CITY COUNCIL MEETING

Monday, November 02, 2026 at 7:00 PM
Sandy City Hall and via Zoom

AGENDA

TO ATTEND THE MEETING IN-PERSON:
Come to Sandy City Hall (lower parking lot entrance) - 39250 Pioneer Blvd., Sandy, OR 97055

TO ATTEND THE MEETING ONLINE VIA ZOOM:
Please use this link: https://us02web.zoom.us/j/86865075401
Or by phone: (253) 215-8782; Meeting ID: 86865075401

EXECUTIVE SESSION – 6:00 PM: The City Council will meet in executive session pursuant to ORS 192.660 (2)(i)

REGULAR MEETING – 7:00 PM

PLEDGE OF ALLEGIANCE

ROLL CALL

CHANGES TO THE AGENDA

PUBLIC COMMENT (3-minute limit)

The Council welcomes your comments at this time. The Mayor will call on each person when it is their turn to speak for up to three minutes.

-- If you are attending the meeting in-person, please submit your comment signup form to the City Recorder before the regular meeting begins at 7:00 p.m. Forms are available on the table next to the Council Chambers door.

-- If you are attending the meeting via Zoom, please complete the online comment signup webform by 4:00 p.m. on the day of the meeting: https://www.ci.sandy.or.us/citycouncil/webform/council-meeting-public-comment-signup-form-online-attendees.

RESPONSE TO PREVIOUS COMMENTS

CONSENT AGENDA

1. City Council Minutes: October 19, 2026

RESOLUTIONS

2. PUBLIC HEARING: Resolution 2026-24 - Extension of Existing Development Moratorium

NEW BUSINESS

3. Municipal Court: Traffic Safety Class for Eligible Offenders in Sandy
4. Contract Approval: SRO Agreement with Oregon Trail School District
5. Wastewater Update; MBR Treatment Plant Engineering Design Services Contract Discussion

REPORT FROM THE CITY MANAGER

COMMITTEE / COUNCIL REPORTS

STAFF UPDATES

Monthly Reports: https://reports.cityofsandy.com/

ADJOURN

EXECUTIVE SESSION: The City Council will meet in executive session pursuant to ORS 192.660 (2)(h)

Americans with Disabilities Act Notice: Please contact Sandy City Hall, 39250 Pioneer Blvd. Sandy, OR 97055 (Phone: 503-668-5533) or (Email: recorder@ci.sandy.or.us) at least 48 hours prior to the scheduled meeting time if you need an accommodation to observe and/or participate in this meeting.

CITY COUNCIL MEETING

Monday, October 19, 2026 at 6:00 PM
Sandy City Hall and via Zoom

MINUTES

WORK SESSION – 6:00 PM

1. Housing Snapshot Map: Information to Inform Council Goal 6.3

   The Engineering Technician and Development Services Director presented the Housing Snapshot Map and presented slides; both of which were included in the meeting packet.

   Discussion topics that ensued during the presentation included:

   - Explanation of the term “net acres,” subtracting out rights-of-way, stormwater facilities, and similar areas
   - Explanation of the effects of planned unit developments and pre-existing residences on the presented statistics
   - Discussion regarding the relatively limited number of accessory dwelling units (ADUs) developed in Sandy, and the potential for additional ADUs on existing residential properties
   - Note that 36% of Sandy's existing housing units are something other than single-family detached homes, including duplexes, row homes, apartments, condominiums, and manufactured homes
   - Discussion of housing units in commercial zones; note that if they are redeveloped in the future they would usually need to become commercial uses; note that there are no specific density requirements for housing in commercial zones but other development requirements would still need to be met
   - Discussion related to repair and rebuilding of residences after fire or similar damage which is protected under state law
   - Discussion regarding how anticipated development with allocated ERUs is reflected in the map, and the importance of distinguishing between vacant properties and lots already committed to future residential development
   - Discussion regarding the extent to which older residential developments, including those constructed before the City's current density standards were established, affect the overall density calculations. Suggestion to separately examine housing developed since approximately 1997 to better understand the densities achieved under more recent development standards
   - Suggestion that Sandy has already largely achieved the housing choice goals of the state; Sandy has an appropriate mix of housing types with a variety of higher-density options
   - Emphasis on the need for Sandy to retain its home rule authority and ability to conduct land use planning on a local level

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- Discussion regarding opportunities to use the data to demonstrate Sandy's housing accomplishments to state policymakers, including through future Housing Production Strategy reporting
- Note that properties occupied by schools, religious institutions, and City facilities were excluded from the residential development calculations
- Praise for staff work and appreciation for having this data, which will be useful in future conversations with policy makers

REGULAR MEETING – 7:00 PM

PLEDGE OF ALLEGIANCE

ROLL CALL

PRESENT
Mayor Kathleen Walker
Council President Don Hokanson
Councilor Rich Sheldon
Councilor Kristina Ramseyer
Councilor Lindy Hanley

ABSENT
Councilor Laurie Smallwood

CHANGES TO THE AGENDA

(none)

PUBLIC COMMENT (3-minute limit)

(none)

RESPONSE TO PREVIOUS COMMENTS

(none)

CONSENT AGENDA

2. City Council Minutes: October 5, 2026

MOTION: Adopt the Consent Agenda

Motion made by Councilor Sheldon, Seconded by Councilor Ramseyer.

Voting Yea: Mayor Walker, Councilor Sheldon, Councilor Ramseyer, Councilor Hanley

Voting Abstaining: Council President Hokanson

MOTION CARRIED: 4-0-1

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OLD BUSINESS

3. Follow Up Discussion: Council Chambers Audio/Visual Project

The IT Director summarized the staff report in the meeting packet, including details of what a dais replacement might involve. It was noted that the impetus for the project is to address accessibility concerns and ensure that public meetings in the Council Chambers can continue to be conducted in an open and inclusive manner.

Discussion ensued on the following topics:

- Suggestion to defer consideration of larger improvements until the upcoming budget process, allowing additional consideration of project costs
- Recognition that the existing audio/visual equipment no longer adequately meets the City's needs, and that replacement is a necessary investment
- Support for recessing the existing dais monitors to improve visibility between Council members, staff, and the audience
- Discussion regarding whether the existing monitors could be retained as part of the improvements; clarification that the potential savings would be relatively limited
- Concern that replacing the dais in its current configuration could effectively commit the City to the existing room layout, making a future renovation less practical
- Clarification that audio/visual equipment could generally be reused if the Council Chambers were reconfigured in the future, although additional labor and installation costs would be incurred
- Discussion regarding the anticipated installation timeline
- Concern regarding accessibility limitations associated with the existing dais, including the steps and narrow circulation space
- Suggestion that replacement of the approximately 30-year-old dais would be appropriate; suggestion to explore whether local contractors could provide a replacement dais at a lower cost
- Concern about investing approximately $5,000 in modifications to the existing dais if it may be replaced within the next several years
- Concern regarding the City's competing financial priorities and ongoing wastewater infrastructure challenges, and the appropriateness of committing additional funding
- Emphasis on the need for improved audio/visual capabilities for public accessibility
- Recognition that the proposed project cost was higher than some Council members had anticipated
- Concern that delaying the project could result in additional costs due to inflation
- Suggestion to proceed immediately with the audio/visual improvements while deferring consideration of a replacement dais or more extensive renovations

MOTION: Direct staff to move forward with the proposed work to upgrade audio and video systems in the Council Chambers, including the option to recess monitors within the dais

Motion made by Council President Hokanson, Seconded by Councilor Hanley.

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Voting Yea: Mayor Walker, Council President Hokanson, Councilor Ramseyer, Councilor Hanley

Voting Nay: Councilor Sheldon

MOTION CARRIED: 4-1

NEW BUSINESS

4. Council Discussion: Wastewater System Development Charge Rates

The City Manager summarized the staff report in the meeting packet, and the policy choices available to the Council. It was noted that while adoption of the new methodology is certainly necessary, the Council has discretion regarding how to implement any rate adjustments.

Three options were identified in the staff report:

1. Adopt the methodology and make no changes at this time to the rate that is currently in effect
2. Adopt the methodology and make no changes to the rate that is currently in effect for projects that have already obtained land use approval; but adopt the maximum defensible SDC rate for any new projects
3. Adopt the methodology and make no changes to the rate that is currently in effect for projects that have already obtained land use approval; but adopt a series of gradual increases up to the maximum defensible SDC rate for any new projects

Discussion ensued on the following topics:

- Explanation of the current $13,163 SDC rate and the new proposed maximum defensible amount of $18,639
- Clarification that adopting the updated SDC methodology would not automatically change the rate currently in effect
- Recognition that the City previously implemented a large wastewater SDC increase because of large capital project needs; concern about imposing another substantial increase on developments already in process
- Discussion regarding a phased implementation schedule for new developments, gradually increasing rates toward the maximum defensible amount; note that phased increases could encourage developers to advance projects before higher rates take effect; suggestion to consider substantial infrastructure installation as a threshold to use in the process
- Clarification on when SDC payments are collected during the development process

The Council indicated its consensus preference for option #3 in the staff report: adopting the methodology and making no changes to the rate that is currently in effect for projects that have already obtained land use approval, and adopting a series of gradual increases up to the maximum defensible SDC rate for any new projects. It was noted that staff should provide multiple options for an on-ramp for new projects, all of which should be limited to less than five

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years. The Council also directed staff to communicate with the development community to inform them of the Council's policy intentions on this issue.

5. Park Property Purchase

   The City Manager summarized the staff report in the meeting packet, stressing the opportunity to acquire the property to preserve natural open space immediately adjacent to Fantasy Forest.

   Discussion ensued on the following topics:

   - Recognition that the acquisition would prevent residential development that could alter the character of the surrounding park
   - Discussion regarding the appraised property value and reimbursement of previously paid fees for the development that will no longer move forward
   - Opportunities to secure grant funding to offset up to 50% of eligible acquisition costs
   - Note that the property could support future accessibility improvements for Meinig Park
   - Clarification regarding the anticipated purchase timeline
   - Note that previously allocated wastewater capacity could become available for other developments

   MOTION: Authorize the City Manager to enter into a purchase and sale agreement with Miles Rusth to purchase the property described in the Term Sheet provided to City Council in the meeting packet. Further, the City Manager is authorized to acquire the property under substantially similar terms and conditions as those set out in the Term Sheet, and to take all necessary actions to acquire the property.

   Motion made by Councilor Sheldon, Seconded by Councilor Ramseyer.

   Voting Yea: Mayor Walker, Council President Hokanson, Councilor Sheldon, Councilor Ramseyer, Councilor Hanley

   MOTION CARRIED: 5-0

REPORT FROM THE CITY MANAGER

- The Council approved of the revised draft of the letter to the Board of County Commissioners regarding flavored tobacco. Council President Hokanson indicated he would have preferred the original draft of the letter.
- Note that ODOT ADA ramp work is nearly complete; everything will be usable before the Trick or Treat Trail event
- Note that an update from staff on City Council Goal progress will be forthcoming soon
- Update on the City's annual audit process
- Update on the Finance Director recruitment, which will be going out for another round of applications
- Recap of the League of Oregon Cities annual conference

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COMMITTEE / COUNCIL REPORTS

Council President Hokanson

- Shared a sample graphic summarizing the Housing Snapshot Map findings and Sandy's progress toward state housing goals; suggested that staff create a similar graphic

Councilor Hanley

- Reminder of the upcoming Library casino night and the Chamber's Trick or Treat Trail

Councilor Ramseyer

- Recap of the recent water providers consortium meeting
- Summary of her recent meeting with the Sandy Historical Museum director; discussion of plans for upcoming educational camps
- Overview of museum exhibits, including on Bull Run water, and efforts to increase accessibility
- Overview of ongoing archiving efforts
- Note of the upcoming Mountain Festival exhibit ribbon cutting
- Suggestion to invite museum representatives to provide a future Council presentation

Councilor Sheldon

- Appreciation for the museum's ongoing work and improvements

Mayor Walker

- Appreciation for staff's work preparing the Housing Snapshot Map
- Recap of meeting with Skyview Acres representatives concerning wholesale water rates; discussion of opportunities to establish greater consistency and fairness among wholesale and outside-city water rates
- Recap of the League of Oregon Cities annual conference, including discussion of public nuisance regulations, public meetings requirements and OGEC regulations, and data centers
- Note of the upcoming Clackamas County parks meeting
- Invitation to the upcoming ribbon cutting for the Little Crater Lake trail improvements

STAFF UPDATES

Monthly Reports: https://reports.cityofsandy.com/

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STAFF REPORT

Meeting Type:	City Council Meeting
Meeting Date:	November 2, 2026
From:	Josh Soper, Beery, Elsner & Hammond, LLP
Subject:	PUBLIC HEARING: Resolution 2026-24 - Extension of Existing Development Moratorium

DECISION TO BE MADE:

Whether to approve Resolution 2026-24, which would extend the duration of the development moratorium while the City continues to work to address its wastewater system challenges, in compliance with the City's Consent Decree.

BACKGROUND / CONTEXT:

The City Council previously enacted a development moratorium (Moratorium 5.0) on May 18, 2026, as a result of the ongoing capacity issues the City is experiencing with its wastewater treatment system. That moratorium is scheduled to expire on December 1, 2026.

The Consent Decree requires the City to take whatever actions are necessary, including enactment of a development moratorium, to limit new connections to the City's sanitary sewer system, and modifications to existing connections to the City's sanitary sewer system that increase flows, in accordance with the capacity cap established pursuant to the Consent Decree.

The City continues to make great progress toward both (1) acquiring increases to the capacity cap under the Consent Decree in the near term, and (2) working toward a long-term solution to eliminate the capacity cap entirely. At this time, however, the capacity cap that was in effect when the current moratorium was adopted remains in effect.

KEY CONSIDERATIONS / ANALYSIS:

In order to ensure continued compliance with the Consent Decree, it is necessary to extend the current development moratorium while the City's work to address wastewater system capacity issues is ongoing.

It should also be noted that staff intends to bring forward a revised moratorium for Council's consideration in the near future to address developments that are under active construction but will not complete their development project by the December 31, 2027, ERU allocation expiration date. However, an extension is still necessary in the meantime because the current moratorium expires on December 1, 2026.

BUDGET IMPACT:

No direct budget impacts are anticipated.

RECOMMENDATION:

Staff recommends adoption of Resolution 2026-24.

SUGGESTED MOTION LANGUAGE:

“I move to approve Resolution 2026-24, extending a moratorium on development pursuant to ORS 197.505 to 197.540 based on limited sanitary sewer capacity.”

LIST OF ATTACHMENTS / EXHIBITS:

- Resolution 2026-24

RESOLUTION NO. 2026-24

A RESOLUTION EXTENDING A MORATORIUM ON DEVELOPMENT PURSUANT TO ORS 197.505 TO 197.540 BASED ON LIMITED SANITARY SEWER CAPACITY

THE CITY OF SANDY, CLACKAMAS COUNTY, OREGON, FINDS AS FOLLOWS:

WHEREAS, pursuant to the federal Clean Water Act of 1972, the City of Sandy sanitary sewer collection and treatment system is subject to a National Pollutant Discharge Elimination System (NPDES) permit (the Permit) issued to the City by the Oregon Department of Environmental Quality (DEQ) under authority granted by the U.S. Environmental Protection Agency (EPA); and

WHEREAS, the Permit limits the types and amounts of discharges from the City treatment plant into Tickle Creek; and

WHEREAS, population growth and development in the City has increased the demand on the available capacity at the treatment plant; and

WHEREAS, inflow and infiltration (I&I) into the City collection system (i.e. sewer pipes) from surface water has also increased the demand on available treatment plant capacity; and

WHEREAS, the combination of I&I and increased base flows has caused discharges from the treatment plant to violate permitted NPDES levels during certain weather events; and

WHEREAS, the City has engaged in a significant program of investigation, remediation, and repair of the collection system to reduce the amount of I&I and the corresponding demand on the treatment facilities; and

WHEREAS, the City has also recently amended the Wastewater Facilities Master Plan to provide for the design, financing and construction of additional treatment facilities to improve the capacity of the City's wastewater system in the long term; and

WHEREAS, the aforementioned permit violations resulted in enforcement proceedings from DEQ and EPA, which were resolved via the consent decree entered in the United States District Court for the District of Oregon on September 11, 2023 ("Consent Decree"); and

WHEREAS, the terms of the Consent Decree required the City to perform a "stress test" and comprehensive capacity analysis to determine the capacity of the City's existing sanitary sewer system based on work the City had already performed to improve capacity; and

WHEREAS, the Consent Decree also required the City to limit new connections to the City's sanitary sewer system, and modifications to existing connections to the City's sanitary sewer system that increase flows, to no more than 300 equivalent residential units (ERUs) until the comprehensive capacity analysis results were approved by EPA and DEQ, at which point the 300 ERU cap would be replaced with a cap determined by the results of the comprehensive capacity analysis; and

WHEREAS, the City submitted the results of the comprehensive capacity analysis to EPA and DEQ on September 29, 2023, which resulted in a conditional approval decision on April 11, 2024, authorizing the City to immediately access 270 additional ERUs above and beyond the 300 ERUs previously available, and to access 190 additional ERUs upon the completion of certain specified actions by the City and approval by EPA and DEQ; and

WHEREAS, upon completion of the actions described in the conditional approval, and further approval by EPA and DEQ, the City anticipates that more capacity will become available and additional development projects will be allowed to connect to the sanitary sewer system and add increased flows through existing connections; and

WHEREAS, the Consent Decree requires the City to take such actions as are necessary to meet the above obligations, including enactment of a development moratorium; and

WHEREAS, while negotiations with EPA and DEQ relating to the Consent Decree were ongoing, the City enacted a development moratorium via Resolution 2022-24 on October 3, 2022, and extended that moratorium via Resolution 2023-07 on March 20, 2023 (the "First Moratorium"); and

WHEREAS, upon approval of the Consent Decree by City Council, the City repealed the First Moratorium and enacted a new development moratorium with Resolution 2023-27 on June 20, 2023, and extended that moratorium to June 20, 2024, via Resolution 2023-34 on November 20, 2023 (the "Second Moratorium"); and

WHEREAS, on June 3, 2024, the City Council adopted Resolution 2024-11, repealing the Second Moratorium and enacting a new development moratorium with increased available capacity and other new terms designed to facilitate development, including the creation of an ERU allocation program, and extended that moratorium to June 3, 2025, via Resolution 2024-24 on December 2, 2024 (the "Third Moratorium"); and

WHEREAS, on June 2, 2025, the City Council adopted Resolution 2025-14, repealing the Third Moratorium and enacting a new development moratorium with terms designed to facilitate development, including providing more flexibility in the ERU reassignment program for economic development activities and allowing partitions in limited circumstances, and including some minor clarifications, and extended that moratorium to June 2, 2026, via Resolution 2025-39 on November 17, 2025 (the "Fourth Moratorium"); and

WHEREAS, on May 18, 2026, the City Council adopted Resolution 2026-04, repealing the Fourth Moratorium and enacting a new development moratorium with terms that included a Development Allocation Program designed to provide a framework for distribution of wastewater system capacity to developments as it becomes available in the future (the "Fifth Moratorium"); and

WHEREAS, the Fifth Moratorium is scheduled to expire on December 1, 2026; and

WHEREAS, the City has made significant progress in its efforts to alleviate the problems giving rise to the Fifth Moratorium, and to obtain the additional 190 ERUs described in the April 11, 2024, conditional approval from EPA and DEQ; nevertheless, because of the extent of the improvements needed to obtain those ERUs, as well as to fully alleviate the problems giving rise to the need for the moratorium, those problems still exist; and

WHEREAS, the City Council therefore has determined it necessary to extend the expiration date of the Fifth Moratorium and Resolution 2026-04 by six additional months, to June 1, 2027; and

WHEREAS, as additional capacity becomes available, whether as described in the April 11, 2024, conditional approval from EPA and DEQ, through relinquishment of ERUs under the allocation program as described in the Fifth Moratorium, or otherwise, the City Council anticipates that additional development projects will be allowed to connect to the sanitary sewer system, and the City Council intends to revisit the terms of the moratorium as needed; however, because sufficient capacity to eliminate the moratorium entirely may not become available within the next six months, the City Council anticipates it may need to further extend the moratorium or enact a replacement moratorium with different terms when additional information and/or capacity become available; and

WHEREAS, this Resolution is authorized by ORS 197.505 to 197.540.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANDY:

Section 1: The expiration date of the May 18, 2026, moratorium and Resolution 2026-04 are hereby extended to June 1, 2027.

Section 2: All terms of the May 18, 2026, moratorium and Resolution 2026-04, other than the expiration date, shall remain in full force and effect.

Section 3: The City Council shall review the moratorium and determine whether there is a need to extend, revise, or repeal it no later than June 1, 2027.

Section 4: This Resolution is based on the recitals above and the findings of fact set forth in the attached Exhibit A.

Section 5: This Resolution is effective on the date it is adopted by the City Council.

This resolution is adopted by the City Council of the City of Sandy this 2nd day of November, 2026.

_____

Kathleen Walker, Mayor

ATTEST:

_____

Jeffrey Aprati, City Recorder

STAFF REPORT

Meeting Type:	Council Meeting
Meeting Date:	November 2, 2026
From:	Judge Kyndre Lundquist
Subject:	Municipal Court: Traffic Safety Class for Eligible Offenders in Sandy

DECISION TO BE MADE:

Whether to begin offering a traffic safety class for eligible offenders starting January 1, 2027 in Sandy Municipal Court.

APPLICABLE COUNCIL GOAL:

n/a

BACKGROUND / CONTEXT:

The Sandy Municipal Court is the judicial branch of the City's government. The Judge, who is appointed by the City Council, ensures consistent service is provided to all defendants. The Court sees a variety of citations and related trials, ranging from municipal code violations to traffic violations. In early 2026, Judge Lundquist was appointed to the role. Since that time, Judge Lundquist and court staff have been tracking the volume of citations moving through the court, as well as requests and other comments from defendants. A summary of the first nine months **(January through September)** of this year compared to last year below:

	2025	**2026**
Violations	1,579	1,966
Trials	78	117

As you can see from the above table, the volume of work for the Court has steadily increased year over year especially as traffic enforcement has been increasingly prioritized. When Judge Lundquist was appointed, it was discussed that future changes or recommendations would be brought before the Council for their consideration.

Sandy is the only municipal court in Clackamas County that does not currently offer some form of traffic safety class. Implementing this program would give eligible drivers with otherwise good driving records an opportunity to keep minor traffic infractions off their driving records while refreshing their knowledge of safe driving practices.

Both the judge and court clerk regularly receive requests from drivers seeking a traffic class option, which is already available through other municipal courts in the county. In addition to providing a service that drivers have requested, the program could reduce the number of traffic trials held in court, thereby decreasing officer overtime costs.

KEY CONSIDERATIONS / ANALYSIS:

The Sandy Municipal Court is asking the City Council for the following:

1) To approve the implementation of a traffic safety course program for eligible offenders
2) To select one of the two proposed classes to offer (see attachments)

If the City Council approves implementation of this program, eligible individuals who receive a traffic citation may participate if they have had no moving violations within the past three years, do not hold a commercial driver's license, and meet other eligibility requirements.

Eligible violations would include, but not be limited to, certain speeding violations (excluding those involving speeds greater than 30 mph over the posted limit, which is a class A violation), failure to obey a traffic control device, and careless driving when no accident occurred. For reference, speed violations are broken down into the following classifications:

Classification	Speed (over posted)	Presumptive Fine
Class D	1 – 10 mph	$115
Class C	11 – 20 mph	$165
Class B	21 – 30 mph	$265
Class A	>30 mph	$440

To participate, the driver would pay the presumptive fine to the court, less the cost of the class. The driver would then be responsible for paying the class provider directly and completing the class within sixty days. Online class options are available. Upon completion, the driver would submit proof of completion to the court. The citation would then be dismissed and would not be reported to the Oregon Department of Motor Vehicles (DMV).

Participation would be limited to once every three years. If a driver receives another eligible traffic citation within three years of participating in the program, they would not be eligible to participate again.

	Current Procedure	Proposed Procedure
Presumptive Fine	$265	$265
Reduction	20 (clean record)	50 (class fee)
State Share	50	--
County Share	16	--
Net to City	$179	$215

BUDGET IMPACT:

The budget impact of this program is expected to be a net positive. Currently, eligible drivers—those who have had no moving violations within the past three years—receive a $20 discount on their fine. Under the proposed program, these drivers would instead pay the applicable fee, less the $50 cost of the traffic class, which they would pay directly to the class provider. The payment made to the court would be designated as an administrative fee to cover the costs associated with processing and verifying class completion.

RECOMMENDATION:

Staff recommends discussing the traffic safety class program concept, and providing staff direction on the following:

1) Approve the implementation of a traffic safety course program for eligible offenders
2) Select one of the two proposed classes to offer (see attachments)

SUGGESTED MOTION LANGUAGE:

“I move to authorize the City Manager and the Municipal Judge to implement a traffic safety class program, with classes offered through [“Oregon Impact” or “UTurn 180”] as proposed in the staff report.”

LIST OF ATTACHMENTS / EXHIBITS:

- Flyer for Oregon Impact class ($50 cost)
- Flyer for UTurn 180 class ($50 cost)

Traffic Safety

Safe Driving Diversion Course

REGISTER AT	**ClackamasSafety.com**
COST	$50
COURSE LENGTH	Approximately two hours. The course is self-paced, and can be completed over time.
DEADLINE	The course must be completed within **14 days** of your traffic stop. Oregon Impact will then send a completion certificate to the Sheriff's Office, which will then dismiss the moving violation.
QUESTIONS?	Katie Lee, Oregon Impact 503.303.4954 ext. 5 katie@oregonimpact.org

Would you like to have your traffic citation **dismissed?**

Sign up for **Oregon Impact**'s online

Traffic Safety

Safe Driving Diversion Course

If you complete this **$50** online course within **14 days** of your traffic stop, Oregon Impact will send a completion certificate to the Clackamas County Sheriff's Office, which will then dismiss your moving violation. You will not need to pay a fine or appear in court on your moving-violation citation.

Learn more and sign up today at

ClackamasSafety.com

Traffic Safety Course (Level-1)

Length: 180 Minutes (3-Hours)

Create Account > Select Course > Course Details > Checkout

Traffic Safety Course (Level-1)

TRAFFIC SAFETY

What You'll Learn

- Oregon Emergency Vehicle Laws
- Drowsy Driving
- Problematic Driver Errors
- Occupant Protection
- Inattentional Blindness and Technology
- Deadly Driving Distractions
- Speed Enforcement Challenges
- Speed Laws and Default Speeds
- Living the Risky Life
- Court Completion Reporting
- Pedestrian Safety
- Motorcycle Safety
- Signing Standards
- Intersection Safety
- Oregon Traffic Law Updates
- Dangerous Traffic Law Violations and Crashes
- School Zones - Keeping Kids Safe
- Alcohol Drugs and Other Substances
- Oregon's Distracted Law and Penalties
- Distracted Driving - The New DUII
- Distracted Driving and Four Types of Distraction
- Speed Enforcement and Technology
- Speeding in Oregon
- Oregon Traffic Crash Analysis
- About this Course
- Bicyclist Safety
- Weather-Related Driving
- Work Zones and Safety Corridors
- Vehicle Equipment and Maintenance
- Continue to Final Test

Course Overview

This course primarily covers the top-10 driver errors that cause or significantly contribute to Oregon's Fatal and Injury Traffic Crashes in addition to the most recent legislative session covering changes to Oregon traffic laws that drivers need to know.

BACK CONTINUE

STAFF REPORT

Meeting Type:	City Council
Meeting Date:	November 2, 2026
From:	Tyler Deems, City Manager
Subject:	Contract Approval: SRO Agreement with Oregon Trail School District

DECISION TO BE MADE:

Whether to approve an updated agreement with Oregon Trail School District to provide School Resource Officer (SRO) services.

APPLICABLE COUNCIL GOAL:

- **Goal 1.5:** Ensure that the School Resource Officer program remains financially sustainable.

BACKGROUND / CONTEXT:

The City of Sandy (City) and the Oregon Trail School District (District) have had a partnership for School Resource Officer (SRO) services for over two decades. The partnership originally provided one officer from the City to the District for full-time services during the school year. In 2019, a second officer was added.

The current agreement with the District expired on June 30, 2026. As negotiations were still ongoing at the time with the Sandy Police Association, the City felt it was important to wait until that contract was finalized prior to engaging with the District. Now that the collective bargaining agreement has been finalized, it is time to finalize the SRO agreement.

KEY CONSIDERATIONS / ANALYSIS:

During the Council's goal setting in early 2025, it was identified that ensuring the financial sustainability of the SRO program was vital. The Council and City recognize the importance and the value of these services, but with rising personnel and equipment costs, it was deemed necessary to formally document the Council's intent and desire for sustainability via the goal setting process.

When the SRO agreement was last discussed with the Council in November 2022, the District was reimbursing approximately 48% ($66,627 per officer) of the average salary and benefit costs of an officer, with annual increases of 4%. Prior to the changes made in 2022, the District was reimbursing approximately 50% of the salary only, not including benefits or any related equipment, with annual increases of 3% per year.

The agreement that is before the Council for consideration reflects a 59% reimbursement rate of the average salary, benefits, and equipment costs of an officer. The agreement is for two years, and the reimbursement amount increases by 5% in the second year.

It is worth noting that the reimbursement rate is set at 59% to reflect the number of days that the officer does not work in an SRO capacity (holiday breaks and summer vacation, for example), an estimated amount of time off for sick, vacation, and training based on the prior two years of absences.

It should be noted that one additional paragraph needs to be added to the agreement to comply with the Family Educational Rights and Privacy Act (FERPA) of 1974. The City is still awaiting standard language from OTSD to comply with this. This language will have no impact on any other section of the agreement.

BUDGET IMPACT:

A slight increase in revenue for this program was already reflected in the budget. This agreement reflects an amount that is greater than what was budgeted but directly correlates to the increases in personnel costs that the City will see due to the new collective bargaining agreement with the Sandy Police Association.

RECOMMENDATION:

Staff recommends that the Council authorize the City Manager to execute the proposed agreement with OTSD and continue to provide SRO service to the District.

SUGGESTED MOTION LANGUAGE:

“I move to authorize the City Manager to execute an agreement with OTSD for SRO services in a form substantially similar to the agreement included in the meeting packet.”

LIST OF ATTACHMENTS / EXHIBITS:

- SRO Agreement with track changes

AGREEMENT BETWEEN THE CITY OF SANDY
AND THE OREGON TRAIL SCHOOL DISTRICT

TO PARTICIPATE IN THE SCHOOL RESOURCE OFFICER PROGRAM FOR ALL SCHOOL COMPRISING THE OREGON TRAIL SCHOOL DISTRICT

This agreement, entered into this ____ day of _____ 2026~~2~~, (Execution Date) by and between the City of Sandy, a municipal corporation (CITY) and the Oregon Trail School District, a political subdivision of the State of Oregon (DISTRICT) is made in light of the following:

MISSION STATEMENT

It is the stated goal of this agreement to have a working partnership between the City of Sandy and the Oregon Trail School District to provide a safe and secure learning environment for all students and to encourage a positive learning experience.

