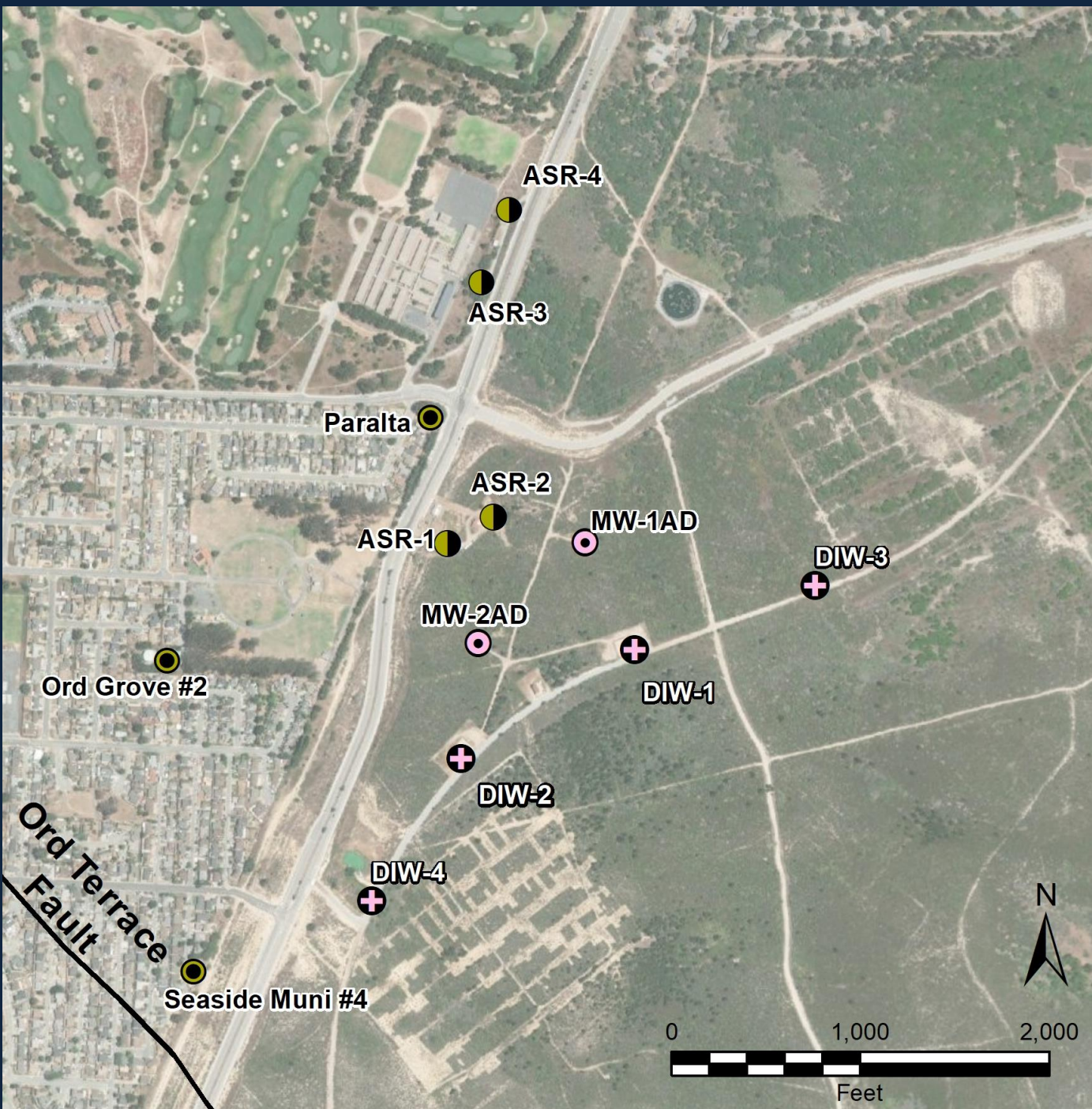


# Location of Injection and Extraction Wells



**PWM Wells**

- ⊕ Deep Injection Well
