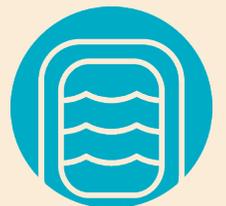
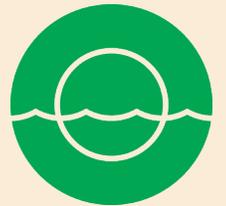


# Monthly Progress Report

July 2017





### **Contact Information**

**Program Manager** Michael Graves

**Phone** 405-329-2555

**Email** MJGraves@GarverUSA.com

**Website** GarverUSA.com





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# Program Overview

## Program Overview

### Summary

The City of Enid, Oklahoma (City) has historically enjoyed an adequate supply of water resources to support consumers in Enid and its wholesale customers. However, the City's annual water demand has begun to exceed the annual yield of the existing groundwater supply, which has resulted in depletion of the aquifer system. To address this supply gap, the City initiated a Water Master Plan (by others) that recommended developing a new surface water supply from Kaw Lake to supplement the existing groundwater supply.

### Key Components

#### Intake and Intermediate Booster Pump Stations

The intake and intermediate booster pump station will provide the means to pump water from Kaw Lake to Enid. This will include an intake structure on Kaw Lake and an intake pumping station. An intermediate pump station will be located about two-thirds of the way to Enid along the pipeline and will provide additional pressure necessary to convey the design flow to the treatment plant site.

#### Pipeline

The pipeline will convey the raw water from the proposed Kaw Lake intake structure to the proposed water treatment plant along a 70-mile direct corridor.

#### Terminal Storage Reservoirs

Terminal storage is employed to provide a constant supply of raw water to the new water treatment plant, and it can also be utilized to minimize costs associated with conveyance of raw water. As such, the main components of the terminal storage assessed for the current project were emergency storage and equalization storage. For this program, the City desires to separate the volume dedicated for equalization storage from the volume for emergency storage. Therefore, the terminal storage is divided into two components:

- Equalization (TSR EQ) – storage used on a routine basis to meet peak demands
- Emergency (TSR EM) – storage used only when raw water conveyance is not in service

#### Water Treatment Plant

A new surface water treatment plant will be needed to meet the water quality objectives necessary to provide safe drinking water as well as to meet the aesthetic desires such as taste and odor. These objectives can be met by a combination of conventional treatment to produce safe drinking with the addition of polishing to reduce objectionable tastes and odors.

#### Distribution

Distribution system improvements are necessary to blend the existing groundwater with the treated surface water and to connect the blended water into the existing City of Enid water distribution network.

