



New Mexico Environment Department

Public Meeting for Doña Ana Dairies Groundwater Cleanup Plan

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December 15, 2021





Zoom Info

- Please make sure you are muted
- Interpretive services are being provided
 - You must select either English or Spanish
 - Click on the interpretation icon
 - Select English or Spanish
- Questions
 - Please raise your hand to ask a question
 - Click on reactions and then “raise hand”
 - Or type your question into the chat



Presentation Guide

- Purpose for this presentation
 - Introduce the Environment Department and what we do
 - Timeline of events leading to meeting
 - Discuss Dona Aña Dairies (DAD) Groundwater Cleanup Plan – Presented by EA Engineering on behalf of DAD
 - NMED preliminary evaluation of proposal



What do we do?

- The Ground Water Quality Bureau:
 - Issues groundwater discharge permits
 - All dairy facilities have a discharge permit
 - Oversees groundwater investigation and remediation activities
 - The Bureau strives to work with permittees and the public to protect groundwater quality



Timeline of events

April 2006: NMED Requires Stage 1 Abatement Plan for 13 dairies in Doña Ana County for exceedances of 20.6.2.3103 NMAC standards for Nitrate, Chloride, and Total Dissolved Solids

November 2006: Dairies notify NMED that they will work as group to address groundwater contamination

December 2006: Doña Ana Dairies (DAD) submit stage 1 and 2 Abatement Plan Proposal

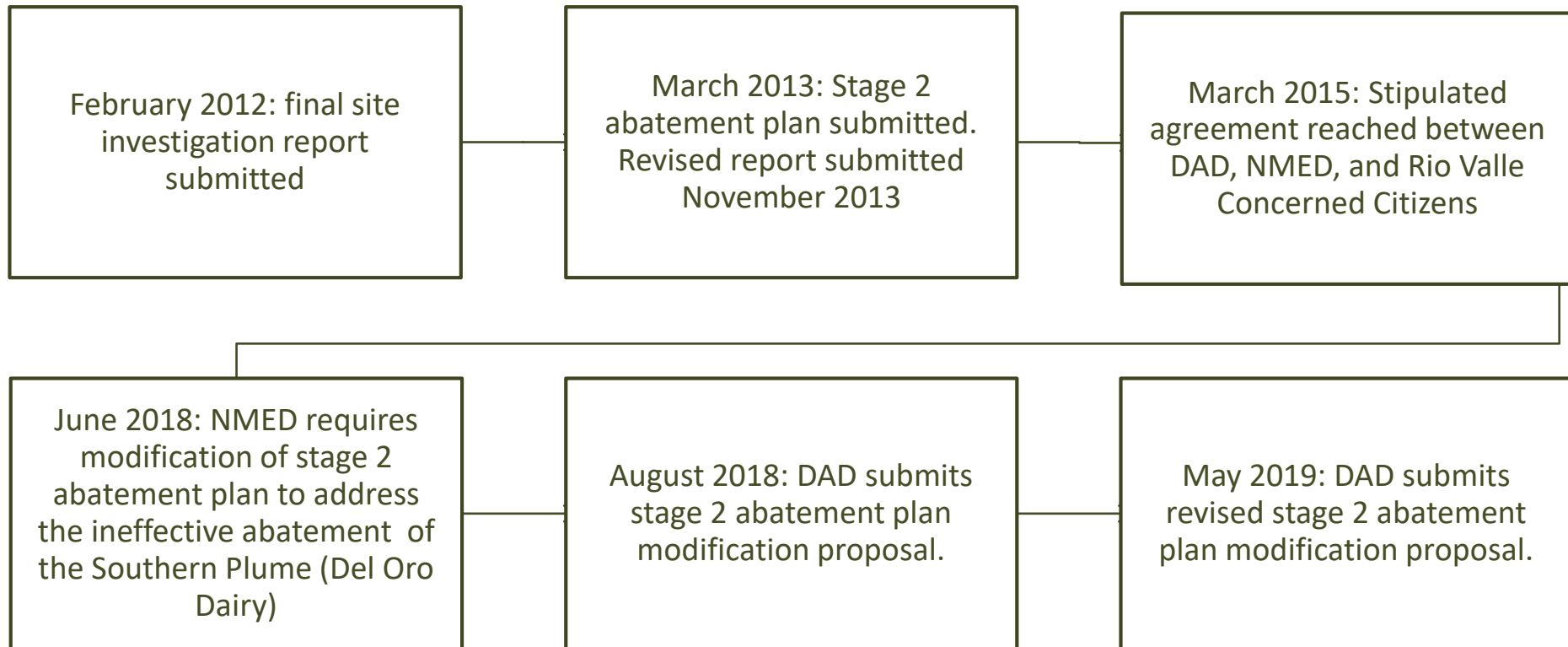
February 2008: Existing Data Report submitted to NMED. Report identified data gaps

