

DEPARTMENT OF PUBLIC WORKS

2015 Annual Report

I. OVERVIEW

In 2015 the Public Works Department prepared 81 City Council agenda items and staff attended meetings related to the Palouse Basin Aquifer Committee (PBAC), and Palouse Regional Transportation Planning Organization (PRTPO), as well as continued to track the Total Maximum Daily Load (TMDL) development process for the South Fork of the Palouse River.

II. DIVISIONAL ACTIVITIES

A. Engineering Division

In 2015 engineering services were provided for the construction of the following major projects:

<u>Project:</u>	<u>Valuation:</u>
Reaney Park Pool Complex Improvements	\$ 728,760.18
Bishop Boulevard / Klemgard Avenue Traffic Signal.....	\$ 720,677.06
Terre View Drive Widening & Rehabilitation.....	\$ 544,794.50
Fire Station #2 Equipment Bay Expansion.....	\$ 455,738.90
Accelerated Streets Resurfacing 2015	\$ 405,634.69
Tank 2 (Charlie Brown) Painting.....	\$ 393,124.86
State Street Watermain Replacement.....	\$ 326,930.03
Stadium Way Bike Path & Landscape Improvements.....	\$ 102,112.12
Sidewalks 2015	\$ 58,483.33
Stormwater Improvements 2015.....	\$ 40,386.27
RO Pyle Building Demolition.....	\$ 33,953.77

Inspection of the construction of the public works improvements for the following developments:

Pullman High School remodel (ongoing)	Golden Hills Apartments West Maxwell Drive
Carson’s Cove (NE Stadium Way)	Mosher Drive
Center Street Adult Family Home	SEL Hangar & Terminal
The Flats Apartments (started)	Whispering Hills West 2.0 (subd)

Other significant activities include:

- Design of Accelerated Streets Resurfacing 2016
- Design of North Grand Avenue Path Infill
- Design of Orion Drive and Wheatland Drive Waterlines
- Design of Stormwater Low Impact Development Retrofit Project 2016
- Design of Terre View Bridge Deck Resurfacing
- Design of Fuel Island Relocation
- Design of WWTP Air Gap and Influent Pump Station Upgrades
- Design of N. Grand @ Ritchie Pedestrian Crossing

- Government Buildings ADA Accessibility Review
- Center Street Speed Reduction and Safety Study
- WWTP Facility Plan

B. Protective Inspections Division

Activity in the Protective Inspections division was mixed:

- Inspections were up in 2015 with 2,848 inspections made compared to 2,602 in 2014.
- Permit activity was up with 680 permits issued in 2015 for work valued at a total of \$45,948.581 and \$550,058.63 in fees collected compared to 602 permits issued for work valued at a total of \$98,487,402 and \$716,740.82 in fees collected in 2014.
- 16 housing complaints were received; 9 have been resolved, 4 in progress, 3 closed for non-responsive complainant

Major building activity included the following:

- Introduction of WSU Building Permits (plan review and inspections), including:
 - 2201 NE Grimes Way - Public Safety Building
 - 2015-2016 Annual Permit
- Pullman High School - continuing construction
- SEL Hangar and Terminal
- SEL 2270 NE Hopkins Court remodel
- Center Street Adult Family Home
- Carson's Cove (started) - 500 block of NE Stadium Way
- Whispering Hills Apartments West - 635 SW Golden Hills Drive
- The Flats Apartments - 1880 NE Terre View Drive
- Planned Parenthood fire repair
- Permits were issued for:
 - 50 new single family homes
 - 5 duplexes
 - 13 multi-unit apartment buildings, for 114 new units
 - 2 added units
 - 267 building remodels and additions
 - 190 for mechanical/plumbing work
 - 26 signs
 - 9 demolitions
 - 101 other

C. Stormwater Services Division

2015 included successful implementation of a comprehensive stormwater management program to facilitate compliance with the Phase II Municipal Stormwater Permit. Notable activities included:

- Continued management of and compliance with the city's NPDES Phase II Municipal Stormwater Permit.
- Continued coordination with secondary permittee, Washington State University.

