REPORT

De Havilland Field Project

Detailed Project Description

Submitted to:

Impact Assessment Agency of Canada

Submitted by:

WSP Canada Inc.

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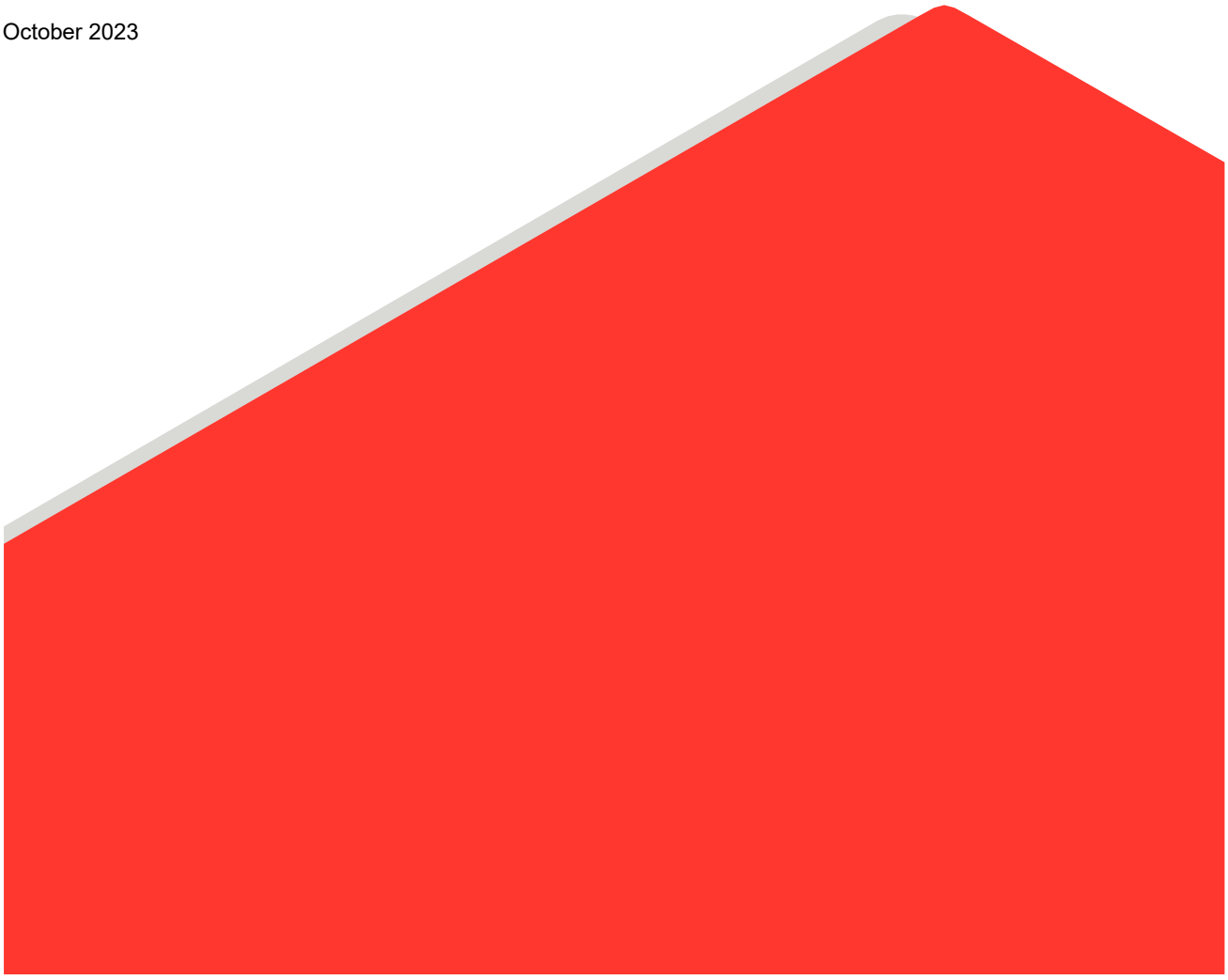
October 2023



Distribution List

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Table of Contents

TABLES

FIGURES

APPENDICES

INTRODUCTION

2150038 Alberta Inc. (the Proponent) is pleased to submit this Detailed Project Description (DPD) for the De Havilland Field Project (the Project). This DPD has been prepared in accordance with regulations and guidance from the Impact Assessment Agency of Canada (IAAC), including:

- *Information and Management of Time Limits Regulations* (GOC 2019a).
- *Guide to Preparing an Initial Project Description and a Detailed Project Description* (GOC 2019b).
- *Strategic Assessment of Climate Change* (ECCC 2020).

This document is organized to align with the required information outlined in the *Information and Management of Time Limits Regulations* (GOC 2019a).

On June 16, 2023, IAAC posted the Summary of Issues (IAAC 2023). The Proponent's response to the Summary of Issues is presented in Appendix A. Where appropriate, information requested in the Summary of Issues has also been included in the DPD sections below and associated appendices.

PART A: GENERAL INFORMATION

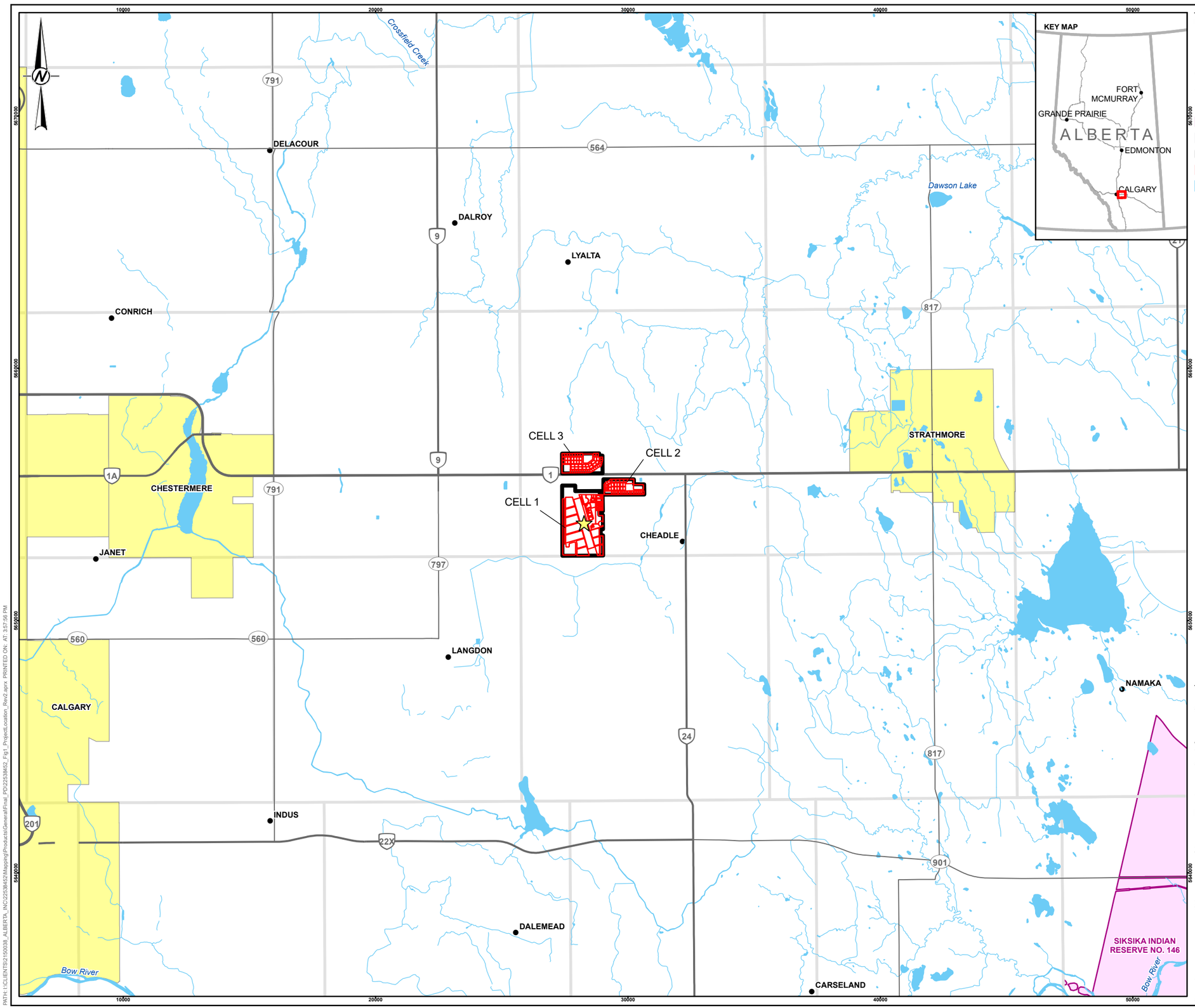
1.0 THE PROJECT'S NAME, TYPE OR SECTOR AND PROPOSED LOCATION

The Proponent is proposing to develop an aviation manufacturing facility, De Havilland Field, in Wheatland County, Alberta. The main anchor of the Project will be De Havilland Aircraft of Canada (De Havilland). De Havilland will create a comprehensive array of aerospace facilities including manufacturing, aircraft assembly, maintenance and repair, logistics and customer support. The facilities will be supported by a dynamic office campus and an aerodrome that will accommodate the delivery of completed aircraft. Based on *Impact Assessment Act*-related terminology, this type of Project is considered under Transportation in the *Physical Activities Designation* and the nature of the activity is considered airport and airfields.

The Project site is in the western portion of Wheatland County. The Town of Strathmore is approximately 11 kilometres (km) to the east, the City of Chestermere is approximately 13 km to the west and the Hamlet of Cheadle is 8 km to the southeast (Figure 1).

The proposed site occupies 1,559.2 acres, or 631[1] hectares (ha), of existing farmland, divided into three development cells: an aerodrome on the southern lot (Cell 1) and two commercial/industrial areas on the northern and eastern lots (Cells 2 and 3). The preliminary concept for the Project site is shown in Figure 2.

[1] The IPD states that the proposed site occupies 589.4 ha; however, the proposed site has increased to 631 ha due to the addition of the Future Study Area in the northern portion of Cell 1 (discussed in Section 9.0).



LEGEND

- HAMLET
- PROPOSED PROJECT LOCATION
- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- WATERCOURSE
- FIRST NATION RESERVE
- POPULATED PLACE
- PROJECT BOUNDARY
- PROJECT FOOTPRINT
- WATERBODY

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REFERENCE(S)

BASE DATA MAY BE OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED, ALTALIS LTD.© GOVERNMENT OF ALBERTA 2023. ALL RIGHTS RESERVED. OR IHS MARKIT CANADA ULC.
PROJECTION: 3TM 114 DATUM: NAD 83

CLIENT
2150038 ALBERTA INC

PROJECT
DE HAVILLAND FIELD PROJECT

TITLE
PROJECT LOCATION

CONSULTANT

YYYY-MM-DD	2023-09-27
DESIGNED	CA
PREPARED	LB
REVIEWED	JP
APPROVED	WES

PROJECT NO.	CONTROL	REV.	FIGURE
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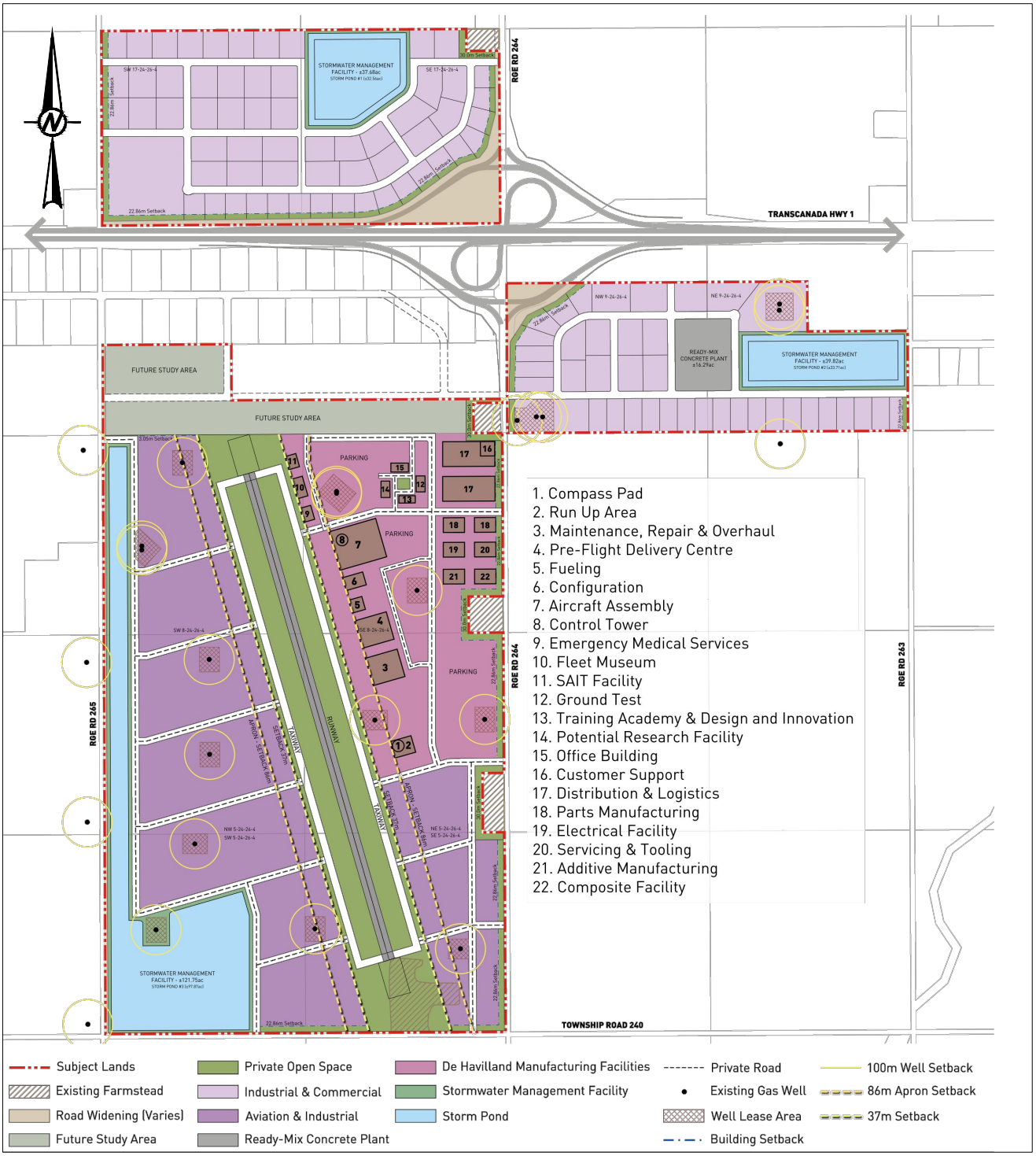

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OBTAINED FROM B7A 1905-31 WHEATLAND COUNTY WEST HWY1 INDUSTRIAL PROJECT, FIGURE 2 - CONCEPT PLAN, 2150038 ALBERTA INC. MAY, 2023.

CLIENT
2150038 ALBERTA INC.

PROJECT
DE HAVILLAND FIELD PROJECT

CONSULTANT
wsp

YYYY-MM-DD	2020-09-27
DESIGNED	WES
PREPARED	RFM
REVIEWED	JP
APPROVED	WES

TITLE
CONCEPT PLAN

PROJECT NO.	CONTROL	REV.	FIGURE
22538452	1000-HS-0001	0	2

2.0 PROPONENTS NAME AND CONTACT INFORMATION

The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.

Name of the Project:	De Havilland Field Project
Name of Proponent:	2150038 Alberta Inc.
Address of Proponent:	Suite 1100, 747 Fort Street Victoria, British Columbia V8W 3E9
Principal Contact Person:	Chadi Beydoun Property Development Director 2150038 Alberta Inc. **Phone:** 250-588-2511 **Email:** cbeydoun@westerkirk.ca **Website:** https://dehavillandfield.com/

3.0 ENGAGEMENT WITH JURISDICTIONS OR AGENCIES

A summary of any engagement undertaken with any jurisdiction or other party, including a summary of the key issues raised and the results of the engagement, and a brief description of any plan for future engagement.

Engagement activities have been undertaken to support approval processes for Wheatland County, Transport Canada, and the Impact Assessment Agency of Canada. The activities introduced the Project to the communities and promoted the open house events. Details are shared below. Specific Transport Canada notifications were required to support the 45-day Official Consultation Period and overlapped with broader public outreach efforts.

3.1 Public Outreach

The following describes the chronology of public outreach for the Project for the official announcement, Project website, notification letters and open houses.

Official Announcement Event and Project Website

The official announcement event was on September 21, 2022. The news release was also posted on the Project website.

The Project website DeHavillandField.com launched on September 21, 2022, and provides details about the Project, timeline, and key Project resources. The website connects stakeholders with job opportunities and provides engagement opportunities for community members. As of December 2022, there have been:

- Over 13,000 unique visits to the website
- 275 users referred to the De Havilland Canada careers page
- Over 50 stakeholders signing up for Project updates
- Over 50 messages directed to the Project email address

Notification Letters

The Proponent sent out notification letters related to the Project, as summarized in Table 1.

Table 1: Notification Letters Information

Date Sent	Letter & Purpose	Distribution Area
September 20, 2022	Notice of Announcement Advanced notice of Sept. 21 public announcement was hand-delivered to adjacent neighbours.	Adjacent (bordering) rural residents and the Hamlet of Cheadle
October 26, 2022	Invitation to Cheadle Open House The invitation was hand-delivered to residents nearby neighbours. The letter also provided details for the Strathmore and Langdon events.	Within 1 mile of site as well as the Hamlet of Cheadle
November 4, 2022	4 km event invitation To adhere to Transport Canada requirements, a letter was hand-delivered to residents within 4km of site to share information about the Project and invite stakeholders to attend the Langdon and Strathmore open house events.	Outside of one mile and Cheadle, within 4km of site
November 24, 2022	Aerodrome Notice A letter was sent by registered mail to all aerodromes and helipads within 30 NM of the proposed aerodrome to share Project information and contact information. Feedback was requested by January 15, 2023.	30 NM (nautical miles)

Km = kilometres, NM = nautical miles.

Open Houses

The Project team hosted three public events to share detailed information, respond to questions, and collect community feedback. Information on the three events follow and specific feedback received, and frequently asked questions are presented in Sections 3.3 and 3.4.

Cheadle Neighbor Coffee Chat	
Date	Monday, November 7, 2022, 4:00 to 7:00 pm
Venue	Cheadle Hall, 10 Malone Ave, Cheadle
Details	As the closest and most effected stakeholders, adjacent landowners and residents of the Hamlet of Cheadle were invited to attend a drop-in coffee chat to meet the team in-person and discuss the Project. Promotions: A letter invitation was hand-delivered to area landowners and residents of Cheadle.

Langdon Open House	
Date	Tuesday, November 8, 2022, 5:00 to 8:00pm
Venue	The Track Golf Club, Events Building - 333 Boulder Creek Dr, Langdon
Details	The drop-in event was hosted in one of two larger centres surrounding the site to provide opportunity for the public to learn more about the Project. Promotions: The event was advertised broadly to the entire community through: ■ Site signage promoting Project, website, and events ■ Newspaper ads ran in the Strathmore Times & Rocky View Weekly for two weeks ■ Letter invitation to residents within 4 km of site ■ Dehavillandfield.com

Strathmore Open House	
Date	Wednesday, November 9, 2022, 5:00 to 8:00pm
Venue	Livestock Pavilion, Strathmore & District Ag Society – 33 Wheatland Trail, Strathmore
Details	The drop-in event was hosted in one of two larger centres surrounding the site to provide opportunity for the public to learn more about the Project. Promotions: The event was advertised broadly to the entire community through: ■ Site signage promoting Project, website, and events ■ Newspaper ads ran in the Strathmore Times & Rocky View Weekly for two weeks ■ Letter invitation to residents within 4 km of site ■ Dehavillandfield.com

Km = kilometre.

Information related to stakeholder response to the public engagement program as well as samples of media releases, open house engagement boards, notification letters and site signage is presented in Appendix B.

3.2 Transport Canada Consultation

Transport Canada requires specific consultation activities prior to approval and construction of a new aerodrome. De Havilland Field Project pre-consultation activities included outreach to Transport Canada, the air navigation service provider, and Wheatland County. As the local land use authority, Wheatland County Council and Administration have received regular Project updates. The official consultation period is underway following notifications to adjacent landowners, regional aerodromes, and the community. As part of the Transport Canada consultation requirements, the Proponent prepared the following notifications:

- Site signage – November 4, 2022
  - A site sign was prepared to promote Project website and upcoming public events. The sign is located on the site and provides details about the Project location and how to contact Project representatives.
- Letters to community and area landowners – October 26 and November 4, 2022
  - Two different letters were hand delivered to residents within 4 km of site:
    - October 26, 2022 - Residents within one mile of the site and residents of Cheadle were invited to attend the Cheadle open house hosted at the Cheadle Hall on Monday, November 7, 2022. The letter also provided details for the Strathmore and Langdon events.
    - November 4, 2022 - Residents outside of one mile and Cheadle, but within 4 km of the site, were sent a letter invitation to attend the Langdon and Strathmore open house events.
- Notification to other aerodromes – November 24, 2022
  - A letter was sent via registered mail on November 24, 2022, to 34 aerodromes and heliports within 30 nautical miles of the site.
- Consultation Summary Report – March 23, 2023
  - A letter provided electronically by Transport Canada on April 3, 2022. Transport Canada requested the Proponent engage NAV CANADA as well.
  - The Proponent provided a proposal for the Project to NAV CANADA for comment. On February 23, 2023, NAV CANADA responded indicating there are no objections to the Project as submitted, as long as conditions listed in Section 18.1.

