



Health Canada Santé  
Canada Canada

Environmental Health Program (EHP)  
Regulatory Operations & Enforcement Branch (ROEB)  
Health Canada  
Suite 910, 9700 Jasper Ave NW  
Edmonton AB T5J 4G3

June 7, 2023

Andrew Clarke  
Project Manager, Prairie and Northern Region  
Impact Assessment Agency of Canada

*Submitted to the Impact Assessment Agency of Canada Registry for the De Havilland (Aerodrome) Field Project*

**Subject: Health Canada's Request for Input on the Initial Project Description for the De Havilland (Aerodrome) Field Project**

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Dear Andrew Clarke,

Thank you for your email dated May 8, 2023, requesting Health Canada's comments on the Initial Project Description for the De Havilland (Aerodrome) Field Project.

Health Canada participates in the impact assessment process as a federal authority under the *Impact Assessment Act*, upon request. Health Canada makes available specialist/expert information or knowledge in their possession to responsible authorities and review panels, among others. Health Canada does not make decisions or issue licenses, permits, or authorizations in relation to the impact assessment of a development project.

Health Canada has provided its comments for your consideration in the attached document. Please note that text (red) has been added for clarity on Table 2 in the row heading.

Should you have any questions concerning Health Canada's comments, please contact the undersigned.

Sincerely,

<original signed by>

Brenda Woo  
Regional Manager – Alberta North Region, EHP  
ROEB, Health Canada  
[brenda.woo@hc-sc.gc.ca](mailto:brenda.woo@hc-sc.gc.ca)

cc:

Heather Jones-Otazo, Acting Manager, Environmental Assessment and Contaminated Sites (EACS) Division, Healthy Environments and Consumer Safety Branch (HECSB), Health Canada

Lynette Esak, Impact Assessment Specialist, EHP, ROEB, Health Canada

Christine Gagnon, Senior Environmental Health Specialist, EACS, HECSB, Health Canada

Alexanda Iliescu, Environmental Assessment Coordinator, EACS, HECSB, Health Canada

**Attached:** (Health Canada) Enclosure 2 - FAAR – De Havilland (Aerodrome) Field Project

**ATTACHMENT: May 8, 2023**

**Federal Authority Advice Record**

**Response due by June 7, 2023**

De Havilland (Aerodrome) Field Project, 2150038 Alberta Inc.

Agency File: 84552

|                   |  |
|-------------------|--|
| Department/Agency | Health Canada  |
| Lead Contact      | Brenda Woo, Regional Manager   |
| Full Address      | Canada Place<br>Suite 910, 9700 Jasper Ave<br>Edmonton, Alberta<br>T5J 4G3 |
| Email             | Brenda.woo@hc-sc.gc.ca   |
| Telephone         | 780-288-3541   |
| Alternate Contact | Lynette.esak@hc-sc.gc.ca   |

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1. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Project to enable it to proceed?

If yes, specify the Act of Parliament and that power, duty or function.

No

1b. Please describe any Indigenous or public consultation that will be undertaken in relation to the exercise of that power, duty or function, including when it would take place.

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2. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to the conduct of an impact assessment of the Project?

Yes

Specify the specialist or expert information or knowledge.

As a federal authority, Health Canada will provide specialist or expert information and knowledge in the Department's possession (expertise) to support the assessment of impacts on human health from projects considered individually or cumulatively under the *Impact Assessment Act* (IAA). It should also be noted that expertise related to assessing human health that is relevant to impact assessment (IA) may be held by other federal, provincial, and municipal partners, reflecting the shared jurisdiction for environmental and human health within Canada. For example, the Public Health Agency of Canada (PHAC) has expertise in the social determinants of health approach and health equity, and may provide that expertise through Health Canada, upon request from the reviewing body(ies). How the expertise

provided by Health Canada and PHAC will be used in the IA process will ultimately be determined by the reviewing body(ies).

Health Canada can provide human health expertise in the following areas:

- Air quality health effects;
- Drinking and recreational water quality;
- Contamination of country foods (e.g. fish, wild game, garden produce, berries, etc.);
- Noise impacts;
- Radiological emissions;
- Electromagnetic fields;
- Methodological expertise in human health risk assessment;
- Methodological expertise in conducting Health Impact Assessment (HIA); and
- Public health emergency management of toxic exposure events.

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3. Has your department or agency considered the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action that would allow the Project to proceed in whole or in part?

No

Specify.

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4. Has your department or agency had previous contact or involvement with the proponent or other party in relation to the Project? (For example: an enquiry about methodology, guidance, or data; introduction to the project)

No

Provide an overview of the information or advice exchanged.

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5. Does your department or agency have additional information or knowledge not specified, above, including information on the geographic, environmental, economic, or social context of the project? (location of protected or sensitive areas, previous history between local communities and proponent or similar projects, local or regional social or economic concerns)?

No

Specify as appropriate.

