

# ENVIRONMENTAL EVALUATION Wild Rose 2 T10 and T11 Project



## Prepared For

**Wild Rose 2 Wind Inc.**  
2930 – 155 Wellington St. W  
Toronto, ON, M5V 3H1

## Prepared By

**EDI Environmental Dynamics Inc.**  
400-622 5 Ave SW  
Calgary AB T2P 0M6

## EDI Contact

**Jennifer Muir**  
Terrestrial Ecologist

## EDI Project

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**Down to Earth Biology**

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## AUTHORSHIP

Team members from EDI Environmental Dynamics Inc. who contributed to preparing this report include:

Christine Gursky, BSc, P. Biol. .... Primary Author

Sierra Collins, MSc, AAg ..... Contributing Author

Christina Tennant, MSc ..... GIS Analyst

Mary Ann Middleton, PhD, P. Geo. .... Technical Review

Susan Skinner, MSc ..... Technical Review

Jennifer Muir, MSc, P. Biol. .... Technical and Senior Review

Kerri Oseen, MSc, P. Biol. .... Senior Review



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## ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Alberta
AEPA	Alberta Environment and Protected Areas
AEP-FWS	Alberta Environment and Parks – Fish and Wildlife Stewardship
AGRASID	Agricultural Region of Alberta Soil Inventory Database
ARU	Autonomous Recording Unit
AUC	Alberta Utilities Commission
CanSIS	Canadian Soil Information System
EDI	EDI Environmental Dynamics Inc.
EE	Environmental Evaluation
EPP	Environmental Protection Plan
ESC	Erosion and Sediment Control
HDD	Horizontal Directional Drilling
magl	Metres above ground level
MW	Megawatt
PDSA	Pre-Disturbance Site Assessment
The Project	The Wild Rose 2 T10 and T11 Project
VEC	Valued Ecosystem Component
Wild Rose 2	Wild Rose 2 Wind Inc.
WSA	Wildlife Study Area



## 1 INTRODUCTION

Wild Rose 2 Wind Inc. (Wild Rose 2), a subsidiary of Capstone Infrastructure Corporation, holds an approval under the Alberta Utilities Commission (AUC) Proceeding 27729 (Approval # 27729-D02-2024) to construct and operate the Wild Rose 2 Wind Power Project located approximately 25 km south-east of Medicine Hat, AB in townships 09-04 W4M, 10-04 W4M, 09-05 W4M, and 10-05 W4M. Wild Rose 2 received AUC approval for 36 of the 38 turbines of the Wild Rose 2 Wind Power Project on July 5, 2024 and construction commenced in August.

Within AUC Decision 27729-D01-2024 for the Wild Rose 2 Wind Power Project, Turbines T10 and T11 were not approved as their requested locations in SW-01-10-05 W4M were determined to be “in too close of a proximity to the Little Plume Evangelical Missionary Church, from a visual impact, community and spiritual use perspective.” Wild Rose 2 has subsequently shifted these two turbines north and is hereby submitting a new application to the AUC for the Wild Rose 2 T10 and T11 Project (herein referred to as the Project), which involves construction of two wind turbines (T10 and T11) and associated infrastructure (access, collector lines). Turbines T10 and T11 are now located in NW-01-10-05 W4M, with the access to T11 extending into SW-01-10-05 W4M (Appendix A- Figure 1 and Figure 2). The Project remains within areas previously assessed for the Wild Rose 2 Wind Power Project and has been sited to avoid sensitive environmental features to the extent possible.

This Environmental Evaluation (EE) has been prepared in fulfilment of information requirement WP15 of the AUC Rule 007: Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines (Alberta Utilities Commission 2024).

### 1.1 PROJECT DESCRIPTION

The Project consists of two turbines and associated access, crane pads, and collector lines located within the Wild Rose 2 Wind Power Project Area in NW-01-10-05 W4M and SW-01-10-05 W4M (Appendix A- Figure 2). The turbine model is the SGRE-145 5.2 MW (megawatts; hereafter referred to as the SGRE-145), with a rotor diameter of 145 m and a hub height of 95.5 m above ground level (magl). Each turbine has a generation capacity of 5.2 MW, with the Project having a total generating capacity of 10.4 MW. The coordinates, land parcel, and land use type for both turbines are presented in Table 1.

**Table 1. Turbine coordinates and land cover types.**

Turbine ID	UTM Zone	UTM Easting	UTM Northing	QS	SEC	TWP	RGE	MER	Land Cover
T10	12	531156	5516350	NW	1	10	5	W4M	Cultivated
T11	12	531510	5515836	NW	1	10	5	W4M	Cultivated



## 1.2 PROJECT BACKGROUND

Environmental information has been collected in and around the Project since 2009 as described within reports prepared for Wild Rose 2 Wind Power Project and published within AUC Proceeding 27729, including:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project Renewable Energy Amendment Letter October 2022 (Appendix B; Exhibit 27729-X0004).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).
- The Wild Rose 2 Wind Power Project Pre-Disturbance Site Assessment (Exhibit 27729-X0127).
- The Wild Rose 2 Wind Power Project Soil and Vegetation Management Plan (Exhibit 27729-X0128).
- The Wild Rose 2 Wind Power Project Environmental Protection Plan (Exhibit 27729-X0030).
- The Wild Rose 2 Wind Power Project Conservation and Reclamation Plan (Exhibit 27729-X0029).

This EE has been prepared in the context of this historical information, as the Project is located entirely within the Project Area previously assessed for the Wild Rose 2 Wind Power Project.

## 2 ENVIRONMENTAL EVALUATION METHODOLOGY

The purpose of the EE is to identify, evaluate and determine the significance of potential adverse Project-related effects on the environment. The methods used are in keeping with current environmental assessment best practices and have been developed and implemented to provide a thorough analysis, while presenting the results in a clear, and concise manner.

### 2.1 VALUED ECOSYSTEM COMPONENTS

The scope of the EE was determined by evaluating the interactions between the Project components and activities that have the potential to directly or indirectly adversely affect the selected Valued Ecosystem Components (VEC)s within the identified spatial and temporal boundaries. To comply with AUC Rule 007, the following VECs were identified and considered: aquatic species and habitat; air quality; terrain and soils; wetlands, surface water bodies and hydrology; groundwater; vegetation species and communities; wildlife species and habitat; and environmentally significant areas.

The existing environmental conditions and potential Project-VEC interactions were identified based on the following:

- review of publicly available data sources (e.g., government databases, technical reports, maps);





- review of existing studies completed for the Wild Rose 2 Wind Power Project as described in Section 1.2 above;
- information provided by regulators and stakeholders; and
- professional judgement of qualified, experienced environmental assessment practitioners.

## 2.2 SPATIAL BOUNDARIES

The spatial boundaries have been established to direct and focus the EE and consider the VECs in terms of their overall characteristics and the way they may interact with the Project. The spatial boundaries include:

- **Project Footprint** – the area subject to direct disturbance from the Project. Defined as the surveyed boundaries for the safe construction, operation, and decommissioning and reclamation of all Project components.
- **Project Area** – the two quarter sections that encompass the Project Footprint (i.e., NW-01-10-05 W4M and SW-01-10-05 W4M).
- **Wildlife Study Area (WSA)** – a buffer of 1,000 m around the Project Footprint. This has been designed to capture the extent of all direct effects and the majority of indirect effects on the Wildlife Species and Wildlife Habitat VEC.

## 2.3 TEMPORAL BOUNDARIES

The temporal boundaries are based on the timeframe within which effects of the Project may occur, considering the Project phase:

- **Construction:** scheduled to commence in Spring 2025 and be completed in Fall 2025.
- **Operation:** the Project is expected to be in operation for 30-35 years, depending on the feasibility of repowering.
- **Decommissioning and Reclamation:** removal of the Project infrastructure and reclamation is scheduled to last 1 month but will be season-dependent. The return of land to equivalent land capability is expected to occur within 2 years following reclamation.

## 2.4 RESIDUAL EFFECTS ANALYSIS

For each of the VECs carried forward, the expected interactions between the Project activities and the VECs within the spatial and temporal boundaries are evaluated and the potential effects are identified. Proven, accepted mitigation measures that are technically and economically feasible are then proposed to avoid, reduce, or eliminate the effects of the Project on the environment. These mitigation measures are applied to potential effects of the Project to predict the residual effects (i.e., the effects remaining after the application of mitigation measures). Residual effects are characterized as effects that remain after mitigation measures



have been implemented and are classified in terms of different criteria, which are used to determine their significance.

Significant environmental effects are those adverse effects that are predicted to cause a change in the VEC that is likely to alter its status or integrity beyond an acceptable level (e.g., where it is not sustainable or is unavailable to contribute to ecological function). An environmental effect that does not meet the above criteria is considered not significant.

### 3 ENVIRONMENTAL EVALUATION

The potential VECs along with the rationale for assessing these VECs are described in Table 2. The following VECs have been carried forward within the EE:

- Terrain and Soil;
- Surface Water and Wetlands; and
- Wildlife Species and Habitat.

#### 3.1 TERRAIN AND SOIL

##### 3.1.1 EXISTING ENVIRONMENTAL CONDITIONS

The Project is located entirely within the Project Area previously assessed as part of the Wild Rose 2 Wind Power Project (Exhibit 27729-X0210). The 3.34 ha Project Footprint was overlaid in GIS with provincial landform and soil series map layers from the Agricultural Region of Alberta Soil Inventory Database (AGRASID 4.1) (Government of Alberta 2018a) supplemented with information from the Canadian Soil Information System (CanSIS) (Agriculture and Agri-Food Canada 2022).



Table 2. Rationale for Valued Ecosystem Components evaluation.

Valued Ecosystem Component	Environmental Evaluation Warranted	Rationale	Potential Effects Evaluated
Aquatic Species and Habitat	No	No aquatic species or associated habitat are located within the Project Footprint, and no effects on aquatic species or habitat are anticipated.	-
Air Quality	No	No continuous air emission sources are expected to result from the course of the normal Project lifespan. Minor Project-related air emissions are expected to be limited and isolated to vehicle and equipment traffic during construction.	-
Terrain and Soils	Yes	Terrain and Soils have the potential to be affected during the Construction, and Decommissioning and Reclamation phases of the Project, including during topsoil stripping and storage, grading, excavation, and soil replacement.	Change in soil quality Change in soil quantity
Surface Water/ Wetlands	Yes	The Project Footprint is located on cultivated lands, and several wetlands have been identified within the Project Area. The Project has been sited to avoid wetlands to the extent practical. One collector line will be installed by Horizontal Directional Drilling (HDD) under a Class IV wetland. Potential adverse Project-related effects on surface water and wetlands include alteration/loss of wetland extent, change in surface water quality, and change in surface water quantity.	Alteration/loss of wetland extent. Change in surface water quality. Change in surface water quantity.
Groundwater	No	Groundwater is not anticipated to be encountered during Project Construction. While excavation depths for the turbine foundations are expected to reach 2.7 m below grade, the primary surface lithologies documented in historical well log records that may bear groundwater (i.e., sandy clay, sand and gravel) have been documented at depths ranging from 6.1 m to 25.3 m, overlain by a fine-grained till layer (Appendix C). In addition, the Project will not require use of groundwater withdrawals. Therefore, adverse Project-related effects on groundwater quality and/or quantity during the Project lifespan are not anticipated.	-
Vegetation Species and Communities	No	The Project Footprint is sited primarily on anthropogenically disturbed lands (i.e., cultivation, modified wetland). No listed plants or listed plant communities are anticipated to be disturbed by the Project Footprint.	-
Wildlife Species and Wildlife Habitat	Yes	Regulatory requirements under the provincial <i>Wildlife Act</i> and the Wildlife Directive for Alberta Wind Energy Projects (Government of Alberta 2018b), as well as the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the <i>Migratory Birds Convention Act</i> (MBCA), and the <i>Species at Risk Act</i> (SARA) apply to this Project. Wildlife species and wildlife habitat have the potential to be adversely affected during all phases of the Project.	Change in habitat availability. Change in sensory disturbance. Change in wildlife mortality.
Environmentally Significant Areas	No	There are no Environmentally Significant Areas within or adjacent to the Project Area.	-



The Project Footprint is located on undulating terrain dominated by cultivation, and the predominant landform is characterized by hummocky, medium relief terrain. The predominant/primary soil type is the Tothill soil series, referring to Orthic Dark Brown Chernozems. Secondary soil types include Miscellaneous Undifferentiated soils (referring to various/related eroded and Gleysolic soils). Tothill is characterized by a combination of Ap/Ah – Bm/Bt – Cca/Ck sequences<sup>1</sup> with sandy clay loam textured topsoil (A horizon) followed by sandy clay loam subsoil (B and C horizons) that are typically enriched with calcium carbonates (CaCO<sub>3</sub>) from the morainal parent material (Table 3; Appendix A-Figure 3). Land suitability in the Project Footprint is deemed to be Class 3MT(8)-5W(2), indicating moderate to severe limitations to crop growth/productivity associated with water holding capacity, slope, and drainage issues.

**Table 3. Landforms and soil series encountered by the Project Footprint.**

Polygon ID	Map Unit	Landform	Soil Series		Area (ha)
			Primary	Secondary	
9750	LSRS 3MT(8)-5W(2) TTH8/H1m	Hummocky, Medium Relief	Tothill	Misc. Eroded/ Gleysol	3.3
Soil Series Descriptors*					
TTH	Tothill soils (Orthic Dark Brown Chernozems) are well-drained with moderately fine textured sandy clay loam/clay loam topsoil and sandy clay loam/clay loam subsoils. The parent material is till (morainal) with moderately to very strongly calcareous materials (6-40% CaCO <sub>3</sub> )				
ZERzdb	Miscellaneous eroded soils (Rego Dark Brown Chernozems) are well-drained with undifferentiated clay loam topsoil and undifferentiated subsoil. The parent material is undifferentiated mineral. The zdb modifier indicates that the variant is in the dark brown soil zone.				
ZGW	Miscellaneous gleysolic soils (Orthic Humic Gleysols) are poorly drained with variably loamy topsoil and with undifferentiated subsoil texture. The parent material is undifferentiated mineral.				

\*From CanSIS (Agriculture and Agri-Food Canada 2022)

### 3.1.2 POTENTIAL EFFECTS

Similar to the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210), potential adverse Project-related effects include reduction in soil quality and quantity during Project Construction and Operation.

#### 3.1.2.1 Reduction in Soil Quality

Soil handling during Construction and Decommissioning and Reclamation phases of the Project has the potential to reduce soil quality through potential changes in soil structure and consistency due to:

<sup>1</sup> Ah/Ap = (Ah) enriched with organic matter, (Ap) disturbed by agriculture or human activity; Bm/Bt = (Bm) altered by chemical weathering to give a change in colour and/or structure, (Bt) that contains illuvial layer lattice clays; Ck/Cca = (Ck) presence of CaCO<sub>3</sub> or (Cca) enriched with CaCO<sub>3</sub> from the soil parent materials.



- Compaction – Soil compaction may result from equipment travel during construction. Reduced infiltration has the potential to decrease water holding capacity, root infiltration and vegetation re-establishment.
- Admixing – Admixing may result from soil handling where subsoils are inadvertently mixed with topsoil. Admixing can adversely affect vegetation re-establishment.
- Contamination – Soil contamination may result from an incidental release (e.g., fuel, lubricants, concrete washout) from on-site equipment during construction, which can adversely affect vegetation re-establishment.

The above potential changes in soil structure, consistency, and chemistry have the potential to affect revegetation and end-land use capability during reclamation.

### 3.1.2.2 Reduction in Soil Quantity

Soil disturbance and excessive handling can result in a loss of soil material caused by erosion (i.e., movement of soil particles via wind and/or water). Reduction in soil quantity can adversely affect the capability of the land to support vegetation growth by decreasing the volume of growing substrate.

## 3.1.3 MITIGATION MEASURES

Mitigation measures that will be implemented to reduce potential adverse Project-related effects on terrain and soils are provided in Table 4. These mitigation measures are also outlined in the Project-specific Environmental Protection Plan (EPP) in Sections 5.2.2, 5.2.5 and 5.3.

**Table 4. Mitigation measures to reduce potential adverse effects on terrain and soil.**

Activity/Concern	Mitigation Measure
Pre-Disturbance Site Assessment	<ul style="list-style-type: none"> <li>• In accordance with the Conservation and Reclamation Directive for Renewable Energy Operations (Government of Alberta 2018a), a Pre-Disturbance Site Assessment (PDSA) will be completed prior to construction to inform site-specific reclamation. Any resource-specific locations will be clearly marked in the field where additional mitigation may be necessary.</li> </ul>
Approved Workspace – General	<ul style="list-style-type: none"> <li>• Construction activities will be restricted beyond flagged/staked boundaries unless additional workspace has been approved by the Owner.</li> </ul>
Scheduling – General	<ul style="list-style-type: none"> <li>• Where feasible, construction activities will be scheduled and completed during dry or frozen conditions to minimize adverse effects on soil quality.</li> </ul>
Site Monitoring – General	<ul style="list-style-type: none"> <li>• All stockpiles will be monitored during the growing season for sign of wind and water erosion and mitigation measures to control erosion will be implemented, as needed.</li> <li>• The status and stability of soil stockpiles will be periodically monitored (at the discretion of the Owner).</li> </ul>



Activity/Concern	Mitigation Measure
	<ul style="list-style-type: none"> <li>Exposed soil will be monitored for introduction and proliferation of invasive plants and weeds. Known occurrences will be controlled as needed.</li> </ul>
Erosion and Sedimentation – General	<ul style="list-style-type: none"> <li>Erosion and sediment control measures will be implemented as warranted within the Project Footprint.</li> <li>Erosion and sediment control structures will be regularly monitored and repaired/replaced when necessary.</li> </ul>
Hydro Excavation (Hydrovac)	<ul style="list-style-type: none"> <li>All hydrovac tanks will be verified to arrive onsite clean and free of contaminants.</li> <li>Hydrovac trucks will only be emptied onto subsoil at approved sites identified by the Prime Contractor or emptied off site at an approved facility.</li> </ul>
Snow Management	<ul style="list-style-type: none"> <li>Snow will be left on the Project Footprint (if safe and practical) prior to topsoil salvage to avoid soil exposure and subsequent thawing.</li> <li>Snow will be stored in a way that prevents sediment directly entering wetlands or waterbodies, with appropriate erosion controls installed, as warranted.</li> </ul>
Soil Stripping/Salvage – Schedule	<ul style="list-style-type: none"> <li>Where feasible, topsoil will be salvaged during dry/frozen conditions.</li> <li>Where feasible, soil salvage will be scheduled when the potential for environmental effects (e.g., thawing soils, soil rutting, high potential for wind or water erosion) are low.</li> </ul>
Soil Stripping/Salvage – General	<ul style="list-style-type: none"> <li>All equipment and vehicles will be clean and inspected to verify they are free of soil and plant material prior to arrival to site to minimize potential for the introduction of invasive plants.</li> <li>A two-lift soil salvage will be implemented to avoid soil degradation through admixing. A two-lift soil salvage is defined as the first lift removing topsoil and the second lift removing subsoil.</li> </ul>
Topsoil Salvage Depth – General	<ul style="list-style-type: none"> <li>Soil stripping activities will be directed using the information and recommendations provided after completion of the Project-specific Pre-Disturbance Site Assessment.</li> <li>Stripped topsoil will be stockpiled separately from subsoil.</li> </ul>
Soil Stripping/Salvage – Soil Conditions	<ul style="list-style-type: none"> <li>Environmental conditions will be monitored, and contingency measures may be implemented under very dry, very wet, and/or windy conditions, where feasible, to avoid wind and/or water erosion.</li> </ul>
Topsoil Salvage – Frozen Soil Conditions	<ul style="list-style-type: none"> <li>Site conditions will be evaluated to determine the best method of topsoil salvage during frozen conditions to reduce the risk of admixing and over stripping.</li> </ul>
Topsoil Stripping/Salvage and Storage – Trenching Collector Lines	<ul style="list-style-type: none"> <li>Where trenching methods will be employed, the following mitigation measures will be implemented:</li> <li>Soil stripping will be restricted to the trench-line, with topsoil salvaged from the work side of the trench.</li> <li>The trench will be excavated to depth, storing the subsoil as close as possible to the trench.</li> <li>The trench will be backfilled with the excavated material, replacing material in reverse order of excavation: subsoil will be replaced and compacted, followed by replacement of topsoil.</li> </ul>



