NOTICE OF AN ASSET MANAGEMENT BOARD WORKSHOP

OF THE

BOARD OF DIRECTORS

OF THE

Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

WILL BE HELD ON

WEDNESDAY, OCTOBER 2, 2013

10:00 A.M.

AT THE OFFICE OF THE AGENCY
6075 KIMBALL AVENUE, BUILDING A,
CHINO, CA 91761

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

AGENDA

WORKSHOP
OF THE
BOARD OF DIRECTORS

WEDNESDAY, OCTOBER 2, 2013
10:00 A.M.

INLAND EMPIRE UTILITIES AGENCY*
AGENCY HEADQUARTERS
6075 KIMBALL AVENUE, BUILDING A
CHINO, CALIFORNIA 91710

CALL TO ORDER
OF THE INLAND EMPIRE UTILITIES AGENCY BOARD OF DIRECTORS MEETING

FLAG SALUTE

PUBLIC COMMENT

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which are available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

1. ASSET MANAGEMENT WORKSHOP

2. ADJOURN

*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909) 993-1736, 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: _____

Declaration of Posting

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency*, A Municipal Water District, hereby certify that a copy of this agenda has been posted by 5:30 p.m. at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA on Thursday, September 26, 2013.

for _____ #853

April Woodruff

Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Asset Management at IEUA

October 2013

Jeff Noelte

Deputy Manager of Technical Services

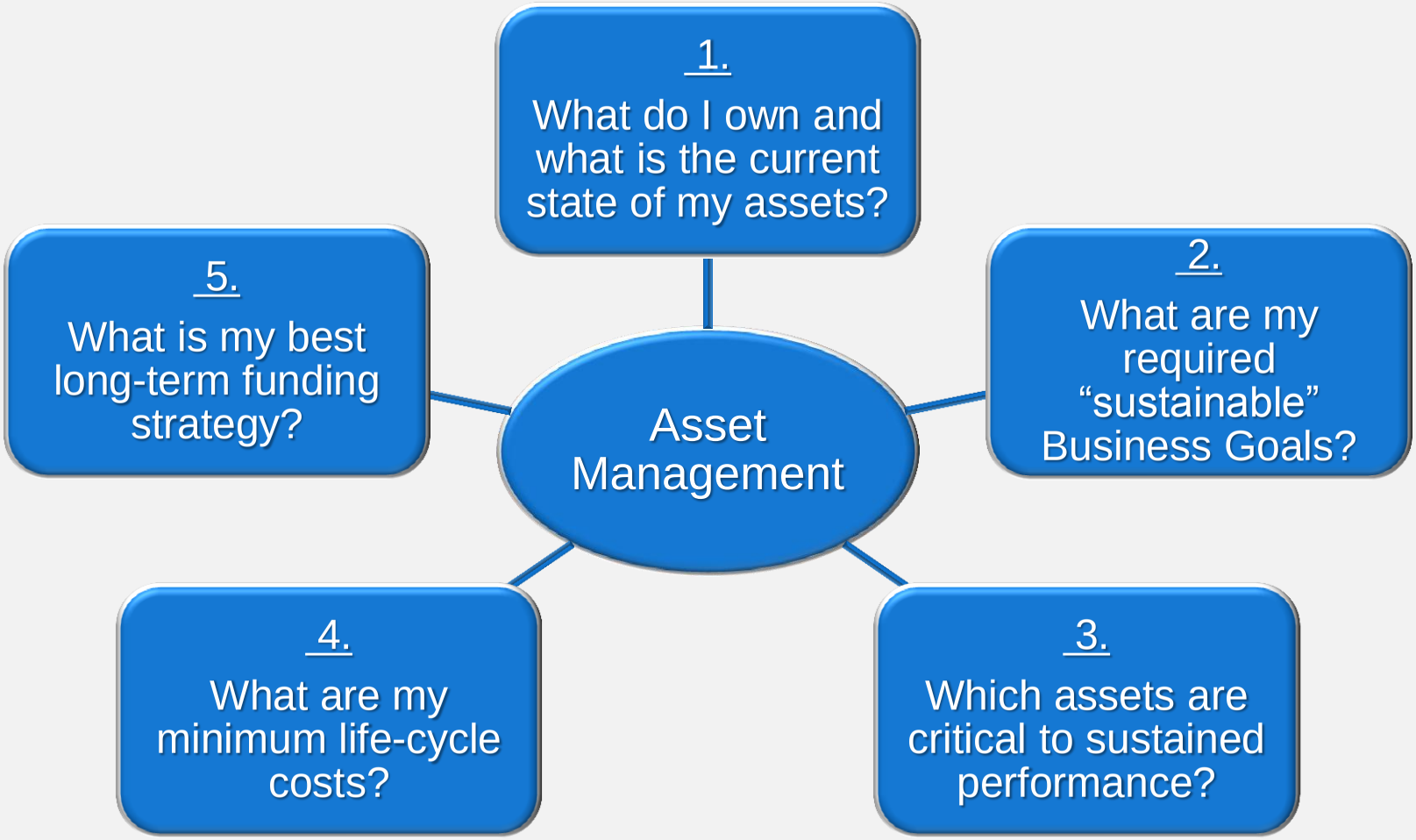
Presentation Overview

- Asset Management (AM) Terms and Definitions
- History of Asset Management at IEUA
- Asset Management Plan (AMP) Development
- RP-1 AM System Summary
- AMP Schedule

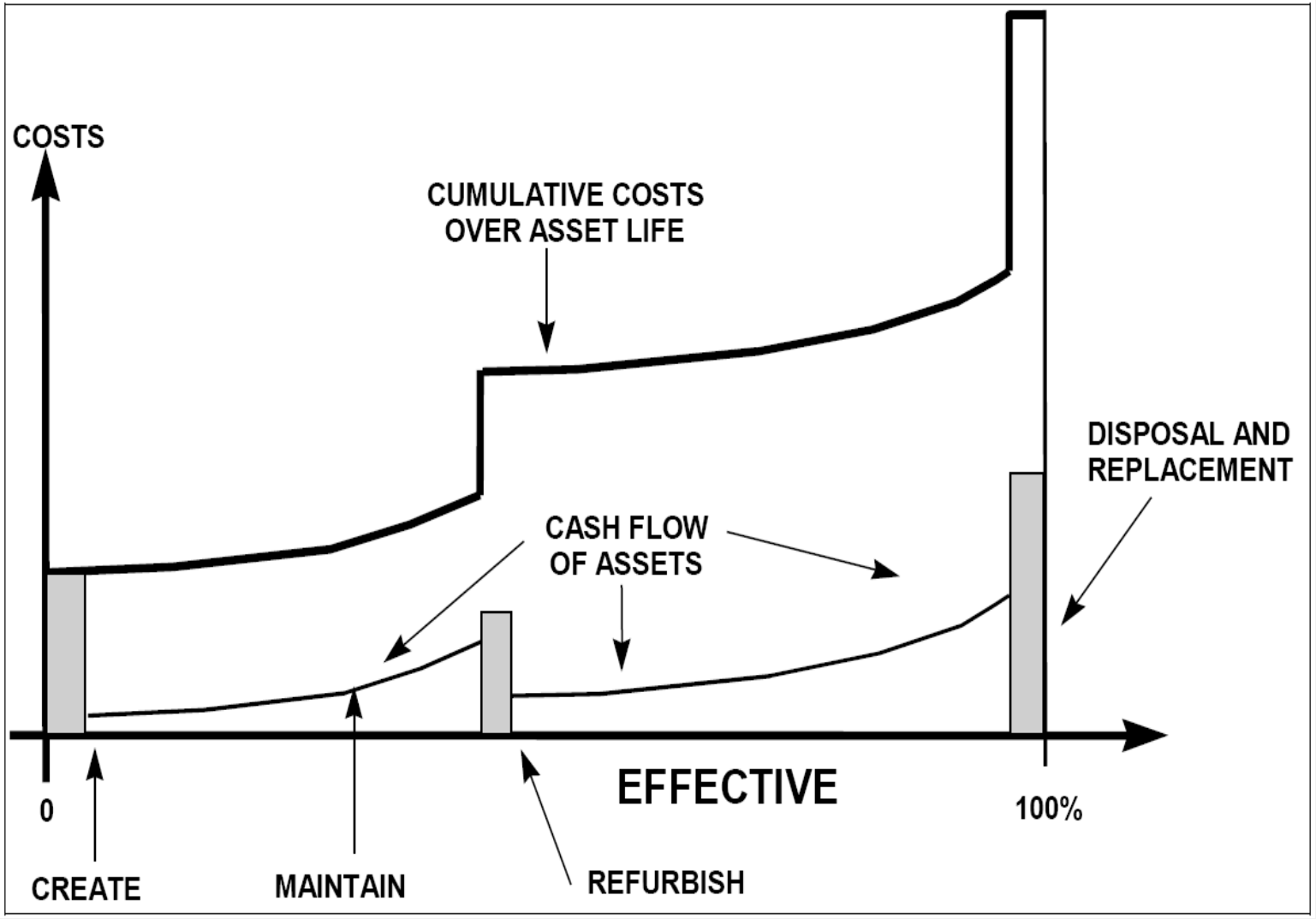
Asset Management Definition

"An integrated set of processes to minimize the life-cycle costs of infrastructure assets, at an acceptable level of risk, while continuously delivering established levels of service."

