43 at Willamette River Bridge (Oregon City Bridge) PROJECT

Frequently Asked Questions

When was the bridge constructed? Is it a historic landmark?

The historic bridge linking Oregon City with West Linn was officially opened on January 1, 1923. The bridge is listed on the National Register of Historic Places. It is likely the only one if its type in the country.

Is the bridge made of solid concrete?

The main structural portions of the arch section of the bridge are made of steel. The arch ribs are hollow steel boxes riveted together. These, and the steel floor beams and stringers which support the deck, are encased in a 1-1/2 inch coating of sprayed concrete, called Gunite.

The columns and hangers supporting the deck from the arch ribs are steel sections. The X-shaped cross bracing between the arches are steel trusses. Both of these are encased in solid concrete. The lower arch ribs are connected to appear as a solid spandrel.

What is Gunite?

Gunite is concrete that is sprayed onto surfaces with a pneumatic pressure gun. It was a relatively new invention in 1922 when it was used on this bridge to protect the steel from corroding.

Why was it applied to this bridge and not others?

The crossing, due to river depth, navigation requirements and the basalt rock bottom, needed to be clear spanned. The crossing was too narrow to make a suspension bridge economical, which left either a massive steel truss or a steel arch as the remaining choices with materials available at the time. The arch was chosen.

The designer, Conde B. McCullough, was concerned that emissions from the mills and other industrial facilities nearby were more corrosive than a normal paint system could resist, so he elected to use pneumatically sprayed concrete, Gunite, to provide a heavy duty protective layer. This system has worked quite well over the bridge's 84 year life.

What kinds of repairs are allowed?

ODOT follows the requirements for National Register properties closely. Visually, the bridge should look as close as possible to original, while providing safe use by the public. This has resulted in ODOT developing a replacement rail system which provides a level of safety appropriate for vehicles as well as pedestrians, while looking essentially the same as the original. This bridge will receive such a treatment. Similarly, the historic lighting will be restored.

What repairs are needed?

- The Gunite coating is leaching minerals, indicating portions of it have been adversely affected by water and need to be repaired to protect the steel underneath. The existing Gunite material on the arches will be removed and replaced.
- Several stringers supporting the deck have corrosion damage and need to be repaired.
- The ornate pedestrian rails will be replaced with vehicle rails that appear nearly identical, but are composed of structural steel hidden within precast concrete.
- The deck will be overlaid and bumpers will be replaced.
- Most utilities will be relocated underneath the bridge.
- We will have new roadway lighting which will include reproductions of the original lights.
- There will be a major reconstruction of the Oregon City bridge approach.

Will the bridge be widened?

No. The arch design cannot be widened.

When will construction begin?

Construction is expected to begin late in 2009.

Will the bridge be closed for all traffic?

Yes. The plan is to close the bridge to all traffic, including bicyclists and pedestrians for safety reasons. Plans to use shuttles or Trimet buses are in development.

What is the detour route?

Traffic will use the I-205 Abernethy Bridge to cross the Willamette River between West Linn and Oregon City.

How long will construction take?

By closing the bridge, construction should be completed in about 24 months.

Will the bridge look new when completed?

Yes. The bridge will have a new coating of Gunite, sidewalks, guardrail, lights and deck.

Is the bridge safe for the traveling public?

Yes. Cars, light trucks and SUV's can safely cross the bridge. However the Oregon Department of Transportation recently placed a new weight restriction to the Willamette River Bridge. The structure is now closed to all commercial motor vehicles and all vehicles weighing more than 14 tons.

Recent inspections of the historic bridge uncovered areas of concern in a few floor beams, which could be overloaded by the concentrated weight of larger commercial vehicles. Limiting the weight of vehicles to 14 tons will allow most motorists to cross. The load limit restriction will be 28,000 lbs or 14 tons.

Project web site: www.archrehab.com

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