



# PC 15 Capital Improvements Program

PC 15 Meeting - Agenda Item 3

November 14, 2019

# PC 15 - Ten Year Plan

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Fiscal Year	Liquids	AWT
2020	\$ 12,321,354	\$ 40,000
2021	\$ 8,009,250	
2022	\$ 4,529,961	\$ 67,080
2023	\$ 1,421,171	\$ 69,227
2024	\$ 3,809,157	\$ 71,442
2025	\$ 3,474,072	\$ 325,719
2026	\$ 3,200,572	\$ 76,087
2027	\$ 3,109,914	\$ 1,633,681
2028	\$ 3,252,251	\$ 81,035
2029	\$ 6,095,564	\$ 83,628
<b>TOTAL</b>	<b>\$ 49,223,267</b>	<b>\$ 2,447,898</b>

## Projects in the next 5 Years

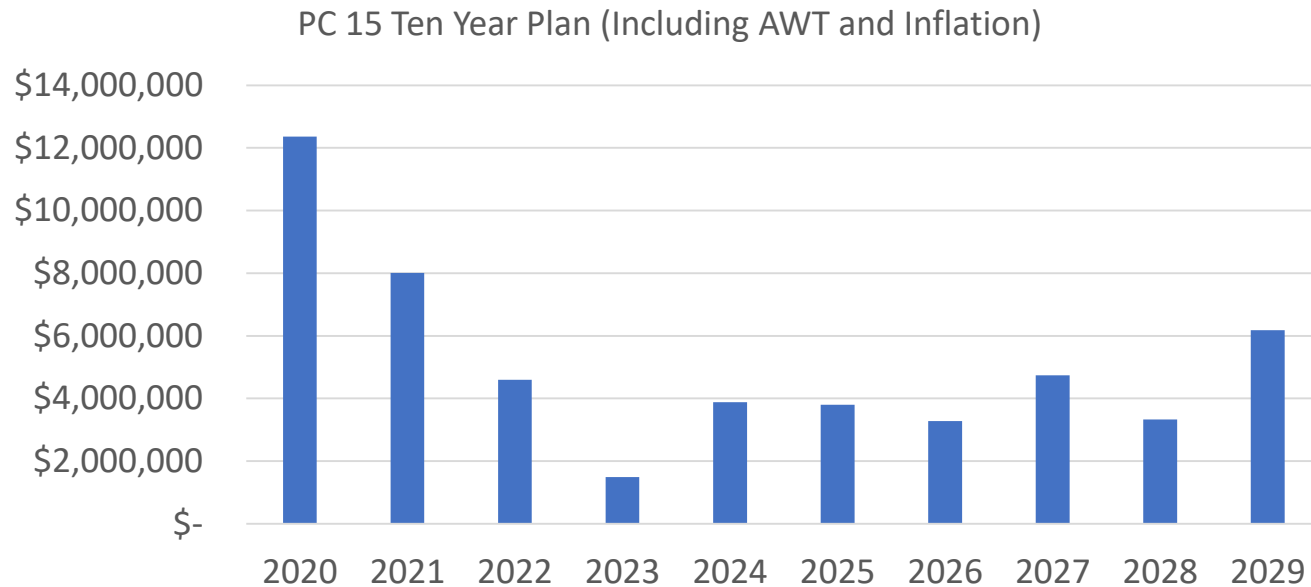
- Facility Improvements - \$12M [*\$1.2M Collected*] (FY 20 & 21)
- Export Sludge System Reconstruction - \$5M [*\$2M Collected*] (FY 21)
- Aeration Upgrade Construction - \$5M (FY 21 & 22)
- Odor Control Scrubber - \$3M (FY 23, 24, & 25)
- Small Cap - \$3M
- Studies, Condition Assessments, Smaller Projects - \$2M

## Offsite Projects:

- Export Sludge (including RTP) - \$5M (FY 22 & 23)
- Aliso Sulfur Creek Confluence Protection - \$1M (FY 27)
- No costs identified for further Awma Road Repair or Wood Canyon drainage repairs

# PC 15 - Ten Year Plan

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# PC 15 - Ten Year Plan

Row Labels	Project Type	Project Name	Sum of Inflated Cost
2025	Large Cap		\$ 3,080,658
	15102	Odor Control Scrubber/Foul Air System Reconstruction	\$ 1,670,247
	15147	Pavement and Surface Drainage Master Plan	\$ 86,535
	15713	North Section Embankment Protection	\$ 1,071,884
	15813	AWT Building Modifications	\$ 251,991
	Small Cap		\$ 719,133
	SC-A-2025	Small Capital	\$ 73,728
	SC-L-2025	Small Capital	\$ 645,405
2025 Sum			\$ 3,799,791
2026	Large Cap		\$ 2,534,514
	15101	Grit Handling Upgrade	\$ 953,742
	15106	DAF Polymer and DAF Control Building Upgrade	\$ 482,930
	15132	Channel Lining	\$ 1,007,854
	15148	Instrumentation Master Plan	\$ 89,987
	Small Cap		\$ 742,146
	SC-A-2026	Small Capital	\$ 76,087
	SC-L-2026	Small Capital	\$ 666,058
2026 Sum			\$ 3,276,659

