



Gregory L. Geist  
Director

Board of County Commissioners  
Clackamas County

Members of the Board:

Approval of an Amendment #3 to Contract #1652 with Murraysmith, Inc. for the  
Pump Station Rehabilitation and Upgrades Project

<b>Purpose/Outcomes</b>	Execution of the Amendment #3 for Contract #1652 between Water Environment Services and Murraysmith, Inc. to continue with the Pump Station Rehabilitation and Upgrades.
<b>Dollar Amount and Fiscal Impact</b>	The original contract was for \$238,771.00 for a conceptual design of upgrades to several pump stations. Amendment #1 authorized a time extension, Amendment #2 authorized an additional \$19,992 to add two (2) additional pump stations to the conceptual designs portion of the project. Amendment #3 moves forward with Phase 2 (detailed design and bidding of three projects) of the RFP 2019-55 for an additional \$1,349,710 and time to complete Phase 2. Total Contract value now at \$1,608,473.
<b>Funding Source</b>	WES Funds: 639-01-20100-481010-P632265
<b>Duration</b>	Extend the Contract end date to December 31, 2023.
<b>Previous Board Action</b>	Original Contract approved November 14, 2019 Board # 111419 Vii 2.
<b>Strategic Plan Assignment</b>	This project supports the WES Strategic Plan goal to provide properly functioning infrastructure that supports healthy streams and reduces flooding.
<b>Procurement Review</b>	1. Was this item processed through Procurement? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no 2. If no, provide a brief explanation:
<b>County Review</b>	January 4, 2021, AK
<b>Contact Person</b>	Jessica Rinner, 503-742-4551

**BACKGROUND:**

Clackamas Water Environment Services (“WES”), referred to as “District”, entered into a contract with MurraySmith, Inc. for consulting services on the Pump Station Rehabilitation and Upgrades project on November 14, 2019. The Project includes seven (7) sanitary sewer pump stations that will be upgraded: Sieben Lane, Gladstone, Clackamas, Willamette, Timberline Rim, Golf Club Terrace, and South Welches. The Project is structured in three phases. The first phase has been completed and involved evaluating the existing conditions at each pump station and documenting the recommended upgrades. The second phase is the design, permitting, and bidding services to complete the upgrades recommended in Phase 1. A third phase, if desired, will be engineering services during construction.

The pump stations were all constructed between 1970 and 1995. Although there have been some upgrades made at each station since they were originally constructed, maintenance staff have had increasing difficulty operating and maintaining these stations in the recent years due to more frequent equipment failure and difficulty repairing obsolete equipment.

**PROCUREMENT PROCESS:**

This Amendment is in accordance with LCRB C-047-0800(a) (A), Anticipated Amendments. The original RFP 2019-55 Scope of Work anticipated a total of 3 Phases.

**RECOMMENDATION:**

Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve and execute the Amendment #3 between Water Environment Services and Murraysmith, Inc. for the Pump Station Rehabilitation and Upgrades project.

Respectfully submitted,

Signature:   
Greg Geist (Jan 27, 2021 09:14 PST)  
Email: [ggeist@clackamas.us](mailto:ggeist@clackamas.us)

Greg Geist, Director  
Water Environment Services

Placed on the \_\_\_\_\_ Agenda by the Procurement

**AMENDMENT #3**  
**TO THE CONTRACT DOCUMENTS WITH MURRAYSMITH, INC. FOR 2019-55 PUMP STATION**  
**REHABILITATION AND UPGRADES**  
**Contract #1652**

This Amendment #3 is entered into between Murraysmith, Inc. (“Contractor”) and Water Environment Services (“District”) and shall become part of the Contract documents entered into between both parties on November 14, 2019 (“Contract”).

The Purpose of this Amendment #3 is to make the following changes to the Contract:

1. ARTICLE 1, Section 1, **Effective Date and Duration** is hereby amended as follows:  
 The Contract expiration date is hereby changed from December 1, 2020 to **December 31, 2023**.
  
2. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:  
 Upon completion of the schematic design for eight pump stations, District is moving forward with Phase 2 per the RFP 2019-55 for Final Design, Permitting and Bid Period Support. The supplemental Scope of Work is attached as **Exhibit E** and hereby incorporated by reference. Attachments to Exhibit E include the Drawing list, Technical Specification and Project Schedule.
  
3. ARTICLE 1, Section 3. **Consideration** is hereby amended as follows:  
 The additional compensation to add Phase 2 is **\$1,349,710.00**. The additional fee schedule is included at the end of Exhibit E. The total Contract Consideration shall not exceed \$1,608,473.00.

ORIGINAL CONTRACT	\$ 238,771.00
AMENDMENT #1	Allow Travel and other Expense
AMENDMENT #2	\$ 19,992.00 + Time Extension
<u>AMENDMENT #3</u>	<u>\$ 1,349,710.00 + Time Extension</u>
<b>TOTAL AMENDED CONTRACT</b>	<b>\$ 1,608,473.00</b>

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #3, effective upon the date of the last signature below.

