



ATTACHMENT 8 - QUALITY ASSURANCE

This application includes appropriate and well-defined quality assurance and control measures. To ensure the highest quality of information is obtained, the project includes the quality assurances, including, but not limited to, the following:

General

- Periodic proposed meetings (at least every two months) will be conducted to verify project findings with District staff and the engineering consultant.
- Progress reports will be provided to DWR for review and comment regarding project status.
- The Final Project Report will be stamped by a Professional Engineer and Professional Geologist.
- All work will be performed under the supervision of, and reviewed accordingly by, a Professional Engineer, Professional Geologist or Certified Hydrogeologist.

Legal Issues

- The District legal counsel will review and provide comments on the specifications, bidding documents, and permit applications.

Board of Directors

- The District Board of Directors, comprised of local landowners, will be updated monthly on the project and be given the opportunity to provide comments, suggestions and criticisms.
- The public will be afforded the opportunity to comment on the project at Board meetings, which are open to the public.

Monitoring Wells

- Well construction will be performed under contract by a licensed and experienced well driller, in accordance with specifications prepared by a licensed engineer or geologist.
- Wells will be constructed by drillers with a C-57 well driller's license.
- Construction of the wells will be overseen by a Professional Engineer or Professional Geologist.
- Survey of the wells will be overseen by a Licensed Land Surveyor.
- Well construction will follow California Well Standards - Bulletin 74-90 (Supplement to Bulletin 74-81) prepared by the California Department of Water Resources.



- Well construction will follow standard well construction procedures (the specifications will be developed as part of the grant funded efforts).
- Soils will be logged by a Professional Geologist according to standard logging procedures.
- OSHA health and safety standards will be required during well construction.

Water and Soil Sampling

- Groundwater quality monitoring will be conducted in compliance with the Groundwater Quality Monitoring Act of 2001 (Part 2.76 commencing with Sec. 10780 of Division 26 of the CWC).
- Water quality sampling will follow standard monitoring protocols documented procedures in the TID GMP (Appendix C in **Exhibit 3.2** of this application).
- Water quality testing will be performed by accredited, experienced, state-certified testing laboratories to ensure appropriate testing methods and chains of custody.
- Field blank and duplicate samples will be collected, as described in the Work Plan.
- All water quality results will be reviewed by an experienced water quality specialist.

Technical Review

- All work performed on the study will be reviewed by senior staff before submission to DWR.
- Review comments on a Draft Report, and possibly some interim submittals, will be solicited, and incorporated when merited, from the DWR, the general public, and other pertinent agencies.
- Dr. Kenneth D. Schmidt, an independent geologic consultant and licensed geologist with over 40 years of experience, will review the selected locations and designs for the monitoring wells, and provide an important, independent, third-party review. Dr. Schmidt's involvement will be one of the most important quality assurance efforts.

PROJECT TEAM

Principal staff working on the project have the qualifications and skills to successfully complete the work. All of the team members have experience with groundwater projects in the Tranquillity Irrigation District. A brief description of the major project team members follows:

Tranquillity Irrigation District

Danny Wade – *Project Director*

Danny Wade has been the General Manager of the Tranquillity Irrigation District since 2007. His duties focus on carrying out the direction of and policy adopted by the District's Board of Directors, including managing District staff, consultants, and grant programs. Prior to his



current Manager position, he was the Water Superintendent for TID. Mr. Wade has been working for irrigation districts or in support of agricultural since 1968, starting as a ditch tender or maintenance worker, including periods at Firebaugh Canal Company, San Luis Canal Company, and Central California Irrigation District prior to TID. He is active in the Association of California Water Agencies (ACWA).

Provost & Pritchard Consulting Group

Brian Ehlers, PE - Project Manager

Mr. Ehlers is a principal water resources engineer with 29 years experience. Mr. Ehlers' experience includes the planning, design, and construction management of water supply and distribution systems for cities and water districts throughout the state. Mr. Ehlers currently serves as the District Engineer, and has been in this position since 1990, and has overseen numerous improvements to the TID water infrastructure. Mr. Ehlers has a BS and MS in Civil Engineering and is a Professional Civil Engineer (No. C40655) in California.

Eric Abrahamsen, PE – Lead Engineer

Mr. Abrahamsen is a senior water resources engineer with over twenty years experience in the planning, design, and construction of water resources projects. Mr. Abrahamsen specializes in project management, hydrologic monitoring, conservation and natural resources engineering, and irrigation/water district engineering. Mr. Abrahamsen has extensive experience with water resources of the westside of the San Joaquin Valley. He has worked on numerous projects in TID over the past 9 years including a feasibility study on where to locate production wells, developing a telemetry system for their irrigation delivery system, and TID's Groundwater Management Plan. Mr. Abrahamsen has a BS in Agricultural Engineering and is a Professional Civil Engineer (No. C52000) in California.

Linda Sloan, PG, CHG - Field Geologist

Ms. Sloan has over 10 years experience as a geologist with considerable time spent in the field. She has worked on numerous groundwater projects involving subsurface investigations, monitoring wells, and production wells. She also has extensive experience with groundwater level and groundwater quality monitoring, reporting, and data assessment. Ms. Sloan oversaw the construction of monitoring wells in the neighboring James Irrigation District and is familiar with the local geology. Ms. Sloan has a BS and MS in Geology, and is a Professional Geologist (No. 8299) and Certified Hydrogeologist (No. 930) in California.

Kenneth D. Schmidt and Associates

Kenneth D. Schmidt, PG, CHG - Independent Technical Review

Dr. Kenneth Schmidt has over 40 years experience as a consulting hydrogeologist and has worked on hundreds of projects in the San Joaquin Valley. Dr. Schmidt has assisted with several groundwater projects in TID, including a recent feasibility study on arsenic water quality problems (see project description in Attachment 9). Dr. Schmidt has a BS in Geology, an MS



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and PhD in Hydrology, and is a Professional Geologist (No. 1578) and Certified Hydrogeologist (No. 176) in California.