Kilometre	Current Conditions	Reservoir Conditions and Preliminary Impact Lines Related to the Proposed Site C Reservoir
Moberly River	**Location** This map sheet covers Moberly River, and extends approximately 2 kilometres to 10 kilometres upstream from the confluence with Peace River. **Geology and Topography** The north and south side of Moberly River generally comprises high bedrock slopes overlain by interbedded sand, silt and clay. The upper slopes tend to be steep while the lower slopes tend to be shallower and covered by colluvium (landslide debris).	**Proposed Reservoir** Within this map sheet, the proposed Site C reservoir would have a width typically ranging from 250 to 450 metres. **Preliminary Impact Lines** Most of the slopes immediately above the proposed Maximum Normal Reservoir Level are moderately steep. Consequently the **flood impact line** would be located close to the reservoir shoreline when the reservoir is first filled. The exception is at the upstream end of the proposed reservoir where the flood impact line would extend further upstream on the low-lying Moberly River floodplain. The shoreline materials typically comprise shale bedrock overlain by colluvium. Over time, wind-generated waves will erode through the colluvium and form a narrow beach or foreshore area. The **erosion impact line** is typically located between 50 and 150 metres of the shoreline, and this distance depends on the estimated thickness of the colluvium and the steepness of the natural slope. The **stability impact line** along both sides of the river is located at the top of the valley above the crest of the high bank slopes.
	Agriculture Assessment Improved (irrigated and/or drained) agricultural land capability ratings are provided for the Site C project component areas where additional soil survey work has been undertaken as part of the Agriculture Assessment. For remaining lands outside the Site C project component areas, including the Peace River valley downstream of the Site C dam, unimproved agricultural land capability ratings are provided. The unimproved ratings reflect published agricultural capability maps from the 1970s, based on an assumed low climatic moisture deficit (CMD) during the growing season in the range of 34 mm. However, subsequent climate studies have confirmed much drier conditions in the Peace River valley, with a CMD in the range of 148 mm, which results in a Class 3 unimproved climatic capability rating. With irrigation, it is likely that Peace River valley soils downstream of the Site C dam historically rated as Class 2 or Class 3 with aridity or soil water holding capacity limitations, which would now be rated as unimproved Class 3 due to climatic limitations, would improve to Class 2 or Class 1 with irrigation.	***Land Use Within Preliminary Impact Lines*** *BC Hydro has developed an approach to land use on private property within the impact lines. The approach focuses on public safety, maximizing flexibility for land owners, and minimizing the amount of land required by the project. BC Hydro's approach would be as follows:* • *BC Hydro would purchase land between the current river shoreline and the area required for the proposed reservoir, up to the Maximum Normal Reservoir Level (461.8 metres above sea level)* • *No new residential structures would be permitted within impact lines* • *Non-residential structures could remain, pending site specific geotechnical assessment* • *Within the Stability Impact Line, existing residential structures could remain for a period of time, at the owner's request and provided a site-specific geotechnical assessment determines that it is safe to do so* • *Within the Flood, Erosion or Landslide-Generated Wave Impact Line, existing residential structures would not be permitted to remain, to protect public safety* • *Other activities such as agriculture, grazing and trapping could continue within the impact lines* *The establishment of reservoir impact lines is intended to ensure public safety while maximizing land use flexibility, and to minimize the amount of land required by the project. BC Hydro will purchase the property rights required for the impact lines. Where impacts and implications on zoning, land use and property acquisition cannot be avoided, BC Hydro will identify and evaluate options for mitigation.* *BC Hydro is meeting directly with property owners whose land may be impacted to discuss their specific property interests.*
	Peace River Valley Definition BC Hydro defined the Peace River Valley as a spatial area, reflecting the Peace River mainstem from the Peace Canyon Dam to the B.C.–Alberta border. The upper edge of the Peace River Valley is defined as the crest of the top of high bank slopes, typically between El. 620 and 850m. The purpose of spatially defining the valley was to provide a consistent area for use where relevant in the Environmental Impact Statement.	

Map Follows on Next Page
These maps are best viewed printed on 11"x17" paper

Map 17: Moberly River

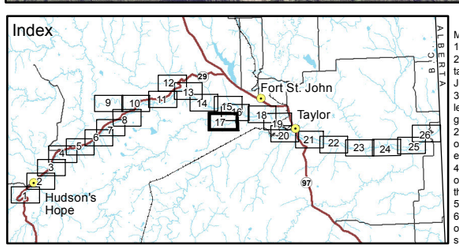
N

Stability Impact Line

Moberly River

Flood Impact Line

Erosion Impact Line



Map Notes:
1. Datum/Projection: NAD83/UTM Zone 10N.
2. Orthophotos created from 1:40,000 scale photography taken Sept, 2007; 1:20,000 scale photography taken June, 2007; TRIM., Bing Maps Aerial 2012
3. Proposed maximum normal reservoir level (full supply level-461.8m) from Digital Elevation Models (DEM) generated from LiDAR data acquired July/August, 2006. The surface area of the reservoir will change over time after reservoir filling as a result of shoreline erosion and deposition of sediment.
4. Preliminary flood impact line is based on an elevation of 466 m and is only shown when located outside of the preliminary erosion impact line.
5. Exact extent of Hudson's Hope Berm yet to be determined.
6. The amount of water level fluctuation downstream of the proposed dam will be dependent on factors such as the flow volume, depth, width and slope of the river.

Legend

- Proposed Reservoir
- Peace River Valley Definition
- Access Routes

Preliminary Impact Lines
- Preliminary Flood Impact Line
- Preliminary Erosion Impact Line
- Preliminary Stability Impact Line

Agriculture

Agriculture Utility Class
- High
- Moderate
- Low

Agriculturally Improved Capability Class (eg. with irrigation)
- (1) Capability Class 1-7 (Dominant)

Unimproved Capability Class
- 1 Capability Class 1-7 (Dominant)

0 0.5 1 km

SITE C CLEAN ENERGY PROJECT

BC hydro

Preliminary Impact Lines, Highway 29 Realignments & Agriculture Assessment

Date	March 2013	DWG NO	1016-C14-B6192	R 1

The Site C Clean Energy Project requires environmental certification and other regulatory permits and approvals before it can proceed to construction. The information presented in these maps reflects current planning for the Site C Clean Energy Project and is subject to change as the project continues to be further defined.