Overlay

Table 1. Azimuth response to WSP Comment 4a.

Feature/Function	Description	Assessment	Mitigation
Marl Lake Life Science ANSI (provincially significant)	Marl Lake Life Science ANSI as mapped by the province (LIO) overlaps the Jacks Lake PSW and includes portions of woodland identified as Significant Woodland by Azimuth (see Azimuth Reply to WSP Comments 5a,5b). The ANSI does not include the woodland associated with the southern boundary of the subject lands (assessed as Significant Woodland by Azimuth). The provincial ANSI mapping includes portions of existing golf course facilities (fairways, greens, etc.)	No direct impact to ANSI. Given the approach to surface water management (LID, SWM pond) - no indirect impacts to hydrology of natural areas/lake identified in the ANSI or related wildlife habitat functions (see below).	see below re: Jacks Lake PSW mitigation
Jacks Lake PSW	In the vicinity of the subject lands the Jacks Lake PSW includes Marl Lake and shoreline wetlands. Shoreline wetlands include swamp, marsh and fen communities. Marl Lake receives ground and surface water contributions. Water levels in the lake are controlled by a dam at the outlet. The hydrology (extent and duration/hydro-period) of shoreline wetlands is governed primarily by lake water levels.	Proposed development introduces no direct impact to wetland habitat. Revised draft plan and approach to servicing (SWM including LIDs) effectively balances water budget - no impact to ground water contributions (see Azimuth reply to WSP Comments 3, 4b, 4d). Water levels of lake not impacted by surface water contributions from proposed SWM pond (see Azimuth reply to WSP Comment 4d). Residential development set back well over 30m from wetland with existing and continued golf course land use in the separation zone - no indirect impact to wildlife habitat functions of PSW (see below).	Water quality and quantity - mitigated via approach to servicing. Wildlife habitat functions and integrity of vegetation communities - mitigated by approach to servicing that achieves water balance and given that water levels of lake (which are controlled at the outlet by a dam), will not influence lake levels, no impact to associated wildlife habitat functions dependent on availability of clean water at surface (amphibian breeding, etc.); mitigated by large separation distance between residential development and portions of the PSW providing significant wildlife habitat functions( see Azimuth reply to WSP Comment 4e).

