

May 2, 2023

Compliance Promotion and Enforcement Unit  
Impact Assessment Agency of Canada  
[postdecision@iaac-aeic.gc.ca](mailto:postdecision@iaac-aeic.gc.ca)

## Reference: Springbank Off-Stream Reservoir Project – IAAC Approval Conditions

The following memorandum includes requests from Alberta Transportation and Economic Corridors (TEC) regarding the Impact Assessment Agency of Canada (IAAC) approval conditions 1.32, 2.13, 3.19, 8.5, and 9.3 of their Decision Statement (copied below for reference). TEC is requesting changes to the conditions outlined below based on the implementation and the observations that were made during the first reporting period (2021-2022). The requested changes would better align with construction activities and ground conditions.

## 1.0 APPROVAL CONDITION UPDATES

### 1.1 CONDITION 1.32

TEC is requesting an approval condition update to revise the current reporting year (July 1 to June 30) to mirror the calendar year (January 1 to December 31). Associated monitoring components are better suited to reporting on the calendar year. There are also considerable construction activities taking place throughout the calendar year, and it would make more sense to report on annual activities, in its entirety, as opposed to the current mid-year to mid-year mark.

Current condition wording:

***Condition 1.32*** Reporting year means July 1 of a calendar year through June 30 of the subsequent calendar year.

TEC is requesting the approval condition be reworded as follows:

***Condition 1.32*** Reporting year means **January 1 through December 31** of a calendar year.

Reference: Springbank Off-Stream Reservoir Project – IAAC Approval Conditions 1.32, 2.13, 3.19, 8.5 and 9.3

## 1.2 CONDITION 2.13

Should IAAC agree to the revised reporting year as outlined in Section 1.1, of this memorandum, TEC is requesting that the annual report submission date, described in Condition 2.13, be adjusted to April 30, as opposed to October 31 to coincide with the revised reporting year (January 1 to December 31). The requested annual report submission date will remain 4 months from the end of the reporting year. Additionally, the reporting requirements outlined in Condition 2.13 will remain the same.

Current condition wording:

**Condition 2.13** *The Proponent shall submit to the Agency and the First Nation Land Use Committee referred to in condition 8.11 the annual report referred to in condition 2.11, including a plain language executive summary in both official languages, no later than October 31 following the reporting year to which the annual report applies.*

TEC is requesting the approval condition be reworded as follows:

**Condition 2.13** *The Proponent shall submit to the Agency and the First Nation Land Use Committee referred to in condition 8.11 the annual report referred to in condition 2.11, including a plain language executive summary in both official languages, no later than **April 31** following the reporting year to which the annual report applies.*

## 1.3 CONDITION 3.19

As part of the follow-up program, TEC is requesting that the total suspended sediment levels in Unnamed Creek be monitored during water flow, as opposed to daily, which yields little to no results as the watercourse remains dry and unconnected to Elbow River during certain times of the year. TEC would monitor TSS daily when there is water flowing in Unnamed Creek.

Current condition wording:

**Condition 3.19** *The Proponent shall develop and implement, in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and the effectiveness of the mitigation measures as it pertains to water quality. As part of the follow-up program, the Proponent shall:*

*3.19.1 monitor, at a minimum daily during construction and monthly during operation, total suspended sediment levels at a minimum three locations in the Elbow River, one location in the immediate receiving environment, one location downstream of the low level outlet, and one location at the outlet channel;*

Reference: Springbank Off-Stream Reservoir Project – IAAC Approval Conditions 1.32, 2.13, 3.19, 8.5 and 9.3

TEC is requesting the approval condition be reworded as follows:

**Condition 3.19** *The Proponent shall develop and implement, in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and the effectiveness of the mitigation measures as it pertains to water quality. As part of the follow-up program, the Proponent shall:*

*3.19.1 monitor, **total suspended sediment levels at a minimum three locations in the Elbow River daily during construction and monthly during operation. Monitor total suspended sediment levels when water is present in Unnamed Creek during construction and during flood operation**, at one location in the immediate receiving environment, one location downstream of the low level outlet, and one location at the outlet channel;*

## 1.4 CONDITION 8.5

Please see Attachment A, Condition 8.5 – Revised Fencing Installation along Highway 22 and Springbank Road, which has been prepared to inform IAAC of the changes being made to the wildlife friendly fencing along Highway 22, north of Springbank Road, as a result of landowner purchase agreements. Attachment A also contains an assessment of the potential impact the updated fencing may have with respect to the original EA. TEC is requesting that updates be made to Approval Condition 8.5, to reflect the updated fencing requirements.

