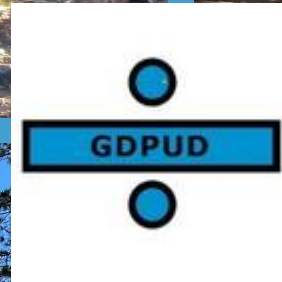
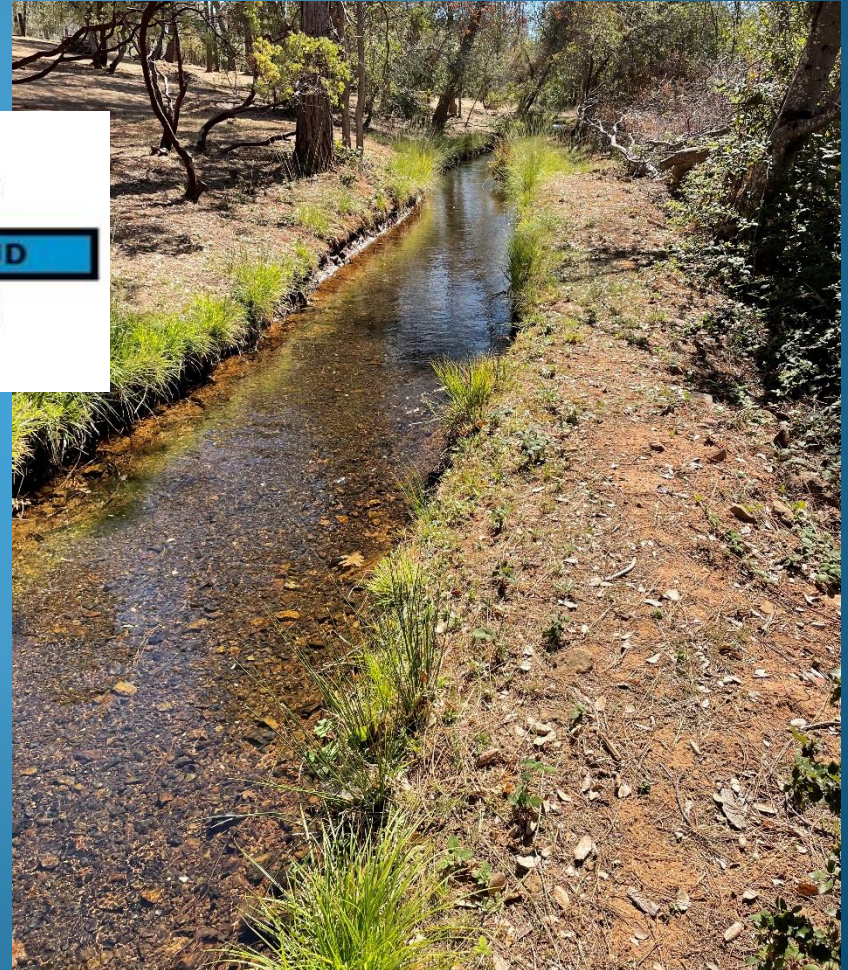


