Contract Review Sheet

A&E Standard Prof Svcs Agmnt **PW-5069-22 - Am11**

Title: **ARPA - North Santiam Canyon Sewer Project**

Contractor's Name: **Keller Associates, Inc.**

Department: **Public Works Department** Contact: **Alicia Jones**

Analyst: **Kathleen George** Phone #: **-4388**

Term - Date From: **Execution** Expires: **December 31, 2027**

Original Contract Amount: **$ 60,960.00** Previous Amendments Amount: **$ 14,042,397.00**

Current Amendment: **$ 2,616,214.00** New Contract Total: **$ 16,719,571.00** Amd% **27327%**

Outgoing Funds ☑ Federal Funds ☐ Reinstatement ☐ Retroactive ☑ Amendment greater than 25%

Source Selection Method: **20-0260 Request for Proposal** RFP# **PW1130-22**

Description of Services or Grant Award

The Project will construct new sanitary sewer infrastructure in the North Santiam River Canyon of Marion and Linn Counties in Oregon. Project will design, permit, and acquire property for the construction of a new sanitary sewer treatment plant to serve the cities of Mill City and Gates, including improvements to existing Mill City sewer collection infrastructure, construction of a new sewer main to serve Gates. The Project will design, permit, and acquire property for the construction of a new sanitary sewer treatment plant and sewer collection systems to serve the cities of Detroit and Idanha. **Amdt 1** includes add'l SOW. **Amdt 2** - adds env. permitting svcs, subsurface exploration & groundwater inves., facility planning and related essential services. **Amdt 3** - adds add'l PM services, Land acquisition and Relocation Svcs & Financial Advisory. **Amdt 4** - adds add'l task to phase 400, updates Ex. B and updates sub consultant rate schedule. **Amdt 5** - adds add'l funding for tasks, language for subconsultants. **Amdt 6** - adds add'l funding for PR, updates Exhibit B and E. **Amdt 7** - adds funding for preliminary eng design, ICE, ad'l technical support of project permitting. **Amdt 8** - adds funding for land use and permitting support, final eng. design for the Mill City/Gates WWTF, 60% design update for the sewer pipeline from Gates to Mill City, 30% design of the Gates sewer collection system, NEPA compliance support in anticipation of other federal funding sources other than ARPA, & add'l support for commercial septic grant applicants in Detroit. **Amdt 9** - adds funding for Mill City collection system & inspection, monitoring well decommissioning & eng. svcs during construction. **Amdt 10** - insert narrative corrections.

Amendment 11 - adds $2,616,214 for design and construction phase services and extends contract through 12/31/27.

Desired BOC Session Date: **11/4/2026** Contract should be in DocuSign by: **10/14/2026**

Agenda Planning Date **10/22/2026** Printed packets due in Finance: **10/20/2026**

Management Update **10/20/2026** BOC upload / Board Session email: **10/21/2026**

BOC Session Presenter(s) **Brian Nicholas** Code: **Y**

REQUIRED APPROVALS

	10/21/2026		10/21/2026
Finance - Contracts	Date	Contract Specialist	Date
	10/22/2026	Jan Fritz Jan Fritz (Oct 22, 2026 15:09:20 PDT)	10/22/2026
Legal Counsel	Date	Chief Administrative Officer	Date

MARION COUNTY BOARD OF COMMISSIONERS

Board Session Agenda Review Form

Meeting date: 11/04/2026

Department: Public Works

Title: North Santiam Canyon Sewer Project - Keller Amendment #11

Management Update/Work Session Date: 10/20/2026 **Audio/Visual aids** ☐

Time Required: 5 **Contact:** Brian Nicholas **Phone:** 503-588-7943

Requested Action:

Approve Amendment No. 11 to Consultant Services Agreement PW-5069-22 with Keller Associates, Inc. for the North Santiam Canyon Sewer Project, increasing the contract not-to-exceed value by $2,616,214 from $14,103,357 to $16,719,571.

Issue, Description & Background:

Construction of the Mill City & Gates Municipal Wastewater Treatment Facility is nearing completion and design of the Gates Wastewater Collection System Project is 30% complete. Amendment #11 to Keller's contract will add the design and construction phase services listed below:

1. Final design of the Gates Wastewater Collection System Project and ancillary works,
2. Completion of a City of Detroit interim holding tank study,
3. Development of compliance plans & monitoring studies for the NPDES permit, and
4. Construction observation, project management & post construction services.

Financial Impacts:

Amendment No.11 will increase the contract not-to-exceed value by $2,616,214 from $14,103,357 to $16,719,571 This is a budgeted expense under the 135 Public Works Grants Fund.

Impacts to Department & External Agencies:

This contract results in no impacts to other County departments.

List of attachments: PW-5069-22, Amendment No. 11

Presenter: Brian Nicholas

Department Head Signature: BNicholas

Digitally signed by BNicholas
Date: 2026.10.13 09:37:19 -07'00'

AMENDMENT 11 ~~10~~ to PW-5069-22
the STANDARD PROFESSIONAL SERVICES CONTRACT
between
MARION COUNTY and KELLER ASSOCIATES

This is Amendment No. **11** **~~10~~** to the Standard Professional Services Contract (as amended from time to time, the "Contract"), dated September 30, 2022, between Marion County, a political subdivision of the State of Oregon, hereafter called County or Owner, and Keller Associates, hereafter called Consultant.

The Contract is hereby amended as follows (new language is indicated by underlining and deleted language is indicated by ~~strikethrough~~):

DEFINITIONS

A. CM/GC: Slayden Constructors, Inc., acting as the Owner's Construction Manager/General Contractor under Marion County agreement PW-5569-23 as executed on November 29, 2023.

B. Project Team: the Consultant, acting through its employees, subconsultants and/or contractors, collectively.

AGREEMENT

This Contract shall become effective on the date that the Contract is fully executed by the Parties and all required Marion County approvals have been obtained (the "Effective Date"). No Services shall be performed prior to the Effective Date. The Contract shall expire, unless otherwise terminated or extended, on December 31, 2027 ~~December 31, 2026.~~

Owner agrees to pay Consultant a sum not to exceed $**16,719,571** **~~$14,103,357~~** for Phase 1, 2, and 4 Services, which shall include all allowable expenses, more specifically described in **EXHIBIT A**, **Statement of Work**.

EXHIBIT A
STATEMENT OF WORK

Owner and Consultant agree that the following Services shall be provided by Consultant. Additional services may be added by amendment.

PROJECT DESCRIPTION: The Project will construct new sanitary sewer infrastructure in the North Santiam River Canyon of Marion and Linn Counties in Oregon. Project will design, permit, and acquire property for the construction of a new sanitary sewer treatment plant to serve the cities of Mill City and Gates, including improvements to existing Mill City sewer collection infrastructure, construction of a new sewer main to serve Gates and construction of new sanitary sewer collection infrastructure within Gates. Project will construct the proposed sanitary sewer infrastructure pending the availability of adequate construction funding.

The Project will design, permit, and acquire property for the construction of a new sanitary sewer treatment plant and sewer collection systems to serve the cities of Detroit and Idanha. Project will construct the proposed infrastructure pending adequate availability of construction funding.

The Project will also design, permit, acquire property and construct commercial-scale community septic systems to serve the commercial core of Detroit to support economic recovery of the area.

Tasks within this Statement of Services are organized as follows:

100-Level Tasks – Phase 1 Services – Overall project management, administration and coordination of Consultant Services, meetings, communication, public engagement, general engineering and related Services.

200-Level Tasks – Phase 2 Services – Mill City / Gates Wastewater Sewer System – Engineering studies, design, permitting, property acquisition, bid support and construction oversight.

300-Level Tasks – Phase 3 Services – Detroit / Idanha Wastewater Sewer System – Engineering studies, design, permitting, property acquisition, bid support and construction oversight.

400-Level Tasks – Phase 4 Services – Detroit Interim Commercial Septic Systems – Engineering, design, permitting, property acquisition, stakeholder engagement, bid support and construction oversight.

Consultant may provide Services for some or all Project components according to the tasks described herein and as later amended. Consultant's role and the Services provided by Consultant for each Project phase may depend on the availability of Project funding.

PROJECT PHILOSOPHY: Consultant shall perform professional services for the Project to obtain the greatest long-term value for Marion County, and to result in the prudent expenditure of public funds within the constraints of the Project program, context, and budget. In pursuing these goals, Consultant, with Owner's assistance, shall:

a. Perform Services that are appropriate for the context of the Project and the nature of its function, both present and future.
b. Avoid aesthetic effects in the Project design that are disproportionate when compared to the additional benefit to the Project as a whole.
c. Help manage the Project so design is completed on time and within budget.
d. Strive to reduce the construction cost of the Project while keeping life-cycle costs affordable.
e. At design progress meetings, apprise Owner concerning the economic impact of design decisions.
f. Document Project requirements and include requirements in the Construction Documents. Respond to Owner comments on Project requirement location.

Representatives of the Parties for this Contract and the Project are:

Consultant: **Peter Olsen, PE, Project Manager** Telephone: **503.364.2002**
Owner: **Brian Nicholas, PE, PW Director** Telephone: **503.930.8502**

The Services Consultant shall perform for each phase of the Project are described below:

PHASE 1 – GENERAL ENGINEERING SERVICES

100 – PROJECT MANAGEMENT

Task 100.1 – Project Management

Consultant Responsibilities:

100.1.1 General Project Administration. General project administration services include contract administration, monthly invoicing, maintaining project schedule, and internal project administration.

100.1.2 Project Coordination. Consultant may be requested to prepare progress reports or attend or lead project related coordination meetings with the County, North Santiam Sewer Authority, or other state agencies.

100.1.3 Presentations or attendance to North Santiam Sewer Board Meetings. From time to time, Consultant will attend, by invite, the board meetings for the North Santiam Sewer Board. Consultant may present project updates, informational, or technical-based presentations to the board. Consultant will prepare presentation materials and/or handouts as directed. Assist with coordination of similar water pollution control facility site tours.

100.1.4 Pacific Northwest Section – American Water Works Association (PNWS-AWWA) Boise Conference. Prepare and present 'Wastewater Treatment for Watershed Protection' presentation with Project Team at the PNWS-AWWA Conference in Boise, Idaho in May 2025. Includes preparation and coordination efforts, travel, transportation, meals, and conference registration for one Consultant team member.

100.1.5 Pacific Northwest Clean Water Association (PNCWA) Portland Conference. Prepare and present 'Wastewater Treatment for Watershed Protection' presentation with Project Team at the PNCWA Conference in Portland, Oregon in September 2025. Includes preparation and coordination efforts, travel, transportation, meals, and conference registration for two (2) Consultant team members.

100.1.6 Coordinate and prepare rendering of final project design and two (2) display boards; attend Owner's Groundbreaking Ceremony.

100.1.7 DEQ Plan Review Fee. Consultant will pay fee associated with DEQ's Plan Review.

100.1.8 DEQ National Pollutant Discharge Elimination Permit (NPDES) submittal fee.

100.1.9 DEQ NPDES Public Information Meetings. Includes preparation and coordination efforts, travel, presentation materials and refreshments for two (2) events.

100.1.10 Coordinate and prepare presentation materials and attend Owner's ribbon-cutting ceremony.

Owner Responsibilities:

- Administer project funding.

Assumptions:

- Submit documents electronically, unless directed otherwise.
- Assumes a 48 ~~36~~-month duration for general project administration.

Deliverables:

- Monthly Invoices
- Monthly Progress Reports
- Meeting agenda and minutes
- Powerpoint presentation for PNWS-AWWA Conference.
- Powerpoint presentation for PNCWA Conference.
- Rendering and two (2) Groundbreaking Display Boards
- Presentation materials and handouts for DEQ NPDES Public Information Meetings.
- Presentation materials for Owner's ribbon-cutting ceremony.

Task 100.2 – County Board of Commissioners Support Services

Consultant Responsibilities:

100.2.1. Presentations to County Commissioners. Consultant will present to the County Commissioners at a regularly scheduled Board of Commissioners Meeting on up to three occasions. Consultant will prepare presentation materials and/or handouts. The three presentations will tentatively occur in the months of November 2022, December 2022, and March 2023 and will have the following purpose:

Presentation #1 – Within one month after effective date of contract. Summarize the current status of Mill City's interim sewer improvement project and this Project. Develop an affirmative plan with Consultant's recommendations on how both projects can be advanced as efficiently and economically as possible to serve both the City's and this Project's needs. Summarize next steps and projected schedule.

Presentation #2 – Within two months after effective date of contract. Follow up visit, if necessary, to answer additional questions or present on additional items requested by County/County Commissioners.

Presentation #3 – Within six months after effective date of contract. Attend and present at a Joint Special Work Session for Marion County and Linn County Commissioners, to provide an introduction and update on the project and answer additional questions or present on additional items requested by County/County Commissioners.

Consultant will re-engage with subconsultants and agencies (i.e. Oregon DEQ, US Forest Service) to appropriately summarize current status and update the plan for the three projects for events and information that may be new since the master plan was completed.

Owner Responsibilities:

- Review deliverables in a reasonable time and provide feedback as needed to the Consultant.
- Attend and participate in board meetings.

Assumptions:

- Presentations are in-person at the County offices.

Deliverables:

- Draft presentation material
- Final presentation material

101 – STRATEGIC PERMITTING PLAN

Task 101.1 – Project Management and Administration

Consultant Responsibilities:

101.1.1. Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

101.1.2. Consultant Coordination. Coordinate services to complete the Strategic Environmental Permitting Plan.

101.1.3. <u>Environmental Assessment Coordination. Prepare Project Description for use in the Gates Collection System and Force Main Environmental Assessment.</u>

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide input and review of the draft Strategic Permitting Plan.

Assumptions:

- Project management budget assumes a task order schedule of up to 9 ~~3~~ months.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.

Task 101.2 – Data Review, Preliminary Agency Coordination, and Data Gaps Identification
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

101.2.1. Consultant shall review available project information, including background, concept development and current plan/design information for the North Santiam Canyon Wastewater Master Plan (Master Plan). Consultant will conduct a desktop review of the Master Plan area to identify potential resources affected and locate existing available data. Using this information, Consultant will compile a list of potential issues and data needs for the project. Consultant will check and refine the understanding of those issues by initiating preliminary, informal discussions with the anticipated permitting agencies to understand their concerns and permitting needs for the project. The intent of these discussions will be to identify the agencies' specific resource concerns, to understand permitting requirements and obligations, and discuss options for permitting efficiencies, such as using programmatic agreements. Consultant will also preliminarily identify which federal agencies may have a National Environmental Policy Act (NEPA) requirement for the Master Plan and/or specific projects or phases that are part of the plan (due to their jurisdiction, land ownership, or funding) and whether a single joint NEPA document could be used to support multiple federal decisions.

Task 101.3 – Strategic Permitting Plan
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

Based on information obtained in Task 101.2, Consultant will prepare a draft Strategic Permitting Plan. The draft Strategic Permitting Plan will include:

- Project permitting schedule and general cost estimate.
- Summary of environmental permits and approvals needed
- Summary of initial pre-scoping discussions with agencies
- List of potential resources affected and existing available data
- List of potential permitting issues and data needs (based on desktop analysis and agency discussions)
- List of design needs to complete permitting
- Summary of potential opportunities for permitting efficiencies
- Estimated timeline to complete permitting
- Estimated general cost to complete permitting

Consultant will revise and finalize the Strategic Permitting Plan based on one consolidated review by Consultant and Owner.

Assumptions:

- Consultant will conduct up to three coordination conference calls with Owner to provide updates, receive additional information/clarifications, etc.
- Permitting agencies for informal, pre-scoping coordination will be: US Forest Service, US Army Corps of Engineers, US Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Department of State Lands, Oregon Department of Transportation, and Marion County. Outreach to agencies will consist of email or telephone contact. Consultant will make a reasonable effort get information from agencies within the available time and consistent with the level of effort budgeted.
- "Environmental permits and approvals" do not include easements or rights-of-way with utilities, ODOT, or federal agencies.
- Permitting requirements related specifically to wastewater treatment/infiltration requirements will be addressed through a separate task order.
- One review of the draft Strategic Permitting Plan will be conducted. The Strategic Permitting Plan will be revised based on one consolidated set of review comments. Consultant-intends for the Strategic Permitting Plan to be a "living document", updated and adapted as the project planning and subsequent design and permitting efforts progress.
- No Owner board meeting presentations

Deliverables:

- Draft Strategic Permitting Plan
- Final Strategic Permitting Plan

Task 101.4 – Environmental Assessment
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

The Project includes wastewater infrastructure improvements in Mill City and Gates, Oregon. The Owner has applied for funding from the U.S. Department of Housing and Urban Development (HUD), for the Gates collection system and the associated force main, which creates a federal nexus for the Project. Therefore, NEPA compliance will be required before funds can be committed or spent on the Project. HUD will serve as ~~be~~ the lead federal agency. The Mill City and Gates Municipal Wastewater Treatment Facility (MWTF) does not have a federal nexus.

~~The lower basin Project will be divided into two sub-projects (phases).~~ MWTF will involve the MWTF permitting review to identify applicable state and local regulatory requirements. A technical memo documenting this review will be provided to the Owner. ~~, each requiring a separate HUD Environmental Assessment (EA). The first phase will involve a HUD EA for the Municipal Wastewater Treatment Facility (MWTF) in Mill City and its associated connections.~~ The ~~second phase~~ Gates Project will involve a HUD EA for a new collection system in Gates, as well as a 3-mile pressurized force main to transfer waste to the Mill City and Gates MWTF. Though both environmental compliance documents ~~EAs~~ will be started concurrently, the Mill City and Gates MWTF Technical Memo ~~EA~~ will be completed first and; the Force Main and Gates Collection System EA will be completed as project details are finalized ~~for that phase~~.

Consultant Responsibilities:

101.4.1 Mill City and Gates MWTF – Environmental Compliance Consultation and Technical Memo. ~~Environmental Assessment and HUD Environmental Record Review.~~

101.4.1.1 The MWTF and Fairview Street Extension will be evaluated through a permitting and regulatory review process conducted independently of any federal agency

involvement. The evaluation process will identify applicable state and local environmental, land use, and permitting requirements relevant to the proposed MWTF improvements. This review will include an assessment of required permits and approvals from applicable agencies, such as the Oregon Department of Environmental Quality (DEQ), local land use authorities, and other state or local entities as appropriate. ~~A complete and informed Environmental Review Record (ERR) will be prepared by Consultant. The following sixteen (16) specific environmental review topics shall be addressed in the HUD EA. The HUD-compliant Broad Review will be based on the following data sources:~~

~~RESOURCE~~	~~ERR COMPLIANCE REQUIREMENT~~	~~TYPICAL DATA SOURCES~~
~~Floodplain Management~~	~~§58.6 Compliance Checklist~~ ~~§58.5 Statutory Checklist~~	~~FEMA Flood Insurance Rate Map~~ ~~Federal Flood Standard Support Tool~~
~~Coastal Barrier Improvement Act~~	~~§58.6 Compliance Checklist~~	~~USFWS Coastal Barrier Resource System Mapper~~
~~Runway Clear Zones~~	~~§58.6 Compliance Checklist~~ ~~§58.5 Statutory Checklist~~	~~Federal Aviation Administration UAS Facility Map~~ ~~USGS Topographic Maps~~ ~~Recent Aerial Imagery~~ ~~Internet Searches~~
~~Historic Properties~~	~~§58.5 Statutory Checklist~~	~~Oregon State Historic Preservation Office~~
~~Wetland Protection~~	~~§58.5 Statutory Checklist~~	~~National Wetlands Inventory~~ ~~Florida Land Use, Cover and Forms Classification System (FLUCCS)~~
~~Coastal Zone Management~~	~~§58.5 Statutory Checklist~~	~~Oregon Department of Land Conservation and Development~~
~~Sole Source Aquifer~~	~~§58.5 Statutory Checklist~~	~~Oregon Water Resources Department~~
~~Endangered Species~~	~~§58.5 Statutory Checklist~~	~~USFWS IPaC: Information for Planning and Consultation~~ ~~Oregon Biodiversity Information Center (ORBIC)~~
~~Wild and Scenic Rivers~~	~~§58.5 Statutory Checklist~~	~~National Wild and Scenic Rivers System~~
~~Air Quality~~	~~§58.5 Statutory Checklist~~	~~Oregon Department of Environmental Quality~~
~~Explosive and Flammable Operations and Contamination and Toxic Substances~~	~~§58.5 Statutory Checklist~~	~~EPA EnviroMapper~~ ~~Oregon State Fire Marshal~~
~~Farmland Protection and~~	~~§58.5 Statutory Checklist~~ ~~EA Checklist~~	~~National Land Cover Database (NLCD)~~ ~~County/Municipal Websites~~ ~~NRCS Web Soil Survey~~

~~Land Development~~		
~~Socioeconomics and Environmental Justice~~	~~EA Checklist~~	~~U.S. Census Data~~ ~~EPA EJSCREEN: Environmental Justice Screening and Mapping Tool~~ ~~County/Municipal Websites~~
~~Community Facilities and Noise Control and Abatement~~	~~§58.5 Statutory Checklist~~ ~~EA Checklist~~	~~USGS Topographic Maps~~ ~~Recent Aerial Imagery Internet Searches~~
~~Natural Features~~	~~EA Checklist~~	~~National Hydrography Dataset~~ ~~National Wetlands Inventory~~ ~~Aerial Imagery~~
~~Climate Change Impact Factor~~	~~EA Checklist~~	~~NOAA Climate.gov~~ ~~Climate Mapping for Resilience and Adaptation Tool~~

101.4.1.2 Kickoff Meeting.

- Kickoff meeting with Project Team to draft project schedule considering parallel permitting timelines.

101.4.1.3 Project Description.

- Draft project description of sufficient detail to be used in the EA, identify project description information needs.
- Review information from wetland and cultural resources surveys and from the National Hydrography Dataset and National Wetlands Inventory to ~~typical sources identified in Section 101.4.1.1~~ to identify information needs related to resources.

101.4.1.4 Agency and Interested Party Scoping.

- Identify permitting agencies, Native American Tribes, and interested stakeholders.
- Draft scoping letters or emails to permitting agencies, Native American Tribes and interested stakeholders to initiate discussion and solicit feedback on the Project. Owner to send the letters or emails.

~~101.4.1.5 Draft the Initial Public Notice for floodplains (15-to-18-day Public Notice Period).~~

~~101.4.1.6~~ 101.4.1.5 Prepare a draft Technical Memo ~~EA~~ for Owner's review. ~~including the resource sections outlined in Section 101.4.1.1.~~

101.4.1.6 Prepare draft Wetland Delineation Technical Memo and archaeological spot monitoring for the Fairview Street Extension project.

~~101.4.1.7 Public Notices.~~

- ~~Identify and notify Owner of public notice requirements and develop the public notices for the project including 1) Wetlands and Floodplains (Final), and 2) the FONSI and NOI/Request for the Release of Funds (RROF).~~
- ~~If comments are received, Consultant will make ERR available for public review at a local, public space (typically local library or City Hall).~~

~~101.4.1.8 Public Comment Record and Response.~~

- ~~Review public comments received by the Owner or HUD.~~
- ~~Prepare responses to public comments for Owner's review.~~

~~101.4.1.9 Final EA and FONSI.~~

- ~~Document revisions and responses to Owner's comments on the draft EA.~~
- ~~Prepare the Final EA.~~
- ~~Prepare the draft FONSI for Owner's review.~~
- ~~Address Owner's comments and finalize FONSI.~~

~~101.4.1.10 Notice of Intent (NOI) to Request for the Release of Funds (RROF).~~

- ~~Prepare draft NOI/RROF for Owner and HUD's review.~~
- ~~Address Owner and HUD's comments and finalize NOI/RROF.~~

~~101.4.1.11 ERR and RROF.~~

- ~~Prepare completed ERR and Request for the Release of Funds (RROF).~~
  ~~The ERR shall contain the following sections:~~
  - ~~Introduction (background, history, and project purpose and need)~~
  - ~~HUD Checklists~~
  - ~~Project Alternatives (including those dismissed from consideration and those retained for analysis)~~
  - ~~8-Step Decision Making Process for wetlands and floodplain review~~
  - ~~Affected Environment and Environmental Consequences~~
  - ~~Agencies Consulted~~
  - ~~References~~
  - ~~List of Preparers~~
  - ~~Public Notices~~
  - ~~Attachments with maps for each reviewed environmental topic.~~

~~101.4.1.12 Administrative Record.~~

- ~~Develop and maintain the Administrative Record.~~
- ~~Provide all materials used to prepare the EA and background for the agency decision.~~

Deliverables:

- Draft project schedule
- Meeting notes attended by Consultant
- List of data needs for the Technical Memo ~~EA~~
- Draft project description
- Draft Technical Memo
- Final Technical Memo
- Draft Wetlands Delineation Technical Memo
- Final Wetlands Delineation Technical Memo
- ~~List of interested parties~~
- ~~Draft scoping letters~~
- ~~Draft EA and FONSI~~
- ~~Final EA and FONSI~~
- ~~Draft NOI and RROF~~
- ~~Public Notices~~
- ~~Public Comment Record~~
- ~~Response to public comments~~
- ~~Completed ERR and RROF for grant funding~~
- ~~Final Administrative Record~~

Assumptions:

- The project descriptions are not final and may be adjusted as the project footprints are finalized by the Project Team.
- This scope of work does not include Section 404 Clean Water Act (wetland) or floodplain permitting. Once the project footprints and descriptions are finalized for the environmental assessments, the need for these permits will be determined and additional scope and fee added.
- An environmental assessment will not be required for the Technical Memo ~~Environmental Review Record (ERR)~~ for the Project.
- ~~Public notices consist of 15 to 18-day final wetland and floodplain notices as part of the decision-making process and Executive Orders 11988 and 11990, for the determination that a Finding of No Significant Impact (FONSI) has been made for the program, and for notification to the public of the Owner's intent to request the release of HUD funds for the proposed projects (NOI/RROF). HUD will determine if the final public wetland and floodplain, FONSI, and NOI/RROF notices can be combined and issued together as a single notice.~~
- No public meetings are included under this subtask.
- ~~No more than ten (10) submittals will be received in response to the public notice, from which there will be no more than five (5) substantive comments for which Consultant will draft responses.~~
- ~~One action alternative will be analyzed in detail in the EA.~~
- Project Team will contribute to drafting the project description and provide necessary information pertaining to construction methods, timing, and duration. Consultant will refine project description for use in the Technical Memo ~~EA~~.
- ~~The final ERR and RROF will be submitted by the Owner to HUD for final approval and issuance of the Authority to Use Grant Funds.~~
- No in-water work will be required, thus no aquatic Endangered Species Act (ESA) or Magnuson-Stevens Fisheries Conservation Act consultation will be needed.

- ~~Terrestrial informal ESA consultation will be needed for two (2) species: northwestern pond turtle and Fenders blue butterfly.~~

101.4.2 Mill City and Gates MWTF– Endangered Species Act Consultation and Biological Evaluation.

101.4.2.1 Consultant will complete a pre-consultation call ~~a draft and final Biological Evaluation for informal Section 7 consultation~~ with U.S. Fish and Wildlife Service (USFWS).

Assumptions:

- Informal consultation will be required for two (2) species: northwestern pond turtle and Fenders blue butterfly.
- USFWS has 90 days to reply to the submitted Biological Evaluation. HUD will require concurrence from USFWS prior to issuing an Authority to Use Grant Funds.

Deliverables:

- Pre-consultation call notes with USFWS
- ~~Draft Biological Evaluation~~
- ~~Final Administrative Record~~

101.4.3 Force Main and Gates Collection System – Environmental Assessment and HUD Environmental Record Review

101.4.3.1 A complete and informed ERR will be prepared by Consultant. The following sixteen (16) specific environmental review topics shall be addressed in the HUD EA. The HUD-compliant Broad Review will be based on the following data sources:

No.	RESOURCE	ERR COMPLIANCE REQUIREMENT	TYPICAL DATA SOURCES
1	Floodplain Management	§58.6 Compliance Checklist §58.5 Statutory Checklist	FEMA Flood Insurance Rate Map Federal Flood Standard Support Tool
2	Coastal Barrier Improvement Act	§58.6 Compliance Checklist	USFWS Coastal Barrier Resource System Mapper
3	Runway Clear Zones	§58.6 Compliance Checklist §58.5 Statutory Checklist	Federal Aviation Administration UAS Facility Map USGS Topographic Maps Recent Aerial Imagery Internet Searches
4	Historic Properties	§58.5 Statutory Checklist	Oregon State Historic Preservation Office

5	Wetland Protection	§58.5 Statutory Checklist	National Wetlands Inventory Florida Land Use, Cover and Forms Classification System (FLUCCS)
6	Coastal Zone Management	§58.5 Statutory Checklist	Oregon Department of Land Conservation and Development
7	Sole Source Aquifer	§58.5 Statutory Checklist	Oregon Water Resources Department
8	Endangered Species	§58.5 Statutory Checklist	USFWS IPaC: Information for Planning and Consultation Oregon Biodiversity Information Center (ORBIC)
9	Wild and Scenic Rivers	§58.5 Statutory Checklist	National Wild and Scenic Rivers System
10	Air Quality	§58.5 Statutory Checklist	Oregon Department of Environmental Quality
11	Explosive and Flammable Operations and Contamination and Toxic Substances	§58.5 Statutory Checklist	EPA EnviroMapper Oregon State Fire Marshal
12	Farmland Protection and Land Development	§58.5 Statutory Checklist EA Checklist	National Land Cover Database (NLCD) County/Municipal Websites NRCS Web Soil Survey
~~13~~	~~Socioeconomics and Environmental Justice~~	~~EA Checklist~~	~~U.S. Census Data~~ ~~EPA EJSCREEN: Environmental Justice Screening and Mapping Tool~~ ~~County/Municipal Websites~~
13 ~~14~~	Community Facilities and Noise Control and Abatement	§58.5 Statutory Checklist EA Checklist	USGS Topographic Maps Recent Aerial Imagery Internet Searches
14 ~~15~~	Natural Features	EA Checklist	National Hydrography Dataset National Wetlands Inventory Aerial Imagery
15 ~~16~~	Climate Change Impact Factor	EA Checklist	NOAA Climate.gov Climate Mapping for Resilience and Adaptation Tool

101.4.3.2 Kickoff Meeting.

- Kickoff meeting with Project Team to draft project schedule considering parallel permitting timelines.

101.4.3.3 Project Description.

- Draft project description of sufficient detail to be used in the EA, identify project description information needs.
- Review information from wetland and cultural resources surveys and from typical sources identified in Section 101.4.3.1 to identify information needs related to resources.

101.4.3.4 Agency and Interested Party Scoping.

- Identify permitting agencies, Native American Tribes, and interested stakeholders.
- Draft scoping letters or emails to permitting agencies, Native American Tribes and interested stakeholders to initiate discussion and solicit feedback on the project. Owner to send the letters or emails.

101.4.3.5 Draft the Initial Public Notice for floodplains (15-to-18-day Public Notice Period).

101.4.3.6 Prepare a draft EA for Owner's review including the resource sections outlined in Section 101.4.1.1.

101.4.3.7 Public Notices.

- Identify and notify Owner of public notice requirements and develop the public notices for the project including 1) Wetlands and Floodplains (Final), and 2) the FONSI and NOI/Request for the Release of Funds (RROF).
- If comments are received, Consultant will make ERR available for public review at a local, public space (typically local library or City Hall).

101.4.3.8 Public Comment Record and Response.

- Review public comments received by the Owner or HUD.
- Prepare responses to public comments for Owner's review.

101.4.3.9 Final EA and FONSI.

- Document revisions and responses to Owner's comments on the draft EA.
- Prepare the Final EA.
- Prepare the draft FONSI for Owner's review.
- Address Owner's comments and finalize FONSI.

101.4.3.10 Notice of Intent (NOI) to Request for the Release of Funds (RROF).

- Prepare draft NOI/RROF for Owner and HUD's review.

101.4.3.11 ERR and RROF.

- Prepare completed ERR and Request for the Release of Funds (RROF). The ERR shall contain the following sections:

- Introduction (background, history, and project purpose and need).
- HUD Checklists.
- Project Alternatives (including those dismissed from consideration and those retained for analysis).
- 8-Step Decision Making Process for wetlands and floodplain review.
- Affected Environment and Environmental Consequences.
- Agencies Consulted.
- References.
- List of Preparers.
- Public Notices.
- Attachments with maps for each reviewed environmental topic.

101.4.3.12 Administrative Record.

- Develop and maintain the Administrative Record.
- Provide all materials used to prepare the EA and background for the agency decision.

Deliverables:

- Draft project schedule
- Meeting notes attended by Consultant
- List of data needs for the EA
- Draft project description
- List of interested parties
- Draft scoping letters
- Draft EA and FONSI
- Final EA and FONSI
- Draft NOI and RROF
- Public Notices
- Public Comment Record
- Response to public comments
- Completed ERR and RROF for grant funding
- Final Administrative Record

Assumptions:

- The project descriptions are not final and may be adjusted as the project footprints are finalized.
- <u>This scope of work does not include evaluation of the individual connections to homes within the project area.</u>
- This scope of work does not include Section 404 Clean Water Act (wetland) or floodplain permitting. Once the project footprints and descriptions are finalized for the environmental assessments, the need for these permits will be determined and additional scope and fee added.
- An environmental assessment will be required for the Environmental Review Record (ERR) for this project.

- Public notices consist of 15 to 18-day final wetland and floodplain notices as part of the decision-making process and Executive Orders 11988 and 11990, for the determination that a FONSI has been made for the program, and for notification to the public of the Owner's intent to request the release of HUD funds for the proposed projects (NOI/RROF). HUD will determine if the final public wetland and floodplain, FONSI, and NOI/RROF notices can be combined and issued together as a single notice.
- No public meetings are included under this subtask.
- No more than ten (10) submittals will be received in response to the public notice. From this there will be no more than five (5) substantive comments for which Consultant will draft responses.
- One action alternative will be analyzed in detail in the EA.
- Project Team will contribute to drafting the project description and provide necessary information pertaining to construction methods, timing, and duration. Consultant will refine project description for use in the EA. The final ERR and RROF will be submitted by the Owner to HUD for final approval and issuance of the Authority to Use Grant Funds.
- No in-water work will be required, thus no aquatic Endangered Species Act (ESA) or Magnuson-Stevens Fisheries Conservation Act consultation will be needed.
- Terrestrial informal ESA consultation will be needed for two (2) species: northwestern pond turtle and Fenders blue butterfly.
- There will be no new issues for the Force Main and Gates Collection System EA. Background and effects analysis from the Mill City and Gates MWTF EA can be used as a basis for the Force Main and Gates Collection System Biological Evaluation.
- Acres of impacts and site-specific information will be revised and updated once Project Description is finalized for the Force Main and Gates Collection System EA.

101.4.4 Force Main and Gates Collection System – Endangered Species Act Consultation and Biological Evaluation.

101.4.4.1 Consultant will complete a draft and final Biological Evaluation for informal Section 7 consultation with U.S. Fish and Wildlife Service (USFWS).

Assumptions:

- Informal consultation will be required for two (2) species: northwestern pond turtle and Fenders blue butterfly.
- There will be no new issues for the Force Main and Gates Collection System EA. Background and effects analysis from Mill City and Gates MWTF EA can be used as a basis for the Force Main and Gates Collection System Biological Evaluation.
- Acres of impacts and site-specific information will be revised and updated once Project Description is finalized for the Force Main and Gates Collection System EA. Up to four (4) potential lift station locations will be included in the project area.
- USFWS has 90 days to reply to the submitted Biological Evaluation. HUD will require concurrence from USFWS prior to issuing an Authority to Use Grant Funds.

Deliverables:

- Pre-consultation call notes with USFWS
- Draft Biological Evaluation
- Final Administrative Record

Task 101.5 – Environmental Project Coordination and Oversight
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

101.5.1 Environmental Project Coordination and Oversight. Participation in Project team's bi-weekly meetings, project check-in calls, and subsequent discussions and tasks over a period of fifteen ~~nine~~ (15 ~~9~~) months. Consultant will offer environmental oversight and guidance as the project advances.

101.5.2 Consultant will review and provide guidance on environmental compliance requirements for the northern and southern force main alternatives as part of the Value Engineering effort.

Assumptions:

- Environmental project coordination and oversight duration is fifteen ~~nine~~ (15 ~~9~~) months.
- Bi-weekly check-in meetings will be one (1)-hour long and attended by two (2) Consultant staff members.

Deliverables:

- Biweekly meeting agenda items and notes on environmental tasks.
- Ongoing environmental project permit schedule.

Task 101.6 – Archaeological Monitoring
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve Consultant of responsibility to perform this task.)

The Consultant conducted initial cultural resources investigations in April 2024 consisting of pedestrian survey and subsurface testing, during which one newly identified historic-era isolate (MCW-ISO-1) was recorded. While cultural resources investigations to date indicate that the project area has a low risk of inadvertently encountering cultural resources, the project area lies within the traditional homeland of multiple Indigenous groups, and the Owner has requested that an archaeological monitor be present during certain ground-disturbing activities. Archaeological monitoring will follow protocols identified in the Monitoring Inadvertent Discovery Plan (MIDP).

Consultant Responsibilities:

101.6.1 Project Management and Tribal Coordination. The Consultant will maintain project files to include necessary supporting materials as required and coordinate and schedule archaeological monitoring for ground disturbing activities as needed (up to ten (10) days).

The Consultant will monitor task performance, schedule, and budget; approve project expenses, and check that systems are in place to conduct quality assurance and quality control on deliverables and correspondence. The Consultant will provide updates to the Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of Siletz Indians, and Confederated Tribes of Warm Springs Reservation on the project

schedule with up to one email at the start of the project, notifying the Tribes of the projected schedule, and at the end of the project giving a brief summary of findings.

The Consultant will also provide ongoing consultation support as necessary throughout the project. This will include communications with the County State Historic Preservation Office (SHPO), relevant Tribal entities, and other relevant and authorized parties.

101.6.2 Monitoring and Inadvertent Discovery Plan. The Consultant will prepare an archaeological monitoring and inadvertent discovery plan (MIDP) for construction activity. The purpose of the document is to facilitate clear understanding between the Consultant, Project Team, and CM/GC's construction team (from management levels to equipment operators) prior to and throughout construction. Protocols for work stoppages will be developed in the MIDP in the event construction crews identify cultural resources. Further, an implementation protocol will be developed in case significant archaeological material or human remains are encountered. Such protocols will be articulated in the project's MIDP.

The Consultant will develop a mutually agreeable MIDP for this project. The plan will address the following elements:

- The regulatory context of the project (e.g., compliance with local and Oregon State laws pertaining to cultural resources).
- The nature of potential archaeological concerns within the project area. This element describes the types of archaeological and cultural resources that may be encountered based on the results of prior investigations within and in the vicinity of the project area.
- The specific chain-of-authority for the construction crews to request temporary pauses or longer halts to excavation activity (e.g., if necessary, stop work, and consult with the Project Archaeologist, the County, SHPO, and interested Tribes).
- Detailed description of where and when archaeological monitoring will occur during project-related ground-disturbing activities.

The Consultant will provide a draft copy of the MIDP to the Project Team for review. Upon receipt of comments on the draft MIDP, the Consultant will create a final copy to be distributed to all interested parties.

101.6.3 Archaeological Monitoring. The Consultant will conduct on-site monitoring and take photos and notes of activities for up to ten (10) days of ground-disturbing activities (e.g., subsurface excavation). In the event of discovery of culturally or archaeologically significant resources during excavation, Consultant will report that information immediately using protocols identified in the MIDP. Consultant's active archaeological permit (AP 3934) for the project expired on June 24, 2025. However, an updated archaeological permit is not needed at this time. Should any archaeological resources be discovered, the Consultant will need to apply for an updated SHPO-issued archaeological permit to collect archaeological materials under Oregon State law which may take 45 to 60 days to be obtained and executed.

101.6.4 Archaeological Monitoring Technical Memorandum. After completing the monitoring work, the Consultant will prepare a brief technical memorandum discussing the methods and results (findings) of the archaeological monitoring completed. The technical memorandum will discuss minor finds, including consultation about and implementation of minor treatment measures. The technical memorandum will be illustrated with maps,

photographs, and tabular information as needed. Once approved by the Project Team, the technical memorandum will be submitted electronically to the Oregon SHPO and relevant Tribal entities for final review.

Assumptions:

- There will be no significant changes to the location and extent of the project area.
- The budget for Task 101.6.1 allows for up to four (4) project manager labor hours to coordinate project schedule with Project Team and CM/GC.
- The budget for Task 101.6.1 allows for up to four (4) one (1)-hour virtual meetings with the Consultant's project manager for ongoing consultation with the Owner, City of Salem, Mill City, SHPO, relevant Tribal entities, and other parties authorized by Owner.
- One draft copy of the MIDP will be provided to Project Team for review. Revisions to the MIDP will be minimal, requiring no more than two (2) labor hours.
- It will not be necessary to have more than one archaeological monitor on-site at any time.
- This task allows for up to one (1) archaeological monitor, working up to ten (10) ten (10)-hour workdays or the equivalent labor thereof including time for mobilization and travel from the Corvallis or Portland, Oregon offices.
- If the archaeological monitor mobilizes out of the Portland Oregon office, the budget allows for up to nine (9) mobilizations.
- It is assumed that project-related ground-disturbing activities will occur during business days (Monday to Friday) and will not exceed eight (8) hours on site.
- Consultant requires a minimum of forty-eight (48) business hours' advance notice to be given to the archaeological monitor for when they need to be at the project site in Mill City, Oregon.
- If an archaeological monitor is called to the project site and then work is canceled for the day or the workday is short, a full eight (8) hours of work will be charged to cover the cost of extra coordination, mobilization, and travel time.
- No newly identified archaeological materials or cultural resources will be observed, and no archaeological permits will be required. If any intact deposits requiring evaluation of human remains are encountered or any additional investigation is required by the SHPO and Tribes, then an additional scope of work and budget will be required.
- ~~One round of memo revision will occur per reviewing party.~~
- Comments on Technical Memorandum can be resolved through one review cycle.

Deliverables:

- Draft archaeological monitoring technical memorandum with Project Team comments incorporated for review by Owner.
- Final archaeological monitoring technical memorandum with Owner's comments incorporated for review by the SHPO and relevant Tribes.

102 – SUBSURFACE EXPLORATION

Task 102.1 – Project Management and Administration

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

102.1.1. Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

102.1.2. Coordination. Coordinate services to complete the permitting and subsurface investigations.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide input and review of all draft and final deliverables.

Assumptions:

- Attendance at project meetings may be virtual.
- Project management budget assumes a task order schedule of up to 24 months.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.

Task 102.2 – Subsurface Investigation Program

The purpose of subsurface investigation is to collect soil and groundwater data that can be used to: (1) assess whether a candidate site can infiltrate the required volume of treated wastewater, (2) inform facility predesign, (3) evaluate facility permitting framework (WPCF required), and (4) evaluate compliance with DEQ's groundwater protection rules. The subsurface investigation program involves excavating test pits to measure soil infiltration rates and observe soil types, installing monitoring wells to measure aquifer properties, collecting soil and groundwater samples, and one year of groundwater and surface water level monitoring. This task includes management, planning and execution of the subsurface investigation program comprised of two subtasks:

- Subtask 102.2.1 – Mill City / Gates Subsurface Investigation
- Subtask 102.2.2 – Detroit / Idanha Subsurface Investigation
- Subtask 102.2.3 – Detroit / Idanha Well Decommissioning
- Subtask 102.2.4 – Detroit / Idanha Well Decommissioning Fees and Direct Expenses
- Subtask 102.2.5 – Mill City Site GM1 Monitoring Well Decommissioning
- Subtask 102.2.6 – Mill City Site GM1 Well Decommissioning Fees and Direct Expenses

Owner Responsibilities:

- This scope of work does not include effort to identify domestic water wells in the vicinity of the proposed infiltration facility (which would likely involve a door-to-door survey and review of households that are connected to City water). Owner is responsible for this effort, if it is needed, and for incorporating the information obtained into the final report.

Assumptions:

- Subsurface investigations will occur on private or public property that is not owned by Owner. Owner and Consultant will work collaboratively to gain access to these sites for the purpose of performing site evaluation work. In general, Owner is responsible for the execution of site access agreements with property owners and Consultant is responsible for coordination with property owners regarding schedule for accessing the property, discussing access routes, and reporting results to the property owner.
- Test pitting and infiltration testing will be limited to four days in the Detroit/Idanha area (up to 10 test pits) and five days in the Gates/Mill City area (up to 15 ~~18~~ test pits).

- Monitoring wells and temporary borings will target discrete horizons in the glacial till geologic unit that are related to the depth to groundwater and the contact between glacial till and bedrock. Because there is limited information about the geology and depth to groundwater at the candidate sites, the costs for drilling are based on assumptions about the depths of monitoring wells and temporary borings. Where field conditions differ from those assumed and where such differences result in increased field costs that exceed the established budget for this task, an equitable adjustment to the contract value will be made by contract amendment.
- In the Gates/Mill City area, it is assumed that monitoring wells will be 100 feet deep, one temporary boring will be advanced to the top of the water table at 80 feet below ground surface (bgs), and another temporary boring will be advanced to the top of bedrock at 200 feet bgs.
- In the Detroit/Idanha area, we have assumed that monitoring wells will be 80 feet deep (2 wells) or 200 feet deep (3 wells), and two temporary borings will be advanced to the top of bedrock at 100 feet bgs.
- Drilling costs could change if: (1) driller costs change (quotes are typically only good for 30 days due to "instability of commodity costs") or (2) the assumed construction of wells and borings changes based on the geology of the site. It is assumed that casing advance is not necessary to keep the bedrock hole open during drilling of the monitoring well in the Detroit/Idanha area. An amendment may be necessary if casing must be advanced to keep the hole open at this well and if such costs exceed the agreed upon task budget.
- Subsurface exploration work, including digging of test pits, geotechnical drilling, and installation of subsurface monitoring equipment, is not subject to Davis-Bacon or BOLI prevailing wages.

Subtask 102.2.1 – Mill City / Gates Subsurface Investigation

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Subsurface investigation in the Gates/Mill City area includes the following activities:

102.2.1.1. Work Plan. Develop a work plan for the subsurface investigation that includes a specific plan for excavating and infiltration testing at up to fifteen 15 ~~18~~ test pits (at Site 1 through Site 4) and a general plan for installing monitoring wells (which will be refined with an addendum upon selection of a site for the monitoring wells). The Work Plan will include procedures for soil classification, soil/groundwater sampling, infiltration testing, and aquifer testing.

102.2.1.2. Excavate Test Pits and Measure Infiltration Rate. Prepare for the field event, including development of a Health and Safety Plan (HASP) that meets Occupational Safety and Health Administration (OSHA) standards and oversight of a utility locating contractor to clear test pits for subsurface utilities. Oversee excavation of up to fifteen (15) ~~eighteen (18)~~ test pits to a depth of 12 to 15 feet below ground surface (bgs) or refusal by a backhoe; log soils in general accordance with Unified Soil Classification System (USCS) visual-manual procedures; collect soil samples for analysis of physical soil characteristics in a laboratory; conduct infiltration tests in each test pit using a single-ring infiltrometer at depths to be chosen based on the nature of subsurface soils (shallow and deep soil horizons will be targeted); analyze test data to calculate an effective saturated hydraulic conductivity of the soils; collect one soil sample at each site and analyze for soil quality (volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals at Apex Labs, Tigard, Oregon, and multi-residue pesticide screen at Pacific Agricultural Labs,

Sherwood, Oregon); summarize results in a brief technical memorandum to facilitate site selection for deep soil investigation.

102.2.1.3. Temporary Borings and Monitoring Well Construction and Testing. Develop a conceptual design for monitoring wells; install and develop three (3) groundwater monitoring wells and two (2) temporary borings by an Oregon-licensed driller; log soils in general accordance with USCS visual-manual procedures; collect soil samples for analysis in a laboratory; analyze soil samples taken from the borings for particle size distribution (12 samples), particle density testing (6 samples), water content (60 samples), and saturated hydraulic conductivity (9 samples); perform a slug test at each monitoring well to evaluate aquifer properties (hydraulic conductivity and storage); collect a groundwater sample from one well (VOCs, SVOCs, PAHs, PCBs and metals at Apex Labs, Tigard, Oregon, and a multi-residue pesticide screen at Pacific Agricultural Labs, Sherwood, Oregon); analyze test data to calculate aquifer parameters; survey and record the coordinates of monitoring wells (latitude, longitude, and vertical elevation).

102.2.1.4. Groundwater Level Monitoring. Equip each well with a Solinst pressure transducer and datalogger to continuously monitor water levels (including a single barologger to record barometric pressure); download data from the dataloggers and manually measure water levels at the monitoring wells quarterly for a year.

102.2.1.5. Estimate Infiltration Volume. Use an analytical model such as MOUNDSOLV or other suitable software to estimate the volume of water that can be infiltrated through an infiltration basin.

102.2.1.6. Reporting. Develop technical memoranda documenting the field investigation and results.

102.2.1.7 Groundwater Level Monitoring at Site GM1. Consultant will continue groundwater level monitoring until December 2026, when ownership of the treatment facility is expected to transfer from Marion County to Mill City. Groundwater level monitoring will collect data to better understand: (1) variation in seasonal-high groundwater depths and potential implications for facility operation, (2) recharge to the groundwater system from precipitation and potential implications for nutrient dilution, and (3) baseline groundwater conditions prior to infiltration facility operation. This task will include the following:

- Conduct seven (7) visits to the GM1 site, quarterly, from June 2025 to December 2026.
- During each site visit, manually measure depth to groundwater at the three (3) GM1 site monitoring wells, download data from pressure transducers, perform minor maintenance on pressure transducers (e.g., battery replacement) as needed, and re-program transducers.
- Manage data from each visit, including comparison of manually-measured groundwater levels to transducer-measured groundwater levels to verify the proper operation of pressure transducers.
- Prepare a technical memorandum documenting data collection data efforts, including tables of annual depth to water measurements, groundwater elevations, and seasonal high groundwater levels; calculations of recharge to the aquifer using the water level fluctuation method; and hydrographs showing precipitation amounts and groundwater elevation.

Assumptions:

- Costs for major transducer repair or replacement are not included in this scope of work.
- Comments on the Groundwater Level Monitoring Technical Memorandum by the Project Team can be addressed and incorporated in a single review cycle.

Deliverables:

- Draft and Final Subsurface Investigation Work Plan.
- Final Infiltration Testing and Test Pit Excavation Technical Memorandum.
- Draft and Final Subsurface Investigation Technical Memorandum.
- Groundwater Level Monitoring Technical Memorandum.
- Draft and Final Groundwater Level Technical Memorandum (June 2025 to December 2026).

Subtask 102.2.2 – Detroit / Idanha Subsurface Investigation
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Subsurface characterization in the Detroit/Idanha area includes the following activities:

102.2.2.1. Work Plan. Develop a work plan for the subsurface characterization that includes a specific plan for excavating and infiltration testing at up to 10 test pits (at the McCoy and Detroit Ranger Station sites), and a general plan for installing monitoring wells (which will be refined with an addendum upon selection of a site for the monitoring wells). The Work Plan will include procedures for soil classification, soil/groundwater sampling, infiltration testing, and aquifer testing.

102.2.2.2. Excavate Test Pits and Measure Infiltration Rate. Prepare for the field event, including development of a Health and Safety Plan (HASP) that meets Occupational Safety and Health Administration (OSHA) standards and oversight of a utility locating contractor to clear test pits for subsurface utilities. Oversee excavation of up to ten (10) test pits to a depth of 12 to 15 feet below ground surface (bgs) or refusal by a backhoe; log soils in general accordance with Unified Soil Classification System (USCS) visual-manual procedures; collect soil samples for analysis of physical soil characteristics in a laboratory; conduct infiltration tests in each test pit using a single-ring infiltrometer at depths to be chosen based on the nature of subsurface soils (shallow and deep soil horizons will be targeted); analyze test data to calculate an effective saturated hydraulic conductivity of the soils; collect one soil sample at each site and analyze for soil quality (volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals at Apex Labs, Tigard, Oregon, and multi-residue pesticide screen at Pacific Agricultural Labs, Sherwood, Oregon); summarize results in a brief technical memorandum to facilitate site selection for the deep soil investigation.

102.2.2.3. Temporary Borings and Monitoring Well Construction and Testing. Develop a conceptual design for monitoring wells; install and develop five (5) groundwater monitoring wells and two (2) temporary borings by an Oregon-licensed driller; log soils in general accordance with USCS visual-manual procedures; collect soil samples for analysis in a laboratory; analyze soil samples taken from the borings for particle size distribution (12 samples), particle density testing (6 samples), water content (60 samples), and saturated hydraulic conductivity (9 samples); perform a slug test at each monitoring well to evaluate aquifer properties (hydraulic conductivity and storage); collect a groundwater sample from one well (VOCs, SVOCs, PAHs, PCBs and metals at Apex Labs, Tigard, Oregon, and a multi-residue

pesticide screen at Pacific Agricultural Labs, Sherwood, Oregon); analyze test data to calculate aquifer parameters; survey and record the coordinates of monitoring wells (latitude, longitude, and vertical elevation).

102.2.2.4. Surface Water and Groundwater Level Monitoring at the McCoy Site. Install three (3) stilling wells (in the Santiam River, Unnamed Creek, and McCoy Creek); equip each stilling and monitoring well with a Solinst pressure transducer and datalogger to continuously monitor water levels (including a single barologger to record barometric pressure); download data from the dataloggers and manually measure water levels at the monitoring wells and stilling wells quarterly for a year.

102.2.2.5. Estimate Infiltration Volume. Use an analytical model such as MOUNDSOLV or other suitable software to estimate the volume of water that can be infiltrated through an infiltration basin.

102.2.2.6. Reporting. Develop technical memoranda documenting the field investigation and results.

Deliverables:

- Draft and Final Subsurface Investigation Work Plan.
- Final Infiltration Testing and Test Pit Excavation Technical Memorandum.
- Draft and Final Subsurface Investigation Technical Memorandum.
- Groundwater Level Monitoring Technical Memorandum

Subtask 102.2.3 - Detroit/Idanha Well Decommissioning
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Detroit/Idanha well decommissioning includes the following activities: Decommissioning of three 2-inch PVC monitoring wells (MC-MW1, MC-MW2, and MC-MW3) and three stilling wells (SW-1, SW-2, and SW-3) in Idanha, Oregon. Each of the three monitoring wells will be decommissioned by overdrilling to fully remove all structures including the above ground monument, and the stilling wells will be removed along with any associated equipment.

102.2.3.1. Work Plan and Pre-Field Work. Develop a work plan for monitoring well decommissioning that outlines the methods for the decommissioning of the three monitoring wells and removal of the stilling wells.

- Update an existing Health and Safety Plan (HASP) to cover the field work.
- Coordinate with subcontractor to schedule the field work.
- Provide email updates to the Project Team on the status of the project.

Deliverables:

- Well decommissioning work plan

102.2.3.2. Field Activities. Decommission three monitoring wells by overdrilling and removing three stilling wells.

- Develop a subcontract with a driller to conduct the work.
- Download pressure transducer data from monitoring wells and stilling wells, remove all equipment, and remove the three stilling wells.
- Oversee the overdrilling of three 2-inch PVC monitoring wells using sonic drilling methods, including the removal of monuments and bollards, borehole backfilling in accordance with the Oregon Administrative Rules, and site clean-up.
- Communication of results to the Project Team on an ongoing basis.

Assumptions:

- PVC casing, PVC screen, steel bollards, and steel monuments will be hauled offsite. Drill cuttings will be spread on-site near the MC-MW3 well.
- Oversight of 2-inch PVC monitoring well decommissioning and site clean-up will occur over one week.
- Field personnel will visit the six sites prior to contractor mobilization to download and collect all pressure transducers and remove all stilling wells.
- Access to the subject property and negotiations with the property owner and/or tenants will be arranged by Consultant.
- All field work can be conducted during normal business hours.
- Unimpeded access to the work locations will be available, including no conflicts with overhead power or underground utilities.
- Field work will be scheduled to avoid significant weather events where possible. However, if weather impacts projected mobilization costs or the overall project schedule, this may result in additional fees. Consultant will communicate potential unanticipated weather delays to Owner and Project Team.
- Ground-disturbing activities will not impact protected natural and cultural resources such as wetlands and waterways, critical habitat, archeological sites, and historic properties and structures based on previously provided information from the U.S. Forest Service.

