

# EL DORADO IRRIGATION DISTRICT'S RECENT EFFORTS ON IN-CONDUIT HYDROELECTRIC PROJECTS

March 22, 2013

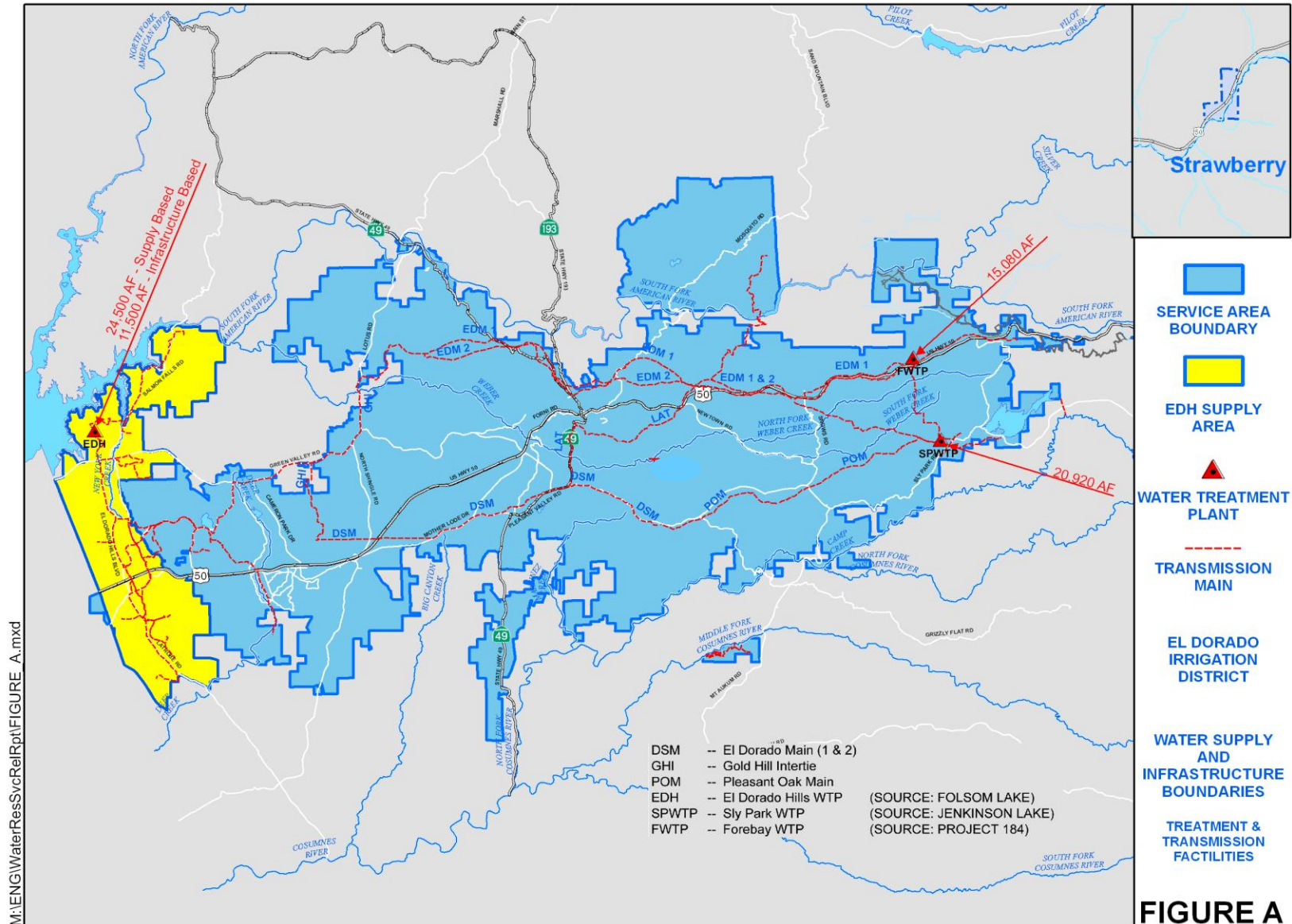


# Background



- District has investigated small hydro projects since 2008
- EID Board Policy – the District shall seek to augment its electric energy and capacity revenue stream, and/or reduce its operational energy expenses, by adding new generation facilities whenever they are economically feasible

# EID Service Area



# Background



- 2009 Hydro Options Study
  - ▣ Identified four potential sites
    - Diamond Springs Main at Tank 7
    - El Dorado Main 2 at Tank 3
    - Pleasant Oak Main at Reservoir B
    - Sly Park Dam
- Tank 3 and Tank 7 facilities advanced

# Background

- Subsequently, Tank 3 dropped
  - ▣ Located on FS land
  - ▣ Not exempt from FERC licensing process
  - ▣ Monitoring legislation that would ease this requirement