July 2008: Meeting between DAD and NMED meet and agree on monitoring well locations, sampling and analysis plan, and path forward for preparation of site investigation report and Stage 2 abatement plan

July 2009: site investigation report submitted

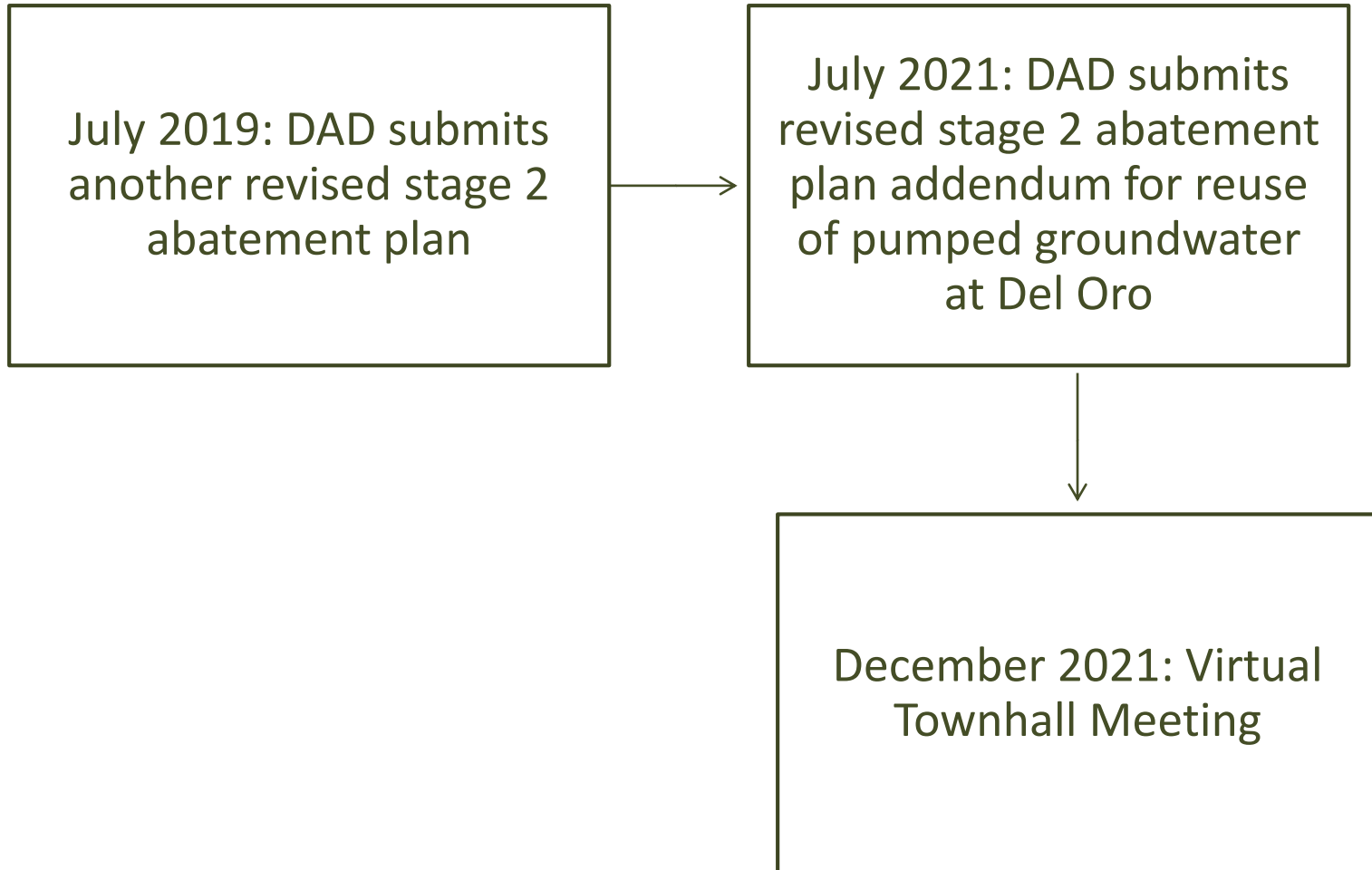


Timeline of events (continued)





Timeline of events (continued)