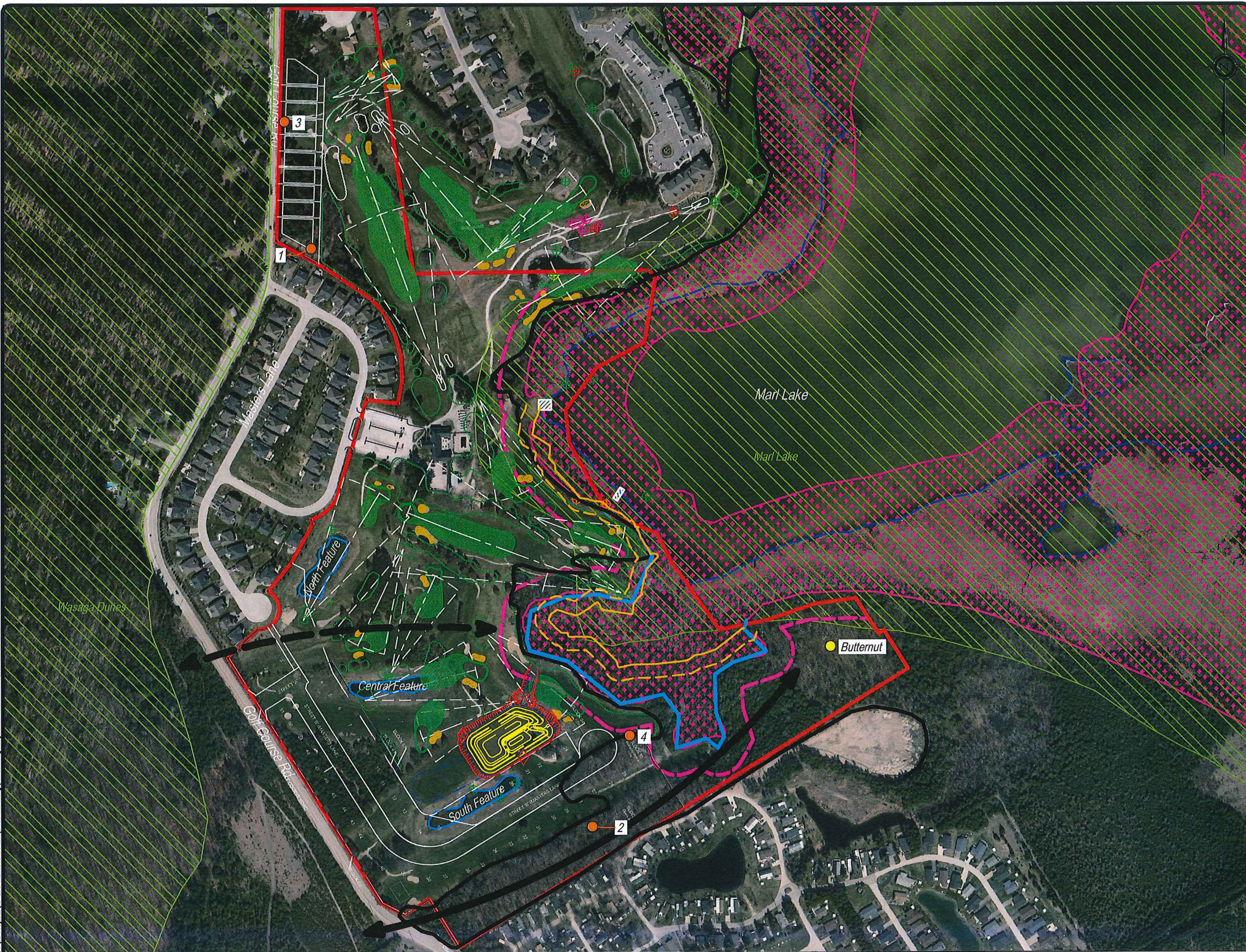
Feature/Function	Description	Assessment	Mitigation
Significant Woodland (candidate)	Application of provincial criteria identifies an area of woodland associated with the subject and adjacent lands that could be deemed Significant Woodland, as shown on Figure 3 (Appendix G). This woodland includes habitat mapped as part of the Jacks Lake PSW and Marl Lake ANSI as well as woodland cover of the southern section of the property inferred to function as a wildlife movement corridor.	As per Azimuth's reply to WSP Comment 5b, the proposed development impacts a minor amount of habitat considered part of the overall 575+ ha Significant Woodland. Based on the scale of impact and retention of valued habitat functions (i.e., wildlife movement corridor/SAR habitat linkage deemed adequate by the province (MNR - see Appendix C), this direct impact is not deemed significant (i.e., health and integrity of Significant Woodland not degraded).	Recommend edge management plan related to the new forest edge to be established by the proposed development with the objective of preserving as much existing tree cover as possible while managing tree fall hazard risk to residential lots.
Significant Wildlife Habitat			
Bat Maternity Colonies	Function associated with mature trees of area woodlands providing holes and cracks bats may use as hiding cover within which to roost and raise young - Includes forests and swamp wetlands.	see Azimuth reply to WSP Comment 13	Additional woodland cover (along southern edge of subject lands) retained in revised plan.
Waterfowl Stopover and Staging Area (Aquatic)	Function associated with open waters of Marl Lake.	See Azimuth reply to WSP Comment 4d and 4e	Residential development located over 150m from open waters of lake. Separation distance and screening by existing tree cover of PSW provides adequate screening of human activity. Maintain setbacks from PSW established in revised draft plan.
Turtle Wintering Areas	Function associated with open waters and nearshore areas of Marl Lake. Golf course ponds not candidates for identification as SWH according to provincial criteria (i.e., man-made ponds excluded).	See Azimuth reply to WSP Comment 4d and 4e	Maintain setbacks to PSW established in revised draft plan. Complete pond filling works (South Feature and part of Central Feature) outside of the season turtles could potentially be overwintering in pond sediments (avoid works between September 15 and April 15).

