

## ATTACHMENT 5 WORK PLAN

For the “AttachmentName” in the naming convention of BMS, use “WrkPln” for this attachment.

The work plan must be consistent with and support the budget and schedule. The level of detail must be sufficient for the work plan to function as the scope of work for the agreement and to allow reviewers to understand the level of effort of the work being performed as to further substantiate the cost estimates in the budget. If the applicant does not have an existing GWMP, then it should use this section to detail the process by which one will be created. The work plan should include, at a minimum, the following items:

- ↳ Scope of the proposed project including (as appropriate) maps of agency area and area of proposed tasks;

### **Project Area and Background**

The project area is located in the central, western, and southern regions of the Niles Cone Groundwater Basin which includes ACWD’s Mowry Wellfield (see **Attachment 4, Figure 1; Att4\_LGA12\_ACWD\_ProjD\_2of3**). The site locations for the monitoring wells are at the western and southern extent where major depositional channels have been inferred by DWR in their report “DWR Bulletin No. 118-1, Evaluation of Ground Water Resources South Bay, Appendix A: Geology, August 1967” (see **Attachment 4, Figure 2; Att4\_LGA12\_ACWD\_ProjD\_2of3**). The Niles Cone Groundwater Basin is an alluvial fan formed by Alameda Creek and by interfingering sediments of San Francisco Bay. Water-bearing deposits are composed of Quaternary alluvium comprised of varying mixtures of gravel, sand, silt and clay. The Hayward Fault forms a groundwater barrier and divides the basin into two sub-basins – Below Hayward Fault (BHF) and Above Hayward Fault (AHF).

The BHF sub-basin is composed of gently westward-dipping aquifers separated by clay aquitards. The aquifers are gravels and sands from Alameda Creek (fluvial and alluvial). Aquitards are silts and clays from distal fan deposits and the Bay. The primary aquifers in the Niles Cone Groundwater Basin are:

- Newark Aquifer – This aquifer is comprised of extensive permeable gravel at 40 feet to 140 feet depth below ground surface (bgs) except in the forebay area where it is near the surface. The Newark Aquifer is about 20-feet-thick at the western edge of the sub-basin to greater than 140 feet at the Hayward Fault. It is overlain by a layer of clay and silt called the Newark Aquiclude. The Newark Aquiclude contains discontinuous layers of sand and silt and includes a hydrogeologic unit known as the “shallow water-bearing zone.”

- **Centerville Aquifer** – This aquifer lies at an average depth of 180 to 200 feet bgs and ranges in thickness from 10 to 100 feet. It has a fairly impermeable overlying aquitard that protects it from saltwater intrusion in the Newark Aquifer. The two upper aquifers (Centerville and Newark) are connected as they approach the Hayward Fault. The Centerville Aquifer extends westward underneath San Francisco Bay to the San Mateo Plain Basin.
- **Fremont Aquifer** – This aquifer is located primarily east of Coyote Hills at a depth of 300 to 390 feet. The overlying aquitard is absent or thin near the inner portions of the alluvial fan. There is good hydraulic connection with the Centerville Aquifer in some parts of the BHF sub-basin.
- **Deep Aquifers** – The Deep Aquifers are also referred to as the 400-foot and 500-foot Aquifers. The aquifers are separated from the Fremont Aquifer by a competent regional aquitard. The Deep Aquifer extends to adjacent basins to the north and west but interflow between the aquifers is not well understood.

As a result of over pumping of groundwater, saltwater from San Francisco Bay and the adjacent salt ponds intruded into the Newark Aquifer and became evident in the Niles Cone area in 1924, although some wells near the town of Alvarado (now part of Union City) showed water quality degradation as early as 1920 (DWR Bulletin 81). By 1928, the Newark Aquifer became unsuitable for irrigation in a large portion of the area from Fremont Boulevard to the bay. Deeper wells (Centerville, Fremont, and Deep Aquifers) were drilled and also over pumped. Brackish water appeared in the deeper aquifers in the 1950's. Saltwater intrusion eventually occurred as far inland as the Hayward Fault.

Starting in 1962, ACWD began to supplement local recharge with purchased water from the State Water Project to raise groundwater levels. By 1972, the groundwater head in the Newark Aquifer had been restored to above sea level and the natural bayward flow direction was re-established. There has been substantial improvement in water quality in all aquifers; however, brackish water still remains in portions of all aquifers.