Current condition wording:

**Condition 8.5** *The Proponent shall install and maintain, during construction and operation, one underpass under Highway 22 where it crosses the diversion channel and wildlife friendly fences to provide passage for grizzly bear western population (*Ursus arctos*) and ungulates. The Proponent shall install the wildlife friendly fences as identified in Figure IR 15-1 submitted in the Response to Information Requests Round 1 Package 2 (Canadian Impact Assessment Registry Reference Number 80123, Document Number 1260), taking into account Alberta Conservation Association Landholder's Guide to Wildlife Friendly Fencing, to prevent access by livestock and allow safe passage for wildlife. The Proponent shall maintain the fences during all phases of the Designated Project.*

TEC is requesting the approval condition be reworded as follows:

**Condition 8.5** *The Proponent shall install and maintain, during construction and operation, one underpass under Highway 22 where it crosses the diversion channel and wildlife friendly fences to provide passage for grizzly bear western population (*Ursus arctos*) and ungulates. The Proponent shall install the wildlife friendly fences as identified in **Figure 1 of the Springbank Off-Stream Reservoir Project - Revised Fencing Installation along Highway 22 and Springbank Road memorandum**, taking into account Alberta Conservation Association Landholder's Guide to Wildlife Friendly Fencing, to prevent access by livestock and allow safe passage for wildlife. The Proponent shall maintain the fences during all phases of the Designated Project.*

## 1.5 CONDITION 9.3

Following communications with the Indigenous groups engaged on the Project, TEC is requesting that the Chance Find Procedure be renamed to *Historical Resource Act* Section 31 Find Procedure. This change reflects the feedback received from Indigenous groups. Additionally, TEC would like to revise the notification timing of a *Historical Resource Act* Section 31 find from 24 hours to a target timing of 48 hours. This would allow TEC to have a qualified archaeologist or palaeontologist to complete a field assessment which helps determine if the find triggers the *Historical Resources Act* or whether it is cultural/traditional in nature. This requires slight changes to Conditions 9.3, 9.3.4, and 9.3.4.

Current condition wording:

**Condition 9.3** *The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Alberta Ministry of Culture, Multiculturalism and Status of Women, and implement, during construction and operation, an archaeological and heritage management plan for any structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources within the project development area, including, but not limited to sites and things subject to the Alberta Historical Act. The archaeological resources and heritage management plan shall include:*

*9.3.4 a chance find procedure to apply in the event that any previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources are discovered within the project development area by the Proponent or brought to the attention of the Proponent by an Indigenous group. As part of the chance find procedure the Proponent shall:*

- *9.3.4.1 immediately halt work at the location of the discovery, except for actions required to be undertaken to protect the integrity of the discovery;*
- *9.3.4.2 delineate an area of at least 30 metres around the discovery as a no-work zone;*
- *9.3.4.3 inform the Agency and Indigenous groups within 24 hours of the discovery, and allow Indigenous groups to monitor archaeological works at the location of the discovery;*
- *9.3.4.4 have a qualified individual, who is a registered archeologist under the Alberta's Historical Resources Act, conduct an assessment at the location of the discovery; and*
- *9.3.4.5 consult with Indigenous groups and relevant authorities with respect to applicable legislative or legal requirements and associated regulations and protocols respecting the discovery, recording, transferring and safekeeping of previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources.*

**Reference: Springbank Off-Stream Reservoir Project – IAAC Approval Conditions 1.32, 2.13, 3.19, 8.5 and 9.3**

TEC is requesting the approval condition be reworded as follows:

**Condition 9.3** *The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Alberta Ministry of Culture, Multiculturalism and Status of Women, and implement, during construction and operation, an archaeological and heritage management plan for any structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources within the project development area, including, but not limited to sites and things subject to the Alberta Historical Resources Act. The archaeological resources and heritage management plan shall include:*

*9.3.4 a **Historical Resource Act Section 31 Find Procedure** to apply in the event that any previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources are discovered within the project development area by the Proponent or brought to the attention of the Proponent by an Indigenous group. As part of the **Historical Resource Act Section 31 Find Procedure** the Proponent shall:*