3.3 Feedback Received

Stakeholders provided their feedback at the public open houses, through emails to the Project team and through feedback forms, both written and online. The feedback gathered during public outreach has been compiled, reviewed, and summarized into themes.

Hundreds of community members attended the three public events hosted by De Havilland Field. Attendees expressed excitement for the Project, the job opportunities, and the economic opportunity for the region. 42 comment forms were collected at the in-person events.

Adjacent neighbours mostly attended the Cheadle event, which was advertised exclusively to neighbours within a one-mile radius and the Hamlet of Cheadle. Adjacent neighbours more frequently provided written feedback through comments forms and by email. Their questions and comments are reflected in the key themes and frequently asked questions.

Through the first phase of outreach, the Proponent received:

- 57 comment forms, 42 written and 15 online comment forms. The comment forms asked community members to share their questions and comments about the Project.
- Over 50 emails received through the Project website and Project email address. Most of the emails were inquiries on partnerships, career, and contractor opportunities. Eight emails were from community members sharing their questions and concerns about the Project. Four emails were related to aerodrome consultation.

3.4 Key Themes

The themes summarized in Table 2 are based on distinct comments received through written comment forms, online comment forms and stakeholder emails. Responses to questions shared by stakeholders can be found in Section 3.5. The themes are listed in order of frequency. Based on comments received at the events and through comment forms, the broader community expressed support and excitement about the opportunity. This is reflected in the Economic Benefit and Employment themes.

Neighbouring stakeholders were more likely to express concern for effects to their quality of life. Neighbours also represent most of the feedback received by email. The most common themes from adjacent neighbours were related to transportation effects, quality of life matters, and aerodrome questions.

Table 2: Public Engagement Key Themes

Theme	Summary
Transportation *16 mentions*	Stakeholders are interested in the regional traffic impacts and infrastructure upgrades. Clarification was sought on proposed plans for infrastructure upgrades, timing of construction and anticipated traffic volumes once the site is operational. Some comments expressed safety concerns for local traffic given the increased volume of trips.
Neighbour quality of life *15 mentions*	Some neighbours expressed concern about potential impacts to their quality of life due to loss of views, changes to agricultural uses, as well as impacts from noise, light and air emissions produced at the site. There is concern that the operations will impact surrounding land values. With the influx of people expected to travel to the area, several noted concerns related to a potential increase in local traffic, and negative interactions with farming activities. Quality of life comments came from adjacent neighbours who want to understand how the Project team will address their concerns through mitigation and ongoing monitoring.
Economic Benefit *14 mentions*	Written comments mentioning the economic opportunity expressed support for the Project and pride in the opportunity provided by the construction of the De Havilland Field Project. Stakeholders are excited for the regional and provincial economic opportunity. Specific examples of benefits mentioned include employment opportunities, transportation and servicing upgrades, educational programming and training, and increased population growth and spending in local communities.
Employment *12 mentions*	Most comments expressed excitement that the Project will generate high-quality, local employment opportunities for differing areas of expertise and years of experience. This was also seen as a beneficial opportunity for those that would like to continue to live and work in Wheatland County, especially younger people. Stakeholders asked for more details about hiring – when it will start, will it prioritize local people, and will there be relocations for current De Havilland employees. There was a suggestion to include training programs for youth in trades.

Table 2: Public Engagement Key Themes

Theme	Summary
Aerodrome *10 mentions*	General questions arose about the anticipated number of weekly flights, type of aerodrome operation, and proposed flight paths. Most of these questions were raised with quality-of-life impacts in mind. There is concern that the aerodrome operations will grow over time, and that the current flight estimate will increase with new development. Clarity was sought regarding obtaining certification to operate private drones in the Cheadle area.
Location & Site Concept *10 mentions*	Questions and comments were brought forward about the site concept, location and proposed land use included wanting more information about how the site may look, and why a location in Wheatland County was selected over others. Stakeholders asked for clarity on the purpose of a Direct Control District, how the change in land use will impact neighbours and whether the Area Structure Plan amendment will increase tax rates.
Servicing *10 mentions*	Some respondents raised general questions about plans for servicing including proposed locations and types of servicing to be included in the Project. Some concerns noted included potential impacts to local wells, area risk of poorly managed wastewater treatment, and effects on local water quality. Stakeholders questioned what will happen if the preferred site servicing options are not possible.
Agricultural Use *10 mentions*	The area has a long agricultural history. Some local neighbours expressed disappointment that development will occur. There is concern that the industrial operation will have negative impacts on surrounding farming operations.
Engagement *10 mentions*	Many respondents commented that they appreciated opportunities to get engaged in the Project both in-person and online. Open house attendees also noted general satisfaction in the information presented at the in-person open houses and team responses to questions.
Safety *7 mentions*	Residents noted some concern about potential impacts to their safety due to site operations. Impacts mentioned were general safety issues coexisting with an aerodrome, issues related to testing aircraft, and safety issues due to traffic. One commenter was curious if there are plans to promote rural safety with site employees and contractors.
Environment *5 mentions*	Potential impacts to migratory birds and other wildlife were mentioned as a concern by some respondents. Others also noted that local pollution could be an issue. One resident expressed a desire to invest in renewable energy to help reduce pollution.
Neighbour Interface *4 mentions*	Some mentioned a desire for appropriate screening to lessen visual impacts to neighbours. This included incorporating berms, trees, and vegetation as buffers.
Timeline *3 mentions*	With many respondents offering general support for the Project, some asked what the anticipated timeline is to begin infrastructure upgrades and construction of the site. Some associated employment opportunities as an exciting aspect of construction start.
General *9 mentions*	These comments expressed support for the Project. One question was raised about potential opportunities for community partnerships between De Havilland and local groups.

3.5 Frequently Asked Questions

The Proponent has prepared responses to questions received through feedback. Most of the questions received through feedback came from adjacent neighbours and the surrounding community. The Proponent met with the adjacent neighbours on April 8, 2023. The questions have been grouped by theme and sorted by alphabetical order by theme name. The Proponent will continue to receive and respond to questions from community members and will keep the FAQ up to date on the Project website.

Aerodrome

Question	Response
Will De Havilland Field Project operate 24/7?	It is not anticipated that the proposed aerodrome will operate on a 24/7 basis.
What is the anticipated number of flights per week?	We anticipate a relatively low frequency of flights, likely two to six movements per week once the aerodrome is operational.
Is it possible that other aerospace businesses may develop at the De Havilland Field Project and increase the proposed flight count in the future?	The new aerodrome will be used primarily to support the De Havilland Canada manufacturing facility. Flights to and from the De Havilland Field Project will be for testing or delivering aircraft. It is possible that future businesses located at the De Havilland Field Project may increase flight frequency.
Do you anticipate any courier/cargo flights, private hangars or commercial aircraft using the aerodrome?	The proposed aerodrome will be used primarily to support the De Havilland Canada manufacturing facility. However, future businesses located at the De Havilland Field Project may use the aerodrome.
Will there be any changes to the orientation of the runway?	The runway will be run from north-northwest to south-southeast of the property but may shift slightly westward depending on discussions with natural resource rights holders.
Can local drone/PRAS operators apply for special Flight Operations Certificate to operate in the Cheadle area?	Questions licensing regulations for drone operations are best answered by Transport Canada.
What is the proposed flight path? Will planes be flying over Cheadle? Does the proposed flight path reduce impact to neighbours below?	The runway is oriented in a north-northwest to south-southeast alignment. This alignment was chosen based variables such as average wind speed and wind direction and is optimal for the aircraft that De Havilland intends to land and takeoff from the site. This alignment may shift westward depending on the outcome of discussions with natural resource rights holders.
Will any Transport Canada requirements to reduce Bird Strikes impact farming operations?	As part of our Aerodrome Operating Manual, De Havilland Field Project will implement a wildlife management plan that will reduce conflict between wildlife and aircraft. Once that has been completed, De Havilland Field Project will work to reduce any impact on nearby farming operations. The Proponent is committed to continuing to engage with Indigenous groups as the Project advances to address their concerns and aspirations related to Project development.

Employment

Question	Response
What type of employment opportunities will be available at the De Havilland Field Project?	The new aerodrome and aviation park will create a variety of local, high-paying jobs in the aerospace industry. The operations will require positions in manufacturing, skilled-trades, facilities, operations, management and more.
Do you anticipate that current De Havilland employees will be required to relocate to work at the De Havilland Field Project?	At this point, we anticipate that all employees at De Havilland will eventually end up working at the De Havilland Field Project. However, this is a long process and depending on what part of the business an employee is working in, worksite relocation may not occur for many years.
When do you anticipate hiring will start for the De Havilland Field Project?	Please visit the De Havilland Canada Careers Page to view current job opportunities. You can also register for job alerts as new positions becomes available that matches your skills and interest.
Will there be job opportunities for local residents?	De Havilland Field Project will prioritize local hiring whenever possible.
Will there be job opportunities for youth (ages 14 to 18) or opportunities for high school students to participate in dual credit or trades programs?	There will be a wide range of employment opportunities both through the construction phase and manufacturing operations. We will look to have a broad range of representation in the workforce including young workers. We will work with local high schools and post-secondary institutions to provide training programs that match the employment needs for the different phases of the De Havilland Field Project including operations.

Environment

Question	Response
What wildlife protections are in place?	Wildlife species in Alberta are covered under the Alberta Wildlife Act and migratory birds are additionally protected under the Migratory Birds Convention Act. A Biophysical Assessment was prepared to assess the plan area and make recommendations to ensure protection of environmentally significant features, including wildlife. The species were identified in the study to not be at risk. De Havilland Field Project is considering implementing several environmental mitigations to help minimize the potential effects to migratory birds, their nests, and eggs, as well as wetlands and vegetation.
Will there be any disturbance to existing wetlands?	It is important to recognize that while the plan area consists of cultivated agricultural land with intermittent watercourses, ephemeral waterbodies and marshes, the site does not contain any year-round watercourses. It is anticipated that site development will remove these intermittent wetlands.

General

Question	Response
How can area residents stay up to date on the Project? Typically, residents of Rocky View County do not receive updates through Wheatland County.	Interested individuals are encouraged to sign up on our Project website to receive Project updates. DeHavillandField.com will be updated regularly with Project information.
Are there any specific social responsibility goals the Project is trying to achieve (i.e., environment, youth, seniors, sports, culture, and recreation?)	De Havilland intends to participate in the Wheatland County and area community and support worthwhile initiatives and organizations.

Interface and Screening

Question	Response
What site screening and buffers are planned to the site?	De Havilland Field Project will work to reduce the visual impact of our operations for surrounding neighbours by adhering to the Wheatland County Landscape and Screening Guidelines and providing landscape buffers and setbacks along the edge of the property.
Will there be landscaping or development buffers around existing adjacent residences?	The De Havilland Field Project team will reach out to adjacent neighbours to discuss screening options during detailed design. Development will be setback a minimum of 30 metres from bordering properties with landscaping to support screening.

Safety

Question	Response
Will rural safety programs be in place to educate employees, contractors, and visitors to site?	We will develop a Health & Safety program to ensure that all employees and contractors adhere to site safety requirements. The safety requirements will include safe practices when interacting with farm equipment, safe driving practices and other area considerations.
Should area residents be concerned about the safety of test flights?	Aircraft testing is conducted with rigorous safety practices and procedures to maintain the safety of those on the ground and those in the air.
What emergency services are required for the site?	An emergency services facility will be constructed on site to respond to emergencies relating to the airfield. County emergency services will respond to emergencies that occur within or around buildings. Shared response agreements will be considered with Wheatland County.

Local Resident Quality of Life

Question	Response
What efforts will be made to reduce light pollution from the site?	De Havilland Field Project is committed to monitoring and reducing impacts from our Project. The Project will comply with the dark sky requirements of the County's Land Use Bylaw to limit light pollution and nuisance effects of bright lights for adjacent landowners, while protecting wildlife and wildlife habitat.
How will noise produced at the site impact surrounding neighbours, the Hamlet of Cheadle and other residential areas?	We are completing a noise study to determine the anticipated noise levels of the Project and will share more information when it is available.
Will there be active noise monitoring? Where will noise monitoring occur?	We will be undertaking noise study as part of our regulatory process, but do not anticipate noise monitoring on an ongoing basis.
Will the De Havilland Field Project operations have a negative impact on air quality for surrounding neighbours?	The air quality effects from Project construction and operations are expected to be low given that mitigation measures will be in place to limit emissions. These mitigations include: ■ Stationary and mobile equipment will adhere to applicable federal emission standards, where applicable, and will be regularly maintained. ■ Dust suppression strategies will be used in construction areas and on roads as necessary to mitigate dust. ■ Project traffic will be managed to optimize travel routes and minimize travel on public routes.
What will De Havilland do to respond to livestock impacts from the operations?	De Havilland Field Project is committed to monitoring and reducing impacts from our operations, including impacts to neighbouring agricultural operations.
How will impacts from construction be monitored, such as dust and noise?	We will prepare a construction management plan to ensure we limit construction impacts on adjacent neighbours and adhere to all County bylaws. Representatives from De Havilland Field Project can be contacted throughout construction with any questions and concerns. The Proponent is committed to continuing to engage with Indigenous groups as the Project advances to address their concerns and aspirations related to Project development. Refer to Section 24.4 for the noise complaint process.
What will De Havilland Field Project do to address loss of land value adjacent neighbours?	We do not anticipate that De Havilland Field Project will contribute to a loss in market value of surrounding farmland.
What is being done to mitigate the impacts of the industrial development for adjacent neighbours? Will neighbours receive compensation for loss of quality of life?	De Havilland Field Project is committed to addressing neighbours' concerns. We will be undertaking a number of mitigation activities, such as berms, trees, light and noise reducing techniques, that will lessen but not eliminate the impacts of our facility for nearby landowners. It is not normal practice for Project proponents to provide compensation and we do not anticipate providing compensation for De Havilland Field.

Servicing

Question	Response
How will wastewater be treated at site? Do you plan to use sewage lagoons?	The current plan is to use a wastewater treatment plant to treat wastewater. Treated effluent from the treatment plant would be temporarily stored in a treated effluent holding pond for subsequent use as irrigation water.
Are there any plans to use well water if you cannot get access to water from the East Calgary Regional Waterline?	The current plan is to construct a feeder-main, pump station and reservoir within the Plan Area to receive flows from the East Calgary Regional Waterline which borders the site to the south. Alternatively, flows could be received from Langdon Water Works. If those options are ultimately not available, we would examine the feasibility of using water wells. Wells will only be considered following a detailed groundwater study by Wheatland County.
Does the site intend to use Weed Lake for stormwater management? Weed Lake ditch has a history of flooding.	While the area concept plan considers constructing a force-main to the Weed Lake Ditch, it is not the preferred option. The preferred methods include storage on-site with storm ponds, dispersing through evaporation and local irrigation.
Will the proposed pump station and treatment facility produce emissions, noise, or odour?	De Havilland Field Project will work with Wheatland County to finalize a master servicing strategy. The need for a pump station and treatment facility will be determined at the subdivision stage. De Havilland Field Project is committed to monitoring and reducing impacts from our operations.
How will the site be serviced for power? Will it require a power station?	The Project will engage FORTIS Alberta to begin preliminary design of the electrical system needed to service this development.
Will there be any impacts to groundwater from the proposed development?	We do not anticipate any impacts to groundwater resulting from the construction and operation of the De Havilland Field Project.
Why are the servicing plans not confirmed?	As the Project proceeds to the detailed design stage, De Havilland Field Project will work with Wheatland County to further evaluate options as part of a master servicing strategy that the County is working on to determine the best way to service this area.

Site Concept and Location

Questions	Response
Why are you building the facility at this location?	The location of De Havilland Field Project is ideal as it has access to a large, young, and diverse labour pool, family-friendly cost of living, and access to major transportation routes such as Highway 1 and a world-class international airport that can support efficient parts distribution to our global customer base. Portions of the site are already designated as suitable for commercial and industrial development.
Will amendments to the Area Structure Plan and adoption of the Area Concept Plan increase tax rates for neighbours?	The question of tax rates is best answered by Wheatland County.
Please clarify Direct Control District.	A Direct Control district is a specific regulation that can be used when a development requires unique or innovative characteristics that are not included in other land use districts. The current Wheatland County Land Use Bylaw does not include a land use district that accommodates all the envisioned uses for the Plan Area, so a Direct Control district is being proposed.
Why are you proposing industrial uses for an area that is largely zoned for agriculture?	While the site is currently designated Agricultural General District (AG), the corridor along Highway 1 has been identified as an area suitable for commercial and industrial development by Wheatland County. De Havilland Field Project is proposing to redesignate the site to provide for aviation, business, industrial, and commercial uses in line with area policy direction.
Does the Wheatland County Municipal Development Plan support aerospace facilities?	The Wheatland County Municipal Development Plan (MDP) is a policy document adopted by Council that provides general direction for growth over the next 30 years. Questions about what is ultimately supported by the MDP are best answered by Wheatland County.
Will any portion of the site continue to be farmed?	A portion of the site will continue to be farmed until such time the lands are required to be developed.
Will there be any effort to preserve the barn on site?	We have not made any decisions about the barn at this time but are interested in discussing the future of the structure with those interested in its preservation.

Timeline

Question	Response
How long will construction take?	De Havilland Field Project hopes to receive approval from Wheatland County in early to mid 2023. Construction may start in early 2024 after receiving our development approvals. Full build-out of De Havilland Field Project may take ten to fifteen years, however first buildings may be operational by start of 2026.

Transportation

Question	Response
Will the proposed intersection at Range Road 264 encourage traffic to cut through to access Glenmore Trail/Highway 560?	We are not aware of any proposed improvements to Range Road 264 south of the site that would encourage additional traffic to use the road as a connection.
Will the current semi-truck traffic on Highway 24 go through Cheadle to access the proposed interchange on Range Road 264?	We are not aware of any upgrades for Range Road 264 and Township Road 240 that would encourage additional semi-truck traffic to use the roads in question.
How will traffic flow between the sites?	The proposed interchange will provide direct access between the two southern parcels and the parcel to the north via Range Road 264.
When will construction start for the proposed interchange?	We are in discussion with Alberta Transportation on the proposed interchange, but no decision has been made on the start of construction.
Does this Project trigger any upgrades to Glenmore Trail?	No improvements to Glenmore Trail are required for the Project.
Does this Project trigger any upgrades to Highway 9?	Highway 9 is outside the scope of the Transportation Impact Assessment required by the De Havilland Field Project.
Will the development trigger any signalled intersections along Highway 1?	No. Alberta Transportation does not permit signals on Highway 1.
Are there any considerations for developing a commuter train for employees at site?	No.
How will speed limits be enforced along Range Road 264 with the addition of the proposed interchange?	Speed limit enforcement is under the jurisdiction of the Royal Canadian Mounted Police; however, we expect individuals accessing De Havilland Field Project to respect posted speed limits.
Does the proposed interchange require expropriation of neighbouring land?	While the design of the proposed interchange is not finalized, it is anticipated that the province will acquire any necessary land and construct the new interchange.
Will the expansion of Range Road 264 to Township Road 240 require additional land from adjacent parcels?	It will be determined at the detailed design stage if additional land is required from adjacent parcels.
Will Range Road 264 be paved from Highway 1 to Glenmore Trail (Highway 560)?	We anticipate that Range Road 264 will be paved along the boundary of the De Havilland Field Project, up to Township Road 240. We are not aware of any proposed improvements to Range Road 264 south of the De Havilland Field Project site. The final road network and upgrades required to accommodate the anticipated traffic volumes will be determined at the subdivision stage.
The construction of the proposed interchange will close off access from Durum Drive to Range Road 264. Will this increase traffic on other roads?	The Transportation Impact Assessment proposes a new connection to provide direct access from Origin Business Park to Range Road 264. Discussions with landowners will take place in the future to resolve how the new connection is achieved.

3.6 Future Engagement

The Proponent appreciates the feedback received on the Project to date. Final plans for Project will be refined based on public feedback, along with comments from Wheatland County, regulatory agencies, and other stakeholders.

The Proponent is committed to monitoring and reducing effects from the Project and will be following up directly with adjacent neighbours to address their comments and questions in the coming months.

The following Project milestones will be completed in the coming months:

- A Consultation Summary Report was prepared for Transport Canada based feedback received during consultation with surrounding aerodromes, the air navigation service provider, Transport Canada, Wheatland County, and the community. The report was submitted to Transport Canada on March 23, 2023.
- The Area Concept Plan was updated based on feedback received from Wheatland County's technical review, circulation comments as well as feedback received through public outreach. The Area Concept Plan, Land Use amendment and amendment the Area Structure Plan (ASP) applications were resubmitted to the County in March 2023.
- The Project team will continue ongoing consultation directly with neighbouring stakeholders to respond to their comments and questions.

