CITY OF SANTA ROSA TRANSPORTATION AND PUBLIC WORKS
PROJECT WORK ORDER NO. A010171-2016-22

PROJECT NAME: **LAGUNA TREATMENT PLANT AERATION BASINS IMPROVEMENT PROJECT**

CITY PROJECT MANAGER: **TANYA MOKVYTS**

CONSULTANT PROJECT MANAGER: **JOHN WYCKOFF**

SCOPE OF SERVICE: See Consultant's Scope of Services/Proposal for Services and Fee Schedule dated December 1, 2021, attached as Exhibit B-1.

START DATE: **JANUARY 2022** COMPLETION DATE: **OCTOBER 2025**

CHARGE NUMBER FOR PAYMENT: **86651**

NOT-TO-EXCEED AMOUNT FOR THIS PROJECT: **$1,019,739** TM LU

TERMS AND CONDITIONS: This Project Work Order is issued and entered into as of the last date written below in accordance with the terms and conditions set forth in the "Master Professional Services Agreement with Kennedy/Jenks Consultants, Inc., Agreement No. A010171," dated October 11, 2016, which is hereby incorporated and made part of this Project Work Order. In the event of a discrepancy or conflict between the terms and conditions of the Project Work Order and the Master Agreement, the Master Agreement shall govern.

CITY OF SANTA ROSA,
A Municipal Corporation

By: _____ Date: _____
Daniel J. Galvin III
Board of Public Utilities Chair

KENNEDY/JENKS CONSULTANTS, INC.
A California Corporation

By: _____ Date: Dec 13, 2021

Name: rodman houser

Title: Vice President

By: Laurie Bishop (Dec 13, 2021 10:32 PST) Date: Dec 13, 2021

Name: Laurie Bishop

Title: CFO

APPROVED AS TO FORM:

By: Jessica Mullan (Dec 27, 2021 16:19 PST)
Santa Rosa City Attorney's Office

Attachments: Exhibit B-1 – Consultant's proposal and fee for services for this Project Work Order

Aeration Basins Improvements Project – Scope of Work

Project Management

Project Management includes project set-up in KJ's Project Management system; monitoring the scope, schedule, and budget during the project; managing, and coordinating the KJ team and subconsultants; preparing a Health and Safety Plan for work at the plant site; and establishing project quality assurance/ quality control procedures, communications and invoicing with the City.

Deliverable: Health and Safety Plans and Invoices.

Phase I – Condition Assessment and Evaluation

Task 1 - Project Kickoff Meeting

This task will include a kickoff meeting at the Laguna Wastewater Treatment Plant with the KJ team and City staff. The task will also include a tour of the plant site including the settled sewage channels, aeration tanks, mixed liquor channels, flow equalization basins and final clarifiers.

The intent of the site tour is to get the KJ team familiar with the plant facilities involved in the project. KJ will also perform a visual survey of potential locations of air leaks in the low-pressure air piping and locations where diffusers may be plugged or damaged. The City will provide input into the visual survey based on their experience at the facility.

Deliverable: Agenda and Meeting Notes.

Task 2 - Develop Initial Bypass Plan

KJ will develop initial alternatives for bypass of the flow around the settled sewage channel and the mixed liquor channels including potential temporary channel bulkheads that may be advantageous along with tentative schedules for the bypass, dewatering, cleaning, and inspection work. A bypass plan will be drafted and reviewed as part of **Task 3** below. Once the bypass plan has been reviewed the plan with any initial alternatives will be submitted to the City for review.

Deliverable: Initial Bypass Plan.

Task 3 - Constructability Review of Bypass Plan

The Bypass plan will be reviewed by a KJ experienced Construction Manager, Tom Gorman, to verify the constructability of the concepts and identify any fatal flaws that need to be addressed prior to submitting the plan to the City for review.

Deliverable: Technical Memorandum.

Task 4 - Workshop for Bypass Plan

A workshop will be held to discuss the draft bypass plan and any question or concerns of the City. The goal of the workshop will be to agree on a workable plan to bypass flow around the channels for dewatering, cleaning and inspection of the channels, the low-pressure air piping, and any diffusers. It is our understanding that the aeration basins can be individually isolated for dewatering, cleaning, and inspection.

Deliverable: Final Bypass Plan.

Task 5 - Develop Work Plan for Dewatering and Cleaning

Based on the outcome of the bypass plan workshop, KJ will develop a work plan for the City to use in hiring a Contractor to setup the flow bypasses, dewater and clean the isolated channels and the aeration basins. The work plan will contain plans on mylar of the proposed bypasses and details for flow distribution to the secondary clarifiers and specifications necessary for the City to hire a Contractor.

Deliverable: Work Plan.

Task 6 - Inspection of Basins, Channels and Low-Pressure Air Piping

Once the settled sewage channels, mixed liquor channels and aeration basins are dewatered and cleaned and while they are still isolated, KJ will send a team of at least three engineers to enter the channels and basins to inspect the low-pressure air piping, air diffusers and concrete structures. It is anticipated that the inspections will take at least two visits to the site as the aeration tanks cannot all be down at one time. The inspection of the entire facility may take three visits depending on when the bypassing of the channels will occur. In addition to the KJ personnel our subconsultants for coatings and cathodic protection will also participate in assessment of the existing conditions.

Task 7 - Draft Technical Memorandum

Based on the finding of the inspections of the dewatered channels, aeration basins and the low-pressure air piping, KJ will prepare a draft Technical Memorandum with our findings, evaluation of the condition of the existing facilities and recommendations for any rehabilitation of the existing structures and rehabilitation or replacements of the low-air piping and associated diffusers. This draft Technical Memorandum will be submitted to the City for review.

Deliverable: Draft Technical Memorandum.

Task 8 - Workshop on Draft Technical Memorandum

A workshop will be held with the City to review and discuss the draft Technical Memorandum including the recommendation for improvements to the channels, basins, low-pressure air piping and diffusers.

Deliverable: Agenda and Meeting Notes.

Task 9 - Final Technical Memorandum

Based on input from the City during the draft Technical Memorandum workshop and any other comments from the City, KJ will prepare a final Technical Memorandum of the inspection finding, facility evaluation and recommendations. This final Technical Memorandum will be the basis for the initial design in the following Phase II portion of the project.

Deliverable: Final Technical Memorandum.

Phase II - Design

Task 1 - Kickoff Meeting with City

This task will include a kickoff meeting between the City staff and KJ to discuss how the flow bypassing went during Phase I of the project and if what was done during Phase I will work for the construction of the improvements or if some changes should be made to accommodate the Contractor and to optimize the operations at the aeration basins. Any agreed to modifications or changes to the bypass configurations and constraints for the bypassing will be included in the design.

Deliverable: Agenda and Meeting Notes.