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6. What are the key issues likely to be relevant to the public interest decision, based on the mandate and area(s) of expertise of your department, and which should be addressed in an impact assessment of the Project, should the Agency determine that one is required?

For each key issue:

- Describe the effect or the nature of the issue, including any relevant context;
- Provide the rationale and/or evidence for why it is a key issue;
- Identify briefly solutions to the issue, including any information or studies that should be required in the Tailored Impact Statement Guidelines, potential mitigation measures, and/or regulatory requirements relevant to the issue;
- Provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.

The information provided will be used by the Agency to determine if and an impact assessment is required and where appropriate to develop project-specific draft Tailored Impact Statement Guidelines that focus on the key issues likely to be relevant to the public interest decision.

Please use Table 1 to respond to this question. HC did not comment on Table 1.

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7. Where possible, identify any clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to the Summary of Issues that would:

- give confidence that an issue or effect could be addressed and managed;
- inform the decision as to whether an impact assessment is required; or
- aid in tailoring the Impact Statement Guidelines, if an impact assessment is required.

These clarifications and additional information will be included as specific questions in the Summary of Issues provided to the proponent

Please use table 2 to respond to this question.

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Brenda Woo

Name of Departmental / Agency  
Responder

Regional Manager, Environmental  
Health Program

Title of Responder

June 7, 2023

Date

**Table 1: Key Issues to inform decision-making**

The Agency asks that federal authorities align expert advice with the Agency's approach to tailoring, which focuses on key issues or effects that are likely to be relevant to the public interest decision. In identifying key issues, federal authorities should be mindful of the Project's context (size, scope, location), Indigenous knowledge and perspectives, and public concerns. Key issues that may be relevant to the public interest decision include:

- effects that may be significant, based on federal experts' knowledge and experience with past projects;
- effects that may impact Indigenous peoples and their rights, based on Indigenous knowledge and perspectives or experience with past projects;
- effects on key species or habitats (at risk, important to Indigenous communities, commercial importance, provide important ecosystem function);
- issues or effects that may result from novel project activities, components or technology;
- effects with large uncertainties, including in the effectiveness of mitigation measures;
- transboundary effects where mitigation measures are limited;
- positive effects, including where project may support other governmental priorities, including reconciliation with Indigenous peoples; and
- key concerns raised by Indigenous or local communities.

Effects that are anticipated to be minor or which can be managed using well understood mitigation measures, existing guidance, and/or other regulatory processes may have simplified information requirements or may be removed entirely. Measured advice from federal authorities on key issues and solutions—and on the scope and detail of any required information and studies—will enable the Agency to focus assessments on issues that are important to participants and to decision-makers.

| Comment ID   | Valued Component or Factor to Consider   | Description of Key Issue (Context and Rationale)   | Solutions  | Plain language summary for inclusion in Summary of Issues  |
|--|--|--|--|--|
| <p><i>Please identify comments by organization and comment number.</i></p> <p><i>e.g.: IAAC-01</i></p> | <p><i>Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the effect or issue applies.</i></p> | <p><i>Provide a brief description of the issue and rationale for being a key issue.</i></p> <p><i>Include, where relevant,:</i></p> <ul style="list-style-type: none"> <li><i>the pathway of effects;</i></li> <li><i>social, economic or environmental context which are relevant to it being a key issue;</i></li> <li><i>key uncertainties that should be addressed in the impact assessment;</i></li> <li><i>Indigenous or public concerns or perspective;</i></li> <li><i>potential for differential effects among diverse subgroups;</i></li> <li><i>scientific evidence or traditional knowledge, including from past project experience, which supports inclusion as a key issue.</i></li> </ul> | <p><i>Where applicable, briefly identify solutions to address the potential issue or effects including</i></p> <ul style="list-style-type: none"> <li><i>Information or studies required to describe and characterize the effect, should an impact assessment be required; including any guidance for data collection and/or analysis or existing data sources to inform the assessment;</i></li> <li><i>Any powers, duties or functions that your department or agency has that may mitigate, manage, or set conditions related to the effect;</i></li> <li><i>Guidance or policies for mitigating effects or any standard and well-understood mitigation measures that would address the effect, including follow-up monitoring activities; and/or</i></li> <li><i>Commitments the proponent could make to respond to the issue.</i></li> </ul> <p><i>Where available, please refer to existing text in the TISG template.</i></p> | <p><i>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the key issue and any questions or directions for the proponent.</i></p> |
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|  |  |  |  |  |