4.0 ENGAGEMENT WITH INDIGENOUS GROUPS

A list of the Indigenous groups that may be affected by the carrying out of the project, a summary of any engagement undertaken with the Indigenous peoples of Canada, including a summary of key issues raised and the results of the engagement, and a brief description of any plan for future engagement.

The following outlines the Proponent's engagement summary for the Project to date and commitments related to engagement with Indigenous groups.

As part of our commitment to engaging and including Indigenous communities in the Project, the De Havilland Field Project has committed to the following principles:

1) Open and transparent engagement with Indigenous communities
2) The provision of factual and timely information to Indigenous communities
3) The provision of employment opportunities to Indigenous communities
4) Opportunities for Indigenous businesses to bid on De Havilland Field Project contracts

Following the Project announcement, members of the De Havilland Field Project team reached out to staff at IAAC to understand what Indigenous communities may have an interest in the Project. IAAC provided the following list of Indigenous communities to be scoped in for engagement:

- Blood Tribe/Kainai Nation
- Piikani Nation
- Siksika Nation
- Stoney Nakoda Nations (Bearspaw First Nation, Chiniki First Nation, Wesley First Nation)
- Tsuut'ina Nation
- Metis Nation of Alberta Region 3

IAAC provided the following list of Indigenous communities to notify of the Project:

- Ermineskin Nation
- Louis Bull Tribe
- Montana First Nation
- Samson Cree Nation

On October 28, 2022, a representative of the De Havilland Field Project, Neil Sweeney, sent a letter to each Nation (using the consultation contacts provided by IAAC) that introduced the Project to the Nation, provided significant information about the Project and invited the Nation to share with us what interests their community may have in the land to find ways to mitigate any identified effects. In addition, we offered to meet with representatives of each Nation to provide further information on the Project and invited them to our open houses should they be in the area and wish to participate in the open house. A sample letter and the Project information shared is presented in Appendix C.

The initial outreach elicited responses from only the Louis Bull Tribe that indicated they wished to attend an open house, and the Samson Cree and Siksika Nations that indicated they wished to meet with our representatives and understand more about our company and the Project.

On January 11, 2023, correspondence was exchanged between the Siksika Nation and representatives of De Havilland Field Project as a follow-up to correspondence from November 2022.

In addition, on January 16, 2023, the De Havilland Field Project again sent correspondence to the identified Nations (with the exception of Siksika Nation given ongoing correspondence) asking for their engagement on the Project. We have had a response from the Métis Nation of Alberta that has indicated that they intend to discuss the Project at an upcoming Consultation Committee meeting and determine if a further meeting with De Havilland Field Project representatives is necessary.

Subsequent engagement has occurred with both Louis Bull Tribe and Samson Cree Nation and engagement meetings are in process of being confirmed.

On May 8, 2023, an introductory meeting occurred with representatives of the Piikani Nation and on June 1, 2023, a meeting was held with representatives of the Siksika Nation. We expect engagement with these communities to continue over the long-term.

We remain committed to ongoing engagement and dialogue, with the goal of having Indigenous participation in the Project through either employment (either with the De Havilland Field Project or De Havilland Canada) or business opportunities for Indigenous businesses. We will consult with individual Indigenous Groups on a case-by-case basis regarding capacity funding to support consultation and engagement activities.

We anticipate that engagement (letters, email, face-to-face meetings) will continue through the planning phase and into construction and operations and will continue to provide identified Nations with information about the status of the Project in an effort to provide opportunities for Nations to economically participate as we move from planning to construction.

5.0 RELEVANT STUDIES

Any study or plan, relevant to the project, that is being or has been conducted in respect of the region where the project is to be carried out, including a regional assessment that is being or has been carried out under section 92 or 93 of the Act or by any jurisdiction, including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.

There are no regional assessments as defined in Sections 92 and 93 of the *Impact Assessment Act* in the Project area.

There are two municipal plans that establish a policy framework for the Project site: the *Wheatland County Municipal Development Plan* and the *West Highway 1 ASP*. In addition, the Wheatland County Land Use Bylaw regulates development of the Project site.

The *Wheatland County Municipal Development Plan* (MDP) is a policy document adopted by Council that provides general direction for growth over the next 30 years. The MDP recognizes the benefits of commercial and industrial development and have identified designated areas for such development.

The draft *West Highway 1 ASP* provides a framework for the future subdivision and development of lands in Wheatland County along Highway 1 between Rocky View County and the Town of Strathmore. Cell 1 and a portion of Cell 3 are outside of the ASP boundary and the Proponent has applied to Wheatland County to amend the ASP to incorporate the entirety of the Project site. In August 2023, Wheatland County council passed the second and third readings to make textual amendments to its West Highway 1 ASP and Land Use Bylaw for the Project following a public hearing. The Proponent will continue to work with Wheatland County to obtain appropriate municipal permits.

6.0 STRATEGIC ASSESSMENTS

Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the Act.

The Strategic Assessment of Climate Change (SACC; ECCC 2020) is a strategic assessment under Section 95 of the *Impact Assessment Act* and is relevant to the Project. The quantification of greenhouse gas (GHG) emissions per the SACC guidelines are presented in Section 23.0.

PART B: PROJECT INFORMATION

7.0 PROJECT PURPOSE AND NEED

A statement of the purpose of and need for the project, including any potential benefits.

On November 8, 2018, Longview Aviation Capital agreed to acquire the rights to both the name De Havilland Aircraft of Canada Limited and the Dash-8 aircraft program from Bombardier Inc. Prior to the conclusion of this transaction, Bombardier had announced the sale of the Downsview Airport lands to a Canadian pension fund that had indicated a desire to re-develop the property for commercial and residential purposes. With the sale of the airport having been announced, a new home to produce De Havilland aircraft was required.

The Project is needed to allow De Havilland to meet market demand for their three modern aircraft platforms: the DHC-515 Firefighter, the DHC-6 Twin Otter, and the Dash-8. The DHC-515 Firefighter is a multi-mission amphibian and purpose-built aerial firefighting aircraft used to fight forest fires and it is an aircraft in high demand. The target market for the DHC-515 Firefighter is international and domestic clients. The DHC-515 Firefighter is especially important with current forest fires frequency. As climate changes occur, fire regimes are changing, often with increasing frequency, severity and size (Warren and Lulham 2021). The fire season is becoming longer, starting earlier in the spring and ending later in the fall, with more frequent fires (expressed by a shorter fire return interval) expected throughout this century (Warren and Lulham 2021). The predecessors to the DHC-515 Firefighter aircrafts have been iconic among North American and European aerial firefighting fleets for over 50 years.

De Havilland is undertaking reviews of the DHC-6 Twin Otter and the Dash-8 to ensure these products are meeting market demand.

The purpose of the Project is to develop a new aerospace campus to allow De Havilland to assemble the DHC-515 Firefighter, the DHC-6 Twin Otter, and the Dash-8. The Project will also provide repair services to Longview aircraft, as required.

By creating this new purpose-built campus, De Havilland's head office can be situated with the aircraft parts manufacturing and assembly facilities, logistics and distribution sites, research and development, educational facilities, and heritage museum. The campus is being developed in a way that partners and suppliers to De Havilland will be able to operate either on the aerodrome site, or on other parcels of land to the north and east

of the aerodrome. Finally, the campus will have adequate space for other aviation-related opportunities to be sited at the De Havilland Field Project.

Once completed, the Proponent anticipates that there will be in excess of 1,500 employees working at the De Havilland Field Project. During construction, it is anticipated that there will 320 to 400 construction workers employed on the site, depending on how building production is phased.

The Proponent understands some stakeholders are concerned about the use of agricultural land for industrial development. To confirm that this land use is appropriate, the Proponent successfully pursued the required municipal permits and zoning through Wheatland County.

8.0 PHYSICAL ACTIVITIES REGULATION

The provisions in the schedule to the Physical Activities Regulations describing the project, in whole or in part.

The Project is subject to Section 46(a) of the Schedule of *Physical Activities Regulation* (GOC 2019c), as follows:

> *46 The construction, operation, decommissioning and abandonment of one of the following:*
>
> *(a) a new aerodrome with a runway length of 1 000 m or more*

The runway is proposed to be 2,041.6 m long. No other criteria presented in the Schedule to the *Physical Activities Regulation* are applicable to the proposed Project. Section 46(b) was considered a potential provision describing the Project; however, our understanding is that this provision only applies to certified aerodromes and the Project will be a registered aerodrome, not a certified aerodrome.

9.0 PROJECT ACTIVITIES AND PHYSICAL WORKS

A list of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation and decommissioning of the project.

The Project will be developed in six phases over time, as shown in Figure 3. The phasing is intended to develop the site in a logical manner to minimize infrastructure costs and to ensure appropriate connectivity. Figure 3 identifies the parcels that are anticipated to be developed first based on market need and proximity to access and services. Phase 1 is expected to include the first stage of the De Havilland manufacturing facility, half the runway, a stormwater management pond, and a possible ready-mix concrete plant. Phases 2 and 3 are expected to include the completion of the De Havilland manufacturing facility, the final half of the runway, and the commencement of the business park. The timing of development after Phase 3 is to be determined.

As each phase is developed, each phase will start with construction activities followed by operations activities. Because the development of the six phases is occurring over time, it is possible that some phases will be operational while other phases are under construction, while other phases will yet to be developed. For example, when Phases 2 and 3 start construction, Phase 1 should be operational.

A description of Project activities and physical works has been organized by construction, operations, and decommissioning activities and is included in the following sections.

0 250 500

1:23,000 METRES

REFERENCE(S)
OBTAINED FROM B&A - WHEATLAND COUNTY WEST HIGHWAY 1 ASP PROJECT AREA, FIGURE 16 - PHASING PLAN, 2150038 ALBERTA INC. MAY, 2023.
PROJECTION: 3TM 114 ZONE DATUM: NAD83

CLIENT
2150038 ALBERTA INC

PROJECT
DE HAVILLAND FIELD PROJECT

CONSULTANT

YYYY-MM-DD	9/27/2023
DESIGNED	WES
PREPARED	PS/LB
REVIEWED	JP
APPROVED	WES

TITLE
PHASING PLAN

PROJECT NO.	CONTROL	REV.	FIGURE
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9.1 Construction

The construction activities at the Project site are expected to include:

- tree trimming, tree clearing, grubbing and topsoil stripping, and stockpiling
- earth excavation, dewatering, and site grading
- placement of topsoil and landscaping
- installation and operation of a ready-mix concrete plant
- installation of utilities by service providers, including natural gas, electricity, communications, etc.
- construction of the runway, internal road networks, and aprons, including placement and compaction of aggregate, concrete, and asphalt
- erection of buildings and hangars using typical industrial construction methods
- installation of fencing and screening
- installation of runway markings, visual aids, and approach lighting
- construction of the wastewater treatment system, water servicing system, and stormwater management system
- development of temporary facilities including site trailers and storage yards

The Project will require an integrated transportation network servicing the site which is an incidental physical work. The Proponent is working with provincial and local governments to confirm any necessary modifications to the area transportation network. It is envisioned that this will include building of a new interchange at Highway 1 and Range Road 264, as well as upgrading and/or widening of Range Roads 264, 265, and Township Road 240. Alberta Transportation will be responsible for the construction of the new interchange and the Proponent is working with Wheatland County to understand who will be responsible for the upgrading and/or widening for other roads.

9.2 Operations

The preliminary concept for Project operations is shown in Figure 2 (Section 1.0). A description of operational activities within each Project cell follows.

9.2.1 Cell 1

De Havilland will create a comprehensive array of aerospace facilities including manufacturing, aircraft assembly, maintenance and repair, logistics and customer support. The facilities will be supported by an office campus and an aerodrome that will accommodate the delivery of completed aircraft. The aviation business park and aerodrome will be purposefully designed to attract and cluster a broad range of aviation supply chain partners, other aviation aerospace companies, and related spin offs.

The layout of Cell 1 is mainly governed by the runway length and orientation required for the safe landing and takeoff of critical aircraft. The runway length is 2,041.6 metres (m; 6,698 feet) and has a north-northwest (NNW) to south-southeast (SSE) orientation. The result is that the airfield divides Cell 1 into two halves. De Havilland is anticipated to be consolidated in the northeast portion of the cell. Other aviation aerospace companies will be

situated in the southeast and west portions of Cell 1 where they can take advantage of access to the runway. The lots within Cell 1 are anticipated to be larger in size with their own private internal road networks with access to Range Road 264, 265, and Township Road 240. Cell 1 (Block 3, Plan 0112375) has been expanded since the filing of the Initial Project Description, with land added along its northern boundary. This land was added in part to increase the safety zone at the end of the runway. This area is designated as a Future Study Area.

The aerodrome comprises various facilities related to aircraft manufacturing and ancillary activities. Details of the numbered features shown on Figure 2 and their associated activities are listed in Table 3.

Table 3: De Havilland Field Project Preliminary Concept Features

ID	Feature Title	Activity Description
1	Compass Pad	Aircraft compass/Altitude and Heading Reference System calibration/validation. Pre-flight process prior to first flight release.
2	Engine Run Up Area	Engine operating performance /integration validation. Pre-flight process prior to first flight release.
3	Maintenance, Repair and Overhaul	Aircraft maintenance and/or modification activities related to post-Certificate of Airworthiness/In-service aircraft.
4	Pre-Flight and Delivery Center	Aircraft preparation/functional checks prior to flight. Preparation for, and issuance of, aircraft certification. Delivery to end customer.
5	Fuel Flow	Functional integrity and validation of aircraft fuel system.
6	Aircraft Configuration	Modifications/customizations of aircraft as required to achieve Customer requirements.
7	Aircraft Assembly	Assembly, installation, and functional testing of components/systems in order to complete aircraft.
8	Control Tower	Oversight and control of aircraft ground operations. Air traffic clearances and releases.
9	Emergency Services	Emergency service equipment and resources in support of Emergency Response Plan (Appendix D) and airport security.
10	Fleet Museum	Display and historic content.
11	Potential SAIT Facility	Education and research.
12	Ground Test	Validation/development of engineering designs.
13	Training Academy, Design, and Innovation	Education and research.
14	Potential Research Facility	Education and research.
15	Office Building	Corporate, Engineering, Procurement, etc. and related activities.
16	Customer Support	Fleet/customer support (material services, technical support, etc.) related activities.
17	Distribution and Logistics	Receipt, inventorying and issuance of aircraft components and kits to Fleet Customers and Manufacturing.
18	Parts Manufacturing	Aircraft detail part manufacturing and minor component assembly.
19	Electrical Facility	Assembly of aircraft electrical harness and components.
20	Services and Tooling	Site maintenance (grounds and facilities). Manufacturing tool design, fabrication, and repair.
21	Additive Manufacturing	Next generation manufacturing processes such as 3D printing.
22	Composite Facility	Aircraft composite detail manufacturing and component assembly.

9.2.2 Cell 2

Cell 2 will accommodate uses that need less exposure to Highway 1 but closer proximity to the aviation components found in Cell 1. Uses within Cell 2 are anticipated to included offices, warehouses, manufactures and distributors. Commercial uses such as gas stations, convenience stores, hotels and restaurants should also be anticipated closer to Highway 1. It is expected that this cell will be divided mainly into smaller industrial lots with the odd larger lot to accommodate larger uses. In addition, a ready-mix concrete plant is expected to be built within Cell 2. The cell is to be divided into a semi-grid system of streets with access to Range Road 263 and 264.

9.2.3 Cell 3

Cell 3 is well situated to accommodate businesses requiring exposure to the Highway 1 as well as a quick connection to aviation uses to the south via a future overpass. Similar to Cell 2, uses within Cell 3 are anticipated to mainly included offices, warehouses, manufactures and distributors. Commercial uses such as gas stations, convenience stores, hotels and restaurants should also be anticipated, especially adjacent to Highway 1. It is expected that this cell will be divided mainly into smaller industrial lots with the odd lot being larger in size. The cell is to be divided into a semi-grid system of streets with access to Range Road 264 and 265.

9.3 Decommissioning

Decommissioning and abandonment are not anticipated to occur for the Project.

10.0 ESTIMATED MAXIMUM PROJECT CAPACITY

An estimate of the maximum production capacity of the project and a description of the production processes to be used.

As stated in the Guide to Preparing an IPD and a DPD (GOC 2019b), *"capacity refers to the maximum capacity based on the project's design and operating conditions, not the planned capacity of a project. This information may not be relevant to all project types (e.g., highway, railway line), and the proponent should simply indicate where this is the case. The proponent may instead provide other relevant metrics of project size (e.g., area, length, usage).*

The maximum capacity is not relevant for the Project; however, the following metrics may be relevant:

- The runway is proposed to be 2,041.6 m long.
- Frequency of flights from the airstrip are estimated to be 15 to 20 flights per month, depending on production volumes.

11.0 PROJECT SCHEDULE

The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.

The anticipated Project schedule is:

- Obtain necessary regulatory and development approvals/permits – September 2022 to December 2023.
- Construction of manufacturing facility, half the runway, a stormwater management pond, and a possible ready-mix concrete plant construction (Phase 1, Figure 3 above) – April 2024 to December 2025.
- Start of operations for Phase 1 – January 2026.
- Construction of Phases 2 to 6 (Figure 3 above) – 2026 to 2032.

This schedule assumes IAAC may determine that no impact assessment is required for the Project, which results in a 10-month period to obtain necessary regulatory and development approvals/permits. If a full federal impact assessment is required for the Project, the anticipated Project schedule would be:

- Obtain necessary regulatory and development approvals – September 2022 to June 2026.
- Construction of manufacturing facility, half the runway, a stormwater management pond, and a possible ready-mix concrete plant construction (Phase 1, Figure 3 above) – fall 2026 to end of 2027.
- Start of operations for Phase 1 – January 2027.
- Construction of Phases 2 to 6 – 2027 to 2033.

Decommissioning and abandonment are not anticipated to occur for the Project, so no schedule information is provided for decommissioning and abandonment.

12.0 PROJECT ALTERNATIVES

A list of:

a) *potential alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best available technologies; and*

b) *potential alternatives to the project that the proponent is considering and that are technically and economically feasible and directly related to the project.*

As discussed in Section 7.0, when Bombardier announced the sale of the Downsview Airport lands, a new home to produce De Havilland aircraft was required. In this section, a discussion on potential alternatives to the proposed Project is provided, followed by a discussion on alternative means of carrying out the proposed Project.

12.1 Alternatives to the Project

Alternatives to the project are defined as functionally different ways to meet the need for the project and achieve its purpose that are technically and economically feasible (IAAC 2020).

As discussed in Section 7.0, the purpose of the Project is to develop a new aerospace campus to support aircraft manufacturing. Practical alternatives to the Project to meet this purpose are limited. The only alternative to the Project identified is to continue aircraft manufacturing at the current and imperfect aviation and logistics facilities in Calgary. However, this option is not feasible because the current facilities do not allow technically and economically effective aircraft assembly, and limits the ability to bring future aircraft, such as the DHC-6 Twin Otter, and the Dash-8, into production.

12.2 Alternative Means

“Alternative means” to the Project are defined as the various technically and economically feasible ways, including using best available technologies, which allow a designated project and its physical activities to be carried out (IAAC 2020). For the Project, the following alternative means have been considered:

- Project location
- runway length and orientation
- water servicing
- wastewater servicing
- stormwater management
- power supply

A discussion on each of these topics follows.

12.2.1 Project Location

After it was determined that finding the land for new production facilities in the Greater Toronto area was not economically viable, the decision was made to locate production near Calgary, Alberta where Longview had operating facilities.

Several options were examined during the Calgary-area search:

- finding an existing aerodrome to purchase and convert into production and logistics facilities
- finding an existing aerodrome at which to locate new production and logistics facilities
- finding new space near the Calgary International Airport close to existing Viking production facilities and Longview buildings
- locating a 'greenfield' site where a purpose-built aviation campus could be built

Despite there being aerodromes relatively close to Calgary (i.e., Springbank and Airdrie) neither option was determined to be viable. In addition, De Havilland was unable to secure adequate space either on or near to the Calgary International Airport that would allow for De Havilland's vision of a world-class aviation campus.

Ultimately the 'greenfield' option was selected and the land in Wheatland County was acquired. The proposed location has the following benefits:

- a large, young, and diverse labour pool
- family-friendly communities with an affordable cost of living
- Calgary International Airport, a world-class international airport that can support efficient parts distribution to our global customer base
- regional transportation network, including Highway 1

12.2.2 Runway Length and Orientation

The Proponent conducted an aerodrome viability study for the Project, which included consideration of alternatives for runway length and orientation. The following summarizes information on alternatives from that study (InterVISTAS 2022; Appendix E).

Several aerodrome development alternatives were evaluated related to runway length and orientation to meet De Havilland's requirements. The alternatives evaluation considered the runway orientation, property line boundaries, major highways and roadways near the Project site, usable adjacent land, as well as the runway safety areas and airspace surfaces. The location of the runway is influenced by safety areas and object-free areas of the runway and future taxiway system. The dimensions of these safety areas are based on guidance set by Transport Canada.

Six runway alternatives related to runway length and orientation were considered in the study. Runway alternatives were presented to key stakeholders for consideration. Upon presenting the runway alternatives, input was provided that required refinements be made to the planning parameters initially defined. This input included that the proposed runway concept and safety envelopes must remain within the current property boundaries and that each oil well must have a 100-meter buffer where no development can occur.