- 9.3.4.1 immediately halt work at the location of the discovery, except for actions required to be undertaken to protect the integrity of the discovery;*
- 9.3.4.2 delineate an area of at least 30 metres around the discovery as a no-work zone;*
- 9.3.4.3 inform the Agency and Indigenous groups targeting 48 hours from the time of the discovery, and allow Indigenous groups to monitor archaeological works at the location of the discovery;*
- 9.3.4.4 have a qualified individual, who is a registered archeologist under the Alberta's Historical Resources Act, conduct an assessment at the location of the discovery; and*
- 9.3.4.5 consult with Indigenous groups and relevant authorities with respect to applicable legislative or legal requirements and associated regulations and protocols respecting the discovery, recording, transferring and safekeeping of previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance or physical or cultural heritage resources.*

## **2.0 CLOSING**

We hope this memo provides the necessary detail regarding requested changes to approval conditions 1.32, 2.13, 3.19, 8.5, and 9.3. If there are any questions, please do not hesitate to contact myself.

Respectfully,

Alberta Transportation and Economic Corridors

<original signed by>

Mark Svenson, P. Biol  
Water Management Environmental Specialist  
[Mark.svenson@gov.ab.ca](mailto:Mark.svenson@gov.ab.ca)

**Reference: Springbank Off-Stream Reservoir Project – IAAC Approval Conditions 1.32, 2.13, 3.19, 8.5 and 9.3**

## **Attachment A    Condition 8.5 – Revised Fencing Installation along Highway 22 and Springbank Road**

To: Mark Svenson  
Water Management Environmental  
Specialist  
Environmental Regulation  
Alberta Transportation and Economic  
Corridors

From: Elise Savard/Eliot Terry  
Stantec  
Calgary, Alberta

Project/File: Springbank Off-Stream Reservoir  
Project

Date: April 20 2023

---

**Reference: Springbank Off-Stream Reservoir Project - Revised Fencing Installation along Highway 22 and Springbank Road**

## Background

Alberta Transportation and Economic Corridors (TEC) has prepared this memorandum to inform the Impact Assessment Agency (the Agency) of the changes to the wildlife friendly fencing along Highway 22 north of Springbank Road as a result of landowner purchase agreements and request an approval condition update to reflect the fencing requirements. As per Impact Assessment Agency of Canada (IAAC) approval condition 8.5 of the Springbank Off-stream Reservoir Project (SR1, the Project) Decision Statement issued under Section 54 of the *Canadian Environmental Assessment Act* (CEAA), 2012, TEC is to install wildlife friendly fencing:

*Condition 8.5 The Proponent shall install and maintain, during construction and operation, one underpass under Highway 22 where it crosses the diversion channel and wildlife friendly fences to provide passage for grizzly bear western population (*Ursus arctos*) and ungulates. The Proponent shall install the wildlife friendly fences as identified in Figure IR 15-1 submitted in the Response to Information Requests Round 1 Package 2 (Canadian Impact Assessment Registry Reference Number 80123, Document Number 1260), taking into account Alberta Conservation Association Landholder's Guide to Wildlife Friendly Fencing, to prevent access by livestock and allow safe passage for wildlife. The Proponent shall maintain the fences during all phases of the Designated Project.*

Prior to the land purchase agreements and start of construction, the fencing within the SR1 was either 4 or 5-strand fencing. For the safety and security of their livestock, the landowners along Highway 22 had 5-strand fencing to keep their livestock from accessing Highway 22 as they would be liable for any incidents and damages. At the onset of construction all fencing that overlapped with the Project was removed and the original intent was to replace the fencing in its entirety to wildlife-friendly fencing around the perimeter of the Project. Following land purchase agreements, TEC had to revise this plan. During land purchase discussions, three landowners located north of Springbank Road entered into utility right-of-way agreements with TEC. The utility right-of-way agreements provide the ability for the Government of Alberta to access the parcel of land for construction (the construction footprint area that overlaps with the parcel of land), dry and flood operations, and post-flood phases of the Project, while allowing these landowners to maintain full ownership of their parcel of land. The general public and Indigenous groups will not have access to these parcels as they remain privately owned. In order to delineate the utility rights of way, wildlife

