

INTRODUCTION

Description of Contents

This document binder is intended to include materials developed as part of creation and evaluation of CSO control approaches and alternatives beginning in early 2007 and culminating in selection of a preferred project alternative, currently scheduled for May 2010. As of this date, this document includes materials developed by the project team from March 2007 through February 2010. At the end of February 2010, the project team evaluated nine alternatives and selected three alternatives from that group for refinement in the first and second quarters of 2010. As of February 2010, that work is ongoing. When the process to select a preferred alternative is completed in May 2010, documentation for this phase of the work will be added to this document.

Summary of Alternatives Development Process

The alternatives development process has several distinct steps, each culminating in a decision. The process is summarized in the following table. The summary table shows the location in the binder of the relevant documents. Included with these documents are agendas, notes, presentation materials, and graphics associated with each key process step.

Alternatives Development Process Steps	Decisions, Key Information, Outcomes	Milestone Dates	Location in this Binder
CSO Project Transfer Document	<ul style="list-style-type: none"> • Basis of project scope. • Transmitted CSO control objectives, planning criteria including peak flows and storage volumes required to meet control objectives. • Listed anticipated project budgets. • Set basis of costs. • Set target schedule. • Listed recommended project alternatives: <ul style="list-style-type: none"> ○ Barton – single storage at two possible locations with pump station upgrade. ○ Murray – single storage at Lowman Beach Park. ○ Magnolia – single storage at two possible locations. ○ North Beach – single storage at pump station site and pump station upgrade. 	May 16, 2006	Tab 1
Scope of Work (excerpts)	<ul style="list-style-type: none"> • Establish planning boundaries for project. • Establish regulatory constraints. • Recognized need to investigate additional options: <ul style="list-style-type: none"> ○ Storage. ○ End of Pipe Treatment. ○ Conveyance to downstream existing downstream treatment. ○ Peak flow reduction (demand management). ○ I/I control (North Beach basin only). 	January 2, 2007	Tab 1
Planning Confirmation, Flow Projections	<ul style="list-style-type: none"> • Flow projections, updated by county. 	March 2007 – January 2010	Tab 2

<p>Planning Confirmation Workshops and Briefings</p>	<ul style="list-style-type: none"> • Workshop #1 presented initial approaches and alternatives. • Workshop #2 evaluated alternatives and eliminated some. • Ecology briefing to familiarize the agency with the projects. 	<p>March 20, 2007 May 30, 2007 and August 16, 2007 August 16, 2007</p>	<p>Tab 2</p>
<p>Preliminary Planning Confirmation</p>	<ul style="list-style-type: none"> • Draft TM202.1 Planning Confirmation. • Draft TM203.1 Selection Criteria. • Confirmation of CSO control approaches. • Confirmation of planning boundaries. • Initial Alternatives Identification and Evaluation. • Initial Selection Criteria. • Initial relative costs. • Initial review and selection workshops. • Initial elimination of CSO control approaches that didn't meet initial selection criteria or tests for feasibility. 	<p>December 11, 2007</p>	<p>Tab 2</p>
<p>Flow Monitoring and Analysis</p>	<ul style="list-style-type: none"> • Scope provided for field investigation of combined sewer flows at sub basin level. • Results showed where majority of flows originate. • Assisted in identifying areas for dispersed storage. 	<p>December 2007 – June 2008</p>	<p>Tab 3</p>
<p>GIS Analysis/Modeling</p>	<ul style="list-style-type: none"> • County GIS analysis established connectivity to aid in evaluation of demand management alternatives. Focus on number of rooftops connected to CSS. • GIS analysis by Carollo determined footprint areas of rooftops for estimating number of rooftops per sub basin. 	<p>June 2008 – September 2008</p>	<p>Tab 3</p>

Hydrologic/Hydraulic Modeling	<ul style="list-style-type: none"> • Established models at sub basin levels to generate sub basin flow contributions and check bottom of basin storage volumes. • Decision made by county to use county model results in preference to consultant model. Modeling suspended. • Sub basin contributions as percentage of total used initial data from flow monitoring adjusted to county model to estimate sub basin storage volumes. 	July 2008 – July 2009	See Binder 2
Expanded Alternatives Creation and Analysis	<ul style="list-style-type: none"> • Data from flow monitoring and GIS analysis used in conjunction with field reconnaissance to create and describe expanded group of alternatives including demand management options. • Potential storage and/or treatment sites identified. • Standardized sizing developed. • Alternatives described, up to ten in each basin. • Expansion and refinement of criteria begun in July (See Binder #3). 	July 2009 – August 2009	Tab 4
Development of Alternatives for Basins	<ul style="list-style-type: none"> • Refinement and development of alternatives descriptions. • Development of construction, property acquisition, street use and life cycle costs. • Development of technical approach schematic designs to support criteria evaluations by team. • Evaluation and ranking and reduction of number of alternatives from nine options in North Beach to three: <ul style="list-style-type: none"> ○ North Beach Basin Alternatives – <ul style="list-style-type: none"> ▪ 1A – Rectangular Storage Bottom of Basin ▪ 1B - Pipeline Storage-Bottom of Basin 	September 2009 – February 2010	Tab 4

<p>Alternatives Evaluation of three alternatives</p>	<ul style="list-style-type: none"> ▪ 1D - Pump Station with Conveyance to 8th Avenue Interceptor and Rectangular Storage-Bottom of Basin <ul style="list-style-type: none"> • I/I option dropped from consideration. • End of Pipe treatment options dropped from consideration. • Convey and treat option for dropped from consideration. • Evaluation and refinement of three alternatives leading to recommended project. • Risk analysis and draft risk register. 	<p>January 2010 – May 2010</p>	<p>Tab 5 (to be added in June 2010)</p>
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