Presentation by EA Engineering on
DAD Groundwater Cleanup Plan



Dona Ana Dairies Stage 2 Abatement Plan Modification

**Prepared for Public Meeting
December 15, 2021**

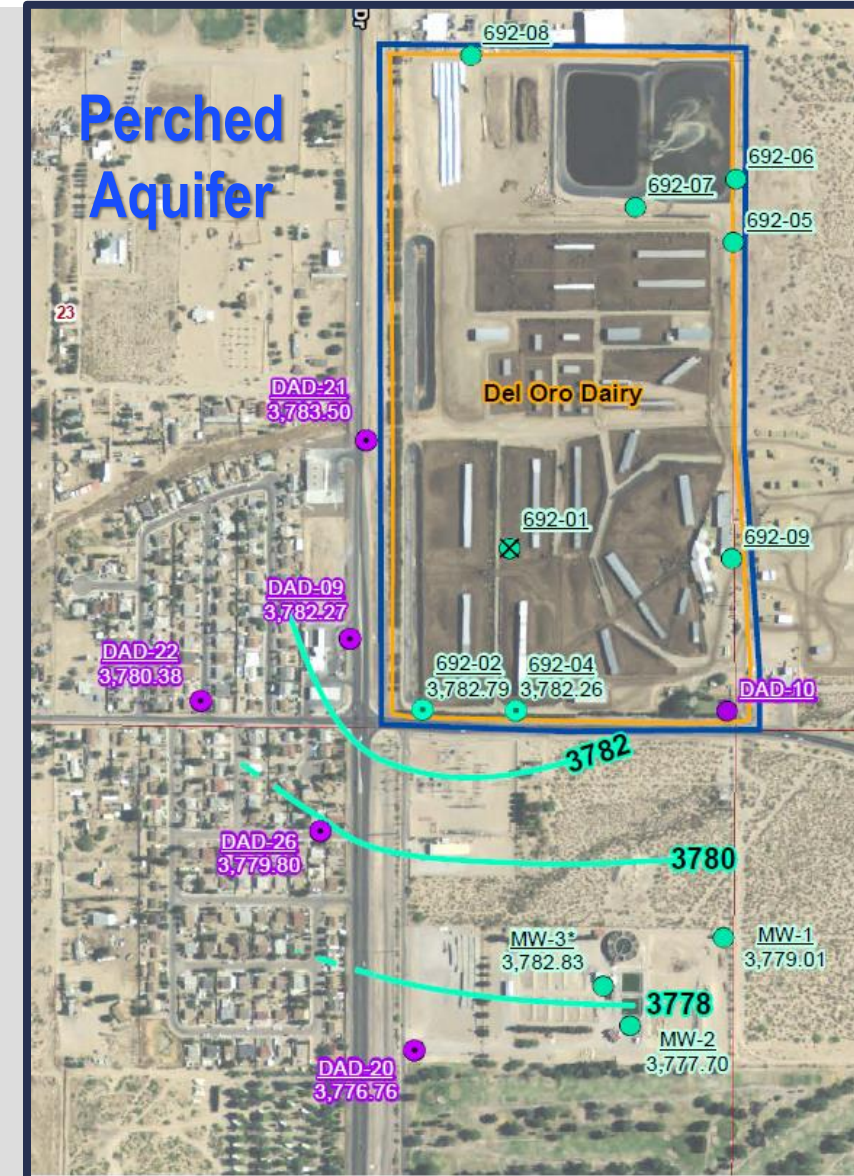
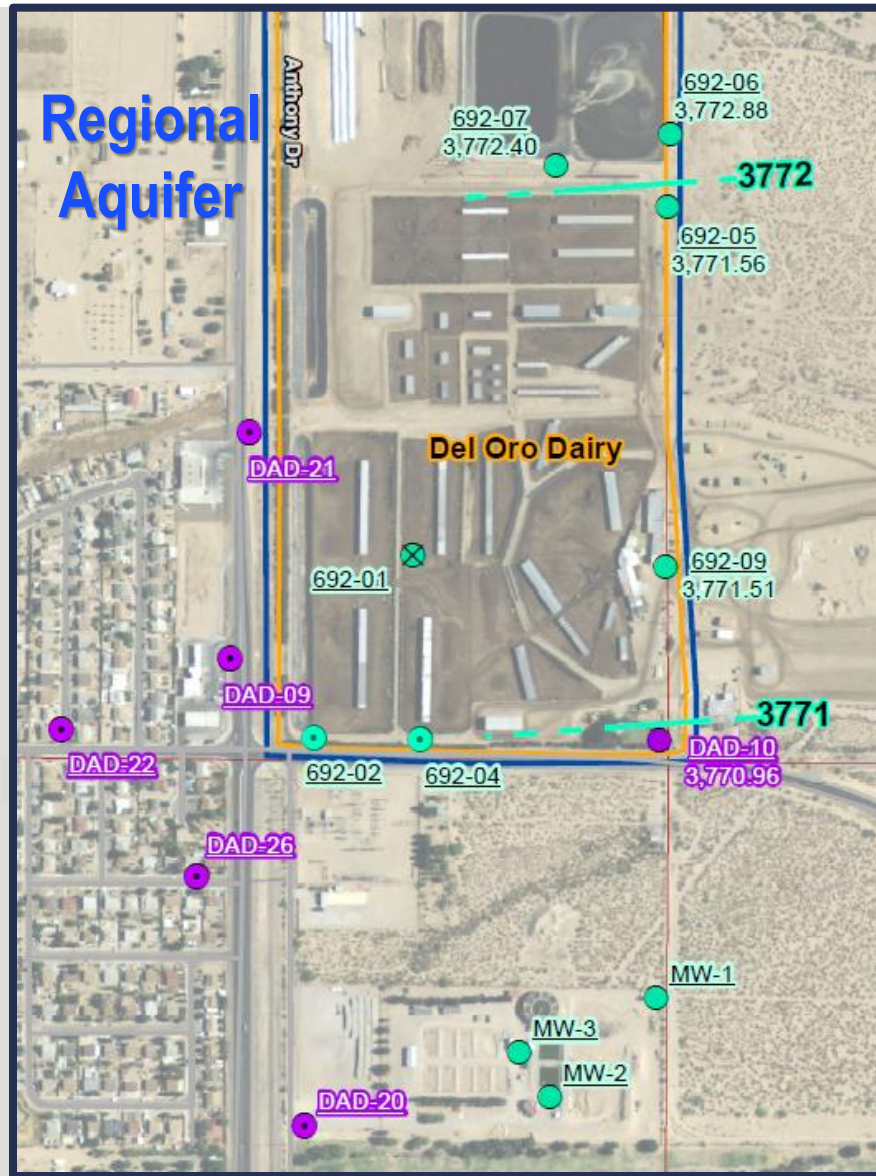
**Presented by Jay Snyder, P.E., P.G., EA Engineering
Gina Mullen, Project Manager, EA Engineering**

