CITY COUNCIL WORK SESSION
MAY 18, 2015, 6:00 PM
NEWBERG PUBLIC SAFETY BUILDING (401 EAST THIRD STREET)

WORK SESSIONS ARE INTENDED FOR DISCUSSION. NO ACTION WILL BE TAKEN ON THE AGENDA ITEMS AND NO DECISIONS WILL BE MADE. NO ORAL OR WRITTEN TESTIMONY WILL BE HEARD OR RECEIVED FROM THE PUBLIC.

I. CALL MEETING TO ORDER

II. ROLL CALL

III. REVIEW OF COUNCIL AGENDA AND MEETING

IV. COUNCIL ITEMS

V. PRESENTATIONS

VI. ADJOURNMENT

ACCOMMODATION OF PHYSICAL IMPAIRMENTS:
In order to accommodate persons with physical impairments, please notify the City Recorder's Office of any special physical accommodations you may need as far in advance of the meeting as possible and no later than two business days prior to the meeting. To request these arrangements, please contact the city recorder at (503) 537-1283. For TTY service please dial 711.

MEMORANDUM

ENGINEERING SERVICES DEPARTMENT
P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132 • Tel 503.537.1240

TO: Newberg City Council

CC: Peter Olsen, PE, & Emily Flock, Keller Associates, Inc.
Kaaren Hofmann, PE, City Engineer & Jay Harris, PE, Public Works Director

FROM: Paul Chiu, PE, Senior Engineer/Project Manager

SUBJECT: **Work Session Presentation of the 2015 Inflow and Infiltration Study**

DATE: May 18, 2015

Inflow and infiltration (I&I) is a major issue for the city's wastewater collection system. Inflow is surface water that enters the wastewater system through inappropriate connections such as roof drains, sump pumps, yard drains, cross connections between storm and wastewater pipelines, or manhole covers. Infiltration is groundwater that enters the wastewater system through defective pipe joints, broken pipes, manhole walls or root intrusions.

I&I reduction over time will reduce the wastewater influent volume for treatment at the city's wastewater treatment plant, and will produce an overall long term maintenance, operations and energy cost savings for the city.

In November, 2013, the city contracted with Keller Associates, Inc. to perform an inflow and infiltration study to prioritize the wastewater collection system rehabilitation and replacement work. Their work focused on the Dayton and Wynooski sub-basins that are known to have the highest I&I issues. They performed video inspection, smoke testing, night time visual monitoring, continuous flow monitoring, and wastewater pump run analysis to determine the highest priorities for I&I reduction.

At the Council work session, Peter Olsen with Keller Associates has a powerpoint presentation summarizing the findings of their I&I report. Please feel free to ask questions during and after the powerpoint presentation. Thank you.

