

City of Santa Fe

Paseo Real Water Reclamation Facility Master Plan

Public Works/Public Utilities Committee

PRWRF CIP Prioritization and
New WRF Considerations

DECEMBER 2, 2024



Overview of Tonight's Topics

1

Review PRWRF phased CIP

2

Compare to New WRF concept

3

Preliminary recommendations

Key takeaways

- 1 PRWRF should be re-rated to 7 million gallons per day (mgd) flow and associated influent loadings
- 2 PRWRF Master Plan defines a clear path for meeting current and anticipated discharge permit limits at PRWRF under future flow and load conditions
- 3 Cost to construct New WRF would be significantly higher; New WRF may facilitate some non-monetizable benefits
- 4 Solids management and San Juan-Chama Return & Reuse Pump Station stays at PRWRF site (with or without new WRF)
- 5 Recommend initiating “no-regrets” capital projects at PRWRF and continuing assessment of merits of a New WRF



PRWRF Improvements

Baseline Scenario (No New WRF)



Airport Lease

Outfall to Santa Fe River

Effluent Reaeration

UV Disinfection

2 MG Reuse Tank and Pump Station

Tertiary Filtration

Gas Cleaning and Cogen Engines

Anaerobic Digesters

Secondary Clarifiers

Aeration Basins (North and South)

