

# Discovery Clean Water Alliance – Collaborative Capital Planning For A New Regional Agency



PNCWA Conference  
Boise, ID  
October 26, 2015



Laying the foundation  
for a **vibrant economy**  
and **healthy environment**

# Presentation Overview

- **Part 1 - Alliance Overview**
  - Who, What, Where, When, Why, How
  - Lessons Learned
- **Part 2 – Collaborative Capital Planning**
  - Capacity Assessment
  - Condition Assessment
  - Project Definition
  - Prioritization
  - Financial/Programming Overlay
  - Results
  - Lessons Learned
- **Questions & Answers**





# Part 1 - Alliance Overview



# Alliance Overview

## WHO?

- **Four Alliance Members**

- City of Battle Ground
- City of Ridgefield
- Clark County
- Clark Regional Wastewater District

- **“Discovery” Clean Water Alliance**

- Tied to Lewis & Clark & “Corp of Discovery” that traversed Clark County
- “Discovery” was lead ship in George Vancouver’s exploration of west coast of North America



# Alliance Overview

## WHAT?

- **Regional Wastewater Transmission & Treatment Utility**
  - Formed under Joint Municipal Utility Services Act (JMUSA) – 39.106 RCW
    - ✓ New Washington State statute – 2011
    - ✓ Second agency to form under statute
  - Designed to be expandable/scalable
    - ✓ Services – any form of municipal water service
    - ✓ Members – primarily Clark County-based municipalities (tribes also allowed by statute)



# Alliance Overview

## WHERE?

- **Located in central Clark County, WA**

- Currently approximately 100k customers served
- Mostly urban areas north of City of Vancouver

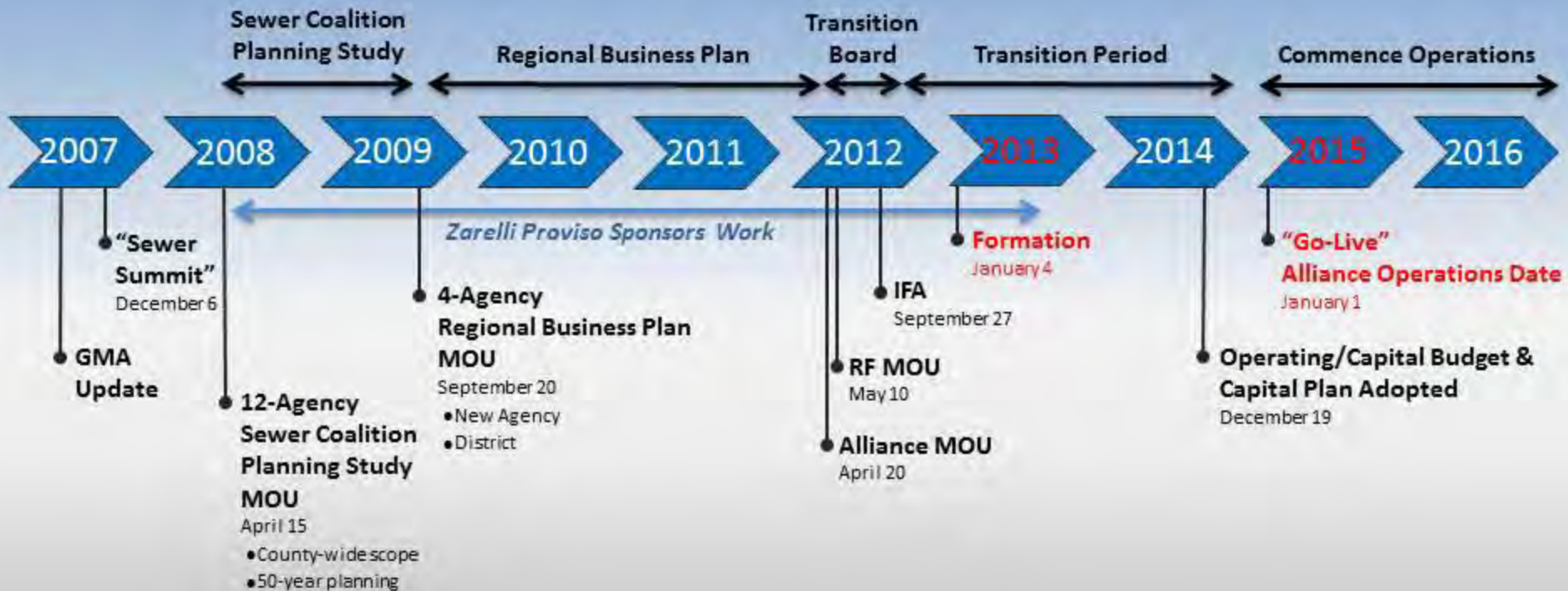


- **9 regional assets - \$126M book value**

- Regional gravity interceptors
- Regional pump stations/force mains
- Regional treatment plants

