

Main Ext. 153A Recycled Water Pipeline Project

August 25, 2021



Olivenhain MWD Background

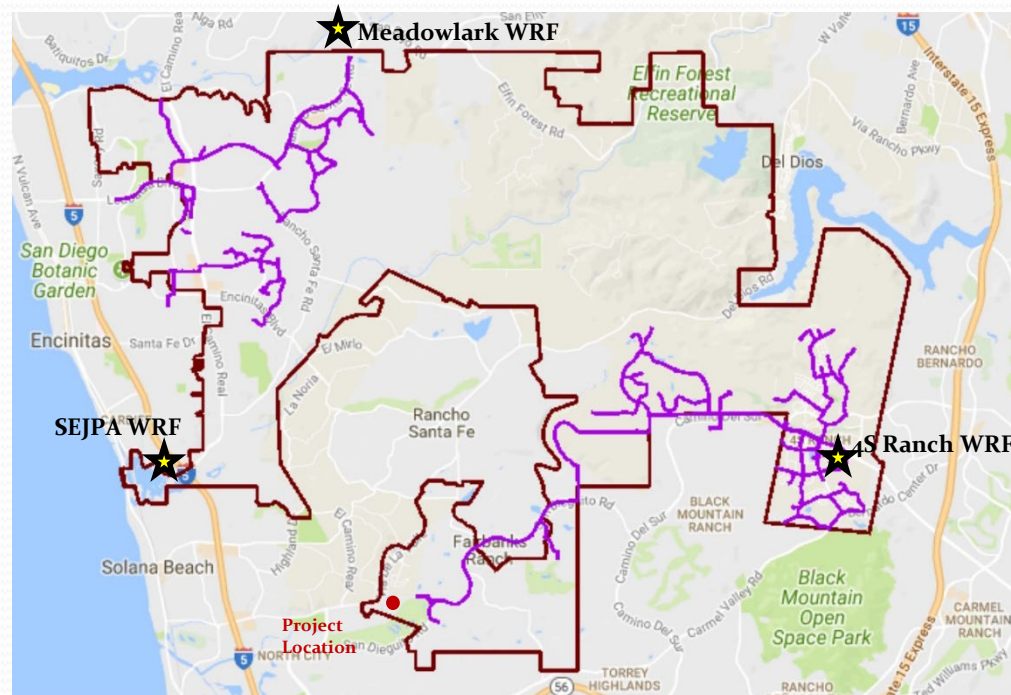
- Public agency providing water, wastewater services, recycled water, hydroelectricity, and the operation of Elfin Forest Recreational Reserve
- Service area over 48 square miles serving 87,000 customers in Encinitas, Carlsbad, San Diego, San Marcos, Solana Beach, and neighboring communities
- 100% reliant on imported water to meet potable demands
- Meeting approximately 14% of overall demands with recycled water



OMWD's Recycled Water System

Recycled Water

- Serves an average of 2 MGD (3,300 AFY)
- Currently produces 1 MGD at 4S Ranch WRF
- RW purchases from San Elijo JPA, Vallecitos WD, City of San Diego, and Rancho Santa Fe Community Services District



Project Objectives



- Increase the use of local recycled water to continue efforts toward reducing imported water supply use in a cost effective and environmentally responsible manner
- Increase the availability of local groundwater (by offsetting pumping) for local potable uses
- Provide a water source that is reliable (“drought-resistant”) and locally produced and controlled

Project Overview

- Extend recycled water service from OMWD's recycled water pipeline to eastern end of City of San Diego property
- Horizontal Directional Drilling under the San Dieguito River from an existing Morgan Run meter site to new meter site