Asset Management: Five Core Questions



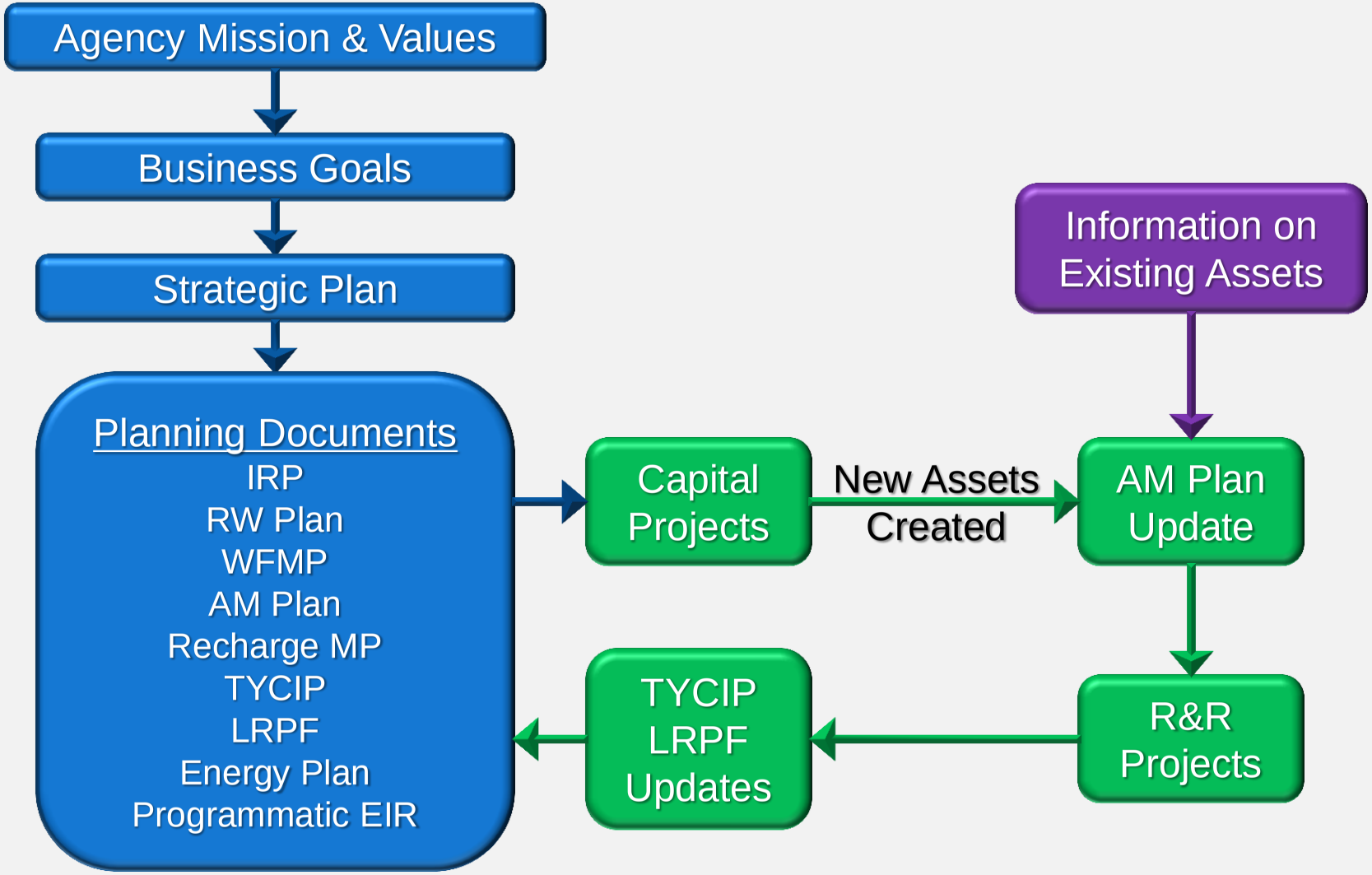
Life-Cycle Cost of an Asset



Asset Management Drivers

- Improve decision making
- Understand and manage risk better
- Lower costs
- Better planning of projects

Where Does AM Fit In?



