

# Reservoir B Replacement, Zone A Pump Station and Transmission Main Project

## Design Status Update Presentation *Paradise Irrigation District*






June 12, 2018

Sami Kader



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# Agenda

-  Preliminary Design Summary
-  90% Design Review
  - Reservoir B Replacement
  - Zone A Pump Station
  - Zone A Transmission Main
-  Current Project Cost Estimate
-  Permitting Update
-  Construction Schedule and Constraints



Part 1

# PRELIMINARY DESIGN SUMMARY



# Existing System Challenges

- **WTP Finished Water Hydraulics** – the existing hydraulics of the plant water pumps at the WTP do not allow full use of Reservoir B.
- The existing **42-inch Transmission Main** alignment has no redundancy and is a vulnerability in the ability for PID to deliver water from the WTP to the distribution system.
- **Reservoir B Operability and Dependability** are deficient, along with storage volume deficiencies.
- **Reservoir A Feed Reliability** - The system relies on a single pump station to feed Zone A.
- **Fire Storage** - The fire storage capacity within the system is deficient for wildland fire fighting.



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# Recommended Project Components



Reservoir B

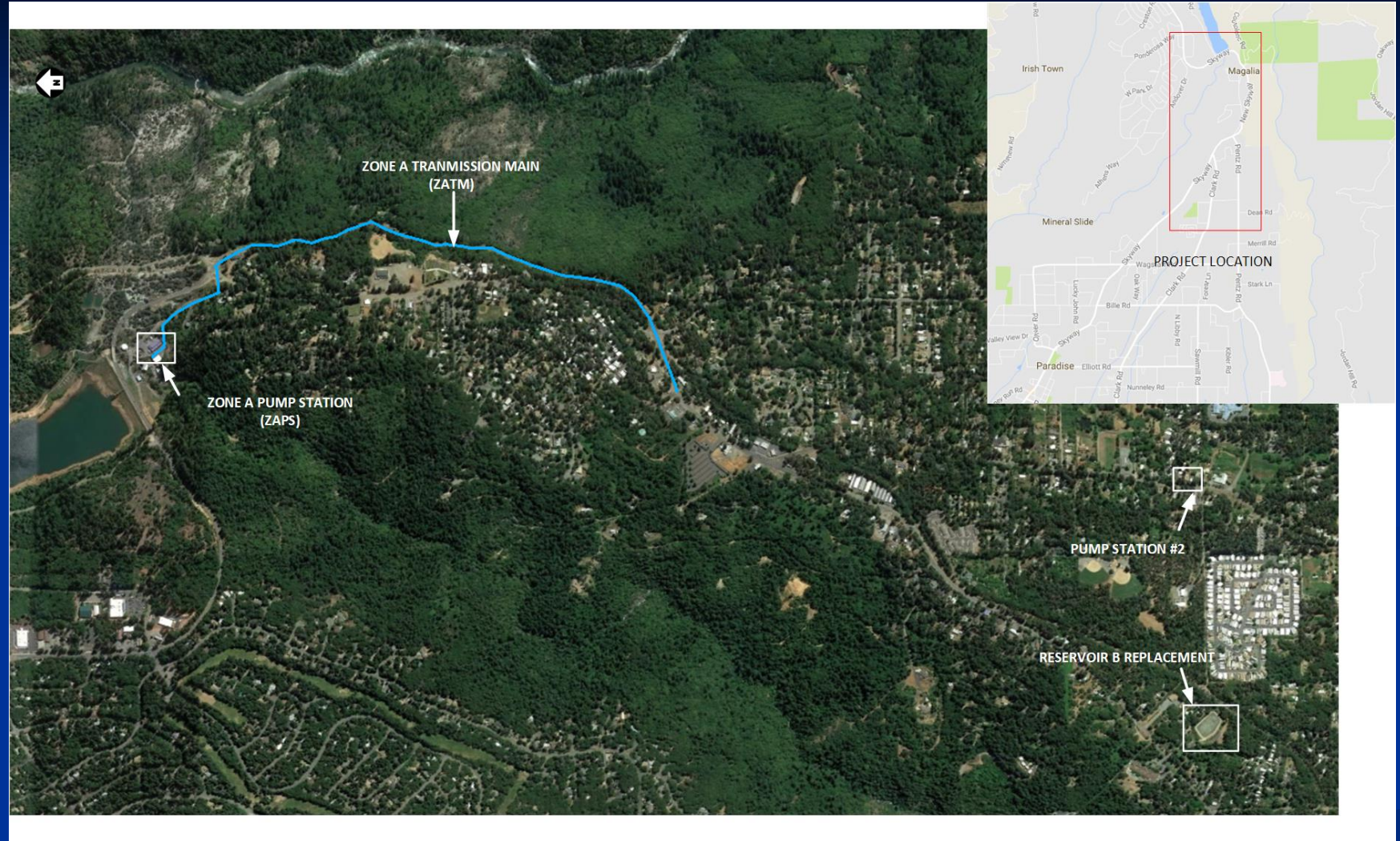


ZAPS



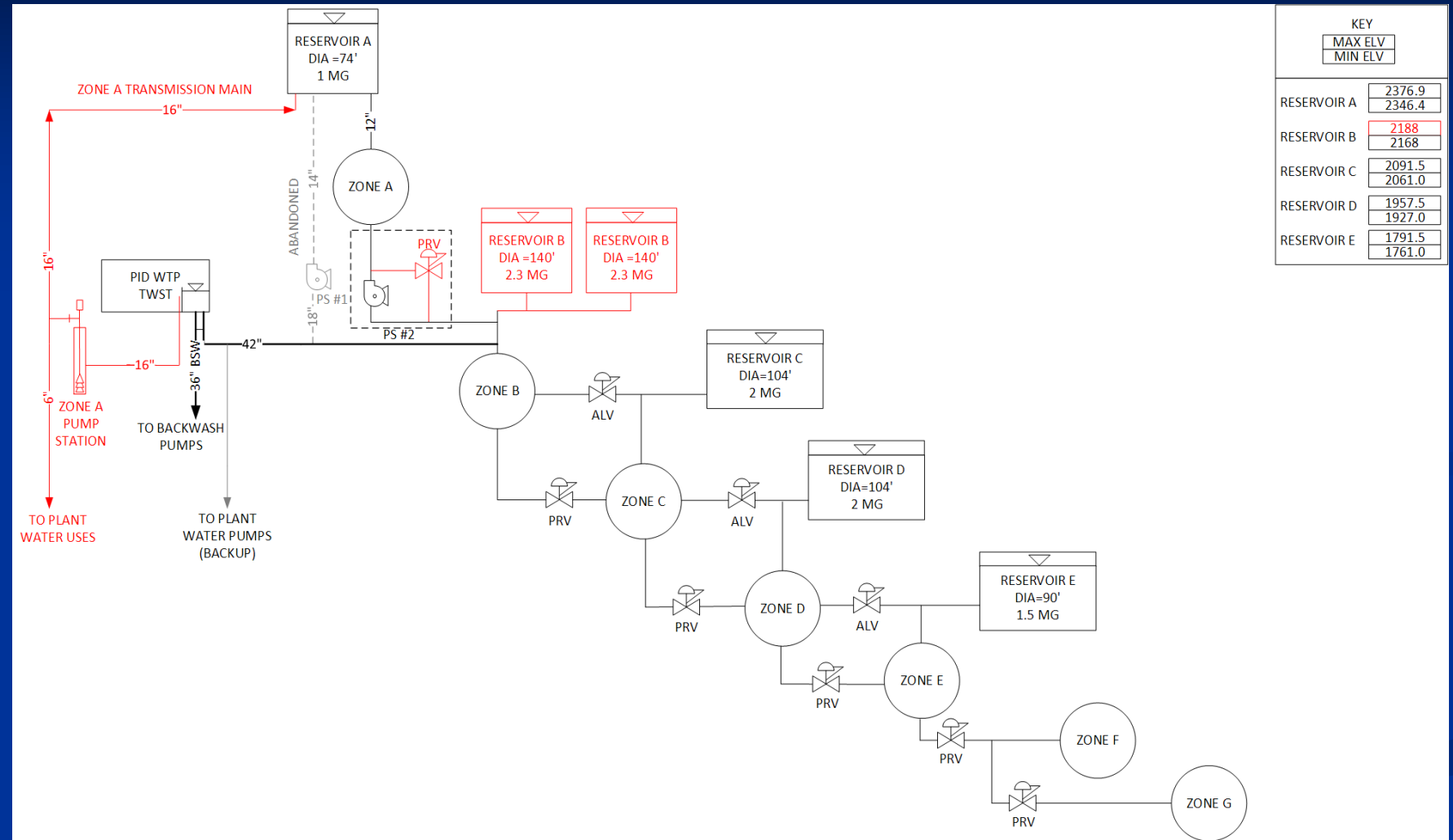
ZATM

- Pump Station #2
- Modifications



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# Recommended Project Schematic



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OPERATING MODE

SERIES: WTP → 1 → 2 → DISTRIBUTION  
 SINGLE TANK (1): WTP → 1 → DISTRIBUTION  
 SINGLE TANK (2): WTP → 2 → DISTRIBUTION  
 PARALLEL: WTP → 1, 2 → DISTRIBUTION

		<u>VALVE NAME</u>			
		<u>V100</u>	<u>V200</u>	<u>V300</u>	<u>V400</u>
O	X	O	X		
O	X	X	O		
X	O	X	X		
O	O	X	O		