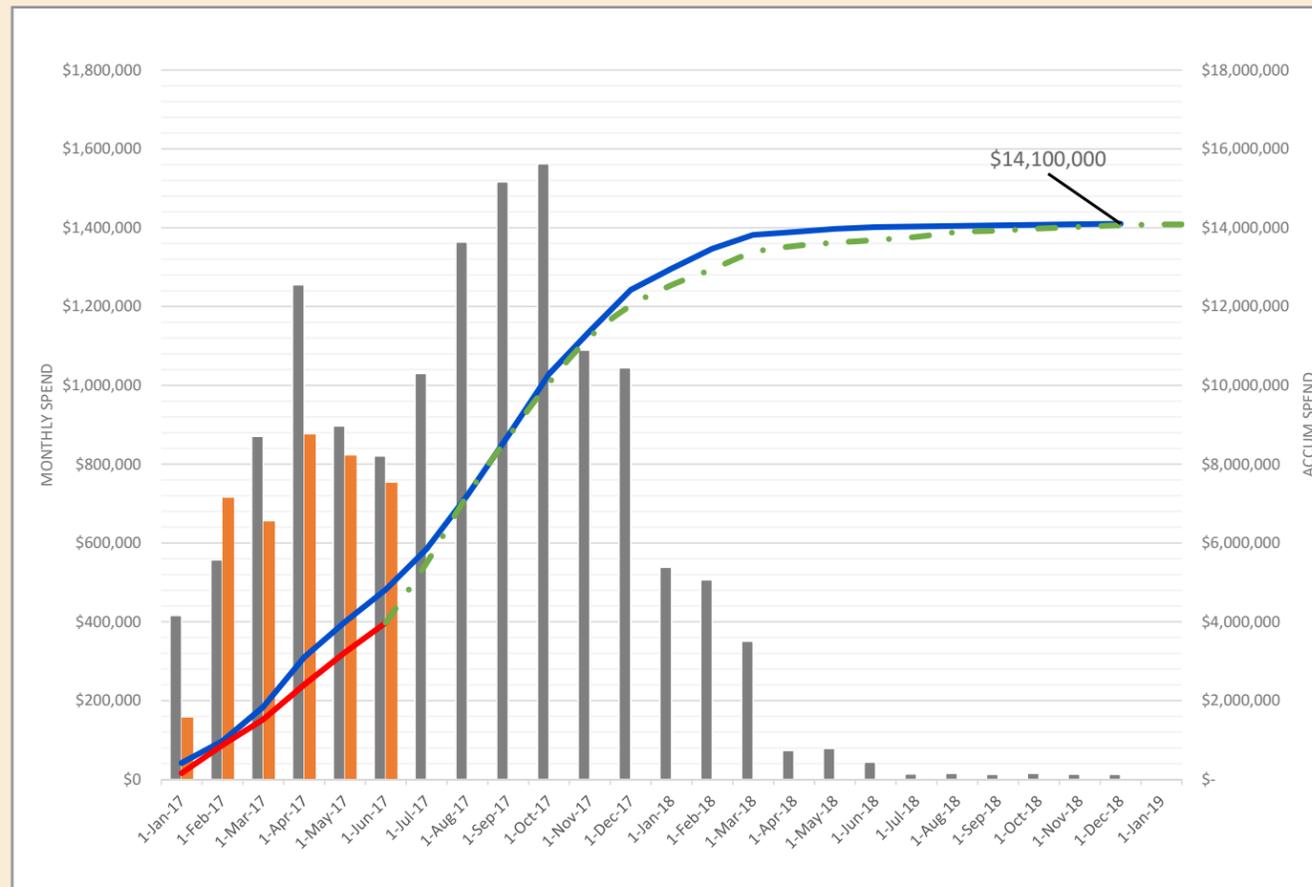




# Program Overview

## Program Finance - Phase 2

Kaw Lake Water Supply Program CashFlow

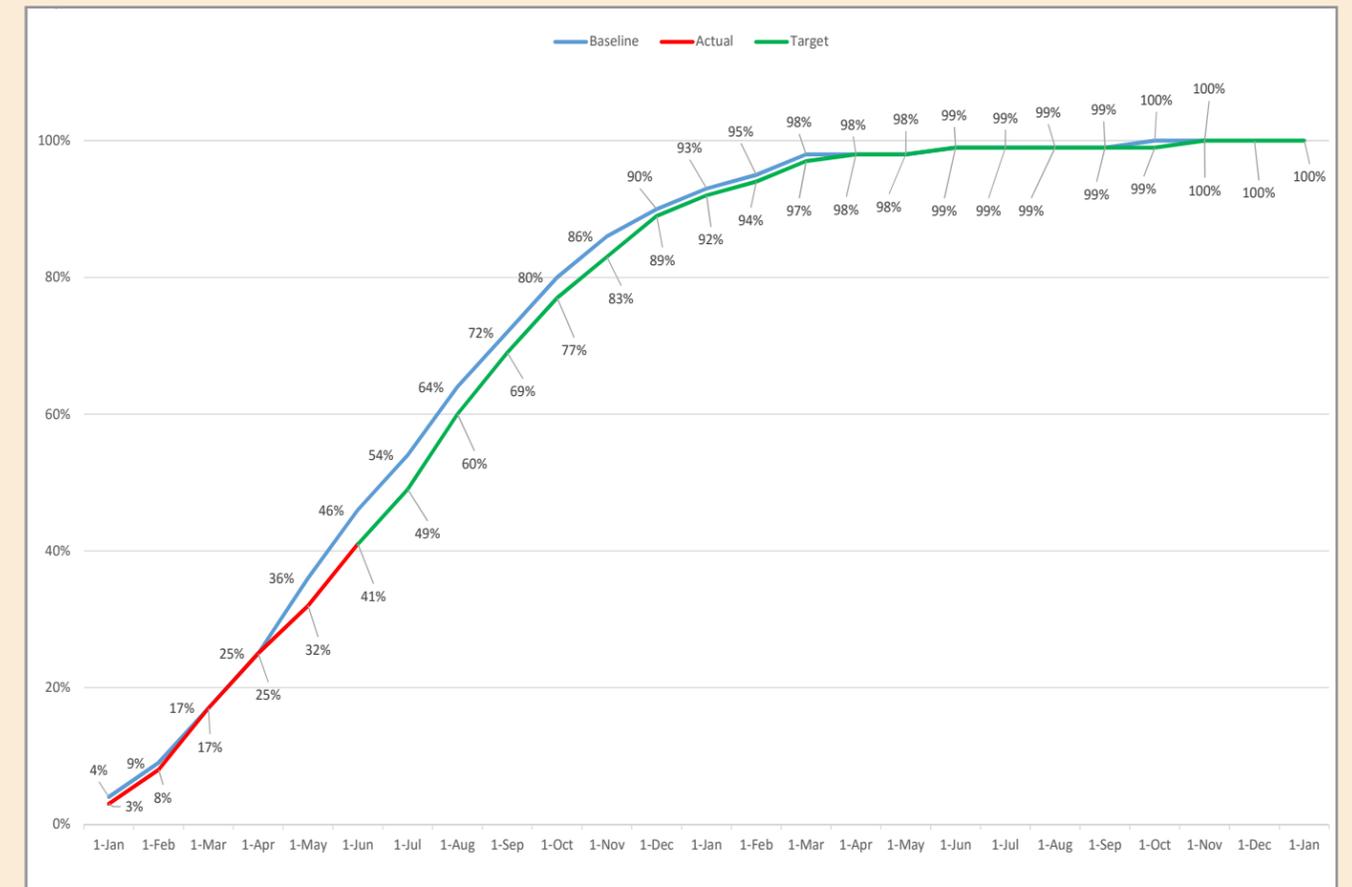


### Summary

As of June 30, the accumulate spent is 28 percent and the planned spend is 34 percent. It is anticipated that cost will catch up when the schedule is recovered on geotechnical investigations.

## Program Schedule - Phase 2

Kaw Lake Water Supply Program - June 2017



### Summary

As of June 30, the schedule has an overall progress of 41 percent with a planned progress of 45 percent. The current issues causing delay in the schedule are access to tribal property, geotechnical investigations, and site selection for intermediate booster pump station.



## Program Administration

### Scope of Services

Garver is providing project administration controls initiation through Phase 2, including reporting in all aspects of the program management, scheduling and budget status updates, coordination of regulatory and funding agencies, as well as stakeholders and public meetings. Primary deliverables include a Design Consultants Standards Manual and updating the Program Strategy Manual. In addition, the Garver Technical Review Committee is providing review and oversight of the deliverables produced by the infrastructure teams and other services as requested.

### Project Update

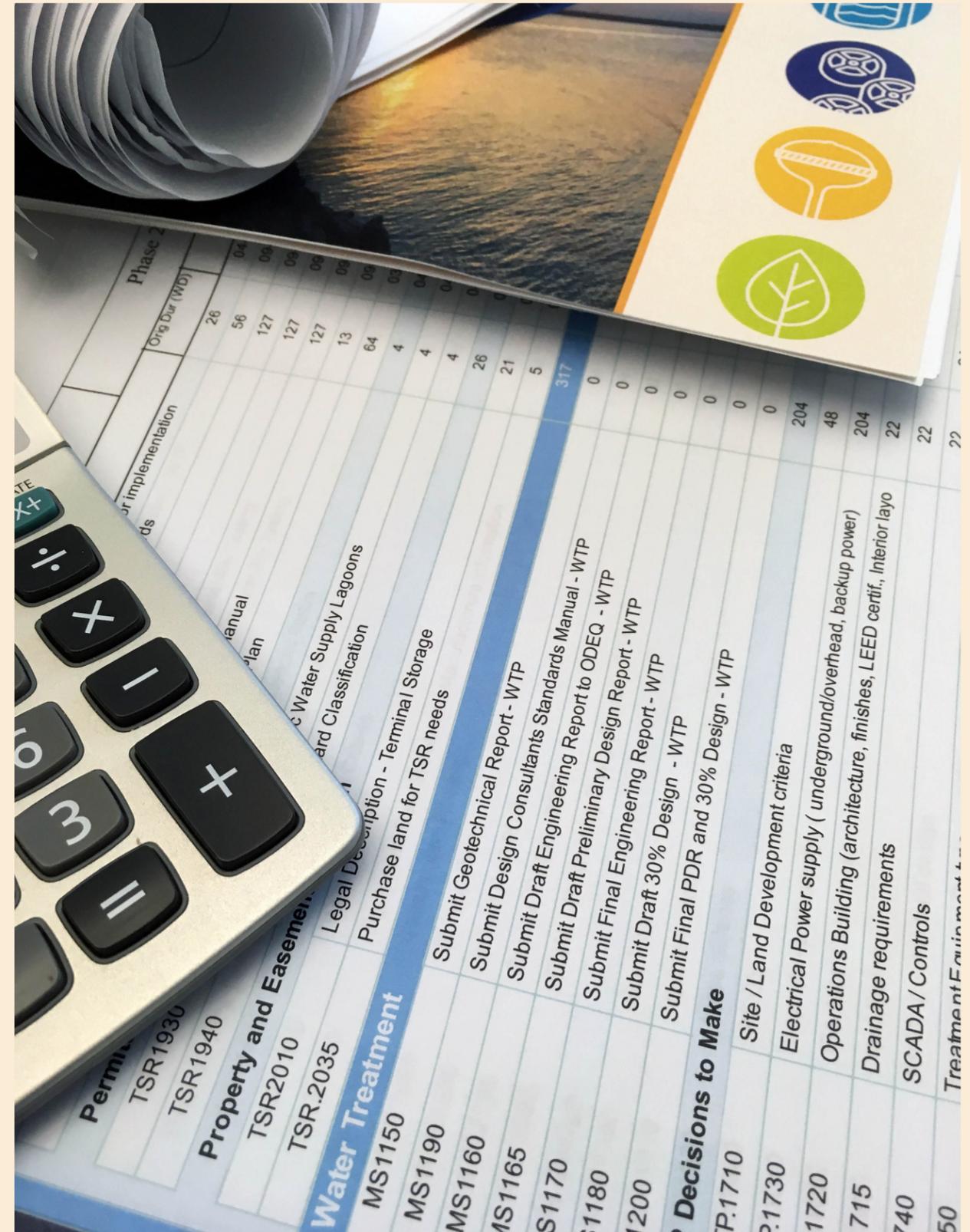
The Program Management Team continues to work on developing all the items in the scope of services. Program strategy development continues with refinement of the quality management procedures. Project risk management activities have started and include refining and initializing the risk management process. The schedule remains on track for completion of deliverables by the planned completion dates for each infrastructure pieces, with exception of the intermediate booster pumping station (IBPS) on the intake project. The IBPS survey/topo and geotechnical investigations are awaiting the final selection of a site location. A recovery plan was developed by the Project Team to accelerate the completion of the survey work and increase the resources to conduct the geotechnical investigations in order to keep the project on schedule. Delays in property access approvals from private property owners along the proposed pipeline alignment have delayed the geotechnical investigations. This delay has reduced the amount of float time in the schedule for pipeline preliminary engineering. Future delays may begin to impact the Phase 2 baseline schedule.

### Completed

- Reviewed list of standards and specification for implementation into the Design Consultant Standards Manual
- Organization and planning activity on the Program Strategy Manual
- City review and approval of Risk Management Process
- Defined Program Management Information System Requirements
- Schedule and cost updating of the Master Project Schedule
- Four technical reviews of Technical Memos in support of Draft Preliminary Design Reviews for intake, terminal storage reservoir, and the water treatment plant

### Future Activities

- City review and approval of CAD Standards Manual
- Design Consultant Standards Manual workshops
- Update Program Strategy Manual
- Evaluate Program Management Information Systems to meet project needs
- Continue technical reviews of Draft Preliminary Design Reports for individual project disciplines





## Intake and Pump Stations

### Scope of Services

The scope of services includes surveying, geotechnical investigations, preliminary (30 percent complete) design, investigation of property acquisition and development of design consultant standards for a new raw water intake and pumping station located on Kaw Lake at Intake Site No. 2 and an intermediate booster pump station as identified in Phase 1 of the project.

The intake is expected to include a shaft and micro tunnel with vertical turbine pumps in a parallel configuration with a design capacity to meet the targets identified during Phase 1 of the Program. The intermediate booster pump station is expected to consist of parallel horizontal split case pumps housed in an at-grade structure. The intermediate booster pump station is also expected to include approximately 5 million gallons of stored raw water within two ground storage tanks.

