

Village of Port Royal Sewer System Upgrade, Jamaica

The Old Coal Wharf Sewage Treatment Plant is being implemented to service the new cruise ship pier in Port Royal as well as the Village of Port Royal, Jamaica. The proposed sewage treatment plant is located close to the new cruise terminal in Port Royal.

The Village of Port Royal is located at the end of the Palisadoes at the mouth of Kingston Harbour, in southeastern Jamaica. Founded in 1518 by the Spanish, it was once the largest city in the Caribbean, functioning as the centre of shipping and commerce in the Caribbean Sea by the latter half of the 17th century.

It is estimated that approximately 2,000 people live in the village at the present time. As there is no sewage treatment plant in Port Royal and partial sewers are located in the new developed area, there is an opportunity to upgrade the sewer collection system and convey the sewer generated in the Village of Port Royal to the new Old Coal Wharf Sewage Treatment Plant.

In early September, 2019 the Port Authority of Jamaica (PAJ) retained Engineering and Technology Associates Inc. (ETA) to complete the design of the Village of Port Royal Sewer Collection System Upgrade.

The Port Royal Sewer Collection system was divided into five different catchments. In each catchment the most economical alternatives were evaluated for conveying the sewage collected at various collection points to a central pumping station. The following was considered:

- Using the existing collection points and implement new pumping stations at each collection point
- Discard the existing collection points and implement new gravity lines to reduce the number of overall pumping stations in the entire Village of Port Royal
- Implement a combination of vacuum/pumped sewers for the collection system



For each alternative considered the capital costs and operation and maintenance costs were developed. Based on the life cycle costs, the second option was selected for implementation: Discard the existing collection points and implement new pumping station throughout the entire Village of Port Royal Collection System.

Packaged lift stations were proposed to reduce the life cycle costs, including operation and maintenance costs. The lift stations will have identical features which will make it easier to operate and maintain these facilities.