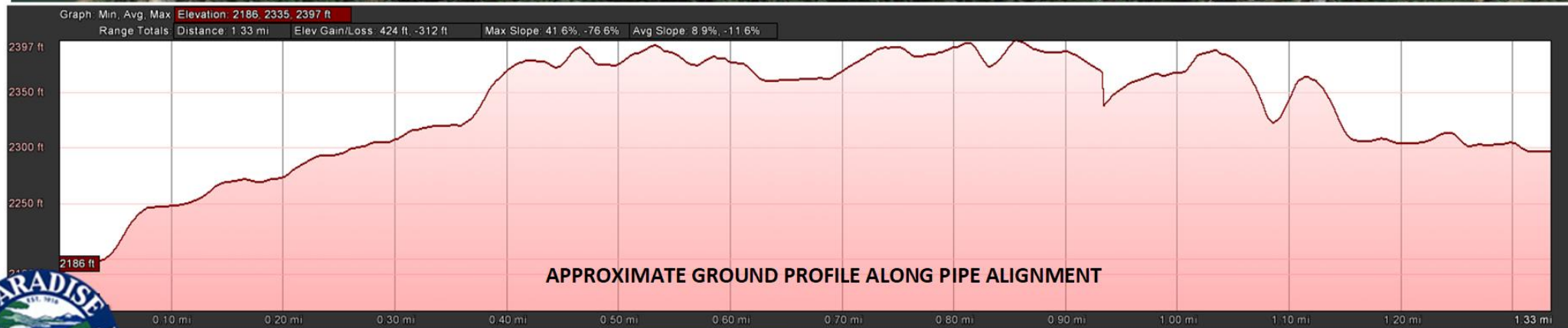
KEY: O= OPEN X=CLOSED







## APPROXIMATE PIPE ALIGNMENT



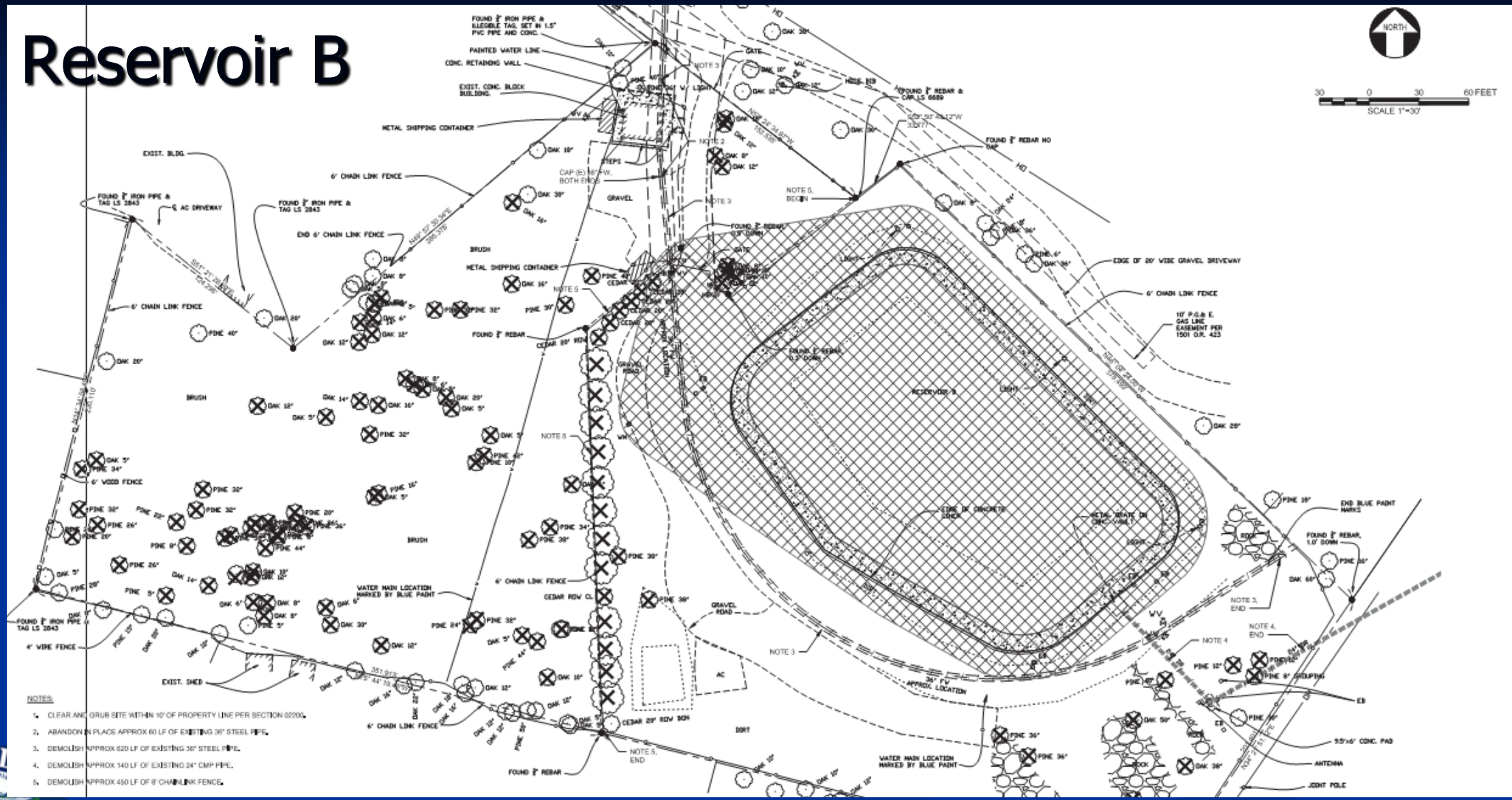