S2AP Modification – Del Oro Dairy

- ◆ Groundwater extraction at DP Monitoring Well 692-01 ceased and this well was plugged as part of settlement agreement and Stage 2 Abatement Plan approval
- ◆ Concentrations started trending up in key downgradient monitoring wells DAD-09, DAD-21 and DAD-22
- ◆ DAD-26 installed and considerably above standard
- ◆ Need to control off-site migration of nitrate was realized

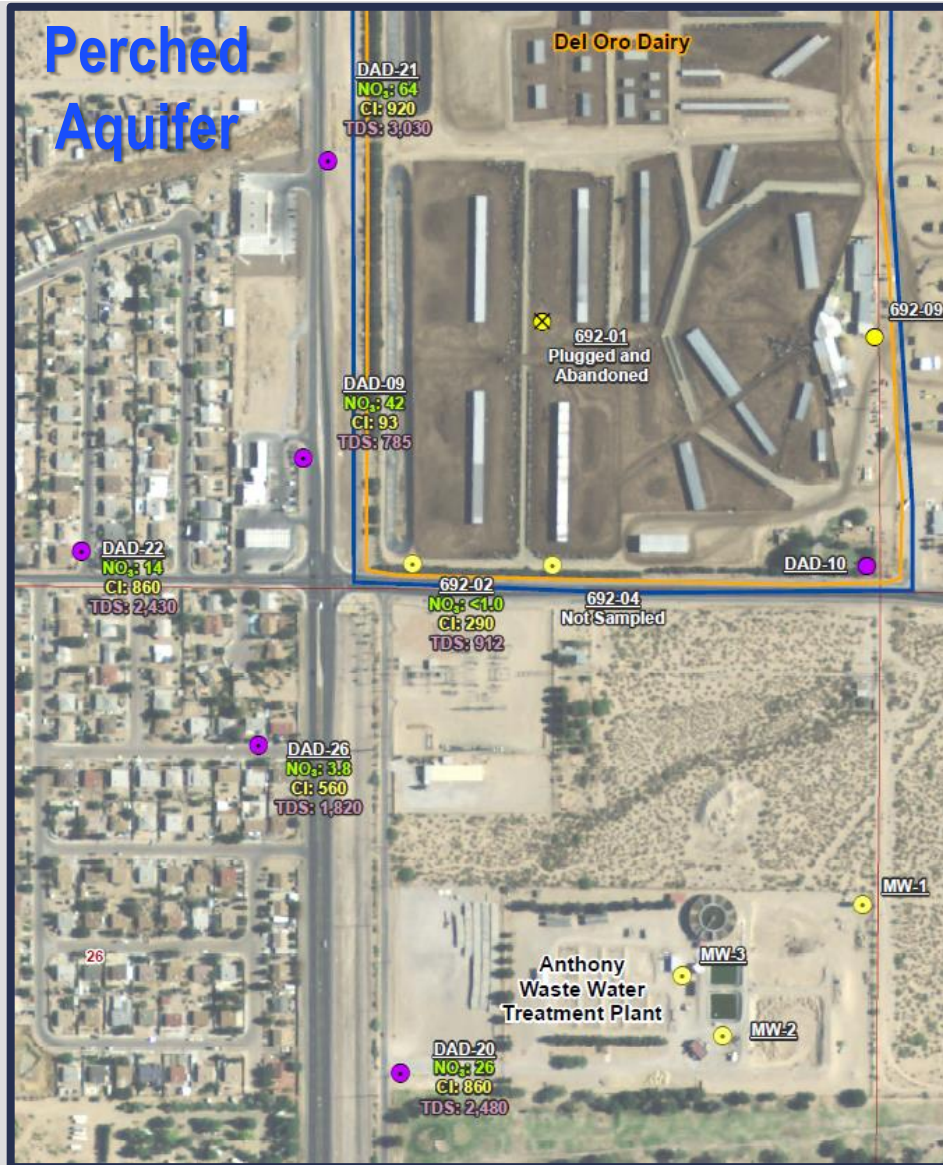
Groundwater Flow Direction – August 2021