### Scope of Project

This proposal is for the drilling and construction of six groundwater monitoring wells targeting the southern and western extent of brackish groundwater in the Centerville and Fremont Aquifers (**Attachment 4, Figures 3 and 4, respectively; Att4\_LGA12\_ACWD\_ProjD\_2of3**) near ACWD's Mowry Wellfield as well as aquifer chemical characterization testing. The installation of these wells and aquifer chemical characterization testing will enable ACWD to obtain geologic, hydrogeologic, and chemical data of the area, gain a better understanding of the relationship between the Centerville and Fremont Aquifers, assist in evaluating the

extent of the brackish water in the vicinity of the Mowry Wellfield, and provide long term monitoring points to evaluate groundwater flow and quality.

A total of six wells will be installed at four sites on United States Fish and Wildlife Service property (Don Edwards National Wildlife Refuge). At each of the well sites (labeled as Sites 5, 6, 7 and 8 to differentiate from Sites 1 -4 completed as a result of the last DWR Local Groundwater Assistance Grant for Fiscal Year 2007-2008), an exploratory boring will be drilled to 800 feet below ground surface (Attachment 4, Figure 5; Att4\_LGA12\_ACWD\_ProjD\_2of3). Samples will be collected every five feet from the drill cuttings under the supervision of a professional geologist and the boring will be geophysically logged for the purpose of creating a detailed geologic record for the site. Upon completion of drilling and logging of the exploratory boring, a monitoring well will be completed at Sites 7 and 8 in the Fremont Aquifer at a depth of approximately 350 feet. One additional Centerville Aquifer monitoring well will be drilled at these two sites and installed at a depth dictated by the detailed geologic log created from the 800 foot exploratory boring. The Centerville Aquifer monitoring well is expected to be installed at a depth of approximately 250 feet below ground surface. At Sites 5 and 6 the monitoring wells will be completed in the Centerville Aquifer at a depth of approximately 250 feet. Fremont Aquifer wells are not required at Sites 5 and 6 because chlorides have already been defined in the vicinity of these locations (Attachment 4, Figure 4; Att4\_LGA12\_ACWD\_ProjD\_2of3).

After the new monitoring wells have been constructed, all wells will be fully developed prior to the installation of a wellhead. The monitoring wells will then be incorporated into ACWD's groundwater monitoring program and groundwater samples will be collected at least twice a year. The analytical results will be included in reports required as part of this grant project.

In addition to installing the six monitoring wells, 30 groundwater samples will be collected from the new and existing Centerville and Fremont Aquifer wells for chemical characterization analysis. The samples will be collected from wells inside and outside the study area as well as those with and without brackish water. This wide selection of samples from aquifer specific monitoring wells will yield a more representative database. These samples will be analyzed for cations and anions and the percentage ratios will be plotted on separate ternary plots. These plots, also known as Piper Diagrams, will be compared for similarities, differences, and commonalities. The evaluation of these diagrams will assist in identifying possible areas where the Centerville and Fremont Aquifers may and may not be interconnected.

- ↳ *Specific purpose, goals, and objectives of the proposed project related to improving groundwater management and implementing the GWMP and/or where applicable the IRWM Plan;*

### **Project Purpose, Goals, and Objectives**

The primary purpose of this project is to drill and install six groundwater monitoring wells at four sites in the western and southern portion of ACWD's service area where there is a lack of geologic and hydrogeologic information (where brackish water is a potential saltwater intrusion threat to the Mowry Wellfield) and to evaluate potential areas of aquifer interconnection. The goals of installing the wells and conducting the aquifer chemical characterization evaluation are to:

- Gain a better understanding of the geological processes that formed the Niles Cone aquifer system;
- Allow long term monitoring of Centerville and Fremont Aquifers in the western, central, and southern portions of the Niles Cone;
- Evaluate the western and southern extent of brackish water that could impact ACWD's active water supply wells in the Mowry Wellfield;
- Evaluate the relationship between the Centerville and Fremont Aquifers; and
- To increase ACWD's understanding of the location of inferred major depositional channels in the area.