Part 2

# 90% DESIGN REVIEW

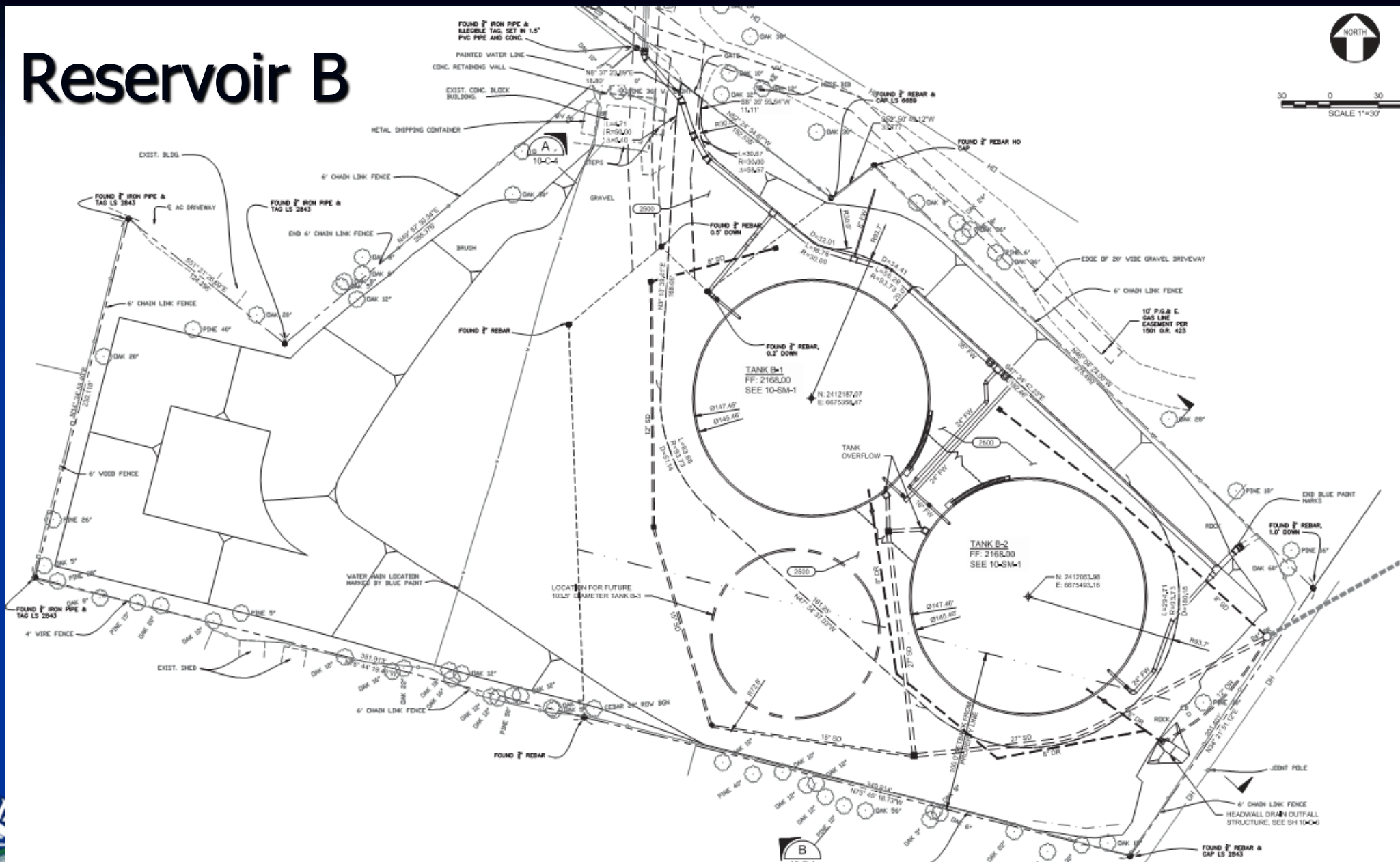




# Reservoir B