### Project Update

The team has completed a draft of the Transient Analysis Technical Memorandum and is under review by the Technical Review Committee. Once Technical Review Committee comments have been addressed the Transient Analysis Technical Memo will be sent to the City for review.

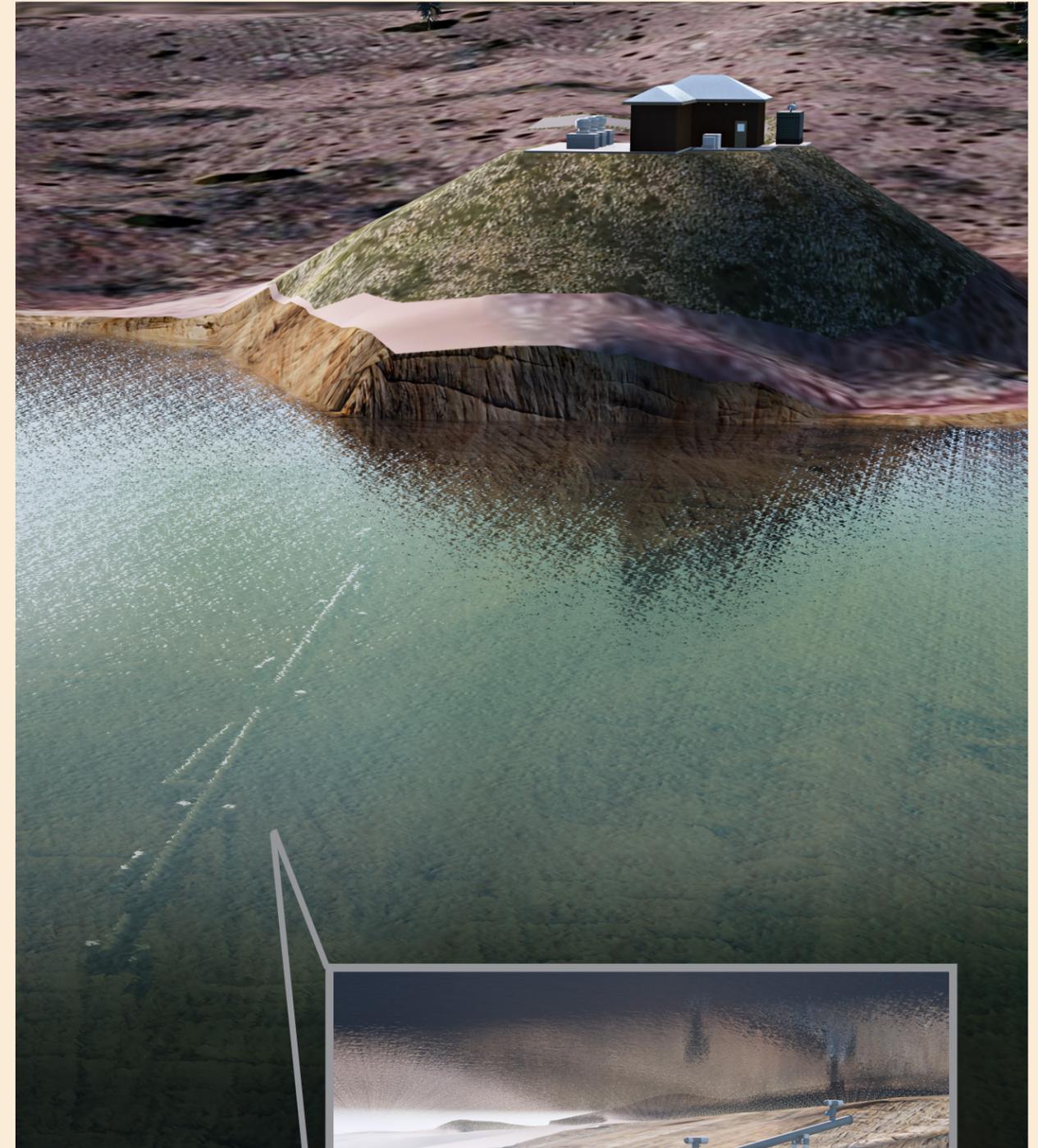
The team continues focus on development of the preliminary design for the intake pump station. The preliminary design phase submittal will include design drawings and represent approximately 30 percent of final design documents.

### Completed

- Continued to coordinate with U.S. Army Corps of Engineers and geotechnical consultant for land and marine borings at intake site. Marine borings tentatively scheduled for week of July 17, but may be delayed pending right of entry agreement with the Corps.
- Received comments from City on Draft Preliminary Design Report
- Draft Transient Analysis Technical Memo

### Future Activities

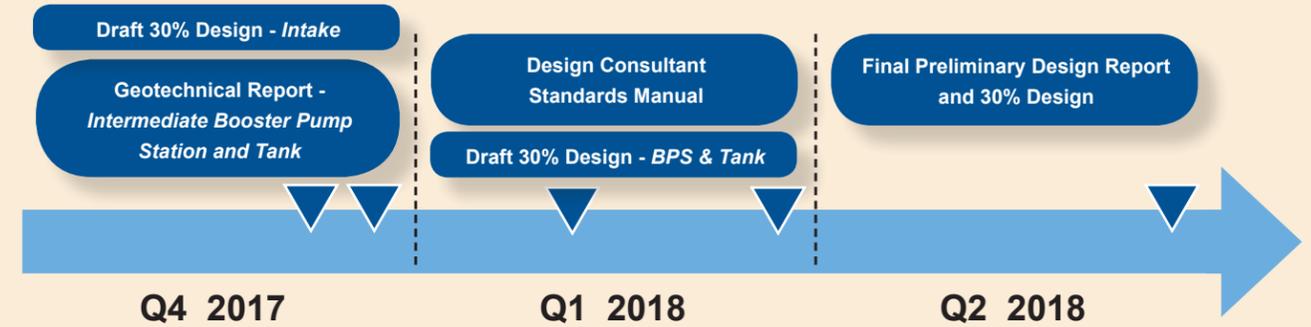
- Continued coordination with the Corps and perform geotechnical borings at intake
- Submit draft Transient Analysis Technical Memo to the City
- Develop preliminary (30 percent) design drawings
- Draft a list of anticipated technical specifications
- Perform survey at intermediate booster pump station subsequent to selection of a site location