RECITALS

A. CITY is a municipal corporation duly organized and validly existing under the Constitution and the laws of the State of Oregon.
B. DISTRICT is a political subdivision of the State of the State of Oregon located in Clackamas County, Oregon, and is organized and exists pursuant to the laws of the State of Oregon.
C. DISTRICT is in need of special services available through the School Resource Officer Program {the special services are described in Section 2 and are referred to collectively as the "Services").
D. DISTRICT is authorized to enter into this AGREEMENT pursuant to the laws of the State of Oregon.
E. CITY employs sworn peace officers specially trained, experienced, and competent to provide the Services and CITY is willing to provide Services to DISTRICT on the terms and in the manner provided within this AGREEMENT.
F. CITY and DISTRICT are joining together in a collaborative effort to provide two (2) School Resource Officers (SRO). The SROs' primary assignments are to work with the school communities to help provide a safe and secure environment for all.

AGREEMENT

NOW THEREFORE, CITY and DISTRICT agree as follows:

1. TERM

The term of this AGREEMENT shall commence on _____ 2026~~2~~. This AGREEMENT shall expire on June 30, 2028~~6~~, unless terminated as specified in Section 7.

2. CITY SERVICES

A. Services - General: CITY will provide two (2) full-time sworn peace officers from the Sandy Police Department to the function of SRO. Each SRO shall perform services, as an employee of the City of Sandy, under the supervision and control of the Sandy Police Department Chief of Police (Chief of Police). The type and manner of performance of the services should

promote safety in the learning environment. The services contemplated by this AGREEMENT include all schools within DISTRICT.

B. Services - Mandatory: CITY shall perform the following services:

i. Establish and maintain a liaison between DISTRICT personnel, Sandy Police Department personnel, and elements of the juvenile justice system.

ii. Serve as a resource to DISTRICT employees such as administrators, faculty, and security personnel as well as students and their guardian(s) on all law enforcement-related issues including crime prevention and investigations.

C. Services - Discretionary: City may in the sole discretion of the Officers and/or his/her supervisor, perform the following services:

i. Conduct patrol activity in and around the school campuses.

ii. Conduct preliminary and follow-up investigations of crimes that occur on or near the school campuses.

iii. Attend annually prom and high school graduation.

~~ii.~~iv. Additional services may be requested by DISTRICT. CITY will bill the DISTRICT at the appropriate rate for additional hours worked.

D. Services - Security: The services performed by Officers pursuant to this AGREEMENT are not intended to supplant those provided by existing DISTRICT security personnel. DISTRICT may request security services from CITY pursuant to other provisions of this AGREEMENT. CITY will bill DISTRICT monthly for any additional service requested.

3. DISTRICT DUTIES

In addition to other duties specified within this AGREEMENT, DISTRICT shall do the following:

A. DISTRICT will designate a staff member to serve as liaison to the Sandy Police Department to facilitate communication between DISTRICT personnel and the Officer and coordinate the Officers' activities with DISTRICT activates and events.

B. DISTRICT personnel shall cooperate with the Officers to facilitate their performance of services pursuant to this AGREEMENT.

4. OPERATIONAL PROCEDURES

A. Uniformed officer: Each Officer will perform their duties in full police uniform. This uniform will include safety equipment designated for use by sworn field personnel pursuant to Sandy Police Department policies and practice.

B. Services - Timing: CITY shall, following the school calendar, provide each Officer to DISTRICT serving a schedule that is agreed upon between the DISTRICT and CITY. ~~with that officer generally serving five (5) days a week and eight (8) hours each day.~~ CITY shall use its best efforts to ensure that the same person provides services except when the employee is on paid leave or otherwise absent.

C. Deployment of SROs on days outside of the school calendar is at the discretion of the Sandy Chief of Police.

5. RELATIONSHIP

A. This agreement does not establish an agency or an employment relationship between the Parties. The Parties affirm that each is an independent contractor.
B. ADDITIONAL LANGUAGE TO BE ADDED REGARDING FERPA

~~5.~~6. FUNDING

A. Personnel - CITY is required to maintain two (2) sworn peace officers, employed by City, to provide the services required by this AGREEMENT.
B. District Payments - DISTRICT shall pay $99,733~~66,627~~ per SRO, per year, payable within thirty (30) days of receipt of an invoice from CITY. CITY will bill not earlier than September 30, annually.
C. Funding of Personnel - CITY will assure provision of funding necessary to cover the balance of each SRO's compensation not covered by DISTRICT.
D. Escalation - After the first year of this agreement, the amount paid by district will increase ~~4~~5% annually.
~~E. Proration - For each SRO under this AGREEMENT, in the event an SRO is absent, without substitute replacement, from service to the district for greater than 2 days, CITY will refund to DISTRICT an amount calculated as follows:~~

~~(SRO days absent> two days x 1/173 school days x annual district fee per SRO)~~

~~Any such payments are due to DISTRICT prior to June 30 each year.~~

~~6.~~7. SPECIAL PROVISIONS

A. Selection of Officer(s): The Chief of Police will determine those individuals best suited for the assignment and advise the DISTRICT of the eligible candidates. The Chief of Police shall consider input from the DISTRICT representative(s) as to the selection of the Officer(s), but the Chief of Police's decision shall be final.
B. Grant Administrative Requirements: The CITY and DISTRICT will be responsible for their own respective grant monies received, if any, including all administrative duties and responsibilities. This includes receipt and disbursement of funds financial reporting and grant management issues.
C. Evaluation of SRO Program: The CITY will complete an evaluation of the SRO Program on an annual basis with solicited input of DISTRICT.

~~7.~~8. TERMINATION

DISTRICT or CITY may terminate this AGREEMENT without cause any time after the Effective Date, by giving a ninety (90) day written notice to the other party. In the event of termination, DISTRICT shall compensate CITY for Services performed to the date of termination, following the formula in section 5E of AGREEMENT. CITY shall continue to provide Services after notified to terminate and during the ninety (90) day notice period unless DISTRICT, in the notice, requests CITY not perform Services. The notice shall be deemed given when personally delivered to the DISTRICT or CITY representative or three (3) days after the date the notice is deposited in the United States mail, first-class postage paid, and addressed to the appropriate representative as specified in this AGREEMENT.

~~8.~~9. INDEMNIFICATION

A. District Obligations: DISTRICT agrees to defend, indemnify, and hold CITY, its elected and appointed officials, officers, and employees harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorney's fees, arising out of or in any way connected with the DISTRICT'S negligent performance of this AGREEMENT. DISTRICT assumes workers' compensation liability for injury or death of its officers, agents, employees and volunteers, and assumes no workers' compensation responsibility for the elected and appointed officials, officers, and employees of the CITY.
B. City's Obligations: CITY agrees to defend, indemnify, and hold DISTRICT, its officers, agent, employees and volunteers harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorney's fees, arising out of, or in any way connected with CITY'S negligent performance of this AGREEMENT. CITY assumes worker's compensation liability for injury or death of its elected and appointed officials, officers and employees, and assumes no workers' compensation responsibility for the officers, agents, employees and volunteers of the DISTRICT.

~~9.~~10. ASSIGNMENT

This AGREEMENT may not be assigned or transferred by either Party without the express written consent of the other Party.

~~10.~~11. NOTICE /Representatives

The CITY and DISTRICT have designated the following representatives to receive notices and act in their agency's behalf in the administration of the AGREEMENT.

CITY
Chief of Police
Sandy Police Department
38970 Proctor Blvd
Sandy, OR 97055

DISTRICT
Superintendent
Oregon Trail School District
36525 SE Industrial Way
Sandy, OR 97055

~~11.~~12. ENTIRE AGREEMENT

When signed the authorized representatives of both parties, AGREEMENT is the final and entire agreement. As their final expression, AGREEMENT supersedes all prior and contemporaneous oral or written communications between parties, their agents, and representatives. There are no representations, promises, terms, conditions, or obligations other than those contained herein.

IN WITNESS THEREOF, I have read this AGREEMENT and I certify that I have the authority to sign and enter into the AGREEMENT on behalf of the party I represent and agree to be bound by its terms.

_____	_____
City Manager, City of Sandy	Date
_____	_____
Superintendent, Oregon Trail School District	Date

STAFF REPORT

Meeting Type:	City Council
Meeting Date:	November 2, 2026
From:	AJ Thorne, Public Works Director
Subject:	Wastewater Update; MBR Treatment Plant Engineering Design Services Contract Discussion

DECISION TO BE MADE:

No decision is required at this meeting. A decision to authorize the City Manager to execute a contract for Engineering Design Services for the MBR Treatment Plant project with be requested at the December 7, 2026 meeting.

APPLICABLE COUNCIL GOAL:

- **Goal 7.6**: Continue to comply with the terms of the consent decree.
- **Goal 7.7:** Complete ARPA-funded grant projects before grant expiration

BACKGROUND / CONTEXT:

Projects to Release 190 Additional ERUs

In September 2023, the City of Sandy (City) executed a Consent Decree with the EPA, DEQ and DOJ. City staff and consultants have been actively working on addressing deficiencies at the wastewater treatment plant (WWTP) identified during the Consent Decree process. These projects address Equalization Basin Capacity, Effluent Pump Station Capacity, and upgrading the WAS/Scum pumping system. In completing these projects, the City will have 'unlocked' an additional 190 Equivalent Residential Units (ERUs) of sewer capacity in our system. As of today, the Equalization Basin expansion is complete, the Effluent Pump Station upgrade will be substantially complete on November 20, 2026 and the WAS/Scum pumping will be complete November 23, 2026. Simultaneously, the UV disinfection system is being upgraded and will be substantially complete in December 2026. The Consent Decree team will be notified as each of these projects are completed. Once all are through final completion, the formal request for a release of 190 ERUs will be submitted.

Long Term Wastewater Facility Plan Projects

In addition to the 190 ERU projects, central to the City's compliance with the Consent Decree was completion of a Facility Plan Amendment, replacing the 2019 facility plan which was determined in 2022 to be inadequate regarding the long-term discharge options, flow quantities, and project estimates. In June 2026, after multiple iterations regarding long-term discharge, the City Council adopted a final version of the Facility Plan Amendment. The plan recommended upgrading the

treatment plant to a Membrane Bioreactor (MBR) and incorporated groundwater recharge using highly treated recycled water. This option removed the possibility of pumping raw wastewater to the City of Gresham's treatment plant and ties the City to either a groundwater recharge or the backup discharge option of the Sandy River.

Sandy quickly began work on the preferred alternative, starting by separating it into two projects that can advance in tandem. Groundwater recharge requires additional evaluation of hydrogeologic conditions, permitting requirements, and regulatory approvals before a preferred approach can be confirmed. As a result, City staff and Stantec Program Management team have continued feasibility and pre-design efforts for the groundwater recharge project, while the other component – the MBR treatment plant project which had fewer uncertainties – was able to proceed directly into design.

On October 7, 2026, the City accepted proposals for design engineering for the new MBR treatment plant project. Part of this process included a mandatory pre-proposal meeting to discuss the project. Among the attendees were representatives from three potential design consultants for this project. Two of these teamed up and submitted a proposal, the other did not submit. This project will be designed by Keller Associates and Kennedy Jenks (the Keller/KJ Team). Both consultants have intimate knowledge of the City's plant, with Kennedy Jenks completing the Facility Plan Amendment and Keller completing design on the effluent pump station project which is currently under construction. Per the proposal, Keller will be the lead contractor, so the contract will be between the City and Keller.

Due to the high cost of the design and engineering services, Staff believe it's appropriate to spend some time walking through the current status of wastewater projects and provide the Council with additional information on the scope of work before seeking contract approval. Staff will bring the final contract for the MBR treatment plant engineer design services to the Council for approval on December 7, 2026. This staff report provides additional context regarding the project scope and complexities.

KEY CONSIDERATIONS / ANALYSIS:

MBR Project Elements

This project will lead to a holistic upgrade to our treatment plant converting our treatment method from Conventional Activated Sludge (CAS) treatment to a Membrane Bioreactor (MBR) treatment method. The key component will be the MBR equipment. To support this, the City will need to upgrade its headworks (screening and grit removal) to avoid damaging the MBR with material that cannot be treated. Additional fine screening will be installed to reduce maintenance and increase treatment efficiency by protecting the MBR.

Existing processes will also be altered for the conversion of the plant from CAS to MBR. The existing clarifiers will be converted to anoxic basins. Existing aeration basins will be converted for the MBR process. Additional pumping will be added or altered in the WAS/Scum pumping and the Mixed Liquor Suspended Solids (MLSS) pumping. Our solids handling process will also be upgraded, which was initially put on hold while the Gresham option was under consideration.

MBR Project Complexity

While on the surface this project appears similar to the Membrane treatment upgrade at our Alder Creek Water Plant, this MBR upgrade will be considerably more complex. The Alder Creek Water Treatment Plant is being constructed alongside our existing plant with minimal disruptions and additional water sources available. In contrast, **MBR treatment at the plant must be constructed as an integral part of the plant while not interrupting the function of the facility, which is extremely**

difficult and expensive. This becomes especially complex as processes are converted to MBR treatment, reducing treatment capacity during construction. Constructability and phasing will be critically important to project success.

To successfully deliver this project, this design effort will extend beyond developing the final MBR facility layout on the existing site. The design team will establish a phased implementation approach that allows the CAS treatment process and current level of treatment performance until the MBR facilities are fully operational. The Keller/KJ team will use their knowledge of the plant to determine the optimal construction sequence and timing, recognizing that the WWTP has greater operational flexibility during the summer months when flows are lower and are not discharging to Tickle Creek.

MBR Project Delivery

Due to the complexity of this project and the criticality of constructability and timing, there is an extremely high likelihood that this project will not be completed as a standard Design-Bid-Build project delivery method. To improve constructability reviews, build partnerships, and reduce change orders and delays, this project may need to be executed using Construction Manager/General Contractor (CM/GC) delivery method. This will involve selecting and bringing a contractor on board early in the design process, allowing a contractor to collaborate closely with the City and Keller/KJ team from design through project completion. Once the use of CM/GC delivery method is confirmed, the decision of whether to formally authorize this method will be brought to the Council, allowing the team to move forward with advertising for and selecting a contractor. Sandy has successfully used the CM/GC delivery method for both wastewater collection system work and in the Phase 1 WWTP upgrades that concluded in 2024.

BUDGET IMPACT:

At the time of this writing, negotiation on scope and fee are in progress with the Keller/KJ team. A final fee amount will be solidified prior to the December 7, 2026 Council meeting. The fee for this design work will be between $7M and $8.3M. The construction phase services will be between $2.4M and $2.9M. A comprehensive program budget will be provided at the Council meeting.

This project will be funded through a combination of WIFIA and SRF funds. There is also a possibility of segmenting this project to acquire further SRF funding.

LIST OF ATTACHMENTS / EXHIBITS:

- Keller/KJ Draft Scope of Work
- Keller/KJ Proposal

DRAFT - Attachment A

CITY OF SANDY
WASTEWATER TREATMENT PLANT IMPROVEMENTS
SCOPE OF WORK

PROJECT DESCRIPTION

The City of Sandy (Owner) has retained Keller Associates, Inc. (Consultant), in partnership with Kennedy/Jenks Consultants, Inc. and the identified subconsultants, to provide professional engineering services for improvements at the Jarl Road Wastewater Treatment Plant (WWTP). The work will advance the recommendations of the City's 2026 Wastewater Facility Plan Amendment and support the City's compliance, capacity, reliability, and long-term wastewater treatment objectives.

The project generally includes conversion of the operating WWTP to a 12.2 million gallon per day (MGD) design capacity membrane bioreactor (MBR) configuration; headworks screening and grit improvements; aeration, anoxic, membrane, pumping, blower, ultraviolet disinfection, solids handling, electrical, instrumentation, and local control improvements; recycled-water pipeline replacement from WWTP to Iseli Nursery storage pond; site and utility improvements; and associated permitting, bidding, construction-phase, startup, and commissioning support. The facilities will be planned and designed to maintain treatment operations and permit compliance during construction. The project will be delivered using the Construction Management/General Contractor (CM/GC) method with up to four bidding packages.

The Consultant's services are limited to those expressly described in this scope of work. If new information or changes to project assumptions, design criteria, regulatory requirements, delivery approach, schedule, or Owner direction materially affect the services, the parties will address the resulting changes through a mutually agreed amendment.

SCOPE OF WORK

TASK 1: PROJECT MANAGEMENT

Consultant Responsibilities

1.1. Project Management Plan. Develop a Project Management Plan (PMP) including contacts, vision and critical success factors, scope of work, schedule, financial plan, project team, responsibility matrix, document distribution, quality control plan, change management plan, risk management plan, and communication plan including communication and interaction with the construction manager/general contractor (CM/GC) team.

1.2. General Project Management. Manage the project team to track budget, schedule, project upcoming work, scope and schedule changes, risk register, action items, and key decisions. Prepare monthly invoices and progress reports that summarize what was accomplished for the month, anticipated schedule for the next month, critical decisions to be reached, key decisions made and impact to budget and schedule and identify potential issues or scope changes.

1.3. Project Team Coordination Meetings. Coordinate bi-weekly coordination meetings between Consultant Project Management Team, City Project Manager, Program Manager, and CM/GC (once CM/GC is under contract) to discuss project management topics. Consultant will develop agenda to review project schedule, scope, budget, general project coordination, deliverable progress, key decisions, and action items.

1.4. Kickoff Meeting. Prepare for and attend a project kickoff meeting with the Owner. The purpose of this meeting will be to establish communication channels; review the overall project schedule, including major milestones and meetings; review objectives of the design; and review process for deliverables including process for Owner review and approval.

1.5. Request for Information. Prepare initial request for information for data to be used in the pre-design process.

Owner Responsibilities

- Provide meeting space for project meetings.
- Provide requested information in a timely manner.

Assumptions

- Scope of work includes up to two (2) Consultant staff members attending Project Team Coordination Meetings. These meetings are assumed to be virtual.
- Project management budget assumes a design schedule of up to 18 months and 30 months for construction.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.
- Unless otherwise noted, meetings/workshops may be held in person or via on-line meeting tools. This assumption applies to this task as well as subsequent tasks.

Deliverables

- Project Management Plan (draft and final).
- Action Items list and historic register of resolved Action Items.
- Decision Log.
- Risk Register.
- Monthly invoices and progress reports.
- Bi-weekly progress agendas and minutes.
- Kickoff meeting agendas and minutes.
- Request for information.

TASK 2: CM/GC SUPPORT SERVICES

Consultant Responsibilities:

2.1. CM/GC Kickoff Meeting. Participate in a kickoff meeting with the selected CM/GC to review project progress, walk site, establish lines of communication, review project schedule, review project budget and review process for CM/GC review of deliverables.

2.2. CM/GC Coordination. Coordinate with the CM/GC for general project efforts throughout project duration, including establishing lines of communication.

2.3. CM/GC Value Engineering Workshops. Participate in up to three (3) value engineering workshops with the CM/GC and Owner, immediately following 30%, 60% and 90% design deliverables. The purpose of these workshops will be to identify, with the CM/GC, potential cost savings alternatives to each project. Where the Owner or Program Manager elects to include such alternatives, the Consultant will modify the design as appropriate to incorporate these changes.

Owner Responsibilities:

- Provide meeting space for kickoff meeting, coordination meetings and value engineering meetings.

Assumptions:

- Meetings may be attended either virtually or in person.
- Services for CM/GC bidding, interviews, evaluation of bids, and selection of CM/GC are not included in this scope.
- CM/GC Kickoff Meeting is assumed to include up to four staff members and up to four hours in length.
- Consultant has budgeted four (4) hours for each Value Engineering Workshop and assumed up to six (6) staff members will attend.

- Value engineering alternatives identified to be implemented will be captured in the subsequent deliverable (i.e. 60%, 90% or 100%) and not in a separate deliverable.

Deliverables:

- Value Engineering meeting agendas and notes.

TASK 3: BASIS OF DESIGN REPORT (BODR)

Consultant Responsibilities:

3.1. Topographic Survey. Provide a topographic survey of approximately 4.0 acres encompassing the WWTP in addition to proposed recycled water pipeline alignment. The survey will document visible structures, marked utilities, and observed surface features, including pavement, landscaping, buildings, concrete structures, and sidewalks. Recycled pipeline survey to include up to six easement boundaries, as identified by Owner. Consultant will use the survey to prepare the project base map. The horizontal datum will be NAD 83, and the vertical datum will be NAVD 88. As applicable, basemap will incorporate available aerial imagery, horizontal survey data, and information provided by utilities (identified with input from Dig-Line). Establish benchmarks for future construction reference.

3.2. Geotechnical Review and Investigation. Consultant will review available geotechnical information provided by the City and conduct a geotechnical investigation at the WWTP and along the proposed recycled water effluent pipe alignment. The investigation will include up to eleven borings.

3.3. Environmental Study.

3.4. Site Visit. Consultant will complete a site tour with Owner's operation staff and Program Manager to assess general conditions, document existing infrastructure, conduct field measurements, and note known and observed needs. Existing conditions and informational gaps will be recorded in the BODR.

3.5. Design Criteria. Document design criteria that will serve as basis for design. Consultant will review information provided by the Owner's Representative, field data, and the facility planning study to recommend equipment and process sizing, number of units, and establish design criteria.

3.6. Improvement Alternatives. Compare applicable technology and process alternatives using project-specific criteria such as lifecycle cost, performance, footprint, maintainability, energy use, constructability, phasing, operational risk, and schedule. Evaluate up to three alternatives for each of the following: MBR types, basin mixing types, and pump type for mixed liquor, permeate, and waste activated sludge processes; screening configuration (e.g., single- versus two-stage); and reuse of existing infrastructure (e.g., aeration basins, clarifiers).

3.7. Workshop Meeting. Virtual meeting with Owner to review concepts and alternatives and select preferred equipment and process alternatives for design.

3.8. Opinion of Probable Cost. Provide an AACE Class 5 opinion of probable cost for the recommended improvements.

3.9. Draft Basis of Design Report (BODR). Prepare a draft BODR documenting the recommended improvements and basis of design. The BODR will include design flows and loads, anticipated discharge criteria, process modeling, hydraulic profile, design criteria, preliminary equipment list, site layout, preliminary phasing, electrical load strategy, and local SCADA strategy. Submit to Owner for review.

3.10. Final BODR. Incorporate Owner input and submit to DEQ for review. Address agency comments in final BODR.

Owner Responsibilities:

- Conduct site tour with Consultant; provide access to facilities and records.
- Provide input on design criteria and preferred alternatives.
- Respond to information requests, if any, in a timely manner.

- Review and comment on the BODR.

Assumptions:

- Site visit will be conducted with up to four members of the Consultant's team.
- Recommended improvements are limited to screening, grit removal, aeration/anoxic and MBR treatment, supplemental carbon addition, UV disinfection, biosolids dewatering via screw press, biosolids storage, existing storage pond upgrades, and associated piping, pumping, electrical service and distribution, standby power, instrumentation and local SCADA control, and ancillary equipment and infrastructure.
- Workshop meeting will include a mix of in person and virtual attendees.
- Documentation of selections of improvement alternatives will be included in the BODR. No additional technical memos will be provided.
- Three phase power is readily available and located adjacent to the site.
- Consultant can rely on the flow and load analysis and future projections provided by the Owner or as documented in the Facility Plan.
- Drawings included in BODR will be limited to no more than ten sheets and may include general sheets and conceptual site layout sheets.

Deliverables:

- Agenda and minutes for virtual online Meeting.
- Draft and Final BODR.

TASK 4: MAJOR EQUIPMENT PROCUREMENT

Consultant Responsibilities:

4.1. Procurement Strategy. Develop procurement strategies for the identified major equipment and long-lead items with input from the CM/GC. Incorporate critical procurement dates into the overall project delivery schedule.

4.2. Major Equipment Procurement Specifications. Consultant will produce technical specifications for up to five major pieces of equipment on the project including membranes, headworks screens, and screw press.

4.3. Bid Support. Consultant will provide support during bidding for major equipment, including responding to questions, preparing addenda, and evaluating bids received.

4.4. Major Equipment Submittal Review. Review submittals for major equipment. This task assumes up to one resubmittal for each major equipment.

Owner Responsibilities:

- Provide input on major equipment specifications.

Assumptions:

- Contract documents for equipment procurement will be provided by the CM/GC.
- Procurement specifications will be provided by Program Manager.

Deliverables:

- Major equipment technical specifications.

TASK 5: EARLY WWTP CIVIL PACKAGE

Consultant Responsibilities:

5.1. Plan Sheets. Prepare a civil package for critical path civil construction items at the WWTP. The package is to include civil plan sheets associated with new fine screens, MLSS pump station and splitter box, new aeration/MBR basins, and WAS pump building. Coordinate location of new facilities, piping layout, and access with the City. Prepare a 90% review set.

5.2. Coordination with Portland Gas and Electric. Consultant will coordinate with the utility company to confirm any necessary new electrical infrastructure required for WWTP upgrades is incorporated into the plan sheets.

5.3. Technical Specifications. Prepare technical specifications to detail the materials, processes, and the products that are to be used in the civil package. Prepare complete draft technical specifications for the 90% review set.

5.4. Civil Package Workshop Meeting. Submit 90% design review drawings and specifications to the City. Participate in a 90% design review workshop meeting.

5.5. Final Design. Upon City review, Consultant will incorporate appropriate revisions into a final set of stamped drawings and specifications that will be used for bidding.

5.6. Bid Support. Consultant will provide support during bidding of early works package, including responding to questions and preparing addenda.

City Responsibilities:

- Provide easement and right-of-way information for the project extents.
- Review and provide one set of consolidated written comments on the 90% design deliverables.
- Provide legal and risk reviews of the bid documents.
- Pay for any associated permitting fees not assigned to the Contractor.
- Facilitate coordination as necessary with Pacific Gas & Electric.

Assumptions:

- Surveying to be completed within existing right-of-way and easements; boundary surveying limited to that specifically identified in the scope. Land and easement acquisition, negotiations, and legal descriptions, if required, will be provided as an additional service.
- Agency submittal is not required for this package.
- AutoCAD is to be used to prepare drawings, and AutoCAD Civil 3D or Revit may be used for the site and building design. Spreadsheets will be prepared in Microsoft Excel and text documents in Microsoft Word.
- The Civil Package drawings shall be developed with the intent to progress critical path. Further completion is anticipated as part of the final design package. The package is subject to change based on input from the CM/GC.
- The Owner acknowledges that advancing the Civil Package before completion of final design may require revisions to previously issued design documents or to constructed work as later design information is developed. Consultant will be entitled to additional compensation for redesign caused by changes to previously approved criteria, CM/GC input received after the applicable review milestone, or other changes outside Consultant's control.
- Building dimensions, location, and piping connections have been established.

Deliverables:

- Agendas and minutes for workshop meetings.
- 90% design drawings and specifications, including one electronic PDF submittal prepared at 22 by 34 inches and formatted for review at 11 by 17 inches.
- 100% stamped design package, including one electronic PDF submittal prepared at 22 by 34 inches and formatted for review at 11 by 17 inches.

DRAFT

TASK 6: RECYCLED WATER PIPELINE DESIGN

Consultant Responsibilities

6.1. Environmental. Perform environmental and natural resources review to support development of the proposed effluent pipeline alignment. Services will include desktop review and field reconnaissance to identify wetlands, waterways, creek crossings, sensitive habitat, cultural resources, and other potential environmental constraints. Evaluate potential impacts and provide coordination related to avoidance and minimization measures, permitting requirements, and additional environmental studies that may be required as design progresses.

6.2. Utility Coordination. Identify known utility crossings and conflicts along the proposed pipeline alignment and coordinate with applicable utility providers, as necessary, to support development of the pipeline design.

6.3. 30% Design Plans and Review Workshop. Submit 30 percent design review drawings to the Owner. Participate in a 30 percent design review workshop meeting.

a. Develop the preliminary horizontal and vertical alignment of the proposed recycled-water effluent pipeline. Evaluate alignment constraints including existing utilities, roadway improvements, property and right-of-way limits, easements, environmental constraints, constructability, access, and connections to existing facilities.

b. Perform hydraulic calculations necessary to confirm pipeline sizing and anticipated operating conditions. Coordinate the pipeline design with the WWTP hydraulic profile and proposed effluent pumping requirements.

6.4. 60% Design Plans and Review Workshop. Submit 60 percent design review drawings to the Owner. Participate in a 60 percent design review workshop meeting.

6.5. 90% Design Plans and Specifications. Address 30% design review comments. Advance design to 90% and submit design review drawings and specifications to the Owner. Drawings to include general, civil, and detail sheets. Prepare technical specifications. Technical specifications will be prepared to detail the materials, processes, and the products that are to be used in the construction.

6.6. 90% Design and Review Workshop Meeting. Submit 90% design review drawings and specifications to the Owner. Participate in a 90% design review workshop meeting with Owner and CM/GC.

6.7. Agency Submittal. Submit the 90% plans and specifications to Agency for review. Address comments and resubmit at 100%.

6.8. 100% Design Submittal. Address 90% design review comments. Advance design for submission to DEQ. Consultant will incorporate appropriate revisions into a final set of stamped drawings and specifications that can be used for bidding.

6.9. Opinion of Probable Cost. Prepare an AACE Class 4 opinion of probable cost at 30%, an AACE Class 3 opinion of probable cost at 60%, an AACE Class 2 opinion of probable cost at 90%, and an AACE Class 2 opinion of probable cost for the project at final design.

6.10. Cost Reconciliation. Reconcile each estimate with the prior estimate and the Owner's budget and identify material cost changes.

6.11. CM/GC Cost Model Review. Review CM/GC Cost Model Updates and attend review meetings. SOW includes review of up to three (2) Cost Model Updates at 30% and 90% deliverables and attending two (2) review meetings.

Owner Responsibilities:

- Provide comments and input on the 30 and 90% design deliverables.
- Front End documents will be completed and provided by Program Manager.

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- Provide legal and risk reviews of the bid documents. Assist in identifying permits and approvals for which Contractor will be responsible.
- Program Manager to provide Front-End Construction Contract Documents
- Pay for any associated permitting fees not assigned to the Contractor.

Assumptions:

- Drafting will be completed on 11”x17” sheets.
- Consultant will be compensated for additional services for Owner-requested out of scope items and for rework triggered by Owner-requested changes to previously agreed upon design criteria and concepts. Additional services will be performed only upon mutual agreement on the associated scope, schedule, and compensation. This provision applies to this task and all other tasks included in this scope of services.
- CM/GC will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), prepare traffic control plans, and secure associated permits.
- Shoring (if required) will be designed by the CM/GC.
- Since Consultant has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor’s methods of determining prices, or over competitive bidding or market conditions, the Consultant does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of probable construction cost prepared by the Consultant.
- AutoCAD is to be used to prepare drawings and AutoCAD Civil 3D or Revit may be used for the site and building design. Spreadsheets will be prepared in Microsoft Excel and text documents in Microsoft Word.
- All deliverables will be submitted in electronic format and reviews will be completed using Bluebeam.
- Land use permitting is not required. Any required permitting services are by Others.

Deliverables:

- Agenda and minutes for Workshop Meetings.
- Environmental documentation summarizing identified wetlands, aquatic and other natural resources, environmental constraints, and anticipated permitting or mitigation requirements.
- 30 percent design drawings and opinion of probable cost, including one electronic submittal (11”x17”).
- 90 percent design drawings, technical specifications, and opinion of probable cost including one electronic submittal (drawings prepared in 22”x34” and reviewed in 11”x17”).
- 100 percent stamped design package, including one electronic submittal (drawings prepared in 22”x34” reviewed in 11”x17”).
- Cost reconciliation summaries.
- Exhibits for permitting for Owner’s use.

TASK 7: WWTP DESIGN

Consultant Responsibilities

7.1. 30% Design and Review Workshop. Submit 30 percent design review drawings to the Owner. Design drawings to include general, site civil, key mechanical plan sheets, electrical one-lines, and process and instrumentation drawings. Owner to provide comments. Participate in a 30 percent design review workshop meeting following comment receipt.