*Please insert additional rows as necessary.*

Table 2. Clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues

| Comment ID  | Document Reference - Relevant section of the Initial Project Description (IPD)  | Valued Component or Factor to Consider  | Project Component  | Description of Issue, Concern or Uncertainty  | Clarification or additional information   | Plain language summary for inclusion in Summary of Issues   |
|---|---|---|--|---|---|---|
| <p>Please identify comments by organization and comment number.<br/>e.g.: IAAC-01</p> | <p>If the comment is related to a specific section of the Initial Project Description, please provide a reference.<br/><br/>You may also choose to copy the relevant text here.</p>   | <p>Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the effect or issue applies.</p> | <p>If applicable, please indicate the project component or activity that could cause the described effect. If the effect is linked to a power, duty, or function, please identify the project component or activity that would be regulated, monitored, or enabled by the power, duty or function.</p> | <p>Provide a description of the issue, concern or uncertainty the proponent could address in their detailed project description that would give confidence that the issue will be addressed and managed, or which could aid in tailoring the Guidelines</p>   | <p>Provide recommended clarification or additional information to be included in the Detailed Project Description to address the issue, concern or uncertainty, for example</p> <ul style="list-style-type: none"> <li>• Clarifications to project description (e.g., components, activities, locations or alternatives);</li> <li>• Project design changes that could avoid effects;</li> <li>• Evidence that could be presented to demonstrate there is no effect pathway or that effects will be negligible;</li> <li>• Evidence that standard mitigations will address potential effects;</li> <li>• Commitments the proponent could make to respond to the issue, including the implementation of federal operational policies or guidance documents.</li> </ul>   | <p>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the issue and of the question or direction for the proponent.</p>                |
| <p>HC-01</p>  | <p>Section 14.7 (Physical environment, Air quality) p. 41<br/><br/>Section 14.8 (Physical environment, Noise) p. 41-43<br/><br/>Section 15.1 (Social Context) p. 43<br/><br/>Section 15.2 (Social, health and economic context, Health Context) p. 45<br/><br/>Section 15.3 (Economic context) p. 46<br/><br/>Section 21.1 (Impacts, Indigenous land use) p. 53</p> | <p>Human Health – Identification of receptors and study boundaries</p>  | <p>All phases</p>  | <p>Potential human receptors that may be impacted by Project-associated changes to environmental quality are not adequately identified. The IPD should identify all potential existing or foreseeable future human receptors, including sensitive receptors (e.g., schools, hospitals) and provide sufficient receptor information such as, but not limited to the approximate number and distance to identify those that may be impacted by changes in air, water, and country food quality (e.g., dust deposition on vegetation), and in noise levels.</p> <p>When identifying potential receptors, special consideration should be given to potentially sensitive and disproportionately impacted populations that may be exposed to increased levels of risk due to physiology, health status, behaviour, and/or lifestyle. Examples include seniors, pregnant or nursing mothers, infants, and consumers of higher quantities of local country foods that may receive greater exposure to contaminants of potential concern (COPCs).</p> | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Identify all existing and potential future human receptors (both Indigenous and non-Indigenous) that may be impacted by changes to air, water, country food quality and noise levels associated with the Project activities. At minimum, provide a map showing approximate locations of permanent residences, temporary land uses (e.g., cabins and traditional sites) and known locations of sensitive human receptors (e.g., schools, hospitals, community centres, retirement complexes or assisted care homes). Provide justification if a human health risk assessment (HHRA) is required.</li> <li>2) Delineate the preliminary spatial boundaries (i.e., regional study area, local study area, and Project study area) and provide a rationale for boundaries of the areas.</li> </ol> | <p>Identification and locations of existing and potential future human receptors, including sensitive receptors, are needed.</p> <p>The areas to be studied should be identified.</p> |

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|------------|---|--|-------------------|--|--|---|
|            | <p>Section 24.3 (Waste and emissions generated by the project, Air) p. 59-60</p> <p>Section 24.4 (Waste and emissions generated by the project, Noise) p. 60-61</p> |  |                   | <p>In addition, spatial boundaries for the assessment (or study) of potential Project effects are not defined.</p> <p>A community profile and health related statistics are provided in the IPD; however, insufficient information was provided on identity factors (e.g., age, gender, family status, occupation) and disproportionately impacted populations/sub-populations. Engagement with Indigenous groups has not identified impacts to health, and there do not appear to be health concerns raised regarding the Project (beyond those associated with the airport's existing infrastructure and operations). While a comprehensive Health Impact Assessment is not recommended currently, it is important to consider the potential positive and negative effects of the Project on the broader social determinants of health, and how the potential effects are distributed across different population groups (e.g., Indigenous peoples, youth etc.). Resources on relevant best practices are provided in the comments column to aid in identifying disproportionately impacted populations, enhancing Project benefits, and minimizing adverse effects on human health of populations surrounding the airport.</p> <p>Plans for mitigation and monitoring impacts to social determinants of health on an ongoing basis during the Project phases – through use of a Health Impact Assessment (HIA) or other methods – have not been provided.</p> <p>The proponent has not included residual effects for health and wellbeing in the IPD.</p> |  |   |
| HC-02      | Section 3.5 (Engagement with jurisdictions or agencies, Frequently asked questions, local resident quality of life) p. 12-20  | Human health – air quality             | All phases        | <p>There is no discussion on the potential for health effects from short-term increases of contaminants in ambient air quality, especially for sensitive receptors.</p> <p>Section 22.1 concludes that there will be no impacts to Indigenous health from changes to ambient air quality, partly based on the distance to the nearest Indian Reserve (Siksika Indian Reserve No. 146, 23 km southeast of the</p>   | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Consider the location of sensitive receptors (e.g., hospitals, schools, retirement complexes or assisted care homes) and traditional land use activities by Indigenous communities (e.g., hunting, fishing, trapping, gathering of plants or medicines, ceremonial, or spiritual practices, passing on of Indigenous knowledge and/or language) when identifying potential Project-related air quality impacts on human health.</li> <li>2) Provide justification for how the baseline information from the Calgary International Airport is representative of current ambient air quality at the proposed Project site.</li> </ol> | <p>Additional information is recommended related to the location of facilities, disproportionately impacted populations and air quality.</p> <p>Additional information is recommended related to Indigenous uses of the Land and air quality.</p> |