102.2.3.3. Technical Memorandum. Prepare a Technical Memorandum documenting activities conducted as a part of this scope of work:

- Data collected from pressure transducers will be plotted on hydrographs.
- A summary of field activities and well decommissioning logs will be included.

Deliverables:

- Draft technical memorandum for review by the Project Team.
- Final technical memorandum that incorporates Project Team comments.

Assumptions:

- Deliverable comments can be incorporated over a single review cycle.
- The Department of Environmental Quality will not provide comments on the technical memorandum.
- Deliverables will require only one review cycle.

Subtask 102.2.4 – Detroit/Idanha Well Decommissioning Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with Task 102.2.3 – Detroit/Idanha Well Decommissioning, including:
  - Driller
  - Travel expenses

Subtask 102.2.5 – Mill City Site GM1 Monitoring Well Decommissioning
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Mill City Site GM1 well decommissioning includes the following activities: Decommissioning of two 2-inch diameter PVC monitoring wells (GM1-MW4 and GM1-MW5) at Site GM1 in Mill City, Oregon. Each of the two monitoring wells will be decommissioned by overdrilling to fully remove all structures including the above ground monument.

Consultant's Responsibilities:

Work Plan and Pre-Field Work.

- Develop a work plan for monitoring well decommissioning that outlines the methods for the decommissioning of the two monitoring wells.
- Update existing Health and Safety Plan (HASP) to cover the field work.
- Coordinate with subcontractor to schedule the field work.
- Provide email updates to the Project Team on the status of the project.
- Download pressure transducer data from monitoring wells and remove all equipment.
- Oversee the overdrilling of two 2-inch diameter PVC monitoring wells using sonic drilling methods, including the removal of monuments and bollards, borehole backfilling in accordance with Oregon Administrative Rules and site clean-up.
- Communication of results to the project team on an ongoing basis.
- Develop a Technical Memorandum (TM) that summarizes the decommissioning methods, including driller decommissioning logs, material quantities (e.g., bags of bentonite chips), and a map identifying the locations of the wells that were decommissioned.

Deliverables:

- Final Work Plan
- Draft and Final Technical Memorandum

Assumptions:

- PVC casing, PVC screen, steel bollards, and steel monuments will be hauled offsite by the decommissioning contractor.
- Oversight of 2-inch diameter PVC monitoring well decommissioning and site clean-up will occur over two days.
- Access to the subject property and negotiations with the property owner and/or tenants will be arranged by Project Team and all field work can be conducted during normal business hours.
- TM comments from Project Team can be incorporated over a single review cycle.
- Transducer data will be processed and reported under a separate task.

Subtask 102.2.6 – Mill City Site GM1 Well Decommissioning Fees and Direct Expenses
Consultant's Responsibilities:

This task includes the following fees and direct expenses associated with Task 102.2.6 – Mill City Site GM1 Well Decommissioning, including:

- Driller
- Travel expenses

Task 102.3 – Groundwater Modeling Evaluation

The purpose of this task is to provide field data and modeling evaluations for submittal to the Oregon Department of Environmental Quality (DEQ) to support a Water Pollution Control Facility (WPCF) permit determination in compliance with DEQ's groundwater protection rules.

Task 102.3 is comprised of two subtasks:

- Subtask 102.3.1 – Gates/Mill City Permitting Evaluation
- Subtask 102.3.2 – Detroit/Idanha Permitting Evaluation

Assumptions:

- It is assumed that the planned location for the infiltration facility in the Gates/Mill City area is further from the Santiam River than the planned location for the infiltration facility in the Detroit/Idanha area (less than 0.25 miles). Therefore, we anticipate that the evaluation to support a permitting determination for the Detroit/Idanha area will be more rigorous.

Subtask 102.3.1 – Mill City / Gates Permitting Evaluation
Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.

Consultant shall perform the following activities for the infiltration facility in the Gates/Mill City area:

102.3.1.1. Based on the subsurface characterization and publicly available literature references (e.g., U.S. Geological Survey or USGS), develop a hydrogeologic conceptual site model (CSM) for the selected Gates/Mill City infiltration site. The hydrogeologic CSM will describe the geologic framework, exchanges between groundwater and surface water, groundwater flow direction, aquifer properties (hydraulic conductivity, storage, aquifer thickness, horizontal hydraulic gradient), and recharge from precipitation.

102.3.1.2. Calculate the transit time for a pollutant to travel from the recharge basin to the nearest surface water body. Transit time in the unsaturated zone will be calculated using Darcy's Law and field-measured hydraulic conductivity values from Task 102.2, and transit time in the saturated zone will be calculated using an analytical groundwater flow model (e.g., AquiferWin32). It is anticipated that the transit time calculation will be the primary supporting evidence for a WPCF permit determination, along with the distance between the infiltration facility and surface water, and the nature of the material through which the pollutant travels.

102.3.1.3. Using the numerical groundwater flow modeling code MODFLOW and contaminant fate and transport code MT3D, create a generalized 2-dimensional aquifer model to represent the infiltration site, and run contaminant fate and transport simulations to

calculate the dilution and/or chemical transformation of the pollutant during transport. We anticipate that the contaminant fate and transport simulations will be the primary supporting evidence for demonstrating that the infiltration facility is compliant with DEQ's groundwater protection rules.

102.3.1.4. Prepare a technical memorandum to document the results of the permitting evaluation. First, the memo will include permitting determination in accordance with the following Maui criteria: (1) transit time in groundwater, (2) the distance a pollutant travels, and (3) the nature of the material through which a pollutant travels. Second, the memo will document the evaluation of compliance with DEQ's groundwater protection rules. Consultant shall submit a draft memo to the Project Team for review and will finalize the memo based on comments from the Project Team, then submit to DEQ for review.

102.3.1.5. Meet three times with DEQ: (1) to review the hydrogeologic conceptual model and agree on a technical approach for making a permitting determination and demonstrating compliance with the groundwater protection rules, (2) to review permitting recommendation and demonstration of compliance with the groundwater protection rules, and (3) to discuss DEQ's comments on the memo.

Assumptions:

- Comments from the Project Team can be incorporated with a single review cycle.
- DEQ comments can be addressed with two hours of a principal hydrogeologist's time and 8 hours of a supervising hydrogeologist's time.
- Meetings with DEQ will be virtual.

Deliverables:

- Draft WPCF Evaluation Memorandum.
- Final WPCF Evaluation Memorandum that incorporates Project Team comments for submittal to DEQ.
- Final WPCF Evaluation Memorandum that incorporates DEQ comments.

Subtask 102.3.2 – ~~Detroit / Idanha Permitting Evaluation~~ [REMOVED]

~~*Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.*~~

~~Consultant shall perform the following activities for the infiltration facility in the Detroit/Idanha area:~~

~~102.3.2.1. Calculate the transit time for a pollutant to travel from the recharge basin to the nearest surface water body. Transit time in the unsaturated zone will be calculated using Darcy's Law and field-measured hydraulic conductivity values from Task 102.2, and transit time in the saturated zone will be calculated using an analytical groundwater flow model (e.g., AquiferWin32). It is anticipated that the transit time calculation will be the primary supporting evidence for a WPCF permit determination, along with the distance between the infiltration facility and surface water, and the nature of the material through which the pollutant travels.~~

~~102.3.2.2. Perform a modeling simulation to estimate the maximum recharge volume in the Detroit/Idanha area (additional evaluation of maximum recharge volume is needed in the Detroit/Idanha area due to the anisotropy; a model simulation would be more cost effective than hiring a driller to conduct a pumping test).~~

~~102.3.2.3. Meet three times with DEQ: (1) to review the hydrogeologic conceptual model and agree on a technical approach for making a permitting determination and~~

~~demonstrating compliance with the groundwater protection rules, (2) to review permitting recommendation and demonstration of compliance with the groundwater.~~

~~*Assumptions:*~~

- ~~Comments from the Project Team can be incorporated with a single review cycle.~~
- ~~DEQ comments can be addressed with two hours of a principal hydrogeologist's time and 8 hours of a supervising hydrogeologist's time.~~
- ~~Meetings with DEQ will be virtual.~~

Task 102.4 – McCoy Site Permitting (USFS) and Private Property Owner Coordination (Upper Deck)

Consultant Responsibilities:

102.4.1. Address permitting and other regulatory requirements related to the National Environmental Policy Act (NEPA), which will involve obtaining an agreement to access the properties, excavate test pits, and install monitoring wells. Assumes a level of effort with up to 48 hours.

102.4.2. Coordinate with property owner of "upper deck" private property to obtain permission to install two monitoring wells. Assumes a level of effort with up to 48 hours.

Owner Responsibilities:

- Review and approve permitting applications/letters requesting permission to access the McCoy site, excavate test pits, and install monitoring wells.
- Owner is responsible for costs associated with property owner conditions related to site access and site access agreements.

Task 102.5 – Infiltration Basin Pilot Test

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant will conduct a pilot test (minimum of fourteen (14) days to maximum of twenty-eight (28) days) for proposed infiltration basins at Site GM1 in Mill City, Oregon to further confirm long-term capability of the proposed infiltration basins and support the permitting process.

Assumptions:

- The number of meetings and site visits anticipated are specified in the scope tasks detailed below. If these meetings and technical consultations result in work scope modifications, such modifications are not included or budgeted within this scope.
- Access to the subject property and negotiations with the property owner and/or tenants will be arranged by the Consultant, and all field work can be conducted during normal business hours.
- Unimpeded access to the work locations will be available, including no conflicts with overhead power or underground utilities.
- Consultant assumes field activities can be accomplished within the number of days specified in the scope tasks detailed below. This includes mobilization and field work. Consultant will attempt to schedule field work to avoid significant weather events where possible. However, if weather impacts projected mobilization costs or the overall project schedule, this may result in additional fees. Owner will be kept informed if there are unanticipated weather delays.
- Owner will provide information which they have available regarding the presence of underground utilities within the study area. A public utility locate notification will be conducted, and

Consultant will contract a private utility locator in an effort to identify and avoid subsurface utilities at the proposed work locations. Drilling/sampling locations will be considered and modified based on the results of these efforts as described in the work plan. The use of these methods does not guarantee that unidentified conduits/structures will not be encountered during drilling and excavation, but greatly minimizes the risk of doing so. Consultant will not be responsible for damage to subsurface utilities not identified prior to initiating work.

- Ground-disturbing activities will not impact protected natural and cultural resources such as wetlands and waterways, critical habitat, archeological sites, and historic properties and structures. It is the responsibility of Consultant to obtain all required local, state, and federal environmental permits and clearances, including but not limited to the National Environmental Policy Act, Section 404 of the Federal Clean Water Act, Section 401 Water Quality Certification, National Pollutant Discharge Elimination System Permits, Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, Oregon Fish Passage law, Oregon Removal-Fill law, and Oregon Native American Graves and Protected Objects law.
- No unreasonably difficult subsurface conditions will be encountered requiring the use of alternative drilling/excavation equipment than specified above.
- All fieldwork can be performed using standard personal protective equipment and procedures (Level D).
- Other than drilling start card documentation, no other permits are specified or included. If necessary, other permits would be obtained at an additional time and materials basis.
- Consultant has assumed that deliverables will require only one review cycle and the scope of work detailed below will be utilized for the development of the workplan. If significant changes are made to the scope, this may impact costs associated with Task 102.5.1. Following issuance of the final report, if information is subsequently provided to Consultant that warrants report revisions or amendments, the additional work will be charged on a time and materials basis.
- Consultant's work product is intended for use by Owner and is not intended for reliance by third parties unless otherwise specified in this scope of work. If requested by the Owner, a reliance letter will be reviewed and considered by Consultant. Completion of a reliance letter may be subject to an additional fee.

Consultant Responsibilities:

102.5.1. Meetings, Work Plan, Pre-Field Work Preparation. Consultant will develop a work plan for the pilot test that outlines the methods for excavating up to three test pits within the planned footprints of Basin J1 and Basin J2, constructing monitoring well GM1-MW-4, excavating a 50-foot by 50-foot infiltration basin, and conducting the pilot test. A draft Work Plan will be provided to the Project Team for review, and a second draft Work Plan will be submitted to the Oregon Department of Environmental Quality (DEQ) for review. The final Work Plan will incorporate the Project Team and DEQ comments.

In addition, Consultant will prepare for the pilot test by developing health and safety plans to cover the field work; field-locating the test pits, monitoring well, and test basin at the site; and overseeing a utility locating contractor to clear excavation locations of subsurface utilities. Consultant will coordinate location, design, and schedule of field work and work with the City to obtain water for the infiltration pilot test. Consultant will review and compile data from previous field investigations at the site and refine the work program as needed. This task also includes periodic email updates to the Project Team on the status of the project and meetings between Owner, Consultant, and Subconsultants to discuss pilot test results.

Assumptions:

- Work Plan comments can be incorporated over a single review cycle.
- Five (5) one-hour, virtual meetings will occur during the course of the project to coordinate between Consultant and Subconsultants Project Team. One (1) virtual meeting to discuss pilot test results will occur with the entire Project Team.
- Two field visits will occur to oversee the utility contractor and mark excavation and boring locations.

Deliverables:

- Draft Work Plan for review by the Project Team.
- Draft Work Plan for review by DEQ.
- Final Work Plan that incorporates Project Team and DEQ comments.

102.5.2. Monitoring Well Drilling and Construction Oversight. An additional monitoring well is required as a part of the pilot test to monitor groundwater mounding adjacent to the pilot test basin. Consultant will develop contract with driller to conduct work and oversee construction of a monitoring well using sonic drilling methods (monitoring well GM1-MW4) adjacent to the test basin and will equip the monitoring well with a down-hole pressure transducer and datalogger to record groundwater levels before, during, and after the pilot test. Soils will be logged in general accordance with the Unified Soil Classification System (USCS). Consultant shall oversee development activities, conduct synoptic water level monitoring, and download pressure transducer data from monitoring wells at Site GM1. Consultant shall also verify that well materials meet Oregon Administrative Rule requirements for drilling monitoring wells. After well completion, Consultant will oversee survey of the latitude, longitude, and elevation of the monitoring well.

Assumptions:

- The monitoring well will be constructed of 2-inch schedule 40 PVC, will be 50-feet deep, and will be completed with an above-ground monument with three protective bollards.
- Soil core from the monitoring well boring can be spread on the ground.
- The scope of work does not include monitoring well decommissioning as it may be utilized for long-term monitoring purposes.
- Monitoring well drilling oversight, well construction, and development will occur over three (3) days and will include one (1) site mobilization.

102.5.3. Test Pit Excavation and Infiltration Testing. As the site layout design for GM1 has progressed, infiltration basins J1 and J2 have been preliminarily located at the site in an area where no infiltration testing has occurred. Subsurface exploration is important in this area due to the presence of a former log pond to the east, the extent of which has been identified from aerial photos but has not been confirmed with subsurface exploration. Consultant will coordinate with the CM/GC who will oversee the excavation of three (3) test pits up to fifteen (15) feet below ground surface (bgs) or a depth sufficient to observe unsaturated zone soils in the opinion of the on-site hydrogeologist in the area of proposed basins J1 and J2. Consultant will coordinate with CM/GC to conduct infiltration tests at each pit and oversee placement/installation of an oversized (4-foot diameter x 3-foot) steel cylinder in each test pit by CM/GC for use in infiltration test. Consultant shall log soils from the test pits in general accordance with the USCS, collect soil moisture measurements

to estimate the extent of the wetting front, and assess infiltration tests to determine whether additional excavations are recommended at the site. Consultant shall communicate status and results to the Project Team on an on-going basis and oversee backfilling of the test pits.

Assumptions:

- Test pit excavation and geologic logging and infiltration testing will be completed in three (3) days.
- CM/GC will complete the excavation of the test pits.
- CM/GC will provide oversized (4-foot diameter x 3-foot) steel cylinder and coordinate placement/installation in each test pit with Consultant.
- CM/GC will provide a 500-gallon (minimum) water tank, filled with 2-inch diameter hose and flow meter to convey water into the test pit.
- Costs for water, permitting, and other City requirements for fire hydrant use to fill the water tank will be the responsibility of the CM/GC.

102.5.4. Test Infiltration Basin Construction. Consultant will coordinate with the CM/GC who will excavate a 50-foot by 50-foot infiltration basin to a depth of one (1)-foot bgs. Consultant will coordinate with the CM/GC who will oversee the placement of an energy diffusion system (rip-rap) at the location where water discharges to the basin to minimize turbidity during the test. and install a temporary shallow piezometer in the center of the basin in an attempt to monitor groundwater mounding directly below the basin during the pilot test.

Consultant will install a temporary stilling well and staff gauge in the basin and equip the stilling well with a pressure transducer and datalogger to monitor the surface water level during the pilot infiltration test. The water level monitoring system will be equipped with remote communication capabilities to detect potential overflow conditions during the test. Consultant will oversee survey of the latitude, longitude, and elevation of the stilling well to facilitate comparison between water levels in the infiltration basin and monitoring well during the pilot infiltration test.

Consultant will download data from transducers immediately before the start of the test and review data and conduct shakedown testing of the remote monitoring system before the start of the test.

Assumptions:

- The infiltration basin will be excavated in three (3) days.
- The anticipated location of the infiltration basin will not require relocation due to utilities or obstructions.
- Excavation of the infiltration basin shall be completed by the CM/GC through an early work amendment (EWA).

102.5.5. 28-Day Infiltration Basin Pilot Test. The infiltration pilot test is planned to consist of discharging potable water from the nearest Mill City fire hydrant into the test basin for a minimum of fourteen (14) days and a maximum of twenty-eight (28) days, as required, at a rate of about 100 gallons per minute (gpm). Consultant will oversee installation of totalizing flow meters, shut off valves, hose ramps, and hosing by CM/GC to convey water

from the fire hydrant to the rip-rap area at the infiltration basin. Consultant will measure flow with totalizing flow meters at the hydrant and at the entrance to the basin and measure groundwater levels and surface water levels using pressure transducers and hourly to daily manual measurements (depending on the phase of the test).

Prior to the test, Consultant will measure baseline groundwater elevations and reprogram the pressure transducers in monitoring wells GM1-MW1, GM1-MW2, GM1-MW3, and GM1-MW4 to record aquifer response during the pilot infiltration test.

Consultant will oversee the first twelve (12) hours of the test to observe water level trends and refine the flow rate. For the remainder of the first week, Consultant will conduct a daily field visit to measure the water level in the pilot infiltration basin, the temporary piezometer, and at groundwater monitoring wells GM1-MW1, GM1-MW2, GM1-MW3, and GM1-MW4. Transducer data will be downloaded and reviewed.

For each additional week of testing, Consultant will visit the infiltration basin site three (3) times per week and measure groundwater elevations in monitoring wells GM1-MW-1, GM1-MW2, GM1-MW3, and GM1-MW4, and download and review transducer data. Consultant will recommend duration of test that will allow understanding of the mounding that will occur. Based on mounding simulations, extending the test past fourteen (14) days (Week 2) may be necessary if aquifer permeability is lower than expected. Extending the test will incur additional fees for water use from the City of Mill City, and regular check-ins to manually measure water levels. Consultant estimates that the maximum time the test will need to run is 28 days.

Consultant will check transducer condition (battery and memory) during each site visit and maintain transducers as needed. Consultant will evaluate data and assessment of aquifer response based on the data that are collected on a daily basis.

At the conclusion of the test, Consultant will allow transducers to continue running for two weeks to monitor, assess data, and evaluate recession of the groundwater mound. Consultant will visit the site two weeks after conclusion of the test and conduct a transducer download. Consultant will support the CM/GC who will oversee backfilling of the infiltration basin with the excavated soils, and the temporary piezometer and stilling well will be removed.

Assumptions:

- Mill City water costs will be included in the CM/GC EWA scope of work and will not exceed $17,085 during Weeks 1 and 2 (Days 1 to 14) of the test and will not exceed $8,500 per week for Weeks 3 and 4 (Days 15 to 28).
- Consultant will conduct site visits three (3) times per week during Weeks 3 and 4 for a total of six (6) visits.
- Consultant will be responsible for obtaining permits required for Infiltration Basin Pilot Testing. Applicable permit fees will be paid by Owner.
- CM/GC will be responsible for coordination with the City, permits, backflow prevention, meters, and other City requirements for using the fire hydrant.

- There will be no constraints on getting meters or approvals for the potable water from the City of Mill City.
- CM/GC will be responsible for turning water on at fire hydrant and monitoring its flow for the duration of the infiltration basin pilot test.

102.5.6. Analysis and Reporting. Consultant will use data collected during the pilot test to calibrate the MOUNDSOLV model to the observed mounding. Specifically, model input parameters will be adjusted to achieve a better match between predicted and observed mounding during infiltration. After the MOUNDSOLV model has been calibrated to the pilot test, the calibrated model will be run under conditions representing the planned infiltration basins design and 2045 effluent generation rate.

Consultant will evaluate implications of the testing results on the recently-issued DEQ guidance for implementation of the U.S. Supreme Court's Maui Decision.
The pilot test methods, results, and MOUNDSOLV simulations will be documented in a technical memorandum. The technical memorandum will include plots of water level versus time in the monitoring wells and stilling well, a detailed narrative of the testing procedure, a figure showing well and infiltration basin locations, comparison of the results to previous work at the site, professionally-drafted boring logs summarizing the soil types that were encountered during test pit and monitoring well drilling, and a groundwater elevation contour map at various times during the infiltration test showing horizontal hydraulic gradient and groundwater flow direction.

Assumptions:

- Technical memorandum comments can be incorporated over a single review cycle.
- The Department of Environmental Quality (DEQ) will not provide comments on the technical memorandum.

Deliverables:

- Draft technical memorandum for review by the Project Team.
- Final technical memorandum that incorporates Project Team comments.

102.5.7 Tracer Test Planning. Consultant will conduct a tracer test to: (1) estimate groundwater travel time between the infiltration basins at Site GM1 and the Santiam River and (2) estimate solute attenuation by dispersion. The objective of this task is to develop a scope of work, schedule, and cost estimate for the tracer test.

Consultant will complete the following as part of this task:

- Conduct three (3) meetings with Project Team, including legal counsel, to confirm tracer test objectives and provide input.
- Evaluate options for tracers and develop a recommendation for a tracer. This task will include a review of tracer tests conducted by the U.S. Geological Survey in Maui.
- Determine construction and locations for downgradient monitoring wells to monitor tracer concentrations and determine the number of wells.

- Develop a list of needs for conducting the tracer test (e.g., water, equipment, staging, power) and develop a schedule for conducting the test. Develop schematic diagrams for the tracer injection system.
- Develop a cost estimate for implementing the tracer test.
- Reporting.

Assumptions:

- Technical memorandum comments can be incorporated over a single review cycle.
- The Department of Environmental Quality (DEQ) will not provide comments on the technical memorandum.
- Meetings with Project Team will be virtual.

Deliverables:

- Draft technical memorandum summarizing the scope of work, schedule, and cost estimate for conducting a tracer test.
- Final technical memorandum that incorporates Project Team comments.

102.5.8 Mill City and Gates MWTF - Monitoring Well Construction. Up to 7 (seven) new monitoring wells will be constructed at the site of the Mill City and Gates MWTF. These new monitoring wells, along with three (3) existing monitoring wells, will be part of a monitoring well network designed to 1) monitor groundwater quality at the MWTF for compliance with a permit issued by the DEQ, and 2) monitor aquifer response (i.e., groundwater mounding) from infiltration facility operation.

102.5.8.1 Project Management. Includes project administration and management activities necessary to communicate progress to the project team, assist in team planning and preparation, coordinate with the subcontractor, manage budget, and schedule, and invoices.

Assumptions:

- Field work will occur in fall 2026.
- Project duration is six (6) months (including groundwater monitoring)
- Site visit fees and direct expenses associated with Task 102.5.8 are included in Task 102.5.9.

102.5.8.2 Field Work Planning.

- Health and Safety Plan. Develop a Health and Safety Plan (HASP) in general accordance with Occupational Health and Safety (OSHA) standards to cover Consultant staff during field work.
- Work Plan. Develop a work plan to guide field work activities (monitoring well construction and development).
- Utility Locating. Mobilize to oversee a clearing of locations by a utility locating contractor.

Assumptions:

- Work Plan will be reviewed by Project Team and will be finalized over a single review cycle.
- The HASP is an internal document that will not be subject to a team review cycle.
- Monitoring well locations will be staked by others prior to utility locating.

Deliverables:

- Draft Monitoring Well Construction Work Plan
- Final Monitoring Well Construction Work Plan

102.5.8.3 Monitoring Well Drilling, Construction, and Development:

- Consultant will coordinate construction of up to seven (7) groundwater monitoring wells at select locations using sonic drilling techniques. Monitoring wells will be constructed of 2-inch diameter Schedule 40 PVC and will be finished as an above-ground completion with three bollards. Monitoring wells will include a 10-foot slotted PVC screen which will be centered at approximately the seasonal low groundwater level and will be drilled to at most 35 feet below ground surface (bgs). During drilling, a Consultant geologist will continuously log soils in general accordance with the USCS visual-manual method.
- Monitoring Well Development. Monitoring wells will be developed by Consultant using a pump with a surge block in general accordance with EPA standards.
- Monitoring Well Instrumentation. After well construction, Consultant will instrument monitoring wells with non-vented pressure transducers. A baro-logger will be installed at the site to correct for barometric effects.
- Surveying. Surveyor to conduct a survey of monitoring well elevations and measure groundwater elevations. Wells will be surveyed into State Plane, Oregon North Zone 3601 NAD83 horizontal coordinates and NAVD88 vertical coordinates by an Oregon-licensed surveyor.

Assumptions:

- A total of up to seven (7) monitoring wells will be constructed; monitoring wells will be no deeper than 35 feet.
- Monitoring well locations will be accessible by tracked sonic drill rig.
- Monitoring well locations will be staked by CM/GC.
- Drill cuttings can be spread on the ground (i.e., do not need to be containerized and hauled offsite).
- No new pressure transducers need to be purchased; Consultant will utilize pressure transducers previously purchased by Owner.
- No concrete cutting or drilling through concrete will be required.
- Above-ground well completions will meet Oregon Administrative Rules.

102.5.8.4 Baseline Groundwater Level Monitoring

- Consultant is currently monitoring groundwater levels at three existing monitoring wells located at the MWTF. Consultant will collect groundwater elevations and download water level data from the transducers at the newly-installed monitoring wells and include them in the appropriate water level monitoring report.

Assumptions:

- The site and all wells are accessible.
- Groundwater data will be provided as part of the water level monitoring report.
- Groundwater levels will be monitored in July, September, and December 2026.

102.5.8.5 Data Analysis and Reporting

- Consultant shall prepare a technical report summarizing field work including monitoring well construction and development.
- Monitoring Well Construction Report will document field work and tabulate and interpret baseline groundwater level data.

Assumptions:

- Draft Monitoring Well Construction Report will be reviewed by Project Team and will be finalized over a single review cycle.

Deliverables:

- Draft Monitoring Well Construction Report
- Final Monitoring Well Construction Report

~~Tracer Test (Contingency Task). Consultant will conduct a tracer test at proposed infiltration basin at Site GM1 in Mill City, Oregon. The proposed tracer study is intended to support ongoing evaluation and analysis for infiltration of advanced treated wastewater from the communities of Mill City and Gates.~~

~~*Assumptions:*~~

- ~~The number of meetings and site visits anticipated are provided in the tasks below. If these meetings and technical consultations result in work-scope modifications, such modifications are not included or budgeted within this scope.~~
- ~~Access to the subject property and negotiations with the property owner and/or tenants will be arranged by the Consultant and all fieldwork (except for the seven (7) day tracer introduction period) can be conducted during normal business hours.~~
- ~~Unimpeded access to the work locations will be available, including no conflicts with overhead power or underground utilities.~~
- ~~Consultant assumes field activities can be accomplished within the number of days outlined for each task. This includes mobilization and fieldwork. Consultant will attempt to schedule field work to avoid significant weather events where possible. However, if weather impacts~~

projected mobilization costs or the overall project schedule, this may result in additional fees. Project Team will be kept informed if there are unanticipated weather delays.

- Owner will provide information which they have available regarding the presence of underground utilities within the study area. A public utility locate notification will be conducted, and Consultant will contract a private utility locator to identify and avoid subsurface utilities at the proposed excavation location. Consultant will not be responsible for damage to subsurface utilities not identified prior to initiating work.
- Ground-disturbing activities will not impact protected natural and cultural resources such as wetlands and waterways, critical habitat, archeological sites, and historic properties and structures. Required local, state, and federal environmental permits and clearances will be provided under other sections of this Contract.
- All fieldwork can be performed using standard personal protective equipment and procedures (Level D).
- Deliverables will require only one (1) review cycle, and the scope of work outlined in the tasks below will be utilized for the development of the workplan. If significant changes are made to the scope, this may impact costs. Following issuance of the final technical memorandum, if information is subsequently provided to Consultant that warrants revisions or amendments, the additional work will be charged on a time and materials basis.
- Consultant's work product is intended for use by Owner and is not intended for reliance by third parties unless otherwise specified in this scope of work. If requested by the Owner, a reliance letter will be reviewed and considered by Consultant. Completion of a reliance letter may be subject to an additional fee.

102.5.8.1 Project Management and Pre-Field Work Preparation.

Consultant Responsibilities:

- Develop a work plan for the tracer study that outlines the methods for excavating a tracer solution introduction basin, preparation and introduction of the tracer solution (including diagrams), instrumentation and methodology for monitoring the tracer study, analytical methods, and project schedule.
- Develop a Health and Safety Plan (HASP) to cover the fieldwork.
- Oversee a utility locating contractor to clear excavation locations of subsurface utilities and mark excavation limits.
- Hold three (3) one-hour, virtual meetings during the project to coordinate with Project Team.
- Coordinate field schedule with subcontractors and equipment suppliers, and coordinate with the Mill City to obtain water for the field work.
- Provide periodic email updates to the project team on the status of the tracer study.
- Review and compile data from previous field investigations at the site and refine the tracer monitoring program as needed.

Assumptions:

- Work Plan comments can be incorporated over a single review cycle.

Deliverables:

- Draft Work Plan for review by the Project Team.
- Final Work Plan that incorporates Project Team comments.

102.5.8.2 Basin Construction, Instrumentation, and Tracer Introduction. This task will involve construction of a tracer introduction basin, deploying monitoring instrumentation, and controlled introduction of the tracer solution into the basin.

Consultant Responsibilities:

- Confirm selection of the tracer and solution strength to be used in the tracer study through review of published studies and evaluation of onsite geochemical data. Preliminarily, chloride (in the form of sodium chloride) has been identified as an appropriate tracer with a target concentration of 70 milligrams per liter (mg/L).
- Procure a subcontractor to assist with construction of the tracer introduction basin and mobilization of equipment to the site to conduct the tracer study. Anticipated equipment will include five, 20,000-gallon capacity water storage and tracer mixing tanks, piping and valving, tracer solution and mixing equipment, flow regulation and other necessary equipment.
- Oversee utility locates prior to basin construction.
- Oversee excavation of a 50-foot by 50-foot tracer introduction basin to a depth of 2 foot below ground surface. An energy diffusion system (rip-rap) will be placed at the location where tracer solution discharges to the basin to reduce turbidity during the tracer introduction period.
- Install a temporary stilling well and staff gauge in the basin and equip the stilling well with a Solinst Levelogger 5 Model M10 pressure transducer and datalogger to monitor the surface water level during introduction of the tracer solution. Barometric pressure will be monitored with a Solinst Barologger 5.
- Procure and install InSitu Aquatroll Model 600 down-hole water quality sondes capable of providing continuous measurement of water level and chloride (and/or total dissolved solids [TDS]) in up to six (6) monitoring wells and one surface water location (Santiam River). The instruments will be programmed to record water level and tracer-related parameters to assess solute breakthrough over time.
- Conduct shakedown testing of the tracer introduction equipment and monitoring systems before the start of the test.
- Download data from transducers and water quality sondes immediately before the start of the test and review data to assess background conditions.
- Execute the introduction of the tracer solution into the basin. The tracer solution will be introduced into the basin continuously (24 hours per day) for seven (7) consecutive days. Coordinate full-time oversight by the subcontractor to maintain tracer solution mixing and full-time monitoring during the tracer introduction period. Consultant will conduct daily site visits during the tracer introduction period, and provide frequent updates to the Project Team. The concentration of tracer in discharge from the mixing tanks will be monitored continuously with an InSitu Aquatroll 600 sonde.
- Demobilize equipment associated with the tracer solution introduction and backfill/restore the tracer introduction basin.

Assumptions:

- The tracer introduction basin will be excavated in two (2) days and excavated material can be stockpiled onsite for later use as backfill of the basin.
- The anticipated location of the infiltration basin will not require relocation due to utilities or obstructions.
- Water required for the preparation of the tracer solution can be obtained from a nearby fire hydrant, and the cost of water required to support the testing will not exceed $700.
- There will be no constraints on getting meters or approvals for the potable water from the City of Mill City.
- Infiltration rates in the tracer introduction basin will support delivery of the tracer solution at approximately 12 gallons per minute (gpm) continuously over a seven (7) day period.

102.5.8.3 Tracer Monitoring.

Consultant Responsibilities:

- For the first four (4) weeks following the tracer introduction period, conduct weekly site visits to download data from the down-hole sonde instruments. The relatively high frequency of initial site visits is intended to confirm that the monitoring instrumentation is working as designed.
- Following the first month, conduct monthly site visits to download data from the down-hole instruments. During each visit, check instrument condition including battery and memory, and maintain monitoring equipment as needed. Following each data collection event, update summaries of tabulated data and provide data updates to the Project team. Based on the preliminary understanding of groundwater flow velocities, we anticipate up to fifteen (15) monthly visits may be required to capture the breakthrough characteristics of the tracer solution as it migrates through the shallow aquifer towards the Santiam River.
- Following completion of the monitoring period, remove instrumentation from the array of monitoring points.

Assumptions:

- Based on observations during the tracer study, Consultant may recommend extending the study to better understand the nature of solute movement and attenuation at the site. Extending the study will incur additional Consultant labor for periodic site visits (for downloading data).
- The direction of groundwater flow from the tracer introduction basin and the Santiam River is northwesterly, and the array of existing/available monitoring wells are adequately located to characterize solute migration (i.e., the installation of additional monitoring wells is not required to support the tracer study).
- Consultant will conduct daily site visits during the seven (7) day tracer injection period.

- ~~Consultant will conduct site visits once per week during the first four (4) weeks following introduction of the tracer solution.~~
- ~~Consultant will conduct site visits once per month for up to fifteen (15) months following introduction of the tracer solution.~~
- ~~Project meetings for the purpose of tracer study updates will be virtual.~~

~~102.5.8.4 Analysis and Reporting Consultant will prepare a technical memorandum documenting the data collected and analysis completed as part of the tracer study.~~

~~*Consultant Responsibilities:*~~

- ~~A description of the methods and equipment used to introduce the tracer solution, and a discussion of the total mass and concentration of solute introduced.~~
- ~~Tabulated data, figures, and plots illustrating the measured solute concentration over time in the array of monitoring points used to support the study.~~
- ~~A discussion of the analytical methods used to evaluate the fate and transport of the tracer solution, and associated attenuation parameters and aquifer parameters.~~
- ~~Estimates of bulk-scale and pore-scale groundwater flow velocities and dispersivity coefficients based on the data analysis.~~
- ~~A discussion of the tracer study results in the context of anticipated attenuation of wastewater-related constituents for a full-scale rapid infiltration basin (RIB) at the expanded wastewater facility.~~

~~*Assumptions:*~~

- ~~Memorandum comments can be incorporated over a single review cycle.~~
- ~~The Oregon Department of Environmental Quality will not provide comments on the technical memorandum.~~

~~*Deliverables:*~~

- ~~Draft technical memorandum for review by the Project Team.~~
- ~~Final technical memorandum that incorporates Project team comments.~~

102.5.9 Mill City and Gates MWTF - <u>Monitoring Well Construction</u> ~~Tracer Study~~ Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with the monitoring well construction ~~Tracer Study~~, including:
    - Driller
    - Surveyor
    - Pump and equipment rental
    - Utility locator
    - Mileage and travel expenses
    - ~~Tracer study equipment and instrumentation~~
    - ~~Utility locates~~
    - ~~Excavator~~
    - ~~Water charges~~
    - ~~Travel expenses~~

102.5.10 Groundwater Monitoring Plan. Schedule D, Condition 10 of the National Pollutant Discharge Elimination System (NPDES) permit for the Mill City and Gates MWTF, requires that a Groundwater Monitoring Plan be prepared prior to facility operation. The plan must meet requirements in Oregon Administrative Rules (OAR) 340-040-0030 and be prepared by an Oregon-registered geologist. Consultant shall prepare the Groundwater Monitoring Plan as follows:

- Provide a brief overview of the OAR and permits that guide the content of the Groundwater Monitoring Plan.
- Develop figures and a text narrative describing the infiltration facility and monitoring well locations.
- Develop an overview of the geology and hydrogeology of the site, including geologic units that are present, geologic unit thicknesses, groundwater flow directions, seasonal variations in groundwater flow directions, hydraulic gradients, and aquifer properties, including compilation of existing geologic cross sections and groundwater elevation contour maps.
- Prepare a discussion of the groundwater monitoring well network at the facility, including well locations, well construction, techniques that were used to install and develop the wells, and procedures for well decommissioning/abandonment (if needed).
- Develop a sampling and analysis program that describes record keeping and chain-of-custody (COC) procedures, regular well condition assessment, field instrument calibration, groundwater sampling procedures, sample naming convention, equipment decontamination procedures, sample packing and shipping procedures, analytes that will be sampled, the sampling schedule, analytical methods, and quality assurance procedures (field and lab).
- Develop text about reporting procedures and data analysis.
- Prepare a draft Groundwater Monitoring Plan for review by Project Team.
- Submit the draft Groundwater Monitoring Plan to DEQ and finalize the Groundwater Monitoring Plan based on DEQ comments.

Assumptions:

- Draft Groundwater Management Plan will be reviewed by Project Team and will be finalized over a single review cycle.
- A total of eight (8) hours of a Consultant hydrogeologist's time is assumed for incorporation of DEQ comments.
- High level overview of Mill City and Gates MWTF rapid infiltration design will be developed and provided by Consultant and adapted to the Groundwater Monitoring Plan.

Deliverables:

- Draft Groundwater Monitoring Plan for Project Team review.
- Draft Groundwater Monitoring Plan for DEQ review.
- Final Groundwater Monitoring Plan

Task 102.6 – Response to DEQ Modeling Report Comments

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant shall address the comments from DEQ dated January 16, 2024, made in response to Consultant's technical memorandum titled "Evaluation of the Environmental Fate of Residual Pollutants from an Advance Treated Wastewater Infiltration System, Mill City, Oregon," in accordance with the Consultant's response letter dated February 26, 2024.

Consultant Responsibilities:

102.6.1 Project Management. Prepare for and attend bi-weekly meetings, starting April 2024 and through December 2024. Prepare monthly invoices from April 2024 through December 2024. As needed client communications, staff, subcontractor, and project management. Prepare for and attend two onsite meetings in Mill City, Oregon.

Deliverables:

- Monthly invoices with a cover letter summarizing completed activities.

102.6.2 The Technical memorandum dated November 16, 2023 documents fate and transport simulations for toluene, di(2-ethylhexyl) phthalate (DEHP), and nitrate. The simulations were based on a modeling code (BIOSCREEN) that does not account for background concentrations of pollutants in the aquifer. Therefore, while the BIOSCREEN modeling simulations are accurate for toluene and DEHP (which are not present in background groundwater), the simulations only approximate nitrate concentrations [because nitrate is present at a background concentration of about 1 milligram per liter (mg/L)]. The County would like to conduct additional nitrate attenuation simulations using a modeling code that can account for background nitrate in groundwater and therefore more accurately simulate nitrate attenuation. In addition to using a different modeling code to simulate nitrate attenuation, this task addresses Comment 1 in DEQ's January 16, 2024 email:

"1. *Sensitivity analysis – DEQ would like to see a sensitivity analysis of the hydrogeological modelling between the proposed rapid infiltration basins and the river. For example, what if the highest or lowest measured hydraulic conductivity is more representative than the average? What if the volumes of effluent were half or double, or the nitrate concentration in the effluent is different (e.g., 10 mg/L or 20 mg/L, etc.)?"*

This task involves: (a) conducting additional nitrate fate and transport simulations using the U.S. Geological Survey (USGS) modeling code MODFLOW, (b) performing sensitivity analyses on the MODFLOW nitrate simulations as requested by DEQ, and (c) performing sensitivity analyses on the previous BIOSCREEN simulations for toluene and DEHP as requested by DEQ. This task will consist of the following activities:

102.6.2.1 Consultant will construct a numerical groundwater flow model using MODFLOW, including model grid and layers, assigning model input parameters, model boundary conditions (river, recharge, etc.) determining initial groundwater elevations, and calibration of the model to observed groundwater elevations. Modify the model to simulate the fate and transport of nitrate in groundwater and calculate nitrate concentrations in groundwater at: (a) the downgradient property boundary and (b) the Santiam River. Conduct sensitivity analyses on hydraulic conductivity, volume of recharge, and concentration.

102.6.2.2 Consultant will conduct a sensitivity analysis on the BIOSCREEN simulations of toluene and DEHP date and transport, including varying the values of hydraulic conductivity, the volumes of effluent, and the concentration of nitrate.

102.6.2.3 Consultant will develop a report documenting the modeling simulations for review and comment by DEQ.

Assumptions:

- Up to twenty-four (24) hours are assumed to address comments from DEQ on the modeling. Additional time required to respond to DEQ will be addressed under a separate amendment.
- The report can be finalized based on a single review cycle from the Owner.

Deliverables:

- Draft modeling report with Project Team comments incorporated for review by Owner.
- Final modeling report with Owner's comments incorporated for review by DEQ.

102.6.3 Beneficial Groundwater Use Elevation. This task addresses Comment 3 in DEQ's January 16, 2024 email:

"3. Investigate beneficial uses downgradient and near the proposed treatment system location. Will the rapid infiltration basin impact water quality in the nearby drinking water wells? Will pumping of nearby wells impact the flow of treated wastewater?"

Consultant will conduct the beneficial water use determination in accordance with DEQ's 1998 guidance document "Guidance for conducting Beneficial Water Use Determinations (BWUDs) at Environmental Cleanup Sites." This task is comprised of the following activities:

102.6.3.1 Assess the "Locality of the Facility" for the groundwater use survey of the BWUD based on the nitrate contaminant fate and transport modeling and hydrogeologic investigation at the site.

102.6.3.2 Evaluate if pumping of nearby wells will impact the flow of treated wastewater after collecting additional data about the types of wells that are present near the infiltration facility.

102.6.3.3 Summarize the hydrogeologic setting of the site, including:

a. Summarize regional geology and hydrogeology, including, if available, background water quality; recharge and discharge mechanisms; available water yield; aquifers and aquitards; and aquifer properties (transmissivity, leakage, storativity, groundwater gradient, groundwater flow direction, and characteristics of surface water bodies).
b. Summarize local geology and hydrogeology, including background water quality; water availability; flow direction; gradient; aquifers and aquitards; and connectivity of the aquifer to surface water.
c. Construct a geologic cross section along the groundwater flowpath showing geology based on monitoring wells and test pits at site GM1.

102.6.3.4 Evaluate the current and reasonable likely future beneficial water uses in the locality of the facility, including:

a. Evaluate existing groundwater uses with a groundwater use survey within the locality of the facility consisting of a door-to-door survey, identification of properties without connection to City water, identification of properties that are suspected to have unregistered water wells, a search of Oregon Water Resources Department water well databases.
b. Complete a surface water use survey for recreational uses of surface water based on conversations with the Oregon Department of Fish and Wildlife and the City of Mill City.
c. Evaluate reasonably likely future beneficial groundwater uses based on land use; current and historic water use (e.g., public connection); trends in water use, water rights considerations and water supply availability; federal and state regulations, and population projections.
d. Develop a report summarizing the Beneficial Water Use Determination (BWUD) for submittal to DEQ.

Assumptions:

- Project team will utilize services of right-of-way agent to conduct the door-knocking survey within the locality of the facility and will provide Consultant with a spreadsheet summarizing the results of the property contacts.
- The City of Mill City will provide information about whether properties within the locality of the facility are connected to City water, and whether there are any properties suspected of having unregistered supply wells.
- DEQ comments on the BWUD report will be addressed under a separate amendment.

Deliverables:

- Draft BWUD report with Project Team Project Team comments incorporated for review by Owner.
- Final BWUD report with Owner's comments incorporated for review by DEQ.

102.6.4 Seasonal Water Level and Nitrate Data Collection. This task addresses Comment 5 in DEQ's January 16, 2024 email:

"5. Continue to collect seasonal water level and nitrate data to better understand the seasonal variability in background groundwater."

This task is comprised of the following activities:

102.6.4.1 Conduct quarterly site visits for a year (from March 2024 through March 2025) to site GM1 to download transducer data from the five (5) site monitoring wells and one (1) barologger.

102.6.4.2 Manage data, develop data tables, update plots, develop groundwater elevation contour maps for each quarter.

102.6.4.3 Develop a brief technical memorandum with water level plots and groundwater elevation contours.

Assumptions:

- The brief technical memorandum will not undergo a review cycle.
- Analytical costs for nitrate are included in the fee for Task 102.6.5.

Deliverables:

- Brief technical memorandum with water level plots and groundwater elevation contours.

102.6.5 Modeling of BOD, pH, TSS, and TDS. This task addresses Comment 4 in DEQ's January 16, 2024 email:

"4. Is it possible to extend the modelling to include Biological Oxygen Demand and pH? What are the likely BOD, pH, TSS, and TDS coming out of the treatment system. Please model what the chemical concentrations will be near the river."

This task is a geochemical characterization program and geochemical modeling evaluation that will be implemented by a sub-consulting firm that specializes in geochemistry. The objective of the evaluation is to distinguish between wastewater quality at the point of discharge and along the groundwater flowpath at: (a) the property boundary and (b) the Santiam River. This task is comprised of the following activities:

102.6.5.1 Manage the project and attend meetings.

102.6.5.2 Review existing project documentation and available groundwater, geological, and wastewater quality datasets.

102.6.5.3 Evaluate soil quality based on the soil samples collected in March 2024 from the monitoring well GM1-MW4 boring. The samples will be analyzed for mineralogy, sequential extraction procedure (SEP), cation exchange capacity (CEC), total metals, and acid base accounting (ABA).

102.6.5.4 Develop an initial geochemical conceptual site model that includes the geochemical factors influencing transformation or dilution of pH, Biological Chemical Demand (BOD), total solids (TS), and total suspended solids (TSS) in treated water. Based on the geochemical conceptual site model, develop a detailed plan for further modeling activities and present it to the Project Team for review and comment.

102.6.5.5 Conduct modeling to evaluate changes in water quality and the geochemical reactions that are expected to occur as groundwater moves from the infiltration area to the property boundary and the discharge point near the Santiam River.

102.6.5.6 Prepare a technical memorandum summarizing a final geochemical conceptual site model and the results of the modeling.

Assumptions:

- The projected treated wastewater composition will be used for the geochemical models. If there are gaps in the projected wastewater composition, then raw wastewater data from Mill City's existing treatment system will be used.
- The Project Team can agree on the detailed plan for further modeling during a meeting, as opposed to a part of a formal review period that occurs outside of the meeting.
- A GIS layer showing the layout of the infiltration basins and future property boundaries will be provided to Consultant.
- A total of ten (10) soil samples and two (2) groundwater samples will be analyzed.

Deliverables:

- Draft modeling report with Project Team comments incorporated for review by Owner.
- Final modeling report with Owner's comments incorporated for review by DEQ.

102.6.6 Compliance Well Locations and Functional Equivalent Form. This task addresses Comments 6 and 7 in DEQ's January 16, 2024 email:

"6. Propose appropriate well location(s) for future compliance sampling. These locations also need to confirm directional flow of groundwater. What concentrations of nitrate (and possibly other parameters) at these locations would indicate a problem (above drinking water maximum contaminant levels [MCL] or above background)."

"7. Complete the functional equivalent form we sent you."

102.6.6.1 Work with the City and County to identify public property where monitoring well(s) could be installed and propose a well location and construction to the Project Team by email.

102.6.6.2 Complete the functional equivalent form based on information collected during earlier phases of the site GM1 investigation.

Assumptions:

- The functional equivalent form will be completed by the Project Team based on information provided by the Consultant.

102.6.7 Respond to DEQ Comments. Consultant will address initial DEQ comments on the following technical memoranda:

- Beneficial Water Use Determination
- BIOSCREEN Model
- Nitrate Model
- Geochemical Model
- Miscellaneous DEQ Comments

Assumptions:

- This budget assumes that no more than eight (8) hours of Principal Hydrogeologist time, sixteen (16) hours of Project Hydrogeologist time, and sixteen (16) hours of Staff Hydrogeologist time will be required to address each Technical Memorandum (up to five Technical Memoranda). Because Consultant has not received comments from DEQ, this budget is an estimate of the level of effort that will be needed to address comments. An amendment to this task may be required if DEQ comments warrant additional time or level of effort to address.

Task 102.7 – Additional Services

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

102.7.1 Per- and polyfluoroalkyl substances (PFAS) Sampling. Consultant will assess background concentrations of PFAS in groundwater, surface water and untreated wastewater in association with a rapid infiltration basin (RIB) pilot study at study area GM1 in Mill City, Oregon.

102.7.1.1 Raw Wastewater Sample Collection and Analysis. Consultant will collect one sample of raw (untreated) wastewater from the WPCF located adjacent to the GM1 Site, with the following specific activities:

- Correspond with Mill City staff for coordination and access to the existing WPCF.
- Collect one (1) raw (untreated) composite sample of wastewater influent from the existing WPCF, at the designated manhole location. An average or generally representative wastewater sample will be collected directly into laboratory-supplied containers in accordance with laboratory requirements and analyzed for PFAS using EPA Method 1633.

102.7.1.2 Surface Water Sample Collection and Analysis. Collect two (2) surface water samples from the North Santiam River to support the background PFAS assessment, with the following specific activities:

- Correspond with Mill City staff to coordinate access for the collection of surface water samples at upstream and downstream locations relative to the existing and proposed WPCF.
- Collect two surface water samples from the North Santiam River located upstream and downstream of the current WPCF drain field. These locations are also intended to reflect upstream and downstream locations relative to anticipated groundwater discharge from the proposed future RIB location, which is located relatively further from the river.
- Collect samples directly into laboratory-supplied containers in accordance with laboratory requirements. During sample collection, Consultant will measure and record field parameters at the sampling locations including temperature, pH, specific conductivity, turbidity and ORP using a calibrated field meter. During the sampling event, Consultant will employ equipment and additional measures to prevent cross-contamination of samples in general accordance with standard industry operating procedures.
- Submit the surface water samples for analysis of PFAS using EPA Method 1633.
- Obtain GPS coordinates of each surface water sampling location.

102.7.1.3 Groundwater Sample Collection and Analysis. Collect groundwater samples for PFAS evaluation using selected monitoring wells located (1) around the existing WPCF (Kimmel Park area), and (2) at a recently installed monitoring wells adjacent to the GM1 Site. Specifically, the monitoring wells to be sampled include:

- GM1-MW2 (monitoring well at the GM1 Site).
- GM1-MW3 (monitoring well at the GM1 Site).
- MW-2 (existing monitoring well at the current WPCF).
- MW-3s (existing installed monitoring well at the current WPCF).
- MW-4 (existing installed monitoring well at the current WPCF).

Consultant will perform the following activities for this task:

- Correspond with Mill City staff to coordinate access to the monitoring wells.
- Collect one groundwater sample from each of the five (5) monitoring wells. Consultant will conduct groundwater monitoring and sampling activities in accordance with industry standard operating procedures.
- Submit the surface water samples for analysis of PFAS using EPA Method 1633.

Deliverables:

- Documentation: Document the collection procedures and analytical results of wastewater, surface water and groundwater sampling in a technical memorandum that will be submitted to the project team. The technical memorandum will include a description of sampling activities, chemical analytical results, sampling locations, tabulated chemical analytical data, and other supporting documentation.

Assumptions:

- Laboratory fees for PFAS Sampling are included in Task 102.7.2.

102.7.2. PFAS Sampling Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with Task 102.7.1 – PFAS Sampling, including:
  - Laboratory fees for water quality sampling
  - Sampling equipment and instrumentation
  - Shipping
  - Travel expenses

102.7.3. Respond to City of Salem Comments:

102.7.3.1 Prepare written responses to the City of Salem's comments, dated April 18, 2024 (internal only).

102.7.3.2 Attend two (2) in-person meetings to discuss the City of Salem's comments, dated April 18, 2024.

102.7.3.3 Virtually attend bi-weekly meetings with the City of Salem from May 2024 through December 2024 (16 meetings)

102.7.4. Seep Sampling.

102.7.4.1 Collect up to nine (9) samples of spring water from the Santiam River riverbank and analyze them for nitrate, BOD, TSS, TDS, and pH.

Deliverables:

- Seep Sampling Technical Memorandum.
- Prepare brief data report summarizing laboratory results.

102.7.5. Seep Sampling Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with Task 102.7.4 – Seep Sampling, including:
  - Laboratory fees for water quality sampling

103 – LAND ACQUISITION AND RELOCATION SERVICES

Task 103.1 – Project Management and Administration

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

103.1.1 Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

103.1.2 Coordination. Coordinate services to complete the land acquisition and relocation services task.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.

- Provide input and review of all draft and final deliverables.

Assumptions:

- Attendance at project meetings may be virtual.
- Project management budget assumes a task order schedule of up to 36 months.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.

Task 103.2 – Mill City and Gates Land Acquisition and Relocation Services

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Responsible for the oversight of land acquisition and relocation services in Mill City and Gates for the North Santiam Canyon Sewer Project (NSCSP) and the Detroit Downtown Commercial Septic Program as outlined in the tasks below. The subtasks included as part of Task 103.2 are based on the land acquisition and relocation Subconsultant's scope of work. The scope and fee provided are for the acquisition of up to thirty ~~fifteen~~ (30 ~~15~~) files.

Consultant Responsibilities:

RIGHT OF WAY (ROW)
Consultant shall conduct the ROW activities for all properties in accordance with the most current version of the following:

- Right of Way Services Agreement specific to the Project
- "ODOT Right of Way Manual"
- "ODOT Guide to Appraising Real Property"
- "ODOT Right of Way & Rail/Utility Coordination Contractor Services Guide"
- ORS 35, with reference to the "Uniform Appraisal Standards for Federal Land Acquisitions"
- Federal Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Uniform Act), as amended
- All other applicable laws, rules, and regulations

Consultant shall utilize all forms, spreadsheets, brochures, and pamphlets referenced in the "ODOT Right of Way Manual" or as provided by Owner.

103.2.1 Project Management and Landowner Liaison. Consultant shall track status for parcel files to be acquired for the County and provide weekly updates to the Project Team. Consultant shall meet with up to six (6) landowners of parcels identified as potential sites to assist with determining the suitability of the site. Consultant shall document all contacts with landowners in Report of Personal Interview (see Task 103.2.7). Consultant Project Manager will QC all deliverables prior to delivery.

103.2.2 Title Reports and Document Requests. Consultant shall prepare and assemble all title documents, including vesting deeds, necessary to accomplish acquisition of ROW for each impacted property. Consultant shall obtain preliminary title reports for all permanent takes. Consultant shall review preliminary title reports for complete documentation of title vesting and notify Owner and Consultant of any major title encumbrances.

103.2.3 Right of Way Programming Estimate. Consultant shall prepare a ROW programming estimate for use by Owner to program funds for property acquisition. The ROW programming estimate must include dollar amounts for the following items: Land & Improvements; Damages/Cost to Cure; Relocation; Demolition; Personnel & Administration; Legal & Contingencies and totals for all Items. The programming estimate must be submitted to the Owner and Consultant for review.

Consultant shall revise and re-submit programming estimate, incorporating comments received from Owner and Consultant.

103.2.4 Preliminary Activities/Donation Requests. Upon receipt of authorization to proceed with ROW Acquisition, Consultant shall set up ROW parcel files and deliver a General Information Notice ("GIN"), acquisition and relocation brochures, and a copy of the applicable portion of the ROW Acquisition map {marked Preliminary and showing the parcel(s) to be purchased} to all owners and occupant(s) of affected properties. Consultant shall send GIN by certified mail with proof of delivery kept in the parcel file. Mailing and delivery of GIN must be included in the Report of Personal Interview.

Consultant shall prepare and maintain a Report of Personal Interview for each file. The Report of Personal Interview must include proof of delivery of the GIN, date and place of contact, parties of interest contacted, a statement that brochures were delivered and explained, and record of other activities conducted during the Personal Interview.