City of Newberg Infiltration and Inflow Study

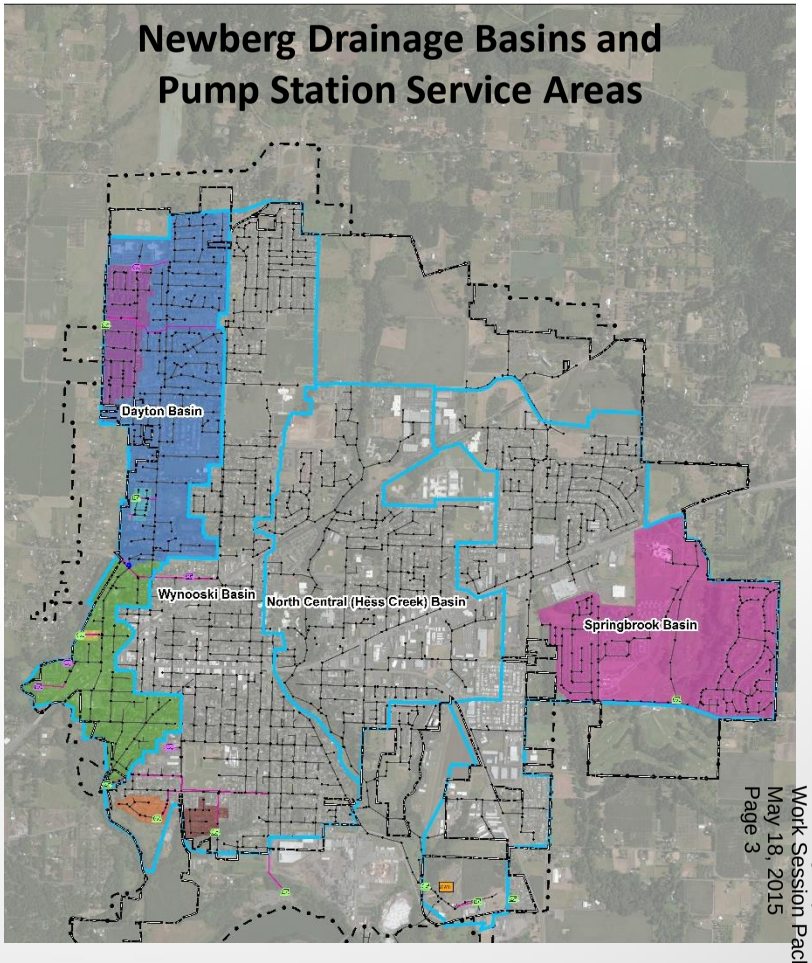
May 2015

KELLER associates

City of Newberg OREGON

Background & Purpose

- Infiltration - groundwater that enters the wastewater collection system through leaky pipes and manholes
- Inflow - storm water that enters the collection system through direct connections
- Peak Day Factor for pump stations ranged from 3.0 to 17.2
- Evaluated selected sections of Dayton and Wynooski Basins
- Prioritize collection system rehabilitation
  - Reduce peak flows to the wastewater treatment plant (WWTP)
  - Potentially delay capacity-related capital improvements

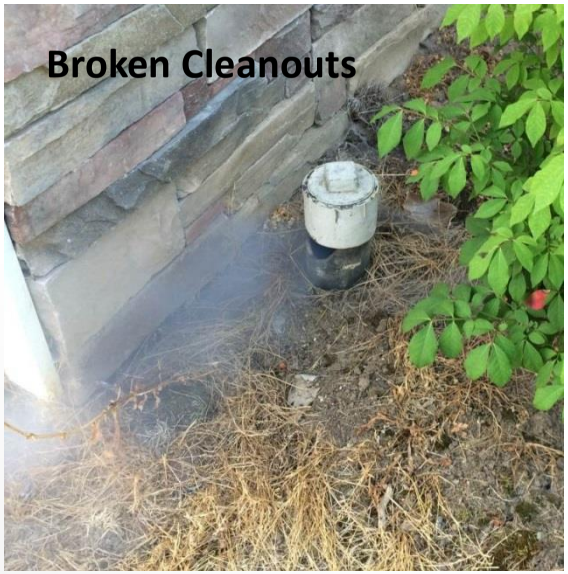


Evaluation Process

- Methods used to identify and track I/I
  - Pump run time analysis
  - Continuous flow monitoring
  - Video inspection
  - Smoke testing
  - Night-time visual monitoring

Recommendations

- Remove Cross Connections



Recommendations

- Priority Project Sheet example

Rehabilitation/Replacement Priority: 1

CIP Year: 1

Total Length (ft): 1129

Preliminary Opinion of Probable Cost: $ 248,300

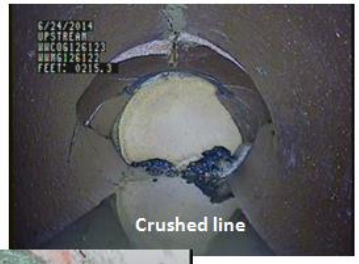
Pipe Segment ID	Diameter (in)	Material	Install Date	Segment Length (ft)
wwgm428	8	CLAY	1922	198
wwgm1360	8	CLAY	1922	149
wwgm1359	8	CLAY	1922	137
wwgm1361	8	CLAY	1922	645

Project Location:

S Meridian from E 4th St north to Alley

PACP Findings

Inspected by Pacific Int-R-Tek in 2014
- Line is crushed
- Broken pipe
- Multiple small holes; one with soil visible
- Grade 4 fractures
- Broken tap with offset joint
- Cracked taps
- Leaking around taps
- Scattered roots in joints and laterals