Reuse Pump Stations

DAF Building

Anoxic Selectors

Administration Building

Filtrate Equalization Tank & Pump Station

Lab

Headworks

Grit and Grit Blower Building

Primary Clarification

Biosolids Dewatering

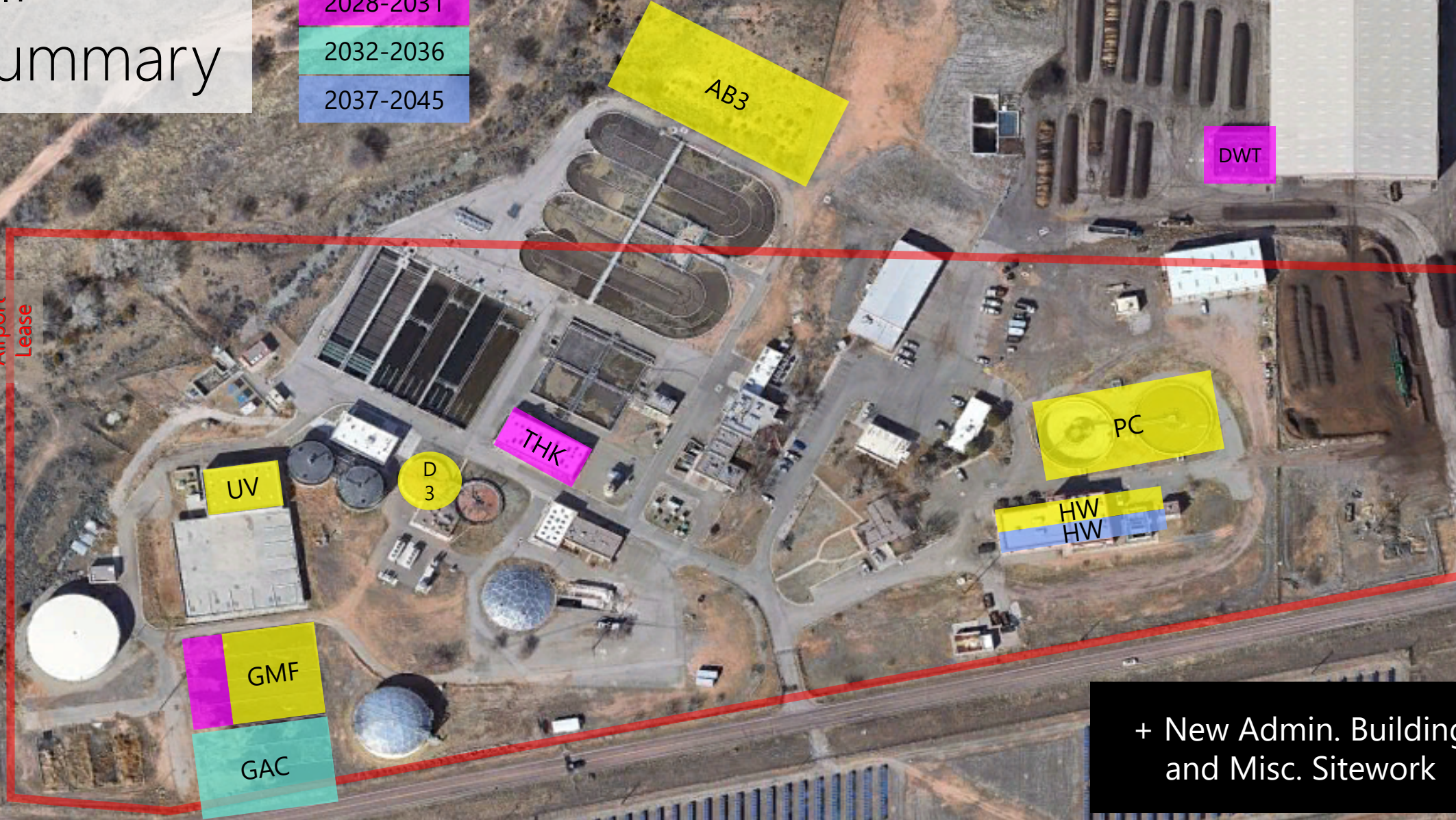
Biosolids Composting

CIP Summary

- 2025-2027
- 2028-2031
- 2032-2036
- 2037-2045

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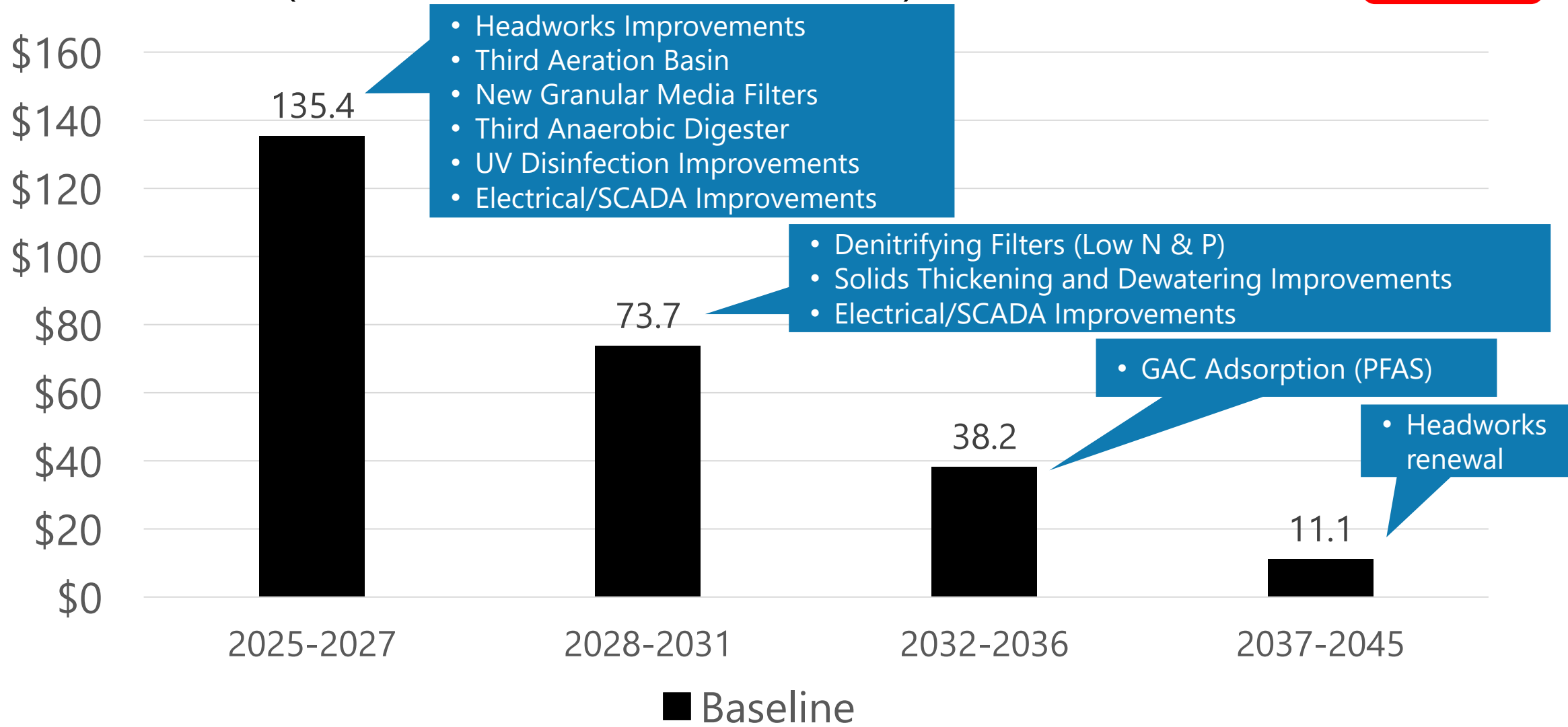
Airport
Lease



