



CITY OF ASTORIA

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MEMORANDUM • PUBLIC WORKS DEPARTMENT

DATE: JANUARY 18, 2021
TO: MAYOR AND CITY COUNCIL
FROM: BRETT ESTES, CITY MANAGER
SUBJECT: PUBLIC WORKS STATUS UPDATE

COVID-19 EFFORTS

- Continuing COVID-19 testing at City Wastewater Treatment Plant (WWTP) for Oregon Health Authority Program. Oregon Health Authority has launched a statewide COVID-19 wastewater monitoring project to study the presence of the SARS-CoV-2 virus in more than 40 small- to medium-sized communities around the state. The project, which will include weekly wastewater testing over a 30-month period, will enable epidemiologists to better understand the circulation of COVID-19 in some of Oregon's communities. It will serve as an "early warning" system to tell if COVID-19 is spreading silently in communities.
- Reviewing the budget for essential vs. non-essential expenditures.
- Continued to work on public outreach regarding operation issues caused by the increased use of flushable wipes that plug our sanitary sewer pipes and pump stations.
- Continued to evaluate Personal Protective Equipment (PPE) needs and made adjustments to our practices to improve personal protection.

The following are brief summaries of the status of Public Works major projects and/or activities:

TRANSPORTATION SYSTEM

Tongue Point Road System

- Jordan Ramis finalized their report and final recommendations.
- City Attorney and City staff are working on appropriate mechanisms for establishing right-of-ways.
- Staff is working on finalizing a scope and fee for survey of Maritime Road and a portion of 54th St. to be used by the City Attorney for establishing right-of-ways.

Old Highway 30 Slide (Federal Government Property)

- A landslide has partially impacted Old Highway 30 near 5450 Old Highway 30.
- Public Works Staff have coordinated with Tongue Point Job Corp. staff to provide warning and road closure signage when appropriate.
- Staff is in weekly contact with a liaison to the Department of Labor regarding a resolution to the issue.

City and Hwy 30 Chairwall Issues

- *No changes since last update.*
- The City of Astoria has a downtown where the roadways are supported by a wall system commonly referred to as a Chairwall system built in 1919 and 1922.
- US Hwy 30 through town is supported by the wall system between 5th Street and 17th Street.
- There are two locations where the wall system supporting Highway 30 is failing. The first location is on Marine Drive between 9th and 10th Streets and the second location is between 16th and 17th Streets.
- Staff has communicated with ODOT regarding the importance of replacing the failing wall supporting the highway.

14th Street Park Pier Inspection

- DOWL (formerly OBEC Consultants) has completed the structural inspection of the pier and provided a report with recommendations. A number of recommendations have been completed by Parks staff. Staff is working on next steps with regard to the proposal provided by DOWL for design and construction of the repair work. It is likely that the funding set aside for the design work in FY20/21 will be needed to complete the Trestle Repair Project currently underway.

Waterfront Bridges Replacement Project

- Project includes replacement of the street end bridge structures located at 6th through 11th Streets
- Construction is substantially complete.
- Final punch list items are being addressed including installation of the historic street lights that are expected to arrive within the next 4 months.
- Project funding is being finalized through a refinance package that has been presented to Council over the past couple of months.

OR202 Sidewalk: Dresden – 4th Street

- *No changes since last update.*
- Phase 1 and 2 of the projects have been combined into one project that consists of installing new sidewalk from Dresden to the DMV and Astoria High School to 4th St.
- ODOT will design the project including all permitting and right-of-way acquisition.

- Surveying has been completed and the preliminary design phase is underway.
- Construction is anticipated to take place in summer 2022 or later.

Trolley Infrastructure Maintenance Planning

- The Riverfront Trolley Association (RTA) has worked very hard to repair a number of the track deficiencies identified by the Oregon Department of Transportation (ODOT) Rail Division in 2019. This has included replacement of numerous deteriorated railroad ties. The City has worked in partnership with the RTA to ensure that materials and equipment are available for the maintenance work. This has yielded very positive results. No issues identified will prohibit the Trolley from operation at this time.

Trestle Repair Project

- The City awarded the construction contract to Bergeman Construction.
- Construction is currently underway, with a majority of the as-bid work completed.
- Additional work associated with unforeseen conditions will be completed in January 2021.