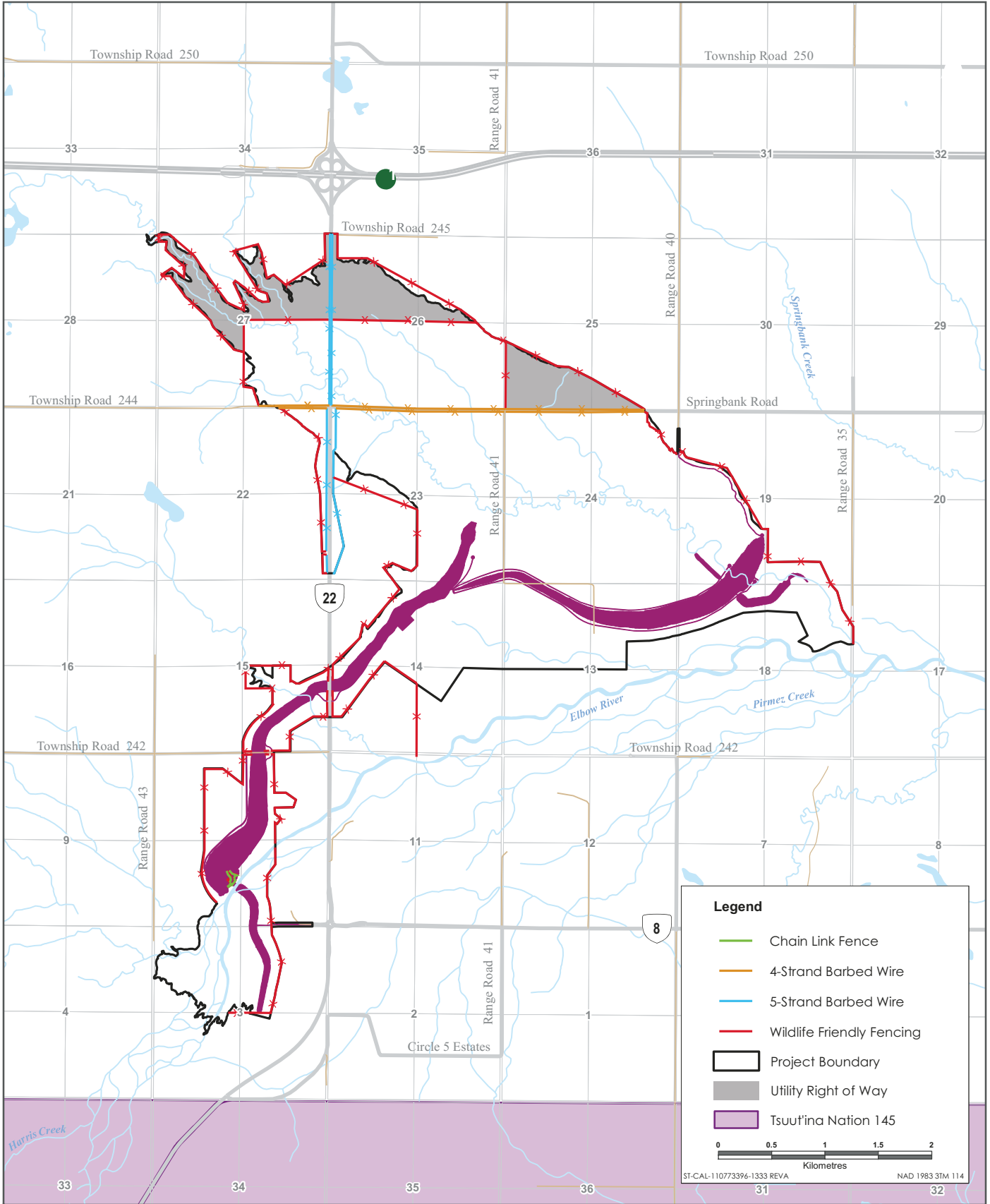
**Reference:** Springbank Off-Stream Reservoir Project - Revised Fencing Installation along Highway 22 and Springbank Road

friendly fencing will be installed along the perimeters of the utility right of way areas and the SR1 Project with the exception of the two stretches of fencing. Through the utility right-of-way and land purchase agreements, TEC agreed to re-installing a 5-strand design along Highway 22 to maintain the safety and security of the livestock and a 4-strand design along Springbank Road to minimize the potential for livestock grazing (via a grazing permit) to access the road; see Figure 1.

