WOCAWSON ENERGY PROJECT ADDENDUM

NEW PROPOSED LAYOUT

Proposed, Alternate, and Expansion Turbine Layout and Additional Wetland and Habitat Surveys for New Locations

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Layout Change Overview

The proposed Wocawson Energy Project (WEP) was originally registered to consist of 6-12 wind turbines capable of producing 20-40 MW of renewable energy. An updated wind resource assessment for the WEP has recently been completed which resulted in an adjustment to the layout presented in the WEP registration document. This Addendum will further introduce and discuss this layout.

Figure 1 below demonstrates the new layout consisting of a five (5) turbine layout, three (3) alternate turbine locations, and 5 possible expansion turbine locations. The Wocawson Energy Project currently has a Power Purchase Agreement (PPA) for 20 MW which can be fulfilled by the 5-turbine layout, however the Proponent wishes to continue permitting the other locations should complications arise during geotechnical investigations or should there be an opportunity to expand the Project in the coming years presents itself. To reiterate, the 5-turbine layout is the new Phase 1 for the WEP which is planned to start construction in the early Spring of 2019. If the alternate locations are not used in Phase 1, then 5 or 6 of the remaining alternate or expansion turbines may be used for future phases.

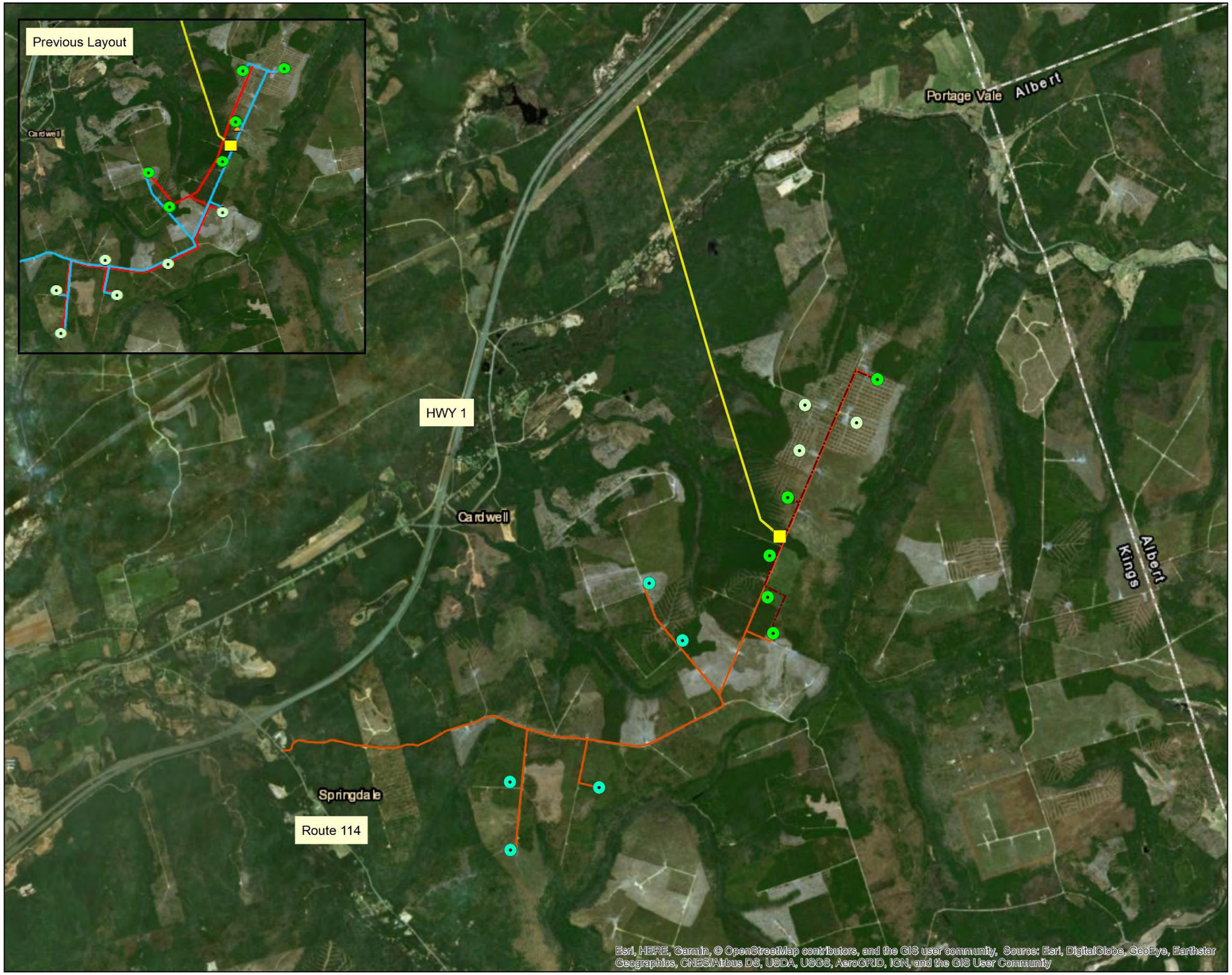
Though the new turbine areas are still located within the original Study Area for environmental surveys, wetland and vegetation surveys only included a 75m buffer along roads and collector lines and a 150m radius around previous turbines. Due to the change in layout, 5 of the proposed and alternate turbines had moved outside of these surveyed areas and additional wetland and vegetation surveys were completed in September. Due to the timing of these surveys', consultation with the Department of Environment and Local Government (DELG) occurred to determine if these surveys could be completed at this time. The Source and Surface Water Management Branch confirmed in communication directly with the consultant conducting the work on September 27th, 2018 via email that they did not have concerns about a wetland delineation being completed during the first week of October. All other proposed turbine locations and project infrastructure had been previously surveyed. Figure 2 demonstrates the total area surveyed for wetland and vegetation in the vicinity of the proposed turbines. This area was also included in the avian and bat surveys conducted throughout 2018.