# Georgetown Divide Public Utility District Water System Reliability Study Update



CONSULTING  
**KASL**  
ENGINEERS



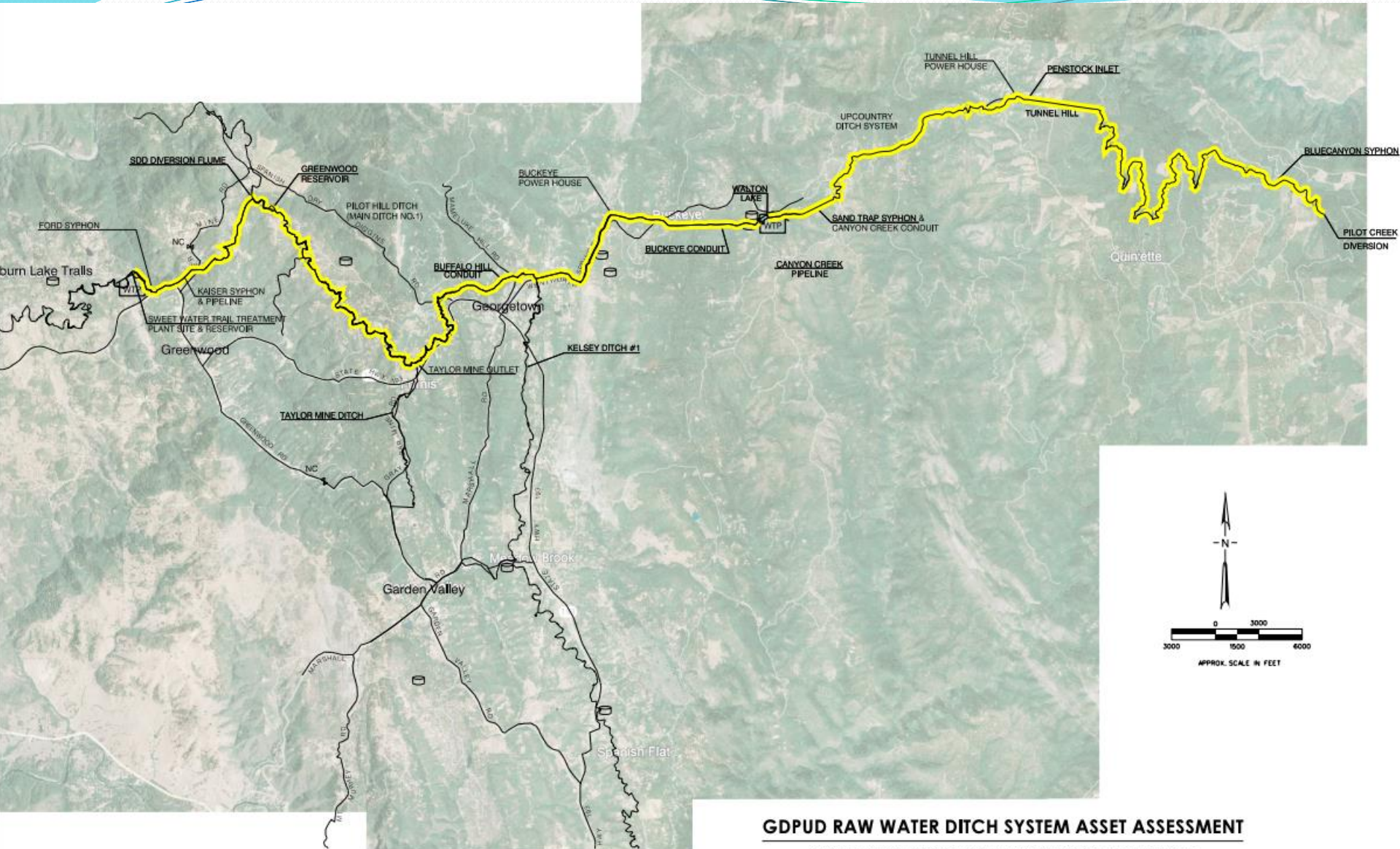
## **2002 & 2022 RELIABILITY STUDY OVERVIEW**

In 2002 KASL prepared the Water System Reliability Study for GDPUD raw water supply and delivery and for the District's treated water distribution system.

In 2022 KASL was, again, retained by the District to update and prioritize, for the next 20 year period, GDPUD raw water and treated water system improvements to sustain, protect and improve ongoing system operations.

## 2022 STUDY UPDATE OBJECTIVE

- Assess Current Conditions of District's:
  - Raw Water Conveyance System Upstream of the District's Water Treatment Plants ( $\pm$  35 miles)
  - Booster Pump Stations (5)
  - Water Storage Tanks (10)
  - Water Transmission and Distribution Pipelines & Pipeline Appurtenances ( $\pm$  200 miles of Pipeline, 47 PRV's)
- Recommend Short Term, Intermediate Term and Longer Term Measures to Improve System Reliability and Long Term Sustainability (Capital Improvement Program) For The Next 20 Year Planning Period
- Update the 2002 GDPUD Water System Reliability Study