- ◆ Groundwater flow is to the south in the regional aquifer
- ◆ Groundwater flow is southwest in the perched aquifer
- ◆ Water leak in southwest corner of Del Oro has “mounded” groundwater somewhat



Groundwater Concentrations – August 2021

- ◆ Perched aquifer plume defined by:
 - DAD-22 (14, 860, and 2,430 mg/L NO₃, Cl⁻ and TDS, respectively), and
 - DAD-26 (3.8, 560, 1,820 mg/L)
- ◆ Downgradient well proposed in modification
- ◆ Regional plume defined by DAD-10 at 1.0, 400, and 1,490 mg/L



Perched Aquifer Nitrate Concentrations – August 2021

- ◆ DAD-21: 64 mg/L
- ◆ DAD-09: 42 mg/L



Perched Aquifer Nitrate Concentrations – August 2021

- ◆ DAD-09: 42 mg/L
- ◆ DAD-22: 14 mg/L
- ◆ DAD-26: 3.8 mg/L
- ◆ 692-02: <1.0 mg/L
(biased low due to water leak)

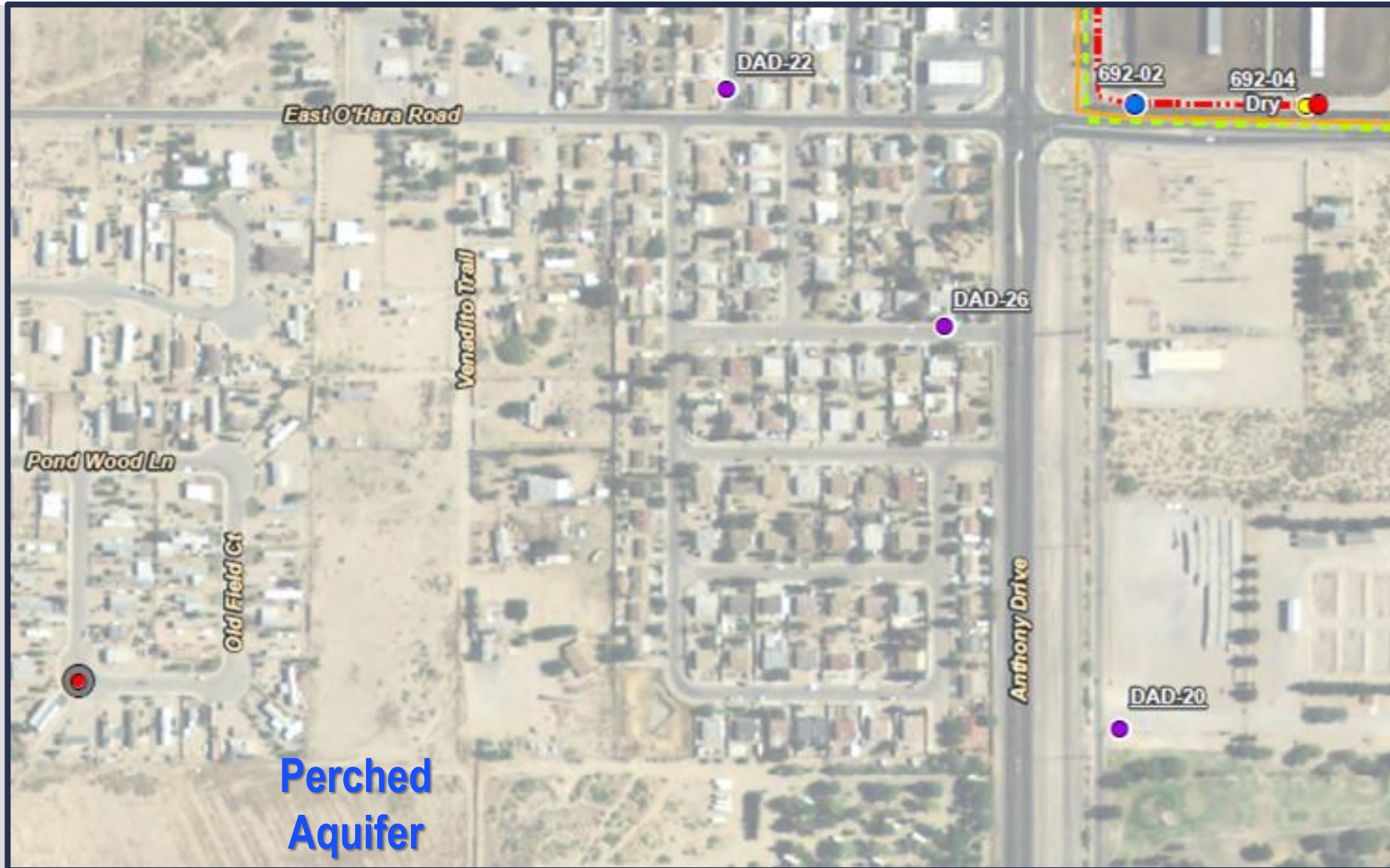


Perched Aquifer Nitrate Concentrations – August 2021

- ◆ DAD-26: 3.8 mg/L
- ◆ DAD-20: 26 mg/L (may be influenced by WWTP)

