



Southeast Plant Nutrient Reduction Project



**BACWA Annual Members Meeting
May 2, 2025**

About Me



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Water Power Sewer
Services of the San Francisco Public Utilities Commission

- Grew up in remote parts of India without access to running water, sanitation, power
- Chemical Engineering degrees, PE in State of California and numerous Professional Certifications along the way. Still learning everyday !
- 26 years with SFPUC
- Live in SF Bayview, 7 minutes away from Southeast Plant



Purpose and Agenda



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Purpose : Provide an overview of SEP Nutrient Reduction Project

Agenda :

01. Current Planning Tasks Overview
02. Project Delivery Analysis
03. Q&A

Current Planning Overview



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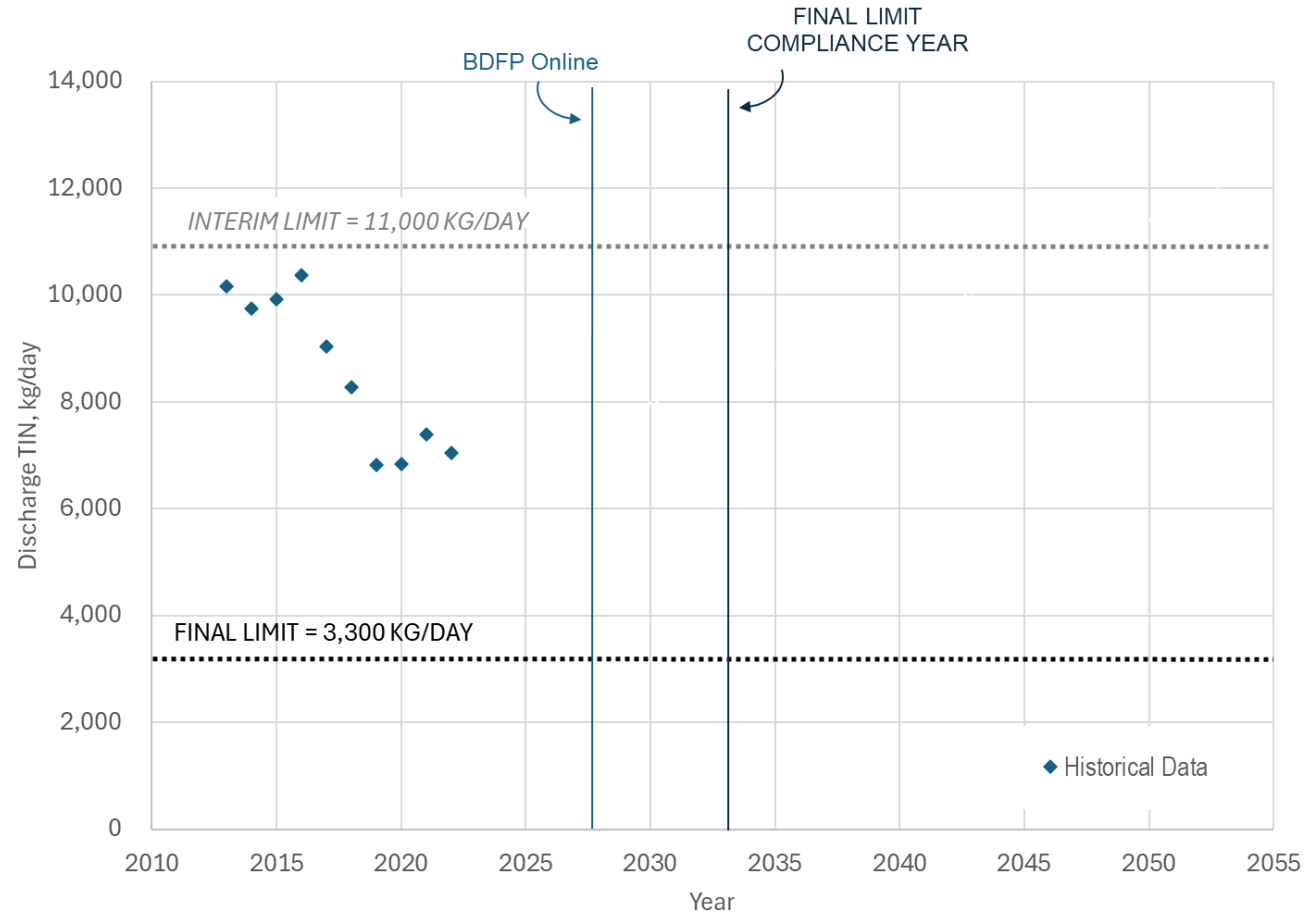
**Review SEP Flow
and Load
Projections**