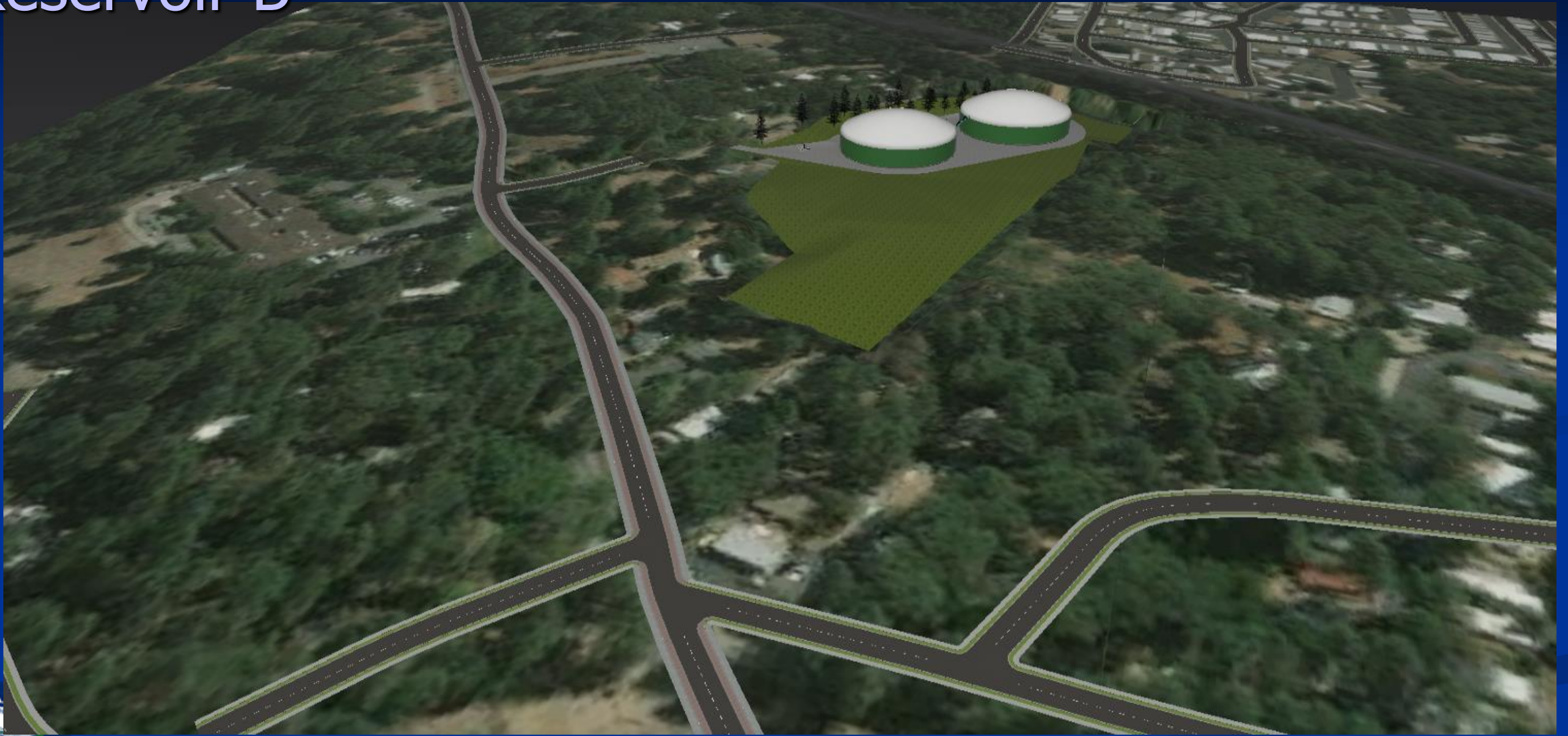
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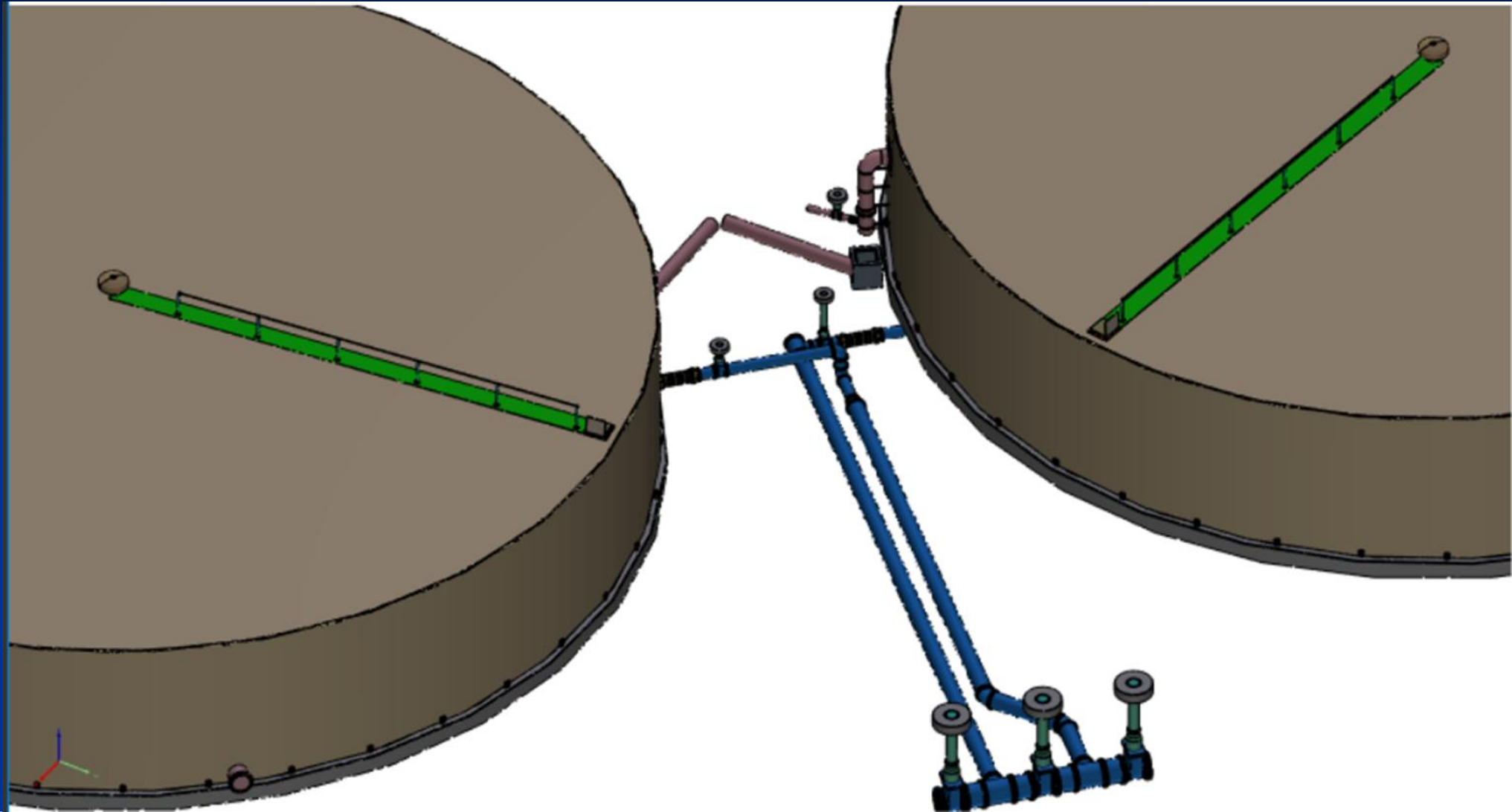