103.2.5 Appraisal and Appraisal Review. Consultant shall use appraisers who are licensed or certified in the State of Oregon, competent in eminent domain appraising, and on ODOT's Qualified Appraisers List. Consultant shall provide the name(s) of the appraiser(s) to Owner prior to beginning work on this Task.
Appraisals will be full acquisitions. Consultant shall provide one real estate appraisal for each property or properties which constitute the "larger parcel" as described in the ODOT Right of Way Manual from which an interest is to be acquired. If identification of the larger parcel is problematic, Consultant shall resolve the issue in consultation with the Owner and ODOT.

All real estate appraisals provided by Consultant shall be prepared using forms or formats of, or approved by, Owner.

Consultant shall require appraisers to provide no less than fifteen calendar day's written notice to owners of a planned appraisal inspection and shall provide the property owner or designated representative, if any, an invitation to accompany the appraiser on inspection of the property for appraisal purposes. This notice must be done as provided in the ROW manual section, Opportunity to Accompany, and documented in the parcel file; mailing and delivery of 15-Day Notice must be included in the appraiser Report of Personal Interview.

Consultant shall perform independent desk reviews of appraisals. Consultant shall ensure that the same firm does not perform both the appraisals and the appraisal reviews. Consultant shall forward both appraisal and review to Owner for final approval.

Owner will establish just compensation for each property owner and will notify the Consultant.

Consultant shall continue documentation in the Report of Personal Interview for each file. The Report of Personal Interview must include proof of delivery of the written notice of appraisal inspection, date and place of contact, parties of interest contacted, a statement that brochures were delivered and explained, and record of other activities conducted during the appraisal.

103.2.6 Acquisition Services. All ROW must be acquired in the name of Owner. Consultant shall conduct negotiations, on behalf of Owner, in good faith and in compliance with all federal and state laws and regulations. Consultant shall conduct negotiations for acquisition of real property based on Appraisal Review and in accordance with the ODOT ROW Manual and all applicable state and federal laws and regulations.

Consultant is responsible for making the offer subject to clearing title encumbrances identified on the Preliminary Title Report. Fee owners' and contract purchasers' ownership interests must be cleared. When impacted by the taking, lessees' interests must also be cleared.

Consultant shall prepare and present to Owner the draft Offer Packets. The terms of offer for each property must:

- Be made on Owner letterhead, and
- Include Owner contact information

In addition to the terms of offer document specified above, these Offer Packets must include, but are not limited to, acquisition and relocation brochures, offer-benefit letter, acquisition and relocation summary statements, copy of appraisal, map of acquisition, instruments of conveyance, and W-9 form. Each Offer Packet must contain all components necessary to fully compensate the property owner for rights taken and to convey adequate rights to Owner in order to clear the ROW for the Project.

If possible, Consultant shall make offers in person, especially where the acquisition involves either a major impact to the property or the displacement of persons occupying the property. If this is deemed not possible, Consultant shall send via certified mail. Proof of delivery must be documented in the Report of Personal Interview and file.

Consultant shall make every reasonable effort to acquire the ROW expeditiously by negotiation. Consultant shall give property owners reasonable opportunity to consider the offer (statutorily 40 calendar days) and to present material the owner believes is relevant to determining the value of the property. Consultant shall attempt to negotiate an approved administrative settlement, but shall not advance the time of condemnation, or defer negotiations or condemnation or the deposit of funds with the court or take any other coercive action in order to induce an agreement on the price to be paid for the property (49 CFR 24.102(h)).

- IF the OFFER is ACCEPTED, Consultant shall present a Final Report Packet covering the acquisition of ROW to the County for final approval, payment, conveyance of title and recording.
- IF a COUNTER OFFER is received, Consultant shall submit the proposed COUNTER OFFER (exceeding the estimate of just compensation) verbally to the county and if requested a justification letter and owner supplied supporting documentation to the County for approval. If accepted see above.
- If an acceptable agreement is not reached, Consultant shall prepare and submit a Recommendation for Condemnation.

Consultant shall maintain written Report of Personal Interview with property owners and tenants to document all verbal and written communication and events, such as: delivery of required notices, efforts to achieve amicable settlements, owner's suggestions for changes in plans, and responses to owner's counterproposals.

103.2.7 Relocation Services. If authorized, relocations shall take place in a timely manner in accordance with regulatory notification time frames and terms, and are completed following the Uniform Act, State law (ORS 35.500-35.530), the ODOT Right-of-Way Manual. If authorized, Consultant shall assess eligibility for up to one (1) residential relocation.
Consultant shall use the forms, formats and brochures in relocation advisory assistance and the preparation of relocation studies, reports and claims available on ODOT's ROW Guidance webpage (https://www.oregon.gov/ODOT/ROW/Pages/ROW.aspx).

Consultant shall inform Owner as soon as schedule issues are known, if applicable.

It is assumed there are no residential nor non-residential relocations. It is further assumed there is up to one (1) Personal Property Only Relocation.

Consultant shall, at a minimum, conduct the following relocation activities:

- Conduct occupant interviews, provide relocation advisory assistance and determine/present relocation benefits.
- Prepare relocation reports, studies, moving agreements and claims using Owner forms/formats and submit to Owner for review, approval and payment.
- Relocation studies required for presentation of benefits at the time of offer must be preapproved by Owner
- A Moving Agreement, pre-approved by Owner, must be on file prior to submission of relocation claims.
- Support and assist Owner with Relocation Appeals according to the Right-of-Way Manual
- Prepare and independently review for accuracy and compliance, relocation claims using Owner forms/formats, and submit claims to Owner for payment.
- Maintain Report of Personal Interview.

103.2.8 Condemnation Process Assistance (CONTINGENCY). After good faith effort has been made to acquire ROW at Marion County's determination of just compensation, if settlement with the property owner(s) is NOT reached, Consultant shall:

- Provide information and clarification to County in support of mediation and condemnation proceedings and assist property owner with any relocation according to the Consultant Services Guide.

Note: County will initiate condemnation proceedings if necessary.

For budgeting purposes, it is assumed that condemnation process assistance will be necessary on up to one (1) property.

103.2.9 ROW Certification. Consultant shall certify to County on the approved Certification form that:

- County has legal and physical possession of needed ROW.
- Relocation assistance has been completed for all displaced persons and businesses and that all displaced residential occupants have relocated and have been offered decent, safe and sanitary housing.
- All acquisition of ROW and relocation activities have been completed in full compliance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970 as currently amended as well as Oregon state laws, civil rights laws, and other applicable federal and state regulations and policies.

103.2.10 Funds from Task 103.3 Detroit and Idanha Land Acquisition and Relocation Services will be reallocated to Task 103.2 Mill City and Gates Land Acquisition and Relocation Services to support additional work in Mill City and Gates, including:

- Additional project management efforts due to length of acquisition process (three years) and additional support, in-person, and remote meetings during the negotiation process due to multiple revocations of access by the Property Owner.
- Right-of-Way Ownership Investigation. Obtain and review title reports for up to four (4) additional parcels along old Oregon Department of Transportation (ODOT) railroad in Mill City to clarify ownership.
- Beneficial Water Use Determination Survey. Consultant will contact and interview up to thirty-five (35) downgradient and adjacent property owners to identify/document uses of groundwater downstream of the proposed rapid infiltration basins.
- Right-of-Entry (ROE). Prepare and coordinate ROE Agreements for up to six (6) parcels in Mill City and Gates in order to complete environmental due diligence investigation.
- Temporary Construction Easement (TCE). Prepare and coordinate one (1) TCE Agreement to allow construction of temporary stormwater outfall and detention basin on Parcel 09S03E29-00-00200 in Mill City and use of Parcel 09S03E32-00-00100 as a construction staging area in Mill City.
- Support and coordination efforts for tree removal, lot line adjustments, purchase and sale agreement, amendment, delivery and notarization of plats and warranty deed.

Assumptions:

- Appraisal and appraisal review fees are based upon full acquisition, rural residential zoning. Fees may change due to complexity of the parcel details.

Deliverables:

- Provide monthly invoices electronically.
- Provide weekly project updates electronically to include notes on contacts with landowners.
- Provide up to twenty-two ~~fifteen~~ (22 ~~15~~) files Preliminary Title Reports and Title Documents.
- Provide Clearance Documents from Lenders and/or Lessees, as needed.
- Provide one (1) draft Programming Estimate for delivery electronically to Owner,
- Provide up to twenty-two ~~fifteen~~ (22 ~~15~~) files GINs, one (1) hard copy to each property owner and one (1) electronic copy each to Owner within 20 business days following NTP for the ROW acquisition phase.
- Provide proof of receipt for each GIN sent to each property owner and occupant(s) by sending Owner the return receipt card(s) or USPS tracking printout(s), and documenting delivery information in the Report of Personal Interview. If proof of delivery is not received from USPS, verbal confirmation of receipt by the owner/tenant must be documented in the Report of Personal Interview.
- Up to twenty-two ~~fifteen~~ (22 ~~15~~) files appraisal and appraisal review reports, electronically.
- Provide 15-Day Notice of Appraisal Inspection to each property owner within 8 weeks of NTP for the ROW acquisition phase.
- Provide Report of Personal Interview, including date and place of contact, parties of interest contacted, a statement that a 15-Day Notice of Appraisal Inspection was mailed and delivered, and record of other activities conducted during the Appraisal. The report must be submitted at the time of appraisal.
- Provide the following Appraisal and Appraisal Review documentation, as applicable, in electronic format for each file to Owner within 20 weeks of NTP for the ROW acquisition phase:
    - Appraisal report
    - Specialty reports, if necessary, prior to incorporation in appraisal reports.
    - 15 Day Notice of Appraisal inspection sent to each property owner.
- Provide up to twenty-two ~~fifteen~~ (22 ~~15~~) files Draft Offer Packets for review for each file to Owner
- Provide up to twenty-two ~~fifteen~~ (22 ~~15~~) files Final Offer Packets sent certified mail or delivered in person for each file.
- Provide up to twenty-two ~~fifteen~~ (22 ~~15~~) files Final Report Packets for each file for payment, conveyance of title and recording to Owner.
- If applicable, provide proposed counteroffers with justification information for review and approval to Owner.
- If applicable, provide Recommendation for Condemnation to Owner.
- Provide Report of Personal Interview to Owner.
- Submit studies, Move Agreements, and Estimates electronically to Owner for approval
- Submit Relocation claims electronically to Owner for payment
- Submit Relocation Closing Reports to Owner
- Provide Final Offer letter to property owner(s), with a copy to County as stated in the NTP for this contingency task.
- Provide ROW Certification form, one (1) electronic copy (email acceptable) to Owner no later than 12 weeks prior to Project bid date.
- Provide Title Reports for up to four (4) additional parcels along old Oregon Department of Transportation (ODOT) railroad in Mill City.

- Provide completed 'Property Owner Contact Form' from Beneficial Water Use Determination (BWUD) survey interviews.
- Provide up to twelve ~~six~~ (12 ~~6~~) executed ROE Agreements between Owner and various property owners.
- Provide up to one (1) executed TCE Agreement between Owner and Property Owner.

Task 103.3 –[REMOVED]

104 – FINANCIAL ADVISORY SERVICES

Task 104.1 – Project Management and Administration

Consultant Responsibilities:

104.1.1 Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

104.1.2 Coordination. Coordinate services to complete the permitting and subsurface investigations.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide input and review of all draft and final deliverables.

Assumptions:

- Attendance at project meetings may be virtual.
- Project management budget assumes a task order schedule of up to 24 months.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.

Task 104.2 – Financial Advisory Services

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

104.2.1 Advisory Services. Consultant shall provide, upon request, advisory services related to the North Santiam Canyon Sewer Project. This consultation shall be provided on a time and materials basis, and it shall include attendance at meetings, writing of memos or presentations, or communication via phone or email in support of the project decision-making.

104.2.2 Financial Plan. Consultant shall update rate model and monthly cost per EDU for two project phases and build year-by-year model of costs and revenues. Consultant shall prepare presentations and technical memoranda of business case model and year-by-year model results for meetings with project stakeholders.

Owner Responsibilities:

- Provide meeting space for project meetings.

Assumptions:

- Attendance at project meetings may be virtual.

Deliverables:

- Business Case Technical Memorandum
- Business Case Presentation
- Draft and Final Financial Plan

105 – PUBLIC RELATIONS

Task 105.1 – Project Management and Administration

Consultant Responsibilities:

Consultant will assist in improving Owner's communication and outreach to the community, local governments, residents, businesses, and other key stakeholders regarding the Project.

105.1.1 Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

105.1.2 Coordination. Coordinate services to prepare and carry out the Communication and Engagement Plan.

105.1.3 Land Use Planning. Provide review and support of land use applications.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide input and review of all draft and final deliverables.

Assumptions:

- Attendance at internal project meetings may be virtual. Assume participation in meetings approximately three (3) to five (5) times per month, including one (1) standing meeting per month and additional meetings specific to individual project activities. This may include NSSA Board meetings (see Task 105.2)
- Project management budget assumes a public relations campaign of up to 36 months.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.

Task 105.2 – Communications and Engagement Planning and Implementation
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)
Consultant Responsibilities:

105.2.1. Communication and Engagement Plan

The Consultant will develop and carry out a Communication and Engagement Plan to track and monitor communications throughout the Project. This plan covers scheduled written and oral communications, responses to unsolicited requests for information, the frequency of the scheduled communications, and the person(s) responsible for providing the information. The Plan will build on information in this Scope of Work and the North Santiam Sewer Authority (NSSA) Communications Plan prepared by the Mid-Willamette

Valley Council of Governments. It will be updated as needed to adjust to evolving project needs, audiences, messages, communication channels, outreach tools, and direction from the Project Team and NSSA Board.

Services under the Communication and Engagement Plan shall include the following:

a. Frequent content creation for multi-media and traditional print platforms including but not limited to: news releases, digital releases, event boards, photography, video, talking points, speeches, and Frequently Asked Questions.
b. Multi-media platform management for County and NSSA to include timely uploading of announcements to websites and digital media; videos, articles, and photos of project events; other digital media such as live video streams of construction sites.
c. Training for staff and elected officials in verbal and written communication norms specific to the Project needs.
d. Special public outreach projects and other public relations/communications functions as determined by the County.
e. Services and tasks as outlined in Attachment A of the "North Santiam Sewer Canyon project Communication and Engagement Plan" prepared by the Mid-Willamette Valley Council of Governments.
f. Support the County Board of Commissioners and NSSA Board to enhance communication regarding project related topics.
g. Support as directed by the Council of Governments' NSSA project manager outlined in Attachment B of the "North Santiam Sewer Canyon project Communication and Engagement Plan" prepared by the Mid-Willamette Valley Council of Governments.
h. Staffing of digital events such as webinars, and public body presentations on virtual chat applications and social media platforms.
i. Staffing of in-person events such as town halls, open houses, city council presentation, and kick-off meetings.
j. Assistance with staff and elected officials' efforts to communicate with community members.

Assumptions associated with these services are provided in more detail in the following subsections.

105.2.2 Communications Channels. The Consultant will utilize various formal and informal channels to engage with the community and support the Owner in internal and external communications related to the Project including the following.

a. Status Reports. A variety of status reports will be produced during the project. The status reports will be produced at regular intervals to provide stakeholders with project information on the status and progress of the Project. At a minimum the reports will contain project status on major activities, project schedule, simplified budget and cost tracking, status of action items, if applicable, and a one-month lookahead. The intent of the status reports is to inform stakeholders of the project's progress and keep them actively involved in the project. The information provided will contain enough detail to allow stakeholders to make informed decisions relevant to their role in the Project.
b. External Communication. In addition to the ongoing communications program of the district, the Project will produce information, signage, content for digital and social platforms, webcams on the construction sites, events, and reports to the external

stakeholders. The look and feel of these publications will be designed to match the informational materials produced by the NSSA.

c. News and Print Media. Consultant will assist the Owner in reaching out to media outlets to coordinate scheduled and unscheduled informational releases, public notices, and interviews with the appointed Owner spokesperson; and to assist in preparing written and verbal narratives and graphics in support of same. Consultant is not permitted to communicate directly with the media unless prior approval or direction has been granted from the Owner or designee.

d. Public Inquiries and Public Records Requests. Owner will respond to public records requests made in writing, in accordance with Marion County public records process. Where needed, Consultant will coordinate with and support the Owner by preparing draft narratives in response to these requests.

Owner Responsibilities:

- Provide meeting space for project meetings.
- Provide input and review of all draft and final deliverables.

Assumptions:

- Budget for this item assumes a public relations campaign of up to 18 ~~36~~ months.
- Informational materials to include:
  - Document Templates, including the following:
    - MS PowerPoint (PPT) Template: Consultant will design a PPT cover slide, background slide, divider slide, and a standard text-with-imagery slide.
    - Report Template: Consultant will design a project report template in Adobe InDesign. The template will include text, icons, photos, and tables, and be two-to-five pages in length.
    - Flyer Template: Consultant will design an 8.5-inch x 11-inch flyer template in Adobe InDesign. The template will include text, photos, and callout graphics.
    - Event Board Template: The template will be designed as an event board template in Adobe InDesign. It will be approximately 24-inches x 36-inches (or similar). It will include a masthead and possible footer. The board will include the option to insert infographics, spot illustrations, icons, text, graphs, and photos into the template frame.
  - Talking points – address specific project issues, status, and activities; assume monthly preparation of updates.
  - Emails announcements and updates – note progress on specific tasks, upcoming activities within a given community, upcoming NSSA meetings, opportunities to comment on project decisions or recommendations, monthly on average.
  - Meeting Flyers; assume approximately four (4) ~~eight (8)~~ flyers.
  - Media Releases: assume quarterly on average six (6) ~~twelve (12)~~ media releases.
  - Videos: assume one per year on average two (2) ~~three (3)~~ videos.
  - Meeting presentation materials (for approximately four (4) ~~eight (8)~~ meetings).
- Virtual attendance at bi-monthly general project meetings to remain up to date on project status.
- Attendance at monthly NSSA meetings which may be virtual or in-person. Support for NSSA meetings to include:
  - Technical advice regarding meeting agendas and communications in preparation for meetings.
  - Attend selected meetings as needed; assume up to four (4) ~~six (6)~~ meetings.
  - Provide NSSA Board members with talking points summarizing meeting outcomes.

- Attendance at community meetings or open houses, City Council meetings, or other in-person event including the following:
  - Attend up to three (3) ~~six (6)~~ open houses or community meetings ~~– two (2) rounds of meetings in Detroit and Idanha and one (1) round of meetings~~ in Mill City and Gates.
  - Attend up to ~~six (6)~~ three (3) City Council meetings, as requested; assume virtual attendance.
  - Prepare presentation materials for the meetings above, in coordination with other consultant team members, County staff, and MWVCOG staff.
- Informal communications consisting of e-mail, conversations, or phone calls will serve to supplement and enhance formal communications. Due to the varied types and ad-hoc nature of informal communications, they are assumed to be incidental to the Communications and Engagement Plan and not specifically outlined by the Plan.
- Additional assumptions regarding work products include the following:
  - Videos – Consultant to produce up to two (2) ~~three (3)~~ videos to document specific project milestones; videos will be approximately one (1) to three (3) minutes in length; interviews with video participants will be conducted and recorded via Zoom.
  - Presentation Training – Consultant to conduct one (1) ~~two (2)~~ round of presentation training; training sessions will be conducted online and recorded via Zoom or another online meeting platform; recordings and presentation materials will be available to staff or team members who are unable to attend.
  - Website Updates – Consultant to draft content, approximately monthly/as needed; budget contains an item to undertake a more significant website refresh if needed.
  - Social Media – Consultant to assist in providing draft content; including social posts and artwork for the County to use on their social outlets and share with their partner networks, including NSSA members, County and MWVCOG, and other community members.
  - Response to Public Inquiries – Consultant to assist in drafting responses, as needed for communication with media organizations (e.g., Canyon Weekly), as well as local decision-maker communications to constituents; assume an average of 1 to 2 ~~2 to 4~~ hours per month to draft responses.

Deliverables:

- Communication and Engagement Plan
- Status Reports
- Informational Materials and External Communication (e.g., project information, signage, content for digital and social platforms, webcams on the construction sites, events, and reports to the external stakeholders).

Task 105.3 – Land Use Planning

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

105.3.1 Land Use Planning. Provide support and review of the following land use applications prepared by Project Team and Consultant.

105.3.1.1 Linn County Expanded Partition Application

105.3.1.2 Linn County Conditional Use Permit Application (Mill City and Gates MWTF)

105.3.1.3 Linn County Conditional Use Permit Application (Road Realignment)

106 – INDEPENDENT COST ESTIMATING

Task 106.1 – Project Management and Administration

Consultant Responsibilities:

106.1.1 Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

106.1.2 Coordination. Coordinate services to prepare and carry out peer reviewed estimates of the Mill City and Gates MWTF, Mill City/Gates Force Main, and Gates Collection System projects.

Owner Responsibilities:

- Provide input and review of all draft and final deliverables.

Assumptions:

- Assumes a twelve (12) month duration for general project administration.
- Attendance at internal project meetings will be virtual. Assume participation in meetings approximately one (1) time per month for twelve (12) months.
- Attend one (1) Marion County Board of Commissioners meeting in person.

Task 106.2 – Independent Cost Estimating (ICE)

Consultant Responsibilities:

106.2.1 30% Opinion of Probable Construction Cost (OPCC) ICE Review. Consultant shall provide an independent cost estimate review of the construction management general contractor's (CM/GC) 30% OPCC including the following:

106.2.1.1 Review of sub-tier level (suppliers and subcontractors) solicitation efforts and resulting proposals for work not self-performed by the CM/GC. This will be a review of each proposal for scope coverage, exclusions, assumptions, and responsiveness to the solicitation.

106.2.1.2 Review of the CM/GC's cost estimate worksheets for self-performed work. This review will spot check quantities, labor production rates, craft labor costs, equipment costs, assumptions, and allowances.

106.2.1.3 Review the CM/GC's Risk Register.

106.2.1.4 Review the CM/GC's critical path method (CPM) Construction Schedule.

106.2.2 60% and 90% OPCC ICE Review of Updates. Consultant shall provide an ICE review of updates to the CM/GC's 60% and 90% OPCC (delta changes only).

106.2.2.1 Review of sub-tier level (suppliers and subcontractors) solicitation efforts and resulting proposals for work not self-performed by the CM/GC. This will be a review of each proposal for scope coverage, exclusions, assumptions, and responsiveness to the solicitation.

106.2.2.2 Review of the CM/GC's cost estimate worksheets for self-performed work. This review will spot check quantities, labor production rates, craft labor costs, equipment costs, assumptions, and allowances.

106.2.2.3 Review the CM/GC's Risk Register.

106.2.2.4 Review the CM/GC's critical path method (CPM) Construction Schedule.

Assumptions:

- Consultant has no control over the cost of labor, materials, equipment or services furnished by others, or over CM/GC's methods of determining prices, or other competitive bidding or market conditions, practices or bidding strategies. Cost estimates provided by Consultant are based on Consultant's experience and judgment at that time. Consultant cannot and does not guarantee that proposals, bids or actual Project construction costs will not vary from cost estimates prepared by Consultant.

Deliverables:

- 30% OPCC ICE Review
- 60% OPCC ICE Review
- 90% OPCC ICE Review

PHASE 2 – MILL CITY / GATES WASTEWATER SEWER SYSTEM

200 – MILL CITY / GATES FACILITIES PLANNING STUDY

Task 200.1 – Project Management

Consultant Responsibilities:

200.1.1. Project Management. Provide general project administration services including contract administration, project accounting, monthly progress reports, scheduling, and internal project administration.

200.1.2. 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 study, discuss available data and published materials that will be made available by the Owner, and review process for deliverables including process for Owner review and approval. Planning criteria will also be reviewed during the Kickoff Meeting. Representatives from the DEQ will be invited to the kickoff meeting.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide funding administration services, if any.

Assumptions:

- Project management budget assumes a planning schedule of up to 8 months.

- Monthly Board meeting attendance is covered in a separate task order.
- Should Owner request additional meetings or require an extended schedule, project management budget will be increased accordingly.
- Funding administration services and funding acquisition support is not included in this scope of work.

Task 200.2 – Data Acquisition & Facility Tours

Consultant Responsibilities:

200.2.1. Request for Information. A request for information will be prepared by the Consultant describing the information needed including, but not limited to, the following items:

Mill City

- Discharge Monitoring Report (DMR), operational, influent monitoring (15-minute intervals), rainfall data (since Jan 2021), and any other water quality sampling results collected outside of DMRs in spreadsheet format
- Update of financial summary records, including current rates, annual expenses, operation, revenues, replacement budgets, number and type of accounts, etc.
- Recent facility inspection reports, if available
- Provide update of any changes to wastewater flows from major seasonal wastewater dischargers, water users with their own wastewater treatment system, major water users that consume the majority of their water.
- Any recently produced planning documents (transportation, wastewater, water conservation, water/waste/energy audits)
- Update on known treatment plant or collection system issues and planned improvements
- Update from Gates and Mill City for winter-time water consumption data summarized by user types in a spreadsheet format
- Known correspondence from federal and state regulatory agencies regarding violations or concerns related to wastewater treatment and disposal

200.2.2. Data Collection and Review. Collection and processing of furnished data, mapping, and reports. Provide a follow-up Request for Information for supplemental data if required.

Owner Responsibilities:

- Provide requested data within two weeks of request.
- Complete field work and provide sampling/testing, if required.
- Provide access to facilities and records.
- Provide operations and maintenance staff for questions as needed.

Assumptions:

- Consultant will not enter confined spaces. Structural and electrical engineering reviews are not included in the scope of work but could be completed as an additional service.
- Consultant shall be entitled to rely, without liability, on the accuracy and completeness of information provided by Owner, other agencies and stakeholders, and information from public records, without the need for independent verification.

Deliverables:

- Request(s) for Information

Task 200.3 – Project Planning

Consultant Responsibilities:

200.3.1. Location. Incorporate brief description of project location from master plan. Include figure(s) from master plan to establish the project planning area.

200.3.2. Environmental Resources. Incorporate information from master plan to document natural resources in the project area, including land use, flood plains, wetlands, historic, biological, water quality issues, socio-economic, climate, geography, soils, rivers, and air quality. Use master plan figures to summarize natural resources in the project area.

200.3.3. Growth Trends. Update master plan population statistics and projections. For Mill City, coordinate with Mill City and County planners on location, phasing, and type of new growth. The Portland State University Population Research Center historical population data and 40-year growth forecasts will be used to inform the population growth, but it is assumed that non-traditional methods will be required to best account for the decline and near-term growth due to rebuilding after the 2020 wildfire as well as accounting for the new community sewer system in Gates and new treatment facility in Mill City. Growth for non-residential users will be estimated based on input from City and County planners for the 20-year planning period.

200.3.4. Community Engagement. Describe the Owner's approach to engage the community in the planning process.

200.3.5. Design Flow Rates. Update master plan design flow rates based on most recent DMR and water usage data from Mill City and Gates. Update projections based on growth assumptions and input from Owner, Mill City Planner, and County Planners.

200.3.6. Design Loading Rates. Update master plan wastewater loadings and project future loadings based on growth assumptions and input from Owner, Mill City Planner, and County Planners.

200.3.7. Regulatory Requirements. Review and update summaries from master plan of current regulatory requirements and planning criteria that may influence operation, maintenance, and capital improvements of the existing Mill City wastewater system and the initial project components in Gates.

200.3.8. Cost Estimating. Establish cost estimating methodology to reflect both local and current conditions.

200.3.9. Review Meeting Workshops. Lead a workshop meeting with the Owner to review preliminary findings.

200.3.10. Draft Plan Section. Prepare draft section writeup. Final document to have Owner's comments incorporated.

Owner Responsibilities:

- Provide input and approval on growth projections and planning criteria.
- Provide review and comments of this section.
- Provide input on community engagement.

Assumptions:

- The planning criteria will need to be established for the planning study prior to having any supplemental income and population survey data available to inform the population estimates and projections. The best available data will be used for the purposes of this study.
- Planning criteria will not be changed once established. Changing planning criteria may result in rework which can be completed as an additional service.
- City staff or Contract City Planner will provide input on the distribution and phasing of new residential and non-residential growth in Gates and Mill City.

- If required, environmental permitting and field work (i.e., wetland delineations/investigations, biological assessments, and cultural resource surveys) will be provided as an additional service.
- The study area will coincide with the North Santiam Sewer Authority Boundary for Gates and Mill City.
- Community engagement included in this scope of work is limited to the public meeting in Task 209. Additional community engagement activities can be provided as additional services or through other identified task orders.

Deliverables:

- Draft Project Planning Facility Plan Section.

Task 200.4 – Existing Facilities Evaluation

Consultant Responsibilities:

200.4.1. Base Map. Update the existing system base map from the master plan, showing location of key facilities, pipelines, and basin boundaries for Mill City. Use the schematic process layout of the existing treatment plant from the master plan showing major process components.

200.4.2. History. Update master plan's documentation of wastewater treatment plant history and system description to reflect current flow and water quality data, recent discharge monitoring records (DMRs), plant improvements that have been completed recently, current condition of plant equipment and facilities, and current operation practices.

200.4.3. Wastewater System Management Classification, Operators and License. Provide a brief writeup of system required licensing and current operator license information.

200.4.4. Conditions Assessment. Update master plan documentation of existing physical conditions deficiencies. Collection system pipe information will be summarized by pipe material and age. Complete pump tests at each pumping facility to evaluate current pump performance and capacities. Incorporate findings from the I/I study that is currently under way at the time this scope was finalized.

200.4.5. Capacity Evaluation. Update master plan's comparison of existing and future projected flows and loadings to the existing capacity of the Mill City wastewater treatment system. Summarize existing capacity deficiencies.

200.4.6. Review pump run time data and flow meter records to assess existing capacity limitations (if any).

200.4.7. System Resiliency. Assess the collection system resiliency for the Mill City lift stations. This is anticipated to include a comparison of firm pumping capacity (i.e. with largest pump off-line) to the peak hour inflow. It also includes an assessment of whether onsite or portable back-up provisions are available and automated, what kind of emergency bypass pumping provisions are provided for the lift station and/or force main (in the event of a line break), and what kind of redundancy is provided in terms of back-up level sensors and alarms. This scope does not include an evaluation of seismic risks, a comprehensive vulnerability assessment, or updates to the Owner's Emergency Response Plans. Consultant will summarize the consequence of failure of critical lift station facilities and identify potential capital improvements and operational strategies that could be completed to mitigate these risks.

200.4.8. Wastewater Collection System Evaluation

200.4.8.1. Wastewater Model Development and Calibration. Use existing base mapping, record drawings, dry weather flows, pump curves, and Owner provided data to develop and calibrate a wastewater system model. The winter-time water consumption data will be used to estimate dry weather

flows. Allocate infiltration and inflow for utilizing wet weather system design flows, available pump run time, and SCADA data.

200.4.8.2. Existing System Evaluation. Exercise computer model to check the Mill City system and evaluate the existing collection system hydraulic capacity. Evaluate system for remaining capacity.

200.4.9. Wastewater Treatment System Evaluation. Update master plan write-up to summarize existing plant deficiencies using updated plant data to compare actual performance to expected performance.

200.4.10. Operations. Update master plan documentation of existing operations and maintenance issues and concerns reported by Owner staff.

200.4.11. Financial Status of Existing Facilities. Document current rate schedules, annual O&M costs, other capital improvement programs, and table of users by monthly usage categories for the previous fiscal year. Document existing debts and required reserve accounts. Budget and capital improvements will be addressed under a separate task.

200.4.12. Water/Energy/Waste Audits. Provide brief write-up discussing variable frequency drive motors and all other applicable energy items for the system. Investigate and summarize the likelihood of incorporating a hydroelectric power generator on the force main from Gates to Mill City. Summarize overall current energy consumption for Mill City's existing system.

200.4.13. Review Meeting Workshops. Lead a workshop meeting with the Owner to review preliminary findings.

200.4.14. Draft Plan Section. Prepare draft section writeup. Address Owner comments on draft document.

Owner Responsibilities:

- Review and comment on draft documents.
- Participate and provide meeting location for workshop meetings.
- Provide field checks if necessary, including surveying.
- Provide access to facilities and records. Test and replace (if needed) suction and discharge pressure gauges ahead of equipment tests.

Assumptions:

- Modeling of the existing Mill City treatment plant will not be completed for this facilities plan.
- The Mill City GIS mapping will not be survey grade and will be carried over from the master planning effort. The mapping will not include rim/invert data. It will only include approximate location as it was digitized from the existing record drawings.
- No additional field work or surveying will be required.
- Collection system conditions assessment will not include a full review of CCTV records or smoke testing with the exception of incorporating the findings from the Mill City I/I study.
- The Mill City collection system model will be developed with the InfoSWMM (Info Storm Water Management Model) modeling platform, based on record drawings. Consultant will rely upon the accuracy of available record drawings. This scope does not include any field survey work to check or update pipe slopes.
- If model does not readily calibrate to existing conditions, and additional field work is recommended to troubleshoot the Owner's wastewater system, these services can be completed as an additional service.
- No drain field analysis will be provided.

Deliverables:

- Draft Existing Facilities Evaluation Facility Plan Section.

Task 200.5 – Need for System Improvements

Consultant Responsibilities:

200.5.1. Health, Sanitation, and Security. Summarize concerns and relevant regulations or correspondence from/to state and federal agencies.

200.5.2. Aging Infrastructure. Incorporate summary findings of conditions assessment of assets and summarize available pipeline age/material information. Summarize the following:

- Unit performance issues, deficiencies and useful life.
- Existing system reliability per DEQ and EPA guidelines.
- Ability to meet current and potential future effluent limits and other regulatory requirements.
- I/I calculations to determine if existing I/I is considered "non-excessive".

200.5.3. Reasonable Growth. Using the design flow and loading information, document the reasonable growth capacity that is necessary to meet needs during the planning period.

200.5.4. Draft Plan Section. Prepare draft section writeup. Final document to have Owner's comments incorporated.

Owner Responsibilities:

- Provide input and review of this section of the plan.

Deliverables:

- Draft Project Needs Facility Plan Section.

Task 200.6 – Collection System Alternatives Considered and Selection

Consultant Responsibilities:

200.6.1. Future System Evaluation. Build Gates system model and expand Mill City model to include additional pipe and pump station network requirements associated with servicing new growth areas for the planning period. Add flows from new growth. Exercise the model to identify potential system deficiencies attributed to growth within the planning period.

200.6.2. Evaluate alternative improvements to correct existing, and anticipated future deficiencies, sewer new areas, and meet the target planning criteria. Benefits and drawbacks will be summarized for each alternative. A "no action" alternative will also be considered for each category. This alternative evaluation will be based on the master plan collection system alternatives while evaluating Mill City's existing system for collection system capacity deficiencies.
Where improvements are not relatively straightforward, evaluate up to three collection alternatives for the existing Mill City collection system that will service existing and future flows. Additional refinement of pipeline alternatives is anticipated to occur in the predesign tasks associated with the new Gates collection system.

200.6.3. Alternative Cost/Benefit Analysis. This will include life cycle cost analysis on preferred alternatives for up to three viable alternatives. Discuss non-monetary factors such as operations, maintenance, sustainability, and impacts to adjoining lands. Life-cycle costs will be provided that include capital cost, operations and maintenance for a 40-year life

cycle evaluation. This alternative evaluation for Gates will be based on the master plan collection system alternatives while evaluating any capacity alternatives for Mill City's collection system.

200.6.4. Phasing/Implementation Plan. Develop a phasing plan of improvements based on initial project, 10-year, 20-year, and 40-year anticipated growth. This plan will include an evaluation of interim recommendations or strategies for property owners who need to address septic system deficiencies or replacement prior to day one of the new Gates collection system and Mill City mechanical treatment plant are constructed.

200.6.5. Site Plan/Schematics. Develop a facility plan concept map and/or figures for selected alternatives using the master plan's figures with updates/modifications per this scope of work.

200.6.6. Environmental Impacts. A summary of the preliminary environmental screening of the collection system alternatives will be developed. Improvement projects will address climate, land use, floodplain, wetlands, water quality, rivers, wild, cultural resources, flora and fauna.

200.6.7. Land Requirements. Discuss property needed for alternatives.

200.6.8. Potential Construction Problems. Discuss possible construction challenges for collection system alternatives.

200.6.9. Sustainable Considerations. Discuss potential water and energy efficiency and green infrastructure elements to be considered during design.

200.6.10. Review Meeting Workshop. Lead a workshop meeting with the Owner to review findings. Outcome of meeting is anticipated to include consensus of recommended improvements.

200.6.11. Draft Plan Section. Prepare draft section writeup. Respond to Owner comments.

Owner Responsibilities:

- Provide a review of the alternatives considered and input on selection criteria and ultimate selection of preferred alternative.
- Participate and provide facilities for workshop meeting. Provide public notices, if required.

Assumptions:

- The scope of this study does not include an Environmental Information Document or associated environmental investigations and field work.
- The chosen alternatives will be prioritized based on need and benefit to the Owner to address existing and 20-year projected needs.
- Cost estimating will be AACE Class 4 (planning level cost estimates).

Deliverables:

- Draft Collection System Alternatives Facility Plan Section.

Task 200.7 – Treatment and Disposal System Alternatives Considered and Selection

Consultant Responsibilities:

200.7.1. Develop a list of treatment plant improvement alternatives focused on improving effluent water quality, vulnerability, safety and redundancy. The disposal improvement alternative will be rapid infiltration per the master plan recommendations.

200.7.2. Develop up to three pre-screened alternatives to evaluate, for primary treatment, secondary treatment, tertiary treatment, and solids handling treatment processes. Evaluate the pre-screened alternatives.

200.7.3. Facility Tours. Organize a tour of up to two wastewater treatment facilities with the Owner's staff to investigate alternatives with similar processes. These are anticipated to occur on the same day.
200.7.4. Alternative Cost/Benefit Analysis. Assist in comparing benefits, drawbacks, and costs of up to three viable alternatives. This will include life cycle cost analysis on preferred alternatives. Discuss non-monetary factors such as operations, maintenance, sustainability, and impacts to adjoining lands. Life-cycle costs will be provided that include capital cost, operations and maintenance for a 20-year life cycle evaluation.
200.7.5. Phasing Plan. Develop a phasing plan of improvements based on initial project, 10-year, and 20-year anticipated growth.
200.7.6. Site Plan/Schematics. Develop a facility plan concept map and/or figures for selected alternatives.
200.7.7. Environmental Impacts. A summary of the preliminary environmental screening of the treatment system and disposal alternatives will be developed. Improvement projects will address climate, land use, floodplain, wetlands, water quality, rivers, wild, cultural resources, flora and fauna.
200.7.8. Land Requirements. Discuss property needed for alternatives.
200.7.9. Potential Construction Problems. Discuss possible construction challenges for collection system alternatives.
200.7.10. Sustainable Considerations. Discuss potential water and energy efficiency and green infrastructure elements to be considered during design.
200.7.11. Review Meeting Workshop. Lead a workshop meeting with the Owner to review findings. Outcome of meeting is anticipated to include consensus of recommended improvements.
200.7.12. Draft Plan Section. Prepare draft section writeup. Respond to Owner comments.

Owner Responsibilities:

- Provide input on tasks above.
- Provide a review of the alternatives considered section of the plan.
- Participate and provide facilities for workshop meeting. Provide public notices, if required.

Assumptions:

- The scope of this study does not look at alternatives to upgrade the existing recirculating gravel-bed filter.
- Evaluation of alternatives does not include piloting, bench testing, or fieldwork.
- The scope of this study does not include an Environmental Information Document or associated environmental investigations and field work.
- The chosen alternatives will be prioritized based on need and benefit to the Owner to address existing and 20-year projected needs.
- Cost estimating will be AACE Class 4.

Deliverables:

- Draft Treatment System Alternatives Facility Plan Section.

Task 200.8 – Proposed Projects (Recommended Alternatives)

Consultant Responsibilities:

200.8.1. Model day one and future 20-year process and hydraulic conditions of selected alternative for the new mechanical treatment plant.
200.8.2. Capital Improvement Plan.

a. Summarize recommended improvements.
b. Prepare planning level cost estimates for recommended improvements. For future projects anticipated to be developer driven and developer funded, summarize only upsize costs.
c. Estimate the portion of each capital improvement project cost that is attributed to 20-year growth for System Development Charge (SDC) eligibility.

200.8.3. Preliminary Project Schedule. Summarize costs for initial project, 10-year, and 20-year needs. The 6-year CIP for DEQ purposes will be covered by the "initial project" costs.

200.8.4. Permitting Requirements. Summarize WPCF permitting requirements (WPCF permit application, and additional support is covered by a separate task order).

200.8.5. Sustainability Considerations. Summarize how the priority improvement projects will enable the Owner to serve its customers and be able to operate and maintain the system. Discuss how the projects will accommodate green infrastructure and efficiencies.

200.8.6. Future Reuse Consideration. Reuse system impacts will be considered and coordinated, and their potential summarized for selected alternative.

200.8.7. Organization and Staffing Requirements. Summarize recommended staffing requirements as required for regulatory compliance or as reported by the Owner. Summarize up to three options for organizational setup for certified operators for both collections and treatment (i.e. contract operator vs sewer authority staff).

200.8.8. Financing Options. Summarize potential financing options available for initial project. This will be a summary of efforts being undertaken by the Owner, Marion County, and the MWVCOG for funding the project.

200.8.9. Annual Budget Considerations.

a. Summarize Operating Revenues and Expenses. Summarize estimated annual operating expenses and identify recommended budgets dedicated for the initial project.
b. Anticipated User Charges and Other Income. Summarize the business case scenario documented previously by FCS Group and provide a status update on current efforts to implement recommendations.
c. Annual Replacement Budgets. Develop recommended annual replacement budgets for the initial project based on typical replacement values and asset life. This will include a list of short-lived assets and the recommended annual replacement budget.
d. Annual Operations and Maintenance Costs. Estimate the operations and maintenance cost implications for the initial project.

200.8.10. Review Meeting Workshop. Lead a workshop meeting with the Owner to review an overall summary of the plan, selected improvements, and budget considerations.

200.8.11. Draft Plan Section. Prepare draft section writeup. Final document to have Owner's comments incorporated.

Owner Responsibilities:

- Provide input on the proposed projects.
- Participate and provide facilities for workshop meeting. Provide public notices, if required.
- Provide review and comments on the plan.

Assumptions:

- Scope excludes a user rate analysis, including evaluation of individual rate structures, cost-of-service evaluations, and service availability fee studies. These services can be provided as an additional service.

- Consultant's opinions of probable cost represent Consultant's judgment as an experienced and qualified design professional. Since Consultant has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Owner's and other contractor's methods of determining prices, or over competitive bidding or market conditions, the Consultant cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of probable cost prepared by the Consultant.

Deliverables:

- Capital Improvement Plan (tabular format, organized by initial project, 10-year, and 20-year needs).
- Estimate of SDC eligibility for each capital improvement past the initial project.
- Draft Proposed Project Facility Plan Section.

Task 200.9 – Facility Plan Documentation and Public Meeting

Consultant Responsibilities:

200.9.1. Prepare Facility Plan. Prepare and combine draft documents for a complete facility plan generally following the outline established in the July 2018 guidance document "Preparing Wastewater Planning Documents and Environmental Reports for Public Utilities Financed by Business Oregon, Oregon Department of Environmental Quality, Rural Community Assistance Corporation, and the United States Department of Agriculture". Add executive summary and assemble appendix materials. Appendix materials will include output flow capacities, existing peak hour flows, and future peak hour flows summarized in tabular and graphic format. Draft documents to be updated to address Owner comments. Submit final draft plan for Owner review.

200.9.2. Public Meeting. Prepare materials for and present summary findings in a townhall meeting.

200.9.3. Address Owner Comments. Address final Owner and public comments and submit for agency review.

200.9.4. Address Agency Comments. Address agency comments and finalize document.

Owner Responsibilities:

- Review and comment on final draft plan in a timely manner.
- Pay agency review fees, if applicable.
- Participate and provide facilities for public meeting. Provide public notice as required. Assist in addressing public comments.

Deliverables:

- Public Meeting Presentation Materials.
- Final Facilities Plan, three (3) hard copies (3 ring binders) of the plan and one electronic copy in PDF format.

Task 200.10 – Management Reserve (Contingency Task)
This task identifies prospective services that Owner, at its discretion, may elect to authorize Consultant to produce. Consultant shall perform no work nor incur any costs under this task prior to the issuance of separate authorization-to-proceed (email acceptable) by Owner.

From time to time, Owner may have additional tasks related to the project or additional tasks may be encountered that are not identified in this scope of services. For these instances, a time and material budget is established in order for Consultant to complete such additional services. Prior to the use of this

contingency budget, Owner's representative will provide written (email) authorization to use the budget for specific tasks.

ADDITIONAL SERVICES (not included in scope of work)

- Bond support
- Public outreach or stakeholder outreach support
- User rate and connection fee study
- Additional field work
- Energy efficiency evaluations
- Concept level design services
- Model training
- Environmental information documents, studies, field investigations, and permitting. Environmental permitting will be addressed by a separate task order.
- Amendments to this facility planning study because of other task orders.

201 - MILL CITY / GATES FACILITIES SITE EVALUATION

Task 201.1 – Project Management

Consultant Responsibilities:

201.1.1 Project Management. Provide general project administration services including contract administration, project accounting, monthly progress reports, scheduling, and internal project administration.

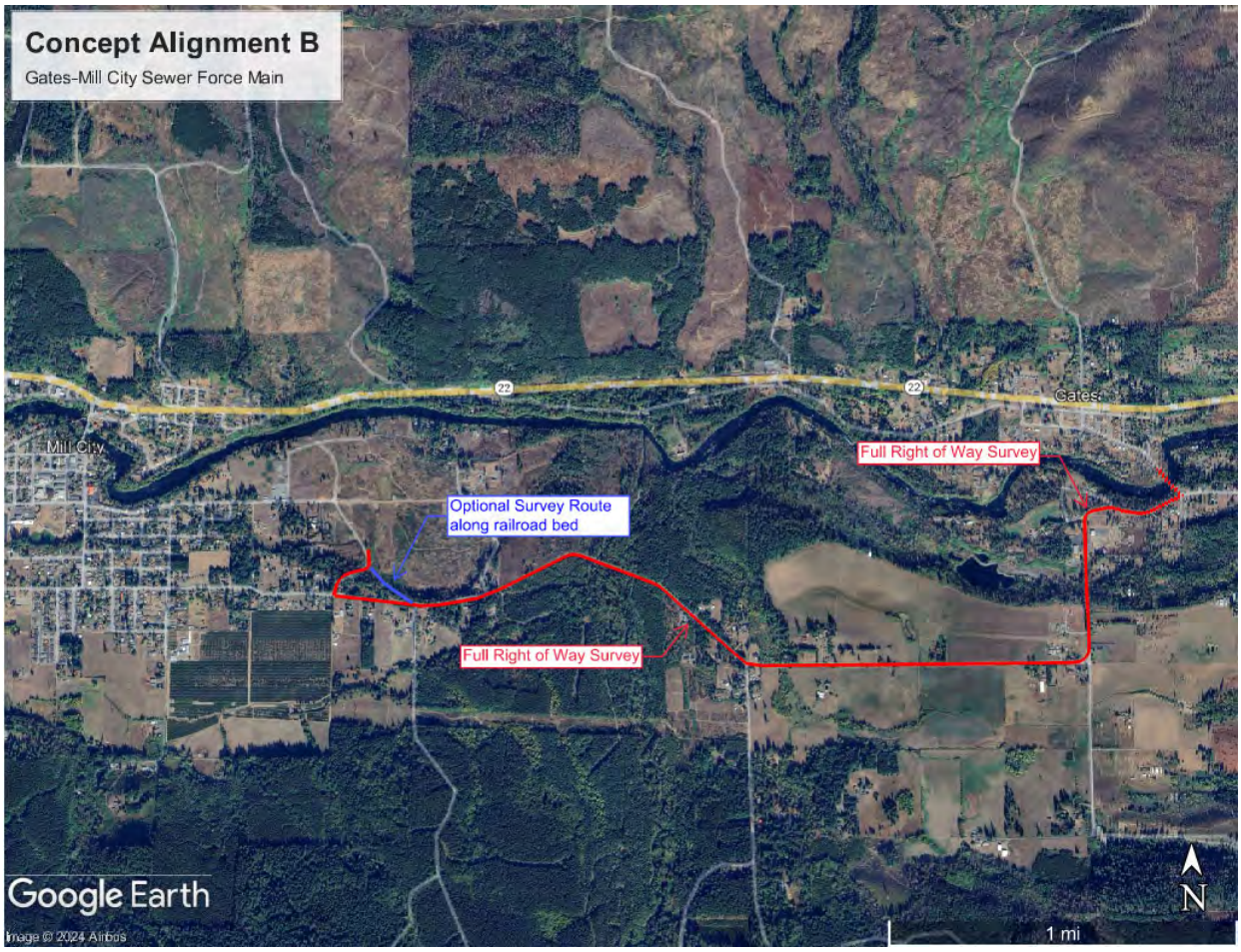
Assumptions:

- Assumes a six (6)-month duration for general project administration.
- 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.

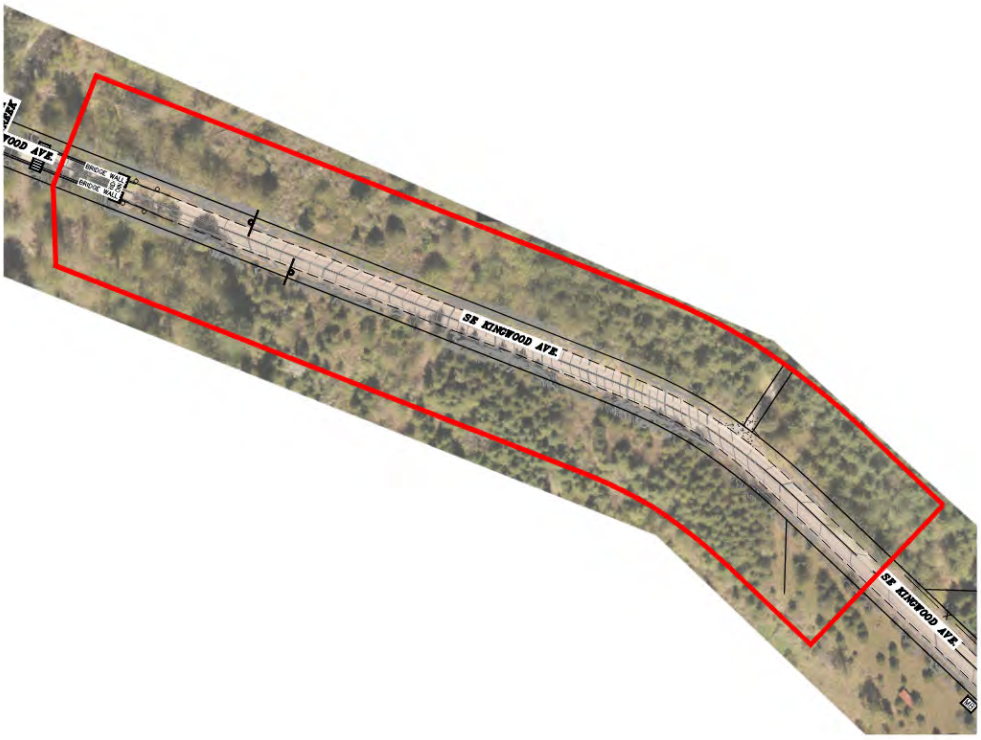
Task 201.2 – Force Main Alignment Topographic Survey
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.2.1 Consultant shall perform a topographic recovery survey along the revised Mill City/Gates Force Main alignment (through Kingwood Avenue) and Kingwood Ave Inverted Siphon area. Topographic survey areas are shown in red on the figures below.



Revised Kingwood Avenue Force Main Alignment



Topographic Survey for the revised Kingwood Avenue Force Main Alignment and Kingwood Ave Inverted Siphon area shall include the following:

a. Locate existing monumentation to complete a boundary resolution for subject area.
b. Full topographic surface data and underground utilities to the edge of the project boundaries as defined in the attached PDF.
c. Obtain spot elevations at a 50-foot on center spacing, including along roadway centerlines, top of curb, flowline of curb, and lip of gutter to the nearest 0.01 foot.
d. Additional spot elevations to identify grade breaks and other topographic features.
e. Locate all surface features over surface area, including: accessways, driveways, curbs, structures, fences, poles, disposal areas, drainage areas.
f. Locate all ground and above ground utilities, including: utility poles, overhead utility wires, manholes, catch basins, cleanouts, meters, valves, vaults, boxes, hydrants.
g. Locate trees 8-inch in diameter and greater measured at breast height, noting coniferous or deciduous.
h. Tag located trees with a reference number for field identification.
i. Map existing easements which may affect subject area.
j. Provide triangulated irregular network (TIN) to be used as a Civil 3D surface via an XML file.
k. Survey shall be based on an official benchmark acceptable to the Owner.
l. Establish benchmarks for future design reference.

201.2.2 Survey will show utility poles, power lines, and telecommunications, including any identification information. For existing storm drains, culverts, and sanitary sewers, Consultant shall:

a. Show rim or grate elevations and inverts for manholes and drainage structures, with structure size (inside dimensions).
b. Show pipe diameters, pipe material, and direction of pipe.
c. Manhole symbols shall be shown at center of the lid with a note defining the manhole diameter and whether the manhole is an eccentric or concentric structure. If eccentric, note to what side of the structure (NW, SE, S, etc.) the eccentric cone is flush with.
d. Survey storm and sewer structures to the next downstream and upstream structures beyond the limits of survey.
e. Show utility lines as continuous, do not terminate shortly after a structure, extend to upstream or downstream structure.

Assumptions:

- This task does not include a retracement survey recorded with Marion County Surveyor's Office.
- This task does not include private utility locating services,

Deliverables:

- Basemap in AutoCAD 3D format.
- Legal Descriptions and Visual Exhibit Maps for up to ten (10) easement areas.

Task 201.3 – Force Main Alignment Geotechnical Investigation
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.3.1 Geotechnical Investigation. The project geotechnical scope includes subsurface explorations for the proposed Force Main Alignment between Gates and Mill City, in Oregon. Specific geotechnical design elements include review of access permits/plans (if available), and geotechnical recommendations for a new sewer line~~,~~ and pump station on the western side of Gates. The new proposed alignment will be along East Sorbin Street, Gates School Road, Kingwood Avenue, and SE Fairview Street. Subsurface explorations will be completed using test pits and drilled borings within the roadways. Subsurface explorations will be completed to characterize subsurface soils along the proposed alignment for the proposed improvements.

The scope of work will include the following:

201.3.1.1 Review proposed project plans provided by the Project Team for geotechnical design and construction elements.
201.3.1.2 Provide an exploration work plan detailing the approximate location and proposed depth of explorations.
201.3.1.3 Complete a utility locate request for the site through the public One Call system.
201.3.1.4 Complete a private utility locate at proposed exploration locations.

201.3.1.5 Explore subsurface soil and groundwater conditions at the site by conducting subsurface explorations approximately every 600 to 800 feet along the proposed alignment (approximately thirty (30) pavement cores and borings; thirteen (13) explorations were completed as part of Phase I in July 2024 and a proposed seventeen (17) explorations will be completed as part of Phase II). Exploratory borings will be performed by a driller subcontracted to and scheduled by Consultant. Borings will be conducted to a depth of up to eight (8) feet below ground surface (bgs) with the intention to identify depth to presence of native rock suspected to be presented in the subsurface. Bottom elevation of utility trench excavation is anticipated to be six (6) feet bgs. Borings will be advanced to the depths noted or to a depth of practical refusal in dense or collapsing materials if encountered, whichever is shallower.

201.3.1.6 Provide a general description of existing site conditions.

201.3.1.7 Maintain a detailed log of subsurface explorations. Collect samples of the subsurface materials encountered.

201.3.1.8 Conduct laboratory tests using soil samples obtained from the explorations in general conformance with American Society for Testing and Materials (ASTM) including moisture content tests, plasticity index (Atterberg Limits) tests, or fines content analyses as appropriate, depending on the types of materials encountered.