Both the Calgary and Strathmore wind directions suggest that a runway at the Project site should be oriented in the SSE-NNW direction to provide the best possible crosswind coverage.

The preferred runway length and orientation are shown in Figure 2 (Section 1.0). The runway length is 2,041.6 m, oriented in the SSE-NWW direction.

The SSE-NNW runway orientation and the resulting air traffic are not expected to conflict with other adjacent airports. The Calgary International Airport is the closest major airport, and it operates in a north or south flow configuration most of the time. Flights departing from Calgary may overfly the proposed aerodrome at high altitude and are not expected to conflict with local air traffic. The nearby agricultural airfields and grass strips have a minimal number of air traffic movements and are unlikely to cause any airspace conflicts.

12.2.3 Water Servicing

The Proponent is considering the following options for water supply for the Project:

- recycling and reuse of stormwater for non-potable water supply purposes
- constructing a feeder-main, pump station, and reservoir to receive flows from the East Calgary Regional Waterline (a municipal waterline)
- constructing a feeder-main, pump station, and reservoir to receive flows from the Langdon Water Works (a municipal waterline)
- other alternatives including water wells, cisterns, and diversion from the Bow River

At this preliminary stage, the Proponent's preferred option is to work with Wheatland County to connect to the East Calgary Regional Waterline, as this requires a lower amount of new infrastructure and utilizes an existing regional water system.

12.2.4 Wastewater Servicing

The Proponent is considering the following options for managing wastewater (sanitary sewage/domestic waste):

- constructing a new wastewater treatment facility at the Project site and irrigating crops with the treated effluent
- constructing a force main to connect with the existing Langdon wastewater treatment facility
- constructing a force main to connect with the existing Strathmore wastewater treatment facility
- constructing a force main to connect with the existing Calgary wastewater treatment facility via the Chestermere lift station
- constructing a new wastewater treatment facility at the Project site and discharging into the Bow River via a new force main
- constructing a new wastewater treatment facility at the Project site and discharging into Weed Lake

The current plan is to use a wastewater treatment plant to treat wastewater. Treated effluent from the treatment plant would be temporarily stored in a treated effluent holding pond for subsequent use as irrigation water. As the Project proceeds to the detailed design stage, the Proponent will work with Wheatland County to further evaluate these options.

12.2.5 Stormwater Management

The Proponent is considering the following options for managing stormwater collected on-site:

- evaporation from stormwater ponds (zero discharge)
- on-site irrigation or off-site irrigation to neighbouring agricultural fields from stormwater ponds
- mechanical evaporation from stormwater ponds
- constructing a force-main to the Co-operative Stormwater Management Initiative regional stormwater management system (a municipal system)
- constructing a force-main to the Weed Lake Ditch

The final method of stormwater management will be determined at the subdivision stage. The currently preferred option is a zero-discharge stormwater pond system managed by evaporation and irrigation of both onsite and potentially offsite lands (agricultural fields). Stormwater systems are regulated through an Alberta *Environmental Protection and Enhancement Act* approval and an Alberta *Water Act* approval. The system will be designed to meet the Wheatland County *Design and Construction Standards Manual* (2016), *Alberta Environment Stormwater Management Guidelines*, and the *City of Calgary Stormwater Management and Design Manual* (2011), where applicable.

12.2.6 Power Supply

The Proponent is proposing to use electricity from the Alberta's electricity transmission grid to supply power to the Project. The Proponent is also considering the use of solar power and geothermal power at the Project site, but this would be supplemental to grid power, and not a primary source of electricity for the Project.

PART C: LOCATION INFORMATION AND CONTEXT

13.0 GEOGRAPHIC INFORMATION

A description of the project's proposed location, including

a) its proposed geographic coordinates, including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project and a description of the spatial boundaries of the proposed study corridor

b) site maps produced at an appropriate scale in order to determine the project's proposed general location and the spatial relationship of the project component

c) the legal description of land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot

d) the project's proximity to any permanent, seasonal or temporary residences and to the nearest affected communities

e) the project's proximity to land used for traditional purposes by Indigenous peoples of Canada, land in a reserve as defined in subsection 2(1) of the Indian Act, First Nation land as defined in subsection 2(1) of the First Nations Land Management Act, land that is subject to a comprehensive land claim agreement or a self-government agreement and any other land set aside for the use and benefit of Indigenous peoples of Canada, and

f) the project's proximity to any federal lands.

a) The geographic center of the proposed Project area is Latitude 51° 1 13.021 N and Longitude 113° 35 49.838 W. Figures 1 and 2 above (Section 1.0) present the proposed locations of the Project major ancillary facilities, all contained in the lands designated as Cells 1, 2, and 3.

b) The Project's proposed general location and the spatial relationship of the Project components are presented in Figure 1 and 2 (Section 1). The proposed Project site is in Wheatland County, Alberta, approximately 11 km west of the town of Strathmore, 13 km west of the city of Chestermere, and 20 km east of the City of Calgary. The Project site is bordered by the Trans-Canada Highway 1, approximately 800 m north of the perimeter, by Range Road 264 along the eastern side, by Range Road 265 along the western side, and by Township Road 240 along the southern border.

c) The Project lands are all owned by 2150038 Alberta Inc. The Project will be located within parcels: SW 8-24-26 W4M and SE 17-24-26 W4M. All land parcels within the Project footprint are listed in Table 4. Copies of land titles are presented in Appendix F.

Table 4: Land Parcels Within the Project Footprint

Property Description	Area	
	Hectares (ha)	Acres (ac)
Cell 1	**417.1**	**1030.7**
SW 8-24-26 W4M	64.8	160.0
SE 8-24-26 W4M	62.7	154.9
NW 5-24-26 W4M	64.8	160.0
NW 8-24-26 W4M	22.83	56.42
NE 5-24-26 W4M	62.7	154.9
NE 8-24-26 W4M	9.68	23.93
SW 5-24-26 W4M	64.8	160.2
SE 5-24-26 W4M	64.8	160.2
Cell 2	**89.3**	**220.8**
NW 9-24-26 W4M	48.7	120.4
NE 9-24-26 W4M	40.6	100.3
Cell 3	**124.5**	**307.6**
SW 17-24-26 W4M	63.0	155.8
SE 17-24-26 W4M	61.5	151.9

ha = hectare, ac = acre, W4M = west of 4th meridian.

d) The closest community to the Project is the hamlet of Cheadle, approximately 8 km southeast of the Project area. Other nearby communities are the Town of Strathmore, approximately 11 km to the east and the City of Chestermere, approximately 13 km to the west of the Project area. There are various occupied residences neighbouring the Project site, as shown in Figure 4. Some of these locations may be businesses but have been included here as residences if there was uncertainty, as these locations were used as receptors in the noise assessment (Appendix G). There is one residence within the Project footprint, at the south end of Cell 1. The resident of this dwelling has a tenancy agreement with the Proponent. One hospital, Strathmore District Health Services, and several schools, retirement complexes and assisted care homes in Langdon and Strathmore were identified within a range of six to 13.0 km of the Project site. A list of sensitive receptors is provided below.

- Strathmore District Health Services (Hospital)
- Langdon School
- Sarah Thompson School (Langdon)
- Westmount School (Strathmore)
- Strathmore High School (Strathmore)
- Wheatland Housing Management Body, Ranch Estates, Lambert Village (Retirement homes, Strathmore)
- AgeCare Sagewood (assisted care home, Strathmore)

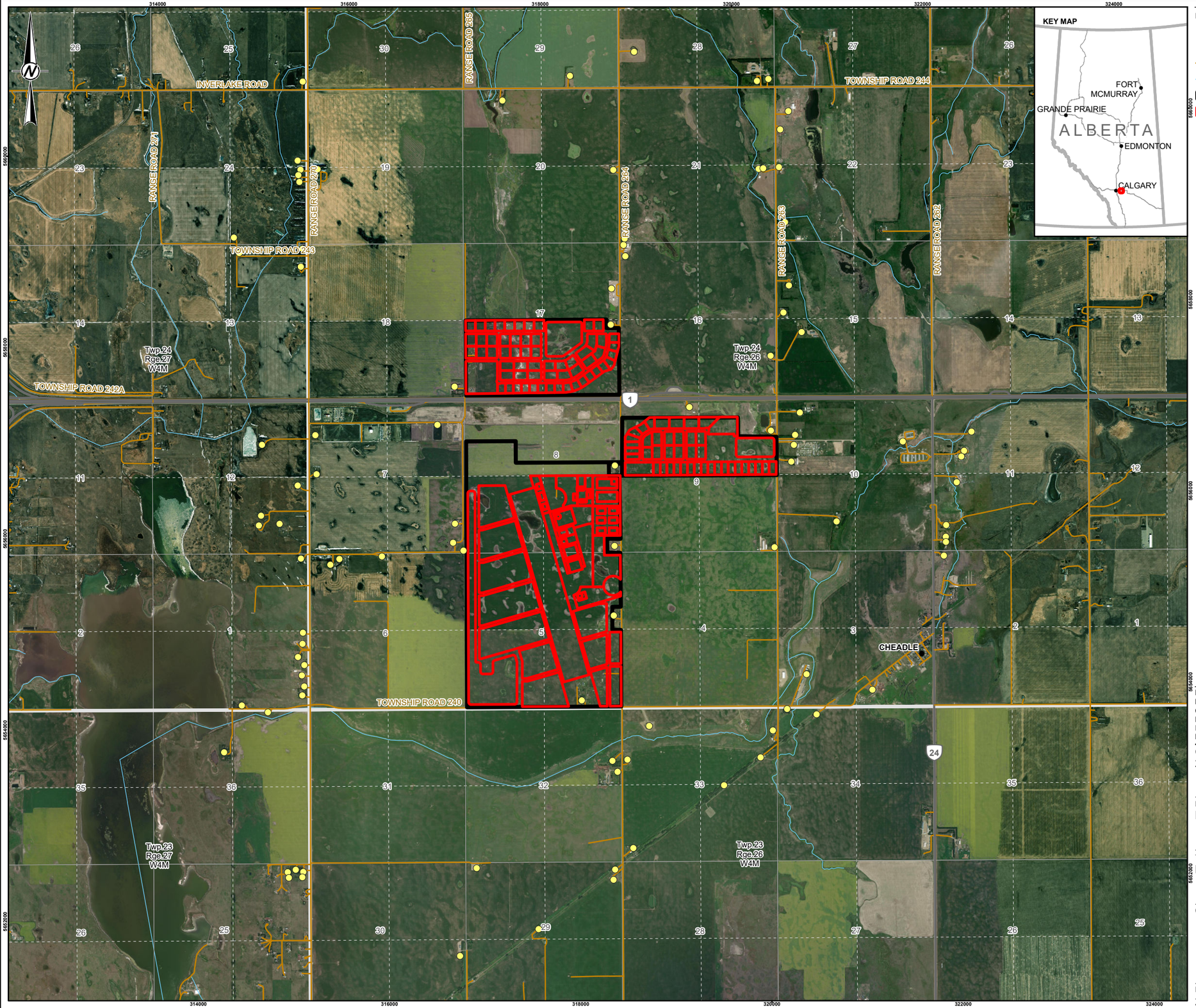
e) The Project is entirely on private land and the Proponent is not aware of any Indigenous Land Use within the Project area. Prior to the Proponent purchasing them, the lands have been primarily used for agricultural purposes or oil and gas activities. The Project site is not subject to a comprehensive land claim agreement or a self-government agreement and any other land set aside for the use and benefit of Indigenous Peoples of Canada (GOA 2021a; Siksika Nation 2021). The nearest Indian Reserve is Siksika Nation's Indian Reserve No.146, located approximately 23 km southeast of the Project (Figure 1). Siksika Nation is part of the Siksikaitsitapi – Blackfoot Confederacy and is a signatory to Treaty 7 (Siksika Nation 2022). The next closest Indian Reserves are Tsuut'ina Nation 145 (50 km southwest of the Project), Stoney 142, 143, and 144 (65 km west of the Project), Eden Valley 216 (about 73 km southwest of the Project), and Stoney 142B (about 83 km west of the Project). No Métis settlements are located near the Project site with the nearest settlements, Buffalo Lake Métis settlement and Kikino Métis Settlement, located around 390 km northeast of the Project (GOA 2021b).

f) The closest federal lands to the Project are listed in Table 5.

Table 5: Federal Lands in Proximity of the Project

Federal Lands	Distance from the Project (km)	Direction from the Project
Canada Post Facility Building	~11 km	East
Royal Canadian Mounted Police Law Enforcement and Corrections Building	~11 km	East
Farm Credit Canada Building	~12 km	East
Siksika Nation's Indian Reserve No.146	~23 km	Southeast
Inglewood Migratory Bird Sanctuary	~27 km	West
Tsuut'ina Nation 145	~50 km	Southwest
Stony 142, 143 and 144	~65 km	West
Eden Valley 216	~73 km	Southwest
Stoney 142B	~83 km	West
Banff National Park	~110 km	West
Spiers Lake National Wildlife Area	~135 km	Northeast
Waterton Lakes National Park	~205 km	South
Canadian Forces Base Suffield National Wildlife Area	~210 km	Southeast

km = kilometer; ~ = approximately.



LEGEND

- HAMLET
- RESIDENCE OR BUSINESS
- LOCAL ROAD
- WATERCOURSE
- PROJECT BOUNDARY
- PROJECT FOOTPRINT

0 500 1,000

1:40,000 METRES

REFERENCE(S)

BASE DATA MAY BE OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED, ALTALIS LTD.© GOVERNMENT OF ALBERTA 20232. ALL RIGHTS RESERVED. OR IHS MARKIT CANADA ULC. IMAGERY COPYRIGHT © 7/13/2018 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED. PROJECTION: 3TM 114 DATUM: NAD 83

CLIENT
2150038 ALBERTA INC.

PROJECT
DE HAVILLAND FIELD PROJECT

TITLE
POTENTIAL RESIDENCES

CONSULTANT

wsp

YYYY-MM-DD	2023-09-27
DESIGNED	WES
PREPARED	LB
REVIEWED	JP
APPROVED	WES

PROJECT NO.	CONTROL	REV.	FIGURE
22538452	500	2	4

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14.0 PHYSICAL ENVIRONMENT

A brief description of the physical and biological environment of the project's location, based on information that is available to the public.

A description of the physical and biological environment of the Project location follows, divided into the following sections:

- Geotechnical
- Terrain and Soils
- Water Resources and Plant Communities
- Wildlife
- Environmentally Significant Areas
- Phase 1 Environmental Site Assessment
- Air Quality
- Noise

In addition to public information, this section includes information from environmental studies the Proponent has conducted for the Project site.

14.1 Geotechnical

A preliminary geotechnical investigation was conducted by E2K Engineering Ltd. (E2K) for the Project site (E2K 2023; Appendix H). A summary of existing conditions from this investigation follows:

- Cell 1 (referred to as Zone 1 in E2K 2023) has a very flat surface sloping from east to west with an approximate average slope of 0.12%. The zone has a depression running from the northeast to the southwest corner of the zone.
- Cell 2 (referred to as Zone 3 in E2K 2023) has a surface sloping from the east border to a depression located at the west border with an average slope of 1.7%.
- Cell 3 (referred to as Zone 2 in E2K 2023) has a very flat surface sloping to a depression located in the north border of the area with an approximate average slope of 0.7%.
- The Project Site was mostly covered by grassland vegetation at the time of investigation, which is an indication of an arid to semi-arid climate.
- The soil stratigraphy at the borehole locations generally consisted of topsoil overlying interbedded layers of native non-plastic silt, silty clay, sand, and overlying bedrock.
- Topsoil was encountered at the surface with thicknesses ranging from 150 to 300 mm. The topsoil generally consists of silt, a trace of clay, and contained some organics.
- Groundwater levels were measured at various locations at the Project site through standpipes installed in boreholes.

- Data collected one month after standpipe installations showed relatively high groundwater elevation, which could be the result of the accumulation of rainwater perched on relatively impermeable strata of clay and bedrock.
- Fluctuations in the groundwater levels should be anticipated. Groundwater levels in Alberta typically fluctuate up to 1.0 m seasonally, with a maximum water level occurring during spring and summer and a minimum in the winter.

14.2 Terrain and Soils

A biophysical assessment was conducted by Trace Associates Inc. (Trace) for the Project site (Trace 2020a; Appendix I), including an assessment of terrain and soils. The existing terrain and soil conditions are summarized as follows:

- Based on desktop and field assessments, upland soils on the Site consists primarily of Orthic Black Chernozems, while wetland soils are largely Orthic Humic Gleysols.
- No steep slopes or unusual landforms were observed on the Site.
- Surficial geology underlying the Site consists of till of even thickness, with minor amounts of water-sorted material and local bedrock exposures and flat to undulating surface topography.
- The Site lies in the shallow black soil zone with transported surface material that has been subject to post-glacial sorting.
- The profile variation is zonally normal, non-saline, with fairly good to good drainage; soil textures are heavy loam and loam.

14.3 Water Resources and Plant Communities

A biophysical assessment was conducted by Trace for the Project site (Trace 2020a; Appendix I), including an assessment of water resources and plant communities, such as wetlands. The existing conditions are summarized as follows:

- Water resources within the Project site include one intermittent watercourse, 172 ephemeral waterbodies, 35 temporary graminoid marshes (M[G]II), 34 seasonal graminoid marshes (M[G]III), and 11 semi-permanent graminoid marshes (M[G]IV).
- 2020 Alberta Wetland Rapid Evaluation Tool- Actual (ABWRET-A) results for wetlands on the Project site ranged from a relative wetland value of ‘D’ (low) to ‘B’ (moderate).
- The Project site primarily consists of cultivated agricultural land with waterbodies and wetlands of varying classes (temporary to semi-permanent) distributed throughout.
- During the field assessment, Trace personnel identified one rare vegetation species, blunt-leaved watercress (*rorripa curvipes*), and three provincially uncommon (S3) species on the Project site.
    - Blunt-leaved watercress was associated with temporary and seasonal wetlands within which drawdown exposed bare soil late in the summer.
- No rare ecological plant communities were observed on the Project site, which largely consists of cropland.

- Plant communities within waterbodies and wetlands have been affected by agricultural practices including cultivation and/or the addition of soil amendments and herbicides.
- Trace personnel observed two weed species on the Project site that are provincially designated as 'Noxious': creeping thistle (*Cirsium arvense)*, and perennial sow-thistle (*Sonchus arvensis)*.

The Proponent is applying to AEPA under the *Water Act* for approval to disturb wetlands and ephemeral waterbodies. This process is discussed further in Section 19.1.

14.4 Wildlife

A biophysical assessment was conducted by Trace for the Project site in 2019 (Trace 2020a; Appendix I), including an assessment of wildlife. In 2023, Trace personnel conducted visual surveys for tiger salamanders (*ambystoma tigrinum*), black-crowned night heron *(Nycticorax nycticorax)* habitat and great blue heron *(Ardea herodias)* habitat. The existing wildlife conditions are summarized as follows:

- The Project site lies within provincially mapped key wildlife ranges for sensitive raptor, including bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), prairie falcon (*Falco mexicanus*), and sharp-tailed grouse (*Tympanuchus phasianellus*) range.
- During the field assessment, eight bird species of conservation concern were identified on the Project site: barn swallow (*Hirundo rustica*), black tern (*Chlidonias niger*), black-crowned night heron, black-necked stilt (*Himantopus mexicanus*), common yellowthroat (*Geothlypis trichas*), eastern kingbird (*Tyrannus tyrannus*), great blue heron, and sora (*Porzana carolina*).
- Wetlands and waterbodies on the Project site are not capable of supporting fish; no amphibian or mammal species of conservation concern were identified during the field assessment.
- Notable wildlife features observed during wildlife surveys included two great horned owl (*Bubo virginianus*) nests, one red-tailed hawk (*Buteo jamaicensis*) nest, and one Swainson hawk (*Buteo swainsoni) nest*. Nests were not identified for other bird species, such as the black-crowned night heron or the great blue heron.
- During 2023 field surveys (May 29 and June 22), no tiger salamanders were observed; Trace personnel observed no suitable habitat for black-crowned night herons or great blue herons on the Project site.
- Wetlands on site are not deep enough to support Northern Leopard Frog, and none have been recorded in the area.
- Pre-construction surveys will be conducted to identify amphibian species of management concern in wetlands and appropriate site-specific mitigation developed.

14.5 Environmentally Significant Areas

A biophysical assessment was conducted by Trace for the Project site (Trace 2020a; Appendix I), including an assessment of Environmentally Significant Areas. For the purposes of the biophysical assessment, Environmentally Significant Areas are defined as areas that are important for the long-term maintenance of biological diversity, physical landscape features, and other natural processes at multiple-spatial scales (Fiera 2014). The existing conditions relative to Environmentally Significant Areas are summarized as follows:

- Environmentally Significant Areas identified within this report are based on the results of field surveys conducted in 2019 and 2020 and criterion developed by Trace taking into consideration guidance within the *Municipal Government Act* and frameworks established by adjacent municipalities (the City of Calgary and the City of Airdrie).
- Polygons identified as Environmentally Significant Areas are distributed throughout the Project site and are directly correlated with the locations of wetlands.
- Although cultivated cropland provides some forage value for wildlife species of conservation concern, high and medium value Environmentally Significant Areas occur almost exclusively within wetlands and waterbodies, in the absence of which the rare plant and wildlife species of conservation concern would not occur on the Project site.
- Under the *Municipal Government Act*, municipalities have the authority to designate parcels of land subject to a proposed subdivision as Municipal Reserve, Environmental Reserve, or Conservation Reserve.

