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SHARP HILLS WIND FARM

WELCOME TO EDPR'S

OPEN HOUSE

AUGUST 17, 2017

ADDITIONAL INFORMATION FOUND AT:

SHARPHILLSWINDFARM.COM

EDP RENEWABLES CANADA LTD

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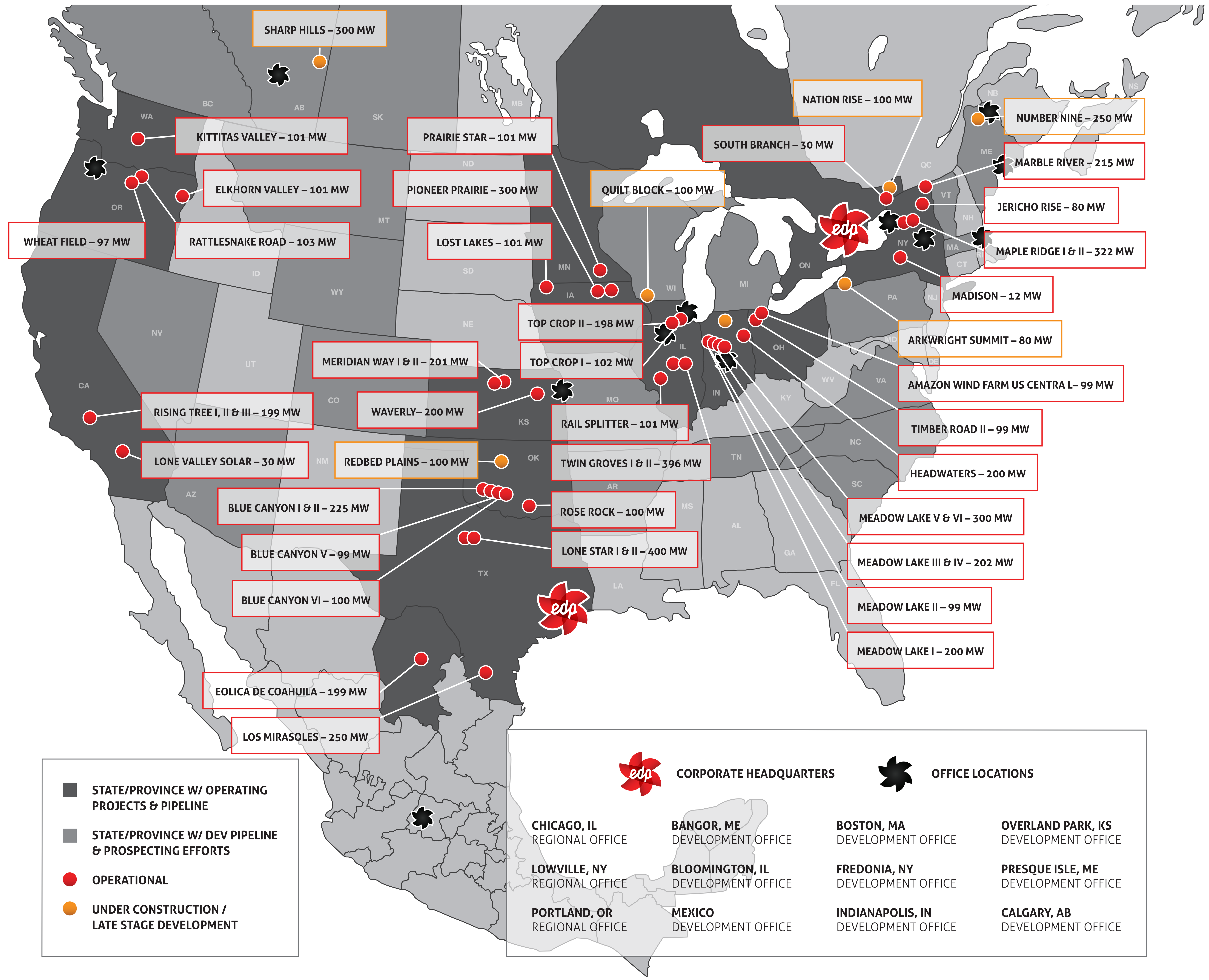
WHO ARE WE?

- Headquartered in Toronto, ON, and has a development office in Calgary, AB
- EDPR operates under EDP Renewables North America LLC (EDPR NA). EDPR NA and its subsidiaries develop, construct, own, and operate wind farms and solar parks throughout North America
- EDPR NA has over 40 wind farms, two solar parks, and 13 regional and development offices across the United States, Canada and Mexico. EDPR NA operates more than 5,200 MW of renewable energy projects
- EDPR NA is owned by EDP Renováveis, S.A., a global leader in the renewable energy sector that develops, constructs, owns, and operates renewable generation facilities. The company has assets in Canada, United States, Spain, Belgium, Brazil, Canada, France, Italy, Mexico, Poland, Portugal, Romania, and the United Kingdom



SOUTH BRANCH, ONTARIO: 30 MW WIND FARM (OPERATING)

- Located near the town of Brinston, 70 kilometres south of Ottawa
- South Branch is EDPR's first Canadian wind farm, commissioned in 2014
- The project used locally manufactured wind turbine blades and towers

NATION RISE, ONTARIO: 100 MW WIND FARM (IN DEVELOPMENT)

- Located approximately 40 kilometres southeast of Ottawa, near the South Nation River
- Awarded under the 2015 Large Renewable Procurement I competition facilitated by the Independent Electricity System Operator
- Nation Rise was the largest awarded wind power project in 2016 in Canada
- EDPR has submitted the Renewable Energy Approval Application to the Ministry of Environment and Climate Change in July 2017

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PROJECT INFORMATION

DEVELOPER: EDPR Canada

PROJECT NAME: Sharp Hills Wind Farm

MUNICIPALITY: Special Areas 3 and 4

PROJECT TYPE: Wind Power

PROJECT SIZE: Up to 300 MW

POINT OF INTERCONNECTION AND SUBSTATION:

- New Brigden 2088S Substation serves as a switching station (to be developed by ATCO Electric Ltd.)
- The proposed Sedalia 363S will serve as the Project collector substation (EDPR Canada)
- The New Brigden 2088S and Sedalia 363S will be co-located at SW-16-32-5-W4M
- The New Brigden 2088S Substation will connect with the 240 kilovolts (kV) transmission line (9L46)

COLLECTOR SYSTEM:

- Medium voltage power collector system consisting of cables that link the turbines to the Sedalia 363S
- May be a combination of underground and overhead cables used to connect the wind turbines to the Sedalia 363S

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PROJECT FACTS

- Project is located on approximately 47,000 acres of private land
- EDPR is considering two turbine technologies: Option A and Option B. Only one turbine will be submitted as part of the phase two submission to the Alberta Utilities Commission.

  Option A: Vestas V136
  - Turbine capacity: 3.6 MW
  - Hub Height: 132 m
  - Rotor Diameter: 136 m
  - 83 turbines on 102 potential turbine locations

  Option B: Senvion 3.7M144
  - Turbine capacity: 3.7 MW
  - Hub Height: 128 m
  - Rotor Diameter: 144 m
  - 81 turbines on 102 potential turbine locations

- The Proposed turbine locations, access roads and collection system has been determined through consultation, environmental and engineering studies, as well as noise constraints, and constructability reviews. The final turbine locations will be selected considering commercial analysis, environmental considerations, and additional consultation.
- Typical Project Infrastructure:
  - Wind Turbines
  - Access Roads
  - Collector System, Collector Substation, and Interconnection Switch Yard
  - Operations and Maintenance Building
  - Temporary Laydown Areas
  - Meteorological Tower(s)

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PROJECT LOCATION MAP

SHARP HILLS WIND FARM
Regional Map

Author: Darren Carl
Date / Time: 04 August 2017 / 04:12 PM
Version: REV.7
Datum: North American 1983
Projection: NAD 1983 UTM Zone 12N
Scale: 1:172,507
Sources: EDPR, ESRI, Ventyx, AltaLIS

N W E S

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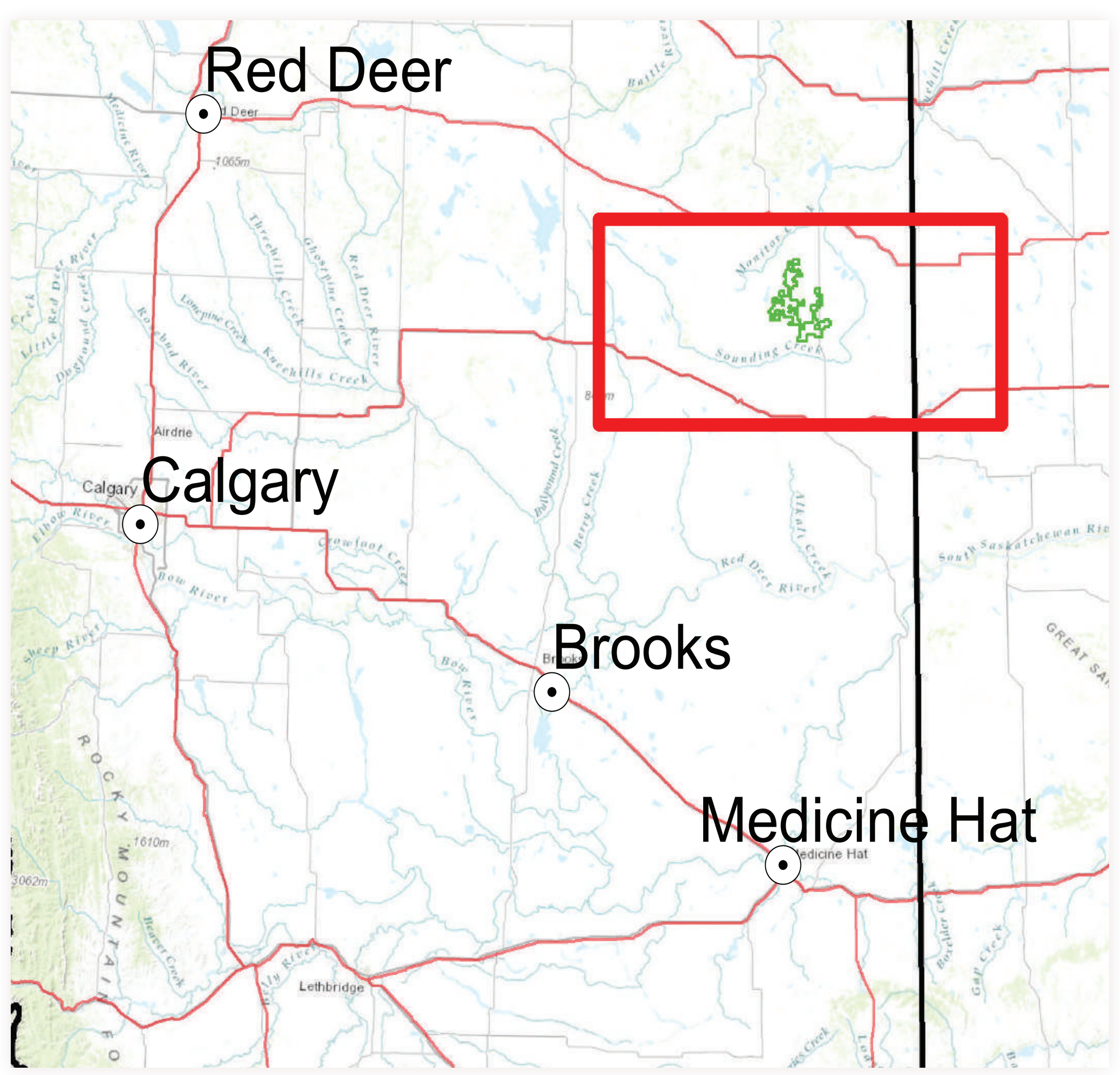
0 10 20 30 40
Kilometres

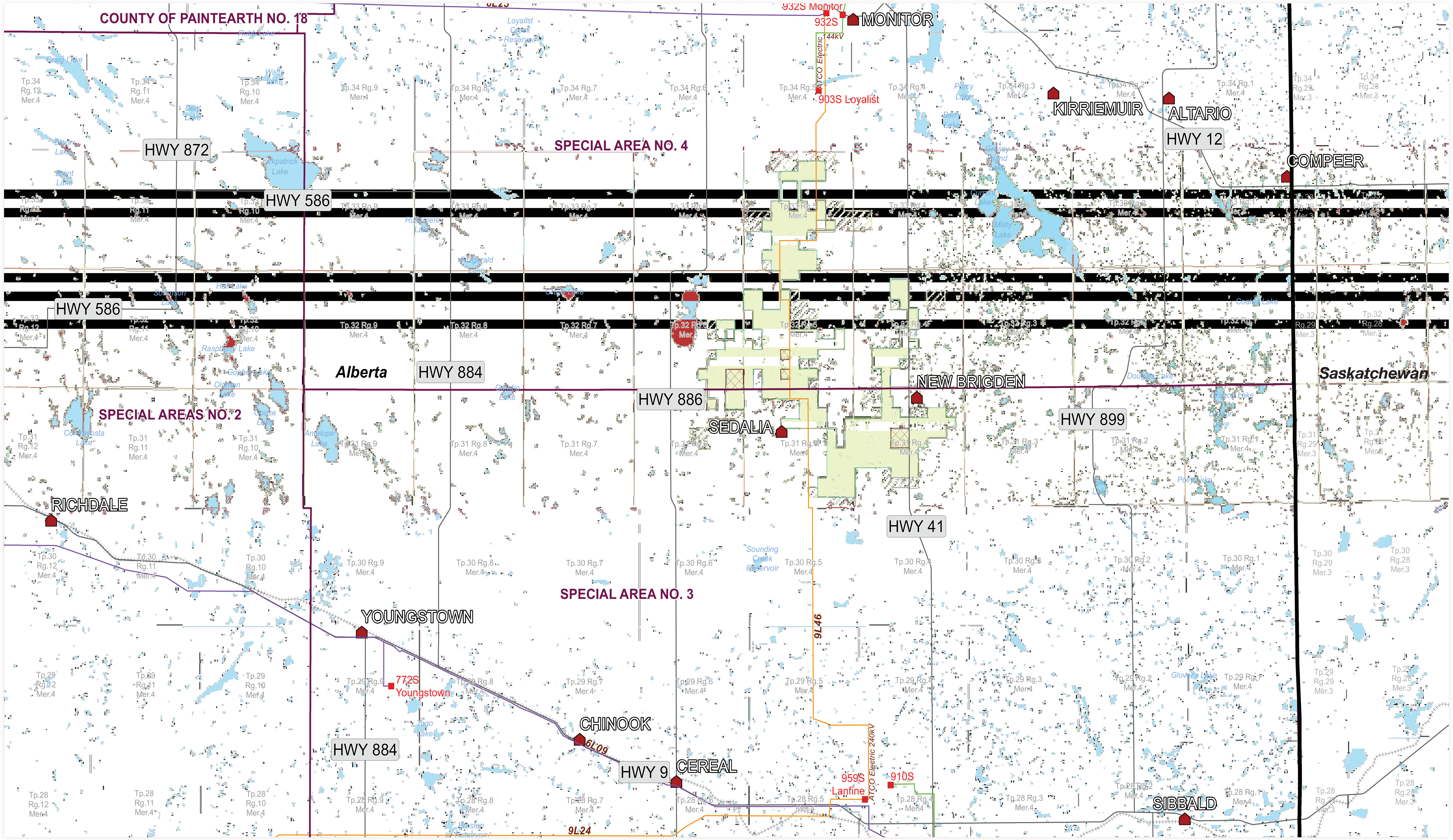
Legend

- Substations
- AB - SK Border
- County Boundary
- Town

Transmission Line Voltage
- 69kV
- 100-161kV
- 240kV (Single Circuit)