7.2. 60% Design. Consultant will prepare and submit 60 percent design documents to the Owner. The drawings will include general, site civil, structural, architectural, mechanical, HVAC, electrical one-line, and instrumentation and control P&ID sheets. Consultant will also submit a table of contents identifying the technical specifications planned for the 90 percent design package.

7.3. 60% Review Workshop Meeting. Participate in a 60 percent design review workshop meeting with Owner and CM/GC.

7.4. 90% Design. Address 60 percent design review comments. Advance design to 90 percent and submit design review drawings and specifications to the Owner. Drawings to include general, survey, site civil, structural, architectural, plumbing, HVAC, mechanical, electrical, and instrumentation and control sheets.

Instrumentation and control plan sheets will generally include a network layout drawing (if applicable), piping and instrumentation diagrams (P&ID), wiring diagrams, input/output schedule, and the instrumentation schedule.

Prepare technical specifications. Technical specifications will be prepared to detail the materials, processes, and the products that are to be used in the construction.

7.5. 90% Review Workshop Meeting. Submit 90 percent design review drawings and specifications to the Owner. Participate in a 90 percent design review workshop meeting with Owner and CM/GC.

7.6. Agency Submittal. Submit the 90% plans and specifications to Agency for review.

7.7. 100% Design Submittal. Address 90 percent design review comments. Advance design for submission to DEQ. Consultant will incorporate appropriate revisions into a final set of stamped drawings and specifications that can be used for bidding.

7.8. Opinion of Probable Cost. Prepare an AACE Class 4 opinion of probable cost at 30%, AACE Class 3 opinion of probable cost at 60%, an AACE Class 2 opinion of probable cost at 90%, and an AACE Class 2 opinion of probable cost for the project at final design.

7.9. Cost Reconciliation. Reconcile each estimate with the prior estimate and the Owner's budget and identify material cost changes.

7.10. CM/GC Cost Model Review. Review CM/GC Cost Model Updates and attend review meetings. SOW includes review of up to two (2) Cost Model Updates at 30% and 60% deliverables and attending two (2) review meetings.

7.11. Construction Schedule. Review CM/GC schedule submission.

Owner Responsibilities:

- Provide one, written consolidated set of comments on the 30, 60 and 90 percent design deliverables.
- Provide legal and risk reviews of the bid documents. Assist in identifying permits and approvals for which Contractor will be responsible.
- Provide written review comments from Owner's SCADA integrator.
- Owner to provide Front-End Construction Contract Documents.
- Pay for any associated permitting fees not assigned to the Contractor.

Assumptions:

- Drafting will be completed on 11"x17" sheets.
- Front End documents will be completed and provided by Program Manager.
- Land use compliance permitting is not included in this scope.
- Project integration and control panel design will be provided by City's Integrator.
- Project landscaping will match existing landscape style at the WWTP. Services of a licensed landscape architect will not be required.
- Extensive architectural features (occupied spaces, restrooms, etc.) are not included. Consultant will develop 3D building models/renderings for new structures.
- CM/GC will be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), prepare traffic control plans, and secure associated permits.
- Shoring (if required) will be designed by the CM/GC.
- Building permit and trade permits will be submitted and obtained by Others.

- Since Consultant has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Consultant does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of probable construction cost prepared by the Consultant.
- AutoCAD is to be used to prepare drawings and AutoCAD Civil 3D or Revit may be used for the site and building design. Spreadsheets will be prepared in Microsoft Excel and text documents in Microsoft Word.
- All deliverables will be submitted in electronic format and reviews will be completed using Bluebeam.
- Permitting services are limited to drawing and figure preparation for submitting the Land Use Application. All other permitting services, including preparation of the Land Use Application, are by Others.
- Review of Contractor's cost model and schedule is limited to a single review.
- It is assumed only one review and set of comments from DEQ will be provided for Consultant to address.

Deliverables:

- Agenda and minutes for Workshop Meetings.
- 30 percent design drawings and opinion of probable cost, including one electronic submittal (11"x17").
- 60 percent design drawings, technical specifications table of contents, and opinion of probable cost, including one electronic submittal (drawings prepared in 22"x34" and reviewed in 11"x17").
- 90 percent design drawings, technical specifications, and opinion of probable cost including one electronic submittal (drawings prepared in 22"x34" and reviewed in 11"x17").
- 100 percent stamped design package, including one electronic submittal (drawings prepared in 22"x34" reviewed in 11"x17").
- Cost reconciliation summaries.
- Exhibits for permitting for Owner's use.

TASK 8: CONSTRUCTION PHASE SERVICES

Consultant Responsibilities:

This task includes the professional services to support the Owner and Owner's Representative during the construction of the project by one prime Contractor. Consultant's level of effort during construction is often affected by the selected Contractor. The fee estimate, level-of-effort projections, and schedule assumptions represent Consultant's professional judgement. As activities progress, it may become apparent some modifications to this scope are necessary due to changes in the Contractor's schedule and work. Consultant will advise the Owner's Representative of such issues and any fee and/or schedule impact prior to implementing revised activities. This task will include the following:

8.1. Contract Documents. Incorporate addenda and prepare construction documents for distribution to Owner and Contractor.

8.2. Pre-Construction Meeting. A pre-construction conference will be chaired by the Program Manager and attended by the Owner, Consultant, the CM/GC, major suppliers, and subcontractors. The purpose of this meeting will be to establish lines of communication as well as procedures and timelines for the job. Program Manager will prepare meeting agenda and meeting notes to be distributed to attendees.

8.3. Construction Meetings. Attend monthly construction meetings (virtually) as requested by Program Manager.

8.4. Submittals. Review Contractor's submittals for general conformance to the specified materials and methods noted in the design plans and specifications. Reviews will not specify Contractor techniques, sequencing, procedures, means or methods of construction or to safety precautions.

8.5. Requests for Information (RFIs). Respond to RFIs from CM/GC or Program Manager and provide clarification of Contract Documents.

8.6. Change Orders. Review change order and work directive requests.

8.7. Site Visits. As requested by Program Manager, Consultant will participate in up to twenty-five (25) site visits during periods of active construction.

8.8. Startup Support. Provide startup assistance. Startup is assumed to be ten (10) days of support from the Consultant.

8.9. Substantial and Final Completion Inspections. Hold a Substantial Completion inspection with Owner Staff for the purpose of issuing a Notice of Substantial Completion to the Contractor. This Substantial Completion inspection will include the development of a "punch-list" for the Owner to use as the Contractor's final work to be completed. A final walkthrough will be held at the site to check that punch list items have been completed.

8.10. O&M Manual. Consultant will receive from the Contractor an operation and maintenance manual (O&M) that includes all major equipment. Consultant to provide brief supplement outlining the purpose, design criteria, operations/controls (including normal operations, theory of operation, equipment isolation), and a summary of recommended preventative maintenance activities. Consultant will submit a draft to the Owner. Upon receiving comments, Consultant will address comments and submit final O&M.

8.11. Record Drawings. The Record Drawings will be developed using the Contractor maintained set of "Red-line" drawings and will show locations of installed components of the Project as identified by the Contractor. These Record Drawings will show significant changes made during construction. Contractor drawings will be reviewed, noted and submitted to Owner. Record drawings will be provided to Owner as updated electronic CAD files and a PDF of Construction Drawings.

Owner Responsibilities:

- Review and process Contractor pay requests, change orders and other construction related documents.
- Provide Construction Contract Administration throughout the duration of construction.
- Provide day-to-day construction observation. Seek interpretation of the Contract Documents as required. Alert Consultant of any concerns observed.
- Provide information for O&M manual as requested by Consultant.
- Provide written comments on draft O&M manual provided.
- Provide written comments on red-lined drawings from Contractor.

Assumptions:

- One member of the Consultants team will attend the pre-construction meeting in person. Assumes up to three (3) others virtually.
- Attendance at construction progress meetings will be weekly by up to two team members. Assumes virtual attendance.
- Work will be performed by one General Contractor.
- Review of Contractor pay requests and Contractor schedules are not included in these services. Review and negotiation of change order proposals are not included in Consultant's scope.
- If required, Material testing services such as soil compaction, concrete, asphalt, steel, pipe pressure, and bacteria will be provided by the Owner and reviewed by the Consultant. Owner shall also be responsible for specialty inspection services as outlined in the contract documents. Review of test reports are not included in the Consultant's scope.
- Budget assumes 27 months of active construction.
- Substantive design and other technical services in connection with work change directives, change proposals, and change orders requested by Owner will be completed as an additional service. Similarly, use the of the additional services budget will apply to extended services arising from (a) the presence at the site of any constituent of concern or items of historical or cultural significance, (b) emergencies or acts of God endangering the work, (c) damage to the work by fire or other causes during construction,

(d) a significant amount of defective, neglected, or delayed work, (e) acceleration of the progress schedule involving services beyond normal working hours, or (f) default by Contractor.

- Claims or legal support services, if required, will be provided as an additional service.
- Consultant shall not be responsible for any decision made regarding the Contract Documents, or any application, interpretation, clarification, or modification of the Construction Contract Documents, other than those made by Consultant.
- Budget also assumes 400 submittals reviews, 200 resubmittal reviews, 100 RFIs, 20 field orders, and 10 change orders. Consultant will notify the Owner that the Consultant is commencing an additional service when any of these levels have been reached.
- The Contractor will prepare operation and maintenance manual information for the equipment and submit it to the Consultant.
- Because Record Drawings are based on unverified information provided by other parties, the Consultant does not warrant their accuracy.

Deliverables:

- One full size (22" x 24") electronic copy in PDF format of the Contract documents and drawings and will be delivered to Owner.
- Submittal and RFI reviews.
- Substantial completion checklists.
- One electronic copy in PDF format of the Operations and Maintenance Manual provided to the Owner.
- One electronic (PDF) copy of construction plans marked "Record Drawings" and electronic CAD files, if requested.
- One-year warranty inspection punch list documenting observed deficiencies and recommended corrective actions.

TASK 9: WARRANTY INSPECTION

Consultant Responsibilities:

9.1. One-year Warranty Inspection. Consultant shall participate in a one-year warranty inspection of the completed improvements prior to expiration of the Contractor's warranty period. Services shall include:

a. Coordinate and attend an on-site inspection with the Owner, CM/GC, and Program Manager.

b. Review the completed improvements for observable deficiencies, defects, or outstanding items that may require correction under the Contractor's warranty.

c. Document identified warranty items and provide a summary of recommended corrective actions to the Owner.

d. Coordinate with the Owner and Contractor regarding resolution of identified warranty items.

e. Perform one follow-up review, as needed, to confirm identified corrective work has been completed.

Owner Responsibilities:

- Participate in warranty inspection.
- Provide input on known, observed issues.

Assumptions:

- Consultant's warranty inspection will be limited to observable conditions and is not intended to constitute a comprehensive evaluation of concealed construction or equipment performance.

Deliverables:

- One-year warranty inspection punch list documenting observed deficiencies and recommended corrective actions.

TASK 10: MANAGEMENT RESERVE (ADDITIONAL SERVICES)

From time to time the Owner may have additional tasks related to the project, or additional tasks may be encountered that are not identified in this scope of work or that may be dependent on decisions not yet made ("Additional Services"). Such additional services may include discharge permit support, Energy Trust incentive support, and City Council presentations. This task establishes a management reserve for Additional Services. Consultant shall not perform any Additional Services unless authorized in writing by Owner staff (Owner's Project Manager). Compensation for Additional Services may be based on Consultant's time and material or a lump sum amount as agreed by Owner and Consultant.

ADDITIONAL SERVICES (not included in scope of work)

- Special use permits, public hearings, or public meetings are not included in scope of work.
- Additional professional time required for correspondence, meetings, redesign, or other project support resulting from a City-initiated change to the project design, or otherwise exceeding the services expressly described in this scope, will be treated as an additional service.
- Public outreach or stakeholder outreach support
- Power utility rebate support
- Bond election or judicial confirmation support
- Field investigations to check available record drawings
- Detailed quantity surveys of materials, equipment, and labor
- Construction staking, potholing/profiling

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SCHEDULE

Consultant anticipates completing final design approximately 18 months after receipt of a signed agreement and authorization to proceed, subject to the sequencing shown in the following table. The schedule assumes that the Owner will provide requested information and consolidated review comments within the periods identified for each submittal, that DEQ and other third-party review durations are outside Consultant's control, and that CM/GC input will be provided in time to support the listed milestones. Delays or changes affecting the critical path may require an adjustment to the schedule and compensation.

Task	Schedule (calendar months)	Comments
Task 1 – Project Management	18 months	Assumes 18-month project schedule; additional duration may require additional compensation.
Task 2 – CM/GC Support Services	18 months	Assumes 18-month project schedule; additional duration may require additional compensation.
Task 3 – Basis of Design Report	6 months	
Task 4 – Major Equipment Procurement	2 months from CM/GC contact execution	This task will be completed concurrently with Tasks 1, 2, and 5.
Task 5 – Early Civil Package	4 months	This task will be completed after Task 7.1 and concurrently with Task 7.2.
Task 6 – Recycled Water Pipeline Design		
Task 6.3 – 30% Design	3 months from completion of Task 3	
Task 6.4 – 90% Design	4 months from workshop with Owner in Task 6.3	
Task 6.7 – 100% Design	2 months from workshop with Owner in Task 6.4	
Task 7 – WWTP Final Design		
Task 7.1 – 30% Design	3 months from review meeting with Owner in Task 3	
Task 7.2 – 60% Design	3 months from workshop with Owner in Task 7.1	This task will be completed concurrently with Tasks 5.
Task 7.4 – 90% Design	4 months from workshop with Owner in Task 7.2	
Task 7.7 – 100% Design	2 months from workshop with Owner in Task 7.4	
Task 8 – Construction Phase Services	30 months	
Task 9 – Project Closeout	2 months	This task assumes tasks 8 is completed.
Task 10 – Warranty Inspection	2 months	This task commences 12 months after Task 8.
Task 11 – Management Reserve	Ongoing	

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COMPENSATION

As compensation for services to be performed by Consultant, the Owner will pay Consultant as described in the following table. The total authorized budget amount shall not be exceeded without written authorization from the Owner. Lump sum amounts shall include all costs for direct labor, indirect labor, overhead, reimbursable expenses, equipment, travel, per diem, and fixed fees.

Task	Type	Amount
Task 1 – Project Management		
Task 2 – CM/GC Support Services		
Task 3 – Basis of Design Report		
Task 4 – Major Equipment Procurement		
Task 5 – Early Civil Package		
Task 6 – Recycled Water Pipeline Design		
Task 6.3 – 30% Design		
Task 6.4 – 90% Design		
Task 6.7 – 100% Design		
Task 7 – WWTP Final Design		
Task 7.1 – 30% Design		
Task 7.2 – 60% Design		
Task 7.4 – 90% Design		
Task 7.7 – 100% Design		
Task 8 – Construction Phase Services		
Task 9 – Project Closeout		
Task 10 – Warranty Inspection		
Task 11 – Management Reserve		
TOTAL COST		

LS = Lump Sum

T&M = Time and Materials

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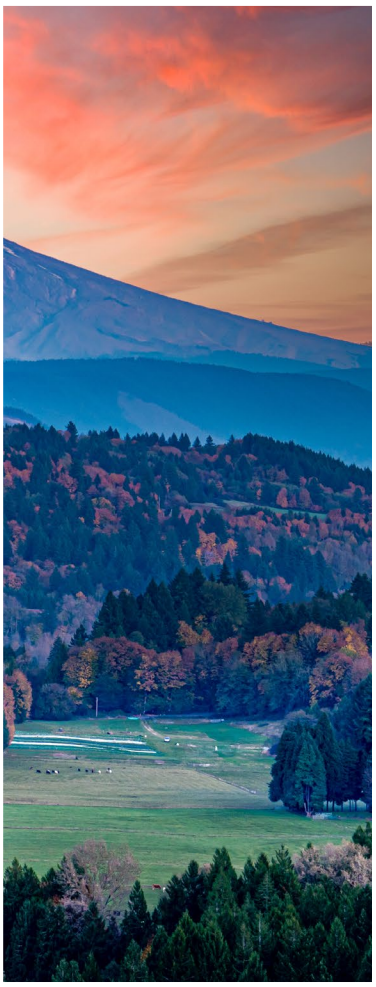
KELLER ASSOCIATES

In partnership with:

Kennedy Jenks

CITY OF SANDY



RFP # SCWP 08-26

Engineering Services for the Wastewater Treatment Plant Improvements

October 7, 2026

GROWING POSSIBILITIES

October 7, 2026

AJ Thorne, PE
Public Works Director
City of Sandy
39250 Pioneer Boulevard
Sandy, OR 97055

Re: REQUEST FOR PROPOSALS (RFP) #SCWP 08-26, ENGINEERING SERVICES FOR THE WASTEWATER TREATMENT PLANT (WWTP) IMPROVEMENTS

Dear Mr. Thorne and Selection Committee,
The City of Sandy (City) needs a design partner that can deliver the Jarl Road WWTP membrane bioreactor (MBR) retrofit on schedule while minimizing operational and compliance risks associated with construction in an active treatment facility. The Keller Associates, Inc./Kennedy/Jenks Consultants, Inc. (Keller/KJ) team uniquely bridges strategy and execution. We provide the City with unmatched familiarity with your wastewater system, bringing together the consultant currently delivering the City's active wastewater and treatment facility projects, with the consultant that developed the 2026 WWTP Facility Plan Amendment.

Our team brings direct experience implementing membrane treatment technologies, navigating complex regulatory environments, and delivering critical infrastructure projects while maintaining uninterrupted facility operations. Most importantly, the Keller/KJ team has already demonstrated these capabilities for the City.

Key advantages you will see from our team include:

- **Proven delivery for the City**, as demonstrated by the implementation of construction constraints at the water treatment plant (WTP), optimization of effluent pumping at the WWTP, and completion of the WWTP Facility Plan Amendment (KJ).
- **An established relationship with City staff and the program team**, reducing project kickoff time, streamlining communication, and supporting efficient project delivery.
- **A team with direct membrane treatment experience**, including discipline leads who successfully delivered the Alder Creek improvements, effluent pumping upgrades, and worked with the City to identify the needs at the WWTP.

MANDATORY CERTIFICATIONS

Legal Name: Keller Associates, Inc.

Address: 4800 SW Griffith Drive, Suite 128
Beaverton, OR 97005

Telephone Number: (971) 405-6331

- Larry Rupp, PE, President/CEO, is authorized to negotiate on the firm's behalf and to bind Keller to any resulting contract. Phone: (208) 813-7588.
- This proposal remains valid for a period of 90 days from the submission date.
- Keller is registered and licensed to perform engineering services in the State of Oregon (OR License #481941-95).
- Keller is not disbarred, suspended, or otherwise prohibited from professional practice by any federal, state, or local agency.
- We acknowledge receipt of Addendum No. 1 on September 4, 2026.
- Keller accepts and has experience with the funding requirements that are detailed in Attachment D.

- **Industry-leading Three Basin Rule and regulatory experience**, gained through projects such as the North Santiam Canyon Regional Wastewater Analysis and the ongoing North Santiam Sewer Infrastructure project.
- **Experience navigating highly regulated wastewater projects**, including complex Oregon Department of Environmental Quality (DEQ) permit requirements and compliance-driven phasing of infrastructure improvements.

Projects of this complexity require a project manager who can provide disciplined leadership while remaining responsive to the City throughout the delivery process. The City already knows what to expect from Keller's Project Manager, Jason King, PE. Having successfully completed three projects for the City, Jason has demonstrated firsthand his responsiveness, commitment, and focus on delivering for City staff. That same approach has produced measurable results on complex wastewater projects, including a $34 million WWTP expansion in Lewiston, Idaho, completed on schedule, under budget, and with a change order rate of just 0.65%. Jason will bring this combination of an established relationship with the City and demonstrated success delivering complex projects to see that the City receives the attentive leadership and predictable project delivery it expects.

The Keller/KJ team's longstanding relationships with the Oregon DEQ, combined with our extensive experience working on projects subject to the Three Basin Rule, provide additional value as the City advances this important investment into future phases. Our experience in this area is unmatched within the region and will help reduce risk while keeping the project moving forward efficiently.

With offices in Salem, Beaverton, and Portland, our team is positioned to be a responsive and engaged partner throughout the planning, design, and construction phases. Our staffing approach provides continuity from project kickoff through commissioning, with consistent communication, accountability, and technical leadership every step of the way.

Sincerely,

KELLER ASSOCIATES, INC.

Jason King, PE
Project Manager

Larry Rupp, PE
Authorized Representative/Signer

Peter Olsen, PE
PIC, QA/QC Manager

TEAM UP WITH AN AWARD-WINNING FIRM

Engineering Excellence Awards: Keller's projects have garnered 30 American Council of Engineering Companies Engineering Excellence Awards in the past 10 years.

PSMJ Circle of Excellence: Keller was among the top 20% of participating firms for several consecutive years (2016, 2018, 2019, 2020, 2021, 2022, 2024, 2025, 2026).

2024 PSMJ Platinum Award: Keller was one of 24 firms nationwide that received this award, recognizing Keller as a company that maintains performance levels for outstanding achievement in 13 key metrics in the architecture/engineering industry.

SECTION 2. FIRM PROFILE

Together, Keller and KJ offer the City the best of both firms: a local team that already knows the City and its facilities, paired with the wastewater treatment, membrane, and regulatory expertise needed to deliver the Jarl Road WWTP Improvements.

ONE TEAM BUILT AROUND SANDY.

Local relationships. Facility plan continuity. Specialized MBR skillset.

KELLER Knows the City	KJ Knows the Plan	KELLER/KJ Is Ready to Deliver
Existing City Relationships	Prepared the 2026 WWTP Facility Plan Amendment	Integrated Design Team
Jarl Road Facility Familiarity	Planning and Regulatory Continuity	Established Teaming Experience
MBR and Process Expertise	Solids Handling Expertise	Planning-to-design Continuity

AN INTEGRATED PARTNERSHIP

Keller brings continuity with the City and firsthand knowledge gained through our work at the Jarl Road WWTP and delivery of the Alder Creek WTP Upgrades. These projects have established working relationships with City operations and Program Management staff and given our team direct familiarity with the City's operational priorities, design preferences, and expectations for project delivery.

KJ brings equally important continuity from the planning side. KJ prepared the City's 2026 WWTP Facility Plan Amendment, which provides the technical foundation for the improvements now advancing into design. By carrying that knowledge forward with Keller, the City gains a coordinated transition from planning to implementation while retaining strong local project leadership and specialized technical depth.

Our team members were selected for their relevant expertise and confirmed availability, ensuring the City has the right people engaged from day one. For the City, these resources will operate as one project team, not as parallel organizations. You will receive regular access to local staff, supported by firm-wide specialists when their expertise adds value.

KELLER/KJ QUICK STATS

Years in Business: 33/107

Number of Employees: 245/500+

Locations of Key Offices: Beaverton and Salem/Portland and Eugene

The project will be led from Keller offices in Beaverton and Salem and supported by KJ's Portland and Eugene offices.

KELLER AND KJ HAVE DELIVERED TOGETHER.

We partnered on the John Day WWTP Expansion (above), where funding and permit compliance requirements drove an aggressive schedule. Working as one team, Keller/KJ delivered the design on schedule and within budget.

WWTP DESIGN IS CORE TO OUR TEAM

100+ WWTP Planning and Design Projects	**20+** MBR Facilities
50+ Oregon Wastewater Facilities	**$500M+** Northwest WWTP Projects in the Last Five Years

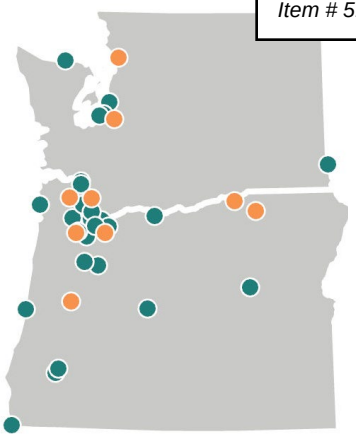
EXPERIENCE ALIGNED WITH JARL ROAD

The Jarl Road WWTP Improvements are an excellent fit for the Keller/KJ team. **Keller brings Oregon DEQ and Three Basin Rule experience through our North Santiam Canyon work, while KJ brings direct knowledge of the City's treatment and discharge needs through development of the 2026 WWTP Facility Plan Amendment.** The result is a team whose expertise mirrors the City's scope and can carry the project from your established planning basis into an implementable design.

SPECIAL SKILLS, SOFTWARE, AND SERVICES

In addition to the project team, the City will have access to companywide project coordination, technical, modeling, and quality management resources, including integrated multidisciplinary expertise, BioWin process modeling, Visual Hydraulics and InfoSewer analysis, BIM-based design tools such as Revit and Civil 3D, and digital project delivery platforms. These resources are supported by a firm-wide quality assurance/quality control (QA/QC) program to promote efficient, coordinated, and quality project delivery.

WHY KELLER/KJ? Keller knows the City. KJ knows the plan. Together, our integrated team brings the local presence, MBR expertise, regulatory continuity, and proven delivery experience to move the City confidently from planning through design and construction.



SECTION 3. PROJECT TEAM

The City needs a team that remains engaged through startup and commissioning, not one that transitions responsibilities after design. The Keller/KJ team includes the author of the 2026 WWTP Facility Plan Amendment, engineers with prior experience at the City's wastewater facilities, and one of the few Oregon teams with direct Three Basin Rule and MBR retrofit experience. Our Oregon-licensed engineers bring extensive MBR expertise, and several have previously worked with the City, enabling immediate collaboration without a lengthy onboarding process. We will plan and design a retrofit that maintains compliance and reliable plant operations throughout the retrofit while meeting Consent Decree schedule requirements.

ORGANIZATIONAL STRUCTURE, COMMUNICATION, AND KEY PERSONNEL

Jason King, PE, will serve as Project Manager and primary point of contact, with Peter Olsen, PE, providing executive oversight as Principal-in-Charge. Supported by technical leads and subject matter experts, our team combines established City and Program Team relationships with a clear delivery structure. Regular coordination meetings and site visits will support timely decisions and consistent engagement throughout the project. **Full resumes are provided in Appendix: Resumes.**

Local presence available for regular meetings with the City

ROBERT PEACOCK, PE[KJ*]
Planning and Implementation Advisor

JASON KING, PE[K*]
Project Manager

PETER OLSEN, PE, CWRE[K*]
PIC/QA/QC Manager

DALLIN STEPHENS, PE[K*]
Design Manager

PAMELA VILLARREAL, PE[K*]
Project Engineer

Eric Roundy, PE, BCEE[K*]
MBR/Aeration Expert

Holly Johnson, PE[K*]
UV

Michael Schulz, PE[K*]
Headworks

Luke Werner, PE[KJ*]
Solids Handling

James Bowland[KJ*]
Recycled Water Pipelines

SUPPORT TECHNICAL LEADS

Brandon Keller, PE, SE[K]
Structural

Chandler Mendenhall, PE[K]
Electrical

Curtis Butterfield, PE[K]
HVAC

Bradley Culver, PE[K]
Controls

Ryan Retzlaff[K]
Site/Civil

Mark Preston, RA[KJ]
Architect

SUBCONSULTANTS

David Hansen[ORC]
Property Acquisition

Steven Howell, PLS[FFN]
Survey

Jordan Melby, PE[S&W]
Geotechnical

Leyla Arsan[SWCA]
Environmental (as needed)

Matt Kohlbecker, RG[GSI]

Jason Keller, RG[GSI]
Hydrogeologist, Infiltration Expert (as needed)

*K = Keller | KJ = Kennedy Jenks | ORC = O.R. Colan Associates | FFN = FFN Surveying | SWCA = SWCA Environmental Consultants | GSI = GSI Water Solutions, Inc. | Key Team Members**

JASON KING, PE (OR #92481PE) | PROJECT MANAGER

Education: BS, Civil Engineering, University of Idaho | **Availability:** 35% through design, construction, startup, and commissioning

Jason will be the City's primary point of contact and remain accountable from design through startup and commissioning. He will coordinate the City, Program Manager, regulators, subconsultants, and Keller's discipline leads; manage scope, schedule, budget, and decisions; and sequence the live facility retrofit to protect permit compliance and reliable operations. His treatment-process, constructability, value-engineering, and construction-management experience gives the City one leader who can carry decisions through the project lifecycle.

- **16 years of wastewater planning, design, and construction experience**
- **Led more than $100M in treatment facility improvements within the past three years**
- **Jason's proactive, disciplined project management approach has resulted in projects delivered on schedule and with less than 1% change orders.**

Relevant experience:

Project	Primary Treatment (Headworks and Grit Removal)	Secondary Treatment (Clarification, Aeration, MBR, Filtration, UV)	Solids Handling (Digestion and Dewatering)	Construction Cost	% Change Order
Lewiston WWTP	✓	✓	✓	$34M	0.65%
Jerome WWTP	✓	✓	✓	$25M	0.75%
SSWD* WWTP	✓	✓	✓	$30M	-0.54%

**Star Sewer & Water District*

PETER OLSEN, PE (OR #83510PE) | PIC/QA/QC MANAGER

Education: MS, Civil Engineering, Brigham Young University | **Availability:** 30%

Peter serves as Keller's Oregon Area Manager and Salem Office Manager with 21 years of experience delivering water, wastewater, and stormwater infrastructure projects. As Principal-in-Charge/QA/QC Manager, he will provide executive oversight, support key project decisions, and ensure the resources and quality controls needed to meet the Consent Decree schedule through construction and commissioning.

- **Led 30+ utility planning studies**
- **Oregon Area Manager with direct access to Keller's regional resources**
- **Executive oversight, QA/QC, and strategic guidance for the City**

Relevant experience: North Santiam Canyon Regional Sewer project, Marion County, OR | Farmington Road Booster Pump Station and Grabhorn Reservoir, Tualatin Valley Water District, OR | Sheridan Lift Station and Force Main Improvements, Sheridan, OR | Amity Water System Improvements, Amity, OR

DALLIN STEPHENS, PE (OR #101138PE) | DESIGN MANAGER

Education: MS, Civil Engineering, Utah State University | **Availability:** 35%

Dallin will integrate the City's process, civil, structural, mechanical, electrical, controls, and permitting work into one coordinated design. His experience across liquid treatment, solids treatment, reuse, energy recovery, chemical systems, odor control, and MBR facilities will help the team identify interfaces early, phase work around the operating plant, and produce a complete, constructible package. He will also lead interdisciplinary reviews, so the City receives consistent documents with fewer bid and construction issues.

- **15+ years in wastewater treatment planning, design, and construction**
- **Led multidisciplinary 30+ person teams**
- **Planned or designed nearly 10 MBR treatment plants**

Relevant experience: WWTP Improvements, Beaumont, CA* | WWTP Improvements, Preston, ID | Mill City WWTP, Marion County, OR | WWTP Headworks Improvements, Nampa, ID | WWTP Improvements, Gooding, ID | WWTP Improvements, John Day, OR | WWTP Upgrade Project, Imperial, CA* (*Completed prior to Keller)

PAMELA VILLARREAL, PE (OR #100901PE) | PROJECT ENGINEER

Education: BS, Civil Engineering, University of California at Los Angeles | **Availability:** 40%

- **Municipal permitting, funding, and infrastructure-delivery specialist**
- **Experience guiding projects through state and federal review**
- **Wastewater project experience from planning through construction**

Pamela will help the City align design decisions, permitting documentation, funding requirements, and agency reviews so approvals do not become a critical-path delay. She will coordinate regulatory and funding submittals with the technical team, track commitments through design, and support compliance during construction. Her inclusion gives the City a dedicated bridge between engineering delivery and the state and federal processes that will shape the project.