# Alliance Overview

## WHEN?



# Alliance Overview

## WHY?

- Regional decisions are best made when stakeholders have a direct voice and vote
- Aligns authority to make decisions with responsibility to pay
- Finding right balance between capacity and cost



# Alliance Overview

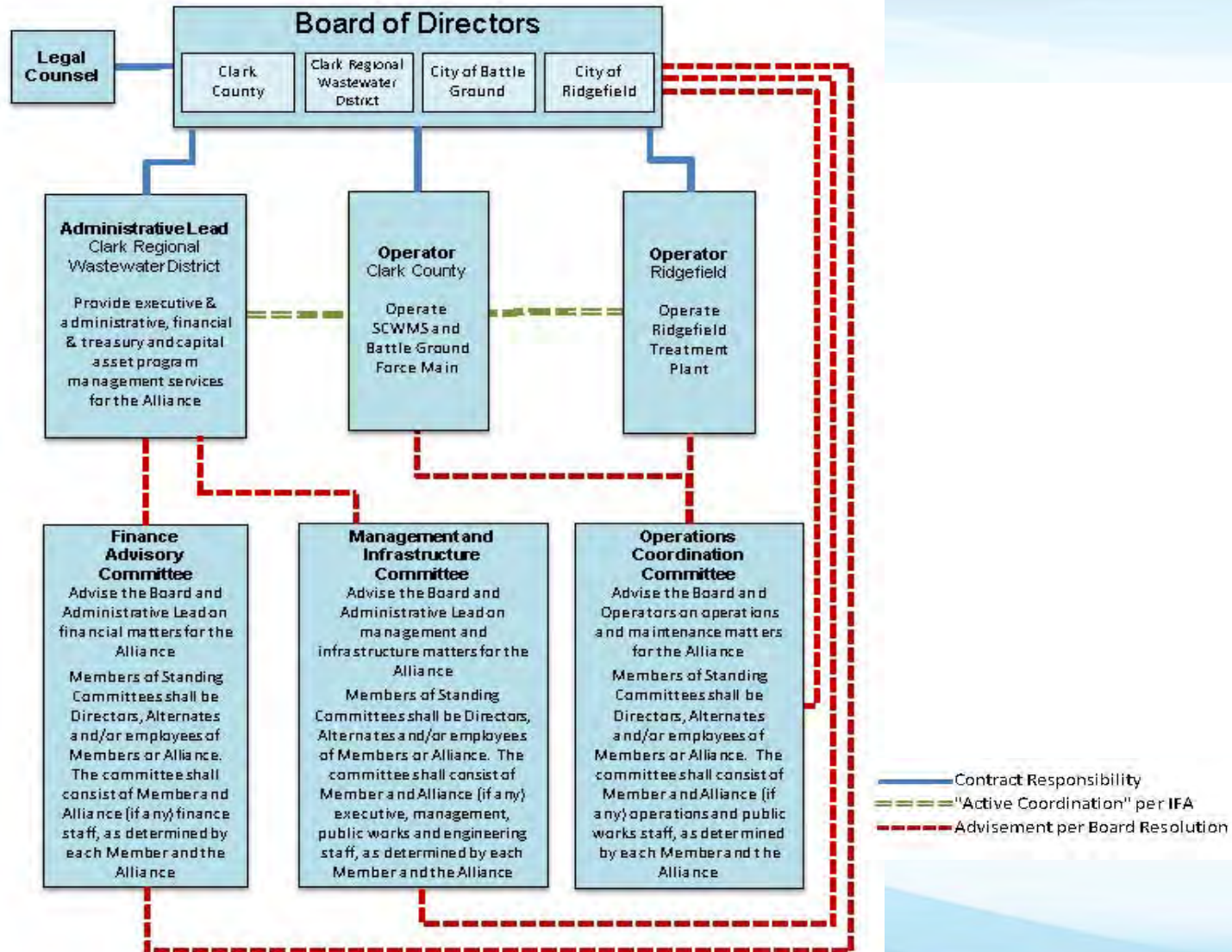
## HOW?

