



PUBLIC WORKS

Mouhamad Zaher
Public Works Director



01.



Water Quality

Water Treatment and
Wastewater Treatment



02.



Engineering

Capital Improvements,
Public Infrastructure Planning,
Project Management




03.



Operations

Water, Sewer, Street,
and Storm Drain
Maintenance




04.



Facilities

Parks, Building, Fleet,
and Equipment
Maintenance




05.



Safety

Operations and Building
Safety





01.

Water Quality



Headworks

Screen Rebuild

- ❖ The two headworks screens remove most of the items flushed that are not meant to be in the sewer system.
- ❖ They were originally installed in 2010 and have only needed routine maintenance since.
- ❖ The first screen was rebuilt last year and once screen two is completed, the screens will be like new.

NPDES PERMIT RENEWAL

Expired Permit

NPDES permit expired in 2008. Due to issues at DEQ, it was administratively extended

Renewal Progress

The City and State started working on the permit renewal in 2021. Permit expected Summer 2024

Key Point

New permit should be attainable with minimal changes to our process





Armstrong

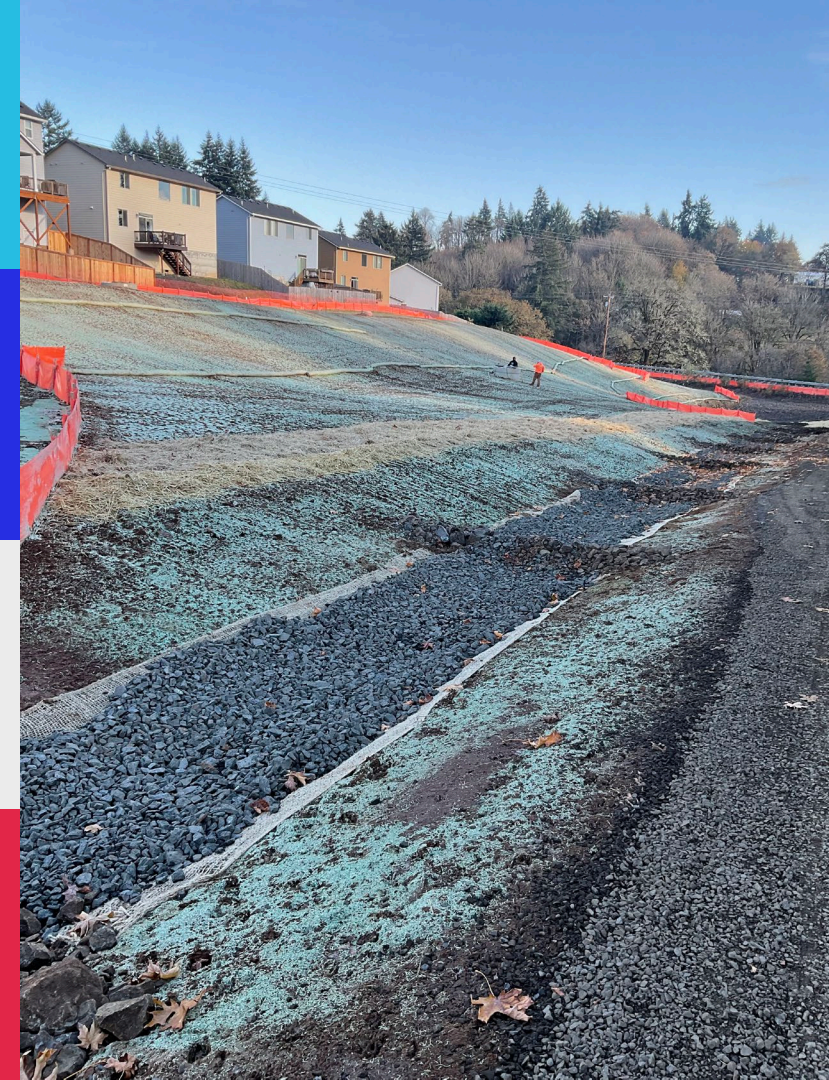
Sewage Overflow

- ❖ Worked with Armstrong staff and Public Works to find the cause and fix large overflow.
- ❖ All sewage was confined to Armstrong property.
- ❖ Issue turned out to be two failed check valves on Armstrong line that were damaged during the freeze.
- ❖ Public Works installed a new valve and helped in the clean up.