2020 Paving Project

- The 2020 Paving Project was awarded to Granite Construction.
- The project included asphalt pavement overlay, ADA ramps, road base repair, striping, curb, sidewalk, grinding, and other items necessary to complete road rehabilitation.
- Construction is complete and final closeout paperwork is underway.

COMBINED SEWER OVERFLOW (CSO) SYSTEM

Next CSO Separation Project

- *No change since last update.*
- Staff is in the planning phase of the next CSO project.
- No construction will take place this year. Construction is not anticipated until 2022 or later.

WATER SYSTEM

Water System Master Plan

- City Council approved staff's request to award the contract to HDR Engineering.

- Staff has been working diligently preparing background data for the consultants use in preparing a water system model and projecting future water demands within the City and outlying water districts.
- The first phase of the project, which is the Water System Master Plan Update, has been extended for completion by January 2021. Significant work has been completed on this first phase and it is expected to be completed on time.
- Once complete, the report will be submitted to the State Drinking Water Program for review and presented to City Council.
- The second phase, which is the Drinking Water Risk and Resilience Assessment, will start in January 2021 and be completed within 6 months.
- The third phase, which is the Water Emergency Response Plan, will start in July 2021 and will be completed within six months.

Water System Clearwell Project

- *No changes since last update.*
- Staff and their engineering design consultant have completed a concept plan and cost estimate for a clear well tank located at the water headworks. This project will improve operations, provide additional storage and reduce waste of treated water. Funding priorities are being evaluated and the associated project timing is being assessed.

Bear Creek Dam Emergency Overflow

- It has been determined that in order to move ahead with sizing of an emergency spillway that a flood study may be required first. We have asked a consultant that specializes in such studies to prepare a fee estimate for consideration in next fiscal year's budget.
- Public Works staff will be looking into an option that includes utilizing enhanced downstream scour protection to accommodate dam overtopping in an emergency flood situation.
- The next step is to complete a Probable Maximum Flood (PMF) Study. This work will be completed by a consultant that specializes in this area and will be budgeted for next fiscal year.

Slow Sand Filter Project

- Engineering and Operations staff is engaged in ongoing efforts to optimize cleaning operations and appropriate methods of algae control in order to extend the life of the filter sand.
- The re-sanding project was awarded to Big River Construction in December 2017 and they have recently completed re-sanding the last cell. It will likely take several months to bring the recently completed cell back on line.

Skyline Place Waterline Improvement Project

- This project will replace two 2" water lines that serve the Skyline Place neighborhood. It will also reroute a number of water services that are currently inaccessible in that area.
- The project is nearing final design, but has recently been put on hold due to other water improvement priorities.

SANITATION

Landfill Post Closure Activities

- *No changes since last update.*
- Household Hazardous Waste Facility -staff will continue to work with County staff on DEQ gas monitoring requirements.
- Staff is continuing to work with the Oregon Department of Environmental Quality on post closure activities consisting of gas monitoring and groundwater monitoring. A final permit has been issued and staff is currently working on the final document requirements for the site. Once all operation manuals are complete, staff will continue with annual reporting as required for the term of the post closure period.
- During periodic utility inspections it was determined that a critical stormwater pipe through the site was showing signs of failure. Staff is working on a plan to replace the pipe and will monitor its condition in the meantime.

WATERSHED

2020 Carbon Credit Sale Project

- The 2020 (year of sale) project is complete.
- Net proceeds were approximately \$837,500, some of which will go towards stewardship projects to improve the watershed.
- The Astorian prepared an article summarizing the Worksession presentation given to City Council on December 17th.

Watershed Road System

- Staff and their engineering design consultant have completed a concept plan for the replacement of the Cedar Creek road crossing within the city watershed. The concept plan includes a revised roadway alignment and a new bridge crossing.
- Staff will be working on a project strategy for a future project. The existing crossing is vulnerable to washout due to a very old and failing drainage culvert.

Forest Resource Management Plan

- Staff is working with the City Forester on an updated Forest Resource Management Plan. Staff plans to discuss the new plan with City Council in the near future. The draft plan will be sent out to stakeholders for review first. The schedule for completion of the plan had been delayed due to focus on the Carbon Credit Sale and to incorporate some new information into the plan that will be generated during the carbon sale.