# Reservoir B



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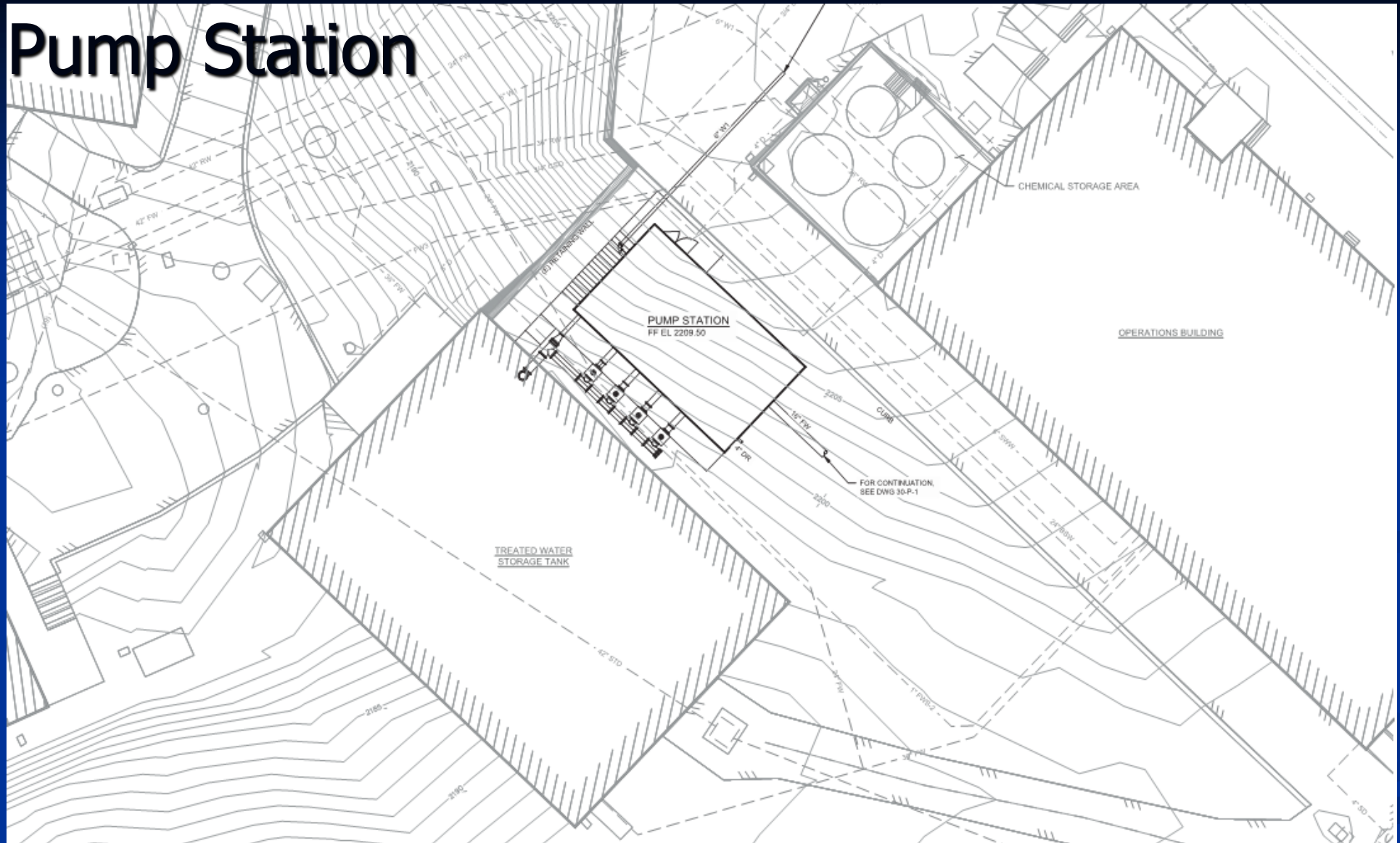
# Reservoir B



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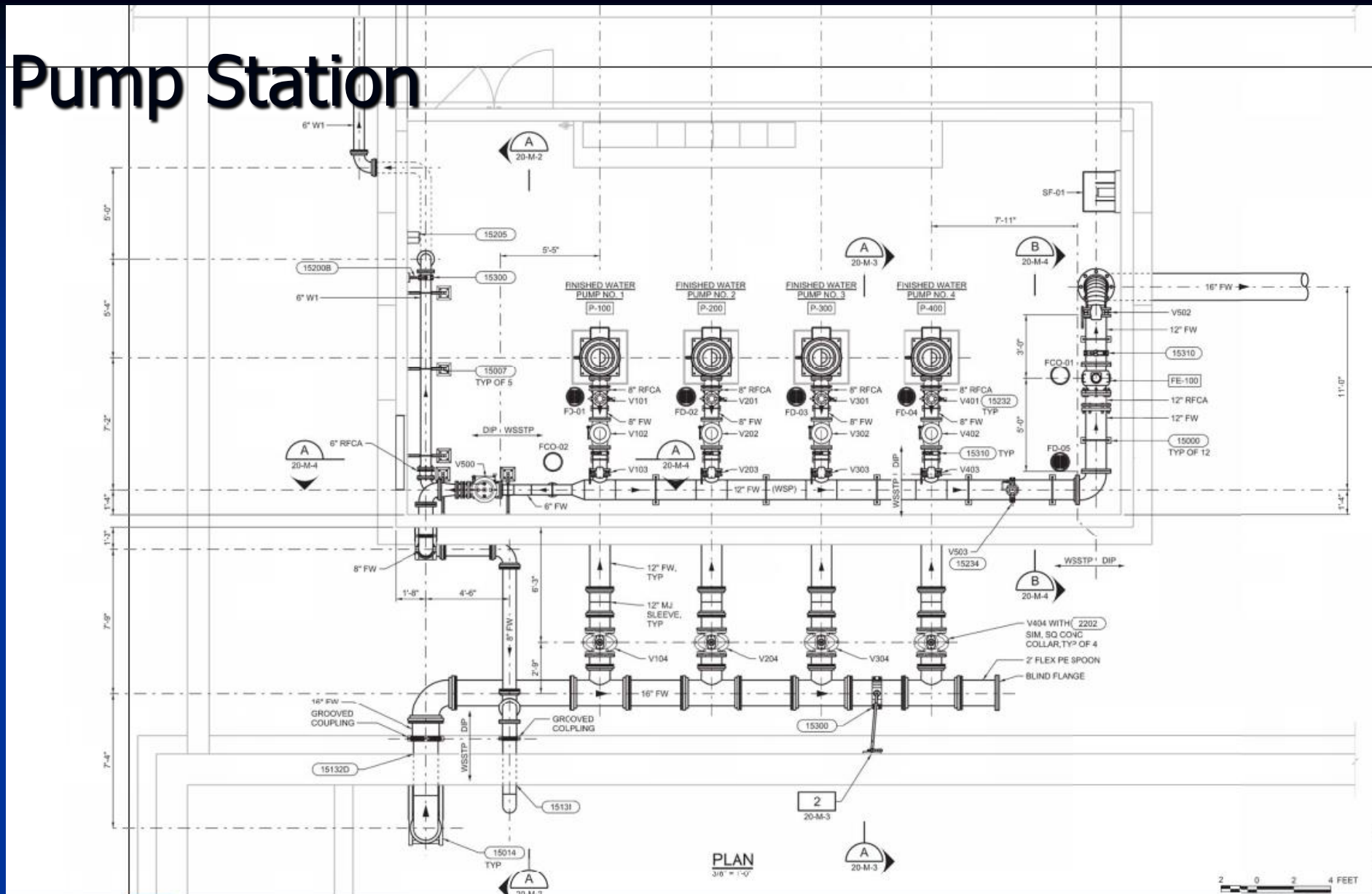