# PC 15 - Ten Year Plan

Row Labels	Project Type	Project Name	Sum of Inflated Cost
2027	Large Cap		\$ 3,977,701
	15126	Personnel Building Modification	\$ 374,848
	15133	Operations Building Rehab	\$ 1,146,827
	15145	Export Sludge System Condition Assessment	\$ 104,637
	15714	Aliso - Sulfur Creek Confluence Protection	\$ 796,230
	15815	Effluent Equalization Basin Valve Replacement - Common (AWT)	\$ 997,134
	15817	AWT Instrumentation	\$ 558,025
	Small Cap		\$ 765,894
	SC-A-2027	Small Capital	\$ 78,522
	SC-L-2027	Small Capital	\$ 687,372
2027 Sum			\$ 4,743,595
2028	Large Cap		\$ 2,542,883
	15115	RAS and WAS Pump Station	\$ 246,600
	15122	West Corridor Piping Reconstruction	\$ 2,158,208
	15123	Piping Between RAS/WAS PS and AWT	\$ 138,075
	Small Cap		\$ 790,403
	SC-A-2028	Small Capital	\$ 81,035
	SC-L-2028	Small Capital	\$ 709,368
2028 Sum			\$ 3,333,286

# PC 15 - Ten Year Plan

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Row Labels	Project Type	Project Name	Sum of Inflated Cost
2029	Large Cap		\$ 5,363,496
	15110	Potable Water System Relocation	\$ 778,419
	15115	RAS and WAS Pump Station	\$ 1,364,570
	15121	Auxiliary Blower Bldg Upgrade	\$ 909,105
	15124	Central Corridor Piping	\$ 2,225,861
	15146	Primary Sedimentation System Condition Assessment	\$ 85,541
	Small Cap		\$ 815,696
	SC-A-2029	Small Capital	\$ 83,628
	SC-L-2029	Small Capital	\$ 732,068
2029 Sum			\$ 6,179,192

# PC 15 - Aeration and MBR

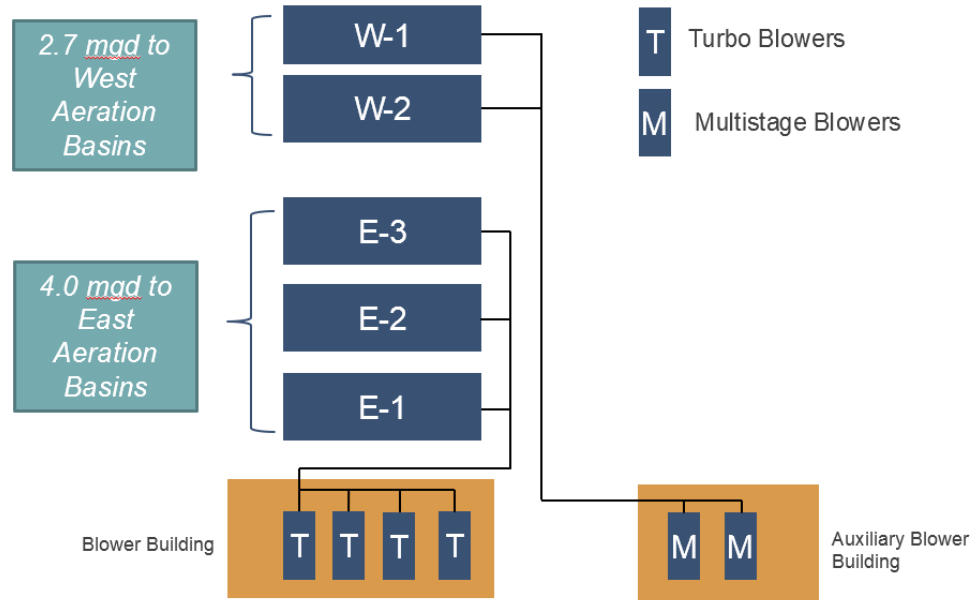
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- Hazen & Sawyer Tasks
  - Evaluate MBR for CTP without MBR (4.7 MGD)
    - No cost provided, only feasibility
    - Peak weather flows not considered
  - Aeration Blower Recommendation
    - Cost provided



