

SCHEDULE 6-5

Description of Secondary Structures

The secondary structures of the Wuskwatim Generating Station will include the channels for the Spillway and the Complex, the Upstream Channel Excavation and the Excavated Materials Placement Area. These structures are described generally below.

Channels

The channels for the Spillway and Powerhouse will be cut through overburden and bedrock. Within the bedrock, the channel sides will be almost vertical, whereas in the overburden, the side slopes will be less than vertical. The overburden slopes will be protected with rock fill to prevent erosion.

Specific channels will include; Spillway approach and discharge channels and the Powerhouse intake and tailrace channels. The Powerhouse intake channel entrance will share a deep section of the Forebay with the Spillway approach channel, immediately upstream of the Powerhouse intakes. The flow entering the intakes will pass through the Powerhouse and will emerge into the tailrace channel. The floor of the tailrace channel will first slope upwards and then remain horizontal for approximately 180 metres downstream from the Powerhouse. The final transition will be feathered to match the natural riverbed.

Upstream Channel Excavation

The Upstream Channel Excavation will be an excavation in the bedrock peninsula that is located immediately northeast and adjacent to Wuskwatim Falls. The channel will reduce the natural flow restriction at the outlet of Wuskwatim Lake.

Excavated Materials Placement Area

The Excavated Materials Placement Area will consist of a central portion largely composed of impervious silts and clays and will have very shallow outer slopes. Rock filled berms will be used at the toe of the disposal area to prevent erosion. The Excavated Materials Placement Area will be covered with the salvaged organics and soils to provide an erosion resistant surficial layer and to promote the re-growth of natural vegetation.