The results of the additional wetland surveys did not find any aquatic features near the new proposed and alternate turbine locations. The results of these wetland surveys are attached in Appendix A. Further, no vegetative species at risk were observed within any of the presented turbine locations. The results of these vegetation and habitat surveys are attached in Appendix B.

GPS Coordinates are provided on the next page for each proposed turbine location.

Table 1: Proposed Turbine Location Coordinates Presented in NAD 83 UTM Zone 20T

		Northing	Easting
Proposed Turbines	T1	5073099	324767
	T2	5073503	324716
	T3	5073967	324752
	T4	5074612	324973
	T5	5075907	326016
Alternate Turbines	T6A	5075429	325770
	T7A	5075136	325120
	T8A	5075646	325195
Possible Expansion Turbines	T9	5073699	323389
	T10	5073046	323747
	T11	5071426	322762
	T12	5071462	321740
	T13	5070753	321746



Wocawson Energy Project

Revised Site Layout

Legend

- Proposed Phase 1 Turbines
- Proposed Phase 1 Alternate Turbines
- Possible Expansion Turbines
- Substation
- Collection System
- Transmission Line
- Road Layout

N

1:59,653.47

0 900 1,800 2,700

Metres

WGS 1984 Web Mercator Auxiliary Sphere

Production Date: Nov 20, 2018

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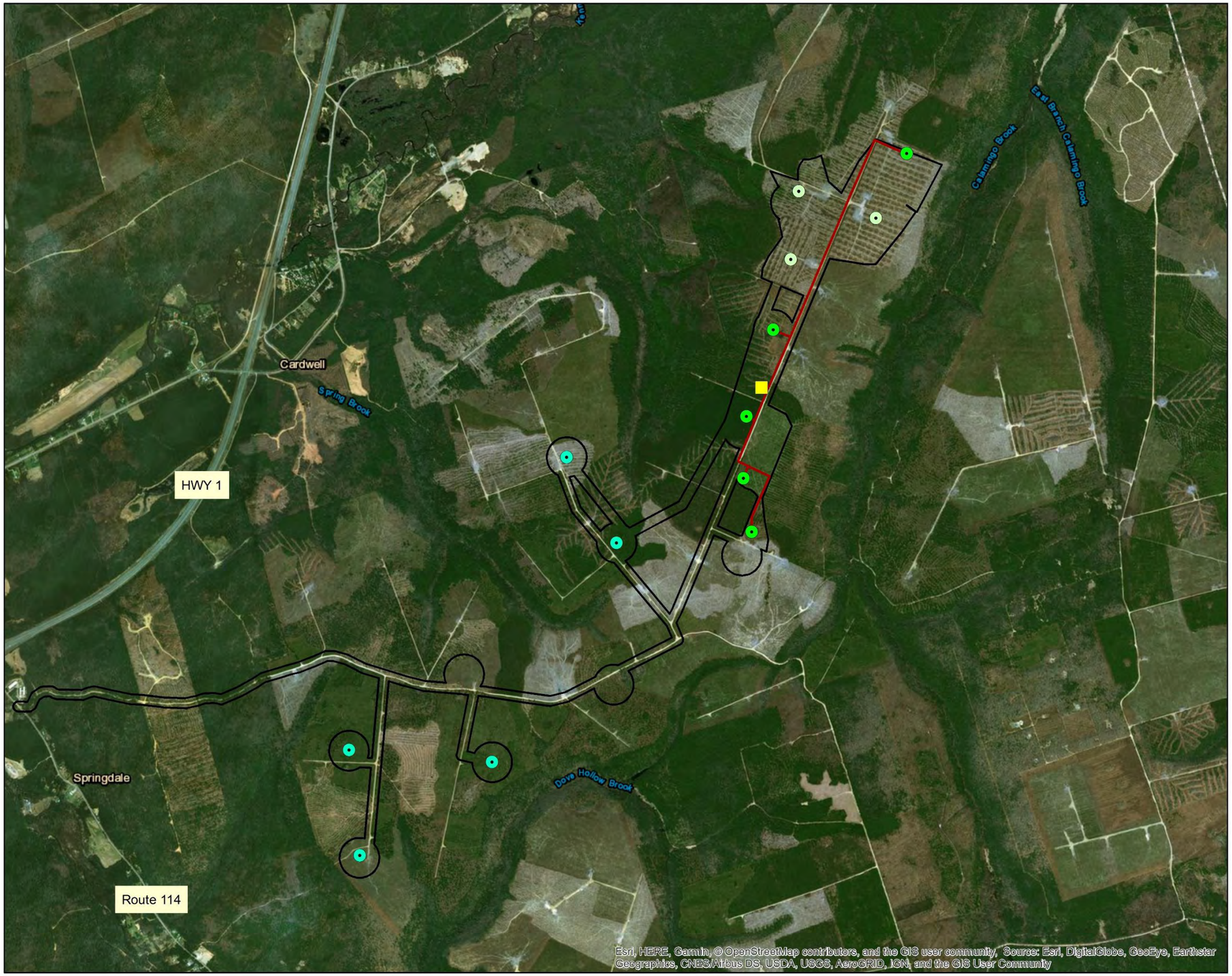

Wocawson Energy Project

Total Wetland and Habitat Survey Area

Legend

- Proposed Phase 1 Turbines
- Proposed Phase 1 Alternate Turbines
- Possible Expansion Turbines
- Substation
- Collection System
- Total Survey Area (Wetland & Veg)

Notes

The new proposed turbine locations still remain within the Study Area for environmental surveys. However, wetland and habitat surveys only included a 75m buffer along roads and collector lines and a 150m radius around previous turbines.

N

1:40,000

0 900 1,800 2,700

Metres

WGS 1984 Web Mercator Auxiliary Sphere

Production Date: Nov 20, 2018

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Appendix A

Additional Wetland Surveys

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Addendum to Aquatic Habitat and Wetlands Summary Report (Final)