14.6 Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was conducted by Trace for the Project site (Trace 2020b; Appendix J). The objective of conducting the Phase I ESA was to identify actual and potential sources of soil and/or groundwater contamination that may be present at the Project site. Based on the information collected during this study, Trace has identified the following potential sources of contamination from on-site sources:

- Nineteen active oil and gas well sites are located on the Project site. The wells produce gas, water, and/or crude oil/bitumen. The potential for soil and/or groundwater effects exists; however, the operator, Ember Resources Inc. (Ember), has the legal obligation to address any environmental concerns during the operation, abandonment, and post-abandonment of the wellsite and associated facilities. Ember will be required to obtain Reclamation Certificates for site closure, which will include an evaluation and assessment of the potential environmental risks associated with the oil and gas activities. This environmental reporting should be reviewed by an environmental professional. No further immediate environmental investigation as part of this assessment is warranted at this time.
- With any homestead or agricultural property, the potential for fueling above-ground storage tanks (ASTs), pits, burn pits, or buried debris exists. Although there were no obvious indications of pits or buried debris identified as part of the aerial photograph review and site visits, the potential remains. The risk to adversely effect soil and groundwater is generally low to moderate, and no further immediate environmental investigation pertaining to these areas is warranted at this time.
- Trace did not identify actual or potential sources of contamination from off-site sources which would warrant further investigation at the Project site at this time.

14.7 Air Quality

The air quality in the vicinity of the Project site is influenced by power generation, oil and gas activity (including oil batteries and compressor stations), and agricultural activities (e.g., harvesting) that are locally present.

Environment and Climate Change Canada (Environment Canada) operates a network of stations that collect climate data. Climate normals, averages, and extremes are available for stations with at least 15 years of data collected between 1981 and 2010 (ECCC 2022). The closest Environment Canada climate station to the Project site with the most complete data are the Calgary International Airport station, located approximately 31 km northwest of the Project. Data for wind, temperature and precipitation are available for this station. Given the proximity of the station to the Project, the Calgary International Airport site climate normals can be considered representative of conditions at the Project.

The Project lies within the Calgary Region Airshed Zone (CRAZ) airshed that operates in the south-central part of Alberta. CRAZ was established in the 2007 to monitor ambient air quality to the south-central portion of the province, which includes more than 25 municipalities. CRAZ currently maintains five continuous monitoring sites as well as approximately 48 passive sampling sites distributed throughout the airshed. The closest continuous operational air monitoring station is the Calgary South East Monitoring Station and is located approximately 30 km west of the Project in the city of Calgary. The closest passive air quality monitoring station is CRAZ Station 12 in Langdon, which is located approximately 8 km southwest of the Project.

The continuous monitoring station is in the City of Calgary. Because it is in an urban area, air quality is commensurately affected by the activities that accompany a city (e.g., vehicle traffic, residential and industrial space heating, power generation, and various heavy and light industrial activity). These influences on air quality are not typical of those present in a rural setting such as the Project site. Data from the passive monitoring stations were therefore used to characterize the air quality near the Project site.

Data recorded by Environment Canada (ECCC 2022) at the Calgary International Airport (1981 to 2010) show that the daily average annual temperature ranges between -7.1°C in January to 16.5°C in July. The daily average temperature annually was 4.4°C between 1981 and 2010. The average annual total precipitation is 418.8 mm, of which the majority falls as rain in the summer. Table 6 summarizes the climatological data recorded by Environment Canada at the Calgary International Airport station from 1981 to 2010.

A summary of the passive monitoring data for all stations from 2011 to 2017 (the most recent data available) was received from CRAZ. From 2011 to 2017, the annual average nitrogen dioxide (NO_2) concentration at Station 12 ranged from 2.5 to 3.5 parts per billion (ppb), which is substantially less than the annual Alberta Ambient Air Quality Objectives of 24 ppb (AAAQO; ECCC 2022). The maximum 30-day average NO_2 concentration of 7.9 ppb was detected in January, while the lowest concentration of 0.8 ppb was detected in July.

From 2011 to 2017, the annual average sulphur dioxide (SO_2) concentration at Station ranged from 0.3 to 3.0 ppb, which is less that the annual AAAQO of 8 ppb for SO_2 (AAAQO; AEP 2019). The maximum 30-day average SO_2 concentration of 9.9 ppb was lower than the 30-day AAAQO of 11 ppb and was detected in August, while the lowest concentration of 0.2 ppb was detected in October, November, March and April.

Table 6: 1981 to 2010 Climate Data at the Calgary International Airport Station

Climate Parameter	Climate Parameter Annual Average Value
Daily Average Temperature	4.4°C
Daily Maximum Temperature	10.8°C
Daily Minimum Temperature	-1.9°C
Extreme Maximum Temperature	36.1°C
Extreme Minimum Temperature	-45.0°C
Average Annual Precipitation	418.8 mm
Average Annual Rainfall	326.4 mm
Average Annual Snowfall	128.8 cm
Extreme Daily Rainfall	95.3 mm
Extreme Daily Snowfall	48.4 cm
Average Number of Days with Measurable Precipitation	112 days
Average Wind Speed	14.2 km/h
Maximum Hourly Speed	105 km/h

Source: Environment and Climate Change Canada 2022.

°C = Degrees Celsius; mm = millimetres; cm = centimetres; km/h = kilometres per hour.

14.8 Noise

Existing noise sources near the Project site include:

- traffic on TransCanada Highway 1
- traffic on local grids roads (e.g., Range Road 264, Range Road 265, and Township Road 240)
- agricultural activities and machinery
- resident activities, including domestic dogs
- natural sources, such as birds, insects, and wind

At locations less than 500 m from TransCanada Highway 1, traffic noise is likely to dominate the contribution from other sources during both the daytime and nighttime period. Based on current Highway 1 traffic volumes, existing noise levels at these receptors could be as high as 69 A-weighted decibels (dBA) during the daytime period (average daytime noise levels or $L_{eq,day}$) and 62 dBA during the nighttime period (average nighttime noise levels or $L_{eq,night}$).

At locations more than 500 m but less than 1 km from TransCanada Highway 1, existing noise levels are likely a combination of the contribution from highway traffic and other sources. Existing noise levels at these receptors likely range from 45 dBA to 59 dBA during the daytime period ($L_{eq,day}$) and from 35 dBA to 52 dBA during the nighttime period ($L_{eq,night}$), depending on distance from Highway 1.

At receptors located more than 1 km from TransCanada Highway 1, existing noise levels are likely consistent with a quiet rural environment. Based on Health Canada Guidance (Health Canada 2017), representative noise levels in a quiet rural environment are 45 dBA during the daytime period ($L_{eq,day}$) and 35 dBA during the nighttime period ($L_{eq,night}$).

The noise assessment conducted for the Project is included in Appendix G.

15.0 SOCIAL, HEALTH AND ECONOMIC CONTEXT

A brief description of the health, social and economic context in the region where the project is located, based on information that is available to the public or derived from any engagement undertaken.

The following sections provide a description of the social, health and economic context for the region where the Project is proposed to be located. Information is disaggregated by sex and Indigeneity.

15.1 Social Context

Wheatland County is located within Census Division No.5 with a land area of 4,505 km^2 (Wheatland County 2022a). The county consists of nine hamlets (Carseland, Chancellor, Cheadle, Cluny, Gleichen, Lyalta, Namaka, Nightingale, and Rosebud) and is governed by a reeve and seven councillors. Urban municipalities located within the municipal boundary of Wheatland County include the Town of Strathmore and villages of Hussar, Rockyford, and Standard (GOA 2022a). The villages and Strathmore are self-governed[2] (Wheatland County 2020a). Wheatland County is also home to approximately 19 Hutterite colonies with their own businesses, farms, and processing facilities (Kramble 2021).

The county is located ten minutes east of Calgary (a larger urban centre with a well-defined and experienced labour force) and the CANAMEX trade corridor (Highway 2), Trans-Canada Highway, a Canadian National Rail line, and 30 minutes from the Calgary International Airport (McSweeney 2018). Highway 1 bisects the Project site east-west while Highway 797 lies to the west, with Highway 24 to the east. The Project will include the full buildout of the surrounding road network and there will be substantial improvements made to the road network as further development increases. All traffic study intersections are predicted to operate acceptably with the recommended mitigation measures for the 20-Year full buildout of the site by 2042.

Currently the Wheatland County's population is concentrated in the communities of Carseland, Gleichen, Speargrass, and Lyalta; future population growth is expected in these communities based on land use planning, and infrastructure capacities for water treatment and wastewater (Wheatland County 2022a). The population density in Wheatland County is higher in the western portion of the county due to the proximity to the urban areas of Calgary and Strathmore[1] and more intense subdivisions of land (Wheatland County 2020a). The Project site is located within the western portion of Wheatland County.

In 2021, the population of Wheatland County was 8,738, a 0.6% decrease from 2016 (Statistics Canada 2022). The county has a slightly higher proportion of males (51.4%) than females (48.5%)[3]. Wheatland County has a slightly older population compared to the province overall, at 42.4 years compared to 38.4 years, respectively (Statistics Canada 2023a). Almost two-thirds (65.2%) of Wheatland County's population are of working age (aged 15 to 64 years), slightly below the provincial average (66.2%). Those of retirement age (65 years and over), make up 15.7% of the county population, slightly higher than the provincial average (14.8%). This suggests an aging population that may exhibit lower participation in the labour force.

[2] Although located within Wheatland County, the Town of Strathmore and other villages are separate census subdivisions and are governed independently. Strathmore is therefore reported separately from Wheatland County.

[3] As all counts in census tabulations undergo random rounding, percentages may not total 100%.

The Indigenous population in Wheatland County is 330 (4.5% of the population) in 2021, with near equal proportions of male and female (165 and 170) (Statistics Canada 2023a). The County's Indigenous population is younger than the overall population, with a median age of 31.4 years, slightly older than the median age of the provincial Indigenous population (28.4 years). Over two-thirds (68.2%) of Wheatland County's Indigenous population are of working age (aged 15 to 64 years), slightly above the Indigenous provincial average (66.7%). Those of retirement age make up 10.6% of the Indigenous population in the County, which is almost double the Indigenous provincial average (6.7%).

Strathmore has a larger population than Wheatland County, with a 2021 population of 14,339, a 4.2% increase from 2016 (Statistics Canada 2023a). Unlike Wheatland County, Strathmore has a slightly higher proportion of females (51.3%) than males (48.7%). The population of Strathmore is slightly younger than Wheatland County overall, with a median age of 40.0 years compared to 42.4 years, but slightly older than the provincial median (38.4 years). Strathmore has a smaller proportion of working age population (62.5%) (aged 15 to 64 years) compared to Wheatland County (65.2%) and the provincial average (66.2%). Those of retirement age (65 years and over) make up 17.7% of the county population, higher than the provincial average (14.8%).

The Indigenous population in Strathmore is 925 (4.5% of the population) in 2021, with more females than males (475 compared to 445). Of the three communities, the Indigenous population is youngest in Strathmore, with a median age of 24.6 years, younger than the median age of the provincial Indigenous population (28.4 years). Over two-thirds (67.0%) of Strathmore's Indigenous population are of working age (aged 15 to 64 years), comparable to the Indigenous provincial average (66.7%). Those of retirement age make up 5.6% of the Indigenous population in the county, below the Indigenous provincial average (6.7%).

The City of Calgary is located 20 km from the Project and is the largest urban centre in the province. In 2021, the city had a population of 1,306,784, a 5.5% increase from 2016 (Statistics Canada 2023a). The city has slightly more females (50.3%) than males (49.7%). Calgary has a younger population than both Wheatland County and Strathmore, with a median age of 38.0 in 2021, resulting in a larger working-aged population aged 15 to 64 years of age (68.4%) compared to the other two communities (66.2% and 62.5%), and a smaller proportion of those at retirement age (13.6%).

Compared to Wheatland County and Strathmore, the Indigenous population makes up a smaller proportion of Calgary's total population (3.2% or 41,350). The Indigenous population in Calgary is younger than the city's overall population (38.0 years), with a median age of 30.2 years, slightly older than the median age of the provincial Indigenous population (28.4 years). About 70% of Calgary's Indigenous population are of working age (aged 15 to 64 years), above the Indigenous provincial average (66.7%). Those of retirement age make up 6.4% of the Indigenous population in the county, which is below the Indigenous provincial average (6.7%).

About three-quarters of households in Wheatland County are couples, and 88% of the population live in single family homes (Wheatland County 2022a). The average size of census families was 2.9 people, higher than the provincial average of 1.9. In 2021, 8.3% of Wheatland County families were single-parent families, about half of the provincial average (15.2%). In 2020, 8.9% of Wheatland County (7,300 individuals) qualified as low income based on the low-income measure, after tax.

No First Nation Reserves or Métis settlements are located within the Project site. The nearest Indian Reserve is Siksika Indian Reserve No.146. The reserve is located about 23 km southeast of the Project and is the only reserve community within Wheatland County. The next closest reserve communities are Tsuut'ina Nation 145 (about 50 km southwest of the Project), Stoney 142, 143 and 144 (about 66 km west of the Project), Eden Valley 216 (about 73 km southwest of the Project) and Stoney 142B (about 83 km west of the Project).[4] No Métis settlements are located within Wheatland County, with the nearest settlements, Buffalo Lake Métis settlement and Kikino Métis Settlement, located around 390 km northeast of the Project.

The Project construction workforce is estimated to be 320 to 400 workers and the full operations workforce is estimated to be 1,500 workers. The Project workforce is expected to be drawn primarily from local communities (Wheatland County and surrounding region including the Town of Strathmore and the City of Calgary). No work camps will be constructed for the Project due to the sourcing from nearby local communities. The Project is, therefore, not expected to induce population growth due to an in-migration of jobseekers. No population-driven changes to community composition or pressure on infrastructure and services in Wheatland County or surrounding communities are expected. Any increase in workers in the area is expected to be minimal and temporary in nature.

15.2 Health Context

Alberta is divided into five geographical health zones and Wheatland County is within the jurisdiction of the Calgary Zone, which is further divided into Local Geographic Areas (Alberta Health Services n.d.). Wheatland County is located within the Strathmore Local Geographic Area (LGA), which includes Wheatland County and the Town of Strathmore (GOA 2022b). Limited health data specific to Wheatland County is available as health indicators are typically aggregated to larger geographic areas.

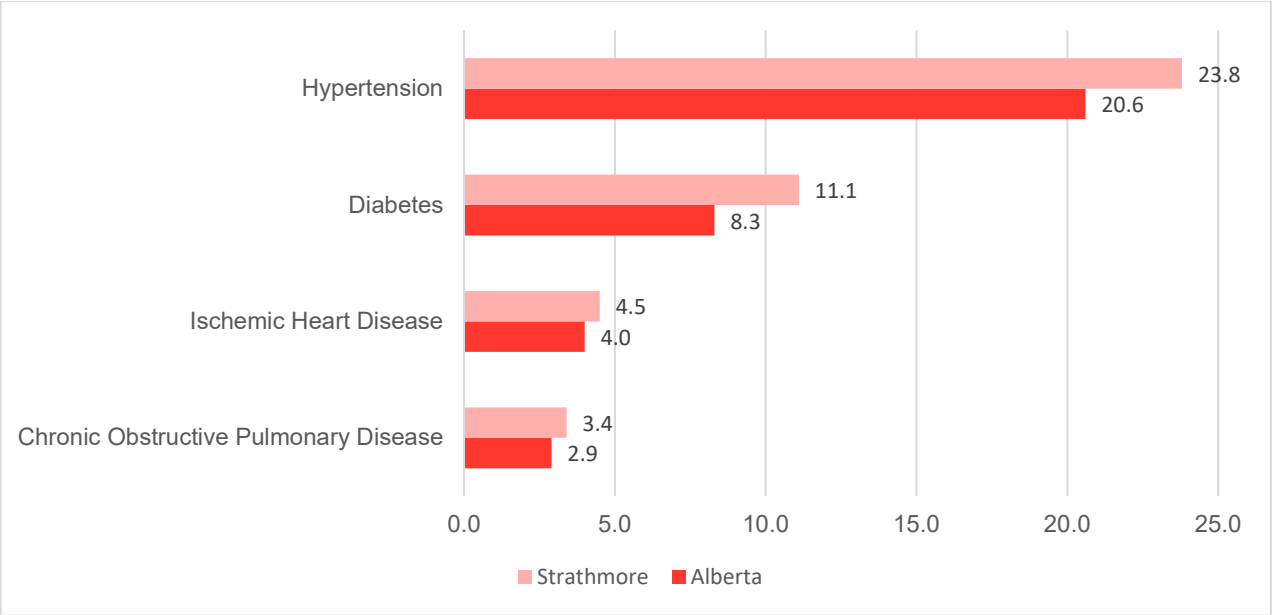
In 2020, the most common chronic disease for the Strathmore LGA was hypertension, with a rate[5] that was 1.2 times higher than the provincial rate (23.8 compared to 20.6, respectively) (GOA 2022b). Other common chronic diseases reported within the Strathmore LGA were diabetes, ischemic heart disease and Chronic Obstructive Pulmonary Disease, all of which had higher prevalence compared to the provincial averages (Figure 5). The Strathmore LGA reported a higher mortality rate for all causes of mortality compared to the provincial rate (830.9 to 700.3, respectively). Between 2019 and 2021, diseases of the circulatory system were the main cause of death in the Strathmore LGA, with an associated mortality rate higher than the provincial rate per 100,000 (242.1 compared to 191.1) (GOA 2022b).

Residents within the Calgary Zone have access to a variety of patient services, with most services located within the urban centres of Airdrie, Banff, Black Diamond, Calgary, Canmore, Claresholm, Didsbury, High River, Strathmore, and Vulcan. Most residents of Wheatland County access physician care within the Town of Strathmore (Wheatland County 2022a). The closest hospital to the Project is Strathmore District Health Services, which has a range of healthcare services including a 24-hour emergency department (Alberta Health Services 2022). Strathmore District Health Services has 13 beds within the Emergency Department and sees approximately 20,000 patients per year. The hospital is often above 100% capacity and transfers patients to surrounding hospitals during periods of high occupancy (Accreditation Canada 2019).

[4] Stoney 142, 142B, 143, 144 and Eden Valley 216 are Indian Reserves belonging to Stoney Nakoda First Nation.

[5] All rates reported are per 100,000 population.

Figure 5: Age-Standardized Chronic Disease Prevalence Rates (per 100 population) in Strathmore Local Geographic Area and Alberta (2020)



Source: GOA 2022b.

The recent loss of two full-time physicians in Strathmore in early 2022 raised concerns within Wheatland County about rural physician shortages and healthcare capacity (Penticton Herald 2022; Wheatland County 2022a). A letter to the Minister of Health drafted from the Reeve of Wheatland County indicated that due to the lack of physicians in reasonable proximity to county residents, residents would need to travel to Calgary which would result in patients experiencing increased travel time, ancillary travel costs, and further stress the healthcare system in the city. The letter asked if additional resources could be made available for Wheatland residents and for attracting physicians to the region (Wheatland County 2022a).

Emergency Medical Services (EMS) for Wheatland County and Strathmore are provided by Wheatland EMS, operating out of Strathmore (Wheatland EMS 2018). Strathmore has one 24-hour advanced life support ambulance[6] and two Core Flex basic life support ambulances[7], operating seven days a week. Within Strathmore most calls (84%) are addressed by Wheatland EMS, 11% by Calgary EMS, 1% by Chestermere EMS, and 1% by Siksika Nation EMS (Strathmore Now 2022). Wheatland County and Strathmore also utilize the air ambulance services of Shock Trauma Air Rescue Services (STARS), operating from Calgary. Between 2017 to 2021, STARS carried out an average of 34 critical inter-facility, search and rescue, and scene missions within Wheatland County (including support at Strathmore District Health Services) (Wheatland County 2022b).

[6] Assist with advanced assessments advanced airway management and drugs.

[7] Assist with basic assessment skills, basic airway management and limited drugs.

Fire services to Wheatland County are provided by 100 volunteer fire fighters (Wheatland County 2020b). Firehalls are in Cluny, Carseland, Dalum, Gleichen, Hussar, Rockyford, Rosebud, Standard, and Strathmore (Transitional Solutions 2020). Wheatland County has mutual aid agreements with the counties of Hussar, Kneehill, Newell, and Vulcan (Wheatland County 2020c to 2020f). The county has 10 fire engines and four trucks equipped for rescue (Transitional Solutions 2020). The potential for increased use of emergency services due to the Project is predicted to be low as the Proponent is planning to include an emergency services facility as part of the Project.

15.3 Economic Context

Wheatland County is primarily an agricultural jurisdiction with dryland cropping, livestock production, and irrigated lands (Kramble 2021). On the western side of Wheatland County and around the Town of Strathmore, country-residential development with a commuting workforce is common, and small business and industrial development is growing in response (Wheatland County 2020g). The eastern part of Wheatland County has many large-scale farming operations, an emerging green energy development, and new technology for agricultural production.