**Murraysmith, Inc.**

**Water Environment Services**

Adam Crafts 2020.12.24  
 08:52:34-08'00'

\_\_\_\_\_  
 Authorized Signature                      Date

\_\_\_\_\_  
 Chair

\_\_\_\_\_  
 Adam Crafts, Principal Engineer  
 Printed Name

\_\_\_\_\_  
 Recording Secretary

\_\_\_\_\_  
 Date

**Approved as to form**

  
 \_\_\_\_\_  
 County Counsel

1/4/2020  
 \_\_\_\_\_  
 Date

# EXHIBIT E

## SCOPE OF WORK PUMP STATION REHABILITATION AND UPGRADES

### FINAL DESIGN, PERMITTING, AND BIDDING SERVICES PHASE CLACKAMAS WATER ENVIRONMENT SERVICES

#### Introduction

Clackamas Water Environmental Services (WES) recently completed schematic design for eight pump stations (PS) to outline proposed improvements to increase reliability and improve safety and operational efficiency. A professional services contract was executed to complete condition assessments for the pump stations, develop project parameters, and identify improvements for the projects. WES selected seven of the pump stations to move forward with the recommended improvements.

This amendment provides services to perform final design of the improvements, prepare construction contract documents, obtain permits and approvals, and support WES staff during the bidding phases for the projects. Task numbering is a continuation from the original contract's scope of work.

#### General Assumptions

- Design of improvements for seven pump stations will be completed and grouped into three bid sets as follows:
  - Bid Set No. 1: Clackamas and Timberline Rim Pump Stations
  - Bid Set No. 2: Gladstone and Sieben Lane Pump Stations
  - Bid Set No. 3: South Welches, Golf Club Terrace, and 82nd Drive Pump Stations
- Each bid set will be publicly bid once.
- Stormwater system inspection and construction certification is not in this contract.
- Vegetated buffer enhancements, invasive species removal and replanting plans are assumed to be performed by WES staff and are therefore not included in this contract.
- Improvements to building structure to meet current building code, where not required due to modifications, are not included.

- Consultant shall submit minutes from each workshop not later than 5 working days following each respective workshop. Written responses to the comments will be provided by the Consultant. WES staff will provide written review comments within two weeks.
- District will furnish required information, examine deliverables submitted by Consultant, and render decisions and approvals in a timely manner.
- Consultant shall use 49 Division format master specifications. Consultant shall provide Division 1 and technical specifications for project use and District review and comment.
- Where deliverable documents are identified, hereinafter, deliverable will be provided in electronic .PDF and original .DOC format.
- Drawings (11-inch by 17-inch) in .PDF format will be provided for each District internal review.
- The Consultant's standard CAD software shall be used to produce the drawings following its own drafting standards.
- Project coordination and design review meetings will be via ZOOM or equivalent unless otherwise noted and attended by Murraysmith's Project Manager and Project Engineer. Multi-disciplinary subconsultants will be included as needed or requested by the District.

## District Provided Services

District will provide:

- Site access coordination, as requested.
- Private utility location, topographic and tree surveys, and environmental delineation boundaries.
- Legal descriptions for easements or right-of-way acquisitions associated with the project. Project-specific Division 0 specifications that include Instructions to Bidders, Bid Documents, Contract forms, General and Supplementary Conditions.
- Bid advertisement; Plan holders list; communication with not, and plan holders; addenda; and receiving, opening and reviewing bids.

## Task 1 - Project Management (Existing Task Supplement)

### *Objective*

Provide leadership and team strategic guidance aligned with District staff objectives. Coordinate, monitor, and control the project resources to meet the technical, communication, and contractual obligations required for developing and implementing the project scope.

Consultant shall:

- Manage design team to project schedule and budget.
- Coordinate with District for design input or decisions in between design submittals.
- Document key decisions in decision log.
- Prepare invoices and progress reports.

### *Deliverables*

- Decision Log.
- Monthly invoices with progress report, task-level budget report.
- Monthly schedule update.

## **Task 6 – Quality Management (Existing Task Supplement)**

### *Objective*

Perform quality assurance tasks to monitor the quality of the Project using internal quality assurance/quality control (QA/QC) reviews as described herein. Reviews shall be performed by staff independent of the design team.

Consultant shall:

- Prepare Quality Management Plan (QMP) to outline anticipated review activities at project milestones.
- Review process and cost calculations.
- Perform QC review of deliverables prior to submitting to WES.
- Verify conformance with the approved QMP.

### *Deliverables*

- Quality Management Plan to include:
  - Identification of a single point of contact responsible for quality management.
  - Proposed design review procedures at project milestones
  - Review confirmation forms from independent quality review
- Quality review forms used during internal quality reviews

## **Task 7 – Prepare 60% Design Development Documents**

### *Objective*

The purpose of this task is to advance the Schematic Design (Tasks 2, 3, 4, and 5). The 60% documents shall include Divisions 0 and 1, equipment, materials, and common details,

standardized across bid packages, specifications for major equipment, and depict the final location and size of major components and systems. The design submittals will be grouped in bid sets outlined in the General Assumptions listed above.

Consultant shall:

### *General Activities for All Facilities*

- Prepare and facilitate design kick off meeting to identify common standards for equipment, materials, and details.
- Finalize equipment selection and collect equipment data sheets.
- Finalize electrical service load calculations and coordinate service upgrade requirements with power utility.
- Develop control narratives for each pump station.
- Design and layout MCC, control panels, generators, ATS, and other electrical equipment and level control systems.
- Develop demolition plans and details for existing facilities.
- Develop plans to maintain service during construction.
- Design and layout mechanical piping and HVAC improvements.
- Outline site impact area and note restoration requirements.
- Develop common details for each required discipline.
- Develop recommendations for construction sequencing and duration estimate for each bid package.
- Facilitate one interim design meeting with WES staff to review design development prior deliverable submittal.
- Review and coordinate Division 0 specifications provided by WES for specific project.
- Prepare 60% Design level drawings for each bid set as noted in the Drawing List included in Attachment A.
- Develop Division 01 Technical Specifications for each bid set as noted in the Technical Specifications List included in Attachment B.
- Develop technical specifications for major equipment for each bid set as noted in the Technical Specifications List included in Attachment B.