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|------------|--|--|-------------------|--|---|---|
|            | <p>Section 14.7 (Physical environment, Air quality) p. 41-42</p> <p>Section 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) p. 53</p> <p>Section 22.1 (Impacts, Potential health effects) p. 54-55</p> <p>Section 24.3 (Wastes and emissions generated by the project, Air) p. 59-60</p> |  |                   | <p>Project). However, this does not account for Indigenous peoples living off reserve and traditional land use activities near the Project site.</p> <p>In addition, further rationale should be provided on the applicability of existing air quality information provided in Section 14.7, given that an international airport would have different emission sources than the Project site. HC notes that, for non-threshold pollutants for which health risks may exist below established thresholds (e.g., PM<sub>2.5</sub> and NO<sub>2</sub>), an over-estimated baseline would under-estimate the Project's potential contribution to health risks. Furthermore, baseline air quality was not compared to the Canadian Ambient Air Quality Standards (CAAQS).</p> <p>Section 24.3 describes the anticipated air contaminants and their sources during construction and operations:</p> <ul style="list-style-type: none"> <li>nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and fine particulate matter (PM<sub>2.5</sub>) from mobile equipment exhaust, space heating and aircraft operations (fossil-fuel combustion emissions);</li> <li>fugitive dust from construction activities (on-site vehicles, and earth moving equipment).</li> </ul> <p>However, the air contaminant emissions inventory does not include other common air pollutants related to diesel fuel combustion (sulfur dioxide (SO<sub>2</sub>)); and diesel exhaust (DE) emissions from operation of heavy equipment and diesel generators during the construction and operation phases. DE is a complex mixture of gaseous and particulate compounds, including diesel particulate matter (DPM), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs), and considered a highly toxic air contaminant associated with cancer and adverse health problems such as respiratory illnesses and increased risk of heart disease.</p> <p>Based on the information provided, HC cannot characterize the potential risks to human health</p> | <p>3) Compare the baseline air quality data to CAAQS, if applicable.</p> <p>4) Provide a complete inventory of all potential air pollutants, including, but not limited to, NO<sub>x</sub>, SO<sub>2</sub>, CO, ozone (O<sub>3</sub>), PM<sub>2.5</sub>, coarse particulate matter (PM<sub>10</sub>), PAHs, VOCs, DPM, and metals, for all project scenarios (baseline, project alone, baseline and project, and cumulative effects) when considering potential impacts on human health and include non-threshold substances in the cumulative effects assessment. Justify the exclusion of any common air pollutants from further consideration.</p> <p>Refer to HC-08 for a link to HC's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality, which provides further detail on the type of information Health Canada looks for when reviewing documents submitted by project proponents as part of the impact assessment process.</p> | <p>Additional information is recommended related to emissions and dispersion of air contaminants from project activities.</p> <p>The inventory of potential air pollutants is incomplete.</p> <p>Diesel emissions should be included in the air quality assessment of the construction and operation phases.</p> <p>A justification to support the proponent's conclusions about the maintenance of ambient air quality is missing.</p> |