**Establish Project
Needs and Drivers**

**Prepare Needs
Assessment
Report**

**Project Delivery
Approach**

Southeast Plant Effluent TIN Load

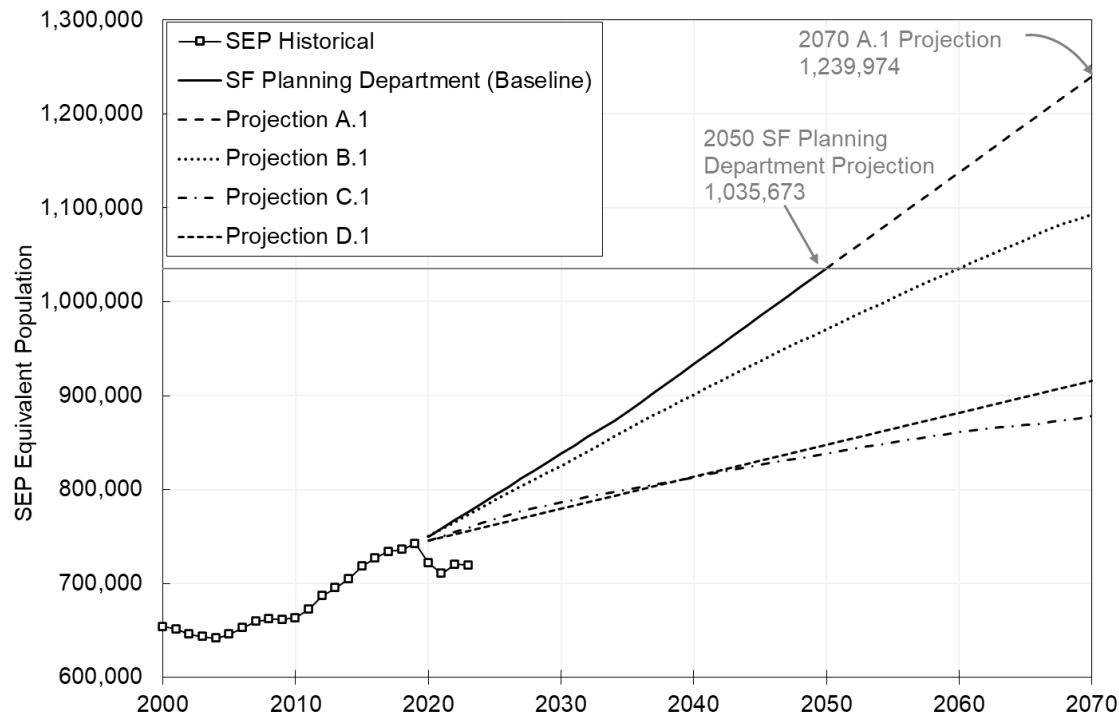


- The discharged TIN loads decreased during the pandemic and post-pandemic
- Biosolids Digester Facilities Project (BDFP) comes online in ~2027 which will change dynamics

