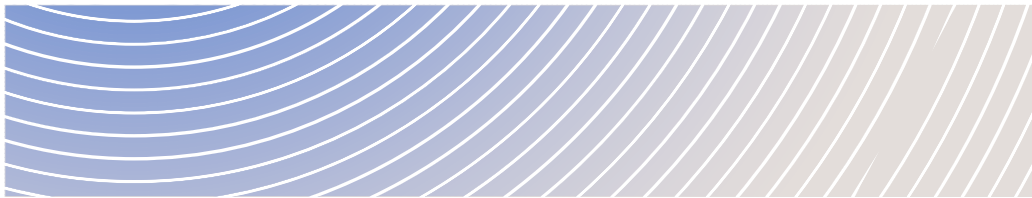


Impact Assessment Agency of Canada



ANALYSIS OF BC HYDRO'S PROPOSED CHANGES TO THE
HIGHWAY 29 CROSSING DESIGNS AT FARRELL CREEK, DRY
CREEK AND LYNX CREEK FOR THE SITE C CLEAN ENERGY
PROJECT

OCTOBER 2022





Table of Contents

Impact Assessment Agency of Canada	1
Table of Contents	2
1. Introduction	3
2. Proposed Project Design Changes	4
2.1 Agency’s Analysis of Changes	5
3. Potential Adverse Environmental Effects from Proposed Project Changes.....	12
3.1 Fish and Fish Habitat.....	12
3.1.1 Proponent’s Assessment.....	12
3.1.2 Views Expressed	14
3.1.3 Agency’s Analysis.....	14
3.2 Migratory Birds and Species at Risk	15
3.2.1 Proponent’s Assessment.....	15
3.2.2 Views Expressed	16
3.2.3 Agency’s Analysis and Conclusions.....	16
3.3 Current Use of Lands and Resources for Traditional Purposes	17
3.3.1 Proponent’s Assessment.....	17
3.3.2 Agency’s Analysis and Conclusions.....	18
3.4 Archaeological and Heritage Resources	18
3.4.1 Proponent’s Assessment.....	18
3.4.3 Agency’s Analysis and Conclusions.....	19
3.5 Human Health	19
3.5.1 Proponent’s Assessment.....	19
3.5.2 Views Expressed	19
3.5.3 Agency’s Analysis and Conclusions.....	19
4. Consultation and Engagement	20
4.1 Consultation with Indigenous Groups	20
5. Conclusion	20



1. Introduction

BC Hydro (the proponent) is in the construction phase of developing a dam and 1,100-megawatt hydroelectric generating station on the Peace River in northeastern British Columbia (B.C.). The Site C Clean Energy Project (the Project) will be the third in a series of dams on the Peace River. Construction of the Project began in summer of 2015 and is anticipated to be completed in 2024.

The Project was subject to assessment under both the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and the B.C. *Environmental Assessment Act*. The environmental assessment was conducted by a joint review panel established by the former Minister of the Environment and the Government of B.C. The former Minister issued a Decision Statement under CEAA 2012 for the Project on October 14, 2014, following a Governor in Council decision allowing the Project to proceed. The Decision Statement contains over 80 legally binding conditions, which include mitigation measures and follow-up program requirements that the proponent must comply with throughout the life of the Project. The Provincial Ministers of Environment and of Forests, Lands and Natural Resource Operations issued an Environmental Assessment Certificate under the provincial *Environmental Assessment Act* on October 14, 2014, which contained a Project Description and 77 legally binding conditions.

On February 10th, 2020, the proponent informed the Impact Assessment Agency of Canada (Agency) of proposed changes to the design of the Project with respect to Highway 29 Realignment crossings at Farrell Creek, Dry Creek and Lynx Creek as described in Section 4.3 of the Environmental Impact Statement (EIS) submitted by the proponent in January 2013. This is the seventh project change for which the proponent has provided information to the Agency since the issuance of the Decision Statement. The first change was related to design changes to the generating station and spillway, the second change was to the design of the Halfway River Bridge, the third change was to the use of West Pine Quarry, the fourth change was to approve clearing methods used in riparian zones, the fifth change was for the crossings of the realigned Highway 29 at Cache Creek/Bear Flats, the sixth change was an expansion of the worker's camp. The Agency analysed all six changes and determined that no changes to the 2014 Decision Statement were required.

On August 28, 2019, the *Impact Assessment Act* (IAA) came into force, repealing the CEAA 2012. Section 184 of the IAA provides that Decision Statements issued under CEAA 2012 are deemed to be Decision Statements under the IAA and therefore subject to the provisions of the IAA. In addition, the Canadian Environmental Assessment Agency is now the Impact Assessment Agency of Canada. In this report, the term "Agency" refers to either the former Canadian Environmental Assessment Agency or the current Impact Assessment Agency of Canada.

With this context in mind, the Agency conducted an analysis of the proposed changes to the Highway 29 realignment crossings at Farrell Creek, Dry Creek and Lynx Creek (Project change) and the potential adverse environmental effects of those changes, and considered comments from federal, provincial, regional, municipal governments and Indigenous representatives, to assess:

- whether the changes constitute a new or different designated project that may require a new impact assessment; and



- whether any changes (including addition or removal) may be required to the key mitigation measures and follow-up requirements in the initial environmental assessment set out as conditions in the Decision Statement to address the proposed Project changes.

This report provides a summary of the proposed Project changes, an analysis of whether these changes may result in adverse environmental effects that may not have been considered in the initial environmental assessment, and consideration of whether existing key mitigation measures and follow-up requirements set out as conditions in the Decision Statement are still applicable, need to be modified and/or whether new mitigation measures or follow-up requirements should be added as conditions to the Decision Statement.

The Agency is of the view that the proposed Project changes do not constitute a new or different designated project that may require a new impact assessment, and that the mitigation and follow-up requirements included as conditions in the Decision Statement remain relevant without any requirement for changes.