- **Regional Board of Directors**
  - One elected official from each Member agency
- **House-Senate voting system**
  - Dual test requires majority for both:
    - ✓ Capacity ownership (House)
    - ✓ Number of Members – one agency, one vote (Senate)
- **Asset-based financial model**
  - Members pay for direct capacity purchase (capital) and actual flow utilization (operations)
- **Contracting for services with Members**
  - Not “another layer of government”
- **Standing Committees**



# Alliance Overview

## HOW?



# Alliance Overview

## LESSONS LEARNED

- **Alignment of authority and responsibility**
  - Voting system respecting all interests
- **Built on values of community**
  - Reliable service at affordable price
- **State level support**
  - Legislators/proviso
  - Service to core I-5 corridor
- **Quality process to build relationships first**
  - Tours, workshops, time
- **Quality information to support decisions**
  - Credible financial analysis, creative/respected legal





# Part 2 – Collaborative Capital Planning

# Collaborative Capital Planning

## INTRODUCTION

- **First real test of Alliance structure**
- **Integrated critical success factors**
  - Collaborative forum to honor Alliance ethic
  - Sound utility & asset management practices
  - Adapted to level of service aligned with customer values – reliable service at affordable price
  - Mechanism to address repair & replacement projects and track capital projects between major planning efforts
  - Provides pathway for O&M staff to get projects ‘on the list’ and early indication to management/elected body of future requirements
- **Intent: *Develop repeatable process to be used with biennial budget cycle***



# Collaborative Capital Planning

## CAPACITY ASSESSMENT

- **Build on Endorsed Planning documents**
  - Consider actual growth rates
  - Realistic assessment of project delivery timing/risk
  - High level regulatory trend and level-of-service review
- **Outcome: *Updated assessment of capacity investments based on just-in-time delivery . . .***

*. . . with contingency for projects with external processes (permitting, land acquisition, etc.)*



# Collaborative Capital Planning

## CONDITION ASSESSMENT

- Limited in scope (not full blown asset management)
- Perform ‘maintenance assessment’
  - Staff knowledge and documentation
  - Professional industry experience
- **Intent: *Provide a pathway to translate ‘known’ deficiencies into potential CIP projects***



# Collaborative Capital Planning

## CONDITION ASSESSMENT

- **Engage O&M staff to:**
  - Identify potential projects
  - Characterize maintenance investment
  - Characterize risk
  - Brainstorm potential solutions
- **Each assessment builds on the last**



# Collaborative Capital Planning

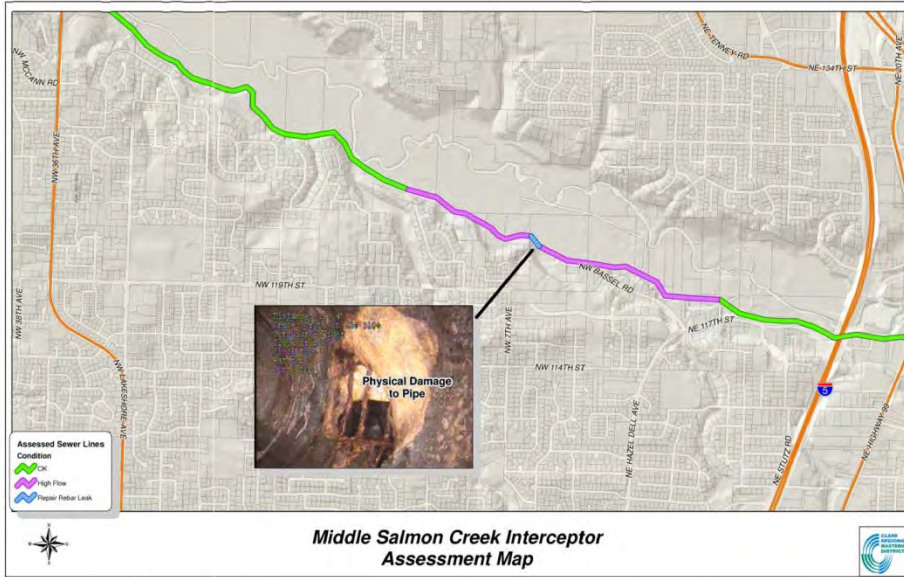
## CONDITION ASSESSMENT - PROJECT DEFINITION