- Prepare 60% design construction cost estimate for each bid set (3 total).
- Conduct two-hour 60% design review meeting for each bid set (3 total).

#### *Specific Activities for Clackamas Pump Station*

- Design replacement lids with new access hatches for the wet well and pneumatic valve vault.
- Develop details to retrofit gutters and downspouts.
- Design split heating and air conditioning system for building.
- Design exterior lighting for pump station building.
- Specify coating repair for piping in valve vault.

#### *Specific Activities for Timberline Rim Pump Station*

- Develop sizing and layout for fans and ducting to declassify space in accordance with NFPA 820.
- Design new control panel and level control system to fit into available space in electrical room. Integrate controls into the existing MCC.
- Provide details to relocate pump disconnect panel to meet NEC clearance requirements.

#### *Specific Activities for Gladstone Pump Station*

- Finalize location and configuration for bypass tee connection. Finalize geohazard potential study.
- Develop layouts for process piping to accommodate new pumps and valves, realign piping to exit the north wall.
- Prepare plan and elevation for bypass vault.
- Develop new force main alignment to connection point approximately 150 feet northwest of pump station.
- Coordinate three-phase service upgrade with power utility.
- Size and specify new dri-pit submersible sump pumps and base foundation.
- Design new pump disconnect panel with removable plugs.

- Develop sizing and installation details for generator and ATS replacement in existing locations.
- Develop sizing and layout for fans and ducting to declassify space in accordance with NFPA 820.
- Design replacement lighting plan for new LED building fixtures and include lateral bracing for seismic mitigation.
- Design new wet well access maintenance platform.
- Specify wet well rehabilitation and epoxy liner material and thickness.
- Design gantry beam for pump removal from base elbow within the pump room.
- Prepare details for replacement of potable water RPBA.
- Design new influent manhole access lid with access hatch, safety grate, and hand railing.
- Prepare standalone coating specification in Oregon DOT format to recoat the exposed Gladstone force main for WES future reference.

#### *Specific Activities for Sieben Lane Pump Station*

- Size and specify new submersible pumps.
- Design new process piping and valves to fit within the existing vault.
- Size and locate new generator and ATS.
- Design new top slab with vault hatches and safety grating for existing wet well.
- Design new retrofit valve vault hatches in existing top slab.
- Provide details for abandonment of existing air injection system.
- Design new pump disconnect panel with removable plugs.
- Develop sizing and layout for new control room ventilation fan and louver.

#### *Specific Activities for South Welches Pump Station*

- Size and specify new submersible pumps.
- Design process piping and new valve vault with bypass connection.
- Design new top slab with vault hatches and safety grating for existing wet well.

- Design new pump disconnect panel with removable plugs.
- Confirm if MCC and Control panel will meet NEC clearance requirements within the existing building.
- Size and locate new diesel generator and ATS on the site.
- Design new metal roof for existing building, including new roof framing, connections, and sheathing.
- Design access road plan and profile generally following the existing alignment.
- Perform a total of four shallow encased falling head infiltration tests, with three locations along the existing golf cart path and at one location at the existing pump station. Adhere to District requirements and provide memo summarizing testing procedure and results.
- Design infiltration swales to manage stormwater for pump station site and access road meeting Clackamas County stormwater standards. Prepare draft stormwater report.
- Coordinate landscaping restoration preferences with Mt. Hood Resort staff and develop landscape planting plans.

#### *Specific activities for Golf Club Terrace Pump Station*

- Size and specify submersible pumps.
- Finalize electrical service load calculations and coordinate conversion of power service to underground configuration.
- Design process piping and new valve vault with bypass connection.
- Design new top slab with vault hatches and safety grating for existing wet well.
- Design new pump disconnect panel with removable plugs.
- Layout MCC and control panel to meet NEC clearance requirements within the existing building.
- Size and locate new diesel generator and ATS on the site.
- Design new flat roof for existing building, including new roof framing, connections, and sheathing.

#### *Specific activities for 82<sup>nd</sup> Drive Pump Station*

- Size and specify submersible pumps.

- Design process piping and new valve vault with bypass connection.
- Design new top slab with vault hatches and safety grating for existing wet well.
- Design new pump disconnect panel and MCC.
- Specify new exterior lighting system with manual control.

### *Deliverables*

- 60% Design Development Drawings for each bid set, see attached Drawing List in Attachment A.
- Division 01 Technical Specification as specified for each bid set (3 total). See attached Specification List in Attachment B.
- Equipment Data Sheets and Technical Specifications for major equipment for each bid set (3 total). See attached Specification List in Attachment B.
- 60% Construction Cost Estimate and bid item list for each bid set (3 total).
- 60% Construction Sequence Narrative and Duration Estimate for each bid set (3 total).
- Draft Stormwater Report for South Welches Pump Station.
- Meeting agenda and summary for design kick off and standards development meeting.
- Meeting agenda and summary for interim design coordination meeting.
- Meeting agenda and summary for 60% review workshops for each bid set (3 total).

