# **Monthly Progress Report** *May 2017*



















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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.

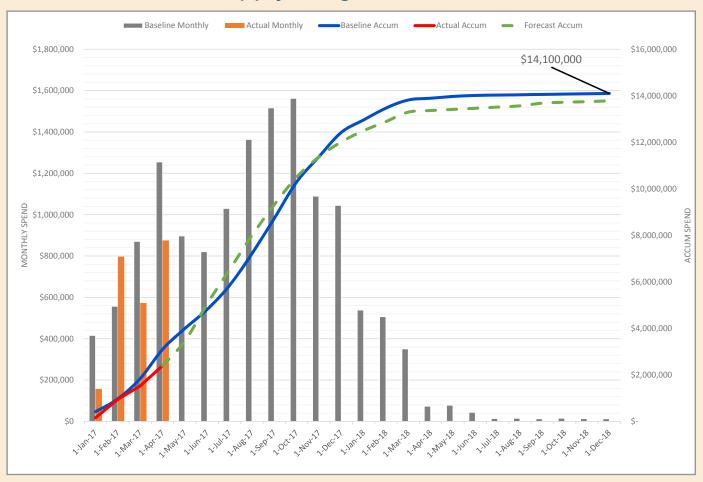






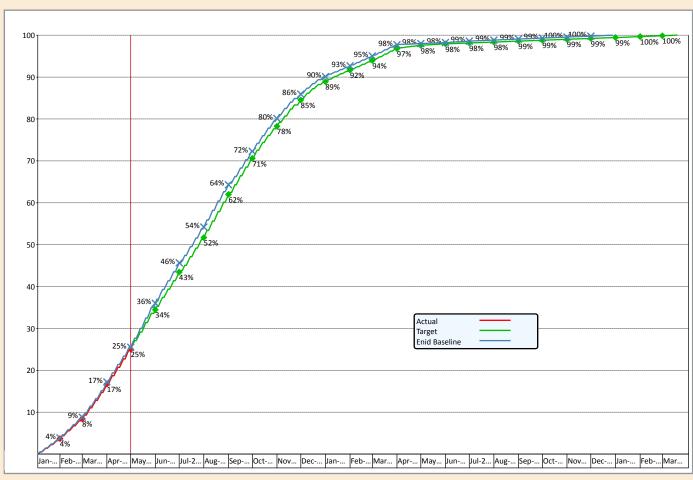
# **Program Finance - Phase 2**

### Kaw Lake Water Supply Program CashFlow



# **Program Schedule - Phase 2**

### Kaw Lake Water Supply Program - April 2017







# **Program Administration**

# **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 a Program Strategy Manual.



### **Project Update**

The Program Management Team continues to work on developing all the items in the scope of services. The team has made significant progress in gathering data for use in establishing the Design Consultant Standards Manual. Workshops are being scheduled for discussions on the strategic execution of the program planning. Team assignments have been made for assistance with the creation of the Program Strategy Manual. The technical review committee has been assembled for quality assurance reviews of all project deliverables.



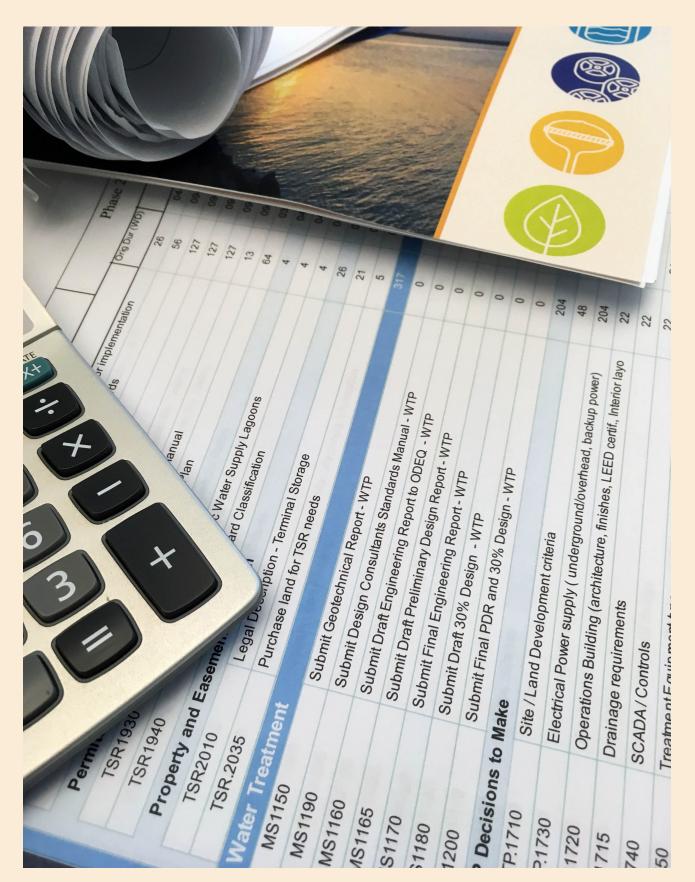
### Completed

- Reviewed list of standards and specification for implementation into the Design Consultant Standards Manual
- Organization and planning activity on the Program Strategy Manual
- Schedule and cost updating of the Master Project Schedule