2. Proposed Project Design Changes

The proponent is proposing changes to the design of the Highway 29 realignment crossings at Farrell Creek, Dry Creek and Lynx Creek. These changes could alter the initial assessment of adverse environmental effects to the following valued components: fish and fish habitat, migratory birds and species at risk, current use of lands and resources for traditional purposes, and archaeological and heritage resources. A number of alternatives were considered for the project and evaluated for relative safety, environmental effects, social effects, and costs. Based on this analysis and supporting geotechnical investigations, the proposed design changes include:

Farrell Creek (Figure 1 and Figure 2)

- Longer bridge span, from 170 metres to up to 450 metres
- Elimination of the 150 metre causeway
- Increased number of bridge spans, from two to “up to seven”
- Increased number of piers, from one to “up to six”

Dry Creek (Figure 3 and Figure 4)

- Location of the crossing of Dry Creek will be approximately 85 metres north of the original alignment
- Change from a 11 metre culvert to a bridge
- Bridge length of up to 200 metres
- Up to 4 bridge spans
- Up to 3 piers

Lynx Creek (Figure 5 and Figure 6)

- Longer bridge length from 160 m up to 180 m
- Increased number of piers from one up to three
- Increased number of bridge spans from 2 to up to 4



BC Hydro developed two options for each watercourse crossing: a short bridge plus causeway, and a long bridge. In the EIS, the British Columbia Ministry of Transportation and Infrastructure (BCMTI) preferred short bridge options due to lower long-term maintenance costs, therefore long bridge options were dropped.

For Farrell Creek, geotechnical investigations indicated that a zone of weathered shale exists between sand/gravel layers and shale bedrock. Geotechnical engineers concluded that the planned causeway could only be made safe by flattening the causeway slopes, excavating and replacing the weak foundation soils. The proponent determined that this approach was not viable due to a potential lack of locally sourced borrow and granular material, slow construction progress due to additional excavation and foundation fills, and associated construction costs. In the spring of 2019, BC Hydro determined the most cost effective option for the Farrel Creek crossing would be to pursue a long brige option.

For Dry Creek, geotechnical investigations indicated that subsurface conditions were not conducive to the construction of the pipe-arch culvert described in the EIS. Analysis of the slope stability revealed that significant excavation of foundation soils or the installation of a deep piled foundation would be required to install a pipe-arch culvert. In the spring of 2019, BC Hydro determined that the most efficient alternative crossing at Dry Creek was a short bridge with 3 piers and with a length up to 200m.

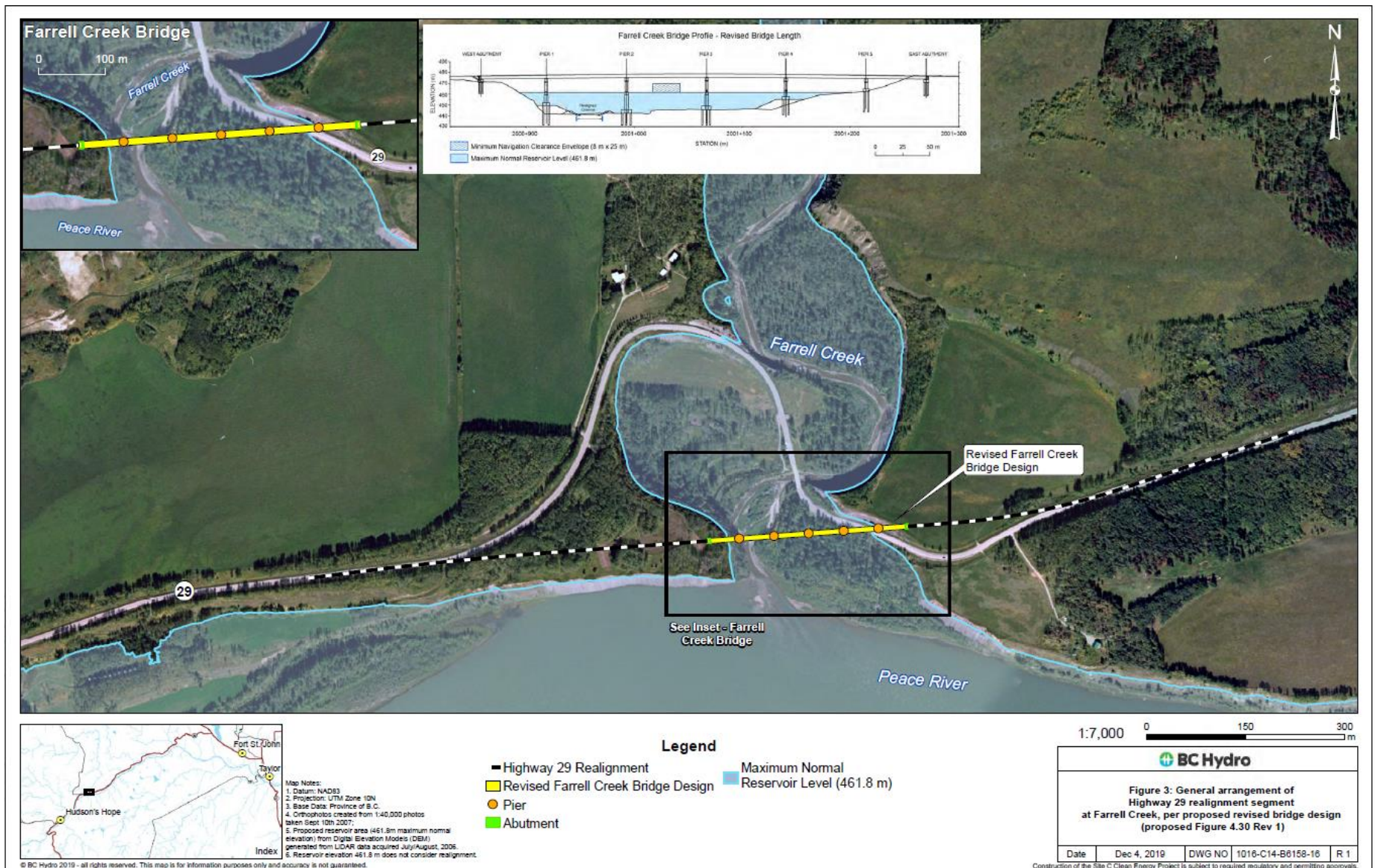
Changes to the causeway and bridge length of the Lynx Creek crossing are being proposed in order to minimize the elevation changes between the east and west approaches. These changes are required to maximize sight distances along this segment of Highway 29 and to ensure safety standards and guidelines established by the BCMTI are met.

2.1 Agency's Analysis of Changes

The *Physical Activities Regulations* under the IAA identify the physical activities that constitute designated projects that may require an impact assessment. On its own, the proposed Project design change of the Highway 29 realignment crossings at Farrell Creek, Dry Creek and Lynx Creek are not physical activities as described in the Regulations. Consequently, the Agency has determined that the changes do not constitute a new or different designated project that may require a new impact assessment.