201.3.1.9 Provide recommendations for trench backfill materials, compaction, and general construction specifications.

201.3.1.10 Complete a final geotechnical letter report specific to force main alignment and pump house.

Assumptions:

- Fieldwork can be completed during normal working hours (Monday to Friday, 8:00 AM to 5:00 PM) and will not require fieldwork to be completed during nights or weekends.
- It is anticipated that an additional three (3) full field days will be required to complete the remaining seventeen (17) explorations (Phase II).
- Contaminated soil will not be encountered during explorations.
- Permit fees will be waived.
- Site access and right-of-entry will be obtained prior to arrival on site to complete fieldwork.
- Geotechnical construction observation or testing services are not included.
- Project team will coordinate and establish exploration locations that will minimize damage to the existing development.

Deliverables:

- Final Geotechnical Letter Report Recommendation for trench backfill materials, compaction, and general construction specifications for the Force Main Alignment and Pump House.

Task 201.4 – Mill City and Gates MWTF Environmental Due Diligence

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Environmental due diligence shall be completed on approximately 16.86 acres of project area in Linn County, Oregon, which will include the proposed:

- Mill City and Gates MWTF Site
- 100-ft Strip
- SE Fairview Street Realignment
- Temporary Stormwater Outfall and Detention Basin

Environmental due diligence will include project management, wetlands and waters delineation, and cultural resources investigation. These tasks are intended to inform the project's final design and minimize impacts to existing resources.

Consultant Responsibilities:

201.4.1 Project Management. Consultant will coordinate with Project Team to receive project materials, prepare invoicing, and transmit correspondence. Consultant will maintain project files to include necessary supporting materials, as required. The project manager will monitor task performance, schedule, and budget; approve project expenses; and ensure that systems are in place to conduct quality assurance and quality control on deliverables and correspondence.

Beyond general coordination and communication, Consultant will provide a monthly email to inform the Project Team about the project's progress. The monthly email will outline which tasks were worked on during the month and the progress of those tasks, as well as what tasks are anticipated to be worked on in the following month. As part of these monthly emails, Consultant shall provide a budget summary and consistent communication to keep projects on track and within their schedules and budgets. Additionally, Consultant's project manager will schedule bi-monthly check-in calls and attend regular check-in meetings with Project Team to provide status updates and discuss action items. Consultant's senior subject matter experts will provide quality reviews and input on overall project approach.

Assumptions:

- Bi-monthly check-in calls will be approximately 30 minutes long.
- There will be twelve (12) monthly check-in calls between Consultant and Project Team.

Deliverables:

- Meeting minutes.

201.4.2 Wetlands and Waters Delineation

201.4.2.1 Wetlands and Ordinary High Water Line Delineation. Consultant will survey the project area to evaluate whether wetlands and waters are present. If wetlands or waters are found, Consultant will delineate wetland boundaries in accordance with the methodology of the 1987 U*.S. Army Corps of Engineers Wetlands Delineation*

Manual and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Regions (Version 2.0),* used by the U.S. Army Corps of Engineers and the Oregon Department of State Lands (DSL). Hydrology, soil, and vegetation will be documented at select sample plot locations and recorded on standardized wetland determination data forms.

Streams and other waters would be delineated based on the U.S. Army Corps of Engineers' 2005 *Regulatory Guidance Letter 05-05: Ordinary High Water Mark Identification.* As defined in DSL's Oregon Administrative Rule 141-085-0515, field indicators for the ordinary high water line (OHWL) can include the following: a clear, natural line impressed on the shore or bank; a change in vegetation from riparian (e.g., willows) to upland (e.g., oak or fir); a textural change of depositional sediment or changes in the character of the soil (e.g., from sand /cobble/gravel to upland soils); an elevation below which no fine debris (e.g., needles, leaves, cones, and seeds) occurs; and the presence of litter and debris, water-stained leaves, and water lines on tree trunks.
Wetlands and OHWL boundaries and any sample plot locations will be surveyed using Collector for ArcGIS paired with a tablet and a Juniper Geode GNSS receiver capable of submeter accuracy. These data would be imported into a GIS program to produce a site map showing the delineated wetland and OHWL boundaries.

201.4.2.2 Wetlands and Ordinary High Water Line Delineation Report. Consultant will prepare two (2) delineation reports of the wetland and OHWL delineations to meet DSL requirements for wetlands and other waters delineation reports:

Wetlands and OHWL Delineation Report I
- Mill City and Gates MWTF Site
- 100-ft Strip
- Portion of SE Fairview Street Realignment located on Parcel 09S03E32-00-00100 and in Linn County public right-of-way (ROW)

Wetlands and OHWL Delineation Survey Area I

Wetlands and OHWL Delineation Report II:

- Remaining portion of SE Fairview Street Realignment located on Parcel 09S03E32-00-00200.
- Temporary Stormwater Outfall and Detention Basin

Wetlands and OHWL Delineation Survey Area II

The reports will be submitted to Project Team for review prior to submitting to any regulatory agencies. This task includes the preparation of the required DSL wetland report cover form, to be signed by a Project Team representative prior to submitting the report to DLS for review and concurrence.

Assumptions:

- This task includes ten (10) hours of agency coordination time (seven (7) hours for Project Team and three (3) hours for GIS specialist).
- The 2025 DSL wetland report review fee is $575 per report and will be paid for directly by the Consultant.
- Access to the area will be arranged by Project Team.
- Natural resources on the site will be accessible by foot. If vegetation such as Himalayan blackberry prevents access to natural resources on the site, clearing must be completed before fieldwork can be done, or an additional site visit will be needed at additional cost.
- This cost estimate includes one DSL site visit associated with Wetlands and OHWL Delineation Report II.
- This cost estimate is based on two (2) days of wetland delineation and OHWL fieldwork for two scientists. Project team will provide one round of comments on the draft delineation report. Any task not expressly described herein is not included in the proposed cost.
- All deliverables will be provided electronically; no hard copies will be provided.
- The delineations will be based on the project area shown by the alignment in the figures above. Any change to the project area after survey will incur additional costs.
- Ideal wetland delineation times are typically from late winter to late spring to capture hydrology and plant phenology. If wetland hydrology and plant indicators are not apparent, another field visit may be needed during optimal conditions to confirm wetland presence.
- Traffic control flagging is not included.

- This scope of work does not include a joint permit application for impacts to wetlands or other waters.

Deliverables:

- Draft and Final Wetlands and OHWL Delineation Report I.
- Draft and Final Wetlands and OHWL Delineation Report II.

201.4.3 Cultural Resources Investigation

204.4.3.1 Tribal Coordination. Consultant will coordinate with the cultural resources departments of the Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, and Confederated Tribes of Warm Springs to inquire about local historical knowledge of the project area. Consultant will also ask if they have any cultural concerns about the location of the project. All project-related Tribal coordination will be described in the final report.

201.4.3.2 Background Research and Permitting. Prior to fieldwork, Consultant will conduct a records search of the Oregon Archaeological Records Remote Access (OARRA) database, maintained by the Oregon State Historic Preservation Office (SHPO), for information about previous cultural resource studies and previously identified archaeological sites in the project vicinity. Consultant staff will review other available background resources pertinent to the history, prehistory, ethnography, and environmental context of the project area. These background resources will include any recent geotechnical reports, ethnographic and historical accounts, General Land Office documents, historical maps, historical photographs, and other relevant research information available from local libraries, historical societies, or informants. Based on preliminary research, the current project area overlaps a marked historic-era railroad that is currently unevaluated for the National Register of Historic Places.

Because portions of the project are located on land managed by state and local entities, an archaeological excavation permit must be obtained from SHPO before archaeological testing takes place (per Oregon Revised Statute (ORS) 390.235 and its implementing guidelines). The Consultant project manager will apply for up to two (2) excavation permits (ORS 358.905 and 97.740). These statutes require protection of archaeological sites, objects, and human remains on public lands in Oregon. It is required that the permit be obtained prior to the start of archaeological testing or monitoring. Excavation permit applications usually require up to 35 to 40 days for submission and review.

Consultant will submit a detailed permit application outlining possible scenarios should significant cultural resources be found, to avoid applying for additional excavation permits through SHPO.

201.4.3.3 Field Survey. Consultant will conduct an archaeological survey in areas where ground-disturbing activities will occur to identify potential archaeological resources around the proposed area of disturbance. The survey will include a pedestrian walkover and subsurface shovel probes. The pedestrian survey will involve archaeologists walking along transects spaced no more than 20 meters apart, systematically examining the ground surface for archaeological materials. Consultant

crews will record their observations on standardized field forms and in field notebooks.

Preliminary research shows no previous cultural resources investigations have overlapped the project according to OARRA. Consultant will conduct subsurface testing in locations with a high probability of containing archaeological resources, where project-related ground disturbance will occur, to identify any archaeological resources that may be present within the project site. Consultant proposes to excavate up to 152 shovel probes. Probes will be a minimum of 30 centimeters (cm) in diameter and will extend to a minimum of 50 cm below the surface and two culturally sterile 10-cm levels, where possible. All soils will be screened through ¼-inch hardware mesh. A bucket auger will be used to sample more deeply buried sediments up to 200 cm below the surface opportunistically throughout the project area.

Consultant field staff will collect all cultural material from shovel probes that is clearly not modern per the archaeological permit conditions. The cost of this scope of work does not include curation or laboratory artifact analysis costs. All diagnostic materials (those that have a clear temporal connection) will be photographed. Resources will be recorded on the appropriate SHPO resource forms. Resource location GPS data will be collected and submitted as GIS files. If a GPS unit cannot be used to record resources, locations of areas surveyed or resources will be marked on a U.S. Geological Survey quadrangle map and then georeferenced during post-field processing. All recording procedures will follow SHPO guidelines. Consultant's cost estimate assumes no archaeological resources will be encountered during the survey. If archaeological materials are collected and require curation or analyses, a change order will be requested.

201.4.3.4 Reporting. Consultant will prepare a cultural resources survey report detailing the findings of the Tribal coordination, background research, pedestrian field survey, and subsurface testing. The report will include a description of the regulatory context, regional and local background research, methods, expectations, and results of the survey.

Cultural Resources Survey Report I

- Mill City and Gates MWTF
- 100-ft Strip
- Portion of SE Fairview Street Realignment located on Parcel 09S03E32-00-00100 and in Linn County public right-of-way (ROW)
- Remaining portion of SE Fairview Street Realignment located on Parcel 09S03E32-00-00200.
- Temporary Stormwater Outfall and Detention Basin

Cultural Resources Survey I - Area of Potential Effect (APE)

Consultant will provide an electronic version of the draft report to the Project Team for review. After addressing comments from the Project Team, Consultant will provide the draft report to the SHPO and interested Tribal entities for review. Consultant assumes that SHPO and the Tribes will not require more than 30 days for review. Consultant will coordinate with both SHPO and the Tribes for timely review of the report. After acceptance of the final report, Consultant will provide GIS shapefiles and maps of the areas surveyed and cultural resources identified to Project Team, provided that the private landowner(s) approve(s) of disclosing information about their properties.

Assumptions:

- All meetings and coordination with Project Team will be conducted via conference calls and email.
- The records search area will not extend farther than one (1) mile beyond the project area. Consultant will be able to complete the literature review using electronically available resources, and no in-person file searches will be required.
- The project location and size will remain as identified in the request for scope and cost (16.86 acres).
- Based on a preliminary review of SHPO records, Consultant anticipates no cultural resources will be identified and require documentation in the project area.
- For the purposes of total site count, every site larger than one (1) acre will be considered as an additional site based on every additional acre; otherwise, it is assumed that no lithic landscapes or overly dense lithic source areas will be encountered.
- Consultant's ability to conduct fieldwork will be unimpeded by access restrictions (e.g., fences, locked gates, and livestock), weather, road construction, landowner restrictions, COVID-19-related restrictions, force majeure, or any other factor(s) outside of Consultant's control.

- Consultant will prepare a cultural resources survey report, and the report will require no more than one round of review by Project Team. Comments from the Project Team on the report will not require more than four (4) hours of Consultant labor to address. No comments will be received from SHPO review, and minimal comments (up to four (**4**) hours of work needed to address comments) will be received from the Tribes.

Deliverables:

- Draft and Final Cultural Resources Survey Report I.
- Draft and final GIS spatial data from cultural resources investigation results.

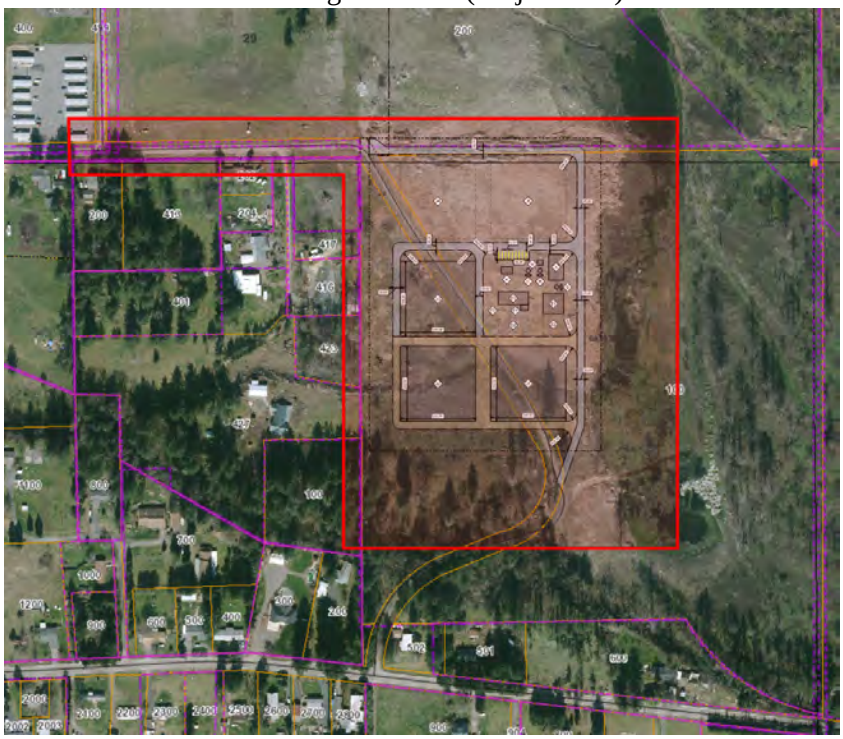
201.4.4 Phase I Environmental Site Assessments [REMOVED]

Task 201.5 – Mill City and Gates MWTF Topographic Survey
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.5.1 Topographic Survey. Consultant shall perform a topographic surface survey at the proposed Mill City and Gates MWTF site and SE Fairview Street Realignment and complete additional topographic surface survey at the proposed Temporary Stormwater Outfall and Detention Basin site, as shown in the figures below. Scope of services shall include:

a. Locate existing monumentation to complete a boundary resolution for subject area.
b. Full topographic surface data and underground utilities to the edge of the project boundaries as shown in red in the figure below (subject area):



Proposed location of Mill City and Gates MWTF in Mill City.

Additional survey required for proposed Temporary Stormwater Outfall and Detention Basin (blue polygon).

c. Obtain spot elevations at a maximum 50 foot on center spacing, including: along roadway centerlines, top of curb, flowline of curb, lip of gutter to the nearest 0.01 foot.
d. Additional spot elevations needed to adequately identify grade breaks and other topographic features.
e. Locate surface features over subject area, including: accessways, driveways, curbs, structures, fences, poles, disposal areas, drainage areas.
f. Locate ground and above ground utilities, including: utility poles, overhead utility wires, manholes, catch basins, cleanouts, meters, valves, vaults, boxes, hydrants.
g. Locate trees 8-inches diameter at breast height (DBH) and greater, noting coniferous or deciduous.
h. Map existing easements which may affect subject area; Owner to provide all necessary documentation or title information to complete this task.
i. Provide triangulated irregular network (TIN) to be used as a Civil 3D surface via an xml file.

j. Document information on utilities to the edge of the project boundaries of the subject area, including utility poles, power lines, telecommunications, and identification information.
k. The following information will be documented for storm drain, culverts, and sanitary sewers to the edge of the project boundaries of the subject area:

    i. Rim or grate elevations and inverts for manholes and drainage structures, with structure size (inside dimensions).
    ii. Pipe diameters, pipe material, and direction of pipe.
    iii. Manhole symbols shall be shown at center of the lid with a note defining the manhole diameter and whether the manhole is an eccentric or concentric structure. If eccentric, note to what side of the structure (NW, SE, S, etc.) the eccentric cone is flush with.
    iv. Storm and sewer structures to the next downstream and upstream structures beyond the limits of survey.
    v. Show utility lines as continuous, extending to upstream or downstream structure.
l. Prepare legal descriptions and exhibits for the following Linn County land use permit applications:
    i. Expanded Partition Application – Tax Lot 09S03E32 00100.
    ii. Conditional Use Permit Application – Mill City and Gates MWTF.
    iii. Conditional Use Permit Application – Road Realignment.

Assumptions:

- Survey shall be based in NAVD88 vertical datum derived from the Oregon Real-Time GNSS Network.
- Retracement survey recorded with Marion County Surveyor's Office is not included in this scope.
- Private utility locating services are not included in this scope.

Task 201.6 – Mill City and Gates MWTF Geotechnical Investigation
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Soil and groundwater conditions will be evaluated as a basis for developing geotechnical engineering design criteria for the preferred Mill City and Gates MWTF and rapid infiltration basins (RIB) site located near the east terminus of SE Fairview Street approximately 900 feet east of the intersection with Remine Road in Mill City, Oregon. Proposed improvements include asphalt concrete and gravel surfaced access drives, RIB, a lightly loaded administrative support building, an effluent pump station, one sequencing batch reactor (SBR) basin, and a lightly loaded equipment building that will be constructed on approximately 6.25 acres of currently undeveloped land. Future developments at the project site will include an additional SBR basin, additional RIB, and an expansion to the

Consultant Responsibilities:

201.6.1 Review information regarding subsurface soil and groundwater in the vicinity of the site, including reports in our files, selected geologic maps, and other geotechnical engineering-related information.

201.6.2 Coordinate and manage the field investigation, including public utility notification and scheduling of subcontractors and Consultant's field staff. Public locates will be called in by the Consultant as required by law. Additionally, Consultant will coordinate for a private locate company to access the site.

201.6.3 Complete up to four field infiltration tests at locations to be determined by the Project Team and at depths of the proposed RIB (6 feet below ground surface (bgs) or less). Infiltration testing will be conducted in general accordance with local requirements using the open pit or encased falling head procedures, similar to requirements for City of Salem and Marion County.

201.6.4 Explore subsurface soil and groundwater conditions at the project site by conducting eight (8) to twelve (12) test pits and four (4) to six (6) drilling borings in the area of the proposed paved areas and building footprints. Test pit explorations will be extended to depths of up to 10- to 12-feet bgs in the locations of the proposed buildings and to 6.5-feet bgs in the proposed paved areas. Drilled borings will be conducted to 45- to 50-feet bgs within the footprint of the proposed buildings for the SBR basins. Exploration(s) will be advanced to the depths noted or practical refusal in dense gravels or competent rock, if encountered., whichever is shallower. Borings will be backfilled as required by state law and surface disturbance minimized to the extent practical. Cuttings will be left on site.

201.6.5 Obtain samples at representative intervals from the explorations, observe groundwater conditions and maintain detailed logs in general accordance with ASTM International (ASTM) Standard Practices Test Method D 2488. Qualified staff from our office will observe and document field activities.

201.6.6 Complete Dynamic Cone Penetrometer (DCP)r tests at three (3) to four (4) locations to determine subgrade modulus for pavement design.

201.6.7 Perform laboratory tests on selected soil samples obtained from the explorations to evaluate pertinent engineering characteristics. Specific laboratory tests will depend on soil conditions encountered, but may include moisture/density tests, Atterberg limit tests, one 1-dimensional consolidation test, and percent fines test.

201.6.8 Provide a geotechnical evaluation of the site and provide design recommendations in a geotechnical report that will address the following geotechnical components:

a. A general description of site topography, geology, and subsurface conditions;
b. An opinion as to the adequacy of the proposed development from a geotechnical engineering standpoint;
c. Summary of infiltration testing and a discussion relating to design infiltration rates based on subsurface conditions observed in our explorations;
d. Recommendations for site preparation measures, including disposition of undocumented fill and unsuitable native soils, recommendations for temporary cut slopes and constraints for wet weather construction;
e. Recommendations for temporary excavation and temporary excavation protection, such as excavation sheeting and bracing;
f. Recommendations for earthwork construction, including use of on-site and imported structural fill and fill placement and compaction requirements;
g. Recommendations for foundations to support the proposed structures, including minimum width and embedment, design soil bearing pressures, settlement estimates (total and differential), coefficient of friction and passive earth pressures for sliding resistance, and recommended minimum setback from existing retaining walls or recommendations for foundation alternatives, as necessary. It is further assumed that shallow foundations can be used to adequately support the structures.

h. Recommendations for supporting on-grade slabs, including base rock, capillary break, and modulus of subgrade reactions.
i. Assessment of existing slope conditions and discussion of slope stability.
j. Seismic design parameters, including soil site class evaluation in accordance with the 2021 international building code (IBC) and the current version of the Oregon State Structural Code including a site-specific seismic hazard evaluation consistent with the requirements of the 2022 OSSC.
k. Recommendations for constructing asphalt concrete and gravel surfaced pavements for proposed on-site parking and drives, including subgrade, drainage, base rock, and pavement sections. Recommendations will be based on estimated traffic loads or loads provided by the Project Team, and on subsurface data obtained as part of this scope.
l. Recommendations for shallow foundations and site preparation measures to mitigate potentially excessive settlement of shallow foundations. It is anticipated that excessive post construction settlements could potentially occur under the assumed design loads. Therefore, preliminary recommendations to mitigate settlement may include discussions relating to ground improvement including preliminary recommendations for crushed aggregate piers.
m. Geotechnical work will be directly supervised by a geotechnical engineer licensed in the state of Oregon who will apply their professional seal to the document.

Assumptions:

- The following loads for the slightly loaded administrative and machinery buildings have been assumed. Revised project loads will be provided by the Project Team prior to completing the geotechnical report for the site if they vary from these assumptions:
  - Up to 60 kips per column
  - 4 kips per lineal foot (klf) wall loads or less
  - Floor loads will be 125 pounds per square foot (psf) or less
  - SBR wall loads of up to 4-kips per lineal foot and SBR areal loads of up to 1500-psf are assumed.
- Shallow spread foundations will be suitable for support of the proposed structures and have not budgeted for providing deep foundation recommendations if they become necessary.
- Right-of-entry or access will be provided to the exploration locations.
- Surface disturbance that will result from exploration activities is acceptable to the site owner and is understood by the Project Team. Consultant will be available to discuss further with the Project Team, site owner, or prospective owner, if needed.
- A truck or track-mounted drill rig can adequately access the site.
- Explorations will be extended to the depths described above or to refusal in dense material. Contingency costs for specialized drilling into dense material if dense gravel or rock are encountered are not included in this scope of work or cost.
- Excess drill cuttings will be spread discreetly across the site.
- Contaminated soils will not be encountered during the exploration and sampling. If contaminated or suspected contamination is encountered (based on field screening), drilling operations will stop and the Project Team will be notified for directions on how to proceed.
- A site response analysis and/or a ground motion hazard analysis is not required and is excluded from this scope and budget. The site-specific seismic hazard analysis included in the scope above does not include the budget for a ground motion hazard analysis or a site response analysis.

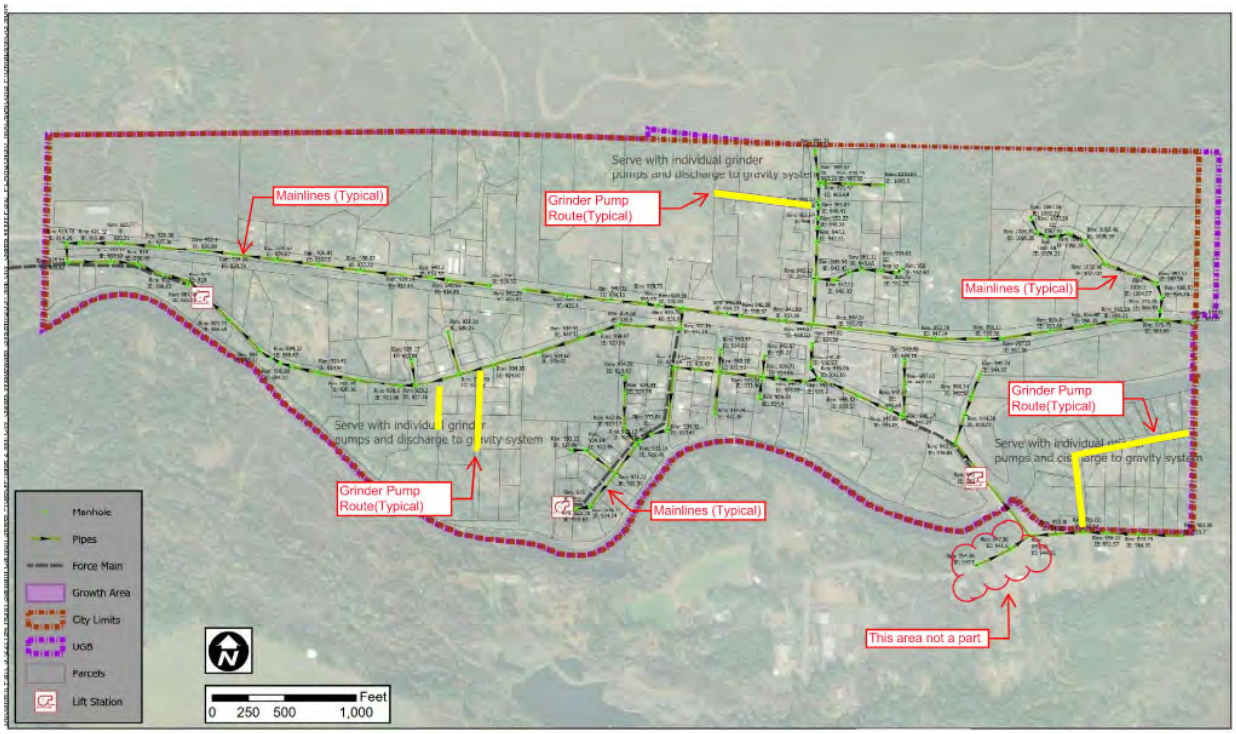
Deliverables:

- Final Geotechnical Investigation Report

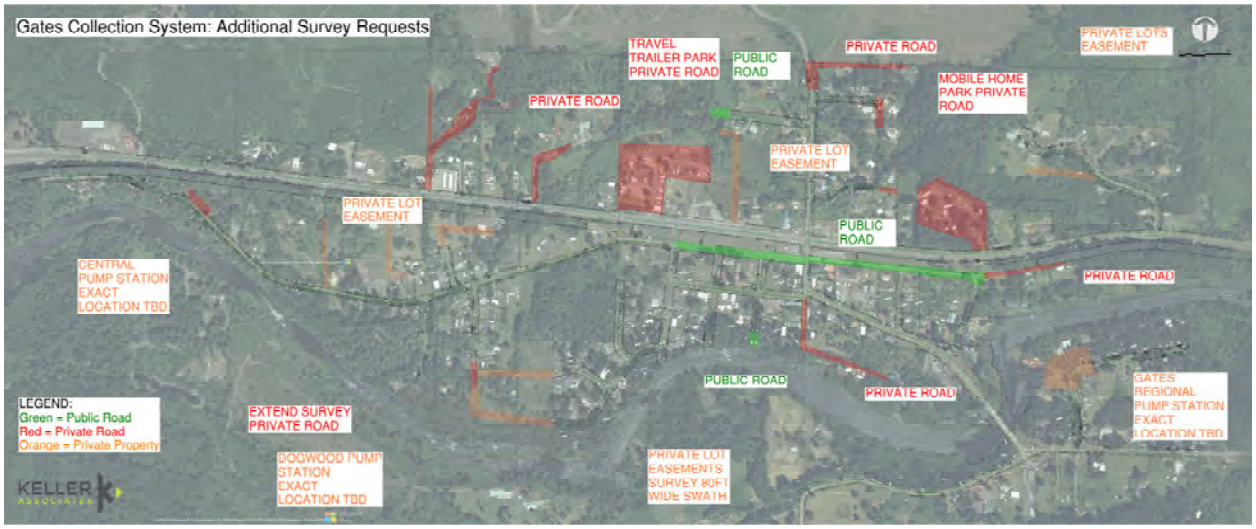
Task 201.7 – Gates Collection System Survey
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.7.1 Topographic Survey. Consultant shall perform a topographic surface survey of the proposed Gates Collection System. This topographic survey will encompass right-of-way surveying along the proposed sewer alignment routes as shown in the figure below (subject area):



Additional Survey required based on 30% Design Alignment:



Consultant shall perform a topographic surface survey of Alder Street for the Alder Street Upsizing Improvements. This topographic survey will encompass right-of-way surveying along the proposed sewer alignment routes as shown in the figure below (subject area):

Tasks shall include administration and coordination, survey research, field monument ties and boundary resolution, field topographic survey of mainlines and grinder pump routes, and survey processing. Field topographic survey efforts include:

a. Locate existing monumentation to complete a boundary resolution for subject area.

b. Provide topographic surface data, including locations of underground utilities (as marked by utility purveyors) along alignment routes.
c. Obtain spot elevations at approximate 50-foot on center spacing, including roadway centerlines, top of curb, flowline of curb, and lip of gutter.
d. Provide additional spot elevations needed to identify grade breaks and other topographic features.
e. Locate surface features over subject area, including: accessways, driveways, curbs, structures, fences, poles, disposal areas, and drainage areas.
f. Locate ground and above ground utilities, including: utility poles, overhead utility wires, manholes, catch basins, cleanouts, meters, valves, vaults, boxes, hydrants.
g. Locate all trees 8+ inches diameter at breast height, noting coniferous or deciduous.
h. Surface data to create 1-foot contours and provide triangulated irregular network (TIN) to be used as a Civil 3D surface via an .xml file.
i. Establish site control.
j. Show power lines, and telecommunications including any identification information.
k. For storm drain, culverts, and sanitary sewers:
    - Show rim or grate elevations and inverts for manholes and drainage structures, with structure size (approximate inside dimension).
    - Show pipe diameters, pipe material, and direction of pipe.
    - Manhole symbols shall be shown at center of the lid with a note defining the manhole diameter and whether the manhole is an eccentric or concentric structure. If eccentric, note to what side of the structure (NW, SE, S, etc.) the eccentric cone is flush with.
    - Survey storm and sewer structures to the next downstream and upstream structures beyond the limits of survey.
    - Show utility lines as continuous, do not terminate shortly after a structure, extend to upstream or downstream structure.

201.7.2 Easements. Prepare legal descriptions and visual exhibit maps for up to one-hundred (100) easement areas.

201.7.3 Private Utility Locating Services. Consultant to coordinate and provide private utility locating services and revised survey drawings reflecting locations of the confirmed utilities for areas highlighted in the map below:

Assumptions:

- Survey shall be based on an official benchmark for the region.
- ~~Private utility locating services may be recommended should utility purveyors (i.e. communication companies) fail to mark their utility lines on pre-survey projects. If these are not marked, this service will be provided as an additional service.~~
- The scope of work does not include:
  - Retracement Survey recorded with County Surveyor's Office.
  - Easement retracement
  - Wetland Mapping
  - Title Reports for affected properties.
- For additional survey required based on 30% Design Alignment:
  - Private Property- Survey 50 feet on both sides of property line (total 100-foot width).
  - Private Roads – Survey 10 feet from edge of gravel/pavement, both sides.

Deliverables:

- Basemaps in AutoCAD 3D format.
- Legal Descriptions and Visual Exhibit Maps for up to one-hundred (100) easement areas.

Task 201.8 – Gates Collection System Geotechnical Investigation
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.8.1 Subsurface explorations will be completed for the proposed sewer collection system in Gates, Oregon. Specific geotechnical design elements include review of access permits/plans (if available) and geotechnical recommendations for approximately 24,700

linear feet of new 8-inch gravity mains, approximately 7,200 linear feet of new pressure sewer, and up to three (3) new pump stations throughout the City of Gates. Explorations at three (3) preliminary lift station locations (Central Street Lift Station, Garden Lane Lift Station, and Sorbin Street Lift Station) were completed. As design has developed to 30%, the Sorbin Street Lift Station will not be pursued; instead, one additional exploration will be completed along Linnwood Drive for a proposed regional lift station. Subsurface explorations will be completed using a trailer-mounted drill rig, except for at the three pump stations where a roto-sonic drill rig will be used to acquire subsurface data to sufficient depth in anticipated gravel soils. The intent of the subsurface explorations is to adequately characterize subsurface soils along the proposed alignment and pump stations.

201.8.1.1 Review proposed project plans to be provided by the Project Team for geotechnical design and construction elements.

201.8.1.2 Provide an exploration work plan detailing approximate locations and proposed depth of explorations.

201.8.1.3 Complete an application for Oregon Department of Transportation (ODOT) miscellaneous use permit for fieldwork, if required.

201.8.1.4 Complete a utility locate request for the site through the public one call system.

201.8.1.5 Coordinate with a private utility locate subcontractor to complete utility locates at proposed exploration locations.

201.8.1.6 Explore subsurface soil and groundwater conditions at the site by conducting subsurface explorations with a trailer-mounted drill rig approximately every 300 to 500 feet along the proposed alignment (approximately 67 to 110 borings). The borings will be performed by a driller subcontracted to and scheduled by the Consultant. Borings will be conducted to a depth of up to 10 feet below ground surface (bgs) with the intention to identify depth to presence of native rock suspected to be present in the subsurface. Borings will be advanced to the depths noted or to a depth of practical refusal in dense or collapsing materials if encountered, whichever is shallower.

201.8.1.7 Explore subsurface soil and groundwater conditions at four (4) ~~three (3)~~ proposed pump station locations by conducting one subsurface exploration at each location with a roto-sonic drill rig. The borings will be performed by a driller subcontracted to and scheduled by the Consultant. Borings will be conducted to a depth of up to 40 feet bgs with the intention to identify depth to presence of native rock suspected to be present in the subsurface. Borings will be advanced to the depths noted or to a depth of practical refusal in dense or collapsing materials if encountered, whichever is shallower.

201.8.1.8 Provide a general description of existing site conditions.

201.8.1.9 Maintain a general description of existing site conditions.

201.8.1.10 Maintain a detailed log of subsurface explorations. Collect samples of the subsurface materials encountered.

201.8.1.11 Conduct laboratory tests using soil samples obtained from the explorations in general conformance with American Society for Testing and Materials (ASTM) including moisture content tests, plasticity index (Atterberg Limits) tests, or fines content analyses as appropriate, depending on the types of materials encountered. Three (3) moisture content determination tests in general accordance with ASTM D2216 and one (1) fines content analysis test in general accordance with ASTM D1140 and/or C117 will be completed on soil samples collected from the proposed pump station on Linnwood Drive.

201.8.1.12 Provide recommendations for trench backfill materials, compaction, and general construction specifications.

201.8.1.13 Complete a final geotechnical letter report specific to the sewer collection system and pump stations.

Assumptions:

- Fieldwork can be completed during normal working hours (Monday to Friday, 8:00 AM to 5:00 PM) and will not require that fieldwork be completed during nights or weekends.
- Brush clearing along the alignment and cleared access to exploration locations will be completed by the Project Team prior to the commencement of fieldwork.
- Traffic control will only be required for 20% of the explorations [four (4) days].
- Contaminated soil will not be encountered during the explorations.
- Permit fees will be waived.
- Site access and right of entry will be facilitated by Project Team.
- This task does not include geotechnical construction observation or testing services,
- Consultant will coordinate with the Project Team to establish exploration locations that will minimize damage to existing development.
- Drilled borings will be backfilled as required by state law, and surface disturbance will be minimized to the extent practical.
- Geotechnical investigation at the proposed lift station on Linnwood Drive will be limited to one day (8 hours) of field work.

Deliverables:

- Draft Geotechnical Letter Report
- Final Geotechnical Letter Report
- One Geotechnical Letter Report Addendum for geotechnical investigation on Linnwood Drive

Task 201.9 – Gates Collection System Environmental Due Diligence
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Environmental due diligence shall be completed for the proposed Gates Collection System in Linn and Marion Counties, Oregon. The project area will consist of a 50-foot right-of-way along approximately 5-miles of pipeline. The proposed pipelines will be installed with an open trenching method. Environmental due diligence will include project management, wetlands and water delineation, cultural resources investigation, and Phase I environmental site assessments (ESAs). These tasks are intended to inform the project's final design and minimize impacts to existing resources.

Consultant Responsibilities:

201.9.1 Project Management. The Consultant will coordinate with the Project Team to receive project materials, prepare invoicing, and transmit correspondence. The Consultant will maintain project files to include necessary supporting materials as required. The Consultant's project manager will monitor task performance, schedule, and budget; approve project expenses; and ensure that systems are in place to conduct quality assurance and quality control on deliverables and correspondence.

Beyond general coordination and communication, Consultant will provide a monthly email to inform the Project Team about the project's progress. The monthly email will outline which tasks were worked on during the month and the progress of those tasks, as well as what tasks are anticipated to be worked on in the following month. As part of these monthly emails, Consultant shall provide a budget summary and consistent communication to keep projects on track and within their schedule and budgets. Additionally, Consultant will participate in bi-monthly check-in calls and attend regular check-in meetings with the Project Team to provide status updates and discuss action items. Consultant's senior subject matter experts will provide quality reviews and input on overall project approach.

Assumptions:

- Project duration for this task will be four (4) months.

201.9.2 Environmental Due Diligence ~~Wetlands and Waters Delineation~~

201.9.2.1 Wetlands and Ordinary High Water Line Delineation. Consultant will survey the project area to evaluate whether wetlands and waters are present. If wetlands or waters are found, Consultant will delineate wetland boundaries in accordance with the methodology of the 1987 *U.S. Army Corps of Engineers Wetlands: Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0),* used by the U.S. Army Corps of Engineers and the Oregon Department of State Lands (DSL). Hydrology, soils, and vegetation will be documented at select sample plot locations and recorded on standardized wetland determination data forms.

Streams and other waters will be delineated based on the U.S. Army Corps of Engineers' 2005 *Regulatory Guidance Letter 05-05: Ordinary High Water Mark Identification.* As defined in DSL's Oregon Administrative Rule 141-085-0515, field indicators for the ordinary high water line (OHWL) can include the following: a clear, natural line impressed on the shore or bank; a change in vegetation from riparian (e.g., willows) to upland (e.g., oak or fir); a textural change of depositional sediment or changes in the character of the soil (e.g., from sand/cobble/gravel to upland soils); an elevation below which no fine debris (e.g., needles, leaves, cones, and seeds) occurs; and the presence of litter and debris, water-stained leaves, and water lines on tree trunks.

Wetlands and OHWL boundaries and any sample plot locations will be surveyed using Collector for ArcGIS paired with a computer tablet and a Juniper Geode GNSS receiver capable of submeter accuracy. These data would be imported into a GIS program to produce a site map showing the delineated wetland and OHWL boundaries.

201.9.2.2 Wetlands and Ordinary High Water Line Delineation Report. Consultant will prepare a summary report of the wetland and OHWL delineations to meet DSL requirements for wetlands and other waters delineation reports. The report will be submitted to the Project Team for review prior to submission to any regulatory agencies. This task includes the preparation of the required DSL wetland report cover form, to be signed by Consultant prior to submitting the report to DSL for review and concurrence.

Assumptions:

- Task assumes five (5) hours of agency coordination time but does not include a site visit with the regulatory agencies (i.e. with DSL).
- Budget assumes the DSL wetland report review fee will be paid for directly by the Owner.
- Natural resources on the site will be accessible by foot. If vegetation such as Himalayan blackberry prevents access to natural resources on the site, clearing must be completed before field work can be completed.
- Task assumes five (5) days (40 hours) of wetland delineation and OHWL field work for three (3) scientists.
- Owner will provide one (1) round of comments on the draft delineation report.
- All deliverables will be provided electronically; no hard copies will be provided.
- The delineations will be based on the project area (Gates_Pipe.kmz) in documentation received from the Project Team.
- Ideal wetland delineation times are typically from late winter to late spring to capture hydrology and plant phenology. If wetland hydrology and plant indicators are not apparent, another field visit may be needed during optimal conditions to confirm wetland presence.
- Any on-site flagging required for fieldwork or professional surveying will be incidental to this item without additional measurement or payment for on-site flagging.
- If required, a Joint Permit Application for impacts to wetlands and/or other waters is not included within this task.

Deliverables:

- Wetlands and OHWL delineation report.

~~201.9.3 Cultural Resources Investigation~~

~~201.9.3.1~~ 201.9.2.3 Tribal Coordination. Consultant will coordinate with the cultural resources departments of the Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, and Confederated Tribes of Warm Springs to inquire about local historical knowledge of the project area or any concerns about the location of the project. All project-related Tribal coordination will be described in the final report.

~~201.9.3.2~~ 201.9.2.4 Background Research and Permitting. Prior to fieldwork, Consultant will conduct a records search of the Oregon Archaeological Records Remote Access (OARRA) online database, maintained by the Oregon State Historic Preservation Office (SHPO), for information about previous cultural resource studies and previously identified archaeological sites in the project vicinity. Consultant will review available background resources pertinent to the history, prehistory, ethnography, and environmental context of the project area. These background resources will include

any recent geotechnical reports, ethnographic and historical accounts, General Land Office documents, historical maps, historical photographs, and other relevant research information available from local libraries, historical societies, or informants.

Because portions of the project are located on land managed by state and local entities, an archaeological excavation permit must be obtained from SHPO before archaeological testing takes place (per Oregon Revised Statute [ORS] 390.235 and its implementing guidelines). Consultant will apply for this excavation permit (ORS 358.905 and 97.740). These statutes require protection of archaeological sites, objects, and human remains on public lands in Oregon. It is required that the permit be obtained prior to the start of archaeological testing or monitoring. Excavation permit applications usually require up to 35 to 40 days for submission and review.

Consultant will submit a detailed permit application covering possible scenarios should significant cultural resources be found, to avoid the need to apply for additional excavation permits through SHPO.

~~201.9.3.3~~ 201.9.2.5 Field Survey. Consultant will conduct an archaeological survey in all areas where ground-disturbing activities will occur to identify any archaeological resources that may be present within the project area. Preliminary research shows no previous cultural resources investigations have overlapped the project according to OARRA. The survey will include a pedestrian walkover and subsurface shovel probes. The pedestrian survey will involve archaeologists walking along transects spaced no more than 10 meters apart, systematically examining the ground surface for archaeological materials. Consultant crews will record their observations on standardized field forms and in field notebooks.

Consultant will conduct subsurface testing in locations with a high probability of containing archaeological resources, where project-related ground disturbance will occur, to identify any archaeological resources that may be present within the project site. Consultant proposes to excavate up to 40 shovel probes. Probes will be a minimum of 30 centimeters (cm) in diameter and will extend to a minimum of 50 cm below the surface and two culturally sterile 10-cm levels, where possible. All soils will be screened through ¼-inch hardware mesh. A bucket auger will be used to sample more deeply buried sediments up to 200 cm below the surface opportunistically throughout the project area.

Consultant field staff will collect all cultural material from shovel probes that is clearly not modern, per the archaeological permit conditions. All diagnostic materials (those that have a clear temporal connection) will be photographed. Resources will be recorded on the appropriate SHPO resource forms. Resource location GPS data will be collected and submitted as GIS files. If a GPS unit cannot be used to record resources, locations of areas surveyed or resources will be marked on a U.S. Geological Survey quadrangle map and then georeferenced during post-field processing. All recording procedures will follow SHPO guidelines.

~~201.9.3.4~~ 201.9.2.6 Reporting. Consultant will prepare a cultural resources survey report detailing the findings of the Tribal coordination, background research, pedestrian field survey, and subsurface testing. The report will include a description of the regulatory context, regional and local background research, methods, expectations, and results of the survey.

Consultant will provide an electronic version of the draft report to the Project Team for review. After addressing comments from the Project Team, Consultant will provide the draft report to SHPO and interested Tribal entities for review. Consultant will coordinate with both SHPO and the Tribes for timely review of the report. After acceptance of the final report, Consultant will provide GIS shapefiles and maps of the areas surveyed and cultural resources identified to the Project Team, provided that any private landowner(s) approve(s) of disclosing information about their properties.

Assumptions:

- The records search area will not extend farther than one (1) mile beyond the project area. Consultant will be able to complete the literature review using electronically available resources, and no in-person file searches will be required.
- The project location and size will remain as identified in the request for scope and cost (approximately 5 linear miles represented in the map labeled Gates_Pipe.kmz).
- Based on a preliminary review of SHPO records, Consultant anticipates no cultural resources will be identified and require documentation in the project area. If archaeological materials are collected and require curation or analyses, these services will be provided as an additional service.
- Every site larger than one (1) acre will be considered as an additional site; otherwise, it is assumed that no lithic landscapes or overly dense lithic source areas will be encountered.
- Fieldwork will be unimpeded by access restrictions (e.g., fences, locked gates, and livestock), weather, road construction, landowner restrictions, or other factors outside of Consultant's control as identified elsewhere in this Agreement.
- Shovel probes will be placed only within the Mill City proposed pipeline. The proposed pipeline within Gates city limits is within hardscaped areas, which cannot be excavated (subsurface tested) by hand.
- Cultural resources survey report will require no more than one round of review by the Owner. Comments on the report from the Owner will not require more than four (4) hours of Consultant labor to address. No comments will be received from SHPO review, and minimal comments (up to four [4] hours of work) will be received from the Tribes.

Deliverables:

- Draft and final cultural resources survey report.
- Draft and final GIS spatial data showing cultural resources investigation results.

~~201.9.4~~ 201.9.2.7 Phase I Environmental Site Assessments. Consultant will prepare two Phase I ESA reports for the proposed Gates Collection System; one report each for the eastern and western portions of the project, which are separated by approximately 1.4 miles. The Phase I ESAs will be completed in general accordance with the standards described in the current ASTM Standard E1527-21, *Standard Practice for Environmental Site Assessments: Phase*

I Environmental Site Assessment Process (2021). The goal of a Phase I ESA is to assess the subject property, to the extent practical, for the potential presence of recognized environmental conditions (RECs), defined in ASTM Standard E1527-21. This scope of work applies to each Phase I ESA and consists of the following tasks.

~~201.9.4.1~~ 201.9.2.7.1 Records Review. Consultant will review appropriate documents, including historical aerial photographs, historical topographic maps, and other land-use documents, to identify past operations or activities at the subject property that may have caused the release of hazardous substances into the environment. As part of the review process, the site location, hydrogeological characteristics, geographic setting, and physiography will also be summarized.

Additionally, available state and federal regulatory databases will be reviewed to determine whether the subject property or nearby facilities have been subject to environmental actions or review. The regulatory database review will, at a minimum, include the databases required to satisfy the ASTM standard. Consultant assumes that sufficient data will be readily available such that an in-person regulatory file review will not be needed. Due to the nature of the site, Consultant will not obtain and review Sanborn Company Fire Insurance maps or city directory searches.

~~201.9.4.2~~ 201.9.2.7.2 Interviews. Consultant will interview select property owners/managers, as contact information is available. For the Gates Collection System, Consultant assumes that the City of Gates, Marion County, and/or Linn County will be the interviewee for portions within roadway rights-of-way. Additional interviews may be conducted for additional information, such as owners of properties with gas stations or industrial uses. The interviews may be comprised of phone calls, emails, and/or mailings. Consultant will initiate a second attempt to reach non-respondents. This task is subject to the Project Team's approval to interact with property owners.

~~201.9.4.3~~ 201.9.2.7.3 Site Reconnaissance. A Phase I ESA includes a reconnaissance of the subject property and vicinity to observe and photograph areas with potential RECs and to document current conditions. Consultant will study aerial photographs and topographic maps in conjunction with other data to identify areas of environmental interest on the subject property that would require in-person observation to identify and/or document. Field staff will visit each of the areas of environmental interest to observe and document them with digital photographs and notes. Access to private, locked, or restricted areas will be arranged by the Project Team. This task does not include activities such as collecting or analyzing soil, air, water, or other environmental samples, or addressing asbestos-containing materials, lead-based paint, or radon.

~~201.9.4.4~~ 201.9.2.7.4 User-Provided Information. User-provided information is an essential component of the Phase I ESA and includes items such as relevant environmental documents, a completed Phase I ESA User Questionnaire, a completed Initial Data Request, and access to the subject property. User is responsible for providing Consultant the results of a search of recorded land-title records and judicial records for environmental liens and activity and use limitations (AULs).

~~201.9.4.5~~ 201.9.2.7.5 Report Generation. The Phase I ESA findings will be summarized and documented in one report each for the eastern and western portions of the project. Consultant will submit drafts within 6 to 8 weeks of starting the Phase I ESAs. Consultant will respond to one round of comments and provide the client with final reports within one (1) week of receiving comments.

According to the ASTM standard, the content of a Phase I ESA is valid for 180 days after the first data are collected. If the date of the intended use of the Phase I ESAs is not within that 180-day period, updated reports may be necessary. Non-scope issues identified in the ASTM standard include radon, lead and asbestos, radioactivity, regulatory compliance, wetlands, and endangered species. Non-scope issues will not be addressed in the Phase I ESA reports.

Assumptions:

- The ASTM User Questionnaires and Consultant's Initial Data Requests will be returned to the Consultant promptly upon commencement of the project.
- No provision is included for delays due to land access, coordination, weather issues, or other factors beyond the Consultant's control as identified elsewhere in this contract. Delays are not included in the fee.
- Assume one round of revisions to each report's text. Substantial revisions, such as a revised scope or project area, will incur additional cost.
- Fieldwork for the Phase I ESAs will be completed in conjunction with that for other resources and will not be an independent mobilization.
- Owner will pay applicable Linn and Marion County fees (approximately $1,450 per application).
- SHPO and Tribes will not require more than 30 days for review.
- A 50-year chain-of-title report, and a search for liens and AULs will not be obtained by Consultant under this task.

Deliverables:

- Draft and final Phase I ESA Reports for the eastern and western portions of the project.

Task 201.10 – Force Main Alignment Environmental Due Diligence
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Environmental due diligence shall be completed on approximately 3.6-linear-mile pipeline (25-foot right-of-way) of project area in Linn County, Oregon, which will include the proposed:

- Gates/Mill City Force Main

Environmental due diligence will include project management, wetlands and waters delineation, cultural resources investigation, and Phase I environmental site assessment (ESA). These tasks are intended to inform the project's final design and minimize impacts to existing resources.

Consultant Responsibilities:

201.10.1 Project Management. Consultant will coordinate with Project Team to receive project materials, prepare invoicing, and transmit correspondence. Consultant will maintain project files to include necessary supporting materials, as required. The project manager will monitor task performance, schedule, and budget; approve project expenses; and check that systems are in place to conduct quality assurance and quality control on deliverables and correspondence.

Beyond general coordination and communication, Consultant will provide a monthly email to inform the Project Team about the project's progress. The monthly email will outline which tasks were worked on during the month and the progress of those tasks, as well as what tasks are anticipated to be worked on in the following month. As part of these monthly emails, Consultant shall provide a budget summary and consistent communication to keep projects on track and within their schedules and budgets. Additionally, Consultant's project manager will schedule bi-monthly check-in calls and attend regular check-in meetings with Project Team to provide status updates and discuss action items. Consultant's senior subject matter experts will provide quality reviews and input on overall project approach.

Assumptions:

- Bi-monthly check-in calls will be approximately 30 minutes long.
- There will be twelve (12) monthly check-in calls between Consultant and Project Team.

Deliverables:

- Meeting minutes.

201.10.2 Environmental Due Diligence ~~Wetlands and Waters Delineation~~

201.10.2.1 Wetlands and Ordinary High Water Line Delineation. Consultant will survey the project area to evaluate whether wetlands and waters are present. If wetlands or waters are found, Consultant will delineate wetland boundaries in accordance with the methodology of the 1987 U*.S. Army Corps of Engineers Wetlands Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Regions (Version 2.0)*, used by the U.S. Army Corps of Engineers and the Oregon Department of State Lands (DSL). Hydrology, soil, and vegetation will be documented at select sample plot locations and recorded on standardized wetland determination data forms.

Streams and other waters would be delineated based on the U.S. Army Corps of Engineers' 2005 *Regulatory Guidance Letter 05-05: Ordinary High Water Mark Identification.* As defined in DSL's Oregon Administrative Rule 141-085-0515, field indicators for the OHWL can include the following: a clear, natural line impressed on the shore or bank; a change in vegetation from riparian (e.g., willows) to upland (e.g., oak or fir); a textural change of depositional sediment or changes in the character of the soil (e.g., from sand /cobble/gravel to upland soils); an elevation below which no fine debris (e.g., needles, leaves, cones, and seeds) occurs; and the presence of litter and debris, water-stained leaves, and water lines on tree trunks. Wetlands and OHWL boundaries and any sample plot locations will be surveyed using Collector for ArcGIS paired with a tablet and a Juniper Geode GNSS receiver

capable of submeter accuracy. These data would be imported into a GIS program to produce a site map showing the delineated wetland and OHWL boundaries.

201.10.2.2 Wetlands and Ordinary High Water Line Delineation Report. Consultant will prepare one (1) delineation report of the wetland and OHWL delineations to meet DSL requirements for wetlands and other waters delineation report:

Wetlands and OHWL Delineation Report:
- Gates/Mill City Force Main

Wetlands and OHWL Delineation Survey Area

The report will be submitted to Project Team for review prior to submitting to any regulatory agencies. This task includes the preparation of the required DSL wetland report cover form, to be signed by a Project Team representative prior to submitting the report to DLS for review and concurrence.

Assumptions:

- This task include five (5) hours of agency coordination time (four (**4**) hours for Project Team and three (3) hour for GIS specialist).
- The 2025 DSL wetland report review fee is $575 per report and will be paid for directly by the Consultant.
- Access to the area will be arranged by Project Team.
- Natural resources on the site will be accessible by foot. If vegetation such as Himalayan blackberry prevents access to natural resources on the site, clearing must be completed before fieldwork can be done, or an additional site visit will be needed at additional cost.
- This cost estimate does not include a DSL site visit.
- This cost estimate is based on two (2) days of wetland delineation and OHWL fieldwork for two scientists. Project team will provide one round of comments on the draft delineation report. Any task not expressly described herein is not included in the proposed cost.
- All deliverables will be provided electronically; no hard copies will be provided.
- The delineations will be based on the project area shown by the alignment in the figures above. Any change to the project area after survey will incur additional costs.

- Ideal wetland delineation times are typically from late winter to late spring to capture hydrology and plant phenology. If wetland hydrology and plant indicators are not apparent, another field visit may be needed during optimal conditions to confirm wetland presence.
- Traffic control flagging is not included.
- This scope of work does not include a joint permit application for impacts to wetlands or other waters.

Deliverables:

- Draft and Final Wetlands and OHWL Delineation Report.

~~201.10.3 Cultural Resources Investigation~~

~~204.10.3.1~~ 201.10.2.3 Tribal Coordination. Consultant will coordinate with the cultural resources departments of the Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, and Confederated Tribes of Warm Springs to inquire about local historical knowledge of the project area. Consultant will also ask if they have any cultural concerns about the location of the project. All project-related Tribal coordination will be described in the final report.

~~201.10.3.2~~ 201.10.2.4 Background Research and Permitting. Prior to fieldwork, Consultant will conduct a records search of the Oregon Archaeological Records Remote Access (OARRA) database, maintained by the Oregon State Historic Preservation Office (SHPO), for information about previous cultural resource studies and previously identified archaeological sites in the project vicinity. Consultant staff will review other available background resources pertinent to the history, prehistory, ethnography, and environmental context of the project area. These background resources will include any recent geotechnical reports, ethnographic and historical accounts, General Land Office documents, historical maps, historical photographs, and other relevant research information available from local libraries, historical societies, or informants. Based on preliminary research, the current project area overlaps a marked historic-era railroad that is currently unevaluated for the National Register of Historic Places.

Because portions of the project are located on land managed by state and local entities, an archaeological excavation permit must be obtained from SHPO before archaeological testing takes place (per Oregon Revised Statute (ORS) 390.235 and its implementing guidelines). The Consultant project manager will apply for up to one (1) excavation permit (ORS 358.905 and 97.740). These statutes require protection of archaeological sites, objects, and human remains on public lands in Oregon. It is required that the permit be obtained prior to the start of archaeological testing or monitoring. Excavation permit applications usually require up to 35 to 40 days for submission and review.

Consultant will submit a detailed permit application outlining possible scenarios should significant cultural resources be found, to avoid applying for additional excavation permits through SHPO.

~~201.10.3.3~~ 201.10.2.5 Field Survey. Consultant will conduct an archaeological survey in areas where ground-disturbing activities will occur to identify potential archaeological

resources around the proposed area of disturbance. The survey will include a pedestrian walkover and subsurface shovel probes. The pedestrian survey will involve archaeologists walking along transects spaced no more than 20 meters apart, systematically examining the ground surface for archaeological materials. Consultant crews will record their observations on standardized field forms and in field notebooks.