Activity/Concern	Mitigation Measure
	<ul style="list-style-type: none"> <li>The area will be reseeded with the appropriate seed mix; erosion and sediment control measures will be implemented as required.</li> <li>The size of temporary subsoil stockpiles will be minimized. To the extent practical, subsoil material remaining at surface and/or in direct contact with topsoil will be avoided.</li> <li>Subsoil will be stored on subsoil. Where this is not possible, geotextile material will be used to provide a barrier between the topsoil and subsoil material. All subsoil material will be returned to its source/origin or be transferred to an appropriate long-term stockpiling location on-site.</li> </ul>
Soil Storage	<ul style="list-style-type: none"> <li>Topsoil will be stored separately from subsoil; stockpile locations will be labelled, georeferenced and photo-documented.</li> <li>Topsoil (first lift) will be stored on topsoil (i.e., on adjacent crop land/pasture).</li> <li>Subsoil (second lift) will be stored on subsoil or on geotextile or other material to separate it from topsoil.</li> </ul>
Stockpile Erosion Control	<ul style="list-style-type: none"> <li>Temporary erosion measures will be installed during soil storage to reduce risk of soil loss through water and wind erosion.</li> <li>Temporary erosion measures will be regularly monitored throughout construction and repaired/replaced when required.</li> </ul>
Vehicle and Equipment Control- Operation	<ul style="list-style-type: none"> <li>A speed limit of 30 km/hr will be established during construction and operations to minimize dust and collision risk for wildlife on Project access.</li> </ul>
Erosion and Sediment Control- Operation	<ul style="list-style-type: none"> <li>ESC structures will be periodically monitored for their effectiveness and repair as/when required.</li> </ul>

### 3.1.4 PREDICTED RESIDUAL EFFECTS

With the implementation of the mitigation measures outlined in Table 4, the residual adverse effects of the Project on terrain and soils are predicted to be low, and not significant. This is consistent with the assessment of residual effects within the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

## 4 SURFACE WATER AND WETLANDS

### 4.1 EXISTING ENVIRONMENTAL CONDITIONS

Wetlands have been mapped within the Project Area as part of the Wild Rose 2 Wind Power Project, and the methodology is described in Exhibit 27729-X0210. The Project Area is comprised of 7.6% wetland area (10.1 ha), including 4.5 ha of Class I wetlands (i.e., ephemeral waterbodies) and 3.3 ha of Class II wetlands (i.e., temporary wetlands). Three Class IV wetlands are located within the Project Area, totalling 2.4 ha (Wetlands 1562, 1564, 1594; Appendix A-Figure 4); these wetlands require a 100 m setback in accordance with the Wildlife Directive for Alberta Wind Energy Projects (Wildlife Directive) (Government of Alberta



2018b). While there are no Class III wetlands within the Project Area, the 100 m setbacks of three Class III wetlands extend into the Project Area (Wetlands 478, 1111, 1609; Appendix A-Figure 4).

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#### 4.1.1 POTENTIAL EFFECTS

Similar to the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210), potential adverse Project-related effects include alteration/loss of wetland extent, change in water quantity, and change in water quality.

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#### 4.1.2 ALTERATION/LOSS OF WETLAND EXTENT

No disturbance to Class I, II or III wetlands, or to the Class IV wetlands 1564 and 1594, is anticipated to result from the Project, and all permanent infrastructure has been sited outside of all required 100 m wetland setbacks. One collector line connecting Turbines T10 and T11 crosses the Class IV wetland 1562; temporary wetland disturbance will be avoided with the use of Horizontal Directional Drilling (HDD) installation at this location.

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#### 4.1.3 CHANGES IN WATER QUALITY

Activities during Construction, Operation, and Decommissioning and Reclamation also have the potential to mobilize sediment or contaminants into nearby wetlands, thereby reducing water quality. Soil exposure and handling during construction and decommissioning and reclamation can result in the mobilization of soil material through erosion (i.e., movement of soil particles via wind and/or water) downgradient into wetlands. This sediment can reduce wetland function through changes to vegetation health and soil permeability. There is also potential for an incidental release of substances during construction (e.g., fuel, lubricants, concrete washout), which can adversely affect water quality, and in turn, wetland function.

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#### 4.1.4 CHANGES IN WATER QUANTITY

Alterations to site topography and waterbody connectivity has the potential to alter surface drainage patterns. Additionally, there is potential for soil compaction (i.e., reduced infiltration rates) from Project activities. Reduced infiltration has the potential to increase surface inundation in low areas and/or flood surrounding upland areas, especially during high flow events such as spring melts or heavy rains. Therefore, there is potential for changes to water quantity through alteration of soil infiltration and inundation, and the velocity and direction of overland flows.

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### 4.2 MITIGATION MEASURES

Mitigation measures that will be implemented to reduce potential adverse Project-related effects on surface water and wetlands are provided in Table 5. These mitigation measures are also outlined in the Project-specific EPP in Sections 5.2.2, and 5.2.7.





Table 5. Mitigation measures to reduce potential adverse effects on surface water.

Activity/Concern	Mitigation Measure
Approved Workspace- General	<ul style="list-style-type: none"> <li>Construction activities will be restricted beyond flagged/staked boundaries unless additional workspace has been approved by the Owner.</li> </ul>
Site Drainage- General	<ul style="list-style-type: none"> <li>Drainage will be maintained across the construction area.</li> </ul>
Erosion – Water - General	<ul style="list-style-type: none"> <li>Temporary sediment fencing will be installed for any activity in or near watercourses or waterbodies. Follow mitigation measures for wetlands and waterbodies discussed in Section 5.2.4 of the EPP.</li> <li>Areas exhibiting surface water erosion will employ erosion and sediment control mitigation measures as outlined in Section 6.2 of the EPP.</li> <li>Surface water management infrastructure (e.g., drainage ditches) will be installed/constructed if/where applicable and as per design specifications.</li> </ul>
Siting and Planning	<ul style="list-style-type: none"> <li>Any disturbance to wetlands and/or waterbodies that cannot be avoided will be addressed by following all terms and conditions within approvals and/or permits (e.g., <i>Water Act</i> Approval) and adhering to relevant requirements (Alberta Wetland Policy, Code of Practice for Watercourse Crossings, Code of Practice for Pipelines and Telecommunication Lines) for protection of wetlands waterbodies, as applicable.</li> <li>Boundaries of all wetlands and ephemeral waterbodies within the Project Footprint will be flagged/staked to reduce incidental disturbance.</li> </ul>
General Mitigation	<ul style="list-style-type: none"> <li>All equipment will arrive on-site clean, free of leaks and in good working condition. An inspection prior to arriving on site will be conducted to verify that all foreign material has been removed including dirt, mud, debris, grease, oil, hydraulic fluid or other substances. As well, any identified leaks will be repaired and then appropriately cleaned.</li> <li>Washing, refuelling, servicing and storage of fuel, oil or other hazardous material will take place away from wetlands or waterbodies to the extent feasible, and in a manner that prevents fuel and hazardous materials from entering any waterbody.</li> <li>A spill response plan will be in place and an emergency spill response kit will be on site during construction activities. The containment kit will have the capacity to handle twice the maximum spill possible.</li> <li>Concrete work areas will be isolated from waterbodies or wetlands to prevent uncured or partly cured concrete from interfacing with waterbodies and wetlands.</li> <li>Where temporary wetland crossings are required, crossings will be conducted during dry or frozen conditions if safe and where feasible.</li> </ul>
Erosion and Sediment Control	<ul style="list-style-type: none"> <li>Erosion and sedimentation controls (ESC) will be installed where warranted (i.e., within the 100 m setback of Class III or higher wetlands and waterbodies) to prevent sediment and other material from entering the wetland or waterbody.</li> <li>ESC measures will be inspected regularly during construction and repaired and/or replaced as necessary.</li> </ul>



Activity/Concern	Mitigation Measure
Water Management	<ul style="list-style-type: none"> <li>• Site drainage will be maintained as appropriate, (e.g., with the use of appropriately sized and installed culverts, ditches, berms, site grading practices). Site reclamation will be designed to re-establish natural drainage patterns.</li> <li>• Surface water connectivity will be maintained within wetlands and water bodies to avoid flooding during snow melt or heavy precipitation.</li> <li>• Any construction-related dewatering will be discharged to a sufficiently vegetated area which will slow the velocity of water and prevent sediment from entering wetlands or waterbodies. If the water contains excessive sediment or deleterious substances, it will be disposed of off-site at an appropriate disposal/treatment facility.</li> <li>• Surface runoff from the construction site will be intercepted or slowed as required and prevented from entering wetlands or waterbodies.</li> </ul>
Wetland Soil	<ul style="list-style-type: none"> <li>• Work within wetlands will be completed during dry or frozen ground conditions to lessen soil compaction and erosion, where possible.</li> <li>• If work within wet soil conditions is required, equipment and techniques that distribute ground pressure will be used to avoid soil compaction and admixing.</li> <li>• Topsoil stripping activities will be scheduled to occur in accordance with favourable environmental (i.e., weather) and site/soil conditions (i.e., dry, frozen).</li> </ul>
Wetland Vegetation	<ul style="list-style-type: none"> <li>• Where practical, vegetation buffers (where applicable) will be maintained around wetlands and waterbodies.</li> </ul>
Collector Line Installation	<ul style="list-style-type: none"> <li>• The collector line will be installed using HDD methods underneath Class IV wetland 1562 to reduce the potential for direct wetland disturbance and resultant adverse effects on wildlife habitat.</li> </ul>
Horizontal Directional Drilling	<ul style="list-style-type: none"> <li>• The HDDs will be completed in as short a time as possible, as safety allows, to minimize effects on the environment.</li> <li>• The composition of the drilling fluid will be limited to fresh water and high yield bentonite conforming to or exceeding American Petroleum Institute specifications. Other additives or substitutions will require Owner approval before being used in the drilling fluid. An MSDS sheet will be maintained on the work location for all drilling fluid additives.</li> <li>• The amount of fluid return to the mud tank/pit and the amount of make-up drilling fluid required in the mixing tanks during drilling of the pilot hole and hole opening will be monitored. A detailed log of all drilling activities to correlate drilling status with potential seepage events will be maintained.</li> <li>• The drill path and adjacent area will be monitored for signs of drilling mud release.</li> <li>• Vacuum truck(s) will be on site and available during pullback operations.</li> <li>• Entry and exit pits that contained drilling mud will be closed immediately after completion of drilling and will be remediated to meet the applicable government regulations or guidelines and landowner requests.</li> </ul>



Activity/Concern	Mitigation Measure
Drilling Fluid Release (Frac-Out)	<ul style="list-style-type: none"> <li>• In the event of an unintentional fluid (drilling mud) release during HDD operations, the following general guidelines will be followed:                             <ul style="list-style-type: none"> <li>○ Drilling operations will be immediately stopped and the Environmental Monitor notified;</li> <li>○ The drilling mud will be contained to limit the area affected using sandbags, silt fence and/or other approved material, or excavating a sump;</li> <li>○ The Environmental Monitor or the Owner will immediately notify the Alberta Environment Energy and Environmental Response Line at 1-800-222-6514 if the drilling mud enters any watercourse, wetland or waterbody.</li> <li>○ If the drilling mud release can be effectively contained and prevented from spreading further, drilling operations may continue. Otherwise, the drill will be moved and a new redrill attempted in a different location.</li> <li>○ The released drilling mud will be cleaned up in a manner that minimizes disturbance to vegetation and soil (e.g., hydrovac, pumping or manual removal with shovels).</li> </ul> </li> <li>• Drilling mud will be disposed of in accordance with provincial requirements.</li> </ul>

### 4.3 PREDICTED RESIDUAL EFFECTS

With the implementation of the mitigation measures outlined in Table 6, the residual adverse effects of the Project on surface water and wetlands are predicted to be low, and not significant. This is consistent with the assessment of residual effects within the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

## 5 WILDLIFE SPECIES AND HABITAT

### 5.1 EXISTING ENVIRONMENTAL CONDITIONS

In accordance with the Wildlife Directive, environmental studies have been ongoing since 2009 for the Wild Rose 2 Wind Power Project (Exhibit 27729-X0009, Exhibit 27729-X0210). In October 2022, Alberta Environment and Parks (now Alberta Environment and Protected Areas [AEPA]), issued a Renewable Energy Amendment Letter stating that the overall risk to wildlife from the Wild Rose 2 Wind Power Project was moderate (Exhibit 27729-X0004; Appendix B). The layout assessed as part of the Renewable Energy Amendment Letter included the previously applied-for locations of Turbines T10 and T11.

Wild Rose 2 has continued to conduct environmental studies in compliance with the Wildlife Directive. All wildlife surveys undertaken for the Wild Rose 2 Wind Power Project are shown in Appendix D. Wildlife surveys undertaken in the Project WSA are presented in Appendix A.



Regional wildlife surveys completed to-date include:

- Acoustic bat surveys (Autonomous Recording Unit; ARU) (2015, 2018, 2023)
- Bird migration (2009, 2012, 2015, 2022)

Species-specific wildlife surveys conducted to-date within the Project WSA include:

- Sharp-tailed Grouse (2012, 2016, 2017, 2019, 2021, 2022, 2023, 2024)
- Burrowing Owl (2009, 2019, 2021, 2022, 2023, 2024)
- Raptors (2016, 2019, 2021, 2022, 2023)
- Amphibian surveys (2009, 2024)
- Snake hibernacula (2021, 2022)
- Breeding birds (2009, 2016, 2021, 2022)

The current Project falls entirely within the Wild Rose 2 Wind Power Project Area, and all wildlife surveys completed to date appropriately and adequately define wildlife and wildlife sensitivities and have informed the assessment in this EE.

No previously identified wildlife features or their setbacks overlap the Project Area or the Project Footprint. One known wildlife habitat feature overlaps the WSA. Northern leopard frogs (*Lithobates pipiens*) were previously observed in a wetland within NE- and SE-11-10-05 W4M (Wetland 286) in 2009 and 2013 (further described in Exhibits 27729-X0118 and 27729-X0119). This wetland is located partially within the northwestern corner of the WSA, approximately 858 m away from T10 (Appendix A-Figure 5a). Northern leopard frogs were last observed within this wetland in 2013 and have not been detected during subsequent surveys in 2016 and 2023.

In 2024, Sharp-tailed Grouse lek, Burrowing Owl den, and pre-construction amphibian acoustic surveys were conducted in the WSA as part of the ongoing wildlife survey program for the Wild Rose 2 Wind Power Project (Appendix A-Figure 5a and 5b). No new Sharp-tailed Grouse lek sites or Burrowing Owl dens were detected, nor were sensitive amphibians recorded during the amphibian acoustic surveys. Wildlife data collected in 2024 are summarized in the context of this Project in Appendix E.

The Project Area is located predominantly on cultivated lands (81.4%; Table 6), with smaller areas of tame pasture (8.5%), wetlands (7.6%), existing road (2.0%) and farmyard (0.5%). Cultivated lands represent low-quality wildlife habitat; as such, suitable wildlife habitat within the Project Area is restricted to isolated areas of wetland and tame pasture vegetation.

**Table 6. Land cover within the Project Area.**

Land Cover	Area (ha)	Area (%)
Cultivated	108.2	81.4%
Farmyard	0.6	0.5%
Wetlands	10.1	7.6%
Existing Road	2.6	2.0%



Tame Pasture	11.3	8.5%
<b>Grand Total</b>	<b>132.8</b>	<b>100.0%</b>

The Project Footprint has been preferentially sited on cultivation (93.4%) and existing roads (5.4%), with smaller components of tame pasture (0.6%), wetland (0.3%), and farmyard (0.3%) (Table 7). Potential disturbance to tame pasture and wetland habitats is associated with a collector line crossing of an anthropogenically modified Class IV wetland (wetland 1562) that has historically been dammed, with tame pasture along the wetland margins (Appendix A- Figure 4). Direct disturbance to wetland habitat will be avoided with the use of HDD installation of the collector line at this location. The turbines and remaining Project infrastructure have been preferentially sited on cultivated land with appropriate setbacks from wildlife habitat features as defined by the Wildlife Directive.

**Table 7. Habitat alteration due to Project-related infrastructure.**

Habitat Type	Temporary Disturbance (ha)	Temporary Disturbance (%)	Operational Disturbance (ha)	Operational Disturbance (%)	Total Disturbance (ha)	Total Disturbance (%)
Cultivated	2.8	82.6	0.4	10.8	3.1	93.4
Farmyard	<0.1	0.3	-	-	<0.1	0.3
Wetland	<0.1	0.3	-	-	<0.1	0.3
Existing Road	0.1	2.4	0.1	2.7	0.2	5.4
Tame Pasture	<0.1	0.6	-	-	<0.1	0.6
<b>Total</b>	<b>2.9</b>	<b>86.2</b>	<b>0.5</b>	<b>13.5</b>	<b>3.3</b>	<b>100</b>

\*Some numbers are rounded for presentation purposes; totals may not equal the sum of the individual values

## 5.2 POTENTIAL EFFECTS

Similar to the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210), potential adverse Project-related effects on wildlife and habitat include changes to wildlife habitat availability, sensory disturbance and wildlife mortality.

### 5.2.1 CHANGE IN WILDLIFE HABITAT AVAILABILITY

The Project is sited almost entirely on cultivated lands, which is considered low-quality wildlife habitat. The operational Project Footprint has been sited on 0.1 ha of existing roads, with permanent disturbance to 0.4 ha of cultivated lands during Construction and Operation. The majority of adverse Project-related effects on wildlife habitat are predicted to be temporary as they will occur only during Construction. During Construction there will be 2.8 ha of temporary disturbance to cultivated fields, 0.1 ha of temporary disturbance to existing roads, and less than 0.1 ha of disturbance to each of farmyard, wetlands, and tame pasture habitats (Table 7). Less than 1% of the Project Footprint is located on tame pasture; this temporary



disturbance will occur only during collector line installation. Disturbance to wetland habitat will be avoided by HDD installation of the collector line.

### 5.2.2 CHANGE IN SENSORY DISTURBANCE

Increased human and equipment presence during Project Construction, and Decommissioning and Reclamation activities have the potential to result in a change in sensory disturbance that may deter wildlife from using the generally low-quality habitat available within the Project Area. Given that the Project has been preferentially located within a cultivated field that experiences frequent anthropogenic disturbance, and adjacent to the existing Eagle Butte Road, it is expected that wildlife have habituated to chronic disturbance caused by traffic and machinery. Increased sensory disturbance during Project Operation would be expected to be limited to the noise generated by turbines, and by isolated vehicle traffic and the presence of humans during routine maintenance.