Given the focus of the region on agricultural activities, agriculture remains the largest employment industry in the county. In 2021, agriculture, forestry, fishing, and hunting industries employed 27.0% of the labour force aged 15 and over, followed by construction (11.2%), and retail trade (7.2%) (Statistics Canada 2023a). Agriculture, forestry, fishing, and hunting was the largest industry of employment for both males and females (33.3% and 19.3%, respectively). The second and third largest industries employing males were construction (17.3%) and transportation and warehousing (5.5%), while healthcare and social assistance (6.6%) and retail (9.9%) were the next largest industries employing females. The three industries with the largest number of businesses are farms (110 businesses), building equipment contractors (22), and support for mining and oil and gas extraction (21) (McSweeney 2018). The majority of businesses in Wheatland County employed around one to four employees (65.1%), followed by those that employ five to nine (14.5%), and 10 to 19 (9.3%) (Townfolio 2022). Wheatland County had 466 businesses in 2021, including 42 construction businesses, 17 manufacturing businesses, and 26 transportation and warehousing businesses (GOA 2022c).

The Town of Strathmore[8] is a retail and services hub for the region outside of Calgary. In Strathmore, the largest industries of employment are retail (11.9%), health care, and social assistance (11.9%), and construction (8.7%) (Statistics Canada 2023a). The largest industries for males are construction (14.9%), retail trade (11.4%) and manufacturing (8.2%). The largest industries for females are service-based: health care and social assistance (21.7%), retail trade (15.4%), and educational services (11.4%). The largest employers are sales and service businesses such as Wal-Mart, Rona, Canadian Tire, Sobeys, and other major employers include the Strathmore District Health Services and the two school divisions (Strathmore Living 2022). In 2021, Strathmore had a total of 511 businesses, including 90 construction businesses, 21 manufacturing businesses, and 30 transportation and warehousing businesses (GOA 2022d).

Calgary is the largest urban centre in Alberta and is home to a diversity of economic industries such as energy and environment, financial services, agribusiness, technology, transportation and logistics (Calgary Economic Development 2023). The City is home to more than 102 head offices, with more large corporate head offices per capita than any other Canadian city, and the second highest number of small businesses per capita of major cities

[8] Although located within Wheatland County, the Town of Strathmore and other villages are separate census subdivisions and are governed independently. Strathmore is therefore reported separately from Wheatland County.

in Canada (Calgary Economic Development 2022). In 2021, the three largest industries of employment in Calgary were healthcare and social assistance (12.5%), professional, scientific and technical services (11.5%), and retail (11.0%). (Statistics Canada 2023a) The largest industries for males were professional, scientific and technical services (12.7%), retail trade (10.1%) and manufacturing (6.3%). For females, the largest industries were healthcare and social assistance (20.9%), retail trade (11.9%), and professional, scientific, and technical services (10.2%).

In 2021, the labour force of Wheatland County was 4,290, while Strathmore was nearly double at 7,325 and Calgary was several times larger, at 730,055 (Table 7). The participation rate in Wheatland County was 70.9%, slightly higher than the province (68.0%) and Strathmore (65.0%), but lower than Calgary (73.4%) (Statistics Canada 2017). The participation rate was higher for males than females in all three communities, with Wheatland County having the highest male participation rate (75.7%), followed by Calgary (73.4%), and Strathmore (70.2%). Wheatland County had approximately a 10% difference in participation rate between males and females while the difference in Calgary was lower (8.4%). Wheatland County also had the highest female participation rate at 65.6%. Wheatland County's unemployment rate (6.6%) was lower than the provincial rate, Strathmore and Calgary (11.5%, 12.2% and 9.8%, respectively).

Table 7: Labour Force and Income Indicators for Wheatland County, Strathmore, Calgary, and Alberta (2021)

Labour Indicator	Wheatland County			Town of Strathmore			Calgary			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Population Aged 15 + and above	3,130	2,925	6,055	5,455	5,820	11,275	521,180	535,055	1,056,230	1,675,855	1,699,280	3,375,135
In the Labour Force	2,370	1,920	4,290	3,830	3,495	7,325	382,305	347,750	730,055	1,215,955	1,079,425	2,295,380
Participation Rate (%)	75.7	65.6	70.9	70.2	60.1	65.0	73.4	65.0	69.1	72.6	63.5	68.0
Unemployment Rate (%)	5.9	7.8	6.6	9.4	10.2	9.8	12.2	12.9	12.5	11.4	11.7	11.5
Median Employment Income ($)	42,400	24,000	32,000	54,800	30,800	41,600	49,600	35,600	42,400	51,600	33,600	41,600
Average Employment Income ($)	58,700	35,480	47,680	62,100	38,320	50,600	71,900	48,320	60,450	67,800	43,920	56,350

Source: Statistics Canada 2023a.

% = percentage.

In 2021, the median employment income in Wheatland County was $32,000, while the average employment income was $47,680. Males had higher levels of median employment income ($42,400) and average employment income ($58,700) than females. The median employment income ($24,000) and average income ($35,480) of females was considerably lower. Both males and females made less than the provincial employment medians ($51,600 and $33,600) and averages ($67,800 and $43,920).

The median employment income in Strathmore was $41,600, in line with the provincial median. Strathmore had a higher income differential between males and females than Wheatland County ($24,000 compared to $18,400). Males in Strathmore have a higher median employment income than the provincial median ($54,800 compared to $51,600), while females had a lower median income ($30,800 compared to $33,600). The average employment income in Strathmore was $50,600, below the provincial average of $56,350. The fact that the average employment incomes in the two communities are significantly higher than the median is likely reflective of a small

portion of the workforce earning relatively high incomes compared to a larger lower-income portion of the workforce. This pattern is not atypical in “bedroom communities” where people reside in a rural location but commute into a large urban center where employment incomes are typically higher.

Calgary had a higher median employment income than Wheatland County or Strathmore at $42,400. Like the pattern in the other communities and provincially, males had higher median employment incomes than females ($49,600 compared to $35,600). The average employment income in Calgary was $60,450, with males earning on average $71,900 compared to the average earnings of females of $48,320. The average employment income for both sexes in Calgary was higher than the overall provincial average.

The labour force and income indicators for the Indigenous populations in Wheatland County, Strathmore, Calgary, and Alberta is presented in Table 8. A small number of the labour force aged 15 and above in Wheatland County (170) and Strathmore (465) are Indigenous, with a larger Indigenous labour force in Calgary (21,425) (Statistics Canada 2023b). The participation rates for the Indigenous population in the three communities are similar, ranging from 66.7% to 69.4%, higher than the provincial Indigenous average of 62.4%. Participation rates are higher for Indigenous males than females in all communities, with the largest sex differential in Wheatland County (15.7% difference). Differences between male and female Indigenous participation in Strathmore and Calgary are smaller than the provincial Indigenous averages (2.9% and 6.6%, compared to 6.7% for the province). Unemployment is highest for the Indigenous population in Wheatland County (23.5%), higher than the provincial Indigenous average (18.5%), while Calgary and Strathmore have comparable or lower unemployment levels (18.5% and 14.0%, respectively). Indigenous males have higher rates of unemployment than females in Wheatland County, while in Strathmore and Calgary, females have higher rates of unemployment.

Median employment income for the Indigenous population in Calgary is slightly above the provincial median ($34,800 compared to $34,000). In Strathmore and Wheatland County, median employment incomes of the Indigenous population is below the provincial median ($32,400 and $23,000, respectively). Males in all three communities have higher median employment incomes than females, with the highest differential is in Strathmore ($14,600 difference), with the lowest in Calgary ($12,800). Indigenous males made about 1.5 times the median employment income of females in Strathmore and Calgary and double in Wheatland County. Like the non-Indigenous population, average employment incomes of males are higher in all three communities than females, with males making about 1.5 times the average income of females, consistent with the provincial difference.

Table 8: Labour Force and Income Indicators for Indigenous Population in Wheatland County, Strathmore, Calgary, and Alberta (2021)

Metrics	Wheatland County			Town of Strathmore			Calgary			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Population Aged 15 + and above	120	135	255	305	370	670	14,410	17,130	31,535	97,810	108,210	206,020
In the Labour Force	90	80	170	215	250	465	10,310	11,110	21,425	64,435	64,080	128,515
Participation Rate (%)	75.0	59.3	66.7	70.5	67.6	69.4	71.5	64.9	67.9	65.9	59.2	62.4
Unemployment Rate (%)	27.8	18.8	23.5	11.6	14.0	14.0	17.9	19.0	18.5	19.5	17.5	18.5
Median Employment Income ($)	25,800	13,000	23,000	44,000	28,000	32,400	43,200	28,600	34,800	41,200	28,400	34,000
Average Employment Income ($)	37,500	23,600	29,800	53,200	36,800	44,800	60,900	40,920	50,320	55,700	38,080	46,720

Source: Statistics Canada 2023b.

In 2021, Wheatland County and Strathmore had higher levels of educational attainment compared to provincial averages for high school, apprenticeship, and college, while Calgary had higher levels of post-secondary education (Table 9). Both Wheatland County and Strathmore had higher levels of apprenticeship (13.2% and

9.8%) and college level attainment (25.2% and 26.1%, respectively) compared to the provincial averages but lower levels of university and above education than provincial averages (Statistics Canada 2023a). A notably larger proportion of males had apprenticeships in Wheatland County, Strathmore, and Calgary, a pattern also seen at the provincial level. In Wheatland County and Strathmore, males are four times more likely to hold an apprenticeship than females, which aligns with the sex differential at the provincial level. This differential is lower in Calgary, but still pronounces with males being three times more likely to hold an apprenticeship than females. A higher proportion of females than males have obtained higher levels of education (e.g., college, university, and above) in Wheatland County, Strathmore, and Calgary, which is also seen at the provincial level. While Calgary has lower levels of attainment for trades and college level education than Wheatland County or Strathmore, it has higher levels of post-secondary education (42.9%), exceeding the provincial average. Females in Calgary had higher rates of post-secondary education than males (45.1% compared to 40.6%). The higher proportions of the population with these levels of education indicate that the local population likely has educational backgrounds applicable for Project employment. The nearest publicly funded college (Bow Valley College) and technical institute (Southern Alberta Institute of Technology) are in Calgary (GOA n.d.). The technical institute has three aviation programs: aircraft maintenance, aircraft structures, and avionics technology (SAIT 2023), which provide training that could be relevant to the Project's workforce requirements.

The Indigenous populations in Wheatland County, Strathmore, and Calgary have lower levels of apprenticeship education (5.9%, 6.7% and 8.4%, respectively) compared to the provincial Indigenous average (9.2%), with no Indigenous females with apprenticeships in Wheatland County and Strathmore (Table 10). Much of the Indigenous population in the three communities has completed high school as their highest level of education, ranging from 31.2% in Calgary to 43.1% in Wheatland County. About a quarter of the Indigenous population in Wheatland County and Strathmore have obtained college-level education, higher than the Indigenous provincial average (20.5%). Like the territorial pattern, more Indigenous females than males have obtained college and university level education in the three communities. While there are slightly lower levels of achievement for college-education by the Indigenous population in Calgary (18.0%) compared to the other communities and the provincial average (20.5%), it has the highest levels of achievement among the three communities for university and above education (42.9%). Calgary has a sizeable Indigenous population, with twice the number of males with apprenticeships than females and almost twice the number of female college graduates than males.

Table 9: Highest Level of Education (2021) in Wheatland County, Strathmore, Calgary, and Alberta for the Population Aged 25 to 64 Years

Metric		Wheatland County			Strathmore			Calgary			Alberta		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
No certificate, diploma, or certificate	#	275	180	455	415	340	750	30,270	25,880	56,150	126,960	100,920	227,880
	%	13.3	9.1	11.2	12.0	8.9	10.3	8.3	6.9	7.6	11.1	8.7	9.9
High School	#	650	645	1,295	1,115	1,215	2,335	83,330	74,760	158,090	298,415	283,405	581,820
	%	31.6	32.5	32.0	32.2	31.9	32.1	22.9	20.0	21.4	26.1	24.5	25.3
Apprenticeship	#	435	105	535	550	160	715	34,495	11,805	46,300	175,185	45,745	220,930
	%	21.1	5.3	13.2	15.9	4.2	9.8	9.5	3.2	6.3	15.3	4.0	9.6
College	#	445	580	1,020	745	1,155	1,900	56,660	76,265	132,925	193,510	278,645	472,155
	%	21.6	29.2	25.2	21.5	30.3	26.1	15.5	20.4	18.0	16.9	24.1	20.5
University or above	#	235	395	630	520	830	1,355	148,035	168,260	316,295	315,340	398,700	714,040
	%	11.4	19.9	15.6	15.0	21.8	18.6	40.6	45.1	42.9	27.6	34.5	31.1

Source: Statistics Canada 2023a.

= number; % = percentage.

Table 10: Highest Level of Education (2021) in Wheatland County, Strathmore, Calgary, and Alberta for the Indigenous Population Aged 15 Years and Over

Metric		Wheatland County			Strathmore			Calgary			Alberta		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
No certificate, diploma or certificate	#	30	25	55	85	70	155	3,620	3,265	6,885	32,820	29,050	61,870
	%	25.0	18.5	21.6	27.9	18.9	23.1	25.1	19.1	21.8	33.6	26.8	30.0
High School	#	60	50	110	120	160	275	4,645	5,185	9825.0	31,400	33,610	65,015
	%	50.0	37.0	43.1	39.3	43.2	41.0	32.2	30.3	31.2	32.1	31.1	31.6
Apprenticeship	#	10	0	15	40	0	45	1,795	850	2,650	14,205	4,735	18,940
	%	8.3	0.0	5.9	13.1	0.0	6.7	12.5	5.0	8.4	14.5	4.4	9.2
College	#	10	30	40	40	60	100	1,995	4,110	6,100	11,705	24,630	36,335
	%	8.3	22.2	15.7	13.1	16.2	14.9	13.8	24.0	19.3	12.0	22.8	17.6
University or above	#	10	10	25	20	60	80.0	2,095	3,130	5,225	6,325	12,855	19,185
	%	8.3	7.4	9.8	6.6	16.2	11.9	14.5	18.3	16.6	6.5	11.9	9.3

Source: Statistics Canada 2023b.

= number; % = percentage.

Economic development is a top priority for Wheatland County Council, which has made efforts to develop future economic development that support the County's current economic base and enable new opportunities for growth. Reports commissioned for Wheatland County indicated the county had several strengths, including (McSweeney 2018; Kramble 2021):

- proximity to larger urban centres and markets
- location on main highways and CN rail
- accommodating local government
- reasonably priced housing
- lower priced industrial and commercial land compared to nearby communities
- availability of agricultural raw materials
- borders Siksika Nation with business and tourism assets and increasing mandate for economic development
- unique cultural and tourism offerings in the Rosebud Theatre, Dark Skies, and agri-tourism

Challenges identified included:

- lack of upgraded and new infrastructure to support growth
- competition from Calgary resulting in high levels of leakage of workers
- difficulty in attracting new residents and workforce
- difficulty in finding qualified workforce locally
- poor broadband/internet capacity

Wheatland County developed an Economic Development Strategy which included an action plan that focused on addressing the identified challenges and focused on the four themes of community development, investment readiness, industry development, and tourism (McSweeney 2018).

Currently, the Proponent's workforce in Alberta is approximately 590 people, about a quarter of which are female. The Project construction workforce is estimated to be 320 to 400 workers and the full operations workforce is estimated to be 1,500 workers. The Proponent will employ a number of sourcing strategies for the Project workforce, including training for entry-level positions. The Project workforce is expected to be drawn primarily from local communities (Wheatland County and surrounding region – Town of Strathmore and possibly Calgary) as these communities have trained labour markets available for employment. Based on the most recent labour force statistics, these communities do not have abnormally low levels of unemployment and are not experiencing labour shortages. Any increase in workers in the area are expected to be minimal and temporary in nature. The Project is not expected to affect the local labour market that would increase competition for labour. The Project will have a modest effect on local (including Indigenous and non-Indigenous worker) income levels during construction and operation.

The Proponent provides equal employment opportunities based on education, experience, skills, references, and availability as related to the duties and responsibilities of the position. The Proponent welcomes diversity and promote equality within their workplace and hiring practices. Employment decisions are based on business needs, job requirements and individual qualifications, without regard to race, national or ethnic origin, colour, religion, age, sex, sexual orientation, gender identity or expression, marital status, family status, disability, or any other status protected by the laws or regulations in the locations where they operate. The company will not tolerate discrimination or harassment based on any of these characteristics.

At this time, there are no 'preferential' hire groups, however the Proponent is always looking to partner with organizations representing broader labour pools, especially those who look to promote those under-represented in the workforce, to provide paths to employment in their industry. As the Proponent moves towards becoming a consolidated organization, it will become federally regulated and will therefore collect additional data on their workforce demographics such as Indigenous participation. By early 2024, the Proponent will measure its workforce against the demographics of its employment areas and will set targets to reach similar proportions. At such time that gaps have been identified, strategies for each group will be developed and implemented. Currently the Proponent has initiated contact with women's groups and other training initiatives to prepare for anticipated training opportunities. Additional information about Indigenous hiring practices is outlined in Section 22.3.

PART D: FEDERAL, PROVINCIAL, TERRITORIAL, INDIGENOUS AND MUNICIPAL INVOLVEMENT AND EFFECTS

16.0 FINANCIAL SUPPORT FROM FEDERAL AUTHORITIES

A description of any financial support that federal authorities are, or may be, providing to the project.

The Project does not include any proposed or anticipated federal financial support.

17.0 USE OF FEDERAL LANDS FOR PROJECT

A list of any federal lands that may be used for the purpose of carrying out the project.

The Project will be constructed on lands owned by 2150038 Alberta Inc. There will be no federal lands used for the purpose of carrying out the Project.

18.0 JURISDICTIONS THAT HAVE POWERS, DUTIES OR FUNCTIONS IN RELATION TO AN ASSESSMENT OF THE PROJECT'S ENVIRONMENTAL EFFECTS

A list of any jurisdictions that have powers, duties, or functions in relation to an assessment of the project's environmental effects.

The Federal, Provincial, and Municipal jurisdictions that have power, duties, or functions in relation to an assessment of the Projects environmental effects are listed in Table 11.

Table 11: Jurisdictions with Powers, Duties or Functions Related to Project Environmental Effects

Agency and Legislation/Regulation/ Policy	Resource Protected / Managed	Potential Powers/Duties/Functions
Federal		
Impact Assessment Agency of Canada *Impact Assessment Act* (IAA) *Strategic Assessment of Climate Change* (SACC) (ECCC 2020)	The IAA manages and assesses effects of major projects or projects carried out on Federal lands The SACC enables consistent, predictable, efficient, and transparent consideration of climate change throughout the impact assessment process	Decision Statement issued by Federal Minister of Environment and Climate Change or Cabinet or A decision that a federal impact assessment is not required
Environment and Climate Change Canada *Migratory Birds Convention Act* (MBCA)	The MBCA protects migratory birds, their nests, and eggs anywhere they are found in Canada	The MBCA restricts certain activities during nesting periods
Transport Canada *Canadian Aviation Regulations* (CARs)	The CARs are rules that govern civil aviation in Canada, including noise resulting from aircraft operation	All aircraft operators must comply with the noise operating restrictions and noise abatement procedures required by Transport Canada, which are published by NAV CANADA

Table 11: Jurisdictions with Powers, Duties or Functions Related to Project Environmental Effects

Agency and Legislation/Regulation/ Policy	Resource Protected / Managed	Potential Powers/Duties/Functions
Provincial		
Alberta Environment and Protected Areas *Water Act* *Alberta Wetland Policy*	The *Water Act* supports and promotes the conservation and management of water in Alberta, including wetlands	*Water Act* authorization required before Project construction to address potential effects to wetlands *Water Act* approval will be sought for the stormwater management system, as applicable
Alberta Environment and Protected Areas *Environmental Protection and Enhancement Act (EPEA)*	*EPEA* is the primary act in Alberta managing regulatory requirements for air, water, land, and biodiversity	*EPEA* approval/authorization will be sought for the stormwater management system and wastewater management system, as applicable
Alberta Environment and Protected Areas *Wildlife Act*	Protects listed wildlife within the *Wildlife Regulation*	The *Wildlife Act* prohibits disturbance or destruction of a house, nest, or den of listed wildlife
Alberta Environment and Protected Areas *Weed Control Act Regulation*	Manages declared noxious and prohibited noxious weeds	This regulation requires that noxious weeds must be controlled from growing or spreading
Alberta Culture *Historical Resources Act* (*HRA*)	The HRA manages the preservation and study of historic resources in Alberta, including archaeological sites, paleontological sites, historic buildings, and Aboriginal traditional use sites	HRA approval prior to Project construction
Municipal		
Wheatland County *Agricultural and Environmental Policies*	Establishes guidelines for the provision of environmentally responsible services in Wheatland County	Requires environmental assessment information as part of the Development Permit
Wheatland County *Noise Bylaw*	Manages noise within Wheatland County	Provides requirements and restrictions for noise activities in Wheatland County
Wheatland County *Land Use Bylaw*	Manages Dark Sky requirements within Wheatland County	Includes requirements for reducing light pollution and the nuisance effect of bright lights for adjacent landowners, while protecting wildlife and wildlife habitat

Other Federal and Provincial legislation were considered in relation to the Project's environmental effects, but the Project does not include features relevant to their mandates, as follows:

- Federal *Species at Risk Act* (SARA)
  - The Project does not affect fish or fish habitat because it is not expected to release stormwater off-site to areas with fish habitat; therefore, there are no SARA requirements for aquatic species to be met (Section 19.0).
  - Since the environmental studies to date have not identified any Species at Risk, there are no SARA requirements for wildlife or vegetation (Section 14.3 and 14.4).

