

PRESENTATION CONTENTS

- Review Updated Schedule
 - City Eng/O&M Workshops
 - SIAG Meetings
 - Initial Optimization
- Flow Development
 - Flow Monitoring
 - Loading Rates and Projections
- Sensitivity Analysis
 - What dials can we turn?

2013 2014														20						
Task	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Ν
Evaluate Flow Monitoring Data and Update Existing Loading	-	Fin	alize Existin ive Flow Mu	ng, 10- an onitoring L	d 20-year. Data	Loading														
Calibrate the Hydraulic Model	_	∮ ^s	IAG Present	tation - Op	vtimization vation of th	n input Ass ne Model	umptions													
			1	Review S	ystem Defi	iciencies w	ith City Eng	т, 0&М												
Identify System Deficiencies				Mesing	Presenta	tion - Pavia	u Suctorn	Deficienci	or IDaviau	Colorado	(cirina)									
Develop List of Potential Alternatives				- 5/40	-Review O	ptimizatio	n Alternati	ves with (ity Eng, O	SM (pump	s, pipes, s	torage, trea	atment)							
			-		- 514	46 Presenti – SIAC	ition - Opti - IRBO & 1	imization Site Tour c	Alternativ Colorado	es (pump:	, pipes, st reline1	orage, treat	iment)		_	-				
Develop Unit Capital and Life Cycle Costs	_					0	topd a :		Coronado	2. and rig	, canto									
Formulate the Optimization Model																				
Initial Optimization Scenarios								Review	v initial Op	ntimization	Results v	vith City En	g, 0&M							
								• L _{SIA}	G Presenta	tion - Revi	ew Initial	Optimizati	on Results							
Intermediate Optimization Formulation and Scenarios										Review Sing	Intermec Proconta	llate Kesult tion - Revie	s with City	r Eng, U&M ediate Resi	its (Roviou	v Coloradi	1560%	Design 1		
										5000	J resento	Γ ^{Review}	Final Res	ults with G	ty Eng, O&	M	123 00 70 5	(c)igii		
Final Optimization Formulation and Scenarios															c. 10			1.10000		
			-						Pric	oritize imp	ovement	- SIAG - Schedule	Presenta	uon - Kevie ⊢Dra	rw Fillar Re ft CIP Secti	on to City	new colord	1001590%	i Designj	
Develop Capital Improvement Plan														16						
			-								Keview L	nan CIP W	unyo e :	siAG Presen	ntation - Re	view Dra Sitv Prepa	rt CIP vred Financ	cial Section		
City Financial Plan															ø	•				
			-											Dunk Cust	m An about	L SIAG	Presentat	ion - City's	Financial MD Comm	Pla
Develop Draft and Final CSMP													•	onan syste	Draft (SA	Procitiv			Final Common	CSM otio









FLOW MONITORING

2013 – 47 locations plus
 Water Reclamation
 Facility

– No Rain

- 2011 33 locations plus
 Water Reclamation
 Facility
 - No Rain
- 2007 15 locations
 - Two Rain Events





RESIDENTIAL LOADING

- Monitored 3 discrete residential areas of the system with a known number of units
 - 60, 75 and 65
 gal/capita/day



COMPARATIVES

- Metcalf and Eddy, 2003 Textbook values
 - Low: 58, Medium: 72, High: 77
- Northwest Utilities
 - Bend: 67, Kennewick: 75, Nampa: 60
 - Spokane County: 100, Pocatello: 95

Note: All units in gal/capita/day

FLOW SUMMARY

- How much flow is generated in the system?
 - 5.9 mgd (average flow)
- What portion of that is residential and non-residential
 - Residential: 4.7 mgd, Non-Residential: 1.2 mgd
- What are the usage rates for residential customers
 - 67 gal/capita/day, (<u>80-100 used previously</u>) 160 gal/unit/day (180-230 used previously)
- What are the usage rates for non-residential customers
 - Com., Ind., Inst., etc.: 370 gal/acre/day (<u>630-1300 used</u> previously)
 - Schools: 300 gal/acre/day

NATIONAL TRENDS FOR DECLINING DEMAND

- 1. Weather
- 2. Economic Factors
 - The recession
- 3. Demographic Factors
 - Declining household size
 - Densification
- 4. Conservation

Page 13

- Imposed Building code changes
- Improved Technology / efficiency
- Incentivized Pricing
- Informed Education programs

<section-header><section-header><list-item><list-item><list-item>

- New Technology (i.e., LEED standards)
 - ✓ New buildings can utilize 70-82% less water

Page 14

✓ And 40-46% less energy than older buildings

FLOW PROJECTIONS

- Existing Average: 5.9 mgd
- 2033/Build-out Average: 10.8 mgd
 - All septic customers are sewered
 - 10% increase in base loading rates
 - 20% peaking of OSU Campus and Medical Overlay
 - Additional 2,200 units loaded in Transit Corridors and Central Business District on specific parcels
- No Peaking or add'nl units 2033/BO flow = 9.7 mgd

6/16/2013

