2020 Decennial Flow Monitoring

Presented to MWPAAC

Engineering and Planning Subcommittee

November 2, 2017

King County

Department of Natural Resources and Parks
Wastewater Treatment Division

Presentation Overview

- Project Background
- Project Objective
- Previous Monitoring Approaches
- 2020 DFM Monitoring Approach
- Project Schedule

Project Background

The Regional Wastewater Services Plan (RWSP) policies call for periodically evaluating assumptions in the planning of conveyance facilities and conducting decennial flow monitoring (DFM) to correspond with the census.

Planning Assumptions

Assumption	Current	
Extent of Service Area	Sewerable areas within UGA	
Design Flow	20-year peak flow	
Future Population	PSRC Forecast	
Planning Horizon	50 years	
Water Use (gpcd or gped)	Seattle Residential: 46 Commercial: 23	Other Residential: 54 Industrial: 45
Water Conservation	10% reduction between 2010 and 2030; no additional reduction after 2030	
Sewered Area Growth Rate	Linear increase in sewered area until service area is fully sewered in 2060.	
AWW I/I Degradation *	No AWW I/I degradation.	
Peak I/I Degradation *	Increase of 7% per decade	
New System I/I * (Separated Conveyance)	Initial rate of 2000 gpad with degradation applied starting one decade after construction.	

DFM History

Periodic evaluation of assumptions uses census data as well as flow monitoring and modeling information to identify future capacity needs in the region.

2020 DFM Project Objective

The 2020 DFM Project will collect accurate flow data over two wet seasons coincident with the 2020 census, for use in updating:

- Prioritization/timing of projects for implementation
- Sizing of new conveyance facilities

Monitoring Approach

- 2000 – 2002 I/I Project deployed meters at the Mini Basin level

- 2010 DFM deployed meters at the Modeling Basin level

- 2020 DFM - TBD
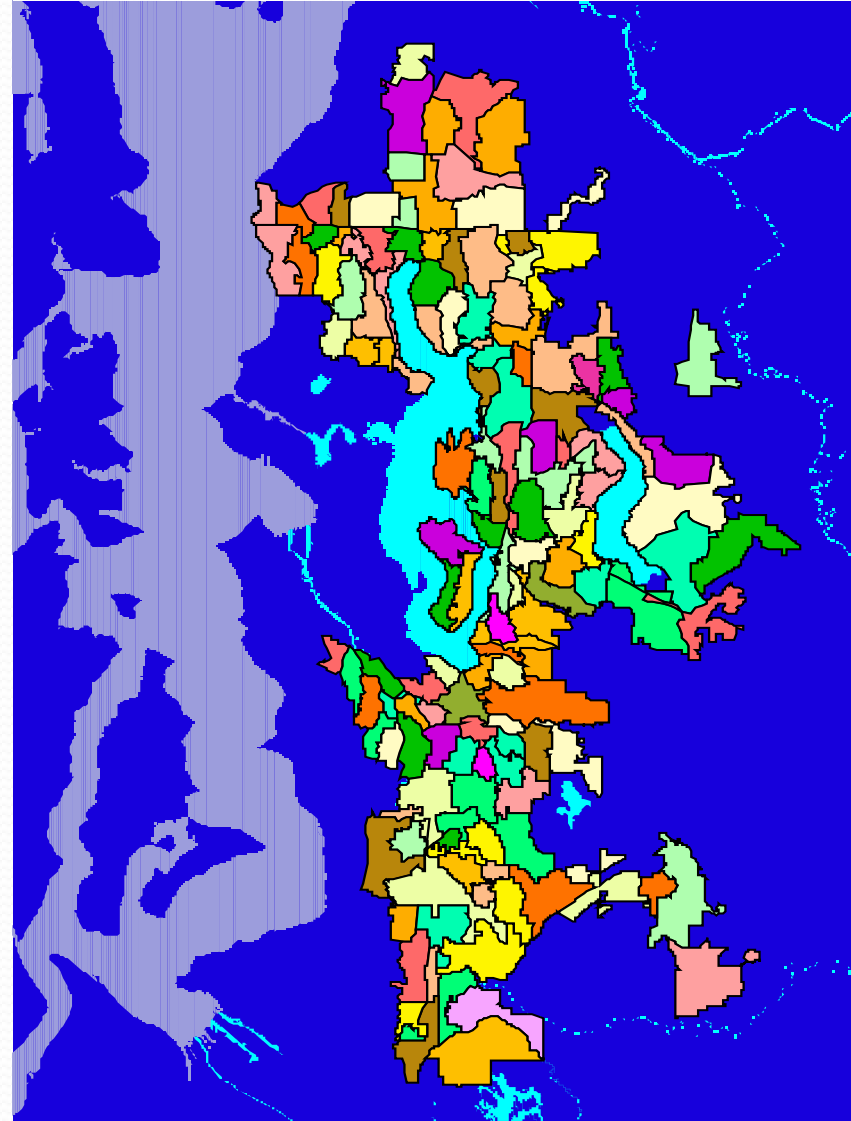
Thoughts on Approach

- Maintain existing sewer model basins and update for growth and changes in local systems
- Install meters to monitor:
  - areas primarily new construction/development
  - high priority CSI needs
  - project areas in CIP plan
- Leverage existing sewer model to assess meter locations
- Examine current meter technologies

Typical Installations

09/19/2017

Typical Installations

Typical Installations

Schedule Estimate

- Planning Phase: September 2017 – May 2018
  - Develop project plan, site selection and investigation
- Development Phase: June 2018 – May 2019
  - Procurement of monitoring equipment, project staffing and training
- Implementation Phase: June 2019 – May 2021
  - Installation and maintenance of flow meters, data review and reporting
- Closeout Phase: June 2021 – June 2022
  - Documentation, records and archiving, equipment reassignment, disposition, and storage

Local Agency Input

- Areas of predominantly new construction
- Pump stations with magnetic flow meter data
- Areas with portable flow monitoring planned for 2019-2021
- GIS information

Questions?

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