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|------------|---|--|-------------------|--|--|--|
|            |   |  |                   | <p>from potential changes in air quality due to Project activities.</p> <p>The proposed mitigation approaches in Section 24.3 appear to be standard/known for air quality effects. It is unclear how the mitigation measures relate to the emission sources and their associated contaminants. HC encourages the use of all available mitigation measures that are technically and economically feasible to limit negative impacts to air quality [e.g., Cheminfo (2005) Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. Available at: <a href="http://www.bv.transports.gouv.qc.ca/mono/1173259.pdf">http://www.bv.transports.gouv.qc.ca/mono/1173259.pdf</a>]</p> <p>The predicted residual effects on air quality from Project construction and operations are expected to be low "given that mitigation measures will be in place to limit emissions". Although standard mitigation measures are provided in Section 24.3, no rationale is provided to justify the assumption that they will be sufficient to result in low residual effects.</p> |  |  |
| HC-03      | <p>Section 3.4 (Engagement with jurisdictions or agencies, Key themes) p. 9-15</p> <p>Section 14.8 (Physical environment, Noise) p. 43</p> <p>Section 18.0 (Jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects) p. 49-51</p> <p>Section 20.0 (Changes to</p> | Human health – noise                   | All phases        | <p>The noise study (Appendix H) identified 37 specific receptors representing potential dwellings and other areas of potential interest to local stakeholders and identified moderate to high noise effects at multiple receptors. However, receptor characteristics were not provided.</p> <p>In the context of noise exposure, two of the most common community reactions indicative of potential adverse health effects are complaints and annoyance. The Proponent assigned magnitude of potential noise effects from manufacture of aircraft qualitatively for each receptor in the Study Area based on professional experience and HC's guidance for likelihood of noise complaints. It is unclear if the Proponent followed HC's guidance.</p> <p>Based on the information provided, HC cannot characterize the potential risks to human health.</p>  | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Provide detailed information (e.g., location and duration of monitoring, baseline noise levels, location of sensitive receptor, etc.) from the ambient noise surveys.</li> <li>2) Consider the location of sensitive receptors (e.g., hospitals, schools, retirement complexes or assisted care homes) and traditional land use activities by Indigenous communities (e.g., hunting, fishing, trapping, gathering of plants or medicines, ceremonial, or spiritual practices, passing on of Indigenous knowledge and/or language, etc.) when identifying potential Project-related noise impacts on human health.</li> <li>3) Describe how community annoyance will be assessed for construction noise lasting longer than one year and operation noise at each receptor location.</li> <li>4) Confirm that the construction activities will avoid the 10 pm and 7 am timeframe.</li> <li>5) Identify any applicable noise adjustments (e.g., community type, time-of-day, tonal and/or impulsive noise, etc.) that will be considered in the noise assessment.</li> <li>6) Develop a comprehensive communication plan that describes how the proponent will inform residents ahead of time of any Project-related activities that may lead to noise</li> </ol> | <p>Additional detail is recommended about the timing of construction activities.</p> <p>Additional information is recommended on predictions of noise levels during construction and operation phases.</p> <p>Additional information is recommended on how activities will be adapted to mitigate noise effects.</p> <p>Information is recommended on noise communications plans, complaints resolution procedures and other noise follow-up monitoring plans.</p> |

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|------------|--|--|-------------------|--|--|---|
|            | <p>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) p. 53</p> <p>Section 21.1 (Impacts, Indigenous land use) p. 53-54</p> <p>Section 24.4 (Waste and emissions generated by project, Noise) p. 60-61</p> |  |                   | <p>The mitigation measures listed appear to be known/standard for noise effects including traffic management plans. The Proponent stated that the Project will comply with noise operating restrictions and noise abatement procedures required by Transport Canada and Wheatland County Noise Bylaw. However, the IPD does not state whether a comprehensive communication plan, including complaint resolution protocols, will be developed as part of noise mitigation measures. Advance notification usually leads to better community reactions to project noise and lowers numbers of complaints.</p> <p>Section 24.4 says that Project Operations will be limited to 7am to 10 pm but further information is required to confirm whether Project Construction activities will also avoid the 10 pm to 7 am timeframe.</p> <p>In the absence of an assessment of human health impacts of noise, HC cannot comment on the sufficiency of the proposed noise mitigation measures, or whether additional measures (e.g., physical sound barriers) may be required.</p> <p>Section 24.4 does not identify whether residual effects on noise are anticipated.</p> | <p>disturbances, as well as a complaints resolution procedure that describes how noise complaints will be received and addressed.</p> <p>7) Consider or recommend a follow-up monitoring plan to confirm the effectiveness of mitigation measures.</p> <p>Refer to HC-08 for a link to HC’s Guidance for Evaluating Human Impacts in Environmental Assessment: Noise, which provides further detail on the type of information Health Canada looks for when reviewing documents submitted by project proponents as part of the impact assessment process.</p>  |   |
| HC-04      | Section 22.1 (Impacts, Potential health effects) p. 54-55  | Human health – drinking and recreational water quality | All phases        | <p>Surface and groundwater that may be used for drinking water and/or recreational purposes were not identified. There was no discussion on the potential for drinking and recreational water quality to be impacted by the Project. Air deposition onto local surface water bodies was also not considered. However, Section 22.1 concludes that there will be no impacts to Indigenous health from changes to drinking water quality, partly based on the distance to the nearest Indigenous community. This does not account for Indigenous peoples living off reserve and traditional land use activities near the Project site. Based on the information provided, HC cannot characterize the potential risks to human health.</p> <p>The proponent has not articulated mitigation measures for surface or groundwater quality, as</p>  | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Identify all water sources that are used for drinking, recreational, and/or traditional purposes, such as potable water wells, municipal drinking water supplies and treatment systems, and the location of recreational water bodies as part of a baseline study. Clarify whether Indigenous users consume treated or untreated water.</li> <li>2) Describe any potential Project-related changes to drinking and recreational water quality and associated effects on human health.</li> </ol> <p>Refer to HC-08 for a link to HC’s Guidance for Evaluating Human Impacts in Environmental Assessment: Drinking and Recreational Water Quality, which provides further detail on the type of information Health Canada looks for when reviewing documents submitted by project proponents as part of the impact assessment process.</p> | <p>Information is recommended on water sources affected by the project.</p> <p>Information is recommended on how Indigenous populations consume water.</p> <p>Information is recommended on potential surface water and groundwater quality changes from the project and effects on human health.</p> |