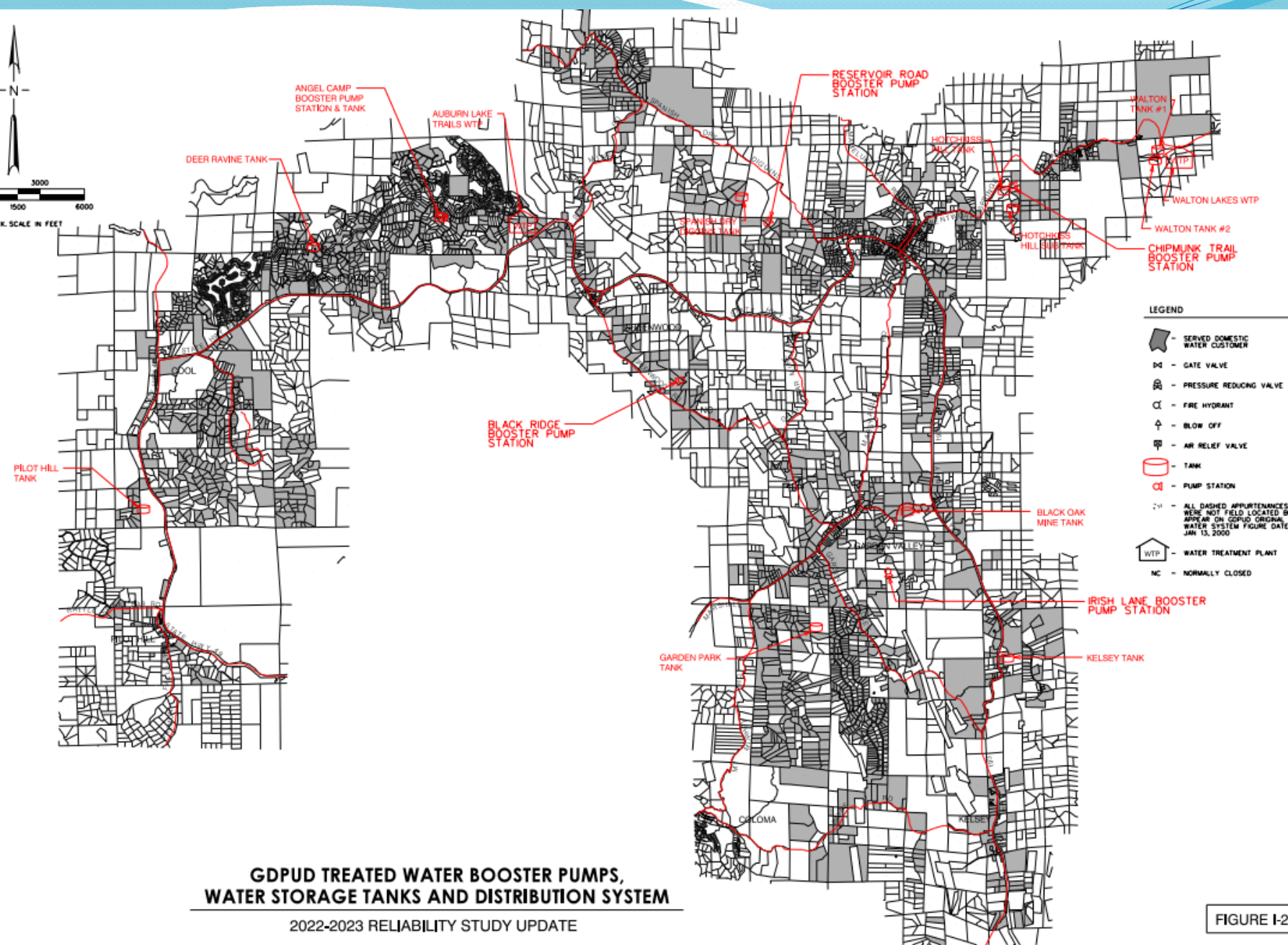
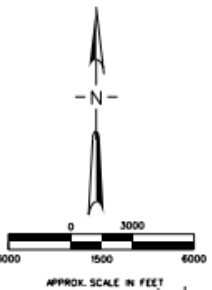
**GDPUD RAW WATER DITCH SYSTEM ASSET ASSESSMENT**

INCLUDED IN 2022-2023 RELIABILITY STUDY UPDATE

FIGURE I-1

Kelsey





**GDPUD TREATED WATER BOOSTER PUMPS,  
WATER STORAGE TANKS AND DISTRIBUTION SYSTEM**

2022-2023 RELIABILITY STUDY UPDATE

FIGURE I-2

# **FINDINGS AND RECOMMENDATIONS – RAW WATER CONVEYANCE FACILITIES**

A (± 35 mile long) “chain” of Ditches, Reservoirs, Pipelines and Structures. Each “link” of the chain is critical to the conveyance of water supplied to GDPUD customers.