Feature/Function	Description	Assessment	Mitigation
Turtle Nesting Areas	As per Figure 2b of the 2017 EIS turtle nesting was observed on managed golf course lands north of marsh wetland unit MAS3-1 east of the study area limits (over 200m from proposed residential development). Potential turtle nesting function was inferred for sand traps on the golf course, a small number of which would be impacted by the proposed development. Sand traps impacted are located hundreds of metres from Marl Lake.	No direct impact to area of observed turtle nesting. Potential impact to turtle eggs should turtles use sand traps as nesting habitat.	Timing restriction recommended for works involving excavation of sand traps in EIS (no excavation between June 1 and April 30) noting that WSP recommends excavation to be timed to occur between May 10 and May 20 to further reduce potential harm to turtle nests or hatchlings. If excavation cannot be timed for May, as per Section 8.8.2 of the 2017 EIS exclusion fencing should be erected around the subject sand trap prior to May 1 to prevent nesting. As per WSP's Comment 14, the exclusion fence should be designed to exclude adults but allow hatchlings to exit the work area.
Reptile Hibernacula	No specific areas of reptile hibernation habitat observed but function inferred for area woodlands and swamp wetlands of PSW.	Potential hibernation habitat protected in the Jacks Lake PSW and in woodlands retained in the revised draft plan - no impact.	Maintain setbacks to PSW established in revised draft plan.
Bald Eagle and Osprey Nesting, Foraging and Perching	Nesting and perching function associated with tree cover of Jacks Lake PSW adjacent to lakeshore. Foraging habitat associated with Marl Lake.	Potential nesting and perching habitat protected within PSW. No impact to water quantity or quality of Marl Lake and hence no impact to foraging habitat. Residential development setback from potential nesting, perching and foraging habitat sufficiently to protect potential habitat functions. Also, species utilizing these habitats are doing so in the face of existing nearby residential development - no additive/cumulative indirect impact.	Maintain setbacks to PSW established in revised draft plan.
Marsh Breeding Bird Habitat	Function associated with marsh wetlands and in particular those associated with Marl Lake shoreline (features not located within subject lands)	See Azimuth reply to WSP Comment 4d and 4e	Maintain setbacks to PSW established in revised draft plan.
Terrestrial Crayfish	Crayfish chimneys not observed. Function inferred to be associated with marsh wetlands and in particular those associated with Marl Lake shoreline (features not located within subject lands)	See Azimuth reply to WSP Comment 4d and 4e	Maintain setbacks to PSW established in revised draft plan.
Special Concern and Rare Wildlife			

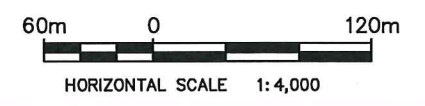
Feature/Function	Description	Assessment	Mitigation
Bald Eagle	Species not observed. Species could potentially utilize woodland habitat adjacent to Marl Lake for nesting and perching and Marl Lake for foraging on fish.	Potential nesting and perching habitat protected within PSW. No impact to water quantity or quality of Marl Lake and hence no impact to foraging habitat. Residential development setback from potential nesting, perching and foraging habitat sufficiently to protect potential habitat functions. Also, species utilizing these habitats are doing so in the face of existing nearby residential development - no additive/cumulative indirect impact.	Maintain setbacks to PSW established in revised draft plan.
Yellow Rail	Species not observed. Species could potentially utilize marsh wetland habitat adjacent to Marl Lake - not within subject lands.	No direct impact to potential habitat. No impact to water quantity or quality of Marl Lake or associated wetlands. Residential development setback from potential habitat sufficiently to protect potential habitat function (well screened by existing tree cover). Also, species utilizing these habitats are doing so in the face of existing nearby residential development - no additive/cumulative indirect impact.	Maintain setbacks to PSW established in revised draft plan.
Eastern Wood-pewee	No probable or confirmed nesting within or adjacent to subject lands. Species generally frequents deciduous woodlands - singing male observed was in conifer habitat.	Given no probable or confirmed breeding and observation in atypical habitat, no impact to habitat of this species apparent.	No mitigation required but maintaining deciduous woodland cover along the southern property boundary as per the revised draft plan maintains <i>potential</i> future habitat for this species.
Olive-sided Flycatcher	Species not observed. Generally nests in central and northern areas of the province utilizing forest opening and edges of coniferous or mixed forests (often those recently logged or burned).	Woodland edge habitat of subject lands developed as golf course and is managed/not natural - no impact to potential habitat.	No mitigation required.
Ribbonsnake	Species not observed. Species generally associated closely with areas of open water and hence habitat inferred to occur within shoreline areas of Marl Lake.	No direct impact to potential habitat. No impact to water quantity or quality of Marl Lake or associated wetlands. Residential development setback from potential habitat sufficiently to protect potential habitat function (well screened by existing tree cover of PSW).	No species specific mitigation required, maintain setbacks to PSW established in revised draft plan and implement recommended approach to surface water management (LID, SWM pond).