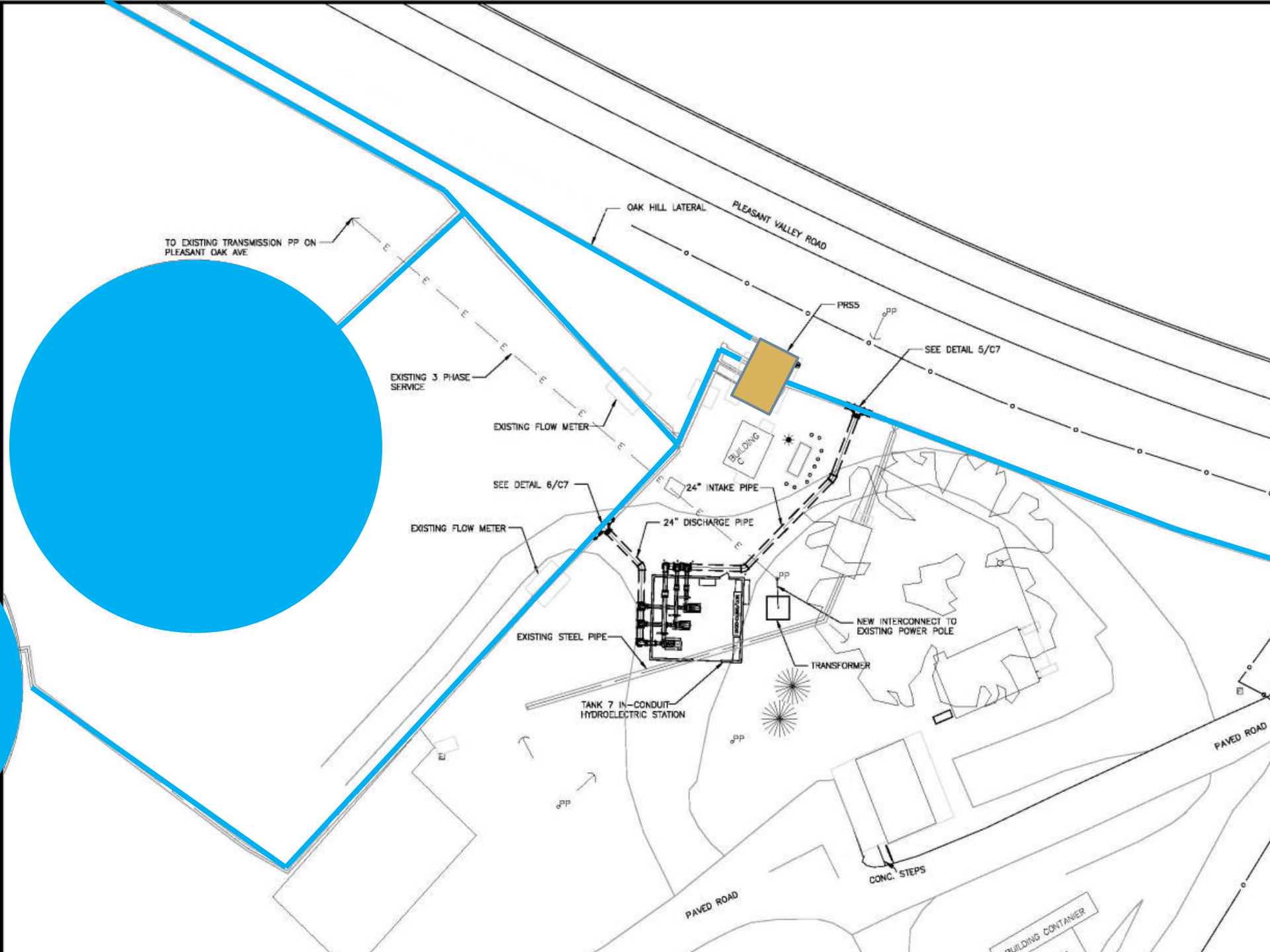


# Background

- Tank 7 project advanced to 30% design
  - ▣ Filed CEQA exemption
  - ▣ Staff obtained FERC license exemption
  - ▣ Applied for PG&E Feed-in Tariff







# Background

- However, as design matured, project cost estimates and payback increased above initial feasibility estimates
  - ▣ Variable speed technology
- Staff discontinued work, but remained open to re-initiation if improved pricing and incentive programs developed



# Recent analysis

- In 2012, re-examined the Tank 7 project
  - ▣ Updated/expanded flow and pressure data
  - ▣ Reviewed overall station design
  - ▣ Power generation estimates
  - ▣ Value-engineered cost estimates
  - ▣ Financing alternatives and revenue projections
- Received a 2-year extension on FERC conduit exemption

# Financial Summary

Description	Three-Turbine Design (370 kW) RES-BCT
Total Cost	\$1,914,000
Annual O&M cost	\$7,000
Annual Revenue Generation	\$128,000 to \$143,000
NPV	\$580,000 to \$866,000
20-year savings	\$1,035,000 to \$1,477,000
30-year savings	\$4,239,000 to \$5,070,000
Payback Period	Year 14 to 15

# Financial Summary

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- Cash flow

- ▣ Annual revenue expected to exceed debt service within first few years of operation

- RES-BCT

- ▣ Allows local Government with an eligible renewable generating facility to export energy to the grid and receive generation credits that offsets electricity charges at other locations

# Potential grant opportunities

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- Prop 84 grant through CABY IRWMP
  - ▣ \$400,000
  - ▣ Decision expected Fall 2013
  
- EDCWA cost share grant request
  - ▣ Offset District's engineering costs of developing project
  - ▣ Decision expected April 2013

# Schedule

- Board awarded engineering contract to NLine Energy
- Design in 2013
- Construction scheduled 2013/2014
- Other tasks
  - ▣ Tariff analysis
  - ▣ PG&E interconnection
  - ▣ Environmental/regulatory compliance
  - ▣ CEC/WREGIS registration

# Questions?

