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Natural Heritage - East Durham Project

- Information was gathered to identify and investigate natural features such as provincial parks, wetlands, woodlands or wildlife (e.g. bird or bat) habitats within 120 m of the Project Location. Features were evaluated for significance, according to provincial criteria. Where significance was established, an Environmental Impact Study (EIS) was conducted.
- The EIS identified negative effects on the environment, proposed mitigation measures, identified residual effects and their significance, and described how the environmental effects monitoring plan and construction plan address any negative environmental effects.
- The following features were identified as significant:
  - 11 wetlands
  - 4 woodlands
  - 7 valleylands
  - 18 Significant Wildlife Habitats, as well as Generalized Significant Wildlife Habitats (e.g., turtle wintering, deer yarding areas, amphibian woodland breeding habitat and marsh bird breeding)
- For each natural heritage feature identified as significant, potential effects were assessed and mitigation measures/monitoring commitments proposed depending on the type of project infrastructure affecting the feature. The table below presents a summary of the potential effects and mitigation.

Potential Effects and Mitigation

Project Phase	Potential Effect	Mitigation Measures
Construction/ Decommissioning	Increased erosion, sedimentation and turbidity from clearing vegetation for access roads, crane paths etc.	Erosion control fencing will be kept in place until disturbed areas are stable. All stockpiled materials will be kept away from the features and periodic monitoring will take place during construction to ensure compliance.
	Damage to vegetation	Protective fencing installed to ensure work is kept within identified zones. Periodic monitoring will take place during construction to ensure compliance.
	Soil and water contamination from accidental spills or oil, gasoline or grease.	A spill response plan will be developed to outline the steps to be taken in the event of a spill. An Emergency Response and Communications Plan has been included in the Design and Operations Report.
Operations	Disturbance or mortality to wildlife (e.g. birds and bats) from turbine collisions.	Operational mitigation techniques including periodic shut down of turbines when the chances for bird or bat collisions are increased. Monitoring will include three year post-construction mortality surveys for birds and bats which will be submitted to the MNR.

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Noise Studies - East Durham Project

Noise studies were conducted to help determine the final turbine layout. The noise studies comprise the following steps:

- Identify points of reception – dwellings (typically houses) that are within 2 km of the wind turbines
- Obtain wind turbine specifications and noise emission ratings from the manufacturer
- Using an initial wind turbine layout, predict the noise levels generated at points of reception using a noise prediction model to ensure allowable limits are not exceeded. The noise model is designed in accordance with standards set by the Ministry of the Environment (MOE)
- Using the noise model results, revise the turbine layout as necessary to ensure that the final turbine layout meets all applicable noise guidelines
- Wind turbines will be set back from dwelling units that are not part of the project by at least 550 m (1804 ft) and must be at or below 40 dBA at 6 m/s.
- Noise from turbines must meet provincial noise limits as outlined in MOE publication 4709e “Noise Guidelines for Wind Farms”
- Modelling of predicted noise levels from the proposed turbines and transformer station was undertaken. The results were as follows:
  - All non-participating residences (vacant or occupied) comply with MOE guidelines for wind turbines – they are predicted to be below the MOE noise criteria and are greater than 550 m from the nearest wind turbine