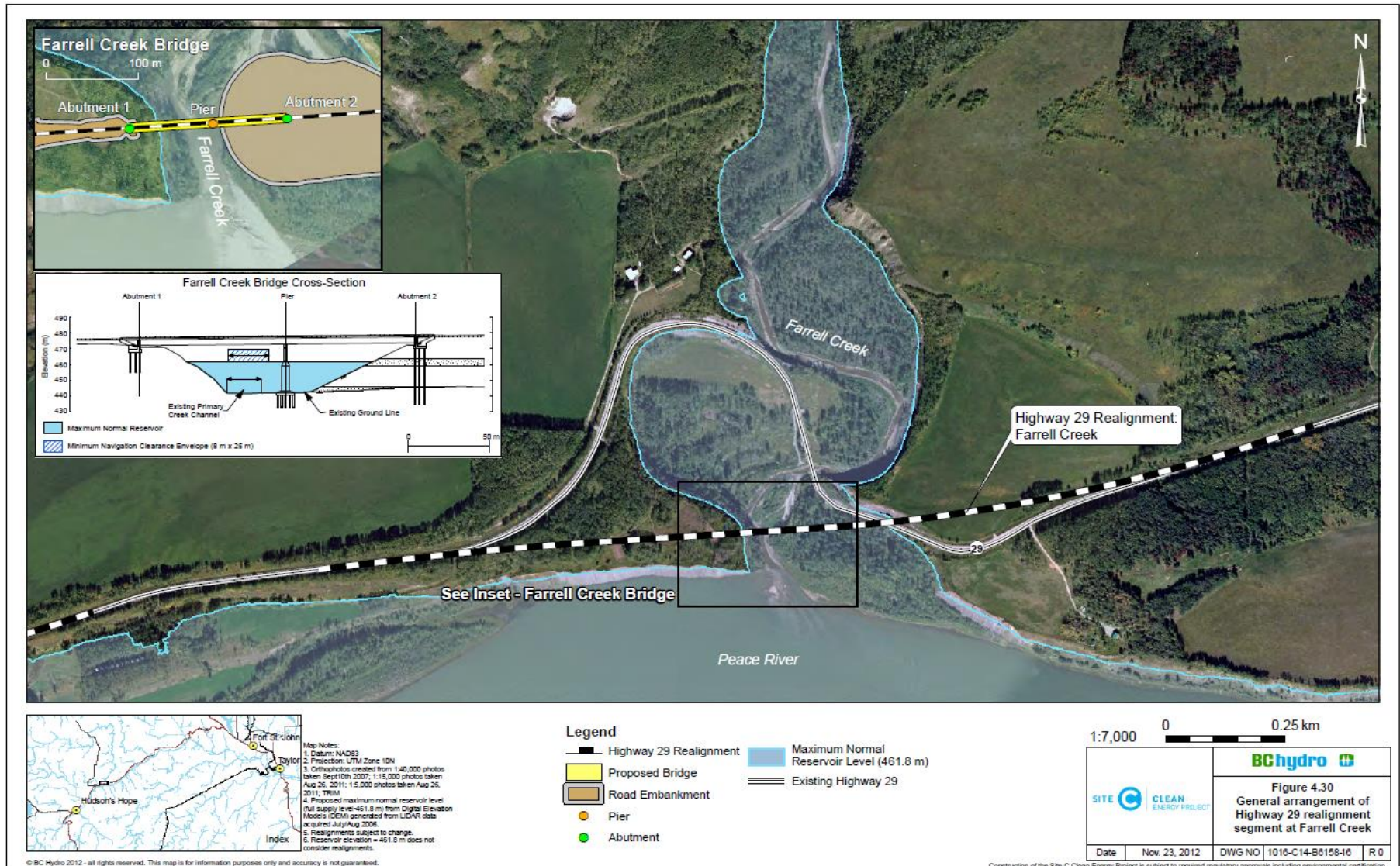
FIGURE 1: GENERAL ARRANGEMENT OF THE PROPOSED DESIGN CHANGES TO THE HIGHWAY 29 REALIGNMENT AT FARRELL CREEK



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



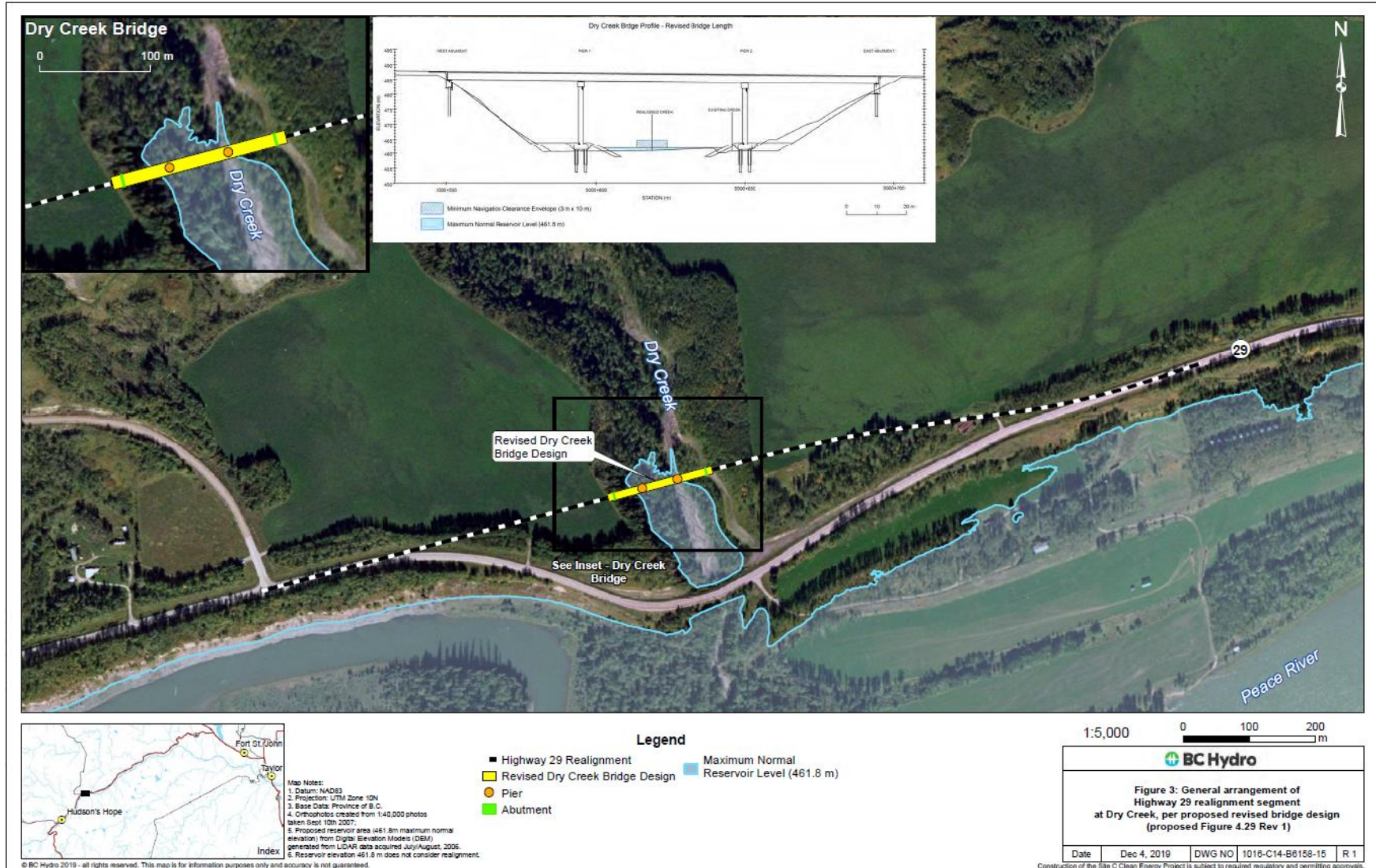
FIGURE 2: GENERAL ARRANGEMENT OF THE HIGHWAY 29 REALIGNMENT SEGMENT AT FARRELL CREEK, AS PRESENTED IN THE ENVIRONMENTAL IMPACT STATEMENT