### **Future Activities**

- Design Consultant Standards Manual workshops
- Program Strategy Manual
- Development of CAD drawing and laying standards
- Technical reviews of draft Preliminary Design Reports for individual project disciplines
- Risk management initiative







# **Intake and Pump Stations**

### **Scope of Services**

The scope of services includes surveying, geotechnical investigations, preliminary (30% 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**

An intake-specific workshop was held with the City as a part of the monthly progress meeting on April 6, 2017. Topics and discussion included a site adjustment of the Kaw Lake intake, critical lake levels for construction and operation, raw water screening, pump station space planning, design period criteria, and mitigation of potential invasive species.

The team completed an internal draft of the Preliminary Design Report that establishes the pumping design criteria, design concepts, and operations strategies for the intake and intermediate booster pump station. The draft report also includes a transient hydraulic analysis of the pipeline, process and instrumentation diagrams, and equipment data sheets. This draft is being reviewed by the Program's Technical Review Committee, and will be revised based on their comments prior to submitting to the City in May.



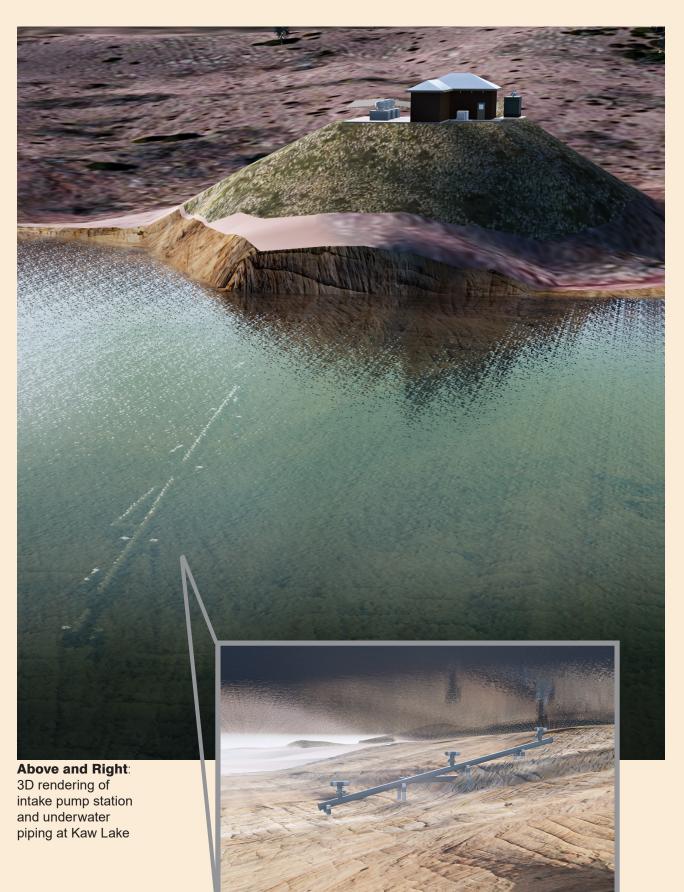
### Completed

- Performed environmental cultural survey at intake site
- Updated map and coordinates for geotechnical investigation for both onshore and offshore boring locations
- Coordinated with geotechnical consultant for land and marine borings at intake site
- Continued work on process and instrumentation diagrams for intake pump station, intermediate booster pump station, and ground storage tank
- Completed Draft Preliminary Report for internal review
- Continued work on transient hydraulic model and surge analysis
- Continued work on first draft of Transient Analysis Technical Memo



### **Future Activities**

- Continue to work on 30% design
- Submit Draft Preliminary Design Report to City for review
- · Perform geotechnical borings at intake site



