

Attachment 5 – Schedule

A detailed project schedule has been included in this attachment. A Gantt chart schedule for the project is included as **Figure 5-1** and for the proposal is included as **Figure 5-2**. The tasks shown match the tasks listed in the Work Plan (Attachment 3) and the Budget (Attachment 4). The schedule shows the major tasks needed to complete the project. The schedule shows milestones, major deliverables and linkages between tasks. The schedule was developed based on experience with similar projects completed by the District, Authority, and other agencies within the region, and are therefore believed to be reasonable. The District is committed to developing the project as evidenced by the expenditures associated with the option to purchase, and preparation of preliminary plans and specifications. The District will continue to develop the required project environmental documents and final plans and specifications. The District has a consultant retained to complete the design and bring the project through bidding. Based on experience with similar projects, the District believes it can complete the project within the schedule provided below. The following is a brief description of how the project duration shown in the schedule is realistic, reasonable and accomplishable.

The Notice to Proceed for the first contractor is shown on the schedule to occur on 3/14/16, prior to April 1, 2016. Construction is scheduled to be completed by January 2018, with all grant activities completed in May 2018, which is well before the October 31, 2019 deadline. The project is ready for implementation in accordance with the grant deadlines. Work has begun on several items for the project, and the District will continue to move forward with the project environmental documentation and design prior to the anticipated award date as shown on the schedule. Even though the on-going monitoring tasks will continue for years after completion of construction, to simplify the printed schedule on-going operation and annual reporting is not shown on the schedule but will be performed by the District for as long as the basin remains in operation.

Category A – Direct Project Administration

- **Task 1 Administration.** The duration for this task coincides with the overall project development and construction as it will occur in parallel to other tasks.
- **Task 2 Labor Compliance.** The duration of this task coincides with construction.
- **Task 3 Reporting.** This task includes two subtasks.
 - **Subtask 3.1: Quarterly Progress Reports** – this subtask starts with initiation of a grant contract and will complete once all grant related activities are complete.
 - **Subtask 3.2: Draft and Final Project Report** – this subtask starts near completion of the project and will result in the Final Project Report, as required by the grant agreement; DWR review time is included in the duration of the subtask.

Category B – Land Purchase / Easement

- **Task 4 Land Purchase.** This task includes three subtasks.
 - **Subtask 4.1: Execute Option on Property** – The option agreement has been executed.
 - **Subtask 4.2: PTR and Appraisal** – Upon execution of a grant agreement, the District will obtain an updated Preliminary Title Report (PTR) and initiate an appraisal; the appraisal is anticipated to take 30 days. An additional 30 days was included to provide a conservative timeframe for this subtask.
 - **Subtask 4.3: Land Purchase/Close Escrow** – Upon completion of subtask 4.2, the District will begin escrow with a title company to complete the purchase transaction; an escrow of 30 days is expected.

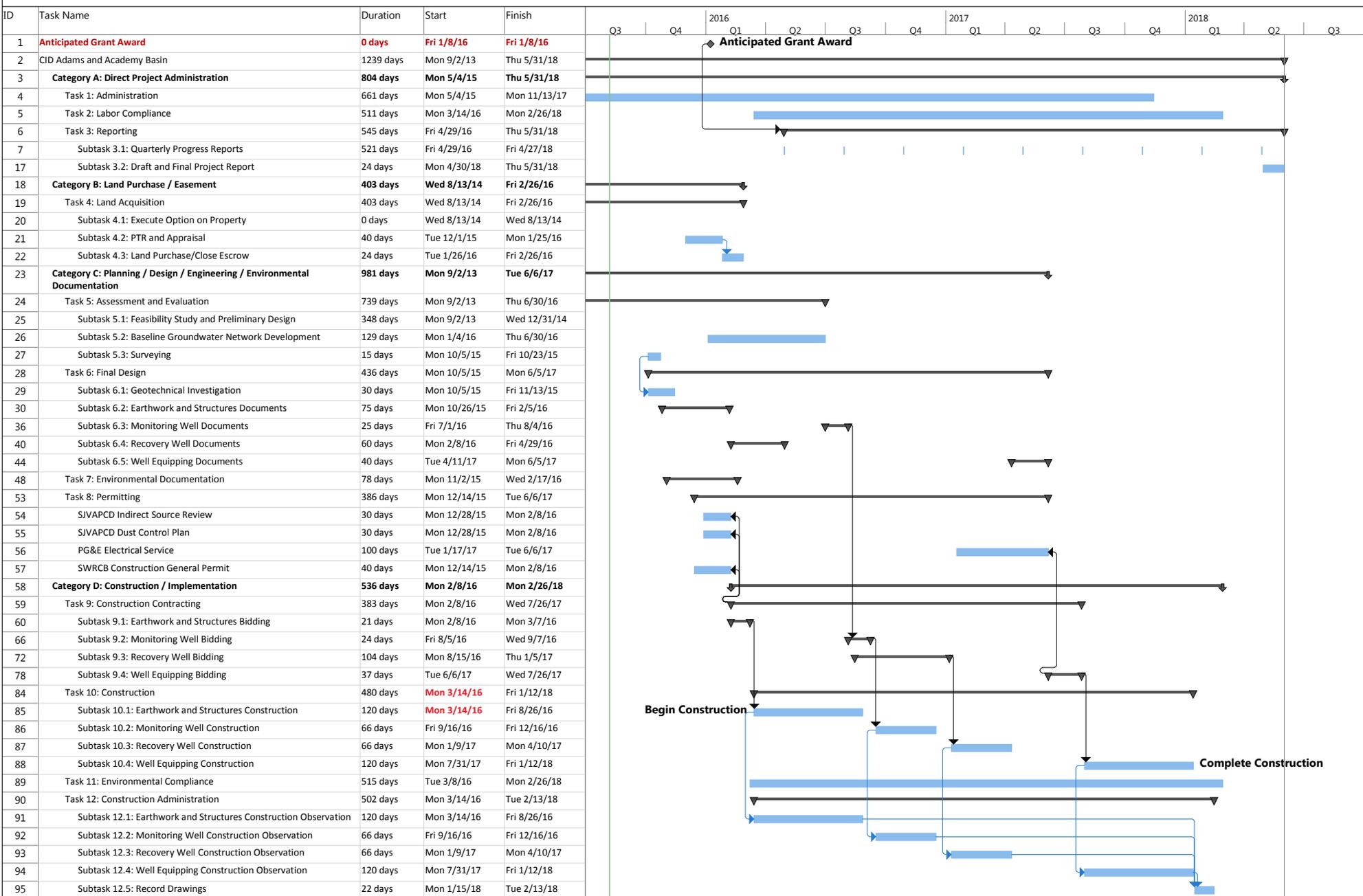
Category C - Planning/Design/Engineering/Environmental Documentation