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



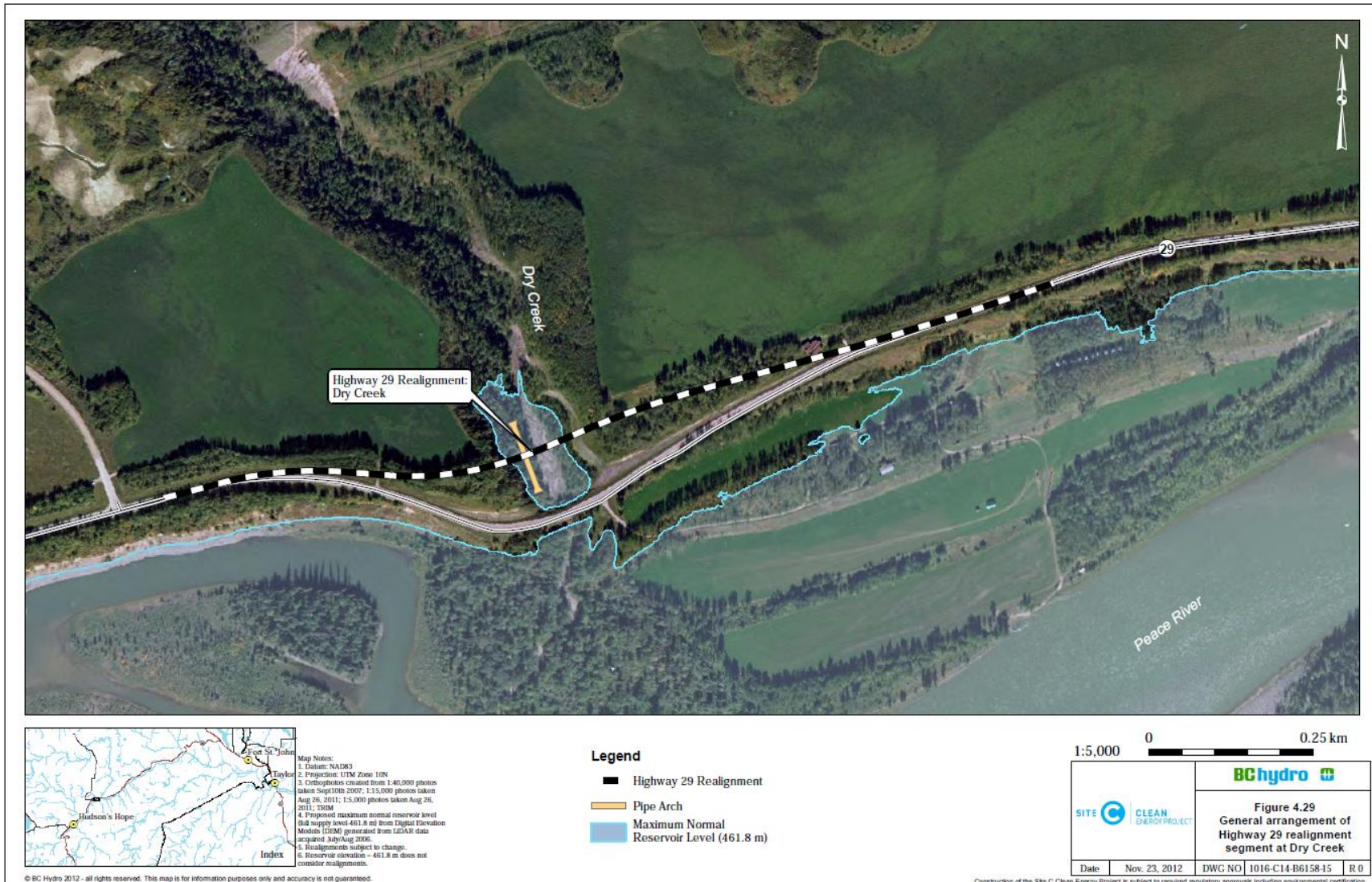
FIGURE 3: GENERAL ARRANGEMENT OF THE PROPOSED DESIGN CHANGES TO THE HIGHWAY 29 REALIGNMENT AT DRY CREEK



