

a line parallel with the present submerged weir and 200 to 250 feet downstream therefrom. With the exception of an approach fill adjacent to the Canadian shore, the structure would consist entirely of piers and movable control gates.

The excavation in the Horseshoe Cascades in the area upstream from the Canadian flank will tap the deep stream that flows down the Canadian side of the Cascades and divert flow to the Canadian flank in quantities adequate to cover the flank and preserve the spectacle under all future conditions. The extent and grade of the excavation are shown in detail on Plate 7, the estimated quantity involved being some 64,000 cubic yards of rock. As shown on Plate 7, the crest fill of 100 feet on the Canadian flank adjacent to the Canadian shore would extend upstream about 100 feet where it would merge with the present shore line. It is contemplated that a concrete retaining wall, faced with stone to blend into the surroundings, would enclose this fill. Inside the wall, fill would be placed to the grade of the adjacent improved park area, and the whole landscaped to provide an attractive area for viewing the Cascades and Falls at close range.

The excavation in the Horseshoe Cascades on the Goat Island flank will divert an adequate volume of flow over that flank under all future conditions in a manner similar to that on the Canadian side. The extent and grade of this excavation is shown in detail on Plate 7, the estimated quantity involved being 24,000 cubic yards of rock. The 300 foot crest fill adjoining Goat Island would merge with the existing shore line about 300 feet upstream. The extent of this fill is shown in detail on Plate 7. A concrete retaining wall suitably faced with rock would surround the fill which would be so graded as to be accessible from Goat Island. This area, suitably landscaped, would provide a much needed vantage point from which to view the Cascades and Falls. This fill is very similar to an improvement which it is understood has been under consideration by the Niagara Frontier State Park Commission.

Results to be Expected from Remedial Works

From the exhaustive and comprehensive series of engineering studies and model tests carried out on the proposed plan of remedial works at both Vicksburg and Islington, the Commission is confident that the proposed plan would fulfill the terms and intent of the 1950 Treaty. By operation of the gates in the proposed Chippawa-Grass Island Pool control structure, the same pool level would be maintained in the future, under power diversions permitted by the 1950 Treaty, as would result from conditions above Niagara Falls since the completion in 1947 of the existing submerged weir, and under present power diversions. Such regulation would preserve the regimen of the River in the Chippawa-Grass Island Pool and upstream thereof and would insure that Lake Erie levels and outflows would remain unaffected. Such regulation also would maintain sufficient flow over the American Falls to preserve the present satisfactory appearance which has prevailed since completion of the existing submerged weir in 1947. Adequate and scenically satisfactory flow conditions would exist at the head of Goat Island and in the vicinity of the Three Sisters Islands.

The design of the control structure is such that a total flow over the Falls of either 50,000 or 100,000 cubic feet per second as specified in the 1950 Treaty may be produced expeditiously at any time through the full range of Chippawa-Grass Island Pool levels without affecting the level of the