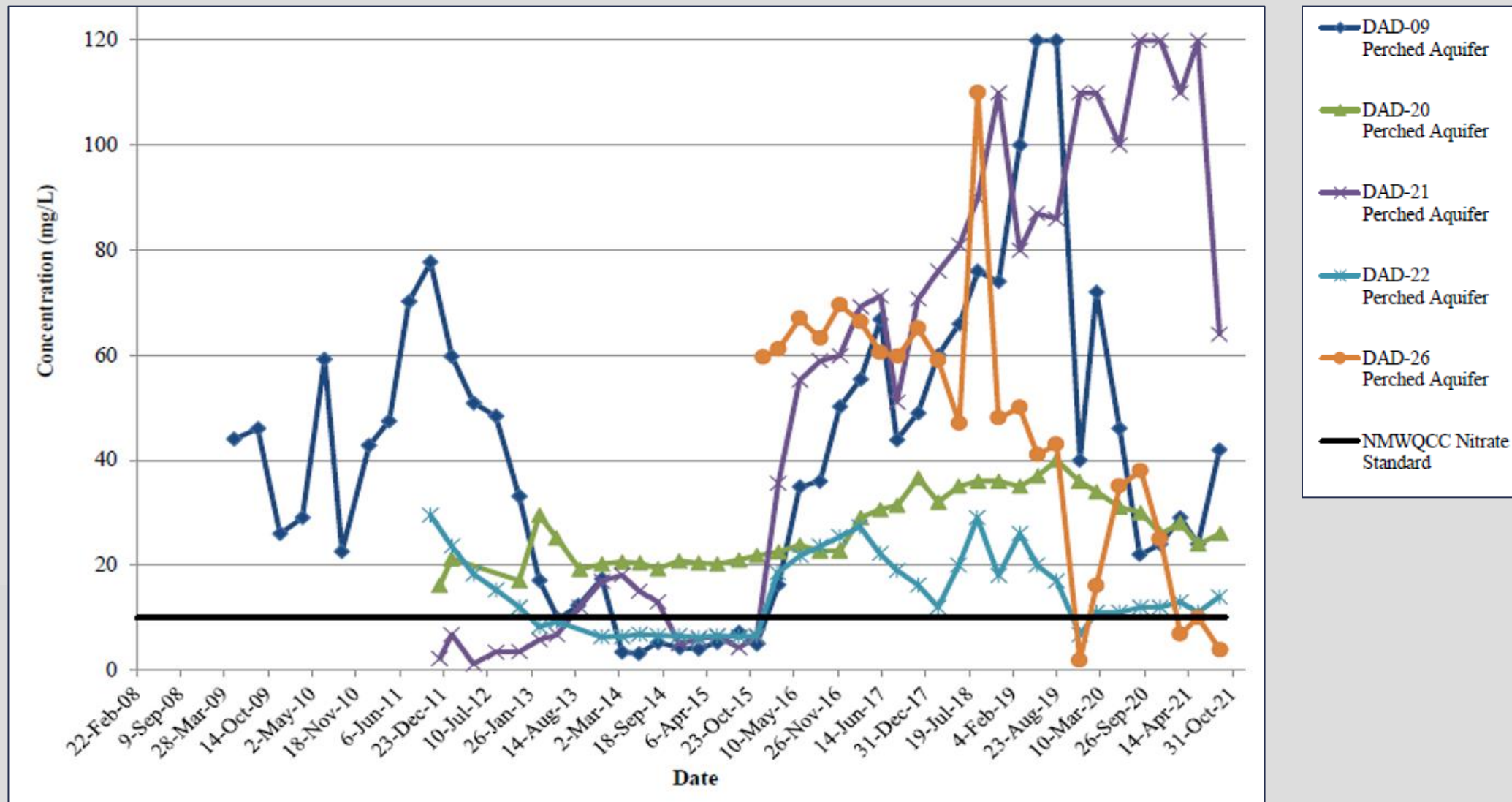


Perched Aquifer Proposed Downgradient Well



Perched
Aquifer

Nitrate Concentration Trends



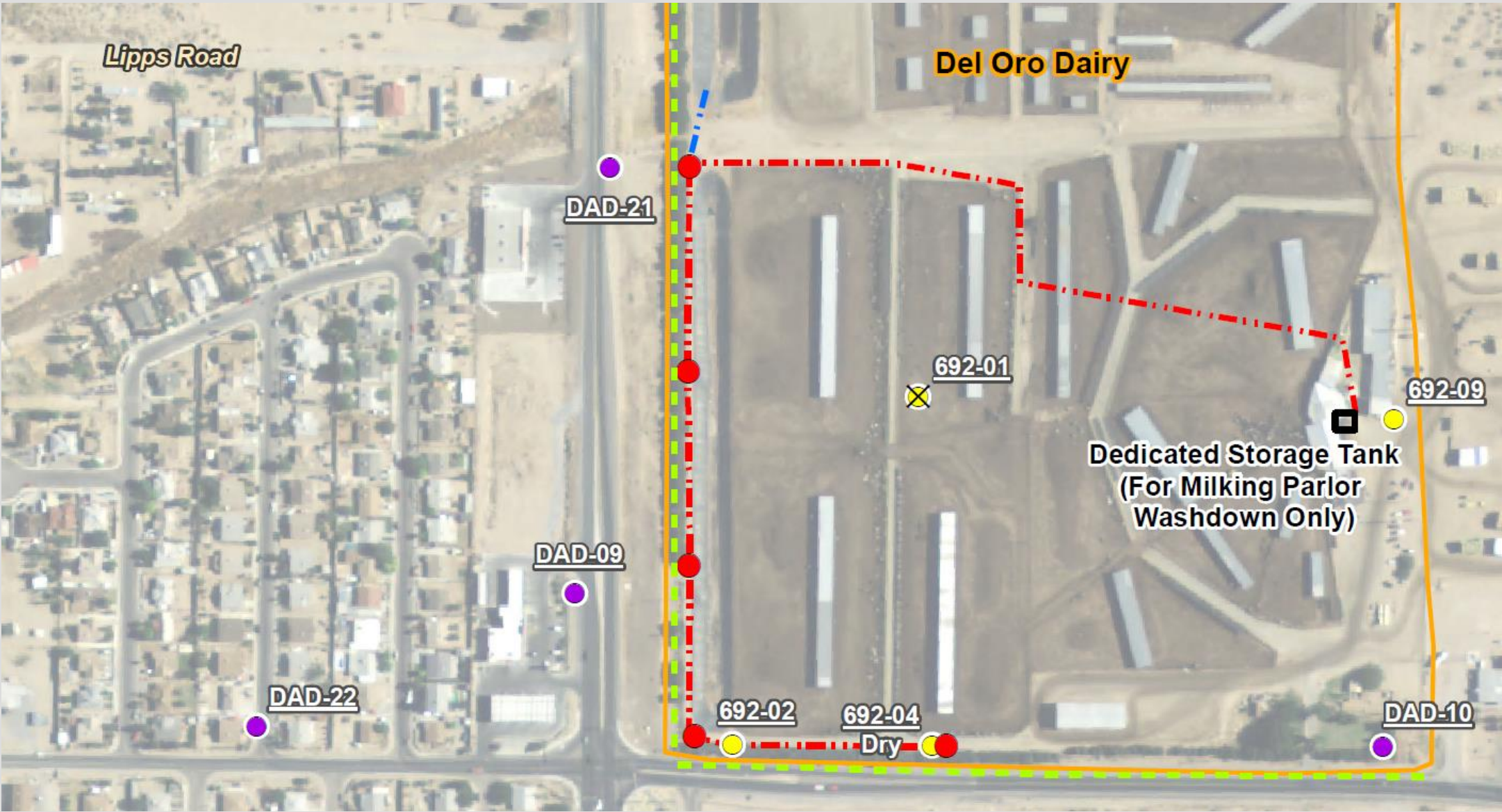
S2AP Modification – Del Oro Dairy

- ◆ S2AP modification submitted on August 10, 2018
- ◆ Modification called for extraction of groundwater on west and southwest side of Del Oro Dairy
- ◆ Extracted groundwater proposed to be discharged to and evaporated from western wastewater lagoon

