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FACT SHEET



Building a Bridge with Movable Scaffolding

When completed, the new bridge at the Port of Long Beach will be one of the tallest bridges of its kind in the United States. With two 515-foot towers and a majestic cable-stayed design, the new bridge will be visible for miles and an icon for Long Beach and Southern California.

A California First

The Gerald Desmond Bridge **Replacement Project started** construction in 2013 with work to clear the path and build the underground foundations. Now, in 2016, crews are ready to begin building approach bridge segments before they can construct the cablestayed center span 205 feet above the water. To carry out construction of the bridge segments, crews will utilize twin machines known as a self-launching Movable Scaffolding System or MSS. Each 3.1 million-pound MSS is a traveling steel structure that supports the formwork and allows for a rapid, efficient and safe construction of the roadway.

The two MSS units are hoisted into place. On the west end of the bridge is the orange MSS and on the east end is a blue unit. This will be the first time a self-launching MSS will be used to construct a bridge in California.

Typical bridge or overpass projects involve complex systems of wood beams, pipes and steel girders rising from the ground, known as falsework. These structures support a wooden form where workers place steel and concrete to create a span of the road deck. While traditional falsework will be used to connect the lower approach columns and connector ramps on this project, the MSS units are being used to construct the approach spans roughly 80 to 150 feet above ground leading up to the main center span.

Benefits of the MSS

- Allows for more efficient and safer road deck construction
- Quick, reliable and economical solution
- Reduces the number of joints and stressing points along the structure
- Minimal ground impact

Constructing the Road Deck

- Two Movable Scaffolding Systems will be used to reduce overall construction time.
- MSS units are raised and attached to columns. Workers then install the top deck rebar and place concrete to complete the span, a process that takes about two weeks.
- Once a span is completed, the MSS formwork is then advanced along the girders and attached to the next columns, which takes about eight hours to move.

Movable Scaffolding Systems were first designed and used in the 1970s. Since their introduction, these systems have been refined and improved and used in hundreds of projects around the world. The MSS for the Long Beach bridge was designed by a Norwegian company for our specific dimensions and specs, fabricated in China, shipped in hundreds of pieces and assembled on-site. To view a video about how the MSS works, check out our YouTube channel at "LBbridgeproject."

Project Background

The new bridge will raise the clearance over the Port of Long Beach back channel from 155 feet to 205 feet to accommodate massive container ships. With three lanes in each direction plus inner and outer safety lanes, the new bridge will be wider and better able to serve future traffic volumes. Other features of the new bridge include a bike path, pedestrian path and scenic observation decks.

The Gerald Desmond Bridge Replacement Project is a joint effort of the California Department of Transportation and the Port of Long Beach with funding from the U.S. Department of Transportation and the Los Angeles County Metropolitan Transportation Authority.

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For the latest information on construction and lane closures, go to **www.newgdbridge.com** and sign up to receive updates via email.

You can also follow us on Twitter, Facebook, YouTube and Flickr, and download the LB Bridge mobile app to stay informed of up-to-theminute traffic conditions, breaking news, listen to audio alerts, watch live streaming videos, view photos, get project updates and more!

COMPONENTS OF THE MSS

- (1) Concrete Casted Deck
- 2 External Formwork
- 3 Main Girder
- 4 Support Bracket
- 5 Nose



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