- Secured a grant from the Washington State Department of Ecology totaling \$329,000 for construction of Low Impact Development (LID) practices on two city owned parking lots, at Neill Public Library and the South Street Lot.
- Continued participation in the Eastern Washington Stormwater Coordinators Group, including initial phases of the effectiveness studies (S8B1).
- Employed a part-time (0.5 FTE) Stormwater Aide to assist with asset inventory, volunteer coordination, pet waste management, storm drain marker installation and field maintenance activities.
- Sponsored 7 WSU student interns, including 4 pursuing their BS in Engineering, one BS in Geography, one BS in Environmental Science and one BS in Wildlife Ecology. The students primarily worked on updating our detention pond and outfall inventories (GIS), light maintenance and public involvement activities such as the Stream Clean-up, the Adopt-a-Stream and pet waste management programs.
- Effectively completed a federal Environmental Protection Agency (EPA) Region 10 targeted audit which resulted in a finding of “no areas of concern”. Program areas inspected by EPA included Construction, IDDE and Municipal Operations and Maintenance.
- Provided stormwater awareness training to City staff.
- Pursued education and outreach efforts via website, news media, radio PSAs and personal interaction with customers.
- Partnered with the Palouse-Clearwater Environmental Institute (PCEI), Pullman School District and private schools to integrate stormwater concepts into the 5th and 8th grade science curriculum, totaling 16 lessons delivered to 428 students
- Partnered with Pullman Parks & Recreation to provide stormwater education to the summer day-school program (15 students/3 hours).
- Direct mailed IDDE brochures to 57 local Pullman restaurants with an emphasis on dumpster management.
- Sponsored the 11th Annual Stream Clean-up event in April. Approximately 100 volunteers spent 300 hours cleaning Pullman streams by removing an estimated 8 cubic yards of trash and recyclables. Litter was removed from 4.4 miles of stream.
- Collaborated with stakeholders on proper operation and placement of fundraiser car washes.
- Successfully implemented the Pullman Adopt-A-Stream Program by adding three new segments. “Stream Stewards” were active on fourteen of the sixteen available segments. Stewards collectively participated in a total of 80 clean-up events throughout the year.
- Prepared for and/or attended 3 City Council meetings to address stormwater related issues.
- Completed inspection and GPS inventory of 263 stormwater outfalls.
- Responded to, investigated and resolved five stormwater/illicit discharge related complaints.
- Completed GPS inventory of detention pond assets within 44 public detention ponds (inlets, outlet structures, energy dissipaters, etc.).
- Continued implementation of a pet waste management program, including inspection and maintenance on a total of 85 pet waste stations in and along Pullman city parks and trails.
- Completed Phase 1 of the West Crestview/Dry Fork Creek Fecal Coliform Bacteria Investigation Study.

- IDDE Code Enforcement (PCC 10.31):
 - Park Street – Warning letters sent to two property owners.
- Reviewed 21 Site Plans and Stormwater Pollution Prevention Plans (SWPPPs) for large grading and new construction projects.
- Reviewed 55 Erosion and Sediment Control (ESC) plans for projects of Duplex size or smaller (mostly single family residential homes).
- Conducted 134 documented construction related erosion control inspections.
- Issued 83 Stormwater Permits for new and re-development projects.
- Construction Runoff Code Enforcement (PCC 10.32):
 - Sunnyside Heights Subdivisions 7 & 8 – Issued warning letter.
 - Paradise Hills Subdivision 7 – Issued warning letter.
 - Whispering Hills Subdivision 8 & 9 – Issued warning letter.
 - Barclay Estates Subdivision 2 – Issued warning letter.
- Reviewed 9 drainage reports and civil drawings of post-construction stormwater BMP’s included in site plans for newly proposed development.
- Continued monitoring of an Inter-Agency agreement with WSU for regulation of Construction and Post-Construction activities. WSU EHS Dept. submits an annual report to Stormwater Services documenting these activities.
- Began administration of a grant from the Washington Department of Ecology totaling \$329,000 for construction of stormwater retrofits and Low Impact Development (LID) practices on two city owned parking lots.
- Spent 1,632.75 hours sweeping city streets (as reported by the M&O Division).
- Spent 2,262.50 hours on maintenance of the city’s storm drain system (as reported by the M&O Division).
- CIP: As part of its capital improvement program, Stormwater Services purchased a Trimble Hand-held GPS data recorder for asset inspection and inventory activities.