# PC 15 - Aeration and MBR

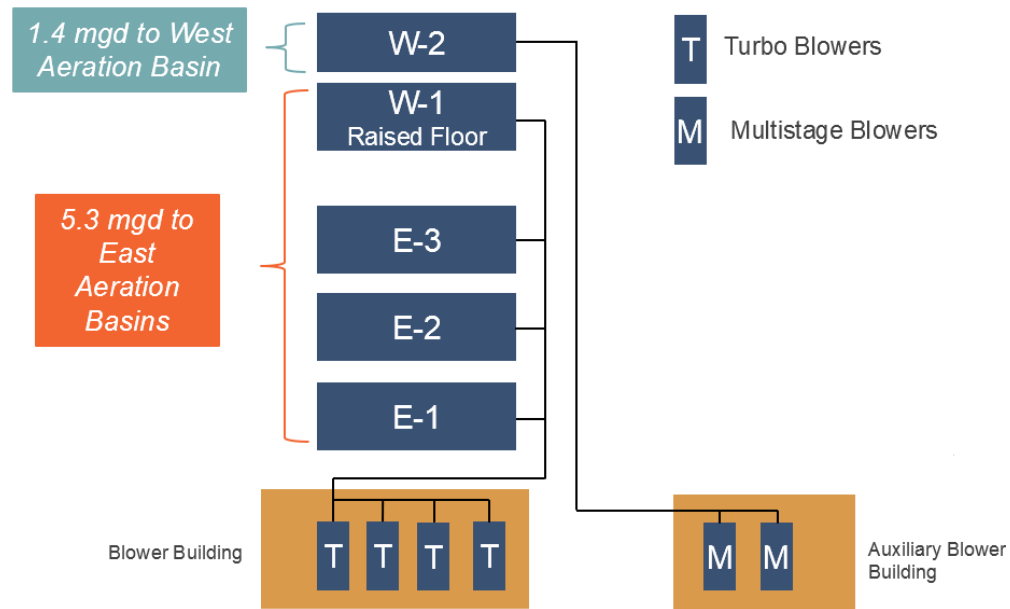
## Approach A – No Basin Floor Modification





# PC 15 - Aeration and MBR

## Approach N – W-1 Basin Floor Modification



# PC 15 - Aeration and MBR

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- Summary of Findings:
  - Turbo blower costs with multistage relocation \$5.7M
  - Currently planned configuration of blowers can support a 4.7 MGD MBR
  - Slight reduction of solids produced because of increased retention time
  - Existing basins not recommended for MBR use

# PC 15 - Innovative Biosolids

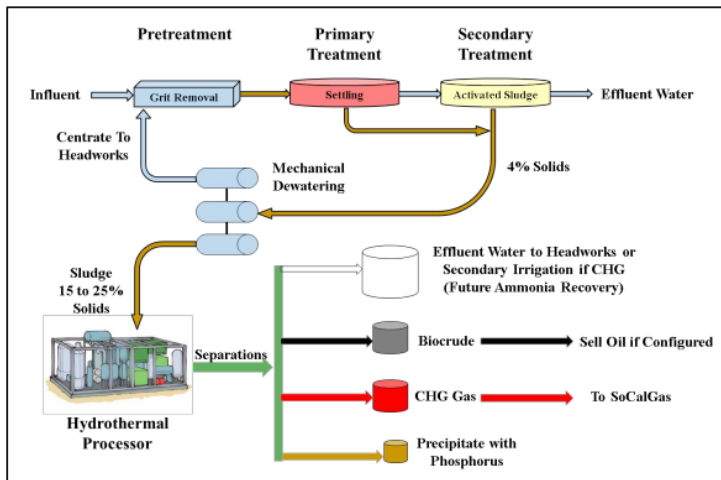
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- PC 15 Not included in current scope
- Project Objectives:
  - Select one or more firms to provide a 30% design of an innovative biosolids technology
  - Provide a second proposal to better define the technology, site location, cost, and other details based on the 30% design

# Genifuel

Process	Feedstock	% of Solids	Products
Hydrothermal Processing	Undigested sludge preferred or possibly digested sludge	30% of JBLTP	Methane, effluent water (from hydrothermal process), precipitate with phosphorus

## Process Schematic:



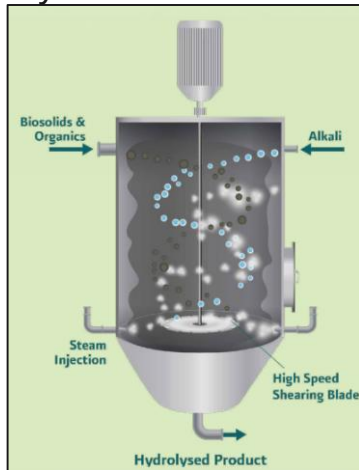
## Example Skid:



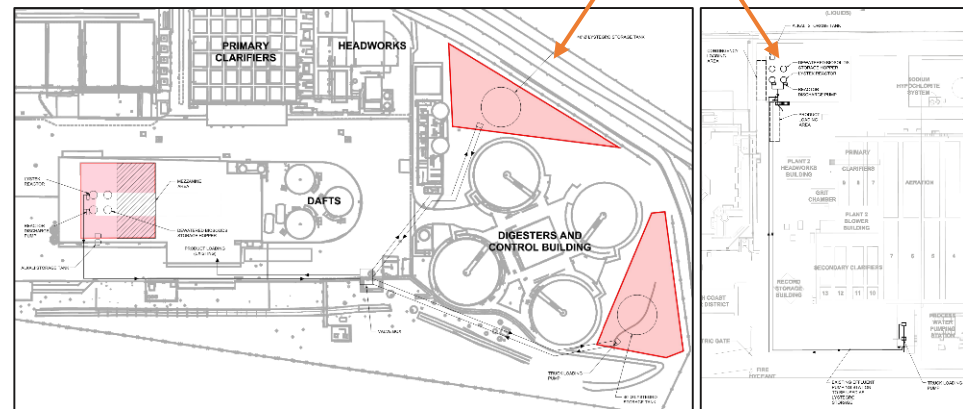
# Lystek

Process	Feedstock	% of Solids	Products
Thermal Hydrolysis Process	Digested sludge preferred or undigested sludge	100% of JBLTP and/or RTP	LysteGro (liquid fertilizer), LysteMize (product to be used in digesters to enhance biogas production – JBLTP only)

## Lystek THP® Reactor



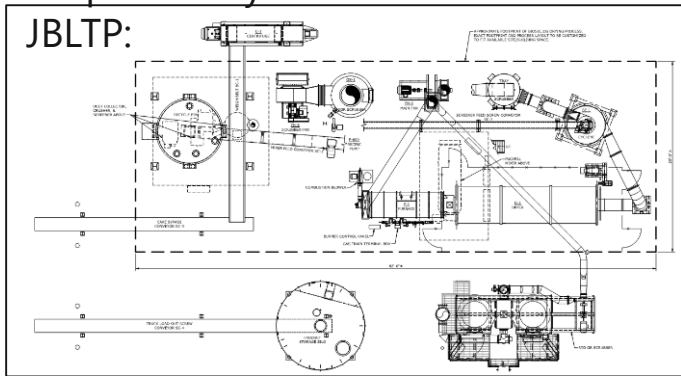
## Proposed Locations at RTP & JBLTP



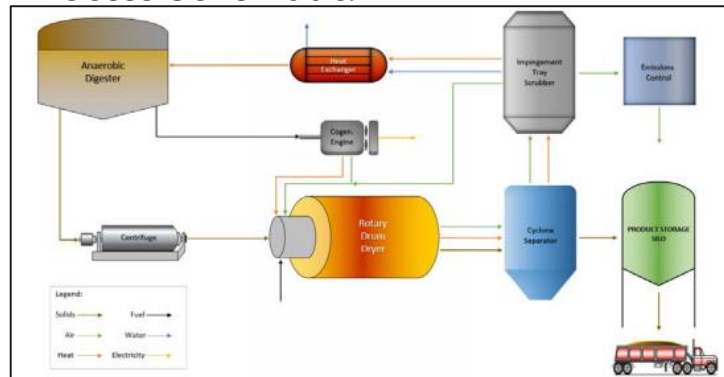
# NEFCO

Process	Feedstock	% of Solids	Products
Rotary Drum Dryer	Digested preferred or undigested sludge	Not Listed	Dried granules, condensate water from dryer

## Proposed Layout at JBLTP:



## Process Schematic:



# PC 15 - Innovative Biosolids

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- Current Status
  - Two proposals removed for consideration
  - Questions currently being provided to the three remaining proposers for further evaluation
  - Separate PC 2 and PC 17 Meetings will be presented with the findings
  - All options are still on the table including not awarding a contract to awarding a contract to the three remaining proposers for a 30% design

# Coastal Treatment Plant Current Construction

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- PCL Has mobilized to the site
- Surveying and Potholing being completed
- Submittal Approval and Review
- Next Major Portions of Work:
  - Install Temporary Power
  - Aeration and Sedimentation Basin work including concrete and channel repair
  - Ferric Chloride Dosing System