Task 2 - Prepare 30% Design and Basis of Design Report

This task will include preparation of the 30% design documents and BODR for the settled sewage channel, mix liquor channel, aeration basin, low-pressure air piping and diffuser rehabilitation and/or replacement. The 30% design documents will include overall site plans showing proposed demolition, extent of piping and diffuser replacement, and locations of rehabilitation work for the structures at the aeration basins, settled sewage channel and mixed liquor channel. The 30% design documents will also show the bypass piping setup that is feasible for bypassing the channels. The BODR will include alternatives for materials of construction, alternatives for corrosion control methods, diffuser alternatives with recommendation on the items for the project, possible alternative procurement methods, and a preliminary phasing plan and schedule. The 30% design documents and BODR will be submitted to the City for review.

Deliverable: 30% Design Documents and BODR.

Task 3 - Prepare Engineer's Opinion of Probable Cost

Based on the 30% design documents and recommended materials in the BODR an engineer's opinion of the probable cost of construction will be prepared to be submitted to the City with the 30% design report and basis of design.

Deliverable: Engineer's Opinion of Probable Cost.

Task 4 - 30% Design Workshop - Value Engineering Workshop

This task will include a workshop after the City has reviewed the 30% design documents and the BODR. The workshop will be a value engineering workshop to evaluate options on materials of construction and corrosion protection alternatives along with diffuser alternatives. Cost for the various alternatives will be included in the BODR and discussed at the workshop. The City will be able to make choice on how they want to proceed with the various alternatives and associated costs.

Deliverable: Agenda and Meeting Notes.

Task 5 - Prepare 75% Design

Based on the decisions made at the 30% design workshop and City comments, KJ will prepare the 75% design package

which will include an expanded drawings set and technical specifications. The 75% design package will be submitted to the City for review.

Deliverable: 75% Design Documents.

Task 6 - Update Engineer's Opinion of Probable Cost

The 30% engineer's opinion of probable cost of construction will be updated to prepare the 75% engineer's opinion of probable cost of construction based on any changes to the materials of construction that were initially recommended in the BODR and increased detail in the design documents. The engineer's opinion of probable cost will be submitted to the City with the 75% design package for review.

Deliverable: 30% Design Documents.

Task 7 – Constructability Review

The 75% design submittal will be reviewed by a KJ experienced Construction Manager, Tom Gorman, to verify the constructability of the concepts and identify any fatal flaws that need to be addressed prior to submitting the plan to the City for review.

Deliverable: Agenda and Meeting Notes.

Task 8 - 75% Design Workshop

This task will include a workshop to discuss the 75% design package and the engineer's opinion of probable cost of construction, City comments and concerns and or changes that may be warranted.

Deliverable: Agenda and Meeting Notes.

Task 9 - Prepare 90% Design

Based on the City's comments on the 75% design and discussions at the 75% workshop KJ will prepare the 90% design package which will include a complete drawing set with details, updated technical specifications, a preliminary bid schedule, and suggested special conditions. The 95% design package will be submitted to the City for review.

Deliverable: 90% Design Documents.

Task 10 - Update Engineer's Opinion of Probable Cost

The 75% engineer's opinion of probable cost of construction will be updated to prepare the 90% engineer's opinion of probable cost of construction based on increased detail in the design documents. The engineer's opinion of probable cost will be submitted to the City with the 90% design package for review.

Deliverable: Updated Engineer's Opinion of Probable Cost.

Task 11 - Prepare Proposal for Engineering Services During Construction

This task will include the preparation of a proposal for the engineering services during construction based on the 90% design package. The proposal will be submitted to the City for review.

Deliverable: Construction Services Proposal.

Task 12 - 90% Design Workshop

This task will include a workshop to discuss the 90% design package, the updated engineer's opinion of probable cost of construction, and City comments.

Deliverable: Agenda and Meeting Notes.

Task 13 - Prepare Final Construction Documents

Based on the City's comments on the 90% design and discussions at the 90% workshop KJ will prepare the final design package. Drawings contained in the final design package will be submitted to the City on Mylar.

Deliverable: Final Design Documents.

Task 14 - Update Engineer's Opinion of Probable Cost

The 90% engineer's opinion of probable cost of construction will be updated to prepare the final engineer's opinion of probable cost of construction to be used when soliciting bids for the construction.

Deliverable: Final Engineer's Opinion of Probable Cost.

Phase III - Bid Services

Task 1 - Respond to Bidder Questions

KJ will field and record Bidders questions during the bid period. If questions are answered in the contract documents, the bidder asking the question will be pointed to that section of the contract documents that answer the question. If the question is not addressed in the contract documents and addition information is needed or a change in the documents is required, the questions will be answered through an addendum item.

Deliverable: Record of Bidder's questions and responses.

Task 2 - Prepare Addendum

KJ will prepare one addendum prior to the bid opening.

Deliverable: Addendum.

Task 3 - Attend Pre-Bid Conference

This task includes attendance at the pre-bid conference by at least two members of the KJ team.

Deliverable: Agenda and Meeting Notes.

Proposal Fee Estimate (Assoc. Proj. Costs per Schedule of Charges)