# KEY RAW WATER SYSTEM RECOMMENDATIONS / IMPROVEMENTS

## ABOVE TUNNEL HILL

- Widen Existing Access to Provide Maintenance Vehicle Access through the “Narrows” to Bacon Creek Diversion.
- Complete Ditch Access Road Widening and Stabilization; Tunnel Hill to Bacon Creek Diversion
- Replace Open Ditch Segments with Piped Improvements.





## **BELOW TUNNEL HILL TO WALTON LAKE WATER TREATMENT PLANT AND SWEETWATER TRAIL WATER TREATMENT PLANT.**

- Acquire Heavy Duty Cutting and Tillage Equipment for Berry Vine Management.
- Record Permanent Easements for Tunnel Hill Penstock, Canyon Creek Conduit, Buckeye Conduit, Schroeder Conduit, Buffalo Hill Conduit, Kaiser Siphon, Kaiser Pipeline, Ford Siphon.
- Construct New Raw Water Storage Facility on GDPUD Owned Property near District Office/Shop.
- Restore / Expand Storage Capacity of Walton Lake and Greenwood Reservoir.
- Concrete Line Priority Ditch Repair Sections.



**THICK BERRYVINE GROWTH ALONG  
UPCOUNTRY DITCH (TYPICAL HOMEWOOD  
DRIVE TO TREEHOUSE LANE)**

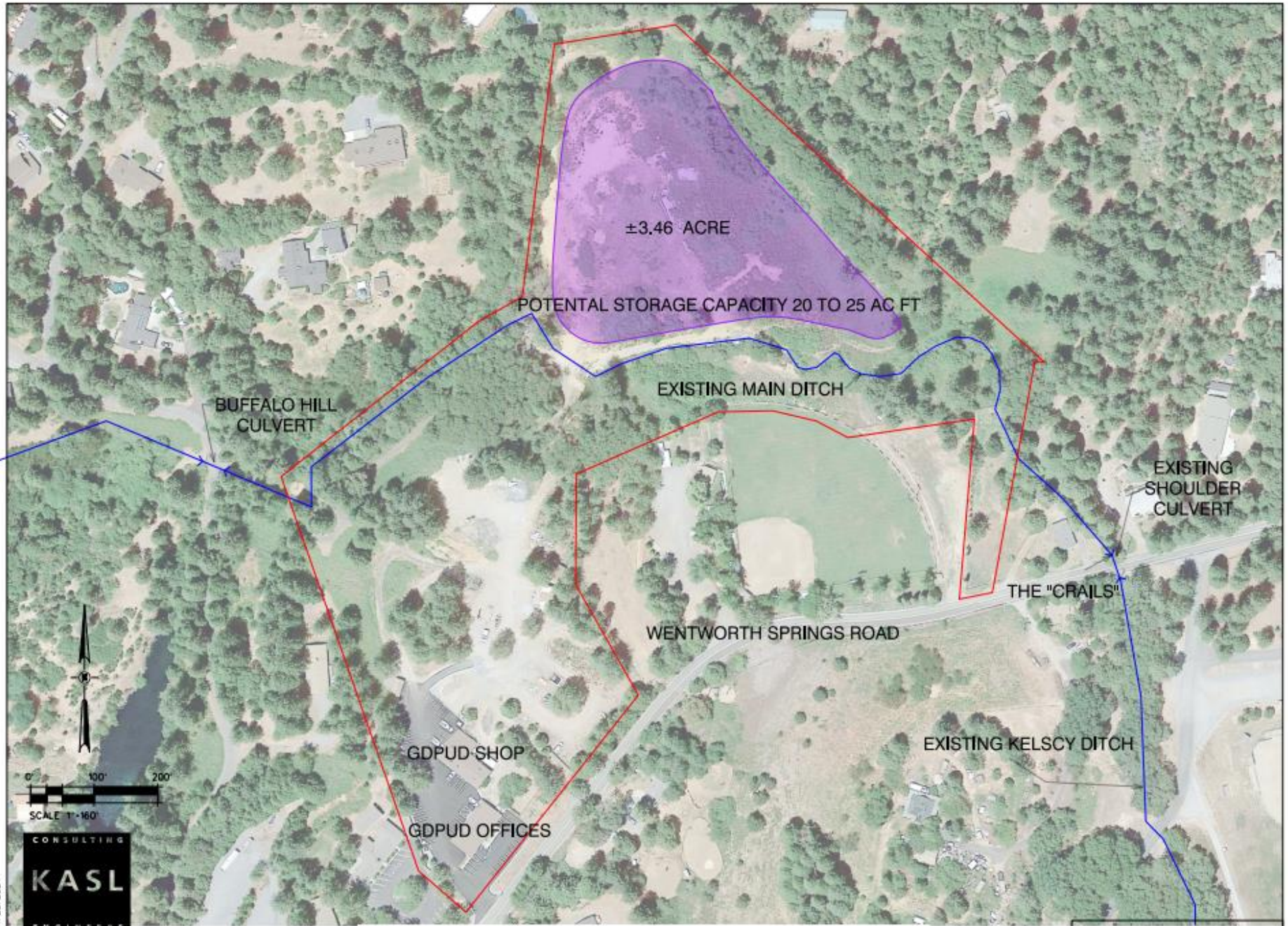
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GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