+ New Admin. Building
and Misc. Sitework

PRWRF CIP (Baseline; Escalated \$M)

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PRWRF CIP (Baseline)

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\$160

- Headworks Improvements
- Third Aeration Basin
- New Granular Media Filters

20-YEAR CIP (AACE Class 5)

PRWRF (no New WRF)

Nominal Range

2024\$	\$214M	\$107-428M
Escalated	\$258M	\$129-517M

- Denitrifying Filters (Low N & P)
- Solids Thickening and Dewatering Improvements
- Electrical/SCADA Improvements

- GAC Adsorption (PFAS)

- Headworks renewal

\$20

\$0

2025-2027

2028-2031

2032-2036

2037-2045

■ Baseline

38.2

11.1



New WRF

Key Assumptions

Siting: across Santa Fe River from PRWRF

Solids management (digesters, thickeners, gas cleaning, compost) remains at PRWRF

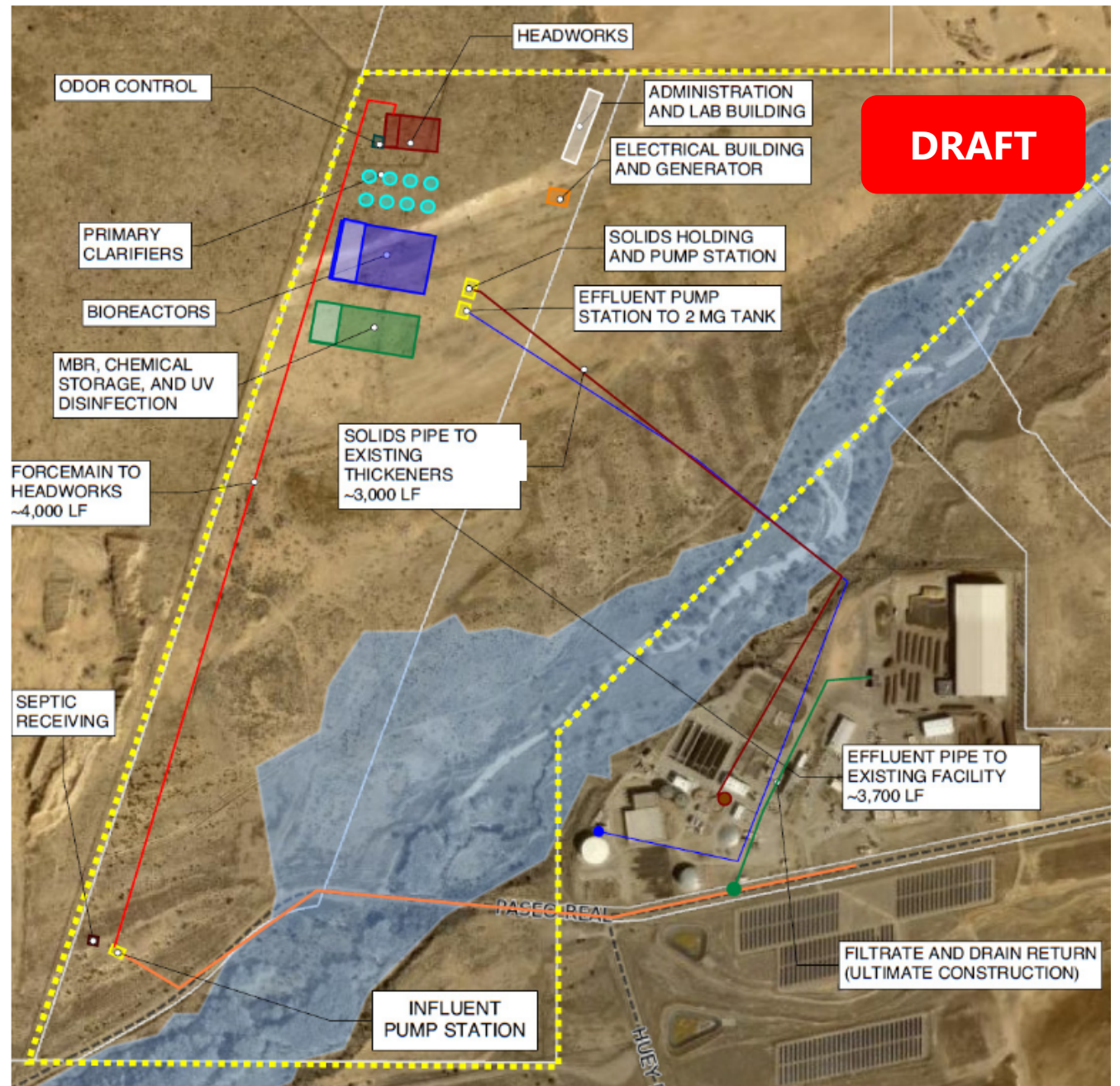
SJC Return / Reuse Pump Station remains at PRWRF

Construct new WRF in 2-mgd phases

Preliminary Site Layout

Site challenges that affect project costs:

- Topography / excavation
- Floodplain
- Flow transfer between PRWRF/New WRF sites





Airport Lease Boundary

Aeration Basins (North and South)