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



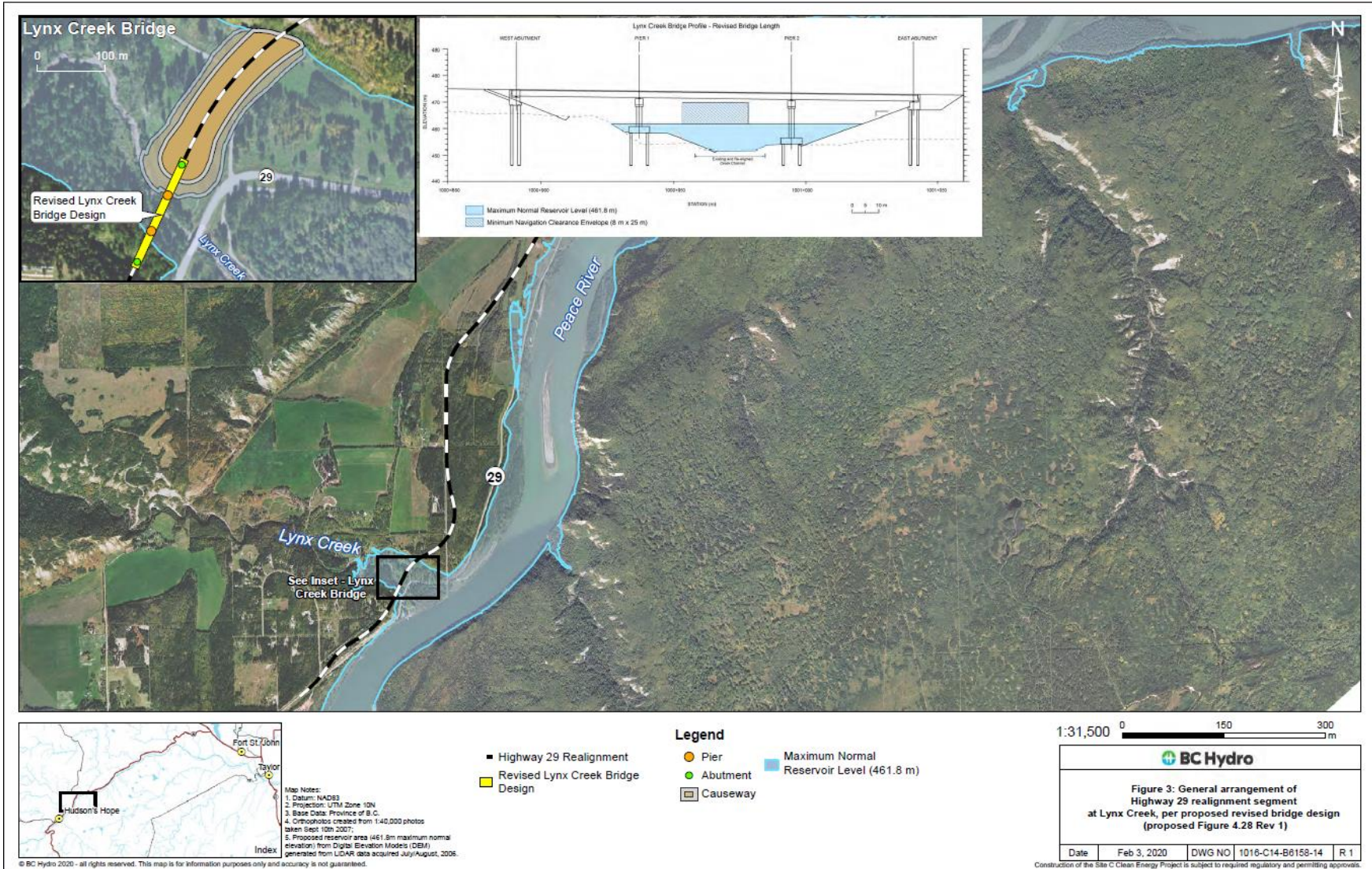
FIGURE 4: GENERAL ARRANGEMENT OF THE HIGHWAY 29 REALIGNMENT SEGMENT AT DRY CREEK, AS PRESENTED IN THE ENVIRONMENTAL IMPACT STATEMENT



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



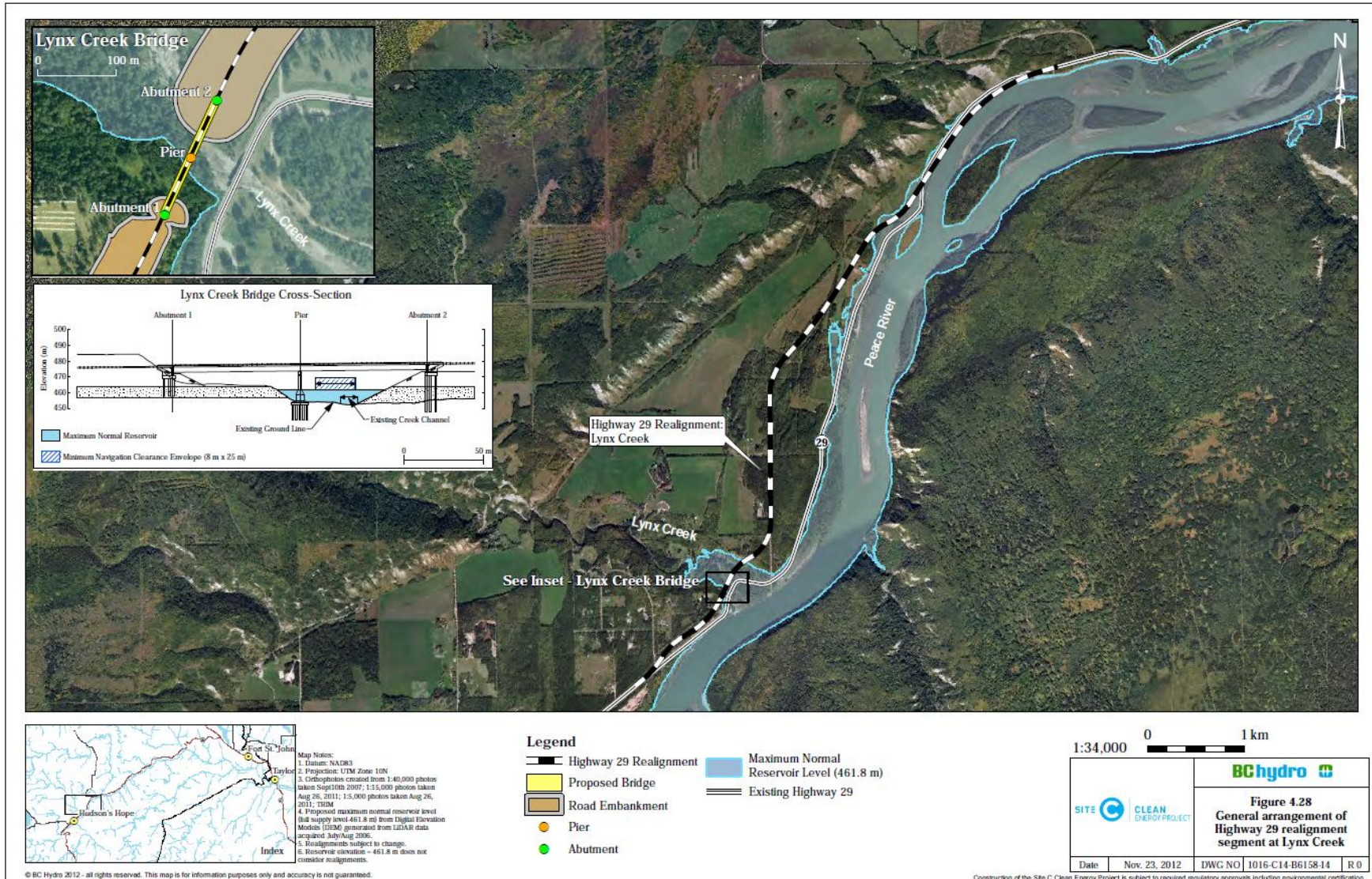
FIGURE 5: GENERAL ARRANGEMENT OF THE PROPOSED DESIGN CHANGES TO THE HIGHWAY 29 REALIGNMENT AT LYNX CREEK