# Zone A Pump Station



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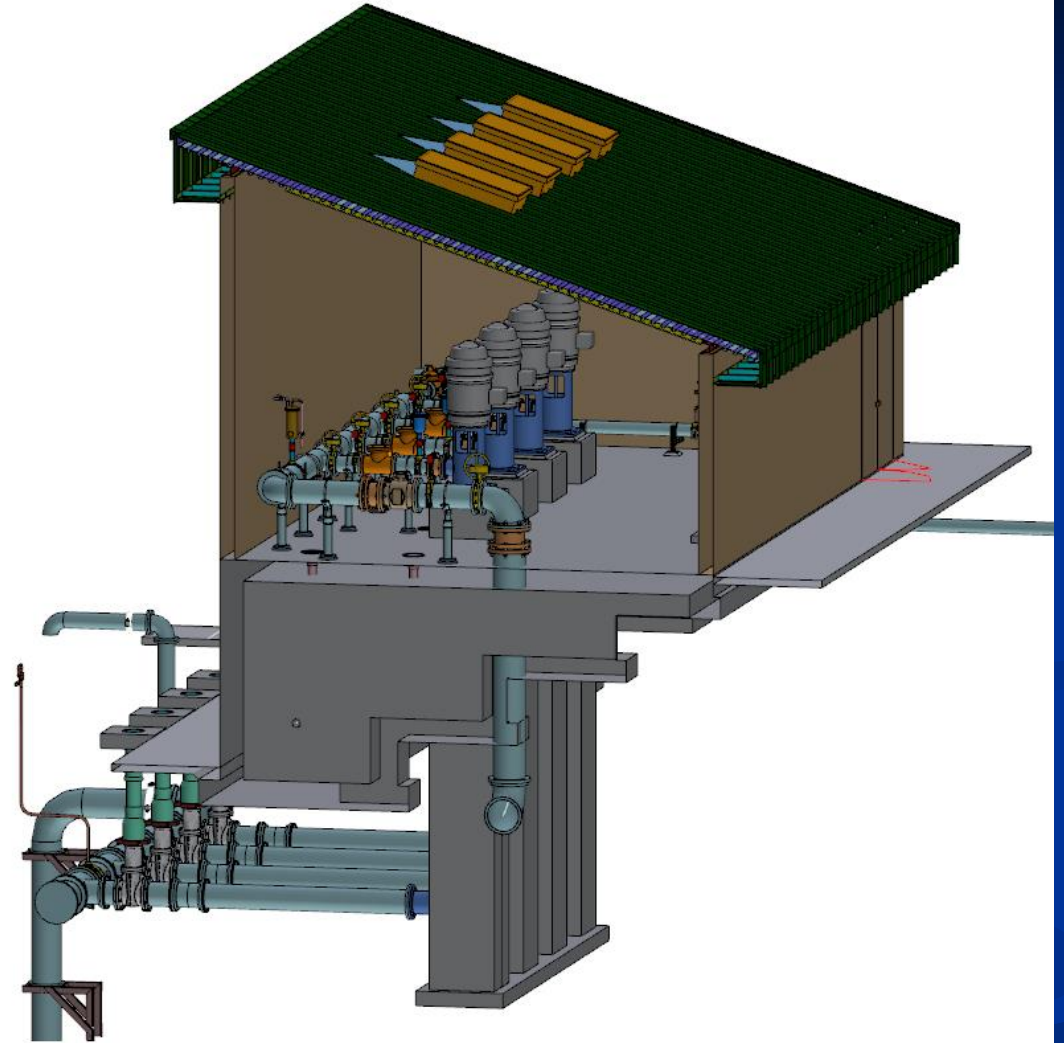
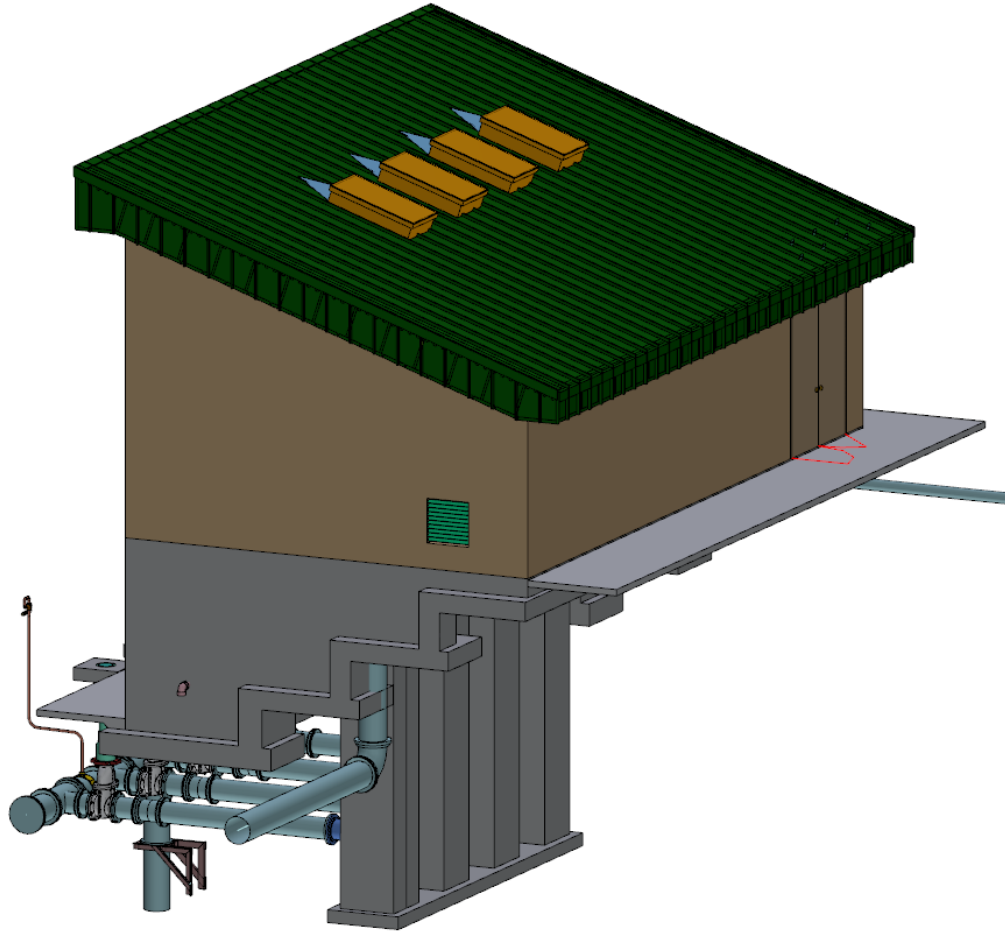
# Zone A Pump Station