PHOTO EXHIBIT V-8



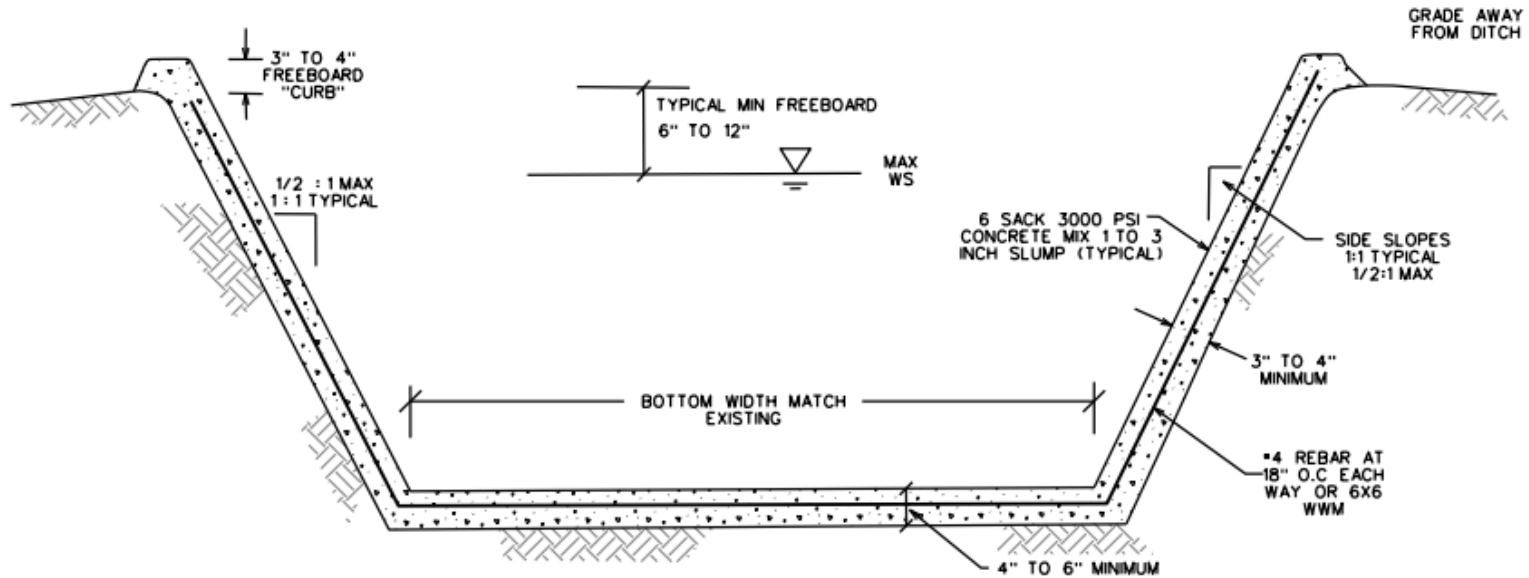
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DATE: 4/23/2024



