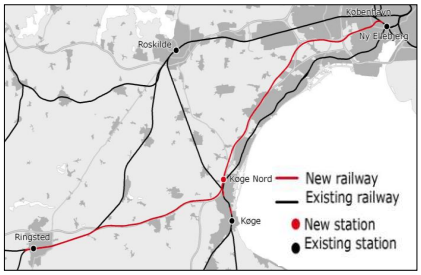
Spuns Syd – part of the south part of the Silkeborg's ring road

EKJ • BULGARIA CONSULTING ENGINEERS LTD



The project Spuns Syd is part of the new motorway between Århus and Herning and comprises a 1 km motorway section through Silkeborg, encompassing both road, trough/tunnel and bridge structures. EKJ is the leader of the consultant team, which provides engineering consultancy to the design and build consortium Arkil and Bilfinger Berger during the design and construction phase.

The EKJ road department is designing an optimised alignment and longitudinal profile for the trough and tunnel, including an optimum depth in relation to the cost of securing it against uplift. In addition temporary diversions of the existing roads and links to the local road network are designed. The task also includes the design of the motorway pavement and a busy road intersection. The motorway placed in at through with sheet piling walls on both sides through the city of Silkeborg. A new road bridge for the intersecting north-south traffic is constructed approximately at the middle of the trough, also forming the beginning of a 350-metre covering to reduce the traffic noise from the motorway. Both the bridge and the cover are designed as a continuous two span reinforced concrete slab, with the ends supported by a row of piles close to the sheet piling. The slab is fastened in the middle by an approximately 350 long wall, which divides the motorway into two barrels.

The design is based on 3D CAD to ensure a buildable project, including clash control of the various technical components.

EKJ Bulgaria's services:

EKJ is primary consultant to the design and build consortium:

- Through with concrete Bottom Slab and Top Slab
- Reinforced concrete bridge across the trough
- Road Alignment
- Design of temporary roads and traffic relocations
- Pavement Design
- Geotechnical and Ground Water Investigations and Analysis

Special challenges:

- Fire protection of structures
- Ground Water Management
- Urban Motorway
- Noise protection
- Existing Utilities
- Tight Design Program

Client: The Danish Road Directorat (Vejdirektoratet)

EKJ's client: Arkil and Bilfinger+Berger

Period: 2013-2016

Size: 1 km motorway

Contract type: Design and build

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