Potential Alternate Turbine Locations

November 2018 – 18-6975

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Figures

References

1.0 Introduction

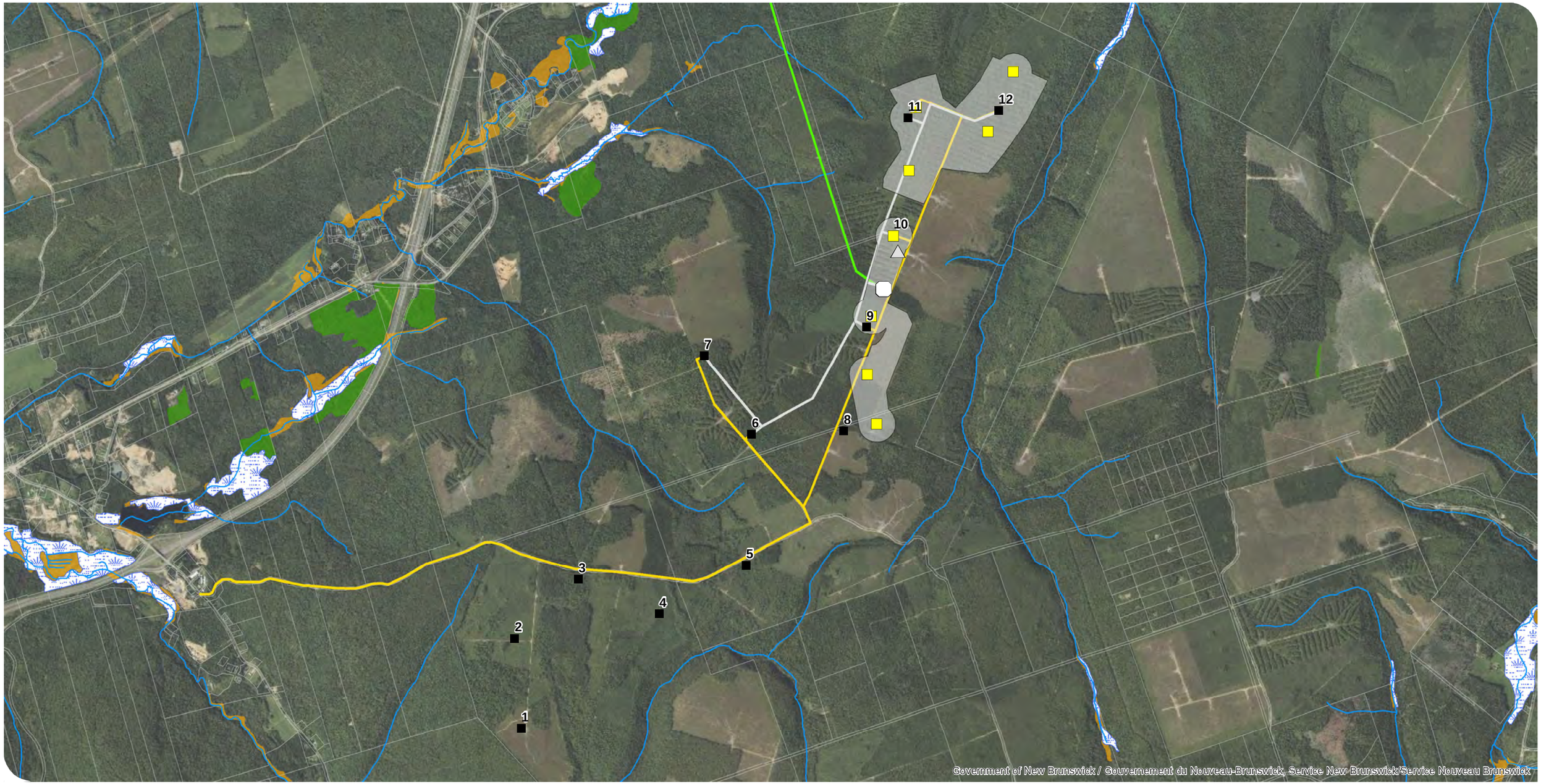
Dillon Consulting Limited (Dillon) was retained by the Wocawson Energy Limited Partnership to complete natural environment surveys for nine potential alternative turbine locations proposed in support of the ongoing provincial review of an Environmental Impact Assessment (EIA) for the Wocawson Energy Project. The project consists of the construction and operation of 6-12 wind turbines generating between 20-40 MW of electricity, an on-site substation, and a transmission line connecting the project to the New Brunswick electrical grid, to be located on a parcel of Crown land near Penobsquis, New Brunswick.