- Summarize project needs in one-page Capital Project Profile form
- High level definition
- Outcome: *Understandable to agency management staff & elected officials*



# Collaborative Capital Planning

## CONDITION ASSESSMENT PROJECT DEFINITION



### Discovery Clean Water Alliance CAPITAL PROJECT PROFILE

**Project Name:** Middle Salmon Creek Interceptor Point Repair **Project Type:** Existing Asset – Repair   
**Project Number:** RA01-15-1 Existing Asset – Replacement   
**Form Prepared/Updated:** April 2014 New Asset – Capacity   
 New Asset – Regulatory   
 New Asset – Level of Service

#### Project Definition:

**Objective.** The project will replace a damaged section of the Salmon Creek Interceptor. This replacement will reduce the potential failure of the interceptor in this location, providing structural integrity to the pipe.

**Scope of Work.** This point repair will require the replacement of 20 feet of pipe. Couplings will be used to connect the replacement section with the existing interceptor. Replacement will require open excavation and short-term bypass pumping for the duration of the replacement effort. This piping was originally installed in 1975. The cost below assumes the contractor is responsible for bypass pumping during the repair. Additional repair alternatives will be investigated during the design phase.

**Cost Allocation.** The replacement portion of the project costs are apportioned to Battle Ground and the District according to Salmon Creek Interceptor allocated capacity: 10.10 mgd (26.5%) for Battle Ground, and 28.08 mgd (73.5%) for the District. For additional information related to this project, see *The Salmon Creek Interceptor – 2013 CCTV Records, February 2013*.

**Photos** (if available): (Map of area on the reverse side)



Signs of Failure of the Interceptor

CCTV Image of the Interceptor

Rebar Showing at Failure Location

#### Budget Information:

##### Project Cost Estimate

Total Project Cost:	\$50,000
Construction Cost:	\$30,000
Basis of Estimate -	
Year Completed:	2014
Project Definition:	Placeholder (Class 5)

##### Project Cost Allocation

Battle Ground:	26.5%	\$13,000
Clark County:	0%	\$0
District:	73.5%	\$37,000
Ridgefield:	0%	\$0
Total:	100%	\$50,000

#### Schedule Information:

Activity	Year Completed
Planning	2015
Permitting	2015
Real Property/ROW	N/A
Design	2015
Bid	2015
Construction	2015