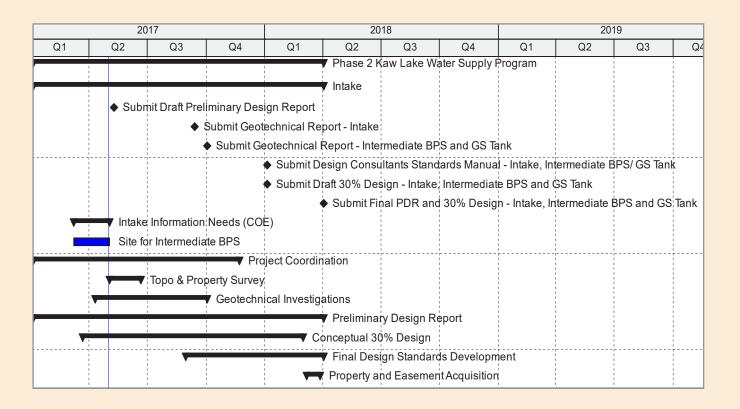






# **Project Schedule**

ctivity ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw La	ke Water Supply Program	317d	02-Apr-18
Intake		317d	02-Apr-18
MS1030	Submit Draft Preliminary Design Report	0d	09-May-17
MS1010	Submit Geotechnical Report - Intake	0d	12-Sep-17
MS1020	Submit Geotechnical Report - Intermediate BPS and GS Tank	0d	02-Oct-17
MS1040	Submit Design Consultants Standards Manual - Intake, Intermediate BPS/ GS Tank	0d	04-Jan-18
MS1035	Submit Draft 30% Design - Intake, Intermediate BPS and GS Tank	0d	04-Jan-18
MS1050	Submit Final PDR and 30% Design - Intake, Intermediate BPS and GS Tank	0d	02-Apr-18
Intake Informat	ion Needs (COE)	21d	02-May-1
PIP.1840	Site for Intermediate BPS	21d	02-May-1
Project Coordi	Project Coordination		21-Nov-1
Topo & Proper	ty Survey	35d	21-Jun-17
Geotechnical II	nvestigations	137d	02-Oct-17
Preliminary De	Preliminary Design Report		02-Apr-18
Conceptual 30°	Conceptual 30% Design		01-Mar-18
Final Design Standards Development		149d	02-Apr-18
Property and Easement Acquisition		15d	27-Mar-18





# **Pipeline**

### **Scope of Services**

The scope of services includes surveying, geotechnical, alignment analysis, preliminary (30% 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 received feedback on preliminary pipeline route alternatives analysis criteria and is preparing revised analysis criteria for consideration. Began field visits on April 24 and will continue to conduct the field reviews in the coming weeks. The team has also developed the web mapping site to allow the City and team members to utilize pipeline route information and updated data. Heavily involved in coordinating with other project teams on proposed layouts, connections, and various other design criteria. The team began development of pipeline design criteria for the preliminary design report.



### Completed

- Desktop review of preliminary alignment alternatives
- Continued coordination with major utility owners along proposed route
- Coordinated geotechnical investigation needs along route
- Participated in public meetings in Enid and Ponca City
- Implemented the web mapping tool for the entire pipeline route
- Obtained state information for water wells and imported the well locations into the GIS information



### **Future Activities**

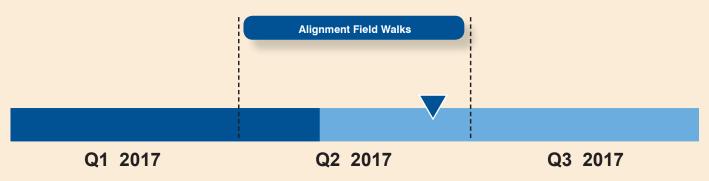
- Preliminary design report development
- Continued coordination of geotechnical investigation needs along route
- Continued evaluation of equipment and material types
- Further coordination of crossings with utility companies, city, county, and state agencies
- Continue field reviews along proposed alignment





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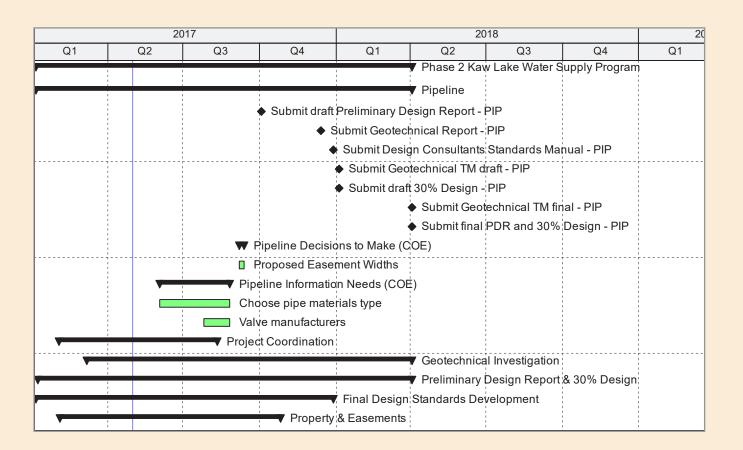






# **Project Schedule**

ivity ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw La	ake Water Supply Program	317d	02-Apr-18
Pipeline		317d	02-Apr-18
MS1070	Submit draft Preliminary Design Report - PIP	0d	03-Oct-17
MS1060	Submit Geotechnical Report - PIP	0d	13-Dec-17
MS1085	Submit Design Consultants Standards Manual - PIP	0d	28-Dec-17
MS1075	Submit Geotechnical TM draft - PIP	0d	04-Jan-18
MS1080	Submit draft 30% Design - PIP	0d	04-Jan-18
MS1095	Submit Geotechnical TM final - PIP	0d	02-Apr-18
MS1090	Submit final PDR and 30% Design - PIP	0d	02-Apr-18
Pipeline Decis	Pipeline Decisions to Make (COE)		12-Sep-17
PIP.1850	Proposed Easement Widths	5d	12-Sep-17
Pipeline Inform	nation Needs (COE)	60d	25-Aug-17
PIP.1280	Choose pipe materials type	60d	25-Aug-17
PIP.1300	Valve manufacturers	23d	25-Aug-17
Project Coordi	nation	135d	10-Aug-17
Geotechnical I	Geotechnical Investigation		02-Apr-18
Preliminary Design Report & 30% Design		315d	02-Apr-18
Final Design S	Final Design Standards Development		28-Dec-17
Property & Eas	sements	188d	26-Oct-17







# **Terminal Storage**

### **Scope of Services**

The scope of services includes surveying, geotechnical, preliminary (30% 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.