- ⊙ Monitoring Well

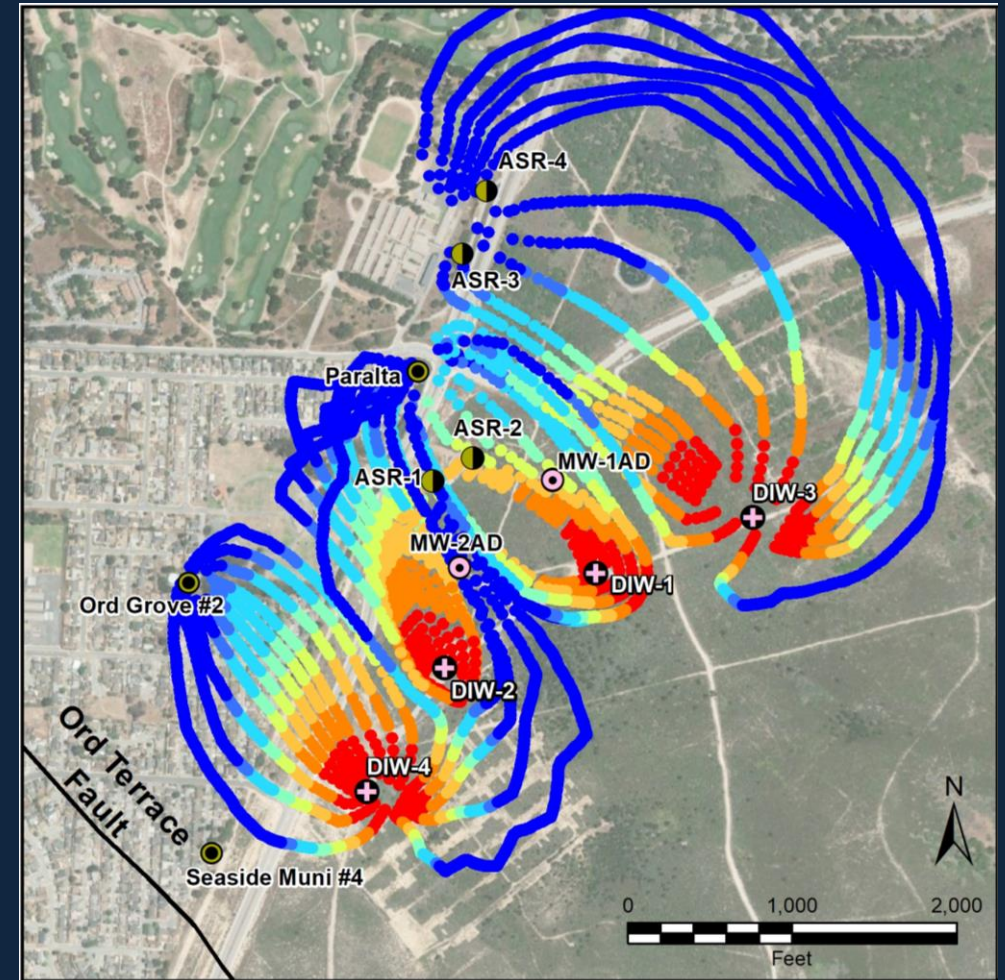
**Other Wells**

- ⊙ Production Well
- ◐ ASR Well



# Near Term Reoperation