### 5.2.3 CHANGE IN WILDLIFE MORTALITY

A change in wildlife mortality has the potential to occur throughout the life of the Project. Site preparation (e.g., clearing of vegetation) has the potential to result in direct disturbance to occupied nests or dens. Collisions with Project vehicles or construction equipment have the potential to result in wildlife injury or mortality. During Operation, bird or bat collisions with turbines or barotrauma have the potential to result in wildlife mortality.

Activities that occur near active nests have the potential to result in indirect mortality to bird species that are sensitive to disturbance (e.g., reduced nest success). These bird species may abandon their nests with eggs or fledglings, resulting in nest failure. This disturbance is expected to be highest during Construction (e.g., during vegetation clearing activities) within the migratory bird nesting period. During Operation, birds that build nests near Project infrastructure would be expected to be habituated to ongoing Project-related activities.

## 5.3 MITIGATION MEASURES

Mitigation measures designed to reduce potential adverse Project-related effects on wildlife and wildlife habitat are provided in Table 8. These mitigation measures are also outlined in the Project-specific EPP in Sections 5.2.8, 5.3, and 6.3.

**Table 8. Mitigation measures to reduce potential adverse effects on wildlife and wildlife habitat.**

Activity/Concern	Mitigation Measure
Scheduling	<ul style="list-style-type: none"> <li>Work within tame pasture will be scheduled to avoid the grassland bird breeding season (April 1 to July 15) as the Project schedule allows. Where the Project schedule does not allow this avoidance, mowing will occur prior to the onset of the grassland breeding bird season and re-mowing will occur as appropriate (i.e., reduce the habitat suitability) to support Project activities, with nest surveys conducted by a qualified wildlife biologist. If active nests (i.e., nest</li> </ul>



Activity/Concern	Mitigation Measure
	<p>under construction or constructed, with or without eggs present) are found or suspected to be present, then mitigation measures (e.g., species-specific setback, on-site monitor) will be designed and implemented, and forwarded to AEPA for their review.</p> <ul style="list-style-type: none"> <li>• Construction within setbacks or where direct disturbances to wetlands with the potential to support amphibian populations could occur will be scheduled outside of the breeding period or will have an experienced wildlife biologist onsite if construction during the breeding period is necessary.</li> </ul>
Pre-construction Wildlife Surveys	<ul style="list-style-type: none"> <li>• Prior to construction activities occurring within 100 m of all Class III or higher wetlands, a non-intrusive field survey will be conducted by an experienced wildlife biologist to determine the presence of breeding amphibians and, if necessary, appropriate mitigation will be applied to reduce any adverse effects on breeding amphibians as per Appendix A in the Wildlife Directive. The findings and the need for additional mitigation will be discussed with AEPA so that potential residual effects on amphibians are acceptable.</li> <li>• Prior to Project construction activities occurring within 100 m of all Class III or higher wetlands, a non-intrusive survey will be conducted by an experienced wildlife biologist to determine the potential for the habitat affected by the Project Footprint to support hibernating/dormant amphibians. Survey results and proposed mitigation would be provided to AEPA for review.</li> <li>• A pre-construction wildlife clearance survey will be completed for all Project components, as appropriate, to verify the status of all known wildlife habitat features and identify new wildlife habitat features (if present) to inform appropriate mitigation (e.g., activity restriction setbacks).</li> <li>• Key results of the surveys and any associated mitigation will be shared with the Project Environmental Monitor and the Prime Contractor.</li> </ul>
Flagging/Staking	<ul style="list-style-type: none"> <li>• Layout components will be surveyed, and all Project construction activity will be restricted to designated work areas. <ul style="list-style-type: none"> <li>○ Off-site access will be restricted.</li> <li>○ Site access will be defined along specified travel routes/access corridors.</li> </ul> </li> <li>• The boundaries of all wetlands and water bodies within the Project Footprint will be clearly flagged/staked to reduce incidental disturbance.</li> </ul>
Vehicle and Equipment Control	<ul style="list-style-type: none"> <li>• Areas to be used for access into and within the Project Footprint will be clearly flagged/staked.</li> <li>• Traffic will be limited to essential personnel within designated areas only: <ul style="list-style-type: none"> <li>○ Signage will be posted at road access points within the vicinity of the construction activities.</li> <li>○ Traffic speeds will be limited on temporary access within the Project Footprint.</li> <li>○ Road entrances to the work site will be fenced off to reduce unauthorized access.</li> <li>○ Vehicle and equipment parking will be restricted to designated areas.</li> <li>○ Project activities will be scheduled to limit the number of vehicles and equipment on site.</li> </ul> </li> </ul>



Activity/Concern	Mitigation Measure
Construction - General	<ul style="list-style-type: none"> <li>• A speed limit of 30 km/hr will be established during Construction and Operations to minimize dust and collision risk for wildlife on Project access.</li> <li>• Construction will occur as quickly and as safely as possible on or near sensitive areas to limit the potential for disturbance to wildlife and wildlife habitat.</li> <li>• A member of the on-site construction staff will be trained in protocols to respond to and report environmental and wildlife issues identified on site.</li> <li>• Project personnel will be required to report wildlife issues, incidents with wildlife, nuisance wildlife, injured or dead wildlife as soon as it is safe to do so to the on-site Project Manager, who will determine in collaboration with the Owner’s environmental representative corrective and/or emergency action to be taken in the field and what regulatory reporting is required. In the event that an injured or dead species listed provincially (AEP 2020) and/or federally (Government of Canada 2022) is observed on site, the local AEPA Wildlife Biologist will be promptly notified.</li> <li>• Project personnel will be prohibited from carrying firearms and being accompanied by domestic animals. An exception applies to the potential use of trained dogs during mortality searches.</li> </ul>
Construction – Collector Lines	<ul style="list-style-type: none"> <li>• The collector system will be installed using a combination of HDD and plough-in methods adjacent to sensitive wildlife features at noted locations to reduce the potential for adverse effects on wildlife habitat.</li> </ul>
Construction – Monitoring	<ul style="list-style-type: none"> <li>• When construction of infrastructure occurs within the setbacks of Class III or higher wetlands (i.e., during the terrestrial phase of the amphibian lifecycle from July 16 to September 30), an experienced wildlife biologist familiar with amphibian species will be on site to monitor wildlife behaviour and to propose on-site mitigation to reduce risk to wildlife (as per Standard 100.3.16 of the Wildlife Directive; (Government of Alberta 2018b).</li> <li>• Where avoidance of environmentally sensitive features or their associated setbacks was not possible during Project design, a resource specialist (e.g., experienced wildlife biologist) will be present on site, as required, to assess the features and to inspect or monitor construction activities at or near sensitive areas.</li> <li>• During construction in environmentally sensitive areas (e.g., within setbacks), an Environmental Monitor, or equivalent, may be on site to guide implementation, monitor and report on the effectiveness of the mitigation measures, as appropriate.</li> </ul>
Amphibians	<ul style="list-style-type: none"> <li>• Amphibian exclusion fencing will be established along the edge(s) of the construction footprint within 100 m of wetlands Class III or higher, as appropriate.</li> </ul>
Snakes	<ul style="list-style-type: none"> <li>• The Project will adhere to the existing Snake Protection Plan (see Project EPP).</li> </ul>
Operation	<ul style="list-style-type: none"> <li>• A speed limit of 30 km/hr will be established during construction and operations to minimize dust and collision risk for wildlife on Project access.</li> </ul>





Activity/Concern	Mitigation Measure
	<ul style="list-style-type: none"> <li>• Project personnel will be prohibited from carrying firearms and being accompanied by domestic animals. An exception applies to the potential use of trained dogs during mortality searches.</li> <li>• Project personnel will be required to report wildlife issues, incidents with wildlife, nuisance wildlife, injured or dead wildlife as soon as it is safe to do so to the on-site Project Manager, who will determine in collaboration with the Owner’s environmental representative corrective and/or emergency action to be taken in the field and what regulatory reporting is required. In the event that an injured or dead species listed provincially (AEP 2020) and/or federally (Government of Canada 2022) is observed on site, the local AEPA Wildlife Biologist will be promptly notified.</li> <li>• The Snake Protection Plan will be adhered to (see Project EPP).</li> <li>• For compliance with Standard 100.4.7 of the Wildlife Directive, the local AEPA Wildlife Biologist will be notified of any mortality of provincially (AEP 2020) or federally (Government of Canada 2022) listed wildlife species, or high levels of mortality as defined by the AEP Bat Mitigation Framework AEP 2013b). Additionally, the carcasses of species at risk and sensitive species will be collected, identified, labelled, frozen, and submitted to the AEPA wildlife lab in Edmonton for compliance with Standard 100.4.9 in the Wildlife Directive (Government of Alberta 2018a).</li> <li>• Lighting for on-the-ground Project infrastructure will use down-shielded lamps controlled by proximity sensors where feasible.</li> </ul>
Monitoring - Wildlife	<ul style="list-style-type: none"> <li>• Post-construction surveys will be completed as directed by the Post-Construction Survey Protocols for Wind and Solar Energy Projects (Alberta Environment and Parks 2020b) and the Conservation and Reclamation Directive for Renewable Energy Operations (Government of Alberta 2018a). If mortality is greater than accepted mortality rates identified in AEPA policy, then mitigation that addresses the mortality risk will be implemented and monitored as per AEPA policy.</li> </ul>

## 5.4 PREDICTED RESIDUAL EFFECTS

Given the implementation of the mitigation measures in Table 8, the likely residual adverse effects of the Project on wildlife and wildlife habitat are predicted to be of low magnitude and not significant. This is consistent with the assessment of residual effects within the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).



## 6 POST-CONSTRUCTION MONITORING AND MITIGATION

Post-construction surveys will be completed as directed by the Post-Construction Survey Protocols for Wind and Solar Energy Projects (Alberta Environment and Parks 2020), and the Conservation and Reclamation Directive for Renewable Energy Operations (Government of Alberta 2018c).

To maintain compliance with Standard 100.2.4 of the Wildlife Directive for Alberta Wind Energy Projects (Government of Alberta 2018b) wildlife surveys will be updated as appropriate until Project commissioning.

## 7 SUMMARY

The Project has been proactively sited on chronically disturbed lands, and Project infrastructure is located predominantly on cultivated lands rated with moderate to severe limitations to crop growth/productivity except for a collector line crossing of an anthropogenically disturbed Class IV wetland and the tame pasture surrounding it. Direct wetland disturbance will be avoided with the use of HDD installation of the collector line. All known wildlife habitat features and their setbacks are avoided by Project infrastructure in accordance with the Wildlife Directive.

Consistent with the results of the Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210) and the Wild Rose 2 Wind Power Project Renewable Energy Amendment Letter October 2022 (Exhibit 27729-X0004), the Project is not expected to result in a change in the VECs that will alter their integrity to the point where they are not sustainable or are unavailable to contribute to ecological function. With the implementation of mitigation measures listed above, the predicted adverse Project-related residual effects on terrain and soils, surface water and wetlands, and wildlife and wildlife habitat are predicted to be low and not significant. It is EDI's opinion that the Project can be constructed and operated in an environmentally responsible manner.



## 8 REFERENCES

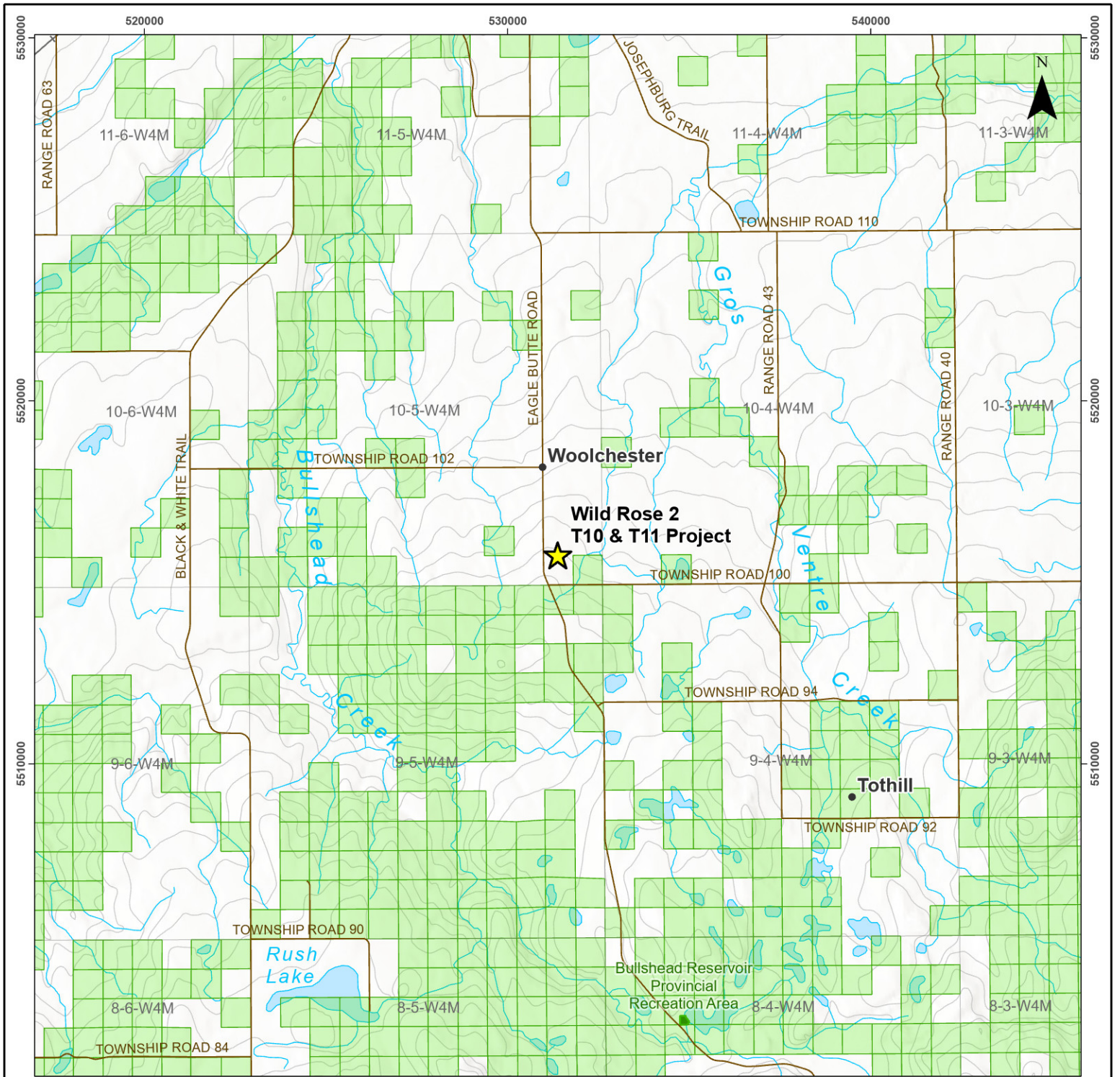
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# APPENDICES



## APPENDIX A WILD ROSE 2 T10 AND T11 MAPS



**Legend**

- Wild Rose 2 T10 & T11 Project
- City/Town
- Highway
- Primary Local Road
- Railway
- Contour (20 m Interval)
- Potential Watercourse
- Waterbody
- Environmentally Significant Areas (Fiera 2014)
- Parks and Protected Areas
- Township

**Wild Rose 2 T10 & T11 Project  
Regional Overview**

**Wild Rose 2 Wind Inc.**

**Data Sources**

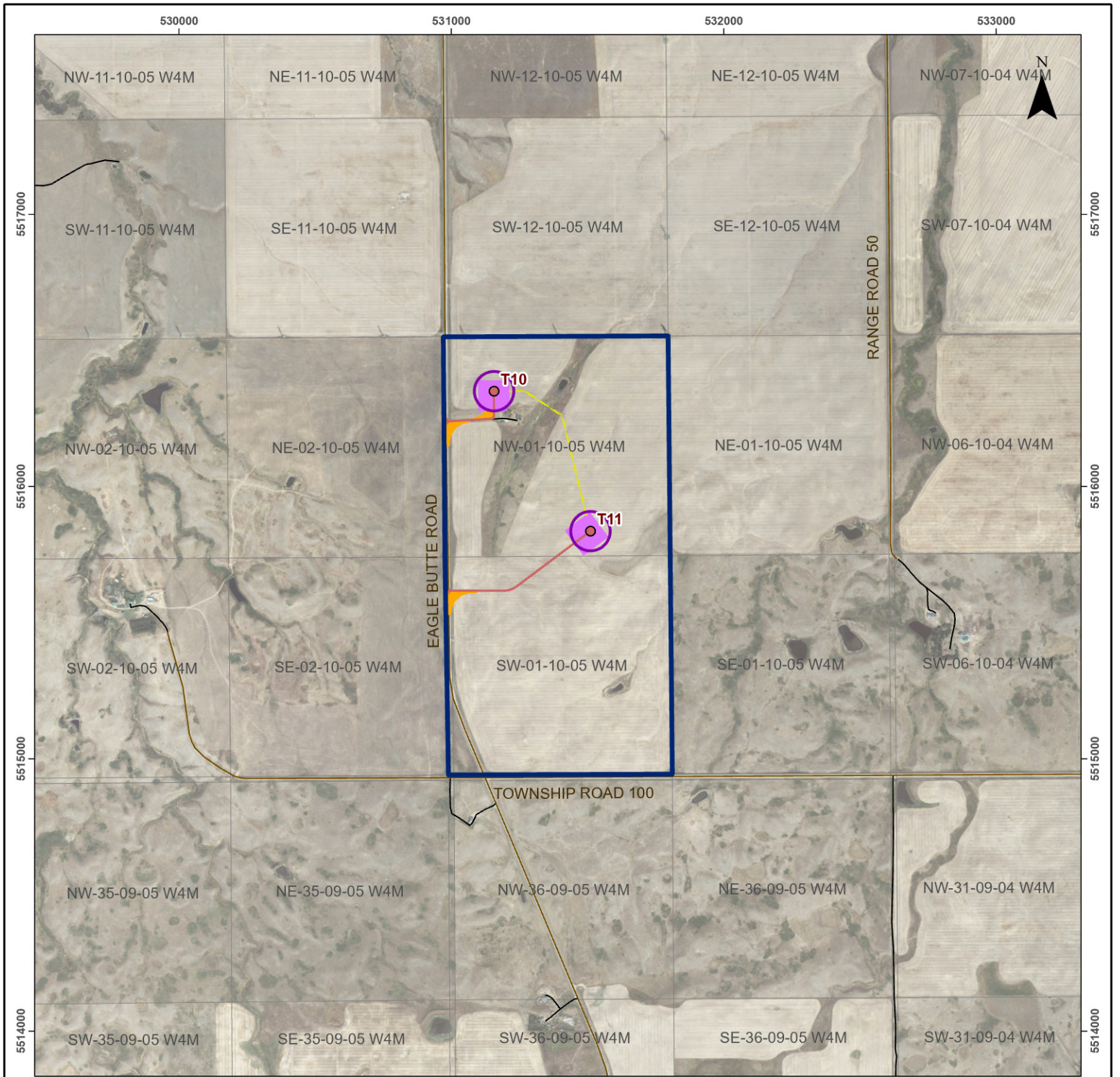
- Environmentally Significant Areas (Fiera 2014). Government of Alberta.
- Parks and Protected Areas. 2024. Government of Alberta.
- Base data. CanVec 1:50,000 and 1:250,000. Government of Canada.
- Township. Government of Alberta.
- Main Basemap. World Hillshade: Esri, NASA, NGA, USGS.