AM History at IEUA

2004: AM Strategy and Program initiated

2010: Consultant lead development of Levels of Service

2011: Levels of Service Adopted

2013: Consultant lead development of preliminary R&R Schedule

Start developing Asset Management Plan (AMP) and develop Business Goals (In-house)

Purpose of Asset Management Plan (AMP)

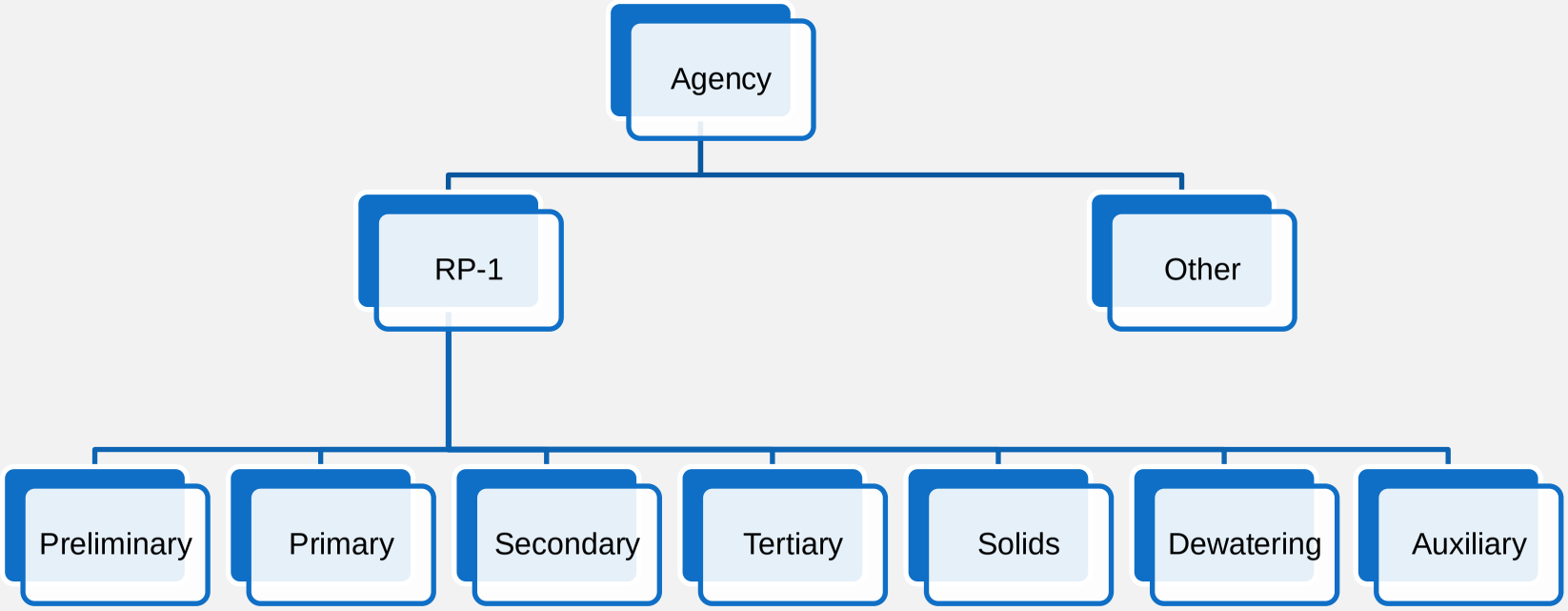
- Communicate to external as well as internal stakeholders
- Accurately describe Agency assets and their condition
- Communicate future funding requirements and projects to manage assets in a manner appropriate for meeting Business Goals

AMP Content

1. Introduction
2. Agency Overview
3. Business Goals
4. Future Demand & Growth
5. Asset Management System Summaries
6. Asset Management Model
7. State of the Assets Summary
8. Long Term Asset Management