### *Assumptions*

- Roof replacement at South Welches and Golf Club Terrace will follow the existing configuration. Changes to the configuration may warrant additional structural evaluation and design is loading increases over existing conditions.
- Major equipment is defined as pumps, generator, fans, and flow meters.

## **Task 8 –Prepare 90% Contract Documents**

### *Objective*

The purpose of this task is to develop 90% Contract Documents for each of the three bid sets.

Consultant shall:

- Review and address 60% design review comments from WES staff or other stakeholders.
- Prepare 90% Design level drawings for each bid set as noted in the Drawing List included in Attachment A.
- Prepare technical specifications to include Division 01 through Division 48 for general requirements, materials, submittals, equipment, installation, and warranty requirements. See attached Specification List in Attachment B.
- Prepare Class 1 Construction Cost Estimate for each bid set.
- Update construction sequence and duration estimates.
- Facilitate one interim design meeting with WES staff to review design development prior deliverable submittal.
- Conduct one two-hour meeting for each bid set to review the 90% design submittal with District staff (3 meetings total).

### *Deliverables (for each of three bid sets)*

- 90% Design Development Drawings, see attached Drawing List in Attachment A.
- 90% Construction Specifications
- 90% Construction Cost Estimate
- Meeting agenda and summaries for interim check-in design
- Meeting agenda and summaries for 90% review workshop (3 meetings)
- Documentation of resolution of District and other external stakeholder 60% review comments.

## **Task 9 – Prepare Bid Documents**

### *Objective*

Prepare final, sealed contract documents to be used for publicly bidding the three (3) separate projects. Consultant shall:

- Address District, County Development, ODOT comments and modify the contract documents to address comments.
- Prepare reproducible final documents and submit to WES.
- Prepare final stormwater report for South Welches Pump Station.

## *Deliverables*

- Final stamped construction documents in PDF format for each bid set (3 total).
- Final Stamped Stormwater Report for South Welches Pump Station.
- Design drawing files in AutoCAD and PDF formats.

## *Assumptions*

- Standard details bound as 8.5 IN x 11 IN sheets separately and will be provided in PDF format only.

## Task 10 – Permits and Approvals

### Objective

Assist WES in obtaining permits and land use approvals from the local review authorities needed to construct the projects. The anticipated approvals are listed in Table 1 below.

**Table 1**  
**Anticipated Permits and Land Use Approvals**

Pump Station / (Review Agency)	Land Use Approval	Environmental Permitting	Other Permits	Land Use Review Period
Gladstone / (City of Gladstone contracts land use review to Clackamas County)	Conditional use for improvements outside of building [1]	None	Building Permits [2] (S,E,M,P)	150 days
82 <sup>nd</sup> Drive / (ODOT)	Not Required	Not Required	ODOT ROW Permit	Unknown, assumed 60 days
Clackamas / (Clackamas County)	Conditional approved; exempt if building expansion is less than 10%	None	Trade Permits [2] (E,M)	None [3]
Sieben Lane, Timberline Rim, South Welches Golf Club Terrace / (Clackamas County)	Type III Conditional Use Review [4]	County River Service and Stream Conservation compliance for additional encroachment over existing conditions	Trade Permits [2] (S,E,M,P)  Erosion Control Permit [5]	180 days

*Notes:*

[1] The City of Gladstone contracts its land use review to Clackamas County.

[2] Building permits include structural review for equipment anchorage (S) and trade electrical (E), mechanical (M), and plumbing (P) permits from Clackamas County.

[3] Clackamas Pump Station may be exempt from land use review. It has conditional approval on file with Clackamas County and will not increase the building footprint.

[4] Clackamas County does not have conditional approval on file with Clackamas County. These pump stations are anticipated to require a Type III review with a Plans Examiner.

[5] Erosion control permit are expected at Sieben Lane, South Welches, and Golf Club Terrace. The permits will be obtained through the land use review process.

Consultant shall:

- Conduct Pre-application Conferences:
  - Prepare pre-app applications for the City of Gladstone (for the Gladstone Pump Station) and Clackamas County (for the Sieben Lane, Golf Club Terrace, and South Welches Pump Stations for Clackamas County).
  - Confirm exemption status from Section 704 River and Stream Conservation Area of the Clackamas County Zoning Development code for the Gladstone, South Welches, Timberline Rim, and Golf Club Terrace pump stations based on improvements not encroaching further into the riparian buffer area than existing structures.
  - Attend pre-app meetings with each agency.
- Land Use Applications
  - Prepare list of figures needed for each land use application.
  - Prepare land use applications and revise as needed.
  - Participate in Clackamas County public hearing process, as authorized.
- Erosion Control Permits
  - Development activity exceeding 800 square feet requires an Erosion Control Permit from the WES. Prepare application materials and submit application on behalf of WES.
- Building and Trade Permit Plan Review
  - Prepare stamped permit sets for each pump station as required for building or trade permit reviews.
  - Prepare final stamped structural calculations for each bid set (3 total).

### *Deliverables*

- Pre-application Conferences
  - Pre-application submittal packages for City of Gladstone and Clackamas County.
  - Guidance memorandum for preparation of land use submittal packet.
- Land Use Applications
  - List of figures needed for each pre-application conference
  - Application submittal package including application forms, narrative, and draft findings

- Clackamas County hearing packet, as needed
- Erosion Control Permits
  - Erosion Control Permit application submittal package for each bid set (3 total).
- Building and Trade Permits
  - Permit plan sets in pdf files for each bid set (3 total).
  - Stamped structural calculations in pdf for each bid set (3 total).