The location for the emergency storage has been narrowed down to a 3-mile by 4-mile window on the northeast side of Enid, but the final location has yet to be determined and will require continued input and coordination from City staff. The equalization storage will be constructed adjacent to the water treatment plant on the same site.



### Project Update

Conceptual layouts of the equalization storage basin continues to evolve as new concepts are explored. These concepts will be presented in the upcoming draft Preliminary Design Report for the terminal storage reservoirs. The terminal storage team continues to coordinate with the water treatment plant and distribution staff on the conceptual site design, stormwater drainage, process flow, and drying beds. The environmental team has cleared the potential footprint of the equalization storage from all wetlands and water features.

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.



### Completed

- Determined design flows
- Determined potential permit requirement for mid-level berm construction
- Determined final location of equalization terminal storage



### **Future Activities**

- Determine final location of emergency terminal storage
- Submit draft preliminary design report
- · Terminal storage lining and erosion control selection
- Stormwater drainage
- Preliminary site layouts with grading
- Site access
- Process and pipeline layout for site
- Determine Oklahoma Department of Environmental Quality permit requirements



construction



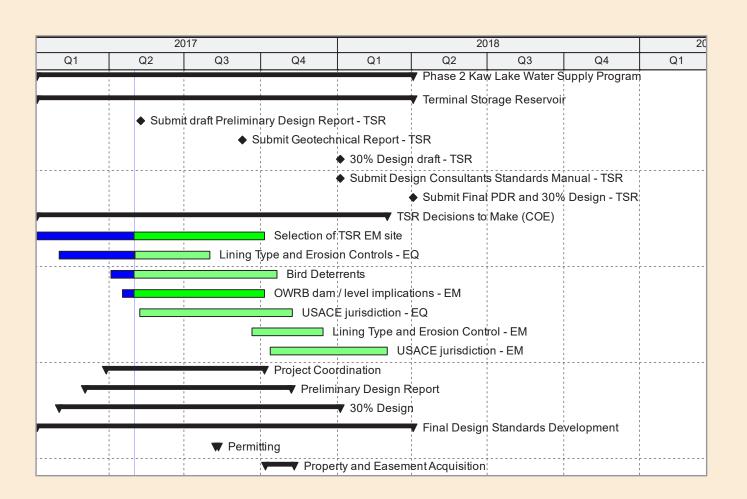




# **Project Schedule**

tivity ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw La	ike Water Supply Program	335d	02-Apr-18
Terminal Storag	ge Reservoir	335d	02-Apr-18
MS1100	Submit draft Preliminary Design Report - TSR	0d	09-May-17
MS1110	Submit Geotechnical Report - TSR	Od	08-Sep-17
MS1130	30% Design draft - TSR	0d	04-Jan-18
MS1120	Submit Design Consultants Standards Manual - TSR	Od	04-Jan-18
MS1140	Submit Final PDR and 30% Design - TSR	Od	02-Apr-18
TSR Decisions	to Make (COE)	316d	02-Mar-18
TSR.2020	Selection of TSR EM site	194d	05-Oct-17
TSR.2030	Lining Type and Erosion Controls - EQ	127d	31-Jul-17
TSR.2046	Bird Deterrents	142d	20-Oct-17
TSR.2040	OWRB dam / level implications - EM	121d	05-Oct-17
TSR.2050	USACE jurisdiction - EQ	130d	08-Nov-17
TSR.2032	Lining Type and Erosion Control - EM	60d	14-Dec-17
TSR.2055	USACE jurisdiction - EM	98d	02-Mar-18
Project Coordi	nation	134d	05-Oct-17
Preliminary De	sign Report	174d	06-Nov-17
30% Design		236d	04-Jan-18
Final Design Standards Development		317d	02-Apr-18
Permitting		4d	10-Aug-17
Property and E	asement Acquisition	26d	10-Nov-17







# **Water Treatment Plant**

### **Scope of Services**

The scope of services includes surveying, geotechnical, preliminary (30% 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 operations and maintenance facility, flocculation and sedimentation basin, granular media filtration, and residuals handling systems at the April water treatment plant workshop. Continuing to develop site layout and hydraulic grade concepts. Developing draft versions of facility technical memoranda for review by the City in June. Continuing work on preliminary process and instrumentation diagrams and facility layouts. Presented geotechnical bore plan for water treatment plant site.