Kennedy Jenks

CLIENT Name: City of Santa Rosa

PROJECT Description: Laguna Treatment Plant Aeration Basins Improvements

Proposal/Job Number: _____ **Date:** 12/1/2021

January 1, 2021 Rates	Eng-Sci-9	Eng-Sci-8	Eng-Sci-7	Eng-Sci-6	Eng-Sci-5	Eng-Sci-4	Eng-Sci-3	Eng-Sci-2	Eng-Sci-1	Sr. CAD-Design	CAD-Design	Sr. CAD-Tech	CAD-Tech	Project Assistant	Admin. Assist.			KJ	Escalation	KJ	Sub	V&A	KJ	KJ	KJ	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Hourly Rate:	$310	$295	$275	$245	$220	$205	$190	$165	$135	$175	$160	$145	$130	$130	$110	$90	Hours	Fees	3%	$9.74	Fees	Fees	10%	Fees	10%				Fees
Phase 0 - Project Management																													
PM Communications		60		48			300										408	$86,460	$2,594	$3,974		$4,112	$411		$0	$93,028	$4,523	$0	$97,551
Project Status Updates		24					124							48			196	$36,880	$1,106	$1,909			$0		$0	$39,895	$0	$0	$39,895
Project Set-up and invoicing		48					148							96			292	$54,760	$1,643	$2,844			$0		$0	$59,247	$0	$0	$59,247
Health & Safety		2		4			16										22	$4,610	$138	$214			$0		$0	$4,963	$0	$0	$4,963
QA/QC		120		48													168	$47,160	$1,415	$1,636			$0		$0	$50,211	$0	$0	$50,211
Phase 1 - Subtotal	0	254	0	100	0	0	588	0	0	0	0	0	0	144	0	0	1086	$229,870	$6,896	$10,578	$0	$4,112	$411	$0	$0	$247,344	$4,523	$0	$251,867
Phase I - Condition Assessment and Evaluation																													
Task 1 - Project Kickoff Meeting		16		6			6										28	$7,330		$273			$0	$800	$80	$7,603	$0	$880	$8,483
Task 2 - Develop Initial Bypass Plan		12		4			24				8						48	$10,360		$468			$0		$0	$10,828	$0	$0	$10,828
Task 3 - Workshop for Bypass Plan		16					8										24	$6,240		$234			$0	$800	$80	$6,474	$0	$880	$7,354
Task 4 - Develop Work Plan for Dewatering and Cleaning		24		24			80				64						192	$38,400		$1,870			$0	$500	$50	$40,270	$0	$550	$40,820
Task 5 - Inspection of Basins, Channels and Low-Pressure Air Piping		40		40			40										120	$29,200		$1,169	$2,000		$200	$1,600	$160	$30,369	$2,200	$1,760	$34,329
Task 6 - Draft Tech Memo		16		16			40				16			16			104	$20,880		$1,013			$0		$0	$21,893	$0	$0	$21,893
Task 7 - Workshop on Draft Tech Memo		16		8			8										32	$8,200		$312			$0	$800	$80	$8,512	$0	$880	$9,392
Task 8 - Final Tech Memo		8		4			16							8			36	$7,420		$351			$0		$0	$7,771	$0	$0	$7,771
Phase 2 - Subtotal	0	148	0	102	0	0	222	0	0	0	88	0	0	24	0	0	584	$128,030	$0	$5,688	$2,000	$0	$200	$4,500	$450	$133,718	$2,200	$4,950	$140,868
Phase II - Design Phase																													
Task 1 - Kickoff Meeting with City		8		8			8										24	$5,840	$175	$234			$0	$800	$80	$6,249	$0	$880	$7,129
Task 2 - Prepare 30% Design and Basis of Design Report		40		24			120				200			24			408	$75,600	$2,268	$3,974		$12,081	$1,208		$0	$81,842	$13,289	$0	$95,131
Task 3 - Prepare Engineer's Opinion of Probable Cost		8		44			24										76	$17,700	$531	$740			$0		$0	$18,971	$0	$0	$18,971
Task 4 -30% Design Workshop - Value Eng. Workshop		20		8			8										36	$9,380	$281	$351			$0	$1,000	$100	$10,012	$0	$1,100	$11,112
Task 5 - Prepare 75% Design		40		40			260				400			40			780	$140,200	$4,206	$7,597			$0		$0	$152,003	$0	$0	$152,003
Task 6 - Update Engineer's Opinion of Probable Cost		4		24			20										48	$10,860	$326	$468			$0		$0	$11,653	$0	$0	$11,653
Task 7 - 75% Design Workshop		20		8			8										36	$9,380	$281	$351			$0	$1,000	$100	$10,012	$0	$1,100	$11,112
Task 8 - Prepare 90% Design		49		24			100				200			40			413	$76,535	$2,296	$4,023			$0		$0	$82,854	$0	$0	$82,854
Task 9 - Update Engineer's Opinion of Probable Cost		4		20			16										40	$9,120	$274	$390			$0		$0	$9,783	$0	$0	$9,783
Task 10 - Prepare Proposal for Engineering Services During Const.		16		8			16							8			48	$10,760	$323	$468			$0		$0	$11,550	$0	$0	$11,550
Task 11 - 90% Design Workshop		20		8			8										36	$9,380	$281	$351			$0	$800	$80	$10,012	$0	$880	$10,892
Task 12 - Prepare Final Construction Documents		16		8			24				100			24			172	$30,360	$911	$1,675		$21,189	$2,119	$1,500	$150	$32,946	$23,308	$1,650	$57,904
Task 13 - Update Engineer's Opinion of Probable Cost		4		16			8										28	$6,620	$199	$273			$0		$0	$7,091	$0	$0	$7,091
																	0	$0	$0	$0			$0		$0	$0	$0	$0	$0
Phase 3 - Subtotal	0	249	0	240	0	0	620	0	0	0	900	0	0	136	0	0	2145	$411,735	$12,352	$20,892	$0	$33,270	$3,327	$5,100	$510	$444,979	$36,597	$5,610	$487,186
Phase III - Bid Services																													
Task 1 - Respond to Bidder Questions		8		16			32							8			64	$13,400	$402	$623			$0		$0	$14,425	$0	$0	$14,425
Task 2 - Prepare Addenda		16		24			48				24			16			128	$25,640	$769	$1,247			$0	$400	$40	$27,656	$0	$440	$28,096
Task 3 - Attend Pre-Bid Conf.		8					8										16	$3,880	$116	$156			$0	$400	$40	$4,152	$0	$440	$4,592
																	0	$0	$0	$0			$0		$0	$0	$0	$0	$0
Phase 4 - Subtotal	0	32	0	40	0	0	88	0	0	0	24	0	0	24	0	0	208	$42,920	$1,288	$2,026	$0	$0	$0	$800	$80	$46,234	$0	$880	$47,114
Phase IV - Engineering Services During Construction																													
See Phase II Task 10 above																	0	$0	$0	$0			$0		$0	$0	$0	$0	$0
SubTotal All Phases	**0**	**683**	**0**	**482**	**0**	**0**	**1518**	**0**	**0**	**0**	**1012**	**0**	**0**	**328**	**0**	**0**	**4023**	**$812,555**	**$20,536**	**$39,194**	**$2,000**	**$37,382**	**$3,938**	**$10,400**	**$1,040**	**$872,275**	**$43,320**	**$11,440**	**$927,035**
Contingency (10%)	0	68	0	48	0	0	152	0	0	0	101	0	0	33	0	0	402	$81,256	$2,054	$3,919	$200	$3,738	$394	$1,040	$104	$87,228	$4,332	$1,144	$92,704
All Phases Total	**0**	**751**	**0**	**530**	**0**	**0**	**1670**	**0**	**0**	**0**	**1113**	**0**	**0**	**361**	**0**	**0**	**4425**	**$893,811**	**$22,589**	**$43,113**	**$2,200**	**$41,120**	**$4,332**	**$11,440**	**$1,144**	**$959,503**	**$47,652**	**$12,584**	**$1,019,739**

TM

Client/Address: City of Santa Rosa
Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

Contract/Proposal Date: Engineering Services for Capital Improvements for C02096 - Laguna Treatment Plant Aeration Basins Improvements Project / December 1, 2021

Schedule of Charges

January 1, 2021

PERSONNEL COMPENSATION

Classification	Hourly Rate
Engineer-Scientist-Specialist 1	$135
Engineer-Scientist-Specialist 2	$165
Engineer-Scientist-Specialist 3	$190
Engineer-Scientist-Specialist 4	$205
Engineer-Scientist-Specialist 5	$220
Engineer-Scientist-Specialist 6	$245
Engineer-Scientist-Specialist 7	$275
Engineer-Scientist-Specialist 8	$295
Engineer-Scientist-Specialist 9	$310
CAD-Technician	$130
Senior CAD-Technician	$145
CAD-Designer	$160
Senior CAD-Designer	$175
Project Assistant	$130
Administrative Assistant	$110
Aide	$90

In addition to the above Hourly Rates, a four percent Communications Surcharge will be added to Personnel Compensation for normal and incidental copies, communications and postage.