of ASR-1

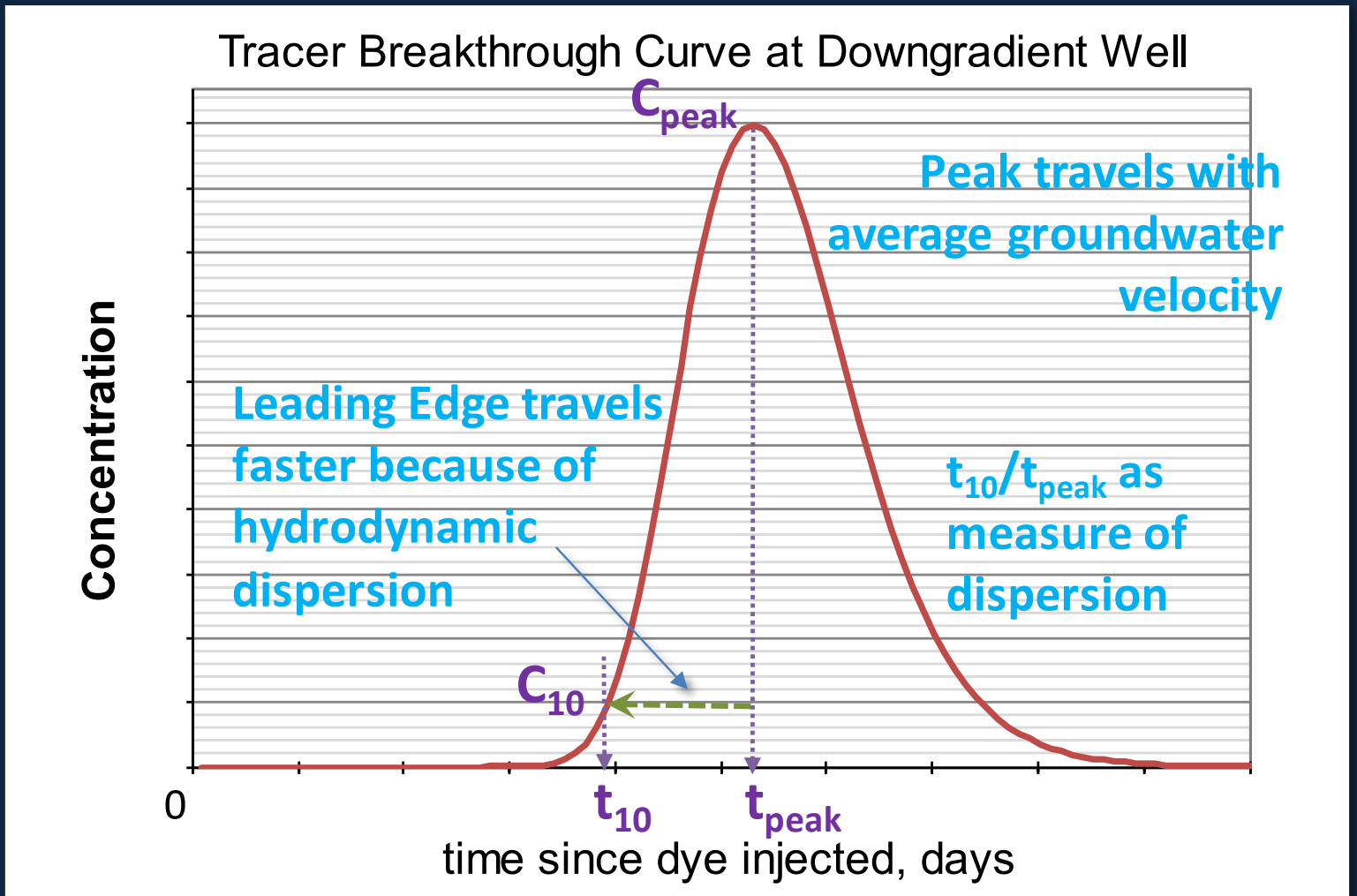
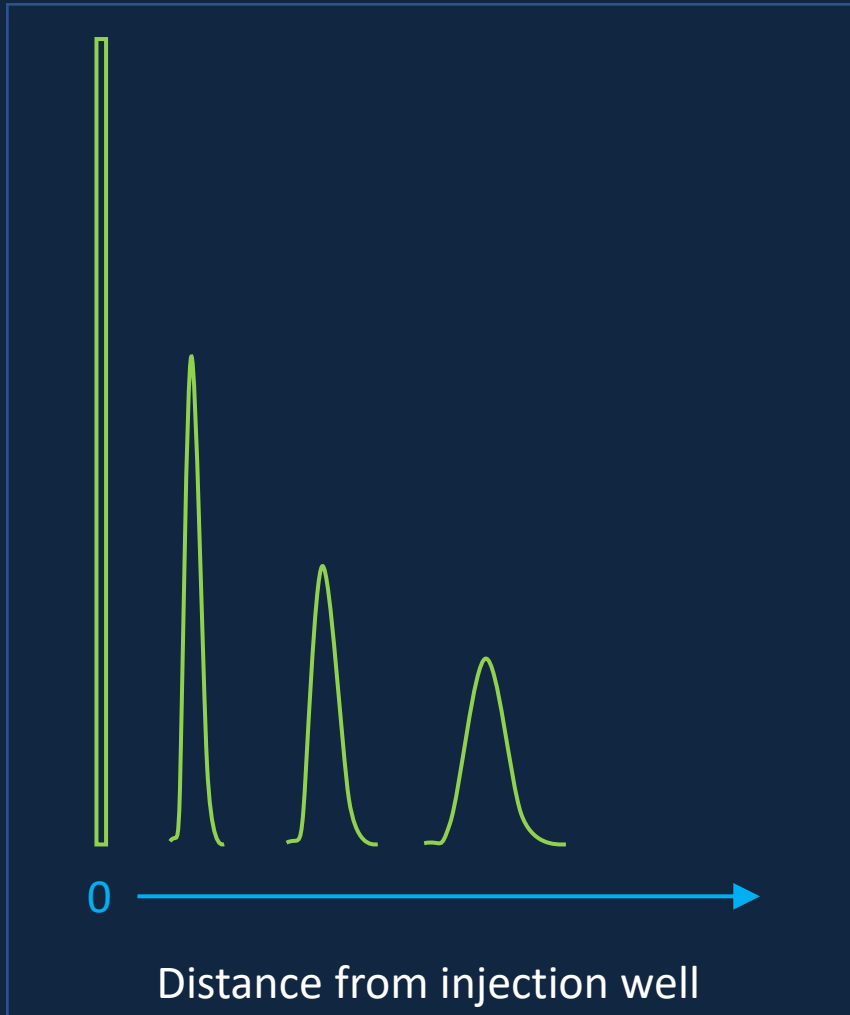
- Evaluate travel times to ASR-1 when it resumes extracting
- Conservatively assume increased dispersion over longer travel distance ( $t_{10}/t_{\text{peak}} = 0.80$ )