AM System Summaries

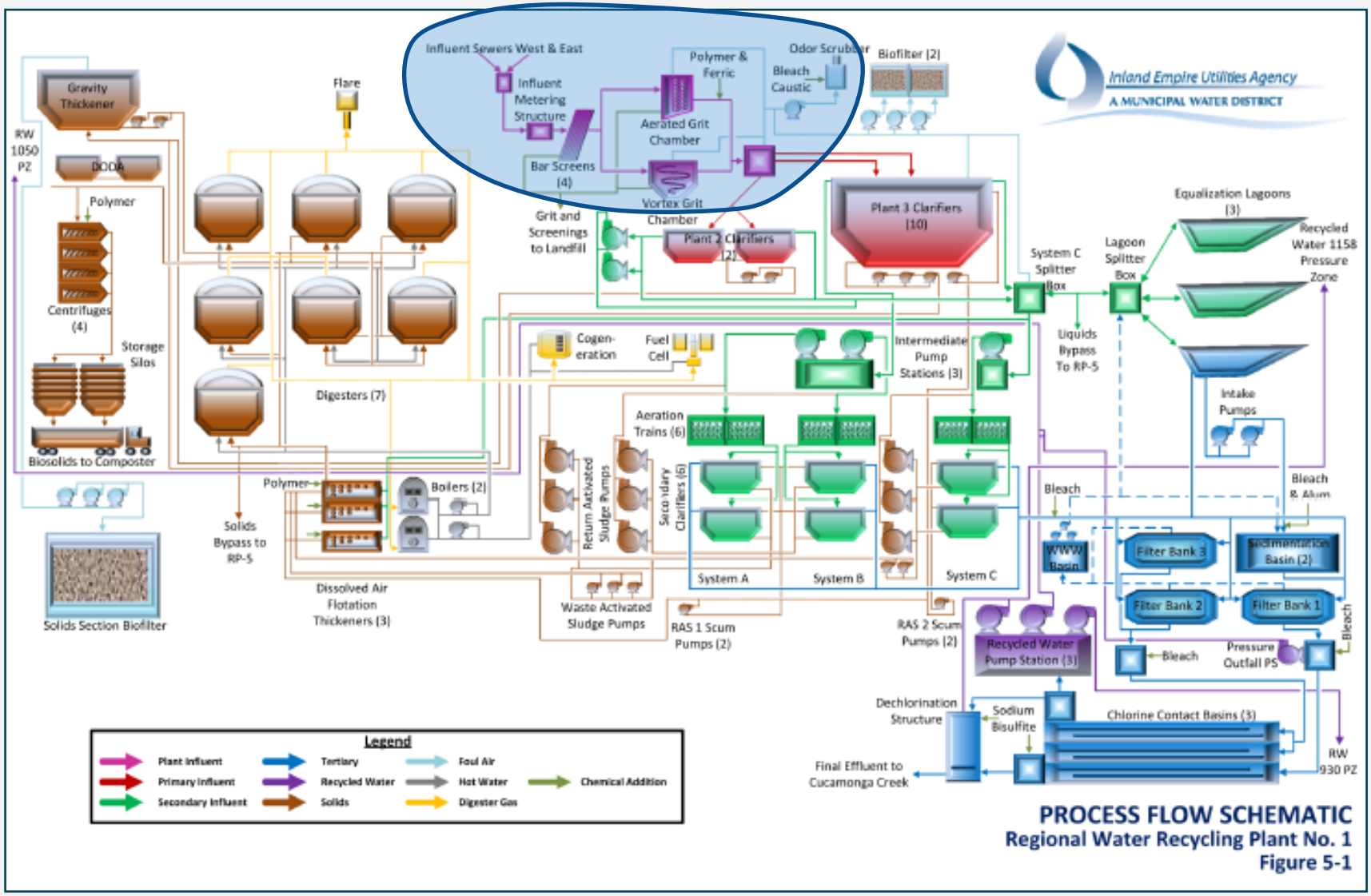
Hierarchy of Assets



AM System Summary (RP-1)

- Overall Process Flow schematic (handout)
- Summaries “sheets” for each treatment process
- Let’s review RP-1 Preliminary Treatment Process (handout)

RP-1 Process Flow Schematic

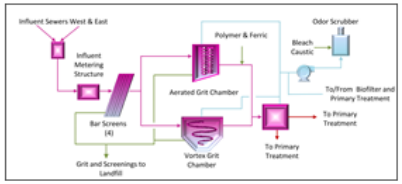


RP-1 Preliminary Treatment

Asset Management System Summary – RP-1

Preliminary Treatment Process

1. Asset Profile



Influent Channel and Metering Station
Two main trunk lines (east and west) bring influent sewer flows into RP-1 through the influent structure with gates to divert flow to either of two Parshall flume flow meters. Flow from the Influent Metering Station enters a common channel before the Bar Screening Structure.

Screening Equipment
Gates divert flow to six channels, four mechanical climber bar screens, one manual bar screen and one bypass channel. The 5/8 inch spaced bar screens hold large debris from flowing to downstream processes. A mechanical climber rake collects debris and drops the screenings on the Screening Conveyance/Disposal System. Liquid flow passes through the bar screen into a common channel that feeds the grit removal systems.

Aerated Grit System
Flow enters a series of three square Aerated Grit Chambers (AGC) through five gates. Three air lift pumps, supplied by two air blowers, pump collected grit up to the Grit Washing/Disposal system. Air from the blowers also provides air for agitation. Liquid flows pass through gates to a common channel and then to the Headworks Splitter Box.

Vortex Grit System
Flow from the Bar Screens is directed to the influent of the circular Vortex Grit Chamber. A paddle mixer pushes flow in a circular path; grit collects at the bottom where it is pumped to the Grit Washing/Disposal System.