Dillon conducted the original field surveys throughout the summer of 2018 for the 12 proposed turbine locations, the proposed transmission line connecting the project to the existing electrical grid, access roads to be upgraded, and potential access trails to the transmission corridor. The results of those surveys (for vegetation, aquatic habitats and wetlands, birds, bats, and wildlife and wildlife habitat) were documented in standalone reports submitted to Wocawson in support of their preparation of an EIA registration for the proposed project. Subsequent to those surveys, a Wind Resource Assessment was completed and nine alternative locations for potential turbine sites were identified for maximum power production. Thus, additional surveys were conducted of those potential alternative turbine locations, and the results are documented in several addenda to those reports; such as this addendum to the Aquatic Habitats and Wetlands Summary Report (Dillon 2018a). It is intended that these addenda would be appended to the respective summary reports for the project and should be read in conjunction.

This addendum provides a summary of the aquatic habitat and wetland surveys conducted at the potential alternative turbine locations in support of the Wocawson Energy Project EIA registration, and includes a brief description of the scope of work/methodology used and a summary of the survey results.

2.0 Scope of Work and Methodology

The scope of work included assessment of aquatic habitat and wetlands in the area of the potential alternative turbine locations. Assessments included completing surveys for nine potential alternative turbine locations within the proposed project area (i.e., the "study area" referred to throughout this addendum) plus allowances around the potential alternative turbine locations to allow for refinement based on detailed design work. The nine potential alternative turbine locations, along with the surveyed area to account for further design refinement, are presented on **Figure 1.** Each turbine location is identified through unique identifiers (i.e., AT1-AT9).



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Wocawson Energy Project

Alternate and Proposed Turbine Locations
FIGURE 1

Potential Alternative Turbines
Proposed Turbine Locations
Proposed Substation
Met Tower
Proposed Road Upgrade
Proposed Transmission Line
Watercourses
Proposed Collector
Wetland Survey Area
PID
Regulated Wetlands

NBDELG Draft Beta Wetland Mapping (unregulated)
Provincially Significant Wetlands
Intermediate Wetlands
Forested Wetlands

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NBDERD

MAP CREATED BY: JNH
MAP CHECKED BY: ACS
MAP PROJECTION: NAD 1983 CSRS New Brunswick Stereographic

0 0.25 0.5 1 km

SCALE 1:30,000

N W E S

FILE LOCATION: G:\CAD\GIS\186975_SUSSEX EAST\SUSSEX EAST WIND PROJECT\MAPS FOR REPORT\SITE PLAN JULY 9 2018_JNH

PROJECT: 18-6975 STATUS: DRAFT DATE: 2018-11-13

The field surveys were conducted by Dillon biologists on October 1 and 2, 2018. The specific survey methods as well as the rationale behind the selection of aquatic habitats and wetlands as a valued component of the environment in relation to the project can be referenced within the main aquatic habitat and wetlands summary report ("*Wocawson Energy Project Aquatic Habitat and Wetlands Summary Report*" [Dillon 2018a]).

3.0 Aquatic Habitat and Wetland Assessment Results

The potential alternative proposed turbine locations are situated in several habitat types (refer to the addendum report titled "Addendum to Wildlife and Wildlife Habitat Summary Report [Dillon 2018b]"; consisting mainly of recently disturbed (i.e., harvested) forest stands in various stages of early regeneration including areas that were recently clear-cut or select-cut, planted, thinned, or sprayed with herbicide.

3.1 Wetland Assessment Results

There are no mapped wetlands on the GeoNB mapping layer that would intersect with a portion of the proposed alternative turbine locations for the project (**Figure 1**). Further, there were no wetlands identified during the field surveys of the potential alternative turbine locations.

3.2 Watercourse Assessment Results

There are no mapped watercourses on the GeoNB mapping layer that would intersect with the proposed alternative proposed turbine locations for the project (**Figure 1**). Further, there were no watercourses identified during the field surveys of the potential alternative turbine locations.

