Providing A Mile By Giving An Inch:
Sharing Data Required By The Permit
Agenda

- Introduction
- Permit Requirements
  - Monitoring Site Selection
  - Station Descriptions
  - Monitoring Equipment
- Data Request
  - Initial Requests
  - Corrected Data
  - Real-Time
  - SHEF
- Benefits From Sharing
  - Added QC
  - Recognition

3 Takeaways

Monitoring equipment can be used for various purposes

Monitoring data is used by various State and Federal Agencies

Everyone benefits from water monitoring data
Columbia Permit Requirements

- Permit SCS790001
- Monitor for pollutants of concern in impaired / TMDL watersheds
  - Outfall pipes, or
  - Ambient conditions, or
  - BMPs
- Gills Creek Total Maximum Daily Loads (TMDL) for fecal coliform and dissolved oxygen -2010

<table>
<thead>
<tr>
<th>Phase (Year)</th>
<th>City Permit</th>
<th>Contained Waterbodies</th>
<th>Basins</th>
<th>County</th>
<th>Station</th>
<th>Description</th>
<th>Use Case</th>
<th>Status</th>
<th>Name of TMDL</th>
<th>Approval Date</th>
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<td>Gills Creek, Penn Branch, Wildcat Creek, Kilbourne Creek</td>
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<td>RICHLAND</td>
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Site Selection
Data Being Collected

- Nine (9) Sites Monitoring: DO, pH, Temp, Sp. Cond, Turbidity
- Six (6) Sites monitoring with SonTek IQs
- The City first installed monitoring stations in 2013
- In 2017-2018, the City collected approximately 1.4 million data points from its continuous water quality monitoring program. This total does not include rainfall, stream stage, stream flow, and grab sample data
- **Need for data management!!!**
Monitoring Station Equipment
Monitoring Station Equipment
Data Requests

Initial Data Requests:

– Special Interest groups
– University Professors were requesting the City to provide additional information and out of scope items through an existing contract

1. The City provided monthly periodic reports
   – These summarized corrected data
   – Included rainfall and water quality data

2. Corrected Data

3. Access to the near-real time website – limited viewing
Restricted Access to Near Real-Time Data

• Allows for selected data to be displayed and viewed by the user
• The general public may be interested in the total rainfall in a 24 hour period, but the City is interested in the storm total and the maximum intensity
Monitoring Data

Permit Compliance
Watershed Studies and Planning
Model Validation
Flood Information

How Is The Data Being Used?

Stream Restoration/Natural Channel Design
Statistical Analysis
Environmental, Economic, and Project Planning
Social Choices
Lessons Learned

- SHEF coding to make data useful and standardized for multiple organizations
- V 1.4 of SDI-12 sensor specification will include SHEF code information for each value returned by the sensor
Benefits from Sharing

- Improves public recognition and public perspective of the stormwater/engineering department
- Help provide additional, faster data to the NWS
- Added quality control of the data
  - Multiple reviewers
- Aiding in undergraduate and graduate research
- Reliable source
  - The more people use the data, the easier the cost is justified to council members and others
Questions?

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