RW Extension to San Diego Surf Cup Project Overview



Legend

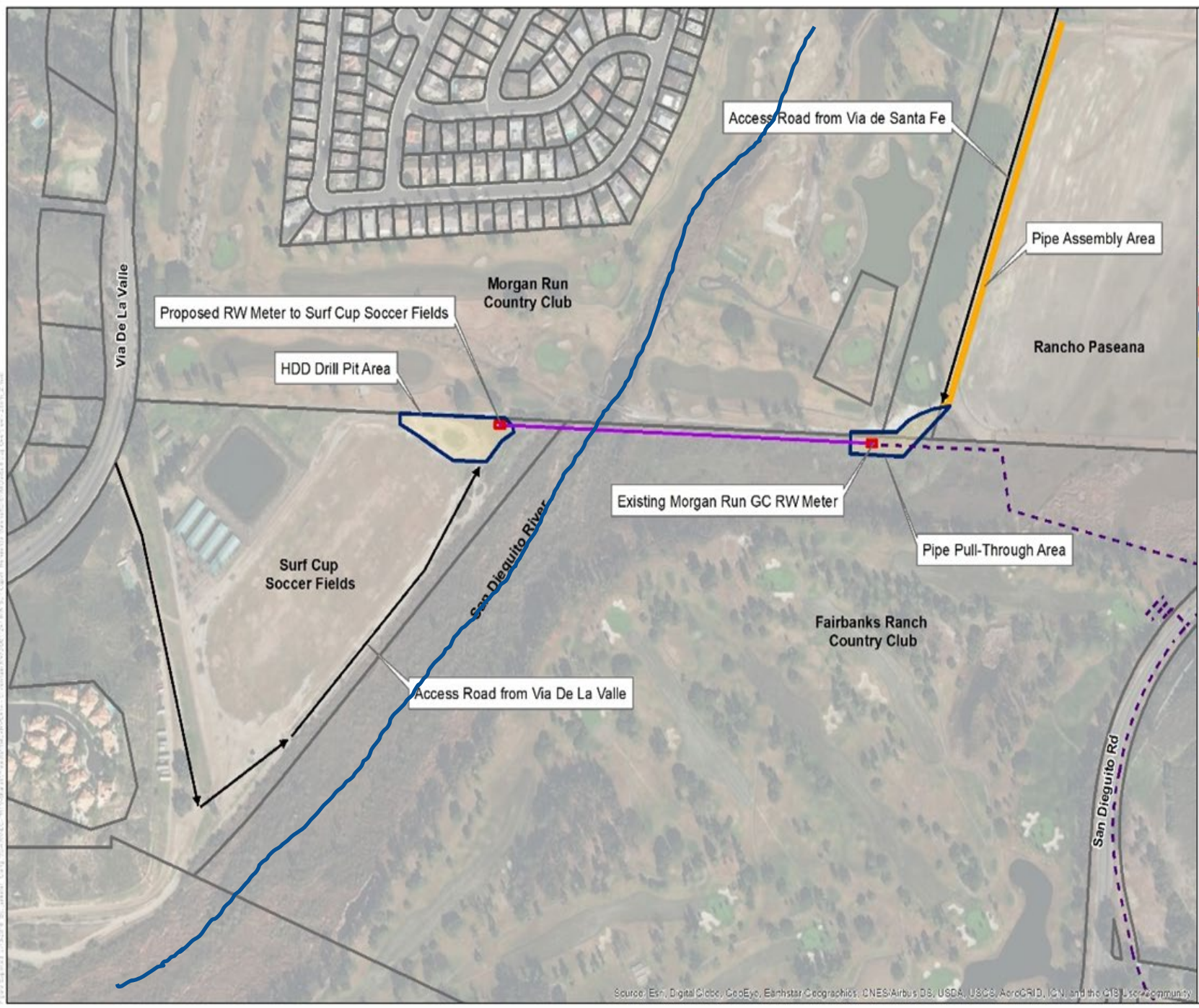
- Proposed RW Pipeline
- Existing RW Pipeline
- HDD Entry/Exit Pit
- Temporary Disturbed Area
- Pipe Assembly Area
- Parcel Boundary

0 0.015 0.03 0.06 Miles



Third Party GIS Checknotes: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions. Any reliance upon the map or data contained herein shall be at the user's sole risk. Data Sources:

Source: Esri, DigitalGlobe, GeoEye, Earthstar/Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





Project Specifications

- Designer/CM: Woodard & Curran, \$216,318
 - Design/PM: \$82k, Environmental: \$58k, CM/ESDC: \$30k, Specialty Inspection: \$46k
- Contractor: Riverside Directional Drilling, \$377,811
- Funding: Achieved \$202,300 in state grant funds from the Department of Water Resources through Proposition 84 (Round 2)
- Coordination: San Diego City Council and Land Use & Housing Committee, Calif Dept of Fish & Wildlife, Santa Fe Irrigation District, Morgan Run Club & Resort, Surf Cup Sports, neighboring community

Project Schedule

- **Design:** July-October 2018
- **Environmental:** July-December 2018
 - IS/MND
 - Included CDFW SAA Agreement; subsequent consultation with USFW
 - FracOut Analysis
- **Bid:** October 2018
- **Awarded:** December 2018
- **Construction NTP:** 3/27/2019
- **Construction:** 5/13/2019 – 6/28/2019

Project Specifications

- Environmental Highlights:
 - Horizontal drilling allowed the project to avoid wetland and other sensitive habitat impacts
 - Barn-owl box directly over the HDD rig that prompted creative mitigation to verify presence of owlets and monitor during drill running
 - Major challenges included constructing in bird-nesting season; also the inter-agency coordination necessary to secure the easement from San Diego and pulling the permits from CDFW and US-DFW
- Construction:
 - Fused C900 PVC – 1,775' (final length); 30' connecting pipe