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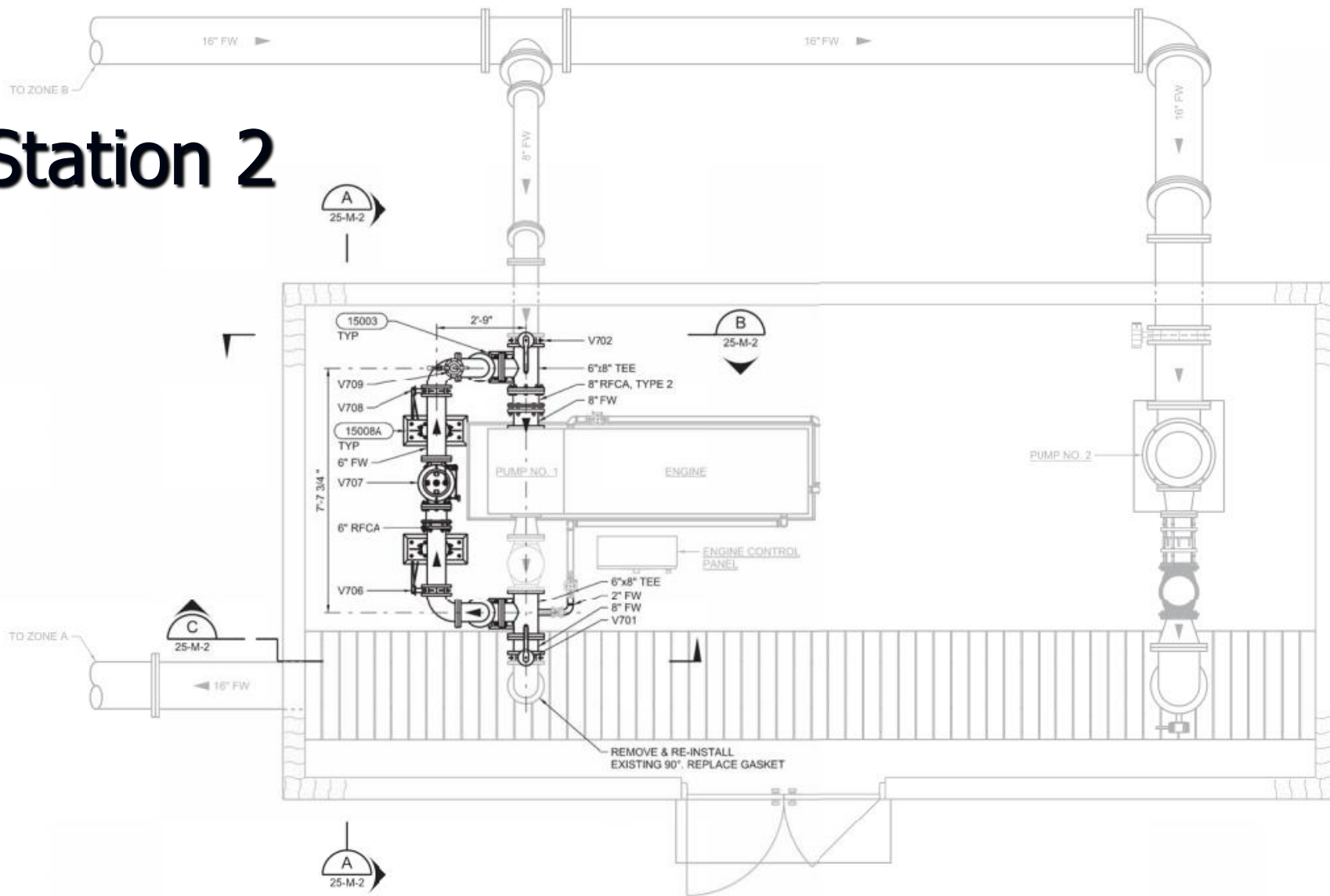