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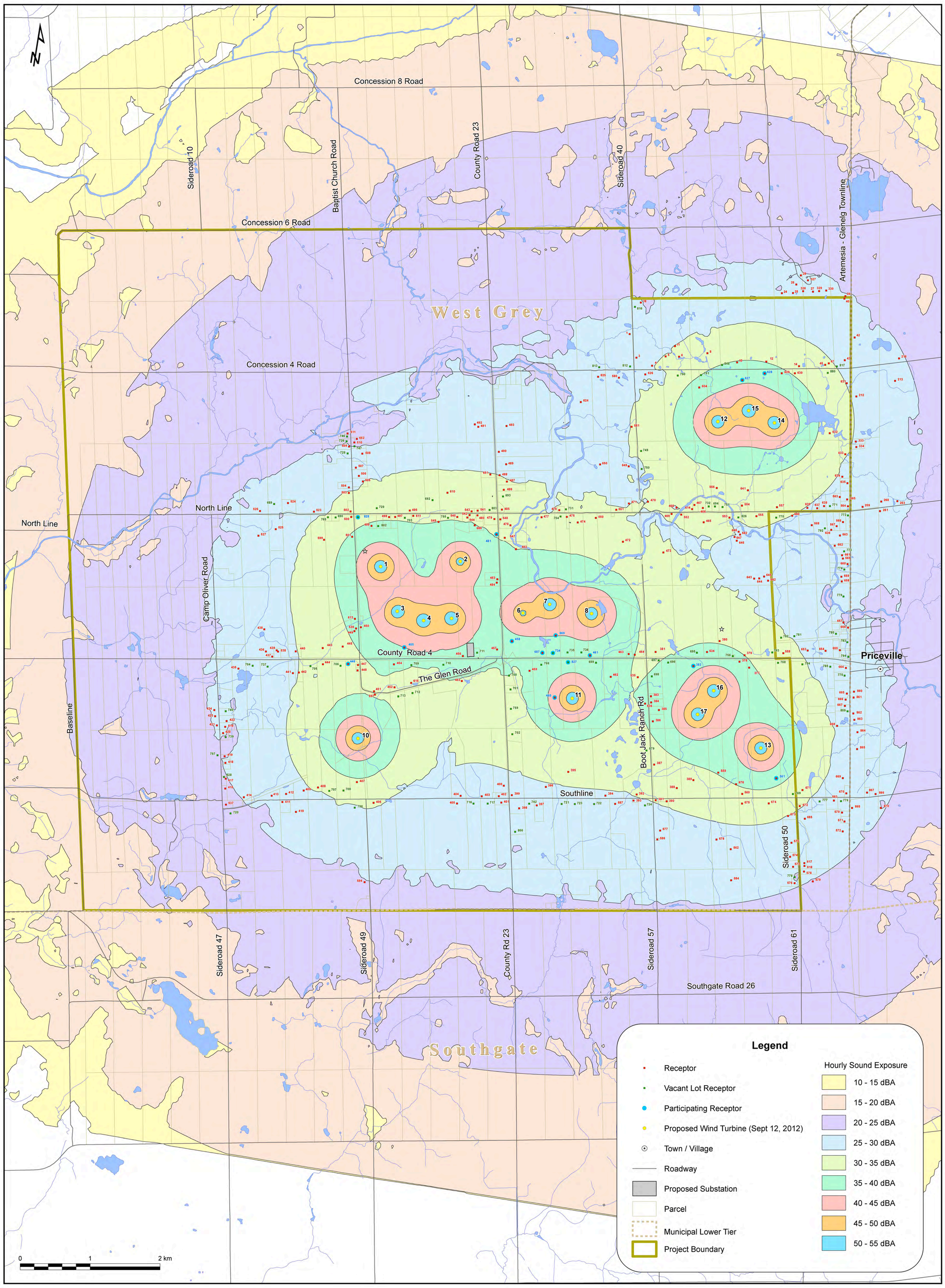
Noise Studies - East Durham Project



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Decommissioning

- The anticipated life of the project is approximately 30 years. Decommissioning of the turbines will occur following the operations phase. A plan has been developed to dismantle or decommission the Project and to restore the land and manage excess water or waste.

- Decommissioning will be done in accordance with the Ontario Health and Safety Act and any applicable municipal, provincial and federal regulations and standards.

- The following components will be removed during dismantling:

    1. **Turbines;**
    2. **Overhead lines and poles (if present); and**
    3. **Transformer substations.**

- Underground electrical lines will be cut and the ends buried to 1.2 m below grade, leaving the lines in place with the consent of the landowner.

Restoration of land and water

- All areas, including the access roads, transformer pads and crane pads, will be restored, as much as practical, to their original condition with native soils and seeding.

- There is the option for turbines to be “re-powered”, meaning that components could be replaced to extend the life of the Project and delay decommissioning. This is based on receiving a new contract to sell power from the Ontario Power Authority and some turbines may still be decommissioned.

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