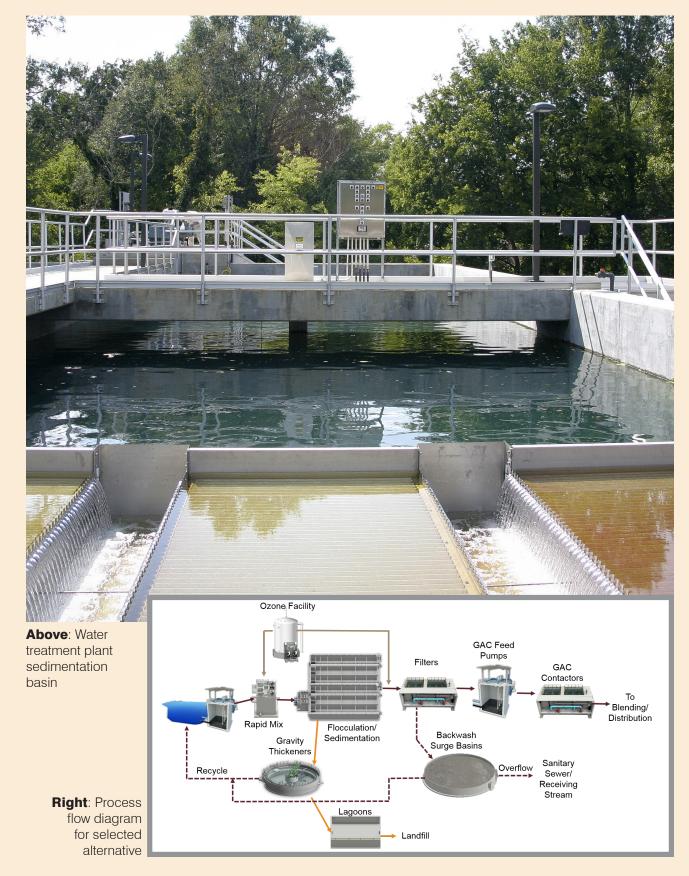
### Completed

- Round One of bench scale treatability testing
- Water treatment plant operations and maintenance facility questionnaire
- Updated preliminary process scheme and design criteria
- Updated preliminary hydraulic profile
- Life-cycle analysis that quantified the costeffectiveness of pumping to the terminal storage reservoir and then using water treatment plant influent pumping to lift the raw water in the treatment plant
- Preliminary process design criteria for:
  - Ozone and granular activated carbon
  - Rapid mix, flocculation, and sedimentation
  - Filtration and backwash facilities
- Updated preliminary process layouts and draft site plans



### **Future Activities**

- Water treatment plant workshop with focus on system control, process and instrumentation diagrams, and intermediate lift station
- Develop draft Pre-Design Report deliverables for:
  - Process flow scheme
  - Water treatment plant hydraulics
  - Ozone and granular activated carbon
  - Rapid mix, flocculation and sedimentation
  - Filtration and backwash facility
- Development of preliminary utilization layouts for operations and maintenance support facilities
- · Water treatment plant site visit
- · Round Two of bench scale treatability testing





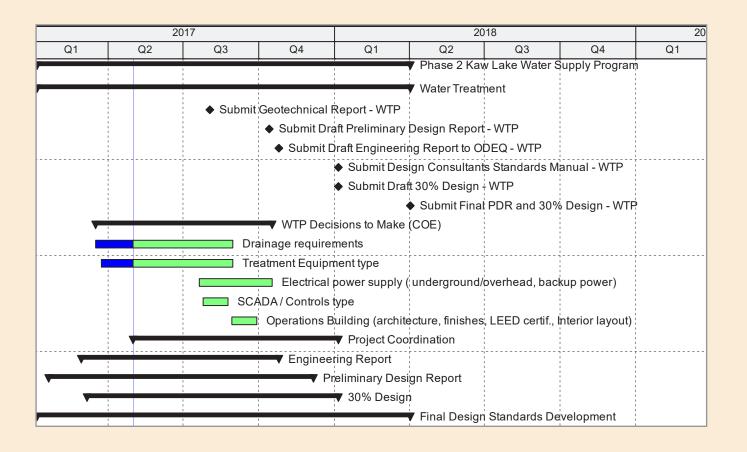






# **Project Schedule**

vity ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw	Lake Water Supply Program	317d	02-Apr-18
Water Treatn	nent	317d	02-Apr-18
MS1150	Submit Geotechnical Report - WTP	0d	01-Aug-17
MS1165	Submit Draft Preliminary Design Report - WTP	0d	13-Oct-17
MS1160	Submit Draft Engineering Report to ODEQ - WTP	0d	24-Oct-17
MS1190	Submit Design Consultants Standards Manual - WTP	0d	04-Jan-18
MS1180	Submit Draft 30% Design - WTP	0d	04-Jan-18
MS1200	Submit Final PDR and 30% Design - WTP	0d	02-Apr-18
WTP Decision	WTP Decisions to Make (COE)		16-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	16-Oct-17
WTP.1740	SCADA / Controls type	22d	23-Aug-17
WTP.1720	Operations Building (architecture, finishes, LEED certif., Interior layout)	22d	28-Sep-17
Project Coo	rdination	172d	04-Jan-18
Engineering	Report	169d	24-Oct-17
Preliminary	Preliminary Design Report		05-Dec-17
30% Design	30% Design		04-Jan-18
Final Design Standards Development			02-Apr-18