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be at cost plus ten percent for items such as:

a. Maps, photographs, 3rd party reproductions, 3rd party printing, equipment rental, and special supplies related to the work.
b. Consultants, soils engineers, surveyors, contractors, and other outside services.
c. Rented vehicles, local public transportation and taxis, travel and subsistence.
d. Project specific telecommunications and delivery charges.
e. Special fees, insurance, permits, and licenses applicable to the work.
f. Outside computer processing, computation, and proprietary programs purchased for the work.

Reimbursement for vehicles used in connection with the work will be at the federally approved mileage rates or at a negotiated monthly rate.

If prevailing wage rates apply, the above billing rates will be adjusted as appropriate.

Overtime for non-exempt employees will be billed at one and a half times the Hourly Rates specified above.

Rates for professional staff for legal proceedings or as expert witnesses will be at rates one and one-half times the Hourly Rates specified above.

Excise and gross receipts taxes, if any, will be added as a direct expense.

The foregoing Schedule of Charges is incorporated into the agreement for the services provided, effective January 1, 2021 through December 31, 2021. After December 31, 2021, invoices will reflect the Schedule of Charges currently in effect.

Kennedy Jenks

December 1, 2021

Tanya Mokvyts, PE
City of Santa Rosa
Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

Subject: Proposal for the City of Santa Rosa C02096 Laguna Treatment Plant Aeration Basins Improvements Project

Dear Tanya:

Kennedy/Jenks Consultants, Inc. (KJ) offers the **City of Santa Rosa (City)** the most qualified team with a proven method to address the filter valves and actuators replacement and aeration basins improvements at the Laguna Treatment Plant (LTP). We provide key benefits to the City:

Hands-on Experience at Your Facilities: Our proposed local task leaders have extensive experience at the LTP, engaged in condition assessments, designs, hydraulic evaluations, and the current replacement of the aeration basin header. ***Their knowledge of the structures will produce a rehabilitation strategy that extends the life of the basins for decades in a cost-effective manner***.

A Cost-Effective Approach to Rehabilitation: KJ will focus on condition assessment and rehabilitation, rather than process design. Our focus on concrete, piping failure, coatings, and localized leaks will be the most cost-efficient for Santa Rosa. We will focus on key areas that are most effective for restoring the basins. We will not automatically recommend replacing all pipes. Our knowledge of the basins tells us that much appears to be in good shape. We will focus on areas with the highest risk and likelihood of failure, including the channels, areas where air can be seen under the surface. ***This risk-based approach will provide the best stewardship of Santa Rosa's budget***.

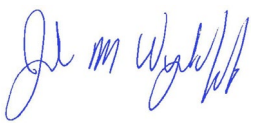
A Systematic Plan that Minimizes Treatment Disruption: We have a plan to sequentially dewater the basins, perform efficient condition assessments and perform repairs with approval and coordination with the plant operators for minimal disruption or risk. Our work plan for assessment and construction phases will assure that all four basins are online during the rainy season from mid-October to mid-March. ***Cost-saving ideas, such as using the same bypass system in place during both assessment and construction will add value to your investment***.

Value-Added Services: The KJ team offers additional value-added services, including:

- Providing efficiency in the assessment process for both the Filter Valve and Aeration Basins projects with the same team.
- Offering the option of installing flow meters on the piping, while the basins are dewatered, to allow better control of the system for the long-term, while taking advantage of planned maintenance.
- Evaluating the diffusers to determine if newer technology may improve process performance.
- A constructability review by our expert Tom Gorman to support the most cost-effective construction plan and estimate
- Cathodic Protection and Coatings Assessment from our subconsultants to provide the highest level of expertise.

We commit our team to you and we offer a work plan that will result in a successful project. I, John Wyckoff, am an official authorized signer and will be your point of contact. KJ would be pleased to work with you on these projects.

Very truly yours,
Kennedy/Jenks Consultants, Inc.



John M. Wyckoff, PE
Project Manager

703 Second Street, Suites 410 & 411, Santa Rosa, CA 95401 | 650.852.2822 | JohnWyckoff@kennedyjenks.com

Kennedy Jenks

December 1, 2021

Tanya Mokvyts, PE
City of Santa Rosa
Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

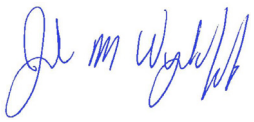
Subject: Cost Proposal for the City of Santa Rosa C02096 Laguna Treatment Plant Aeration Basins Improvements Project

Dear Tanya:

Kennedy/Jenks Consultants, Inc. (KJ) is pleased to provide this cost proposal to assist the **City of Santa Rosa (City)** with alternatives evaluation and engineering design services under professional services agreement for the Laguna Treatment Plant Aeration Basins Improvements Project. A summary of our proposed effort and associated fee is summarized on the following pages.

We appreciate the opportunity to present our cost proposal and look forward to an opportunity to discuss our proposal with you. Our proposed hours and fee are negotiable. Please feel free to contact me at (650) 852-2822 or JohnWyckoff@kennedyjenks.com, should you have any questions regarding our proposal.

Very truly yours,
Kennedy/Jenks Consultants, Inc.