**Above and Right:** 3D rendering of intake pump station and underwater piping at Kaw Lake

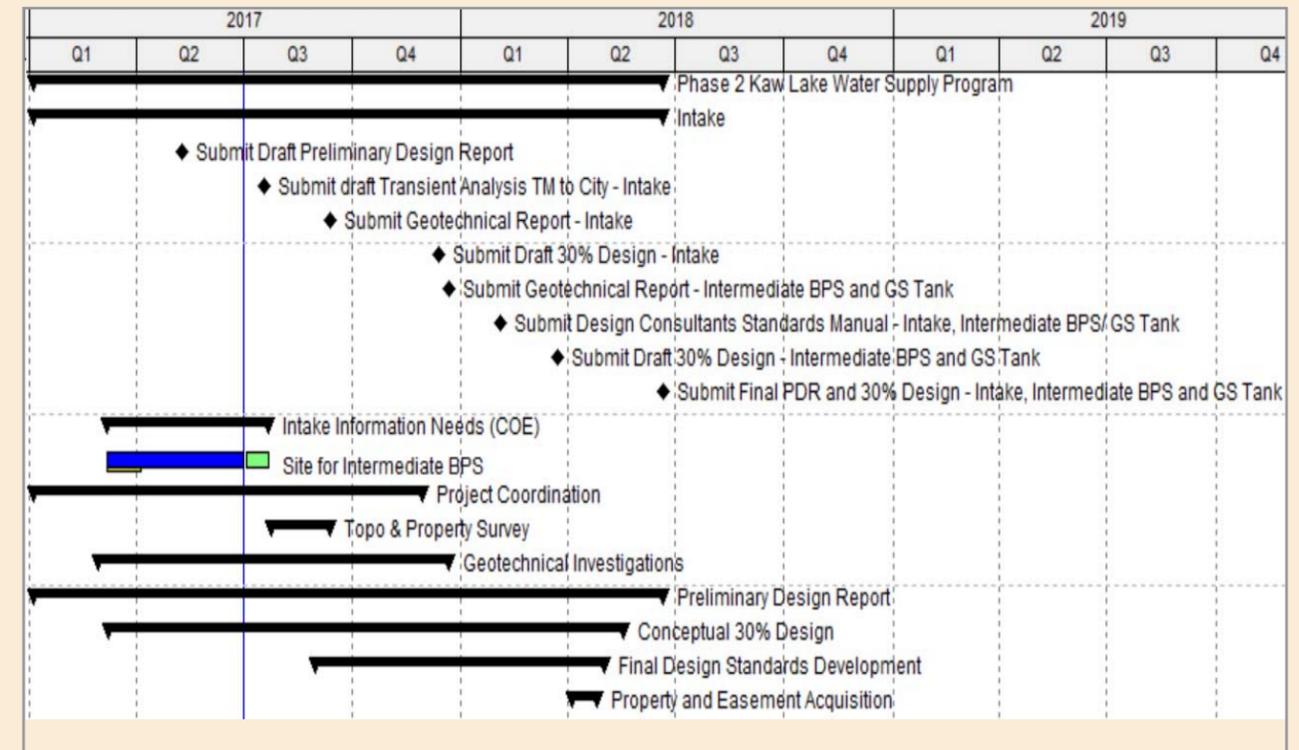


## Project Milestones



## Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>		373	20-Jun-18
<b>Intake</b>		373	20-Jun-18
MS1030	Submit Draft Preliminary Design Report	0	09-May-17 A
MS1032	Submit draft Transient Analysis TM to City - Intake	0	17-Jul-17
MS1010	Submit Geotechnical Report - Intake	0	12-Sep-17
MS1035	Submit Draft 30% Design - Intake	0	12-Dec-17
MS1020	Submit Geotechnical Report - Intermediate BPS and GS Tank	0	21-Dec-17
MS1040	Submit Design Consultants Standards Manual - Intake, Intermediate BF	0	02-Feb-18
MS1045	Submit Draft 30% Design - Intermediate BPS and GS Tank	0	23-Mar-18
MS1050	Submit Final PDR and 30% Design - Intake, Intermediate BPS and GS T	0	20-Jun-18*
<b>Intake Information Needs (COE)</b>		21	21-Jul-17
PIR.1840	Site for Intermediate BPS	21	21-Jul-17
<b>Project Coordination</b>		231	29-Nov-17
<b>Topo &amp; Property Survey</b>		35	11-Sep-17
<b>Geotechnical Investigations</b>		208	21-Dec-17
<b>Preliminary Design Report</b>		373	20-Jun-18
<b>Conceptual 30% Design</b>		306	18-May-18
<b>Final Design Standards Development</b>		149	01-May-18
<b>Property and Easement Acquisition</b>		15	25-Apr-18





## Pipeline

### Scope of Services

The scope of services includes surveying, geotechnical, alignment analysis, preliminary (30 percent complete) design, investigation of future property acquisition and development of design consultant standards for a new raw water pipeline from Kaw Lake at Intake Site No. 2 to a new water treatment plant as identified in Phase 1 of the project.

The pipeline will consist of approximately 70 miles of pipe along the direct corridor with a design capacity to meet the targets identified during Phase 1 of the Program. This task generally consists of providing final pipeline alignment selection within the Direct Corridor and preparation of aerial background plans.

### Project Update

The team met with Technical Review staff from Garver and is preparing revised analysis criteria for consideration. The team also is updating the web mapping site to allow the City and team members to see alternatives being considered, as well as updated information on impacted wind farms. Pedestrian surveys are complete for all three sections of the pipeline, along with coordination with the Environmental Team. The Pipeline Team is heavily involved in coordinating with other project teams on proposed layouts, connections, and various other design criteria, as well as preparing for geotechnical field investigations to begin. The team continued development of pipeline design criteria for the Preliminary Design Report. A review of pipeline materials is expected at the July progress meeting. Geotechnical review of the initial boring logs is underway to determine availability of in-situ material for backfill. The remaining geotechnical investigations are at risk of falling behind schedule due to difficulties in gaining access to private properties; however, additional resources will be enlisted for this effort in order to maintain target completion dates associated with the pipeline. Preparation of geotechnical access letters and property exhibits to gain access into the private properties is ongoing.

### Completed

- Continued coordination with major utility owners along proposed route
- Coordinated geotechnical investigation needs along route
- Updated the web mapping tool for the entire pipeline route
- Pedestrian Surveys
  - Section 1 = 95 percent complete (awaiting Tribal property access)
  - Section 2 = 100 percent complete
  - Section 3 = 100 percent complete
- Revised to alignment alternatives based upon pedestrian surveys

### Future Activities

- Preliminary Design Report development
- Continue coordination of geotechnical investigation needs along route
- Continue evaluation of equipment and material types
- Further coordination of crossings with utility companies, city, county, and state agencies
- Continue field reviews along proposed alignment
- Perform route alternative analysis



**Above:** Installing 60-inch casing



**Right:** Installing 48-inch pipe by bore and jack

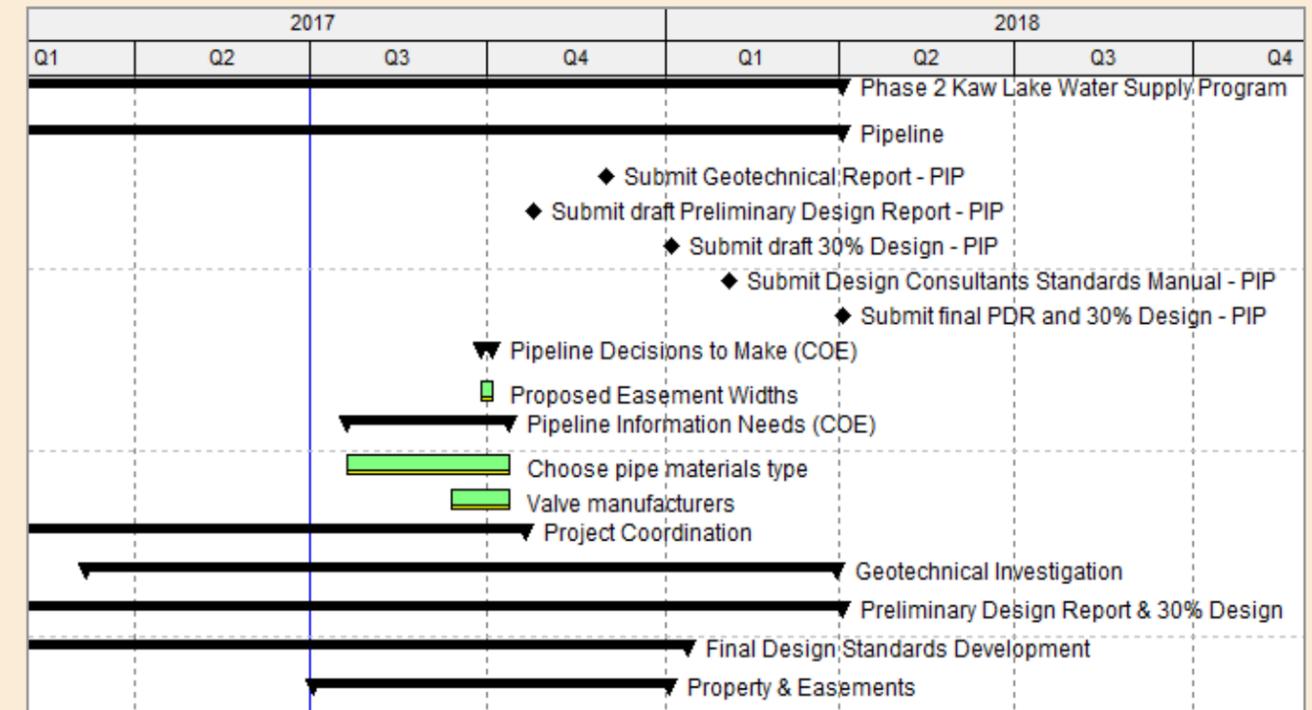


# Project Milestones



# Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>		317	02-Apr-18
<b>Pipeline</b>		317	02-Apr-18
MS1060	Submit Geotechnical Report - PIP	0	01-Dec-17
MS1070	Submit draft Preliminary Design Report - PIP	0	24-Oct-17
MS1080	Submit draft 30% Design - PIP	0	04-Jan-18
MS1085	Submit Design Consultants Standards Manual - PIP	0	02-Feb-18*
MS1090	Submit final PDR and 30% Design - PIP	0	02-Apr-18
<b>Pipeline Decisions to Make (COE)</b>		5	03-Oct-17
PIP.1850	Proposed Easement Widths	5	03-Oct-17
<b>Pipeline Information Needs (COE)</b>		60	12-Oct-17
PIP.1280	Choose pipe materials type	60	12-Oct-17
PIP.1300	Valve manufacturers	23	12-Oct-17
<b>Project Coordination</b>		185	20-Oct-17
<b>Geotechnical Investigation</b>		272	30-Mar-18
<b>Preliminary Design Report &amp; 30% Design</b>		315	02-Apr-18
<b>Final Design Standards Development</b>		261	12-Jan-18
<b>Property &amp; Easements</b>		127	03-Jan-18





## Terminal Storage

### Scope of Services

The scope of services includes surveying, geotechnical, preliminary (30 percent complete) design, investigation of property acquisition and development of design consultant standards for a new raw water terminal storage in two separate locations: one for emergency storage and one for equalization storage as identified in Phase 1 of the project.