D. Transit Division

Fixed-Route:

Total ridership on the Fixed-Route was 1,357,906. This is a decrease of 10,949, or 1%, from 2014.

Fixed-Route ridership for 2015 compared to 2014 is as follows:

	Jan – May	June – Aug	Sept – Dec	TOTAL
2014	648,600	108,816	632,345	1,389,761
2015	630,386	115,544	611,976	1,357,906

Dial-A-Ride:

Ridership for Dial-A-Ride service was 23,121. This is an increase of 3,755, or 19% from 2014.

Dial-A-Ride ridership for 2015 compared to 2014 is as follows:

	Jan - May	June – Aug	Sept – Dec	TOTAL
2014	7,398	4,578	7,390	19,366
2015	9,902	5,834	7,385	23,121

Transit – Operating Statistics:

Population	31,420
Fixed-Route	
Passenger Service Hours	28,578
Passenger Service Miles	352,402
Passenger Trips	1,357,906
Employees (FTEs)	26.6
Passenger Trips/Service Hour	47.5
Passenger Trips/Service Mile	3.85
Service Hours/Employee	1,072.7
Demand-Response (Dial-A-Ride)	
Passenger Service Hours	7,587
Passenger Service Miles	72,001
Passenger Trips	23,121
Employees (FTEs)	6.2
Passenger Trips/Service Hour	3
Passenger Trips/Service Mile	0.32
Service Hours/Employee	1,223
Fixed-Route	
Operating Cost	\$ 2,838,560
Operating Cost/Vehicle Service Hour	\$ 99.32
Operating Cost/Passenger Trip	\$ 2.09
Farebox Revenues	\$ 2,043,099
Farebox Recovery Ratio	71%
Demand-Response (Dial-A-Ride)	
Operating Cost	\$ 719,780
Operating Cost/Vehicle Service Hour	\$ 94.87
Operating Cost/Passenger Trip	\$ 31.11
Farebox Revenues	\$ 6,956
Farebox Recovery Ratio	0.9%

E. Maintenance & Operations Division

- 991 underground utility locate requests were completed, which consumed 1,285.5 labor hours.

Stormwater:

- Crews spent 1,632.75 hours sweeping city streets.
- Labor hours expended on storm drain maintenance: 2,262.5.

Streets:

- 1,269.5 labor hours were spent painting and/or maintaining the paint on street centerlines, fog lines, curbs, crosswalks and bike lines.
- Many small patches of paving work were done using 212 tons of asphalt.
- Crews spent 697.5 labor hours grading alleys and identifying and filling potholes in city streets.

- Snow and ice control operations involved 862.25 labor hours.
- Crews spent 731.75 hours inventorying street lights, maintaining traffic signals and providing traffic control.
- 58 sign work orders were completed for new installations, vandalism and/or damage repairs. Labor hours related to sign work totaled 634.

Water:

- M&O crews completed a total of 1,128 work orders for water related assets.
- The water asset related work order summary follows:
 - Backflow Assemblies # of work orders
 - Repair 10
 - Hydrant Meters
 - Tracking hydrant meter water use 53
 - Operations Facilities
 - Booster stations, wells, reservoirs miscellaneous and preventive maintenance 302
 - Water Meters
 - New installations 36
 - Age related meter & register replacements 274
 - Register replacements only 2
 - Replace radio read transmitters 13
 - Large meter tests 121
 - Miscellaneous activities 71
 - Water Service Lines
 - Repairs 2
 - Replacements 32
 - Stub ins 40
 - Removed 1
 - Fire Hydrants
 - Repairs 8
 - Replacement 2
 - Storz fitting installations 130
 - General maintenance 3
 - Water Mains
 - Repaired broken mains (details below) 12
 - General maintenance and/or replaced 1
 - Flush water mains 15

<u>MAIN BREAK VICINITY</u>	<u>PIPE SIZE & TYPE</u>	<u>DATE</u>
600 block NE Campus Street	2" PVC	03/02/15
1900 block NW Lamont Drive	6" cast iron	03/03/15
1200 block NE Hillside Court	6" cast iron	07/12/15
600 block SW Center Street	6" cast iron	07/22/15
End of NE Gaines Road	6" cast iron	08/22/15
1240 NE Cove Way	8" cast iron	09/11/15
520 NE Howard Street	8" cast iron	10/02/15
1040 SW Viento	6" cast iron	10/02/15
400 SW Autumn Street	10" cast iron	10/08/15
1200 SE Latah	8" cast iron	11/10/15