The specific objectives of the project are summarized below:

- Drill four 800 foot exploratory borings and install four monitoring wells; two wells completed at depths of approximately 350 feet in the Fremont Aquifer at Sites 7 and 8 (Attachment 4, Figure 4; Att4\_LGA12\_ACWD\_ProjD\_2of3); and two wells at depths of approximately 250 feet in the Centerville Aquifer at Sites 5 and 6 (Attachment 4, Figure 3; Att4\_LGA12\_ACWD\_ProjD\_2of3) as identified on Attachment 4, Figure 5 (Att4\_LGA12\_ACWD\_ProjD\_2of3), Proposed Well Locations.
- Drill and install two monitoring wells to a depth of 250 feet in the Centerville Aquifer at Sites 7 and 8 next to and based on the log of the 800 foot exploratory borings (Attachment 4, Figure 4; Att4\_LGA12\_ACWD\_ProjD\_2of3).
- Collect undisturbed core samples at the new well sites from the fine grained aquitard material for the purposes of conducting vertical permeability analysis.
- Collect aquifer specific groundwater elevation data from the six wells.

- **Collect aquifer specific groundwater quality data from the six wells.**
- **Collect 30 groundwater samples from new and existing monitoring wells in the Centerville and Fremont Aquifers for aquifer chemical characterization analysis.**
- **Gain a better understanding of the geology and hydrogeology of the central, western, and southern regions of the Niles Cone Groundwater Basin.**
- **Gain monitoring points in a regional groundwater monitoring network that will provide long term aquifer specific groundwater elevation and quality monitoring.**
- **Share and discuss groundwater elevation and groundwater quality information obtained from the monitoring sites with stakeholders.**
- **Share information with other interested parties by including the results in ACWD's annual Groundwater Monitoring Report.**

- ↪ *Work items to be performed under each task of the proposed tasks (consistent with the budget and schedule);*
- ↪ *Project deliverables for assessing progress and accomplishments, which include quarterly progress and final reports.*
- ↪ *If access to private property is needed, provide assurance that access can be granted. For example, if wells will be constructed or sampled on private land, submit a letter or agreement that demonstrates that access for well construction and monitoring on the property has been obtained.*

### **Description of Work**

**Construction of the six groundwater monitoring wells and chemical testing characterization are divided into five tasks. The five tasks are: 1) Pre-Construction Activities; 2) Drilling, Well Construction, and Development; 3) Sample Collection and Analytical Testing; 4) Aquifer Chemical Characterization Collection and Testing; and 5) Reporting. A detailed description of the work items to be performed for each task is presented below:**

- **Task 1: Pre-Construction Activities**  
**Prior to conducting field activities, ACWD will finalize well locations, secure a drilling contractor, and complete permit processing. Each subtask is described below:**

#### ***1.1) Finalize Well Locations***

**The locations identified in this proposal are the general locations for the drilling sites. These sites were chosen to delineate the western and southern extent of brackish groundwater in the vicinity of ACWD’s Mowry Wellfield. The proposed well sites are located on United States Fish and Wildlife Service properties or easements. ACWD has already discussed the proposed locations with U.S. Fish and Wildlife Service staff and they have indicated a willingness to issue encroachment permits for the sites (refer to U.S. Fish and Wildlife Service July 11, 2012 letter in **Attachment 4 (Att4\_LGA12\_ACWD\_ProjD\_3of3)** which states “The wells which will be installed in two major aquifers would be located on the Don Edwards San Francisco Bay National Wildlife Refuge which is managed by the U.S. Fish and Wildlife Service. We have, and still do work closely with ACWD on projects concerning saltwater intrusion in the Niles Cone Groundwater Basin. The information gathered by these proposed wells would be useful to the Refuge.”).**

#### ***1.2) Drilling Contractor Selection***

**ACWD will prepare contract specifications for the proposed project, and will broadly advertise the project through the Daily Construction Service, McGraw-Hill, Inc. Exchange (Dodge Report), Sierra Contractors**

Exchange, and the Contractor's Information Network. ACWD will also directly solicit bids from drilling contractors with the technical capabilities to drill and construct the proposed wells. ACWD has considerable experience with this task from three previous DWR Local Groundwater Assistance grant projects and six phases of similar type of monitoring well construction projects. After the bids are opened in a public process in which contractors are invited to attend, the lowest bid that complies with ACWD's bidding requirements is recommended for acceptance. A staff report with this recommendation is placed on the agenda for the next Board of Directors' meeting and all interested parties and the public are invited to attend the meeting. If there are no comments from the public, the Board of Directors adopts a resolution accepting the proposal and the contract is awarded to the drilling contractor.