### Project Update

Conceptual layouts of the equalization storage basin continues to evolve as new concepts are explored. The most recent configuration utilizes three equally sized basins to allow for flexibility and phasing. The Terminal Storage Team continues to coordinate with the water treatment plant and Distribution Team on the conceptual site design, storm water drainage, process flow, and drying beds.

While the general area of the emergency storage basin has been established, the final location has not been determined. The Terminal Storage Reservoir Team will continue to coordinate with the City to determine a final location of the emergency storage reservoir.

Civil site design has commenced, including preliminary grading, road locations, and stormwater design.

### Completed

- Determined design flows
- Determined potential permit requirement for mid-level berm construction
- Determined final location of equalization terminal storage
- Determined Oklahoma Department of Environmental Quality permit requirements for the terminal storage reservoirs
- Received City comments on the Draft Preliminary Design Report
- Completed Technical Memorandum pertaining to the evaluation of the Pumping Energy associated with the Equalization Terminal Storage Reservoir

### Future Activities

- Determine final location of emergency terminal storage
- Preliminary site layouts with grading
- Site access
- Process and pipeline layout for site
- Complete multiple Technical Memoranda pertaining to the design criteria associated with the following:
  - Reservoir Liners
  - Erosion Control
  - Algae Management
  - Storm water Handling
- Complete geotechnical investigations for the Equalization Terminal Storage Reservoir



**Above:** Rendering of equalization terminal storage reservoir at water treatment plant

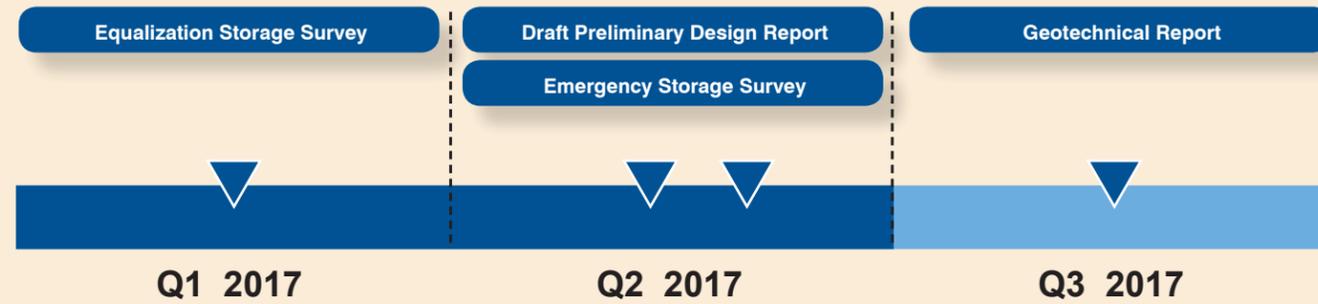


**Right:** Example terminal storage reservoir under construction



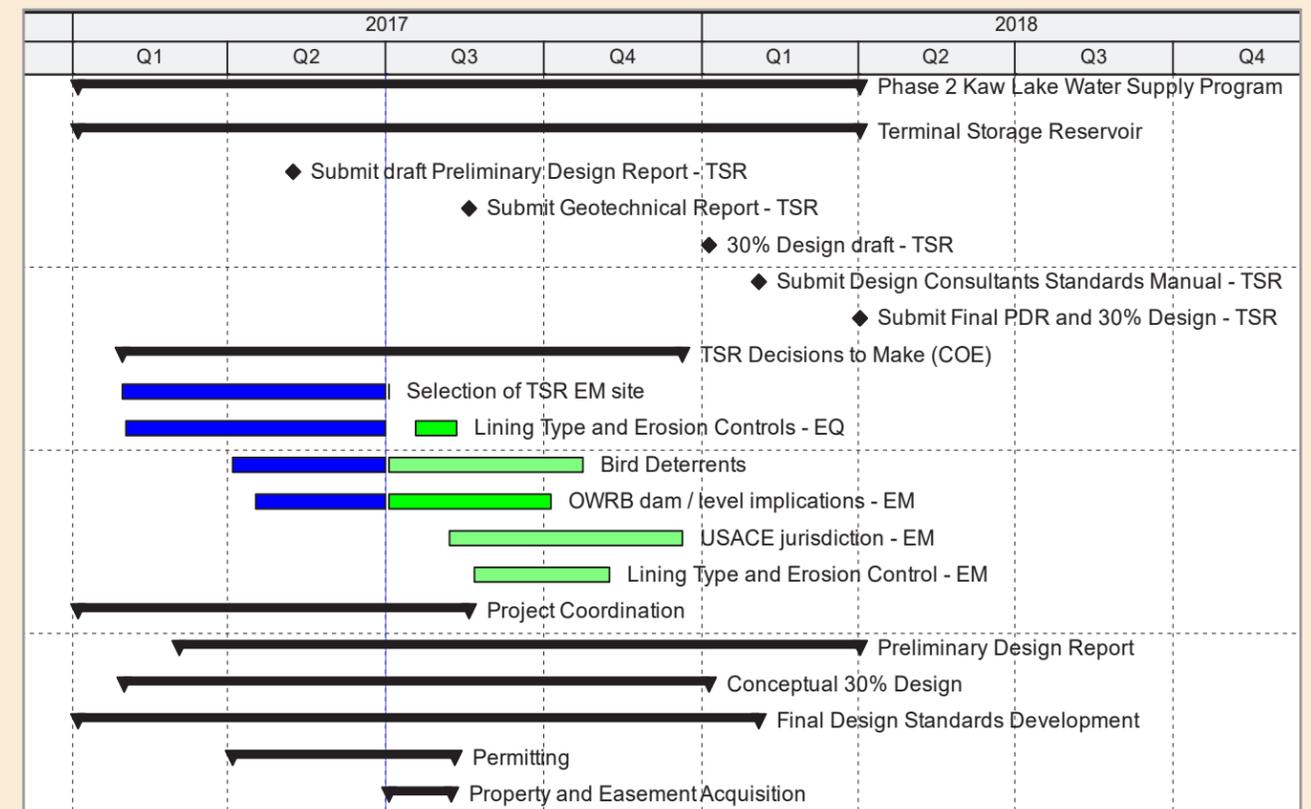
# Terminal Storage

## Project Milestones



## Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>		335d	02-Apr-18
<b>Terminal Storage Reservoir</b>		335d	02-Apr-18
MS1100	Submit draft Preliminary Design Report - TSR	0d	09-May-17 A
MS1110	Submit Geotechnical Report - TSR	0d	18-Aug-17
MS1130	30% Design draft - TSR	0d	04-Jan-18
MS1120	Submit Design Consultants Standards Manual - TSR	0d	02-Feb-18
MS1140	Submit Final PDR and 30% Design - TSR	0d	02-Apr-18
<b>TSR Decisions to Make (COE)</b>		316d	20-Dec-17
TSR.2020	Selection of TSR EM site	194d	03-Jul-17
TSR.2030	Lining Type and Erosion Controls - EQ	127d	11-Aug-17
TSR.2046	Bird Deterrents	142d	23-Oct-17
TSR.2040	OWRB dam / level implications - EM	121d	05-Oct-17
TSR.2055	USACE jurisdiction - EM	95d	20-Dec-17
TSR.2032	Lining Type and Erosion Control - EM	57d	08-Nov-17
<b>Project Coordination</b>		201d	18-Aug-17
<b>Preliminary Design Report</b>		275d	02-Apr-18
<b>Conceptual 30% Design</b>		170d	04-Jan-18
<b>Final Design Standards Development</b>		276d	02-Feb-18
<b>Permitting</b>		92d	10-Aug-17
<b>Property and Easement Acquisition</b>		26d	08-Aug-17





## Water Treatment Plant

### Scope of Services

The scope of services includes surveying, geotechnical, preliminary (30 percent complete) design, investigation of property acquisition, and development of design consultant standards for a new Enid water treatment plant located adjacent to the City's current water treatment plant No. 2.