# Objectives of Extrinsic Tracer Test

- Measure dye concentrations arrival at downgradient wells
- Accurate travel times of peak ( $t_{\text{peak}}$ ) and 10% of peak ( $t_{10}$ )
- Re-calibrate model to arrival of dye tracer at monitoring wells
- Simulate extraction at ASR-1 and determine injection at DIW-1 and DIW-2 that achieves minimum required 2-month  $t_{10}$
- Receive full 1.0 log virus removal credit per month of  $t_{10}$  travel

# Tracer Break-Through Curve



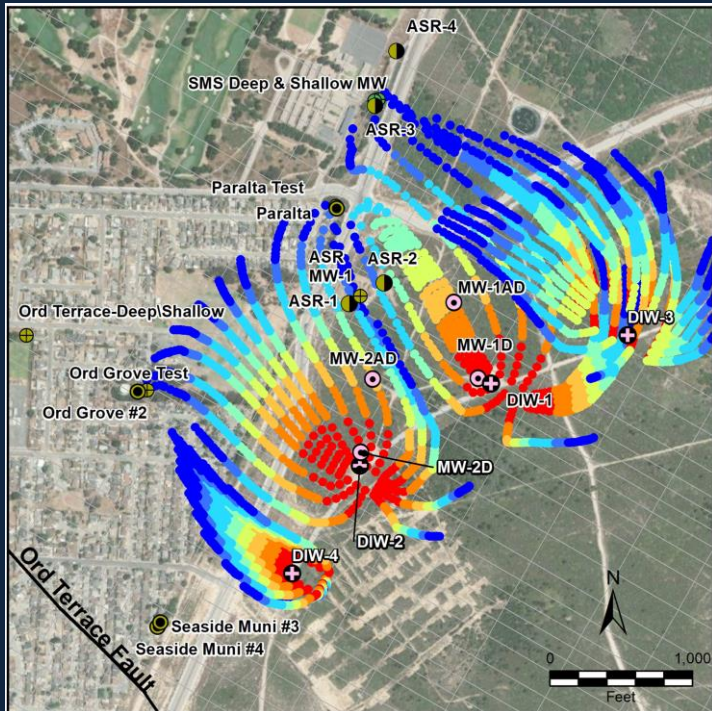
# Operational Steps to use ASR-1 for WY 2022

- PWM system will be operated in close coordination with CalAm to ensure 2-month underground retention time
- The four DIW wells can be flexibly operated to ensure ASR-1 travel time is met without stopping injection
- ASR-1 can be operated with no restrictions if DIW-1 and DIW-2 have been injecting at reduced rates for the prior 2 months
- CalAm and M1W work closely to coordinate ASR-1 scheduling



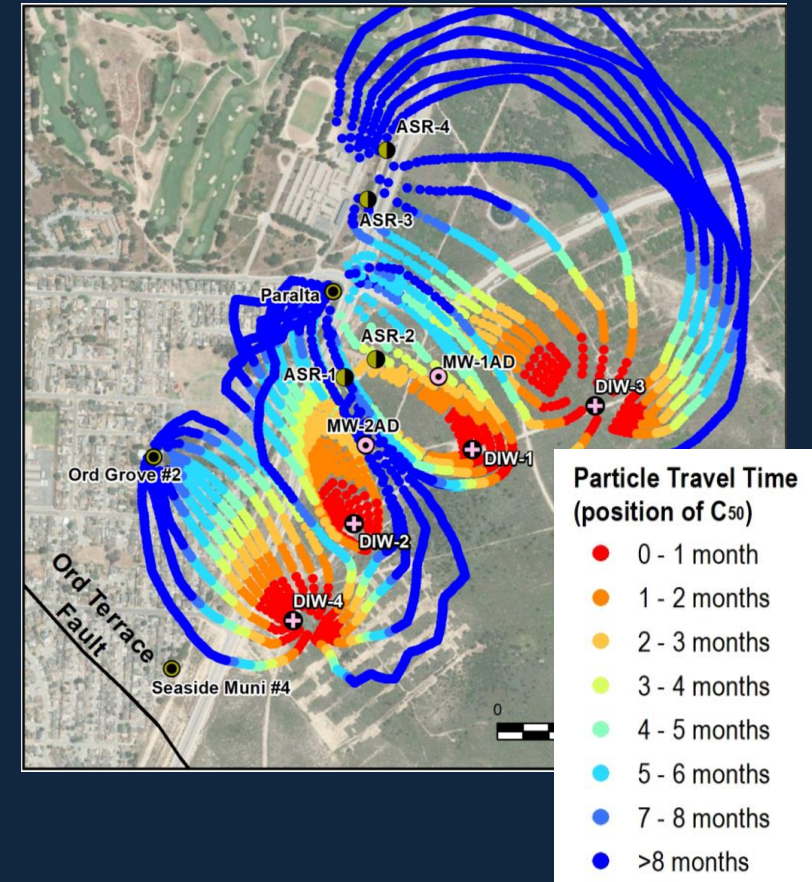
# Example Injection Redistribution Scenario