### *1.3) Permitting Process*

ACWD has established a long and good working relationship with the U.S. Fish and Wildlife Service. ACWD has installed and is presently maintaining groundwater monitoring wells on property and easements owned and operated by the U.S. Fish and Wildlife Service. ACWD is very familiar with the process of obtaining encroachment permits from the U.S. Fish and Wildlife Service and, as mentioned above, they have indicated a willingness to issue encroachment permits for the proposed drilling sites. ACWD administers the Well Ordinance program and will be able to internally coordinate the required well drilling permits and inspection activities.

### *1.4) Public Notification*

In addition to the public notification and public process used in selecting a contractor as described in Task 1.2, ACWD will identify all residents and businesses within 0.25 miles of each drilling site and directly deliver notification letters that will be left as door hangers. The notification letters will provide the estimated date that drilling activities are expected to begin, the hours of work, the purpose of the project, the potential impacts that the project may have on their neighborhood, and a site map. In addition, the letter will identify ACWD's project manager and provide contact information so that any questions or concerns can be addressed during and after normal business hours. An example of the door hanger and notification letter is attached (see [Att5\\_LGA12\\_ACWD\\_WrkPln\\_2of2](#)).

- **Task 2: Drilling, Well Construction, and Development**

The wells will be drilled and constructed by a drilling contractor licensed in the State of California with a valid C-57 license. The boreholes will be drilled using a mud rotary drilling rig. All boreholes will be drilled with a diameter of at least 6-inches to comply with ACWD's guideline requirement for a 2-inch minimum annular seal around each well. During drilling, samples will be

collected and materials will be classified by ACWD's professional geologist following the Manual Soil Description Standard (ASTM D2488-00) and the Unified Soils Classification System.

During construction, ACWD will comply with all local, state and federal environmental regulations. ACWD will use best management practices criteria as outlined in ACWD's Best Management Practices Guidelines for construction operations and comply with all storm water runoff requirements of the Alameda County Flood Control District and the Regional Water Quality Control Board. ACWD will also comply with any local jurisdictional requirements, including noise abatement or construction hours.

Geophysical tests will be performed in each of the new drill locations exploratory borings. The testing will include: resistivity, spontaneous potential, conductivity, and gamma logs. ACWD will evaluate the geophysical log and lithologic log to determine the screening interval and proper design for each well.

All the wells will be completed as 2-inch diameter monitoring wells constructed with schedule 80 PVC casing with 20 feet of well screen (pending evaluation of the detailed well logs). All wells will be constructed (i.e., the type of materials used and the interval of installation of the gravel pack, sand spacer, and seal) in accordance with ACWD Groundwater Protection Act and ACWD Well Standards. Generally, the screened interval is gravel or sand packed 5 to 10 feet above the screen. An annular seal of neat cement grout or sand-cement slurry is then placed from the top of the sand to the surface.

The monitoring wells will be initially developed using a surge block and compressed air on the drill rig. The drilling team will be followed by a well development team responsible for final well development. The wells will be developed using a surge block/airlift method. Debris in the bottom of the well will be bailed out. A well development log will be kept to document well development activities and will include volume purged, general aquifer parameters (temperature, conductivity, and pH), and note water clarity.

Once the well construction and development is complete, a traffic rated utility box/stove pipe will be installed to protect the well from contamination or vandalism. Each well will be properly labeled with the well identification and state reference number. Drilling fluids and cuttings will be properly disposed of upon well completion. Specific well construction and development tasks are summarized below:

- 1) Drill 800 foot exploratory borings in four locations (Sites 5, 6, 7, and 8).
- 2) Collect soil samples and classify materials according to the Unified Soils Classification System.