Mitigation Measures due to Nesting Bird Season



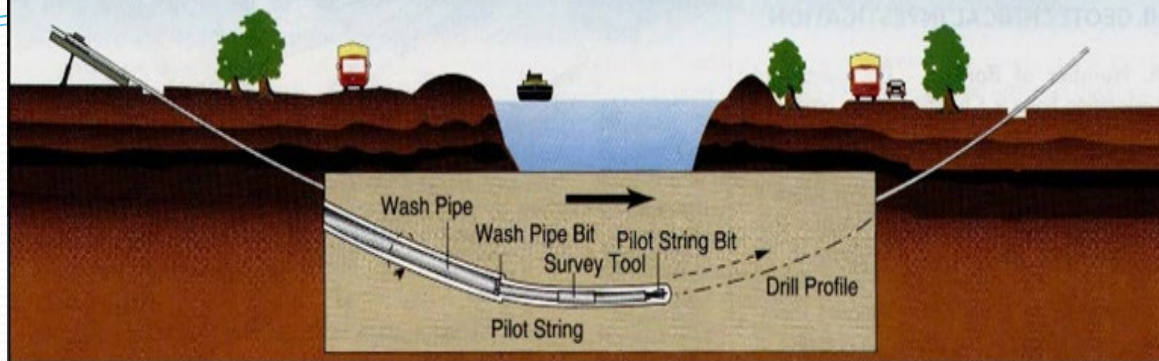
- USFW consult
- Sound Walls
- Daily Bio Surveys
- Daily Noise monitoring



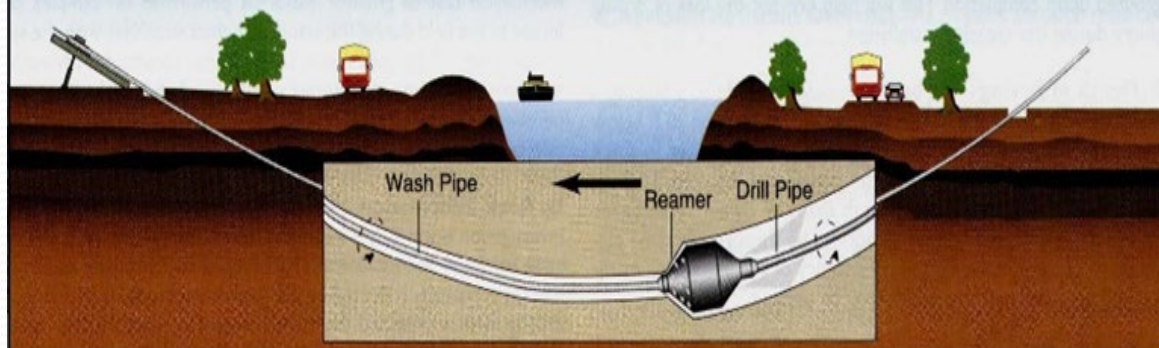
Horizontal Directional Drilling

- Construction lasted approx. one month in summer 2019
- HDD bore 50 feet below San Dieguito River
- Contain workspace to prevent erosion and spills
- Locate and manage sufficient laydown area for fused pipe before insertion
- Avoid test well location and existing abandoned well (east side of river)
- Monitor excavated holes resulting from soundwall removal to ensure no frac-out due to no compaction
- Foot access only from river to east end of project – no heavy equipment
- Manage drilling rate and pressure to prevent hydrofracture of bore hole
 - Required special inspection

