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Fédération **I**nternationale des **I**ngénieries **M**unicipales*

## Technical Brief No.6

# Halogaland Bridge Project, Narvik

The Hålogaland Bridge is a suspension bridge under construction which will cross the Rombaksfjorden in the municipality of Narvik in Nordland county, Norway. As the second-longest bridge in Norway, it will be part of the European Route E6 highway.

The bridge lies above the Arctic Circle and is the longest suspension bridge within the Arctic Circle at the time of its construction. [Wikipedia](#)

*The following article appears on Road Traffic Technology website at  
<https://www.roadtraffic-technology.com/projects/e6-halogaland-bridge-narvik/>*

The E6 Halogaland Bridge Project is one of the most anticipated projects in Norway. It involves the construction of the 1,533m-long Hålogaland Bridge over Rombaksfjorden in Narvik, Nordland.

The bridge will reduce the distance between Narvik and Bjerkevik by 18km, via the European E6 highway route. The route will be safer, shorter and less congested.

The NOK2.89bn (\$476.3m) project will be financed by the Narvik Municipality (NOK 30m) and state funds (NOK 1.5bn).

The project was first proposed by the Narvik Municipality in 2007. Norwegian Public Roads Administration (NPRA) conducted a public inspection for the project in November 2007. The project proposal was adopted by Narvik municipality in February 2012.

The project received approval from the Government in Council of Norway in May 2012.

### **Construction details of the E6 Halogaland Bridge**

The project includes the construction of two new roads on both sides of the

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Hålogaland Bridge. The road on Narvik side will be 1.4km long, while the road on Øyjord side will be 3.5km long.

The roads will have a land width and shoulder width of 3.5m and 1m, respectively. The total width of the road will be 10m. The road will offer a running speed of 80km/h for the vehicles.

The project also includes the construction of two short tunnels, the Ornestunnelen and Storlikolltunnelen. The 270m-long Ornestunnelen will be built on the Narvik side, while the 330m-long Storlikoll tunnel will be built on the Øyjord side.

Construction of the project is divided into two main categories, concrete works and steel works.

The concrete works include the construction of a 250m viaduct at Kari beach, a 148m viaduct at Øyjord, and the 135m-long Øyjord bridge. Construction began in December 2013 and is expected to finish in 2017.

Construction of a 1.1km avalanche tunnel between Trældal and Leirvik is also part of the project. The tunnel will reduce landslides on the route. It is expected to be opened for traffic by 2014.

### **Design details of the Halogaland Bridge**

The 1.5km Halogaland Bridge will be second largest suspension bridge in Norway. The span of the bridge will be built as a closed steel box girder. The main span will be 1,145m and the side spans will be 240m and 149m. The navigational clearance will be 42m, while the height of the pylons will be 175m.

The bridge will have two main cables with a length of 1,621m-long and diameter of 47cm. The hanging cables and suspension rods will increase the safety for passersby.

The A-shaped bridge will also have five pillars with height ranging from 12m to 30m. It will have a sailing height of 40m and sailing width of 200m.

The bridge top will be inverted pyramid in shape providing enough space for lighting and protection from bad weather. The main deck will consist of a streamlined steel box. There will be two road lanes, a foot and a cycle path with a width of 3.5m. The bridge will be anchored on both sides with the help of conventional rock anchors.

### **Contractors involved with the suspension bridge project**

Aas-Jakobsen provided pre-engineering for the suspension bridge. COWI as the

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project engineer provided basic and detailed design for the project.

Ístak, a subsidiary of E. Pihl & Son, received a road and tunnel works contract for the project. The \$63.79m (NOK 375m) contract is for the construction of 4.9km of roads and excavation of three tunnels. The contract was awarded in January 2013 and is expected to be completed by mid 2016.

The architect for the project is Dissing+Weitling architecture.

Sichuan Road and Bridge Group, a company based in China, was awarded a €93m worth contract for the delivery, production and erection of steel structures to the Hålogaland bridge in October 2013.