| Comment ID | Document Reference - Relevant section of the Initial Project Description (IPD)   | Valued Component or Factor to Consider | Project Component | Description of Issue, Concern or Uncertainty  | Clarification or additional information  | Plain language summary for inclusion in Summary of Issues  |
|------------|--|--|-------------------|---|--|--|
|            |  |  |                   | <p>they do not anticipate adverse impacts. However, the wastewater and stormwater management options have yet to be decided, and no discussion is provided on effects in Section 24.2.</p> <p>HC is unable to comment on the effectiveness of the planned mitigation measures.</p> <p>The proponent did not assess the potential residual effects for Indigenous health related to drinking and recreational water quality changes.</p>   |  |  |
| HC-05      | <p>Section 21.1 (Impacts, Indigenous land use) p. 53-54</p> <p>Section 22.1 (Impacts, Potential health effects) p. 54-55</p> | Human health – country foods           | All phases        | <p>Sections 21.1 and 22.1 state that negligible effects are expected to vegetation, wildlife, and fish and fish habitat from the Project, without supporting rationale or analysis to confirm these assumptions. There is no discussion on the potential uptake of contaminants in country foods from Project-related changes in air, water and/or soil quality.</p> <p>The IPD 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. The closest Indigenous community, Siksika Indian Reserve No. 146, is 23 km southeast of the Project.</p> <p>Based on the information provided, and given the uncertainty raised in comments HC-03 and HC-04 on project effects on ambient air quality and drinking and recreational water quality, HC cannot characterize the potential risks to human health from consumption of contaminated country foods.</p> <p>The proponent has not articulated mitigation measures, as they do not anticipate adverse health impacts.</p> <p>HC is unable to comment on the effectiveness of the planned mitigation measures.</p> | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Identify country food consumption as a potential pathway of contaminant exposure for traditional land users. Identify potential country food types/species (e.g., plants, fish, birds, and wildlife) that may be harvested from the area. Relevant information may be collected from Indigenous engagement activities and/or dietary/consumption surveys. If collection of local data is not possible, proxy/surrogate data may be used provided a justification is given on how the proxy data is representative of local consumption patterns.</li> <li>2) Identify all COPCs from Project-associated emissions and potential transport pathways of the COPCs into country foods (e.g., aquatic food web accumulation, atmospheric deposition).</li> <li>3) Provide any available information on background concentrations of Project-related COPCs in relevant country foods and discuss whether concentrations may increase because of the Project. Discuss the human health impacts associated with these potential Project-related changes to country foods quality.</li> </ol> <p>Refer to HC-08 for a link to HC’s Guidance for Evaluating Human Impacts in Environmental Assessment: Country Food, which provides further detail on the type of information Health Canada looks for when reviewing documents submitted by project proponents as part of the impact assessment process.</p> | <p>Information is recommended about country foods use by Indigenous populations.</p> <p>Information is recommended about existing contamination in country foods and any possible increases of contamination of country foods due to the Project as well as potential related effects on human health.</p> |