**Disclaimer**  
 EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

Kilometres  
 Map Scale: 1:150,000 (printed on 8.5 x 11)  
 Map Projection: NAD 1983 CSRS UTM Zone 12N

Drawn: CT	Checked: KO	Figure 1	Date: 2024-09-23
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**EDI**



**Legend**

- Primary Local Road
- Secondary Local Road
- Quarter Section
- Project Area

**Layout**

- Wind Turbine Generator - Operational
- Access Road - Operational
- Wind Turbine Generator - Construction
- Access Road - Construction
- Collector Line - Construction
- Rotor Swept Arc

**Wild Rose 2 T10 & T11 Project  
Project Layout**

**Wild Rose 2 Wind Inc.**

**Data Sources**

- Project Data: September 13, 2024. Wild Rose 2 Wind Inc.
- Base data: CanVec 1:50,000 and 1:250,000. Government of Canada; 1:20,000. Aerials
- Quarter Sections: Government of Alberta.
- Main Basemap: April 2021. World Imagery: Southern Alberta, Maxar.

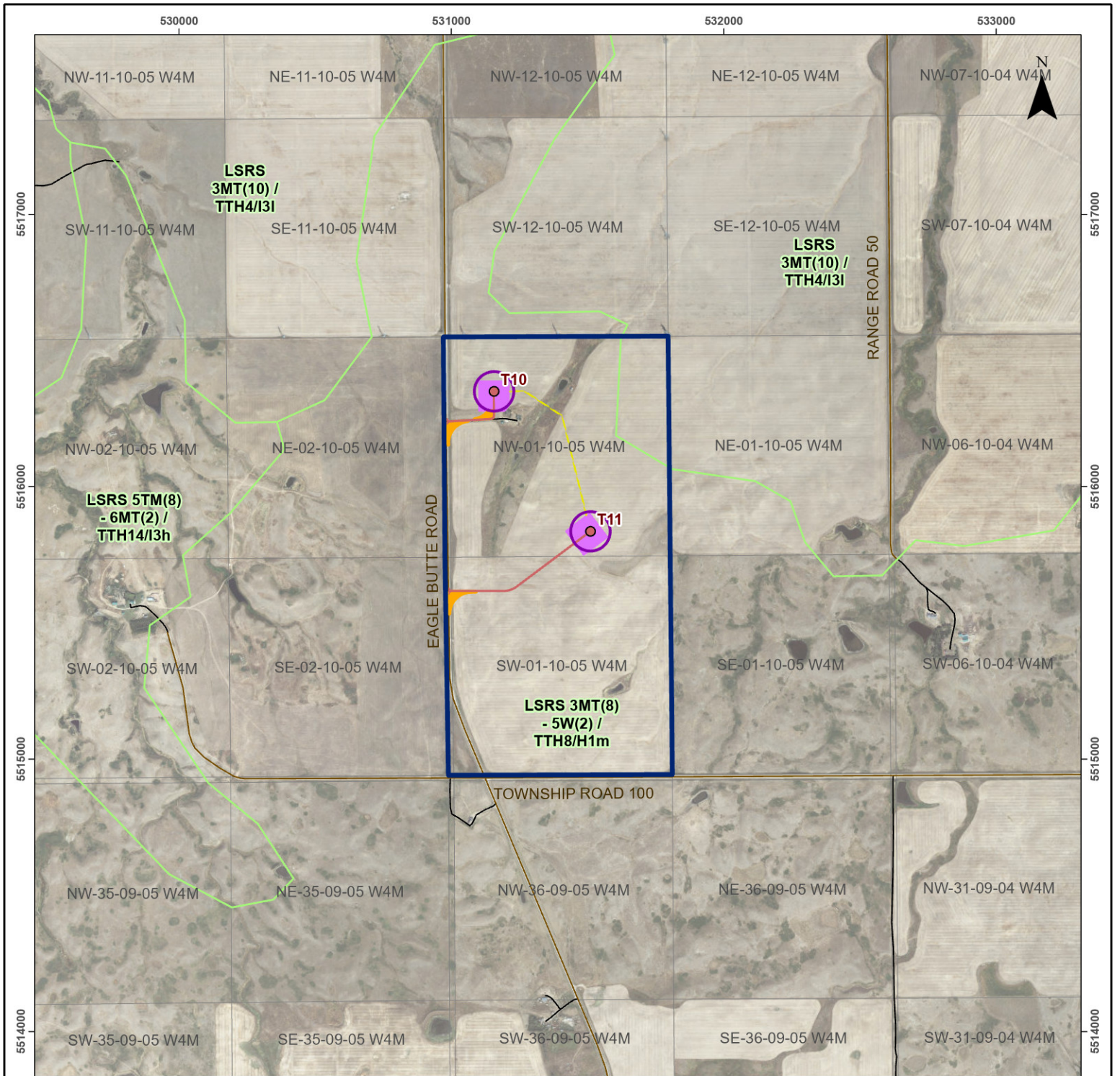
**Disclaimer**  
 EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

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Metres

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 Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT	Checked: CG	Figure: 2	Date: 2024-10-02
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**Map Area**



**Legend**

- Primary Local Road
- Secondary Local Road
- AGRASID 4.1: Land Suitability Rating (Spring Grains) / Soil Series
- Quarter Section
- Project Area
- Layout**
- Wind Turbine Generator - Operational
- Access Road - Operational
- Wind Turbine Generator - Construction
- Access Road - Construction
- Collector Line - Construction
- Rotor Swept Arc

**Wild Rose 2 T10 & T11 Project  
Terrain and Soils**

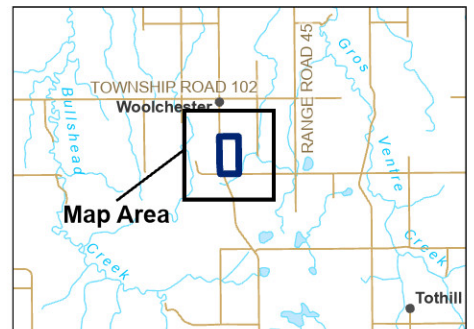
**Wild Rose 2 Wind Inc.**

- Data Sources
- Project Data, September 13, 2024, Wild Rose 2 Wind Inc.
  - AGRASID 4.1, 2018, Government of Alberta.
  - Base data, CanVec 1:50,000 and 1:250,000, Government of Canada; 1:20,000, Altalis
  - Quarter Sections, Government of Alberta.
  - Main Basemap, April 2021, World Imagery; Southern Alberta, Maxar.

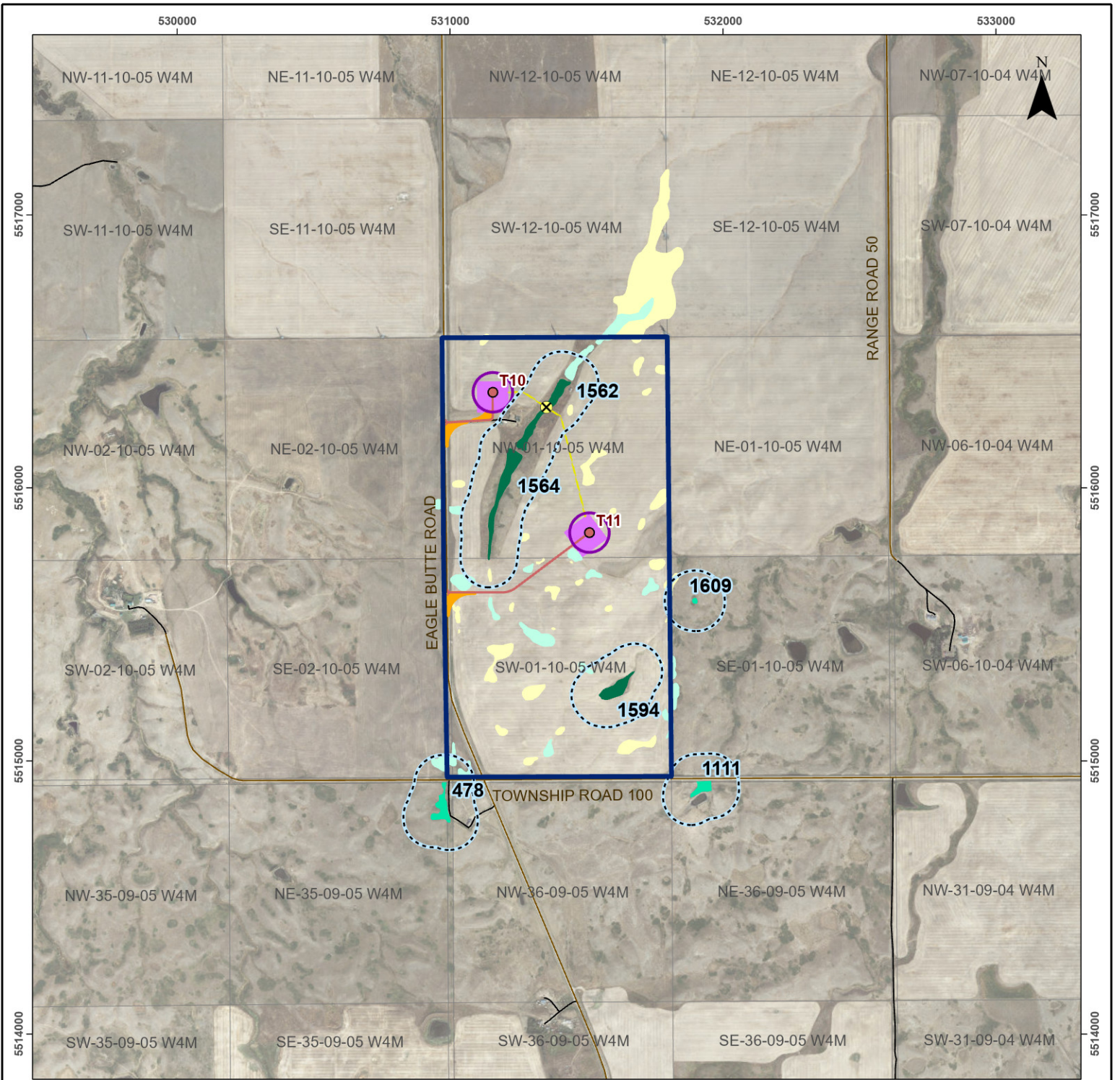
**Disclaimer**  
 EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

Map Scale: 1:20,000 (printed on 8.5 x 11)  
 Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT      Checked: CG      Figure 3      Date: 2024-10-02







**Legend**

- Primary Local Road
- Secondary Local Road
- Quarter Section
- Project Area
- Wind Turbine Generator - Operational
- Access Road - Operational
- Wind Turbine Generator - Construction
- Access Road - Construction
- Collector Line - Construction
- Rotor Swept Arc
- ⊗ Proposed Horizontal Directional Drill Location
- Wetland
  - Graminoid Marsh I
  - Graminoid Marsh II
  - Graminoid Marsh III
  - Graminoid Marsh IV
  - 100 m Wetland Setback

**Wild Rose 2 T10 & T11 Project  
Wetlands and Surface Water Bodies**

**Wild Rose 2 Wind Inc.**

**Data Sources**

- Project Data, September 13, 2024, Wild Rose 2 Wind Inc.
- Wetlands, January 2024, Golder Associates Ltd. and EDI Environmental Dynamics Inc.
- Base data, CanVec 1:50,000 and 1:250,000, Government of Canada; 1:20,000, Altalis
- Quarter Sections, Government of Alberta.
- Main Basemap, April 2021, World Imagery; Southern Alberta, Maxar.

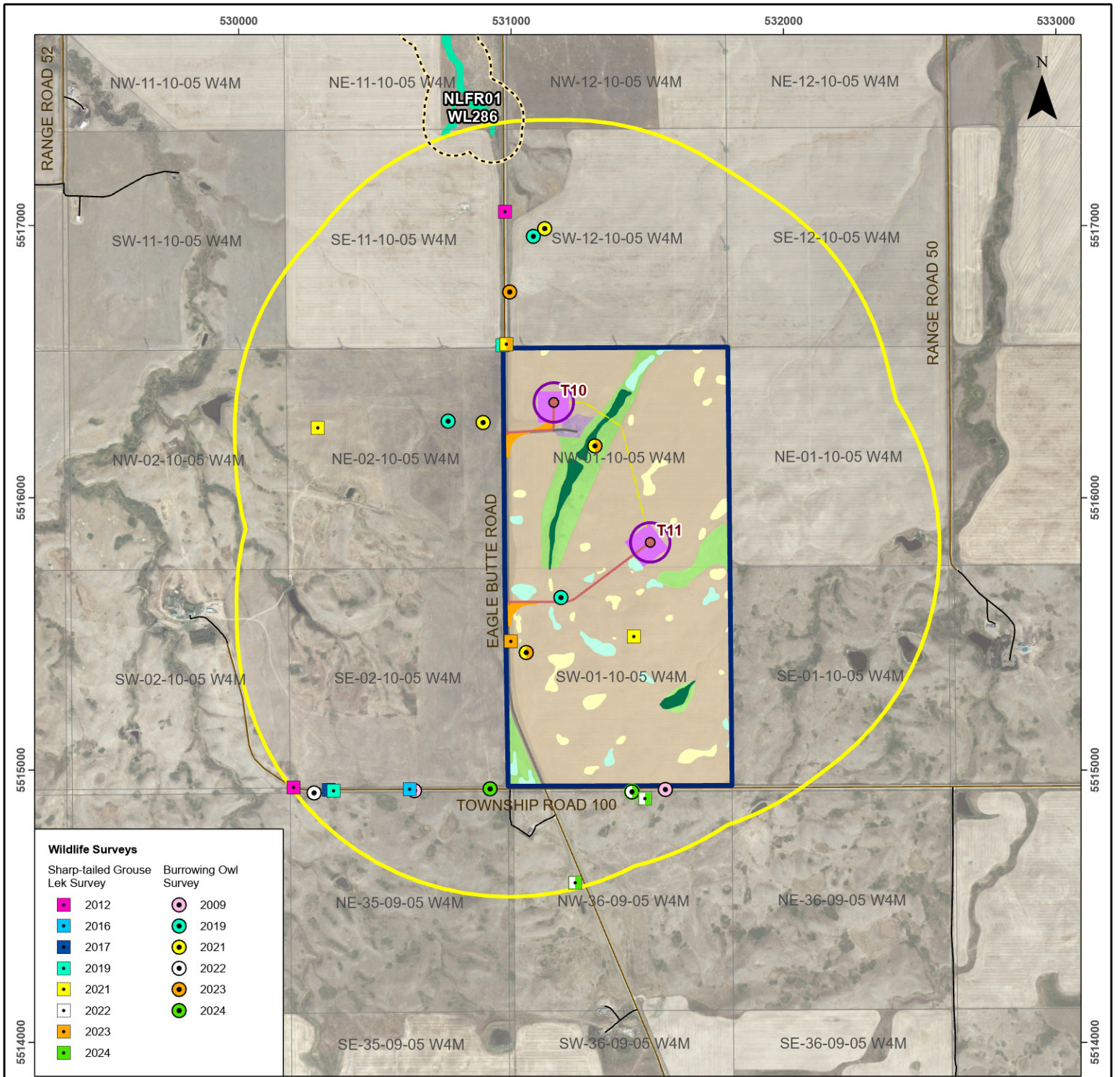
**Disclaimer**  
EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

0 200 400 600 800  
Metres

Map Scale: 1:20,000 (printed on 8.5 x 11)  
Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT	Checked: CG	Figure 4	Date: 2024-10-02
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**Map Area**



**Wildlife Surveys**

Sharp-tailed Grouse Lek Survey	Burrowing Owl Survey
2012	2009
2016	2019
2017	2021
2019	2022
2021	2023
2022	2024
2023	
2024	

**Legend**

Primary Local Road	Wildlife Setback
Secondary Local Road	Amphibian Setback
Quarter Section	Land Cover
Project Area	Cultivated
Wildlife Study Area	Farm Yard
Layout	Road
Wind Turbine Generator - Operational	Tame Pasture
Access Road - Operational	Graminoid Marsh I
Wind Turbine Generator - Construction	Graminoid Marsh II
Access Road - Construction	Graminoid Marsh III
Collector Line - Construction	Graminoid Marsh IV
Rotor Swept Arc	

**Wild Rose 2 T10 & T11 Project  
Wildlife and Wildlife Habitat**

**Wild Rose 2 Wind Inc.**

**Data Sources**

- Project Data, September 13, 2024, Wild Rose 2 Wind Inc.
- Wildlife Data, 2022-2024, EDI Environmental Dynamics Inc.
- Wildlife Data, 2009-2021, Golder Associates Ltd.
- Land Cover, September 2024, Wetlands January 2024, Golder Associates Ltd. and EDI Environmental Dynamics Inc.
- Base data, CanVec 1:50,000 and 1:250,000, Government of Canada; 1:20,000, Altalis.
- Quarter Sections, Government of Alberta.
- Main Basemap, April 2021, World Imagery; Southern Alberta, Maxar.

