

Aroonrat Chanreab 2013: The Study of Primary Drainage System in Eastern Bangkok Metropolitan Area. Master of Engineering (Water Resources Engineering), Major Field: Water Resources Engineering, Department of Water Resources Engineering. Thesis Advisor: Mr. Nat Marjang, Ph.D. 178 pages.

The study of primary drainage system in eastern Bangkok Metropolitan Area using HEC-RAS for study of flow in the main canal. Which can be used for further development of the capacity to accommodate the flood of the area to the north of Bangkok including improvements in the future. In the calibration using hourly water level data on 6-20 October 2011 in the calibration. It was found that the coefficient of roughness (n) in the range of 0.025 to 0.036 and are able to model the behavior drainage system can be used to evaluate the drainage system of primary case study, no rain in the area and the water. outside only. Case rainfall in the area and prevent water from external. The rainfall in the area and get some water from the outside. And propose recommendations to improve the drainage system in the area

The study found that Drainage primary case study area where no rain in the area, and from the outside only by a constant flow of 50 cms. that can accommodate water from outside without any conditions, overflow their banks by High water level in the range 0.00 to 1.00 m.(MSL) and if the flow rate was fixed at 60 and 70 cms. conditions to overflow their banks in many areas. The rainfall in the area and prevent the water from rainfall that can be designed to take 2 return periods without overflowing its banks. In the case of using a design that will result in 5 return periods, the incidence of water levels in the canal caused water levels to rise and overflow its banks in some areas. In case of rain in the area and from outside the area, some of the rain design sessions take 2 return periods to get water from the outside, with a flow rate of total fixed 40 cms. through a draining 4 regulators on the north side. the water level in the range of 0.05 to 0.15 m.(MSL) can drain the water from the outside without any overflow their banks. However, there is a period where there are canals silted. Will overflow their banks, if the hydraulic performance of the drainage system, it can reduce the water level in the canal reduced.

---

Student's signature

---

Thesis Advisor's signature