Preliminary research shows no previous cultural resources investigations have overlapped the project according to OARRA. Consultant will conduct subsurface testing in locations with a high probability of containing archaeological resources, where project-related ground disturbance will occur, to identify any archaeological resources that may be present within the project site. Consultant proposes to excavate up to twenty (20) shovel probes. Probes will be a minimum of 30 centimeters (cm) in diameter and will extend to a minimum of 50 cm below the surface and two culturally sterile 10-cm levels, where possible. All soils will be screened through ¼-inch hardware mesh. A bucket auger will be used to sample more deeply buried sediments up to 200 cm below the surface opportunistically throughout the project area.

Consultant field staff will collect all cultural material from shovel probes that is clearly not modern per the archaeological permit conditions. The cost of this scope of work does not include curation or laboratory artifact analysis costs. All diagnostic materials (those that have a clear temporal connection) will be photographed. Resources will be recorded on the appropriate SHPO resource forms. Resource location GPS data will be collected and submitted as GIS files. If a GPS unit cannot be used to record resources, locations of areas surveyed or resources will be marked on a U.S. Geological Survey quadrangle map and then georeferenced during post-field processing. All recording procedures will follow SHPO guidelines. Consultant's cost estimate assumes no archaeological resources will be encountered during the survey. If archaeological materials are collected and require curation or analyses, a change order will be requested.

~~201.10.3.4~~ 201.10.2.6 Reporting. Consultant will prepare one (1) cultural resources survey report detailing the findings of the Tribal coordination, background research, pedestrian field survey, and subsurface testing. The report will include a description of the regulatory context, regional and local background research, methods, expectations, and results of the survey.

Cultural Resources Survey Report:
- Gates/Mill City Force Main

Cultural Resources Survey - Area of Potential Effect (APE)

Consultant will provide an electronic version of the draft reports to the Project Team for review. After addressing comments from the Project Team, Consultant will provide the draft report to the SHPO and interested Tribal entities for review. Consultant assumes that SHPO and the Tribes will not require more than 30 days for review . Consultant will coordinate with both SHPO and the Tribes for timely review of the report. After acceptance of the final report, Consultant will provide GIS shapefiles and maps of the areas surveyed and cultural resources identified to Project Team, provided that the private landowner(s) approve(s) of disclosing information about their properties.

Assumptions:

- All meetings and coordination with Project Team will be conducted via conference calls and email.
- The records search area will not extend farther than one (1) mile beyond the project area. Consultant will be able to complete the literature review using electronically available resources, and no in-person file searches will be required.
- The project location and size will remain as identified in the request for scope and cost (3.6 linear miles).
- Based on a preliminary review of SHPO records, Consultant anticipates no cultural resources will be identified and require documentation in the project area.
- For the purposes of total site count, every site larger than one (1) acre will be considered as an additional site based on every additional acre; otherwise, it is assumed that no lithic landscapes or overly dense lithic source areas will be encountered.
- Consultant's ability to conduct fieldwork will be unimpeded by access restrictions (e.g., fences, locked gates, and livestock), weather, road construction, landowner restrictions, COVID-19-related restrictions, force majeure, or any other factor(s) outside of Consultant's control.
- Consultant will prepare one (1) cultural resources survey report, and the report will require no more than one round of review by Project Team. Comments from the Project Team on the report will not require more than four (**4**) hours of Consultant labor to address. No comments will be received from SHPO review, and minimal comments (up to four (4) hours of work needed to address comments) will be received from the Tribes.

Deliverables:

- Draft and Final Cultural Resources Survey Report I.
- Draft and Final GIS spatial data from cultural resources investigation results.

~~201.10.4~~ 201.10.2.7 Phase I Environmental Site Assessments. Consultant will prepare a Phase I Environmental Site Assessment (ESA) report for:

Phase I ESA Report:

- Gates/Mill City Force Main

Phase I ESA Project Area

The Phase I ESA will be completed in general accordance with the standards described in the current ASTM Standard E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (2021). The Phase I ESA will be directed by a qualified Environmental Professional, as required by the ASTM standard.

A Phase I ESA conducted in accordance with ASTM Standard E1527-21 constitutes all appropriate inquiry into the previous ownership and uses of the property, consistent with good commercial or customary practice, and will allow the Owner to satisfy one of the requirements for landowner liability protections under the Comprehensive environmental Response, Compensation, and Liability Act (42 United States Code 9601). The Phase I ESA will consist of the subtasks described below.

~~201.10.4.1~~ 201.10.2.7.1 Records Review. Consultant will review appropriate documents, including historical aerial photographs, historical topographic maps, and other land-use documents in order to identify past operations or activities on the subject property or nearby properties that may have caused the release of hazardous substances or petroleum products into the environment. As part of the review process, site location, hydrogeological characteristics, geographic setting, and physiography will also be summarized.

Available state and federal regulatory databases will be reviewed to assess whether the subject property or nearby facilities have been subject to environmental actions or review. The regulatory database review will, at a minimum, include the databases required to satisfy the ASTM standard.

~~201.10.4.2~~ 201.10.2.7.2 Interviews. Consultant will attempt to interview property owners based on contact data provided by the client. Additionally, reasonable attempts will be made to interview at least one staff member of state or local government agencies regarding information that indicates recognized environmental conditions (RECs) in connection with the subject property. For the force main corridor, Consultant assumes that the city and/or county will be the interviewee for portions within roadway rights-of-way.

~~201.10.4.3~~ 201.10.2.7.3 Site Reconnaissance. A Phase I ESA includes a reconnaissance of the subject property and vicinity to observe and photograph areas with potential RECs and to document current conditions. As is customary for large sites, Consultant will study aerial photographs and topographic maps in conjunction with other data to identify areas of environmental interest on the subject property that would require in-person observation to identify and/or document. Field staff will visit each of the areas of environmental interest to observe and document them with digital photographs and notes. Field staff will also view the subject property in general for additional observations and take photographs and notes. Access to private, locked, or restricted areas would be arranged by a client representative. This scope of work does not include activities such as collecting or analyzing soil, air, water, or other environmental samples.

~~201.10.4.4~~ 201.10.2.7.4 Owner-Provided Information. Owner-provided information is an essential component of the Phase I ESA and includes items such as copies of previous Phase I ESAs or other relevant environmental documents, a completed ASTM Phase I ESA User Questionnaire, a completed Consultant Initial Data Request, and access to the subject property. Consultant will perform a search of recorded land-title records and judicial records for environmental liens and activity and use limitations.

~~201.10.4.5~~ 201.10.2.7.5 Report Generation. The Phase I ESA findings will be summarized and documented in one report for each of the three areas. Sections within each report will consist of 1) a description of the property, 2) summaries of the site history and interviews, 3) a regulatory database review, 4) a description of the site reconnaissance, 5) report findings and conclusions, and 6) figures and appendices. Each report will include Consultant's professional opinion concerning the environmental disposition of the site regarding the presence of RECs. Report limitations and all literature cited will also be included.

According to the ASTM standard, the content of a Phase I ESA is valid for 180 days after the first data are collected. If the date of the intended use for Phase I ESA is not within 180 days, an update may be necessary, Non-scope issues identified in the ASTM standard include radon, lead, and asbestos, radioactivity, regulatory compliance, wetlands, and endangered species. Non-scope issues will not be addressed in the Phase I ESA reports.

Assumptions:

- The ASTM User Questionnaires and Consultant Initial Data Requests will be returned to Consultant promptly upon commencement of the project.

- This scope of work includes one round of revisions to each report's text. Substantial revisions, such as a revised scope or project area, will incur additional cost.
- Fieldwork for the Phase I ESA will be completed in conjunction with that for other resources and will not be an independent mobilization.
- Marion and Linn County fees (estimated $1,450 per application) will be included in the Consultant's fee for this task.

Deliverables:

- Draft and Final Phase I ESA Report.

Task 201.11 – Mill City Collection System Cleaning and Inspection
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

201.11.1 CCTV Cleaning and Inspection. Flush and perform closed-camera television (CCTV) inspection for approximately 12,775 linear feet of Mill City sewer collection system piping.

201.11.2 Review and Identification of Spot Repairs. The Consultant will review and prioritize line repairs based on the CCTV inspections.

Assumptions:

- A dump site will be provided for debris removed from the sewer collection lines.
- Consultant will coordinate use of a Mill City fire hydrant as a source of water for filling the vacuum truck for flushing.
- Traffic control will include road signs and traffic cones only. Flaggers will not be provided.
- Consultant will not be held responsible if jetter hose gets stuck in a collection system pipe and incurs damage.
- Design drawings and specifications for the spot repairs will not be required for this task. A contract adjustment will be required if additional design is needed.

Deliverables:

- Video footage and field notes of CCTV inspection.
- Summary table and/or map for CM/GC indicating locations where repairs will be required within the Mill City Collection System as well as the order of priority.

202 MILL CITY AND GATES MWTF ENGINEERING

Previous work includes facility planning to identify treatment and disposal alternatives for wastewater generated and collected from Mill City and Gates as documented in the Mill City/Gates Wastewater Facilities Planning Study (2023 WWFPS). The recommendations from that work have led to this project, which consists of preliminary design for the Mill City and Gates Municipal Wastewater Treatment

Facility (MWTF) and rapid infiltration basins for disposal. The new MWTF will be designed for 2045 Projected Design Flows discussed in the 2023 WWFPS:

- 0.223 million gallons per day (MGD) annual average daily flow (AADF)
- 0.682 MGD peak hourly flow (PHF).

And will include design of the following improvements for construction:

- Headworks Building that will house the mechanical screen, grit classifier, and dewatering equipment.
- Grit removal system.
- Influent pump station.
- Septage receiving station
- Process Basins (sequencing batch reactor [SBR] and equalization basin).
- Process Building that will house the aeration blowers, chemical feed system, UV disinfection system, utility water system, and electrical motor control center.
- Denitrification filters.
- Solids holding tank.
- Six (6) Rapid Infiltration basins (RIB)
- The preliminary design also includes a new section of force main piping, connecting the existing force main (near the existing WPCF) to the new MWTF.

This task will include a preliminary engineering report (PER) to include sufficient detail intended to demonstrate that the proposed project meets the design criteria identified in the facility planning study. Permit application assistance will also be provided. Drawings and specifications will be produced with sufficient detail to allow the Construction Manager / General Contractor (CM/GC) to develop a guaranteed maximum price (GMP) for the project. The task will also include providing pre-selection documents and evaluation for major equipment and long lead items.

Task 202.1 – Project Management

Consultant Responsibilities:

202.1.1 General Project Management. Provide general project administration services including contract administration, project accounting, scheduling, and internal project administration.

202.1.2 Kickoff Meeting. Participate in a project kickoff meeting. Prepare agenda and minutes. The purpose of this meeting will be to establish Owner's pre-design review team, review the overall project schedule including major milestones and meetings, review objectives of the design, discuss available data and published materials that will be made available by the Owner, and review process for deliverables including process for Owner review and approval.

202.1.3 Progress Meetings. Conduct monthly progress meetings, including the Owner, Consultant and CM/GC.

202.1.4 Request for Information and Data Review. Prepare initial request for information for data to be used in the pre-design process. Review information requested and provide supplemental request for information if needed.

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

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising as needed. Coordinate attendance of CM/GC to progress meetings.

Assumptions:

- Assumes an eight (8)-month duration for general project administration.
- Progress meetings will be a combination of in-person and virtual meetings.

Deliverables:

- Monthly invoices.
- Meeting agendas and minutes.
- Request for information.

Task 202.2 – Preliminary Engineering Report (PER)

Consultant Responsibilities:

202.2.1 Design Criteria (Process). Discuss or reference design criteria items already provided in the Mill City/Gates Wastewater Facilities Planning Study (2023 WWFPS). Document additional design criteria that will serve as a basis for design.

202.2.2 New Hydraulic Profile. Prepare a preliminary hydraulic profile based on the selected improvements from the 2023 WWFPS (listed under Task 202).

202.2.3 Preliminary P&IDs. Prepare preliminary piping and instrumentation diagrams (P&IDs) based on City input, processes selected in the 2023 WWFPS (listed under Task 202), and process and control needs.

202.2.4 Preliminary Instrumentation/Controls. Prepare one-line diagram for power and a narrative describing the control strategy and objectives. Coordinate with Owner and power utility to identify power constraints and Owner's SCADA communication preferences.

202.2.5 Preliminary Mechanical Plans. Prepare preliminary mechanical designs based on anticipated major equipment selection.

202.2.6 Design Requirements Summary. Summarize design requirements for civil, structural, heating, ventilation and air conditioning, plumbing, electrical, and instrumentation and controls.

202.2.7 Concept Drawings. Develop concept drawings to address ODEQ PER submittal requirements, including site civil layout and project orientation on the selected site. Drawings to include items 202.2.1 through 202.2.5 above.

202.2.8 Workshop Meeting(s). Budget assumes up to three (3) workshop meetings. Meet with Owner and CM/GC to review draft deliverables.

202.2.9 Prepare PER. Prepare draft PER following the Oregon DEQ guidelines. Submit to Owner for review.

202.2.10 Comment Response and Final PER. Incorporate Owner input and submit to DEQ for review. Address agency comments and prepare final PER.

Owner Responsibilities:

- Review concept designs and provide comments.
- Review and comment on the PER.
- Pay for DEQ PER review fees.

Assumptions:

- Land and easement acquisition, negotiations, and legal descriptions are not included.
- Assumes up to three (3) workshop meetings.

Deliverables:

- Agenda and minutes for meetings.
- Draft and Final PER.

Task 202.3 – Permitting Assistance

Consultant Responsibilities:

202.3.1 Permit Application. Assist Owner in preparing a WPCF Permit Application to be submitted to Oregon Department of Environmental Quality (DEQ). Coordinate with other entities to complete this permit application.

202.3.2 Conditional Use Permit. Coordinate with Linn County to satisfy requirements of Conditional Use Permit, including preparation of Landscaping and Parking Plan.

202.3.3 Land Use Compatibility Statements. Coordinate up to four (4) Land Use Compatibility Statements with appropriate entities including Linn County, Mill City, and Gates.

202.3.4 Permit Applications. Prepare up to fifteen (15) permit applications and coordinate with appropriate agencies for approval. Anticipated permit applications include:

a. Linn County Building and Planning Permit Applications for the commercial site development (grading and fill), structural, mechanical, plumbing, and electrical permit review for the Mill City and Gates Municipal Wastewater Treatment Facility.
b. Linn County Commercial Access Review (Encroachment) Permit Application for work in the public right-of-way (Linn County Road 816/SE Fairview Street).
c. DEQ 1200-CA Permit Application. Prepare erosion sediment control plans (ESCP) for the construction of the Mill City and Gates Municipal Wastewater Treatment Facility, SE

Fairview Street Realignment, Temporary Stormwater Outfall and Detention Basin, and construction staging located on the 100-ft Strip.

d. Oregon Health Authority Plan Review.

202.3.5 Stormwater Management Plan. Prepare a Stormwater Management Plan for Linn County Road Department's review including calculating the contributing impervious area, water quality and flow-control design storms, treatment capacity; determining best management practice (BMPs) to be utilized, their effectiveness, dimensions, and details; and an operation summary and maintenance plan.

Owner Responsibilities:

- Review and comment on permit application.

Assumptions:

- No Underground Injection Control registration will be required.

Task 202.4 – GMP Documents (30% Design)

Consultant Responsibilities:

202.4.1 Drawing Preparation. Prepare a set of drawings and limited specifications to aid the CM/GC in developing a GMP. The following preliminary drawings are anticipated as being included: general sheets, civil site, grading and yard piping plans, structural plans and limited sections, plumbing and HVAC plans, process mechanical plans and limited sections, electrical one-lines and site plan, and process and instrumentation diagrams. These plans are to be developed to an approximate 30% design level for the CM/GC to develop a GMP. Specifications to be included are limited to major mechanical and process equipment. Other information that may assist the CM/GC in developing a GMP will be provided, including site constraints, permitting requirements, and special inspections.

202.4.2 Pre-Purchase Selection. Prepare bidding documents for the pre-purchase of major process equipment and electrical equipment. This will include evaluation criteria, technical specifications, and limited drawings. Contract documents, including agreements, terms and conditions and so forth, will be provided by the CM/GC. Consultant will assist in evaluating bids received. Major equipment to be pre-purchased is limited to: headworks screen, grit removal system, sequencing batch reactor equipment, denitrification filters, UV disinfection equipment, dewatering system, motor control center (MCC)/switchgear, generator/automatic transfer switch (ATS), and transformers.

202.4.3 Value Engineering. Participate in three (3) value engineering (VE) workshops with the CM/GC and Owner. The purpose of these workshops will be to identify, with the CM/GC, potential cost savings alternatives to the project. Where the Owner elects to include such alternatives, the Consultant will modify the design and drawings as required to incorporate these changes. It is anticipated that these workshops will occur as follows: first workshop shortly after project kickoff, second workshop before pre-purchase equipment selection, third workshop approximately one to two months prior to contract completion.

202.4.4 Cost Estimate Assistance. Provide assistance to CM/GC in their preparation of the cost estimate by answering questions and adding clarity to project requirements.

Owner Responsibilities:

- Review and comment on drawings and specifications.
- Participate in the VE workshops.
- Review and comment on VE alternatives. Make decisions for VE-desired alternatives.

Assumptions:

- Drawings and specifications are limited to those identified in this task.
- Bidding documents for pre-purchased equipment are limited to those identified in this task. Documents for additional pre-purchased equipment will be considered a change to the contract.
- Value engineering efforts assume redesign will not require major modifications to the drawings or engineering calculations. Construction cost estimates will be provided by CM/GC.
- Contract documents for pre-purchase documents will be provided by the CM/GC.
- CM/GC will develop and provide the Guaranteed Maximum Price (GMP).
- Assisting with pre-qualification of subcontractors is not included.
- A single set of design drawings and draft specifications will be provided.

Deliverables:

- 30% drawings and select technical specifications

Task 202.5 – Final Design

Consultant Responsibilities:

202.5.1 Drawing Preparation. Prepare final drawings and specifications including general, site civil, mechanical, electrical, structural, and instrumentation sheets.

202.5.2 Site Visit. Visit the site to assist in preparing the final drawings and specifications. This task assumes one site visit.

202.5.3 Ongoing WPCF Permitting Assistance. Assist Owner in consultations with regulatory agencies in review of WPCF permit application and draft permit review. Task assumes up to six (6) such meetings. Revise the drawings and specifications in response to directives from such authorities, as appropriate. This task excludes National Pollutant Discharge Elimination System (NPDES) permitting.

202.5.4 NPDES Permitting Assistance. Provide assistance in preparation of NPDES permitting application and assist in responding to one (1) round of comments from Oregon Department of Environmental Quality (ODEQ) or other agencies. Task assumes up to six (6) coordination meetings with regulatory agencies.

202.5.5 Construction Cost Estimation Assistance. Advise Owner of recommended adjustments to the opinion of probable constructions cost.

202.5.6 90% Drawings. Submit 90% design review drawings and specifications to the Owner. Package to include drawings and draft technical specifications. Set will include general, civil, architectural, structural, mechanical, HVAC and plumbing, electrical, instrumentation and controls and general detail sheets. Participate in a 90% design review workshop meeting.

202.5.7 100% Design Submittal. Submit stamped/sealed drawings, calculations, and specifications to regulatory agency and Owner. Set will address one (1) round of Owner comments from 90% set. These drawings will be utilized for building permitting and construction. Respond to and address ODEQ comments and resubmit for approval as required.

202.5.8 Fairview Street Revisions. Revise stormwater and Fairview Street plans to address up to three (3) rounds of comments from Mill City for right-of-way permit.

202.5.9 NW. Alder Street/N. 1st Ave Sanitary Sewer Improvements. In the 2024 Wastewater Facilities Planning Study (WWFPS), a hydraulic model was completed to identify needed improvements to Mill City's collection system. Flooding along NW Alder Street directly downstream of the River Street Lift Station force main discharge is anticipated for future flows (Year 2070) and so the project will upsize the existing gravity pipeline from 4-inch to 8-inch diameter, from the manholes where the River Road pressure pipe discharges to gravity (along Alder Street west of NW 2nd Avenue) to the First Street Lift Station, as shown below:

202.5.9.1 90% Design Submittal. Prepare 90% design drawings and technical specifications. Design drawings shall include general, site civil, mechanical, structural sheets, and general detail sheets. Participate in 90% design review workshop meeting. Set will address one (1) round of Owner comments from 90% submittal set.

202.5.9.2 Permitting. Assist Owner with preparation of the following permit applications:

- Oregon Department of Transportation (ODOT) Utility Permit including Tribal Notification and Cultural Resource Certification.
- Mill City Right-of-Way Permit.
- Department of Environmental Quality (DEQ) Plan Review. Respond and address one (1) round of DEQ comments and resubmit for approval as required.

202.5.9.3 100% Design Submittal. Submit stamped/sealed drawings, specifications, and brief technical memorandum documenting the need for the upsizing improvements project to regulatory agency and Owner. These drawings and specifications will be utilized for permitting and construction.

202.5.10 Fairview Street Extension. Fairview Street Extension including realignment and paving design of Fairview Street (between the southern property boundary of the Mill City and

Gates MWTF and Kingwood Avenue) with two (2) 10-foot lanes at the southern end of the Mill City and Gates MWTF that taper to a 12-foot wide road, and then widens to two (2) 10-foot wide lanes at the intersection of Fairview Street and Kingwood Ave. Road design will include 1-ft wide gravel shoulders and roadside ditches. Design will include extension of 12-inch waterline, 8-inch sanitary sewer line, manholes, and associated appurtenances. Assumes no stormwater reporting/evaluation will be required by Linn County.

202.5.10.1 Work Sessions. Prepare concept design drawings and drawings to review during three (3) work sessions. Design drawings shall include general, site civil, mechanical, structural sheets, and general detail sheets. Participate in 90% design review workshop meeting. Set will address one (1) round of Owner comments from 90% submittal set.

202.5.10.2 Permitting. Assist Owner with preparation of the following permit applications:

202.5.10.2.1 Oregon Department of Transportation (ODOT) Utility Permit including Tribal Notification and Cultural Resource Certification.

202.5.10.2.2 Mill City Right-of-Way Permit.

202.5.10.2.3 Department of Environmental Quality (DEQ) Plan Review. Respond and address one (1) round of DEQ comments and resubmit for approval as required.

202.5.10.2.4 100% Design Submittal. Submit stamped/sealed drawings, specifications, and brief technical memorandum documenting the need for the upsizing improvements project to regulatory agency and Owner. These drawings and specifications will be utilized for permitting and construction.

Owner Responsibilities:

- Review applicable WPCF and NPDES permit applications.
- Review and comment on drawings and specifications.
- Participate in review workshops.
- Participate in meetings with regulatory agencies.

Assumptions:

- No front-end contract documents will be provided by Consultant.
- Negotiations with CM/GC for final construction contracting and guaranteed maximum price (GMP) are not included.

- This scope task does not include any bidding services.
- Permitting assistance excludes public meetings.
- Design assumes limited changes from value engineering efforts. Where extensive redesign is identified through value engineering efforts, the Consultant will be entitled to seek additional compensation.
- Design assumes final permitting limits issued by regulatory agencies will be comparable to the assumed limits given in the Facility Planning Study and Preliminary Engineering Report. Where actual permitting limits vary significantly from what has been designed, Consultant and Owner will negotiate additional scope of work.
- Building permitting will be completed as part of Task 202.3 Permitting Assistance.
- Cost estimating will be by others.
- Shoring Design (if required) will be by others.
- Extensive architectural features and architectural renderings are not included in the design.
- Additional professional time for correspondence and meetings, due to an Owner initiated change in the project design, and/or support above and beyond that described is considered an additional service.
- 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.

Deliverables:

- 90% Design Submittal (including Drawings and Specifications) of Mill City and Gates MWTF in electronic PDF format.
- 100% Design Submittal (including Drawings and Specifications) of Mill City and Gates MWTF in electronic PDF format.
- Revised 100% Design Drawings for Fairview Street in electronic PDF format.
- 90% Design Submittal (including Design Drawings and Technical Specifications) of NW. Alder Street/N. 1st Ave Sanitary Sewer Improvements in electronic PDF format.
- 100% Design Submittal (including Design Drawings and Technical Specifications) of NW. Alder Street/N. 1st Ave Sanitary Sewer Improvements in electronic PDF format.
- 100% Design Submittal (including Design Drawings and Technical Specifications) of Fairview Street Extension in electronic PDF format.

Task 202.6 – Services During Bidding

Consultant Responsibilities:

202.6.1 Bid Documents. Distribute bidding documents including addenda to Owner and CM/GC.

202.6.2 Bid Coordination Meetings. Attend up to four (4) pre-bid and/or bid opening meetings with CM/GC, Owner, and sub-contractors interested in the Project and assist in answering questions related to bid documents.

202.6.3 Addenda. If required, respond to bidder questions and prepare up to six (6) addenda during each bidding process to clarify, correct, or change the issued documents.

Owner Responsibilities:

- Attend the pre-bid meetings.
- Award the bid.

Assumptions:

- Three (3) bid packages and three (3) bidding processes are assumed (remaining long-lead equipment, early civil package, and final bid package). If rebidding or addressing bid protests is required, these services will be provided as an additional service.
- Bidding process including advertisement, document management, and distribution of documents to potential bidders to be led by others.
- Consultant's scope of work is limited to attendance at up to four (4) pre-bid meetings and/or bid opening meetings and responding to questions from CM/GC or other contractors during pre-bid meetings (up to twenty (20) hours of time has been included for these tasks). Consultant will respond to bidder questions and prepare up to six (6) addenda during each bidding process.

Deliverables:

- Electronic copy in PDF format of the bidding documents will be delivered to the Owner and CM/GC.

Task 202.7 – Construction Services

Construction services associated with Mill City and Gates MWTF, Mill City I&I Spot Repairs, NW. Alder St/N. 1st Ave Sanitary Sewer Improvements.

Consultant Responsibilities:

202.7.1 Pre-Procurement Submittals. Review submittals for the following major equipment: headworks screen, grit removal system, influent lift station pumps, SBR equipment package, sand filter package, UV disinfection system, utility water pump system, chemical and sludge storage tanks, chemical pumping systems, sludge tank mixing, pumping, dewatering and conveyance systems, diesel generator, automatic transfer switch, switchgear and motor starters.

202.7.2 General Administration of Construction Contract. Consult with Owner and act as Owner's representative as provided in the Construction Contract with the CM/GC (Construction Contract). If Owner, or Owner and CM/GC, modify the duties, responsibilities, and authority of Consultant in the Construction Contract, or modify other terms of the Construction Contract having a direct bearing on Consultant, then Owner shall compensate Consultant for any related increases in the cost to provide Construction Phase services. Consultant shall not be required to furnish or perform services contrary to Consultant's responsibilities as a licensed professional. Owner's instructions to CM/GC will be issued through Consultant, which shall have authority to act on behalf of Owner in dealings with CM/GC to the extent provided in this Agreement and the Construction Contract except as otherwise provided in writing.

202.7.3 Selection of Independent Testing Laboratory. Assist Owner in the selection of an independent testing laboratory to perform all inspections, tests, and approvals of samples, materials, and equipment required by the Construction Contract Documents (other than those required to be furnished or arranged by CM/GC), or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work

with appropriate professional interpretation thereof. Provide Owner with the findings and reports generated by testing laboratories, including findings and reports obtained from or through CM/GC.

202.7.4 Pre-Construction Conference and Construction Meetings. Participate in a pre-construction conference prior to commencement of Work at the Site. Participate in weekly, remote construction meetings.

202.7.5 Electronic Transmittal Protocols. If the Construction Contract Documents do not specify protocols for the transmittal of Project-related correspondence, documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website, then together with Owner and CM/GC jointly develop such protocols for transmittals between and among Owner, CM/GC, and Consultant during the Construction Phase and Post-Construction Phase.

202.7.6 Original Documents. If requested by Owner to do so, maintain and safeguard during the Construction Phase at least one original printed record version of the Construction Contract Documents, including Drawings and Specifications signed and sealed by Consultant and other design professionals in accordance with applicable Laws and Regulations. Throughout the Construction Phase, make such original printed record version of the Construction Contract Documents available to CM/GC and Owner for review.

202.7.7 Schedules: Receive, review, and determine the acceptability of any and all schedules that CM/GC is required to submit to Consultant, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.

202.7.8 Baselines and Benchmarks: As appropriate, establish baselines and benchmarks for locating the Work which in Consultant's judgment are necessary to enable CM/GC to proceed.

202.7.9 Visits to Site and Observation of Construction. In connection with observations of CM/GC's Work while it is in progress:

i. Make visits to the Site at intervals appropriate to the various stages of construction, as Consultant deems necessary, to observe as an experienced and qualified design professional the progress of CM/GC's executed Work. Such visits and observations by Consultant, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of the Work or to involve detailed inspections of the Work beyond the responsibilities specifically assigned to Consultant in this Agreement and the Construction Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment, as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and observations, Consultant will determine in general if the Work is proceeding in accordance with the Construction Contract Documents, and Consultant shall keep Owner informed of the progress of the Work.

ii. The purpose of Consultant's visits to the Site, and representation by the Resident Project Representative, if any, at the Site, will be to enable Consultant to better carry out the duties and responsibilities assigned to and undertaken by Consultant during the Construction Phase, and, in addition, by the exercise of Consultant's efforts as an experienced and qualified design professional, to provide for Owner a greater degree of confidence that the completed Work will conform in general to the Construction Contract Documents and that CM/GC has implemented and maintained the integrity of the design

concept of the completed Project as a functioning whole as indicated in the Construction Contract Documents. Consultant shall not, during such visits or as a result of such observations of the Work, supervise, direct, or have control over the Work, nor shall Consultant have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to any Constructor's work in progress, for the coordination of the Constructors' work or schedules, nor for any failure of any Constructor to comply with Laws and Regulations applicable to furnishing and performing of its work. Accordingly, Consultant neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish or perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

202.7.10 Defective Work. Reject Work if, on the basis of Consultant's observations, Consultant believes that such Work is defective under the terms and standards set forth in the Construction Contract Documents. Provide recommendations to Owner regarding whether CM/GC should correct such Work or remove and replace such Work, or whether Owner should consider accepting such Work as provided in the Construction Contract Documents.

202.7.11 Compatibility with Design Concept. If Consultant has express knowledge that a specific part of the Work that is not defective under the terms and standards set forth in the Construction Contract Documents is nonetheless not compatible with the design concept of the completed Project as a functioning whole, then inform Owner of such incompatibility, and provide recommendations for addressing such Work.

202.7.12 Clarifications and Interpretations. Accept from CM/GC and Owner submittal of all matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. With reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Construction Contract Documents.

202.7.13 Non-reviewable Matters. If a submitted matter in question concerns the Consultant's performance of its duties and obligations, or terms and conditions of the Construction Contract Documents that do not involve (1) the performance or acceptability of the Work under the Construction Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Consultant will promptly give written notice to Owner and CM/GC that Consultant will not provide a decision or interpretation.

202.7.14 Field Orders. Subject to any limitations in the Construction Contract Documents, Consultant may prepare and issue Field Order requiring minor changes in the Work.

202.7.15 Change Orders and Work Change Directives. Recommend Change Orders and Work Change Directives to Owner, as appropriate, and prepare Change Orders and Work Change Directives as required.

202.7.16 Differing Site Conditions. Respond to any notice from CM/GC of differing site conditions, including conditions relating to underground facilities such as utilities, and

hazardous environmental conditions. Promptly conduct reviews and prepare findings, conclusions, and recommendations for Owner's use.

202.7.17 Shop Drawings, Samples, and Other Submittals. Review and approve or take other appropriate action with respect to Shop Drawings, Samples, and other required CM/GC submittals, but only for conformance with the information given in the Construction Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Construction Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Consultant shall meet any CM/GC's submittal schedule that Consultant has accepted.

202.7.18 Substitutes and "Or-equal". Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by CM/GC.

202.7.19 Inspections and Tests.

i. Receive and review certificates of inspections, tests, and approvals required by Laws and Regulations or the Construction Contract Documents. Consultant's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Construction Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Construction Contract Documents. Consultant shall be entitled to rely on the results of such inspections and tests.

ii. As deemed reasonably necessary, request that CM/GC uncover Work that is to be inspected, tested, or approved.

iii. Pursuant to the terms of the Construction Contract, require special inspections or testing of the Work, whether or not the Work is fabricated, installed, or completed.

202.7.20 Change Proposals and Claims: (a) Review and respond to Change Proposals. Review each duly submitted Change Proposal from CM/GC and, within 30 days after receipt of the CM/GC's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and CM/GC. If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Consultant will notify the parties that the Consultant will not resolve the Change Proposal. (b) Provide information or data to Owner regarding engineering or technical matters pertaining to Claims.

202.7.21 Applications for Payment. Based on Consultant's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:

i. Determine the amounts that Consultant recommends CM/GC be paid. Recommend reductions in payment (set-offs) based on the provisions for set-offs stated in the Construction Contract. Such recommendations of payment will be in writing and will constitute Consultant's representation to Owner, based on such observations and review, that, to the best of Consultant's knowledge, information and belief, CM/GC's Work has progressed to the point indicated, the Work is generally in accordance with the Construction Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the

results of any subsequent tests called for in the Construction Contract Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to CM/GC's being entitled to such payment appear to have been fulfilled in so far as it is Consultant's responsibility to observe the Work. In the case of unit price Work, Consultant's recommendations of payment will include final determinations of quantities and classifications of the Work (subject to any subsequent adjustments allowed by the Construction Contract Documents).

ii. By recommending payment, Consultant shall not thereby be deemed to have represented that observations made by Consultant to check the quality or quantity of CM/GC's Work as it is performed and furnished have been exhaustive, extended to every aspect of CM/GC's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Consultant in this Agreement. Neither Consultant's review of CM/GC's Work for the purposes of recommending payments nor Consultant's recommendation of any payment including final payment will impose on Consultant responsibility to supervise, direct, or control the Work, or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or CM/GC's compliance with Laws and Regulations applicable to CM/GC's furnishing and performing the Work. It will also not impose responsibility on Consultant to make any examination to ascertain how or for what purposes CM/GC has used the money paid to CM/GC by Owner; to determine that title to any portion of the Work, including materials or equipment, has passed to Owner free and clear of any liens, claims, security interests, or encumbrances; or that there may not be other matters at issue between Owner and CM/GC that might affect the amount that should be paid.

202.7.22 CM/GC's Completion Documents. Receive from CM/GC, review, and transmit to Owner maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Construction Contract Documents, certificates of inspection, tests and approvals, and Shop Drawings, Samples, and other data approved as provided under Section 202.17. Receive from CM/GC, review, and transmit to Owner the annotated record documents which are to be assembled by CM/GC in accordance with the Construction Contract Documents to obtain final payment. The extent of Consultant's review of record documents shall be to check that CM/GC has submitted all pages.

202.7.23 Substantial Completion. Promptly after notice from CM/GC that CM/GC considers the entire Work ready for its intended use, in company with Owner and CM/GC, visit the Site to review the Work and determine the status of completion. Follow the procedures in the Construction Contract regarding the preliminary certificate of Substantial Completion, punch list of items to be completed, Owner's objections, notice to CM/GC, and issuance of a final certificate of Substantial Completion. Assist Owner regarding any remaining engineering or technical matters affecting Owner's use or occupancy of the Work following Substantial Completion.

202.7.24 Other Tasks. Perform or provide the following other Construction Phase tasks or deliverables: None.

202.7.25 Final Notice of Acceptability of the Work: Conduct a final visit to the Project to determine if the Work is complete and acceptable so that Consultant may recommend, in writing, final payment to CM/GC. Accompanying the recommendation for final payment, Consultant shall also provide a "Notice of Acceptability of Work" to Owner and CM/GC, stating that the Work is acceptable to the best of Consultant's knowledge, information, and belief, and based on the extent of the services provided by Consultant under this Agreement.

202.7.26 Standards for Certain Construction-Phase Decisions: Consultant will render decisions regarding the requirements of the Construction Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Consultant will not show partiality to Owner or CM/GC, and will not be liable to Owner, CM/GC, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

202.7.27 Duration of Construction Phase: The Construction Phase will commence with the execution of the first Construction Contract for the Project or any part thereof and will terminate upon written recommendation by Consultant for final payment to CM/GCs. If the Project involves more than one prime contract, then Construction Phase services may be rendered at different times in respect to the separate contracts. Consultant shall be entitled to an equitable increase in compensation if Construction Phase services (including Resident Project Representative services, if any) are required after the original date for completion and readiness for final payment of CM/GC as set forth in the Construction Contract.

202.7.28 System Commissioning and Start-Up Support. Provide technical commissioning and start-up support to verify that wastewater treatment plant systems and equipment are installed, tested, integrated, and operating in accordance with design requirements, permit conditions, and operational performance criteria.

a. Pre-Commissioning Planning. Review manufacturer O&M manuals, control narratives, and commissioning plans. Participate in pre-commissioning meetings with the Owner, Contractor, equipment suppliers, and operations staff.
b. Installation Verification and Functional Testing. Attend field commissioning activities and verify installation and operational readiness of process equipment. Review calibration of instrumentation and equipment and document deficiencies and recommend corrective actions.
c. Start-Up Support. Provide on-site and remote support during facility start-up, including:
    i. Assistance with filling, seeding, and initiation of treatment processes.
    ii. Verification of process control strategies and equipment sequencing.
    iii. Evaluation of system performance during start-up and coordination with equipment manufacturers during startup activities.
    iv. Troubleshooting process. Mechanical, electrical, instrumentation, and control issues.
    v. Recommendations for operational adjustments necessary to achieve permit compliance and design performance objectives.
d. Review operational and laboratory data during the startup period. Evaluate process performance relative to design criteria and permit requirements. Assist operators with process control adjustments. Develop operational recommendations to improve stability, treatment efficiency, and energy performance.

Assumptions:

- Budget assumes an eighteen (18)-month construction duration.
- Assumes one (1), one (1)-hour construction meeting per week.
- Budget assumes one (1) resubmittal for each pre-procurement submittal package.
- Budget assumes a total of four hundred (400) submittals/resubmittal reviews. for the Mill City and Gates MWTF project
- Budget assumes a total of fifteen (15) submittals/resubmittals reviews for the Mill City I&I Spot Repairs and NW. Alder St/N. 1st Ave Sanitary Sewer Improvements projects.
- Budget assumes a total of ten (10) change orders and ten (10) field orders. for the Mill City and Gates MWTF project.
- Budget assumes a total of two (2) change orders and two (2) field orders for the Mill City I&I Spot Repairs and NW. Alder St/N. 1st Ave Sanitary Sewer Improvements.
- Budget assumes processing of eighteen (18) CM/GC pay applications.
- Budget assumes administration of a single prime contract with one CM/GC.
- Startup activities are assumed to include four weeks of support by the Consultant Project Team.

Task 202.8 – Site Visit Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with Task 202.5 –Final Design, and Task 201.7.9 – Visit to Site and Observation of Construction and Task 201.7.28 – System Commissioning and Start-Up Support, including:
    - Travel expenses

Assumptions:

- Budget assumes six (6) five (5)-day site visits (i.e., quarterly) by two (2) remote process engineer staff. for the Mill City and Gates MWTF project.
- Budget assumes eighteen (18) one (1)-day site visits (i.e., monthly) by two (2) local project manager/engineering staff. for the Mill City and Gates MWTF project.
- Budget assumes eight (8) weeks of construction for the Mill City I&I Spot Repairs.
- Budget assumes eight (8) weeks of construction for the NW. Alder St/N. 1st Ave Sanitary Sewer Improvements.

Task 202.9 – Resident Project Representative

Consultant's Responsibilities:

202.9.1 Resident Project Representative (RPR). Consultant to provide the services of an RPR at the Site to provide more extensive observation of CM/GC's work. The furnishing of such RPR's services will not limit, extend, or modify Consultant's responsibilities or authority except as expressly set forth below:

202.9.2 Consultant shall furnish a Resident Project Representative ("RPR") to assist Consultant team's Project Manager in observing progress and quality of the Work. The RPR may provide full time representation or may provide representation to a lesser degree. RPR is Consultant's representative at the Site, will act as directed by and under the supervision of Consultant team's Project Manager, and will confer with Consultant team's Project Manager regarding RPR's actions.

202.9.3 Through RPR's observations of the Work, including field checks of materials and installed equipment, Consultant shall endeavor to provide further protection for Owner against defects and deficiencies in the Work. However, Consultant shall not, as a result of such RPR observations of the Work, supervise, direct, or have control over the Work, nor shall Consultant (including the RPR) have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to the Work or any Constructor's work in progress, for the coordination of the Constructors' work or schedules, or for any failure of any Constructor to comply with Laws and Regulations applicable to the performing and furnishing of its work. The Consultant (including RPR) neither guarantees the performances of any Constructor nor assumes responsibility for any Constructor's failure to furnish and perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

202.9.4 The duties and responsibilities of the RPR are as follows:

a. *General:* RPR's dealings in matters pertaining to the Work in general shall be with Consultant team and CM/GC. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of CM/GC. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Consultant team's Project Manager.

b. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, schedule of values, and other schedules prepared by CM/GC and consult with Consultant team's Project Manager concerning acceptability of such schedules.

c. *Conferences and Meetings:* Attend meetings with CM/GC, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including CM/GC's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

d. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

e. Liaison:
   i. Serve as Consultant's liaison with CM/GC. Working principally through CM/GC's authorized representative or designee, assist in providing information regarding the provisions and intent of the Construction Contract Documents.
   ii. Assist Consultant in serving as Owner's liaison with CM/GC when CM/GC's operations affect Owner's on-Site operations.
   iii. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

f. *Clarifications and Interpretations:* Receive from CM/GC submittal of any matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. Report to Consultant team's Project Manager regarding such RFIs. Report to Consultant team's Project Manager when clarifications and interpretations of the Construction Contract

Documents are needed, whether as the result of a CM/GC RFI or otherwise. Transmit Consultant's clarifications, interpretations, and decisions to CM/GC.

g. Shop Drawings and Samples:

i. Record date of receipt of Samples and CM/GC-approved Shop Drawings.

ii. Receive Samples that are furnished at the Site by CM/GC and notify Consultant team of availability of Samples for examination.

iii. Advise Consultant team and CM/GC of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal, if RPR believes that the submittal has not been received from CM/GC or has not been approved by CM/GC or Consultant.

h. *Proposed* M*odifications:* Consider and evaluate CM/GC's suggestions for modifications to the Drawings or Specifications, and report such suggestions, together with RPR's recommendations, if any, to Consultant team's Project Manager. Transmit Consultant's response (if any) to such suggestions to CM/GC.

i. Review of Work; Defective Work:

i. Coordinate with Consultant team whenever RPR believes that any part of the Work is defective under the terms and standards set forth in the Construction Contract Documents and provide recommendations as to whether such Work should be corrected, removed and replaced, or accepted as provided in the Construction Contract Documents.

ii. Coordinate with Consultant team for any Work that RPR believes is not defective under the terms and standards set forth in the Construction Contract Documents but is nonetheless not compatible with the design concept of the completed Project as a functioning whole, and provide recommendations to Consultant team for addressing such Work.; and

iii. Advise Consultant team of that part of the Work that RPR believes should be uncovered for observation, or require special testing, inspection, or approval.

j. Inspections, Tests, and System Start-ups:

i. Consult with Consultant team in advance of scheduled inspections, tests, and systems start-ups.

ii. Check that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that CM/GC maintains adequate records thereof.

iii. Observe, record, and report to Consultant team's Project Manager appropriate details relative to the test procedures and systems start-ups.

iv. Observe whether CM/GC has arranged for inspections required by Laws and Regulations, including but not limited to those to be performed by public or other agencies having jurisdiction over the Work.

v. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work, record the results of these inspections, and report to Consultant team's Project Manager.

k. *Records*:

i. Maintain at the Site orderly files for correspondence, reports of job conferences, copies of Construction Contract Documents including all Change Orders, Field Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Construction Contract, RFIs, Consultant's clarifications and

interpretations of the Construction Contract Documents, progress reports, approved Shop Drawing and Sample submittals, and other Project-related documents.

ii. Prepare a daily report or keep a diary or log book, recording CM/GC's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Consultant team's Project Manager.

iii. Upon request from Owner to Consultant, photograph or video Work in progress or Site conditions.

iv. Record and maintain accurate, up-to-date lists of the names, addresses, fax numbers, e-mail addresses, websites, and telephone numbers (including mobile numbers) of all CM/GCs, Subcontractors, and major Suppliers of materials and equipment.

v. Maintain records for use in preparing Project documentation.

vi. Upon completion of the Work, furnish original set of all RPR Project documentation to Consultant team's Project Manager.

l. Reports:

i. Furnish to Consultant team's Project Manager periodic reports as required of progress of the Work and of CM/GC's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

ii. Draft and recommend to Consultant team's Project Manager proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from CM/GC.

iii. Furnish to Consultant team's Project Manager and Owner copies of all inspection, test, and system start-up reports.

iv. Immediately inform Consultant team's Project Manager of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, possible force majeure or delay events, damage to property by fire or other causes, or the discovery of any potential differing site condition or Constituent of Concern.

m. *Payment Requests:* Review applications for payment with CM/GC for compliance with the established procedure for their submission and forward with recommendations to Consultant team's Project Manager, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

n. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by CM/GC are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Consultant team's Project Manager for review and forwarding to Owner prior to payment for that part of the Work.

o. *Completion*:

i. Participate in Consultant team's visits to the Site regarding Substantial Completion, assist in the determination of Substantial Completion, and prior to the issuance of a Certificate of Substantial Completion submit a punch list of observed items requiring completion or correction.

ii. Participate in Consultant team's visit to the Site in the company of Owner and CM/GC, to determine completion of the Work, and prepare a final punch list of items to be completed or corrected by CM/GC.
iii. Observe whether all items on the final punch list have been completed or corrected, and make recommendations to Consultant team's Project Manager concerning acceptance and issuance of the Notice of Acceptability of the Work.

202.9.5 Resident Project Representative shall not:

a. Authorize any deviation from the Construction Contract Documents or substitution of materials or equipment (including "or-equal" items).
b. Exceed limitations of Consultant's authority as set forth in this Agreement.
c. Undertake any of the responsibilities of CM/GC, Subcontractors, or Suppliers, or any Constructor.
d. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of the Work, by CM/GC or any other Constructor.
e. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or CM/GC.
f. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Consultant team's Project Manager.
g. Accept Shop Drawing or Sample submittals from anyone other than CM/GC.
h. Authorize Owner to occupy the Project in whole or in part.

202.9.6 System Commissioning and Start-Up Support. Provide startup assistance of the Mill City and Gates MWTF. Startup activities are assumed to include four (4) weeks of support by the RPR.

Assumptions:

- Budget assumes observation by a resident field representative (RPR) will be three (3) days per week for eighteen (18) months. for the Mill City and Gates MWTF project.
- Budget assumes eight (8) weeks of construction with sixty-four (64) hours of construction observation by the RPR for the Mill City I&I Spot Repairs.
- Budget assumes eight (8) weeks of construction with sixty-four (64) hours of construction observation by the RPR for the NW. Alder St/N. 1st Ave Sanitary Sewer Improvements.
- Budget assumes four (4) weeks of system commissioning and start-up support with sixty-four (64) hours of support by RPR.
- Assumes one (1) one (1)-hour construction meeting per week.
- Budget assumes review of eighteen (18) CM/GC pay applications.

Task 202.10 – Special Inspections

Consultant's Responsibilities

Special inspections are mandated evaluations of specific materials, equipment, installations, and construction practices to ensure compliance with approved plans, specifications, and building codes.

202.10.1 Structural Inspections. Consultant will contract with and pay for the services of an independent Special Inspection Agency. Consultant shall coordinate with the designated Special Inspector to schedule the timing of site visits to perform the following structural inspections in a timely manner:

- Concrete/Rebar Inspections
    - Includes up to twenty-four (24), eight (8)-hour per day, site visits from a concrete/rebar inspector.
    - Includes up to four (4), eight (8)-hour per day, site visits from a curing inspector.
    - Includes testing of up to one-hundred-twenty (120) concrete cylinders.
- Steel Erection Inspections
    - Includes up to fifty-eight (58), eight (8)-hour per day, site visits from a steel/welding inspector.
- Masonry Inspections
    - Includes up to fourteen (14), eight (8)-hour per day, site visits from a masonry inspector.

202.10.2 Earthwork Inspections. Consultant will contract with and pay for the services of an independent Special Inspection Agency. Consultant shall coordinate with the designated Special Inspector to schedule the timing of site visits to perform the following earthwork inspections in a timely manner:

- Compaction Inspections
    - Includes up to eight-eight (88), eight (8)-hour per day, site visits from a compaction inspector.

202.10.3 Welding Inspections. Consultant will contract with and pay for the services of an independent Special Inspection Agency. Consultant shall coordinate with the designated Special Inspector to schedule the timing of site visits to perform the following welding inspections in a timely manner:

- Welding Inspections
    - Includes up to twenty (20), eight (8)-hours per day, site visits from a welding inspector.

Task 202.11 – Geotechnical Construction Observation Services

Consultant's Responsibilities:

202.11.1 The Consultant will provide geotechnical construction observation during earthwork construction and verify that earthwork is completed in accordance with project plans and specifications. The Consultant shall:

a. Evaluate subgrade preparation after clearing, stripping, and demolition, and before fill material is placed, by either probing or observing proof-rolling.
b. Provide recommendations for the remediation of identified unsuitable areas or disturbed subgrade material, as necessary.
c. Provide part-time on-site observations during general site grading and evaluate placement and compaction of fill material by conducting in-situ density testing and/or by observing the CM/GC's procedures and response of the soil to construction equipment.
d. Observe and evaluate utility trench backfill compaction by conducting in-situ density testing.
e. Observe and evaluate subgrade and aggregate base preparation for pavement surfaces by probing and/or observing proof-rolling over prepared subgrades and performing in-place density testing of compacted crushed rock for on-site parking and drive areas.
f. Perform in-place density tests to evaluate the relative compaction of asphalt pavement for on-site parking and drive areas.
g. Perform field infiltration tests for the RIBs.
h. Complete up to one ASTM International (ASTM) proctor (laboratory compaction) density test and fines content analysis on material proposed for use as structural fill provided by the CM/GC.
i. Prepare field reports summarizing our observations after completion of each site visit.
j. Provide project management, including review of field reports, correspondence, responding to the CM/GC's submittals and requests for information (RFIs), and client communication.
k. Prepare a final summary letter for construction monitoring activities.

Assumptions:

- This task includes budget for up to thirty (30), two (2)-hour site visits for part-time observation and includes travel time, mileage, travel expenses, testing equipment, and reporting.
- This task includes budget for up to five (5), eight (8)-hour site visits for full-time observation and includes travel time, mileage, travel expenses, testing equipment, and reporting.
- This task includes budget for up to two (2), eight (8)-hour site visits to conduct field infiltration tests and includes travel time, mileage, travel expenses, testing equipment, and reporting.
- <u>This task includes budget for up to ten (10), four (4)-hour site visits for part-time observation of utility trench backfill and includes travel time, mileage, travel expenses, testing equipment, and reporting.</u>
- <u>This task includes budget for up to twelve (12), eight (8)-hour site visits for full-time observation of road subgrade and aggregate base preparation and includes travel time, mileage, travel expenses, testing equipment, and reporting.</u>

- This task includes project management services for up to twenty-one (21) ~~eight (8)~~ weeks and will include email and telephone correspondence, field report review, administrative support, and responses to construction submittals and RFIs.
- The Consultant's activities do not include supervision or direction of the actual work performed by the CM/GC, the CM/GC's employees, or agents. The Consultant will use accepted geotechnical testing procedures in conjunction with observation services. Our professional opinions and conclusions will be made in accordance with generally accepted soil and foundation engineering principles and practices. However, this will not guarantee the results of the CM/GC's earthwork contractor's efforts, not will the Consultant's testing and observations relieve the CM/GC of their primary responsibility to produce a completed projected conforming to the project plans and specifications.
- The Consultant will not be responsible for job or site safety on this project other than as related to Consultant's staff.
- Any third party requesting the right to place legal reliance on the instruments of service produced by the Consultant under this agreement shall be required to sign a Third-Party Reliance Letter. The provisions of the letter shall include a requirement for the third party to agree to the same limitations in scope and any limitations in liability negotiated between the Consultant and Owner in this Agreement.

Deliverables:

- Final summary letter for construction monitoring activities.

Task 202.12 – Post-Construction Phase

Consultant's Responsibilities:

202.12.1 Post-Construction Phase. Upon written authorization from Owner during the Post-Construction Phase, Engineer shall:

a. Together with Owner, visit the Project to observe any apparent defects in the Work, make recommendations as to replacement or correction of defective Work, if any, or the need to repair of any damage to the Site or adjacent areas, and assist Owner in consultations and discussions with CM/GC concerning correction of any such defective Work and any needed repairs.

b. Together with Owner, visit the Project within one month before the end of the Construction Contract's correction period to ascertain whether any portion of the Work or the repair of any damage to the Site or adjacent areas is defective and therefore subject to correction by CM/GC.

c. Perform or provide the following other Post-Construction Phase tasks or deliverables: None

d. The Post-Construction Phase services may commence during the Construction Phase and will terminate twelve months after the commencement of the Construction Contract's correction period, unless modified by future amendment.

202.12.2 Record Drawings. Prepare final record drawings including general, site civil, mechanical, electrical, structural, and instrumentation sheets.

202.12.3 O&M Manual. Prepare operations and maintenance (O&M) manual for the Mill City and Gates MWTF. Provide one digital copy and up to two (2) hard copies.

202.12.4 Quality Assurance Plan. Prepare a Quality Assurance Plan as required by the National Pollutant Discharge Elimination System (NPDES) permit for the Mill City and Gates MWTF.

Assumptions:

- Assumes DEQ comments on O&M Manual can be resolved in one review cycle.

Deliverables:

- Draft and final record drawings.
- Draft and final O&M Manual.
- Draft and final Quality Assurance Plan.

Task 202.13 – Mill City and Gates MWTF SCADA and Integration

Consultant will provide panel design and process control system and supervisory control and data acquisition (SCADA) software integration services for the Mill City and Gates MWTF. Panel design includes a new main plant control panel LCP-D1000, remote panel RCP-A100 in the Headworks and Dewatering Building, and remote RIBs control panel RCP-F1000 at the Rapid Infiltration Basins.

The scope of software integration for the new Wastewater Treatment Facility Process Control System includes:

1. Providing new process control programming (via new plant programmable logic controller [PLC] and associated remote input/output [I/O] racks) for the following wastewater treatment process systems, as defined in the project specifications control strategies:
   a. Grit Removal
   b. Septage Pumping
   c. Raw Sewage Lift Station
   d. Influent Pump Station
   e. Post-Equalization Basin
   f. Chemical Addition – Methanol and Caustic
   g. Utility Water System
   h. Solids Holding Tanks
   i. Rapid Infiltration Basins

2. Integrating the following wastewater treatment packaged process systems into the overall Process Control System, as provided by individual system vendors:
   a. Screening
   b. Dewatering
   c. Septage Receiving
   d. Sequencing Batch Reactors #1 and #2
   e. Sand Filters
   f. UV System
   g. Aeration Blowers

h. Odor Control

3. Providing a centralized SCADA platform to enable monitoring and alarming for the Mill City and Gates MWTF, as well as limited control as defined in the project specifications and drawings:
   a. Overview of each sub-process enumerated above
   b. Live data display and trending
   c. Alarm callouts

The existing treatment facility utilizes a Wonderware application and a MicroLogix controller for operation of valves. This project includes the development of a new SCADA platform operating on Inductive Automation's Ignition. A new SCADA server personal computer (PC) will be provided, operating on the latest version of Windows operating system (OS) available at the time that this scope of work is executed. This new SCADA server will be located in the new Process Building office.

Assumptions:

- Process Control System and SCADA Integration of vendor-provided packaged systems is limited both by the project specifications control strategies and by vendor offerings. Consultant is not responsible for vendor equipment functions or data points that may be unavailable for integration.

Task 202.13.1 Integration Project Management

Consultant Responsibilities:

202.13.1.1 Integration Kickoff. Prepare agenda and minutes for the integration kickoff meeting with the Owner and CM/GC. The purpose of this meeting will be to establish Owner review team, review the overall project schedule including major milestones and meetings, discuss current conditions, review objectives of site upgrades, and review process for Owner review and approval.