- Numbered Highways
- Railroad
- Excluded Land Parcels
- Current Project Boundary
- Former Project Area
- Township
- Waterbody





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STUDIES COMPLETED AND UNDERWAY

WIND RESOURCE ASSESSMENT

There will be up to three permanent meteorological towers (NE 28-33-5-W4M, NW 30-32-5-W4M & SE 29-31-4-W4M) for the project that measure wind speed and direction

ENVIRONMENTAL FIELD WORK

Completed birds, bats, sensitive species, wetland studies, habitat mapping, and native prairie grassland studies

Results of these studies have been integrated into the project layout

GEOTECHNICAL STUDIES

Preliminary geotechnical studies have been conducted

Further studies will be conducted as the project progresses through development and into construction

NOISE IMPACT ASSESSMENT

The noise impact assessment is being completed. A noise contour that shows representative sound levels is available on Option A and Option B Project Infrastructure and Noise Maps

HISTORICAL RESOURCES ASSESSMENT

Preliminary archaeological and historic resource assessments have been submitted to Alberta Culture and Tourism on January 11, 2017

KEY REGULATORY AGENCIES & PERMITTING BODIES

- ALBERTA UTILITIES COMMISSION
- ALBERTA ENVIRONMENT AND PARKS
- ALBERTA CULTURE & TOURISM
- NAV CANADA
- ENVIRONMENT AND CLIMATE CHANGE CANADA
- ALBERTA TRANSPORTATION
- TRANSPORT CANADA
- SPECIAL AREAS BOARD

WHY WAS THIS SITE CHOSEN FOR THE PROJECT?

1

EDPR ACQUIRED TWO WIND POWER DEVELOPMENTS FROM:

Alberta Wind Energy Corporation (2015)

Eolectric Development Inc. (2016)

2

EDPR COMBINED AND EXPANDED THESE SITES TO FORM THE SHARP HILLS WIND FARM

3

STRONG WIND RESOURCE

4

PROXIMITY TO EXISTING TRANSMISSION LINE

5

COMPATIBLE WITH EXISTING AGRICULTURAL USE

LOCAL SPENDING ON GOODS AND SERVICES DURING ALL PHASES OF THE PROJECT

DEVELOPMENT AND CONSTRUCTION PHASE BENEFITS:

- Anticipated creation of up to 300 construction jobs
- Road Use Agreement with the potential for upgrades to local roads
- Landowner lease payments and Setback Waiver agreements
- Contract opportunities during construction in excavation and civil works, aggregate supply, etc.

OPERATIONS PHASE BENEFITS:

- Anticipated creation of 15-20 permanent local jobs during the operations and maintenance phase
- Property tax payments
- Contract opportunities for local businesses in snow clearing, road maintenance, fencing, reclamation, etc.
- Neighbour Agreements for landowners in proximity to the Project

ENVIRONMENTAL CONSIDERATIONS

ENVIRONMENTAL EVALUATION

- A Phase 1 document, that identified characteristics, potential impacts, and potential mitigation measures for the Project, was submitted as part of the Phase 1 Buildable Areas application to the AUC. The document was submitted to Alberta Environment and Parks for review and the wind wildlife referral report was issued in Q4 2016.
- A Phase 2 document including post-construction monitoring and mitigation measures is under review by Alberta Environment and Parks. This document considers the impacts of the Project infrastructure, including turbine locations, access roads, and the collector system.

  After review, Alberta Environment and Parks will provide a referral report, which will be included in the Phase 2 AUC submission.

STUDIES INITIATED TO DATE INCLUDE:

- Wildlife – Birds, bats, sensitive species
- Vegetation – Habitat delineation, native prairie grassland
- Wetlands – Mapping and classification

Studies are determined in consultation with the assigned Alberta Environment and Parks Fish and Wildlife Officer, and in accordance with the Wildlife Guidelines for Alberta Wind Energy Projects (2011) and the Alberta Sensitive Species Inventory Guidelines.

EDPR is sensitive to potential impacts on wildlife, such as birds, bats, and leks, and committed to higher internal standards, such as helicopter stick nest surveys conducted in 2017.

ADDITIONAL ENVIRONMENTAL STUDIES WILL BE COMPLETED IN SPRING 2018 TO ENSURE THE ENVIRONMENTAL DATA IS UP TO DATE

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NOISE ASSESSMENT

- All wind energy projects must meet AUC Rule 012: Noise Control. This is the same regulation for all energy facilities in Alberta
- A cumulative noise impact assessment was completed for all residences and dwellings within 1.5 kilometres of the Project
- Noise impact assessment results were used to determine the final turbine locations for Option A, and Option B
- The Special Areas Board further requires setback to property lines such that sound levels from the wind turbines are no greater than AUC permissible sound levels (where setbacks are not waived). EDPR has committed to abide by Provincial and Municipal regulations
- Ambient wind sound level surveys and wind measurements must be conducted in accordance with Rule 012

NOISE CONTOURS REPRESENTATIVE OF SOUND LEVELS ARE AVAILABLE ON THE OPTION A AND OPTION B PROJECT INFRASTRUCTURE AND NOISE MAPS.

Q: DOES LOW FREQUENCY SOUND AND INFRASOUND NEGATIVELY IMPACT HUMAN HEALTH?

A: Studies by Health Canada and Front Public Health determined that there was no association found between (dB) levels and any of the self-reported illnesses or chronic health conditions assessed (e.g., migraines, tinnitus, high blood pressure, etc.)

For infrasound, measured levels were generally below the levels pre-existing in the environment

SOURCES:

Health Canada, "Wind Turbine Noise & Health Study: Summary of Results."
http://www.hc-sc.gc.ca/ ewh-semt/noise-bruit/turbine-eoliennes/summary-resume-eng.php

Front Public Health, Knopper LD, Ollson CA, McCallum LC, Whitfield Aslund ML, Berger RG, Souweine K, McDaniel M., "Wind Turbines and Human Health.'

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NOISE ASSESSMENT

150 dBA

100 dBA

50 dBA

MAXIMUM ALLOWABLE WIND TURBINE NOISE MEASURED AT A DWELLING (40 dBA)

0 dBA

JET AIRCRAFT (140 dBA AT 15 METRES)

ROCK CONCERTS (110 - 130 dBA)

LAWN MOWER (90 - 105 dBA)

HEAVY TRAFFIC IN CITY (85 dBA)

CONVERSATION (60 dBA)

SOFT WHISPER (20 - 30 dBA)

LEAVES RUSTLING (10 - 15 dBA)

CONSTRAINTS INTEGRATED INTO PROJECT DESIGN

EDPR HAS APPLIED THE FOLLOWING CONSTRAINTS FOR OPTION A, AND OPTION B LAYOUTS. THESE ARE MEASURED TO THE TOTAL VERTICAL HEIGHT OR ROTOR DIAMETER.

1) TRANSPORTATION INFRASTRUCTURE
2) STRUCTURES
3) RADIO AND RADAR
4) PROPERTY BOUNDARY
5) ELECTRICAL INFRASTRUCTURE
6) WATERBODIES
7) ENVIRONMENTAL
8) OIL AND GAS INFRASTRUCTURE

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EXPECTED PROJECT SCHEDULE

PROJECT LIFE CYCLE TIMELINE

- Consultation will be ongoing throughout development, construction, and operational phases
- Development Phase (18 to 48 months)
- Construction Phase (up to 18 months)
- Operations Phase (20 to 25 years, or beyond)
- Decommissioning Phase (6 to 12 months)

TIMELINE*	PROJECT MILESTONE
Q3 2015	EDPR acquired the southern portion of the Project from Alberta Wind Energy Corporation
Q2–Q3 2016	Completed environmental field studies
Q2–Q3 2016	Completed bird and bat field studies
Q4 2016	EDPR acquired the northern portion of the Project from Eolectric
February 15, 2017	First open house
May 18, 2017	Submission to AUC for Phase 1 Buildable Areas Application
June 2017	Completed second year environmental field studies
August 17, 2017	Second open house
Q3 2017	Anticipated submission to AUC for Phase 2 AUC Approval
2018	AUC approval anticipated
Q2–Q3 2018	Final Project engineering complete
Q3 2018	Site mobilization
December 1, 2019	Anticipated commercial operation date

*Project schedule is dependent on the results of the Renewable Electricity Program

SHARP HILLS WIND FARM

ALBERTA ELECTRIC SYSTEM OPERATOR'S
RENEWABLE ELECTRICITY PROGRAM

THE RENEWABLE ELECTRICITY PROGRAM WILL DEPLOY

5,000 MW

OF RENEWABLE ELECTRICITY GENERATION IN THE PROVINCE BY

2030

- Alberta is changing the mix of power generation to include a larger portion of renewable energy
- Wind power is low cost, emissions free electricity and can help Alberta diversify its power sources and reduce emissions from the electricity sector
- EDPR submitted an application to the AESO's request for qualifications in June 2017, and we intend to continue to participate in the Renewable Electricity Program.

BENEFITS OF WIND POWER

DIRECT BENEFITS TO THE LOCAL AREA

- Long term lease and easement agreements, property tax payments, and local job creation

SUSTAINABLE BENEFITS

- Equivalent to taking more than 175,000 cars off of the road
- Does not use or pollute water during operation

COST CERTAINTY

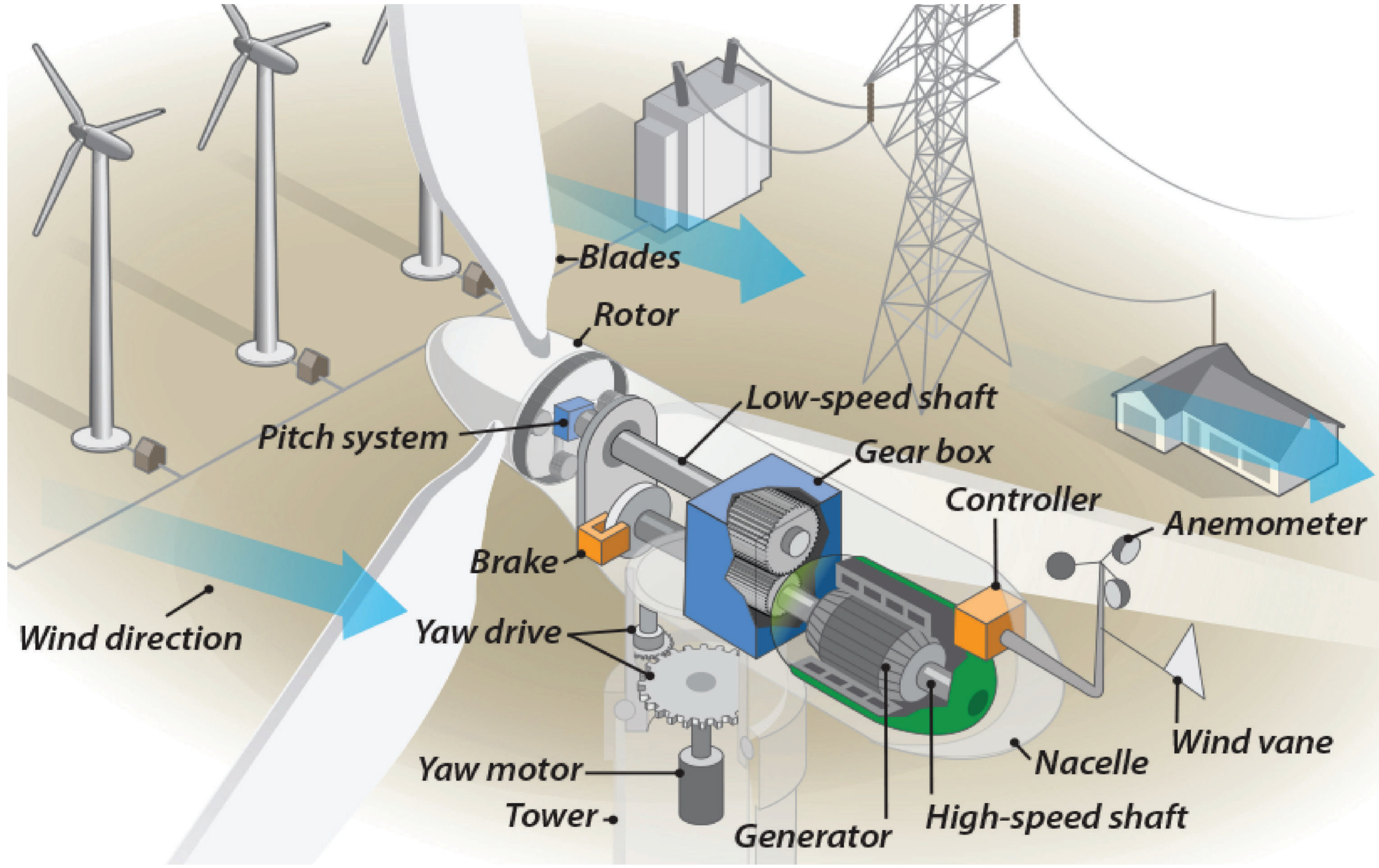
- Can protect consumers from the volatility of thermal power prices

COST COMPETITIVE

- Compared to new gas, coal, hydro, or nuclear energy facilities

HOW WIND POWER WORKS

- Modern turbines consist of three components: the tower, the blade, and the nacelle
- Most of the action takes place in the nacelle, where the wind's power is turned into electricity. The blades are attached to a gearbox in the nacelle, which turns a generator and produces electricity. The electricity then enters the electrical grid through a substation after being converted to transmission level voltage