Feature/Function	Description	Assessment	Mitigation
Northern Map Turtle	Species not observed. Inferred to inhabit Marl Lake (highly aquatic species)	Habitat protected within Jacks Lake PSW. Revised draft plan and approach to servicing (SWM including LIDs) effectively balances water budget - no impact to ground water contributions (see Azimuth reply to WSP Comments 3, 4d). Water levels of lake not impacted by surface water contributions from proposed SWM pond (see Azimuth reply to WSP comment 4d). Residential development set back well over 30m from wetland with existing and continued golf course land use in the separation zone - no indirect impact to this wildlife habitat function.	No species specific mitigation required, maintain setbacks to PSW established in revised draft plan and implement recommended approach to surface water management (LID, SWM pond).
Snapping Turtle	Species observed (plus nesting). Species is highly aquatic and hence habitat is associated with Marl Lake with nesting habitat adjacent to lake as per Azimuth observations.	Habitat protected within Jacks Lake PSW. Revised draft plan and approach to servicing (SWM including LIDs) effectively balances water budget - no impact to ground water contributions (see Azimuth reply to WSP Comments 3, 4d). Water levels of lake not impacted by surface water contributions from proposed SWM pond (see Azimuth reply to WSP comment 4d). Residential development set back well over 30m from wetland with existing and continued golf course land use in the separation zone - no indirect impact to this wildlife habitat function. No direct impact to area of observed Snapping Turtle nesting. Potential impact to Snapping Turtle eggs should this species use sand traps as nesting habitat (no direct evidence).	Maintain setbacks to PSW established in revised draft plan and implement recommended approach to surface water management (LID, SWM pond). Timing restriction recommended for works involving excavation of sand traps in EIS (no excavation between June 1 and April 30) noting that WSP recommends excavation to be timed to occur between May 10 and May 20 to further reduce potential harm to turtle nests or hatchlings. If excavation cannot be timed for May, as per Section 8.8.2 of the 2017 EIS, exclusion fencing should be erected around the subject sand trap prior to May 1 to prevent nesting. As per WSP's Comment 14, the exclusion fence should be designed to exclude adults but allow hatchlings to exit the work area.
Western Chorus Frog	Species detected from evening calling amphibian station #3 indicating presence within community SWM1-1 contained within the Jacks Lake PSW.	Habitat protected within Jacks Lake PSW. Revised draft plan and approach to servicing (SWM including LIDs) effectively balances water budget - no impact to ground water contributions (see Azimuth reply to WSP Comments 3, 4d). Water levels of lake not impacted by surface water contributions from proposed SWM pond (see Azimuth reply to WSP comment 4d). Residential development set back over 30m from areas of wetland where species detected - no indirect impact to this wildlife habitat function.	No species specific mitigation required, maintain setbacks to PSW established in revised draft plan and implement recommended approach to surface water management (LID, SWM pond).





- LEGEND:**
- Approx. Study Area
  - Lake
  - Offline Water Hazard Feature
  - Jack's Lake PSW (LIO)
  - Jack's Lake PSW Limit (MNRF, Dec. 2016)
  - 30m Wetland Setback Reference
  - Marl Lake Floodline (Burnside)
  - 15m Floodline Setback
  - Edge of Significant Woodland (Azimuth 2019)
  - Not Assessed Butternut Locations
  - Non-Retainable Butternut Locations
  - ▨ Basking Areas (white)
  - ▨ ANSI Life Science
  - Reptile Sightings
  - ⊕ Snapping Turtle Nests
  - ⊕ Snapping Turtle
  - ⊕ Midland Painted Turtle
  - ⊕ Milksnake
  - ⊕ Garter Snake
  - ⊕ Northern Watersnake
  - Wildlife Habitat Linkages
  - ↔ Primary
  - ↔ Secondary



Development Overlay  
Revised Draft Plan & Golf Course Design

Marlwood  
Wasaga Beach, ON

DATE ISSUED:	December 2019	Figure No.  3
CREATED BY:	JLM	
PROJECT NO.:	15-273	
REFERENCE:	Simcoe County Mapping	