

## WHAT'S HAPPENING NOW

### ***Road Closures, Safety Controls, and a Tower Crane (oh my!)***

If you liked erector sets, Lincoln Logs, or Legos as a child, you're going to love on-site activities next week at the [Washington Park Reservoir Improvement Project](#). The delivery and erection of the first tower crane begins Monday, Sept. 24. Traffic control will be set up Sunday, Sept. 23, and the crane will begin arriving in pieces at approximately 7 a.m. Monday, Sep. 24.

The crane will be arriving by tractor trailer via Southwest Park Place, Lewis Clark Way, and then to Sacajawea. Crane sections will be delivered throughout the week. Please watch for signs and flaggers and travel safely through the area.

SW Sacajawea Boulevard will be closed for 24 hours to accommodate a crane that will be used to unload and lift into place sections of the tower crane. SW Sacajawea Boulevard will be closed from SW Sherwood Boulevard to the park entrance at Park Place. Also closed will be Madison Trail, and a portion of the island encircled by SW Sacajawea Boulevard and Lewis Clark Way. These safety and traffic controls will be in place 24-hours a day for a week, until the crane is fully erected. While SW Park Place and Lewis Clark Way will be open, expect traffic delays as deliveries are transported. **Detours will be in place for vehicles, cyclists, and pedestrians.**

It is anticipated that safety and traffic controls will be removed by the end of day Friday, Sept. 28, and SW Sacajawea will be reopened. See the traffic impact map [HERE](#).

You can learn more about the tower crane [HERE](#).

### ***Concrete, Steel, and Drilled Shifts (oh my)***

The Washington Park Reservoir Improvement Project is a big project and uses A LOT of materials, particularly concrete and steel rebar. 3,000 truckloads of concrete will be used during the lifetime of the improvement project! That is a total of 30,170 cubic-yards, or 120 million pounds, along with 7.4 million pounds of rebar, long and straight and coiled stacks.

The original reservoir was made of concrete poured over the existing carved out landscape with some rebar thrown in here and there. The new one is a highly engineered structure being built to current standards and reinforced with rebar every few inches. The rebar being used today is more than twice the thickness of any used in the original construction.

Just as rebar and its application have evolved since 1894, so has concrete and its formulation. Shotcrete used on this project is a special mixture that is thicker than usual and contains fibers. This allows it to adhere to the wall surface. For the drilled shafts, walls, floor slab, and columns a high strength structural concrete is being used.

Drilling shafts, underway now, is a simple concept, dig a hole, drop some rebar in and fill it with concrete. Crews on this project must do all this on a grand scale and meet exacting standards. Each shaft has a specific diameter, and depth unique to its exact location on the site. Some shafts are as narrow as three feet, and others as wide as five feet, depths vary as well with the deepest being at 100 feet.

Drilling the shafts requires an incredible degree of precision, it must be drilled straight down without cutting at an angle. To keep the drilling rig from veering off course, the crew checks the plumbness (straight vertical alignment) of the drill using a level, adjusting as needed.

For each shaft a rebar cage (weighting between 12,000 and 32,000 pounds) must be built to fit its dimensions and extending a determined distance above the shaft to allow for integration into the floor slab when built. The cages are built on the old Reservoir 4 site, transported over to the new reservoir site, raise by a crane to a vertical position and then lowered into the drilled shaft. Each cage is equipped with centralizers that keep it centered in the hole.

Each shaft will require 15 to 45 cubic yards of concrete, meaning 2 to 6 concrete truck loads. Depending on the location of the shaft, trucks will either navigate their way to the bottom of the site or to a position on the ledge between the two retaining walls to deliver their load. The concrete will be pumped into the shaft using a tremie pipe which is pulled out of the hole as the concrete level rises.

To see photos and learn more about activities on-site over the past month, check out the monthly news [HERE](#).

#### **VIRTUAL TOUR**

You can see videos and photos of current activities, learn about the project design, and see historic photos and illustrations of the finished project, all from the comforts of your own home! Start the virtual tour on the project webpage or click [HERE](#).

#### **FOR MORE INFORMATION**

Go to [www.portlandoregon.gov/water/wpreservoirs](http://www.portlandoregon.gov/water/wpreservoirs).

#### **DID YOU KNOW?**

September is National Preparedness Month!

At the Portland Water Bureau, we work daily to harden the backbone of our water system and build storage to be resilient in a natural disaster and last for generations. In an emergency, everyone has a role to play. What's your role?

One very important way to prepare for emergencies is to keep enough clean water on hand in case our water system is damaged. See how your neighbors prepare by storing water at [www.portlandoregon.gov/water/preparedness](http://www.portlandoregon.gov/water/preparedness).