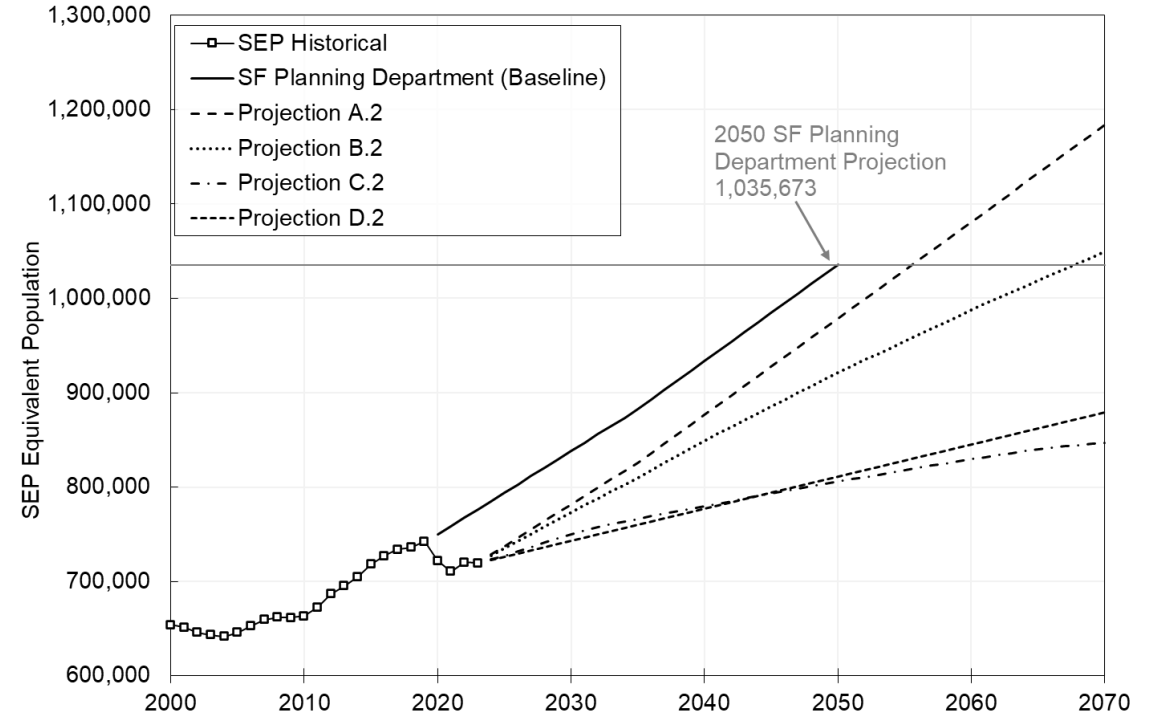
Flow and Load Projection



Projection “1” – Start from 2019



Projection “2” – Start from 2023



Flow and Load Projection

Next Steps



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Evaluate following for Population projections and sensitivity analysis

- A. Influent BOD₅ Load Projections
- B. Influent TSS Load Projections
- C. Influent TKN Load projections
- D. Influent Flow Projections

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Project Challenges



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Challenges –

1. Not to overbuild and right sizing nutrient project
2. Rate Payer Affordability
3. Site Constraints
4. Peak Wet-weather Flow Management

Potential Solutions – Modular, Incremental/Phasing,
Flexible System Designs Thinking, Permitting Flexibility

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Current Configuration – Wet Weather