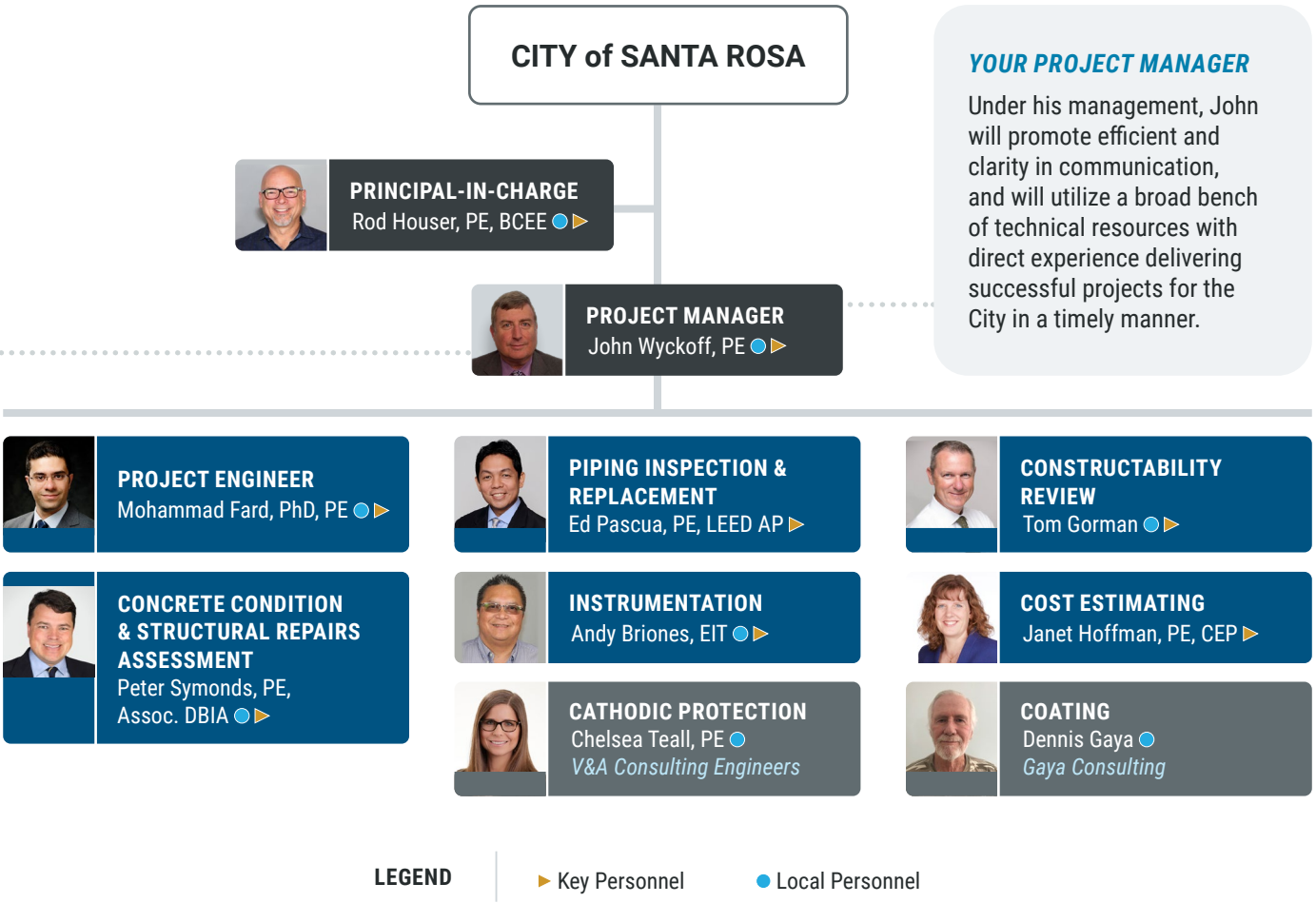


John M. Wyckoff, PE
Project Manager

Addressing the City's Needs with a Responsive Santa Rosa-based Team, Backed by Nimble In-House Resources, Who Know Your Treatment Plant

Organization Chart

KJ has selected our team members based on their prior experience delivering projects for the City, previous collaboration with other team members, and relevant experience related to the services identified in your RFP. There will be no change of key personnel without the prior approval of the City. Our proposed Project Manager, John Wyckoff, has sufficient time to represent the City on this project as an extension of City Staff.



YOUR PROJECT MANAGER

Under his management, John will promote efficient and clarity in communication, and will utilize a broad bench of technical resources with direct experience delivering successful projects for the City in a timely manner.

YOUR PROJECT MANAGER'S CURRENT WORKLOAD

KJ understands the importance that our proposed project manager have sufficient time to represent the City on this project as an extension of City Staff. John has over four decades of experience and will bring his project management expertise to these projects, giving the City peace of mind when it comes to accessibility of our team to tackle any project needs.

John will be available for at least 20 hours per week for the duration of both projects. As Project Manager, his current workload consists of the following: Secondary Clarifier Rehabilitation Design/Build Project, Regional Water Quality Control Plant for the City of Palo Alto, and the Filter Rehabilitation, Condition Assessment Project for the City of San Jose.

Aeration Basins Improvements Project

Project Understanding

The City of Santa Rosa Water Department's LTP serves the Cities of Santa Rosa, Rohnert Park, Sebastopol and Cotati and the South Park Sanitation District. The activated sludge process includes settled sewage channels, aeration basins, and mixed liquor channels, along with a low-pressure air system for secondary (biological) treatment at the facility. There are currently four aeration basins at the facility which are required to treat the peak wet weather flow at the plant. During the dry weather season, mid-April through mid-October, when average dry weather flows are expected, only two of the aeration basins are required for treatment. The low-pressure air system supplies air to the aeration basins through diffusers in the bottom of the tanks. The low pressure-air system also supplies air to the settled sewage channels and the mixed liquor channels to mix the contents of the channels and reduce settling of solids in the channels.

The City staff has identified leaking piping and plugged diffusers in the low-pressure air system. This project includes inspecting the condition of the channels (settled sewage and mixed liquor), the aeration basins and low-pressure system and recommending necessary improvements to provide rehabilitated facilities that serve the community for decades into the future.

The activated sludge system must remain in service and continue to treat the wastewater flows to meet discharge requirements without disruption. It is our understanding that during the dry weather season the City staff can take two of the four aeration basins out of service for inspection of the basin, low pressure piping and diffusers, while not adversely affecting the quality of the treatment plant effluent.

The Settled Sewage and Mixed Liquor channels are a different story, as portions of each of these channels carry the entire plant flow independent of which or how many aeration tanks are in service. Therefore, bypass systems will be necessary to take portions or all these channels out of service for inspection of the channel integrity and low-pressure piping condition. This bypassing of flow for rehabilitation of the channels, low-pressure air piping and diffusers would also be required during the construction phase of the project.

PROJECT PROOF

KJ has successfully completed similar projects, in which wastewater treatment components were rehabilitated while the overall system remained active and in complete compliance. Our work for the City of Palo Alto's Secondary Clarifier, DMF and the Primary Sedimentation Tank Improvements Project is a testament to our ability to assess and rehabilitate facilities while maintaining plant flow and treatment operations.

Detailed Project Approach

Design of this project will be accomplished in three main Phases: **I. Condition Assessment and Evaluation**, **II. Design**, and **III. Bidding**.

KJ staff will work closely with the City's staff throughout the project. We will host regular meetings with staff, provide ample review periods for review of submissions and hold workshops after each major submittal. In this way, we intend to utilize the City staff's knowledge of their facility and how it operates and encourage input into decisions based on their preferences and experience at the plant.

PROJECT PROOF

For the City of Palo Alto's Primary Sedimentation Tank Rehabilitation Project, we implemented a carefully designed flow bypass system that minimized disruption for the operators.

Phase I. Condition Assessment and Evaluation

During **Phase I** of the project, KJ will work with City staff to develop an approach for cleaning and inspecting the settled sewage and mixed liquor channels as bypassing of flow will be required to keep the plant in operation. It is our understanding that, normally, primary effluent is sent to the aeration tanks through the settled sewage channels and any instantaneous flow over a predetermined amount is directed to the flow equalization basins and not sent through the settled sewage channel for treatment during periods of lower flow. To provide for enough time to properly dewater, clean and inspect the settled sewage channel, the entire plant flow will need to be directed to the flow equalization basins.