# Zone A Pump Station

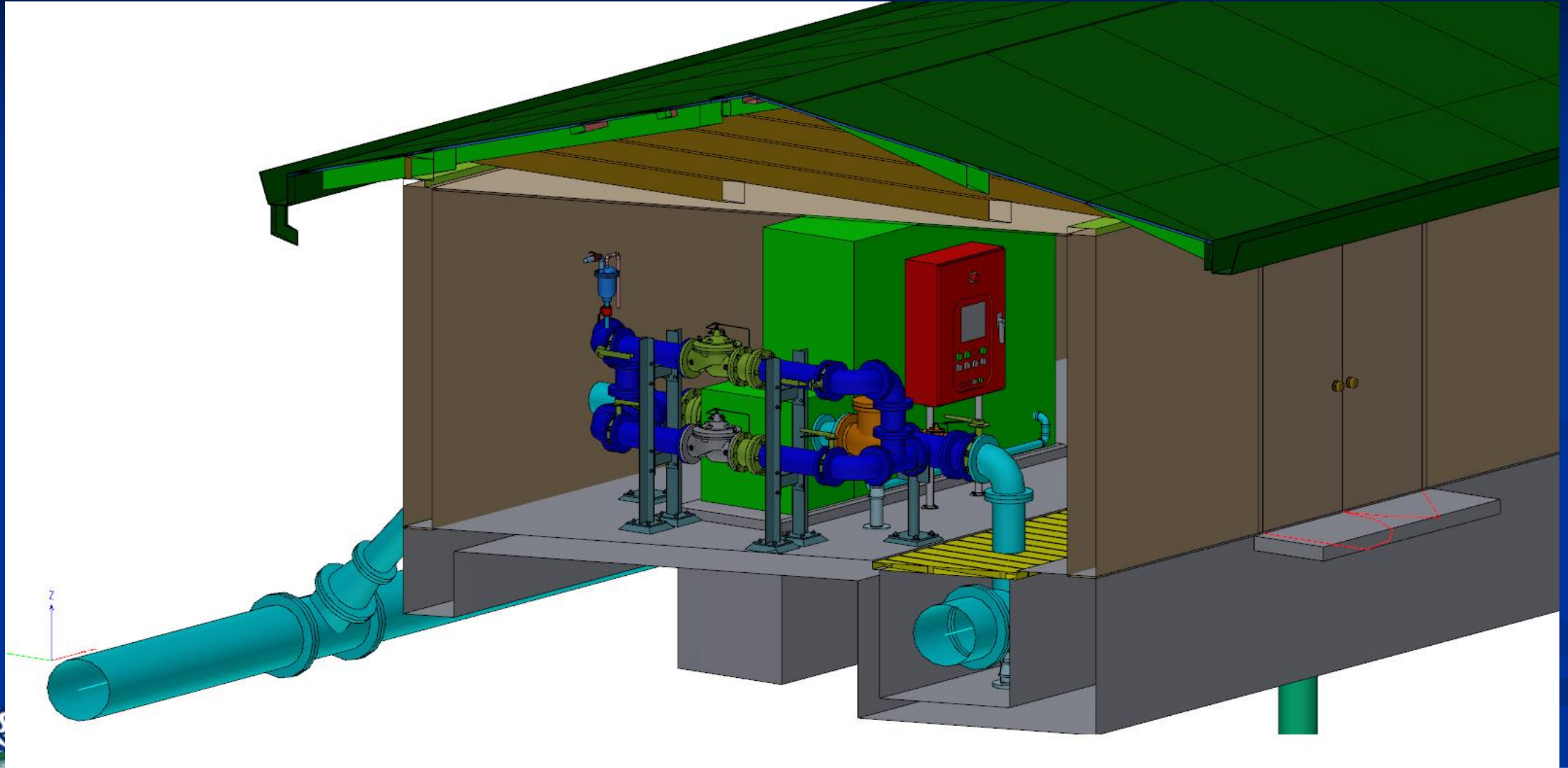


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# Pump Station 2



# Pump Station 2



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# Zone A Transmission Main





Part 3

# PRELIMINARY TOTAL PROJECT COST ESTIMATE



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# Project Cost Estimate (\$M)

	CDR	PDR	60%	90%
ZAPS	\$ 1.60	\$ 1.60	\$ 1.67	\$ 1.70
ZATM	\$ 3.10	\$ 3.10	\$ 2.40	\$ 2.88
RES B	\$ 6.20	\$ 6.30	\$ 6.15	\$ 6.10
Total	\$ 10.90	\$ 11.00	\$ 10.22	\$ 10.68



Part 4

# PERMITTING UPDATE



# Permitting Requirements



## Butte County

- Condemnation Process for Encroachment for Pipeline



## California Environmental Quality Act

- CEQA Initial Study (IS)/Mitigated Negative Declaration (MND) Status Update
  - Draft IS/MND has been completed
  - Submitted to the SWRCB for their review
  - SWRCB requested additional “Alternatives Analysis” to be completed prior to public scoping. This will be a change order to the design contract of \$7100 (to be brought back to the Board in July).
  - After SWRCB completes their review, it will go through public scoping (30 day process)
  - Comments received during public scoping will be incorporated into final IS/MND
  - IS/MND would then be adopted at a SWRCB Board Meeting



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Part 5

# CONSTRUCTION SCHEDULE AND CONSTRAINTS



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Action Item	Plan Project Schedule (PDR)	Current Project Schedule	Constraints
Finish Preliminary Engineering	November 1, 2017	November 1, 2017	
Board Review and Approval of PDR	November 2017	November 2017	
Final 60% Design	December 2017 - February 2018	Completed 1/23/18	Draft Plans due to SRF 2/1/18
Final 90% Design	February – April 2018	Completed 5/10/18	Final Plans due to SRF 5/1/18
Board Approval of 90% Design	April 2018	June 2018	
Final Design – Bid Documents	May – June 2018	May – July 2018	
Complete all Easements and Final CEQA	November 2017 – October 2018	November 2017 – September 2018	
Secure Project Funding	Prior to October 2018	Prior to September 2018	
Bidding Period	November 2018	September-October 2018	
Contractor Selected/ Notice to Proceed	December 2018	December 2018	
Submittals/Equipment Ordering	January – February 2019	January – February 2019	Long lead-time items (pumps and switchgear) to be ordered ASAP
Construction of Zone A Transmission Main (approx. 7000 ft)	April – October 2019	June – August 2019	Required to be done at night (9pm-5am). Skyway closed and diverted to Old Skyway during night construction, reopened to traffic in the day. Pavement restoration to be completed by October.
Construction of Zone A Pump Station	April – October 2019	April – October 2019	Requires coordination with WTP operational staff. Also requires long lead-time (16-20 wk) items (pumps and switchgear) .
Construction of Pump Station #2 Improvements	April – October 2019	April – October 2019	
Construction of Reservoir B, Tank B-1	November 2019 – May 2020	November 2019 – February 2020	Cannot demolish Reservoir B until November (low demand). Existing B-zone transmission pipeline to be used for chlorine contact during construction of Tank B-1. Tank construction considerably faster with bolted steel tanks.
Construction of Reservoir B, Tank B-2	November 2019 – August 2020	November 2019 – March 2020	
Completion of Reservoir B Site Improvements	August – September 2020	March - April 2020	
Project Completion	October 2020	May 2020	



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Questions? Comments? Discussion?



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