Grit Washing/Disposal System
Grit pumped from the AGC and Vortex Grit Chamber enter the Headworks building where if flows to two grit classifiers. The grit sinks to a submerged screw which pulls the grit out of the water and drops grit into two Screw conveyors. The conveyors lift and transport the grit to a roll off bin. The excess liquid spills out of the grit classifiers and is directed back to the Bar Screen Structure effluent channel.

Screenings Conveyance/Disposal System
Screenings collected by the Bar Screens are transported by a conveyor and dropped into a hydraulic compactor. The compactor compresses the collected screenings, squeezes out excess water and pushes the screenings to the roll off bin.

Ferric Chloride System
Ferric Chloride is added to the liquid flow after grit removal to enhance Primary Treatment and to control sulfide emissions. Ferric Chloride can also be valved to the Digesters. The ferric station consists of a truck filling station, storage tank, three chemical metering pumps and associated piping.

Polymer System
Polymer is added the liquid flow after grit removal to enhance Primary Treatment. The Polymer System includes a tote stand, chemical metering pump, mixing chamber and associated piping.

Headworks Splitter Box
The Headworks Splitter Box receives flow from both grit systems, the bar screens structure bypass and the overflow from the Solids Section gravity thickener. Flow can be diverted to the Plant 3 rectangular clarifiers or to the Plant 2 circular clarifiers for Primary Treatment.

Odor Scrubber
Foul air collected in the preliminary and primary treatment processes is forced through the odor scrubber tower with plastic porous media where a solution of bleach and caustic soda trickles against the air flow to oxidize hydrogen sulfide and other compounds. The Odor Scrubber is used to supplement the foul air treatment provided by the Biofilter.

2. Capacity Profile

Table 1 Capacity by System

System Sub System(s)	Design Capacity (Dry Weather Average)	Notes
Preliminary Treatment Process	44 MGD	
Influent Channel and Metering Station		
East Sewer	42 inch	
West Sewer	42 inch	
Parshall Flumes	2 @ 55 MGD	Per Unit
Gates	2 units	
Screening Equipment		
Mechanical Rake	4 @ 27.5 MGD	Per Unit
Manual Rake	__ @ __ MGD	
Gates	15 units	
Aerated Grit System		
Chambers	1 @ 44 MGD	
Pumps	3 @ 150 gpm	Per Unit
Blowers	2 @ 360 scfm	Per Unit
Gates	10 units	
Vortex Grit System		
Chamber	1 @ 20.4 MGD	
Pump	1 @ 300 gpm	
Gates	4 units	
Grit Washing/Disposal System		
Classifiers	2 @ 300 gpm	Per Unit
Conveyors	2 @ 3 wet tons per hr	Per Unit
Screening Conveyance/ Disposal System		
Conveyor	5.0 hp	
Compactor	5.0 hp	
Ferric Chloride System		
Tank	13,000 gallons	
Pumps	3 @ 37.4 gph	Per Unit
Polymer System		
Pump	1 @ 4.5 gph	
Headworks Splitter Box		
Gates	3 units	
Odor Scrubber		
Blowers	2 @ 8,000 scfm	Per Unit
Valves	2 units	> 18 inch

3. Asset Ratings

Table 2 Asset Ratings

System	Rating Scale* 1 = Excellent; 5 = Poor			
	Condition	Redundancy	Function	Reliability
Influent Channel and Metering Station	3	2	3	3
Screening Equipment	3	2	3	3
Aerated Grit System	3	3	4	3
Vortex Grit System	3	3	4	5
Grit Washing/Disposal System	3	3	3	3
Screening Conveyance/Disposal System	4	5	3	5
Ferric Chloride System	3	3	3	3
Polymer System	3	3	3	3
Headworks Splitter Box	3	5	3	3
Odor Scrubber	3	3	3	3

* Ratings as defined in Appendix A

4. Key Issues

Influent Channel and Metering Station
The east isolation gate leaks. In addition, there is currently no odor control directly tied into the influent channel. A project is being planned by Maintenance under EP14002 to replace the isolation gates.

Screening Equipment
The bar spacing allows a significant amount of debris to reach downstream processes. A substantial number of the gates are broken and inoperable. In addition, the foul air containment leaks, as evident by internal smoke tests. Project EN14019 will replace the broken and inoperable gates.

Aerated Grit System
The AGC allows large amounts of grit to pass through to downstream processes. Many of the gates are broken and inoperable. Project EN14019 will replace the broken gates, and upgrade or replace the AGC.

Vortex Grit System
The Vortex grit chamber is not operated because the grit piping clogs frequently when it is in operation. A potential Maintenance project will rehab this system.