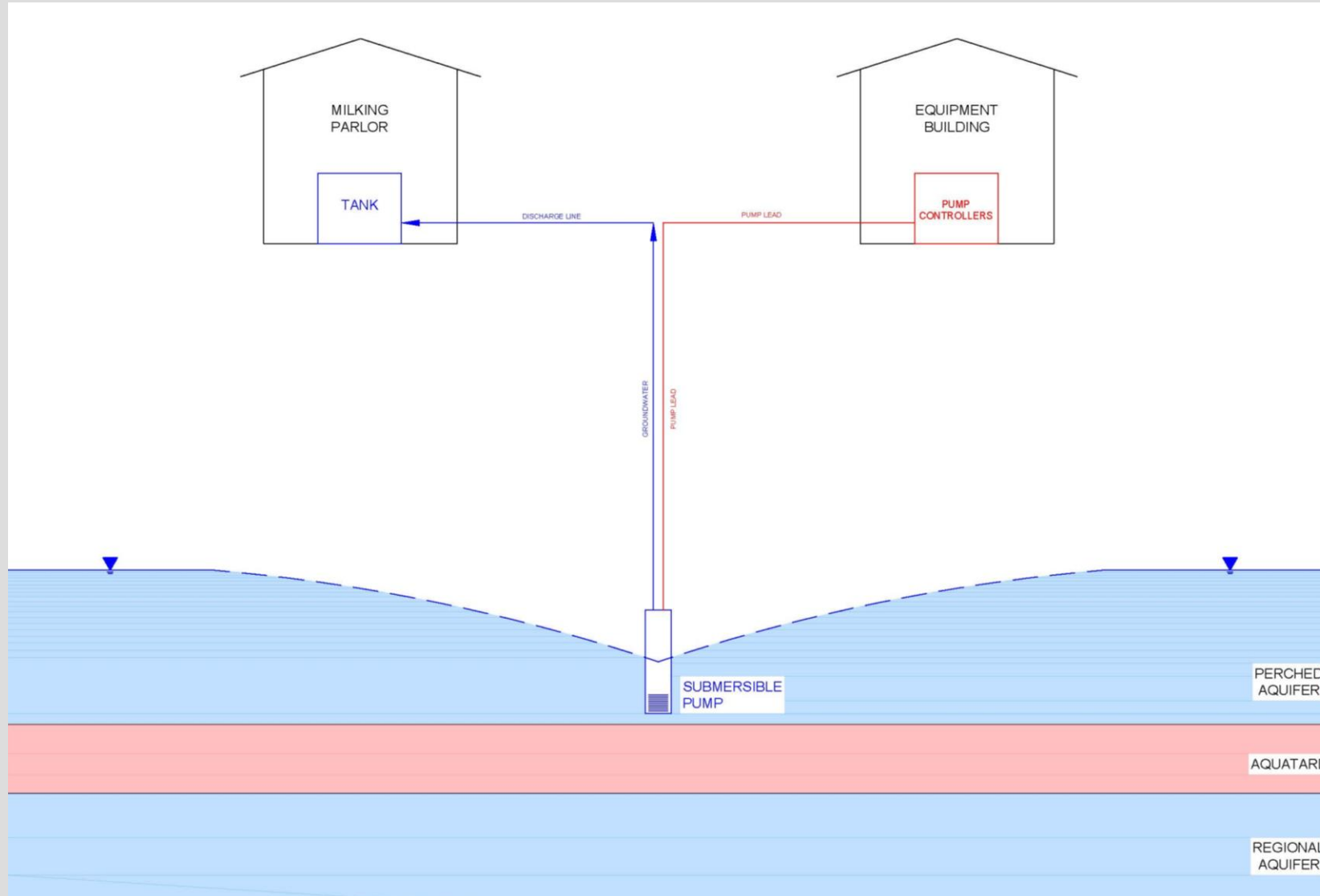
S2AP Modification – Del Oro Dairy

- ◆ Several concerns raised regarding evaporation from existing lagoons
- ◆ EA subsequently proposed discharge to Anthony Wastewater Treatment Plant
 - Plant capacity is questionable
 - Issues exist regarding plant compliance with its NPDES permit
- ◆ EA proposed reuse of pumped groundwater for cattle watering and milking parlor washdown
- ◆ Settled on reuse for milking parlor washdown with contingency discharge to wastewater lagoons

Plan View



Section and Elevation



Schedule

■ Within 60 Days of Approval

- ◆ Begin Installation of Extraction System

■ Within 120 Days of Approval

- ◆ Extraction System Installation Complete
- ◆ New Monitoring Well Installed (SW of Del Oro)
- ◆ Monitoring Well DAD-06 Rehabilitated or Replaced





NMED Response to Groundwater Cleanup Plan

- NMED will likely approve the proposal to address groundwater contamination in the southern plume (Del Oro Dairy) provided that:
 - A plan to assess the performance of the extraction system be developed and submitted to NMED



Thank you, Any questions?