Relevant experience: Gates Collection System and Force Main, Marion County, OR | Mill City and Gates Municipal Wastewater Treatment Plant, Marion County, OR | WWTP Improvements, Gooding, ID | Lagoon Rehabilitation and Collection System Improvements, Reliance, WY | ARPA Waterline, Gates, OR

ERIC ROUNDY, PE (OR #90089PE), BCEE | MBR/AERATION EXPERT

Education: MS, Environmental Engineering, University of Illinois Urbana-Champaign
Availability: 30%

- **22 years of wastewater process experience**
- **Evaluated, troubleshot, or designed multiple municipal and industrial MBRs**
- **Former Membrane Equipment Manufacturer Engineer**

Eric will lead process design for Sandy's MBR conversion, including membrane-system criteria, process performance, equipment evaluation, operability, and coordination with the liquid-stream design.
His combined manufacturer and consulting perspective will help the City test vendor claims, establish practical performance requirements, and design a system that operators can reliably maintain. As a Value Methodology Associate, he will also help balance lifecycle value, redundancy, energy use, and constructability.

Relevant experience: SSWD WWTP Improvements, Star, ID | The Confederated Tribes of Grand Ronde, OR | Kuna North WWTP, ID | Jerome WWTP, ID | North Lake Recreational Sewer and Water District (NLRSWD) WWTP Improvements, ID

HOLLY JOHNSON, PE (OR #88574PE) | UV

Education: MS, Civil Engineering, University of Nebraska-Lincoln | **Availability:** 30%

- **36 years of wastewater process engineering experience**
- **UV disinfection, MBRs, activated sludge, hydraulics, and facility layout expertise**
- **Senior Technical Advisor for process optimization and cost estimating**

Holly will lead the City's UV disinfection design and provide senior review of process hydraulics and treatment integration. She will verify that the UV system is appropriately sized for projected conditions, coordinates with the MBR effluent characteristics, and can be operated and maintained reliably. Her broad process background will help the City evaluate tradeoffs across headworks, membranes, solids, hydraulics, layout, and cost rather than optimizing UV in isolation.

Relevant experience: SSWD WWTP Improvements, Star, ID | WWTP Improvements, Lewiston, ID | Headworks Building and UV/MBR Improvements, Jerome, ID | WWTP Headworks, Nampa, ID

MICHAEL SCHULZ, PE (ID) | HEADWORKS

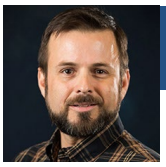
Education: ME, Civil Engineering, Boise State University | **Availability:** 35%

- **Wastewater facility planning, design, and construction experience**
- **Specialist in headworks, pumping, phasing, and collaborative delivery**
- **Helped deliver more than $100M in wastewater infrastructure**

Michael will lead the City's headworks design, with emphasis on reliable screening, hydraulics, maintainability, and construction sequencing at an operating plant. He will work with City operators to develop practical layouts and access provisions, then coordinate phasing with the MBR conversion and other site improvements.

His project delivery and construction experience will help identify early work packages and reduce shutdown and change-order risk.

Relevant experience: WWTP Headworks Improvements, Nampa, ID | SSWD WWTP Improvements, Star, ID | WWTP Improvements, Gooding, ID | Solids Handling and Digestion, Caldwell, ID | Wastewater Treatment Improvements, Rigby, ID



ROBERT PEACOCK, PE (#67045PE) | PLANNING AND IMPLEMENTATION ADVISOR

Education: ME, Environmental Engineering, University of Florida | **Availability:** 40%

- **32 years of planning and designing wastewater capital improvements**
- **Led City's 2026 Wastewater Facility Plan Amendment**
- **City and District engineering perspectives within Oregon state**

Robert will serve as the City's Planning and Implementation Advisor, carrying the basis, assumptions, and recommendations of the Facility Plan Amendment into design decisions. He will help the team confirm that alternatives, phasing, and investments remain aligned with the City's long-term strategy, regulatory commitments, and operating realities. His involvement gives the City continuity from the recently completed planning work into design, construction, and future implementation.

Relevant experience: Wastewater Facility Plan Amendment, Sandy, OR | Primary Treatment Addition, Forest Grove, OR | MBR WWTP Design-Build Engineering, Marion County, OR | Ferric Chloride System Rehabilitation at Columbia Boulevard WWTP, Portland, OR

LUKE WERNER, PE (#63241PE) | SOLIDS HANDLING LEAD

Education: BS, Environmental Engineering, Oregon State University | **Availability:** 25%

- **25+ years in wastewater, biosolids, and resource-recovery facilities**
- **Specialist in digestion, dewatering, biosolids management, and odor control**
- **Oregon-based experience with municipal solids improvements**

Luke will lead evaluation and design of the City's solids handling improvements, including process selection, equipment criteria, operability, odor control, and provisions for future needs. He will coordinate solids loading and handling requirements with the MBR process so liquid- and solids-stream decisions support one another. His role gives the City a specialist focused on reliable daily operations, hauling and disposal implications, and lifecycle value.

Relevant experience: Biosolids Handling Facilities and Odor Control Improvements, Washougal, WA | Water Reclamation Facility Solids Handling Improvements, Albany, OR | Pleasant Grove WWTP Expansion, Roseville, CA | WWTP Phase 1 Facility Plan, Pre-Design, and Design, Pendleton, OR

JAMES BOWLAND, PE (CA, ID, MT, WY) | RECYCLED WATER PIPELINES

Education: BS, Environmental Engineering, Montana State University | **Availability:** 30%

- **29 years in water and wastewater pipeline infrastructure**
- **Designed 100+ miles of pipeline**
- **Alignment, rehabilitation, condition assessment, and construction support**

James will lead the City's recycled-water pipeline design, including alignment development, utility coordination, constructability, permitting support, cost estimating, and construction-phase services. He will coordinate the pipeline with the Jarl Road site, receiving facilities, easement needs, and system operations so the conveyance solution is buildable and supports the City's long-term reuse strategy.

Relevant experience: Upper Tualatin Interceptor, Washington County, OR | Pipeline West 1.0 Final Design, Hillsboro, OR | Lake Oswego-Tigard Finished Water Pipeline Services, Lake Oswego, OR

SUBCONSULTANT HISTORY, PROFILE, AND SPECIALTIES

S&W is an employee-owned geotechnical and environmental consulting firm with 30 Portland-area staff and more than 385 employees nationwide. The firm has experience with site conditions near the Sandy WWTP and has supported over 70 wastewater treatment plant projects. Key specialties include geotechnical investigations, foundation design, seismic evaluation, groundwater assessment, and construction support.

GSI is an employee-owned hydrogeologic consulting firm founded in 2000 in Portland, Oregon. The firm specializes in wastewater infiltration projects, hydrogeologic investigations, groundwater evaluations, underground injection control permitting, and Oregon DEQ wastewater infiltration requirements, including projects affected by the Three Basin Rule.

ORC, founded in 1969, is a national right-of-way and land acquisition firm serving public infrastructure clients nationwide. ORC specializes in property acquisition, title research, rights-of-entry, appraisal coordination, and owner negotiations for water and wastewater projects.

SWCA is an environmental consulting firm with more than 45 Pacific Northwest specialists and 1,600 employees nationwide. SWCA provides environmental planning, permitting, wetland delineation, biological assessments, and cultural resource services and has partnered with Keller on projects throughout Oregon for more than 20 years.

FFN is a professional land surveying firm founded in 2018 with more than 20 years of combined staff experience. The firm specializes in boundary surveying, topographic mapping, and construction layout and **recently supported the Sandy WWTP Equalization Basin Expansion.**

SECTION 4. RELATED EXPERIENCE AND REFERENCES

The City's Jarl Road WWTP must remain operational throughout design and construction while meeting Consent Decree and National Pollutant Discharge Elimination System Permit requirements. We regularly deliver improvements at active facilities under regulatory, schedule, and budget constraints. Our selected projects were chosen because they demonstrate the four capabilities most important at Jarl Road: MBR implementation, active-facility retrofits, headworks and solids improvements, and regulatory-driven delivery.

NORTH SANTIAM CANYON REGIONAL SEWER PROJECT | MARION COUNTY, OR

NORTH SANTIAM CANYON REGIONAL SEWER PROJECT

Keller had extensive involvement in the Three Basin Rule change process, assisting the County with the DEQ rulemaking process. The amended Three Basin Rule opened the door for this and other wastewater projects within each of the Three Basins to comply with the rule, while allowing for an NPDES permit to be issued and therefore show compliance with the Supreme Court's Maui Decision.

Reference: Brian Nicholas, Public Works Director, (503) 588-7943, pwdirector@co.marion.or.us | **Team Members:** Jason King (Senior Engineer/QA/QC), Peter Olsen (Project Manager), Dallin Stephens (Design Manager), Pam Villarreal (Deputy PM/Project Engineer), Bradley Culver (Instrumentation and Controls), Brandon Keller (Structural Engineer), Michael Schulz (Senior Engineer), Holly Johnson (Process Design), Eric Roundy (Process Lead), Chandler Mendenhall (Electrical), Curtis Butterfield (HVAC/Plumbing), and Ryan Retzlaff (Senior Stormwater Design) | **Time Frame:** Design and Construction Services, 2022 to 2026

Owner Challenge: The North Santiam River Basin is identified as a critical Basin under the Oregon DEQ's Three Basin Rule. The region utilized septic tanks and drainfields for wastewater, which limited the ability to grow. To design and construct a centralized WWTP, our team had to overcome regulatory challenges by supporting a Three Basin Rule revision process, including defining acceptable design criteria and discharge alternatives.

Project Scope: Our team completed the conceptual planning study, North Santiam Sewer Authority Master Plan, and design of a regional wastewater system serving Mill City, Gates, and surrounding communities. The project includes a collection system, lift stations, three miles of force main, and a sequencing batch reactor treatment plant with tertiary filtration, UV disinfection, and rapid infiltration basins for disposal. Keller also provided in-house electrical, controls, civil, structural, architectural, and mechanical design.

Solutions Provided: We evaluated regionalization alternatives and developed a phased implementation strategy that minimized treatment facilities, lift stations, and force mains while improving long-term system efficiency. We met with state regulators, performed extensive groundwater modeling, and designed a treatment solution that complies with the facility's anticipated discharge permit. Our team analyzed force main routes and collection system configurations to improve constructability and reduce infrastructure needs. We also developed interim capacity solutions that allowed community development projects to move forward while the regional system advances through design and implementation.

Relevance: Headworks, filtration, and UV experience ✓ Collection system and lift station design ✓ Phased project delivery ✓ Regulatory permitting (Three Basin Rule) ✓ Multidisciplinary coordination

SSWD WWTP IMPROVEMENTS | STAR, ID

SSWD WWTP MBR Splitter Box

Reference: Ryan Morgan, PE, City Engineer, (208) 286-7247, rmorgan@staridaho.org | **Team Members:** Larry Rupp (Technical Advisor), Michael Schulz (Project Engineer), Holly Johnson (Project Engineer), Jason King (Senior Engineer/Cost Control), Eric Roundy (Process Engineer), Adam Neiwert (Electrical), Brandon Keller (Structural), Dallin Stephens (QA/QC)
Time Frame: Design and Construction Services, 2018-2022

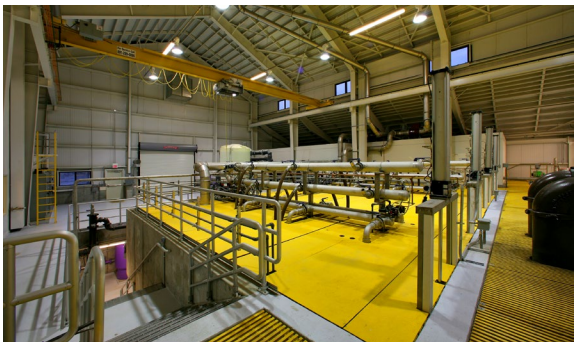
Owner Challenge: SSWD needed a major WWTP expansion to meet Boise River discharge requirements and support rapid growth. To meet EPA compliance, the design and construction needed to be delivered on a compressed schedule.

Project Scope: Our team provided planning, design, and construction phase services for SSWD's $30M+ WWTP upgrade. Our multidisciplinary team included civil, structural, mechanical, electrical, and controls design, and construction engineering services included comprehensive construction management with full-time observation across all disciplines.

Solutions Provided: Keller conducted phosphorus-removal pilot testing and designed a new 17.2 million gallons per day (MGD) headworks facility. Improvements included expanded membrane capacity, UV disinfection, solids handling, chemical systems, lagoon repurposing, and associated electrical and controls upgrades. The project was completed with negative change orders and nearly two years ahead of the EPA compliance deadline.

Relevance: Headworks design ✓ Grit removal systems ✓ Odor control ✓ MBR facilities ✓ UV disinfection ✓ Phased expansion ✓ Construction phasing ✓ Active facility upgrades

NLRSWD MBR WWTP IMPROVEMENTS | DONNELLY, ID



NLRSWD WWTP Membrane Tanks

Reference: Travis Pryor, Operations Manager, (208) 606-8580, travis@northlakesewerwater.com | **Team Members:** Jason King (Project Manager), Dallin Stephens (Design Manager), Eric Roundy (MBR Process Lead), Michael Schulz (Headworks Lead), Holly Johnson (UV Lead), Brandon Keller (Structural Lead)
Time Frame: Design and Construction Services, 2018-2022

Owner Challenge: Rapid growth in the Tamarack Resort area required additional treatment capacity while protecting Lake Cascade water quality. NLRSWD needed a system capable of meeting strict phosphorus limits, supporting reuse, and accommodating future growth and permit requirements.

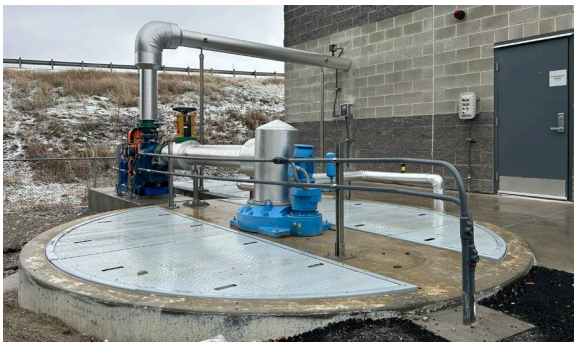
Project Scope: Our team completed planning, design, permitting, construction support, and startup for a new 1.25 MGD MBR facility serving Donnelly and Tamarack Resort. The project included membrane treatment, reuse infrastructure, and integration with the existing lagoon system.

We prepared key permits and continue to support capacity planning, membrane evaluations, and headworks improvements.

Solutions Provided: Keller developed an MBR system capable of achieving phosphorus concentrations below 0.1 milligrams per liter while supporting reuse and rapid infiltration. We helped secure permitting and planned for future expansion. Additionally, we continue to support treatment optimization, membrane upgrades, capacity planning, and regulatory compliance.

Relevance: MBR treatment ✓ Headworks improvements ✓ Water reuse ✓ Regulatory permitting ✓ Capacity expansion ✓ Active facility upgrades ✓ Construction phasing ✓ Long-term client support

WWTP IMPROVEMENTS | PRESTON, ID



Preston WWTP New Headworks

Reference: Dan Keller, Mayor, (208) 852-6033, dank@prestonid.us **Team Members:** Jason King (QA/QC Manager), Brandon Keller (Structural), Brad Culver (Electrical/Controls Lead), Eric Roundy (Process Design Lead), Michael Schulz (Project Engineer), Dallin Stephens (Filter Building Mechanical Design) **Time Frame:** Facility planning began in 2018; design completed in 2022; construction and startup were completed in 2026

Owner Challenge: The City needed to replace an aging wastewater treatment plant, meet upcoming stringent phosphorus permit limits, manage variable flows, and expand capacity without a significant increase in operator workload.

Project Scope: Our team completed facility planning, pilot testing, design, funding support, and construction services for WWTP improvements including a new headworks facility, grit removal, influent pump station, equalization basin, oxidation ditches, clarifiers, phosphorus removal, membrane ultrafiltration, UV disinfection, and screw press dewatering. Keller also served as Construction Manager.

Solutions Provided: We designed a headworks and grit removal system capable of removing 95% of grit passing a 50-mesh screen. Our team added flow equalization and influent pumping to manage seasonal flows, supported selection of phosphorus treatment technologies (with the final selection and design of hollow tube membranes), secured more than $69M in funding, and helped keep construction on schedule and under budget.

Relevance: Headworks design ✓ Grit removal ✓ Influent pump stations ✓ Ultrafiltration ✓ UV disinfection ✓ Solids dewatering ✓ Construction management ✓ Regulatory compliance

WASTEWATER SYSTEM IMPROVEMENTS | ESTACADA, OR (KJ RELATED EXPERIENCE)

Wastewater System Improvements Estacada, OR

Reference: Elaina Turpin, (503) 630-8265, turpin@cityofestacada.org | **Team Members:** Mark Preston (Architect), Luke Werner (Solids) | **Time Frame:** 2023–2024

Owner Challenge: This project replaced the aging WWTP in Clackamas County. The new plant needed to provide a high-quality effluent to achieve the client's goal of accommodating growth while maintaining its permitted mass load limit to the Clackamas River.

Scope: KJ provided planning, permitting, design, and construction support for a new WWTP, gravity sewer, pump station, force main, and relocated outfall. Working closely with the City and CM/GC team, KJ helped deliver a cost-effective project and successful construction outcome.

Solutions Provided: KJ provided permitting and planning support for improvements including headworks screening, pump stations, an MBR, aerobic digestion, biosolids thickening and dewatering, and UV disinfection. The project supports future growth, replaces aging infrastructure, and meets Oregon DEQ and EPA reliability requirements.

Relevance: MBR treatment ✓ Headworks ✓ Biosolids ✓ UV disinfection ✓ Oregon DEQ permitting ✓ Demonstrates regulatory compliance ✓ WWTP improvement

ADDITIONAL RELEVANT KELLER/KJ EXPERIENCE (NOT ALL-INCLUSIVE)

Project Name/Location	MBR	Work in Existing Facilities	Greenfield vs. Retrofit/Invasive Retrofits	Headworks	Solids Handling
Kuna MBR WWTP/Kuna, ID	✓	✓	Greenfield	✓	✓
WWTP Improvements/Aurora, OR		✓	Retrofit	✓	✓
WWTP Upgrades/Jerome, ID	✓	✓	Retrofit	✓	✓
WWTP Improvements/Clarkston, WA		✓	Retrofit	✓	✓
WWTP Improvements/Stayton, OR		✓	Retrofit	✓	✓
MBR WWTP Upgrade, Construction Management/Dundee, OR	✓	✓	Greenfield/ Retrofit		
Brightwater Reclaimed Water/ Woodinville, WA	✓	✓	Retrofit		
WWTP Expansion and Upgrade/ Arlington, WA	✓	✓	Invasive Retrofit		✓
Water Reclamation Facility MBR and UV Disinfection / Ventura, CA	✓	✓	Retrofit		✓
WWTP MBR Upgrade and Expansion/ La Center, WA	✓	✓	Invasive Retrofit		✓
WWTP Improvements/Pendleton, OR		✓	Invasive Retrofit	✓	✓

Experience with Sandy: In addition to these relevant wastewater projects, we bring active experience working with the City. Recently, we completed the Alder Creek WTP Membrane Filtration Upgrade while keeping the facility in service and are currently delivering the Sandy WWTP Effluent Pump Station Improvements to support compliance with the City's DEQ Consent Decree. This ongoing partnership provides direct familiarity with City staff, facilities, regulatory requirements, and delivery expectations.

SECTION 5. PROJECT APPROACH

UNDERSTANDING PROJECT NEEDS AND SCOPE

The Keller/KJ team understands that the City must retrofit the operating Jarl Road WWTP to an MBR configuration while maintaining continuous treatment operations and compliance with the requirements of the 2023 Consent Decree with the Oregon DEQ and EPA. The project must be delivered without service interruptions, permit exceedances, or loss of treatment capacity.

At scoping kickoff, Jason King will lead a scope-confirmation workshop with the City, Program Manager, operations staff, and Keller/KJ discipline leads. The team will reconcile the RFP, 2026 WWTP Facility Plan Amendment, available record drawings, Consent Decree commitments, current projects, operating data, and known site constraints. We will use this information, along with our past experiences with the City, to confirm project goals, identify project challenges and risks, and set the framework for the early key decisions that will lead to a successful project.

ASSIGNING STAFF/COORDINATION WITH CITY

Our team will work closely with the City and Program Manager to refine project needs, scope, and staffing throughout the project. Through regular coordination meetings and MS Teams collaboration, we will maintain clear communication, defined responsibilities, and timely decision-making. Agendas, meeting notes, risk registers, and decision logs will document progress, while advance review of deliverables and coordinated scheduling will support efficient planning, including opportunities to accelerate construction through early equipment procurement.

Collaboration with the project team, City staff, program team, and regulatory agencies will be fundamental to the project's success and meeting operational goals. Our approach includes:

- Defining consultant/City/program team responsibilities
- Bi-weekly meetings with City/program team
- Identifying challenges and recommending solutions, while seeking City/program team input
- Collaborating with regulators
- Keeping web-based file sharing current
- Incorporating City design preferences
- Communicating with operations during design, construction, and startup

APPROACH TO ACCOMPLISHING TASKS

TASK 1 - PROJECT MANAGEMENT

Jason will be the City's single point of accountability and will coordinate the Keller/KJ team as one integrated organization. At kickoff, we will confirm communication protocols, submittal dates, decision authorities, review durations, Program Manager interfaces, and responsibilities among the City, Program Manager, Keller/KJ, subconsultants, and permitting agencies. Jason will assign discipline staff by task and milestone, then adjust staffing as decisions or field conditions change.

Deliverables: Project management plan; responsibility matrix; baseline and monthly updated schedule; meeting agendas and minutes; decision log; risk register; action-item log; monthly invoice and progress report with earned-value metrics in a PDF format.

Engagement and Key Milestones: Kickoff and scope-confirmation workshop; bi-weekly progress meetings; monthly schedule, budget, and risk review; focused technical workshops before major decisions; review resolution meeting after each design submittal.

TASK 2 - ENGINEERING AND DESIGN PHASE SERVICES

Design will begin with confirmation of existing conditions. A licensed survey team will complete topographic survey and base mapping, including visible utilities, structures, grades, and features needed for design. S&W, a qualified geotechnical subconsultant, will evaluate subsurface conditions at proposed structures and site-grading areas and provide design and construction recommendations. Keller/KJ will review available wetlands information (recycled water pipeline route) and promptly advise the City if field conditions indicate that additional evaluation is warranted.

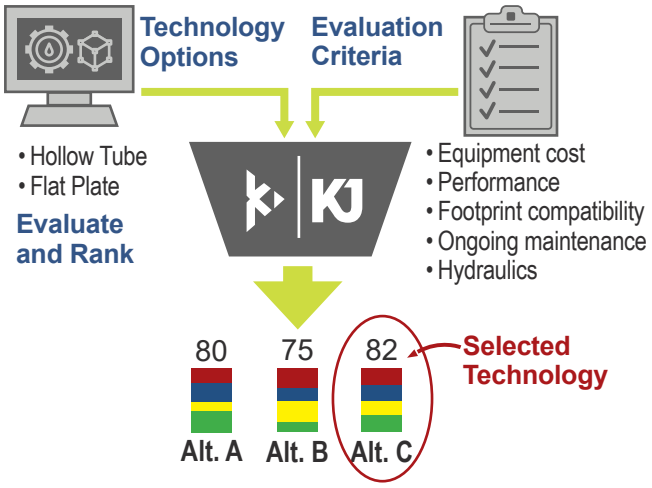
Deliverables: Survey control, topographic base map, and Civil 3D surface; geotechnical report; and documentation of existing-conditions and data-gap summary memo.

Engagement and Key Milestones: Fieldwork plan coordinated with operations; existing-conditions review with City and Program Manager; early data-gap decision point before Basis of Design alternatives are finalized.

BASIS OF DESIGN AND EQUIPMENT DECISIONS

Keller/KJ will prepare a Basis of Design Report (BODR) that documents confirmed flows and loads, anticipated discharge criteria, process modeling, hydraulic profile, design criteria, equipment alternatives, site layout, preliminary phasing, electrical load strategy, local SCADA strategy, and opinion of probable construction cost (OPCC). Where permit limits are not yet final, we will identify design assumptions, sensitivity ranges, and adaptable features so the City can continue design without unknowingly locking into unnecessary capacity or performance design criteria.

PERMIT-INFORMED DESIGN CRITERIA. We will coordinate early with Oregon DEQ to establish design criteria, align with seasonal discharge requirements, and leverage the existing equalization basin to reduce treatment costs while meeting permit compliance.



Our team combines an evaluation of equipment with appropriately weighted criteria that are important for your project to select the best technology fit.

The BODR will include structured evaluations of equipment alternatives to identify the technologies best suited to the City's facility. This will include MBR types (hollow tube vs. flat plate membranes), preliminary screening (two-stage vs. single-stage screening), basin mixing types (eductor vs. propeller vs. pumped), and mixed liquor, permeate and waste activated sludge pumping (submersible, axial flow, positive displacement). We will compare the various options against life cycle costs, footprint requirements, maintenance requirements, and other key factors that are important to the City. These options will then be scored to identify the best fit for the City.

Like our approach at Alder Creek WTP, we will identify long-lead equipment that may benefit from pre-selection or pre-purchase and provide the City with the schedule, procurement, assignment, and risk implications of each procurement strategy.

Deliverables: Draft and final BODR; process-modeling summary; hydraulic profile; alternatives evaluation and decision matrix; preliminary equipment list; site plan and phasing concept; procurement recommendation; updated construction cost opinion.

Engagement and Key Milestones: Design-criteria workshop; equipment-selection workshop; BODR review workshop; Oregon DEQ coordination at design-criteria and discharge-assumption milestones; City and Program Manager approval of the design basis before advancing detailed design.

INTEGRATED DETAILED DESIGN

Following BODR approval, the team will advance coordinated 30%, 60%, 90%, Final, and Issued for Construction (IFC) documents. Revit and Civil 3D will be used where applicable to coordinate structures, equipment, piping, access, maintenance clearances, site work, and utilities. Each milestone will include reports, plans, details, specifications, calculations, an updated construction schedule and phasing plan, and an Engineer's OPCC. Independent technical review and interdisciplinary coordination will be completed before each submittal, followed by a documented comment-resolution process to incorporate City and Program Manager feedback.

The design will address the improvements as an integrated operating facility: headworks and screening; aeration/anoxic and MBR conversion; supplemental carbon; biosolids dewatering and storage; UV and effluent systems; recycled-water pipeline replacement; electrical service and distribution; standby power; instrumentation; and local SCADA controls. We will define interfaces for City-performed SCADA integration and provide the points list, control narratives, local panels, network and security requirements, and testing responsibilities needed to avoid gaps between the construction contract and the City's integrator. The site layout will incorporate concepts to manage parking and other site layout considerations as the facility becomes more densely developed.

Deliverables: 30%, 60%, 90%, Final, and IFC design packages in PDF; Revit/Civil 3D models as applicable; design calculations; technical specifications; control narratives and input/output information; phasing and temporary-works requirements; permit-support documents; OPCC at each milestone.

Engagement and Milestones: Operations and maintenance review at each milestone; 30% layout/phasing confirmation; 60% discipline and equipment coordination; 90% constructability and permit-readiness review; Final/IFC authorization after comment closure.

Our Electrical and Controls team has worked at your WWTP and understands the existing system limitations. Evaluation, phasing, and pre-purchase of key components will reduce shutdowns and unforeseen delays.

ELECTRICAL STRATEGY: EVALUATE > DECIDE > DESIGN

01 | EVALUATE

Understand the existing system.

- Inspect key electrical equipment
- Meter loads and assess capacity
- Evaluate condition and code compliance
- Use thermal inspections to inform reuse decisions

02 | DECIDE

Establish the right long-term strategy.

- Reuse what provides long-term value
- Replace aging or capacity-constrained equipment
- Evaluate existing vs. new service
- Engage PGE early, if needed
- Consider cost, footprint, and sequencing impacts

03 | DESIGN

Engineer the transition.

- Design new loads, MCCs, standby power, and controls
- Define temporary power and cutovers
- Sequence demolition after new systems are operational
- Coordinate shutdowns with process work
- Modernize motor controls where practical

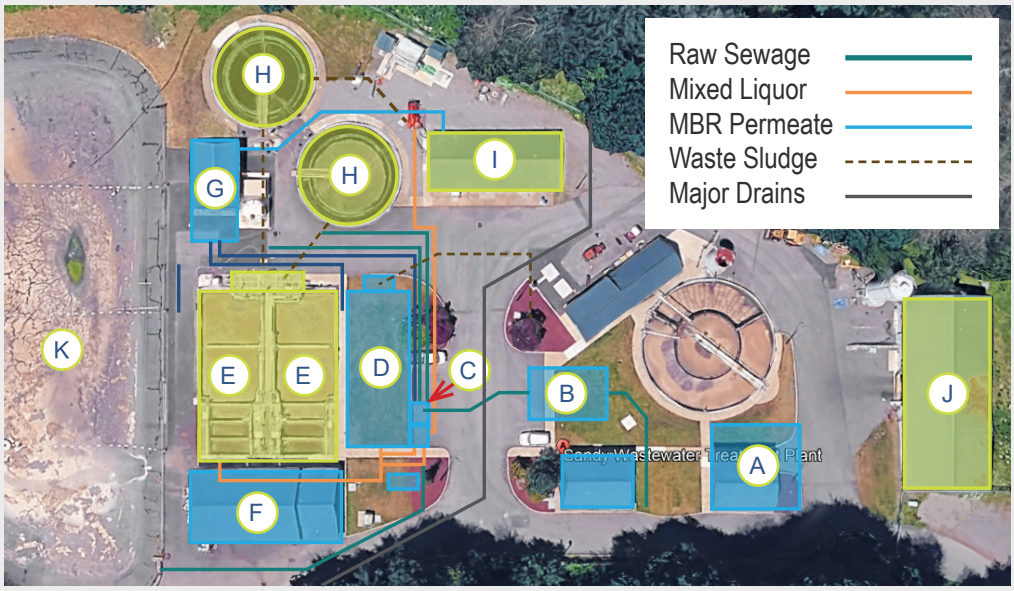
DESIGN FOCUS: MAINTAIN OPERATIONS WHILE BUILDING THE MBR FACILITY

Construction sequencing is a design input, not a note added at the end. Keller/KJ will develop a step-by-step sequence that identifies temporary facilities, tie-ins, shutdown windows, bypass needs, testing prerequisites, operator training, and the point at which each new process becomes reliable enough to release existing facilities for retrofit. The sequence will be validated with operations staff and carried consistently through drawings, specifications, schedule, and cost estimates.

This graphic reflects our initial phasing concepts for your facility, developed from available information. We will listen closely to operators, document critical operational constraints, and refine the approach with City staff to maintain continuous treatment throughout construction.