### *Assumptions*

- Two separate land use applications will be prepared as follows:
  - Gladstone Pump Station for the City of Gladstone.
  - Sieben Lane, Golf Club Terrace, and South Welches Pump Stations for Clackamas County.
- WES will sign necessary application forms and pay application fees.
- South Welches pump station and access road will be exempt from River and Stream Conservation Area compliance and will be allowed within the Salmon River vegetated buffer. A Natural Resource Assessment report, if requested by Clackamas County Planning, will be prepared by Clackamas WES.
- Wetland impacts are not anticipated. A wetland delineation of the pump station sites is not necessary.
- State or federal environmental permits are not anticipated nor included in the scope of work.
- A DEQ 1200C permit will not be required.
- 90% design drawings shall be submitted for building and trade permits

## **Task 11 - Bid Period Services**

### *Objective*

Provide support to WES staff during bid phase of for each of the three bid sets.

Consultant shall:

- Attend one pre-bid conference for each set (3 total).

- Review and respond to Bidder questions.
- Prepare technical material for addenda, as needed.
- Review bids as requested by the District..

### *Deliverables*

- Technical material for addenda, as needed.

### *Assumptions*

- Two addenda are budgeted for each bid set (6 total).

## **Anticipated Project Milestones**

- The anticipated project schedule and milestones are outlined in Attachment C.

## **Attachments**

- A: Drawing List
- B: Technical Specification List
- C: Anticipated Project Schedule



# ATTACHMENT A

## DRAWING LIST

### PUMP STATION REHAB AND UPGRADES CLACKAMAS WES

The following list of drawings are anticipated for the subject project. Three bid set will be prepared with pump stations grouped as shown. Drawing for each discipline will be organized by facility.

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\*Denotes drawings to be included with 60% PS&E

#### Bid Set 1: Clackamas and Timberline Rim Pump Station Improvements (66 drawings)

##### *General (11 drawings)*

- Cover\*
- General Notes and Legend
- Design Data Table and System Curves\*
- Schedule and Sheet Key Plan
- General Erosion Control Notes and Details
- General Civil Details (2 sheets)
- General Mechanical Details (2 sheets)
- Electrical Standard Details
- Instrument Standard Details

##### *Schedule A: Clackamas Pump Station Improvements (30 drawings)*

##### *Civil (5 drawings)*

- Site Preparations and Bypass Pumping Plan\*
- Electrical and Generator Room Demolition Plan\*
- Wet Well and Vault Hatch Replacement Plan\*
- Site Plan\*
- Civil Details

##### *Architectural (1 drawing)*

- Roof Plan with Gutter and Downspouts Details

### *HVAC (3 drawings)*

Electrical and Generator Room HVAC Plan and Schedules\*  
Bathroom HVAC Plan and Schedule\*  
HVAC Details

### *Structural (2 drawings)*

General Notes & Quality Assurance Plan\*  
Pump Gantry Plan and Details\*

### *Electrical (9 drawings)*

Electrical Legend and Abbreviations\*  
Electrical Site Plan\*  
One-Line Diagram\*  
Electrical Room Power Plan\*  
Electrical Building\*  
Electrical Grounding Plan\*  
Electrical Panel Schedules\*  
Electrical Circuit Schedule\*  
Motor Control Diagrams\*

### *Instrumentation & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*  
Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

## *Schedule B: Timberline Rim Pump Station Improvements (25 drawings)*

### *Civil (3 drawings)*

Pump Station Site Preparation and Erosion Control Plan\*  
Bypass Pumping Plan and Details\*  
Electrical Demolition Plan\*

### *HVAC (3 drawings)*

- HVAC Plan and Schedules\*
- HVAC Elevations
- HVAC Details

### *Electrical (9 drawings)*

- Electrical Legend and Abbreviations\*
- Electrical Site Plan\*
- One-Line Diagram\*
- Electrical Room Power Plan\*
- Electrical Building\*
- Electrical Grounding Plan\*
- Electrical Panel Schedules\*
- Electrical Circuit Schedule\*
- Motor Control Diagrams\*

### *Instrumentation & Controls (10 drawings)*

- P&ID
- Control Panel IO List\*
- Control Panel Layout 1\*
- Control Panel Layout 2\*
- Control Panel Power Distribution\*
- Control Panel Digital Inputs\*
- Control Panel Digital Outputs\*
- Control Panel Analog Inputs\*
- Control Panel Analog Outputs\*
- Control Demolition Plan\*

## **Bid Set 2: Gladstone and Sieben Lane Pump Station Improvements (93 drawings)**

### *General (11 drawings)*

- Cover\*
- General Notes and Legend
- Design Data Table and System Curves\*
- Schedule and Sheet Key Plan
- General Erosion Control Notes and Details
- General Civil Details (2 sheets)

General Mechanical Details (2 sheets)  
Electrical Standard Details  
Instrument Standard Details

## *Schedule A: Gladstone Pump Station Improvements (48 Drawings)*

### *Civil (10 drawings)*

Site Preparation and Erosion Control\*  
Bypass Pumping Plan and Details  
Site Demolition Plan\*  
Electrical and Generator Room Demolition Plan\*  
Pump and Intermediate Rooms Demolition Plan\*  
Wet Well Demolition Plan and Elevation\*  
Site Plan\*  
Surfacing and Grading Plan  
Force Main Plan and Profile\*  
Civil Details