SANITARY SEWER

Industrial Pretreatment Program

- The City has identified industrial user loads that are causing issues at the wastewater treatment plant and in the sewer collection system.
- Engineering staff has been coordinating the development of a proposed Astoria Industrial Pretreatment Program to manage industrial loads. This effort includes leading Council Work Sessions, meetings with stakeholders, and researching approaches utilized by other jurisdictions.
- Council authorized a contract with Richwine Environmental, Inc. that includes development of Industrial Pretreatment Program permits, ordinance, and financial feasibility analysis.
- The City's first Industrial Discharge Permit was issued in November.
- Funding for the financial feasibility analysis is being pursued by staff.

Cedar Street Sanitary Sewer Replacement Project

- *No change since last update.*
- Engineering staff are preparing preliminary design and cost estimates to accommodate the replacement of approximately 550 feet of deteriorated concrete sanitary sewer pipe on Cedar Street.
- Staff are currently coordinating with franchise utilities for relocation of a number of conflicting utility poles.

Hamburg Ave. Sanitary Sewer Repair Project

- A 60-foot portion of sanitary sewer pipe on Hamburg Ave. was recently evaluated and found to be in very poor condition.
- This project has been successfully completed.

DEVELOPMENT REVIEW

Development Review Workload

- *No change since last update – same issues persist.*
- The Engineering Division is still experiencing a significant volume of development review related tasks including subdivision applications, commercial and residential building permit applications, and Public Works permits. We are working on ways to increase review efficiency and minimize impacts to Public Works priorities. However, the submittal volume has had a substantial impact on the number of capital improvement projects we have been able to complete this year.
- The Engineering Division has an on-call contract with HDR (engineering consulting firm) to assist with the development review workload.

PUBLIC WORKS OPERATIONS

The following items highlight some of operations recent work:

- Staff repaired pump starters at the Alder St. pump station to increase the number of power capacitors and prevent rag (i.e. fibrous materials, wipes and rags) build-up during startup.
- Staff removed a pump at Pump Station #6 to complete rag removal.
- Staff prepared Pump Station #3 for a rebuilt reduction gear and installed a portable gentry crane.
- Staff repaired multiple water leaks thought out the City, including one 6-inch water main leak on West Marine Drive and another 6-inch water main leak at 6th St. and Irving Ave.
- Staff installed 260-feet of 2-inch water main at Gara Pl. and South Denver Ave.
- Staff subcontracted with Big River Construction to install effluent meters on slow sand filter cells #1 and #3. Cell #3 is now full of sand and flushing.
- Staff held a traffic control and flagging class for the Public Works team.
- Public Works Operations crews worked over the New Year's Day weekend cleaning inlets and drains with 3.25-inches of rain in a 24-hour period.
- Staff completed the OSHA required training on how to protect themselves and others from the COVID-19 virus.
- Staff completed training on blood borne pathogens.

PUBLIC WORKS ADMINISTRATION

- **GIS Upgrades** – staff has continued to make progress on development of the public works infrastructure system. An example is the addition of all public right-

of-way trails into our system. We have also been working on our mobile application for both staff and public use.

- **Asset Management**

- Staff is approximately 80% complete with an inventory of our infrastructure assets. The next step will be placing value on all of the infrastructure assets.
- Staff has reviewed three different vendor demonstrations for work order/asset management software to implement in the coming months. The software will streamline operations management processes by improving the way Public Works manages, maintains and invests in our facilities. The software will also assist in implementation of preventative maintenance schedules, improvement of accessibility to data and insights in order to help make better decisions, information management and creating better communication overall. This purchase will be funded by the energy savings that was realized by participating in the Strategic Energy Management Program with Energy Trust.

ENERGY SAVINGS PROJECTS

The Public Works Staff have been working on multiple energy savings projects. Following are two current projects and a report on one past project.

- **Strategic Energy Management (SEM) for the Wastewater Treatment Plant (WWTP) and Pump/Lift Stations**

Operations, Engineering and Administrative staff have completed the first year engagement with Energy Trust to develop SEM strategies with an objective of reducing energy costs at select facilities such as our wastewater treatment plant and pump/lift stations. SEM focuses on no and low-cost operations and maintenance improvements that deliver energy savings.

Starting in October 2019, City Staff developed a SEM program that resulted in a total energy savings of 539,995 kWh.