Phase 1

Phase 2



A. **Existing Headworks:** New coarse screens and additional grit chambers, constructed while existing headworks operates.
B. **Fine Screens:** New fine screens to protect MBRs.
C. **MLSS Pump Station + Splitter Box:** Flow splitting to anoxic basins, with overflows to storage pond. Constructed with new aeration/MBR basin.
D. **Aeration/MBR Basin:** New basin constructed adjacent to existing basins (with similar dimensions).
E. **Existing Aeration Basins:** Retrofit with aeration and membranes.
F. **Existing Blower Building:** New blowers installed in shop area with new electrical service nearby. Initial blowers installed with "D"; additional blowers installed later.
G. **WAS Pump Building:** Expanded to accommodate permeate pumps and chemical dosing systems, constructed with "D" and then remaining equipment installed once clarifiers are retrofitted.
H. **Existing Clarifiers:** Retrofitted as anoxic basins, after membranes are installed in existing basins.
I. **Existing Disinfection Building:** Keep existing UV and expand as needed; work can be independent of other processes.
J. **Existing Sludge Dewatering Building:** Install two new screw presses and conveyance system; work can be independent of other processes.
K. **Existing Storage Pond:** Modified to accept overflow after fine screens; work can be independent of other processes.

- **Energy, Permitting, and Agency Coordination**
  Keller/KJ will coordinate with Energy Trust of Oregon early enough for eligible energy-saving measures to influence equipment selection and grant opportunities. We will provide energy data and design information for aeration, pumping, mixing, membranes, solids handling, and controls and will track resulting requirements in the BODR and design documents.

  The City and Program Manager will lead land-use approvals and applications. Like previous projects, Keller/KJ will support those efforts with drawings, technical memoranda, specifications, calculations, and responses to review comments. We will also support City-led coordination with Oregon DEQ and other permitting agencies. Agency engagement will be targeted to confirm the design basis, treatment assumptions, standard building and site permits, and construction or startup conditions that could affect the documents or schedule.

- **Quality, Constructability, and Decision Control**
  Each milestone undergoes three reviews before submittal: technical QA/QC, interdisciplinary coordination, and project manager verification of requirements, risks, cost, and schedule. As PIC/QA/QC Manager, Peter Olsen will oversee and document the process. Comments and decisions will be tracked, assigned, resolved, and reviewed with the City and Program Manager.

TASK 3: BID PHASE SERVICES

Keller/KJ will support solicitation through award, including the pre-bid meeting, bidder questions and addenda, substitutions, bid evaluation, and award recommendation. Reviews will confirm consistency with design intent, funding requirements, and phasing

Deliverables: Pre-bid materials; bidder responses and addenda.

Engagement and Key Milestones: Substitution/exception review and bid evaluation meeting with City and Program Manager

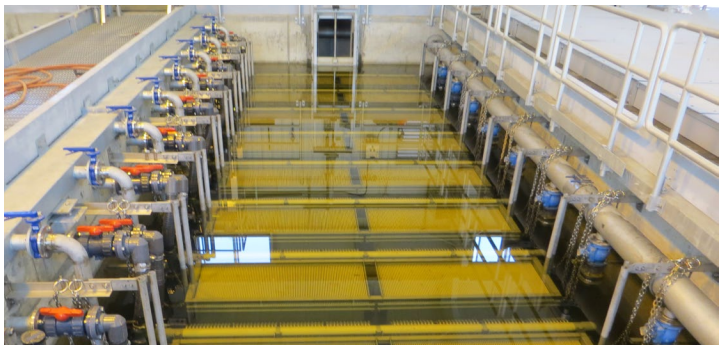
TASK 4: ENGINEERING SERVICES DURING CONSTRUCTION

Our team will provide design continuity through construction, including submittal and RFI review, change documentation, site observations (as needed), permitting coordination, startup and training support, and record documentation. Priority will be given to schedule-critical activities, shutdowns, and tie-ins.

Deliverables: Submittal/RFI responses; clarifications and change documents; site reports; O&M review; startup/training records; punch lists; record drawings; warranty inspection record.

Engagement and Key Milestones: Preconstruction; progress meetings; shutdown/tie-in reviews; testing and startup; substantial/final completion.

At the Alder Creek WTP, our team consistently completed submittal and RFI reviews ahead of schedule and provided expedited reviews at the Program Manager's request to keep construction moving.



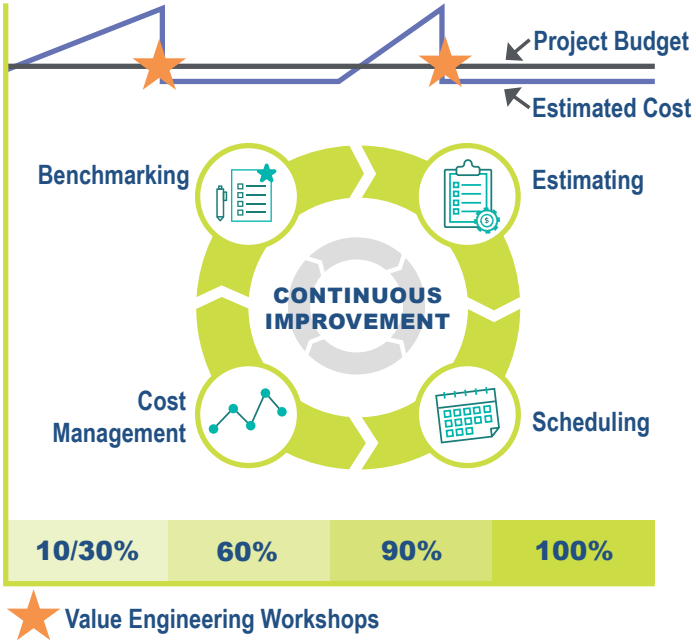
A proven approach to complex WWTP upgrades. Our team delivered **$30M+ in WWTP improvements** for the City of Jerome, including a new **20 MGD headworks facility**, clarifiers, digestion, solids handling, and UV disinfection. The project doubled hydraulic capacity, replaced aging infrastructure, and secured **$1M+ in energy incentives.**

TASK 5: COST ESTIMATION

Cost management will continue from BODR through IFC. At each milestone, Keller/KJ will prepare an OPCC appropriate to the design maturity, identify assumptions and allowances, address phasing and temporary work, and reconcile costs against the prior estimate and City budget. We will actively manage the anticipated construction budget by having value engineering workshops to identify actionable scope, equipment, phasing, and bid-alternative strategies.

Deliverables: BODR, 30%, 60%, 90%, and final OPCCs; basis of estimate; cost reconciliation; value-management recommendations.

Engagement and Key Milestones: Cost review at each milestone; early procurement/bid-alternate decisions; value engineering workshops with City/ Program Manager.



We update our cost estimate at each phase to reflect decisions that have been made. We communicate any impacts the decisions may have and use a value engineering workshop approach to keep the project within budget and identify cost-saving opportunities.

TASK 6: MISCELLANEOUS TASKS AND PRESENTATIONS

Keller/KJ will support clear, decision-focused presentations to City staff, City Council, the Program Manager, and the public as requested. Materials will explain the proposed improvements, why key decisions are needed, how operations will be protected, anticipated cost and schedule, and the City action requested. Technical graphics, 3D views, phasing exhibits, and concise speaking points will be tailored to each audience.

Deliverables: Presentation slides, exhibits, talking points, meeting handouts, and responses to questions.

Engagement and Key Milestones: Anticipated engagement includes BODR approval, major equipment or delivery decisions, and authorization to bid and award. Additional presentations will be provided as requested.

Additional Activities We Recommend:

- Operations-focused reliability and maintainability review before the 60% milestone, including access, lifting, isolation, drainage, spare parts, and routine maintenance needs.
- Formal constructability and phasing workshop before the 90% milestone, with shutdown and temporary-work requirements incorporated into the documents.
- Long-lead equipment and procurement-risk assessment during BODR development, updated at each milestone.
- Startup, testing, and operator-training plan developed during design rather than deferred to construction.
- Interface matrix for City SCADA integration, permitting responsibilities, parallel projects, and owner-furnished or pre-purchased equipment.

RESULT: A DECISION-READY, BIDDABLE DESIGN. This approach provides a clear path from planning through startup while maintaining operations and keeping scope, cost, schedule, and accountability aligned.

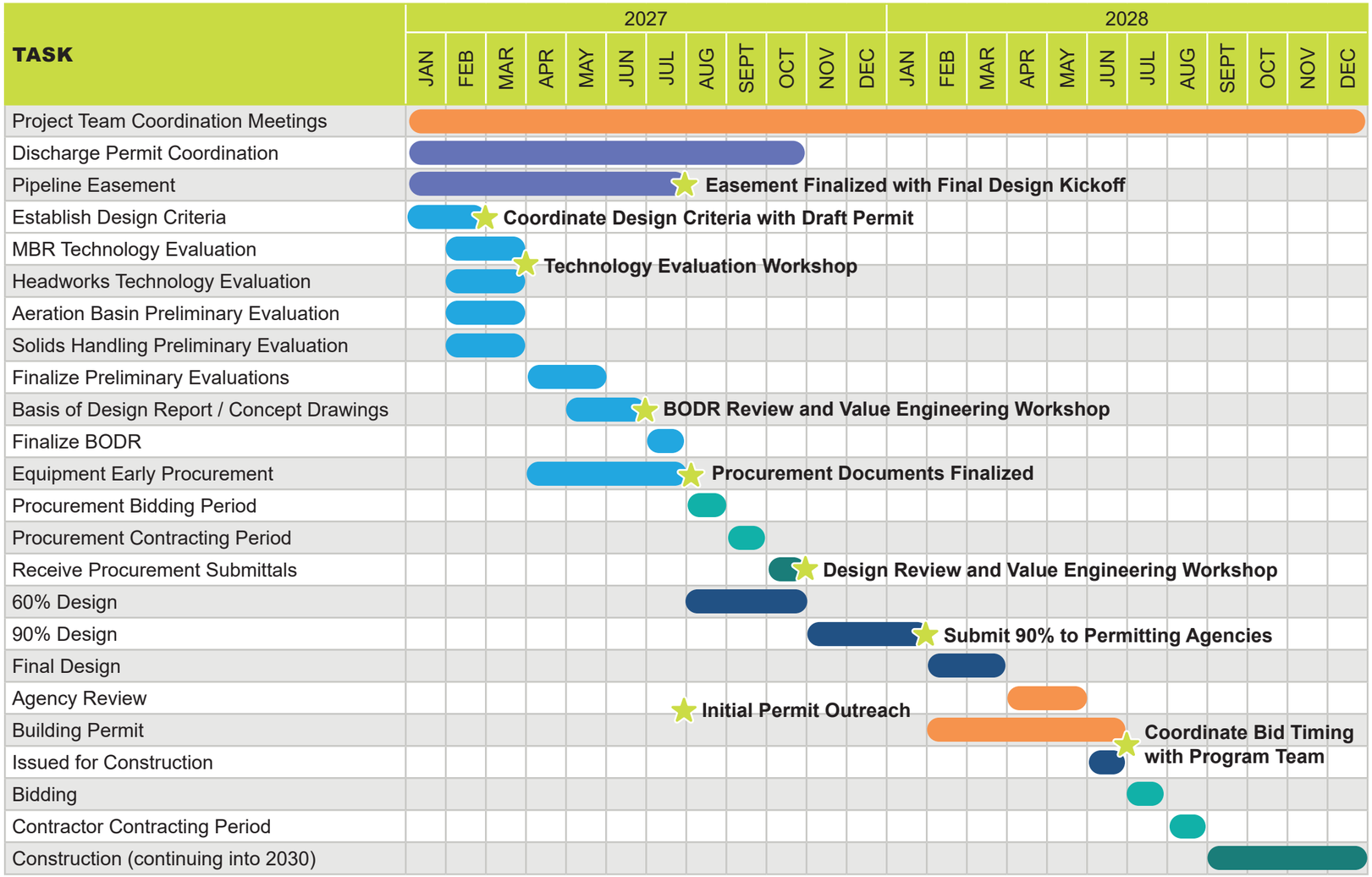
SECTION 6. PROJECT SCHEDULE

Meeting the Consent Decree schedule is critical to maintaining compliance and supporting future growth. Keller will manage the project around that reality, sequencing design, reviews, permitting, and construction to keep the Jarl Road WWTP operational while maintaining progress toward regulatory deadlines.

Upon Notice to Proceed, our multidisciplinary team will immediately begin coordinated design efforts. Key milestones include:

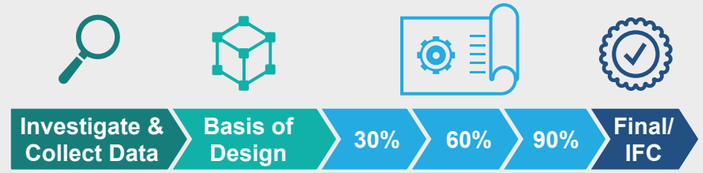
- **BODR:** Define design criteria and major process decisions.
- **30% Design:** Define operational constraints, site layout, and construction phasing and develop mechanical layouts.
- **60% Design:** Advanced plans, specifications, and cost estimate.
- **90% Design:** Permit-ready submittal with concurrent City and DEQ review.
- **Final/Issued for Construction:** Incorporation of comments and completion of bidding documents.

Oregon DEQ approval will be actively coordinated throughout design to reduce review delays. Following approval, Keller will provide bidding support and move seamlessly into construction. During construction, Keller will provide engineering services during construction, including submittal review, request for information responses, site visits, and startup/commissioning support. Phased implementation will keep treatment processes online throughout construction, providing compliance while delivering the improvements on schedule.



LOCAL KNOWLEDGE. RESPONSIVE DELIVERY. PROVEN RESULTS.

Keller has successfully delivered schedule-driven utility projects for the City, including the Alder Creek Membrane Filtration WTP Upgrade and Consent Decree-related WWTP Effluent Pump Station Improvements, giving us a strong understanding of the City's facilities, priorities, and regulatory requirements. This familiarity allows us to mobilize quickly, communicate effectively, and work as an extension of City staff to keep projects on schedule, control consultant costs, and deliver successful outcomes.



KEY DECISIONS TO MAINTAIN PROJECT SCHEDULE

1. Permit-driven design criteria
2. MBR technology selection
3. Headworks technology
4. Electrical/PGE strategy
5. Long-lead equipment procurement
6. Construction sequencing and shutdown requirements
7. Recycled-water pipeline easement/interface

> "Keller helped the District complete a new MBR treatment system to meet our needs and accommodate growth in our recreational area. Keller helped obtain all permitting and designed the new treatment plant on a fast-paced schedule to meet low phosphorus limits and successfully deliver the project."
>
> ***– Travis Pryor, Operations Manager, NLRSWD***

APPENDIX:
Resumes

JASON KING, PE

Project Manager

YEARS OF EXPERIENCE

16

EDUCATION

BS, Civil Engineering
University of Idaho

PROFESSIONAL REGISTRATIONS

Oregon: 92481PE
Idaho: 16695
Nevada: 026871
Utah: 13614243-2202
Washington: 57287

Jason King serves as Keller's Water/Wastewater Group Manager and will lead the Jarl Road Wastewater Treatment Plant (WWTP) Improvements as Project Manager. With 16 years of experience and more than $100M in municipal wastewater projects delivered in the past three years, he specializes in planning and executing complex treatment plant upgrades while maintaining continuous operations. His experience includes leading the $30.7M Jerome, Idaho WWTP Membrane Bioreactor (MBR) Improvements, managing the $34M Lewiston, Idaho WWTP improvements, serving as Technical Advisor for Nampa's $42M WWTP Headworks project, and overseeing major solids handling, digestion, and treatment facility improvements throughout Idaho, Oregon, and Washington.

His proven success delivering MBR, headworks, and solids handling projects in active facilities positions him to effectively manage construction sequencing, regulatory compliance, and project delivery for the City of Sandy.

RELEVANT PROJECTS

WWTP Upgrades / City of Sandy / Sandy, OR: Project Manager for the Effluent Pump Station Improvements at that facility, replacing existing pumps with four larger variable frequency drive-equipped pumps to meet Department of Environmental Quality consent decree requirements.

WWTP Improvements / City of Aurora / Aurora, OR: Project Manager for the City's WWTP improvements. The main process components include relocating the existing headworks screen, installing a new grit removal system, installing a new sequencing batch reactor (SBR) system, constructing a blower building, constructing an additional storage lagoon and effluent pump station, upgrading the chlorination/dechlorination system to a UV disinfection system, upgrading the return pump station, relocating and updating the sludge storage tanks, and constructing a new dewatering station.

Mill City WWTP / Marion County / Mill City, OR: Quality Assurance/Quality Control (QA/QC) Manager for the design of the greenfield Mill City WWTP to serve the combined flows of the existing collection system in Mill City and a new wastewater collection system for the City. The new WWTP will be an SBR system with headworks screens, grit separation, and odor control. The secondary treatment process will include tertiary denitrification sand filters and UV disinfection before discharging to rapid infiltration basins adjacent to the treatment facility.

WWTP MBR Improvements / City of Jerome / Jerome, ID: Project Manager for $30.7M MBR WWTP upgrade that included primary clarification, additional aeration, new MBR trains, plant pump stations, thickening, anaerobic digestion, and dewatering. Jason led the development and implementation of construction constraints. As a result, this complex construction project did not impact operations and the City maintained compliance throughout the entire duration. Also served as Technical Advisor for new headworks building.

Aeration Improvements / City of Bend / Bend, OR: Project Manager for the City's WWTP Aeration Improvements. The project included aeration equipment life cycle evaluations, process control improvements, and design of a new dual-core blower that met the City's aeration needs. Design was completed in 75 days on an accelerated schedule to meet the City's project goals.

WWTP Improvements / City of John Day / John Day, OR: Technical Advisor and QA/QC Manager for the new WWTP to address stringent permit limits. Project includes a new gravity sewer line, influent lift station, headworks screening, SBR, tertiary sand filters, UV disinfection, and discharge through rapid infiltration basins, with the ability to treat sewage to very low nutrient limits. The project also includes a 4.5-million-gallon double-lined sludge storage lagoon.

Primary Clarifier Rehabilitation / City of Bend / Bend, OR: As Project Manager, Jason completed the condition assessment, developed recommendations, and managed design to extend the useful life of structures and equipment.

JASON KING, PE

Project Manager

On-Call Wastewater Projects / City of Vancouver / Vancouver, WA: Project Manager for multiple wastewater assignments at the City's Westside and Marine Park WWTP. Work at the 18 million-gallon-per-day (MGD) Westside WWTP included an Industrial Pump Station condition assessment, aeration improvements with a new dual-stage turbo blower, and water system improvements at the solids-handling and chemical-treatment facilities. Work at the 14 MGD Marine Park WWTP included evaluation of the existing aeration system and improvements to legacy infrastructure, including design of a new dual-stage turbo blower.

WWTP Improvements / City of Lewiston / Lewiston, ID: Project Manager for the $34M WWTP Improvements project. Jason led the evaluation, design, and implementation of the new hybrid blowers, membrane diffusers, and iris control valves which significantly decreased the energy use at the plant while improving operation. Instead of building new structures, repurposed several existing structures, saving the City over $2M in the construction of a new blower and return activated sludge/waste activated sludge building. Developed an innovative approach to maintaining plant operations while installing new solids handling equipment within an existing building.

WWTP Improvements / City of Preston / Preston, ID: Led QA/QC throughout the design of tertiary membrane bioreactors for phosphorus removal as part of a $70M upgrade to the existing WWTP that increased plant capacity to over 10 MGD. Other upgrades included new headworks coarse and fine screening, grit removal and washing, influent pumping, flow equalization, biological treatment, chemical dosing and flocculation, and UV disinfection

WWTP Headworks / City of Nampa / Nampa, ID: Technical Advisor for the new 37 MGD headworks facility, including perforated plate screening, screenings sluice channel, screenings washing and compaction, stacked tray grit removal, and influent pumping. Provided technology selection and odor sampling support for the new engineered media biofilter. He worked with the owner and contractor to streamline submittal reviews to achieve the owner's schedule goals.

Solids Handling Upgrades / City of Nampa / Nampa, ID: Design Manager for project which included rotary drum thickening, sludge pumping, polymer addition, and centrifuge dewatering. Jason led the discipline coordination and communication throughout the project. This allowed for a streamlined approach that supported on-time project completion while remaining under budget.

WWTP Improvements / City of Clarkston / Clarkston, WA: Design Lead for the influent pumping and headworks project. He led the hydraulic evaluation and recommended that pumping occur after screening due to the hydraulic limitations and overall cost impacts of construction. The influent pump station included self-cleaning trough design and immersible pumps.

Water Resource Recovery Facility Capital Improvements / Carson City / Carson City, NV: Process Mechanical Engineer and provided QA/QC for the design and construction of an upgrade which included implementation of a grit removal system, return activated sludge pumping, and odor control improvements.

Solids Handling and Digestion Improvements / City of Caldwell / Caldwell, ID: Project Manager for the design of two new digesters, a digester control building, and a new primary sludge pump station. Jason led the evaluation, design, and implementation of a linear-motion mixing system in the digesters that led to substantial energy savings compared to the City's existing pump mix system.

Clif Bar Pretreatment Facility / City of Twin Falls / Twin Falls, ID: Design of an industrial wastewater pretreatment facility and 2,000 feet of gravity and pressure sewer lines. The project included headworks design, including vertical screens and pumps for pH conditions ranging from 2 to 11.

PETER OLSEN, PE, CWRE

Principal-in-Charge/Quality Assurance/Quality Control Manager

Peter Olsen serves as Keller's Oregon Area Manager and Principal-in-Charge and brings 21 years of experience delivering wastewater infrastructure projects throughout Oregon and the Pacific Northwest, including prior work with the City of Sandy. His experience includes leading major wastewater treatment plant (WWTP) improvements involving headworks, solids handling, clarifiers, pump stations, and treatment process upgrades, such as the $76M North Santiam Canyon Regional Sewer Project, the City of Aurora WWTP Improvements, Bend Primary Clarifier Rehabilitation, and Vancouver's Westside WWTP industrial pump station rehabilitation.

He has also managed wastewater master planning, collection system, and treatment facility projects for communities across Oregon and has led multiple construction manager/general contractor (CM/GC) and construction manager at risk project deliveries. His combination of technical expertise, alternative delivery experience, and established relationships with Oregon utility owners provides strong leadership and oversight for the Jarl Road WWTP Improvements.

YEARS OF EXPERIENCE

21

EDUCATION

MS, Civil Engineering
Brigham Young University

BS, Civil/ Environmental Engineering
Brigham Young University

PROFESSIONAL REGISTRATIONS

Oregon: 83510PE
Idaho: 13824
Washington: 46680

RELEVANT PROJECTS

North Santiam Canyon Regional Sewer Project / Marion County / Marion County, OR: Managing $76M in improvements for the North Santiam Canyon Regional Sewer Project. This includes Mill City's WWTP capacity assessment, expansion (currently in construction, delivered through CM/GC alternative delivery method), and short-term SCADA/controls upgrades; Gates Water Master Plan and Water System Improvements; Gates Emergency Community Water Assistance Grants and American Rescue Plan Act (ARPA) funding support for water system improvements; North Santiam Canyon Regional Wastewater Analysis; and North Santiam Sewer Authority Wastewater Master Plan.

WWTP Headworks and Lift Station Design / City of Amity / Amity, OR: Managed 1.8 million-gallons-per-day (MGD) influent capacity improvements at the headworks and a new 250 gallons per minute headworks lift station. The project addressed new National Pollutant Discharge Elimination System permit compliance regulations and included relocation of two other influent force mains to discharge to the new headworks and bypass line relocation.

WWTP Improvements / City of Aurora / Aurora, OR: Principal-in-Charge for design of WWTP improvements delivered through the CM/GC method. The main process components include relocating the existing headworks screen, installing a new grit removal system, installing a sequencing batch reactor system, constructing a blower building, constructing an additional storage lagoon and lagoon pump station, upgrading the chlorination/dechlorination system to a UV disinfection system, upgrading the return pump station, relocating and updating the sludge storage tanks, and constructing a new dewatering station.

WWTP Upgrades / City of Silverton / Silverton, OR: Senior Project Manager for a WWTP pump station, solids handling evaluations, and screw press design.

Primary Clarifier Rehabilitation / City of Bend / Bend, OR: Principal-in-Charge for improvements to two existing, 45-year-old primary clarifiers at the Water Reclamation Facility. Improvements included new mechanisms and drives, scum boxes, walkways and platforms, concrete repair, weirs and scum baffles, and utility water enhancements.

Grabhorn Reservoir, Valve House, and Pipelines; and Farmington Fluoridation and Pump Facility / Tualatin Valley Water District / Beaverton, OR: Construction Phase Project Manager for a progressive design-build Grabhorn Reservoir project, including civil/storm design and permitting support during design.

PETER OLSEN, PE, CWRE

Principal-in-Charge/Quality Assurance/Quality Control Manager

Additionally, he was the Project Manager for the Farmington Fluoridation and Pump Facility project, which included a 7 MGD pump station, 17 MGD fluoridation facility, and 10,000 feet of 18-inch discharge main.

Brooks-Hopmere Water Improvement Project / Marion County / Brooks-Hopmere, OR: Project Manager for a water improvements project. A small portion of the unincorporated community of Brooks-Hopmere, Oregon is served by a limited supply system consisting of a well and small pressure tank. This system does not provide adequate fire protection to the area, which is experiencing growth and includes commercial/industrial customers. Keller completed a water planning study, which identified a tank and booster system project to provide fire flow, among other distribution system improvements. The first phase is funded by ARPA. The project follows a CM/GC alternative delivery method.

Wastewater Improvements / City of Stayton / Stayton, OR: Managed the construction and day-to-day inspection for $9M in wastewater treatment upgrades. Managed Mill Creek force main extension including 2,750 feet of 24-inch high-density polyethylene pipe.

Wastewater Master Plan, Inflow/Infiltration Study, and Chehalem Drive Pipeline / City of Newberg / Newberg, OR: Managed Wastewater Master Plan and Inflow/Infiltration Study. Project Manager and Engineer of Record for the Chehalem Drive Sewer Pipeline Extension project, including 3,450 feet of 18-inch gravity pipeline suspended under a curved Oregon Department of Transportation (ODOT) bridge. Recently, Peter has served as the Principal Engineer on the evaluations and preparation for a major WWTP upgrade.

WWTP Upgrades and Industrial Pump Station / City of Vancouver / Vancouver, WA: Senior Project Manager for the rehabilitation of the Industrial Pump Station at Vancouver's Westside WWTP, coordinating mechanical, electrical, and structural improvements to extend pump station service life and improve operations.

Pump Stations and Pipelines / City of Ashland / Ashland, OR: Coordinated design and construction phase service activities for two major water pumping facilities and associated pipelines.

Wastewater On-Call Support / City of Sheridan / Sheridan, OR: Managed 18-inch force main and pump station replacement project and gravity sewer rehabilitation projects using cured-in-place pipe.

Wastewater Facilities Planning and Master Plans / Multiple Clients / Oregon: Led wastewater facility planning and master plans for communities such as Amity, Aurora, Ashland, Scappoose, Sheridan, St. Helens, Willamina, Wood Village, and Yamhill, developing data-driven collection and treatment improvements and capital improvement plans.

LaCreole Sewer Project / City of Dallas / Dallas, OR: Principal for the Dallas LaCreole Sewer Project "A". The improvements include 2,500 feet of 12-inch and 800 feet of 8-inch gravity sewer, with segments reaching depths of up to 20 feet. The project provides new service laterals and cleanouts to accommodate future connections and supports system expansion. Improvements also include a 2-inch grind and inlay within ODOT right-of-way (ROW) and full roadway reconstruction along the county roadway segment. Keller completed all permitting on this project including a complex traffic control plan for the ODOT ROW.

Water System Improvements / City of Gates / Gates, OR: Managed design of a storage tank, booster station improvements, waterlines, intake wet well modifications, and water treatment plant upgrades.

Water System Improvements / City of Silverton / Silverton, OR: Managed design and construction phase services for multiple pipeline rehabilitation projects, a new pressure reducing valve station, Lincoln Street roadway improvements, and pump station upgrades.

DALLIN STEPHENS, PE

Design Manager

YEARS OF EXPERIENCE

15

EDUCATION

MS, Civil Engineering
Utah State University

BS, Civil Engineering
Utah State University

PROFESSIONAL REGISTRATIONS

Oregon: 101138PE
Idaho: 20408
Nevada: 032007
Utah: 9258936-2202
Washington: 24003077

Dallin Stephens brings more than 15 years of experience in wastewater treatment planning, design, and construction administration. He has led multidisciplinary design teams ranging from a few engineers to more than 30 professionals on projects with construction values up to $70M, coordinating both internal staff and subconsultants. His broad technical experience encompasses nearly every wastewater treatment process, including liquid and solids treatment, water reuse, energy recovery, chemical treatment, and odor control at facilities ranging from less than 1 million gallons per day (MGD) to more than 37 MGD.

He has particularly strong membrane bioreactor (MBR) expertise, having contributed to the planning and design of nearly a dozen MBR treatment plants. His teams consistently deliver efficient, high-quality designs, with construction change orders averaging less than 1% of total construction cost.

RELEVANT PROJECTS

Mill City Wastewater Treatment Plant (WWTP) / Marion County / Mill City, OR: Led a team of more than 15 engineers in planning, pre-design, design, and construction management for a new, multi-community wastewater treatment facility in the Santiam Canyon, east of Salem. The new facility provides advanced treatment for a growing community that was limited in growth due to the limitations of the existing plant and the lack of land for subsurface disposal through individual septic systems. Dallin was heavily involved in the permitting process and supported the efforts to modify the Three Basin Rule to allow the project to seek a new National Pollutant Discharge Elimination System permit. The project is delivered through the construction manager/general contractor (CM/GC) method.

WWTP Improvements / City of Beaumont / Beaumont, CA*: Led design efforts for the new WWTP on the existing site with increased capacity (from 4 MGD to 6 MGD average daily flow) and the addition of MBRs and reverse osmosis filtration for removal of total dissolved solids. He provided the design for new sludge holding tanks, sludge pumping, and dewatering centrifuges. Additionally, Dallin designed new biological odor control systems for the existing headworks facilities.

WWTP Improvements / City of Preston / Preston, ID: Provided design for tertiary MBRs for phosphorus removal as part of a $70M upgrade to the existing WWTP that increased plant capacity to over 10 MGD. Other upgrades included new headworks coarse and fine screening, grit removal and washing, influent pumping, flow equalization, biological treatment, chemical dosing and flocculation, and UV disinfection.

WWTP Headworks / City of Nampa / Nampa, ID: Dallin led the process mechanical design of improvements to an aging headworks facility that increased capacity to 37 MGD with a total project cost of approximately $42M. The City had evaluated and identified the need to replace headworks screening and grit removal processes, which were over 20 years old. Dallin led the initial evaluation of multiple solutions, including influent pumping, type of screening, and grit removal processes, including developing cost benefit analyses to provide the City with relevant information to make decisions on the final design. The project is currently under construction through a CM/GC project delivery process.

WWTP Improvements / City of John Day / John Day, OR: Design Lead for a new WWTP to address stringent permit limits. The project includes a new gravity sewer line, influent lift station, headworks screening, sequence batch reactors (SBR), tertiary sand filters, UV disinfection, and discharge through rapid infiltration basins, that can treat sewage to low nutrient limits. It also includes a 4.5-million-gallon double-lined sludge storage lagoon.

Low Point WWTP Expansion / City of Johnstown / Johnstown, CO*: Provided preliminary design for upgrades to a new WWTP with ultra-low nitrogen limits (< 5 milligrams per liter total nitrogen).

*Experience prior to joining Keller

DALLIN STEPHENS, PE

Design Manager

He evaluated multiple treatment technologies, including MBRs, conventional activated sludge treatment, and SBRs. Provided design for new hollow-tube membrane reactors, and tertiary sand filters for achieving low total nitrogen limits.

