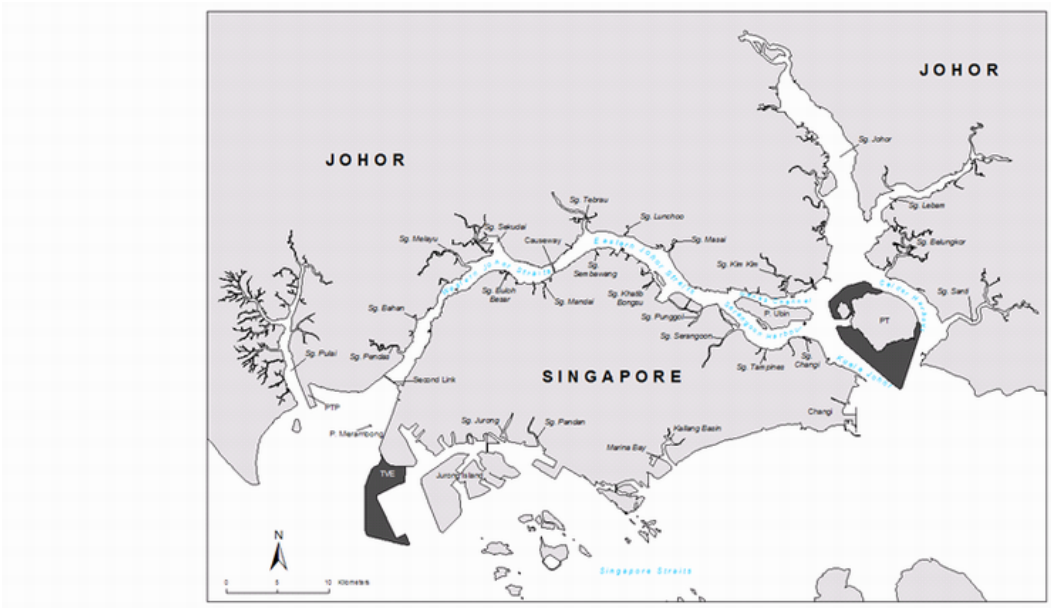
DETAILED STUDIES ON TUAS VIEW EXTENSION AND PULAU TEKONG LAND RECLAMATION, MALAYSIA AND SINGAPORE (2004)

Location Eastern Johor Straits and Western Johor Straits

Type of Project Multi-disciplinary Impact Assessment

Client Ministry of Foreign Affairs Malaysia and Ministry of National Development Singapore



Description

In response to claims made by Malaysia relating to the potential impacts arising from reclamation works being undertaken by the Singapore authorities at Tuas View Extension and Pulau Tekong, the International Tribunal for the Law of the Sea (ITLOS) ordered the governments of Singapore and Malaysia to conduct a joint third party study of the possible impact of these reclamation works on the environment. The multi-disciplinary study undertaken by DHI examined the potential impacts arising from the Tuas View Extension and Pulau Tekong reclamations on adjacent waters, including assessment of potential current, navigation, morphology, water quality, eutrophication and ecological impacts.

The study utilised, where possible, quantitative numerical models supported by extensive physical (currents, waves, sediment, water quality) and ecological (seagrass, mangrove, coral, mudflat) field surveys to isolate the impacts of the Tuas View Extension and Pulau Tekong reclamation projects from other disturbing factors in the study area. The level of quantification followed, as far as possible given the time frame of the study, international best practice in terms of modelling technology and reliability of results. In particular the base hydrodynamic models that form the backbone of the assessment have been compared against stringent performance criteria agreed by the Malaysian and Singapore Authorities.

On the basis of the quantitative model results, the study subjectively measured the impact of the reclamation projects on a scale ranging from No Impact, through Slight Impact and Minor Impact to Moderate Impact in order to provide a guide to the uncertainty, significance and detectability of the identified impacts. The results of the models were processed for each reclamation case and the changes in conditions were thoroughly analysed in terms of spatial and temporal variation by plotting the changes both in terms of absolute values and statistical descriptors.