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RELATIVE COST OF WIND POWER

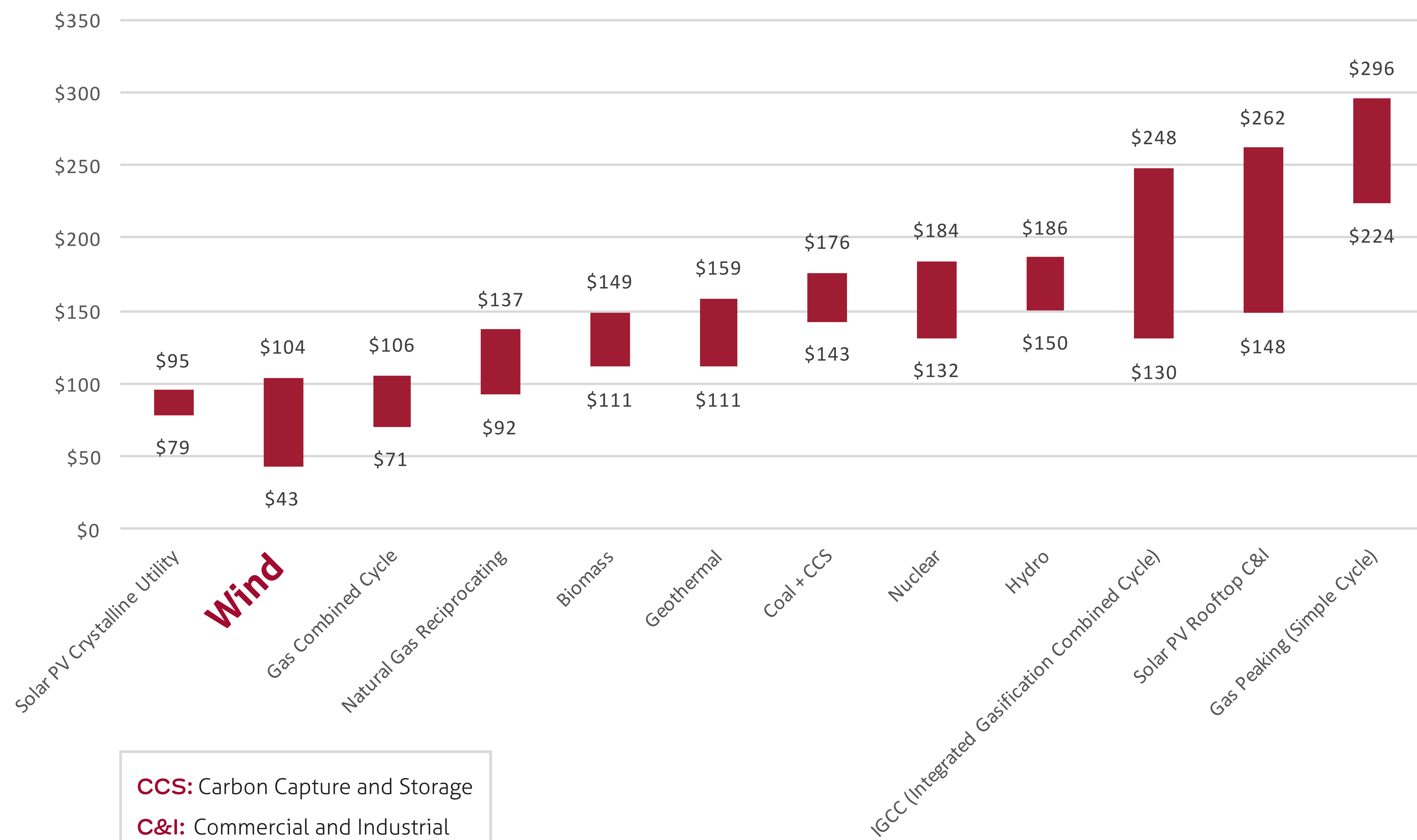
- Studies show that wind power is among the lowest cost options for new electricity generation

SOURCES:

- Lazard's Levelized Cost of Energy Analysis – Version 9.0
- Alberta WindVision Technical Overview Report (Solas Energy Consulting Inc.)

- Prices escalated with 2% inflation to 2016 dollars
- USD to Canadian dollar exchange rate: 1.33 (Jan. 20, 2017)

LEVELIZED COST OF ENERGY COMPARISON ($CAD, 2016)



CCS: Carbon Capture and Storage
C&I: Commercial and Industrial
PV: Photovoltaic

TYPICAL WIND FARM CONSTRUCTION

Q: HOW CAN LOCAL COMPANIES BE INVOLVED IN THE CONSTRUCTION AND OPERATION OF THE PROJECT?

A: EDPR has begun initial conversations with local businesses and is committed to involving qualified applicants in contract opportunities.

EDPR plans to conduct a supply chain session closer to the construction timeframe to identify local businesses that can provide services.

Q: WHAT IS EDPR DOING TO MITIGATE IMPACTS ON WILDLIFE?

A: There is a four-stage approach to understanding wildlife in the area and determine potential wildlife: Planning, Wildlife Studies, Setback implementation and Approvals.

Once the wildlife study plan was approved by AEP, TetraTech (a qualified environmental consulting firm) completed wildlife studies over a two-year period through to June of 2017. These included:

- Raptor nest surveys
- Sharp-tailed grouse lek surveys
- Bird migration surveys
- Bat acoustic surveys
- Breeding bird surveys
- Burrowing owl surveys

Based on field studies, EDPR then applied the AEP setback guidelines from the proposed wind farm infrastructure to wildlife sensitive regions.

These setbacks include nests, leks, some wetlands, and associated restricted activity periods, and are aligned with:

- AEP Wildlife Guideline for Alberta Wind Energy Projects (AEP 2011)
- AEP Sensitive Species Inventory Guidelines (AEP 2013
- Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat with Grassland and Parkland Natural Regions of Alberta (2011)

Q: DO WIND TURBINES NEGATIVELY IMPACT HUMAN HEALTH?

A: Health Canada completed a study evaluating the impacts of wind turbines on human health. The following were **not** found to be associated with wind turbine noise exposure:

- Self-reported sleep issues (e.g., general disturbance, use of sleep medication, diagnosed sleep disorders);
- Self-reported illnesses (e.g., dizziness, tinnitus, prevalence of frequent migraines and headaches) and chronic health conditions (e.g., heart disease, high blood pressure and diabetes);
- Self-reported perceived stress and quality of life impacts
  - While some individuals reported some of the health conditions above, the prevalence of self reported issues was not found to change in relation to wind turbine noise levels.
  - Reference: Health Canada, "Wind Turbine Noise & Health Study: Summary of Results." http://www.hc-sc.gc.ca/ewh-semt/noise-bruit/turbine-eoliennes/summary-resume-eng.php

Q: HOW CAN YOU ENSURE THAT WIND TURBINES WILL BE DECOMMISSIONED AT THE END OF THE PROJECT'S LIFE?

A: Every lease has an escrow fund maintained by EDPR to ensure decommissioning is completed. In addition, the salvage value of the Project is expected to cover the cost of decommissioning.

Q: IS THERE A CHANCE OF TURBINE FAILURE?

A: A turbine tower collapse is a rare event. In the history of the Canadian Wind Industry, only 2 tubular towers have failed in Nova Scotia compared to the 5,172 turbines that have been installed since 2007.

- EDPR will conduct detailed engineering studies to ensure that foundations are properly designed for the specific soil characteristics of each turbine location.

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THANK YOU
FOR ATTENDING

HAVE YOU FILLED OUT A COMMENT SHEET?
YOUR FEEDBACK IS IMPORTANT TO US!

WE WILL BE HAPPY TO FOLLOW UP WITH YOU IF YOU HAVE ANY QUESTIONS ABOUT THE PROJECT

PLEASE CONTACT US AT:

EDP RENEWABLES CANADA LTD.
TELEPHONE NUMBER: 403.263.7345
TOLL FREE: 1.844.624.0330
EMAIL: canada.ab@edpr.com

Ryan O'Connor
Project Manager

Darren Carl
Project Developer

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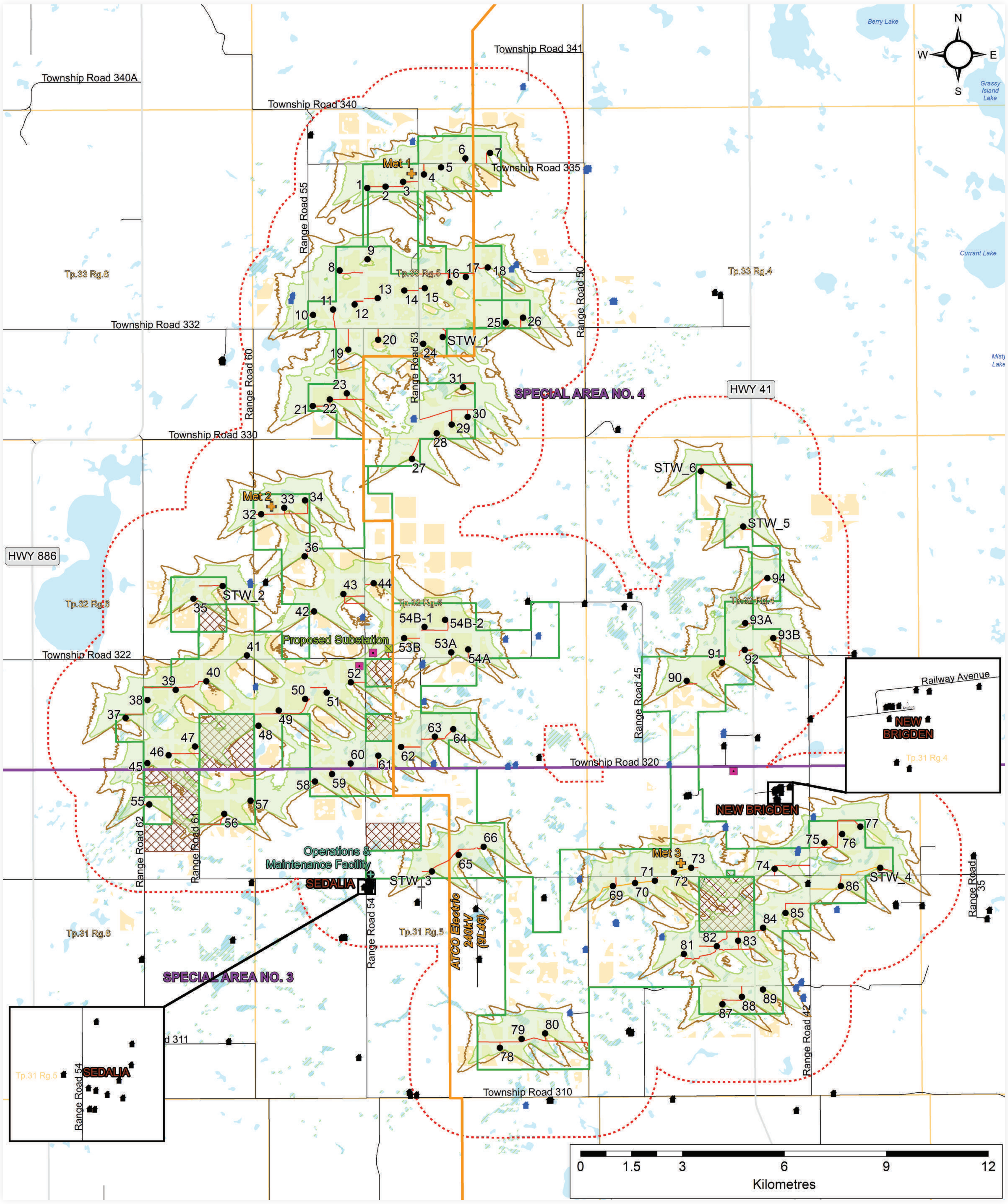
OPTION A: SHADOW FLICKER MAP



Legend
- Option A: Turbine Locations (102)
- Current Project Boundary
- Proposed Substation Location
- Option A: Shadow Flicker (15 hours per year)
- Option A: Shadow Flicker (8 hours per year)

Land Use
- Operations and Maintenance Building
- Proposed Laydown Yard Location
- Meterological Towers
- Participating House
- Non-Participating House

Proposed Turbine Access Roads
- Temporary
- Permanent
- Excluded Land Parcels
- Proposed Buildable Area

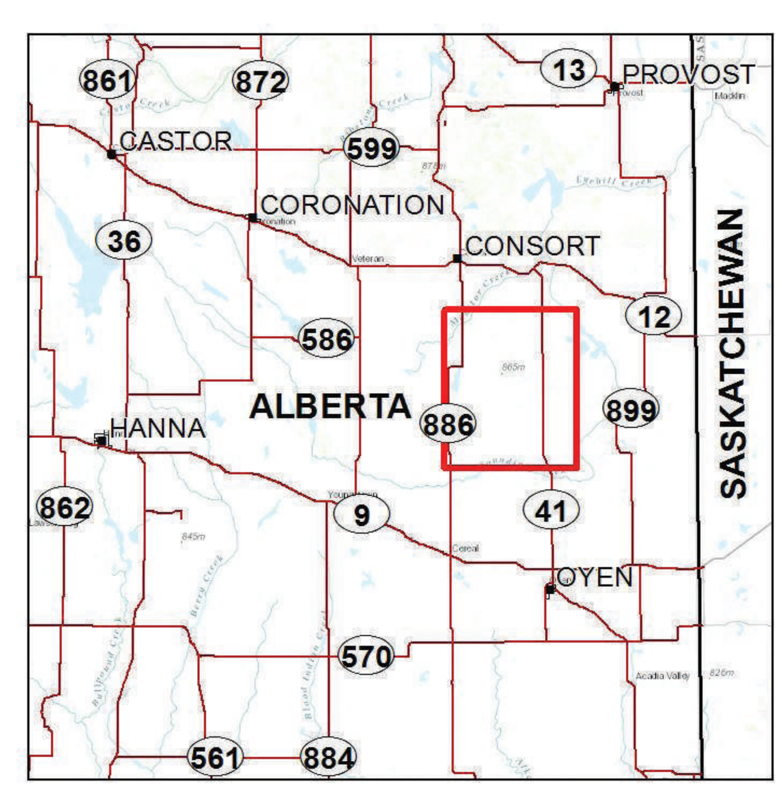
Transmission Line Voltage
- Existing 240kV (Single Circuit)
- 2km Notification Zone
- Special Areas 3 & 4
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies
- Township

Author: Solas Energy Consulting Inc.
Date / Time: 15 August 2017 / 08:54 AM
Version: REV.3
Datum: North American 1983
Projection: NAD 1983 UTM Zone 12N
Scale: 1:51,000
Sources: EDPR, ESRI, AER, Ventyx, AltaLIS, RWDI.

Notes

Turbine labels with "STW" refer to those turbines that are "Subject to Waiver" from adjoining non-project landowners. Setback waiver agreements will be required.