A temporary bypass pumping system would be installed to pump primary effluent from the flow equalization basins directly to the aeration basins, bypassing the settled sewage channels. This bypass would allow enough time to properly dewater, clean and inspect the settled sewage channels, along with the associated low-pressure piping and diffusers in those channels. This bypass system would be scheduled for the dry weather season when flows would be less than the winter peak flows, and the bypassed flow would only need to be pumped to two of the aeration basins, allowing two of the aeration basins to be taken down for inspection.

Since most of the mixed liquor channel carries all the plant flow from the aeration basins, bypassing flow around this channel would also be required to allow enough time to properly dewater, clean, and inspect this channel. We will work with City staff to coordinate this work and develop a scheme that satisfies the plant operators. It is anticipated that bypassing of the mixed liquor channels will be accomplished during the same dry weather season as the bypassing of flow and dewatering of the settled sewage channel.

During the bypassing of the mixed liquor channel the second set of aeration basins will be taken out of service for dewatering, cleaning, and inspection with the first set inspected having been put back into service. Bypassing of the mixed liquor channel would be performed by pumping mixed liquor directly from in-service aeration basins to a temporary distribution box setup near the secondary clarifiers. This temporary distribution box would be designed to provide for splitting the mixed liquor flow equally to the secondary clarifiers that are in service.

A plan for bypassing flow and dewatering and cleaning the basins and channels will be developed and discussed with City staff in a workshop (See **Figure 1** on the following page). Because the basins and channels will need to be shut down and dewatered for any repair or rehabilitation work of the structures and any replacement or rehabilitation of the low-pressure piping in the channels and basins, it is anticipated that a single bypass plan can be developed and utilized for both the **Phase I - Condition Assessment and Evaluation** and the **Construction**. Utilizing the developed bypass plan, we will prepare a work plan for the dewatering and cleaning of the Aeration Basins, Settled Sewage Channel and Mixed Liquor Channel.

The work plan will include drawings and specifications. The City will utilize this work plan to hire a contractor to dewater and clean the channels and the aeration basins in preparation for the conditions assessment.

Prior to taking the basins and/or channels out of service, a visual survey will be performed from the surface of the basins and channels to locate areas where air leaks are possibly occurring and/or where diffusers are plugged or damaged. Then, we will perform inspection of the aeration basins, the settled sewage channels, the mixed liquor channels, the low-pressure air piping, and diffusers after the bypass system has been constructed and the facilities have been dewatered and cleaned.

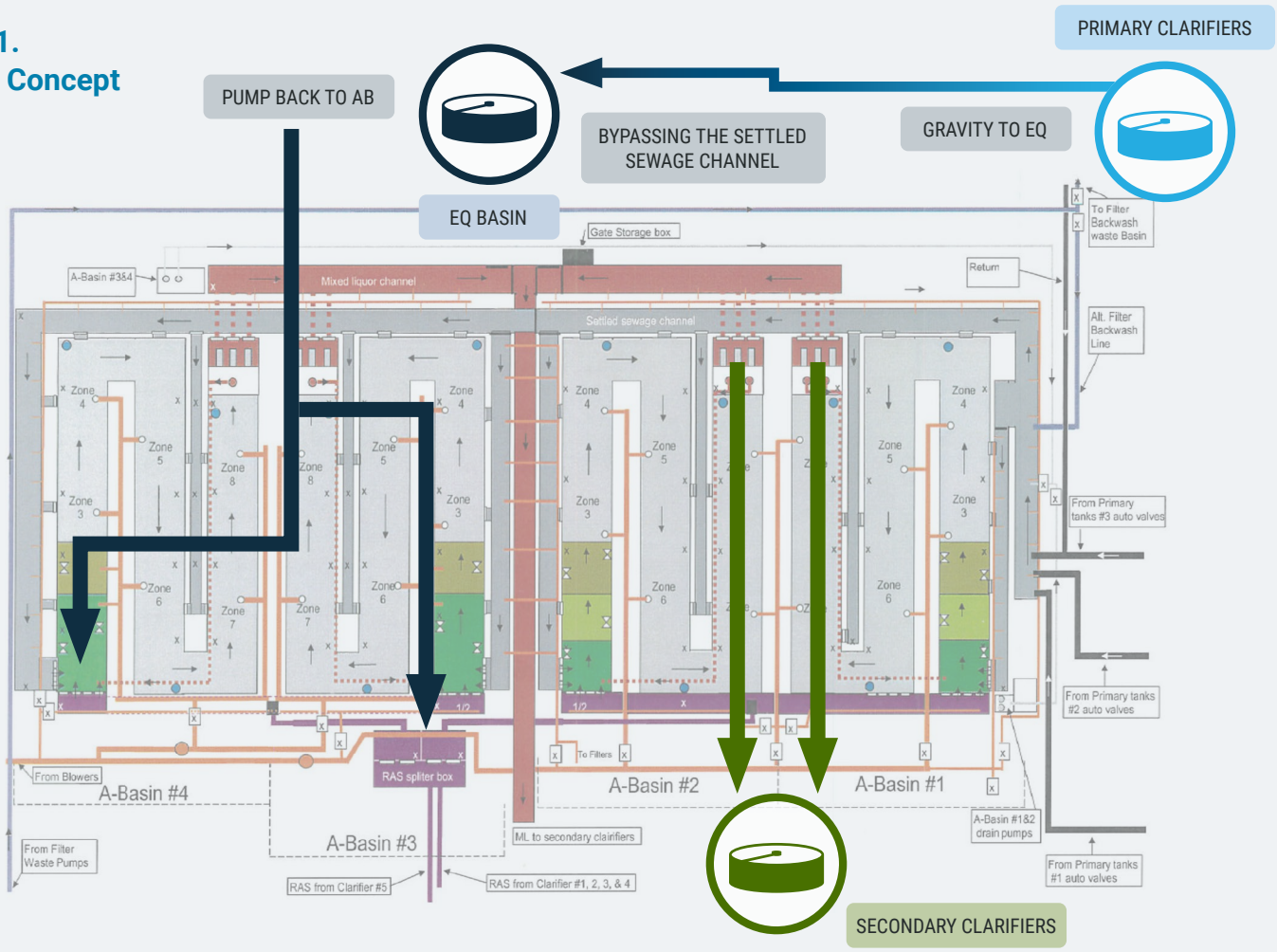
Particular attention will be paid to any locations identified as possible piping leaks or diffuser damage identified in the visual survey. It should be noted that there is an FRP low pressure-air header that is buried below the concrete sidewalk on the West side of Aeration Tank 2. This FRP line will be inspected from the inside using video equipment to avoid the demolition of the entire sidewalk along the west side of the Tank.