# **Distribution**

### **Scope of Services**

Generally, the scope of services includes surveying, geotechnical, preliminary (30% 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 services 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**

Completed the field investigation for Chestnut corridor to refine the pipe alignment. Continued the evaluation of historical demand data and SCADA system information to support distribution system optimization. Developed the groundwater conveyance hydraulic model based on GIS data and record drawings, and started evaluation of SCADA data for the Ames, Ringwood, and Cleo Springs pump stations. Preliminary 30% design work continues on design criteria, high service pump station and clearwell site layout, process and instrumentation diagrams, facility electrical loads, and collection of equipment manufacturer's data.



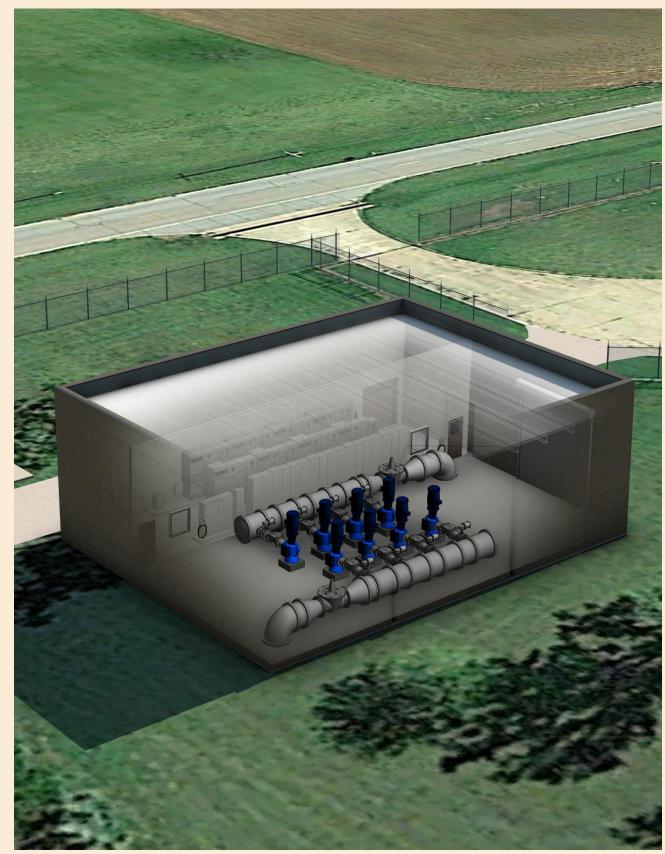
### Completed

- Conducted field investigation for transmission main to refine pipe alignment
- Coordinated with survey and environmental teams for their data collection along the transmission main corridor to support alignment selection and conceptual design
- Selected geotechnical boring locations for new ground storage tank and high service pump station
- Analyzed distribution system SCADA data to determine diurnal curves and distribution system equalization storage volumes to support distribution system optimization
- Developed preliminary layout of high service pump station
- Developed disinfection/storage/blending isolation and redundancy scheme
- Developed well field conveyance model



### **Future Activities**

- Transmission line alignment alternatives evaluation
- Transmission line pipe material determination
- · Assess demands and future growth
- Evaluate max day vs. peak hour pumping/storage
- Optimize transmission line diameter
- Continue developing site layout in conjunction with water treatment plant team
- Develop process and instrumentation diagrams
- Develop electrical one-line diagram
- Develop operational control scheme
- Continue Preliminary Design Report draft development of design criteria and design concepts
- Develop distribution system assessment / design criteria



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







# Draft 30% Design and Cost-Distribution Interface Design Consultant Standards Manual Pinal Preliminary Design Report and 30% Design Q4 2017 Q1 2018 Q2 2018