225 NW Harrison
1285 NW Davis Way

8" cast iron 11/19/15
8" PVC 12/10/15

- 282.5 hours were spent maintaining city backflow assemblies, testing city assemblies, and new installations.
- As part of the on-going backflow testing program, 977 backflow tests were performed on city, commercial, and private residential devices. City personnel performed 168 tests while outside contractors performed the other 809 tests.
- Crews spent just over 586.6 labor hours maintaining city water tanks, wells, reservoirs, booster stations, and their grounds.
- The number of routine water samples taken was 432. There were 26 new construction samples taken. There were 55 investigation samples taken.
- The existing 106.63 miles of water mains were increased by 0.75 miles to 107.38 miles.

Water Operations Statistics:

Water pumped.....	946,536,000 gallons
Water metered (sold).....	911,977,000 gallons
Water accounted for (not sold)	4,337,000 gallons
Total accounted for	916,314,000 gallons
Percentage of water accounted for	96.81%
Daily average	2.510 million gallons
Average daily usage per capita (based on 26,352 population) 95 gallons	
High day usage – July 9	5,259,000 gallons
Low day usage – November 29	770,000 gallons
Total number of active services	5,284 (+31)
Number of services by user code:	
01 Single-Family.....	3,675
02 Duplex.....	502
03 Multi-Family	432
04 Business/Commercial	382
05 Group	41
06 Schools.....	15
07 Irrigation	193
08 Mobile Homes.....	44
Total chlorine used.....	94,605 pounds (salt)
Chlorine cost	\$18,575
Total hydrofluosilicic acid used.....	23,100 pounds
Fluoride cost.....	\$20,257
Total chemical cost	\$38,832
	\$0.041/kgal
Electrical consumption cost	\$249,306
	\$0.263/kgal

Sewer System:

- Crews completed 706 sewer asset related work orders. Maintenance was performed on just over 128,498 lineal feet of sewer main lines. 109 field inspection tests were performed on sewer lift stations.
- Sewer dye tests were performed on 80 new or altered connections to sewer main lines.

- The existing 94.40 miles of sewer main lines was increased by 0.64 miles to 95.04 miles.

Emergency Call outs:

- Ten M&O employees participated in the Weekend/Holiday On-Call Program for a total of 3,701 on-call hours.
- Sixty-nine of the 283 total call outs were handled by on-call personnel. 128 call outs were not handled by on-call personnel as the call outs occurred when no one was scheduled to be on call; that is Monday thru Thursday between 4:00 pm and 7:30 am. Twelve call outs were a result of on-call personnel calling out other maintenance personnel for additional assistance. The other seventy-four call outs were during on-call times, but were handled by personnel not on call.
- On-call maintenance personnel responded to twenty-one of thirty-nine street related emergency call outs which included traffic signal issues, downed trees, snow and ice problems or signage issues. One call out resulted from on call personnel calling for additional assistance. Twelve call outs were handled during on-call times, but were handled by personnel not on call. The other five call outs occurred during the work week when no one is scheduled to be on call.
- On-call maintenance personnel responded to twelve of the thirty-one water-related emergency call outs which included problems such as water main breaks, service line leaks, and water meter related issues. Eleven call outs occurred during the work week when no one is scheduled to be on call. Eight call outs resulted from on call personnel calling for additional assistance.
- On-call maintenance personnel responded to three of the seven sanitary sewer-related emergency call outs. Two call outs occurred during the work week when no one is scheduled to be on call. One call out resulted from on-call personnel calling for additional assistance. One call-out was handled during an on-call time, but was handled by personnel not on call.
- There were three stormwater related call outs; one was handled by on call personnel and one occurred during the work week when no one is scheduled to be on call. The other call resulted from on-call personnel calling for additional assistance.
- The auto-dialer telemetry system requires response from specifically trained personnel. The system called out 203 times outside of normal working hours. On call personnel handled thirty-two of those calls; 109 calls occurred when no one was on call, sixty-one were during on-call times, but were handled by personnel not on call. There was one call resulting from on-call personnel calling for additional assistance.