WWTP Upgrade Project / City of Imperial / Imperial, CA*: Provided final design efforts for improvements to the existing Biolac treatment process to address capacity and treatment issues. The design included upgrades to the facility to treat up to 6 MGD average daily flow using new MBRs, new headworks facilities, and sludge dewatering screw presses.

WWTP Plant / Fort Shafter, HI*: Led design services for new hollow-tube MBR plant on existing .75-acre site. He provided design for new headworks screening and grit removal, modifications to existing lift station to serve as anoxic basin, new aeration basins, MBRs, and new process building, including chemical dosing, blowers, lab and office spaces.

Water Reclamation Facility / Santa Fe County / Santa Fe, NM*: Led design for a new packaged hollow-tube membrane facility with low nitrogen limits as part of a design-build project. The design included new headworks facilities, aeration basins, carbon dosing for denitrification, and process building, including packaged MBR modules in steel tanks.

WWTP Improvements / City of Pendleton / Pendleton, OR: Served as Design Lead for improvements to the WWTP's secondary anaerobic digester complex, including new sludge mixing and heating loops, as well as recoating of the digester covers. Other improvements to the complex included structural and HVAC modifications as well as a new dedicated electrical service to the building.

WWTP Improvements / City of Gooding / Gooding, ID: Design Lead Engineer for the conversion of an oxidation ditch facility to an SBR plant to meet nutrient limits. The design included new headworks, an onsite lift station, biological tanks, aeration blowers, sand filters, UV reactors, and a solids dewatering press.

Primary Sludge Screening Improvements / City of Reno / Reno, NV: Led evaluation and design to replace primary sludge screening prior to thickening and digestion. He assessed existing sludge pumping and multiple technologies, selecting specialized equipment that offered advantages over traditional headworks screening.

WWTP Improvements / City of Pocatello / Pocatello, ID: Designed new sludge dewatering screw presses, holding tank, feed pumps, polymer systems, and controls. He prepared pre-purchase documents and supported equipment evaluation.

WWTP Expansion / Western Municipal Water District / Riverside, CA*: Led planning and design to expand the 6 MGD oxidation ditch facility to 14 MGD (average daily flow) conventional activated sludge process. Responsibilities included evaluating and designing new biological and chemical odor control systems, sludge thickening, anaerobic digestion, and dewatering with new centrifuges. Other responsibilities included the design of headworks improvements and tertiary treatment processes.

WWTP Preliminary Engineering Report (PER) / City of Sandpoint / Sandpoint, ID: Dallin led the preliminary design for improvements to aging infrastructure at the Sandpoint WWTP. The facility includes headworks screening, primary clarification, secondary biological treatment, secondary clarification, chlorine disinfection and solids thickening, digestion, and dewatering processes. This facility has seen limited improvements in the past 20 years, with some equipment and infrastructure over 40 years old. Dallin and the team conducted site condition assessments, met with City staff to identify recommended improvements to upgrade the plant while providing reliable treatment over a wide range of flows (due to storm events), and prepared the PER, which was provided to the City and the Department of Environmental Quality for review and approval.

WWTP Improvements / City of Rigby / Rigby, ID: Dallin provided design oversight for the expansion of the Rigby WWTP. The project included new oxidation ditches, secondary clarifiers, UV disinfection, and solids dewatering. Dallin prepared the system's hydraulic profile and reviewed design of clarification processes.

*Experience prior to joining Keller

PAMELA VILLARREAL, PE

Project Engineer

YEARS OF EXPERIENCE

14

EDUCATION

BS, Civil Engineering
University of California at Los Angeles

PROFESSIONAL REGISTRATIONS

Oregon: 100901PE
Idaho: 18902
New York: 087705

Pamela Villarreal is a Civil and Environmental Engineer with a diverse background in regulatory compliance, site remediation, and environmental system design. She has supported projects on both the east and west coasts, Pacific Northwest, and Intermountain West, including the design, construction, and operation of remedial systems for retail gasoline facilities—experience that directly relates to the environmental considerations associated with expanding or relocating fuel-based enterprises. Her work has included soil vapor extraction, dual-phase extraction, and groundwater treatment systems that address contaminants from leaking underground storage tanks, with a focus on removing volatile organic compounds and fuel-related byproducts.

Pamela has conducted numerous site assessments to evaluate subsurface conditions, geological constraints, sensitive receptors, and the migration of contaminant plumes. She has led feasibility studies to identify and compare remedial technologies, focusing on selecting cost-effective and sustainable approaches that comply with all applicable environmental regulations. Her familiarity with systems such as air stripping, activated carbon filtration, catalytic and thermal oxidation, and oil-water separation provides a strong technical foundation for analyzing the impacts of infrastructure on fuel and biofuel operations.

Pamela also has extensive experience managing regulatory processes, including permitting, discharge monitoring, and compliance reporting for local, state, and federal agencies. She has routinely reviewed effluent quality, evaluated system performance, and coordinated submittals to promote adherence to environmental standards. At Keller, Pamela brings her remediation expertise to water and wastewater projects, where she is responsible for integrating environmental compliance into planning and design efforts.

RELEVANT PROJECTS

North Santiam Canyon Regional Sewer Project, Mill City Wastewater Treatment Plant (WWTP) / Marion County / Mill City and Gates, OR: Providing project management, environmental, permitting, and subsurface and site investigation support of multiple projects under the North Santiam Canyon Regional Sewer Project umbrella, including the Mill City WWTP.

Supported the evaluation and selection of a feasible site for a new mechanical WWTP with enough land to site six rapid infiltration basins (selected wastewater disposal method), as direct discharge to the North Santiam River (surface water) is not permitted under Oregon's Three Basin Rule. In 2020, the Supreme Court ruled that a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit is required when there is a "functional equivalent of a direct discharge" (*County of Maui v. Hawaii Wildlife Fund*), thus coming into direct conflict with Oregon's Three Basin Rule.

A true collaborative effort, the project has advanced through close coordination with the team to navigate technical, environmental, regulatory, and public outreach challenges, keeping progress on track through the Three Basin Rule Change and subsequent NPDES permit process.

North Santiam Canyon Regional Sewer Project, Gates/Mill City Force Main, and Gates Collection System / Marion County / Mill City and Gates, OR: As part of the North Santiam Canyon Regional Sewer Project suite, Pamela is providing project management, permitting, environmental review, and subsurface investigation support.

The City of Gates, which currently lacks a centralized WWTP, has long relied on individual septic systems. This project will establish an entirely new sewer collection system for the City and construct a 3.5-mile force main to convey wastewater to Mill City for treatment at the new joint municipal WWTP.

*Experience prior to joining Keller

PAMELA VILLARREAL, PE

Project Engineer

Because the project involves a federal funding nexus, the team is completing due diligence activities, including cultural resource assessments, wetlands delineation, and Phase I Environmental Site Assessments, as well as an environmental assessment to satisfy federal regulatory and funding requirements.

Remedial Strategy Development and Design / ExxonMobil Corporation / New York City and Long Island, NY*: Completed engineering design, site layout, and equipment selection for various retail remediation systems (groundwater pump and treat, high vacuum dual phase extraction, soil vapor extraction, air sparge) in the metro New York region. She evaluated selected treatment processes to identify if air or water effluent would meet the regulatory limits of the respective regulating agencies. Pamela managed system data to improve and troubleshoot operating systems and maximize contaminant recovery rates.

Remedial Strategy Development and Design / Butterfield Trails Limited Partnership / Los Angeles, CA*: Conducted site assessment and data analysis to understand site geology, sensitive receptors, and contaminant plume migration. She evaluated alternative remedial technologies and their applicability to the site-specific conditions, project constraints, and client and regulatory requirements, including analysis of anticipated contaminant recovery rates, flow, and permitting requirements. Pamela prepared a sampling and analysis plan and remedial action work plan.

Phase I Environmental Site Assessment / Morton Buildings Production Facility / Pocatello, ID: Completed a Phase I Environmental Site Assessment for a 35-acre property planned for redevelopment. The proposed site featured semi-truck access roads, loading docks, entrance bays, security fencing, storage yards, covered trailer facilities, and storefront parking.

WWTP Improvements / City of Gooding / Gooding, ID: Provided management, funding, engineering, and design support to multiple wastewater projects. Contributed to the Wastewater Facility Plan and development of design criteria, environmental report and permitting, engineering report and alternatives analysis, project funding procurement and user rate analysis, and WWTP design (headworks and influent lift station), bidding, and construction support.

Additionally, she is working with the Idaho Department of Environmental Quality (DEQ) on the new NPDES permit for the WWTP discharge to the Little Wood River.

Lagoon Rehabilitation and Collection System Improvements / North Sweetwater Water and Sewer District (NSWSD) / Reliance, WY: Providing management, funding, engineering, design, and construction support for both phases of NSWSD's Lagoon Rehabilitation and Collection System Improvements project. Responsible for final design, environmental reports and permitting, engineering reports and alternatives analysis, project funding procurement, user rate analysis, funding, and Wyoming DEQ agency coordination, groundwater classification, and construction support.

American Rescue Plan Act Waterline / City of Gates / Gates, OR: Providing design, bidding, and construction support for 1,300 linear feet of water pipeline within the City of Gates that will replace compromised water piping and improve fire flow to residents. Currently supporting easement acquisition, submittal review, and construction efforts.

*Experience prior to joining Keller

ERIC ROUNDY, PE, BCEE

Membrane Bioreactor (MBR)/Aeration Expert

YEARS OF EXPERIENCE

22

EDUCATION

MS, Environmental Engineering
University of Illinois Urbana-Champaign

MBA, Project Management
Mississippi State University

BS, Civil Engineering
University of Nebraska-Lincoln

PROFESSIONAL REGISTRATIONS

Oregon: 90089PE
Idaho: 16060
Illinois: 062063585
Nevada: 024002
Utah: 14247357-2202
Washington: 56609

Eric Roundy will serve as the team's MBR/Aeration Expert for the Jarl Road Wastewater Treatment Plant (WWTP) improvements, bringing 22 years of experience in MBR expertise from both his career as an equipment manufacturer and as a design consultant for Keller. As a Board-Certified Environmental Engineer and licensed Professional Engineer in six states, Eric has direct experience with MBR capacity expansion projects, including the Star Sewer & Water District (SSWD) MBR facility expansion, where membrane replacements increased treatment capacity by 30%, while preserving future expandability. Eric's combination of hands-on MBR expertise, treatment process optimization, and cost-effective design solutions will provide critical technical insight to support the successful design and commissioning of this system.

RELEVANT PROJECTS

Newberg WWTP Upgrade / City of Newberg / Newberg, OR: Eric has worked with the City for the past 10 years. He assisted them during their last Master Plan in 2018 and recently worked to provide a WWTP Capacity Study based on more recent flows to identify the necessary improvements. Additionally, he wrote the Clarifier Stress Test report, which the Department of Environmental Quality (DEQ) approved to rerate the clarifiers for additional capacity, saving the City significant capital.

Mill City WWTP / Marion County / Mill City, OR: Provided quality control for a new treatment facility discharging to rapid infiltration basins, delivered through a construction manager/general contractor (CM/GC) process. The design included headworks, a lift station, biological tanks, nitrate removal filters, UV disinfection, and a solids dewatering press. This project is in construction.

WWTP Improvements / City of Aurora / Aurora, OR: Provided technical assistance with planning, predesign, design, and construction to provide significant improvements such as adding grit removal, a new sequencing batch reactor (SBR), and UV disinfection. Solids are dewatered in drying beds. The project uses the CM/GC alternative delivery method.

WWTP Improvements / City of John Day / John Day, OR: Provided value engineering support for a new treatment facility at the existing location. The design included a lift station, headworks, SBRs, nitrate removal filters, UV disinfection, and an equalization lagoon.

WWTP Improvements / City of Pendleton / Pendleton, OR: Provided design and quality control for recent secondary clarifier, anaerobic digester, and administration building improvements. The project was bid in 2026 in separate packages to keep the costs in line with the City's budget.

Wastewater Planning Study / City of Stayton / Stayton, OR: Led the WWTP portion of the facilities plan, evaluating remaining capacity and options to address tighter discharge requirements for an SBR plant with cloth media filtration and UV disinfection. He also supported solids planning for a Class A biosolids dryer and coordinated with the Oregon DEQ on permit renewal and biosolids plan updates.

WWTP Improvements / City of Independence / Independence, OR: Provided design and quality control for recent headworks, lagoon aeration, and disinfection improvements. The project was recently bid with costs coming in slightly below the estimate.

Wastewater Planning Study / The Confederated Tribes of Grand Ronde / Grand Ronde, OR: Led the WWTP portion of the facilities plan, evaluating remaining capacity and upgrade options for the existing MBR plant.

WWTP Improvements / SSWD / Star, ID: Completed planning study for this rapidly growing community. Recent expansion replaced membranes in existing basins, increasing capacity by 30%.

ERIC ROUNDY, PE, BCEE

Membrane Bioreactor (MBR)/Aeration Expert

Eric provided evaluation and quality control support. The MBR facility was designed for expandability and future recycled water demands.

MBR Improvements / City of Jerome / Jerome, ID: Provided technical support for the planning, evaluation, and design of new headworks, an aeration basin, MBR expansion, and anaerobic digesters, along with construction administration services. He contributed to a master planning effort assessing plant capacity, including its ability to accommodate higher industrial loads while meeting nutrient limits.

WWTP Improvements / City of Rigby / Rigby, ID: Participated in planning and evaluation of improvements, including pilot testing of a kenaf-based mobile carrier activated sludge technology. The technology allowed existing facilities to meet ammonia limits at cold temperatures during the construction of new facilities.

WWTP Improvements / City of Preston / Preston, ID: Provided quality control on the planning study, pilot testing, and design for the new headworks, oxidation ditches, membrane filtration, and UV disinfection plant.

WWTP Improvements / City of Gooding / Gooding, ID: Project replaced the existing system with a new screen and grit removal, new SBR, equalization, chemical addition, tertiary filtration, and UV disinfection. Solids are dewatered in a volute press and sludge drying beds. Eric provided technical assistance with planning, predesign, and design. The project also included value engineering, and Eric led the team's value engineering efforts, which helped the City move forward with the required funding support.

WWTP Headworks / City of Nampa / Nampa, ID: Provided design and quality control for the new 37 million gallons per day headworks facility. Assisted in odor sampling for the odor control system selection. He worked with the team on value engineering alternatives to keep the project on schedule and within the City's budget.

WWTP Improvements / City of Lewiston / Lewiston, ID: Provided technical support for the planning study, preliminary design, design, and construction. Expansion included new primary and secondary clarifiers, UV disinfection, and modifications to aeration basins with new diffusers, blowers, and probes. Several existing structures were repurposed, saving the City significant cost.

WWTP Improvements / City of Pocatello / Pocatello, ID: Process Engineer for the planning study that included flow and loading evaluations, hydraulic capacity, dewatering alternatives, and beneficial reuse analysis. He provided quality control for recent upgrades to the dewatering system.

Clif Bar Pretreatment Facility / City of Twin Falls / Twin Falls, ID: Process and equipment design for a new pretreatment facility featuring a moving-bed bioreactor, dissolved air flotation, and solids handling equipment to treat bakery wastewater. The facility was constructed with provisions for future expansion.

Primary Sludge Screening Improvements / City of Reno / Reno, NV: Provided quality control for a project that replaced the existing primary sludge screens. Eric reviewed the sludge screening technology evaluation and recommendations for improvements. He also reviewed the design for the new primary sludge screens.

Solids Dewatering Improvements / City of Silverton / Silverton, OR: Assisted with the design of the City's sludge dewatering system, which included a new screw press, polymer addition, sludge pump, and conveyor.

WWTP Improvements / City of Aberdeen / Aberdeen, ID: New headworks screen to improve solids removal and protect a new integrated fixed film activated sludge (IFAS) treatment process. The existing screen was not suitable for the IFAS system. The project also includes a new filtration system to achieve total phosphorus removal. Eric provided technical assistance for the planning, predesign, design, and construction.

WWTP Improvements / City of Moyie Springs / Moyie Springs, ID: Eric provided technical assistance with the planning, predesign, and WWTP improvements. The project also required a new discharge permit, and he assisted by working with the DEQ to obtain the permit.

HOLLY JOHNSON, PE

UV

YEARS OF EXPERIENCE

36

EDUCATION

MS, Civil Engineering
University of Nebraska-Lincoln

BS, Civil Engineering
University of Nebraska-Lincoln

PROFESSIONAL REGISTRATIONS

Oregon: 88574PE
Idaho: 13353
Nebraska: E-7981

Holly Johnson will serve as UV lead for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements, bringing 36 years of wastewater engineering experience. She has extensive expertise in headworks, grit removal, UV disinfection, clarifiers, lift stations, membrane bioreactor (MBR) facilities, solids handling, and dewatering systems, with leadership roles on major wastewater projects throughout Oregon, Idaho, and Washington.

Her experience includes headworks and grit facility design for the Jerome and Nampa WWTPs, clarifier rehabilitation projects in Bend and Salem, and treatment plant improvements incorporating screening, grit removal, odor control, UV disinfection, and solids processing. Holly's deep technical knowledge and extensive experience designing and rehabilitating treatment processes within operating facilities make her exceptionally well suited to lead the influent screening, grit removal, and disinfection components of the Jarl Road project.

RELEVANT PROJECTS

Primary Clarifier Rehabilitation / City of Bend / Bend, OR: Prepared the preliminary engineering report and construction documents to upgrade two 45-year-old primary clarifiers at the Water Reclamation Facility. Improvements included new mechanisms and drives, scum boxes, walkways and platforms, concrete repair, weirs and scum baffles, and utility water enhancements. Holly also provided construction-phase services, bringing direct relevance to active-facility upgrades.

Secondary Clarifier Rehabilitation / City of Pendleton / Pendleton, OR: Prepared plans and technical specifications to rehabilitate a 55-year-old, 115-foot-diameter secondary clarifier at the Wastewater Treatment Resource Recovery Facility. Improvements include new mechanisms and drives, upgraded walkways and platforms, concrete repairs, and hydrostatic pressure relief valves.

WWTP Headworks / City of Nampa / Nampa, ID: Process Mechanical Engineer for the 37 million gallons per day (MGD) grit handling facilities consisting of the tray-type grit removal system and Coanda-type grit washers. Technical Advisor for the design of the odor control system, new pumping facilities, and hydraulic model. Project is currently under construction.

WWTP Improvements / City of Lewiston / Lewiston, ID: Completed hydraulic modeling and design for screw press dewatering facilities, sludge pumps, four rehabilitated and two new primary and secondary clarifiers, inclined-vertical UV disinfection, an air gap system for utility water, and process piping. Holly also supported construction-phase services. The project reflects the liquid treatment leadership needed for complex upgrades tied to clarifiers, disinfection, hydraulics, and plantwide reliability.

MBR Improvements / City of Jerome / Jerome, ID: Designed a new 20 MGD headworks building with 3-millimeter rotary drum fine screens, vortex grit removal, grit pumping, grit classification, and a biotrickling filter odor control system. Holly also designed intermediate clarifiers, sludge and scum pumping facilities, pump station discharge piping, waste-activated sludge and thickener feed pumps, MBR improvements, permeate pumping, aeration equipment, and closed-vessel UV disinfection as part of previous projects. Her bid- and construction-phase support helped move these major treatment upgrades from design into operation.

WWTP Improvements / Star Sewer & Water District / Star, ID: Developed hydraulic models to support plant capacity expansion and guide improvements to headworks, MBR treatment, UV disinfection, dewatering, flow metering, and outfall planning. Holly also led design for headworks improvements, MBR permeate pumps, coarse and fine screening and grit removal, odor control, and UV disinfection.

HOLLY JOHNSON, PE

UV

Water Resource Recovery Facility Capital Improvements / Carson City / Carson City, NV: Led preliminary and final design for primary and secondary clarifier improvements, primary sludge pump improvements, and a flow-metering structure. Holly also supported value planning, cost estimating, plan and specification development, and quality control. This project is directly relevant to treatment plant renewal work, where phasing, cost, and reliable operations matter.

WWTP Improvements / City of Moyie Springs / Moyie Springs, ID: Led hydraulic modeling and final design coordination for screening improvements, a plant lift station, sequencing batch reactor treatment, equalization tank improvements, a utility water system, UV disinfection structure, and plant outfall improvements. Holly prepared cost estimates, completed quality control reviews, and provided construction-phase services.

Spring Valley Development, New WWTP, and Reuse Water System Facilities / Eagle Sewer District / Eagle, ID: Developed hydraulic models, site layout, and design for a new 0.57 MGD WWTP. Facilities included screening, an influent pump station with screw centrifugal pumps, aerated complete-mix ponds, settling ponds, winter storage lagoons, chlorination, irrigation pumping, and yard piping. Holly also supported bidding and construction, giving the owner continuity from planning through delivery.

WWTP Improvements / City of American Falls / American Falls, ID: Led plant hydraulics and design-discipline coordination for treatment plant upgrades, including lift station improvements; screening and grit removal; MBR facilities; anaerobic, anoxic, and aeration tanks; sludge pumping and storage; and screw press dewatering improvements. Her role connected liquid treatment hydraulics with the broader plant systems that support reliable operations.

WWTP Improvements / City of Aberdeen / Aberdeen, ID: Designed a new splitter box, integrated a fixed-film activated sludge retrofit, clarifier valve and sludge pump modifications, blowers and air piping, sampling facilities, and a sludge dewatering facility. Additionally, Holly completed quality control review of cost estimates and design documents and is currently supporting construction engineering services.

WWTP Improvements / City of Clarkston / Clarkston, WA: Project Engineer for quality assurance/quality control of plant hydraulics and new solids handling facilities; design and construction phase services for a new UV disinfection system (open-channel) constructed in an abandoned chlorine contact chamber as part of a $13.9M project. The UV disinfection system has a peak treatment capacity of 5.2 MGD per channel.

WWTP Improvements / City of Asotin / Asotin, WA: Preliminary design, final design, bid phase, and construction phase services for a new plant lift station, screening, and grit removal; upgrades to an oxidation ditch and open channel UV disinfection system; and expansion of site utilities.

MICHAEL SCHULZ, PE

Headworks

YEARS OF EXPERIENCE

12

EDUCATION

ME, Civil Engineering
Boise State University

BS, Civil Engineering
Boise State University

PROFESSIONAL REGISTRATIONS

Idaho: 17896

Michael Schulz will serve as the Headworks lead for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements, bringing 12 years of experience planning, designing, and delivering water and wastewater infrastructure projects that must remain operational during construction. His expertise centers on developing operator-friendly solutions, sequencing construction around active facilities, and maintaining uninterrupted service during complex upgrades.

Michael has successfully led phased improvements for numerous water and wastewater facilities, including the Star Sewer & Water District (SSWD) WWTP Improvements where he led the design of a new headworks facility, additional membrane bioreactor (MBR) treatment trains, and incorporation of several new pump stations without affecting plant operations. His experience also includes the new Nampa WWTP influent pumping and headworks facility that redirected flow to new influent structures using detailed bypass planning with minimal impact on operations. He has provided constructability reviews for WWTP Improvements for Gooding, Idaho that maintained existing treatment systems while adding new sequencing batch reactor (SBR) treatment. His proven ability to coordinate multidisciplinary teams and implement practical construction sequencing strategies will help provide continuous plant operations throughout this project.

RELEVANT PROJECTS

WWTP Headworks / City of Nampa / Nampa, ID: Project Manager for the design and construction of WWTP Improvements, including a new influent pump station, headworks facility, and odor control system delivered through the construction manager/general contractor (CM/GC) delivery method. The project included re-routing of 48-inch influent pipes with tight bypass pumping requirements. It was designed in approximately 15 months and is on schedule to be substantially complete. Additionally, Michael has led design efforts for installation of a new rotary press and construction efforts for solids handling improvements including rotary drum thickeners, centrifuges, and chemical delivery systems.

WWTP Improvements / SSWD / Star, ID: Michael has provided support for the rapidly growing SSWD with multiple expansion projects in the last 10 years. Currently, he is leading our design efforts for the SSWD's latest plant expansion that will approximately double headworks and MBR treatment capacity. This initiative is being delivered through the CM/GC delivery method with a focus on phased construction to align with available District funding. The project includes relocation of existing UV and dewatering equipment that requires careful phasing to install new facilities and swap flows over. Michael also led the design and construction effort for $30M in WWTP improvements, including three new pump stations, a new dual-stage screening headworks facility with vortex grit removal and photoionization odor control, and expansion of MBR treatment.

WWTP Improvements / City of Gooding / Gooding, ID: Michael provided constructability reviews and Construction Manager support for WWTP improvements, including a new influent pump station and headworks facility, new SBR treatment trains, tertiary filtration, and UV disinfection. He also led design and construction efforts to evaluate eight existing pump stations, pump station improvements, and approximately 30,000 feet of gravity pipe improvements.

WWTP Improvements and Facility Plan / City of Caldwell / Caldwell, ID: Provided design and construction support for solids handling upgrades, including a new digester control building with sludge feed pumps, hot water recirculation, and heating systems using natural gas/digester gas boilers and heat exchangers. He helped to develop project phasing to maintain operations during construction through temporary connections. Michael served as Deputy Project Manager for the Facility Plan, which evaluated capacity and nutrient removal.

He collaborated with Darigold, WWTP staff, Caldwell Public Works, and City Council to incorporate stakeholder input into the Capital Improvement Plan. Currently, Michael is leading the design of grit improvements, which includes adding a grit treatment train and replacing the existing grit pump and classifier.

MICHAEL SCHULZ, PE

Headworks

WWTP Improvements / City of Lewiston / Lewiston, ID: Led hydraulic modeling of the collection system and conducted a pump station condition assessment, including a review of system capacity. He provided quality control and constructability reviews for WWTP liquid stream process improvements, including upgrades to the return activated sludge and waste activated sludge pumps, a new influent pump station, and a digester feed pump station. Michael provided preliminary evaluation support for dewatering improvements including replacement of the existing belt press with new screw presses.

Wastewater System Planning and Design Support / City of Jerome / Jerome, ID: Project Manager for a planning study evaluating secondary treatment alternatives including a conventional activated sludge plant, continuing MBR treatment, and process intensification alternatives. He provided design support and constructability reviews for WWTP Improvements including a new headworks facility, two new digesters, new aeration basins, and review of the H-Street Pump Station design with wet well-dry well configuration, standby power, variable frequency drives, and bypass pumping provisions.

Pump Station Condition Assessment / North Lake Recreational Sewer and Water District / Donnelly, ID: Supported facility planning efforts for the District's wastewater system including evaluations of more than 20 pump stations. His reviews included documenting existing deficiencies, identifying solutions, and providing recommendations to improve reliability, operations, and safety.

WWTP Improvements / City of Rigby / Rigby, ID: Led the design of two new secondary clarifiers and modifications of existing tertiary filters at the City's WWTP. Efforts included renovating existing infrastructure to house new equipment, civil/site design support for yard piping, and construction phasing. The design enabled the construction of the new facilities while the existing facilities were in service and operational. Michael helped lead project phasing constraints and included design flexibility to make new systems operational without affecting the existing process.

Clif Bar Pretreatment Facility / Clif Bar / Twin Falls, ID: Project Engineer for new WWTP to treat industrial wastewater from the Clif Bar manufacturing facility. Design included a new headworks facility, moving bed biofilm reactor treatment, solids handling, equalization, and pH adjustment.

Headworks Screen / City of Emmett / Emmett, ID: Supported procurement of a new rotary drum fine screen. He led design development for screen installation and construction administration including responding to questions and startup support.

Overland Park Pump Station Improvements / City of Meridian / Meridian, ID: Design Engineer for the Overland Park Pump Station Improvements and Water Facility projects, including gravity sewer and watermain connections.

Well Treatment Facility / City of Adrian / Adrian, OR: Lead Engineer for design of a well treatment facility for arsenic removal. Michael also led construction engineering efforts including coordinating modifications to the existing lagoon treatment facility to accommodate increased flows due to required backwash. Project specifications included phasing requirements to keep existing wells and wastewater facilities online while completing improvements. He also supported funding applications and water rights coordination.

Multiple Wells / City of Meridian / Meridian, ID: Lead Mechanical Engineer and Project Manager for multiple well facilities within the City. Recent projects include the replacement of the existing Well 18 pumping facilities and inclusion of a new iron and manganese treatment system. Project utilized a submersible vertical turbine pump to fit new facilities within the existing site. Michael also provided senior engineering reviews and construction support for the Well 10B iron and manganese treatment project.

BRANDON KELLER, PE, SE

Structural

YEARS OF EXPERIENCE

26

EDUCATION

MS, Civil Engineering
Brigham Young University

BS, Civil Engineering
Brigham Young University

PROFESSIONAL REGISTRATIONS

Oregon: 79041PE/SE
Arizona: 48268 PE
California: 85070 PE
California: 6952 SE
Hawaii: 16139 PE
Idaho: 12447 PE/SE
Montana: 18397 PE
Nevada: 019216 PE/SE
Utah: 4775841 PE/SE
Washington: 44436 PE/SE
Wyoming: 12214 PE

Brandon Keller serves as Keller's Structural Group Leader and will provide structural leadership for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements. With 26 years of experience, he specializes in the evaluation and design of water and wastewater infrastructure, including clarifiers, aeration basins, headworks, pump stations, digesters, solids handling facilities, and treatment structures. His experience includes major WWTP improvement projects in Lewiston, Jerome, Caldwell, Nampa, and Sandpoint, Idaho, where he led structural assessments and design for both new facilities and rehabilitation of existing infrastructure within active WWTPs. Brandon's extensive expertise in concrete and steel wastewater structures and his successful coordination on complex treatment facility upgrades make him well-suited to support the structural design and rehabilitation needs of this project.

RELEVANT PROJECTS

Mill City WWTP / Marion County / Mill City, OR: Structural Engineer of Record for a greenfield wastewater treatment facility with sequencing batch reactor (SBR) basins, headworks screening and grit removal, tertiary denitrification sand filters, UV disinfection, and concrete masonry process buildings. Brandon led structural design for concrete process basins, process buildings, and site access elements such as walkways, platforms, and stairs.

WWTP Improvements / City of Aurora / Aurora, OR: Structural Engineer of Record and quality control reviewer for treatment plant upgrades that included a grit removal system, SBR basins, blower building, generator and fuel tank, lagoon pump station, UV disinfection, dewatering station, and equipment foundations. The project included seismic-focused soil improvement options for new treatment components.

WWTP Improvements / City of Stayton / Stayton, OR: Structural Lead for an $11M upgrade program that included selector basin work, SBR upgrades, equalization basin upgrades, cloth filters, UV system, maintenance building, liquid sludge storage, sludge thickening, sludge dryer, and sludge storage.

WWTP Improvements / City of Lewiston / Lewiston, ID: Structural Lead for field inspections and structural evaluations of existing WWTP infrastructure, including clarifiers, aeration basins, and sludge storage tanks. Brandon also led structural design for improvements that included a new lift pump station, headworks upgrades, clarifiers, new and upgraded aeration basins, return activated sludge and waste activated sludge pumping, UV disinfection, blowers, solids thickening and dewatering upgrades, and digester upgrades.

Water Resource Recovery Facility Capital Improvements / Carson City / Carson City, NV: Structural Engineer for design and construction of facility improvements that included new mechanisms and concrete rehabilitation for primary and secondary clarifiers, headworks odor control with covered channels and basins, a new grit washer, grit pumps and discharge piping, primary sludge pump controls, aeration basin demolition, a new electrical building at the headworks and north lift station, a new 16-inch pipeline, overflow basin lining, and value engineering review. Brandon's role is directly relevant to clarifier rehabilitation, concrete repair, headworks structures, and phased treatment plant upgrades.