| Comment ID | Document Reference - Relevant section of the Initial Project Description (IPD)                           | Valued Component or Factor to Consider             | Project Component | Description of Issue, Concern or Uncertainty   | Clarification or additional information   | Plain language summary for inclusion in Summary of Issues   |
|------------|--|--|-------------------|--|---|---|
|            |  |  |                   | The proponent has not included potential residual effects for human health related to consumption of country foods, as they anticipate no negative impacts. However, based on the uncertainties identified above; this conclusion is insufficiently supported.   |   |   |
| HC-06      | 22.1 (Impacts, Potential health effects) p. 54-55  | Human health – accidents and malfunctions          | All phases        | <p>Section 22.1 indicates that 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. There is no discussion on components of this emergency services facility to address potential scenarios that may result in contamination of drinking/recreational water and country foods from spills of chemicals (e.g., chemicals used in manufacturing, fuel (e.g., diesel fuel, gasoline) or wastewater that could be caused by containment failure, fuel/chemical storage tank leak, traffic accident, etc.). Such spills may also produce chemical fumes that can temporarily affect local air quality.</p> <p>In Section 22.1, it is unclear if the proposed on-site treatment system has sufficient capacity and capability to treat contaminated runoff during all accident and malfunction scenarios.</p> <p>Based on the information provided by the proponent, HC cannot characterize the potential risks to human health.</p> <p>The proponent has not included mitigation measures for potential impacts of accidents and malfunctions.</p> <p>The proponent has not included potential residual effects for Indigenous health related to accidents and malfunctions.</p> | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Describe the potential for environmental effects caused by accidents and malfunctions, including the types of accidents and malfunctions, their likelihood and severity and the associated potential environmental and health impacts.</li> <li>2) Provide details on whether the proposed on-site treatment system has sufficient capacity and capability to treat contaminated runoff during all accident and malfunction scenarios.</li> </ol> <p>Refer to HC-08 for a link to HC’s Guidance for the Environmental Public Health Management of Crude Oil Incidents, which provides further detail on the type of information Health Canada looks for when reviewing documents submitted by project proponents as part of the impact assessment process.</p> | <p>More information is recommended on potential accident and malfunction scenarios that could lead to the release of contaminants into the surrounding environment for each phase of the Project, and their potential effects on human health.</p> <p>Information is recommended on human health effects of environmental releases of contaminants in the event of accidents or malfunctions.</p> |
| HC-07      | Section 3.5 (Engagement with jurisdictions or agencies, Frequently asked questions, employment) p. 12-20 | Human Health – Health, Social and Economic Context | All phases        | There is no mention of a Health Impact Assessment (HIA) commitment by the Proponent during the Impact Statement phase (should an IA be required). The IPD does not articulate potential health, social and economic effects in sufficient detail; therefore, it is not possible to determine the possible effects of   | <p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> <li>1) Provide additional information on the identity factors (e.g., age, gender, family status, occupation) of human receptors that may be impacted by the Project and determine whether and how these identity factors may result in some receptors being impacted differently by Project-associated changes to ecological, economic, social, and cultural conditions.</li> </ol>   | If the project is subject to an Impact Assessment, information is recommended on human receptor identity characteristics (e.g., gender, family status) and on economic, social, and ecological effects.   |

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|------------|--|--|-------------------|--|---|--|
|            | <p>Section 4.0 (Engagement with Indigenous groups) p. 22-23</p> <p>Section 15.3 (Social, health and economic context, Economic context) p. 46-48</p> <p>Section 21.1 (Impacts, Indigenous land use) p. 53-54</p> <p>Section 22.2 (Impacts, Potential social impacts) p. 55</p> <p>Section 22.3 (Impacts, Potential economic impacts) p. 55</p> |  |                   | <p>the Project on the social determinants of health and health equity.</p> <p>In addition to the uncertainties raised in previous comments on Project-related effects on the environment, no linkages or effect pathways were described between the Project's changes to ecological, economic, social, and cultural conditions and health. An assessment of these linkages and effect pathways could be completed if an HIA were to be conducted.</p> <p>The purpose of an HIA is to explore how the potential adverse and positive project-related effects on ecological, economic, social, and cultural conditions may then influence health conditions (e.g., behavioural and biological factors).</p> <p>The IPD does not explain the possible impact of this Project on housing and service demands and possible mitigation measures to address this issue.</p> <p>Given the limited scope of the health, social and economic information in the IPD, there is insufficient justification provided to conclude that effects on human health are not significant.</p> <p>The proponent does not explicitly provide an effects pathway that links social determinants of health to potential health outcomes.</p> <p>The proponent has not articulated mitigation measures, as they do not anticipate adverse health impacts. Plans for monitoring impact on social determinants of health on an ongoing basis during the Project – through use of HIA or other methods – have not been clearly articulated.</p> <p>The proponent has not included residual effects for health and wellbeing in the Health, Social and Economic Assessment, as they anticipate no negative impacts. They do anticipate a positive socioeconomic effect, in providing training, employment and commercial opportunities. However, based on the</p> | <p>2) Clarify how the Proponent's description of health effects considered the linkages and effect pathways between project impacts on the economic, social, and ecological conditions.</p> <p>3) Provide detail on potential effects on the host community resulting from workforce recruitment practices, including housing pressures and increased service demands.</p> <p>Refer to HC's (2022) Interim Guidance Document for the Health Impact Assessment of Designated Projects under the Impact Assessment Act. Draft for review. June 30, 2022. (Available upon request to: ia-ei@hc-sc.gc.ca).</p> <p>Furthermore, HC recommends that the following resources on assessing health effects of transportation projects from changes to the natural, social, and economic environments be considered:</p> <ul style="list-style-type: none"> <li>Health Impact Assessment of transportation and land Use planning activities. Metro Vancouver (2015). Available online at: <a href="http://www.metrovancouver.org/services/regionalplanning/PlanningPublications/HIA-Guidebook.pdf">http://www.metrovancouver.org/services/regionalplanning/PlanningPublications/HIA-Guidebook.pdf</a></li> <li>Health Impact Assessment Tool. Toronto Public Health (2014). Available at: <a href="http://ccnpps.ca/docs/TorontoPublicHealth-HIAFrameworkScreeningTool.pdf">http://ccnpps.ca/docs/TorontoPublicHealth-HIAFrameworkScreeningTool.pdf</a></li> <li>Healthy Airport Regions - A Conceptual Framework. de Leeuw et al. (2018). Available online at: <a href="https://chetre.org/wp-content/uploads/2018/05/Healthy-AirportsReport_CHETRE_web.pdf">https://chetre.org/wp-content/uploads/2018/05/Healthy-AirportsReport_CHETRE_web.pdf</a></li> <li>Methods for quantitative health impact assessment of an airport and waste incinerator: two case studies. Phillips et al. (2010). Available online at: <a href="https://www.tandfonline.com/doi/pdf/10.3152/146155110X488808">https://www.tandfonline.com/doi/pdf/10.3152/146155110X488808</a></li> <li>Urban Health Impact Assessment Methodology (UrHIA). University of Liverpool (2015). Available online at: <a href="https://www.researchgate.net/profile/Andy-Pennington/publication/326922676_Urban_Health_Impact_Assessment_methodology_UrHIA/links/5b6c823c45851546c9f94948/Urban-Health-Impact-Assessment-methodology-UrHIA.pdf">https://www.researchgate.net/profile/Andy-Pennington/publication/326922676_Urban_Health_Impact_Assessment_methodology_UrHIA/links/5b6c823c45851546c9f94948/Urban-Health-Impact-Assessment-methodology-UrHIA.pdf</a></li> </ul> | <p>More detailed information is recommended about employment opportunities effects on communities.</p> |

