

## ATTACHMENT 4.5: PROJECT DESCRIPTION

### HYDROGEOLOGICAL DATABASE AND GROUNDWATER MODEL IMPROVEMENTS

#### DETAILED PROJECT DESCRIPTION:

##### **Summary:**

An existing ArcHydro hydrogeological database will be augmented with new water quality data, water level data, pumping data, and lithologic data collected under this grant-funded program. Using that improved database, an existing groundwater model as prepared as part of the development of the South East Bay Plain Basin Groundwater Management Plan will be populated with this new, enhanced data.

##### **Project Description (Goals / Objectives, Needed Facilities, Location / Area Covered):**

The objective of this project will be to incorporate data collected from the four other grant-funded projects and use that information to update a Hydrogeologic Database SEBP and further to incorporate elements of that updated database in the Groundwater Model prepared via the GMP effort, thereby improving the model. The model covers the entire SEBP Basin, as shown in Figure 5 in Appendix 1.

Hydrogeological Database Improvement – Under this project element, an existing ArcHydro hydrogeological database will be improved by populating water quality data, water level data, pumping data, lithologic data as follows: Expanding the database to include a broad suite of analytical compounds and to include the service areas of both City of Hayward and EBMUD service areas; and evaluating well construction logs for key wells located through all services areas; and entry into ArcHydro.

SEBP Groundwater Model Improvement – Under this project element, staff will update the groundwater model as prepared for the basin (which currently incorporates input datasets from up to years 2009).

##### **Quality and Usefulness of the Information Obtained:**

The existing groundwater model prepared during the process of SEBP GMP completed the conceptual model set-up and incorporated a fundamental data set. However, having this newly collected, additional data set (as produced via the database improvement effort) will allow readings from 2009 to date to be used to improve the accuracy of the model output and to recalibrate the model. For example, it is envisioned that one key use of the updated model will be to analyze the impacts of future groundwater resources development within the basin area.

**Collaboration with Other Local Agencies with Regard to This Effort:**

The Stakeholder group formed for the ongoing SEBP Basin GMP effort will be informed of the plans for dataset development and model enhancement. The updated model can be used by all basin stakeholders if needed to address their specific needs relative to local groundwater resources. Stakeholders include City of Hayward, City of Oakland, City of Alameda, the Port of Oakland, etc.

**Funding Consideration(s) Following Grant Completion:**

Basin stakeholders, including EBMUD, have ongoing responsibilities associated with management of the basin. Each agency may have an interest in future groundwater program developments and basin protection within their respective service area. Having a model that includes the most up-to-date data insures that a broad range of management scenarios can be evaluated. All agencies assume that from time to time the model will be updated, and will plan for that as the GMP stewardship efforts commence through the years.