Testing and commissioning

Before the tunnel can open to traffic, crews must verify that all of its systems are working properly. This is done through a thorough testing and commissioning process. The process includes design reviews, system demonstrations, performance verification, and operator and maintenance training. For example, the tunnel ventilation system must be tested to ensure its many elements are working properly. The operators in charge of running the system also must be trained to respond to incidents, such as a vehicle fire, that would require them to put the system to use.

The commissioning team will work its way through a long checklist before the day the tunnel opens. In all, they will verify the functionality of more than 8,500 components, both individually and as part of the tunnel’s integrated network of systems.

Testing and commissioning before the tunnel can open to traffic is essential. This process ensures that all systems are working properly and that operators are trained to handle any incidents that may arise. It’s a critical step in preparing the SR 99 tunnel for its future role as a vital part of Seattle’s transportation network.

Life after Bertha: Focus shifts from mining to other tunnel work

Bertha, the SR 99 tunneling machine, has completed her 9,270-foot journey beneath Seattle. Although tunnel boring has come to end, crews have significant work to do before the tunnel can open to traffic in 2019.

The construction of the SR 99 tunnel can be broken down into five activities:

1. Mining (completed in April 2017)
2. Disassembly and removal of the tunneling machine (completed in August 2017)
3. Interior roadway construction
4. Installation of mechanical, electrical and plumbing systems
5. Testing and commissioning

Disassembly and removal of the tunneling machine

Bertha broke through into the disassembly pit on April 4, 2017, and shortly thereafter built the tunnel’s final ring. Though the machine’s tunneling and ring-building work was complete, crews couldn’t complete roadway construction at the north portal until it was removed. Crews from the contractor Seattle Tunnel Partners have been working around the clock, disassembling the machine to make room for the roadway coming up through the tunnel behind it. They completed disassembly of the machine in August 2017, ending more than four months of difficult work.

With disassembly completed, crews can continue building the roadway inside the tunnel and working on electrical and other systems.

For more information

Visit the website at www.AlaskanWayViaduct.org
Call the hotline at 1-888-AWV-LINE
Send an email to viaduct@wsdot.wa.gov
Follow @BerthaDigsSR99

Life after Bertha: Focus shifts from mining to other tunnel work

Crews are installing ventilation systems inside of the tunnel that will connect to the operations buildings.

Crews are installing ventilation systems inside of the tunnel that will connect to the operations buildings.

Crews lift the final piece of the SR 99 tunneling machine out of the disassembly pit.
A complex set of interconnected systems will ensure the tunnel is safe and functional. Each of these systems must be installed by crews along the length of the tunnel. This includes mechanical systems, such as ventilation, fire detection and suppression, security and lighting. This work is already underway, and will be one of the last items completed by STP before the tunnel opens to traffic.

The interior of the tunnel will include 35 variable message signs, 66 lane control signs and a public address system.

Crews working for Seattle Tunnel Partners install steel mesh as part of their work to fireproof the ceiling below the top deck of the tunnel. As of summer 2017, the southbound roadway deck stretched through Belltown, reaching 80 percent completion.

Emergency exits doors will be installed approximately every 650 feet within the tunnel. Beyond these doors is an exit corridor that leads to the surface.

This rendering shows a cross-section of the SR 99 tunnel. The southbound roadway is stacked above the northbound roadway. Electrical, ventilation, drainage and other tunnel systems are also shown throughout.