# Collaborative Capital Planning

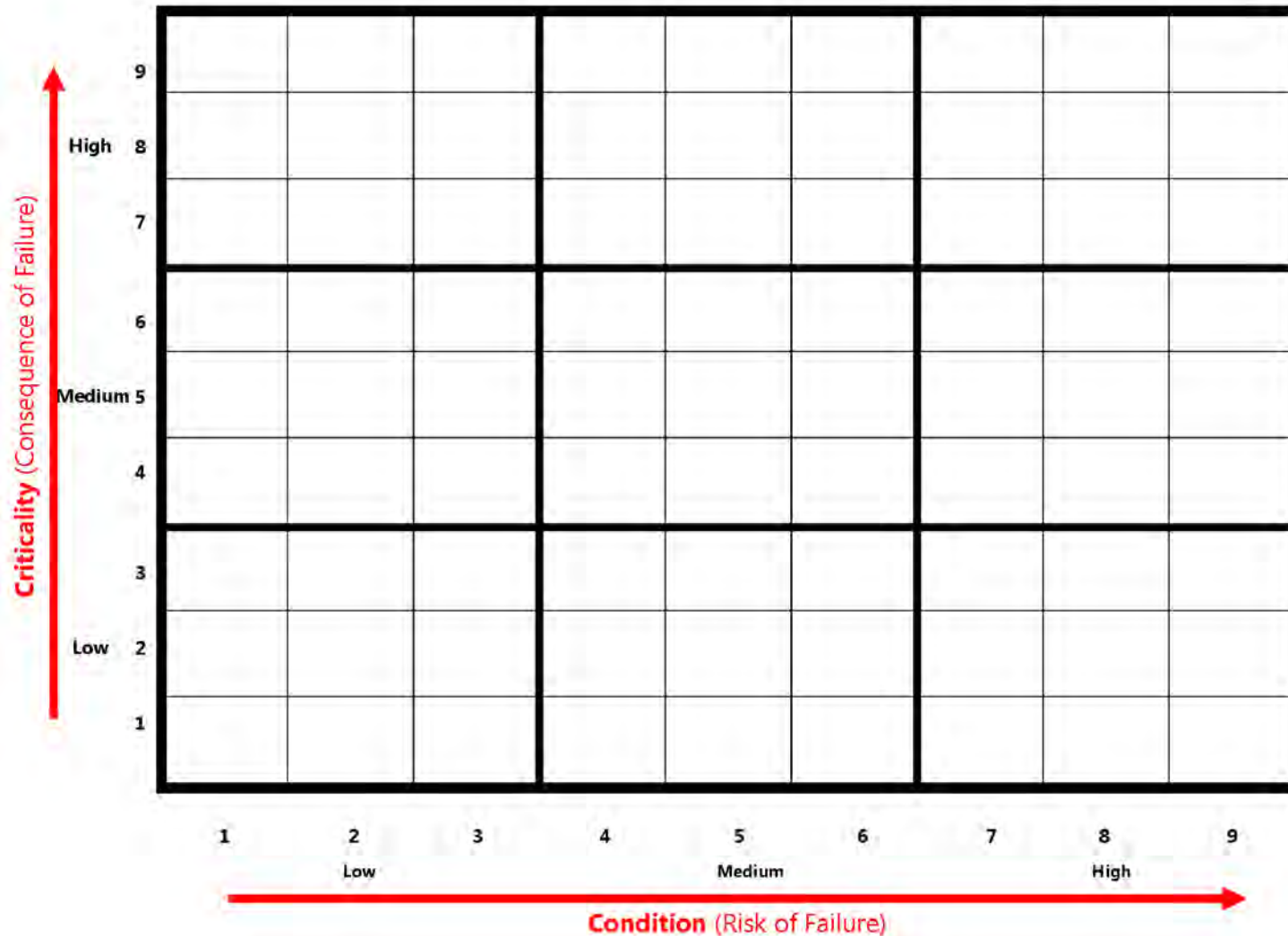
## CONDITION ASSESSMENT PRIORITIZATION

- Conducted over several workshops with all three Alliance Standing Committees
- Presented Capital Project Profile forms
- Group ranking based on risk (likelihood) of failure/ consequence of failure