**Disclaimer**  
EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

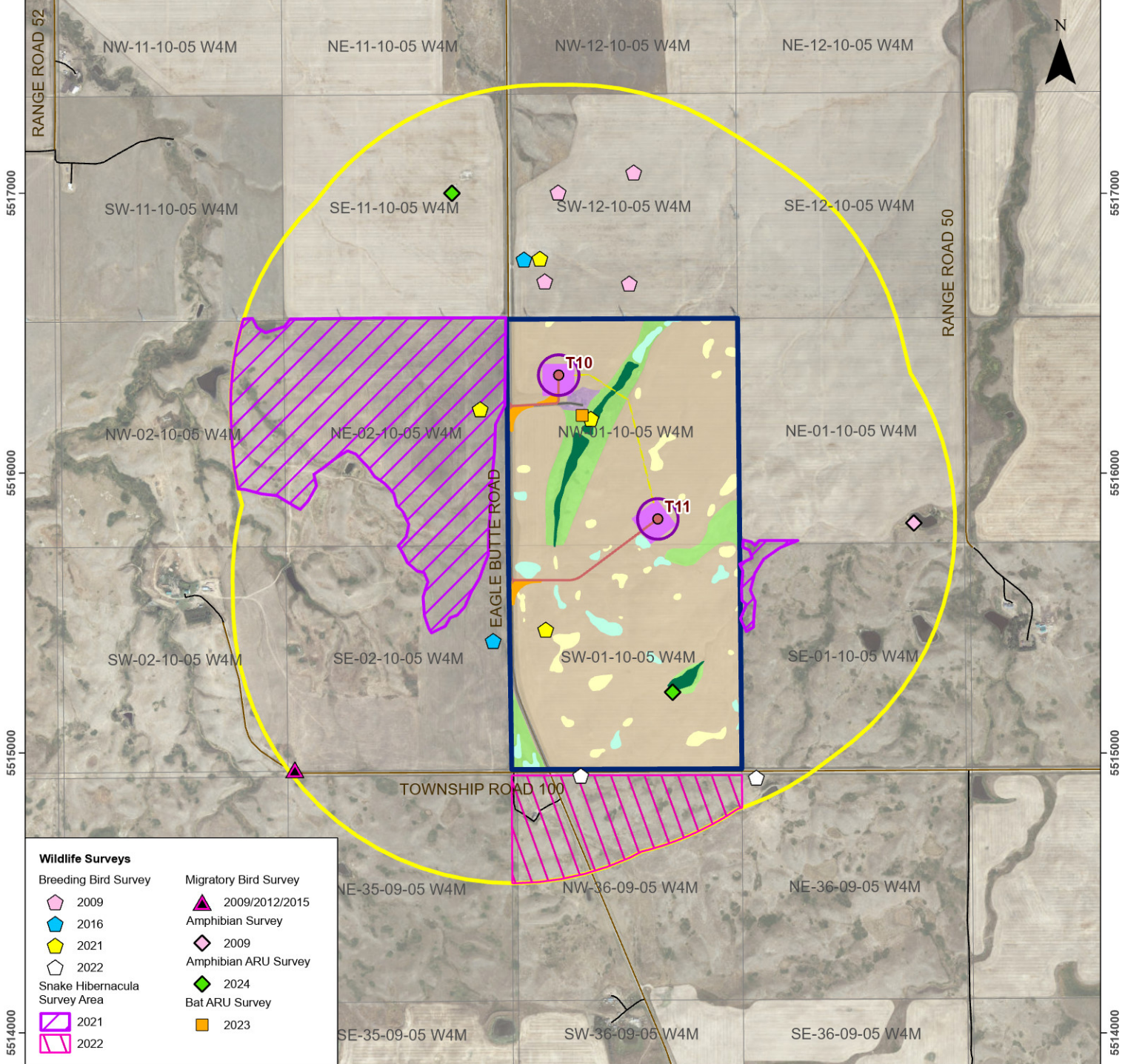
0 250 500 750 1,000  
Metres

Map Scale: 1:20,000 (printed on 8.5 x 11)  
Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT	Checked: CG	Figure 5a	Date: 2024-10-03
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**Map Area**

530000 531000 532000 533000



**Wildlife Surveys**

**Breeding Bird Survey**

- 2009
- 2016
- 2021
- 2022

**Snake Hibernacula Survey Area**

- 2021
- 2022

**Migratory Bird Survey**

- 2009/2012/2015
- Amphibian Survey

**Amphibian ARU Survey**

- 2009
- 2024
- Bat ARU Survey
- 2023

**Legend**

- Primary Local Road
- Secondary Local Road
- Quarter Section
- Project Area
- Wildlife Study Area
- Layout
- Wind Turbine Generator - Operational
- Access Road - Operational
- Wind Turbine Generator - Construction
- Access Road - Construction
- Collector Line - Construction
- Rotor Swept Arc
- Land Cover
- Cultivated
- Farm Yard
- Road
- Tame Pasture
- Graminoid Marsh I
- Graminoid Marsh II
- Graminoid Marsh IV

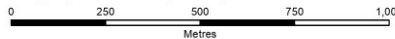
**Wild Rose 2 T10 & T11 Project Wildlife and Wildlife Habitat**

Wild Rose 2 Wind Inc.

**Data Sources**

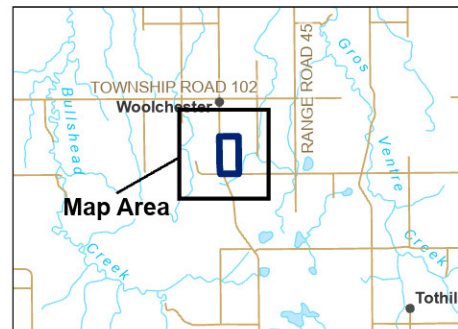
- Project Data, September 13, 2024, Wild Rose 2 Wind Inc.
- Wildlife Data, 2022-2024, EDI Environmental Dynamics Inc.
- Wildlife Data, 2009-2021, Golder Associates Ltd.
- Land Cover, September 2024, Wetlands January 2024, Golder Associates Ltd. and EDI Environmental Dynamics Inc.
- Base data, CanVec 1:50,000 and 1:250,000, Government of Canada; 1:20,000, Altalis.
- Quarter Sections, Government of Alberta.
- Main Basemap, April 2021, World Imagery; Southern Alberta, Maxar.

**Disclaimer**  
EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.



Map Scale: 1:20,000 (printed on 8.5 x 11)  
Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT      Checked: CG      Figure 5b      Date: 2024-10-03





**APPENDIX B    AEP-FWS RENEWABLE  
ENERGY AMENDMENT  
LETTER**

# Alberta Environment and Parks - Fish and Wildlife Stewardship Renewable Energy Amendment Letter

The updated Wild Rose 2 Wind Power Project (the Project) proposed by Wild Rose 2 Wind LP (Wild Rose 2; a subsidiary of Capstone Infrastructure Corporation) (the Proponent) was reviewed by the Alberta Environment and Parks – Fish and Wildlife Stewardship (AEP-FWS) regional wildlife contact for renewable energy projects. AEP-FWS has reviewed the proposed project changes and updated wildlife surveys, which include the location, mitigation strategies, including associated infrastructure and construction plans, wildlife and habitat impacts, and post-construction monitoring and mitigation program. Project information was presented by the Proponent in a submission dated September 16, 2022 and accepted by AEP-FWS on September 20, 2022.

The AEP-FWS review of the updated Wild Rose 2 Wind Power Project was guided by the AEP-FWS policy document, *Wildlife Directive for Alberta Wind Projects* (September 2018; hereafter called the *Directive*) and the *Post-Construction Survey Protocols for Wind and Solar Energy Projects* (January 2020; hereafter called the *PCMP Protocol*). The Proponent must follow the *Directive* and *PCMP Protocol* for requirements on siting, pre-construction surveys, construction, operation, and post-construction monitoring and mitigation plans.

This amendment letter summarizes the review undertaken by AEP-FWS that was restricted to reviewing information provided in the submitted documents, completed by EDI Environmental Dynamics Inc. on behalf of the Proponent, and applying the wildlife standards and best management practices for the siting, construction and operation of the wind facility. This office undertook no independent on-site assessment. This Renewable Amendment Letter is not intended to relieve any party from any liability if there are detrimental effects to wildlife or wildlife habitat during construction or operation that were not identified and mitigated for in the documents submitted. It is the responsibility of the Proponent to ensure compliance under all other policy and legislation, including but not limited to the *Alberta Wetland Policy*, *Water Act*, *Code of Practice for Watercourse Crossings*, *Environmental Protection and Enhancement Act*, *Alberta Wildlife Act*, *Migratory Bird Convention Act*, and *Species at Risk Act*. Federal requirements may differ from AEP-FWS policy, therefore additional consultation may be necessary. AEP-FWS review does not eliminate the need for review by other branches of the Environment and Parks Department, Government of Canada or other governing bodies. This referral report summarizes the potential risks to wildlife and wildlife habitat based on the information provided to AEP-FWS.

Signature: \_\_\_\_\_  Date: October 20, 2022

Printed Name and Position: Jason Unruh, Wildlife Biologist, South Region, Red Deer, Alberta

## Amendment Letter Summary

Please see the body of this report along with supporting information found in the project application and the AEP *Wildlife Directive for Alberta Wind Energy Projects* for details on specific topics within this summary.

- All turbines have been removed from native grassland, and minimal disturbance techniques will be used for installing collector lines within native grassland habitat. Therefore, the risk to high quality native grassland habitat has been assessed as moderate.
- There has been an increase to planned infrastructure impacts within wetland setbacks (65 impacts to wetland setbacks), as well as several direct impacts to Class III+ wetlands. The proposed mitigations are unable to reduce the risk to wetland habitat and sensitive amphibians and the risk has been assessed as high.
- There will be two raptor nest setbacks impacted by project infrastructure; however, the Proponent has committed to mitigations that align with the *Directive*. Therefore, the risk to breeding raptors has been assessed as low.
- All active sharp-tailed grouse lek setbacks have been avoided, and the risk to sharp-tailed grouse has been assessed as low.
- There are no known impacts to burrowing owl dens, and the risk to burrowing owls has been assessed as low.
- There are no impacts to Sensitive Snake Hibernacula setbacks, and an appropriate Snake Protection Plan has been developed; therefore, the risk to Sensitive Snakes is low.
- The risk to breeding birds has been assessed as moderate, since construction in native grassland habitat will avoid the grassland breeding bird period, and some mitigations have been committed to for breeding birds during construction in tame grassland habitat.
- The overall risk of mortality to birds has been assessed as moderate, based on a high abundance of breeding raptors within the project area and potential mortality risk to breeding birds during operations.
- The risk to bats remains moderate.

AEP-FWS has determined the Wild Rose 2 Wind Power Project proposed by Wild Rose 2 Wind LP (Wild Rose 2; a subsidiary of Capstone Infrastructure Corporation), has been reduced to a moderate risk based on project changes that have reduced the risk to wildlife and wildlife habitat. This AEP-FWS risk assessment expires on October 20, 2027.

<i>Project Information</i>	<i>Project Details</i>
Project Name	Wild Rose 2 Wind Power Project
Municipality/County	Cypress County
Project MW	244 MW
Proponent Name	Wild Rose 2 Wind LP (Wild Rose 2; a subsidiary of Capstone Infrastructure Corporation)
Consultant Name	EDI Environmental Dynamics Inc.
Project Documents Submitted <sup>1</sup>	<ul style="list-style-type: none"> <li>• Evaluation of Changes for the Wild Rose 2 Wind Power Project</li> <li>• 20220930 AEP Initial Review Questions_Wild Rose 2 Amendment_Responses</li> <li>• WildRose2_ProjectLayout_20221006</li> </ul>
Date of Referral Report Expiry	October 20, 2027
<b>Overall Risk Ranking</b>	<b>Moderate Risk</b>

<sup>1</sup> Note: various clarifications and edits of the original documents are discussed in the subsequent files and these changes are to supersede the original documents.

## PROJECT SITING

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### Native and Critical Habitats

Risk Ranking:  Not Applicable  Low  Moderate  High  High Unmitigated  
Infrastructure sited within suitable habitat or applicable setbacks:  Yes  No

Comments/Mitigation: All turbines have been removed from native grassland habitat. There will be 14 instances of infrastructure impacts within native grassland habitat, which will include access roads and collector lines. Collector lines will be installed using minimal disturbance techniques (horizontal directional drilling or plough-in method), and construction in native grassland will avoid the breeding bird season (April 1 to July 15). The removal of some infrastructure represents an almost 50% reduction in impacts to high quality native grassland habitat. AEP-FWS has assessed the risk to native habitats as moderate.

### Valley Breaks

Risk Ranking:  Low  Moderate  High  High Unmitigated  
Infrastructure sited within suitable habitat or applicable setbacks:  Yes  No

Comments/Mitigation: Project infrastructure no longer impacts sensitive valley and/or coulee habitats, which aligns with the *Directive*; therefore, the risk has been assessed as low.

### Wetlands

Risk Ranking:  Not Applicable  Low  Moderate  High  High Unmitigated  
Infrastructure sited within suitable habitat or applicable setbacks:  Yes  No

Comments/Mitigation: There are a total of 65 planned infringements of wetland setbacks, which represents an increase of 50% in impacts from the original layout design. This does not align with the *Directive*. The Proponent has committed to avoiding direct disturbances to Class III and higher wetlands by using horizontal directional drilling when installing collector lines; however portions of four Class III wetlands will be disturbed by construction and operation of access roads. One northern leopard frog (a Species at Risk) breeding pond will have two collector lines installed 5 m from the wetland edge using the plough-in method. AEP-FWS has concerns this will increase the disturbance and/or mortality risk for this Species at Risk. Also, sensitive toads may be present hibernating in the soil around wetlands, and there is the potential for ground disturbance within wetland setbacks to cause disturbance and/or mortality for these species. The Proponent has committed to having an onsite monitor present during construction within wetland setbacks during the amphibian active period (July 16 to September 20), but this may not be sufficient to prevent disturbance and/or mortality to sensitive amphibians. Therefore, AEP-FWS has assessed the risk to wetlands and wildlife using wetland habitat as high.

## WILDLIFE FEATURES

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### Raptor Nests (Sensitive and Non-Sensitive)

Risk Ranking:  Low  Moderate  High  High Unmitigated  
Is the project sited within the wildlife range/zone?  Yes  No  Not Applicable



Was the survey completed according to the Standards?  Yes  No  Not Applicable

Is the project sited within the setbacks?  Yes  No

Comments/Mitigation: During updated surveys in 2021 and 2022, 22 active raptor nests were identified: 8 Swainson's hawk, 4 great-horned owl, 3 red-tailed hawk, and 7 ferruginous hawk. An underground collector line will be installed immediately adjacent to an active great-horned owl nest, but the Proponent has committed to mitigations (detailed in the documents reviewed) which reduce the risk to this wildlife feature. A collector line and permanent access road will be constructed 434 m from an active ferruginous hawk nest (1000 m setback), which is a Species at Risk. The Proponent has committed to timing construction activities within the 1000 m setback outside the breeding period (March 15 to July 15), which aligns with the *Directive*. However, there is still a risk of disturbance to the breeding hawks during operations (use of the access road). Given the mitigations, AEP-FWS has assessed the risk to breeding raptors as low.

### Sharp-tailed Grouse

Risk Ranking:  Low  Moderate  High  High Unmitigated

Is the project sited within the wildlife range/zone?  Yes  No  Not Applicable

Was the survey completed according to the Standards?  Yes  No  Not Applicable

Is the project sited within the setbacks?  Yes  No

Comments/Mitigation: Only one active sharp-tailed grouse lek was observed in 2022, and the 500 m setback has been met. Two historical leks (last active in 2017 and 2019) will have their 500 m buffers infringed by infrastructure, and the Proponent has committed to avoiding construction inside the 500 m buffers during the active lekking period (March 15 to June 15), which aligns with the *Directive*. Given the mitigations and avoidance of known active leks, AEP-FWS has assessed the risk to sharp-tailed grouse as low.

### Burrowing Owl

Risk Ranking:  Low  Moderate  High  High Unmitigated

Is the project sited within the wildlife range/zone?  Yes  No  Not Applicable

Was the survey completed according to the Standards?  Yes  No  Not Applicable

Is the project sited within the setbacks?  Yes  No

Comments/Mitigation: No burrowing owls or dens were observed during updated surveys in 2021 and 2022. Therefore, AEP-FWS has assessed the risk to burrowing owls as low.

### Snakes (Hibernacula & Habitat)

Risk Ranking:  Low  Moderate  High  High Unmitigated

Is the project sited within the wildlife range/zone?  Yes  No  Not Applicable

Was the survey completed according to the Standards?  Yes  No  Not Applicable

Is the project sited within the setbacks?  Yes  No

Comments/Mitigation: The Project is located within Sensitive Snake Habitat range, and snake hibernacula surveys were conducted in 2021 and 2022. No hibernacula or sensitive snakes were observed during the surveys, and the Proponent has developed and committed to an acceptable Snake Protection Plan for the project. Therefore, AEP-FWS has assessed the risk to sensitive snakes as low.

## BIRD RISK

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### Breeding Birds

Risk Ranking:

Low  Moderate  High  High Unmitigated

Comments/Mitigation: During updated breeding bird surveys in 2021 and 2022, a total of 8 Species at Risk were observed, all in low abundance, and there was moderate breeding bird activity across the Project area. The Proponent has committed to avoiding construction during the grassland breeding bird period (April 1 to July 15) in native grassland habitat, which aligns with the *Directive*. The Proponent has also committed to conducting nest sweeps between July 16 and August 23 in native grassland habitat prior to construction. The Proponent has not committed to avoiding this period during construction in tame grassland habitat, but has committed to mowing in tame grassland habitat during March, prior to start of construction, which should discouraged grassland breeding birds from nesting in this habitat type. Given the mitigation commitments, AEP-FWS has assessed the risk of disturbance and habitat loss to breeding birds as moderate.

### Bird Risk

Risk Ranking:

Low  Moderate  High  High Unmitigated

Comments/Mitigation: Breeding raptor use in the Project area is very high, including a high abundance of breeding ferruginous hawk (a Species at Risk). This represents an increased risk of mortality during operations, especially for young of year raptors. There is also a potential risk of mortality for grassland breeding birds in tame grassland during construction, and ongoing mortality risk to breeding birds during operations. Given the commitment to some mitigations, AEP-FWS has assessed the overall mortality risk to birds as moderate.

## BAT RISK

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### Bat Risk

Risk Ranking:

Low  Moderate  High  High Unmitigated

Comments/Mitigation: Bat surveys have not been updated (no requirement to update them). Therefore, the risk to bats remains moderate.

## Other Wildlife Risks

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### Guy Wires

Risk Ranking:

Not Applicable  Low  Moderate  High  High Unmitigated

Comments/Mitigation: Guys wires will be marked to reduce bird collisions if they are needed on MET towers.

### Collection Lines

Risk Ranking:  Low  Moderate  High  High Unmitigated

Comments/Mitigation: All collector lines will be sited underground, and minimal disturbance techniques (horizontal directional drilling or plough-in methods) will be used in areas of high quality wildlife habitat (e.g. native grassland and wetland setbacks).

