Highway 29 Realignment
History of Cache Creek/Bear Flat Design Work

The realignment of Highway 29 at Cache Creek/Bear Flat was first considered in the early 1980s and has gone through multiple reviews since that time. BC Hydro evaluated two alignment options at Cache Creek/Bear Flat — a shoreline route and an inland route — taking into account the relative safety, technical, environmental, social/heritage and cost implications for each option. Upland routes (outside of the valley) were also reviewed at a high level but rejected as infeasible.

The shoreline route was selected over the inland route for several reasons, including: improved safety, less impact on agricultural land, smaller private land impacts, better geotechnical conditions and fewer technical challenges, resulting in lower costs and reduced construction risks.

Below are descriptions of the design reports for the Highway 29 realignment at Cache Creek/Bear Flat, as well as information about other relevant processes that led to the selection of the planned alignment. These reports, as well as a summary of Highway 29 Design Work from 1981-2017, are available online. Links are provided at the end of this document.

1981 Environmental Impact and Engineering Study

The Ministry of Transportation & Highways commissioned a study to identify feasible alternative relocation alignments of Highway 29 at Cache Creek/Bear Flat. Two alternative alignments were considered, each with varying realignment lengths (there were five options in total). The shoreline route was recommended as the preferred alignment. The northern (or inland) route was discounted based on a variety of factors including environmental, agricultural and cost impacts.

2008 Project Definition Consultation

In May and June 2008, BC Hydro consulted the public and stakeholders about the four segments of Highway 29 that had been identified at the time for potential realignment, including the Bear Flat section. Participants were asked about a number of factors when evaluating relocation of the highway. Safety and environmental impacts were considered most important, followed by heritage sites and private property impacts.

2008-2009 Property Owner Consultations

From November 2008 to March 2009, BC Hydro engaged with property owners to undertake Highway 29 Realignment Options Consultation. The purpose of the consultation was to provide further information about potential changes to sections of Highway 29, gather input specific to individual properties, determine property owner considerations with respect to potential alignment options, and document property owner feedback and concerns.

A total of 31 property owner meetings took place and this input was considered, along with technical and financial information, as BC Hydro developed realignment options.

2009 Highway 29 Relocations Report

BC Hydro commissioned a report to update the 1981 Highway 29 realignment options, based on modern design standards. Three options of the shoreline route were considered, with varying configurations of bridge and causeway length at the Cache Creek crossing.

Upper Bench Options (2010 and 2012)

Two further documents, one a report dated June 2010, and the second a memo dated February 2012, reviewed alternatives proposed during consultation.

The 2010 Highway Options Report reviewed an option to relocate the Cache Creek alignment about one mile north of the current location of Highway 29, on an upper bench. The report determined that the volume of fill required, along with the unstable slopes and the height of the Cache Creek crossing would result in prohibitively high costs to construct. As a result, this option was not pursued.

The 2012 Upper Bench Options Memo reviewed a similar upper bench concept and similarly concluded that the concept did not warrant further investigation. The memo also looked at alternative routes that would provide access to the Cache Creek/Bear Flat areas from Mile 68 of the Alaska Highway. Due to the additional travel time, larger environmental footprint and additional costs there was no justification to develop these concepts further.

2012 Project Definition Consultation

In spring 2012, BC Hydro undertook Project Definition Consultation with the public, property owners and First Nations. BC Hydro presented preferred realignments for each of the Lynx Creek, Farrell Creek and Halfway River segments of Highway 29. At Dry Creek and Cache Creek/Bear Flat, BC Hydro identified corridors in which an alignment would be determined pending further geotechnical analysis.

2012 Options Analysis and Definition Design Reports

The Options Analysis for Highway 29 Realignment, documented in early 2012, summarized the Multiple Account Evaluation process for selecting the preferred alternative. A number of criteria were used to compare and evaluate realignment alternatives. This evaluation also concluded that a shoreline corridor (referred to as Alignment 1) was the preferred alignment.

The shoreline corridor was chosen over the inland route as a result of the noted instability and technical challenges associated with the inland route. In addition, the inland route required additional private land, would cause greater farm severance and take up more land within the Agricultural Land Reserve.

The 2012 Highway 29 Definition Design Report provides a comprehensive analysis of the engineering and design considerations of the realignment options. Further information regarding the Multiple Account Evaluation is also included in this report.

2013 Environmental Impact Statement

In 2013, BC Hydro submitted the Site C Environmental Impact Statement (EIS). The EIS described the preferred realignment for Highway 29 at Cache Creek/Bear Flat. It also described the process used to establish the preferred realignment and summarized the alternatives that were considered. The EIS was subject to a seven-month review period by the public, government agencies and Aboriginal groups.

2014 Joint Review Panel Report

After 26 days of hearings, the Joint Review Panel Report, released in May 2014, stated: "*The preferred alignment with a short bridge presented fewer technical challenges, which would result in lower costs and construction risks. The preferred alternative also would impact a smaller area of private land, sever less actively farmed land, and need less ALR land for the right-of-way.*

Upland alternative alignments were considered as a result of consultation. However, the preferred lower bench alignments discussed above remained the preferred alignments."

October 2014

BC Hydro was issued an Environmental Assessment Certificate and federal Decision Statement allowing the project, as described in the EIS (including the Highway 29 realignments), to proceed, subject to certain conditions.

October 2015 to present

Since 2015, based on the approved alignment, BC Hydro has undertaken detailed engineering design, acquired properties, conducted geotechnical and archaeological investigations, continued consultations with First Nations, and completed most of the clearing and site preparation work for the alignment right-of-way.

More information can be found in the following documents located on the Site C project website:

1. Highway 29 Bear Flat/Cache Creek: Summary of Design Work 1981-2017 - BC Hydro (March 2017)
2. Environmental Impact and Engineering Study of Highway 29 Relocation - Graeme & Murray Consultants Ltd. (September 1981)
3. Project Definition Consultation, Spring 2008: Discussion Guide (May 2008) and Summary Report (September 2008)
4. Property Owner Consultation on Potential Highway 29 Realignment Options - November 2008–March 2009: Consultation Summary Report (2009)
5. Highway 29 Relocations Report - Klohn Crippen Berger/SNC Lavalin/Urban Systems (July 2009)
6. Highway 29 Options Report - Urban Systems (June 2010)
7. Memo – Upper Bench Options for Highway 29 - BC Hydro (February 2012)
8. Project Definition Consultation, Spring 2012: Discussion Guide (April 2012) and Summary Report (July 2012)
9. Options Analysis for Highway 29 Realignment - BC Hydro (April 2012)
10. Highway 29 Definition Design Report - R.F. Binnie & Associates (April 2012)
11. Environmental Impact Statement: Volume 1, Section 4.3.4: Project Description - Highway 29 Realignments and Volume 1, Section 6.6: Alternative Means - Highway 29 Realignments (2013)
12. Report of the Joint Review Panel: Site C Clean Energy Project: Section 2.2.4: Highway 29 Realignment (May 2014)