# Collaborative Capital Planning

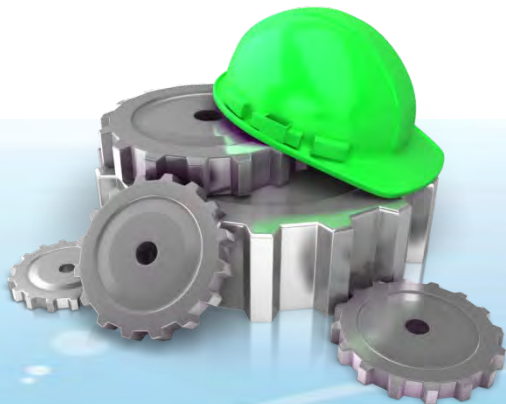
## CONDITION ASSESSMENT PRIORITIZATION



# Collaborative Capital Planning

## CONDITION ASSESSMENT PRIORITIZATION

Projects	Criticality Average "Consequence"	Criticality Ratings										Condition Average "Risk"	Condition Ratings										Total Score [Criticality & Condition Averages]												
A-Upper Salmon Creek Interceptor	6.0	6	7	8	8	8	8	6	5	5	5							5.5	6	7	8	7	6	8	9	5	5	5							11.5
B-Middle Salmon Creek Interceptor	6.0	8	6	6	7	6	5	9	6	6	7							4.9	5	6	3	4	6	5	9	7	7	7							10.9
C-36th Avenue PS Pump Replacement	7.7	8	9	8	8	9	8	9	9	8	9							6.2	7	8	7	8	8	5	7	8	8	8							13.9
D-SCTP Programmable Logic Controller Replacement	7.4	8	8	9	6	9	7	9	8	8	9							5.8	8	8	9	5	8	4	7	7	7	7							13.2
E-SCTPO Columbia River Outfall Pipe Replacement	5.5	6	6	7	6	9	6	8	4	5	4							4.4	7	4	7	6	6	4	5	5	4	5							10.0
F-SCTP Dewatering Equipment Replacement	3.6	7	3	4	4	5	5	2	3	4	3							2.5	4	3	3	3	3	4	2	2	3	3							6.1
G- BGFM Valve & Vault Repair	5.0	8	5	4	8	6	7	8	3	3	3							6.3	8	8	7	8	8	7	9	8	6	7							11.3
H-Klinline Interceptor Regional Biofilter	6.1	9	8	6	8	7	4	7	7	5	6							5.7	6	7	5	8	4	7	9	8	7	7							11.8
I-SCTP Influent Bar Screen	2.5	3	3	3	3	2	4	1	3	3	2							2.6	3	3	3	2	2	6	1	4	3	4							5.0
J-SCTP UV System Replacement	4.3	8	7	4	7	8	4	3	1	3	2							2.3	2	3	4	3	2	5	3	1	2	3							6.6
K-SCTP Primary Sludge Pump Replacement	1.8	3	2	2	2	2	5	1	1	2	1							1.7	3	2	2	2	2	3	1	1	2	2							3.4



# Collaborative Capital Planning

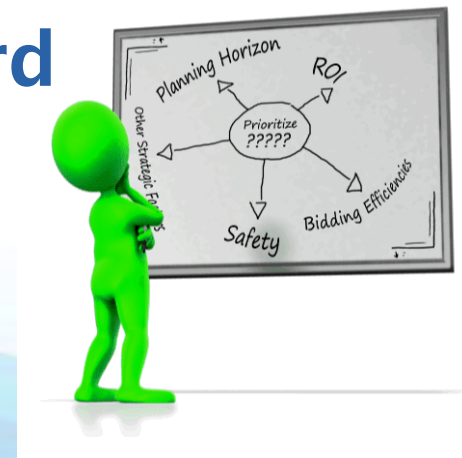
## CONDITION ASSESSMENT PRIORITIZATION

Projects	Considerations	Operational Considerations		Financial Considerations		Strategic Considerations: Risk Buy Down Opportunities Regulatory Compliance Public/Environmental Health System-Wide Benefits	Final Rank
		Baseline Input: Risk of Failure/ Consequence of Failure Score	Safety Input: Staff and/or Public Safety Elements	Operating Costs: Return on Investment (ROI) from reduced costs	Capital Costs: Packaging/ Bidding Efficiencies		
C-36th Avenue PS Pump Replacement		15.6	Pump handling improvements			Spares package and flow augmentation pumps already purchased	1
D-SCTP Programmable Logic Controller Replacement		15.0				Consider purchase of spares package and/or phasing of improvements	2
G- BGFM Valve & Vault Repair		13.3	Vaults/covers deteriorated in ROW			Consider phasing of improvements to be able to start work sooner	3
A-Upper Salmon Creek Interceptor		12.9		Consider PWTf loan application status (District share only?)		Complete design in 2014, as currently budgeted to buy down risk/timeline for response	4
H-Regional Biofilter - Upper Kline Interceptor		12.8		Reduced chemical use (ROI 3-4 years)		Can meet system needs in interim with purchase of chemical	5
B-Middle Salmon Creek Interceptor		12.2			Review options for completing repair to confirm scope/cost	Move project up due to concern over exfiltration potential near flow line	6
E-SCTPO Columbia River Outfall Pipe Replacement		11.0			Package with Phase 5 (whole project or permitting work only)	Improved diffuser performance (water quality standards), permitting timelines and land use changes	7
J-SCTP UV System Replacement		7.6		Reduced energy use (ROI 15-20 years)	Package with Phase 6		8
F-SCTP Dewatering Equipment Replacement		7.0	Reduced neighborhood truck traffic	Reduced biosolids trucking (ROI 10-12 years)			9
I-SCTP Influent Bar Screen		6.4			Package with Phase 6		10
K-SCTP Primary Sludge Pump Replacement		4.8		Reduced energy use (ROI 8-11 years)	Package with Phase 7		11

# Collaborative Capital Planning

## PRIORITIZATION - MECHANICS

- Updated scope/cost definition based on where project fell within planning horizon
  - 10% design (near term)
  - 5% design (intermediate)
  - Planning level (long term)
- All items were carried forward into financing analysis