### Post Construction Monitoring Plan

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Risk Ranking:  Low  High  High Unmitigated

Has the Proponent committed to post-construction monitoring that follows requirements outlined in the *PCMP Protocol*? (Post-construction monitoring reports must be submitted to AEP-FWS and the AUC annually by the end of January following the mortality monitoring period).  Yes  No

Comments:

### Post Construction Mitigation Plan

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Risk Ranking:  Low  Moderate  High  High Unmitigated

Has the Proponent identified appropriate post-construction mitigation to address risk to wildlife or wildlife habitat as per the intent of the Directives?  Yes  No



## APPENDIX C    ALBERTA WATER WELL DRILLING REPORTS



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198066  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location							Measurement in Imperial				
<b>Owner Name</b> CAN EXPORT GAS LTD#STH 5	Address		Town		Province	Country	Postal Code				
<b>Location</b>	<i>1/4 or LSD</i>	<i>SEC</i>	<i>TWP</i>	<i>RGE</i>	<i>W of MER</i>	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
	1	11	10	5	4						
<b>Measured from Boundary of</b>				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ 30.00 ft from South _____				Latitude <u>49.800710</u> Longitude <u>-110.569705</u>				Elevation <u>3290.00</u> ft			
_____ 10.00 ft from East _____				How Location Obtained				How Elevation Obtained			
				Field				Survey-Transit			

Drilling Information	
<b>Method of Drilling</b> Drilled	<b>Type of Work</b> Structure Test Hole
<b>Proposed Well Use</b> Industrial	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b> _____		igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
609.00 ft			1955/07/14	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	609.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD :	<u>0.00</u> in	Size OD :	<u>0.00</u> in	
Wall Thickness :	<u>0.000</u> in	Wall Thickness :	<u>0.000</u> in	
Bottom at :	<u>0.00</u> ft	Top at :	<u>0.00</u> ft	
		Bottom at :	<u>0.00</u> ft	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from <u>0.00</u> ft to <u>0.00</u> ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00</u> in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198066  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial
<b>Owner Name</b> CAN EXPORT GAS LTD#STH 5		Address			Town		Province		Country	Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description	
	1	11	10	5	4					
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>					
30.00 ft from South					Latitude 49.800710		Longitude -110.569705		Elevation 3290.00 ft	
10.00 ft from East					How Location Obtained					How Elevation Obtained
					Field					Survey-Transit

Additional Information										Measurement in Imperial
Distance From Top of Casing to Ground Level _____ in										
Is Artesian Flow _____					Is Flow Control Installed _____					
Rate _____ igpm					Describe _____					
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft			
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____	Make _____	H.P. _____	Model (Output Rating) _____		
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____			
Remedial Action Taker _____					Gas _____	Depth _____ ft	Geophysical Log Taken <u>Electric</u>			
					Submitted to ESRD <u>Electric</u>					
					Sample Collected for Potability _____			Submitted to ESRD _____		
Additional Comments on Well _____										

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198076  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1971/07/09

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHORR, RON		<b>Address</b> P.O. BOX 21 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i>	<i>SEC</i>	<i>TWP</i>	<i>RGE</i>	<i>W of MER</i>	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
	13	12	10	5	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.813247</u>		Longitude <u>-110.566584</u>		Elevation <u>3150.00</u> ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Map					Estimated	

Drilling Information	
<b>Method of Drilling</b> Unknown	<b>Type of Work</b> Well Inventory
<b>Proposed Well Use</b> Stock	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1971/07/09		12.00	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
65.00 ft			1932/01/01	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	65.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown		Unknown		
Size OD : <u>24.00</u> in		Size OD : <u>0.00</u> in		
Wall Thickness : <u>0.000</u> in		Wall Thickness : <u>0.000</u> in		
Bottom at : <u>65.00</u> ft		Top at : <u>0.00</u> ft		
		Bottom at : <u>0.00</u> ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from <u>0.00</u> ft to <u>0.00</u> ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00</u> in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name OTHER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198076  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1971/07/09

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHORR, RON		<b>Address</b> P.O. BOX 21 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> 13	<i>SEC</i> 12	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.813247</u> Longitude <u>-110.566584</u> How Location Obtained _____ Map _____			Elevation <u>3150.00</u> ft How Elevation Obtained _____ Estimated			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____						Is Flow Control Installed _____
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____ Submitted to ESRD _____		
Additional Comments on Well _____					Sample Collected for Potability _____					Submitted to ESRD <u>Yes</u>	
OWNER REPORTS WELL NOT USED FOR 20 YEARS											

Yield Test			Taken From Ground Level	Measurement in Imperial	
			Depth to water level		
Test Date 1971/07/09	Start Time 12:00 AM	Static Water Level 12.00 ft	Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
<b>Method of Water Removal</b> Type _____ Removal Rate _____ igpm Depth Withdrawn From _____ 0.00 ft					
If water removal period was < 2 hours, explain why _____					

Water Diverted for Drilling		
Water Source	Amount Taken ig	Diversion Date & Time

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name OTHER	Copy of Well report provided to owner Date approval holder signed





# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198068  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b>		Address			Town		Province		Country		Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	NW	12	10	5	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.811439</u>		Longitude <u>-110.563788</u>		Elevation <u>3150.00</u> ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Not Verified					Estimated	

Drilling Information	
<b>Method of Drilling</b> Bored	<b>Type of Work</b> Well Inventory
<b>Proposed Well Use</b> Stock	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
Recommended Pump Rate		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1928/01/01		16.00	

Well Completion				Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
50.00 ft			1928/01/01	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	50.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown		Unknown		
Size OD : <u>24.00</u> in		Size OD : <u>0.00</u> in		
Wall Thickness : <u>0.000</u> in		Wall Thickness : <u>0.000</u> in		
Bottom at : <u>0.00</u> ft		Top at : <u>0.00</u> ft		
		Bottom at : <u>0.00</u> ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by _____				
<b>Annular Seal</b>				
Placed from <u>0.00</u> ft to <u>0.00</u> ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00</u> in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198068  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial
<i>Owner Name</i>		<i>Address</i>			<i>Town</i>		<i>Province</i>		<i>Country</i>	<i>Postal Code</i>
<i>Location</i>	<i>1/4 or LSD</i>	<i>SEC</i>	<i>TWP</i>	<i>RGE</i>	<i>W of MER</i>	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>	
NW		12	10	5	4					
<i>Measured from Boundary of</i>					<i>GPS Coordinates in Decimal Degrees (NAD 83)</i>					
_____ ft from _____					<i>Latitude</i> 49.811439		<i>Longitude</i> -110.563788		<i>Elevation</i> 3150.00 ft	
_____ ft from _____					<i>How Location Obtained</i>					<i>How Elevation Obtained</i>
					Not Verified					Estimated

Additional Information										Measurement in Imperial
<i>Distance From Top of Casing to Ground Level</i> _____ in										
<i>Is Artesian Flow</i> _____					<i>Is Flow Control Installed</i> _____					
<i>Rate</i> _____ igpm					<i>Describe</i> _____					
<i>Recommended Pump Rate</i> _____ 0.00 igpm					<i>Pump Installed</i> _____		<i>Depth</i> _____ ft			
<i>Recommended Pump Intake Depth (From TOC)</i> _____ 0.00 ft					<i>Type</i> _____	<i>Make</i> _____	<i>H.P.</i> _____	<i>Model (Output Rating)</i> _____		
<i>Did you Encounter Saline Water (&gt;4000 ppm TDS)</i> _____					<i>Depth</i> _____ ft		<i>Well Disinfected Upon Completion</i> _____			
<i>Remedial Action Taken</i> _____					<i>Gas</i> _____	<i>Depth</i> _____ ft	<i>Geophysical Log Taken</i> _____			
					<i>Submitted to ESRD</i> _____					
<i>Additional Comments on Well</i>					<i>Sample Collected for Potability</i> _____			<i>Submitted to ESRD</i> _____		
OWNER REPORTS CLEAR, HARD, ALK WATER @46F										

Yield Test			Taken From Ground Level	Measurement in Imperial
			<i>Depth to water level</i>	
<i>Test Date</i>	<i>Start Time</i>	<i>Static Water Level</i>		
1928/01/01	12:00 AM	16.00 ft		
<i>Method of Water Removal</i>				
<i>Type</i> _____				
<i>Removal Rate</i> _____ igpm				
<i>Depth Withdrawn From</i> _____ 0.00 ft				
<i>If water removal period was &lt; 2 hours, explain why</i>				

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Water Diverted for Drilling		
<i>Water Source</i>	<i>Amount Taken</i>	<i>Diversion Date &amp; Time</i>
	ig	

Contractor Certification	
<i>Name of Journeyman responsible for drilling/construction of well</i>	<i>Certification No</i>
UNKNOWN NA DRILLER	1
<i>Company Name</i>	<i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i>
UNKNOWN DRILLER	



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198068  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b>		Address			Town		Province		Country		Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	NW	12	10	5	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.811439</u>		Longitude <u>-110.563788</u>		Elevation <u>3150.00</u> ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Not Verified					Estimated	

Drilling Information	
<b>Method of Drilling</b> Bored	<b>Type of Work</b> Well Inventory
<b>Proposed Well Use</b> Stock	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
Recommended Pump Rate		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1928/01/01		16.00	

Well Completion				Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
50.00 ft			1928/01/01	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	50.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown		Unknown		
Size OD :	<u>24.00</u> in	Size OD :	<u>0.00</u> in	
Wall Thickness :	<u>0.000</u> in	Wall Thickness :	<u>0.000</u> in	
Bottom at :	<u>0.00</u> ft	Top at :	<u>0.00</u> ft	
		Bottom at :	<u>0.00</u> ft	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from		<u>0.00</u> ft	to	<u>0.00</u> ft
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD :		<u>0.00</u> in		
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198068  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial
<b>Owner Name</b>		Address			Town		Province		Country	Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description	
	NW	12	10	5	4					
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>					
_____ ft from _____					Latitude <u>49.811439</u>		Longitude <u>-110.563788</u>		Elevation <u>3150.00</u> ft	
_____ ft from _____					How Location Obtained					How Elevation Obtained
					Not Verified					Estimated

Additional Information										Measurement in Imperial
Distance From Top of Casing to Ground Level _____ in										
Is Artesian Flow _____					Is Flow Control Installed _____					
Rate _____ igpm					Describe _____					
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft			
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____	
										Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____			
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____	
										Submitted to ESRD _____
Additional Comments on Well										Sample Collected for Potability _____
OWNER REPORTS CLEAR, HARD, ALK WATER @46F										Submitted to ESRD _____

Yield Test			Taken From Ground Level	Measurement in Imperial
			Depth to water level	
Test Date	Start Time	Static Water Level		
1928/01/01	12:00 AM	16.00 ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ 0.00 ft				
If water removal period was < 2 hours, explain why				

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
UNKNOWN NA DRILLER	1
Company Name	Copy of Well report provided to owner
UNKNOWN DRILLER	Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198075  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/08/12

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHORR, RON		<b>Address</b> P.O. BOX 21 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b> T1A 7E5	
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>			
	NW	12	10	5	4							
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____					Latitude <u>49.811439</u>		Longitude <u>-110.563788</u>			Elevation _____ ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained		
					Map					Not Obtained		

Drilling Information	
<b>Method of Drilling</b> Unknown	<b>Type of Work</b> Chemistry
<b>Proposed Well Use</b> Unknown	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		_____ igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
20.00 ft				
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	20.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown				
Size OD : _____ 0.00 in		Size OD : _____ 0.00 in		
Wall Thickness : _____ 0.000 in		Wall Thickness : _____ 0.000 in		
Bottom at : _____ 0.00 ft		Top at : _____ 0.00 ft		
		Bottom at : _____ 0.00 ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by _____				
<b>Annular Seal</b>				
Placed from _____ 0.00 ft to _____ 0.00 ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : _____ 0.00 in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198075  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/08/12

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHORR, RON		<b>Address</b> P.O. BOX 21 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b> T1A 7E5
<b>Location</b>	<i>1/4 or LSD</i> NW	<i>SEC</i> 12	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.811439</u> Longitude <u>-110.563788</u>			Elevation _____ ft		How Elevation Obtained _____	
Map					How Location Obtained _____			Not Obtained			

Additional Information										Measurement in Imperial			
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____		Is Flow Control Installed _____						
Rate _____ igpm					Describe _____								
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft						
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____		
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____						
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		Submitted to ESRD _____		
Additional Comments on Well SEE VG CHEM SAMPLE #887481					Sample Collected for Potability _____			Submitted to ESRD <u>Yes</u>					

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 288127  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1998/05/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, CLAIRE		<b>Address</b> MED HAT		<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>	1/4 or LSD SW	SEC 11	TWP 10	RGE 5	W of MER 4	Lot	Block	Plan	Additional Description		
<b>Measured from Boundary of</b>				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____				Latitude <u>49.804244</u> Longitude <u>-110.586432</u>				Elevation _____ ft			
_____ ft from _____				How Location Obtained				How Elevation Obtained			
				Map				Not Obtained			

Drilling Information			
<b>Method of Drilling</b> Auger		<b>Type of Work</b> Dry Hole-Decommissioned	
<b>Proposed Well Use</b> Domestic		Plugged	<u>1998/04/29</u>
		Plugged with	<u>Cuttings</u>
		Amount	_____

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
1.00		Topsoil	
20.00		Brown Till	
30.00		Blue Sand	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		_____ igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
30.00 ft		1998/04/29	1998/04/29	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	30.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD :	<u>0.00 in</u>	Size OD :	<u>0.00 in</u>	
Wall Thickness :	<u>0.000 in</u>	Wall Thickness :	<u>0.000 in</u>	
Bottom at :	<u>0.00 ft</u>	Top at :	<u>0.00 ft</u>	
		Bottom at :	<u>0.00 ft</u>	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by _____				
<b>Annular Seal</b>				
Placed from		<u>0.00 ft</u>	to	<u>0.00 ft</u>
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD :		<u>0.00 in</u>		
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AQUA BORING LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 288127  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1998/05/12

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, CLAIRE		<b>Address</b> MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 11	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.804244</u> Longitude <u>-110.586432</u>			Elevation _____ ft		How Elevation Obtained _____	
Map					How Location Obtained _____			Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____					Is Flow Control Installed _____	
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
					Submitted to ESRD _____						
Additional Comments on Well _____					Sample Collected for Potability _____			Submitted to ESRD _____			

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AQUA BORING LTD.	Copy of Well report provided to owner Date approval holder signed





# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 288128  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1998/05/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHATTLE, CLAIRE		<b>Address</b> MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>			
	SW	11	10	5	4							
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____					Latitude <u>49.804244</u> Longitude <u>-110.586432</u>					Elevation _____ ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained		
					Map					Not Obtained		

Drilling Information			
<b>Method of Drilling</b> Auger		<b>Type of Work</b> Dry Hole-Decommissioned	
<b>Proposed Well Use</b> Domestic		Plugged <u>1998/04/29</u>	
		Plugged with <u>Cuttings</u>	
		Amount _____	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
1.00		Topsoil	
30.00		Brown Till	
65.00		Blue Till	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>_____</u> igpm	
<b>Test Date</b>	<b>Water Removal Rate (igpm)</b>	<b>Static Water Level (ft)</b>	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
65.00 ft		1998/04/29	1998/04/29	
<b>Borehole</b>				
<b>Diameter (in)</b>	<b>From (ft)</b>	<b>To (ft)</b>		
0.00	0.00	65.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD : <u>0.00 in</u>		Size OD : <u>0.00 in</u>		
Wall Thickness : <u>0.000 in</u>		Wall Thickness : <u>0.000 in</u>		
Bottom at : <u>0.00 ft</u>		Top at : <u>0.00 ft</u>		
		Bottom at : <u>0.00 ft</u>		
<b>Perforations</b>				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Diameter or Slot Width (in)</b>	<b>Slot Length (in)</b>	<b>Hole or Slot Interval (in)</b>
Perforated by _____				
<b>Annular Seal</b>				
Placed from <u>0.00 ft</u> to <u>0.00 ft</u>				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00 in</u>				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Slot Size (in)</b>		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AQUA BORING LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 288128  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1998/05/12

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, CLAIRE		<b>Address</b> MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 11	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.804244</u> Longitude <u>-110.586432</u>			Elevation _____ ft		How Elevation Obtained _____	
Map					How Location Obtained _____			Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____					Is Flow Control Installed _____	
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
					Submitted to ESRD _____						
Additional Comments on Well _____					Sample Collected for Potability _____			Submitted to ESRD _____			

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AQUA BORING LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 189148  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b>		Address			Town		Province		Country		Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	SW	6	10	4	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.789712</u>		Longitude <u>-110.541157</u>		Elevation <u>3290.00</u> ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Not Verified					Estimated	

Drilling Information	
<b>Method of Drilling</b> Bored	<b>Type of Work</b> Well Inventory
<b>Proposed Well Use</b> Domestic	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1927/01/01		9.00	

Well Completion				Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
32.00 ft			1927/01/01	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	32.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown				
Size OD :	<u>24.00</u> in	Size OD :	<u>0.00</u> in	
Wall Thickness :	<u>0.000</u> in	Wall Thickness :	<u>0.000</u> in	
Bottom at :	<u>0.00</u> ft	Top at :	<u>0.00</u> ft	
		Bottom at :	<u>0.00</u> ft	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from		<u>0.00</u> ft	to	<u>0.00</u> ft
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD :		<u>0.00</u> in		
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 189148  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial
<b>Owner Name</b>		Address			Town		Province		Country	Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description	
	SW	6	10	4	4					
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>					
_____ ft from _____					Latitude <u>49.789712</u>		Longitude <u>-110.541157</u>		Elevation <u>3290.00</u> ft	
_____ ft from _____					How Location Obtained					How Elevation Obtained
					Not Verified					Estimated

Additional Information										Measurement in Imperial
Distance From Top of Casing to Ground Level _____ in										
Is Artesian Flow _____					Is Flow Control Installed _____					
Rate _____ igpm					Describe _____					
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft			
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____	
										Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____			
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____	
										Submitted to ESRD _____
Additional Comments on Well _____										Sample Collected for Potability _____
										Submitted to ESRD _____
OWNER REPORTS CLEAR, MED-HARD, ALK WATER @45F										

Yield Test			Taken From Ground Level	Measurement in Imperial
			Depth to water level	
Test Date	Start Time	Static Water Level		
1927/01/01	12:00 AM	9.00 ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ 0.00 ft				
If water removal period was < 2 hours, explain why _____				

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
UNKNOWN NA DRILLER	1
Company Name	Copy of Well report provided to owner
UNKNOWN DRILLER	Date approval holder signed





# Water Well Drilling Report

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GIC Well ID 198025  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> UNION OIL OF CALIF#STH 19		Address			Town		Province		Country		Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	2	2	10	5	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
15.00 ft from South					Latitude 49.786178		Longitude -110.579602		Elevation 3430.00 ft		
284.00 ft from West					How Location Obtained					How Elevation Obtained	
					Field					Survey-Transit	

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in											
Is Artesian Flow _____					Is Flow Control Installed _____						
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		
										Model (Output Rating) _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ ft		Geophysical Log Taken <u>Electric</u>		
										Submitted to ESRD <u>Electric</u>	
										Sample Collected for Potability _____	
										Submitted to ESRD _____	
Additional Comments on Well _____											

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

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GIC Well ID 198066  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> CAN EXPORT GAS LTD#STH 5		Address		Town		Province		Country		Postal Code	
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	1	11	10	5	4						
<b>Measured from Boundary of</b>				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ 30.00 ft from South _____				Latitude <u>49.800710</u> Longitude <u>-110.569705</u>				Elevation <u>3290.00 ft</u>			
_____ 10.00 ft from East _____				How Location Obtained				How Elevation Obtained			
				Field				Survey-Transit			

Drilling Information	
<b>Method of Drilling</b> Drilled	<b>Type of Work</b> Structure Test Hole
<b>Proposed Well Use</b> Industrial	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
Recommended Pump Rate _____		igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
609.00 ft			1955/07/14	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	609.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD :	0.00 in	Size OD :	0.00 in	
Wall Thickness :	0.000 in	Wall Thickness :	0.000 in	
Bottom at :	0.00 ft	Top at :	0.00 ft	
		Bottom at :	0.00 ft	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from		0.00 ft	to	0.00 ft
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD :		0.00 in		
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198066  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> CAN EXPORT GAS LTD#STH 5		Address			Town		Province		Country		Postal Code
<b>Location</b>	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	1	11	10	5	4						
<b>Measured from Boundary of</b>				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
30.00 ft from South				Latitude 49.800710				Longitude -110.569705			
10.00 ft from East				How Location Obtained				Elevation 3290.00 ft			
				Field				How Elevation Obtained			
								Survey-Transit			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in											
Is Artesian Flow _____					Is Flow Control Installed _____						
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		
					Model (Output Rating) _____						
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ ft		Geophysical Log Taken <u>Electric</u>		
					Submitted to ESRD <u>Electric</u>						
					Sample Collected for Potability _____			Submitted to ESRD _____			
Additional Comments on Well _____											

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed





# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 189142  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1976/09/13

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> CLARK, G.		<b>Address</b> P.O. BOX 1252 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>		
	SW	6	10	4	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.789712</u>		Longitude <u>-110.541157</u>		Elevation <u>3175.00</u> ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Map					Estimated	

Drilling Information	
<b>Method of Drilling</b> Unknown	<b>Type of Work</b> Chemistry
<b>Proposed Well Use</b> Domestic	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1976/09/07		12.00	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
17.00 ft				
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	17.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Other				
Size OD : <u>0.00</u> in		Size OD : <u>0.00</u> in		
Wall Thickness : <u>0.000</u> in		Wall Thickness : <u>0.000</u> in		
Bottom at : <u>0.00</u> ft		Top at : <u>0.00</u> ft		Bottom at : <u>0.00</u> ft
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from <u>0.00</u> ft to <u>0.00</u> ft		Amount _____		
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00</u> in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 189142  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1976/09/13