# **Project Schedule**

vity ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw La	ake Water Supply Program	317d	02-Apr-1
Distribution Sy	ystem	317d	02-Apr-1
MS1210	Submit Geotechnical Report - DIS	0d	19-Sep-1
MS1220	Submit Draft Preliminary Design Report - DIS	0d	28-Nov-1
MS1240	Submit Design Consultants Standards Manual - DIS	0d	04-Jan-1
MS1230	Submit Draft 30% Design and Cost - DIS	0d	04-Jan-1
MS1255	Submit Phasing Plan and Final Cost - DIS	0d	02-Apr-1
MS1250	Submit Final PDR and 30% Design - DIS	0d	02-Apr-1
DIS Information	on Needs (COE)	24d	23-Jun-1
DIS.2110	Review / Feedback on Distribution Assessment and Design Criteria	9d	02-Jun-1
DIS.2100	Direction / Review /Feedback on Growth Planning	5d	26-May-1
DIS.2105	Review / Feedback on Flow Testing Plan	10d	23-Jun-1
DIS Decisions	to Make (COE)	89d	19-Sep-1
DIS.2146	Comments on storage sizing	9d	25-May-1
DIS.1051	Comments on level of flexibility and redundancy with HSPS	11d	02-Jun-1
DIS.2150	Comments on level of flexibility and redundancy with SW / GW	11d	02-Jun-1
DIS.2130	Comments on HS Pump Station sizing	9d	02-Jun-1
DIS.2154	Comments on SW/GW blending hydro strategy	20d	30-Jun-1
DIS.2144	Comments on Transmission Main size selection	5d	09-Jun-1
DIS.2156	Comments on Transmission Main material selection	10d	16-Jun-1
DIS.2140	Comments on site layout	50d	19-Sep-1
DIS.2157	Comments on Elevated Storage Tank style selection	10d	26-Jul-1
DIS.2165	Comments on Transmission Main alignment evaluation	5d	26-Jul-17
DIS.2160	Comments on HS Pump Station Control Strategy	20d	29-Aug-1
Project Coordi	Project Coordination		19-Sep-1
Preliminary Design Report		255d	04-Jan-1
30% Design	30% Design		02-Apr-1
Final Design Standards Development		247d	02-Apr-1
Property and E	Easement Acquisition	72d	12-Oct-1
DIS.1010	Legal Description - Distribution Interface	72d	12-Oct-1

	20	)17			20	18			2019
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
					Phase 2 Kay	v Lake Water	Supply Progran	n	
		1	1		Distribution	System			
		•	Submit Geote	; chnical Repor	t - DIS				
		! ! !	♦ Su	bmit Draft Prel	iminary Desigr	n Report - DIS			
		! ! !	1	Submit Des	ign Consultan	ts Standards I	Manual - DIS		
		¦		◆ Submit Dra	ft 30% Design	and Cost - DI	\$		
				•	▶ Submit Pha	sing Plan and	Final Cost - DIS	3	
				•	<ul><li>Submit Final</li></ul>	I PDR and 30	% Design - DI\$		
	-	DIS Informati	on Needs (CC	E)					
	■ Re	view / Feedb	ack on Distribu	tion Assessme	ent and Design	Criteria			
	□ Dire	ection / Revie	w /Feedback o	n Growth Plan	ning		ii		
		Review / Fee	dback on Flov	Testing Plan					
	<b>—</b>		DIS Decisions	to Make (CO	E)				
	■ Cor	nments on sto	rage sizing						
	■ Co	mments on le	evel of flexibilit	y and redunda	ncy with HSP\$	3			
	■ Co	mments on le	vel of flexibilit	y and redunda	ncy with SW / (	GW			
	■ Co	mments on H	l¦S Pump Static	n sizing					
		Comments	on SW/GW ble	nding hydro st	rategy				
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		Comments on	Transmission	Main material	selection				
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# **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 field studies are complete for the intake, water treatment plant, and distribution. Cultural resources studies are complete for the intake, and a letter report documenting the negative finding has been submitted to the U.S. Army Corps of Engineers for review and approval prior to geotechnical testing.

Property owner notification and public meeting notification letters were mailed certified on March 24, 2017. Follow-up letters to updated property owners were mailed certified on April 6, 2017. A third round of letters to all property owners with no record of having received the certified letters was mailed first class on April 15, 2017.

Public meetings were held on April 11, 2017 in Enid and April 13, 2017 in Ponca City. The public was asked to submit comments by April 27, 2017.

Ownership information for the tribally and individual Indian-owned properties was received from the Bureau of Indian Affairs on March 30 and April 4, 2017. Letters requesting permission to access these properties were mailed certified to 907 tribal owners on April 20, 2017.

A meeting with the Otoe-Missouria Tribe was held April 26, 2017, and meetings with the Ponca Tribe and Osage Nation were held April 28, 2017.



### Completed

- Intake biological and cultural resource studies
- Reported negative cultural resources findings at intake site submitted to U.S. Army Corps of Engineers
- Biological and cultural studies at water treatment plant and distribution
- Prepared and mailed tribal owner notification and permission letters
- Public involvement meetings held April 11 and 13, 2017
- Meetings with Osage Nation, Ponca Tribe, and Otoe-Missouria Tribe



### **Future Activities**

- Biological studies for pipeline will begin week of May 1, 2017
- Meeting with Osage Nation to discuss cultural resources