# Collaborative Capital Planning

## PRIORITIZATION - SUMMARY

Regional Asset / Project Name	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	PROJECT COST	
<b>1 Salmon Creek Interceptor</b>																						
Middle Salmon Creek Interceptor Point Repair																						\$ 50,000
Upper Salmon Creek Interceptor Repair																						\$ 740,000
<b>2 Kline Interceptor</b>																						
2a - Regional Biofilter - Upper Kline Interceptor																						\$ 860,000
<b>3 36th Avenue Pump Station (PS)</b>																						
36th Avenue PS Pump Replacement																						\$ 900,000
<b>4 117th Street Pump Station (PS)</b>																						
117th Street PS Capacity Upgrade																						\$ 9,300,000
<b>5 36th Avenue Pump Station Force Main</b>																						
No projects currently programmed																						\$ 0
<b>6 117th Street Pump Station Force Main</b>																						
No projects currently programmed																						\$ 0
<b>7 Salmon Creek Treatment Plant &amp; Outfall (SCTP, SCTPO)</b>																						
SCTP Programmable Logic Controller Replacement																						\$ 1,300,000
SCTPO Columbia River Outfall Pipe Replacement																						\$ 3,400,000
SCTPO Phase 5 Expansion (Effluent Pipeline)																						\$ 13,000,000
SCTP Dewatering Equipment Replacement																						\$ 1,500,000
SCTP Influent Screen Replacement																						\$ 500,000
SCTP UV System Replacement																						\$ 3,000,000
SCTP Phase 6 Expansion																						\$ 24,700,000
SCTP Primary Sludge Pump Replacement																						\$ 220,000
SCTP Phase 7 Expansion																						\$ 15,400,000
<b>8 Ridgefield Treatment Plant &amp; Outfall (RTPO)</b>																						
Ridgefield Treatment Plant Decommissioning																						\$ 2,500,000
<b>9 Battle Ground Force Main (BGFM)</b>																						
BGFM Valve & Vault Repair																						\$ 490,000
BGFM Parallel Force Main																						\$ 22,700,000
<b>TOTAL</b>																						<b>\$ 100,560,000</b>

# Collaborative Capital Planning

## LONG-TERM FINANCIAL CONTEXT

- **50-Year Context**
  - Long-term capacity needs
  - Regional vision/system configuration
- **20-Year Capital Plan – Specific Projects and Costs**
  - Provides overall scale/context for financial demands on utility
  - Updated on 2-4 year cycle to provide rolling planning framework
  - Scalable/flexible to address different growth/capacity needs regionally



# Collaborative Capital Planning

## LONG-TERM FINANCIAL CONTEXT

- **6-Year Financial Plan**

- Provides revenue requirements for funding Members (all have 6-year financial models)
- Informs specific rate/charge architecture for funding Members (local decisions)

- **2-Year Adopted Budget**

- Fits within overall context established
- Regionally supported tied to collaborative process
- Rate predictability
- No surprises



# Collaborative Capital Planning

## FINANCIAL/PROGRAMMING OVERLAY

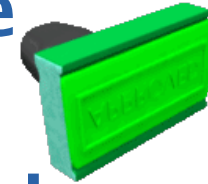
- **Two approaches evaluated**
  - Pay-as-you-go for R&R work based on priority
  - Financing of R&R work to accelerate projects & buy down risk (\$4M bond issuance)
    - ✓ Additional financing costs offset construction cost escalation
    - ✓ Private placement bond directly with bank
- **Outcome: *Bond issuance for reduced risk at similar overall cost***



# Collaborative Capital Planning

## RESULTS

- Full endorsement of all three Standing Committees
- Unanimous approval of Board
- Request to follow same process every two years in support of biennial budget process



# Collaborative Capital Planning

## LESSONS LEARNED

- **Quality information/quality process**
- **Engagement of all stakeholders**
- **Adaptable process to reflect values of community and agencies**



# Questions & Answers



**John M. Peterson, P.E.**  
General Manager, Clark Regional Wastewater District  
(360) 993-8819  
jpeterson@crwwd.com  
www.crwwd.com



**Michelle Burkhart, P.E.**  
Project Manager, CH2M  
(503) 872-4792  
michelle.burkhart@ch2m.com  
www.ch2m.com

## PRESENTATION MATERIALS

- Complete presentation & support materials available at:  
[www.discoverycwa.org/documents.html](http://www.discoverycwa.org/documents.html)