Routine Maintenance

- ❖ Repaired and replaced two pumps at lift stations
- ❖ Repaired the coolant system on generator at one lift station and in the process of getting a second repaired.
- ❖ Finished replacing all lighting at the Water Filtration Facility
- ❖ Assisted with the Influent Flow Meter project
- ❖ Assisted with testing and depth survey of lagoon for the Central Waterfront Development project
- ❖ Maintained two treatment plants and nine lift stations with no violations





02.

Engineering

COLUMBIA BLVD SIDEWALKS

CONNECTIVITY

- Completes Loop from How 30, Sykes Rd, Columbia Blvd, Gable Rd, back to Hwy 30
- Connects McBride Elementary School to St. Helens High School
- Safer Crossing for Students - Rapid Flashing Crossing Beacon Added at McBride

COST SAVINGS

Total project Cost \$1, 113,014
\$322,536 Grant & \$490,145 Col. County
City Final Cost \$303,333

COLLABORATION & COST SAVINGS

- City of St. Helens Staff (Engineering, Planning (Grant), Operations (Water))
- Columbia County (Public Works, Easements and Permits)
- ODOT (Safe Routes to School Grant)
- TFT Construction (Contractor)
- St. Helens School District (School bus adjustments)
- Property Owners & Residents (Access, plantings, driveways)

Columbia Blvd



Before

Google



After

Traffic Issues at Lewis & Clark Elementary School

Public Works responded to complaints about traffic at Lewis & Clark Elementary School, which included drivers turning right from Columbia Blvd onto S 9th Street and drivers cutting ahead in the pickup queue on S 9th Street. Collaboration between School officials, St. Helens Police, and Public Works Operations, Facilities Maintenance, and Engineering Division resulted in,



Traffic Delineators



Improved Striping



Improved Signage

Before



Speed Humps

Development of policy and procedures for residents requesting a speed hump on their street.

HIGHLIGHTS

- ❖ Speed Hump Application Form
- ❖ Functional Street Classification
- ❖ Traffic Investigation
- ❖ Geometric Requirements (street grade, street length, sight distances, nearby intersections, driveways, street drainage, etc.)
- ❖ Majority Community support
- ❖ Review and approval by multiple departments (Public Works, Planning, Emergency)
- ❖ Speed Hump Funding



Vision and Planning

- Give back to the Community
- Inspire the next generation of engineers

NATIONAL ENGINEERS WEEK 2024

FEBRUARY 18-24

Coordination

- City (Engineering, Communications, Administration Divisions)
- St. Helens High School
- Lower Columbia Engineering

Engineering Division

Current & Upcoming Projects

- ❖ Sanitary Sewer Capacity Upsizing Project
- ❖ Gable Road Speed Zone Project
- ❖ OPR & McCormick Park Pedestrian Path
- ❖ S 1st Street/ Strand Street Road and Utilities Extension Project
- ❖ S 1st Street/ St. Helens Street Intersection Project
- ❖ Transportation System Master Plan Update
- ❖ Annual Pavement Striping & Street Patching
- ❖ Reservoir Replacement Project
- ❖ DEQ Mercury TMDL Plan Implementation Manhole Rehabilitation Project
- ❖ Speed Hump Policy & Program Implementation
- ❖ Update Codes and Enforcement polices regarding Erosion and Sedimentation and Site Runoff
- ❖ Assisting Planning with Riverwalk Project
- ❖ Assisting with Mill inspections and Marine Board Grants.
- ❖ Updates to Engineering policies & procedures



03.