### POTENTIAL RAW WATER STORAGE SITE

PHOTO EXHIBIT V-9





**TYPICAL SECTION  
GDPUD CONCRETE LINED DITCH**

**FIGURE V-13**



**CONCRETE DITCH LINING  
COMPLETED BY GDPUD  
PERSONNEL**

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

PHOTO EXHIBIT V-7

## ESTIMATED RAW WATER CONVEYANCE MEASURE IMPROVEMENT COSTS

- Total Estimated (2024) Costs; \$19.3 Million (ENRCC 13,900; Current, Cost Index).
    - Costs Projected over Short Term, Moderate Term and Long Term Schedule.
      - \$3.5 Million Projected Cost for Short Term Improvements (1-6 years).
      - \$7.5 Million Projected Cost for Moderate Term (6-11 year) Improvements.
      - \$9.3 Million Projected Cost for Moderate Term (11-16 year) Improvements.
      - \$7.7 Million Projected Cost for Long Term (16-20 year) Improvements.
- Total Projected Costs ~ \$28.0 Million



# KEY FINDINGS AND RECOMMENDATIONS – TREATED WATER PUMP STATION, STORAGE, TRANSMISSION AND DISTRIBUTION MAIN FACILITIES

- **5 Booster Pump Stations**
- **10 Water Storage Tanks**
- **47 PRV's**
- **+/- 200 Miles of Pipeline**

## PUMP STATIONS

- Replace Black Ridge Pump Station Equipment with Duplex Pumps, New Duplex Pump Control Panel and Pump Station Building.

## TANKS

- Schedule Next Tank Coating and Corrosion Inspection not Later than 2025-2026.
- Recoat Interior and Exterior Tank Surfaces and Appurtenances, Angel Camp Tank, Hotchkiss Hill Tank and Hotchkiss Hill Subtank.
- Install Pressure Reducing Valve and Tank Bypass Facilities, Angel Camp Tank.



## ANGEL CAMP TANK; TANK COATING CONDITION ISSUES

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

PHOTO EXHIBIT VI-19

## **PRESSURE REDUCING VALVES**

- Repair / Upgrade Walton Lake and Sweetwater Tail System PRV Stations not yet Upgraded from Initial Installation. (13 locations).

## **PIPELINES**

- Replace “Thin Walled “SDR 21 Pipelines with PVC C900 Pipe Conforming to AWWA Standards; Min. 8 Inch Pipe Replacement Diameter; Reservoir Road, Sliger Mine Road, Chrysler Circle, Johntown Creek Road, Fain Lain, Prospect Hill Road, Aaron Cool Drive, Cherry Acres Road, Hamblin Way, Overton Road, Meadowbrook Road, Hackomiller Road, Towzen Drive, Oak Lane.
- Replace 4 inch Diameter Water Mains with 8 Inch (Typically, PVC C900) Mains; Hidden Lake Trail, Tegra Road, Marshal Road, Chrysler Circle, Johntown Creek Road, Garden Valley Road, Garden Park Drive, Pikes Peak Circle, Shasta Road, Lazy Brown Trail.
- For Improved Fire Flows, Replace Existing Pipelines in Hidden Gold Trail, Brown Bear Trail, Balloon Ridge Trail, Upper Black Rock Road, Brinks Lane, Rattlesnake Bar Road, Tiger Lane, Veterans Way, Citabria Lane, Cedar Drive, Hancock Road, Lynx Ridge Road, Meadowbrook Road, Dogwood Lane with Larger Diameter Mains.
- With Pipeline Improvements, Update Hydraulic Network Model to Evaluate New Water Treatment, Booster Pump Station and Water Storage Tank Alternatives.



# ESTIMATED TREATED WATER BOOSTER PUMP STATION, WATER STORAGE, TRANSMISSION AND DISTRIBUTION SYSTEM IMPROVEMENT COSTS

- ± 16.1 Million (ENRCC 13,900; Current 2024 Costs)
  - Costs Projected over Short Term, Moderate Term and Long Term Schedule
    - \$6.4 Million Projected Cost of Short Term (1-6 year) Measures.
    - \$5.9 Million Projected Cost of Moderate Term (6-11 year) Measures.
    - \$6.6 Million Projected Cost of Moderate Term (11-16 years) Measures.
    - \$2.9 Million Projected Cost of Longer Term (16-20 year) Measures.
    - Total Projected Costs = \$21.8 Million

# Questions