Grit Washing/Disposal
Recent failures of the classifier and the conveyors screws have indicated excessive wear from heavy use. The availability of spare parts results in parts from both systems being pieced together to have one working system. A potential Maintenance project will rehab this system.

Screenings Conveyance/Disposal
The conveyor equipment is corroded and has limited accessibility for cleaning and repair. The compactor welds & hoses fail regularly (3-4 times per year). The Maintenance Project EP14002 will replace the screenings conveyor and compactor in 2014.

Ferric Chloride System
Ferric chloride system operates effectively but the equipment is approaching the end of its useful life. Project EN14019 will rehab this system.

Polymer System
This system will be rehabbed by Project EP14002 or EN14019.

Headworks Splitter Box
Many of the gates are broken and inoperable. Project EN14019 will replace these gates.

Odor Scrubber
The odor scrubber is a viable alternative if the Primary section biofilter needs to be taken offline. Project EN14019 will rehab this system.

Table 3 History of Select Assets

System	Capital Improvement Project Activity	Condition Assessment Report
Influent Channel and Metering Station	1977 1987	Planned 2014
Screening Equipment	1977 1987	Planned 2014
Aerated Grit System	1987	Planned 2014
Vortex Grit System	1987	
Grit Washing/Disposal System	1977 1987 2009	
Screening Conveyance/Disposal System	1977 1987	
Ferric Chloride System	1987 1992	
Polymer System		
Headworks Splitter Box	1977	Planned 2014
Odor Scrubber	1996	Planned 2014

5. Project Activity

Table 4 Project Summary

Project No.*	Name and Description	Estimate ($000's)	Phase - Dept.**	Expected Completion
EN14019	Headworks Rehab	$10,725	Planned - ENG	2018
EP14002	Headworks – Asset Health	$150	Planned - MAINT	2014
TBD	Vortex Grit Rehab	$250	Potential - MAINT	2015

*Project No. – from TYCIP or Maintenance Project List
**Phase – Dept. – Potential, Planned, Design or Construction (CONST) - ENG or MAINT

Description:
EN14019 - Engineering project to comprehensively rehab and upgrade the Preliminary Treatment Process.

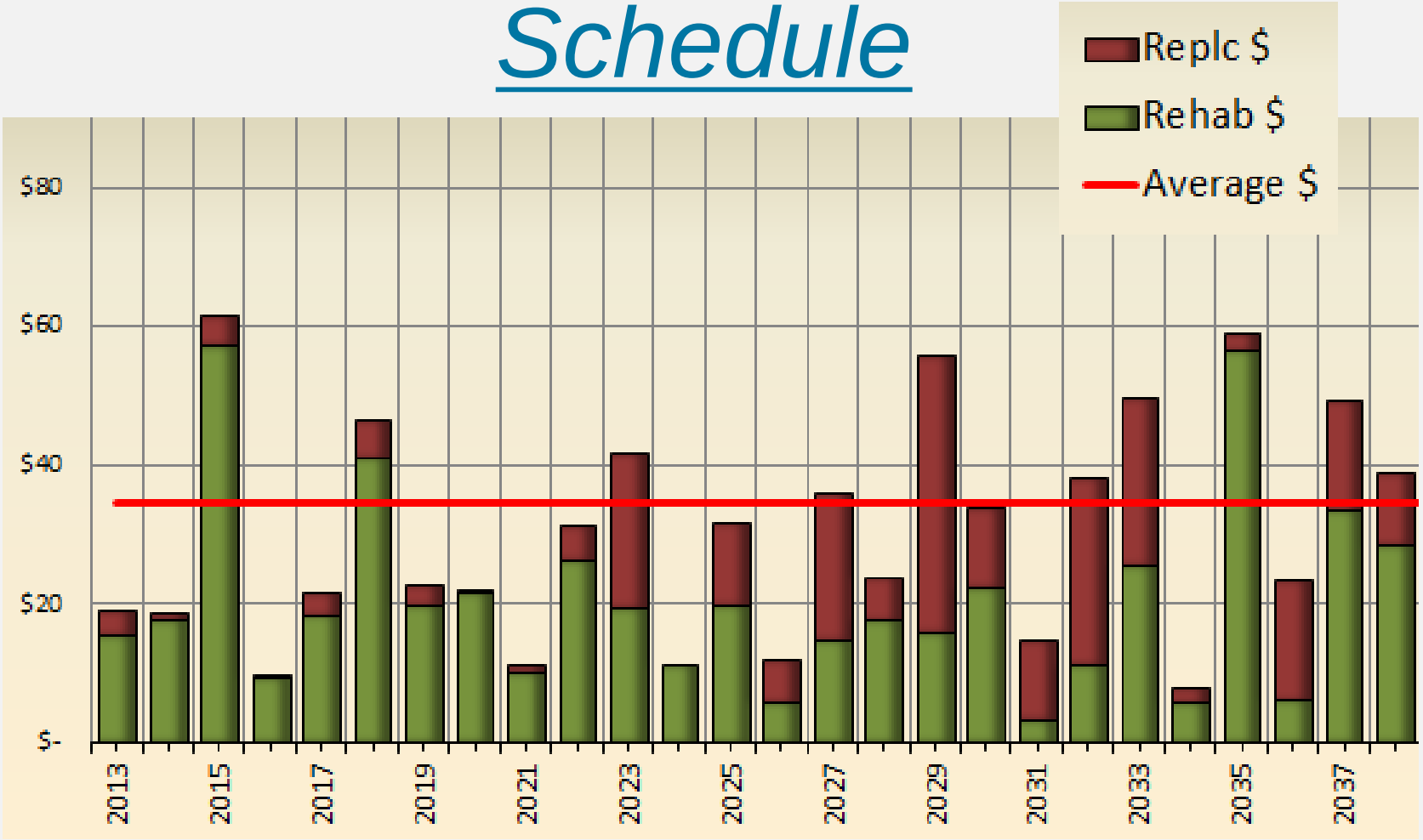
EP14002 – Maintenance project to rehab systems in 2014 that have relatively high risks of failure.