The Project boundary is not representative of the entire leased land base.



OPTION A: VESTAS V136 SHADOW FLICKER

- Shadow flicker is created by rotating blades casting a shadow on surrounding structures
- Study results are available on the Shadow Flicker Map
- The results are expressed as the number of hours of shadow flicker experienced in a year, and correlate to the colour gradations in the map
- The model considers the probability for cloud cover. However, the model does not consider the orientation of residences and windows, or potential shading from trees or other structures, which may further reduce the impact of shadow flicker.

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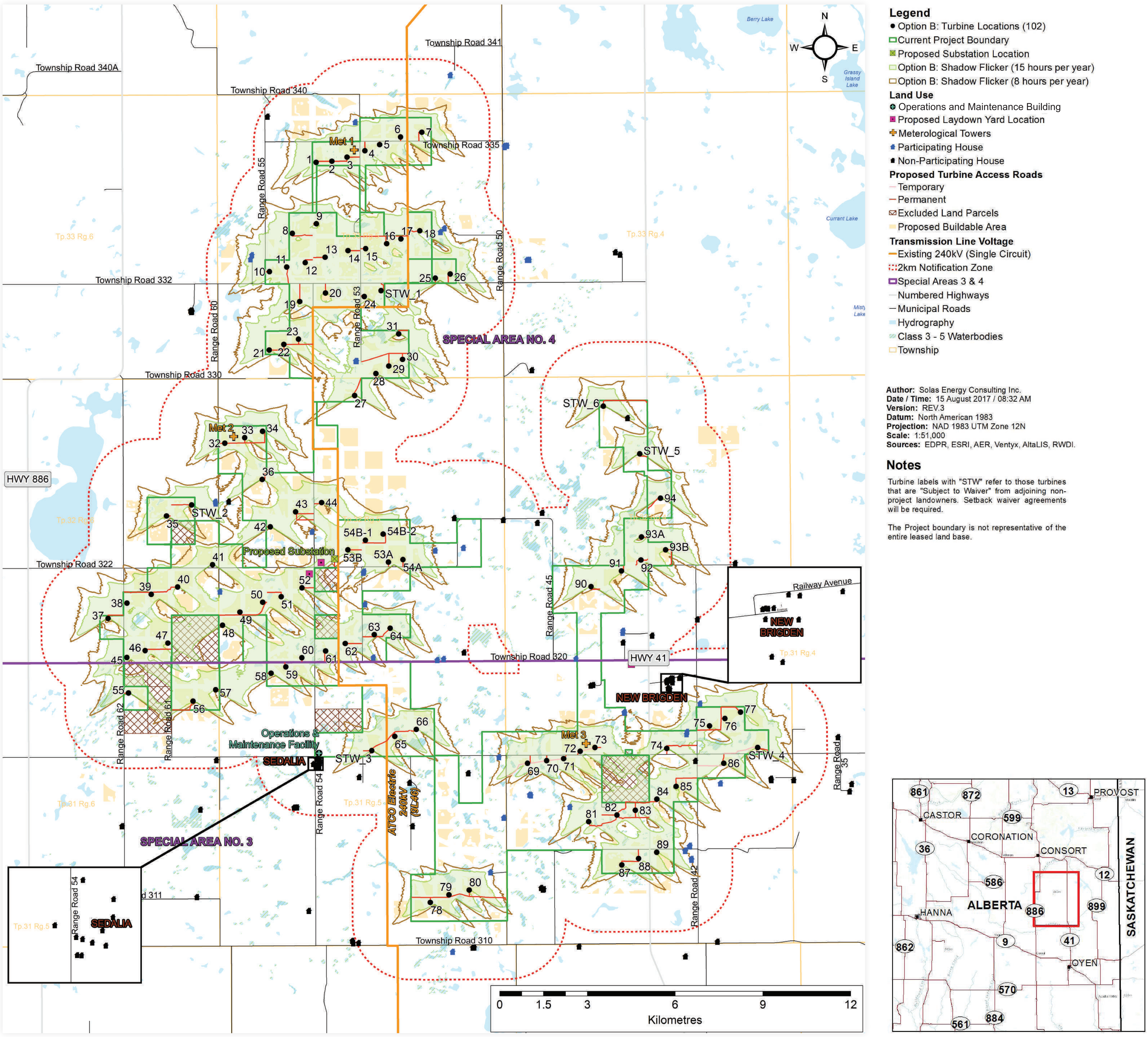
OPTION B: SHADOW FLICKER MAP



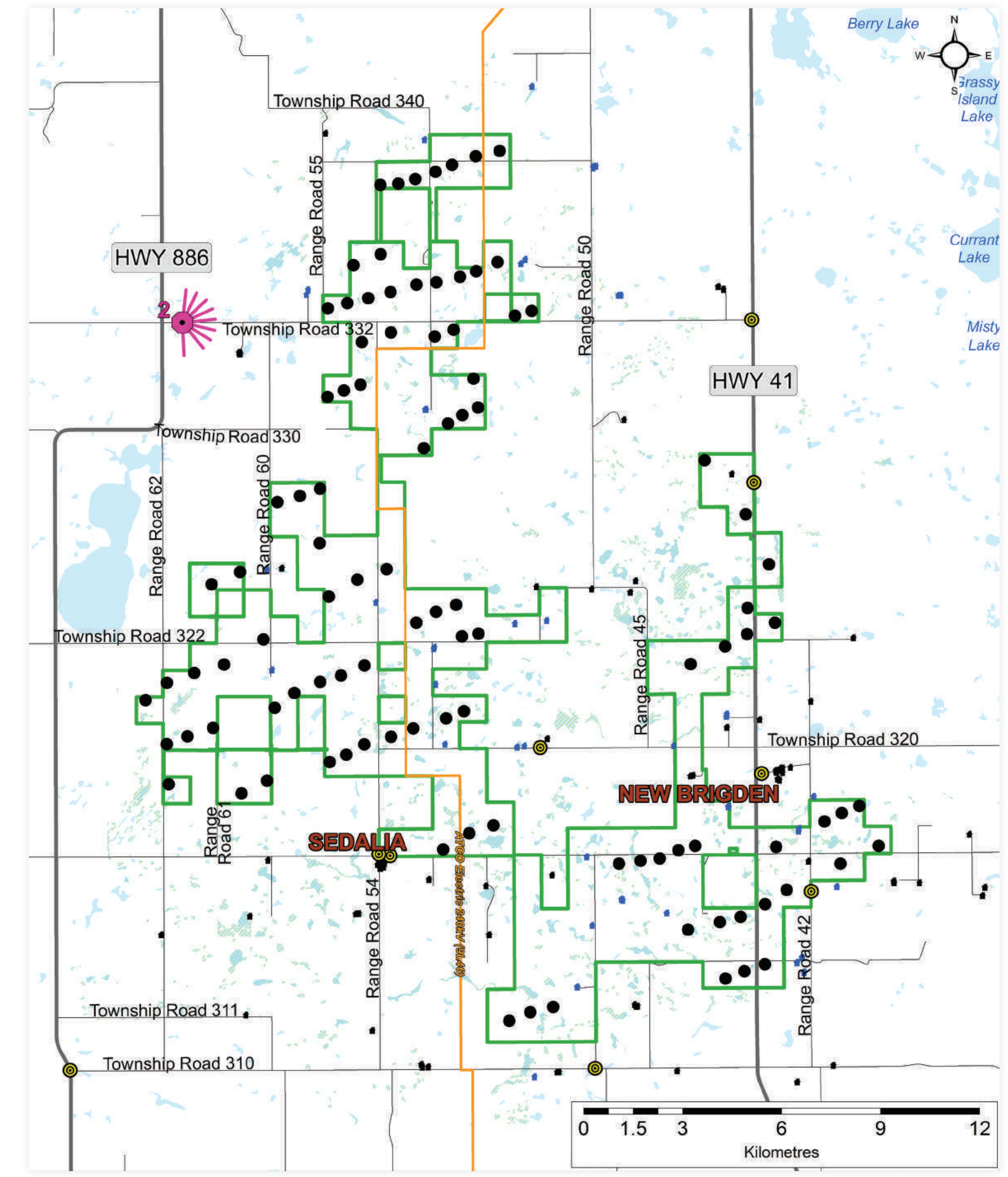
OPTION B:
SENVION 3.7M144 SHADOW FLICKER

- Shadow flicker is created by rotating blades casting a shadow on surrounding structures
- Study results are available on the Shadow Flicker Map
- The results are expressed as the number of hours of shadow flicker experienced in a year, and correlate to the colour gradations in the map
- The model considers the probability for cloud cover. However, the model does not consider the orientation of residences and windows, or potential shading from trees or other structures, which may further reduce the impact of shadow flicker

OPTION A:
VESTAS V136 VISUAL SIMULATIONS

LOCATION 2

Highway 886 • Looking East • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #2
- Other Visual Representation Locations
- Orientation of Representation #2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

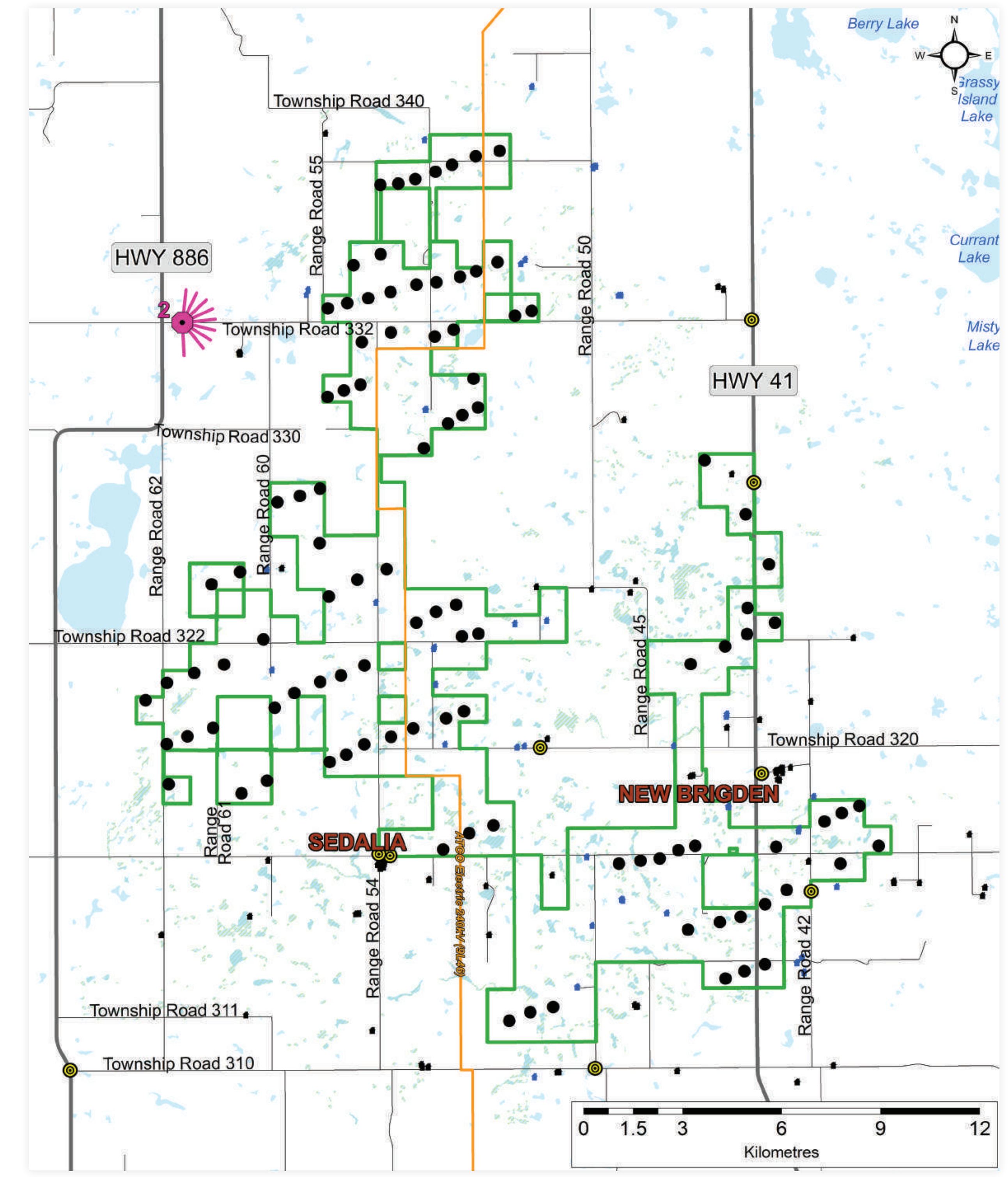
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION B: SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 2

Highway 886 • Looking East • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #2
- Other Visual Representation Locations
- Orientation of Representation #2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

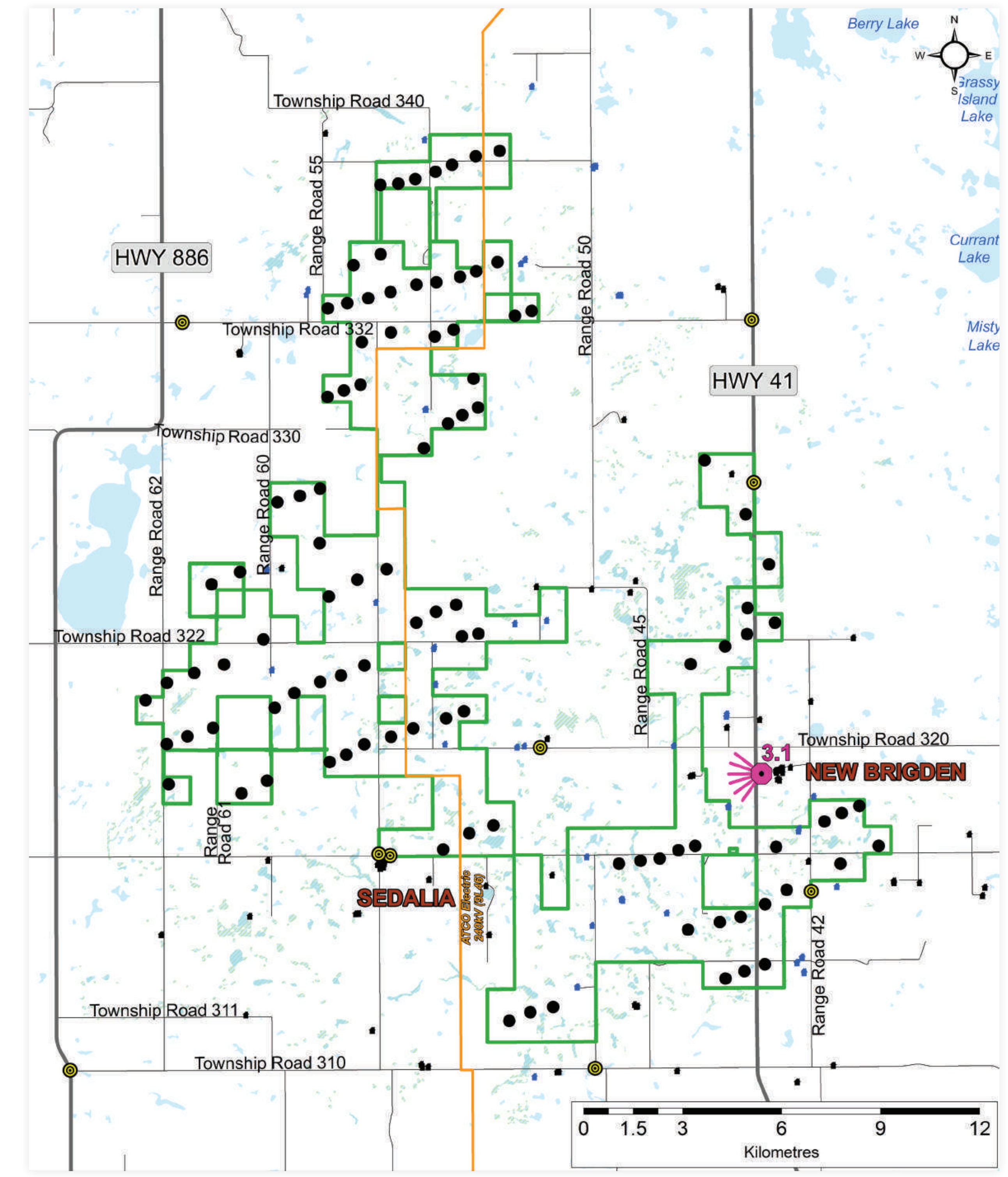
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION A:
VESTAS V136 VISUAL SIMULATIONS

LOCATION 3

New Brigden • Looking South West • All visual simulations are based on the 102 potential turbine locations.