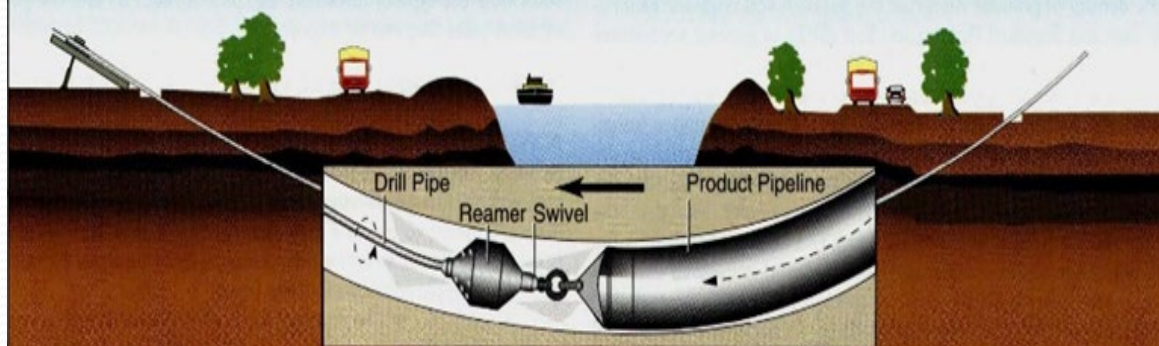
I.D.1. Pilot Hole



I.D.2. Preream



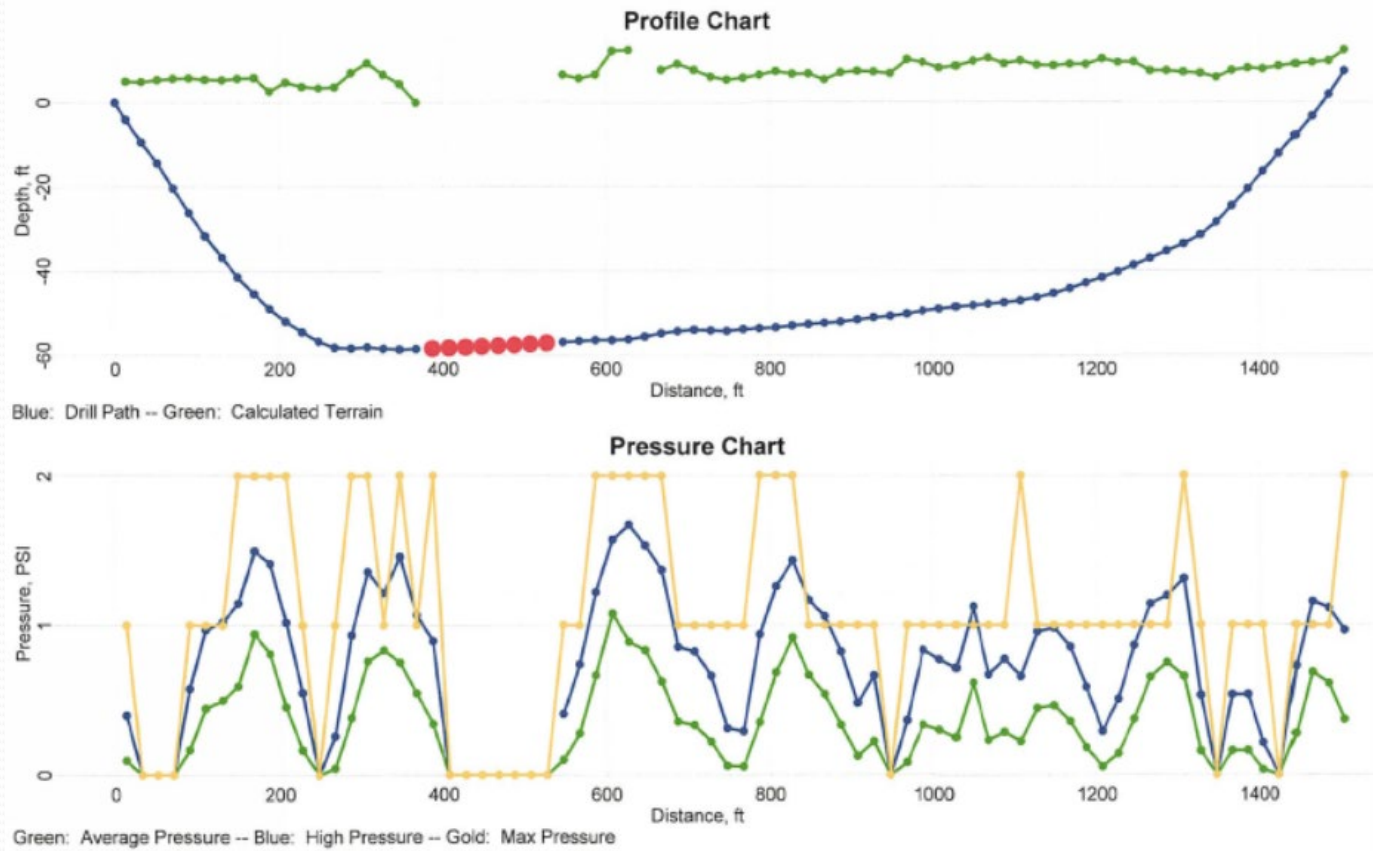
I.D.3. Pullback



HDD Pilot Bore



HDD Bore Profile



HDD Pipe Stringing



HDD Pipe Pullback





Project Outcome

- By switching to recycled water, OMWD anticipates saving up to 100 million gallons of potable water each year. This reduces potable water demand, minimizes ocean discharge of wastewater, and improves sustainability overall.
- Also allows City of San Diego property on west side of San Dieguito River to continue irrigation, even in times of drought.
- Project was recognized as a 2020 Project of the Year by the San Diego and Imperial County Chapter of the American Public Works Association.

Questions?