202.13.1.2 Coordination. Facilitate collaboration between Consultant, CM/GC and Owner to align scheduling, process Integration RFI's, participate in coordination meetings and correspondence. Manage internal work, milestones, and resulting project deliverables.

Assumptions:

- No on-site visits are anticipated within Integration Management tasks.

Deliverables:

- Prepared agenda and minutes.
- Project updates based on coordination between Owner, Consultant, CM/GC, and sub-contractors.
- Integrator schedule for on-site services (subject to change as Consultant coordinates with CM/GC and sub-contractors).

Task 202.13.2 Panel Design

Consultant Responsibilities:

202.13.2.1 Kickoff Meeting. Prepare agenda and minutes for the project kickoff meeting with the Owner and CM/GC. The purpose of this meeting will be to establish Owner review team, review the overall project schedule including major milestones and meetings, discuss current conditions, review objectives of site upgrades, and review process for Owner review and approval.

202.13.2.2 Panel Design. Panel drawings to be produced by Consultant for each panel as identified in design documents. Design to include dimensional layouts, bill of materials (BOM), equipment specifications, and I/O wiring to internal and field devices.

202.13.2.3 Component Specification. Specify PLC and hardware components. Include in panel design Bill of Materials.

202.13.2.4 Communication. Consultant to respond to up to two rounds of questions regarding potential equipment substitutions from panel shop during submittal review and construction of panels. Consultant will communicate decisions to Owner and redline panel drawings accordingly.

CM/GC to provide submittal from panel shop prior to fabrication of panel for review of components and specified hardware as well as confirmation of component lead times concerning panel delivery and impacts to overall construction schedule. To be approved by Consultant prior to fabrication.

202.13.2.5 As-Built Documentation. Following final installation, commissioning, and at turnover to Owner, panel drawings are to be updated to reflect final arrangement of panel components and wiring. As-builts to be performed on original panel design drawings and reissued to Owner with printed set to be placed inside panel doors to assist with troubleshooting and future panel modifications and additions.

Owner Responsibilities:

- Procure panels through bidding process for CM/GC.

Assumptions:

- Panels to be provided by CM/GC. Panel construction to be based on Consultant's design and updated to include markups provided following Factory Acceptance Testing (FAT). All panels built for project to be from a single source, UL approved panel shop as defined in specifications. CM/GC to provide panel shop contact information to Consultant.
- Panels to be designed in AutoCAD.
- CM/GC to coordinate shipment of panels to site and installation, including Consultant needs regarding site acceptance testing (SAT) relative to overall project schedule.
- CM/GC to provide project schedule and communicate dates as requested by Consultant. Contractor to coordinate full construction schedule with line items concerning panel design tasks to be performed by Consultant and allow for minimum of four weeks advanced notice prior to onsite needs.
- As-built documentation to be provided for panels designed by Consultant only. Field wiring drawing updates performed by others.

Deliverables:

- Design of each panel in .dwg and .pdf format.
- Findings of FAT and SAT in technical memo sent to CM/GC and Owner. To include panel markups and punch-list of items to be changed/completed prior to panel shipment.
- Completion of panel as-builts as received by markups from panel shop and captured redlines during submittal reviews.

Task 202.13.3 Programming and Integration

Consultant Responsibilities:

202.13.3.1 Sequence of Operations and Development Meetings. Consultant to host up to four (4) remote meetings to develop functionality requirements. The purpose of the meetings will be to receive Owner input to develop the sequence of operations via planned control strategies and expected setpoints as well as review of planned interfaces and hardware design. Owner and Owner representatives are to attend and provide comments commensurate with level of design.

202.13.3.2 PLC Control and Programming. Develop functional program to control each area of operations via PLC. Controls to be developed based on planned design respective to each area. Controls to be designed to operate in manual or automatic mode. Automatic operation to allow for remote monitoring of facilities working in conjunction with rest of Owner's wastewater systems.

202.13.3.3 HMI Control and Programming. Develop programming of human machine interface (HMI) screens to display facility information including current measurements, statuses, and alarms. Screens to be developed based on one round of Owner input to allow for control of facilities and clear indication.

202.13.3.4 SCADA Control and Programming. Develop SCADA programming of interconnection of facilities via plant-wide Process Control System fiber network (installed by others). SCADA program to provide an overview of each area as well as means for remote access. SCADA to allow for historical and trend views of information. Server to be configured to include continuation or improvements of communication strategy to existing, modified, and new areas/equipment, and allow for future upgrades.

202.13.3.5 Closeout Meeting. Consultant to host meeting toward the end of design and programming activities showing screens setup and layout of user interfaces. At this meeting the Owner will have the opportunity to follow up on previous comments and go over programmed interfaces prior to on-site activities.

202.13.3.6 Mobile Application. Develop mobile application for remote status and alarming to operators following completion of onsite controls and SCADA system. Mobile application to be based on existing SCADA screens and I/O. Mobile application to be developed based on one round of Owner input regarding interface, alarms, acknowledgements, and notification.

Owner Responsibilities:

- Review and provide input on screens and interface design.
- Assist in development of control strategies based on user experience and desired operation.

- Facilitate purchase of software licenses by Consultant in Owner's name to be utilized by Consultant for programming. This is to better enable turnover to Owner following installation for support.
- Review and provide input on mobile application design. To include Owner approval of desired alarms and operator contact information.

Assumptions:

- Consultant to purchase programming software for PLC, HMI, and SCADA in Owner's name
- SCADA programming to be completed with Ignition software (current version at time this amendment is executed).
- SCADA to be locally hosted on new server in the Process Building.
- New SCADA server computer provided by Consultant per project specifications. Computer to be delivered initially to Consultant for software installation and setup and brought to site and set up by Consultant.
- Programs of vendor-provided, PLC-controlled equipment packages to be property of the Owner to allow for communication with local controls. Vendor programs to be provided without locks. Consultant will not modify vendor programs.
- CM/GC to coordinate full construction schedule with line items concerning integration tasks to be performed by Consultant and allow for minimum of four weeks advanced notice prior to onsite needs.

Deliverables:

- Copies of HMI and screens for review by Owner.
- Copies of PLC, HMI, and SCADA code.
- Final programming and code for each site will be backed up on the SCADA server at project completion.
- 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.

Task 202.13.4 Communications, Coordination, Start-Up, and Commissioning

Consultant Responsibilities:

202.13.4.1 Network Communications. Consultant to work with Owner's information technology (IT) personnel to develop connections of the SCADA server including installation needs and hardware requirements. Consultant to help coordinate agreements between Owner and IT based on discussions during design and realized communications requirements.

202.13.4.2 Factory Acceptance Testing (FAT). FAT to be performed by Consultant on each panel prior to shipment of site. The FAT will provide a review of the following: equipment and components installed, adherence to provided panel design, and professional workmanship. Consultant to test panel components at FAT including download of PLC and HMI programs, update firmware, assignment of IP addresses, and verification of physical I/O arrangements.

Consultant will provide CM/GC with a form prior to scheduling of SAT to verify installation of panel and all connected components. CM/GC is to complete form and return to Consultant for approval prior to Consultant arrival to job site. At FAT, Consultant will review and note any deficiencies in a punch-list and/or provide sign-off of approval that FAT is satisfactorily completed.

202.13.4.3 Site Acceptance Testing (SAT). SAT to be performed by Consultant on each panel following installation at site. The SAT will provide a review of the following: installation of panel, power and operation of panel and internal components, and initial setup and configuration of panel including instrument connections and communication. Consultant to test panel components at SAT including field instrumentation I/O signal validation, hardware communications (including to vendor-provided equipment), networking arrangement, and SCADA connectivity.

Consultant will provide CM/GC with a form prior to scheduling of SAT to verify installation of panel and all connected components. CM/GC is to complete form and return to Consultant for approval prior to Consultant arrival to job site. At SAT, Consultant will review and note any deficiencies in a punch-list and/or provide sign-off of approval that SAT is satisfactorily completed.

202.13.4.4 Commissioning. Following SAT, Consultant to prepare each area of site for operable condition. Commissioning activities to include I/O checkout, program updates, functionality testing, and loop/bump tests of equipment. Program updates and changes to setpoints to be documented for Owner review.

Owner Responsibilities:

- Undertake required service agreements for communication and data, including payment of construction or service costs.
- Facilitate communications with contractors, including providing contact information for local internet service provider (ISP) and Owner IT personnel.
- Operate any Owner equipment, valves, etc. Provide licensed operator to be present for startup and testing.
- Dedicated remote connection for SCADA programming updates to be provided by Consultant and maintained for startup and commissioning for up to 12 months. To be removed following commissioning.
- Provide access to facilities, including after hours as needed.
    1. On-site needs to be communicated by Consultant in advance.

Assumptions:

- Communication and data services to be provided by Owner IT and/or Owner ISP.
- Construction contractor to provide project schedule and communicate dates as requested by Consultant. Contractor to coordinate full construction schedule with line items concerning integration tasks to be performed by Consultant and allow for minimum of four weeks advanced notice prior to onsite needs.
- Panel factory acceptance tests to be completed on one trip for all panels. Two full days for panel FAT is included in this scope of work. Factory testing is assumed to be within 100 miles of job site. If additional trips are required to address defective work, facilitate partial deliveries, etc., these will be provided as an additional service and subject to review of Consultant’s fees.

- Network setup is to be completed on one trip for all connections. One full day for network configuration is included in this scope of work as part of panel SAT trip. Network hardware and cabling to be installed, configured, and tested by Contractor prior to network checkout.
- Panel site acceptance tests to be completed on two trips for all panels. Ten full days for panel SAT is included in this scope of work. If additional trips are required to address defective work, facilitate partial deliveries, etc., these will be provided as an additional service and subject to review of Consultant's fees.
- Commissioning is to be completed on three trips for full plant checkout. Up to fifteen days for commissioning are included in this scope up work. Additional updates to be completed via remote connection.
- CM/GC to be available to provide in-field updates as requested by consultant.

Deliverables:

- On-site integration and site network setup.
- Mi-Fi hotspot by Consultant temporarily installed for SCADA programming updates as direct remote connection.
- Functional process control and SCADA system as defined in project construction contract documents.
- Alarming, notification, and historical trending of site process conditions.

Task 202.13.5 Manuals, Training, and Support

Consultant Responsibilities:

202.13.5.1 Manuals. Consultant to prepare operations and maintenance manual for SCADA system. Manual to describe system function of each area including list of instruments, equipment, control setpoints, and programmed parameters. Manual also to provide recommendations for troubleshooting as well as contact information for continued integration services should need arise in the future.

202.13.5.2 Training. Consultant to perform training at each of the site areas to demonstrate operations via new control systems and review of manual and design drawings.

202.13.5.3 Support. Consultant provides a one year period of continued support following turnover to Owner. This support will include software updates to control system in the event of bugs encountered by Owner through operations. All support requests shall be submitted by Owner in writing to Consultant's Project Manager, and subsequently followed up on and scheduled by Consultant. This support includes a pre-packaged allotment of 80 hours, expiring upon end of support period.

Owner Responsibilities:

- Review operations manuals.
- Invite needed personnel to attend training sessions and coordinate time at each site.

- Notify Consultant of requested programming revisions.

Assumptions:

- Training to take place over one trip or done in conjunction with final turnover to Owner at each site. Two full days of on-site training are included in this proposal.
- Additional integration work not included in the original scope of project and requested after the training documentation has been provided shall be treated as a new task subject to additional fees and agreement between Owner and Consultant.

Deliverables:

- Operations manuals for each location.
- Recommendations for future software and integration support, including software maintenance recommendations and control system service provider, to be issued in the form of a memo to Owner.
- Updated panel drawings showing as-built conditions.
- On-site training sessions with Owner and Owner's representatives.
- Implementation of requested fixes and software support as required to correct bugs encountered in process control systems and SCADA programs for one-year following turnover to Owner pending Consultant evaluation that update is necessary and falls under scope of this project and agreement. Each request subject to Consultant evaluation that each requested programming update is necessary and falls under scope of this project and agreement.

Task 202.14 – Mill City and Gates MWTF Power System Studies

Consultant will perform power system studies per Section 26 05 73 – Power System Studies of the North Santiam Canyon Sewer Project's Mill City and Gates Municipal Wastewater Treatment Facility Upgrades Contract Documents and Specifications, dated May 2025 (Construction Contract Documents).

Consultant Responsibilities:

202.14.1 Consultant shall complete a short-circuit fault analysis study, protective device coordination study, and arc-flash hazard study, as described below:

202.14.1.1 The Consultant shall furnish short-circuit and protective device coordination studies which shall be prepared by a Registered Professional Engineer. The analysis shall be performed and submitted in two phases for initial and final studies.

202.14.1.2 Consultant will serve as Owner's Engineer under separate contract from the project construction to perform the power system studies. Consultant will provide the studies, labeling, and overcurrent protection devices (OCPD) settings. CM/GC is responsible for providing construction as-built drawing markups, equipment submittals, and setting OCPDs per findings of the power system study, as applicable.

202.14.1.3 The Consultant shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.5 and Informative Annex D. The analysis shall be performed and submitted in two phases for initial and final studies.

202.14.1.4 The Consultant shall furnish power system model and project library files used for the creation of the studies in electronic format. The model and project library files shall be submitted in two phases as part of initial and final studies.

202.14.1.5 It is the CM/GC's responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of the items required for Consultant's Work.

202.14.1.6 The CM/GC shall coordinate with the Owner and Consultant to schedule and attend Electrical System Study meetings as defined in Sections 202.14.11 through 202.14.14.

202.14.1.7 Scope of studies shall encompass all proposed components of electrical distribution system and any directly affected existing distribution components. Additionally, if existing equipment is not arc flash labeled up to the current NFPA 70E standards then this equipment shall be included in the scope of this study.

202.14.1.8 After completion of the studies, as part of commissioning, the CM/GC shall coordinate the setting and testing of all protective devices with adjustable settings based on the recommendations from the protective device coordination study.

202.14.1.9 After completion of the studies, as part of commissioning the CM/GC shall coordinate the installation of the arc flash hazard labels with the Consultant.

202.14.2 Submittals.

202.14.2.1 Submittals shall be furnished as specified in Section 01 33 00 – Submittal Procedures and 26 05 00 – Electrical, General of the North Santiam Canyon Sewer Project's Mill City and Gates Municipal Wastewater Treatment Facility Upgrades Contract Documents and Specifications, dated May 2025.

202.14.2.2 The initial short-circuit, protective device coordination, and arc flash studies shall be submitted to the design Engineer prior to receiving final approval of the distribution equipment shop drawings and/or prior to release of equipment drawings for manufacturing. The initial submittal shall also include a version of the preliminary model and project library files for review. If formal completion of the studies may cause delay in equipment manufacturing, approval from the Engineer may be obtained for preliminary submittal of sufficient study data to ensure that the selection of device and characteristics will be satisfactory.

202.14.3 Submittals for Construction.

202.14.3.1 Submit qualification information for the firm and individual(s) specified in Section 202.14.4 herein.

202.14.3.2 Submit letter or email correspondence from utility with available short circuit current value at the main service switchboard. As a minimum, the utility shall include the following for the facility: service voltage and configuration, main service maximum allowable short circuit current, service transformer kVA and impedance, 3-phase and phase to ground X/R ratios, and service conductor size, number, and length.

202.14.3.3 The final results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. No more than five (5) bound copies of the complete final report shall be submitted. For large system studies, submittals requiring more than five (5) copies of the report will be provided without the section containing the computer printout of the short-circuit input and output data. An additional copy of the final report, model file, and project library file shall be provided in a zip file for download.

202.14.3.4 The report shall include the following sections:

a. Section 1 – Executive Summary

b. Section 2 – Short-Circuit and Protective Device Evaluation Study

i. Short-Circuit Analysis Objectives

ii. System Modeling

iii. Modeling Assumptions

iv. Short-Circuit Results

v. Equipment, Material, and Protective Device Evaluation

c. Section 3 – Protective Device Coordination Study

i. Study Description and Protection Philosophy

ii. Codes and Standards

iii. Coordination Objectives

iv. Coordination Results

v. Coordination Recommendations

vi. Time-Current Characteristic Plots

d. Section 4 – Recommended Protective Device Settings

e. Section 5 – Arc Flash Hazard Study

i. Study Description

ii. Analysis Procedure

iii. Arc-Flash Analysis Results

iv. Arc-Flash Analysis Recommendations

f. Section 6 – Appendices

i. Power System Study Single line diagrams

ii. Reference Drawing Single line diagrams

iii. Short-Circuit Input Data Report

iv. Short-Circuit Analysis Results Reports

v. Protective Device Settings Report

vi. Arc-Flash Analysis Results Reports

vii. Arc Flash Hazard Labels

viii. At discretion of Consultant performing study any other appendices needed to capture request information in report data Section 202.14.10 herein.

202.14.4 Qualifications.

202.14.4.1 The short-circuit, protective device coordination and arc flash hazard analysis studies shall be conducted under the supervision and approval of a Registered Professional Electrical Engineer skilled in performing and interpreting the power system studies. The firm and individual(s) performing the specified studies shall be experienced in the application of computer software used for power system studies and shall have performed studies of similar magnitude on electrical systems using similar equipment and devices. The Registered Professional Electrical Engineer shall be a full-time employee of the Engineering Services Organization.

202.14.5 Studies.

202.14.5.1 The Consultant to furnish short-circuit and protective device coordination studies as prepared by Registered Professional Engineer. The coordination study shall begin with the utility company's feeder protective device and include all electrical protective devices down to and include the largest feeder circuit breaker and motor starter in the 480V motor control centers and power distribution panelboards. The study shall also include variable frequency drives, harmonic filters, power factor correction equipment, transformers and protective devices associated with variable frequency drives, emergency and standby generators associated paralleling equipment and distribution switchgear.

202.14.5.2 Consultant shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.5 and Informative Annex D. The analysis shall be performed and submitted in two phases for initial and final studies.

202.14.5.3 The short-circuit fault, protective device coordination, and arc flash hazard analysis shall be performed and submitted in two phases:

a. Initial results report and modeling analysis:

i. Based on the Construction Contract Documents and Electric Utility information.

ii. The initial report shall indicate the estimated available short-circuit current at the line side terminals of each piece of equipment covered by the scope of the study, provide preliminary breaker settings, and preliminary arc flash results.

iii. Provide a list of assumptions used in the initial study.

iv. Provide modeling data inputs and single line diagrams. Equipment in the model shall be tagged according to the contract and record drawings.

202.14.5.4 Final Results report and modeling analysis:

a. The final results shall modify the initial report as follows:

i. Utilize the actual equipment provided on the project.

ii. Utilize conductor lengths based on installation.

iii. Must incorporate comments from Owner and Consultant for the project.

202.14.6 Data Collection.

202.14.6.4 CM/GC shall furnish all field data as required by the power system studies. CM/GC shall verify existing distribution system equipment and protective device models and settings with assistance of a qualified electrician as needed. CM/GC shall provide conductor lengths based on installation for new equipment. CM/GC shall coordinate a site visit with Consultant performing the study if deemed necessary for accurate completion of the model. The Consultant performing the short-circuit, protective device coordination and arc flash hazard analysis studies shall furnish the CM/GC with a listing of required data. The CM/GC shall expedite collection of the data to eliminate unnecessary delays and assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to the release of the equipment for manufacturing.

202.14.6.5 Source combination may include present and future utility supplies, motors, and generators.

202.14.6.6 Load data utilized may include existing and proposed loads obtained from Construction Contract Documents provided by Owner or CM/GC. Any relevant record drawings for modeling shall be provided by Owner or CM/GC.

202.14.6.7 Include fault contribution of existing motors in the study, with motors < 50 horsepower (hp) grouped together. Motors < 50 hp shall not be grouped together if associated buses need arc flash labels. The Consultant shall obtain the required equipment data, if necessary, to satisfy the study requirements.

202.14.7 Short-Circuit and Protective Device Evaluation Study

202.14.7.1 Use actual conductor impedances if known. If unknown, use typical conductor impedances based on Institute of Electrical and Electronics Engineers (IEEE) Standards 141, latest edition.

202.14.7.2 Transformer design impedances and standard X/R ratios shall be used when test values are not available.

202.14.7.3 Provide the following:

a. Calculation methods and assumptions

b. Selected base per unit quantities

c. One-line diagram of the system being evaluated with available fault at each bus, and interrupting rating of devices noted. Bus interrupt ratings shall be based on the lowest rated piece of equipment connected directly to each bus.

d. Source impedance data, including electric utility system and motor fault contribution characteristics

e. Typical calculations

f. Tabulations of calculated quantities

g. Results, conclusions, and recommendations

202.14.7.4 Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each:

a. Electric utility's supply termination point

b. Incoming switchgear

c. Low voltage switchgear

d. Motor control centers

e. Standby generators and automatic transfer switches

f. Branch circuit panelboards

g. 3-phase control panels

h. VFD cabinets

i. Other significant locations throughout the system

202.14.7.5 For grounded systems, provide a bolted line-to-ground fault current study for areas as defined for the three-phase bolted fault short-circuit study.

202.14.7.6 Protective Device Evaluation:

a. Evaluate equipment and protective devices and compare to short circuit ratings

b. Adequacy of switchgear, motor control centers, and panelboard bus bracing to withstand short-circuit stresses

c. Adequacy of transformer windings to withstand short-circuit stresses

d. Cable and busway sizes for ability to withstand short-circuit heating

e. Notify Owner, in writing, of existing circuit protective devices improperly rated for the calculated available fault current

202.14.8 Protective Device Coordination Study

202.14.8.1 Proposed protective device coordination time-current curves shall be graphically displayed on log-log scale paper.

202.14.8.2 Include on each curve sheet a complete title and one-line diagram with legend identifying the specific portion of the system covered.

202.14.8.3 Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which device is exposed.

202.14.8.4 Identify device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.

202.14.8.5 Plot the following characteristics on the curve sheets, where applicable:

a. Electric utility's protective device

b. Low voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands

c. Low voltage equipment circuit breaker trip devices, including manufacturer's tolerance bands

d. Transformer full-load current, magnetizing inrush current, and ANSI transformer withstand parameters

e. Conductor damage curves

f. Ground fault protective devices, as applicable

g. Pertinent motor starting characteristics and motor damage points

h. Pertinent generator short-circuit decrement curve and generator damage point

i. Other system load protective devices for the largest branch circuit and the largest feeder circuit breaker in each motor control center

202.14.8.6 Provide adequate time margins between device characteristics such that selective operation is provided, while providing proper protection.

202.14.8.7 Select each primary protective device required for a delta-wye connected transformer so that the characteristics or operating band is within the transformer parameters which includes a parameter equivalent to 58% of the ANSI withstand point to afford protection for secondary line-to-ground faults.

202.14.8.8 Separate low voltage power circuit breakers from each other and the associated primary protective device by a 16% current margin for coordination and protection in the event of secondary line-to-line faults.

202.14.8.9 Consultant shall provide settings file printouts for all multifunction relays supplied under this contract including all ANSI protective relay functions and associated logic and control. Metering, communication, and control logic settings not associated with ANSI protective functions are not required.

202.14.9 Arc Flash Hazard Analysis

202.14.9.1 The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2012, Informative Annex D.

202.14.9.2 When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Alternative methods shall be presented in the proposal.

202.14.9.3 The arc flash protection boundary and the incident energy shall be calculated at all significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, busway and splitters) where Work could be performed on energized parts.

202.14.9.4 The Arc-Flash Hazard Analysis shall include all 480V locations and significant locations in 240V and 208V systems fed from transformers equal to or greater than 30 kVA.

202.14.9.5 Safe working distances shall be specified for calculated fault locations based upon the calculated arc flash boundary considering an incident energy of 1.2 cal/cm^2.

202.14.9.6 The Arc Flash Hazard analysis shall include calculations for maximum and minimum contributions of fault current magnitude. The minimum calculation shall assume that the utility contribution is at a minimum and shall assume a minimum motor load. Conversely, the maximum calculation shall assume a maximum contribution from the utility and shall assume motors to be operating under full-load conditions.

202.14.9.7 Arc flash computation shall include both line and load side of main breaker calculations, where necessary. Main breakers shall be excluded as the protective device for buses when the main breaker is not considered isolated from the bus within a given enclosure.

202.14.9.8 Arc Flash calculations shall be based on actual overcurrent protective device clearing time. Maximum clearing time will be capped at 2 seconds based on IEEE 1584 section B.1.2.

202.14.10 Report Data

202.14.10.1 Input Data:

a. Utility three-phase and line-to-ground available contribution with associated X/R ratios

b. Short-circuit reactance of rotating machines with associated X/R ratios

c. Cable type, construction, size, number per phase, length, impedance and conduit type

d. Bus duct type, size, length, and impedance

e. Transformer primary & secondary voltages, winding configurations, kVA rating, impedance, and X/R ratio

f. Reactor inductance and continuous ampere rating

g. Aerial line type, construction, conductor spacing, size, number per phase, and length

202.14.10.2 Short-Circuit Data:

a. Source fault impedance and generator contributions

b. X to R ratios

c. Asymmetry factors

d. Motor contributions

e. Short circuit kVA

f. Symmetrical and asymmetrical fault currents

202.14.10.3 Recommended Protective Device Settings:

a. Phase and Ground Relays:

i. Current transformer ratio.

ii. Current setting.

iii. Time setting.

iv. Instantaneous setting.

v. Specialty non-overcurrent device settings.

vi. Recommendations on improved relaying systems, if applicable.

b. Circuit Breakers:

i. Adjustable pickups and time delays (long time, short time, ground).

ii. Adjustable time-current characteristic.

iii. Adjustable instantaneous pickup.

iv. Recommendations on improved trip systems, if applicable.

202.14.10.4 Incident energy and arc flash boundary calculations.

a. Arcing fault magnitude

b. Device clearing time

c. Duration of arc

d. Arc flash boundary

e. Working distance

f. Incident energy

g. Recommendations for arc flash energy reduction

202.14.11 Electrical System Study Meetings

202.14.11.1 The individual conducting the short circuit analysis, protective device coordination, and the arc-flash hazard studies (Consultant) shall meet with the Owner and CM/GC up to three (3) times.

202.14.11.2 The purpose of the three meetings is as follows:

a. Initial meeting:

i. Meet with the Owner and CM/GC to discuss the scope of the studies.

ii. Discuss the Owner's operational requirements for both normal operation and maintenance.

b. Preliminary results meeting:

i. This meeting will be held after the studies have been completed, reviewed, and submitted by the Engineer.

ii. The purpose of this meeting is to inform the Owner of the results of the study and impacts on normal operation and maintenance including:

- Protective device coordination problems and recommended solutions.

- Explanation of the arc-flash study results and its potential impact on operations.

- Recommendations for reduction of arc-flash category levels including reduction of protective device settings or changes in operational practices.

c. Final meeting:

i. Discuss changes to the reports based on the previous meeting.

ii. Discuss with the Owner how changes to the electrical system may change the arc-flash hazard category.

iii. Deliver the final electrical system studies report.

202.14.11.3 The meetings will be at the Owner's facility:

a. Provide a minimum of three weeks' notice to the Owner and CM/GC in advance of the projected meeting date.

b. Submit a draft of the meeting agenda when each meeting is requested.

202.14.11.4 Meeting materials:

a. Prepare and provide the following materials:

i. Meeting agenda. Include at a minimum the scope of the meeting, estimated time length for the meeting and meeting goals.

ii. Six (6) copies of the project one-line diagrams for the initial meeting.

iii. Six (6) copies of the studies of the submitted study.

202.14.11.5 By virtue of the fact that this is a professional study, the Owner reserves the right to modify the requirements of the study to comply with its operational requirements. The protective device coordination study and the arc-flash study shall be modified based on the results of the meetings with the Owner.

202.14.12 Field Adjustment

202.14.12.1 Adjust relay and protective device settings according to the recommended settings table provided by the coordination study. Field adjustments to be completed by the engineering service division of the equipment manufacturer under the Startup and Acceptance Testing contract portion.

202.14.12.2 Make minor modifications to equipment as required to accomplish conformance with short circuit and protective device coordination studies.

202.14.12.3 Notify Owner in writing of any required major equipment modifications.

202.14.12.4 Following completion of all studies, acceptance testing and startup by the field engineering service division of the equipment manufacturer, a two-year warranty shall be provided on all components manufactured by the engineering service parent manufacturing company.

202.14.13 Arc Flash Warning Labels

202.14.13.1 The Consultant shall provide a 4 in. x 6 in. thermal transfer type label of high adhesion polyester for each work location analyzed. UV resistant label material shall be used for equipment located outdoors.

202.14.13.2 The label shall have an orange header with the wording, “WARNING, SHOCK & ARC FLASH HAZARD”, and shall include the following information:

a. Bus or Equipment designation

b. Nominal voltage

c. Arc flash boundary

d. Incident energy

e. Working distance

f. Shock Boundaries, shock hazard, and shock glove classification

g. List of recommended personal protective equipment based on NFPA 70E table 130.5(G)

h. Protective Device Designation

i. Engineering report issue date

202.14.13.3 Labels shall be machine printed, with no field markings

202.14.13.4 Arc flash labels shall be provided in the following manner and all labels shall be based on recommended overcurrent device settings.

a. For each 480 and applicable 208 volt panelboards and disconnects, one arc flash label shall be provided

b. For each motor control center, one arc flash label shall be provided

c. For each low voltage switchboard, one arc flash label shall be provided

d. For each switchgear, one arc flash label shall be provided

202.14.13.5 Labels shall be field installed by a qualified electrician or the Consultant under the Startup and Acceptance Testing contract portion.

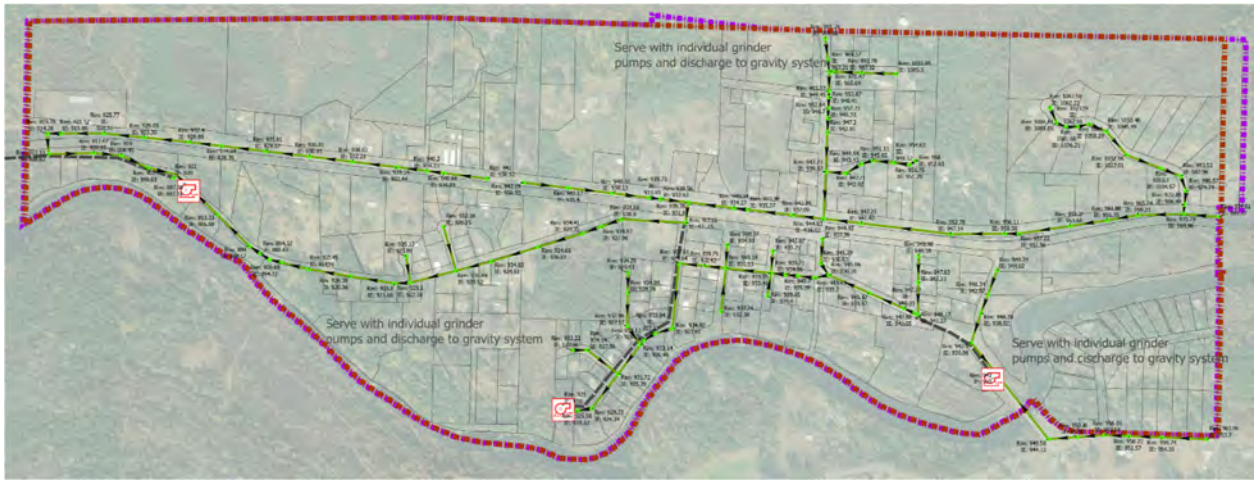
202.14.14 Arc Flash Training

202.14.14.1 The Consultant shall train personnel of the potential arc flash hazards associated with working on energized equipment (minimum of 4 hours). Maintenance procedures in accordance with the requirements of NFPA 70E, Standard For Electrical Safety Requirements For Employee Workplaces, shall be provided in the equipment manuals. The training shall be certified for continuing education units (CEUs) by the International Association for Continuing Education Training (IACET).

203 GATES COLLECTION SYSTEM/FORCE MAIN PRELIMINARY ENGINEERING

Previous work included facility planning to identify concepts to collect/convey raw wastewater generated from the new Gates collection system to the existing Mill City collection system. The recommendations from that work have led to this project, which consists of preliminary design for the Gates collection system. The preliminary design includes up to three (3) new lift stations, grinder pumps for those that cannot readily drain by gravity to the new collection system, ~~service lateral concepts,~~ Gates to Mill City force main (approximately 3.1 miles), double-barreled inverted siphon, and gravity collection pipelines and manholes serving the approximately 245 connections within the Gates city limits (see figure below). The pipeline from Mill Gates to Mill City (force main) is ~~gravity collection pipelines are~~ anticipated to include one river crossing across the North Santiam River ~~crossing~~ (force main attached to the Sorbin Street Bridge ~~an existing structure~~), one creek crossing across Rock Creek (double-barreled inverted siphon attached to the Rock Creek Bridge), and multiple minor creek crossings that will be bored. ~~The~~

~~force main is anticipated to have one creek crossing (attached to an existing structure) and multiple minor creek crossings that will be bored.~~ It is anticipated that there will be <u>one combined</u>~~ two~~ drawing package~~s, one~~ for the Gates <u>Collection System and Force Main.</u> ~~to Mill City force main, and the second for the lift stations and gravity collection system located within the City of Gates.~~



~~The task includes a preliminary engineering report (PER) to include sufficient detail to demonstrate that the proposed project meets the design criteria identified in the facility planning study. Drawings and specifications are anticipated to provide sufficient detail to allow the Construction Manager/General Contractor (CM/GC) to develop a guaranteed maximum price (GMP) for the project.~~ Consultant's services are limited to those services outlined in the following tasks.

Task 203.1 – Project Management

Consultant Responsibilities:

203.1.1 General Project Administration. Provide general project administration services including contract administration, project accounting, scheduling, and internal project administration.

203.1.2 Kickoff Meeting. Participate in a project kickoff meeting. Prepare agenda and minutes. The purpose of this meeting will be to establish Owner's design review team, review the overall project schedule including major milestones and meetings, review objectives of the design, discuss available data and published materials that will be made available by the Owner, and review process for deliverables including process for Owner review and approval.

203.1.3 Progress Meetings. Conduct monthly progress meetings, including the Owner <u>and</u>~~,~~ Consultant~~, and CM/GC~~ <u>(through 30% design)</u>.

203.1.4 Request for Information and Data Review. Prepare initial request for information for data to be used in the pre-design process. Review information requested and provide supplemental request for information if needed.

~~203.1.5 CM/GC Coordination. Coordinate with the CM/GC for general project efforts through 30% design effort, including establishing lines of communication.~~

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising as needed. ~~Coordinate attendance of CM/GC to progress meetings.~~

Assumptions:

- Assumes a ~~an~~ fifteen (15) ~~eight~~ ~~(8)~~-month duration for general project administration. ~~Work to be completed concurrent to Task 202.~~
- Progress meetings will be a combination of in-person and virtual meetings.

Deliverables:

- Monthly invoices.
- Meeting agendas and minutes.
- Request for information.

Task 203.2 – Preliminary Engineering Report (PER)

Consultant Responsibilities:

203.2.1 Design Criteria (Process). Discuss or reference design criteria items already provided in the wastewater facilities plan. Document additional design criteria that will serve as a basis for design.

203.2.2 Preliminary P&IDs. Prepare preliminary piping and instrumentation diagrams for the three (3) new lift stations.

203.2.3 Preliminary Electrical, Instrumentation, and Controls. Prepare one-line diagram for power and a narrative describing the control strategy for the three (3) new lift stations. Coordinate with Owner and power utility to identify power constraints and Owner's SCADA communication preferences. Potential SCADA communication strategies may include radio telemetry or cellular.

203.2.4 Preliminary Mechanical Plans. Assist with pump sizing and selection. Prepare preliminary mechanical designs based on anticipated pumping equipment selection.

203.2.5 Design Requirements Summary. Summarize design requirements for civil, structural, heating, ventilation and air conditioning, plumbing, electrical, and instrumentation and controls.

203.2.6 Utility Conflict Analysis and Notification. Complete an initial utility conflict analysis with existing aboveground and buried utilities. Draft initial Utility Notification Letters (First Notice) and distribute to utility providers within the project limits.

203.2.7 Concept Drawings. Develop concept drawings to address ODEQ PER submittal requirements, including site civil layout. Drawings to include items 203.2.1 through 203.2.5 above. Concept drawings for pipelines to include concept main pipeline alignment, general grading concepts at the lift stations, approximate location of manholes and features, major crossing concepts.

- Service concepts – Develop a preliminary list of services that will require a grinder pump system. Provide summary of lateral concepts and the anticipated method for servicing each developed property. The concepts will be developed without the benefit of surveyed finish floors of each home.

203.2.8 Workshop Meeting(s). Meet with Owner ~~and CM/GC~~ to review draft deliverables.

203.2.9 Prepare PER. Prepare draft PER following the Oregon DEQ guidelines. Submit to Owner and DEQ for review.

203.2.10 Comment Response and Final PER. Address Owner input and submit to DEQ for review. Address agency comments and prepare final PER.

Owner Responsibilities:

- Review concept designs and provide comments.
- Review and comment on the PER.
- Pay for DEQ PER review fees.

Assumptions:

- Surveying, geotechnical, utility pot holing, land and easement acquisition, negotiations, and legal descriptions are not included as part of this task.
- A radio path study will not be completed as a part of this scope. If desired, it will be completed by a third-party vendor or will be included as an additional service.
- The lift stations are assumed to include an outdoor generator and a small block structure to house only the electrical. The lift stations are all assumed to be a similar design with a wetwell and submersible pumps. It is assumed that odor control will be incorporated into the lift station pumping the flow to Mill City.
- Budget assumes up to three (3) workshop meetings.

Deliverables:

- Agenda and minutes for meetings.
- Concept drawings (prepared in 22”x34”, reviewed in 11”x17”), no paper copies.
- Draft and Final PER.
- Utility Conflict Analysis and Utility Notification Letters (First Notice)

Task 203.3 – Preliminary Design (30% Design) ~~GMP Documents (30% Design)~~

Consultant Responsibilities:

203.3.1 Draft Design Submittal. Prepare 30% design drawings and specifications including general, site, civil, mechanical, electrical, structural, instrumentation, and controls. Submit 30% design review drawings and specifications to the Owner, regulatory agency (Department of Environmental Quality (DEQ)), Linn County Public Works, Marion County Public Works, and Gates for review and participate in one (1) design review workshop meeting with interested stakeholders. ~~Drawing Preparation. Prepare a set of drawings and limited specifications as follows: to aid the CM/GC in developing a GMP. The following preliminary drawings are anticipated as being included:~~

- ~~General sheets~~
- ~~Lift Station Drawings:~~

~~o Civil site, including grading and yard piping plans.~~

~~o Structural plans and limited sections.~~

~~o Plumbing and HVAC plans.~~

~~o Process mechanical plans and limited sections.~~

~~o Electrical one-lines and site plan, including on-site backup power.~~

~~o P&ID with instrumentation list developed to an approximate 50% effort.~~

~~• Pipeline Drawings~~

~~o Plan and profile drawings, including pipe size, depth, material, and grade information.~~

~~o Service locations will be shown in concept format only, with final location and depth to be determined by the CM/GC or the construction Contractor.~~

~~o Parcels requiring grinder pumps will be identified.~~

~~o Approximate location and standard details for isolation valves, air release valves, and cleanouts along force mains.~~

~~o Other standard details reflecting Owner preferences (i.e. manholes, service lines, surface restoration).~~

~~Specifications to be included are limited to lift station pumping equipment (i.e., pumps, electrical gear, generator) and pipeline materials. Provide other information that may assist the CM/GC in developing a GMP will be provided, including site constraints, permitting requirements, and recommended special inspections.~~

203.3.2 Value Engineering (VE). Participate in <u>one (1)</u> ~~three (3)~~ VE workshop~~s~~ with the ~~CM/GC~~ ~~and~~ client <u>to evaluate alternative force main alignments and phasing of collection system</u>. The purpose of these workshops will be to identify~~, with the CM/GC,~~ potential cost savings alternatives to the project. Where the Owner elects to include such alternatives, the Consultant will modify the design and drawings to incorporate these changes. ~~It is anticipated that these workshops will occur as follows: first workshop shortly after project kickoff, second workshop before MWTF pre-purchase equipment selection, third workshop approximately one to two months prior to contract completion.~~

203.3.3 <u>Opinion of Probable Construction Cost. Prepare one (1) Opinion of Probable Construction Cost (OPCC) estimate based on 30% and advise Owner of recommended adjustments to the construction cost.</u> ~~Cost Estimate Assistance. Provide assistance to CM/GC in their preparation of the cost estimate by answering questions and adding clarity to project requirements.~~

Owner Responsibilities:

- Review and comment on drawings and specifications.
- Participate in the VE workshop~~s~~.
- Review and comment on VE alternatives. Make decisions for VE desired alternatives.

Assumptions:

- Drawings and specifications to be provided are limited to those identified in this task.
- Documents for pre-purchased equipment, if desired, will be considered a change to the contract.

- Value engineering efforts assume redesign will not require major modifications to the drawings or engineering calculations. Where extensive redesign is identified, the Consultant will be entitled to seek additional compensation.
- ~~Any construction cost estimates are provided by CM/GC. The CM/GC will develop and provide the Guaranteed Maximum Price (GMP).~~
- ~~Only the two sets of design drawings and draft specifications will be provided. Consultant will not prepare separate packages for CM/GC to solicit quotes from subcontractors/vendors.~~

Deliverables:

- Drawings and select technical specifications.

Task 203.4 – Final Design

Previous design efforts eliminated the need for grinder pumps through additional gravity sewer on private lots. Service laterals are included up to the property line. Following Value Engineering (VE) efforts completed under Task 203.3 the following areas marked in green are included in the final design of the Gates collection system (Phase I, A, B1, B2, C1, C2, E1, F, G). The collection system includes highway crossings that will be bored.

Phase 2 areas, shown in the figure below, are not included in this amendment but can be implemented at a later date (D1, D2, E2).

During VE efforts, it was determined that a local lift station (along Central Street), regional lift station (along Linnwood Drive), and an inverted siphon (Kingwood Ave) will be designed as part of the Gates Collection System and Force Main project. The Central Street Lift Station is located on the western end of Gates along W Central Street. Its force main follows W Central Street eastward and crosses the Santiam River at the Sorbin Street Bridge on a utility hanger before discharging into the gravity system along Linnwood Drive. The Linnwood Drive Regional Lift Station is located at the topographic low point of Areas C1 and C2. Its force main follows Kingwood Avenue to the topographic high point near Fairview Cemetery. From there, wastewater is conveyed by gravity pipe and a double-barreled inverted

siphon with upstream storage and controls to encourage flushing. A section of the inverted siphon will cross Rock Creek at the Rock Creek Bridge on a utility hanger.

Due to a shift in funding, the project delivery method changed from Construction Manager/General Contractor (CM/GC) to a traditional design-bid-build project. Consultant services are limited to those outlined in the following tasks.

Consultant Responsibilities:

203.4.1 Final Design (60% Design)

203.4.1.1 Site Visit. Visit the site to assist in preparing the final drawings and specifications. This task assumes one (1) site visit.

203.4.1.2 Draft Design Submittal. Prepare 60% design drawings and specifications including general, site civil, mechanical, electrical, structural, instrumentation, and controls. Submit 60% design review drawings and specifications to the Owner, regulatory agency (Department of Environmental Quality (DEQ)), Linn County Public Works, Marion County Public Works, and Gates for review and participate in one (1) design review workshop meetings with interested stakeholders.

203.4.1.3 Opinion of Probable Construction Cost. Prepare one (1) Opinion of Probable Construction Cost (OPCC) estimate based on 60% and advise Owner of recommended adjustments to the construction cost.

203.4.1.4 DEQ Plan Review. Submit 60% design drawings and specifications to DEQ for preliminary plan review. Incorporate and address DEQ comments into 90% design.

Deliverables:

- 60% Design Submittal (including Drawings, Specifications, and Opinion of Probable Cost) in electronic PDF format.

203.4.2 Final Design (90% Design)

203.4.2.1 Site Visit. Visit the site to assist in preparing the final drawings and specifications. This task assumes one (1) site visits.

203.4.2.2 Draft Design Submittal. Prepare 90% design drawings and specifications including general, site civil, mechanical, electrical, structural, instrumentation, and controls. Submit 90% design review drawings and specifications to the Owner, regulatory agency (Department of Environmental Quality (DEQ)), Linn County Public Works, Marion County Public Works, and Gates for review and participate in up to one (1) design review workshop meetings with interested stakeholders.

203.4.2.3 Opinion of Probable Construction Cost. Prepare up to one (1) Opinion of Probable Construction Cost (OPCC) estimate based on 90% and advise Owner of recommended adjustments to the construction cost.

203.4.2.4 DEQ Plan Review. Submit 90% design drawings and specifications to DEQ for preliminary plan review. Incorporate and address DEQ comments into 100% design.

Deliverables:

- 90% Design Submittal (including Drawings, Specifications, and Opinion of Probable Cost) in electronic PDF format.

203.4.3 Final Design (100% Design)

203.4.3.1 Final Design Submittal. Prepare final (100%) design drawings and specifications including general, site civil, mechanical, electrical, structural, instrumentation, and controls. Final design submittal will address one (1) round of Owner and interested stakeholder comments from the 90% design submittal. Submit final design review drawings and specifications to the Owner, DEQ, Linn County Public Works, Marion County Public Works, and Gates, as required. The final design drawings will be utilized for building permitting and construction.

203.4.3.2 Opinion of Probable Construction Cost. Prepare one (1) Opinion of Probable Construction Cost (OPCC) estimate based on the final design and advise Owner of recommended adjustments to the construction cost.

203.4.3.3 DEQ Plan Review. Submit final design drawings and specifications to DEQ for final plan review. Respond to and address DEQ comments and resubmit for approval as required.

203.4.3.4 Permitting. Prepare the following permit applications:

203.4.3.4.1 Oregon Department of Transportation (ODOT) Utility Permit Application. Prepare ODOT Utility Permit Application for construction on ODOT Highway 22 (North Santiam Highway) including State Historic Preservation Office and Tribal consultations.

203.4.3.4.2 Marion County Right-of-Way Permits.

203.4.3.4.3 Linn County Right-of-Way Permits.

203.4.3.4.4 Gates Right-of-Way Permits.

Owner Responsibilities:

- Review and comment on drawings and specifications.
- Review applicable permit applications.
- Participate in review workshops.
- Participate in meetings with regulatory agencies.

Assumptions:

- This scope task does not include any bidding services.
- Permitting assistance excludes public meetings.
- Contractor will be required to obtain erosion and sediment control permit (City or 1200-C, if required), prepare final traffic control plans, prepare final bypass pumping plans, and secure associated permits. Shoring (if required), will be designed by the Contractor.

- Design assumes limited changes from value engineering efforts. Where extensive redesign is identified through value engineering efforts, the Consultant will be entitled to seek additional compensation.
- Additional professional time for correspondence and meetings, due to an Owner initiated change in the project design, and/or support above and beyond that described is considered an additional service.
- AutoCAD is to be used to prepare drawings and AutoCAD Civil 3D or Revit may be used for the site and lift station design. Spreadsheets will be prepared in Microsoft Excel and text documents in Microsoft Word.
- Design does not include an arc flash study.
- Panel design to be completed by contractor.
- SCADA and Controls Integration for the Gates Collection System and Force Main are not included and will be contracted through a separate amendment.

Deliverables:

- 100% Design Submittal (including Drawings, Specifications, and Opinion of Probable Cost) in electronic PDF format.

Task 203.5 – Services During Bidding

Consultant Responsibilities:

203.5.1 Bid Coordination Meetings. Attend up to one (1) pre-bid and/or bid opening meetings with Owner and contractors interested in the Project and assist in answering questions related to bid documents.

203.5.2 Addenda. If required, respond to bidder questions and prepare up to three (3) addenda during each bidding process to clarify, correct, or change the issued documents.

Owner Responsibilities:

- Attend the pre-bid meeting.
- Award the bid.

Assumptions:

- One bid package and one bidding process to a single prime Contractor is assumed. If multiple bid packages or rebidding or addressing bid protests are required, these services will be provided as an additional service.

Deliverables:

- Bid evaluation recommendation.

PHASE 4 – DETROIT INTERIM COMMERCIAL SEPTIC SYSTEMS

400 – COMMERCIAL SEPTIC SYSTEM PLANNING

Task 400.1 – Project Management

Consultant Responsibilities:

a. Project Management. Provide general project administration services including contract administration, project accounting, monthly progress reports, scheduling, and internal project administration.

b. 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 study, discuss available data and published materials that will be made available by the Owner, and review process for deliverables including process for Owner review and approval. Design criteria will also be reviewed during the Kickoff Meeting and assumptions for properties to connect and their flow criteria.

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising where required.
- Provide funding administration services.

Assumptions:

- Assumes a thirty-six (36)-month duration for general project administration.
- 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.

Task 400.2 – Data Acquisition & Property Tour

Consultant Responsibilities:

400.2.1. Request for Information. A request for information will be prepared by the Consultant describing the information needed including, but not limited to, the following items:

a. Base mapping, including roadways, parcel lines, political boundaries, land use, topographic contours, current aerial imagery, manholes, and pipelines (along with material, age, and size attributes) to be provided in GIS format. GIS to include survey grade pipe invert data for modeled lines, incorporating recent survey information of collection system as applicable.
b. List of properties to be connected to the commercial septic system.
    1. Provide type of business
    2. Anticipated wastewater flows
c. Previous collected test pit data for all the properties.
d. Previous studies involving the soil in the city.
e. Provide existing drain field and septic tank locations for each property.
f. Identify available property for consideration for septic tank or drain field placement.
g. Owner to complete additional test pits required to investigate feasibility of drain fields on properties identified by the Consultant.

400.2.2. Conduct site tour of each property to evaluate potential drain field locations.
400.2.3. Meet with each property owner/representative to discuss specifics to each property. These meetings are assumed to be virtual to work with individual property owner schedules.

Owner Responsibilities:

- Provide requested data within two weeks of request.
- Complete field work and provide sampling/testing, if required for drain field investigations.
- Conduct site tour with Consultant; provide access to facilities and records.

Assumptions:

- Site tour is limited to visual observations and is not intended to be a comprehensive inspection. Consultant will not enter confined spaces, nor will a structural or leak test be completed on existing septic tanks.
- Scope assumes up to 20 properties will be participating in the interim commercial septic systems.
- Consultant shall be entitled to rely on the accuracy and completeness of the information provided by Owner, Owner's consultants and Contractors, information from public records, and information ordinarily or customarily furnished by others, including, but not limited to specialty Contractors, manufacturers, suppliers, and publishers of technical standards. This assumption applies to this task and subsequent tasks.

Deliverables:

- Request(s) for Information
- Summary tables and figures for existing septic tanks and drain fields status

Task 400.3 – Stakeholder Involvement / Engagement

Consultant Responsibilities:

400.3.1. Stakeholder Preliminary Meeting. Review goals and objectives of the project. Owner will distribute communication and notification to stakeholders, city, and County staff.
400.3.2. City Council Preliminary Workshop Meeting. Set the project meeting agenda and provide minutes. This meeting will be a workshop to review and discuss project objectives.
400.3.3. Public Meeting. Prepare materials for and present summary findings in a public meeting.
400.3.4. City Council Summary Workshop Meeting. Set the project meeting agenda and provide minutes. This meeting will be a workshop to summarize the technical memorandum deliverable from Task 403.

Owner Responsibilities:

- Participate and provide facilities for public meeting. Provide public notice as required. Assist in addressing public comments.
- Distribute communication and notification for stakeholder meeting.

Deliverables:

- Public and stakeholder meeting presentation materials.

Task 400.4 – Commercial Septic System Concept

Consultant Responsibilities:

400.4.1. Location and Project Impact. Provide brief description of project location and summary of properties including a figure.

400.4.2. Flow Estimates and Grouping. Estimate the amount of flow and wastewater strength of loading (restaurant, industrial, staff restroom, …).

Owner Responsibilities:

- Provide input and approval of septic tank and drain field concepts.
- Provide staff input and requirements for septic approval.
- Review and comment on draft documents in a timely manner.

Assumptions:

- Project will not require an Oregon DEQ WPCF permit.
- Planning criteria will not be changed once established. Changing planning criteria may result in rework which can be completed as an additional service.
- 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.
- Test pits will not be excavated, and soil characteristics documented with this scope of work. If required, sampling and/or testing will occur with a subsequent task order amendment.
- Scope excludes environmental work. If required, environmental permitting and field work (i.e., wetland delineations/investigations, biological assessments, and cultural resource surveys) will be provided as an additional service.

Task 400.5 – Commercial Septic System Design
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

400.5.1 Develop schedule for overall project delivery and construction.
400.5.2 Oversee excavation of test pits and soil sampling to determine soil characteristics, infiltration rates, and other necessary design criteria for up to twenty-four (24) commercial properties.
400.5.3 Estimate the amount of flow and wastewater strength of loading (restaurant, industrial, staff restroom, etc.) for flow and wastewater strength for up to twenty-four (24) commercial properties and their intended uses.
400.5.4 Prepare Septic System Designs for up to twenty-four (24) commercial properties. Complete designs for each commercial property shall include pre-treatment, septic tanks, drain field, replacement area, and all other appurtenances, as required.
400.5.5 Prepare design drawings (11" x 17", PDF).
400.5.6 Regulatory and Permitting Requirements. Review and summarize current, pending, and future regulatory requirements and permitting criteria that may influence operation and maintenance, and adaptation of the system to the long-term gravity collection system. Prepare permit applications and provide inspection services for systems permitted by DEQ as appropriate.
400.5.7 Maintenance Requirements. Summarize recommended maintenance requirements as required for regulatory compliance or as reported by the Owner in an operation and maintenance (O&M) Manual.
400.5.8 Attend up to twenty-four (24) bi-weekly one (1)-hour long meetings and provide updates to Project Team.

Owner Responsibilities:

- Provide input for septic tank and drain field concepts.
- Provide staff input and requirements for septic grant approval.
- Review and comment on draft documents in a timely manner.

Assumptions:

- Commercial properties will be permitted through either Marion County or Oregon Department of Environmental Quality (DEQ).
- Planning criteria will not be changed once established. Changing planning criteria may result in rework which can be completed as an additional service.
- 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.
- Scope excludes environmental work. If required, environmental permitting and field work (i.e., wetland delineations/investigations, biological assessments, and cultural resource surveys) will be provided as an additional service.

Deliverables:

- Conceptual septic system design and drawings.
- Final septic system design and drawings.
- Permit applications.
- O&M Manual.

Task 400.6 – ODOT ROW Commercial Property Topographic Survey
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

400.6.1 Consultant shall perform a topographic recovery survey for up to twelve (12) commercial properties located along the western side of North Santiam Highway between the intersection of Front Street (southern limit) and Detroit Avenue (northern limit) for the purpose of preparing easement agreements including legal descriptions and exhibits for use of the Right-of-Way. Survey shall be based on an official benchmark acceptable to the City of Detroit and shall be based on the NAVD 1988 vertical datum. Horizontal datum shall be in state plane coordinates, Oregon North, 3601. Survey shall include the following:

a. Locate existing monumentation to complete a boundary retracement and side boundary line resolution for up to twelve (12) properties within the project limits described above and as defined in the attached PDF.
b. Topographic surface data and underground utilities to the edge of the project boundaries as defined in the attached PDF.
c. Obtain spot elevations at a maximum 50-foot on center spacing,

including along roadway centerlines, top of curb, flowline of curb, and lip of gutter, to the nearest 0.01 foot.

d. Additional spot elevations to identify grade breaks and other topographic features.
e. Order One-Call utility locates for any underground utilities within subject area and adjacent public right of way.
f. Locate surface features over subject area, including: accessways, driveways, curbs, structures, fences, poles, disposal areas, drainage areas.
g. Locate ground and above ground utilities, including utility poles, overhead utility wires, manholes, catch basins, cleanouts, meters, valves, vaults, boxes, hydrants.
h. Locate trees 8-inch diameter and greater measured at breast height, noting coniferous or deciduous.
i. Map existing easements which may affect subject area.
j. Provide triangulated irregular network (TIN) to be used as a Civil 3D surface via an XML file.

400.6.2 Survey will show utility poles, power lines, and telecommunications, including any identification information. For existing storm drains, culverts, and sanitary sewers, Consultant shall:

a. Show rim or grate elevations and inverts for manholes and drainage structures, with structure size (inside dimensions).
b. Show pipe diameters, pipe material, and direction of pipe.
c. Show manhole symbols at center of the lid with a note defining the manhole diameter and whether the manhole is an eccentric or concentric structure. If eccentric, note to what side of the structure (NW, SE, S, etc.) the eccentric cone is flush with.
d. Survey storm and sewer structures to the next downstream and upstream structures beyond the limits of survey.
e. Show utility lines as continuous; do not terminate shortly after a structure, extend to nearest upstream or downstream structure.