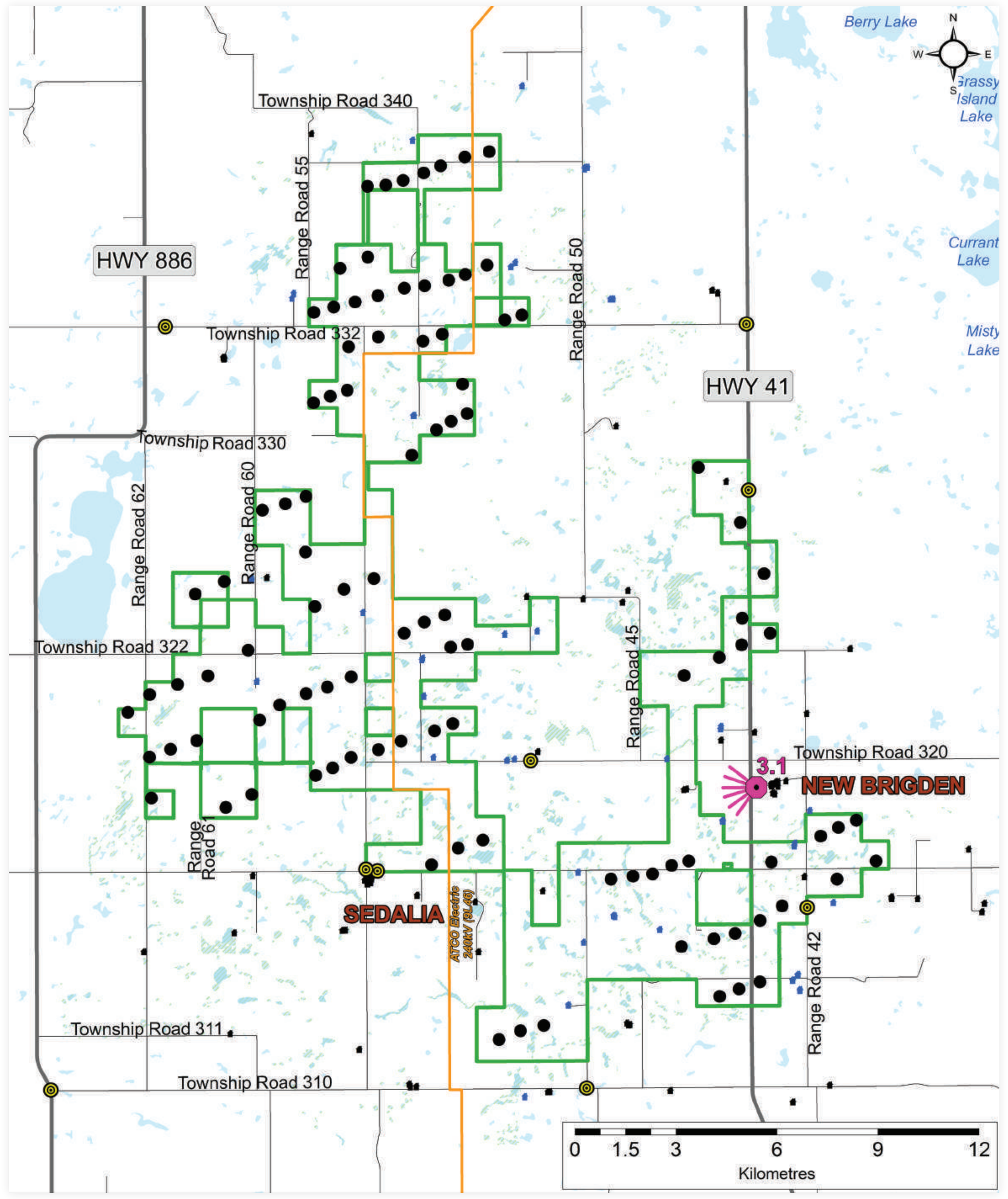
Legend
- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #3.1
- Other Visual Representation Locations
- Orientation of Representation #3.1
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

Transmission Line Voltage
- Existing 240kV (Single Circuit)

OPTION B: SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 3

New Brigden • Looking South West • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #3.1
- Other Visual Representation Locations
- Orientation of Representation #3.1
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

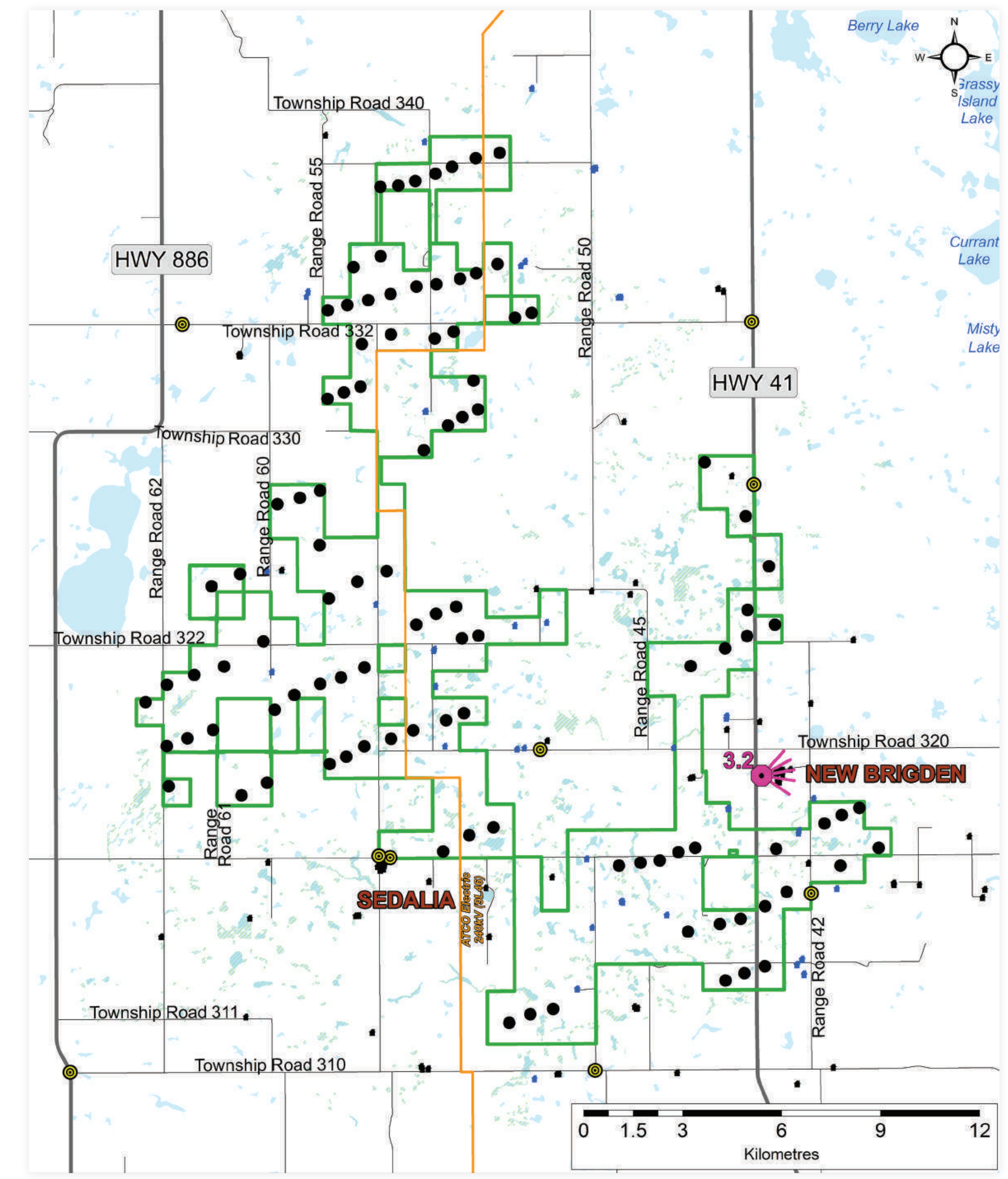
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION A:
VESTAS V136 VISUAL SIMULATIONS

LOCATION 3

New Brigden • Looking South East • All visual simulations are based on the 102 potential turbine locations.



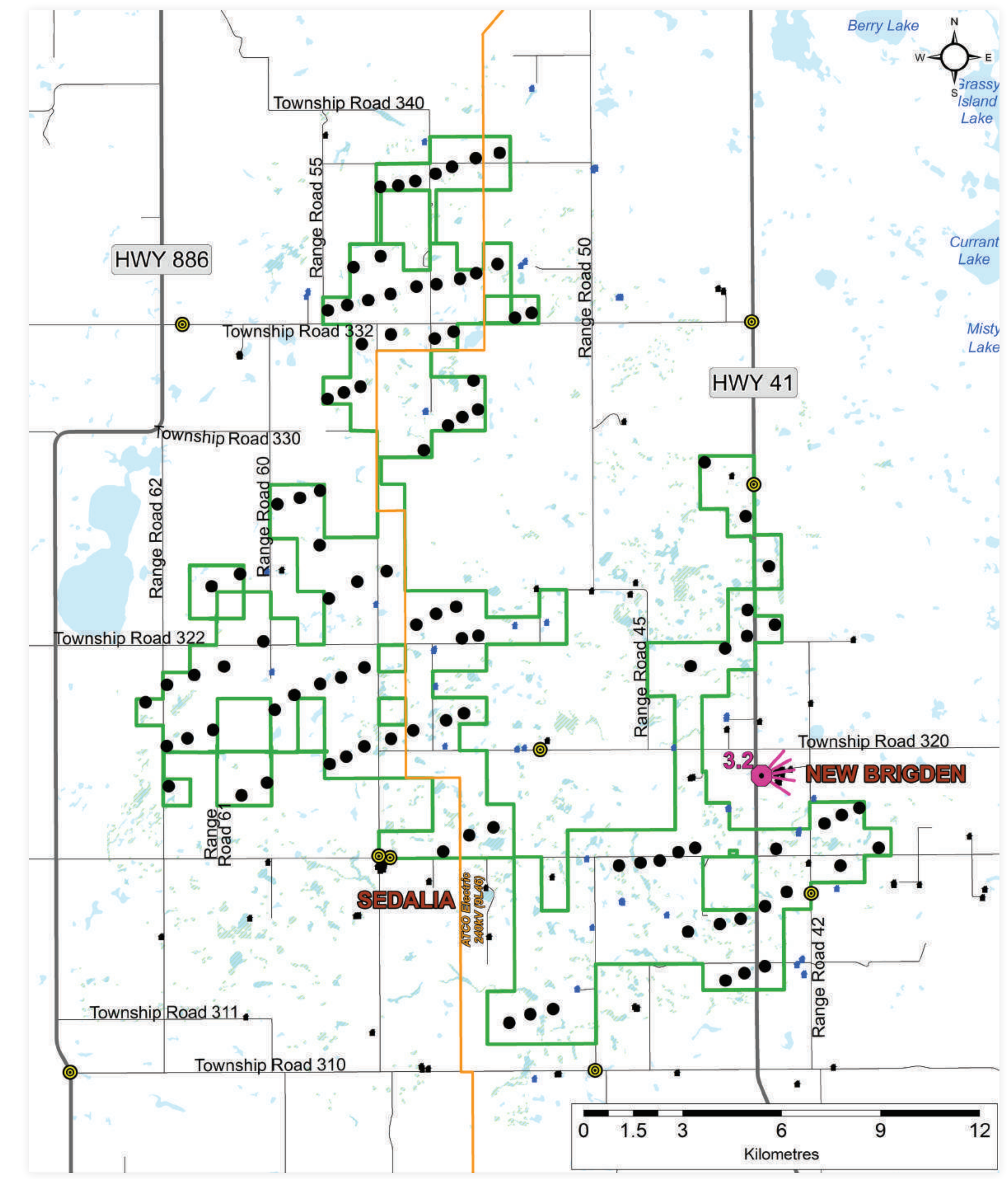
Legend
- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #3.2
- Other Visual Representation Locations
- Orientation of Representation #3.2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

Transmission Line Voltage
- Existing 240kV (Single Circuit)

OPTION B:
SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 3

New Brigden • Looking South East • All visual simulations are based on the 102 potential turbine locations.