Operations

SCADA (Supervisory Control and Data Acquisition)



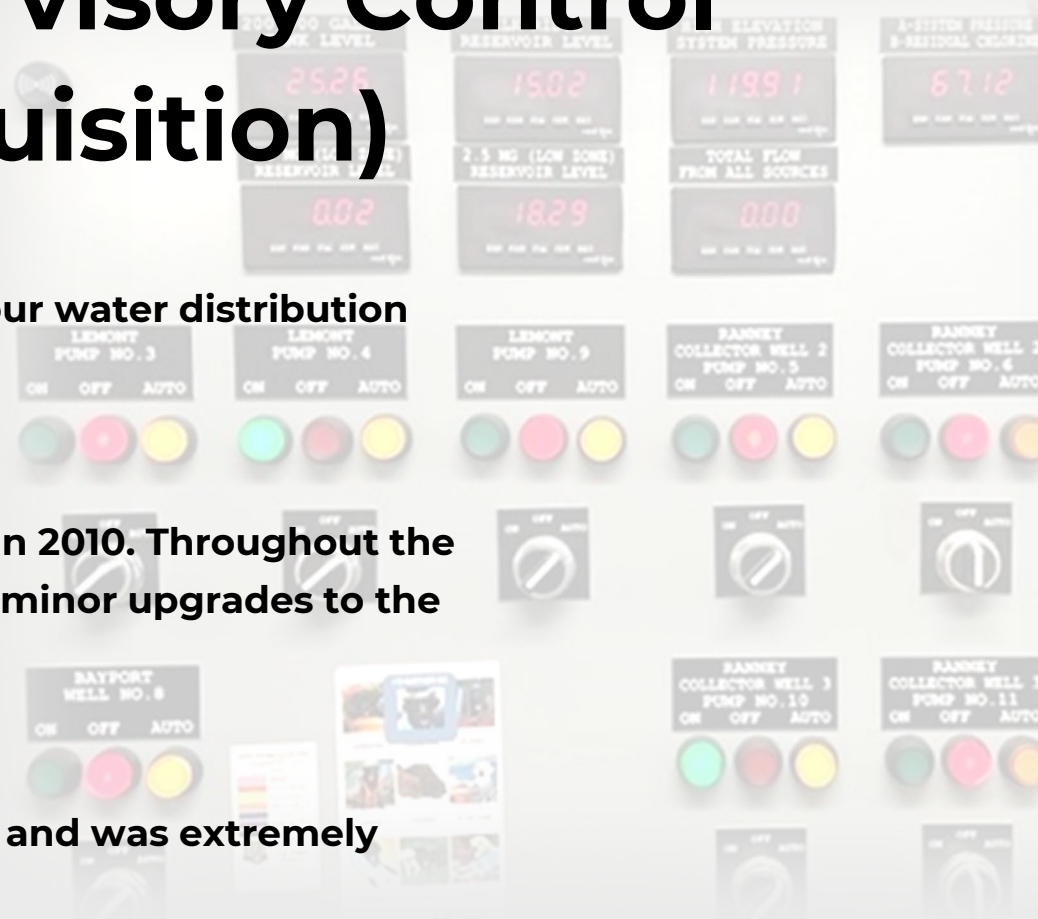
- ❖ The SCADA system provides Public Works Operation team the ability to monitor and control the Water Distribution System.
- ❖ Which consists of: PW Ops Shop, Main Reservoirs, High Elevation Reservoirs, Ranney Well #2, Ranney Well #3, Lemont Pump Station and Bayport Well.

SCADA (Supervisory Control and Data Acquisition)

- ❖ The system monitors the Main Reservoirs, High Elevation Reservoirs water levels, water system pressure, controls the main pumps at the Well sites and the pumps at the booster pump stations.
- ❖ If there is a problem in the water distribution system “HERMAN” as we call the SCADA system will call the “On-Call” person and they will respond to the alarm.
- ❖ Without this system we would not know if there was a problem with the pumps failing, the water in the reservoirs getting too low or water system pressures being too high or too low.