- 3) **Collect 20 samples for permeability testing.**
- 4) **Conduct four geophysical logs.**
- 5) **Review geophysical logs and lithologic log.**
- 6) **Design wells.**
- 7) **Construct 2-inch monitoring wells to a depth of approximately 350 feet in two of the exploratory boreholes and wells to a depth of approximately 250 feet in the other two exploratory boreholes.**
- 8) **Drill two additional boreholes to approximately 250 at Sites 7 and 8.**
- 9) **Construct 2-inch monitoring wells in each borehole.**
- 10) **Develop wells.**
- 11) **Dispose of drilling fluids and cuttings.**
- 12) **Install surface completion well box/stove pipe for each well.**
- 13) **Clean up and restore drilling sites.**

All field operations will be under the direct supervision of a professional geologist licensed in the State of California. The licensed professional will review all procedures and protocols outlined for the project and assure that Standard of Practice for the work proposed is followed and documented.

Upon completion of field operations, ACWD will record groundwater elevations from each well. The wells will be surveyed both vertically and horizontally using Global Positioning System technology. A well completion report will be completed and a copy will be included in the final report.

- **Task 3: Sample Collection and Analytical Testing**

Soil samples collected for permeability testing will be submitted to a soils laboratory certified by the American Association of State Highway and Transportation Officials (AASHTO). Falling Head - Flexible Wall permeability testing will be conducted on fine grained aquitard material by ASTM Method D-5084. Undisturbed soil samples for permeability testing will be collected in brass liners, sealed, and transported to the testing laboratory under chain of custody record. Permeability testing is needed to determine the potential for leakage between aquifers, a key parameter in understanding saltwater migration issues and inter-aquifer recharge.

General groundwater quality samples will be collected and analyzed for: physical characteristics; chlorides (EPA Method 300); total dissolved solids (Standard Methods 2540C); and hardness (Standard Methods 2340B). The wells will be added to ACWD's Groundwater Monitoring Program, which monitors water quality parameters on a semiannual basis. The groundwater samples will be analyzed by ACWD's Laboratory or MWH Laboratories (its contract laboratory). Both laboratories are State of California Certified and are in compliance with federal and state testing requirements in the

**Environmental Laboratory Accreditation Program.** ACWD will require that the laboratory employs quality assurance measures.

All analytical data collected during this project will be reviewed by ACWD's Laboratory Services Manager (Jeannette Kelley, Ph.D. in Microbiology with 23 years of experience) and Quality Assurance/Quality Control Officer (Calvin C. Liu, BS in Chemistry with 11 years of experience) following ACWD's August 26, 2010 Quality Assurance Manual.

Specific sampling tasks to be performed during groundwater sample collection are as follows:

1. Record groundwater elevation prior to purging;
2. Purge the well casing the appropriate volume per ACWD Groundwater Monitoring Program procedures;
3. Collect the samples in laboratory supplied sample containers;
4. Handle and preserve samples in accordance with EPA protocols; and
5. Transport samples under chain of custody record to the laboratory.

- **Task 4: Aquifer Chemical Characteristics Testing**

Approximately 30 groundwater samples will be collected for aquifer chemical characteristics testing from new and existing Centerville and Fremont Aquifer monitoring wells and analyzed for physical characteristics: total alkalinity (Standard Method 2320B); chloride and sulfate (EPA Method 300.1); and calcium, magnesium, sodium, and potassium (Standard Methods 3111B). The groundwater samples will be analyzed by ACWD's Laboratory or MWH Laboratories (its contract laboratory). Both laboratories are State of California Certified and are in compliance with federal and state testing requirements in the Environmental Laboratory Accreditation Program. ACWD will require that the laboratory employs quality assurance measures.

All analytical data collected during this project will be reviewed by ACWD's Laboratory Services Manager (Jeannette Kelley, Ph.D. in Microbiology with 23 years of experience) and Quality Assurance/Quality Control Officer (Calvin C. Liu, BS in Chemistry with 11 years of experience) following ACWD's August 26, 2010 Quality Assurance Manual.

The samples will be collected and transported following ACWD's standard protocol as outlined in Task 3.