The entire SEM Energy Team worked diligently to develop a strong and lasting program, including:

- Maintaining an active Energy Team of ten participants, consisting of: Jeff Harrington, Nathan Crater, Cindy Moore, Jim Hatcher, Chris Gramson, Bryce Majors, Steve Meadows, Nathan Barber, Sarah Hammond and Seyrra Croy.
- Participating in regular energy team meetings and check-in calls with the Energy Trust appointed SEM Coach.
- Conducting a treasure hunt and value graphing event that led to the identification of seventy-four energy saving opportunities.
- Completing an Energy Management Assessment that characterized the state of SEM practices and additional opportunities for future

implementation.

- Expanding communications of SEM beyond the energy team to key stakeholders via newsletters and Facebook posts.

These SEM practices resulted in a variety of energy saving projects, including:

- Blower Optimization significantly reduced the runtimes of nine blower/mixer units (total input power of 132.8 kW) from 8,139 hours/year to 4,529 hours/year.
- A series of projects to turn off or turn down four - ten kW heaters across all pump and lift stations.

Energy Savings for First Year SEM were calculated using bottom-up engineering calculations. The following table summarizes the energy savings and Energy Trust incentives for our First Year SEM engagement.

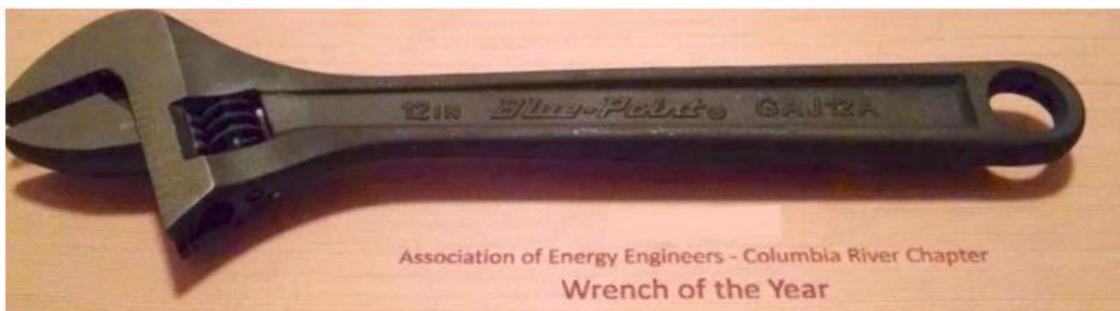
	Electricity
Baseline Period	10/09/2017 – 09/30/2019
Engagement Period	10/01/2019 – 11/30/2020
Reporting Period	10/01/2019 – 09/30/2020
Predicted Baseline Usage	1,544,516 kWh
Estimated Annual Savings	539,995 kWh
Percent Savings	34.96%
Estimated Annual Utility Cost Savings ⁽¹⁾	\$39,582 per year
Energy Trust Incentive ⁽²⁾	\$21,600
Energy Trust Milestones Achieved ⁽³⁾	\$3,000
Total Energy Trust Incentive	\$24,600

(1) Assumes energy cost of \$0.0733 per kWh

(2) Incentive rate is \$0.04 per kWh verified savings

(3) 3 out of 3 milestones were achieved at \$1,000 per milestone

Because of Chris Gramson’s and Bryce Majors’ exceptional efforts, they were acknowledged by the Association of Energy Engineers, Columbia River Chapter (AEE CRC) and were awarded the “Wrench of the Year” (pictured below).



Staff has completed fifty-four energy savings projects to date consisting of optimizing aerator operations at the WWTP, lighting upgrades, programming/adjusting temperature set points for thermostats and exhaust fans

and turning equipment off when not in use.

Staff are enrolled in an additional year of Continuous SEM where we plan to expand our SEM scope across Public Works to the drinking water side and reinvest incentives from the First Year SEM engagement into additional efficiency upgrades.

- **LED lighting at City Hall** – staff is working with the Energy Trust of Oregon and their contract electrician to develop a strategy for replacing all of the City Hall overhead lights with LED lighting. The project will involve both fixture and simple bulb replacement. The work was budgeted for the current fiscal year at \$20,000 and is currently on hold pending available revenue.

BY: JEFF HARRINGTON