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



FIGURE 6: GENERAL ARRANGEMENT OF THE HIGHWAY 29 REALIGNMENT SEGMENT AT LYNX CREEK, AS PRESENTED IN THE ENVIRONMENTAL IMPACT STATEMENT



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated February 10, 2020.



3. Potential Adverse Environmental Effects from Proposed Project Changes

The following is an analysis of whether any of the changes to the design of the Highway 29 realignment crossings at Farrell Creek, Dry Creek, and Lynx Creek would require modifications, including addition or removal, to the mitigation measures and follow-up requirements set out as conditions in the Decision Statement. The analysis focused on potential adverse environmental effects and potential effects on species at risk listed in Schedule 1 of the *Species at Risk Act* (SARA).

3.1 Fish and Fish Habitat

Effects to fish and fish habitat, including impacts to navigation were assessed during the initial environmental assessment of the Project and mitigation measures and follow-up requirements were developed. The Decision Statement includes related conditions.

3.1.1 Proponent's Assessment

Farrell Creek

In the EIS, the proponent identified that the section of Farrell Creek adjacent to the the Highway 29 realignment provides rearing and feeding sucker and mirrow species, and acts as a migratory corridor for fish moving between the Peace River and spawning and rearing habitats further upstream. The location for both the original bridge design and the revised design is at a location which will be converted from stream to reservoir habitat following reservoir filling. Consistent with the conclusions of the EIS, the proponent stated that, if mitigation measures such as erosion and sediment control are implemented, the revised crossing at Farrell Creek would not result in loss of fish habitat or adverse residual effects on fish health, survival, or movement.

Although the revised Farrel Creek crossing includes an additional pier inside the channel high-water mark, the proponent indicated that the elimination of a 150 meter causeway (and the substantial fill placement which would have been required in the initial crossing design) will result in an overall reduced aquatic footprint. The proponent indicated that both the original and revised channel crossings would have required the creation of containment channel. This channel will maintain fish access upstream throughout bridge construction including isolation of the pier work areas from flowing water.



Pending the final bridge design, the proponent anticipates performing a detailed assessment of the instream impacts of the pier by a qualified environmental professional in accordance with the federal *Fisheries Act* prior to the start of construction activities.

Dry Creek

The proponent indicated that the current Highway 29 culvert crossing Dry Creek impedes upstream fish passage. Additionally, 150 linear meters of Dry Creek upstream from its confluence with the Peace River, are typically dewatered during low flow periods. The proponent noted that the combination of these factors precludes fish access to Dry Creek from the Peace River fish populations. Due to these factors, the proponent is of the opinion that the impacts on fish and fish habitat resulting from the proposed design changes are anticipated to be very low and that the conclusions reached in the EIS regarding Fish and Fish Habitat are not anticipated to be affected.

The crossings at Dry Creek outlined in the EIS and the proposed revision are both in locations which will be converted from stream to reservoir habitat following reservoir filling. The revised design includes a pier and diversion berm however, the proponent indicated that the elimination of the culvert (11 meter pipe-arch) and associated infill area will result in an overall reduced aquatic footprint.

The proponent indicated that both the original and revised channel crossings would have required the creation of containment channel. This channel will maintain migratory fish passage downstream and will have similar habitat functions as the existing creek channel. The proponent is of the opinion that once the future reservoir has been created, the construction and post-construction outcomes from the proposed revisions to the bridge design are expected to create better conditions for fish and fish habitat.

Pending the final bridge design, the proponent anticipates performing a detailed assessment of the instream impacts of the piers by a qualified environmental professional in accordance with the federal *Fisheries Act* prior to the start of construction activities.

The proponent indicated that the proposed revision to the Dry Creek crossing is not expected to result in any additional effects on navigation beyond those predicted in the EIS. The proposed revised bridge design would have a clearance envelope that is 3m high and 10m wide, as measured from the predicted 461.8m reservoir elevation level. The proponent indicated that Navigation channel marks and boater notifications for the revised bridge would meet all requirements for compliance under the *Canadian Navigable Waters Act* and are not expected to result in reductions in boater access or navigation.

Lynx Creek

As outlined in the EIS, the proponent has identified that the section of Lynx Creek adjacent to the Highway 29 realignment provides rearing and feeding sucker and mirrow species, and acts as a migratory corridor for fish moving between the Peace River and spawning and rearing habitats further upstream. Provided mitigation measures such as erosion and sediment control are implemented, the proponent is of the opinion that the revised crossing at Lynx Creek would not result in impacts to fish and fish habitat beyond those identified in the EIS.



The proponent indicated that the causeway and bridge lengths for the original and revised crossings designs are very similar, the proposed revision would add 20 meters to the original bridge design, both of which would have piers outside of the present Lynx Creek channel. The revised design will require the existing creek to be bermed and armoured resulting in the creek being limited to a built channel. The armoring of the channel will serve to isolate piers from flowing water, reducing risks of erosion and contributing to sediment control while continuing to allow fish passage to habitat upstream of the bridge. The proponent stated that a similar channel would have been required for the original bridge design. Although it is not anticipated at this time, the proponent notes that should conditions change during the progression of the design or through the course of construction, a temporary creek diversion may be required to facilitate the construction.

Pending the finalization of the bridge design, the proponent anticipates performing a detailed assessment of the instream impacts of the final bridge design by a qualified environmental professional in accordance with the federal *Fisheries Act* prior to the start of construction activities.

3.1.2. Views Expressed

On May 4th, 2020. The Agency received confirmation that Fisheries and Oceans Canada (DFO) has reviewed and considered the changes proposed in relation to the Farrell Creek, Dry Creek and Lynx Creek crossings. DFO is of the opinion that the proposed amendment works fall within BC Hydro's existing Fisheries Act Authorization (Authorization No. 15-HPAC-01160). As a result, DFO does not have further comments in regards to the proposed changes at this time.