PROJECT PROOF

At the City's LTP Clarifier No. 3 Rehabilitation, KJ completed the condition assessment within two weeks of receiving Notice to Proceed.

KJ will perform the structural inspection of the channels and aeration basins utilizing an engineer familiar with the structural design of this type of facility and who has experience with performing this type of inspection. Low-pressure air piping and diffusers will be visually inspected by

Figure 1.
Bypass Concept



engineers familiar with air piping and air diffuser systems. In addition, an inspection of any coating in the channels and basins or on the low-pressure air piping will be inspected along with any cathodic protection in place.

PROJECT PROOF

In the Silicon Valley Clean Water's Digester Rehabilitation project, we paid special attention to assessment and replacement of coatings.

Once the inspection work is completed, an evaluation of the findings will be performed and a technical memo, TM, prepared for submission to the City. This TM will detail the results of the evaluation and include recommendations for rehabilitation of the structures, low- pressure air piping and diffusers. We will host a workshop with City staff to discuss the findings and recommendations.

We will also take the opportunity to discuss how the bypassing of flow for the inspection went and if any modifications are needed to the bypassing plan for future phases of the work. After the workshop a final technical memorandum will be prepared with the recommendations for the rehabilitation of the facilities to be designed in **Phase II** of the project.

Phase II. Design

Phase II Design will begin with a kickoff meeting between KJ staff and the City to discuss the direction of the design project. KJ will then prepare the preliminary 30% design, a basis of design report (BODR) and an engineer's opinion of probable cost of construction. The 30% design will include initial plans for the recommended alternative that is detailed enough to produce the engineer's opinion of probable cost of construction.

The BODR will include descriptions of materials of construction, recommendation for diffusers if required, recommended procurement strategy for equipment, a flow bypassing plan based on **Phase I** experiences, and a construction phasing and scheduling plan.

At this time, it is assumed that construction of the improvements will be limited to dry seasons and therefore two consecutive dry seasons will be required to complete the construction phase.

A workshop with the City staff will be held to discuss the 30% design and the BODR. This workshop will include a value engineering session to consider alternatives for pipe material selection; corrosion protection such as corrosive resistant materials, coatings, cathodic protection; and alternatives for diffuser selection. Comments and input from City staff during their review of the 30% design, BODR and engineer's opinion of probable construction cost will be utilized to advance the design to a 75% stage.

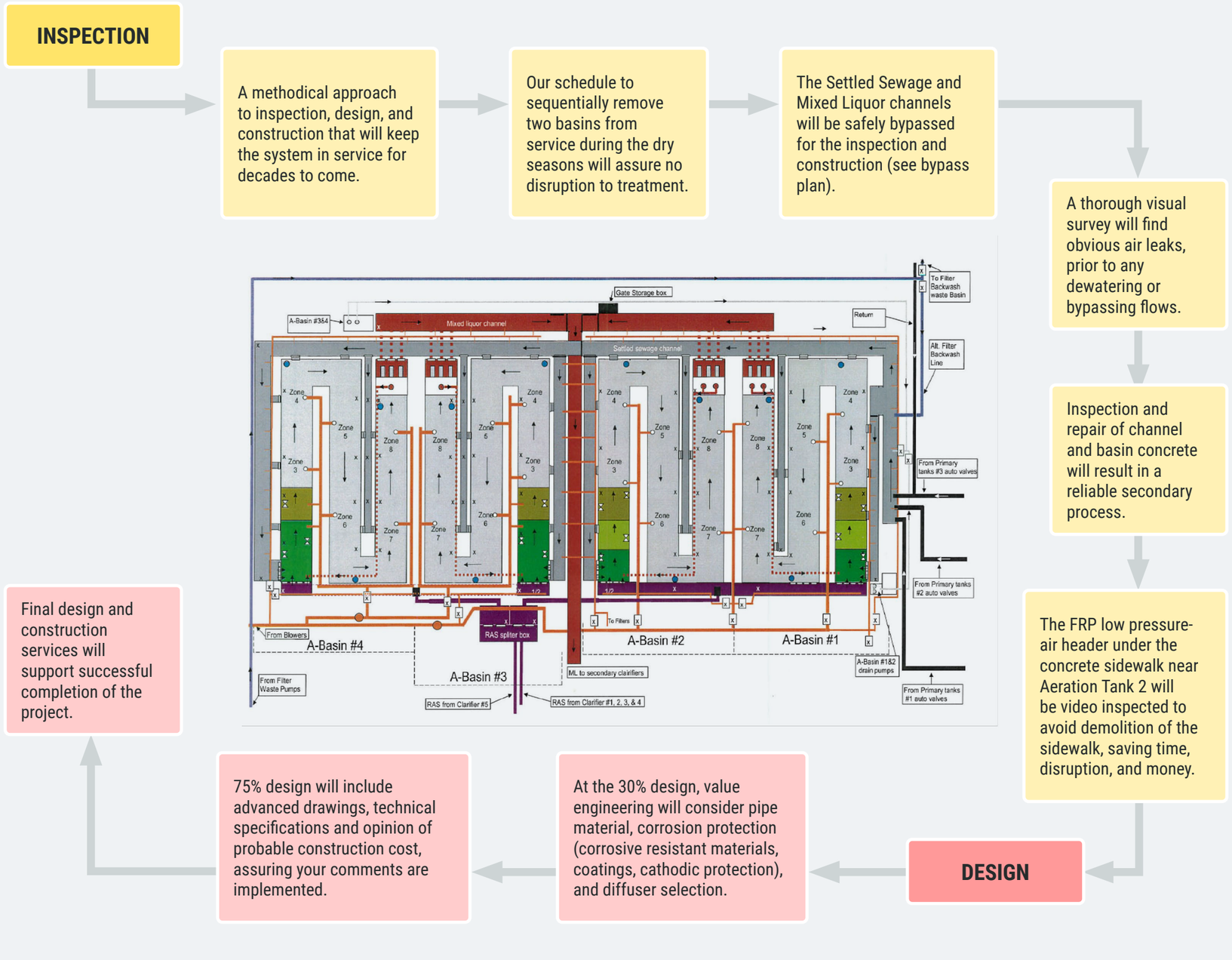
The 75% design will include advanced drawings, draft technical specifications, a constructability review and an updated engineer's opinion of probable construction cost. The 75% design will be submitted to the City and after City review, a workshop will be held to discuss comments and concerns. After this 75% review workshop, the design will be advanced to the 90% design stage and will include details and updated technical specifications.

At this stage, KJ will also submit a proposal for Engineering Services During Construction. The 90% design package will be submitted to the City, and a final design workshop will be held with the City to discuss the review comments. Based on comments on the 90% submittal, KJ will prepare a final set of Construction Documents.

