



Aquifer Storage and Recovery (ASR) Well Status Update

October 26, 2023

Purpose

Aquifer Storage and Recovery (ASR) Well - Part of the Groundwater Recovery Enhancement and Treatment (GREAT) Program

1. Pilot project using an Aquifer Storage and Recovery Well as a vehicle for Indirect Potable Reuse (IPR)
2. Groundwater basin benefits from storage (e.g. mitigate seawater intrusion)
3. Activate new water source (IPR) for local reliability
4. Establish options for delivering recycled water, enabling 24/7/365 operation of the Advanced Water Purification Facility (AWPF)

Background

- The AWPf was completed in 2016 with a capacity of 6.25 MGD
 - In 2017 the ASR Well and associated monitoring wells were drilled
 - Design for well equipping and site civil commenced in 2018
 - Department of Drinking Water issued a Conditional Acceptance Letter in 2019 outlining the regulatory parameters for the AWPf, ASR Well, and IPR
 - ASR Well civil and mechanical construction began in April 2021
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Challenges

- Regulatory compliance
- Backflushing plan and water quality monitoring
- Construction through COVID
- Site conditions
- Concurrent projects



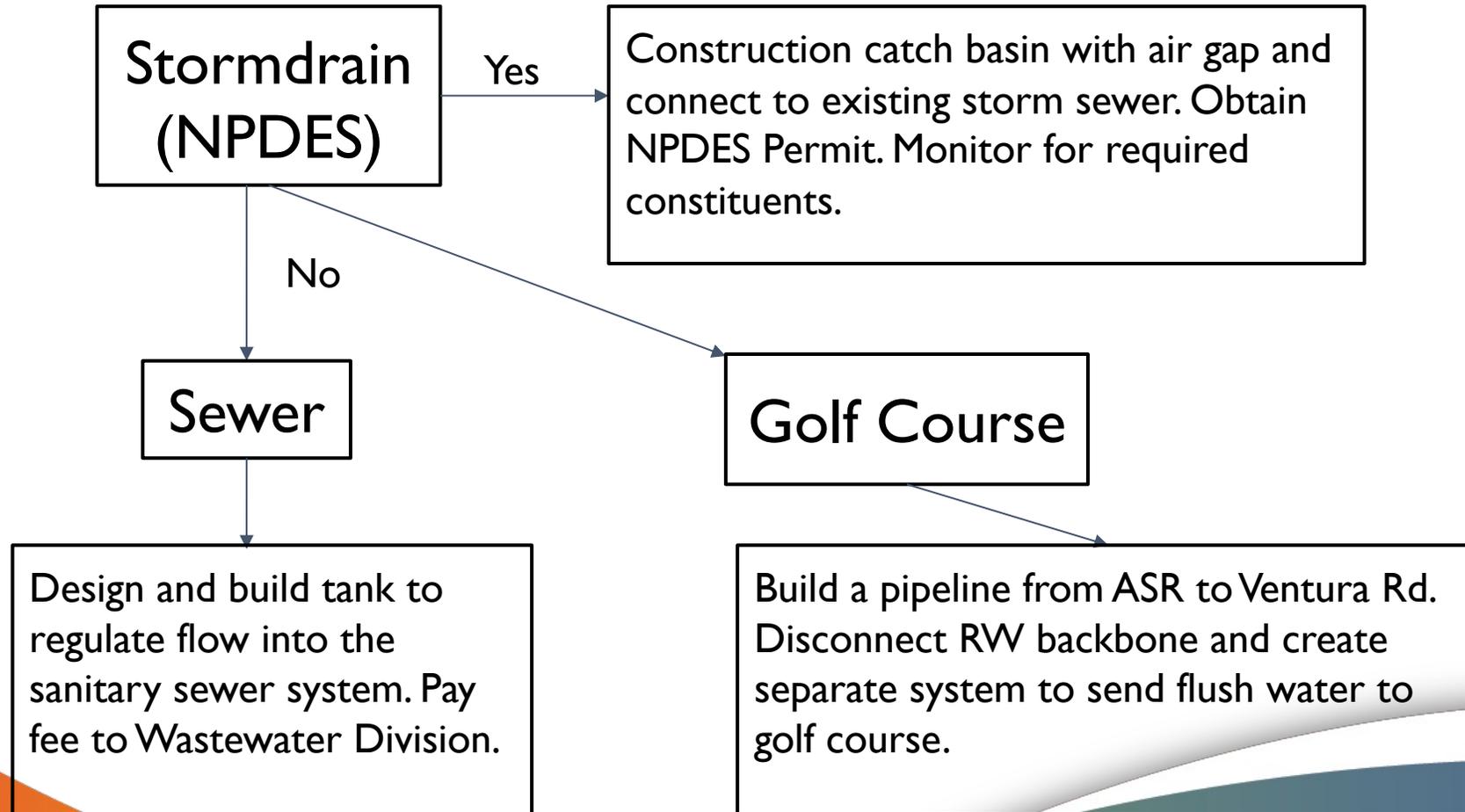
Regulatory Compliance

New regulatory requirements that override the previous terms set forth in the 2019 DDW Conditional Acceptance Letter

- Log Removal Value Credits
 - Joan Rose wastewater treatment credits
 - Total Organic Analyzer installation (complete)
 - Disinfection of AWPf product water (study/sampling complete)
- Water quality monitoring
 - Testing pumped water after meeting retention time
 - Testing of monitoring wells now and after injection



Backflushing - Pilot Scenario



Construction Through COVID

- Equipment lead-times
 - Pump
 - Premanufactured building
 - Electrical equipment
 - SCADA equipment
- SCE coordination
- Delays resulted in demobilization from site



Site Conditions

- The Project is located at the former Oxnard High School
 - School buildings were demolished but below grade utilities were left in place
 - Unknown utilities included
 - Oil lines from heating system
 - Additional environmental efforts and monitoring
 - In service water lines
 - Loops within the system-maintained service to remaining buildings
 - Additional efforts were required to maintain service
 - Water quality within the existing recycled water system
 - Developing a plan for flushing prior to injection
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Concurrent Projects

- Campus Park (Final design phase)
 - Repurposing the remainder of the site for a community park
- Water Division SCADA Upgrade (Design phase)
 - Ensuring ASR Well SCADA matches or is compatible with the planned Division-wide hardware and programming standards
- AWPf Maintenance and Improvements
 - Regular maintenance
 - VFD Replacement (Construction phase)
 - Chemical storage modifications (Design phase)
- AWPf Improvements for IPR and general ops (Planning phase)
- AWPf Expansion (Planning phase)
- Maintaining delivery during ASR Well Piloting

Moving Forward

- A consulting firm was engaged to act as an owner's engineer for the remainder of the Project
 - Remobilization (October 2023)
 - Long lead-time items are in storage or enroute
 - Unknown utilities have been taken out of service and the site cleared
 - Utility connections have been designed
 - Southern California Edison design
 - Initiated NPDES Permit Process
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