4.0 Summary and Conclusion

This addendum report summarizing aquatic habitat and wetland surveys has been prepared for nine potential alternative turbine locations in support of the Wocawson Energy Project.

The information provided in this document is based on the current available design/planning information and existing environment information obtained during focused field surveys conducted in October 2018.

5.0 Closure

This report was prepared by Dillon Consulting Limited (Dillon) on behalf of the Wocawson Energy Limited Partnership, in support of the Wocawson Energy Project EIA. Dillon has used the degree of care and skill ordinarily exercised under similar circumstances at the time the work was performed by reputable members of the environmental consulting profession practicing in Canada. Dillon assumes no responsibility for conditions which were beyond its scope of work. There is no warranty expressed or implied by Dillon.

The material in the report reflects Dillon's best judgment in light of the information available to Dillon at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Dillon accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Yours truly,

DILLON CONSULTING LIMITED

Kristin Banks, P.Eng.
Project Manager

References

Dillon (Dillon Consulting Limited). 2018a. Aquatic Habitats and Wetlands Summary Report. Prepared for the Wocawson Project Limited Partnership by Dillon Consulting Limited, Fredericton, NB.

Dillon (Dillon Consulting Limited). 2018b. Wildlife and Wildlife Habitat Summary Report. Prepared for the Wocawson Project Limited Partnership by Dillon Consulting Limited, Fredericton, NB.

Natural Forces. 2018. Wocawson Energy Project – Project Description.

Appendix B

Additional Habitat Surveys

DILLON CONSULTING

WOCAWSON ENERGY PROJECT

Addendum to Wildlife and Wildlife Habitat Summary Report (Final)

Potential Alternate Turbine Locations

November 2018 – 18-6975

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Dillon conducted the original field surveys throughout the summer of 2018 for the 12 proposed turbine locations, the proposed transmission line connecting the project to the existing electrical grid, roads to be upgraded, and potential access trails to the transmission corridor. The results of those surveys (for vegetation, aquatic habitats and wetlands, birds, bats, and wildlife and wildlife habitat) were documented in standalone reports submitted to Wocawson in support of their preparation of an EIA registration for the proposed project. Subsequent to those surveys, a Wind Resource Assessment was completed and nine alternate locations for potential turbine sites were identified for maximum power production. Thus, additional surveys were conducted in the alternate turbine locations, and the results are documented in several addenda to those reports; such as this addendum to the Wildlife and Wildlife Habitat Summary Report (Dillon 2018). It is intended that these addenda would be appended to the respective summary reports for the project and should be read in conjunction.

This addendum provides a summary of the wildlife and wildlife habitat surveys conducted at the potential alternate turbine locations in support of the Wocawson Energy Project EIA registration, and includes a brief description of the scope of work/methodology used and a summary of the survey results.

Though the terrestrial environment generally includes vegetation, wetlands, wildlife, wildlife habitat, and species at risk/species of conservation concern, the focus of this report is on wildlife and wildlife habitat, as an updated appendix to the Dillon report titled “Wocawson Energy Project Wildlife and Wildlife Habitat Summary Report” (Dillon 2018).

2.0 Wildlife and Wildlife Habitat Surveys Scope and Methodology

The scope of work for this additional field survey effort for the potential alternate turbine locations included completing wildlife and wildlife habitat surveys through incidental observations of wildlife and observation of available habitat types for nine potential alternate turbine locations within the proposed project area (i.e., the “study area” referred to throughout this addendum) plus allowances around the

potential alternative turbine locations to allow for refinement based on detailed design work. The nine potential alternative turbine locations, along with the surveyed area to account for further design refinement, are presented on Figure 1. Each turbine location is identified through unique labels (i.e., AT1-AT9). The field surveys were conducted by Dillon biologists on October 1-2, 2018. The specific survey methods as well as the rationale behind the selection of wildlife and wildlife habitat as a valued component of the environment in relation to the project can be referenced within the main vegetation summary report ("*Wocawson Energy Project Wildlife and Wildlife Habitat Summary Report*" [Dillon 2018]).