## ASR-1 Not Extracting



- DIW rates redistributed at least 2 months prior
  - DIW-1:  $\searrow$  to  $\leq 560$  GPM
  - DIW-2:  $\searrow$  to  $\leq 430$  GPM
  - DIW-3:  $\nearrow$  to 1350 GPM
  - DIW-4:  $\nearrow$  to 400 GPM
- $t_{10} \geq 2$  months during ASR-1 extraction period

## ASR-1 Extracting



# Conclusions

- **Added tracer study confirms results of intrinsic tracer study**
- **Travel time to ASR-1 depends on combination of injection rates at DIW-1 and DIW-2 and the extraction rate at ASR-1**
- **Pumping at other wells has smaller influence on ASR-1 travel time**
- **$t_{10}$  to ASR-1 will always meet or exceed 2 months as long as injection at DIW-1 and DIW-2 is reduced by necessary amounts for two months prior to ASR-1 operation**

**EXHIBIT 5-A**

**Phase 1 Schedule**

<b>Event</b>	<b>Date</b>
Intervenor Testimony	March 11, 2022
California American Water Supplemental Testimony on water supply and demand estimates for its Monterey Peninsula customers to support the Amended and Restated Water Purchase Agreement.	March 11, 2022
California American Water Rebuttal Testimony .	April 1, 2022
Intervenor Testimony on California American Water's Supplemental Testimony on water supply and demand estimates for its Monterey Peninsula customers to support the Amended and Restated Water Purchase Agreement.	April 1, 2022
California American Water Rebuttal Testimony as to Supplemental Testimony on water supply and demand estimates for its Monterey Peninsula customers to support the Amended and Restated Water Purchase Agreement	April 8, 2022
Meet and Confer (Rule 13.9)	April 11, 2022
Joint Case Management Statement (Rule 13.8)	April 14, 2022
Evidentiary Hearing (as needed)	May 3-4 and 6, 2022
Opening Briefs w/hearings Opening Briefs w/o hearings	May 30, 2022 April 29, 2022
Reply Briefs w/hearings Reply Briefs w/o hearings	June 20, 2022 May 20, 2022