## Potential Effects on Wildlife Movement

The potential Project effects on wildlife movement in the Local Assessment Area (LAA) were assessed in Volume 3A, Section 11.4.3 of the Environmental Impact Assessment (EIA). Mitigation measures were proposed to reduce potential effects on wildlife movement due to Project permanent structures (e.g., diversion channel) as well as removal of existing barbed wire fencing and installation of 4-strand wildlife-friendly fencing. Wildlife friendly fencing is designed to facilitate wildlife movement by having the top wire low enough so that ungulates can jump over and the bottom wire high enough for ungulates or other wildlife (e.g., coyote [*Canis latrans*]) to crawl under. The top and bottom wires will be smooth and not barbed to reduce potential injury. With mitigation, the EIA predicted that Project residual effects on wildlife movement (e.g., elk) during construction and dry operations would be moderate in magnitude because a measurable change in the abundance of distributions of ungulates is possible; however, a measurable change in abundance of ungulates in the RAA is unlikely. Although the additional wildlife friendly fencing proposed for installation around the perimeter of the utility right-of way (Figure 1) might require animals to jump over or crawl under more frequently, if they encounter wildlife-friendly fencing at these locations, it is not expected to create incremental barriers to wildlife movement because the fencing is designed to allow wildlife passage.

However, the installation of 5-strand barbed-wire fencing along the future raising of Highway 22 and Springbank Road intersection as well as the installation of Class B 4-strand barbed wire fencing along Springbank Road and Township Road 244 will not facilitate wildlife movement in these locations to the same extent as wildlife-friendly fencing (Figure 1). TEC's Class B fencing specifications include a 4-strand barbed wire fence where the bottom two strands are spaced 30 cm apart and the top two strands are spaced 31 cm apart for a total height of 1.22 m from the ground to the top wire (Alberta Transportation 2022). The height of the top wire of a Class B fence exceeds the recommended height of wildlife-friendly fencing (1.02 m to 1.07 m) and the height above ground of the bottom wire of a Class B fence (30 cm) is lower than the recommended height (46 cm) for wildlife-friendly fences (Paige 2020). In addition, recent research has indicated as the top wire height reaches 115 cm (45 inches) or higher, the probability of deer successfully jumping over fences substantially declines except for male mule deer (*Odocoileus hemionus*). Moreover, the probability of crossing was relatively low (39%) for female mule deer when the top wire was at the recommended height of 102 cm (40 inches) (MacDonald et al. 2022). However, MacDonald et al. (2022) also reported mule deer crossed under wildlife-friendly fencing more frequently (especially females) compared to crossing over whereas white-tailed deer (*Odocoileus virginianus*) crossed over fences more often. The number of strands and the height of the top and bottom wires are important factors that influence whether elk cross over, through, or under fences (Visscher et al. 2022). Visscher et al. (2022) reported that elk were more likely to cross over a fence compared to through a fence when there were 4-strands compared to 3-strands (Visscher et al. 2022). As such, the installation of both 5-strand and 4-strand barbed wire fencing will reduce the likelihood that elk will attempt to cross through the fence and cause them to cross over the fence, which can reduce damage to fences and crossing individuals. However, the lower height of the bottom wire (30 cm) also has potential to result in more difficult crossings for juvenile elk (Visscher et al. 2022).



Sources: Base Data - Government of Canada. Thematic Data - Government of Alberta  
Service Layer Credits:

Disclaimer: This map is for illustrative purposes to support this Stantec project; questions can be directed to the issuing agency.

4/4/2023

**Wildlife Friendly Fencing –  
IAAC Submittal**

Figure 1



**Reference: Springbank Off-Stream Reservoir Project - Revised Fencing Installation along Highway 22 and Springbank Road**

Overall, both 5- and 4-strand barbed wire fencing existed at these locations and therefore will likely function similar to baseline conditions where previous fences acted as a semi-permeable barrier to wildlife, where crossing is possible but often more difficult (see Burkholder et al. 2018, Segar and Keane 2020, MacDonald et al. 2022, Visscher et al. 2022). The re-installation of 5- and 4-strand barbed wire fencing at these locations could alter wildlife movement and potentially result in injury, reduce access to forage and/or cover as well as increase predation risk for younger animals (Jakes et al. 2018, Paige 2020), over the original proposed change to wildlife friendly fencing.