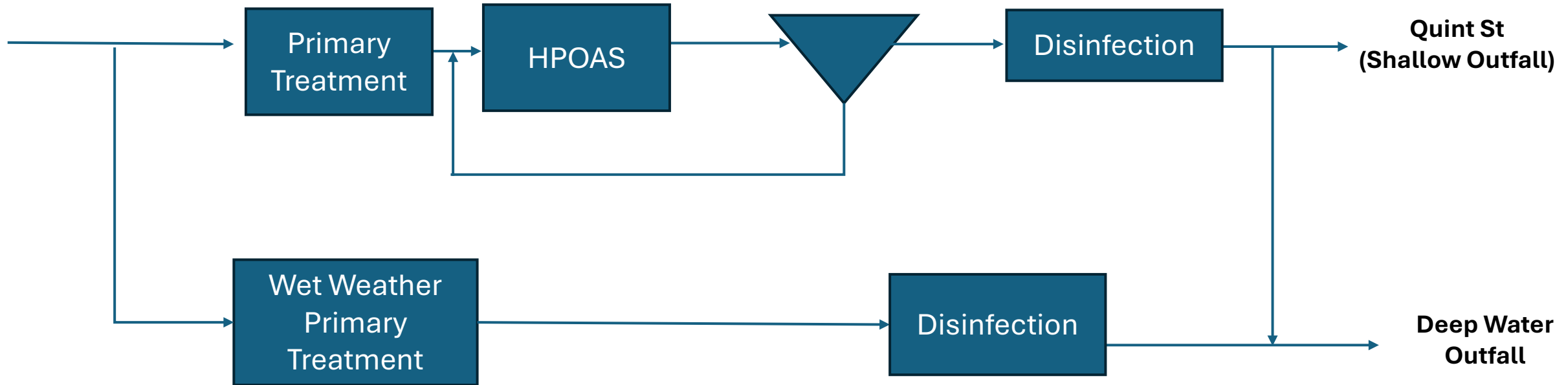


Influent Flows

~50 MGD Dry Weather

250 MGD Peak Wet Weather

Secondary Treatment 0 – 150 MGD



Peak Wet Weather Flows > 150 MGD



Key Considerations

Traditional Considerations

- Process technology
- Process size and capacity
- Phasing and maintenance of plant operation (MOPO)
- Rehabilitation needs
- Power upgrades
- Peak wet weather flow management

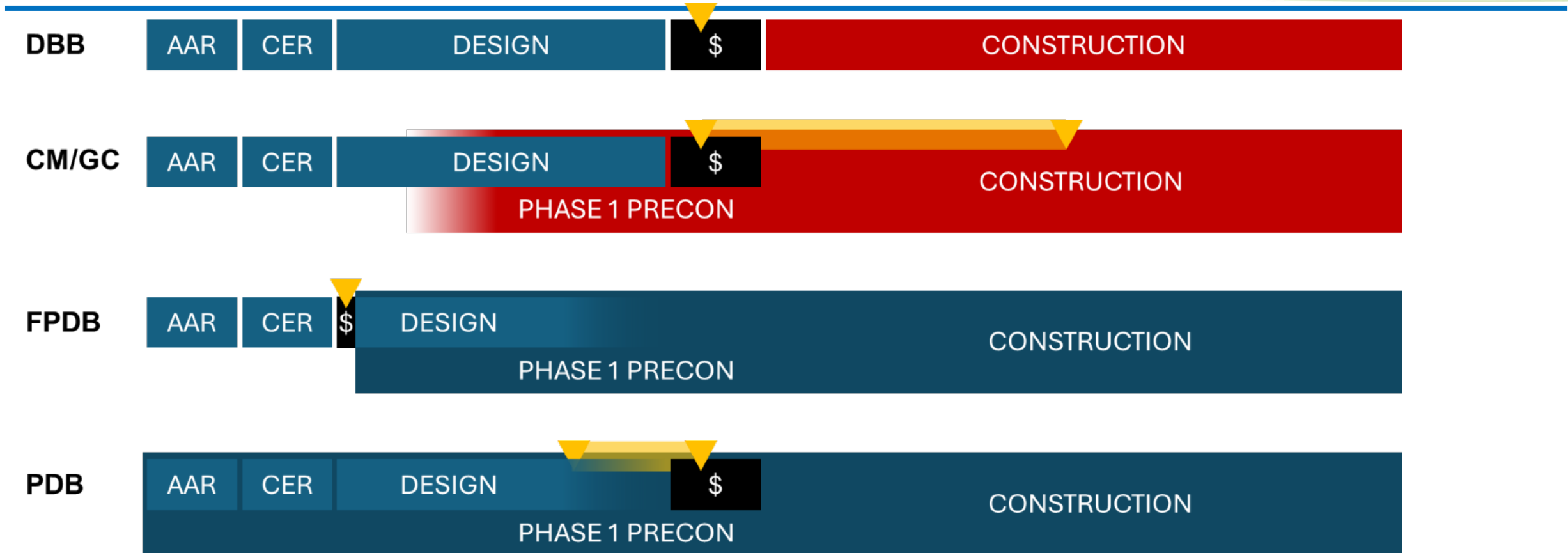
Additional Considerations

- Reduce effluent flow
 - Divert to other facilities
 - Reduce influent load
 - Reclaim water
- Reduce effluent load
 - Mainstream treatment
 - Sidestream treatment
 - Hybrid

Project Delivery Approach



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▼ Timing of Price Availability

Note: Schedules are normalized to compare delivery stages

DBB – Design Bid Build
 CM/GC – Construction Manager/General Contractor
 FPDB – Fixed Price Design-Build
 PDB – Progressive Design-Build

Decision on Delivery Method






- Progressive Design-Build provides greater flexibility and adaptability
- Progressive Design-Build provides single point of accountability for complex project like this
- GM approved on Feb 5, 2025 to proceed with Progressive Design-Build Procurement