The planned capital improvements include construction of a new conventional water treatment plant with ozone and granular activated carbon facilities to meet capacity and treatment goals identified during Phase 1 of the Program.

### Project Update

Presented detailed technical discussion for the administration, operations and maintenance facilities, and the chemical facilities at the June project progress meeting and the June water treatment plant workshop. Continuing to develop process schemes and hydraulic grade concepts. Developing draft versions of chemical feed facilities, hydraulic profile, and process schematic for review by the City in July. Continuing work on preliminary process and instrumentation diagrams and facility layouts. Coordinating with ongoing geotechnical investigation at water treatment plant site. Developing process site layouts, access routes, pipeline and electrical distribution corridors, and site drainage/storm water retention concepts.

### Completed

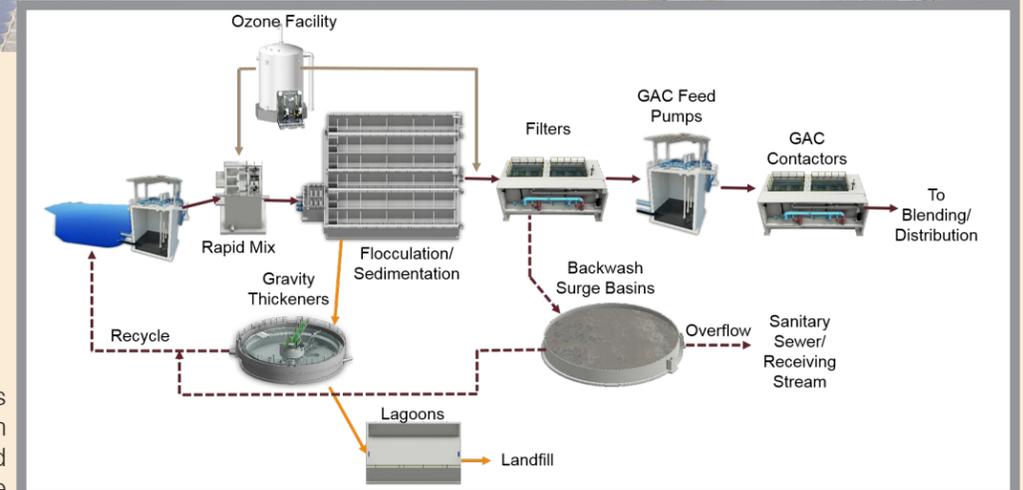
- Draft Design Information Memoranda:
  - Granular activated carbon pump station
  - Residuals handling
- Preliminary process design criteria for:
  - Chemical feed facilities
  - Administration, operations and maintenance facilities
- Updated preliminary process layouts and draft site layout
- Continue developing process and instrumentation diagrams
- Develop and present scope of study to sample and characterize water at various depths in Kaw Lake

### Future Activities

- Water treatment plant workshop with focus on overall site layout and access, site civil concepts, operations and maintenance facilities layout, site piping configuration and electrical distribution
- Develop Draft Pre-Design Report deliverables for:
  - Chemical feed facilities
  - Process flow diagram
  - Hydraulic profile
- Continue development of layouts for operations and maintenance support facilities
- Continue development of site layouts
- Continue development of water treatment plant hydraulic profile
- Perform geotechnical investigations
- Round two of bench scale treatability testing



**Above:** Water treatment plant sedimentation basin



**Right:** Process flow diagram for selected alternative

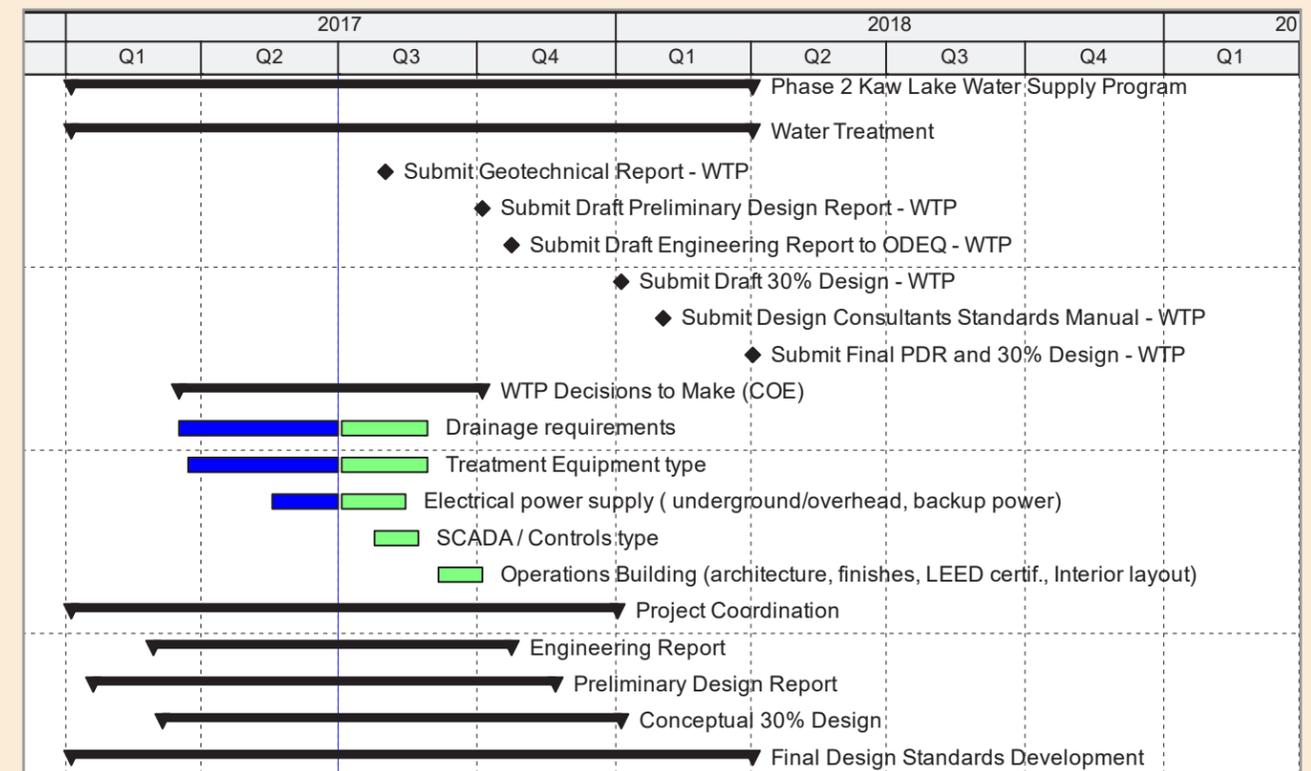


## Project Milestones



## Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>		317d	02-Apr-18
<b>Water Treatment</b>		317d	02-Apr-18
MS1150	Submit Geotechnical Report - WTP	0d	01-Aug-17
MS1165	Submit Draft Preliminary Design Report - WTP	0d	04-Oct-17
MS1160	Submit Draft Engineering Report to ODEQ - WTP	0d	24-Oct-17
MS1180	Submit Draft 30% Design - WTP	0d	04-Jan-18
MS1190	Submit Design Consultants Standards Manual - WTP	0d	02-Feb-18
MS1200	Submit Final PDR and 30% Design - WTP	0d	02-Apr-18
<b>WTP Decisions to Make (COE)</b>		142d	04-Oct-17
WTP.1715	Drainage requirements	22d	29-Aug-17
WTP.1750	Treatment Equipment type	44d	29-Aug-17
WTP.1730	Electrical power supply ( underground/overhead, backup power)	62d	14-Aug-17
WTP.1740	SCADA/ Controls type	22d	23-Aug-17
WTP.1720	Operations Building (architecture, finishes, LEED certif., Interior layout)	22d	04-Oct-17
<b>Project Coordination</b>		253d	02-Jan-18
<b>Engineering Report</b>		169d	24-Oct-17
<b>Preliminary Design Report</b>		218d	22-Nov-17
<b>Conceptual 30% Design</b>		212d	04-Jan-18
<b>Final Design Standards Development</b>		317d	02-Apr-18





## Distribution

### Scope of Services

Generally, the scope of services includes surveying, geotechnical, preliminary (30 percent complete) design, investigation of property acquisition, and development of design consultant standards for new distribution infrastructure (pumping, storage, and piping) as identified in Phase 1 of the project.