SCADA (Supervisory Control and Data Acquisition)

- ❖ The SCADA system is a critical part of our water distribution system.
- ❖ The SCADA system was installed back in 2010. Throughout the past 14 years there have been multiple minor upgrades to the different site locations.
- ❖ The system was becoming less reliable and was extremely outdated.



SCADA (Supervisory Control and Data Acquisition)

- ❖ **We have recently upgraded the SCADA computer system and software to more current versions so the system will be more reliable for many more years.**
- ❖ **With the help of Portland Engineering and our IT Department we were all able to make this project a success!**



04.

Facilities





Storage Shed Replacement

- ❖ Moved shed from 6th street park to Campbell park
- ❖ Resided and roofed
- ❖ New floor and ramp
- ❖ Savings of \$3,000

Flusher Truck Rebuild

- ❖ Rebuild of Roots Blower, water pump, full service, inspection and replace tanks
- ❖ Cost of rebuild \$42,000
- ❖ Cost of new flusher \$650,000
- ❖ Price saving of \$608,000
- ❖ Extend service life of vehicle 8-10 years
- ❖ Rebuild time 2-3 weeks





Senior Center Parking Lot Lighting

Safety issue at Senior Center
addressed with solar lighting to
reduce the cost of hiring an
electrician while providing needed
lighting for employees and guests



Veterans Memorial at McCormick Park Addition

Public Works as a team combined their skills to be a major factor in completing the beautiful addition to our memorial at McCormick Park





05.

Safety

Zoll AED Upgrade

Recently, 4 new AEDS at \$1534 each was purchased to replace our older devises that were 15 years old. One of the priorities in the Safety Committee was to get these machines replaced in 2024. There happened to be a promo that launched in early March of 2024, which saved \$400 per unit. The total cost savings was \$1600 to the city. Maintaining these units will also be considerably cheaper as compared to the models we replaced.



With this newer technology, the Zoll AED coaches you through the steps of CPR and has a higher success rate than other AEDs on the market. It will even tell you whether your compressions are correct.





Exit/Emergency Back Up Batteries

During an inspection, it was found that multiple sign units would not stay powered at the Library in test mode. These need to function in case of sudden power outages to stay in compliance. Total cost was \$140 for 12 batteries. If the city outsourced this maintenance, it would cost several hundred dollars to service this equipment.



CNG Tank Removal

- For several years, a CNG Station sat unused in the Public Works Operations yard which stored multiple tanks of Natural Gas.
- It was a safety issue brought forward to the safety committee that these tanks must be decommissioned and removed. Our city staff spearheaded the project and was completed October 2023.



CNG Tank Removal



Before



After



New Confined Space Rescue Equipment

This purchase replaced aged equipment and is an important safety device involved with our confined space entries throughout the City.

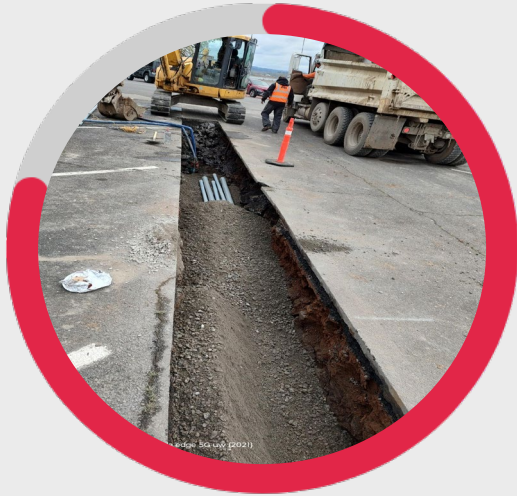
Other Improvements to Our Safety Culture

- ❖ **Safety Data Sheets Updating**
- ❖ **Updating of the Safety Manual**
- ❖ **Adoption of Heat and Smoke Rules**
- ❖ **Heat Illness Prevention Plan**
- ❖ **Aerial Lift Rescue Plan**
- ❖ **PM2.5 Smoke Monitoring Equipment**
- ❖ **Evacuation Maps at City Buildings**
- ❖ **Building Capacity Certifications**
- ❖ **Safety Nets at Wastewater Headworks**
- ❖ **Security Camera Installation at City Hall - Over \$5,000 was Grant funded because of Safety Committee Involvement.**