- **Task 5: Reporting**

ACWD will submit quarterly progress reports to DWR which will include an executive summary, description of project status, description of major

**accomplishments, discussion of any issues or concerns that may affect the schedule or budget, discussion of activities planned for the following quarter, cost and schedule information. The quarterly report format will follow the outline specified in the grant agreement.**

**Upon completion of the project, ACWD will prepare a final report that will include all data, permits, field notes, well logs, development logs, chemical analyses, and permeability analyses. The final report will be a comprehensive document that will include a comparison of the planned schedule with the actual timeline, discussion of major problems encountered, a summary of all costs, and a detailed description and analysis of project results. The final report will contain all of the information specified in the grant agreement and will follow ACWD's quality control document procedures which requires the technical review of at least two senior staff, both registered professionals.**

**Water level and water quality information will be collected from the new monitoring wells during the spring and fall monitoring programs and will be used to construct water level and water quality contour figures that are included in the annual Groundwater Monitoring Reports. The Groundwater Monitoring Reports are submitted annually to DWR as part of ACWD's Groundwater Management Plan annual update. In addition, the reports will be sent to all interested parties that have requested to be placed on a mailing list.**

- ↳ *Present a sound strategy for evaluating progress and performance at each step of the proposed project.*

The challenges of constructing deep monitoring wells are not taken for granted and ACWD will be closely monitoring the entire drilling and well construction process. ACWD staff (i.e., Groundwater Resources Manager, Hydrogeologist, Well Ordinance Supervisor, and Engineering Technicians) have spent the majority of their careers in well construction related work and will be directly involved with this project.

#### **Task 1: Pre-Construction Activities**

Evaluating progress and performance during pre-construction activities is measured by the completion of deliverables compared to the schedule. After ACWD is notified of the grant award, development of bid specifications and obtaining permits become the critical path tasks and must be completed and out for bid 3.5 months prior to the start of planned field activities. The 3.5 months is required to allow time for development of bids by contractors (1.5 months), evaluation of bids and backgrounds of contractors (0.5 months), approval of contract by the Board of Directors (0.5 months), and submittal of all required documents by the contractor (1 month). The Groundwater Resources Manager is responsible for monitoring the progress of the Hydrogeologist and ensuring that each of these key milestones is met so that the project does not fall behind schedule.

#### **Task 2: Drilling, Well Construction, and Development**

Since ACWD regulates the construction of wells under ACWD Ordinance No. 2010-01, the inspection of this well construction project will be the daily responsibility of Engineering Technicians under the oversight of the Well Ordinance Supervisor. Engineering Technicians are typically assigned to inspect the entire well construction process to ensure that the wells conform to DWR and ACWD well construction standards. For ACWD monitoring well construction projects, in addition to providing the normal full time well ordinance inspection at the job site, the Engineering Technicians will also be familiar with and enforce the monitoring well construction specifications for this project. The contract documents will be based on a unit price per foot and lump sum amounts which make payment verification straightforward by the Engineering Technician and Hydrogeologist so that contractor costs will be tightly controlled. Since this method of payment is time independent, the contract document will also include a liquidated damages penalty for each day exceeding the required completion date, due to the need to complete work within a specified time period. As a result of this approach to inspecting, budgeting, and scheduling, the progress of the contractor is closely monitored and evaluated.

To facilitate communication during the field portion of the project, cellular phones are assigned to each Engineering Technician so that the Hydrogeologist can be kept informed of the progress of drilling or of any problems that develop when the

Hydrogeologist is not at the job site. Samples collected from drill cuttings will allow the Hydrogeologist to preliminarily determine the screened interval and design for the monitoring well. Modifications to this design may be developed after the geophysical tests are performed and evaluated in each of the deep exploratory borings. A consensus on the final design of the monitoring well is achieved between the Hydrogeologist, Well Ordinance Supervisor, and Groundwater Resources Manager prior to the final construction of the well.

**Task 3: Sample Collection and Analytical Testing**

When construction of the monitoring wells is completed, the success of the installation process will become immediately evident during well development. After the wells are developed, the initial water level and water quality information collected will be compared to existing information in the area so that there is confidence that the well was screened within the appropriate aquifer. After the project is completed, water level and water quality information will continue to be collected from these wells during the spring and fall monitoring events and will be evaluated along with all the information collected throughout the Niles Cone Groundwater Basin.