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> CLARK, G.		<b>Address</b> P.O. BOX 1252 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<b>1/4 or LSD</b> SW	<b>SEC</b> 6	<b>TWP</b> 10	<b>RGE</b> 4	<b>W of MER</b> 4	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789712</u> Longitude <u>-110.541157</u>			Elevation <u>3175.00</u> ft		How Elevation Obtained Estimated	
					How Location Obtained Map						

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____					Is Flow Control Installed _____	
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
					Submitted to ESRD _____						
Additional Comments on Well OWNER REPORTS BRICK CRIBBING FOR WELL COMPLETION					Sample Collected for Potability _____					Submitted to ESRD <u>Yes</u>	

Yield Test			Taken From Ground Level	Measurement in Imperial	
			Depth to water level		
Test Date 1976/09/07	Start Time 12:00 AM	Static Water Level 12.00 ft	Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
<b>Method of Water Removal</b>					
Type _____					
Removal Rate _____ igpm					
Depth Withdrawn From _____ 0.00 ft					
If water removal period was < 2 hours, explain why					

Water Diverted for Drilling		
Water Source	Amount Taken ig	Diversion Date & Time

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name UNKNOWN DRILLER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198027  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1975/01/21

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, W.		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>		
	SW	2	10	5	4						
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>						
_____ ft from _____					Latitude <u>49.789753</u>		Longitude <u>-110.586393</u>		Elevation _____ ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained	
					Map					Not Obtained	

Drilling Information	
<b>Method of Drilling</b> Rotary	<b>Type of Work</b> New Well
<b>Proposed Well Use</b> Domestic & Stock	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
15.00		Dark Clay	
35.00		Clay & Rocks	
50.00		Sandy Clay	
60.00		Coarse Grained Sand	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b> <u>0.00 igpm</u>			
<b>Test Date</b>	<b>Water Removal Rate (igpm)</b>	<b>Static Water Level (ft)</b>	
1974/06/01	5.00	25.00	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
60.00 ft			1974/06/01	
<b>Borehole</b>				
<b>Diameter (in)</b>	<b>From (ft)</b>	<b>To (ft)</b>		
0.00	0.00	60.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Plastic				
<b>Size OD :</b> <u>6.00 in</u>		<b>Size OD :</b> <u>0.00 in</u>		
<b>Wall Thickness :</b> <u>0.000 in</u>		<b>Wall Thickness :</b> <u>0.000 in</u>		
<b>Bottom at :</b> <u>60.00 ft</u>		<b>Top at :</b> <u>0.00 ft</u>		
		<b>Bottom at :</b> <u>0.00 ft</u>		
<b>Perforations</b>				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Diameter or Slot Width(in)</b>	<b>Slot Length (in)</b>	<b>Hole or Slot Interval(in)</b>
Perforated by				
<b>Annular Seal</b> Cement/Grout				
Placed from <u>0.00 ft</u> to <u>0.00 ft</u>				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
<b>Size OD :</b> <u>0.00 in</u>				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Slot Size (in)</b>		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
<b>Name of Journeyman responsible for drilling/construction of well</b> UNKNOWN NA DRILLER	<b>Certification No</b> 1
<b>Company Name</b> BRIX DRLG	<b>Copy of Well report provided to owner</b> <b>Date approval holder signed</b>



# Water Well Drilling Report

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GIC Well ID 198027  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1975/01/21

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, W.		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>		
	SW	2	10	5	4						
<b>Measured from Boundary of</b>				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from				Latitude <u>49.789753</u> Longitude <u>-110.586393</u>				Elevation _____ ft			
_____ ft from				How Location Obtained				How Elevation Obtained			
				Map				Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in											
Is Artesian Flow _____					Is Flow Control Installed _____						
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____		
										Model (Output Rating) _____	
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
										Submitted to ESRD _____	
Additional Comments on Well										Sample Collected for Potability _____	
DRILLER REPORTS MED-HARD WATER										Submitted to ESRD <u>Yes</u>	

Yield Test			Taken From Ground Level	Measurement in Imperial
			Depth to water level	
Test Date	Start Time	Static Water Level		
1974/06/01	12:00 AM	25.00 ft		
<b>Method of Water Removal</b>				
Type <u>Unknown</u>				
Removal Rate <u>5.00 igpm</u>				
Depth Withdrawn From <u>45.00 ft</u>				
If water removal period was < 2 hours, explain why				

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name BRIX DRLG	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

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GIC Well ID 198030  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHATTLE, G.		<b>Address</b> WOOLCHESTER			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>	<b>1/4 or LSD</b>	<b>SEC</b>	<b>TWP</b>	<b>RGE</b>	<b>W of MER</b>	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>			
	SW	2	10	5	4							
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____					Latitude <u>49.789753</u>		Longitude <u>-110.586393</u>		Elevation <u>3275.00</u> ft			
_____ ft from _____					How Location Obtained					How Elevation Obtained		
					Map					Estimated		

Drilling Information	
<b>Method of Drilling</b> Bored	<b>Type of Work</b> Federal Well Survey
<b>Proposed Well Use</b> Unknown	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>0.00</u> igpm	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1927/01/01		15.00	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
64.00 ft			1927/01/01	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	64.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Unknown		Unknown		
Size OD : <u>24.00</u> in		Size OD : <u>0.00</u> in		
Wall Thickness : <u>0.000</u> in		Wall Thickness : <u>0.000</u> in		
Bottom at : <u>0.00</u> ft		Top at : <u>0.00</u> ft		
		Bottom at : <u>0.00</u> ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by				
<b>Annular Seal</b>				
Placed from <u>0.00</u> ft to <u>0.00</u> ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00</u> in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name OTHER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198030  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, G.		<b>Address</b> WOOLCHESTER			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<b>1/4 or LSD</b> SW	<b>SEC</b> 2	<b>TWP</b> 10	<b>RGE</b> 5	<b>W of MER</b> 4	<b>Lot</b>	<b>Block</b>	<b>Plan</b>	<b>Additional Description</b>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789753</u> Longitude <u>-110.586393</u>			Elevation <u>3275.00</u> ft		How Elevation Obtained Estimated	
					How Location Obtained Map						

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____					Is Flow Control Installed _____	
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ 0.00 igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ 0.00 ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taker _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
					Submitted to ESRD _____						
Additional Comments on Well					Sample Collected for Potability _____			Submitted to ESRD _____			
OWNER REPORTS CLEAR, HARD, ALK WATER											

Yield Test			Taken From Ground Level	Measurement in Imperial	
			Depth to water level		
Test Date 1927/01/01	Start Time 12:00 AM	Static Water Level 15.00 ft	Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)
<b>Method of Water Removal</b>					
Type _____					
Removal Rate _____ igpm					
Depth Withdrawn From _____ 0.00 ft					
If water removal period was < 2 hours, explain why					

Water Diverted for Drilling		
Water Source	Amount Taken ig	Diversion Date & Time

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name OTHER	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

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GIC Well ID 198031  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/11/09

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHATTLE, NEIL		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>												
1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description				
SW	2	10	5	4								
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____					Latitude <u>49.789753</u>		Longitude <u>-110.586393</u>			Elevation _____ ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained		
					Map					Not Obtained		

Drilling Information	
<b>Method of Drilling</b> Bored	<b>Type of Work</b> New Well
<b>Proposed Well Use</b> Domestic & Stock	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
1.00		Topsoil	
62.00		Brown Oxidized Till	
83.00	Yes	Yellow Water Bearing Sand & Gravel	
85.00		Blue Till	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b>		<u>15.00 igpm</u>	
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1988/09/21	52.50	50.00	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
85.00 ft		1988/09/21	1988/09/21	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	85.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
		Galvanized Steel		
Size OD :	<u>0.00 in</u>	Size OD :	<u>30.00 in</u>	
Wall Thickness :	<u>0.000 in</u>	Wall Thickness :	<u>0.062 in</u>	
Bottom at :	<u>0.00 ft</u>	Top at :	<u>0.00 ft</u>	
		Bottom at :	<u>84.00 ft</u>	
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
62.00	84.00	0.060		0.06
Perforated by				
<b>Annular Seal</b> Cuttings				
Placed from <u>0.00 ft</u> to <u>9.00 ft</u>				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : <u>0.00 in</u>				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type <u>Pitrun</u>		Grain Size _____		
Amount <u>20.00 Yards</u>				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AMA DRILLING CO. LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198031  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/11/09

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, NEIL		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 2	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789753</u> Longitude <u>-110.586393</u>			Elevation _____ ft		How Elevation Obtained	
Map					How Location Obtained			Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____		Is Flow Control Installed _____				
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ 15.00 igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ 82.00 ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
					Submitted to ESRD _____						
Additional Comments on Well SEE VG CHEM SAMPLE #8809720					Sample Collected for Potability _____			Submitted to ESRD <u>Yes</u>			

Yield Test				Taken From Ground Level	Measurement in Imperial
				Depth to water level	
Test Date 1988/09/21	Start Time 12:00 AM	Static Water Level 50.00 ft		Pumping (ft)	Recovery (ft)
				Elapsed Time Minutes:Sec	
<b>Method of Water Removal</b>					
Type <u>Bailer</u>					
Removal Rate <u>52.50 igpm</u>					
Depth Withdrawn From <u>0.00 ft</u>					
If water removal period was < 2 hours, explain why					

Water Diverted for Drilling		
Water Source	Amount Taken ig	Diversion Date & Time

Contractor Certification	
Name of Journeymen responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name AMA DRILLING CO. LTD.	Copy of Well report provided to owner Date approval holder signed





# Water Well Drilling Report

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GIC Well ID 198034  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/11/07

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHATTLE, NEIL#TH 1		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>												
1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description				
SW	2	10	5	4								
<b>Measured from Boundary of</b>					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b>							
_____ ft from _____					Latitude <u>49.789753</u> Longitude <u>-110.586393</u>					Elevation _____ ft		
_____ ft from _____					How Location Obtained					How Elevation Obtained		
					Map					Not Obtained		

Drilling Information	
<b>Method of Drilling</b> Unknown	<b>Type of Work</b> Test Hole
<b>Proposed Well Use</b> Unknown	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
50.00		Brown Till	
100.00		Gray Till	

Yield Test Summary			Measurement in Imperial
Recommended Pump Rate _____ igpm			
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date	
100.00 ft		1988/09/16	1988/09/16	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	100.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD : _____ 0.00 in		Size OD : _____ 0.00 in		
Wall Thickness : _____ 0.000 in		Wall Thickness : _____ 0.000 in		
Bottom at : _____ 0.00 ft		Top at : _____ 0.00 ft		
		Bottom at : _____ 0.00 ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by _____				
<b>Annular Seal</b>				
Placed from _____ 0.00 ft to _____ 0.00 ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : _____ 0.00 in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name MCALLISTER HOLDINGS LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198034  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1988/11/07

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, NEIL#TH 1		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 2	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____				<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789753</u> Longitude <u>-110.586393</u> How Location Obtained _____ Map _____				Elevation _____ ft How Elevation Obtained _____ Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____					Is Flow Control Installed _____	
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____					Depth _____ ft	
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____					Make _____ H.P. _____	
					Model (Output Rating) _____						
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft					Well Disinfected Upon Completion _____	
Remedial Action Taker _____					Gas _____					Depth _____ ft	
					Geophysical Log Taken _____					Submitted to ESRD _____	
Additional Comments on Well _____					Sample Collected for Potability _____					Submitted to ESRD _____	

Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date	Start Time	Static Water Level		
		ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name MCALLISTER HOLDINGS LTD.	Copy of Well report provided to owner Date approval holder signed



# Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 198037  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1989/01/12

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial		
<b>Owner Name</b> SCHATTLE, NEIL#TH 2		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>	
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 2	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>			
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789753</u> Longitude <u>-110.586393</u>			Elevation _____ ft		How Location Obtained Map		
					How Elevation Obtained Not Obtained							

Drilling Information	
<b>Method of Drilling</b> Auger	<b>Type of Work</b> Test Hole-Decommissioned <a href="#">View Decommissioning Report</a>
<b>Proposed Well Use</b> Unknown	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
63.00		Brown Till	
72.00		Brown Sand	
80.00		Gray Till	

Yield Test Summary			Measurement in Imperial
<b>Recommended Pump Rate</b> _____ igpm			
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	

Well Completion				Measurement in Imperial
<b>Total Depth Drilled</b>	<b>Finished Well Depth</b>	<b>Start Date</b>	<b>End Date</b>	
80.00 ft		1988/09/01	1988/09/16	
<b>Borehole</b>				
Diameter (in)	From (ft)	To (ft)		
0.00	0.00	80.00		
<b>Surface Casing (if applicable)</b>		<b>Well Casing/Liner</b>		
Size OD : _____ 0.00 in		Size OD : _____ 0.00 in		
Wall Thickness : _____ 0.000 in		Wall Thickness : _____ 0.000 in		
Bottom at : _____ 0.00 ft		Top at : _____ 0.00 ft		
		Bottom at : _____ 0.00 ft		
<b>Perforations</b>				
From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
Perforated by _____				
<b>Annular Seal</b>				
Placed from _____ 0.00 ft to _____ 0.00 ft				
Amount _____				
Other Seals				
Type		At (ft)		
<b>Screen Type</b>				
Size OD : _____ 0.00 in				
From (ft)	To (ft)	Slot Size (in)		
Attachment _____				
Top Fittings _____		Bottom Fittings _____		
<b>Pack</b>				
Type _____		Grain Size _____		
Amount _____				

Contractor Certification	
<b>Name of Journeyman responsible for drilling/construction of well</b> UNKNOWN NA DRILLER	<b>Certification No</b> 1
<b>Company Name</b> MCALLISTER HOLDINGS LTD.	<b>Copy of Well report provided to owner</b> <b>Date approval holder signed</b>



# Water Well Drilling Report

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Well Identification and Location										Measurement in Imperial	
<b>Owner Name</b> SCHATTLE, NEIL#TH 2		<b>Address</b> P.O. BOX 722 MED HAT			<b>Town</b>		<b>Province</b>		<b>Country</b>		<b>Postal Code</b>
<b>Location</b>	<i>1/4 or LSD</i> SW	<i>SEC</i> 2	<i>TWP</i> 10	<i>RGE</i> 5	<i>W of MER</i> 4	<i>Lot</i>	<i>Block</i>	<i>Plan</i>	<i>Additional Description</i>		
<b>Measured from Boundary of</b> _____ ft from _____ _____ ft from _____					<b>GPS Coordinates in Decimal Degrees (NAD 83)</b> Latitude <u>49.789753</u> Longitude <u>-110.586393</u> How Location Obtained _____ Map _____			Elevation _____ ft How Elevation Obtained _____ Not Obtained			

Additional Information										Measurement in Imperial	
Distance From Top of Casing to Ground Level _____ in					Is Artesian Flow _____						Is Flow Control Installed _____
Rate _____ igpm					Describe _____						
Recommended Pump Rate _____ igpm					Pump Installed _____		Depth _____ ft				
Recommended Pump Intake Depth (From TOC) _____ ft					Type _____		Make _____		H.P. _____		Model (Output Rating) _____
Did you Encounter Saline Water (>4000 ppm TDS) _____					Depth _____ ft		Well Disinfected Upon Completion _____				
Remedial Action Taken _____					Gas _____		Depth _____ ft		Geophysical Log Taken _____		
									Submitted to ESRD _____		
Additional Comments on Well _____					Sample Collected for Potability _____			Submitted to ESRD _____			

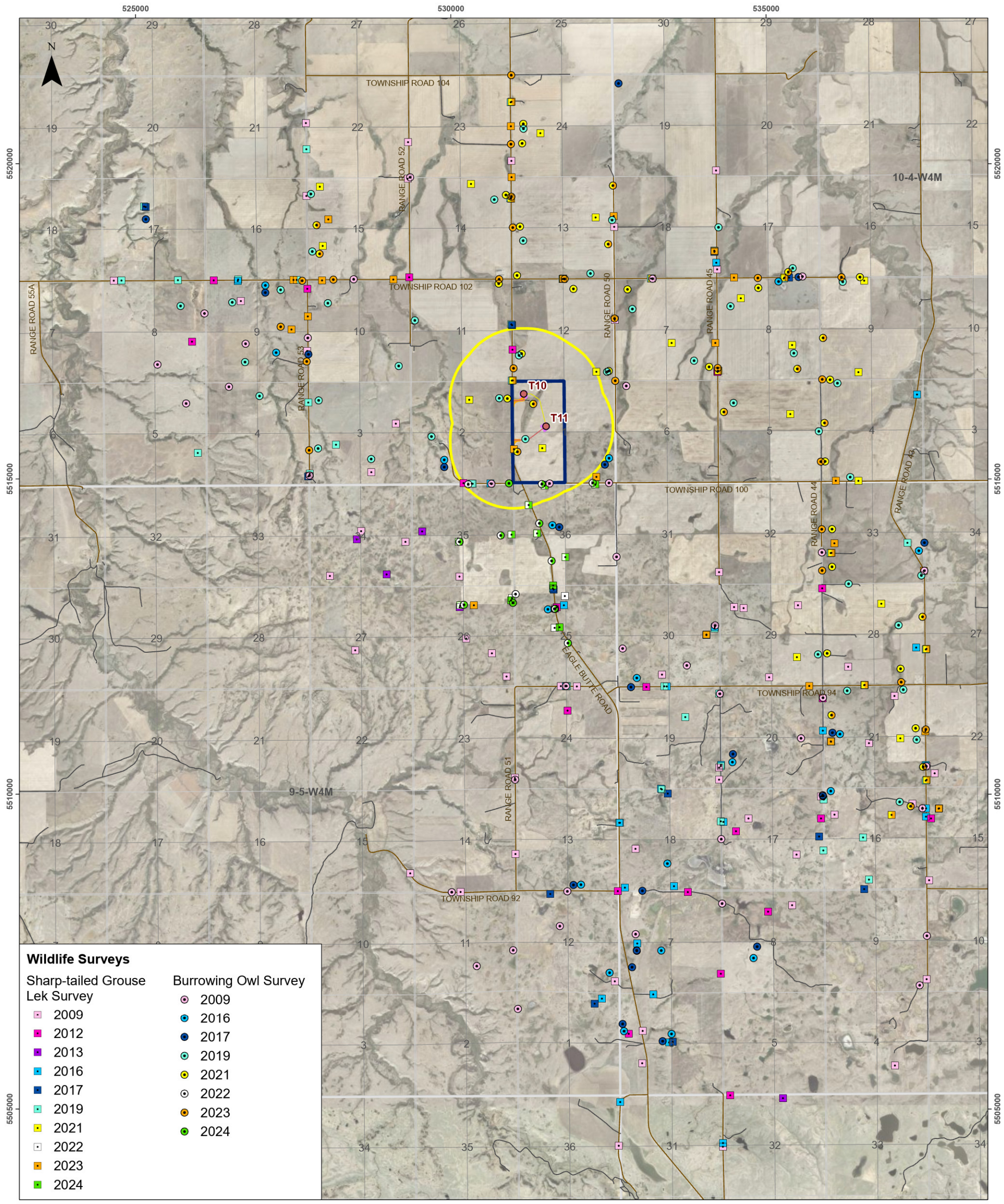
Yield Test			Taken From Ground Level	Measurement in Imperial
Test Date _____	Start Time _____	Static Water Level _____ ft		
<b>Method of Water Removal</b>				
Type _____				
Removal Rate _____ igpm				
Depth Withdrawn From _____ ft				
If water removal period was < 2 hours, explain why _____				

Water Diverted for Drilling		
Water Source _____	Amount Taken _____ ig	Diversion Date & Time _____

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well UNKNOWN NA DRILLER	Certification No 1
Company Name MCALLISTER HOLDINGS LTD.	Copy of Well report provided to owner Date approval holder signed



**APPENDIX D    WILD ROSE 2  
REGIONAL  
WILDLIFE  
SURVEY  
LOCATIONS**



**Wildlife Surveys**

<b>Sharp-tailed Grouse Lek Survey</b>	<b>Burrowing Owl Survey</b>
2009	2009
2012	2016
2013	2017
2016	2019
2017	2021
2019	2022
2021	2023
2022	2024
2023	
2024	

**Legend**

Primary Local Road
Secondary Local Road
Township
Section
Quarter Section
Project Area
Wildlife Study Area

**Layout**

Wind Turbine Generator - Operational
Access Road - Operational
Wind Turbine Generator - Construction
Access Road - Construction
Collector Line - Construction

**Burrowing Owl and Sharp-tailed Grouse regional survey plots**

**Wild Rose 2 Wind Inc.**

**Data Sources**

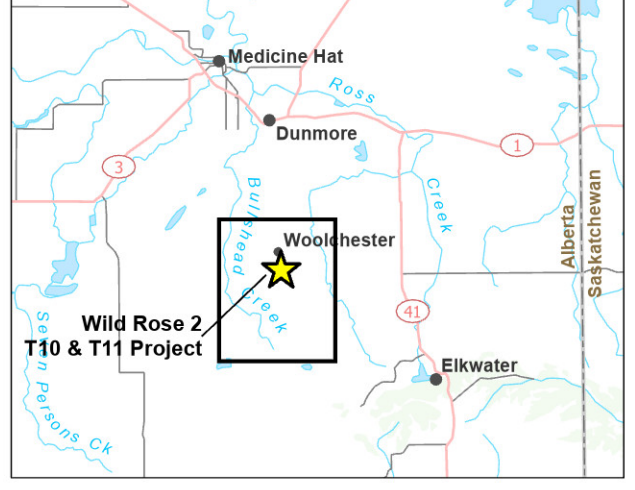
- Project Data. September 13, 2024. Wild Rose 2 Wind Inc.
- Wildlife Data. 2022-2024. EDI Environmental Dynamics Inc.
- Wildlife Data. 2009-2021. Golder Associates Ltd.
- Base data. CanVec 1:50,000 and 1:250,000. Government of Canada; 1:20,000. Altalis.
- ATS Grid. Government of Alberta.
- Main Basemap. April 2021. World Imagery: Southern Alberta, Earthstar Geographics.