The pumping improvements will include the construction of a new high service pump station adjacent to the water treatment plant capable of conveying flow to both pressure planes and the decommissioning of the existing high service pump stations. The storage improvements will consist of adding a new 8 million gallon ground storage tank adjacent to the new high service pump station. The piping improvements will include the piping necessary to blend the groundwater supply with the treated surface water prior to the high service pump station, as well as the piping necessary to convey water to the east pressure plane.

### Project Update

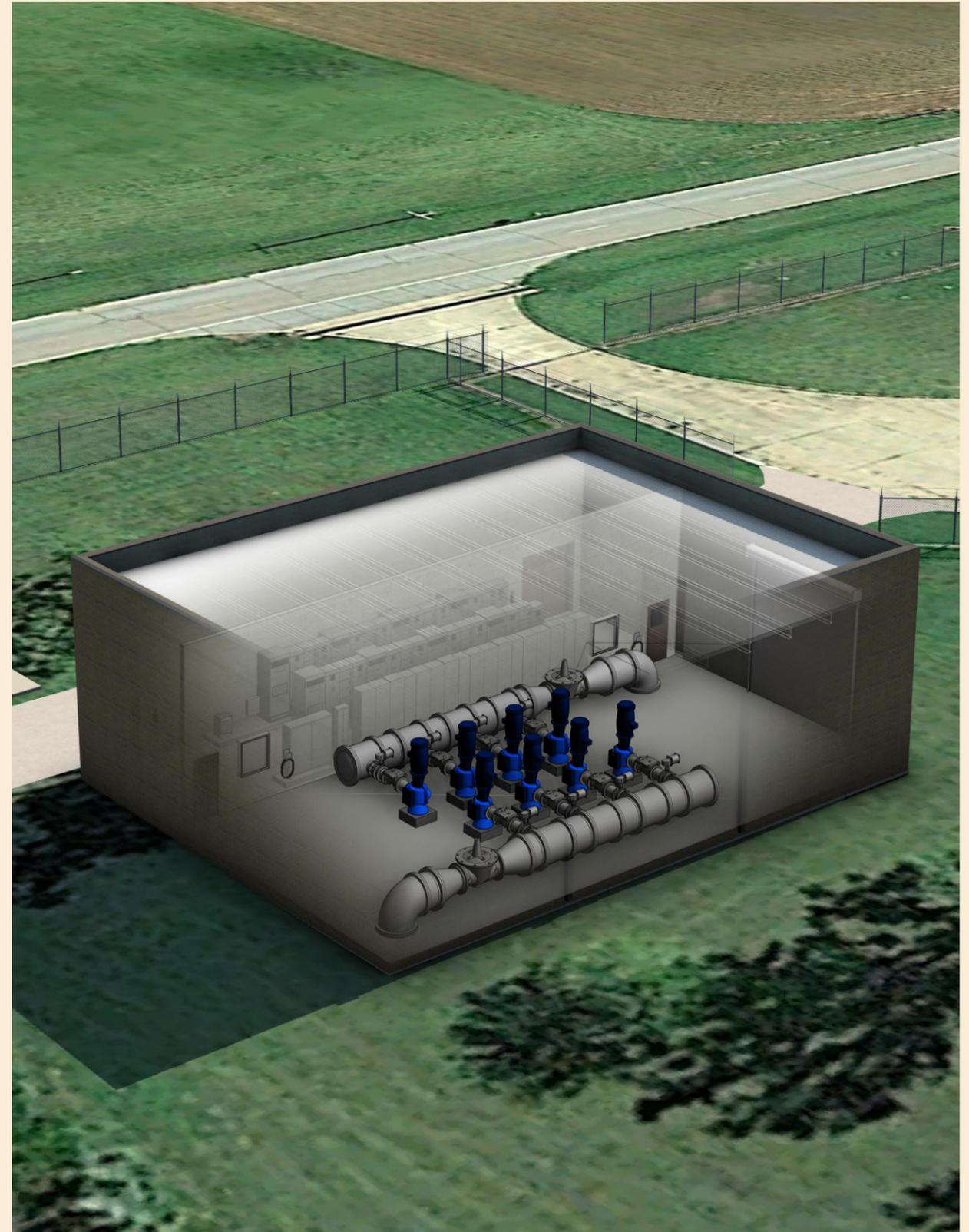
Continued development of technical memoranda on the transmission main alignment and system optimization. Completed internal review of the transmission main alignment alternatives technical memorandum and started internal review of the system optimization technical memorandum. Preliminary 30 percent design work continues on design criteria, high-service pump station and clearwell site layout, operational control, facility electrical loads, and geotechnical investigations.

### Completed

- Completed Technical Review Committee review of transmission main alignment technical memorandum
- Submitted system optimization technical memorandum for Technical Review Committee review
- Developed flow test plan for model calibration
- Developed assessment and design criteria for the distribution system
- Completed field work for geotechnical investigations at high-service pump station and ground storage location
- Completed the majority of the topographical survey work to support the transmission main conceptual design

### Future Activities

- Address Technical Review Committee review comments on transmission main alignment technical memorandum and submit for City review
- Address Technical Review Committee review comments on system optimization transmission main alignment and submit for City review
- Complete transmission main pipe material determination
- Select geotechnical boring locations along transmission main alignment
- Complete developing site layout in conjunction with Water Treatment Plant Team
- Complete electrical one-line diagram
- Continue Preliminary Design Report draft development of design criteria and design concepts
- Develop construction sequencing
- Update demands in hydraulic model
- Complete computational fluid dynamics modeling to evaluate mixing in clearwell