### *Mechanical (9 drawings)*

Pump Room Plan and Details\*  
Pump Room Elevations  
Intermediate Room Plan and Details\*  
Intermediate Room Sections  
Bypassing Vault Plan and Sections\*  
Wet Well Rehabilitation and Coating Plan \*  
Sump Pump Replacement Plan and Details  
Mechanical Details (2 drawings)

### *HVAC (5 drawings)*

Electrical and Pump Room HVAC Plan and Schedules\*  
Electrical and Pump Room HVAC Elevations  
Generator Room HVAC Plan and Schedule\*  
Generator Room HVAC Elevations  
HVAC Details

### *Structural (5 drawings)*

General Notes & Quality Assurance Plan\*  
Pump Gantry Plan and Details\*  
Wet Well Platform Elevation and Details\*  
Influent Manhole Hatch and Railing Plan

Influent Manhole Hatch and Railing Details\*

*Electrical (9 drawings)*

Electrical Legend and Abbreviations\*  
Power Service Plan\*  
One-Line Diagram\*  
Electrical Site Plan\*  
Electrical Building Plan\*  
Electrical Grounding Plan\*  
Electrical Panel Schedules  
Electrical Circuit Schedule  
Motor Control Diagrams

*Instruments & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*  
Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

*Schedule B: Sieben Lane PS Improvements (34 drawings)*

*Civil (9 drawings)*

Site Preparation and Erosion Control\*  
Bypass Pumping Plan and Details  
Site Demolition Plan\*  
Electrical Demolition Plan\*  
Wet Well and Valve Vault Demolition Plan  
Site Plan\*  
Site Piping Plan and Profile\*  
Grading and Surfacing Plan  
Civil Details

*Mechanical (4 drawings)*

Wet Well Plan and Details\*

Wet Well Sections\*  
Valve Vault Plan and Sections\*  
Mechanical Details

*HVAC (1 drawing)*

Electrical Room HVAC Plan and Schedules\*

*Structural (2 drawings)*

General Notes & Quality Assurance Plan\*  
Generator Foundation Plan and Section\*

*Electrical (8 drawings)*

Electrical Legend and Abbreviations\*  
One-Line Diagram\*  
Electrical Site Plan\*  
Electrical Building Plan\*  
Electrical Grounding Plan\*  
Electrical Panel Schedules  
Electrical Circuit Schedule  
Motor Control Diagrams

*Instruments & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*  
Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

**Bid Set 3: South Welches, Golf Club Terrace, and 82<sup>nd</sup> Drive Pump Station Improvements (114 Drawings)**

*General (11 drawings)*

Cover\*

General Notes and Legend  
Design Data Table and System Curves\*  
Schedule and Sheet Key Plan  
General Erosion Control Notes and Details  
General Civil Details (2 sheets)  
General Mechanical Details (2 sheets)  
Electrical Standard Details  
Instrument Standard Details

## *Schedule A: South Welches PS Improvements (45 drawings)*

### *Civil (15 drawings)*

Pump Station Site Preparation and Erosion Control\*  
Cart Path Site Preparation and Erosion Control\*  
Pump Station Tree Protection Plan\*  
Cart Path Tree Protection Plan\*  
Bypass Pumping Plan and Details\*  
Pump Station Demolition Plan\*  
Site Plan\*  
Pump Station Grading and Surfacing Plan\*  
Pump Station Storm Water Plan and Section\*  
Cart Path Plan and Profile (2 sheets)\*  
Cath Path Storm Water Plan and Section (2 sheets)\*  
Civil Details (2)

### *Architectural (2 drawings)*

Building Roof Section and Details  
Architectural Details

### *Mechanical (3 drawings)*

Wet Well and Vault Plan\*  
Wet Well and Vault Sections\*  
Mechanical Details

### *Building HVAC (1 drawing)*

Electrical Room HVAC Plan and Schedules\*

### *Structural (2 drawings)*

General Notes & Quality Assurance Plan\*  
Building Roof Framing and Sheathing Plan

### *Electrical (8 drawings)*

Electrical Legend and Abbreviations\*  
One-Line Diagram\*  
Electrical Site Plan\*  
Electrical Building Plan\*  
Electrical Grounding Plan\*  
Electrical Panel Schedules  
Electrical Circuit Schedule  
Motor Control Diagrams

### *Instruments & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*  
Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

### *Landscape (4 drawings)*

Cart Path Swale and Landscape Plan (2 drawings)\*  
Pump Station Landscape Plan\*  
Landscape Details

## *Schedule B: Golf Club Terrace PS Improvements (32 Drawings)*

### *Civil (6 drawings)*

Pump Station Site Preparation and Erosion Control\*  
Bypass Pumping Plan and Details\*  
Pump Station Demolition Plan\*  
Site Plan\*

Surfacing and Grading Plan  
Civil Details

*Architectural (2 drawings)*

Building Roof Demolition and Roof Plan  
Building Roof Section and Details

*Mechanical (3 drawings)*

Wet Well and Vault Plan\*  
Wet Well and Vault Sections\*  
Mechanical Details

*Building HVAC (1 drawing)*

Electrical Room HVAC Plan and Schedules\*

*Structural (2 drawings)*

General Notes & Quality Assurance Plan\*  
Building Roof Framing and Sheathing Plan

*Electrical (8 drawings)*

Electrical Legend and Abbreviations\*  
One-Line Diagram\*  
Electrical Site Plan\*  
Electrical Building Plan\*  
Electrical Grounding Plan  
Electrical Panel Schedules  
Electrical Circuit Schedule  
Motor Control Diagrams