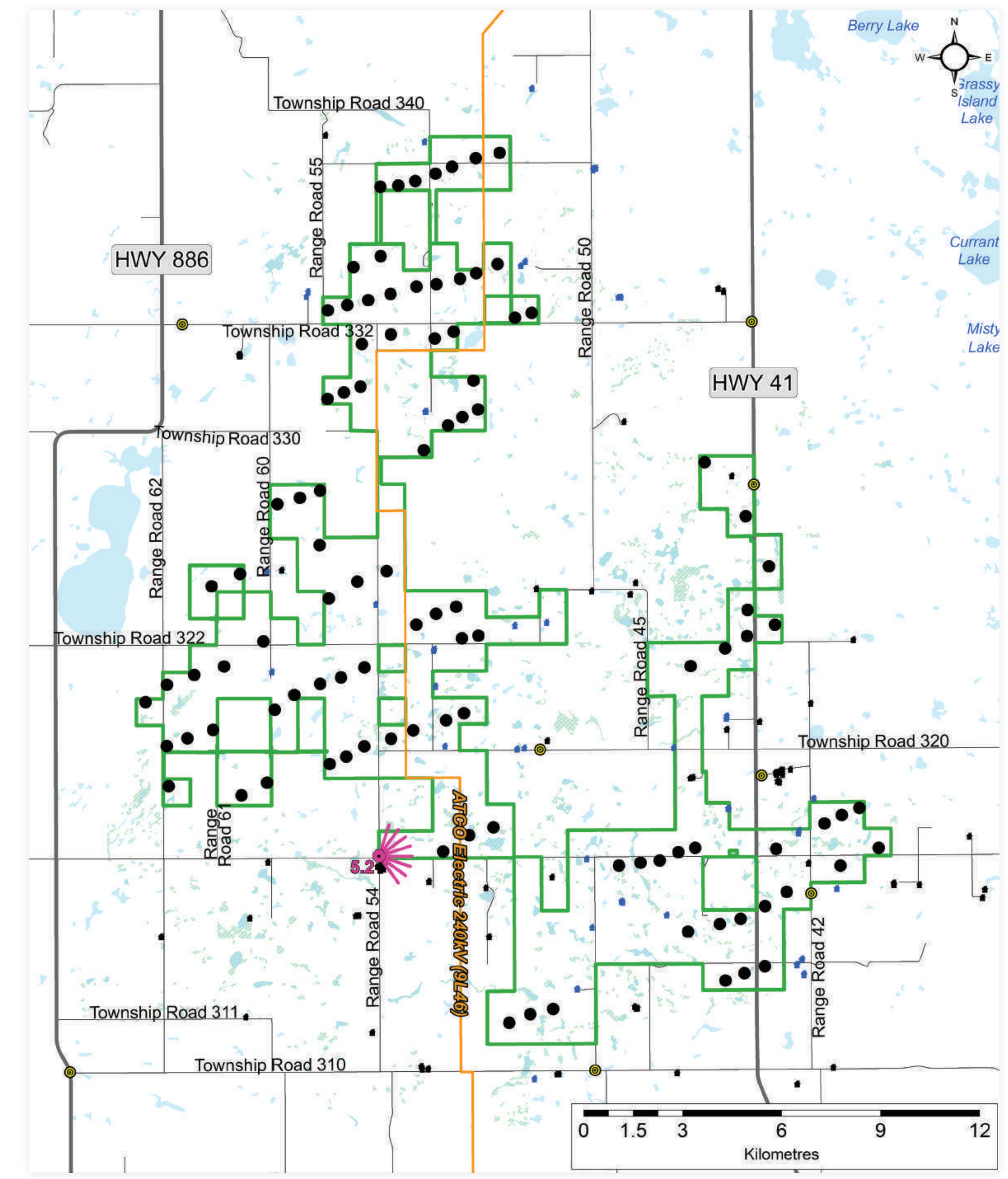
Legend
- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #3.2
- Other Visual Representation Locations
- Orientation of Representation #3.2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

Transmission Line Voltage
- Existing 240kV (Single Circuit)

OPTION A: VESTAS V136 VISUAL SIMULATIONS

LOCATION 5

Sedalia • Looking North East • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #5.2
- Other Visual Representation Locations
- Orientation of Representation #5.2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

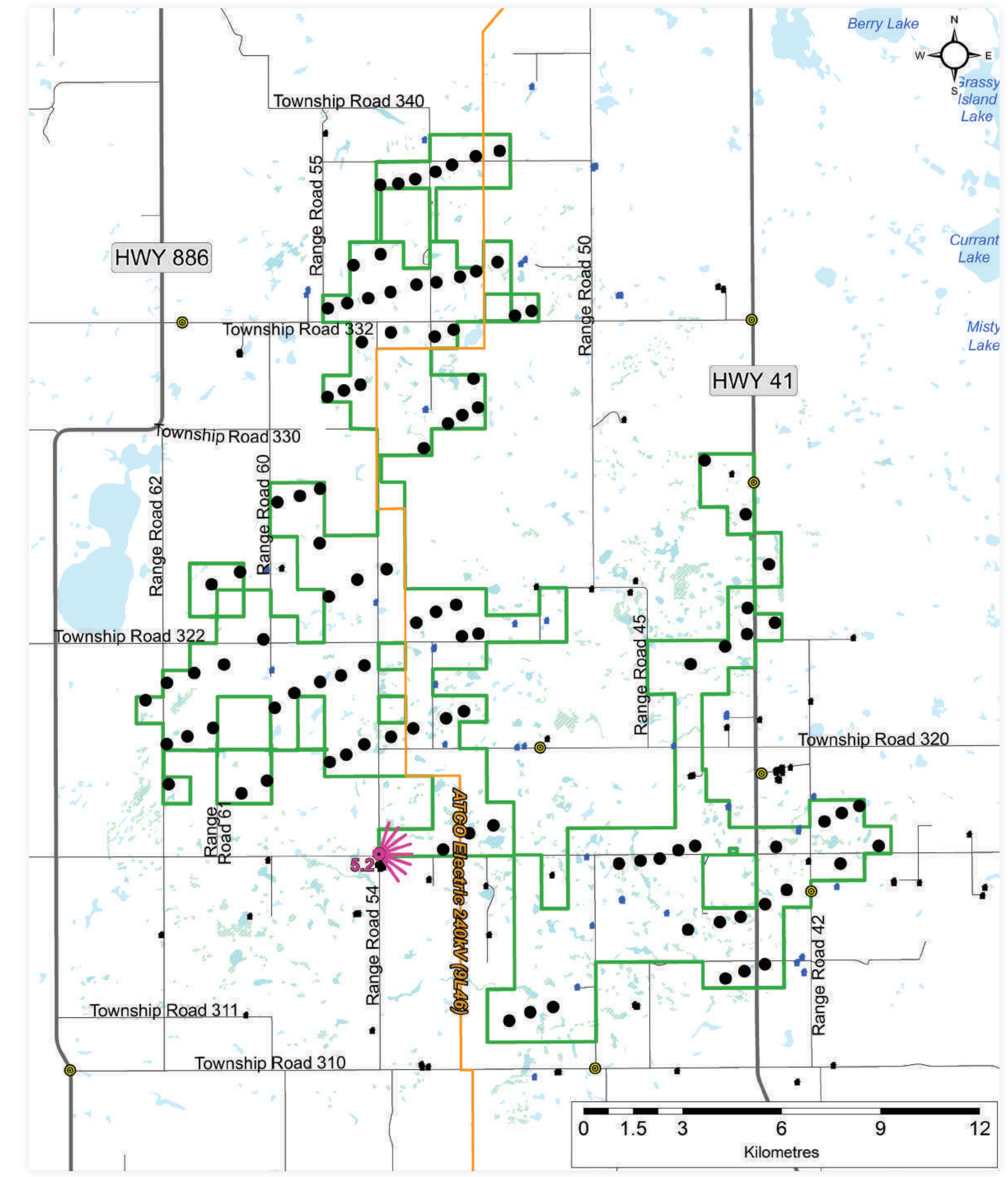
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION B: SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 5

Sedalia • Looking North East • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #5.2
- Other Visual Representation Locations
- Orientation of Representation #5.2
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

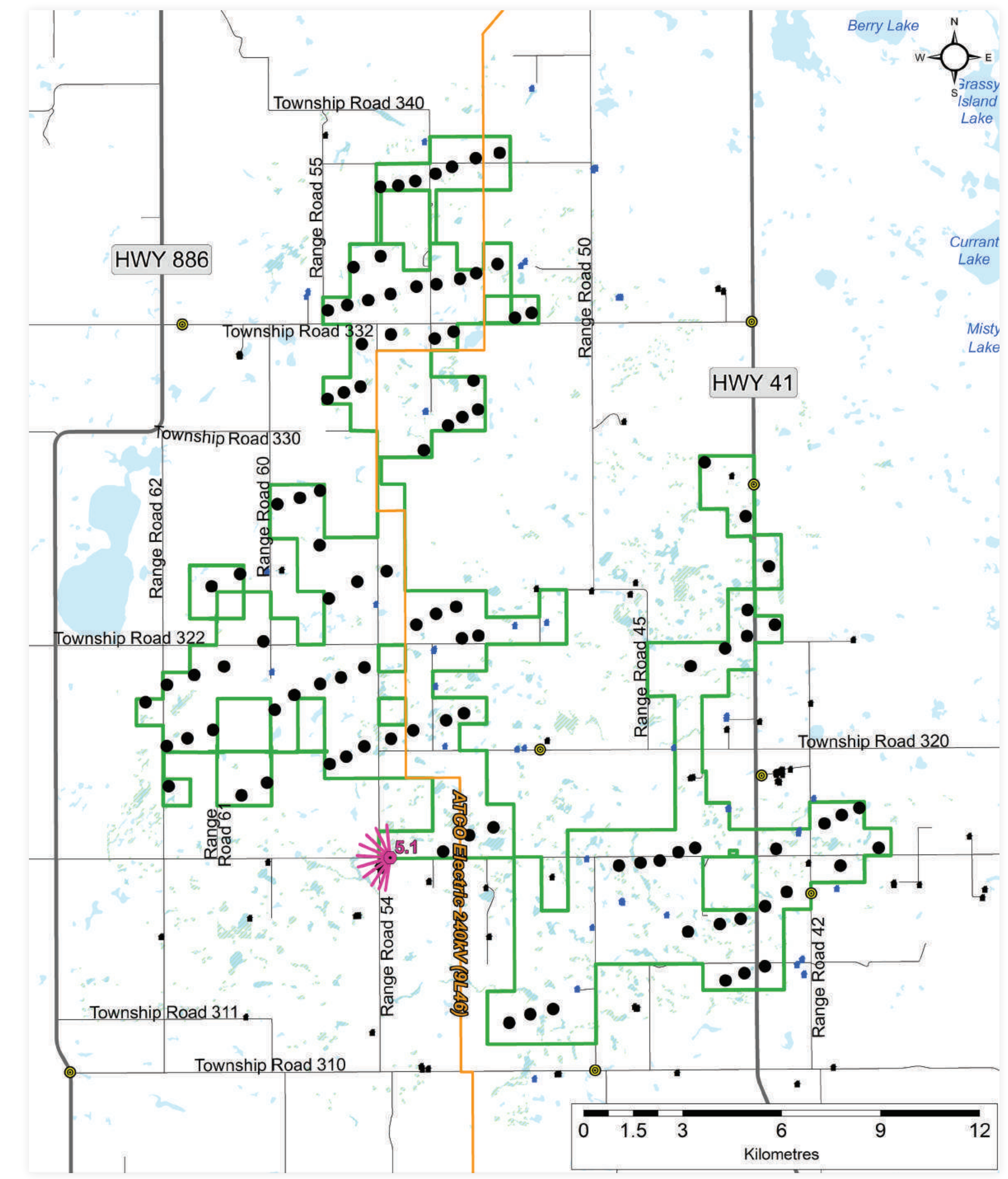
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION A:
VESTAS V136 VISUAL SIMULATIONS

LOCATION 5

Sedalia • Looking North West • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #5.1
- Other Visual Representation Locations
- Orientation of Representation #5.1
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

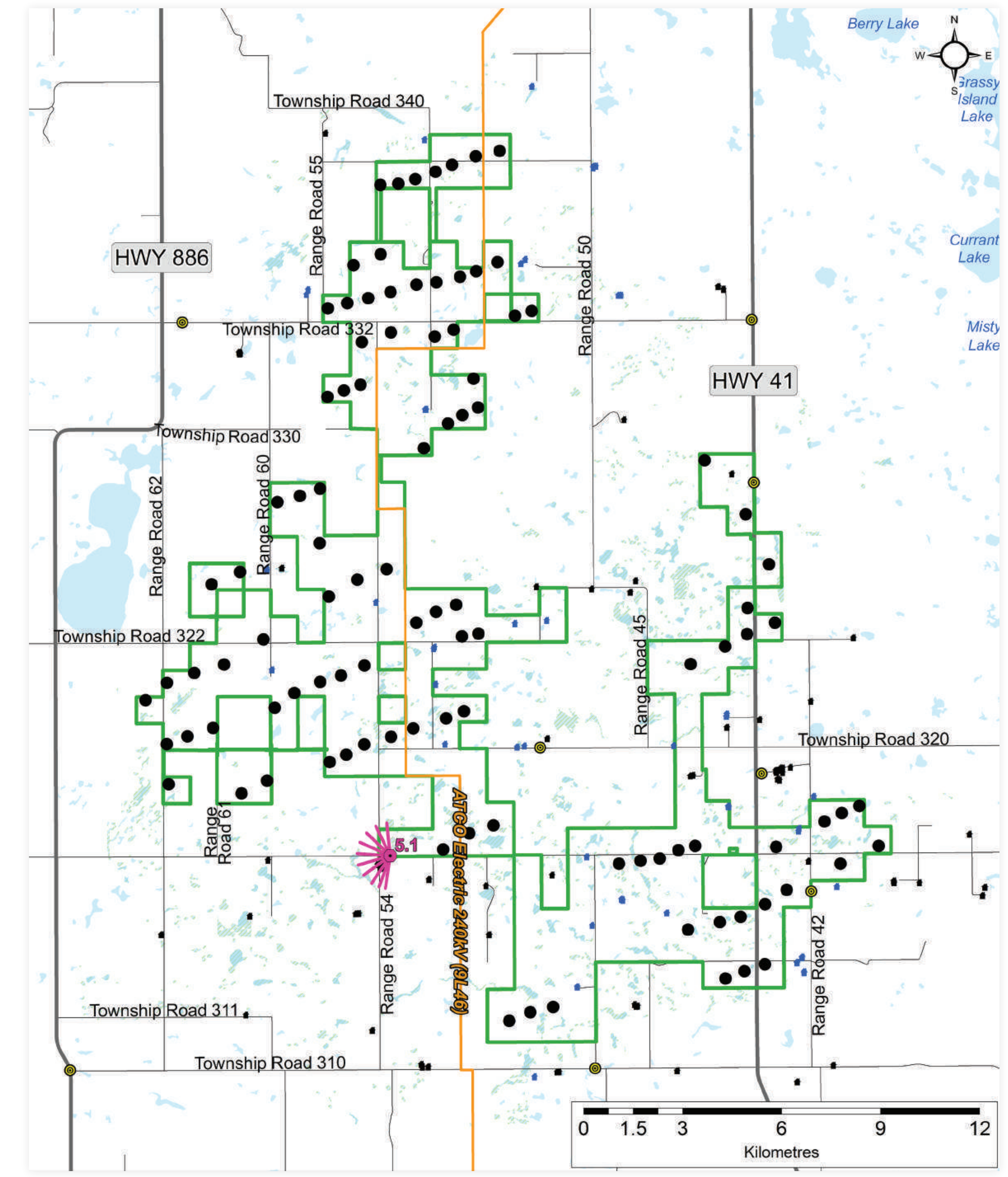
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION B:
SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 5