MEMORANDUM

DATE: January 29, 2025

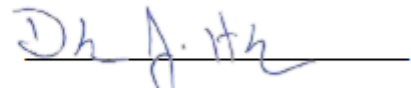
TO: Dennis Herrera
General Manager, SFPUC

THROUGH: Stephen Robinson
Assistant General Manager, Infrastructure 
Howard Fung 
Manager of Project Management Bureau
Bessie Tam *Bessie Tam*
Wastewater Capital Program Director

FROM: Jignesh Desai 
Principal Project Manager

SUBJECT: Southeast Plant Mainstream Nutrient Reduction
Staff Recommended Project Delivery Method

Approved

Signature: 

Dennis Herrera, SFPUC General Manager

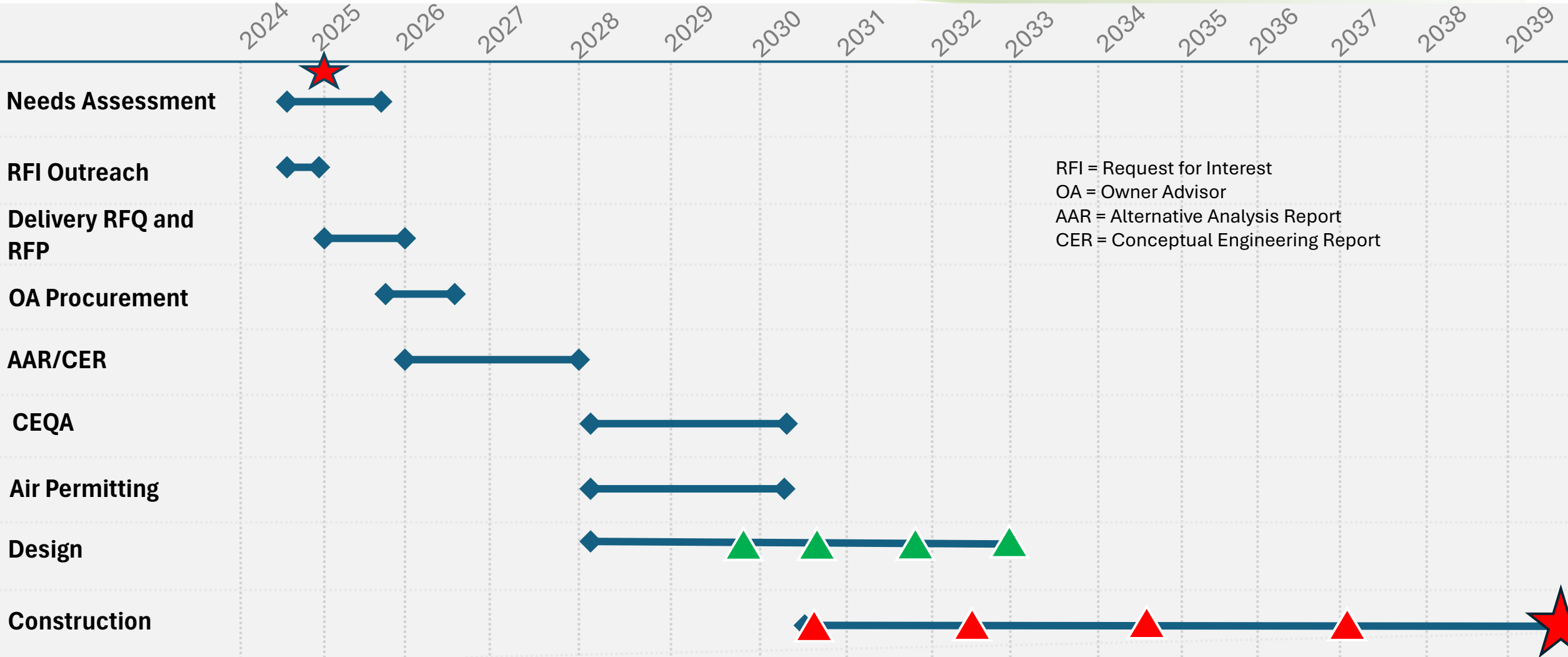
2/5/2025

Date

Overview of Project Schedule



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RFI = Request for Interest
 OA = Owner Advisor
 AAR = Alternative Analysis Report
 CER = Conceptual Engineering Report