MBR Improvements / City of Jerome / Jerome, ID: Structural Engineer for WWTP improvements, including an influent pump station, headworks, primary and secondary clarifiers, return activated sludge and waste activated sludge pump station, aeration basins, blowers, UV disinfection, solids thickening, digesters, and dewatering systems.

BRANDON KELLER, PE, SE

Structural

WWTP Improvements / City of Preston / Preston, ID: Structural Engineer and quality control reviewer for treatment plant upgrades that included a new headworks facility, secondary clarifiers, basins, and an oxidation ditch. The project used aggregate piers and other ground enhancements to support new treatment components.

Solids Handling Upgrades / City of Nampa / Nampa, ID: Structural Engineer for upgrades to an existing solids processing facility. The new facility included a 52-foot-tall, three-story concrete masonry building to house wastewater solids processing equipment. The project demonstrates Brandon's ability to integrate heavy process equipment, access requirements, and structural systems into treatment plant facilities.

WWTP Improvements / City of Caldwell / Caldwell, ID: Structural Lead for major WWTP improvements, including two new digesters, a new primary sludge pump station, and a biogas storage facility. Brandon also supported preliminary design for thickening redundancy, a primary solids waste and drain pump station, and siting for a future dewatering building.

North Valley WWTP Upgrades / Douglas County / Minden, NV: Structural Lead for value planning and construction-phase review on treatment plant upgrades that included a new headworks, SBR system, solids dewatering, pump station, and chlorine disinfection. His role helped the owner test structural options during delivery and keep improvements aligned with constructability and cost.

WWTP Preliminary Engineering Report / City of Sandpoint / Sandpoint, ID: Structural Engineer for preliminary evaluation of wastewater facilities, including inspections and evaluations of clarifiers, basins, and masonry structures.

CHANDLER MENDENHALL, PE

Electrical

YEARS OF EXPERIENCE

9

EDUCATION

ME, Engineering Management
Duke University

BS, Electrical Engineering
University of Missouri

PROFESSIONAL REGISTRATIONS

Oregon: 100419PE
Idaho: 6971089
Washington: 25035702

Chandler Mendenhall will serve as Electrical lead for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements, bringing nine years of experience designing electrical systems for water and wastewater facilities. A licensed Professional Engineer in Idaho, Oregon, and Washington, Chandler has direct experience with the City of Sandy's infrastructure through his role as Electrical Engineer for the Alder Creek Water Treatment Plant (WTP) Membrane Filtration Upgrade. On that project, he designed power and controls infrastructure for new treatment equipment, pump stations, electrical distribution systems, lighting, heat trace systems, and coordinated electrical service upgrades, providing him with valuable familiarity with the City's standards and operational requirements.

In addition to his work for the City, Chandler has led electrical design for complex wastewater treatment projects throughout the Pacific Northwest, including the Mill City, Oregon WWTP, where he provided full-plant electrical design for new treatment processes, electrical service, motor control centers, and facility lighting and continues to support construction activities. He has also provided electrical design and analysis for lift station and wastewater treatment facility improvements in Newport, Oregon and Sandpoint, Idaho. His experience designing reliable electrical systems for active treatment facilities, combined with his existing knowledge of the City's infrastructure, will help streamline coordination and support successful implementation of this project.

RELEVANT PROJECTS

WWTP Effluent Pump Station Improvements / City of Sandy / Sandy, OR: Electrical Engineer for the Effluent Pump Station Improvements at the WWTP, replacing existing pumps with four larger variable frequency drive-equipped pumps to meet Department of Environmental Quality consent decree requirements.

Alder Creek WTP Membrane Filtration Upgrade / City of Sandy / Sandy, OR: Electrical Engineer for facility and pump station upgrades, including new treatment skids, effluent and backwash pumping, clean-in-place systems, electrical service, switchboards, a motor control center, process power, lighting, heat trace, and startup coordination.

Mill City WWTP / Marion County / Mill City, OR: Electrical Engineer for full-plant electrical design for a new greenfield WWTP with sequencing batch reactor treatment, headworks screens, grit separation, tertiary denitrification sand filters, UV disinfection, and rapid infiltration basin discharge. Chandler's work includes new electrical service, two new motor control centers, power distribution for process equipment, heat trace, and site and building lighting. He also provides construction services for electrical systems.

Northside Lift Station Improvements / City of Newport / Newport, OR: Provided electrical design and analysis support for a coastal pump station project. Chandler applied low-voltage industrial power distribution experience to pump station upgrades and related electrical systems analysis.

WWTP Preliminary Engineering Report / City of Sandpoint / Sandpoint, ID: Electrical Engineer for a preliminary engineering report evaluating the existing WWTP electrical infrastructure associated with clarifiers, digesters, chemical treatment, and headworks. Chandler worked with the design lead to identify code gaps and outline preliminary construction phasing to keep plant operations online during improvements.

Clarifier Rehabilitation and WWTP Improvements / Orange County Sanitation District / Huntington Beach, CA*: Electrical Engineer for treatment plant improvements, including new primary and secondary clarifiers and an electrical room. Chandler's electrical design included power for new process equipment, site duct bank design, lighting design for the new process and electrical building, and new motor control centers.

*Experience prior to joining Keller

CURTIS BUTTERFIELD, PE

HVAC

YEARS OF EXPERIENCE

9 (Engineering)
15 (Contracting)

EDUCATION

BS, Civil Engineering
Boise State University

PROFESSIONAL REGISTRATIONS

Oregon: 101193PE
Idaho: 21179
Nevada: 032897
Utah: 14044015-2202
Washington: 22018424

Curtis Butterfield will serve as HVAC lead for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements, bringing more than 24 years of combined engineering and mechanical construction experience. He specializes in HVAC, ventilation, plumbing, drainage, and support systems for wastewater treatment facilities, including headworks, pump stations, laboratories, process buildings, solids handling facilities, and treatment plants. Having designed more than 100 HVAC and plumbing systems, Curtis provides practical insight into constructability, equipment access, maintenance requirements, construction phasing, and long-term facility operations.

His experience includes rehabilitation and expansion of active wastewater facilities, where he coordinates closely with process, structural, electrical, controls, and civil disciplines to deliver reliable, maintainable, and energy-efficient solutions that support utility operations and project delivery objectives.

RELEVANT PROJECTS

Mill City WWTP / Marion County / Mill City, OR: HVAC and Plumbing Lead for WWTP improvements. Designed HVAC, ventilation, plumbing, drainage, emergency shower and eyewash systems, and building mechanical systems serving headworks, treatment processes, dewatering facilities, administrative buildings, laboratories, and chemical storage areas. Coordinated HVAC and plumbing systems with process, structural, electrical, controls, and civil disciplines while providing NFPA 820-compliant ventilation design and construction support for facility improvements.

Spring Valley WWTP / Eagle Sewer District / Eagle, ID: HVAC and Plumbing Lead for a new WWTP. Designed and coordinated HVAC, ventilation, plumbing, and drainage systems serving influent screening facilities, chemical facilities, effluent pumping facilities, and process support buildings throughout the treatment plant. Coordinated closely with process, structural, civil, electrical, and controls disciplines to develop reliable, maintainable, and energy-efficient building mechanical systems that support long-term plant operations and maintenance.

WWTP Improvements / City of Lewiston / Lewiston, ID: HVAC and Plumbing Lead for more than $34M in WWTP improvements. He designed HVAC, ventilation, plumbing, rooftop mechanical systems, and associated controls supporting headworks facilities, influent pumping, sludge pumping and thickening, aeration improvements, and process support buildings throughout the treatment plant. Curtis coordinated closely with process, structural, electrical, controls, and civil disciplines to integrate mechanical systems within an active wastewater treatment facility while supporting phased construction, operational reliability, maintainability, and long-term facility performance.

WWTP Improvements / City of Gooding / Gooding, ID: HVAC and Plumbing Lead for WWTP improvements. He designed HVAC, ventilation, plumbing, drainage, emergency shower and eyewash systems, and building mechanical systems serving headworks, treatment processes, dewatering facilities, administrative buildings, laboratories, and chemical storage areas. Responsibilities included National Fire Protection Association (NFPA) 820-compliant ventilation design, mechanical design and coordination of the dewatering equipment and tertiary filtration systems, multidisciplinary coordination with process, structural, electrical, controls, and civil disciplines, and construction support throughout project delivery.

WWTP Laboratory / City of Caldwell / Caldwell, ID: Provided HVAC and plumbing design and construction observation for a WWTP laboratory building. The system included bathrooms, a bacteria handling room, office space, and laboratory space. Curtis designed a dual-zone HVAC system to prevent recirculation of contaminated air, along with plumbing for domestic and chemical drains.

CURTIS BUTTERFIELD, PE

HVAC

WWTP Improvements / City of Preston / Preston, ID: HVAC and Plumbing Lead for WWTP and influent lift station improvements. Designed HVAC, ventilation, plumbing, drainage, emergency shower and eyewash systems, and building mechanical systems serving headworks, treatment processes, dewatering facilities, administrative spaces, laboratories, and chemical storage areas. Responsibilities included NFPA 820-compliant ventilation design, multidisciplinary coordination with process, structural, electrical, controls, and civil disciplines, and construction support throughout project delivery.

WWTP Improvements / City of Rigby / Rigby, ID: HVAC and Plumbing Lead for WWTP improvements. Designed HVAC, ventilation, plumbing, drainage, emergency shower and eyewash systems, and building mechanical systems supporting headworks, treatment facilities, solids handling and dewatering operations, administrative spaces, laboratories, and chemical storage areas. Responsibilities included NFPA 820-compliant ventilation design, interdisciplinary coordination, constructability reviews, and construction-phase support.

WWTP Headworks / City of Nampa / Nampa, ID: HVAC and Plumbing Lead for a new 37 million-gallon-per-day facility that will pump, screen, and remove grit from influent wastewater before additional treatment. Curtis' HVAC and plumbing design includes area drains, ventilation that meets NFPA 820 requirements, odor-control ducting, and an electronic airflow monitoring system. The project is under construction, with Keller supporting the City and the contractor as the work progresses.

Wet/Dry Well Pump Station / City of Post Falls / Post Falls, ID: Led a multidisciplinary team in the design of this 2,500 gallons-per-minute lift station. The lift station included a 30-foot-deep structure, odor control, a 150,000-gallon equalization tank with regulated outfall, space for five 150 horsepower pumps, and variable frequency drives. The design also included ventilation in compliance with NFPA 820 to prevent flammable gases from igniting. Curtis led the construction administration. The project was delayed early on due to COVID-19 restrictions on obtaining materials. The project was completed in 2022 under budget.

BRADLEY CULVER, PE

Controls

YEARS OF EXPERIENCE

16

EDUCATION

MS, Electrical Engineering
Kansas State University

BS, Electrical Engineering
University of Delaware

PROFESSIONAL REGISTRATIONS

Oregon: 97265PE
Delaware: 23275
Idaho: 19242
Montana: 73235
Washington: 20103376

Bradley Culver leads Keller's Electrical and Controls Group, overseeing project execution and quality of deliverables. He brings experience in electrical power and process controls, spanning conceptual design, detailed engineering, construction, commissioning, start-up, and on-site troubleshooting. His expertise encompasses power distribution systems, medium- and low-voltage equipment, protective device coordination, arc-flash analysis, control system design, instrument specifications, and the application of programmable logic controllers (PLC) for process control. Bradley is well-versed in industry standards and codes, including those of the National Fire Protection Association, Underwriters Laboratories, the Institute of Electrical and Electronics Engineers, and the International Energy Conservation Code.

RELEVANT PROJECTS

Alder Creek Water Treatment Plant Membrane Filtration Upgrade / City of Sandy / Sandy, OR: Instrumentation and controls design to replace City's existing aging filters, including construction phasing concerns. The project included new raw water pump station, multiple chemical feed vendor systems, multiple water analyzers, dual low pressure membrane filtration systems, finished water pump station, and CIP waste. Controls work included a new plant network, PLC controls, site security and access system, and close interface with the City's IT for design considerations.

Wastewater Treatment Plant (WWTP) Effluent Pump Station Improvements / City of Sandy / Sandy, OR: Upgrades and addition of effluent water pumps including automatic level controls integrated with City's relay-logic based control panel and new process water pump skid. The project added an offsite cellular flow meter for monitoring and recording of effluent pumping. Special designs were included concerning available electrical infrastructure and proper power distribution to not overload existing equipment.

WWTP Improvements / City of Rigby / Rigby, ID: Provided electrical and controls design oversight for treatment plant upgrades, including oxidation ditches, clarifiers, disk filters, plant water pump system, UV disinfection, and screw press equipment.

WWTP Improvements / City of Aurora / Aurora, OR: Electrical design for a new influent screen, sequencing batch reactor (SBR) basins, new blower and electrical building, UV system, and new lift station. Efforts included the addition of a new motor control center and replacement of the backup site generator.

Solids Dewatering Improvements / City of Silverton / Silverton, OR: Electrical and controls design for a new dewatering building and screw press system. Bradley integrated the new facilities with existing infrastructure through coordinated feed and communication connections. He was responsible for construction coordination and submittal reviews.

Spring Valley WWTP / Eagle Sewer District / Eagle, ID: Contributed project oversight, review of electrical and controls design, construction review, and final checkout and approval for start-up. The facility included influent screening/pumping, aerated lagoons, winter storage lagoons, disinfection facilities, standby power, an irrigation pump station, and full SCADA integration.

WWTP Improvements / City of Juliaetta / Juliaetta, ID: Electrical and controls engineering and design for facility upgrades, including new headworks, an SBR basin with blowers, an electrical and controls room, and dewatering. He provided construction oversight and review, including development of a new panel design, programming, and integration.

WWTP Headworks / City of Nampa / Nampa, ID: Electrical and controls design of six 85 HP submersible lift station pumps for influent feed to headworks. The headworks included screening, grit classification, solids removal, and odor control system. The electrical and controls scope involved onsite medium voltage distribution and onsite network fiber optic ring integration.

RYAN RETZLAFF

Site/Civil

YEARS OF EXPERIENCE

28

EDUCATION

MS, Civil/ Environmental Engineering
Portland State University

BS, Environmental Science
Oregon State University

Ryan Retzlaff is the Site/Civil lead for the Jarl Road Wastewater Treatment Plant (WWTP) Improvements and brings 28 years of experience in civil and environmental engineering, including direct familiarity with the City of Sandy's wastewater infrastructure. As manager of Keller's Beaverton, Oregon office, he has led and supported numerous wastewater, pump station, and utility projects, including the Sandy Effluent Pump Station Improvements, industrial pump station upgrades at Vancouver's Westside WWTP, and clarifier inspections at the Gresham WWTP. His experience also includes drainage and stormwater planning, utility coordination, and site/civil design, with more than 50 stormwater master plans and hundreds of stormwater facilities designed. Ryan's prior work on the City's wastewater effluent pump system provides valuable site-specific knowledge of plant piping, grading, and utility conflicts that will support efficient project delivery.

RELEVANT PROJECTS

WWTP Effluent Pump Station Improvements / City of Sandy / Sandy, OR: Project Manager for improvements to the effluent pumps and utility pumps at the Sandy WWTP. The existing pumps lack the capacity to move effluent to an irrigation pond during the summer months, creating a need for upgrades tied to the Oregon Department of Environmental Quality (DEQ) consent decree. Ryan is leading the design improvements that will replace the three existing effluent pumps with a four-pump configuration, providing firm capacity with one standby pump. Additionally, the project includes upsized utility pumps, pump relocation, mechanical and electrical upgrades, surge evaluation and mitigation improvements, discharge line improvements, and additional metering to monitor the effluent pipeline.

Alder Creek Water Treatment Plant Membrane Filtration Upgrade / City of Sandy / Sandy, OR: Deputy Project Manager for the new treatment facility. Ryan provided design oversight and coordination with the City and program team to advance the design to construction. This facility includes improvements to the raw water pump station, new membrane treatment, siting of backwash pond with decanter equipment for reuse, and site improvements.

Industrial Pump Station and Shin-Etsu Handotai (SEH) Pump Station Improvements / City of Vancouver / Vancouver, WA: Project Manager for SEH Pump Station Improvements, including replacement of existing piping and manifold, access and safety improvements, and structural improvements. Ryan provided oversight of the design effort and supported construction for upgrades that improved maintainability and station reliability. He also provided engineering support during the construction of the Industrial Pump Station rehabilitation, including the replacement of the electrical system, improvements to pipe configuration, and vault rehabilitation. The work restored critical wastewater pumping function and strengthened long-term operations for the City.

Olsen Creek Storm and Sanitary Realignment / City of Newport / Newport, OR*: Project Manager for the decommissioning and removal of a sanitary pump station as well as design to realign storm and sanitary gravity lines associated with the pump station's removal. The updated alignment required trenchless construction of a 250-foot, 30-inch conduit to house both storm and sanitary pipes. The new alignment also crossed through existing wetlands, which were protected to the extent possible and restored once the project was complete. Extensive coordination with regulatory agencies was completed to gain permit approval for this project.

Drainage Master Plans / Multnomah County Drainage District, Peninsula Drainage District No. 2, and Sandy Drainage Improvement Company / Multnomah County and Troutdale, OR:* Led technical evaluation for drainage master planning efforts that aligned owner priorities, infrastructure constraints, capacity needs, and long-term improvement recommendations. Work included hydrologic and hydraulic modeling, problem-area identification, pump station capacity evaluation, and recommended improvements. Ryan's team evaluated more than 10 pump stations and more than 20 individual pumps, giving owners a clear path for future capacity, reliability, and capital investment decisions.

*Experience prior to joining Keller

RYAN RETZLAFF

Site/Civil

Farmington Fluoridation and Pump Facility / Tualatin Valley Water District / Beaverton, OR: Provided engineering support during construction of a new fluoridation facility with mechanical equipment, injection and testing systems, ventilation, electrical systems, real-time monitoring, and two 30-inch pressure mains connected to the Joint Water Commission and Willamette Water Supply System. Ryan helped coordinate construction-phase needs for a facility that required careful integration of process equipment, large-diameter piping, controls, and operations requirements.

WWTP Stormwater Design / City of Gresham / Gresham, OR: The Gresham treatment site was out of compliance with their DEQ discharge permit and required a surface water study and subsequent facility design. Ryan provided project management and design leadership of the study and facility design including yard piping reconfiguration, high flow bypass structure design, and water quality treatment facility. These actions provided the necessary adjustments and treatment to bring the facility back within the discharge requirements and meet DEQ requirements.

Land and Site Development / Various / Pacific Northwest and Australia: Ryan has spent nearly ten years working with municipalities, developers, large corporations, and other entities providing site development services for a variety of land use categories including municipal facilities, residential, commercial, and industrial land uses. These projects have included grading, building and parking lot siting, utility layout, and other related tasks.

*Experience prior to joining Keller

Robert Peacock, PE

Planning and Implementation Advisor

Robert (Rob) Peacock has 32 years of experience and expertise in the planning and design of wastewater facility capital improvement projects. He has led wastewater planning studies, predesigns, and designs of small wastewater treatment plant improvements throughout Oregon. Rob provides City Engineering Services for Columbia City and Banks, Oregon, and District Engineering for Nehalem Bay Wastewater Agency. Through his work as a City Engineer, he respects the commitments small cities hold when providing utilities for your residents.

Years of Experience
32

Education
ME, Environmental Engineering, University of Florida, 1994

BS, Environmental Engineering, University of Florida, 1992

Registrations
Professional Engineer - Environmental - Oregon (67045PE)

Professional Engineer - Environmental - Washington (22021373)

Professional Engineer - Environmental - Texas (147585)

Professional Engineer - Hawaii (PE-14886)

Professional Engineer - North Carolina (044175)

Wastewater Facility Plan Amendment, City of Sandy, Sandy, OR | *Project Manager*

KJ prepared the Facility Plan Amendment for the City. A 2019 Facility Plan proposed several complete alternatives involving a second wastewater treatment plant at a separate location, all of which were significantly beyond the City's budgetary capacity. KJ investigated three treatment solutions on the existing site, one alternative to store raw sewage in the collection system, and an alternative to pump to a nearby City for treatment and discharge. The discharge permitting and treatment process design was made complex by the City's discharge within the Three Basin area of Oregon, which prohibits increases in mass loads to any streams within the basins. The planning effort included incorporating numerous studies into a new outfall to the Sandy River, investigating deep-well injection, and seeking additional recycled water users. The team prepared three alternatives for improving the biosolids treatment and disposal system, including digestion, dewatering, and thermal drying.

Primary Treatment Addition, Clean Water Services, Forest Grove, OR | *Project Manager*

Managed the multi-discipline design team to design the addition of a pair of primary clarifiers for the Forest Grove WWRF, which had no primaries prior to this project. Client determined that adding alum would effectively remove copper from wastewater; thus, the KJ team designed an alum building with a bulk solution receiving station, a storage tank, a day tank, and a three-pump system to achieve the desired alum dosing. KJ designed a primary solids building with common-wall construction with primary clarifiers, sludge pumps, and scum pumps. The common-wall construction provided access to the clarifier interiors through submarine doors (when the clarifiers were empty). The clarifiers were designed with aluminum covers that provided isolation, which permitted the collection of foul air from the headspace. Foul air was treated through a new engineered media biofilter designed by KJ. The project was initiated as a design-bid-build but was converted to CMGC to accelerate schedule.

MBR Wastewater Treatment Plant Design-Build Engineering, Confidential Client, Marion County, OR | *Technical Advisor/QC Reviewer*

Provided technical support and Quality Control reviews of a new MBR plant. The aerospace manufacturer in Marion County, Oregon, operated a sequencing batch reactor and discharged to a drain field. KJ designed, permitted, and supported the construction of an MBR treatment plant to replace the existing plant in a greenfield location. The new treatment plant was designed as a hollow-fiber MBR, and the existing treatment plant was preserved as sludge storage. The design also included a soils assessment for subsurface discharge, discharge permitting, and the design of the new drainfield to accommodate increased discharge volumes.

Cascadia Wastewater Treatment Plant Final Design and Bidding Services, NASH Cascadia Verde, LLC, Tacoma, WA | *Technical Advisor/QC Reviewer*

Contributed to planning, permitting, design, and construction management for a new membrane bioreactor (MBR) wastewater treatment plant serving a growing residential community, including phased capacity expansion from 1.0 to 8 mgd. Advised site layout, plant utilities, yard piping, site circulation, and grading.

Marine Park Solids Conveyance Predesign Report, City of Vancouver, Vancouver, WA | *Project Manager/Civil*

Led the preparation of a Solids Conveyance Feasibility Study and Preliminary Design Report for a pipeline to convey primary and secondary solids and scum from the Marine Park Wastewater Treatment Facility to the West Side Wastewater Treatment Facility. The study included the preparation of conceptual design alternatives, evaluation of conveyance alternatives for feasibility, preparation of planning-level cost estimates, and engineering recommendations for a selected alternative.

Ferric Chloride System Rehabilitation at Columbia Boulevard Wastewater Treatment Plant, Portland BES, Portland, OR | *Project Manager*

Managed a project to replace all electrical and I&C components of the plant's ferric chloride storage and dosing system. A leak in the ferric chloride storage and transfer system caused rapid corrosion of electrical conduits and other system components. The design included the replacement of piping, valves, instrumentation, pumps, and local control stations, as well as the specification of a protective coating on the concrete containment floor and walls. The project included teaming with an MBE electrical engineering firm that was intimately familiar with Columbia Boulevard's electrical and I&C needs to provide the best product for the client.

Luke Werner, PE

Solids Handling

Luke Werner has more than 25 years of experience planning, designing, and rehabilitating water, wastewater, biosolids, and resource recovery facilities. He delivers practical, innovative solutions that improve treatment performance, operational reliability, and long-term sustainability. Luke specializes in solids handling and treatment systems, including anaerobic digestion, biosolids management, digester rehabilitation, co-digestion programs, biogas utilization, and waste-to-energy facilities. As a key member of KJ's Wastewater Community of Practice, he has led projects involving sludge thickening, digestion, dewatering, gas conditioning, cogeneration, renewable natural gas (RNG), and FOG and food waste receiving programs. He is also recognized for helping utilities modernize and optimize existing facilities through strategic rehabilitation and process improvements.

Years of Experience
25

Education
BS, Environmental Engineering, Oregon State University, 2000

Registrations
Professional Engineer - Civil - Oregon (63241PE)

Professional Engineer - Civil - Washington (48479)

Professional Engineer - Civil - California (66441)

Professional Engineer - Colorado (0059812)

Professional Engineer - Missouri (2019035605)

Professional Engineer - Florida (102618)

Professional Engineer - Civil - South Dakota (11604)

Professional Engineer - Hawaii (PE-16874)

Biosolids Handling Facilities & Odor Control Improvements, City of Washougal, Washougal, WA | *Project Engineer/Solids Process Design*

Led development of a Basis of Design Report (BODR) that detailed the design criteria for solids handling upgrades at the wastewater treatment facility, including sludge stabilization, processing, and odor control. After the BODR, coordinated design of the improvements, and was process lead for rotary drum thickening, screw press dewatering, and biosolids conveyance to covered storage with roll-off bins. This project included the design and construction of a new aerobic digester, a solids-handling building, an anoxic selector to improve sludge treatment, chemical storage and feed facilities, an odor control system, and the decommissioning of the sludge lagoons. KJ oversaw the design, permits, and funding options, aiming to minimize costs and enhance efficiency.

Water Reclamation Facility Solids Handling Improvements, City of Albany, Albany, OR | *Technical Advisor*

Project to improve solids dewatering and treatment at the client’s existing Water Reclamation Facility (WRF). After working with the client on a multi-year evaluation of numerous potential treatment alternatives, KJ began designing improvements to the WRF's dewatering system and implementing a Class A biosolids composting system. Improvements to the WRF's dewatering system include replacing the WRF's two existing 2-meter belt filter presses with two new rotary screw presses, installing a new solids conveyance system, odor control, and associated electrical/control systems.

Pleasant Grove Wastewater Treatment Plant Expansion (Design-Assist), City of Roseville, Roseville, CA | *Design Manager*

This $60M expansion project included four primary clarifiers, three rotary drum thickeners, a sludge thickening building, two anaerobic digesters, a digester control building, and auxiliary systems, controls, and process

Luke Werner, PE (Cont.)

Memberships / Affiliations

Pacific Northwest Clean Water Association (PNCWA)

Water Environment Federation (WEF)

piping. Work included evaluations of pumping and thickening technologies for various sludge systems. The project was delivered under design-assist procurement.

Wastewater Treatment Plant Phase 1, Improvement Facility Plan & Pre-Design and Design, City of Pendleton Public Works Department, Pendleton, OR | *Project Engineer*

Design of a solids expansion project, including upgrades to the existing anaerobic digestion system with a new mixing system, heating system, and provisions for the addition of FOG and food waste. Included an 86kW cogeneration facility and a screw press for dewatering.

Solids Improvements, City & County of Honolulu, Waianae, HI | *Project/Process Manager*

Managed the design of significant upgrades to two anaerobic digesters, including replacing floating lids with fixed steel covers, installing pumped mixing systems, and upgrading facilities for NFPA 820 compliance. Oversaw the evaluation of multiple dewatering alternatives to replace the treatment plant's three existing centrifuges. Alternatives evaluated included belt filter presses, rotary screw presses, and centrifuges. Rotary screw presses were identified as the preferred alternative and were installed.

Red Oak Creek Regional Wastewater System Plant Expansion (as a subconsultant), Trinity River Authority of Texas, Arlington, TX | *Technical Advisor*

Major capacity expansion increasing treatment capacity from 6 to 12 mgd, with CMAR delivery. The activated sludge process will be upgraded to accommodate future biological phosphorus removal. Responsible for the design of the solids handling train, including the implementation of a new sludge thickening process, a waste activated sludge (WAS) storage tank, and dewatering centrifuges. Thickening and dewatering infrastructure will be housed in a newly constructed solids handling building. Sludge thickening was introduced to stabilize the dewatering process by reducing sludge variability and providing more consistent loading to the centrifuges.

Chambers Creek Regional Wastewater Treatment Plant Pre-Design, Pierce County, University Place, WA | *Solid Process Lead*

Design manager for the solids thickening process to expand capacity from 28 to 45 mgd ADWF. Pre-design work included comparing various solids-thickening technologies, such as rotary drum thickeners, gravity belt thickeners, and centrifuges; developing an interim thickening strategy; and conducting a business case evaluation of equipment. Final Detailed Design work included layout of a solids thickening structure, coordination of process piping and dry polymer dosing facilities, and development of a 3D model as part of a Building Information Management (BIM) system.

James Bowland, PE

Recycled Water Pipelines

James Bowland is a company leader in pipeline design and rehabilitation, with extensive experience in water and wastewater engineering, construction management, and environmental services. He has led and performed the design of numerous water and wastewater infrastructure and treatment facilities, and has developed plans and specifications, pipeline alignments, equipment sizing, engineering calculations, construction and capital cost estimates, design details, and layouts. In addition, he has assisted in the development of numerous engineering reports. James has focused the last 29 years of his career on pipeline design, rehabilitation, and condition assessment, and has designed over 100 miles of pipeline.

Years of Experience
29

Education
BS, Environmental Engineering, Montana Tech, 1997

Registrations
Professional Engineer - Civil - California (66400)

Professional Engineer - Civil - Idaho (P-16511)

Professional Engineer - Civil - Montana (PEL-PE-LIC-29131)

Professional Engineer - Civil - Wyoming (PE 15866)

Upper Tualatin Interceptor, Clean Water Services, Washington County, OR | *Lead QC*

Reviewed the design at all intermediate and final stages, which consisted of installing a new 6,500 LF, 60 inch diameter interceptor parallel to a river, then crossing it via a curved micro-tunnel. Given the project constraints, the client elected to complete the Upper Tualatin Interceptor improvements using a PDB approach. KJ is serving as the design engineer on the PDB team led by Mortenson Construction. The team of the general contractor, tunneling contractor, and design engineer works collaboratively with the client to consider a parallel versus a replacement interceptor, evaluate open-cut versus trenchless construction methods, select pipe and manhole materials, and move the project forward on an aggressive schedule.

Pipeline West 1.0 Final Design, Willamette Water Supply Program, Hillsboro, OR | *Design Engineer*

Civil/pipeline services for this segment of the pipeline are being designed by KJ and our partners. The project includes 4 miles of 48 to 66 inch diameter seismically resilient steel pipeline through areas of Washington County with heavy traffic congestion and significant development.

Lake Oswego-Tigard Finished Water Pipeline Services, City of Lake Oswego, Lake Oswego, OR | *Design Engineer*

Raw and treated water pipeline design/construction services, which provided 10 miles of 36 to 48 inch waterline, including a 3,900 ft long Horizontal Directional Drill of the Willamette River. The team conducted hydraulic analysis, surge analysis, geotechnical evaluation, corrosion

protection design, and seismic analysis to secure the pipeline and appurtenances meet the required design life.

Emergency Bypass Design for Southeast Bay Outfall Islais Creek Crossing, San Francisco Public Utilities, San Francisco, CA | *Project Engineer*

KJ helped the SFPUC evaluate project delivery methods, such as construction management at risk (CMAR), to identify how remaining assessment needs and results could best be incorporated into the design to complete the work by the wet weather season. Performed an emergency evaluation of alternatives for temporary repair solutions for the 36 inch DIP creek crossing. This outfall creek crossing has started leaking large volumes of water. The project included specifying and designing a new 48 inch diameter HDPE outfall pipeline to bypass the 36 inch DIP. The HDPE pipe was installed using the float-and-sink method with 10,000 lb concrete blocks and reconnected to the outfall pipeline on both sides of the water crossing with seismic fittings and isolation valves.