Filtrate Equalization Tank & Pump Station

Biosolids Composting

Biosolids Dewatering

Secondary Clarifiers

Outfall to Santa Fe River

Reuse Pump Stations

Effluent Reaeration

Administration Building

Primary Clarification

UV Disinfection

Anaerobic Digesters

Anoxic Selectors

Grit and Grit Blower Building

Tertiary Filtration

Gas Cleaning and Cogen Engines

DAF Building

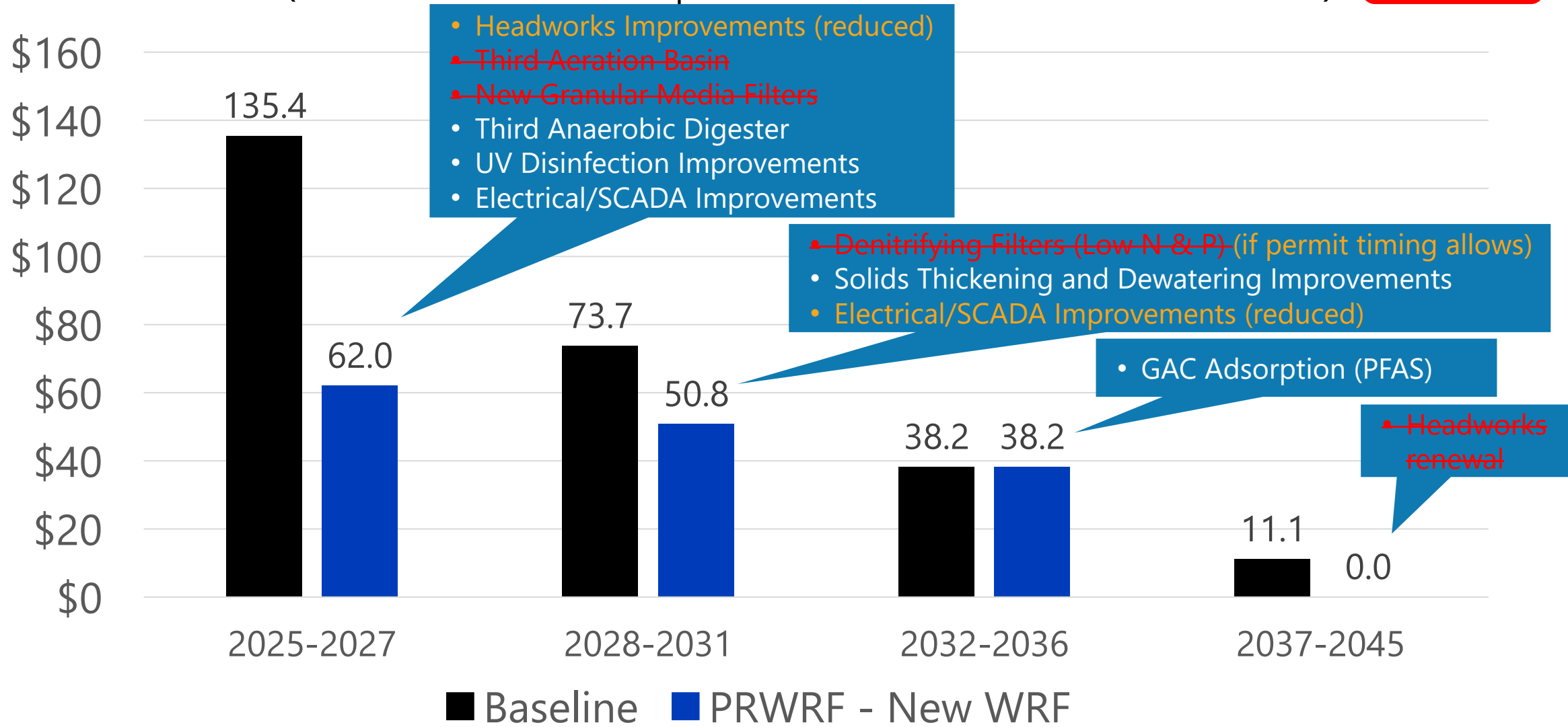
Lab

Headworks

2 MG Reuse Tank and Pump Station

PRWRF CIP (If new WRF is phased in; Escalated \$M)

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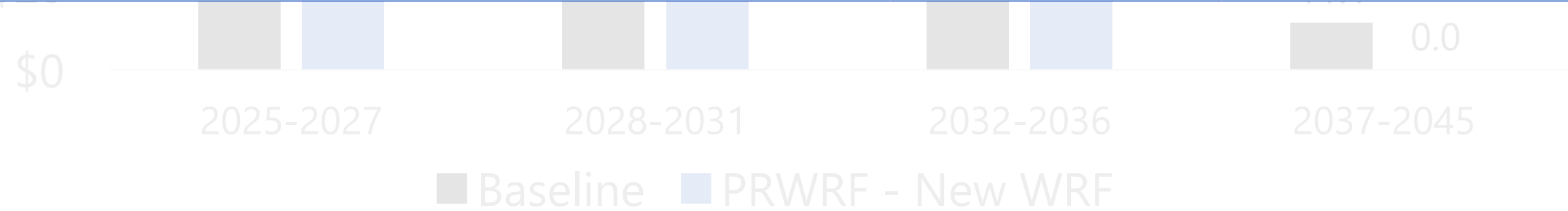