On March 26th, 2020, the Agency received confirmation that Transport Canada (TC) has reviewed the proposed changes to Farrell Creek, Dry Creek and Lynx Creek crossings. TC is of the view that potential environmental effects and design changes to the project do not require changes to the conditions or the mitigation measures. The proposed bridge and construction designs continue to include a minimum navigational envelope (8m x 25m) large enough to accommodate various types of vessels at Lynx and Farrell Creek. No additional mitigation measures are required for Dry Creek.

3.1.3. Agency's Analysis

Fisheries and Oceans Canada (DFO) confirmed with the Agency that the proposed changes would not cause additional adverse effects requiring changes to key mitigation measures or follow-up requirements. DFO understands that the works proposed fall within the existing *Fisheries Act* authorization. Taking into account the advice from DFO, the Agency accepts the proponent's determination that proposed changes to the Farrell Creek, Dry Creek and Lynx Creek crossings would not result in any change to adverse environmental effects to fish and fish habitat beyond those assessed during the environmental assessment. Existing key mitigation measures and follow-up requirements will adequately address any effects resulting from the proposed changes, including mitigation measures related to fish mortality (see Section 4.3 of the environmental assessment) and follow-up requirements related to water quality (see Section 3.5 of the environmental assessment).



Transport Canada (TC) has also confirmed with the Agency that the proposed changes would not cause additional adverse effects requiring changes to key mitigation measures or follow-up requirements. Taking into account the advice from TC, the Agency accepts the proponent's determination that proposed changes to the Farrell Creek, Dry Creek and Lynx Creek crossings would not result in any change to adverse environmental effects to navigation beyond those assessed during the environmental assessment. Existing key mitigation measures and follow-up requirements will adequately address any effects resulting from the proposed changes, including mitigation measures related to navigation (see Section 9.6 of the environmental assessment).

The Agency is therefore of the view that no changes are required to the key mitigation measures and follow-up requirements identified in the initial environmental assessment and set out as conditions in the Decision Statement.

3.2 Migratory Birds and Species at Risk

Effects to migratory birds and federally listed species at risk were assessed during the initial environmental assessment of the Project and mitigation and follow-up requirements were developed, and the Decision Statement includes related conditions.

Subsection 79(2) of the *Species at Risk Act, 2002* (SARA) requires the identification of the Project's adverse effects to SARA-listed wildlife species and their critical habitat. If the Project is carried out, SARA requires that measures be taken to avoid or lessen those effects and that such effects be monitored.

3.2.1 Proponent's Assessment

Farrell Creek

The proponent indicated that the modification of the Farrell Creek bridge design is not expected to cause any additional effects on vegetation and ecological communities or wildlife resources beyond those predicted in the EIS.

Dry Creek

The proponent indicated that the modification of the Dry Creek bridge design is not expected to cause any additional effects on vegetation and ecological communities or wildlife resources beyond those predicted in the EIS. The proponent is of the opinion that replacing the culvert and associated infill from the initial crossing design, with a bridge up to 200 meters will result in an overall decrease in the terrestrial footprint of the Dry Creek crossing.

The proponent noted that the revised bridge design is expected to increase disturbance to the blue-listed Fm02 – Balsam poplar – White spruce/Mountain alder – red-osier dogwood ecological community by approximately 0.8 ha. BC Hydro concluded that since the effects of the Project on this ecological community were predicted in the EIS to be of high magnitude, the 0.8 ha increase in disturbance to this community due to



the revised design does not change the conclusions of the EIS regarding vegetation and ecological communities.

Lynx Creek

The proponent indicated that the modification of the Lynx Creek bridge design is not expected to cause any additional effects on vegetation and ecological communities or wildlife resources beyond those predicted in the EIS. The proponent noted that both the initial and revised bridge designs are very similar and that although the revised design would potentially add 20 meters of length to the bridge, the bridge design would result in less disturbance to terrestrial habitat.

3.2.2 Views Expressed

On April 23rd, 2020. The Agency received confirmation that Environment and Climate Change Canada (ECCC) has reviewed and considered the changes proposed in relation to Farrell Creek, Dry Creek and Lynx Creek crossings. In relation to Appendix B (Section 3, p. 16) of the proponent's letter on proposed Project changes, ECCC notes that the revised bridge design for Dry Creek is expected to increase disturbance to the blue-listed Fm02 – Balsam poplar –White spruce/Mountain alder – red-osier dogwood ecological community by approximately 0.8 ha. In relation to Condition 16.2 of the Decision Statement¹, ECCC wondered whether the proponent had considered any alternatives or avoidance strategies at this location. In addition, if avoidance prove to be impossible, ECCC would like to know what measures the proponent is planning to implement to mitigate effects, as outline in Condition 16.3.3 of the Decision Statement².

3.2.3 Agency's Analysis and Conclusions

Environment and Climate Change Canada (ECCC) confirmed with the Agency that avoidance strategies should be developed by the proponent in order to address concerns over the blue-listed Fm02 – Balsam poplar –White spruce/Mountain alder – red-osier dogwood ecological community. ECCC is of the opinion that if avoidance is not possible, additional mitigation measures may need to be developed in order to mitigate effects to the blue-listed Fm02 – Balsam poplar –White spruce/Mountain alder – red-osier dogwood ecological community.

Taking into account the advice from ECCC, the Agency is of the view that the proposed changes to Dry Creek bridge would not result in additional adverse environmental effects to Species at risk, at-risk and sensitive ecological communities, and rare plants beyond those assessed during the environmental assessment. Existing key mitigation measures and follow-up requirements, including mitigation measures related to at-risk and sensitive ecological communities (see Section 5.2 of the environmental assessment and conditions 16.2

¹ The Proponent shall develop, in consultation with Environment Canada, a plan setting out measures to address potential effects of the Designated Project on species at risk, at-risk and sensitive ecological communities and rare plants.

² The plan shall include [...] measures to mitigate environmental effects on species at risk and at-risk and sensitive ecological communities and rare plants.



and 16.3 of the Decision Statement) should adequately address adverse effects resulting from the proposed Project changes.

3.3 Current Use of Lands and Resources for Traditional Purposes

The proposed changes to the Project could impact Indigenous peoples by affecting the current use of lands and resources for traditional purposes. Current use was assessed during the initial environmental assessment and the Decision Statement includes related conditions.