TBD – Potential Maintenance project to rehab and upgrade the Vortex Grit System and Grit Washing System.

RP-1 List of Projects

Project Activity Summary					
Project No.*	**Treatment Process**	**Name and Description**	**Estimate (000's)**	**Phase - Dept.****	**Expected Completion**
EP14002	Preliminary	Headworks – Asset Health	$ 150	Planned - MAINT	2014
EN08023.05	Primary	Plant 3 Primary Clarifier 1-6 Rehabilitation	$ 2,565	CONSTR - ENG	2014
EN12022	Secondary	Aeration Ducting Rehab	$ 848	Design - ENG	2014
EN11039	Tertiary	Bleach System Improvements	$ 550	Design - ENG	2014
O&M	Solids	Digester 4 Rehab.	$ 420	Planned - MAINT	2014
		2014 Project Total	***$ 4,533***		
TBD	Preliminary	Vortex Grit Rehab	$ 250	Potential - MAINT	2015
EP14004	Tertiary	Cl2 Residual Analyzer Replacement	$ 130	Design - MAINT	2015
EN13046	Solids	Flare Replacement	$ 1,600	Design - ENG	2015
		2015 Project Total	**$ 1,980**		
TBD	Primary	Plant 3 Primary Scum Well Upgrade	$ 500	Potential - MAINT	2016
		2016 Project Total	***$ 500***		
EN14019	Preliminary	Headworks Rehab	$ 10,725	Planned - ENG	2018
EN14020	Secondary	RP-1 Sludge Thickening Upgrades	$ 8,450	Planned - ENG	2018
TBD	Tertiary	Filter, CCB & Sedimentation Basin Rehab	$ 1,500	Potential - MAINT	2018
EN14020	Solids	Sludge Thickening Improvements	$ 8,450	Planned - ENG	2018
TBD	Solids	Digester Mixing Upgrade	$ 4,000	Potential - ENG	2018
EN13016	Dewatering	SCADA Migration	$ 4,925	Design - ENG	2018
TBD	Dewatering	Second 12kV Feeder to TP-1	$ 2,000	Potential – ENG	2018
TBD	Dewatering	Lighting Upgrades	$ 800	Potential - ENG	2018
TBD	Dewatering	Utility & Potable Water System Rehab	$ 600	Potential - MAINT	2018
TBD	Dewatering	Yard Piping Rehab	$ 2,000	Potential - MAINT	2018
		2018 Project Total	***$ 43,450***		
EN14021	Secondary	RP-1 Secondary Clarifier Asset Rehab	$ 5,301	Planned - ENG	2019
		2019 Project Total	***$ 5,301***		
TBD	Secondary	Flow Equal. Upgrade/Odor Control	$ 35,000	Potential - ENG	2023
		2023 Project Total	***$ 35,000***		
		Potential Project Total	**$ 46,650**		
		Project Total	**$ 90,764**		
*Project No. – from TYCIP or Maintenance Project List					
**Phase – Dept. – Potential, Planned, Design or Construction (CONST) - ENG or MAINT					

Rehab & Replacement (R&R) Schedule



- R&R Schedule is an input to the Long Range Plan of Finance (LRPF)

AMP Schedule

- Anticipated Completion in January 2014

Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Questions?