Deer and elk that travel north and/or south of Springbank Road or Township Road 244 and encounter 4-strand barbed wire fencing might be deflected to other more passable areas where there are no fences or damaged fences (e.g., leaning/bent over, missing wires). Similarly, deer and elk that attempt to cross Highway 22 from the east or west side might be deflected north towards Hwy 1 or south where the 5-strand barbed wire fencing ends (Figure 1). Although 5-strand barbed wire may alter wildlife movement, it may also act as a potential deterrent to ungulates that attempt to cross Highway 22, which may result in fewer animal-vehicle collisions along the raised section of Highway 22 and Springbank Road intersection where the province has recorded a number of animal-vehicle collisions in the past through the Alberta Wildlife Watch (AWW) program. The location occurs approximately 450 m south of Springbank Road and extends for 200 m (Highway 22:14 37.9-38.1 km; AWW 2023). Smaller animals that might use the Highway 22 culvert for travel and movement are not expected to be affected by the proposed changes in fencing. As previously committed to, Transportation and Economic Corridors will continue to assess animal-vehicle collisions using AWW.

Although, the potential benefit of installing wildlife-friendly fencing to facilitate wildlife movement will be reduced to background in areas where 5-strand and Class B 4-strand barbed-wire is proposed, the additional wildlife-friendly fencing around the perimeter of the utility right-of way and re-installation of 5- and 4-strand barbed wire along sections of Highway 22 and Springbank Road, respectively will not change the Project residual effects (i.e., moderate magnitude) or the conclusions of the assessment related to change in wildlife movement.. The effectiveness of the wildlife-friendly fencing to facilitate wildlife movement in the Project Development Area (PDA) and wildlife LAA will be evaluated during implementation of the Wildlife Mitigation and Monitoring Plan (WMMP). Specifically, the remote camera monitoring program is designed to collect information on wildlife use and potential effects of Project components such as the diversion channel on wildlife movement including how wildlife respond to fencing (e.g., crossing success).

Respectfully,

**STANTEC CONSULTING LTD.**

<original signed by>

<original signed by>

**Eliot Terry** M.Sc., P.Biol.  
Senior Wildlife Biologist  
Phone: <personal information removed>  
Mobile: <personal information removed>  
<email address removed>

**Elise Savard** B.Sc., P.Biol  
Senior Environmental and Regulatory Advisor  
Phone: <personal information removed>  
Mobile: <personal information removed>  
<email address removed>

**Reference:** Springbank Off-Stream Reservoir Project - Revised Fencing Installation along Highway 22 and Springbank Road

## References

- AWW (Alberta Wildlife Watch). 2023. Animal-Vehicle Collision Analysis Tool. Available at <https://albertawildlifewatch.ca/>. Accessed February 7, 2023.
- Burkholder, E.N., A.F. Jakes, P.F. Jones, M. Hebblewhite, and C.J. Bishop. 2018. To jump or not to jump: mule deer and white-tailed deer fence crossing decisions. *Wildlife Society Bulletin* 42:420–429.
- Jakes, A. F. P. F. Jones, C. Paige, R. Seidler, and M. Huijser. 2018. A Fence Runs Through It: A call for greater attention to the influence of fences on wildlife and ecosystems. *Biological Conservation* 227:310-318.
- MacDonald, A.M., P.F. Jones, J. A. Hanlon, B.H. Martin and A.F. Jakes. 2022. How did the deer cross the fence: an evaluation of wildlife-friendlier fence modifications to facilitate deer movement. *Frontiers in Conservation Science*. doi.org/10.3389/fcosc.2022.991765.
- Paige, C. 2020. Alberta Landholder's Guide to Wildlife Friendly Fencing. Alberta Conservation Association, Sherwood Park, Alberta. 68 pp.
- Segar, J., and A. Keane. 2020. Species and demographic responses to wildlife-friendly fencing on ungulate crossing success and behavior. *Conservation Science and Practice* DOI: 10.1111/csp2.285.
- Visscher, D.R., I. Macleod, M. Janzen, K. Visser, S. Lekas, K. Vujnovic, and D. Vujnovic. 2022. Wildlife friendly fence designs and elk fence crossing behavior. *Wildlife Society Bulletin* 2022;e1400. Available at: <https://doi.org/10.1002/wsb.1400>.