Deliverables:

- Basemap in AutoCAD 3D format.
- Legal Descriptions and Visual Exhibit Maps for up to twelve (12) easement areas.

Task 400.7 – Detroit Environmental Due Diligence (ODOT ROW Easements)

Consultant shall complete environmental due diligence support as described below for up to twelve (12) commercial properties in Detroit, Oregon.

Subtask 400.7.1 – Project Management
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

400.7.1.1 Consultant will coordinate with Owner and others to receive project materials, prepare invoicing, and transmit correspondence. As part of Consultant's project management efforts, monthly check-in calls will be scheduled with Consultant to discuss interim survey results and other project-related issues as they arise. Consultant will maintain project files to include supporting materials. Consultant will monitor task performance, schedule, and budget; approve project expenses; and check that systems are in place to conduct quality assurance and quality control on deliverables and correspondence.

Assumptions:

There will be four (4) monthly check-in calls involving the Consultant team.

- Monthly check-in calls will be approximately one (1)-hour long.

Subtask 400.7.2 – Cultural Clearance Certification
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.

Consultant will coordinate with the cultural resources department at Oregon Department of Transportation (ODOT) to seek Cultural Clearance Certification for the project.

Consultant Responsibilities:

400.7.2.1 Tribal Coordination. Consultant will coordinate with the cultural resources departments of the Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, and Confederated Tribes of Warm Springs Indian Reservation to inquire about local historical knowledge of the project area. Consultant will also ask if they have any cultural concerns about the location of the project. Project-related Tribal coordination will be described in the final report.

400.7.2.2 Background Research. Prior to fieldwork, Consultant will conduct a records search of the Oregon Archaeological Records Remote Access (OARRA) online records database, maintained by the Oregon State Historic Preservation Office (SHPO), for information about previous cultural resource studies and previously identified archaeological sites in the project vicinity. Consultant staff will also review other available background resources pertinent to the history, prehistory, ethnography, and environmental context of the project area. These background resources will include any recent geotechnical reports, ethnographic and historical accounts, General Land Office documents, historical maps, photographs, and other relevant research information available from local libraries, historical societies, or informants.

Because the project is located on land managed by ODOT, an archaeological excavation permit must be obtained from the SHPO before archaeological testing takes place (per ORS 390.235 and its implementing guidelines). The Consultant will apply for this state-issued excavation permit from the SHPO as required by state statutes (ORS 358.905 and 97.740). These statutes require protection of archaeological sites, objects, and human remains on public lands in Oregon. It is required that the permit be obtained prior to the start of archaeological testing or monitoring. Excavation permit applications usually require up to 35 days for

submission and review.

400.7.2.3 Field Survey. Consultant will conduct an archaeological survey in areas where ground-disturbing activities will occur to identify potential archaeological resources in and around the proposed area of disturbance. The survey will include a pedestrian walkover and subsurface shovel probes. The pedestrian survey will involve archaeologists walking along transects spaced no more than 20 meters apart, systematically examining the ground surface for archaeological materials. Consultant crews will record their observations on standardized field forms and in field notebooks.

Preliminary research shows there are no cultural resources investigations overlapping the project area according to OARRA. Consultant will conduct subsurface testing in locations with a high probability of containing archaeological resources where project-related ground disturbance will occur. Consultant proposes to excavate up to 24 shovel probes. Probes will measure a minimum of 30 centimeters (cm) in diameter and will extend to a minimum of 50 cm below the surface and two culturally sterile 10-cm levels, where possible. All soils will be screened through ¼-inch hardware mesh. A bucket auger will be used to sample more deeply buried sediments up to 200 cm below the surface opportunistically throughout the project area.

Should archaeological materials be discovered, they will not be collected; rather, the artifacts will be identified as to type, material, function, and cultural and temporal association. All diagnostic materials (those that have a clear temporal connection) will be photographed. Resources will be recorded on the appropriate SHPO resource forms. Resource location global positioning system (GPS) data will be collected and submitted as GIS files. If a GPS unit cannot be used to record resources, locations of areas surveyed or resources will be marked on a U.S> Geological Survey quadrangle map and them georeferenced during post-field processing. All recording procedures will follow SHPO guidelines. The Consultant's cost estimate assumes that no more than one archaeological resource will be encountered during the archaeological survey.

400.7.2.4 Reporting. Consultant will prepare one cultural resources survey report detailing the findings of the Tribal coordination, background research, pedestrian field survey, and subsurface testing. The report will include a description of the regulatory context, regional and local background research, methods, expectations, and results of the survey. The Consultant will provide an electronic version of the draft report to ODOT, SHPO, and interested Tribal entities for review. The Consultant will coordinate with ODOT, SHPO, and the Tribes for timely review of the report. After acceptance of the final report, Consultant will provide GIS shapefiles and maps of the areas surveyed and cultural resources identified to the Consultant, provided that the private landowner(s) approve(s) of disclosing information about their properties.

Assumptions:

- All meetings and coordination with Consultant will be conducted via conference calls and email.
- The records search area will not extend farther than one mile beyond the project area.

Consultant will be able to complete the literature review using electronically available resources, and no in-person file searches will be required.

- Consultant will obtain up to one archaeological permit.
- The project location and size will remain as identified in the request for scope and cost (less than three acres total).
- Based on a preliminary review of SHPO records, Consultant anticipates that up to one cultural resource site will be identified and require documentation in the project area. If a larger number of sites are identified, additional costs may be incurred, and Consultant will discuss with Consultant on how to proceed.
- No more than four hours of labor for each field staff member will be required to record the cultural resource site. The identification of large and complex cultural resource sites (e.g., homesteads with multiple structures or precontact village sites with more than 500 artifacts) are not included in this scope.
- For the purposes of total site count, every site larger than one acre will be considered as an additional site based on every additional acre; otherwise, it is assumed that no lithic landscapes or overly dense lithic source areas will be encountered.
- Consultant's ability to conduct fieldwork will be unimpeded by access restrictions (e.g., fences, locked gates, and livestock), weather, road construction, landowner restrictions, COVID-19-related restrictions, force majeure, or any other factor(s) outside of Consultant's control. Consultant will prepare a cultural resources survey report, and the report will require no more than one round of review by Consultant. Comments from Consultant on each of the survey reports will not require more than four hours of Consultant labor to address. No comments will be received from SHPO review, and minimal comments (up to four hours of work needed to address comments) will be received from the Tribes.

Deliverables:

- Draft and final cultural resources survey report.
- Draft and final GIS spatial data from cultural resources investigations.

Subtask 400.7.3 – Phase I Environmental Site Assessment
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

Consultant Responsibilities:

Consultant will prepare a Phase I Environmental Site Assessment (ESA) report for the project area. The Phase I ESA will be completed in general accordance with the standards described in the current ASTM Standard E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (2021). The Phase I ESA will be directed by a qualified Environmental Professional, as required by the ASTM Standard.
A Phase I ESA conducted in accordance with ASTM Standard E1527-21 constitutes appropriate inquiry into the previous ownership and uses of the property, consistent with good commercial or customary practice and will allow the Owner to satisfy one of the requirements for landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (42 United States Code 9601). The Phase I ESA will consist of the subtasks described below:

400.7.3.1 Records Review. Consultant will review appropriate documents, including historical aerial photographs, historical topographic maps, and other land-use documents in order to identify past operations or activities on the subject property or nearby properties that may have caused the release of hazardous substances or petroleum products into the environment. As part of the review process, site location, hydrogeological characteristics, geographic setting, and physiography also will be summarized. Available state and federal regulatory databases will be reviewed to determine whether the subject property or nearby facilities have been subject to environmental actions or review. The regulatory database review will, at a minimum, include the databases required to satisfy the ASTM Standard. Note: Based on the Consultant's initial review, there are eight leaking underground storage tank records and a brownfield site mapped within 0.25 miles of the project site.

400.7.3.2 Interviews. Consultant will attempt to interview property owners or their representative(s) based on contact data provided by Consultant. Additionally, reasonable attempts will be made to interview at least one staff member of state or local government agencies regarding information that indicates recognized environmental conditions (RECs) in connection with the subject property.

400.7.3.3 Site Reconnaissance. A Phase I ESA includes a reconnaissance of the subject property and vicinity to observe and photograph areas with potential RECs and to document current conditions. Access to private, locked, or restricted areas would be arranged by Consultant. This scope of work does not include activities such as collecting or analyzing soil, air, water, or other environmental samples.

400.7.3.4 Owner-Provided Information. Owner-provided information is an essential component of the Phase I ESA and includes items such as copies of previous Phase I ESAs or other relevant environmental documents, a completed ASTM Phase I ESA User Questionnaire, a completed Initial Data Request, and access to the subject property. The Owner is also responsible for providing Consultant with the results of a search of recorded land-title records and judicial records for environmental liens and activity and use limitations.

400.7.3.5 Report Generation. The Phase I ESA findings will be summarized and documented in one report. Sections within the report will include 1) a description of the property, 2) summaries of the site history and interviews, 3) a regulatory database review, 4) a description of the site reconnaissance, 5) findings and conclusions, and 6) figures and appendices. Each report will include Consultant's professional opinion concerning the environmental disposition of the site regarding the presence of RECs. Report limitations and all literature cited will also be included. According to the ASTM Standard, the content of a Phase I ESA is valid for 180 days after the first data are collected. If the date of the intended use for Phase I ESAs is not within 180 days, an update may be necessary. Non-scope issues identified in the ASTM Standard include radon, lead, asbestos, radioactivity, regulatory compliance, wetlands, and endangered species. Non-scope issues will not be addressed in the Phase I ESA report.

Assumptions:

- The ASTM User Questionnaire and Consultant's Initial Data Request will be returned to Consultant promptly upon commencement of the project.
- This scope of work includes one round of revisions to the report text. Substantial revisions, such as a revised scope or project area, will incur additional cost.

- Phase I ESA reliance letters will be provided for a flat fee of $500.
- Fieldwork for the Phase I ESAs will be completed in conjunction with that for cultural and will not be an independent mobilization.

Deliverables:

- Draft and final Phase I ESA report.

Task 400.8 – Detroit Commercial Septic Excavation Contractor

Consultant Responsibilities:

400.8.1 Consultant shall mobilize to Detroit, Oregon to perform sewer video inspections of existing septic systems using appropriate equipment to locate, expose, flag, and prepare septic systems for inspection by Consultant's septic system designer. Consultant shall provide services for up to six (6) days of sewer video inspections.

400.8.2 Consultant will excavate test pits for onsite sewage evaluations at the direction of Consultant's septic system designer. Test pits will be excavated in accordance with Oregon Department of Environmental Quality recommendations and requirements. The bottom of the test pit shall measure at least 2-feet x 4-feet. Test pits shall be at least 4.5-feet deep but shall not exceed a depth of five feet. One end of the test pit shall be sloped or stepped in order to allow access for Consultant's septic designer and regulatory inspector. All spoils must be placed a minimum of two feet from the edge of the test pit. Consultant shall provide services for up to six (6) days of test pit excavation.

400.8.3 Consultant to provide plumbing services to remove up to four (4) toilets and confirm how the piping is connected to the on-site septic system at The Lodge property in Detroit.

Assumptions:

- Each day includes up to eight hours of site work and mobilization efforts.
- Consultant's septic system designer shall group locations of sewer video inspections and test pit excavations for efficiency.
- Owner recognized that the services provided by the septic system designer include construction-type activities not originally contemplated in the Consultant's scope of services and recognizes that the Owner will rely on the Consultant's licensing and insurance to address any deficiencies in performance to the standard of care or to address any damages resulting from Consultant's activities.

Task 400.9 – Detroit Commercial Properties Survey
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.

Consultant Responsibilities:

400.9.1 Consultant shall perform a property boundary survey for up to twenty (20) commercial properties in Detroit, Oregon for the purpose of verifying property lines prior to field layout, measurements, elevation work, and site plan development of onsite septic systems. Survey shall be based on an official benchmark acceptable to the City of Detroit and shall

be based on the NAVD 1988 vertical datum. Horizontal datum shall be in state plane coordinates, Oregon North, 3601. Survey shall include the followings:

a. Locate existing monumentation to complete a boundary retracement and side boundary line resolution for up to twenty (20) properties within the City of Detroit.
b. Calculations and Property Deed research.
c. Initial field monument ties.
d. Boundary Resolution.
e. Set property corners.
f. Record of survey drafting.
g. File survey with Marion County.

Deliverables:

- Basemap in AutoCAD 3D format.
- Legal Descriptions and Visual Exhibit Maps for up to twenty (20) easement areas.

Task 400.10 – Detroit Commercial Septic Groundwater Study
(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.

Consultant Responsibilities:

400.10.1 DEQ requires a written assessment of the impact of the proposed septic drainfield on the quality of groundwater ("groundwater study") as part of the water pollution control facility (WPCF) permitting process. The Consultant will perform a groundwater study for one (1) property, located at:

- 200 Detroit Avenue, Detroit, Oregon

Using the Large Onsite Septic System (LOSS) model, developed by the Washington Department of Ecology, to simulate nitrate attenuation due to mixing of septic effluent with groundwater and infiltrating precipitation. Inputs to the LOSS model include certain characteristics of the wastewater, physical dimensions of the site, and subsurface soil properties. Output from the LOSS model will be the nitrate concentration in groundwater at a specified distance, or point-of-compliance (POC), from the septic drainfield. Due to the marginal distance between the proposed septic drainfield and the property boundary, it is

assumed that DEQ will accept the POC to be the Detroit Lake shoreline located approximately 1,200 feet west of the property boundary.
The LOSS model will be run using input parameters developed by the Consultant and Project Team using known site-specific conditions, including:

- Nitrate concentration in precipitation (anticipate using the default model value of 0.24 milligrams per liter [mg/L]).
- Soil denitrification factor (anticipate using the default model value of 10%).
- Aquifer thickness (based on well logs from the Oregon Water Resources Department or the DEQ-required upper limit of 20 feet).
- Aquifer width (based on drainfield width or length).
- Aquifer hydraulic conductivity (based on literature values or well tests reported on nearby well driller logs).Horizontal hydraulic gradient (based on literature values or a default value).
- Recharge to the aquifer (based on precipitation measurements and an assumed percentage of infiltration into subsurface soils and/or literature values).
- Nitrate concentration in upgradient groundwater, if available.

Consultant and Project Team will determine:

- Septic drainfield length and width and the distance from the drainfield to the downgradient POC (distance from both Detroit Lake and the property boundary in feet).
- Wastewater volume (in gallons per day). Guidance for the LOSS model defines the wastewater volume as the daily operating capacity of the LOSS (i.e., design flow without a peaking factor).
- Total nitrogen concentration after treatment, should treatment be needed for the system to be compliant with DEQ rules.

Consultant will perform a preliminary run of the LOSS model and summarize the results (i.e., nitrate concentration at the POC) for the Project Team via email. If the model results indicate that nitrate concentrations from the septic system will be attenuated before reaching the downgradient POC, Consultant will document the model results in a technical memorandum. Alternatively, if the model results indicate that nitrate concentrations will not be attenuated before reaching the downgradient POC, the Consultant will hold a virtual meeting with the Project Team to review design changes that would need to occur such that nitrate concentrations would be attenuated before reaching the POC (i.e., nitrogen concentration in groundwater, drainfield configuration, distance between the drainfield and POC, or wastewater volume).

Assumptions:

- No field work will occur as part of this scope of work, and DEQ will not require groundwater sampling for nitrate.
- No modeling of nitrate attenuation in unsaturated soils beneath the septic drainfield is included in this scope of work.
- Consultant will perform up to five model runs as part of an iterative process to develop an acceptable model for DEQ.
- DEQ will not have significant comments on the LOSS model simulations or require additional model runs. Specifically, DEQ comments will be incorporated in eight hours or less.
- Three virtual meetings with DEQ will be held to discuss the POC and appropriate model input parameters.

Deliverables:

- Email with preliminary results of the LOSS model run to Project Team.
- Draft Technical Memorandum documenting the LOSS model for Project Team to review and provide comment.
- Final Technical Memorandum documenting the LOSS model for submittal to DEQ.

Task 400.11 – ODOT Guardrail Replacement

This task will provide preliminary and final design services for the removal of 320 linear feet (LF) of existing guardrail and installation of 375 LF of new ODOT guardrail (Midwest Guardrail System) on OR-22/Highway 162 (N. Santiam Highway). The new guardrail is being installed to protect a new septic system located within the eastbound ODOT right-of-way.

Consultant Responsibilities:

400.11.1 Project Management.

400.11.1.1 General Project Management. Provide task-level project administration services including task oversight, project accounting monthly progress reports, scheduling, and internal task administration.

Owner Responsibilities:

- Provide requested information within two (2) weeks of request.

Assumptions:

- Project management budget assumes a project duration of up to eight (8) months.
- Unless otherwise noted, meetings/workshops may include a combination of in person or virtual attendees. This assumption applies to this task as well as subsequent tasks.
- ODOT review of deliverables is anticipated.
- Funding support is not included in this scope of work, including but not limited to American Iron and Steel (AIS) or Build America, Buy America (BABA) tracking, certification, or reporting. These services can be provided as additional services.

Deliverables:
- Kickoff meeting agenda and minutes.
- Request for information.

Consultant Responsibilities:

400.11.2 Final Design

400.11.2.1 90% Design. Develop and advance the guardrail replacement design drawings and traffic control plan to 90% completion. Participate in a design review meeting with Owner.

400.11.2.2 Project Manual. Prepare additional specifications for the guardrail replacement at the 90% design submittal.

400.11.2.3 Design Review Meeting(s). Participate in a 90% design review meeting with Owner and ODOT Engineering.

400.11.2.4 100% Design. Address Owner and ODOT Engineering's comments to the plans and project manual. Stamp and submit 100% documents for final ODOT review and approval.

400.11.2.5 ODOT Miscellaneous Permit. Prepare a Miscellaneous Permit and traffic control plan for guardrail replacement.

Owner Responsibilities:
- Provide one set of consolidated comments on deliverables.
- Provide legal and risk reviews of the bid documents.

Assumptions:
- Erosion and sediment control permitting with the Oregon Department of Environmental Quality (DEQ, i.e., 1200-C Construction General Permit) is not required because the anticipated ground disturbance is less than 1 acre.
- Specifications will be provided in MS Word or PDF format. Hard copies will not be provided.

Deliverables:
- 90% design drawings include one (1) PDF submittal.
- 100% stamped design package (bidding documents), include one (1) PDF submittal.

Task 400.12 –Detroit Holding Tank Feasibility Study

A study will be completed to understand the opportunities and constraints associated with the design of a sanitary sewer collection system and holding tank to serve several properties within the commercial corridor of City of Detroit, Oregon shown in the Study Area below. A Feasibility Study will be prepared to summarize alternatives analyzed, and assess the technical, environmental, regulatory, and economic viability of using a holding tank to collect and store wastewater prior to hauling to another location for treatment and disposal.

Consultant Responsibilities:

400.12.1 Project Management.

400.12.1.1 General Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

400.12.1.2 Regulatory Coordination. Meet with Owner, Detroit and DEQ staff to discuss water pollution control facility (WPCF) and permitting options. The objective of this outreach will be to select the permitting process.

400.12.1.3 Kickoff Meeting. Participate in a project kickoff meeting. Prepare agenda and minutes. The purpose of this meeting will be to review/establish overall project schedule including major milestones and meetings, review objectives of the design, discuss available data and published materials that will be made available by the County, and review process for deliverables including process for Owner review and approval.

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

Owner Responsibilities:

- Provide requested information within two (2) weeks of request.

Assumptions:

- Project management budget assumes a project duration of up to four (4) months.
- Unless otherwise noted, meetings/workshops may include a combination of in person or virtual attendees. This assumption applies to this task as well as subsequent tasks.
- Funding support is not included in this scope of work, including but not limited to American Iron and Steel (AIS) or Build America, Buy America (BABA) tracking, certification, or reporting. These services can be provided as additional services.

Deliverables:

- Kickoff meeting agenda and minutes.
- Request for information.

400.12.2 Feasibility Study Report

400.12.2.1 Study Phase Services.

- Site Visit. Consultant will coordinate with Owner to perform a site visit and document existing site conditions. Evaluation will include documentation of status and condition of existing septic facilities and electrical equipment. This scope does not include inspection of interior spaces or existing facilities.
- Basin Study. Consultant will review the gravity sewer system developed through the North Santiam Sewer Authority Master Plan. Consultant will approximate alignment and invert elevation requirements for future lift station wet wells within the Study Area.

400.12.2.2 Design Criteria. The design criteria will include calculations, anticipated flow conditions for the Study Area, peak season flows, future basin flow conditions, holding tank (wet well) storage requirements, odor control strategy, power requirements, and alarms.

400.12.2.3 Holding Tank Siting. Develop alternatives analysis matrix of possible holding tank locations within the Study Area. Provide recommendations for preferred location.

400.12.2.4 Site Layout. Develop 10% concept design showing site civil layout for the sewer main lines and potential lots it can serve and holding tank(s) for the Study Area. Underground and above ground holding tank configurations will be considered, including tank materials and size configuration. Concept to include general grading concepts and reflect considerations for holding tank dimensions, utility conflicts, traffic, and access impacts.

400.12.2.5 Odor Control Type. Evaluate up to three design alternatives for odor control. For each alternative, evaluation to include operations and maintenance considerations, benefits, drawbacks, costs, and consideration of non-cost factors (i.e., future expansion for a lift station). Potential odor control types including chlorine dosing equipment, passive carbon filtration, mixing, chemical, and air scrubber.

400.12.2.6 Electrical and Controls. Coordinate with Owner to identify supervisory control and data acquisition (SCADA) preferences. Coordinate with power utility to identify power constraints. Prepare one-line diagram for power and a narrative describing the communication strategy and objectives including

a piping and instrumentation diagram (P&ID).

400.12.2.7 Emergency and Contingency Scenarios. Evaluate scenarios of likely failure points or emergencies and contingency options. Evaluate potential environmental impacts including risks of leaks, spills, and overflows. Provide general mitigation measure strategies.

400.12.2.8 Operations and Maintenance. Consultant will prepare a conceptual level Operations and Maintenance Summary for the collection system and holding tank(s) including trucking and disposal of wastewater.

400.12.2.9 Cost Estimate. Provide an AACE Class IV Opinion of Probable Cost for the project design and construction and operations and maintenance costs.

400.12.2.10 Workshop Meeting. Meet with Owner to review concepts and alternatives and select preferred alternative for design.

400.12.2.11 Draft Feasibility Study. Prepare Draft Feasibility Study. The study will include concept drawings showing conceptual pipe network layout, one-line diagram, and anticipated permit requirements. Submit to Owner for review.

400.12.2.12 Final Feasibility Study. Incorporate Owner & Detroit's input and submit to Owner.

Owner Responsibilities:

- Provide input on holding tank, piping design criteria, and preferred alternatives.
- Obtain or provide information for land parcel for the holding tank site, easements, and rights-of-way.
- Provide as-built information on known septic tank systems within the study area.
- Review and provide one set of consolidated comments on the Draft Feasibility Study, concept plans, and opinion of probable cost.
- Provide requested information within two (2) weeks of request.

Assumptions:

- Budget assumes a project duration of up to four (4) months.
- Consultant shall be entitled to rely, without liability or the need for independent verification, on the accuracy and completeness of the information provided by County Staff, and its consultants and Contractors, information from public records, and information ordinarily or customarily furnished by others, including, but not limited to specialty Contractors, manufacturers, suppliers, and publishers of technical standards.
- Power is readily available and located adjacent to the preferred site.

Deliverables:

- Agenda and minutes for Workshop Meeting.
- Draft and Final Feasibility Study (1 paper copy and 1 PDF)

Task 400.13 – ODOT ROW Narrative Appraisal Report

400.13.1 One (1) narrative appraisal report for the easement area in the Oregon Department of Transportation (ODOT) right-of-way to be used for the property located at 200 Detroit Ave, Detroit septic system. The Narrative Appraisal Report shall be completed in accordance with ODOT Property Management Appraisal Specifications.

Deliverables:

- One (1) Narrative Appraisal Report.

Task 400.14 – Construction Services

Construction services associated with Kane's Marina and ODOT Guardrail Replacement.

Consultant Responsibilities:

400.14.1 General Administration of Construction Contract. Consult with Owner and act as Owner's representative as provided in the Construction Contract with the CM/GC (Construction Contract). If Owner, or Owner and CM/GC, modify the duties, responsibilities, and authority of Consultant in the Construction Contract, or modify other terms of the Construction Contract having a direct bearing on Consultant, then Owner shall compensate Consultant for any related increases in the cost to provide Construction Phase services. Consultant shall not be required to furnish or perform services contrary to Consultant's responsibilities as a licensed professional. Owner's instructions to CM/GC will be issued through Consultant, which shall have authority to act on behalf of Owner in dealings with CM/GC to the extent provided in this Agreement and the Construction Contract except as otherwise provided in writing.

400.14.2 Selection of Independent Testing Laboratory. Assist Owner in the selection of an independent testing laboratory to perform all inspections, tests, and approvals of samples, materials, and equipment required by the Construction Contract Documents (other than those required to be furnished or arranged by CM/GC), or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work with appropriate professional interpretation thereof. Provide Owner with the findings and reports generated by testing laboratories, including findings and reports obtained from or through CM/GC.

400.14.3 Pre-Construction. Conference and Construction Meetings. Participate in a pre-construction conference prior to commencement of Work at the Site. Participate in weekly, remote construction meetings.

400.14.4 Electronic Transmittal Protocols. If the Construction Contract Documents do not specify protocols for the transmittal of Project-related correspondence, documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website, then together with Owner and CM/GC jointly develop such protocols for transmittals between and among Owner, CM/GC, and Consultant during the Construction Phase and Post-Construction Phase.

400.14.5 Original Documents. If requested by Owner to do so, maintain and safeguard during the Construction Phase at least one original printed record version of the Construction Contract Documents, including Drawings and Specifications signed and sealed by Consultant and other design professionals in accordance with applicable Laws and Regulations. Throughout the Construction Phase, make such original printed record version of the Construction Contract Documents available to CM/GC and Owner for review.

400.14.6 Schedules. Receive, review, and determine the acceptability of any and all schedules that CM/GC is required to submit to Consultant, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.

400.14.7 Baselines and Benchmarks. As appropriate, establish baselines and benchmarks for locating the Work which in Consultant's judgment are necessary to enable CM/GC to proceed.

400.14.8 Visits to Site and Observation of Construction. In connection with observations of CM/GC's Work while it is in progress:

i. Make visits to the Site at intervals appropriate to the various stages of construction, as Consultant deems necessary, to observe as an experienced and qualified design professional the progress of CM/GC's executed Work. Such visits and observations by Consultant, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of the Work or to involve detailed inspections of the Work beyond the responsibilities specifically assigned to Consultant in this Agreement and the Construction Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment, as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and observations, Consultant will determine in general if the Work is proceeding in accordance with the Construction Contract Documents, and Consultant shall keep Owner informed of the progress of the Work.

ii. The purpose of Consultant's visits to the Site, and representation by the Resident Project Representative, if any, at the Site, will be to enable Consultant to better carry out the duties and responsibilities assigned to and undertaken by Consultant during the Construction Phase, and, in addition, by the exercise of Consultant's efforts as an experienced and qualified design professional, to provide for Owner a greater degree of confidence that the completed Work will conform in general to the Construction Contract Documents and that CM/GC has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Construction Contract Documents. Consultant shall not, during such visits or as a result of such observations of the Work, supervise, direct, or have control over the Work, nor shall Consultant have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to any Constructor's work in progress, for the coordination of the Constructors' work or schedules, nor for any failure of any Constructor to comply with Laws and Regulations applicable to furnishing and performing of its work. Accordingly, Consultant neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish or perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

400.14.9 Defective Work. Reject Work if, on the basis of Consultant's observations, Consultant believes that such Work is defective under the terms and standards set forth in the Construction Contract Documents. Provide recommendations to Owner regarding whether CM/GC should correct such Work or remove and replace such Work, or whether Owner should consider accepting such Work as provided in the Construction Contract Documents.

400.14.10 Compatibility with Design Concept. If Consultant has express knowledge that a specific part of the Work that is not defective under the terms and standards

set forth in the Construction Contract Documents is nonetheless not compatible with the design concept of the completed Project as a functioning whole, then inform Owner of such incompatibility, and provide recommendations for addressing such Work.

400.14.11 Clarifications and Interpretations. Accept from CM/GC and Owner submittal of all matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. With reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Construction Contract Documents.

400.14.12 Non-reviewable Matters. If a submitted matter in question concerns the Consultant's performance of its duties and obligations, or terms and conditions of the Construction Contract Documents that do not involve (1) the performance or acceptability of the Work under the Construction Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Consultant will promptly give written notice to Owner and CM/GC that Consultant will not provide a decision or interpretation.

400.14.13 Field Orders. Subject to any limitations in the Construction Contract Documents, Consultant may prepare and issue Field Order requiring minor changes in the Work.

400.14.14 Change Order and Work Change Directives. Recommend Change Orders and Work Change Directives to Owner, as appropriate, and prepare Change Orders and Work Change Directives as required.

400.14.15 Differing Site Conditions. Respond to any notice from CM/GC of differing site conditions, including conditions relating to underground facilities such as utilities, and hazardous environmental conditions. Promptly conduct reviews and prepare findings, conclusions, and recommendations for Owner's use.

400.14.16 Shop Drawings, Samples, and Other Submittals. Review and approve or take other appropriate action with respect to Shop Drawings, Samples, and other required CM/GC submittals, but only for conformance with the information given in the Construction Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Construction Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Consultant shall meet any CM/GC's submittal schedule that Consultant has accepted.

400.14.17 Substitutes and "Or-equal". Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by CM/GC.

400.14.18 Inspections and Tests.

i. Receive and review certificates of inspections, tests, and approvals required by Laws and Regulations or the Construction Contract Documents. Consultant's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the

Construction Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Construction Contract Documents. Consultant shall be entitled to rely on the results of such inspections and tests.

ii. As deemed reasonably necessary, request that CM/GC uncover Work that is to be inspected, tested, or approved.

iii. Pursuant to the terms of the Construction Contract, require special inspections or testing of the Work, whether or not the Work is fabricated, installed, or completed.

400.14.19 Change Proposals and Claims: (a) Review and respond to Change Proposals. Review each duly submitted Change Proposal from CM/GC and, within 30 days after receipt of the CM/GC's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and CM/GC. If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Consultant will notify the parties that the Consultant will not resolve the Change Proposal. (b) Provide information or data to Owner regarding engineering or technical matters pertaining to Claims.

400.14.20 Applications for Payment. Based on Consultant's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:

i. Determine the amounts that Consultant recommends CM/GC be paid. Recommend reductions in payment (set-offs) based on the provisions for set-offs stated in the Construction Contract. Such recommendations of payment will be in writing and will constitute Consultant's representation to Owner, based on such observations and review, that, to the best of Consultant's knowledge, information and belief, CM/GC's Work has progressed to the point indicated, the Work is generally in accordance with the Construction Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Construction Contract Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to CM/GC's being entitled to such payment appear to have been fulfilled in so far as it is Consultant's responsibility to observe the Work. In the case of unit price Work, Consultant's recommendations of payment will include final determinations of quantities and classifications of the Work (subject to any subsequent adjustments allowed by the Construction Contract Documents).

ii. By recommending payment, Consultant shall not thereby be deemed to have represented that observations made by Consultant to check the quality or quantity of CM/GC's Work as it is performed and furnished have been exhaustive, extended to every aspect of CM/GC's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Consultant in this Agreement.

Neither Consultant's review of CM/GC's Work for the purposes of recommending payments nor Consultant's recommendation of any payment including final payment will impose on Consultant responsibility to supervise, direct, or control the Work, or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or CM/GC's compliance with Laws and Regulations applicable to CM/GC's furnishing and performing the Work. It will also not impose responsibility on Consultant to make any examination to ascertain how or for what purposes CM/GC has used the money paid to CM/GC by Owner; to determine that title to any portion of the Work, including materials or equipment, has passed to Owner free and clear of any liens, claims, security interests, or encumbrances; or that there may not be other matters at issue between Owner and CM/GC that might affect the amount that should be paid.

400.14.21 CM/GC's Completion Documents. Receive from CM/GC, review, and transmit to Owner maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Construction Contract Documents, certificates of inspection, tests and approvals, and Shop Drawings, Samples, and other data approved as provided under Section 202.17. Receive from CM/GC, review, and transmit to Owner the annotated record documents which are to be assembled by CM/GC in accordance with the Construction Contract Documents to obtain final payment. The extent of Consultant's review of record documents shall be to check that CM/GC has submitted all pages.

400.14.22 Substantial Completion. Promptly after notice from CM/GC that CM/GC considers the entire Work ready for its intended use, in company with Owner and CM/GC, visit the Site to review the Work and determine the status of completion. Follow the procedures in the Construction Contract regarding the preliminary certificate of Substantial Completion, punch list of items to be completed, Owner's objections, notice to CM/GC, and issuance of a final certificate of Substantial Completion. Assist Owner regarding any remaining engineering or technical matters affecting Owner's use or occupancy of the Work following Substantial Completion.

400.14.23 Other Tasks. Perform or provide the following other Construction Phase tasks or deliverables: Project start-up and commissioning support is not included in this task and will be contracted as part of a future amendment.

400.14.24 Final Notice of Acceptability of the Work: Conduct a final visit to the Project to determine if the Work is complete and acceptable so that Consultant may recommend, in writing, final payment to CM/GC. Accompanying the recommendation for final payment, Consultant shall also provide a "Notice of Acceptability of Work" to Owner and CM/GC, stating that the Work is acceptable to the best of Consultant's knowledge, information, and belief, and based on the extent of the services provided by Consultant under this Agreement.

400.14.25 Standards for Certain Construction-Phase Decisions: Consultant will render decisions regarding the requirements of the Construction Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set

forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Consultant will not show partiality to Owner or CM/GC, and will not be liable to Owner, CM/GC, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

400.14.26 Duration of Construction Phase: The Construction Phase will commence with the execution of the first Construction Contract for the Project or any part thereof and will terminate upon written recommendation by Consultant for final payment to CM/GCs. If the Project involves more than one prime contract, then Construction Phase services may be rendered at different times in respect to the separate contracts. Consultant shall be entitled to an equitable increase in compensation if Construction Phase services (including Resident Project Representative services, if any) are required after the original date for completion and readiness for final payment of CM/GC as set forth in the Construction Contract.

Assumptions:

- Budget assumes a two (2)-month construction duration for the Kane's Marina project.
- Budget assumes a one (1)-week duration for the ODOT Guardrail Replacement project.
- Assumes one (1)-hour weekly construction meeting for the Kane's Marina project.
- Assumes one (1)-hour pre-construction meeting for the ODOT Guardrail Replacement project.
- Budget assumes a total of twelve (12) submittals/resubmittals reviews for the Kane's Marina.
- Budget assumes a total of six (6) submittals/resubmittals reviews for the ODOT Guardrail Replacement projects.
- Budget assumes a total of two (2) change orders and two (2) field orders for the Kane's Marina and ODOT Guardrail Replacement projects.
- Materials testing, traffic control, erosion and sediment control plan shall be prepared by the Contractor.

Task 400.15 – Site Visit Fees and Direct Expenses

Consultant's Responsibilities:

- This task includes the following fees and direct expenses associated with Task 400.14 – Construction Services Final Design, including:
    - Travel expenses

Assumptions:

- Budget assumes six (6) one (1)-day site visits (i.e., bi-weekly) by project manager/engineering staff. for the Kane's Marina project.
- Budget assumes a one (1)-day site visit by project manager/engineering staff for the ODOT Guardrail Replacement project.
- Budget assumes a two (2)-month construction duration for the Kane's Marina project .
- Budget assumes a one (1)-week duration for the ODOT Guardrail Replacement project.

Task 400.16 – Resident Project Representative

Consultant's Responsibilities:

400.16.1 Resident Project Representative (RPR). Consultant to provide the services of an RPR at the Site to provide more extensive observation of CM/GC's work. The furnishing of such RPR's services will not limit, extend, or modify Consultant's responsibilities or authority except as expressly set forth below:

400.16.2 Consultant shall furnish a Resident Project Representative ("RPR") to assist Consultant team's Project Manager in observing progress and quality of the Work. The RPR may provide full-time representation or may provide representation to a lesser degree. RPR is Consultant's representative at the Site, will act as directed by and under the supervision of Consultant team's Project Manager, and will confer with Consultant team's Project Manager regarding RPR's actions.

400.16.3 Through RPR's observations of the Work, including field checks of materials and installed equipment, Consultant shall endeavor to provide further protection for Owner against defects and deficiencies in the Work. However, Consultant shall not, as a result of such RPR observations of the Work, supervise, direct, or have control over the Work, nor shall Consultant (including the RPR) have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to the Work or any Constructor's work in progress, for the coordination of the Constructors' work or schedules, or for any failure of any Constructor to comply with Laws and Regulations applicable to the performing and furnishing of its work. The Consultant (including RPR) neither guarantees the performances of any Constructor nor assumes responsibility for any Constructor's failure to furnish and perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

400.16.4 The duties and responsibilities of the RPR are as follows:

a. General: RPR's dealings in matters pertaining to the Work in general shall be with Consultant team and CM/GC. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of CM/GC. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Consultant team's Project Manager.

b. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, schedule of values, and other schedules prepared by CM/GC and consult with Consultant team's Project Manager concerning acceptability of such schedules.

c. Conferences and Meetings: Attend meetings with CM/GC, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including CM/GC's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

d. Safety Compliance: Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

e. Liaison:

i. Serve as Consultant's liaison with CM/GC. Working principally through CM/GC's authorized representative or designee, assist in providing information regarding the provisions and intent of the Construction Contract Documents.

ii. Assist Consultant in serving as Owner's liaison with CM/GC when CM/GC's operations affect Owner's on-Site operations.

iii. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

f. Clarifications and Interpretations: Receive from CM/GC submittal of any matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. Report to Consultant team's Project Manager regarding such RFIs. Report to Consultant team's Project Manager when clarifications and interpretations of the Construction Contract Documents are needed, whether as the result of a CM/GC RFI or otherwise. Transmit Consultant's clarifications, interpretations, and decisions to CM/GC.

g. Shop Drawings and Samples:
   i. Record date of receipt of Samples and CM/GC-approved Shop Drawings.
   ii. Receive Samples that are furnished at the Site by CM/GC and notify Consultant team of availability of Samples for examination.
   iii. Advise Consultant team and CM/GC of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal, if RPR believes that the submittal has not been received from CM/GC or has not been approved by CM/GC or Consultant.

h. Proposed Modifications: Consider and evaluate CM/GC's suggestions for modifications to the Drawings or Specifications, and report such suggestions, together with RPR's recommendations, if any, to Consultant team's Project Manager. Transmit Consultant's response (if any) to such suggestions to CM/GC.

i. Review of Work; Defective Work:
   i. Coordinate with Consultant team whenever RPR believes that any part of the Work is defective under the terms and standards set forth in the Construction Contract Documents and provide recommendations as to whether such Work should be corrected, removed and replaced, or accepted as provided in the Construction Contract Documents.
   ii. Coordinate with Consultant team for any Work that RPR believes is not defective under the terms and standards set forth in the Construction Contract Documents but is nonetheless not compatible with the design concept of the completed Project as a functioning whole, and provide recommendations to Consultant team for addressing such Work.; and
   iii. Advise Consultant team of that part of the Work that RPR believes should be uncovered for observation, or require special testing, inspection, or approval.

j. Inspections, Tests, and System Start-Ups:
   i. Consult with Consultant team in advance of scheduled inspections, tests, and systems start-ups.
   ii. Check that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that CM/GC maintains adequate records thereof.
   iii. Observe, record, and report to Consultant team's Project Manager appropriate details relative to the test procedures and systems start-ups.
   iv. Observe whether CM/GC has arranged for inspections required by Laws and Regulations, including but not limited to those to be performed by public or other agencies having jurisdiction over the Work.
   v. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work, record the results of these inspections, and report to Consultant team's Project Manager.

k. Records:
   i. Maintain at the Site orderly files for correspondence, reports of job conferences, copies of Construction Contract Documents including all Change Orders, Field

Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Construction Contract, RFIs, Consultant's clarifications and interpretations of the Construction Contract Documents, progress reports, approved Shop Drawing and Sample submittals, and other Project-related documents.

ii. Prepare a daily report or keep a diary or log book, recording CM/GC's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Consultant team's Project Manager.

iii. Upon request from Owner to Consultant, photograph or video Work in progress or Site conditions.

iv. Record and maintain accurate, up-to-date lists of the names, addresses, fax numbers, e-mail addresses, websites, and telephone numbers (including mobile numbers) of all CM/GCs, Subcontractors, and major Suppliers of materials and equipment.

v. Maintain records for use in preparing Project documentation.

vi. Upon completion of the Work, furnish original set of all RPR Project documentation to Consultant team's Project Manager.

l. Reports:

i. Furnish to Consultant team's Project Manager periodic reports as required of progress of the Work and of CM/GC's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

ii. Draft and recommend to Consultant team's Project Manager proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from CM/GC.

iii. Furnish to Consultant team's Project Manager and Owner copies of all inspection, test, and system start-up reports.

iv. Immediately inform Consultant team's Project Manager of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, possible force majeure or delay events, damage to property by fire or other causes, or the discovery of any potential differing site condition or Constituent of Concern.

m. *Payment Requests:* Review applications for payment with CM/GC for compliance with the established procedure for their submission and forward with recommendations to Consultant team's Project Manager, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

n. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by CM/GC are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Consultant team's Project Manager for review and forwarding to Owner prior to payment for that part of the Work.

o. *Completion*:
   i. Participate in Consultant team's visits to the Site regarding Substantial Completion, assist in the determination of Substantial Completion, and prior to the issuance of a Certificate of Substantial Completion submit a punch list of observed items requiring completion or correction.
   ii. Participate in Consultant team's visit to the Site in the company of Owner and CM/GC, to determine completion of the Work, and prepare a final punch list of items to be completed or corrected by CM/GC.
   iii. Observe whether all items on the final punch list have been completed or corrected, and make recommendations to Consultant team's Project Manager concerning acceptance and issuance of the Notice of Acceptability of the Work.

400.16.5 Resident Project Representative shall not:

a. Authorize any deviation from the Construction Contract Documents or substitution of materials or equipment (including "or-equal" items).
b. Exceed limitations of Consultant's authority as set forth in this Agreement.
c. Undertake any of the responsibilities of CM/GC, Subcontractors, or Suppliers, or any Constructor.
d. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of the Work, by CM/GC or any other Constructor.
e. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or CM/GC.
f. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Consultant team's Project Manager.
g. Accept Shop Drawing or Sample submittals from anyone other than CM/GC.
h. Authorize Owner to occupy the Project in whole or in part.

Assumptions:

- Budget assumes a two (2)-month construction duration for the Kane's Marina project with two 4-hour days of observation per week .
- Budget assumes a one (1)-week duration for the ODOT Guardrail Replacement project.
- Assumes one (1)-hour weekly construction meeting for the Kane's Marina project.
- Assumes one (1)-hour pre-construction meeting for the ODOT Guardrail Replacement project.
- Budget assumes a total of twelve (12) submittals/resubmittals reviews for the Kane's Marina.
- Budget assumes a total of six (6) submittals/resubmittals reviews for the ODOT Guardrail Replacement projects.
- Budget assumes a total of two (2) change orders and two (2) field orders for the Kane's Marina and ODOT Guardrail Replacement projects.

Task 400.17 – WPCF PERMIT FEES

Consultant Responsibilities:

401.6.1. DEQ Water Pollution Control Facility (WPCF) permit submittal fee for one (1) property in Detroit (*200 Detroit Ave, Detroit*).

401 - KANE'S MARINA SEPTIC SYSTEM

Task 401.1 – Project Management

Consultant Responsibilities:

401.1.1. General Project Management. Provide task-level project administration services including task oversight, project accounting, monthly progress reports, scheduling, and internal task administration.

401.1.2. Regulatory Coordination. Meet with County and DEQ staff to discuss WPCF and County permit options. The objective of this outreach will be to have a selected permitting process (WPCF or County).

401.1.3. Kickoff Meeting. Participate in a project kickoff meeting. Prepare agenda and minutes. The purpose of this meeting will be to review/establish Owner design team, review the overall project schedule including major milestones and meetings, review objectives of the design, discuss available data and published materials that will be made available by the Owner, and review process for deliverables including process for Owner review and approval.

401.1.4. Presentation to County Commissioners. The Consultant will present a project update to the County Commissioners at the conclusion of Task 405, Preliminary Design. Consultant will prepare presentation materials and/or handouts. The one presentation will summarize the system layout, opinion of probable cost, permitting, schedule, and next steps.

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

Owner Responsibilities:

- Provide meeting space for project meetings. Provide advertising as needed.
- Provide requested information within two weeks of request.

Assumptions:

- Project management budget assumes a project schedule of up to 4 months.
- Unless otherwise noted, meetings/workshops may include a combination of in person or virtual attendees. This assumption applies to this task as well as subsequent tasks.
- Funding support is not included in this scope of work, including but not limited to American Iron and Steel (AIS) or Build America, Buy America (BABA) tracking, certification, or reporting. These services can be provided as additional services.

Deliverables:

- Kickoff meeting agenda and minutes.
- Request for Information.
- Presentation materials and/or handouts.

Task 401.2 – Preliminary Engineering Report (PER)

Subtask 401.2.1 – Preliminary Engineering Report (PER)

Consultant Responsibilities:

401.2.1.1 Study Phase Services.

a. Site Visit. Consultant will coordinate with Owner's staff to perform a site visit and document existing site conditions. Evaluation will include documentation of status

and condition of existing septic facilities and electrical equipment. This scope does not include inspection of interior spaces or existing facilities.

b. Basin Study. Consultant will review the plan and profile for the gravity sewer system developed through the North Santiam Sewer Authority Master Plan. Consultant will approximate alignment and invert elevation requirements for the future lift station wetwell. Consultant will estimate the operating volume required for the future pump station.

c. Operation and Maintenance Assessment. Consultant will review available data provided by Owner to summarize historic usage, operation strategies, and maintenance considerations. It is anticipated the evaluation will include holding tank storage requirements, hydrogen sulfide and odor control, standby power, instrumentation and controls (alarming), future pump station compatibility, redundancy provisions, emergency response, and preventative maintenance activities.

401.2.1.2 Design Criteria. Document design criteria established from the study phase services that will serve as basis for design. The design criteria will include, emergency storage calculations, anticipated flow conditions for the marina, future basin flow conditions, holding tank (wetwell) storage requirements, odor control strategy, power requirements, alarms.

401.2.1.3 Topographic Surveying. Provide oversight of the services to complete topographic and boundary surveying services for Kane's Marina.

401.2.1.4 Geotechnical Investigation. Provide oversight of the services to complete geotechnical engineering design services for Kane's Marina.

401.2.1.5 Site Layout. Develop 30% concept design showing site civil layout and holding tank(s) orientation on the marina site. Concept to include general grading concepts and reflect considerations for holding tank dimensions, future building and valve vault footprint, generator location, stormwater disposal, yard piping, and access for future maintenance/pump removal. The future footprint assumes that a small electrical building will be required to house the future electrical/controls, including a variable frequency drive (VFD) for the future lift station. Consultant has assumed that the generator will be outdoors with sound attenuation. The pipe network will be limited to 5-feet outside any building footprint.

401.2.1.6 Odor Control Type. Evaluate up to three design alternatives for odor control with the Owner. For each alternative, evaluation to include operations and maintenance considerations, benefits, drawbacks, costs, and consideration of non-cost factors (i.e., future expansion for the lift station). Potential odor control types include chlorine dosing equipment, passive carbon filtration, mixing, chemical, and air-scrubber.

401.2.1.7 Electrical and Controls. Coordinate with Owner to identify SCADA communication preferences. Coordinate with power utility to identify power constraints. Prepare one-line diagram for power and a narrative describing the communication strategy and objectives including a piping and instrumentation diagram (P&ID).

401.2.1.8 Cost Estimate. Provide an AAEC Class 4 opinion of probable cost for the project.

401.2.1.9 Workshop Meeting. Meet with Owner to review concepts and alternatives and select preferred alternative for design.

401.2.1.10 Prepare PER. Prepare draft Preliminary Engineering Report (PER) following the *Oregon DEQ guidelines.* In addition to the minimum regulatory requirements, PER will include concept drawings showing conceptual pipe network layout, one-line diagram, and anticipated permit requirements. Submit to Owner for review.

401.2.1.11 Final PER. Incorporate Owner input and submit to DEQ for review. Address agency comments into final PER.

Owner Responsibilities:

- Provide input on holding tank, piping design criteria, and preferred alternatives.
- Obtain or provide information for land parcel for the holding tank site, easements, and rights-of-way.
- Provide overall site plan with enough detail to layout the pipe network.
- Provide all necessary documentation or title information for boundary survey services.
- Secure permission for access for surveying and geotechnical investigations on the two subject properties.
- Provide concurrence on the location of the geotechnical investigation; assist in pre-marking locations for test pits / boring.
- Review and provide one set of consolidated comments on the Draft PER, concept plans, and opinion of probable cost.

Assumptions:

- Consultant shall be entitled to rely, without liability or the need for independent verification, on the accuracy and completeness of the information provided by Owner, Owner's consultants and Contractors, information from public records, and information ordinarily or customarily furnished by others, including, but not limited to specialty Contractors, manufacturers, suppliers, and publishers of technical standards. This assumption applies to this task and subsequent tasks.
- Power is readily available and located adjacent to the site.
- Land and easement acquisition, negotiations, and legal descriptions are not included.
- Pavement sections, curbing and other site design is not included in this scope.
- Other assumptions documented for surveying and geotechnical services.

Deliverables:

- Agenda and minutes for Workshop Meeting.
- Draft and Final PER (1 paper copy and 1 PDF)

Subtask 401.2.2 – Topographic Survey

Consultant Responsibilities:

401.2.2.1 Consultant shall perform a topographic recovery survey of the Kane's Marina property to serve as a basis for design. Survey shall be based on an official benchmark acceptable to the City of Detroit and shall be based on the NAVD 1988 vertical datum. Horizontal datum shall be in state plane coordinates, Oregon North, 3601. Survey shall include the following:

a. Locate existing monumentation to compete a boundary resolution of subject area
b. Full topographic surface data and underground utilities to the edge of the project boundaries as defined in the attached PDF.
c. Obtain spot elevations at a maximum 50 foot on center spacing, including along roadway centerlines, top of curb, flowline of curb, lip of gutter, etc., to the nearest 0.01 foot
d. Additional spot elevations needed to adequately identify grade breaks and other topographic features.
e. Order One-Call utility locates for any underground utilities within subject area and adjacent public right of way
f. Locate surface features over subject area, including but not limited to: accessways, driveways, curbs, structures, fences, poles, disposal areas, drainage areas

g. Locate ground and above ground utilities, including: utility poles, overhead utility wires, manholes, catch basins, cleanouts, meters, valves, vaults, boxes, hydrants
h. Locate trees 8” DBH and greater noting coniferous or deciduous
i. Map existing easements which may affect subject.
j. Provide triangulated irregular network (TIN) to be used as a Civil 3D surface via an XML file.

401.2.2.2 Survey will show utility poles, power lines, and telecommunications, etc. including any identification information. For existing storm drains, culverts, and sanitary sewers, Consultant shall:

a. Show rim or grate elevations and inverts for all manholes and drainage structures, with structure size (inside dimensions)
b. Show pipe diameters, pipe material, and direction of pipe.
c. Show manhole symbols at center of the lid with a note defining the manhole diameter and whether the manhole is an eccentric or concentric structure. If eccentric, note to what side of the structure (NW, SE, S, etc.) the eccentric cone is flush with.
d. Survey storm and sewer structures to the next downstream and upstream structures beyond the limits of survey.
e. Show utility lines as continuous; do not terminate shortly after a structure, extend to nearest upstream or downstream structure.

401.2.2.3 Prepare a Legal Description and Visual Exhibit Map for the holding tank (future wet well).

Deliverables:

- Basemap in AutoCAD 3D format.
- Legal Description and Visual Exhibit Map

Subtask 401.2.3 – Geotechnical Investigation

(Consultant may retain a subconsultant to perform this task, however, Consultant's retention of a subconsultant for performance of task does not relieve consultant of responsibility to perform this task.)

The purpose of this subtask is to evaluate soil and groundwater conditions as a basis for developing geotechnical engineering design criteria for the Kane’s Marina project.

Consultant Responsibilities:

401.2.3.1. Review information regarding subsurface soil and groundwater in the vicinity of the site, including filed reports, selected geologic maps, and other geotechnical engineering-related information.

401.2.3.2. Coordinate and manage the field investigation, including public utility notification and scheduling. Utility locates will be ordered by Consultant.

401.2.3.3. Explore subsurface soil and groundwater conditions at the project site by drilling one (1) drilled boring exploration to a depth between 20 and 25 feet bgs on the south side of the site near proposed holding tank/wetwell location, and four (4) to six (6) boring explorations 5 to 10 feet bgs along the proposed forcemain alignment.

401.2.3.4. Explorations will be advanced to the depths noted or to practical refusal in dense gravels or competent rock, if encountered, whichever is shallower. The borings will be backfilled as required by state law and surface disturbance minimized to the extent practical. Cuttings will be left on site.

401.2.3.5. Obtain samples at representative intervals from the explorations, observe groundwater conditions and maintain detailed logs in general accordance with ASTM Standard Practices Test Method D 2488. Field exploration work shall be observed and documented by qualified geotechnical engineering staff.

401.2.3.6. Perform laboratory tests on selected soil samples obtained from the explorations to evaluate pertinent engineering characteristics. Specific laboratory tests will depend on soil conditions encountered, but may include moisture/density tests, Atterberg limit tests and percent fines tests.

401.2.3.7. Provide a geotechnical evaluation of the site and provide design recommendations in a geotechnical report that will address the following geotechnical components:

a. A general description of site topography, geology and subsurface conditions.
b. Report subsurface conditions and data along the proposed forcemain/collection lines alignment.
c. An opinion as to the adequacy of the proposed development of the holding tank/wetwell from a geotechnical engineering standpoint.
d. Recommendations for preparation measures at the proposed holding tank/wetwell/lift station site, including disposition of undocumented fill and unsuitable native soils, recommendations for temporary cut slopes and constraints for wet weather construction.
e. Recommendations for temporary excavation and temporary excavation protection, such as excavation sheeting and bracing.
f. Recommendations for earthworks, including use of on-site and imported structural fill and fill placement and compaction requirements.
g. Recommendations for foundations to support proposed at-grade and below-grade structures, including minimum width and embedment, design soil bearing pressures, settlement estimates (total and differential), coefficient of friction and passive earth pressures for sliding resistance. Consultant assumes that proposed structures will be lightly loaded and that shallow foundations can be used to adequately support the structures.
h. Recommendations for supporting on-grade slabs, including base rock, capillary break and modulus of subgrade reaction, as appropriate.
i. Seismic design parameters in accordance with the current version of the Oregon Structural Specialty Code. Consultant will also perform a simplified liquefaction settlement analysis.

401.2.3.8. All work under this subtask will be directly supervised by an engineer licensed in the state of Oregon. Engineer will apply their professional seal to the document.

Assumptions:

- Owner will obtain right-of-entry or access to the exploration locations.

- A rubber-tired drill rig can adequately access the site.
- Explorations will be extended to the depths described above or to refusal in dense material. Contingency costs for specialized drilling into dense material if dense gravel or rock are encountered, are not included in this scope of work or fee.
- Excess drill cuttings can be scattered on site.
- Installation of monitoring wells to measure static water groundwater is excluded.
- Contaminated soils will not be encountered during exploration and sampling. If contaminated or suspected contamination is encountered (based on field screening), Consultant-will stop drilling operations, notify Owner and discuss how to proceed.
- If public locators are not allowed to enter or cannot enter the project area to clear specific exploration locations, Consultant may provide the services of a private locate company to access the site, if requested, for an additional fee of $630.

Deliverables:

- Draft and Final Geotechnical Report.