Sedalia • Looking North West • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #5.1
- Other Visual Representation Locations
- Orientation of Representation #5.1
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

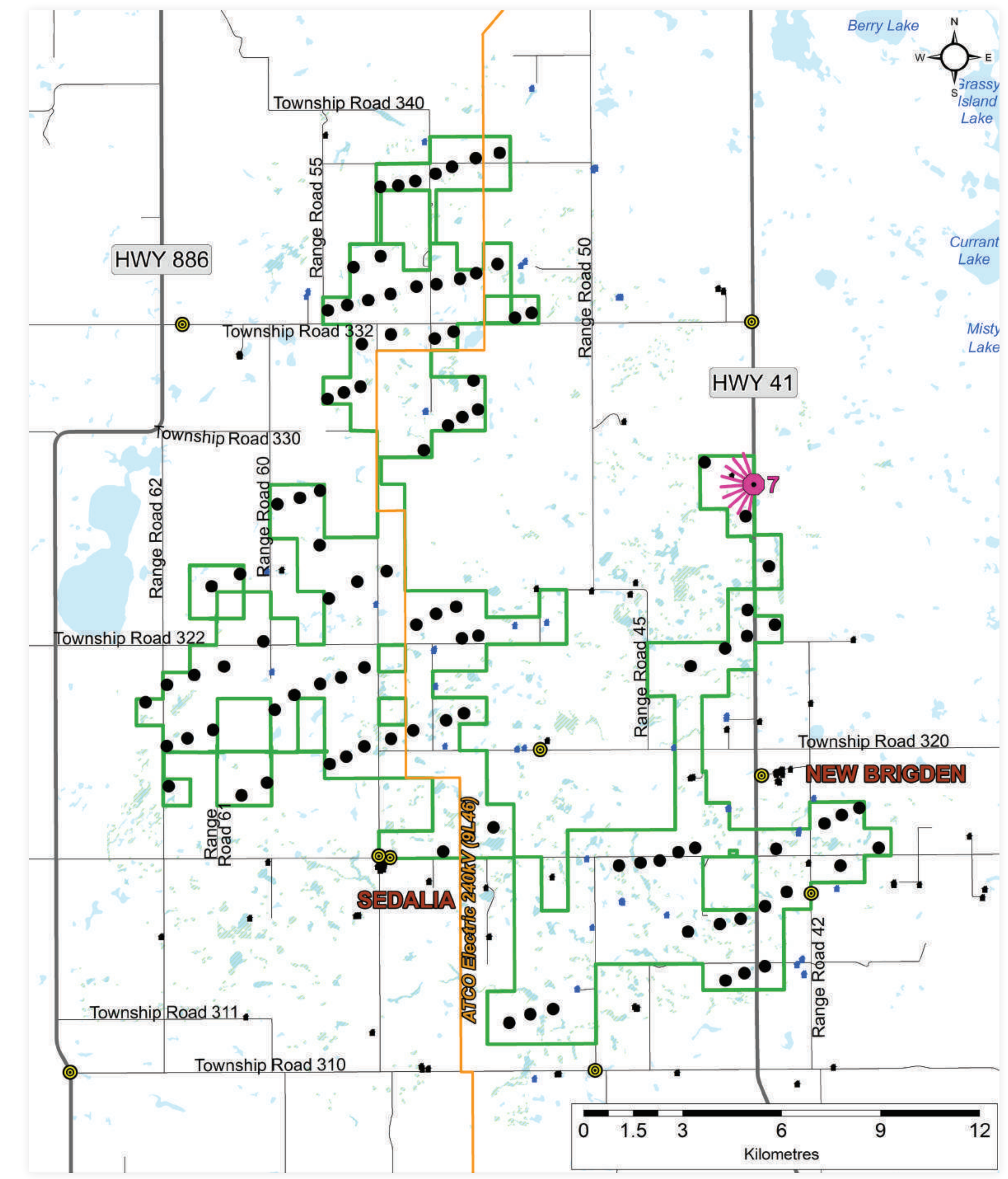
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION A: VESTAS V136 VISUAL SIMULATIONS

LOCATION 7

Highway 41 • Looking West • All visual simulations are based on the 102 potential turbine locations.



Legend

- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #7
- Other Visual Representation Locations
- Orientation of Representation #7
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

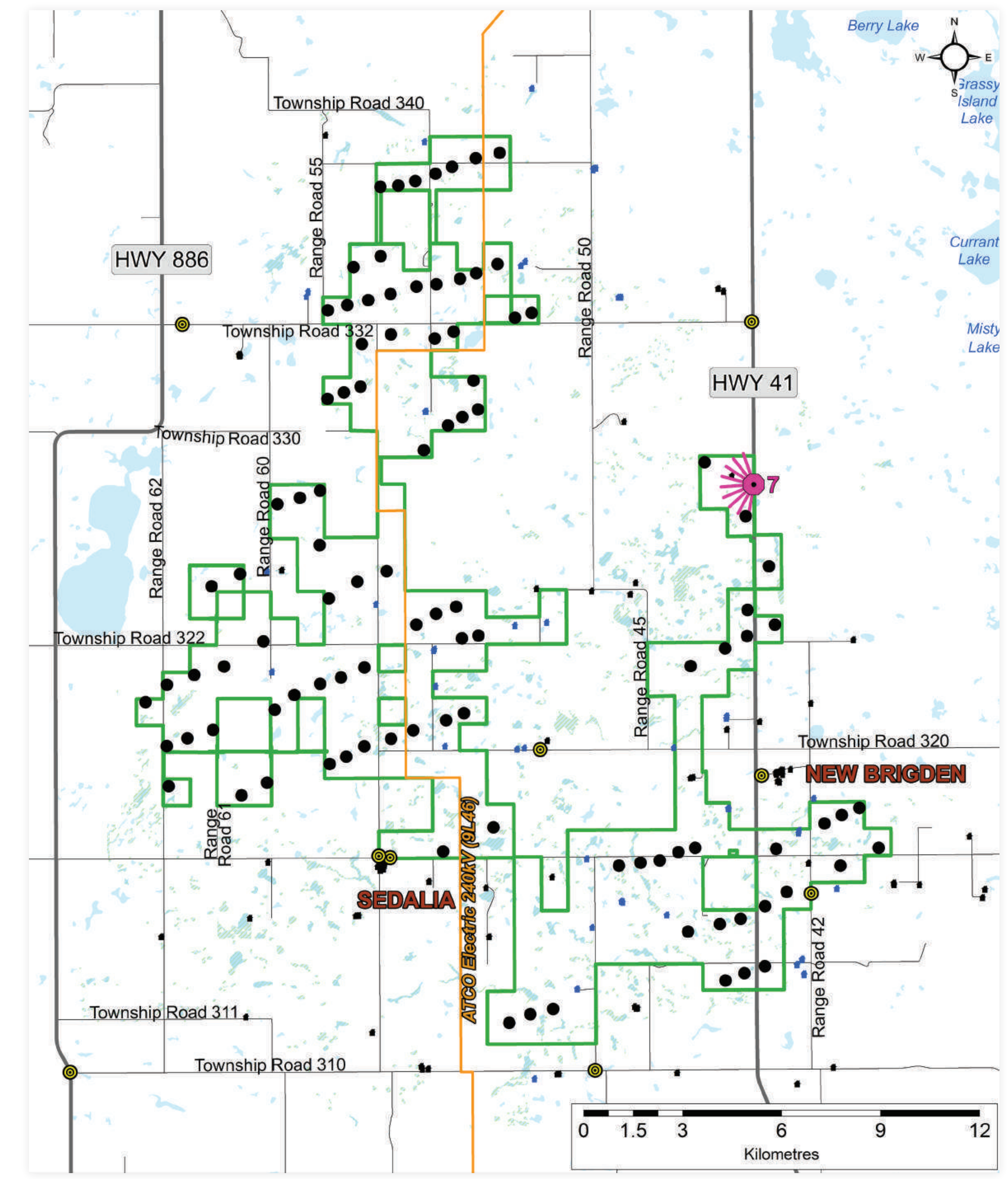
Transmission Line Voltage

- Existing 240kV (Single Circuit)

OPTION B:
SENVION 3.7M144 VISUAL SIMULATIONS

LOCATION 7

Highway 41 • Looking West • All visual simulations are based on the 102 potential turbine locations.



Legend
- Proposed Turbine Locations
- Current Project Boundary
- Visual Representation Location #7
- Other Visual Representation Locations
- Orientation of Representation #7
- Participating House
- Non-Participating House
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies

Transmission Line Voltage
- Existing 240kV (Single Circuit)

- A study completed by the Municipal Property Assessment Corporation in Ontario found that there is no impact from proximity to wind turbines on property sale prices.
- Two recent wind farm applications in Alberta that went to a hearing before the AUC considered this potential impact. The AUC concluded as follows:
  - Grizzly Bear Creek Wind Project (E.On Climate & Renewables Canada Ltd.): "The Commission was not presented with sufficient evidence in this proceeding to suggest that the project will result in an adverse impact on property values of parcels adjacent to the project."*
  - Bull Creek Wind Project (BluEarth Renewables Inc.): "The Commission has not been presented with sufficient cogent evidence in this proceeding to suggest that the project will result in an adverse impact on property values of parcels adjacent to the project and finds that any limitations on subdivision potential is too speculative."**

*Paragraph 310, E.On Grizzly AUC Decision 3329 D-01-2016
**Paragraph 533, BluEarth Bull Creek AUC Decision 2014-040 (Errata)

CONSTRUCTION AND DECOMMISSIONING IMPACTS

- EDPR submitted a Construction and Operations Plan to Alberta Environment and Parks to support the Phase 2 AUC submission. Under the plan, EDPR is responsible for the following key activities:

  - To monitor the reclamation process for at least one year following completion of soil replacement
  - Water application at active construction sites to limit dust during dry periods

  For more information on the mitigation measures outlined in the Construction and Operations Plan, please refer to our FAQ document, available on our website **www.sharphillswindfarm.com**.

- Following the end of operations, the Sharp Hills Wind Farm may be repowered. This means installed turbines are replaced with new turbine technology or existing turbines are upgraded with new technology, and may leverage existing infrastructure, such as collector systems and turbine foundations. EDPR may consider repowering as a viable option for Sharp Hills since the wind resource will be well-understood and the costs associated with a repowered project are expected to be even lower in the future.

- EDPR has been in consultation with the Special Areas Board discussing potential transportation routes during construction and has committed to entering into a Road Users Agreement. This agreement will ensure that the condition of public roads used in the construction of the Project will be left in the same or better condition than existed prior to construction, and will ensure that:

  - Pre-and post-construction surveys are conducted to document potential damage caused during construction and guide reinstatement following construction;
  - Upgrade roads used during construction;
  - Notify the community of the roads proposed for construction and component delivery;
  - Keep within regular business hours, where practical; and
  - Consider school bus routes.

UDPATES TO WIND TURBINE SELECTION AND LAYOUT

OPTIONS A AND B

Based on stakeholder feedback, engineering design, and further environmental studies, the proposed Project is consulting on 102 potential turbine locations.

These locations will be for the eventual placement of 81 to 83 turbines, with a maximum capacity of up to 3.7 MW each. We are considering two proposed turbine models at this time: Option A and Option B.

The proposed 102 turbine locations are available on Project Infrastructure and Noise Map: Option A and B.

The final 81 or 83 turbine locations selected prior to construction will be based on feedback from Alberta Environment and Parks on our Phase 2 environmental evaluation, ongoing stakeholder engagement, and additional environmental surveys, which we will conduct in summer 2018.

We will only include one turbine model in our application to the AUC, and will inform stakeholders of our decision.

OPTION A

- Vestas V136
- 83 turbines on 102 potential turbine locations
- 3.6 MW capacity per turbine
- 132-metre hub height
- 136-metre rotor diameter
- Total proposed Project capacity of 298.8 MW

OPTION B

- Senvion 3.7M144
- 81 turbines on 102 potential turbine locations
- 3.7 MW capacity per turbine
- 128-metre hub height
- 144-metre rotor diameter
- Total proposed Project capacity of 299.7 MW

SHARP HILLS WIND FARM

renewables
powered by nature

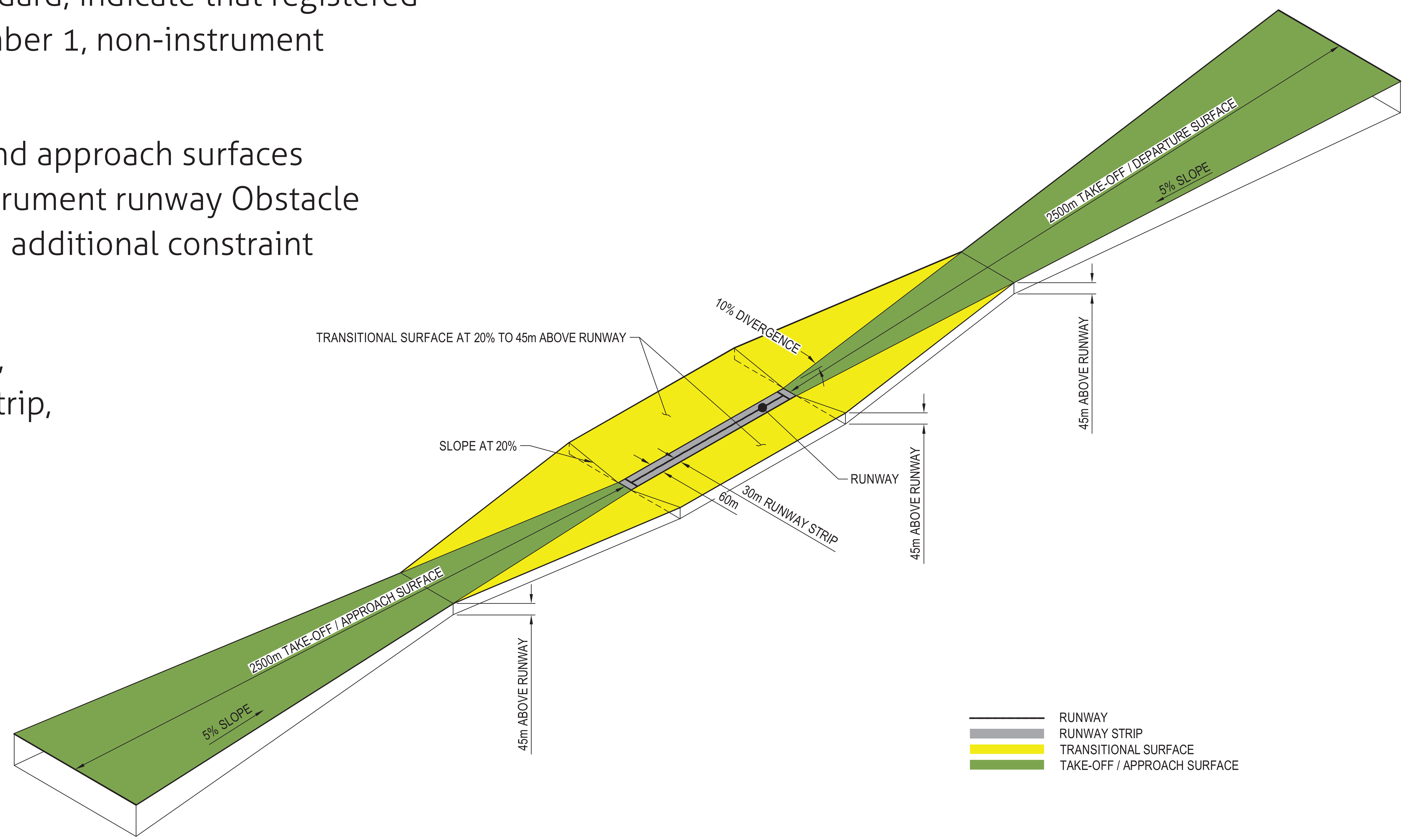
AVIATION SAFETY

EDPR values the safety of stakeholders and has designed the Project considering registered aerodromes and non-certified aerodromes, including private airstrips.