PRWRF CIP (If new WRF is phased in)

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20-YEAR CIP (AACE Class 5)				
	PRWRF (no New WRF)		PRWRF (if New WRF)	
	Nominal	Range	Nominal	Range
2024\$	\$214M	\$107-428M	\$125M	\$62-249M
Escalated	\$258M	\$129-517M	\$151M	\$76-302M



Capital Cost of New WRF

DIRECT COSTS				
Influent Pump Station	1	LS	\$ 1,300,000	\$ 1,300,000
Septic Receiving	1	LS	\$ 750,000	\$ 750,000
Headworks (includes coarse screens, fine screens, grit removal and building)	1	LS	\$ 17,647,626	\$ 17,647,626
Odor Control	1	LS	\$ 2,210,000	\$ 2,210,000
Primary Clarifiers	1	LS	\$ 2,400,000	\$ 2,400,000
Secondary Treatment Process (Aeration Basins, Diffusers, Return Pumps (Submersible), Blowers)	1	LS	\$ 17,242,112	\$ 17,242,112
MBR System (Blowers, Pumps, UV Disinfection, Chemical Addition, Building)	1	LS	\$ 13,931,929	\$ 13,931,930
Effluent Pump Station	1	LS	\$ 1,300,000	\$ 1,300,000
Solids Holding Tank and Return Pump Station	1	LS	\$ 1,560,000	\$ 1,560,000
Operations/ Administration Building (including lab)	1	LS	\$ 4,860,000	\$ 4,860,000
Electrical Building and Backup Generator (Allowance)	1	LS	\$ 7,000,000	\$ 7,000,000
DIRECT COSTS (excl. NMGR)				\$ 70,210,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	15	%		\$ 10,531,500
Misc. Structural / Architectural Allowance	3	%		\$ 2,106,300
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	7	%		\$ 4,914,700
Electrical, IC, Programming Allowances	20	%		\$ 14,042,000
SUBTOTAL (excl. NMGR)				\$ 101,810,000
Construction Contingency	35	%		\$ 35,600,000
SUBTOTAL DIRECT COST (excl. NMGR)				\$ 137,410,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	15	%		\$ 20,700,000
GC Overhead and Profit	20	%		\$ 27,500,000
GC Bonds and Insurance	4	%		\$ 5,500,000
TOTAL CONSTRUCTION COST (excl. NMGR)				\$ 191,110,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Engineering, legal, and administrative fees	10	%		\$ 19,100,000
Construction Management and ESDCs	10	%		\$ 19,100,000
TOTAL PROJECT COST (2024 \$ excl. NMGR)				\$ 229,300,000
NM GROSS RECEIPTS TAX (NMGR)	8.1875	%		\$ 18,800,000
TOTAL PROJECT COST (2024 \$ incl. NMGR)				\$ 248,100,000

TOTAL COST FOR NEW WRF (Unescalated \$)

\$248M Phase 1 (2 mgd)

+ \$125M for Interim PRWRF Improvements

+ New WRF capacity expansions to 6 mgd (~\$230M)

= ~\$600M (plus escalation)

New WRF (2-mgd Phase 1 ONLY) (Unescalated \$, AACE Class 5)

	Nominal	Range
2024\$	\$248M	\$124-496M



Preliminary Recommendations

Preliminary Recommendations: Path Forward

1 Initiate “no regrets” priority capital improvements at PRWRF (\$61M for near-term permit compliance regardless of New WRF)

2 Continue assessment of potential benefits associated with New WRF

3 Thorough condition assessment of PRWRF structural and electrical assets

4 Assess community support and funding/financing opportunities for New WRF
→ informed go/no-go decision on New WRF

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