3.0 Wildlife and Wildlife Habitat Survey Results

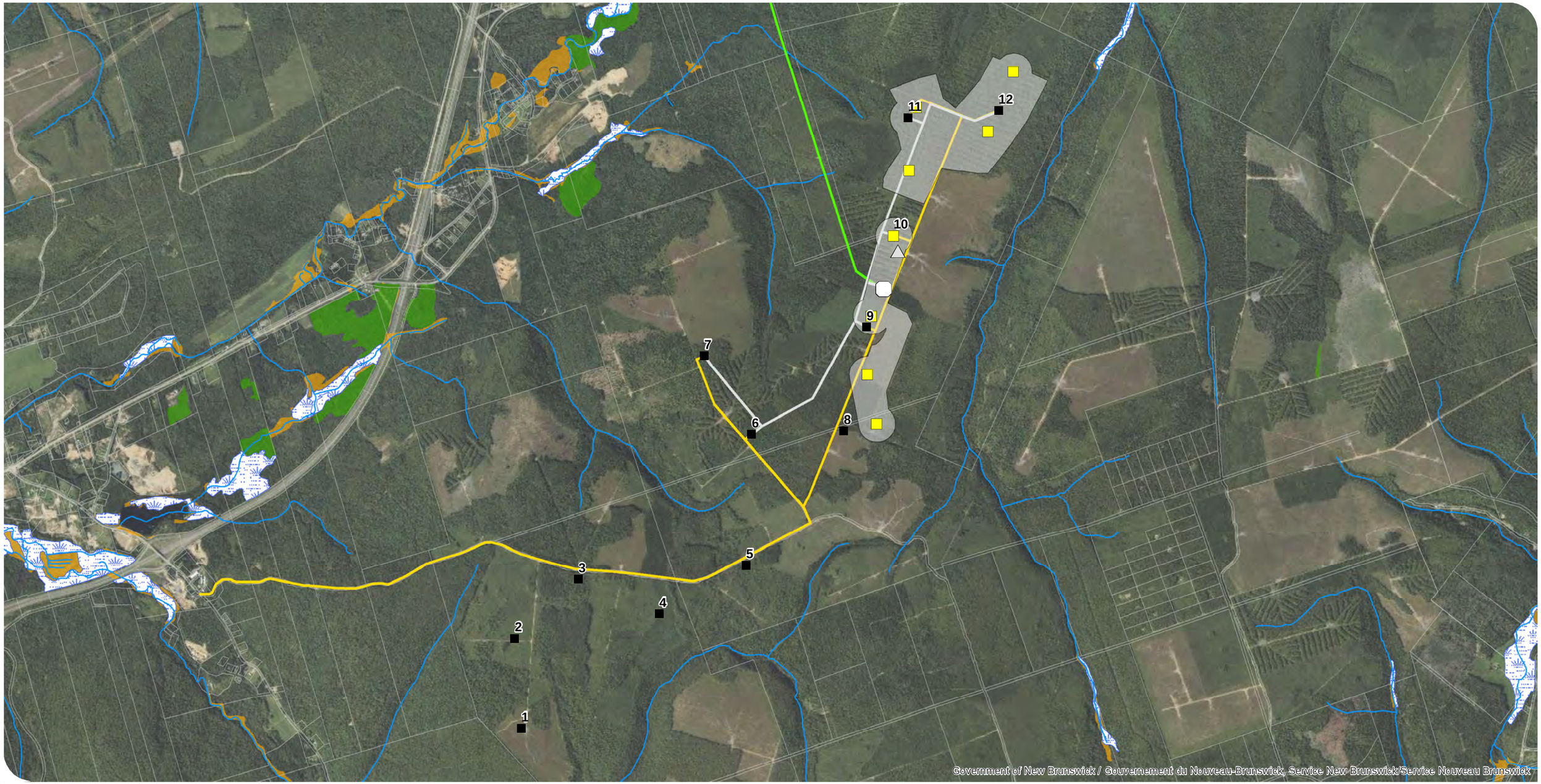
The potential alternate turbine locations are situated in several habitat types consisting mainly of recently disturbed (i.e., harvested) forest stands in various stages of early regeneration, including areas that were recently clear-cut or select-cut, planted, thinned, or sprayed with herbicide. A summary of the representative habitat types observed at each potential alternate turbine location are presented below in **Table 1**.