In The Works

Waterfront



Road & Utilities Extension

- Joint Utility Trenching**
- Electrical Services**
- Cowlitz Circle**
- Paving (Streets, Sidewalks)**
- Hardscape**



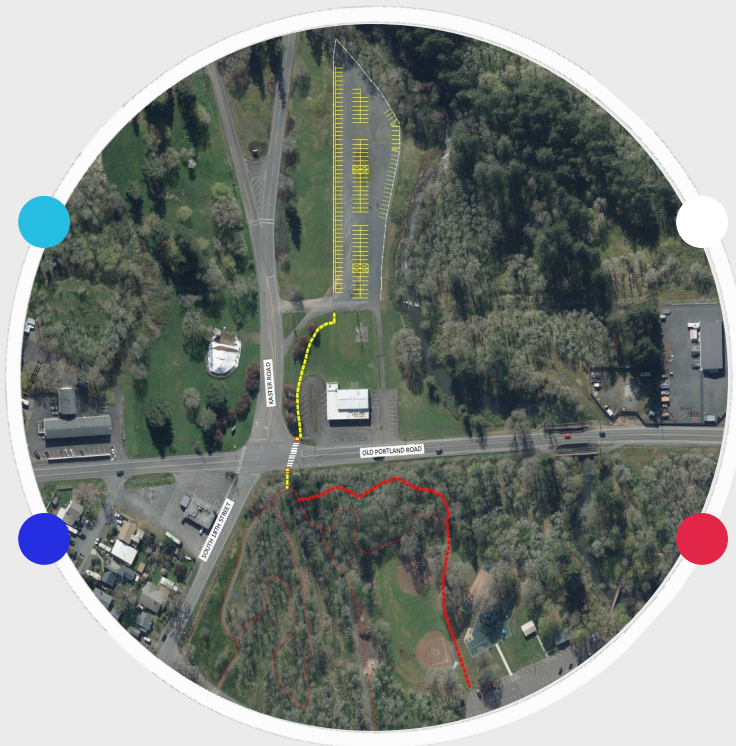
S 1st St/St. Helens St Undergrounding

- Joint Utility Trenching**
- Electrical Services**
- Vibration Monitoring**
- Paving (Streets, Sidewalks)**
- Hardscape**