3.3.1 Proponent's Assessment

Project effects on Current Use of Lands and Resources for Traditional Purposes were assessed in the EIS, including the consideration of Project changes to the use of and access to hunting, fishing, trapping activities, as well as current use of lands and resources for activities other than hunting, fishing and trapping by Indigenous groups, including cultural activities. The revised design changes are not anticipated to result in any additional effects on activities other than hunting, fishing or trapping by Indigenous groups, including effects on cultural activities.

Farrell Creek

The revised design of the Farrell Creek Bridge is anticipated to result in reduced interactions with fish and fish habitat, and will not result in any additional effects on vegetation and ecological communities or on wildlife resources. The proponent concluded that no additional effects on the current use of lands and resources are anticipated beyond those predicted in the EIS.

Dry Creek

The revised design of the Dry Creek crossing is anticipated to result in reduced interactions with fish and fish habitat, and will not result in any additional effects on vegetation and ecological communities or on wildlife resources. The proponent concluded that no additional effects on the current use of lands and resources are anticipated beyond those predicted in the EIS.

Lynx Creek

The revised design of the Lynx Creek Bridge is anticipated to result in reduced interactions with fish and fish habitat, and will not result in any additional effects on vegetation and ecological communities or on wildlife resources. The proponent concluded that no additional effects on the current use of lands and resources are anticipated beyond those predicted in the EIS.



3.3.2 Agency's Analysis and Conclusions

The Agency accepts the proponent's determination that the design changes to the the Highway 29 realignment at Farrell Creek, Dry Creek, and Lynx Creek would not result in any additional adverse environmental effects to current use of lands and resources for traditional purposes as assessed through the initial environmental assessment. The Agency is therefore recommending that no changes be required to the mitigation measures previously identified in the environmental assessment.

3.4 Archaeological and Heritage Resources

The proposed changes to the Project could impact Indigenous peoples by affecting archeological and heritage resources. Archeological and heritage resources were assessed during the initial environmental assessment and the Decision Statement included related conditions.

3.4.1 Proponent's Assessment

The proponent undertook a comprehensive Effects Assessment for Heritage Resources for the EIS. Information and data were drawn from: literature reviews (including palaeontological resources, archaeological resources, and historical resources), consultations between BC Hydro and Indigenous groups, and an extensive multi-year field inventory and survey. The proponent does not anticipate the revised crossings to result in any adverse effects to archaeological and heritage resources beyond the effects considered in the initial environmental assessment.

Farrell Creek

The proponent anticipates that the proposed modification to the Farrell Creek Bridge design is not expected to cause additional effects on heritage resources because the footprint for the new design is entirely contained within the footprint of the original design, and the entirety of this area was previously considered and assessed.

Dry Creek

The proponent anticipates that the proposed modification to the Dry Creek crossing design is not expected to cause additional effects on heritage resources because the footprint for the new design is entirely contained within the footprint of the original design, and the entirety of this area was previously considered and assessed.

Lynx Creek

The proponent anticipates that the proposed modification to the Lynx Creek Bridge design is not expected to cause additional effects on heritage resources because the footprint for the new design is entirely contained within the footprint of the original design, and the entirety of this area was previously considered and assessed.



3.4.3 Agency's Analysis and Conclusions

The Agency accepts the proponent's determination that the design changes to the Highway 29 realignment at Farrell Creek, Dry Creek, and Lynx Creek would not result in any additional adverse environmental effects on archaeological and heritage resources as assessed through the initial environmental assessment. The Agency is therefore recommending that no changes be required to the mitigation measures previously identified in the environmental assessment.

3.5 Human Health

3.5.1 Proponent's Assessment

The proponent did not assess human health as a valued component in their analysis of proposed changes to the Farrell Creek, Dry Creek, and Lynx Creek crossings. The proponent determined that this valued component did not interact with the proposed Highway 29 realignment or any revised change to the crossings.

3.5.2 Views Expressed

On May 1st, 2020. The Agency received conformation that Heath Canada (HC) has reviewed and considered the proposed changes to Farrell Creek, Dry Creek and Lynx Creek crossings. HC had no comments to provide in regards to the proposed changes.

3.5.3 Agency's Analysis and Conclusions

The Agency has reviewed the proponent's analysis and taken into consideration views expressed by HC. The Agency accepts the proponent's determination that the design changes to the Highway 29 realignment at Farrell Creek, Dry Creek, and Lynx Creek would not result in any additional adverse environmental effects on human health as assessed through the initial environmental assessment. The Agency is therefore recommending that no changes be required to the mitigation measures previously identified in the environmental assessment.



4. Consultation and Engagement

4.1 Consultation with Indigenous Groups

Indigenous groups were defined in the Decision Statement as “Reservoir Area Aboriginal groups” and “Immediate Downstream Aboriginal groups.” Reservoir Area Aboriginal groups include: Saulteau First Nations, Blueberry River First Nations, West Moberly First Nations, Doig River First Nation, McLeod Lake Indian Band, Halfway River First Nation, and Prophet River First Nation. Immediate Downstream Aboriginal groups include: Horse Lake First Nation, Métis Nation British Columbia, Kelly Lake Métis Settlement Society, Duncan's First Nation, and Dene Tha' First Nation.

The proponent has invited Indigenous groups to ground truth the Highway 29 realignment areas, including Farrell Creek, Dry Creek and Lynx Creek, and has indicated that they will continue to work with interested Indigenous groups in this area with the goal of mitigating any site-specific concerns.

On January 17, 2020, the proponent met with Saulteau First Nations to discuss the proposed amendment. Saulteau First Nations expressed concerns for the potential impacts of the design changes to fish. BC Hydro indicated that the removal of the causeway at Farrell Creek and the culvert at Dry Creek, and replacing these structures with bridges, would result in a smaller footprint and impact on fish and fish habitat.

On November 17, 2020, the Agency sent out a letter to the Indigenous groups named in the decision statement to notify them of proposed changes and seek their views. On December 18th, 2020, the Agency received comments from the McLeod Lake Indian Band. In their letter they indicated that as long as mitigation measures are adhered to, they have no comments or concerns with the proposed changes at this time.

The Agency considered all of these comments and discussions as part of its analysis of the Project design changes and was satisfied with the level of detail provided by the proponent in addressing concerns raised. The Agency is of the opinion that the proposed changes would not change the residual effects assessment on valued components within federal jurisdiction, and is therefore satisfied that there would be no additional impacts to Aboriginal and or Treaty rights beyond those assessed in the initial environmental assessment.

5. Conclusion

Considering the potential adverse environmental effects of the proposed Project changes, the Agency is of the view that changes to mitigation measures and follow-up requirements included as conditions in the Decision Statement would not be required.