Table 1: Terrestrial Habitat Types within the Potential Alternate Turbine Locations

Alternate Turbine (AT) #	Representative Photo	Dominant Habitat Type
AT1		**Spruce plantation** – Dominant species include red spruce (*Picea rubens*), red maple (*Acer rubrum*), and white birch (*Betula papyrifera*).
AT2		**Strip-cut** – Dominant species include American beach (*Fagus grandifolia*), sugar maple (*Acer saccharum*), and Balsam poplar (*Populus balsamifera*). Indian Cucumber root (*Medeola virginiana*) was observed.

Alternate Turbine (AT) #	Representative Photo	Dominant Habitat Type
AT3		**Strip-cut** with spruce tree regeneration in understory.
AT4		Strip-cut – Dominant species include American beach, sugar maple, and striped maple (Acer pensylvanicum).
AT5		**Clear-cut** with white pine (*Pinus strobus*) retention.
AT6		**White pine plantation** with birch, red maple, and cherry.

Alternate Turbine (AT) #	Representative Photo	Dominant Habitat Type
AT7		**Immature Spruce plantation** – Sprayed with herbicide
AT8		Strip-cut – Dominant species include American beech, red maple, balsam poplar, and trembling aspen (Populous tremuloides).
AT9		**Mature Spruce plantation** – recently thinned.



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Alternate and Proposed Turbine Locations
FIGURE 1

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MAP PROJECTION: NAD 1983 CSRS New Brunswick Stereographic

0 0.25 0.5 1 km

SCALE 1:30,000

N W E S

FILE LOCATION: G:\CAD\GIS\186975_SUSSEX EAST\SUSSEX EAST WIND PROJECT\MAPS FOR REPORT\SITE PLAN JULY 9 2018_JNH

PROJECT: 18-6975 STATUS: DRAFT DATE: 2018-11-13

3.1 Wildlife Observations

3.1.1 Information from Desktop Review

As noted in Section 3.2 of the Dillon report titled "*Wocawson Energy Project Wildlife and Wildlife Habitat Summary Report*" (Dillon 2018), a custom Atlantic Canada Conservation Data Centre (AC CDC) data report was obtained for a 5 km radius around the proposed project area (AC CDC 2018). According to the AC CDC records review, there are no records of wildlife species of conservation concern or location sensitive species (excluding birds and bats) that have been historically observed within 5 km of the proposed project area. Birds and bats will be addressed in separate addenda to the main reports.

3.1.2 Wildlife Observations

Large and small mammals, including ungulates, are known to utilize trail and wood-road networks for travel. Evidence (i.e., tracks and scat) of white-tailed deer (*Odocoileus virginianus*), American moose (*Alces alces*), eastern coyote (*Canis latrans*), and snowshoe hare (*Lepus americanus*) were noted throughout the project area. No visual observations of wildlife species at risk or wildlife species of conservation were recorded during the field surveys. All the above species have populations in New Brunswick that are considered secure (AC CDC 2017).

4.0 Summary and Conclusion

This addendum report summarizing wildlife and wildlife habitat surveys has been prepared for the potential alternate turbine locations in support of the Wocawson Energy Project.

The information provided in this document is based on the current available design/planning information and existing environment information obtained during focused field surveys conducted in October, 2018.

5.0 Closure

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Yours truly,

DILLON CONSULTING LIMITED

Kristin Banks, P.Eng.
Project Manager

References

AC CDC (Atlantic Canada Conservation Data Centre). 2017. Rarity ranks and legal status by province. Accessed at: http://www.accdc.com/en/ranks.html. (Accessed May 2018).

AC CDC (Atlantic Canada Conservation Data Centre). 2018. DATA REPORT 5782: Sussex East, NB. April 2018 Data Request.

Dillon (Dillon Consulting Limited). 2018. Wildlife and Wildlife Habitat Summary Report. Prepared for the Wocawson Project Limited Partnership by Dillon Consulting Limited, Fredericton, NB.