

A4 Burgerveen - Leiden

The A4 motorway between Burgerveen and Leiden is a busy artery between Amsterdam and The Hague. After having previously widened the road over a substantial length to 2x3 lanes the Ministry of Infrastructure commissioned the upgrading of the A4 motorway at the two last remaining 2x2 lane bottlenecks near the existing Ringvaart Aqueduct and the movable bridge over the Oude Rijn river.

Upgrading of the motorway near the Oude Rijn river included the replacement of the movable bridge by an aqueduct and replacing the old motorway embankment by half open approach sections on both banks of the river. This created a 1.4 km long semi-open tunnel section leading to a large reduction of traffic noise. Combined with the benefits of a reduced visual and physical barrier between the adjacent cities of Leiden, Leiderdorp and Zoeterwoude-Rijndijk the project enabled significant spatial development opportunities in the direct area.

Main Client

Ministry of Infrastructure and Environment

Client

Combinatie A4 Burgerveen-Leiden

Location

Burgerveen - Leiden, the Netherlands

Type of Contract

Design and Construct

Completion

2014

Consultancy Fees

Category 5 (see page 2)

Construction Costs

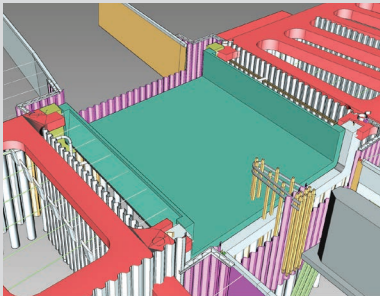
Euro 410 million

Services

Tender Design
Basic Design
Detailed Design
Asbuilt



A4 Burgerveen-Leiden



Project Description

The northern part of the project near the existing Ringvaart Aqueduct involved the widening of the old 2x2 lane road profile to a 2x3 profile with a reservation for a future 2x4 lane configuration over a length of 7.1 km. This required the construction of a new fly-over at the A44-A4 junction near Burgerveen, the construction of a new viaduct crossing the Lissersweg, the construction of a second Ringvaart Aqueduct and the renovation of the old Ringvaart Aqueduct.

The 7.6 km long southern section of the project runs from the northern side of the city of Leiderdorp up to the exit Leiden / Zoeterwoude-Dorp. The northernmost 4 km is also widened to a 2x3 lane configuration with future 2x4 lane reservation, the southernmost 3.6 km is configured with 2x2 dedicated "through lanes" and separate parallel lanes for the exits/ramps for the city of Leiden and the connection to the N11 motorway. The contract also required the replacement of the existing movable bridges over the Oude Rijn river with a double aqueduct and the construction of semi-open tunnel approaches to the aqueduct over a total length of 1.4 km. The new road profile required the replacement or widening/modification of

numerous (>12) smaller bridges and viaducts. Finally, new crossings were constructed specifically for pedestrian/cycling traffic (viaduct Munnikenpolder, Oude Rijn cycling bridge).

The Design & Construct contract specified full availability of the existing A4 motorway during all stages of construction, which required specific measures in design and risk management

Role DMC

DMC has been involved with the project from tender stage on, and played a major role in developing the winning proposal. Especially the innovative concept of the largely prefabricated Oude Rijn Aqueduct and its approaches have significantly contributed to the successful bid.

After contract award, a fully integrated DMC design team was "embedded" in the project team. This design team has subsequently produced the Basic and Detailed design for all civil structures and roadworks, has provided a full range of site engineering support and has delivered the required As-Built documentation. Also, DMC has provided overall Design Management services throughout these design stages.

Consultancy Fees: 1: 50.000€ 2: 50 - 150.000€ 3: 150 - 300.000€ 4: 300 - 600.000€ 5: > 600.000€



Delta Marine
Consultants