**Above**: Kaw Lake shoreline



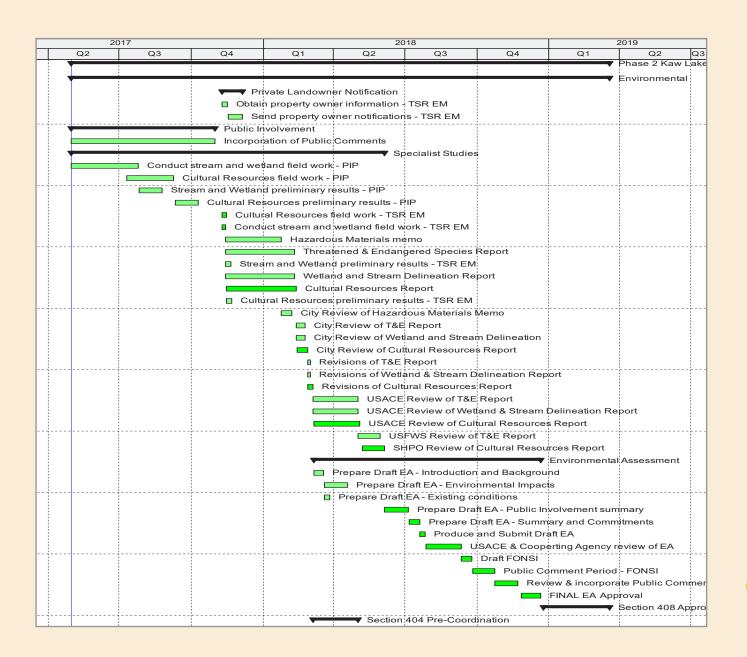




# **Project Schedule**

y ID	Activity Name	Orig Dur (WD)	Finish
Phase 2 Kaw Lak	ce Water Supply Program	478d	19-Mar-
Environmental		478d	19-Mar
Private Landow	ner Notification	17d	05-Dec-
ENV.1064	Obtain property owner information - TSR EM	6d	16-Nov-
ENV.1065	Send property owner notifications - TSR EM	11d	05-Dec-
Public Involvem	eent	129d	31-Oct-
ENV.1070	Incorporation of Public Comments	129d	31-Oct-
Specialist Studi	es	278d	04-Jun-
ENV.1213	Conduct stream and wetland field work - PIP	60d	25-Jul-
ENV.1215	Cultural Resources field work - PIP	44d	08-Sep-
ENV.1214	Stream and Wetland preliminary results - PIP	22d	24-Aug
ENV.1216	Cultural Resources preliminary results - PIP	22d	10-Oct-
ENV.1219	Cultural Resources field work - TSR EM	4d	14-Nov-
ENV.1217	Conduct stream and wetland field work - TSR EM	3d	13-Nov-
ENV.1950D	Hazardous Materials memo	47d	23-Jan-
ENV.1950B	Threatened & Endangered Species Report	60d	09-Feb-
ENV.1218	Stream and Wetland preliminary results - TSR EM	5d	20-Nov-
ENV.1950A	Wetland and Stream Delineation Report	60d	09-Feb-
ENV.1950C	Cultural Resources Report	60d	12-Feb-
ENV.1220	Cultural Resources preliminary results - TSR EM	5d	21-Nov-
ENV.1950D.1	City Review of Hazardous Materials Memo	10d	06-Feb-
ENV.1950B.1	City Review of T&E Report	10d	23-Feb-
ENV.1950A.1	City Review of Wetland and Stream Delineation	10d	23-Feb-
ENV.1950C.1	City Review of Cultural Resources Report	10d	26-Feb
ENV.1950B.2	Revisions of T&E Report	5d	02-Mar-
ENV.1950A.2	Revisions of Wetland & Stream Delineation Report	5d	02-Mar-
ENV.1950C.2	Revisions of Cultural Resources Report	5d	05-Mar-
ENV.1100B	USACE Review of T&E Report	42d	01-May
ENV.1100A	USACE Review of Wetland & Stream Delineation Report	42d	01-May
ENV.1100C	USACE Review of Cultural Resources Report	44d	04-May
ENV.1100B.1	USFWS Review of T&E Report	20d	30-May
ENV.1100C.1	SHPO Review of Cultural Resources Report	20d	04-Jun-
Environmental A	Assessment	204d	21-Dec-
ENV.1120	Prepare Draft EA - Introduction and Background	10d	19-Mar-
ENV.1121	Prepare Draft EA - Environmental Impacts	22d	18-Apr-
ENV.1123	Prepare Draft EA - Existing conditions	5d	26-Mar-
ENV.1122	Prepare Draft EA - Public Involvement summary	22d	05-Jul-
ENV.1124	Prepare Draft EA - Summary and Commitments	10d	19-Jul-
ENV.1125	Produce and Submit Draft EA	5d	26-Jul-
ENV.1110	USACE & Cooperting Agency review of EA	31d	10-Sep-
ENV.1080	Draft FONSI	10d	24-Sep-
ENV.1130	Public Comment Period - FONSI	21d	23-Oct-
ENV.1140	Review & incorporate Public Comments	21d	21-Nov-
ENV.1150	FINAL EA Approval	20d	21-Dec-
Section 408 Approval			19-Mar-
Section 404 Pre	On a surface of the s	42d	01-May







### **Contact Information**

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