**Above:** Conceptual layout of high-service (distribution) pump station

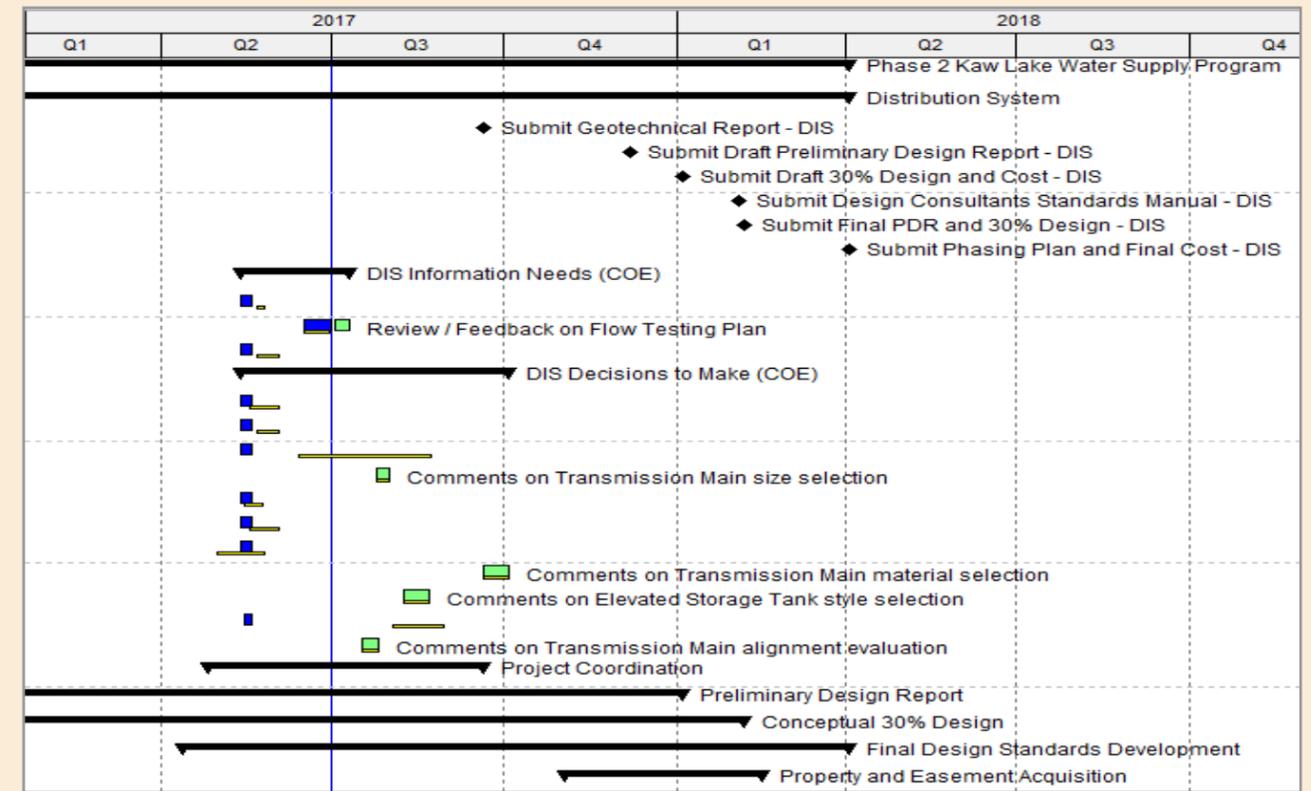


# Project Milestones



# Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>			
<b>Distribution System</b>		317	02-Apr-18
MS1210	Submit Geotechnical Report - DIS	0	19-Sep-17
MS1220	Submit Draft Preliminary Design Report - DIS	0	07-Dec-17
MS1230	Submit Draft 30% Design and Cost - DIS	0	04-Jan-18
MS1240	Submit Design Consultants Standards Manual - DIS	0	02-Feb-18*
MS1250	Submit Final PDR and 30% Design - DIS	0	05-Feb-18
MS1255	Submit Phasing Plan and Final Cost - DIS	0	02-Apr-18
<b>DIS Information Needs (COE)</b>		28	10-Jul-17
DIS.2100	Direction / Review / Feedback on Growth Planning	5	19-May-17 A
DIS.2105	Review / Feedback on Flow Testing Plan	10	10-Jul-17
DIS.2110	Review / Feedback on Distribution Assessment and Design Criteria	9	19-May-17 A
<b>DIS Decisions to Make (COE)</b>		109	03-Oct-17
DIS.1051	Comments on level of flexibility and redundancy with HSPS	11	19-May-17 A
DIS.2130	Comments on HS Pump Station sizing	9	19-May-17 A
DIS.2140	Comments on site layout	50	19-May-17 A
DIS.2144	Comments on Transmission Main size selection	5	31-Jul-17
DIS.2146	Comments on storage sizing	9	19-May-17 A
DIS.2150	Comments on level of flexibility and redundancy with SW / GW	11	19-May-17 A
DIS.2154	Comments on SW/GW blending hydro strategy	20	19-May-17 A
DIS.2156	Comments on Transmission Main material selection	10	03-Oct-17
DIS.2157	Comments on Elevated Storage Tank style selection	10	21-Aug-17
DIS.2160	Comments on HS Pump Station Control Strategy	20	19-May-17 A
DIS.2165	Comments on Transmission Main alignment evaluation	7	25-Jul-17
<b>Project Coordination</b>		134	19-Sep-17
<b>Preliminary Design Report</b>		255	04-Jan-18
<b>Conceptual 30% Design</b>		277	05-Feb-18
<b>Final Design Standards Development</b>		247	02-Apr-18
<b>Property and Easement Acquisition</b>		72	15-Feb-18





## Environmental

### Scope of Services

This scope of work includes activities to support document preparation as required of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) in accordance with the procedures set forth in Council on Environmental Quality Regulations Implementing the Procedural Provision of NEPA (40 CFR 1500-1508) and in the U.S. Army Corps of Engineers (USACE) Procedures for Implementing NEPA (33 CFR 230). The U.S. Army Corps of Engineers, Tulsa District, will serve as the lead federal agency for the project.

It is anticipated that the NEPA Class of Action for this Program will be an Environmental Assessment and will analyze the impacts of a No Build and one Build Alternative (Proposed Action) for each of the project's infrastructure components [intake, pipeline, terminal storage reservoir (emergency and equalization), treatment plant, and distribution system].

### Project Update

Biological and cultural field studies are complete for the intake, water treatment plant, and distribution. Biological field studies for the pipeline are approximately 88 percent complete. Remaining properties to be surveyed are on hold pending access. Cultural resources survey is on hold pending approval of proposed methodology by the U.S. Army Corps of Engineers and State Archaeologist.

U.S. Army Corps of Engineers consultation with the State Historic Preservation Officer, State Archaeologist, and tribes on the cultural resources survey for the intake site is underway. An updated report with information requested by the State Archeologist and Osage Nation was submitted on July 5, 2017.

The cultural resources methodology is in discussion. The team has presented a methodology to the Corps that balances the needs of the Corps and incorporates some of the items requested by the Osage Nation. Comments from the U.S. Army Corps of Engineers are expected to be received in July.

### Completed

- Intake, water treatment plant, and distribution biological and cultural resource studies
- Approximately 88 percent of the biological field work along the pipeline corridor
- Community meeting with Ponca Tribe (June 29, 2017)

### Future Activities

- Complete biological studies for remainder of pipeline as alignments are refined and access to property is obtained
- Meet with State Archaeologist and Osage Nation to discuss cultural resources scope
- Begin cultural resources field work when methodology is resolved
- Additional community meeting with Ponca Tribe as requested.



Above: Kaw Lake shoreline





# Project Milestones



# Project Schedule

Activity ID	Activity Name	Orig Dur (WD)	Finish
<b>Phase 2 Kaw Lake Water Supply Program</b>		530d	04-Feb-19
<b>Environmental</b>		530d	04-Feb-19
ENV.1010	NEPA Start	3d	06-Jan-17 A
<b>Private Landowner Notification</b>		118d	23-May-17 A
<b>Tribal Notification</b>		36d	20-Apr-17 A
<b>Public Involvement</b>		209d	26-May-17 A
<b>Specialist Studies</b>		247d	19-Apr-18
ENV.1213	Conduct stream and wetland field work - PIP	60d	31-Jul-17
ENV.1217	Conduct stream and wetland field work - TSR EM	3d	10-Jul-17
ENV.1950D	Hazardous Materials memo	47d	14-Sep-17
ENV.1950B	Threatened & Endangered Species Report	60d	03-Oct-17
ENV.1218	Stream and Wetland preliminary results - TSR EM	5d	17-Jul-17
ENV.1950A	Wetland and Stream Delineation Report	60d	03-Oct-17
ENV.1219	Cultural Resources field work - TSR EM	4d	04-Aug-17
ENV.1215	Cultural Resources field work - PIP	44d	02-Oct-17
ENV.1214	Stream and Wetland preliminary results - PIP	22d	30-Aug-17
ENV.1220	Cultural Resources preliminary results - TSR EM	5d	11-Aug-17
ENV.1950D.1	City Review of Hazardous Materials Memo	10d	28-Sep-17
ENV.1950C	Cultural Resources Report	60d	28-Dec-17
ENV.1216	Cultural Resources preliminary results - PIP	22d	01-Nov-17
ENV.1950B.1	City Review of T&E Report	10d	17-Oct-17
ENV.1950A.1	City Review of Wetland and Stream Delineation	10d	17-Oct-17
ENV.1950B.2	Revisions of T&E Report	5d	24-Oct-17
ENV.1950A.2	Revisions of Wetland & Stream Delineation Report	5d	24-Oct-17
ENV.1100B	USACE Review of T&E Report	42d	26-Dec-17
ENV.1100A	USACE Review of Wetland & Stream Delineation Report	42d	26-Dec-17
ENV.1100B.1	USFWS Review of T&E Report	20d	24-Jan-18
ENV.1950C.1	City Review of Cultural Resources Report	10d	12-Jan-18
ENV.1950C.2	Revisions of Cultural Resources Report	5d	19-Jan-18
ENV.1100C	USACE Review of Cultural Resources Report	44d	22-Mar-18
ENV.1100C.1	SHPO Review of Cultural Resources Report	20d	19-Apr-18
<b>Environmental Assessment</b>		204d	06-Nov-18
ENV.1120	Prepare Draft EA - Introduction and Background	10d	02-Feb-18
ENV.1121	Prepare Draft EA - Environmental Impacts	22d	06-Mar-18
ENV.1123	Prepare Draft EA - Existing conditions	5d	09-Feb-18
ENV.1122	Prepare Draft EA - Public Involvement summary	22d	21-May-18
ENV.1124	Prepare Draft EA - Summary and Commitments	10d	05-Jun-18
ENV.1125	Produce and Submit Draft EA	5d	12-Jun-18
ENV.1110	USACE & Cooperating Agency review of EA	31d	26-Jul-18
ENV.1080	Draft FONSI	10d	09-Aug-18
ENV.1130	Public Comment Period - FONSI	21d	10-Sep-18
ENV.1140	Review & incorporate Public Comments	21d	09-Oct-18
ENV.1150	FINAL EA Approval	20d	06-Nov-18
<b>Section 408 Approval</b>		60d	04-Feb-19
<b>Section 404 Pre-Coordination</b>		42d	26-Dec-17