McCormick Park Pedestrian Access Old Portland Rd – S 18th Street

Signal Changes

Signal timing to be adjusted
for pedestrians crossing OPR



Parking Improvements

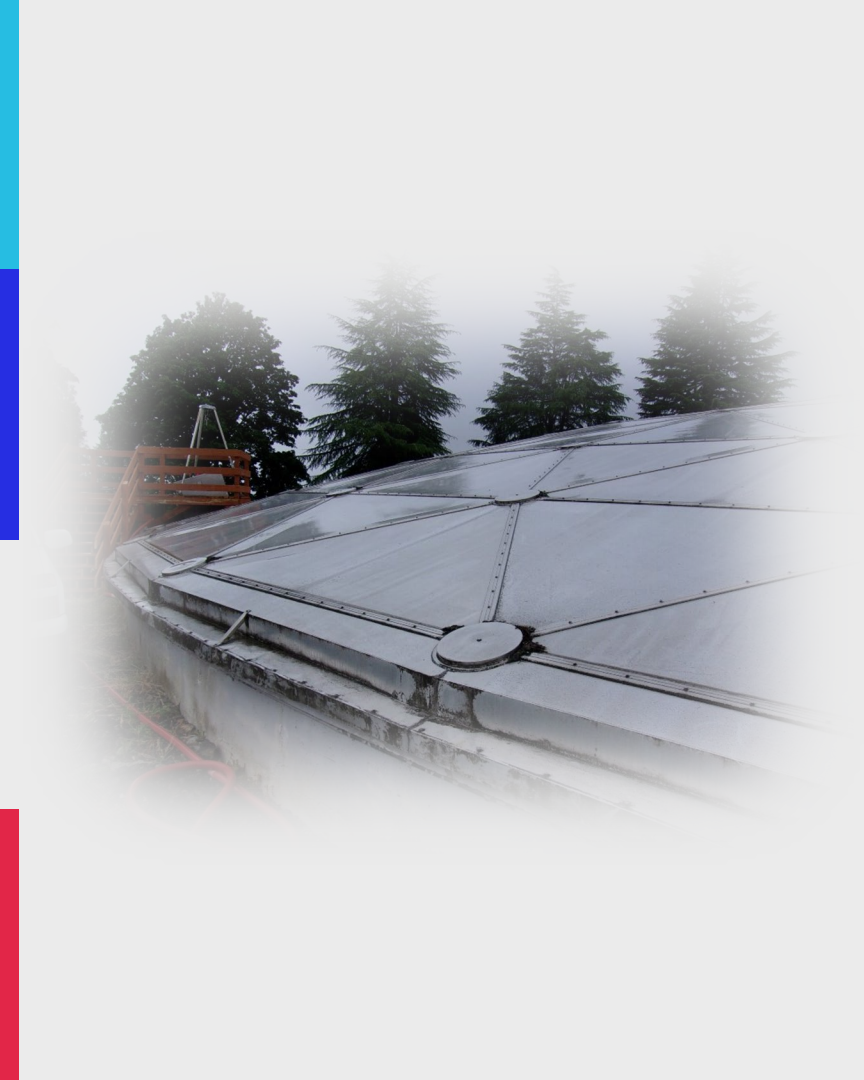
Leveled out parking area
with temporary striping

Crosswalk/Ramps

Stripped Crosswalk
with ramps

Completion by May 25th

Deadline to complete
improvements

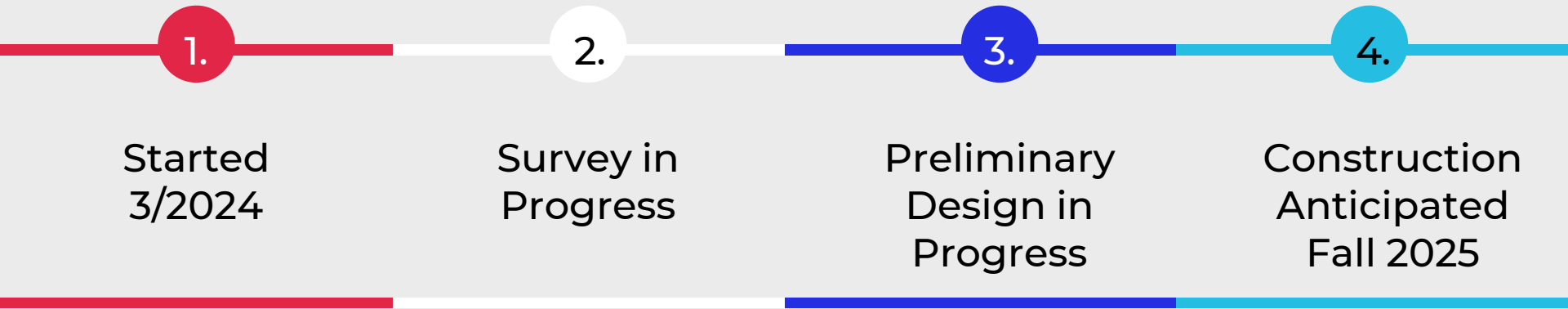


Reservoir

Project Update

- ❖ Inflation Effects on Project Cost
- ❖ Geological Concerns
- ❖ Funding
- ❖ Looking Ahead

Sanitary Sewer Capacity



- ❖ Flow Monitoring
- ❖ Environmental Permitting

- ❖ Geotechnical Investigations
- ❖ Utility Coordination



THANK YOU!