Task 401.3 – Final Design

Consultant Responsibilities:

401.3.1. Plan Sheets. Prepare general, survey, site civil, structural, plumbing, HVAC, mechanical, electrical, and instrumentation and control plan sheets for the site, holding tank, and yard piping. Instrumentation and control final design is anticipated to be a performance spec for a holding tank and odor control monitoring system. Thus, the plan sheets will only include a piping and instrumentation diagram (P&ID). Coordinate location of pumps, piping layout, spacing, electrical equipment, generator, pump removal equipment, building access, overhead door, HVAC equipment, plumbing drains, and other appurtenances for ultimate lift station layout with the Owner. Prepare 90% review sets. Coordinate with stormwater design; amend design to address property owner's build-out plan.

401.3.2. Specifications. Consultant will support the Owner in CM/GC selection with services described in Task 5 of this scope of work. Consultant will prepare technical specifications. Technical specifications will be prepared to detail the materials, processes, and the products that are to be used in the construction of the lift station. Complete draft technical specifications for the 90% review set.

401.3.3. 90% Design and Review Workshop Meeting. Submit 90% design review drawings and specifications to the Owner. Participate in a 90% design review workshop meeting.

401.3.4. Agency Submittal. Agency design checklists will be completed and submitted along with the final plans and specifications to Agency for review.

401.3.5. Final Approval. Upon Owner and Oregon DEQ review, Consultant will incorporate appropriate revisions into a final set of stamped drawings and specifications that will be used for bidding.

401.3.6. Opinion of Probable Costs. Selected CM/GC will provide cost estimating after Task 404. Consultant will review and provide feedback.

Owner Responsibilities:

- Review and provide one set of consolidated 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.

Assumptions:

- Consultant will prepare the building permit application at 90% design and submit to the Marion County Building Inspection office. Final permits will be obtained by Owner. Owner shall pay all permit fees not assigned to the construction contractor.
- Consultant will prepare and submit the DEQ permit application at 90% design and assist Owner with DEQ consultation.
- Project will not include irrigation or landscaping of the site. Services of a licensed landscape architect is excluded.
- Extensive architectural feature and architectural rendering are not included in the holding tank design.
- Contractor will be required to prepare and implement an erosion and sediment control plan (ESCP), prepare traffic control plans, and secure associated permits.
- Shoring (if required) will be designed by the Contractor.
- Additional professional time for correspondence and meetings, due to an Owner initiated change in the project design, and/or project support above and beyond that described herein is considered an additional service requiring a contract amendment and equitable adjustment of the contract amount.
- 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.
- The following design standards and references are to be followed where relevant during the development of the project:
    - Marion County Standard Specifications and Drawings
    - Oregon Standard Specifications for Construction
    - Owner to provide front end contracting and bidding documents (Div 00)
    - AIS and BABA requirements
- 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.

Deliverables:

- Up to two (2) sets of 90% design drawings and specifications to address Owner-requested revisions, including one PDF submittal (prepared in 22"x34" reviewed in 11"x17") for each version.
- 100% stamped design package, including one PDF submittal (prepared in 22"x34" reviewed in 11"x17").
- Opinion of Probable Cost.

Task 401.4 – Pre-Procurement Support

Consultant Responsibilities:

This task includes consultant services to support the Owner in direct purchase of equipment for the Project using available funds. The objective of the direct purchase of equipment or materials is to account for potential long lead times and still have the equipment or materials on hand when the contractor is ready to move forward with construction. Consultant will provide specifications for the equipment/material to be directly purchased which may be out of sequence or earlier than the final design task.

Owner Responsibilities:

- Owner staff will lead the solicitation effort to either solicit informal bids or select suppliers from pre-approved supplier lists. Owner will receive and store materials prior to the Contractor taking on the equipment/material for installation.

Assumptions:

- Consultant is not responsible if material/equipment must be returned or designated as surplus due to the expedited delivery process for this project.
- Budget assumes up to 40 hours for support services to be provided as requested.

Deliverables:

- Procurement Specifications.

Task 401.5 – Removed

Task 401.6 – WPCF PERMITTING

Consultant Responsibilities:

401.6.1. Prepare draft permit application for a holding tank permit for DEQ review.
401.6.2. Meet with DEQ to discuss the permit applications. For the purpose of this scope, up to two (2) meetings are assumed.
401.6.3. Address DEQ comments in permit application.

Owner Responsibilities:

- Provide input on draft permit application.
- ~~If necessary, pay fee to DEQ for draft permit application.~~
- Review and comment on draft documents.

Assumptions:

- No field work, environmental studies, cultural resource investigations, or biological assessments are included in this task.
- This scope does not include any additional field gathering or special studies that may be required by the DEQ.
- No other permits will be required. If required, support for these permits can be provided as additional services.

Task 401.7 – **Removed**

Task 401.8 – WPCF PERMIT FEES

Consultant Responsibilities:

401.8.1 DEQ Water Pollution Control Facility (WPCF) permit submittal fee for one (1) property in Detroit (Kane's Marina).

MARION COUNTY
STANDARD PROFESSIONAL SERVICES CONTRACT

EXHIBIT B - CONSULTANT COMPENSATION

B.1 BASIS OF COMPENSATION

B.1.01 Owner shall compensate Consultant for the performance of Services set forth in Exhibit A, as follows:

Consultant shall perform the Services for: a maximum, not-to-exceed price of $**16, 719,571** ~~**$14,103,367**~~

Although individual task budgets may be exceeded, the total authorized budget amount shall not be exceeded without written authorization from Owner. For time and materials tasks, compensation will be according to Keller Associates' standard billing rates updated annually in January.

PHASE 1 – GENERAL ENGINEERING SERVICES	Cost	Type
100 – PROJECT MANAGEMENT		
Task 100.1 – Project Management	$ 660,923 ~~$ 575,451~~	T&M
Task 100.2 – County Board of Commissioners Support Services	$ 15,840	LS
101 – STRATEGIC PERMITTING PLAN		
Task 101.1 – Project Management and Administration	$ 30,125 ~~$ 4,825~~	LS
Task 101.2 – Data Review, Preliminary Agency Coordination, and Data Gaps Identification	$ 19,090	LS
Task 101.3 – Strategic Permitting Plan	$ 9,540	LS
Task 101.4 – Environmental Assessments		
Subtask 101.4.1 – Mill City and Gates MWTF– Environmental Assessment and HUD Environmental Record Review	$ 56,373	LS
Subtask 101.4.2 – Mill City and Gates MWTF - Endangered Species Act Consultation and Biological Evaluation	$ 12,963 ~~$ 19,955~~	LS
Subtask 101.4.3 –Force Main and Gates Collection System – Environmental Assessment and HUD Environmental Record Review	$ 40,934	LS
Subtask 101.4.4 – Force Main and Gates Collection System - Endangered Species Act Consultation and Biological Evaluation	$ 16,304 ~~$ 9,312~~	LS

Task 101.5 – Environmental Project Coordination and Oversight	$ 87,699 ~~$ 53,698~~	T&M
Task 101.6 – Archaeological Monitoring		
Subtask 101.6.1 – Project Management and Tribal Coordination	$ 3,554	T&M
Subtask 101.6.2 – Monitoring and Inadvertent Discovery Plan	$ 6,745	T&M
Subtask 101.6.3 – Archaeological Monitoring	$ 22,897	T&M
Subtask 101.6.4 – Archaeological Monitoring Technical Memorandum	$ 8,623	T&M

102 – SUBSURFACE EXPLORATION		
Task 102.1 – Project Management and Administration	$ 116,025	T&M
Task 102.2 – Subsurface Investigation Program	$ 74,200	T&M
Subtask 102.2.1 – Gates / Mill City Subsurface Investigation	$ 541,067 ~~$ 591,871~~	T&M
Subtask 102.2.2 – Detroit / Idanha Subsurface Investigation	$ 390,468	T&M
Subtask 102.2.3 – Detroit / Idanha Well Decommissioning	$ 36,977	LS
Subtask 102.2.4 – Detroit / Idanha Well Decommissioning Fees and Direct Expenses	$ 25,053	T&M
Subtask 102.2.5 – Mill City Site GM1 Well Decommissioning	$ 15,472	LS
Subtask 102.2.6 – Mill City Site GM1 Well Decommissioning Fees and Direct Expenses	$ 10,973	T&M
Task 102.3 – Groundwater Modeling Evaluation		
Subtask 102.3.1 – Mill City / Gates Permitting Evaluation	$ 63,600	T&M
Subtask 102.3.2 – ~~Detroit / Idanha Permitting Evaluation~~ [REMOVED]	$ 0 ~~$ 40,640~~	~~T&M~~
Task 102.4 – McCoy Site Permitting (USFS) and Private Property Owner Coordination (Upper Deck)	$ 18,700	T&M
Task 102.5 – Infiltration Basin Pilot Test		
Subtask 102.5.1 – Meetings, Work Plan, and Pre-Field Work Preparation	$ 28,734	LS
Subtask 102.5.2 – Monitoring Well Drilling and Construction Oversight	$ 34,370	LS
Subtask 102.5.3 – Test Pit Excavation and Infiltration Testing	$ 18,340	LS

Subtask 102.5.4 – Test Infiltration Basin Construction	$ 24,067	LS
Subtask 102.5.5 – 28-Day Infiltration Basin Pilot Test	$ 50,150	LS
Subtask 102.5.6 – Analysis and Reporting	$ 38,742	LS
Subtask 102.5.7 – Tracer Test Planning	$ 24,838	LS
Subtask 102.5.8 – Mill City and Gates MWTF – Monitoring Well Construction ~~Tracer Study (Contingency)~~	$ 137,462 ~~$ 77,220~~	LS
Subtask 102.5.9 – Mill City and Gates MWTF – Monitoring Well Construction ~~Tracer Study~~ Fees and Direct Expenses	$ 109,924 ~~$ 119,362~~	T&M
Subtask 102.5.10 – Mill City and Gates MWTF – Groundwater Management Plan	$ 27,830	LS
Task 102.6 – Response to DEQ Modeling Report Comments		
Subtask 102.6.1 – Project Management	$ 72,215	LS
Subtask 102.6.2 – Additional Nitrate, DEHP, and Toluene Modeling	$ 117,337	LS
Subtask 102.6.3 – Beneficial Groundwater Use Elevation	$ 33,880	LS
Subtask 102.6.4 – Seasonal Water Level and Nitrate Data	$ 44,603	LS
Subtask 102.6.5 – Modeling of BOD, pH, TSS, and TDS	$ 157,292	LS
Subtask 102.6.6 – Propose Well Locations and Functional Equivalent Form	$ 7,524	LS
Subtask 102.6.7 – Respond to DEQ Comments	$ 38,060	T&M
Task 102.7 – Additional Services		
Subtask 102.7.1 - PFAS Sampling	$ 29,123	LS
Subtask 102.7.2 – PFAS Sampling Fees and Direct Expenses	$ 5,548	T&M
Subtask 102.7.3 - Respond to City of Salem Comments	$ 14,333	LS
Subtask 102.7.4 - Seep Sampling	$ 13,525	LS
Subtask 102.7.5 – Seep Sampling Fees and Direct Expenses	$ 3,069	T&M
103 – LAND ACQUISITION AND RELOCATION SERVICES		
Task 103.1 – Project Management and Administration	$ 12,140	T&M
Task 103.2 – Mill City and Gates Land Acquisition and Relocation Services	$ 435,974 ~~$ 235,834~~	T&M
Task 103.3 - Removed		
104 – FINANCIAL ADVISORY SERVICES		

Task 104.1 – Project Management and Administration	$ 23,430	T&M
Task 104.2 – Financial Advisory Services	$ 137,500	T&M
105 – PUBLIC RELATIONS		
Task 105.1 – Project Management and Administration	$ 21,015	T&M
Task 105.2 – Communications and Engagement Planning and Implementation	$ 104,755 ~~$ 183,684~~	T&M
Task 105.3 – Land Use and Planning	$ 11,138	T&M
106 – INDEPENDENT COST ESTIMATING		
Task 106.1 – Project Management and Administration	$ 13,468	T&M
Task 106.2 – Independent Cost Estimating	$ 145,431	T&M
Subtotal	**$ 4,219,962** **~~$ 3,966,788~~**	

T&M: Time and Materials, LS: Lump Sum

PHASE 2 – MILL CITY / GATES WASTEWATER SEWER SYSTEM	Cost	Type
Task 200.1 – Project Management	$ 12,600	LS
Task 200.2 – Data Acquisition & Facility Tour	$ 6,110	LS
Task 200.3 – Project Planning	$ 26,725	LS
Task 200.4 – Existing Facilities Evaluation	$ 68,680	LS
Task 200.5 – Need for system improvements	$ 3,650	LS
Task 200.6 – Collection System Alternatives Considered & Selection	$ 53,615	LS
Task 200.7 – Treatment System Alternatives Considered & Selection	$ 59,365	LS
Task 200.8 – Proposed Projects (Recommended Alternatives)	$ 70,780	LS
Task 200.9 – Facilities Plan Documentation & Public Meeting	$ 25,830	LS
Task 200.10 –Management Reserve	$ 10,000	T&M
201 – MILL CITY/GATES FACILITIES SITE EVALUATION		
Task 201.1 – Project Management	$ 90,297	LS
Task 201.2 – Force Main Alignment Topographic Survey	$ 120,423 ~~$ 91,207~~	LS
Task 201.3 – Force Main Alignment Geotechnical Investigation	$ 105,909	LS
Task 201.4 – Mill City and Gates MWTF Environmental Due Diligence		
Subtask 201.4.1 – Project Management	$ 9,820	T&M
Subtask 201.4.2 – Wetlands and Waters Delineation	$ 72,588	T&M
Subtask 201.4.3 – Cultural Resources Investigation	$ 53,634	T&M
Subtask 201.4.4 – Phase I Environmental Site Assessments	$ 534	T&M
Task 201.5 – Mill City and Gates MWTF Topographic Survey	$ 34,232	LS
Task 201.6 – Mill City and Gates MWTF Geotechnical Investigation	$ 29,371	LS
Task 201.7 – Gates Collection System Survey		
Subtask 201.7.1 – Gates Collection System Survey	$ 276,821 ~~$ 257,994~~	LS
Subtask 201.7.2 – Gates Collection System Easements	$ 61,600	T&M
Subtask 201.7.3 – Private Utility Locating Services	$ 3,960	T&M
Task 201.8 – Gates Collection System Geotechnical Investigation	$ 180,864 ~~$ 151,247~~	LS
Task 201.9 – Gates Collection System Environmental Due Diligence		
Subtask 201.9.1 – Project Management	$ 7,955	T&M

Subtask 201.9.2 – Environmental Due Diligence	$ 75,936	T&M
~~**Subtask 201.9.2** – Wetlands and Waters Delineation~~ [REMOVED]	~~$ 31,735~~	~~T&M~~
~~**Subtask 201.9.3** – Cultural Resources Investigation~~ [REMOVED]	~~$ 32,519~~	~~T&M~~
~~**Subtask 201.9.4** – Phase I Environmental Site Assessments~~ [REMOVED]	~~$ 11,682~~	~~T&M~~
Task ~~Subtask~~ 201.10 – Force Main Alignment Environmental Due Diligence		
Subtask 201.10.1 – Project Management	$ 6,123	T&M
Subtask 201.10.2 – Environmental Due Diligence	$ 50,935	T&M
~~**Subtask 201.10.2** – Wetlands and Waters Delineation~~ [REMOVED]	~~$ 16,059~~	~~T&M~~
~~**Subtask 201.10.3** – Cultural Resources Investigation~~ [REMOVED]	~~$ 19,147~~	~~T&M~~
~~**Subtask 201.10.4** – Phase I Environmental Site Assessments~~ [REMOVED]	~~$ 15,729~~	~~T&M~~
Task 201.11 – Mill City Collection System Cleaning and Inspection		
Subtask 201.11.1 – CCTV Cleaning and Inspection	$ 80,421	T&M
Subtask 201.11.2 – Review and Identification of Spot Repairs	$ 14,944	LS
~~**Task 202** – Mill City and Gates MWTF Engineering~~		
202 – MILL CITY AND GATES MWTF ENGINEERING		
Task ~~Subtask~~ 202.1 – Project Management	$ 252,324	LS
Task ~~Subtask~~ 202.2 – Preliminary Engineering Report (PER)	$ 305,729	LS
Task ~~Subtask~~ 202.3 – Permitting Assistance	$ 62,492	LS
Task ~~Subtask~~ 202.4 – GMP Documents (30% Design)	$ 1,540,652	LS
Task ~~Subtask~~ 202.5 – Final Design	$ 1,738,662 ~~$ 1,519,302~~	LS
Task ~~Subtask~~ 202.6 – Services During Bidding	$ 71,570	LS
Task ~~Subtask~~ 202.7 – Construction Services	$ 2,147,103 ~~$ 1,986,125~~	LS
Task ~~Subtask~~ 202.8 – Site Visit Fees and Direct Expenses	$ 52,678 ~~$ 37,385~~	T&M
Task ~~Subtask~~ 202.9 – Resident Project Representative	$ 429,111 ~~$ 387,677~~	T&M
Task ~~Subtask~~ 202.10 – Special Inspections	$ 194,365	T&M

Task ~~Subtask~~ 202.11 – Geotechnical Construction Observation Services	$ 133,118 ~~$ 54,189~~	T&M
Task ~~Subtask~~ 202.12 – Post-Construction Phase	$ 234,060 ~~$ 212,220~~	LS
Task ~~Subtask~~ 202.13 – Mill City and Gates MWTF SCADA and Integration	$ 492,556	T&M
Task ~~Subtask~~ 202.14 – Mill City and Gates MWTF Power System Studies	$ 61,512	T&M
~~**Task 203** – Gates Collection System/Force Main Preliminary Engineering~~		
203 – GATES COLLECTION SYSTEM AND FORCE MAIN ENGINEERING		
Task ~~Subtask~~ 203.1 – Project Management	$ 260,775 ~~$ 88,295~~	LS
Task ~~Subtask~~ 203.2 – Preliminary Engineering Report (PER)	$ 200,558	LS
Task ~~Subtask~~ 203.3 – Preliminary Design ~~GMP Documents~~ (30% Design)	$ 685,739	LS
Task 203.4 – Final Design		
Subtask 203.4.1 – 60% Design	$ 571,710	LS
Subtask 203.4.2 – 90% Design	$ 501,680	LS
Subtask 203.4.3 – 100% Design	$ 322,160	LS
Task 203.5 – Services During Bidding	$ 18,500	T&M
Subtotal	**$ 11,890,776** **~~$ 9,684,792~~**	

T&M: Time and Materials, LS: Lump Sum

PHASE 4 – DETROIT INTERIM COMMERCIAL SEPTIC SYSTEMS	Cost	Type
400 – COMMERCIAL SEPTIC SYSTEM PLANNING		
Task 400.1 – Project Management	$ 27,436	LS
Task 400.2 – Data Acquisition & Properties Tour	$ 17,770	LS
Task 400.3 – Stakeholder Involvement / Engagement	$ 12,200	LS
Task 400.4 – Commercial Septic System Concept	$ 16,680	LS
Task 400.5 – Commercial Septic System Design	$ 85,780	LS
Task 400.6 – ODOT ROW Commercial Properties Topographic Survey	$ 10,560	LS
Task 400.7 – Detroit Environmental Due Diligence (ODOT ROW Easements)	$ 34,032	LS
Task 400.8 – Detroit Commercial Septic Excavation Contractor	$ 80,278	T&M
Task 400.9 – Detroit Commercial Properties Boundary Survey	$ 31,800	T&M
Task 400.10 – Detroit Commercial Septic Groundwater Study	$ 13,673	LS
Task 400.11 – ODOT Guardrail Replacement	$ 22,960	LS
Task 400.12 – Detroit Holding Tank Feasibility Study	$ 33,840	LS
Task 400.13 – ODOT ROW Narrative Appraisal Report	$ 6,248	T&M
Task 400.14 – Construction Services	$ 42,980	LS
Task 400.15 – Site Visit Fees and Direct Expenses	$ 1,038	T&M
Task 400.16 – Resident Project Representative	$ 15,956	T&M
Task 400.17 – WPCF Permit Fees	$ 9,088	T&M
401 – KANE'S MARINA SEPTIC SYSTEM		
Task 401.1 – Project Management	$ 15,661	LS
Task 401.2 – Preliminary Engineering Report (PER)	$ 28,630	LS
Subtask 401.2.2 – Topographic Survey	$ 18,087	LS
Subtask 401.2.3 – Geotechnical Investigation	$ 17,060	LS
Task 401.3 – Final Design	$ 45,170 ~~$ 28,270~~	LS
Task 401.4 – Pre-Procurement Support	$ 8,000	T&M
Task 401.5 – Removed		
Task 401.6 – WPCF Permitting	$ 5,860	LS
Task 401.7 – Removed		
Task 401.8 – WPCF Permit Fees	$ 8,046	T&M

Subtotal	**$ 608,833** ~~**$ 451,777**~~

T&M: Time and Materials, LS: Lump Sum

TOTAL	**$ 16,719,571** ~~**$ 14,103,357**~~

B.1.01 Payments for Services and Reimbursable Expenses shall be made monthly, following Owner's review and approval of detailed invoices submitted by Consultant and acceptance of the Services or approval of Reimbursable Expenses by Owner. Owner shall make payments only after Owner's receipt and approval of (i) Consultant's detailed monthly invoice as described in Section B.1.05, and (ii) all reports, designs, certificates, and documents covered by the invoice. Payments are subject to the provisions of ORS 293.462.

B.1.02 Reimbursable Expenses, as described in Section B.2, are defined as the direct costs expended by Consultant, Consultant's employees and Subconsultants for performance of Services rendered to complete the Project. The estimated dollar amounts for each of the identified Reimbursable Expense items are as follows:

1	Travel Related Expenses	
2	General Reimbursable Expenses	
	Total	

It is understood that the actual total amount payable for each individual Reimbursable Expense item may be more or less than the estimate above, however, the total amount of all Reimbursable Expenses shall not exceed the maximum amount stated in Section B.1.01 for Reimbursable Expenses without a Contract amendment. Payments for Reimbursable Expenses shall be identified and tracked on monthly invoices according to the expense items listed above.

B.1.03 Consultant shall not submit invoices for, and Owner will not pay, any amount in excess of the maximum, not to exceed amount payable under this Contract set forth in Section B.1.01. If this amount is increased by Contract amendment, the amendment must be effective before Consultant performs Services subject to the amendment. Consultant shall notify Owner's Representative identified in this Contract in writing of the expiration of the Contract, thirty (30) days prior to such expiration. No payment will be made for any Services performed prior to the Effective Date or after the expiration date of the Contract.

B.1.04 Consultant shall submit monthly invoices for Services performed. To be processed for payment by Owner, the invoices shall include the following basic information:

a. The correct name of Owner's authorized representative

b. Invoice date

c. Date range during which the Services being invoiced for were provided

d. The last invoice submitted on the Project must be clearly labeled "Final Invoice"

e. Original Contract total, not to exceed amount broken out by: Basic Services, Supplemental Services released to date by line item, and Reimbursable Expenses separated by two categories of Travel Expenses and General Reimbursables

f. Statement of changes to the original total, not to exceed amount by amendment(s) and broken out in the same way as in item F, showing the revised Contract amounts

g. Paid to date amounts showing the amounts submitted for prior to the current invoice (regardless of payment status) and broken out the same way as in item F

h. Amounts being invoiced for in the current invoice and broken out the same way as in item F, with a roll up of a "Total Amount Billed For This Invoice" line item amount

i. Balances Remaining after receipt of payment for the current invoice broken out the same way as in item F

Consultant shall describe all Services performed with particularity and by whom it was performed and shall itemize and explain all expenses for which reimbursement is claimed. Reimbursable Expenses shall be broken out into to line-item categories, 1) Travel Expenses and 2) General Reimbursable Expenses. Invoices for Basic Services under a specific Phase shall be for completed Basic Services only and shall indicate the percentage of the total Basic Services for that Phase that the amount invoiced represents. Invoice amounts for authorized fixed price Supplemental Services shall indicate the Supplemental Service, its contract reference number, the total amount of the fixed price Supplemental Service, and the total percentage and related dollar amount of the fixed price Supplemental Service completed by the end of the current invoice period, less the total dollar amount previously billed for, with the balance representing the total amount being currently billed for. Invoices for authorized Supplemental Services based on a not to exceed amount shall set forth the number of hours worked by Consultant's personnel on the identified Service, describe the Services performed by each such personnel in detail on a daily basis, and set forth the rate of compensation for each of such personnel as set forth in EXHIBIT F.

Consultant shall send invoices to Owner's Representative identified in this Contract, using the following address:

Marion County Public Works Department
Attn: Brian Nicholas
5155 Silverton Road NE, Building 1
Salem, OR 97305

Consultant shall not indicate or invoice for any past due amounts in the current invoice. All such notifications of a past due amount must be handled by a separate Statement of Account.

Owner shall have the right to reject any invoice which does not have the proper information as required by this section without incurring penalty liabilities for late payment.

B.1.05 Owner and Consultant agree in accordance with the terms and conditions of this Contract that:

a. If the scope of the Project or the Services are changed materially, Consultant shall request in writing an amendment to the Contract before additional Services are provided and before compensation is adjusted. All legally required approvals must be obtained for any Contract amendment before the amendment is effective and before Services may be performed or payment made under the amendment.

b. Consultant's fee for preparing routine change orders adding or deleting Services from the Project shall be included in the maximum not-to-exceed amount for Basic Services stated in Section B.1.03.

c. Upon Owner's request and without additional compensation, Consultant shall make such revisions to completed Contract Documents as are necessary to correct errors or omissions appearing therein, in accordance with the standard of care described in Section 2.1.1 of Consultant's Responsibilities; Representations and Warranties.

B.2 REIMBURSABLE EXPENSES

B.2.01 Reimbursable Expenses are in addition to compensation for Services and shall not exceed the maximum amount stated in Section B.1.05 without prior authorization by Owner. This amount is separated into two categories, Travel Expenses and General Reimbursable Expenses, as outlined below. Reimbursable Expenses include actual, allowable and reasonable expenditures made by Consultant and Consultant's employees in performing the Services required in Exhibit A. Reimbursable Expenses must be evidenced by copies of actual third-party invoices or receipts delivered to Owner to qualify for reimbursement and are limited to the types of actual expenses listed below.

a. General Reimbursable Expenses consist of:

i. Long distance communications.

ii. Reproductions, postage and handling of drawings and specifications and other documents, excluding reproductions of drawings, specifications and other documents used by Consultant and Consultant's subconsultants.

iii. Data processing and photographic production techniques when used in connection with Supplemental Services.

iv. Third-party models and mockups requested by Owner.

v. The printing of master or reproducible sets of plans and project manuals including specifications.

vi. Plan check fees.

b. Travel Expenses:

All travel shall be allowed only when the travel is essential to the normal discharge of Consultant's responsibilities under the Contract. All travel shall be conducted in the most efficient and cost-effective manner resulting in the best value to the Owner. The travel must comply with all the requirements set forth in this section and must be for official Marion County business only. Personal expenses shall not be authorized at any time. All expenses are included in the total maximum Contract amount stated in Section B.1.01.

Current approved rates are as follows:

i. Mileage. Mileage for travel in a private automobile, while Consultant is acting within the course and scope of his/her duties under this Contract and driving over the most direct and usually traveled route, will be reimbursed at a rate of 65.5 cents per mile. To qualify for mileage reimbursement, Consultant must hold a valid, current driver's license for the class of vehicle to be driven and carry personal automobile liability insurance in amounts not less than those required by (i) the Oregon Financial Responsibility Law (ORS 806.060) or (ii) the jurisdiction in which the vehicle is

being operated, whichever is greater. No mileage reimbursement will be paid for the use of motorcycles or mopeds.

ii. Meals. Receipts are required for reimbursement.

Owner will not pay any mark up over actual allowable reimbursement costs. Any costs associated with recordkeeping or labor to create reproductions of receipts is considered indirect overhead and therefore part of Consultant's Professional Hourly Rates.

MARION COUNTY
STANDARD PROFESSIONAL SERVICES CONTRACT

EXHIBIT E - CRITICAL DATE SCHEDULE
Schedule of Deliverables

PHASE 1 – GENERAL ENGINEERING SERVICES	
100 – PROJECT MANAGEMENT	
Task 100.1 – Monthly Invoices and Progress Reports	Monthly
Task 100.1 – Meeting agendas and minutes	Weekly
Task 100.2 – Final Presentation Materials	8 weeks after NTP
101 – STRATEGIC PERMITTING PLAN	
Task 101.1 – Project Management and Administration	
Task 101.2 – Data Review, Preliminary Agency Coordination, and Data Gaps Identification	
Task 101.3 – Draft Strategic Planning Plan	11 weeks after Amend No. 2 NTP
Task 101.3 – Final Strategic Planning Plan	13 weeks after Amend No. 2 NTP
Task 101.4.1 – Mill City and Gates MWTF - Environmental Assessment and HUD Environmental Record Review	180 days after Amend No. 8 NTP
Task 101.4.2 - Mill City and Gates MWTF - Endangered Species Act Consultation and Biological Evaluation	180 days after Amend No. 8 NTP
Task 101.4.3 - Force Main and Gates Collection System - Environmental Assessment and HUD Environmental Record Review	270 ~~240~~ days after Amend No. 11 ~~8~~ NTP
Task 101.4.4 - Force Main and Gates Collection System - Endangered Species Act Consultation and Biological Evaluation	270 ~~240~~ days after Amend No. 11 ~~8~~ NTP
Task 101.5 – Environmental Project Coordination and Oversight	9 months after Amend No. 11 ~~8~~ NTP
Task 101.6 – Archaeological Monitoring	18 months after Amend No. 9 NTP
102 – SUBSURFACE EXPLORATION	
Task 102.1 – Project Management and Administration	
Task 102.2.1 – Draft Subsurface Investigation Work Plan	
Task 102.2.1 – Final Subsurface Investigation Work Plan	
Task 102.2.1 – Infiltration Testing and Test Pit Excavation Memorandum	
Task 102.2.1 – Draft Subsurface Investigation Memorandum	
Task 102.2.1 – Final Subsurface Investigation Memorandum	
Task 102.2.1 – Groundwater Level Monitoring Memorandum	

Task 102.2.2 – Draft Subsurface Investigation Work Plan	
Task 102.2.2 – Final Subsurface Investigation Work Plan	
Task 102.2.2 – Infiltration Testing and Test Pit Excavation Memorandum	
Task 102.2.2 – Draft Subsurface Investigation Memorandum	
Task 102.2.2 – Final Subsurface Investigation Memorandum	
Task 102.2.2 – Groundwater Level Monitoring Memorandum	
Task 102.2.3 – Detroit / Idanha Well Decommissioning	90 days after Amend No. 8 NTP
Task 102.2.4 – Detroit / Idanha Well Decommissioning Fees and Direct Expenses	90 days after Amend No. 8 NTP
Task 102.2.5 – Mill City Site GM1 Well Decommissioning	90 days after Amend No. 9 NTP
Task 102.2.6 - Mill City Site GM1 Well Decommissioning Fees and Direct Expenses	90 days after Amend No. 9 NTP
Task 102.3.1 – Draft WPCF Evaluation Memorandum	
Task 102.3.1 – Final WPCF Evaluation Memorandum (Owner Comments)	
Task 102.3.1 – Draft WPCF Evaluation Memorandum (DEQ Comments)	
~~**Task 102.3.2 – Draft WPCF Evaluation Memorandum**~~ [REMOVED]	
~~**Task 102.3.2 – Final WPCF Evaluation Memorandum (Owner Comments)**~~ [REMOVED]	
~~**Task 102.3.2 – Draft WPCF Evaluation Memorandum (DEQ Comments)**~~ [REMOVED]	
Task 102.4 – McCoy Site Permitting (USFS) and Private Property Owner Coordination (Upper Deck)	
Task 102.5 – Infiltration Basin Pilot Test	180 days after Amend. No. 6 NTP
Task 102.5.8 – Mill City and Gates MWTF – Monitoring Well Cosntruction ~~Tracer Study (Contingency)~~	6 ~~16~~ months after Amend No. 11 ~~8~~ NTP
Task 102.5.9 – Mill City and Gates MWTF - Monitoring Well Construction ~~Tracer Study~~ Fees and Direct Expenses	6 ~~16~~ months after Amend No. 11 ~~8~~ NTP
Task 102.5.10 – Groundwater Monitoring Plan	6 months after Amend No. 11 NTP
Task 102.6 – Response to DEQ Modeling Report Comments	180 days after Amend. No. 9 NTP
Task 102.7.1 – PFAS Sampling	90 days after Amend. No. 8 NTP
Task 102.7.2 – PFAS Sampling Fees and Direct Expenses	90 days after Amend. No. 8 NTP
Task 102.7.3 – Respond to City of Salem Comments	90 days after Amend. No. 8 NTP
Task 102.7.4 – Seep Sampling	90 days after Amend. No. 8 NTP
Task 102.7.5 – Seep Sampling Fees and Direct Expenses	90 days after Amend. No. 8 NTP

103 – LAND ACQUISITION AND RELOCATION SERVICES	
Task 103.1 – Project Management and Administration	
Task 103.2 – Mill City and Gates Land Acquisition and Relocation Services	2 years after Amend No. 11 NTP
Task 103.2.3 – Draft ROW Programming Estimate	
Task 103.2.4 – General Information Notice (GIN) Delivery	20 days after Amend No. 3 NTP
Task 103.2.5 – 15 Day Notice of Appraisal Inspection	8 weeks after Amend No. 3 NTP ROW Acquisition Phase
Task 103.2.5 – Appraisal Report, Specialty Report, 15 Day Notice of Appraisal Inspection to each property owner.	20 weeks after Amend No. 3 NTP ROW Acquisition Phase
Task 103.2.6 – Draft Offer Packets	
Task 103.2.6 – Final Offer Packets	
Task 103.2.6 – Final Report Packet	
Task 103.2.6 – Proposed Counteroffers, if applicable	
Task 103.2.6 – Recommendation for Condemnation, if applicable	
Task 103.2.6 – Report of Personal Interview	
Task 103.2.7 – Submit studies, Move Agreements, and Estimates	
Task 103.2.7 – Submit Relocation Claims	
Task 103.2.7 – Submit Relocation Closing Reports	
Task 103.2.9 – ROW Certification Form	12 weeks prior to Project Bid Date
Task 103.3 – REMOVED	
104 – FINANCIAL ADVISORY SERVICES	
Task 104.1 – Project Management and Administration	
Task 104.2 – Financial Advisory Services	
105 – PUBLIC OUTREACH	
Task 105.1 – Project Management and Administration	
Task 105.2 – Communications and Engagement Planning and Implementation	
Task 105.3 – Land Use Planning	180 days after Amend No. 8 NTP
106 – INDEPENDENT COST ESTIMATING	
Task 106.1 – Project Management and Administration	
Task 106.2 – Independent Cost Estimating	52 weeks after Amend No. 7 NTP
PHASE 2 – MILL CITY / GATES WASTEWATER SEWER SYSTEM	
200 – MILL CITY / GATES FACILITIES PLANNING STUDY	

Task 200.1 – Project Management	
Task 200.2 – Request(s) for Information	
Task 200.3 – Draft Project Planning Facility Plan Section	
Task 200.4 – Draft Existing Facilities Evaluation Facility Plan Section	
Task 200.5 – Draft Project Need Facilities Plan Section	
Task 200.6 – Draft Collection System Alternatives Facility Plan Section	
Task 200.7 – Draft Treatment System Alternatives Facility Plan Section	
Task 200.8 – Capital Improvement Plan	
Task 200.8 – SDC Eligibility Estimate	
Task 200.8 – Draft Proposed Project Facility Plan Section	
Task 200.9 – Public Meeting Presentation Materials	
Task 200.9 – Final Facilities Plan	
Task 200.10 – Management Reserve	
201 – MILL CITY / GATES FACILITIES SITE EVALUATION	
Task 201.1 – Project Management	
Task 201.2 – Force Main Alignment Topographic Survey	120 days after Amend No. 11 ~~8~~ NTP
Task 201.3 – Force Main Alignment Geotechnical Investigation	120 days after Amend No. 11 ~~8~~ NTP
Task 201.4 – Mill City and Gates MWTF Environmental Due Diligence	
Task 201.4.1 - Project Management	365 days after Amend No. 9 NTP
Task 201.4.2 – Wetlands and Waters Delineation	365 days after Amend No. 9 NTP
Task 201.4.3 – Cultural Resources Investigation	365 days after Amend No. 9 NTP
Task 201.4.4 – Phase I Environmental Site Assessments	180 days after Amend No. 9 NTP
Task 201.5 – Mill City and Gates MWTF Topographic Survey	12 weeks after Amend No. 9 NTP
Task 201.6 – Mill City and Gates MWTF Geotechnical Investigation	12 weeks after Amend No. 6 NTP
Task 201.7 – Gates Collection System Survey	
Task 201.7.1 – Gates Collection System Survey	120 days after Amend No. 11 ~~8~~ NTP
Task 201.7.2 – Gates Collection System Easements	240 days after Amend No. 11 ~~8~~ NTP
Task 201.7.3 – Private Utility Locating Services	120 days after Amend No. 11 NTP
Task 201.8 – Gates Collection System Geotechnical Investigation	180 ~~120~~ days after Amend No. 11 ~~7~~ NTP
Task 201.9 – Gates Collection System Environmental Due Diligence	
Task 201.9.1 – Project Management	

Task 201.9.2 – Environmental Due Diligence	1 year after Amend No. 11 NTP
~~**Task 201.9.2** – Wetland and Waters Delineation~~ [REMOVED]	~~90 days after Amend No. 7 NTP~~
~~**Task 201.9.3** – Cultural Resources Investigation~~ [REMOVED]	~~120 days after Amend No. 7 NTP~~
~~**Task 201.9.4** – Phase I Environmental Site Assessments~~ [REMOVED]	~~180 days after Amend No. 7 NTP~~
Task 201.10 – Force Main Alignment Environmental Due Diligence	2 years after Amend No. 9 NTP
Task 201.11 – Mill City Collection System Cleaning and Inspection	180 days after Amend No. 9 NTP
202 – MILL CITY AND GATES MWTF ENGINEERING	
Task 202.1 – Project Management	
Task 202.2 – Preliminary Engineering Report (PER)	240 days after Amend No. 7 NTP
Task 202.3 – Permitting Assistance	240 days after Amend No. 7 NTP
Task 202.4 – GMP Documents (30% Design)	240 days after Amend No. 7 NTP
Task 202.5 – Final Design	90 ~~180~~ days after Amend No. 11 ~~8~~ NTP
Task 202.6 – Services During Bidding	240 days after Amend No. 8 NTP
Task 202.7 – Construction Services	2 years after Amend No. 9 NTP
Task 202.8 – Site Visit Fees and Direct Expenses	2 years after Amend No. 9 NTP
Task 202.9 – Resident Project Representative	2 years after Amend No. 9 NTP
Task 202.10 – Special Inspections	2 years after Amend No. 9 NTP
Task 202.11 – Geotechnical Construction Observation Services	2 years after Amend No. 9 NTP
Task 202.12 – Post-Construction Phase	3 years after Amend No. 9 NTP
Task 202.13 - Mill City and Gates MWTF SCADA and Integration	2 years after Amend No. 9 NTP
Task 202.14 - Mill City and Gates MWTF Power System Studies	2 years after Amend No. 9 NTP
203 – GATES COLLECTION SYSTEM/FORCE MAIN PRELIMINARY ENGINEERING	
Task 203.1 – Project Management	
Task 203.2 – Preliminary Engineering Report (PER)	240 days after Amend No. 7 NTP
Task 203.3 – Preliminary Design ~~GMP Documents~~ (30% Design)	240 days after Amend No. 7 NTP
Task 203.4 – Final Design	
Task 203.4.1 – Final Design (60% Design)	2 months after Amend No. 11 NTP
Task 203.4.2 – Final Design (90% Design)	6 months after Amend No, 11 NTP
Task 203.4.3 – Final Design (100% Design)	10 months after Amend No. 11 NTP
Task 203.5 – Services During Bidding	1.5 years after Amend No. 11 NTP
PHASE 4 – DETROIT INTERIM COMMERCIAL SEPTIC SYSTEMS	
400 – COMMERCIAL SEPTIC SYSTEM PLANNING	
Task 400.1 – Project Management	

Task 400.2 – Requests for Information	
Task 400.2 – Existing Septic and Drain Field Summary Tables and Figures	
Task 400.3 – Presentation Materials	
Task 400.4 – Removed	
Task 400.5 – Conceptual Septic System Design	52 weeks after Amend No. 8 **4** NTP
Task 400.6 – Basemap in AutoCAD 3D format.	24 weeks after Amend No. 4 NTP
Task 400.6 – Legal Descriptions and Visual Exhibit Maps	52 weeks after Amend No. 5 NTP
Task 400.7 – Detroit Environmental Due Diligence (Cultural Clearance)	26 weeks after Amend No. 5 NTP
Task 400.7 – Detroit Environmental Due Diligence (Phase I ESA)	26 weeks after Amend No. 5 NTP
Task 400.8 – Detroit Commercial Septic Excavation Contractor	52 weeks after Amend No. 8 NTP
Task 400.9 – Detroit Commercial Properties Survey	52 weeks after Amend No. 8 NTP
Task 400.10 – Detroit Commercial Septic Groundwater Study	60 days after Amend No. 8 NTP
Task 400.11 – ODOT Guardrail Replacement	60 days after Amend No. 11 NTP
Task 400.12 – Detroit Holding Tank Feasibility Study	4 months after Amend No. 11 NTP
Task 400.13 - ODOT ROW Narrative Appraisal Report	3 months after Amend No. 11 NTP
Task 400.14 – Construction Services	2 months after Amend No. 11 NTP
Task 400.15 – Site Visit Fees and Direct Expenses	2 months after Amend No. 11 NTP
Task 400.16 – Resident Project Representative	2 months after Amend No. 11 NTP
Task 400.17 – WPCF Permit Fees	2 months after Amend No. 11 NTP
401 – KANE'S MARINA SEPTIC SYSTEM	
Task 401.1 – Kickoff meeting agenda	2 weeks after Amend No. 2 NTP
Task 401.1 – Kickoff meeting minutes	1 week after Kickoff Meeting
Task 401.1 – Request for Information	
Task 401.1 – Presentation Materials	
Task 401.2 – Workshop Meeting Agenda	
Task 401.2 – Workshop Meeting Minutes	
Task 401.2 – Draft Preliminary Engineering Report	5 weeks after Amend No. 2 NTP
Task 401.2 – Final Preliminary Engineering Report	6 weeks after Amend No. 2 NTP
Subtask 401.2.2 – Topographic Basemap	180 days after Amend No. 6 NTP
Subtask 401.2.3 – Geotechnical Report	10 weeks after Amend No. 2 NTP
Task 401.3 – 90% Design Drawings and Specifications	15 weeks after Amend No. 2 NTP
Task 401.3 – Final (Stamped) Drawings and Specifications	17 weeks after Amend No. 2 NTP

Task 401.3 – Opinion of Probably Cost	17 weeks after Amend No. 2 NTP
Task 401.4 – Procurement Specifications	
Task 401.5 - Removed	
Task 401.6 – WPCF Permitting	
Task 401.7 - Removed	
Task 401.8 – WPCF Permit Fees	2 months after Amend No. 11 NTP

MARION COUNTY
STANDARD PROFESSIONAL SERVICES CONTRACT

EXHIBIT F - RATE SCHEDULE

Keller Associates	Hourly Rate*
Project Engineer I	$140 ~~$137~~
Project Engineer II	$190 ~~$180~~
Project Engineer III	$280 ~~$255~~
Project Manager I/II	$190 ~~$189~~
Project Manager III	$280 ~~$265~~
Structural Engineer I/II	$190 ~~$180~~
Structural Engineer III	$280 ~~$265~~
Chief Engineer / Chief Structural Engineer	$335 ~~$325~~
CAD I/II	$120 ~~$137~~
CAD III	$190 ~~$180~~
CAD Manager	$210 ~~$205~~
Electrical Controls I/II	$190 ~~$179~~
Electrical Controls III	$280 ~~$242~~
Principal	$345 ~~$335~~
Surveyor I/II	$160 ~~$158~~
Surveyor III	$200 ~~$195~~
Field Representative	$210 ~~$175~~
Operator	$210
Engineering Student	$90 ~~$85~~
Administration I	$95
Administration II	$135

**Rates reported are for 2026 ~~2025~~. Rates updated annually in January.*

***Reimbursable Expenses at Cost x 1.05*

SUBCONSULTANT RATE SCHEDULE

Hydrological	Hourly Rate*
Principal Technical Professional	$260 ~~$255~~
Supervising Technical Professional	$240 ~~$235~~
Managing Technical Professional	$195 ~~$190~~
Consulting Technical Professional	$170 ~~$165~~
Project Technical Professional	$165 ~~$160~~
Staff Technical Professional	$150 ~~$145~~
Intern	$120 ~~$115~~
GIS/Graphics/Database	$175 ~~$170~~
Editor/Documents	$155 ~~$150~~
Administration	$130 ~~$125~~

**Rates reported are for 2026 ~~2025~~. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Permitting	Hourly Rate*
Environmental Consulting Services Specialists: Cultural Resources, Environmental Resources, Paleontology, Scientific Resources, Planning Resources, Graphics/Media Production, GIS/CADD Resources, Technical Writing/Editing, Training/Facilitating, Air Quality	
Specialist I	$79 ~~$77~~
Specialist II	$94 ~~$91~~
Specialist III	$107 ~~$104~~
Specialist IV	$117 ~~$114~~
Specialist V	$127 ~~$123~~
Specialist VI	$141 ~~$137~~
Specialist VII	$151 ~~$147~~
Specialist VIII	$163 ~~$158~~
Specialist IX	$174 ~~$169~~
Specialist X	$195 ~~$189~~
Specialist XI	$213 ~~$207~~
Specialist XII	$233 ~~$226~~
Subject Matter Expert I	$237 ~~$230~~
Subject Matter Expert II	$249 ~~$242~~

Subject Matter Expert III	$276 ~~$268~~
Subject Matter Expert IV	$301 ~~$293~~

**Rates reported are for2026 ~~2025~~. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Land Acquisition and Relocation	Hourly Rate*
~~Principal/Senior Advisor/Program Manager~~	~~$331.66~~
~~Senior Project Manager~~	~~$298.00~~
Project Manager/Property Manager	$215.36 ~~$203.94~~
~~Senior Right of Way Agent~~	~~$167.89~~
Right of Way Agent	$161.54 ~~$124.63~~
~~Senior Project Control Specialist/Senior Right of Way Technician~~	~~$167.89~~
~~Project Control Specialist/Right of Way Technician~~	~~$124.63~~
Document Specialist	$112.00
QAQC	$128.00

**Rates reported are for 2026 ~~2025~~. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Financial Advisory	Hourly Rate*
Principal	$310
Project Manager	$250
Project Consultant	$205
Senior Analyst	$185
Analyst	$170
Public Relations	$170
Technical Writer/Graphic Artist	$145
Administrative Support	$110

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Surveying	Hourly Rate*
PLS Office Technician	$160
One-Man Field Crew	$170
Project Surveyor	$170

2 Man Field Crew	$190
Survey Technician	$150 ~~$140~~

**Rates reported are for 2026 ~~2025.~~ Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Geotechnical Services	Billed	Hourly Rate*
ENGINEERING CONSULTING		
Senior Principal	Hourly	$300 ~~$290~~
Principal	Hourly	$280 ~~$270~~
Principal Engineering Geologist	Hourly	$266 ~~$257~~
Senior Associate	Hourly	$255 ~~$248~~
Associate	Hourly	$250 ~~$242~~
Senior Project Manager II	Hourly	$245 ~~$236~~
Senior Project Manager I	Hourly	$236 ~~$228~~
Project Manager II	Hourly	$230 ~~$220~~
Project Manager I	Hourly	$210 ~~$202~~
Engineering/Geological Staff III	Hourly	$180 ~~$173~~
Engineering/Geological Staff II	Hourly	$162 ~~$157~~
Engineering/Geological Staff I	Hourly	$147 ~~$142~~
Senior Technician	Hourly	$143 ~~$139~~
Field Technician II	Hourly	$133 ~~$128~~
Field Technician I	Hourly	$108 ~~$105~~
Technical Editor	Hourly	$145 ~~$140~~
Senior Administrative Assistant	Hourly	$118 ~~$115~~
Administrative Assistant	Hourly	$107 ~~$104~~
Office Support	Hourly	$102 ~~$98~~
EQUIPMENT/OTHER SERVICES		
Falling Weight Deflectometer	Daily	$2,850 ~~$2,750~~
Ground Penetrating Radar, Vehicle Mounted	Daily	$1,960 ~~$1,900~~
Refraction Microtremor (ReMi)	Daily	$1,030 ~~$1,000~~
Global Positioning System (Differential)	Daily	$135 ~~$130~~
Piezometer (infiltration field testing)	Daily	$98 ~~$95~~
Water Level Meter	Daily	$40 ~~$38~~

Piezometer (installation)	Quote	Quote
Dynamic Cone Penetrometer	Daily	$145 ~~$140~~
Hand Auger	Daily	$42 ~~$40~~
Drone Flight Services	Hourly	$260 ~~$250~~
Drone Hardware & Flight Fee	Daily	$185 ~~$180~~
Nuclear Densometer	Daily	$94 ~~$90~~
Bladder Pump	Daily	$242 ~~$235~~
Whale Pump	Daily	$52 ~~$50~~
Submersible Pump	Daily	$26 ~~$25~~
Fixed Gas Meter	Daily	$245 ~~$238~~
Mini Air Pump	Daily	$60 ~~$58~~
Peristaltic Pump	Daily	$76 ~~$75~~
Photoionization Detector	Daily	$130 ~~$125~~
Rotary Hammer	Daily	$100 ~~$96~~
Sampling/Decon Kit	Daily	$64 ~~$62~~
Swing Sampler	Daily	$26 ~~$25~~
Vapor Intrusion Sampling Kit	Daily	$68 ~~$65~~
pH Meter	Daily	$46 ~~$44~~
Turbidity Meter	Daily	$60 ~~$58~~
4-Gas Meter	Daily	$86 ~~$83~~
Interface Probe	Daily	$85 ~~$83~~
YSI/Aquaread Multiparameter	Daily	$155 ~~$150~~
Helium Detector	Daily	$290 ~~$280~~
Slide Hammer/Sampler	Daily	$26 ~~$25~~
CONSUMABLE FIELD SUPPLIES		
Bladders	Each	$26 ~~$25~~
Disposable Bailers	Each	$22 ~~$20~~
Vapor Pin	Each	$145 ~~$140~~
Waste Disposal Drum	Each	$109 ~~$105~~
Water Sample Field Filter	Each	$26 ~~$25~~
Well Caps	Each	$20
Well Lock	Each	$15
LABORATORY		

Lab: #200 Wash	Each	$150 ~~$145~~
Lab: Atterberg Limits	Each	$270 ~~$260~~
Lab: In-Situ Dry Density and Moisture Content	Each	$57 ~~$55~~
Lab: Moisture Content	Each	$47 ~~$45~~
Lab: Proctor Moisture-Density	Each	$405 ~~$390~~
Lab: Sample Preparation/Management Time	Each	$132 ~~$128~~
Lab: Sieve Analysis 1 ½-inch Max	Each	$340 ~~$330~~
Lab: Consolidation (Two Rebounds)	Each	$815 ~~$785~~
Lab: Specific Gravity of Coarse Aggregate	Each	$80 ~~$75~~
Lab: Soil-Cement Unconfined Compressive	Each	$130 ~~$125~~
Lab: ASTM International (ASTM) Proctor (Laboratory Compaction) Density Test and Fines Content Analysis	Each	$700
Specialty Software	Each	$260 ~~$250.00~~
Vehicle Usage, per mile	Mile	Current federal rate
Part-Time Construction Observation: Two (2)-Hour Site Visit	Each	$870 ~~$850~~
Full-Time Construction Observation: Eight (8)-Hour Site Visit	Each	$2,005 ~~$1,950~~
Full-Time Observation and Infiltration Test	Each	$1,905 ~~$1,850~~

**Rates reported are for 2026 ~~2025~~. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Septic	Hourly Rate*
Septic Consultant	$180
Septic Consultant Travel Time	$100

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Septic Excavation Contractor (Prevailing Wage Rates)	Hourly Rate*
Power Equipment Operator with Excavator	$225.00
Laborer for Excavator	$175.00
Locate, Camera Equipment	$350.00
Mobilization	$800.00 per trip
Laborer (Office Time)	$175.00

**Rates reported are for 2025. Rates updated annually in July.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Public Outreach	Hourly Rate*
Principal-in-Charge	$230
Project Director	$185
Project Manager	$240
Project Associate	$125
Senior Designer	$210
Designer	$120

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Independent Cost Estimator	Hourly Rate*
Consultant	$205
Electrical Consultant	$205
Off-site Pipeline Consultant	$205

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Vacuum Truck Services (BOLI Rates)	Hourly Rate*
1- to 2-Man Crew	$300
3-Man Crew	$325
1- to 2-Man Crew (Over Time)	$340
3-Man Crew (Over Time)	$365
Travel Time	$175
Clerical Surcharge	$50 per Invoice
Fuel Surcharge	$13

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

CCTV Services (Prevailing Wage Rates)	Hourly Rate*
CCTV Inspection Rate	$1.55 per linear foot or $270 per Hour
Travel Time	$150
Clerical Surcharge	$50 per Invoice

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

Carlson Testing, Inc.	Hourly Rate*
Field Services: Concrete/Rebar Inspector	$82
Field Services: Curing Inspector	$82
Field Services: Anchors Inspector	$82
Field Services: Structural/Welding Inspector	$95
Field Services: Masonry Inspector	$95
Field Services: Compaction Inspector	$80
Laboratory Services: Concrete Test Cylinders	$31/Each
Laboratory Services: Moisture Density Curve	$283/Each
Laboratory Services: Moisture Density Curve with Rock	$325/Each
Miscellaneous: CMT Project Management Services	$115
Miscellaneous: Administration Fees	$60/Month
Miscellaneous: Cylinder Pick-Ups (within 20 miles)	$63/Each
Miscellaneous: Cylinder Pick-Ups (21+ Miles)	$100/Hour + Mileage
Miscellaneous: Cylinder Cure Box/Cooler	$26
Miscellaneous: Material Sampling	$80
Miscellaneous: Final Summary Letter	$275
Miscellaneous: Transportation (Round Trip from Salem)	Federal Mileage Rate
Overtime: Time in Excess of 8 Hours per Day on Project Site, or before 7:00 AM and After 4:00 PM, and Saturdays, Sundays, and Holidays	1.5 x Hourly Rate

**Rates reported are for 2025. Rates updated annually in January.*
***Subconsultant Reimbursable Expenses and Direct Labor at Cost x 1.10*

MARION COUNTY
STANDARD PROFESSIONAL SERVICES CONTRACT

EXHIBIT G - ASSUMPTIONS AND EXCLUSIONS

- Consultant shall be entitled to rely on the accuracy and completeness of the information provided by Owner, Owner's consultants and Contractors, information from public records, and information ordinarily or customarily furnished by others, including, but not limited to specialty Contractors, manufacturers, suppliers, and publishers of technical standards. This assumption applies to this task and subsequent tasks.

- Planning criteria will not be changed once established. Changing planning criteria may result in rework which can be completed as an additional service.

- Consultant's opinions of probable cost represent Consultant's judgment as an experienced and qualified design professional. Since Consultant has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Owner's and other 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 cost prepared by the Consultant.

SIGNATURE PAGE FOR
ARPA – NORTH SANTIAM CANYON SEWER PROJECT – PW-5069-22
Between
MARION COUNTY and KELLER ASSOCIATES, INC.

Except as expressly amended above, all other terms and conditions of the original contract are still in full force and effect. Contractor certifies that the representations, warranties and certifications contained in the original Contract are true and correct as of the effective date of this Amendment and with the same effect as though made at the time of this Amendment.

MARION COUNTY SIGNATURES
BOARD OF COMMISSIONERS:

_____

Chair Date

_____

Commissioner Date

_____

Commissioner Date

Authorized Signature: Brian Nicholas Brian Nicholas (Oct 21, 2026 15:09:39 PDT) 10/21/2026

Department Director or designee Date

Authorized Signature: Jan Fritz Jan Fritz (Oct 22, 2026 15:09:20 PDT) 10/22/2026

Chief Administrative Officer Date

Reviewed by Signature: 10/22/2026

Marion County Legal Counsel Date

Reviewed by Signature: 10/21/2026

Marion County Contracts & Procurement Date

KELLER ASSOCIATES SIGNATURE

Authorized Signature: _____

Date

Title: _____