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|------------|--|--|-------------------|---|---|---|
|            |  |  |                   | uncertainties identified above; the conclusion of no health impacts is insufficiently supported.  |   |   |
| HC-08      | IPD  | Human health - general                 |                   | HC has published a series of Guidance Documents that provide general guidance on assessing risks to human health from major resource and infrastructure projects in Canada. It presents the principles, current practices, and basic information HC looks for when it reviews the environmental impact statement or other reports submitted by Project proponents. These Guidance Documents were prepared for the benefit of proponents and their consultants and to support an efficient and transparent project review process. References to these Guidance Documents can be included in the final IPD, Detailed Project Description (DPD) or addressed through the Tailored Impact Statement Guidelines (TISG). | <p>HC recommends an assessment of the potential health impacts as per the department's guidance documents for Evaluating Human Health Impacts in Environmental Assessment:</p> <ol style="list-style-type: none"> <li>1. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality<sup>1</sup></li> <li>2. Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods<sup>2</sup></li> <li>3. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality<sup>3</sup></li> <li>4. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment<sup>4</sup></li> <li>5. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise<sup>5</sup></li> <li>6. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Radiological Impacts<sup>6</sup></li> <li>7. Guidance for the Environmental Public Health Management of Crude Oil Incidents<sup>7</sup></li> <li>8. Interim Guidance Document for the Health Impact Assessment of Designated Projects under the Impact Assessment Act. Draft for review. June 30, 2022. (Available upon request to: <a href="mailto:ia-ei@hc-sc.gc.ca">ia-ei@hc-sc.gc.ca</a><sup>8</sup>)</li> </ol> | Recommended guidance documents for the assessment of health effects of the Project. |

Please insert additional rows as necessary.

<sup>1</sup> Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality. Available online at: <https://www.publications.gc.ca/site/eng/9.802343/publication.html>

<sup>2</sup> Health Canada. 2018. Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods. Available online at: <https://www.publications.gc.ca/site/eng/9.855584/publication.html>

<sup>3</sup> Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality. Available online at: <https://www.publications.gc.ca/site/eng/9.832511/publication.html>

<sup>4</sup> Health Canada. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment. Available online at: <https://www.publications.gc.ca/site/eng/9.870475/publication.html>

<sup>5</sup> Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Available online at: <https://www.publications.gc.ca/site/eng/9.832514/publication.html>

<sup>6</sup> Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Radiological Impacts. Available online at: <https://www.publications.gc.ca/site/eng/9.803614/publication.html>

<sup>7</sup> Health Canada. 2018. Guidance for the Environmental Public Health Management of Crude Oil Incidents. Available online at: [https://publications.gc.ca/collections/collection\\_2018/sc-hc/H129-82-2018-eng.pdf](https://publications.gc.ca/collections/collection_2018/sc-hc/H129-82-2018-eng.pdf)

<sup>8</sup> Health Canada. 2022. Interim Guidance Document for the Health Impact Assessment of Designated Projects under the Impact Assessment Act. Draft for review. June 30, 2022. (available upon request to: [ia-ei@hc-sc.gc.ca](mailto:ia-ei@hc-sc.gc.ca)<sup>8</sup>)