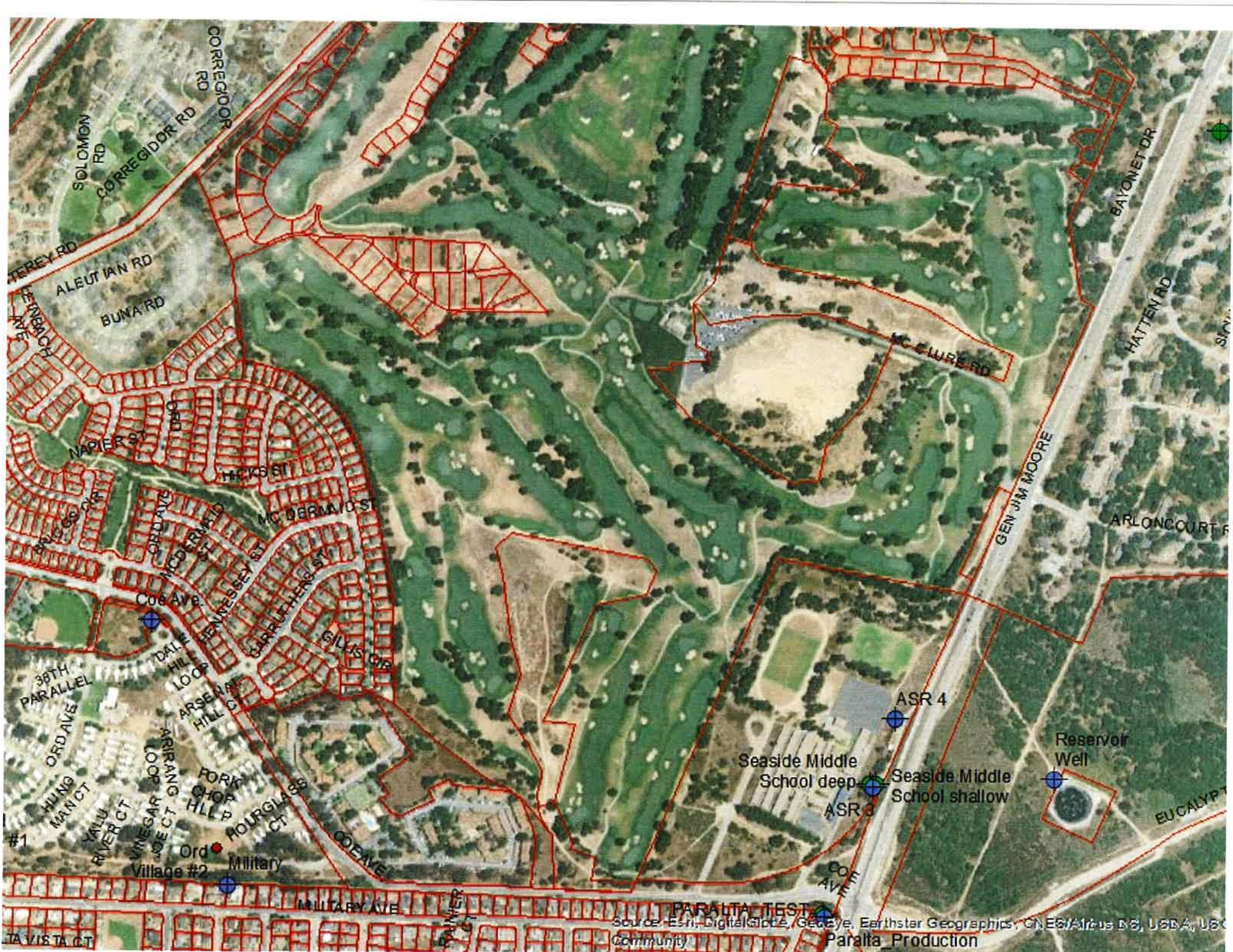
Proposed Decision on Amended and Restated Water Purchase Agreement within 90 days of Reply Briefs



**Attachment 1. Proposed Extraction Wells Location (source: Schaaf & Wheeler, April 2018)**







Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, SDA, CNES/Airbus DS, U.S.A., U.S.A. Community, Paralta Production



*Compliance with the CDO and Seaside Basin Adjudication:* As shown below, existing water supplies available beginning next year are as follows:

<b>Water Supply Available</b>	<b>AFA</b>
Carmel River Supply	3,376
Seaside Basin Supply	1,474
Pure Water Monterey Supply	<u>3,500</u>
Total “Firm” Supply	8,350
5-Year Average Customer Demand	<u>9,725</u>
Additional Supplies Needed to Lift CDO	1,375

*Lifting the CDO:*

<b>Test 1 - Water for the River</b>	<b>AFA</b>
5-Year Average of Pumping from the Carmel River:	6,023
Legal Right to Pump from the Carmel River:	<u>3,376</u>
Replacement Supply Needed:	2,747

<b>Test 2 - Water for Customer Demand</b>	<b>AFA</b>
Carmel River Supply	3,376
Seaside Basin Supply	1,474
Pure Water Monterey Supply	<u>3,500</u>
Total "Firm" Supply	8,350
5-Year Average Customer Demand	<u>9,725</u>
Additional Supplies Needed to Lift CDO	1,375

<b>Additional Long-Term Supplies</b>	<b>AFA</b>
ASR	1,300
Sand City Desal	200
Pure Water Monterey Expansion	2,250
Table 13 Water Rights	100
Desired In-Lieu Seaside Basin Recharge	<u>(700)</u>
Additional Supplies Available to Lift CDO	3,150