**Task 4: Reporting**

Evaluating progress and performance for the reporting task is measured by ACWD's ability to submit acceptable progress reports and the final report by the deadlines specified in the agreement. ACWD has demonstrated the ability to submit acceptable progress reports and final reports to DWR on time in three previous grant projects. All deadlines are tracked carefully by ACWD and are integrated into the individual and group performance evaluations of ACWD staff. All of the data collected during this project will be incorporated into the final report which must be submitted to DWR within two years (by the end of March 2015 assuming an April 2013 start date as stated in DWR's Proposal Solicitation Package). In addition, after the project is completed, data will continue to be collected from the monitoring wells and documented in an annual Groundwater Monitoring Report so that ACWD can continue to assess the effectiveness of groundwater basin management activities related to saltwater intrusion.

- ↪ *Explain the plan for environmental compliance and permitting, including a discussion of the following items: a description of the plan, proposed efforts, and approach to environmental compliance, including addressing any CEQA obligations in connection with the proposal; a listing environmental related permits or entitlements that are needed for the project, and any other applicable permits that will be required. Briefly describe the process and schedule for securing each permit/approval. Discuss necessary local drilling permits and the submittal of Well Completion Reports to DWR. Describe the proposed process for securing each environmental permit and any other regulatory agency approval.*

**ACWD takes environmental compliance very seriously as it is part of ACWD’s mission statement: “To fulfill this mission we will: Plan, design and operate District facilities efficiently, effectively and safely, bearing in mind our responsibility to be a good neighbor and a good steward of the environment.” The following describes ACWD’s plan regarding compliance with CEQA, obtaining permits, and other regulatory approval.**

### **California Environmental Quality Act (CEQA)**

**During previous monitoring well construction projects conducted by ACWD independently or with DWR grant funding, ACWD has relied on the Class 6 Categorical Exemption of CEQA. Section 15306 of the CEQA Guidelines describes the following exemption:**

**“Class 6 consists of basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.”**

**The stated intent of installing the monitoring wells is to obtain additional information on the Niles Cone Groundwater Basin which qualifies the project for this categorical exemption. ACWD will prepare any required documentation necessary to comply with CEQA. If required, an ACWD Board of Director’s resolution certifying the categorical exemption finding will be obtained and then a Notice of Exemption will be filed with the County Clerk of Alameda County.**

### **Permits**

**All of the site locations for the monitoring wells will be on property owned by the United States Fish and Wildlife Service. ACWD has established a long and good working relationship with the U.S. Fish and Wildlife Service. ACWD has installed and is presently maintaining groundwater monitoring wells on property and easements owned and operated by the U.S. Fish and Wildlife Service. ACWD is very familiar with the process of obtaining encroachment permits from U.S. Fish and Wildlife Service and, as mentioned above, has already visited and discussed**

proposed monitoring well site locations with U.S. Fish and Wildlife Service staff and they have already indicated a willingness to issue encroachment permits for the proposed drilling sites (see **Attachment 4; Att4\_LGA12\_ACWD\_ProjD\_3of3**).

As a result of the Governor’s approval of the ACWD Groundwater Protection Act on October 11, 2009, ACWD obtained the authority to adopt a Well Ordinance and establish a permit program. On December 9, 2010, ACWD adopted Ordinance No. 2010-01 “to Regulate Wells, Exploratory Holes, and Other Excavations within the Cities of Fremont, Newark, and Union City.” Therefore, ACWD will be able to internally coordinate obtaining the required well drilling permits and scheduling the inspection activities. Prior to the adoption of ACWD’s Well Ordinance, ACWD administered the Well Ordinances through ordinances adopted by the Cities of Fremont, Newark, and Union City in 1973. During this entire time period, ACWD has been working with DWR by requiring the submittal of Well Completion Reports to ACWD, assigning and entering well numbers on the Well Completion Reports, and submitting the completed reports to DWR. ACWD will require the drilling contractor to complete the Well Completion Reports for the new monitoring wells, provide well numbers for the wells on the reports, and submit the reports to DWR.

#### **Other Regulatory Approval**

No other regulatory approval is anticipated for this proposed project. However, formal approval will be required from a private land owner in order to access the proposed well drilling sites. Three of the four proposed well locations will require travel on roads owned or maintained by Cargill Inc. ACWD has established a good working relationship with Cargill and currently has an annual access agreement with Cargill to access existing ACWD monitoring wells. ACWD has already discussed the proposed well locations with Cargill and Cargill has indicated that there would be no problems with adding the new monitoring wells to the existing annual access agreement.