

Infiltration/Inflow (I/I) Reduction Projects

King County, Washington



MWPAAC Meeting
September 24, 2008

Meeting Purpose

- Inform MWPAAC of Current Status of I/I Predesign Efforts
- Present Recommendations for Final Design Implementation
- Respond to Questions

Project Timeline

Regional Infiltration/Inflow Program Milestones

2007–2008

Pre-design feasibility analysis and sewer system evaluation surveys (SSES), select 2-3 initial I/I reduction projects.

2009

Final Design of initial I/I reduction projects. Obtain right-of-entry agreements from property owners.

2010–2012

Construction of initial I/I reduction projects.

2013

Review of project results to determine future I/I reduction projects. King County Executive reviews and submits recommendations to County Council.

Implement regional program

Purpose of Initial I/I Projects

- To Demonstrate & Test the Cost-Effectiveness of I/I Removal on Large Scale
- To Test Planning Assumptions for Use in Future I/I Reduction Planning
- To Learn More from Working on Private Property
- To Provide Models for Successful Future Projects
- To Test Standards, Policies & Procedures

Benefit/Cost Criteria To Evaluate Cost Effectiveness

Benefits

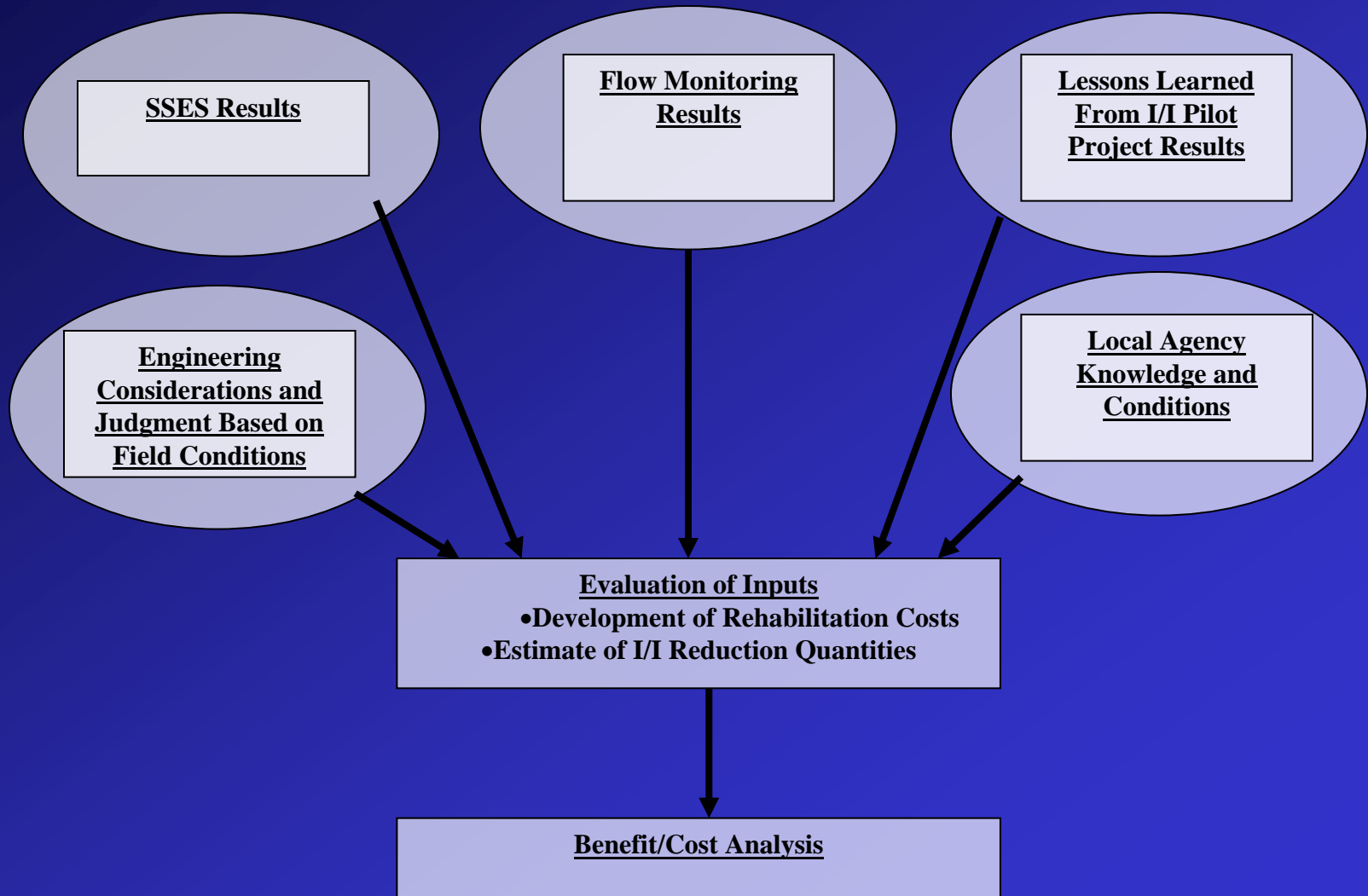
- Reduced, Delayed, or Eliminated Capital Cost Savings for Regional Conveyance and Treatment Systems

- Same criteria as originally developed for Control Program

Costs

- I/I project costs
 - Project Management
 - Engineering & Design
 - Construction

Factors Considered in I/I Project Alternatives Development



Renton Project Area

- Suspicion of “Smoking Gun” Problem in Basin
- Deficiencies Field Identified Following December 2007 Storm
- Recommended Approach for Renton Basin
 - Implement Immediate Repairs to Correct Identified Deficiencies
 - Grout and Line 7 Manholes
 - Raise 6 Manholes
 - Line Approximately 250 Lineal Feet of Sewer Main In Wetland Area
 - Corrective Actions Implemented By City of Renton in Summer 2009; Funded Through I/I Program
 - County to Provide Continued Flow Monitoring During Subsequent Wet Seasons

Cost Effective Projects

- Two Projects Meet the Cost-Effectiveness Criteria Established for the Control Program
 - Combined Bellevue and Issaquah Project
 - Skyway Project
- Combined Bellevue and Issaquah Project
 - Includes Rehabilitation in BEL031 and ISS003
 - Rehabilitation of 107 Properties in Eastgate and 113 Properties in Issaquah for a Total of 220 Properties
 - Estimated Construction Cost of \$3.4 M; Estimated Project Cost of \$5.2 M
 - Estimated Removal of 0.85 to 1.04 MGD Peak I/I
 - Reduces Eastgate Storage by 260K - 320k Gal; Reduces Issaquah Tube Storage 370k - 450k Gal
 - CSI Project Cost Savings of \$5.6 M to \$7.0 M
 - Resulting Cost/Benefit Ratio of 1.07 - 1.33

Cost Effective Projects

- Skyway Project
 - Includes Rehabilitation in BLS002 and Potentially in BLS003
 - Rehabilitation of Approximately 340 Properties
 - Estimated Construction Cost of \$3.7 M; Estimated Project Cost of \$5.6 M
 - CSI Project Cost Savings of \$5.4 M
 - May Require Cost Sharing by Skyway
 - Estimated Removal of 1.8 to 2.2 MGD Peak I/I
 - Eliminates Need for 0.27 MG Storage Facility
 - Resulting Cost/Benefit Ratio of 1.00

Recommendations

- Proceed to Final Design with the Combined Bellevue and Issaquah Project and Skyway Project