- Federal *Fisheries Act* Since the Project does not affect fish or fish habitat and does not release stormwater off-site (except potentially through off-site irrigation to agricultural fields), there are no *Fisheries Act* requirements to be met.
- Federal *Canadian Navigable Water Act* – There are no waterways affected by the construction or operations of the Project.
- Provincial *Environmental Assessment (Mandatory and Exempted Activities) Regulation* (GOA 2017) – On May 12, 2023, Alberta Environment and Protected Areas informed the Proponent that an environmental impact assessment report is not required (Appendix K).

18.1 Regulatory Update on Transport Canada and NAV CANADA

The Proponent submitted a Consultation Summary Report to Transport Canada on March 23, 2023. Transport Canada provided a response letter on April 3, 2022, stating that the Consultation Summary Report has been accepted as it was found to be compliant with the provisions of 307.07. The Proponent will comply with the *Canadian Aviation Regulation* (CAR) 307.

On February 23, 2023, NAV CANADA responded indicating there are no objections to the Project as submitted, as long as the following conditions are met:

- The proposed runway orientation remains as proposed; north – south (15-33) direction and generally aligned with main runways at Calgary International Airport (17L-35R and 17R-35L).
- Arrival and departure procedures will have to be designed that do not conflict with the Calgary International Airport traffic flows. Occasionally, the De Havilland Field traffic will have to be kept at lower altitudes until clear of conflicting traffic flows.
- When Runway 11/29 at Calgary International Airport is in usage, which is very infrequent and ~2% of the time, the De Havilland Field flights may have to wait for breaks in traffic to depart.
- Higher altitude flight test areas will have to be located east of the Calgary Terminal airspace.
- Any changes to this proposal must be sent to NAV CANADA for re-evaluation of effects.

The response letter from NAV CANADA is found in Appendix L.

The NAV CANADA assessment does not constitute an approval and/or permit from other agencies. The Proponent will continue with regular consultation until all approvals are in place.

The requirements for TP-1247 have not been discussed with Transport Canada and NAV CANADA yet in this process. The Proponent will comply with any requirements or Transport Canada/NAV CANADA conditions related to TP-1247.

The Proponent will continue working with Transport Canada and NAV CANADA on the required regulatory requirements for the Project.

PART E: POTENTIAL EFFECTS OF THE PROJECT

19.0 POTENTIAL EFFECTS ON FISH AND FISH HABITAT, AQUATIC SPECIES AND MIGRATORY BIRDS

A list of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within the legislative authority of Parliament:

(a) fish and fish habitat, as defined in subsection 2(1) of the Fisheries Act;

(b) aquatic species, as defined in subsection 2(1) of the Species at Risk Act; and

(c) migratory birds, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994.

19.1 Fish, Fish Habitat and Aquatic Species

The potential for linkages or interactions between the Project and fish, fish habitat and aquatic species are discussed in Table 12. The Project is not expected to cause adverse effects to fish, fish habitat and aquatic species based on the following:

- No fish-bearing waterbodies or watercourses were identified during field surveys
- The proposed Project design and Project mitigations minimize interactions with off-site waterbodies and watercourses
- The Project is subject to existing legislative or regulatory processes that manage or accommodate effects to watercourses and waterbodies in Alberta

The Proponent is applying for *Water Act* approval to disturb wetlands and ephemeral waterbodies at the Project site. As per Alberta Wetland Policy (GOA 2013) requirements, the Proponent must mitigate permanent wetland loss. The Proponent is proposing provision of in-lieu payment to Alberta Environment and Protected Areas (AEPA) to remove permanent and temporary wetlands, based on the wetland's relative value score, for the construction, restoration, or enhancement of a wetland within the same watershed. As part of the *Water Act* application, the Proponent will complete a Wetland Assessment and Impact Report (WAIR), which will include:

- A wetland assessment, including a review of historical photographs and background data, and a field assessment (GOA 2015c 2015b).
- Submission of wetland data to AEPA to obtain the relative value for each wetland (GOA 2015a).
- A request to AEPA Water Boundaries, to determine if the wetlands are claimed under the Public Lands Act.

The Proponent will comply with any relevant regulatory requirements under the *Fisheries Act*. The Project design does not appear to have any regulatory requirements subject to the *Fisheries Act* at this time.

Table 12: Potential Linkages to Fish, Fish Habitat and Aquatic Species

Potential Linkages/ Interactions with Fish and Fish Habitat	Discussion
Removal of waterbodies or watercourses during construction	There are no fish-bearing waterbodies or watercourses on the Project site that will be removed during construction. The biophysical assessment concluded waterbodies on the Project site are not capable of supporting fish (Trace 2020a; Appendix I).
Removal of wetlands during construction	While wetlands will be removed during construction, there are no fish-bearing wetlands at the Project site. The biophysical assessment concluded wetlands on the Project site are not capable of supporting fish (Trace 2020a; Appendix I). The following mitigations are proposed to minimize potential effects to wetlands: ■ As per Alberta Wetland Policy (GOA 2013) requirements, mitigate permanent wetland loss. The Proponent will recommend provision of in-lieu payment to AEPA. ■ As per Alberta Wetland Policy (GOA 2013) requirements, provide an in-lieu fee to AEPA to remove the temporary wetland, based on the wetland's relative value score, for the construction, restoration, or enhancement of a wetland within the same watershed. The Alberta Wetland Policy (GOA 2013) requires mitigation of temporary or permanent wetland loss. Wetland management is regulated through an Alberta *Water Act* approval (discussed in more detail below).
Release of stormwater to nearby waterbodies and watercourses	The currently preferred stormwater option is a stormwater pond system with zero discharge to an offsite outlet. The system would be managed by evaporation and irrigation of both onsite and potentially offsite lands (agricultural fields). The offsite irrigation is not expected to mix with nearby waterbodies or watercourses. The following mitigation to manage stormwater quality are proposed: ■ Pond pipe systems will connect to an oil/grit separator prior to entering the stormwater pond. ■ The oil/grit separator that will ensure 85% removal of particles sized greater than 75 micrometers. Stormwater systems are regulated through an Alberta *Environmental Protection and Enhancement Act* approval and an Alberta *Water Act* approval.
Release of wastewater to nearby waterbodies and watercourses	The current plan is to use a wastewater treatment plant to treat wastewater. Treated effluent from the treatment plant would be temporarily stored in a treated effluent holding pond for subsequent use as irrigation water. The proposed wastewater treatment system and wastewater reuse require registration and authorization under the Alberta *Environmental Protection and Enhancement Act.*
Water intake from waterbodies or watercourses for construction or operations	The currently preferred water supply option is to work with Wheatland County to connect to the East Calgary Regional Waterline.

GOA = Government of Alberta, AEPA = Alberta Environment and Protected Areas.

19.2 Migratory Birds

The *Migratory Bird Convention Act* protects migratory birds, their nests, and eggs anywhere they are found in Canada. The potential for linkages or interactions between the Project and migratory birds are discussed in Table 13. The Project is not expected to cause adverse effects to migratory birds based on the following:

- The proposed Project design and mitigations minimize the interactions with off-site waterbodies and watercourses.
- The Project is subject to existing legislative or regulatory processes that manage or accommodate effects to watercourses and waterbodies in Alberta.

Table 13: Potential Linkages to Migratory Birds

Potential Linkages/Interactions	Discussion
Disturbance of migratory birds, nests, and eggs during construction activities	The following mitigations are proposed to minimize potential effects on migratory bird nests and eggs during construction: ■ Conduct site clearing and grading outside of the breeding bird window (approximately April 15 to August 30; GOC 2018) to avoid the destruction of nests and breeding birds. ■ If construction must occur during the breeding bird window, employ a qualified person to conduct a wildlife sweep within seven days prior to clearing of vegetation in accordance with the Wildlife Sweep Protocol (GOA 2021b). ■ If nests/dens are detected during the sweep, determine a species-specific temporary setback buffer, in consultation with a qualified person, and apply the setback to all construction activities until the nest has been deemed fledged or inactive by a qualified person. ■ If activities on the Project site are suspended for more than seven days, conduct an additional wildlife sweep prior to resuming construction.
Wildlife-vehicle interactions, including bird strikes with aircraft	The following mitigations are proposed to minimize potential wildlife-vehicle interactions: ■ Shut off vehicles and equipment when not in use to minimize disturbance to wildlife species. ■ Avoid unnecessary travel on and to and from the Project site to reduce risk of wildlife-vehicle interactions. ■ Follow posted speed limits to reduce risk of wildlife-vehicle interactions. ■ Use bird deterrent and/or water level management for the stormwater facilities to discourage their use by migratory birds, as practical. ■ Mitigations related to wildlife habitat and wildlife strikes at the aerodrome will be part of the Project's Airport Wildlife-Management Plan which will be developed per Transport Canada guidance *Sharing the Skies: Guide to the Management of Wildlife Hazards – TP 13549* (Transport Canada 2004).
Removal of wetlands during construction	The following mitigations are proposed to minimize potential effects to migratory birds using wetlands: ■ As per Alberta Wetland Policy (GOA 2013) requirements, mitigate permanent wetland loss. The Proponent will recommend provision of in-lieu payment to AEPA. ■ As per Alberta Wetland Policy (GOA 2013) requirements, provide an in-lieu fee to AEPA to remove the temporary wetland, based on the wetland's relative value score, for the construction, restoration, or enhancement of a wetland within the same watershed.
Establishment of weeds affecting potential habitat	The following mitigations are proposed to manage weeds, which may affect potential bird habitat: ■ Confirm all equipment arriving at the Project site will be clean and free of soil and vegetative debris to avoid spread of weeds. ■ Monitor stockpiles for weeds and implement corrective measures to avoid growth and establishment of regulated weeds. ■ Control noxious and prohibited noxious weeds and species as identified in the *Alberta Weed Control Act* and associated regulations.

GOA = Government of Alberta, GOC = Government of Canada, AEPA = Alberta Environment and Protected Areas.

20.0 CHANGES TO ENVIRONMENT ON FEDERAL LANDS, IN A PROVINCE OTHER THAN THE PROVINCE IN WHICH THE PROJECT IS PROPOSED TO BE CARRIED OUT OR OUTSIDE OF CANADA

A list of any changes to the environment that, as a result of the carrying out of the project, may occur on federal lands, in a province other than the province in which the project is proposed to be carried out or outside Canada.

There will be no changes to the environment on federal lands, other provinces, or outside Canada as a result of carrying out this Project. The rationale for this statement follows:

- The nearest federal lands to the Project are approximately 11 km away (Section 13.0).
  - The Project is not expected to result in direct physical effects on federal lands because no portion of the Project development will occur beyond the Project site or on federal lands.
  - The Project contributions to air quality and noise emissions are expected to be low and locally limited (Sections 24.3 and 24.4 below) and are not expected to have indirect effects on federal lands.
- The nearest provincial boundary is 115 km away.
  - The Project is not expected to result in direct physical changes outside of Alberta or outside of Canada because no portion of the Project development will occur beyond the Project site.
  - The Project contributions to air quality and noise emissions are expected to be low and locally limited (Sections 24.3 and 24.4 below) and are not expected to have indirect effects outside of Alberta or outside of Canada.

21.0 IMPACTS TO INDIGENOUS GROUPS INCLUDING TRADITIONAL LAND USE, PHYSICAL AND CULTURAL HERITAGE, AND HISTORICAL, ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES

With respect to the Indigenous peoples of Canada, a brief description of the impact — that, as a result of the carrying out of the project, may occur in Canada and result from any change to the environment — on physical and cultural heritage, the current use of lands and resources for traditional purposes and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.

21.1 Indigenous Land Use

The Project site is located on approximately 631[9] ha of private land that consists primarily of cultivated agricultural land with intermittent waterbodies and marshes distributed throughout (Trace 2020a). The Project site is zoned for Agricultural General District and utilized as cropland with several small country residential lots. The purpose of the Agricultural General District is to promote and accommodate agricultural land and preserve the agrarian character of the county. Industrial development is not allowed under this district. The surrounding areas in the north portion of Section 08 are zoned as Industrial General and Country-Residential; the surrounding areas in the north portion of Section 09 and west portion of Section 10 are zoned as Industrial General (Trace 2020a; Trace 2020b). Within the Project site's boundaries, there are nineteen active gas wells and sixteen high pressure natural gas pipelines operated by Ember (Trace 2020b).

Indigenous Knowledge provided by Indigenous groups in letters sent to IAAC in June 2023 has been summarized in this section. The Proponent is committed to continuing to engage with Indigenous groups as the Project advances to address their concerns and aspirations related to Project development.

Tsuut'ina Nation noted that they have oral narratives that speak of the Project location, and there is a possibility that medicinal plants and shrubs may be in the Project area. Tsuut'ina Nation has asserted that the disturbance or removal of such vegetation would affect their ceremonial land uses (Tsuut'ina Nation 2023). Tsuut'ina Nation also note that while the Project location is currently croplands, there are other vegetation and wildlife, such as wetlands and the eight rare bird species, observed during field surveys. In addition, Tsuut'ina indicated that other wildlife could be present in the Project location, and that their absence during field surveys does not mean they are not present.

Siksika Nation has noted that the notable wildlife features (i.e., great-horned owl, red-tailed hawk, Swainson hawk) identified are species of particular importance to Siksika Nation (Siksika Nation 2023). The bird species found within the Project site inform tipi design for Siksika Nation members and are culturally critical. Bearspaw First Nation also indicated that these bird species are species of importance to them and are strong contributors to local biodiversity (Bearspaw First Nation 2023).

Bearspaw First Nation, Chiniki First Nation, and Goodstoney First Nation have indicated that, based on their knowledge of the area, there are notable historic resources present (Bearspaw First Nation 2023, Chiniki First Nation 2023, Goodstoney First Nation 2023). One example provided is a Cluny archaeological site, located east

[9] The IPD states that the proposed site occupies 589.4 ha; however, the proposed site has increased to 631 ha due to the addition of the Future Study Area in the northern portion of Cell 1 (discussed in Section 9.0).

of the Project area, which illustrates their historical connection to the area through their use and occupation of areas within, and in proximity to, the Project site (Bearspaw First Nation 2023, Chiniki First Nation 2023, Goodstoney First Nation 2023). In addition, these Indigenous Groups also note that the signing of Treaty No.7 at Blackfoot Crossing occurred south of the Cluny Site, which further emphasizes the use and occupation of this area by their ancestors. These First Nations indicated that they also had many camps in the vicinity of the Project area, and the area holds deep importance to them.

The Proponent acknowledges historic use of the area as expressed in the IAAC letters from June 2023. However, while noise levels were assessed to range from negligible to high for areas immediately near the Project airstrip and on public roads, as the Project site is located on land that is privately held and has existing agricultural and industrial development, the potential for current Indigenous land use such as hunting, fishing, plant gathering, or spiritual use is limited. Further, the Project is not anticipated to affect water quality or quantity, wildlife habitat, or traditional and medicinal plants in the surrounding area, as it is not expected to generate beyond-negligible effects on air quality, water quality and quantity, or fish, wildlife, and vegetation health. The Project site is not accessible to the public nor is there access for Indigenous land use. No cumulative effects are anticipated due to the Project site's location on private lands, which consist primarily of cultivated agricultural land. As a result, effects on resources, lands, or environmental conditions key to the exercise of Treaty Rights, Métis Harvesting Rights, or Indigenous land use are not expected. The Proponent acknowledges that the Indigenous Peoples engaged as part of the Project have hunted, fished, and harvested in the Project area in pre- or post-contact eras, and have ancestral connections to the land. Although the landscape has changed through cultivation and later development, Indigenous Peoples may still have connections to the area.

As discussed in Section 4.0, engagement continues, and the Proponent is committed to ongoing engagement with Indigenous groups into construction and operations for the Project to understand any concerns they may have. The Proponent is committed to continuing to engage with Indigenous groups as the Project advances to address their concerns and aspirations related to Project development.

21.2 Physical and Cultural Heritage, and Historical, Archaeological and Paleontological Resources

A historic resources review was conducted for the Project site to support an application for *Historical Resources Act* clearance. Based on this review, the Project does not intersect any lands with a Historical Resources Value (HRV) and there are no previously recorded historic resources within the Project boundary. The closest previously recorded sites (both historic period) are approximately 1.4 km to the east and approximately 1.9 km to the east. Neither of these sites will be affected by the Project. One previous Historical Resources Impact Assessment was conducted for the twinning of Highway 1 between Strathmore and the Highway 9 junction, near the Project site. This study recorded the site 1.9 km to the east of the Project but did not identify any sites within the portions of the Project area that it passes through. The Project is on prairie level sediment deposits which are typically shallow outside of stream or river valleys and are highly vulnerable to agricultural disturbance. As the Project is located on previously disturbed agricultural land and no known historic resources will be affected, there is low potential for intact, unknown, significant historic resources to be present.

An Historic Resources application was submitted to Alberta Culture, who reviewed the Project location and historic resources potential of the area. Based on this review, no Historic Resources Impact Assessment was required, and the Proponent received *Historical Resources Act* approval for the Project site from Alberta Culture on December 12, 2022.

During construction of the proposed Project, if any sites, structures, or items of historical, archaeological, paleontological, or spiritual significance to Indigenous groups are identified, the Proponent and its contractors will:

1) Stop work and flag the area to prevent any further disturbance.
2) Workers will notify the Proponent who will contact a Resource Specialist.
3) No potential archaeological or paleontological sites will be further disturbed or affected until the Resource Specialist has consulted with the Provincial Regulator to ensure appropriate mitigation measures are implemented.
4) The Proponent will also notify local Indigenous groups of these discoveries to consult on proposed mitigation measures.
5) This contingency plan will be included in the Environmental Protection Plan for the Project.

22.0 IMPACTS ON INDIGENOUS HEALTH, SOCIAL, AND ECONOMIC CONDITIONS

A brief description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.

Discussion on potential Project effects to human health, social factors and economic factors for Indigenous groups are presented in the following sections.

22.1 Potential Health Effects

The nearest Indian Reserve is Siksika Indian Reserve No. 146, 23 km southeast of the Project. Siksika Health Services is the primary service provider for Siksika Nation (Siksika Health Services n.d.–a). Siksika Health Services also offers 24/7, 7 day a week emergency medical services, and provides service to Siksika Nation and surrounding area if required. Patients are typically transported to the nearest medical centre, which depending on the type of care required, can be Strathmore District Health Services (Hospital) or hospitals in Calgary (Siksika Health Services n.d.-b).

It is expected that most of the personnel engaged during the Project will be local to Wheatland County and surrounding region (Town of Strathmore and Calgary). Any increase in workers in the area are expected to be minimal and temporary in nature and thus is not expected to stimulate population growth or demand for health care services. The Project is not expected to access medical services specific to Indigenous communities (e.g., Siksika Health Services). Pressure on medical services provided for Indigenous Peoples is therefore not expected to be affected by the Project. In the event of an accident during construction (including involving off-site traffic), acute care access at the Strathmore District Health Services could potentially be affected in periods of high demand. The potential for increased use of emergency services due to the Project is predicted to be low as the Proponent is proposing to include an emergency services facility as part of the Project.

The Project is anticipated to have a low volume of flights, approximately 15 to 20 per month (depending on production volumes) and low air emissions are expected (Section 24.3). Potable water will be sourced from the East Calgary Regional Waterline and the Proponent will obtain the necessary *Water Act* licenses. The Project is unlikely to increase contamination during construction and operation as it will generate only conventional domestic and commercial waste, as well as fluid wastes during aircraft fabrication, assembly or pre-flight/maintenance

processes, general materials, and metal scraps and off-cuts (Section 24.0). These wastes will be disposed of by a waste disposal contractor to landfill or recycling facilities. An integrated stormwater management system will be utilized using evaporation, irrigation, and mechanical evaporation. The wastewater management system will likely be an on-site treatment system or a connection to an existing municipal system. Potential sources of contamination from on-site sources are nineteen active oil and gas wellsites located on the Project site[10], and potential for fueling above-ground tanks, pits, urn pits, or buried debris. However, the risk to adversely effect soil and groundwater is low to moderate, and no further immediate environmental investigation pertaining to these areas is warranted at this time (Appendix J). No actual or potential sources of contamination from off-site sources was identified which would warrant further investigation at the Project location at this time. Increased contaminants are therefore not expected as a result of the Project.