Phase III. Bidding

Once the Construction Documents are advertised, KJ will proceed with **Phase III** and respond to bidder's questions, prepare addenda, and attend a pre-bid meeting. Once bids are received and a Contractor selected for the project, KJ will prepare a conformed set of Construction Documents that include any updates or changes that were made by addenda.

Figure 2. Aeration Basin Rehabilitation Summary



Project Schedule

We have reviewed a preliminary schedule with the City and plant operators. We are confident that a phased schedule will allow for complete inspection of the facilities and construction of necessary improvements, while also keeping the plant in operation and complete compliance with regulators.

ID	Task Name	Start	Duration
1	2021/2022 wet weather season (no construction)	Fri 10/15/21	131 days
2	2022/2023 wet weather season (no construction)	Sat 10/15/22	132 days
3	2023/2024 wet weather season (no construction)	Sun 10/15/23	132 days
4	2024/2025 wet weather season (no construction)	Tue 10/15/24	131 days
5	2025/2026 wet weather season (no construction)	Wed 10/15/25	131 days
6			
7	**condition assessment & evaluation phase**	**Mon 2/14/22**	**396 days**
8	design bypass pumping systems (RAS & PE channels)	Mon 2/14/22	2 mons
9	city review bypass pumping concept	Mon 4/11/22	1 mon
10	bypass workshop	Mon 5/9/22	1 day
11	hire contractor to install bypass pumping systems (City task)	Tue 5/10/22	3 mons
12	install bypass pumping for settled sewage channel	Tue 8/2/22	2 mons
13	dewater, clean & assess settled sewage channels & 2 basins	Tue 9/27/22	1 mon
14	install bypass pumping for mixed liquor channel	Tue 9/27/22	7 wks
15	dewater, clean & assess mixed liquor channels & 2 basins	Mon 4/17/23	1 mon
16	draft condition assessment report	Mon 5/15/23	6 wks
17	city review period	Mon 6/26/23	1 mon
18	workshop	Mon 7/24/23	1 day
19	final report	Tue 7/25/23	1 mon
20			
21	**design phase**	**Tue 8/22/23**	**301 days**
22	30% design (BODR)	Tue 8/22/23	3 mons
23	city review 30% design	Tue 11/14/23	1 mon
24	design workshop	Tue 12/12/23	1 day
25	75% design	Wed 12/13/23	4 mons
26	city review 75% design	Wed 4/3/24	1 mon
27	90% design	Wed 5/1/24	3 mons
28	city review 90%	Wed 7/24/24	1 mon
29	final bid docs	Wed 8/21/24	2 mons
30			
31	**bid phase**	**Wed 10/16/24**	**60 days**
32	advertisement & contract award	Wed 10/16/24	3 mons
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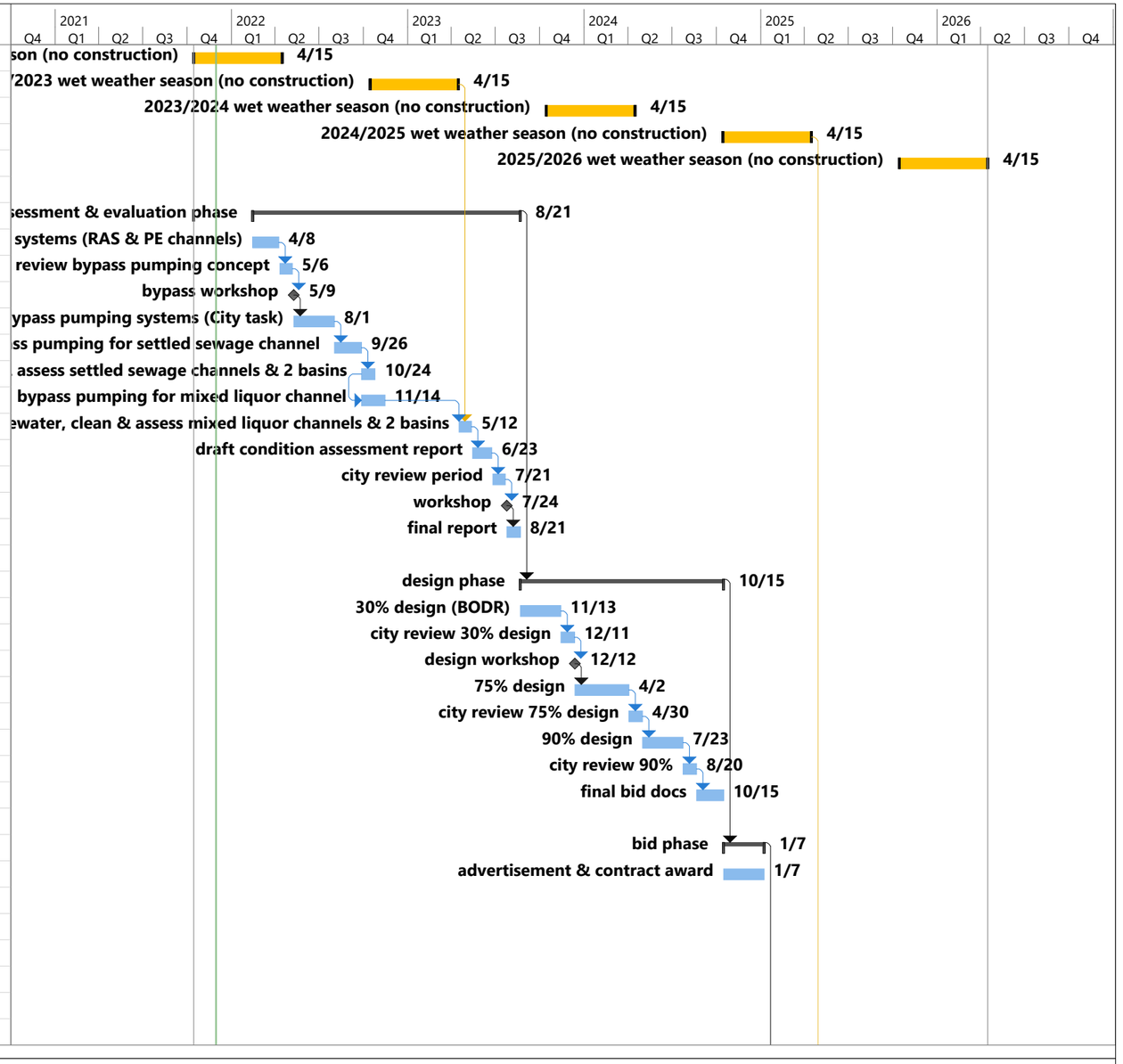

Project: LTP phase III ALP rehab
Date: Tue 11/30/21

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

A010171-2016-22 Laguna Treatment Plant Aeration Basins Improvements Project Proposal

Final Audit Report 2021-12-10

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A010171-2016-22 Laguna Treatment Plant Aeration Basins Improvements Project Packet

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