*Instruments & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*

Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

### *Schedule C: 82<sup>nd</sup> Drive PS Improvements (26 drawings)*

#### *Civil (5 drawings)*

Pump Station Site Preparation and Erosion Control\*  
Bypass Pumping Plan and Details\*  
Site Plan\*  
Surfacing and Grading Plan  
Civil Details

#### *Mechanical (3 drawings)*

Wet Well and Vault Plan\*  
Wet Well and Vault Sections\*  
Mechanical Details

#### *Electrical (8 drawings)*

Electrical Legend and Abbreviations\*  
One-Line Diagram\*  
Electrical Site Plan\*  
Electrical Building Plan\*  
Electrical Grounding Plan\*  
Electrical Panel Schedules  
Electrical Circuit Schedule  
Motor Control Diagrams

#### *Instruments & Controls (10 drawings)*

P&ID  
Control Panel IO List\*  
Control Panel Layout 1\*  
Control Panel Layout 2\*  
Control Panel Power Distribution\*  
Control Panel Digital Inputs\*  
Control Panel Digital Outputs\*  
Control Panel Analog Inputs\*  
Control Panel Analog Outputs\*  
Control Demolition Plan

## ATTACHMENT B

# TECHNICAL SPECIFICATIONS PUMP STATION REHAB AND UPGRADES CLACKAMAS COUNTY WES

The following list of specifications are anticipated for the subject project. These specifications will be included in each of the three bid sets that will be prepared under the design scope of work.

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\*Denotes specifications that will be edited specifically for each of the three bid sets that will be prepared.

(60) Denotes specifications developed for 60% design submittal for construction work sequencing and major equipment.

Section	Title	Page Ct.
<i>Division 01 – General Requirements</i>		
01 10 00	Summary of Work* (60)	1-17
01 12 16	Work Sequence * (60)	1-8
01 22 20	Unit Price Measurement and Payment* (60)	1-3
01 33 00	Submittal Procedures (60)	1-11
01 45 00	Quality Control* (60)	1-5
01 56 39	Temporary Tree and Plant Protection (60)	1-5
01 57 19.11	Temporary Sewage Control and Bypass Piping* (60)	1-6
01 75 16	Testing, Training and System Start-Up (60)	1-8
<i>Division 02 - Existing Conditions</i>		
02 30 00	Subsurface Investigation*	1-1
02 41 00	Demolition	1-7
<i>Division 03 - Concrete</i>		
03 01 30.71.11	Concrete Rehabilitation	1-8
03 11 00	Concrete Work	1-27
03 60 00	Grouting	1-4

### *Division 05 - Metals*

05 50 00	Metal Fabrications*	1-20
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### *Division 07 - Thermal and Moisture Protections*

07 41 13	Metal Roof Panels	1-4
07 60 00	Flashing and Sheet Metal	1-5
07 92 00	Sealants and Caulking	1-3

### *Division 08 - Openings*

08 91 19	Fixed Louvers	1-5
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### *Division 09 - Finishes*

09 90 00	Painting and Coating	1-20
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### *Division 10 – Specialties*

10 14 10	Identifying Devices	1-4
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### *Division 23 – Heating, Ventilating, and Air Conditioning (HVAC)*

23 05 93	Testing, Adjusting, and Balancing for HVAC	1-4
23 09 13	Instrumentation and Control Devices for HVAC	1-7
23 31 13	Air Ducts and Accessories	1-22
23 34 00	HVAC Fans* (60)	1-11

### *Division 26 - Electrical*

26 05 00	Electrical General Requirements	1-12
26 05 19	Low-Voltage Electrical Power Conductors and Cables	1-6
26 05 26	Grounding and Bonding for Electrical Systems	1-5
26 05 29	Electrical Hangers and Supports for Electrical Systems	1-10
26 05 33	Raceway and Boxes for Electrical Systems	1-8
26 05 53	Identification for Electrical Systems	1-5
26 24 19	Motor Control Equipment* (60)	1-16

26 27 00	Service and Distribution	1-6
26 27 16	Cabinets and Enclosures* (60)	1-3
26 27 26	Wiring Devices	1-3
26 29 23	Variable Frequency Drives (60)	1-14
26 32 13	Standby Power System* (60)	1-14
26 35 26	Active Harmonic Filter	1-7
26 50 00	Lighting	1-4

### *Division 31 - Earthwork*

31 05 13	Soils for Earthwork	1-5
31 05 16	Aggregates for Earthwork	1-6
31 10 00	Site Clearing	1-8
31 22 13	Rough Grading	1-4
31 23 16	Excavation	1-8
31 23 17	Trenching	1-22
31 23 18	Rock Removal	1-4
31 23 19	Dewatering*	1-4
31 23 23	Fill	1-8
31 23 24	Flowable Fill	1-6
31 50 00	Excavation Support and Protection	1-5

### *Division 32 - Exterior Improvements*

32 11 23	Aggregate Base Courses	1-6
32 12 16	Asphaltic Concrete Pavement	1-6

### *Division 33 - Utilities*

33 01 30.13	Sewer and Manhole Testing	1-8
33 05 13	Manholes	1-13
33 05 17	Precast Concrete Vaults *	1-7
33 11 50	Existing Pipe Abandonment	1-4
33 13 00	Testing of Utility Piping	1-5