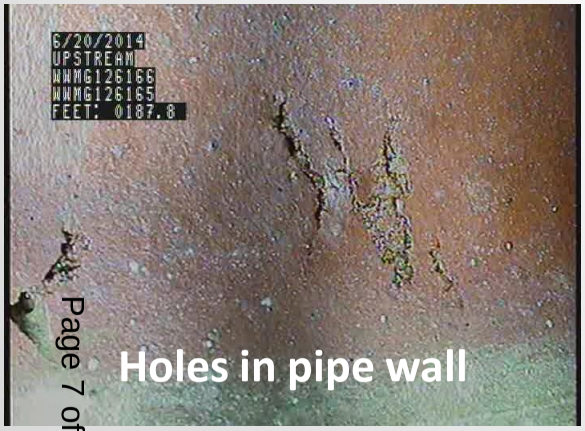


Night-time I/I Flow (Oct 2014) and Smoke Testing (Aug 2014)
- All segments appeared to have high night-time flows; one segment appeared to have excessive night-time flow
- Broken laterals (2), on segment between E 4th St and E 2nd St, were observed as part of smoke testing effort
- Sink hole, near E 4th St and S Meridian St, was observed to be smoking during smoke testing; corresponds to break in CCTV
- Storm water catch basins at all three intersections on S Meridian St were observed to be connected to the sewer during smoke testing (additional $59,000 to remove cross connections; Table H.1)

Comments
- Three of the four segments are in commercially zoned area
- Lateral rehabilitation recommended; broken, cracked, offset, or leaking taps throughout lines

Recommendations

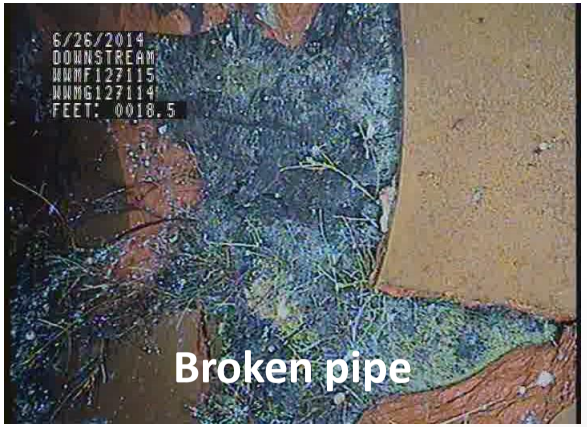
- Spot Repairs



Highest Grade	Pipe Segment ID	Material	Diameter (in)
5 Structural	wwgm247	CONC	8
5 Structural	wwgm1352	CONC	15
5 Structural	wwgm1649	CONC	12
5 Structural	wwgm319	TRAN	6
5 Structural	wwgm1423	TRAN	8
5 Structural	wwgm1581	CLAY	6
5 Structural	wwgm659	TRAN	8
5 Structural	wwgm1561	CLAY	6
5 Structural*	wwgm116	CONC	6
5 O&M**	wwgm1836	CLAY	8
5 O&M	wwgm1898	CLAY	8
4 Structural	wwgm1354	CLAY	8
4 Structural	wwgm1680	CLAY	8
4 Structural	wwgm1628	CLAY	8
4 Structural	wwgm1626	CLAY	8
4 Structural*	wwgm621	CONC	8
4 O&M	wwgm1631	CLAY	8
4 O&M	wwgm1331	CONC	15
4 O&M	wwgm1372	CLAY	10
4 O&M	wwgm1681	CLAY	8
4 O&M	wwgm1582	CLAY	8
4 O&M	wwgm662	TRAN	8
4 O&M	wwgm1883	CLAY	6
4 O&M	wwgm1419	CONC	15
4 O&M	wwgm1956	CLAY	8