- **Task 5 Assessment and Evaluation.** This task includes three subtasks.
 - **Subtask 5.1: Feasibility Study and Preliminary Design** – Preliminary work on this task was completed under the feasibility study and included preliminary design.

- **Subtask 5.2: Baseline Groundwater Network Development** – The identification of wells and confirmation of monitoring network will be initiated in January 2016 to be complete in advance of initial deliveries to the completed basin. The feasibility study provided preliminary information for wells in the area so the time required to finalize the network is reasonable. The duration includes time for contacting landowners, visiting the sites, collecting water level readings and samples for water quality testing.
- **Subtask 5.3: Surveying** – Two weeks is anticipated for final boundary research and final topographic survey of critical areas needed for final design. An additional week is included on the schedule.
- **Task 6 Final Design.** This task includes five subtasks. The schedule was based on the District’s recent completion of plans for its South and Highland Basin. The District is committed to finalizing the plans and specifications in time to allow for bidding and award so that construction can begin as indicated.
 - **Subtask 6.1: Geotechnical Investigation** – Concurrent with work in subtask 5.3, the District will imitate a geotechnical investigation to support the final design.
 - **Subtask 6.2: Earthwork and Structures Documents, Subtask 6.3: Monitoring Well Documents, Subtask 6.4: Recovery Well Documents and Subtask 6.5: Well Equipping Documents** – These subtasks are similar and consist of preparation of the final construction documents for the project including plans, specifications, a construction estimate and project schedule.
- **Task 7 Environmental Documentation.** Work on this task will begin in November 2015 to allow for the required public review and noticing periods, and adoption in time for award and construction to begin in accordance with the schedule. The property is currently farmed and is similar to other projects for which environmental documents have been prepared in a shorter schedule than shown.
- **Task 8 Permitting.** The expected duration to obtain each permit is included in the schedule. The schedule for each permit was based on the duration to obtain similar permits on another recent District project.

Category D – Construction / Implementation

- **Task 9 Construction Contracting.** This task includes a subtask for each phase of work.
 - **Subtask 9.1: Earthwork and Structures Bidding, Subtask 9.2: Monitoring Well Bidding, Subtask 9.3: Recovery Well Bidding and Subtask 9.4: Well Equipping Bidding** – These subtasks are similar; a bidding schedule for each of the 4 bids is included in the schedule. The durations shown were based on actual bid schedules from the District’s other recent project.
- **Task 10 Construction.** This task includes a subtask for each phase of work.
 - **Subtask 10.1: Earthwork and Structures Construction, Subtask 10.2: Monitoring Well Construction, Subtask 10.3: Recovery Well Construction and Subtask 10.4: Well Equipping Construction** – These subtasks are similar. The schedule includes durations for construction by contractors under 4 different contracts with the District. With qualified well-drilling contractors under high demand and unable to start work for several months, additional time was built into the schedule from the time of award of a well driller to the time that the well driller will be able to start work. The duration for construction considers time required for purchase of long-lead items such as the well pumps.
- **Task 11 Environmental Compliance.** The duration for this task matches the construction schedule.
- **Task 12 Construction Administration.** This task includes five subtasks.
 - **Subtask 12.1: Earthwork and Structures Construction Observation, Subtask 12.2: Monitoring Well Construction Observation, Subtask 12.3: Recovery Well Construction Observation, and Subtask 12.4: Well Equipping Construction Observation,** – These subtasks are similar and include observation of each of the four phases of work. The observation will occur for the entire duration of construction.
 - **Subtask 12.5: Record Drawings** – The work under this subtask will begin once all construction is complete to document the as-built improvements. Project specifications require the contractors to maintain as-built drawings, so the time to verify and finalize record drawings is reasonable.



PROPOSAL SCHEDULE

KINGS BASIN WATER AUTHORITY

FIGURE 5-2

ID	Task Name	Duration	Start	Finish	Timeline													
					Q3	Q4	2016		2017		2018		Q3					
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
1	Anticipated Grant Award	0 days	Fri 1/8/16	Fri 1/8/16			◆ Anticipated Grant Award											
2	CID Adams and Academy Basin	1239 days	Mon 9/2/13	Thu 5/31/18	→													
3	Category A: Direct Project Administration	804 days	Mon 5/4/15	Thu 5/31/18	→													
18	Category B: Land Purchase / Easement	403 days	Wed 8/13/14	Fri 2/26/16	→													
23	Category C: Planning / Design / Engineering / Environmental Documentation	981 days	Mon 9/2/13	Tue 6/6/17	→													
58	Category D: Construction / Implementation	536 days	Mon 2/8/16	Mon 2/26/18	→													