### *Division 40 - Process Integration*

40 05 13	Common Work Results for Process Piping	1-18
40 05 23	Common Work Results for Process Valves	1-7
40 05 23.15	Gate Valves	1-3
40 05 23.21	Plug Valves	1-4
40 05 23.24	Check Valves	1-4
40 05 23.72	Miscellaneous Valves*	1-6
40 91 00	Process Instrumentation and Control* (60)	1-4

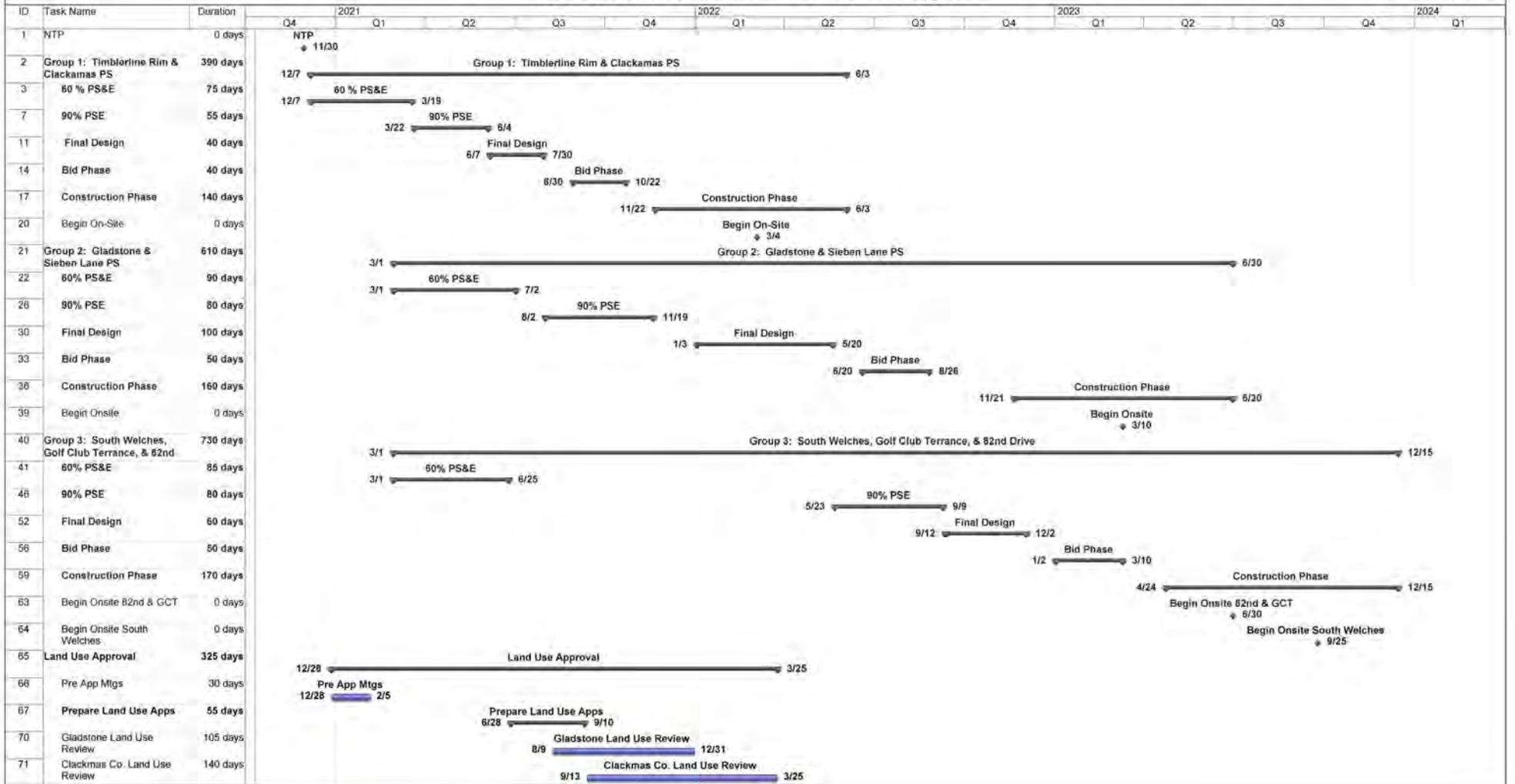
40 91 07	Level Detection Devices	1-3
40 91 08	Submersible Level Sensor	1-3
40 91 09	Pressure Detection Devices	1-3
40 91 10	Combustible Gas Detector	1-7
40 91 11	Air Flow Switches	1-2
40 91 12	Intrusion Detection Switches	1-2
40 91 13	Alarm Indicators	1-2
40 91 14	Smoke Detectors	1-2
40 91 23	Flow Process Measurement Devices (60)	1-7
40 92 00	Control Panels and Components*	1-26
40 93 00	Control Strategy*	1-6
40 95 11	PLC Control System Hardware*	1-7

### *Division 43 - Process Gas & Liquid Handling*

43 21 00	Liquid Pumps	1-6
43 21 39	Submersible Liquid Pumps* (60)	1-14

Project Schedule: Pump Station Rehabilitation and Upgrades

ATTACHMENT C



Project: Phase II Schedule 20201011  
 Date: Sun 10/11/20

Task: Progress (solid bar), Milestone (diamond), Summary (dashed bar), External Tasks (dotted bar), Deadline (dashed line)

Split: (dotted bar)

Project Summary: (dotted bar)

External Milestone: (dotted bar)

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