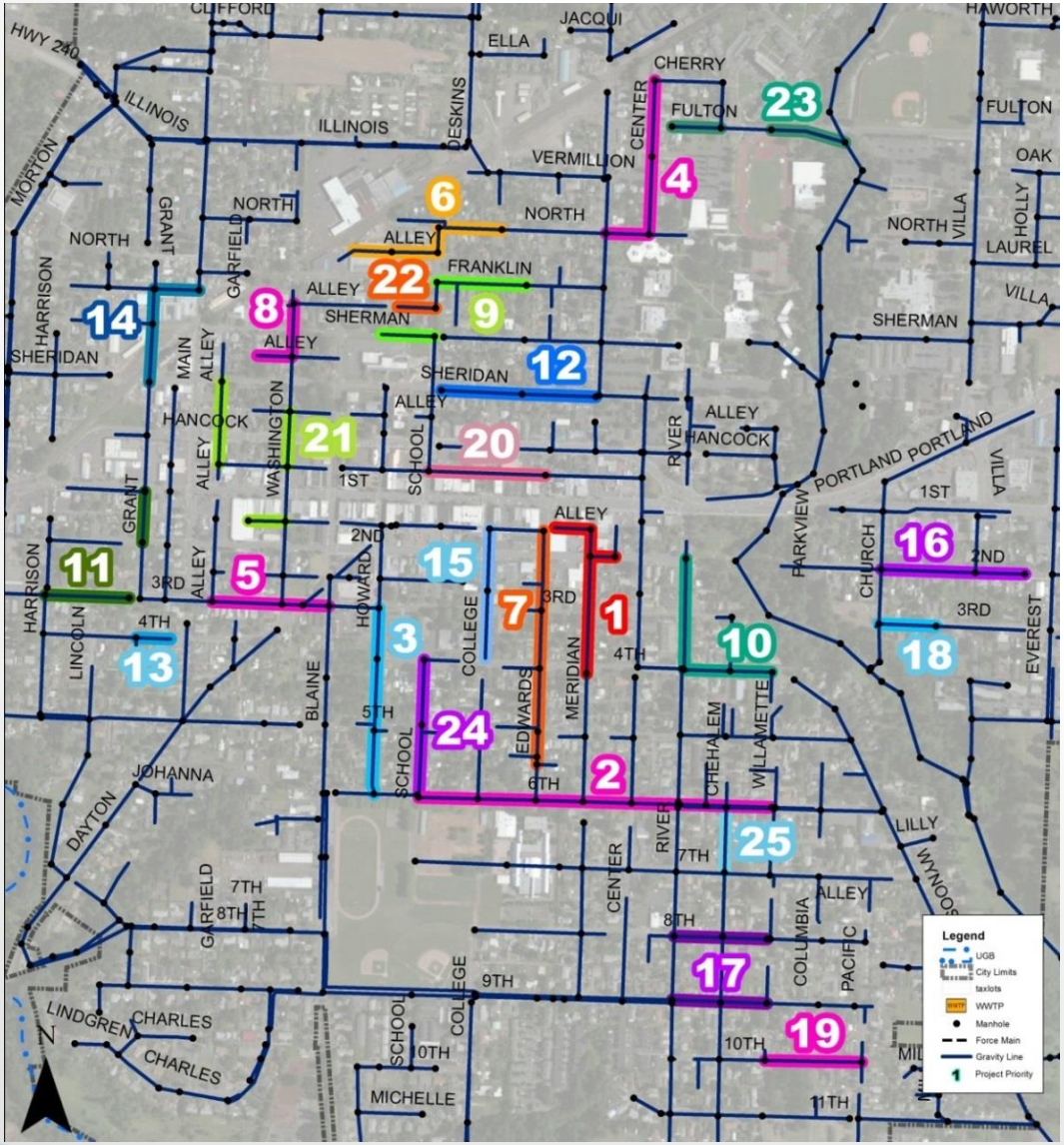
*Pipeline video inspected in October 2010; should be inspected again to determine if full pipe segment needs to be replaced

**Pipeline has natural gas line protruding through wall; needs attention



Recommendations

- Priority Projects



City of Newberg OREGON

KELLER associates

Questions?

MEMORANDUM

ENGINEERING SERVICES DEPARTMENT

TO: Newberg City Council

FROM: Jason Wuertz, PE, Engineering Services Department

C: Kaaren Hofmann, PE, City Engineer; Jay Harris, PE, Public Works Director; Jacque Betz, City Manager

SUBJECT: Waste Water Treatment Plant Repair, Renovation, and Expansion Project Update

DATE: 5/18/14

At the May 18th, 2015 City Council meeting, a project update will be provided to the City Council at the work session. The presentation will update the Council on the construction progress, the project budget, and the current schedule.

The project has continued to progress very well and is near completion. Significant savings have been seen throughout the project, which has allowed the City to accomplish more than originally anticipated. The project is on track to be completed ahead of schedule and under budget.

More information will be provided in the Power Point presentation during the meeting.

Sincerely,

Jason Wuertz
Civil Engineer
Engineering Services Department