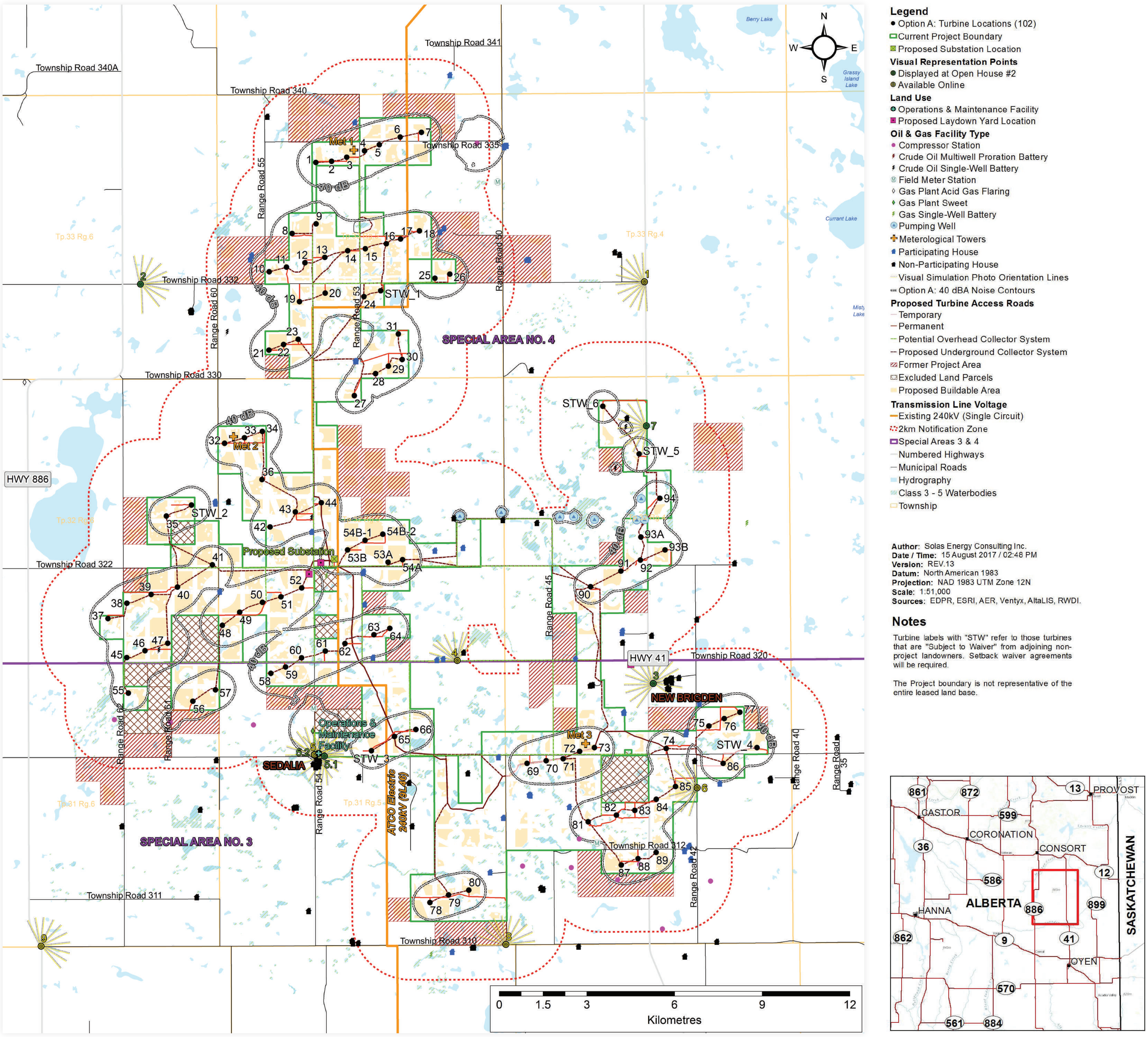
Transport Canada regulations identified in TP1247E standard, indicate that registered aerodromes require setbacks, as per TP312, Aircraft Number 1, non-instrument runway Obstacle Limitation Surface.

EDPR has voluntarily committed to respect the takeoff and approach surfaces per Transport Canada TP312, Aircraft Number 1, non-instrument runway Obstacle Limitation Surface for visual flight rules. This provides an additional constraint area (without turbines) to approach/departure paths.

This standard (right) uses a runway with a 30-metre strip, a ten percent divergence from the centre-line of the airstrip, and a length of take-off/approach surface 2,500 m at a five percent upward slope.

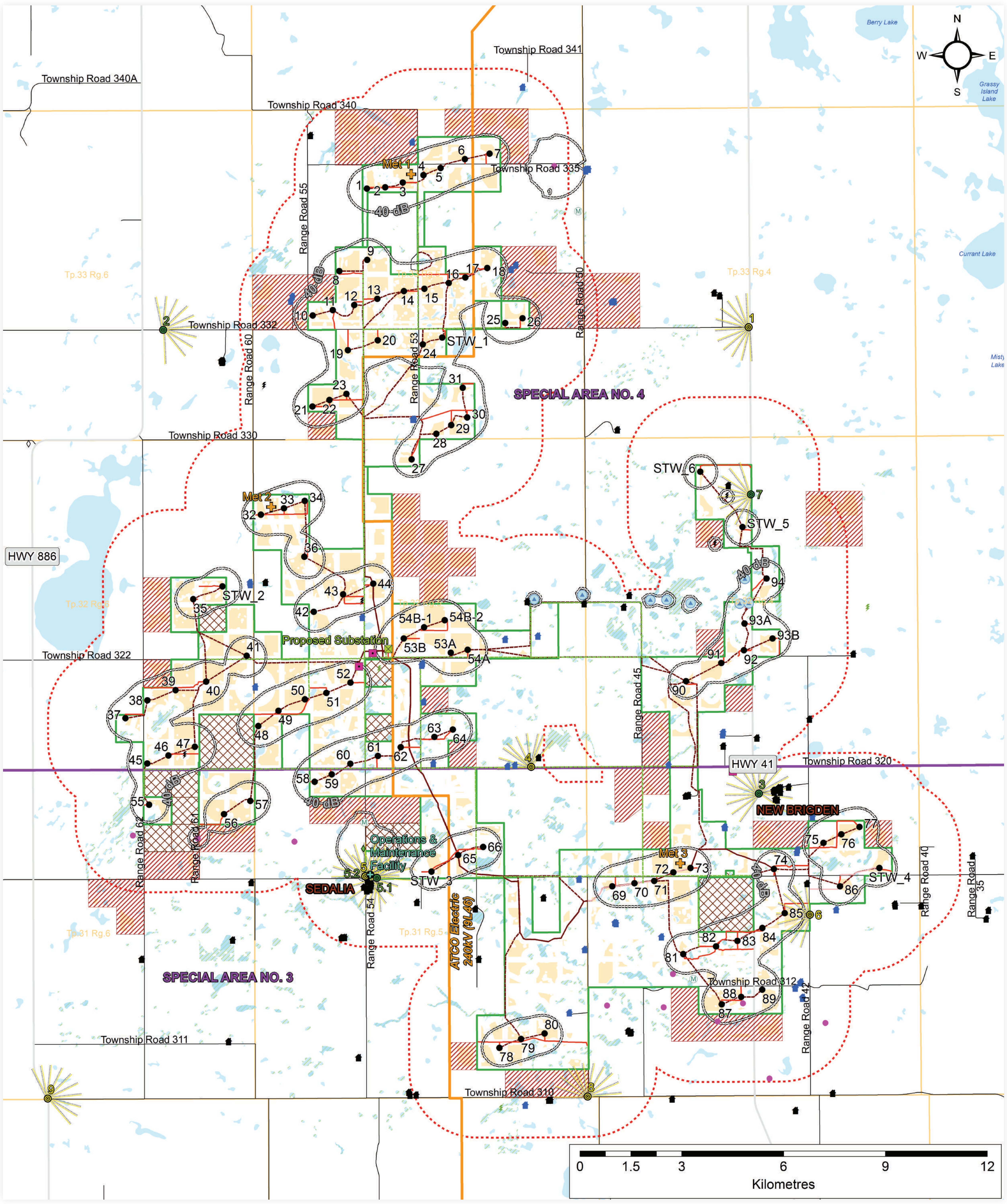


OPTION A:
VESTAS V136 PROJECT INFRASTRUCTURE AND NOISE MAP



The noise impact assessment accounts for all potential 102 turbine locations, of which only 83 turbines will be constructed. After receiving your feedback, we will adjust the layout. In the coming weeks, we will provide an updated noise impact analysis for your feedback, prior to the submission of the Alberta Utilities Commission Phase 2 application.

OPTION B:
SENVION 3.7M144 PROJECT INFRASTRUCTURE AND NOISE MAP



Legend
- Option B: Turbine Locations (102)
- Current Project Boundary
- Proposed Substation Location

Visual Representation Points
- Displayed at Open House #2
- Available Online

Land Use
- Operations & Maintenance Facility
- Proposed Laydown Yard Location

Oil & Gas Facility Type
- Compressor Station
- Crude Oil Multiwell Proration Battery
- Crude Oil Single-Well Battery
- Field Meter Station
- Gas Plant Acid Gas Flaring
- Gas Plant Sweet
- Gas Single-Well Battery
- Pumping Well
- Meterological Towers
- Participating House
- Non-Participating House
- Visual Simulation Photo Orientation Lines
- Option B: 40 dBA Noise Contours

Proposed Turbine Access Roads
- Temporary
- Permanent
- Potential Overhead Collector System
- Proposed Underground Collector System
- Former Project Area
- Excluded Land Parcels
- Proposed Buildable Area

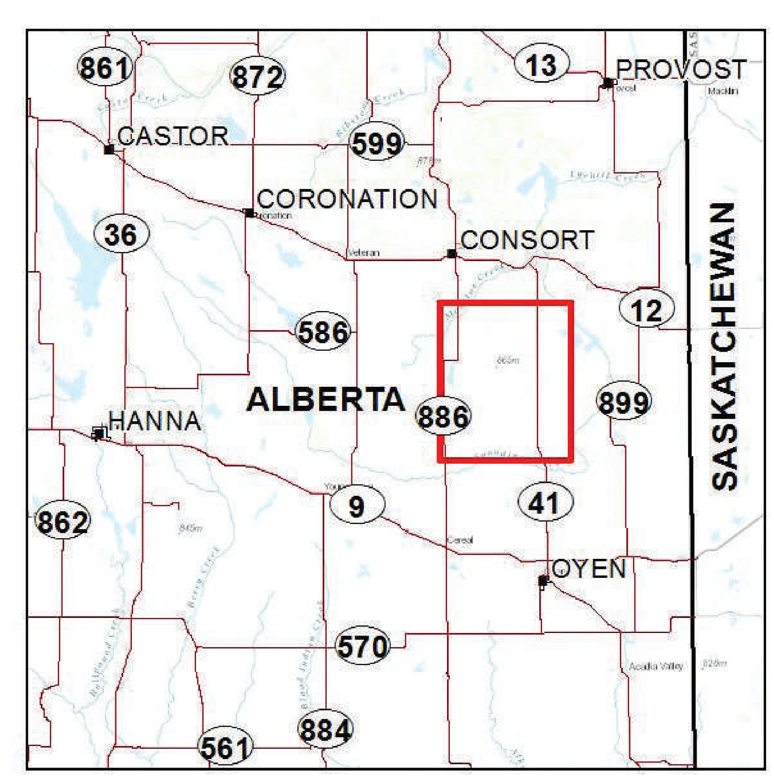
Transmission Line Voltage
- Existing 240kV (Single Circuit)
- 2km Notification Zone
- Special Areas 3 & 4
- Numbered Highways
- Municipal Roads
- Hydrography
- Class 3 - 5 Waterbodies
- Township

Author: Solas Energy Consulting Inc.
Date / Time: 15 August 2017 / 02:04 PM
Version: REV.12
Datum: North American 1983
Projection: NAD 1983 UTM Zone 12N
Scale: 1:51,000
Sources: EDPR, ESRI, AER, Ventyx, AltaLIS, RWDI.

Notes

Turbine labels with "STW" refer to those turbines that are "Subject to Waiver" from adjoining non-project landowners. Setback waiver agreements will be required.

The Project boundary is not representative of the entire leased land base.



The noise impact assessment accounts for all potential 102 turbine locations, of which only 81 turbines will be constructed. After receiving your feedback, we will adjust the layout. In the coming weeks, we will provide an updated noise impact analysis for your feedback, prior to the submission of the Alberta Utilities Commission Phase 2 application.