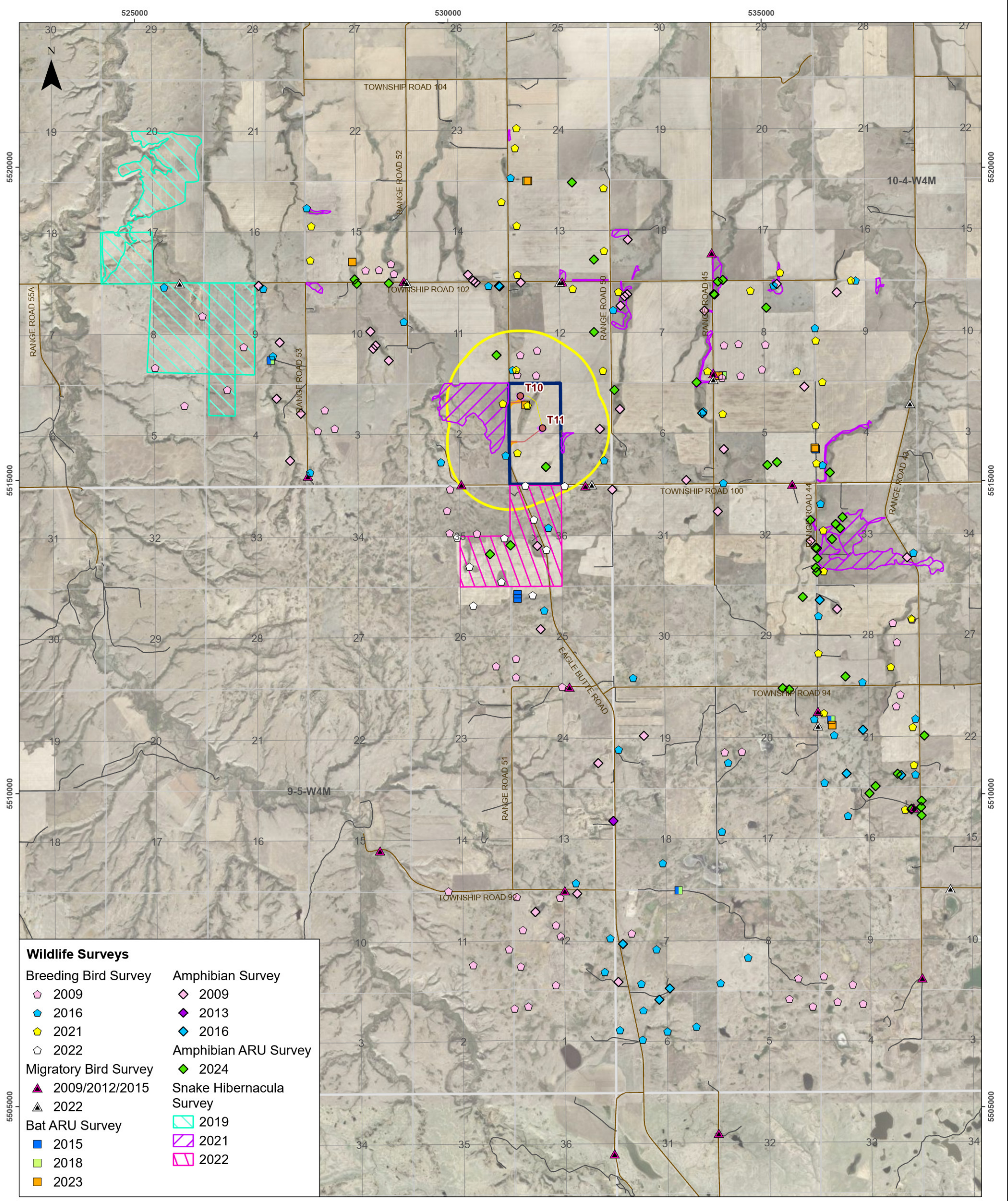
**Disclaimer**  
EDI Environmental Dynamics Inc. has made every effort to verify this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

0 1 2 3 4  
Kilometres

Map Scale 1:60,000 (printed on 11 x 17)  
Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT	Checked: CG	Figure 1	Date: 2024-10-04
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**Wildlife Surveys**

<b>Breeding Bird Survey</b>	<b>Amphibian Survey</b>
2009	2009
2016	2013
2021	2016
2022	2024
<b>Migratory Bird Survey</b>	<b>Amphibian ARU Survey</b>
2009/2012/2015	2024
2022	<b>Snake Hibernacula Survey</b>
<b>Bat ARU Survey</b>	2019
2015	2021
2018	2022
2023	

**Legend**

- Primary Local Road
- Secondary Local Road
- Township
- Section
- Quarter Section
- Project Area
- Wildlife Study Area

**Layout**

- Wind Turbine Generator - Operational
- Access Road - Operational
- Wind Turbine Generator - Construction
- Access Road - Construction
- Collector Line - Construction

**Bird, bat, amphibian, and reptile regional survey locations**

**Wild Rose 2 Wind Inc.**

**Data Sources**

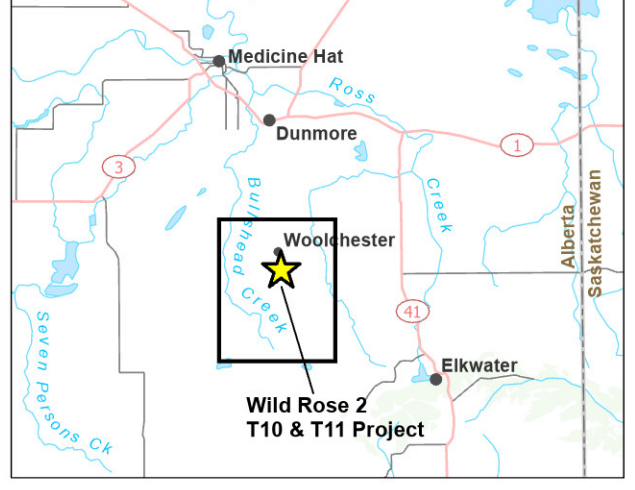
- Project Data. September 13, 2024. Wild Rose 2 Wind Inc.
- Wildlife Data. 2022-2024. EDI Environmental Dynamics Inc.
- Wildlife Data. 2009-2021. Golder Associates Ltd.
- Base data. CanVec 1:50,000 and 1:250,000. Government of Canada; 1:20,000. Altalis.
- ATS Grid. Government of Alberta.
- Main Basemap. April 2021. World Imagery: Southern Alberta, Earthstar Geographics.

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0 1 2 3 4  
Kilometres

Map Scale 1:60,000 (printed on 11 x 17)  
 Map Projection: NAD 1983 UTM Zone 12N

Drawn: CT	Checked: CG	Figure 2	Date: 2024-10-04
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**APPENDIX E     2024 WILDLIFE  
DATA SUMMARY**



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## SPRING AND FALL MIGRATION SURVEYS

Spring and fall migration surveys were last completed for the Wild Rose 2 Wind Power Project in 2022. The results of current and historical surveys are summarized in:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

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## BAT SURVEYS

Bat surveys were last completed for the Wild Rose 2 Wind Power Project in 2023. The results of current and historical bat surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

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## BURROWING OWL SURVEYS

Burrowing Owl surveys were completed for the Wild Rose 2 Wind Power Project in 2023. The results of current and historical surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

Additional surveys were completed for Burrowing Owl (*Athene cunicularia*) in 2024 for the Wild Rose 2 Wind Power Project in accordance with Standard 100.2.4 of the Wildlife Directive (Government of Alberta 2018b), and the protocols outlined in the *Sensitive Species Inventory Guidelines* (Alberta Environment and Sustainable Resource Development 2013). Wildlife surveys were conducted by EDI under General Research Permit and Collection Licence 24-120, and data will be submitted to AEPA as required by permit conditions by the end of the calendar year.



Two survey plots for each species are located within the Project WSA (Appendix A – Figure 5a). Two visits were completed under appropriate weather conditions (Table 1). Burrowing Owl surveys were completed at two plots for a total of 20 minutes surveyed. No Burrowing Owls were detected.

Over 81% of the habitat and land use within the Project Area is cultivated which provides low-quality nest burrow habitat and hunting/foraging opportunities for Burrowing Owls. As such, the potential for active Burrowing Owl nest burrows within the Project Area is expected to be low.

**Table 1. Weather conditions during 2024 Burrowing Owl surveys.**

<b>Survey Date</b>	<b>Weather Conditions<sup>1</sup></b>	<b>Number of Plots</b>	<b>Total Survey Minutes</b>
March 28, 2024	Wind: Beaufort 1 Precipitation: None Temperature: 13°C Cloud cover: 51 to 75%	2	20
May 16, 2024	Wind: Beaufort 1 Precipitation: None Temperature: 10°C Cloud cover: 51% to 75%	2	20

<sup>1</sup> Beaufort Wind Scale: Beaufort 0: < 1 km/hr, Beaufort 1: 1-5 km/hr, Beaufort 2: 6-11 km/hr, Beaufort 3: 12-19 km/hr, Beaufort 4: 20-28 km/hr, Beaufort 5: 29-38 km/hr, Beaufort 6: 39-49 km/hr.

## **SENSITIVE SNAKES**

Snake hibernacula surveys were last completed for the Wild Rose 2 Wind Power Project in 2022. The results of current and historical surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

## **SHARP-TAILED GROUSE SURVEYS**

Sharp-tailed Grouse surveys were completed for the Wild Rose 2 Wind Power Project in 2023. The results of current and historical surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).



Additional surveys were completed for Sharp-tailed Grouse (*Tympanuchus phasianellus*) in 2024 for the Wild Rose 2 Wind Power Project in accordance with Standard 100.2.4 of the Wildlife Directive (Government of Alberta 2018b), and the protocols outlined in the *Sensitive Species Inventory Guidelines* (Alberta Environment and Sustainable Resource Development 2013). Wildlife surveys were conducted by EDI under General Research Permit and Collection Licence 24-120, and data will be submitted to AEPA as required by permit conditions by the end of the calendar year.

Two survey plots for each species are located within the Project WSA (Appendix A – Figure 5a). Two visits were completed under appropriate weather conditions (Table 2). Sharp-tailed Grouse surveys were completed at two plots for a total of 28 minutes surveyed. No Sharp-tailed Grouse were detected.

Over 81% of the habitat and land use within the Project Area is cultivated which provides low-quality lekking habitat for Sharp-tailed Grouse. As such, the potential for active Sharp-tailed Grouse leks within the Project Area is expected to be low.

**Table 2. Weather conditions during 2024 Sharp-tailed Grouse surveys**

Survey Date	Weather Conditions <sup>1</sup>	Number of Plots	Total Survey Minutes
March 28, 2024	Wind: Beaufort 1 Precipitation: None Temperature: 4°C Cloud cover: 51 to 75%	2	28
May 16, 2024	Wind: Beaufort 1 Precipitation: None Temperature: 9°C Cloud cover: 51% to 75%	2	28

<sup>1</sup> Beaufort Wind Scale: Beaufort 0: < 1 km/hr, Beaufort 1: 1-5 km/hr, Beaufort 2: 6-11 km/hr, Beaufort 3: 12-19 km/hr, Beaufort 4: 20-28 km/hr, Beaufort 5: 29-38 km/hr, Beaufort 6: 39-49 km/hr.

## AMPHIBIAN SURVEYS

The results of historical amphibian surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).

In addition, as a part of the Wild Rose 2 Wind Power Project pre-construction surveys, sensitive amphibian auditory surveys were conducted at 41 Class III+ wetlands in 2024. Wetlands were selected for auditory surveys where above-ground infrastructure was located within 100 m of the wetland, and where increased potential Project-related risk to sensitive amphibians was identified.



Sensitive amphibian auditory surveys were conducted by qualified EDI wildlife biologists in accordance with the survey standards in the Sensitive Species Inventory Guidelines (Government of Alberta 2013). Surveys were completed three times over the course of the amphibian breeding season at each of the wetlands. During each survey period, one Autonomous Recording Unit (ARU) (Wildlife Acoustics models Song Meter Mini or Song Meter Micro) was deployed at each wetland overnight to record data. A wildlife biologist analyzed the recordings and identified amphibian breeding calls to determine presence of breeding sensitive amphibians within the wetland. Five minutes of recordings were analyzed once per hour starting at sunset until 01:00 am, for a total of 20 minutes per survey.

A summary of the auditory amphibian surveys completed in 2024 is provided in Table 3. Amphibian breeding is highly reliant on precipitation, and conditions following precipitation events are ideal for auditory amphibian surveys (Alberta Environment and Sustainable Resource Development 2013). Consistent with these guidelines, the City of Medicine Hat received a total precipitation of 111.4 mm in May 2024, with a heavy rainfall on May 7 with 75.7 mm of precipitation in a single day (Environment Canada 2024). Such a heavy rainfall event could be expected to be sufficient to initiate breeding of the plains spadefoot, and may be sufficient to initiate breeding of the great plains toad (Alberta Environment and Sustainable Resource Development 2013).

**Table 3. Summary of amphibian surveys.**

Round	Survey Date	Survey Time	Weather Conditions
1	May 22 to 24	21:43 to 01:00	Temperature 6-10°C, wind speed of 5 km/h to 21 km/h, no precipitation
2	June 4 to 6	21:55 to 01:00	Temperature 8.5-17.1°C, wind speed of 4 km/h to 45 km/h, no precipitation
3	June 11 to 13	22:00 to 01:00	Temperature 10-17.7°C, wind speed of 4 km/h to 13 km/h, no precipitation

No sensitive amphibian species were detected. Boreal chorus frogs (*Pseudacris maculata*) were detected at each of the 41 ARU locations assessed during auditory amphibian surveys. Boreal chorus frogs are listed as Secure in Alberta (Alberta Environment and Parks 2022), and are found throughout the province. Although all ARUs recorded boreal chorus frogs (even at stations located at dry wetlands), the detection range of ARUs is only limited by site conditions such as foliage, ambient noise, and the volume of the target recording. As such, anything audible to an observer has the potential to be detected by the ARU (Wildlife Acoustics Inc. 2024) so it is possible that the ARUs may have recorded calls originating from areas outside of target wetlands (i.e., in a different, nearby waterbody).

## RAPTOR NESTS

The results of current and historical raptor nest surveys are summarized in the following documents:

- The Wild Rose 2 Wind Power Project Environmental Evaluation Amendment (Exhibit 27729-X0009).
- The Wild Rose 2 Wind Power Project 2023 Environmental Evaluation Update (Exhibit 27729-X0210).



## APPENDIX F    AUTHOR QUALIFICATIONS



Appendix Table F-1. Author Qualifications

Name	Title	Role	Experience
Christina Tennant, MSc	GIS Specialist	GIS Mapping	Christina is a GIS analyst with over 15 years of remote sensing and GIS experience. She has excellent knowledge in geospatial data collection, processing, analysis and mapping. She has performed data collection, habitat modelling, spatial analysis, and satellite imagery analysis for projects throughout western and northern Canada.
Sierra Collins, MSc, AAg	Water Resources Scientist	Contributing Author	Sierra is a Water Resource Scientist with a background in environmental science and hydrology. Her previous experience includes modelling forecasted changes to winter precipitation, developing statistical stream temperature models, and developing terrestrial and aquatic invasive species monitoring programs. Sierra has completed drainage basin assessments and analyzed and reported on groundwater and surface water quality data for various projects in western Canada.
Christine Gursky, MSc, PBIol	Senior Wildlife Biologist	Contributing Author	Christine is a professional biologist with 18 years of experience as a wildlife biologist. She has experience conducting wildlife surveys, and habitat assessments, as well as writing impact assessment for a variety of sectors throughout British Columbia, Alberta, Saskatchewan, Manitoba, the Yukon and Northwest Territories.
Susan Skinner, MSc	Biologist, Project Manager	Technical Review	Susan has over 25 years of avian ecology experience, leading environmental baseline, monitoring, and habitat compensation programs throughout western Canada.
Mary Ann Middleton, PhD, PGeo	Senior Water Resources Scientist	Technical Review	Mary Ann is a Registered Professional Geoscientist (British Columbia and Alberta) with over 17 years of environmental consulting experience. Mary Ann completed her doctoral research in hydrogeology, specializing in groundwater–surface water interactions and vulnerability of groundwater-dependent streams, with a focus on fish habitat protection.
Kerri Oseen, MSc, PBIol	Biologist and Project Manager	Technical Review	Kerri is a professional biologist with over 16 years of experience as an environmental consultant and industry professional on a variety of large-scale projects in western Canada, including environmental assessments, biophysical monitoring and management, and regulatory permitting and compliance.
Jennifer Muir, MSc, PBIol	Terrestrial Ecologist	Technical and Senior Review	Jennifer is a professional biologist with over 15 years of experience in vegetation ecology and has specialized in the inventory and implementation of best practices associated with wetlands and vegetation in western Canada.