Equipment Rental:

- Performed preventive maintenance (service, inspections and repairs) on:
 - 26 cars
 - 15 police cars
 - 11 other cars
 - 32 pickup trucks (up to one ton)
 - 17 trucks (one ton or greater)
 - 1 semi-truck & trailer
 - 3 vac trucks and trailers
 - 13 vans
 - 23 transit buses
 - 5 fire trucks
 - 6 ambulances
 - 2 street sweepers

- 22 attachments
 - 6 pieces of heavy equipment
 - 19 pieces of commercial equipment
 - 1 paint machine
 - 13 trailers
 - 1 rescue truck
- Processed 2,939 equipment work orders for vehicle service and repairs.
 - The following vehicles were compared to bid specifications and prepared for service; including installation of safety equipment, emblems, and radio equipment:
 - 15-028 Ford ½ ton 4x4 Pickup – M&O
 - 15-029 Ford ½ ton 4x4 Pickup – M&O
 - 15-216 Honda ATV - Parks
 - 15-197 Kubota Tractor - Parks
 - 15-024 Police Sedan Interceptor - Police
 - 16-018 Ford Utility Police Interceptor - Police
 - 15-084 * Chevrolet 4x4 Crew Cab Pickup - Fire
 - 16-460 * Charmac 20 ft. Trailer - Fire

* These assets were purchased in 2015 but will not be put into service until 2016.

Wastewater Treatment Plant

Wastewater Statistics:

Total flow treated (effluent).....	850.8 million gallons
Maximum daily flow – Feb. 10.....	4.9 million gallons
Minimum daily flow – Nov. 28	1.3 million gallons
Maximum monthly flow – February.....	82.5 million gallons
Minimum monthly flow – July	54.9 million gallons
Average daily flow.....	2.3 million gallons
Average summer flow (May-August).....	1.97 mgd
Average winter flow (September-April).....	2.51 mgd
Design flow	4.3 mgd
Hydraulic capacity	13.0 mgd
Plant capacity	8.6 mgd/winter peak

- Removed 98.1% of the total suspended solids and 97.2% of the organic contaminants before discharge to the South Fork Palouse River.
- The amount of Class B bio-solids produced and land applied on local farm ground was 398.13 dry tons.
- Four (4) groups have participated in plant tours.

Major Projects Completed:

- Drained and cleaned four aeration basins, one secondary clarifier, and one primary clarifier.
- Performed the air emissions test for boiler #1.
- Waste Gas Burner reinforced to remedy stack structural concerns.

- Cleaned duct work and replaced filters for the Administration Building HVAC.
- Sampled and analyzed PCBs from four (4) manholes, the plant influent and effluent.

Major Operating Expenses:

▪ Electricity and natural gas: (up \$18,869 from \$277,955 in 2014)	\$259,086
▪ Ten tons of chlorine used in disinfection process:	\$8,100
▪ Five tons of sulfur dioxide used in the disinfection process:	\$5,631
▪ 189 bags (55#/bag) of polymer used in solids processing:	\$26,891

Discharge Permit Violations:

- January
 - DCBM exceeded the monthly average concentration.
- February
 - DCBM exceeded the monthly average concentration.
- March
 - DCBM exceeded the monthly average concentration.
- June
 - DCBM exceeded the monthly average concentration.
- July
 - DCBM exceeded the daily maximum concentration twice.
 - DCBM exceeded the monthly average concentration.
- October
 - Dieldrin exceeded the daily maximum concentration.
 - PCB exceeded the daily maximum concentration.
- November
 - DCBM exceeded the daily maximum concentration.
 - DCBM exceeded the monthly average concentration.
- December
 - DCBM exceeded the daily maximum concentration twice.
 - DCBM exceeded the monthly average concentration.

F. Government Buildings

Significant activities performed by Government Buildings in addition to ongoing custodial and routine maintenance include:

- Library – closed week cleaning/maintenance
- Aquatic Center – closed week cleaning/maintenance
- Aquatic Center – rebuild of intake air fan
- Police Department – repainting, stairwell railing
- Fire Station #1 – replace heat unit
- Water Control Building – remodeled and painted (new carpet, coated roof, partitions), installation of new entry stairs.