Negligible effects from the Project are expected to vegetation, wildlife, and fish and fish habitat as a result of the Project; therefore, no health effects due to consumption of country foods are expected. As discussed in Appendix I and Section 14.3, no drinking water sources are located within the Project site and downstream effects of the Project are not expected. Given the location of the Project on private land, the lack of access to the Project location for Indigenous land use, the Project site's long history of agricultural land use, the distance to the nearest Indigenous settlement, low air emissions and lack of potential effect to harvested food and drinking water, no effects to Indigenous health as a result of the Project are expected. The Proponent is open to further engagement with Indigenous Groups to determine their perspectives on any effects related to Indigenous health and well-being.

22.2 Potential Social Effects

Construction of the proposed Project is not expected to significantly increase the temporary or long-term population of Wheatland County. While the construction workforce is not known at this time, Project construction and operation is not expected to result in an increased transient workforce. The construction and operation workforce are expected to draw primarily from the local population as there is a trained labour market locally (within Wheatland County and Strathmore). Social effects to Indigenous communities are not expected as a result of the proposed Project given that it is not expected to generate significant demand for out-of-area workers, and thus is not expected to stimulate population growth or changes in community composition locally in Indigenous communities. Without induced population growth, access to community resources for Indigenous Peoples is not expected to be affected.

The Project is bounded by existing Range and Township roads and is located south of Highway 1. The Project is not expected to increase road access to Crown land which may be used for traditional purposes, nor is it expected to create additional linear disturbances (and associated informal access) that could increase the likelihood of non-Indigenous use of land and resources on Crown land.

[10] Any environmental concerns during the operation, abandonment, and post-abandonment of the wellsite and associated facilities is the responsibility of the operator, Ember will be required to obtain Reclamation Certificates for site closure, which will include an evaluation and assessment of the potential environmental risks associated with the oil and gas activities.

22.3 Potential Economic Effects

Siksika Nation shares much of Wheatland County's southern border, and many Indigenous Peoples from Siksika Nation also live and work in the county (Wheatland County 2020a). The Project construction workforce is estimated to be 320 to 400 workers and the full operations workforce is estimated to be 1,500 workers. The Proponent's Respect in the Workplace Policy and mandatory training programs will be implemented for the Project that will include cultural sensitivity training for the entire Project workforce. Cultural sensitivity training will work to ensure the safety, security, and non-discrimination of Indigenous Peoples involved with the Project, and to address bias towards Indigenous Peoples in the non-Indigenous workforce.

The Proponent is committed to engaging with Indigenous communities to identify opportunities for training, employment, contracting, and procurement of goods and services in all stages of Project development. As discussed in Section 4.0, the Proponent has identified principles for engaging with Indigenous communities, including the provision of employment opportunities to Indigenous communities as well as opportunities for Indigenous businesses to bid on De Havilland Field Project contracts. The Proponent has engaged with Community Futures Treaty 7, a delivery partner for ISET programming, to explore partnership opportunities for training and employment with local Indigenous Groups. In addition, the Proponent is engaging with Levvel Consulting to explore potential partnerships including skills training for new entrants to the aerospace industry as well as existing employee cultural training initiatives.

The Proponent is currently engaging with Indigenous Groups and will consider a potential Letter of Intent for Indigenous Groups that are willing to commit their members to commute to Calgary. Currently, the Proponent is focusing on local (Calgary-based) Indigenous programming organizations but are open to other opportunities as they present themselves. It is expected that the Project will result in positive economic benefits for those Indigenous communities, or Indigenous individuals, that participate in the Project through employment or business opportunities.

23.0 GREENHOUSE GAS EMISSIONS GENERATED BY THE PROJECT

An estimate of any greenhouse gas emissions associated with the project.

Project construction and operation activities will generate GHG emissions and result in land clearing that will cause a one-time loss of carbon and carbon sink loss. A Climate Change Analysis (Appendix M) was conducted by WSP for the Project which considers:

- How operation of the proposed Project may affect climate change (i.e., the Project's contribution to climate through the emission of GHGs)
- How potential changes in climate may affect the proposed Project, including supporting and/or ancillary facilities and infrastructure, (i.e., the resilience of the Project to climate change)

As such, a GHG Assessment, as well as a Climate Change Resilience Assessment has been conducted for the Project as part of the Climate Change Analysis (Appendix M).

It is important to note that part of the purpose of this Project is to construct DHC-515 Firefighter aircraft, which are a multi-mission amphibian and purpose-built aerial firefighting aircraft used to fight forest fires. The benefits of these aircraft in reducing GHG emissions from forest fires and maintaining carbon sinks by fighting forest fires are substantial but have not been quantified as part of the Climate Change Analysis (Appendix M). As discussed in Section 7.0, as climate changes occur, fire regimes are changing, often with increasing frequency, severity and

size (Warren and Lulham 2021). The fire season is becoming longer, starting earlier in the spring and ending later in the fall, with more frequent fires (expressed by a shorter fire return interval) expected throughout this century (Warren and Lulham 2021).

Greenhouse Gas Assessment

The Strategic Assessment of Climate Change (SACC; ECCC 2020) and the Draft Technical Guide for the SACC (GOC 2021) requires proponents to calculate net GHG emissions based on the following equation:

Net GHG Emissions = Direct GHG Emissions + Acquired Energy GHG Emissions – CO_2 Captured and Stored – Avoided domestic GHG Emissions – Offset Credits.

Where:

- Direct GHG Emissions (Scope 1) = emissions occurring from sources that are owned or controlled by a proponent (e.g., generators, boilers, vehicles, process, and fugitive emissions) (WRI and WBCSD 2013) and land use changes.
- Acquired domestic GHG Emissions (Scope 2) = emissions from the generation of purchased electricity, heating, and cooling consumed by the proponent (WRI and WBCSD 2013).
- CO_2 Captured and Stored = emissions that are generated by the Project and permanently stored in a storage Project.
- Avoided domestic GHG Emissions = emissions that are reduced or eliminated in Canada as a result of the Project.
- Offset Credits = emission reductions or removals generated from activities that are additional to what would have occurred in the absence of the offset Project.

Consistent with the Draft Technical Guide for the SACC, the net GHG emissions for the Project have been calculated based on the sum of Direct GHG emissions (Scope 1) and Acquired Energy GHG Emissions (Scope 2). Considering the Project is in the preliminary design phase the emissions associated with avoided GHG emissions, CO_2 that would be captured and stored and with purchase of offset credits, were set to zero tonnes of carbon dioxide equivalent (0 t CO_{2e}), as a measure of conservatism.

Based on the GHG estimation, it has been assessed the Project would lead to an estimated 18,184 tCO_{2e} of GHG emissions during the year with the highest total emissions (for operational period), and the total GHG emissions from the Project (2024 to 2127) are estimated to be 1,937,223 tCO_{2e}. A part of the GHG emissions have already been accounted for at the Calgary airport (approximately 149,530 t CO_{2e} over the Project lifetime). The total estimated GHG emissions from the Project represent less than 0.008% of the provincial total and 0.003% of the Canada wide total. The Project is not likely to have a notable contribution above the uncertainty associated with the respective totals. The Project GHG emissions are also not likely to affect Canada's ability to reach the national emission reduction targets or Canada's alignment to transition to a low carbon economy and the net-zero targets, given the alternative options being considered to develop a sustainable and energy efficient facility.

Climate Change Resilience Assessment

The Climate Change Resilience Assessment (Section 3.0; Appendix M) employs a risk management approach based on the conceptual Project design. The assessment anticipates future climatic conditions for the Project region, and how climate change related disruptions or effects may affect the Project. Given that the design is at the conceptual stage, a qualitative screening level risk assessment approach was conducted based on the preliminary design information. The Climate Change Resilience Assessment is consistent with Infrastructure Canada's Climate Lens - General Guidance (Infrastructure Canada 2019) and the SACC (ECCC 2020).

A range of climate change events have been identified to affect the Project infrastructure. Some of these climate events include extreme precipitation, extreme temperatures, high winds, storms, and changes in snowfall. These extreme effects may also affect Project activities during operations and resulting in delays, disruptions, or complete shutdowns of operations.

Although the Project is currently at the conceptual design stage, the following measures will be incorporated increase the overall resilience:

- Building codes and standards will be used in the design of the Project to address the effect of extreme events, including the National Building Code of Canada 2020, Volume 1 (Canadian Commission on Building and Fire Codes 2020).
- Operations and Maintenance policies and procedures will be followed that indirectly address current climate risks and will be reviewed and updated as needed.

However, further development of resilience measures to mitigate climate risks to the Project should be considered at the detailed design stage of the Project for medium and high-risk interactions identified in the assessment. Some of the following standards can be considered to increase resilience of the facility at the detailed design stage:

- *Climate-Resilient Buildings and Core Public Infrastructure: An Assessment of the Impact of Climate Change on Climate Design Data in Canada* (Cannon, A.J. et al 2020) provides an assessment of how climate design data relevant to the users of the National Building Code of Canada might change as the climate continues to warm. The document provides recommendations on using the IPCC AR5 data in the design of infrastructure. For example, for the mean annual temperatures, the document recommends using warming level associated with the RCP 8.5 scenario for the 50-year horizon in the design data.
- *The CSA A440. 4:19 Window, door, and skylight installation* (CSA 2018) standard's Annex H introduces information on consideration of climate change during installation of windows and doors.
- *The CSA S520:22. Design and construction of low-rise residential and small buildings to resist high wind* (CSA 2022) standard provides guidance for design and construction of new buildings to develop resistance to high wind speeds up to an EF-2 level (tornado-level wind speed).
- *The CSA A123.26:21. Performance requirements for climate resilience of low slope membrane roofing systems* (CSA 2021) standard provides requirements for low slope membrane roofing systems based on climate severity and resilience requirements.

Project resilience to future climate change is described in Section 3 of Appendix M. The risk ranking in Section 3.5 of Appendix M identified that for the 23 potential interactions between the Project and climate events, 12 are considered low risk, nine are considered medium risk and two are considered high risk (high winds and high precipitation). Current and potential future adaptive measures are provided for each of the 23 potential interactions to help manage potential risks.

Although the mitigation measures would have the potential to reduce climate risks, the measures need to be monitored for their performance through an ongoing monitoring and surveillance process. As a part of the continual improvement process, climate risks and opportunities could be integrated in Project's monitoring and surveillance activities. A Climate Adaptation Framework could be developed for the Project that forms the basis documenting the ongoing monitoring and continual improvement related to climate change, as well as to outline the decision-making process for when action needs to be taken to improve climate resilience.

The adaptive management plan could be updated through an ongoing process over the lifetime of the Project. The results from the monitoring programs could be integrated to test the effectiveness of resilience and mitigation actions and manage the unexpected outcomes. The Climate Adaptation Framework could be used to support future climate risk assessments for the Project and provide operational and financial decision-making support.

24.0 WASTE AND EMISSIONS GENERATED BY THE PROJECT

A list of the types of waste and emissions that are likely to be generated — in the air, in or on water and in or on land — during any phase of the project.

24.1 Solid Wastes

The Project is expected to generate various types of waste, as follows:

- Standard domestic and commercial waste generated during construction and operations
- Fluid wastes generated during aircraft fabrication, assembly or pre-flight/maintenance processes, such as hydraulic fluids, shop machinery oils /lubricants, cutting fluids, and detail part processing tanks
- General materials such as soiled rags, sealant containers, glues, or composite material (carbon fibre).
- Metal scraps and off-cuts generated from milling/boring/drilling/lathe operations, including aluminum, stainless steel, steel, high grade materials (e.g., titanium and other alloys) related to activities chips, off-cuts from sheet stock, and scrap. This type of scrap has value and the ability to resold, cleaned, melted, and reused. Not a negative situation environmentally.

The Proponent will engage a waste disposal contractor to manage disposal of waste generated at the Project site. Most materials will be delivered to landfill or recycling facilities. Metal scrap may be resold or reused. Waste management activities will comply with requirements of the Occupational Health & Safety Act and De Havilland operating procedures and policies.

The Proponent will comply with all requirements under the *Canadian Environmental Protection Act*, 1999.

24.2 Water

Waste in or on water will include wastewater (domestic sewage) generated at the Project facilities and stormwater collected on-site. As discussed in Sections 12.2.4 and 19.1 above, the approaches for managing wastewater and stormwater are still being considered but multiple management options are available for the Project site.

24.3 Air

Project construction and operation activities will result in air emissions through mobile equipment emissions (land-based vehicles), space heating emissions, aircraft operations emissions, and fugitive dust generation.

- Mobile equipment emissions include emissions from cranes, haul trucks, dozers, excavators, employee vehicle traffic, and other support vehicles.
- The key emissions from mobile equipment exhaust, space heating, and aircraft operations are fossil-fuel combustion emissions including oxides of nitrogen (NO_X), carbon monoxide (CO), particulate matter with a diameter of less than 2.5 micrometres (µm; $PM_{2.5}$), and GHGs.
- Fugitive dust will primarily be generated during the construction activities by on-site vehicles, including earth moving equipment. Fugitive dust can also be generated by windblown dust on non-vegetated surfaces.

The following mitigation measures will be implemented during construction and operations to limit adverse effects to air quality:

- Stationary and mobile equipment will adhere to applicable federal emission standards, where applicable, and will be regularly maintained. There are no Alberta emission standards for non-road diesel mobile equipment.
- Dust suppressant or water will be applied to construction areas and roads as necessary to mitigate dust.
- Project traffic will be managed to optimize travel routes and minimize travel on public routes.
- Project traffic will adhere to posted speed limits on public roads and reduced speed limits will be implemented on Project specific access roads, as needed.
- HVAC equipment will adhere to the *Canadian Building Code* and meet energy efficiency requirements.
- Air operations will adhere to the *Canadian Aviation Regulations*.

A detailed review of project construction and operations-based emissions has been completed to appropriately contextualize the facility's potential to change local air quality. Construction emissions, which are expected to be at their greatest during the first year of construction when land-clearing and soil stripping operations are being undertaken, have been estimated for criteria air compounds (CACs) including nitrogen oxides (NO_X), sulphur dioxide (SO_2) particulate matter consisting of particles nominally smaller than 2.5 microns ($PM_{2.5}$), carbon monoxide (CO) and for volatile organic compounds (VOCs).

Estimates of emissions have been made based on the early assumptions of the required effort to prepare the site and erect structures. The construction assumptions will likely change as engineering for the project progresses.

The following maximum emissions are predicted for the short-term construction phase of the project:

- NO_X – the maximum daily emissions are 0.762 tonnes per day (t/d) or 278 tonnes per year (t/y) for the anticipated peak year of construction. NO_X emissions have been conservatively calculated assuming that Tier 2 engines may be used in the construction process, recognizing Tier 4 vehicles will used to the extent possible and will be considered an asset for vendors during the procurement process but will not be required to be a selected vendor. Tier 4 NO_X emissions would be expected to be considerably lower than Tier 2 emissions.
- SO_2 – the maximum daily emissions are 0.05 t/d or 17 t/y for the anticipated peak year of construction. Ultra-low sulphur diesel (the only diesel available for sale in Canada) will be used to minimize SO_2 emissions.
- $PM_{2.5}$ – emissions arising from construction are expected to peak at 0.045 t/d or approximately 17 t/yr for the peak year of construction. $PM_{2.5}$ emissions estimates, like the NO_X estimates have been calculated based on the assumption that it is possible that non-Tier 4 engines may be used, even though there is an intent to use the modern, Tier 4 class engines where it is possible.
- CO – emissions arising from construction are expected to be released at maximum rated of 0.256 t/day, or 93 t/y during the peak year of construction.
- VOC – emissions are calculated to be released at a rate of no more than 0.044 t/d or 16 t/y during the peak year of construction.

The longer term, expected operations-based emissions related to building comfort heat and aircraft operations are considerably reduced compared to the short-term construction emissions, ranging from 4.6% of the construction emissions for CO to 0.5% for $PM_{2.5}$.

Operations-based emissions are not expected to exceed the following:

- NO_X – 0.01 t/day
- SO_2 – 0.001 t/day
- $PM_{2.5}$ – 0.0002 t/day
- CO – 0.01 t/day
- VOC – 0.0007 t/day

These emission estimates have been developed using the same assumptions basis as were used in the GHG emissions assessment (Section 23.0 and Appendix M).

24.4 Noise

Project construction and operation activities will generate noise related to construction activities, manufacturing activities, road traffic and aircraft arrival and departure at the airstrip. The magnitude of noise effects from Project activities at individual receptors will depend on the distance between the receptor and noise sources. Because noise attenuates with propagation distance, the magnitude of the effect is expected to be greatest at receptors located closest to the Project boundary and least at receptors located farthest from the Project boundary. A noise assessment was conducted by WSP for the Project (Appendix G) to assess the potential effects of these activities on local sound levels and the following information summarizes information from the noise assessment.

Transport Canada Guidance recommends that noise from airports be assessed using the NEF metric (Transport Canada 2022), which is a time-averaged noise level based on the number of flights per daytime and nighttime period. While the NEF is an appropriate metric for assessing noise from typical airports with multiple flights per day, the NEF metric is not the best tool for assessing noise from the Project airstrip, which is anticipated to host just 50 arrivals and 50 departures per year. Because the number of flights arriving at and departing from the Project airstrip is very small (i.e., far fewer than one flight per day), the predicted NEF from Project operations is well-below the threshold value of 25 set out in Transport Canada guidance, which suggests that noise from aircraft will not have an effect on nearby receptors. However, noise from the Project airstrip will not be continuous or steady-state such that the time-average noise level appropriately represents potential effects. Instead, because the time between flights is expected to be more than 24 hours, noise from each arrival or departure should be treated as a separate event, and the most relevant parameter for such an assessment is the L_{max} (i.e., maximum noise level) experienced by each receptor during a single arrival or departure.

The noise assessment discusses potential effects within a 1.5 km Study Area surrounding the Project site as well as 36 discrete receptors representing potential dwellings and other areas of potential interest to local stakeholders. The noise assessment concluded:

- At 30 of the 36 receptors, the magnitude of Project noise effects is predicted to be moderate, low, or negligible.
- High magnitude Project noise effects are predicted for six of the 36 receptors, identified in the noise assessment as receptors R004, R029, R030, R031, R059, and R101. A discussion on the results at these six receptors follows.
  - High magnitude effects at R004 result from noise associated with the Project airstrip.
    - R004 is located immediately northwest of the Project airstrip, directly in the flightpath of departing aircraft. Existing noise levels at this receptor are already elevated because of its proximity to TransCanada Highway 1.
    - The Proponent anticipates that a total of 50 flights per year will depart the Project airstrip. Given the small number of departures, high magnitude noise effects to R004 from operation of the Project airstrip could be partially mitigated through a communication plan that provides the residents of R004 with advance notice of scheduled aircraft departures. Providing advance notice would allow residents to anticipate the temporary noise associated with aircraft flyovers and thereby reduce disturbance.
  - High magnitude noise effects at R029, R030, R031, R059, and R101 result from noise associated with Project traffic on public roads. Receptors R029 and R031 are occupied dwellings located north of Cell 3, and receptors R030 and R101 are businesses located north of Cell 3. Receptor R059 is an occupied dwelling located south of Cell 1.
    - High magnitude noise effects to R029, R030, R031, R059, and R101 could be partially mitigated through a traffic management plan that requires Project traffic to approach Cell 3 from the south and prohibits or restricts Project traffic from heading north on Range Road 264 when exiting Cell 3. Implementation of this management plan would effectively eliminate Project traffic on portions of Range Road 264 north of Cell 3.

  - Similarly, high magnitude noise effects to R059 could be partially mitigated through a traffic management plan that requires Project traffic to approach Cell 1 from the north and prohibits or restricts Project traffic from heading south on Range Road 264 when exiting Cell 1. Implementation of this management plan would effectively eliminate Project traffic on portions of Range Road 264 south of Township Road 240.

The Proponent will implement the following measures to mitigate potential noise effects from the Project:

- Conduct construction activities during daylight hours, to the extent practical.
- Confine Project operations to the daytime period (i.e., 7 am to 10 pm) to reduce potential sleep disturbance.
- Fit internal combustion engines with appropriate muffler systems.
- Enclose noisy equipment in buildings or shelters.
- Respond expeditiously to noise complaints and take appropriate action to manage any such complaints.

The Proponent will provide residents living near the Project with a telephone number and email address that can be used to report concerns about the Project, including concerns about noise from Project construction and/or operations activities.

Specific actions taken in response to a noise complaint will depend on the nature of the complaint. In response to persistent noise complaints from a particular resident (or group of residents), the Proponent may undertake monitoring to characterize noise levels and evaluate the magnitude of effects based relevant thresholds from Health Canada Guidance and/or Alberta Transportation Guidance. The minimum duration of any noise monitoring undertaken in response to a complaint would be 24 hours, and the monitoring would endeavour to replicate environmental conditions (e.g., wind direction) consistent with the complaint.

If monitoring indicates that Project noise levels are unacceptable (i.e., in excess of relevant thresholds), the Proponent will implement mitigation to reduce noise effects. Again, the specific mitigation measures would depend on the nature of the noise effect. For example, if unacceptable noise effects result from Project traffic on Range Road 264 north of Cell 3, the Proponent may implement a traffic management plan that requires Project traffic to approach Cell 3 from the south and prohibits or restricts Project traffic from heading north on Range Road 264 when exiting Cell 3. If unacceptable noise effects result from back-up alarms on mobile construction equipment, the Proponent may redesign and/or relocate laydown areas to reduce the need for equipment to operate in reverse.

Signature Page

WSP Canada Inc.

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