West Lake Tahoe Regional Water Treatment Plant Construction Support Services, Tahoe City Public Utility District, Tahoe City, CA | *Pipeline Engineer*

KJ provided engineering services during construction and construction management services as part of an integrated team. KJ supports the site representative and TCPUD managers and leads the design team's input during the construction process. Involved coordinating several subconsultants to provide support. Construction management services include contract administration, document management, change order review and negotiation, inspection, and special and subconsultant inspection management.

Jefferson Lift Station and Force Main Upgrades, City of Centralia, WA, Centralia, WA | *QA/QC*

Performed QA/QC and technical assistance for the project, which replaced an aging force main and lift station to support wet-weather flows and future growth. KJ evaluated alignment alternatives and trenchless installation methods, including a new railroad crossing. Hydraulic modeling confirmed system capacity and informed pump sizing. Final design featured dual force mains, Overwatch pump systems, wet well lining, ventilation upgrades, and electrical/control enhancements.

Lakepoint Boulevard Gravity Sewer Design & ESDC, Brookfield Residential Properties, Covington, WA | *QA/QC & Engineering Support*

Upgrades to an existing sewer main to accommodate a new development being added to an existing system. The project included 3,600 LF of gravity sewer design and rehabilitation, open cut, pipe bursting, and auger boring were all used to upgrade the system to handle the new flows.

Mark Preston, RA

Architect

Mark Preston is a senior architect with a demonstrated ability to lead diverse teams in the successful design and construction of a variety of private- and public-sector projects. He is an experienced project manager with skills in overseeing teams of in-house production staff and coordinating subconsultants to provide successful, on-time, on-budget project completion. He has authored reports on facility and program analyses and long-range building evaluation studies, and regularly prepares clear, concise construction drawings and specifications. In his career, he has provided architectural services for more than 400,000 SF of facility improvements. He offers a proven track record of hands-on experience in planning, program development, cost control, and project management. He also provides full construction administration support, including pre-construction meetings with general contractors, owners, and major subcontractors; site reviews and progress meetings; change order negotiations; documentation of work in progress; compilation of as-built drawings and punchlists; and final project closeout and administration of associated paperwork. Following construction, he provides start-up assistance, record drawings, warranty review, and post-construction evaluation.

Years of Experience
48

Education
BA, Environmental Design, University of Washington, 1978

Registrations
Registered Architect - Oregon (ARI-11692)

Registered Architect - Washington (4455)

Registered Architect - California (C 22375)

Registered Architect - Arizona (74841)

Registered Architect - Florida (AR102556)

Registered Architect - Hawaii (AR-16913)

Registered Architect - Montana (ARC-ARC-LIC-17341)

Ventura Water Reclamation Facility MBR/UV Upgrade Project, South Site Design, City of San Buenaventura, Ventura, CA | *Architect*

The project replaced aging and deficient infrastructure, improved the quality of tertiary-treated water, and became the first treatment component of a planned potable water reuse facility. The project included new fine screens, aeration basins, submerged membranes for an MBR system, and a closed-vessel UV system to meet both Title 22 recycled water and potable reuse pathogen-inactivation requirements. Additional facilities included aeration blowers, return and waste activated sludge (RAS/WAS) pump stations, piping systems, chemical facilities, and odor control. KJ provides project management, design, equipment pre-selection, bid phase services, and support for permitting and CMAR cost development.

Biosolids Handling Facilities & Odor Control Improvements, City of Washougal, Washougal, WA | *Lead Architect*

Served as the Lead Architect for the City of Washougal's wastewater treatment facilities upgrades as part of a project with an estimated cost of $29M. The project includes the construction of a new aerobic digester, a solids-handling building, and an anoxic selector to improve sludge treatment and regulatory compliance. KJ is overseeing the design, permits, and funding options, aiming to minimize costs and enhance efficiency.

Primary Treatment Addition, Clean Water Services, Forest Grove, OR | *Architect*

As part of the new design to add a pair of primary clarifiers to the Forest Grove WWRF, the KJ Architectural team designed an alum building and a primary solids building with common-wall construction, housing primary clarifiers, sludge pumps, and scum pumps. The common-wall construction

Mark Preston, RA (Cont.)

Registered Architect - Texas (25218)

Registered Architect - Colorado (ARC.00405194)

Registered Architect - Missouri (2019015621)

Certifications
NCARB Certification, National Council of Architectural Registration Board (89200)

Memberships / Affiliations
Washington State Hispanic Chamber of Commerce, Past President

provided access to the clarifier interiors through submarine doors (when the clarifiers were empty). The buildings matched the unique architectural features of existing adjacent buildings to maintain their consistent appearance throughout the plant.

West Lake Tahoe Regional Water Treatment Plant, Tahoe City Public Utility District, Tahoe City, CA | *Architect*

Design, permitting, special environmental surveys with IS/MND documents, land acquisition, water rights, securing SRF and other funding agency grant and loan funds, geotechnical investigation, backwash bag filter treatment pilot test, and public outreach program. The project design includes a submersible lake intake pump station and controls with a standby power generator, lake intake raw water pipeline, pre- and post-chlorination with a contact tank, membrane filtration, UV disinfection, bag filter backwash treatment process, and treated water storage underground clearwell and pump station.

Cascadia Wastewater Treatment Plant Final Design and Bidding Services, NASH Cascadia Verde, LLC, Tacoma, WA | *Architect*

Provided architectural design services for a new MBR wastewater facility for a planned residential community in Pierce County. Design includes new Administration building headworks, MBR treatment technology, disinfection system, effluent pumping, and recycled water distribution system. Confirmed design consistency with the facility plan and sewer plan.

Pleasant Grove Wastewater Treatment Plant Expansion (Design-Assist), City of Roseville, Roseville, CA | *Senior Architect*

Design of three new structures at the Pleasant Grove Wastewater Treatment Plant Expansion. The new buildings included a single-story 800 SF Electrical Building, the new 5,880 SF Solids Thickening Building, and the new 6,500 SF Digester Control Building. All new structures were masonry construction. Rooftop bridge access to adjacent 12,000 gallon Ferric Chloride tanks was provided from the Digester Control Building.

Wastewater Reclamation Facility Progressive Design-Build Project, Hi-Desert Water District, Yucca Valley, CA | *Architect*

Responsibilities included designing five structures: the Lab and Operations Building, the Electrical and Maintenance Building, the Dewatering Building, the Fine Screening and Grit Building, and the Process Building. Structures totaled approximately 18,000 SF of new construction.

David Hansen | Property Acquisition

DAVID HANSEN
ROW PROJECT MANAGER
5 Years ROW Experience
18+ Years Prior Client/Telecom Experience

PROFILE

Dave Hansen is a ROW Project Manager specializing in acquisition and relocation work across Oregon and Washington. He combines hands-on property owner negotiation, appraisal and title coordination, relocation experience, and practical construction/utility knowledge with a strong record of managing schedule-sensitive public infrastructure assignments. His water and wastewater work includes treatment plant property acquisition, pipeline and easement acquisition, reservoir siting, federally funded programs, and complex title resolution.

EDUCATION & CREDENTIALS

B.S., Community Youth Work/Youth Ministry, Western Baptist College (Corban University) | Oregon Real Estate Broker #201243630 | Oregon Notary Public #1063935 | IRWA Member | IRWA Courses 100, 200, 205, 502 | NHI Real Estate Acquisition Under the Uniform Act

PROJECT ROLE / AVAILABILITY

Primary ROW Project Manager | Approximately 26% available

Selected Water / Wastewater Experience

North Santiam Canyon Sewer Project | Marion County / Keller Engineering | Ongoing

Funded in part through WIFIA, this regional wastewater infrastructure effort supports communities along the North Santiam River. As lead Project Manager and Acquisition Agent, Dave conducted early landowner outreach for alignment evaluation and Rights of Entry, coordinated appraisal and appraisal review services, managed acquisition activities, and successfully facilitated acquisition of three parcels under single ownership in Mill City. Additional property needs in Gates and Detroit continue to advance with design and funding requirements.

Bendemeer Sanitary Sewer Upgrade | City of Hillsboro | Completed

This sanitary sewer capacity project required temporary impacts within wetlands, the 100-year floodplain, and the Clean Water Services Vegetated Corridor. As Senior ROW Agent, Dave secured six Temporary Construction Easements and associated access easements while negotiating with varied stakeholders, including a church, farm tenant, and an out-of-state solar company holding property interests. All required rights were obtained on time and under budget.

Willamette Water Supply Program | TVWD & City of Hillsboro | Ongoing

Dave served first as Acquisition Agent and later as Project Manager across 17 projects and approximately 300 files for this large, seismically resilient drinking-water program. He developed cost estimates, assigned and oversaw acquisition tasks, managed temporary easement extensions, negotiated owner settlements, and coordinated escrow closings across multiple design teams. The ROW team was formally commended by program leadership for detailed file knowledge and efficient cross-team communication.

Water Treatment Plant Property Purchase | City of Independence / Keller Engineering | Completed 2025

As Project Manager and Acquisition Agent, Dave led acquisition of the parcel needed for the City's new water treatment plant, including property research, design and appraisal coordination, owner meetings, acquisition documents, and negotiations. When the owner entered a private sale contract during City negotiations, Dave helped the team adapt its strategy and maintain stakeholder alignment. The parcel was ultimately acquired through condemnation in January 2025 in accordance with applicable procedures.

Upper Kellogg Capital Improvement | Clackamas Water Environment Services | Completed 2025

Dave developed the ROW scope, schedule, and budget for nine planned acquisitions supporting culvert/stream-crossing replacement and Upper Kellogg Creek capacity improvements. Four parcels presented significant title issues involving deceased owners and broken chains of title. A single HOA negotiation also expanded unexpectedly into 18 separate files. Dave responded with intensive research, in-person and virtual outreach, and precise tracking; all 18 files were signed within weeks, preserving the schedule and earning direct commendation from the agency's ROW leadership.

ARPA Waterline Pipeline Improvements | City of Gates / Keller Engineering | Completed 2025

This project installed new C-900 PVC finished-water pipeline and HDPE service lines to strengthen the City of Gates water system. As Project Manager and Acquisition Agent, Dave coordinated with the Senior Title Review Specialist to resolve complex title and encumbrance issues, led owner communications, and managed documentation and reporting for 11 affected parcels. All required right-of-way was successfully secured.

Relevant Strengths for Sandy WWTP Improvements

- Water and wastewater ROW leadership spanning treatment-plant sites, pipelines, easements, Rights of Entry, and full fee acquisitions.
- Experience delivering projects with Keller Engineering, including North Santiam Canyon, City of Independence, and City of Gates assignments.
- Federal/Uniform Act and WIFIA-aware acquisition practices with disciplined documentation and schedule tracking.
- Proven ability to resolve complex title, ownership, lender, and encumbrance issues before they become schedule constraints.
- Owner-focused communication and early engagement strategies designed to reduce surprises and support voluntary acquisition whenever possible.

STEVEN HOWELL, PLS

Survey

YEARS OF EXPERIENCE 20

EDUCATION
Coursework, Surveying and Geomatics, Clark College

PROFESSIONAL REGISTRATIONS
Oregon: PLS 91569
Washington: PLS 53113

MEMBERSHIPS
Professional Land Surveyors of Oregon

Oregon GNSS User Group

National Society of Professional Land Surveyors

Steven owns FFN Surveying and has over 20 years of land surveying experience. He has worked for large and small firms throughout his surveying career completing all types of projects from complicated boundary and topographic surveys to simple lot surveys. He is directly involved with all aspects of each project to deliver a high level of quality control and a consistent final product.

In addition to completing surveying and geomatics courses at Clark College in Vancouver, Washington, Steven is a member of the Professional Land Surveyors of Oregon, Oregon GNSS User Group, and the National Society of Professional Land Surveyors. Steven has worked on multiple projects for various local and state agencies involving boundary resolutions, property consolidations, topographic mapping, legal descriptions, and construction layout services.

As FFN is a surveying-only firm, we work through one project at a time so that quality control systems are adhered to and data is collected and processed efficiently and accurately.

RELEVANT PROJECTS

North Santiam Canyon Regional Sewer Project / Marion County, OR: Completed right-of-way (ROW) and boundary resolutions, topographic surveying, partition plat surveying, and easement legal descriptions and mapping to assist in a large sewer initiatives project between Mill City and Gates, Oregon.

Water Treatment Plant Siting Study / Newberg, OR: Completed boundary resolutions and topographic surveying for a potential new Water Treatment Plant site off of South Sandoz Road.

Water System Improvements / Mill City, OR: Completed boundary/ROW resolutions and topographic surveying for new distribution lines over multiple City streets.

American Rescue Plan Act Waterline Project / Aurora, OR: Completed ROW resolution, topographic surveying, and utility mapping for a waterline replacement.

Aurora Reservoir / Aurora, OR: Completed boundary/ROW resolution, topographic surveying, utility mapping, and legal descriptions for property consolidation for a new waterline and reservoir installation.

Jordan Melby, PE | Geotechnical

Education:
MS, Civil Engineering, Oregon State University – 2013
BS, Civil Engineering, Oregon State University – 2012

Registrations:
Professional Engineer, OR #86997

Professional Summary:
Jordan Melby brings 13 years of specialized experience in pipelines, pump stations, treatment facilities, and other wastewater-related public infrastructure in the Pacific Northwest. His technical expertise spans slope stability and stabilization, dewatering, retaining walls, and constructability evaluations. Jordan has managed geotechnical work across all phases of conveyance and treatment projects, including routing studies, conceptual engineering, predesign, final design, preparation of construction drawings and technical specifications, and construction observations. He has served as project manager for numerous public agencies, including the Cities of Gresham, Wilsonville, and Tualatin, as well as for Clean Water Services and Clackamas Water Environment Services.

Project Experience:

City of Gresham, Secondary Clarifier No. 5 and Upper Plant Improvements | Gresham, OR
Jordan served as project manager for Shannon & Wilson's geotechnical support for the design of a new 130-foot-diameter secondary clarifier at Gresham's municipal wastewater treatment plant, as well as a new pump station and nitrification facilities. His team evaluated subsurface conditions using existing data supplemented by targeted explorations and developed site-specific recommendations addressing temporary excavation stability, shallow foundation support, groundwater control, liquefaction and associated settlement, and overall slope stability. Jordan authored the geotechnical engineering reports and developed design parameters and construction recommendations for subgrade preparation, excavation through variable soil and rock conditions, structural fill, and other constructability considerations. Through proactive evaluation of excavation conditions and temporary slope stability, the team developed an approach that eliminated the need for conventional shoring at the new secondary clarifier, providing significant cost savings to the City while meeting project safety and performance objectives.

City of Estacada, Wastewater System Improvements | Estacada, OR
Jordan served as a project engineer and later assumed the role of Project Manager for Shannon & Wilson's geotechnical support of the City's Wastewater Treatment System Improvements, a new facility designed to meet long-term capacity demands. The project included a range of structures from on-grade buildings to basins embedded up to approximately 25 feet below ground surface (bgs), along with a new outfall to the Clackamas River. Jordan's team conducted a comprehensive geotechnical program that included a desktop review of regional geology and hazards, site reconnaissance, and subsurface exploration with multiple borings and piezometers to characterize soil and groundwater conditions and seismic hazards. The team also performed slope stability analyses of the adjacent riverbank to establish appropriate setback distances and assessed global stability under static and seismic conditions. Based on these evaluations, Shannon & Wilson developed design recommendations for shallow foundations, lateral earth pressures, temporary excavation stability, groundwater management, and construction-phase considerations.

Lane County, Blue River Wastewater Treatment Plant Final Design | Blue River, OR
Jordan served as a project engineer for the Blue River Wastewater Treatment Plant project in Lane County is a feasibility study initiated in response to the 2020 Holiday Farm Fire. The project aims to support improved water quality and provide a net environmental benefit to the McKenzie and Blue River drainage areas by constructing a modern sewage treatment plant. The proposed infrastructure includes a concrete pad for a diesel generator, a CMU electrical building, a carbon/alkalinity feed building, a moving bed biofilm reactor (MBBR), stacked bed

filters, a pre-anoxic tank, subsurface infiltration drain fields, and ancillary piping. Shannon & Wilson provided comprehensive geotechnical engineering services for this project. Our scope of services included site-specific geotechnical data collection, infiltration testing, and geotechnical design recommendations for two potential sites. The team conducted test pit explorations, sonic boring explorations, and aquifer pumping tests to gather detailed subsurface information. Additionally, laboratory testing was performed on soil samples to further characterize the site conditions. The collected data was used to provide geotechnical design recommendations for foundation design, lateral earth pressures, and subsurface drainage.

Three Rivers Wastewater Authority, Primary Clarifier, Hauled Waste, Aerobic Digester and Dryer Upgrades | Longview, WA

Jordan was part of Shannon & Wilson's team for the Three Rivers Regional Wastewater Authority's wastewater treatment plant expansion and upgrade in Longview, Washington. The project included replacement of two primary clarifiers, reconstruction of the primary diversion structure, installation of two 1.1-million-gallon aerobic digester tanks, construction of a new digester control building, addition of a hauled waste receiving station, and a new headworks structure. Because the site is underlain by thick deposits of loose to soft alluvial silts and sands with high liquefaction susceptibility, Shannon & Wilson developed deep foundation recommendations to mitigate seismic risk and support the proposed facilities. During design, the team monitored and instrumented a static load test that reduced pile lengths by up to 20 feet per pile, resulting in meaningful cost and schedule savings. As project manager for the current dryer upgrade, Jordan is supporting implementation of new drying equipment within the plant's solids processing facility, with a focus on accommodating heavy equipment loads while maintaining compatibility with the building's existing ground improvement system.

Oak Lodge Water Services District, Tertiary Treatment Facility | Milwaukie, OR

Jordan and his team provided geotechnical support for the Oak Lodge WWTP Tertiary Treatment Facility, overseeing subsurface investigations and design recommendations for a new disk filter structure. The project involved demolition and removal of a buried chlorine contact basin to depths of approximately 15 feet below grade through variable fill and debris immediately adjacent to settlement-sensitive structures. Shannon & Wilson completed evaluations of seismic hazards, liquefaction, and settlement, and developed shallow foundation and lateral earth pressure recommendations. Jordan provided insight for temporary shoring and dewatering for deep excavation adjacent to existing facilities, emphasizing constructability and protection of nearby structures.

City of Junction City, Wastewater Treatment Plant Lagoon Upgrades | Junction City, OR

Jordan served as Project Manager for geotechnical support of a partially buried lagoon expansion at the City of Junction City Wastewater Treatment Plant, including subsurface investigations (drilled borings, test pits, and laboratory testing) and implementation of a critical one-year groundwater monitoring program. He evaluated settlement and embankment stability for new and raised lagoon systems and developed foundation, liner, and construction recommendations to support preliminary design and feasibility.

City of Portland, CBWTP Digester 4 Gas Membrane | Portland, OR

Jordan was the project manager. Shannon & Wilson provided geotechnical support of a proposed gas membrane storage facility at the Columbia Boulevard Wastewater Treatment Plant, constructed over a partially buried anaerobic digester. The project included an above-grade "biogas dome" system consisting of internal and external membranes anchored to a circular concrete foundation. Jordan led a subsurface exploration program and provided foundation design recommendations tailored to complex existing conditions. He also guided development of a constructability-focused approach to selectively retain portions of the existing buried digester structure during demolition, allowing it to function as temporary shoring during backfilling and site grading activities, thereby reducing risk to adjacent facilities and improving construction efficiency.

Matt Kohlbecker RG

Principal Hydrogeologist

EXPERIENCE

24 years

EDUCATION

MS, Hydrogeology, University of Nevada, Reno

BS, Geology, Denison University, Ohio

REGISTRATIONS

Registered Geologist, Oregon

QUALIFICATIONS

- Expertise in UIC and wastewater facility permit regulations
- Experienced in well drilling and subcontractor oversight
- Expertise in stormwater problems and managed cleanup projects
- Experienced in field data collection
- Groundwater sampling and reporting
- Proficient in MODFLOW, MT3D, and MODPATH

Matt has 24 years of experience helping municipalities and businesses solve infiltration challenges. He previously spent 3 years at the Oregon Department of Environmental Quality (DEQ), where he worked in the Water Quality Program, issued Water Pollution Control Facilities (WPCF) permits, and served as the technical lead for the Underground Injection Control (UIC) program. Matt is highly knowledgeable about UIC and wastewater disposal rules and has worked on several wastewater treatment projects affected by the Three Basin Rule. He has expertise in stormwater and wastewater infiltration and in applying innovative infiltration techniques in areas with silty surficial soils (e.g., sub-silt infiltration).

REPRESENTATIVE PROJECTS

Evaluation of Site Suitability for Treated Wastewater Infiltration, Clackamas County Water Environment Services (WES), Boring, Oregon. Matt is leading a desktop study to evaluate the suitability of a site for infiltration of treated wastewater near the existing Boring Water Resource Recovery Facility (WWRF). Currently, the WWRF discharges water to a nearby creek, but because it is seasonally challenging for the plant to meet water quality criteria for temperature and ammonia, WES trucks wastewater to another facility during these times. Matt and the project team are evaluating whether an infiltration system such as a spreading basin is a feasible alternative to trucking based on shallow soil favorability, aquifer favorability, land use compatibility, planning level infrastructure costs, and considerations related to the Three Basin Rule. Part of GSI's scope involves assessing whether the future facility will be protective of groundwater quality because the facility will be located in a rural area of Clackamas County where groundwater is used for domestic drinking water supply.

Treated Wastewater Infiltration, Santiam Canyon, Marion County, Oregon. The communities of Mill City and Detroit, located in the Santiam Canyon, are developing two separate wastewater treatment facilities that will dispose of wastewater by infiltration through subsurface soils at infiltration basins. The facilities will be permitted under a WPCF Permit from DEQ. Matt is the technical lead and project manager for the project feasibility investigation, which includes test pits to characterize soils and measure infiltration rates and monitoring wells to characterize aquifer properties. As a part of the project, Matt characterized geology and hydrogeology at the Mill City site, and developed a groundwater monitoring well network that will be used to demonstrate facility compliance with Oregon's groundwater protection rules.

Regulatory Framework for Alternative Wastewater Discharge System Permitting, City of Sandy, Oregon. As a subconsultant to an engineering firm, Matt evaluated potential sites for alternative wastewater discharge systems for the City of Sandy. He assessed site geology, hydrogeologic conditions, soil infiltration potential, and groundwater/surface water interactions to evaluate National Pollutant Discharge Elimination System (NPDES) and WPCF permitting considerations and developed recommendations for additional site investigations, infiltration testing, groundwater evaluations, and other next steps to support the City's selection and permitting of a preferred discharge alternative.

GSI Water Solutions, Inc.

mkohlbecker@gsiws.com ▪ 503.239.8799

Matt Kohlbecker, RG
Principal Hydrogeologist

Hydrogeologic Analysis for Wastewater Treatment Plan Effluent Disposal Feasibility Study, City of Madras, Oregon. The City of Madras owns and operates two wastewater treatment plants, both of which are zero-discharge facilities that beneficially reuse treated effluent by irrigating local farm fields and a municipal golf course. The City has concerns about the long-term viability of the current wastewater management process and is evaluating the potential to infiltrate the treated wastewater. Matt oversaw a desktop hydrogeologic study to determine if areas around the City's wastewater treatment plants have subsurface characteristics that would be favorable to infiltration. Matt evaluated each site's favorability for infiltration based on proximity to existing wastewater infrastructure, topography, surficial soil permeability, depth to groundwater, proximity to surface water, and the volume of water that could be infiltrated. The team ranked sites based on these criteria and identified the most promising sites for a field investigation.

Water Quality Analysis for Wastewater Reclamation Facility Permitting, City of Bend, Oregon. The City of Bend manages wastewater by infiltration at a series of spreading basins. Quarterly groundwater quality sampling at an existing network of monitoring wells evaluates compliance with Oregon's groundwater protection rules. As a subconsultant to an engineering firm, Matt is managing the development of a water quality analysis report that establishes allowable concentrations of nutrients in groundwater downgradient of the City of Bend's Water Reclamation Facility (WRF), and is proposing changes to the monitoring well network so that it can be used in the future to monitor groundwater quality for emerging contaminants (e.g., per- and polyfluoroalkyl substances). This work is required to support the facility's WPCF permit renewal.

UIC System-Wide Assessment Update, City of Bend, Oregon. Matt served as project manager for a system-wide assessment of the City of Bend's UICs. The City uses about 6,300 UICs to manage stormwater runoff from public rights-of-way. As part of its UIC WPCF permit renewal, the City needed to develop an updated an inventory of City UICs that identifies UIC locations, vertical separation distance between each UIC and the seasonal high groundwater table, horizontal separation distance between each UIC and the nearest water well, and other characteristics about each UIC.

Infiltration Evaluation in Support of Stormwater Master Planning, Clackamas County WES, Clackamas County, Oregon. Matt managed a desktop study that evaluated the favorability of soils to infiltrate stormwater in the service district of Clackamas County's WES. The study involved ranking the infiltration capacity of different soil groups based on the depth to a restrictive layer, depth to groundwater, saturated soil hydraulic conductivity, and ground slope. Data were compiled from the Natural Resource Conservation Service (NRCS) soil database. GSI evaluated the feasibility of deep infiltration in areas where shallow soils were not favorable to infiltration (i.e., areas with thick accumulations of surficial silt and clay).

Watershed Services, City of Portland, Bureau of Environmental Services (BES), Oregon. Some sites in the City have contaminated soil and green stormwater infiltration facilities (e.g., swales, rain gardens) have the potential to mobilize contaminants and transport them to groundwater. Under this on-call watershed contract, Matt has worked collaboratively with the City and DEQ to develop fate and transport modeling protocols to assess this potential pathway to groundwater that supports the City's assessment framework. The modeling simulates contaminant partitioning from the soil phase to the liquid phase, and leaching of the contaminants from the soil to the groundwater. Matt has supported the City in discussions with DEQ to obtain regulatory approval of the approach. DEQ approved the City's modeling and approach in July 2020, and Matt is currently assisting the City with development of an Intergovernmental Agreement and Guidance that will facilitate implementation of the approach.

DEQ Environmental Cleanup Program. Matt worked at DEQ from 2014 to 2016, and about 20 percent of his time was dedicated to the Cleanup Program. While at DEQ, Matt developed a deep understanding of the pathways available to obtain a no further action (NFA) notice. He gained in-depth experience with regulations governing soil excavation and disposal under the Corrective Action Management Unit (CAMU) process, risk-based site closure, evaluation of the stormwater pathway at upland sites, and matrix cleanup at leaking underground storage tank (LUST) sites. Matt issued NFA notices for sites impacted with polychlorinated biphenyls (PCBs), dioxin/furans, metals, and petroleum hydrocarbons. Matt's experience with a variety of projects and his understanding of DEQ's organizational structure and internal processes, position him to assist clients with obtaining an NFA notice.

Jason M. Keller

Principal Hydrogeologist

Education and Training

MS, Soil, Water and Environmental, University of Arizona, 2002

BS, Environmental Science, Oregon State University, 1998

Professional Affiliations

Registered Geologist, Oregon (#G2301): Issued 1/4/2011, Expires 1/31/2027

Registered Geologist, Arizona (#53468): Issued 3/27/2012, Expires 6/30/2027

Registered Geologist, Washington (#24020606): Issued 8/16/2024, Expires 5/9/2027

Areas of Expertise

- *Saturated and unsaturated flow and transport*
- *Contaminant fate and transport*
- *Vadose zone characterization and monitoring*
- *Water balance and numerical modeling*
- *Groundwater recharge processes*
- *Surface water-groundwater interaction*
- *Waste cover system design and performance*
- *Heap leach hydrology and solute transport*

Mr. Keller has over 20 years of experience conducting subsurface assessments and modeling studies, including designing and implementing site-characterization investigations. His work focuses on investigating groundwater and vadose zone flow and contaminant transport using field, laboratory, and numerical tools. Mr. Keller's work includes characterizing and monitoring hydraulic and chemical conditions; modeling saturated and unsaturated flow and solute transport; analyzing tracer tests; and evaluating contaminant migration, recharge, and mass flux through the vadose zone. Career highlights include:

Natural and Artificial Groundwater Recharge Investigations

- Developed and secured regulator-mandated permits to operate recharge projects.
- Hydrogeologic support for characterization of proposed managed aquifer recharge sites, analyzing aquifer recharge groundwater and water quality data, and writing and reviewing aquifer recharge monitoring plans and annual reports.
- Development of surface water-groundwater models and application of the models to optimize water management strategies.
- Designed and managed vadose zone and groundwater characterization investigations and model development to assess groundwater mounding, area of influence, and perched water lateral flow in response to proposed managed aquifer recharge.
- Implemented near-surface sediments and shallow alluvial aquifer characterization program to determine near-surface and aquifer properties and potential water quality improvement from aquifer filtration.
- Developed conceptual and numerical models to evaluate site feasibility of subsurface injection of recharge water in shallow alluvial aquifer systems.

- Conducted numerical modeling and analysis of riverbed filtration pilot projects to reduce total suspended solids and total organic carbon loads in captured surface water.
- Designed and managed installation of instrumented boreholes to monitor vadose zone and groundwater hydraulic and chemical conditions.
- Third-party expert review of effect of mine dewatering activities on historic and current hydrologic conditions.
- Developed operations and maintenance plans for proposed and active managed aquifer recharge basins.
- Evaluated seasonal trends in shallow aquifer groundwater elevation and groundwater response to side channel restoration.
- Conducted shallow aquifer hydraulic testing and saturated flow modeling to evaluate shallow collection drain groundwater capture and flow to back-channel salmon spawning habitat.
- Developed conceptual models of contaminant sources, release mechanisms, vadose-zone migration, recharge, and groundwater transport.
- Designed and interpreted vadose-zone and groundwater monitoring programs integrating hydraulic and water-quality observations.
- Evaluated contaminant migration associated with land-applied water, infiltration, recharge, and deep percolation.

Mine Land Reclamation and Closure Studies

- Third-party expert review of cover system performance and net percolation modeling.
- Directed tailings storage facility characterization and post-closure draindown estimates for multiple tailings storage facilities in Nevada and Arizona.
- Designed and managed waste rock dump characterization and modeling study to quantify net percolation from ponded and diffuse infiltration.
- Developed operational management and monitoring plan to prevent focused infiltration from ponded areas.
- Developed unsaturated flow models to predict long-term post-closure draindown from tailings storage facilities in arid, semi-arid, and alpine climates.
- Designed and managed installation of instrumented boreholes in waste rock dumps to monitor vadose zone hydraulic and chemical conditions.
- Designed and managed installation and monitoring of sensor systems to observe performance of evapotranspirative covers in reducing net percolation.
- Developed one-dimensional and two-dimensional calibrated unsaturated flow models to predict long term performance of alternative cover systems in arid, semi-arid, and wet climates.
- Developed and directed laboratory and field experiments to evaluate hydraulic properties of evapotranspirative cover material and underlying waste material.
- Directed cover material borrow source evaluation studies to identify suitable evapotranspirative cover material and quantify available material volumes.
- Evaluated waste rock borrow material for use as rock armor to reduce erosion from tailings impoundment side-slopes.
- Conducted modeling of erosion behavior in support of surface reclamation activities at numerous disturbed land sites.
- Development of simplified predictive models to estimate actual evaporation.

KELLER ASSOCIATES

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