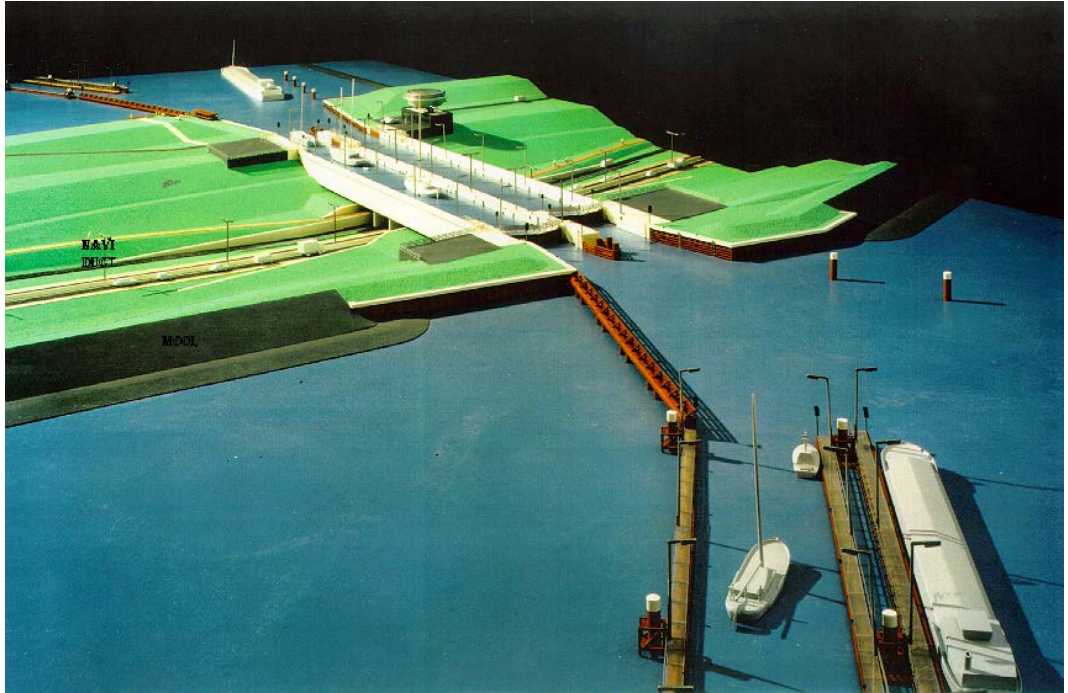


Project identification

Naviduct, twin lock with dive under

Type of project

A lock with dive under



Client

Regionale directie IJsselmeergebied

In co-operation with

Ministry of Transport and Public Works, Tunnel Engineering Department

Project assignment

Preliminary design, final design, contract documents, tendering, evaluation of the bids and assistance for supervision

Country

The Netherlands

Location

Enkhuisen

Project duration

1996 - 2000

Project phase

Completed

Construction cost

€ 55.000.000,=
inclusief M & E (excl. VAT)

Consultancy fee

Total of consultancy services € 750.000,=
(excl. VAT)

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Naviduct, twin lock with dive under

A lock with dive under

Project description

In the existing dike between Lelystad and Enkhuizen lies an existing lock named Krabbersgatsluis. This lock crosses the road that is situated on top of the dike by means of a drawbridge. In the holiday season the junction between the road and waterway is a source of congestion for road traffic because the lock is namely used for cruise of private yachts without stroked masts causing a high frequency of opening of the bridge. For navigation the lock is also an obstacle because the passage capacity is not in proportion with the traffic volume which leads to an extended wait for navigation. To avoid congestion a choice is made for a crossing where the road is led under the waterway. The existing lock will be kept in operation for professional barges only. Because the height of the barges is limited passing the lock will not claim frequent openings of the bridge. The new lock has been constructed on a new artificial island made on the southern side of a curve in the dike. To realise the dive under a polder has been made on the island with a ground water level of NAP –11.00 metres. A vertical sheet pile wall that has been driven in to a water tied clay layer called the Eemclay strata has constructed this polder. By means of the drainage facilities of the dive under the ground water level in the polder is maintained. The island is constructed by removal of the existing Holocene strata and back filling with sand that has been mined in the IJssel Lake. The removed material is used for an environmental project that has been build near one of the dams of the southern entrance harbour.

The project comprises:

- Removal of existing Holocene strata.
- Back filling with sand and construction of the new made southern polder dike.
- Construction of the reinforced concrete structure with a service building including remote operation of the existing lock.
- Application of the lock with mitre gates that can stem the water in two directions including hydraulic installations.
- Construction of the sheet pile wall.
- Construction of the northern and southern entrance harbours including line of facilities for ships.
- Construction of the above mentioned environmental project.
- Repositioning of the road with cycle tracks.

Scope of work

Civil and structural works:

- Preliminary design.
- Final design.
- Contact drawings.
- Contract.
- Pre-qualification of contractors.
- Tendering of the project.
- Evaluation of the bids.
- Assistance on supervision.